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THE

# GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE

FOR

1863.

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FOR 1863.

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AND
# AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

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**Established 36 Years.**
HOLBURY ASHLEAF, the Earliest KIDNEY POTATO grown, 10*s.* per bushel, Carriage paid.
G. & W. YATES, Seedsmen, Market Place, Manchester.

FLUKE and other SEED POTATOES off the Lancashire Moss and Sand. Price very moderate on application.
H. BROWN, Seedsman, 4, Commutation Row, Liverpool.

SEED POTATOES from the Growers. — Early Shaws, Regents, Forty-folds, Ash-leaf Kidneys, and Myatt's Prolific.
May be had on application of H. CHEVERSE, Salesman, Borough Market, S.E.

NEWSPAP

**Hardy Scarlet and other Choice Rhododendrons.**

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

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**To the Seed Trade.—Continental Flower Seeds, &c.**

F. W. WENDEL, SEEDSMAN, &c., Erfurt, Prussia, begs respectfully to announce that his WHOLESALE CATALOGUE of the above is now ready, containing extensive collections of Stocks, Asters, and other Choice Seeds.

Free by Post on application to GEO. MACINTOSH, Seedsman, High Road, Hammersmith, London W.

---

RARE and BEAUTIFUL COLUMBINE.—The Subscribers can supply strong flowering plants of AQUILEGIA GLANDULOSA, carefully packed, with earth adhering to their roots, and sent free to London, at 20*s.* per dozen. Seeds of the same at 2*s.* 6*d.* per packet, or for stamps of that value.

"This is perhaps the handsomest hardy perennial in cultivation."—*Gardeners' Chronicle.*

The Trade supplied at the wholesale rate.

JOHN GRIGOR & Co., Nurseries, Forres, Scotland.

---

**Established 1787.**

THOMAS KENNEDY AND CO.,

NURSERY AND SEED ESTABLISHMENT,

Dumfries, N.B.

*** PRICED CATALOGUES sent free on application.

FREE DELIVERY.

FARM and GARDEN SEEDS under certain limitations will be DELIVERED FREE OF CARRIAGE to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

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**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

---

**Splendid New Bedding Plants.**

MESSRS. VEITCH AND SON, Exeter and Chelsea, S.W., are now prepared to supply SEEDS of the following splendid novelties, recently introduced by them, feeling confident that two such fine additions to the Flower Garden cannot fail to give general satisfaction.

AMARANTHUS MELANCHOLICUS RUBER.—Introduced from Japan by Mr. J. G. VEITCH; its beautiful blood red foliage renders it much superior to the Perilla, where colour and effect are required, and this, combined with its dwarf compact habit (averaging from 9 to 12 inches), cannot fail to make it the most popular dark-foliaged bedding plant yet introduced. It has been commended by the Floral Committee of the Royal Horticultural Society, on account of its distinct habit as a bedding plant.

The following persons having obtained their Seed of the above direct from Messrs. V. & SON, will be enabled to supply it genuine:—

Austin & M'Aslan, Messrs., Glasgow
Beck, Henderson & Co., Messrs., Adelphi, London
Butler & M'Culloch, Messrs., Covent Garden
Cattell, Mr., Westerham, Kent
Charlwood & Cummins, Covent Garden
Cooper & Bolton, Messrs., 152, Fleet Street
Dickson, Messrs. F. & A., Chester
Dobson, Messrs., Isleworth
Downie, Laird, & Laing, Messrs., Edinburgh
Finney, Messrs. S. & Co., Gateshead
Fisher, Holmes, & Co., Messrs., Sheffield
Fraser, Richardson, & Goad, Messrs., 82, Bishopsgate Street
Hollamby, Mr. E., Tunbridge Wells
Hooper, Messrs. W. & Co., Covent Garden
Krelage, Messrs., & Son, Haarlem, Holland
Lawson, Messrs. P. & Son, Edinburgh and London
Minier & Co., Messrs., 60, Strand
Shaw, Messrs., & Co., Manchester
Smith, Messrs. F. & A., Dulwich, Surrey
Smith, Messrs. Peter & Co., Hamburgh
Turner, Mr. Chas., Slough
Vilmorin, Messrs., & Co., Paris
Wood & Ingram, Messrs., Huntingdon

MIMULUS CUPREUS.—This beautiful little perfectly hardy novelty was sent us by Mr. Pearce, from the Andes of Chili, where he met with it at an elevation of from 6000 to 7000 feet.

Its dwarf and compact habit, not exceeding 4 to 6 inches in height, its perfect hardiness, and producing its bright orange-crimson flowers in great profusion, render it equally useful for the Flower Garden or for Pot culture.

It has been constantly exhibited during the past season, and had medals awarded it at both the Royal Horticultural and the Royal Botanic Societies. It is indeed a charming plant, and cannot fail to give general satisfaction.

The undermentioned having procured their Seed of Messrs. VEITCH & SON are able to supply the preceding true and genuine:—

Austin & M'Aslan, Messrs., Glasgow
Beck, Henderson & Co., Messrs., Adelphi, London
Cattell, Mr., Westerham, Kent
Charlwood & Cummins, Messrs., Covent Garden
Carter & Co., Messrs., Holborn
Cooper & Bolton, Messrs., Fleet Street
Cunningham, Messrs. Geo. & Son, Liverpool
Dickson, Messrs. F. & A., Chester
Ernst & Von Spreckelsen, Hamburgh
Finney, Messrs. S. & Co., Gateshead
Fraser, Richardson & Goad, Messrs., 82, Bishopsgate Street
Hooper, Messrs., & Co., Covent Garden
Huber Frères, Messrs., Hyères, France
Krelage, Messrs., & Son, Haarlem, Holland
Lawson, Messrs., & Son, Edinburgh and London
Shaw & Co., Messrs., Manchester
Smith, Messrs. P., & Co., Hamburgh
Sutton, Messrs., & Sons, Reading
Turner, Mr. Chas., Slough
Van Houtte, M. Louis, Ghent, Belgium
Vilmorin & Co., Messrs., Paris
Wood & Ingram, Messrs., Huntingdon

Prices to the Trade on application.

Royal Exotic Nurseries, Exeter and Chelsea—Jan. 3.

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**Vegetable and Flower Seeds, Carriage Free.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully announces that his SEED CATALOGUE is now ready, free by post. The choicer kinds, which are disposed to vary from seed, are as far as possible home-saved and carefully selected, and all others drawn from the very first sources. The Collection of Vegetables recently commended by the Royal Horticultural Society was grown from Seeds furnished by him.

Nurseries and Seed Warehouse, Waltham Cross N.

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**To the Trade.**

JAMES FAIRHEAD AND SON, SEED GROWERS and MERCHANTS, 7, Borough Market, London, S.E., beg to inform their Friends and the Trade generally that their WHOLESALE CATALOGUE of AGRICULTURAL, GARDEN, and FLOWER SEEDS is now ready, and may be had on application.

---

CHEAP PLANTS.—The undermentioned are now ready in strong plants.

| per dozen.— | s. | d. | per dozen.— | s. | d. |
|---|---|---|---|---|---|
| Hepatica, sorts .. .. | 3 | 0 | Polyanthus, fine laced .. | 3 | 0 |
| Primroses ,, .. .. | 4 | 0 | Pampas Grass .. .. | 4 | 0 |
| Auriculas ,, .. .. | 3 | 0 | Hollyhock, fine named .. | 6 | 0 |
| Violets Double White and Purple and Russian | 3 | 0 | Hollyhock Seedlings, from fine named .. .. | 3 | 0 |
| Wallflower, Golden Yellow | 4 | 0 | Lavender .. .. .. | 3 | 0 |
| Pinks, fine named .. | 3 | 6 | Rock Cistus (sorts) .. | 3 | 0 |
| Clove (old Crimson) .. | 3 | 0 | Pansies, fine named .. | 3 | 6 |
| Christmas Roses .. .. | 6 | 0 | ,, ,, mixed .. | 2 | 0 |
| Lily of the Valley .. | 2 | 0 | | | |

The following in strong Stock Plants for cuttings:—

| Per dozen— | s. | d. | Per dozen— | s. | d. |
|---|---|---|---|---|---|
| Lobelia speciosa kermesina, true .. .. | 3 | 0 | Antirrhinums, new, 1862 | 4 | 0 |
| Verbenas, all the leading kinds .. .. .. | 3 | 6 | Calceolaria canariensis . | 6 | 0 |
| Verbenas, new, 1862 .. | 4 | 0 | Dahlias, strong ground roots .. .. .. | 6 | 0 |
| Fuchsias, new, 1862 .. | 5 | 0 | 100 Hardy Herbaceous Plants in 50 varieties | 20 | 0 |

Paid to London. Post-office Orders on Castle Hedingham.

WM. DILLISTONE, Munro Nursery, Sible Hedingham, Essex.

---

**New Fern, Pteris nemoralis variegata.**

WILLIAM COLE, Fog Lane Nursery, Withington, Manchester, the raiser of this beautiful and distinct NEW FERN, is now ready to supply good plants, and all orders will be executed in rotation.

It has been well described in the *Gardeners' Chronicle* of July 5, p. 620, where the writer speaks of it as "a curious and novel form of Variegated Pteris."

It was also reported on in the *Gardeners' Chronicle* of May 24, as follows:—"Among new Ferns, of which several were shown, was one from Mr. Cole, Nurseryman, Manchester, belonging to the Variegated Class, and as regards position, is intermediate between argyræa and tricolor, and is apparently a free grower."

W. COLE has great confidence in recommending it, and in stating that it is really a beautiful Fern, and one which will become exceedingly popular. 10*s.* 6*d.* each.

Price (very liberal terms to the Trade for 12, 50, or 100) on application.

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LIST of MESSRS. SUTTON'S AGENTS for the Sale of Seed of the "STUDENT" PARSNIP, introduced by Professor Buckman.

Barr & Sugden, 12, King Street, Covent Garden, London, W.C.
Beck, Henderson, & Child, Adelphi Terrace, Strand, London
Brown, Henry, 4, Commutation Row, Liverpool
Backhouse, James & Son, York
Batt, Rutley, & Silverlock, Strand, London
Carter & Co., High Holborn, London
Cattell, John, Westerham
Cooper & Bolton, 152, Fleet Street, London
Charlwood & Cummins, Tavistock Row, Covent Garden, London
Clarke, Henry & Sons, 39, King Street, Covent Garden, London
Cooling, C., 18, Iron Gate, Derby
Davies, George, Stanley Nurseries, Liverpool
Dicksons & Brown, Corporation Street, Manchester
Dickson & Sons, 102, Eastgate Street, Chester
Dickson, Sons, & Co., 23, Market Place, Manchester
Dickson & Turnbull, 26, George Street, Perth
Dickson, F. & A. & Sons, 106, Eastgate Street, Chester
Dickson, Hogg, & Robertson, 22, Mary Street, Dublin
Dixon, E. P. & Son, 57, Queen Street, Hull
Dillestone & Co., The Nurseries, Sturmer
Downie, Laird, & Laing, 17, South Frederic Street, Edinburgh, and Stanstead Park Nursery, Forest Hill, Kent
Drummond & Sons, 58, Dawson Street, Dublin
Drummond & Sons, Stirling
Ernst & Von Spreckelsen, Hamburg
Edmondson, Brothers, 10, Dame Street, Dublin
Fairhead & Son, 7, Borough Market, London
Fisher, Holmes, & Co., Handsworth Nursery, Sheffield
Finney & Co., Gateshead Nursery, Newcastle-on-Tyne
Gibbs, Thomas, & Co., Corner of Half Moon Street, Piccadilly, London
Garaway & Co., Durdham Down, Bristol
Hurst & Son, 6, Leadenhall Street, London
Henderson, E. G. & Son, Wellington Nursery, St. John's Wood, London
Henderson, A. & Co., Pine Apple Place, Edgeware Road, London
Haycroft, J. & H., Cork
Ivery, James & Son, Dorking, Surrey
Kennedy, Thos. & Co., Dumfries
Krelage, C. F. & Son, Haarlem, Holland
Low, H. & Co., Clapton Nursery, London
Lowe, Richard & Co., High Street, Wolverhampton
Nutting & Son, 60, Barbican, London
Nelson, John, St. Michael's, Bristol
Osborn & Son, Nurserymen, Fulham, London
Perkins, John, 52, Market Square, Northampton
Pope, Henry, Great Heath Nurseries, near Birmingham
Perry, P. J., The Nurseries, Banbury
Plymouth Seed Company, Plymouth, Devon
Smith & Simons, Argyle Arcade, Glasgow
Stuart & Mein, Kelso, N.B.
Toole & Co., Westmoreland Street, Dublin
Turner, Charles, The Royal Nurseries, Slough
Thomas, Wm., Exchange Street, Wolverhampton
Veitch, James, jun., King's Road, Chelsea
Van Houtte, Louis, Ghent, Belgium
Wrench, Jacob, & Son, London Bridge
Wheeler, J. C. & Son, Gloucester
Wood & Son, Maresfield, near Uckfield
Waite, J. G., 181, High Holborn, London
Wood & Ingram, The Nurseries, Huntingdon

Packets of Seed, 6*d.*, 1*s.*, and 2*s.* 6*d.* each, can be obtained of any of the above named, and also of Messrs. SUTTON, who can supply it either Wholesale or Retail.

Royal Berkshire Seed Establishment, Reading.

*** The Trade supplied on liberal terms.

---

HALLETT'S [TRADE PEDIGREE. MARK.] NURSERY WHEAT has produced, 1862, 62 bushels per acre, weighing 64 lbs. a bush.

Price ONE GUINEA A BUSHEL, including bag sewed up and sealed, delivered at the Brighton Railway Station, with Printed Directions for Planting, on Receipt of Cheque or Post-office Order, which must in all cases accompany the Order. Less than One Bushel will not be supplied. Name of Station and Railway should accompany the Order.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

---

SHIRREFF'S BEARDED WHITE WHEAT having yielded grain of fine quality when sown in East Lothian on the 7th April, 1862, is recommended for spring sowing. Selected parcels, weighing 65 lbs. per imperial bushel, 80*s.* per quarter. Parcels weighing from 63½ lbs. to 64 lbs. per imperial bushel, 65*s.* per quarter. Bags, 1*s.* 6*d.* each. Terms cash. Haddington, Jan. 3.

---

**Prize Medal Seed Wheat.—International Cereal Show.**

THE PRIZE MEDAL WAS AWARDED TO

MESSRS. RAYNBIRD, CALDECOTT, AND BAWTREE, for the BEST SAMPLE of RED WHEAT, for their sample of RED NURSERY WHEAT, by a jury consisting of some of the most eminent Corn Factors from Mark Lane and Agriculturists of the day.

This Wheat is remarkable for its fine quality, weight, and hardiness, and is one of the most productive upon poor soils and in exposed situations; it may be sown at any time from October to March.

Bulks of similar fine quality to the Prize sample, for cash only, at 80*s.* per Quarter.

Address, Basingstoke.

---

**Beet—Original and True Stock.**

HENDERSON'S Compact-topped PINE-APPLE BEET.—Symmetrical shape, and fine dark crimson colour, uniform through the solid roots, are points of excellence rivalled only by its rich and sugary flavour, and long-keeping properties.

This celebrated Beet gained the FIRST PRIZE against ALL OTHER SORTS at the GREAT INTERNATIONAL EXHIBITION of FRUITS and VEGETABLES held at the Horticultural Gardens, South Kensington, October 8, 1862.

---

**New Celery, Williams's Matchless Red.**

B. S. WILLIAMS, Paradise Nursery, Holloway, N., has much pleasure in offering the above superior solid RED CELERY, feeling confident it will give satisfaction. It is perfectly hardy, a strong grower, very solid and crisp, and of a most delicious flavour. It has been taken up for use quite the end of April without having the least tendency for running to seed. From the testimonials received it is unquestionably the best Red Celery in cultivation. In sealed packets, 2*s.* each.

---

MOORE'S VEGETABLE CREAM.—An improved small cream-coloured oval-shaped variety of Vegetable Marrow, of an extremely delicate flavour. The Seed was presented to us by Thomas Moore, Esq., Secretary to the Floral Committee of the Royal Horticultural Society, and in a communication lately received he speaks of it as follows:—

"I have grown it for several years, 8 or 10 perhaps, and have always thought it to be the best flavoured of all the sorts I have tasted." Per packet, 1*s.*

JAMES CARTER & Co., 237, 238 and 261, High Holborn, W.C.

---

**Fluke Kidney Potato Sets**

FROM LAND WHICH HAS NOT BEEN BROKEN UP IN THE MEMORY OF MAN.

DICKSONS AND BROWN, SEEDSMEN, 43 and 45, Corporation Street, Manchester, have a few hundred bushels of the above valuable Potato, grown upon fresh land a very short distance from the place where the "FLUKE KIDNEY" was originally raised. They are picked expressly for sets.

By stating quantity required, the price will be forwarded on application to the Advertisers.

---

**Early Potatoes for Planting—Carriage Free.**

SUTTON AND SONS can supply the following Choice Sorts, true, and free from disease:—

DAINTREE'S FIRST EARLY, direct from Mr. Daintree, 2*s.* 6*d.* per peck, 9*s.* per bushel.

ALBION KIDNEY, earlier than the Ashleaf, 3*s.* per peck, 10*s.* per bushel.

LAPSTONE KIDNEY, particularly fine flavour, 3*s.* per peck, 10*s.* per bushel.

ASHLEAF, OXFORD, and WEBB'S IMPERIAL, 3*s.* per peck, 10*s.* per bushel.

Also the undermentioned, which SUTTON & SONS have proved to be a fortnight earlier than either of the above-named early sorts, viz.:—

SUTTON'S EARLY RACEHORSE KIDNEY, decidedly the earliest sort yet out, 5*s.* per peck, 18*s.* per bushel.

SUTTON & SONS have also true stocks of REGENTS, DALMAHOYS, FLUKES, FLOUR BALL, and other Potatoes for the main crops, at low prices, as per PRICED CATALOGUE, which may be had post-free on application, addressed

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

---

HOW'S EARLY FLUKES.—These POTATOES have been raised from the apple of the Fluke, and selected from upwards of 40 different sorts produced. They have taken the prize at the two last local shows, are ready to dig a fortnight after the Ash-leaf, and a much greater bearer than the old Fluke; they are of excellent shape, beautifully white, and good keepers. Price 10*s.* per bushel of 56 lbs., including bags. Cash must accompany all orders.

W. A. HOW, Farmer, Piedmarley, near Newent, *vid* Gloucester.

---

**Myatt's Early Prolific Ash-leaved Kidney Potatoes.**

H. AND F. SHARPE are now taking orders for the above, which has this season proved itself to be the earliest and most prolific Potato in cultivation, and as fine in quality as any of the Early Kidney varieties. Having a good stock they can offer them at a low price to the Trade.

Also JACKSON'S ASH-LEAVED KIDNEY, WALNUT-LEAVED KIDNEY, and all the early Round varieties at equally low prices, which may be had on application.

Seed Growing Establishment, Wisbech.

---

SEEDS.—The best three PEAS for succession are DANIEL O'ROURKE, 2½ feet, 1*s.* 6*d.* per quart; VEITCH'S PERFECTION, 2½ feet, 1*s.* 6*d.* do.; MAY'S PROLIFIC, the largest in cultivation, 2*s.* 6*d.* do.; with all the best kinds of Vegetable Seeds for Gardens, made up Collections, from 10*s.* 6*d.* and upwards.

J. M. having had 15 years' experience in the Seed Trade, parties can rely on him sending such kinds as are likely to answer

JOSEPH MAY, 15, Wellington Street, Strand (Waterloo Bridge).

JUST ARRIVED, CAMELLIAS, handsome plants, full of flower buds, 24s. and 30s. per dozen; extra size, 3 to 4 feet high, 7s. 6d. each; ORANGE TREES full of fruit; AZALIAS, 21s. and 24s. per dozen; BRITISH and FOREIGN FERNS, immense variety; EVERGREENS, the best and cheapest in London; Fern Cases and Aquariums, Wire and Rustic Stands, &c., &c.

R. GREEN, 154, Kingsland Road, and the Bedford Conservatories, Covent Garden Market. Entrance, Centre Avenue only.

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., grown in the International Exhibition, delivered at any Booking Office in the City at 1s. 6d., or within 2½ miles of Charing Cross, at 2s. per bag of 3 bushels. Larger quantities on lower terms on application to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.

Also SHORT FIBRE for Orchids and Drainage in pots.

Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are the best and most economical of any that are made, and are sold in every town in the kingdom.

CAUTION.—See that every Brush is stamped "J. BARSHAM'S Patent, Kingston-on-Thames."

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. NEAL, Edward Street, Birmingham.

WINTER DRESS all FRUIT TREES with GISHURST COMPOUND.

*Copy of a Letter from* Mr. RIVERS, Nurseries, Sawbridgeworth, Herts, January 9, 1862.

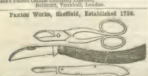
"I think you should prominently mention the great benefit Wall Trees of all kinds derive from a dressing of the Compound applied in January, it is so very beneficial. THOS. RIVERS."

*From the Same*, October 22, 1861.

"I must tell you what I heard to-day from a very clever gentleman farmer, Anthony Bubb, Esq., of Witcombe Court, Gloucester. He has a Wall to which Peach Trees are trained. Well, last autumn they were in a wretched blighted state. As a desperate remedy he unnailed them all early last February, and gave all but one a thorough painting with GISHURST COMPOUND, 1 lb to the gallon of water; his trees, all but the one, commenced to grow favourably in spring, and are now pictures of health. The tree not painted is in a half-dead blighted state. He used the same dressing to his Apple Trees; it killed the woolly aphis entirely, and has made his Trees clean and vigorous in their growth. He intends to paint his Wall Trees annually, and tells all his friends to do the same. I shall certainly serve all my young Peach Trees against my walls in the same manner. The Compound is, I believe, more efficacious than the usual offensive mixtures of clay, soot, sulphur, &c., and it does not blacken the shoots on the walls. Unless trees are completely at rest, 6 to 8 ounces to the gallon of soft water is the best strength, and sufficiently strong to destroy eggs and insects."

GISHURST COMPOUND is Sold Retail by Nurserymen and Seedsmen, in Boxes, 1s., 3s., and 10s. 6d. each; Wholesale by PRICE'S Patent Candle Company Limited,
Belmont, Vauxhall, London.

**Paxton Works, Sheffield, Established 1738.**



International Exhibition Prize Medal is just awarded to SAYNOR & COOKE for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

**Liquid Manure Distributor.**

THE JUDGES of the Liverpool, Manchester, and Staffordshire Agricultural Shows, 1861, have each awarded the First Prize to I. JAMES, Tivoli Works, Cheltenham, for his LIQUID MANURE DISTRIBUTOR, making a total of 17 Prizes. It is also well adapted for Watering Streets, supplying the Steam Plough, Irrigating, or for a Fire Engine. Also his last great improvement in WASHING MACHINES, which have been awarded several First Prizes, and will wash 20 Shirts in 20 minutes.

The Old Established Seed Bag and Sack Manufactory.

ALEXANDER NICOL AND CO., MANUFACTURERS of SEED BAGS and SACKS, RYE-GRASS SEED BAGS, GRAIN and POTATO SACKS of all sizes and descriptions, SHOP and NURSERY TWINES, GARDEN LINES, &c.

Chalmers St. Works, Arbroath, N.B.

N.B. The principal Seed-houses in the three Kingdoms have been supplied by us for the last 30 years. Price Lists and Samples may be had on application. No connection with any other house in the Trade.

FOWLER'S

**STEAM PLOUGHING AND CULTIVATING PATENTS.**

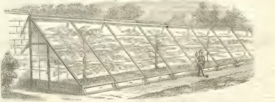
RANSOMES & SIMS, ORWELL WORKS, IPSWICH,

Have the pleasure to announce that they have arranged with JNO. FOWLER for the use of the above PATENTS, and they will answer any inquiries respecting them, and execute any Orders promptly.

ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

BY ROYAL LETTERS PATENT.



**SCOTT'S GLASS WALLS,**

Designed to meet the suggestions of JAMES SCOTT, Esq., of Hornsey, as being the desiderata of such structures. They are devoid of shadow, durable, portable, and a tenant's fixture, with the strength and durability of a permanent structure. Further particulars and prices by post or on application.

| | | | |
|---|---|---|---|
| CONSERVATORIES | PINE and MELON PITS | BALCONIES | GATES |
| GREENHOUSES | VASES | IRON SASHES | TANKS |
| HOTHOUSES | VERANDAHS | IRON HURDLES | HOT-WATER WORKS. |

**PATENT WROUGHT-IRON STABLE FITTINGS AND ENAMELLED MANGERS.**

Every description of IRONWORK. *Lists Free.*

ST. PANCRAS IRON WORK COMPANY, OLD ST. PANCRAS ROAD, LONDON, N.W.

**MISS MALING'S PATENT IN-DOOR PLANT CASES**

(TO WHICH A PRIZE WAS AWARDED AT THE ROYAL HORTICULTURAL SOCIETY'S EXHIBITION).

SOLE MANUFACTURER,

JAMES GRAY, HORTICULTURAL WORKS,

DANVERS STREET, CHELSEA, LONDON, S.W.

MISS MALING'S PATENT IN-DOOR PLANT CASE is one of the most useful of the Gardening novelties of the day. It is a handsome ornament for the Drawing Room or Sitting Room, and at all times forms a fresh, pleasant, and interesting object to the mind and eye. It is always under command, and will preserve many of the most tender Exotic Plants through the severest winter with comparatively little of the trouble and annoyance attending the use of Lamps, Gas, and Heating appliances of any other kind.

To all who have a taste for the cultivation of In-door Plants, for raising Seedlings, striking Cuttings, &c. the Plant Cases will be found an inestimable boon.

The Cases are highly approved and recommended by Professor Lindley, and by Messrs. Veitch, of The Royal Exotic Nursery, King's Road, Chelsea.

*Sizes and Prices on application.*

**Early Spring Flowers.**

WEBB'S GIANT POLYANTHUS; ditto COWSLIP; Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to

RICHARD WEBB, Calcot Gardens, Reading.

**New Catalogue of Plants, Dutch Bulbs, &c.**

ROBERT PARKER begs to announce that his NEW CATALOGUE, containing Select, Descriptive, and Priced Lists of Exotic Orchids, Variegated and Ornamental-foliaged Plants, Azalea indica, Conifers, Chrysanthemums, Fuchsias, Ferns, Geraniums, Rhododendrons, Roses, Miscellaneous Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c., Hyacinths, Tulips, Gladioli, and other Bulbs, is now published and will be forwarded, post free, to all applicants.

Exotic Nursery, Tooting, Surrey, S.

**Gladioli.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully announces that his BULB CATALOGUE includes a descriptive list of all the most valuable varieties of GLADIOLI, the roots of which are unusually fine. He would remind intending purchasers that he was awarded prizes at both the Royal Horticultural and Crystal Palace September Shows. Price 4*s.* to 42*s.* per dozen.

Nurseries and Seed Warehouse, Waltham Cross, N.

GLADIOLUS, SEEDLINGS of GANDAVENSIS.

| | | | |
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| 50 in 25 extra choice varieties .. .. | £2 | 2*s.* | 0*d.* |
| 25 in 25 " " .. .. | 1 | 5 | 0 |
| 12 in 12 " " .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 " " .. .. .. | 1 | 5 | 6 |
| 25 in 25 " " .. .. .. | 0 | 13 | 6 |
| 12 in 12 " " .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2*s.* 6*d.* per doz., 17*s.* 6*d.* per 100.

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, W.C.

**Gladiolus Gandavensis and Varieties.**

B. S. WILLIAMS'S choice collection of these superb Bulbous Plants, which are beyond doubt the handsomest autumnal ornaments to the garden, is now ready for sending out. Great attention has been bestowed on the selection, amongst which are many novelties, and none but those of the best quality are offered.

Collection of 24 Splendid Varieties, one root of each, 21*s.*
Collection of Choice Named Varieties, 6*s.*, 8*s.*, and 10*s.* per doz.
A PRICED and DESCRIPTIVE LIST on application.

Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

**New Bedding Annual—Iberis grandiflora alba**
(LARGE-FLOWERED WHITE CANDYTUFT).

MESSRS. E. G. HENDERSON AND SON offer this as a remarkably fine variety, and a much more gay and effective plant than any other in its tribe, having numerous large semi-cylindrical trusses, from 2 to 4 inches in length, of snow-white blossoms, continuing in bloom twice as long as the well known common kinds, and making a very beautiful group or bed until the latest autumn months. Its style of growth is much more robust, from 12 to 15 inches in height, and vigorously branched. For decoration in the flower garden, either as a separate bed, or as a ribbon row, it far surpasses any annual or other bedding plant in its colour; its long continued bloom is invaluable for effect with other groups.

Seed packets, 6*d.* and 1*s.* each. The Trade supplied; prices on application.

Wellington Nursery, St. John's Wood, London, N.W.

DOWNIE, LAIRD, AND LAING have much pleasure in offering the following FIRST CLASS NOVELTIES, which they can with confidence recommend as being decided acquisitions.

CALCEOLARIA CLOTH of GOLD, described by the Floral Committee of the Royal Horticultural Society as follows:—" A desirable bedding variety of dwarf habit, growing from 6 to 9 inches high; the leaves are narrow and deeply serrated, the flowers in fine compact trusses of a deep clear yellow, and of medium size and firm substance;" stems stiff and erect, requires no staking; as a dwarf yellow for front lines, or ribbon borders, it has no equal. Certificate of Merit by the Floral Committee, First Class Certificate at Regent's Park. Price 2*s.* 6*d.* each, 18*s.* per dozen. Special price for quantities on application.

DELPHINIUM BICOLOR GRANDIFLORUM.—This is a striking and most beautiful variety. It was commended by the Floral Committee of the Royal Horticultural Society, who described it as follows. 'A showy variety with large flowers, in which the sepals were of a dark blue, and the petals of a creamy white colour, contrasting strongly with the darker colour surrounding them. Price 5*s.* each. Special offers to the Trade on application.

Stanstead Park, Forest Hill, S.E., and Edinburgh.

**Pine Apple Place, Edgware Road, London, W.**

ARTHUR HENDERSON AND CO., beg to announce that their CATALOGUE of KITCHEN, FARM, and FLOWER SEEDS, Imported German Asters, Stocks, and Collection of Vegetable Seeds, for One Year's Supply.

Collection, No. 1 .. 105*s.* | Collection, No. 3 .. 42*s.*
" No. 2 .. 84*s.* | " No. 4 .. 25*s.*
Collection, No. 5 .. 15*s.*

is now ready, and will be forwarded free on application.

NOTE.—This Catalogue contains only the best varieties of Vegetables, and an abridged List of the most valuable Flower Seeds.

# HUGH LOW & CO.

HAVE TO OFFER TO THE TRADE VERY STRONG

## DWARF MAIDEN MOORPARK APRICOTS.

CLAPTON NURSERY, LONDON, N.E.

## FOSTER'S SEEDLING GRAPE.

# MESSRS. JOHN & CHARLES LEE

have to offer Mr. Foster's stock of this fine NEW GRAPE, which can be confidently recommended for general cultivation in cool Vineries. It has borne an abundant crop in the large Conservatory of the Royal Horticultural Society at Chiswick, the bunches being large, with medium sized berries of a pale amber colour. The flavour of Foster's Seedling is most luscious, equalling the richness of its twin sister Lady Downe's, and as far as can be seen, partaking of the same quality of hanging well without shrivelling.

**Canes for planting, 7*s.* 6*d.* each. A few Fruiting Canes at 21*s.* each.**

ROYAL VINEYARD NURSERY AND SEED ESTABLISHMENT,
HAMMERSMITH, LONDON, W.

## INTERNATIONAL EXHIBITION.

PRIZE MEDALS 1851 AND 1862

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

# BUTLER & McCULLOCH, SEED MERCHANTS,

COVENT GARDEN MARKET, W.C.

(ESTABLISHED UPWARDS OF A CENTURY.)

COLLECTIONS OF VEGETABLE SEEDS SUITABLE FOR ANY SIZED GARDEN.

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| **No. 1. 20 Quarts of PEAS and other Seeds in proportion** ... ... ... | | | | **£3** | **3** | **0** |
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| **No. 3. 8** | **ditto** | **ditto** | **ditto** ... ... ... | **1** | **10** | **0** |
| **No. 4. 5** | **ditto** | **ditto** | **ditto** ... ... ... | **1** | **1** | **0** |
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*All orders amounting to 21s. and upwards sent Carriage paid.*

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PLYMOUTH.

*Extract from a Letter received from a* CLERGYMAN *in Yorkshire, dated December* 11, 1862:—
"Our Vegetables have never been so fine as when grown from your Seeds."

The Company are now sending out their COLLECTIONS of SEEDS, which have always given great satisfaction

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| **No. 1. Complete Collection for a large Garden, for One Year's Supply** ... | **£3** | **0** | **0** |
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For further particulars, see the GENERAL PRICE CURRENT, now ready.

Address, PLYMOUTH SEED COMPANY, PLYMOUTH.

# CARTER'S COLLECTION OF GARDEN SEEDS FOR 1863,

BEING COMPLETE ASSORTMENTS OF VEGETABLE SEEDS FOR ONE YEAR'S SUPPLY.

*Containing only the most approved and choice sorts, in quantities to suit Large and Small Gardens.*

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| 10s. 6d. | 20s. | 40s. | 60s. | 100s. |

These Collections are always kept ready, and can be supplied at a moment's notice.

CARTER'S SELECT LIST OF NEW AND CHOICE VEGETABLE FLOWER SEEDS AND PLANTS

is now published gratis and post free.

237, 238, & 261, HIGH HOLBORN, LONDON, W.C.

THE GREAT VINE at HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42s. and 60s. p. doz.
" " fruiting plants in 12-inch pots, 10s. 6d each.

If purchased in large numbers a considerable reduction will be made in price.

JACKSON & SON, Nurseries, Kingston, S.W.

EXTRA STRONG FRUITING VINES.—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7s. 6d. each; smaller, for Planting-out, from 3s. 6d. each. A reduction in price will be made to large purchasers.

"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.

JAMES DICKSON & SONS, The Newton Nurseries, Chester.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent, Belgium, has the pleasure to offer now for the first time his two new excellent Fruits—

APPLE CALVILLE GARIBALDI .. 8s.
PEAR BÉURRÉ DE GHÉLIN .. .. 5s.

This excellent Pear obtained the First Prize at the great Pomological Show at Tournay, Belgium.

N.B. These two new Fruits are figured in VERSCHAFFELT'S "Illustration Horticole."

CHARLES B. SAUNDERS, Cæsarean Nurseries, Island of Jersey, Established 1816.

Strong well ripened rooted VINES, best sorts, 6 to 8 ft. rods, grown in the open air without nursing, 2s. 6d. each; Dwarf Standard, Dwarf-trained PEAR TREES on Quince stocks, well rooted, set with fruit spurs, in fine condition, 1s. 8d. and 2s. 6d. each; Maiden and Dwarf-trained PEACH and NECTARINE TREES, 1s. 6d., 2s. 6d., and 3s. 6d. each; Upright GUERNSEY ELMS, 6 and 8 ft. high, 40s. and 60s. per 100. An immense Stock of EVERGREEN OAKS, grown in Pots and frequently transplanted, from 50s. to 200s. per 100, 2 to 6 ft. high.

Large quantities of the above can be supplied.
LISTS of GENERAL NURSERY STOCK on application.

**Fruit Trees.**

RICHARD SMITH has no hesitation in saying, that he possesses by far the largest Stock of FRUIT TREES in the kingdom, consisting of Apples, Pears, Plums, Cherries, Peaches, Nectarines, and Apricots, in Maiden Trees, Dwarfs, Bushes, Pyramids, Half-Standards, and Standards; Dwarf-trained, Half-Standard, Standard, and Horizontally-trained Trees, of the finest sorts, and in the best possible condition. DESCRIPTIVE PRICED LISTS on application.

RICHARD SMITH, Nurseryman, Worcester.

SCOTT'S CATALOGUES.

No. 1.—FRUIT CATALOGUE and FRUIT TREE CULTIVATOR'S DIRECTORY describes nearly 800 of the best and most esteemed of our Fruits, with copious Observations and Directions about their Cultivation; the formation of Pyramids, Root Pruning, and other matter interesting to lovers of fine Fruit. Price 7d.
No. 2.—The BULB, WINTER, and SPRING BEDDING-PLANT CATALOGUE, 18 pages.
No. 3.—The DESCRIPTIVE CONIFEROUS CATALOGUE, 25 pages.
No. 4.—The ROSE CATALOGUE, 22 pages.
No. 5.—The SELECT NURSERY STOCK, 15 pages.
In December, the VEGETABLE and FLOWER SEED CATALOGUE.
In April, the SUMMER BEDDING CATALOGUE, 72 pages.

Apply to J. SCOTT, Merriott, Crewkerne, Somerset.

LARGE ORNAMENTAL TREES.—The Subscribers beg to offer very fine specimen plants of ARAUCARIA IMBRICATA, from 5 to 9 ft.; CEDRUS LIBANI, 7 to 12 ft.; WELLINGTONIA GIGANTEA, 5 to 9 ft.; PINUS EXCELSA, 7 to 10 ft.; also Spruce, Scotch, and Larch Firs, from 7 to 10 ft., with Limes, Birch, Beech, Elm, Sycamore, and Laburnum, 9 to 11 ft.; likewise Weeping Ash, Lime, and Willow, on fine tall stems. The above will be sold cheap, and if taken in quantity a great reduction will be made in the price.

J. IVERY & SON, Dorking Nursery.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.

RICHARD SMITH, Nurseryman, Worcester.

DEODAR CEDARS.

2½ to 3 feet, 2s. 6d. each, 24s. per dozen, or 9l. per 100.
3 to 4 feet, 3s. each, 30s. per dozen, or 12l. per 100.
4 to 5 feet, 4s. each, 42s. per dozen, or 17l. per 100.

A fine general Collection of CONIFERÆ, a CATALOGUE of which will be sent gratis.

Apply to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

**To Noblemen, Gentlemen, and Others engaged in Planting.**

GEORGE BAKER begs to invite attention to the following superb specimens, which are in the finest condition:—

ARAUCARIA IMBRICATA, 6 feet, 9 feet, 14 feet
ABIES DOUGLASII, 10 feet, 14 feet, 20 feet
ARBOR-VITÆ (Siberian), 6 feet, 8 feet
CEDRUS DEODARA, 6 feet, 8 feet, 10 feet, 12 feet, 20 feet
CUPRESSUS LAWSONIANA, 5 feet
" DISTICHA, 8 feet, 12 feet
CEDRUS LIBANI, 8 feet, 10 feet
CHINESE JUNIPER, 5 feet, 6 feet
IRISH YEWS, 6 feet, 8 feet
JUNIPERUS RECURVA, 8 feet
" BEDFORDIANA, 5 feet, 6 feet
PICEA CEPHALONICA, 11 feet
PINUS CEMBRA, 7 feet, 10 feet
" EXCELSA, 10 feet, 15 feet
TAXODIUM SEMPERVIRENS, 10 feet, 12 feet
THUJA GIGANTEA, 6 feet
WELLINGTONIA GIGANTEA, 5 feet
KALMIA LATIFOLIA, Standards, fine
RHODODENDRONS,
PORTUGAL LAURELS,

G. B. in offering the above perfect specimens feels assured that whoever may favour him with their kind orders, their hopes will be fully realised. Prices on application.

American Nursery, Windlesham, Bagshot, Surrey.

**Notice of Removal.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, Edinburgh and London, respectfully beg to intimate that with a view to facilitate their business transactions they have REMOVED from

27, Great George Street, Westminster,
to
28, King Street, Cheapside,
and
15, Lawrence Lane, E.C.

**New Seeds.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, of Edinburgh and London, are prepared to send out

FARM
and
GARDEN SEEDS

of every kind, and of the finest quality.

Orders for exportation executed with prompt and careful attention.

28, King Street, Cheapside, and 15, Lawrence Lane, E.C.

J. C. WHEELER AND SON Glo'ster

WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

WHEELER'S IMPERIAL LETTUCE

The price of the Lettuce is 1s. per packet, post free.

J. C. WHEELER & SON beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. WHEELER & SON, Seed Growers, Gloucester.

**Seed Trade.**

JAMES CARTER AND CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade:—

MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE,
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION.
TOMATOE DE LAYE.
HENDERSON'S PINE-APPLE BEET.

**Spring Blooming Plants.**

CAMELLIAS, including the best new varieties, fine plants, set with bloom buds, from 30s. per doz.; extra size, from 60s.

HEATHS, EPACRIS, CINERARIAS, and JASMINUM GRANDIFLORUM (grafted), remarkably fine plants, at moderate prices.

Also HUMEA ELEGANS, extra strong, in 6-inch pots, 18s. per doz.

JAMES DICKSON & SONS, Newton Nurseries, Chester.

NEW VERBENA, "RUGBY HERO."—The above beautiful New VERBENA will be sent out in May, 1863. It received a First-class Certificate from the Royal Horticultural Society on 10th Sept. last. Colour, light rose, with vivid carmine ring surrounding a pure white eye; very large truss. Each, 5s.; six for 25s. Special price to the Trade on application to

WM. HY. TREEN, Victoria Nursery, Rugby.

**Wholesale Catalogue.**

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE for 1862 and SPRING 1863, comprising Fruit Trees of all the leading kinds, new and selected Roses, fine varieties of American Plants, Choice and Rare Conifers, Evergreen and Deciduous Trees and Shrubs, and a fine Stock of Transplanted Forest Trees, &c., can be had free on application.

Woking Nursery, Surrey.

**Larch, Quicks, &c.**

GEORGE CHIVAS, Chester, offers FOUR MILLIONS of TRANSPLANTED LARCH, from 1½ to 4½ feet, of very superior quality. FOUR MILLIONS of TRANSPLANTED THORNS of various sizes, a large portion of which are exceedingly strong. Orders for 10,000 of either, delivered free at any Railway Station. A Sample Bale, containing 100 of each, 5 sizes of Larch, 22s. 9d., and of Quicks, 15s., will be forwarded on receipt of a Post-office Order from unknown Correspondents.

A General PRICED LIST on application.

**To Nurserymen and Others.**

FOR SALE, at PONTEY'S NURSERY, Plymouth.

50,000 SPRUCE FIR, 2 feet to 3 feet.
50,000 SCOTCH FIR, 1½ feet to 2½ feet.
50,000 PINUS AUSTRIACA, 1½ feet to 2½ feet.
100,000 BEECH, 2 years Seedlings.
200,000 SCOTCH FIR, 2 years Seedlings.
100,000 SPRUCE FIR, 2 years Seedlings.

TRUE NATIVE HIGHLAND SCOTCH PINE PLANTS.—The Subscribers have for Sale a large stock of 2-year old SEEDLING NATIVE PINE PLANTS, grown from seeds collected in the celebrated native Forests in Strathspey.

All the premiums awarded by the Highland and Agricultural Society for the cultivation of this valuable tree have been awarded to the Subscribers.

PRICED LISTS of NURSERY STOCK furnished on application. JOHN GRIGOR & Co., Nurseries, Forres.

**New Seeds, Growth of 1862.**

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS are now prepared to execute orders for all kinds of FARM and GARDEN SEEDS.

The prices are lower and the quality finer than usual, owing to the very favourable harvest.

Royal Berkshire Seed Establishment, Reading.

**Grape Vines.**

WILLIAM BULL, F.R.H.S., F.R.B.S., has a large and healthy stock of well ripened VINES from EYES, of all the best kinds (New and Old), either for Planting, or Fruiting in pots.

Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The ANNUAL GENERAL MEETING of the Members of this Institution will be held at the Bedford Hotel, Covent Garden, on THURSDAY, January 15, for the purpose of Electing Officers for the ensuing year and receiving the Accounts of the Society for the past year.

The Chair to be taken at 6 o'Clock in the evening precisely.

An ELECTION of TWO PENSIONERS will afterwards take place from among the following Candidates, who make application under Rule No. 6, and whose cases have been strictly examined into and approved of by the Committee. The Ballot will close at 8 o'Clock precisely.

CANDIDATES.

ROBERT DOWDELL, aged 73 | SARAH PHELPS, aged 76
JOHN LUCAS, aged 63 | JAMES ROBINSON, aged 62
JOHN SANGSTER, aged 67.

No person will be allowed to Vote whose Subscription for the year 1862 is unpaid on the day of Election.

Subscriptions are due on the 1st January in each year.

New Subscribers paying on or before the day of Ballot will be entitled to Vote, and will receive a Polling Paper on application to EDWARD ROGER CUTLER, Sec.

14, Tavistock Row, Covent Garden, W.C.

N.B. The Polling Papers have all been issued; any Subscriber not having received one is requested to notify the same to the Secretary.

# The Gardeners' Chronicle.

*SATURDAY, JANUARY* 3, 1863.

MEETING FOR THE ENSUING WEEK.
MONDAY, January 5—Entomological .. .. .. P.M.

"A CLASS of plants, once the glory of DRY STOVE Gardeners, is now most undeservedly neglected and forgotten." Some such remark as this was made last week, and it has excited quite a little commotion among amateurs, who are already inquiring what manner of plants these are, and what a Dry Stove may be. Although any gardener can answer those questions, yet it is as well to say a few words on the subject.

Dry Stove plants are always "succulents;" that is to say plants whose skin is wholly or in part so thick that they lose little water by evaporation. Some of them indeed have none of the usual evaporating organs, that is to say have no leaves, the surface of the stem itself being all that is provided for this most important function. Plants of the kind are placed by Nature in dry places, or in parched up countries where water rarely falls; they are able when it does fall to suck up as much as will fill their system with enough to last till the arrival of a fresh supply. With us northern people they form an unimportant feature of vegetation, rocks and the tops of walls being their usual resort; but in many parts of the world, especially Africa, they are the sole vegetation of those burning plains where, in the hot season, a European's nails split and turn back. Hence when they are cultivated they demand a treatment precisely the reverse of those thin leaved, thin skinned, soft, fast-growing species that are commonly called stove plants. Water is all in all to the latter; to the former it is only an occasional luxury. No wonder then that in the days when little was thought of a damp atmosphere, unless now and then for a treat, these succulents were the delight of every little gardener; for if they were forgotten for even weeks together, they were not much the worse for the neglect.

How well do we remember them in a great Eastern city, in the windows of poor weavers, the owners of which were as proud of a Mesembryum or a Stapelia as they now are of a Cineraria or a Balsam. How universally, in the eyes of their wealthy masters, were succulents prized as Orchids are now, with this rather important difference, that no one tired of succulents, because they were cheap and easy to grow; whereas many an Orchid grower gives up his fancy in despair because of its cost and the difficulties of management.

And now the glories of the Dry stove are departed. The names of the Crassulas, and Sedums, and Sempervivums; of Mesembryanthemums and Globuleas, and Haworthias are well

nigh forgotten; and their places are filled by strangers no better than themselves. The cause of this is not merely that craving for novelty which from all time has been the peculiar mark of the gardener, but the folly of collecting all sorts of things, handsome and ugly, to which the term succulent could be applied. Had the beauties of the race been alone favoured with the gardener's attentions, it would have been as dear to us now as 50 years ago. But all sorts of uglies were collected and petted; the most incongruous assemblages were crowded into the stove—great Aloes that never flower, frightful Euphorbias that might as well not, and detestable Stapelias that never should. To this we ascribe the downfall of our succulents. Good taste revolted from such barbarous confusion, and in spurning the worthless the worthy became involved in one common ruin.

It is right to repair the error; and we submit that the time has arrived. The managers of our great Exhibitions should bestir themselves and invite competition by ample prizes. Of "Stove and Greenhouse plants," as they are called, we are getting rather tired—*tædet quotidianarum harum formarum*—give us, good Societies, something new, do something for the humble and lowly who can't afford costly glass-houses, and have no great "vans" in which to transport huge plants like wild beasts in a travelling menagerie. Do something to encourage those who would revive the good taste that has somehow been overlaid by the nurses of plants. How delightful it would be to see in some great schedule of Prizes—

CLASS 00. SUCCULENTS IN FLOWER.

1. The handsomest of 20 species in flower, none exceeding 00 inches in height—20*l.*; 12*l.*; 8*l.*

N.B. Euphorbias, Stapelias, Cactuses, Opuntias, Melocactuses, Echinocactuses, and the like, cannot be exhibited in this class.

Why indeed should not an attempt be made to fill with pretty succulents the plant cases now the rage? They might be arranged so as to produce a delicious effect; they would be a hundred times more easy to manage than the sorts now employed for the purpose; Miss MALING's good advice would be little needed; and above all things the fair possessor of a plant case would not have the vexation of finding, upon her return home after a little visit to a watering place, her charming pets turned to dead leaves and sticks.

Here again we solicit the aid of the Exhibiting Societies, which might very well offer prizes for—

CLASS 00. The three plant cases best filled with Succulents, whether in flower or not—10*l.*; 6*l.*; 4*l.*

We shall be told perhaps that succulents cannot now be had, the fashion for growing them having long since gone out. We do not believe in the objection. Plenty may be had in the Botanic Gardens of this country; and if not those of the Continent are accessible. Trade will find the article the moment a demand springs up. All that our great Societies have to do is to revive the taste. If they are not strong enough to do this or any similar thing, they are not worth the support by which they live.

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INDEPENDENTLY of the new garden plants already adverted to (see p. 1217, 1862), the novelties of the past year have been so abundant, that a *résumé* of the more important of them may serve as a useful reminder to those who have not yet determined which to add to their collections.

The foremost place must undoubtedly be given to Lilium auratum, the gold-banded Lily of Japan, of which somewhat different forms have been produced. The gorgeous blossoms of this hardy or all but hardy Lily—which seemed to find its way into everybody's note-book, formed one of the most telling features of the summer shows. We observe that effigies of its blossoms, not badly modelled, have already appeared amongst the treasures of the artificial flower shops. As to the plant itself, price alone must determine how soon it is to become "everybody's" flower. Another decided acquisition amongst hardy flowers is the Ourisia coccinea from Chili, a perfectly hardy herbaceous perennial, with leaves like a Heuchera, and scarlet flowers like those of Pentstemon, which cannot be other than a desirable introduction. The Japanese Polygonatum oppositifolium albo-lineatum is another charming perennial, with its rubicund stems, and beautifully white-striped leaves. The best annuals have been the West Australian Rhodanthes—maculata and atro-sanguinea, two perfectly distinct and very elegant "Everlastings," the former of which will probably be the greater favourite of the two.

Amongst hardy shrubs we must give the first place to Lonicera brachypoda aureo-reticulata, a beautiful Japanese Honeysuckle, introduced by Mr. FORTUNE. It is a free-growing climber, having the leaves distinctly netted over with golden veins. Another fine thing is Mr. ANDERSON-HENRY's Clematis reginæ, a breed from lanuginosa, which being of garden origin ought strictly to have come into our former notice. It is a valuable acquisition, producing very large full-formed flowers of a light mauve purple. Amongst the Japanese importations have appeared several very distinct and desirable Maples (Acer), some with variegated, some with finely dissected leaves, and all of them remarkable for their elegance. The Aucubas have been augmented by two particularly handsome variegated forms—limbata and picturata, in one of which the border of the leaf, and in the other the centre is yellow, the rest of the surface being green. Besides the variegated forms of Osmanthus ilicifolius, which appeared in 1861, there has been added a dwarf variety called variegatus nanus, in which the leaves are effectively and prettily variegated with dark and light shades of green, quite unlike the ordinary white and yellow markings of variegated plants. A beautiful dwarf-habited Conifer, with something the aspect of a tree Lycopod, called Thujopsis lætevirens, has also appeared in Japanese collections.

The best greenhouse flowering plant of the year, in our estimation, is the white-flowered Lapageria, not indeed now known for the first time, but we believe not previously bloomed in England, and therefore unknown to English cultivators generally. Of this we need only say, that it is a fitting companion of the better known crimson Lapageria, with wax-like flowers of extreme delicacy. Another remarkably fine plant in this category is Swainsona violacea. It is more vigorous in habit than the rest of its family, and produces very long racemes of large deep mauve-purple blossoms, the keel portion of which is curiously convolute. Sarmienta repens, a dwarf harbaceous Chilian creeping Gesnera, with scarlet Mitraria-like flowers, will be a very useful basket plant for greenhouses; and another Chilian subject, Calceolaria ericoides, a most distinct looking thing amongst Slipperworts, is likely to be an excellent autumn-blooming decorative plant for the conservatory. We have also seen a nicely variegated form of the plant called Ophiopogon Jaburan, which is a very neat and good looking dwarfish perennial, and forms a nice tuft in the greenhouse, though probably more hardy. The red-veined Ficus Cooperi, from Australia, is another greenhouse plant desirable in its way.

Several very choice greenhouse Ferns have been introduced, the most striking and valuable of which are Polystichum concavum from Japan, which is likely to prove one of the polystichoid Lastreas, and Lomaria gibba from the Australasian regions. The first has spreading light green, much divided fronds, remarkable for the concave upper surface of the ultimate divisions; the latter is of Palm-like habit, with fine arching pinnatifid fronds, the divisions broader in those which are sterile, after the fashion of other Lomarias. To these may be also added Adiantum chilense and A. sulphureum, the latter of which is styled Golden Maidenhair, on the strength of a dusting of yellow powder on the lower surface of its fronds; but though this feature is not so marked here as in the well-known Golden Gymnogrammas, A. sulphureum as well as its congener, chilense, is an extremely welcome addition to our garden collections of Ferns.

Amongst stove Orchids some good things have appeared. Perhaps Phalænopsis Lowii, which has already been formally noticed in our columns (1862, pp. 955, 979) is one of the most interesting; though it is surpassed in beauty by such plants as Cattleya amethystoglossa or by Cattleya Warcsewiczii delicata, a charmingly delicate and beautifully grown variety, which appeared about the same time. Finer perhaps, though not we believe brought out at any of the exhibitions, is a remarkably rich coloured Lælia to be called L. Turneri, the flowers of which are unapproached for the intensity of the rose purple of the lip, the rest of the flower being deeply suffused with purple. There have been exhibited several interesting Dendrobes, especially D. Lowii, a yellow-flowered Bornean species, very distinct in appearance, having a red-veined lip, bristling with hairs along the coloured veins; D. infundibulum, a Moulmein plant something like formosum; D. nodatum or Aphrodite, a cream-coloured Moulmein plant with moniliform stems, the lip of the flower deeper coloured, and marked with a pair of crimson spots; and D. cucullatum majus, a very fine thing in that way, remarkable for its large rounded concave pubescent lip. Cypripedium Stonii, a new Bornean species with long narrow petals, and a very obviously slipper-formed lip, has been flowered and exhibited by Mr. Day. A very superior form of Disa grandiflora, named superba, and differing both in the form of its parts and in the fulness of the colouring of its veiny hood-like dorsal sepal, has been exhibited by Mr. Leach, who has this hitherto intractable plant completely under his thumb. Finally, in the Royal Horticultural Society's garden, Physurus fimbrillaris has been grown so as to have been critically pronounced the best of the silver-veined Anæctochiles.

The most notable amongst stove plants with ornamental flowers stands Clerodendron Thomsonæ, from Calabar, a slender climbing shrub, in whose blossoms the calyx is enlarged and coloured white, while the protruding corolla is crimson. Foliage plants requiring stove heat have been more numerous. Sphærogyne latifolia is one of the grandest to be set down to the year's account. It is a companion plant for Cyanophyllum magnificum, and perhaps in some points superior to that noble subject. Two very telling Arads have been brought out, namely, Caladium Lowii, with bronzy leaves, which have the appearance of being half-way between Alocasia metallica and Caladium Veitchii; and Alocasia zebrina, which, though green-leaved, is remarkable for the curious ornamental variegation of its erect leaf-stalks. These Alocasias and Caladiums, by the way, are apt in gardens to be named at random, and we do not know that either of the two we have now mentioned under the names they bear have been critically determined. Musa vittata has been largely exhibited in the early part of the year, and proves scarcely equal to what was expected of it, though it is not improbable that excessive propagation and strong forcing may have deteriorated it, and that when better established and less stimulated it may improve. The Royal Horticultural Society has obtained from its collector in Brazil a pretty dwarf melastomaceous herb, whose leaves are dotted over with pearl-like white spots; this, which is called Bertolonia margaritacea, will be worth cultivating.

The most remarkable stove Fern is Litobrochia nobilis. This is like a giant L. palmata, the great lobed fronds measuring upwards of a foot across the lamina: it is a noble plant. Cibotium princeps is another good Fern, but has not been produced in a mature state. Adiantum Féei (the A. flexuosum of Hooker) remarkable for its semi-climbing habit, and for the dense velvety pile on its zigzag rachis—a feature unknown in other Maidenhairs, has also attracted attention; and finally one or two persons have brought out the charming little Asplenium myriophyllum, raised by Linden, and distributed under the false name of A. flabellulatum.

This very hasty sketch will be sufficient to show that the acquisitions of 1862, which have not been few, have at the same time not been unimportant.

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## New Plants.

254. PRUMNOPITYS ELEGANS, *Philippi in Linnæa*, vol. xxx. p. 731.

UNDER this name, which literally signifies Plum-fir, Prof. Philippi of St. Jago in Chili has published an account of a very fine Conifer that has been raised by Messrs. Veitch. He describes it as a rather large tree with linear, distichous leaves, inhabiting the inner Andes of the province of Colchagua. It bears, he says, yellowish green drupes about ¾ of an inch long; and its wood, which is handsomely veined, is in request among cabinet makers. The native name of the tree is Lleuque. The drupes or "Plums" are eaten when ripe as well as the stone they contain.

Whether this genus is really distinct from *Podocarpus*, we do not pretend to say. There is no doubt about its being nearly allied to the *Podocarpus andina* of Pöppig, of which we believe we have a specimen from the Paris Herbarium marked "No. 936, Juniperus, Peru, Dombey." Indeed we should have thought it the same had not Philippi described the fruit as ovate, while Pöppig expressly states that of P. andina to be globose.

Messrs. Veitch's seeds were collected in 1860 on the Andes of Chillar, at an elevation of 5000 to 6000 feet, by Mr. R. Pearce, who describes the tree as a pyramidal evergreen, 40 to 50 feet high, with a dark glossy green foliage, and much the appearance of Abies Douglasii.

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## DIES ORCHIDIANÆ.—No. II.

(*Continued from p.* 1196, 1862.)

TAKING Messrs. Loddiges' collection of Orchids as a fair example of what such things were some 30 years ago, and comparing them with the collections of the present day, many striking contrasts might be pointed out. Of these, perhaps the most remarkable occurs in connection with what we now term "Air-plants," *κατ εξοχην*—*i.e.* members of the true aërial genera Aerides, Saccolabium, Vanda, Phalænopsis, Angræcum, &c.—and which, though they claim a good moiety of the space in all our modern Orchid-houses, were in 1832 chiefly "conspicuous by their absence!" Messrs. Loddiges mustered only Vanda Roxburghi, V. multiflora, Renanthera coccinea, Aerides odoratum, Sarcanthus paniculatus, and S. rostratus, and if to these we add Angræcum eburneum from Chiswick, and Saccolabium guttatum from Kew, we shall have mentioned all that could have answered to their names in those days. But if there were then but few air-plants—properly so-called—there was at least an abundance of what have now almost disappeared from our collections—to wit the Cataseta. Heavy, swollen, awkward-looking things they certainly were, with their pseudo-bulbs naked for half the year, and strange, hideous and disagreeably-scented flowers. What wonder then if in this fastidious age they should have fallen into such utter disrepute that the other day when Mr. Darwin urgently required some specimens for investigation, it was with the utmost difficulty, and not without a search though half the gardens in England, that any could be procured for him! Yet time was when even the debut of a Catasetum could make a sensation in the horticultural world, for Dr. Lindley declared (*Collectanea Botanica, ann.* 1821) when C. tridentatum blossomed for the first time, that it was "by far the most remarkable Orchideous plant that had ever been seen in a cultivated state!" But with the Cataseta—which were giants in those days—a host of pigmies have also disappeared. Your

Orchidist of 1832, in order to eke out a list of a hundred species—then considered a high figure—was obliged to impress into his service a whole brigade of dwarfs contributed by the genera Pleurothallis, Stelis, Octomeria, Isochilus, Dichæa, Dicrypta, &c., the very names of which will sound strange to the ears of modern cultivators. And even of the four great genera that formed the staple of all collections, *i.e.* Epidendrum, Maxillaria, Oncidium, and Dendrobium, the last only has stood its ground. The first, viz., Epidendrum, holds on almost entirely by means of E. vitellinum and E. verrucosum*; the second—Maxillaria—in losing its section Lycaste has lost nearly all that was worth growing; while the third—Oncidium—can now scarcely count up half-a-dozen popular favourites, and is rapidly waning before the rising star of Odontoglossum. As to the other genera that once held a respectable position, the Bletias may be said to be going fast, and the Geodorums already gone; while with the Erias, Bolbophyllums, Pholidotas and Megacliniums "occupet extremum scabies" is the word. On the other hand certain genera are now in repute that were quite unknown at the time of which I write, such for example as Miltonia, Burlingtonia, Lælia, Trichopilia, Paphinia, †, Huntleya, ‡ &c. Then again there is Cypripedium, which although not by any means a new genus—indeed it is over a century old—has only within the last few years come prominently into notice. Those two veterans C. venustum and C. insigne were, up to the year 1837, its sole representatives in our stoves. Mr. Cuming then brought us C. purpuratum from the E. Indies, to be speedily followed by C. barbatum from Nepal. The wonderful C. caudatum from South America was the next to appear, fairly distancing in length of tail even the far-famed Angræcum sesquipedale itself! From the same hemisphere we have the pretty C. Schlimii, now flowering in more than one suburban collection, and we might have the noble C. Hartwegianum (*Xenia Orchidacea, t.* 27) if some staunch collector could but be induced to go and fetch it for us. Still the East would seem to be the favourite home of this extraordinary genus, for from thence have been lately added those admirable species C. Lowii, C. Fairieanum, C. hirsutissimum, C. villosum (a fine plant of this was knocked down to Mr. Veitch the other day at Stevens's Rooms for 75*l.*), and C. Stonei—the last perhaps the best of all. But besides the above there are two or three other unpublished species, as well as varieties innumerable, already in our gardens, and further important reinforcements are expected to reach us in the spring, nor do I hesitate to prophesy that before the end of 1864 we shall have at least two dozen distinct kinds upon our list. By that time I hope that the Royal Horticultural Society will deign to offer a liberal prize for "the best Cypripedium." Indeed, looking at the stages of Orchids exhibited year by year at our great horticultural shows, I cannot but think that a much improved effect might be attained if, instead of being jumbled together in a mixed incongruous multitude of all habits, these beautiful plants were collected into groups; air-plants being shown against air-plants, Cattleyas and Lælias against Cattleyas and Lælias, and so on. As at present arranged, the mixture destroys the variety. You walk for 50 or 60 yards along a splendid bank of Orchids, but before you have reached a quarter of the way it is 10 to 1 you have seen them all! For what remain are merely a repetition of the same kinds, *e. g.* Aerides, Cattleya, Saccolabium, Lælia, and Phalænopsis, followed by Aerides, Cattleya, Saccolabium, Lælia, and Phalænopsis, over and over and over again. But separate these into groups, and then the interest will be sustained by a constant succession of new forms and new effects. The office of judge, moreover, would, I am sure, be greatly promoted by the change I have ventured to suggest. *Serapias.*

* How comes it to pass that there are two Epidendrums under the style and title of E. verrucosum, viz., the one so called by Swartz, a small caulescent species, with an umbel of green flowers, introduced from Jamaica in 1524. The other, named by Professor Lindley, a pseudo-bulbous kind, with a splendid panicle of rose-coloured flowers, introduced 20 years later from Mexico. I have seen a magnificent drawing of the latter from a specimen that flowered in Mr. Turner's collection, which has been prepared for Mr. Warner's work.

† There are only two Paphinias recognised as such, viz. P. cristata and P. tigrina, but surely the so-called Cycnoches barbatum, which has nothing (but an arched column) in common with Cycnoches and everything in common with Paphinia, ought to be referred to the latter genus.

‡ The good Professor Reichenbach seems to be making sad havock with the Huntleyas. His genera Bollea, Warscewiczella, and Pescatorea appear to me to be all referable to Huntleya. Besides, what has become of the genus Huntleya itself? To extinguish a genus during the lifetime of him in whose honour it was named (for Mr. Huntley still lives) seems somewhat harsh.

## PLANTS OF PERU.—No. VI.

(*Continued from p. 644, 1862.*)

CINCHONAS.—On the 2d of December I sent an Indian to the Sierra with a letter for Dr. Taylor, informing him that I considered the plants would now bear removal, and requesting his co-operation in the work. The Indian reached the Canton of Guaranda on the 3d, where he met Dr. Taylor on his way to Limon, which he succeeded in reaching, in a very exhausted state, on the 5th instant. On his arrival, I commenced taking up the Cinchona plants,—being careful not to injure a single fibre—and packed them in cylindrical baskets, similar in form to a cask, but open at both ends. The plants were all placed in the baskets with the roots one way. In packing, the leaves and stems were carefully enveloped in Moss, procured from the adjoining forest, and previously well dried in the sun. A cluster of damp Moss was likewise placed around the roots; and they were afterwards bound firmly together, to preserve them from injury during the journey to Ventanas. The object in packing the leaves in dry Moss, was to prevent them from rotting or "heating," on their way through the damp, hot forests. About fifty plants were put in each basket, the ends of which, when packed, were wattled by (Sogas) the trailing stems of Passion-flowers and Bignonias. When packing was finished, it was seen that eight beasts would be required for the transportation of the plants—the number of baskets being sixteen. Dr. Taylor, having, with some difficulty, procured the necessary number of animals, we left Limon early on the morning of the 9th of December. The pathway led, in a zigzag manner, down steep forest-covered slopes, here and there intersected by large stones and trunks of fallen trees, which caused our mules to run frequently into the wood, from whence they were ultimately brought back, after a great deal of searching amidst the wet dripping forest, and great clumps of Arads. In one of those raids, a mule happened to get entangled in the branches of a tree, which was thickly hung with climbers, and these becoming fixed to the baskets, they were almost torn to pieces as the animal was endeavouring to free itself. Shortly afterwards, on descending a steep, muddy slope, another mule fell, and rolled over several times, crushing the baskets with which it was laden to pieces. By means of these two accidents alone, forty plants were lost.

About 4 o'clock in the afternoon we reached an open spot in the forest at the base of the slopes over which we had passed with such difficulty, and formed our encampment beside a little stream, the banks of which were fringed with thickets of lofty Bamboos. On removing the baskets from off the mules, I first repaired those which had been rolled in the mud, and afterwards strengthened all the others. Early on the morning of the 10th we resumed our course, without meeting with any accident—for we had now entered on the great Guayaquilian plain—and about dusk came to a place called "Wamaychu," a name of Indian origin, which, I was told, signifies the "eagle's water. We found at this place several persons, one of whom informed us that Mr. Spruce—who had gone from San Antonio to Guayaquil, and afterwards ascended the river—was at Ventanas, awaiting our arrival. It was nearly nine o'clock next morning ere we got on our way, on account of the great difficulty we had in finding the mules, which had been grazing all night beside our encampment in a great forest of Gynerium saccharoides, the shoots of which were from 15 to 18 feet high. After loading our mules we pursued our journey, hoping to reach Ventanas before the close of the day. The pathway was in tolerable condition, but the heat was oppressive; and we were, besides, frequently annoyed by a kind of stinging ant, which is furnished with wings, and inflicts a wound ten times more painful than a sting from our common English wasp.

It was astonishing to see the immense length and thickness of the various Climbers; and how they twined round the trunks, and climbed to the tops of the highest trees, from whence spread out a vast number of shoots, which, after running along the primary branches, again throw out laterals; and, owing to these becoming entwined with the branchlets, and with one another, a perfect mantle of network is formed, which, when viewed from beneath, appears like the ropework or rigging of a ship. About 5 P.M. of the 12th we came to Ventanas, where we found Mr. Spruce, who had been waiting there for us for more than a fortnight. The baskets containing the plants were deposited in an adjoining shed for the night; and the mules were sent back in charge of two Indians, who had accompanied us from the slopes of Limon. Early next morning the plants were taken down to the river side, and put under an awning of Maranta leaves previously prepared for them. I then opened them out—one basket at a time—and planted them close together in the Moss in which they had been packed. On being opened out, the plants seemed as fresh as when packed at Limon; but, before they had been more than half-an-hour in the Moss, every leaf was drooping, and the plants appeared to be already past recovery. Every one who came to see them said they would die; and I am almost inclined to think Mr. Spruce was of this opinion also. When the plants were all put in the moss I placed a man with a handful of twigs and a pitcher of water, to sprinkle them without intermission until sunset. In a few hours this simple remedy restored their appearance. I then went in search of soil, and selected some, covered with healthy Grass, from a mound on the bank of the river. Mr. Spruce was anxious to have soil from Limon, but that was an impossibility; for, before we left with the plants, the rainy season had set in, in consequence of which most of the people had left the Sugar Cane farms, and gone up to the mountains—where they usually reside during the wet season—taking their mules and bullocks with them. After excavating a considerable portion of the soil, it was spread out to dry, and turned every hour, in order to have it ready as soon as possible; and a similar quantity of decayed leaves, taken from the neighbouring forest, was treated in the same way. The object in drying the soil was to render it more porous and friable, and to destroy any vegetable life that might be in it—such as roots, fibres, &c. Next day the soil, exposed to the fierce rays of the sun, was dry as dust; but meantime the cases were being put in order, when they were afterwards put on the raft for the reception of the plants.

On the following morning, at daybreak, with the thermometer standing at 75° Fahr., I mixed about an equal quantity of the dried soil, and decayed leaves together; and then moistened the compost with water, and afterwards carried it to the raft. I then tested the stability of the cases by pouring water into them, and by this mode was enabled to make the bottoms perfectly watertight, a proceeding absolutely necessary, as, during the voyage, the cases might be standing for several hours, or perhaps days, in 5 or 6 inches of salt water.

When the cases were all tested, I took one, and after putting into it about 5 inches of soil, without any rough preparation in the bottom, for that would have made the cases unnecessarily heavy—a thing by all means to be avoided—I planted the plants in rows, keeping the soil as loose as possible, and to the roots of those plants which had but few fibres I added a little sand, in order to hasten their running into the soil; and finally, as the cases were planted in this manner, I sprinkled the plants with water, and then spread over each case a piece of cloth previously dipped in the river. The cases, on being covered with the wet cloths, soon became filled with vapour, which, in a few hours, greatly improved the appearance of the "Red Bark" plants. In two days afterwards, the cloths were gradually removed from off the cases—one hour in the morning, and two hours in the evening—for the afternoons were cloudy; but, after a few days, they were taken off altogether. However, on several occasions subsequently, during hot suns, I shaded the plants for two or three hours in the middle of the day; but the cloths were not placed on the cases as before, they were elevated about four feet above them, on a temporary framework consisting of bamboos and Salix Humboldtiana, both of which grow abundantly on the banks of the river. *Robert Cross, Southern Slopes of Chimborazo, March,* 1862.

## HUE AND CRY.

IN the last issue of the Transactions of the Edinburgh Botanical Society mention is made of the presentation of seeds of several Grecian Piceæ, and amongst others of P. Reginæ Amaliæ from the mountains of Arcadia; P. Apollinis; P. Panachaica, a new and most beautiful species from Mount Boidas; and a new sp. from Mount Draco, 6000 feet above the sea, and where the temperature falls 4—5° below freezing point. What are these new Conifers? Have plants been raised from the seeds? and where are they to be met with?

In the same publication Captain Playfair is said to have sent seeds of an undescribed species of Poinciana, found at Aden, and which had been named P. Playfairii by Dr. Anderson. The plant is said to be very handsome, with pure white flowers, changing to pale buff. This seems to be worth inquiring about. Has any one succeeded in rearing it? *M.*

## Home Correspondence.

*Seedling Fruits.*—My old friend Mr. Rivers, in his letter on this subject of the 20th ult., says:—"In South America I have heard that Peach trees, the second year from the stone, bear fruit." Allow me to say that in South America no Peach trees are grown. Most likely Mr. Rivers meant to say in the south of North America; and permit me to add that this mistake is often made by others as well as by Mr. Rivers. The best Peaches in North America are raised in Kentucky; but my opinion is that although our American cousins boast of eating the best Peaches on the globe, they are very inferior to those which we eat in France. Coming, however, to the point in question, I must say that very often stones thrown away in our gardens produce Peach trees, which, without any care, carry fruit the second year; this has been the case with me. Many of our horticulturists now prefer Peach trees raised from stones to those that are grafted, because they are more robust and stand the drought of our climate better, and particularly the dryness of our sandy soil, which, after all, is very suitable to the Peach tree. In the environs of Lyons particularly we have a great many Peaches raised from stones, and they are generally of first-rate quality. They are known under the general appellation of Pêches d'Oullins, although they proceed from early or late sorts. A very good Peach raised from a stone, and introduced some years ago to Grenoble by a M. Michal, and called Pêche de Syrie, reproduces itself pure from stones. In the South of France Peach trees are seldom raised otherwise, but there they are not equal in quality to those grown in an intermediate climate—the excess of heat destroys the flavour. *John Sisley, Rue St. Maurice, Monplaisir, Lyons.*

*The Galvanised Iron Question.*—Among the numerous observations which have appeared on this subject, I am

not aware that any one has attempted to account on scientific principles for the observed facts. No one has yet given us any reason why the material should be injurious to plants brought in contact with it. With your permission I will suggest an experiment, which being so consistent with familiar facts, will be readily admitted without actual trial, and which may go far to settle the question. If a man sit for five minutes upon a well heated gridiron, or upon a gridiron cooled down to zero, the results will in both cases be very much alike. Palpable evidence would be obtained that, when kept in contact with metallic conductors of heat at extreme temperatures, living matter is destroyed. The case of the tender shoot of a Peach tree trained upon a trellis of galvanised iron, is in winter the case of the refrigerated gridiron. At this place we have trellises of galvanised iron which are not injurious, but they are not exposed to extreme cold. When so exposed, painting the metal would of course to some extent be a protection to the plants. *John Cocks, Gardener, Clapham Park.*

*Plants in Bloom at Little Efford, Plymouth.*—The following were gathered in our garden on Christmas-day, viz. :—Myrtles, in flower; sweet-scented and purple Verbena, Calceolaria, two varieties of Heaths, Ageratum, single and double White Violet, three varieties of Purple Violets, Geraniums, double Blackberries, Polyanthuses, Berberis Darwini, fruit of Benthamia fragifera, China Roses, various Chrysanthemums, Intermediate and Virginian Stocks, Fuchsia Dominiana, Mignonette, various Antirrhinums, Anemones, Trumpet Honeysuckle, yellow Jasmine, Laurustinus, Alyssum, and scarlet Rhododendron. *G. H. S.*

*Badly Managed Vines.*—Wonders will never cease. In your last Number is an article under this head, in which the depth the Vines are planted, the material and purpose the border is used for, are all set forth. In these particulars, however, there is nothing remarkable; but the statement respecting a Vinery being shut up for weeks together in spring and summer under a scorching sun, completely outstrips us so called practicals, who make the *modus operandi* of airing our constant study. Perhaps "H. H." will be kind enough to explain what he means by the Vines being pruned twice a year, and whether the glazing is complete or not. Never during my experience have I heard or met with such a case; on the contrary I have known instances in which there was more than a third of the glazing deficient in a Vinery, and the crop which was ripe in the end of September was all that could be desired as regards quantity and colour. *W. McLellan, The Gardens, West Lodge, near Barnet.* [Mr. McLellan evidently misunderstands our correspondent's meaning; the case in question was merely recorded to show how badly Vines may occasionally be treated and yet bear satisfactory crops.]

*A Cotton Tree that behaves ill.*—Last spring I planted some seeds of a Cotton tree which I had from Ceylon. The pod is about 4 inches long, containing some silky cotton, some of which I have enclosed, also a leaf from the young trees. I believe the botanical name is Bombax Malabaricum, but about six weeks ago the young trees began to turn brown at the bottom, which appearance gradually covered the whole stem, which then shrivelled and dried up. They were grown in a garden frame until August, then removed into a greenhouse, and had no artificial heat until the latter end of October, which ranged between 60° and 70° in the sun down to 45° and 50° at night. Can you inform me where my management was wrong. and the kind of soil I ought to grow them in? *R. P.* [Bombax is a tropical genus, requiring the treatment of the tenderest stove plants. Your management did not approach what they demand.]

*Grape Growing in Norfolk.*—I do not marvel that your account of Mr. Hardie's Grape growing should have taken your correspondents "N. N." and "H. G." by surprise. The wonder is that the whole gardening fraternity has not stormed you for a "full and particular account" of the whole affair. It has hitherto been considered good enough work for a gardener to grow a crop of Muscats after April, from wood grown and ripened the previous year, but this jog-trot system bids fair to become antiquated, for what Mr. Hardie has done may be done by any other ordinary man. For all practical purposes one hothouse builder or nurseryman is just as good as another, so no merit can lie in that direction; the whole credit therefore must consist in the management, which must be discovered if it cannot be revealed. The challenge "How many men are there who could have performed such a feat?" must be extensively accepted by Grape growers to vindicate their own honour, and if we don't get Grapes we may get something as good or useful. No Grape grower would find any difficulty in cutting Grapes out of a house the first year, but to do it after the manner Mr. Hardie is said to have done is worth a trial. *A Cumberland Gardener.*

*Orange Trees.*—I would feel obliged by the opinion of some of your correspondents as to the reason why so many of the leaves are dropping from my large Orange trees at this season. It may, however, be necessary first to give a short history of my trees. About the middle of June last they were brought from the neighbourhood of Paris; at Havre, they stood on the quay for 14 days. Previous to being shipped for England I went to take them in charge, which was on the 28th of June. When I first saw them at Havre, I mentioned to my employer (who was there), that owing to the strong winds and dust to which they were subjected they would be injured. About the middle of July they were on board a steamer, and had a good passage to England. I ordered the men to keep the hatchings of the ship off, so as to admit as much light and air as possible, and at the same time they received no sea spray. At Middlesborough we got them safely landed from the ship, on railway rollers by steam crane, but owing to their great weight and size, we had the greatest difficulty in bringing them from Middlesborough to this place, neither railway arch nor bridge would allow them to pass; the first difficulty that presented itself, and that more than once, was the telegraph wires crossing the road; however, with the assistance of long ladders and cross poles we managed to get pretty safely under them. The greatest drawback in our journey was the endless number of tree branches that overhung the road; in many instances I ordered the men to climb the trees and cut the branches off, but with all our care and anxiety to get them safe here, they were sadly nipped when they get to their journey's end. Having got them at home they were placed on the lawn in the most sheltered situation we could find; there they stood till the 15th of September, when we placed them under a wooden house built for them. The dimensions of the house, which was all double boarded, were—length, 64 feet; height, 24 feet; width, 22 feet. It was heated by a stove. The front and ends are glass and wood, and the back dark, as is also the roof. Now I am, as you may suppose, most anxious about the welfare of these trees, and how I can improve their at present tattered appearance is what I want to know. Three out of the lot are worse than the others; these three had the worst of the land carriage. We never use fire heat except during severe frost, when we keep the thermometer at from 40° to 45° Fahr. Some of them are very fine specimens, being about 20 feet high and 12 feet in diameter. Six of the trees and soil weigh respectively 2 ton 3 cwt.; but about 50 are of smaller dimensions. Both large and small are losing many of their leaves, indeed several of the smaller ones are completely naked. What therefore can I do to restore them to health? *A Constant Reader, Darlington.*

*Isometrical Drawing.*—Allow me to recommend to your correspondents Mr. Sapwith's little book on this subject. It is the best and cheapest (4*s.* or 4*s.* 6*d.*) that I know, and ought to be in the hands of all young gardeners, but few of them, I am sorry to say, give their attention to architectural drawing, and still fewer, I believe, are acquainted with the merits of this particular kind of drawing. *W. Craw, Enville.*

*Exquisite New Pear.*—In your Paper of Dec. 12, 1857, an account was given of three seedling Pears which I had raised from a cross between Marie Louise and Gansel's Bergamot, and you closed that article with the following sentence—"What will the third of the three seedlings prove? It has not yet fruited." I am happy to tell you that this year (for the first time) that tree brought fruit to maturity, but, owing to untoward accidents, only a single specimen. This was very similar in appearance to its sisters. Its weight was 8 ounces, and it ripened about 10 days ago. Mrs. Huyshe took too much care of it, and it was kept in too warm a place, or in all probability it would have remained for three weeks longer, but it proved to be decidedly superior to either the Victoria or Bergamot (its sisters). It was tasted by seven persons with a good specimen of the Victoria as a test, and although they did not know at the time which Pear they were given to eat, the unanimous decision was in favour of the new seedling, and given without a moment's hesitation. Almost all these persons who tasted it, were good judges of Pears, three of them especially so. Two of them said that it was the best Pear they had ever tasted, and they were all astonished at the excellence of its flavour. Now I know that much reliance cannot be placed on a single specimen, but looking at its large size and excellent flavour I feel convinced that it will prove quite equal, if not superior to either of its sisters. I must apologize for troubling you with this statement, but from the observations you were kind enough to make on the subject in the *Gardeners' Chronicle* just alluded to, I cannot but imagine that you may feel interested in knowing the result of the fruiting of the third seedling. It has been named "Huyshe's Princess of Wales." *John Huyshe, Clysthydon Rectory, Collumpton.*

*Black Alicante Grape.*—As the merits of this Grape have been discussed by your correspondents, I beg to forward you a sample for your inspection. The account that Mr. Petch gave of it in your Paper, at page 1125, exactly corresponds with my experience. It is the freest setter of any kind of Grape that I know, and one of the best keeping sorts in cultivation. *J. B.* [And let us add one of the handsomest and richest flavoured.]

## Foreign Correspondence.

HOW LADIES CAMP OUT IN BRITISH COLUMBIA.—After a short introduction to the inside of a comfortable looking little tent, we were summoned forth to supper by candle light under the trees (which I must tell you are not large here, but stand closely together, and with their thin drooping branches form, as it were, a series of bowers). Here we tasted the much libelled Beans and Bacon, which I thought excellent. We had hot tea and cold beef, hot Potatoes and cold butter, good bread, dough cakes, hot eggs, and I know not what other luxuries. Supper being over we retired to a glorious log fire, which served alternately for kitchen and drawing room. Bed time soon arrived, and my companion's husband instructed us how to make our beds, and after assuring us we had nothing to fear, that a watchman and a dog kept guard all night, while he and his brother would be in a tent close by, he bid us good night, and left us to our own cogitations. I had at once noticed in the tent a double-barrelled gun and a brace of revolvers, and knowing also that thousands of dollars were kept in a certain portmanteau there, we were not much inclined to sleep. I should tell you that the floor of the tent was thickly strewed with branches of the Douglas Fir, which smelt most pleasantly aromatic. Over these our beds were made of thick blankets, with our carpet-bags at the head for pillows. I drew myself well under the blankets and tried to sleep, but what with the jingling of the bishop's bell-mule and others trotting at its heels round our tent, as it seemed to me with great danger of their not seeing the canvas and of galloping over us; and what with other strange sounds and feelings (very like flea bites) it was almost dawn when I became unconscious, and awoke to find it a wet drizzling morning. This was unfortunate, but we had our breakfast *al fresco* all the same, and it being Sunday we all attended church service, held by the bishop under one of the neighbouring trees. The quiet earnestness of the bishop, and the reverent demeanour of all present, were subjects enough for a striking picture; I think I never shall forget it. After service the bishop and Mr. —— joined us, and we all strolled together down the fine new road now being made by Mr. Trutch, here blasted from the rocks and there built up with the granite fragments to bring it all to the same level. *Our Own Correspondent, Sept.* 20, 1862.

## Societies.

LINNEAN: *Dec.* 18.—G. Bentham, Esq., President, in the chair. The following papers were read:—1. "On the form of the vascular fasciculi in certain British Ferns," by A. H. Church, B.A.; communicated by Dr. Francis. The author observed that the distribution of the vascular tissues in the stem and stipes of the British species of Ferns had been made the subject of much interesting study, and the results of such inquiries, "possibly affording criteria of generic if not of specific difference," might tend to further changes in the nomenclature of the Filices [a consummation devoutly *not* to be wished]. Of the genera Polystichum and Lastrea, as understood by Moore and many other authors, and co-extensive with Aspidium and Nephrodium of Hooker, the author had examined transverse sections of all the generally received British species, and many of the varieties, and in two only (L. Thelypteris and L. montana) was any material departure observed from the common arrangement of the vascular fasciculi disclosed by a transverse stipital section of L. Filix-mas, for example. In L. Filix-mas it was explained that the larger terete fasciculi of the stipes show an included irregular oval figure with a hooked or incurved apex; while in L. Thelypteris the fasciculi are compressed, and the included tissue forms a thin flat plate, representing in section a slightly wavy linear figure, which in L. montana becomes more curved and sigmoid, taking the form of the Greek Σ. The conclusions drawn from the observations detailed in the paper were:—1. That the disposition of the vascular tissue in all the British varieties and indistinct species of Hooker's genus Nephrodium is identical. 2. That there is no marked distinction between the genus Aspidium (Polystichum, M.) and the genus Lophodium (Lastrea, M.), in this particular. 3. That the genus Lastrea of Moore contains two British species, and many foreign ones, which possess a totally different arrangement of their vascular tissue; and that this fact, taken in connection with the other previously recognised outward difference of these very same species, almost warrants their removal to another genus. 4. That genera whose outward characteristics are conspicuously distinct exhibit marked differences in the arrangement of their vascular fasciculi, which closely allied genera do not. [To which we must add, 5thly, as proving from the author's own words in his remarks on Osmunda regalis, how useless these characters are for even specific distinctions:—"Not only do the various foreign forms of this plant exhibit the same disposition of the vascular tissue of the stipes, but an identical arrangement in species of Osmunda generally thought to be distinct, such as O. Claytoniana." That is to say, two perfectly distinct species show the same arrangement of the vascular bundles.] In a note the author adds, that in the genus Lastrea L. æmula (recurva, fœnisecii) with its very compound fronds of almost deltoid outline, its dark ramenta, and the trilobed outline displayed by a transverse section of its stipes, passes by nearly insensible gradations through L. dilatata and its slightly divergent varieties, through Mr. Westcombe's new form, L. scotica, through the forms of L. glandulosa, L. spinulosa, and L. uliginosa to L. cristata with its simpler narrow fronds, its pale concolorous ramenta, and its quadrangular section: the disposition of the vascular fasciculi remaining nevertheless nearly identical in the whole series.

2. "On Welwitschia mirabilis, a new genus of Gnetaceæ," by Dr. J. D. Hooker. In this paper Dr. Hooker gave a complete historical and scientific account of this very remarkable vegetable production, the most interesting probably which has been brought to notice since the discovery of Rafflesia. The paper was accompanied by a series of admirable figures by Fitch, and is to be shortly issued in the Transactions of the Society. The first notice of the plant was contained in a letter from Dr. Welwitsch to Sir W. J. Hooker, dated St. Paul de Loanda, August 16, 1860, which was communicated to the Society, and was published in its Journal. The plant was found on an elevated sandy plateau near Cape Negro (lat. 15·40 S.) on the South West coast of Africa. In the autumn of 1861 he sent to Sir W. Hooker, both drawings and specimens of the plant, the latter collected in lat. 24° or 25° S., about 500 miles south of Cape Negro. Subsequently Dr. Welwitsch sent two fine young specimens of the trunk, flowers, and cones with unripe seeds, together with his original drawings. In the early part of the present year, Mr. J. J. Monteiro sent to Dr. Hooker specimens of the trunk, with cones preserved in spirits. These were collected at Mossamedes, the Little Fish Bay of the English charts. Mr. Monteiro, on a journey to visit a copper mine 30 miles from the coast, passed a plain about three miles across, on which he saw about 30 specimens of Welwitschia in his line of march. The plain, which was of hard quartzose schist, was perfectly dry, and bare of other vegetation than the Welwitschia and a little short Grass, the former generally growing near the little ruts worn in the plain by running water during the rainy season. The largest specimens are reported to have been seen on the banks of the river Croquis, a little to the north of Port Alexandre. Mr. Monteiro adds, "I have information that the Welwitschia is found growing in the vicinity of the river San Nicolau in 14° 20′ S. lat. About here (Cuio Bay) it is unknown to the natives, so that you may consider 14° S. lat. as its most northern limit." Further specimens have been quite recently received from Mr. Monteiro, and a very fine one from Damara land from Mr. C. J. Anderson. The latter gentleman describes it as "growing on sandy soil, and luxuriating where it can find a few stones to fix its extraordinary tap-root, which often penetrates several feet deep. It has "leaves" of a dark green, of which several spring from the same stem, spreading and curling along the ground, and attaining sometimes a length of several feet; they will tear into innumerable shreds, each of which is exceedingly strong, tenacious, and straight-grained. Rain rarely or never falls where the plant exists." I have crossed and recrossed Damara land throughout its entire length and breadth, but only found the plant growing on that desperately arid flat stretching far and wide about Walwish Bay or between the 22d and 23d degrees of S. lat. It is most common along the lower course of the river Swakop. The technical characters and a very detailed description of the plant were then given. In respect to its affinities, Dr. Hooker arrived at the conclusion that notwithstanding certain anomalous features, it belonged to the Gnetaceæ, in which he placed it near Ephedra.

## Notices of Books.

*The Flora of Essex; or a List of the Flowering Plants and Ferns found in the county of Essex, with the localities of the less common species ascertained by recent observations and reference to former authors, and illustrated by four coloured plates of the Plants peculiar to the county, and a Map.* By George Stacey Gibson, F.L.S. London: William Pamplin.

This is one of those laborious and conscientious works which seem to have demanded the pains-taking labour of a German and the business habits of an Englishman to be brought to a completion. Of its kind it is most excellent, and what that kind is the following resumé of its contents must tell.

The body of the work is comprised in 407 12mo pages devoted to a catalogue of the 1070 Essex plants, arranged according to Babington's Manual; together with the county distribution of each, indicated under eight districts, the authorities for its existence in each district, and occasionally notes. This is preceded by 20 pages of a tabulated synopsis of the said distributions, arranged in the same order, and followed by six appendices; of which the first gives the earliest and latest notices of the rarer plants, from Gerard's time (1597) downwards. The second arranges all the species according to their comparative abundance, under three heads: "common," "rather local," "very local"; the third follows the distribution of the plants into the adjacent counties of Cambridge, Hertford, Suffolk, and Kent; the fourth briefly compares the Essex Flora with the list in Watson's Cybele Britannica of the comparative frequency or rarity of British plants; the fifth enumerates the plants not unlikely to be found in Essex; and the sixth contains short biographical notices of the four magnates of Essex Botany—John Ray, Samuel Dale, Richard Warner, and Edward Forster. The whole contains just 500 pages, and concludes with two and a half pages of additions and corrections.

As we said at the beginning, the task which the author has set himself appears to be excellently well done, but to us the result is a very disappointing work, because for its bulk and pretensions it is almost wanting in aught to interest any but a mere local Essex plant hunter, and adds little or nothing to our knowledge of the plants themselves. This is the more to be regretted, as Mr. Gibson is himself a most accurate and acute British Botanist, who has spent many years in the field, and whose critical notices of the several hundred most critical species he enumerates, would be of infinitely greater real use to the Essex botanist than his list of the districts they inhabit, and have given his work a scientific value which in its present form it singularly lacks. Surely too something might have been said of the relations of the plants to the nature of the soil; of their flowering periods; of their local characters; and of the reasons why they abound in some districts and are absent in others. To these shortcomings we must add that we find no explanation of many of the symbols prefixed to the specific names, no notice as to which of the Lemnas flower, and that the title "Flora," adopted by the author, is misleading, inasmuch as a Flora is a work descriptive of the plants of a country.

Amongst the more interesting pieces of information we have gleaned from the work are the following. That in the time of Edward I. the whole county consisted of one forest, of which Hainault and Epping are the only considerable remains. The Flora is smaller than those of Suffolk or Kent, but contains 1070 species of the 1725 in Babington's Manual. Only four plants are supposed to be peculiar; Lathyrus hirsutus and tuberosus, Bupleurum falcatum and Galium Vaillantii. Cystopteris alpina, though reckoned usually an Essex plant, is rightly excluded as having been introduced. Of species that are supposed to have become extinct there are the following:—Crambe maritima, Diotis maritima, Sonchus palustris, Vaccinium oxycoccus, and Vitis idæa, Ophrys aranifera, Herminium monorchis, Schœnus nigricans, Carex extensa, Polypogon littoralis, Botrychium Lunaria.

The recently imported plants are Alyssum calycinum, Anacharis, Veronica Buxbaumii, and Bromus arvensis.

*Solutions of Questions in Arithmetic by First Principles.* By Walter McLeod, F.R.G.S. Longman & Co. 8vo. Pp. 108.

This work contains full solutions of questions in Simple and Compound Proportion, Per-centages, Commission, Interest, &c., by *First Principles*, in a form adapted, it is said, for elementary instruction. According to the author's announcement, the method adopted in this volume dispenses with rules altogether, and the most difficult questions in arithmetic are solved without statement, and by means of *multiplication* and *division* only. Many difficult ones, we admit, can be solved by these rules; but certainly in numerous cases the aid of addition and subtraction is necessary. The author himself has had to employ them. With regard to dispensing with rules altogether, we cannot agree with him in thinking this advisable. If once properly understood, they can afterwards be referred to with advantage, and as guides; whereas in their absence the solution of some difficult portion of a question would frequently have to be accomplished by searching among the mass of questions in the work for some analogous one. Examples are better than precepts, it has been said; but we are convinced that precepts or rules, with examples, are better still. Rules however should be clear and simple, not complicated as is too frequently the case, of which the author of the work before us justly complains. As for those employed for Proportion questions, which are a puzzle to almost every scholar, "there are few who are not mystified by the terms *direct, inverse, is to, as,* &c." The rules absolutely necessary for all questions in Proportion are very few, and may be comprised in two or three sentences. The method adopted by the author is simple compared with the multiplicity of rules, and unmeaning jargon with which the old Rule of Three is now frequently encumbered, such, for instance, as "more requires more and less requires less," &c.

The method by *First Principles* is that which the French term, we think more properly, *The Method of Reduction to Unity*. It is so called because from the value of several articles the value of one is deduced by division; and then having the value of one, that of any number can be found by multiplication: thus, if 4 yards cost 8*s.*, what will 6 yards cost? This question may be resolved into the two following:—

1. If 4 yards cost 8*s.*, how much will 1 yard cost? Answer 2*s.*

2. If 1 yard cost 2*s.*, how much will 6 yards cost? Answer 12*s.*

In this case the method by reduction to unity is quite as expeditious as that by the old Rule of Three, or 4 : 6 : : 8 : 12. But there are cases in which the former method involves fractions, where by the Rule of Three these troublesome subjects are not required; and in all such cases we presume that most people will agree with us in preferring the old method to the new, provided the former is employed according to its original simplicity. Let us ask, if 12 yards cost 2*l.* how much will 144 cost. By the method in the work before us, when 12 yards cost 2*l.*, 1 will cost 3*s.* 4*d.* Then this 3*s.* 4*d.*, the price of 1 yard, must be multiplied by 144, to get the price of 144 yards or the answer to the question. To multiply by 3*s.* 4*d.* is somewhat troublesome; or we may, instead, multiply by $3\frac{1}{3}$, but that is more inconvenient than whole numbers, which only are required by using proportion.

Thus, if $\overset{\text{Yds.}}{12} : \overset{\pounds}{2} :: \overset{\text{Yds.}}{144} — \frac{144 \times 2}{12} = \pounds 24.$ In this way the answer is obtained without having occasion to reduce the pounds to shillings and pence, or otherwise to use fractions. We conclude therefore, that it is well to understand the method, which the author explains, and to apply it when most convenient to do so. But in cases where the rule of Simple Proportion is the plainest and easiest mode of solving questions, there is no reason why it should be thrown aside; the truth of this we think the author should admit, and in another edition give simplified rules for Proportion, showing in which cases it may then be more advantageously employed than the method he too exclusively recommends.

## Garden Memoranda.

Hurlingham House, Fulham, the Suburban Residence of R. C. Naylor, Esq.—At few places are Mushrooms cultivated with greater success than they are here by Mr. Jamieson, Mr. Naylor's gardener. The Mushroom house, properly so called, is small; and although good crops are raised in it, yet it is quite unable to satisfy the demand which at certain seasons is daily made on it for a supply of this useful esculent. "Gardener," said the man-cook one day to Mr. Jamieson, "can you furnish me with a large basketful of good Mushrooms?" "You can have plenty, sir," was the reply, "and that from under the drawing-room table!" a statement literally true, for in ordinary unheated cellars just below the drawing-room Mushrooms are grown in the greatest possible abundance. Here sloping beds are made up against the walls, and flat ones in the middle of the floor, with alleys round them, just sufficiently wide to keep the workmen from treading on the beds. The latter are made up of horse-droppings and road-scrapings, well mixed together, and spawned just after the first burning heat in the materials has begun to subside, the whole being soiled over and beaten firmly down. A covering of hay used to be applied; but as Mr. Jamieson had doubts as to its beneficial effects, he caused the half of one or two beds to be so protected, and left the other half bare. The result was that the uncovered portion produced quite as good crops as the others, and that they were comparatively free from woodlice, with which the hay-covered parts were greatly infested. Under these circumstances, therefore, all kinds of covering have been discontinued; and when woodlice do appear, they are destroyed by means of the plan first, we believe, made known by Mr. Cuthill, viz., that of pouring boiling water round the sides of the bed—a retreat to which the enemy invariably betakes itself the moment it is disturbed. In a brick-arched subterranean passage is another long bed, which, in 1861, furnished Mushrooms from August till May, and this season it promises to bear equally well. Even beds in open sheds sometimes succeed perfectly; but these require a thick protection of straw to keep them warm; and in order to prevent its weight injuring the Mushrooms, wooden trellis-work is laid under to keep it off the bed. Finally, one bed made of road-scrapings alone has been spawned by way of experiment, and, judging from present appearances, we think we may safely state that it will bear as good a crop as others made in the ordinary way.

As regards glass-houses, a new conservatory is being built at the west end of the mansion, and further improvements in this way are in contemplation. Other glass structures consist of Plant houses, Peach houses and Vineries; all of which have been built many years ago; but they are still, for the most part, in good condition. It was here, it may be mentioned, that the Muscat Hamburgh Grape is said to have been raised by Mr. Lane, a previous gardener, who afterwards gave it to Mr. Snow. It is stated to have been the result of a cross between the Muscat of Alexandria and the Black Hamburgh. On shelves in the early Vinery, which is just closed for forcing, are Strawberries in pots, consisting of Keen's Seedling, Sir Charles Napier, and Cuthill's Black Prince; and in pits are fine plants of Trollope's Victoria, a kind which, with a little forcing, forms a good succession to those just named, coming into use at a period intermediate between them and crops from the open ground.

In addition to the Kitchen garden, which is small, is an Orchard laid down in grass; and between the mansion and the Thames is ample space for some improvement in the way of ornamental gardening, which we understand it is Mr. Naylor's intention some day to carry out.

## Miscellaneous.

*The Tallow Tree in Algeria.*—This remarkable tree, a native of China, and called by botanists Croton sebiferum or Stillingia sebifera, has now been successfully acclimatised in Algeria, through the exertions of the French Government. Its cultivation on a large scale would be extremely advantageous to the poorer classes, since it would diminish the cost of candles. A tree 10 years old yields from 1 to 2 kilogrammes of tallow,

15 years later it will yield from 3 to 4. It requires no care or watering; it may be planted on the road side; its leaves are like those of the Aspen; its bark is white and smooth; its seeds, of an almost hemispherical form, are covered with a waxy substance. In the island of Chusan large quantities of oil and tallow are extracted from its fruit, which is gathered in November or December, when the tree has lost all its leaves. The twigs bearing the fruit are cut down and carried to a farm-house, where the seed is stripped off, and put into a wooden cylindrical box, open at one end and pierced with holes at the opposite one. The box is then suspended in a cylindrical kettle containing water, and the diameter of which differs but little from that of the box. The water is then made to boil, and the steam penetrating into the box softens the seeds, and facilitates the separation of the tallow. After about a quarter of an hour's exposure to steam, the seeds are poured into a stone mortar, where they are stirred about until all the tallow has been separated in a semi-liquid state. It is afterwards poured into a cylinder with a hole at the bottom, through which it is driven by the action of a press. It comes out perfectly white, free from all husks and impurities, and soon becomes solid. The vessel which receives it has been previously moistened and powdered with a red earth, to prevent the cohesion of the tallow. In hot weather the candles made with the latter are apt to become soft and even liquid. To guard against this inconvenience they are dipped into wax. The seeds that have undergone the operation above described are pounded, and oil is extracted from them by pressure. *Galignani.*

*Utility of Sparrows.*—A letter from Leipzic, says a *Daily Paper* states that M. Weber, of that city, who has recently returned home after a long residence in Australia, has been charged by the Acclimatation Society of Melbourne to send out to the colony as many German sparrows as he can possibly procure. Caterpillars and other insects commit great ravages in Australia, particularly at Victoria, and these birds would be the most effectual means of destroying them. A great number will be shipped off in March next.

*The Iceland Ponies* are truly wonderful animals. They carry one over smooth bare rocks, over great blocks of lava, up places steeper than a stair but with footing not half so good; through mud puddles, water or bogs; over tracks of volcanic sand; through coppices; up hill, down hill; or across rivers. Patient and sure-footed, they stick at nothing. They are guided by the feet as much as by the bridle; a gentle touch with the heel being the Icelandic they are trained to understand. Some riders, we saw, kept up a constant drumming on the poor beasts' sides. After their day's work is done, they receive no manner of grooming or stabling; saddle and bridle taken off, they are then left to shift for themselves. *Pen and Pencil Sketches of Faroe and Iceland.*

*A Substitute for Quinine.*—Drs. Joret and Homolle have laid before the Society of Pharmacy at Paris a new remedy, to which they have given the name of apiol, and which they claim to have the medicinal properties of Peruvian bark. The new product is obtained from common Parsley seeds. The method is as follows:—"Powdered Parsley seeds are to be exhausted with alcohol of sp. gr. 890 to 864; the tincture btained is to be treated with animal charcoal, and then evaporated in a water bath until three-fourths of the alcohol have been recovered. The residue is to be treated with ether or chloroform, and the solution so obtained is to be evaporated (finally by a stove heat), until all trace of either menstruum has been expelled. A liquid remains which is to be triturated with an eighth of its weight of litharge and then allowed to subside during 48 hours. Finally it is to be filtered through a thin layer of charcoal, which will render it nearly colourless. The product so obtained is called apiol." Apiol retains the odour of Parsley seeds, and has an acrid and pungent taste; it is allied to a fixed oil in character; it does not contain nitrogen. It is given in doses of five drops in any mucilaginous fluid or in form of a syrup. So far, all looks well for apiol; but before we place it by the side or in the place of quinine, we must hear its virtues more widely acknowledged, and learn something of its price as compared with its rival. *Social Science Review.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—About 40° is a good temperature for this house when not attached to sitting rooms, and only used for the purpose of wintering large specimens without plants in blossom; but where a supply of stove plants in bloom is constantly kept up from a forcing pit, which is essentially necessary in every large establishment in winter, the best heat is 45°. Cinerarias, which are great ornaments in this house in winter, are thirsty plants, and should be well attended to with water; they are also liable to the attacks of insects, and must be well looked after. Chinese Primroses are likewise very ornamental, and ought to be cultivated in quantity. In regard to soil, two parts rough leaf mould, and one of well decayed cow-dung, with a little sand, suits them best, and in this they like plenty of moisture. All stove plants should now, and for the next six weeks, be quite at rest, and in that state 55° will be high enough for them in cold weather. No more water should be given at the roots than what will keep the leaves from flagging, but the atmosphere should be kept more or less moist. Keep plants in pits and frames as hardy as possible, by fully exposing them in mild weather, but do not give them any more water than is absolutely necessary. Remove all decayed or decaying leaves, and keep the atmosphere in as healthy a state as possible.

### FORCING DEPARTMENT.

PINERIES.—Where a supply of Pines is wanted throughout the year, it is sometimes necessary at this season to subject some of the fruiting plants to a high temperature to start them into fruit. If a few of those most likely to fruit soon can be put into a house by themselves, where a temperature of from 65° to 70° can be maintained by night and 72° by day, with about 85° of bottom-heat, it will bring on the fruit. The other plants can then be kept at a moderate temperature till the end of the month; this will prolong the succession of fruit, and be much better than subjecting many plants to a high temperature at this dull season.

VINERIES.—As before mentioned, observe great moderation in regard to increase of temperature in houses in which forcing has just commenced.

PEACH-HOUSES.—If the buds are swelling, 50° by night may be maintained; sprinkle the trees frequently, and protect the roots from the effects of frost. It is an excellent plan to have a stock of Peach-trees in pots, or tubs, for the first crop. If any of the blossom-buds have expanded, it will be well to assist the setting of the fruit by means of a camel-hair pencil. Trees in bloom require a temperature of 57° by night, and a rise of 5° or 10° by day, with fire-heat according to the state of the atmosphere.

CUCUMBERS.—These should have every possible amount of foliage exposed to light; and continue, as opportunities occur, successional crops of Kidney Beans, Seakale, Rhubarb, and Mushrooms.

### FLOWER GARDEN AND SHRUBBERIES.

During changeable weather, like the present, little can be done in the regular work of this department; but where alterations are contemplated, such as making new walks, new flower-beds, or renewing the soil in old ones, these should be forwarded whenever the weather will permit. Holes for planting choice shrubs or trees may also be prepared by removing the bad soil, and replacing it by a compost suitable for the plants; and even where trees are planted and not growing well, the soil may be carefully removed from the roots, and replaced by better material. In wet weather plenty of work might be found in making pegs, brooms, flower sticks, repairing rustic baskets, and seats, and in painting wire trellises. Should frost set in, cover Auricula frames with two good mats, giving air by tilting the lights whenever possible. Should the plants by any means get frozen, allow them to thaw gradually, without being exposed to the action of the sun's rays. Those who have not obtained the necessary number of Ranunculuses to make up their beds, ought to do so without delay, as the period of planting will soon be here. If the beds have not been already formed, perhaps the simplest and best way is to excavate the soil 2 feet deep, put in 6 inches of decayed cow-dung, covering this with maiden turfy loam to the depth of 12 inches, the remaining 6 inches to be equal parts loam, leaf-soil, and sand, thoroughly incorporated.

### HARDY FRUIT AND KITCHEN GARDEN.

Persevere while the weather is mild in getting well forward with all the necessary operations on wall fruit trees, such as pruning, nailing, and dressing. Continue the renovation of old borders as opportunity offers. See that pyramid and bush Pears and Apples get the necessary pruning, and dress orchard trees with quick lime to destroy Moss. The most effectual cure for this is, however, thorough drainage. All unoccupied ground should now be turned up by rough digging, trenching, or ridging; regulating these operations according to the nature of the soil, and the character of preceding and contemplated future crops. This is, however, more a month of preparation than of actual operations, and much will depend upon the state of the weather; all sorts of work which can be done under cover should be got well forward in bad weather, and hard frost will afford opportunities for wheeling out all sorts of manures and composts. Every advantage must be taken of mild weather to give a little attention to growing crops, such as Lettuces, Cabbages, and Cauliflowers; surface stirring whenever practicable must be persevered in, also dressings of dry lime and ashes may be given to check damp and the ravages of snails.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending Dec. 31, 1862, as observed at the Horticultural Gardens

| Dec. | Moon's Age. | Barometer. Max. | Barometer. Min | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 25 | 4 | 30.270 | 30.241 | 55 | 37 | 46.0 | 44½ | 44 | S.W. | 00 |
| Friday 26 | 5 | 30.287 | 30.138 | 50 | 30 | 40.0 | 45 | 44 | W. | 00 |
| Satur 27 | ☽ | 30.358 | 30.228 | 52 | 45 | 48.5 | 45½ | 44 | S.W. | .00 |
| Sunday 28 | 7 | 30.071 | 29.875 | 55 | 45 | 50.0 | 45½ | 44½ | W. | .18 |
| Mon. 29 | 8 | 29.569 | 29.401 | 50 | 32 | 41.0 | 41½ | 44½ | S. | 01 |
| Tues. 30 | 9 | 29.627 | 29.411 | 52 | 28 | 40.0 | 45½ | 45 | W. | 00 |
| Wed. 31 | 10 | 30.197 | 30.028 | 48 | 36 | 42.0 | 45 | 44½ | W. | .00 |
| Average. | | 30.045 | 29.888 | 51.7 | 36.1 | 43.8 | 45.1 | 44.3 | | .19 |

Dec. 25—Clear and fine; fine throughout; windy at night.
— 26—Cloudy; partially overcast; fine.
— 27—Fine; hazy; fine; mild for the season.
— 28—Overcast; very fine; fine.
— 29—Densely clouded; slight rain; fine at night
Dec. 30—Fine; clear and exceedingly fine; slight frost at night.
— 31—Fine; exceedingly fine, with bright sun; fine at night.
Mean temperature of the week 6⅔ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 38 years, for the ensuing Week, ending Jan. 10, 1863.

| January. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 4.. | 42.4 | 31.4 | 35.9 | 16 | 0.86 in | 4 | 7 | 5 | 5 | 2 | 10 | 3 | 2 |
| Mon. 5.. | 41.7 | 30.2 | 35.9 | 13 | 0.40 | 4 | 7 | 4 | 4 | 4 | 10 | 4 | 1 |
| Tues. 6.. | 41.1 | 29.6 | 35.3 | 13 | 0.33 | 4 | 7 | 4 | 4 | 4 | 10 | 4 | 1 |
| Wed. 7.. | 41.4 | 28.7 | 35.0 | 14 | 0.34 | 3 | 5 | 4 | 3 | 1 | 8 | 7 | 4 |
| Thurs. 8.. | 40.6 | 30.0 | 35.3 | 11 | 0.26 | 4 | 4 | 8 | 4 | — | 14 | 2 | 2 |
| Friday 9.. | 40.9 | 30.8 | 35.8 | 14 | 0.71 | 1 | 7 | 4 | 3 | 4 | 11 | 6 | 1 |
| Satur. 10.. | 41.6 | 30.3 | 36.0 | 16 | 0.40 | 3 | 9 | 3 | 4 | 5 | 7 | 5 | 2 |

The highest temperature during the above period occurred on the 5th, 1844—therm. 54 deg.; and the lowest on the 9th, 1841—therm. 6 deg.

MONTHLY DEPTH OF RAIN, in inches and hundredth parts of an inch, which fell at Chiswick in the years 1841 to 1862 inclusive.

| | 1841. | 1842. | 1843. | 1844. | 1845. | 1846. | 1847. | 1848. | 1849. | 1850. | 1851. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. |
| January .... | 2.60 | 1.06 | 1.33 | 2.25 | 2.97 | 2.85 | 1.31 | 1.16 | 1.73 | 1.43 | 3.07 |
| February .. | 0.76 | 1.22 | 2.35 | 2.27 | 0.93 | 1.47 | 1.34 | 3.12 | 2.52 | 0.95 | 0.90 |
| March ...... | 1.32 | 1.81 | 0.47 | 2.44 | 1.25 | 1.09 | 0.41 | 3.05 | 0.85 | 0.13 | 3.57 |
| April ...... | 1.58 | 0.15 | 1.62 | 0.33 | 0.95 | 3.93 | 0.92 | 3.06 | 2.21 | 1.79 | 1.65 |
| May ........ | 2.16 | 1.78 | 5.26 | 0.25 | 2.89 | 1.35 | 1.59 | 0.28 | 3.53 | 1.84 | 0.74 |
| June ...... | 2.45 | 1.58 | 1.62 | 0.97 | 1.36 | 0.80 | 1.31 | 3.20 | 0.31 | 1.40 | 1.33 |
| July........ | 3.56 | 1.52 | 1.67 | 2.10 | 2.31 | 1.78 | 0.79 | 2.21 | 2.82 | 2.68 | 3.90 |
| August .... | 2.69 | 2.81 | 3.28 | 1.84 | 2.79 | 4.50 | 1.50 | 4.70 | 1.60 | 0.97 | 2.03 |
| September.. | 3.71 | 3.39 | 0.98 | 1.31 | 1.77 | 1.76 | 1.66 | 2.20 | 2.49 | 2.36 | 0.42 |
| October .... | 4.61 | 1.71 | 4.19 | 4.13 | 1.39 | 5.54 | 1.75 | 2.93 | 2.18 | 1.55 | 2.01 |
| November ... | 3.41 | 4.43 | 2.13 | 3.06 | 2.11 | 1.43 | 2.26 | 0.90 | 1.32 | 2.03 | 0.55 |
| December .. | 2.12 | 0.76 | 0.58 | 0.39 | 2.61 | 1.21 | 1.81 | 2.03 | 1.28 | 1.15 | 0.62 |
| Annual amount | 30.97 | 22.27 | 25.48 | 21.34 | 23.33 | 27.71 | 16.65 | 28.34 | 22.84 | 18.28 | 20.79 |

| | 1852. | 1853. | 1854. | 1855. | 1856. | 1857. | 1858. | 1859. | 1860. | 1861. | 1862. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. | Ins. |
| January .... | 2.72 | 2.14 | 1.92 | 0.10 | 1.76 | 2.09 | 0.41 | 0.61 | 2.18 | 0.82 | 1.53 |
| February .. | 1.06 | 0.59 | 0.78 | 1.35 | 0.62 | 0.31 | 1.48 | 1.31 | 1.20 | 1.41 | 0.38 |
| March ...... | 0.25 | 1.48 | 0.42 | 1.75 | 0.97 | 0.73 | 0.88 | 0.77 | 1.63 | 1.89 | 3.74 |
| April ...... | 0.52 | 2.58 | 0.30 | 0.26 | 1.97 | 1.77 | 2.13 | 2.01 | 0.95 | 1.44 | 2.29 |
| May ........ | 1.74 | 1.60 | 4.08 | 1.94 | 4.38 | 0.87 | 2.05 | 1.80 | 3.04 | 1.31 | 3.54 |
| June ...... | 4.69 | 2.54 | 1.58 | 1.48 | 0.88 | 1.91 | 0.78 | 3.10 | 5.15 | 2.35 | 2.33 |
| July........ | 2.28 | 4.17 | 2.40 | 6.30 | 1.43 | 1.22 | 2.55 | 2.18 | 2.72 | 1.90 | 2.09 |
| August .... | 3.71 | 1.87 | 1.77 | 1.45 | 3.50 | 2.80 | 1.46 | 2.49 | 4.16 | 0.50 | 2.40 |
| September.. | 3.54 | 2.41 | 0.58 | 1.15 | 1.99 | 3.52 | 1.05 | 4.05 | 2.82 | 1.78 | 2.74 |
| October .... | 3.87 | 3.78 | 2.61 | 6.15 | 2.40 | 4.01 | 1.36 | 2.55 | 1.60 | 1.04 | 3.00 |
| November ... | 6.20 | 0.91 | 1.31 | 1.34 | 0.94 | 1.53 | 0.10 | 2.72 | 2.60 | 4.10 | 1.01 |
| December .. | 1.97 | 0.30 | 1.27 | 1.11 | 1.88 | 0.30 | 1.53 | 1.95 | 2.03 | 0.94 | 1.49 |
| Annual amount | 32.55 | 24.37 | 18.92 | 24.38 | 22.72 | 21.06 | 15.78 | 25.54 | 30.08 | 19.48 | 26.54 |

The amount of rain which fell in 1862 was 26.54 inches, or about 2⅝ inches above the average of the preceding 36 years.

## Notices to Correspondents.

BOOKS: *M C S.* Surely a compilation like that of Beeton's may deserve what is said of it, even although some preposterous passage occurs in it. We repeat that it does deserve what is said, although one passage be the work of a madman.

GEOMETRIC GARDENS: *Mr. Newton* has sent us a reply to "Miles," (see p. 1197 last Vol.) for which we cannot find room. Nor, if we could, does it touch the points so ably defended by "Miles." Mr. N.'s mode of argument may be judged of from the following sentence. "As to the necessity of a mathematical education, or that the landscape gardener should be a Wrangler of Cambridge, or as 'Miles' says, 'artistically educated,' the very ablest hand known by me to execute geometrical designs is an ordinary working gardener!" It therefore appears that he places on the same level the artist who designs and the labourer who executes—which is the same as confounding Sir Thomas Lawrence with the man who ground his colours. We have ourselves seen garden designs very skilfully executed by a drunken gardener. But what is that to the purpose?

HOLLIES. *A lover* may find hundreds of such forms in every county in England in Holly plantations.

NAMES OF FRUITS: *N.* No. 3 is probably Bezi d'Heri; 4, Brown Pear of Worcester. The Apple, large, round and very acid, is not known.—*W F.* 1, 7, 9, Glou Morceau; 2, Crassane; 4, Eyewood; 5, Old Colmar; 6, 13, Easter Beurré; 8, Hacon's Incomparable; 11, Beurré Diel; 12, Beurré Rance.—*H S.* Van Mons Léon le Clerc.

NAMES OF PLANTS: *H J C.* Cyrtopodium punctatum.

PICEA NOBILIS. Our two friends who have engaged in this little skirmish will doubtless see, on consideration, that enough has been already said on both sides.

PRODIGIOUS EXPERIMENTS: *P P.* If men will make themselves ridiculous the least they can expect is to be laughed at.

TRAINING: *A Novice.* Read George Lindley's Guide to the Orchard and Kitchen Garden.

MISC.: *G T S.* Two shillings. Postage stamps may be sent.

**Autumn Wheat Sowing.**

PHOSPHO GUANO, delivered at Ship or Rail, in London or Liverpool, at 11*l.* 11*s.* per Ton for cash.
PETER LAWSON & SON, 28, King Street, Cheapside; and 15, Lawrence Lane, E.C.

**To Farmers, &c.**

CHEAP GYPSUM MANURE.—Parties requiring GYPSUM can be supplied at 10*s.* per Ton, bulk, at the Works at Kennington, S.
Address X. L., 34, Chapel Street, North Brixton, S.
*** Delivered on rail, adding for bags and cartage.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
116, Fenchurch Street, E.C.

LAWES'S WHEAT MANURE for AUTUMN SOWING.
In consequence of the high price of Peruvian Guano, J. B. LAWES has manufactured a WHEAT MANURE for the present season, which will be found very suitable for that crop. A supply is now ready for delivery, and it can be obtained of J. B. LAWES, or through any of his appointed Agents. Price 8*l.* per ton at the Factories, Deptford and Barking Creeks.
Genuine Peruvian Guano direct from Messrs. Gibbs; Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

**40 to 45 per Cent. of Soluble guaranteed.**
**1862.**

BURNARD, LACK AND CO.'S PATENT CONCENTRATED SUPERPHOSPHATES of LIME.
*Extract of Opinion from* Mr. WAY, *January* 23, 1862.
"This material contains in round numbers 44 per cent. (44 p.c) of Soluble Phosphate of Lime, and is the richest in this important fertilising agent that I can remember to have met with in my experience of the composition of Artificial Manures."
*Extract of Opinion from* Dr. VOELCKER, *January* 1862.
"Your firm, I believe, first introduced this Manure to the notice of the Agriculturist, and the composition, dry and finely powdered condition of this year's make, plainly show that you are resolved fully to maintain its superior character. I am not acquainted with any Manure which contains so large a percentage of Soluble Phosphate and proportionate small quantity of Sulphate of Lime as your Concentrated Superphosphate."
The great advantage of Concentration to the consumer lies in the fact, that he can weaken down with dry earth or ashes, at a much less cost than the manufacturer; nor is he called upon to pay for unnecessary packages, or for the hauling of useless and waste materials.
Analyses, with opinions by the late and present Chemists to the Royal Agricultural Society, with Field trials, Prices, &c., furnished on application to BURNARD, LACK & Co., Plymouth.

CAUTION to BUYERS of GUANO.—Having been informed that Guano has been imported into Liverpool, and offered for sale as "BAKER'S ISLAND GUANO," I hereby give Notice that I control the Deposit of "Baker's Island," and that the Genuine GUANO can only be procured through my Agents, Messrs. GUION & Co., of Liverpool.
Burling Slip, New York, Dec. 9. WILLIAM H. WEBB.

HENRY J. MORTON AND CO., 2, Basinghall Buildings, Leeds.
**Galvanised Iron Water Cistern**
for Cottage Houses, &c., to contain 50 gallons, 26*s.*; 80 gallons, 31*s.* each; and 140 gallons, 37*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.
**Galvanised Iron Pumps**
for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.
**Galvanised Iron Swing Water Barrows**
for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 35*s.* 0*d.* each.

AGRICULTURAL MACHINERY. — Threshing Machines for Steam and Horse-power, Ploughs, Harrows, Waggons, Carts, Mills for hand or power, Turnip cutters, Cake-breakers, Chaff cutters, &c., &c.
Price List free per post on application. Catalogues 6*d.* each.
BURGESS & KEY, 95, Newgate Street, E.C.
Works—Brentwood, Essex.

THE HISTORY of the SET of SMITH'S STEAM CULTIVATING APPARATUS, supplied to Mr. Pike, of Stevington, Beds, in 1858, showing its practice from that period there and at Dunton Lodge, with other evidence upon the question, proving the efficiency and durability of the Woolston tackle, as well as the efficiency of the Woolston system, will be sent, post free, to any gentleman who may apply to Mr. WILLIAM SMITH, Woolston, Bletchley Station, Bucks, for it.

**Steam Cultivation.**

The following letter has been received by Mr. FOWLER :—
Sarsden, Chipping Norton, Dec. 17, 1862.
Dear Sir.—Mr. Langston having for some time used two of your Steam Ploughs on the lands in his own occupation, and being so thoroughly satisfied with the superiority of the work performed to that of horse-power, as well as the extra productiveness of the Root and Corn crops which have followed, is desirous of promoting the further extension of this excellent mode of cultivation on his property.
He has therefore requested me to order a 14-horse Engine and the Tackle to correspond with that power, viz. :—

| | |
|---|---|
| Anchor (best) | 7-Tined Cultivator |
| 800 yards Rope | and Plough. |
| 20 Rope Porters | |

to be delivered not later than the last week in January, 1863.
This Steam Plough, &c., being intended principally (under certain conditions and arrangements) for the use and benefit of three or four of Mr. LANGSTON'S largest tenants, whose farms adjoin to his, now under Steam Cultivation, there will therefore in the coming summer be nearly 3000 Acres of arable land under this superior system; composed of a variety of soils, some of which require great power to bring them into a proper state to receive the seed, and which frequently could not be done in proper season by horse-power.
It will be a gratifying sight to witness so large and compact a breadth under Steam Cultivation, which cannot fail of showing the advantages thereof, and be the means of introducing others to adopt this system, and which I hope will be realised both for the benefit of the grower and consumer.—I am, yours truly,
(For J. H. LANGSTON, Esq.) HENRY ANDREWS.
Mr. JOHN FOWLER, Steam Plough Works, Leeds.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

AGRICULTURAL and CHEMICAL COLLEGE, KENNINGTON.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. NESBIT, LANSDELL & Co., 37 and 38, Lower Kennington Lane, London, S.
Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.
Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.
Full particulars of terms will be forwarded on application.

DRAINAGE of LANDS (by Contract, or laid out and superintended at 5*s.* per acre) and the ERECTION of AGRICULTURAL BUILDINGS and all other permanent Improvements to Landed Estates, are undertaken by Mr. HUMBERT, Land Agent and Surveyor, Watford, Herts, and such Works can, if desired, be entirely executed under powers conferred by special Acts of Parliament, by Money raised by loan, and paid off (both principal and interest) by small annual payments spread over a number of years in the form of a rent charge, without immediate payment by the Land Owner.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.
TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &C. IN ENGLAND AND WALES AND IN SCOTLAND.
The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

**Land Drainage.**

WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.
Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rentcharge on the estate created for various terms of years so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.
No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.
Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.
Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.
Applications to be made to WILLIAM CLIFFORD, the Secretary, t the Offices of the Company, 52, Parliament Street, S.W.

# The Agricultural Gazette.

*SATURDAY, JANUARY* 3, 1863.

A YEAR of unusually irregular seasons has come to an end, and its mild unwinterlike exit has been not out of keeping with the anomalies of its general character. Few years were ever ushered in under circumstances of a more widely and deeply felt national sadness, and unrepose. A recent, sudden, and heart-stinging affliction at home, penetrating every class of the community, coupled with the apprehension of an unsought and unwilling War pending upon the answer which the next Mail might bring across the Atlantic,—such was the condition which cradled the birth of the year we have just seen to its close; and notwithstanding the better than expected result of that apprehension, and the Great International Gathering which the year has witnessed, there are few who have not felt that a sombre and mourning tone has been shed, as if by sympathy, upon the course of the whole twelve months that have elapsed. The progress of a savage Strife, such as the World never witnessed before, amongst a people related to us in blood and in language, even if it could have left us unaffected except as spectators, would have been deeply felt: but the suffering it has brought home to us in the very heart of our largest branch of commercial Industry might almost bear comparison with the worst disturbance and affliction that a war of our own could bring, or has ever brought.

Such is the interdependence of Nations. And perhaps in the long run it is best that it should be so. The more widely felt an evil makes itself, even by those who are wholly innocent of the cause, the greater the pressure upon the reactive influence of the reasoning and efforts of mankind to abate the nuisance, or at any rate to confine it to its narrowest limits, like a pestilence.

It is not easy upon the survey of a year thus characterised physically, politically, and socially, to project the outline and features that belong exclusively to a special interest. Its agricultural aspect is so mixed and interwoven with external and internal circumstances affecting and more or less disturbing every interest, that the elimination of any one for separate regard, presents a difficulty that increases under the view. The enormous importation for instance both of corn and specie from the once United States, which under ordinary circumstances would have furnished a topic of agricultural notice, is this year too abnormal and out of course, too closely connected with causes more nearly affecting us, to be regarded on its own separate account. It is in fact to a great extent an incident of the war.

Nor can it be said that the home history of Agriculture during the past year furnishes any very exciting topic. The remark of the Premier the other day to the effect that the abolition of the Corn Laws had robbed Agriculture of its chief political interest is open to a wider application. The regular and measured Scale of variations in the case of a price-current that has the whole world for its commercial basis discounts such slight changes as it leaves, too effectually to allow much for complaint or even conversation. If anything could so operate upon the variations of the Weather, as an unrestricted Corn-trade has upon Mark Lane, an Englishman would be robbed of his birthright, in the matter of daily small-talk. What alarmists prophesied about our depending upon the rest of the world for our food-supplies appears to have gone half way towards verification: but "without the ill that should attend it." Conceal it from ourselves as we may by neglecting or refusing to collect the facts of our own cereal produce, there is yet enough known to convince us of the startling truth that our importations of Wheat have already reached an annual bulk of two-thirds of the amount we grow.

Mr. SMITH'S "Corn and Horn" discussion at the Farmers' Club would have derived some addition of practical interest by a little notice of this subject, and especially of this fact. Whether you shall grow Wheat or Turnips, may be a very pleasantly interesting question for the 'ignorant present time,' to put to yourself, and imagine you have the answer in your own hands. But in truth it has been settled for you by causes that have been in operation for many years past, and are receiving accession and confirmation every hour of every day. The most meat-consuming population in the world that has enclosed and cultivated all its enclosable and cultivable land and has a thousand fresh mouths a day to feed exercises no act of choice in growing annually more of what others cannot supply it with from abroad, and less of what they can. The true and special profit of the grain-crop in this country must ever, so long as present causes remain, be derivative, and dependent on the acreable abundance, the extrinsic fertility, so to speak, due to an increasing head of stock. Baron LIEBIG'S recent alarm-note upon the *de*-fertilisation of England might have been conceived in the very playfulness of paradox: as well might it be theoretically argued that the enormous demands of the Metropolis are exhausting the soil of the market-gardens in its neighbourhood! What we know to be the reality is that they are on the contrary so drugged with manure, as to require the admixture of the barest subsoil that can be dug up from four to five feet deep to qualify the rank richness of the surface.

This is only the type, it may in truth be called the nucleus of the process which, radiating from the vicinity of our largest Towns is gradually but inevitably extending itself. Its course is as irresistible, and more regular than a tide; for it never recedes. And the only regret is that we have not the means of testing its advance. Dr. LIEBIG'S views of English soil and agriculture have a sort of Malthusian tone: he is always fearing that the earth is not resourceful enough for its inhabitants. Experience points the other way, showing that the greater the increase of population the more abundant the elements of fertility become.

The 'Returns' (if we had any in agriculture) would afford ground for little apprehension on that score. The enclosure of fresh land now almost arrived at its utmost limit, the extension of

market-garden boundaries and increasing production of green crops, gross consumers of manure as they are, accompanied by no considerable increase of imported manures, in the case of Guano by a decrease, does not look like a "decadence de l'Angleterre" in the elements of fertility.

The opposite is the fact; and that to a capacity of extension which no country in the world has ever tested to its utmost limit; or probably ever will. But, neither has any country ever perhaps witnessed in so short a period a change such as we have undergone. Less than a century ago Arthur Young said that England (then an *exporter* of Corn) could in a good year grow Corn enough to feed herself for four. Her produce at this time (making allowance for causes which reduce the comparative increase) is at least a third more than it was then, and by that third only it now overtakes the *imported* article. To estimate the bearing of these facts, it should be looked at not as it stands but as *it points*, not as a milestone that measures the road you have gone, but a Finger-post that points to that which you are going.

To put the matter in its simplest form, take the following specimen of progress. Our Wheat importation of 1859-60-61 was in round numbers respectively four millions, six millions, seven millions of quarters, and three and a half million, five million, six million cwts. of Wheat-flour; but that of the *first ten months* of the past year,—only to the *end of October*, was *nearly eight millions* of the former and *six and a half* of the latter!

Such a statement as this needs little epilogue: it speaks for itself, trumpet-tongued. A million of quarters of Wheat per month—twelve millions of quarters per annum, seems now to be the figure of our imported supply. *By how much does our own growth exceed this?* and how will it stand in ten, nay *five* years more, at the same rate of going.

If the nearest approximate estimate that has ever been attempted of the acreage annually under Wheat in the whole of the British Islands were taken as a basis, and assumed to yield an average of three quarters to the acre, it would exceed the amount imported by nothing like the quantity (one-third) stated above. If figures alone could be relied upon, the amounts would be nearly equal; and if they have not become so, it is clear that at the same rate, as that just shown, they very shortly will be.

A curious subject this for agricultural reflection! and it suggests some others more curious than itself. It has been said that an 'English Plum-pudding' contains about a larger assemblage of foreign elements than are often found under one skin: but how will the Englishman look upon the family loaf, when more than one half of *that* is become *exotic!*

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A CORRESPONDENT asks for some statistics about steam ploughing. We thought our columns had been tolerably copious on that subject. He wants to know if "the rapidity and the neatness of ploughing by steam power fully compensate for the extra expense incurred." Now, though steam ploughing may be as neatly done as any other ploughing, yet it is not the neatness but the thoroughness of the work that is its principal merit. You may go as deep as you choose—you may move completely, and without treading on your work, the whole soil to that depth—you can do all this when the ground is so dry and hard that draught animals could hardly make impression on it—you may also do it without injury when the ground is moist, at a time when ploughing by draught animals would be mischievous.

You can work late and early, and push the ploughing during the dry autumn time, when cultivation is so much more beneficial and influential than at any other time. And you can do all this at less expense by steam for fuel and for wages than you can by horse power for food and for wages. That is the history of an experience, extending now over several years and many thousands of acres.

But if any one wishes to learn more precisely what individuals have ascertained by personal experience on this subject, he cannot do better than read some of the testimonies which customers and clients of Messrs. FOWLER, HOWARD, and SMITH have given in our advertising columns. Mr. FOWLER publishes in our advertisement columns to-day a letter from Mr. ANDREWS, the agent on the estate of J. H. LANGSTON, Esq., M.P., at Sarsden, giving an order for the largest apparatus for the use of tenants, and declaring that no less than 3000 acres on one estate will be under steam cultivation.

Mr. HOWARD lately advertised the letter of Mr. FORD, of Merton Hall, near Warwick, declaring that on a farm of 20 horses the adoption of Mr. HOWARD'S steam cultivating apparatus had enabled him to reduce his stock to 12. And Mr. SMITH published lately the letter of Mr. HUTCHINSON, of Grantham, showing that this year by his apparatus 775 acres had been cultivated in 131 days, at a cost for labour of 79*l.* 15*s.*; for coals of 54*l.* 9*s.*; for interest, tear and wear, repairs, and all other expenses, 105*l.*; bringing the total cost to 239*l.*, or 6*s.* 2*d.* an acre.

These testimonies appear to us satisfactory proof that steam cultivation has been a great success, and may be safely adopted.

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WE last week reported the circumstances regarding a pen of pigs belonging to Colonel PENNANT which had been disqualified at the recent show of fat stock at Bingley, on the ground, as declared by Professor GAMGEE, that the state of their dentition indicated that they were not of the same litter. A correspondence has since been published, in which reports on the subject are given by Mr. BARTH, a veterinary surgeon of considerable experience at Chester; Mr. FARRALL, V.S., of Dublin; and Professor SIMONDS. Of these Mr. BARTH unreservedly says that the differences in the dentition of the pigs, which he admits and describes, are not sufficient to "prove," or even to "excite suspicion" that they were not of the same litter or of the same age. Mr. FARRALL says:—

"I hereby certify that at the request of the Hon. Colonel PENNANT, I have this day examined, at Penrbyn Castle, three sow pigs with reference to their age, and am distinctly of opinion that said pigs are of the same age, and from their general appearance I would believe them to be of the same litter."

And Professor SIMONDS, with equal straightforwardness, says:—

"I hereby certify that I have this day examined three pigs, the property of the Hon. Colonel DOUGLAS PENNANT, M.P., identified as being the same animals which were exhibited at the late Cattle Show at Birmingham, and find that a variation exists in their teething, which is not consistent with their being all of the same litter."

Mr. SMITH, the bailiff, and ROBERT OWEN, the man in charge of the pigs for some years, are ready to testify on oath that the three sow pigs are of one and the same litter farrowed on Feb. 12, 1862.

We have thus the two Professors, one of them probably the most experienced authority we have on such subjects, against two other veterinary experts, and we have the declaration of the men in charge against the liability to accident and error to which of course their management has been liable. Professor SIMONDS is satisfied that some of the pigs have been accidentally mixed, and that thus an error has been committed.

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THE appointment of a successor to Mr. MULES, late one of the Enclosure Commissioners, is a matter of importance to the whole agricultural body. It bears much the same relation to them as that of an agent bears to the tenants of an estate. He may be a mere lawyer stickling for precedent, following in the ruts of all past practice—or he may be an energetic man with the power and the will to lay the natural resources of the property open, to make all the permanent improvements needed for that purpose which experience has found profitable—to give all the liberty, opportunity, and scope which an intelligent and wealthy tenantry require. The contrast certainly is very great, and soon appears in the condition of the property and of all who live by it. The fruits of landownership, ill or well conducted, soon borne and realised, whether its offices and duties be deputed or not, are obvious and significant enough.

Now the Enclosure Commission represents the largest land agency in this country. To the Commissioners are deputed over an immense extent of land the very highest offices of ownership—the responsibility of sanctioning or refusing outlays for the purpose of land-drainage, farm-buildings, road-making, and many other agricultural and engineering operations professing to be permanent improvements. And the question which is now proposed to those with whom the appointment rests—whether the new Commissioner shall be a lawyer or an agriculturist—thus becomes one of very great agricultural interest. No doubt legal as well as agricultural knowledge is required for many of the duties of the office, and it may be right that the majority of the Commissioners should be learned in the law. But the two existing Commissioners are Barristers, and it seems plain that their colleague should possess the practical knowledge of estate management and of agricultural improvement which is necessary for the due discharge of those duties of land agency which will fall upon him. There seems this especial reason why, if the two sets of qualifications must come into competition in a case of this kind, those of the agriculturist should be preferred to those of the lawyer—that the question, as regards a very large share of the duties to be discharged, is in no degree one of the ownership of the land—it is one merely of the profitableness of its proposed improvement.

If the money loan which the Commissioners sanction or disallow be spent by their allowance on the land, it constitutes a first mortgage—the rent charge by which it is repaid is the first rent which becomes due from the annual produce of the land. If the money has been wisely spent, not only will the rent charge be forthcoming without difficulty, but the property will be improved for all collateral or succeeding sharers in it. The real questions to be decided by the Commissioners throughout a very considerable portion of their duties are not of law at all—they are questions for decision by a practical and experienced agriculturist. Let us hope that such an one may receive the appointment to the vacant Commissionership.

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## ON RATIONAL SEEDING.

MR. EDITOR, and my respected readers, you will recollect that in my last letter I promised to give you some account of the farming operations of those pre-Adamite terrigenous human beings whom modern geologists and other savants inform us possessed and cultivated our planet before the creation of the pair from whom we moderns, geologically speaking, are derived; but as a kind friend has drawn my attention to a letter written by Mr. John Ford, Jun., of Rushton, Blandford, and inserted in the *Agricultural Gazette* of the 8th of last month, and which I myself, as well as my friend, think requires a little notice from me, I must postpone my description of the pre-Adamite husbandry for the present, unless it should be recognised in that of Mr. Ford, Jun., as probably it will, and to the examination of which I now turn my attention.

Mr. Ford, like the legions of gentlemen who attack my advocacy of improved husbandry, throws into the shade, or leaves entirely out, what I have ever laid the chief stress upon, in order to have an opportunity for a full fling at what he considers to be, and tries hard to make his readers also believe, is my weak and indefensible point. So long back as 1818 I sent a series of letters to a Provincial Paper on agricultural subjects, and my chief object was to show that the foundation of all farming operations was complete cultivation, thorough comminution of the soil, wherever it would admit of it, to at least from 8 to 12 inches deep, and from that time to the present I have repeated the same, I should think for at least 100 times; and to this for upwards of 30 years I have added complete draining, or rather placed draining in the first rank, as I do now. Why, then, has Mr. Ford, jun., as if aiming to throw my advocacy into ridicule, left out the foundations on which my superstructure is built? and represented me as saying nothing about what I consider of the primary and utmost importance.

I am an advocate for the seeding of land for grain crops, as Nature is everywhere teaching; and as ancient, learned, and philosophical husbandmen have described in their written works, and as hundreds of superior minded men are practising in this and other countries, Ireland, Canada, Natal, &c., and as modern writers have advocated, of our own and other countries—but I have never been weak headed enough to believe, nor endeavoured to make others believe, that mere seeding, however done, is to be a panacea for ignorance, improvidence, imperfect draining, or no draining where the land is full of cold and stagnant water; nor can seeding, whether much seed or little be used, be a substitute for bad and lazy cultivation and poverty of the soil;—no such thing, my respected readers, but on the contrary, thin seeding, or any seeding to be effectual, must be the result of deep and thorough cultivation; and wherever this is done, on an average 2 pecks of seed when put into the ground, as the philosopher Xenophon put his in and taught other philosophers like himself to put theirs in—that is, every grain separately, and the whole spread evenly as he writes, and not as modern farmers put their seed in—8, 10, 12, 14, 16, ay, and even 20 grains together, as I myself have many times proved by careful inspection—then this quantity, if put in early enough, will be far better than more. It is not then, my careful readers, the quantity of seed that is used, but the manner and time in which it is put into the well prepared ground on which success depends.

But young Mr. Ford cannot grow a crop without 2 bushels of seed, but then thousands of gentlemen can grow far superior crops to his, as I will show hereafter, from two-thirds and one half, and very many from one-fourth the seed that he requires—aye, and many also from one eighth of the quantity that he requires—and, I add, with a success that it is morally certain he

on his plan will never arrive at. But "such ridiculous quantums," continues this precocious advocate of primæval farming, "causes honeydew and mildew" to destroy the crop it produces, and small birds, rooks and pigeons and hares to devour it. Such diseases and enemies may exist at Rushton and even elsewhere, but I inform Mr. Ford, Jun. that if he will consult scientific books, or scientific men, either will inform him, that these dews arise from causes far different from that of thin seeding; but for an example last year, and I may add every year the same, I walked through Wheat before harvest so thick that I could scarcely get along—sown as thick as it could stand on the ground, but which was so completely destroyed by mildew and rust, that the owner of it, as he was afterwards carting it home, told me it was not worth threshing, and there were hundreds of like cases, where 2 bushels of seed were sown; and yet from extensive inquiries I have made, not one crop among the scores of thin seeders was mildewed at all—indeed the crops they produced, the quality, quantity and value of them rendered it impossible for disease of any kind, or enemies of any kind, to have been among them.

I have not the pleasure of knowing Mr. Hallett, but I have heard of 23 of his disciples who sowed, or rather dibbled one peck an acre, whose crops were so good and abundant, that some of them have doubled, and others trebled their quantities of acres this year done in the same way; and as they are Mr. Hallett's disciples, I have little doubt but he can give perhaps ten times the number, or certainly an account of very many more. All praise be due to him for having conquered so much prejudice in others, and still more praise be given to others, who have effected the more difficult achievement of conquering such prejudice within themselves, and I further rejoice that for the benefit of their country, and mankind in general, there are now many in the world who have won that most difficult to be gained of all victories. In England, in Ireland, in Canada, and in Natal, I know there are many thin seeders, and I have letters now lying before me informing me that the writers of them rejoice that they are so—nay, further, it was from flour made from Wheat of one of them—a real out and out thin seeder—that gained a prize at the late International Exhibition.

But Tull, the glory of our country; Messrs. Dean, Clark, and Jones, and the Revs. Sir G. Robinson, Close, and Smith—clerical gentlemen well known in the agricultural world, were, or are, all thin seeders, none of them exceeding 3, and some not 2 pecks an acre—and with such success that one, the Rev. Mr. Smith, informs the world that in 16 years off the same land he has grown 512 bushels of Wheat from 8 bushels of seed only, the value of which would equal that of the fee simple of his land three times over!

Then, again, the late Mr. Piper dibbled but 1 peck of seed an acre, and his annual profits, after all expenses were paid, and 2*l.* allowed for rent, as he annually published, were near 6*l.* an acre!

Mr. Alderman Mechi and Mr. H. Davis, and the Messrs. Hardy, are also thin seeders, and others—but I must stop.

But with all these examples before him, and pressed as they are daily on his notice, Mr. Ford, jun., is so blinded by that "plague of wise men and idol of fools" of all ages, known by the name of Prejudice, or so enveloped in Cimmerian darkness—that he is unable through the gloom to discover the least gleam of light to guide him out of it! Poor, unfortunate, unhappy, bewildered young man! I pity him from my heart! Yes, it bleeds for him! But there is no remedy, no balm, and even Hope, that last solace of the wretched, is shut out from him! Darkness, darkness that may be felt, incloses him all round, moves along, behind, before, and on both sides of him! Never surely was suffering mortal in such a sorrowful, pain-producing condition! That of a miner groping about in a huge cavern in the earth with his lamp gone out would be blissful to it; and unhappily he has many associates—many other young Fords in the world like himself; indeed their name is legion, and so to fight against them would be a hopeless task, a labour lost; and hence, for the present, we leave them in their gloom, but pray, and fervently, nevertheless, that some guardian Angel will descend and drag them out of it, as the Angels did Lot as he lingered in the devoted plain.

But, Mr. Editor, and my readers, to be more serious and thoughtful, is it not strange that in this truly enlightened, mechanical, and chemical age, earth-cultivation for corn growing, whilst everything in the world besides has been moving on, should have either stood still, or gone backward. But so it is, and I challenge the whole race of mankind to prove, unless among the thin-seeders, that it has not been so. Nature, the enlightened nations of antiquity, Egypt, Greece, Rome, Palestine, produced their 30-fold, 60-fold, 100-fold; yes, my friends, I am not writing without thought, when I state that all those nations grew more corn, seeded thinner, and fed more people from given quantities of land than British farmers of the present day do, and so do the Dutch, we are told, of the present day, and so do those half savages, as we designate them, called Chinese. Do you doubt this? What says Mr. Caird, who is reported to be the best authority we have. What? I grieve to write it; but truth compels me to do so; he states that the increase of crops of cereals over the seed sown does not average in England more than eight-fold! Eight-fold! blush, blush, ye British farmers, landlords, tenants and all; blush, or if not, I for one deeply and painfully blush for you. But, writes Mr. Ford, jun., "it would be dangerous for England to alter;" but to whom? To landlords? no, for their rents would be higher. To tenants? no, for their profits would be greater. To labourers? no, for they would live cheaper and better. To the public at large? no, for the condition of all would be greatly improved. Where, then, the danger? Who can show it. Heaven and earth! what excuses will not men invent for their follies, to cover their prejudices.

But Mr. Ford, jun., has a poetical quotation, and which he writes would be appropriate for a harvest song; and in this, for once, I am happy to agree with him, and so we part for the present in peace; and if he pleases, shake hands until we meet again, and which we may do at Philippi. But here the quotation is—the song for harvest—

"The effect was great because the dose was small."

Exactly so, exactly so; a large crop, because the seed was small—but just enough, nevertheless, and no more, to produce the large crop. An excellent song! capital! bravo, encore! My friend, Mr. Ford, jun., is emerged into light! *Geo. Wilkins, Wix Parsonage, Dec. 22, 1862.*

## Home Correspondence.

*Anthyllis vulneraria.*—From your remarks (Dec. 13) on the plant Anthyllis vulneraria, or Ladies' Fingers, of which I am the grower, you don't appear to speak very favourably of it. May I be allowed to make a few observations upon my experience, pleading the importance of the question as an excuse. You have some doubt about the good qualities in a feeding point of view of plants that can be grown on next to nothing—that they are of low feeding value—but on such land the great difficulty is to get any herbage whatever. If such a plant is to be found, I think it of too much value to be neglected; how many acres of land are there that don't provide bite for a goose, whereas with the Ladies' Fingers it may be made very productive sheep feeding land; "no small consideration at the present day." It is a plant of which they are very fond. I had 17 acres laid down the last two years with it, the produce you have seen. I fed it this year until June with my flock of 16 score ewes and their produce, for a fortnight, when I shut it up to mow, putting the sheep on a Trefoil and Rye-grass lea, on the opposite side of the road, on very good land, but for two or three days they continually kept drawing to the gate, although my shepherd dogged them away. The sample you had sent was matured seed stalks, and not intended for hay. When sheep take so well to a plant "so prolific," there must be something worthy our deep consideration. I have that confidence in the plant, that I have at this time 40 acres of land laid down with it. Sainfoin grows best on similar land, and we know the value of that plant. I shall use the Ladies' Fingers as a change for Sainfoin. *H. Stebbing, Stow Bedon Hall, Attleboro', Norfolk.*

## Farmers' Clubs.

BLANDFORD: *Tenant Right.*—At the late annual meeting of this Society the Rev. Lord S. G. OSBORNE said: He ventured, the last time he spoke in that room, to say something about Farmers' Clubs, and what was the result? Why, that he was actually challenged by the Blandford Farmers' Club itself, to appear before its members and "hold forth" upon three subjects, which, looking at the constitution of the Club, and looking at himself, were as likely to get him into hot water as any three subjects that he could possibly find. However, he accepted the challenge, and allow him to say he was very grateful for the kindness with which they received his weak efforts for their entertainment or instruction, whichever it might happen to have been. Mr. Seymer, in concluding his speech, certainly made a very curious remark. At agricultural meetings, a great many were excessively shy upon agricultural subjects; but Mr. Seymer had to-night said that he hoped to meet them next year with more cotton in their factories, more corn in their barns, and more money in their pockets. As regarded the latter, looking at those who were present, he supposed it meant rents punctually paid to his friends right and left, good savings, paying profits made by them all; a fair share, in the shape of tithes for the clergy, and good wages and employment for the labourer.

Then as to corn. Mr. Floyer had alluded to the vast capital which might be seen running about their fields in the shape of flocks of sheep, watched by a little boy or a single shepherd; and it was to him, who did not understand these things, certainly wonderful, when he came to think, not only of the vast capital invested in the cultivation of the land, but of the vast amount of true science employed in that cultivation; when he saw both these brought to bear in one of the most hazardous of all callings—depending upon weather, depending upon sudden changes of the market, depending upon many a foreign element, in the shape of a war here or a war there—when he saw all this, and yet saw the courage as well as skill with which farming was pursued in this country, he owned that sometimes, as he sat and thought of the matter, he was perfectly astonished. Only a few years ago, they were again and again at that table accustomed to hear of new discoveries in farming, and of science having been brought to bear upon it; and what had been the result after all? There was no doubt that to get a return for that great amount of capital which was now sunk in the cultivation of the land, there must be great moral courage in those who sunk it—great skill and industry to make that capital pay at all. They did not, as their forefathers did, farm upon what was called in ship-building, "the rule of thumb." They went upon certain fixed principles. Let them take up, as he did constantly, the accounts of farmers' clubs in various parts of the kingdom, and what did they see? Why, he had no hesitation in saying that they saw learned discussions — scientific discussions upon the application of this or that element of the soil, calculated to produce this or that particular crop. They did not now regard a field itself as so many acres; but they regarded, first, what was taken from that field; and next, what they must put in to restore its exhausted powers. Then, according to what they wished to grow, they applied certain manures skilfully concocted on appliable scientific principles which they were seeking to carry out, and so this had ceased to be a mere rule of thumb: it deserved to be ranked as a high and honourable profession. But even when he went beyond this, and looked at the demands which were made upon them in this shape, and beheld them still having to calculate how they could reduce their expenses, and increase their profits by a bold laying out of money in machinery—when he looked at the agricultural exhibitions of the year, and examined the displays of high scientific and mechanical ingenuity for the production of those machines which tenant-farmers used; in this direction, too, they were expending a great deal of capital, and with a great deal of courage. He would tell them why he thought they displayed a great deal of courage. It would be impertinent in him to say anything upon this or that system of cultivation, as being preferable the one to the other. He regarded them as a body of men who boldly invested not only the entire of their capital, but often money obtained through a co-partnership with their friends—investing in this profession, requiring this skill, this science, and this sinking of capital for a time—invested on a weaker tenure than any other body of capitalists in the world. With no desire to give offence to any, and with no desire to gain applause, the subject that appeared to him to be worthy of the greatest amount of consideration at these meetings, and especially at the meetings of farmers' clubs, was how the tenant could be encouraged, not simply in that expenditure which he now applied, but likewise in meeting that higher demand which would yet be made upon the soil. For remember, that whilst our population increased, our soil does not. The soil must be improved by more capital, more exertion, more energy, and still it must be made to keep pace with the increase of mouths to be fed. It was worthy, therefore, of the consideration of both landlords and tenants how far a sound basis could be found for unexhausted improvements. He had lately had an opportunity of going through a mass of evidence which had been carefully given by some of the ablest men in England, and it was most curious to see that while there was almost universal testimony on the part of landlords, agents, and large tenant-farmers to the great improvement in farming, there was also an almost equally universal testimony that something was yet required to give the farmer more confidence in the expenditure of his capital, that it may not, by any of those sudden changes of life to which all professions were liable, be lost to him or his family.

It would be easy to catch a cheer by saying that tenant-right was what they wanted; he would do no such thing. There was a vast amount of difficulty in the question, and they would be surprised, if they were to see the evidence to which he had alluded, at the great amount of property which was under entail in this country, over which, except for purposes of improvements made in his life-time, no man could charge his estates so as to secure to those coming after him—or rather so as to secure to the tenants under him, that they should receive compensation after his death. He believed that although there are Acts of Parliament which would enable him to do something in the way of draining and other improvements, yet that no heir coming into an entailed estate could be bound by any covenant for unexhausted improvements. Now the unentailed property—a far greater portion than they were aware of—if he might use the term, was embarrassed—in this way embarrassed—by marriage settlements, jointures, and frequently mortgages; under all those circumstances, there was a great difficulty in securing to the tenant, on the expiration of his lease, or on a change of tenure, any compensation for unexhausted improvements. He might feed his beasts highly with oilcake; he might drain to a great extent; he might put upon the land hundreds and hundreds of pounds of artificials; yet still he was liable to lose all that he had done, unless he had some security, which was not as yet universally given. He said "universally," because many of those present doubtless knew that in some counties this was secured to the tenant, not by law, but by that which had a certain force of law, namely, custom. Evidence has been given from Norfolk and other counties to prove this fact. Now, what we earnestly desired to see was this: that the improve-

ment in farming should continue as it had continued; that the confidence which the tenant had in his landlord should grow stronger and stronger; that he should continue to invest his money with spirit, and cultivate with courage; and that he should try to obtain from the land which he held all that it was capable of producing—he wished to see all this, but it should never be lost sight of by the tenant, the risks which he incurred in pursuing these courses. He wished at least that a feeling of common justice should gradually form itself into a custom, so that in this county and in all the counties of England it should become a custom as imperative as law, which no man would break through, but which every honest man would abide by. He had ventured to say thus much upon a question which he knew was a delicate question, but at the same time one of the greatest importance. It was almost the only "sore" that they had now left amongst them. He trusted that his friends around would feel assured that he had no intention of giving offence when he said that they should either by the force of custom or by covenant give their tenants at least the option of having a return from them, or the incoming tenant, of the value of that part of their capital which they left in the soil still unexhausted. And now, in thanking them for their kindness, he trusted that he had given them no offence. There had been times when he had done so; and he really could not say whether those times might not come again. One question had been started that evening—his old one—and it came across him as Mr. Farquharson was speaking of the little boy who had obtained one of the Society's premiums for ploughing. How came it that they saw so many boys doing men's work? His answer was that he did not believe they had cottages enough to hold a sufficiently large population of married men. They were thus obliged to turn out their boys to do the work of men. He was grateful for the fact that their cottages were much improved—he was most grateful for the fact that the number of cottages had increased—but when he looked at the vast increase of land which had been broken up; when he looked at the greater call for labour of every kind; when he looked at the vast temptations to abstract labour from one locality by the increased facilities of travelling, and of correspondence amongst families and friends, he was satisfied that if they were to have hands sufficient to work their farms as they should, they must have more cottages, better cottages, and, more than this, a higher class of men for their higher classes of work. The balance must be restored, or they would find more difficulty year by year in getting skilled labour—for skilled labour must be experienced labour—and they would be reduced to the position of demanding from young hands that which they would be glad to obtain from older and more experienced ones.

## Reviews.

*Outlines of Modern Farming.* By Robert Scott Burn. —Vol. I. *Soils, Manures, and Crops.* Virtue, Brothers, & Co., 26, Ivy Lane, Paternoster Row.

This book is a compilation from the writings of Mr. Acland, Mr. H. Russell, Mr. Wilson of Edington Mains, Mr. Jekyll of Louth, Dr. Cameron of Dublin, Dr. Voelcker, Professor Anderson, Mr. Stephens, Dr. Daubeny, Baron Liebig, Mr. Lawes, Mr. Lawrance of Cirencester, Dr. Bicknell, Professor Skilling, Mr. Sibson, Mr. Jacob Wilson, Mr. Baldwin of Glasnevin, Professor John Wilson, Mr. Hewitt Davies, Mr. Mechi, Mr. Smith of Lois-Weedon, Mr. P. Love, Mr. Fisher Hobbs, Mr. J. A. Clarke, Mr. Hallett, and a number of other writers.

It is strictly a compilation—a series of extracts, or condensed summaries of essays, books, and writings already published—arranged in illustration of the three subjects, Soil, Manure, and Crops, which occupy respectively, 31, 45, and 150 pages of the little book in which they are thus treated.

The work professes to give merely outlines of its subject—and it is plain that these are all that could be given of so large a field in so small a book. The illustrations are not very numerous—at page 78 we have drawings of varieties of "Smooth Wheat" of extraordinary disparity as to size, the smallest of them certainly of no use for guidance or instruction. The drawing of a diseased Turnip on p. 159, is incorrect. Anbury does not cover a large round Turnip with warts. The root is distorted, stunted, shrunken, as well as filled with disease.

There are repeated references in the course of the book to the pages of forthcoming works from the same pen—"Historical Outlines connected with Farming and Farming Economy"—"The Labour Question, Cottagers' Wages, &c."—"Reclamation of Waste Lands, Utilisation of Town Sewage, &c."

*Horse Warrantry. A Plain and Comprehensive Guide to the various points to be noted, showing which are essential, and which are unimportant.* By Peter Howden. R. Hardwicke, 192 Piccadilly.

The purchaser of this book has, in 160 pages, a very large number of definitions of all manner of affections to which the horse is liable, with a declaration regarding each on the authority of the writer as whether it is an unsoundness, a blemish, a vice, or not. The book is a collection of instructive paragraphs written by a man of long experience and proved good judgment, written simply with a view to the instruction and guidance of owners, or of intending purchasers of horses. It is pleasant to meet in the course of a series of purely practical lessons for guidance in the horse fair, reflections such as the following paragraph contains.

"*Wall-Eyes.*—According to popular rumour wall-eyes never become blind, though how this error has originated it is difficult to see.

"The appearance peculiar to wall-eyes is due to the absence of the colouring matter of the iris, and therefore, were it true that the coloured eye alone was liable to blindness, wall-eyes would be the only sound ones; and, in such cases, He who has arranged with perfect wisdom everything for the good of His creatures would have made them the most prevalent, and not the exception.

"The truth is that such eyes are neither weaker nor stronger than ordinary ones, and are therefore sound. And wall-eyes are not considered a blemish."

*Laying Down Land to Permanent Pasture.*
By Mr. H. Sutton, F.R.H.S., &c.

This is a reprint of the instructive and satisfactory essay on this subject contributed by Mr. Sutton, of Reading, to a recent volume of the English Agricultural Society's Journal. It is a simple and explicit series of directions, by following which abundant produce and a perfect sward may be obtained. The following is a passage relating to the management of the young plant, obtained by following the previous instructions as to preparation, seed, and sowing:—

"Soon after the young plants are established—say 3 to 4 inches high—a roller should be drawn over the field, and if any spots are found in which the seeds have missed, more should be sown.

"As weeds indigenous to the soil are almost sure to come up in land laid down to Grass, care should be taken to remove them by the hand, or check them by early mowing.

"These operations of course cannot well be performed if a crop of corn has been sown with the Grasses; but in such case the Grasses and Clovers should be looked to immediately after the corn is carried, some additional seed sown in any parts in which the Grasses have suffered from the corn-crop, when a top-dressing of well-rotted farmyard manure may with advantage be applied. Rolling once or twice before Christmas will be beneficial; and, should the Grass become very strong before winter, cattle may be turned in during fine weather; but on no account sheep, as they are apt to pull up the young plants of Grass.

"It will generally be better to leave the pasture till spring, giving it an additional rolling or bush-harrowing in the month of March, with a top-dressing of manure, if considered necessary. The young Grass should not be grazed till the following autumn; but two crops of hay should be taken in the first season—the first as early as possible. This frequent cutting checks the stronger Grasses, and affords the more slender-growing kinds a better chance, and all are encouraged to tiller out and form a good close sward; whereas, if allowed to stand too long before mowing, the early kinds would become strong and ripe to the injury of others.

"Again, if cattle are allowed to graze after the first mowing (or instead of mowing), they will pick out certain Grasses and Clovers, leaving others which in time become more coarse than is desirable, and have a very unsightly, patchy appearance.

"If grazing is practised, as being more in accordance with the requirements of the owner, then a scythe should be applied once or twice during the first summer to those plots of Grass which the cattle leave."

*A Handy Book on Villa Architecture.* By Charles Wickes. Second Series. Lockwood & Co., 7, Stationers' Hall Court.

This handsome quarto volume contains specifications and estimates of five designs for dwelling houses, varying in estimated cost from 1500*l.* to 3500*l.* There are ground, and chamber, and roof plans, front and side elevations and sections, forming a complete series of illustrations of five very commodious and artistically designed villas.

## Farm Memoranda.

CROSS HOUSE, MID LOTHIAN.—My farm extends to somewhere about 800 acres, and varies in elevation from 600 to 1600 feet. About 220 acres are under cultivation, the rest being hill pasture. My report dates from my entry to the under farm at Martinmas 1856; the farm as I now work it having previously been two separate holdings. In commencing operations I had the whole in the following state:—The under farm had been cropped continuously for a long period of years without much regard to any regular system of rotation, but just any crop followed crop, and which, instead of being consumed on the farm, were mostly removed and driven to market. Little manure in lieu had been returned, and thus this scourging system had reduced the land to the very lowest ebb. The upper farm was all in pasture; what had originally been cultivated was ill laid down, undrained, and very unproductive.

*Rotation of Crops.*—I laid plans to drain, improve, and break up the available land of the upper farm, and to work it in regular rotation with the under one, which was all arable, and I as quickly as possibly introduced over the whole the following system of cropping—1, Oats; 2, Turnips; 3, Barley; 4, 5, and 6, pasture—only as much being reserved of the first year's Grass as is required for green cutting, and to provide a small quantity of hay for autumn and spring use. I make these statements regarding the rotation of cropping, because I believe it is the rotation which in an upland district is best suited to keep up the fertility of the soil, and which ultimately will become most profitable to the farmer. I find from experience that, without pasturing to a considerable extent, the land becomes both Clover and Turnip sick, and in fact, even with the most liberal manuring, becomes exhausted. In some soils pasture deteriorates the second and third years, and cannot longer be profitably continued; on my farm I have not experienced this deterioration, which is no doubt partly prevented by the liberal use of artificial feeding supplied to the stock when pasturing. I find, however, that when pastured longer than the three years before breaking up, the Oat crop is not so good; not occasioned, in my opinion, by the land being poorer, but by the sward having become tougher, making the mould less friable, and not so accessible to absorption by the roots of the crop.

*Manure.*—I manure as liberally as possible; every available part of the produce is consumed by stock on the farm, and either dropped on the fields or added to the dung heap. In applying artificials, after many experiments with most of the substances in the market, I am now confining myself almost entirely to bones, ground or dissolved, with a small quantity of Peruvian guano; but I never apply these alone for a turnip crop without an allowance for farmyard dung. Bones, being lasting in their effects, are a valuable application when pasturing is practised, and I hold it is of the very greatest importance to have our pastures rich, both as a source of immediate profit, and also as a means of increasing the fertility of the land when it is broken up. If pastures are all swarded and bare, the land will not be enriched; I therefore use every means to make my pastures as good as possible. As I said before, I cut only a small quantity of hay, never having the swards as good after a hay crop as when it is pastured the first year; indeed, so convinced am I of the benefits of rich pasture, that I believe in certain circumstances the grain crop had better be sacrificed altogether, and have the seeds pastured with sheep the first year. I am making arrangements just now to have 15 acres laid down in this way for the coming spring. I am at present consuming the Turnip crop upon the field by sheep, and intend ploughing as early as possible to have the surface well pulverised with frost, will sow the seeds in the beginning of April, adding a few lbs. per acre of Rapeseed, and expect luxuriant pasture by the middle of June. I will not detain you at present by giving any detail of my working staff more than by saying that I have availed myself of a considerable number of the most recently introduced implements and machinery, including steam power for threshing, &c., sowing and reaping machines, Turnip-cutters, cake breakers, &c., and have found these a decided advantage, and reckon them almost indispensable on a farm.

*Live Stock.*—In now proceeding to report on the live stock department of the farm, I would have you to understand that it is principally a breeding establishment, and as much of the stock as possible are sold for breeding purposes; the report will refer more to my practice as a breeder than as a feeder of stock, although feeding for the butcher is also practised to a certain extent. The improvement of live stock may be effected either by a selection from the stock on hand of the best animals to breed from, or by supplanting those that are inferior by a superior race. If any degree of perfection is wished, however, it is of great importance to have a fixity of type and purity of blood at once—there can be no doubt but the shortest and most certain way to carry out breeding successfully is to secure at the very outset both male and female of the purest and best. In doing so much time will be saved, and a uniformity of character will be secured, which a life time would not effect where the basis of the stock has been a spurious one. I have always made it my endeavour to breed from animals on both sides of the purest blood, and of the most standing type, and in so doing I have seldom been disappointed. My breeding stock consists of Ayrshire cattle; black-faced sheep on the hill, and Leicesters on the low grounds. I have also a breeding stock of pigs, and annually I have bred a few horses. I do not intend giving in detail an account of the general management of my stock, as this would take up too much of your time, but will confine myself to the principles on which I breed them. Where my stock has wanted pure breeding I have in every case disposed of the original stock, and replaced them by purchasing from breeders of known celebrity. In this way I have laid out a good deal of money, but I always reckon that an animal possessing intrinsic merit, though bought at a high price, is cheaper in the end than one of a spurious character, however moderate it may be purchased. We not unfrequently hear breeders of stock saying, "Why all this talk about fine breeding? give me an animal heavy enough, and I will not disturb myself about its pedigree." This is a great mistake,

which a simple glance at what constitutes a pure breed of animals will at once make obvious. Animals which are the progeny of parents of mixed blood, though possessing apparent excellence, have no fixed type about them.

*Crosses in Breeding.*—The remarks I have made however, do not at all condemn the practising wise and judicious crossing, to supply animals for feeding purposes. The fact is, there is the greatest inducement for crossing, as we find that the first progeny from animals of different breeds are often the most profitable of all for that purpose. In my experience of crossing, I have had sufficient proof, however, of the preponderating influence possessed by a breed having fixity of character, when used for crossing races of mixed blood. I may illustrate what I mean by detailing some experiments I made in crossing the different breeds of sheep, and I may state that I have found the principles of breeding to be the same in every variety of our domestic animals. In these experiments I also found in almost every case the influence of the rams to be greater than the ewes. As examples, I put Leicester rams to Southdown ewes, and *vice versâ*; by the former cross I had lambs very much resembling the Leicester, with comparatively whitefaces and rather long wool, while by the latter cross the lambs had the dun face and the thick matted wool of the Southdown. I made similar experiments with the Cheviot and Southdown with similar results. In a cross with the Leicester ewe and blackfaced ram, I had lambs with horns and dark faces, while in the common cross with the black-faced ewe and Leicester ram, the lambs are without horns, having almost white faces, and in a high degree possessing the aptitude of the ram to fatten. In all these cases, however, it was only when rams of a pure breed were used that the lambs possessed anything like uniformity of appearance, and the principle that a fixed breed has far more influence on the progeny than one of a spurious character, was in all these experiments fully exemplified. Where crossing is practised, coarse and spurious bred rams are often put to black-faced ewes, and the notion is too prevalent, that purity of blood is not essential for crossing black-faced stock; but if we attach any importance to the principle, that antiquity of blood has a strong propelling force, and easily overcomes mixed blood in the other sex, the importance of using males of a pure breed will appear evident. In my opinion, the black-faced being an ancient breed, has a very strong counteracting influence, and it is only when crossed by rams of another pure breed that their features will not be found to be predominant in the offspring. I made various experiments with different breeds, having crossed the black-faced with the Southdown, and also with a cross from the Southdown and Leicester. I have also experimented with crosses from all these breeds, and have come to the decided conclusion, that when crossing is practised, purity of blood at least in the male is essential, and that as the influence of the male is greater than the female, even when breeding pure stock, it should be the aim of every breeder to secure these of superior character, but though that is of paramount importance, they should never be procured at the expense of neglecting to keep up a well-selected breeding stock in every department.

*Phenomena in Breeding.*—Before leaving this subject, I may, to excite discussion, refer to some phenomena I have observed in my breeding experiments, which I believe is not generally noticed by breeders, but which, from unmistakeable manifestations, has now some effect in guiding my management. (*a*) I refer in the first place to the condition of the different sexes in producing male or female offspring. I have invariably found that whatever sex is in the state of condition least conducive to health, whether they may be caused by under or over feeding, extreme youth or old age, is the most likely to produce offspring of their own sex. Thus we have a strong provision of nature, when the existence of either sex is threatened, that it should be reinforced by an offspring to fill its place. (*b*) Another phenomenon I may mention, although at one time I publicly stated my disbelief in it, has now, I think, in my experience been proved to have some foundation. I refer to the opinion held by some, that a male animal that has once had fruitful connection with a female, may so influence her future offspring, although begotten by other males, as to engraft upon them, to some extent, the distinctive features of the first male with which she had connection. Although I think I have noticed such effects in other cases, I will only adduce one example which I could not account for otherwise. I have a black half-bred mare, which had a foal to a chestnut blood horse, the foal was chesnut like the sire. The next year she was served by a bay cart horse, and as the mare is pretty strong, I expected a powerful strong-legged foal, but the reverse was the case; the foal, which unfortunately died, was actually as fine as the foal she had from the blood horse; and a singular phenomenon was also manifested in the colour of the foal. After being served by the cart-horse, the mare seemed to have a peculiar fancy for a chesnut horse, that was frequently put into the stable; on every occasion she seemed quite excited the first moment she saw him, and curious enough the second foal was chesnut too. Could this fancy for the chesnut horse, and shape and colour of the foal, be the result of the mare's first connection with the chesnut blood-horse, and was his influence reaching to the subsequent progeny of the mare in whose conception he himself had no share? I do not myself give a direct answer to these questions, but I certainly think it is a subject worthy of same consideration, as if it is to have any weight at all, questions must be involved of considerable importance in the science and practice of breeding. (*c*.) I annually dispose of a number of rams for breeding purposes, and I am frequently told by breeders, whom I am supplying, that such a ram left a great many twin lambs. Now, I must say that in my experience of breeding I have no reason to ascribe to the ram any share in the prolific fecundity of the ewe. I have noticed a few curious cases, however, which, at first sight, would lead one to suppose that he had an influence, but such cases can, I think, be satisfactorily accounted for by studying a little the laws of conception. The cases I refer to I believe occur frequently unnoticed; I allude to a ewe having two lambs at one birth from different rams. I only adduce one case, but have seen others. A Cheviot ewe was served by a Southdown ram, and also by a Leicester one, and had unmistakeably a lamb from each. I have mentioned this to different breeders, and I found they generally held the opinion that had the ewe been only served by the first ram, she would have had but one lamb; but I have not the least doubt a different result could be accounted for. Indeed, physiologically understood, it is quite plain; but as I never heard of a subject of that nature being discussed at a meeting such as this, I will not go further into the physiological discussion of it at present, but will content myself by viewing in it its more practical aspect. (*d*). A very common argument brought forward by those who believe that the ram has an effect on the prolificness of the ewe is, that the greatest number of twins are produced at the beginning of the lambing season, the produce of the rams when put out to the ewes strong and in high condition. In my present practice I have proof to render this opinion null and void. To save my rams from being too much reduced when serving my hill ewes, I put out one leet three weeks or so, when I bring them in, and put out another leet to finish up; but although the second leet goes out in as high condition as the first, there is no second return of the twin lambs when the lambing season comes round. The fact is, we can make ewes either prolific or not as we like, but I have never been able distinctly to mark that the influence of the ram, either from nature or condition, had much to do with the fruitfulness of the ewe. In hill stocks we do indeed have the greatest number of twins at first, caused, no doubt, partly by the strongest ewes taking the rams first, and partly by ewes in twins going rather shorter than when they have single lambs, also, as the season gets further advanced when the rams are with them, the ewes may to some extent be losing condition, which, no doubt, counteracts their tendency to fruitfulness. Nature works skilfully and to suit the wisest ends, and let me observe that after conception the male animal has nothing further to do with the produce, but nature has ordained that the female has to bear and nurse the progeny, and just in proportion as we supply or withdraw the means of subsistence for a period before conception is their fruitfulness determined. If their pastures are flowing with plenty, nature provides a numerous offspring, but if barren and bare a check is at once given to fruitfulness.

*Hazards of Farming.*—The breeding and rearing of stock is an interesting study; indeed it cannot be denied that farming, as a whole, when conducted on scientific principles, is a highly interesting occupation, but, at the same time, it is a difficult and hazardous one. I never was more convinced than I am at present of the hazardous nature of our profession; we have high rents, heavy taxes, expensive manures, and increasing outlay in every department of cultivation to strive with. But have we no more? If these were all our drawbacks we might battle the breeze, but add to these the various epidemics our flocks are now exposed to, and last, though not least, the mysterious diseases to which our root and grain crops are liable—and with these staring us in the face, who can but feel that our profession is a most precarious one? We are often told by those unacquainted with agricultural pursuits that the occupation of the farmer is an easy one, and we sometimes hear it talked of as the happiest retreat in declining years, for the man of business or of art, after having run their road in an active sphere of life; but instances are not wanting of disappointed expectations, reduced capital, and a life of difficulties and perplexities ending in bankruptcy and ejection, all the result of inexperience. It may of course do all very well for the inexperienced capitalist to engage in farming who has wealth to secure skilled superintendence, and who can afford to live in independence and ease, but I firmly believe there are few occupations that more requires experience, skill, and unremitting attention on the part of those who are engaged in them, and it is only these qualifications, combined with sufficient capital, that can make farming to those who must live by it at all a comfortable profession.

[The above has been somewhat abridged from an exceedingly interesting paper read by Mr. Wilson, of Crosshouse, at the late annual meeting of the Penicuik (Mid Lothian) Agricultural Society.]

## Miscellaneous.

*Treatment of Cream in Winter. Deep or Shallow Pans.*—In order to determine with certainty the results of setting milk for cream in deep or shallow pans, I have made several experiments, and, although on a small scale, they have been made with accuracy and care. The milk from two cows was mixed at each milking, strained into common-size pans, and allowed to stand 48 hours. At this time the cream became hard, and was skimmed off wholly free from milk. The milk had been measured in each pan when strained, and when skimmed the cream was measured and weighed, but I do not place full reliance upon the weight, as our common steel-yards were used. Believing that temperature has effect on the milk, it was kept as equal as possible each day. No fire was kept in the room during the night, and I estimate the average temperature of the room at 46°. The temperature from 9 A.M. to 9 P.M. was 65°. The position of the pans was similar, being on the same shelf. The following is the result:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| In pans | containing | 1 | quart, | the cream | measured | 1 | gill. |
| do. | do. | 2 | quarts, | do. | do. | 2 | gills. |
| do. | do. | 3 | do. | do. | do. | 2½ | do. |
| do. | do. | 4 | do. | do. | do. | 3 | do. |
| do. | do. | 5 | do. | do. | do. | 3¾ | do. |

The same experiments were tried twice successively with the same results. For another experiment the milk was allowed to stand 72 hours, but without any addition to the measure of cream. The question will readily occur, whether there would be any difference in the per centage of butter in either of the above experiments. This I cannot say, but I am positive in my own mind it is in favour of the milk in shallow pans.

I have experimented in various ways in the treatment of milk and butter-making, and have come to the following positive conclusions, viz.:—Milk should be strained immediately after milking, and two quarts is sufficient for one pan. No more cream is obtained from milk which has been headed, than from that which has been kept in a room of the proper temperature. Cream should be kept at the same temperature after being skimmed, as before, during cold weather; also it should be stirred twice a day, and a little salt stirred in two or three times while being gathered for a churning; this will prevent the white particles of curd seen in butter, 48 hours is sufficient for the milk to stand before being skimmed, if proper treatment is pursued. For churning the cream should be warmed gradually. This Mr. Edior, is in my humble opinion the best method of treating cream during the winter months; for summer my method is somewhat different. *A Farmer's Wife in the Homestead.*

## Calendar of Operations.

### JANUARY.

[The following passages are extracted from *Morton's Farmer's Calendar*. Routledge.]

"The work of the farm during January may include the following particulars, some of which, as will be seen, are referred to under other months, when they are also appropriate, while the others are discussed in the order in which they are numbered:—Land Drainage—Road-making.—Marling, Chalking, Liming.—Preparation of Compost and Manure Heaps, and carriage of dung to field.—Tillage Operations.—The sowing of various crops, as (*a*) Wheat, (*b*) Oats, (*c*) Peas, (*d*) Beans.—Management of Pasture and Meadow land.—Threshing of Grain for market—Livestock Management, including the Feeding-house and Cow-byre, the Sheepfold, the Pigsty, the Stable, Management of Fences, and of Woodland."

*Of Composts.*—"In whatever way the materials of our dung heaps are gathered together, there is a considerable store accumulated by January; and as, during the frosts of winter the land is fit for carting on, a good deal is generally carried to the fields this month. When cattle are fed in open yards, the dung may be either carried out now, or left till spring, and then turned over and made fit for application to the land at once. This, however, is a most wasteful practice; for the manure thus suffers the greatest possible exposure both to air and rain water. When cattle are fed in covered yards, such a method is economical and efficient enough; as the dung so made is not then exposed to the washing of rain-water. When stall feeding is adopted, the soiled litter is thrown daily into the yard, either covered or open; or it is carried daily to the heap, and there covered with earth. When box feeding is adopted, the litter accumulates under the cattle, and the boxes are cleaned out only at intervals of months. It is then cut out and carted to the field, and either spread at once and ploughed in, or, if this cannot be done, carted to heaps in the fields where it is to be used. When carted together in January, the carts should be driven over the heap, which should be about 4 feet high. This treading down excludes air, and so checks the rotting process. Later in the season the carts are backed against the heap, which, lying more loosely together, ferments more rapidly, and so the sooner acquires that rotten texture which enables it to be easily buried under the surface, or perfectly mixed with the soil. In any case, in order to the retention both of the volatile and the soluble products of this fermentation, the heap should be laid upon a bed of loamy soil, about 6 inches deep, and covered with a layer of such soil 3 or 4 inches thick: and when the heap is finally mixed together, before being carted out, this earth, rich with ingredients that would have been lost, should be mingled with the mass."

*Of Tillage Operations.*—"These—including ploughing, deep stirring with the cultivator, &c., are efficient just in proportion as the land is dry when they are done; accordingly, as soon after harvest as possible is the best season for them. The air is, as already said, a great storehouse of manure for plants, and the more of it, as well as of things more commonly called manure, that you can get mixed with your soil the better. It too, like other manures, is useful in proportion to its thorough mixture with the soil. Every little particle of earth, though moist itself, should thus be wrapped in air; and where the land is drained every shower that passes through it will draw fresh air in, so that these particles shall be able to absorb fresh supplies from it of the fertilising ingredients which it contains. Detailed reference will be made to this hereafter; it is named just now as indicating that this month of all the 12 is generally the least adapted to tillage operations. Only rarely, in dry seasons, or when necessary work has been previously delayed, does the plough properly find work in January. Corn stubbles may in rare cases still be left unploughed, and should be turned over as soon as possible—or the ploughing of sward for Oats may have to be done. Land, too, the tillage of which has been

delayed by drainage operations, may when dry, be ploughed. This will be done irrespectively of the direction or position of the drains; but if ploughed up and down in lands of the same width as the intervals between the drains, these intervals had better be ploughed 'out,' so that the drains shall be in the 'crowns' of the future lands. In a flood time the surface furrows of the land are useful for hindering the stagnation of surface pools; and all clay lands especially ought to be water furrowed—*i.e.*, so provided with surface furrows as that water shall run off the land if it comes down faster than it can sink in; but the more that you can look upon these surface furrows as the mere accidents of your plan of ploughing, or useful only as a guide to future work, whether in sowing, hoeing, or harvest work, the better condition will it prove your land to be in. Never mind, therefore, how these surface furrows lie with reference to the position of your drains."

*(To be Continued.)*

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending Dec. 31, 1862.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Reading of Dry Bulb Thermometer. | Reading of Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 25 | 30.35 | 45 | 43 | W. | 2 | 1 | 48 | 42 | 49* | 38 | .. | 43 | 43½ |
| Friday .. | 26 | 30.38 | 46 | 48 | W. | 3 | 6 | 50 | 40 | 69 | 33 | .. | 43½ | 44 |
| Saturday .. | 27 | 30.43 | 42 | 41 | S. | 1 | 8 | 50 | 35 | 67 | 30 | .. | 43½ | 44 |
| Sunday .... | 28 | 30.14 | 47 | 45 | S.W. | 2 | 6 | 52 | 41 | 68 | 40 | .. | 44 | 44½ |
| Monday .... | 29 | 29.54 | 47 | 46 | S.W. | 4 | 8 | 53 | 45 | 65 | 41 | 0.06 | 45 | 44½ |
| Tuesday .. | 30 | 29.61 | 38 | 37 | W. | 1 | 2 | 50 | 36 | 55 | 31 | 0.08 | 45 | 45 |
| Wednesday .. | 31 | 30.16 | 36 | 34 | W. | 2 | 1 | 47 | 33 | 66 | 26 | 0.02 | 44 | 45 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

OBSERVATIONS.

N.B.—The instruments used are by Negretti & Zambra, tested by Mr. Glaisher.

Rainfall during Year.

| | | | |
|---|---|---|---|
| January .. .. .. | 2.35 | August .. .. .. | 2.41 |
| February .. .. .. | 0.49 | September .. .. | 1.59 |
| March .. .. .. | 4.29 | October .. .. .. | 3.42 |
| April .. .. .. | 2.92 | November .. .. | 0.79 |
| May .. .. .. | 3.42 | December .. .. | 1.66 |
| June .. .. .. | 2.53 | | |
| July .. .. .. | 2.72 | Total inches .. .. | 27.60 |

## Notices to Correspondents.

CATTLE FOOD: *C L.* The composition given might be produced by grinding together about equal quantities of Wheat, Carob pods, and roasted Potatoes with a little Linseed. Very good food indeed, on which cattle would fatten. This mixture however would hardly yield so much of the albuminous ingredient as you name, and perhaps some animal matter would have to be added. Excuse an accidental delay. We have not given the question any very detailed or elaborate examination, but it appears to us that such a material would not cost 12 or 14*l.* a ton.

FOOD AND STOCK: *G W.* We find a question from you which has, we fear, been left unanswered. Your food at the end of October, from your account of it, seems to have been about 100 tons, besides the winter Grass of 14 acres of moderate Grass land—perhaps 120 tons of green food in all, equal to 12,000 daily rations for an ordinary lamb or teg. Fatting cows will consume more or less of this according to size, condition and the quantity of purchased food given to them. Perhaps 20 rations may be put down for 4 each day for four or five months. The three dairy cows will need as much. The three 2-year old and 10 yearlings may be put down for 50 or 60 rations, and the 40 lambs for 40. Here then we have 140 rations daily, according to which you are largely over stocked—your food will have lasted you only 100 days. Of course it can be spread for a longer time by using straw and hay as fodder. The lambs will be better a part of their time on the Grass.

GAS WATER: *Marcus.* It is worth as much to the farmer if the carriage be not great, as the gas works can get from any other customer. What its actual worth may be depends on the proportion of ammonia which it contains, which varies with the coal and the process. We should apply it direct after a dilution the quantity of which must be ascertained by experiment with a watering pot on the lawn, and put it with the water cart on Grass land. Gas lime should be bought months before used and turned over in compost with other material before application to any Grass crop, or it may be applied on stubble and spread at once and left exposed to the air, by which its causticity is destroyed, and it becomes a mixture of lime and gypsum. It is worth at the gas works as much as lime is worth at the kiln, but it generally sells for less.

# HOTHOUSES FOR THE MILLION.

AWARDED A PRIZE MEDAL, 1862.

ON THE PRINCIPLE INVENTED AND PATENTED BY

SIR JOSEPH PAXTON, M.P.

COMBINING SIMPLICITY, CHEAPNESS, AND DURABILITY,

BEING CAPABLE OF FULFILLING IN THE MOST PERFECT MANNER ALL THE REQUIREMENTS OF HORTICULTURE.

"We do not know in what other way so much interesting amusement, pleasant exercise, and luxurious profit can be obtained as the 'Hothouses for the Million' are calculated to afford."—*Bell's Weekly Messenger*, August 23, 1862.

"Nothing can be more easy than to build them, nothing more simple than to remove them."—*Daily News*, May 22, 1862.

The Cash Prices of LEAN-TO HOUSES, with Water-troughs, Doors and Ends complete, are as follows:—

| Ft. In. | 8 ft. Lights | 10 ft. Lights | Ft. In. | 12ft. Lights | 14ft. Lights | 16ft. Lights |
|---|---|---|---|---|---|---|
| 20 7 in length | £12 0 0 | £16 0 0 | 20 11 in length | £21 18 0 | £28 10 0 | £34 5 0 |
| 31 3 in length | 16 10 0 | 21 2 6 | 31 9 in length | 29 6 0 | 37 12 0 | 45 16 0 |
| 41 11 in length | 20 18 0 | 26 18 6 | 42 7 in length | 36 16 0 | 46 14 0 | 57 7 0 |
| 63 3 in length | 30 6 0 | 38 10 0 | 64 3 in length | 51 14 0 | 64 18 0 | 80 10 0 |
| 84 7 in length | 39 6 0 | 49 11 6 | 85 11 in length | 66 12 0 | 83 2 0 | 103 11 0 |
| 105 11 in length | 48 17 6 | 60 12 6 | 107 7 in length | 81 10 0 | 101 10 0 | 126 13 0 |

SPAN-ROOF HOUSES at double the above prices for each length of house.

Circulars with Lists of Prices and Cards to view houses in operation in the neighbourhood of London, also Estimates for Heating and Erection complete, can be had on application to

SAMUEL HEREMAN, 7, PALL MALL EAST, LONDON, S.W.

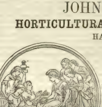
A HANBBOOK of VINE and FRUIT TREE CULTIVATION, as adapted to the above Patent Hothouses, may be had of Mr. HEREMAN, price 1*s.*; post free, 1*s.* 1*d.*

"We cannot do better than advise every reader who has a spark of gardening spirit and taste in him to write at once for a Copy."—*Bell's Weekly Messenger*, March 17, 1862.

# JOHN TAYLOR & SONS,

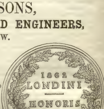
## HORTICULTURAL BUILDERS AND ENGINEERS,

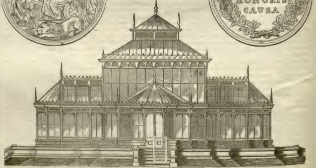
HARROW ROAD, LONDON, W.



INTERNATIONAL EXHIBITION, CLASS IX., 2191.

PRIZE MEDAL For CONSERVATORY, DOUBLE CHAMBER CORRUGATED and HORIZONTAL TUBULAR BOILERS.



J. TAYLOR AND SONS call the attention of the Nobility and Gentry to the very superior manner in which they erect CONSERVATORIES, VINERIES, FORCING, FRUIT, and PLANT HOUSES of every description, combining the most modern improvements with elegance of design and durability of materials and workmanship.

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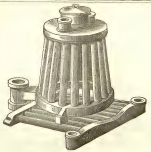
Our system of HEATING APPARATUS for Churches, Public Buildings, Mansions, Schools, Offices, Baths, Horticultural Buildings, &c., is particularly worthy of notice, we having for many years devoted especial attention to this branch. The great variety of work which has passed through our hands has gained us such experience in the mechanical details as to insure success and entire satisfaction in any undertaking entrusted to our care.

The superiority of our DOUBLE-CHAMBER CORRUGATED and HORIZONTAL TUBULAR BOILERS has caused them to be acknowledged as the best now in use, being both powerful and rapid in action.

FIRST CLASS PRIZE MEDAL
FOR ORMSON'S CONSERVATORY,
At the INTERNATIONAL EXHIBITION.



FIRST CLASS PRIZE MEDAL
FOR ORMSON'S PATENT JOINTLESS TUBULAR BOILER
At the INTERNATIONAL EXHIBITION.

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## PATENT JOINTLESS TUBULAR BOILER

HAS TAKEN MORE AWARDS THIS YEAR THAN ANY OTHER TUBULAR BOILER.

These Awards have been given by Scientific, Practical, and Competent Judges.

At the Exhibition of Boilers at the Royal Horticultural Society's Gardens, ORMSON'S PATENT JOINTLESS TUBULAR BOILER was the ONLY Boiler of any description to which an Award was given.

Other Tubular Boilers advertised in the pages of the *Gardeners' Chronicle* were exhibited to which NO Awards were given.

**HORTICULTURAL BUILDINGS** of every description **MANUFACTURED** by **STEAM-POWER MACHINERY.**

*Plans, Specifications, and Estimates on application.*

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HORTICULTURAL BUILDER TO HER MAJESTY, AND HOT-WATER APPARATUS MANUFACTURER TO THE COMMISSIONERS OF HER MAJESTY'S ROYAL PALACES, AND PUBLIC BUILDINGS, AND TO THE ROYAL HORTICULTURAL SOCIETY,

STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON, S.W.

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The HYDROPULT is invaluable for

WATERING GARDENS,

EXTINGUISHING FIRE JUST COMMENCED,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

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SPRINKLING PLANTS,

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WETTING SAILS,

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Price
Two Guineas.

CAUTION.—Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will, in due time, be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.
"GRIFFITH & BROWETT,
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and is sold at the uniform rate of Two Guineas, complete, with 2½ feet suction and 3-feet delivery hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet. It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution. The Hydropult WEIGHS BUT 8 LBS., will throw 7 or 8 gallons of water per minute 50 FEET when worked by the power of one man. Has been recommended as an efficient FIRE ENGINE by the principal FIRE INSURANCE COMPANIES OF GREAT BRITAIN. Thomas Rivers, Esq., the eminent florist; Shirley Hibberd, Esq., and other well known gentlemen, recommend it as an invaluable GARDEN IMPLEMENT. J. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable property in Bayswater from destruction. The city and provincial press accord to the invention the utmost praise. All who purchase the Hydropult are satisfied with its action; each machine guaranteed to be perfect. Prospectus, with testimonials, on application at either office.

A PORTABLE GARDEN ENGINE, AND FIRE ANNIHILATOR.

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T. G. MESSENGER, Horticultural Builder and Engineer, Loughborough, has recently patented a VALVE which is unequalled for its efficiency, simplicity, durability, and cheapness. Prices as under. Two-inch, 17*s.* 6*d.*; 3-inch, 23*s.*; 4-inch, 28*s.* A liberal discount to the Trade.

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RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3*d.* per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

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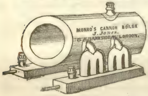
Price complete from 3*l.* 10*s.*

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

**HEATING BY HOT WATER.**




MONRO'S CANNON BOILER.

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SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

PLANS, ESTIMATES, and DESCRIPTIVE CATALOGUES

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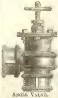
**BECK'S IMPROVED PATENT HOT-WATER VALVES.**

UPWARDS of 3000 in USE.



Angle Valve.

The above fact shows the decided superiority of

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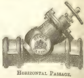
☞ *A liberal Discount to the Trade.*




Horizontal Passage.

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PATENTEE and MANUFACTURER of HYDRAULIC, GAS, and STEAM VALVES, WATER CLOSETS, PUMPS, BATHS, LAVATORIES, URINALS, &c.,

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**STEAM CULTIVATORS, STEAM PLOUGHS,**

CHAMPION PLOUGHS, HARROWS, HORSE RAKES, AND HAYMAKERS.

CATALOGUES, with full particulars, sent free on application.

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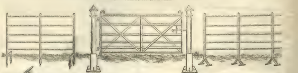
**CONTINUOUS IRON FENCE, HURDLES, and FIELD GATES,**

MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

PARK ENTRANCE GATES, and RAILING of CAST and WROUGHT IRON COMBINED, IN VARIOUS STYLES.



IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES, WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes. VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c. The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

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These Machines have carried off every Prize that has been given in all cases of competition, and have been awarded the PRIZE MEDAL at the INTERNATIONAL EXHIBITION of 1862.

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Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

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HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.
Apply to JOSEPH MEREDITH, Vine Cottage, Garston, near Liverpool.
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HOT WATER PIPES, from Stock, per yard:—2-inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS, from stock, 1s. 7d., 2s. 6d., and 3s. 3d. each.
Other Connexions at equally low prices, and all goods of first-class manufacture.

Exhibition Prize Medal, 1862.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.—This Stove is the nearest approach to Warming by Hot Water, and an efficient aid in Ventilation.

It will burn in Churches from Saturday till Sunday evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of Warming a large Apartment for 24 hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.
It is also made for Small Conservatories, with a vapour chamber, which maintains a moist atmosphere for 12 hours with once filling.
Particulars and prices post free on application to MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.
The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.
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The Improved Conical Boilers,
SOLELY MANUFACTURED BY

BURY AND POLLARD (Successors to JOHN R. PEILL, late STEPHENSON & PEILL), have attained a celebrity far surpassing any other Boilers ever invented. Of the many hundreds which have been fixed in this and foreign countries, not one single Boiler has ever proved defective, or failed to give the most complete satisfaction. They are connected with large ranges of Pipes (in some cases several thousand yards), at many Public Establishments, at the Crystal Palace, the Royal Botanical Gardens at Kew, and at the Regent's Park, as well as at most of the Nobility's Seats throughout the Kingdom.
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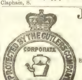
Price £4 10s. and upwards.
Every description of Material for Heating Buildings, supplied of the best description, with directions for putting up Hot-Water Apparatus.

Anti-Frost Water Pipe Protector.
[Jones' Patent.]

IMPORTANT to all HOUSEHOLDERS, preventing damage, waste, and annual expenses from pipes bursting in frosty weather.
Wholesale of BURY & POLLARD, Engineers, Sole Manufacturers, Park Iron Works, Southwark, London, S.
Retail of all Ironmongers. A liberal discount to the Trade.

FOR SALE, 200 feet length of 10-feet LIGHTS, new and portable, for covering Peach or other wall, with Plates, Gutter, Doors and Ends complete.
For particulars apply to Messrs. CUTBUSH, Nurseries, Highgate, London.

TO BE SOLD a BARGAIN, Three Second-hand Lean-to GREENHOUSES, well adapted for Vineries.
No. 1—52 feet long by about 14 feet wide.
,, 2—40 ,, ,, 14 ,,
,, 3—30 ,, ,, 13 ,,
For price, &c., apply to CHARLES SOUTHBY, Nurseryman, Clapham, S.

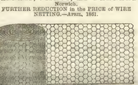



JOSEPH HAYWOOD AND CO.,
MANUFACTURERS OF
PRUNING and BUDDING KNIVES,
SPORTSMAN'S, and all kind of POCKET CUTLERY.

Dealers in Gambia Garden Shears, Scissors, Syringes, &c.

Glamorgan Works, Sheffield.

BARNARD, BISHOP, AND BARNARDS, Norwich.
FURTHER REDUCTION in the PRICE of WIRE NETTING.—APRIL, 1861.



BARNARD, BISHOP, & BARNARDS beg to inform their friends and the public that they have made a further reduction in the prices of Machine made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

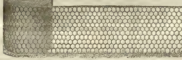
| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard |
|---|---|---|---|
| 2-inch mesh, 24 inches wide.. | No. 19 | 4½d. | 3½d. |
| 2-inch ,, ,, ,, .. | ,, 18 | 5 | 4 |
| 2-inch ,, ,, ,, .. | ,, 17 | 6½ | 5 |
| 2-inch ,, ,, ,, .. | ,, 16 | 8 | 6½ |
| 1⅝-inch ,, ,, ,, .. | ,, 19 | 4½ | 4 |
| 1⅝-inch ,, ,, ,, .. | ,, 18 | 6 | 4½ |
| 1⅝-inch ,, ,, ,, .. | ,, 17 | 7 | 5½ |
| 1⅝-inch ,, ,, ,, .. | ,, 16 | 9 | 7 |

All the above kinds can be made any width (under 6 feet) at proportionate prices.
Strong Galvanised Poultry Netting, 7½d. per yard, 3 feet wide Galvanised Sparrow-proof Netting for Pheasantries, 11d. per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.

Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies.
Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10d. per yard.
The same with Galvanised Wire Rope, 1s. per yard.
Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.
*,* Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations.

NEW IMPROVED PREMIUM WIRE NETTING.

GREAT IMPROVEMENT,



WITH REDUCED PRICE.

PRICES PER LINEAL YARD, 24 INCHES HIGH:—

| Size of Mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra Strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 2¼ inch | Hares, Dogs, Poultry ........... | 3d. | 4d. | 3¾d. | 5d. | 4½d. | 6d. | 5½d. | 7d. |
| 2 inch | Game or Poultry Netting ...... | 3½d. | 4¼d. | 4d. | 5d. | 5d. | 6½d. | 6½d. | 8d. |
| 1⅝ inch | Small Rabbits, Hares, &c. ...... | 4d. | 4¾d. | 4¾d. | 6d. | 5½d. | 7d. | 7d. | 9d. |
| 1½ inch | Smallest Rabbits................ | 5d. | 6d. | 5¾d. | 7d. | 7d. | 9d. | 9d. | 11d. |

Quantities of 100 yards or upwards delivered free at nearly all the principal Railway Stations and Shipping Ports in England; and 200 yards or upwards delivered free to most parts of Scotland and Ireland.
*,* *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged or may be returned unconditionally.*

J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.

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J. SHAW & Co., 29, Oxford Street, Manchester.

MINTON AND CO. have REMOVED from Albion Place, Blackfriars, to 50, Conduit Street, Regent Street.
ENCAUSTIC and other PAVEMENTS, EARTHENWARE and PLAIN TILES. Designs and Estimates prepared.
Manufactory: Stoke-upon-Trent.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.
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E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the COLD WINDS & MORNING FROST.
"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.
Two yards wide .. .. .. 1s. 6d. per yard run.
Four yards wide .. .. .. 3s. per yard.
An improved make, 3 yards wide, 2s. 6d. per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1s. 4d. per yard run.
ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.
"It is much cheaper than Mats as a covering."

Archangel Mats.

JAMES T. ANDERSON begs to announce that he is now open to supply, at a low price, and in any quantity, ARCHANGEL MATS, the finest in London of this season's importation, and solicits an inspection of them by Nurserymen and Seedsmen.
SACKS, SEED BAGS, &c.
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Oil Paint no longer Necessary.

HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.
Sold in casks of about 30 gallons each, at 1s. 6d. per gallon, at the Manufactory, or 1s. 8d. per gallon paid to any station in the kingdom.
Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

BRAMAH POOTRA FOWLS, best Winter Layers, and the finest to cross with Dorkings for table and egg producing, a quantity of early birds for Sale; also Dorkings, Spanish, Cochin, Crevecœur, Hamburgh, Game, Malay, Bantam, and other Fowls, Turkeys, Geese, Ducks, and Ornamental Waterfowl. Gold, Silver, and other Pheasants, Californian Quails, Foreign and British Cage Birds, and Cages &c., supplied at moderate prices, by JACKMAN and DECROIX, Importers, 36, Great St. Andrew Street, Broad Street, Bloomsbury, London.
PIGEONS for SHOOTING.

TO BE LET, in the County of Pembroke, LLANGWARREN FARM, consisting of 473 Acres, more than half of which is Pasture.
For particulars apply to J. B. LAWES, 1, Adelaide Place, London Bridge.

To Fruiterers and Seedsmen.

TO BE DISPOSED of, a BUSINESS in the above line, within 15 miles of London, in a capital neighbourhood. The above Business has been established 7 years. Satisfactory reasons for parting with the business can be given. About 1½ acre of Garden Ground can be obtained if required.
Also to be disposed of, a New Covered VAN, to use with one or two horses.
Particulars may be obtained on application to C. W. A., Post Office, High Wycombe.


## Sales by Auction.

Important Sale of Seeds from California and Vancouver's Island.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on WEDNESDAY, January 7, at half-past 12 o'clock precisely, a valuable collection of CONIFEROUS SEEDS, amongst which will be found:—

| | |
|---|---|
| Picea amabilis | Pinus Lambertiana |
| ,, grandis | ,, ponderosa |
| Abies Douglasii | ,, Sabiniana |
| ,, Menziesii | ,, Fremontiana |
| Libocedrus decurrens | Cupressus Lawsoniana |
| Thuja gigantea | ,, MacNabiana |
| Sequoia sempervirens | ,, macrocarpa |
| Wellingtonia gigantea | &c. &c. |

On view the Morning of Sale, and Catalogues had.

Choice Collection of Standard Roses, &c.

MR. ARTHUR PLEWS will SELL by AUCTION, at the Auction Mart, on TUESDAY NEXT, January 6, at 12 o'Clock, a splendid Assortment of 600 Standard and other ROSES, choice Ornamental SHRUBS, TRAINED FRUIT TREES, &c.
May be viewed the Morning of Sale. Catalogues may be had at the Mart; and of Mr. ARTHUR PLEWS, Auctioneer and Valuer, 50, Chancery Lane, London, E.C.; and New Malden Surrey.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

# SUTTON'S

## COLLECTIONS OF GARDEN SEEDS FOR ONE YEAR'S SUPPLY

(CARRIAGE FREE, AS SEE BELOW).

**No. 1. A Complete Collection of KITCHEN GARDEN SEEDS for One whole Year's Supply (with instructions on Cultivation) £3 0 0**
**No. 2. A Complete Collection of KITCHEN GARDEN SEEDS, in quantities proportionately reduced ... ... ... ... ... 2 0 0**
**No. 3. A Complete Collection of KITCHEN GARDEN SEEDS, ditto ... ... ... ... ... 1 0 0**
**No. 4. A Complete Collection of KITCHEN GARDEN SEEDS for a SMALL GARDEN ... ... ... ... ... ... 0 10 6**

Sent Carriage Free by Rail, and 5 per cent. discount allowed for cash payment. A remittance or reference requested from unknown Correspondents.

The sorts of Vegetables included in these Collections are those which have proved to be the most prolific, best flavoured, and most worthy of general cultivation, and of which sorts we have therefore grown large Crops of Seed. We exclude from our Collections not only inferior old sorts, but also such new ones as we have been unable to test the merits of, and which are selling at extravagant prices. By this means, and from the great convenience experienced in supplying every purchaser with the same sorts, we are enabled to supply A Complete Collection for One Year's Supply at much less expense than when a Gentleman or his Gardener makes his own selection; but if the latter mode of ordering is preferred, we shall be happy to send our GENERAL CATALOGUE, with prices of every article separate.

QUANTITIES CONTAINED IN SUTTON'S COLLECTIONS:—

| | £3 0 0 Collection | £2 0 0 Collection | £1 0 Collection | 10s. 6d. Collection |
|---|---|---|---|---|
| PEAS, the best sorts for succession, as proved in Messrs. Sutton's Trial Grounds .. .. .. | 20 quarts | 12 quarts | 7 quarts | 4 pints |
| BEANS, the best sorts for succession, ditto. ditto | 10 ditto | 6 ditto | 3 ditto | 2 ditto |
| FRENCH BEANS, Runners and Dwarfs, do. do. | 6 pints | 4 pints | 2 pints | 1 ditto |
| BEET, the finest in cultivation .. .. .. | 3 ounces | 2 ounces | 1 packet | 1 packet |
| BORECOLE, or Sprouting Kale, of best sorts for succession .. .. .. .. .. .. | 4 packets | 4 packets | 4 packets | 2 ditto |
| BRUSSELS SPROUTS, fresh imported seed .. | 1 large pkt | 1 large pk | 1 packet | 1 ditto |
| BROCCOLI, the best sorts for succession, as tested in Messrs. Sutton's Sample Ground .. .. | 8 large do. | 7 do. do. | 5 packets | 2 packets |
| CABBAGE, best sorts for succession .. .. | 8 packets. | 6 packets | 4 large do. | 1 ditto |
| SAVOYS, fine curled .. .. .. .. .. | 4 ditto | 3 ditto | 2 ditto | 1 ditto |
| CARROT, best sorts for summer and winter use | 14 ounces | 7 ditto | 3 ounces | 1 ounce |
| CAULIFLOWER, true Walcheren and others .. | 2 large pks | 2 large pks | 1 packet | |
| CELERY, Sutton's Solid White and others .. | 2 ditto | 2 packets | 2 ditto | 1 packet |
| COUVE TRONCHUDA, a most delicious vegetable | 1 packet | 1 packet | 1 packet | 1 packet |
| ENDIVE, best sorts .. .. .. .. .. | 1½ ounce | 2 ditto | 1 ditto | 1 ditto |
| CRESS, plain and curled .. .. .. | 1½ pint & 2 packets | 8 ounces & 2 packets | 3 ounces & 1 packet | 3 packets |
| CUCUMBERS, the best sorts in cultivation .. | 4 packets | 4 packets | 2 packets | 1 packet |
| LEEK, large sort, very fine .. .. .. .. | 1 ounce | ½ ounce | 1 ounce | 1 ditto |
| LETTUCE, Sutton's Superb Cos, and others for succession .. .. .. .. .. .. | 5 packets | 4 packets | 3 packets | 2 packets |
| MUSTARD .. .. .. .. .. .. | 1 quart | 1 pint | 4 ounces | 2 ounces |
| MELON, choicest sorts known .. .. .. | 3 packets | 3 packets | 2 packets | 1 packet |
| ONION, true Reading and others .. .. .. | 13 ounces | 7 ounces | 2 ounces | 1 ounce |
| PARSLEY, splendid curled kinds .. .. .. | 3 ditto | 2 ditto | 1 ditto | 1 packet |
| PARSNIP, Hollow Crown, Student, and others .. | 6 ditto | 4 ditto | 2 ditto | 1 ditto |
| RADISH, finest sorts for succession.. .. | 1 pint and 10 ounces | 14 ounces | 6 ounces | 3 ounces |
| SPINACH, summer and winter kinds .. .. | 2 pints | 1 pint | 4 ditto | 2 ditto |
| SALSAFY .. .. .. .. .. .. .. | 1 large pkt | 1 packet | | |
| SCORZONERA .. .. .. .. .. .. | 1 do. do. | 1 ditto | | |
| TURNIP, fine sorts for succession .. .. .. | 16 ounces | 8 ounces | 3 ounces | 2 ounces |
| VEGETABLE MARROW, best sorts .. .. | 2 large pks | 2 large pks | 1 packet | 1 packet |
| SWEET and POT HERBS, of all the useful kinds | 6 packets | 6 packets | 4 packets | |
| MIXED GOURDS .. .. .. .. .. | 1 packet | 1 packet | | |
| RAMPION .. .. .. .. .. .. .. | 1 packet | 1 packet | 1 packet | |
| TOMATO .. .. .. .. .. .. .. | 1 packet | 1 packet | 1 packet | |
| CAPSICUM and CHILI .. .. .. .. | 2 packets | 1 packet | | |
| CORN SALAD .. .. .. .. .. .. | 1 packet | 1 packet | 1 packet | |
| ORACHE .. .. .. .. .. .. .. | 1 packet | 1 packet | 1 packet | |

That great satisfaction has been given by those Collections in former seasons is testified by the recommendations given by our customers to their friends; as also by the numerous letters we receive, from which we present the following:

*From the* Rev. M. W. GREGORY, *Roade, Northampton.*
"I lose no opportunity of recommending your Seeds, which are most excellent; and I think you are doing us (the clergy especially), a great kindness in making up your garden selections."

*From the* Rev. W. H. ROACH, *Whiteshill Parsonage, Stroud.*
"I am more than satisfied with the assortment of Seeds you made for me, and with the quantity you sent; and I consider that I have done better by leaving the choice to you than selecting for myself."

*From the* Rev. JOHN KIRWAN, *Withycombe Rectory, Taunton.*
"I was so much pleased with the selection of Seeds sent by you, that I recommended two of my friends to take parcels from you."

*From* CHAS. LAWRENCE, Esq., *Cirencester.*
"I never recollect having received such a numerous collection of Seeds from any house so good in quality."

*From* ALEX. CATHCART, Esq., *Knockdolian Castle, Girvan, N.B.*
"I have had much satisfaction in recommending your Seeds to various friends, as I find they are much pleased with them; and you may depend upon my continuing to do so as long as I find the articles you send are good and reasonable in price."

*From* Mr. WILLIAM MOOR, *Gardener, The Rectory, Stoke.*
"I never had (previous to yours last year) a lot of Seeds which have all turned out so satisfactory."

*From* Mr. BONE, *Gardener, Huntsham Court, Tiverton.*
"I was so much pleased with your collection of Seeds last year, that I leave it to your selection again this year, both for the Kitchen and Flower Garden."

*From* Mr. ROBERTSON, *Gardener to* A. POLLOCK, Esq., *Lochfine, N.B.*
"I must say that your Seeds have been liberal as to quantity, and excellent as to quality."

*From the* Rev. C. T. FARLEY, *Moor Hall, Stourport.*
"Your Seeds are the very best my gardener ever made use of, and gave the highest satisfaction."

*From* J. LLOYD, Jun., Esq., *Dinas, Brecon.*
"The Garden Collection of Seeds has hitherto been most judiciously selected, and of the best description."

*From the* Rev. G. E. WALKER, *Sharcshill, Wolverhampton.*
"Mr. Walker cannot but compliment Messrs. SUTTON & SONS on the quality of the Seeds sent last year, as they were by far the best he ever purchased."

If any of the above articles are not required they should be named when giving the order, and increased quantities of other sorts will be given in lieu of those omitted.

**By ordering one of the above Collections once a year much trouble and expense will be saved.**

## SUTTON'S COLLECTIONS OF FLOWER SEEDS (Free by Post).

Amateurs requiring showy kinds of Flower Seeds are respectfully recommended to leave the selection of sorts wholly or partly to us, and we will supply those which we know to be really worthy of cultivation. Should any sorts of Flower Seeds be already possessed they should be named, that we may omit them.

**No. 1. The best 100 sorts of FLOWER SEEDS, hardy and half hardy, with instructions ... ... ... £1 1 0**
**No. 2. The best 50 sorts of FLOWER SEEDS, ditto ... 0 10 6**
**No. 3. The best 36 sorts of FLOWER SEEDS, ditto £0 7 6**
**No. 4. The best 24 sorts of FLOWER SEEDS, ditto 0 5 0**
**No. 5. The best 24 sorts of FLOWER SEEDS, all hardy 0 5 0**

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SUTTON AND SONS are constantly packing Farm and Garden Seeds for Australia, New Zealand, India, Africa, and other Foreign Parts, and receive the most gratifying accounts of the excellent condition in which they arrive, and of the Crops produced from their Seeds.

Also NATURAL GRASSES for LAWNS and MEADOWS, fine sorts of MANGEL WURZEL, TURNIP, and other Agricultural Seeds.

All kinds of Goods, of not less than 20s. value, sent Carriage Free to any Railway Station or Packet Office in England and Wales. When Goods to the value of £2 and upwards are ordered, they will be delivered Free in Scotland or at any of the Irish Ports.

All Export Orders are delivered Free at the Ship's side in London, Bristol, Southampton, Liverpool, &c.

**Remittances may be made by Cheques on Town or Country Bankers, or by Post-office Orders payable to**

SUTTON & SONS, ROYAL BERKSHIRE SEED ESTABLISHMENT, READING.

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# THE GARDENERS' CHRONICLE AND AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 2.—1863.] SATURDAY, JANUARY 10. {Price Fivepence. STAMPED EDITION, 6*d*.


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☞ *An Edition of the* GARDENERS' CHRONICLE *and* AGRICULTURAL GAZETTE *is published on Monday Afternoon at 4 o'Clock, containing full Reports of the Mark Lane and Cattle Markets, written expressly for the Paper.*

ROYAL HORTICULTURAL SOCIETY.—The FIRST MEETING for the ELECTION of FELLOWS in the Year 1863, will take place on JANUARY 16.
Forms for Election, Rules, &c., can be had at the Garden, South Kensington, or on application to
ANDREW MURRAY, Assist. Secretary.

**Grape Vines.**
WILLIAM BULL, F.R.H.S., F.R.B.S., has a large and healthy stock of well ripened VINES from EYES, of all the best kinds (New and Old), either for Planting, or Fruiting in pots.
Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

**Grape Vines.**
B. S. WILLIAMS begs to intimate that he has a fine and healthy stock of the above from Eyes, including all the best varieties for Fruiting in Pots and Planting Out. Prices on application.
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J. IVERY AND SON beg to inform their Patrons that their stock of the above is unusually fine this season. A PRICED LIST now ready.
Dorking Nursery.

VINES.—Strong Fruiting Canes, extra fine, 8*s*. 6*d*. each. Best varieties for Sale by
JAS. GARAWAY & Co., Durdham Down Nurseries, Bristol.

**Vines: Black Hamburgh and Muscat of Alexandria.**
ROBERT PARKER begs to offer extra strong Plants of the above (for planting), in large or small quantities, at 3*s*. 6*d*. each. The usual discount to the Trade.
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**Pine Plants.**
TO BE DISPOSED OF, by a gentleman leaving for town and giving up his House, &c., about 100 good healthy PINE PLANTS, this and last year's growth.
Apply by letter to Mr. F. STEAD, 23, Jarratt Street, Hull.

**Dwarf Maiden Peaches, Nectarines, and Apricots.**
WOOD AND INGRAM beg to call the attention of the Trade to their large stock of the above, consisting of all the leading kinds of PEACHES and NECTARINES, and MOORPARK APRICOTS, all remarkably fine clean stuff.
Price on application.
Nurseries, Huntingdon.

NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1*s*. per packet.
JAMES CARTER & Co., 237, 238, & 261, High Holborn, W.C.

NEW PRIZE MELONS. Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria.
For descriptions see GUIDE to the KITCHEN GARDEN.
BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

**Melon Seed! Melon Seed!!—Hybrid Cashmere (True).**
J. MEREDITH can supply Seeds of his First Prize MELONS, which were exhibited at Kensington and Regent's Park last summer. Twelve Seeds for 2*s*. 6*d*.
N.B. Payment may be made in postage stamps.
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J. GILBERT, Florist, &c., Ipswich.

RASPBERRIES.—Cornwell's Seedling, Fastolff, large fruiting monthly; Yellow Antwerp.
SEED POTATOES, at per 2 cwt. sack, Cash price.
GEO. CORNWELL, Seedsman, &c., Barnet, Herts, N.

**Garden and Agricultural Seeds, Carriage Free.**
WILLIAM WOOD AND SON,
NURSERYMEN and SEED MERCHANTS,
Maresfield, near Uckfield, Sussex.

**Best Seeds, Carriage Free.**
BUTLER AND McCULLOCH,
SEED MERCHANTS,
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**Agricultural Seeds.**
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SEEDSMEN,
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**Agricultural and Garden Seeds.**
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Special PRICED LIST of NEW SEEDS on application.

**Agricultural and Garden Seeds.**
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SEED GROWERS, SEED MERCHANTS, and NURSERYMEN,
Sleaford.
SPECIAL PRICED LIST of SEEDS of 1862 growth on application.

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JAMES CARTER AND CO.,
SEED FARMERS and NURSERYMEN.
237 and 238, High Holborn, London, W.C.

PLYMOUTH SEED COMPANY,
Union Road, Plymouth.
See General Advertisement, page 22.

PLYMOUTH SEED COMPANY,
Plymouth.
The GENERAL PRICE CURRENT is now ready.

**New and Genuine Garden and Agricultural Seeds.**
SPECIAL PRICES ON APPLICATION TO
JAMES FAIRHEAD AND SON,
SEED GROWERS and MERCHANTS,
7, Borough Market, London, S.E.

**New and Genuine Seeds.**
JOHN DOBSON AND SONS,
SEEDSMEN and FLORISTS,
Woodlands Nursery, Isleworth and Hounslow.
New CATALOGUES now ready, post free.

ANDRÉ LEROY'S NURSERIES, at Angers, the largest and richest in France.
CATALOGUES sent on application.

**New Garden Seeds of our own Growth.**
JAMES CARTER AND CO. are now prepared to execute orders for the above, saved at their Seed Farms.
237, 238, & 261, High Holborn, W.C.

CARTER'S SELECT LIST of New and Choice VEGETABLE, FLOWER SEEDS and PLANTS is now published, gratis and post free.
237, 238, & 261, High Holborn, London, W.C.

CARTER'S CHAMPION CUCUMBER. An excellent winter sort.—Vide *Gardeners' Chronicle* for 1862, page 1127. 1*s*. per packet.
237, 238, & 261, High Holborn, London, W.C.

CARTER'S CHAMPION CUCUMBER, recommended by the Royal Horticultural Society as being an excellent bearer. Fruit solid and firm, and the best of the Sion House class. 1*s*. per packet. A few ounces of our own saving to offer the Trade.
237, 238, & 261, High Holborn, London, W.C.

NEW CUCUMBERS.—Recommended by the Fruit Committee of the Royal Horticultural Society. See GUIDE to the KITCHEN GARDEN.
BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

CUTHILL'S PRINCE ALBERT CUCUMBER; an Improvement on Highland Mary.
The best for present sowing. Per packet, 1*s*.
BUTLER & M'CULLOCH, Seed Merchants, Covent Garden Market.

NUTTING'S selected DWARF-RED BEET, recommended by the Royal Horticultural Society as the best in Cultivation. (The original Stock.) Price to the Trade on application.
NUTTING & SONS, Seed Warehouses, 60, Barbican, London, E.C.

**Italian Rye-grass.**
J. DIXON is offering ITALIAN SEED to the Trade. Samples and Prices sent on application.
Kendal.—Jan. 10.

**Rose Nurseries, Hertford.**
E. P. FRANCIS has a few surplus Thousands of MANETTI STOCKS, fine and stout.
Price upon application.

**Standard Roses.**
WILLIAM EPPS, JUN., can supply fine STANDARD ROSES, at 5*l*. per 100; 15*s*. per doz.
The Nurseries, Ashford, Kent.

**New Seedling Rhubarb Excelsior.**
B. W. KNIGHT, NURSERYMAN, Battle, Sussex, is now sending out this superb NEW RHUBARB; it is quite distinct, of very large growth, very productive, of a new and desirable flavour, partaking largely of the flavour of the Apple. Good plants, 3*s*. 6*d*. each.

**Good Seeds, Carriage Free, at Market Prices.**
SUTTON AND SONS,
SEED GROWERS and MERCHANTS,
Royal Berkshire Seed Establishment, Reading.

**To Purchasers of Seeds.**
SUTTON'S PRICED LIST of NEW GARDEN and FARM SEEDS and POTATOES will shortly be ready, and will be forwarded post free on application, addressed
SUTTON & SONS, Royal Berks Seed Establishment, Reading.

**Seeds.**
CHARLES TURNER'S DESCRIPTIVE CATALOGUE, of the best Varieties only, is now ready. It also contains several Novelties.
The Royal Nurseries, Slough.

**Best Seeds—Carriage Paid.**
JAS. GARAWAY AND CO.'S CATALOGUE of the above now ready, and forwarded post free on application.
Durdham Down Nurseries, Bristol.

DOUBLE TUBEROSES, 3*s*. per dozen, Just arrived.
BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

**Just Imported,**
DOUBLE ITALIAN TUBEROSES.
Price 3*s*. per dozen.
JAMES CARTER & Co., 237, 238, and 261, High Holborn, London, W.C.

**Fresh Imported Double Italian Tuberoses.**
SUTTON AND SONS have just received their supply, and can now offer very fine roots at 3*s*. 6*d*. per dozen.
Royal Berkshire Seed Establishment, Reading.

SURPLUS STOCK of EARLY TULIPS to be SOLD cheap. Sorts and Prices on application to
BUTLER & M'CULLOCH, Seed Merchants, Covent Garden Market.

TROPÆOLUM LOBBIANUM ELEGANS
(Crystal Palace Scarlet), Seed scarce.
Per packet, 1*s*. and 2*s*. 6*d*.
BUTLER & M'CULLOCH, Seed Merchants, Covent Garden Market.

FINE STANDARD PERRY PEARS.
BARLAND. | MALVERN HILL.
RED LONGDON. | OLDFIELD.
Delicious Perry can be made from the above excellent varieties. Fine Standard Trees for Orchards, 30*s*. per dozen.
J. C. WHEELER & SON, Gloucester.

**Large Specimen Ornamental Plants.**
E. P. DIXON AND SONS have to offer a few large and handsome SPECIMEN PLANTS on reasonable terms. The Exotic Nursery, Sculcoats, Hull.

**Wellingtonia gigantea.**
JOHN KEYNES, Salisbury, has one of the finest specimens of the above to offer. The lowest price, 12*l*. 12*s*. Height, 10 feet; a perfect specimen.

WEBB'S IMPERIAL KIDNEY POTATOES.—No Potato like it for quantity, quality, beauty and size, at 12*s*. per Bushel, on application to
RICHARD WEBB, Calcot Gardens, Reading.

**Seed Potatoes, Carriage paid.**
EARLY HANDSWORTH, 10*s*. per bushel.—"Out of 74 varieties it was by 10 days the earliest."—*Gardeners' Chronicle*.—G. & W. YATES, Market Place, Manchester.

**Seed Potatoes, Carriage paid.**
G. AND W. YATES offer to the Trade all the best sorts, grown specially for Seed, free from disease and scab. Prices sent on application.—Market Place, Manchester.

**Established 36 Years.**
HOLBURY ASHLEAF, the Earliest KIDNEY POTATO grown, 10*s*. per bushel, Carriage paid.
G. & W. YATES, Seedsmen, Market Place, Manchester.

FLUKE and other SEED POTATOES off the Lancashire Moss and Sand., Price very moderate on application.
H. BROWN, Seedsman, 4, Commutation Row, Liverpool.

SEED POTATOES from the Growers. — Early Shaws, Regents, Forty-folds, Ash-leaf Kidneys, and Myatt's Prolific.
May be had on application of H. CHEVERST, Salesman, Borough Market, S.E.

SPRUCE FIR, TWICE TRANSPLANTED.
1 to 1½ feet, 15*s*. per 1000. | 1½ to 2 feet, 20*s*. per 1000.
Apply to JAMES GARAWAY & Co., Durdham Down Nurseries, Bristol.

**Spruce.**
200,000 SPRUCE FIR, twice Transplanted, 2 to 2½ feet; and SCOTCH FIR, 2 to 2½ ft.
Apply to W. H. BLAND, Nurseryman, Fordham, near Newmarket, Cambs.

**Alder.**
E. P. FRANCIS offers several Thousands of fine ALDER, transplanted, 3 to 4 ft. Price upon application.
Rose Nurseries, Hertford.

**Musa vittata.**
E. P. DIXON AND SONS have to offer a fine handsome specimen of the above, height 7 feet from the pot. Price on application.
The Exotic Nursery, Sculcoats, Hull.

**Spring Blooming Plants.**

CAMELLIAS, including the best new varieties, fine plants, set with bloom buds, from 30*s*. per doz.; extra size, from 60*s*.

HEATHS, EPACRIS, CINERARIAS, and JASMINUM GRANDIFLORUM (grafted), remarkably fine plants, at moderate prices.

Also HUMEA ELEGANS, extra strong, in 6-inch pots, 18*s*. per doz.

JAMES DICKSON & SONS, Newton Nurseries, Chester.

**New Seeds.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, of Edinburgh and London, are prepared to send out

FARM and GARDEN SEEDS

of every kind, and of the finest quality.

Orders for exportation executed with prompt and careful attention.

28, King Street, Cheapside, and 15, Lawrence Lane, E.C.

WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

WHEELER'S IMPERIAL LETTUCE

The price of the Lettuce is 1*s*. per packet, post free.

J. C. WHEELER & SON beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. WHEELER & SON, Seed Growers, Gloucester.

DOWNIE, LAIRD, AND LAING have much pleasure in offering the following FIRST CLASS NOVELTIES, which they can with confidence recommend as being decided acquisitions.

CALCEOLARIA CLOTH of GOLD, described by the Floral Committee of the Royal Horticultural Society as follows:—"A desirable bedding variety of dwarf habit, growing from 6 to 9 inches high; the leaves are narrow and deeply serrated, the flowers in fine compact trusses of a deep clear yellow, and of medium size and firm substance;" stems stiff and erect, requires no staking; as a dwarf yellow for front lines, or ribbon borders, it has no equal. Certificate of Merit by the Floral Committee, First Class Certificate at Regent's Park. Price 2*s*. 6*d*. each, 18*s*. per dozen. Special price for quantities on application.

DELPHINIUM BICOLOR GRANDIFLORUM.—This is a striking and most beautiful variety. It was commended by the Floral Committee of the Royal Horticultural Society, who described it as follows. "A showy variety with large flowers, in which the sepals were of a dark blue, and the petals of a creamy white colour, contrasting strongly with the darker colour surrounding them. Price 5*s*. each. Special offers to the Trade on application.

Stanstead Park, Forest Hill, S.E., and Edinburgh.

**Beet—Original and True Stock.**

HENDERSON'S Compact-topped PINE-APPLE BEET.—Symmetrical shape, and fine dark crimson colour, uniform through the solid roots, are points of excellence rivalled only by its rich and sugary flavour, and long-keeping properties.

This celebrated Beet gained the FIRST PRIZE against ALL OTHER SORTS at the GREAT INTERNATIONAL EXHIBITION of FRUITS and VEGETABLES held at the Horticultural Gardens, South Kensington, October 8, 1862.

**New Celery, Williams's Matchless Red.**

B. S. WILLIAMS, Paradise Nursery, Holloway, N., has much pleasure in offering the above superior solid RED CELERY, feeling confident it will give satisfaction. It is perfectly hardy, a strong grower, very solid and crisp, and of a most delicious flavour. It has been taken up for use quite the end of April without having the least tendency for running to seed. From the testimonials received it is unquestionably the best Red Celery in cultivation. In sealed packets, 2*s*. each.

**Pine Apple Place, Edgware Road, London, W.**

ARTHUR HENDERSON AND CO., beg to announce that their CATALOGUE of KITCHEN, FARM, and FLOWER SEEDS, Imported German Asters, Stocks, and Collection of Vegetable Seeds, for One Year's Supply—

| | | | | | |
|---|---|---|---|---|---|
| Collection, No. 1 | .. | 105*s*. | Collection, No. 3 | .. | 42*s*. |
| ,, No. 2 | . | 84*s*. | ,, No. 4 | .. | 25*s*. |
| | | | Collection, No. 5 | .. | 15*s*. |

is now ready, and will be forwarded free on application.

NOTE.—This Catalogue contains only the best varieties of Vegetables, and an abridged List of the most valuable Flower Seeds.

## INTERNATIONAL EXHIBITION.

PRIZE MEDALS 1851 AND 1862

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

## BUTLER & McCULLOCH, SEED MERCHANTS,

COVENT GARDEN MARKET, W.C.

(ESTABLISHED UPWARDS OF A CENTURY.)

COLLECTIONS OF VEGETABLE SEEDS SUITABLE FOR ANY SIZED GARDEN.

| | | | | |
|---|---|---|---|---|
| No. 1. 20 Quarts of PEAS and other Seeds in proportion | | | ... ... ... | £3 3 0 |
| No. 2. 11 ditto | ditto | ditto | ... ... ... | 2 2 0 |
| No. 3. 8 ditto | ditto | ditto | ... ... ... | 1 10 0 |
| No. 4. 5 ditto | ditto | ditto | ... ... ... | 1 1 0 |
| No. 5. 5 Pints | ditto | ditto | ... ... ... | 0 10 6 |

*All orders amounting to 21s. and upwards sent Carriage paid.*

## BARR & SUGDEN 12 KING ST COVENT GARDEN

SEED MERCHANTS AND FLORISTS,

12, KING STREET, COVENT GARDEN, W.C.

OPPOSITE THE GARRICK CLUB.

*Seeds Carriage paid. No charge for Packing or Package.*

BARR AND SUGDEN'S COLLECTIONS of VEGETABLE SEEDS for 1863, embracing the best Varieties in Cultivation, and especially those most approved of in Covent Garden Market.

For particulars, see "GUIDE to the KITCHEN GARDEN."

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. 6 | contains | 20 Quarts of PEAS, | and other | Seeds in | proportion, | for | £3 3 0 |
| No. 5 | ,, | 10 Quarts | ditto | ditto | ditto | ,, | 2 2 0 |
| No. 4 | ,, | 8 Quarts | ditto | ditto | ditto | ,, | 1 10 0 |
| No. 3 | ,, | 10 Pints | ditto | ditto | ditto | ,, | 1 1 0 |
| No. 2 | ,, | 6 Pints | ditto | ditto | ditto | ,, | 0 15 6 |
| No. 1 | ,, | 4 Pints | ditto | ditto | ditto | ,, | 0 10 6 |

☞ *Orders amounting to 21s. and upwards sent Carriage paid.*

## THE PLYMOUTH SEED COMPANY,

PLYMOUTH.

*Extract from a Letter received from a* CLERGYMAN *in Yorkshire, dated December* 11, 1862:—

"Our Vegetables have never been so fine as when grown from your Seeds."

The Company are now sending out their COLLECTIONS of SEEDS, which have always given great satisfaction.

| | |
|---|---|
| No. 1. Complete Collection for a large Garden, for One Year's Supply ... ... | £3 0 0 |
| No. 2. Complete Collection for a moderate size Garden, for One Year's Supply | 2 0 0 |
| No. 3. Complete Collection for do., smaller quantities, for One Year's Supply | 1 0 0 |
| No. 4. Complete Collection for a Small Garden ... ... ... ... ... | 0 15 0 |
| No. 5. Complete Collection for a Small Garden ... ... ... ... ... | 0 10 6 |
| Extra large Collection, containing double the quantities contained in No. 1... | 5 0 0 |

Extra Collection Carriage Free to any Railway Station in England and Wales, and to any Steam Port in England, Wales, Scotland, and Ireland.

No. 1 Carriage Free to most Stations and Ports in the Kingdom.

No. 2 Carriage Free to Broad Gauge Stations and Steam Ports.

No. 3 Carriage Free to any Station between Plymouth and Paddington.

For further particulars, see the GENERAL PRICE CURRENT, now ready.

Address, PLYMOUTH SEED COMPANY, PLYMOUTH.

## CARTER'S COLLECTION OF GARDEN SEEDS FOR 1863,

BEING COMPLETE ASSORTMENTS OF VEGETABLE SEEDS FOR ONE YEAR'S SUPPLY.

*Containing only the most approved and choice sorts, in quantities to suit Large and Small Gardens.*

| No. 1. | No. 2. | No. 3. | No. 4. | No. 5. |
|---|---|---|---|---|
| 10*s*. 6*d*. | 20*s*. | 40*s*. | 60*s*. | 100*s*. |

These Collections are always kept ready, and can be supplied at a moment's notice.

CARTER'S SELECT LIST OF NEW AND CHOICE VEGETABLE FLOWER SEEDS AND PLANTS

is now published gratis and post free.

237, 238, & 261, HIGH HOLBORN, LONDON, W.C.

# WM. WOOD & SON'S
## COLLECTIONS of KITCHEN GARDEN SEEDS
FOR ONE YEAR'S SUPPLY.

| No. 1. | No. 2. | No. 3. | No. 4. |
|---|---|---|---|
| £3. | £2. | £1. | 10s. 6d. |

Containing only Seeds of first-class quality, and varieties that can be confidently recommended.

For particulars, see CATALOGUE, a Copy of which may be had Post Free on application.

WOODLANDS NURSERY AND SEED WAREHOUSE, MARESFIELD, NEAR UCKFIELD, SUSSEX.

## GENUINE NEW SEEDS, Carriage Free.

# FRANCIS & ARTHUR DICKSON & SONS,
106, EASTGATE STREET, CHESTER.

NEW VEGETABLE AND FLOWER SEEDS
of every description and of the finest possible quality.

Their DESCRIPTIVE PRICED CATALOGUE, containing many valuable New and Select Vegetable and Flower Seeds, will be sent Post Free on application.

Collections for Gardens of all Sizes are on the most liberal scale.
(See Catalogue.)

Vegetable Seeds of 2l. value Carriage Free. All Flower Seeds Free by Post.

PARADISE NURSERY, HOLLOWAY, LONDON, N.

## CHOICE VEGETABLE and FLOWER SEEDS.

# B. S. WILLIAMS
BEGS RESPECTFULLY TO ANNOUNCE THAT HIS

PRICED AND DESCRIPTIVE SEED CATALOGUE FOR 1863

is now ready, and will be forwarded Post Free to all applicants. It contains Select Lists of FLOWER and VEGETABLE SEEDS, Choice GLADIOLI, &c., including all the Novelties of the season, and useful suggestions for the guidance of Amateur Cultivators.

COMPLETE COLLECTIONS of KITCHEN GARDEN SEEDS for ONE YEAR'S SUPPLY, containing none but the most valuable and approved sorts.

10s. 6d. | 20s. | 40s. | 60s. | 80s. each.

For kinds and quantities, see Catalogue.

PARADISE NURSERY,
SEVEN SISTERS AND HORNSEY ROADS, HOLLOWAY, LONDON, W.

## GARDEN SEEDS.

# S. GLENDINNING & SONS,
NURSERYMEN AND SEEDSMEN
(SUCCESSORS TO THE LATE R. GLENDINNING),

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

| | | | | | | |
|---|---|---|---|---|---|---|
| No. 1 contains | 36 Quarts of PEAS, | and all other Seeds | in proportion | | £5 | 5 0 |
| No. 2 ,, | 28 Quarts | ditto | ditto | ditto | 4 | 4 0 |
| No. 3 ,, | 20 Quarts | ditto | ditto | ditto | 3 | 3 0 |
| No. 4 ,, | 12 Quarts | ditto | ditto | ditto | 2 | 2 0 |
| No. 5 ,, | 6 Quarts | ditto | ditto | ditto | 1 | 1 0 |

COLLECTIONS of FLOWER SEEDS.

| | | | | | |
|---|---|---|---|---|---|
| No. 1, containing | 100 | Large Packets of | Best Hardy Annuals | ... ... | £0 18 0 |
| No. 2, ,, | 50 | ditto | ditto ditto | ... ... | 0 9 6 |
| No. 3, ,, | 24 | ditto | ditto ditto | ... ... | 0 5 0 |
| No. 4, ,, | 25 | ditto | Half-Hardy Annuals | ... ... | 0 7 6 |
| No. 5, ,, | 12 | ditto | ditto ditto | ... ... | 0 4 0 |
| No. 6, ,, | 25 | ditto | Tender Annuals | ... ... | 0 12 6 |
| No. 7, ,, | 12 | ditto | ditto ditto | ... ... | 0 6 0 |

The above Collections consist only of best and most useful varieties, and are of the finest quality.

S. G. & SONS' CATALOGUE of KITCHEN GARDEN, AGRICULTURAL, and FLOWER SEEDS, is now ready, and may be had on application.

CHISWICK NURSERY, LONDON, W.

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.
Patentee: J. NEAL, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1s., 3s., and 10s. 6d. each.

Wholesale by
PRICE'S PATENT CANDLE CO., Limited.

Exhibition Prize Medal 1862.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES, PATENT IRON COW HOUSE FITTINGS, and IRON PIGGERIES.

These inventions are recommended as possessing numerous advantages not to be found in anything hitherto made. At the late Meeting of the Royal Agricultural Society at Leeds, MUSGRAVE BROTHERS received a Silver Medal, and two Awards of "Highly Commended," being the only Prizes conferred on any competitor in this class.

Particulars sent on application to the Inventors and Makers, MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

THOMAS MILLINGTON,
87, Bishopsgate Street Without, E.C.
HORTICULTURAL GOODS.

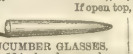
PROPAGATING GLASSES.

| | | | | | |
|---|---|---|---|---|---|
| 3 inches | .. | 0s. 4½d. each. | 12 inches | .. | 1s. 9d. each. |
| 4 ,, | .. | 0 5½ ,, | 13 ,, | .. | 2 0 ,, |
| 5 ,, | .. | 0 6½ ,, | 14 ,, | .. | 2 6 ,, |
| 6 ,, | .. | 0 8 ,, | 15 ,, | .. | 3 0 ,, |
| 7 ,, | .. | 0 10 ,, | 16 ,, | .. | 3 6 ,, |
| 8 ,, | .. | 1 0 ,, | 17 ,, | .. | 4 0 ,, |
| 9 ,, | .. | 1 2 ,, | 18 ,, | .. | 5 0 ,, |
| 10 ,, | .. | 1 4 ,, | 19 ,, | .. | 6 0 ,, |
| 11 ,, | .. | 1 6 ,, | 20 ,, | .. | 7 0 ,, |

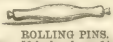
HAND GLASSES.

| | | | | | |
|---|---|---|---|---|---|
| 12 inches | .. | 6s. 0d. each | 18 inches | .. | 9s. 0d. each |
| 14 ,, | .. | 7 0 ,, | 20 ,, | .. | 10 0 ,, |
| 16 ,, | .. | 8 0 ,, | 24 ,, | .. | 12 0 ,, |

If open top, 1s. extra.



CUCUMBER GLASSES.
From 12 inches long and upwards, 1d. per running inch.



ROLLING PINS.
From 12 inches long, 1½d. per running inch.

Improved ANTI-CORROSION and other PAINTS.
GAS and LAMP GLASSES, GLOBES, &c.
CHIMNIES of every description.
Not accountable for Breakage.

Glass for Greenhouses.

JAMES PHILLIPS AND CO.
beg to submit their prices as follows :—

ENGLISH GLASS, 16 ounces to the foot, in Sheets averaging 40 by 30, packed in Cases containing about 280 feet, 2¼d. and 2½d. per foot.

SHEET GLASS, 16 ounces, packed in boxes of 100 feet each. Package included.

| Sizes | | | | 3rds. | 4ths. |
|---|---|---|---|---|---|
| 12 by 9, | 13 by 9, | 14 by 9, | 15 by 9 | 14s. 0d. | 12s. 6d. |
| 12 ,, 10, | 13 ,, 10, | 14 ,, 10, | 15 ,, 10 | | |
| 13 ,, 11, | 14 ,, 11, | 15 ,, 11, | 16 ,, 11 | 16s. 0d. | 13s. 6d. per 100 feet. |
| 14 ,, 12, | 15 ,, 12, | 16 ,, 12, | 17 ,, 12 | | |
| 18 ,, 12, | 19 ,, 12, | 20 ,, 12, | 16 ,, 13 | | |
| 17 ,, 13, | 18 ,, 13, | 19 ,, 13, | 20 ,, 13 | | |
| 16 ,, 14, | 17 ,, 14, | 18 ,, 14, | 20 ,, 14 | | |

Various other sizes.

GLASS for ORCHARD HOUSES,
As supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. | Common .. .. .. | 13s. 6d. .. | £0 18 0 |
| 20 in. by 13 in. | Superior do. .. .. | 16 0 .. | 1 3 0 |
| 20 in. by 14 in. | English Glass .. .. | 18 0 .. | 1 9 0 |
| 20 in. by 15 in. | | | |

The above prices include the Boxes.

SMALL SHEET SQUARES, IN 100 FEET BOXES.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11s. 6d. |
| 8 ,, 6 | 8½ ,, 6⅝ | 9 ,, 7 | 9½ ,, 7½ | |
| | | 10 ,, 8 | 10½ ,, 8½ | 12 6 |

Boxes 2s. each, returnable at full price.

SQUARES CUT TO SPECIAL SIZES.

16 oz. 4ths, 1¾d., 2d., and 2¼d. 21 oz. 2¾d., 3d, and 3½d.
,, 3ds, 2d., 2½d., and 3d. ,, 3d., 3½d., and 4d.

London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

Milk Pans, Propagating Glasses, and every description of Glass for Horticultural purposes.

JAMES PHILLIPS & Co., 180, Bishopsgate Street Without, London, E.C.

GLADIOLUS, SEEDLINGS of GANDAVENSIS.

| | £ | s. | d. |
|---|---|---|---|
| 50 in 25 extra choice varieties .. .. | £2 | 2s. | 0d. |
| 25 in 25 „ „ .. .. | 1 | 5 | 0 |
| 12 in 12 „ „ .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 „ „ .. .. .. | 1 | 5 | 6 |
| 25 in 25 „ „ .. .. .. | 0 | 13 | 6 |
| 12 in 12 „ „ .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2s. 6d. per doz., 17s. 6d. per 100.

BUTLER & MCCULLOCH, Seed Merchants, Covent Garden Market, W.C.

### Gladioli.

WM. PAUL (Son and Successor to the late A. PAUL) respectfully announces that his BULB CATALOGUE includes a descriptive list of all the most valuable varieties of GLADIOLI, the roots of which are unusually fine. He would remind intending purchasers that he was awarded prizes at both the Royal Horticultural and Crystal Palace September Shows. Price 4s. to 42s. per dozen.

Nurseries and Seed Warehouse, Waltham Cross, N.

### Gladiolus Gandavensis and Varieties.

B. S. WILLIAMS'S choice collection of these superb Bulbous Plants, which are beyond doubt the handsomest autumnal ornaments to the garden, is now ready for sending out. Great attention has been bestowed on the selection, amongst which are many novelties, and none but those of the best quality are offered.

Collection of 24 Splendid Varieties, one root of each, 21s.

Collection of Choice Named Varieties, 6s., 8s., and 10s. per doz.

A PRICED and DESCRIPTIVE LIST on application.

Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

### To the Seed Trade.—Continental Flower Seeds, &c.

F. W. WENDEL, SEEDSMAN, &c., Erfurt, Prussia, begs respectfully to announce that his WHOLESALE CATALOGUE of the above is now ready, containing extensive collections of Stocks, Asters, and other Choice Seeds.

Free by Post on application to GEO. MACINTOSH, Seedsman, High Road, Hammersmith, London W.

THE NEW PARSNIP "STUDENT."—Seed of this improved Parsnip, "ennobled" by Professor BUCKMAN, of the Royal Agricultural College, Cirencester, is now ready for delivery by Messrs. SUTTON & SONS, Post-free, in Packets, 6d., 1s., or 2s. 6d. each. Also Wholesale to the Trade.

It can also be obtained from Messrs. SUTTON'S Agents—see list in *Gardeners' Chronicle* of Jan. 3.

Royal Berkshire Seed Establishment, Reading.

### Fluke Kidney Potato Sets

FROM LAND WHICH HAS NOT BEEN BROKEN UP IN THE MEMORY OF MAN.

DICKSONS AND BROWN, SEEDSMEN, 43 and 45, Corporation Street, Manchester, have a few hundred bushels of the above valuable Potato, grown upon fresh land a very short distance from the place where the "FLUKE KIDNEY" was originally raised. They are picked expressly for sets.

By stating quantity required, the price will be forwarded on application to the Advertisers.

DAINTREE'S EARLIEST SEEDLING POTATO.—The earliest and most prolific round variety in cultivation, verified by reports in the various papers, and by private reports from all parts of the country, numbers of which will be forwarded on application. Present price, 8s. per Bushel, or 12l. per Ton; sacks 1s. 6d. each.—Apply to Mr. SIMON A. DAINTREE, Fendrayton, St. Ives, Hunts.

N.B.—Genuine Italian Rye grass, and all the Agricultural Seeds of home growth, supplied as usual.

### Myatt's Early Prolific Ash-leaved Kidney Potatoes.

H. AND F. SHARPE are now taking orders for the above, which has this season proved itself to be the earliest and most prolific Potato in cultivation, and as fine in quality as any of the Early Kidney varieties. Having a good stock they can offer them at a low price to the Trade.

Also JACKSON'S ASH LEAVED KIDNEY, WALNUT-LEAVED KIDNEY, and all the early Round varieties at equally low prices, which may be had on application.

Seed Growing Establishment, Wisbech.

### Early Potatoes for Planting—Carriage Free.

SUTTON AND SONS can supply the following Choice Sorts, true, and free from disease :—

DAINTREE'S FIRST EARLY, direct from Mr. Daintree, 2s. 6d. per peck, 9s. per bushel.

ALBION KIDNEY, earlier than the Ashleaf, 3s. per peck, 10s. per bushel.

LAPSTONE KIDNEY, particularly fine flavour, 3s. per peck, 10s. per bushel.

ASHLEAF, OXFORD, and WEBB'S IMPERIAL, 3s. per peck, 10s. per bushel.

Also the undermentioned, which SUTTON & SONS have proved to be a fortnight earlier than either of the above-named early sorts, viz. :—

SUTTON'S EARLY RACEHORSE KIDNEY, decidedly the earliest sort yet out, 5s. per peck, 18s. per bushel.

SUTTON & SONS have also true stocks of REGENTS, DALMAHOYS, FLUKES, FLOUR BALL, and other Potatoes for the main crops, at low prices, as per PRICED CATALOGUE, which may be had post-free on application, addressed

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

THE ROYAL ASH-LEAVED KIDNEY POTATO.—This variety was raised from seed of the Ash-leaved Kidney about five years since by the late JAMES ASHWIN, Esq., of Bretforten Hall, near Evesham.

He at the same time raised some other varieties from the same sort. Some specimens of all his seedlings were given to Mr. Rivers, who after having proved them, selected the above variety as being worthy of a name, and as the best and earliest Potato known.

It is like its parent in its fine flavour, shape, and leaves, but its bines are stouter and much more robust. It is also some eight or 10 days earlier, and gives quite double the produce of the old sort, frequently from 20 to 30 fine tubers to a root. In 1861 two pecks of seed produced 22 bushels. A few were sent to Mr. Spencer, of Bowood, last spring. The following is the report from the Foreman of the Kitchen Garden, Mr. Taplin :—"We planted this Potato for trial with the old Ash-leaved Kidney. The seedling was fit for use first, the Potatoes were larger and more of them to a root than the old sort; they were quite free from disease, while some of the sorts planted with it were nearly all destroyed; from its earliness and productiveness, I believe it will be found a most useful sort for early forcing." In March last, 10 varieties of Early Potatoes, including all the Early Kidney Potatoes, were planted here on the same day and in the same piece of ground with one row of the Royal Ash-leaved; the latter was earlier and more productive than any other kind.

Sold in sealed Peck Bags of 14 lbs., at 5s. 6d. per bag.

In London, by Messrs. WRENCH & SONS, Seedsmen, 39, King William Street, London Bridge, E.C.; and by Messrs. THOS. RIVERS & SON, Nurseries, Sawbridgeworth, Herts.

### Hardy Scarlet and other Choice Rhododendrons.

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

### Rhododendrons, Scarlet and Other Choice kinds suitable for Potting.

JNO. WATERER has the pleasure to say that he has quantities of the above in fine blooming Plants, very suitable for Forcing. The following kinds would be included in selections :—

| | |
|---|---|
| BLANDYANUM | VIVID |
| PRINCESS AMELIA | ATTRACTION |
| VANDYKE | EVERESTIANUM |
| BRAYANUM | BARCLAYANUM |
| VICTORIA | ROSEUM SUPERBUM, |
| ATROSANGUINEUM | &c. |

KALMIA LATIFOLIA, finely set with bloom.
„ MYRTIFOLIA, ditto.

BELGIAN and other AZALEAS, very full of buds.

Price on application to

JOHN WATERER, The American Nursery, Bagshot, Surrey.

CHEAP PLANTS.—The undermentioned are now ready in strong plants.

| per dozen.— | s. | d. | per dozen.— | s. | d. |
|---|---|---|---|---|---|
| Hepatica, sorts .. .. | 3 | 0 | Polyanthus, fine laced .. | 3 | 0 |
| Primroses „ .. .. | 4 | 0 | Pampas Grass .. .. | 4 | 0 |
| Auriculas „ .. .. | 3 | 0 | Hollyhock, fine named .. | 6 | 0 |
| Violets, Double White and Purple and Russian | 3 | 0 | HollyhockSeedlings, from fine named .. .. | 3 | 0 |
| Wallflower, Golden Yellow | 4 | 0 | Lavender .. .. .. | 3 | 0 |
| Pinks, fine named .. | 3 | 6 | Rock Cistus (sorts) .. | 3 | 0 |
| Clove (old Crimson) .. | 3 | 0 | Pansies, fine named .. | 3 | 6 |
| Christmas Roses .. .. | 6 | 0 | „ „ mixed .. | 2 | 0 |
| Lily of the Valley .. | 2 | 0 | | | |

The following in strong Stock Plants for cuttings :—

| Per dozen— | s. | d. | Per dozen— | s. | d. |
|---|---|---|---|---|---|
| Lobelia speciosa kermesina, true .. .. | 3 | 0 | Antirrhinums, new, 1862 | 4 | 0 |
| Verbenas, all the leading kinds .. .. .. | 3 | 6 | Calceolaria canariensis . | 6 | 0 |
| Verbenas, new, 1862 .. | 4 | 0 | Dahlias, strong ground roots .. .. .. | 6 | 0 |
| Fuchsias, new, 1862 .. | 5 | 0 | 100 Hardy Herbaceous Plants in 50 varieties | 20 | 0 |

Paid to London. Post-office Orders on Castle Hedingham.

WM. DILLISTONE, Munro Nursery, Sible Hedingham, Essex.

### Specimen Conifers and other Trees.

JAMES VEITCH AND SON beg to call the attention of noblemen and gentlemen to their fine Stock of Specimen CONIFERS and other TREES. From the quantity they have they are enabled to offer them at reduced prices, which will be given on application :—

| | | | |
|---|---|---|---|
| Abies Douglasii .. | 3 to 5 feet. | Juniperus excelsa | 4 to 6 feet. |
| „ „ .. | 5 to 8 „ | Picea amabilis .. | 1 to 1½ „ |
| Araucaria imbricata .. .. | 4 to 6 „ | „ nobilis .. | 1½ to 2½ „ |
| „ „ .. | 6 to 8 „ | „ lasiocarpa . | 1½ to 2 „ |
| Cedrus Deodara .. | 3 to 4 „ | „ „ .. | 3 to 4 „ |
| „ „ .. | 4 to 6 „ | „ Nordmanniana .. | 4 to 5 „ |
| „ „ .. | 6 to 8 „ | „ Pinsapo . | 3 to 4 „ |
| „ „ .. | 8 to 10 „ | Thuja gigantea .. | 3 to 4 „ |
| „ „ .. | 10 to 12 „ | „ Lobbi .. | 3 to 4 „ |
| „ Libani .. | 4 to 6 „ | „ „ .. | 4 to 6 „ |
| Cryptomeria Lobbi | 4 to 6 „ | Thujopsis borealis | 3 to 5 „ |
| Cupressus Lawsoniana .. .. | 3 to 4 „ | Wellingtonia gigantea .. .. | 2½ to 3½ „ |
| Irish Yews .. | 4 to 6 „ | „ „ .. | 4 to 5 „ |
| „ .. .. | 6 to 9 „ | „ „ .. | 5 to 7 „ |

The whole of the above either in tubs or with good balls.

Standard PORTUGAL LAURELS, 3 to 4½ feet stems, with fine heads 4 to 5 feet through.

WEEPING HOLLIES, 4 to 5 feet stem, with fine heads, 3 to 4 feet through.

GREEN HOLLIES, pyramids, 8 to 10 feet, fine.

Also a fine stock of Dwarf Trained PEARS and APPLES, KALMIA LATIFOLIA, and BERBERIS ASIATICA, the latter particularly recommended for Fences.

Nursery, Exeter.

CHOICE FLOWER SEEDS.

| | | s. | d. |
|---|---|---|---|
| | Per Packet— | s. | d. |
| AMARANTHUS MELANCHOLICUS RUBER .. | 1s. | 2 | 0 |
| ANTIRRHINUM, very choice .. .. .. .. | | 1 | 0 |
| BALSAMS, Smith's, nine colours .. .. .. | | 2 | 6 |
| CALCEOLARIA, splendid hybridised .. | 1s. 6d. to | 5 | 0 |
| CINERARIA, from prize flowers .. | 1s., 2s. 6d. | 5 | 0 |
| HOLLYHOCK, from 30 new varieties .. .. | | 1 | 0 |
| PANSY, from a celebrated Scotch grower .. | 1s. | 2 | 0 |
| „ Dean's Fancy (Belgian) .. .. .. | | 1 | 0 |
| PRIMULA, superb fimbriated .. .. | 1s., 2s. 6d. | 5 | 0 |
| PERILLA NANKINENSIS .. .. .. .. | | 0 | 6 |
| MIMULUS CUPREUS, new .. .. .. | 1s. | 2 | 0 |
| RHODANTHE MACULATA, new .. .. | 1s. | 2 | 0 |
| SWEET WILLIAM, Dean's Auricula-eyed .. .. | | 1 | 0 |
| „ „ Hunt's .. .. .. .. | | 1 | 0 |
| TROPÆOLUM, from Barker's superb sorts .. .. | | 1 | 0 |
| VERBENA, extra choice .. .. .. .. | | 1 | 0 |
| ZINNIA ELEGANS FLORE PLENO .. .. .. | | 1 | 0 |

Also choice IMPORTED SEEDS.

J. DOBSON & SONS, Seedsmen, Isleworth, W.

### New Catalogue of Plants, Dutch Bulbs, &c.

ROBERT PARKER begs to announce that his NEW CATALOGUE, containing Select, Descriptive, and Priced Lists of Exotic Orchids, Variegated and Ornamental-foliaged Plants, Azalea indica, Conifers, Chrysanthemums, Fuchsias, Ferns, Geraniums, Rhododendrons, Roses, Miscellaneous Stove, Greenhouse, and Hardy Plants, Fruit Trees, &c., Hyacinths, Tulips, Gladioli, and other Bulbs, is now published and will be forwarded, post free, to all applicants.

Exotic Nursery, Tooting, Surrey, S.

CHARLWOOD AND CUMMINS beg to announce that their CATALOGUE of GARDEN, AGRICULTURAL, and FLOWER SEEDS is now ready, and will be forwarded on application. They also now offer their

NEW NEMOPHILA DISCOIDALIS ELEGANS,

commended by the Royal Horticultural Society in their Proceedings; it is thus noticed :—

"The flowers of this variety (which is a very pretty one) are of a bright chocolate or light reddish maroon, conspicuously bordered with white. The colours are distinctly marked and very effective." It is commended as a very desirable Annual for general cultivation.

2s. 6d. per packet. Price to the Trade per ounce,
14, Tavistock Row, Covent Garden, London.

A TREE or SHRUB SEED LIST will be published shortly.

SUTTON'S UNRIVALLED COLLECTIONS of GARDEN SEEDS.—See last page of the *Gardeners' Chronicle* of January 3.

Lists of Contents of SUTTON'S COLLECTIONS, and SUTTON'S PRICED GENERAL CATALOGUE of SEEDS, may be had Gratis and post free.

Royal Berkshire Seed Establishment, Reading.

### Vegetable and Flower Seeds, Carriage Free.

WM. PAUL (Son and Successor to the late A. PAUL) respectfully announces that his SEED CATALOGUE is now ready, free by post. The choicer kinds, which are disposed to vary from seed, are as far as possible home-saved and carefully selected, and all others drawn from the very first sources. The Collection of Vegetables recently commended by the Royal Horticultural Society was grown from Seeds furnished by him.

Nurseries and Seed Warehouse, Waltham Cross N.

### Seeds for the Kitchen Garden, Flower Garden, and Farm.

JOHN CATTELL'S DESCRIPTIVE CATALOGUE of the above is now ready, and will be forwarded, post paid, on application; it contains select lists only, and includes every novelty worthy of cultivation.

All parcels of Seeds of the value of 21s. and upwards carriage paid to any Railway Station in England.

Nursery and Seed Establishment, Westerham, Kent.

### Genuine Seeds.—Carriage Free.

WM. CUTBUSH AND SON beg to intimate that they are now prepared to execute orders for GENUINE GARDEN SEEDS, for which their house is extensively known.

Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.

CATALOGUES free on application.

Highgate, London, N.

### Notice.—American Plants.

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

### Established 1787.

THOMAS KENNEDY AND CO.,
NURSERY AND SEED ESTABLISHMENT,
Dumfries, N.B.

*** PRICED CATALOGUES sent free on application:
FREE DELIVERY.

FARM and GARDEN SEEDS under certain limitations will be DELIVERED FREE OF CARRIAGE to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

### To the Trade.

JAMES FAIRHEAD AND SON, SEED GROWERS and MERCHANTS, 7, Borough Market, London, S.E., beg to inform their Friends and the Trade generally that their WHOLESALE CATALOGUE of AGRICULTURAL, GARDEN, and FLOWER SEEDS is now ready, and may be had on application.

NEW VERBENA, "RUGBY HERO."—The above beautiful New VERBENA will be sent out in May, 1863. It received a First-class Certificate from the Royal Horticultural Society on 10th Sept. last. Colour, light rose, with vivid carmine ring surrounding a pure white eye; very large truss. Each, 5s.; six for 25s. Special price to the Trade on application to

WM. HY. TREEN, Victoria Nursery, Rugby.

### Hendon Park Nurseries, N.W.

PANSIES.—Now is the time for making beds for exhibition. All the best show flowers, selection left to EDWARD SHENTON, 6s. per doz. Also New Bedding Pansy, BOY IN BLUE, very early and most effective, 6s. per doz.

EDWARD SHENTON.

### Hendon Park Nurseries, N.W.

NEW AND RARE PLANT.

LONICERA AUREO RETICULATA.—The most beautiful and remarkable varigated Climber, the foliage being veined with gold, changing to crimson in the autumn; the green is bright, and it is most suitable as a Bedding Plant. It is so beautiful and novel in appearance that it has to be only seen once to be admired. Price on application.

EDWARD SHENTON.

WEBB'S PRIZE COB FILBERTS, and other COB NUTS as exhibited at the INTERNATIONAL FRUIT and FLOWER SHOW, Kensington. Trees of these splendid varieties of Filberts may be had by application to

RICHARD WEBB, Calcot Gardens, Reading.

### New Bedding Annual—Iberis grandiflora alba

(LARGE-FLOWERED WHITE CANDYTUFT).

MESSRS. E. G. HENDERSON AND SON offer this as a remarkably fine variety, and a much more gay and effective plant than any other in its tribe, having numerous large semi-cylindrical trusses, from 2 to 4 inches in length, of snow-white blossoms, continuing in bloom twice as long as the well known common kinds, and making a very beautiful group or bed until the latest autumn months. Its style of growth is much more robust, from 12 to 15 inches in height, and vigorously branched. For decoration in the flower garden, either as a separate bed, or as a ribbon row, it far surpasses any annual or other bedding plant in its colour; its long continued bloom is invaluable for effect with other groups.

Seed packets, 6d. and 1s. each. The Trade supplied; prices on application.

Wellington Nursery, St. John's Wood, London, N.W.

### New Fern, Pteris nemoralis variegata.

WILLIAM COLE, Fog Lane Nursery, Withington, Manchester, the raiser of this beautiful and distinct NEW FERN, is now ready to supply good plants, and all orders will be executed in rotation.

It has been well described in the *Gardeners' Chronicle* of July 5, p. 620, where the writer speaks of it as "a curious and novel form of Variegated Pteris."

It was also reported on in the *Gardeners' Chronicle* of May 24, as follows :—"Among new Ferns, of which several were shown, was one from Mr. Cole, Nurseryman, Manchester, belonging to the Variegated Class, and as regards position, is intermediate between argyræa and tricolor, and is apparently a free grower."

W. COLE has great confidence in recommending it, and in stating that it is really a beautiful Fern, and one which will become exceedingly popular. 10s. 6d. each.

Price (very liberal terms to the Trade for 12, 50, or 100) on application.

**Foster's Seedling Grape.**

MESSRS. JOHN AND CHARLES LEE have to offer Mr. Foster's stock of this fine NEW GRAPE, which can be confidently recommended for general cultivation in cool Vineries. It has borne an abundant crop in the large Conservatory of the Royal Horticultural Society at Chiswick, the bunches being large, with medium sized berries of a pale amber colour. The flavour of Foster's Seedling is most luscious, equalling the richness of its twin sister Lady Downe's, and as far as can be seen, partaking of the same quality of hanging well without shrivelling.

Canes for planting, 7*s.* 6*d.* each. A few Fruiting Canes at 21*s.* each.

Royal Vineyard Nursery and Seed Establishment, Hammersmith, London, W.

THE GREAT VINE at HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42*s.* and 60*s.* p. doz.
" " fruiting plants in 12-inch pots, 10*s.* 6*d.* each.

If purchased in large numbers a considerable reduction will be made in price.

JACKSON & SON, Nurseries, Kingston, S.W.

FRUITING VINES in POTS; Ex. Ex. Strong.—The undersigned have to offer 250 very strong, short-jointed, well-ripened VINES in POTS. They are of undeniable quality, and equal to producing five to 10 fine bunches each. The sorts are principally—Champion, Mill Hill, and Golden Hamburghs; Black Frontignan; West's St. Peter; Chasselas Napoleon; Muscats, Noir d'Angers, Alexandrian, Cannon Hall, and Bowood; Charlesworth and White Tokays, &c., 10*s.* 6*d.* each.

FRANCIS & ARTHUR DICKSON & SONS, "Upton" Nurseries, and the Old Established Seed Warehouse, 106, Eastgate Street, Chester.

EXTRA STRONG FRUITING VINES.—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7*s.* 6*d.* each; smaller, for Planting-out, from 3*s.* 6*d.* each. A reduction in price will be made to large purchasers.

"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.

JAMES DICKSON & SONS, The Newton Nurseries, Chester.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent, Belgium, has the pleasure to offer now for the first time his two new excellent Fruits—

APPLE CALVILLE GARIBALDI .. 8*s.*
PEAR BÉURRÉ DE GHÉLIN .. .. 5*s.*

This excellent Pear obtained the First Prize at the great Pomological Show at Tournay, Belgium.

N.B. These two new Fruits are figured in VERSCHAFFELT'S "Illustration Horticole."

**Fruit Trees.**

RICHARD SMITH has no hesitation in saying, that he possesses by far the largest Stock of FRUIT TREES in the kingdom, consisting of Apples, Pears, Plums, Cherries, Peaches, Nectarines, and Apricots, in Maiden Trees, Dwarfs, Bushes, Pyramids, Half-Standards, and Standards; Dwarf-trained, Half-Standard, Standard, and Horizontally-trained Trees, of the finest sorts, and in the best possible condition. DESCRIPTIVE PRICED LISTS on application.

RICHARD SMITH, Nurseryman, Worcester.

**Rose and Bulb Catalogues for 1862-3.**

EDWIN HOLLAMBY begs to announce that his NEW DESCRIPTIVE PRICED CATALOGUES of the above are now ready, and will be forwarded gratis and post-paid on application.

Seed and Nursery Establishment, Tunbridge Wells, Kent.

**Dwarf Tea Roses.**

EDWIN HOLLAMBY begs to announce that he has a large and healthy Stock of the above, comprising some of the finest Yellows, and other leading varieties, in the best possible condition. Price on application.

Nurseries and Seed Warehouse, Tunbridge Wells, Kent.

ROSES for SALE.—Three Thousand STANDARD and DWARF ROSES in any quantity, of most of the leading kinds, at very reduced prices, the land being required for other purposes.

Apply to ALFRED GOSLING, Tower Nurseries, Heathfield, Hurst Green, Sussex.

**Roses.**

GEO. PARSONS begs to offer fine STANDARD ROSES, from 2½ to 4 feet stems, at 5*l.* per 100, or 15*s.* per dozen; including the New Varieties, 18*s.* per dozen, or 6*l.* 10*s.* per 100; the last New Varieties of 1862, DWARFS, 30*s.* per dozen.

Catalogues free on application.

Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

**Wholesale Catalogue.**

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE for 1862 and SPRING 1863, comprising Fruit Trees of all the leading kinds, new and selected Roses, fine varieties of American Plants, Choice and Rare Conifers, Evergreen and Deciduous Trees and Shrubs, and a fine Stock of Transplanted Forest Trees, &c., can be had free on application.

Woking Nursery, Surrey.

**Early Spring Flowers.**

WEBB'S GIANT POLYANTHUS; ditto COWSLIP; Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to

RICHARD WEBB, Calcot Gardens, Reading.

DUTCH BULBS — SURPLUS STOCK.—Orders over 10*s.* value carriage paid.

| | Per 100—*s.* | *d.* |
|---|---|---|
| HYACINTHS, in fine mixture .. .. .. | 20 | 0 |
| LATE TULIPS .. .. .. .. .. | 10 | 0 |
| EARLY TULIPS .. .. .. .. .. | 6 | 0 |
| PARROT TULIPS .. .. .. .. .. | 7 | 6 |

Also a variety of other Bulbs at equally low prices; all in good condition.

PRICE LISTS post free on application.

WM. WOOD & SON, Woodlands, Maresfield, near Uckfield.

**New Seeds, Growth of 1862.**

ROYAL BERKSHIRE SEED ESTABLISHMENT.

SUTTON AND SONS are now prepared to execute orders for all kinds of FARM and GARDEN SEEDS.

The prices are lower and the quality finer than usual, owing to the very favourable harvest.

Royal Berkshire Seed Establishment, Reading.

DOBSON'S PRIZE CALCEOLARIA SEED is unequalled in the kingdom. Annual Sale exceeds 2000 packets. In sealed packets, 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.* each.

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE CINERARIA SEED.—Ten First Prizes awarded to our collection in the spring, 1862. In sealed packets, 1*s.*, 2*s.* 6*d.*, and 5*s.*

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE PRIMULA SINENSIS SEED. In sealed packets, 1*s.*, 2*s.* 6*d.*, and 5*s.*

J. DOBSON & SONS, Seedsmen, Isleworth.

**New Bedding Plant.**

AMARANTHUS MELANCHOLICUS RUBER (VEITCH). Sealed packets, 1*s.* and 2*s.*

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S for NEW PELARGONIUMS.
DOBSON'S for SHOW PELARGONIUMS.
DOBSON'S for FANCY PELARGONIUMS.
DOBSON'S for SPOTTED PELARGONIUMS.
DOBSON'S for NEW CINERARIAS.
DOBSON'S for PRIZE CINERARIAS.
DOBSON'S for PANSIES.
CATALOGUES Free.

J. DOBSON & SONS, Woodlands Nursery, Isleworth.

**Seed Trade.**

JAMES CARTER AND CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade:—

MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE,
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION.
TOMATOE DE LAYE.
HENDERSON'S PINE-APPLE BEET.

**Surplus Stock of Bulbs for Beds and Borders.**

BARR AND SUGDEN, SEED MERCHANTS, 12, King Street, Covent Garden, W.C.

30 named HYACINTHS, 20 POLYANTHUS NARCISSUS, 300 CROCUS, 200 TULIPS, 200 GARDEN NARCISSUS, 20 DOG'S-TOOTH VIOLETS, 30 IRIS, 30 IXIAS, SPARAXIS and BABIANAS for 21*s.*; half for 10*s.* 6*d.*

# The Gardeners' Chronicle.

## *SATURDAY, JANUARY* 10, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| WEDNESDAY, Jan. 14 | Society of Arts .. .. .. | 8 P.M. |
| | Microscopical .. .. .. | 8 P.M. |
| THURSDAY, — 15 | Linnean .. .. .. .. | 8 P.M. |
| FRIDAY, — 16 | Royal Horticultural (Election of Fellows) at S. Kensington .. .. | 2 P.M. |

A PROCESS has lately been applied in the dockyard at Cherbourg by M. LAPPAREUL, Inspector General of Timber, with a view to the preservation of ships from decay, which is highly deserving of attention, though we have great doubt whether it will prove as efficient against fungous dry rot as is anticipated.

In considering the important subject of decay in ship timber—and the same remark is applicable to domestic or horticultural structures—we must always remember that there are two very distinct sources of evil, the mischief arising in one case from the action of Fungi, while in the other it is due to mere chemical decomposition, apart from all fungous growth.

The antiseptic properties of charred wood when exposed to damp, have long been recognised. The ends of gate posts, which have generally the sapwood left upon them, though sawed off above, are often charred before they are fixed in the ground; the same practice prevails on many railroad lines with regard to telegraph posts, and the base of hop-poles is generally submitted to the same treatment. Indeed, in the ancient lake habitations of Switzerland, the base of the piles is always charred, though it is possible in this case that the trees were felled by the agency of fire. In some cases, moreover, the process may have been used rather with a view to hardening the end of the stakes so as to make them drive more easily, a matter which was certainly in view in the stakes burnt at one end (*sudes præustæ*), which are mentioned by Cæsar in the fifth book of the Commentaries, though these were used for a very different purpose. It appears, also, that the practice of charring is not entirely new in the navy, and that the Royal Sovereign, which has outlasted many a contemporary, was treated in this manner.

M. LAPPAREUL's process then consists simply in directing a powerful jet of burning gas on the wood, so as to penetrate every crevice, the charring being facilitated in some cases by the addition of a very thin wash of tar. That this practice will have a powerful effect in arresting the gradual combustion which takes place in timber exposed to the action of water or to a damp atmosphere we have not the slightest doubt, but whether it will effectually stop the growth of Fungi is a different question. Not only is it notorious that ground where charcoal has been prepared or where sticks have been burnt is constantly productive of Fungi, as different species of Agaricus and Peziza, or the far-famed Morell—but charred wood, both in temperate and tropical regions, is peculiarly subject to the growth of Polypori and other wood-borne Fungi. This is a fact well known to every one who has paid attention to exotic species. The most common of all, the beautiful vermilion-coloured *Polyporus sanguineus*, very frequently grows on charred trees, and the same may be said of many other species. But we are not without examples in our own country. Old Oaks, dating at least from the time of King JOHN, which have never shown a trace of a Fungus, except such species as *Fistulina hepatica*, *Polyporus dryadeus*, and *P. quercinus*, which all affect the bark and not the wood, if accidentally burnt, produce on the charred surface an abundant crop of the very Fungi which occur in such profusion in our dockyards on badly seasoned timber. The exact affinity of the *Polyporus* which causes such destruction in Oak-built ships is not known, but it is doubtless a form of some extremely common species, which for convenience sake, rather than from conviction of its being really distinct, has received a specific name. We therefore feel ourselves justified in hesitating to a certain extent as to the merits of M. LAPPAREUL's process.

There is however another point of view in which it is well worthy of consideration. It is well known that Oak timber decays rapidly when in contact with iron, probably from the combination of its tannin or gallic acid with the iron, as the same effect does not seem to be produced where the wood does not contain that principle. The importance, at the present time, of anything which is likely to arrest this decay in iron-clad vessels is at once manifest. The portion of the wood in contact with the iron will be in such a very different chemical condition from that of uncharred wood, that there is at least great probability that the injurious action of the iron will be arrested.

The subject requires more attention than it has received at present. Even in the case of deal we have observed that the parts of boards where nails have been driven in, were more decayed than the other parts, a circumstance which we have been inclined to attribute to the condensation of moisture by the cold iron, and it is possible that the softening of Oak round iron bolts may not be wholly due to the presence of tannate or gallate of iron. *M. J. B.*

—— WE learn with great regret that M. VON HELDREICH, the learned Curator of the Museum and Superintendent of the Botanic Garden, Athens, is obliged by the troubles in Greece to dispose of his natural history collections. As a Botanical authority for the names of the plants of the Levant this gentleman is inferior to no one. As a skilful preparer of dried specimens he has never been surpassed and very rarely equalled. The chance of forming a Greek Herbarium now presented is one which can hardly occur again, especially considering the very low price, 25 francs for 100 species, at which these beautiful preparations may be secured.

M. VON HELDREICH has also a fine collection of Greek Coleoptera and many specimens of terrestrial and freshwater shells, all of which he would dispose of on similar terms. Surely the Linnean and Geological Societies should look immediately to this opportunity.

—— We also see that M. G. MANDON, of Poitiers, is offering for sale collections of dried plants from Bolivia at 40 francs the hundred. Judging from the Orchids now before us, of which the collection contains about 47 species, M. MANDON's preparations are excellent. Purchasers should address him, care of M. H. WEDDELL, 14, Rue de la Tranchée, Poitiers (Vienne). The largest collection consists of about ten hundred; others of 200 or 300. All are named.

WE once more enter a protest against the admission of FUCHSIAS, in the shape of *old bushes*, to general competition at our summer flower shows; and we do so *now* with the double purpose of inducing those who have the devising of arrangements for the aforesaid shows to admit nothing but yearling plants, and of reminding cultivators of the necessity of making a good start in good time, if they desire a successful issue. We lay stress upon the sole admission of yearling plants, in order that the change from the present usage

of showing plants of unlimited age may be made clear and unmistakeable, and that there may be no possible excuse or encouragement for the production of the misshapen, scraggy, one-sided models to which exhibition Fuchsias have latterly been tending. If the rule were not made definite and imperative, the encouragement might here and there be held out, in the shape of a preference for a set of well managed old bushes, on the part of judges who might be inclined to allow bulk to outweigh quality—a bad principle, undoubtedly, in plant judging. And that it is bad in principle to tolerate old Fuchsias at an exhibition we reassert, founding our conclusions on these considerations,—1stly, that plants quite large enough and much more handsome and symmetrical, may with proper care be produced within the year; and 2dly, that such yearling plants, having all the freshness and healthfulness of youthful vigour about them, produce the finest blossoms, and are the best exponents of the true characters of the several varieties.

But if one step be taken in reforming the mode of exhibiting Fuchsias, why not others? We confess that we should like to see the prizes more distributed, which result would be brought about by adopting the plan of exhibiting in classes. This plan, moreover, would have a tendency to impart greater variety and some novelty of character to the monster exhibitions with which we are getting so familiar that it is fashion rather than, as it ought to be, interest in the display which draws too many of us within their charmed circle. It is variety and novelty of character that these exhibitions most obviously want; and the class showing of subjects like those we are considering, which would do something and probably much towards effecting this change of character, is quite in accordance with the excellent suggestion of "SERAPIAS," at p. 7, in reference to the exhibitions of Orchids. Instead of a bank of Fuchsias made up of red and white sorts incongruously mixed, the same forms recurring from end to end, with dull monotony as the result, there would be a distinct and definite group of one colour here, followed by another of a different colour there, producing more real variety than any general admixture, and having an aspect wholly novel and distinct.

Indeed, any exhibition subjects which are now shown throughout all these classes indefinitely mixed, would have a much better effect, we believe—certainly would produce more variety in the scene of which they form part—if separated into distinct classes. Pelargoniums, for example, might advantageously be formed into at least two divisions, light-coloured and dark-coloured. At present the indiscriminate mixture produces sameness throughout the long ranges of these gay flowers which occupy so much of the space at the midsummer shows; and an inspection of the collection which may chance to come first to hand, and which is seen at a glance to be an epitome of the rest, leaves but small inducement to an ordinary looker-on, or to one not directly interested in the competition, to wade through the whole. Yet the materials of a grand display are present in such scenes as those we are recalling, and the materials, though tiring by their monotony under present arrangements, could not very well be spared, for their absence would produce a poverty-stricken effect. Assuredly, if this plan of classification were adopted, it would, besides producing a most desirable change of feature in the exhibition, serve as a very useful index to point out the direction in which deficiencies amongst the varieties of a particular flower existed, and would consequently afford some very useful hints to the raisers of novelties.

We are not sure, that on these grounds, even such subjects as the Dahlia, when invited at exhibitions of a general character (certainly at those more strictly confined to florists' subjects), would not excite more interest amongst the spectators as well as be more suggestive to growers, if shown in some such groups as those we have already indicated (1862, p. 1100) for their classification. For under the present regulations, the very same objection applies alike to all these and many other cases: that objection being, that in the first set of any particular subject which the visitor happens to set eyes on, he sees an epitome of the whole exhibition of that particular flower, and it then becomes irksome to drag on with nothing but a repetition of the same picture to gaze upon. Let us be sure this has a good deal to do with the conversion of the great flower shows into mere fashionable promenades: nine-tenths of the visitors don't care for the flowers; they take a peep here and there and get satisfied, if not much gratified, and have moreover tolerably good reason to be satisfied, inasmuch as their peep has revealed to them nearly if not quite as much as those have seen who have submitted to the crush which occurs at particular points, and have completed the slow tour of the tables. Let, however, such sorts of particular flowers, be it of Orchids or of Pelargoniums, of Fuchsias, of Dahlias, or others,—let such sorts of such as them as will admit of being intelligibly classified be brought together in the show by classification in the schedules, and there will be secured at least as many separate effects rising in succession, as many distinct though more limited pictures, as it may be possible to form out of classes sufficiently different from each other. Would it not be well therefore—and we close this digression with the inquiry—would it not be well if in our great London shows, which have become in one sense wearisome repetitions, the effect of this classifying principle were to be fairly tried? It is reasonable to assume that its adoption, the tendency of which would be to increase the number and diminish the extent of individual exhibitions of particular flowers, would often let in a new exhibitor, and thus recruit the ranks of that most important body by whom the exhibitions are kept up.

Returning to our original subject the Fuchsia, we proceed to observe that few of our popular flowers want a more thorough weeding out of inferior varieties, so as to give greater prominence to those which hold the highest positions in respect to merit. Old sorts of Fuchsia seem to hang on hand longer than the old varieties of many other flowers which are rapidly multiplied, and this, apparently, because every Fuchsia, or almost every one, is really, though inferior by comparison, an object of beauty, the beauty being perhaps dependent here less than in other flowers upon the floral improvements wrought upon the individual blossoms, and more upon the natural elegance of the plant viewed as a whole. In consequence of this, or from some such cause, as we suppose, older and really inferior varieties are often returned in collections long after they should have been banished from a prominent position in our gardens. Yet it is a fact equally patent, that very great advances have been made of late years in respect to the size and quality of the flowers; and it becomes desirable therefore to point out which of the varieties are really most worthy of general cultivation as objects of ornament. As the result of our own observations and examinations, we briefly indicate those which appear to us superior.

Commencing with the dark or red-flowered series, which may be separated into those with violet-coloured corollas and those with white corollas, both further separating into single and double, we have seen nothing superior, all points considered, in the first of these groups (the single red and violet sorts) to Sir Robert Peel, The Lord Warden, and Souvenir de Chiswick, the two first representing those sorts with the corolla a good deal expanded, and the last, an oldish kind, yet unbeaten in its way, representing those with a moderately compact corolla. Sir Robert Peel is characterised by a dwarfish freely-branched habit, with large pendent bunches of flowers terminating the shoots, the parts of the individual blossoms being thick and smooth and richly coloured; while The Lord Warden, which has many of the same good qualities as the former, has the corolla more elongated as well as expanded, and so acquires a distinct aspect. Souvenir de Chiswick is remarkable for its elegant free-flowering habit. As very distinct sorts may be added Count Cavour, with a very much expanded slaty-blue corolla, dwarfish-habited and free blooming; and Edith, with a stiff erectly branched growth, and excessively expanded corolla.

The best double-flowered red and purples we have met with are Sir Colin Campbell, very elegant in habit, and bearing profusely its graceful rather long-tubed flowers; and Universal, which is remarkable for its great round cherry-like buds, and large distinct blossoms.

Nothing amongst the sorts with single white corollas that we have fallen in with, is really better than Princess of Prussia; and of the double sorts, we pronounce for Madame Cornelissen, which when well grown is a slender variety, and a worthy match for good old Sir Colin Campbell.

What are called light Fuchsias, that is having the tube and sepals light coloured, are not yet equal in quality to the single reds. They still want purity and development of the corolla. One or two of the newer sorts may be acquisitions, but we have not seen them in a condition to warrant us in placing them before those we are about to name as really beautiful varieties of this group, and the most desirable we have seen, regarding them as decorative plants, namely, Annie, Wiltshire Lass, and Elegantissima. The first of these is blush-white with a scarlet corolla; the second is nearly pure white with a purplish-rose corolla; and the third is a remarkably dwarf free-blooming sort, with the tube tolerably pure, and the corolla moderately spread out, and of a purplish-rose colour. Duchess of Lancaster is a still useful addition, on account of the distinct rose-coloured tint of its corolla.

We here omit of course all the most recent novelties, the habit of which remains to be tested; and in our estimate of those we have named, we have been guided by habit quite as much as by technical merits in the flowers. Those we have named in fact combine good habit and good flowers.

## New Plants.

### PRUMNOPITYS ELEGANS (see p. 6).

WE have just seen a memorandum concerning this beautiful plant, in the handwriting of Professor Philippi himself, from which it appears that it comes from the river Traiguen, in the province of Valdivia. This is a most important fact, for Valdivia is in the extreme south of Chili, with the ARAUCARIA CLIMATE, and therefore Prumnopitys should be quite as hardy.

## "NEW YEAR'S DAY."

IT is raining violently. This morning's post brought me a letter from Hertfordshire, wishing me a happy commencement of the year. I might write back and say, it is "good weather for ducks," but if it continues to rain much longer, I must be drowned; or, as the Irishman who fell into the sea said, "I *will* be drowned, nobody *shall* save me." I must say, that a moderate quantity of rain and an equal quantity of sunshine are great blessings; but being pumped upon for nearly 24 months continuously is rather too much of a good thing, especially as the sun has not favoured us much these last two years. Give me a burning West Indian sun, and I will find the mulching and water. I remember a peevish old man, whose hay was spoilt, saying to me, "I wish I had made the world, I would have made the sun and moon go the other way; at any rate I wish I had got the management of the frying pan and pump (the sun and rain), I would have made my hay and carried it."—"Yes," said I, "that is true, but, having carried your hay, you would have pumped upon mine and spoilt it. Now we all share alike, and depend upon it, the frying pan and the pump are in the best hands." The old man said no more, but walked away, looking as sour as the superacetate of potash.

Let us hope for a dry March, which is, with a West Indian summer, the riches of the world. Can any of the readers of the *Gardeners' Chronicle* tell me the value of a pound of March dust? Last year the month of March was wet, and was followed by sunless, wet, and windy weather, from May till the end of July. On the Tuesday before the National Rose Show it rained here like the Atlantic Ocean coming through a sieve; on the rain ceasing, the sun shone brightly for a few moments, and was succeeded by a crashing hailstorm, which put the finisher on my Roses; moreover, the wind blew a hurricane. It was these three things that sent the Roses to the National in such defective condition. Considering the weather, I thought the Roses were, on the whole, very respectable. None but exhibitors know how difficult (especially those who are not exposed, as I am, to the furious assaults of the S.W. wind) it is to protect Roses against the elements, and also to convey them in a hot train a long distance to the show. Let us hope for a genial summer. "There is no lane so long that it has no turning."

As my last address was on Strawberries, let me say a few words in connection with Roses. I am very glad (though it is not so convenient to myself as an earlier day) that the Royal Horticultural Society have considered the north and cold clay-landers in appointing July 1st for the National Show. This is quite fair; and we (especially Manetti-ites), who live in a more genial climate, must exercise our wits, in order to take something—even an ornamental box. I do not hold with attempts at retarding, unless by removal; cutting back the plants after the proper time is often injurious. We can hasten nature without detriment; but not so the converse. As regards hastening a bloom by manipulation, I believe it is usually a failure. The best way is, if the weather is dry, to water the ground; and if it is wet, to put panes of glass over long stable dung, so as, when the sun comes out, to produce bottom or geothermal heat. Roses that are very full, pointed, and involved in their foldings, are sometimes very provoking. The only thing you can do with them is to take the branch in your hand, and vibrate it quickly but carefully towards the wind. If the air gets in, the Rose will soon open, if not soaked with wet. It is not necessary, when you start, that the Rose should be fully expanded—indeed, it is better that it should not be so. The vibrations of the train and rattling over the London stones will, with the heat, open it quite enough. You must, however, with gloves on (white kids), feel if there is any cleft in the side. If there is, the Rose cannot be good. It is safest to take the full complement of expanded Roses, and an equal surplusage of unexpanded ones. These unexpanded travellers will often be your best Roses. At one Show last year I won the trebles and singles entirely by this. The expanded ones, so nice when I started, were rags the next morning. There is much in the location of Roses. I have hitherto taken too little care about this. I believe that this will be admitted, that whilst Roses of level size throughout a box are most attractive, yet much may be done by putting the biggest Roses in the top line, the next size in the second line, and the smallest in the third line. The Roses in the three lines should reach light and dark (or contrasted) horizontally and perpendicularly. This, on account of the different sizes of the Roses, is very difficult. It was completely done as regards alternation by my 24 winning trebles, shown in Sept. 1861, at Kensington. Eleven of them were white, blush, and yellow, and the others were varieties of rose and crimson.

Sufficient attention is not paid to this; moreover, the pans are usually wanting in white, yellow, and dark coloured Roses. I keep a large stock of these three colours, without which I can hardly call a pan first-rate. The following are generally growable and good:—

*White.*—M. Zoutman, Devoniensis, Acidalie. These are first-rate. Sombreuil is fine, hardy, and good.

*Yellow.*—Solfaterre, Gloire de Dijon, Triomphe de Rennes, and Celestine Forestier. Root prune this last, and do not cut her leaders much. Removal will also make her bloom.

*Very Dark Roses.*—The Emperor of Morocco, Duc de Cazes (good on both stocks), Princesse Mathilde, and the new Rose, Prince Camille de Rohan.

Now, if these colours had been more interspersed in the show, it would have been much better.

I have now only one more point to advert to. Perhaps the readers of the *Gardeners' Chronicle* will be encouraged by the announcement of finality, just as Diogenes' disciples were awaked up by him as he came to the fly leaf of one of his essays, which he was reading, to their tired ears, by his crying out, "Courage, lads, I see land!" I have been often asked—which is the best way to win Rose prizes? My answer has been, high cultivation, new plants (bought, or home budded), change of ground, and hard cutting, as regards Briar Roses. Manetti Roses, when planted, or even afterwards, do not require hard cutting. Take off the tops to a good eye, and thin out the side wood, and cut the side wood to two or three eyes. The quantity of Roses, the good land, the new plants, the change of ground, are the reasons why the nurserymen beat the amateurs. I cannot close without expressing my highest admiration at all Mr. Hedge's pans at the last National tournament. It is lucky for the nurserymen that they had not to compete against him. *W. F. Radclyffe, Rushton, Jan.* 1.

## SEEDLING FRUITS.

### PLUMS.

It must be nearly forty years since that five gigantic Plum trees of the old but very excellent early Plum the Précoce de Tours, planted by my grandfather about 1780, were in a flourishing state; they used to bear a full crop about once in five years, and at other times only what was called a "sprinkling." When this sprinkling was too insignificant to be worth gathering for market, we boys, my brother and myself, made it a point to appropriate the greater share, and most delicious we thought them. By some peculiar but rather unboyish instinct I was induced to plant some stones of this my favourite Plum, and in due time some young trees made their appearance. It was some ten years or so before they bore any fruit, for they were looked upon by my elders as wild trees, and planted in a shady corner; at last two of them bore good crops, and as I was then of an age to take some interest in new fruits, I was much pleased to find them valuable sorts, one earlier than its parent, the other as early; but so hardy that it bore annually a full crop, in spite of spring frosts, generally so fatal to the blossoms of Plum trees.

For some few years I distinguished the first-named as No. 1, the second as No. 2, and in process of time I acquired confidence enough to name them, No. 1, the Early Favourite, No. 2 as the Early Prolific; such are the names they now bear in most fruit-tree catalogues. The last named variety still maintains its character, and bears here so profusely that last season a plantation of about 500 trees gave some hundreds of "sieves" of Plums, which were sent to Covent Garden the end of July; the trees were purple with their loads of fruit. I have been rather diffuse in my account of these my first seedling Plums, because their offspring have led to a train of reasoning on the tendency of seedling fruits to return to the normal condition of their species. I have mentioned that very late Pears are inclined to produce sorts ripening in autumn, which is undoubtedly the season that Pears in their natural state ripen in. Well, I have raised seedlings from the Early Favourite Plum and the same from the Early Prolific, hoping to originate sorts still earlier, so as to have Plums ripening in June. Nature, however, seems to have stepped in, and my seedlings, from both kinds, have ripened from a fortnight to a month later than the parent sorts, and are mostly of inferior quality, although undoubtedly of the same race, being more like wild Plums than sorts of a good parentage; wild Plums ripen in September, and my seedlings from seedlings of an early Plum seem to me to be endeavouring to approach to a state of nature. It is still to be ascertained if seedlings from these half-wild Plums will return to the excellence of the first generation, and I hope to live to ascertain the fact.

I have omitted to say that the first seedlings raised from perhaps one of the oldest varieties of Plums known, the Précoce de Tours, viz. Early Favourite and Early Prolific, partake largely of the nature of their parent in colour, in size, and flavour, thus showing that seedlings raised from varieties of fruits long domesticated do not depart at once from the parental character; this will account for the want of success in that old and truthful pomologist Duhamel, in raising new kinds of Pears from the good old kinds, which he tells us he essayed to do during a portion of his life. In support of this idea I may mention that some twenty years since, before railways were in full activity, to take off what the market gardeners call a "glut" of fruit from Covent Garden, I bought in this market 20 bushels of over-ripe and half-rotten Green Gage Plums at 1*s.* 6*d.* per bushel; the stones of these were sown, and produced some thousands of trees, which were planted out and employed as stocks to graft Plums on. I watched them very narrowly to discover some deviation in leaves or in shoots, so as to be able to select a few likely subjects to plant out till they bore fruit, and thus possibly give me some new variety, but not one could I find: all had the smooth shoots, prominent buds and the glossy leaves of the Green Gage, the greater number with smaller leaves and thorny shoots; and so I allowed them all to be grafted with other kinds. I have at this moment seedling Green Gage Plums with the same undeviating habit, the tendency being to give small leaves and thorny shoots—in fact seeming as if they would (if left to reproduce themselves without the care of man) become, in a few generations, wild green Plums, probably the normal state of this sort. A few years since I procured from the Horticultural Gardens at Chiswick, the "Cabul Green Gage." I was deeply interested with it, for from its wild-looking habit and from its far eastern name, I at once concluded that at last I had got the Green Gage in its normal state, thus at once solving the secret of its origin, for to the East we look for the origin of nearly all our necessaries and luxuries pertaining to the vegetable world. I regret much to say, that this to me most interesting Plum has disappointed me,—it bore fruit two years since in my orchard house, and proved to be a Cherry Plum, a variety of the Mirobalan, with red fruit of a larger size than the common Cherry Plum. The habit of the tree is most remarkably vigorous, it making shoots in one season from 7 to 8 feet in length. A few years since I raised two or three seedlings from the Peach Plum (Prune Pêche); one of these bore fruit in 1859, which ripened June 30th, thus proving the earliest Plum known, but as the tree was in a pot, and stood in a warm place in front of a wall, I do not think it will in future ripen so early. This sort is a remarkable deviation from its parent, which is a large round and remarkably handsome red Plum, very sweet without any piquancy, ripening in August; the seedling is oval, smaller than its parent, and of a very brisk flavour; its habit is widely different, for its shoots are so slender as almost to be pendulous, whereas those of the parent are stout and robust.

There are two races of Damsons, one with downy shoots, peculiar to the north-west of England, and called the Prune or Shropshire Damson; the other with smooth shoots, called the Common Damson, which is the sort grown largely in Kent and other parts of the south of England. They would perhaps be considered by the older botanists as varieties of a species, so little do they deviate, as far as my experience has gone, when seedlings are raised from them. My experiment was with the last-named sort, and now dates some thirty or nearly forty years since. Damsons were then scarce in the nurseries, and the stones of some bushels were sown here to produce trees for sale; they grew slowly, and were many years before they had fruit. Their adherence to the parental type was then most interesting, for they were all Damsons with smooth shoots, but some bore oval fruit, some round or roundish, and a few with small fruit approaching very nearly in appearance to Sloes, but they were sweet, and their shoots were smooth instead of being downy like those of the common Sloe. I then thought, and am still inclined to think, that our Damsons owe their origin to the Sloe, and that after a few thousands of years, if left to a state of nature, they, in common with all our fine varieties of domesticated fruits, would return to their normal state, and that Greengages would be like Bullaces, Ribston Pippins like Crabs, and Peaches thick-fleshed Almonds; for I have one or two seedling Peaches approaching very nearly to that state.

Bullaces and White Damsons reproduce themselves from seed with but little variation. Some from the former, however, a recent generation, the trees now three years old, are of interest, for one among them with a close pyramidal habit has broad leaves and looks hopeful.

Coe's Golden Drop, which, compared with the Green Gage, is a new kind, has produced here a round Plum like an Orleans, and not a late Plum like its parent, for it ripens about the end of August; its quality rich and good, but although it has been in existence some twenty years, it has not been honoured with a name. This comparatively early Plum, from one of our latest varieties, is of much interest, and tends to support my train of thought relative to seedling Pears in No. 51.

The Jefferson Plum, which, compared to the Green Gage, is a new variety, has produced here seedlings varying to a great extent in their foliage and habit. As they promise to bear next season, the variation or non variation of their fruit will soon be ascertained.

The Reine Claude de Bavay, a new and late variety of the Green Gage, has produced seedlings giving great hopes, for they have departed widely in habit from their parent, as have seedlings from Guthrie's Late Green, another variety of the Green Gage. It would seem, therefore, that as soon as a deviation from an old race of domesticated fruits takes place, either by accidental or artificial fertilisation of the flowers, the seedlings of the second generation vary to a great extent. Seedlings from that very old sort, the Orleans, have the downy shoots and habit of the parent, and more remarkable than any fact I have related as to seedlings from old varieties being inclined to retain the habits of their parent, is that amongst about 80,000 seedlings raised from 40 bushels of stones of the oval purple Plum, known all over Germany as the Quetsche Plum, which is exported thence so largely, and which forms so important an article of food in some districts, (who can forget the anecdote in the "Bubbles," of the lean breeches-maker's dinner—a basin of Plums and a piece of bread?), not one could be found varying in the least in foliage and habit. These seedlings were growing vigorously last summer, the stones having been sown the previous February, but every plant had the same rugose pointed leaves as the parent, and I looked in vain for some deviation. The Quetsche is undoubtedly one of our very oldest varieties, and seems, like the Green Gage, to have acquired under many years of cultivation the settled habits of a race. There are, it is true, several varieties of Quetsche Plums known in Germany, some yellow, some greenish, some a little earlier than the common sort, but they are all of the same habit and same race.

I may also report the same fact with regard to the Petite Mirabelle, so largely grown in France, and so long known there; I have searched among some thousands of seedlings raised from stones imported from France for the purpose of raising young stocks, to make the Plum and the Peach dwarf in growth, in the same way as the Paradise stock dwarfs the Apple, but I have searched in vain for any deviation; the same small leaves, downy shoots, and dwarf habit, are prominent in all. This old French kind has, however, like the German Quetsche, diverged slightly, for there are early and late Mirabelles, the former quite a little jewel of a Plum, as it ripens in July, and is very rich, the latter ripening in October; and there is also the Mirabelle de Nancy and one or two others—still they are all Mirabelles, and retain the prominent characters of the race.

The Saint Catherine Plum, a very old variety, grown largely in the warmer parts of France for drying, reproduces itself from seed without the slightest variation in habit, so that one would think it a species.

I have been led into a lengthy notice of the adherence to race in seedlings raised from our very old varieties of Plums, because it may prove interesting to physiologists, and lead to agreeable and interesting speculations and deductions—in fact to matters that one like myself may think and talk about, but fear to commit to print.

It must be recollected that I have narrated the effect of raising seedling Plums without any attempt at fertilising the flowers; by this process the gardener can make Greengage Plums produce from their seed, varieties of all hues and forms. Before I conclude this, I almost fear too long an article, on one species of fruit, I feel that I ought to mention a remarkable variation in a Plum and not from seed, but from what gardeners call a "sport."

In the plantation of Early Prolific Plums, referred to above, one tree, about three years ago, produced Plums of a bright yellow, and has continued to do so ever since; these ripen at the same time as their purple brethren, are of the same shape and flavour, and the shoots and leaves of the tree are exactly like those of the Early Prolific. It is unlike any other yellow Plum known. *T. Rivers.*

## PLANTS OF PERU.—No. VII.

*(Continued from p. 7.)*

CINCHONAS.—By the 21st of December, the plants alluded to in my last letter were well established in their cases; therefore we prepared to descend the river. The cases, 15 in number, were placed in two rows on the fore part of the raft; a little shed thatched with Maranta leaves to protect us from the sunheat by day, and dews at night, was erected in the centre; while the after part was occupied by an old man (a negro), and a lad who had undertaken to guide the raft to Guayaquil. The water, swollen by recent rains, was full of whirling eddies, which notwithstanding our united efforts, carried us against the banks of the river, which were overhung with branches of trees and climbers; as our raft passed swiftly along these came in contact with our little shed, pulling off a portion of the roof, and sometimes sweeping off the old negro also; who, however, was a good swimmer, and so always succeeded in regaining his position.

Mr. Spruce, who was full of anxiety for the safety of the plants, expected that we would have been wrecked on some sand bank, but about four o'clock in the afternoon we reached the village of Caracol, where the river runs smoothly dead, and from thence we were carried by the tides to Guayaquil, where we anchored on the evening of the 27th December.

Next day the appearance of the cases attracted the attention of commercial men, who came in numbers to see what the "glass boxes" contained. Some of them, however, had previously learned that they were Cinchonas for British India, and therefore such of them as had knowledge enough to foresee what the result might be seemed much chagrined; but at this time there existed no law to prevent the cases being sent on their journey, and when they succeded in making one,* which they shortly afterwards did, the plants were on board a mail steamer near the Straits of Babel Mandel. They were put on board on the 31st December, and were disembarked at Payta on the 2d of January, 1861. The removal of the cases from the steamer at Payta was a work of great difficulty. They had first to be lowered from the deck on to a raft, and from thence transferred to boats, which carried them to the quay, on to which they were raised some 20 or 25 feet by means of a very

* The law or decree in question is to the effect, that any one who may be found exporting seeds, or plants, of the Quinine tree, will be fined 100 dollars (about 20*l.*) for each grain of seed, and the same sum for every plant.

doubtful crane. Through the influence of the Consul at this place I got the cases placed in an open shed beside the quay, which was fortunate, because the days at Payta are always unclouded, from sunrise to sunset.

The town of Payta, which is situated at the head of a bay or arm of the sea immediately above the littoral line, is a miserable looking place. The houses are built of bamboos and plastered with mud. The town and surrounding country exist within that narrow strip of desert land which runs along the sea coast, from the northern part of Peru to the southern frontier of Chili.

Immediately behind the town rise mounds and hills of sand, barren and dry, without a single vestige of vegetable life, for not a drop of rain has fallen at Payta for the last twenty years; the climate therefore is so dry that even Lichens do not thrive. It appears wonderful that this place should be so completely parched up, when it is known that about sixty miles to the northward, rain falls in torrents for nearly six months of the year. The sand-covered hills, which are in many places traversed by deep chasms, exhibit near the surface a layer of shells, of apparently the same kind as those on the sea-shore, but bound together, and hard as a mass of granite.

Although the shed already referred to screened the cases from the rays of the sun, it did not exclude the clouds of very fine sand which are carried about by the wind, and which find their way into every dwelling. From the beginning the object was to give the plants as much air and sun as possible—provided the latter was not too powerful—before crossing the Atlantic; for it was evident that if they left America in a blanched unhealthy state, they would not be in a position to favour recovery when they arrived in India. I therefore took off the glasses and laid them aside; and immediately in front of the cases suspended mats and cloths, which were continually moistened with fresh water to prevent the sand from passing through them, and to modify the ill effects likely to be produced by a dry hot atmosphere. On the 17th, the steamer Lima arrived at Payta; when the cases were again put on board without sustaining any injury. Departing from the counsel I had received from eminent horticulturists before leaving England—who advised me to keep the cases well puttied up when on board the steamer, for that sea air was very injurious to plants—I opened them daily, and exposed the plants to air and sun. It is necessary, however, to draw a wide difference between sea air and sea spray, which is certain death to at least Cinchonas. On moistening the foliage of several Red Bark plants with salt water, I found that in less than three hours it became black and dead, and that on the following day both leaves and petioles dropped from the plants. Ever since I have, therefore, been afraid of salt water.

On arrival at Panama, the cases were lowered from the deck into a boat (where they were heaped up one above another) which carried them to the railway terminus, on to which they were raised by means of block and tackle, and put into a covered van or truck. About one P.M. the train started from Panama, and arrived at Aspinwall, on the western side of the Isthmus, at half-past four of the same day. The cases were then put on board a steamer; but many of the plants during the transfer were much injured, for the workmen on the Isthmus—who are mostly negroes—are the most careless and useless of any in the world; therefore what might have been done easily by two East Indian Coolies, was performed by six negroes with great difficulty, accompanied by a vast amount of yelling and shouting.

About 11 P.M. of the same day, the steamer sailed for the island of St. Thomas. During the voyage high winds prevailed, and that portion of the deck on which the cases stood, was continually flooded by salt water. After a stormy voyage of five days, we reached St. Thomas on the 31st of January. The cases were then put on board the Royal Mail Steam Packet Company's ship Atrato, which, on the same day, sailed for England. For the four following days we had beautiful weather, with the sea as smooth as a mirror, and during this period I opened the cases, and gave the plants the benefit of sunlight and air. On entering the English Channel heavy gales of cold wind were encountered, and the thermometer on several occasions fell to 30° Fah. The steamer reached Southampton on the 13th of February, and the cases were disembarked next day. *Robert Cross, Southern Slopes of Chimborazo, April,* 1862.

## CLIMATE AND GARDENING AT NICE.

"WONDERFUL invention, Railways, Sir!" Of the multitudes who have listened to this platitude, we imagine few can have felt its truth so much as the original makers up of the traffic tables on the strength of which the railways which were brought forward in 1845–47 passed the Board of Trade. How must those men who then stretched an India rubber conscience to its utmost gape, now feel when they see that the statements which it required all their unabashed effrontery to bring forward, fall far short of the real facts, and that in some cases traffic which they dreamt not of is now yielding greater returns than all that they imagined from every source. It is not only that the old existing traffic has increased almost beyond count, but that the new sources of traffic, and new lines of business, consequent upon the facilities given by railways, have started into being.

One of these which is now springing up is the establishment of Nursery Gardening, in the warmer parts of Europe, for the supply of the colder parts with plants which can be reared in the former without artificial heat, but not in the latter.

More than one enterprise of this kind is now rising into importance at Nice. One of these, known as the Establishment du Ray, is according to M. Alphonse Karr likely to take a first place among European horticultural undertakings. The Count de Pierlas has set apart a fine property and large funds to found it, and has associated with him for the purpose an able French gardener (M. Joly). These gentlemen have adopted all modern improvements; they commenced by drawing together from all quarters the finest collections of every kind, from which they now propagate, sow and multiply. The chances from which M. Karr predicts future success and fortune for this establishment are (besides the ability with which it is conducted) the fact that the climate of Nice allows almost every plant for which a greenhouse is required in France, Belgium, or England, to be there cultivated and propagated in the open air. This condition effects an economy in the expense of production, which, if the rate of carriage is sufficiently low, will render it impossible for other establishments less favourably situated to compete in price with it.

M. Karr, in his recent "*Promenades hors de mon Jardin,*" records the names and characters of most of the Gardeners and Gardens at Nice, among which we observe that he only mentions one Englishman as an amateur of flowers (probably Mr. Edwin Stuart) "*qui, dit on, est fort curieux et fort riche de belles plantes.*" We shall not follow him into these details, but pass on to one or two indications which he gives of the quality of the climate.

"If you wish Roses," says he, "you cut a branch of a China Rose, you bud upon that branch an eye of the Rose which you wish to possess, and you stick your branch ready budded into the ground wherever you may happen to be, only avoiding, if possible, places that are paved. This done, you trouble yourself no more about your cutting; but the Nicene considers himself very ill used if fifty days afterwards his Rose tree is not in flower.

"The growth here is such that latterly I experienced some inquietude on the subject of a cane to which I hold, having made certain promises with relation to it which it appears to me would not be quite correct to fulfil by means of another. I was in a garden, and to disembarrass myself of my stick for the moment I stuck it into the border, and then continued my walk, and left without remembering to take it with me. It was not until two days afterwards that I sent in all haste to recover it. My inquietude was this: My Rattan had perhaps taken root, and might be swaying its green leaves about in the wind. It was brought back to me intact nevertheless. But I explained that in this way:—1. The Rattan comes from a warmer climate than Nice. 2. Nice had undergone two days unworthy of it, and had not had its proper degree of heat. 3. The Rattan had only remained in the state of a cutting for two days."

The laziness and ignorance of the Nicene gardeners are well touched in the following sketches:—

"One of the most productive crops of the Nicene soil is the Violet, which is used for perfumery. The Violet which is cultivated for this purpose is the double grey Violet, called at Paris, where it is always dear, the Violet of Parma (in England the Neapolitan Violet). It is here so generous, that it is a remunerative crop, even when the perfumers only pay for it 20 sous the kilogramme (5*d.* the lb.), and Heaven knows what amount of perfume a kilogramme of Violets would make. They gather the Violets in the month of March, and say, 'What a pity that we did not weed the Violets last summer, they are choked by weeds.'" The harvest terminated, they cast their eyes no more in that direction; they do not even walk into that part of the garden until the month of March following. Then they gather the new flowers, saying, 'It is really a pity that we have not weeded the Violets last summer.' They gather them and look no more near them until the next month of March, when things pass exactly as before. The only difference consists in this, that each year the Violets are somewhat fewer.

The Peas at Nice are inferior. They grow 7 or 8 feet high, need great branches to support them, are often beaten down by the wind, produce few and very second-rate Peas, and keep the neighbouring plants in the shade.

A Nicene proprietor had observed that they were much despised by strangers. He procured some seeds from France, where he had heard that the garden Peas were excellent. He asked for the very best, and they sent him the Prussian blue Pea, an excellent Pea which grows only about a foot high. He gave it to his tenant, telling him, 'Take great care of this. It comes from France, and costs a great deal.'" The tenant set apart his tallest Pea sticks, and went to the neighbouring hill to procure long and strong poles, then he raised a sort of trellis, 12 feet in height, thinking that Peas which came so far and cost so much must grow much higher than those he was accustomed to sow.—"How go the French Peas?" asked the proprietor from time to time.—"They are not doing badly, but they grow very slowly."—"Take great care of them."—"It is not sticks they will want."—"Remember that the carriage alone cost me 5 francs."—"Then perhaps I have not put tall enough sticks. I could not get any better, but next year I shall see to procure some. In the meantime I have got the ladder mended for gathering them."

"How go the famous Peas?" asks the master, a month later.—"Don't speak of them, Sir, they have robbed you infamously."—"What do you say?"—"I say that these famous Peas, these French Peas, these Peas of which the carriage alone has cost 5 francs, are degenerated or wild Peas. Do you know at what height they have begun to flower? You need not seek, you will never guess it. They have begun to flower at 4 inches from the ground."—"Not possible!"—"And they have ceased to grow higher before reaching a foot; so I have not kept any of the seed."—"You have done quite right. Mon Dieu! how one is cheated! Peas which come from such a distance—Peas so dear—not to grow taller than that! Go back to the old Peas, and sow them next time."

Here is another illustration. "A countryman, my close neighbour," says M. Karr, "came one day into my garden, I know not for what reason. His glance fell upon a Peach tree, and he said to me, 'There is a good Peach, Monsieur.'—'I found it here, where it does not appear to be rare,' said I. 'There are a dozen in the garden. Have you not got it!'—'No, Monsieur.' 'Have you have been cultivating the garden where you are for a long time?'—'Twenty-two years.'—'You must take some grafts in the month of August.'—'The tenant before you, Monsieur, once offered them to me, but you know when one grafts in one's garden, one takes his grafts from the trees close at hand.'"

With all this ignorance and with all this laziness, Nice appears to have a future before it in the gardening world. The railways will operate a change here as every where else, and if the energy of the north does not leave its impress on the Nicenes, the northerner will settle there himself and do his own work. *M.*

## REPORT ON THE CULTIVATION OF THE QUINIFEROUS CINCHONÆ, IN BRITISH SIKHIM, FROM THE 24TH MARCH TO THE 1ST AUGUST, 1862.

"THE plants of Cinchona which had been collected in the Botanic Gardens, Calcutta, from Java and Ootacamund, as well as those raised from seeds in the Botanic Gardens during the previous year, were sent by railway to Sahebgunge on the 24th March in charge of Mr. Thomas Stubbs, a European gardener, accompanied by two Mallees from the Botanic Gardens. All the plants were contained in 13 Wardian cases. Some of the plants were in earthen, others in Bamboo pots; almost all those of Cinchona succirubra were planted in the soil contained in the cases. The following Table shows the number of plants of each species despatched from Calcutta on the above date:—

TABLE I., SHOWING THE NUMBER OF SPECIES OF CINCHONA SENT TO DARJEELING ON 24TH MARCH, 1862.

| NAME OF SPECIES. | No. of Plants. | No. of Seedlings. | Total of Plants and Seedlings. |
|---|---|---|---|
| Cinchona succirubra .. | 84 | .. | 84 |
| „ Calisaya .. | 5 | .. | 5 |
| „ nitida .. .. | 56 | .. | 56 |
| „ micrantha .. | 42 | .. | 42 |
| „ peruviana .. | 2 | .. | 2 |
| „ Pahudiana .. | 54 | 548 | 602 |
| „ species ignota | 6 | .. | 6 |
| Grand total .. | 249 | 548 | 797 |

"No delay occurred at Sahebgunge; the plants were taken by the small ferry steamer across the Ganges to Caragolah Ghaut. They remained there until the afternoon of the 29th March. The distance from Caragolah Ghaut to Purneah, 24 miles, was performed very slowly. Some of the Wardian cases started from Caragolah on the afternoon of the 29th, not arriving at Purneah till noon on the 31st. This delay was caused by the inefficient Coolies provided for the transport of the cases. Many of them were children of 12 and 14 years of age, who were not even tall enough to lift the cases from the ground. The result was that 18 hours after the plants had started from Carogolah Ghaut, I found two of the cases at distances of four and six miles from Caragolah Ghaut fully exposed to the burning heat of the sun, the Coolies lying by them completely exhausted. Two carts were procured from a neighbouring village, but this means of conveyance was so slow that 20 hours more elapsed before the cases reached Purneah. The plants arrived flaccid and drooping from the effects of the exposure and the jolting; but, with a single exception, they all recovered before they left Purneah. At Purneah some delay occurred, but this I did not regret, as Mr. Robinson availed himself of it to procure a party of strong Dhanga Coolies, who most materially assisted in getting the cases over the next long stage of 40 miles to Kissengunge. The cases left Purneah on the 1st April, and arrived at Kissengunge on the evening of the 2d. They reached Punkabarree, at the foot of the Hills, on the 7th April, four days after leaving Kissengunge. After two days the plants were removed to Kursiong, which I had fixed on as the most suitable place for keeping them until arrangements could be made for their final disposal. The cases reached Kursiong on the 9th, and were at once placed in the square of the barracks used as rest houses for the European troops proceeding to Darjeeling. These barracks are about 4500 feet above the level of the sea. When the plants were carefully examined, on their arrival at Kursiong, eight were found to have perished since their departure from Calcutta. This is exclusive of casualties among the seedlings of C. Pahudiana. I look on this as a very small mortality, considering what the plants had undergone since leaving Calcutta. Mr. Stubbs deserves great credit for the unremitting attention he bestowed on the plants, and for the care with which he carried out my orders to give the plants as much air and as little water as possible. The exposure of the plants to air and light, and all changes of the weather, was commenced soon after their arrival at Kursiong, and after a few days' gradual inuring, they were left exposed night and day with great benefit to all the species.

"While the Cinchona plants were left at Kursiong under the care of Mr. Stubbs, I was engaged in exploring the forests, in the neighbourhood of Darjeeling, for a suitable site for the permanent nursery. I hoped to procure land near enough to Darjeeling to allow of the permanent propagating house and a temporary dwelling for the European gardener being erected within two months. This I soon discovered was quite impossible, as all the land within several miles of Darjeeling had been purchased for the cultivation of Tea, and that whatever piece of Government land I might select, a new road must be made to it before any buildings could be commenced. The nearest and most suitable tract of land I could obtain lay on the slopes of Sinchal, extending to the River Teesta, and which contained suitable land from heights of from 800 feet above the sea to 8600, the summit of Sinchal. The nearest point of this tract which had not been acquired by private individuals was not less than 10 miles from Darjeeling, and was quite inaccessible from the dense forest with which it was covered. I was thus forced to seek for some temporary accommodation for the Cinchona plants. After consulting with Captain Fitzgerald, the Executive Engineer, it was agreed that the best plan would be to convert one of the empty officers' quarters at Sinchal into a temporary propagating house, and to make over another as the dwelling house of the European gardener. Two rooms were accordingly thrown into one, and a glazed roof substituted for the wooden one. A plan for heating the atmosphere of the house and for affording bottom-heat to the plants was contrived. This was done by blocking up the chimney of the room and carrying the smoke and heated air through a horizontal flue of masonry, which, after passing through the room, ends in a short chimney outside. The plants were brought to Sinchal on the 5th May; they suffered more during the short journey of 20 miles from Kursiong to Sinchal than they did on the way from Calcutta to Kursiong. A serious accident occurred to the case containing the seedlings of C. Pahudiana; by the stumbling of one of the eight Coolies carrying the case it was upset, and all the plants were, more or less, uprooted. Although they were immediately replanted by Mr. Stubbs, and the case containing them was left for nine days near the spot where the accident happened under the care of an experienced native gardener, not one of them survived. On the 27th May the conservatory was completed, and the Cinchona plants were at once moved into it from the room where they had been placed on their arrival at Sinchal. All had suffered greatly from the effects of their long journey and the unavoidable delay in preparing proper accommodation for them. There is, however, a very marked difference in the loss between the plants from Java and those from Ootacamund. Out of 59 plants obtained from Java only one death occurred, while of the 170 plants from Ootacamund no less than 30 were completely lost. This difference in the healthiness of the plants from the two places becomes more striking when it is known that the plants from Java were brought by Coolies from the mountains in the interior of that island to Batavia, and thence by steamer to Calcutta; while those from Ootacamund were transported in 12 hours by railway over most of the land journey, and the sea voyage only lasted three days. The plants from Java were in addition exposed for two months longer than the others to the confinement of small pots and Wardian cases, as they arrived in Calcutta two months before them.

"The following table shows the stock of Cinchona plants on the 1st June, and the number of deaths in each species from the time of their leaving Calcutta:—

TABLE II., SHOWING CONDITION OF CINCHONA PLANTS FROM 24TH MARCH TO 1ST JUNE.

| Name of Species. | Loss of Plants. | Loss of Seedlings. | Total of Losses. | Plants remaining. | Seedlings remaining. | Total of Plants and Seedlings. |
|---|---|---|---|---|---|---|
| Cinchona succirubra | 10 | .. | 10 | 74 | .. | 74 |
| ,, Calisaya* .. | None. | .. | None. | 5 | .. | 5 |
| ,, nitida .. | 15 | .. | 15 | 41 | .. | 41 |
| ,, micrantha .. | 9 | .. | 9 | 33 | .. | 33 |
| ,, peruviana .. | None | .. | None. | 2 | .. | 2 |
| ,, Pahudiana*.. | 1 | 518 | 549 | 53 | None. | 53 |
| ,, species ignota | 3 | .. | 3 | 3 | .. | 3 |
| Grand total .. | 38 | 548 | 586 | 211 | None. | 211 |

"The plants of the species marked* were obtained from Java. The seedlings of C. Pahudiana were raised in the Calcutta Botanic Gardens.

"During the month of June the propagation of all the species, except C. Pahudiana, was successfully prosecuted, and the number of deaths was reduced to seven. The process of layering was the only method followed, and by it young well-rooted plants were procured in from 21 to 30 days, in the case of C. succirubra, C. nitida, and C. micrantha. The plants of C. Pahudiana could easily have been artificially propagated, but as they were all finely formed plants raised from seed, I was unwilling to do anything that might interfere with their attaining their full development, the more so as I had a large quantity of apparently good seed which I had sown in the end of May. The only seedlings among the other species were the few plants raised in the Botanic Gardens, Calcutta, and of these none were layered.

"During June a few of the seeds of C. Pahudiana germinated. On the 1st July the return of the stock of all the species was as follows:—

TABLE III., SHOWING NUMBER OF PLANTS OF CINCHONA ON 1ST JULY, 1862.

| Name of Species. | Loss of Plants since 1st June | Increase of Plants since 1st June. | Increase of Seedlings since 1st June | Total increase of Plants and Seedlings. | Total of Plants and Seedlings on 1st July. |
|---|---|---|---|---|---|
| Cinchona succirubra .. | 8 | 36 | .. | 36 | 107 |
| ,, Calisaya .. .. | None | 1 | .. | 1 | 6 |
| ,, nitida .. .. | 2 | 9 | .. | 9 | 48 |
| ,, micrantha .. | 2 | 7 | .. | 7 | 38 |
| ,, peruviana .. | None | None | .. | None | 2 |
| ,, Pahudiana .. | ,, | ,, | 486 | 486 | 539 |
| ,, species ignota .. | ,, | ,, | .. | None | 3 |
| Grand total .. | 7 | 53 | 486 | 539 | 743 |

"In the following month, July, the increase was much greater, both by layers and seed. All the plants made a considerable growth and had acquired a much healthier appearance. On the 1st of August most of the seedlings of C. Pahudiana had their two pairs of leaves well developed, and a few had formed their third pair.

"This last table is the return of the plants on the 1st August drawn up in the same manner as Table III.:—

TABLE IV.—SHOWING THE NUMBER OF CINCHONA PLANTS ON 1ST AUGUST.

| Name of Species | Remaining on 1st July. | Loss of Plants since 1st July. | Increase of Plants since 1st July. | Increase of Seedlings since 1st July. | Total Increase of Plants and Seedlings since 1st July. | Total of Plants and Seedlings on 1st August. |
|---|---|---|---|---|---|---|
| Cinchona succirubra | 107 | 1 | 32 | .. | 32 | 138 |
| ,, Calisaya .. | 6 | None | 2 | .. | 2 | 8 |
| ,, nitida .. | 48 | ,, | 13 | .. | 13 | 61 |
| ,, micrantha .. | 38 | 2 | 6 | .. | 6 | 42 |
| ,, peruviana .. | 2 | None | 2 | .. | 2 | 4 |
| ,, Pahudiana .. | 539 | ,, | None | 814 | 814 | 1353 |
| ,, species ignota | 3 | ,, | 2 | .. | 2 | 5 |
| Grand total .. | 743 | 3 | 57 | 814 | 871 | 1611 |

"The rate of propagation will increase every month as in periods varying from three to six weeks; the new plants are ready to be artificially propagated in their turn, while the many shoots made by the plants that have already yielded new plants are likewise available for layers or cuttings.

"On leaving Calcutta in March I placed four plants of C. Pahudiana and two of C. succirubra under the charge of Mr. Scott, Head Gardener, Botanic Gardens, with directions to treat them like any other tropical plant, but to keep them in a rather shaded part of the gardens. I was also obliged to leave 14 cuttings of C. succirubra, three of C. nitida, and one of C. micrantha, in the cutting beds of the Botanic Gardens. I received a report on the condition of all these plants on the 22d July. Up to that date the losses had been two plants of C. Pahudiana, eight cuttings of C. succirubra, and the cutting of C. micrantha. The two plants of C. succirubra were in good health, one of them was then 18 inches in height, and the stem immediately above the ground was 1 inch and 6-10ths in thickness, while the leaves average 6 to 10 inches in length, and from 5 to 7 inches in breadth.

"The climate of Calcutta does not seem to be too hot for this species, by far the most valuable of all the Cinchonæ." *T. Anderson, M.D., Officiating Superintendent, Botanic Garden, Calcutta.*

The medical value of *Cinchona succirubra* is thus further reported on by Dr. Anderson—

"I have the honour to report to you, for the information of the Lieutenant-Governor, that I have succeeded in forming an infusion of the leaves of Cinchona succirubra from the plants of that species in the Cinchona Nursery, near Darjeeling. The leaves fell off spontaneously during the months of June and July.

"I sent the infusion to Dr. Collins, Civil Surgeon of Darjeeling, with a request that he would administer the infusion to some of the patients in the Civil Hospital.

"He has just informed me that he had given the infusion in doses of one fluid ounce to the first four cases of intermittent fever that occurred, and that these patients had been cured without any other medicine whatever.

"This result proves that the infusion of the leaves of Cinchona succirubra possesses some of the febrifuge properties of Cinchona (probably Kinovic acid); the infusion is of a dark chocolate colour and is intensely bitter. I hope to be able to submit an account of the chemical analysis of this infusion by Dr. Macnamara, Chemical Examiner to Government." *T. A.*

## Home Correspondence.

*African Trees.*—Can you tell me what trees Mr. Baldwin refers to in his "African Hunting," p. 268? "To day I measured two trees called Mowane; one was twenty-seven and the other twenty-eight *yards* round the bole. At about six feet from the ground they spread into four immense stems, all bending outwards, and leaving in the middle a spacious apartment, exactly one foot between each stem, where they branched from the main bole, widening upwards, and at eighteen or twenty feet from the ground the circumference of the tree must have been forty yards at least. I should live in one of these if I stayed in this part." Mr. Baldwin was, when writing this, close to Lake N'gami. In p. 311 he says: "There was, however, delicious water at Mapousy, a fountain pure as crystal, where we first saw the Great Salt-pan, and a magnificent piece of scenery exactly resembling the sea coast; it was difficult to imagine oneself so far in the interior. We measured a tree called "Cream of Tartar," sixty-one feet round the bole; but there are many very much larger." I had generally understood that very large trunks were scarce in Africa. *Hans.*

*Peach Trees.*—I observe that your Lyons correspondent states with much confidence, in opposition to the opinion of Mr. Rivers, "that in South America no Peach trees are grown." Allow me to inform him, as well as to confirm the opinion given by Mr. Rivers, that by the last mail from Monte Video I received a letter from a gentleman, an estanciero in that district, from which the following is an extract:—Our young Peach trees are loaded with fruit, and we shall not be able to consume half the produce. *R. W. B.*——Mr. Sisley has resided so long in France that I presume he has ceased to read English voyages and travels. If he will turn to that charming book, "Darwin's Naturalist's Voyage," he will find that Peach trees are abundant in La Plata, and that at Buenos Ayres they are often used for firewood. The fact of Peaches being common there is also mentioned by other travellers. I think I have also heard a very old friend, a retired naval officer long stationed in the Pacific, talk of the Peaches at Valparaiso. *Thos. Rivers.*

*Gardeners' Royal Benevolent Institution.*—I take the liberty of again writing to you concerning this Institution. I am very pleased to learn from your columns that there are a few friends of the Charity who are coming forward to join in the ten guinea subscription. I had a hope that the number would be found amongst gardeners, in order to show to the world that they were mindful of their own interests. The Charity however must not suffer; subscriptions will be thankfully received, come from whom they may. I have the promise of two ten guinea subscriptions from a lady and gentleman who are already subscribers, and whose names will be given if you would kindly open a list in your columns for that purpose. Such a proceeding might induce others to join in the good cause. If gentlemen and others interested in the success of the Charity would become annual subscribers they would confer a more lasting benefit on the Institution than if they subscribe their ten guineas and be done with it. The Charity is empowered to spend all the annual subscriptions in pensions, while of life subscriptions they must invest at least one-half; and therefore the 100 ten guinea subscriptions would only bring in enough to keep two pensioners, while if 100 annual subscribers could be obtained it would add to the funds of the Society 105*l.*, enough and to spare for six pensioners. From this it is evident that annual subscribers are the best. I therefore trust that there will be a good array of them, in addition to the 100 life subscribers. *George Thomson, Gardener, Stansted Park, Sussex.*

*Gordonia javanica.*—I have had a fine plant of this for some years, and cannot get it to bloom. I have tried it in the greenhouse and hothouse, and put it out of doors in the summer, but after all it will not show any signs of flower; the plant is very healthy. I shall be obliged by you letting me know how I can induce it to blossom. *Dido.*

*The French Plant and Seed Trade.*—I was gratified to see that the swindling Frenchmen whom you have often denounced in your columns have been prosecuted and convicted. The Lord Chief Justice having ruled in the cause of Glover *v.* Billaut that an action will lie in this country against a Frenchman if the contract was entered into here, I am induced to ask if any of your correspondents have obtained compensation from French seedsmen who deliver free in London, where the seeds have failed altogether or proved of a worthless and spurious kind. The great facility afforded now in getting seeds from France renders this a matter of great importance, as their lower prices offer great attractions; if however the protection afforded by the English code is wanting, any assumed advantages would be counteracted! there is the usual safeguard of the respectability of the house, but they often wear this garb until any difficulty arises, it is then doffed with surprising ingenuity. As this country is now being inundated with French lists, I shall be glad to be favoured with any information upon the subject which your Correspondents may be able to supply. *Justus.*

*The Year* 1862 *at Weybridge Heath, Surrey*:—

**Wind.**

| Prevailing Winds. | On days. |
|---|---|
| N. | 24 |
| N.E. | 50 |
| E. | 4 |
| S.E. | 12 |
| S. | 19 |
| S.W. | 122 |
| W. | 15 |
| N.W. | 20 |

Highest Winds.

January 11 (W.), 31 (W.N.W.)
March 6 (S.W.), 7 (S.S.W.)
June 6 and 7 (S.W.), and 13 (W. to S.W.)
August 7 (S.S.W., S., to S.W.)
October 17 (S.W. to S.), and 19 (S.E. to S.)
Dec. 19 and 20 (N.W. to N.N.W., and 21 N.)

| Weather. | | Departure from Average of last Seven Years. +, *above*, —, *below*. |
|---|---|---|
| Mean height of barometer .. .. .. .. | inches 29.8578 | inches .0212 + |
| Mean height of thermometer: | | |
| Highest in the sun .. .. .. .. .. .. | 64°.1414 | 1°.7311 — |
| Highest in the shade .. .. .. .. .. | 58°.2735 | 1°.953 — |
| Lowest .. .. .. .. .. .. .. | 41°.1430 | .5554 + |
| Mean daily amount of ozone* .. .. .. .. .. | 4.3330 | |
| Mean temperature .. .. .. .. .. .. | 49°.7076 | .2840 — |
| Rainfall .. .. .. .. .. .. .. | inches 27.2850 | inches 2.5005 + |
| Number of wet days .. .. .. .. .. .. .. | 46 | days 7.6 + |
| Number of days on which rain, &c., fell .. .. .. .. | 221 | days 28.3 + |
| Driest month, February. Wettest ditto, March! | | |
| Range of barometer .. .. .. .. .. | inches 1.41 | inches .343 — |
| Range of thermometer .. .. .. .. .. .. | 68° | 11°. — |
| Range of ozonometer .. .. .. .. .. .. | 12 | |
| February 8. Barometer highest .. .. .. | inches 30.54 | inches .03 — |
| March 28. Barometer lowest .. .. .. | inches 29.13 | inches .31 + |
| July 26. Thermometer highest: | | |
| In the sun .. .. .. .. .. .. | 93° | 7° — |
| In the shade .. .. .. .. .. .. | 82° | 9° — |
| January 19. Thermometer lowest (in the night of) .. | 14° | 2° + |
| March 6 and April 8. Greatest amount of ozone .. .. .. | 12 | |
| Jan. 14, Nov. 3, and Nov. 23, least amount of ditto .. .. | 0 | |

* The ozone is reckoned according to the scale of Negretti and Zambra. The test-papers, supplied by them, were prepared by Dr. Moffatt, and exposed in the apparatus of Sir James Clark.

*W. F. Harrison, Bartropps, Weybridge Heath, Jan. 2.*

*Early Grapes.*—Having found that I wanted a good supply of Grapes during the festivities of this season, and that the difficulty of keeping late crops was great owing to the berries being injured by our salt atmosphere, I gladly took a hint from my friend Mr. Thomson, of Dalkeith, "To get the old crop and the new to shake hands together on New Year's Day," and I have succeeded beyond my expectation. In token of my gratitude, therefore, I will support Mr. Thomson's cause at the first meeting of the Fruit Committee of the Royal Horticultural Society at South Kensington. The house selected for trial is one which was all but exhausted, and this season the fruit is better than usual; the wood is stronger and firmer than it was two years ago when fruited in summer. Circumstances no doubt will alter cases, but in the month of January I can get double the price for new Grapes I could get for the very best kept bunches of my late crops, and that at a very trifling additional cost. *Alex. McKenzie, Bristol Nurseries, Kemp Town, Brighton.*

## Societies.

BOTANICAL OF EDINBURGH: *Dec.* 11.—Prof. Balfour, V.P., in the chair. The following communications were read:—I. *Observations on the Embryogeny of Tropæolum majus.* By Dr. Alex. Dickson. Dr. Dickson gave the results of his observations on the development of the embryo in this plant. He showed that the embryo and suspensor were developed from the prolonged apex of the primitive germinal body, and that in this respect there was no exception here to the general rule in embryos produced from a distinct pro-embryonic structure. Schleiden was in error when he supposed the embryo with its suspensor to arise as a lateral branch from the primitive germinal body. The two remarkable root-like processes passing from the body of the germ are shown by their development to be distinctly lateral structures. Dr. Dickson completely confirmed the observations of Mr. W. Wilson regarding the relations of the extra-seminal and placental root-like processes to the seed and germen. As to the function of these processes, Dr. Dickson considered that it was more probable that they served as roots to the developing embryo, than that they were employed in the early stages of germination, as was supposed by Mr. Wilson. It can hardly be doubted that the rule in the vegetable kingdom is that roots are only formed in presence of wants, and not (so to speak) in anticipation of them; and that therefore it can scarcely be supposed that these root-like structures should be developed to such a large extent in the early stages of development, which were only to serve as such on the commencement of germination. The formation of the radicle in the dicotyledonous embryo and presence of the rudiments of adventitious roots in many monocotyledonous embryos, might be urged as examples of roots in anticipation; but it must always be remembered that it is only in presence of wants that these take on a really root-like elongation and development. As to the radicle itself, its constant abortion in the monocotyledon shows that it is not essentially even a root in anticipation.——II. *Remarks on the Bursting of the Spathe of Palms and Opening of Leguminous Fruits.* By Mr. J. Sadler. Mr. Sadler gave the views of different authors regarding the bursting of the spathe of Palms with an explosive report. That some species of Palms in their native habitats may make, while bursting their spathes, a sound, caused by compressed air, audible to a very attentive ear, he did not deny; but he was of opinion, from certain experiments which he and others had made on Seaforthia elegans, that in this country no indication of a report (as affirmed by some) was met with. The author then explained that the crackling sound of various leguminous fruits while shedding their seeds was not (as supposed) due to heated or compressed air, but to the shrinking or tension of the tissues. He concluded by reading extracts from a letter which he had received from Mr. W. Bell, of Saharunpore Botanic Garden, in which he stated that, from all the information he had gathered at Ceylon, Calcutta, and elsewhere, he could find nothing to support the theory of explosion caused by heat developed within the spathe.——III. *On the Propagation and Irritability of Drosera and Dionæa.* By Mr. J. Scott. The author, after a few introductory observations on the distribution of Droseraceæ, remarked that the modes of propagation and means of dissemination of Drosera (Sundew) and Dionæa (Venus Fly-trap) were varied. Thus, independently of reproduction by seeds, the leaves of a number of the Droseras present a remarkable aptitude for the production of adventitious buds. This property is well illustrated by the British species, all of which produce with the greatest facility young plants on the surfaces of their petioles and laminæ. So frequent is this mode of propagation that it must be familiar to all who have collected these plants in the latter summer or autumn months when the earlier developed leaves are beginning to decay. These falling on the moist mossy bed are reimbued with the formative force, and along their surfaces small cellular protuberances first make their appearance with a few pale fawn-coloured scales, after which one or usually two leaves are developed, and then a little rosette of undeveloped leaves, beset with scales, forming a pseudo-hybernaculum. The young plant up to this period is generally attached to the generative leaf, so that its nourishment is entirely derived from the parent. The vital activity of the recipient plant now in a great measure ceases, the generative leaf undergoes decay, and leaves it a free and independent organism, which, ere spring returns, may have been transported to some distant nidus by the floods which generally sweep their habitats during winter. As illustrating succeptibility to mechanical irritation, I may give the following experiments on Drosera rotundifolia (Round-leaved Sundew), performed in a temperature of 65° Fahr.:—Selecting a vigorous plant, I carried on a gentle irritation of the hairs for a short time; their collapsing soon became evident, and in half an hour they were all curved in upon the surface of the laminæ. Again, placing an insect upon the surface of another, the hairs had begun to collapse in 12 minutes, and in 20 minutes nearly all those near the base of the leaf had their glands applied to the insect, while those on the apical part had undergone little or no change. This had been occasioned by the position of the insect, which had been accidentally placed on a line with the petiole near the base of the lamina. Thus it would appear that the Droseras do not possess the communicative powers of either their ally the Dionæa, the lobes of which collapse on the touching of a single hair, or of the Mimosa, which exhibits the same rapid communicability to the other pinna of the leaf when the equilibrium of one is disturbed. The author also detailed some experiments in support of Dr. Nitsche's statement, "that their susceptibility to irritation is invariably proportionate to the activity of their secretions, and dependent on the process of assimilation." None of the author's experiments with chemical stimuli elicited any susceptibility to irritation, though he seemed to think that chloroform had an anæsthetic influence. In one of his experiments he placed two portions of the leaf of Drosera binata under a bell-glass exposed to the vapour of chloroform. In four minutes no perceptible change having taken place in either, he took one of them out, and found that the hairs were completely anæsthetised. In treating of the cause and functional import of these movements, he was inclined to suppose that in regard to the former no merely physical hypothesis was sufficient to account for the phenomenon, but that it was due entirely to the vital force; and in regard to the latter, he thought Mr. Knight's view, that decomposing animal matter might be necessary for certain of the functional requirements of the plant, very plausible, on considering how peculiarly adapted the leaves of Drosera and Dionæa were for the purpose of catching insects. ——IV. *Notice of Plants collected in the Neighbourhood of Elie, Fife.* By Mr. J. W. Brown.——V. *On a new character observed in the Fruit of Oaks.* By M. Alphonse De Candolle. Communicated by Professor Balfour. In this paper, after alluding to the character of Oaks, and more especially their annual and biennial periods of fruiting, the author proceeded to notice a character which appears to have been overlooked—viz., the position of the abortive or atrophied ovules in relation to the single developed seed contained in the Acorn. He finds that these abortive ovules can be easily traced in the fruit, and that they occupy either a superior or inferior position in reference to the perfect seed. He examined the character in various species of Oak, and proposed the following arrangement:—1. Abortive ovules inferior (*i.e.* at the lower part of the perfect seed), maturation of fruit annual. *a.* Leaves falling off caducous, Quercus Robur, Toza, lusitanica, alba, Prinus, macrocarpa, polymorpha, &c. *b.* Leaves persistent (evergreen)—Quercus tomentosa, microphylla, virens, Ilex, Suber, &c. 2. Abortive ovules inferior, maturation of fruit biennial. *a.* Leaves caducous, Quercus Cerris. *b.* Leaves persistent, Quercus pseudo-suber, occidentalis, Vallonea, Libani, coccifera, &c. 3. Abortive ovules superior (*i.e.*, at the upper part of the perfect seed), maturation of fruit biennial. *a.* Leaves caducous, Quercus falcata, ilicifolia, rubra, Phellos, Xalapensis, calophylla, &c. *b.* Leaves persistent, Quercus acutifolia, aquatica, Castanea, cinerea, &c. ——Mr. Naylor exhibited specimens of the Peloria of Linaria vulgaris, and a peculiar abortive state of the same plant.——Specimens were exhibited of Sarracenia purpurea, which has been of late used in cases of smallpox. The experience of medical men in Edinburgh seems to lead to the conclusion that the so-called remedy is of little or no value. Specimens of Sarracenia variolaris were also shown. The plant receives its name not from any qualities in reference to variola (smallpox), but from the smallpox like markings on the outside of the upper part of its pitchers.——Office-bearers for the ensuing year were elected, and W. Thompson, Esq., an ordinary Fellow of the Society.

## Notices of Books.

*The Principal Speeches and Addresses of H.R.H. the Prince Consort, with an Introduction.* London: Murray, 8vo.

The book which lies before us is deeply interesting, and we strongly recommend it to the perusal of all who desire to form a correct estimate of the late lamented Prince Consort's character. We greatly mistake if the reader will not be struck by the evidences of high intellectual power, and of exalted sense of duty to his Sovereign and his adopted country, which these speeches demonstrate, as well as the sincere interest which he felt in the well-being of all classes of the community.

The Introduction very briefly but clearly shows the peculiar difficulties of the Prince's position, which imposed upon him the necessity of an habitual caution and reserve, absolutely necessary in one who was the sharer of the Queen's thoughts and counsels; next, there was the difficulty which all young persons must feel, in expressing themselves with perspicuity in a foreign language, and this too in the presence of distinguished personages, and before large assemblies, where no spice of politics could be permitted to season and add piquancy to his addresses, and no word must be allowed to escape, that could by any possibility be construed into a leaning towards any party in the State, or that might be thought in the remotest degree to compromise himself, her Majesty, or the Government of the day—and his were stirring times, when party spirit ran high, and great questions were angrily debated; when scarcely a throne in Europe seemed secure, and when our armies met with reverses abroad, and our rule was endangered in India.

It may be safely said that the Prince's speeches were always marked by sound sense, deep thought, and kindly feeling. He made it a point thoroughly to understand the whole bearing of a question, before he ventured to speak upon it, so that, perhaps, there is no one thing to regret in all his numerous addresses; and to this must be added that there is a tone of unaffected piety running through them, wherever the subject admitted of its expression. The Prince possessed a very peculiar originality of mind, which enabled him to take a comprehensive view of things, and made trite and common-place matters new and interesting—"He would insist on thinking his own thoughts upon every subject that came before him, and whether he arrived at the same results as other men or gainsayed them, his conclusions were always adopted upon laborious reasonings of his own."

The first of these speeches was delivered as early as June 1840, when he could have been little at home in the English language. It was at a meeting for the abolition of slavery. The newspapers had complained of the lavish expenditure, and the small results produced by our large naval force upon the coast of Africa, and the Prince shows his sympathy for the cause of humanity and justice, and expresses his trust that Providence would prosper our exertions.

By 1848 the Prince had attained more fluency of speech, and seriously applied his mind to improving the condition of the labouring classes, a work which was felt to be of deep importance in that eventful year. How much practical good sense there is here! "Depend upon it, the interests of classes, too often contrasted, are identical, and it is only ignorance which prevents their uniting for each other's advantage. To dispel that ignorance, to show how man can help man, notwithstanding the complicated state of civilised society, ought to be the aim of every philanthropic person; but it is more peculiarly the duty of those who, under the blessing of Divine Providence, enjoy station, wealth, and education. Let them be careful, however, to avoid any dictatorial interference with labour and employment, which frightens away capital, destroys that freedom of thought and independence of action which must remain to every one who is to work out his own happiness, and impairs that confidence under which alone engagements for mutual benefit are possible."

The importance of British agriculture had long engaged the Prince's attention, and the influence which his example exerted upon the agricultural mind is too well known by our readers to need any comment. He attended the great meeting of the Society at York. Next year, at Great Grimsby, he noticed that "in this country national enterprises are undertaken by private exertion, with private capital, and at private risk." He bore testimony to the "national energy which had succeeded in transforming unhealthy swamps in Lincolnshire into the richest and most fertile soil in the kingdom," and noticed, with praise, "the happy relation which existed there between landlord and tenant."

His speech at the Servants' Provident Society is marked by unusually good sense. How often at such meetings are we told that the object of the Society is one of *charity*. It is no such thing. The Prince most properly says—"It is not one of charity, but of friendly advice and assistance, to be tendered to a large and important class of our fellow countrymen." He asks, "Whose heart would fail to sympathise with those who minister to us in all the wants of daily life, attend us in sickness, receive us upon our first appearance in this world, who live under our roof, form our household, and are a part of our family?" He finds that "in our metropolis the greater number of the inmates of the workhouse are domestic servants," and in urging some means for carrying the servant through life, safe from the temptations of the prosperous and from the sufferings of the evil day, distinguishes most carefully right principles from wrong in the Provident Societies. "Each person *must* work out his own happiness by personal exertion and self denial; the master may help the servant, by directing his efforts, and by ascertaining that the Society is founded on trustworthy principles—not offering extravagant advantages, nor allowing the money to be spent in convivial meetings." Englishmen are now so much accustomed to the style of thought that pervades the Prince's speech to the mayors assembled in London to

further the objects of the first Exhibition, that we almost forget how new these ideas then seemed—how visionary they appeared to most people, and to many even fraught with injury to the industry of this country. "Gentlemen, the Exhibition of 1851 is to give us a true test and a living picture of the point of development at which the whole of mankind has arrived in this great task, and a new starting point, from which all nations will be able to direct their further exertions." . . . "These hopes can only be realised in proportion to the help which we are prepared to render each other; therefore, only by peace, love, and ready assistance, not only between individuals, but between the nations of the earth." The allusion which he made to the late Sir Robert Peel in this speech will be read with peculiar interest, showing how true was his estimate of that great English statesman's mind, and ascribing his great influence to the fact, that "the nation recognised in his qualities the true type of the English character, which is essentially practical," and "taking this view of the character of our country," he says, "I was pleased when I saw the plan of the Exhibition undergo its ordeal of doubt, discussion, and even opposition." How manly and self reliant the tone of the following extract:—"The history of this grant exhibits to us the picture of a most healthy national progress. It affords a most pleasing proof that those important branches of industry (fisheries, &c.), have arrived at that stage of manhood and prosperity, when, no longer requiring the aid of a fostering Government, they can maintain themselves independently, relying upon their own vigour and activity, and can now in their turn lend assistance and support to their younger and weaker sisters, the Fine Arts."

These latter owe a boundless debt of gratitude to their highly cultivated patron. How admirable is the distinction which he draws between the provinces of science and art.

"But these laws of nature, these divine laws, are capable of being discovered and understood, and of being taught, and made our own. This is the task of science; and whilst science discovers, it teaches these laws; art teaches their application. No pursuit therefore is too insignificant not to be capable of becoming the subject both of a science and an art." The contrast between "science and prejudice," and the mistaken antagonism between "science and practice, scientific knowledge and common sense," are most happily drawn.

The Prince Consort is known to have taken very great interest in the progress of horticulture, and designed effecting an union between it and the Fine Arts. He accordingly accepted the office of President of the Royal Horticultural Society, and during his lifetime he took a most active part in its management. The noble garden at S. Kensington may be said indeed to have been his own creation.

The speech before the British Association for the Advancement of Science is so masterly a production that it would be most unfair to make only a brief extract from it. It must be studied, and will well repay the reader for his pains; we will even venture to say that it contrasts most favourably with the prosy addresses usually delivered by the Presidents at these great meetings. One only speech has been harshly commented upon, and that through misapprehension.

In the actual struggle of the Crimean war, we all felt that the great autocrat of the North derived advantages from his "unity of purpose and action, and impenetrable secresy, and uncontrolled despotic power. The Queen has no power to levy troops, and none at her command but such as voluntarily offer their services. Her Government can entertain no measure for the prosecution of the war without having to explain them publicly in Parliament; her fleets and armies can make no movement, nor even prepare for any, without its being proclaimed by the press." For these reasons "the country, if it would pass triumphantly through the crisis, must grant its confidence—a patriotic, indulgent, and self-denying confidence—to her Majesty's Government"—and so said every sensible man.

If anything could raise the character of the Prince Consort higher than it stood before, it is the publication of his private notes upon the office of Commander-in-Chief, pressed upon him by the great Duke of Wellington, but steadily declined, from motives so noble, self-denying, and high-minded, that the Queen could not refrain from making it known, "that the world might know the ever present, watchful, faithful, invaluable aid which she received from the Prince Consort in the conduct of the public business, and how much her Majesty owed to him."

*Tate's Algebra made easy, and Key to ditto.* 12 mo. Pp. respectively, 114, 130. Longmans & Co.

Some may doubt whether Algebra can be made easy, as expressed in the titles of these little works; but any one who possesses moderate ability and chooses to apply himself, will find no great difficulty in learning as much of it as will at times prove useful. With little or no farther assistance beyond that afforded by these two small volumes, he may go as far as quadratic equations, without occupying time that might be necessary for acquiring a knowledge of subjects more directly connected with his occupation or profession. Indeed many of the questions might serve for amusing puzzles, very easily solved by means of algebra, but which without it would require much trying and guessing; by these, the answer to such a question as No. 23, p. 38, may be hit upon:—"One-third the number of trees in a garden are Apple trees: one-fourth Pear trees, and there are 35 Plum trees. How many are there altogether? We shall call $x$ the total number; then, $x = \frac{x}{3} + \frac{x}{4} + 35$; or $12x = 4x + 3x + 420$; then $5x = 420$; and consequently $x = 84$, the number of trees. Now let us see if this answer will fulfil the conditions of the question:—84 divided by 3 = 28 Apple trees; divided by 4 = 21 Pear trees, and 35 Plum trees, making thus the total number, in the required proportions of each kind. The first thing we did in order to obtain the answer was to form an equation according to the question, and by certain operations that equation was made to assume a different form, although still as truly an equation as the first; but the unknown quantity was still combined, and the equation had to be subjected to other operations, till at last we find the unknown quantity, $x$, standing alone on one side of the equation, and a known quantity, 84, on the other; $x = 84$. We first multiplied both sides of the first equation by 12, and thereby got clear of the fraction; then we took $4x + 3x = 7x$ from $12x$, which left $5x = 420$; then $\frac{420}{5} = x$, or $x = 84$.

Having obtained the answer, we turned back in the work to see if the steps taken were in conformity with certain axioms or rules laid down; but this we could do neither readily nor satisfactorily. At p. 7 we found that—"whatever we do to one side of an equation we must do the same thing to the other to keep up the equality," and at p. 17 we find another axiom; but why not give the principles and rules necessary for solving simple equations altogether, or so as they could be seen collectively, and in connection at one view. For example, something in this manner:—If equal quantities be added to equal, the sums will be equal, or, if equal quantities be multiplied by equal, the products will be equal, and so on. Then about half a dozen rules might follow, as, 1st, if the unknown quantity be divided by any other, multiply both sides of the equation by the divisor, thus, if $\frac{x}{3} = 5$; then $x = 15$. The work is excellent; but whilst we admit the high qualifications of the author, we think the suggestions we have made would be an improvement in future editions.

Near the end of the volume we came to the application of Algebra to Mensuration, and some of the questions bear on the laying-out of gardens, requiring the surrounding walks to contain a certain area. This is rather difficult; but by the aid of these volumes, which we strongly recommend, young gardeners may qualify themselves to solve such questions. To convince that class that they may have use for such qualification, we shall take the opportunity of submitting the following case, the circumstances of which we have imagined, as not unlikely to bear close analogy to some that may actually occur.

A piece of ground 250 feet long, and 230 broad, is to be laid out as a town garden, and so that there shall be next the outside boundary a border; within that a walk 10 feet wide; and then an iron railing that shall enclose exactly 1 acre for lawn and beds with ornamental plants. An estimate is wanted for the iron railing, at so much per foot run, involving the question—what is its *length?* And one for the formation of the walk at so much per square yard—what is its *area?* And *how far* from the outside boundary is the adjacent edge of the walk? These are not unreasonable questions; and to be able to answer such, Tate's Algebra and Key are just the sort of treatises which young gardeners should possess in order to gain a knowledge of the subject in the most easy and familiar way.

We have before us the Prospectus of a work to be published by Lovell Reeve & Co., once a month, 32 pages, 8vo, with a Plate by Fitch, price Two Shillings, as a new *Journal of Botany*. Edited by A. G. More, Esq., and Dr. Seemann.

It is to consist of two distinct sections, under separate Editors: the one devoted to General Botany, the other to the Botany of the British Isles. In both divisions, original papers on subjects new to science will be given, and, when necessary, illustrated either in the text or by special plates. Each number will contain at least one full-page plate by Fitch, illustrative of new species described in the letterpress. It is intended, as far as possible, thus to illustrate alternately papers belonging to the two sections of the Journal.

Trade Lists Received.—Krelage & Son, Haarlem; *Hortus Krelageanus*, or a list of the plants on sale in their Nursery. Very rich in Garden Amaryllids.——Louis Van Houtte's (of Ghent) *Wholesale and Retail Seed Catalogue for the Winter and Spring of* 1863.

## Miscellaneous.

*New Source of Cod-liver Oil.*—The oil obtained from the Hou-li-kun is a common article of food among the northern tribes, and one of which they are very fond. This fish is not unlike a sprat, but somewhat longer and rounder, and is so oily that when dried it will burn like a candle. They are not found at the south part of the island, but are caught in great numbers to the northward. The process of extracting the oil from them is very primitive indeed. Mr. Duncan gives in one of his letters the following description of it, as witnessed by him at Nass River:—"In a general way," he says, "I found each house had a pit near it, about three feet deep and six or eight inches square, filled with the little fish. I found some Indians making boxes to put the grease in, others cutting firewood, and others (women and children) stringing the fish and hanging them up to dry in the sun; while others, and they the greater number, were making fish-grease. The process is as follows: make a large fire, plant four or five heaps of stones as big as your hand in it; while these are heating, fill a few baskets with rather stale fish, and get a tub of water into the house. When the stones are red-hot, bring a box about 18 inches square (the sides of which are all one piece of wood), near the fire, and put about half a gallon of the fish into it, and as much fresh water; then three or four hot stones, using wooden tongs. Repeat the doses again, then stir the whole up. Repeat them again, stir again; take out the cold stones, and place them in the fire. Proceed in this way until the box is nearly full, then let the whole cool, and commence skimming off the grease. While this is cooking prepare another boxfull in the same way. In doing the third, use, instead of fresh water, the liquid from the first box. On coming to the refuse of the boiled fish in the box, which is still pretty warm, let it be put into a rough willow basket; then let an old woman, for the purpose of squeezing the liquid from it, lay it on a wooden grate, sufficiently elevated to let a wooden box stand under; then let her lay her naked chest on it, and press it with all her weight. On no account must a male undertake to do this. *Mayne's British Columbia.* [This oil has been ascertained to be equal to cod-liver oil.]

*A New Winter Garden for Paris.*—A company is now being formed in Paris, according to the *Journal du Havre*, for the purpose of transforming the garden of the Palais Royal into a winter garden, like the immense greenhouses annexed to the palaces of the wealthier Russian nobles. The company proposes to bear the whole expense of making the garden a place of recreation unequalled in the world. It would be devoted to concerts, games of all kinds, artistic exhibitions, &c. In May, every year, the glass roof would be removed, and the garden opened to the public as usual. *Builder.*

*Gishurst Compound in Australia.*—The following important remark appears in a paper on Orange cultivation by Mr. Carson. "The benefit this invention has been to the gardening world may be conceived when I state that the year it came out I had made up my mind to root up all the Orange trees and put them in the fire, for all our spare time did not suffice to keep them clean. At this time I was burning my blighted Apple trees, and lately I have been told by several gardeners that they had condemned their Apples when they learned from me of this cure. But for this the axe, they said, would have settled blight and trees together." *The Yeoman and Australian Acclimatizer.*

*S. American Tombs: Ancient Gold.*—The excavated tombs, as found in our times, are all alike throughout South America. The Spanish conquerors having entered the territory of "la Capitana de la Nueva Granada," and collected all the gold they could among the Indians, turned their attention to the natural sources of gold, and also to the burial places, which soon became objects of much interest to the gold seekers. These tombs are always found on some isolated range with sharp outlines, so situated as not to admit of any water accumulating, and no apparent probability of water being led to it. In hills so situated the excavations are discovered by observing certain concavities on the surface; but where a thick forest exists, with a dense undergrowth, often of several feet, it is necessary to clear the ground by fire. It is generally allowed that a long period has elapsed since these tombs were closed, as by the accounts of the Mexicans and Peruvians, given at the time of the conquest, their calculations amounted to about two thousand years. The excavation is circular and perpendicular, and three or four feet in diameter, dug out of the decomposed syenitic rock. At the depth of nine to eleven feet charcoal is found among the soil, under which a flat stone (some kind of slate) covers the pit, on removing which the edge of a perpendicular slab is observed. At about four feet deeper the bottom of the tomb is reached, and on the perpendicular slab being removed, a horizontal excavation is seen towards the east. This is about four feet in height and the same in width, but somewhat more in length. Here the bones of the defunct are found, the body having been placed in a sitting posture, with the face towards the east, that is towards the rising sun, regarded as the "King of the Heavens." The bones are generally found in such a decayed state that they will not admit of being handled. The earth, which has more or less fallen in and mingled with the remains, is gathered and brought under the washing process, and the trinkets thus obtained are partly of gold, with its natural alloy (silver), and partly gold with copper. On one side of the remains a large earthenware vessel is found, covered with a piece of slate, and in some instances a sediment has been found deposited from the drink, the Indian "chicha," left with the deceased. On the opposite side, perfectly decayed, ears of Indian Corn have been found. In a niche cut out of the end of a tomb, a vase of earthenware is sometimes found, covered with stone, and filled with pounded charcoal, in which the remaining trinkets and gold-dust, left with the occupant of the grave, had been deposited. Implements for smelting gold, and

some tools made of gold and copper, are sometimes, though but rarely, found in the pot occupying the niche. The Spaniards, who during three centuries have gathered gold from the fluvial deposits, have found many of these burial places very remunerative. Some localities show that systematically arranged cemeteries have formerly existed where two excavations in the centre, of greater depth than the surrounding ones, were found. The deep graves appear to have been appropriated to the chiefs and their families, and the numerous others to the inferior classes. These burying places are termed "Pueblo de Indios," but these larger cemeteries are now seldom found. Traditional accounts of certain localities are still preserved and eagerly sought after, where great treasures are said to have been buried. In like manner reports are often heard of rich fluvial deposits of a more recent date, where the proprietor is said to have had a measure corresponding to about twenty to twenty-five pounds weight, on collecting his weekly produce. This may be regarded as probable, if we consider that as many as from two to three hundred African slaves were often employed in mining pursuits by one proprietor. The foregoing narrative supplies a proof that the aboriginal inhabitants of South America had some indefinite notion of a future state; they appear to have believed "that their deceased relative or friend had a long way before him," and that he would require some refreshment in his long journey to "reach the stars." This idea still extensively prevails. *Transactions of the Philosophical Institute of Victoria (Australia).*

*Chinese Simples.*—In a letter addressed to the President of the Société d'Acclimatation, M. Guillemin, missionary in China, gives a glowing account of the extraordinary fertility of the country, and among other things, expresses his surprise at the efficacy of certain Chinese remedies which are utterly unknown to Europe. He quotes the example of a Father Leturdu, who, having passed four years in a Chinese prison, where he contracted a pulmonary affection, was literally kept alive by certain pills which a Chinese doctor gave him; and when he subsequently attempted to return to a European treatment, he got worse, and only recovered by recommencing the Chinese pills. In another instance, a European physician belonging to the French navy utterly failed in mastering a violent fever which threatened the life of a Chinese convert; but a native physician obtained a complete cure in the course of a quarter of an hour (!!) by administering certain simples which he gathered on the spot. Let us hope that these sovereign remedies will soon find their way to Europe. *Galignani.*

*Dressing Florists' Flowers.*—To bring a plant into a desired form by cultivation is one of the proper objects of horticulture, but the proper means of doing so is by making Nature herself, through breeding and cultivation, produce the desired result in her own way; the subsidiary assistance of pruning and disbudding can scarcely be condemned as in all cases illegitimate, or beyond the horticulturist's fair means. But it is otherwise with the tying, and twisting, and propping, and bending, by which not only Chrysanthemums, but Azaleas, Pelargoniums, Pinks, Picotees, and a host of other plants, are now made to assume an appearance for the nonce which they do not in reality possess. The Chrysanthemum is the tribe in which this manipulation is, perhaps, carried to the greatest extent. It is not alone the ordinary appliances of sticks and threads, by which the plant is made to assume a compact form, and the flowers to seem equally distributed, which are used, but the blooms themselves are subjected to disingenuous treatment; the heart of their mystery is plucked out—(that is, the central petals)—the bud is collared in card, or treated like the Man in the Iron Mask; a tin implement compels the flat expanding petals to turn into incurved blooms; and, in short, the old plan attributed in jest to phrenologists, and made use of by Captain Marryat in one of his novels, of amending a man's unsatisfactory dispositions by depressing the bad bumps and raising the good ones by mechanical appliances, is here had recourse to in sober earnest. Some of these latter manœuvres either do or should disqualify from competition; actual tampering with the petals should in no case be allowed; but it is difficult to draw the line, and we protest we would rather want some of the beauty and effect of our great shows than have it attained by manipulation, carried to the extent it is. Something is wanted to check these artificial practices. This, probably, could only be done by encouraging the production of plants not so doctored. Anything more would be hopeless. It would never do to prescribe laws how far the gardener may train his Honeysuckles or nail up his fruit trees. It must be left to every man's own judgment what support to give his plants, but if the comparative absence of support or manipulation were made an admitted element in judging of the plants—if the exhibitor found a decided preference in the awards for plants not so overloaded with support, the evil would cure itself. It is the unacknowledged pretence against which our instincts rebel, as they turn with disgust from the painted beauty and padded beau. Where the object is admittedly imitation, no such dissatisfaction is felt. *Andrew Murray in Proceedings of the Royal Horticultural Society.*

*A New Substitute for Linen Rags.*—Advices from Philadelphia state that the fibre of the plant Hibiscus Moscheutos is occupying the attention of the merchants at that port as a substitute for linen rags and jute. This plant is indigenous to the Northern States, and grows in abundance in the swampy lands of Pennsylvania, New Jersey, New York, &c. The fibre has received the name of American jute. This term, however, may be considered inappropriate, for the reason that the jute of the East Indies is the production of the Corchorus olitorius, or Corchorus capsularis, and for the further reason, that the fibres of the Hibiscus are not so liable to become deteriorated by exposure and washing in alkaline lyes as those of the jute. At a moderate calculation, and taking into account the probability of loss from unforeseen causes, 3½ tons of disintegrated fibre can be derived from one acre of ground. As to the value of the fibre, it has been declared by experienced rope manufacturers to be far superior to Manilla hemp or jute—the specimens of rope exhibited being fully equal in strength and pliability to ordinary hempen rope. Two prominent paper manufacturers of New York have estimated the fibre to be worth 100 dols. per ton, to be used as a substitute for linen rags in the manufacture of paper. *Liverpool Journal of Commerce: Corrected.* [Caveat emptor.]

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—As this house will now be the chief resort of the family, it is requisite that all floors, &c., be at all times kept particularly clean and dry. Dryness of atmosphere through fire-heat will not, however, keep the plants in that luxuriant health which not only creates a present interest in them, but also furnishes a guarantee for success in future. Great modification, therefore, in the use of fire-heat is necessary in this department. A temperature of from 40° to 45° at night, and from 50° to 55° during the day time, is during this dead time of the year amply sufficient. Camellias in bloom, if any, may be watered now and then with clear tepid manure-water. In the case of stove plants keep up an abundance of atmospheric humidity, to counteract the drying tendency of hot-water pipes. In order to obviate the inconvenience of drip, leave a very little back air on all night whenever the weather is at all favourable. A few early Gloxinias and Achimenes may now be gently forced on for the decoration of warm houses. Let Pelargoniums now be kept as much at rest as possible, giving them but little water — in fact none except the leaves show a disposition to flag. In fine weather like the present they should however have plenty of air, but not in the shape of cold currents, which are apt to prove injurious to the leaves. A temperature of 50° by day and 40° at night will be sufficient for the present. The pit in which flowers for the conservatory are forced should possess at this period a permanent bottom-heat of 80°; atmospheric moisture, let us presume, has been secured; such being the case preparations must be made for securing a due succession of early spring flowers; if not already done let a sprinkling be forthwith introduced of the most favourite kinds adapted to forcing purposes, such as Moss, Provins, and Crimson Perpetual Roses, hardy Azaleas, and things of that sort. Hybrid Perpetual Roses will do better in a more moderate temperature.

### FORCING DEPARTMENT.

PINERIES.—Continue former directions with regard to Pines for the present.

EARLY VINERY.—If the buds are now broken, endeavour to raise the temperature daily a little, until it reaches 70°, at which take your stand for a while; attend well to atmospheric humidity.

PEACH HOUSE.—As soon as the buds begin to open, syringing must be dispensed with for a while; steaming must, however, be resorted to in the evening, and a slight degree of atmospheric moisture secured for the night, in the day abundance of air.

CUCUMBERS.—Those who grow these in the old dung-beds still, should now set about making a seed-bed; take care however that the dung for the purpose is thoroughly worked. Provide plenty for the bed and turn it every four or five days.

MELONS.—To ensure success with these there must be the means of maintaining a bottom heat of from 75° to 80°, and the temperature of the atmosphere at from 65° to 75°, but good crops may be obtained in summer frames placed upon a bed of slowly fermenting materials. For the early crop sow now; pot in small pots when strong enough; keep near the glass, and either plant out or pot into large pots, using properly warmed, rather strong turfy soil. Sow for succession at intervals of about a month until May. When the plants get into free growth give air on every favourable occasion, so as to secure short-jointed wood, and keep the atmosphere rather dry while the fruit is setting. Trim and train the shoots regularly, keeping the main shoots thin, so as to allow space for the laterals on which the fruit will be produced. The soil should be made rather firm, which will tend to prevent over-luxuriant growth, and water should not be given too freely; but great care must be exercised to maintain a sweet healthy atmosphere, and to guard against red spider. Dryness at the root and also in the atmosphere when the fruit is ripening will tend to improve the flavour.

### FLOWER GARDEN AND SHRUBBERIES.

The winter having as yet been unusually mild, every chance has been afforded of not only bringing up arrears of autumn business, but of even stealing a march on the coming spring. In the flower garden little can, however, be done now except digging deep the beds for clumping out flowers to ameliorate the soil; any that are exhausted should, as was stated the other day, have the soil renewed ready for spring work. In open weather laying turf or other pleasure-ground alterations may be proceeded with. See that all half hardy plants are secured against severe weather. All Pink and Pansy beds must be well looked after; those plants that are loosened in any way should be carefully fastened; the same observations will apply to seedling Auriculas, Polyanthuses, &c. Carnations and Picotees will still also require regular attention; some few, it is said, are spindling this mild weather. It will be better to allow the stem to remain on till rather later in the spring; water occasionally when the soil is very dry, but avoid wetting the foliage as much as possible. If the tenants of cold frames have been housed somewhat dry, and kept so, and hardened with abundance of air, nothing is necessary but to follow up these principles, and to take care to exclude frost should it set in; if, however, severe weather should occur, and they become frozen, see that they are not uncovered directly a thaw comes. Let them remain until they are quite thawed in comparative darkness, which, in ordinary cases, will be about two days, merely turning up the mats or straw a little at both back and front, so as gradually to inure them to the light.

### HARDY FRUIT AND KITCHEN GARDEN.

As has been before stated all spare ground should now be dug and ridged, indeed, trenched, if time permit, Where a systematic rotation of crops is carried out, and, of course, a regular and pre-planned system of spade management, it is an excellent plan to trench all the kitchen garden successively in the course of every three years. The trenching to be performed each year should be on the ground intended for tap-rooted plants, such as Carrots and Parsnips; also, in forming new plantations of Strawberries, Raspberries, bush fruit, &c., if the subsoil is stiff and sour, it should be well worked up, and if wet, of course, well drained; a good coat of cinder ashes worked into it would serve to facilitate the passage of water and air.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Jan. 7, 1863, as observed at the Horticultural Gardens

| Jan. | | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. | 1 | 13 | 29.996 | 29.674 | 52 | 43 | 47.0 | 46 | 44½ | S.W. | .00 |
| Friday | 2 | 14 | 29.566 | 29.388 | 48 | 27 | 37.5 | 47 | 44½ | S.W. | .04 |
| Satur | 3 | ○ | 29.586 | 29.562 | 47 | 30 | 38.5 | 46 | 45 | S.W. | .16 |
| Sunday | 4 | 16 | 29.292 | 29.289 | 49 | 37 | 43.0 | 45½ | 44½ | S.W. | .08 |
| Mon. | 5 | 17 | 29.062 | 28.846 | 51 | 34 | 42.5 | 46 | 44½ | S.W. | .46 |
| Tues. | 6 | 18 | 28.958 | 28.952 | 53 | 29 | 41.0 | 46 | 44½ | S. | .26 |
| Wed. | 7 | 19 | 29.277 | 29.167 | 51 | 27 | 39.0 | 46 | 44½ | S. | .01 |
| Average. | | | 29.390 | 29.268 | 50.3 | 32.3 | 41.1 | 46.0 | 44.5 | | 1.01 |

Jan. 1—Cloudy and warm, very boisterous at night.
— 2—Very boisterous; fine; slight frost at night.
— 3—Fine; very fine; dark clouds; rain.
— 4—Cloudy; fine; showery; heavy showers.
— 5—Densely clouded and boisterous with rain; barometer exceedingly low.
— 6—Densely overcast; cloudy; very heavy rain at night.
— 7—Clear; cloudy; fine; cloudy; fine; slight frost.
Mean temperature of the week 4½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Jan. 17, 1863.

| January. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 11 .. | 41.4 | 30.9 | 36.1 | 19 | 0.77 in. | 4 | 6 | 4 | 1 | 6 | 9 | 5 | 2 |
| Mon. 12.. | 42.3 | 30.6 | 36.5 | 15 | 0.76 | 2 | 7 | 3 | 3 | 6 | 10 | 4 | 2 |
| Tues. 13.. | 42.6 | 32.0 | 37.3 | 17 | 0.29 | 5 | 5 | 5 | 4 | 6 | 6 | 4 | 2 |
| Wed. 14.. | 42.0 | 32.2 | 37.1 | 16 | 0.80 | 6 | 7 | 5 | 4 | 3 | 6 | 3 | 3 |
| Thurs. 15.. | 41.4 | 29.0 | 35.1 | 12 | 0.54 | 3 | 6 | 4 | 3 | 4 | 8 | 7 | 3 |
| Friday 16.. | 41.7 | 30.6 | 36.2 | 19 | 0.34 | 1 | 8 | 5 | 2 | 5 | 9 | 4 | 3 |
| Satur. 17.. | 42.4 | 30.4 | 36.4 | 12 | 0.48 | 3 | 7 | 2 | 4 | 3 | 10 | 4 | 4 |

The highest temperature during the above period occurred on the 14th 1849; 15th, 1834 and 1852—therm. 56 deg.; and the lowest on the 14th, 1838—therm. 4 deg.

## Notices to Correspondents.

CRYSTAL PALACE: *M A.* The water works here were executed under the direction of Sir Joseph Paxton, M.P., and the finest works in the world they are. Apply to Sir Joseph by letter only, addressed to him at Sydenham.

GARDENERS' BENEVOLENT. We have no objection to publish the names of new subscribers, whose money shall have been paid; but we can have nothing to do with promises to pay, especially when announced through anonymous Correspondents.

GREENHOUSE CLIMBERS: *A. B.* Plants of this kind may be planted in the open air and trained through holes in the bottom of the wall of the greenhouse if their roots are thoroughly well protected. But if the roots would from the position of the greenhouse have very little sun, that would probably be fatal to the experiment, unless some means could be found of warming the border.

LIME TREES: *H W.* Prune them now. Leave on all the small wood. Shear them hereafter every year in March.

RABY GARDENS: *A Correspondent* would be very glad to learn the present state of this fine place, now that the last gardener is gone. Would Mr. Mackintosh have the goodness to inform us.

TAMARISKS: *E S.* Any great nurseryman can furnish these. Take care, however, that you have French Tamarisks and not German ones (that is Tamarix gallica, not T. germanica.)

VINERIES: *Tyro.* Glaze as at B in your sketch. In the early Vinery we should substitute the White Sweetwater for the White Muscat; in the late Vinery we should substitute the White Muscat for one of the Black Hamburghs, and a black Alicant for one of the Lady Downes'.

VINERY: *T P.* Black Alicant, or Lady Downes, or Barbarossa.

ZINC: *S Z.* All soluble salts of this metal are injurious to plants. You should never set plants in zinc trays unless they are also furnished with earthen pans through which water cannot pass—that is to say glazed, or otherwise hardened.

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# The Agricultural Gazette.

*SATURDAY, JANUARY* 10, 1863.

WHAT has become of our friends the astro-meteorologists? How is it that the remarkable warmth of this winter's weather has not been long ago foreseen and prophesied by them?

The "voices of the stars" are heard by the astronomer long before the period of their actual utterance. The positions of the planets with relation to the sun, the earth, and one another, can be read in the "Nautical Almanac" at least three years in advance; and so, can be talked of learnedly even by those who may not claim an independent knowledge of these subjects. Doctor FRANCIS MOORE, Physician, Mr. WHITE, or ZADKIEL, can any of them, on paying half-a-crown in Albemarle Street, already draw up his Almanac for 1865 or 1866, from pages which the Astronomer Royal has long ago prepared for publication there. How is it that with all the facts described so long before in full detail, the inferences from them should have been so long delayed. Here were frigid Saturn, scorching Mars, warm and genial Venus, torrid Mercury, great Jupiter himself—the masses of these great heavenly bodies substantively, with whatever adjectives imagination might select to qualify them, all already *placed*—their positions, aspects from or to the earth, relations to one another, all known months and years before. Why has the learned astro-meteorological authority of our excellent contemporary the *Mark Lane Express*, with a knowledge, now alas! almost unique, of mysteries which the ordinary human race of 1863 cannot hope without his help to penetrate, kept us in the dark so long?

What an expenditure on useless labour might he not have saved? What a much better arrangement of the winter's work might not have been adopted had he spoken out before? Let us hope that many farmers' clubs, fully alive at length to the importance of that foreknowledge of the weather which the studies of the planet-struck reveal to *them*, have responded to the advertisement of his willingness to lecture on this all important subject, and thus have secured for the coming spring the safe, economical, and profitable guidance which the agricultural operations of that season especially require.

Who knows what secret exclusively his own he may not now have to reveal to us? Even as we write, Saturn in opposition to the sun is traversing Libra—who, unless indeed it may be *he*, can know what strange oscillations of the weather that may not betoken. Winters have been experienced here, beginning, as in 1862, with unusual mildness, which have been followed by eight and ten weeks' frost. We have been (as the *Times* of Monday puts it) sitting at Christmas almost out of doors under our Vine and Fig tree, as it were; but they have after similar circumstances in other years been roasting oxen whole upon the frozen Thames before the month was out. It may be that February, March, and April of 1863 are to be to December of 1862 what previous winters have shown that these months sometimes are to one another. If so, what an advantage to be prepared for circumstances which will be disastrous if they meet us altogether unprepared!

It is hard indeed to understand how changes of effect so abrupt should be produced by those gradual changes in what astro-meteorologists declare to us is the efficient cause of them—changes *these*, which proceed sublimely constant to a simple rule, producing *those* which are as capricious as the weather proverbially is. But everybody knows—every agriculturist at any rate, for do not agricultural journals give their columns to the industrious teachers of the fact?—that it is on the oscillating positions of the hot and cold planets relatively to this earth—on the aspects towards the Earth of Venus, Mercury, and Mars, of the one part—and Saturn, Georgium Sidus we presume, and, with still less confidence we name it, Neptune, of the other—that our weather oscillates between cold and warmth, between drought and flood respectively. To be sure these latter oscillations, as in the instances referred to, are sometimes extraordinarily abrupt! The Gods and Goddesses, if their positions have produced the wonderful changes which we sometimes witness, must have been in boisterous mood—playing at leap frog at the very least—whereas it is generally believed, that the planetary masses which represent them to us moderns, "roll" or "march" along with none of those capricious jerks by which alone it is plain our changeful weather can be thus explained.

However, Mr. WHITE knows all about it—and we recommend agricultural societies and farmers' clubs by all means to apply to him!

It must be, alas! confessed that *Mother Goose*,* the astro-meteorological authority in *Punch's* admirable *Almanack*, talks as learnedly, as usefully, quite as much to the purpose, quite as suggestively of the truth upon this subject, as any of her brood who write elsewhere.

* "SAT'N in Libra—is he? Libra, *the Scales!*—Ah! the ould sarpint—drat 'im!!"—*Punch's Almanac.*

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WHAT is the "greatest question that concerns man?" A correspondent of the *Times*, whose letter we reproduce elsewhere, declares that the preservation of vegetable mould is entitled to that distinction.—Vegetable mould, he says, is fast disappearing from our poorer soils. In many other countries it has been already exhausted over large districts, which are thus reduced nearly to sterility.

In the Eastern States of North America land that was once covered with a foot or 18 inches deep of mould now exhibits nothing but a poor mineral earth—"such as would delight the heart of LIEBIG or Professor VOELCKER!!" Under our present farming we aim at a large immediate production, regardless that we are killing the goose which lays the golden egg—the vegetable soil is deteriorating or disappearing—the depth and richness of vegetable mould is the food supply of Nature, cooked, we may say, by Nature in the most digestible manner, and it is the part of the husbandman to do everything in his power to prevent its exhaustion—LIEBIG's vaunted artificial manures ignorantly or improperly applied, and the scope of his lectures on this subject have perhaps tended to diminish rather than to increase the vegetable mould.

And thus we have the reaction and recoil from the extravagant warning which Baron LIEBIG lately uttered on the exhaustion which under our present system of agriculture is being experienced of the *mineral* ingredients of the soil. The *Times* correspondent writes a very good letter, but falls into one inconsistency, which should have diminished the confidence of his defence of the old exploded humus theory. How is it that, as he admits, "volcanic land, disintegrated lava, dust and ashes, and other ejectæ, will bear a great amount of exhausting cropping." The fact is not brought into consistency with his theory by the explanation which he offers. "In these volcanic soils all the different mineral ingredients have been boiled in the pot together, and as the rock goes on disintegrating, and top-dressings of ashes sometimes take place, these soils afford almost everything a plant needs in continued supply." It is evidently a weak point in his relation that no mention of vegetable mould comes in there to explain admitted fertility.

We fear, too, that his references to details of practice are not trustworthy. We shall be glad to learn where he has found that "the large manures ploughed down pretty deep in the ground are more effectual in enriching the vegetable soil than where near the surface, although they do not act so quickly to forward the immediate crop." And we shall also be glad to learn where, in Dr. VOELCKER's writings, he has found anything to bear out the assertion that the disappearance o vegetable matter from the soil, and its reduction to "light coloured poor mineral earth" would delight his heart!

It is safer to judge of the tendencies of English agriculture by the examination of a number of examples of it, than by applying the halves of truths in a general way, and then standing aghast at lopsided inferences. Whether English soil is as full of vegetable matter now-a-days as it was, we will not undertake to say—but that it is more fertile than it ever hitherto has been, is certain. And whether the share which the vegetable portion of it has in producing this fertility be less or larger than it was, is of little consequence. So long as cattle and live stock are kept upon the land in the increasing numbers which our farms now feed, so long will the fertility of English soils be sure. The present tendency undoubtedly is to look to the sheep fold and cattle yard rather than to the barn door for our returns; and so long as that is the case we need not in the least attend to such remonstrances as that of the writer in the *Times*. Nor, indeed, need we be very anxious about the gloomy anticipations of Baron LIEBIG.

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QUOTING the Dublin correspondent of the *Times*, we lately called Professor GAMGEE to account for having agreed with Mr. GANLEY, the Irish cattle salesman, that compensation should be given to the owners of diseased cattle in order to hinder them from supplying the Dublin market with diseased butcher's meat. Professor GAMGEE now informs us that he never uttered a syllable in Dublin in favour of compensation for such a purpose, as stated by the correspondent of the *Times*. What he did say is we presume fairly represented in the full report of his valuable paper on the Cattle Diseases of Ireland, lately read before the Royal Dublin Society, which the Irish agricultural papers contained, from which we extract considerable passages in another page.

## THE LAND DRAINAGE ACT, 1861.

LETTER I.—As we have now had a year's experience and consideration of the "Land Drainage Act, 1861," I propose saying a few words upon it, which shall convey to those interested in arterial drainage, and who may contemplate action under the new measure, some notion of its powers and short-comings; and I will explain in subsequent communications the mode of proceeding to form districts, and the engineering principles which should be recognised in the drainage works, as well as the practical rules which should regulate the rating of the district for the payment of the outlay.

In broad and general terms it may be said that the Act is a sound and, in many respects, a simple measure for the carrying out of district or combined outfall works, satisfactory in its principles, but demanding sundry amendments in details, such as are required in all new Acts of an executive character; but that it is a complete failure as a cheap and ready means of obtaining a single outfall by one proprietor through the lands of his neighbour.

It is evident that the evils attending the existing Commission of Sewers were comprehended by the eminent counsel who drew the Bill—there being a cogency about it on this point which could only arise from personal knowledge, but it is equally apparent that he entirely shut his eyes to the fact that at the present moment there are seven Acts of Parliament for the underdraining of land, and not one of those Acts give available powers (I speak practically, not legally) for discharging the drainage water of one estate through the lands of an adjoining owner, when those lands interpose between the drained estate and the outfall.

In the case of district drainages,—it may be somewhat premature, perhaps, to say as much,—the Act strikes at once to the main evils the whole country desired to remedy in a bold though safe manner. Two-thirds in average extent of any saturated valley or of every pent up moor may compel the remaining one-third to co-operate in outfall works and pay towards their cost;—Mill dams and weirs, the worst enemies our forefathers raised wherewith to trouble futurity, can be compulsorily removed or lowered; and powers are given for the compulsory purchase of lands required for the making of outfall cuts and raising embankments, or for erecting machinery, &c.

These three desiderata for combined drainage have been foremost among the objects desired by earnest agriculturists for centuries past, and the "Land Drainage Act, 1861," has provided that the necessary compulsory powers shall be exercised with due regard to the value of all interests involved. The mill-owner whose water power may be interfered with has ample security that he will have full compensation for any loss he may suffer, and the landowner whose land may be required for outfall works has equal protection. The practical objections which are felt to the details of the Act do not point to these provisions, or others of a *protective* nature in their primary character, but they refer especially to the delays which attend those pro-

visions, and the prejudicial influence such delays will have. In cases where the delay is intended to serve the owners of the obnoxious mill or the required land, it will lead to endless extortion, for *time* is ofttimes an element in the cost of works for which it is expedient to pay highly; in cases where it is intended to help the ratepayers by deferring the execution of works decided upon by the Commissioners of the District, for at least two months (!), disaster of the worst character may result.

These objections and several others bearing on practical details, however, will be removed by amending Acts. I refer to them rather to show the general tendency of the measure than to lay stress on them.

But I wish I could speak as favourably of the powers "enabling individual owners to procure outfalls," as I have of those relating to combined works. The Act in this respect is not only abortive in itself, but as all futile efforts in the way of amending measures postpone real relief, we are further off a remedy than we were beforehand.

I have not heard of a single effort being made to bring this portion of the Act into force. I have heard of two cases in which action has been taken since it passed—not under its provisions, however, but under the powers of Lord Lincoln's Act, which it was originally intended by those who promoted it the Land Drainage Act, 1861, should supersede, because the heavy and costly machinery of that Act was ridiculously inappropriate to the object desired, which was simply the obtaining a right to deepen a party ditch or joint water-way, or to carry an under drain through a neighbour's land to a natural outfall.

It is very difficult to bring home to our legislators the real condition of the country as affected by existing laws bearing on these simple points. Under-draining has been progressing for the last 15 years at the mean rate of probably 150 thousand acres a-year, and a large proportion of this extent of work has been done under one or other of the several Acts referred to, by which the cost has been charged on the drained lands. In nearly every case where a landlord has carried out systematic drainage on his estate at some point or other an outlet has been gained through the lands of a neighbour. How has that outlet been gained? What has been the nature and value of the permission, if any permission has been given? Let each owner of drained land ask himself this question, and if he or the kind neighbour who has granted the easement, be a tenant for a life, let him ask his solicitor, as well as himself, the following question,—"What is the value of a *viva voce* or informal permission against a successor of the property through which the easement has been given?" And let him go on to say, "I have drained 17 or 18 acres of land at a cost of 100*l*., and am entirely dependent on the permission of my neighbour for the maintenance of the outlet of these 17 or 18 acres. When my neighbour dies, or when I die, the compact which good feeling has now brought about may be broken, and the outlet may be choked or destroyed. How can I or my successor obtain power to clear and rebuild it? I will take care to leave among my papers my kind neighbour's letter giving me permission: but will that suffice?"

We know that the answer to these questions will be that the permission being informal is legally worthless, and can therefore suppose the following dialogue to take place between the owner for life and his solicitor.

*O.* But have I not some remedy?

*S.* You can proceed formally under either of the Private Companies Acts, or under the Land Drainage Act 1861.

*O.* Which is the best and cheapest way?

*S.* There is very little difference in the cost under either of the Acts, but perhaps the quickest way would be under the Act of 1861.

*O.* Well, what will be the expense? Remember, my neighbour is willing to give the easement, but he is only a tenant for life.

*S.* The answer will be made up of sundry items:—

| | £ | s. | d. |
|---|---|---|---|
| 1. You must have a plan and a formal application prepared, showing what you wish to do, and stating how the work is to be done. This will cost, for your surveyor, 1*l*. 11*s*. 6*d*., and for my fee, 2*l*. 2*s*.; together .. .. .. .. | 8 | 13 | 6 |
| 2. Your neighbour having (by deed under his hand and seal) assented, you will have to pay the cost of that deed, say .. .. .. .. .. | 1 | 1 | 0 |
| 3. This arrangement must then be approved by two surveyors, who shall annex to the deed of assent a declaration that they approve of it; their cost will be .. .. .. .. .. .. .. | 5 | 5 | 0 |
| 4. And then there is the cost and fee of lodging the assent with the Clerk of the Peace, and correspondence, say .. .. .. .. .. | 1 | 1 | 0 |
| Making altogether .. .. .. | £11 | 0 | 6 |

*O.* Then I am to understand that it will cost me 11*l*. to legalise an outlet for drainage costing only 100*l*., and which I have already a letter to say I may effect without any expense at all. Of course I shall not expend 11*l*. for my successor. Pray what would be the cost if my neighbour did not consent?

*S.* No one can say; but the probability is, as the whole cost of litigation falls on the applicant, and the Act imports into the proceeding all the forms and difficulties of the Land Clauses Act, you would have to pay as much as from 50*l*. to 100*l*., or at least 50 per cent. on the cost of the drainage, with the consolation of knowing that the outlet drain which is to do you service, will also be a benefit to your neighbour.

The conversation I have here supposed to take place will faintly represent the glaring inconsistencies pervading drainage proceedings every day in the year. Speaking from my own experience, I could quote very many instances where permitted easements are only enjoyed by a tenant for life at the will of another tenant for life, and where the extent of work resting upon the outlet, varying in cost from 20*l*. to 150*l*., has not been sufficient to make it expedient to put the costly formal powers of existing Acts into force.

*It is, in fact the very insignificance of each single object that gives importance to the question*, for these outlets when collected, will represent an aggregate cost or value of many hundred thousand pounds. All that is wanted is a power in the hands of the Inclosure Commissioners to sanction and confirm, on the certificate of their inspector, such easements as are essential to the drainages they are called upon to approve, making such easements appurtenant to the several drainages only so long as they continue in action. The justice of affording landowners egress for the water of drainage is amply admitted by the numerous Acts of Parliament now in force. Why clog the power of obtaining it with legal and costly difficulties, even more tortuous and troublesome than the shallow crooked ditches we all want to avoid?

Having now said all I purposed saying on the shortcomings of the Act, I purpose in my next letter to explain the *modus operandi* when putting it in motion for district drainage. *J. Bailey Denton, 52, Parliament Street, Westminster.*

## THIN WHEAT SEEDING.

THERE is one thing to which all the readers of the *Agricultural Gazette* will agree, viz., that the Rev. G. Wilkins has a deal of fun in his composition. When I read his first article I was tempted to take out a "*de tritico inquirendo*," but now I see, by his last article, that it would be more friendly to take out a "*de lunatico inquirendo.*" There are 12 paragraphs in his last *pasquinade*, answerable to 12 moons, I presume at the "full." Let this be an apology for the wanderings of his erratic and imaginative mind. I am afraid the Dorsetshire farmers, according to this luminary, are still in Erebian, or Cimmerian darkness; for my paper was read amidst the highest approval of the fraternity. He owns, I see, that legions of gentlemen attack his advocacy of improved (!) husbandry. I think that they are likely to continue to do so. I did not at all try to mislead his readers as to his weak and indefensible point (rather points it should be, for they were many) but I endeavoured to show, that as we cannot get our Turnips consumed so as to seed sufficiently early for tillering, and that as all lands are not of sufficient quality to ensure tillering when sown late, upon which two things principally, though not only, success in thin Wheat seeding depends, we cannot safely, considering all the circumstances of Wheat lands all over England, depend upon less than 2 bushels of Wheat per acre for seed. Mr. Wilkins in his last refers to virgin lands and climates far more favourable for his purpose than England. We owe a deal to Tull, but still he grew Wheat on the same land till he found it high time to leave off. Unless land abounds in silica it is impossible to grow Wheat successfully year after year, even though you put the best dung on it. The straw, for want of silica to stiffen it, is speckled and defective, and when this is the case, the yield cannot be great. I have known Tullian farmers come into this country with pockets full of money to teach us "pre-Adamites" the way to farm, and they have either altered their system in conformity with ours, or have gone away with empty pockets. A distinguished cultivator in this country, some years ago, began the "Digging and Dibbling" system, calling, as Mr. Wilkins does, the plough, drag, and harrow remnants of "feudalism and barbarism," but he has changed his opinion, and now farms well and much as his neighbours. Let me not forget here to own that as regards hints for economising manure we have very much to thank him for. He is well known to Mr. Mechi, and is a brother tenant of mine, and as worthy a gentleman as any in this or any other county. He was too clever a man, finding himself wrong, to go on in a ruinous system, for the sake of propping up a favourite theory. Gentlemen farmers, with deep pockets and shallow skulls, never charge themselves with rent; such artists can produce everything on the farm except their accounts. In the former rhapsody I think the rev. gentleman recommended the Virgilian system, from which perhaps Tull took his ideas. Now, it is some time since I read Virgil, but I have still faint recollections of Tussilago (Coltsfoot), Rubigo (Rust), and a complaint of the stock lying on the hard bare flint stones.

"Spem gregis Ah! silice in nuda connixa reliquit."

I do not think that Virgilians managed stock and crops so well as moderns do; nay, I would go further and say, that I do not think, taking the quality of the land into consideration, that there is a county in England that produces per acre more stock and crop than Dorsetshire. Go to the different fairs in the country, and see what sheep are brought there; and I say go to Appleshaw Fair, in Hampshire, and ask where the sheep are principally brought from, and they will say from Dorsetshire. Mr. Wilkins has not attempted to touch my observation, that it is impossible to get Wheat in as early as thin seeding requires to be successful; but knowing not what to say, he adopts an old legal device, "When you don't know what to say, let drive at the defendant's attorney." I hope some day to meet the Rev. gentleman, not at Philippi, but in Dorsetshire, where I trust we shall be able to show by stock and crop that we are *post-Adamites!*

I must, in conclusion, observe, that the Rev. gentleman has selected only one of two lines of poetry, omitting the last line, which I beg to supply—

"'Twould have been greater, had there been *none* at all."

Exactly so, exactly so, an excellent song. Capital! Bravo, encore! My friend, Mr. Wilkins, is emerged into light, after a long night of error, ignorance, and superstition; or, to keep up the appropriate simile, he has reappeared in the brilliancy of his restored intellect, after a long series of "lunar occultations."

I now wish the Rev. gentleman a Happy New Year, which has commenced with storms and tempests, and I can assure him—

"Though rough be the tempest, and terrible the storm,
My heart, full of fondness, beats kindly and warm."

P.S. Though I am John Ford, jun., I am the wrong side of 50, but still open to learn. *John Ford, jun., Rushton, alias Philippi, Jan. 5th,* 1863.

## EXHAUSTION OF VEGETABLE MOULD.

THE means of increasing or preserving the vegetable mould is the greatest question that concerns man, while it is scarcely thought of. In the poorer soils, which include a great proportion of the more level cultivable surface of the earth, the vegetable mould is fast suffering exhaustion by aration under the present system, and man does not seem aware of what he is about. In the Eastern States of North America, from the State of Maine to Florida, in Lower Germany west of the Vistula, and in many parts of Spain and France, the vegetable mould is much exhausted, and no means taken to prevent ultimate sterility. The loss has been so great as almost to be irremediable by man, and perhaps must be left to the repairing agency of Nature, first to cover up the wasted land by a dense Pine forest for a number of ages, and when, by this means, a sufficiency of mould and moisture of climate is attained for the growth of broad-leaved trees, to remain for ages more under these; or if the exhaustion is too far advanced, or the climate too dry for forest growth, the country to be again dipped for a geological period under the ocean. In most places of the American Eastern States, except the Pine barrens of sheer sand, the vegetable mould, upon the clearance of the forest cover, amounts to from a foot to 18 inches of rich black vegetable mould, and this under 12 or 18 years' aeration is completely dissipated, nothing remaining but light-coloured, poor mineral earth—such as would delight the heart of Liebig or Professor Voelcker. Germany, from the Vistula to the German Ocean, with the exception of the rich river deltas, is almost equally exhausted—not only the vegetable mould lost, but even the marl and clay once existing in the soil, washed away, forming the alluvions of the Rhine, Weser, Elbe and Vistula. In the greater part of this country nothing remains on the surface within reach of the plough but sterile siliceous sand, termed "geest-land," perhaps a corruption of "geist-land."

When this stage of exhaustion takes place, if the climate from position is not naturally moist, the rain clouds are not formed, or not attracted, and the region becomes arid desert. In the greater part of Germany, though adjacent to two seas, the air is becoming drier, there is less rain-fall, and the rivers are diminishing in their flow of water. This is a dangerous feature, combined with an increasing population. The only remedy is an increase of forest cover and shelter belts of trees, to encourage the formation of cloud, rain, and dew. The air in Germany is at times so dry that in the quiet, clear nights of summer, there is little dew to give out heat in its change from the aërial into the liquid state, and in consequence the temperature falls sometimes at the surface of the ground in July below the freezing point, killing the Buckwheat and Potatoes. In Northern Africa and in many parts of Western and Central Asia, where man in former times had accumulated, had destroyed the forest cover, and wasted the natural vegetable mould, the country has become arid desert, animal and vegetable life extinct. There are however, several vast deposits of vegetable mould—those of Southern Russia and Poland, the valleys of the La Plata and the Mississippi, all in the temperate zones and suited to the white race of man, where it will be long before he is able to exhaust its great depth and richness. Volcanic land, disintegrated lava, dust and ashes, and other ejecta, will also bear a great amount, of exhausting cropping. In these volcanic soils all the different mineral ingredients have been boiled in the pot together, and as the rock goes on disintegrating, and top-dressings of ashes sometimes take place, these soils afford almost everything a plant needs in continued supply. It is different with most soils consisting of ocean-drifted materials, elevated seabeds and sands, such as Western and Northern Germany, and the greater part of England. These sea-sedimentary and wave-wafted soils are generally too much of one kind of mineral—too siliceous, too calcareous, too aluminous,—and under aëration the small quantity of vegetable mould they may have acquired is soon exhausted, and it is long before it can be replaced.

Under the present farmer occupancy, his endeavour is to obtain a large immediate production, without regard to any deterioration, however great, of the vegetable soil. Is this a system to be continued? Is the goose that lays the golden egg to be killed? Liebig, a good chemist, but no farmer, in his discovery of the components of plants—that a small portion of these are mineral, necessary to give firmness and strength to the vegetable as well as the animal frame—has written in

ignorance, at least ignoring the importance of the vegetable mould, the garnered food supply of the higher vegetables prepared by Nature in a manner, perhaps, more than anything else, showing a provision of means to end. Liebig seems so much captivated by what he absurdly terms "inorganics" (as if one constituent of an organism was more or less organic than another) as almost to recognise nothing else necessary; when the fact is that it is the carbonic acid given out by the vegetable mould that, mixing with water supply, renders the water able to dissolve and convey these minerals to the root-mouths of the plant. In the case of a heavy crop being produced by the artificial small manures so much vaunted by Liebig and his followers, there results a great exhaustion of the other components of the soil, not easily to be recovered.

The great importance of Liebig's discovery is the supposition, amounting to a considerable probability, that a plant nourished at an early stage of its growth to high luxuriance by what they term "artificial manures"—what the soil may be most destitute of, and necessary to the growth of the plant—is thus enabled to extract a large quantity of carbon, ammonia, &c., from the atmosphere, and thus obtain large bulk, so that when ultimately it comes to form manure it will increase the vegetable mould. However this may be, there cannot be a doubt that these artificial manures enable the cultivator to exhaust a soil not very abundant of vegetable mould to complete barrenness.

Liebig seems in error in supposing that alternation of crops is more exhausting than a continuation of the same kind. There is something yet to be discovered as to the effect of alternation and mixed crop. A crop of mixed grasses continued to be depastured for years has also an effect not well understood. The enriching effect is especially conspicuous when the field is heavily manured with large manures previous to laying down.

A fertilising cause, no doubt, is that the Grasses are not allowed to seed, the seeding consuming much more of the more valuable constituents, phosphates, alkalies, &c., than the succulent leaves. Another of the causes of the enrichment from lying out in pasture for years is that the mould is covered up from the burning and exhaling influence of the sun and air. A peculiar crumbly arrangement of the mould also takes place, favourable to vegetable growth, perhaps also a growth of fertilizing earth Fungi. The great mass of roots and ploughed-down sward of leaves also serves to enrich the mould. At one time it was thought plants threw out a refuse from their roots, and that this refuse of one kind of plant served as nourishment to another, while it was poisonous to its own kind. This idea is now given up.

It has been found that the large manures ploughed down pretty deep in the ground are more effectual in enriching the vegetable soil than when near the surface, although they do not act so quickly to forward the immediate crop. A depth and richness of the vegetable mould affords the best provision against injury by drought. It is the food supply of Nature, cooked, we may say, by Nature in the most digestible manner possible; and it is the part of the husbandman to do everything in his power to prevent its exhaustion. Liebig's vaunted artificial manures, ignorantly or improperly applied, and the scope of his lectures on the subject, have, perhaps, tended to diminish rather than to increase the vegetable mould. *A Correspondent in the Times.*

## LANDLORD AND TENANT RIGHT.

The following terms of agreement are recommended by a special committee of the Vale of Evesham Agricultural Society appointed for the purpose of considering the best means of protecting the landlord against injury to his property through the impoverishment of his land by an outgoing tenant, and of affording the latter the compensation to which he is entitled for unexhausted improvements. These terms are framed upon the assumption that the tenant is subject to the customary reservations as to the consumption of hay, straw, roots, and other food for cattle, on the premises, except in special cases of agreement, and to other usual landlord's reservations.

"The committee recommend as follows:—One month before the expiration of a tenancy, the landlord or incoming tenant (as the case may be) and the outgoing tenant, shall each appoint an arbitrator. These arbitrators shall meet not later than ten days before the expiration of such tenancy, and, having appointed an umpire, shall proceed to the consideration of the claims made by either party; in case the outgoing tenant refuses or neglects for the space of 20 days to appoint his arbitrator, the landlord may nominate an umpire, who shall have the same powers as if he had been appointed by the arbitrators jointly. The terms 'clean' and 'in good condition' hereinafter used shall be considered in a reasonable and practical sense, and the claims on either side, contingent thereupon, be treated accordingly.

"The agreement shall contain no stipulations as to cropping, but should any dispute arise thereupon during the tenancy, the same shall be forthwith submitted to arbitration. Every award made in pursuance of these recommendations shall be final and binding upon both parties, and either party shall be at liberty to make such award a rule of any superior Court of Law.

"At the expiration of the tenancy one-half part of the arable land shall be clean and in good condition, and fit for planting with white straw crops—one moiety of such half-part shall have been fallowed with green crops during the previous summer, the other moiety thereof shall have been wholly under Clover or mixed Grass seeds, or parts in Clover, and the rest Beans after being manured. None of the Clover or other Grasses shall have been allowed to stand for seed.

"One-fourth of the arable land shall have been sown in the spring preceding the termination of the tenancy with Clover or other proper mixed Grass seeds, upon land fallowed the previous year, and clean (or upon clay land farms this fourth may be not less than half Clover, the remainder fit to plant with Beans). The Clover seeds shall be supplied by the landlord or incoming tenant not later than the 1st of March; if not so supplied they shall be purchased (not less than 14 lb. to the acre) by the outgoing tenant, who shall be paid on production of vouchers for the same. He shall also be paid for sowing and harrowing, but shall not stock the seeds after harvest.

"Not more than one-fourth of the arable land shall require to be fallowed in the year after the termination of the tenancy, nor require an outlay of more than 50*s.* per acre to clean it; if it require less than that sum, the incoming tenant shall pay the difference.

"The incoming tenant shall pay 50*s.* per acre for all land in excess of one-half which, under the above conditions, is fit to plant with white straw crops, and shall be paid at the same rate for every acre short of one half of the arable land.

"The incoming tenant shall pay 40*s.* per acre for all the land whereon Clover or other Grasses have been grazed the whole summer by sheep, provided that it be clean, and that only one crop of corn has been taken since the previous fallow. The outgoing tenant shall be entitled to the sum of 50*s.* per acre for all clean fallows; if not clean the cost of making them so must be deducted.

"The outgoing tenant shall be paid one-half the cost of all purchased manures applied to green crops, in the last year of the tenancy, and one-fourth of that in the last year but one, such cost not having exceeded 40*s.* per acre. All unprepared bones and lime used upon any part of the farm within the last four years shall be paid for, and burnt soil, where the application has not been less than 80 cubic yards per acre—one-fourth of the cost in each case being deducted for each year's use—and for every other fertiliser of a permanent character, such allowance as the arbitrators may determine. He shall also be paid one-half the cost of all oilcake or Linseed consumed during the last year, and one-fourth of that consumed in the last year but one, provided that it has been given to cattle and sheep, but not to horses, and does not in either case exceed the average of the three previous years.

"The outgoing tenant shall be entitled to the value of all growing green crops, and of all hay and straw remaining on the premises. The arbitrators shall fix the times for threshing and for delivering such straw to the in-coming tenant.

"It is desirable that all draining should be done by the landlord, charging interest for the cost thereof, but where it has been done with pipes at the tenant's expense within the last 8 years, and provided the extent and system have been approved by the landlord in writing, the cost, not including carriage of materials, shall be repaid, subject to a deduction of one-eighth for every year's use, but in case the landlord has paid for materials, the cost of labour shall be considered as repaid in four years.

"All other permanent improvements made by the tenant with the landlord's previous sanction in writing shall be paid for as the arbitrators may determine.

"Not less than twelve months' notice shall be given to terminate a tenancy."

[The above has been sent to members of the Evesham Agricultural Society, with a request for criticism—so that when finally issued it may be considered the utterance of the whole body on this important subject.]

## FARMING IN SOUTH WALES.

We hear of steam cultivation in England, but never in Wales, at least not in your Paper. If it be practised here (South Wales) can you, or any one of your readers say where?—for in such case I should very much like to go and see it in operation. The general mode of cultivating the land in this quarter appears to be simply turning over the surface soil with a light old fashioned plough, sowing the seed immediately after, and then harrowing it over. In this way much of the seed must be wasted, judging from the large quantity usually deposited, and the return obtained. Occasionally, a pretty heavy dressing of mixed lime and earth is spread over the field previously to its being ploughed, but no very liberal allowance of manure of any kind, so far as I have been able to see, is ever given, for I do not consider lime as such. There are, no doubt, many instances of a different system being pursued by the more enlightened class of farmers throughout the country; but what I have stated applies to the majority of cases, and probably this is in a great measure owing to the almost general custom of only annual leases being granted by the landlords.

As to the recently introduced reaping machines, I have not heard of one of them being used here. The corn is all cut with the scythe, allowed to remain on the ground, just as it lies, for a day or two, then bound into sheaves in the usual way, which are put up into mows, and afterwards carted at leisure, sometimes not for a month or more, to the stackyard, called here "haggard." This may be a good plan of proceeding in the event of a continuance of wet weather prevailing after the corn is cut, as it certainly, in some degree, affords protection, but frequently an opportunity is lost by so doing, of getting the crop stacked at once in favourable order; besides, the extra time and labour that it takes is a consideration. However, as former generations adopted that custom, so is it thought expedient to follow it up to the present day.

With regard to steam threshing machines I am not aware of one of them being yet introduced. Those who can afford it, employ, it is true, a horse machine for the purpose, but the flail is still the prevailing method among the bulk of the farming community. In short, comparing the present state of agricultural operations in this quarter with those of other parts of the kingdom, as well as of Ireland, it appears to me to be at least half a century in arrear. Root crops are not cultivated to any extent here, but a large proportion of the land is occupied by permanent pasture and hay, upon which, together with cut chaff and chopped Furze during the winter months, the farm stock of animals is usually fed. The favourite breed of cattle appears to be the black Castle Martin, although latterly a good many half-bred Shorthorn Durhams, and here and there some Ayrshire and other breeds, have been introduced. Sheep mostly consist in the upper lands of the small country breed, and in the lower lying parts, a considerable number of the Southdown character, as well as mongrels of all sorts, are to be seen. Owing to the extent of pasture, dairy operations are pretty prevalent, and butter is the chief produce therefrom, consequently very little cheese of a rich quality is ever made, but a great deal of the poor skimmed milk sort, which constitutes a large portion of the diet of the labouring classes; oatmeal porridge, such as the lower orders in Scotland chiefly live upon, is almost wholly unknown here, but a quantity of that meal is made into dry cake, and also used in thickening their Leek soup, a pretty large share of which they take at dinner and supper along with Potatoes.

In some places a considerable part of the land is let out by the owners in small allotments and annual leases to their farm servants and others who are wholly unpossessed of capital. Where this practice is adopted, of course no improvement in the property can be expected. It only produces bad farming, and tends to encourage the vast growth of weeds that is observable in such localities, which I presume is the cause of the enormous number of slugs being generated that one meets with everywhere. Walking across the Grass fields when they are in a moist state during the warmer months of the year, it is really quite incredible what a prodigious host of these reptiles is seen crawling along; nor are the fields alone so infested, for the remark will apply equally with regard to nearly all the gardens, and especially throughout the past seasons of this year, where it was almost impossible to prevent any thing succulent and tender from being completely devoured by them. Upon my alluding to this circumstance the other day to an Irish gardener in the neighbourhood, his reply was, "and sure what else could be expected in such a sluggish country as this is?" I beg to add, in conclusion, that in making the above remarks I am not actuated by the slightest degree of prejudice, ill-will, or dislike towards the country. On the contrary, I feel most favourably inclined thereto, for I find the people, on the whole, civil, quiet, and well-behaved, and where their means admit of it, very hospitable; but confess that I should like to see a little more of the "go-a-head" system of husbandry introduced among them, and instead of the farmers obtaining only from 20 to 25 bushels of Wheat to the acre, as at present, the return increased to double that amount, which, in many places, the land is quite capable of yielding, by a greater degree of tact and enterprise being exercised than now exist in their mode of management. *Viator.*

## ITEMS OF FARM ECONOMY FOR WINTER.

It is by no means desirable to aim at making our farms self-supporting, even if it could be accomplished in these palmy days of agricultural progress. It is far better to avail ourselves of the benefits to be derived from the researches of scientific men, and the experience of ages. There are yet, however, many little matters connected with ordinary farm practice, that may with care and good management be turned to profitable account. One of these is the best mode of dealing with the weeds and common refuse of our farms, *i.e.* the roots of twitch and other weeds, the ditch roadings, road scrapings—indeed everything and anything that may come into the category of farm refuse. Instead of burning or otherwise dealing with any of these articles of refuse, they should be collected into suitable heaps in convenient places, and there be left till they are all nearly decomposed, or rather are becoming like unto rich earth.

In the winter season, when work is scarce, these heaps should be turned over, and be well mixed with some of the powerful artificial manures now in general use, *i. e.* Peruvian guano, bones, superphosphate of lime, night-soil, soot, salt, &c. &c., or, to be more economical, the concentrated manure from the piggeries or cart-horse stables, may be used with great effect, and to go a step further, the precise artificial manures should be obtained for mixing entirely in accordance with the design of application. If designed for Mangels only, Peruvian guano, common salt, and superphosphate of lime should be used in about equal proportions; if for Swedes or common Turnips, superphosphate of lime only, but any of the artificials named will help to make the heaps highly fertilizing substances of great value; and, if Morton's Almanack is consulted, the precise manures to be procured for each respective crop is named. Thus is to be made on every man's farm a mass of highly fertilising manure, which, if properly prepared and carefully closed down in heaps, will be ready to drill in for any required crop, but more particularly the Mangel and Turnip crops, and made from substances of which every farmer is too glad to rid himself. No manure is so economical in use, or is so cheaply manufactured.

Another item of farm economy is that relating to the preservation and consumption of the winter food of the farm.

*Straw.*—In the usual course of threshing by steam, much loss arises from the waste of chaff, pulse, &c., owing to the amount threshed in a short time. The remedy for this waste is to thresh less at a time, and to

take care that all chaff refuse, &c., be carried up the stack or into the straw barn for immediate use.

*Hay.*—This should all pass through the cutting box, and might be profitably mixed in the box with sweet straw, *i.e.*, Oat, Barley, or Pea straw.

*Mangels.*—Pulped Mangels, mixed with offal and meal, makes the best and cheapest food for pigs known. It don't require much water in mixing. Turnips of all kinds should be cut before given to stock of any kind, and more particularly sheep. The troughs used for sheep ought to stand upon legs about a foot from the ground, and for two reasons:—1st. It prevents waste. The sheep cannot comfortably get their feet into them, nor can they readily throw the slices out. 2nd. It compels the young sheep to hold up their heads whilst eating from the trough, and eventually adds to their upright appearance in the market, thus adding to their value as stores, and their nobility when fat. *O. F.*

## NOTES ON IRISH FARMING SOCIETIES.

ONE hundred and twenty years ago Ireland was so little cultivated that one of the first acts of the Royal Dublin Society, which was then first incorporated, was to offer among the first premiums proposed, 50*l.* in plate, "To the person who should break up the greatest quantity of lea ground for any purpose of husbandry." There was then (and for some years subsequently) an unrepealed statute enforcing the cultivation of not less than 5 acres out of each 100, under the penalty of 40*s.*, "but the Act was as dead as the letters of it, for all the rich were delinquents: the country was deserted by the human species and peopled with sheep."

The late Farming Society of Ireland was formed for the much required and special objects of agriculture, at the commencement of the present century (only eight years subsequent to the first sitting of the English Board of Agriculture); and it gave prompt and vigorous impetus to the introduction of the best specimens of live stock into the kingdom, and to the acquisition of skill in ploughing, and in the construction of improved implements of husbandry.

That useful body commenced its operations by giving liberal prizes for the improvement of live stock, and as the race of swine was very defective, it distributed gratuitously young boars and sows of English blood among respectable tenant farmers, and granted a yearly bounty in some cases for keeping them. There were two establishments formed under its management—one in Dublin, with which an implement factory and sheds for cattle at the Spring Shows, and a room for the sale of wool were combined. At that time the form of ploughs and carts was execrably bad; the former were too light and unsteady for their work, and yet dragged through the land with difficulty from ignorance in the mode of yoking, and of the principles of draught, and low cars with solid block wheels were in universal use among small tenant farmers, and not unfrequently seen on the lands of agriculturists of higher degree. And, strange to add, the importation of farm implements duty free was prohibited in Ireland, from the wretched and blind policy which in many particulars had influenced the English Legislature until the year 1803, when the Commissioners of the Revenue relaxed the oppressive restriction. This act of justice and of common sense led the way to the distribution through the kingdom partially and gradually of implements made after the best British models. In the previous year arrangements had been made with the proprietors of the Liverpool and some other packets, by which a great reduction in the freight of cattle and sheep was effected, and an exemption for a previously existing duty on seed corn was obtained. At the annual exhibitions of live stock in Dublin and Ballinasloe the prizes were emulously contested, and also at the numerous district and special ploughing matches held under the regulations of the Society. At these were different classes of competitors for the premiums, which were both honorary and pecuniary. Cultivators of different grades were brought into useful rivalry with men of their respective classes, and all were stimulated to honourable and zealous exertion, and the distribution of efficient ploughs and improved live stock through each county, supplied models and incentives previously wanting.

In truth, this Society initiated a system of encouragement to good practical husbandry without any decided effort at the promotion of abstract scientific knowledge and the development of experimental and theoretical agriculture, which would have been too much in advance of the acquirements and habits and social circumstances of the general body of the Irish agriculturists of that period. The high prices of corn and other products of the land were in themselves stimulants to the development of agricultural skill and industry, and the leading gentry of the country interested in promoting higher cultivation and the improvement of live stock found willing co-operators among the intelligent tenant farmers with whom they associated at the half-yearly shows in Dublin and Ballinasloe, in working out their common objects, and communicating to one another the results of their respective experiences.

This parent society owed its effectiveness in a great measure to the resources it derived from Parliamentary grants, without which its operations would have been on a very limited scale. The subscriptions and donations of the principal landowners would not have been sufficient at that period for the objects of such an association; though the withdrawal of such fostering aid in a more advanced state of national wealth and civilization may not have been altogether inexpedient. Previously, it would have been very difficult if not altogether impracticable to have raised a fund by voluntary contributions, sufficient to admit of many 50*l.* prizes which it would seem were necessary to encourage the importation of first-rate breeding stock and the cultivation of cereals, which were in surprisingly small proportion to the area of land, five acres in every 100 being the required extent.

In the premium lists we find prizes of 50*l.*, 30*l.*, and 20*l.* offered for the best crops of Fiorin hay, not less than 5 statute acres. The mania for this Grass was not then confined to Ireland. There were adjudications of premiums almost contemporaneously by the Highland Society of Scotland, for that ridiculously prized Grass. Some of the most respectable members of that Society acted as inspectors of the crops which Mr. Baird of Shotts, Mr. Trotter of Castlelaw, and Sir James Stewart of Coltness, submitted to examination in 1815. The first-named candidate received the first premium, and the weight of his crop was estimated at 23 tons (green) per statute acre. The Rev. Dr. Richardson, of Clonpeele, in Ireland, who was an enthusiastic cultivator of Fiorin, and the introducer of it to public attention, estimated the weight of his crop in that year at 26 tons of green sward. Major Monroe and Captain M'Kenzie, of the Ross and Sutherland Militia, then quartered in Ireland, found the Doctor's men mowing and saving Fiorin in January, though October was the usually appointed season for those operations in regard of that peculiar Grass, and were promised similar crops in their Scotch mountains provided they obeyed the Doctor's orders implicitly. The Farming Society of Ireland co-operated with him in the encouragement of this mountain and bog Grass by proposing three very high premiums for the best crops of Fiorin hay—not less than five statute acres, produced in Ireland in 1816. But these artificial stimulants were soon withdrawn from a comparatively worthless object.

Many county and district farming Societies arose in Ireland in the subsequent years, to which the Farming Society gave aid in ploughs and medals more especially. 20*l.* was awarded in many instances to the best of the competitors in ploughing, and it stimulated district associations to a superintendence of minute improvements which could not be reached by the parent Society. And such was the excitement at ploughing matches in the infancy of their proceedings that it was not always easy to preserve order among the crowd of spectators and friends of the competing ploughmen. This was exemplified in a remarkable manner at Newcastle, in the county of Limerick, in the year 1816. "A party of dragoons attended on the ground to prevent the pressure of the crowd from interrupting the ploughmen, and the furrows from being trampled and defaced. Thus order was preserved, and the most useful and important of the arts of peace was marked by the respect shown to it by the distinguished military characters who were present." The grand finale to some of the annual programmes of the Society was—"To the person who shall in each district kill or destroy the greatest number of magpies, scarecrows, or kites in the year, 2*l.* 10*s.*"

The Royal Dublin Society for many years past has fulfilled part of the work previously discharged by the Central Farming Society. They have held exhibitions of live stock and farm implements annually, and greatly promoted thereby all the interests of agriculture. Two or three years ago they suggested agricultural queries for general consideration, analogous to those proposed by Sir John Sinclair when he was preparing his statistical account of Scotland; and if those queries, which were not of an inquisitorial character, had been more definite and better arranged, they might have been generally well received, and formed a good basis for more extended and complete information, and perhaps led the way to short essays or succinct and well-arranged reports on parochial agricultural statistics.

The agricultural labourer 50 years ago in many parts of Ireland, would not have been unfairly described in the language of Tacitus, applied to the Germans of his day: "In every house the children, naked and dirty, grow up into that muscular form we so much admire. Every mother suckles her own child; the master and servant are distinguished by no delicate differences of education; they live among the same beasts and upon the same floor. In some parts of Ireland, even now, the condition of the native labourer is not more advanced. The Farming Society of Ireland had among their resolutions one as follows:—"The Society will give an honorary medal in each county to the land proprietor by whose exertions the condition of the lower orders on his estate and in his neighbourhood, shall be most improved." This, though very vague in the language, was definite and sound in its principle, and it is with pleasure that we look back to some of the premiums awarded by the Kildare Farming Society, which was established in 1812, "for comfortable habitations, industry, &c., in Class 4," *e. g.*

| | |
|---|---|
| To Toby Toole for having his house and family in the cleanest and most decent order .. .. .. | £3 0 0 |

Then follow other names and premiums of lesser amount.

Again:—

| | |
|---|---|
| To Margaret Beahan for having spun by herself and daughters 195 lbs. of Flax within the year, | |
| 1st premium .. .. .. .. .. .. | £3 0 0 |
| 2d premium .. .. .. .. .. .. | 1 0 0 |
| 3d premium .. .. .. .. .. .. | 0 15 0 |
| To Biddy Hilyard for having knit 30 pairs of stockings within the year .. .. .. .. .. .. | 3 0 0 |
| 2d premium .. .. .. .. .. .. | 2 0 0 |
| 3d premium .. .. .. .. .. .. | 1 0 0 |

On another occasion we find the same Society giving, in addition to such as the foregoing, in each of the four districts into which the county was divided for the purpose, the premiums following:—

| | |
|---|---|
| To the labourer holding not more than 1 acre, and who shall cultivate half a rood for the use of his family with any vegetable except Potatoes .. | £2 0 0 |
| To the second best .. .. .. .. .. .. | 1 10 0 |

If we look to the Scotch system, we find such premiums as the following proposed by the Highland and Agricultural Society of Scotland for award in the different parishes of prescribed districts. "For the best kept cottage in each of the said parishes, 2*l.* For the second best, 1*l.* For the best kept cottage garden, 1*l.*

| | |
|---|---|
| To the Cottager who shall have raised the greatest number of Hives of Bees .. .. .. .. | £4 0 0 |
| 2d, ditto.. .. .. .. .. .. .. .. | 3 0 0 |
| 3d, ditto .. .. .. .. .. .. .. | 2 0 0 |
| 4th, ditto .. .. .. .. .. .. .. | 1 0 0 |

In England the improvement of the cottager's condition, morally and physically, is a frequent subject of consideration at the Agricultural and Horticultural Exhibitions. In some societies it is a special object with the influential patrons, as the prize lists testify. Here is a specimen of almost the general rule of practice in this particular. At the last meeting of the Royal East Berks Association, there was in the prize list a series of six classes of premiums claimed, viz., for bringing up families without parochial relief; for the neatest cottages and gardens; for length of service on the same farm, for length of service with the same master. Female servants for length of service; male servants for length of service. Besides these there were 11 classes of ploughmen, shepherds, yardsmen, and rickmen, in which premiums were obtained. Mr. Walteret, jun., among other things, said:—"It seemed to him that if agricultural associations were to afford encouragement to any body, it should afford encouragement to all classes who composed them—landlords, farmers, and labourers. He, for his own part, and as a matter of private opinion, did not think it necessary to encourage a man by prizes for doing his duty, for being honest and so on, but skill in industry was deserving of encouragement. He asked them as sensible men, was it right and just that when they were giving prizes to labourers for bringing up families without parish relief, and giving young women the insignificant sum of 30*s.* for remaining in their service three or four years, and being virtuous and so on—was it right that they should overlook the condition in which these people had passed their lives, or the state of their houses in which they had been brought up? How could they expect families to lead moral lives if they continued to be huddled up in a filthy manner? Were labourers to find cottages for themselves? Were the tenants to find cottages? or whose duty was it? He believed it was the duty of the landlords; and if it was their duty and they neglected it, they needed encouragement; ay, or castigation, as the case might be." We hope that the recent Act of Parliament, by which loans are advanced through the Board of Works in Ireland to landlords, for erecting labourers' dwellings, will prove an effective incentive for the desired object, and we have just seen, with satisfaction, the names of the Earl of Courtown, a landlord of distinguished excellence, and of two other proprietors, in the schedule of applicants for loan for this special purpose. *M. D.*

## DRAINAGE OF THE TEST VALLEY, HAMPSHIRE.

IN 1852 a project was set on foot for the "drainage of the valleys of the Test and Anton," or rather the readjustment of the level of the water in those valleys. The plan was based upon a recommendation of Mr. J. B. Denton, the well known engineer, to divide the valley into several areas wherever outfalls could be obtained for deep drainage without destruction of the mill property. Whether this could be done may be questioned, because the bed of the river above Romsey is in the chalk, into which the springs from that stratum flow in augmentation of the stream, at the level to which they are adjusted by the present arrangement of mill heads and water meadow weirs.

It is true that a considerable part of the Test Valley is in rough sedge and peat bog, therefore utterly useless for any agricultural purpose; though, on the other hand, very much is in useful water meadow. Firmness might perhaps be given to the present rotten ground by a large application of chalk or any rough material; the mill power, except at some points, is not on an extensive scale. Though the scheme in question has not been applied to the upper part of the Test, the noble owner of Broadlands has adopted it below

Romsey; it is said with success, so far as a short experience can determine the question.

It must be remembered, that at or about Romsey, the river leaves its chalk bed for the plastic and London clays, which gives a totally different engineering aspect to the question; these clays become carriers to the river, which now ceases to be augmented by the chalk springs, which therefore cannot be affected by any cutting made in its bed; there is some soakage through the silt, peat, and gravel, which form the immediate subsoil of the valley—this was very plainly seen in the operation of securing a foundation for a bridge over one of the cuttings: below these permeable soils is an impermeable bed of clay. In the district now under treatment, of three miles, below Romsey, two main areas with a small lateral area comprising the pleasure grounds at Broadlands are formed. In other words, two open cuttings of from 5 to 6 feet in depth have been made, one discharging itself into a back water to the west of the main stream below some hatches (or a weir); this passes under a tributary stream in its course. The second main cut crosses and passes underneath the first cut diagonally to give additional outfall in a direction where it commences above the hatches and outfalls into a mill tail below. The connection between the old water-meadow feeders and the river is cut off; the depressions of the meadows near the cut are filled in by the soil taken from it; the old water meadows will then either be converted into dry pastures or brought into arable cultivation, and this no doubt may be done at the point in question with safety. The present aspect of the operation is in its favour. The cuttings reveal a curious condition of soil. First, vegetable mould, mixed or alternating with silt, resting for the most part on a bed of so-called shell marl; it contains many recent shells, but consists principally of concretions of nearly pure carbonate of lime. The same sort of concretions (to all appearance round stones), may be seen in the beds of the old feeders and the rivers but when examined they will be found to be nodules of carbonate of lime, the deposit from the water charged with that substance; they are usually depositions round a nucleus of vegetable substance. This marl is found in large quantities also in the bed of the Itchen, where it may seen in very many of the feeders, and out-cropping in the banks of the rivers. Here it has in past time been dug for application to the heavy lands, used chemically as lime, and for immediate combination with soil it must be valuable, and more effective than chalk for that purpose. This marl generally rests on a bed of nearly pure peat, which again rest on a bed of sharp flint gravel. We have here, judging chemically, all the elements of fertility, which might by amalgamation, as opportunity offered, become very productive. At Bishopstoke the valuable meadows of a dairy farm are to all appearance of a soil nearly identical with those in the valley of the Test: though a casual observation could not determine this question, which can only be settled by experience. The meadows at Bishopstoke can be watered at pleasure, though this is seldom done, they are used as a winter run for heavy dairy cows, who seem to do well upon them. The meadows in the Test valley below Broadlands will no doubt either carry stock, or may be broken up; they appear specially fitted for growing roots. Floods are little to be feared in the upper part of the Test, except after a sudden thaw; and the flood water thrown from the tertiaries on either side of this valley, would be insignificant when the capacity of the river and these carriers is taken into account. *J. C. C.*

## Home Correspondence.

*Wages in Roxburghshire and the West of Berwickshire.*—[The following from an intelligent Correspondent—one of the class whose circumstances he describes, has lain unnoticed for some time on our table.] Presuming that Mr. John C. Morton is collecting materials for his "Farmer's Almanack" for 1863, I have put myself to the trouble of collecting a few facts which I trust he will consider worthy of credence. Every farmer I have seen writing upon hinds' wages allows himself to forget that farmers compel hinds to occupy the position of contractors for supplying field labourers. There being such a difference in the rates of wages paid on different farms, I have made out three tabular accounts which show the gross total paid to a hind in a twelvemonth for his own wages, and for giving his bondager, board, lodgings, and washing, and for paying the bondager from 10*l.* to about 13*l.* for wages. It is self-evident that the cost of the bondager to the hind must be deducted from the gross total paid to a hind—for his own wages and for the cost of the bondager to the hind. Since one bushel of Oats of 46 lbs. makes two imperial stones of meal, I have set down 50 bushels as the cost to the farmer of the 100 stones of oatmeal. The minimum rate of payment consists of 100 imperial stones of oatmeal, 18 bushels of Barley, 6 bushels of Peas, 5*l.* of "sheep money," 5*l.* as a substitute for a cow's keep, 5*l.* as a substitute for the 1500 yards (lineal) of drills for growing Potatoes; a month's food in harvest, or 1*l.*; and a house and garden rent-free, and the cartage of 6 or 7 cartloads of coals from the Northumbrian pits or the railway stations. A good many farmers still pay the hind 10*d.* for each day his bondager works throughout the year, and the current rate of reapers' wages when cutting corn. They are notorious facts—that the hind is not paid full time for his bondager, even for those days the farmer has no employment for the bondagers—that it requires a bondager to work full time to earn 14*l.* 16*s.* 10*d.*—and that 44*l.* 8*s.* 0½*d.* is the gross total a great many farmers pay each hind for his own wages, and for his bondager contract! Some farmers pay 6*l.* as a substitute for a cow's keep, and 1*s.* per day for the bondager's work for three quarters of the year, which is the general rate of wages. But a few give 24 bushels of Barley, 7*l.* as a substitute for the cow's keep, and the other items, which is the maximum rate of hind's wages. I make the three gross totals equal to 44*l.* 8*s.* 0½*d.*; 47*l.* 5*s.* 2½*d.*; and 50*l.* 12*s.* 10*d.*, and a house and garden free, and coals carted. Reckoning 6*s.* per week a small enough allowance for giving an able-bodied farm labourer his board, lodgings, and washing, I make the three net rates equal to 16*l.* 16*s.* 0½*d.*, 19*l.* 13*s.* 2½*d.*, and 23*l.* 0*s.* 10*d.*, and the house and garden free, and coals carted in each of the three different rates. But as the bondager's wages vary from 10*l.* to about 13*l.* per annum, and as very few bondagers work 313 days for the 12 months, the hind's wages can be determined only by deducting the wages and expenses of the bondager of the gross total paid to the hind. These calculations give the nominal value to the farmer, but you are well aware I showed at page 426 of the *Agricultural Gazette* for 1858, and at page 81 for 1859, that the money value to the farmer of the cow's keep and the Potatoes does not represent the money value of the payment in kind to a hind. I was much pleased to hear of Mr. Scott, of Timperdean, and other practical farmers, defending the practice of making a cow's keep and the Potatoes a part of payment. *W.*

No. 1.—MARKET VALUE TO FARMERS OF THE MINIMUM RATE OF WAGES IN CASH AND KIND FOR THE 52 WEEKS ENDING JULY 26, 1862.

| | | |
|---|---|---|
| 100 imperial stones of Oatmeal, equal to 50 bushels, at 3*s.* 2*d* | £7 18 4 | |
| 18 bushels of Barley, at 4*s.* 7¼*d.* | 4 2 10½ | |
| 6 bushels of Peas, at 5*s.* | 1 10 0 | |
| "Sheep, pen, and lint (Flax) money" | 5 0 0 | |
| Substitute for a cow's keep | 5 0 0 | |
| Substitute for 1500 yards of Potato drills | 5 0 0 | |
| Substitute for a month's food in harvest | 1 0 0 | |
| | | 29 11 2½ |
| A hind's wages and perquisites of house and garden free, and coalscarted, &c. | | |
| Money paid to hind for his bondager contract:— | | |
| 12 days in harvest at 3*s.* and board | £1 16 0 | |
| Bondager's board in harvest when reaping | 0 10 0 | |
| 301 days at 10*d.* (for those who work full time) | 12 10 10 | |
| Earnings of bondager to the hind | £14 16 10 | 14 16 10 |
| Gross total paid to a hind for his own wages and his bondager contract | | £44 8 0½ |
| Deduct the cost of the bondager contract to the hind: | | |
| From 10*l.* to 12*l.* 10*s.* per annum for wages | £12 10 0 | |
| Board for 50 weeks at 5*s.* | 12 10 0 | |
| For lodging, washing, and incidental expenses | 2 12 0 | |
| | £27 12 0 | 27 12 0 |
| A hind's nett wages are | | £16 16 0½ |

and a house and garden free and coals carted.

No. 2.—MARKET VALUE TO FARMERS OF THE GENERAL RATE OF WAGES IN CASH AND KIND.

| | | |
|---|---|---|
| 50 bushels of Oats at 3*s* 2*d.* | £7 18 4 | |
| 18 bushels of Barley at 4*s.* 7¼*d.* | 4 2 10½ | |
| 6 bushels of Peats at 5*s.* | 1 10 0 | |
| "Sheep, pen, and lint money" | 5 0 0 | |
| Substitute for a cow's keep | 6 0 0 | |
| Substitute for 1500 yards | 5 0 0 | |
| And substitute for a month's food in harvest | 1 0 0 | |
| Hind's wages on some farms and perquisites for house, garden, and coals carted, &c. | £30 11 2½ | 30 11 2½ |
| Money paid to hind for his bondager contract:— | | |
| 12 days in harvest at 3*s.* and board | £1 16 0 | |
| Bondager's board | 0 10 0 | |
| 223 days at 1*s.* | 11 3 0 | |
| 78 days at 10*d.* | 3 5 0 | |
| Earnings of bondager | £16 14 0 | 16 14 0 |
| Gross total paid to a hind for his own wages and his bondager contract | | £47 5 2½ |
| Deduct the cost of the bondager contract:— | | |
| From 10*l.* to 12*l.* 10*s.* per annum for wages | £12 10 0 | |
| Board for 50 weeks at 5*s.* | 12 10 0 | |
| For lodgings, washing, and incidental expenses | 2 12 0 | |
| | £27 12 0 | 27 12 0 |
| Balance | | £19 13 2½ |

And perquisites of house and garden free, and the cartage of coals

No. 3.—MAXIMUM RATE OF WAGES IN CASH AND KIND.

| | | |
|---|---|---|
| 5 loads of Oatmeal, equal to 50 bushels of Oats, at 3*s.* 2*d.* | £9 18 4 | |
| 24 bushels of Barley, at 4*s.* 7¼*d.* | 5 10 6 | |
| 6 bushels of Peas, at 5*s.* | 1 10 0 | |
| "Sheep, pen, and lint (Flax) money" | 6 0 0 | |
| Substitute for a cow's keep | 7 0 0 | |
| Substitute for 1500 yards of Potato drills | 5 0 0 | |
| Substitute for a month's food in harvest | 1 0 0 | |
| | £33 18 10 | £33 18 10 |
| Hind's wages and a house and garden, and coals carted. | | |
| Money paid to the hind for his bondager contract:— | | |
| 12 days at 3*s.* and board | £1 16 0 | |
| Bondager's board for 12 days | 0 10 0 | |
| Carried forward | £2 6 0 | |
| Brought forward | £2 6 0 | 33 18 0 |
| 223 days at 1*s.* | 11 3 0 | |
| 78 days at 10*d.* | 3 5 0 | |
| Earnings of bondager | £16 14 0 | £16 14 0 |
| Supposed gross total paid to a hind for his own wages and his bondager contract | | £50 12 10 |
| Deduct the cost of the hind of the bondager contract:— | | |
| Supposed maximum rate of bondager's wages | £12 10 0 | |
| Board for 50 weeks, at 5*s.* | 12 10 0 | |
| Lodgings, washing, and incidental expenses | 2 12 0 | |
| Cost to the hind of the bondager contract | £27 12 0 | 27 12 0 |
| Thus | | £23 0 10 |

and a house and garden rent free, and coals carted, is the market value to farmers of the maximum rate of payment.

## Societies.

ROYAL DUBLIN:—*The Prevalence and Prevention of Diseases amongst our Domestic Animals in Ireland.* Professor Gamgee, of Edinburgh, lately read a paper on this subject before this Society, and from it we make the following extracts:—

*On Pleuro-pneumonia.*—If we notice the progress of this disease in Prussia, Mecklenburg, Hanover, Belgium, Holland, and Schleswig-Holstein, we find it not pervading the breeding districts which are exporting for the supply of those who fatten for the butcher, but in the districts where stall feeding is carried on—where extensive distilleries, sugar manufactories, starch makers, &c, supply a rich and even wholesome refuse for the feeding of stock bred elsewhere. The animals have been bought up by dealers, sold and re-sold, and no sooner are they in the feeders' hands than pleuro-pneumonia appears. Here they are usually inoculated, and with far better result than I believed before visiting those countries this year. In Mecklenburg, Schleswig Holstein, Oldenburg, and that group of Dutch islands included in the province of Zealand, as in various other parts I could mention, the disease appears in isolated spots. The governments of these countries at once proscribe the districts where the epizootic appears, and slaughter the diseased animals. In consequence of this they suffer very rarely and very little. The Dutch Government attempted the same system in Friesland. This province was clear of pleuro-pneumonia until the port of Harlingen became a centre for the exportation of cattle to Britain. Friesland then began to import cattle and imported disease. Why should Friesland have remained free from 1829 to 1842, during which time the provinces of Utrecht, South Holland and even Gröningen suffered? It then produced far more than its own people wanted. It exported, eastward and southward; it did not import a single head of cattle yearly. Stock was cheaper than in the Rhine provinces, and the Friesland dealer availed himself of the markets in the latter. The state of things now is precisely reversed; and the once pure Friesland is the spot in the world perhaps most polluted by pleuro-pneumonia in cattle. What Friesland is in Holland, we find Meath to be in Ireland, Fife in Scotland, and Norfolk in England. These are the large exporting counties for the meat trade, and they import largely to feed for the butcher.

*The Foot and Mouth Disease.*—Very similar remarks to those I have made regarding pleuro-pneumonia, apply also to the foot-and-mouth disease, or epizootic aphtha. I shall therefore refer to these diseases in Ireland together.

Investigations as to the prevalence of these contagious disorders in Munster, show that they have nearly deserted Clare; they rage in Cork, Limerick, Tipperary, and Waterford. Dairy stock in Limerick is annually destroyed by these diseases to a large extent, and owing to the weekly and monthly purchases to keep up the supply of animals for the supply of milk. One gentleman alone lost 37 cows in 1853; 18 in 1855, 20 in 1860, and 30 in 1862, out of a stock never exceeding 200 head. This is one of many instances equally startling. County Cork, that was the first affected, and has always suffered severely since, affords us excellent examples of special breeding districts or breeding farms, which have never been visited by the disorder, or which have suffered but once, and that owing to the purchase of diseased stock. The stockowners of counties Carlow, Kilkenny, Longford, and Queen's County have not, however, the yearly losses to record by contagious disorders, that interfere so much with the graziers and stall-feeders of Kildare, King's County, Louth, Meath, Dublin, and Wicklow. Dublin has suffered more severely and constantly than any other part of Ireland. This city supplies us with the same facts that may be obtained in any of the large towns of Britain. Cow-feeders own stocks that are dying off or slaughtered diseased, at the rate of 60 or 70 per cent. annually. I never heard more startling revelations than those made by some of the Dublin cow-feeders, when I was here in the summer. I might be tempted to enter into greater details, but I would occupy your time much longer than I can in reason wish. I must mention, however, that contagious diseases in Ireland induce annually quite 50 per cent. of the total losses by disease. In some of the districts I have referred to, fully 70 or 80 per cent. of the total of deaths result from pleuro-pneumonia. These contagious diseases are kept up by the trade in diseased animals, by the farmers purchasing calves from dairies in towns and elsewhere impregnated with disease, and also by a considerable yearly importation of calves from the great centres of disease—viz., the dairies of Liverpool, Manchester, Birmingham, Bristol, and elsewhere.

*Quarter Ill.*—If within the last 20 years contagious diseases have been very ripe, during that period the extermination of more enzootic disorders has been observed, owing to improvements in agriculture, and especially to the extension and thorough drainage of land. But the forcing system, on the other hand, has led to the development of diseases of a different and very fatal nature, which occur here and there quite unexpectedly, and sap the resources of the country as much as they puzzle the suffering farmer.

Widely disseminated over the world, we have soils which are fertile but damp, on which the rearing of young stock is always attended with great danger. The disease developed in these soils is the anthrax, or carbuncular fever of continental authors; the black leg, or quarter-ill of this country. In every climate the disease appears. It has been observed in the Polar regions, as in Lapland and Siberia; it prevails also in the temperate and tropical zones. I find in Ireland and in Scotland that it is chiefly witnessed in valleys along the base of mountains, where the pastures are rich but damp,

the soils stiff and retentive. It is, however, seen on the highest portions of the Grampians and Pentland Hills, on the mountains of Wicklow and Mourne, as in those of Kerry, Donegal, and Mayo. The countries in which human beings are most subject to ague, are also those in which the quarter-ill of cattle is most malignant, and though this disease prevails widely in the three kingdoms, we find it far more dangerous and destructive in southern Europe. During the progress of the disease there the development of an animal poison is noticed, capable of inducing the malady in all warm-blooded animals and malignant pustule in man. This virus develops in some countries, such as our own or France, only in the warmer months, and more rarely in the coldest and driest districts, in which the disease can appear. Closely allied to black-quarter, and belonging to the class of carbuncular affections, according to Continental authors, we have the fatal braxy of sheep; the destructive hog cholera, or blue sickness; the blain, or glossanthrax of cattle. Though these diseases prevail to a frightful extent in Ireland, and especially the hog cholera and black-quarter, they are more easily prevented here than on the majority of soils. There are no vast marshes or fens, the bogs are, for one reason or other, not insalubrious, and we find that, generally, animals must be predisposed to disease by being badly kept in winter, and then suddenly changed from bare to luxuriant pastures, in order to develop the malady. A judicious system of management would certainly put a stop to quarter-ill and the hog cholera whenever they appear. They are diseases which prevail extensively in Munster. The hog cholera devastates more or less every county in that province, and losses of 20, 30, 50, and 80 per cent. have been reported to me by many. Black-quarter is also rife. It is rare in the lightest and most porous soils of Tipperary, and is not so common in Waterford or Cork as in Clare, Limerick, and Kerry. I shall not detain you by special reference to such diseases as red-water or blood murrain, the dry murrain, &c., which are very generally distributed over the whole country. I have to notice, however, that in districts where black-quarter once destroyed many yearlings there is now splenic apoplexy. It is a disorder incidental to plethora or fulness of blood, attacking animals that are being fattened for the butcher, and destroying the majority of such animals when it appears on a farm. One farmer in County Meath told me that he lost many cattle to which he was allowing 4 stones of Mangels and 14 lbs. of artificial food daily. This farmer also said that Dublin was close at hand for the diseased stock to be sent to. I have known a large number of animals, seized with this fatal disease, sent forthwith to butchers in large towns; but within the last two or three years we have discovered that the flesh of these animals is very unwholesome. One of my students reported, in 1860, that a pig having eaten of the abdominal contents of a cow that had died of splenic apoplexy, was seized with symptoms of a putrid fever, and died. This year I had occasion to publish a report from Mr. Aris, of Wellingborough, in which he said, 'Pigs die rapidly after eating any of the offal of the diseased animals. I attended a very valuable mare which had died with all the symptoms of the disease, and she had been employed to draw one or two dead carcases out of the yard. I have great reason to believe she became infected from the diseased animals.' Professor Simonds also this year witnessed similar accidents from the blood of cattle suffering from splenic apoplexy having been thrown into a yard where pigs ate it and died. Dogs were affected in a similar manner. These observations are confirmed by those of many Continental veterinarians, and I think all will admit that we should not suffer the carcases of animals to be sold as human food, when the blood of these animals can poison pigs and dogs. The disease is one that can be entirely prevented, and the losses need not be severe if professional aid is sought when the malady first breaks out on a farm. Preventive measures must be adopted, as, when the symptoms of the disease appear on an animal, death is almost a certain result. Splenic apoplexy, like black-quarter, seizes the finest animals of a herd, and lays them low in from four to 24 hours.

*Diseases of Pigs.*—I have noticed the hog cholera, that dreaded distemper which has raged this season, and for many years past, with the intensity of a plague; but in its influence on the human health, the malady well known in Ireland by the name of measles is far more injurious.

It is essentially a disorder of this division of the United Kingdom. It is unknown in Scotland and England in the wide-spread form it prevails here. But it must not be supposed that the disease has not undergone changes with improvements in agriculture. In some parts of Ireland measles has been on the decline; in others it has remained stationary. It has been exterminated in those districts and counties where farmers rear large numbers of pigs on wholesome farm produce, and keep them amongst the animals of the farmyard. If, however, we go through Tipperary, Limerick, portions of Cork, and other counties, we see swine living with human beings. They enjoy freedom around the cottage, of which, according to an old Irish saying, they are the real tenants. They devour all filth, and, amongst other matters, human excrement. They swallow the ripe joints of tape-worms, and the ova of these develop into the cysticercus cellulosæ, the measles found in thousands distributed over the whole muscular structures of the pig. So thoroughly has the system of utilising diseased flesh as human food become established in this country, that respectable firms employ "measle-triers" to detect the measly pigs out of a lot bought in market, so as to claim a reduction on them. They cure them, and sell them at the small reduction of 3s. a flitch. From the open condition of the textures of these diseased animals, they pickle well, they are never tainted, and English bacon-dealers apply regularly for measly bales of bacon. Let it not be supposed that these parasites are destroyed by the pickling process. Fortunately myriads of them are destroyed in the process of cooking; but unfortunately there are many people, far more than any non-professional person would imagine, who acquire a morbid taste for underdone or raw food, especially pork, whether pickled or otherwise, and they rarely fail to suffer in consequence. A gentleman having great experience in the bacon trade, assured me that when the famine in Ireland stopped the supply of pigs for the English bacon factories, and they had to buy English pigs, they found no measles. It was rare to meet with a measly pig. They invariably got animals thus diseased from Ireland. Many of you here will have greater experience than myself regarding the districts where pigs are kept singly by the poor, and where they are chiefly enclosed in farmyards. As a rule, measles will be found to prevail in the first and not in the second. Is it not frightful that three per cent. of the Irish pigs should be affected with this loathsome disease?

The mortality amongst cattle in Ireland varies from 2 per cent. in a few districts, to 12 per cent. in others. The average over Ireland is never less than 5, and some years exceeding 7.

This is the loss by fatal disease, but as all farmers are aware, a heavy loss is incurred annually by maladies which do not kill, but which deteriorate the condition of stock, and lead to greater loss of time and food. This is the case when the epizootic aphtha prevails, as it has done of late. This loss cannot be calculated at less than one per cent., so that I am sure I am not overstating the yearly loss when I declare that it attains in Ireland, from all causes, 6 per cent. The last return shows that there are 3,250,396 head of cattle in Ireland, of which, therefore, there is a loss in round numbers of 195,024. A very careful study in the losses in cattle has led me to determine that it is the best stock that is destroyed, so that it is fair to calculate the value of the animals lost at the average value of the total stock. Mr. Donelly's valuation of 6*l.* 10*s.* a head is not a correct one. It is very much below the real average value; nevertheless, even accepting that the lost animals are on the average not worth more, Ireland loses 1,267,656*l.* annually by losses amongst cattle alone. We are far nearer the mark if we value the dairy, grazing, and stall-fed stock, amongst which the largest amount of loss is sustained, at 12*l.* per head, and that gives a total loss of 2,340,288. Of that loss in this country, 60 per cent. is the result at present of contagious disorders. The average loss on sheep, over the whole country, is not less than one per score; it often exceeds this. The loss in money amounts to 190,173*l.* The lowest estimate I can make of the mortality amongst pigs in Ireland is 10 per cent. Were I to listen to the statement of losses amounting to 50 and 60 per cent. over wide districts, I would have to double that estimate. But, on the most moderate calculation, Ireland loses annually, in round numbers, 150,000 pigs, amounting in value to 187,500*l.* Taking the Registrar General's calculation of the value of the stock of the country—viz., 31,204,325*l.*, we have an annual loss on it of 1,645,329*l.* I consider this to be far below reality, and if we take my valuation of the cattle at 12*l.* a head, the annual loss amounts to 2,718,961*l.* I have no doubt there are those who will think that there must be some mistake in all this; but any one devoting himself to the collection of statistics on the subject will find that I am much below instead of above the real loss which Ireland annually sustains from disease amongst cattle. I unhesitatingly affirm, that 50 per cent. of the loss I have alluded to could be saved within a couple of years of the active working of a scheme intelligently framed for the prevention of disease. The working of such a scheme, though expensive, would amount to a mere trifle in comparison with the loss. Recent calculations would indicate that the expenditure would amount to about 2 per cent. on the smallest estimate of annual losses. Any scheme adopted must aim at suppressing the traffic in diseased animals and the sale of diseased meat, affording advice to the stockowners when disease appears, and studying carefully all the facts relating to the prevalence and causes of enzootic disorders, with a view to suggest preventives. The stockowner must and can be protected by timely advice and co-operation. It would be absurd to say to him—we care not if you are ruined, but we shall not permit you to sell your diseased animals. This would materially tend to increase the yearly deficiency in the breeding of stock, which it is so important should increase in proportion to our wants. How such a scheme is to be worked out, it is at present premature to say. I am anxious that the evil existing should be exposed; that instead of permitting a system adopted as the best of bad ones by the farmers to keep all secret, we should have everything open and above board. No enemy is more dangerous than one that is invisible. At present the general impression is that there is no serious cause for taking into consideration the losses resulting from disease in stock. These losses are not recognised as they should, as exerting a great and bad influence on the nation; and the capitalists who swell the mass of diseased meat sold to the public, by disposing, when occasion requires, of their diseased stock, are individually desirous that this vast subject should not be broached. When the Potato crop fails, the peasant's family is deprived of its humble but sufficient meal. The starving poor appeal to our sympathies, and the whole kingdom is anxious to find a remedy for such a disaster. But if Ireland does lose between two and three millions sterling annually by disease in cattle, the poor are affected indirectly, though with equal certainty. The real cause lies hidden and escapes observation. No effort is made to counteract it. Prevent that loss and you will soon find the yearly decrease in the production of stock converted into a decided increase. The farmer's income will be augmented, the labourers employed will be in greater number, and the landlord's rent paid with regularity. This great question concerns Government, as it involves the protection of the best property we have—the produce of our fertile soil. Past Governments have unwittingly led to a deterioration in the value of that produce. Free trade in stock has been an experiment which has injured every country that has tried it, unless regulated by laws based on a thorough knowledge of the nature of contagious disorders. Let the public state, in unmistakable terms, that it wishes wholesome food for its honestly acquired gold—let the farmer plainly assert that he must be ruined, unless he be permitted to dispose of his diseased stock to the butcher, and, with these points clearly before us, the remedy can be applied. It is a remedy that has been most successful elsewhere, and it consists in applying Veterinary knowledge to the prevention, rather than to the cure, of disease—in having able men to investigate at any moment the causes of mortality amongst stock; and, fortunately for us all, the diseases of the lower animals are simple in their nature, and their prevention is certain. My suggestion, therefore, is, that the public should manifest an interest in the matter, combine, if you like, and show a readiness to assist Government in any scheme sufficient to meet the evil, provided that scheme be for the good of all. If you are incredulous as to the possibility of preventing all the diseases I have alluded to, hesitate not to prosecute inquiries, to attempt experiments, and then aid in suggesting good measures if others propose bad ones. I invite you not to be deceived by the treacherous appearance of the surface of things. Face manfully an inquiry into the whole subject, and do this with a determination to further, by all means in your power, the interests of the farmer and of the general public. I do believe that the highly educated and intelligent men likely to influence the Government in those matters will do so in a manner calculated to effect much good; but in this country, fortunately, the voice of the people is listened to, and I sincerely trust that after these few words of caution, the feeling manifested by the agricultural community will be in favour of an uncompromising attitude against all who seek to blind themselves and others to the realities of the case, and are inclined to let matters take their course as for the past. I am not an advocate for coercive measures. I want to work out a remedy. That remedy is discovered so soon as you have established the nature of prevailing diseases and their causes.

Mr. GANLY, salemaster, said that beyond all doubt the disease called pleuro-pneumonia existed to a very large extent in Ireland, and the great question was how to prevent it. He would take that public opportunity to say, that unless some means were devised to give some compensation to the farmer for his diseased stock, it was impossible to prevent him from selling it, or the butcher from buying and selling it. Unless some society or some organisation were devised for the prevention of the spread of disease by purchasing the diseased animals, diseased meat would be sold, and bought, and killed, and eaten. As there was no use in mincing the matter, he would say for himself and his brother salesmen, that every one of them sold diseased cattle, and under existing circumstances they must continue to do so. The farmer had no remedy, he should sell his unsound cattle as well as his sound stock to enable him to pay his rent; for the disease was so prevalent that he could not live were he to submit his cattle to destruction without some payment for it.

The Hon. JOHN P. VEREKER, Lord Mayor Elect, thought that the subject of compensation for diseased stock should be approached with great caution, so that it would be the farmer's interest to prevent the spread of disease, and the producer was bound to submit to the loss, more especially if he were negligent in guarding against disease. The legislature was bound to prevent the extension of disease, and, in case a great loss should fall on the owner of stock, it would be proper that some compensation should be made to him.

# Reviews.

*The Journal of Agriculture, and the Transactions of the Highland and Agricultural Society of Scotland.* No. 79, January, 1863. Blackwood.

The current Number of this Quarterly Agricultural Journal contains extremely interesting notes by Mr. MacLagan of Pumpherston, during an Italian tour, notes on Cattle Feeding, Liquid Manure, &c.; papers on the Evils of Excessive Pasture Land; on Hiring Markets; on the Smithfield Farmers' Club, &c.; Reports on the Agriculture of Berwickshire; on Improvements in Wigtownshire; on Top-dressing for pastures; on the Cultivation of the Willow; on the Larch Disease; on the Edinburgh Veterinary College; and on the proceedings in Dr. Anderson's Laboratory.

Many of these papers are exceedingly full of information and guidance, but bear too much the character of literary efforts with less of history, description and report than of argument and illustrative rhetoric. This character does not belong to Mr. Sanderson's valuable report on Berwickshire agriculture, which, continued from the last Number of the Journal, is an admirable example of what an agricultural report should be. We extract a passage from the former part of his essay, descriptive of a Berwickshire experience in the use of Liquid Manure:—

"The following successful results from liquid manuring and soiling were obtained last season (1860) on the home farm of Milnegraden. The gross produce was Italian Rye-grass—the yield of a field of 7 acres.

| | Tons. | Cwt. | | Expenditure. | Returns. |
|---|---|---|---|---|---|
| Ploughing 7 acres, at 10s. per acre .. | | | | £3 10 4½ | |
| Sowing, harrowing, and rolling .. .. | | | | 2 2 0 | |
| 21 bushels seed, at 6s. 6d. per bushel .. | | | | 6 16 6 | |
| 7 cwt. Peruvian guano, at 13s. 6d. .. | | | | 4 14 6 | |
| 219 tons liquid manure, not charged .. | | | | 0 0 0 | |
| Cost of 1st cutting, £4 7s. 4½d.: Coal for engine, 3 days .. | | | | 0 9 4½ | |
| Engineer, 3 days, at 3s. per day .. .. .. | | | | 0 9 0 | |
| Working horse, 3 days, at 3s. per day .. .. | | | | 0 9 0 | |
| Cutting and carting home Grass .. .. .. | | | | 3 0 0 | |
| 1st cutting, 82 tons 7 cwt., consumed as under:— | | | | | |
| From 23d June to 21st July: 10 West Highland Cattle . | 41 | 10 | | | |
| 44 Sheep .. | 21 | 2 | | | |
| 8 Horses .. | 22 | 15 | at 2d. p. st. | | £17 0 0 |
| 6 Cows .. | 5 | 0 | do. | | 6 13 4 |
| Total consumed .. | 82 | 7 | | | |
| 2d Cutting, 104 tons 7 cwt., consumed as under— | | | | | |
| From 21st July to 25th Aug: 26 Cattle* .. | 88 | 10 | | | |
| 44 Sheep .. | 11 | 15 | | | |
| 8 Horses .. | 7 | 7 | .. | | 9 16 8 |
| 6 Cows .. .. | 1 | 15 | .. | | 2 6 8 |
| Total consumed .. | 101 | 7 | | | |
| 3d. Cutting, 59 tons 13 cwt., consumed as under— | | | | | |
| From 15th Sept. to 13th October: 16 cattle | 54 | 0 | | | |
| 8 horses | 5 | 13 | .. | | 7 10 8 |
| Total consumed .. | 59 | 13 | | | |
| 4th. Crops consumed on ground as under— | | | | | |
| 46 sheep for 3 weeks at 6d. each week .. .. .. .. | | | .. | | 3 9 0 |
| Rent of the above 7 acres .. | | | | £14 0 0 | |
| Poor rates .. .. .. .. | | | | 0 10 6 | |
| Cost of 2d and 3d cuttings .. | | | | 8 14 9 | |
| 10 West Highland bullocks put into feeding byre, 18th June, cost 14*l.*, sold 31st August for 18*l.* 10*s.*, leaving a profit of .. | | | .. | | 45 0 0 |
| 16 Cross-bred bullocks put into feeding byre 18th July, cost 13*l.* each, valued 13 October at 18*l.*, leaving a profit of .. | | | .. | | 80 0 0 |
| 44 Sheep 10 weeks in pens, cost 27*s.*, sold at 34*s.*, leaving a profit of .. | | | .. | | 15 8 0 |
| | | | | £44 15 7½ | £187 3 8 |
| Deduct expenses .. | | | .. | | 44 15 7½ |
| Nett profit .. | | | .. | | £142 8 0½ |

"For this detailed account the writer is indebted to Mr. Bardner, manager of the farm. The yield of Grass appears to be extraordinary, but it ought to be remembered that Italian or any Grass is very weighty when newly mown. The nett profit from 7 acres is also extraordinary, and could have been obtained by no other means than by the soiling of cattle. Liquid manuring and soiling, to be successful, must be associated, for the one is as closely connected with the other as seed time and harvest. On Grasses alone is liquid manure of any use, for to apply it to cereal crops it is generally injurious, and where it is not the soil must be exceedingly poor and badly managed."

Of course a statement of this kind is open to a great deal of question and criticism, but it is plain from it that Mr. Bardner believes that, in his experience, liquid manure has been a profitable application; and *that,*

* On 18th July, 16 cross-bred bullocks were added to the foregoing 10 West Highlanders.

in these days of incredulity on the subject, is a noteworthy fact.

*Notes of an Agricultural Tour in Belgium, Holland, and the Rhine.* By Robert Scott Burn. Longman & Co.

Mr. Scott Burn has visited Belgium and Holland on three separate occasions, in 1859, 1860, and 1862 He has each time taken every opportunity of examining the peculiarities of the agriculture of the country, and has thus qualified himself as a guide to all succeeding agricultural visitors, as well as to those who must be satisfied with reading their report at home. The reader of Mr. Burn's account of what he saw will find full information given him on Flax culture, on the management of manures, on spade husbandry, on the Beet sugar manufacture, and on many other agricultural peculiarities of the country visited. The following is a passage on the manufacture of oil-cake:—

"The oil-mills form a very important part of the agricultural industry of Flanders. Almost every village has an oil-mill either attached to an ordinary corn-mill, or forming a mill, devoted entirely to the business. These mills are generally worked by wind-power, although, in the neighbourhood of large towns, as that of Bruges, there are mills worked on an extensive scale by water and steam. The owner of the mills offers every facility to the grower of the seed to convert it into a marketable article, either by purchasing the seed at its market value, by exchanging for it oil-meal or oil-cake, or, lastly, by crushing the seed at a stated price, returning both the oil and the cake, or selling the former to account of the grower. The process of crushing the seed to obtain the oil and the cake is a very simple one. The seed is, in the first place, bruised or converted into meal by means exactly similar to those employed in bone-crushing, a large circular stone, 5 to 5½ feet in diameter, and 14 inches wide or thick in the edge, being used, which has a double motion—one on its own axis, and another round a circular table on which the seed lies to be crushed. A shield revolves with the crushing-stone, the duty of which is to move the meal from the outside of the table towards its centre, so that the stone will keep always passing over it. The meal, when thoroughly prepared by this crushing process, is heated in a circular vessel, placed upon an iron plate, heated by a small furnace, in the interior of which a stirrer has a slow revolving movement, the effect of which is to keep the meal in motion while being heated, much in the same manner as if it were kept constantly mixed by the hand. By the side of the furnace two funnel-shaped receptacles are placed. These are without bottom, and the width of the lower aperture is equal to the width of the oil-cake which is to be made, or thereabouts. Two long flannel bags are suspended beneath the apertures, and are filled by throwing in the meal from the heating vessel into the funnel-shaped receptacles. The bags are then taken and spread evenly out on one end of a piece of thick felted material, the length of which is rather more than double that of the bag containing the meal. When this is spread evenly out, the thickness is somewhere about an inch and a half. In other cases the thickness is much greater than this. The piece of felted material, which is ribbed or barred transversely on its surface, is then doubled over, the bag containing the meal being thus placed between two surfaces. The centre part of the felted envelope, which we may here term it, is provided at the outside with a handle by which it can be lifted up and dropped into its place in the pressing-mill. This part of the apparatus, like the rest, is of great simplicity. Imagine a strongly-constructed table, in the centre of which a narrow 'well' is made running along its extreme length. In this a series of wedges or blocks of wood are placed, and in the centre a larger wedge, which is driven down by a heavy pile, or long piece of timber, which has a reciprocating up-and-down motion given to it by simple mechanism. At each end of this 'well,' above described, a felted envelope is placed containing its bag of meal. The thickness of these is such as to allow only of the thin edge of the central wedge being admitted between the blocks of wood which press upon the felted envelope. The machinery is then put in motion, and the beam gives a succession of blows to the wedge, which in a few minutes is driven hard up till its upper surface is flush, or nearly so, with the surface of the table. The enormous pressure to which the envelopes and their contained bags of meal are subjected, expresses their oil, which passes through the lower part of the 'well' to vessels placed underneath to receive it. The central wedge is removed or started from its position in which it is so firmly fixed, by a second beam giving a few blows to a second wedge, but the edges of which are cut in a reverse direction. As this passes down, the blocks of wood slide up the inclined sides of the wedge, and allow the central wedge to start. The felted envelopes are then removed, and the residue of the meal taken out of the bags, which present the well-known appearance of oil-cakes, their ribbed surfaces being produced by the uneven surface of the envelopes, to which we have before alluded. Their rough edges are then trimmed up by passing them along a knife fixed near the furnace which heats the meal. They are now ready for use. The meal is sometimes put through two processes—the first extracting a certain quantity of oil, the second finishing the cake. By the addition of this extra labour, comparatively little in amount, a larger per-centage of oil is obtained, or, if necessary, the cake may be made richer in oil by stopping the 'expression' after the first process. A ton of seed can be reduced to oil and cake in a day, by an expenditure of about four horse-power, the cost, where steam-power is used, being about 30*s.* Large farms are sometimes, we believe, provided with a simple crushing apparatus, in which the seeds are, in the first place, crushed by stampers, the lower ends of which are shaped to correspond with the bottom of what may be called mortars hollowed out in a solid block of hard wood. The stamping apparatus for extracting the oil is on the same principle as that already described. This apparatus costs about 20*l.*, and is capable of crushing about 7 cwt. of seed a day, at the rate of about 5*s.* per ton."

The account which Mr. Burn gives of Flax culture in the districts where it is best managed is very elaborate. In fact the whole book is a complete and satisfactory guide to the agriculture of that district of all others on the continent where there is most for the English agriculturist to learn.

## Farm Memoranda.

Northumberland Farm.—Another year has passed away, and though wanting in those essential characteristics of the season—frost and snow—January has once more come round, and with it mild, open, May-like weather. Whilst taking up our pen to report the agricultural operations on this farm during the last month of the year, never do we remember having more scanty material to work upon, owing to the similarity with the agricultural phenomena of November, and to the unchecked progress of the ordinary routine of labour. During December we have been visited by very severe storms, which did considerable damage to the hay and corn stacks, whilst rain fell in copious quantities as they abated. Frost here (near the sea) has scarcely been perceptible, and as to snow, we have seen none.

*Crops.*—The young Wheat plant, though at first very tardy in growth, now presents a most satisfactory appearance, and when drilled in a fine and dry seed-bed, exhibits no injury from excessive wet. Circumstances have permitted the regular pulling of Swedes and other roots, to such a satisfactory extent, that by the 10th of December we finished Wheat sowing, the remaining portion of Turnip land being intended for Barley. Swedes, though a regular crop, are pulling off very small in the root and considerably seeded, whilst White Turnips are a very average crop. Much benefit has been derived from the tops and small Turnips being carted on to the old Grass and Clover leas, and, owing to the unusually open weather, young stock have been able to go out and eat them up, thus economising the winter food to a very great extent.

*Labour.*—Carting Turnips home, and ploughing, with the addition of the ordinary process of threshing, may be represented as the labour of the month. Most of the stubbles are turned over, and the draughts are rapidly finishing lea-ploughing (for Oats). This latter is ploughed with a furrow of from 5 to 6 inches in depth, in large breaks, and will then be drilled across; thus avoiding so many open furrows, which are so obstructive to reaping and other modern machinery. Some small portions of manure have also been carted out, but the bulk of it must wait for a hard frost to bear the carts on the arable land; besides this, carting stone for roads, ditching and hedge-cutting may be said to complete the labour account.

*Stock.*—Feeding bullocks in boxes and yards have seldom been known to make greater progress; they are now being fed on sliced Swedes, at the rate of 9 stones (of 14 lbs.) per day in the boxes, and 13 stones in the yards, with the addition of Oat straw, hay, and Bean meal; these results speak volumes in favour of box-feeding, where the economy of food is an object. The grazing stock are still able to run out over old Grass in the middle of the day, picking up tops and small Turnips, and receiving straw in the yards; the sheep stock are doing well on similar treatment, being thinly distributed over old Grass. Pigs, having been fed on boiled Turnips mixed with Beans and Barley meal, are now nearly all fit for the knife.

And now we must bid adieu to the year 1862, trusting that our Reports for 1863 may be of such a character as to represent the British farmer under more favourable pecuniary circumstances than it has been his fortune to enjoy during the past year. *J. W.*

## Miscellaneous.

*Wages in Berwickshire.*—Married ploughmen occupy cottages on the farm, are engaged by the year, and receive wages partly in money and partly in kind, and which rate from 30*l.* to 40*l.* annually. In Kelso district, they only receive about 6*l.* of money, the rest of the wages being made up by Oatmeal, Barley, Peas, free house, &c. In the Merse, hinds' wages consist of—

| | £ | s. | d. |
|---|---|---|---|
| 10 bolls Oats, which, taking last year's price, amounts, at 22*s.*, to .. .. .. .. .. | £11 | 0 | 0 |
| 4 bolls Barley, at 26*s.*, to .. .. .. | 5 | 4 | 0 |
| 1 boll Beans, at 17*s.* 6*d.*, to .. .. .. .. | 0 | 17 | 6 |
| Potatoes .. .. .. .. .. .. | 5 | 0 | 0 |
| Sheep-money .. .. .. .. .. | 5 | 0 | 0 |
| Cow's keep .. .. .. .. .. | 7 | 0 | 0 |
| Free house, garden, and carting of coals .. | 3 | 10 | 0 |
| 1 month's food during harvest .. .. | 0 | 15 | 0 |
| | £38 | 6 | 6 |

In Lauderdale, and in the western part of Roxburgh married ploughmen get 16*l.* of money, 65 stones of Oatmeal, keep of a cow, 1 boll of Barley, 1200 yards of land for planting Potatoes, free house, food during harvest, 1*s.* a day, and harvest wages for bondagers. This, altogether, appears to be the best regulated wages a ploughman can have. The cow is a great support to a family, while the owning of one tends to induce fixed habits in the owner. Meal and Potatoes are thus procured, too, at the cheapest rate, and as they are always needed in a family, they are in any case as good as money, while in the case of an improvident wife they are better, as they are retained for food, when otherwise money would be spent. Beyond the necessary food requirements which the farm produces, grain as wages instead of money seems unfair to a ploughman, as he is in ordinary circumstances entitled to the same reward for the same amount of labour. Unmarried ploughmen are also engaged by the year, and when boarded in the farm-house receive 20*l.* of wages; when they have a "double hinding" with their fathers, they receive the same "gains." Piece-work is entirely confined to the mowing of hay and drainage, day-work to the usual manual work on the farm; and this is not strictly day-work, as the workers (bondagers) are paid half-yearly wages by the ploughmen who board them, and these again paid the daily wages by the farmer. Without entering into the merits of piece and day work, a pretty extensive observation warrants the writer to say that the system, apart from boarding, of yearly or half-yearly engagements, is the best for employers and employed. A farmer to have his labour properly executed, and to be safe from those contingencies which result from sudden demands for, and a short supply of, labourers, must have in his daily employ, and have secured for the year, sufficient forces to meet the most urgent requirements of the farm. In Roxburgh and Berwick the bondage system is universal, and complaints against it are not so loud as in other quarters. The population being chiefly rural, and the employment rural too, many of the bondagers are the daughters or sons of the ploughmen. In such cases bondage is a blessing, as it not only secures employment for the families of ploughmen, but, along with this, these are kept under the influence of parental example and reproof, instead of being sent abroad on the world, away from the parental eye, and at a time when they are most susceptible of good or evil. Besides, the boarding of one bondager in the house of each ploughman is less objectionable than several young men and women being boarded promiscuously in the farm kitchen. Probably the only injustice to ploughmen, in connexion with the system of bondage, is, that the farmer does not free them from the risk of losing from paying unforeseen high wages, or an unexpected price for the bondagers' food. It seems only fair that the farmer should engage as well as pay the half-yearly wages to the bondagers, and likewise pay the ploughmen for the bondagers' board. In general the bondager receives 1*s.* for ten hours' work, and 10*d.* for short days in winter. Labourers get 15*s.* a-week. During the last 25 years wages have risen for married ploughmen from 25*l.* to 35*l.* a-year; the unmarried ploughmen having board from 15*l.* a-year to 20*l.*; women, either for house or farm work, from 5*l.* to 7*l.* 10*s.* the summer half-year, and from 2*l.* to 4*l.* the winter half-year; labourers from 10*s.* to 15*s.* a-week. The wages of stewards average nearly 50*l.* Shepherds have sometimes part of money and part of sheep for their wages, and sometimes only the "keep" of a certain number of sheep, and again frequently money and "gains." Shepherds' wages average about 45*l.* In general the ploughmen are sober and industrious and are skilful workmen, and generally faithful servants. Although recently more given to change, yet, on the whole, they are settled in their habits, and it is not uncommon to meet with a servant who has been 30 years under the same master. *Mr. Sanderson in Transactions of the Highland Society.*

## Calendar of Operations.

### JANUARY.

[The following passages are extracted from *Morton's Farmer's Calendar.* Routledge.]

*Of Sowing Operations. Wheat.*—"The common rule to avoid sowing Wheat for a month or six weeks about Christmas time, dependent for its authority solely upon the usual condition of the land, expires some time in this month. But whenever the land is not sodden with water, or will not poach under the horses' feet, Wheat may be sown. Its usual seed time is October and November, and then the character of its different sorts will be described. At present it may suffice to say that any of the common winter Wheats may still be sown. Later in the season, the Talavera, a hardy white Wheat, with a very loosely packed ear, but yielding well grain of good quality, is to be preferred. And, later still, the Red, Bearded, so-called April Wheat must be sown. In well-tilled and drained land, six or seven pecks are ample seeding for an acre through this and the following month. It should be drilled in rows from 6 to 12 inches wide, the harrows preceding and following the drill; and it is generally found to succeed best on a stale furrow—*i. e.* when sown some weeks after the last ploughing. *Oats.*—Early in this month, if the weather be open, it is well to examine such fields as are intended for this crop, and consider, if there be any apprehension of being full of business in February and March, whether it would not be well to lessen the work of those more busy seasons by sowing some Oats now. The temper of the soil must govern this, but it is necessary to know that Oats sown so early succeed well. This has been proved by ample experience. Though five bushels per acre are still a common, they are an unnecessary quantity of seed. Four bushels are amply sufficient, and when the land is in good tilth and in good condition, three bushels will be seed enough. *Peas.*—In the neighbourhood of London it is common

to sow Peas so early as this on light dry soils, which have been ploughed out of some corn stubble, cleaned and manured in autumn. The land is ribbed at intervals of 15 to 18 inches, with a small 1-horse plough—the seed, two or two and a half bushels per acre, is sown in these rows by hand, and covered in by a broad hand-hoe, which pulls down enough of the edge of each ridgelet to cover the seed, leaving enough to be a protection from frosty winds to the young plant on first coming through, or enough to furnish a second covering with earth if the weather becomes excessively severe. This early cultivation of Peas is for the early supply of Covent Garden Market with green Peas. (See February.) *Beans*.—The season must regulate the article of tillage in all cases, and it must suffice to say that the farmer ought to sow his Beans the first month his land is dry. Winter Beans are sown in autumn. But any of the common field sorts, Horse or Tick Bean, Heligoland, Longpod, Mazagan, &c., may be sown in open weather in January and February. Their cultivation is given in detail in the months of February and October."

*Of Pastures and Meadows.*—"The pastures may, if dry, be thinly stocked with the ewe flock, which will eat down all lastyear's growth, and so insure the quality of next year's Grass; or they may with great advantage be folded over with either a breeding or fatting flock, fed on Turnips and hay-chaff, &c. brought to them. If wet, the feeding bare should have been effected with cattle in the autumn; no sheep being then allowed on them, nor any other stock in winter to poach the surface of the land. It is, however, wonderful to see on some poor light soils how the pastures may be trodden to pieces in winter time with cattle foddered on them, and come out all the better and the greener for the rough treatment in the following spring. When hard with frost, manure may be carried out to pastures which have already been eaten bare; also, as already said, on the young Clover, and spread. The first rains will on all drained lands, wash the soluble parts of the dung into the roots of the Grass, and thus provide them with food at the time when returning warmth is exciting them to life again. Water meadows are flooded during January, taking intervals of a day or two after every eight to ten days of flood, for the water to drain off and aerate the soil. The practical rule is to flood or 'float' until a scum appears upon the surface, and to avoid floating over ice if the frost should be severe enough to bind the land up in spite of the flowing water."

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending Jan. 7, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 1 | 29.97 | 50 | 49 | S.W. | 3 | 6 | 51 | 35 | 71* | 32 | 0.01 | 43 | 45 |
| Friday | 2 | 29.55 | 42 | 40 | W. | 2 | 6 | 54 | 41 | 57 | 38 | 0.29 | 45 | 45 |
| Saturday .. | 3 | 29.64 | 35 | 34 | S.W. | 2 | 2 | 46 | 32 | 68 | 30 | 0.01 | 44½ | 45 |
| Sunday .... | 4 | 29.86 | 38 | 37 | S.W. | 2 | 2 | 45 | 33 | 69 | 27 | 0.23 | 43 | 44½ |
| Monday.... | 5 | 29.69 | 46 | 45 | S.W. | 3 | 8 | 47 | 37 | 58 | 32 | 0.19 | 43 | 44 |
| Tuesday .. | 6 | 29.10 | 38 | 37 | S. | 1 | 6 | 48 | 34 | 50 | 29 | 0.80 | 43½ | 44 |
| Wednesday | 7 | 29.26 | 33 | 33 | S. | 2 | 2 | 45 | 32 | 56 | 29 | 0.54 | 43 | 44 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

MILK: *First Subscriber*. Milk from cows down with the foot and mouth disease has in cases within our knowledge proved injurious to pigs. The disease goes generally by the name of the distemper or "epidemic." It is not the "thrush."

PEAS AND CANADIAN OATS: *C D.* The Pea grown on Whitfield Farm was purchased, the seed in Gloucester Market, under the name of the Providence, and Mr. Cobbam (Whitfield, near Berkeley) can oblige "C. D." with 2 quarters (he cannot spare more) for seed. The Canadian Oats he can recommend as being very hardy. They were drilled last year in February; ripens very early, and is very productive. Straw medium length and very stiff, and therefore well suited for rich soils, as it is not easily laid by heavy rains.

SADDLE ROOM: *A Subscriber* asks which is the best gas fire-place for a saddle room, with warm water to heat coach houses adjoining, and where it may be obtained?

SWINE: *Young Farmer.* The disease is doubtless to be attributed to some undiscovered error in feeding the sows. Avoid roots; give boiled milk with half a pound each of Wheat flour, Bean-meal, and Linseed cake meal daily. If this does not succeed, add two grains of calomel and four grains of opium, and give three times with a day's intermission between each dose.

WASHING MACHINES. Messrs. C. Brown and F. Witz, of Switzerland, and D. Parkes, of the United States, received medals. We do not see any award for the washing machines of English makers.


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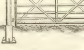

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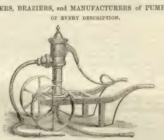

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2½ inches ... ... 1 foot 7 inches high ... ... £1 1 | 2½ inches ... ... 3 feet 3 inches high ... ... £1 10
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0
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No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... 3 0 0
3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET. When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equa capabilities.

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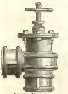

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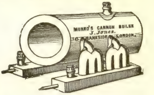


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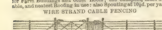

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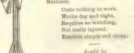

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MR. RICHARD G. CAMPION, Youghal, County Cork, has now ready for SALE 12 Beautiful HEIFERS, in Calf to a pure bred Bull, and to drop after 1st March.

WANTED, a NURSERY and SEED BUSINESS of moderate extent, well situated.

Direct to H. B., Messrs. Fisher, Holmes, & Co., Handsworth, Sheffield, stating particulars, terms, &c.

TO BE LET on LEASE, with immediate possession, a small NURSERY with Cottage, several Greenhouses, a Show House, Pits, &c., known as Bedford Nursery, Acre Lane, Brixton, Surrey.

Apply No. 2, on the Premises.

TO BE LET, in the County of Pembroke, LLANGWARREN FARM, consisting of 473 Acres, more than half of which is Pasture.

For particulars apply to J. B. LAWES, 1, Adelaide Place, London Bridge.

### To Nurserymen and Gardeners.

TO BE LET, a COTTAGE, GREENHOUSE, and GARDEN, adjoining a rapidly increasing town. A practical Gardener would have a large sale of Plants, Flowers, Vegetables, &c., and considerable employment as a Jobbing and Furnishing Gardener.

Apply to E. W. WILMOT, Esq., Buxton.

### To Nurserymen and Others.

TO BE SOLD by Private Contract, a PLOT of GROUND, situated at Leyton Park, near the Church, Leyton, Essex, comprising about half an acre of rich land, on which are erected four substantial VINERIES, fitted with Hot-water Apparatus for Forcing. Immediate occupation will be given.

For further information apply to Mr. REYNOLDS, at the Lion and Key, Low Leyton.

## Sale by Auction.

### Roses, Laurels, Firs, Lilacs, Conifers, &c.

MR. J.C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, on SATURDAY, January 17, at half-past 12 o'clock precisely, a choice assortment of STANDARD and HALF STANDARD ROSES, PORTUGAL and COMMON LAURELS, SCOTCH and SPRUCE FIRS, Rare CONIFERS, PEACH, NECTARINE, PLUM, CHERRY, and CURRANT TREES, &c.; also a quantity of RUSTIC FERN PANS, FLOWER POTS, &c.

On view the Morning of Sale, and Catalogues had.

RICHARD SMITH'S LIST of all the EVER-GREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.
RICHARD SMITH, Nurseryman, Worcester.

**To Nurserymen and Others.**
FOR SALE, at PONTEY'S NURSERY, Plymouth.
50,000 SPRUCE FIR, 2 feet to 3 feet.
50,000 SCOTCH FIR, 1½ feet to 2½ feet.
50,000 PINUS AUSTRIACA, 1½ feet to 2½ feet.
100,000 BEECH, 2 years Seedlings.
200,000 SCOTCH FIR, 2 years Seedlings.
100,000 SPRUCE FIR, 2 years Seedlings.

DEODAR CEDARS.
2½ to 3 feet, 2*s.* 6*d.* each, 24*s.* per dozen, or 9*l.* per 100.
3 to 4 feet, 3*s.* each, 30*s.* per dozen, or 12*l.* per 100.
4 to 5 feet, 4*s.* each, 42*s.* per dozen, or 17*l.* per 100.
A fine general Collection of CONIFERÆ, a CATALOGUE of which will be sent gratis.
Apply to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

**Larch, Quicks, &c.**
CHIVAS AND WEAVER, Chester (late GEORGE CHIVAS), offer FOUR MILLIONS of TRANSPLANTED LARCH, from 1½ to 4½ feet, of very superior quality. FOUR MILLIONS of TRANSPLANTED THORNS of various sizes, a large portion of which are exceedingly strong. Orders for 10,000 of either, delivered free at any Railway Station. A Sample Bale, containing 100 of each, 5 sizes of Larch, 22*s.* 9*d.*, and of Quicks, 15*s.*, will be forwarded on receipt of a Post-office Order from unknown Correspondents.
A General PRICED LIST on application.

TRUE NATIVE HIGHLAND SCOTCH PINE PLANTS.—The Subscribers have for Sale a large stock of 2-year old SEEDLING NATIVE PINE PLANTS, grown from seeds collected in the celebrated native Forests in Strathspey.
All the premiums awarded by the Highland and Agricultural Society for the cultivation of this valuable tree have been awarded to the Subscribers.
PRICED LISTS of NURSERY STOCK furnished on application. JOHN GRIGOR & Co., Nurseries, Forres.

LARGE ORNAMENTAL TREES.—The Subscribers beg to offer very fine specimen plants of ARAUCARIA IMBRICATA, from 5 to 9 ft.; CEDRUS LIBANI, 7 to 12 ft.; WELLINGTONIA GIGANTEA, 5 to 9 ft.; PINUS EXCELSA, 7 to 10 ft.; also Spruce, Scotch, and Larch Firs, from 7 to 10 ft., with Limes, Birch, Beech, Elm, Sycamore, and Laburnum, 9 to 11 ft.; likewise Weeping Ash, Lime, and Willow, on fine tall stems. The above will be sold cheap, and if taken in quantity a great reduction will be made in the price.
J. IVERY & SON, Dorking Nursery.

WANTED IMMEDIATELY, either OAKS, APPLES, or THORNS; nice young trees, with the MISTLETOE growing thereon. Any one having the above to dispose of, apply, with price and particulars, to
WM. WOOD & SON, Woodlands Nursery, Maresfield, Uckfield, Sussex.

FOR SALE, 12 fine STANDARD PORTUGAL LAURELS, the stems about 4 feet high from the ground, fine symmetrical heads, 5 feet in diameter. They have been several times transplanted, and will remove any distance with perfect safety.
For price or other particulars apply to GEORGE LAMB, The Gardens, Osmaston Manor, Ashbourn, Derby.

**To the Trade.**
TO BE DISPOSED OF, a splendid lot of DWARF MAIDEN APRICOTS, 1 and 2 years old. Also Transplanted QUICK, 2, 3, and 4 years; extra strong Transplanted PRIVET and BERBERIS AQUIFOLIA, for Cover planting, all at most reasonable rates.
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SCOTT'S CATALOGUES.
No. 1.—FRUIT CATALOGUE and FRUIT TREE CULTIVATOR'S DIRECTORY describes nearly 800 of the best and most esteemed of our Fruits, with copious Observations and Directions about their Cultivation; the formation of Pyramids, Root Pruning, and other matter interesting to lovers of fine Fruit. Price 7*d.*
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No. 3.—The DESCRIPTIVE CONIFEROUS CATALOGUE, 25 pages.
No. 4.—The ROSE CATALOGUE, 22 pages.
No. 5.—The SELECT NURSERY STOCK, 15 pages.
In December, the VEGETABLE and FLOWER SEED CATALOGUE.
In April, the SUMMER BEDDING CATALOGUE, 72 pages.
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**Sarracenia purpurea.**
B. S. WILLIAMS has much pleasure in announcing that he has just received a large importation of this curious and interesting plant, which he offers at a moderate price.
Paradise Nursery, Holloway, London, N.

RARE and BEAUTIFUL COLUMBINE.—The Subscribers can supply strong flowering plants of AQUILEGIA GLANDULOSA, carefully packed, with earth adhering to their roots, and sent free to London, at 20*s.* per dozen. Seeds of the same at 2*s.* 6*d.* per packet, or for stamps of that value.
"This is perhaps the handsomest hardy perennial in cultivation."—*Gardeners' Chronicle.*
The Trade supplied at the wholesale rate.
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SURPLUS BULBS.—A RARE OPPORTUNITY.—Wishing to make room for my Seeds now daily arriving, I beg to offer the following sound roots at less than half cost price. 400 mixed BORDER HYACINTHS at 10*s.* 200 fine named Hyacinths at 20*s.* 400 Polyanthus Narcissus at 7*s.* 6*d.* 200 Bizarre and Roses Tulips at 4*s.* 400 splendid double mixed Tulips at 3*s.* 300 in 3 double sorts Tulips. 1 Collection in 25 sorts named Tulips, 5*s.* 12 Crown Imperials, 1*s.* 6*d.* 150 Double Jonquils at 4*s.* 100 Campernelle Jonquils, 2*s.* 6*d.* 1000 Double Snowdrops at 10*s.* 100 Single Snowdrops at 6*s.* 2 doz. Amaryllis at 3*s.* 2000 mixed Crocus at 5*s.* 7000 in 17 fine named sorts, sound bulbs, at 10*s.*
MYATT'S ASHLEAF SEEDLING POTATOES at 7*s.* 6*d.* per bushel. Apply to
H. BROWN, Seedsman, 4, Commutation Row, Liverpool.

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HALLETT'S PEDIGREE. NURSERY WHEAT
MARK.
"The best Spring Wheat known. Drill in February and March, six pecks per acre."
Produced (1862) 62 bushels per acre, weighing 64 lbs. a bushel.
Price ONE GUINEA A BUSHEL, including bag sewed up and sealed, delivered at the Brighton Railway Station, with Printed Directions for Planting, on Receipt of Cheque or Post-office Order, which must in all cases accompany the Order. Less than One Bushel will not be supplied. Name of Station and Railway should accompany the Order.
Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

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THE PRIZE MEDAL WAS AWARDED TO
MESSRS. RAYNBIRD, CALDECOTT, AND BAWTREE, for the BEST SAMPLE of RED WHEAT, for their sample of RED NURSERY WHEAT, by a jury consisting of some of the most eminent Corn Factors from Mark Lane and Agriculturists of the day.
This Wheat is remarkable for its fine quality, weight, and hardiness, and is one of the most productive upon poor soils and in exposed situations; it may be sown at any time from October to March.
Bulks of similar fine quality to the Prize sample, for cash only, at 30*s.* per Quarter.
Address, Basingstoke.

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THE EXECUTORS of MR. JNO. YOUNG, late Proprietor of the extensive Nursery Grounds, Taunton, have determined to reduce this large and valuable Stock. They respectfully invite the attention of Noblemen, Gentlemen, and the Trade to the FOREST TREES, HARDY and ORNAMENTAL TREES and SHRUBS, large and small; CONIFERÆ, EVERGREENS, HERBACEOUS, and a great variety of other PLANTS.
STANDARD, DWARF, and POTTED ROSES.
STANDARD, DWARF-TRAINED, and PYRAMIDAL FRUIT TREES.
The varied and excellent quality of this Stock is so well known that comment is unnecessary.
The Grounds are open for inspection and sale daily, and in quantities, at greatly reduced prices.
Applications by post direct to the EXECUTORS of the late Mr. John Young, Taunton.

The above capital FREEHOLD NURSERY
(Established more than 30 years),
containing about 12 Acres of highly productive Land, with the usual Appurtenances, situate at Taunton, the County Town of Somersetshire, in excellent condition, with a good connection, is
TO BE SOLD, with Early Possession,
in consequence of the Decease of the late Owner.
For particulars, apply as above.

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CHEAP GYPSUM MANURE.—Parties requiring GYPSUM can be supplied at 10*s.* per Ton, bulk, at the Works at Kennington, S.
Address, X. L., 34, Chapel Street, North Brixton, S.
⁂ Delivered on Rail, adding for bags and cartage.

THE LONDON MANURE COMPANY
have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
116, Fenchurch Street, E.C.

LAWES'S WHEAT MANURE
for AUTUMN SOWING.
In consequence of the high price of Peruvian Guano, J. B. LAWES has manufactured a WHEAT MANURE for the present season, which will be found very suitable for that crop. A supply is now ready for delivery, and it can be obtained of J. B. LAWES, or through any of his appointed Agents. Price 8*l.* per ton at the Factories, Deptford and Barking Creeks.
Genuine Peruvian Guano direct from Messrs. Gibbs; Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

**40 to 45 per Cent. of Soluble guaranteed. 1862.**
BURNARD, LACK AND CO.'S PATENT CONCENTRATED SUPERPHOSPHATES of LIME.
*Extract of Opinion from* Mr. WAY, *January* 23, 1862.
"This material contains in round numbers 44 per cent. (44 p.c) of Soluble Phosphate of Lime, and is the richest in this important fertilising agent that I can remember to have met with in my experience of the composition of Artificial Manures."
*Extract of Opinion from* Dr. VOELCKER, *January* 1862.
"Your firm, I believe, first introduced this Manure to the notice of the Agriculturist, and the composition, dry and finely powdered condition of this year's make, plainly show that you are resolved fully to maintain its superior character. I am not acquainted with any Manure which contains so large a percentage of Soluble Phosphate and proportionate small quantity of Sulphate of Lime as your Concentrated Superphosphate."
The great advantage of Concentration to the consumer lies in the fact, that he can weaken down with dry earth or ashes, at a much less cost than the manufacturer; nor is he called upon to pay for unnecessary packages, or for the hauling of useless and waste materials.
Analyses, with opinions by the late and present Chemists to the Royal Agricultural Society, with Field trials, Prices, &c., furnished on application to BURNARD, LACK & Co., Plymouth.

CAUTION to BUYERS of GUANO.—Having been informed that Guano has been imported into Liverpool, and offered for sale as "BAKER'S ISLAND GUANO," I hereby give Notice that I control the Deposit of "Baker's Island," and that the Genuine GUANO can only be procured through my Agents, Messrs. GUION & Co., of Liverpool.
Burling Slip, New York, Dec. 9. WILLIAM H. WEBB.

A MANURE MANUFACTURER wants to appoint a few respectable DISTRICT AGENTS. Liberal terms given, and the Manure sold Carriage free.
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TO BE SOLD, 200 feet length of 10-feet LIGHTS, for covering Peach walls. They are new, portable, and easily fixed. Gutters, Plates, Doors and Ends complete. Price 80*l.* Apply to CUTBUSH & Co., Highgate, N.
Also 85 ORCHARD TREES in Pots, from 4 to 8 feet in height, fine trees, consisting of Peaches, Nectarines, Plums, Pears, and Cherries. Price 30*l.*
The Lights would make a good Orchard House, 100 feet in length.

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., grown in the International Exhibition, delivered at any Booking Office in the City at 1*s.* 6*d.*, or within 2½ miles of Charing Cross, at 2*s.* per bag of 3 bushels. Larger quantities on lower terms on application to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.
Also SHORT FIBRE for Orchids and Drainage in pots.
Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.
BARSHAM'S BRUSHES and MATS are the best and most economical of any that are made, and are sold in every town in the kingdom.
CAUTION.—See that every Brush is stamped "J. BARSHAM'S Patent, Kingston-on-Thames."

**Notice**
MR. A. CHANDLER (of the late Firm of CHANDLER & SONS), HORTICULTURAL VALUER, begs to inform his friends and the public that he has REMOVED from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

J. T. WILLMER, HORTICULTURAL AGENT, AUCTIONEER and VALUER, Springfield Nursery, Sunbury, Middlesex, S.W.

ESTATE DRAINAGE. — HORTICULTURAL ALTERATIONS Planned, Superintended, and carried out. For the Advertiser's style, see Horticultural Innovation, p. 1172, *Gardeners' Chronicle*, Dec. 13, 1862.
J. NEWTON, 30, Eastbourne Terrace, Paddington, W.

**Important to Amateur Gardeners.**
FROST, AND ITS HAVOC AMONGST EARLY CROPS.
MR. WILLIAM E. PHILLIPS, Oak Bank Cottage, Farndon, Cheshire, begs to inform gentlemen amateurs in Gardening that by closely studying the transformations of nature during the different seasons, he is prepared to give correct information, with the greatest possible certainty, as regards the time when all danger of frost is past, and whether to plant early crops in the first week in February, or to withhold them for a much longer time. This unerring advice, which cannot be given before the end of January in any season, will be forwarded, together with a few valuable instructions to obtain very early crops of most kinds of vegetables, by forwarding a Post Office Order for 10*s.* 6*d.* to the above address.
Only a limited number of applications from each county will be answered this season; the remainder will be returned by the Advertiser.
N.B.—Market Gardeners need not apply.

SHAW'S TIFFANY.
For samples and prices apply to
J. SHAW & Co., 29, Oxford Street, Manchester.

TRANSPLANTING LARGE TREES. — Five different sizes of Mr. BARRON'S MACHINES, with efficient men to work them, can be hired by parties applying to him. His Machines, built under his superintendence, can also be supplied.
Elvaston Castle, Jan. 10.

THE HISTORY of the SET of SMITH'S STEAM CULTIVATING APPARATUS, supplied to Mr. Pike, of Stevington, Beds, in 1858, showing its practice from that period there and at Dunton Lodge, with other evidence upon the question, proving the efficiency and durability of the Woolston tackle, as well as the efficiency of the Woolston system, will be sent, post free, to any gentleman who may apply to Mr. WILLIAM SMITH, Woolston, Bletchley Station, Bucks, for it.

MINTON AND CO. have REMOVED from Albion Place, Blackfriars, to 50, Conduit Street, Regent Street.
ENCAUSTIC and other PAVEMENTS, EARTHENWARE and PLAIN TILES. Designs and Estimates prepared.
Manufactory: Stoke-upon-Trent.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.
Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.
To be obtained of F. & G. ROSHER, Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, London, N.E.

**Oil Paint no longer Necessary.**
HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.
Sold in casks of about 30 gallons each, at 1*s.* 6*d.* per gallon, at the Manufactory, or 1*s.* 8*d.* per gallon paid to any station in the kingdom.
Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

Printed by WILLIAM BRADBURY, of 13, Upper Woburn Place, in the Parish of St. Pancras, in the Co. of Middlesex, and FREDERICK MULLETT EVANS, of No. 11, Bouverie Street, in the Precinct of Whitefriars, City of London, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and Published by them at the Office, No. 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said Co.—SATURDAY, January 10, 1862.

# THE GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 3.—1863.] SATURDAY, JANUARY 17. Price Fivepence. STAMPED EDITION, 6*d*.


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☞ *An Edition of the* GARDENERS' CHRONICLE *and* AGRICULTURAL GAZETTE *is published on Monday Afternoon at 4 o'Clock, containing full Reports of the Mark Lane and Cattle Markets, written expressly for the Paper.*

ROYAL HORTICULTURAL SOCIETY.
FRUIT COMMITTEE.
A SPECIAL MEETING of the Fruit Committee will be held on WEDNESDAY, the 21st inst., at the Rooms, South Kensington, to decide upon the merits of new Black Hamburghs as compared with old Grapes of any other black variety. Chair to be taken at 12 o'Clock precisely. Packages to be addressed to
ROBERT HOGG, LL.D., Secretary to the Committee.

ROYAL BOTANIC SOCIETY of LONDON GARDENS, REGENT'S PARK.
The FIRST MEETING this year of the Fellows of the Society for the ELECTION of NEW FELLOWS and MEMBERS will be held at the Gardens, Regent's Park, on SATURDAY, January 24. The Chair to be taken at a Quarter before 4 o'Clock.

BRISTOL and CLIFTON HORTICULTURAL FÊTES.
The TWO SHOWS for the Season 1863 will be held at the Zoological Gardens, Clifton, as usual, on THURSDAY, May 21, and THURSDAY, August 27.
Schedules are now ready for delivery, and may be obtained on personal application to the Superintendent at the Gardens; or by letter addressed to the Honorary Secretary, R. COLES, Esq., 2, Lower Harley Place, Clifton.

JAMES ROBINSON, of Chiselhurst, hereby returns his most grateful thanks to all those kind friends whose VOTES have placed him on the LIST of PENSIONERS at the recent Election of the Gardeners' Royal Benevolent Institution.

**Grape Vines.**
B. S. WILLIAMS begs to intimate that he has a fine and healthy stock of the above from Eyes, including all the best varieties for Fruiting in Pots and Planting Out. Prices on application.
Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

**Grape Vines.**
WILLIAM BULL, F.R.H.S., F.R.B.S., has a large and healthy stock of well ripened VINES from EYES, of all the best kinds (New and Old), either for Planting, or Fruiting in pots.
Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

**Grape Vines.**
J. IVERY AND SON beg to inform their Patrons that their stock of the above is unusually fine this season. A PRICED LIST now ready.
Dorking Nursery.

**Vines.**
JAMES CRAWFORD, High Beech Nursery, begs to offer a Large Collection of strong, healthy, well ripened CANES, at very low prices, fit either for Forcing or Planting Out. Also a choice variety of all the best ROSES, a good assortment of STOVE and GREENHOUSE PLANTS, with Ferns and Mosses, &c.

**Pine Plants.**
TO BE DISPOSED OF, by a gentleman leaving for town and giving up his House, &c., about 100 good healthy PINE PLANTS, this and last year's growth.
Apply by letter to Mr. F. STEAD, 23, Jarratt Street, Hull.

**Dwarf Maiden Peaches, Nectarines, and Apricots.**
WOOD AND INGRAM beg to call the attention of the Trade to their large stock of the above, consisting of all the leading kinds of PEACHES and NECTARINES, and MOORPARK APRICOTS, all remarkably fine clean stuff.
Price on application.
Nurseries, Huntingdon.

**To the Trade.**
TO BE DISPOSED OF, a splendid lot of DWARF MAIDEN APRICOTS, 1 and 2 years old. Also Transplanted QUICK, 2, 3, and 4 years; extra strong Transplanted PRIVET and BERBERIS AQUIFOLIA, for Cover planting, all at most reasonable rates.
W. H. CAPARN & SON, King's Road Nursery, Newark-on-Trent.

WEBB'S PRIZE COB FILBERTS, and other COB NUTS as exhibited at the INTERNATIONAL FRUIT and FLOWER SHOW, Kensington. Trees of these splendid varieties of Filberts may be had by application to
RICHARD WEBB, Calcot Gardens, Reading.

**Best Seeds, Carriage Free.**
BUTLER AND McCULLOCH, SEED MERCHANTS,
Covent Garden Market, London, W.C.

**Agricultural Seeds.**
GEORGE GIBBS AND CO., SEEDSMEN,
26, Down Street, Piccadilly, London, W.

**Agricultural and Garden Seeds.**
H. AND F. SHARPE, SEED GROWERS and MERCHANTS, Wisbech.
Special PRICED LIST of NEW SEEDS on application.

**Agricultural and Garden Seeds.**
CHARLES SHARPE AND CO., SEED GROWERS, SEED MERCHANTS, and NURSERYMEN, Sleaford.
SPECIAL PRICED LIST of SEEDS of 1862 growth on application.

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JAMES CARTER AND CO., SEED FARMERS and NURSERYMEN,
237 and 238, High Holborn, London, W.C.

PLYMOUTH SEED COMPANY,
Union Road, Plymouth.
See General Advertisement, page 22.

PLYMOUTH SEED COMPANY,
Plymouth.
The GENERAL PRICE CURRENT is now ready.

**Good Seeds, Carriage Free, at Market Prices.**
SUTTON AND SONS, SEED GROWERS and MERCHANTS,
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**New and Genuine Garden and Agricultural Seeds.**
SPECIAL PRICES ON APPLICATION TO
JAMES FAIRHEAD AND SON, SEED GROWERS and MERCHANTS,
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**Garden and Agricultural Seeds, Carriage Free.**
WILLIAM WOOD AND SON, NURSERYMEN and SEED MERCHANTS,
Maresfield, near Uckfield, Sussex.

ANDRÉ LEROY'S NURSERIES, at Angers, the largest and richest in France.
CATALOGUES sent on application.

**New and Genuine Seeds.**
JOHN DOBSON AND SONS, SEEDSMEN and FLORISTS,
Woodlands Nursery, Isleworth and Hounslow.
New CATALOGUES now ready, post free.

**Kitchen Garden Seeds, Finest Quality only.**
HOOPER AND CO., SEEDSMEN,
Covent Garden Market, London, W.C.
CATALOGUES Post Free.

LOBELIA SPECIOSA (true Crystal Palace var.).
6*d*., 1*s*., and 2*s*. 6*d*. per packet. Post Free.
HOOPER & Co., Seedsmen, Covent Garden Market, London, W.C.

NEW and GENUINE SEEDS.
CARRIAGE FREE IN MOST CASES.
PRICED DESCRIPTIVE LIST, post free, upon application.
JAMES DICKSON and SONS, Seed Merchants, 102, Eastgate Street, Chester.

**Fresh Imported German Flower Seeds** (post free).
SUTTON AND SONS, Reading, Berks, have just received a choice importation of GERMAN FLOWER SEEDS, a LIST of which will be sent gratis and post free on application.

**Broccoli all the Year Round.**—See
SUTTON'S SEED LIST, which will be sent post free on application.
SUTTON & SONS, Seed Growers, Reading.

**New Garden Seeds of our own Growth.**
JAMES CARTER AND CO. are now prepared to execute orders for the above, saved at their Seed Farms.
237, 238, & 261, High Holborn, W.C.

CARTER'S SELECT LIST of New and Choice VEGETABLE, FLOWER SEEDS and PLANTS is now published, gratis and post free.
237, 238, & 261, High Holborn, London, W.C.

CARTER'S CHAMPION CUCUMBER. An excellent winter sort.—Vide *Gardeners' Chronicle* for 1862, page 1127. 1*s*. per packet.
237, 238, & 261, High Holborn, London, W.C.

CARTER'S CHAMPION CUCUMBER, recommended by the Royal Horticultural Society as being an excellent bearer. Fruit solid and firm, and the best of the Sion House class. 1*s*. per packet. A few ounces of our own saving to offer the Trade.
237, 238, & 261, High Holborn, London, W.C.

CUTHILL'S PRINCE ALBERT CUCUMBER; an Improvement on Highland Mary.
The best for present sowing. Per packet, 1*s*.
BUTLER & M'CULLOCH, Seed Merchants, Covent Garden Market.

**Standard Roses.**
WILLIAM EPPS, JUN., can supply fine STANDARD ROSES, at 5*l*. per 100; 15*s*. per doz.
The Nurseries, Ashford, Kent.

**Roses, Gladiolus, Fruit Trees.**
R. M. STARK respectfully solicits an inspection of his Stock, especially of the articles noted above, which he offers at moderate prices. DESCRIPTIVE CATALOGUES on application.
Edgehill Nursery, Edinburgh, Jan. 17.

**Rose Nurseries, Hertford.**
E. P. FRANCIS has a few surplus Thousands of MANETTI STOCKS, fine and stout.
Price upon application.

**Seeds.**
CHARLES TURNER'S DESCRIPTIVE CATALOGUE, of the best Varieties only, is now ready. It also contains several Novelties.
The Royal Nurseries, Slough.

DOUBLE ITALIAN TUBEROSES, 3*s*. per dozen.
Just arrived.
BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

TROPÆOLUM LOBBIANUM ELEGANS (Crystal Palace Scarlet), Seed scarce.
Per packet, 1*s*. and 2*s*. 6*d*.
BUTLER & M'CULLOCH, Seed Merchants, Covent Garden Market.

**Ericas and Genistas (Cytisus fragrans).**
S. W. TALBOT can supply fine Plants of the above in 48's; also ERICAS in small 60's, strong and healthy. Prices on application.
Waltham Abbey, N.

SEEDLING BIRCH and YEWS.—Holders of the above will oblige by stating age and price to
WOOD & INGRAM, Huntingdon.

SPRUCE FIR, TWICE TRANSPLANTED.
1 to 1½ feet, 15*s*. per 1000. | 1½ to 2 feet, 20*s*. per 1000.
Apply to JAMES GARAWAY & Co., Durdham Down Nurseries, Bristol.

WANTED 50,000 BLACKTHORN, for Cash.
JOHN PERKINS, 52, Market Place, Northampton.

WANTED, ENGLISH OAK, 8 to 9 feet, suitable for planting in Hedge Rows.
Apply, stating quantity and price per 100, to Mr. P. J. PERRY, The Nurseries, Banbury.

WANTED IMMEDIATELY, either OAKS, APPLES, or THORNS; nice young trees, with the MISTLETOE growing thereon. Any one having the above to dispose of, apply, with price and particulars, to
WM. WOOD & SON, Woodlands Nursery, Maresfield, Uckfield, Sussex.

WANTED, about Two Dozen QUERCUS ILEX. They must be straight-stemmed and uniform Plants, from 4 to 5 feet high, or more, if fit for removal.
T. W. BOOTH, Gardener, Arley Hall, Northwich, Cheshire.

HANDSWORTH POTATOES.—TO THE TRADE We offer the above (warranted true), carriage paid. Price sent on application. [Established 37 years.]
G. & W. YATES, 28, Market Place, Manchester.

**Seed Potatoes, Carriage paid.**
G. AND W. YATES offer to the Trade all the best sorts, grown specially for Seed, free from disease and scab. Prices sent on application.—Market Place, Manchester.

**Established 37 Years.**
HOLBURY ASHLEAF, the Earliest KIDNEY POTATO grown. Price to the Trade (carriage paid) sent on application.—G. & W. YATES, Seedsmen, Manchester.

**Seed Potatoes.**
SUTTON AND SONS, Seed Growers, Reading, have a large stock of the early kinds of POTATOES, very true and free from disease. Prices, &c., will be sent post free on application.

SEED POTATOES.—Splendid Stocks of Martin's Early Globe, Early Oxford, Early Fox's Seedling, Early Round Frame, Early Dalmahoy, Myatt's Prolific, and Jackson's Ash-leaved Kidney, Forty-fold, Fluke Kidney, and Flour-ball varieties at low prices.
H. & F. SHARPE, Wisbeach.

SEED POTATOES, Carriage Paid, true, and free from disease.
WEBB'S IMPERIAL KIDNEY, 8*s*. per bushel.
GLOUCESTERSHIRE EARLY KIDNEY, 8*s*. per bushel.
BIRMINGHAM PRIZETAKER, 6*s*. per bushel.
Terms, Cash.
W. MINCHIN & SON, Hook Norton, Oxon.

SEED POTATOES from the Growers. — Early Shaws, Regents, Forty-folds, Ash-leaf Kidneys, and Myatt's Prolific.
May be had on application of H. CHEVERST, Salesman, Borough Market, S.E.

FLUKE and other SEED POTATOES off the Lancashire Moss and Sand., Price very moderate on application.
H. BROWN, Seedsman, 4, Commutation Row, Liverpool.

WEBB'S IMPERIAL KIDNEY POTATOES.— No Potato like it for quantity, quality, beauty and size, at 12*s*. per Bushel, on application to
RICHARD WEBB, Calcot Gardens, Reading.

# ROYAL HORTICULTURAL SOCIETY.

## ARRANGEMENTS FOR THE EXHIBITIONS AND MEETINGS IN 1863,

TO BE HELD AT

THE GARDEN, SOUTH KENSINGTON, W.

## MEETINGS OF COUNCIL, PROMENADES, BALLOTS FOR PLANTS, SEEDS,

AND

### EXHIBITIONS AND FLORAL AND FRUIT COMMITTEE MEETINGS.

| | |
|---|---|
| TUESDAY, FEB. 10 .. .. | Anniversary Meeting, at 1. |
| TUESDAY, FEB. 17 .. .. | Ballot for Seeds, at 2. |
| FRIDAY, FEB. 20 .. .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| WEDNESDAY, FEB. 25 .. .. | HYACINTH SHOW, at 1. Band at 2.<br>Floral Committee, at 10.<br>Fruit Committee, at 10. |
| WEDNESDAY, MARCH 18 .. | CAMELLIA SHOW, at 1. Band at 2.<br>Floral Committee, at 10.<br>Fruit Committee, at 10. |
| FRIDAY, MARCH 20 .. .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| TUESDAY, MARCH 31 .. .. | Floral Committee, at 12. |
| WEDNESDAY, APRIL 15 .. | AZALEA AND ROSE SHOW, at 1. Band at 2.<br>Floral Committee, at 10.<br>Fruit Committee, at 10. |
| FRIDAY, APRIL 24 .. .. | Council, at 11.<br>Meeting for Election of Fellows, and Ballot for Plants, at 2. |
| TUESDAY, MAY 5 .. .. | Opening of Exhibition of Sculpture, at 1.<br>Floral Committee, at 12.<br>Fruit Committee, at 12. |
| SATURDAY, MAY 16 .. .. | Promenade. Band at 4. |
| WEDNESDAY, MAY 20 .. .. | Promenade. Band at 4. |
| SATURDAY, MAY 23 .. .. | Promenade. Band at 4. |
| WEDNESDAY, MAY 27 .. .. | FIRST GREAT EXHIBITION, at 1. Bands at 2.<br>Floral Sub-Committee, at 10.<br>Fruit Sub-Committee, at 10. |
| FRIDAY, MAY 29 .. .. | Council, at 11.<br>Meeting for Election of Fellows, Ballot for Plants, &c., at 2. |
| SATURDAY, MAY 30 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 3 .. .. | Promenade. Band at 4. |
| Date not fixed, JUNE .. .. | Uncovering of Memorial of Exhibition of 1851. |
| SATURDAY, JUNE 6 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 10 .. .. | Promenade. Band at 4. |
| SATURDAY, JUNE 13 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 17 .. .. | SECOND GREAT EXHIBITION, at 1. Bands at 2.<br>Floral Sub-Committee, at 10.<br>Fruit Sub-Committee, at 10. |
| SATURDAY, JUNE 20 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 24 .. .. | Promenade. Band at 4. |
| FRIDAY, JUNE 26 .. .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| SATURDAY, JUNE 27 .. .. | Promenade. Band at 4. |
| WEDNESDAY, July 1 .. .. | THIRD GREAT EXHIBITION—ROSES, NEW PLANTS, &c., at 1. Bands at 2.<br>Floral Sub-Committee, at 10.<br>Fruit Sub-Committee, at 10. |
| SATURDAY, JULY 4 .. .. | Promenade. Band at 4. |
| TUESDAY, JULY 7 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| WEDNESDAY, JULY 8 .. .. | Promenade. Band at 4. |
| SATURDAY, JULY 11 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 15 .. .. | Promenade. Band at 4. |
| SATURDAY, JULY 18 .. .. | Promenade. Band at 4. |
| TUESDAY, JULY 21 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| WEDNESDAY, JULY 22 .. .. | Promenade. Band at 4. |
| FRIDAY, JULY 24 .. .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| SATURDAY, JULY 25 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 29 .. .. | Promenade. Band at 4. |
| TUESDAY, AUGUST 4 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| TUESDAY, AUGUST 25 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| WEDNESDAY, SEPT. 9 .. .. | AUTUMN FLOWER SHOW, at 1. Band at 2.<br>Floral Committee, at 10.<br>Fruit Committee, at 10. |
| TUESDAY, SEPT. 22 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, OCT. 2 .. .. .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| TUESDAY, OCT. 6 .. .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, NOV. 6 .. .. | Council, at 11. |
| TUESDAY, NOV. 10 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, DEC. 4 .. .. | Council, at 11. |
| TUESDAY, DEC. 8 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, DEC. 18 .. .. | Council, at 11. |

## ADMISSION OF THE PUBLIC.

Previous to April 30, packets of 25 tickets may be brought by Fellows for 5*l.* per packet. These tickets are available for any Show or Promenade during the year—admitting numbers corresponding to the prices of the day: *i.e.*, one on a 5*s.* day; two on a 2*s.* 6*d.* day; and five on a 1*s.* day.

### I. HORTICULTURAL EXHIBITIONS AND PROMENADES.

| | | | |
|---|---|---|---|
| Feb. 25. | HYACINTHS, &c. .. .. .. .. | 2*s.* 6*d.* | Admission by payment at the door or by tickets previously purchased. |
| March 18. | CAMELLIAS, &c. .. .. .. .. | 2*s.* 6*d.* | |
| April 15. | AZALEAS AND ROSE SHOW .. .. .. | 2*s.* 6*d.* | |
| May 5. | OPENING OF EXHIBITION OF SCULPTURE .. | 2*s.* 6*d.* | |
| Sept. 9. | AUTUMN FLOWER SHOW .. .. .. | 2*s.* 6*d.* | |

| | | | |
|---|---|---|---|
| PROMENADES.—Wednesday, | May 20 | | 2*s.* 6*d.* |
| " " | June 3, 10, 24 | | |
| " " | July 8, 15, 22, 29 | | |
| " Saturdays, | May 16, 23, 30 | | |
| " " | June 6, 13, 20, 27 | | |
| " " | July 4, 11, 18, 25 | | |

### II. GREAT EXHIBITIONS.

| | | |
|---|---|---|
| May 27. | FIRST GREAT EXHIBITION .. .. .. | Admission by tickets, price 5*s.* each, purchased previously to the day of the Show. If payment is made at the door, 7*s.* 6*d.* will be charged for each admission |
| June 17. | SECOND GREAT EXHIBITION .. .. | |
| July 1 | THIRD EXHIBITION AND GREAT ROSE SHOW .. .. .. .. .. | |

## HYACINTHS AND OTHER SPRING FLOWERS, WEDNESDAY, FEBRUARY 25.

FELLOWS Free; FRIENDS 2*s.* 6*d.* each.

### LIST OF PRIZES.

| Class. | 1st Prize £ s. | 2d Prize. £ s. | 3d Prize. £ s. | Total. £ s. |
|---|---|---|---|---|
| 1. 12 Hyacinths, distinct kinds .. (*Nurserymen*) | 1 10 | 1 0 | 0 10 | 3 0 |
| 2. 12 Hyacinths, 6 kinds .. .. .. (*Amateurs*) | 2 2 | 1 1 | — | 3 3 |
| 3. 12 pots of Tulips, 6 kinds .. .. (*Nurserymen*) | 1 10 | 1 0 | 0 15 | 3 5 |
| 4. 12 pots of Tulips, 4 kinds .. .. .. (*Amateurs*) | 1 10 | 1 0 | 0 15 | 3 5 |
| NOTE.—Hyacinths in the above classes must have only one bulb in each pot. Tulips, only three bulbs in each pot. | | | | |
| Class. | | | | |
| 5. Crocuses, collection of .. .. (*Nurserymen*) | 0 15 | 0 10 | — | 1 5 |
| 6. Crocuses, 12 Pots .. .. .. .. (*Amateurs*) | 0 15 | 0 10 | — | 1 5 |
| 7. Collection of 18 Forced Flowers, various (*Nurserymen*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 8. Collection of 12 Forced Flowers, various (*Amateurs*) | 1 10 | 1 0 | 0 10 | 3 0 |
| 9. Collection of 12 Amaryllis, distinct kinds .. (*Open*) | 2 0 | 1 10 | 1 0 | 4 10 |

| Class. | 1st Prize. £ s. | 2d Prize. £ s. | 3d Prize. £ s. | Total. £ s. |
|---|---|---|---|---|
| 10. 6 Epacris, not less than 3 colours .. .. .. (*Open*) | 1 10 | 1 0 | 0 10 | 3 0 |
| 11. 4 Greenhouse Acacias, various .. .. .. (*Open*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 12. 6 Geraniums, forced, distinct kinds (*Nurserymen*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 13. 6 Geraniums, forced, 6 kinds .. .. (*Amateurs*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 14. 6 Pots of Lilies of the Valley .. .. .. (*Open*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 15. 6 Primulas, various colours .. .. .. .. (*Open*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 16. 6 Double Chinese Primroses, not less than 2 colours (*Open*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 17. Miscellaneous Collection of Plants in Flower .. .. | 1 10 | 1 0 | 0 15 | 3 5 |
| NOTE.—Orchids and Stove Plants, not admitted in Classes 7 & 8. | | | | £46 18 |
| NOTE.—THE PRIZES IN CLASS 2 ARE OFFERED BY MR. J. CUTBUSH, OF HIGHGATE. | | | | |

## CAMELLIA AND RHODODENDRON SHOW, WEDNESDAY, MARCH 18.

FELLOWS Free; FRIENDS 2*s.* 6*d.* each.

| SPECIAL PRIZES. | 1st Prize. £ s. | 2nd Prize. £ s. | 3rd Prize. £ s. | Total. £ s. |
|---|---|---|---|---|
| For the three best Camellias .. .. .. .. .. | — | — | — | 10 0 |
| For the three best Tree Mignonettes .. .. .. .. | — | — | — | 3 0 |
| Class. | | | | |
| 1. 6 Camellias in flower, distinct kinds (*Nurserymen*) | 2 10 | 1 10 | 1 0 | 5 0 |
| 2. 6 Camellias in flower, distinct kinds .. (*Amateurs*) | 3 0 | 2 0 | 1 0 | 6 0 |
| 3. 4 Camellias in flower, distinct kinds .. (*Open*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 4. 1 Camellia, specimen plant .. .. .. (*Open*) | 1 0 | 0 15 | — | 1 15 |
| 5. 6 Rhododendrons, 6 kinds .. .. (*Nurserymen*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 6. 4 Rhododendrons, 4 kinds .. .. .. (*Amateurs*) | 1 10 | 1 0 | 0 10 | 3 0 |
| 7. 1 Rhododendron, specimen plant .. .. .. (*Open*) | 1 0 | 0 10 | — | 1 10 |
| 8. 18 Hyacinths, distinct kinds .. (*Nurserymen*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 9. 12 Hyacinths, distinct kinds .. .. (*Amateurs*) | 2 0 | 1 10 | 1 0 | 4 10 |

| Class. | 1st Prize. £ s. | 2d Prize. £ s. | 3d Prize. £ s. | Total. £ s. |
|---|---|---|---|---|
| 10. 6 Hyacinths, new kinds .. .. .. .. (*Open*) | 1 0 | 0 15 | 0 10 | 2 5 |
| NOTE.—Classes 8, 9, and 10, one bulb only in each pot. | | | | |
| 11. 6 pots of Hyacinths, 6 kinds .. .. (*Amateurs*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 12. 24 Pots of Tulips, 6 kinds .. .. (*Nurserymen*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 13. 18 pots of Tulips, 6 kinds .. .. (*Nurserymen*) | 1 10 | 1 0 | 0 15 | 3 5 |
| 14. 12 pots of Tulips, 4 kinds .. .. .. (*Amateurs*) | 1 10 | 1 0 | 0 15 | 3 5 |
| NOTE.—Classes 11, 12, 13, and 14, three bulbs in each pot. | | | | |
| 15. 12 Camellias, cut blooms .. .. .. (*Amateurs*) | 0 10 | 0 7 | — | 0 17 |
| 16. Miscellaneous Collections. Plants in flower .. .. | 1 10 | 1 0 | 0 15 | 3 5 |
| | | | | £67 17 |

# ROYAL HORTICULTURAL SOCIETY.—*Continued.*

## AZALEA AND ROSE SHOW, WEDNESDAY, APRIL 15.

FELLOWS Free; FRIENDS 2s. 6*d.* each.

| CLASS. | 1st Prize. | 2d Prize. | 3rd Prize. | Total. |
|---|---|---|---|---|
| | £ s. | £ s. | £ s. | £ s. |
| 1. 9 Azaleas, distinct kinds .. .. (*Nurserymen*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 2. 9 Azaleas, distinct kinds .. .. .. (*Amateurs*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 3. 6 Azaleas, distinct kinds .. .. .. (*Open*) | 1 10 | 1 0 | 0 15 | 3 5 |
| 4. 6 Roses, distinct kinds .. .. (*Nurserymen*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 5. 6 Roses, distinct kinds .. .. .. (*Amateurs*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 6. 4 Roses, distinct kinds .. .. .. ..(*Open*) | 1 10 | 1 0 | 0 10 | 3 0 |
| 7. 6 Cinerarias, distinct kinds .. .. .. ..(*Open*) | 1 10 | 1 0 | 0 15 | 3 5 |
| 8. 4 Cinerarias, distinct kinds .. .. .. (*Amateurs*) | 1 0 | 0 15 | 0 10 | 2 5 |
| NOTE.—Plants in Classes 1 to 8 must be grown in pots not exceeding 10 inches in diameter. | | | | |
| 9. 4 Greenhouse Acacias, distinct kinds .. .. .. | 1 0 | 0 15 | 0 10 | 2 5 |

| CLASS. | 1st Prize. | 2d Prize. | 3d Prize. | Total. |
|---|---|---|---|---|
| | £ s. | £ s. | £ s. | £ s. |
| 10. 12 Auriculas, 3 of each kind, viz.: 3 grey edged, 3 white edged, 3 green edged, and 3 selfs, distinct kinds .. .. .. .. (*Nurserymen*) | 1 10 | 1 0 | 0 15 | 3 5 |
| 11. 8 Auriculas, 2 of each kind distinct .. (*Amateurs*) | 1 10 | 1 0 | 0 15 | 3 5 |
| 12. 6 Alpine Auriculas, distinct kinds .. (*Amateurs*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 13. 6 Polyanthus, distinct kinds .. .. (*Amateurs*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 14. 4 Cyclamens, distinct kinds .. .. (*Amateurs*) | 0 15 | 0 10 | 0 7 | 1 12 |
| 15. 24 Pansies, cut blooms, 12 distinct kinds .. (*Open*) | 0 10 | 0 7 | — | 0 17 |
| 16. 8 Pansies, Fancies, in pots, distinct kinds .. (*Open*) | 0 15 | 0 10 | 0 7 | 1 12 |
| 17. Miscellaneous collection of Plants in Flower .. .. | 1 10 | 1 0 | 0 15 | 3 5 |
| | | | | £50 6 |

*Rules and Regulations to be had of* Mr. EYLES.


ROYAL EXOTIC NURSERY, CHELSEA, S.W.

# JAMES VEITCH, JUN.,

RESPECTFULLY ANNOUNCES THAT HIS

## CATALOGUE of KITCHEN GARDEN and FLOWER SEEDS

**for 1862-63,**

WITH A LIST OF IMPLEMENTS AND OTHER GARDEN REQUISITES,

IS NOW PUBLISHED, AND WILL BE FORWARDED POST FREE ON APPLICATION.

J. V., JUN., devoting his personal attention to this department of his business, can warrant his SEEDS TRUE TO NAME AND OF THE MOST GENUINE DESCRIPTION.

# WM. WOOD & SON'S

## COLLECTIONS of KITCHEN GARDEN SEEDS

FOR ONE YEAR'S SUPPLY.

| No. 1. | No. 2. | No. 3. | No. 4. |
|---|---|---|---|
| £3. | £2. | £1. | 10s. 6d. |

Containing only Seeds of first-class quality, and varieties that can be confidently recommended.

For particulars, see CATALOGUE, a Copy of which may be had Post Free on application.

*** *All orders amounting to* 10*s. and upwards sent Carriage Free.*

WOODLANDS NURSERY AND SEED WAREHOUSE, MARESFIELD, NEAR UCKFIELD, SUSSEX.

## GARDEN SEEDS.

# S. GLENDINNING & SONS,

**NURSERYMEN AND SEEDSMEN**

(SUCCESSORS TO THE LATE R. GLENDINNING),

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

| | | | | | | |
|---|---|---|---|---|---|---|
| **No. 1** | **contains** | **36 Quarts of PEAS,** | **and all other Seeds** | **in proportion** | | **£5 5 0** |
| **No. 2** | ,, | **28 Quarts** | ditto | ditto | ditto | **4 4 0** |
| **No. 3** | ,, | **20 Quarts** | ditto | ditto | ditto | **3 3 0** |
| **No. 4** | ,, | **12 Quarts** | ditto | ditto | ditto | **2 2 0** |
| **No. 5** | ,, | **6 Quarts** | ditto | ditto | ditto | **1 1 0** |

COLLECTIONS of FLOWER SEEDS.

| | | | | | | |
|---|---|---|---|---|---|---|
| **No. 1,** | **containing** | **100** | **Large Packets** | **of Best Hardy Annuals** | ... ... | **£0 18 0** |
| **No. 2,** | ,, | **50** | ditto | ditto ditto | ... ... | **0 9 6** |
| **No. 3,** | ,, | **24** | ditto | ditto ditto | ... ... | **0 5 0** |
| **No. 4,** | ,, | **25** | ditto | **Half-Hardy Annuals** | ... ... | **0 7 6** |
| **No. 5,** | ,, | **12** | ditto | ditto ditto | ... ... | **0 4 0** |
| **No. 6,** | ,, | **25** | ditto | **Tender Annuals** | ... ... | **0 12 6** |
| **No. 7,** | ,, | **12** | ditto | ditto ditto | ... ... | **0 6 0** |

The above Collections consist only of best and most useful varieties, and are of the finest quality.

S. G. & SONS' CATALOGUE of KITCHEN GARDEN, AGRICULTURAL, and FLOWER SEEDS, is now ready, and may be had on application.

CHISWICK NURSERY, LONDON, W.

**Splendid New Bedding Plants.**

MESSRS. VEITCH AND SON, Exeter and Chelsea, S.W., are now prepared to supply SEEDS of the following splendid novelties, recently introduced by them, feeling confident that two such fine additions to the Flower Garden cannot fail to give general satisfaction.

AMARANTHUS MELANCHOLICUS RUBER.—Introduced from Japan by Mr. J. G. VEITCH; its beautiful blood red foliage renders it much superior to the Perilla, where colour and effect are required, and this, combined with its dwarf compact habit (averaging from 9 to 12 inches), cannot fail to make it the most popular dark-foliaged bedding plant yet introduced. It has been commended by the Floral Committee of the Royal Horticultural Society, on account of its distinct habit as a bedding plant.

The following persons having obtained their Seed of the above direct from Messrs. V. & SON, will be enabled to supply it genuine :—

Austin & M'Aslan, Messrs., Glasgow
Beck, Henderson & Co., Messrs., Adelphi, London
Butler & M'Culloch, Messrs., Covent Garden
Cattell, Mr., Westerham, Kent
Cutbush, Messrs. W. & Sons, Highgate, N.
Charlwood & Cummins, Covent Garden
Cooper & Bolton, Messrs., 152, Fleet Street
Dickson, Messrs. F. & A., Chester
Dickson, Messrs. James & Son, Chester
Dobson, Messrs., Isleworth
Downie, Laird, & Laing, Messrs., Edinburgh
Finney, Messrs. S. & Co., Gateshead
Fisher, Holmes, & Co., Messrs., Sheffield
Fraser, Richardson, & Goad, Messrs., 82, Bishopsgate Street
Hollamby, Mr. E., Tunbridge Wells
Hooper, Messrs. W. & Co., Covent Garden
Krelage, Messrs., & Son, Haarlem, Holland
Lawson, Messrs. P. & Son, Edinburgh and London
Methven, Mr., Edinburgh
Minier & Co., Messrs., 60, Strand
Shaw, Messrs., & Co., Manchester
Smith, Messrs. F. & A., Dulwich, Surrey
Smith, Messrs. Peter & Co., Hamburgh
Smith & Simons, Messrs., Glasgow
Thorburn & Co., Messrs., New York
Stuart & Mein, Messrs., Kelso, N.B.
Turner, Mr. Chas., Slough
Vilmorin, Messrs., & Co., Paris
Wood & Ingram, Messrs., Huntingdon
Wrench & Son, Messrs., London Bridge, E.C.

MIMULUS CUPREUS.—This beautiful little perfectly hardy novelty was sent us by Mr. Pearce, from the Andes of Chili, where he met with it at an elevation of from 6000 to 7000 feet.

Its dwarf and compact habit, not exceeding 4 to 6 inches in height, its perfect hardiness, and producing its bright orange-crimson flowers in great profusion, render it equally useful for the Flower Garden or for Pot culture.

It has been constantly exhibited during the past season, and had medals awarded it at both the Royal Horticultural and the Royal Botanic Societies. It is indeed a charming plant, and cannot fail to give general satisfaction.

The undermentioned having procured their Seed of Messrs. VEITCH & SON are able to supply the preceding true and genuine :—

Austin & M'Aslan, Messrs., Glasgow
Beck, Henderson & Co., Messrs., Adelphi, London
Butler & McCulloch, Messrs., Covent Garden, W.C.
Cattell, Mr., Westerham, Kent
Charlwood & Cummins, Messrs., Covent Garden
Carter & Co., Messrs., Holborn
Cooper & Bolton, Messrs., Fleet Street
Cunningham, Messrs. Geo. & Son, Liverpool
Dickson, Messrs. F. & A., Chester
Ernst & Von Spreckelsen, Hamburgh
Finney, Messrs. S. & Co , Gateshead
Fraser, Richardson & Goad, Messrs., 82, Bishopsgate Street
Hooper, Messrs., & Co., Covent Garden
Huber Frères, Messrs., Hyères, France
Krelage, Messrs., & Son, Haarlem, Holland
Lawson, Messrs., & Son, Edinburgh and London
Methven, Mr., Edinburgh
Osborn & Son, Messrs., Fulham, S.W.
Shaw & Co., Messrs., Manchester
Smith, Messrs. P., & Co., Hamburgh
Smith & Simons, Messrs., Glasgow
Stuart & Mein, Messrs., Kelso, N.B.
Sutton, Messrs., & Sons, Reading
Thorburn & Co., Messrs., New York
Turner, Mr. Chas., Slough
Van Houtte, M. Louis, Ghent, Belgium
Vilmorin & Co., Messrs., Paris
Wood & Ingram, Messrs., Huntingdon

Prices to the Trade on application.

Royal Exotic Nurseries, Exeter and Chelsea—Jan. 17.

**DUTCH BULBS — SURPLUS STOCK.—** Orders over 10s. value carriage paid.

| | Per 100—s. | d. |
|---|---|---|
| HYACINTHS, in fine mixture .. .. .. | 20 | 0 |
| LATE TULIPS .. .. .. .. .. | 10 | 0 |
| EARLY TULIPS .. .. .. .. .. | 6 | 0 |
| PARROT TULIPS .. .. .. .. .. | 7 | 6 |

Also a variety of other Bulbs at equally low prices; all in good condition.

PRICE LISTS post free on application.

WM. WOOD & SON, Woodlands, Maresfield, near Uckfield.

**DOUBLE ITALIAN TUBEROSE ROOTS,** 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT's Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent.

**GLENNY'S SUPERB BALSAMS,** 6 classes, 37 stamps; mixed, 13; any single colour, 7.

GLENNY'S INTERNATIONAL REMEMBRANCER, 35 Engravings, cloth and gold, 20 stamps; plain, 13.

GLENNY'S LIST of the BEST SIXTY SEEDS for the Flower Garden, free for a directed envelope.

Nurseries to Let, and others Wanted. Sales and Valuations by G. GLENNY, Fulham, S.W.

### Roses.

**H. LANE AND SON,** Nurseries, Great Berkhamsted, beg to call particular attention to their splendid collection of ROSES, viz.:—

STANDARDS of the popular kinds, fine and strong.

DWARF STANDARDS, very strong, and best sorts, suitable for giving an immediate effect in beds, &c.

Ditto in 32-sized Pots for immediate Forcing, fine and good.

DWARFS on own roots, the leading kinds for beds, &c.

Also fine Plants for Conservatory or Greenhouse of TEA SCENTED (Dwarfs).

### Roses.

**GEO. PARSONS** begs to offer fine STANDARD ROSES, from 2½ to 4 feet stems, at 5l. per 100, or 15s. per dozen; including the New Varieties, 18s. per dozen, or 6l. 10s. per 100; the last New Varieties of 1862, DWARFS, 30s. per dozen.

CATALOGUES free on application.

Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

### To the Trade.—Vines from Eyes.

**H. LANE AND SON,** Nurseries, Great Berkhamstead, have to offer a fine large quantity of well ripened CANES of Buckland Sweetwater, Prolific Sweetwater, Trentham, Muscat Hambro', Golden Hambro', Cannon Hall Muscat, Black St. Peter, Charlesworth Tokay, West's St. Peter, &c.

**APPLE and PEAR TREES, &c.—** 100 doz. Dwarf and Pyramidal PEAR TREES, best sorts, 20s. per doz., packing included.

50 doz. Dwarf and Pyramidal APPLE TREES, best sorts, 12s. per doz., packing included.

GENERAL LISTS of NURSERY STOCK on application.

CHARLES B. SAUNDERS, Nurseryman, &c., Jersey.

**AMBROISE VERSCHAFFELT, NURSERYMAN,** Ghent, Belgium, has the pleasure to offer now for the first time his two new excellent Fruits—

APPLE CALVILLE GARIBALDI .. 8s.
PEAR BÉURRÉ DE GHÉLIN .. .. 5s.

This excellent Pear obtained the First Prize at the great Pomological Show at Tournay, Belgium.

N.B. These two new Fruits are figured in VERSCHAFFELT'S "Illustration Horticole."

**THE GREAT VINE at HAMPTON COURT.—** The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42s. and 60s. p. doz.
" " fruiting plants in 12-inch pots, 10s. 6d. each.

If purchased in large numbers a considerable reduction will be made in price.

JACKSON & SON, Nurseries, Kingston, S.W.

**EXTRA STRONG FRUITING VINES.—** All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7s. 6d. each; smaller, for Planting-out, from 3s. 6d. each. A reduction in price will be made to large purchasers.

"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.

JAMES DICKSON & SONS, The Newton Nurseries, Chester.

### Foster's Seedling Grape.

**MESSRS. JOHN AND CHARLES LEE** have to offer Mr. Foster's stock of this fine NEW GRAPE, which can be confidently recommended for general cultivation in cool Vineries. It has borne an abundant crop in the large Conservatory of the Royal Horticultural Society at Chiswick, the bunches being large, with medium sized berries of a pale amber colour. The flavour of Foster's Seedling is most luscious, equalling the richness of its twin sister Lady Downe's, and as far as can be seen, partaking of the same quality of hanging well without shrivelling.

Canes for planting, 7s. 6d. each. A few Fruiting Canes at 21s. each.

Royal Vineyard Nursery and Seed Establishment, Hammersmith, London, W.

### Fruit Trees.

**RICHARD SMITH** has no hesitation in saying, that he possesses by far the largest Stock of FRUIT TREES in the kingdom, consisting of Apples, Pears, Plums, Cherries, Peaches, Nectarines, and Apricots, in Maiden Trees, Dwarfs, Bushes, Pyramids, Half-Standards, and Standards; Dwarf-trained, Half-Standard, Standard, and Horizontally-trained Trees, of the finest sorts, and in the best possible condition. DESCRIPTIVE PRICED LISTS on application.

RICHARD SMITH, Nurseryman, Worcester.

**JOSEPH FRYER,** Clarendon Nurseries, Camberwell, S., has a large Stock of the undermentioned, which he can supply Cheap:—Limes, Poplars, Laburnums, Scarlet Thorns, Lilacs, Guelder Rose, Yellow Broom, Althæa frutex, Weigelas, Aucubas, Andromedas, Vacciniums, Salisburias, Ivies, Clematis, Glycine, Pyrus japonica, Menispermum, Periploca, Euonymus japonicus and variegatus; fine Dwarf-trained Apples, Pears and Plums; fine Standard-trained Pears and Plums; fine Grape Vines, from layers; Figs, Gooseberries and Currants, a large stock of Herbaceous and Alpine Plants, Ferns and Lycopods, &c.; likewise all sorts of Peat Mould, Loam, Manure, Gravel, Silver Sand, Turf, Grotto Material, &c.

### Seed Trade.

**JAMES CARTER AND CO.,** Holborn, W.C., have a few lbs. of the following to offer to the Trade:—

MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE,
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION.
TOMATOE DE LAYE.
HENDERSON'S PINE-APPLE BEET.

### Actinella grandiflora, Torrey and Gray.

**W. THOMPSON,** SEEDSMAN, Tavern Street, Ipswich, begs to announce that he has just received a small consignment of Seed of the above remarkable Composite, from the Rocky Mountains. It is described by Professor Gray, in "Plantæ Parryanæ," as a splendid Dwarf Alpine Plant, with (yellow) flower heads nearly 3 inches across. Perfectly new to Europe. Height 6 to 9 inches. Ray florets apparently marked with a black spot at base, as in Gazania. Quantity very limited. Packets free by post for 13 stamps, which must be sent with the order.

### Silver Banksian Medal. Two First-class Certificates.

RHODANTHE MACULATA.

**W. THOMPSON,** Tavern Street, Ipswich, is now prepared to supply Seed of the above beautiful novelty, introduced by him from Australia. Price per packet, 1s.

W. T.'s DESCRIPTIVE PRICED CATALOGUE for 1863 is now ready.

### Hendon Park Nurseries, N.W.

**CAMELLIAS,** all the best sorts, fine plants, beautifully set with bloom buds, 24s. to 30s. per dozen.

PANSIES, all the best show flowers, from 6s. per doz.; new bedding Pansy, BOY in BLUE, very early, 6s. per doz.

EDWARD SHENTON.

### Spring Blooming Plants.

**CAMELLIAS,** including the best new varieties, fine plants, set with bloom buds, from 30s. per doz.; extra size, from 60s.

HEATHS, EPACRIS, CINERARIAS, and JASMINUM GRANDIFLORUM (grafted), remarkably fine plants, at moderate prices.

Also HUMEA ELEGANS, extra strong, in 6-inch pots, 18s. per doz.

JAMES DICKSON & SONS, Newton Nurseries, Chester.

### Banks's Best New Fuchsias.

**E. G. HENDERSON AND SON** are now sending out the three following First-class Flowers:—

MDLLE. TREBELLI (BANKS).
BIANCA MARGINATA (BANKS).
MARS (BANKS).

As neat young plants for growing on into specimens (and others adapted for stock), price 3s. 6d. and 5s. each. Also plants of all last year's best varieties, 1s. 6d. to 2s. 6d. each.

SOLANUM CAPSICASTRUM FOLIA VARIEGATA, a beautiful table plant, with elegantly variegated leaves and red berries; drooping habit; 3s. 6d. and 5s. each.

Wellington Nursery, St. John's Wood, London, N.W.

### Gladioli.

**WM. PAUL** (Son and Successor to the late A. PAUL) respectfully announces that his BULB CATALOGUE includes a descriptive list of all the most valuable varieties of GLADIOLI, the roots of which are unusually fine. He would remind intending purchasers that he was awarded prizes at both the Royal Horticultural and Crystal Palace September Shows. Price 4s. to 42s. per dozen.

Nurseries and Seed Warehouse, Waltham Cross, N.

**GLADIOLUS, SEEDLINGS of GANDAVENSIS.**

| | £ | s. | d. |
|---|---|---|---|
| 50 in 25 extra choice varieties .. .. | £2 | 2s. | 0d. |
| 25 in 25 " " .. .. | 1 | 5 | 0 |
| 12 in 12 " " .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 " " .. .. .. | 1 | 5 | 6 |
| 25 in 25 " " .. .. .. | 0 | 13 | 6 |
| 12 in 12 " " .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2s. 6d. per doz., 17s. 6d. per 100.

BUTLER & MCCULLOCH, Seed Merchants, Covent Garden Market, W.C.

### Gladiolus Gandavensis and Varieties.

**B. S. WILLIAMS'S** choice collection of these superb Bulbous Plants, which are beyond doubt the handsomest autumnal ornaments to the garden, is now ready for sending out. Great attention has been bestowed on the selection, amongst which are many novelties, and none but those of the best quality are offered.

Collection of 24 Splendid Varieties, one root of each, 21s.

Collection of Choice Named Varieties, 6s., 8s., and 10s. per doz.

A PRICED and DESCRIPTIVE LIST on application.

Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

### Large Importation of Gladioli.

**WM. WOOD AND SON** beg to announce the arrival of a choice and carefully selected assortment of the above in excellent condition, consisting of the best and most popular hybrid varieties, from which they will be happy to make selections at the following very moderate prices, viz.,

HYBRIDS OF GANDAVENSIS.

| | £ | s. | d. |
|---|---|---|---|
| 100 in 50 choice kinds .. .. .. | £4 | 0 | 0 |
| 50 in 50 " .. .. .. .. | 2 | 10 | 0 |
| 50 in 25 " .. .. .. .. | 2 | 0 | 0 |
| 25 in 25 extra choice kinds .. .. | 1 | 5 | 0 |
| 25 in 12 " .. .. .. | 1 | 0 | 0 |
| 12 in 12 " .. .. .. | 0 | 10 | 0 |

Newer varieties at proportionately low prices.—See List.

Fine mixed GLADIOLI, per 100, 17s. 6d.; per doz., 2s. 6d.

Carriage paid on orders over 10s.

LISTS free on application.

Woodlands Nursery and Seed Warehouse, Maresfield, Uckfield, Sussex.

### Gladiolus Brenchleyensis (True).

**YOUELL AND CO.** beg to offer this season strong Flowering BULBS of the above, unequalled by any other for its brilliancy of colour, at 3s. 6d. per dozen; or 25s. per 100. Trade price on application, and when quantities are ordered a considerable reduction will be made.

The *Gardeners' Chronicle* of August 23, 1862, says:—"The spikes you have sent us are magnificent. We have as yet seen nothing of the kind so handsome near London. It is undoubtedly the most showy of the whole race of Gladioli."

CATALOGUES of their extensive Collection, for which the First Class Prize was awarded at the Crystal Palace Show, Sept 3, 1862, and two First Class Prizes at the Royal Horticultural Society's Show, South Kensington, Sept. 10, 1862, will be forwarded on application.

Royal Nurseries, Great Yarmouth.

### Genuine Seeds.—Carriage Free.

**WM. CUTBUSH AND SON** beg to intimate that they are now prepared to execute orders for GENUINE GARDEN SEEDS, for which their house is extensively known.

Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.

CATALOGUES free on application.

Highgate, London, N.

**NEW VERBENA, "RUGBY HERO."—** The above beautiful New VERBENA will be sent out in May, 1863. It received a First-class Certificate from the Royal Horticultural Society on 10th Sept. last. Colour, light rose, with vivid carmine ring surrounding a pure white eye; very large truss. Each, 5s.; six for 25s. Special price to the Trade on application to

WM. HY. TREEN, Victoria Nursery, Rugby.

### Early Spring Flowers.

**WEBB'S GIANT POLYANTHUS;** ditto COWSLIP; Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to

RICHARD WEBB, Calcot Gardens, Reading.

### Choice Tropæolum Seed.

**CHARLES J. BARKER** begs to offer SEED from his beautiful new Hybrid varieties, exhibited at the Royal Horticultural Gardens, and of which a highly favourable account appeared in the *Gardeners' Chronicle* at the time. All colours mixed, 1s. per packet; free for 13 stamps.

Godalming Nursery, Surrey.

### Vegetable and Flower Seeds, Carriage Free.

**WM. PAUL** (Son and Successor to the late A. PAUL) respectfully announces that his SEED CATALOGUE is now ready, free by post.

The COLLECTION of VEGETABLES recently commended by the Royal Horticultural Society was grown from Seeds furnished by him.

Nurseries and Seed Warehouse, Waltham Cross, N.

### Flower and Vegetable Seed Catalogue.—Plant and Flower Root Catalogue.

**C. TYSO,** FLORIST and SEEDSMAN, will send the above NEW LISTS to any address for one stamp.

SEED POTATOES, per bushel, true to kind.

| | | | | |
|---|---|---|---|---|
| Ash Leaf .. .. | 7s. | Early Handsworth .. | 7s. 6d. | Bags included. |
| Early Oxford | 7s. | Fortyfold .. .. | 5s. 6d. | |

Wallingford, Berks.

**WHEELER'S LITTLE BOOK for 1863.**

WHEELER'S TOM THUMB LETTUCE.

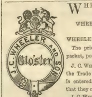
WHEELER'S IMPERIAL LETTUCE

The price of the Lettuce is 1s. per packet, post free.

J. C. WHEELER & SON beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. WHEELER & SON, Seed Growers, Gloucester.

### New Seeds.



**PETER LAWSON AND SON,** THE QUEEN'S SEEDSMEN, of Edinburgh and London, are prepared to send out

FARM and GARDEN SEEDS

of every kind, and of the finest quality.

Orders for exportation executed with prompt and careful attention.

28, King Street, Cheapside, and 15, Lawrence Lane, E.C.

**CHARLWOOD AND CUMMINS** beg to announce that their CATALOGUE of GARDEN, AGRICULTURAL, and FLOWER SEEDS is now ready, and will be forwarded on application. They also now offer their

NEW NEMOPHILA DISCOIDALIS ELEGANS,

commended by the Royal Horticultural Society in their Proceedings; it is thus noticed:—

"The flowers of this variety (which is a very pretty one) are of a bright chocolate or light reddish maroon, conspicuously bordered with white. The colours are distinctly marked and very effective." It is commended as a very desirable Annual for general cultivation.

2s. 6d. per packet. Price to the Trade per ounce,

14, Tavistock Row, Covent Garden, London.

A TREE or SHRUB SEED LIST will be published shortly.

**DOWNIE, LAIRD, AND LAING** have much pleasure in offering the following FIRST CLASS NOVELTIES, which they can with confidence recommend as being decided acquisitions.

CALCEOLARIA CLOTH of GOLD, described by the Floral Committee of the Royal Horticultural Society as follows:—"A desirable bedding variety of dwarf habit, growing from 6 to 9 inches high; the leaves are narrow and deeply serrated, the flowers in fine compact trusses of a deep clear yellow, and of medium size and firm substance;" stems stiff and erect, requires no staking; as a dwarf yellow for front lines, or ribbon borders, it has no equal. Certificate of Merit by the Floral Committee, First Class Certificate at Regent's Park. Price 2s. 6d. each, 18s. per dozen. Special price for quantities on application.

DELPHINIUM BICOLOR GRANDIFLORUM.—This is a striking and most beautiful variety. It was commended by the Floral Committee of the Royal Horticultural Society, who described it as follows:—"A showy variety with large flowers, in which the sepals were of a dark blue, and the petals of a creamy white colour, contrasting strongly with the darker colour surrounding them." Price 5s. each. Special offers to the Trade on application.

Stanstead Park, Forest Hill, S.E.; and Edinburgh.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.

RICHARD SMITH, Nurseryman, Worcester.

A. STANSFIELD AND SONS beg to announce that their LIST of BRITISH FERNS for this season, including the New and Rare varieties, at reduced prices, is now ready, and may be had on application, enclosing two postage stamps. Also their GENERAL FERN LIST, No. 6, for 4 postage stamps, which purchasers may deduct.

Vale Nurseries, Todmorden.

### Planting Season.

WM. URQUHART AND SONS, Dundee, beg to announce that their PRICED LIST of FOREST TREES, ORNAMENTAL TREES, SHRUBS, BORDER FLOWERS, ROSES, FERNS, and AURICULAS, may now be had on application.—Dundee, Jan. 17.

DEODAR CEDARS.

2½ to 3 feet, 2*s.* 6*d.* each, 24*s.* per dozen, or 9*l.* per 100.
3 to 4 feet, 3*s.* each, 30*s.* per dozen, or 12*l.* per 100.
4 to 5 feet, 4*s.* each, 42*s.* per dozen, or 17*l.* per 100.

A fine general Collection of CONIFERÆ, a CATALOGUE of which will be sent gratis.

Apply to J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

HANDSOME SPECIMENS of SPRUCE FIR, from 5 to 6 and 8 feet, by the dozen or 100; strong Kentish or Webb's COB NUT TREES, 20*s.* to 40*s.* per 100; extra size, do., 4*s.* to 6*s.* per dozen; Standard Trained PEACHES and NECTARINES, very fine; also Dwarf trained do.; PEARS, PLUMS, and CHERRIES, DWARF APPLES, PEARS, PLUMS, and CHERRIES, 6*s.* and 9*s.* per dozen.

EPPS' Nursery and Seed Establishment, Maidstone.

### Thorn Quicks.

JNO. CARTER, NURSERYMAN, Keighley, has a large stock of the above from 1 to 4 years' Transplanted, well rooted and very strong.

J. C. will be glad to furnish samples and prices, and also CATALOGUE of GENERAL NURSERY STOCK.

FOR SALE, 12 fine STANDARD PORTUGAL LAURELS, the stems about 4 feet high from the ground, fine symmetrical heads, 5 feet in diameter. They have been several times transplanted, and will remove any distance with perfect safety.

For price or other particulars apply to GEORGE LAMB, The Gardens, Osmaston Manor, Ashbourn, Derby.

### Larch, Quicks, &c.

CHIVAS AND WEAVER, Chester (late GEORGE CHIVAS), offer FOUR MILLIONS of TRANSPLANTED LARCH, from 1½ to 4½ feet, of very superior quality. FOUR MILLIONS of TRANSPLANTED THORNS of various sizes, a large portion of which are exceedingly strong. Orders for 10,000 of either, delivered free at any Railway Station. A Sample Bale, containing 100 of each, 5 sizes of Larch, 22*s.* 9*d.*, and of Quicks, 15*s.*, will be forwarded on receipt of a Post-office Order from unknown Correspondents.

A General PRICED LIST on application.

LARGE ORNAMENTAL TREES.—The Subscribers beg to offer very fine specimen plants of ARAUCARIA IMBRICATA, from 5 to 9 ft.; CEDRUS LIBANI, 7 to 12 ft.; WELLINGTONIA GIGANTEA, 5 to 9 ft.; PINUS EXCELSA, 7 to 10 ft.; also Spruce, Scotch, and Larch Firs, from 7 to 10 ft., with Limes, Birch, Beech, Elm, Sycamore, and Laburnum, 9 to 11 ft.; likewise Weeping Ash, Lime, and Willow, on fine tall stems. The above will be sold cheap, and if taken in quantity a great reduction will be made in the price.

J. IVERY & SON, Dorking Nursery.

### Large Limes, &c.

HENRY GODFREY, NURSERYMAN, Stourbridge, has to offer several hundred very fine LIME TREES, from 8, 10, 12, to 14 feet in height, most of them feathered two-thirds from the top downwards, and well rooted. Also about 500 WEEPING ELMS, 7 to 9 feet, fine heads, and straight in the stems; a few AILANTUS GLANDULOSA, 10 feet, double pink and single scarlet; THORNS, ENGLISH YEWS, PORTUGAL LAURELS, ARBOR-VITÆ, in sorts, from 7 to 10 feet.

The above are all well-grown stuff, and will be found useful to gentlemen planting where immediate effect is required.

Prices to be had on application.

A large Stock of well-grown QUICK and HOLLY on hand.

CHARLES DALY AND SON will sell Three Years' SEEDLING THORNS at 2*s.* per 1000.
1 Year Transplanted ditto, fine, at 4*s.* per 1000.
2 Years', ditto, ditto, 8*s.* per 1000.
COMMON LAUREL, 15*s.* per 1000.
PORTUGAL LAUREL, 1 to 1½ feet, 4*s.* per 100.
SWEET BAYS, 3 years' potted, 3*d.* to 6*d.* each.
RHODODENDRONS, good furnished plants, 20*s.* per 100.

Variegated Holly, Aucuba japonica, Irish and Common Yews, Privet, Seedling and Transplanted Forest Trees, cheap, for cash. Prices free by post on application.

Coleraine, Ireland.

### The Planting Season.

THE EXECUTORS of MR. JNO. YOUNG, late Proprietor of the extensive Nursery Grounds, Taunton, have determined to reduce this large and valuable Stock. They respectfully invite the attention of Noblemen, Gentlemen, and the Trade to the FOREST TREES, HARDY and ORNAMENTAL TREES and SHRUBS, large and small; CONIFERÆ, EVERGREENS, HERBACEOUS, and a great variety of other PLANTS.

STANDARD, DWARF, and POTTED ROSES.

STANDARD, DWARF-TRAINED, and PYRAMIDAL FRUIT TREES.

The varied and excellent quality of this Stock is so well known that comment is unnecessary.

The Grounds are open for inspection and sale daily, and in quantities, at greatly reduced prices.

Applications by post direct to the EXECUTORS of the late Mr. John Young, Taunton.

The above capital FREEHOLD NURSERY
(Established more than 30 years),
containing about 12 Acres of highly productive Land, with the usual Appurtenances, situate at Taunton, the County Town of Somersetshire, in excellent condition, with a good connection, is
TO BE SOLD, with Early Possession,
in consequence of the Decease of the late Owner.
For particulars, apply as above.

SCOTT'S CATALOGUES.

No. 1.—FRUIT CATALOGUE and FRUIT TREE CULTIVATOR'S DIRECTORY describes nearly 800 of the best and most esteemed of our Fruits, with copious Observations and Directions about their Cultivation; the formation of Pyramids, Root Pruning, and other matter interesting to lovers of fine Fruit. Price 7*d.*

No. 2.—The BULB, WINTER, and SPRING BEDDING-PLANT CATALOGUE, 18 pages.

No. 3.—The DESCRIPTIVE CONIFEROUS CATALOGUE, 25 pages.

No. 4.—The ROSE CATALOGUE, 22 pages.

No. 5.—The SELECT NURSERY STOCK, 15 pages.

In December, the VEGETABLE and FLOWER SEED CATALOGUE.

In April, the SUMMER BEDDING CATALOGUE, 72 pages.

Apply to J. SCOTT, Merriott, Crewkerne, Somerset.

DICKSONS AND CO. have just published the following CATALOGUES, which may be had free on application:—

1. VEGETABLE, AGRICULTURAL, and FLOWER SEEDS.
2. FOREST and ORNAMENTAL TREES and SHRUBS.
3. RHODODENDRONS and CONIFERÆ.
4. ROSES.
5. FRUIT TREES.
6. STOVE and GREENHOUSE PLANTS and FERNS.
7. HERBACEOUS and ALPINE PLANTS.

Their DESCRIPTIVE CATALOGUE of FLORISTS' FLOWERS will be ready in March.

D. & Co. respectfully invite the attention of gentlemen engaged in planting to their extensive Stock of FOREST TREES, which are remarkably healthy and well rooted.

They have also a large Collection of ORNAMENTAL TREES and SHRUBS of all sizes, which they are offering at very reasonable rates.

1, Waterloo Place, Edinburgh.

### Specimen Conifers and other Trees.

JAMES VEITCH AND SON beg to call the attention of noblemen and gentlemen to their fine Stock of Specimen CONIFERS and other TREES. From the quantity they have they are enabled to offer them at reduced prices, which will be given on application:—

| | | | |
|---|---|---|---|
| Abies Douglasii .. | 3 to 5 feet. | Juniperus excelsa | 4 to 6 feet. |
| ,, .. | 5 to 8 ,, | Picea amabilis .. | 1 to 1½ ,, |
| Araucaria imbricata .. .. | 4 to 6 ,, | ,, nobilis .. | 1½ to 2½ ,, |
| ,, ,, .. | 6 to 8 ,, | ,, lasiocarpa . | 1½ to 2 ,, |
| Cedrus Deodara .. | 3 to 4 ,, | ,, ,, .. | 3 to 4 ,, |
| ,, ,, .. | 4 to 6 ,, | ,, Nordmanniana .. | 4 to 5 ,, |
| ,, ,, .. | 6 to 8 ,, | ,, Pinsapo . | 3 to 4 ,, |
| ,, ,, .. | 8 to 10 ,, | Thuja gigantea .. | 3 to 4 ,, |
| ,, ,, .. | 10 to 12 ,, | ,, Lobbi .. | 3 to 4 ,, |
| ,, Libani .. | 4 to 6 ,, | ,, ,, .. | 4 to 6 ,, |
| Cryptomeria Lobbi | 4 to 6 ,, | Thujopsis borealis | 3 to 5 ,, |
| Cupressus Lawsoniana .. .. | 3 to 4 ,, | Wellingtonia gigantea .. .. | 2½ to 3½ ,, |
| Irish Yews .. | 4 to 6 ,, | ,, ,, .. | 4 to 5 ,, |
| ,, .. .. | 6 to 9 ,, | ,, ,, .. | 5 to 7 ,, |

The whole of the above either in tubs or with good balls.

Standard PORTUGAL LAURELS, 3 to 4½ feet stems, with fine heads 4 to 5 feet through.

WEEPING HOLLIES, 4 to 5 feet stem, with fine heads, 3 to 4 feet through.

GREEN HOLLIES, pyramids, 8 to 10 feet, fine.

Also a fine stock of Dwarf Trained PEARS and APPLES, KALMIA LATIFOLIA, and BERBERIS ASIATICA, the latter particularly recommended for Fences.

Nursery, Exeter.

DOBSON'S for NEW PELARGONIUMS.
DOBSON'S for SHOW PELARGONIUMS.
DOBSON'S for FANCY PELARGONIUMS.
DOBSON'S for SPOTTED PELARGONIUMS.
DOBSON'S for NEW CINERARIAS.
DOBSON'S for PRIZE CINERARIAS.
DOBSON'S for PANSIES.
CATALOGUES Free.
J. DOBSON & SONS, Woodlands Nursery, Isleworth.

DOBSON'S PRIZE CALCEOLARIA SEED is unequalled in the kingdom. Annual Sale exceeds 2000 packets. In sealed packets, 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.* each.

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE CINERARIA SEED.—Ten First Prizes awarded to our collection in the spring, 1862. In sealed packets, 1*s.*, 2*s.* 6*d.*, and 5*s.*

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE PRIMULA SINENSIS SEED. In sealed packets, 1*s.*, 2*s.* 6*d.*, and 5*s.*

J. DOBSON & SONS, Seedsmen, Isleworth.

### New Bedding Plant.

AMARANTHUS MELANCHOLICUS RUBER (VEITCH). Sealed packets, 1*s.* and 2*s.*

J. DOBSON & SONS, Seedsmen, Isleworth.

W. B. SMALE'S COLLECTIONS of GARDEN SEEDS.

| | No. 1. 10*s.* | No. 2. 20*s.* | No. 3. 30*s.* | No. 4. 50*s.* | No. 5. 70*s.* |
|---|---|---|---|---|---|
| Peas .. .. | 6 pts. | 6 qts. | 9 qts. | 17½ qts. | 23 qts. |
| Beans .. .. | 3 ,, | 4 ,, | 5 ,, | 9 ,, | 15 ,, |
| French Beans & Scarlet Runners | 1 ,, | 1 ,, | 3 pints | 2½ ,, | 3 ,, |
| Beet .. .. | ½ oz. | 1 oz. | 1½ oz. | 2½ oz. | 3 oz. |
| Broccoli, of sorts | 2 pkts. | 4 pkts. | 1½ ,, | 2 ,, | 4 ,, |
| Brussels Sprouts | ½ oz. | ½ oz. | 1 ,, | 1 ,, | 1½ ,, |
| Borecole, sorts .. | 2 pkts. | ¾ oz. | 1 ,, | 1½ ,, | 2 ,, |
| Savoy .. .. | 2 pkts. | ½ ,, | 1 ,, | 1 ,, | 2 ,, |
| Celery .. .. | 2 ,, | ½ ,, | ½ ,, | ½ ,, | 1 ,, |
| Carrot .. .. | 1 oz. | 2 ,, | 3½ ,, | 6 ,, | 9 ,, |
| Cauliflower .. | 1 pkt. | 1 pkt. | ¼ ,, | ½ ,, | ½ ,, |
| Cress .. .. | 1 oz. | ½ pt. | 1 pint | 1½ pint | 1 quart |
| Cucumber, Ridge and Frame sorts | 1 pkt. | 3 pkts. | 3 pkts. | 3 pkts. | 3 pkts. |
| Lettuce .. .. | 2 ,, | 4 ,, | 1 oz. | 2 oz. | 2 oz. |
| Mustard .. .. | 1 oz. | ½ pint | 1 pint | 1½ pint | 1 quart |
| Onion .. .. | ¾ ,, | 2 oz. | 2½ oz. | 6 oz. | 7 oz. |
| Radish .. .. | 1 ,, | 2 ,, | 4 ,, | 6 ,, | 6 ,, |
| Salsafy & Scorzonera, each | 1 pkt. | 1 pkt. | 1 pkt. | 1 pkt. | 1 pkt. |
| Spinach, Round and Prickly | 1 oz. | 2 oz. | 4 oz. | 5 oz. | 8 oz. |
| Tomato .. .. | 1 pkt. | 2 pkts. | 2 pkts, | 2d kts. | 2 pkts. |

If any sorts are not wanted, larger quantities of the others will be sent.

A PRICED LIST may be had gratis on application.

Barton Nursery, St. Mary Church, near Torquay,

### Seeds, Seeds, Seeds.

S. GLENDINNING AND SONS' (Successors to the late R. GLENDINNING) CATALOGUE of KITCHEN GARDEN, AGRICULTURAL and FLOWER SEEDS is now ready and may be had on application.

Chiswick Nursery, London, W.—January, 1863.

### Rhododendrons, Scarlet and Other Choice kinds suitable for Potting.

JNO. WATERER has the pleasure to say that he has quantities of the above in fine blooming Plants, very suitable for Forcing. The following kinds would be included in selections:—

| | |
|---|---|
| BLANDYANUM | VIVID |
| PRINCESS AMELIA | ATTRACTION |
| VANDYKE | EVERESTIANUM |
| BRAYANUM | BARCLAYANUM |
| VICTORIA | ROSEUM SUPERBUM, |
| ATROSANGUINEUM | &c. |

KALMIA LATIFOLIA, finely set with bloom.
,, MYRTIFOLIA, ditto.
BELGIAN and other AZALEAS, very full of buds.
Price on application to
JOHN WATERER, The American Nursery, Bagshot, Surrey.

### New Seedling Rhubarb Excelsior.

B. W. KNIGHT, NURSERYMAN, Battle, Sussex, is now sending out this superb NEW RHUBARB; it is quite distinct, of very large growth, very productive, of a new and desirable flavour, partaking largely of the flavour of the Apple. Good plants, 3*s.* 6*d.* each.

NUTTING'S selected DWARF-RED BEET, recommended by the Royal Horticultural Society as the best in Cultivation. (The original Stock.) Price to the Trade on application.

NUTTING & SONS, Seed Warehouses, 60, Barbican, London, E.C.

### Cole's White Perfection Celery.

WM. COLE has much pleasure in offering again to his numerous customers the above, which has proved itself to be the best White Celery in cultivation. In sealed ½ oz. packets, free by post, 1*s.* 6*d.* Price to the Trade upon application.

Nurseries, Withington, near Manchester.

### New Celery, Williams's Matchless Red.

B. S. WILLIAMS, Paradise Nursery, Holloway, N., has much pleasure in offering the above superior solid RED CELERY, feeling confident it will give satisfaction. It is perfectly hardy, a strong grower, very solid and crisp, and of a most delicious flavour. It has been taken up for use quite the end of April without having the least tendency for running to seed. From the testimonials received it is unquestionably the best Red Celery in cultivation. In sealed packets, 2*s.* each.

LIST of MESSRS. SUTTON'S AGENTS for the Sale of Seed of the "STUDENT" PARSNIP, introduced by Professor Buckman.

Barr & Sugden, 12, King Street, Covent Garden, London, W.C.
Beck, Henderson, & Child, Adelphi Terrace, Strand, London
Brown, Henry, 4, Commutation Row, Liverpool
Backhouse, James & Son, York
Batt, Rutley, & Co., Strand, London
Burgess, A., The Nurseries, Cheltenham
Carter & Co., High Holborn, London
Cattell, John, Westerham
Cooper & Bolton, 152, Fleet Street, London
Cottrell, J. H., 15, Bull Ring, Birmingham
Charlwood & Cummins, Tavistock Row, Covent Garden, London
Clarke, Henry & Sons, 39, King Street, Covent Garden, London
Cooling, C., 18, Iron Gate, Derby
Cutbush & Son, The Nurseries, Highgate, London, N.
Davies, George, Stanley Nurseries, Liverpool
Dicksons & Brown, Corporation Street, Manchester
Dickson & Sons, 102, Eastgate Street, Chester
Dickson, Sons, & Co., 23, Market Place, Manchester
Dickson & Turnbull, 26, George Street, Perth
Dickson, F. & A. & Sons, 106, Eastgate Street, Chester
Dickson, Hogg, & Robertson, 22, Mary Street, Dublin
Dixon, E. P. & Son, 57, Queen Street, Hull
Dillestone & Co., The Nurseries, Sturmer
Downie, Laird, & Laing, 17, South Frederic Street, Edinburgh; and Stanstead Park Nursery, Forest Hill, Kent
Drummond & Sons, 58, Dawson Street, Dublin
Drummond & Sons, Stirling
Ernst & Von Spreckelsen, Hamburg
Edmondson, Brothers, 10, Dame Street, Dublin
Fairhead & Son, 7, Borough Market, London
Fisher, Holmes, & Co., Handsworth Nursery, Sheffield
Finney & Co., Gateshead Nursery, Newcastle-on-Tyne
Fraser, Richardson, & Goad, 82, Bishopsgate St. Within, E.C.
Godwin, F. G., 3, New Market Hall, Sheffield
Gibbs, Thomas, & Co., Half Moon Street, Piccadilly, London
Garaway & Co., Durdham Down, Bristol
Hurst & Son, 6, Leadenhall Street, London
Henderson, E. G. & Son, Wellington Nursery, St. John's Wood, N.W.
Henderson, A. & Co., Pine Apple Place, Edgeware Road, W.
Haycroft, J. & H., Cork
Handasyde, Thos., Glen Nurseries, Musselburgh, N.B.
Ivery, James & Son, Dorking, Surrey
Kennedy, Thos. & Co., Dumfries
Krelage, C. F. & Son, Haarlem, Holland
Low, H. & Co., Clapton Nursery, London
Lowe, Richard & Co., High Street, Wolverhampton
Maule & Sons, The Nurseries, Bristol
Methven, T., Nursery Gate, Leith Walk, Edinburgh
Nutting & Son, 60, Barbican, London
Nelson, John, St. Michael's, Bristol
Osborn & Son, Nurserymen, Fulham, London
Perkins, John, 52, Market Square, Northampton
Pillinger, John, Chepstow Nurseries, Chepstow
Pope, Henry, Great Heath Nurseries, near Birmingham
Perry, P. J., The Nurseries, Banbury
Plymouth Seed Company, Plymouth, Devon
Smith & Simons, Argyle Arcade, Glasgow
Stuart & Mein, Kelso, N.B.
Toole & Co., Westmoreland Street, Dublin
Turner, Charles, The Royal Nurseries, Slough
Thomas, Wm., Exchange Street, Wolverhampton
Veitch, James, jun., King's Road, Chelsea
Van Houtte, Louis, Ghent, Belgium
Wrench, Jacob, & Son, London Bridge
Wheeler, J. C. & Son, Gloucester
Wood & Son, Maresfield, near Uckfield
Waite, J. G., 181, High Holborn, London
Wood & Ingram, The Nurseries, Huntingdon

Packets of Seed, 6*d.*, 1*s.*, and 2*s.* 6*d.* each, can be obtained of any of the above named, and also of Messrs. SUTTON, who can supply it either Wholesale or Retail.

Royal Berkshire Seed Establishment, Reading.

*** The Trade supplied on liberal terms.

**Wholesale Catalogue.**

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE for 1862 and SPRING 1863, comprising Fruit Trees of all the leading kinds, new and selected Roses, fine varieties of American Plants, Choice and Rare Conifers, Evergreen and Deciduous Trees and Shrubs, and a fine Stock of Transplanted Forest Trees, &c., can be had free on application.

Woking Nursery, Surrey.

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**Pine Apple Place, Edgware Road, London, W.**

ARTHUR HENDERSON AND CO., beg to announce that their CATALOGUE of KITCHEN, FARM, and FLOWER SEEDS, Imported German Asters, Stocks, and Collection of Vegetable Seeds, for One Year's Supply—

| | | | |
|---|---|---|---|
| Collection, No. 1 | 105s. | Collection, No. 3 | 42s. |
| " No. 2 | 84s. | " No. 4 | 25s. |

Collection, No. 5 .. 15s.

is now ready, and will be forwarded free on application.

NOTE.—This Catalogue contains only the best varieties of Vegetables, and an abridged List of the most valuable Flower Seeds.

---

**Hardy Scarlet and other Choice Rhododendrons.**

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

---

**Seeds for the Kitchen Garden, Flower Garden, and Farm.**

JOHN CATTELL'S DESCRIPTIVE CATALOGUE of the above is now ready, and will be forwarded, post paid, on application; it contains select lists only, and includes, every novelty worthy of cultivation.

All parcels of Seeds of the value of 21s. and upwards carriage paid to any Railway Station in England.

Nursery and Seed Establishment, Westerham, Kent.

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**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

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**To the Seed Trade.—Continental Flower Seeds, &c.**

F. W. WENDEL, SEEDSMAN, &c., Erfurt, Prussia, begs respectfully to announce that his WHOLESALE CATALOGUE of the above is now ready, containing extensive collections of Stocks, Asters, and other Choice Seeds.

Free by Post on application to GEO. MACINTOSH, Seedsman, High Road, Hammersmith, London W.

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**Established 1787.**

THOMAS KENNEDY AND CO.,
NURSERY AND SEED ESTABLISHMENT,
Dumfries, N.B.

*** PRICED CATALOGUES sent free on application:
FREE DELIVERY.

FARM and GARDEN SEEDS under certain limitations will be DELIVERED FREE OF CARRIAGE to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

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## INTERNATIONAL EXHIBITION.

PRIZE MEDALS 1851 AND 1862

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

# BUTLER & McCULLOCH, SEED MERCHANTS,

COVENT GARDEN MARKET, W.C.

(ESTABLISHED UPWARDS OF A CENTURY.)

COLLECTIONS OF VEGETABLE SEEDS SUITABLE FOR ANY SIZED GARDEN.

| | | | | |
|---|---|---|---|---|
| **No. 1.** | **20 Quarts of PEAS and other Seeds in proportion** | | | **£3 3 0** |
| **No. 2.** | **11 ditto** | **ditto** | **ditto** | **2 2 0** |
| **No. 3.** | **8 ditto** | **ditto** | **ditto** | **1 10 0** |
| **No. 4.** | **5 ditto** | **ditto** | **ditto** | **1 1 0** |
| **No. 5.** | **5 Pints** | **ditto** | **ditto** | **0 10 6** |

A Specification of the above Collections is given at page 77 of Messrs. BUTLER & McCULLOCH'S systematically arranged SEED CATALOGUE for 1863, which may be had free and post paid upon application.

*All orders amounting to £1 1s. sent Carriage paid.*

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# THE PLYMOUTH SEED COMPANY,

PLYMOUTH.

*Extract from a Letter received from a* CLERGYMAN *in Yorkshire, dated December* 11, 1862:—
"Our Vegetables have never been so fine as when grown from your Seeds."

The Company are now sending out their COLLECTIONS of SEEDS, which have always given great satisfaction.

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| **No. 1.** | **Complete Collection for a large Garden, for One Year's Supply** | **£3 0 0** |
| **No. 2.** | **Complete Collection for a moderate size Garden, for One Year's Supply** | **2 0 0** |
| **No. 3.** | **Complete Collection for do., smaller quantities, for One Year's Supply** | **1 0 0** |
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| **Extra** | **large Collection, containing double the quantities contained in No. 1** | **5 0 0** |

Extra Collection Carriage Free to any Railway Station in England and Wales, and to any Steam Port in England, Wales, Scotland, and Ireland.

No. 1 Carriage Free to most Stations and Ports in the Kingdom.
No. 2 Carriage Free to Broad Gauge Stations and Steam Ports.
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For further particulars, see the GENERAL PRICE CURRENT, now ready.

Address, PLYMOUTH SEED COMPANY, PLYMOUTH.

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EXCELLENCE AND ECONOMY COMBINED.

# SUTTON'S

## COLLECTIONS OF GARDEN SEEDS FOR ONE YEAR'S SUPPLY

(CARRIAGE FREE).

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| **No. 1.** | **A Complete Collection of KITCHEN GARDEN SEEDS for One whole Year's Supply (with Instructions on Cultivation)** | **£3 0 0** |
| **No. 2.** | **A Complete Collection of KITCHEN GARDEN SEEDS, in quantities proportionately reduced** | **2 0 0** |
| **No. 3.** | **A Complete Collection of KITCHEN GARDEN SEEDS, ditto** | **1 0 0** |
| **No. 4.** | **A Complete Collection of KITCHEN GARDEN SEEDS for a SMALL GARDEN** | **0 10 6** |

Sent Carriage Free by Rail, and 5 per cent. discount allowed for cash payment. A remittance or reference requested from unknown Correspondents.

The sorts of Vegetables included in these Collections are those which have proved to be the most prolific, best flavoured, and most worthy of general cultivation and of which sorts we have therefore grown large Crops of Seed. We exclude from our Collections not only inferior old sorts, but also such new ones as we have been unable to test the merits of, and which are selling at extravagant prices.

If any articles are not required they should be named when giving the order, and increased quantities of other sorts will be given in lieu of those omitted.

*** *By ordering one of the above Collections once a year much trouble and expense will be saved.*

That great satisfaction has been given by these Collections in former seasons is testified by the recommendations given by our customers to their friends; as also by the numerous letters we receive, from which we present the following:—

*From the* Rev. M. W. GREGORY, *Roade, Northampton.*
"I lose no opportunity of recommending your Seeds, which are most excellent; and I think you are doing us (the clergy especially), a great kindness in making up your garden selections."

*From* Mr. ROBERTSON, *Gardener to* A. POLLOCK, Esq., *Lochfine, N.B.*
"I must say that your Seeds have been liberal as to quantity, and excellent as to quality."

*From* ALEX. CATHCART, Esq., *Knockdolian Castle, Girvan, N.B.*
"I have had much satisfaction in recommending your Seeds to various friends, as I find they are much pleased with them; and you may depend upon my continuing to do so as long as I find the articles you send are good and reasonable in price."

*From* Mr. WILLIAM MOOR, *Gardener, The Rectory, Stoke.*
"I never had (previous to yours last year) a lot of Seeds which have all turned out so satisfactory."

*From the* Rev. G. E. WALKER, *Shareshill, Wolverhampton.*
"Mr. Walker cannot but compliment Messrs. SUTTON & SONS on the quality of the Seeds sent last year, as they were by far the best he ever purchased."

*From the* Rev. JOHN KIRWAN, *Withycombe Rectory, Taunton.*
"I was so much pleased with the selection of Seeds sent by you, that I recommended two of my friends to take parcels from you."

A LIST of CONTENTS of the COLLECTIONS may be had gratis.

Also NATURAL GRASSES for LAWNS and MEADOWS, fine sorts of MANGEL WURZEL, TURNIP, and other Agricultural Seeds.

Remittances may be made by Cheques on Town or Country Bankers, or by Post-office Orders payable to

SUTTON & SONS, ROYAL BERKSHIRE SEED ESTABLISHMENT, READING.

HARDY and SHOWY FLOWER SEEDS (post free).
A COLLECTION of the best 50 sorts known £0 10s. 6d.
A COLLECTION of the best 36 sorts known 0 7 6
A COLLECTION of the best 24 sorts known 0 5 0
SUTTON'S CATALOGUE of SEEDS will be sent post free.
SUTTON & SONS, Seed Growers, Reading, Berks.

**Seeds for Exportation.—New Seeds, Growth of 1862.**
SUTTON AND SONS will shortly be prepared with their NEW SEEDS of this year's growth for export orders. Messrs. SUTTON'S mode of packing is most effectual and economical.
For terms, &c., apply to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**Notice.**
PURCHASERS of LARGE QUANTITIES of FARM or GARDEN SEEDS will be supplied liberally by SUTTON & SONS.
For prices apply (stating quantity required) to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**Good Clover Seed.**
GENUINE NEW CLOVER SEED may be obtained of the undersigned. Prices (according to market and quantity required) will be forwarded on application.
SUTTON & SONS, Seed Growers, Reading, Berks.

**Vegetable, Flower, and Agricultural Seeds.**
NEW AND RARE PLANTS, &c.
ROBERT PARKER begs to announce that his NEW CATALOGUE, containing select descriptive and priced lists of AGRICULTURAL, KITCHEN GARDEN, Imported GERMAN, and other FLOWER SEEDS; NEW and RARE PLANTS; Variegated, Ornamental foliaged, Miscellaneous, Stove, Greenhouse, and Hardy Plants, &c., is now published, and will be forwarded Post Free to all applicants.
Exotic Nursery, Tooting, Surrey, S.

**Stirling, Scotland.**
W. DRUMMOND AND SONS' CATALOGUE of SELECT VEGETABLE and FLOWER SEEDS, POTATOES, GARDEN TOOLS, &c., for 1863, is now ready, and may be had on application.
The distinctive features of this Catalogue are such as have commended themselves alike to the Gardener and Amateur. Being simple in arrangement, and sufficiently descriptive, a selection from its columns is rendered easy and satisfactory. Moreover, we still adhere to the system introduced by us several years since, of discarding, in the various sections, all comparatively inferior varieties, as well as omitting what are mere repetitions of the same sorts under different names.
*** Seeds Carriage Paid, as formerly.
W. DRUMMOND & SONS, Seed and Implement Warehouse, Stirling.

**Rose and Bulb Catalogues for 1862-3.**
EDWIN HOLLAMBY begs to announce that his NEW DESCRIPTIVE PRICED CATALOGUES of the above are now ready, and will be forwarded gratis and post-paid on application.
Seed and Nursery Establishment, Tunbridge Wells, Kent.

**Dwarf Tea Roses.**
EDWIN HOLLAMBY begs to announce that he has a large and healthy Stock of the above, comprising some of the finest Yellows, and other leading varieties, in the best possible condition. Price on application.
Nurseries and Seed Warehouse, Tunbridge Wells, Kent.

**Melon Seed! Melon Seed!!—Hybrid Cashmere (True).**
J. MEREDITH can supply Seeds of his First Prize MELONS, which were exhibited at Kensington and Regent's Park last summer. Twelve Seeds for 2s. 6d.
N.B. Payment may be made in postage stamps.
J. MEREDITH, Vine Cottage, Garston, near Liverpool.

NEW MELON—CHAUNTRY HYBRID.—Colour, golden yellow; beautifully netted, and a great bearer. Raised from Orion and Woolverstone Perpetual. Has been awarded the First Prize for flavour wherever exhibited. Price per packet of 5 seeds, 1s. 6d., on application to
J. GILBERT, Florist, &c., Ipswich.

NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1s. per packet.
JAMES CARTER & Co., 237, 238, & 261, High Holborn, W.C.

**The Gardeners' Chronicle.**

*SATURDAY, JANUARY* 17, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| WEDNESDAY, Jan. 21 | Royal Horticultural (Fruit Committee), at South Kensington | 12 noon |
| | Society of Arts | 8 P.M. |

THE raising of new varieties of fruit from seed is an operation that not unfrequently engages the attention of the amateur, as well as the practical horticulturist, and gradually becomes to both a source of great interest and amusement. Indeed, it is to their care and skill, no less than to their persevering exertions, that we are indebted for the choice varieties of fruit which now enrich our dessert, and add so much to our enjoyment. To obtain these may seem to many persons a very easy matter; some, perhaps, may even imagine they have only to sow the seeds of a favourite Apple or Pear in order to have young plants of the identical variety of Apple or Pear from which the seeds were taken. But in this they will be sadly disappointed; for although the seeds will produce plants resembling those of an Apple or Pear, yet the chances are when they come to bear fruit, the latter, instead of being eatable, will more frequently prove to be sour Crabs, or wildings, of the species from which the particular variety of Apple or Pear originated;—it being an axiom in vegetable physiology that seeds reproduce the species only, and cannot be relied upon to renew a variety that shall possess all the peculiar properties for which its parent was distinguished. Exceptions to this rule are to be found among our garden vegetables, where varieties of the same species which have been improved by cultivation are annually raised from seed with the greatest certainty. But even here the natural law is the same, although in such cases it may be said to be kept in abeyance by the art of man, and if great precautions were not taken to prevent its operation there can be no doubt that the different varieties we regard as fixed would gradually revert to their original condition.

We have been led to make these remarks with the view of directing the attention of our pomological friends to the valuable report of experiments on raising seedling fruits that we have recently been enabled to place before them, through the kindness of our esteemed correspondent Mr. RIVERS, of Sawbridgeworth, than whom, we believe, there is no one at the present day so conversant with all that relates to this interesting subject, or whose opinion on such matters is so entitled to respect. His experiments with the Pear, as detailed at page 1195 of the *Gardeners' Chronicle* for 1862, will be found to confirm the fact we have already stated—that the seed of a variety will rarely, if ever, reproduce itself. It may have a great similarity to its parent in habit and general appearance, but in some other respects it will have features peculiar to itself—and perhaps its fruit will be undeserving of notice. Now the object of raising new varieties of Pears is not to increase their number, which is far too large already, but with the hope of obtaining something that shall surpass if possible any of the finer varieties in general cultivation; and the chances of success may be imagined from Mr. RIVERS' statement, that "last year he had one tree out of 300 or 400 12-year-old-seedling trees that bore fruit, and that was from the Beurré d'Aremberg, which was simply a good, but not a remarkable Pear." He finds seedlings from Passe Colmar, Glou Morceau, and Beurré d'Aremberg have each a strong family resemblance, while others from Marie Louise, Knight's Monarch, Beurré de Capiaumont, and Josephine de Malines, show strong marks of the race from which they have sprung. Whenever any seedling shows a marked difference in habit, it immediately becomes of great interest to the Pear-raiser, as it is from such that a new variety deserving of notice is expected to arise. By sowing the seeds of late Pears, one might naturally hope that a variety might be obtained that would produce fruit to ripen even still later than that of its parent. But the result of Mr. RIVERS' experiments completely refutes this notion, as he finds "seedlings raised from late sorts will often bear fruit like the parent in form and general appearance, but for the most part they will ripen earlier."

But the facts which are of the greatest importance to the pomologist are those that relate to the raising of Peaches and Nectarines; and to Mr. RIVERS we are indebted for solving the long disputed question respecting their identity, and proving by actual experiments that they are not specifically distinct, as some botanists have supposed, but are only varieties of one another. We expressed this opinion long ago, as will be seen by referring to the *Gardeners' Chronicle* for 1856, page 531, but unfortunately we were unable to adduce any well authenticated instance of a Nectarine having been raised from the stone of a Peach, or a Peach from the stone of a Nectarine.

On this subject Mr. RIVERS tells us, that "being much struck with the earliness and goodness of some Early York Peaches on a tree trained against a wall—one of the first I imported from America—I sowed the stones and raised some 15 or 20 trees. These have all borne fruit. One which is larger and earlier than its parent has been thought worthy of the name of the Early Victoria Peach. I mention this batch of seedlings with additional interest because one tree, exactly like all the others, with its glandless leaves and large flowers, bore Nectarines of a large size, with yellowish flesh."

From the new white Nectarine have been raised several seedlings. All proved like the parent but one, and "that exception has proved of great interest, for it is a large Peach with a silvery white skin. The tree has the same leaves and the same large pale flowers as its parent, leaving no doubt of its origin."

Other instances similar to the above, and in some respects even more curious and interesting, are recorded by Mr. RIVERS as occasionally taking place among the seedlings raised from Peaches and Nectarines. The most remarkable is that of the Bellegarde Peach producing a Nectarine; and the Bourdin Peach, a well known late melting sort, producing a late variety of Nectarine likely to become the type of a new race, while from the Pitmaston Orange Nectarine has been obtained a large crimson Peach;—from the Newington, a clingstone Nectarine, has sprung a late melting Peach; and from Gregory's Late Peach, a melting freestone, has been raised a tree that produces large clingstone Peaches which ripen fully a month before its parent. Here we think is sufficient proof to satisfy the most incredulous, that not only do seedlings of the Peach and Nectarine produce varieties of each other, but what appears to be still more singular and inexplicable is, that the fruit in some cases should, in addition to changing its outward appearance, undergo a change of another description, and from a melting freestone become a hard clingstone, and *vice versâ*.

Notwithstanding the tendency which some varieties have to vary when raised from the stone, there are others, such as the Royal George, Noblesse, Grosse Mignonne, and Walburton Admirable, that reproduce themselves with but little variation; and it is worthy of remark that there is the same peculiarity in seedlings from late Peaches as from late Pears, to produce fruit that ripens much earlier than that of the varieties from which they sprung.

Such are a few of the facts which have resulted from the interesting experiments made by Mr. RIVERS in his attempt to raise new varieties of fruit from seed. While they show us how much doubt and anxiety attend the raising of a new sort of Pear, they also point out the facility with which varieties of the Peach and Nectarine may be obtained, and the necessity there is for great caution being exercised in order to prevent the public from being imposed upon with varieties that have no other merit besides novelty to recommend them.

—— WE are all anxious to know, if knowledge is attainable, the cause of the incessant rain, instead of frost and snow, by which the West of Europe is just now visited. The prevailing notion is that somehow the Gulf Stream has changed its course, and extended its influence, bringing its heated water to our western coasts. According to the newspapers, sharks have been seen on our shores, and as they cannot live out of warm water, the inevitable inference is that the sea that surrounds us is heated, and nothing seems capable of producing such an effect except the prodigious current that flows from the Gulf of Mexico.

At a meeting of the Geographical Society the other evening this opinion received the support of no less a person than (Lieutenant now) Captain MAURY. This gallant officer said: When he was at Bermuda, on his way hither from South Carolina, he saw an officer of HER MAJESTY'S navy who had been cruising for some years on the North American station, and he was told by him that on his passage from Halifax to Bermuda he had come across this extraordinary phenomenon—that the Gulf Stream actually ran to the southward and westward. The temperature of the water was all right, but his reckoning was all wrong. On going back he tried it again, taking care to verify his instruments, and, singular to relate, it happened again that the Gulf Stream not only was not running in its usual course, but was running backwards. He thought the action of the Gulf Stream accounted for the mild winter now being experienced in England. It operated like a hot-air furnace in the sea, mitigating the temperature, and, to whatever eccentricities it might be liable in its course, it reached the shores of this country in the long run, influencing its climate.

MOST of our readers will doubtless remember the controversy which has recently been carried on in our columns, respecting GRAFTED CONIFERS. It has been assumed on the one hand that grafted trees are "abominations," and on the other that trees raised from seeds or cuttings are necessarily to be preferred. The question raised is one of some importance, but it does not appear to be one which may be thus summarily disposed of, though it seems the notion has gone abroad that grafted plants of this family are amongst the "things to be avoided" in arboriculture.

Let us inquire a little into some of the facts. It cannot be difficult, indeed it is not difficult, for any one acquainted with plantations and nurseries in which the choicer Conifers, that is to say, those subject to grafting, are grown, to point out healthy vigorous thriving trees which are grafted. We have ourselves within the last few days had our attention particularly directed to a batch of Deodars grafted some years back on Lebanons, than which it is impossible

that trees could be in rude health, or in a more vigorous state of growth; and some of the long-leaved Pines, grafted specimens, were seen in a similar condition. Grafted plants therefore will thrive; and indeed one of our correspondents admits that they "do remarkably well" at certain places. On the other hand, we all know that seedling plants as well as grafted plants may be found without much difficulty in anything but a flourishing condition—ay, even it may be in close proximity to other grafted trees, which are flourishing to the heart's content of the planter. What is the inference which is fairly to be drawn from these facts? Why, surely this, that it is the adaptation of the root to the soil (or *vice versâ* if you please), and of the stock with its feeding apparatus to the trunk or head to be supported, which makes all the difference between success and failure. As a commercial speculation the Deodars we have referred to may not perhaps be quoted as a profitable investment, the stocks, we believe, being as valuable as the grafted trees; but viewing their manipulation as a physiological experiment they have their value, their flourishing condition furnishing evidence that the process of grafting is no bar to healthy development among Conifers any more than among the hundreds of other plants which are increased by this means, and are grown without question. Had these same trees been grafted on the Larch, they would probably not have been worth the ground they occupy; and here, if we mistake not, lies the gist of the whole matter. Provide a stock which is hardy at the root, of vigorous constitution, that constitution assimilating as nearly as possible with that of the sort to be grafted, and let the union be sound and perfect, and there is no reason that we can see, why grafted Conifers should not be entirely successful.

We graft our Apples and Pears on free-growing stocks, and expect them to grow to the natural size and to endure the full term of their species, or at least of the variety so treated; or we graft them on Quinces and other dwarfing stocks, for a definite purpose, not expecting them under these circumstances to do either the one or the other. We graft our delicate Indian Azaleas on stocks of the more robust-growing sorts to throw vigour into them, and thus treated we get them to grow more freely, and to endure longer than they would do on their own roots. The same principle runs through the various instances in which this mode of propagation is had recourse to; and why, we may ask, should Conifers be any exception? Indeed to the assumption that they are exceptions we venture to demur till we have clearer evidence. There are, as we believe, too many examples of healthy grafted Coniferous plants in the most satisfactory condition, to allow us to admit that there is *per se* anything hurtful in the process of grafting as applied to them beyond other plants. Indeed we go a step further, and hold that there MAY be cases in which the grafted plant may have the advantage over the seedling and decidedly over the cutting; for we maintain that a species whose constitution may verge towards tenderness (not being absolutely too delicate for our climate), may be adapted to a situation in which it would otherwise perish, by union with a vigorous hardy stock, if the disparity between the two is not too great, and the junction is sound. On the opposite hand, it is certain that a species naturally vigorous and hardy, may be ruined by union with a stock of more weakly, or even of a very dissimilar constitution. We must not "quincefy" our Conifers if we expect them to develope themselves in all their true nobility of character.

It will thus be seen that our own conclusions, based upon such examples as we have been at the moment able to recall, are these:—1. That grafting in itself is not injurious to Conifers; but that (2) success depends upon the proper adaptation of the stock, both to the graft and to the soil in which it is planted. But here practice and experience must step in to settle what are the most proper stocks for particular kinds. The question being, as we have said, a most important one to those interested in planting, we should feel obliged to such of our readers and correspondents as may have Conifers under their care, if they will report as exactly as possible such facts as may be ascertainable by them bearing on this point, which information, for the sake of comparison, it would be convenient to range under the following heads:—

1. The name of the species grafted.
2. The kind of stock employed.
3. The age of the tree—approximately if it cannot be exactly stated.
4. Its height and other dimensions.
5. Its condition and progress, as compared with seedlings or cuttings (if any) of the same species, grown under similar conditions.

A series of returns from different districts embodying these particulars, ought to set the question finally at rest, and to effect this desirable object we invite the co-operation of our readers.

We do not indeed intend to imply—let us guard ourselves against being thus misunderstood—that grafted plants are as a rule or even generally better than seedling plants, or that seedling plants are not to be preferred, all other things being equal. What we wish to set forth is our own conviction that there is not the disparity in value between the two classes of plants which some would have us believe; that when seedlings are unattainable, grafts on *proper* stocks need not be rejected; and that particular kinds may be sometimes rendered more suitable for particular localities by being grafted on hardier or more vigorous stocks.

—— Two or three printer's errors have rather changed the sense of our remarks on Fuchsias at p. 26. In the second paragraph of the first column the reading should be—"Indeed any exhibition subjects which are now shown throughout all *their* classes indefinitely mixed," &c. In the second column, first paragraph, 16th line, the word 'retained' should replace 'returned;' and in the fourth paragraph of the same column, Madame Cornelissen should appear as a 'splendid' not a 'slender' variety, which indeed it is not.

—— We observe that Mr. TURNER, by whom Dr. MACLEAN'S valuable NEW PEAS have been 'let out,' announces in his recent Seed Catalogue, that the LITTLE GEM, about which a Correspondent enquires at p. 1173 of our volume for 1862, 'cannot be offered this season'—doubtless from want of stock.

## HUE AND CRY.

POINCIANA PLAYFAIRII.—Seedlings of this beautiful plant are living in the Royal Gardens, Kew, where they were sent by Captain Playfair from Aden. These are now about 4 inches high, and at present leafless, in which condition it is the object to keep them through the winter, which answers to the dry season of their own country. As a species it is very closely allied to, if not identical with, the old P. elata, L., which is a native of Arabia.

## THE WEATHER OF 1862.

*January.*—This was a favourable winter month, for the temperature, although slightly below the average, was not at any time severe, the lowest indication of the thermometer being 17°. The ground temperature at 1 and 2 feet deep was, at the former, 42°, and at the latter 40°. The prevailing winds were from S.W., and the barometer was generally lower than usual; but the amount of rain was a little below the average.

*February.*—This month was remarkable for the small amount of rain which fell; there was none till the 16th, nor after the 23d; and altogether little more than $\frac{1}{3}$ of an inch. The wind was chiefly from N.E. The barometer stood high, and was more remarkably so on the 8th. The mean temperature was nearly 2° above the average; the lowest was 18°, only 2° lower than it was in the following April. The ground was nearly $3\frac{1}{2}$° warmer than usual at this period of the season. On the whole the weather throughout was very favourable for all out-door operations.

*March.*—This month was characterized by a low state of the barometer and an unusually large amount of rain; on the 20th alone there fell more than an inch; and altogether the amount was about $3\frac{3}{4}$ inches, being nearly $2\frac{1}{2}$ inches above the average. This in many cases rendered the ground unfit for the reception of grain and other crops usually sown in this month. It was the wettest March that has been experienced for at least the last 36 years; in that period the nearest to it in amount of rain was March, 1851, when rather more than $3\frac{1}{2}$ inches fell. The winds were from the S.W. and N.E. an equal number of days, nine in each direction; in the opposite direction of N. and S., and S.E. and N.W.; the antagonistic winds, were likewise in each an equal number of days. The lowest temperature, 14°, occurred on the nights of the 3rd and 4th, and these proved the coldest in the whole year. The ground temperature was about 2° higher than usual.

*April.*—The mean temperature was above the average; but there were some frosty nights which did much injury to the blossoms of many kinds of fruit trees. By the 10th vegetation had advanced further than usual; then came five frosty nights in succession. The thermometer indicated 11° below freezing on the 12th; on the 13th, 12°; 7° on the 14th; but again it fell to 12° below freezing on the 15th. Peaches on walls with very slight covering were saved; but Pears, Plums, and Cherries in the open ground were, in many instances, entirely cut off, especially on dwarf trees, for these suffer more from spring frosts than standards do. The temperature of the ground was rather above the average; but the soil was very wet, owing to the great quantity of rain which fell in the preceding month, whilst in the present the amount was nearly $\frac{3}{4}$ inch more than usual. Wind from S.W. was most prevalent; yet the barometer averaged higher than its mean, so that whilst the lower current of air was from the S.W., there must have been a strong upper current from N.E. or perhaps from North, for with air moving from these quarters the barometer rises; and although the lower current may be from the S.W., the upper and colder indicated by the height of the barometer may take the place of the warmer any day or night; and tender vegetation, brought out by the comparatively soft breezes from southern regions, easily falls a prey to the cold which accompanies the polar winds.

*May.*—This month was warm but wet. The mean temperature was 2°.70 above the average; and this was more owing to the heat of the days than that of the nights, the mean maximum being fully $4\frac{1}{4}$° above the average, whilst the mean minimum was little more than 1° higher than usual. In various instances the thermometer indicated within a few degrees of freezing; and as late in the month as the 25th it was within 1° of that point. The high temperature was maintained in consequence of the prevalence of S.W. winds, rather than by solar radiation, for the weather was generally cloudy, wet, and sunless. These circumstances, and the saturated condition of the soil, proved very unfavourable for bedding out plants, which made very slow progress after planting out, and they made comparatively a poor show in the early part of summer.

*June.*—The three preceding months were warm and moist; but this was wet and cold. The mean temperature was nearly 4° below the average, whilst that of the nights was more than 5° colder than usual. The season may be cold; but if the temperature advance regularly vegetation will continue to make sound though not rapid growth. But when the progressive rise of temperature is arrested for a considerable time, the organisation of tissue, according to the nature of the plant, must be more or less deranged. When a warm summer follows a moderately cold spring, a fair substantial growth is made; but the reverse when a hot spring is succeeded by a cold summer. Instead of the temperature of this month advancing 7° above that of its predecessor, as on the average is the case, it did not advance 1°; whilst also the quantity of rain was still in excess. Frequently at night the thermometer was at 40° or lower. On the night of the 9th, and again on that of the 28th, it was within 2° of freezing. In the previous month the weather was hot and wet; the latter still continued, but in this month it was accompanied with cold instead of heat. To these unfavourable and abnormal conditions we presume may be fairly attributed the strange effects exhibited by some kinds of vegetation. Strawberries, for example, which promised a fair crop, swelling and commencing to ripen, entirely rotted off, and the whole fructification mysteriously disappeared in many instances about London. A market gardener had gathered a few small baskets of this fruit from about half an acre of ground, and he made the remark that he thought he could gather about as many more from the same space. To the same unfavourable combination of circumstances may likewise be attributed most probably the failure in the formation of flower-buds on Rhododendrons, as described by Messrs. Waterer and Godfrey in the following letter: "It appears that we shall not be able to make an Exhibition of American Plants in the Horticultural Gardens next season, *from the fact that we have no bloom on our plants.* You will scarcely credit us when we tell you that out of our immense stock we could not find a hundred decent blooming plants, excepting here and there some of the commoner kinds. We were fully prepared with plants to do it, and with an ordinary season we have no doubt we should have made a better show than that of last year. As it is, we are wofully disappointed. We mentioned this to Mr. Eyles when he was here. We have since gone carefully over the plants, and can come to no other conclusion than that we are not in a position to carry it out either with satisfaction to the Council or credit to ourselves. In ordinary seasons we should be able to fill two or three such places, and it was our full intention to have done so. We never knew such an occurrence, nor does the oldest man in our nursery. Of course seasons vary, but we have hitherto always had some bloom; but this year we have none."

*July.*—Since February, every month has been marked by an excess of rain; but in the present the amount was below the average; still on 15 days rain fell more or less. The temperature was nearly as much below the average as in the previous month, and frequently at night the thermometer was very low for the period of the season. During 15 days the wind was from the warm south-west quarter; nevertheless, from the want of sun-heat the average temperature was not maintained, and great fears were entertained for the crops.

*August.*—The day temperature nearly equalled the average; but the nights were still colder than usual. There was, however, a considerable improvement in the weather of this month compared with that of several preceding ones. Scarcely any rain fell in the last 10 days; indeed very little after the 18th; and from that date the days were uniformly fine, but at the same time the nights were generally cold for this period of the season, being on the 23d as low as 36°, and in several instances below 40°.

*September.*—This, on the whole, was a very fine month, and the previous gloomy prospects as to the grain and other crops were greatly dispelled. For three previous months the mean temperature was considerably below the average, but in this it was above it. The days were fine, and with plenty of light and sunshine the crops improved wonderfully. On three nights, however, the thermometer, from the effect of N.E. winds, was below freezing. In consequence of wet and sudden chills at night the ears of Wheat exhibited blanks in many instances; but this is only what might have been expected from the vicissitudes of weather and chilly nights. The barometer averaged high. The amount of rain was above the average; but more than half the quantity for the month fell on the 28th alone. In the period from the 18th of August to the 23d of the present month there fell little more than half an inch, so that during these five weeks the weather was

quite as dry as could be desired; and had it not been for this favourable change the deficiency in the crops must have been very serious.

*October.*—The mean temperature was nearly 2½° above the average; and for the first time since May that of the nights was higher than usual. The amount of rain exceeded the average depth by nearly ⅓ of an inch; yet the prevailing winds were from N.E. and E. There were, however, strong gales from S.W., so that by far the greatest movement of air took place from this direction. That this was the case is corroborated by the barometer being on the average lower than usual. It is remarkable that the nights on the average were within half a degree of being as warm as those of the previous June.

*November.*—As regards temperature this month assumed the character of December. The mean of the latter is, on the average of 36 years, 39°.33; that of November of the year we are noticing, was 39°.38. On the other hand it may here be observed, that last December had a mean temperature of 42°.51, which is fully equal to that of November, 42°.44. In short we had December weather in November, and *vice versâ.* The nights of half those in the month were more or less frosty; the coldest was that of the 22nd, when the thermometer fell to 18°. Northerly winds were prevalent. Only about an inch of rain fell, and most of it on the 5th and 6th. The ground was in good working condition, and operations that had been delayed, owing to the wetness of the previous month, cou d be well carried out in this.

*December.*—In the previous month vegetation experienced a check, and a sort of moderate winter weather. The difference of temperature between March and April is a rise from the former to the latter of 4½°; between last November and December, instead of a fall as usual, there was a rise of more than 3°. The mean of the month, 42°.51, exceeded the average of March, which is 42°.07. This being the case, vegetation felt the effects of a rising spring temperature. The buds of Roses commenced pushing, whilst the late developed leaves at the extremities of the shoots lingered as if inclined to obey the fresh stimulus of heat, and proceed in growth. The temperature of the earth was upwards of 2° higher than usual in this month. The warmest day was the 7th, thermometer 59°, a point which has rarely been equalled, and only once exceeded within the last 36 years. In Howard's "Climate of London," the maximum of the 18th Dec. 1828, is marked 65°; but this appears to be some mistake or error of the instrument. The month was remarkable for the total absence of N.E. winds, whilst strong gales have brought much warm air from southern regions, and that being the case we may not have any very severe cold for some time.

THE YEAR.—The mean temperature was scarcely 10° below the mean for 36 years; but it was not distributed throughout the months according to the usual gradations. Naturally the temperature rises from January, the coldest month, to July the hottest; and then it declines to the end of the year. Whether it follow this course is not of so much consequence except as regards the growing season, say from April to July. Usually each of these months exceeds its predecessor at the following rate:—April, about 4°; May, 7°; June, 7°; July, 3°; but in the past year the gradations were—April, 4°; May, 9°; June, 0°; July, 1° above the very low June. Here we see that from April to May the rise was greater than usual; but instead of that high temperature being carried on, the rise from May to June was nothing, and July still continued low. This had an injurious effect on vegetation, and rendered the crops late. Many of them would have been next to lost had it not been for the favourable weather in August, September, and October. As regards moisture, the months of March and May were very wet; and indeed injuriously so were all the growing months, considering their low temperature. Vegetation was started in May with more than usual heat and moisture in the ground and in the air; and these circumstances rendered it the more susceptible of injury from continued wet, and the subsequent low temperature to which it was subjected. Strawberries instead of ripening dropped or rotted off. Rhododendrons did not form blossom buds; neither did the Pyrus japonica. These are plants which rarely fail to bloom profusely; but the oldest cultivators never knew them to fail so completely as they did last season. There was no severe frost to cause them to do so; and the circumstance can only be attributed to a check when the embryo blossom bud should have commenced forming in the early part of summer. The blossom-buds of Peaches and Nectarines look very well, but the wood on which they are produced is only formed in the course of the summer, after the time the injury had been done to the blossoming of the other plants. Apples, Pears, Plums, and Cherries have formed their blossom-buds very well, and promise an abundant crop next year, if not destroyed by frost in the ensuing spring, as many of them were in the past one.

The annexed table will give the precise leading characteristics of each month, comparatively with those of the average, from which it will be seen that we had a favourable winter and spring, excepting as regards some injurious frosts for the blossoms of fruit trees; that the summer was very unfavourable till August, so much so that the country was then in great danger of the grain crops being defective, too late, and immature; but by a most favourable change in August those serious consequences were in a great measure averted.

TABLE SHOWING THE HEIGHT OF THE BAROMETER AND THERMOMETER, AND DEPTH OF RAIN AT CHISWICK, FOR EACH MONTH OF 1862, COMPARATIVELY WITH THE AVERAGE OF THIRTY-FIVE YEARS.

| 1862. | Barometer. | | | Thermometer. | | | | | | | | Rain. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean. | Extreme highest. | Extreme Lowest. | Mean Max. | Above (+) or below (—) the average. | Mean Min. | Above (+) or below (—) the average. | Mean. | Above (+) or below (—) the average. | Extreme Highest | Extreme Lowest. | Amount. | Above (+) or below (—) the average. |
| | Inches | Inches | Inches | Degrees | Degrees | Degrees | Degrees | Degrees | Degrees | Degrees | Degrees | Inches | Inches |
| January .. .. | 29.787 | 30.361 | 29.337 | 40.79 | —2.02 | 30.77 | —1.28 | 35.76 | —1.15 | 55 | 17 | 1.53 | —0.09 |
| February .. .. | 30.002 | 30.548 | 29.276 | 47.32 | +1.60 | 33.78 | +2.10 | 40.55 | +1.85 | 58 | 18 | 0.38 | —1.68 |
| March .. .. | 29.598 | 30.112 | 29.115 | 51.80 | +1.02 | 35.16 | +1.79 | 43.48 | +1.41 | 65 | 14* | 3.74 | +2.43 |
| April .. .. | 29.952 | 30.248 | 29.497 | 58.86 | +1.42 | 37.06 | +0.88 | 47.96 | +1.15 | 76 | 20 | 2.29 | +0.72 |
| May .. .. .. | 29.828 | 30.162 | 29.481 | 68.90 | +4.28 | 43.13 | +1.12 | 56.01 | +2.70 | 80 | 33 | 3.54 | +1.63 |
| June.. .. .. | 29 815 | 30.106 | 29.137 | 69.40 | —2.58 | 43.40 | —5.24 | 56.40 | —3.91 | 79 | 34 | 2.33 | +0.37 |
| July .. .. .. | 29.874 | 30.147 | 29.381 | 72.61 | —2.00 | 46.09 | —5.22 | 59.35 | —3.61 | 79 | 37 | 2.09 | —0.37 |
| August .. .. | 29.892 | 30.162 | 29.345 | 73.03 | —0.41 | 45.19 | —5.31 | 59.11 | —2.86 | 82* | 36 | 2.40 | —0.02 |
| September .. .. | 29.957 | 30.324 | 29.583 | 70.04 | +2.37 | 45.10 | —0.83 | 57.57 | +0.77 | 79 | 31 | 2.74 | +0.28 |
| October .. .. | 29.806 | 30.393 | 29.302 | 62 32 | +3.09 | 42.87 | +1.78 | 52.59 | +2.43 | 75 | 25 | 3.00 | +0.31 |
| November .. .. | 29.872 | 30.342 | 29.402 | 47.86 | —1.82 | 30.90 | —4.31 | 39.38 | —3 06 | 60 | 19 | 1.01 | —1.25 |
| December .. .. | 29.947 | 30.358 | 29.401 | 49.51 | +4.16 | 35.51 | +2.10 | 42 51 | +3.18 | 59 | 25 | 1.49 | +0.02 |
| | 29.860 | 30.273 | 29.274 | 59.37 | +76 | 38.68 | —1.84 | 49.22 | —0.09 | 82* | 14* | 26.54 | +2.89 |

* Extremes of the year.

## SALSAFY, ITS MODE OF CULTURE.

HAVING been favoured by a request from "the learned Professor, the Editor," that I would forward a paper upon the mode of treatment as practised by me in the culture and growth of Salsafy, as exhibited at the Gardens of the Royal Horticultural Society, I forward the following, hoping it may be of use in determining the question raised by me below, as to whether there be not a radical error in the present culture of garden roots generally. I have myself been long convinced that the old theory, indeed the real practice as followed by the majority of my fellow brethren of the spade, is founded upon a wholly wrong principle.

I am not forgetful that an assertion like this cannot be made with impunity by any one, unless he has a certain proof that he can substantiate it. For my own part I but need only refer to the size of the various sorts of roots shown as above, the growth of our garden; but I will not confine myself to this only. I hope to adduce other points in support of my statement.

The better to illustrate the principle upon which I found my views and the mode of procedure practised by me, a little explanation will not be misplaced. It must be evident that the finest grown garden root is that having upon its surface the smallest number of branches or roots, or rootlets, of any description; and yet at first thought this may appear strange—that the tuber with the least number of roots should in reality produce the greatest amount of substance, both as regards utility and weight. And yet, to arrive at the truth of the statement, we need not cast about far for ample proof.

Let us take a single seed of any sort whatever, whose first effort when germinating is to push into the soil below a tap or main root. Sow and cause to germinate this seed in good rich upper soil to the accustomed spit depth of 7 or 8 inches (as is general in gardens), there being below, as is customary, an unturned, unmanured, subsoil. It will, as the main or tap root proceeds downward, throw out from all around a quantity of rootlets. The tap root will continue to grow luxuriantly whilst in this upper good soil, but the moment it reaches the interior subsoil, from its change from plenty to the dearth of food, its progress is arrested and it receives a check; those originally small rootlets on the other hand still revel in the good upper soil and continue to grow. Doubtless, when the main root is checked they receive an additional impetus in the necessities of the growing plant, and the consequence is the tap and branch, the main and minor roots, become to all intents and purposes equalised. All this may appear simple in the extreme, and so it is; too simple perhaps to enter into our daily practice.

Take as an example of treatment of this kind applied to garden roots the accompanying specimen of Salsafy obtained from a neighbour. [This specimen (No. 1) was 10 inches long, and divided into 10 branches. The original tap was 3 inches long, and ¾ of an inch in diameter; the branches were from 3 to 7 inches long, and the biggest was not more than ¼ inch in diameter at the thickest part. It was quite unfit to send to the cook.]

Take another seed, sow it in poor upper soil; below this, at the depth of 7 or 8 inches, let there be a good consistency of well manured soil, and you will find that the tap root, unless anything befall it, not finding anything congenial to its wants above, will hasten downward until reaching the good soil, when it will end in the formation of a fine tuber, whilst the small rootlets which shot out in the upper bad soil will become impoverished, and make but very trifling if any progress at all. This is the treatment Salsafy and all other garden roots require.

The specimen numbered 2 is an example of the effect of this other treatment. [This root was 11 inches long, with only 2 or 3 very inconsiderable forks near the point. For 7 inches it was perfectly clean. Its diameter at the crown was an inch and three-eighths, and at 7 inches from the crown five-eighths. In all respects it resembled a beautifully grown small Parsnep.]

Some may say, "yes, but when we are really desirous of growing good roots we trench the ground well, which is equivalent if not better than the mode you wish to propound." To any assertion of this kind, I reply that this only produces finer and larger roots of the No. 1 description; for wherever or whenever the fork roots find within their reach those substances they have a liking for, they will and must grow and thrive therein.

Every practical gardener knows full well that it is one thing to understand well the routine of kitchen gardening, and another to have a thorough knowledge of each crop, its requirements and peculiarities. Take but the subject of my paper as an illustration. To the question, "I like Salsafy, can you grow it?" the invariable answer would be, "Yes!" but how is it grown generally? The very query warms me to my work. In general it is grown very badly, and yet such simple reasoning as I have given above is at the real bottom of this and all other root crops.

To grow good Salsafy choose ground which has not received any manure for at least two years. Bastard trench this ground some 8 inches deep. At the bottom of the trench place a tolerable good thickness of well decomposed manure; slightly mix it up with the soil at the bottom of the trench, returning the soil lightly upon the same. Let this same upper soil be slightly forked over occasionally, as it needs pulverising well to admit of the ready access of the first root into and through it; when you have sown the seed slightly tread the whole of the soil down firmly, and you cannot fail, I think, to have full returns for a little additional labour.

The time of sowing is an essential point, indeed one of the many trifles, the persevering study and performance of which invariably furnish the master key, success. I would not wish to fix a certain date upon which to sow, though it may be necessary for us to lay down a certain rule, upon the principle of which it would be well to proceed. Our climate being so very variable in different localities, it would at all times be far better to be what is considered a week or 14 days "behind time" in sowing, than to be one day too soon, and for this reason, the very basis, for the whole after-growth of your crop depends upon the ready way in which the seed vegetates. If it germinates healthily, the plants generally grow strongly, and the embryo root the same; and if unchecked produces a finely grown full-sized tuber. So to be short: when you consider the weather settled, and likely to continue fine, with soil properly dry, &c., sow by all means as early as possible, but only under those conditions; otherwise if the young plants are checked, a decrepid, and, consequently, a deformed existence will be the result. The remarks just made apply to the usual time of sowing, in the middle and after part of April up to May.

In reality there is nothing new in this method of growing root crops; and it is the more wonderful that it should be so little attended to, because our next door

neighbours, the agricultural gentlemen, have for years practised it successfully, as well as the implements they have in use will admit. They plough open a furrow; into this the manure is thrown; upon this is turned over some poor soil, constituting it a ridge; upon just within the surface of this ridge the seed is sown, and upon this ridge the root is grown—say Turnip; not an iota of roots—from the largest Turnip grown—ever entered the soil save and except one: the main primitive tap root, which, though the bulb, the Turnip, lay upon the poor ridge, had its ramifications in the substantialities below. And yet, though practised so effectually by our near neighbours, I never yet could induce one to demonstrate to me satisfactorily the reason why. *W. Earley, Digswell House, Welwyn.*

## DIES ORCHIDIANÆ.—No. III.

*(Continued from p. 7.)*

THE subject of horticultural shows inevitably suggests another point of comparison—I should rather say of contrast—between the Orchid-growing of the present day and the Orchid-growing of 30 years ago. For then a plant was valued according to the beauty of its flowers or the comeliness of its habit, and without reference to its qualities for public "exhibition;" but now these last have come to be regarded as of such paramount importance that a species which can lay no claim to them, however high its other pretensions may be, will rarely be able to make its way in the world. It will avail a plant little to have the right flowers unless they be produced at the right time and in the right way. It won't do to bloom, like the Angræcums, in the winter months, or, like the Stanhopeas and Acinetas, to send out flower-scapes that have a downward tendency, nor yet, like the Schomburgkias, and a section of the Oncidiums, to spire too high. Regard must be had not only to the dates of our great shows, but also to the stage accommodation afforded at South Kensington and the Regent's Park! In this way the sympathies of our modern Orchid grower came to be unduly contracted, and the enterprise of our nurserymen unnecessarily curtailed. For if the chances are so great against a new plant ultimately becoming popular, there will of course be the less inducement to search for novelties, and the chief attention of the importer will be directed towards obtaining large supplies of established favourites. Thus, while until quite lately, scarcely an effort has been made during 20 years to add to our catalogue of East Indian Air-plants, I know not how many expeditions have been fitted out for the re-discovery of Vanda Batemanni, of which only two or three plants had been received alive from the Philippine Islands in 1838*.

I am however touching somewhat prematurely on the subject of Orchis-importation, respecting which I shall have more to say when I come to speak of what has been done in this direction by Messrs. Low and others; my present object being simply to enter my protest against the empirical standard by which the value of Orchids has lately been appraised. Of course I have not a word to utter against those beautiful displays on which all eyes are apt to be rivetted in May and June, but I humbly submit that such displays do not constitute the sole aim and end of Orchid-growing. On the contrary, I am convinced that one of the chief recommendations of this pursuit is due to the fact that a large number of species, including many of the most beautiful, produce their blossoms at that dreary time of the year when there are indeed no exhibitions, but when the sight of lovely flowers is not on that account the less welcome; and when, moreover, the growing season being past, and the temperature of the Orchid-house reduced accordingly, the plants may be visited in perfect comfort. I hope ere the present winter is past to show what can be done in this way, by publishing a list of the species that flower during the four colder months of the year, viz., November, December, January, and February; and I should be much indebted to any of your readers who would obligingly assist in this object, by sending me (to your office) the names of such kinds as may have bloomed with them during the months in question.

Another point—and it is the last I shall notice—which the retrospect of 30 years forces into view, is the large number of duplicate plants of the same species that are now to be found, even in private collections. Formerly your friends allowed you no peace if you happened to possess a Cattleya or a Saccolabium from which a back bulb or an offset could by any possibility be detached; but the grower of the present day is not content without his 10 or 20 specimens of the reigning favourites! Thus, at Mr. Rucker's I found almost half of one entire house filled with Lælia purpurata, and my expression of surprise was met by an intimation that the species flowered during the season, and was, therefore, in great request for bouquets; while Mr. Day (of Tottenham), who had provided himself with Cattleya Leopoldi on an equally liberal scale, explained that whenever an importation gave him the opportunity he always laid in a large stock of any promising kind, which he kept till the plants flowered, and then retained only the best varieties. Such is the luxurious height to which modern Orchis-growing has attained; but of course all this prodigality cannot be enjoyed unless accommodation of corresponding extent be provided for the plants; and that there is no stinting in this respect will be seen by a glance at the ranges of houses filled by Orchids in many private establishments, such, for example, as those of the two eminent growers to whom I have just alluded, or by a visit to the suburban nurseries of Messrs. Williams, Rollisson, Low, or Veitch. The last named firm have at least four large Orchid houses, and Messrs. Low an equal number. All this seems strange and wonderful to me, remembering, as I do, the time when my own collection—a fair one of its period—was comprised within the limits of a dripping-pan! Let me explain. There had been a coming-of-age in my neighbourhood, with its usual roasting-of-an-ox-whole accompaniment, and for which a dripping-pan of huge dimensions had been specially provided. This it was that in due time did me such excellent service. My father had, indeed, already allowed me to intrude a few Orchids into the corner of a Pine-pit, but these were sorely infested with woodlice, which swarmed among the tan of the pit; neither could I maintain sufficient humidity. In this dilemma I bethought me of the great dripping pan, and having petitioned for and obtained it I lost no time in placing it at the end of the Pine pit and filling it 2 or 3 inches deep with water, which thus not only supplied the requisite moisture, but also served the purpose of Mr. Lyons' "Onyscamyntic Epiphyte stand"—for the plants, placed on inverted saucers, could now bid defiance to their insect enemies. Such was my first experiment in Orchid growing, and let none despise the day of small things, for sure I am that I watched with as much interest, and drew as much pleasure from the contents of my solitary dripping-pan, as from the houses, one and all, into which my collection eventually overflowed.

From this long digression I return once more to the Messrs. Loddiges and their great Palm stove, which, be it remembered, the Orchids shared with the Palms in their earlier years. Even then Mr. G. Loddiges was convinced that the Orchids had a great future before them, and that our knowledge of their beauty was quite in its infancy. But he added, "when we come to see specimens like cart-wheels, we shall know something of it," and Mr. Loddiges has proved himself a true prophet. It may be doubted, however, whether the wheel of a pony-carriage would not be a better gauge than the wheel of a cart for even the broadest of our specimens.

Before I take leave of the establishment at Hackney, I may perhaps be allowed to relate what at the last befel the great Palm-house, which, as most of your readers know, has long become a thing of the past. The encroachments of London having greatly impaired the horticultural value of the ground at Hackney, and at the same time greatly enhanced its value for building purposes, it was determined about 10 years ago to dismantle the nursery altogether. The Camellia house and the other extensive ranges of glass were easily removed, and their contents—as indeed were those of the Palm-house—absorbed by the Crystal Palace, which last, I may observe *en passant*, was not a greater advance upon the glass structures of its time than was Messrs. Loddiges' Palm-house upon those by which *it* was preceded. Its days however were now numbered, and the only difficulty was how to compass its demolition. Unless a scaffolding of a most expensive description were erected, the glass would all be sacrificed, but would the value of the sashes, even if saved, pay for the scaffolding? It would appear as if the question could only be answered in the negative; for when the structure was put up for sale under the auctioneer's hammer, it was actually knocked down for 10*l.*! The purchaser's axe was then set vigorously to work at the root of the great rafters, and, in a little while, down with a smash came what had once been the wonder of the whole world of horticulture! Its fragments were carted away for firewood. *Serapias.*

* All these expeditions failed in their object, and it was reserved for Mr. Veitch, jun., on his return from Japan in 1861, to find once more the very spot on which the long-sought recluse grew in profusion. Cultivators will be surprised to hear that the Vanda does not live on trees but on rocks, covered of course with Moss and the remains of decayed vegetation. Associated with the Vanda was a remarkable Cypripedium which has lately flowered, but has not yet, I believe, been named.

## Home Correspondence.

*Plums.*—The writer of the very interesting article upon Plums, in your last Number, may like to know a few particulars respecting that fruit on the continent. There is a late greenish-yellow small egg-shaped Plum at Florence, not acquiring its flavour until it becomes shrivelled in autumn, but then very rich, a variety of Mirabelle perhaps, but different from those common in Germany. The Neapolitan Green Gage, of the best quality as to size and flavour, is different from any I have seen in England; large and of a much yellower and ruddier green when quite ripe, and with a less dense bloom on it. One of the Damsons mentioned is perhaps the Diamond, less acid but of equal flavour with the Damson. Further east, the investigation of fruits becomes more interesting. In the woods on the north side of Caucasus there is a wild Plum, small, round, red, and yellow, sweet and pleasant to eat in its wild state, which may possibly be the parent of more than one old garden sort. South of Caucasus are grown the finest and largest Prunes for drying, with the slenderest pointed stone, quite equal to the Pruneaux of France. In Persia is said to be a Plum (which I have not seen) with a downy skin, intermediate between a Plum and Apricot it may be allied to the curious fruit called Chrysomela sanguinea at Naples, or to the so called Peaches of Leitmeritz in Bohemia. Query, is there not in England a dwarf Peach, called Nutmeg Peach, somewhat—to use a gardener's phrase—in the same way? *I.*

*Rainfall at Dorward's Hall, Witham, in 1862:—*

| | Ins. | | Ins. |
|---|---|---|---|
| January .. .. .. | [illegible] | Brought forward .. | 11.11 |
| February .. .. | 0.97 | July .. .. .. | 1.31 |
| March .. .. .. | 2.76 | August .. .. | 2.21 |
| April .. .. .. | 2.08 | September .. .. | 1.59 |
| May .. .. .. | 2.61 | October .. .. .. | 3.10 |
| June .. .. .. | 2.20 | November .. .. | 1.00 |
| | | December .. .. | 1.46 |
| | 11.11 | Total .. .. | 21.78 |

Height of Rain Gauge, above ground, 2 feet; above sea level, about 20 feet.

*H. Dixon.*

*Rainfall at Cirencester:—*

| | Ins. | | Ins. |
|---|---|---|---|
| January .. .. .. | 2.70 | Brought forward .. | 16.89 |
| February .. .. .. | 0.66 | July .. .. .. | 2.08 |
| March .. .. .. | 4.70 | August .. .. .. | 2.25 |
| April .. .. .. | 2.22 | September .. .. | 3.87 |
| May .. .. .. | 3.95 | October .. .. .. | 4.72 |
| June .. .. .. | 2.97 | November .. .. | 0.55 |
| | | December .. .. | 2.10 |
| | 16.89 | Total .. .. | 32.46 |

Average of 15 years, 30.60.

*Thos. C. Brown.*

*Gardeners' Royal Benevolent Institution.*—I cannot agree with your Correspondent, Mr. G. Thomson, that annual subscriptions are the best mode of advancing the efficiency of this Institution. They are never to be certainly depended upon to keep up an income, or, at the very best, they can only be kept to the proper amount by constantly canvassing for new ones. Doubtless as long as they continue they afford a better income for distribution; but being so inconstant, the Committee cannot safely exhaust them in pensions. Donations, on the other hand, ought to be all invested and thus form a permanent fund, by the interest of which the quarterly payments may be made. Such a fund is safe from the accidents unavoidably attending annual subscriptions. To my mind, there is nothing more disagreeable than having to pay annual subscriptions. I therefore make it a rule to pay down in one sum the required composition for life membership. But those who think with me, ought not therefore to consider that they have done all that is due from them when they have paid their single 10*l.* 10*s.*, but should after a few years renew the payment. To carry out my own teaching, I have recently sent a second ten guineas to the Secretary of the Institution, and am rejoiced to see that others are about to do so. I mention this simply as an example to others, and did not intend to publish it, but now see that it may be advantageous to do so. Of course this applies to persons of my own position; to many others the annual subscription is far more convenient, and, on looking at the last report of the Institution, it seems to me that that class of contributors ought to be very much increased. It is they chiefly who may expect to derive benefit from the Institution should they meet with misfortunes and be reduced to poverty. Most of us life members are excluded from such a chance by the rules, and properly so excluded. Let us try then to make the present movement apply to the increase of members in both classes, and thereby to the increase of pensions. *C. C. B.*——I am pleased to see the way in which your suggestions of immediate support to this Institution have been taken up. Allow me to point out where I think the Committee of Management made a mistake. They print a list of supporters, and they append to each name the total amount which has been contributed by the subscriber, instead of saying "First," and repeating the entry when a second and a third donation has been given. To my mind this is an error. Many people give once because they cannot well help themselves; if the list shows that they have given more than once—twice, thrice, or ten times—it is proof positive that they heartily support the Institution. Again, the effect of putting but one sum is to stop subscriptions. A well wisher, we will say for instance a rising nurseryman, would like to support the undertaking; he sees Mr. Veitch 60 guineas, Messrs. Lee 60 guineas, and he naturally says to himself, I might afford ten, but cannot such a sum as 60, and yet I do not choose to be below those whom I am to rival in trade, and he therefore gives—nothing. Yet, probably, Mr. Veitch commenced with ten guineas, which, from anxiety to see the Institution do well, he has six times repeated. The smaller nurseryman would hope to do so too. The Committee ought also to append the year in which such donation is given, or annual subscription commenced; once stated it would cause no trouble, rather the contrary. *Hans.*

*African Trees.*—The first tree referred to by your correspondent (see p. 29) may be a Baobab, as there is one in that country. What the "Cream of Tartar" may be who can tell? The pulp of the Baobab fruit, however, has an acid and tartary taste. Are then both trees Baobabs? The first might be a Fig? *W. H. H.* ——The description of your Correspondent "Hans" answers perfectly to Adansonia digitata, as to size, habit, and habitat. This tree is found in Africa, from the latitude of Senegal to the southern tropic. *J. D. H.*

*Gardens at Nice.*—The account you give of the gardens of Nice as nurseries for the north of Europe is encouraging. A similar plan was attempted many years ago, but before the modern improvements in

communication, which render it now much easier. I may suggest that the true reason why Mr. A. Karr's rattan did not strike root in three days, even in the climate of Nice, is that like most walking canes the head was probably downwards—a sufficient bar to vegetation anywhere. It is odd that Peas do not flourish there, according to your account, since the Haricots are remarkably fine. The pale blue Violet, double, called there of Parma, here Neapolitan, is at Naples called Portuguese. The single variety is common in the gardens at Florence—like the double distinguishable by its shining leaves. As you recommend Tamarix gallica in preference to germanica, I would add that T. afra is superior to both. *I.* [Yes, certainly; but we doubt whether T. afra can be found in the trade.]

*The Dry Stove.*—In a late Number you have advocated (not before it was wanted), the revival of the dry stove, now almost neglected in gardening, but for succulents only. Now I think a dry stove useful not only for succulents, and what may be called desert plants, but also for all plants of warm countries which do not require moist or jungle temperature, such as Ferns and Orchidaceæ, and other species that grow with them. The Date, Sycamorus, Doom, Acacias of many sorts, tropical bulbs, Coffee, Cinchona, the trees and shrubs of open plains and lower hills in Egypt or India—these are plants that I would put into a dry stove, if not in so dry a one as that for succulents only. And among the latter why do you exclude beautiful Cacti and the better Euphorbiæ, &c.? *I.*

*Orange Trees.*—No doubt the reason why your "Constant Reader's" Orange trees are losing their leaves is attributable to several causes:—1, the time of year in which they were moved; 2, the dry state to which they were subjected on the quay of Havre; and 3, the exposure to out-door treatment after arriving at their journey's end. No one would ever think of planting evergreens in the month of June if they could possibly do it in the month of August; neither should Orange trees be moved in the month of June if it could possibly be done in August, as the former month is the time in which they make their growth, and owing to the brittleness of their young wood, they should be kept perfectly still. Orange trees, in this country, generally get transferred from their dark-roofed prisons to the open air in the month of May. After five or six months' confinement, from May till July they are busy growing, from July till September they ripen their wood, so that either August or September would have been the best months to have moved them from Paris to Darlington. Orange trees require plenty of water when growing; this necessary element no doubt was withheld when on their journey, as the extra weight would have incurred extra expense in carriage. When a man comes from England to France he finds a change in the temperature; a man passing from France to England finds a similar change, and I have not the least doubt that the poor Orange trees found circumstances altered with them, but were not able to put on an extra covering, as a Frenchman would do: knowing this, your "Constant Reader" should have provided them with one suitable for them to recover the great check they received. I would advise him, in order to recover their present "tattered appearance," to keep them perfectly dry till March, then to give them a soaking of tepid water, and to raise the present temperature to 50°. *H. K. France.*

*Improvement of Species.*—Mr. Rivers is doing for horticulture a rare and real service in the letters he has begun and promised to continue in your pages. There is probably no department in the art of cultivation in which so much obscurity exists, and in which accurate information is so deficient, as in the alteration and improvement of species by reproduction from seed. Scientific accuracy has been ignored, and confusion courted for countless centuries. I doubt if there are half a dozen persons in the kingdom who could tell the result of sowing one pod of seed in the case of many-seeded plants, or a batch of seeds or stones from one individual tree. The idea seems to have been that an indiscriminate mixture of seeds from the largest number of varieties afforded, when sown, the greatest chance of success. I have somewhere read of a good illustration of this fallacy. Raisers of florists' flowers, who are obliged to be a little methodical, say that one good seedling out of a hundred is the most that you can expect. Now let a person sow a hundred seeds out of one pod, and also one seed out of each pod of one hundred varieties. In the first case he has one good chance, in the second the chances against him are almost out of calculation. The little boy who sowed an Apple-pip on his birthday, knowing the sort from which he took it, watched its growth and tasted its fruit, was a greater benefactor to society than the great nurseryman who raised a hedge of Apple trees from the refuse of a cider mill, and crowned all by putting his method in a book. Information on such subjects doubtless exists could it be brought to light; little boys and girls, the quiet country clergyman, the Spitalfields weaver in his dingy dwelling, and the "Corycian old man," in his sunny corner, know strange things, but have had no "vates sacer" to publish them. Let us hope that Mr. Rivers's example will be followed by others, and that attention may be a little diverted from bedding gardening, and directed to this most important subject. *R. T. C.*

*Technicalities.*—These are sometimes excusable, although they may be at the same time unintelligible; there is one however which I can neither understand nor tolerate. Often has it grated on my ear, and now that it is adopted by such a writer as the Rev. Mr. Radclyffe, I think that it is high time to call attention to it. I allude to the term "pan" in speaking of a collection of cut flowers—a term at all times inappropriate, but especially so when used in connection with the "Queen of Flowers," the type of everything that is graceful. Surely some better word might have been found. Even "box" would have been preferable, but why discard the good and comprehensive term "stand?" *Taffy.*

*Grape Growing in Norfolk.*—Your Cumberland correspondent has misinterpreted my meaning. The wonderful feat of Norfolk Vine growing did not take me by surprise—quite the contrary. I opposed it as being wrong in principle and dangerous in practice, and expressed my conviction that the feat in question had been purchased at the expense of future success. The challenge referred to by your correspondent, which he states "must be extensively accepted by Grape growers to vindicate their honour," is uncalled for. In answer to the question—how many men could be found to have performed such a feat? I would reply, "How many gardeners are there to be found wrong-headed enough to attempt it?" I should think not one in 50. Your correspondent intimates "if the secret of success cannot be revealed, it remains for gardeners to discover it." Is there any secret in the matter?—with due command of heat and moisture there would be little difficulty in growing a rod a dozen feet or more in length, and by stopping and pinching of laterals to manage to burst all the fruit buds and obtain a partial crop; such a performance might be called a feat, but not a success, for that lies in an opposite direction. Your correspondent wonders that the whole gardening fraternity did not storm you for "a full and particular account" of the whole affair, and sums up by saying that he thinks the system "worth a trial." As he has undertaken its advocacy, he would oblige by answering the few questions which I subjoin, viz., 1st. If all the fruit buds are burst the first year, how will he obtain his second year's crop? as every bud would be grown clean out from the base of his rods some inches, and, what is worse, never can be brought back again. Secondly, is he prepared to prune close home to his rods?—in that case he would have neither bud nor eye to break their whole length; if he takes the other alternative, and prunes out some inches to the bud of his laterals, his chances of a crop would be uncertain. Thirdly, what would be the future appearance of Vines pruned after this fashion, if after the first year's pruning the rods bore some resemblance to a ladder? I leave these few questions for the solution of your Correspondent, and when answered it will be time enough to talk of antiquated systems and the jog-trot pace. *H. G., Buckland Gardens, South Wales.*

*Peach Trees in South America.*—Why should these not grow in South America? many are cultivated between the tropics in British India! Mr. Rivers only names countries far from the line, such as Valparaiso, Buenos-Ayres, and Monte Video, which are 35° south of it. Let us go higher up and cite a spot nearer the Equator, where I have myself seen numerous Peaches strewing the soil; a spot where I have not only eaten Peaches fallen from their trees, but where I have also tasted excellent Apples, having the same flavour as those grown in our own northern country. I remember as well as if it was yesterday, that valley, formed by two declivities of the Organ Mountains, situated at an altitude of about 3000 feet; I remember being much pleased at making there the acquaintance of a jovial Englishman, O Senhor Ricardo, who bore a large white cross in front of his Brazilian poncho. He was at that time (28 years ago), a kind of an associate of an English fazendeiro (farmer), one of the most industrious men I ever knew, viz., a Mr. Marsh. I remember well that picturesque site, so high and so cold that our shivering negro attendant had his nose as red as the face of a carper taken in a traquenade. *Louis Van Houtte.*

## Foreign Correspondence.

VICTORIA, VANCOUVER: *Nov.* 30, 1862.—I purposely avoided writing about the Ward's case till the contents were fairly planted in their adopted country. The Rhododendron is dead, as are also the two Plums; all the other trees and plants are looking well, and appear quite content with their lot. I have an excellent man, who has been under gardener at home. He came out from England with us, and has already effected great changes for the better in the place. The Ivies are very much admired, and I have promised cuttings to ever so many people. (There was no Ivy before in Vancouver.) I have the advice and assistance of a German gardener who looks after the orchard for me, and therefore I trust I shall be able to give you good news in spring of the growth of all my pets. It is very wonderful that no more plants died considering the ship was eight months on the voyage, and the fact that the Governor has never yet succeeded in importing trees in a Ward's case, though he has tried the experiment repeatedly. . . . The colony is progressing wonderfully, notwithstanding the "book of lies" published by a disreputable scamp who was over here, but glad to be off again. Labour is plentiful; any amount of gentlemen working on the roads, and not a few sprigs of nobility among them. There will be a good deal of suffering this winter, owing to the large immigration of unfit people: clerks, and men of that kind. The works department has to bear the chief brunt of it, for every one who cannot get work goes to its office, and seems to think it the duty of Government to find him something to do. We are doing all we can, as a matter of course, and the roads are being very much improved in consequence.

## Notices of Books.

*The Law of Storms.* By H. W. Dove, F.R.S. Translated by R. Scott, M.A. Longman & Co., 1862.

The weather is notoriously the first subject of English conversation. Whether it is, has been, or is going to be, a fine day, would appear to be of paramount importance, considering the frequency with which these questions are discussed; and the latter especially is looked upon as a fair subject for speculation. Of interest to all, in this variable island climate, and of special interest as involving the welfare or destruction of our many fellow-countrymen at sea, how is it that the science of meteorology is still in its infancy? One might have supposed that the appalling list of wrecks annually published, would have spurred on the meteorologists to ascertain the laws governing the storms which commit such devastation, and to endeavour to give warning of the coming danger. That such warning would be gratefully received, might be inferred by the eagerness with which Moore's, and similar almanacs which profess to foretell the weather, are purchased; even though experience has proved their pretensions to be either pure charlatanry or else founded on such slight portions of the truth, that they are as often wrong as right.

One reason, perhaps indeed the chief, why meteorology has not advanced with as rapid strides as some of her sister sciences, is to be found in the fact that she requires not only long and patient observations, but also that these should be carried on simultaneously at many different places, and for a long and uninterrupted period; and it is evidently not an easy task to induce a large body of men in all parts of the world, to make hourly or even daily accurate observations, extending over a period of years. Therefore for a long time meteorologists were obliged to be contented with meagre and broken sets of observations, and from these imperfect data the results arrived at were necessarily vague, and often incorrect, whence there arose in the minds of the non-scientific a general unbelief in the possibility of there being any laws for such variable phenomena, or at least of their ever being ascertained. This feeling, joined to the notorious recklessness of sailors, is now shown by the indifference with which the signals of Admiral Fitzroy are so frequently regarded, in spite of the disastrous effects which have several times followed such disregard. Because his warnings have not always been followed by storms, they think themselves justified in sneering at them; forgetting that he expressly announces them as "strong probabilities," and that in the present state of the science they can be no more. We may hope, however, that these probabilities will soon be converted into certainties. As the importance of the subject becomes more and more acknowledged, observers increase, not only in numbers but in accuracy, and data for future use are rapidly accumulating.

Amongst the additions to our knowledge this book must take a high rank. Its author has long been well known for his labours in this field, and in the present volume he has gathered together the results of many observations and many years' experience. Meteorologists will therefore heartily thank Mr. Scott for having presented it to us in an English dress; and they will find it a most useful addition to their libraries, and one to which they will need constantly to refer. It is indeed more a book for study and reference than for light reading, though there is much interesting matter scattered here and there through its pages.

M. Dove groups "the motions of the atmosphere in the different zones" into three classes,—permanent, periodical, and changeable winds, and proceeds successively to the consideration of them; showing the causes of their motion and direction, and the laws which govern the storms produced by them; these are not always the same, and many points have to be considered in determining the true nature of a storm. Examples are given of storms in different parts of the world; from the fearful "cyclone" of the tropics, to the milder storms with which we are familiar in the temperate zone. A striking instance of the former is given in the account of the "Great Hurricane" which burst over the West Indies on the 10th of October, 1780:—

"The diameter of the hurricane was from the very commencement so great that it embraced the extreme points of the Leeward Islands, that is to say, Trinidad and Antigua, while its centre advanced over Barbadoes as far as St. Lucia, where Admiral Hotham lay with the Vengeance, Montagu, Egremont, Ajax, Alcmena, and Amazon. Subsequently it overtook, on the south coast of Martinique, the French convoy, which consisted of 50 merchant vessels and transports, with 5000 troops on board, escorted by the frigates Ceres and La Constante; only six or seven of these vessels were saved. 'Les bâtiments du convoi disparurent' (the vessels of the convoy disappeared), was the rather laconic expression made use of in the report given by the intendant

of Martinique. From thence the vortex of the hurricane passed over Porto Rico, where the Deal Castle was wrecked, to the island of Mona, and there on the morning of the 15th it overtook the English merchant fleet convoyed by the Ulysses and Pomona, to which it did considerable damage. After this it moved on to Silver Keys, where the Stirling Castle foundered. At what spot the Thunderer, which was on her passage from St. Lucia to Jamaica, was lost, has never been ascertained. It now turned to the N.E., when, in 26° N. latitude, it overtook the five vessels of Admiral Rowley's squadron, which had been dismasted by the hurricane at Savannah-la-Mar, and which, very unfortunately, were steering from the west side of the storm straight towards its centre. From thence it turned towards the Bermudas, probably extending across the Atlantic Ocean at the time when its breadth was greatest; and here the Berwick, which was on her return to England, after having been disabled by the first storm, fell in with it. But not less destructively did the hurricane rage on the islands themselves. At Martinique 9000 persons perished, 1000 at St. Pierre alone, where not a house remained standing, as the sea rose to a height of 25 feet, and 150 houses along the beach disappeared in a moment. At Port Royal, the cathedral, 7 churches, and 1400 houses were thrown down, and 1600 sick and wounded buried under the ruins of the hospital, so that but few were saved. At Dominica almost all the houses standing near the shore were carried away, and the royal bakehouse, the magazine, and a part of the barracks destroyed. At St. Eustatia 7 vessels were dashed to pieces on the rocks at North Point, and of 19 vessels which cut their cables and went to sea but one returned. At St. Lucia, where 6000 people were deprived of life, the strongest buildings were shattered to their foundations; cannon were carried more than 100 feet, and men and animals were raised from the ground and hurled to a distance of several yards. The sea rose to such a height that it demolished the fort, and hurled a vessel against the naval hospital, which was crushed by its weight. The coral bed at the bottom of the sea was torn up, and pieces of it raised so high on their edges that they were afterwards visible above the water; and the harbour itself was deepened 6 feet, and in some places even more. Of 600 houses at Kingston, in the island of St. Vincent, only 14 remained standing, and the French frigate Juno was wrecked."

Happily such extreme cases as this are rare, or the countries visited by them would be uninhabitable. The volume winds up with some practical rules for understanding the changes of the atmosphere; of which those relating to the north temperate zone naturally possess the most interest for us. They are, however, too long to be given entire, but we will conclude this notice with a few brief extracts from them.

"Since the southern current is warm, moist, and rarefied, the northern, on the contrary, cold, dry, and dense, we derive the following rules for their alternation, and we must remember that the cold polar current appears first in the lower strata of the atmosphere, while the warmer equatorial current will always have existed for some time in the upper strata before it is felt below. The changes of weather on the west side of the compass are, therefore, simultaneous with the changes of the barometer, while on the east side the indications of the barometer always precede the fall of rain which takes place. If the wind shifts from S. to N. through W., the barometer rises and the thermometer falls. This transition is characterised in winter by heavy falls of snow, in spring by sleet showers, and in summer by thunderstorms, after which the air becomes much cooler. If the wind veers from N. to N.E., we have clear weather, the air is dry, the barometer high, and in winter intense cold follows, with great clearness of the atmosphere. As soon as the barometer begins to fall the wind gets round to the E.; the sky, previously deep blue, covers itself with thin whitish clouds, and the snow which falls comes from the S. wind which has already set in above. If the barometer falls rapidly, the snow turns to rain and a thaw sets in, when the wind veers farther through S.E. and S. towards S.W."

"In winter, rain, with a west wind and a rising barometer, turns to snow; snow, with an east wind and a falling barometer, to rain. In spring, if the wind shifts through W. to N., we may expect the weather to clear up suddenly, and night frosts to set in, even though the thermometer, at a little height above the ground, may not fall below the freezing point. Heavy thunderstorms, which come up with an E. wind, while the barometer is falling, do not cool the air. We say that it is still sultry and there will be another thunderstorm. The air does not grow cooler till a thunderstorm comes up from the W. and the barometer begins to rise. If several thunderstorms come on in succession from the W., each successive storm is usually more northerly than that which has preceded it."

## Miscellaneous.

*Clearing Timbered Land in the Colonies.*—No one unacquainted with the difficulty of clearing bush as it exists in British Columbia can form any accurate conception of it. Felling trees forms but a small part of it. When they are down, they are, of course, with the scanty resources at the settlers' command, too large to be removed, and they have to be sawn and cut up into blocks handy for removal or burning. That done, the hardest work yet remains. In forests such as these, the roots of the giant trees have been spreading underground for ages, forming a close and perfect network, some 8 or 10 feet beneath the surface. To dig this mass of interlaced roots up would defy the strength and patience of ordinary men; and it is only the wonderful dexterity of the Canadian—and, indeed, of the American generally—in handling his axe, that enables him to enter upon, far less accomplish, so difficult a task. Their dexterity is indeed remarkable. I have seen three men—one of whom, by the way, had lost his right arm—fell a tree 4 feet in diameter in three quarters of an hour. This may at first sight appear no very formidable feat; but, after a few days' trial, the difficulties of such an undertaking will begin to loom upon the amateur backwoodsman. I remember upon one occasion, that an officer of Marines quartered at Westminster, who thought himself, and really was, no contemptible axeman, undertook for a wager to fell a certain tree, some 3 feet in diameter, in a week. He made certain of winning, and commenced work in the most sanguine spirits. But the end of three days found his hands blistered painfully, and the tree upright and almost uninjured as before. At the expiration of the stipulated time another week was given him, and still the monarch of the wood held his head erect. The story goes—this was, of course, after the bet was lost—that he was found one night turning out some of his men to take a sly chop at the tree after dark. *Mayne's British Columbia.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—In reference to the use of artificial heat for this structure, too much stress cannot be laid on the moderation necessary. As has been often well observed, the fire king is sometimes a greater enemy than the ice king. Try to ensure sufficient atmospheric moisture without drip. To accomplish this there should be a moderate but permanent amount of moisture supplied either in floors or in contact with a return pipe, especially during the day. In mild weather like the present let as much air as possible be given to all structures in which half hardy plants are kept. Do not excite the inmates of stoves at present; wait for longer days and more light.

### FORCING DEPARTMENT.

Pineries.—Plants expected to fruit early should now be allowed a slight rise of temperature. On light days let the thermometer indicate 70° or 75°, and during sunshine 10° more may be indulged in. Those who are inclined to try the planting-out system had better postpone it for a few weeks; some special compost and previous training are however necessary in order to ensure success.

Early Vinery.—Supposing the buds to be now considerably advanced, thinning them becomes a daily and important operation. In all disbudding, do not take Nature by surprise—gradual, but rather frequent thinning is the maxim. Above all things, ensure a permanent supply of atmospheric moisture; if this is accomplished by fermenting materials so much the better. Put abundance of covering on outside roots, and if it be slightly fermenting so much the better.

Late Vinery.—In the majority of cases the last Lady Downes and St. Peter's will now be all cut; if they are to be taken out to rest let it be done forthwith. They are best laid on the ground, and covered up with straw for fear of injury by frost. If the late vinery is devoted to Vines alone, throw the lights wide open at once.

Peach-house.—Proceed cautiously here as recommended last week. Supposing the trees to be in course of blossoming give a little more fire in the daytime, to enable you to give more air; the latter cannot be given too freely if the weather is favourable, and the thermometer within can be maintained at 55°; let it, however, sink at night to 40° or 45°. If the roots inside have not been watered, or only slightly so, and the drainage can be relied on, apply another thorough watering with rich liquid manure, clarified of course, and heated to 75°, part of which heat will be reduced immediately it comes in contact with the soil.

Cherry-house.—Follow Nature closely in this house; no extreme here will succeed. Plenty of air, permanency of atmospheric moisture, and a very moderate temperature, are the requisites.

Figs.—Steer a course with these about intermediate between the early Vinery and the Peach-house. In sunny days, however, the temperature may rise equal to that in the Vinery. Observe to fumigate in all the aforesaid structures, the moment one green fly appears.

Frames or Pits.—If hot dung is sufficiently worked, let a seed-bed be made forthwith; for Cucumbers and Melons a two-light frame is very handy for this purpose. Cover the dung inside with 6 inches of old and clean riddled tan, or if it can be had Cocoa-nut refuse, and plunge the seed pots near the glass, taking care if the bottom-heat exceeds 90° to keep it subdued. Endeavour to get a spare frame or pit for early Potatoes; a bottom-heat of 70°, that will last for a month, will be amply sufficient; the sooner it dies away after that the better, a continuance of bottom-heat too long will draw the haulm. If a frame can be spared, sow Horn Carrots and frame Radishes in alternate rows, 3 inches apart; a very slight bottom-heat of 65° will accelerate them much. Proceed with successional Asparagus; the early beds, if kept well lined, will do again, or they will make excellent Potato-beds, or for early Carrots and Radishes. Provide successions of Kidney Beans and Strawberries, as soon as spare room can be provided for them. Remember that Strawberries are best started in pits or frames with a bottom-heat of 70,° with abundance of air; and thence removed to the hothouse shelves if necessary.

### FLOWER GARDEN AND SHRUBBERIES.

Little can be said about these at present. Proceed, as before observed, with all alterations before the necessary spring work arrives. Take care to have labels of all kinds in readiness; see to half-hardy plants, and tree Roses of tender habit. A wicker screen for the former, or even Spruce Fir boughs stuck round them, meeting at top, and covered with Fern, is a very good protection: they oftentimes suffer as much, however, from close covering as from frost. Frosty winds are perhaps more prejudicial than anything.

### HARDY FRUIT AND KITCHEN GARDEN.

Proceed with digging, trenching, &c., whenever spare ground occurs and time permits. If some of this ground should require digging a second time, previous to cropping, so much the better; it will amply repay the labour. All fruit-tree planting not done in the autumn should be proceeded with at mild intervals; wherever the subsoil is bad it should be entirely removed, and a platform of brick-bats, rubble, or cinder-ashes, rammed hard at about 1 foot below the ground level. On this place, if possible, a little rough turf in a fresh state, and be sure to mix some fresh maiden soil with the compost. Sound and tenacious loams for Apples and Pears; sound yet mellow loam for Peaches, Apricots, &c., and free upland soil for Plums, Cherries, Vines, and Figs. Follow up nailing and training of fruit trees; lose no time, when the weather permits, of advancing these matters. Where such is completed, we would advise a syringing with the laundry soapsuds; saturating every crevice in the wall. This is an old plan, and a very cheap and good one. A few Onions may be sown on a warm border shortly, for drawing in a young state; if they should be destroyed by frost, the loss will not be great.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Jan. 14, 1863, as observed at the Horticultural Gardens

| Jan. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 8 | 20 | 29.564 | 29.467 | 52 | 26 | 39.0 | 45 | 44 | S. | .00 |
| Friday 9 | 21 | 29.693 | 29.648 | 53 | 32 | 42.5 | 44 | 43½ | S. | .00 |
| Satur. 10 | 22 | 29.730 | 29.631 | 41 | 36 | 38.5 | 44 | 43¾ | N.E. | .04 |
| Sunday 11 | ☾ | 29.990 | 29.742 | 42 | 23 | 32.5 | 43½ | 43¾ | S.E. | .40 |
| Mon. 12 | 24 | 30.090 | 29.960 | 45 | 33 | 39.0 | 44 | 43½ | S.E. | .08 |
| Tues. 13 | 25 | 29.828 | 29.792 | 48 | 34 | 41.0 | 44 | 43½ | W. | .00 |
| Wed. 14 | 26 | 30.239 | 30.183 | 44 | 35 | 39.5 | 44 | 43¾ | E. | .00 |
| Average. | | 29.876 | 29.771 | 38.8 | 31.3 | 38.8 | 44.0 | 43.6 | | .52 |

Jan. 8—Clear; fine; slight fog at night; slight frost.
— 9—Foggy; cloudy; fine at night.
— 10—Slight haze; overcast and cold; cloudy.
— 11—Cloudy; fine; heavy rain at night; sharp frost in the morning.
— 12—Frosty; cloudy; rain at night.
— 13—Overcast; cloudy; fine; overcast.
— 14—Overcast and cold; cloudy; clear.
Mean temperature of the week 2½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Jan. 24, 1863.

| January. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 18 .. | 41.18 | 31 18 | 36.18 | 15 | 0.55 in. | 1 | 3 | 1 | 5 | 7 | 10 | 6 | 4 |
| Mon. 19 .. | 42.71 | 30.13 | 36.42 | 16 | 0.88 | 4 | 2 | 4 | 3 | 6 | 10 | 6 | 2 |
| Tues. 20 .. | 42.32 | 31.91 | 37 11 | 14 | 0.65 | 4 | 7 | 4 | 2 | 7 | 9 | 2 | 2 |
| Wed. 21 .. | 43.59 | 32.37 | 37.98 | 16 | 0.48 | 1 | 5 | 6 | 1 | 7 | 11 | 5 | 2 |
| Thurs. 22 .. | 43.54 | 32.70 | 38.12 | 16 | 0.57 | 3 | 5 | 1 | 5 | 3 | 14 | 5 | 1 |
| Friday 23 .. | 44.59 | 32.89 | 38 74 | 16 | 0.27 | 2 | 3 | 2 | 3 | 7 | 12 | 4 | 4 |
| Satur. 24 .. | 44.18 | 32.64 | 38.41 | 18 | 0.63 | 3 | 4 | 2 | 1 | 4 | 16 | 5 | |

The highest temperature during the above period occurred on the 19th, 1828—therm. 60 deg.; and the lowest on the 19th, 1838—therm. 4½ deg below zero.

## Notices to Correspondents.

Books: *F J.* The young lady just beginning to collect Mosses is advised to procure Wilson's Bryologia Britannica, published by Longmans, in one large volume 8vo, with numerous plates.

Botanic Gardens: *W R R.* A list of these would be a list of every town of any note on the Continent. Some towns have large ones, some little ones, some have good ones, some bad ones, but all have something.

Cigars: *L W.* We agree with you in thinking that Henry's Canadian cigars, in the Great International Exhibition, were treated improperly by the Jurors. The cigars were excellent. The Regalias more especially were infinitely better than some of those which were "be-medalled;" yet the Jury gave them—nothing: not even a civil word!

Gardeners: *Fairplay.* No time is on the whole better than Michaelmas.

Hedychiums: *T B.* They should be resting now, in a moderately dry state. The old exhausted stems perish under such treatment, and should be cut away. Dry off at once, and then repot and start afresh in about six weeks' time—earlier if it had been resting sooner. Further particulars hereafter.

Timber: *Pembroke.* Don't you know that *all* timber has a spiral grain? Place your eye at the bottom of a mast and observe the clefts in its length; they show where the grain separates, and are invariably spiral. In fact the spiral grain is provided by nature to ensure stiffness, just as a hank of twine, be it ever so limp, becomes stiff when twisted.

Misc.: *A Gentleman's Gardener*; also *A Constant Reader.* We are much obliged for your suggestions, which cannot, however, be acted on.—*Harpagon.* We are unable to admit such matters, which are opinions—mere empty words—about which people neither do nor can agree. Practical matter, or theory which rests on admitted or at least probable facts, is always welcome.—Full Price will be given for the following Numbers for 1862:—Nos. 30, 36, 38, 41, 44, 47, 51. To be sent to the Office of the *Gardeners' Chronicle.*

MESSRS. WAY AND EVANS, Analytical Chemists, have REMOVED their LABORATORY from 15, Welbeck Street, Cavendish Square, to 106, Leadenhall Street, E C., where all Letters and Samples for Analysis should in future be addressed.—Jan. 17.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. Nesbit, Lansdell & Co.

AGRICULTURAL and CHEMICAL COLLEGE, Kennington.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. Nesbit, Lansdell & Co., 37 and 38, Lower Kennington Lane, London, S.
Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.
Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.
Full particulars of terms will be forwarded on application.

CHEMICAL ANALYSES of MANURES, OIL-CAKES, &c., are now made on advantageous terms by Alfred Sibson, F.C.S., Author of "Agricultural Chemistry," &c., late First Assistant in the Laboratory of the Royal Agricultural College, Cirencester.
Temporary Laboratory, 9, Douro Cottages, St. John's Wood, London, N.W.
A "Lecture on Superphosphate" forwarded for 7 stamps.

DRAINAGE of LANDS (by Contract, or laid out and superintended at 5s. per acre) and the ERECTION of AGRICULTURAL BUILDINGS and all other permanent Improvements to Landed Estates, are undertaken by Mr. Humbert, Land Agent and Surveyor, Watford, Herts, and such Works can, if desired, be entirely executed under powers conferred by special Acts of Parliament, by Money raised by loan, and paid off (both principal and interest) by small annual payments spread over a number of years in the form of a rent charge, without immediate payment by the Land Owner.

ESTATE DRAINAGE.—HORTICULTURAL ALTERATIONS Planned, Superintended, and carried out. For the Advertiser's style, see Horticultural Innovation, p. 1172, *Gardeners' Chronicle*, Dec. 13, 1862.
J. Newton, 30, Eastbourne Terrace, Paddington, W.

**Notice**

MR. A. CHANDLER (of the late Firm of Chandler & Sons), HORTICULTURAL VALUER, begs to inform his friends and the public that he has removed from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

**Important to Amateur Gardeners.**

Frost, and its Havoc amongst Early Crops.

MR. WILLIAM E. PHILLIPS, Oak Bank Cottage, Farndon, Cheshire, begs to inform gentlemen amateurs in Gardening that by closely studying the transformations of nature during the different seasons, he is prepared to give correct information, with the greatest possible certainty, as regards the time when all danger of frost is past, and whether to plant early crops in the first week in February, or to withhold them for a much longer time. This unerring advice, which cannot be given before the end of January in any season, will be forwarded, together with a few valuable instructions to obtain very early crops of most kinds of vegetables, by forwarding a Post Office Order for 10*s.* 6*d.* to the above address.
Only a limited number of applications from each county will be answered this season; the remainder will be returned by the Advertiser.
N.B.—Market Gardeners need not apply.

**Present Prices of Farm Seeds.**

THE NEW FARM SEEDS are NOW READY, at Reduced Prices.
PRICED LISTS may be had, Post Free, from Sutton & Sons, Royal Berkshire Seed Establishment, Reading.

**Fluke Kidney Potato Sets**

From Land which has not been Broken up in the Memory of Man.

DICKSONS and BROWN, Seedsmen, 43 and 45, Corporation Street, Manchester, have a few hundred bushels of the above valuable Potato, grown upon fresh land a very short distance from the place where the "FLUKE KIDNEY" was originally raised. They are picked expressly for sets.
By stating quantity required, the price will be forwarded on application to the Advertisers.

**Myatt's Early Prolific Ash-leaved Kidney Potatoes.**

H. and F. SHARPE are now taking orders for the above, which has this season proved itself to be the earliest and most prolific Potato in cultivation, and as fine in quality as any of the Early Kidney varieties. Having a good stock they can offer them at a low price to the Trade.
Also JACKSON'S ASH-LEAVED KIDNEY, WALNUT-LEAVED KIDNEY, and all the early Round varieties at equally low prices, which may be had on application.
Seed Growing Establishment, Wisbech.

THE ROYAL ASH-LEAVED KIDNEY POTATO.—This variety was raised from seed of the Ash-leaved Kidney about five years since by the late James Ashwin, Esq., of Bretforten Hall, near Evesham.
He at the same time raised some other varieties from the same sort. Some specimens of all his seedlings were given to Mr. Rivers, who after having proved them, selected the above variety as being worthy of a name, and as the best and earliest Potato known.
It is like its parent in its fine flavour, shape, and leaves, but its bines are stouter and much more robust. It is also some eight or 10 days earlier, and gives quite double the produce of the old sort, frequently from 20 to 30 fine tubers to a root. In 1861 two pecks of seed produced 22 bushels. A few were sent to Mr. Spencer, of Bowood, last spring. The following is the report from the Foreman of the Kitchen Garden, Mr. Taplin:—"We planted this Potato for trial with the old Ash-leaved Kidney. The seedling was fit for use first, the Potatoes were larger and more of them to a root than the old sort; they were quite free from disease, while some of the sorts planted with it were nearly all destroyed; from its earliness and productiveness, I believe it will be found a most useful sort for early forcing." In March last, 10 varieties of Early Potatoes, including all the Early Kidney Potatoes, were planted here on the same day and in the same piece of ground with one row of the Royal Ash-leaved; the latter was earlier and more productive than any other kind.
Sold in sealed Peck Bags of 14 lbs., at 5*s.* 6*d.* per bag.
In London, by Messrs. Wrench & Sons, Seedsmen, 39, King William Street, London Bridge, E.C.: and by Messrs. Thos. Rivers & Son, Nurseries, Sawbridgeworth, Herts.

**Permanent Grass Seeds, for all Soils.**

SUTTON and SONS have one of the largest and most complete Stocks of NATURAL GRASSES and CLOVERS in Europe, from which they prepare Mixtures expressly to suit the Soils for which they are required.
Seeds sent carriage free to all parts of the Kingdom. Export orders delivered free to the Ship's side in any English port.
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# The Agricultural Gazette.

*SATURDAY, JANUARY* 17, 1863.

That was a quaint bit of experience and wisdom which Mr. Cuthbert Johnson disinterred the other day from Sir A. Fitzherbert's "Boke of Husbandry," in which the old Chief Justice had declared:—"There is a seed called Discretion, if a husbandman have of that seede and mingle it amongst his other corne, they will growe doubtless much the better, for that seede will tell him how many casts of corn a land ought to have. And if a young husband, or, it may so fortune, a man that by possibility might have gray-headed experience, hath not sufficient of that seede, yet he that lacketh, it is lawfull for him to borrow of his neighbours that have, and his neighbours be unkind if they will not lende this young husband part of their seed, for this seede of discretion hathe a wondrous virtue, for the more it is eyther taken of or lent the more it is."

Now Discretion is that part of good conduct which takes wary account rather of the difficulties, risks, and dangers of the way than of the object or rewards of the journey; and it is, we think, a fortunate circumstance that in one of the earliest specimens of "book farming" in our language it should have been desired that the "young husband" do mingle it with his "seed corne." It is because some men do and others do not act upon Fitzherbert's counsel, and there is so much difference of opinion on that old bone of contention—the proper seeding of our crops. It seems plain, let us nevertheless confess, that those who would be called "thin seeders" over more than half the corn land of the country, and who are declared by their opponents to lack "discretion," have the advantage in the argument. It may be, and no doubt is, that imperfect sowing, imperfect seed-bed, and enemies of all kinds destroy large quantities of seed; but disregarding for the moment the greater necessity that there, therefore, is of reducing these risks to a minimum by good management in other particulars, it is plain that in the meantime, and so long as they exist, a larger quantity of grain must be sown than would otherwise be needed. When, however, 3 and even 4 bushels of Wheat, with their 2,000,000 grains, are scattered over 40,000 square feet of land, 50 grains to every foot, it is manifest that there is an outrageous destruction not only of seed but of plants—that the latter must come up in larger quantity than there is room for their productive development, and that one half the seed would yield a better crop. There are districts where 3 bushels of Wheat, 6 and even 8 bushels of Oats, and 4 and 5 bushels of Barley, are the common rule at seed time—districts where climate, at least so far as the element of severity is concerned, cannot be pleaded in explanation of the practice—and where, accordingly, we imagine that both the parties to the discussion, as it is carried on in our columns, would be at one. It certainly must be both the interest and the duty of cultivators in such districts gradually to diminish the quantity of seed they sow, and ascertain by experience, as undoubtedly they would, that three or four plants in every square foot of ground will produce a maximum of grain.

Let us at once, however, admit that in a discussion where we sympathise rather with those who contend for the general reduction of the quantity of seed all over the country, there is no argument which will seem so perfectly futile and without avail to cultivation as that which reasons from the proportion between the seed and the produce. Mr. Wilkins, whose lucid English, erudition, clever irony, and pertinacity are all most usefully engaged in this discussion, not unfrequently declares that seed in his case produces 20 and 30, or even 40 fold, whereas, in ordinary farming, it does not yield above 8 or 10 fold; but it is not the object of the ordinary farmer to multiply seed; on the contrary, provided he could always have the minimum return, that 8 fold which is laughed at, he would prefer sowing all the seed in his granary over a single acre of land to sowing it at great expense of labour, rent, and risk, over many hundred acres. In the very district in which one quarter of Oats is a common seeding, 10 and 12 quarters of Oats are a common crop, and that is a better result than is experienced in other parts where 3 bushels produce 60.

They do not sow all their seed upon a single acre of land because they know the plants would smother one another—the point they do not see is that they smother one another as it is. If, instead of sowing probably 100 grains to every square foot of ground they should try in successive years the effect of 60, 40, even 30 or 20, taking care that each is well planted in a proper seed bed, they would gradually arrive at the conclusion, that notwithstanding the circumstances which have hitherto seemed to justify their confidence, they have hitherto been wasting a great deal of seed to the injury of the crop.

Any alteration of long established practice does in 9 cases out of 10 require a previous alteration of the long established circumstances of the soil out of which in all probability it has arisen; and Mr. Wilkins, no less than Mr. Ford, sees the necessity of good management being carried on in all its particulars together. Each item may be useless, perhaps even mischievous, unaccompanied by the others, and if the same shallow, wet and clayey seed bed into which four bushels of Wheat hitherto have been cast should receive, in obedience to Mr. Wilkins, only three or four pecks, regardless of his warning that good agriculture consists in the deep and thorough tillage of all drained land, he cannot be declared responsible for the failure which will follow.

—— We have received the announcement of an International Agricultural Exhibition to be held, with the co-operation of the German Agricultural Society, on the Heiligengeistfeld at Hamburg, on the 14th, 15th, 16th, 17th, 18th, 19th and 20th of July, 1863, under the guarantee of a large number of gentlemen, whose names are published.

Hamburg is probably the most convenient place on the European continent for an International Exhibition. It is easily accessible from other agricultural countries—England, France, Holland, Belgium, Denmark, Sweden, Russia. Its commercial relations with these countries and other parts of the globe, its total exemption from duty and all customs regulations have especially favoured the merchants of Hamburg in the interchange of agricultural produce and machinery, and made this city a very important market for horses and cattle.

The Exhibition will therefore be an inducement for visitors to assemble from all parts, and afford them opportunitis of comparing the productions of various countries, and of opening new channels for trade.

The Committee are making exertions to induce all steam-navigation and railroad companies to convey at reduced rates of freight live-stock, machinery, agricultural implements and produce, that may be destined for the Exhibition. Their

endeavours have not yet terminated, but, so far, every encouragement to this end has been held out to them, and they will not fail to make generally known their arrangements, as early as possible, for the information of the Exhibitors.

The judges to be chosen will be impartial men, well acquainted with the matters submitted to them for decision, and taken from gentlemen of all countries.

The Committee have secured the hearty co-operation of the German Agricultural Society, they are liberally supported by the Hamburg authorities and other Governments; indeed so many agricultural societies in different countries, especially the Royal Agricultural Society of Great Britain, have evinced such a warm interest in this the first undertaking of the kind in Germany, that the Committee are encouraged to use their most strenuous efforts to render the "Hamburg International Agricultural Meeting of 1863" memorable for its importance.

Applications, respecting entries and other matters, must be addressed to the Secretary, GERHARD HACHMANN, LL.D., Hamburg. The last day of entry of articles to be exhibited is May 1, 1863.

We see that there are no fewer than 36 classes in which horses can be entered for competition, the prizes being from 400 to 15 thalers apiece; no fewer than 88 classes of cattle of all kinds and ages, with prizes varying from 200 thalers to 20; 44 classes of sheep; and 18 classes of pigs, with prizes varying from 50 to 10 thalers each.

The thaler is reckoned equal to 3*s*.

The following are the rules of adjudication:—

1. The judges will be instructed to withhold any prize if they are of opinion that there is not sufficient merit in any of the live stock, machinery, &c., exhibited for such prize to justify an award, and they may therefore disqualify a whole class.

2. If, in the opinion of the judges, there should be equality of merit, they will be instructed to make a special report to the Sub-Committee appointed for that purpose, who will finally decide on the award.

3. The Committee may withhold prizes which have been awarded by reason of erroneous statements on the part of the exhibitor.

In cases where it shall appear to the judges that animals or objects have been entered in a wrong class, they will be instructed to report the same to the Sub-Committee above mentioned, who will finally decide thereon.

4. The judges will be instructed to give in a "reserved number" in each class of live-stock; viz., which animal would, in their opinion, possess sufficient merit for the prize, in case the animal to which the prize is awarded should subsequently (in conformity with § 3) become disqualified.

5. In the classes for stallions, mares and fillies, the judges, in awarding the prizes, will be instructed, in addition to symmetry, to take activity and strength into their consideration.

6. The judges will be instructed to deliver to the Committee their award, signed, and stating the numbers to which the prizes are adjudged before they leave the show-yard.

There is also ample scope to be given to exhibitors of machinery, agricultural implements and produce; connected with which a series of instructions and conditions are published, all of which and every other information may be obtained on application to Dr. GERHARD HACHMANN, Secretary, Hamburg.

## COTTAGE CONSTRUCTION.

[A very interesting paper on this subject was last month read by Mr. J. Taylor, jun., architect, before the Society of Arts. We now extract the following passages from this paper as it is reported in the Society's Journal, and we are enabled, by their kind permission, to give the wood-cuts with which it is there illustrated.]

WE are all, no doubt, well aware of the efforts that have been made to improve the condition of the labourer by improving his dwelling, and great has been the benefit obtained; but I think our over anxiety to provide him with a habitation that should come up to our own views and acquirements, rather than to what his wishes, habits, and inclination aspire to, have retarded much of that wide-spread benefit which might otherwise have been expected. For my own part, I would rather give the labouring multitude something better than they now have, than endeavour to make a few model labourers and labourers' homes.

Our experience, I think, has already taught us that, to build proper abodes for the working classes, will not return a remunerative per-centage; but we may, I think, with a reasonable prospect of success, endeavour to give the labourer something better than he has, and so gradually prepare him for the more perfect abode which we all hope in future time he may obtain.

I think a very grave error is made when a single penny is expended in architectural effect. Finishings and decorations, whereby the dwelling is reduced in size and the proper accommodation decreased, so that turn-up bedsteads are found in sitting-rooms, and other such like expedients resorted to, even when such embellishments are carried out with every regard to economy, tend to increase the difficulty of producing a plain, humble, healthy cottage at a reasonable expense; and hence the inducement to resort to many of the cheap shams and building contrivances of the present day. We are so apt for ourselves to require architectural effect, genteel appearance, and decorations within a limited rental, that it is becoming apparent that no honest builder can get a sufficiently remunerative rent. It is only the so-called "duffing builder" that knows how to set about this. It cannot be wondered at that, in the endeavour to build the labourer's cottage, resort is so often had to what is understood by "cheap build-

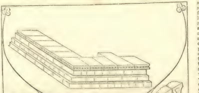


FIG. 1.

ing," although the after experience in repairs discourages those who have been misled, so that injury results where benefit was expected.

I will now explain the manner of constructing damp-

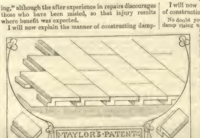


FIG. 2.

resisting foundations, ventilated floors, or paving, dry walls, and a tight, warm roof.

The question that must arise in your minds is, that granted all these are improvements, how are they

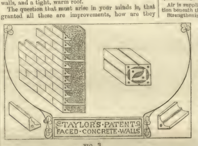


FIG. 3.

applicable to a labourer's cottage? My answer is, that a mode of effecting this has recently occurred to me, and, although it has become the subject of recent patents, I now declare that any who wish to be supplied

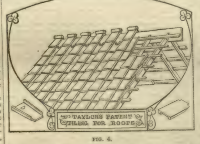


FIG. 4.

by me with such materials for the purpose only of constructing dwellings for the labouring poor, shall have them free from all royalties or patent charges whatever, so that a larger, healthier, and cheaper cottage may be built at a less cost than has before been done.

I will, however, first direct your attention to the plan of a double cottage, which contains on the ground floor a living room or kitchen, 12 feet by 12 feet; a washhouse or scullery, 11 feet 6 inches by 9 feet; a larder, 5 feet by 3 feet 6 inches; a store, 3 feet 6 inches by 3 feet 7 inches; and a large closet to the living room. In the wash-house are a good oven, grate, copper, sink, and dresser, and in the living room a range with oven and boiler. There is a back-door out of the scullery, and a door of communication between scullery and kitchen. The entrance door is in front, where there is a small lobby to the living room and staircase; this lobby has also a pent externally for shelter. Upon the floor above is a bedroom for the parents, one for girls, another for boys; out of the parents' room is a linen closet and cupboard. The whole is comprised within four walls, without breaks, presenting the least surface to the external atmosphere, a great object in this climate. All the flues are collected into one central shaft; the roof is a simple lean-to from party wall to side wall. There are therefore no gutters, valleys, or other intricacies of roof, and all the water falls into one length of eaves-guttering, down one down pipe into a rain water butt. No doubt some portions of this plan have often been seen, but its simplification and adaptation to my peculiar mode of construction is what I claim your attention to. It would have been easy, and certainly very tempting, to have added breaks and gables, &c., and so to have produced a more picturesque effect. The difficulty has been to avoid this, and economise cost in every way.

I will now proceed to explain the several peculiarities of construction, and, firstly, as to the foundations.

No doubt you have often observed and felt the ill effects of damp rising up the walls by capillary attraction, the most fruitful source of an unhealthy dwelling. Stagnant and impure matters in the soil are sucked many feet up the walls, and become evaporated into the rooms—the higher the temperature the quicker the evaporation and the renewal of the noxious supply.

The usual means employed hitherto to prevent this were either a layer of asphalte, sheet lead, or slates in cement; and recently, in attempts at cheap cottage building, we hear of a layer of "gas tar and sand," a layer of "gas tar and powdered slate," a layer of "boiling pitch," a course of "calico immersed in tar and pitch."

In the construction of foundations, three essentials have been hitherto partially effected by as many separate means:—

1st. Damp prevented rising up the walls by the means before named.

2d. The introduction of air by air-bricks at intervals.

3d. Strengthening and bonding by the use of rough York stone, &c.

In my Damp-Proof Course those effects are combined:—

Damp rising is completely prevented by a highly vitrified and non-absorbent material, having an air space through the joints.

Air is supplied through the perforations, securing a circulation beneath the surface of the walls

Strengthening and bonding are effected by the use of an imperishable material, capable of sustaining 600 feet of vertical brickwork upon each superficial foot. These three requirements are economically combined in the one article, with a saving of one course of brickwork in the height of the building.

The advantages to health and comfort that a properly constructed wooden floor possesses over stone, brick, tile, or other paving, are well known; the latter, we find, laid upon the earth, or some other medium in connection with it, and damp rising is again the cause of cold and discomfort; and if the surface of the ground beneath any single tile becomes soft or defective, that tile sinks, the surface becomes uneven, and the paving is quickly dilapidated.

My Patent Ventilated Paving Tile (Fig. 2) for floors or pavement is made with an under projecting rib or flange which, when laid, forms the bearer of the tile, and extends beyond the edge, receiving upon it the other edge of a similar tile, so that the rib not only acts as the bearer of the tile of which it forms a part, but it also forms the bearer of one edge of the next tile, leaving a space under the tile for the free circulation of air, which is there introduced through the Damp Proof Course before described, and, that the air may circulate transversely, as well as longitudinally, in the spaces under the tiles, openings are left in the ribs for the air to pass laterally through from the space under one row of tiles into the space under the next row. In beginning to lay down a pavement, a row of tiles is used having an additional under rib; the air thus circulates freely under every part of the pavement, insuring its perfect dryness, and it becomes, in all respects, a suitable floor for a cottage, at a far less expense than any description of wooden floor, and, when we consider that there is no necessity for floor joists and sleeper-walls, the saving is very considerable.

We now come to the bulk of the building, viz., the walls. Ordinary brickwork, one brick thick, I consider totally unfitted for the abode of any human being. The single brick readily absorbs rain and moisture, and the through mortar joint quickly conveys it from the exterior to the interior.

Horizontal bond is studied and insisted upon by all careful builders, but, strange to say, vertical bond is never thought of. Hence we see the one-brick wall perhaps strong enough to bear the intended weight, but not stiff enough to stand even during its erection. Thicker walls are too expensive for a labourer's cottage. In seeking for a substitute, where economy is to be considered, the bulk of the material must be found upon the spot or in the locality, and nothing is more generally to be found than the necessary materials for concrete.

We all know that concrete is ordinarily composed of gravel and lime, and is in its proper place when in a trench of a foundation. Being retained therein, and prevented spreading,

it will sustain any weight we like to place upon it, but when used in building walls, it is not so retained, and is incapable of enduring cross strains, when the boards, which are, in fact, the moulds in which the cast has been made, are removed. The construction mainly depends upon the adhesive quality of the lime or cement, and when it is no longer retained, cross strain and other causes produce cracks and settlement, and the action of the weather upon the surface soon produces premature decay.

To understand how my patent cottage walls are constructed, observe the diagram on the left hand in Fig. 3, representing a hollow block, which certainly at first appears what no one can understand. It is made by pressing clay through a die. The dark portions represent hollow spaces through which the heat readily acts throughout the block where desired, during the process of burning in the kiln, and, when standing on end it occupies the least possible kiln room. It has been partially separated by knives in the die, but holds together firmly enough during burning in the kiln and carriage to the intended building. Just before use, the bricklayer or labourer readily separates it into six bricks specially adapted for the reception of concrete.

It will be readily seen that in all the several processes of manufacture, six bricks have been produced instead of one. These blocks, or bricks, when used, are laid by the bricklayer on each side of the intended wall, distant from each other the thickness of it, as shown at the left hand of Fig. 3. The labourer then lays concrete in the trench thus formed, the vertical pressure upon the flanges counteracts the outward thrust, and thus the concrete is retained as in a trench, the mould wherein the cast was made remaining to protect the wall from damp, and to prevent the decay of the external surfaces of the concrete by the weather.

Thus each course is thoroughly constructive, and even first-class houses may be thus built to any reasonable height. In a cottage wall, 9 inches of thickness is sufficient, requiring only one course of blocks externally, with the bonding blocks at intervals, and the use of a moveable board on the inner face during its construction. After this a little rendering inside with lime, or Scott's Cement, which is better, finishes the inner face.

It is calculated that a rod of ordinary brick-work requires 4352 bricks, which (at, say 32*s.* per 1000) costs 7*l.* One rod of the patent walling requires 1450 of my bricks, which (at 25*s.* per 1000), for labourers' cottages, only costs 1*l.* 16*s.* 3*d.*; add to this the cubical contents of the concrete, 9⅔ yards, at 16*s.* 8*d.* (calculating gravel at 2*s.* per yard, and lime at 10*s.*), 1*l.* 12*s.* 8*d.*, together; 3*l.* 8*s.* 11*d.* the rod of 14-inch work, as against 7*l.* the rod of brickwork.

Now as to the weight; the 4352 bricks weigh 9 ton 14 cwt.; the 1450 of my bricks weigh 1 ton 9 cwt. We thus see that these blocks can be sent in a railway truck or otherwise long distances, where we could never hope to send bricks. When my blocks for facing ordinary brick-work are used, they cause continuous hollow air spaces to be left within the wall, and a great saving in bricks results. Vertical bond is obtained, and the yielding mortar joints are strengthened; and I have found that the walls of a house thus constructed become so quickly dry, that they may be papered almost immediately.

We now come to the crowning matter of my subject, viz., the roof.

Slate is generally applicable for roofing, as it admits of being laid to a flat pitch, and is light, but is so absorbent of heat that rooms in the roof become unbearable.

Plain tiling has not this objection, but must be laid to a steeper pitch, is much heavier, being nearly of double the thickness, and requiring greater strength of timber.

Pan tiling is lighter, but so pervious to weather, as to be only suitable for sheds and similar buildings.

My patent tiles may be laid to as flat a pitch as slates; their weight is 656 lbs. per square. Plain tiling is 1624 lbs. per square. Thus it appears that it is less than half the weight of ordinary tiling, pleasing in appearance, and combines all the advantages of slates and tiling without the drawbacks attending them. The price is 4*l.* 10*s.* per thousand, being enough to cover a square for 16*s.*

You will observe on the diagram (Fig. 4) that I make a tile wider at one end than at the other, and having flanges raised at two sides, the narrow end becomes the lower end of the lower or trough tile fitting into the wider end. The same tile reversed becomes the upper or capping tile; the two notches in the flanges enable each tile to take an even bearing upon the tile beneath, and allow all the ends of the tiles to range horizontally. The nib upon the upper part of the tile gives the necessary gauge, and firmly secures the tiles the one to the other.

The ridges are formed of a V shape, having all their joints lidded or capped. These ridges are applicable for any ordinary slated roof, and all screw holes and their defects are avoided.

Having now set before you such particulars as time will permit, I will only just briefly conclude by stating that all the patent materials necessary for the erection of the pair of cottages will be as follows:—

| | |
|---|---|
| The damp-proof course .. .. .. | £40 0 0 |
| The ventilating paving .. .. .. | |
| The wall blocks .. .. .. .. | |
| The roofing tiles .. .. .. .. | |

I think we may now, therefore, reasonably expect that the remaining works may be done for such a cost as that a larger, healthier, and cheaper cottage may be available for the labourer than hitherto.

Having directed our time and attention thus far to the labourer's interest, let us look a little to our own, and at this season what is more constantly forced upon our attention than the discomforts that appear to be almost inseparable from our own firesides? We all know what is considered the next evil to a scolding wife.

Mechanical contrivances to effect the combustion of smoke are ineffective when left, as they must often be, to the care of our ordinary domestic servants. There is an annual loss in London alone of 75 per cent. of heat (an acknowledged fact) which escapes up the chimney without adding to the warmth of the apartment. The calculation of this does not afford us any consolation in our discomfort.

The air necessary to support combustion makes its way to the fire from door or window, chink, or crevice, and visits our backs with hurtful draughts in proportion to the warmth we are receiving in front.

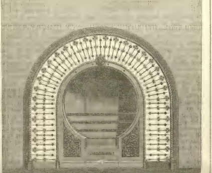

FIG. 5.—FRONT VIEW OF THE SMOKE CONSUMING AND VENTILATING GRATE.

A frequent cause of the chimney smoking is that it becomes filled with the air from the apartment, which, rushing in above the fire, lowers the temperature and renders the flue incapable of acting as a sufficiently rarefied ventilating shaft, and often incapable of even conveying away the smoke at all.

The peculiar features in my patent grates (Figs. 5 and 6) are as follows:—

When the register is closed, the smoke, having ascended from the fuel, and become mixed with atmospheric air, descends, and passes through the hottest part of the fire, where the carbon or soot in the smoke is consumed as fuel.

The heat which would have rushed up the chimney, calculated at 75 per cent., passes down and around the hollow fire lumps of which the grate is formed, and the external air, with which these communicate, enters the apartment in a large body, moderately warmed, not heated.

The apartment is supplied with moderately warmed instead

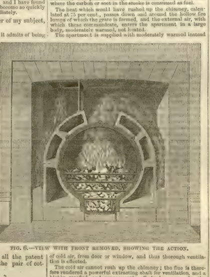

FIG. 6.—VIEW WITH FRONT REMOVED, SHOWING THE ACTION.

of cold air, from door or window, and thus thorough ventilation is effected.

The cold air cannot rush up the chimney; the flue is therefore rendered a powerful extracting shaft for ventilation, and a highly rarefied, and consequently effectual, passage for the products of combustion, thus obviating another fruitful source of smoky chimneys.

Should the warmth be too great, the register can be opened and the action of an ordinary grate will take place.

In addition to these advantages, the fire is always under perfect control, and may at all times be brought to any degree of brightness.

Its combustion of fuel is so perfect, that what remains in the ash-drawer, after the day's consumption, if proper attention has been paid, might be taken away in the palm of the hand.

The occupation of the sweep will be nearly dispensed with. I shall at all times be most happy to give any further explanation or information at my offices in Parliament Street.

In the course of the subsequent discussion Mr. J. BAILEY DENTON said:—

Mr. Taylor's paper was a very ingenious one, and he must admit that the drawings by which it was illustrated were most explicit; but there was to his mind one very manifest omission, and that was the consideration of the cost of the structure. Representing, as he did, a company which was employed very largely in the building of agricultural property, and in ascertaining the lowest prices at which, with due consideration to the sanitary requirements of the day, labourers' cottages could be built, and having himself inspected a great number of drawings, plans, and specifications for them, he was there to confess that they had not been able to build cottages for which the farm labourers of the country could pay a rent which, in itself, would give an adequate interest on the capital expended. The average cost at the present moment of cottages with three rooms, with water supply and the necessary fencing, was 260*l.* a pair. He was speaking not merely of his own experience, but from the experience of those who were largely engaged in building; and as it was necessary, in order to encourage the building of cottages, that they should give a return of six per cent. upon the outlay, the rent would amount to 15*l.* 12*s.* per annum, or 7*l.* 16*s.* per cottage. Now, the utmost that a farm labourer could afford to pay was limited to one-seventh of his earnings, and therefore, taking the average agricultural wages at 10*s.* or 11*s.* per week, the rent which really could be afforded was not more than 1*s.* 7*d.* or 2*s.* per week, which was equal to about 5*l.* a year. Now, inasmuch as 6 per cent. upon an outlay of 130*l.* per cottage represented 7*l.* 16*s.* a-year, it was clear that there remained 2*l.* 16*s.* yet to be made up from some source in order to encourage builders to erect these cottages. That 2*l.* 16*s.* might fairly be paid, partly by the farmer who employed the labourer, and partly by the owner on whose estate the cottages were built, the farmer employing the labourer having the advantage of the man living on his farm, could, it was admitted, pay something towards the rent; and if they assumed that he could afford to pay 1*s.* per week, or 2*l.* 12*s.* a year, there would yet remain something for the owner to pay to make up the deficiency. 260*l.* a pair for cottages was too large a cost, and it was an object worthy of this Society, and of the country at large, to endeavour to reduce the expense from 260*l.* to about 200*l.* a pair. If they could succeed in doing that, there was very little doubt they would be able to build cottages for the poor which were suitable in all particulars. As an illustration of the difference that existed in the various designs that had been placed before the world as being worthy of adoption, he might mention the fact that the cubical contents of these cottages varied as much as from 7000 to 12,000 cubic feet.

Mr. EBENEZER CLARKE was happy to state, as bearing upon the remarks just made, that he held a contract, which was now in course of execution, for building cottages as low as 225*l.* per pair, which were of larger cubical content than those described by Mr. Taylor. The front room was 12 feet by 10 feet, the back room being about the same size, with a wash-house at the back, and containing a capital oven, copper, sink, and dresser, and a good water-closet. There were two good rooms upstairs, and there was a porch in front. A pair of cottages upon this design had been placed opposite the eastern dome of the International Exhibition during the present year, and at Walthamstow there were 16 pairs of cottages now erecting at the contract price he had stated. The cost of those cottages, including the freehold of the ground, would not exceed 130*l.*, and a rental of 2*s.* 6*d.* per week would give 6*l.* 10*s.* a year as the interest upon that amount; but it was said the landlord would expect more than that. Even if 3*s.* 6*d.* per week, or 2*l.* 12*s.* additional for rates and repairs, were required, for that rental they might have cottages within five miles of London, which could be let to pay a fair remuneration upon the outlay. By this means a great difficulty would be overcome. Mr. Scratchley had laid down a goood principle for the purchase of cottages by labourers. He had proposed that some of the money subscribed to the savings bank should be appropriated, at 4 per cent., to the purchase of labourers' cottages.

## THE LAND DRAINAGE ACT, 1861.

*(Continued from page 34.)*

### LETTER II.—ON THE MODE OF PROCEEDING WITH DRAINAGE DISTRICTS.

To men uninitiated in law, and therefore incapable of appreciating the beauties of those Acts of Parliament which incorporate with their own provisions the powers of numerous other Acts, there will perhaps appear in "The Land Drainage Act, 1861," a complication which will trouble them, but this will be counterbalanced by the clearness which characterises the fundamental provisions of the first and second part of the Act itself.

There is hardly a river in England or in Wales, upon the banks of which there are not areas of saturated lands requiring only the removal of some mill dam, or the lowering of some weir or stanch, and the straightening and deepening of internal watercourses, to change the character of those areas from worthless swamps to the best of land; and numberless, too, are the moors and marshes having no immediate connection with a river, but lying sometimes high among hills and above the mean level of the country, which can hardly be called low lands or valley lands, but which equally require outfall works and combined action to secure their reclamation.

Let us see how the new Act facilitates such improvements, and to do so assume that we are about to deal with an ordinary case of either of the above descriptions.

I. Before any formal steps can be taken, the landowners interested must agree in general terms upon the limits of the district to be formed, and thereupon instruct an engineer to report upon the mode of effecting the drainage and the cost of the works, and to furnish a map of the lands comprising the district, a schedule of the owners of land within it, and sections of such outfall drains or cuts as may be necessary.

II. With this information in hand, the proprietors of *one tenth* (in acres) of the land comprised in the proposed district may present a petition to the Inclosure Commissioners, praying that the area agreed upon may be constituted a district under the Act; but the landowners must signify whether it is their wish to have a "Commission of Sewers," or an "Elective Board,"

as the governing or superintending body of the district when formed.

The difference between a Commission of Sewers and an Elective Board consists in the former being constituted by the Queen practically for life, and the latter being elected annually by the ratepayers themselves. The qualification of the members of a "Commission of Sewers" is that fixed by the 3d and 4th of William IV. (which is high in amount, and therefore has an exclusive tendency) while that of the Elective Board is such as the Inclosure Commissioners may determine upon a consideration of the nature of the district.

There are other advantages and disadvantages attending each form of Commission, which will present themselves to the mind as we proceed.

III. The petition to the Inclosure Commissioners must set forth the particular information supplied by the engineer; *i.e.*, the quantity of land within the proposed district, the nature of the works intended to be carried out, the estimated cost of those works, and it must be accompanied by a map of the area, the sections of the outfalls, a schedule of the owners within the area, with the extent of land they each possess, and the names of those persons, who it would be well should serve as Commissioners on the first appointment. In some cases where the area is small and the landowners few, the management of the district will remain virtually in the hands of those who at present control the several unimproved properties; the advantages of forming the district being beyond the execution of combined outfall works, the exercise of borrowing powers, and the permanent maintenance of the whole length or system of outfall works, which it was the object of the combination to effect. Instances will not be wanting where the original cost of the works will be nominal, and the advantages gained will be rather in the powers of maintenance than in the execution of original works.

IV. Upon receipt of this petition the Inclosure Commissioners will institute through an inspector, by public meeting on the spot, an inquiry to satisfy them of the *bona fides* of the promoters and the number and extent of assenting and dissenting parties; but before doing so will require a deposit of money to cover the cost of the inquiry, proportionate to the magnitude of the undertaking.

V. If the landowners elect to carry out the drainage under a "Commission of Sewers," the Inclosure Commissioners will dismiss the petition if one-third the area in extent express to them their dissent in writing; but if an elective board be determined upon, then the Inclosure Commissioners will require to be satisfied through their inspector that two-thirds are in favour thereof. This difference is an inconsistency not easily explained. Every one knows how difficult it is to induce persons, who may be really favonrable to a general improvement, to declare themselves so when the advantages are prospective and a contribution of payment certain. And again, every one knows too that so large a proportion of the land in this country belongs to tenants for life, bodies corporate—women under disability—and absentee owners, that it frequently happens that two-thirds cannot manifest their assent. It is clearly due to the contributors towards the cost of combined works of drainage, that full opportunity should be given to all parties to express their opinions, and that no work should proceed without the concurrence of a majority, but the effect of requiring an expression of approval is practically to convert absentees and neutrals into dissentients; a requirement which will stop many district drainages.

VI. We will now suppose that the Inclosure Commissioners have satisfied themselves on all points of the "Commission of Sewers," or the "Elective Board" is determined upon as the case may be. If the former, the Commission comes into existence as soon as the mandate is issued from the Home Office, which may be in six weeks or two months after the Inspector has held his meeting; if the latter, the Board will be constituted as soon as the provisional order of the Inclosure Commissioners has been confirmed (with other drainages under the same Act) by a general Act of Parliament similar in its character to the Sessional Acts confirming Inclosures. There is, therefore, greater delay in the case of an "Elective Board" than in the case of a "Commission of Sewers."

Having established a Local Board, the functions of the Inclosure Commissioners close, and the Commissioners of the District commence their duties by taking the preliminary steps for the execution of the work, and the raising of the rates for the payment of the cost. If it is requisite to purchase land for new works, then the approval of the Inclosure Commissioners (confirmed by Act of Parliament) is required; so also, if it is desired to mortgage the rates and raise the money for the works by an arrangement enabling the landowners to pay off the principal money with interest in a period not exceeding 30 years—as in nine cases out of ten it will be found to be—the jurisdiction of the Inclosure Commissioners is again revived to sanction the mortgage. And most fortunate it is for the country that such interposition is necessary, for by a strange anomaly the Act does not require an adherence on the part of the Local Commissioners to the plans and statements put before the Inclosure Commissioners, when determining the limits of district, though any material departure from them must necessarily render the limits of the taxable area inappropriate, and the rating originally contemplated unjustifiable.

All these considerations, however, will have their weight when the district board is established, and the arrangements for internal management will follow in due course.

In my next and last letter I will confine myself to the two points which are of the greatest importance when the Local Board assume the executive. The engineering principles to be generally recognized, and the basis upon which the rate will be levied on the taxable area. *J. Bailey Denton*, 52, *Parliament Street, Westminster.*

## TOWN SEWAGE.

I READ with surprise and regret, and "rather in sorrow than in anger," such portions of your late Leader as referred to our imports of foreign corn and to our waste of town manure. There was in that Leader a resignation to things as they are, and an inferential hopelessness of amending them, that are exceedingly painful to the feelings of an ardent agricultural improver. Are we really to see these vast foreign imports of corn and that enormous waste of food producing sewage without an effort to diminish the one and preserve the other. Are these objects impracticable? or can they be profitably accomplished by an investment of capital and intelligence? Have we been content to do the same thing with cotton? Why are we not by the same rule willing to purchase all our cotton goods from foreigners? How is it that Lancashire can purchase from foreigners their raw material, employ millions of British hands in working it up, and sell it again in a manufactured state to the very country that produced it? Look at the gigantic factories and costly and complicated machinery, raised and made by enormous investments of intelligence, science, and capital, and you have at once an answer to the question.

This has been done in our manufactures, but has it been done in agriculture? No! therefore in one case we can defy foreign competition, in the other we tamely submit to buy abroad that which we could, if we chose to do so, produce with profit at home, thus providing abundant and extensive additional channels for industrially employing our own people, and for that superabundant capital which is now, by our payments annually of many millions for foreign corn, stimulating and encouraging and remunerating our competitors in corn growing in other countries. But it will probably be asked—how can you compare cotton with corn? Does our agriculture admit of sufficient improvement to warrant a reasonable expectation of such a result as you contemplate? That is really the question. Let us see what our land really produces, and we shall soon arrive at a conclusion. The available agricultural area of Great Britain (leaving out mountain and waste) may probably be taken as 50 millions of acres, landlord's measure, which includes roads, fences, trees, and the space occupied by farm buildings. The rent of this land may be taken as 20*s.* per acre; its gross annual produce, according to the best estimates that can be referred to, about 3*l.* 15*s.* per acre, in meat, corn, and other agricultural produce. Capital employed, 4*l.* per acre.

Is this amount of produce worthy of British enterprise? To judge of this we must refer to numerous cases in our best-cultivated districts, where on the poorest soil, naturally, more than double 3*l.* 15*s.* annually is obtained from the soil, being the result of a greater investment of capital and of intelligence. But, then, are we deficient as a nation in capital? Every one knows the contrary, and that the annual surplusage of profits to the extent of many millions flows into almost every undertaking except the increased production of food, the most required and the most necessary of all things.

We must, therefore, come to the regretful conclusion that various causes interpose to prevent or delay the flowing of capital into that most necessary of all occupations, the production at home of human food. Many of these causes are very obvious; but the consideration of them is too large a subject for the present paper, for in dealing with so enormous an interest as British agriculture it is evident that so small an increase of produce as only 10*s.* per acre would, on 50 millions of acres, add 25,000,000*l.* annually to our stock of human and animal food, and thus almost render us independent of foreign imports. In fact no reasonable or calculating person can doubt that we have the means and power to produce with profit (if we had but the inclination to do so) much more food than could be consumed by the British people. Of course the result would be to cheapen the produce, and I have yet to learn that the same mighty power which has rendered calico more profitable at 3*d.* per yard than it was when at 1*s.* 6*d.*, may not be brought to bear on the production of our food.

The mere drainage of our land where required, better shelter for our live stock, greater economy of our manures and town sewage, and an amendment of the topography of our farms, would add greatly to the food of the people, with profit to landlords and tenants and the country at large.

Every unprejudiced man who travels from county to county throughout this kingdom must look with sorrow and contempt on the low scale of our general agricultural procedure and condition—and come to the conclusion that it is quite as much a matter for landlords as for tenants,—to inaugurate a better state of things. *J. J. Mechi, Jan.* 7.

## RABBITS.

In a recent Number of the French periodical "*Connaissances Utiles,*" there is a good practical article on the management of the domestic rabbit, by M. Verardi. It appears that there are establishments for breeding and fattening this prolific and useful creature in the vicinity of Paris, in which 1500 are supplied weekly for consumption as food, although in provincial districts the value of the artificially bred and reared rabbit is unknown. The flesh, however, of the tame rabbit is inferior, the writer admits, in flavour to that of the wild sort, which he attributes altogether to the mode of feeding; but probably confinement in the one case, with imperfect ventilation, and free air and liberty in the other have even more influences in affecting the quality and flavour of the flesh than the differences of food, which are not in all details dissimilar.

The rabbit that burrows in copses or clay banks, browses frequently on very succulent and dewy food, such as the leaves of corn, Turnips, Mangels, Clover, &c. Such food does not differ at all in regard to succulence from the garden waste usually given to domesticated rabbits, such as the leaves of Cabbages, Carrots, and Lettuces. Yet, on the other hand, instinct may lead the rabbit which is free to roam and select its own nutriment, to eat some herbs which may possess medicamental qualities corrective of the laxative properties of succulent Grasses and other herbivorous substances of kindred qualities. The leaves and bark of shrubs or trees, for instance, may prove astringents, and prevent the evil effects of other sorts of food. Wild herbs of varied qualities are within reach of the rabbit in a state of nature, and it may instinctively take what possesses the "virtues" which its condition requires, as the sick dog seeks for the Quicken or Cock's-foot Grasses, which afford it immediate relief by scouring as an emetic. The writer of the article before me attributes the ill success with which the rearing of domestic rabbits is so often followed, to the error of supposing that the waste vegetables of gardens constitute good food for them; though eaten eagerly they are injurious from their great succulency. Cabbages and Lettuces are often in a very watery state, and no doubt the rot or liver complaint which sweeps off successive generations of confined rabbits before they attain maturity is chiefly attributable to the excessive use of watery green food; whereas, if their nourishment consisted of such substances as wild Chicory, Thyme, Carrot, and Parsley (the latter is objectionable, however, for pregnant and nursing mothers), those diseases would probably be obviated.

Field plants will generally prove to be more healthful food than the other common sorts of garden plants. As a general rule aromatic herbs and those which the cow relishes are the most wholesome for rabbits. Lucerne, Clover, and Vetches, yield a ready and abundant supply of food, and in dry weather may be freely used; and even at other times, after exposure to evaporation by a current of air, they are innocuous, provided that Oats, or bran, or sweet hay be added as correctives of moisture. There is scarcely any cultivated vegetable or weed which rabbits will not eat; but discrimination on the part of the provider is very necessary. I attribute my own failures to incaution in this respect, and particularly to the error of giving moist green food to the young ones at too early an age. In winter, Turnips, Carrots, Potatoes, and Jerusalem Artichokes, mixed with corn, or bran, or grains, and with a little salt, will keep rabbits in a thriving condition under favouring circumstances of dry and well ventilated habitations. Some writer has observed that when rabbits die, "ninety-nine times out of the hundred starvation is the cause." I am inclined to think that over-feeding, or injudicious feeding, more frequently occasion premature death.

Rabbits require frequent feeding, and with small quantities to prevent waste. But M. Verardi suggests something more. The feeding time is not a matter of indifference, as one might suppose. The rabbit likes to ramble and graze from nightfall during eight or nine hours of the night, and half an hour before dawn to sunrise, it sleeps during the day. This natural habit should therefore be indulged. On the subject of house accommodation and ventilation, the French writer offers suggestions which though brief are explicit and easily carried out. 1. The aspect should be east or south. 2. There should be at least two windows for admission of fresh air. 3. It should be laid on a dry bottom sufficiently inclined to throw off the liquids; and (4) kept in a perfectly clean state. "The odour from an ill-kept hutch is so intolerable, that complaints have been made on the subject to official authority because the atmosphere of hutches has been deemed mephitic and capable of exciting diseases. These miasmata would unquestionably become dangerous to mankind, if they were as susceptible of its evil effects as the rabbits are. But it is certain that these perish before there is any danger to the human kind, which would of necessity occasion the removal of the cause of anxiety. The shape of the hutch is unimportant, provided that the males and females can have separate apartments, and that it closes against cats, mice, and weasels. It ought to be well paved or tiled to prevent the rabbits from burrowing, and roofed with projecting slates. The divisions for the does should be raised 8 or 10 inches above the level of the ground, and constructed of lattice work or solid

boards to withstand the rabbits' teeth, but affording openings sufficient for free ventilation. The height to be from 2½ to 3 ft. (French measure in all these cases) and the bottom either boarded (or cemented), declining towards the back, and perforated with holes to let the liquid flow off. The side door only should open for the removal of the litter, which requires frequent changing. A little rack is necessary in each compartment to preserve the green juicy food from being trampled upon, and also a little bowl to hold bran or grain for the feeding of the nursing does. From 12 to 15 yards in length, and from 4 to 5 in breadth, is a sufficiently large hutch to contain from 20 to 24 divisions, of which two should be set apart for the males, and others (twice as large) for the young ones five or six weeks old, not yet strong enough to have an unlimited range of the hutch."

All the diseases to which rabbits are subject are principally attributable to wet floor, wet food, and foul air. The author thus enumerates their diseases with the remedies. The most dangerous ailments are, first, indigestion (occasioned by eating very succulent green food), which manifests itself by the patient's desire for darkness and solitude; the urinary discharges are frequent, and the excrement is nearly in a fluid state; hay and bran, Burnet or Parsley, with a little finely pounded salt, are the prescribed diet.

*Swelled Stomach* (the "dare," as it is termed in France) is hydropsy of the viscera of the lower stomach, and especially of the bladder. The sufferer does not however lose vivacity or appetite. The great size and flabbiness of the stomach indicate the affection, which is caused by very moist food, or humidity of location. The diseased rabbit ought to be separated from the others, as the malady may be contagious. Roasted Barley and bran, without salt at first, are the remedies, adding each evening a handful of Thyme, Sage; water also should be given, though contrary to general opinion. The author has remarked that this disease sometimes reappears a second year, in which case he recommends the purification of the hutch with chloride of lime or strong lime whitewash. A malady called Étisie, and indicated by loss of appetite and pining away, attacking principally young rabbits, causes them to die quickly in convulsions if not stopped early. This complaint arises also from humidity. Separation of the distempered rabbits from the others is necessary, and dry food such as hay (with salt), bran, or corn, should be substituted for the previous succulent diet.

*Liver complaint* usually arises from stagnant wetness of floor or litter, and wet food. It is best to kill those that are affected, as this ailment is contagious; on examination of the carcase the liver will be found to be full of purulent pustules.

*Sore eyes.* — Very young rabbits towards the weaning period are attacked by this malady, and it soon becomes fatal. It is attributable to foul air and the ammoniacal gases arising from wet litter, and never appear in well kept hutches. The sick ones should be removed to a clean place with fresh litter which is necessary in almost all cases of disease, and the hutch should be washed with lime whitewash. On the whole this article by M. Verardi, which I have abridged in some particulars (omitting the natural history of the *Lepus Cuniculus* altogether) is full of useful hints to any persons engaged in the rearing of domesticated rabbits. *Martin Doyle.*

## Farmers' Clubs.

London.—The following are the subjects for discussion for the present year:—

February 2.—The Operation of the Malt Tax, proposed by Mr. J. Steed, Baldock.

March 2.—The Question of Town Sewage further considered, especially with reference to the evidence given before Dr. Brady's Parliamentary Committee of 1862, by Mr. J. J. Mechi, Tiptree Hall, Kelvedon.

April 6.—What does the Experience of the past three years prove with regard to the required Depth of Under Drains, and width of intervening spaces, by Mr. G. Dobie, Lydgate, Newmarket.

May 4.—Practical Remarks on the Effect of Temperature on Cultivation, from observations of the three past seasons, by Mr. J. B. Spearing, Moulsford, Wallingford.

June 1.—The Present State of Steam Cultivation, by Mr. J. C. Morton, Streatley, Berks.

November 2.—The Veterinary Art in Relation to Agriculture, by Mr. W. Fisher Hobbs, Boxted Lodge, Colchester.

December 7.—The Breeding, Rearing, and Fattening of Stock upon Arable Farms, and the Capability of such Farms to produce Meat, by Mr. J. Coleman, Woburn.

Members unable to attend these Meetings are invited to forward practical information upon them. Their letters will be handed to the introducer of the subject, to which reference is made.

⁂ The discussions will commence at Half-past Five o'clock, P.M. There are no meetings in January, July, August, September, and October.

## Reviews.

*The Prince Consort's Farms: an Agricultural Memoir.* By John Chalmers Morton, Editor of "The Cyclopædia of Agriculture," etc.; Honorary Member of the Royal Agricultural Society of Holland. Pp. 288. 4to. Longmans.

We take the following memorandum in reference to this work from Messrs. Longman's Notes on Books:—

"This volume describes in detail the relations to British agriculture sustained by H.R.H. the Prince Consort—the late President of the Royal Agricultural Society of England. It relates the improvements carried out under the instructions of His Royal Highness on the estates and farms of which he was the owner and the cultivator. The whole subject of estate and farm management has received most valuable illustration at Osborne and Balmoral, and on the farms around Windsor of which the Prince was the tenant; and it is attempted in these pages to describe those examples of farm buildings, good cottage accommodation, thorough drainage, steam tillage, skilful cattle breeding, and good cultivation generally, which the Royal Farms have for many years presented; *and thus to make known to cultivators in general the practical results of farming over several thousand acres of very different soils, which have for many years been managed on the most improved modern system.*

"A great deal of information has been thus collected, and is here presented, which will be of service to improvers, whether the owners or the occupiers of land.

"The Prince Consort's relations to the labouring class, and especially to the labourers on his own estates, are also described. And an account is given of what he actually did in furtherance of general agricultural improvement, and in aid of those Societies by which in this country it is promoted.

"The work has been prepared with the sanction and permission of the Queen, who has graciously accepted the dedication of it to her Majesty.

"The author gratefully acknowledges the help he has received from the several departments presided over by the Hon. Sir Charles Phipps, K.C.B.; Major-General the Hon. A. Nelson Hood, and Major-General Seymour, in whose hands the management of the Royal Farms is placed.

"Illustrations, filling upwards of 30 pages, give maps of the estates, plans and sketches and isometrical perspectives of buildings and cottages, and all such details as may be necessary for the easy understanding of the text; and it has been attempted by a simply written story, and by the best efforts in typography and engraving, to present a worthy memorial of a useful and distinguished agricultural career."

*Manual of Veterinary Science.* By William Dick, V.S. to the Queen for Scotland. Second Edition. A. & C. Black, Edinburgh.

This little work is an enlarged edition of the article on this subject which was published in the seventh edition of the "Encyclopædia Britannica." Its author is one of the most experienced men of his profession, and he has done more perhaps than any other man for its advancement. His book is written in the form of continuous narrative, unbroken into sections or chapters, but a good index enables the reader to find what is said on any subject he may be interested in.

The following are the author's notes on "Choking:"—

"Choking, or obstruction of the passage by a large morsel of food, witnessed more in cattle than in horses, and most frequently when they are feeding upon Turnips, Potatoes, Carrots, and such like. The obstruction usually occurs at the bottom of the pharynx and commencement of the gullet, not far from the lower part of the larynx, which I have seen mistaken for the foreign body. The accident is much more serious in ruminating animals than in others, as it immediately induces a suspension of that necessary process, and of digestion, followed by a fermentation of the food, the evolution of gases, and of all those frightful symptoms, which will be noticed under the disease *Hoven.* The difficulty in breathing, and the general uneasiness of the animal, usually direct at once to the nature of the accident, which examination brings under the cognizance of the eye and hand. No time must be lost in endeavouring to afford relief; and the first thing to be tried is, by gentle friction, and pressure of the hands upwards or downwards, to see and rid the animal of the morsel. Failing in this, I mention first, the great virtue I have frequently found in the use of mild lubricating fluids, such as warm water and oil, well-boiled gruel, &c. The gruel is grateful to the animal, which freely tries to gulp it, and often succeeds. Whether this is owing to the lubrication of the parts, or to the natural action superinduced, it is unnecessary to inquire; but the fact I know, that a few pints of warm gruel have often proved successful in removing the obstruction. If this remedy should be ineffectual, the foreign body may perhaps be within the reach of the small hand which a kind dairymaid may skilfully lend for the purpose. If this good service cannot be procured, the common probang must be used, the cup-end being employed. Other and more complicated instruments, acting upon various principles, have been invented, for example, the screw probang, for extracting the obstructing body: the use of these requires considerable skill."

The following, again, are remarks on "Hoven:"—

"It is often witnessed in animals removed from confinement and winter-feeding to the luxuriance of the Clover field; and in house-fed cattle, from the exhibition of rich food, such as Pease-meal and Beans, often supplied to enrich their milk. I have already mentioned that it sometimes proceeds from obstructed gullet. The symptoms bear so close a resemblance, both in their progress, and termination in rupture and death, to those so fully described above, that I shall not repeat them. The same treatment is generally required, and it must be equally prompt. The mixture of the oils of linseed and turpentine is nearly a specific. In addition, the probang is often used with advantage; but so violent and rapid are the symptoms, that recourse must sometimes be instantly had to the operation of Paunching, which, though apparently a desperate remedy, is generally attended with success. The place for puncturing the paunch is on the left side, in the central point between the lateral process of the lumbar vertebræ, the spine of the ilium, and the last rib. Here the trochar may be introduced without fear. If air escape rapidly, all is well. The canula may remain in for a day or two, and on withdrawal, little or no inconvenience will usually manifest itself. If no gas escapes, the opening must be freely enlarged, till the hand can be introduced into the paunch, and its contents removed, as I have sometimes seen in prodigious quantities. This done, we should close the wound in the divided paunch with two or three stitches of fine catgut, and carefully approximate and retain the sides of the external wound by metallic sutures, and with rest, wait for a cure, which is often as complete as it is speedy."

*Milch Cows and Dairy Farming.* By C. L. Flint, Secretary of the Massachusetts State Board of Agriculture. Trübner & Co., 60, Paternoster Row.

The author describes the several dairy breeds—Ayrshire, Jersey, Short-horn, Dutch, Hereford and Devon, in a chapter of 48 pages.

A second chapter describes the American cattle, and refers to the objects and methods of good breeding. In the third chapter the selection of the cow and indications of age, and of a good milking character, are treated of. The feeding and management of cows, and the raising of calves, are treated of in the fourth and fifth chapters. The cultivation of Grasses and other forage plants is discussed in Chapter 6. The seventh, eighth, and ninth chapters describe milk, butter, and cheese. In the 10th chapter the diseases of dairy stock are described. The 11th describes the dairy husbandry of Holland. In the 12th there is a letter on cleanliness and other details to a dairy woman. And the 13th chapter relates to the Piggery. There is an Appendix giving the writings of the late Mr. Horsfall on this subject. And the whole is an octavo volume of 420 pages.

It is written somewhat diffusely, illustrated where necessary with good woodcuts, and furnished with a sufficient index.

The following extract may suffice as an example of the author's style, and it is at the same time an instructive account of American cheese making.

"The practical process of manufacture most common in the best dairies of this country will appear in the following statements of successful competitors at agricultural exhibitions. The first was made, by request, to the New York State Agricultural Society, and appeared in its Transactions, by A. L. Fish, of Herkimer county, one of the finest dairy regions of that State. The value of his statement is enhanced by the fact that his cows averaged 700 lbs. of the first quality of cheese each in 1844, and 775 lbs. each in 1845. In his mode of manufacture, 'the evening's and morning's milk is commonly used to make one cheese. The evening's is strained into a tub or pans, and cooled to prevent souring. The proper mode of cooling is to strain the milk into the tin tub set in a wooden vat, described in the dairy-house, and cool by filling the wooden vat with ice-water from the ice-house, or ice in small lumps, and water from the pump. The little cream that rises over night is taken off in the morning, and kept till the morning and evening milk are put together, and the cream is warmed to receive the rennet. It is mixed with about twice its quantity of new milk, and warm water added to raise its temperature to 98°: stir it till perfectly limpid, put in rennet enough to curdle the milk in 40 minutes, and mix it with the mass of milk by thorough stirring; the milk having been previously raised to 88 or 90°, by passing steam from the steam generator to the water in the wooden vat. In case no double vat is to be had, the milk may be safely heated to the right temperature, by setting a tin pail of hot water into the milk in the tubs. It may be cooled in like manner by filling the pail with ice-water, or cold spring-water where ice is not to be had. It is not safe to heat milk in a kettle exposed directly to the fire, as a slight scorching will communicate its taint to the whole cheese and spoil it. If milk is curdled below 84°, the cream is more liable to work off with the whey. An extreme of heat will have a like effect.

"'The curdling heat is varied with the temperature of the air, or the liability of the milk to cool after adding rennet. The thermometer is the only safe guide in determining the temperature; for, if the dairyman depends upon the sensation of the hand, a great liability to error will render the operation uncertain. If, for instance, the hands have previously been immersed in cold water, the milk will feel warmer than it really is; if, on the contrary, they have recently been in warm water, the milk will feel colder than it really is. To satisfy the reader how much this circumstance alone will affect the sensation of the hand, let him immerse one hand in warm water, and at the same time keep the other in a vessel of cold water, for a few moments; then pour the water in the two dishes together, and immerse both hands in the mixture. The hand that was previously in the warm water will feel *cold*, and the other quite warm, showing that the sense of feeling is not a test of temperature worthy of being relied upon. A fine cloth spread over the tub while the

milk is curdling will prevent the surface from being cooled by circulation of air. *No jarring of the milk*, by walking on a springy floor, or otherwise, should be allowed while it is curdling, as it will prevent a *perfect cohesion* of the particles.

"'When milk is curdled so as to appear like a solid, it is divided into small particles to aid the separation of the whey from the curd. This is often *too speedily done* to facilitate the work, but at a sacrifice of *quality* and *quantity*.'

"To effect the fine division of the curd for the easy separation of the whey, Mr. Fish uses a wire network, made to fit into the tub, the meshes of fine wire being about a half-inch square, and the outer rim of coarse and stronger material. A cheese-knife is also used, about half as long as the diameter of the tub, and firmly fastened to the lower end of a long screw which passes through one end of the blade as it lies horizontally, leaving the blade at right angles with the screw, which has a coarse thread, and passes through a piece of wood on the top of the tub, held firm by notches at the ends laid on the edges of the tub. By turning a crank, the knife passes down through the curd in revolutions, cutting it into layers of the thickness of the threads of the screw."

## Farm Memoranda.

SOUTH HANTS FARM.—Financially, this may be said to have been one of the worst seasons during the last 20 years. The crop of corn, more particularly that of Wheat, has proved so deficient in yield, and so low in price, that no other portion of the farmers' produce can make up the deficiency. If we compare the crop with that of the season of 1853 it is but a shade better, whilst the price of Wheat in that year ranged as high as 78*s*. per qr. against 52*s*. per qr. in the present season, with only a poor crop of Barley, selling at a low price; Oats, Beans, and Peas, an average crop at a moderate price; and with sheep and cattle brought in to stock the grazing farms and feed the root crops of the district at excessively high figures, there is no redeeming point whereon the interests of farming can rely for profit. As, however, we are now entering the new year, let us hope that 1863 will make us amends for the untoward state of things peculiar to the past season, and this hope must be strengthened by the fact of having a favourable seed time for the Wheat during the past autumn. The farm labourers during the past year have found regular employment, at least we never knew fewer men out of work; and the price of bread being moderate has been greatly in their favour, the rate of wages being from 11*s*. to 12*s*. per week. We have continued sowing Wheat with little if any interruption to the end of the year, and during the last fortnight in particular the land has been in first-rate condition for receiving the seed, and it has also been unusually favourable for drawing out the manure as fast as the land has been cleared of the root crops by sheep and otherwise; some of the early sown Wheats are showing rather forward, if the weather should continue mild and open. However, as we did not begin sowing until November 5, we have none likely to become winter proud, but it has vegetated very regularly, and a more even plant on the ground we can never remember. We shall continue to sow more Wheat during the next few weeks if the mild weather should continue; if not, and frost should intervene, delaying the season, we should give up the idea of sowing more Wheat, and seed the land with white Canadian Oats in the month of March instead, for we have found on our soil and tillage that we can grow as many quarters of Oats as we can sacks of Wheat sown in winter or spring. In the South Hants district food for stock is generally very abundant, and roots of all varieties are keeping sound and well, both in the ground and in stack; this circumstance still tends to keep up the value of all kinds of store and stock animals, it has also a tendency to keep up the price of fat meat, because farmers will hold on the animals and make them fatter, rather than sell them, unless they could replace the stock at a lower figure. We do not, however, expect to see the price of meat much lower further on in the season, as there is no great quantity of fat stock in the hands of the graziers, particularly sheep. The weather having been rather drier than usual, has been somewhat in favour of the sheep stock, although the fall of lambs is scarcely an average, and they came later than last year. Easter coming early this year, we may expect the early lambs to sell well; we have only sold a few, as yet, of our Somerset lambs; our West-country Downs have about half done lambing, producing but few twins; they have, however, made tolerable progress, and would have done better, but the lameness still continues to annoy them. We do not keep a large number of pigs, thinking they do not pay for fatting so well as bullocks and sheep, we therefore prefer to breed and sell for stores when the pigs will fetch from 25*s*. to 30*s*. each; we like the Berkshire breed best, and usually keep about five or six breeding sows. We prefer to keep the sows in rather low condition, allowing them to run together in a small yard fenced with iron, where they have a hovel to sleep in; but as soon as they are ready to farrow they are removed to a pen adapted for them, where they remain until their young ones are fit to wean, when they return to the yard and hovel again. We have often thought that the price of pork ranging as it does generally lower than other kinds of meat, must be occasioned by some decided cause; it would perhaps be somewhat difficult to say what the reason can be. We must however remember that almost any person who has room for a stye can and does keep his pig in the country districts, and the food required is of a nature accessible to all, whereas bullocks and sheep require a large area, and the produce of large areas of roots, hay, straw, &c., to fatten them. Bullocks require large areas, too, of buildings to accommodate them; in fact, if we look to the whole of the items in connection with breeding, rearing, and fattening sheep and bullocks, we must be forcibly reminded of the difference between swine and other stock which are fattened for the shambles in this country. *J. B.*

## Miscellaneous.

*The Crawley Sparrow Club: Sparrow Murder.*—A country paper lately had the following announcement:—"The annual dinner took place at the George Inn on Wednesday last. The first prize was awarded to Mr. J. Redford, Worth, for having destroyed within the year 1467. Mr. Heaysman took the second, with 1448 destroyed. Mr. Stone third, with 982 affixed. Total destroyed, 11,914. Old birds, 8,663; young ditto, 722; eggs, 2,559.

Who killed Cock-sparrow?
"I," said three men of Crawley,
"With my club in my mawley,
I killed Cock-sparrow!"

Who saw him die?
"I," said Caterpillar,
"And I blessed sparrow-killer,
As I saw him die."

"Who'll dance on his grave?
"I," said Mr. Slug,
With Green-fly and Red-bug,
"We'll dance on his grave."

Who'll weep for his loss?
"I," said young Wheat-shoot,
Fruit, and Flower-bud and Root,
"We'll weep for his loss."—*Punch.*

To this we add a letter from the *Times*, entitled *Hard-earned Thanks.* "I am desirous on behalf of some young entomologists to express their gratitude to those sportsmen and others who are kindly destroying so many small birds, as it promises large numbers of caterpillars and butterflies for next year. They also hope that the same gentlemen will continue to destroy largely the tomtits which commit such havoc among so many valuable caterpillars and chrysalides; they eat all the chrysalides off the walls, and the sportsmen will be doing a real service to entomologists by sparing no powder on them. *L. M. S. P.*"

*Tithe Commutation.*—As many of your readers may feel anxious to know the result of the corn averages for the seven years to Christmas, 1862, published by authority in the *London Gazette* of yesterday, viz.:—

| | | |
|---|---|---|
| Wheat .. .. .. | 6*s*. $8\frac{3}{4}$*d*. | per Imperial bushel. |
| Barley .. .. .. | 4*s*. $7\frac{1}{2}$*d*. | ditto |
| Oats .. .. .. | 3*s*. 0*d*. | ditto |

I beg to state for their information that each 100*l*. of tithe rent-charge will for the year 1863 amount to 107*l*. 5*s*. 2*d*., or 2*l*. 8*s*. 4*d*. per cent. less than last year's value. The following statement from my "Annual Tithe Commutation Tables" will show the worth of 100*l*. of tithe rent-charge for each year since the passing of the Tithe Commutation Act, viz.:—

| | | £ | s. | d. |
|---|---|---|---|---|
| For the year | 1837 .. .. .. .. | 98 | 13 | $9\frac{3}{4}$ |
| ,, | 1838 .. .. .. .. | 97 | 7 | 11 |
| ,, | 1839 .. .. .. .. | 96 | 7 | 9 |
| ,, | 1840 .. .. .. .. | 98 | 15 | $9\frac{1}{4}$ |
| ,, | 1841 .. .. .. .. | 102 | 12 | $5\frac{1}{4}$ |
| ,, | 1842 .. .. .. .. | 105 | 8 | $2\frac{3}{4}$ |
| ,, | 1843 .. .. .. .. | 105 | 12 | $2\frac{1}{4}$ |
| ,, | 1844 .. .. .. .. | 104 | 3 | $5\frac{1}{4}$ |
| ,, | 1845 .. .. .. .. | 103 | 17 | $11\frac{1}{4}$ |
| ,, | 1846 .. .. .. .. | 102 | 17 | $8\frac{3}{4}$ |
| ,, | 1847 .. .. .. .. | 99 | 18 | $10\frac{1}{4}$ |
| ,, | 1848 .. .. .. .. | 102 | 1 | 0 |
| ,, | 1849 .. .. .. .. | 100 | 3 | $7\frac{3}{4}$ |
| ,, | 1850 .. .. .. .. | 98 | 16 | 10 |
| ,, | 1851 .. .. .. .. | 96 | 11 | $4\frac{3}{4}$ |
| ,, | 1852 .. .. .. .. | 93 | 16 | $11\frac{1}{2}$ |
| ,, | 1853 .. .. .. .. | 91 | 13 | $5\frac{3}{4}$ |
| ,, | 1854 .. .. .. .. | 90 | 19 | 5 |
| ,, | 1855 .. .. .. .. | 89 | 15 | $8\frac{1}{2}$ |
| ,, | 1856 .. .. .. .. | 93 | 18 | $1\frac{1}{4}$ |
| ,, | 1857 .. .. .. .. | 99 | 13 | $7\frac{1}{4}$ |
| ,, | 1858 .. .. .. .. | 105 | 16 | $2\frac{1}{4}$ |
| ,, | 1859 .. .. .. .. | 108 | 19 | $6\frac{1}{4}$ |
| ,, | 1860 .. .. .. .. | 110 | 17 | $8\frac{1}{2}$ |
| ,, | 1861 .. .. .. .. | 112 | 3 | $4\frac{3}{4}$ |
| ,, | 1862 .. .. .. .. | 109 | 13 | 6 |
| ,, | 1863 .. .. .. .. | 107 | 5 | 2 |
| | | 27)2727 | 1 | $9\frac{3}{4}$ |
| General average for the last 27 years | .. | £101 | 0 | $0\frac{3}{4}$ |

*Charles M. Willich, Actuary, University Life Assurance Society*, 25, *Suffolk Street, Pall-Mall East, Jan.* 10.

## Calendar of Operations.

### JANUARY.

[The following passages are extracted from *Morton's Farmers Calendar*. Routledge.]

*Of Threshing Corn.*—Threshing Corn for Market—proceeds during January, as straw is needed for fodder or for litter, and as the state of the market seems to make desirable. The flail is still employed in many English barns for threshing Barley, but it might as well be finally abandoned, for our threshing machines are able to turn out a perfectly good malting sample, unbroken, awnless, clean. And at the Canterbury trials of threshing machines the Barley threshing was better work than that of any other grain. It is* by the moveable steam-engine and threshing machine, turned out in immense numbers by all our implement makers, that the great bulk of corn in this country is now threshed. The cost of the process may be estimated as follows:—*

| | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Hire of 8-horse-engine and machine, with engineer and feeder .. .. | | | | 1 | 15 | 0 |
| Cost of coals, say .. .. .. | 0 | 8 | 0 | | | |
| ,, water (one man and horse half his time) .. .. .. .. | 0 | 2 | 6 | | | |
| | | | | 0 | 10 | 6 |
| 2 men and 2 lads unloading rick, and pitching to feeder, and opening sheaves.. .. .. .. | 0 | 6 | 0 | | | |
| 1 man attending to sacks .. .. | 0 | 2 | 0 | | | |
| 1 man and horse removing corn .. | 0 | 5 | 0 | | | |
| Labour of removing straw and chaff, and building the former equal to 6 men .. .. .. .. .. | 0 | 12 | 0 | | | |
| | | | | 1 | 5 | 0 |
| | | | | £3 | 10 | 6 |

For this sum from 40 up to even 60 quarters, according to the yield, may be threshed for 1*s*. 6*d*. to 2*s*. a quarter.

In the case of the fixed engine the charge for power may be put at about 1*l*. a day for an 8-horse engine; 40 quarters being easily threshed per day. The cost of labour being:—

| | £ | s. | d. |
|---|---|---|---|
| 4 men, 2 boys, 2 women, and 3 horses to deliver the opened sheaves to the feeders from the corn stack .. .. .. .. .. .. | 1 | 0 | 0 |
| 1 feeder .. .. .. .. .. .. .. | 0 | 2 | 6 |
| 3 women and 2 men to remove the straw and build it in the straw house .. .. .. | 0 | 7 | 0 |
| 2 men to attend to the removal of the grain to the granary .. .. .. .. .. .. | 0 | 4 | 0 |
| Labour .. .. .. .. .. .. .. | 1 | 13 | 6 |
| Power .. .. .. .. .. .. .. | 1 | 0 | 0 |
| Total cost about .. .. .. .. .. | £2 | 13 | 6 |

or less than 1*s*. 6*d*. per quarter.

In both of these cases there would be an extra charge of 5 or 6 shillings for beer or cider for the labourers.

Sometimes machines and engines are let out at so much a quarter; and a common charge is 1*s*. 4*d*. a quarter for Wheat, and 10*d*. for Oats or Barley, or 3*d*. more when Hayes's Elevator is used for removing the straw. In either case 2 men (the feeder and engineer) are included in the hire. The additional hands required are for supply of water and removal of grain, also for bringing the sheaves to the feeder, just as in the first case quoted—costing therefore 13*s*.; and besides these, 2 men will be needed to build from the straw elevator, and this, with the beer supplied, amounts to 11*s*. 6*d*. and the coals may cost 8*s*.; so that the additional charge is equal to 32*s*. 6*d*. or 9*d*. a quarter upon a probable day's work, making the cost on the whole rather more under this plan than when a fixed charge—generally, as I have said, of 35*s*. a day—is made for the use of the engine. Threshing is done sometimes by the acre,—5*s*. an acre being about the price given for the use of machine and engine, with engineer and feeder, when the whole crop (Wheat, Barley, Oats, and Beans) is let together. The threshing of grain by machine in cases of ordinary yield may thus be put at $2\frac{1}{2}$*d*. to 3*d*. per bushel for Wheat; while it is less in the case of those crops which yield more grain to a given bulk of straw. The immense superiority of machine and steam-power threshing over hand labour consists not so much in the diminished cost per bushel as in the greater quickness of the process; and the ability thus at once to supply the market without materially interfering with the ordinary labour of the farm, and without exposing the labourers to a constant temptation to dishonesty. An extra winnowing is almost always required, and it may be done as fast as 2 men can measure up and sack and wheel away the sacks: 2 men can winnow probably 60 or 70 quarters a day, and 4 men, whose wages are 8*s*., will thus measure up at the rate of $1\frac{1}{2}$*d*. to 2*d*. a quarter. If the Wheat needs "reeing" in order to get the chaffy grain and weeds out of it, this will require a man's wages for every 8 or 10 quarters a day, according to the filth to be removed—and it may thus cost 2*d*. or more per quarter in addition to the winnowing.

*Of Chaff Cutting.*—There has been a prejudice in favour of fresh straw as fodder; and grain has thus been threshed by hand for the daily supply of cattle in the yard. It is now, however, the custom in some districts to store away several months' supply of cut chaff at a time, and however stale it thus might be supposed to be, the cattle relish it when mixed with pulped roots or scalded with some hot water in which a little salt has been put. The following is the account given by Mr. Samuel Jonas, of Ickleton, Cambridgeshire, of his experience. He says,† writing in July:—'I have purchased of Mr. Maynard of Whittlesford, one of his powerful chaff-cutters, with sifting apparatus attached, which cutter I can work from a wheel or drum attached to my threshing machine, which is driven by a 9 horse-power steam-engine, at the same time that I am threshing corn. The straw, when delivered from the threshing machine, is carried up an inclined plane by spiked rollers to a height of about 9 feet; it then comes down an inclined rack, nearly yelmed and ready for cutting into chaff. Three men yelm the straw, mixing with it a small quantity of green fodder, such as Rye or Tares. When cut into chaff, it is sifted and carried into an empty barn or chaff-house and well trodden down, and about 1 bushel of salt mixed with a ton of chaff, so as to cause a fermentation. All this is effected with no more manual labour than would be required to take away the straw and stack it in the ordinary manner. Within the last few days I have threshed and dressed the corn, and at the same time cut the staw into chaff from the produce of about 80 acres of Wheat, at a cost, too, not exceeding 45*s*., or 7*d*. per acre for cutting the straw produced on an acre of Wheat. This chaff I shall not use until next October, when I purchase my beasts for winter grazing, and none but those who have tried this plan of old chaff so managed, as compared with fresh-cut chaff, can believe the advantage in value of the old chaff for feeding stock. I can work off the produce of about 8 acres of good strong Wheat per day, thus cutting about 800 fans (ten tons) per day, the chaff being cut shorter and better than by the hand-box. Three men yelm the straw and feed the chaff cutter, and if the threshing machine be placed near the barn or chaff-house which is to be filled, 2 men can carry the chaff into the barn; 2 or 3 boys should tread it down close, so as to cause it to heat. The only extra expense is for from 4 to 5 cwt. of coals per day. If, however, the straw is stacked as threshed and cut into chaff afterwards, the expense of cutting and sifting with Maynard's chaff-cutter would be as follows:—

| | £ | s. | d. |
|---|---|---|---|
| 1 man to move the straw from stack to men to yelm .. .. .. .. .. .. | 0 | 2 | 0 |
| 4 men to yelm straw .. .. .. .. .. | 0 | 8 | 0 |
| 2 men to carry away chaff .. .. .. .. | 0 | 4 | 0 |
| 3 lads to tread chaff down, 6*d*, .. .. .. | 0 | 1 | 6 |
| Hire of engine and chaff-cutter (this includes 1 man to feed chaff-cutter and engine-man) | 1 | 10 | 0 |
| Coals, 5 cwt. .. .. .. .. .. .. | 0 | 4 | 6 |
| Water, carting .. .. .. .. .. .. | 0 | 2 | 0 |
| | £2 | 12 | 0 |

'This will cut from 600 fans to 900 fans per day, according to the lengths of cut: the first cut being about 3-16ths of an inch in length, the latter about 3-8ths. The cost would be, the

* The estimate which follows is that which has been given by the Editor in his "Handbook of Farm Labour," lately published by Longmans.

† Journal of the Royal Agricultural Society of England.

very short cut 1*d.* per fan; the latter would cost 1-3rd of a penny per fan; but, by cutting the chaff at the same time you thresh, you save 47*s.* per day, or, in fact, cut 800 fans for 4*s.* 6*d.*'

This practice will introduce a great economy on many farms in more ways than one. It will, for instance, put a stop to the tedious labour of the flail, with all its constant premium on dishonesty.

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WESTER ROSS: *Jan.* 6.—Although much rain fell, December admitted of out-door labour being proceeded with so uninterruptedly, that the arrears of work necessarily caused by a harvest so late have generally been cleared off. The green crop lot has been turned over, and this we endeavour to execute with a furrow from 9 to 11 inches deep. The farm being greatly brae-set, we find it nearly as speedy, and the work much better done, to plough across, throwing the whole down the hill, and returning empty; and as a furrow, nearly twice the ordinary breadth, can thus be taken, and as the horses return more speedily without a furrow, nearly an equal breadth to that turned over in the usual way can thus be accomplished. We have sown the usual quantity of Wheat in good condition, and all of it is now appearing above ground, close and healthy. A smaller breadth of Wheat, however, will be sown in the north this year from the failure last season, and because of the small demand there now is for our inferior grain. A beginning has been made in breaking up our leas for Oats. On Sabbath we had a slight fall of snow, with an intense frost, and meantime the ploughs are laid aside. A continuation of frost for some time would be very desirable, as the courts are becoming overstocked with manure. The fields have been so wet with the long-continued rains that carting out manure was impracticable. Now, however, the bound up condition of the soil will be taken advantage of for this purpose. We experienced the gales of the 18th and 19th of last month in their full force. Trees were uprooted, stacks were overturned, and considerable damage was done, particularly to thatched houses. As the threshing out of our grain is proceeded with we are increasingly dissatisfied with the crop. Barley, which as yet we have been principally engaged in threshing, is yielding about 3 quarters per acre, that weighs under 54 lb. per bushel and fetches from 24*s.* to 27*s.* per qr. For Wheat there has been no demand, and, consequently, there has been little threshed; but we can already say that a crop so bad has not been in our day, and we hope that we will never experience a repetition of it. Our Turnips have latterly improved materially, and many of the earlier sown fields are a full average crop; but the later sowings must now remain deficient. In the early part of the season Turnips were in good demand at from 5*l.* to 7*l.* per acre, but as a smaller number of sheep than usual came to winter on them, the demand has ceased, and there is now difficulty in having them let.

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## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending Jan. 14, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Reading of Dry Bulb Thermometer. | Reading of Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 8 | 29.54 | 37 | 36 | S. | 2 | 8 | 46 | 33 | 73* | 29 | 0.01 | 42 | 44 |
| Friday .. | 9 | 29.74 | 34 | 34 | S. | 1 | 9 | 42 | 30 | 49 | 26 | .. | 42 | 44 |
| Saturday .. | 10 | 29.76 | 37 | 35 | E. | 3 | 8 | 40 | 33 | 42 | 31 | 0.08 | 41½ | 43½ |
| Sunday .... | 11 | 29.86 | 37 | 36 | N | 1 | 8 | 41 | 34 | 56 | 31 | 0.09 | 41 | 43 |
| Monday .... | 12 | 30.16 | 31 | 27 | S W. | 2 | 6 | 41 | 26 | 44 | 21 | .. | 41 | 43 |
| Tuesday .. | 13 | 29.87 | 43 | 42 | S E. | 2 | 8 | 46 | 31 | 49 | 28 | 0.85 | 40½ | 42½ |
| Wednesday .. | 14 | 30.25 | 37 | 36 | N. | 1 | 7 | 45 | 36 | 67 | 32 | 0.06 | 41½ | 42½ |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

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## Notices to Correspondents.

DORKINGS: *A Correspondent* asks from whom in the neighbourhood of Dorking he can obtain sittings of the eggs of pure Dorking fowls.

SEED: *R W.* Your seeds belong to some species of Sorghum, probably a form of Sorghum (Holcus) saccharatum.

THE JONAS WEBB MEMORIAL: *Subscriber.* The Committee, which have become responsible for the proper fulfilment of this English and truly praiseworthy object, are pursuing their course steadily, and with great energy.

STOCK OF A FARM: *Inquirer* asks what head of Stock—Cows, Fatting Cattle, and younger ones, as well as a Breeding flock of Longwoolled Sheep, fattening half the produce—a Farm done thoroughly well, of 400 acres in extent, rented at 30*s.* per acre, besides taxes, &c. ought to carry? Two thirds fair grass land, and remainder arable of medium quality.—Are any of our readers disposed to send in estimates? We shall endeavour to answer next week.


THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
116, Fenchurch Street, E.C.

LAWES'S WHEAT MANURE for AUTUMN SOWING.
In consequence of the high price of Peruvian Guano, J. B. LAWES has manufactured a WHEAT MANURE for the present season, which will be found very suitable for that crop. A supply is now ready for delivery, and it can be obtained of J. B. LAWES, or through any of his appointed Agents. Price 8*l.* per ton at the Factories, Deptford and Barking Creeks.
Genuine Peruvian Guano direct from Messrs. Gibbs; Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

To Farmers, &c.
CHEAP GYPSUM MANURE.—Parties requiring GYPSUM can be supplied at 10*s.* per Ton, bulk, at the Works at Kennington, S.
Address, X. L., 34, Chapel Street, North Brixton, S.
*** Delivered on Rail, adding for bags and cartage.

A MANURE MANUFACTURER wants to appoint a few respectable DISTRICT AGENTS. Liberal terms given, and the Manure sold Carriage free.
Address, with occupation and references, B. C., 10, Pall Mall East, London.

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., grown in the International Exhibition, delivered at any Booking Office in the City at 1*s.* 6*d.*, or within 2½ miles of Charing Cross, at 2*s.* per bag of 3 bushels. Larger quantities on lower terms on application to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.
Also SHORT FIBRE for Orchids and Drainage in pots.
• Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.
BARSHAM'S BRUSHES and MATS are the best and most economical of any that are made, and are sold in every town in the kingdom.
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To Gardeners and Seedsmen.
TOBACCO PAPER of choicest quality for Fumigating purposes, may be had at Wholesale Prices. Warranted to be the most effectual remedy for the extirpation of the Green Fly. References to the most eminent gardeners can be given.
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Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1*s.* and 2*s.* per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.
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Both may be obtained of all principal Seedsmen.
Patentee: J. NEAL, Edward Street, Birmingham.

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GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.
This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.
Sold Retail by Nurserymen and Seedsmen in boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.* each.
Wholesale by PRICE'S PATENT CANDLE Co., Limited.

VISIT to R. S. YATES'S NURSERY. See *Journal of Horticulture*, Jan. 17, 1862.
"The blooms were protected by a covering of BRITTAIN'S THREE-FOLD NETTING, which shaded them from the sun, kept the bees out, and sheltered them from heavy rains and strong winds. Mr. Yates remarked that this Netting was better than any other covering he had tried, the wind having less hold of it than either Canvas or Tiffany. As a summer protection for Greenhouse Plants, such a Tent is invaluable. He states, also, that with care in taking it down off the framework, and putting it away quite dry in a dry room, it would last many years. He finds it of great service in protecting the rather tender varieties from frost."
NETTING: No. 1, 5*d.*; 2, 6*d.*; 3, 7*d.* the Square Yard.
PIECES, 30 Yards long, 1½ wide.

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HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.
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for Cottage Houses, &c., to contain 50 gallons, 26*s.*; 80 gallons, 31*s.* each; and 140 gallons, 37*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.
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Dealers in Gambia Garden Shears, Scissors, Syringes, &c.
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Steam Cultivation.
From the evidence on the Woolston farm; at Teddesley, on the farm of my Lord Hatherton, the noble Godfather to Steam Cultivation; at Mentmore on the sticky clay farm of Baron Rothschild; at Stevington, Bedfordshire, on the clay farm of Mr. Pikes, and elsewhere, the Royal Agricultural Society of England and the Agricultural press have awarded to Mr. SMITH, of Woolston, the honour of Pioneer to practical Steam Cultivation. See the Royal Agricultural Society's Journal and the Agricultural papers.
£1000 upon the Woolston System against any other system of steam cultivation.
The efficiency of the Woolston System is proved by its general adoption.
The efficiency and durability of the Woolston Implements, &c., is proved by the practical working of 190 sets. Here is a brief sketch from the history of a Set supplied in June 1858, to Mr. Pike, of Stevington, Beds. In December 1860, Mr. Pike showed that it had done more than 2000 acres, and that it was very little the worse for wear. In 1861, it did 751 a. 1 r. 19 p. in 133 days, averaging 5 a. 2 r. 23 p. per day, at a cost of 4*s.* 6*d.* per acre, exclusive of wear and tear. In 1862, it did 775 acres in 131½ days, averaging 5 a. 3 r. 23 p. per day, at a cost of 6*s.* 2*d.* per acre, inclusive of wear and tear, &c., and it was not more than 3*l.* worse for the two years' hard work than it was in December 1860.
See what the *Mark Lane Express* of January 5, 1863, says about the working of a Set supplied in August 1857, to Baron Rothschild, and worked ever since on his tough Clay Farm, at Mentmore:—"An 8-horse power Single Cylinder Engine yet in full operation, nearly as good as ever, the Implements quite so.... A steel rope lasted four years, and is now quite in a state to do cross cultivation, although it has been engaged in severe pioneer work, common to the Cultivator, which disrupts for the first time the hoof made pavement which lies beneath the shallow water-logged seed bed....the coils of which were shown to me had broken up more than 2000 acres to the depth of from 8 to 10 inches."
The light draught as well as the durability of the Woolston Implements is proved by this. Here is an 8-horse engine after nearly six years' hard work nearly as good as ever, and the Implements are quite so.
See also how my Lord Hatherton, the noble Godfather to Steam Cultivation, gets on with Woolston Implements, &c.
"Teddesley Farm, Jan. 12, 1863.
"Dear Sir,—Lord Hatherton (who is now confined to his bed through illness) has sent me your letter to answer. I have now been at Teddesley five years, and during that time have used your implements and found them to work perfectly satisfactorily. I consider them very efficient, durable, and economical. We use them regularly in the months of March, April, May, June, and after the harvest is cleared, until the end of October.
"This farm was originally part of Cannock Chase, and a poor weak soil; but by the application of steam power we are enabled to get a greater depth of soil, and consequently better crops of roots and grain than was formerly obtained, under the old system of horse cultivation, and at the same time to dispense with four pairs of horses.
"I remain, Sir, your obedient servant,
"To Mr. Smith. "CHARLES WOOTTON."
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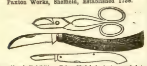
**Paxton Works, Sheffield, Established 1738.**



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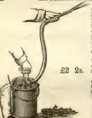
AMERICAN PORTABLE FIRE ANNIHILATOR and GARDEN ENGINE.



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An efficient means of Extinguishing Fires at their commencement. Nine out of ten Fires in London are put out on their first appearance by the London Fire Brigade with Hand Pumps of considerably less power.

One man will throw 7 or 8 gallons per minute from 40 to 50 feet with it.

It is an effective Garden Engine for cleansing or syringing Wall-fruit or Rose Trees, Plants, or Vines.

It may be used to draw water from the pail in which it is fixed, or from a tank or pond by the addition of the required length of suction. It is simple in its construction, having no suction or delivery valves to clog with dirt or leaves.

No Establishment, either private, commercial, or manufacturing, should be without one.

Six feet of Flexible Suction, with Union and Suction Rose, &c., extra, 12*s*. Longer lengths of Suction at 1*s*. 6*d*. per foot.

May be obtained of all Ironmongers and Seedsmen in Town and Country, or of the Manufacturers,

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FURTHER REDUCTION in the PRICE of WIRE NETTING.—April, 1861.

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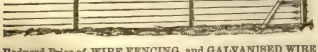
| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard |
|---|---|---|---|
| 2-inch mesh, 24 inches wide | No. 19 | 4½*d* | 3½*d*. |
| 2-inch " " " | " 18 | 5 | 4 |
| 2-inch " " " | " 17 | 6½ | 5 |
| 2-inch " " " | " 16 | 8 | 6½ |
| 1⅝-inch " " " | " 19 | 4¾ | 4 |
| 1⅝-inch " " " | " 18 | 6 | 4¾ |
| 1⅝-inch " " " | " 17 | 7 | 5½ |
| 1⅝-inch " " " | " 16 | 9 | 7 |

All the above kinds can be made any width (under 6 feet), at proportionate prices.

Strong Galvanised Poultry Netting, 7½*d*. per yard, 3 feet wide, Galvanised Sparrow-proof Netting for Pheasantries, 11*d*. per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.



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Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10*d*. per yard.

The same with Galvanised Wire Rope, 1*s*. per yard.

Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.

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CHAMPION PLOUGHS, HARROWS, HORSE RAKES, AND HAYMAKERS.

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(TO WHICH A PRIZE WAS AWARDED AT THE ROYAL HORTICULTURAL SOCIETY'S EXHIBITION).

SOLE MANUFACTURER,

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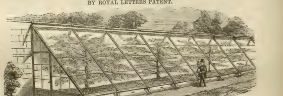

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UPWARDS of 3000 in USE.

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The above fact shows the decided superiority of

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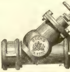

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PATENTEE and MANUFACTURER of HYDRAULIC, GAS, and STEAM VALVES, WATER CLOSETS PUMPS, BATHS, LAVATORIES, URINALS, &c.,

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Have the pleasure to announce that they have arranged with JNO. FOWLER for the use of the above PATENTS, and they will answer any inquiries respecting them, and execute any Orders promptly.

## NEW IMPROVED PREMIUM WIRE NETTING.

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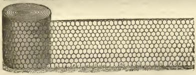

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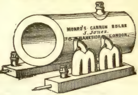


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SUPPLIES OR ERECTS, COMPLETE,

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200 CUCUMBER and MELON BOXES and LIGHTS, and from 400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.

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10 dozen strong Zinc HAND GLASSES, Glazed and Painted complete, ready for immediate use, 18, 20, and 22, all shifting tops.

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BURY AND POLLARD (Successors to JOHN R. PEILL, late STEPHENSON & PEILL), have attained a celebrity far surpassing any other Boilers ever invented. Of the many hundreds which have been fixed in this and foreign countries, not one single Boiler has ever proved defective, or failed to give the most complete satisfaction. They are connected with large ranges of Pipes (in some cases several thousand yards), at many Public Establishments, at the Crystal Palace, the Royal Botanical Gardens at Kew, and at the Regent's Park, as well as at most of the Nobility's Seats throughout the Kingdom.

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HOTHOUSES for the MILLION.—On the principle invented and patented by Sir Joseph Paxton, M.P., combining simplicity, cheapness, excellence, and durability, being capable of fulfilling, in the most perfect manner, all the requirements of Horticulture.

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Also, A HANDBOOK on VINE and FRUIT TREE CULTIVATION, price 1s.; post free, 1s. 1d.

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It will burn in Churches from Saturday till Sunday evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of Warming a large Apartment for 24 hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

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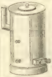
RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.



Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3d. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

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HOT WATER PIPES, from Stock, per yard:—2-inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS, from stock, 1s. 7d., 2s. 6d., and 3s. 3d. each.

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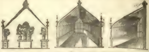
DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon



an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex

# GREEN'S

LATEST IMPROVEMENTS IN

## LAWN MOWING, ROLLING, and COLLECTING MACHINES,

FOR WHICH HER MAJESTY'S ROYAL LETTERS PATENT HAVE BEEN OBTAINED.

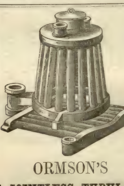
These Machines have carried off every Prize that has been given in all cases of competition, and have been awarded the PRIZE MEDAL at the INTERNATIONAL EXHIBITION of 1862.

**GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.**

For Illustrated Price Lists, with full particulars, address

T. GREEN, SMITHFIELD IRON WORKS, LEEDS; and 2, VICTORIA STREET, HOLBORN HILL, E.C.

FIRST CLASS PRIZE MEDAL
FOR ORMSON'S CONSERVATORY,
At the INTERNATIONAL EXHIBITION.



FIRST CLASS PRIZE MEDAL
FOR ORMSON'S PATENT JOINTLESS TUBULAR BOILER
At the INTERNATIONAL EXHIBITION.

# ORMSON'S

## PATENT JOINTLESS TUBULAR BOILER

HAS TAKEN MORE AWARDS THIS YEAR THAN ANY OTHER TUBULAR BOILER.

These Awards have been given by Scientific, Practical, and Competent Judges.

At the Exhibition of Boilers at the Royal Horticultural Society's Gardens, ORMSON'S PATENT JOINTLESS TUBULAR BOILER was the ONLY Boiler of any description to which an Award was given.

Other Tubular Boilers advertised in the pages of the *Gardeners' Chronicle* were exhibited to which NO Awards were given.

**HORTICULTURAL BUILDINGS of every description MANUFACTURED by STEAM-POWER MACHINERY.**

*Plans, Specifications, and Estimates on application.*

HENRY ORMSON,

HORTICULTURAL BUILDER TO HER MAJESTY, AND HOT-WATER APPARATUS MANUFACTURER TO THE COMMISSIONERS OF HER MAJESTY'S ROYAL PALACES, AND PUBLIC BUILDINGS, AND TO THE ROYAL HORTICULTURAL SOCIETY,

STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON, S.W.

### Glass for Greenhouses.

JAMES PHILLIPS AND CO. beg to submit their prices as follows:—

ENGLISH GLASS, 16 ounces to the foot, in Sheets averaging 40 by 30, packed in Cases containing about 280 feet, 2¼d. and 2½d. per foot.

SHEET GLASS, 16 ounces, packed in boxes of 100 feet each.

| Package included. | | | | 3rds. | 4ths. |
|---|---|---|---|---|---|
| 12 by 9, | 13 by 9, | 14 by 9, | 15 by 9 | 14s. 0d. | 12s. 6d. |
| 12 ,, 10, | 13 ,, 10, | 14 ,, 10, | 15 ,, 10 | | |
| 13 ,, 11, | 14 ,, 11, | 15 ,, 11, | 16 ,, 11 | 16s. 0d. | 13s. 6d. |
| 14 ,, 12, | 15 ,, 12, | 16 ,, 12, | 17 ,, 12 | per 100 feet. | |
| 18 ,, 12, | 19 ,, 12, | 20 ,, 12, | 16 ,, 13 | | |
| 17 ,, 13, | 18 ,, 13, | 19 ,, 13, | 20 ,, 13 | | |
| 16 ,, 14, | 17 ,, 14, | 18 ,, 14, | 20 ,, 14 | | |

Various other sizes.

GLASS for ORCHARD HOUSES,
As supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. | Common .. .. .. | 13s. 6d. .. | £0 18 0 |
| 20 in. by 13 in. | Superior do. .. .. | 16 0 .. | 1 3 0 |
| 20 in. by 14 in. | English Glass .. .. | 18 0 .. | 1 9 0 |
| 20 in. by 15 in. | | | |

The above prices include the Boxes.

SMALL SHEET SQUARES, IN 100 FEET BOXES.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11s. 6d. |
| 8 ,, 6 | 8½ ,, 6⅜ | 9 ,, 7 | 9½ ,, 7½ | |
| | | 10 ,, 8 | 10½ ,, 8½ | 12 6 |

Boxes 2s. each, returnable at full price.

SQUARES CUT TO SPECIAL SIZES.

16 oz. 4ths, 1¾d., 2d., and 2½d. 21 oz. 2¾d., 3d, and 3½d.
,, 3ds, 2d., 2¼d., and 3d. ,, 3d., 3½d, and 4d.

London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

Milk Pans, Propagating Glasses, and every description of Glass for Horticultural purposes.

JAMES PHILLIPS & Co., 180, Bishopsgate Street Without, London, E.C.

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### Glass.

THOMAS MILLINGTON,
HORTICULTURAL WAREHOUSE,
87, Bishopsgate Street Without, London, E.C.
ESTABLISHED 1750.

NEW REDUCED TARIFF.

SMALL SHEET SQUARES.

Best. 2nds. 3rds. 4ths. — 20s. 16s. 12s. 6d. 11s. — Per 100 feet

| | | |
|---|---|---|
| 6 in. by 4 in. | 9½ in. by 7½ in. | 14 in. by 10 in. |
| 6½ ,, by 4½ ,, | 10 ,, by 8 ,, | 15 ,, by 10 ,, |
| 7 ,, by 5 ,, | 11 ,, by 9 ,, | 12 ,, by 11 ,, |
| 7½ ,, by 5½ ,, | 12 ,, by 9 ,, | 13 ,, by 11 ,, |
| 8 ,, by 6 ,, | 13 ,, by 9 ,, | 13½ ,, by 11½ ,, |
| 8½ ,, by 6½ ,, | 12 ,, by 10 ,, | |
| 9 ,, by 7 ,, | 13 ,, by 10 ,, | |

Best. 2nds. 3rds. 4ths. — 23s. 18s. 6d. 14s. 6d. 12s. 8d. — Per 100 feet

| | | |
|---|---|---|
| 15 in. by 11 in. | 16 in. by 12 in. | 24 in. by 14 in. |
| 16 ,, by 11 ,, | 17 ,, by 12 ,, | 22 ,, by 15 ,, |
| 17 ,, by 11 ,, | 18 ,, by 12 ,, | 24 ,, by 15 ,, |
| 18 ,, by 11 ,, | 22 ,, by 12 ,, | 20 ,, by 16 ,, |
| 13 ,, by 12 ,, | 17 ,, by 13 ,, | 20 ,, by 17 ,, |
| 14 ,, by 12 ,, | 23 ,, by 13 ,, | 20 ,, by 18 ,, |
| 15 ,, by 12 ,, | 22 ,, by 14 ,, | |

ORCHARD-HOUSE SIZES, as supplied to Mr. Rivers & others.

| | Best. | 2nds. | 3rds. | 4ths. | |
|---|---|---|---|---|---|
| 16 oz. | 22s. 0d. | 18s. | 15s. 0d. | 12s. 6d. | Per 100 feet |
| 21 oz. | 33 6 | 28 | 21 6 | 17 0 | |

20 in. by 12 in. | 20 in. by 13 in. | 20 in. by 14 in. | 20 in. by 15 in.

GLASS, cut according to size not on the List.

16 oz. 4ths. 1¾d. 2d. and 2½d. per foot.
,, 3rds. 2¼d. 2½d. and 3d. ,,
21 oz. 4ths. 2¾d. 3d. and 3½d. ,,
,, 3rds. 3½d. 4d. and 4½d. ,,

Various thicknesses of Sheet Glass to the foot.

15 oz. 26 oz.
21 oz. 32 oz.

Paints, Colours, Brushes, &c., Linseed Oil, Boiled Oil, Turpentine.
Genuine White Lead, 32s. p. cwt | Linseed Oil Putty, 8s. per cwt.
Anticorrosion Paint, 34s. ,, | Patent Dryers, 28s. to 42s. ,,
CRYSTAL GLASS SHADES. EBONY and GILT STANDS.
HARTLEY'S IMPROVED PATENT ROUGH PLATE.
*_* Not accountable for breakage.
SHEET LEAD, PIPE, &c., at the lowest wholesale prices.

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PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

THE GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C.

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E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1s. 6d. per yard run.
Four yards wide .. .. .. 3s. per yard.
An improved make, 3 yards wide, 2s. 6d. per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1s. 4d. per yard run.

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

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TO BE SOLD, 200 feet length of 10-feet LIGHTS, for covering Peach walls. They are new, portable, and easily fixed Gutters, Plates, Doors and Ends complete. Price 80l. Apply to CUTBUSH & Co., Highgate, N.

Also 85 ORCHARD TREES in Pots, from 4 to 8 feet in height, fine trees, consisting of Peaches, Nectarines, Plums, Pears, and Cherries. Price 30l.

The Lights would make a good Orchard House, 100 feet in length.

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CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.

CHUBB'S FIRE PROOF STRONG ROOM DOORS; CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.

Illustrated Price List gratis and post free.

CHUBB & SON, 57, St. Paul's Churchyard, London, E.C.

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### Prize Medal 1862

AWARDED BY THE JURORS OF CLASS II. FOR THE GLENFIELD STARCH, being a confirmation by some of the most eminent scientific men of the age, of the superior qualities of this world renowned Starch. Sold in Packets at ½d., 1d., 2d., 4d., and 8d. each, by all respectable Grocers, Chandlers, Oilmen, &c.

WOTHERSPOON & Co., Glasgow and London.

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### Household Economy and Comfort for 1863.

BRADFORD'S WASHING MACHINES have this year, 1862, received Prize Medals from the following Exhibitions and Societies:—The International Exhibition, the Glasgow, the Manchester and Liverpool, the Warwickshire, the Staffordshire, and the Royal Cornwall Society's Medal; also eight other FIRST PRIZES in money. But the most important, because the most practical, test ever applied to Washing Machines, was in competing for the great Preston Guild Prize of 5l., for the "best Washing Machine combined with Wringing and Mangling;" the character of, and great publicity given to which,—more than its money value—naturally created considerable excitement and competition. The Prize of 5l. was awarded to BRADFORD'S Improved Original Patent after a 10 minutes and a 7 minutes' test; and a Medal to two other competitors. A reference to the Society's Catalogue will show that 34 Machines were entered for this Prize, fully establishing BRADFORD'S Washing Machines the best of the year 1862, as they were of 1861, 1860, 1859, and 1858, during which years a month's trial has been allowed to each purchaser. For detailed particulars of the above, and also of the celebrated India Rubber Clothes Wringer, see new Wholesale and Retail Illustrated Catalogue.

Address THOMAS BRADFORD, Patentee, Cathedral Steps, Manchester; and 63, Fleet Street, London, E.C.

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BEDSTEADS, BATHS, and LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW-ROOMS devoted exclusively to the SEPARATE DISPLAY of LAMPS, BATHS, and METALLIC BEDSTEADS. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

Bedsteads, from .. .. 12s. 6d. to £20 0 0 each.
Shower Baths, from .. .. 8 0 — 6 0 0 each.
Lamps (Moderateur) from .. 6 0 — 8 10 0 each.
(All other kinds at the same rate.)
Pure Colza Oil .. .. .. .. 4s. 9d. per gallon.

FENDERS, STOVES, FIRE-IRONS, and CHIMNEY PIECES.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW-ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3l. 15s. to 33l. 10s.; Bronzed Fenders, with standards, 7s. to 5l. 12s.; Steel Fenders, 3l. 3s. to 11l.; ditto, with rich ormolu ornaments, from 3l. 3s. to 18l.; Chimney-pieces, from 1l. 8s. to 100l.; Fire Irons, from 2s. 3d. the set to 4l. 4s. The BURTON and all other PATENT STOVES, with radiating hearth-plates.

GASELIERS in GLASS or METAL.—The increased and increasing use of Gas in private houses has induced WILLIAM S. BURTON to collect from the various manufacturers in metal and glass all that is new and choice in Brackets, Pendants, and Chandeliers, adapted to Offices, Passages, and Dwelling-rooms, as well as to have some designed expressly for him; these are ON SHOW over his TWENTY LARGE ROOMS, and present, for novelty, variety, and purity of taste, an unequalled assortment. They are marked in plain figures, at prices proportionate with those which have tended to make his Establishment the largest and most remarkable in the kingdom, viz., from 12s. 6d. (2 lights) to 16l. 16s.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro Plate, Nickel Silver, and Britannia Metal Goods, Dish Covers, Hot Water Dishes, Stoves, Fenders, Marble Chimneypieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays, Urns, and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Room Cabinet Furniture, &c., with Lists of Prices, and Plans of the 20 large Show Rooms, at 39, Oxford Street, W.; 1, 1A, 2, 3, and 4, Newman Street; 4, 5, and 6, Perry's Place; and 1, Newman's Mews, London, W.C.

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METCALFE, BINGLEY, AND CO.'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. METCALFE'S celebrated Alkaline Tooth Powder, 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each. 130 B, and 131, Oxford Street, W.

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TO PARENTS and GUARDIANS.—Indispensable accompaniments to youth on their return to school are ROWLAND'S MACASSAR OIL, for the growth and improvement of the hair; ROWLAND'S KALYDOR, for the complexion and skin; and ROWLAND'S ODONTO, or Pearl Dentifrice, for the teeth and gums.—Sold at 20, Hatton Garden, E.C., and by all Chemists and Druggists.

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DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild aperient for delicate constitutions, more especially for ladies and children.—It is prepared in a state of perfect purity and of uniform strength by DINNEFORD & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

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### Be Careful what you Eat.

BORWICK'S is the BAKING POWDER recommended by Dr. HASSALL, Analyst to the Lancet Sanitary Commission, Author of "Adulterations Detected," &c., for making pure and wholesome Bread, instead of Yeast.

Sold by all Chemists and Grocers.

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SAUCE.—LEA AND PERRINS' WORCESTERSHIRE SAUCE.
Pronounced by Connoisseurs
"THE ONLY GOOD SAUCE."
See Name on Wrapper, Label, Bottle, and Stopper, and to avoid Counterfeits
ASK FOR LEA AND PERRINS' SAUCE.

*_* Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. CROSSE & BLACKWELL; Messrs. BARCLAY & SONS, London, &c.; and by Grocers and Oilmen universally.

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### No New Year's Gift is more valuable than

OLDRIDGE'S BALM of COLUMBIA, established upwards of 30 years, is the best and only certain remedy ever discovered for preserving, strengthening, beautifying, or restoring the Hair, Whiskers, or Moustaches, and preventing them turning gray.

Sold in bottles, 3s. 6d., 6s., and 11s., by C. and A. OLDRIDGE, 22, Wellington Street, Strand, London, W.C.; and all Chemists and Perfumers. For Children and Ladies Hair it is most efficacious and unrivalled.

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### Kerry Cattle.

MR. RICHARD G. CAMPION, Youghal, County Cork, has now ready for SALE 12 Beautiful HEIFERS, in Calf to a pure bred Bull, and to drop after 1st March.

---

FREEHOLD LAND, about 6 acres, for SALE, 35l. per acre—in one or more lots; 2½ miles from Farnham Town and Railway Station; well adapted for a Market Garden; in a good situation for a General Shop and Beer House.

Particulars of Mr. HANNAM, Wonersh, Guildford.

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TO BE LET, in the County of Pembroke, LLANGWARREN FARM, consisting of 473 Acres, more than half of which is Pasture.

For particulars apply to J. B. LAWES, 1, Adelaide Place, London Bridge.

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WANTED TO RENT, on LEASE, with option of Purchase preferred, a good STOCK and CORN FARM, principally Grass Land, of not less than 400 acres in extent, well situated in a South Western County, House and Buildings must be good, and Shooting must go with the Farm.

Address full particulars to S. W., care of Messrs. DAWSON & SONS, 74, Cannon Street, City, London, E.C.

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## Sales by Auction.

### Periodical Sale of Poultry and Pigeons.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, on TUESDAY, January 20, at 12 o'Clock precisely, upwards of 200 Lots of Choice POULTRY and PIGEONS, consisting of Polands, Game, Bantams, Cochins, Dorkings, Spanish, Rouen Ducks, &c., from the yards of Mrs. H. Fookes; Messrs. Stainton, of Woking; Turner, of Southgate; Newton, of Stokesby; and Leno, of Herts. Also some fine PIGEONS, consisting of Carriers, Tumblers, Pouters, and most of the known varieties.

May be viewed the Morning of Sale, and Catalogues had.

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### Valuable and New Californian Seeds.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on THURSDAY, Jan. 22, at half-past 12 o'Clock precisely, upwards of 300 Lots of PINE CONES and SEEDS, a portion of them collected by Dr. Parry on the Rocky Mountains, comprising—

| | |
|---|---|
| Pinus flexilis, quite new | Libocedrus decurrens |
| ,, aristata, ditto | Sequoia sempervirens |
| Abies Engelmanni | Abies grandis |
| Pinus ponderosa | Wellingtonia gigantea |
| ,, radiata | Cupressus Goveniana |
| ,, Fremontiana | ,, Lambertiana |
| ,, Benthamiana | ,, Lawsoniana |
| ,, Lambertiana | Juniperus excelsa |
| ,, insignis | Torreya myristica |
| ,, Coulteri vel macrocarpa | Abies Pinsapo |
| ,, Sabiniana | ,, Nordmanniana |
| ,, muricata | Magnolia grandiflora |
| | &c. &c. |

On view the Morning of Sale, and Catalogues had.

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### Fruit Trees, Roses, Conifers, Laurels, &c.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on SATURDAY, Jan. 24, at half-past 12 o'clock precisely, a large quantity of Standard, Half-standard, and Dwarf ROSES, mostly good varieties; choice FRUIT TREES, rare CONIFERS, COMMON and PORTUGAL LAURELS, SCOTCH FIR, LILACS, &c.

On view the Morning of Sale, and Catalogues had.

---

### Consignment of Plants from Ghent.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on SATURDAY, Jan. 31, at half-past 12 o'Clock precisely, 200 fine Camellias, with flower buds, 1 to 2 feet high; 200 choice Ghent Azaleas, 100 fine Standard Perpetual Roses, 300 roots of fine mixed Cannas, 300 Delphinium formosum, 300 Asclepias tuberosa, 300 choice hardy Rhododendrons, 200 Lilium lancifolium rubrum, &c.

On view the Morning of Sale, and Catalogues had.

---

### Choice Collection of Standard Roses, &c.

MR. ARTHUR PLEWS will SELL by AUCTION, at the Auction Mart, on TUESDAY NEXT, Jan. 20, at 12 o'Clock, a splendid Assortment of 600 STANDARD and other ROSES, Choice ORNAMENTAL SHRUBS, Trained FRUIT TREES, &c.

May be viewed the Morning of Sale. Catalogues may be had at the Mart; and of Mr. ARTHUR PLEWS, Auctioneer and Valuer, 50, Chancery Lane; and New Malden, Surrey.

# THE HYDROPULT,

**THE HYDROPULT**

IS INVALUABLE FOR

WATERING GARDENS,

EXTINGUISHING FIRE at its COMMENCEMENT,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

DRESSING with LIQUID MANURE,

SPRINKLING PLANTS,

WASHING WINDOWS,

WETTING SIDEWALKS,

SPRINKLING STREETS,

WASHING CARRIAGES,

WETTING SAILS,

A SPRAY BATH,

&c. &c.

CAUTION. — Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will, in due time, be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.

"GRIFFITH & BROWETT, Manufacturers, Birmingham;

"CHARLES P. BUTTON, General Agent.

"VOSE'S Patent;"

and is sold at the uniform rate of Two GUINEAS, complete, with 2½ feet suction and 3-feet delivery hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet. It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution.

## A PORTABLE GARDEN ENGINE AND FIRE ANNIHILATOR.

SECURED BY ROYAL LETTERS PATENT.

**PRICE TWO GUINEAS.**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet.

The Hydropult is a simple, effective, and convenient Apparatus for throwing Water by hand. It WEIGHS BUT 8 LBS., is made of Brass and Copper, costs but Two Guineas, and will throw 7 or 8 gallons of water per minute 50 FEET when worked by the power of one man.

## FIRE! FIRE! FIRE!

THE HYDROPULT IS THE MOST EFFECTIVE FIRE ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

EXTRACTS FROM TESTIMONIALS.

Read the following from THOS. RIVERS, Esq., the eminent Florist and Nurseryman:—

"The Hydropult is admirably adapted for Nurseries, and will be found invaluable for Watering and Syringing Plants and Trees in pots."

SHIRLEY HIBBERD, Esq., says in the "Gardeners' Magazine:"

"It will perhaps surprise the reader to be told that this little contrivance, which is pretty as a toy, and can be carried under the arm as easily as a trumpet, will throw from 7 to 8 gallons of water per minute a distance of 50 feet. But it will do it, as we knew from having tried it, finding the experiment an agreeable exercise, and of special service in washing down a stuccoed wall, which it accomplished quite as well as if we had sent for the parish engine. Gardeners will not need to be told the value of a Portable Force Pump of this simple kind. It can be used to produce a powerful stream to extinguish a Fire, or a gentle shower to Syringe a whole house full of Plants, without the necessity of moving a single step from the position most convenient for a supply of water. Wherever a Pump or Syringe is needed the Hydropult can be brought into use, to remove Water from a Cellar or a Boat, to cleanse a Cistern, wash a Pavement, or drench the Foliage of Trees loaded with soot, or annihilate at one fell swoop the whole Insect population of a Plantation of Roses. But we will not enlarge upon its merits, they are obvious, and having a Hydropult in use we can say that it will soon pay for its cost in a Garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."

"There can be no doubt but that it can be made available in the earlier stages of Fire in Warehouses, Manufactories, or Private Houses, in preventing large conflagrations.

"PERCY M. DOVE, Esq.,
"Manager Royal Insurance Company."

"The invention will prove extremely valuable for all the purposes to which such Machines are applied.

"SWINTON BOLT, Esq.,
"Secretary Liverpool and London Insurance Company."

IMPORTANT TO YACHTING CLUBS.

We take pleasure in presenting to the public the following Testimonial from Lieut.-Colonel WHEATLEY:—

"I have much pleasure in stating that both I myself and several friends have used your Hydropult for Wetting Yachts' Sails and Washing and Baling out Boats with the greatest success; and, for an instrument of its size, consider it most useful and applicable to Yachting purposes, obviating the necessity of a large engine or skeats during a match.

(Signed) "W. WHEATLEY, Royston."

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# THE GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 4.—1863.] SATURDAY, JANUARY 24. {Price Fivepence. / STAMPED EDITION, 6*d*.

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*An Edition of the* GARDENERS' CHRONICLE *and* AGRICULTURAL GAZETTE *is published on Monday Afternoon at 4 o'Clock, containing full Reports of the Mark Lane and Cattle Markets, written expressly for the Paper.*

BRISTOL and CLIFTON HORTICULTURAL FÊTES.
The TWO SHOWS for the Season 1863 will be held at the Zoological Gardens, Clifton, as usual, on THURSDAY, May 21, and THURSDAY, August 27.
Schedules are now ready for delivery, and may be obtained on personal application to the Superintendent at the Gardens; or by letter addressed to the Honorary Secretary, R. COLES, Esq., 2, Lower Harley Place, Clifton.

BISHOP AUCKLAND FLORAL and HORTICULTURAL SOCIETY.
The ANNUAL EXHIBITION of the above Society will be held in Auckland Park on FRIDAY, August 28.
Schedules of Prizes will shortly be ready, and may be had on application to the Secretary.
{ W. D. TROTTER, Chairman of Committee.
{ W. V. THOMPSON, Honorary Secretary.

NEW PRIZE MELONS, at 1*s*. 6*d*. per packet.
Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria.
For descriptions see GUIDE to the KITCHEN GARDEN.
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NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1*s*. per packet.
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TO BE DISPOSED OF, by a gentleman leaving for town and giving up his House, &c., about 100 good healthy PINE PLANTS, this and last year's growth.
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N.B. These two new Fruits are figured in VERSCHAFFELT'S "Illustration Horticole."

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| Conqueror of the West | Golden Ball |
| Incomparable | Pine Apple |
| Cuthill's Black Spine | Camerton Court Green-flesh |
| Champion of England | Blackall's Green-flesh |
| Stockwood Ridge | Bowood Green-flesh |
| Ayres' Prolific | Beechwood Green-flesh |
| Manchester Prize | Windsor Prize Green-flesh |
| Sutton's Champion | Hampton Court Green-flesh |
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| General Canrobert | Monro's Green Gage |
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| Manchester Prize | Bromham Hall |
| Hunter's Prolific | Rouse's Incomparable |
| Sion House | Austen's Incomparable |
| Allen's Victory | Queen's Melon |
| Trollope's King | Bailey's Green-flesh |
| Ipswich Standard | Emperor |
| Tiley's Improved | Fleming's Trentham Hybrid |
| Hamilton's Black Spine | Duncan's Green-flesh |
| Dickson's Newton Hero | Egyptian Green-flesh |
| Kelway's Victory | Gordon Castle Green-flesh |
| Gen. Outram (2s. 6d. per pkt.) | |

TILEY'S EMPEROR RED CELERY, the best in cultivation, testimonials to which effect are being received almost daily, price 1s. per packet.

TILEY'S SOLID WHITE CELERY, 1s. per packet.

The true OLD BATH COS LETTUCE, 1s. per packet.

TILEY'S EARLY MARROW CABBAGE, which has given universal satisfaction, 1s. per packet.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

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### Dwarf Maiden Peaches, Nectarines, and Apricots.

WOOD AND INGRAM beg to call the attention of the Trade to their large stock of the above, consisting of all the leading kinds of PEACHES and NECTARINES, and MOORPARK APRICOTS, all remarkably fine clean stuff.

Price on application.

Nurseries, Huntingdon.

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### To the Trade.

TO BE DISPOSED OF, a splendid lot of DWARF MAIDEN APRICOTS, 1 and 2 years old. Also Transplanted QUICK, 2, 3, and 4 years; extra strong Transplanted PRIVET and BERBERIS AQUIFOLIA, for Cover planting, all at most reasonable rates.

W. H. CAPARN & SON, King's Road Nursery, Newark-on-Trent

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### Fruit Trees.

RICHARD SMITH has no hesitation in saying, that he possesses by far the largest Stock of FRUIT TREES in the kingdom, consisting of Apples, Pears, Plums, Cherries, Peaches, Nectarines, and Apricots, in Maiden Trees, Dwarfs, Bushes, Pyramids, Half-Standards, and Standards; Dwarf-trained, Half-Standard, Standard, and Horizontally-trained Trees, of the finest sorts, and in the best possible condition. DESCRIPTIVE PRICED LISTS on application.

RICHARD SMITH, Nurseryman, Worcester.

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### Trees.

WANTED IMMEDIATELY, 60 Straight POPLARS, from 25 to 30 feet high, bushy tops 6 feet from the bottom. Lowest price to be sent.

To be delivered at 5, Stratheden Terrace, New Road, Shepherd's Bush, Hammersmith, Middlesex, S.W.

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### Black Thorn.

WANTED, a few Thousands of the above to PLANT for COVER.

Apply, stating price, &c., to A. Z., Post-Office, Burton-on-Trent.

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### Thorn Quicks.

JNO. CARTER, NURSERYMAN, Keighley, has a large stock of the above from 1 to 4 years' Transplanted, well rooted and very strong.

J. C will be glad to furnish samples and prices, and also CATALOGUE of GENERAL NURSERY STOCK.

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### 200,000 Strong Transplanted Quicks.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD and SON have a fine Stock of the above to offer at 10s., 25s., and Extra Strong at 30s. per 1000. A sample bundle of 100 of each size will be sent on receipt of postage stamps for 6s. 6d.

300,000 1-year SEEDLING ASH. Price on application.

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ACORNS.—A few hundred Bushels of the above to offer, sound and good.

Apply to W. DILLISTONE, Munro Nursery, Sible Hedingham, Essex.

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WANTED, 4000 or 5000 Strong ASH, 5 to 6 feet, well rooted.

ROBERT F. DARBY, The Nurseries, Cirencester.

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SPRUCE FIR, TWICE TRANSPLANTED. 1 to 1½ feet, 15s. per 1000. | 1½ to 2 feet, 20s. per 1000.

Apply to JAMES GARAWAY & Co., Durdham Down Nurseries Bristol.

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### Aucubas.

WANTED, 2000 strong bushy AUCUBAS, from 1 to 1½ feet high.

Apply to A. BLACK, Sundridge Park Farm, Bromley, Kent.

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### Important to Nurserymen and Others.

SURPLUS STOCK of 1 and 2 year SEEDLING FOREST TREES, &c.

PRICED LIST on application to

MICHAEL BURKE, Drumlargan Nurseries, Summerhill, Co. Meath, Ireland.

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### Berberis.

10,000 BUSHY BERBERIS, 3 years old, will be Sold, cheap. Also 1000 WALNUT TREES, from 2 to 8 feet high.

Apply to A. B., Post Office, Bromley, Kent.

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HANDSOME SPECIMENS of SPRUCE FIR, from 5 to 6 and 8 feet, by the dozen or 100; strong Kentish or Webb's COB NUT TREES, 20s. to 40s. per 100; extra size, do., 4s. to 6s. per dozen; Standard Trained PEACHES and NECTARINES, very fine; also Dwarf-trained do.; PEARS, PLUMS, and CHERRIES, DWARF APPLES, PEARS, PLUMS, and CHERRIES, 6s. and 9s. per dozen.

EPPS' Nursery and Seed Establishment, Maidstone.

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### Larch, Quicks, &c.

CHIVAS AND WEAVER, Chester (late GEORGE CHIVAS), offer FOUR MILLIONS of TRANSPLANTED LARCH, from 1½ to 4½ feet, of very superior quality. FOUR MILLIONS of TRANSPLANTED THORNS of various sizes, a large portion of which are exceedingly strong. Orders for 10,000 of either, delivered free at any Railway Station. A Sample Bale, containing 100 of each, 5 sizes of Larch, 22s. 9d., and of Quicks, 15s., will be forwarded on receipt of a Post-office Order from unknown Correspondents.

A General PRICED LIST on application.

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LARGE ORNAMENTAL TREES.—The Subscribers beg to offer very fine specimen plants of ARAUCARIA IMBRICATA, from 5 to 9 ft.; CEDRUS LIBANI, 7 to 12 ft.; WELLINGTONIA GIGANTEA, 5 to 9 ft.; PINUS EXCELSA, 7 to 10 ft.; also Spruce, Scotch, and Larch Firs, from 7 to 10 ft., with Limes, Birch, Beech, Elm, Sycamore, and Laburnum, 9 to 11 ft.; likewise Weeping Ash, Lime, and Willow, on fine tall stems. The above will be sold cheap, and if taken in quantity a great reduction will be made in the price.

J. IVERY & SON, Dorking Nursery.

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CHARLES DALY AND SON will sell Three Years' SEEDLING THORNS at 2s. per 1000.

1 Year Transplanted ditto, fine, at 4s. per 1000.
2 Years', ditto, ditto, 8s. per 1000.
COMMON LAUREL, 15s. per 1000.
PORTUGAL LAUREL, 1 to 1½ feet, 4s. per 100.
SWEET BAYS, 3 years' potted, 3d. to 6d. each.
RHODODENDRONS, good furnished plants, 20s. per 100.

Variegated Holly, Aucuba japonica, Irish and Common Yews, Privet, Seedling and Transplanted Forest Trees, cheap, for cash. Prices free by post on application.

Coleraine, Ireland.

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REIGATE SILVER SAND.—Best quality, 8s. per ton; PEAT SOIL and LOAM, 6s. per ton; good BUILDING SAND, 3s. per ton, in not less than 4 ton lots, for Cash payments, put on the Rail at Reigate.

W. SHORT, Reigate Heath, Surrey.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. Cobbett's Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent.

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**German Seeds.**

FREDERICK ADOLPHUS HAAGE, Jun., Nurseryman and Seed Grower, of Erfurt, Prussia, has the pleasure to inform the Trade that his new WHOLESALE PRICE LIST for 1862 and 1863 is now ready, and may be had on application to his Agents,

Messrs. Betham & Blackith, Cox's Quay, Lower Thames Street.

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**To the Seed Trade.—Continental Flower Seeds, &c.**

F. W. WENDEL, Seedsman, &c., Erfurt, Prussia, begs respectfully to announce that his WHOLESALE CATALOGUE of the above is now ready, containing extensive collections of Stocks, Asters, and other Choice Seeds.

Free by Post on application to Geo. Macintosh, Seedsman, High Road, Hammersmith, London W.

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RHODODENDRONS of all sorts and sizes may be obtained in any quantity of W. H. Rogers, Red Lodge Nursery, Southampton. Also every description of well grown Nursery Stock, extending over 60 acres.

PRICED CATALOGUES forwarded on application.

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**Rhododendrons, &c.**

JOSEPH SMITH, Jun., begs to offer 3 years' Seedling RHODODENDRONS; ditto 3 years and 1 Transplanted Hybrids in large quantities. Common LAUREL, 1 to 1½ feet, 1½ to 2, and 2½ to 3½ feet. SPRUCE, 1 to 1½ feet, 1½ to 2, and 2 to 2½ feet. EVERGREEN PRIVETS, 2 to 3 feet, 2 to 3½ feet. CURRANTS, Black, sorts, 2 to 3 feet. Price on application.

Moor Edge Nursery, Tansley, Matlock, Derbyshire.

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**Wholesale Catalogue.**

GEORGE JACKMAN and SON'S PRICED and DESCRIPTIVE CATALOGUE for 1862 and SPRING 1863, comprising Fruit Trees of all the leading kinds, new and selected Roses, fine Varieties of American Plants, Choice and Rare Conifers, Evergreen and Deciduous Trees and Shrubs, and a fine Stock of Transplanted Forest Trees, &c., can be had free on application.

Woking Nursery, Surrey.

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DWARF-TRAINED FRUIT TREES.

Good trees moderate price.

PEARS.—Passe Colmar, Marie Louise, Williams's Bon Chrétien, Van Mons Leon le Clerc, Knight's Monarch, Ne plus Meuris, Easter Beurré, Duchesse d'Angoulême, Beurré d'Aremberg, Glou Morceau, Catillac, Crassane, Beurré Clairgeau, Beurré Magnifica, Prince Albert, Jules Bivort, Comte de Paris, Duchesse d'Orleans, Prevost, Alexandre Lambre, Zepherin Louis, Eliza d'Heyst, Cassane de Mars, Laura de Glymes, Josephine de Malines, Beurré Berckmanns, Beurré Superfin, Autumn Bergamot, Gansel's Bergamot, Beurré de Capiaumont, Jargonelle, Hacon's Incomparable, Beurré Bosc, Chaumontel, Louise Bonne of Jersey, Nelis d'Hiver, Beurré Diel, Leopold I., Bergamot d'Esperon, Comte de Flandres.

PLUMS.—New Early Orleans, Old Orleans, Red Magnum Bonum, Denyer's Victoria, Diamond, Goliah, Cooper's Large Red, Prince of Wales, Woolston's Black Gage, Angelina Burdett, Cloth of Gold, Autumn Compote, White Magnum Bonum, Reine Claude Violet, Washington, Ickworth's Imperatrice, Jefferson's Standard of England.

APPLES.—Hawthornden, Court Pendu Plat, Wellington Pippin, Cox's Orange Pippin, Lord Suffield, Reddlestone Pippin, Stamford Pippin, Yellow Ingestre, Keswick Codlin, Court of Wick, King of Pippins, Blenheim Orange, Cockle Pippin, Kerry Pippin, Nonpareil Russet, Scarlet Pearmain, Kirke's Golden Reinette, Hanwell Souring, Cellini Pippin, Mannington's Pearmain, Northern Spy, Reinette Van Mons, &c.

George Jackman & Son have the pleasure of offering the above named trees; all are well trained, and will be sold per dozen or hundred at moderate prices; the ground being required for other purposes, they are desirous of clearing the above stock this spring.

Woking Nursery, Surrey.—Jan. 24.

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DOBSON'S PRIZE CALCEOLARIA SEED is unequalled in the kingdom. Annual Sale exceeds 3000 packets. In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each.

J. Dobson & Sons, Seedsmen, Isleworth.

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DOBSON'S PRIZE CINERARIA SEED.—Ten First Prizes awarded to our collection in the spring, 1862. In sealed packets, 1s., 2s. 6d., and 5s.

J. Dobson & Sons, Seedsmen, Isleworth.

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DOBSON'S PRIZE PRIMULA SINENSIS SEED. In sealed packets, 1s., 2s. 6d., and 5s.

J. Dobson & Sons, Seedsmen, Isleworth.

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**New Bedding Plant.**

AMARANTHUS MELANCHOLICUS RUBER (Veitch). Sealed packets, 1s. and 2s.

J. Dobson & Sons, Seedsmen, Isleworth.

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**Gladioli.**

WM. PAUL (Son and Successor to the late A. Paul) respectfully announces that his BULB CATALOGUE includes a descriptive list of all the most valuable varieties of GLADIOLI, the roots of which are unusually fine. He would remind intending purchasers that he was awarded prizes at both the Royal Horticultural and Crystal Palace September Shows. Price 4s. to 42s. per dozen.

Nurseries and Seed Warehouse, Waltham Cross, N.

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GLADIOLUS, SEEDLINGS of GANDAVENSIS.

| | £ | s. | d. |
|---|---|---|---|
| 50 in 25 extra choice varieties .. .. | £2 | 2s. | 0d. |
| 25 in 25 ,, ,, .. .. | 1 | 5 | 0 |
| 12 in 12 ,, ,, .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 ,, ,, .. .. .. | 1 | 5 | 6 |
| 25 in 25 ,, ,, .. .. .. | 0 | 13 | 6 |
| 12 in 12 ,, ,, .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2s. 6d. per doz., 17s. 6d. per 100.

Butler & McCulloch, Seed Merchants, Covent Garden Market, W.C.

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**Large Importation of Gladioli.**

WM. WOOD and SON beg to announce the arrival of a choice and carefully selected assortment of the above in excellent condition, consisting of the best and most popular hybrid varieties, from which they will be happy to make selections at the following very moderate prices, viz.,

Hybrids of Gandavensis.

| | £ | s. | d. |
|---|---|---|---|
| 100 in 50 choice kinds .. .. .. | £4 | 0 | 0 |
| 50 in 50 ,, ,, .. .. .. | 2 | 10 | 0 |
| 50 in 25 ,, .. .. .. .. | 2 | 0 | 0 |
| 25 in 25 extra choice kinds .. .. | 1 | 5 | 0 |
| 25 in 12 ,, .. .. .. | 1 | 0 | 0 |
| 12 in 12 ,, .. .. .. | 0 | 10 | 0 |

Newer varieties at proportionately low prices.—See List.
Fine mixed GLADIOLI, per 100, 17s. 6d.; per doz., 2s. 6d.
Carriage paid on orders over 10s.
LISTS free on application.

Woodlands Nursery and Seed Warehouse, Maresfield, Uckfield, Sussex.

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**Gladiolus Brenchleyensis (True).**

YOUELL and CO. beg to offer this season strong Flowering BULBS of the above, unequalled by any other for its brilliancy of colour, at 3s. 6d. per dozen; or 25s. per 100. Trade price on application, and when quantities are ordered a considerable reduction will be made.

The *Gardeners' Chronicle* of August 23, 1862, says:—"The spikes you have sent us are magnificent. We have as yet seen nothing of the kind so handsome near London. It is undoubtedly the most showy of the whole race of Gladioli."

CATALOGUES of their extensive Collection, for which the First Class Prize was awarded at the Crystal Palace Show, Sept 3, 1862, and two First Class Prizes at the Royal Horticultural Society's Show, South Kensington, Sept. 10, 1862, will be forwarded on application.

Royal Nurseries, Great Yarmouth.

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**Fuchsias.**

MESSRS. J. and J. FRASER, Lea Bridge Road Nurseries, N.E., having a fine Stock of healthy vigorous young plants of all the best and NEW FUCHSIAS, beg to invite intending purchasers to an inspection of the same. The plants now offered may be grown into fine specimens by next summer.

A List with price will be forwarded on application, as also a CATALOGUE of STOVE and GREENHOUSE PLANTS, ROSES, FRUIT TREES, CONIFERÆ, &c.

---

FINE MIXED HOLLYHOCK SEED from all named varieties, 1s. per packet; the double blue and white Perpetual TREE VIOLETS, strong plants, 4s. per doz.

A remittance must accompany all orders by Post-office Order or penny postage stamps. All goods sent postage free.

Edward Tiley, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

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WELLINGTONIA GIGANTEA.—The attention of the nobility, gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12s.; per 100 or 1000 on application. A Sample free by post for 12 stamps.

J. Henchman, Edmonton, London, N.

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E. G. HENDERSON and SON'S NEW SEED CATALOGUE will be published this week. They beg to draw attention to the following among Novelties (rules for the guidance of amateurs are given for the sowing of seeds, and after management.)

AMARANTHUS MELANCHOLICUS RUBER, 1s.
SALVIA COCCINEA PUMILA, 1s.
RHODANTHE MACULATA, 1s.
PORTULACCA GRANDIFLORA FLORE PLENA, 2s. 6d.
TAGETES SIGNATA PUMILA, 1s.
VICIA GERARDI, 1s. 6d., 2s. 6d.
VINCA ALBA OCULATA LUTEA, 1s.
PRIMULA ERECTA SUPERBA, 2s. 6d.
IBERIS GRANDIFLORA ALBA, 6d. and 1s.
MIMULUS CUPREUS, 1s.
ANAGALLIS SANGUINEA, 6d.
AGERATUM MULTIFLORUM, 6d.
ABOBRA VIRIDIFLORA, 1s. and 2s. 6d.
VICTORIA ASTERS, 1s. and 2s. 6d.
DICTAMNUS GIGANTEA ANGUSTIFOLIA, 1s.
ZINNIA ELEGANS FLORE PLENA COCCINEA, 1s.
STEVIA OVATA, 6d.
NEMOPHILA DISCOIDALIS ELEGANS, 6d.
NEMOPHILA DISCOIDALIS VITTATA, 1s.

Also the following choice seeds:—

AQUILEGIA GLANDULOSA (true), best blue and white, 6d.
,, SKINNERI (true), best scarlet, 6d.
LINUM FLAVUM, fine bedding plant, dwarf golden yellow, 1s.
PENTSTEMON MURRAYANUM (true species), vermilion scarlet flower tubes, 6d.
TRITOMA UVARIA, best variety, special rule for raising seed, 6d. and 1s.
SAPONARIA CALABRICA ALBA, fine white bedder, 4d.
LILIUM GIGANTEUM, 1s.; CALENDULA SUPERBA, 4d.
VENIDIUM CALENDULACEUM, fine bedding plant, 3d.
LINUM CANDIDISSIMUM, pure white, 6d.
GYNERIUM ARGENTEUM (Pampas Grass), 1s.
SPERGULA PILIFERA (Grass Lawn substitute), 6d. and 1s.
LILIUM CORDIFOLIUM, similar in style of growth to L. giganteum, but dwarfer and of a darker tint in the young growth; the large, trumpet-shaped white flowers, with dark centre midribs, are also alike to the last-named species, but are produced by smaller bulbs, and on stems not rising more than from 3 to 4 feet in height. By its blooming much more readily than L. giganteum it will prove a very popular and useful Lily. 1s.

Special directions are given for the germination of this and L. giganteum.

Wellington Nursery, St. John's Wood, London, N.W.

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# PERMANENT GRASS SEEDS FOR ALL SOILS.

## SUTTON & SONS, SEED GROWERS,

READING, BERKS,

Have a most extensive and complete stock of all the best kinds of GRASS SEEDS for PERMANENT PASTURE, which they are now sending out daily to all parts of the Kingdom, mixed expressly to suit the soil for which they are intended and the purposes for which the Pasture is required. It is believed that Messrs. SUTTON'S Stock of GRASS SEEDS is the largest in the country, and certainly the quality cannot be surpassed. The sorts can be supplied separate or mixed to suit the soil. The Light Large Seeds are in one Mixture, and the Clovers and other Small Heavy Seeds in another; 2 bushels of the former and 12 lb. of the latter per Acre are supplied.

**No. 1. Mixtures for Permanent Meadow and Pasture, mixed expressly to suit the Soil ... ... ... per acre 30s.**

N.B.—Cheaper Mixtures, containing smaller quantities of Clover Seeds, &c., can be supplied if desired.

**No. 2. Mixtures for Permanent Field Lawns, Parks, and Cemeteries ... ... ... ... ... ... ... per bushel 16s.**
**No. 3. Mixtures for Irrigation or Catch Meadows ... ... ... ... ... ... ... ... ... ... per acre 25s.**
**No. 4. Mixtures for Reclaimed, Marsh, or Heath Land ... ... ... ... ... ... ... ... ... ,, 18s. to 24s.**
**No. 5. Mixtures for Loose Blowing Sands, Heavy Clays, Chalky Soils, and Sharp Gravel ... ... ... ,, 30s.**
**No. 6. Mixtures of Finest Short Grasses for Garden Lawn ... ... ... ... ... 1s. per lb., or, per bushel 18s.**
**No. 7. Renovating Mixture of Clovers and Fine Grasses for Old Parks and Meadows, 9d. per lb., or, by the cwt., 80s.**

Mr. Martin Sutton's *Essay on Permanent Pasture, containing complete Instructions for Sowing and Management, is supplied with the Seeds.*

OTHER AGRICULTURAL SEEDS, ALL UNADULTERATED.

| CLOVERS. | RYE-GRASS. | MANGEL WURZEL. | SWEDES. | CARROTS. | SUNDRIES. |
|---|---|---|---|---|---|
| Common Red | Sutton's Improved Italian | Long Red, Elvetham | Sutton's Champion | White Belgian | Seradella |
| White or Dutch | Fine Imported do. | Orange and Yellow Globe | Skirving's | Yellow Belgian | Lucerne |
| Trefoil | Common Rye-Grass | Red Globe | Hardy Purple | Large Altringham | Drumhead Cabbage |
| Alsike Hybrid | Pacey's Perennial | Long Yellow | Marshall's Purple-top | James' Intermediate | Large Cattle Parsnip |
| Cow Grass (true kind) | | | Improved White | Long Orange | Kohl Rabi, of sorts |

*Goods delivered Carriage Free. Priced Lists Post Free. Five per Cent. allowed for payment on receipt of Goods.*

SUTTON and SONS, ROYAL BERKSHIRE SEED ESTABLISHMENT, READING.

**Roses for Forcing.**

CHARLES NOBLE has a nice assortment, one year established in 32-pots, ready for forcing. They are healthy vigorous plants, and cannot fail to give satisfaction. He has also a large stock of Dwarfs and Half-Standards suitable for planting in Roseries; they are offered very cheap.

Sunningdale Nursery, South-Western Railway.

**Roses.**

GEO. PARSONS begs to offer fine STANDARD ROSES, from 2½ to 4 feet stems, at *5l.* per 100, or *15s.* per dozen; including the New Varieties, *18s.* per dozen, or *8l. 10s.* per 100; the last New Varieties of 1862, DWARFS, *30s.* per dozen.

CATALOGUES free on application.

Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

**Fine Dwarf Roses.**

GEO. CLARKE has an abundance of magnificent plants of DWARF ROSES, including the leading varieties of Hybrid Perpetuals and Bourbons; also well established plants in Pots of PERPETUALS, TEAS, and BOURBONS, suitable for Forcing. Prices forwarded on application.

Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, near the Victoria Railway Station, Pimlico, S.W.

DWARF HYBRID PERPETUAL ROSES, on the MANETTI STOCK; Carriage paid to London.—The Undersigned offer very fine and vigorous plants of the above. For a LIST of the more popular sorts, see *Gardeners' Chronicle* for December 6, 1862. Prices given for small and large numbers (per 1000 at a much reduced rate) and a DESCRIPTIVE CATALOGUE of ROSES sent on application to

THOS. RIVERS & SON, Nurseries, Sawbridgeworth.

**Rose Nurseries, Hertford.**

E. P. FRANCIS offers the following DWARF ROSES, strong and vigorous, worked very low on Manetti, at reduced prices, in orders of not less than 500. Price upon application.

HYBRID BOURBONS.

Blairii No. 2
Brennus
Juno
Charles Lawson
Coupe d'Hébé
Paul Perras
Paul Ricaut
Madame Zoutman

HYBRID PERPETUALS.

Admiral Nelson
Anna Alexieff
Augustine Mouchelet
Baron Prevost
Baron Larrey
Colonel de Rougemont
Coquette de Lyon
Comtesse de Chabrillant
Comte Odart
Duchess of Norfolk
Duchesse d'Orleans
Duchess of Sutherland
Garibaldi
Géant des Batailles
General Castellane
General Jacqueminot
Gustave Coraux

HYBRID PERPETUALS.

Baron Gonello
Jules Margottin
Lælia
Louis Peyronny
La Fontaine
Leon des Combats
Le Royal Epoux
La Reine
Madame Boll
Madame de Cambacérès
Madame Domage
Madame Hector Jacquin
Madame Louis Carique
Madame Vidot
Mademoiselle Alice Leroy
Monsieur de Montigny
Prince Noir
Prince Leon
Princess Clothilde
Rosine Parron
Reine des Violettes
Souvenir de la Reine d'Angleterre
Sydonie
Triomphe des Beaux Arts
Triomphe de Paris
Victor Verdier
William Griffiths

**Banks's Best New Fuchsias.**

E. G. HENDERSON AND SON are now sending out the three following First-class Flowers:—

MDLLE. TREBELLI (BANKS).
BIANCA MARGINATA (BANKS),
MARS (BANKS).

As neat young plants for growing on into specimens (and others adapted for stock), price *3s. 6d.* and *5s.* each. Also plants of all last year's best varieties, *1s. 6d.* to *2s. 6d.* each.

SOLANUM CAPSICASTRUM FOLIA VARIEGATA, a beautiful table plant, with elegantly variegated leaves and red berries; drooping habit; *3s. 6d.* and *5s.* each.

Wellington Nursery, St. John's Wood, London, N.W.

DOWNIE, LAIRD, AND LAING have much pleasure in offering the following FIRST CLASS NOVELTIES, which they can with confidence recommend as being decided acquisitions.

CALCEOLARIA CLOTH of GOLD, described by the Floral Committee of the Royal Horticultural Society as follows:—"A desirable bedding variety of dwarf habit, growing from 6 to 9 inches high; the leaves are narrow and deeply serrated; the flowers in fine compact trusses of a deep clear yellow, and of medium size and firm substance;" stems stiff and erect, requires no staking; as a dwarf yellow for front lines, or ribbon borders, it has no equal. Certificate of Merit by the Floral Committee, First Class Certificate at Regent's Park. Price *2s. 6d.* each, *18s.* per dozen. Special price for quantities on application.

DELPHINIUM BICOLOR GRANDIFLORUM.—This is a striking and most beautiful variety. It was commended by the Floral Committee of the Royal Horticultural Society, who described it as follows:—"A showy variety with large flowers, in which the sepals were of a dark blue, and the petals of a creamy white colour, contrasting strongly with the darker colour surrounding them." Price *5s.* each. Special offers to the Trade on application.

Stanstead Park, Forest Hill, S.E.; and Edinburgh.

**New Japanese Plants.**

PARSONS AND CO., Flushing, near New York, offer FOR SALE—

Ten LILIUM AURATUM, at 8 Guineas each. This plant bloomed the last summer at Flushing. It was much admired for its great beauty, and for its delicate yet powerful fragrance, pervading a room for some days after being cut, and even after the petals were withered. The bulbs are full and sound.

LONICERA BRACHYPODA (aurea reticulata), *5s.* each. This beautiful plant, with its remarkable leaf variegation of green and gold, is supposed to be perfectly hardy, and is scarcely surpassed in beauty by any of the foliage stove plants. It is figured in "L'Illustration Horticole" for last September.

RETINOSPORA JAPONICA, 5 Guineas per 100, 40 Guineas per 1000. This plant is supposed to be either obtusa or pisifera. Its foliage is beautiful, and highly glaucous on the under side. The plants offered are about 3 inches high, have been once transplanted, and are in pots containing 25 each.

JEDDO GRAPE. This Grape has been described by Robert Fortune as scarcely inferior to any of the Grapes known in English hothouses. Originating in Japan, it is supposed to be hardy, and suitable for walls. Strong 1-year old plants will be ready for delivery in the autumn of 1863. Price 1 Guinea.

## LARGE IMPORTATION of STANDARD ROSES.

# WILLIAM WOOD & SON

Have much pleasure in announcing the arrival of a large Importation of STANDARD and DWARF ROSES in fine order, which they will be happy to supply on most reasonable terms.

CATALOGUES free and post paid on application.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

# WM. WOOD & SON'S

## COLLECTIONS of KITCHEN GARDEN SEEDS

FOR ONE YEAR'S SUPPLY.

| No. 1. | No. 2. | No. 3. | No. 4. |
|---|---|---|---|
| £3. | £2. | £1. | 10s. 6d. |

Containing only Seeds of first-class quality, and varieties that can be confidently recommended.

For particulars, see CATALOGUE, a Copy of which may be had Post Free on application.

*** *All orders amounting to 10s. and upwards sent Carriage Free.*

WOODLANDS NURSERY AND SEED WAREHOUSE, MARESFIELD, NEAR UCKFIELD, SUSSEX.

# THE PLYMOUTH SEED COMPANY,

PLYMOUTH.

*Extract from a Letter received from a* CLERGYMAN *in Yorkshire, dated December* 11, 1862:—

"Our Vegetables have never been so fine as when grown from your Seeds."

The Company are now sending out their COLLECTIONS of SEEDS, which have always given great satisfaction.

| | £ | s. | d. |
|---|---|---|---|
| **No. 1. Complete Collection for a large Garden, for One Year's Supply ...** | £3 | 0 | 0 |
| **No. 2. Complete Collection for a moderate size Garden, for One Year's Supply** | 2 | 0 | 0 |
| **No. 3. Complete Collection for do., smaller quantities, for One Year's Supply** | 1 | 0 | 0 |
| **No. 4. Complete Collection for a Small Garden ...** | 0 | 15 | 0 |
| **No. 5. Complete Collection for a Small Garden ...** | 0 | 10 | 6 |
| **Extra large Collection, containing double the quantities contained in No. 1...** | 5 | 0 | 0 |

Extra Collection Carriage Free to any Railway Station in England and Wales, and to any Steam Port in England, Wales, Scotland, and Ireland.

No. 1 Carriage Free to most Stations and Ports in the Kingdom.
No. 2 Carriage Free to Broad Gauge Stations and Steam Ports.
No. 3 Carriage Free to any Station between Plymouth and Paddington.

For further particulars, see the GENERAL PRICE CURRENT, now ready.

Address, PLYMOUTH SEED COMPANY, PLYMOUTH.

## GARDEN SEEDS.

# S. GLENDINNING & SONS,

### NURSERYMEN AND SEEDSMEN

(SUCCESSORS TO THE LATE R. GLENDINNING),

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

| | | | | | | £ | s. | d. |
|---|---|---|---|---|---|---|---|---|
| **No. 1** | **contains** | **36 Quarts of PEAS, and all other Seeds in proportion** | | | | £5 | 5 | 0 |
| **No. 2** | ,, | **28 Quarts** | ditto | ditto | ditto | 4 | 4 | 0 |
| **No. 3** | ,, | **20 Quarts** | ditto | ditto | ditto | 3 | 3 | 0 |
| **No. 4** | ,, | **12 Quarts** | ditto | ditto | ditto | 2 | 2 | 0 |
| **No. 5** | ,, | **6 Quarts** | ditto | ditto | ditto | 1 | 1 | 0 |

COLLECTIONS of FLOWER SEEDS.

| | | | | | | £ | s. | d. |
|---|---|---|---|---|---|---|---|---|
| **No. 1,** | **containing** | **100 Large Packets of Best Hardy Annuals ...** | | | | £0 | 18 | 0 |
| **No. 2,** | ,, | **50** | ditto | ditto | ditto | 0 | 9 | 6 |
| **No. 3,** | ,, | **24** | ditto | ditto | ditto | 0 | 5 | 0 |
| **No. 4,** | ,, | **25** | ditto | **Half-Hardy Annuals ...** | | 0 | 7 | 6 |
| **No. 5,** | ,, | **12** | ditto | ditto | ditto | 0 | 4 | 0 |
| **No. 6,** | ,, | **25** | ditto | **Tender Annuals** | | 0 | 12 | 6 |
| **No. 7,** | ,, | **12** | ditto | ditto | ditto | 0 | 6 | 0 |

The above Collections consist only of best and most useful varieties, and are of the finest quality.

S. G. & SONS' CATALOGUE of KITCHEN GARDEN, AGRICULTURAL, and FLOWER SEEDS, is now ready, and may be had on application.

CHISWICK NURSERY, LONDON, W.

## INTERNATIONAL EXHIBITION.

PRIZE MEDALS 1851 AND 1862

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

# BUTLER & McCULLOCH, SEED MERCHANTS,

COVENT GARDEN MARKET, W.C.

(ESTABLISHED UPWARDS OF A CENTURY.)

COLLECTIONS OF VEGETABLE SEEDS SUITABLE FOR ANY SIZED GARDEN.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. 1. | 20 Quarts of PEAS and other Seeds in proportion | | | ... | £3 | 3 | 0 |
| No. 2. | 11 | ditto | ditto | ditto | | 2 | 2 | 0 |
| No. 3. | 8 | ditto | ditto | ditto | | 1 | 10 | 0 |
| No. 4. | 5 | ditto | ditto | ditto | | 1 | 1 | 0 |
| No. 5. | 5 Pints | | ditto | ditto | | 0 | 10 | 6 |

A Specification of the above Collections is given at page 77 of Messrs. BUTLER & McCULLOCH'S systematically arranged SEED CATALOGUE for 1863, which may be had free and post paid upon application.

*All orders amounting to £1 1s. sent Carriage paid.*

## BARR & 12 KING ST. SUGDEN COVENT GARDEN

## SEED MERCHANTS AND FLORISTS,

12, KING STREET, COVENT GARDEN, W.C.

OPPOSITE THE GARRICK CLUB.

*Seeds Carriage paid. Five per cent. allowed on Cash Payments. No charge for Packing or Package.*

BARR AND SUGDEN'S COLLECTIONS of VEGETABLE SEEDS for 1863, embracing the best Varieties in Cultivation, and especially those most approved of in Covent Garden Market.

For particulars, see "GUIDE to the KITCHEN GARDEN."

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. 6 contains | 20 Quarts of PEAS, and other Seeds in proportion, | | | | for £3 | 3 | 0 |
| No. 5 ,, | 10 Quarts | ditto | ditto | ditto | ,, | 2 | 2 | 0 |
| No. 4 ,, | 8 Quarts | ditto | ditto | ditto | ,, | 1 | 10 | 0 |
| No. 3 ,, | 10 Pints | ditto | ditto | ditto | ,, | 1 | 1 | 0 |
| No. 2 ,, | 6 Pints | ditto | ditto | ditto | ,, | 0 | 15 | 6 |
| No. 1 ,, | 4 Pints | ditto | ditto | ditto | ,, | 0 | 10 | 6 |

☞ *Orders amounting to 21s. and upwards sent Carriage paid.*

### PRESENTED TO EACH CUSTOMER.

The ILLUSTRATED GUIDE to the KITCHEN GARDEN, price 1s.; and the ILLUSTRATED GUIDE to the FLOWER GARDEN, price 2s. 6d.

BARR AND SUGDEN, SEED MERCHANTS,

12, KING STREET, COVENT GARDEN, W.C. (Opposite the GARRICK CLUB).

GOOD SEEDS CARRIAGE FREE.

# SUTTON'S

## COMPLETE COLLECTIONS of KITCHEN GARDEN SEEDS

FOR ONE YEAR'S SUPPLY.

SUTTON'S UNRIVALLED COLLECTIONS of KITCHEN GARDEN SEEDS are so assorted as to contain the proper quantities of the best kinds to supply a family for the whole year.

**The entire charge for the largest Collection (No. 1) is £3 0 0 (Carriage Free).**

**Ditto ditto Collection (No. 2) is £2 0 0 ditto**

**And Complete Collections for Smaller Gardens may be had at 20s. and 10s. 6d.**

*From* Mr. WILLIAM MOOR, *Gardener, The Rectory, Stoke.*

"I never had (previous to yours last year) a lot of Seeds which have all turned out so satisfactory."

*From the* Rev. G. E. WALKER, *Shareshill, Wolverhampton.*

"Mr. Walker cannot but compliment Messrs. SUTTON & SONS on the quality of the Seeds sent last year, as they were by far the best he ever purchased."

*From the* Rev. JOHN KIRWAN, *Withycombe Rectory, Taunton.*

"I was so much pleased with the selection of Seeds sent by you, that I recommended two of my friends to take parcels from you."

SUTTON'S CHAMPION SWEDE, 1s. per lb.; Choice MANGEL WURZEL, 6d. per lb., if ordered immediately. NATURAL GRASS SEEDS for PERMANENT PASTURE, 30s. per Acre, mixed expressly to suit the soil.

SUTTON AND SONS, SEED GROWERS AND MERCHANTS, READING, BERKS.

### Choice New Seeds.

B. S. WILLIAMS has much pleasure in offering the following choice SEEDS:—

| | | s. | d. |
|---|---|---|---|
| | per packet.— | | |
| AMARANTHUS MELANCHOLICUS RUBER | 1s. and | 1 | 6 |
| ASTER VICTORIA .. .. .. .. .. .. | | 1 | 6 |
| MIMULUS CUPREUS .. .. .. | 1s. and | 1 | 6 |
| RHODANTHE MACULATA .. .. .. | 1s. and | 1 | 6 |

For numerous other Novelties, see CATALOGUE post free to all applicants.

Paradise and Victoria Nurseries, Holloway, London, N.

### Hendon Park Nurseries, N.W.

CAMELLIAS, all the best sorts, fine plants, beautifully set with bloom buds, 24s. to 30s. per dozen.

PANSIES, all the best show flowers, from 6s. per doz.; new bedding Pansy, BOY in BLUE, very early, 6s. per doz.

EDWARD SHENTON.

### Spring Blooming Plants.

CAMELLIAS, including the best new varieties, fine plants, set with bloom buds, from 30s. per doz.; extra size, from 60s.

HEATHS, EPACRIS, CINERARIAS, and JASMINUM GRANDIFLORUM (grafted), remarkably fine plants, at moderate prices.

Also HUMEA ELEGANS, extra strong, in 6-inch pots, 18s. per doz.

JAMES DICKSON & SONS, Newton Nurseries, Chester.

### Hendon Park Nurseries.

NEW PLANT from JAPAN.—LONICERA AUREO RETICULATA, the most beautiful variegated Climber ever offered. The foliage netted with gold and crimson veins, the leaves and stem changing to crimson in the autumn; perfectly hardy. Price on application.

EDWARD SHENTON.

WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

WHEELER'S IMPERIAL LETTUCE.

The price of the Lettuce is 1s. per packet, post free.

J. C. WHEELER & SON beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. WHEELER & SON, Seed Growers, Gloucester.

### New Seeds.

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, of Edinburgh and London, are prepared to send out FARM and GARDEN SEEDS of every kind, and of the finest quality.

Orders for exportation executed with prompt and careful attention.

28, King Street, Cheapside; and 15, Lawrence Lane, E.C.

### Genuine New Seeds, Carriage Free.

FRANCIS & ARTHUR DICKSON AND SONS, 106, Eastgate Street, Chester.

New VEGETABLE and FLOWER SEEDS of every description, of the finest possible quality.

Their DESCRIPTIVE PRICED CATALOGUE, containing many valuable New and Select Vegetable and Flower Seeds, will be sent Post Free on application.

Collections for Gardens of all Sizes are on the most liberal scale. See Catalogue.

☞ Vegetable Seeds of £2 value Carriage Free. All Flower Seeds Free by Post.

### Vegetable and Flower Seeds.

CARRIAGE FREE.

JAMES DICKSON AND SONS' ANNUAL DESCRIPTIVE PRICED CATALOGUE of the above is now ready, and may be had, post paid, on application.

The *Field* of February 8, 1862, in a notice of our last season's Catalogue, says:—"This old established firm have issued their neat and well arranged Catalogue for this season. It embraces all seeds really worth growing in both departments."

JAMES DICKSON & SONS, 102, Eastgate Street, Chester; and 23, Market Place, Manchester.

IMPROVED DRUMHEAD or CATTLE CABBAGE.—The Subscriber has now for Sale Seed of his well known Improved LATE CABBAGE, selected and grown by himself, warranted net Seed, and all of Crop 1861, well harvested, and a fine sample.

Orders for quantities of not less than two hundred weight will be executed on receipt of Cash, or a satisfactory reference to respectable perties in Edinburgh or Leith, and intending purchasers unacquainted with the Stock, can be referred for information to many of the most respectable Seedsmen in England, Scotland, and Ireland. The Seed can be put free on board at Leith, or on the Rail at Edinburgh.

Apply to JOHN GIBSON, Woolmet, Dalkeith, N.B.

# NEW AND BEAUTIFUL PLANTS FOR 1863.

# WILLIAM BULL, F.R.H.S., F.R.B.S.,

## NURSERYMAN AND NEW PLANT MERCHANT, KING'S ROAD, CHELSEA, LONDON, S.W.,

WILL SEND OUT THE FOLLOWING **NOVELTIES** FOR THE FIRST TIME ON AND AFTER THE 27TH OF APRIL NEXT.

In announcing the following NEW FLOWERS, W. B. begs to intimate that he has purposely made the descriptions as brief as possible; did merit depend on description, that to each should be most elaborate.

From the large numbers of NEW FLOWERS in each class, it may appear marvellous that all should be good and real improvements; but W. B. invites an inspection at the blooming season of the thousands of Seedlings raised at his Establishment, and the pains taken in hybridising to obtain New Varieties.

### New Verbenas, 3s. 6d. each.

The following varieties are all conspicuous showy sorts, not such as can only be grown in pots, but all excellent bedders, which they thoroughly proved themselves during the last unfavourable summer, and therefore can be confidently recommended.

ALICE, rose shaded with violet, crimson centre, large primrose eye
ANTONY, bright crimson with dark velvet centre, white eye, fine truss
BRIGHT EYE, deep bright rose, with large yellow centre
CORDELIA, rich claret, light centre, distinct and novel
DUCHESS, crimson, with large white centre, good shape
DUNDREARY, violet rose, crimson centre, large white eye
EUPHRA, rich ruby, maroon centre, large white eye
FAVOURITE, maroon, black centre, large white eye
KATHLEEN, rich violet purple, maroon centre, large white eye
SPLENDID, light crimson shaded with scarlet, large yellow centre
THE CLIPPER, brilliant vermilion, flowers large, and perfect in shape, fine truss
THE COLONEL, bright scarlet, crimson centre, white eye, an improvement on Spark.

### New Petunias, Single Flowered Varieties, 3s. 6d. each.

The following are confidently offered as very superior kinds; they are a small selection made from many thousand seedlings, the result of the most careful hybridisation.

ADELINE.—French white, violet throat, each petal broadly margined with bright red, attractive
AMETHYST, lavender with violet centre, veined and reticulated with violet, and margined with white
ATHLEEN, splendid crimson, rayed with black, large black centre
BEAUTY, violet crimson or mauve, broadly margined wIl pure white
CAPTIVATION, pure white, beautifully rayed with violet crimson
ELLA, rose, nerved with purple, dark throat
LADY MARIA SCOTT, purple crimson, margined with light rose, rayed and reticulated with violet crimson, black throat
LILIAN, white blotched with mauve
LONGFELLOW, bright violet, white centre
PRESIDENT, French white, nerved and shaded with violet, crimson centre, dark throat, a fine flower and good shape
SOUVENIR, very bright, rose shaded with violet, large white centre
VERNON, French white, dark purple centre, veined and reticulated with dark purple
WALLACE, pure white, striped and blotched with crimson

### New Petunias, Double Flowered Varieties, 3s. 6d. each.

CHARMER, bright crimson, centre petals white
CORNELIA, bright violet pink
FATIMA, rich carmine, beautiful imbricated form
OPTIMUM, bright crimson, good form, like a rosette
PLEASANT, rich amaranth, very full and fine
PRINCESS ALEXANDRA, rich crimson, fine and large bold flower

### New Fuchsias, 7s. 6d. each.

The following are all so distinct and good, they are sure to please; as there are so many it may be as well to remark that besides my own seedlings, to ensure putting out a good collection, the entire stocks have been purchased from three different raisers, and hence so much variety.

BEATRICE, large and pure white tube and sepals, the latter beautifully reflexed; corolla large and full, rich violet rose margined with scarlet, white base, very attractive
ETTIE, monstrous bright rose, sepals of unusual size and length, beautifully reflexed, large purple corolla with red base, very showy
FAIRY, broad sepals, completely reflexed, of the darkest and richest crimson; large pure white corolla, red at the base, extremely elegant
JOSEFA, rich dark crimson tube and sepals, the latter very broad, elegantly reflexed and of great substance; corolla rich dark purple, very evenly shaped, wax-like and fine
LYDIA, long and elegant pure white tube and sepals, the latter beautifully reflexed; corolla rich carmine scarlet, of great substance, very attractive
MARGARET, short tube and sepals, the latter completely reflexed; large and long blue corolla, peculiarly expanded, very novel in shape
MATCHLESS, rich dark scarlet tube and sepals, the latter well reflexed; corolla rich purple, very double and immensely large, extra
MILDRED, tube and sepals very dark crimson and of great substance, sepals beautifully reflexed, large well formed rich purple corolla
NELLY, pure white tube and sepals elegantly reflexed, bright rosine corolla, pure white at the base
PAULINE, sepals of the richest vermillion, remarkably broad, reflexing back to the tube; beautiful rich purple corolla, thick, wax-like and well formed
ROLAND, coral-red tube and sepals, the latter beautifully reflexed, long and large light blue corolla, very distinct
TIBBY, bright carmine tube and sepals, the latter completely reflexed; large expanded light blue corolla, particularly novel and striking, a gem

### New Zonale Geraniums, 7s. 6d. each.

Two years since all the best English and Continental sorts were collected, carefully hybridised, and thousands of seedlings raised; these have been reduced to about 500 promising kinds, which will be flowered and proved again; meanwhile the following have been selected as of unquestionable merit.

ALFRED, clear orange scarlet, very large flowers of a magnificent form, shell-like petals, and large truss
AURICULA, soft flesh with bright rose coloured centre, white eye
BONNIE DUNDEE, rosy pink, large very round flower, horse-shoe foliage, fine
CECILIA, bright rose shaded with scarlet, immense flower, and fine truss
DR. LINDLEY, light scarlet, the largest and best formed flower ever offered
ERIN GO BRAGH, blush margined, with white, horse-shoe foliage
LUCILLA, beautiful soft clean rose, flowers of enormous size and most perfect form, trusses fine
NORA, bright rose shaded with scarlet, very fine flower and large truss, horse-shoe foliage
REALLY GOOD, vivid scarlet, white eye
ROSETTA, very deep bright pink, excellent
THE SWAN, pure white, large flower, fine shape
VISITOR, brilliant rose, immense flower, excellent form

### New Pentstemons, 5s. each.

"In illustration of the advances which this flower has made, we may refer to a series of varieties which have been sent out this year by Mr. Bull, of Chelsea, and which we have had an opportunity of observing. They are remarkable for the advance in quality they show beyond the varieties hitherto grown." (Extract from *Gardeners' Chronicle, Nov.* 15, 1862, *vide* page 1075.)

The varieties now offered far eclipse any that have preceded them. Not the most unimportant feature is the improvement in their habit, and the greater redundancy of their blossoms.

ANGELINA, puce, pure white throat, distinct and pretty
CONSTANCE, dark violet-crimson lobes and tube, white throat blotched and striped with maroon
DORA, dwarf stiff habit, scarlet tube and lobes, light throat blotched and pencilled with crimson
FLORENCE, mauve tube and lobes, large pure white mouth and throat, flowers large and very attractive
HELEN, scarlet tube and lobes, very pure white throat
MAGGIE, light red tube and lobes, white throat striped with crimson
OLIVIA, deep violet-rose tube and lobes, white throat prettily pencilled and striped with crimson
SPECIAL, crimson-purple tube, violet-purple lobes, pure white throat; distinct
STANDARD, throat and lobes pure white, lobes margined with rose, violet-rose tube
UNDINE, white slightly tinged with blush
VIVIAN, bright crimson tube and lobes, white throat, mouth blotched with dark crimson
WINIFRED, rose tube, white lobes and throat, lobes edged with bright red, very dwarf

### French Spotted New Pelargoniums, 21s. each.

The following are offered for their extreme beauty, free flowering character, and their rich, novel and varied colours:—

AILEEN, dark crimson, upper petals surrounded with fiery crimson, and margined with white: pure white under petals, lightly spotted with fiery crimson.
ALICIA, rich maroon upper petals, margined with rose violet; under petals rose violet, blotched with deep crimson
ANNETTE, dark crimson upper petals, margined with carmine violet; under petals rose violet, spotted with crimson.
CORAL, fiery crimson; upper petals blotched with maroon, under petals slightly spotted with dark crimson.
FIREBALL, upper petals fiery scarlet, blotched with rich maroon; under petals bright red, spotted with crimson
INTERNATIONAL, rich maroon upper petals, margined with rose; bright rose under petals, shaded with fiery crimson, heavily spotted with maroon.
JOSEFA, rich maroon upper petals, edged with cerise; under petals pink, spotted with dark crimson; light centre.
MABEL, maroon upper petals, margined with crimson; bright red under petals, spotted with crimson; violet throat.
NICOLA, fiery red upper petals, shaded with scarlet, and spotted with maroon; under petals distinctly spotted with maroon, violet centre.
NINA, deep crimson upper petals, edged with rose lilac; lower petals bright scarlet, heavily blotched with deep crimson, and margined with violet pink.
ROSARIO, bright red upper petals, with light margin, blotched with maroon and shaded with violet; under petals bright red, shaded with violet, and largely spotted with crimson.
VICEROY of EGYPT, rich maroon upper petals, margined lilac rose; under petals lilac rose, spotted with crimson.

### New Bedding Tropæolums, 3s. 6d. each.

FIREFLY, vivid scarlet, rich dark throat, exceedingly stiff shell-like petals, good form
GLORY, golden yellow, all the petals cleanly spotted with maroon, excellent shape
MARVEL, cream colour, cleanly spotted with crimson on each petal, very pretty

### New Lobelia (Erinus) Favourite, 3s. 6d. each.

Very bright turquoise blue, with clean pure white centre, flowering in the most profuse manner; very distinct and exceedingly pretty and attractive, habit dense and compact; a most desirable variety for edging or bedding purposes.

### New Show Geraniums, 15s. each.

ADELINE, pure white; upper petals blotched with bright crimson, very fine.
GLORY, upper petals maroon surrounded with violet crimson and edged with rose, lower petals pink, large white centre.
HERO, fiery red, upper petals blotched with deep crimson, and margined with rosy violet; lower petals soft rose, pure white centre.

### New Fancy Geraniums, 21s. each.

BERTHA, rich maroon upper petals edged with white; lower petals rosy purple margined with white, pure white centre.
CHARM, dark maroon upper petals, edged with pure white, lower petals bright crimson edged with white, white centre
LADY DOROTHY NEVILLE, deep rose upper petals shaded with violet; lower petals violet rose, pure white centre, fine shape.

### Erect Gloxinias, 5s. each.

The following select and very beautiful collection has been selected from an immense number of seedlings, and are great improvements upon those at present in cultivation.

ANONYMA, blue lobes margined with lavender, white mouth and throat spotted at the base
BEAUTY, pink lobes, pure white mouth and throat
BRILLIANT, bright crimson, the lobes margined with rose, rich violet throat
CELESTIAL, rose lobes, throat encircled with deep violet, base of the tube white spotted with brown
CUPID, light blue lobes, with white marking, pure white throat
FAIRY, white tube and lobes, the mouth peculiarly encircled with violet crimson
FAVOURITE, bright rose shaded with crimson, throat encircled with violet, white tube
MODEL, pink shaded with violet, white tube]
PEERESS, rich purple, the lobes margined with blue, base of the throat white spotted with brown
PRINCESS ALEXANDRA, white lobes margined with porcelain blue
ROSALIND, soft violet pink with immensely broad lobes, the mouth encircled with violet, white tube and throat
SERENA, soft rose, half of each lobe encircled with white, tube and throat white

### Drooping Gloxinias, 5s. each.

The following may be depended upon as a very superior and beautiful selection.

ACME, blue lobes edged and prettily marked with white, violet throat
ASPROMONTE, broad clear rose lobes, pure white throat spotted at the base
BEAUTY, bright blue lobes encircled with purple, white throat
FLORA, rose lobes shaded with violet crimson and marked with white, pure white throat
ILLUMINATOR, beautiful rich crimson, the lobes broadly margined with bright red
LAURETTA, blue marbled with white, very distinct and attractive
MATCHLESS, lobes rose shaded with violet crimson, white mouth, the tube prettily striped and spotted with rose
OPTIMA, deep rose encircled with violet, white throat, very distinct
PRINCESS BEATRICE, porcelain blue, each lobe spotted with violet, pure white throat.
QUEEN OF PORTUGAL, rose, rich violet mouth, the base of the throat white spotted with crimson
SANSPARIEL, pure white, each lobe spotted with crimson, and the throat encircled with violet crimson, very delicate and pretty
VIRGINIE, blush, under lobes bright crimson, violet throat.

### New Bedding Shrubby Calceolarias, 5s. each.

DISTINCTION, crimson or scarlet brown, primrose cap, very showy
ECLIPSE, bright golden yellow, minutely freckled with crimson spots
GOLDEN QUEEN, bright orange, large flowers thrown well above the foliage, dwarf compact habit, blossoms well perpetuated throughout the season
LIVELINESS, rich maroon, bright yellow cap, very attractive, an improvement on Sparkler

### New Mimulus, "Attraction," 3s. 6d. each.

SULPHUR, with orange throat, margined and blotched with dark crimson, gigantic flowers, very free bloomer.

### New Bedding Dahlia, "Gem of the Dwarfs," 7s. 6d. each.

"OF BEDDING DAHLIAS, a variety which is to be called Gem of the Dwarfs, and which is in the hands of Mr. Dean, of Shipley, appears likely to be an acquisition in its way. It is a crimson red tipped with white, and is said to be the dwarfest bedding variety yet seen, the plants never exceeding and seldom attaining so much as 18 inches in height. The variety has proved constant to this habit for three seasons, and is described as a most profuse bloomer, looking amazingly bright and showy in a bed. The blooms we have seen lead us to believe that it really deserves this good character."—*Extract from Gardeners' Chronicle, Nov.* 8, 1862, *vide* page 1050.

As the above has been so strongly recommended, Mr. WILLIAM BULL has purchased the entire stock.

J. SCOTT'S DESCRIPTIVE FRUIT CATALOGUE, describing the Culture and Character of nearly 800 sorts, price 7*d.* Also his CATALOGUES of CHOICE and GENUINE SEEDS, mostly his own saving; and his CATALOGUES of NURSERY STOCK, ROSES, and CONIFEROUS PLANTS, free on application to

J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

EDWIN HOLLAMBY begs to inform his Patrons and Friends that his DESCRIPTIVE PRICED CATALOGUE of VEGETABLE, FLOWER, AGRICULTURAL SEEDS, and GLADIOLUS is now ready, and may be had gratis and post paid on application.

Nursery and Seed Establishment, Tunbridge Wells, Kent.

**Seeds, Seeds, Seeds.**

S. GLENDINNING AND SONS' (Successors to the late R. GLENDINNING) CATALOGUE of KITCHEN GARDEN, AGRICULTURAL and FLOWER SEEDS is now ready and may be had on application.

Chiswick Nursery. London, W.—January, 1863.

A. STANSFIELD AND SONS beg to announce that their LIST of BRITISH FERNS for this season, including the New and Rare varieties, at reduced prices, is now ready, and may be had on application, enclosing two postage stamps. Also their GENERAL FERN LIST, No. 6, for 4 postage stamps, which purchasers may deduct.

Vale Nurseries, Todmorden.

**Early Spring Flowers.**

WEBB'S GIANT POLYANTHUS; ditto COWSLIP; Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple. Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to

RICHARD WEBB, Calcot Gardens, Reading.

**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

At a GENERAL MEETING of the Members of this Institution, held on the 15th inst., for the purpose of ELECTING TWO PENSIONERS on the Funds, the following was the result of the BALLOT:—

CANDIDATES.

| No. | Name. | Age. | Vote. |
|---|---|---|---|
| 1 | ROBERT DOWDELL .. .. | 73 | 61 |
| 2 | JOHN LUCAS .. .. .. | 63 | 296 |
| 3 | SARAH PHELPS .. .. .. | 76 | 622 |
| 5 | JAMES ROBINSON .. .. .. | 62 | 330 |
| 4 | JOHN SANGSTER .. .. .. | 67 | 273 |

The Meeting then declared SARAH PHELPS and JAMES ROBINSON, as having the greatest number of Votes, duly elected Pensioners of this Society.

EDWARD R. CUTLER, Sec.

Jan. 24. 14, Tavistock Row.

# The Gardeners' Chronicle.

*SATURDAY, JANUARY* 24, 1863.

MEETINGS FOR THE ENSUING WEEK.

MONDAY, Jan. 26—Entomological (Anniversary).. 7 P.M.
WEDNESDAY, — 28—Society of Arts .. .. .. 8 P.M.

THE battle of the GRAPES, OLD *versus* NEW, to which, as an impending conflict, some reference was made at pp. 478 and 740 of our last year's volume, has in due course been fought, and a majority of the Fruit Committee of the Royal Horticultural Society has awarded the victory to the veterans. In other words the Hamburghs of the crop of last year, kept through the winter, and now brought forward by Mr. TILLERY, have on comparison with the newly-ripened Hamburghs from Mr. THOMSON, been pronounced the better of the two in respect to flavour. Thus ends the first assault of this friendly passage of arms between the champions above named.

We must, however, venture to express an opinion that this result does not settle the question of the merits of new as compared with old Grapes at this season of the year, so far as it concerns the general public. The decision arrived at would at first sight seem to indicate that new Grapes must be inferior, and consequently their production a question of little horticultural moment. Now we do not think the matter stands exactly so. As we understand it, the question to be decided was, which of the two competitors could in the month of January produce the "best flavoured" Grapes, the one showing old, the other new fruit. This reduced the comparison within very narrow limits. True, flavour is a point of the first importance, but different individuals have different notions as to excellence of flavour, and it may fairly be questioned whether a majority of Grape eaters would endorse the decision on this point at which the Committee arrived. At any rate we do not. It so fell out that "we" ourselves (journalists are an ubiquitous race) happened to be present as witnesses of the contest, and "we" not only saw but tasted. As to what we saw, our report is that in appearance the old Grapes were very far inferior to the new—lank bunches and shrunken berries, against compact clusters and plump juicy fruit. As to what we tasted, we say the old Grapes were good—decidedly good, having been well kept, their flesh sound and firm, and their flavour rich and sugary; while in comparison the new Grapes were much more juicy, somewhat less sugary, though in the best samples not many degrees below the others, and having a decided vinous smack which the kept fruit entirely wanted. The flavour in the two cases was therefore decidedly different; those who like sugary richness without vinous aroma would prefer the old sample, as was the case with the majority on this occasion; those who, like ourselves, prefer vinous juice as well as sugar in the fruit of the Vine, would rather choose those which had been newly ripened.

The question, we therefore repeat, is still an open one, and its merits hang on several pegs. Regardless of cost, do you at new-year's tide prefer Grapes approaching to sweetmeats in their properties, or do you prefer that the sweetness should be tempered by the presence of abundant vinous juice? In the first case, by all means choose those which have been matured by the sun of the previous summer and autumn, and have been judiciously "kept." In the latter case, start your Vines in autumn so as to have the fruit freshly ripened; you will by so doing gain everything in appearance, and what you lose in richness you will be compensated for in freshness. But whatever estimate we may put upon the merit of the produce, whether we regard it as preponderating to one or the other side, or as being balanced or nearly so, it is important to know what is the cost of the two systems respectively. Which is the most expensive plan—to ripen good Grapes in autumn and keep them properly afterwards, or to grow them so as to come fresh into use about New Year's Day? The market value we know to be in favour of the new crop, which sells at let us say 25*s.* per lb., against 10*s.* per lb. for old ones. Comparing this value with the cost of production, on which side lies the balance? We hope some of those of our readers who have been paying attention to the subject will be able to furnish these statistics.

We understand that a second decision was arrived at, after the match had been settled, to the effect that for "appearance and utility" the palm rested with the freshly ripened fruit. To a beautiful sample of new Grapes from Mr. MC KENZIE, of Brighton, ripened under the advantage of a more southerly climate than those shown by Mr. THOMSON, and very little inferior in richness of flavour to the old fruit from Mr. TILLERY, no doubt this decision was mainly owing. In this case it was stated that the Vines were started on the 1st of August, no fire being used till they came into bloom. After the fruit was set, fires were discontinued till the berries had stoned, which took place during the severe weather we had in October, from which time onwards moderate fires were continued till the fruit ripened.

As we have frequent inquiries from persons desirous of communicating with DIRECTORS OR SUPERINTENDENTS OF BOTANIC GARDENS abroad, we are desirous of obtaining an accurate list of all such. To this end we append the following list of those that now occur to us, requesting that any mistakes in this list, *especially in official designations*, will be pointed out to us, and additional information on this head communicated.

INDIA:—

*Calcutta.*—Royal Botanic Gardens: Dr. Thomas Thomson, F.R.S., F.L.S., Superintendent (in England on sick leave); Dr. Thomas Anderson, F.L.S., Acting Superintendent.—Agri-horticultural Society's Nursery Gardens: A. H. Bleckynden, Esq., Secretary.

*Bombay.*—Botanic Gardens, Heura; N. A. Dalzell, Esq., Superintendent.

*Madras.*—Horticultural Gardens; Mr. A. T. Jaffray, Superintendent.

*Bangalore.*—Public Gardens: Mr. W. New, Superintendent.

*Ootacamund* (Nilgherry Hills).—Mr. W. G. McIvor, Superintendent.

*Saharunpore.*—Botanic Gardens: W. Jameson, Esq., Bengal Army, Superintendent.

*Monghyr.*—Public Gardens: T. E. Ravenshaw, B.C.S., Secretary (Honorary).

*Etawah.*—Horticultural Gardens: A. O. Hume, Esq., B.C.S. Secretary (Honorary).

*Balasore.*—Agri-horticultural Society's Garden: Dr. A. A. Mantell, Secretary (Honorary).

*Ceylon.*—Royal Botanic Gardens, Peradenia, near Kandy: G. H. K. Thwaites, Esq., F.L.S., Director.

AUSTRALIA:—

*Victoria.*—Melbourne Botanic Gardens: Dr. F. Mueller, F.R.S., F.L.S., Director; Gippsland Botanic Gardens, Mr. Sale.

*Sydney.*—Botanic Gardens: Charles Moore, Esq., F.L.S., Superintendent.

*Queensland.*—Brisbane Botanic Gardens: Mr. Walter Hill, Director.

*South Australia.*—Adelaide Botanic Gardens: Mr. G. W. Francis, Superintendent.

*Tasmania.*—Royal Society's Gardens, Hobarton: Mr. F. Abbott, Jun., Superintendent.

AFRICA:—

*Cape of Good Hope.*—Botanic Gardens, Cape Town: Directorship vacant by the decease of Dr. L. Pappe.

*Natal.*—Botanic Gardens, D'Urban: Mr. McKen, Superintendent?

*Mauritius.*—Royal Botanic Gardens: Mr. James Duncan, Superintendent.

WEST INDIES:—

*Jamaica.*—Bath Botanic Gardens: Mr. N. Wilson, Superintendent.

*Trinidad.*—St. Anne's Botanic Gardens: Dr. Hermann Cruger, Director.

CANADA:—

Kingston Botanic Gardens: Dr. Lawson, Director (Honorary?)

"IN sealed packets as imported." So, at this season of the year, it is on all sides announced, with an air of mystery, anent collections of GERMAN FLOWER SEEDS. In one seed-list lying before us—which in this particular is much like all the rest, so fashionable has it for the time become to be duped into buying these interminable foreign collections—in this seed list we observe a catalogue of Asters, in comparison with which the lengthy document of Leporello sinks into insignificance. The catalogue we refer to reads something like this:—Double Dwarf German, 12 finest varieties; Double Globe German, 12 finest varieties; Double Quilled German, 12 finest varieties; New Dwarf Bouquet, 12 finest varieties; Double Crown or Cocardeau, 6 finest varieties; Newest Chrysanthemum-flowered Dwarf, 12 finest varieties; Newest Chrysanthemum-flowered Tall, 12 varieties; Hedgehog, 6 splendid varieties; Giant Emperor, 24 splendid varieties; Ranunculus-flowered, 9 fine varieties; Reid's Globe Quilled, 10 fine varieties; New Double French or Truffaut's Pæony-flowered, 24 varieties; Truffaut's Dwarf Pæony Pyramidal, 8 varieties; Truffaut's Pæony Perfection, 12 varieties; Truffaut's Globe Perfection, 12 varieties. That is to say, 183—One hundred and eighty three 'varieties' of the China Aster! of which as everybody knows there are but two, the Quilled and the Tasselled, in respect to the flowers, while there is not more than half a dozen colours of each form which are distinct enough to be worth growing, and only the Dwarf Chrysanthemum-flowered which presents any desirable variation of habit. Here then is surely enough a sack of chaff to a grain of corn. Pick out of this total of 183, a dozen at the most, of bright distinct colours, and of diverse habit, and the rest might with advantage to every one but the seed growers—and in the end to theirs also—be consigned to that limbo of unworthies, the rubbish heap. So long, however, as English flower-lovers and English gardeners will suffer themselves to be thus drawn into buying up these "collections," no doubt our Continental cousins will take care they are forthcoming. Yet who wants 183 varieties of Aster? At the same time, who that cares to grow Asters would not wish to secure the most distinct and the most handsome of them? This is where the shoe pinches, and where, let us add, it ought to pinch, if the purchaser quietly submits to the process. True, there is the option of buying smaller "collections" containing fewer "varieties" than those we have quoted in either class. But if so, the buyer is not advantaged; he gets at the best a proportionately smaller number of the really choice things, while the bulk, in either case, is made up of the rubbish, the chaff, we have alluded to. There is another alternative, indeed—the "mixed seed" which is offered of each group; but we can all guess what mixed seed means, when the more highly priced "distinct" varieties yield so small a return. To be sure there is yet another alternative, to which these endless and disappointing collections must drive people sooner or later, and that is to buy none at all. Let us add, that we have herein only alluded to the "rubbish" which comes in under the guise of "distinct colours," and have not taken account of the rubbish in respect to quality which these interminable collections are the means of palming off on unwary purchasers.

Then turning to the Stocks, we are asked to buy the following sorts:—Dwarf German Ten-week, 50 superb varieties; Branching Ten-week, 12 varieties; New Largest Improved Dwarf Ten-week, 18 superb varieties; New Large-flowered Pyramidal, 24 splendid varieties; Branching Large-flowered Pyramidal, 12 varieties; Miniature or Dwarfest Ten-week, 6 varieties; Emperor Perpetual or Large-flowering, 12 brilliant varieties; Newest Rose-flowered Rocket, 6 splendid varieties

New Dwarf Bouquet Ten-week, 8 splendid varieties; Earliest-flowered Autumn, 8 varieties; Wallflower-leaved Autumnal, 5 varieties; Newest Early Large-flowered Brompton, 12 varieties; Winter or Biennial Brompton, 12 fine varieties; Cocardeau or Tree Giant Cape, 6 varieties; besides Crimson Dwarf, Rose Dwarf, and Sulphur, three sorts which appear in classes apart. Here we have 194 "varieties"!! Only think of that, ye geometricians, who have been filling up the measure of your parterres with some half-dozen subjects until you have become tediously monotonous. One hundred and ninety-four "varieties" of Stocks, and one hundred and eighty-three "varieties" of Asters—those superb and splendid things, mind you, which, if you so will, you may have in sealed packets as imported!

What can you have been dreaming of, to let all these treasures lie unheeded at your feet (*aside*: best place for most of them), while you are losing ground daily through sheer monotony! As to the Stocks themselves, there is variety enough certainly, but the proportion of arrant rubbish is greater than even among the Asters, for the "collections" of distinct colours are swelled out by a large per-centage of such tints as slaty-blues, chamois-buffs, dingy reds, dirty pinks, liver-colour, copper-colour, dun-colour, lilac, and stained white—which can't look beautiful, however perfect and floriferous the plant, and however fine and double the blossoms. The whole set of these wretched-looking colours are abominations in a garden, hideous deformities which no merit in other respects can render tolerable. Away with them, therefore, and let us have the grain without the chaff. A good strain of the so-called scarlets, and purples, and whites, of old-fashioned times, is worth the whole set of German "varieties" which are poured in upon us like an overwhelming flood. The most extensive of the groups, that called the Dwarf German Ten-week, is set down at 50 varieties, out of which we venture to affirm, that half a dozen would include all the really effective colours, and would, in fact, be all that were worth growing generally.

These are the most flagrant cases perhaps, because Asters and Stocks being everybody's flowers, advantage seems to be taken of that circumstance to thrust upon the buyer a load of rubbish if he wishes to obtain two or three ornamental colours. It is surprising to us that buyers are so enduring; and still more surprising that some of our long-sighted English seedsmen don't turn rebellious and break through this German humbug. There is, we confess, very little sign of this being done at present. Indeed the "collection" system is growing upon us. Other flowers besides Asters and Stocks are made up in these questionable collections. Thus, we find now offered:—Carnations, 132 "superb varieties," designated by colours, in 11 classes. Picotees, 36 superb varieties, in three classes; Balsams, 33 varieties, in four classes; Cockscombs, in 12 varieties; Convolvulus major, in 10 varieties; Phlox Drummondi, in 12 varieties; Thunbergias, in six varieties; Schizanthus, in eight varieties; Salpiglossis in 10 varieties; Larkspurs, 40 varieties, in four classes; and so on. All this at a time when throughout the more valuable groups of garden plants, SELECTION has properly taken the place of COLLECTION, and cultivators would rather grow a dozen plants of one sort because it is good, than a dozen sorts because they are different.

Of course there is a charm in variety, and those who cannot afford to provide this element in their gardens by introducing the choicer and more valuable of the permanent or enduring classes of cultivated plants, must make up the deficiency by seeking for it amongst subjects like annuals, which are easily acquired. But then for such gardeners and for such gardens as theirs these endless collections are utterly unsuitable. Bad enough in extensive gardens, where there are or should be abundant compensatives, the wretched miserable dingy or else indistinct colours which form their bulk are infinitely worse in those cases where they must be depended upon to supply a main feature of interest, and where there is little else to take their place. In short they are intolerable anywhere.

As a practical application of this subject, we advise everybody to beware of buying these foreign collections of seeds. If they won't sell, we shall not long be troubled with them. Our gardens will be infinitely more beautiful for the weeding, and the seed-growers may turn their attention, with greater advantage to all parties, to the production of larger supplies of really choice and distinct flowers, having colours which it may afford delight and not disgust to look upon.

## DIES ORCHIDIANÆ.

THE recent doings of Prof. Reichenbach lead to some doubt of his sanity. Certainly of all the books I ever saw that on *Orchides* in Walpers is the most astonishing. Once a genus-maker riding with the loosest possible rein, he has now pulled up with the hardest bit a publishing naturalist ever used. Applying it to genera he amazes us; had he been equally sharp with species, especially his own, we might have been content. But when we find the patron of such groups as Pseuderiopsis, Xiphizusa, Taurostalix, Pseudepidendrum, Miltoniastrum, Warcziewiczella, Mesospinidium, and heaven knows what else that is frivolous or unintelligible, declaring that the Lælias, Brasavolas and Schomburgkias are all Bletias, and the Cattleyas Epidendrums, we pause in astonishment, and look to lunacy for an explanation. Nor is our suspicion removed when we think of this gentleman's book called Xenia and the marvellous figures therein, which seem to belong to the first century of our era rather than the 19th. As to the general text of the aforementioned "*Orchides*," it never can have come from a person in a right mind. English and Latin jumbled together, no authority given for quotations, of which the matter mainly consists, and misprints without a parallel, seem to be the production of a Bedlamite, not of a sane professor of Botany. *Crabro scandicus.* [These be hard words; what Crabro scandicus calls madness we name eccentricity.]

## SEEDLING FRUITS.

### APPLES.

IN looking over catalogues of varieties of Apples, and observing in that of the Horticultural Society, 1831, or in Dr. Hogg's Fruit Manual, the immense number of varieties described as of first-rate quality, it seems almost impossible that any sower of Apple pips could fail to raise at least one or two good kinds—yet I am not ashamed to confess that many years ago I utterly failed to do so, and did not repeat the experiment. Yes, it must be forty years since, that, impressed with a vague idea that I could improve and renovate the Golden and the Ribston Pippins, increase the size and prolong the season of that excellent autumn dessert Apple, the Wyken Pippin, procure a Nonpareil not likely to canker, and so on with some other favourite old kinds, that I raised a batch of pips of each, and when the young trees had made some growth, planted them out and waited patiently till they bore fruit; in the course of time this came to pass, and I had new varieties of Apples without end.

Fortunately I had fixed on a standard of excellence, and had determined, even before my seedling trees gave me fruit, to reject all that were not equal to the parent stock. I had numbers of Golden Pippins varying in size and beauty, but not one equal to the old sort in flavour; numbers of Ribston Pippins, some even larger and handsomer than the parent; numbers of Nonpareils, all much like the parent; the same with Wyken Pippins and others, but none stood the test of flavour, and so I gave them up, and had them grafted with Sturmer Pippins, which at that time grew so well and bore so abundantly here, although since then, and more particularly since the frost in December, 1860, they have rapidly declined, and have ceased to bear as they used to do. Thus ended my experiment in endeavouring to renovate our old kinds of Apples, which from my having seen those cultivated only as standards and orchard trees, and always in a diseased and cankered state, I had thought to be worn out—the idea generally entertained at that time. No one then thought of growing Golden Pippins in orchard houses, nor calculated what climate and management would do for them; for Paradise stocks and root-pruning were but little thought of.

Apropos of Paradise stocks, I reaped one advantage from my experiment, for among some seedlings raised from that very old and most peculiar Apple, the Nonsuch, were two or three that towards the autumn put forth roots from the lower part of their shoots; these crept on the surface and then entered the soil. These seedlings were fortunately preserved, but for some years the peculiarity was overlooked, and not till it was found that two among them were remarkable for a robust growth, and that their shoots when planted as cuttings rooted freely, did it occur to me that they would be valuable as stocks, in lieu of the Doucin, and the sort grown by the Surrey stock growers as the Paradise stock. One of these has the habit of the old Nonsuch Apple, in having short spurs on its shoots, but instead of being liable to canker like its parent, it is remarkably robust and healthy in its growth, having stout shoots and broad leaves. The French cultivators have a far more correct knowledge of the kinds of stocks adapted to different kinds of fruit trees than the English nurserymen, who seem to neglect this branch of their business, and are far behind their French brethren. Some of the latter, very experienced men, saw this Nonsuch stock last August, were charmed with it, and at once said it was the most valuable stock for garden Apple trees known.

I was amused with a remark made by these gentlemen; they said, "You English plant a standard Apple tree, and wait twenty years for a crop of fruit. We plant twenty trees on the Paradise stock and wait two years; they may not last so long as yours, but if they wear out we plant again."

The French nurserymen were to a certain extent correct, for, as far as I remember, planters of fruit trees thirty or forty years since wished every tree they planted to last from "generation to generation," and so they planted tall standards and declared that a Pear tree on a Quince stock was worthless, because it would not live a century. The enormous amount of time now "eaten up" in planting orchards in Gloucestershire and Worcestershire is well known; strong stocks with stout stems 7 to 8 feet high, and which take about ten years to rear, are planted out in grass fields, and after standing three, four, or five years they are grafted; by the end of the life of the planter, if he live to a good old age, the trees began to bear. I mention this rude way of planting to contrast it with the management of good fruit gardeners, who, like the French, may, if they plant trees on proper stocks, commence to reap fruit the second year after planting.

Permit me to apologise for a few trifling errors in my last communication, owing to my not having a proof in time, and my writing being——crabbed. *Thos. Rivers.*

## Indoor Gardening.

ONE time in spring, a year or two ago, I was greatly tormented by hearing repeatedly of such delightful pots of Nemophila and white Alyssum, and Stocks and Mignonette which some friends had in their windows, and which I was only just beginning to be thinking of. "We sowed ours in January," was all the pity I got—and I do think it is common to forget spring-flowers entirely till spring days make us suddenly feel the immediate want of them. The seed rearing especially is a thing to provide for early.

The healthiest hardy annuals—and those dwarfest and most flowery that I have ever had—have been such as I have been raised in moderate sized flower pots, without any attempt at heat giving, and with only the shelter from very severe frost given by being kept in a spare room. This of course protected them equally from wind and wet.

Every one knows how much cold things will stand in a good season, and how hardy the garden flowers are, peeping out as they do the moment fine weather comes. The seed raising therefore is by no means a tender business. Abundant air and light are the great things required.

Large pots of Sweet Peas, for example, Nemophila, Nasturtiums, and Canariensis, can hardly be sown too early. The seeds of all these things will sometimes come up self sown in the borders, and when planted very early they grow stout and strong, and are ready to flower soon when absolute frosts are over. A few well-advanced things are at such times invaluable for filling up a window, or making a show in a balcony, whose contents are not yet grown large.

For the more tender seedlings, too, and especially for such as require heat to start them, it is no small advantage to give that heat pretty early, taking advantage always of vacancies that arise for getting up the seeds; by those who have the heated plant cases, for instance, a pot of seedlings may be soon brought on, and then when well up removed to a window-sill in time to afford space for cuttings to succeed. And even in a case that is arranged for ornament, one or two such seed-pots are very inoffensive, lurking in some warm corner, or under a little Moss, till the tiny plants begin to peep up and to be interesting.

Of the plants that thus require heat to start them, none that I am acquainted with are more worth growing than the beautiful Ipomœas. Some people say it is useless to try to grow them in England—and unless they get the right sort, I know it is a great chance whether the seeds will grow, and whether the plants will flower; but if they get the small common-looking seeds of Ipomœa Quamoclit in its different shades (I have had pink, white, blue, and striped,) there ought to be no difficulty whatever in obtaining a profusion of beautiful flowers, succeeding one another for a great many weeks.

These seeds are just like those of a Major Convolvulus, only dotted all over. Mostly they are black, brownish, and nearly white, according to the colour, and the beautiful gay display of bell-shaped flowers and leaves is such as would be well worth a little trouble to get.

The year before last my own plant stands were made charming by these things growing over them—and last summer others who had seen my own, adopted them, and at the very time when I was reading hard words applied to the race of them there were windows near me that I was told were beautiful with their flowers. Mine were sown in pots of light leaf-mould—4 or 5-inch pots—and were kept in my heated plant case until two leaves were well expanded, and till a little shoot with more leaves was clearly to be distinguished about half an inch above. They were not watered at all, if I remember right, but the sand they stood in was moist. The heat was not great, only just enough to make the soil feel slightly warm. They had a good deal of air, as it was a great object always not to let them run up. And when they were removed to a window to make way for my cuttings, they went on thriving, and were already blossoming when the first instalment of "bedding" plants went outside my window. Two or three grew and blossomed well in the open air, but the best and greenest were those that stayed inside. They took oceans of water! They were so green, and leafy, and during the hottest weather their saucers were filled each day.

The packets of these seeds cost from twopence to fourpence each, and it must, I think, be worth while for any window gardener to give them one more fair trial. Some mistakes arose last year with regard to the names, because the varieties in seed lists are so very numerous. But if proper seed is got of the varieties of *Quamoclit*, I do not think that any one can find it hard to grow.

The seedling Geraniums, too, are a real delight to get up. Even if unfortunately we have no great space to blossom them, the charming little small plants are beautiful for their leaves. And the variety

of leaves affords one such immense room for speculation as to what the flowers *might* be. These require much the same early treatment, in the plant case, as the Ipomœas—only after they are pricked out they require time to establish their new roots well in the same warm bed of sand, and air is always a first essential to them. The earlier that these are sown now the earlier we shall have the pretty little plants with their velvety leaves to look at. *E. A. M.*

## Home Correspondence.

*Pyramidal Pear Trees.*—Nothing can strike one, who pays but small attention to horticulture, more forceably than the total absence of good dessert Pears at the tables of the well-to-do classes of society. On many tables such a thing as a Pear is not seen, but if one or two dishes make their appearance, it would puzzle any one to say what they are; and if tasted a Turnip may well claim the superiority. They who have not the advantage of a garden say they are the best they can buy, which shows how little the market gardener attends to what might be to him a source of great profit. But with those who have gardens, and large ones too, I find the case no better. The management of the garden is consigned entirely to a digging and hoeing individual, whose ignorance is only equalled by his obstinacy. His list of Pears, if he has one, consists of four—the Jargonelle, the "Bun Critten," the Bergamot, and the Swan's Egg. He will not thank you for recommending other Pears, or for instructing him how he may improve and prolong his master's desserts. Much of this, however, arises from the indifference exhibited by the masters themselves, who suppose that by the employment of any ignorant man who calls himself a gardener, they will thereby secure all the advantages required. Ten years ago I took possession of my present house, situated in the outskirts of the town. Behind it is a piece of ground, 50 feet wide by 120 feet in depth, which may with great propriety be called a back yard rather than a garden. I immediately had this well trenched, and got a catalogue of pyramidal Pear trees. I planted 20 different sorts, some duplicates, observing in my selection the period of ripening as well as quality. The result has been, that for the last seven years, except when visited by severe spring frost, I have been able to show a handsome dessert from September to May. The sorts are the following:—Williams's Bon Chrétien, Louise Bonne of Jersey, Beurré Hardy, Gratioli of Jersey, Marie Louise, Beurré Bosc, Crassane, Beurré D'Aremberg, Glou Morceau, Triomphe de Jodoigne, Napoleon, Passe Colmar, Baronne de Mello, Duchesse D'Angoulême, Easter Beurré, Beurré Rance, Ne plus Meuris, Duchesse de Mars, Knight's Monarch, Beurré Brettonneau, and Bergamot d'Esperen. With the exception of the Crassane, which is on the wall, all these trees are pyramids, bearing from the ground to the top branches. Many of them, being on the Quince stock, have never required root pruning, but when I see a tree running too much to wood, I either perform that operation myself, or stand by and see it done. Last year was not favourable to Pears, but I have been fortunate in my crop, and also the quality. From the great variety of Pears, ripening through six or seven months in the year, together with their goodness, if properly selected, they must ever form a main feature in good desserts. That they are within the reach of the humblest individual, either for pleasure or profit, I have proved without a doubt. In the ordinary practice my back yard would have been consigned to weeds and rubbish, or perhaps three or four mossy espaliers might have produced a few coarse Apples. One word as to the superiority of pyramids in general, and more particularly in the case of suburban gardens. The pyramids may be protected during the blooming season by matting or other materials. The sun and the air penetrate freely to all parts of a pyramidal tree, whereby the fruit in all seasons ripens better than on espaliers. The fruit is not so much exposed to autumnal winds, which in the case of standards often occasion great loss. *G. L., Cambridge.*

*Fuchsias for Exhibition.*—Your proposition to admit yearling plants for exhibition requires consideration. It reminds cultivators of the necessity of making a start in good time if they desire to be successful. Now I think the reverse ought to be the case. Having been connected with a society where yearlings were admitted, I can speak from experience, and I may assert that the yearling plan was obliged to be abandoned the next season after it was introduced, because exhibitors would begin too early. I have some plants struck last June, some in September, and some on New Year's Day; now which can I honestly exhibit next June or July as yearling plants? I suppose that to be yearlings they ought to be struck in the new year. But if I chose to show my plants that were struck last September next June or July, can the judges honestly disqualify them if I persist in saying that they were struck on New Year's day. If this class is admitted in the schedule of the Royal Horticultural Society I fear that dissatisfaction will always follow in the case of those who get minor prizes, except it be as a class for nurserymen for new kinds, which would be very interesting. Again, suppose that yearlings are admitted, I doubt if they would yield that grand display and satisfaction to the majority of those who attend our floral exhibitions that plants of the usual description would. They might be interesting to a certain few. But Fuchsias struck in winter cannot be got into that thick, compact and perfect shape by midsummer as to cover their pots, a point so much admired; that they can however be got in very pretty condition by that time I will freely acknowledge, and particularly for a September show. But they could not be compared with a good two-year-old plant under first-rate management. If societies generally were to follow the example set by the Royal Botanic—1stly, to have the pots not larger than 12 inches; and 2dly, to award old bushes very low prizes, the evil of growing old plants would soon be remedied. We should then have such a bank of young pyramidal Fuchsias as have perhaps never been seen. The cultivation of the Fuchsia I believe to be only in its infancy; a great change in it may probably be expected, and that at no distant date. I am sure that double the quantity of flowers might be produced on much smaller plants than we have been accustomed to see at our great metropolitan exhibitions. *Henry Cannell, Oak Lodge, Clapham.* [The September plants certainly would come within our meaning. They would not be a year old in July.]

*Temperature of December and January.*—If the unusual mildness of last December and the present January is attributable to a change in the direction of the Gulf Stream, how is the temperature of the month of November to be accounted for, which was considerably below the average, and particularly the latter part, when the thermometer on one occasion registered as low as 18° Fahr.? *P. L. N. F.*

*Orchids.*—As one of your readers, I feel very grateful to your Correspondent "L. W. J." for the valuable information his articles contained on the growth of Orchids, and I beg to ask if he will be kind enough to favour us with his system of growing the genus Calanthe. *James Hodges, Gr. to Edwin Wright, Esq., Gravelly Hill, Birmingham.*

*Striking Roses from Buds.*—Some 20 years ago there appeared (in the *Gardeners' Chronicle*, I think) a description and recommendation of a mode of striking Roses from buds. If some of your readers who have practised this mode of propagation would impart the necessary information for guidance as to the sort of wood from which the buds should be taken; in what state they should be, *i. e.*, whether dormant, plumping, or leafed to any extent; whether cut off square just below the bud or with a slice of wood, &c., above and below as for budding; whether from out of door plants; the kind of soil; kind and amount of heat, and general treatment, with the result of their experience, it would I think be very acceptable to not a few of your readers as well as myself. It would be useful to state what classes succeed best; and also whether buds from slender and unripe shoots, when none other are to be found, may be tried with any hope of success. *X., Windsor, Jan. 7.*

*Adenium obesum.*—Fine specimens of this most singular plant, which was figured (under the name of A. Honghel) in the 32d volume, Pl. 54, of the Botanical Register, are now alive in the Royal Gardens, Kew, and may be seen in the House No. 19. These were sent by Mr. Olding, of the P. and O. Steam Ship Company, and after remaining months in an apparently all but lifeless condition, have within the last few weeks put forth vigorous green leaves, and promise well for the future. As with other plants from the same desert country, the great horticultural difficulty is to give them a season of drought without drying them up and killing them. The moisture in the atmosphere of our driest houses tends to produce a succession of buds and leaves during our long cold dark winters, when these plants require absolute rest, and it is extremely difficult firstly to send them to sleep, and then to keep them from rotting, or growing, or being burnt up, till the proper season for leafing or flowering comes round. *J. D. H.*

*Rainfall at Englefield, Reading, Berks, in* 1862:—

| | Ins. | | Ins. |
|---|---|---|---|
| January .. .. .. | 1.48 | Brought forward .. | 16.62 |
| February .. .. | 0.48 | July .. .. .. | 3.00 |
| March .. .. .. | 4.05 | August .. .. .. | 2.77 |
| April .. .. .. | 2.62 | September .. .. | 2.79 |
| May .. .. .. | 4.55 | October .. .. .. | 3.61 |
| June .. .. .. | 3.44 | November .. .. | 0.78 |
| | | December .. .. | 1.15 |
| | 16.62 | Total .. .. | 30.72 |

*E. Robinson.*

## Foreign Correspondence.

Cape of Good Hope.—*Extract of a Letter dated Highlands, Sept.* 24, 1862.—Gardenia Rothmannia is held in great estimation by the colonists. It is used for making wagon tents; its long young branches, often 6 or 8 feet in length, are peeled and bent over into bows for wagon tents. They are exceedingly tough and durable, lasting (without being painted) in the open air six or seven years. This tree also bears a most delicious fruit, of a rich brown colour, and rather bright or shining; and in the woods they are mostly eaten up by birds before they are ripe. In the wild state, crowded among other trees, they do not bear well; but when cultivated in a garden, and exposed to the influence of the sun's rays, they are very prolific. My father had some of them in his garden that repaid him well, and the flowers are pretty and sweetly-scented. Our Yellow-wood trees (Podocarpus) are disappearing fast from our forests; they do not shoot again, like the Stinkwood (Oreodaphne bullata), from the roots, but always die when cut down, and in the forests within the colony there are not many of them left, excepting in rough rocky places, where the timber cannot be conveyed away. Gardenia Thunbergia is an ornamental little tree; I am sorry to see that it is so seldom cultivated in our South African gardens; its flowers are large and handsome, and very sweetly scented, and its large white fruit forms a striking object amongst its dark green shining leaves. Phœnix reclinata is a useful little Palm; its long imbricated white young leaves are cut off while they are very young, and dried in the sun, and made into plait by the native women and poorer classes of the English colonists, and the plait is made into very nice light summer hats, well suited to our climate; its fruits are eagerly sought after by children and birds. This Palm is a beautiful and graceful object in a garden, but cannot endure either frost or cold; consequently they are only found on the banks of fresh-water streams near the coast, where we seldom have any frosts, and always in warm sheltered situations amongst other trees. *M. E. B.*

Georgetown, Demerara, British Guiana: *Dec.* 22, 1862.—Sir,—In a notice in your Paper of the 1st of November of the Catalogue of contributions from this Colony to the International Exhibition, there are some errors which we are desirous of correcting. The speeches at the opening and the close of our Local Exhibition in 1861 were delivered by the Honourable William Walker (the present Government Secretary of this colony), who, as Lieutenant-Governor, administered the Government from the 9th May, 1861, to the 7th of January, 1862, and to whom, as Chairman of the Committee of Correspondence of the Royal Agricultural and Commercial Society of this Colony, any credit gained to the Colony by its contributions, and by the merits of the Catalogue, is largely owing. The Catalogue was compiled and edited by a Sub-Committee selected from the Committee of Correspondence, and composed of the following gentlemen:—Hon. William Walker, Chairman; Mr. John Frederick Bourne, Mr. William Hunter Campbell, Mr. George Dennis, David Shier, M.D.; Rev. Edward Angell Wallbridge.

It was not published under the authority of Sir William Holmes—who has so well represented the Colony at the Exhibition—but it was printed and published in this Colony, and a certain number of copies were sent to him for distribution in England. The balance of deposits in the Savings' Bank, as at the end of 1861, was 185,092·69 dols. *J. Brumell, O. Anglim Gilbert, Honorary Secretaries to the Committee of Correspondence.*

## Societies.

Royal Horticultural: *Jan.* 16 (*Election of Fellows*).—J. J. Blandy, Esq., V.P., in the chair. The following candidates were elected, viz.:—

A. F. Bainbridge, Esq.; Miss Mary Bazeley; H. J. Blackmore, Esq.; Mrs. Cadogan; Mrs. J. M. Douglas; A. M. Dowleans, Esq.; Lady Franklin; Rev. P. E. George; H. H. Harwood, Esq; The Lady Herbert of Lea; R. F. L. Jenner, Esq.; Mr. J. McGibbon; Mr. J. Meredith; The Earl of Mornington; H. Moss, Esq; Mrs. J. J. Oakley; Mrs. Pearce; Mrs. H. T. Riley; Lady Rolt; Mrs. J. L. Seager; Mr. J. Stevens; Louisa, Marchioness of Waterford, Ordinary Fellows; and Antoine M. François, Director of the Imperial Gardens, Bury Garten, Vienna, a Corresponding Member.

*Jan.* 21 (*Fruit Committee*).—This was a special meeting held for the purpose of deciding whether Black Grapes ripened in autumn and retarded until this season, or Black Grapes ripened now, were the best in point of flavour. The combatants were Mr. Thomson, gr. to the Duke of Buccleuch, at Dalkeith Park; and Mr. Tillery, gr. to the Duke of Portland at Welbeck, the former having challenged the latter to show old Grapes against his newly-ripened ones. The opinion of the judges on the bunches submitted to their inspection, together with other information relating to the matter, will be found in another column. We may add here, however, that besides the new Grapes shown by Mr. Thomson, excellent fruit both as regards flavour, colour, and bloom was furnished by Mr. M'Kenzie, of the Bristol Nurseries, Kemp Town, Brighton. Among old Grapes, Muscats in tolerable condition were shown by Mr. Fowler, gr. at Harewood House; and a fairly preserved bunch of Barbarossa came from Mr. Park, gr. at Grove Hall, Retford. By far the most important exhibition of Grapes produced, however, was three bunches of Muscat of Alexandria from Mr. Tillyard, gr. to J. Kelk, Esq., at Stanmore. Than these nothing, in their way, could possibly be handsomer; each bunch must have weighed at least 2¼ lbs; the berries were large and plump, as if they had been ripened now instead of in September last, and the colour that rich golden yellow which indicates perfection in this fine variety of Grape. This exhibition was highly commended by the judges, as it well deserved. Among other kinds of fruit was a seedling Pear from the Swan's Egg, of no particular merit, from Mr. Cox, of Redleaf, and a seedling Apple resembling the Hollow-crowned Pippin, from Mr. Francis of Hertford.

Linnean: *Jan.* 15.—G. Bentham, Esq., President, in the chair. F. Harris, M.D., Rev. W. W. Newbould, and A. Saunders, Esq., were elected Fellows. Sir J. B. Hearsey exhibited a case of Indian Sphingidæ, containing specimens of species common to India and Great Britain, namely, Acherontia Atropos, Sphynx Convolvuli, Daphnis Nerii, Dielephila Livornica; and suggested that it would be an improvement in entomological nomenclature, if the species were more generally named after the plants upon which they feed. The following papers were read:—1. "Notes on Loranthaceæ, with a Synopsis of Genera," by Prof. Oliver.

The author observed, that having been engaged for some time in the study of the Loranthaceæ, chiefly with reference to certain analogies which they present with Guttiferæ he was desirous of submitting some of the notes which had accumulated for the use of others who might be inclined to work out the subject in further detail. With respect to the acknowledged relationship subsisting between the Loranthaceæ and Santalaceæ, a question upon which he did not propose to enter, the author merely intimated that his opinion strongly inclined to their union as subdivisions of one order. Indeed he thought M. Baillon might be right in proposing that both Olacineæ and Santalaceæ should be united with Loranthaceæ. As, however, in any arrangement based upon the Candollean sequence, it would be impossible to arrange these groups consecutively—one being Thalamifloral, another Calycifloral, and the third Monochlamydeous—he feared the more convenient course of keeping them apart would be generally followed. Myzodendron cannot, he thinks, be included in Loranthaceæ, as distinct from Santalaceæ, any more than Henslovia; and Mr. Miers's proposal to separate from Loranthus, Myzodendron, Viscum, and some allied genera, erecting them into a distinct order Viscaceæ, was stated to rest chiefly on an incorrect view of the structure of the ovary and fruit in these plants. "Since the recent researches of Hofmeister into the embryogeny of Loranthus, Viscum, and Lepidoceras, no doubt can remain but that these are all characterised by a single erect ovule, often almost entirely adnate with the wall of the ovary. My own observations confirm this view. * * * The plants referred by Korthals to Tupeia with pendulous ovules are species of Henslovia, as stated by Blume. Mr. Miers describes the embryo of Loranthaceæ as distinguished from Viscaceæ, as being 'enclosed in thin almost pellucid albumen, filling the cell,' and the fruit as 'containing a subcoriaceous putamen.' Loranthus is figured by Blume, Griffith, and others, with abundant albumen, and so I find it in the seeds of the Indian species which I have examined. In L. europæus, too, it is abundant. I cannot doubt therefore that Mr. Miers has had an old or decayed fruit for examination, in which the albumen had shrivelled up from the enclosed embryo." Then follows some general remarks on certain points of interest under each of the adopted genera, of which a conspectus is given. They are the following:—Nuytsia, Loranthus in 21 sections, Viscum, Ginalloa, Notothixos, a new genus which includes the Viscum cornifolium of All. Cun.; Tupeia, Arceuthobium, Phoradendron, Antidaphne, Eubrachion, Lepidoceras, and Eremolepis.——2. "On a new species of Aberia," by T. Anderson, M.D. Two thorny bushes supposed to be the Kei Apple of South Africa, and provisionally referred to Diospyros, had been grown in the Calcutta Botanic Garden for some years without producing flowers. Shortly after Mr. Anderson took charge of the garden in 1861, the largest of them bore a full crop of well-ripened fruits, though only pistilliferous blossoms could be detected at the time of flowering, the species being diœcious. The seeds obtained from these fruits produced a vigorous crop of young plants. The same plant, since destroyed by a gale, flowered again in February, 1862; but this time without result, as the ovaries, after commencing to swell, all dropped off. The tree was carefully examined daily for traces of stamens, but without finding any. Some of the fruits sent to Kew were recognised as belonging to the genus Aberia, and the present species, which does not appear to have been hitherto recorded, has been named A. edulis, the fruit being described as of the size of a small Apple, with a yellow rind and flesh "*in usu grato*."——3. "On a new Heliconia, with the habit of Musa, sent from New Grenada to the Royal Garden, Kew, by Mr. A. Anthoine," by Dr. J. D. Hooker. Mr. Anthoine, of Carthagena, had sent to P. Le Neve Foster, Esq., Secretary of the Society of Arts, a sketch of this remarkable plant, with an account of the fibre its peduncles produce; and subsequently dried specimens and seeds were received at Kew. The trunk attains 12—15 feet in height and is formed of the sheaths of the leaf-stalks. The peduncles project beyond the leaves, and curving downwards bear a narrow flattened spike 2½ feet long, the red flowers of which are almost concealed by the spathe and white bracts. It has been named by M. Anthoine, H. Mariæ Alexandrovnæ, after the Empress of Russia.——4. "On the Germination of the Seed in Cyclamen repandum and C. persicum," by Dr. M. T. Masters. Both Gærtner and Treviranus describe the germination in Cyclamens as taking place thus:—the radicle is first of all protruded, its upper portion, or more properly speaking the caulicle, becoming dilated to form the tuber. The whole of the solitary cotyledon, except a short stalk attaching it to the tuber, remains within the seed, and decays with it. The short stalk or petiole of the cotyledon remains attached to the tuber for some time in the form of a minute stalk-like process, which ultimately withers and disappears. The first leaf is produced at the top of the tuber by the side of the hook-like remnant of the cotyledon, and resembles the perfect leaves in all but its smaller size. The subsequent leaves are produced in succession. Mirbel has considered the "first leaf" just mentioned as the cotyledon. The observations of Dr. Masters on a great number of seeds and seedlings leads him to consider the view of Gærtner and Treviranus as correct, the greater part of the cotyledon remaining constantly within the seed, and the "first leaf" being a subsequent production of which there is no trace in the seed itself. The primary radicle soon disappears, and a number of adventitious root fibrils spring from the base of the tuber.——5. "On the Tecophilaceæ, a sub-order of Irideæ," by F. Leybold; communicated by Sir W. J. Hooker. This paper consisted of a brief diagnosis of the proposed group, which consists of a few Chilian rhizomatous herbs, and descriptions of two species of Tecophilea.——6. "Note on the seed-vessels of Trewia nudiflora," by E. de Crespigny; communicated by D. Hanbury, Esq. The author observed that Dr. Lindley had in the 3d ed. of Vegetable Kingdom remarked thus: "Misled by imperfect information, I formerly proposed a group called Trewiaceæ, but it has been shown by Klotzsch that Trewia is really a tetracoccous genus of the order" Euphorbiaceæ. In a former communication M. de Crespigny had ventured to express a doubt as to the propriety of retaining Mallotus in the Spurgeworts on account of its erect ovule and oblique embryo; and the object of the present communication, which was accompanied by a careful drawing, was to show that the ovules in Trewia are also erect; they are attached by small funicuIi to the base of the cells, and the fruit is a bilocular drupe, "not tetracoccous." If it be not deemed expedient to separate Mallotus, Trewia and others having erect ovules from the Euphorbiaceæ, M. de Crespigny suggests the propriety of their being "placed in a group by themselves, or attached to the order as appendices." The paper was accompanied also by drawings of Briedelia and Falconeria, as "very fair examples of two-celled Euphorbials with suspended ovules," although it was remarked that in Falconeria malabarica occasional 3-celled fruits occur.——7. "On the development of Chloeon (Ephemera) dimidiatum," by J. Lubbock, Esq.——8. "On the Japanese species of Leotrema;" and 9. "On the species of Serrandula, Trichocephala, Cypræidæ, &c., found in Japan," both by A. Adams, Esq.——A "Catalogue of the Hymenoptera collected by Mr. Wallace in the islands of Mysol, Ceram, &c.," by F. Smith, Esq.; communicated by W. Wilson Saunders, Esq. The first part of vol. xxiv. of the Society's Transactions, containing Dr. Hooker's full account of Welwitschia, illustrated by 14 plates, was placed on the table for distribution.

## Notices of Books.

*A Treatise on the Insects injurious to Vegetation.* By Thaddeus Wm. Harris, M.D. Edited by Charles Flint. Large 8vo., Boston, (Mass.). Printed for Private Circulation. A new edition.

Our friends on the other side of the Atlantic are a wonderful race. While cutting each other's throats in a way which astonishes Europeans, and paying their way with postage stamps instead of coin, they manage to attend to matters which would with us be only thought of when men are idle and finances abundant. Here is a really magnificent work on practical science, worthy in every way of the most highly cultivated nation in Europe, with admirable illustrations, produced in the very midst of peals of musketry, the roar of artillery, and all the other clangour of a furious war.

The first edition dates back to 1841, when it appeared in the form of a scientific report prepared and published, along with others by the Commissioners of the Zoological and Botanical Survey of Massachusetts, acting under the instructions of Mr. Everett, at that time Governor of the State. In its new condition it forms a very handsome 8vo volume of 640 pages, admirably printed on maize coloured paper, and profusely illustrated with copper plates and wood engravings of which even a Curtis might be proud. Its editor is Mr. Charles L. Flint, Secretary of the State Board of Agriculture, himself a distinguished Entomologist, who has performed his part in a most able manner, leaving nothing to be desired. Its object is to bring the reader acquainted with the habits of insects in general, and especially with those which are injurious to American cultivators. In the words of the original author:—"Believing that the aid of science tends greatly to improve the condition of any people engaged in agriculture and horticulture, and that these pursuits form the basis of our prosperity, and are the safeguards of our liberty and independence, I have felt it to be my duty, in treating the subject assigned to me, to endeavour to make it useful and acceptable to those persons whose honourable employment is the cultivation of the soil." In this Dr. Harris thoroughly succeeded.

The introduction describes the structure of insects, their manner of growth, and their ways of life. The uses of the limbs and other organs peculiar to themselves—their antennæ, thorax, abdomen, stings, and the curious apparatus with which they consume their food—are all fully explained, as well as their various stages of transformation from the egg to the grub or maggot, from that to the chrysalid or pupa, and thence to the perfect fly, beetle, butterfly, or whatever else it may be called. This occupies 22 pages, and in our opinion it is the very best sketch of such a subject to be found in the English language. The remainder of the work is divided into 6 chapters; namely 1, on beetles (*Coleoptera*); 2, on earwigs, cockroaches, crickets, grasshoppers, locusts, and the like (*Orthoptera*); 3, on bugs, harvest-flies, aphides, thrips, &c. (*Hemiptera*); 4, on butterflies and moths (*Lepidoptera*); 5, on bees, wasps, hornets, sawflies, gall flies (*Hymenoptera*) &c.; and 6 on gnats, flies, mosquitoes, and their relations (*Diptera*).

These most interesting and important subjects have never been so well treated of since the days of Kirby and Spence. Dr. Harris has perfectly understood how to render practical matter strictly scientific, and science the mere handmaid of popular descriptions, as will be seen from the following account of the COMMON COCKCHAFER, the curse of the light lands of all Europe.

"The habits and transformations of the common cockchafer of Europe have been carefully observed, and will serve to exemplify those of the other insects of this family, which, as far as they are known, seem to be nearly the same. This insect devours the leaves of trees and shrubs. Its duration in the perfect state is very short, each individual living only about a week, and the species entirely disappearing in the course of a month. After the sexes have paired, the males perish, and the females enter the earth to the depth of six inches or more, making their way by means of the strong teeth which arm the forelegs; here they deposit their eggs, amounting, according to some writers, to nearly one hundred, or, as others assert, to two hundred from each female, which are abandoned by the parent, who generally ascends again to the surface, and perishes in a short time.

"From the eggs are hatched, in the space of 14 days, little whitish grubs, each provided with six legs near the head, and a mouth furnished with strong jaws. When in a state of rest these grubs usually curl themselves in the shape of a crescent. They subsist on the tender roots of various plants, committing ravages among these vegetable substances, in some seasons of the most deplorable kind, so as totally to disappoint the best founded hopes of the husbandman. During the summer they live under the thin coat of vegetable mould near the surface, but as winter approaches they descend below the reach of frost, and remain torpid until the succeeding spring, at which time they change their skins, and reascend to the surface for food. At the close of their third summer (or, as some say, of the fourth or fifth), they cease eating, and penetrate about 2 feet deep into the earth; there, by its motions from side to side, each grub forms an oval cavity, which is lined by some glutinous substance thrown from its mouth. In this cavity it is changed to a pupa by casting off its skin. In this state the legs, antennæ, and wing-cases of the future beetle are visible through the transparent skin which envelops them, but appear of a yellowish-white colour; and thus it remains until the month of February, when the skin that which encloses the body is cast, and three months afterwards the perfected beetle digs its way to the surface, from which it finally emerges during the night. According to Kirby and Spence, the grubs of the cockchafer sometimes destroy whole acres of Grass by feeding on its roots. They undermine the richest meadows, and so loosen the turf that it will roll up as if cut by a turfing spade. They do not confine themselves to Grass, but eat the roots of Wheat, of other grains, and also those of young trees. About 70 years ago a farmer near Norwich, in England, suffered much by them, and, with his man, gathered 80 bushels of the beetles. In the year 1785 many provinces in France were so ravaged by them, that a premium was offered by government for the best mode of destroying them. The Society of Arts in London, during many years, held forth a premium for the best account of this insect, and the means of checking its ravages, but without having produced one successful claimant."

Nor is the short account of the early life of GNATS and MOSQUITOES less deserving of notice.

"The little fish-like animals that swim about in vessels of stagnant water, and devour the living atoms that swarm in the same situations, soon come to maturity, cast their skins, and take another form, wherein they remain rolled up like a ball, and either float at the surface of the water, for the purpose of breathing through the two funnel-shaped tubes on the top of their backs, or, if disturbed, suddenly uncurl their bodies, and whirl over and over from one side of the vessel to the other. In the course of a few days these little water-tumblers are ready for another transformation; the skin splits on the back between the breathing tubes, the head, body, and limbs of a mosquito suddenly burst from the opening, the slender legs rest on the empty skin till the latter fills with water and sinks, when the insect abandons its native element, spreads its tiny wings, and flies away, piping its war note, and thirsting for the blood which its natural weapons enable it to draw from its unlucky victims."

We may conclude with an extract from the author's account of the BRUCHI or WEEVILS that infest Peas and Beans.

"Few persons while indulging in the luxury of early green Peas are aware how many insects they unconsciously swallow. When the pods are carefully examined, small discoloured spots may be seen within them, each one corresponding to a similar spot on the opposite Pea. If this spot in the Pea be opened, a minute whitish grub, destitute of feet, will be found therein. It is the weevil in its larva form, which lives

upon the marrow of the Pea, and arrives at its full size by the time that the Pea becomes dry. This larva or grub then bores a round hole from the hollow in the centre of the Pea quite to the hull, but leaves the latter, and generally the germ of the future sprout, untouched. Hence these buggy Peas, as they are called by seedsmen and gardeners, will frequently sprout and grow when planted. The grub is changed to a pupa within its hole in the Pea in the autumn, and before the spring casts its skin again, becomes a beetle, and gnaws a hole through the thin hull, in order to make its escape into the air, which frequently does not happen before the Peas are planted for an early crop. After the Pea-vines have flowered, and while the pods are young and tender, and the Peas within them are just beginning to swell, the beetles gather upon them, and deposit their tiny eggs singly in the punctures or wounds which they make upon the surface of the pods. This is done mostly during the night, or in cloudy weather. The grubs, as soon as they are hatched, penetrate the pod and bury themselves in the opposite Peas; and the holes through which they pass into the seeds are so fine as hardly to be perceived, and are soon closed. Sometimes every Pea in a pod will be found to contain a weevil grub; and so great has been the injury to the crop in some parts of the country, that the inhabitants have been obliged to give up the cultivation of this vegetable. These insects diminish the weight of the Peas in which they lodge nearly one-half, and their leavings are fit only for the food of swine. This occasions a great loss where Peas are raised for feeding stock or for family use, as they are in many places. Those persons who eat whole Peas in the winter after they are raised run the risk of eating the weevils also; but if the Peas are kept till they are a year old the insects will entirely leave them."

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Among the New Books before us are the *Midland Counties Almanack* for 1863, useful to Gardeners and Farmers, but, we fear, not in so experienced a hand as it should be. *My Diary North and South.* By W. H. Russell (Bradbury & Evans, 2 vols., small 8vo), is a most interesting—because most graphic—account of what they were doing in the disunited States of America up to the famous Stampede at Bull's Run; by the Prince of Newspaper reporters.

Sowerby's beautiful volume of *British Wild Flowers* is completed by a double number consisting of Parts XXI. and XXII. containing a title, excellent indexes, and 180 figures of what are called "lately discovered" plants, consisting of trifling varieties with new names, or of well known species hitherto overlooked. The whole number of figures is 1780, forming one of the prettiest natural history volumes now on sale.

How much the love of Botany is spreading, appears from another excellent work on British plants, that Mr. Lovell Reeve has just issued. It is called *Illustrated Edition of the Handbook of the British Flora, &c., for the use of beginners and amateurs*; by George Bentham, F.R.S. It is to appear in small 8vo numbers, price 2*s.* 6*d.* each, and will contain excellent woodcuts, *interpolated with the text*, of every species of flowering plant and Fern found wild in this country. The cuts are from the skilful hand of Fitch; and do all that this method of illustration is capable of.

*Walpers' Annales Botanices Systematicæ*, vol. vi., part 3, is entirely occupied by Prof. Reichenbach's ideas about Orchids. It is too technical for other notice in this place.

*Routledge's Illustrated Natural History*, Part 47, contains spiders, myriapods, annulates, entozoa or tapeworms, and radiates; an excellent Number.

*Culture of the Ranunculus.*—Mr. C. Tyso, of Wallingford, Berks, has at the request of a few gentlemen interested in the culture of the Ranunculus, sent a circular to some of the principal well-known growers for a return of the names of the 12 sorts with their colours, which in the estimation of such persons are considered best adapted for exhibition, to be published in the *Gardeners' Chronicle*, and in one monthly periodical. Mr. Tyso would be glad if any amateur not having received a circular, but willing to aid in the dissemination of opinions on this flower, would communicate with him without delay, so that the compiled lists may be completed before the planting season.

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## Garden Memoranda.

Royal Gardens at Stuttgard.—The Royal Palace of Stuttgart is a modern edifice of large dimensions, with two projecting wings facing the south-east. It is built of freestone, and was commenced in 1746 and finished in 1806. The roof over the grand entrance is surmounted by an enormous gilt crown. On its south-west side, but separated from it by a noble avenue of Plane trees, is the old Palace, a heavy picturesque building, very much resembling a feudal fortress. This is now occupied by Government offices.

On the south-east front of the new Palace is a large square of ground, called the Schlossplatz, 3 or 4 acres in extent, and at the end of this and fronting the Palace, is a handsome edifice lately erected for the Crown Prince.

This Schlossplatz is a garden laid out geometrically. A low chain fence connects the two projecting wings of the Palace, the square inside of which is private. A broad walk is carried along on the outside, and connected with the Plane avenue just mentioned. This is succeeded by a narrow strip of Grass containing flower beds. Beyond is another broad strip of gravel, in the centre of which stands a jubilee column 95 feet high, erected in commemoration of the 25th anniversary of King William Frederick Charles. The material of which this column consists is grey granite, and it has four allegorical figures at the angles. On either side of this column is placed, at a distance of some 70 or 80 feet from it, handsome fountains, each consisting of three basins placed one above the other, and having a single jet at top. The bottom basin is of brick and cement, about 30 feet in diameter. The fountain properly so called is placed in the centre of this basin, and is made of iron. The second basin or tazza is from 8 to 10 feet above the first, and is 10 or 12 feet in diameter. The third is about 8 feet above the second, and is 6 feet in diameter. The centre jet, which is about 1½ inch in diameter, is carried 4 feet above the upper tazza. The whole of the water is brought through this jet and plays 8 or 10 feet above it, falling into the top tazza, which overflows in a beautiful glassy sheet into the one below, the sides of which are circular, and at the widest part adorned with 12 lions' heads, out of which the water falls in graceful curved jets into the lower basin. On festive occasions *the fountains are illuminated* by carrying a jet of gas above the central jet of water, and a series of gas jets play around the column under the upper tazza, lighting up the water very effectively. A margin of Grass, 5 or 6 feet wide, is carried round the lower basin, and is edged by a stone kerb.

Walks diverge from the column and fountains in various directions through the square, and at the principal points flower borders are introduced, and fine Bay trees in tubs are also placed in different parts of the walks. All the Grass plots are edged with a stone kerb. Castor-oil plants and Cannas are the principal plants employed for the decoration of the borders, and these attain great perfection. A neat iron railing is carried along the top of the square, separating it from the street. The whole of this garden is well lighted with gas, and forms an agreeable evening promenade.

Passing under the covered way on the N.E. side of the square which connects the Palace with the Theatre, we enter another of the Royal Gardens, and by far the most important. The upper portion, near the Palace, is laid out in straight walks, borders and fountains. The lower portion, which might justly be termed the Hyde Park of Stuttgard, extends down the lovely valley of the Neckar for a distance of more than two miles, beautifully wooded, and containing walks and drives under avenues of Plane and Chesnut trees in various directions. The principal drive goes through the garden and park in nearly a straight line from the Palace to Rosenstein, a modern Grecian villa, visited by the King in summer. On the way to Rosenstein, outside the garden gates, which separate the garden proper from the park, are two colossal horses and two men holding them. They are by Hofer, and are greatly admired as works of art. The subject is the same as that on Monte Cavallo at Rome.

The arrangement of the garden near the Palace is very simple; two broad walks in the form of the letter T—the top one carried along in front of the Palace, the other through the centre of the garden, and terminated by a large basin of water, form the principal features. It is bounded on three sides by high trees, and a beautiful vista is formed in the centre, with a fine avenue of Planes leading to Rosentein, forming a continuation of the central walk beyond the fountain. A small recess on each side of the entrance to the Palace is separated from the other portion of the garden by a low iron fence, and to this the public is not admitted. It is almost covered with summer flowering plants, with four moderate sized Orange trees in tubs placed near the entrance. The opposite side of the broad walk running parallel with the Palace is furnished with Orange trees and statues, as are also both sides of the central walk as far as the ornamental water. The Orange trees are placed about 12 feet apart: they are by far the largest in Germany, many of the stems measuring nearly a foot in diameter, and it is said that the trees themselves are 300 years old. Their condition, however, is anything but satisfactory. At the end of the walk, just inside the fountain basin, are two colossal female figures, which form a fine feature viewed from the Palace. In the centre of the basin is a large jet surrounded by rockwork. A number of water-fowl, including several swans, are kept here during the summer season. A broad belt of shrubs and flowers is carried along the sides of the walks. The ribbon system is not adopted here. A narrow walk is carried around the fountain, and connected with the Plane-tree avenue mentioned already, and this also has its border of shrubs and flowering plants.

On each side of the avenue of Plane trees is a carriage drive. The one on the left side is for vehicles leaving Stuttgard, and that on the right for those coming to it. They diverge on nearing the fountain to the outsides of the flower garden and thence into the streets. On the outside of these is a fine row of Chesnut trees, which, with the Plane trees, form a dense shade.

On the east side and in close proximity to the Palace is the Botanic Garden, which is of moderate size and well stocked with plants. Under the shelter of high hedges is a large number of greenhouse plants, many of which are only of botanical interest. There are several greenhouses here, but they are apparently in bad condition. A large portion of the garden is filled with ornamental plants in masses of considerable size, intermixed with broad patches of Annuals. I also noticed a great number of Dahlias, Roses, Geraniums, and other common plants of a decorative character. *E.*

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Reflections on a late Visit to Belstane.—Belstane, the property of Humphrey Graham, Esq., is situated about 10 miles west of Edinburgh, in the parish of Kirknewton. Even to a general observer, a stroll over this estate affords a treat not soon to be forgotten. There, on a hill "at an elevation of from 700 to 900 feet," you can stand and take a bird's-eye view in reality of the surrounding country. On the south the Pentland hills, associated with deeds of blackness in days gone by, come into view, while on the east Arthur's Seat appears like a colossal lion crouching in the distance, amidst the mist and smoke of "Modern Athens"—scope indeed is here afforded at Belstane for both painter and historian; here too the geologist would find something with which to amuse himself. The amygdaloidal trap, basalt, and greenstone, on the west and north, are indications of volcanic origin. Sedimentary rocks also abound in the neighbourhood. On the north, at Midcalder, are limestone quarries, and on the south at Ainville a remnant of the same stratum occurs, overlying gritty sandstone, containing a few fossil Crustacea, chiefly Cypris Scoto-Burdigensis, and Beyrichia arguata. Both strata are variously laminated with thin seams of coal and shell, from which specimens of Lepidostrobus variabilis, Stigmaria ficoides, Lepidodendron elevatum? Calamites cannæformis, Sphenopteris affinis, and a beautiful kind of Adiantites may be obtained, ruins of a former world, clearly pointing out by the declination of strata that they flourished again and again, long before the molten block which now forms the foundation stone of Belstane burst forth from its subterranean cavern. Another well marked feature for the man of science to consider, is that the grounds of Belstane lie in a sloping direction towards the east. The soil for the most part is stiff clay, decidedly diluvial in character, nor is it difficult, while standing on the brink of the "Rotten quarry," for imagination to trace the direction in which the mighty current may have rolled, not only leaving the lands of Belstane a leeward deposit, but acting in a similar manner on almost every mountain and hill in Scotland. Be that as it may, everything is teeming with life now; even the gray stones in the walls are coated over with living vegetable matter, which the botanist would say consisted of Lecidea geographica, Lecanora atra, Parmelia saxatilis, and two or three species of Scyphophorus. What would most attract his attention would doubtless be the luxuriance of some plants. In sheltered places Hypnum loreum grows something like a Club Moss, and Asplenium Filix-fœmina 3 feet high. The arboriculturist would also find something here to suit his taste. Who would have thought of growing at Belstane one of the best collections of trees and shrubs in Britain? The first winter at such a height was enough to blight every hope; but no, a determination to conquer has now accomplished the end in view.

Around the fields are now to be seen belts of thriving young trees, and at different places plantations of considerable extent. These appear in the first place to have been planted with common trees purposely for shelter; but now the latter are fast disappearing, and their places are being filled with trees of a different aspect. Abies Douglasii is here quite at home; hundreds of healthy plants of it, from 1 to 36 feet high, are making an annual growth of from 2 or 2½ feet. A. Menziesii is also abundant; A. monstrosa, A. Smithiana, A. alba, A. nigra, A. rubra, A. sibirica, and even A. Hookeriana, are apparently doing well. A. Nordmanniana and nobilis are conspicuous, and Pinsapo and cephalonica may be met with by the thousand; of Webbiana there are some good specimens, as well as of grandis, amabilis, lasiocarpa, Pindrow, Pichta, Fraseri, and pyramidalis, &c. Pinuses are also numerous; among them may be mentioned Jeffreyii, Craigiana, Benthamiana, Cembra (hundreds of which exist from 2 to 18 feet high), pungens, tuberculata, muricata, Beardsleyi, Banksiana, calabrica, pyrenaica, Laricio, excelsa, austriaca, and maritima, &c. Here, too, Wellingtonia gigantea bids fair to make fine trees, as do also Taxodium sempervirens and Thujopsis borealis. The same may likewise be said of Thuja gigantea, Craigiana, aurea, Warreana, pyramidalis, and filiformis, &c. Cupressuses are also plentiful, such as C. torulosa, Lambertiana, Lawsoni, Goveniana and Macnabiana, &c. Associated with these are also Cryptomeria japonica and Lobbii. Among Poplars, græca is perhaps the best. Oaks also appear to do well; among them are examples of Quercus Ægilops, Turneri, coccinea, tinctoria, macrocarpa, fastigiata and Michauxii, &c. Of Cratæguses there are perhaps above 50 sorts; of Fraxinus about 20 species and varieties; and of Acer many, among which are striatum, rubrum, eriocarpum, macrophyllum, monspessulanum, saccharinum, and a beautiful variegated Sycamore. Other trees and shrubs may be found in proportion. There is also a garden apparently about 3 acres in extent which claims attention. It is sheltered on the north, partly by out-buildings and partly by means of a high stone wall. On the east, west, and south are hedges, as well as trees and shrubs. By the

side of the principal walks narrow borders are reserved for flowering plants, among which are collections of new Pentstemons, Phloxes, &c. As for Verbenas and Scarlet Pelargoniums, these, like the kitchen garden produce, were nearly all washed away by the heavy rains which have fallen this season. There is also an orchard house, in which are various fruit trees; a greenhouse, occupied by the customary tenants; and a stove, furnished with many curious and rare plants, especially Begonias, Lycopods, and Ferns. *An Old Showman.*

## Miscellaneous.

*Sea Cucumbers.*—The Sea-Cucumber, so well known in the South Seas as the Trepang or Bêche de Mer (Holothuria tubulosa), is much eaten by the natives. Captain Flinders, in his 'Voyage to Terra Australis,' says it is boiled and dried, and traded, when thus prepared, with the Chinese. I have never seen the Red Indians dry it, nor have I ever seen it thus prepared in their huts; but I have constantly seen it boiled and eaten fresh. I once tasted some that was just cooked, and found it had much the same consistency as India Rubber, but without its flavour. The Indians make some kind of cake of the berries when they are plentiful. The Lichen (L. jubatus) which grows on the Pinus, is also prepared for food. Twigs, bark, &c., being cleared from it, it is steeped in water till it is quite soft; it is then wrapped up in Grass and leaves to prevent its being burnt, and cooked between hot stones. It takes 10 or 12 hours' cooking, and when done, while still hot, it is pressed into cakes. Berries when fresh are eaten in a way we should hardly appreciate—viz., with seal-oil! I have seen the Indians land from a canoe and pick a large quantity of beautiful fresh berries, then take a small bowl and pour into it a lot of seal-oil, and, sitting round it, dip each bunch of berries into the oil, and eat them with great apparent relish. They prefer houlikun-oil for this purpose when they can get it. They have various berries, among them the Strawberry and Raspberry. They are always very glad to get bread or rice, and these articles of diet are generally exchanged with them for fish. I found when travelling that neither the coast nor the inland Indians would eat pork. The invariable reply to my questions why they did not do so, being "Indians do not understand how to eat pork." *Mayne's British Columbia and Vancouver.*

*New Style in Gardening.*—The introduction of a geometrical style in laying out grounds and gardens has become of late so prevalent that a few remarks may not be unwelcome in the *Builder* on the subject, inasmuch as the lawn and parterre must always have a close affinity to the domestic structure. All that we view daily in the park borders affords pleasing proof of the advance of floriculture and of the increase and improvement in our stock plants; and so far as geometric order is used in details of these grounds, there is nothing to be objected against; but on looking into the "Horticultural Gardens," the great national display in conjunction with the Exhibition, it is impossible not to be struck by the glitter of coloured walks, which have the appearance of red, yellow, blue, green, and other tinted ribbons, cunningly wrought through the intricate flower knots, which form the principal area of the 20-acre reserve. That the accuracy of the exquisitely-wrought Box borders is laboured and telling, none will deny; these are the works of an artist; and it is equally palpable that the colours of the walks are brilliant. Now, however, winter has set in and the flowers decayed, when the mould is raked and laid by in ordinary for winter, these gaudy bands winding symmetrically over the russet earth wear the appearance of true-lovers knots; and viewed in connection with the fountains, balustrades, terraces, &c., make up the total of a formal Dutch garden; but when the flowers were in bloom, those objects for which such cunning devices were but meant to be the garniture,—what was then the effect of all this polychromatic decoration? Why, simply that it subdued the effect of much natural beauty! It is not the question whether the South Kensington Garden, surrounded as it is by high buildings and arcades, is the proper site for horticultural growth, since that point has been long conceded. The position, within the metropolis, may be convenient for the exhibition of plants, flowers, and fruits grown elsewhere; but in the midst of smoke it has long ceased to be appropriate for the raising of seedlings or for the conservation of plants. Some hardy and beautiful flowering shrubs there are, which might thrive and bloom within the imposing boundaries. This is demonstrated by the gorgeous display of the neighbouring Kensington flower walk; but the aspect of this costly inclosure, its nakedness of floral or arboricultural garniture, leads one to inquire, might it not be improved by the introduction of some well-grown shrubs and trees, which would impart to it more of the hortulan if not sylvan character? Exhibitions of fruits and flowers occur, perhaps, six or eight times a year; and these, together with the amount collected from Fellows of the Society, possibly do yield a fund sufficient to support the grounds and conservatory. It is more of a public arena for promenade than horticulture. The broad walks and terraces, as laid down, are, perhaps, essential for the crowds that sometimes frequent the place; and considering the many architectural evidences within and surrounding it, even the winding walks of gaudy colours might be suitable here, however incongruous they might be in a rural garden. Still, as a border or setting for rare planted flowers, nothing that could be invented would more effectually mar and neutralise the delicate bloom of nature's tender nurslings. Let them stand, then, as they are,—highly wrought proofs of the gardener's skill; but, in the name of Flora! do not suffer vitreous walks to be farther extended, to the detriment of our best collections. *Correspondent of the Builder.* [Part of this criticism has been anticipated, by important additions to the spaces planted.]

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Although the expediency of night covering for the roofs of glass houses has been frequently pointed out and pretty generally admitted, yet hitherto little has been done in the way of carrying the plan into effect. It is however very economical in point of fuel, more especially in old houses with badly fitting glass. Under such circumstances a trial is only required to prove its utility. Maintain a mild agreeable atmosphere in show houses, and see that all plants are clean and in good health. If any become infested with insects remove them immediately; for no course of culture will succeed without thorough cleanliness. Orchids in warm houses must now be frequently examined, repotting such as may require it. Before applying Sphagnum, however, soak it in boiling water to destroy insects, and some even half char their peat for the same purpose. Such plants as show signs of growth should as a matter of course be potted first. Cinerarias which are cramped in their pots should have a shift, as should also Chinese Primroses for spring work. Introduce into the conservatory forcing pit bulbs, Roses Pinks, Lilacs, and plants of that description in succession. Keep up a bottom-heat of 75° and an average top temperature of 60° at night and 70° by day, admitting air on all favourable occasions.

### FORCING DEPARTMENT.

PINERIES.—Such plants as are pushing should have plenty of heat and atmospheric moisture. Let the bottom-heat for the present be about 80°.

VINERIES.—In the early house let the thermometer be 70° by day and 60° at night. Disbud steadily; stop the shoots as they advance at the joint above the fruit. If the lower part of the house be deficient of wood, select some well-placed buds and they break to fill the vacancy; they will soon push into vigorous shoots and fill up the gaps.

PEACH HOUSE.—Give air at all times when the weather is favourable, and maintain a temperature of about 60°, allowing it to fall 5° lower at night. If the trees have done blooming, syringe freely in the afternoon about 4 o'clock, or earlier if the nights are frosty. Commence disbudding whenever the shoots are in a fit state for that purpose, removing a small quantity periodically till the work is finished.

CHERRY HOUSE.—A mild and somewhat moist atmosphere is what should be aimed at; give air, as in the case of Peaches, when the trees are in flower and the weather favourable, and see that the roots are in a proper state as to moisture.

CUCUMBERS.—Sow successions of choice kinds in case of failure. Pot off young stock and top as soon as the rough leaf has been unfolded. In planting out lay a thick turf under each hill, and in making the latter confine it to the centre of the light. Give air as often as possible, and, in order to be able to do so, keep up powerful linings.

MELONS.—Sow seed of the Beechwood or other early kind. Get some dung at work for the bed, and carry it through as careful a process as that for the early Cucumbers. If ridged out by the second week in February, they will be sufficiently early to prove a safe crop, and will be ready by the first week in June, if not a fortnight earlier.

### FLOWER GARDEN AND SHRUBBERIES.

Those who have alterations to accomplish this spring, in the way of ground-work, must now lose no time. Look over and correct the general outlines of ornamental plantations. Break into all hedge-like lines; form bold recesses where space will admit of it; and endeavour to create intricacies. The lines of irregular plantations or shrubberies should be corrected in this way at least every three years; as, however well they may have been designed originally, the unequal growth of trees will, in some degree, militate against the first intention. Rearrange American masses; some of the delicate Azaleas, &c., are frequently overgrown and injured by the grosser Rhododendrons. Biennials may be planted in flower-borders or beds. See to bulbous plants; stir amongst them and protect if necessary. Give air to, and examine half-hardy plants, and see that they do not suffer from confined damp. Owing to the mild weather we have hitherto had, most flowers will be more susceptible than usual of frosts and cutting winds. Many collections of Tulips are now so forward that unless protected in some way serious consequences may result to the embryo blooms. Ranunculus beds may be thrown up in ridges of about 4 inches, so that the lower part of the bed is allowed to remain undisturbed. By this means advantage can be taken of a fine day, should the weather prove fickle, about the 14th February; as when suffered to lie in this state, the surface soil becomes sooner dry, and by simply raking level is immediately ready for putting in the roots. Polyanthus seed may now be sown in pans.

### HARDY FRUIT AND KITCHEN GARDEN.

The time is at hand for commencing operations here in earnest, and one of the first steps is to plan out every inch of ground for the whole year, if possible. Labels should be written upon and placed at the heads of the quarters, descriptive of the kind of crop, the manuring, and what succeeded by. It is necessary also, in order to follow up a systematic rotation of crops, to keep a cropping book corresponding with the labels. Most persons will be laying in their stock of seeds for the year. A little Cauliflower, and a pinch of brown Cos Lettuce should be sown in boxes, and placed in a house at work. Also some white Spanish and Portugal Onion, to be transplanted in a highly manured ground. Sow a little Parsley, a little early dwarf Cabbage, a little round Spinach, and a pinch of early Dutch Turnip, on a warm slope. A plot of ground should be forthwith appropriated to slopes, which should of course run east and west, and they are most convenient about 3 feet 6 inches wide. They should, if possible, be attached to the frame ground, as such things as Radish, Horn Carrot, early Lettuces, &c., will require occasional covering with litter, and frequent attention. Slopes of this kind after carrying their spring or early summer crops, will be equally eligible for autumn ones; more especially for Endive, autumn Carrots, or for raising the stock of winter Lettuces. The sooner Asparagus beds are manured and soiled now the better. Plant Horse Radish, Seakale, and Jerusalem Artichokes as soon as possible. Plant a few early Potatoes, soil them over 8 inches deep, and draw off with rakes or hoes 2 to 3 inches in the first week of April, as a cleaning process. Follow up all nailing and pruning, except of Figs and Apricots. Thin orchard trees, make cuttings of choice Gooseberries, Currants, &c., taking care to pick out the buds at the lowest end of the shoot, in order to avoid suckers.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Jan. 21, 1863, as observed at the Horticultural Garden

| Jan. | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 15 | 25 | 30.336 | 30.318 | 45 | 34 | 39.5 | 44 | 43½ | N.E. | .00 |
| Friday 16 | 26 | 30.252 | 30.195 | 41 | 34 | 37.5 | 43½ | 43½ | N.E. | .00 |
| Satur 17 | 27 | 30.155 | 29.870 | 44 | 32 | 38.0 | 43 | 43 | N.E. | .19 |
| Sunday 18 | 28 | 29.350 | 29.322 | 48 | 38 | 43.0 | 43 | 43 | N.W. | .00 |
| Mon. 19 | ● | 29.409 | 29.360 | 51 | 40 | 45.5 | 44 | 43 | N.W. | .04 |
| Tues. 20 | 1 | 29.359 | 29.083 | 46 | 37 | 41.5 | 45 | 43½ | S.W. | .00 |
| Wed. 21 | 2 | 29.732 | 29.550 | 44 | 34 | 40.5 | 45 | 43 | W. | .02 |
| Average. | | 29.942 | 29.671 | 45.5 | 35.5 | 40.7 | 43.9 | 43.1 | | .25 |

Jan. 15—Cloudy; fine; brisk N.E wind.
— 16—Overcast; cloudy and cold; fine at night.
— 17—Hazy; overcast; fine; rain at night.
— 18—Low dark clouds; fine; mild for the season.
— 19—Partially overcast; cold and dry; low clouds; very boisterous at night.
— 20—Boisterous; low white clouds; boisterous at night.
— 21—Fine; cloudy; fine at night; slight rain.
Mean temperature of the week 4 1-5th deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Jan. 31, 1863.

| January. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 25 .. | 44.4 | 32.3 | 38.4 | 20 | 0.90 in. | 1 | 4 | 3 | 1 | 5 | 13 | 5 | 5 |
| Mon. 26.. | 45.2 | 32.4 | 38.8 | 16 | 0.31 | 1 | 5 | 3 | 4 | 2 | 14 | 5 | 4 |
| Tues. 27.. | 44.1 | 31.0 | 37.5 | 17 | 0.43 | 2 | 5 | 4 | 1 | 5 | 14 | 5 | 1 |
| Wed. 28.. | 45.3 | 30.7 | 38.0 | 20 | 0.17 | 2 | 5 | 4 | 1 | 2 | 14 | 6 | 3 |
| Thurs. 29.. | 45.4 | 31.6 | 38.5 | 17 | 0.23 | 5 | 4 | — | 2 | 2 | 13 | 5 | 6 |
| Friday 30.. | 44.2 | 32.1 | 38.2 | 18 | 0.39 | 2 | 3 | 3 | 4 | 3 | 11 | 8 | 3 |
| Satur. 31.. | 44.3 | 30.5 | 37.4 | 16 | 0.38 | 5 | 5 | 1 | 2 | 9 | 10 | 3 | |

The highest temperature during the above period occurred on the 25th and 28th, 1846; 28th, 1834; and 27th, 28th, and 31st, 1861—therm. 56 deg.; and the lowest on the 31st, 1857—therm. 8 deg.

## Notices to Correspondents

*** Many communications are UNAVOIDABLY deferred till next week.

COCOA-NUT REFUSE: *Irish Subscriber.* Our experience of this as a plunging medium in forcing houses is, so far, favourable, but we have not had it in use for a sufficient time to be able to form a positive opinion as to its fitness for this purpose.

CURRANT BUSHES: *W B J.* Are you sure the trees, whose leaves drop off in July, are not attacked by insects in the hot dry summer weather? There is evidently an arrest of vital action. Are the roots kept sufficiently moist in the hot season? We can only suggest an excess of drought, or it may be of root-moisture as likely causes.

FUNGI: *Hampstead Gardener.* Your Fungus was so crushed in consequence of being sent in an envelope and not in a little box, that it could not be named with certainty. From the colour of its spores, however, we believe it to be Agaricus furfuraceus, the only allied species, as far as we know, common in winter. Your only chance of destroying it is to put salt on each patch, but if the spawn is very widely diffused, as appears to be the case, you must trust to the chapter of accidents. *M J B.*

HOLLIES: *An Old Subscriber.* Don't head them down before the middle or end of March.

IVY ON TREES: *J V.* No: not hurtful in the sense of feeding on them; but yes, in the sense of girting and smothering them, preventing or hindering the natural expansion of the trunk. Not seriously hurtful, however, in a general way if the value of the trunk as timber is not a consideration.

NAMES OF FRUITS: *A B.* 1, Marie Louise; 2, Glou Morceau; 3, Easter Beurré; 4, Old Colmar; 3, Blenheim Pippin; 4, Downton; 5, King of the Pippins.—*A R H.* Chaumontel.—*C A B.* 4, Ribston Pippin; 5, Kirke's Golden Pippin; 7, Downton; 10, Dutch Mignonne; 1 and 8 are the same, and unknown; the rest appear to be worthless seedlings.

NAMES OF PLANTS: *J M B.* Neither we nor any one else in his senses can undertake to name the mere leaves of plants. 1 is Alonsoa incisifolia.—To *Enquirer from Belfast* we are obliged to say the same; 1 is some sort of Gomeza; 2 is a flower of some Zygopetalum without a lip, the most essential part; 3, Lælia anceps. We never name more than four plants at a time, even if they are in a state to be named.—*Sidmouth.* Marchantia polymorpha.

MESSRS. WAY AND EVANS, ANALYTICAL CHEMISTS, have REMOVED their LABORATORY from 15, Welbeck Street, Cavendish Square, to 106, Leadenhall Street, E.C., where all Letters and Samples for Analysis should in future be addressed.—Jan. 24.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.

ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

AGRICULTURAL and CHEMICAL COLLEGE, KENNINGTON.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. NESBIT, LANSDELL & Co., 37 and 38, Lower Kennington Lane, London, S.

Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.

Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.

Full particulars of terms will be forwarded on application.

DRAINAGE of LANDS (by Contract, or laid out and superintended at 5*s.* per acre) and the ERECTION of AGRICULTURAL BUILDINGS and all other permanent Improvements to Landed Estates, are undertaken by Mr. HUMBERT, Land Agent and Surveyor, Watford, Herts, and such Works can, if desired, be entirely executed under powers conferred by special Acts of Parliament, by Money raised by loan, and paid off (both principal and interest) by small annual payments spread over a number of years in the form of a rent charge, without immediate payment by the Land Owner.

WEST of ENGLAND and SOUTH WALES LAND DRAINAGE and INCLOSURE COMPANY.

ESTABLISHED 1844.

The Right Hon. the EARL of DEVON, *Chairman.*

Lands drained and improved without recourse to the private funds or moneys of the Proprietor.

This Company's Act not requiring Proprietors to liquidate the cost, the amount might remain a permanent charge on the lands, or be paid off when convenient, or be made redeemable over any term of years. The works are undertaken by the Company, or Proprietors might avail themselves of the power of the Act only, and get the works executed by Agents or other parties. Outfalls through adjoining lands are obtainable under the Company's Act. Works are also executed by the Company for parties advancing their own Capital, or not requiring to obtain the money under the Company's Act.

FREDERICK BRODIE, Secretary.

Offices: Exeter; and 30 Parliament Street, London.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

A MANURE MANUFACTURER wants to appoint a few respectable DISTRICT AGENTS. Liberal terms given, and the Manure sold Carriage free.

Address, with occupation and references, B. C., 10, Pall Mall East, London.

**To Farmers, &c.**

CHEAP GYPSUM MANURE.—Parties requiring GYPSUM can be supplied at 10*s.* per Ton, bulk, at the Works at Kennington, S.

Address, X. L., 34, Chapel Street, North Brixton, S.

*** Delivered on Rail, adding for bags and cartage.

THE LONDON MANURE COMPANY have now ready

PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value.

E. PURSER, Secretary.

116, Fenchurch Street, E.C.

LAWES'S WHEAT MANURE for AUTUMN SOWING.

In consequence of the high price of Peruvian Guano, J. B. LAWES has manufactured a WHEAT MANURE for the present season, which will be found very suitable for that crop. A supply is now ready for delivery, and it can be obtained of J. B. LAWES, or through any of his appointed Agents. Price 8*l.* per ton at the Factories, Deptford and Barking Creeks.

Genuine Peruvian Guano direct from Messrs. Gibbs; Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

**New Sorts of Peas.**

THE ADVANCER, PRINCESS ROYAL, SMUGGLER, GILSON'S GLORY, and other new PEAS, are included in SUTTON'S PRICED SEED LIST, just published, and which may be had, Gratis and Post-free, on application addressed

SUTTON & SONS, Seed Growers, Reading, Berks.

**Seed Peas and Potatoes.**

DANIEL O'ROURKE PEAS, at 18*s.* per bushel; also a few GREEN MARROWS. DALMAHOY, BRITISH QUEEN, and EARLY MALTA POTATOES, free from disease.

Apply to Mr. HENRY CLARKE, 57, Water Side, Lincoln.

WEBB'S IMPERIAL KIDNEY POTATOES, True, 8*s.* per bushel, 15*s.* per cwt.; DICKSON'S EARLY FAVOURITE PEAS, unpicked, 8*s.* per bushel; BLUE SCIMITAR PEAS, picked, 12*s.*; TAYLOR'S WINDSOR BEANS, 10*s.* Terms Cash.

W. MINCHIN & SON, Hook Norton, Oxon.

SEED POTATOES from the NORTH of SCOTLAND.—The following sorts, grown by Mr. SIMPSON TEAWIG, in Inverness and Ross-shires, on clay loam and light soils.

DALMAHOYS
WALKER'S EARLY REGENTS
WHITE ROCKS

They will be delivered free in sacks in London, Liverpool, or Newcastle, at very moderate rates, which may be learned by writing, stating quantities required, to A. SIMPSON, Beauly, N. B.

**Fluke Kidney Potato Sets**

FROM LAND WHICH HAS NOT BEEN BROKEN UP IN THE MEMORY OF MAN.

DICKSONS AND BROWN, SEEDSMEN, 43 and 45, Corporation Street, Manchester, have a few hundred bushels of the above valuable Potato, grown upon fresh land a very short distance from the place where the "FLUKE KIDNEY" was originally raised. They are picked expressly for sets.

By stating quantity required, the price will be forwarded on application to the Advertisers.

**Myatt's Early Prolific Ash-leaved Kidney Potatoes.**

H. AND F. SHARPE are now taking orders for the above, which has this season proved itself to be the earliest and most prolific Potato in cultivation, and as fine in quality as any of the Early Kidney varieties. Having a good stock they can offer them at a low price to the Trade.

Also JACKSON'S ASH-LEAVED KIDNEY, WALNUT-LEAVED KIDNEY, and all the early Round varieties at equally low prices, which may be had on application.

Seed Growing Establishment, Wisbech.

DAINTREE'S EARLIEST SEEDLING POTATO.—The earliest and most prolific round variety in cultivation, verified by reports in the various papers, and by private reports from all parts of the country, numbers of which will be forwarded on application. Present price, 8*s.* per Bushel, or 12*l.* per Ton; sacks 1*s.* 6*d.* each.—Apply to Mr. SIMON A. DAINTREE, Fendrayton, St. Ives, Hunts.

N.B.—Genuine Italian Rye-grass, and all the Agricultural Seeds of home growth, supplied as usual.

SUTTON'S LIST of POTATOES for PLANTING. CARRIAGE FREE.

*** *The sorts marked (K) are kidney-shaped.*

| Per pk. or stone of 14 lbs.— | s. | d. |
|---|---|---|
| SUTTON'S EARLY RACEHORSE (K), considerably earlier than any other Potato known | 5 | 0 |
| HUDSON'S NONSUCH (K), forwarder than the Early Ashleaf | 5 | 0 |
| HUDSON'S EARLY MAY (K), quite new; one of the best Potatoes for the main crop; it comes early, bears enormously, and keeps well | 4 | 0 |
| DAINTREE'S EARLIEST, new sort, highly spoken of, direct from Mr. Daintree | 2 | 6 |
| EARLY ASHLEAF (K), a well-known early sort | 3 | 0 |
| MYATT'S EARLY ASHLEAF (K), more productive than the preceding | 3 | 0 |
| EARLY WALNUTLEAF (K), somewhat similar to Ash-leaf, but shorter haulm, and rather earlier, and fuller flavour | 3 | 0 |
| HANDSWORTH EARLY, one of the forwardest and best for forcing; very short in the haulm | 3 | 6 |
| EARLY CHINA, quite new, second early | 4 | 0 |
| SODEN'S EARLY OXFORD, one of the best early round Potatoes | 3 | 0 |
| IMPROVED EARLY SHAW, a favourite Potato with the London Market Gardeners, and Hotel Keepers | 3 | 0 |
| WEBB'S IMPERIAL (K), new large, very fine | 3 | 6 |
| FLUKE (K), fine productive and popular sort | 2 | 0 |
| DALMAHOY, fine flavour, second early, and good for main crop | 2 | 6 |
| WELLINGTON, pink-eyed, strongly recommended | 2 | 0 |
| BRACKEN (K), a fine mealy Potato, red skin, delicious flavour | 2 | 6 |
| GOLDEN BALL or RED REGENT, large, well-shaped, and fine-flavoured. (This sort gained a First Prize at the International Show, 1862, where it attracted much attention) | 2 | 6 |
| RED ASHLEAF (K), mealy, and keeps well | 3 | 6 |
| SKERRY BLUE, very large and productive, new from Ireland | 2 | 6 |
| DAWE'S MATCHLESS (K), prolific, large, fine flavour and shape | 3 | 6 |
| THE KING (K). This may be fairly described as the finest Potato in cultivation; gained a First Prize at the Royal Horticultural Society's International Show, and at Birmingham | 5 | 0 |

Mr. Hudson, one of the most experienced Potato growers in the kingdom, writes us:—"In all my fields of Potatoes, the King and Early May are free from disease, though other sorts have it worse than usual. These two Potatoes are about the finest and most productive of all I have ever grown, and to Market Gardeners will prove invaluable."

| | s. | d. |
|---|---|---|
| THE QUEEN (K), a very fine late sort, keeps well. (This was exhibited by Mr. Choyce, at the International Show, with "The King," to which the Prize was awarded), and was equally admired | 5 | 0 |
| FLOUR BALL, the true sort, strongly recommended | 2 | 0 |
| YORK REGENT, fine true stock. (Price per ton on application) | 1 | 9 |
| FORTYFOLD, very productive, mealy, and fine flavour | 2 | 0 |

| | |
|---|---|
| Early Frame | Prince of Wales |
| Birmingham Prizetaker | Lemon Kidney |
| Alstone Kidney | Goldfinder |
| Lapstone Kidney | British Queen |

Cheaper by the sack or bushel. Prices on application.

For field culture in large quantities, we can supply good sorts of Potatoes at much lower rates.

N.B. We deliver Potatoes, as well as Seeds, carriage free.

SUTTON'S PRICED LISTS of SEEDS, post free.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

TRADE

HALLETT'S PEDIGREE NURSERY WHEAT.

MARK.

"The best Spring Wheat known. Drill in February and March, six pecks per acre."

Produced (1862) 62 bushels per acre, weighing 64 lbs. a bush.

Price ONE GUINEA A BUSHEL, including bag sewed up and sealed, delivered at the Brighton Railway Station, with Printed Directions for Planting, on Receipt of Cheque or Post-office Order, which must in all cases accompany the Order. Less than One Bushel will not be supplied. Name of Station and Railway should accompany the Order.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

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☞ Orders amounting to 10*s.* and upwards sent carriage free.

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**Good Clover Seed.**

GENUINE NEW CLOVER SEED may be obtained of the undersigned. Prices (according to market and quantity required) will be forwarded on application.

SUTTON & SONS, Seed Growers, Reading, Berks.

SUTTON'S RENOVATING GRASS SEEDS for IMPROVING OLD PASTURES.—Many Old Upland Pastures, Parks, and Meadows are nearly destitute of Clovers, and the finer and more nutritious sorts of Grasses, in which case we are in the practice of furnishing such sorts only as are wanting. If the Seeds are *sown early in the Season*, the improvement in the Pasture will be very considerable, and at a small expense. *Quantity of Seed required, 8 lbs. to 12 lbs. per Acre. Price 1s. per pound.* Carriage free.

Address SUTTON & SONS, Seed Growers, Reading, Berks.

FINE GRASS LAWNS in FLOWER GARDENS, &c.—The great expense of cutting and carting Turves from a distance may be avoided, and a *superior* Turf produced in a few months, by sowing SUTTON'S LAWN GRASS SEEDS, which consist solely of the finest and shortest growing kinds, perfectly *free from Moss and other weeds.*

*Price 18s. per bushel, or 1s. per pound.* Quantities of not less than 1 bushel will be sent Carriage free.

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THE NEW PARSNIP "STUDENT."—SEED of this improved PARSNIP, "ennobled" by Professor BUCKMAN, of the Royal Agricultural College, Cirencester, is now ready for delivery by Messrs. SUTTON & SONS, Post free, in packets, 6*d.*, 1*s.*, or 2*s.* 6*d.* each. Also Wholesale to the Trade.

It can also be obtained from any of the Seedsmen named in the List which appeared in *Gardeners' Chronicle* of Jan. 17.

Royal Berks Seed Establishment, Reading.

**Present Prices of Farm Seeds.**

THE NEW FARM SEEDS are NOW READY, at Reduced Prices.

PRICED LISTS may be had, Post Free, from SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

# The Agricultural Gazette.

*SATURDAY, JANUARY* 24, 1863.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

| | | | |
|---|---|---|---|
| MONDAY, | Feb. 2 | London Farmers' Club (Mr. Steed on the Malt Tax.) | 6 P.M. |
| WEDNESDAY, | — 4 | Agri. Society of England | Noon |

BERKSHIRE is well off for example farms. Mr. SPEARING, in his prize essay on the agriculture of the county some years ago, referred to the PRINCE CONSORT's farms at Windsor, and to those of Mr. BENYON, M.P., and the EARL of RADNOR. He might also have described Haines Hill, Mr. GARTH's home farm near Twyford, and many a well managed tract of land in the hands of tenant farmers. And, during his examination of the county, there was in progress at Buscott Park, near Lechlade, one of the most energetic pieces of land management and improvement in the island, to which reference might also advantageously have been made. And now that the process of improvement there is approaching its completion, and every department of farm management is in full operation, we cannot do better than recommend to Mr. FRERE, the Editor of the Journal of the Royal Agricultural Society of England, that he should ask leave to report upon this estate, and the change that has been effected on it, in his pages; thus giving to the members of that body a description of the methods and results of good agriculture upon a larger scale of operation and achievement than has hardly anywhere till now been exhibited in this country.

All the leading questions on which agriculturists are now especially desiring information are receiving answers here. Probably the best list of topics of current agricultural interest is to be found on the annual discussion cards of the London Farmers' Club. During the last three years we have had steam cultivation, cheap home-made manures, farm capital, stock *versus* corn, sewage manure, lustre wools, under drainage, and the improvement of grass lands, brought under discussion by the ablest practical men in England. They are all illustrated here. Mr. FOWLER's steam plough has been at work for a couple of years over probably a thousand acres of plough-land. The manufacture of manure directly from the raw material, bones and acid, &c., has been prosecuted to a very large extent, and its manufacture by the consumption of large

quantities of purchased food has been, and is now being carried out on a very unusual scale. Upwards of 1000 swine are being fed, and there are 250 sows in farrow, laired upon ashes, which absorb the enormous quantity of valuable manure thus made. The other stock is on a corresponding scale: 350 oxen are being fed on straw and cake in yards; and 10,000 Lincoln sheep are engaged in growing mutton and "lustre" wool. The subject of economising sewage has not been forgotten, and a large tank for the upward filtration of all the house waste, on the principle adopted at Osborne, is usefully at work. Nowhere in the island is there over the same extent a larger capital per acre engaged, both in landlord's and in tenant's improvements. Nowhere we believe is the owner bent so vigorously on the improvement of his estate for the growth of just that produce which soil and sky alike pronounce the best-fitted to its circumstances. Grass land improvement is the great effort that is being made. Land drainage, manuring, weeding, sheep-feeding, sub-tillage, are the agencies, and we can have no doubt that the result will yield a most instructive and encouraging lesson.

The estate of Buscot Park, near Lechlade, was purchased in 1859 by ROBERT CAMPBELL, Esq., the present High Sheriff of Berkshire. It is about 4500 acres in extent, bounded for 10 miles by the rivers Colne and Thames, and forming an extremely compact property, well wooded over a pleasantly undulating surface, its highest point crowned by the mansion, which commands a magnificent panorama. It is for the most part in pasture land—a stiff soil on the "Oxford clay" formation. The whole had been long neglected; its river-side Grass lands liable to flood, all the rest water-logged during winter for lack of drainage; roads, fences, buildings, all out of repair. It is and always was essentially a tract of good clay, but yielding probably less surface produce in proportion to its dormant capability and wealth than any other estate of corresponding extent in the county. Mr. CAMPBELL having purchased it upon the rental at which it had long been let, has had as ample margin left him by the purchase money, as he has had occasion given him by his purchase, for outlay on its improvement. He has, in fact, cheaply bought a strong box full of treasure, of which the former owner either had not ability, or had not wit enough to pick the lock—a valuable machine with all its usefulness in abeyance, no one having had the power or skill to wind it up.

The key which is to do these things for it is a very costly article, but it will pay to make and use. And Mr. CAMPBELL, labouring through the difficulties of three wet seasons, has been successfully engaged in making and applying it. All that we can do at present is to enumerate the different processes that have been at work.

1. Land-drainage is necessarily the first step towards the improvement of wet land. This during the last three years has been carried out 4 feet deep, over upwards of 3000 acres of land—about 9,000,000 of tiles have been laid in 1700 miles of trench. The effect has been very great at once, and will grow year by year as the influence of the rain-water circulating throughout the soil and subsoil tells upon the fertility of the land and its suitability to the better Grasses. At first conducted straight down the slope, regardless of ridge and furrow, and the watercourses to which the rainfall had hitherto been accustomed, the effect was unsatisfactory. Latterly the drains have been laid in furrows and old ditches, and the result is immediate. No doubt the other plan would ultimately have answered, and on arable lands, where high ridges could be easily levelled, and where deep tillage would facilitate the downward passage of the rainfall, the gridiron system of clay land drainage answers perfectly at once. But the result does not come at once in stiff clay pastures, and there is nothing in land improvement with which Mr. CAMPBELL, as a capitalist, is more impressed, than the cost and value of time. A drainage, therefore, of the pastures, down every furrow, and in many places oftener, so that the interval varies from 9 feet to 30 feet, has been the first step towards this improvement.*

2. Manures have been and are being most liberally applied. Three cwt. of bone dust, 2 cwt. of superphosphate, 1½ cwt. of guano, and 1 cwt. of salt have been spread broadcast per acre over many hundred acres; and now by the consumption of Lentils and Maize at the rate of 6 or

* A neighbour declaring that the land would be over drained, was answered by an experimental plot of half an acre, where drains 4 feet deep were put in every yard to the advantage of th Grass.

7 lbs. apiece daily to the larger ones over 1300 swine, an immense addition is being made to the fertilising resources of the land. In addition to this a large flock of sheep is fed during summer on the pastures, receiving oilcake. There is a breeding flock of 1800 Lincoln ewes, and in all about 10,000 sheep, most of which are sent out to "tack" during winter upon the Turnip fields of the neighbouring Cotswolds, or, bought in Lincolnshire, are wintering there; coming to the Buscot pastures in April and May, and covering them at the rate of from five to seven sheep per acre all through the season.

3. The estate is not yet furnished in any costly manner with farm buildings, and the plan of summering sheep which is to be adopted as the main consumption of the produce is economical in this, as in other ways—that no costly farmeries are needed. The existing outlying sheds and courts are now turned in a very simple and economical and efficient manner into pigsties for the enormous herd which is being fed. The home farm buildings, progressing towards completion, are in like manner turned for the most part into accommodation for swine—and the granaries are filled with their food.—Roads have been made where necessary—useless fences are being removed, wire fencing is being in many cases adopted. The immense quantities of grubbed fence and root are burned, and their ashes used as bedding for the swine.

4. The live-stock of the estate has been already referred to. Of the 4500 acres which the estate includes, some 3200 will be this spring in hand. The stock will then number 1300 swine, 250 of them sows in farrow, 10,000 heavy sheep, 350 oxen, 50 cart-horses (so many being needed in the work of estate improvement). When, as may ultimately be the case, the whole estate is in the owner's hands, and the pasture lands all fully in operation, they will no doubt summer-graze double the above number of sheep, and it is towards that result that the process of improvement tends. The produce of the land will thus be consumed at the best season of the year to ensure a return, and it will be consumed with less expense of superintendence and labour than in any other way. At present of course the labour of superintendence is much greater than will hereafter be needed. One man looks after and feeds 150 pigs, being supplied with meal, water, and pulped roots. Two carts, continually at work, supply the food for four or five such lots. The pulped roots are steamed and mixed half-and-half with the meal of Lentil and Maize. A hog weighing 13 score live-weight consumes about 45 lbs. of meal and 64 lbs. of steamed Swedes weekly, increasing some 12 lbs. in live weight during the time.

5. *Arable Management.*—Here the steam-plough has been a great assistance. A large extent—some 120 acres—of Gorse and Scrub has been grubbed up, and converted into most useful arable land. A good road lies through the valley, and the steam-plough, travelling up and down, can work a furrow, varying in length from 300 to 450 yards, on either side. During the past season a 12-horse engine, provided with the old-fashioned figure-of-8 arrangement of wheels and pulleys for dragging the rope, has had the fire lighted on 134 days, of which five have been lost by rain and faults of the apparatus, two of them owing to failures of the pump. During 129 working days, 502 acres have been very deeply ploughed—three furrows, and often only two furrows being worked at a time. The average of 4 acres a day is a very fair performance under such circumstances. The cost is 12*s.* a day for coals, 12*s.* a day for labour, and 4*s.* a day for water-cart, and probably 1*s.* a day for oil. These items amount to 29*s.* a day, or about 190*l.* on 502 acres, which is about 7*s.* 6*d.* per acre. A new rope has been needed every year, costing rather more than 1*s.* per acre. And this, with expense of repairs and interest of capital, will amount to a considerable sum—less, however, than the horse force otherwise required would have cost.

The thorough efficiency of the tillage thus conducted is proved by the heavy crops of Swedes now standing on the land,* the healthy colour of the young Wheat plant everywhere, and the firm tread of the clay soil, notwithstanding its flat cultivation—all of which are the result of it.

Among other particulars deserving mention under this head is the scale on which stifle burning has been usefully carried out. On any foul and stiff fallow, especially where the clay is calcareous, this process will be found, as it has proved here, to exert a very fertilising influence. About 40*s.* worth of coal is used per acre in the process, and a useful dressing of some 200 cubic yards of charred and burned clay in place of two or three times as much of couchy and intractable clod is the immediate result. The ultimate result, as we saw last Tuesday, is a dark green plant of Wheat, as vigorous and promising, though unaided by any other dressing, as on adjoining land where 20 loads of farm-yard dung had been applied per acre.

* A remarkably fine crop, taking the prize at the late Faringdon show—weighing at least 24 tons per acre.

6. The improvement of the pasture land is however the principal business at present of the owner of the Buscot Park Estate. It is to this end that such an expense in drainage has been incurred—that such an outlay in artificial manures has been made—that so much has been done in the way of spudding and removal of tussocks, anthills, &c., and their conversion with lime into compost—that "renovating" seeds have been sown and harrowed in over so many hundred acres—that such a herd of swine is being kept. "If in this last way I can only obtain manure for my pasture nearly free of cost," says Mr. CAMPBELL, "I shall have discoved the Philosopher's Stone for agriculture." It is to this end also, as well as profit more directly, that oilcake and Cotton-seed cake are given to the sheep at Grass. Lastly, and equal in importance to any of these means of improving pasture, it is with the same object in view that a great deal is being done in the direct tillage of Grass lands.

Hitherto but little has been done over most of our permanent pasture lands for the direct cultivation of the Grasses. We have mown or eaten down the annual growth which sunshine, soil, and shower, amongst them, have produced: we have perhaps occasionally applied dung or compost to the surface, and here and there the land has been drained of the stagnant water, which over the majority of acres still sours the soil, and furthers the growth of Sedge and Rush rather than of Grass. Any weeding has been confined to Dock and Thistle drawing, or to the same action of the scythe which annually or every other year injures the good crop as much as it does the weeds. But of those tillage operations, which we use in the cultivation of grain and root crops, and on which we depend for the fertility of arable lands, our pastures know nothing. We shall during the coming summer, and thereafter, see at Buscot the effect of Grass land tillage on a scale sufficient to demonstrate whether or not it pays. Around the mansion, where the land lies in charming undulations, wood and water intermingled with the meadow, the land has hitherto lain in steep ridge and furrow, and yielded Rush and Sedge and Moss, even more than Grass. The whole has now been drained, and upwards of 100 acres have been pared; the whole ground has then been dug over 9 or 10 inches deep and levelled, and the turf is being relaid. The whole will be heavily rolled, and there cannot be a doubt that this weathering of the under soil and this transplanting of the surface plants will result in a very extraordinary luxuriance of growth. Lime composts and manures, drainage and deep tillage, and sheep feeding must, over this rich clay land, produce as extraordinary a growth in the case of Grass as they do everywhere in the case of grain and other green crops. The operation in the Park has been costly. The paring costs 17*s.* to 18*s.* per acre, the digging about 3*l.*, the replacing of the turf, first smoothing the surface, about 30*s.* Elsewhere something of the same kind has been done in a cheaper but very efficient way. Where the ground does not need much levelling, a wheeled plough set shallow with broad share is preceded by men with mattocks, who cut up the tussocks, anthills, &c., and remove them. A furrow slice, not 2 inches thick, is then turned over. In the wake of the plough a good drill grubber follows, stirring the soil 4 inches deep, before the next furrow slice is laid. These furrow slices are afterwards turned back by hand, and the whole is then rolled down.

It is as an illustration of the proper cultivation of the Grasses that the alterations going on at Buscot are especially interesting; and at a time when the profits of farming, especially in the Western Counties, are plainly more and more depending on the sheep fold and the meat manufacture generally, it is to be hoped that a fuller account than we can give here of so well conducted and spirited an enterprise as the Buscot Estate presents, may hereafter be given to the public.

Judging from two visits to the estate, with an interval of nearly two years between them, we believe that the land will be more than doubled in annual value by an outlay of considerably less than one half the money invested in the purchase of it.

## THE LAND DRAINAGE ACT, 1861.

(*Continued from p. 60.*)

### District Drainages.

Letter III.—On the Engineering Principles which should govern the Works, and the Practical Rules which should regulate the Rating of the District for the Payment of the Expenses.

In order to utilise the limited observations I am about to make, I will discard from consideration those cases of an extensive and complicated character which would better form the subject of special than of general treatment, and confine myself to those areas of wet land which will admit of classification.

They may be divided thus: 1st. Those low valley or seaboard lands which are naturally deprived of outfall by tidal influence, or by deficient inclination in the discharging channel. 2d. Those river side tracts which have been deprived of their natural outfall by artificial barriers, such as mill dams, river weirs, and hatches, or by the silting up of tortuous streams; the building of insufficient bridges and culverts and other like obstructions, but which can regain an outfall if those obstructions are removed, modified, or evaded; and 3d, those moors or marshes which are physically impounded or land-tied by the formation of higher ground surrounding then, and which requires simply, though ofttimes at considerable cost, a passage through the barrier to the river below.

These lands are all more or less subject to floods, and to floods which will be increased as underdrainage proceeds within the area of water-sheds of which they form part.

To this important point great attention is due. If underdrainage had not already helped to increase floods, we should not probably have had "the Land Drainage Act, 1861," and when we reflect that the extent of land already underdrained is but a small proportion of the wet lands of the country, we are only exercising common forethought in providing for an accumulating increase when dealing with works of arterial drainage which are to satisfy the future.

Unless indeed, we fully comprehend the effects of underdrainage on the water economy of the country, we shall be plotting a faulty design when we venture upon a reformation of or an interference with its river system. It is now admitted on all hands that the general effect of underdraining is to secure a large quantity of the rainfall which has hitherto returned to the atmosphere as vapour from the surface of the land. It is equally well understood by those who have investigated the matter that the clay soils, when once they have absorbed the quantity of rain sufficient to fill their interstices, discharge from the under drains a great share of each heavy downfall immediately after it has occurred; while the drains of the saturated free soils give out a much larger proportion of the whole year's rainfall, but with a more continuous and regular flow than those of the clays.

These are great points bearing on arterial drainage, and the Inclosure Commissioners in their control of the different branches of drainage have grave responsibilities confided to them. It is true that as steam cultivation, deeper ploughing, and the levelling of high backed lands gain ground, less water will pass off the surface, and to such extent floods will be diminished, but this will go but a small way to meet the increasing discharge of under-drainage as the breadth of drainage enlarges itself. Is not this water in some instances capable of storage? I propound this general question for the consideration of all interested in those broad level districts which suffer from summer droughts. Again, if it be the fact, as it undoubtedly is, that the under-drainage of our wet free soils, the gravels, the peats, and the mixed soils, will furnish the river with water when the clays have ceased to discharge, and in many cases with a perennial supply—is not some consideration due to a source from which we may gain such an advantage? My own experience has satisfied me that the valleys are numerous in which the water power may be increased by drainage, and a judicious concentration and application of the water of drainage in aid of the river water.

But to return to the classification into which district works may be divided. With respect to the 1st class, recourse must be had to artificial power for raising the water which cannot be discharged by gravity above tidal influence, and to embanking as a means of excluding the waters of other districts.

It is needless to say that the ability of the engineer will be best displayed in the complete manner in which, after disposing of all high land waters, he will collect the surface and under-drainage water of his district to one or more points and the economy observed in the machinery adopted.

It will be in the second class of works the greatest judgment and foresight will be needed.

The wholesale condemnation of mill dams is fashionable, and is likely to be acted upon, because it is simple and requires no calculation, but if it is correct that drainage creates of itself a water supply, we are throwing away, by a careless disregard of that gain, the very element by which we may make good in one part of a river the power we have destroyed in another. Again, we forget in our haste to get rid of an obstruction that the tail of one mill is an available outlet for the land above, and therefore if we adopt that mill tail as the discharging level of the next upper portion of the valley, we improve the water supply of the mill below. If it be possible to connect and act upon these considerations, it will be conceded that in cases where the natural fall of a river is 5 feet and more per mile, there exists a capability not only of effective under-drainage but of increasing the aggregate water power, though certain mills may be interfered with.

It is unnecessary to dwell upon the third class of works. The existence of a natural barrier converting a basin into a bog commends itself to the intelligence of all persons—the only question to be determined is the mode by which the engineer will give passage to the pent up water. This of course will depend on the nature of the barrier, which may be little or great. It may be done in some instance by merely deepening a shallow, or by straightening a crooked watercourse, or it may require the aid of steam and syphon, raising it above the impounding height.

Let me now say a few words on the second object of this letter—the mode of rating the district. As a fundamental rule the proportionate amount charged on each property will be according to the benefit derived from the works to be executed, although in some cases it may be expedient to divide the payment into two rates, one to pay for the outfall simply, and the other to cover the internal works by which the outfall may be made available—equally, or as near so as possible—for the subordinate drainage of all the properties within the taxable area. It is desirable that it should be understood by all parties in a district, that according to the capability of the land, by reason of its position and by the nature of the soil to receive advantages from the works, so will it be rated. For instance, some land may be always subject to floods from which the "skirt lands" will escape, though the skirt land may be incapable of underdrainage. In such case the benefit of the works may be as much as 4 to 1 comparatively. Again, some fertile soils kept in a state of saturation may be changed by drainage from a renting value of 5*s.* or 6*s.* to 40*s.* or even 50*s.* per acre, while other poor soils cannot be advanced in productive power beyond 20*s.* per acre. It is clear that the rate must have reference to such circumstances.

If the District Commissioners mortgage the rate to raise by loan the money to pay for the works, the valuation of the benefit must be prospective and the annual charge will be a little above 6 per cent. to repay the principal money with interest in 30 years, to which would be added the annual expenses of Dyke Reeve, and Clerk or Collector, and the current outlay, if any, in maintaining the works.

To reduce this to figures we will assume 5000*l.* expended on the outfall drainage of 2000 acres. The rate to repay the outlay would probably be 325*l.*, to which would be added the annual salaries to Clerk and Dyke Reeve, say 75*l.*, making 400*l.*, which would be 4*s.* per acre for the 30 years, exclusive of repairs. At the end of 30 years the original outlay will be discharged, and the annual rate for maintenance will probably be but a nominal charge.

I must now close these remarks. My object has been to rouse public attention to the important Act of 1861, and by pointing out its deficiency with respect to private outfalls, to secure the support of the influential, in gaining what is so manifestly wanted—a simple remedy for a simple defect. *J. Bailey Denton, 52, Parliament Street, Westminster.*

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## THIN SEEDING.

I do not remember to have read a Leader in any Journal, nor any paper whatever, which has fallen in with my opinions more completely than has yours of Saturday, Jan. 3. Long has the same painful subject occupied my thoughts, and upwards of 20 years since I addressed some letters to individual Members of Parliament, drawing their attention to the impending evil, and suggesting to them whether it would not be wise or prudent to bring the matter before Parliament, and to urge upon it the propriety of establishing agricultural colleges or government farms in various parts of the kingdom, whereat agriculture in all its ramifications might be studied and taught on sound and scientific principles by learned and scientific professors, on the one hand, and the operations directed by practical men on the other, so that, science being combined with practice, the miserable state of land cultivation which existed might, as it was clearly capable of being, be completely set aside, and a system more rational, and founded upon sound chemical and mechanical knowledge, substituted in its stead. This I wrote four or five and twenty years ago, but of course I wrote in vain; by some probably I was looked upon as a candidate for a lunatic asylum, and by others as an individual too insignificant to deserve their notice, or probably all thought, as all now nearly believe, that the agriculture of England was in the highest possible perfection, that nothing could be done to improve it, nor could it be improved. And so all my efforts ended in labour thrown away—and indeed I did not expect much from it.

But whether I was right or wrong, rational or exhibiting symptoms of a weak mind, Mr. Editor, in another article, if you will kindly print it for me, I will give your readers an opportunity of judging for themselves—that is, whether I was right in my conclusions, that the farming of England was a satire upon the age, considering the wonderful advances science had made in all other arts, and whether or not it cried almost trumpet-tongued, for the revolution I aimed at in every one of its parts. But before I proceed further, let me say a word or two about myself now, and though a venerable sort of person, I will avoid egotism, the weakness of my age, as much as I can. First then, 44 years since I wrote a few papers, as I have hundreds since endeavouring to show what vast improvement farming was capable of, and that the interest and safety of the country demanded their being made. But before I put pen to paper I read with avidity Sir H. Davy's "Agricultural Lectures" and "Elements of Chemical Philosophy," Parke's "Chemical Catechism," and Bishop Watson's "Chemical Essays," but which are now much out of date, and to these I added the works of those two glories of our country, Tusser and Tull; and with them I joined Xenophon and Theocritus, Greeks, and Virgil the Roman, and Columella the Spaniard, and I attended a few chemical lectures also.

This, my respected readers, and Mr. Editor, was what I did before I ventured to put my thoughts on paper on agricultural matters, and especially to allow them to be made public in print. And since then these books, with my Bible, &c., and some modern works, English and foreign, Liebig, Boussingault, Dumas, &c., are always lying on my study table, and they almost daily, even now, enable me to while away many pleasant hours, and if not profitably to others most certainly they are so to myself; for in them all are displayed to me the wonderful works of Almighty God, and I hope I can say, and without egotism or vanity, that the study of them helps to make me both a wiser and a better man, as I approach nearer and nearer the end of my earthly pilgrimage, to close my eyes in rest and sleep, my journey being at an end! I fear, my readers, this little episode may not have been very agreeable to you, but I have had an object in view while penning it, namely, to show, that like Æsop of old, though I relax my mind sometimes with a little sportive playing, and put my boxing gloves on to defend my venerable person from the sharp blows young aspirants for fame aim at it, I never even play without thought, nor hit but with a care not to wound; nor do I put my pen to paper without seriously reflecting upon what I am about to let fall from it. Nor did I study only, but I had a little land—about twice the quantity that Cincinnatus tilled—and which I might with propriety call my classical fields, for as nearly as I possibly could I cultivated them on classical models; and let me inform my readers, and especially let me claim the attention of my young opponent at Rushton, Blandford, and my other opponents—youths in years or juveniles in intellect—that it has been chiefly the marvellous success of my classical farming that has given me the confidence to write as I do, and to knock down my opponent with so much ease as I do. But to give one or two examples for the present as to seeding land: I never used more, but generally less than 2 pecks of seed an acre, and some few times only half a peck, and yet from less than 2 bushels of seed Wheat per acre in four years, or half a bushel a year, I had 176 bushels of fine crop, and then followed from 2 pecks of Barley an acre 44 bushels of crop an acre; and on one occasion I had 83 bushels of Barley from half a bushel of seed, or 166-fold of as fine Barley as ever was grown.

And further, I would go into my field in the dark, and allow any one else to do the same, and from among the growing crops—or to go in blindfolded—and pull up root after root from single grains of seed having upwards of 2000 fine plump grains to them, or upwards of 2000-fold increase, and some roots upwards of 4000-fold increase!

Now if Mr. J. Ford, jun., had imitated this practice, and in good earnest, though he had not succeeded to the extent that I did, he would, I think, have shown himself a wiser man, or more so, than turning it into ridicule, and especially should I have been enabled to treat him with more kindly forbearance, had he not repeated that oft-told proof of ignorance, that complete tillage of land, and having no more plants upon it than can grow luxuriantly, brings some demon among the crops and destroys them with mildew and honeydew—which two words, by the bye, mean the same thing, as mildew ought to be written meldew, from mel, honey, and deaw, the Saxon for dew, but I merely state this, and I did not expect Mr. Ford to write the word otherwise than as it is generally written.

But had Mr. Ford, jun. who I conclude is a respectable and well educated country gentleman, reflected but for a moment only, or had he dipped a little into natural science, or not closed his eyes against the innumerable proofs that in thinly sown crops by professed thin seeders, mildew and rust are never seen, though these maladies appear often in farmers' Wheat crops, and among the thickest seeded especially, as I had seen thousands of times; or where the seed has died, or the plant has died, and so the crops have become thin and mildewed;—but thin seeding could not cause the evil, since the seeding was thick—probably 2 bushels or $2\frac{1}{2}$ bushels an acre; or perhaps, as at the Royal Agricultural College, 3 bushels an acre. But I have never seen mildew on well tilled and thin seeded land, and I believe I have seen more of this kind than any other man, or nearly so.

But this is the way that men, otherwise respectable and intelligent, go on copying from the vulgar the

most palpable absurdities, of which, if I had space, I could give many ludicrous examples.

But to return: Mr. Ford trembles lest thorough draining, good tillage, and rational seeding should reduce farmers to "bone and skin," by, I conclude, reducing the prices of their productions; but here, again, if he would exercise his thinking faculties, he would find that his fears are all imaginary; for such is the low state of British farming, that the prices of corn and meat, &c., are regulated by the importations of them from foreign nations, and not from the products of our own country. Does he not know that in one single year it took this country 44 millions of money to purchase Wheat of foreigners to make bread of for our own countrymen, and that no year can English farming supply England with food for more than 17 weeks in it out of the 52, and even what farmers now grow is chiefly by the aid of foreign guanos, bones, &c., and the manures made by cattle fed with foreign oilcake, pulse, &c. We hear of elderly ladies being frightened at their own shadows, but Mr. Ford is scared at the shadow of a shadow—he raises a ghost which frightens him out of his senses.

Tremble as he seems to do, lest thin-seeders should glut the markets—and they will, it is morally certain, ultimately send very much more corn and meat to them than now find their way thither by the thick-seeders—yet the evil is too great and inveterate to be cured except by very slow measures; and hence thick-seeders, though a fearful retribution hangs over their heads, will proceed in their calling in their own way, and will not be reduced to the condition of

"Bone and Skin, those brothers twin,
Whose heads are soft and nothing in,"

Mr. Ford seems so much to tremble at; but will continue as they are, growing their 8 bushels of crop for one of seeds, and feeding their cattle with foreign grown fodder, and clothing their own backs with foreign grown wool, silk, and cotton. All this they will continue to do with their fellow countrymen until another foreign continental war shall break out; but then farmers—thick-seeders, thin-seeders, and moderates—will all perish together by one and the same agency, and that most direful one will be famine, yes, awful, appalling famine—for then all the ships of the British navy, and all those of the merchants combined, if armed with all the implements of destruction that the ingenuity of man can invent, will not be able to supply England with necessary food enough to keep the population from perishing by hunger and disease, and their accompanying evils.

An island like Great Britain cannot exist, depending from day to day as she now is, on all the world for food. No, no; and infatuated the man must be with his own folly who believes she can; she must have a complete revolution in all her farming operations, and which she ought to have had long ago, or she is inevitably lost; her enormous wealth will avail nothing against a scarcity of food during a war with continental Powers, but famine will destroy her. *Geo. Wilkins, Wix Parsonage, Jan. 9.*

## ARTIFICIAL MANURES.

A COMMUNICATION from a correspondent appeared recently in the *Times*, to which some prominence was given by a leading article referring to it, hinting at the progressive deterioration of the arable lands of this kingdom, and that this had of late been accelerated by the use of "artificial manures." When doctrine of this kind is imported into the *Times* it obtains universal publicity, and as the gradual destruction of the fertility of the land in these islands would, if true, be the most serious calamity which could befall the country, and the bare suggestion is calculated to alarm those owners of land who have not given their personal attention to the management of land, I hope to be permitted, through the same channel, to offer a few observations upon the communication to which I have referred. They are the result of personal experience in farming my own estate for many years, and also in the position of a tenant farmer. Having taken a great interest in the subject of agriculture, I have had my eye on all that has been going on among my neighbours in the centre of a large district, comprising mainly arable farms. My observation extends back over a period of 40 years, and I can safely say I am not acquainted with a single instance in which any farm, under the ordinary system of cropping, has been deteriorated; on the contrary, with rare exceptions in which farms have been in the hands of tenants without capital, skill, or care, increase of fertility and productiveness has been the rule.

There is really no comparison between the arable lands, as cultivated in this country, and those referred to in other countries after the clearance of forests, your correspondent's account of which is doubtless correct. In the latter case, a succession of corn crops is taken under very imperfect tillage, so long as the land will produce them in abundance, and then they are left, to adopt the same course with fresh land; no rest or return of produce is ever thought of; whereas the practice in this country is to return to the land all the produce except the grain, and some proportion of that on which the animals are fed. Furthermore, as a rule, the corn crop is followed by a root crop or a Clover crop, the whole produce of which is either directly or ultimately returned to the land. Again, the great extension of the root crop of late years is notorious. The fact is equally well known that these large-leaved crops derive considerable, if not the greater proportion of their increase, from the atmosphere, though the mode in which this is communicated is, as yet, undetermined. We know that five-sixths of the atmosphere is composed of nitrogen, so essential to our corn crops. We know as a fact that frequent stirring the mere surface of our soil, independently of any solid and specific manuring, has an immediate and evident effect in promoting the growth of our cereals, as well as of our green crops, which can only be attributable to atmospheric influences. Your correspondent writes that "from a foot to 18 inches of rich black vegetable mould, and under 12 or 18 years' aëration, is completely dissipated;" and again, referring to other soils containing too much of specified minerals, he adds, "and under aëration the small quantity of vegetable mould they may have acquired is soon exhausted." It is surely a very novel doctrine that land is exhausted by aëration. My observation and experience have taught me, on the contrary, that in proportion as land is thoroughly aërated, or, in other words, exposed to atmospheric influences, is the facility of its tillage, and its productiveness. To what other end do we drain but to supply the land with mild air rather than cold water? We plough as deeply as the land admits, and employ cultivators, drags, harrows, and hoes, for the same purpose, as well as to eradicate weeds. It is notorious among agriculturists that lands so carefully tilled and aërated, under the ordinary rotation of crops, and the returns in the shape of the ordinary manures produced on the farm by a competent stock, do not in fact deteriorate, but improve in fertility, without the aid of "artificial manures," as they are called. You have hit the right nail on the head in the following passage:—"We must be allowed to express a suspicion that few soils, if any, are quite so much passive agents in the hands of the chemical manipulator as we are asked to believe, and that, after all, there is no laboratory so efficient as the old farmyard." Liebig has done good service in demonstrating to farmers that the minerals contained in our soils are very material agents in the growth of our crops—that they abound, in most cases, beneath the surface heretofore stirred by the plough, in an insoluble state for want of exposure to atmospheric influences, showing the advantages to be derived from deeper tillage. Liebig has, however, pressed his mineral theory too hard. Your correspondent would have been more correct had he associated the name of Dr. Daubeny with that of Liebig, rather than that of Dr. Voelcker, the Chemical Professor in our Agricultural College. The laboratory of the latter is surrounded by our College farm of 400 acres of arable land, in which he conducts many experiments, and takes much interest. He finds that the laboratory of nature modifies much of the teaching of the laboratory of the chemist.

Your correspondent's suggestions in reference to the employment of artificial manures well deserve the attention of the owners of land. I believe with him that the use of active stimulants, such as guano and nitrates generally, to the Corn crops, is mischievous. That they materially increase the actual crop of Corn to which they are applied, as compared with ordinary farmyard manure, is unquestionable; but all "is not gold that glitters." I venture to state that, taking into consideration the produce of the entire rotation of crops, whether it be the four-field or the five-field course, well made and well preserved farm-yard manure will, at the same outlay, be more productive to the occupier than the stimulants to which I have referred. The nitrates are to the land as the whip and spur to the horse, which increase his speed, but not his endurance.

Where something more than the ordinary produce of the farmyard is required, and it can be economically afforded, this should be obtained by the outlay of food for the stock. There is no question about the permanent value of the products of the animal laboratory.

I am far from condemning the use of all artificial manures; on the contrary, the phosphates materially increase the growth of the root crops, leading to the increasing of the live stock, and to the quantity and quality of manure, all of which is returned to the land. The application of bones to land depastured by cows for a long period is another instance of unquestionable advantage of a permanent character. *Charles Lawrence, Cirencester, Jan. 17, in the Times.*

## FOREIGN LIVE STOCK.

### HAS ITS IMPORTATION BENEFITED US?

[The following are extracts from an exceedingly interesting paper in a late number of the *Edinburgh Veterinary Review.*]

The leading points may be thus briefly summed up:—

1. Have we, as a nation, profited by the free introduction of foreign stock?

2. Have prices of either beasts or sheep suffered from foreign competition?

3. Have the losses of home-fed stock been equal to the importations?

4. Are the precautions taken to prevent the spread of disease in England and elsewhere judicious, and equal to the emergency?

Lastly, we propose to demonstrate the utter fallacy of the system which admits the intermixture of foreign stock with our own.

1. The first question, as given above, has never hitherto been raised; but on close examination of various details, it will be found all important both to the producing and consuming classes. The former naturally desire a remunerative price for their productions, whatever they may consist of; whilst the latter too frequently contend for the necessity of enlarged supplies, from whatever source they can be obtained, without fully comprehending the effects which may ultimately arise from the importation of an article, which carries with it a fearfully destructive power, and which may be instrumental in raising the value of a particular commodity far above its ordinary level—consequently in sapping the very foundations of our agricultural greatness. London being the great emporium for the import and sale of foreign stock, claims our attention, in the first place, as the largest consuming city in the world, and as the centre of disease, which we shall prove as we proceed. The great increase in the population of the metropolis during the last ten years, viz., 440,798, the actual census in 1851 being 2,362,236, and in 1861, 2,803,034 souls, would naturally lead us to the conclusion that the necessities of the people would lead to an enormous increase in the consumption of butchers' meat, and the operations of free trade in foreign stock would materially assist in providing for the requirements of an augmented population. Let us bring a few statistical facts to bear upon this question. In doing so, we will take the past 11 years, viz., from the period of the census in 1851, and include the value of beasts and sheep in a given period. If we mistake not, the details will show that free trade in cattle has been otherwise than favourable to the country generally. In the 11 years, then, ending with 1861, the total supplies of stock exhibited in the London markets, were as under:—

TOTAL SUPPLIES OF STOCK EXHIBITED IN THE LONDON CATTLE MARKET.

| Years. | Beasts. | Cows. | Sheep and Lambs. | Calves. | Pigs. |
|---|---|---|---|---|---|
| 1851 .. .. | 233,761 | 5,083 | 1,549,426 | 21,383 | 33,954 |
| 1852 .. .. | 243,537 | 6,067 | 1,455,240 | 27,225 | 32,178 |
| 1853 .. .. | 269,607 | 6,030 | 1,498,772 | 30,178 | 32,354 |
| 1854 .. .. | 257,167 | 6,227 | 1,498,525 | 24,853 | 34,280 |
| 1855 .. .. | 246,306 | 5,625 | 1,423,418 | 23,420 | 38,940 |
| 1856 .. .. | 252,624 | 5,841 | 1,325,474 | 20,395 | 34,077 |
| 1857 .. .. | 250,224 | 5,630 | 1,238,204 | 23,426 | 28,232 |
| 1858 .. .. | 258,710 | 6,054 | 1,335,597 | 24,164 | 32,646 |
| 1859 .. .. | 256,571 | 6,007 | 1,462,036 | 19,558 | 30,999 |
| 1860 .. .. | 260,122 | 5,919 | 1,421,770 | 25,281 | 29,676 |
| 1861 .. .. | 259,562 | 6,262 | 1,378,910 | 19,000 | 36,078 |

Thus we find that, comparing 1861 with 1851, the increase in the supply of beasts for the whole year was only 25,801 head; but if we compare 1861 with 1853, in which latter period 269,607 beasts were shown, we find a positive deficiency of 10,045 head! In 1853 the number of beasts turned out unsold to reappear for sale—and we beg particular attention to the turning-out system—was under 10,000; whilst in 1861, it was nearly 20,000 head. It follows, therefore, that the deficiency was nearly 20,000 head. But it may be said that the local markets in the vicinity of London have increased in importance. To some extent they have; but in numerous instances they have been partly supplied from the London market, and during the greater portion of 1861 and the present year, much of the meat sold by the butchers at Brighton, Hastings, Lewes, Margate and Ramsgate, as well as in the towns north of London, has been derived from the metropolitan market; so that, in point of fact, the increased supplies consequent upon the free import of foreign stock, are nowhere to be met with. It may, however, be contended that the additional consumption has been supplied by a very large increase in the arrivals of dead meat up to Newgate and Leadenhall markets from Scotland and various parts of England. On this subject we have made close inquiries, and the result of our investigations proves conclusively that the reverse is the case. The total number of carcasses received up to those markets, since January last, has not exceeded 30,000 per week; but, in 1851, they were upwards of 40,000, and in one week in 1841, they were nearly 80,000. Of course, prices in the latter year were very low, and who can feel surprised that they were so, with enormous supplies of home-fed stock, and with a population considerably less than at present?"

The table of the supplies of stock exhibited in the metropolitan market includes nearly, or quite, the whole of the foreign stock received in London; consequently, if we deduct the imports in 1861 from the total numbers shown, we find that, exclusive of the numbers turned out week by week, the supply of English, Irish and Scotch bullocks did not exceed 215,326 head. This statement will be better understood on reference to the annexed statement of imports:—

IMPORTS OF STOCK INTO LONDON.

| Years. | Beasts. | Sheep. | Lambs. | Calves. | Pigs. |
|---|---|---|---|---|---|
| 1851 .. .. | 40,095 | 179,210 | 9,720 | 18,722 | 9,575 |
| 1852 .. .. | 37,449 | 171,347 | 8,293 | 20,219 | 7,220 |
| 1853 .. .. | 52,344 | 200,419 | 7,711 | 22,619 | 8,508 |
| 1854 .. .. | 49,603 | 134,855 | 3,862 | 17,331 | 8,625 |
| 1855 .. .. | 49,030 | 131,324 | 3,207 | 14,617 | 9,266 |
| 1856 .. .. | 41,211 | 104,498 | 5,709 | 15,564 | 7,333 |
| 1857 .. .. | 35,222 | 128,946 | 6,616 | 19,118 | 7,911 |
| 1858 .. .. | 36,446 | 142,824 | 9,175 | 19,614 | 8,402 |
| 1859 .. .. | 37,974 | 201,231 | 10,762 | 21,537 | 5,919 |
| 1860 .. .. | 46,231 | 236,699 | 14,192 | 19,066 | 16,115 |
| 1861 .. .. | 44,236 | 235,910 | 11,216 | 16,415 | 20,883 |

It is now necessary to consider what portions of England have benefited or suffered from the free introduction of stock from abroad. Whilst some districts have slightly increased their supplies of beasts for consumption, others have suffered materially, and others have scarcely advanced during the past ten years. In proof of these observations, we insert the annexed statement of the districts from whence London has drawn its bullock supplies in that period.

DISTRICT ARRIVALS OF BEASTS IN LONDON.

| Years. | Northern Districts. | Eastern Districts. | Other Parts of England. | Scotland. |
|---|---|---|---|---|
| 1851 .. .. | 60,360 | 61,300, | 30,300 | 16,020 |
| 1852 .. .. | 70,550 | 55,010 | 51,130 | 15,446 |
| 1853 .. .. | 56,650 | 60,400 | 31,700 | 18,446 |
| 1854 .. .. | 59,740 | 57,300 | 33,200 | 12,976 |
| 1855 .. .. | 53,400 | 64,080 | 24,580 | 12,820 |
| 1856 .. .. | 61,660 | 56,700 | 34,550 | 12,742 |
| 1857 .. .. | 81,600 | 67,500 | 29,860 | 10,796 |
| 1858 .. .. | 71,260 | 73,860 | 28,380 | 11,130 |
| 1859 .. .. | 68,470 | 71,060 | 42,310 | 14,7[illegible]0 |
| 1860 .. .. | 70,140 | 76,020 | 43,750 | 5,584 |
| 1861 .. .. | 76,150 | 61,260 | 27,400 | 12,858 |

It must be understood that the 'Northern Districts' refer to Lincolnshire, Leicestershire, and Northamptonshire; and the 'Eastern Districts' to Norfolk, Suffolk, Essex, and Cambridgeshire. The statement shows a steady increase in the producing powers of the first named counties, almost a 'stand-still' system in the east, and a falling off in the production in other parts of England, as well as in Scotland.

2. How, then, have the consuming classes fared in the period indicated? Have they purchased animal

food at a less cost than previous to the commencement of free trade?

"In the ten years prior to 1842, the average prices of beef in Smithfield did not exceed 3*s.* 2*d.*, and of mutton, 3*s.* 6*d.* per 8 lbs. In 1851, nearly the same quotations were realised; but for the sake of a closer comparison, we will take the month of November, since that period to the present time. The comparison stands thus:—

Prices of Beasts and Sheep in November, per 8 lbs. to sink the offal.

| Years. | Beef. | Mutton. |
|---|---|---|
| 1851 .. .. | 2*s.* 2*d.* to 3*s.* 8*d.* | 2*s.* 8*d.* to 4*s.* 2*d.* |
| 1852 .. .. | 2 0 „ 4 0 | 2 6 „ 4 6 |
| 1853 .. .. | 2 6 „ 4 6 | 3 0 „ 5 0 |
| 1854 .. .. | 3 4 „ 5 2 | 3 4 „ 5 0 |
| 1855 .. .. | 3 4 „ 5 2 | 3 4 „ 5 0 |
| 1856 .. .. | 2 8 „ 4 10 | 3 2 „ 5 2 |
| 1857 .. .. | 3 0 „ 4 10 | 3 0 „ 5 4 |
| 1858 .. .. | 2 8 „ 4 10 | 2 8 „ 5 0 |
| 1859 .. .. | 3 0 „ 5 0 | 3 2 „ 5 2 |
| 1860 .. .. | 2 6 „ 5 0 | 3 4 „ 5 4 |
| 1861 .. .. | 3 0 „ 5 3 | 3 2 „ 5 8 |
| 1862 .. .. | 2 8 „ 4 10 | 3 8 „ 5 8 |

"It follows, therefore, that the best beef is now worth 1*s.* 2*d.* per 8 lbs., more than in 1851, and that the advance in the best qualities of mutton is 1*s.* 6*d.* per 8 lbs., or 2¼*d.* per lb.!

3. Apparently these figures are highly favourable to the agricultural body in this country, but if free trade in stock implies high prices, how is it that home production does not keep pace with the demand! The reply to that question resolves itself simply into losses by disease—imported, we have no hesitation in saying, amongst the foreign stock, and this brings us to the consideration of the third point laid down in the first portion of our article.

"The public, generally, are well aware that a great number of sheep have been lost in Wiltshire, and some other counties in England, owing to an alarming spread of small-pox; but they are very little acquainted with the actual extent of the disease amongst sheep, or of the effects of the lung and hoof disease amongst the beasts. We are not alarmists when we state that fully one-third of the stock disposed of from time to time in our various markets, are more or less suffering from disease of some nature. If such be the case in open markets, how far must the evil have travelled throughout the country? It is a very common error to suppose that, because some kind of inspection is made of the stock which arrives in London from Holland, Germany, Sweden, &c., and, occasionally, consignments have been rejected by the inspectors, the present system wholly prevents the introduction of disease into England. We import on the average of years about 300,000 head of each kind of stock from abroad; but what is that number compared with the vast herds and flocks possessed in the United Kingdom, and the fearful amount of risk, attended with fearful losses, we incur in the spread of a malignant disease amongst our native breeds? It might appear difficult to estimate those losses, but our decided impression is, that they have far, very far, exceeded the number of stock imported. Some districts in England, such as Herefordshire, Devonshire, Sussex, &c.,—in which, be it observed, foreign stock has not hitherto been introduced,—appear to have escaped remarkably well; but wherever experiments have been made in fattening foreign animals, and which have come in contact with our own breeds, the results have been most disastrous. Let us give a few instances of loss amongst the foreign stock purchased in the metropolitan market. A friend of ours, residing in Norfolk, purchased 200 Dutch beasts, at 16*l.* 10*s.* each. They were conveyed to his farm, and placed in the stalls; but, in the course of three weeks, no less than 47 of them died from disease. Within six months, the number had been reduced to 80. They were sold, some on the spot, at 20*l.* 10*s.*; and the remainder—20—which turned out remarkably well, were again disposed of in London, at an average of 28*l.* 10*s.* each. An eminent distiller in the metropolis purchased the same number to fatten on grains: but the loss in this instance was still more severe, 63 having died in less than six weeks, and the rest were sold as speedily as possible, at from 14*l.* to 16*l.* each. Were it necessary, we could multiply similar instances, but we refrain from doing so on the present occasion, owing to the want of space."

4. Well, then, in dealing with the fourth question—Are the precautions taken to prevent the spread of disease in this country equal to the emergency?

"On the arrival of the steamers from abroad, laden with stock, the condition of the animals is certainly a matter of inspection, and we assume that nothing in the shape of disease is allowed to pass into the cattle market; but what supervision exists beyond this. The inspector in the market itself can order stock to be destroyed, if found in a very diseased state; but, beyond this, literally nothing is done to prevent contagion. Now, it frequently happens that many thousands of sheep—merinos—imported from Schleswig-Holstein, *viâ* Hamburg, are annually purchased by persons having land in the neighbourhood of the metropolis to keep down the Grass, and on speculation. These sheep, generally purchased in a very poor state, at from 17*s.* to 22*s.* each, are mixed with Lincolns, Leicesters, Downs, half-breds, &c., and after a run of some six or seven weeks are again brought into the market in, as we have frequently seen, a diseased state. But the evil does not rest here. It is true that the Metropolitan is not a market for the sale of store-beasts or sheep; but an immense number of those half-fat—we here refer to English breeds—are taken annually to graze and feed in Hertfordshire, Bedfordshire, Essex, Kent, Surrey, and various other counties. Need we point out the extreme danger of thus contaminating our own flocks and herds, in being penned amongst diseased stock; and need we feel in any way surprised that the disease, in a most virulent form, should suddenly present itself in more than one locality? Be it understood that the whole of the stock imported from abroad is liable to disease. It may not show itself on arrival; but no buyer can be certain that it will not present itself within a very few days after the stock is reported; indeed, it is a well-known fact that both beasts and sheep turned out of the cattle-market unsold on the Monday have seriously deteriorated in value within less than a week, and have consequently been sold at corresponding prices. In the lairs, there is an indiscriminate mixture of stock, diseased and in a healthy state, during several days; hence we contend that the precautions taken to prevent infection wholly fail in their intended effects.

"It may be asked what remedies we have to propose to prevent the spread of disease in the country, seeing the magnitude of the whole question bearing upon an adequate supply of food? We contend that foreign stock ought never to be allowed to mix with our own breeds under any circumstances; that lairs and slaughter-houses ought to be erected near the landing wharfs in London, and that severe penalties should be inflicted upon those who exhibit, or dispose of imported stock in open markets. These may appear to be arbitrary rules and regulations; but who shall tell what another year may bring forth, with a comparative license to sell foreign stock, which, in a short period after being landed, may communicate disease in its worst form to our English breeds? Is it not a well-known fact that during the present year the losses of home-fed beasts and sheep have largely increased, and is it not well known, likewise, that stock raised abroad is peculiarly liable to diseases unknown in the United Kingdom prior to the passing of the present tariff? It is perfectly useless to tell us that any system of inspection in this country on the arrival of the stock can prevent the introduction of disease, whilst a general intermixture is thenceforth permitted, and whilst sales are allowed for grazing purposes, because past experience has fully proved to us that such intermixture has been productive of serious, and in many instances, irreparable loss to the grazing community. We do not argue the necessity for wholly excluding foreign stock from this country; but we do maintain the principle, that we ought at least to protect ourselves from the possibility of loss. The simple, though all-important question to consider is,—can we afford to sacrifice even a moderate portion of the stock in the United Kingdom, (the value of which is very little short of 200 millions sterling), in order that the people may enjoy the supposed advantage of a large import of foreign stock to keep down prices to a moderate level? The statistics we have given prove conclusively to our minds that, irrespective of the immense sums in hard cash which have been drawn from us by the foreigners, we have lost more in the quality and condition of our own breeds, by the introduction of diseased beasts and sheep, than is generally supposed. Whilst the present system is allowed, daily losses must arise from it, until, eventually, we may find home stock not only very scarce, but considerably dearer in price than it now is. As a great consuming nation of animal food, and with a rapidly increasing population, especially in towns and cities, our great aim should be directed towards an increased home production. To secure that object, every effort should be made to exclude from our shores disease in every form. It will not do for the Government to remain passive whilst the enemy is at our very doors. If they really desire to protect the producers and consumers, let them call to their aid those who thoroughly understand the great question at issue, and the country may be saved from the consequences of loss and high prices, without destroying the principle of free trade in foreign stock."

## Home Correspondence.

*Furze Culture.*—I cheerfully respond to the call of "A. B. C." regarding Furze, though when writing before on the subject I had intended to have paid a long promised visit to the demesne farm of Belle and be enabled to describe Mr. Cliffe's machine for preparing the Furze, and the system of culture on such good land; the impression formerly being—and on many minds still is—that Furze is profitably grown but on poor high dry land, difficult to cultivate, and when cultivated producing very inferior Corn crops. Mr. Cliffe's farming has been long conducted by a most respectable intelligent Scotchman, totally free from those anti-Irish propensities that were characteristic of the class of Scotchmen formerly introduced as stewards into Ireland, and whose management, from their ignorance of the peculiarities of the country, had so largely contributed to the trade of the Irish Incumbered Estates Court. To show the great value set upon Furze for horse and cattle feeding by Mr. Cliffe, he once said to me, on the scarcity of Grass and hay in the dry year of 1859: "But for the Furze we would have become, as it were, bankrupt in provender." But, however desirable and profitable Furze culture has been on such fine land as Bellevue, I think that until we can get the large tracts of Ireland, valueless in their present state, brought into use for Furze culture, it would be well to confine our operations in this regard to such lands; for by the superabundance of valuable food which they could be made to produce, those farmers beside them having land capable of corn growing and sheep feeding can be enabled to purchase or rent some of these Furze meadows from their owners, as I believe is now extensively done in some parts of the county of Cork, where the great value of Furze is so well known. There are two or three descriptions of soils and subsoils in Ireland on which I have seen Furze seldom grow well. They are what is called "burning sands," and deeply calcareous gravels—shallow soils resting on limestone beds, and heavy strong undrained clay soils resting on marl beds. Time of sowing—from the middle of March till the 1st of May, though I often sowed them with success on ditch banks later in the summer and early in autumn. But the above period is the best, especially when sown with a corn crop, for which Barley, if the soil suits it, is the best, as it is least injurious to the young Furze. I have sown the Furze even with a Flax crop, and they did well and without injury to the Flax fibre. Quantity of seed per statute acre—30 to 35 lb Some prefer a lesser quantity, and argue that by having a thinner crop the plants grow stronger and produce a greater arable produce, whilst a great many more prefer to have the crop thick, by which means the stems will be finer, and producing less waste in woody matter when the food is being prepared by cutting, crushing, or otherwise. Mode of sowing:—When the corn is harrowed in, or rather before the last "stroke" of the harrow is given—but better still with the Grass seed harrow, the Furze seed will be adequately covered, and let all stones be removed from the surface, which must be made as smooth and even as possible so as to admit of the scythes cutting the Furze as near the ground as possible, otherwise the stubbles or Furze stumps will in the course of time become so long as to lessen the produce considerably, and render the operation of cutting difficult. In harvesting the corn crop it will be advisable to leave the stubble long, to avoid cutting down thus early and injuring the growth of the young Furze; besides, the corn stubble will afford them shelter during the winter, and shade from the sun during spring. Deep cultivation of the land where practicable will be necessary, and though the Furze when established will thrive when their roots get into a subsoil that would be poisonous to corn, it is better to avoid bringing much of such subsoil to the surface, whilst the Furze plants are *in embryo*. If the land be very poor in the surface, a slight manuring with guano, superphosphate, or gypsum, or all three combined harrowed in with the corn crop, will be useful in giving the Furze a strong "start," by which means the seed sown next spring will be fit to mow for provender in the winter of 1864. Some prefer to give the plants a second year to strengthen and establish themselves, and say that though the first year's produce pays nothing, by thus strengthening the plant the loss will be more than compensated for by an increased annual produce corn in three years cutting. *E. Carroll.*

*Coates's Herd Book.*—As the 15th volume of Coates's "Herd Book" is now in preparation, and as the work threatens to become before long both very cumbersome and very expensive, I beg to call the attention of Short-horn breeders to this matter, with the view of inducing them to consider how this growing evil may best be checked, and the book kept within reasonable dimensions. Now, the object of the work is to afford the means of tracing the pedigree of any pure-bred Short-horn, and this may be attained by entering bulls only, with numbers attached to their names, as has hitherto been done; cows having been always entered without numbers, as if it was deemed unnecessary to refer to the book as to the cows in tracing a pedigree. I am therefore inclined to think that the entries of cows might be omitted (except, perhaps, celebrated prize animals), without greatly affecting the utility of the work. Thinking thus, I respectfully request Short-horn breeders to consider the matter carefully; and if they arrive at the same conclusion as I have done, they will perhaps be induced to omit the entering of their cows, and thus in some degree prevent this valuable Herd Book from becoming what it now seems likely otherwise to become, "a great book," which, according to the Greek sage, is "a great evil." *A. T.*

*Notes on Irish Farming Societies.*—The Royal Agricultural Society of Ireland was instituted in 1841 under the presidency of the Marquis of Abercorn, and the vice-presidency of eight other noblemen of distinguished reputation and rank as improving landlords, with a numerous and, we may assume, efficient Council. Their primary objects are announced to be—1. The establishment of at least one annual agricultural meeting for the show of cattle, &c., to be held in one of the four provinces in rotation, similar to those which are now held by the Highland Society and the Royal Agricultural Society of England. 2. To encourage the foundation of local or district agricultural societies, and to enter into communication with them, and afford them every aid and assistance towards improving the culture of land and breeding of cattle in their immediate localities. 3. To promote improvement in the dwellings and domestic condition of the agricultural population in Ireland, There are 32 Local Societies in connection with this Central Society, and though these may not all act with equal energy and effect, the aggregate amount of improvement attained through their instrumentality, must be considerable. The large prizes annually distributed at the provincial meetings excite much emulation, and constitute one of the chief causes of the great improvement which has taken place in Ireland in respect of farm live stock of all descriptions. No cost is spared by the leading breeders for the purchase of cattle of the best blood that Great Britain can afford, and the beneficial results are obvious to those who attend the cattle fairs and markets. And instead of deteriorating on the Irish soil, cattle and sheep naturally improve in their successive generations on the prime Grass lands which are available to them in many counties—much more so, in proportion to extent of area, than in Great Britain. The last notice under the head above (which was written many weeks ago), concluded with the remark that the names of two or three landlords had appeared in the schedule of applicants for loans through the Board of Works, for building labourers' dwellings. Several other proprietors have subsequently applied for loans for the same purpose (the third object of the Royal Agricultural Society) and other improvements. *M.D.*

## Farm Memoranda.

COLLEGE FARM, CIRENCESTER.—In writing a report for the last month of the year, we are naturally inclined to review the principal agricultural features of the past season, and one fact stands out very obviously, viz., that it has been a bad year for the farmer. As the rickyards become emptier, so does the evidence become more clear that the yield of corn is very deficient, probably quite as bad as in 1860, and no doubt in great measure owing to the same cause, viz., excessive rainfall at certain important periods, and the absence of genial, hot, dry weather, during the ripening of the grain. The total rainfall as registered by Mr. T. C. Brown is not very much above the average, being 32.46 inches, whilst the average of the last 15 years is 30 inches. The following is his table :—

| | Ins. | | Ins. |
|---|---|---|---|
| | | Brought forward .. | 16.89 |
| January .. .. .. | 2.70 | July .. .. .. | 2.08 |
| February .. .. .. | 0.35 | August .. .. .. | 2.25 |
| March .. .. .. | 4.70 | September .. .. | 3.87 |
| April .. .. .. | 2.22 | October .. .. .. | 4.72 |
| May .. .. .. | 3.95 | November .. .. | 0.55 |
| June .. .. .. | 2.97 | December .. .. | 2.10 |
| | 16.89 | Total .. .. | 32.46 |

The large rainfall from March to June inclusive must have been very unfavourable for the cereal produce, and by interfering with the preparation for the root crops threw the planting back, and this partly accounts for the deficient crops which are general in many districts. The months of February and November, often amongst the wettest, were remarkable for the absence of rainfall. The dry character of November was of great importance in enabling the farmers to turn up the fallows in a healthy condition; more especially as up to this date we have had so little frost. Live stock will however to some extent help to make up the deficiency. Prices have been remunerative, and on dry healthy land sheep have done well; still the bad weather during lambing and weaning time has in many cases seriously affected the young stock. Tegs are not large, and the casualties from chest diseases and other inflammatory disorders are unusually heavy. In the low lands we hear that rotten sheep are spoken of, though this scourge appears in a very mitigated form as compared with 1860; and all over England cattle have been attacked with a foot and mouth disease, causing very serious loss to the dairyman and grazier.

With regard to the question of Horn *v.* Corn, which has lately occupied considerable attention, it appears to us quite impracticable to attempt to separate these two sources of an arable farmer's returns. If we could look into the future and be certain that corn would bring only low prices and meat would remain dear, we might wisely modify our system so far as to enable us to keep an increased quantity of stock, but we must still though perhaps rather less frequently, have corn, because it is the return from the corn that pays us in a great degree for the outlay upon our root crops. As a general rule, the return from sheep does not pay for more than the cultivation, rent, taxes, &c., of the land in roots, and others not even this, but the soil is left so enriched that it will grow perhaps 5 qrs. of Barley, which costs comparatively little to cultivate, and it is often to the produce of the corn as compared with its cost that we must look for our profit, rather than to the sheep, whose manure has so greatly contributed to this result. The idea of sheep without corn is absurd. We may on light soils keep our land in Grass for two years, and so increase our sheep food, but it must be with the view of growing a larger corn produce per acre that we repeat the crop less frequently. The only safe system of farming at the present day is that which aims at the largest possible production that is profitable. To what extent we can avail ourselves of artificial manures and artificial foods is a question that must depend upon soil, climate, and a variety of circumstances, but that each should avail himself of these valuable aids to the full extent that he knows to be profitable there can be no sort of question. Let us take for an example the use of artificial manures. A soil of moderate fertility, capable of growing 30 bushels of Wheat without extra help, can be made to produce 40 bushels if top dressed with a manure, costing say 25*s.* to 30*s.* per acre; with Wheat as low as 5*s.* a bushel, a very handsome profit remains. But in what condition is the soil left after such an increase of crop? Undoubtedly it is exhausted in proportion as the mineral matter and nitrogen in the increased produce exceeds that which was applied in the fertilizer. The latter has acted partly as a food, partly as a stimulant, resembling somewhat the action of a tonic on the animal system. This exhaustion is of no importance, provided we can renew the fertility of the soil at a cost that shall be less than our gain from the increased corn crop. The root crop follows—manured with, probably, farm-yard and artificial manure; consumed by sheep, eating corn or cake; and we have the soil again prepared for another corn crop. With such a practice we need not fear our soils becoming too rich for corn crops; indeed our own experience has been that within certain limits the application of an artificial stimulant to the Wheat crop gives the best net return when the soil is naturally the most fertile. A remarkable instance of this came under our notice lately. A celebrated farmer in Wiltshire applies nitrate of soda at the rate of $1\frac{1}{2}$ cwt. to a field of Wheat on stiff soil; leaving a measured space undressed. The season was very unfavourable for such land. The natural produce was only 20 bushels per acre, whilst the manured part yielded 40 bushels per acre, besides a large increase of straw which was not noted. The plant was stimulated to assimilate an increased amount of food, which the stiff soil contained in abundance. Of course the topic we have alluded to is totally distinct from the question, how far arable or pasture land is the more profitable.

With regard to the month that is past we have little of interest to chronicle. The weather during the early part was dry and favourable for field operations, allowing of steam and horse ploughing the fallow land, and raftering Sainfoin, and old Grass land in preparation for the breast plough and burning. Swedes had been buried in drills opened by a common plough (3 rows in each), and again ploughed over, whilst a limited portion were cleaned, heaped and soiled over to be kept as a reserve in case of severe frost. Cleaning out ditches, grubbing up fences, in order to make the surface more suitable for steam cultivation, and repairing roads, now constitute the principal operations. In the report for November we made some remarks upon our falling sheep; we will now notice the management of the ewe flocks. These are divided into two portions. The shearling ewes are gnawing Swedes, and getting some inferior seed hay; and, considering the very wet weather, they are doing well. A pen of straw is made in one corner of the field, on which the cribs are placed, so that the sheep at night have a dry lair. The older ewes are eating Turnips, of which they have a very limited supply; at night they are driven into a fold-yard, and supplied with straw in racks. All through December they had Bean straw, and it is astonishing what a large quantity they consume, and how well they thrive upon such food.

It is a common idea that it is only the pods or the upper portions of the straw that sheep will eat, but we find that a large proportion of the straw is eaten. Now they are having Pea straw, and when within a week or two of lambing, a portion of hay will be given for the first time. The feeding value of straw is a question of such importance that any successful instance of its use ought to prove interesting. When straw alone is used for fodder, it will not pay to cut it up; we not only have the expense of cutting, but the sheep will not do so well. *John Coleman, Royal Agricultural College.*

## Miscellaneous.

*Bakewell and Jonas Webb.*—It is pleasing to see the awakening of a better feeling to those men who have distinguished themselves as breeders of live stock, and desiring all manner of success to the subscription for a monument to Jonas Webb, in the Agricultural Hall, it certainly seems to me that if that monument is erected, which I have no doubt it will be, it must have the effect of recalling to mind the neglect which has been permitted to hang over the greater name of Bakewell. It is perfectly wonderful that some attempt has not been made to associate his name in some way or other with the many displays of live stock which occur so often in England. While in Scotland now we have statues of James Watt of various kinds, and while in England just the other month a statue of Crampton was inaugurated; while numbers of men only noted for transient and ephemeral works have been commented on in no ordinary degree in many of the other departments of manufacturing and mercantile pursuits—the very existence of the greatest name which any country can boast of in the production of food for the million is left entirely ignored. When some half-informed people speak of the few names of discoverers which agriculture can boast of in comparison with other departments of knowledge, we say then there is none in any surpassing that of Bakewell. Before ever Crampton, Arkwright, or James Watt made their discoveries, he had made his; and it is truly wonderful how Providence works, for had the laws which regulate the production of sheep or mutton not been then discovered, how would the millions have been fed which these discoveries called into existence? For his discoveries are equal in degree to those of any of these great names. The genius who could discover what his did—that a certain form of the animal system was required before the beef-producing properties could be acquired, and that a certain quality of touch must accompany that form before the full advantage could be realised from that form, was of no common order. Let breeders say what they choose, not one new principle has been enunciated since he produced his Leicester sheep, and created a breed of animals from which they only have copied. From some acquaintance with the older works on agriculture, it has always appeared to us that it some day would come when the value of Bakewell's discoveries would be more truly appreciated and acknowledged. Any works treating on live stock before his day contain the most absurd and contradictory rules for the breeding of sheep and cattle, evincing the grossest ignorance of the rules which he exemplified in his stock. But the universality of their adoption at the present day seems to be the cause why so little regard is paid their discoverer. It is surely time that something was done. A statue by all means, if people wish it, in the Agricultural Hall, where it should fill the place of honour if there is any such. But there are other ways by which respect may be shown his name. Why should the Royal Agricultural Society, with thousands at its command, not offer 100*l.* prize for the best essay on his life and discoveries, to be followed up by those of his successor Mr. Collins. Or why not pay a competent party to execute such a work, to hunt out all the reminiscences which may yet exist as to his history, whether any portrait of him still or ever was to be seen. Whether any portraits of his early sheep may be in existence. In the literary and philosophical journals there are few more interesting pages than those with the lives of the chemists or mechanics. Why not let us have equally full accounts of the life and labours of the men who have produced races of animals which have no equals in the world? *A Mid-Lothian Farmer.*

## Calendar of Operations.

JANUARY.

[The following passages are extracted from *Morton's Farmer's Calendar.* Routledge.]

*The Feeding House and Byre.*—The Economy of Winte Cattle-feeding—will be discussed in November and December, when it commences, and it must suffice here to refer to the continued use of the mixed chaff, pulped roots and meal—becoming richer as the fattening process is prolonged. One half the quantity of roots formerly commonly given (or, say $\frac{3}{4}$ cwt. daily), is thus used along with 20 lbs. or more of sweet straw chaff, and 4 lbs. to 8 lbs. of meal, either Beans and Barley meal, or oil cake crushed and moistened, or their equivalent in Carob pods or cotton seed cake, or some of the other cakes whose merits will be compared in the Calendar for November.

*The Cow House.*—Cows may, some of them, calve this month. They should afterwards receive more succulent food than formerly—as Turnips, Cabbages, Mangel Wurzels. After they calve, they should be kept quite from the other lean stock, either in the house or in another yard, and be fed upon those articles and hay, or cut chaff, mixed with pulped roots, and two or three pounds of meal, daily. Cabbages, of which 40 or 50 tons may be grown per acre, will maintain cows in the cheapest manner; and the butter made from their milk will be perfectly sweet, whatever (almost) be their food, if the milk have hot water (one pint to a gallon) added, when set for cream, and if the cream be scalded—the tin of cream being placed for half an hour before churning, in a boiler of water at the boiling heat, and its contents stirred repeatedly. It is, however, right, if Cabbages be given, to remove all decayed and yellow leaves, giving the cows nothing but the heart of the Cabbage: the refuse leaves will be eaten clean up by the lean cattle. The great expense of winter-feeding cows with hay alone eats up the profits of the dairy, even if none be given till they calve; for supposing them to calve in January or February, there remain three or four months for that expensive food.

*Young Cattle.*—The last year's calves should now be fed liberally with chaff of hay and straw, mixed with pulped roots, either Turnips or Mangels; and they should be thoroughly well fed, and kept perfectly clean by means of litter. At this age it is a matter of great consequence to keep such young cattle as well as possible, for the contrary practice will inevitably stop their growth, which cannot be recovered by the best summer food. To steers and heifers two years old, the same food in proportionate quantity may be given, the chaff being of hay, if it is abundant; or straw, with baits of Turnips, Cabbages, &c. It is not right to keep yearling calves and two-year olds together; they should, if in yards, be sorted out in lots of equal size and strength, or the weak ones suffer. And if the practice of giving them out Turnips along with a little hay or access to the straw, should be adopted, yearlings should receive in addition one or two pounds of oil cake daily apiece. The two-year old steers should be in fattening order on the best food in the feeding house, as already described—or, if heifers, on the less fattening diet, to which reference has already been made.

*The Breeding Flock.*—In this month ewes of some breeds of sheep will lamb. They should be provided with shelter, food, and attendance. They seldom need Turnips till near the end of the year; most farmers having Grass sufficient for the ewe flock till they are near lambing, when they should have Turnips regularly given them. If the land be not dry, the best method is to draw the Turnips, and cart them to a dry pasture, and there bait the sheep on them twice a day, observing well that they eat clean, and make no waste; which is not a bad rule for ascertaining the quantity necessary. In this way the Turnip crop goes the farthest. On dry soils, the best way, as the best manuring for the succeeding Barley crop, is to eat the crop on the land, hurdling off a certain quantity for the flock; and, as fast as the crop is consumed, whether off the land or cut in troughs, to remove the hurdles farther. This method saves much trouble, and is highly improving to the land; but it should be practised only on lands that are dry, otherwise the sheep poach, and do mischief. The crop, when eaten as it stands, will not go so far as if drawn and laid in a Grass field; for the sheep dung, and stale, and trample on many of the roots after they are begun, which occasions waste: nor is there any loss of manure in carting them, only it is left, in one instance, on the arable field, and, in the other, on the Grass one.

BERWICKSHIRE MERSE FARM : *Jan.* 10.—Since the departure of winter in November we have enjoyed six weeks of remarkably mild weather. Until Sunday last there was not a touch of frost, but on Tuesday the ploughs were frozen out for that day only. Strong winds prevailed during the latter half of December, and on the night of the 18th it blew almost a gale, with a very marked rise of temperature to 50° Fahr. The rainfall amounts to 4 inches, one-half of which has fallen since the new year. Wednesday and yesterday were very wet, streams brimming, and the land soaked for the first time since harvest. Since last spring everything has been a month behind the usual time; and the main part of our winter Wheat has been sown within a month past, in good order for the time of year. Work in general has got a good lift, yet lea ploughing is not so far advanced as to make us wish for hard weather yet. The storing of Swedes is well forward, showing a small crop, sound and firm. White Turnips, on the contrary, have never come to maturity, and sheep have made short work with them; and *vice versâ*, there has been great mortality among hogs these two or three weeks. We have commenced cutting to them, in the hope of stopping the deaths; and with many whose Turnips are finished there is no choice. We believe the number of cattle being fed is smaller than usual; and if Swedes are deficient we could scarcely expect to have corn cheaper. Linseed cake at a half more money is surely too dear. Poor as our hopes were as to the yield of corn, the result is worse than we expected. Wheat is bad in proportion as it was farther advanced at the time of the gale of 25th July, fallow Wheat being the worst. Spring sown fields were not then in the ear, and they yield $2\frac{1}{2}$ to 3 quarters of better quality. Barley is high coloured, and gives 3 to $4\frac{1}{2}$ quarters. Oats promised well, but do not turn out any better than they should

do. There is a slight revival in the trade, and fine samples of Oats are sought for seed at 26s. and 27s. a quarter. Potatoes are a miserable crop, and prices going down in spite of it. Good prices cannot be looked for, when so many of our customers are lying idle; and with such a bad crop half a year's rent at least must be raised otherwise than from the farm. *J. T.*

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending Jan. 21, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 15 | 30.45 | 37 | 36 | N.E. | 2 | 7 | 43 | 30 | 64* | 24 | .. | 41 | 42½ |
| Friday .. | 16 | 30.86 | 36 | 35 | N.E. | 3 | 6 | 41 | 32 | 44 | 27 | .. | 40½ | 42½ |
| Saturday .. | 17 | 30.25 | 35 | 34 | N.E. | 1 | 6 | 38 | 34 | 40 | 32 | .. | 40 | 42 |
| Sunday .... | 18 | 29.42 | 41 | 39 | W. | 3 | 3 | 44 | 32 | 43 | 30 | 0.15 | 40 | 42 |
| Monday .... | 19 | 29.42 | 47 | 43 | W. | 5 | 5 | 49 | 37 | 70 | 34 | .. | | 42 |
| Tuesday .. | 20 | 29.20 | 42 | 37 | W. | 5 | 4 | 51 | 40 | 73 | 36 | 0.09 | 42 | 42 |
| Wednesday | 21 | 29.69 | 41 | 39 | W. | 4 | 3 | 43 | 36 | 60 | 33 | .. | 41½ | 42½ |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

CARTS: *H W.* asks for price and character of the best carts now made from any of our Correspondents, and where they are to be had, We may mention that Messrs. Crosskill, of Beverley, have long been known for their good carts.

FLAT ISLAND GUANO: *Cor.* A Melbourne advertiser announces it as being superior to Peruvian, and for sale at *5l. 5s.* a ton. There are several "Flat Islands" named in Gazetteers, N. latitude 11°, 18° 3°, and S. latitude 3°, 7°, and 8, chiefly in the Indian Archipelago and China seas. It is possible that good Guano may be found on them.

HERD BOOK: *Amateur.* If you will address a letter to H. Stratford, Esq., 13, Euston Square, London, N.W., the Editor of the Herd Book, he will give you every information.

LAND IMPROVEMENT: *J Charlton.* A good plough with sharp irons and a share of extra width should pare your land much more cheaply than common breast ploughs. Drainage, liming (3 tons per acre), paring and burning and spreading the ashes, should after tillage, with perhaps 3 cwt. of guano per acre, enable you to grow a good crop of Rape; and after this is fed off we would take another green crop, as Turnips, for the sake of an efficient tillage of the land. Thereafter it might be laid down to Grass with some prospect of success. Read the account of Northumberland experience of this kind in Mr. Wilson's article on Agriculture in the *Encyclopædia Britannica.*

PEDIGREE WHEAT: *A Correspondent* who calls himself a victim, complains that the same Wheat for which in August last two guineas were demanded, is now being sold for one half that price.

PERUVIAN GUANO: *R.* The reduction to 12l. per ton of the price of Peruvian Government guano was announced lately by Messrs. I. Thomson, T. Bonar, and Co., the present consignees of this article, It will be recollected that early last summer, immediately previous to the change which then took place in the agency for the sale of guano in this country, the price was advanced to 13l. per ton. This advance has proved very prejudicial to the interests of the Peruvian Government, having checked the sales of guano, and greatly stimulated the manufacture and consumption of spurious articles, and of other artificial manures, and the reduction now announced in the price of the genuine article, consequent, we understand, upon urgent representations to the Peruvian Government, will be regarded as a boon by agriculturists.

POTATOES: *Messrs. Nesbit & Co.*, of Kennington Lane, inform us that the sulphates of magnesia and of soda have a decided effect in diminishing the liability to disease. For clayed peat land without other manure they advise at the time of planting to sow broadcast and to harrow in about 3 cwt. of guano. Set the Potatoes in the usual way, and three or four weeks afterwards sow over them and lightly harrow in the like quantity with 1 cwt. of sulphate of soda and 1 cwt. of sulphate of magnesia per acre. Or if it be preferred not to use guano, a compound of superphosphate and sulphate of soda and of ammonia or nitrate of soda, containing about the same quantities of phosphates, nitrogen, and alkaline salts, may be used in lieu thereof.

STOCK OF FARM: *Inquirer.* Failing a detailed answer this week, we give you some of the data on which such a calculation must be founded. A sheep fatting in spring to 20 or 24 lbs. a quarter, will eat during winter 20 lbs. of green food daily, a quantity which will be reduced at the rate of perhaps 4 to 6 lbs. for one by cake or grain given in addition, and 2 to 4 for one by hay. A cow in milk will eat as much as 10 sheep, younger stock in proportion. We will endeavour to go into your case in detail in our next publication.


### Seed Catalogue.—Spring, 1863.

WM. WOOD AND SON respectfully announce that their DESCRIPTIVE SEED CATALOGUE for the present season, containing select Lists of the most approved KITCHEN GARDEN, FLOWER GARDEN, and FARM SEEDS, is now ready, and may be had post free on application.

☞ Orders amounting to 10s. and upwards sent carriage free. See List.

Woodlands Nursery and Seed Warehouse, Maresfield, near Uckfield, Sussex.

N.B. CATALOGUES of ROSES, FRUIT TREES, ORNAMENTAL SHRUBS, &c., may also be had.

DICKSONS AND CO. have just published the following CATALOGUES, which may be had free on application:—
1. VEGETABLE, AGRICULTURAL, and FLOWER SEEDS.
2. FOREST and ORNAMENTAL TREES and SHRUBS.
3. RHODODENDRONS and CONIFERÆ.
4. ROSES.
5. FRUIT TREES.
6. STOVE and GREENHOUSE PLANTS and FERNS.
7. HERBACEOUS and ALPINE PLANTS.

Their DESCRIPTIVE CATALOGUE of FLORISTS' FLOWERS will be ready in March.

D. & Co. respectfully invite the attention of gentlemen engaged in planting to their extensive Stock of FOREST TREES, which are remarkably healthy and well rooted.

They have also a large Collection of ORNAMENTAL TREES and SHRUBS of all sizes, which they are offering at very reasonable rates.

1, Waterloo Place, Edinburgh.

### Seeds made Proof against the Attacks of Birds.

SAMUEL WALTERS, SEED GROWER and MERCHANT, Hilperton, Trowbridge, Wilts, begs respectfully to offer SEEDS prepared as above stated, in small or large collections. Some of the advantages of using seed so prepared are—a less quantity of seed will produce a greater number of plants; all contrivances to frighten away birds can be dispensed with; the anxiety to secure seeds from the attacks of birds will be no more felt by the use of new and good home-grown seed so prepared. Unusual success may be expected. A nominal charge only will be made for Proof Seed, or when a Collection of Garden Seeds of 20s. value and upwards be requested and supplied by S. W., no extra charge will be made. The Seed can be tested at once by putting it on side of other Seed not prepared—the birds will eat the latter, but not the former.

AMATEUR'S GUIDE in a comprehensive form will be sent with each Collection of Proof Seeds.

KITCHEN GARDEN, FLOWER, and FIELD SEEDS always on Sale.

### Specimen Conifers and other Trees.

JAMES VEITCH AND SON beg to call the attention of noblemen and gentlemen to their fine Stock of Specimen CONIFERS and other TREES. From the quantity they have they are enabled to offer them at reduced prices, which will be given on application:—

| | | | |
|---|---|---|---|
| Abies Douglasii .. | 3 to 5 feet. | Juniperus excelsa | 4 to 6 feet. |
| " .. .. | 5 to 8 " | Picea amabilis .. | 1 to 1½ " |
| Araucaria imbricata .. | 4 to 6 " | " nobilis .. | 1½ to 2½ " |
| " .. .. | 6 to 8 " | " lasiocarpa . | 1½ to 2 " |
| Cedrus Deodara .. | 3 to 4 " | " " .. | 3 to 4 " |
| " " .. | 4 to 6 " | " Nordmanniana .. | 4 to 5 " |
| " " .. | 6 to 8 " | " Pinsapo .. | 3 to 4 " |
| " " .. | 8 to 10 " | Thuja gigantea .. | 3 to 4 " |
| " " .. | 10 to 12 " | " Lobbi .. | 3 to 4 " |
| " Libani .. | 4 to 6 " | " " .. | 4 to 6 " |
| Cryptomeria Lobbi | 4 to 6 " | Thujopsis borealis | 3 to 5 " |
| Cupressus Lawsoniana .. | 3 to 4 " | Wellingtonia gigantea .. | 2½ to 3½ " |
| Irish Yews .. | 4 to 6 " | " " .. | 4 to 5 " |
| " .. .. | 6 to 9 " | " " .. | 5 to 7 " |

The whole of the above either in tubs or with good balls.

Standard PORTUGAL LAURELS, 3 to 4½ feet stems, with fine heads 4 to 5 feet through.

WEEPING HOLLIES, 4 to 5 feet stem, with fine heads, 3 to 4 feet through.

GREEN HOLLIES, pyramids, 8 to 10 feet, fine.

Also a fine stock of Dwarf Trained PEARS and APPLES, KALMIA LATIFOLIA, and BERBERIS ASIATICA, the latter particularly recommended for Fences.

Nursery, Exeter.

### To Gentlemen, Nurserymen, Market Gardeners, and Others.

MR. HOOK will be happy to treat for the remainder of his Stock not disposed of, in large or small quantities, such as are enumerated in the Catalogue.

A quantity of LILY of the VALLEY ROOTS, SEEDLING NUTS, GRAPE VINES, GOOSEBERRIES, CURRANTS, ROSES, and a quantity of PHEASANT'S-EYE NARCISSUS ROOTS, &c.

Bulstrode Gardens, Jan. 24.

### The Planting Season.

THE EXECUTORS of MR. JNO. YOUNG, late Proprietor of the extensive Nursery Grounds, Taunton, have determined to reduce this large and valuable Stock. They respectfully invite the attention of Noblemen, Gentlemen, and the Trade to the FOREST TREES, HARDY and ORNAMENTAL TREES and SHRUBS, large and small; CONIFERÆ, EVERGREENS, HERBACEOUS, and a great variety of other PLANTS.

STANDARD, DWARF, and POTTED ROSES.

STANDARD, DWARF-TRAINED, and PYRAMIDAL FRUIT TREES.

The varied and excellent quality of this Stock is so well known that comment is unnecessary.

The Grounds are open for inspection and sale daily, and in quantities at greatly reduced prices.

Applications by post direct to the EXECUTORS of the late Mr. John Young, Taunton.

The above capital FREEHOLD NURSERY (Established more than 30 years), containing about 12 Acres of highly productive Land, with the usual Appurtenances, situate at Taunton, the County Town of Somersetshire, in excellent condition, with a good connection, is

TO BE SOLD, with Early Possession, in consequence of the Decease of the late Owner.

For particulars, apply as above.

TO BE SOLD, 200 feet length of 10-feet LIGHTS, for covering Peach walls. They are new, portable, and easily fixed. Gutters, Plates, Doors and Ends complete. Price 80l. Apply to CUTBUSH & Co., Highgate, N.

Also 85 ORCHARD TREES in Pots, from 4 to 8 feet in height, fine trees, consisting of Peaches, Nectarines, Plums, Pears, and Cherries. Price 30l.

The Lights would make a good Orchard House, 100 feet in length.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.

RICHARD SMITH, Nurseryman, Worcester.

### New Seedling Rhubarb Excelsior.

B. W. KNIGHT, NURSERYMAN, Battle, Sussex, is now sending out this superb NEW RHUBARB; it is quite distinct, of very large growth, very productive, of a new and desirable flavour, partaking largely of the flavour of the Apple. Good plants, 3s. 6d. each.

CHARLES SHARPE AND CO., SEED GROWERS, Sleaford, have a large quantity of the following PEAS to offer to the Trade, viz.:—Flack's Imperial, Bedman's Imperial, Dickson's Favorite Green Marrow, Champion of England, and Woodford's Green Marrow.

Samples and prices on application. Can make good offers.

### To the Trade.

TO BE DISPOSED OF (for Cash), about 30 bushels of GREEN-TOP SWEDE TURNIP, new Seed of 1862, and can be warranted. For price and further particulars, apply to

W. HUZZARD, Etton, near Beverley, Yorkshire.

### Seakale.

GEORGE CLARKE begs to announce that he has SOLD OUT of FORCING SEAKALE, but can supply any quantity of healthy clean roots for planting. Prices will be forwarded on application.

Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, near the Victoria Railway Station, Pimlico, S.W.

### To Seedsmen and Others.

THOMAS AYRES, SEEDSMAN and GROWER, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz:—

WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP, "
SEED POTATOES of the following varieties:—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.

A PRICE LIST forwarded upon application.

### Stirling, Scotland.

W. DRUMMOND AND SONS' CATALOGUE of SELECT VEGETABLE and FLOWER SEEDS, POTATOES, GARDEN TOOLS, &c., for 1863, is now ready, and may be had on application.

The distinctive features of this Catalogue are such as have commended themselves alike to the Gardener and Amateur. Being simple in arrangement, and sufficiently descriptive, a selection from its columns is rendered easy and satisfactory. Moreover, we still adhere to the system introduced by us several years since, of discarding, in the various sections, all comparatively inferior varieties, as well as omitting what are more repetitions of the same sorts under different names.

*** Seeds Carriage Paid, as formerly.

W. DRUMMOND & SONS, Seed and Implement Warehouse, Stirling.

CHARLWOOD AND CUMMINS beg to announce that their CATALOGUE of GARDEN, AGRICULTURAL, and FLOWER SEEDS is now ready, and will be forwarded on application. They also now offer their

NEW NEMOPHILA DISCOIDALIS ELEGANS,

commended by the Royal Horticultural Society in their Proceedings; it is thus noticed:—

"The flowers of this variety (which is a very pretty one) are of a bright chocolate or light reddish maroon, conspicuously bordered with white. The colours are distinctly marked and very effective." It is commended as a very desirable Annual for general cultivation.

2s. 6d. per packet. Price to the Trade per ounce,

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A TREE or SHRUB SEED LIST will be published shortly.

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., grown in the International Exhibition, delivered at any Booking Office in the City at 1s. 6d., or within 2¼ miles of Charing Cross, at 2s. per bag of 3 bushels. Larger quantities on lower terms on application to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.

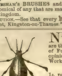
Also SHORT FIBRE for Orchids and Drainage in pots.

Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are the best and most economical of any that are made, and are sold in every town in the kingdom.

CAUTION.—See that every Brush is stamped "J. BARSHAM'S Patent, Kingston-on-Thames."

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.



Magnified Aphis.

NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. NEAL, Edward Street, Birmingham.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1s., 3s., and 10s. 6d. each.

Wholesale by PRICE'S PATENT CANDLE CO., Limited.

Red Spider Magnified.

MINTON AND CO. have REMOVED from Albion Place, Blackfriars, to 50, Conduit Street, Regent Street. ENCAUSTIC and other PAVEMENTS, EARTHENWARE and PLAIN TILES. Designs and Estimates prepared.
Manufactory: Stoke-upon-Trent.

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ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER, Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, London, N.E.

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AGRICULTURAL MACHINERY. — Threshing Machines for Steam and Horse-power, Ploughs, Harrows, Waggons, Carts, Mills for hand or power, Turnip cutters, Cake-breakers, Chaff cutters, &c., &c.

Price List free per post on application. Catalogues 6*d*. each.
BURGESS & KEY, 95, Newgate Street, E.C.
Works—Brentwood, Essex.

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**Exhibition Prize Medal 1862.**

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES, PATENT IRON COW HOUSE FITTINGS, and IRON PIGGERIES.

These inventions are recommended as possessing numerous advantages not to be found in anything hitherto made. At the late Meeting of the Royal Agricultural Society at Leeds, MUSGRAVE BROTHERS received a Silver Medal, and two Awards of "Highly Commended," being the only Prizes conferred on any competitor in this class.

Particulars sent on application to the Inventors and Makers, MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

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JOSEPH HAYWOOD AND CO.,
MANUFACTURERS OF
PRUNING and BUDDING KNIVES,
SPORTSMAN'S, and all kind of POCKET CUTLERY.

Dealers in Gambia Garden Shears, Scissors, Syringes, &c.

Glamorgan Works, Sheffield.

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**Paxton Works, Sheffield, Established 1738.**

International Exhibition Prize Medal is just awarded to SAYNOR & COOKE for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

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**Prices Reduced.**

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

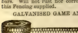
GALVANISED IRON ROOFING
for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use: also Spouting at 10½*d*. per yard,

WIRE STRAND CABLE FENCING

(formed of Twisted Wires like a rope or cable), the strongest, cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, from 1*s*. per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.



Galvanised, 24 ins. wide, 2-inch mesh, 4*d*., 4½*d*., and 6½*d*. per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 2¾*d*., 3¾*d*., and 5¼*d*. per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS and ROSE STAKES, &c.

Strong CATTLE HURDLES from 2*s*. per yard.

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PATENT IMPROVED GAS WORKS
of all sizes, for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

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FOWLER'S

**STEAM PLOUGHING AND CULTIVATING PATENTS.**

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,

Have the pleasure to announce that they have arranged with JNO. FOWLER for the use of the above PATENTS, and they will answer any inquiries respecting them, and execute any Orders promptly.

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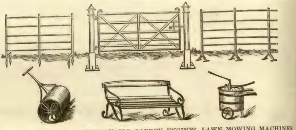
COTTAM'S

**CONTINUOUS IRON FENCE, HURDLES, and FIELD GATES,**

MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

PARK ENTRANCE GATES, and RAILING of CAST and WROUGHT IRON COMBINED, IN VARIOUS STYLES.



IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES
WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes.
VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c.
The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

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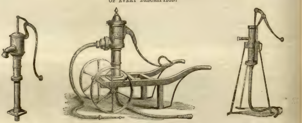
JOHN WARNER & SONS,

**BELL AND BRASS FOUNDERS TO HER MAJESTY,**

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.



No. 35. No. 36½. IMPROVED CAST-IRON LIFT AND FORCE PUMP. No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... ... £1 1 | 2½ inches ... ... 3 feet 3 inches high ... ... £1 10
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... 2 14

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4

2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l*. 3*s*.) ... ... ... ... ... 3 0 0

3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l*. 15*s*.) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equa capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & SONS' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l*. 15*s*.; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s*. 5*d*. per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

PATENTEES and MANUFACTURERS,

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## IRON HURDLES, FENCING, and GATES.

The PROPRIETORS of the ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON, WERE AWARDED THE SILVER MEDAL of the ROYAL AGRICULTURAL SOCIETY for their IRON HURDLES and GATES, which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30*s.* to 500*l.*

*The Hurdles can be seen in process of Manufacture at the Works.*

GAME WIRE NETTING.

PROFESSOR VARNELL'S ENAMELLED and WROUGHT-IRON STABLE FITTINGS.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their Horses. They can be had Plain, Galvanised, or Enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized Stalls and Loose Boxes are erected for inspection at St. Pancras Iron Works.

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AMERICAN PORTABLE FIRE ANNIHILATOR and GARDEN ENGINE.

£2 2s.

An efficient means of Extinguishing Fires at their commencement. Nine out of ten Fires in London are put out on their first appearance by the London Fire Brigade with Hand Pumps of considerably less power.

One man will throw 7 or 8 gallons per minute from 40 to 50 feet with it.

It is an effective Garden Engine for cleansing or syringing Wall-fruit or Rose Trees, Plants, or Vines.

It may be used to draw water from the pail in which it is fixed, or from a tank or pond by the addition of the required length of suction. It is simple in its construction, having no suction or delivery valves to clog with dirt or leaves.

No Establishment, either private, commercial, or manufacturing, should be without one.

Six feet of Flexible Suction, with Union and Suction Rose, &c., extra, 12*s.* Longer lengths of Suction at 1*s.* 6*d.* per foot.

May be obtained of all Ironmongers and Seedsmen in Town and Country, or of the Manufacturers,

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# GREEN'S

LATEST IMPROVEMENTS IN

## LAWN MOWING, ROLLING, and COLLECTING MACHINES,

FOR WHICH HER MAJESTY'S ROYAL LETTERS PATENT HAVE BEEN OBTAINED.

These Machines have carried off every Prize that has been given in all cases of competition, and have been awarded the PRIZE MEDAL at the INTERNATIONAL EXHIBITION of 1862.

**GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.**

For Illustrated Price Lists, with full particulars, address

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# THE HYDROPULT,

**THE HYDROPULT**

IS INVALUABLE FOR

WATERING GARDENS,

EXTINGUISHING FIRE JUST COMMENCED,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

DRESSING with LIQUID MANURE,

SPRINKLING PLANTS,

WASHING WINDOWS,

WETTING SIDEWALKS,

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WASHING CARRIAGES,

WETTING SAILS,

A SPRAY BATH,

&c. &c.

Price Two Guineas.

Caution.—Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will, in due time, be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.

"Griffith & Browett, Manufacturers, Birmingham;

"Charles P. Button, General Agent.

"Vose's Patent;"

and is sold at the uniform rate of Two Guineas, complete, with 2½ feet Suction and 3-feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet.

It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution.

The Hydropult weighs but 8 lb.; will throw 7 or 8 Gallons of Water per minute 50 feet when worked by the power of one man.

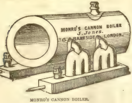
Has been recommended as an efficient Fire Engine by the principal Fire Insurance Companies of Great Britain. Thomas Rivers, Esq., the eminent Florist; Shirley Hibberd, Esq., and other well known gentlemen, recommend it as an invaluable Garden Implement. J. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable Property in Bayswater from destruction. The City and Provincial Press accord to the invention the utmost praise. All who purchase the Hydropult are satisfied with its action; each Machine guaranteed to be perfect.

**A PORTABLE GARDEN ENGINE, AND FIRE ANNIHILATOR.**

*Prospectus, with Testimonials, on application at either Office.*

Hydropult Office: 27, LEADENHALL STREET, LONDON, E.C.; and 309, REGENT STREET, POLYTECHNIC BUILDING, LONDON, W.—CHARLES P. BUTTON, Proprietor.

## HEATING BY HOT WATER.




MONRO'S CANNON BOILER.

## J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

## HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

PLANS, ESTIMATES, and DESCRIPTIVE CATALOGUES

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SAMUEL N. McGERROW, General Horticultural Builder, Knotty Ash, near Liverpool.
Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

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T. G. M.'s PATENTED BUILDINGS combine all the modern improvements, are most effectually ventilated by means of his unequalled Apparatus, can be made either plain (and which are at the same time elegant in appearance), or of the most elaborate design. They can be fixed as permanent buildings, or made to be portable.

T. G. M.'s HEATING APPARATUS continues to give the greatest satisfaction for its heating qualities and small consumption of fuel.

ILLUSTRATED CATALOGUES of the above, Glazing without Putty, Garden Engines, &c., sent upon application.

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RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3*d.* per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the
Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3*l.* 10*s.*

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

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DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, grea strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

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**Heating.**

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

Apply to JOSEPH MEREDITH, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

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HOT WATER PIPES, from Stock, per yard:—2-inch, 1*s.* 2*d.*; 3-inch, 1*s.* 10*d.*; and 4-inch, 2*s.* 4*d.* BENDS, from stock, 1*s.* 7*d.*, 2*s.* 6*d.*, and 3*s.* 3*d.* each. THROTTLE VALVES, 10*s.* 6*d.*, 13*s.* 6*d.*, and 15*s.* each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

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T. M. LOBJOIT'S PATENT HOT-WATER BOILERS are acknowledged by all who have them in use to be the most powerful Boilers now known, and are the most economical, requiring less fuel and attention than any other. They are made of various sizes, suitable for heating the smallest Greenhouse to the largest Conservatory, Churches, and Buildings of all descriptions.

Testimonials forwarded on application to THOS. M. LOBJOIT, Horticultural Builder and Hot-Water Apparatus Manufacturer, Turnham Green, W., and at Acton, Middlesex, W.

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SHAW'S TIFFANY,
For samples and prices apply to
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**Archangel Mats.**

JAMES T. ANDERSON begs to announce that he is now open to supply, at a low price, and in any quantity, ARCHANGEL MATS, the finest in London of this season's importation, and solicits an inspection of them by Nurserymen and Seedsmen.

SACKS, SEED BAGS, &c.

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**The Old Established Seed Bag and Sack Manufactory.**

ALEXANDER NICOL AND CO., MANUFACTURERS of SEED BAGS and SACKS, RYE-GRASS SEED BAGS, GRAIN and POTATO SACKS of all sizes and descriptions, SHOP and NURSERY TWINES, GARDEN LINES, &c.
Chalmers St. Works, Arbroath, N.B.

N.B. The principal Seed-houses in the three Kingdoms have been supplied by us for the last 30 years. Price Lists and Samples may be had on application. No connection with any other house in the Trade.

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BLOSSOM of WALL FRUIT TREES.—WORSTED NET, an approved and effectual protection, 7*d.* per square yard; a large quantity of pieces of Canvas for ditto, sewn in various widths, 4½*d.* per square yard. TANNED NETS, ¾*d.* per yard. 400 second-hand TARPAULINGS, 7 ft. 6 in. by 4 ft. 6 in., with eyelet holes in corners, 2*s.* 9*d.* each; a great many much larger to cover sheds and for garden purposes. Ten second-hand dressed RICK CLOTHS, 30 ft. by 30 ft. for 30 tons of hay, 3*l.* 15*s.*, and other sizes larger and smaller in proportion. WATERPROOF CAPES, lined with blue cloth, 3*s.* each. Second-hand POLICE CAPES, 18*s.* to 24*s.* per dozen. HORSES' LOIN CLOTHS, lined with woollen, 7*s.* each. DRIVING APRONS, 7*s.* each. A large quantity of Rabbit-proof WIRE FENCING, various widths, at 6*d.* per square yard. About 400 yards of second-hand trained WIRE FENCING, with 160 iron posts, six wires, for Sale, for 7*l.*
R. RICHARDSON, 99, Euston Road, London, N.W.

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TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½*d.*; 2 yards, 3*d.*; 3 yards, 4½*d.*; and 4 yards, 6*d.* per yard run, in any quantity, may be had at CHAS. WRIGHT'S, 376, Strand, W.C.

VARNISHED FLOWER STICKS:—1 foot, 3*d.*; 1½, 4*d.*; 2, 5*d.*; 2½, 7*d.*; 3, 10*d.*; 4, 1*s.* 6*d.* per dozen. DAHLIA do., per dozen:—3 feet, 1*s.* 6*d.*; 4, 2*s.* 3*d.*; 5, 3*s.*; 6, 3*s.* 6*d.* An allowance to Nurserymen.

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## PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

## T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet ... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet ... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet ... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 [illegible] 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

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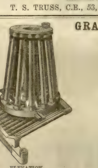
## GRAY'S OVAL TUBULAR BOILER.

INTERNATIONAL EXHIBITION,

Class IX., No. 2119.



ELEVATION.

PLAN.

Mr. GRAY begs to call the attention of the Nobility, Gentry, Nurserymen, Gardeners, &c., to his

**NEW OVAL TUBULAR BOILER,**

acknowledged by practical judges to be a great improvement on every form of Tubular Boiler yet introduced. It has proved itself superior to all other Boilers for quickness of action and economy of Fuel, doing its work with one-third less the amount required by any other.

*Extract from Report in* Gardeners' Chronicle *of International Exhibition, May 24, page* 476.

"The upright form of Boiler is usually made on a circular plan, but the oval form given to Mr. GRAY'S variety of it is said to be preferable in consequence of its bringing the tubes in closer contact with the fire. The usual form of a furnace being a parallelogram rather than a square, it seems feasible that the Boilers on the oval plan should bring the tubes more completely within range of the burning fuel; and this being so the change, though a slight one, is no doubt an improvement.

They are made of all sizes, which, with prices, may be had on application.

JAMES GRAY, HORTICULTURAL WORKS,
DANVERS STREET, PAULTON'S SQUARE, KING'S ROAD, CHELSEA, S.W.

### Glass for Greenhouses.

JAMES PHILLIPS AND CO. beg to submit their prices as follows :—

ENGLISH GLASS, 16 ounces to the foot, in Sheets averaging 40 by 30, packed in Cases containing about 280 feet, 2¼d. and 2½d. per foot.

SHEET GLASS, 16 ounces, packed in boxes of 100 feet each. Package included.

| | | | | 3rds. | 4ths. |
|---|---|---|---|---|---|
| 12 by 9, | 13 by 9, | 14 by 9, | 15 by 9 | 14s. 0d. | 12s. 6d. |
| 12 ,, 10, | 13 ,, 10, | 14 ,, 10, | 15 ,, 10 | | |
| 13 ,, 11, | 14 ,, 11, | 15 ,, 11, | 16 ,, 11 | 16s. 0d. | 13s. 6d. |
| 14 ,, 12, | 15 ,, 12, | 16 ,, 12, | 17 ,, 12 | per 100 feet. | |
| 18 ,, 12, | 19 ,, 12, | 20 ,, 12, | 16 ,, 13 | | |
| 17 ,, 13, | 18 ,, 13, | 19 ,, 13, | 20 ,, 13 | | |
| 16 ,, 14, | 17 ,, 14, | 18 ,, 14, | 20 ,, 14 | | |

Various other sizes.

GLASS for ORCHARD HOUSES,
As supplied by us to Mr. Rivers.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. | | | |
| 20 in. by 13 in. | Common .. .. .. | 13s. 6d. .. | £0 18 0 |
| 20 in. by 14 in. | Superior do. .. .. | 16 0 .. | 1 3 0 |
| 20 in. by 15 in. | English Glass .. .. | 18 0 .. | 1 9 0 |

The above prices include the Boxes.

SMALL SHEET SQUARES, IN 100 FEET BOXES.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11s. 6d. |
| 8 ,, 6 | 8½ ,, 6⅝ | 9 ,, 7 | 9½ ,, 7½ | |
| | | 10 ,, 8 | 10½ ,, 8½ | 12 6 |

Boxes 2s. each, returnable at full price.

SQUARES CUT TO SPECIAL SIZES.

16 oz. 4ths, 1¾d., 2d., and 2½d. 21 oz. 2¾d., 3d, and 3½d.
,, 3ds, 2d., 2¾d., and 3d. ,, 3d., 3½d., and 4d.

London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

Milk Pans, Propagating Glasses, and every description of Glass for Horticultural purposes.

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THOMAS MILLINGTON,
87, Bishopsgate Street Without, E.C.
HORTICULTURAL GOODS.

PROPAGATING GLASSES.

| | | | | | |
|---|---|---|---|---|---|
| 3 inches .. | 0s. 4½d. | each. | 12 inches .. | 1s. 9d. | each |
| 4 ,, .. | 0 5½ | ,, | 13 ,, .. | 2 0 | ,, |
| 5 ,, .. | 0 6½ | ,, | 14 ,, .. | 2 6 | ,, |
| 6 ,, .. | 0 8 | ,, | 15 ,, .. | 3 0 | ,, |
| 7 ,, .. | 0 10 | ,, | 16 ,, .. | 3 6 | ,, |
| 8 ,, .. | 1 0 | ,, | 17 ,, .. | 4 0 | ,, |
| 9 ,, .. | 1 2 | ,, | 18 ,, .. | 5 0 | ,, |
| 10 , .. | 1 4 | ,, | 19 ,, .. | 6 6 | ,, |
| 11 ,, .. | 1 6 | ,, | 20 ,, .. | 7 0 | ,, |

HAND GLASSES.

| | | | | | |
|---|---|---|---|---|---|
| 12 inches .. | 6s. 0d. | each | 18 inches .. | 9s. 0d. | each |
| 14 ,, .. | 7 0 | ,, | 20 ,, .. | 10 0 | ,, |
| 16 ,, .. | 8 0 | ,, | 24 ,, .. | 12 0 | ,, |

If open top, 1s. extra.

CUCUMBER GLASSES.
From 12 inches long and upwards, 1d. per running inch.

ROLLING PINS.
From 12 inches long, 1½d. per running inch.

Improved ANTI-CORROSION and other PAINTS.
GAS and LAMP GLASSES, GLOBES, &c.
CHIMNIES of every description.
Not accountable for Breakage.

TRANSPLANTING LARGE TREES. — Five different sizes of Mr. BARRON'S MACHINES, with efficient men to work them, can be hired by parties applying to him. His Machines, built under his superintendence, can also be supplied.

Elvaston Castle, Jan. 10.

FIRE ENGINE for SALE, suitable for a gentleman's Mansion, made by Bramah for the East India Company, and bought from them at their sale. It is in perfect order, with upwards of 100 feet of Leather Hose. All the barrels are brass and gun metal. Price 35l.

Apply to R. RICHARDSON, 99, Euston Road, London, N.W.
N.B. Would be a good Fire Engine for a small town.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1s. 6d. per yard run.
Four yards wide .. .. .. 3s. per yard.
An improved make, 3 yards wide, 2s. 6d. per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1s. 4d. per yard run.

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

### Oil Paint no longer Necessary.

HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.

Sold in casks of about 30 gallons each, at 1s. 6d. per gallon, at the Manufactory, or 1s. 8d. per gallon paid to any station in the kingdom.

Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

J. T. WILLMER, HORTICULTURAL AGENT, AUCTIONEER and VALUER, Springfield Nursery, Sunbury, Middlesex, S.W.

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CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.

CHUBB'S FIRE PROOF STRONG ROOM DOORS; CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.

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| 12 Table Forks .. .. | 1 | 13 | 0 | 2 | 4 | 0 | 2 | 10 | 0 | 2 | 15 | 0 |
| 12 Table Spoons .. .. | 1 | 13 | 0 | 2 | 4 | 0 | 2 | 10 | 0 | 2 | 15 | 0 |
| 12 Dessert Forks .. .. | 1 | 4 | 0 | 1 | 12 | 0 | 1 | 15 | 0 | 1 | 17 | 0 |
| 12 Dessert Spoons .. | 1 | 4 | 0 | 1 | 12 | 0 | 1 | 15 | 0 | 1 | 17 | 0 |
| 12 Tea Spoons .. .. | 0 | 16 | 0 | 1 | 2 | 0 | 1 | 5 | 0 | 1 | 7 | 0 |
| 6 Egg Spoons, gilt bowls.. | 0 | 10 | 0 | 0 | 13 | 6 | 0 | 15 | 0 | 0 | 15 | 0 |
| 2 Sauce Ladles .. .. | 0 | 6 | 0 | 0 | 8 | 0 | 0 | 9 | 0 | 0 | 9 | 6 |
| 1 Gravy Spoon .. .. | 0 | 6 | 6 | 0 | 10 | 0 | 0 | 11 | 0 | 0 | 12 | 0 |
| 2 Salt Spoons, gilt bowls.. | 0 | 3 | 4 | 0 | 4 | 6 | 0 | 5 | 0 | 0 | 5 | 0 |
| 1 Mustard Spoon, gilt bowl .. .. | 0 | 1 | 8 | 0 | 2 | 3 | 0 | 2 | 6 | 0 | 2 | 6 |
| 1 Pair of Sugar Tongs .. | 0 | 2 | 6 | 0 | 3 | 6 | 0 | 4 | 0 | 0 | 4 | 6 |
| 1 Pair of Fish Carvers .. | 1 | 4 | 0 | 1 | 7 | 6 | 1 | 10 | 0 | 1 | 12 | 0 |
| 1 Butter Knife .. .. | 0 | 2 | 6 | 0 | 5 | 6 | 0 | 6 | 0 | 0 | 7 | 0 |
| 1 Soup Ladle .. .. | 0 | 10 | 0 | 0 | 17 | 0 | 0 | 17 | 0 | 1 | 0 | 0 |
| 1 Sugar Sifter .. .. | 0 | 3 | 3 | 0 | 4 | 6 | 0 | 5 | 0 | 0 | 5 | 6 |
| Total .. .. | 9 | 19 | 9 | 13 | 10 | 3 | 14 | 19 | 6 | 16 | 4 | 0 |

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TO BE DISPOSED OF, an old-established NURSERY and SEED BUSINESS, of moderate size, in an excellent locality, adjoining a large important Town, close to a First-class Railway Station, with Vinery, Greenhouses, and Pits, conveniently arranged, and well supplied with water. May be taken to by valuation, or private treaty.

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MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on TUESDAY, January 27, at half-past 12 o'Clock precisely 1000 STANDARD and DWARF ROSES, 10,000 COMMON LAURELS, 1000 Tree Box, 1000 Spruce Firs, 1250 Scotch Firs, 125 Cotoneasters, 1000 Irish Firs, 350 Common Yews, 100 Irish ditto, 200 Silver Spruce Firs, 125 Berberis dulcis and Berberis aquifolia, &c.

On view the Morning of Sale, and Catalogues had.

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On view the Morning of Sale, and Catalogues had.

# HOTHOUSES FOR THE MILLION.

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ON THE PRINCIPLE INVENTED AND PATENTED BY

## SIR JOSEPH PAXTON, M.P.

COMBINING SIMPLICITY, CHEAPNESS, EXCELLENCE, AND DURABILITY.

BEING CAPABLE OF FULFILLING IN THE MOST PERFECT MANNER ALL THE REQUIREMENTS OF HORTICULTURE.

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Editorial Communications should be addressed to "The Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed by WILLIAM BRADBURY, of 13, Upper Woburn Place, in the Parish of St. Pancras, in the Co. of Middlesex, and FREDERICK MULLETT EVANS, of No. 11, Bouverie St., in the Precinct of Whitefriars, City of London, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and Published by them at the Office, No. 41, Wellington St., Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, January 24, 1863.

# THE GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 5.—1863.] SATURDAY, JANUARY 31. {Price Fivepence. Stamped Edition, 6*d*.


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*An Edition of the* Gardeners' Chronicle *and* Agricultural Gazette *is published on Monday Afternoon at 4 o'Clock, containing full Reports of the Mark Lane and Cattle Markets, written expressly for the Paper.*


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H. & F. Sharpe, Wisbeach.

**Potatoes.**

RICHARD RICHARDSON, Market Gardener, Cottenham Park, Wimbledon, Surrey, S.W., has 100 SACKS of EARLY OXFORD POTATOES to dispose of, at 12*s*. per sack. Also a large quantity of good STRAWBERRIES, best sorts, 1*s*. 3*d*. per 100.

WHEELER'S GLOUCESTERSHIRE KIDNEY POTATO.—This is one of the earliest, the most productive, the best flavoured, and the most profitable Potato ever introduced.
For price and all particulars, see Wheeler's "Little Book."

GARDEN SEEDS and FLOWER SEEDS of the finest and most rare varieties, at the lowest prices at which they can be delivered, carriage free, are quoted in Wheeler's "Little Book" for 1863.
J. C. Wheeler & Son, Seed Growers, Gloucester.

SEEDS, SEEDS.—The above, pure from the Seed field, cheap and warranted. For cheap COLLECTIONS, see LIST, free on application.
Wm. Dillistone, Munro Nursery, Sible Hedingham, Essex.

SUCCULENT PLANTS for SALE, in considerable variety and in good condition.
For further particulars, address Mr. C. Green, Mrs. Borrer's, Henfield, Hurstpierpoint.

**Chinese Herbaceous Pæonies.**

JOHN SALTER begs to announce that he can furnish good Plants of all the best varieties of these noble flowers; this being the season for planting.
Versailles Nursery, William Street, Hammersmith Turnpike.

**Pine Apple Place, Edgware Road, London, W.**

ARTHUR HENDERSON AND CO. beg to announce that their CATALOGUE of KITCHEN, FARM, and FLOWER SEEDS, Imported German Asters, Stocks, and Collection of Vegetable Seeds, for One Year's Supply—

| | | | |
|---|---|---|---|
| Collection, No. 1 .. | 105s. | Collection, No. 3 .. | 42s. |
| " No. 2 .. | 84s. | " No. 4 .. | 25s. |
| Collection, No. 5 .. | 15s. | | |

is now ready, and will be forwarded free on application.

NOTE.—This Catalogue contains only the best varieties of Vegetables, and an abridged List of the most valuable Flower Seeds.

---

**Seed Trade.**

JAMES CARTER AND CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade:—

MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE,
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION.
TOMATOE DE LAYE.
HENDERSON'S PINE-APPLE BEET.

---

**Seeds for the Kitchen Garden, Flower Garden, and Farm.**

JOHN CATTELL'S DESCRIPTIVE CATALOGUE of the above is now ready, and will be forwarded, post paid, on application; it contains select lists only, and includes every novelty worthy of cultivation.

All parcels of Seeds of the value of 21s. and upwards carriage paid to any Railway Station in England.

Nursery and Seed Establishment, Westerham, Kent.

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**Vegetable and Flower Seeds, Carriage Free.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully announces that his SEED CATALOGUE is now ready, free by post.

The COLLECTION of VEGETABLES recently commended by the Royal Horticultural Society was grown from Seeds furnished by him.

Nurseries and Seed Warehouse, Waltham Cross, N.

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**Vegetable, Flower, and Agricultural Seeds.**

NEW AND RARE PLANTS, &c.

ROBERT PARKER begs to announce that his NEW CATALOGUE, containing select descriptive and priced lists of AGRICULTURAL, KITCHEN GARDEN, Imported GERMAN, and other FLOWER SEEDS; NEW and RARE PLANTS; Variegated, Ornamental Foliaged, Miscellaneous, Stove, Greenhouse, and Hardy Plants, &c., is now published, and will be forwarded Post Free to all applicants.

Exotic Nursery, Tooting, Surrey, S.

---

**Vegetable and Flower Seeds.**

CARRIAGE FREE.

JAMES DICKSON AND SONS' ANNUAL DESCRIPTIVE PRICED CATALOGUE of the above is now ready, and may be had, post paid, on application.

The *Field* of February 8, 1862, in a notice of our last season's Catalogue, says:—"This old established firm have issued their neat and well arranged Catalogue for this season. It embraces all seeds really worth growing in both departments."

JAMES DICKSON & SONS, 102, Eastgate Street, Chester; and 28, Market Place, Manchester.

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**Seed Catalogue.—Spring, 1863.**

WM. WOOD AND SON respectfully announce that their DESCRIPTIVE SEED CATALOGUE for the present season, containing select Lists of the most approved KITCHEN GARDEN, FLOWER GARDEN, and FARM SEEDS, is now ready, and may be had post free on application.

☞ Orders amounting to 10s. and upwards sent carriage free. See List.

Woodlands Nursery and Seed Warehouse, Maresfield, near Uckfield, Sussex.

N.B. CATALOGUES of ROSES, FRUIT TREES, ORNAMENTAL SHRUBS, &c., may also be had.

---

DICKSONS AND CO. have just published the following CATALOGUES, which may be had free on application:—

1. VEGETABLE, AGRICULTURAL, and FLOWER SEEDS.
2. FOREST and ORNAMENTAL TREES and SHRUBS.
3. RHODODENDRONS and CONIFERÆ.
4. ROSES.
5. FRUIT TREES.
6. STOVE and GREENHOUSE PLANTS and FERNS.
7. HERBACEOUS and ALPINE PLANTS.

Their DESCRIPTIVE CATALOGUE of FLORISTS' FLOWERS will be ready in March.

D. & Co. respectfully invite the attention of gentlemen engaged in planting to their extensive Stock of FOREST TREES, which are remarkably healthy and well rooted.

They have also a large Collection of ORNAMENTAL TREES and SHRUBS of all sizes, which they are offering at very reasonable rates.

1, Waterloo Place, Edinburgh.

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**Stirling, Scotland.**

W. DRUMMOND AND SONS' CATALOGUE of SELECT VEGETABLE and FLOWER SEEDS, POTATOES, GARDEN TOOLS, &c., for 1863, is now ready, and may be had on application.

The distinctive features of this Catalogue are such as have commended themselves alike to the Gardener and Amateur. Being simple in arrangement, and sufficiently descriptive, a selection from its columns is rendered easy and satisfactory. Moreover, we still adhere to the system introduced by us several years since, of discarding, in the various sections, all comparatively inferior varieties, as well as omitting what are mere repetitions of the same sorts under different names.

*** Seeds Carriage Paid, as formerly.

W. DRUMMOND & SONS, Seed and Implement Warehouse, Stirling.

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# BARR & SUGDEN, 12 KING ST. COVENT GARDEN

## SEED MERCHANTS AND FLORISTS,

12, KING STREET, COVENT GARDEN, W.C.

OPPOSITE THE GARRICK CLUB.

*Seeds Carriage paid. Five per cent. allowed on Cash Payments. No charge for Packing or Package.*

BARR AND SUGDEN'S COLLECTIONS of VEGETABLE SEEDS for 1863, embracing the best Varieties in Cultivation, and especially those most approved of in Covent Garden Market.

For particulars, see "GUIDE to the KITCHEN GARDEN."

| | | | | | | |
|---|---|---|---|---|---|---|
| No. 6 | contains | 20 Quarts | of PEAS, | and other Seeds in | proportion, | for £3 3 0 |
| No. 5 | " | 10 Quarts | ditto | ditto | ditto | " 2 2 0 |
| No. 4 | " | 8 Quarts | ditto | ditto | ditto | " 1 10 0 |
| No. 3 | " | 10 Pints | ditto | ditto | ditto | " 1 1 0 |
| No. 2 | " | 6 Pints | ditto | ditto | ditto | " 0 15 6 |
| No. 1 | " | 4 Pints | ditto | ditto | ditto | " 0 10 6 |

☞ *Orders amounting to 21s. and upwards sent Carriage paid.*

**PRESENTED TO EACH CUSTOMER.**

The ILLUSTRATED GUIDE to the KITCHEN GARDEN, price 1s.; and the ILLUSTRATED GUIDE to the FLOWER GARDEN, price 2s. 6d.

BARR AND SUGDEN, SEED MERCHANTS,

12, KING STREET, COVENT GARDEN, W.C. (Opposite the GARRICK CLUB).

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# WM. WOOD & SON'S

## COLLECTIONS of KITCHEN GARDEN SEEDS

FOR ONE YEAR'S SUPPLY.

| No. 1. | No. 2. | No. 3. | No. 4. |
|---|---|---|---|
| £3. | £2. | £1. | 10s. 6d. |

Containing only Seeds of first-class quality, and Varieties that can be confidently recommended.

For particulars, see CATALOGUE, a Copy of which may be had Post Free on application.

*** *All orders amounting to 10s. and upwards sent Carriage Free.*

WOODLANDS NURSERY AND SEED WAREHOUSE, MARESFIELD, NEAR UCKFIELD, SUSSEX.

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SEEDS.—GENUINE HOME-GROWN

## VEGETABLE, FLOWER, AND AGRICULTURAL.

If above the value of 20s. Carriage paid to any Railway Station, and to all Irish and Welsh Ports in communication with Bristol.

CATALOGUES post free on application.

JAMES GARAWAY AND CO., DURDHAM DOWN NURSERIES, BRISTOL.

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# THE PLYMOUTH SEED COMPANY,

PLYMOUTH.

*Extract from a Letter received from a* CLERGYMAN *in Yorkshire, dated December* 11, 1862:—
"Our Vegetables have never been so fine as when grown from your Seeds."

The Company are now sending out their COLLECTIONS of SEEDS, which have always given great satisfaction.

| | |
|---|---|
| No. 1. Complete Collection for a large Garden, for One Year's Supply ... ... | £3 0 0 |
| No. 2. Complete Collection for a moderate size Garden, for One Year's Supply | 2 0 0 |
| No. 3. Complete Collection for do., smaller quantities, for One Year's Supply | 1 0 0 |
| No. 4. Complete Collection for a Small Garden ... ... ... ... ... | 0 15 0 |
| No. 5. Complete Collection for a Small Garden ... ... ... ... ... | 0 10 6 |
| Extra large Collection, containing double the quantities contained in No. 1... | 5 0 0 |

Extra Collection Carriage Free to any Railway Station in England and Wales, and to any Steam Port in England, Wales, Scotland, and Ireland.

No. 1 Carriage Free to most Stations and Ports in the Kingdom.
No. 2 Carriage Free to Broad Gauge Stations and Steam Ports.
No. 3 Carriage Free to any Station between Plymouth and Paddington.

For further particulars, see the GENERAL PRICE CURRENT, now ready.

Address, PLYMOUTH SEED COMPANY, PLYMOUTH.

GOOD SEEDS CARRIAGE FREE.

# SUTTON'S

COMPLETE COLLECTIONS OF

## KITCHEN GARDEN SEEDS

FOR ONE YEAR'S SUPPLY.

SUTTON'S UNRIVALLED COLLECTIONS of KITCHEN GARDEN SEEDS are so assorted as to contain the proper quantities of the best kinds to supply a family for the whole year.

**The entire charge for the largest Collection (No. 1) is £3 0 0 (Carriage Free).**
**Ditto ditto Collection (No. 2) is £2 0 0 ditto**
**And Complete Collections for Smaller Gardens may be had at 20s. and 10s. 6d.**

*From* Mr. WILLIAM MOOR, *Gardener, The Rectory, Stoke.*
"I never had (previous to yours last year) a lot of Seeds which have all turned out so satisfactory."

*From the* Rev. G. E. WALKER, *Shareshill, Wolverhampton.*
"Mr. Walker cannot but compliment Messrs. SUTTON & SONS on the quality of the Seeds sent last year, as they were by far the best he ever purchased."

*From the* Rev. JOHN KIRWAN, *Withycombe Rectory, Taunton.*
"I was so much pleased with the selection of Seeds sent by you, that I recommended two of my friends to take parcels from you."

SUTTON'S CHAMPION SWEDE, 1s. per lb.; Choice MANGEL WURZEL, 6d. per lb., if ordered immediately. NATURAL GRASS SEEDS for PERMANENT PASTURE, 30s. per Acre, mixed expressly to suit the soil.

SUTTON AND SONS, SEED GROWERS AND MERCHANTS, READING, BERKS.

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## INTERNATIONAL EXHIBITION.

PRIZE MEDALS 1851 AND 1862

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

# BUTLER & McCULLOCH, SEED MERCHANTS,

COVENT GARDEN MARKET, W.C.

(ESTABLISHED UPWARDS OF A CENTURY.)

COLLECTIONS OF VEGETABLE SEEDS SUITABLE FOR ANY SIZED GARDEN.

| | | | | | £ | s. | d. |
|---|---|---|---|---|---|---|---|
| No. 1. | 20 Quarts of PEAS and other Seeds in proportion | | | ... ... ... | £3 | 3 | 0 |
| No. 2. | 11 | ditto | ditto | ditto ... ... ... | 2 | 2 | 0 |
| No. 3. | 8 | ditto | ditto | ditto ... ... ... | 1 | 10 | 0 |
| No. 4. | 5 | ditto | ditto | ditto ... ... ... | 1 | 1 | 0 |
| No. 5. | 5 Pints | | ditto | ditto ... ... ... | 0 | 10 | 6 |

A Specification of the above Collections is given at page 77 of Messrs. BUTLER & McCULLOCH'S systematically arranged SEED CATALOGUE for 1863, which may be had free and post paid upon application.

*All orders amounting to £1 1s. sent Carriage paid.*

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## GARDEN SEEDS.

# S. GLENDINNING & SONS,

### NURSERYMEN AND SEEDSMEN

(SUCCESSORS TO THE LATE R. GLENDINNING),

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

| | | | | | | £ | s. | d. |
|---|---|---|---|---|---|---|---|---|
| No. 1 | contains 36 Quarts of PEAS, and all other Seeds in proportion | | | | | £5 | 5 | 0 |
| No. 2 | ,, 28 Quarts | ditto | ditto | ditto | | 4 | 4 | 0 |
| No. 3 | ,, 20 Quarts | ditto | ditto | ditto | | 3 | 3 | 0 |
| No. 4 | ,, 12 Quarts | ditto | ditto | ditto | | 2 | 2 | 0 |
| No. 5 | ,, 6 Quarts | ditto | ditto | ditto | | 1 | 1 | 0 |

COLLECTIONS of FLOWER SEEDS.

| | | | | | | £ | s. | d. |
|---|---|---|---|---|---|---|---|---|
| No. 1, | containing 100 Large Packets of Best Hardy Annuals ... | | | | ... | £0 | 18 | 0 |
| No. 2, | ,, 50 | ditto | ditto | ditto | ... ... | 0 | 9 | 6 |
| No. 3, | ,, 24 | ditto | ditto | ditto | ... ... | 0 | 5 | 0 |
| No. 4, | ,, 35 | ditto | Half-Hardy Annuals ... | | ... | 0 | 7 | 6 |
| No. 5, | ,, 12 | ditto | ditto | ditto | ... ... | 0 | 4 | 0 |
| No. 6, | ,, 25 | ditto | Tender Annuals | | ... ... | 0 | 12 | 6 |
| No. 7, | ,, 12 | ditto | ditto | ditto | ... ... | 0 | 6 | 0 |

The above Collections consist only of best and most useful varieties, and are of the finest quality.

S. G. & SONS' CATALOGUE of KITCHEN GARDEN, AGRICULTURAL, and FLOWER SEEDS, is now ready, and may be had on application.

CHISWICK NURSERY, LONDON, W.

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**Hardy Scarlet and other Choice Rhododendrons.**

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

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**Early Spring Flowers.**

WEBB'S GIANT POLYANTHUS; ditto COWSLIP; Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to

RICHARD WEBB, Calcot Gardens, Reading.

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**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

---

**Spring Blooming Plants.**

CAMELLIAS, including the best new varieties, fine plants, set with bloom buds, from 30s. per doz.; extra size, from 60s.

HEATHS, EPACRIS, CINERARIAS, and JASMINUM GRANDIFLORUM (grafted), remarkably fine plants, at moderate prices.

Also HUMEA ELEGANS, extra strong, in 8-inch pots, 18s. per doz.

JAMES DICKSON & SONS, Newton Nurseries, Chester.

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**Genuine Seeds.—Carriage Free.**

WM. CUTBUSH AND SON beg to intimate that they are now prepared to execute orders for GENUINE GARDEN SEEDS, for which their house is extensively known.

Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.

CATALOGUES free on application.

Highgate, London, N.

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FINE MIXED HOLLYHOCK SEED from all named varieties, 1s. per packet; the double blue and white Perpetual TREE VIOLETS, strong plants, 4s. per doz.

A remittance must accompany all orders by Post-office Order or penny postage stamps. All goods sent postage free.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

---

DOBSON'S PRIZE CALCEOLARIA SEED is unequalled in the kingdom. Annual Sale exceeds 3000 packets. In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each.

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE CINERARIA SEED.—Ten First Prizes awarded to our collection in the spring, 1862. In sealed packets, 1s., 2s. 6d., and 5s.

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE PRIMULA SINENSIS SEED. In sealed packets, 1s., 2s. 6d., and 5s.

J. DOBSON & SONS, Seedsmen, Isleworth.

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**Fuchsias.**

MESSRS. J. AND J. FRASER, Lea Bridge Road Nurseries, N.E., having a fine Stock of healthy vigorous young plants of all the best and NEW FUCHSIAS, beg to invite intending purchasers to an inspection of the same. The plants now offered may be grown into fine specimens by next summer.

A List with price will be forwarded on application, as also a CATALOGUE of STOVE and GREENHOUSE PLANTS, ROSES, FRUIT TREES, CONIFERÆ, &c.

---

**Banks's Best New Fuchsias.**

E. G. HENDERSON AND SON are now sending out the three following First-class Flowers:—

MDLLE. TREBELLI (BANKS).
BIANCA MARGINATA (BANKS).
MARS (BANKS).

As neat young plants for growing on into specimens (and others adapted for stock), price 3s. 6d. and 5s. each. Also plants of all last year's best varieties, 1s. 6d. to 2s. 6d. each.

SOLANUM CAPSICASTRUM FOLIA VARIEGATA, a beautiful table plant, with elegantly variegated leaves and red berries; drooping habit; 3s. 6d. and 5s. each.

Wellington Nursery, St. John's Wood, London, N.W.

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GLADIOLUS, SEEDLINGS of GANDAVENSIS.

| | £ | s. | d. |
|---|---|---|---|
| 50 in 25 extra choice varieties .. .. | £2 | 2s. | 0d. |
| 25 in 25 ,, ,, .. .. | 1 | 5 | 0 |
| 12 in 12 ,, ,, .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 ,, ,, .. .. .. | 1 | 5 | 6 |
| 25 in 25 ,, ,, .. .. .. | 0 | 16 | 6 |
| 12 in 12 ,, ,, .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2s. 6d. per doz., 17s. 6d. per 100.

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, W.C.

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**Large Importation of Gladioli.**

WM. WOOD AND SON beg to announce the arrival of a choice and carefully selected assortment of the above in excellent condition, consisting of the best and most popular hybrid varieties, from which they will be happy to make selections at the following very moderate prices, viz.,

HYBRIDS OF GANDAVENSIS.

| | £ | s. | d. |
|---|---|---|---|
| 100 in 50 choice kinds .. .. .. | £4 | 0 | 0 |
| 50 in 50 ,, .. .. .. .. | 2 | 10 | 0 |
| 50 in 25 ,, .. .. .. .. | 2 | 0 | 0 |
| 25 in 25 extra choice kinds .. .. | 1 | 5 | 0 |
| 25 in 12 ,, .. .. .. | 1 | 0 | 0 |
| 12 in 12 ,, .. .. .. | 0 | 10 | 0 |

Newer varieties at proportionately low prices.—See List.
Fine mixed GLADIOLI, per 100, 17s. 6d.; per doz., 2s. 6d.
Carriage paid on orders over 10s.
LISTS free on application.

Woodlands Nursery and Seed Warehouse, Maresfield, Uckfield, Sussex.

E. G. HENDERSON AND SON'S NEW SEED CATALOGUE will be published this week. They beg to draw attention to the following among Novelties (rules for the guidance of amateurs are given for the sowing of seeds, and after management.)

AMARANTHUS MELANCHOLICUS RUBER, 1*s.*
SALVIA COCCINEA PUMILA, 1*s.*
RHODANTHE MACULATA, 1*s.*
PORTULACCA GRANDIFLORA FLORE PLENA, 2*s.* 6*d.*
TAGETES SIGNATA PUMILA, 1*s.*
VICIA GERARDI, 1*s.* 6*d.*, 2*s.* 6*d.*
VINCA ALBA OCULATA LUTEA, 1*s.*
PRIMULA ERECTA SUPERBA, 2*s.* 6*d.*
IBERIS GRANDIFLORA ALBA, 6*d.* and 1*s.*
MIMULUS CUPREUS, 1*s.*
ANAGALLIS SANGUINEA, 6*d.*
AGERATUM MULTIFLORUM, 6*d.*
ABOBRA VIRIDIFLORA, 1*s.* and 2*s.* 6*d.*
VICTORIA ASTERS, 1*s.* and 2*s.* 6*d.*
DICTAMNUS GIGANTEA ANGUSTIFOLIA, 1*s.*
ZINNIA ELEGANS FLORE PLENA COCCINEA, 1*s.*
STEVIA OVATA, 6*d.*
NEMOPHILA DISCOIDALIS ELEGANS, 6*d.*
NEMOPHILA DISCOIDALIS VITTATA, 1*s.*

Also the following choice seeds :—

AQUILEGIA GLANDULOSA (true), best blue and white, 6*d.*
,, SKINNERI (true), best scarlet, 6*d.*
LINUM FLAVUM, fine bedding plant, dwarf golden yellow, 1*s.*
PENTSTEMON MURRAYANUM (true species), vermilion scarlet flower tubes, 6*d.*
TRITOMA UVARIA, best variety, special rule for raising seed, 6*d.* and 1*s.*
SAPONARIA CALABRICA ALBA, fine white bedder, 4*d.*
LILIUM GIGANTEUM. 1*s.*; CALENDULA SUPERBA, 4*d*
VENIDIUM CALENDULACEUM, fine bedding plant, 3*d.*
LINUM CANDIDISSIMUM, pure white, 6*d.*
GYNERIUM ARGENTEUM (Pampas Grass), 1*s.*
SPERGULA PILIFERA (Grass Lawn substitute), 6*d.* and 1*s.*
LILIUM CORDIFOLIUM, similar in style of growth to L. giganteum, but dwarfer and of a darker tint in the young growth; the large, trumpet-shaped white flowers, with dark centre midribs, are also alike to the last-named species, but are produced by smaller bulbs, and on stems not rising more than from 3 to 4 feet in height. By its blooming much more readily than L. giganteum it will prove a very popular and useful Lily. 1*s.*

Special directions are given for the germination of this and L. giganteum.

Wellington Nursery, St. John's Wood, London, N.W.

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### Cheap and Select Hardy Nursery Stock.

WM. JACKSON AND CO., Bedale, Yorkshire, beg to offer the following at annexed moderate prices. They are well rooted and quite hardy.

| | £ | s. | d. |
|---|---|---|---|
| 12 Scarlet and White PYRUS JAPONICA, strong plants | 0 | 6 | 0 |
| 12 New Gold-striped WEEPING BOX, 1 to 2 feet, strong plants | 1 | 10 | 0 |
| 12 Standard, Scarlet, and other Fancy THORNS, 5 feet | 0 | 9 | 0 |
| 12 BERBERIS DARWINII, 2 to 3 feet, very pretty | 0 | 12 | 0 |
| 12 GHENT AZALEAS, strong plants, 2 feet, best kinds | 0 | 18 | 0 |
| 12 KALMIA LATIFOLIA, new Scarlet, 2 feet, very handsome | 1 | 10 | 0 |
| 12 RHODODENDRONS, dwarf compact growing, Crimson, Scarlet, and other handsome hardy varieties by name, strong good bushy plants, 1 to 2 feet | 1 | 10 | 0 |
| 100 EVERGREEN and FLOWERING SHRUBS, strong good plants | 3 | 0 | 0 |
| 100 TREE BOX, in variety, 3 to 4 feet, often Transplanted | 3 | 0 | 0 |
| 100 PORTUGAL LAURELS, 1 to 1½ feet, selected | 1 | 0 | 0 |
| 100 COMMON LAURELS, 1 to 1½ feet, 10*s.*; 1½ to 2½ feet | 1 | 0 | 0 |
| 100 DWARF ROSES, on own roots, strong and good kinds | 2 | 0 | 0 |
| 100 PYRACANTHA, 1½ to 2 feet, for Ornamental coverts | 0 | 15 | 0 |
| 100 RHODODENDRON CAMPANULATUM, 1½ to 2 feet, strong plants from seed | 6 | 0 | 0 |
| 100 RHODODENDRON JACKSONII, and other splendid hybrids of compact growth, of free flowering kinds, per names, strong plants, 1 to 2 feet | 10 | 0 | 0 |
| 1000 EVERGREEN PRIVET, 3 to 4 feet, for hedges or coverts | 1 | 5 | 0 |
| SPRUCE FIR, 2 to 2½ feet, strong, for coverts. Price on application. | | | |
| FRUIT TREES PER DOZEN. | | | |
| CHERRIES, PEARS, PLUMS, and APPLES, strong Standard Trees, 5 to 5½ feet stem | 1 | 0 | 0 |
| PEARS, strong Dwarfs of the best kinds training | 0 | 8 | 0 |
| CURRANTS and GOOSEBERRIES, fruiting trees | 0 | 3 | 0 |

A reference or remittance is respectfully solicited from unknown correspondents.

The Trade supplied.

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H. LANE AND SON, The Nurseries, Great Berkhamsted, beg to call the attention of Planters and the public in general to their fine and healthy specimens of the annexed. The smaller sizes are given in their CATALOGUE, which may be had upon application.

ARAUCARIA IMBRICATA, the finest and largest quantity in Europe, 3 to 10 feet.
ABIES DOUGLASII, magnificent specimens, dense foliage, 6 to 10 feet.
ABIES ORIENTALIS (true), very distinct, 3 feet.
CEDRUS DEODARA, very bushy and handsome, 5 to 12 feet.
,, LEBANON, do. do. 6 to 14 feet.
CUPRESSUS LAMBERTIANA, do. do. 6 to 8 feet.
HOLLY, Variegated, in sorts.
JUNIPERS, in sorts.
PINUS AUSTRIACA, bushy and fine.
,, EXCELSA, fine specimens, 4 to 14 feet.
RETINOSPORA ERICOIDES, very pretty and pyramidal shape.
THUJA AUREA, very bushy.
,, GIGANTEA, very handsome, 2 to 3½ feet.
,, LOBBII.
,, SIBERIAN, very bushy and good, 2 to 5 feet.
THUJOPSIS BOREALIS, one of the finest evergreens.
WELLINGTONIA GIGANTEA, fine specimens, 1 to 4 feet.
WILLOW, Standards of the American and Kilmarnock, clean straight stems, and good heads.
YEW, BREVIFOLIA, fine and bushy, 2 to 3 feet.
,, ELEGANTISSIMA, a large stock of handsome plants, 1 to 3 feet.

ALSO A FINE STOCK OF THE FOLLOWING FOREST TREES.

ASH, COMMON, 3 to 6 feet.
ELM, Cornish, English, and Huntingdon, Grafted, 6 to 10 feet.
HORSE CHESTNUT, strong and straight, 8 feet to 12 feet.
PRIVET, very strong, for cover, &c., at per 1000.
SCOTCH FIR, good and strong, 2 feet, at per 1000.

---

### Chrysanthemums, Chrysanthemums.

J. H. BIRD, F.R.H.S., NURSERYMAN, Stoke Newington, begs to inform his friends and the public he can supply from his great Stock of the above 20 pairs of the best large Varieties for 10*s.*; and 25 pairs of best POMPONES for 10*s.*; 20 pairs of Cuttings of the large Varieties for 5*s.*; and 25 pairs of Pompones ditto for 5*s.*

New CATALOGUES ready for one stamp.

N.B. To save trouble all orders to be paid to J. H. BIRD, Stoke Newington.

---

CHARLWOOD AND CUMMINS beg to announce that their CATALOGUE of GARDEN, AGRICULTURAL, and FLOWER SEEDS is now ready, and will be forwarded on application. They also now offer their

NEW NEMOPHILA DISCOIDALIS ELEGANS,

commended by the Royal Horticultural Society in their Proceedings; it is thus noticed :—

"The flowers of this variety (which is a very pretty one) are of a bright chocolate or light reddish maroon, conspicuously bordered with white. The colours are distinctly marked and very effective." It is commended as a very desirable Annual for general cultivation.

2*s.* 6*d.* per packet. Price to the Trade per ounce,
14, Tavistock Row, Covent Garden, London.

A TREE or SHRUB SEED LIST will be published shortly.

---

### New and Genuine Seeds.

GEORGE PARSONS, SEEDSMAN by Appointment to HER MAJESTY. A DESCRIPTIVE SELECT PRICED LIST, post free, on application.

27 and 28, Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

---

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.

RICHARD SMITH, Nurseryman, Worcester.

---

LARGE ORNAMENTAL TREES.—The Subscribers beg to offer very fine specimen plants of ARAUCARIA IMBRICATA, from 5 to 9 ft.; CEDRUS LIBANI, 7 to 12 ft.; WELLINGTONIA GIGANTEA, 5 to 9 ft.; PINUS EXCELSA, 7 to 10 ft.; also Spruce, Scotch, and Larch Firs, from 7 to 10 ft., with Limes, Birch, Beech, Elm, Sycamore, and Laburnum, 9 to 11 ft.; likewise Weeping Ash, Lime, and Willow, on fine tall stems. The above will be sold cheap, and if taken in quantity a great reduction will be made in the price.

J. IVERY & SON, Dorking Nursery.

---

### Thorn Quicks.

JNO. CARTER, NURSERYMAN, Keighley, has a large stock of the above, from 1 to 4 years' Transplanted, well rooted and very strong.

J. C. will be glad to furnish samples and prices, and also CATALOGUE of GENERAL NURSERY STOCK.

---

COMMON LAURELS, in quantity, 3, 4, and 5 feet high, bushy and well rooted; about 800 HORSE CHESNUTS, 5 to 7 feet; 500 ENGLISH OAK, 4 to 5 feet, to be sold reasonable. Price on application to

D. S. THOMSON, Nurseryman, near Railway Station, Wimbledon, Surrey, S.W.

---

### Fine Transplanted Larch.

TO BE DISPOSED OF, a Lot of Transplanted LARCH in very fine condition, from 5 to 7 feet, price 45*s.* per 1000.

For further particulars apply by letter, prepaid, to Sir W. P. GALLWEY, Thirkleby Park, Thirsk.

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TRANSPLANTED FOREST TREES and EVERGREENS, &c.

| | |
|---|---|
| SPRUCE FIR, 1 foot, per 1000 | 10*s.* |
| ,, ,, 1 to 1½ foot, per 1000 | 15*s.* |
| ,, ,, 1½ to 2 feet, per 1000 | 25*s.* |
| OAKS, 3 feet to 4 feet | 25*s.* |
| WEEPING ELM, 10 to 12 feet stems, fine heads, per doz. | 24*s.* |
| COMMON LAUREL, bushy, 2 feet, per 100 | 10*s.* |
| BERBERIS AQUIFOLIA, 1½ to 2 feet, per 100 | 10*s.* |
| TREE BOX, 2 feet, bushy, per 100 | 20*s.* |

ALEXANDER LAING has yet the above Surplus Stock to Dispose of, having grown upon ground that must be at once cleared.

Beverley Nurseries.—Jan. 31.

---

### New Sorts of Peas.

THE ADVANCER, PRINCESS ROYAL, SMUGGLER, GILSON'S GLORY, and other new PEAS, are included in SUTTON'S PRICED SEED LIST, just published, and which may be had, Gratis and Post-free, on application addressed

SUTTON & SONS, Seed Growers, Reading, Berks.

---

CHARLES SHARPE AND CO., SEED GROWERS, Sleaford, have a large quantity of the following PEAS to offer to the Trade, viz. :—Flack's Imperial, Bedman's Imperial, Dickson's Favorite Green Marrow, Champion of England, and Woodford's Green Marrow.

Samples and prices on application. Can make good offers.

---

### May's Prolific Pea.

JOSEPH MAY, in offering the above NEW PEA, begs to assure his customers and the Public generally that it is the largest and most productive Pea known. Growth 5 to 6 feet, a large Wrinkled Marrow, can be sown from February till June, 3 inches apart in the row. Price 2*s.* 6*d.* per quart. The Trade supplied on application, from 8 quarts and upwards.

15, Wellington Street, Strand, Waterloo Bridge, W.C.

---

### To Seedsmen and Others.

THOMAS AYRES, SEEDSMAN and GROWER, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz :—

WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP, ,,
SEED POTATOES of the following varieties :—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.
SCARLET RUNNER BEANS (English grown).

A PRICE LIST forwarded upon application.

---

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., so much admired in the International Exhibition, delivered in the City at 1*s.* 6*d.*, or within 2½ miles of Charing Cross, at 2*s.* per bag of 3 bushels. Ten bags or more on lower terms. Apply to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.

Also for particulars of SHORT FIBRE for Orchids and Drainage in pots.

Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are the best and most economical of any, and are sold in every town in the kingdom; at DEANE'S, London Bridge; and E. WHITE & SON'S, 95, Cannon Street.

CAUTION.—Every Brush is stamped "J. BARSHAM'S Patent."

---

### Seakale.

GEORGE CLARKE begs to announce that he has SOLD OUT of FORCING SEAKALE, but can supply any quantity of healthy clean roots for planting. Prices will be forwarded on application.

Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, near the Victoria Railway Station, Pimlico, S.W.

---

### Cucumbers and Melons.

EDWARD TILEY has this season a fine stock of true Seed of the above, well-ripened and in excellent condition, including, amongst others, the following well-known first-rate varieties, at 1*s.* per packet :—

| CUCUMBERS. | MELONS. |
|---|---|
| Sir Colin Campbell | Garibaldi |
| Victory of Bath | M'Ewen's Scarlet and Green-flesh |
| Lord Kenyon's Favourite | Golden Drop Green-flesh |
| Captivation | Golden Perfection Green-flesh |
| Mills's Jewess | Green Gage |
| Conqueror of the West | Golden Ball |
| Incomparable | Pine Apple |
| Cuthill's Black Spine | Camerton Court Green-flesh |
| Champion of England | Blackall's Green-flesh |
| Stockwood Ridge | Bowood Green-flesh |
| Ayres' Prolific | Beechwood Green-flesh |
| Manchester Prize | Windsor Prize Green-flesh |
| Sutton's Champion | Hampton Court Green-flesh |
| Burges' Conqueror | Cuthill's Camberwell Beauty |
| Henderson's A 1 | General Havelock |
| General Canrobert | Monro's Green Gage |
| Gordon's White Spine | Monro's Crystal Palace Hero |
| Phenomenon | Scarlet King |
| Rifleman | Incomparable |
| Manchester Prize | Bromham Hall |
| Hunter's Prolific | Rouse's Incomparable |
| Syon House | Austen's Incomparable |
| Allen's Victory | Queen's Melon |
| Trollope's King | Bailey's Green-flesh |
| Ipswich Standard | Emperor |
| Tiley's Improved | Fleming's Trentham Hybrid |
| Hamilton's Black Spine | Duncan's Green-flesh |
| Dickson's Newton Hero | Egyptian Green-flesh |
| Kelway's Victory | Gordon Castle Green-flesh |
| Gen. Outram (2*s.* 6*d.* per pkt.) | |

TILEY'S EMPEROR RED CELERY, the best in cultivation, testimonials to which effect are being received almost daily, price 1*s.* per packet.

TILEY'S SOLID WHITE CELERY, 1*s.* per packet.

The true OLD BATH COS LETTUCE, 1*s.* per packet.

TILEY'S EARLY MARROW CABBAGE, which has given universal satisfaction, 1*s.* per packet.

EDWARD TILEY, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

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LIST OF MESSRS. SUTTON'S AGENTS for the Sale of Seed of the "STUDENT" PARSNIP, introduced by Professor Buckman.

Austen & M'Aslan, Trongate, Glasgow
Barr & Sugden, 12, King Street, Covent Garden, London, W.C.
Beck, Henderson, & Child, Adelphi Terrace, Strand, London
Brown, Henry, 4, Commutation Row, Liverpool
Backhouse, James & Son, York
Batt, Rutley, & Co., Strand, London
Burgess, A., The Nurseries, Cheltenham
Carter & Co., High Holborn, London
Cattell, John, Westerham
Cooper & Bolton, 152, Fleet Street, London
Cottrell, J. H., 15, Bull Ring, Birmingham
Charlwood & Cummins, Tavistock Row, Covent Garden, London
Clarke, Henry & Sons, 39, King Street, Covent Garden, London
Cooling, C., 18, Iron Gate, Derby
Cutbush & Son, The Nurseries, Highgate, London, N.
Davies, George, Stanley Nurseries, Liverpool
Dicksons & Brown, Corporation Street, Manchester
Dickson & Sons, 102, Eastgate Street, Chester
Dickson, Sons, & Co., 23, Market Place, Manchester
Dickson & Turnbull, 26, George Street, Perth
Dickson, F. & A. & Sons, 106, Eastgate Street, Chester
Dickson, Hogg, & Robertson, 22, Mary Street, Dublin
Dixon, E. P. & Son, 57. Queen Street, Hull
Dillestone & Co., The Nurseries, Sturmer
Downie, Laird, & Laing, 17, South Frederic Street, Edinburgh; and Stanstead Park Nursery, Forest Hill, Kent
Drummond & Sons, 58, Dawson Street, Dublin
Drummond & Sons, Stirling
Ernst & Von Spreckelsen, Hamburg
Edmondson, Brothers, 10, Dame Street, Dublin
Fairhead & Son, 7, Borough Market, London
Fisher, Holmes, & Co., Handsworth Nursery, Sheffield
Finney & Co., Gateshead Nursery, Newcastle-on-Tyne
Fraser, Richardson, & Goad, 82, Bishopsgate St. Within, E.C.
Godwin, F. G., 3, New Market Hall, Sheffield
Gibbs, Thomas, & Co., Half Moon Street, Piccadilly, London
Garaway & Co., Durdham Down, Bristol
Hurst & Son, 6, Leadenhall Street, London
Henderson, E. G. & Son, Wellington Nursery, St. John's Wood, N.W.
Henderson, A. & Co., Pine Apple Place, Edgeware Road, W.
Haycroft, J. & H., Cork
Handasyde, Thos., Glen Nurseries, Musselburgh, N.B.
Ivery, James & Son, Dorking, Surrey
Kennedy, Thos. & Co., Dumfries
Krelage, C. F. & Son, Haarlem, Holland
Low, H. & Co., Clapton Nursery, London
Lowe, Richard & Co., High Street, Wolverhampton
Maule & Sons, The Nurseries, Bristol
Methven, T., Nursery Gate, Leith Walk, Edinburgh
Minier, Nash, & Nash, 60, Strand, London, W.C.
Nutting & Son, 60, Barbican, London
Nelson, John, St. Michael's, Bristol
Osborn & Son, Nurserymen, Fulham, London
Paul & Son, Old Nurseries, Cheshunt
Perkins, John, 52, Market Square, Northampton
Pillinger, John, Chepstow Nurseries, Chepstow
Pope, Henry, Great Heath Nurseries, near Birmingham
Perry, P. J., The Nurseries, Banbury
Plymouth Seed Company, Plymouth, Devon
Shaw, Jno., 29, Oxford Street, Manchester
Smith & Simons, Argyle Arcade, Glasgow
Stuart & Mein, Kelso, N.B.
Toole & Co., Westmoreland Street, Dublin
Turner, Charles, The Royal Nurseries, Slough
Thomas, Wm., Exchange Street, Wolverhampton
Veitch, James, jun., King's Road, Chelsea
Veitch & Son, High Street, Exeter
Van Houtte, Louis, Ghent, Belgium
Wrench, Jacob, & Son, London Bridge
Wheeler, J. C. & Son, Gloucester
Wood & Son, Maresfield, near Uckfield
Waite, J. G., 181, High Holborn, London
Wood & Ingram, The Nurseries, Huntingdon

Packets of Seed, 6*d.*, 1*s.*, and 2*s.* 6*d.* each, can be obtained of any of the above named, and also of Messrs. SUTTON, who can supply it either Wholesale or Retail.

Royal Berkshire Seed Establishment, Reading.

*** The Trade supplied on liberal terms.

WEBB'S IMPERIAL KIDNEY POTATOES, True, 8s. per bushel, 15s. per cwt.; DICKSON'S EARLY FAVOURITE PEAS, unpicked, 8s. per bushel; BLUE SCIMITAR PEAS, picked, 12s.; TAYLOR'S WINDSOR BEANS, 10s. Terms Cash.

W. MINCHIN & SON, Hook Norton, Oxon.

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**To the Trade.**

MYATT'S PROLIFIC ASHLEAF KIDNEY POTATO.—The above excellent variety, sound and in good condition; also a few Seeds DALMAHOY POTATO, to be had of

J. MYATT, Offenham, Evesham.—Price List on application.

---

EXTRAORDINARY POTATOES.—A gentleman resident in the Country offers for SALE a few BUSHELS of SEED POTATOES of a new and most wonderful kind. For the table they are unsurpassed as to whiteness and delicacy of flavour, and their productiveness is almost incredible, even on indifferent soil; and further, the disease never attacks them.

For price, &c., address by letter to Z. Z., No. 937, *Times* Office, Hereford. Early application is necessary.

---

**Mona's Pride, New Early Kidney Potato.**
**Picea nobilis Cones.**

TOOLE AND CO. have for SALE a limited supply of the above NEW EARLY KIDNEY POTATO, the finest ever yet introduced, being much earlier than the Ashleaf, larger, and more prolific.

Price 5s. 6d. per sealed bag of 14 lbs.
Also a few well ripened Cones, PICEA NOBILIS, at 21s. each.

41, Westmorland Street, Dublin.

---

HOW'S EARLY FLUKE.—This new KIDNEY POTATO has been raised from the apple of the Fluke. In 1861, 1200 yards produced 132 bushels. In 1862, tested in alternate rows with other sorts, it was freest from disease, and by far the heaviest crop. It boils white, and is of first-rate quality. Its flavour when dug young is much extolled. Two First Prizes have been awarded to it at the last Redmarley Horticultural Shows held in July. For early market or the gentleman's table it is unsurpassed. Price 10s. per bushel of 56 lbs.

W. A. HOW, Redmarley, Newent, Gloucester.

---

SEED POTATOES from the NORTH of SCOTLAND.—The following sorts, grown by Mr. SIMPSON TEAWIG, in Inverness and Ross-shires, on clay loam and light soils.

DALMAHOYS
WALKER'S EARLY REGENTS
WHITE ROCKS

They will be delivered free in sacks in London, Liverpool, or Newcastle, at very moderate rates, which may be learned by writing, stating quantities required, to A. SIMPSON, Beauly, N. B.

---

**Myatt's Early Prolific Ash-leaved Kidney Potatoes.**

H. AND F. SHARPE are now taking orders for the above, which has this season proved itself to be the earliest and most prolific Potato in cultivation, and as fine in quality as any of the Early Kidney varieties. Having a good stock they can offer them at a low price to the Trade.

Also JACKSON'S ASH-LEAVED KIDNEY, WALNUT-LEAVED KIDNEY, and all the early Round varieties at equally low prices, which may be had on application.

Seed Growing Establishment, Wisbech.

---

THE ROYAL ASH-LEAVED KIDNEY POTATO.—This variety was raised from seed of the Ash-leaved Kidney about five years since by the late JAMES ASHWIN, Esq., of Bretforten Hall, near Evesham.

He at the same time raised some other varieties from the same sort. Some specimens of all his seedlings were given to Mr. Rivers, who after having proved them, selected the above variety as being worthy of a name, and as the best and earliest Potato known.

It is like its parent in its fine flavour, shape, and leaves, but its bines are stouter and much more robust. It is also some eight or 10 days earlier, and gives quite double the produce of the old sort, frequently from 20 to 30 fine tubers to a root. In 1861 two pecks of seed produced 22 bushels. A few were sent to Mr. Spencer, of Bowood, last spring. The following is the report from the Foreman of the Kitchen Garden, Mr. Taplin:—"We planted this Potato for trial with the old Ash-leaved Kidney. The seedling was fit for use first, the Potatoes were larger and more of them to a root than the old sort; they were quite free from disease, while some of the sorts planted with it were nearly all destroyed; from its earliness and productiveness, I believe it will be found a most useful sort for early forcing." In March last, 10 varieties of Early Potatoes, including all the Early Kidney Potatoes, were planted here on the same day and in the same piece of ground with one row of the Royal Ash-leaved; the latter was earlier and more productive than any other kind.

Sold in sealed Peck Bags of 14 lbs., at 5s. 6d. per bag.

In London, by Messrs. WRENCH & SONS, Seedsmen, 39, King William Street, London Bridge, E.C.; and by Messrs. THOS. RIVERS & SON, Nurseries, Sawbridgeworth, Herts.

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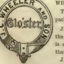


WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

WHEELER'S IMPERIAL LETTUCE

The price of the Lettuce is 1s. per packet, post free.

J. C. WHEELER & SON beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. WHEELER & SON, Seed Growers, Gloucester.

---

**Change your Seed.**

SEED POTATOES AND SWEDE TURNIP SEED.

WM. JACKSON AND CO., SEED GROWERS and NURSERY and SEED MERCHANTS, Bedale, Yorkshire, have the pleasure to inform Agriculturists that they have grown large quantities of the following articles, carefully selected for Seed:—

DALMAHOY, FLUKE, and PRINCE REGENT (a great cropper) POTATOES, Free from disease, and fine samples.

The best PURPLE TOP, the best GREEN TOP, and the best HARDY BRONZE TOP, SWEDE TURNIP SEED.

These kinds have never failed to produce excellent crops.

CATALOGUES with particulars and prices, which are very moderate, sent to any part of the kingdom on application.

---

**West Norfolk American Nurseries, Downham Market.**

THE EXECUTORS of the late JOHN BROWN, in returning their sincere thanks for the liberal support for many years extended to the late Proprietor, beg to inform the nobility, gentry, and public, that the above Nurseries will in future be conducted by competent practical persons under the style of "JOHN BROWN & CO."

JOHN BROWN & CO., in soliciting a continuance of the support so liberally extended to their predecessor, beg to assure the public that no effort will be wanting on their part to merit a continuance of the same, and that all articles supplied by them will be of the best quality at lowest remunerative prices.

J. B. & Co. have on hand an extensive collection of FOREST TREES, CONIFERS, EVERGREEN and FLOWERING SHRUBS; also a large stock of GARDEN and AGRICULTURAL SEEDS of best quality.

All communications to be addressed, and Post Office Orders to be made payable to JOHN BROWN & CO.

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**The Planting Season.**

THE EXECUTORS of MR. JNO. YOUNG, late Proprietor of the extensive Nursery Grounds, Taunton, have determined to reduce this large and valuable Stock. They respectfully invite the attention of Noblemen, Gentlemen, and the Trade to the FOREST TREES, HARDY and ORNAMENTAL TREES and SHRUBS, large and small; CONIFERÆ, EVERGREENS, HERBACEOUS, and a great variety of other PLANTS.

STANDARD, DWARF, and POTTED ROSES.

STANDARD, DWARF-TRAINED, and PYRAMIDAL FRUIT TREES.

The varied and excellent quality of this Stock is so well known that comment is unnecessary.

The Grounds are open for inspection and sale daily, and in quantities at greatly reduced prices.

Applications by post direct to the EXECUTORS of the late Mr. John Young, Taunton.

The above capital FREEHOLD NURSERY
(Established more than 30 years),
containing about 12 Acres of highly productive Land, with the usual Appurtenances, situate at Taunton, the County Town of Somersetshire, in excellent condition, with a good connection, is
TO BE SOLD, with Early Possession,
in consequence of the Decease of the late Owner.
For particulars, apply as above.

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**To Farmers, &c.**

CHEAP GYPSUM MANURE.—Parties requiring GYPSUM can be supplied at 10s. per Ton, bulk, at the Works at Kennington, S.

Address, X. L., 34, Chapel Street, North Brixton, S.

*** Delivered on Rail, adding for bags and cartage.

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THE LONDON MANURE COMPANY have now ready

PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.

116, Fenchurch Street, E.C.

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LAWES'S WHEAT MANURE for AUTUMN SOWING.

In consequence of the high price of Peruvian Guano, J. B. LAWES has manufactured a WHEAT MANURE for the present season, which will be found very suitable for that crop. A supply is now ready for delivery, and it can be obtained of J. B. LAWES, or through any of his appointed Agents. Price 8l. per ton at the Factories, Deptford and Barking Creeks.

Genuine Peruvian Guano direct from Messrs. Gibbs; Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

---

TO BE SOLD, 200 feet length of 10-feet LIGHTS, for covering Peach walls. They are new, portable, and easily fixed. Gutters, Plates, Doors and Ends complete. Price 80l. Apply to CUTBUSH & CO., Highgate, N.

Also 85 ORCHARD TREES in Pots, from 4 to 8 feet in height, fine trees, consisting of Peaches, Nectarines, Plums, Pears, and Cherries. Price 30l.

The Lights would make a good Orchard House, 100 feet in length.

---

**Notice.**

MR. A. CHANDLER (of the late Firm of CHANDLER & SONS), HORTICULTURAL VALUER, begs to inform his friends and the public that he has REMOVED from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

---

ESTATE DRAINAGE. — HORTICULTURAL ALTERATIONS Planned, Superintended, and carried out. For the Advertiser's style, see Horticultural Innovation, p. 1172, *Gardeners' Chronicle*, Dec. 13, 1862.

J. NEWTON, 30, Eastbourne Terrace, Paddington, W.

---

ARCHANGEL MATS, for protecting Fruit Trees, Plants, Shrubs, &c., from Frost. A large quantity fresh imported, are now on Sale at low prices per hundred, delivered free at any of the Metropolitan Railway Stations. Also Ropes, Lines, Twines, Sacks, and Bags of every description. Tanned Garden Netting. A Price List forwarded upon application to

JOHN MORISON, 25, Norton Folgate, N.E.

---

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1s. 6d. per yard run.
Four yards wide .. .. .. 3s. per yard.
An improved make, 3 yards wide, 2s. 6d. per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1s. 4d. per yard run.

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

---

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP,
1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.
Patentee: J. NEAL, Edward Street, Birmingham.

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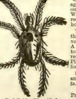

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1s., 3s., and 10s. 6d. each.

Wholesale by
PRICE'S PATENT CANDLE CO., Limited.

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SHAW'S TIFFANY,
For samples and prices apply to
J. SHAW & CO., 29, Oxford Street, Manchester.

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**Do as Others Do!**

BUY YOUR SEED BAGS from JAMES T. ANDERSON, SACK and BAG MAKER, and RUSSIA MAT MERCHANT, 15, SHERBORNE LANE, King William Street, London, E.C., who will supply you with a first-rate article at a low price. ARCHANGEL MATS, the pick of the season. Russian and Prussian Dunnage Mats.

Prices sent free on application.

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**The Old Established Seed Bag and Sack Manufactory.**

ALEXANDER NICOL AND CO., MANUFACTURERS of SEED BAGS and SACKS, RYE-GRASS SEED BAGS, GRAIN and POTATO SACKS of all sizes and descriptions, SHOP and NURSERY TWINES, GARDEN LINES, &c.

Chalmers St. Works, Arbroath, N.B.

N.B. The principal Seed-houses in the three Kingdoms have been supplied by us for the last 30 years. Price Lists and Samples may be had on application. No connection with any other house in the Trade.

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TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½d.; 2 yards, 3d.; 3 yards, 4½d.; and 4 yards, 6d. per yard run, in any quantity, may be had at CHAS. WRIGHT'S, 376, Strand, W.C.

VARNISHED FLOWER STICKS:—1 foot, 3d.; 1½, 4d.; 2, 5d.; 2½, 7d.; 3, 10d.; 4, 1s. 6d. per dozen. DAHLIA do., per dozen:—3 feet, 1s. 6d.; 4, 2s. 3d.; 5, 3s.; 6, 3s. 6d. An allowance to Nurserymen.

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F. A. HAAGE, Jun., of Erfurt.—WOOD GARDEN STICKS and LABELS. Commended by the Royal Horticultural Society. Wholesale prices on application to

BETHAM & BLACKITH, Cox's Quay, Lower Thames Street, London, E.C.

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MINTON AND CO. have REMOVED from Albion Place, Blackfriars, to 50, Conduit Street, Regent Street.

ENCAUSTIC and other PAVEMENTS, EARTHENWARE and PLAIN TILES. Designs and Estimates prepared.

Manufactory: Stoke-upon-Trent.

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ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability, Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER, Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, London, N.E.

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HENRY J. MORTON AND CO.,
2, Basinghall Buildings, Leeds.

**Galvanised Iron Water Cistern**

for Cottage Houses, &c., to contain 50 gallons, 26s.; 80 gallons, 31s. each; and 140 gallons, 37s., and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

**Galvanised Iron Pumps**

for Liquid Manure or Domestic Use, 3 inches diameter, 30s. and 32s. 6d. each; Tail Pipe for same at from 10d. per foot.

**Galvanised Iron Swing Water Barrows**

for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 35s. 0d. each.

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PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

The GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C.

HARDY FLOWER SEEDS, of Showy Colours only, sent free by post or rail, by
SUTTON AND SONS.
A COLLECTION of the best 50 sorts known .. 10s. 6d.
A COLLECTION of the best 36 sorts known .. 7 6
A COLLECTION of the best 24 sorts known .. 5 0
SUTTON'S CATALOGUE of SEEDS will be sent post free.
SUTTON & SONS, Seed Growers, Reading, Berks.

FINE GRASS LAWNS in FLOWER GARDENS, &c.—The great expense of cutting and carting Turves from a distance may be avoided, and a *superior* Turf produced in a *few* months, by sowing SUTTON'S LAWN GRASS SEEDS, which consist solely of the finest and shortest growing kinds, perfectly *free from Moss and other weeds.*
Price 18s. per bushel, or 1s. per pound. Quantities of not less than 1 bushel will be sent Carriage free.
SUTTON & SONS, Seed Growers, Reading, Berks.

WELLINGTONIA GIGANTEA.—The attention of the Nobility, Gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12s. ; per 100 or 1000 on application. A Sample free by post for 12 stamps.
J. HENCHMAN, Edmonton, London, N.

**Box Edging.**
MR. JAMES VEITCH, JUN., is in want of a quantity of BOX EDGING. It must be dwarf and good, and warranted to plant at least three yards for one
Parties having any to offer may send ONE yard as sample, carriage paid to London, to be forwarded by Parcels Delivery. The price to include free delivery into a truck at a Railway Station.
Royal Exotic Nursery, Chelsea, London.—Jan. 31.

**Larch, Quicks, &c.**
CHIVAS AND WEAVER, Chester (late GEORGE CHIVAS), offer FOUR MILLIONS of TRANSPLANTED LARCH, from 1½ to 4½ feet, of very superior quality. FOUR MILLIONS of TRANSPLANTED THORNS of various sizes, a large portion of which are exceedingly strong. Orders for 10,000 of either, delivered free at any Railway Station. A Sample Bale, containing 100 of each, 5 sizes of Larch, 22s. 9d., and of Quicks, 15s., will be forwarded on receipt of a Post-office Order from unknown Correspondents.
A General PRICED LIST on application.

**New Seeds.**
PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, of Edinburgh and London, are prepared to send out
FARM
and
GARDEN SEEDS
of every kind, and of the finest quality.
Orders for exportation executed with prompt and careful attention.
28, King Street, Cheapside; and 15, Lawrence Lane, E.C.

DOWNIE, LAIRD, AND LAING have much pleasure in offering the following FIRST CLASS NOVELTIES, which they can with confidence recommend as being decided acquisitions.
CALCEOLARIA CLOTH of GOLD, described by the Floral Committee of the Royal Horticultural Society as follows:—"A desirable bedding variety of dwarf habit, growing from 6 to 9 inches high; the leaves are narrow and deeply serrated, the flowers in fine compact trusses of a deep clear yellow, and of medium size and firm substance;" stems stiff and erect, requires no staking; as a dwarf yellow for front lines, or ribbon borders, it has no equal. Certificate of Merit by the Floral Committee, First Class Certificate at Regent's Park. Price 2s. 6d. each, 18s. per dozen. Special price for quantities on application.
DELPHINIUM BICOLOR GRANDIFLORUM.—This is a striking and most beautiful variety. It was commended by the Floral Committee of the Royal Horticultural Society, who described it as follows:—"A showy variety with large flowers, in which the sepals were of a dark blue, and the petals of a creamy white colour, contrasting strongly with the darker colour surrounding them." Price 5s. each. Special offers to the Trade on application.
Stanstead Park, Forest Hill, S.E.; and Edinburgh.

**New Japanese Plants.**
PARSONS AND CO., Flushing, near New York, offer FOR SALE—
Ten LILIUM AURATUM, at 8 Guineas each. This plant bloomed the last summer at Flushing. It was much admired for its great beauty, and for its delicate yet powerful fragrance, pervading a room for some days after being cut, and even after the petals were withered. The bulbs are full and sound.
LONICERA BRACHYPODA (aurea reticulata), 5s. each. This beautiful plant, with its remarkable leaf variegation of green and gold, is supposed to be perfectly hardy, and is scarcely surpassed in beauty by any of the foliage stove plants. It is figured in "L'Illustration Horticole" for last September.
RETINOSPORA JAPONICA, 5 Guineas per 100, 40 Guineas per 1000. This plant is supposed to be either obtusa or pisifera. Its foliage is beautiful, and highly glaucous on the under side. The plants offered are about 3 inches high, have been once transplanted, and are in pots containing 25 each.
JEDDO GRAPE. This Grape has been described by Robert Fortune as scarcely inferior to any of the Grapes known in English hothouses. Originating in Japan, it is supposed to be hardy, and suitable for walls. Strong 1-year old plants will be ready for delivery in the autumn of 1863. Price 1 Guinea.

**Seeds made Proof against the Attacks of Birds.**
SAMUEL WALTERS, SEED GROWER and MERCHANT, Hilperton, Trowbridge, Wilts, begs respectfully to offer SEEDS prepared as above stated, in small or large collections. Some of the advantages of using seed so prepared are—a less quantity of seed will produce a greater number of plants; all contrivances to frighten away birds can be dispensed with; the anxiety to secure seeds from the attacks of birds will be no more felt by the use of new and good home-grown seed so prepared. Unusual success may be expected. A nominal charge only will be made for Proof Seed, or when a Collection of Garden Seeds of 20s. value and upwards be requested and supplied by S. W., no extra charge will be made. The Seed can be tested at once by putting it on side of other Seed not prepared—the birds will eat the latter, but not the former.
AMATEUR'S GUIDE in a comprehensive form will be sent with each Collection of Proof Seeds.
KITCHEN GARDEN, FLOWER, and FIELD SEEDS always on Sale.

**Roses for Forcing.**
CHARLES NOBLE has a nice assortment, one year, established in 32-pots, ready for Forcing. They are healthy vigorous plants, and cannot fail to give satisfaction. He has also a large stock of Dwarfs and Half-Standards suitable for planting in Roseries; they are offered very cheap.
Sunningdale Nursery, South-Western Railway.

**Rose Catalogue for 1863.**
EDWIN HOLLAMBY begs to announce that his NEW DESCRIPTIVE PRICED CATALOGUE of the above is now ready, and will be forwarded gratis and post-paid on application.
Seed and Nursery Establishment, Tunbridge Wells, Kent.

**Roses.**
GEO. PARSONS begs to offer fine STANDARD ROSES, from 2½ to 4 feet stems, at 5l. per 100, or 15s. per dozen; including the New Varieties, 18s. per dozen, or 6l. 10s. per 100; the last New Varieties of 1862, DWARFS, 30s. per dozen.
CATALOGUES free on application.
Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

DWARF HYBRID PERPETUAL ROSES, on the MANETTI STOCK; Carriage paid to London.—The Undersigned offer very fine and vigorous plants of the above. For a LIST of the more popular sorts, see *Gardeners' Chronicle* for December 6, 1862. Prices given for small and large numbers (per 1000 at a much reduced rate) and a DESCRIPTIVE CATALOGUE of ROSES sent on application to
THOS. RIVERS & SON, Nurseries, Sawbridgeworth.

**Fine Dwarf Roses.**
GEO. CLARKE has an abundance of magnificent plants of DWARF ROSES, including the leading varieties of Hybrid Perpetuals and Bourbons; also well established plants in Pots of PERPETUALS, TEAS, and BOURBONS, suitable for Forcing. Prices forwarded on application.
Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, near the Victoria Railway Station, Pimlico, S.W.

**Roses.**
H. LANE AND SON, The Nurseries, Great Berkhamsted, beg to call particular attention to their splendid Collection of ROSES, viz.:—
STANDARDS of the popular kinds, fine and strong.
DWARF STANDARDS, very strong, and best sorts, suitable for giving an immediate effect in beds, &c.
Ditto in 32-sized Pots for immediate Forcing, fine and good.
DWARFS on own roots, the leading kinds for beds, &c.
Also fine Plants for Conservatory or Greenhouse of TEA SCENTED (Dwarfs).

**Splendid New Bedding Plants.**
MESSRS. VEITCH AND SON, Exeter and Chelsea, S.W., are now prepared to supply SEEDS of the following splendid novelties, recently introduced by them, feeling confident that two such fine additions to the Flower Garden cannot fail to give general satisfaction.
AMARANTHUS MELANCHOLICUS RUBER.—Introduced from Japan by Mr. J. G. VEITCH; its beautiful blood red foliage renders it much superior to the Perilla, where colour and effect are required, and this, combined with its dwarf compact habit (averaging from 9 to 12 inches), cannot fail to make it the most popular dark-foliaged bedding plant yet introduced. It has been commended by the Floral Committee of the Royal Horticultural Society, on account of its distinct habit as a bedding plant.
In addition to the List of Agents advertised in the *Gardeners' Chronicle* of January 17, 1863, the following have also obtained their Seed of the above from Messrs. V. & SON:—
Backhouse & Sons, Messrs., York
Cunningham & Son, Messrs. Geo., Liverpool
Fraser, Messrs. J. & J., Leyton, Essex
Glendinning, Messrs., Chiswick
Ivery, Mr., Peckham
Jackson, Messrs., Kingston, S.W.
Sands, Mr. John, Stafford
Waite, Mr., Holborn
Wood & Son, Messrs., Maresfield, Sussex

MIMULUS CUPREUS.—This beautiful little perfectly hardy novelty was sent us by Mr. Pearce, from the Andes of Chili, where he met with it at an elevation of from 6000 to 7000 feet.
Its dwarf and compact habit, not exceeding 4 to 6 inches in height, its perfect hardiness, and producing its bright orange-crimson flowers in great profusion, render it equally useful for the Flower Garden or for Pot culture.
It has been constantly exhibited during the past season, and had medals awarded it at both the Royal Horticultural and the Royal Botanic Societies. It is indeed a charming plant, and cannot fail to give general satisfaction.
In addition to those advertised in the *Gardeners' Chronicle* of January 17, 1863, the undermentioned have also procured their Seed of Messrs. V. & SON:—
Fraser, Messrs. J. & J., Leyton, Essex
Glendinning, Messrs., Chiswick
Jackson, Messrs., Kingston, S.W.
Waite, Mr., Holborn, W.C.
Wood & Son, Messrs., Maresfield, Sussex

LARGE IMPORTATION of STANDARD ROSES.
WILLIAM WOOD & SON
Have much pleasure in announcing the arrival of a large Importation of STANDARD and DWARF ROSES in fine order, which they will be happy to supply on most reasonable terms.
CATALOGUES free and post paid on application.
WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

IMPROVEMENT OF OLD PASTURES, PARKS, AND MEADOWS,
BY SOWING THE MOST SUITABLE KINDS OF
GRASS AND CLOVER SEEDS.
SUTTON'S RENOVATING MIXTURES.
Quantity of Seed required, 8 to 12 lb. per Acre. Price reduced to 9d. per lb., or 80s. per Cwt.

*From* Mr. JOHN BARTON, *Hackwood Farm.*
"Your Renovating Seeds have given great satisfaction. Two meadows which seemed almost past growing anything are now as good a herbage as any one could wish."

*From* Mr. ALEXANDER TILL, *Minster, near Queenborough.*
"Two years since I sowed some of your 'Grass Seed Mixtures' upon some old and mossy pasture, and now I see a positive and considerable benefit therefrom, the pasture being much *thicker* and more vigorous; and the sheep show their fondness for it in the close and even manner in which they feed it down."

*From* Mr. J. HALLETT, *Blackford Farm, Highclere.*
"The Grass Seeds you sent me last season have given me the greatest satisfaction, inasmuch as the plot of ground where they were sown, which before seemed almost past growing anything, is now growing as beautiful a plant of herbage as any one could wish to see."

*From the* Rev. CANON GUTHRIE, *Vicarage, Calne.*
"I have no hesitation in expressing my great satisfaction at the *manifest improvement* both to lawn and *pasture* from the Seeds which I received from you, though I was somewhat late in the sowing."

*From* Mr. G. NORRINGTON, *Rectory Farm, Taplow.*
"Five years ago I wrote to you to send me a Mixture of Grass Seeds to sow upon 10 acres of old Pasture. At the time I took the Farm the 10 acres of Meadow were almost useless. I now have a most excellent pasture."

*From* T. T. FICKLIN, Esq., *The Grove, Cambridge.*
"Your Renovating Grass Mixture answered perfectly, and my friend wishes me to order some for him."

*From* Mr. R. S. CROSS, *Petersfield.*
"The Renovating Mixture I had a year ago last spring had evidently much increased the quantity and improved the quality of this year's crop of Grass."

*From* ALEXANDER C. FORBES, Esq., *Whitchurch,*
"You will be pleased to hear that the Renovating Seed I sowed, and which I thought had failed, are now coming up in great abundance."

*From* Mr. W. MEEKINS, *Gardener to the Dowager Lady Truro, Bowes Manor, Southgate.*
"I am much pleased with the Renovating Seeds I got last season from you, as in every meadow where I sowed it I found great improvement, both in quantity and quality; also the Lawn was very much improved by the mixture you sent me, and my employer was much gratified with the results, both in our Pasturage and on the Lawns, and wishes me again to procure mixtures from you when the time arrives for sowing."

*From* C. F. THRUSTON, Esq., *Talgarth.*
"Your Grass Seeds have answered admirably. They were sown in spring, under rather unfavourable circumstances. The after Grass is remarkable; Clover and other Seeds springing up where nothing but the poorest pasture had been previously, and I think that a field of 9 acres sown with your Renovating Mixture is now one of the finest in our neighbourhood."

Meadows and Upland Pastures may be increased in value 50 per cent. by sowing these Seeds (as see the above Letters).

Our RENOVATING MIXTURE consists of the Finest GRASSES and PERENNIAL CLOVERS. If the Seeds are sown *early in the season*, the improvement in the Pasture will be very great, and at a small expense.
SUTTON'S PERMANENT MEADOW GRASS SEEDS, mixed expressly to suit the soil, 30s. per Acre.
Fine LAWN GRASS SEEDS, 18s. per Bushel. Also
Good CLOVER and RYE-GRASS SEEDS for Alternate Husbandry at market prices.

ROYAL BERKSHIRE SEED ESTABLISHMENT, READING.

NEW PRIZE MELONS, at 1s. 6d. per packet.
Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria.
For descriptions see GUIDE to the KITCHEN GARDEN.
BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1s. per packet.
JAMES CARTER & CO., 237, 238, & 261, High Holborn, W.C.

**Melon Seed! Melon Seed!!—Hybrid Cashmere (True).**
J. MEREDITH can supply Seeds of his First Prize MELONS, which were exhibited at Kensington and Regent's Park last summer. Twelve Seeds for 2s. 6d.
N.B. Payment may be made in postage stamps.
J. MEREDITH, Vine Cottage, Garston, near Liverpool.

**To the Trade.—Vines from Eyes.**
H. LANE AND SON, The Nurseries, Great Berkhamsted, have to offer a fine large quantity of well-ripened CANES of Buckland Sweetwater, Prolific Sweetwater, Trentham, Muscat Hamburgh, Golden Hamburgh, Cannon Hall Muscat, Black St. Peter, Charlesworth Tokay, West's St. Peter, &c.

THE GREAT VINE at HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.
Strong well-ripened plants in 9-inch pots, 42s. and 60s. p. doz.
" " fruiting plants in 12-inch pots, 10s. 6d. each.
If purchased in large numbers a considerable reduction will be made in price.
JACKSON & SON, Nurseries, Kingston, S.W

**Vines.**
GEORGE CLARKE, having an enormous stock of stout, short-jointed, well-ripened, Fruiting VINES, is induced to offer them at prices considerably lower than those usually charged for such plants. He offers them at 7s. 6d. each. They embrace all the well-known leading varieties, and will produce a good crop of fruit in the ensuing season. Smaller plants, equally well ripened, 3s. 6d. to 5s. each.
Nursery, Streatham Place, Brixton Hill, London, S.; and 4, Windsor Terrace, near the Victoria Railway Station, Pimlico, S.W.

EXTRA STRONG FRUITING VINES.—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7s. 6d. each; smaller, for Planting-out, from 3s. 6d. each. A reduction in price will be made to large purchasers.
"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.
JAMES DICKSON & SONS, The Newton Nurseries, Chester.

**New Early Peaches, &c.**
MESSRS. RIVERS AND SON have much pleasure in offering the following new and valuable sorts of PEACHES, &c.:—
EARLY VICTORIA.—This, the earliest good Peach yet known, ripens early in August, and is so hardy that it may be cultivated as a bush in the open air. It was placed before the Fruit Committee of the Royal Horticultural Society, August 12, 1861. "The flavour was most delicious;" *vide* report in "Proceedings" of that date. Maiden trees, 5s. each; bearing trees in pots, 7s. 6d. each.
EARLY ALBERT.—This distinct variety ripens about the middle of August, just after the Early Victoria. It was placed before the Fruit Committee, Sep. 10, 1861 (the fruit sent being retarded). "The flavour is excellent;" *vide* report in "Proceedings" of that date. Maiden trees, 5s. each.
PRINCE OF WALES PEACH.—A sort raised from the Pitmaston Nectarine. Very large, colour deep crimson, flesh very rich and melting. It ripens from a week to 10 days after the Barrington Peach. Maiden trees, 5s. each.
PRINCE OF WALES NECTARINE.—A late melting sort, raised from the Bourdin Peach. Fruit oval, large, melting, very red at stone; flavour rich, with a vinous smack. It ripens about the first week in October. Maiden trees, 5s. each; bearing trees in pots, 7s. 6d. each.
PINE APPLE NECTARINE.—A late variety of Pitmaston Orange, with large oval fruit; colour bright orange and red. Flavour remarkably sugary and rich. Maiden trees, 5s. each; bearing trees in pots, 7s. 6d. each.
Carriage paid to London.
Nurseries, Sawbridgeworth.

**Wholesale Catalogue.**
GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE for 1862 and SPRING 1863, comprising Fruit Trees of all the leading kinds, new and selected Roses, fine varieties of American Plants, Choice and Rare Conifers, Evergreen and Deciduous Trees and Shrubs, and a fine Stock of Transplanted Forest Trees, &c., can be had free on application.
Woking Nursery, Surrey.

DWARF-TRAINED FRUIT TREES.
Good trees moderate price.
PEARS.—Passe Colmar, Marie Louise, Williams's Bon Chrétien, Van Mons Leon le Clerc, Knight's Monarch, Ne plus Meuris, Easter Beurré, Duchesse d'Angoulême, Beurré d'Aremberg, Glou Morceau, Catillac, Crassane, Beurré Clairgeau, Beurré Magnifica, Prince Albert, Jules Bivort, Comte de Paris, Duchesse d'Orleans, Prevost, Alexandre Lambre, Zepherin Louis, Eliza d'Heyst, Cassane de Mars, Laura de Glymes, Josephine de Malines, Beurré Berckmanns, Beurré Superfin, Autumn Bergamot, Gansel's Bergamot, Beurré de Capiaumont, Jargonelle, Hacon's Incomparable, Beurré Bosc, Chaumontel, Louise Bonne of Jersey, Nelis d'Hiver, Beurré Diel, Leopold I., Bergamot d'Esperon, Comte de Flandres.
PLUMS.—New Early Orleans, Old Orleans, Red Magnum Bonum, Denyer's Victoria, Diamond, Goliah, Cooper's Large Red, Prince of Wales, Woolston's Black Gage, Angelina Burdett, Cloth of Gold, Autumn Compote, White Magnum Bonum, Reine Claude Violet, Washington, Ickworth's Imperatrice, Jefferson's Standard of England.
APPLES.—Hawthornden, Court Pendu Plat, Wellington Pippin, Cox's Orange Pippin, Lord Suffield, Reddlestone Pippin, Stamford Pippin, Yellow Ingestre, Keswick Codlin, Court of Wick, King of Pippins, Blenheim Orange, Cockle Pippin, Kerry Pippin, Nonpareil Russet, Scarlet Pearmain, Kirke's Golden Reinette, Hanwell Souring, Cellini Pippin, Mannington's Pearmain, Northern Spy, Reinette Van Mons, &c.
GEORGE JACKMAN & SON have the pleasure of offering the above named trees; all are well trained, and will be sold per dozen or hundred at moderate prices; the ground being required for other purposes, they are desirous of clearing the above stock this spring.
Woking Nursery, Surrey.—Jan. 31.

**Foster's Seedling Grape.**
MESSRS. JOHN AND CHARLES LEE have to offer Mr. Foster's stock of this fine NEW GRAPE, which can be confidently recommended for general cultivation in cool Vineries. It has borne an abundant crop in the large Conservatory of the Royal Horticultural Society at Chiswick, the bunches being large, with medium sized berries of a pale amber colour. The flavour of Foster's Seedling is most luscious, equalling the richness of its twin sister Lady Downe's, and as far as can be seen, partaking of the same quality of hanging well without shrivelling.
Canes for planting, 7s. 6d. each. A few Fruiting Canes at 21s. each.
Royal Vineyard Nursery and Seed Establishment, Hammersmith, London, W.

**Dwarf Maiden Peaches, Nectarines, and Apricots.**
WOOD AND INGRAM beg to call the attention of the Trade to their large stock of the above, consisting of all the leading kinds of PEACHES and NECTARINES, and MOORPARK APRICOTS, all remarkably fine clean stuff.
Price on application.
Nurseries, Huntingdon.

APPLE and PEAR TREES, &c.—100 doz. Dwarf and Pyramidal PEAR TREES, best sorts, 20s. per doz., packing included.
50 doz. Dwarf and Pyramidal APPLE TREES, best sorts, 12s. per doz., packing included.
GENERAL LISTS of NURSERY STOCK on application.
CHARLES B. SAUNDERS, Nurseryman, &c., Jersey.

**To Noblemen, Gentlemen, Gardeners, &c.**
LEWIS SOLOMON, of Covent Garden Market, W.C., FRUITERER, PURVEYOR to HER MAJESTY and the ROYAL FAMILY, having large orders for New Fruits, such as GRAPES, STRAWBERRIES, PEACHES, NECTARINES, &c., during the first three weeks in MARCH next, will be glad to PURCHASE such produce at remunerative prices; or, if preferred, make exchanges for them.
Applications to be made as early as possible to LEWIS SOLOMON, Grape Vine, Covent Garden Market, W.C.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent, Belgium, has the pleasure to offer now for the first time his two new excellent Fruits—
APPLE CALVILLE GARIBALDI .. 8s.
PEAR BÉURRÉ DE GHELIN .. .. 5s.
This excellent Pear obtained the First Prize at the great Pomological Show at Tournay, Belgium.
N.B. These two new Fruits are figured in VERSCHAFFELT'S "Illustration Horticole."

**To the Trade.**
MARSH AND PERKINS, 42, Drapery, Northampton, have great pleasure in offering the following Surplus Stock, all being fine and well rooted:—
STANDARD CHERRIES, of sorts, 60s. per 100.
LINNÆUS and VICTORIA RHUBARB ROOTS, 20s. per 100.
Transplanted SCOTCH FIR, 1½ to 2 feet, 14s. per 1000.
Extra do. do. do. 2 to 3 feet, 20s. per 1000.
Do. do. do. do. 3½ to 4½ feet, for wood planting, 40s. per 1000.
Strong 2 years transplanted WHITE THORN QUICKS, 9s. [per 1000.
Do. 3 years do. do. 12s. per 1000.
ASH, 1 year Seedling. 1s. per 1000.

**Fruit Trees.**
RICHARD SMITH has no hesitation in saying, that he possesses by far the largest Stock of FRUIT TREES in the kingdom, consisting of Apples, Pears, Plums, Cherries, Peaches, Nectarines, and Apricots, in Maiden Trees, Dwarfs, Bushes, Pyramids, Half-Standards, and Standards; Dwarf-trained, Half-Standard, Standard, and Horizontally-trained Trees, of the finest sorts, and in the best possible condition. DESCRIPTIVE PRICED LISTS on application.
RICHARD SMITH, Nurseryman, Worcester.

J. SCOTT'S DESCRIPTIVE FRUIT CATALOGUE, describing the Culture and Character of nearly 800 sorts, price 7d. Also his CATALOGUES of CHOICE and GENUINE SEEDS, mostly his own saving; and his CATALOGUES of NURSERY STOCK, ROSES, and CONIFEROUS PLANTS, free on application to
J. SCOTT, Merriott Nurseries, Crewkerne, Somerset.

**Lobelia speciosa (True).**
THOMAS METHVEN begs to state that he can supply the above, and which he can warrant genuine, in packets at 1s., 2s. 6d., and 5s.
GENERAL SEED CATALOGUE free on application.
Seed Warehouse, Leith Walk, Edinburgh.

**Pinus Montana. | Abies Menziesii.**
THE SUBSCRIBER begs to inform the Trade and others that he has a surplus Stock of the above.
Prices by the 100 or 1000 upon application to J. GRIER, Nurseries, Ambleside.

SPRUCE FIR, TWICE TRANSPLANTED.
1 to 1½ feet, 15s. per 1000.' | 1½ to 2 feet, 20s. per 1000.
Apply to JAMES GARAWAY & CO., Durdham Down Nurseries, Bristol.

**Important to Nurserymen and Others.**
SURPLUS STOCK of 1 and 2 year SEEDLING FOREST TREES, &c. PRICED LIST on application to MICHAEL BURKE, Drumlargan Nurseries, Summerhill, Co. Meath, Ireland.

**10,000 Aucuba japonica.**
ALEXANDER LAING begs to offer the above, fine bushy Plants, twice Transplanted, 12 to 13 inches, at 20s. per 100 for cash.
Nurseries, Beverley, Yorkshire.—Jan. 31.

ACORNS.—A few hundred Bushels of the above to offer, sound and good.
Apply to W. DILLISTONE, Munro Nursery, Sible Hedingham, Essex.

**Large Fan Yews.**
MESSRS. BROWN AND CO. have a quantity to dispose of, 4 to 6 and 8 to 10 feet high. All well-grown handsome specimens, fit for immediate screens, some pyramidal, well-branched, and good leader. State size and height required. Price sent by return of post.
American Nurseries, near Farnham, Surrey.

**200,000 Strong Transplanted Quicks.**
WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.
WM. WOOD and SON have a fine Stock of the above to offer at 10s., 25s., and Extra Strong at 30s. per 1000. A sample bundle of 100 of each size will be sent on receipt of postage stamps for 6s. 6d.
300,000 1-year SEEDLING ASH. Price on application.

**Good Clover Seed.**
GENUINE NEW CLOVER SEED may be obtained of the undersigned. Prices (according to market and quantity required) will be forwarded on application.
SUTTON & SONS, Seed Growers, Reading, Berks.

GENUINE CLOVER and GRASS SEEDS.—Samples and prices Post free on application.
☞ Orders amounting to 10s. and upwards sent carriage free.
WM. WOOD & SON, Seed Merchants and Nurserymen, Maresfield, near Uckfield, Sussex.

RHODODENDRONS of all sorts and sizes may be obtained in any quantity of W. H. ROGERS, Red Lodge Nursery, Southampton. Also every description of well grown Nursery Stock, extending over 60 acres.
PRICED CATALOGUES forwarded on application.

A. STANSFIELD AND SONS beg to announce that their LIST of BRITISH FERNS for this season, including the New and Rare varieties, at reduced prices, is now ready, and may be had on application, enclosing two postage stamps. Also their GENERAL FERN LIST, No. 6, for 4 postage stamps, which purchasers may deduct.
Vale Nurseries, Todmorden.

**Seeds, Seeds, Seeds.**
S. GLENDINNING AND SONS' (Successors to the late R. GLENDINNING) CATALOGUE of KITCHEN GARDEN, AGRICULTURAL and FLOWER SEEDS is now ready and may be had on application.
Chiswick Nursery, London, W.—January, 1863.

EDWIN HOLLAMBY begs to inform his Patrons and Friends that his DESCRIPTIVE PRICED CATALOGUE of VEGETABLE, FLOWER, AGRICULTURAL SEEDS, and GLADIOLUS is now ready, and may be had gratis and post paid on application.
Nursery and Seed Establishment, Tunbridge Wells, Kent.

**German Seeds.**
FREDERICK ADOLPHUS HAAGE, Jun., NURSERYMAN and SEED GROWER, of Erfurt, Prussia, has the pleasure to inform the Trade that his new WHOLESALE PRICE LIST for 1862 and 1863 is now ready, and may be had on application to his Agents,
Messrs. BETHAM & BLACKITH, Cox's Quay, Lower Thames Street.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT's Foreign Warehouse, 18, Pall Mall.
N.B. Printed regulations for treatment sent.

**Established 1787.**
THOMAS KENNEDY AND CO., NURSERY AND SEED ESTABLISHMENT, Dumfries, N.B.
*** PRICED CATALOGUES sent free on application: FREE DELIVERY.
FARM and GARDEN SEEDS under certain limitations will be DELIVERED FREE OF CARRIAGE to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

ROBERT KENNEDY, SEEDSMAN, Great Piazza, Covent Garden, W. C. (Established 1846), in returning thanks to his numerous Patrons for past favours, respectfully intimates that his NEW PREMISES will be found replete with objects of interest in BOTANY, ZOOPHYTOLOGY, and REPTILIA.
A large assortment of Choice Healthy Ferns, Wardian Cases, Shades, Rustic Stands, Aquaria, German Flower Seeds, Select and New; Trichomanes, Hymenophyllums and other rare Ferns.
N. B.—Business carried on exclusively by R. K., at his New Premises, Great Piazza, Covent Garden, W. C.

**New and Rare Plants.**
FOR NEW, RARE, and BEAUTIFUL PLANTS of every description, inspect or apply at
WILLIAM BULL'S Establishment for New and Rare Plants, King's Road, Chelsea, S.W.


# The Gardeners' Chronicle.

*SATURDAY, JANUARY* 31, 1863.


MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| MONDAY, | Feb. 2—Entomological | .. .. .. | 7 P.M. |
| WEDNESDAY, | — 4—Society of Arts | .. .. .. | 8 P.M. |
| THURSDAY, | — 5—Linnean | .. .. .. .. | 8 P.M. |

THE subjoined correspondence in reference to the INAUGURATION OF THE MEMORIAL OF THE GREAT EXHIBITION OF 1851 in the Garden of the Royal Horticultural Society has just been made public:—

"TO HIS ROYAL HIGHNESS THE PRINCE OF WALES, &c.

"SIR,—The Memorial of the Great Exhibition of 1851 is now so far advanced that the day of its inauguration may be fixed and announced. Your Royal Highness's lamented father, the PRINCE CONSORT, had intimated his intention that this event should be marked with honour. By an act fully appreciated, not alone by the committee I have the pleasure to represent, but by the people of this country, your Royal Highness has connected yourself with the Memorial, and restored to it the twofold character it was originally intended to have. I have now to beg, Sir, that you will increase the obligation already conferred, and permit the announcement that the Memorial will be inaugurated by your Royal Highness on the 5th of

June, the anniversary of the opening of the Horticultural Society's Gardens, in which it stands.

"I have taken the pleasure of Her Majesty the QUEEN upon the subject, and have received a gracious intimation that HER MAJESTY will have no objection to such an announcement.

"I have the honour to subscribe myself, Sir, your Royal Highness's obedient and devoted servant, "GEORGE GODWIN."

"24, Alexander Square, Brompton, Jan. 19."

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"Sandringham, Norfolk, Jan. 24.

"SIR,—I am directed by the PRINCE OF WALES to acknowledge the receipt of your letter, requesting, in the name of the Committee for the Memorial of the Great Exhibition of 1851, that his Royal Highness would be pleased to inaugurate it on the 5th of June next, and permit the announcement to be made accordingly.

"It is with the greatest satisfaction that his Royal Highness accedes to the request; for in so doing he cannot but feel that he is contributing towards carrying out the wishes of a beloved and lamented parent, that the Memorial of the Exhibition of 1851 should be inaugurated with every circumstance of honour.

"I have the honour to be, Sir, your most obedient servant, "W. KNOLLYS."

"G. GODWIN, Esq."

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THE introduction of A NEW SILK MOTH (Bombyx Cynthia) into Europe bids fair to be of great importance. It was first sent from China to Turin by a Piedmontese missionary in 1857, and so early as 1858 it had attracted the attention of GUÉRIN-MÉNNEVILLE at Paris, so far as to induce him to plant 5000 trees of Ailantus glandulosa, on the leaves of which the caterpillar feeds. It is reported that the almost incredible quantity of 100 millions of trees are now planted in France for the sustenance of the caterpillar, insomuch that GUÉRIN-MÉNNEVILLE has said that "HENRY IV. gave us silk for the rich, but NAPOLEON III. has given silk to the poor."

We believe, indeed, with every reader of "Quentin Durward,"* that silk was produced in France long before the reign of HENRY IV., but however this may be, the produce of Bombyx Cynthia is of a far coarser and more durable nature than ordinary silk. In China it forms the greater part of the material of which the clothing of the middle-class is made, and is so durable that a garment descends from parent to child, besides having the valuable qualities of never contracting grease spots, and being waterproof.

So useful an article of commerce, the culture of which had already extended from Italy to France, Switzerland and Belgium, could scarcely help attracting the attention of Austria, where there is such variety of soil and climate suited in some locality or other for almost every thing which can be employed to any useful purpose in art or manufacture, provided it does not require tropical heat. Experiments were accordingly made at Trieste and Görtz in raising the new silkworm, and apparently with some success. It was however desirable to ascertain whether there was any promise for more northern latitudes. Accordingly a manufacturer of the name of FICHTNER, at Atzgersdorf, at a short distance from Vienna, on the borders of the river March, a tributary of the Danube from the North, has taken the matter in hand, and has laid before the Trade Union of Lower Austria, on the 17th of October, 1862, an account of his experiments, of which we now have an abstract before us.

One great advantage attending the culture consists in the fact that, unlike the common silkworm, the Ailantus caterpillar requires scarcely any care, if a single harvest only is desired. If, however, two or more are sought for, the eggs must be hatched artificially, and the caterpillars fed on the leaves of *Dipsacus fullonum*, or artificially forced Ailantus, till the leaves are expanded in the open air. At present great difficulty has been experienced in running off the silk from the cocoon, and in consequence, the process of carding must be employed, which is wasteful, besides yielding a kind of silk resembling wool rather than common silk. But even here there is one advantage, viz., that the cocoon is far less injured when the moth makes its appearance than in that of the old silkworm.

All that is necessary where a single crop only is desired, which is conceived to be the most useful plan for Austria, especially for small proprietors, the persons who are expected most to profit by the scheme, is to cover the hedge of Ailantus, the most convenient form in which the plants can be grown, with a common net spread over hoops, to protect the caterpillars from the house sparrow, which is peculiarly fond of them, a curious matter, as they are so very different from any caterpillar to which sparrows are used.*

The insect assumes the pupa state in from 38 to 40 days after the caterpillars first make their appearance, and in about 20 days more the moths appear. The pupæ must be placed in some convenient box lined with cotton and covered with network for protection, in order that the eggs may not be lost, and may be conveniently removed by cutting to pieces the lining or net to which they are attached. Unfortunately the eggs retain their vitality only for a short time, and dependence therefore for the next year's crop must be placed on those pupæ which do not at once change to the Imago.

Experiments have been tried in the north-eastern corner of Moravia, at the northern foot of the Carpathian mountains, which have been equally crowned with success, a circumstance which makes it not impossible that the insects may succeed in those parts of Great Britain where the Ailantus will flourish. Success indeed is more probable, as the caterpillars are not impatient of moderate changes of temperature, though as autumn advances, when the nights are cold, they will begin to spin the cocoons, but will not finish them, as they die before they can attain the state of pupæ. There is the more reason to hope that they may succeed in England, as the degree of labour which they require is so small as not to make it a very serious item of expense.

At present the experience is of so short a date in Germany that it is quite premature to speak of the relative expense of production and profit. Herr FICHTNER however is sanguine that, without detracting much from other objects of cultivation, the small proprietor will find his end answered in having on his few acres a hedge or two of Ailantus, which will produce about a pound of silk for every 12 feet, the only expense being the wear and tear of the protecting net, as the small amount of labour can easily be supplied by the cottager's family. *M. J. B.*

* Louis XI. is there spoken of as the great silk merchant and cultivator of Mulberry trees, under the name of Maitre PIERRE.

* The caterpillars are at first black with yellow spots, then yellow with black spots, then white with black spots, then emerald green with indigo spots, when they are very fat and greedily sought by the birds.

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OUR readers, and the visitors to the recent fruit shows of the Royal Horticultural Society, cannot have forgotten the surpassing beauty and equal excellence of the APPLES communicated by the great colony of NOVA SCOTIA. Certainly nothing like them had been previously seen at any public exhibition in this country. The other day we received a box of similar fruit,† packed in a manner that deserves to be made known.

A wooden box was filled with trays, each 2 feet long, 18 inches wide, and 5 inches deep, divided by partitions into spaces 4 inches wide. These trays had a layer of *dry* ground plaster of Paris strewed over the bottom; on this layer the Apples were placed in a single row; more plaster was carefully filled in between the Apples, and the whole was covered with about an inch of plaster well shaken down, so that the fruit became immovable. Packed in Halifax on the 9th Jan., the box arrived on the 25th. Upon being opened the fruit was found to be in the most beautiful preservation, both as to appearance and quality. The plaster having been perfectly dry, no decay from moisture or fermentation was possible, and a soft brush removed it easily.

Could not our fruiterers take advantage of this experiment? We should think that such admirable fruit as that from Nova Scotia arriving before Christmas would fetch a high price in the market. At all events private individuals could open a communication with the fruiterers of Halifax, N. S., for their own supply; as our London can produce nothing like it.

For this highly interesting communication we have to express our thanks to R. HALIBURTON, Esq., of Halifax, who, upon the representation of the Rev. G. HONEYMAN, the distinguished Geologist to the Government of Nova Scotia, took upon himself the trouble of having the fruit despatched. We are also indebted to the kindness of Mr. JOSEPH KAYE for the specimens, which had been produced in his orchard. When there shall have been arranged a regular supply of the choicest Nova Scotian fruit to the English markets, it will be interesting to call to mind the names of those gentlemen to whom so gratifying a result will have been owing.

† The sorts were Monster Pippin, Obertson's Nonsuch, Newtown Pippin, Chebucto Beauty, Gravenstein, Blenheim Pippin, Bishop Pippin, Northern Spy, Baldwin, Spitzenberg, Blood Streak, King of Pippins, Monster Russet, Golden Pippin, Pomme Gris, Nonpareil, Ribston Pippin.

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WE understand that the following changes in the Council and Officers of the ROYAL HORTICULTURAL SOCIETY will be proposed at the next anniversary; viz., Sir DANIEL COOPER, Bart., J. KELK, Esq., and the Rev. JOSHUA DIX as new members of Council; WILLIAM WILSON SAUNDERS, Esq., as Secretary, and JOHN CLUTTON, Esq., as Treasurer. Dr. LINDLEY has resigned, from inability longer to fulfil the duties of the office he has occupied for more than forty years.

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—— ABOUT this time last year we invited attention to the seldom seen LIMATODES ROSEA as a beautiful Orchid for winter decoration, and briefly indicated the treatment by means of which Messrs. Low & Co., of Clapton, had been enabled to bloom it in great perfection. We understand that both the Limatodes and their companion Calanths have been still finer this year, which may be taken as a satisfactory confirmation of the fitness of the treatment which has been followed, and which we then explained (see *Gard. Chron.* 1862, p. 22). Another beautiful plant of the Orchid family, SOPHRONITIS GRANDIFLORA, has been flowering grandly at the same place, and had there been any floral meeting at this season of the year, we believe it was Mr. Low's intention to have exhibited a group of some four dozen of them, all in blossom. Probably such a group as this has never before been seen in cultivation.

—— From a circular which has lately reached us we learn that a SOCIETY OF AMATEUR BOTANISTS, with Mr. M. C. COOKE at its head, has been, or is about to be, established in London. Its objects are stated to be the rendering of mutual assistance in the study of British plants by organised country excursions; the interchange of specimens, the communication of papers, and the establishment of a library, herbarium, and museum. The annual subscription is 2*s.* 6*d.*, and there is an admission fee of similar amount. Bi-monthly evening meetings are to be held; and persons residing at too great a distance to participate in them, but who are desirous of aiding in the objects of the Society, are admissible as corresponding members without payment of subscriptions. The Secretary is Mr. T. MARTIN, and the Society's quarters are at 239, Euston Road. Something of the sort, more homely and genial than the meetings of the "learned" societies, has been much needed since the disruption of the Botanical Society of London; and as aiding in the good work of extending a taste for practical botany, especially in that stratum of society from which the learned societies are fed, we wish the undertaking all success.

—— The lovers of SWEET POTATOES may like to know that Messrs. GARCIA, in the Central Avenue, Covent Garden, have now on sale some of the best that ever reached London. They are as fresh and sound as if they had been just dug at Barcelona.

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## SPECIES *versus* VARIETIES.

THE important information contained in the leading article in the *Gardeners' Chronicle* of the 17th inst. (p. 51) respecting the experiments made by Mr. Rivers in raising fruit trees from seeds, and the results which followed, must have been read with much pleasure by all experimental horticulturists. I have frequently had occasion to mention, both in public and private, that the Peach and Nectarine were only varieties of each other, and have, nearly as often as I did so, been laughed at for advancing such a theory. Being unable to defend the assertion by direct proof, which I have been challenged to produce, my antagonists considered they had the best of the argument, but now the tables are turned, and we possess the most accurate information on the matter.

This will, I trust, show the necessity which exists for experiments being made on other subjects connected with horticulture as well as botany. For example, a series of experiments, properly conducted, in trying to breed back the most distinct varieties of Brassica oleracea, *e. g.*, Cauliflower, Broccoli, &c., to the normal state of the species from which they are supposed to have originated, would be fraught with much interest. I am persuaded this could be accomplished in a shorter period than many suppose, by selecting the most aberrant individuals annually out of each sowing. In this manner sound data might be obtained to reason on—whether a typical form, called a species, has a certain range only in which it is capable of breaking out into dissimilar forms, called varieties, which, if

neglected and allowed to run wild, or carefully bred back, will again assume the normal typical form; or whether they remain permanent, with a tendency to greater alienation from it.

The idea of a species among plants has, probably, never since the time of Linnæus been dealt with more arbitrarily than it is at present by British authors. Some affirm specific distinctions on what many suppose insufficient grounds, whilst others group a lot together as slight varieties, which were formerly held as species. As an example of the latter, I need only refer to Bentham's useful "Handbook of the British Flora," where, at page 559, will be found grouped together Carex paniculata, Carex teretiuscula, and Carex paradoxa, as forms of one species. Now, these are by myself and others who have had an equally good opportunity of judging of them, held to be aboriginally distinct typical forms; and this I know—they continue so in cultivation, and come distinct from seed, through one generation at least.

This leads me to observe on another genus, which contains the gist of this communication. The difficulty of defining what are called species and varieties of our native Roses has been long felt, yet few direct experiments have been made, that I am aware of, to assist in clearing away these difficulties. Finding this the case, I had most of our Irish kinds of native Roses brought from the northern counties and placed under cultivation in this botanical garden about twenty years ago, where they have grown ever since, and still remain unaltered in their distinguishing features. Twelve years ago we began a series of experiments by raising the different kinds from seeds, and the results arrived at were unexpected. The kinds operated on were the following: Rosa tomentosa, Smith; R. hibernica, var. β; R. scabriuscula, Engl. Bot.; R. Sabini, Engl. Bot. Suppl., and Rosa Forsteri, Borrer. Plants grew freely from the seeds of all save those of R. hibernica, var. β, and most of them flowered during the fourth and fifth years, when they proved, almost without exception, true to the typical form of the plants the seeds were taken from, the principal differences being in slight shades of colour in their corollas. From the fruit taken from the first seedlings, a second batch was again sown, which also flowered, presenting similar results to the former: each plant continued typically true to that type from which it sprang. If therefore these facts do not prove specific identity, they certainly show that the kinds I have mentioned are not such slight varieties as some may think. It may be that others have tried similar experiments, and have obtained dissimilar results, which this notice may be the means of eliciting.

A number of forms of British and foreign Hieracia were put under cultivation for the purpose of being experimented on, but owing to the light nature of their seeds they soon became so mixed as to render further experiment unsatisfactory; yet I believe, with patience and perseverance, some facts of much interest might be brought out by experiments on the numerous forms of this genus. At present there are a number of seedlings of the principal forms of British Rubi here, three years old, some of which may flower next summer. *D. Moore, Glasnevin, Jan.* 20.

## PLANTS OF PERU.—No. VIII.

(*Continued from p.* 28).

Cinchonas.—On the disembarkation of the cases at Southampton, notice was immediately sent to the India Office of their arrival, and of the healthy condition in which the plants reached England, and that they might with safety be sent on at once to India. Next day, however, one of the foremen from Kew Gardens came to Southampton, with instructions to bring the cases to Kew without delay. They were accordingly put into a van and taken by rail to Kew. From the railway station they were conveyed by means of waggon and hand-truck to the gardens, and placed in one of the hothouses. The glasses were then removed from the cases, when it was seen that, notwithstanding the unfavourable temperature to which the plants had been subjected on entering the English Channel, they were still, as has been stated, in a healthy and vigorous condition. Doubts, however, were entertained by some as to whether or not they had roots, a point speedily decided; for on several plants being taken out of the soil, the numerous roots attached to them at once testified that there was no deception in the matter. Proposals were then made for sending the plants by ship round the Cape of Good Hope to India, as the loss of the former collections had been attributed to the high temperature experienced during the voyage on the Red Sea. It was likewise resolved, that, before shipment, the plants together with the American soil should be removed from the cases, and that they should be replanted and established in fresh material. Before this plan, however, had been carried into effect, orders were received from the India Office to proceed with the fifteen cases of "Red Bark" plants, by the steamer leaving Southampton for Alexandria on the 27th instant. This was undoubtedly the safest course that could have been pursued; for, although the fatal results to former collections were believed to have been caused by the excessive heat on the Red Sea, yet it might reasonably be doubted whether they were in a condition to travel before they left South America. Before leaving Kew I was instructed to make an exchange of six "Red Bark" plants for six very small rooted cuttings of Cinchona Calisaya, to go on with the others to India, which was done.

The cases were put on board the Peninsular and Oriental Company's steamer Ellora at Southampton, on the 27th, and on the same day the ship sailed for Alexandria. During the early part of the voyage the weather was cold and we experienced high winds, which kept the deck in a sheet of foam. On entering the Mediterranean the sea became more smooth, therefore one morning I thought I might venture to open the cases. This had not been done more than half an hour, when a little rippling wave broke against the side of the steamer, rose high into the air, and then fell in a thick shower on the cases. I had fortunately opened only half of them, which however, if lost, would have been bad enough; but after putting on the glasses, I took a syringe and some fresh water, and well washed the leaves of the plants which had received the salt water. I then carefully removed from the surface of the cases the wet soil, which, if it had been allowed to remain, might have killed, or at least greatly injured, many of the plants, and in the end all proved satisfactory. On reaching Alexandria, the cases were put into an old deep boat, which was towed to the quay, adjacent to the railway terminus, by a small steamer. Considerable difficulty was experienced in removing the cases from this boat to the train. The Egyptians could hardly be persuaded to carry them properly: they hoisted them on their shoulders, sometimes upside down, and with a great deal of chattering and noise ran off with them to the railway station. About midday the train left Alexandria, and arrived at Grand Cairo at 11 P. M. Here we had to remain for nearly two days, as the steamer had not arrived at Suez. Between Alexandria and Cairo the tract of country which forms the valley of the Nile is a vast plain, mottled with little mounds (many of them probably artificial) which are strewn with broken bricks and tiles. On some of these mounds I observed assemblages of low wretched-looking mud hovels, which are certainly inferior to the mud cabins that fringe the morasses and bogs of Ireland. The only door they had was a small hole, just large enough to allow the inmates to creep in and out. Here and there, over the face of the country, are seen many canals and water-courses in a ruinous and neglected state, and portions of walls from two to three feet high—the remains of ancient aqueducts. Around Cairo I saw some splendid crops of Melons and Cucumbers growing in a very sandy soil, and exposed to the rays of a very powerful sun. Even European plants and vegetables seem to flourish wonderfully well, growing around the base of lofty Date trees—the Phœnix dactylifera.

Early on the morning of the day succeeding that on which I arrived at Cairo, I went to the railway station to examine the plants, but was informed that they had been sent on during the night, along with the overland freight, to Suez. On learning this I immediately went to the telegraph office and despatched a message to the company's agent at Suez, instructing him to see that the cases were put in a safe place, and shaded from the rays of the sun. My orders were well attended to; for, on reaching Suez, I found the cases on board the steamer, and carefully covered over with cloths and matting. On leaving Suez I removed the coverings and glasses from the cases, and syringed the plants with fresh water. They still appeared healthy; but I was assured by the officers and others on board that none of the plants would survive the five days' voyage on the Red Sea. During the five following days the glasses were removed daily, and the plants sprinkled with water. Not one died during the voyage down the Red Sea, although the temperature was very high, ranging from 90° to 105° Fahrenheit. I may, however, mention, that more depends on the state of the plants previous to their being put on board a steamer than on the treatment they may receive during the voyage. If they are in a blanched state previous to the time of shipment, and if the voyage be a long one, then they are sure to die, for it should be borne in mind, that under the most favourable circumstances justice cannot be done to them while at sea; therefore, owing to bad constitutions previously engendered, and being shut up in Wardian cases, where they are in a great measure deprived of light and air, they either die off by the accumulation of moisture on the leaves, or push forth long watery shoots, which, when exposed to the atmosphere, wither and shrivel up till they get past recovery.—*Robert Cross, Southern Slopes of Chimborazo, May*, 1862.

## Home Correspondence.

*Late versus Early Grapes.*—As the first skirmish in the battle of the Grapes has been decided in the favour of the late ones shown on the 21st inst., I now beg to be the challenger for another trial of strength next year. Should Providence spare my life till January next, and I am in the same place, I intend showing at the first meeting of the Fruit Committee in that month late-ripened Mill Hill Hamburghs, West's St. Peter's, and Black Damascus against any sort of early-ripened Black Grapes brought forward, and open to all comers. On purpose to stop all cavilling, let them be judged by all the properties of flavour, size of bunch and berry, and if requisite, by the new classification of "appearance and utility." As there has lately been considerable dissatisfaction on the judging of Grapes, I think some definite code of rules must be agreed upon to guide judges at fruit shows. The florists have the properties of flowers reduced to a standard, and why should not fruit of all kinds be in the same category? On purpose to "ventilate" the subject amongst Grape growers, I have put down the following points for their consideration in the matter of judging Grapes, namely: flavour, three points; colour and bloom, three points; size of bunch, two points; size of berry, two points; and the new classification of appearance and utility, two points. In your remarks on the late show of Grapes, there is the following paragraph respecting the early Grapes shown from Brighton—"that having been ripened under the advantage of a more southerly climate than Mr. Thomson's, they were richer in flavour than his and nearly equal in that respect to the late ones exhibited." Now, we had been given to understand that neither climate nor sun had any effect in giving flavour to Grapes ripened in December and January, but that all depended upon the circulation of heated air. Mr. M'Kenzie's Grapes are stated to have been "started on the 1st of August, no fire heat being used till they came into bloom. After the fruit was set, fires were discontinued till the berries were stoned, which took place during the severe weather we had in October, from which time onwards moderate fires were continued till the fruit ripened." Respecting Grapes ripened in the summer and autumn months, I believe the expense for forcing will be found to be far less, for no artificial heat is required, except at the time they are setting, and in the autumn and winter to expel frost and damp. I therefore for one cannot see any utility in the practice of growing early Grapes, for even their higher price in the market will be counterbalanced by the heavier crop produced by the late ones. Although I doubt the utility of ripening Grapes in December and January, there is no difficulty in the matter, and where there is plenty of scope for the purpose, and no objection to murdering Vines by winter work, by all means let the system go on—in large establishments, or for market purposes. In my opinion, the greatest feat in Grape-growing is to have a nice crop ripening in March or April, so as to have fruit if required all the year round. The past year has been an exceptional one with me in the keeping of late Grapes, for at the present time the Hamburghs, West's St. Peter's, and Lady Downe's Seedling are not in such good condition as I usually have them at the end of February, the wet and sunless summer having no doubt had some effect on their keeping qualities, even where the borders were well protected. *William Tillery, Welbeck.*

*Late Pears.*—So much is said of new Pears, that I have been collecting specimens for the purpose of testing and tasting, and I may one day find time to communicate the result for the benefit of your readers. Without, however, waiting till leisure can be found for that operation, I am anxious to point out the admirable qualities of the *Bergamotte d'Esperen*. A specimen of this, sent to a friend by Mr. Van Houtte, was tried *yesterday* (Jan. 26), and proved to be as good as a Brown Beurré at its best. It would have kept I should think three weeks longer. As plenty of time is still left for planting Pears, I hasten to communicate the fact, in order that those who, like me, have no years to spare, may obtain the variety at once. *Linager.*

*Seed Lists.*—Twenty years ago a seed list was a seed list and nothing more, but on opening one the other day, the following struck my eye:—"And out of the ground made the Lord God to grow every tree that is pleasing to the sight and good for food, and the Lord God took the man and put him into the garden of Eden to dress it and to keep it." Immediately after is a notice that 5 per cent. would be taken off for cash, and no charge for packing. This is the most striking illustration of the old adage, "There is but one step from the sublime to the ridiculous," I have ever met with. To see Scriptural quotations intermixed with the qualities of Broccoli and Parsnip is a new phase in the art of puffing. *Anti-Humbug.*

*Collections of Seeds.*—Permit me to direct attention to the subject of garden seeds. It has lately become the practice of seedsmen to advertise collections. You have only to state the size of your garden, and you will receive a collection suitable for cropping it with. This at first I thought was a capital idea, and no doubt so thinks your seedsman, as it enables him to get rid of many kinds of seeds of questionable quality. I confess that I fell into the trap and was induced to write to a respectable firm, which, for my purpose, I will call that of Messrs. A. B. & Co., whose catalogue I had that morning received by post, highly recommending the said collections, and wherein were testimonials from clergymen, lawyers, &c. As I have just said, I wrote to A. B. & Co., and next day I received my seeds. I sent for my gardener to take charge of them. In a short time the gardener had made certain discoveries which at first I set down to prejudice. He complained that some articles sent were of no use to me, and that others which I required were altogether omitted. I assured him of the well-known respectability of Messrs. A. B. & Co., and that I had every confidence in their knowledge in such matters. My gardener shook his head, and said—"Sir, when I engaged myself to be your gardener I did not expect you would treat me thus; for certainly, if I understand

my business, I am the best judge of what you are likely to require for your garden in the way of seeds." As I began to fear the affair would be likely to assume a serious aspect, I commenced to smooth down the difficulty by assuring the poor fellow that I did not for a moment question his abilities, but was perfectly satisfied with them, thinking the matter would end here, but in this I was deceived, for he replied—"Sir, I beg to say that it is neither the best nor the cheapest way of buying seeds; and to convince you, let us take each article separately, measure or weigh, as the case may require, then refer to any seedsman's catalogue—A. B. & Co.'s if desired, and see what price is quoted therein, and by this test ascertain what the collection would have cost if I had made my own selection of precisely the same articles." This challenge was too practical to be disregarded; we set to work measuring and weighing everything, pricing everything, according to A. B. & Co.'s own Catalogue. And what think you was the result? Why, that I had paid too much for my seeds, but not for my experience. *A 22 years' Subscriber, Epsom.*

*Colonial Botanical Gardens.*—Observing your special request that any mistakes in the official designations of Directors and Superintendents of Colonial Botanical Gardens published in the *Gardeners' Chronicle* of the 24th inst. may be pointed out, I beg to state that the official designation of Mr. Moore, of the Sydney Botanical Garden, is Director, not Superintendent as stated. Mr. James Kidd fills the latter office, and if letters be sent simply directed to the Superintendent, Botanical Garden, Sydney, they will go to Mr. Kidd. The annual votes of the Legislative Assembly of New South Wales for the salaries of those officers are taken under the designations herein mentioned. See "Sydney Directory—List of Government Officers." *Delta.*——I beg to state that the official designation of the Manager of the Natal Botanical Gardens, is Mark J. McKen, Esq., Curator of Botanical Garden, D'Urban. *H. B. Wheelwright, Hunstanton.*

*Pyramidal Pear Trees.*—I see in the *Gardeners' Chronicle* a letter from "G. L." (a great personage here) on standard Pear trees, and certainly he has the best desserts of any man in Cambridge, and the best Pears by far, and all out of a back yard of a garden. His Grapes, too, are superlative. I tasted his "Triomphes" and some other first rate Pears about five weeks ago, and they were excellent. *X. Y. Z., Cambridge.*

*The Kei Apple.*—The species of Aberia described by Dr. T. Anderson in a paper read at the last meeting of the Linnean Society, under the name A. edulis (see p. 78), is Aberia Caffra, Hook. f. & Harv., described in the Addenda, p. 584, at the end of vol. 2 of "Flora Capensis." *W. H. H.*

*Timber Clearing.*—At page 56, you give an extract from "Mayne's British Columbia," descriptive of the difficulty of clearing timbered land in the colonies, and noting especially the heavy labour requisite to get out the roots after the trees themselves have been felled and burned. Now, at page 95 of the Colonisation Circular, No. 21, 1862, issued by her Majesty's Emigration Commissioners, and under the head of "Expenses of Clearing," it is stated with reference to Queensland, that "the roots of the larger trees are left two or three seasons, and then got rid of by an easy and simple process called steaming." If you or any of your readers will kindly explain this "easy and simple process," and so put me in the way of clearing effectually and cheaply land that I now hesitate to attack on account of the heavy price demanded for felling and grubbing the timber, it will indeed be conferring a favour upon me, and doubtless upon many others similarly embarrassed. *Tribune.* [We shall be glad of any information on this subject.]

*Canadian Partridges.*—Is it an ascertained fact that these birds are sometimes poisonous; and is the correct explanation that of the following paragraph which was noticed in one of the daily papers some time since:—"It seems to be well ascertained that during the winter these birds are sometimes tempted to feed on the berries [?] of the Kalmia, and that it is when these berries are in their crop that it is dangerous to eat them. This may not, probably, happen once in a hundred instances, but surely even such a risk as this ought not to be overlooked." Perhaps Prof. Lawson, should this meet his eye, may be able to give some information on the subject. Which of the Kalmias, if either, is the delinquent? *M.*

*Double-fringed Chinese Primroses.*—Can any of your Correspondents inform me whether or not the new fringed varieties of the double Primula are as yet sent out, and where they can be procured. *J. L.* [We do not know. They were grown and shown by Messrs. Smith of Dulwich. The raisers of novelties should advertise.]

*Vine Disease.*—A writer in the *Moniteur Vinicole* is reported to have stated, in the course of the past season, that one of his friends who had a Vineyard at Bazons (Seine-et-Oise) was fortunate in obtaining an abundant crop the preceding year, notwithstanding the unfavourable season; and he goes on to say:—"When we visited the Vineyard last year we blamed the cultivation of flowers in the borders at the foot of the Vines; they were removed, and the result proved that the operation was a judicious one. This year our friend re-stocked the borders with flower-roots; they were planted so thickly that their leaves were mixed with of the Vines. We considered such a course to be contrary to the most elementary principles in the cultivation of the Vine. Well, the following is the extraordinary result: the remaining Vines, which were all carefully dressed (no sulphur was used, because no apprehension was entertained of the oïdium), were alone attacked with the disease; while the others, which were overcrowded with flower roots, had not a single Grape affected." Can you or any of your readers suggest any explanation of this seeming anomaly? *Vitis.* [We do not think it inexplicable if true. But is it true?]

*Ficus elastica in Fruit.*—I have a plant of the Ficus elastica now fruiting. I am informed that the fruiting of this plant is of rare occurrence—indeed, that it has happened but very few times in this country. I send a specimen for your inspection. *S. W. Talbot, Waltham Nursery, Waltham Abbey.* [A small oblong nipple-like fruit, sessile on a short pedicel as thick as itself.]

## Societies.

ENTOMOLOGICAL: *January 5.*—F. Smith, Esq., President, in the chair. W. W. Saunders, Esq., exhibited various specimens of galls, one of very large size, formed of an assemblage of cells on the root stems of a tree from the Zoolu country, collected by Mr. Cooper; another, soft to the touch, which grew like clusters of Grapes on the stems of a species of Cissus from the same country; a large root gall from Oak trees near Reigate; and also numerous specimens of a species of Bruchus reared from the beautiful seeds of Erythrina Saundersonii, from Natal, each seed being attacked by from one to four of these destructive insects. Mr. S. Stevens exhibited a remarkable specimen of Papilio Pammon, from the Sulu islands, one of the hind wings of which was scarcely more than half the normal size; also a beautiful species of the remarkable genus of Longicorn beetles, Psalidognathus, from Quito. Prof. Westwood exhibited a curious pouch or bag of a strong leathery texture with loose silken exterior, formed by a colony of insects (most probably the caterpillars of some kind of moth) on trees in tropical Africa, communicated to him by Vernon Wollaston, Esq. Also a number of preparations by Mr. S. Stone, of Brighthampton, mounted upon glass, of leaves mined by the larvæ of Lepidoptera, which were thus rendered visible through the leaf when held against the light. Mr. Laing exhibited a fine variety of Ellopia prasinaria, taken at Charlton; and Mr. Bibbs, of Worcester, a number of remarkable varieties of different kinds of British butterflies and moths. Mr. Percy Wormald exhibited Lemnephilus nobilis, Kol., a species of Trichoptera, new to this country; and General Sir J. B. Hearsey, a series of 32 species of Sphingidæ, from India. The following memoirs were read:—1. On various New Species of Catascopus, by Mr. Saunders; 2. On the Geographical Distribution of European Butterflies, by Mr. Kirby; 3. On three minute Species of British Staphylinidæ, by Mr. G. R. Waterhouse; 4. On the descriptions of various Species of Ants, contained in M. Du Chaillu's Travels, by Mr. F. Smith. An examination of the works of various writers on this family of insects showed that the wonderful account of the Bashykooyah ant, given by Du Chaillu, was concocted from Mr. Savage's memoir on Anomma rubellum, published at Philadelphia; whilst his illustration of the species represented a Termes and not any kind of ant!! 5. Characters of New Species of South African Heterocerous Lepidoptera collected by Mr. D'Urban, by Mr. Walker: 6. Observations on Lucanus Lama and its synonymy, by Major Parry.

## Notices of Books.

*Elementary Treatise of Physics, Experimental and Applied; for the use of Colleges and Schools;* by Professor Ganot. *Translated and edited from the ninth edition, with the author's sanction,* by E. Atkinson, Ph.D., F.C.S., Lecturer on Chemistry and Physics, Royal Military College, Sandhurst. 8vo. 1863. London, Baillière, pp. 6 and 780, with 585 woodcuts.

The work of which this is a translation has long enjoyed a considerable reputation in France, and now appears in an English dress, with such alterations and additions as may make it more suitable to the requirements of English examiners. The execution of it is, on the whole, admirable, the illustrations leaving little if anything to be desired, and the style in general easy and lucid, though a little obscurity sometimes arises from the Centigrade division of the thermometer being retained, which may occasionally cause some confusion between the examiner and examinee, should competition take place, where the work is not admitted as a text-book. The volume will, moreover, be welcome to many as a book of reference where results are desired rather than the several steps by which those results have been obtained. There are, however, multitudes of descriptions of instruments, and record of facts where calculations, or at least abstruse calculations, are not requisite, which are desirable matters of knowledge, and with which an examiner may fairly expect a pupil to be acquainted, even if he has not advanced in mathematics as far as the differential calculus.

The volume treats, mostly in a popular manner, in ten books, of matter, force, and motion, of gravitation and molecular attraction, of liquids, gases, acoustics, heat, light, magnetism, statical electricity, or electricity in a state of rest, and dynamical electricity, or electricity in a state of motion, with an appendix on the elementary outlines of meteorology and climatology. A work which treats of so many subjects can scarcely enter deeply into any, and we think it would in some cases have been better to have omitted formulæ altogether, where the processes by which those formulæ have been obtained are necessarily kept back. We think, for example, that there can be no use to burden a student's mind with such matter as appears in the paragraphs relative to the determination of the height of a mountain by the barometer, for which two formulæ are given, together with a special instance of the form which the first assumes for a particular degree of latitude, which if committed to memory for the purposes of examination would be forgotten almost as soon as learnt. Besides which the necessary corrections for the alteration of density in the mercury at different temperatures appears in a different place, and it is not shown what shape the earlier formula would take if the correction were applied.

We have an especial dislike to whatever is like mere cramming in examinations, a system which is too prevalent in France, and adopted advisedly in many examinations, and we are therefore anxious that everything approaching to it should be discouraged as much as possible. When the Natural History Tripos was first projected at Cambridge, something approaching to the French system was recommended by a few, but the answer to the inquiries which were circulated as to the best mode of ascertaining the merits of candidates, returned by all who regarded the best interests of the University, was to the effect that whatever degree of knowledge was required, should as far as possible be complete in itself, and such as should try not merely the memory but the reasoning powers, without which education must be in great measure a failure, and examinations fall short of producing the desired effect. An accurate knowledge of a limited number of subjects is surely far better than a smattering of a thousand. The former is sure to tell some day or other, while the latter can only end in disappointment if not in disaster.

With a few exceptions of this kind, and they are by no means numerous, the book is admirably calculated to answer the end proposed, and may be recommended as a compendium of knowledge on many interesting subjects.

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The *Botanical Magazine* for January gives us illustrations of the following plants, most of which are new:—*Sonerila grandiflora,* a dwarfish suffruticose Indian plant, with a somewhat fleshy-looking aspect, clothed with ovate or elliptic-ovate leaves, and bearing terminal cymes of deep purple-red flowers. Sir W. Hooker calls it the finest species of the genus that has hitherto flowered in this country.—*Tricyrtis hirta,* a handsome as well as curious herbaceous plant from Japan: a slender hairy branching herb, 3 to 5 feet high, with ovate-oblong acuminate stem-clasping leaves, and short racemes of large six-petaled flowers from the upper axils, the colour of the flowers being white marked over thickly with purple dots; the prominent style terminates in three forked recurved stigmas.—*Pitcairnia pungens,* an ornamental greenhouse herb from the Andes of New Grenada, with its outer leaves abortive, and changed into brownish spines, the perfect ones long and tapered to a point, scurfy beneath, and the flowers pale orange-red in a simple oblong spike. It has been raised by Mr. Anderson Henry.—*Corysanthes limbata,* a diminutive terrestrial Orchid, but the most exquisite little thing imaginable, from the transparency of its stem, the vivid green and white of its delicate heart-shaped leaf, and the beauty of its amethystine flowers. It grows but 2 or 3 inches high, and consists of but one leaf and one flower. This leaf is elegantly veined with white; and the flower, which is half an inch long, has its dorsal sepal incurved, dilated, truncated, and three-lobed at the apex, and its lip convolute at the base, with an expanded orbicular limb, of a deep vinous purple colour, with a white eye, and white erose margin. It is a native of Java.—*Sedum Sieboldii,* one of the prettiest of half-hardy succulent-leaved herbs, with the orbicular wedge-shaped indistinctly toothed leaves in whorls of three, and the flowers pink, in cymes, terminating all the branches.—*Dammara orientalis,* "perhaps the rarest of all the coniferous plants in cultivation in Europe," which has now flowered in the Royal Garden at Kew.

In the *Proceedings of the Royal Horticultural Society* for January, we find a coloured figure of a new Apple called the York and Lancaster, with the information annexed:—"Among the new varieties of fruit sent from Nova Scotia for exhibition at the Society's Great International Show of Fruit in October last were two Apples which attracted especial admiration: one was called the Chebucto Beauty; the other was merely styled a Nova Scotia Seedling, but as it seems worthy of more general recognition, we have named it the York and Lancaster Apple, on account of its resemblance in colouring to the old York and Lancaster Rose—blotches and streaks of crimson on a nearly white ground. The Apple is fine, large, and well formed, and not only pleasant to the eye, but also good to eat. In these days, when one quality is almost as much sought after as the other, a new fruit

combining both is worthy of every encouragement, especially when its beauty is of a striking and unusual character. It came in perfect condition from Halifax, and may be expected to take a good place in the English market." It is a handsomely striped fruit, with white flesh occasionally stained with red, especially near the core, and having an agreeable flavour.

The *Florist and Pomologist* opens its second volume with a fine portrait of a new dark velvety Rose, of the colour of the old Tuscany, and named André Leroy d'Angers. It appears to have been raised by M. Victor Trouillard of Angers, and to have been named by him, with the special concurrence of M. Leroy himself, after his employer. The flower, which comes from General Jacqueminot, is large and cupped, smooth, and of a deep velvety purple-crimson, and, if anything like Fitch's beautiful drawing, must be an acquisition. There is also a figure of the Golden Esperen Plum or Drap d'Or d'Esperen, a first-rate dessert fruit of handsome appearance, raised by Major Esperen of Malines, and described to be both a hardy variety and a good bearer. In the literary portion there are some good remarks on the present mode of exhibiting and judging Melons opposed to the practice of regarding flavour only. In another page "R. S." makes the following enquiries:—A variety of timber is now much used, called 'Pitch Pine'; it is imported from America, and should, according to authority, be the produce of Pinus rigida, but on examination, is more likely to be obtained from Pinus Coulteri, ponderosa, or Benthamiana. It is a very valuable timber, and its use is likely to increase considerably. Can any reader say which the timber is really obtained from, as Coulteri is not hardy in Britain, but both Benthamiana and ponderosa are perfectly so? If the Royal Horticultural Society would send some competent person to investigate and report on the timber trees of British Columbia, they would confer a benefit on planters. The same writer asks:—"Who is to investigate the banks of the Amoor river, where travellers tell us are magnificent trees which would be hardy in Britain? and who the Bokhara, Cashmerian, and Thibetan chains of mountains, the only spots likely to give us hardy trees and shrubs. It appears to me unfortunate sending collectors to climates where nothing hardy can be obtained, and the Society should remember that not all their Fellows keep conservatories." Again, "Why not import the Tasmanian and Australian timber trees to South Africa as a commercial speculation."

*Gossip of the Garden* contains some excellent papers. Besides some remarks on the classification of Dahlias, which will be noticed elsewhere, the parterre system of flower-gardening, considered from an economic point of view, comes under review; and the coming National Auricula Show gives Mr. Wilson an opportunity to suggest that the differences between North and South should be settled by adopting five pips instead of three as the minimum for a truss, and to uphold on the score of economy the plan of exhibiting in temporary pots.

## Garden Memoranda.

WREST PARK, BEDS, ONE OF THE SEATS OF THE COUNTESS COWPER.—Until within these last few years this fine place belonged to Earl de Grey, under whose directions the present mansion was built, new kitchen and fruit gardens formed, and the ornamental grounds greatly improved. Near the middle of a richly wooded and beautiful park, well stocked with deer, stands the mansion, a pretty building in the style of Louis the Fourteenth, and approached from Silsoe and Shefford, through noble avenues of Elm trees, now unfortunately somewhat past their best. In the case of that from Silsoe a line of Spanish Chesnuts is planted on each side of the approach outside the Elms, furnishing ample shade in summer, and producing an appearance by no means unsightly in winter. Other avenues of a similar kind, but in some instances planted with Limes instead of Elms, traverse the park in different directions. Timber trees of all kinds succeed well in this part of Bedfordshire. Among Oaks are many specimens of enormous size, some of which are becoming stag-headed, but others are still in vigorous health. Coniferous trees, among which is a remarkably fine example of Balm of Gilead Spruce, also thrive well, as do likewise all kinds of evergreens.

On the west side of the mansion lie the fruit and kitchen gardens, all of which are substantially enclosed by means of good brick walls covered with finely-managed fruit-trees, skilfully pruned and beautifully trained. From these and from standards some of the best Pears and Apples in England are annually gathered. Alfristons weighing a pound each are no uncommon occurrence here, and Cherries, Plums, and all other out-door fruit indicate equal excellence, while for forced Peaches perhaps no grower has ever carried off so many first prizes at our great London exhibitions as Mr. Snow, a gardener whose universally acknowledged abilities place him in the first rank of English cultivators. Even at the present time the fruit room is full of beautiful Apples and Pears in a state of excellent preservation. It is a house built lean-to fashion on the north side of a line of sheds, with 14-inch hollow walls and a slate roof supported by means of 5-inch square joists, to which boarding is fixed above and below, the space between being firmly packed with Moss, and the whole concealed by means of a lath and plaster ceiling. Double windows at the end farthest from the door are made to open, and other ventilation can be given when the weather is favourable through apertures in the front wall, which are capable of being opened or shut as required. Among Apples are fine examples of Bull's Golden Reinette, a handsome fruit, Winter Queening or Spanish Pearmain, Blenheim Orange, Alfriston, Wellington, and another kind with a local name, quite as brilliant in colour as that of the Lady Apple, or Pomme d'Api of the French. Though a variety of no particular merit, yet a dish of this produces a fine effect on the dessert table, intermixed with other kinds.

Glass-houses consist of Vineries, Peach-houses, Fig-houses, a warm Green-house, or rather stove, an Orangery, and numerous pits, the whole being in excellent condition and efficiently warmed. In the stove is a remarkably fine plant of Bignonia venusta, now loaded with magnificent clusters of bright orange blossoms, This is planted in a border at one end of the house and carried up to the top where a branch is led down the rafter; it is then trained along the back wall to the other end of the house, where it is again brought down the rafter, and from one or other of these branches bunches of glorious blossoms may be cut nearly the whole year round. Passion flowers, Stephanotis and other plants of that description, are also trained down the rafters in a similar manner, and, managed in this way, they are reported to flower most profusely. Below this floral canopy is a stageful of select stove plants, with a dwarf wall in front concealed under a dense covering of Ficus repens, a plant extremely well adapted for this kind of work, and not half so well known as it should be.

Among Vines is a strong plant of Snow's Muscat Hamburgh, an excellent black variety, stated to be the result of a cross between the Black Hamburgh and Muscat of Alexandria, raised at Hurlingham House, Fulham, by Mr. Lane, once a gardener there. The latter being an old friend of Mr. Snow's, made an agreement with him to attach his name to it, and to "deal with it" commercially, inasmuch as he had better opportunity of doing so than Mr. Lane. Such at least is Mr. Snow's account of the matter, which we see no reason to doubt, and we hope that some of our readers who have recently written to us on the subject may be equally satisfied with Mr. Snow's explanation of the origin of this variety.

Peaches are grown on semicircular trellises, sloping from the front of the house to the back, and notwithstanding the distance they are from the glass, the amount of colour infused into the crop is remarkable. In short Mr. Snow's Peaches, both in point of size and colour, are matchless. By having low trellises in front trees can be trained up the back wall, and these also furnish good crops. On the same wall are also Figs, from which two crops a year are obtained—one early and another in August or September.

Cucumbers and Melons are grown in McPhail pits, of the fitness of which for such purposes Mr. Snow entertains a high opinion. Heat in abundance is admitted through the pigeon holes in the sides, and owing to the dung linings being sunk, wind has not that opportunity of blowing the warmth out of them which it has when all is above ground. In point of appearance old McPhail has also a great advantage over the ordinary dung pit. A seed bed has just been sown, and in about a month or so, if all goes on well, the plants will be ready to plant out.

Asparagus on dung beds has been "in cut" for some time, as has also Seakale. After the Asparagus is cleared off the pit is filled with Potatoes, and sometimes after that the same pit furnishes a crop of late Cucumbers.

In the kitchen garden, the walks of which are all edged with slate, we noticed plantations of Snow's Broccoli, an excellent white-flowered, self-protecting kind, and of his Matchless and Champion Lettuces, two hardy and extremely good varieties, especially for winter use.

On a short conservatory wall at the head of a broad grassy glade which divides the kitchen garden from the pleasure grounds, Jasminum nudiflorum is now beautifully in flower, its Primrose-like blossoms having a cheerful effect at this comparatively dull season of the year. Near Mr. Snow's house, too, are some admirable plants of Christmas Rose, now in beautiful bloom, and in a cold frame are abundance of Neapolitan Violets.

At one end of the mansion is a small geometrical garden, and up a few steps is a neat conservatory, forming one wing of the house. In front is a broad stone terrace promenade, and down a flight of steps a neat flower garden, ornamented with statuary, some very fine standard Portugal Laurels, and consisting of beds associated with Box embroidery, grassy walks and others of a small narrow description, gravelled with white Derbyshire spar. A broad gravel walk runs straight through the centre of this garden down the Park, past a circular basin of water, to a temple about half a mile off. In front of this temple is a piece of water, which, seen from the mansion, has a good effect. In the neighbourhood of the temple just named the ground is pretty thickly planted and pervaded by a network of walks, some formed of Grass, guarded on each side by Yew and Laurel hedges, others of gravel—some straight, some serpentine—and nearly all having monumental terminations or other objects of historical interest, while here and there the visitor come suddenly upon some rectilinear piece of water in a sunk panel, surrounded by high closely clipped Yew hedges, the whole forming a well-varied labyrinth of much interest and beauty. In front of a sloping bank surmounted by Yews, and in spring covered with Primroses, is a piece of water; between that and the mansion on the left is a handsome banqueting house with bowling green in front; a little further up is an American garden in four squares, each having a mound in the centre surmounted by an Irish Juniper, and surrounded by a double Dwarf Yew hedge; a little further up still is the Orangery, a handsome architectural building with glass span roof and containing some noble trees in good condition. Here are also two fine standard plants of double blossomed Myrtle. Around the Orange tubs, which are of slate, are wintered bedding Geraniums, standard Heliotropes, and plants of that description. A little higher up we regain the terrace in front of the mansion, and taking a retrospective view of the park with its delightful undulations, its beautiful evergreens and deciduous trees, its statuary, its water, its walks, and its living Gothic avenues, the visitor must feel satisfied that he has just had the pleasure of inspecting one of the finest places in Bedfordshire, and one which, through the liberality of the Countess Cowper, is open free to the public every Monday.

## Miscellaneous.

*The Llama and its Animal Allies.*—The llama and its near relations, the alpaca, the huanacu, and the vicuña, the largest four-footed animals which Peru possessed before the Spaniards introduced the horse and the ox, are all natives of the Puna. Long before the invasion of Pizarro, the llama was used by the ancient Peruvians as a beast of burthen, and was not less serviceable to them than the camel to the Arabs of the desert. The wool served for the fabrication of a coarse cloth; the milk and flesh, as food; the skin, as a warm covering or mantle; and without the assistance of the llama, it would have been impossible for the Indians to transport goods or provisions over the high table-lands of the Andes, or for the Incas to have founded and maintained their vast empire. The llama is also historically remarkable as being the only animal domesticated by the aboriginal Americans.

The *Huanacu* is of a greater size than the llama, and resembles it so much that it was supposed to be the wild variety until Tschudi, in his "Fauna Peruana," pointed out the specific differences between both. The huanacu is of a larger size; its fleece is shorter and less fine; its colour is brown, the under parts being whitish—but varieties of colour are never observed, as in the llama; the face is blackish grey, lighter and almost white about the lips. The huanacus generally live in small troops of from five to seven. They are very shy, but when caught young are easily tamed, though they always remain spiteful, and can hardly ever be trained to carry burthens. They are frequently met with in the European menageries, where they pass under the name of llamas.

The *Alpaca* is smaller than the llama, and resembles the sheep; but its neck is longer, and it has a more elegantly formed head. The wool is very long, soft, fine, and of a silky lustre—sometimes quite white or black, but often also variegated. On account of its admirable qualities it fetches a high price, and is extensively used in England; so that from 1835 to 1839, 98,808 bales, weighing near 7,000,000 lbs., were imported into Liverpool alone. It is particularly valuable from its being able to be woven with common wool, silk, or cotton, into a variety of equally beautiful and durable fabrics; so that in spite of a continual increase of the importation, its price has trebled since 1840.

Shy, like the chamois or the steinbock, the *Vicuña* inhabits the most solitary mountain-valleys of the Andes. It is of a more elegant shape than the alpaca, with a longer and more graceful neck, and a much shorter and more curly wool, of such extreme fineness as to be worth about 27*s.* the pound. The upper parts of the body are of a peculiar reddish-yellow colour (color de vicuña), the under side of the neck and the limbs light ochre, the long wool of the breast and the abdomen white. During the rainy season, the vicuñas retire to the crests of the Cordillera, where vegetation is reduced to the scantiest limits; but they never venture on the bare summits, as their hoof, accustomed to tread only on the turf, is very tender and sensitive. When pursued, they never fly to the ice-fields, but only along the Grass-grown slopes. In the dry season, when vegetation withers on the heights, they descend to seek their food along the sources and swampy grounds. From 6 to 15 she-vicuñas live under the protection and guidance of a single male, who always remains a few paces apart from his harem, and keeps watch with the most attentive care. At the least approach of danger he immediately gives the alarm by a shrill cry, and rapidly steps forward. The herd, immediately assembling, turns inquisitively towards the side whence danger is apprehended, advances a few paces, and then suddenly wheeling, flies at first slowly, and constantly looking back, but soon with unrivalled swiftness. The male covers the retreat, frequently standing still and watching the enemy.

The females reward this faithful care of their leader with an equally rare attachment; for when he is wounded or killed, they will keep running round him with shrill screams of sorrow, and rather be shot than flee. But when a bullet strikes a female, the whole troop continues its flight with increased velocity. *Hartwig; the Tropical World.*

*Armorial Bearings of North West Indian Tribes.*—I have previously had occasion to refer to the fashion among the Indians of carving the faces of animals upon the ends of the large beams which support the roofs of their permanent lodges. In addition, it is very usual to find representations of the same animals painted over the front of the lodge. These crests, which are commonly adopted by all the tribes, consist of the whale, porpoise, eagle, raven, wolf, and frog, &c. In connection with them are some curious and interesting traits of the domestic and social life of the Indians. The relationship between persons of the same crest is considered to be nearer than that of the same tribe; members of the same tribe may, and do, marry; but those of the same crest are not, I believe, under any circumstances allowed to do so. A whale, therefore, may not marry a whale, nor a frog a frog. The child again always takes the crest of the mother; so that if the mother be a wolf, all her children will be wolves. As a rule also, descent is traced from the mother, not from the father. At their feasts they never invite any of the same crest as themselves: feasts are given generally for the cementing of friendships or allaying of strife, and it is supposed that people of the same crest cannot quarrel; but I fear this supposition is not always supported by fact. Mr. Duncan, who has considerable knowledge of their social habits, says that the Indian will never kill the animal which he has adopted for his crest, or which belongs to him as his birthright. It he sees another do it, he will hide his face in shame, and afterwards demand compensation for the act. The offence is not killing the animal, but doing so before one whose crest it is. They display these crests in other ways besides those I have mentioned, viz., by carving or painting them on their paddles or canoes, by the arrangement of the buttons on their blankets, or by large figures in front of their houses or their tombs. They have another whimsical custom in connection with these insignia: whenever or wherever an Indian chooses to exhibit his crest, all individuals bearing the same family figure are bound to do honour to it by casting property before it, in quantities proportionate to the rank and wealth of the giver. A mischievous or poor Indian, therefore, desiring to profit by this social custom, paints his crest upon his forehead, and looks out for an opportunity of meeting a wealthy person of the same family crest as himself. Upon his approach he advances to meet him, and when near enough displays his crest to his unsuspecting victim; and however disgusted the latter may be, he has no choice but to make the customary offering of property of some sort or other. *Mayne's British Columbia and Vancouver.*

*Ornamental Living Fences.*—Although this is by no means a new method of forming ornamental living fences, as it has been largely practised on the Continent for more than three centuries, I have seldom seen it used in Britain. It is the method of forming the sides of berceaux walks, and consists in planting young slender trees in a slanting direction, *i. e.*, every tree leaning the opposite way and in the same line, that they will cross each other and form a regular trellis with diamond-shaped openings. At the parts which come in contact, if a small piece of the bark is removed and the parts tied together and clayed over, as in common grafting, a union takes place, leaving each tree grafted into its neighbour, which in time makes one of the most beautiful and strong hedge fences imaginable. The following trees are best suited for the purpose:—Mountain Ash, Common Ash, Laburnum, most of the Poplars, strong-growing Willows, Alders, Birch, Beech, Chesnut, Elm, Hornbeam, &c. Such fences need at no time exceed 4 or 5 inches in thickness; and, when established a few years, will resist bullocks or any kind of cattle, and form excellent screens in gardens for separating one part from another, or for hiding out objects it is desirable shall not be seen. *Scottish Horticulturist.*

*Wheat Flies.*—The American insect, which I have seen alive, in its winged form, in Maine and in New Hampshire, and which I have also reared from the larva, agrees exactly with the descriptions and figures of the European Wheat-fly, or Cecidomyia Tritici of Mr. Kirby. It is a very small orange-coloured gnat, with long, slender, pale-yellow legs, and two transparent wings, reflecting the tints of the rainbow, and fringed with delicate hairs. Its eyes are black and prominent. Its face and feelers are yellow. Its antennæ are long and blackish. Those of the male are twice as long as the body, and consist of twenty-four joints, which, excepting the two basal ones, are globular, surrounded by hairs, and connected by slender portions, like beads on a string. The antennæ of the females are about as long as the body, and consist of only twelve joints, which, except two at the base, are oblong oval, narrowed somewhat in the middle, and surrounded by two whorls of hairs. These insects vary much in size. The largest females do not exceed one-tenth of an inch in length; and many are found, towards the end of the season, less than half this length. The males are usually rather smaller than the females, and somewhat paler in colour. Among hundreds that I have examined in the living state, I have never found one specimen with spotted wings. The time of their appearance in the winged form varies according to the season and the situation, from the beginning of June to the end of August. In Salisbury, Connecticut, they had entirely disappeared before the 25th of July, 1851; but during the same year I found them still in some numbers at North Conway, in New Hampshire, on the 17th of August; and three days later, near the base of the White Mountains. In most parts of New England where Wheat is cultivated, immense swarms of these orange-coloured gnats infest fields of grain towards the last of June. While the sun shines they conceal themselves among the leaves and weeds near the ground. They take wing during the morning and evening twilight, and also in cloudy weather, when they lay their eggs in the opening flowers of the grain. New swarms continue to come forth in succession, till the end of July; but Mr. Buel says that the principal deposit of eggs is made in the first half of July, when late-sown winter Wheat and early-sown spring Wheat are in the blossom or milk; and this statement agrees with the observations of Mrs. Gage. The flies are not confined to Wheat alone, but deposit in Barley, Rye, and Oats, when these plants are in flower at the time of their appearance. *Harris, Insects injurious to Vegetation.*

## Calendar of Operations.

*(For the ensuing week.)*

PLANT DEPARTMENT.

CONSERVATORY, &c.—Most operations here should still be performed as early in the morning as possible, in order that the atmosphere and floors may be in an enjoyable condition later in the day. Oranges in tubs are liable to be affected by soot Fungus, which should be thoroughly cleaned off at all seasons, but more especially now; let the leaves be washed clean with soap and water and a sponge. Decaying flowers or unsightly plants must be kept constantly removed, and their places supplied with fresh material from the forcing pit. In addition to small plants such as Chinese Primulas, Rhododendrons and Camellias will now be making a good display. In stoves and Orchid houses, a little more heat may now be indulged in, especially on sunny days, by shutting up early after thorough ventilation. Examine carefully trellis plants in pots; those which have received considerable rest, and are required to flower in good time, should now be pruned, disrooted if necessary, and started on a mild bottom-heat. Some of the Passion-flowers, and such plants as Ipomœa ficifolia, Pergularia odoratissima, &c., answer well treated in this way. Stores of hybrid Roses in cool pits, intended for growing in pots for a late display, may now be potted off singly, using one-half loam, the other half leaf-soil and manure, and charcoal dust. If a warm and moist heat can be obtained, introduce some Fuchsias intended for specimens and for propagation. Keep a mild atmosphere in the mixed greenhouse, and beware of too much night heat.

FORCING DEPARTMENT.

PINERY.—The time is now approaching in which a thorough revision of the whole stock is considered necessary. See, therefore, that tan is ready, and leaves, or other fermenting material; also turfy, mellow loam. In the meantime, persist in the routine of practice before recommended; keep early fruiters in a lively atmosphere, stretching a point in regard to temperature and moisture on bright days; take away all air soon in the afternoon, and use much moisture.

EARLY VINERY.—When the blossoms begin to open, reduce the amount of atmospheric moisture in a considerable degree. Keep lively fires in the morning, with a free circulation of air but not cold draughts, and shut up early in the afternoon with a temperature of 85° if solar heat; if not, be content with 75° at shutting up time, sinking to 65° by the next morning at daylight.

PEACH HOUSE.—Proceed according to former directions; if any pushing is requisite in order to produce fruit at a given period, let it by all means take place when there is an unclouded atmosphere; more especially by closing the house early; any attempt at rapid progress during night, or a deficiency of light, will inevitably end in disappointment.

FIGS.—Follow up former directions, and steer a somewhat medium course between the Vinery and Peach-house; inclining to the former.

CHERRIES.—Imitate in the general course of forcing Cherries, a mild soft day in a genial April.

CUCUMBERS.—See to your early frame; if the dung is sufficiently worked build the bed forthwith. Place brushwood a foot deep at the bottom, and introduce more about three-parts of the way upwards, if you can; it will facilitate the action of the back and front linings. Use well-wrought dung for outsides of the bed, and fill up the interior with older and weaker material, such as half-spent leaves, &c.

FLOWER GARDEN AND SHRUBBERIES.

Grass lawns will be now benefited by a thorough rolling, as will also gravel walks. Examine all belts about the suburbs of the kitchen garden, or otherwise; remove deciduous trees where they injure the best evergreens, and introduce Hollies, or trees of permanent character, in blanks. If not already done stake newly-planted trees carefully; the harm done for want of it this season is in some places very great. Procure Rose stocks, and plant them in lines on highly manured ground, in the kitchen or reserve garden.

HARDY FRUIT AND KITCHEN GARDEN.

As the season has proved so mild, it will be difficult to get manure on the ground where necessary; and few things injure soils more for gardening operations than wheeling in moist weather. As soon as the ground is fit, therefore, let this part of the business be forwarded as much as possible for all spring crops. Where dung will have to lay on the surface until March, it should be soiled over immediately, or drying winds will steal away its properties. As soon as the blossom buds of Apricots can be distinguished, the trees should be pruned, and nailing completed. The eggs of the caterpillar, which so much infests them in the leaf, should be hunted for, and destroyed; they are deposited in circular groups on the branches, of about the size of a Parsnip seed, and look somewhat like it, having the appearance of being pasted on; they are thus readily destroyed; the trees must have protection forthwith. Take care to secure bundles of the main twigs of Apple prunings; give them a tie at each end, and throw them in some dry place; they are very useful through the summer. Get Peaches and Nectarines pruned and nailed. As soon as nailed, soak the trees and wall with soap-suds, and when dry take a bowl of sulphur mixture, viz., sulphur blended with soft-soap water, until as thick as paint, or nearly so, and draw a stripe with the brush between every two shoots. This is a good preventive of red spider. Keep an eye to Gooseberry buds; country folks in some places tie feathers over the bushes, to keep birds away. Try to fit up a few warm slopes with hoops and mat coverings, to receive early Potatoes, &c. Hoe through and clean all Winter Spinach, or other standing crops; put down scrapers where necessary, and top dress alleys or back walks with spare cinder ashes, which make an excellent and dry walk. Dig first and then lay on the dressing. Spring Broccoli now coming in, such as Grange's or Knight's, should be protected. Push a handful of soft hay amongst the leaves. Plant out August-sown Onions for early bulbs.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Jan. 28, 1863, as observed at the Horticultural Gardens.

| Jan. | | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth. | | Wind | Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. | 22 | 3 | 29.774 | 29.727 | 51 | 37 | 45.0 | 45 | 44 | S.W. | [illegible] |
| Friday | 23 | 4 | [illegible] | 29.556 | 53 | 34 | 43.5 | 45½ | 44 | S.W. | [illegible] |
| Satur. | 24 | 5 | [illegible] | [illegible] | 52 | 34 | [illegible] | 45½ | 44 | W. | [illegible] |
| Sunday | 25 | 6 | [illegible] | [illegible] | 50 | 38 | 44.0 | 45 | 44 | S.W. | [illegible] |
| Mon. | 26 | [illegible] | [illegible] | 30.143 | 52 | 42 | 47.0 | 45 | 44½ | S.W. | [illegible] |
| Tues. | 27 | [illegible] | [illegible] | [illegible] | 49 | 24 | [illegible] | 46 | 44 | S.W. | [illegible] |
| Wed. | 28 | 9 | [illegible] | [illegible] | 51 | 38 | 44.5 | 45 | 44 | S.W. | .00 |
| Average. | | | [illegible] | [illegible] | 51.1 | 35.5 | [illegible] | [illegible] | 43.9 | | [illegible] |

Jan. 22—Cloudy; boisterous, clear and fine at night.
— 23—Cloudy; densely clouded and boisterous; clear and fine; rain.
— 24—Boisterous; scattered white clouds; dry air; fine at night.
— 25—Clear; fine; barometer very unsteady; boisterous.
— 26—Partially overcast; fine; clear and fine at night; rain.
— 27—Overcast; half the sky overcast; the rest very clear; frosty at night.
— 28—Frosty; very fine with bright sun in forenoon; overcast; clear.

Mean temperature of the week 4½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Feb. 7, 1863.

| February | | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday | 1 | 45.2 | 34.8 | 37.0 | 12 | 0.52 in. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Mon. | 2 | [illegible] | [illegible] | 37.1 | 12 | 0.75 | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6 | [illegible] |
| Tues. | 3 | 44.2 | [illegible] | [illegible] | 15 | 0.42 | 1 | [illegible] | [illegible] | [illegible] | [illegible] | 13 | 1 | 2 |
| Wed. | 4 | 44.7 | 32.9 | [illegible] | 17 | 0.41 | [illegible] | [illegible] | [illegible] | 1 | [illegible] | [illegible] | 4 | [illegible] |
| Thurs. | 5 | [illegible] | [illegible] | [illegible] | 17 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5 | 5 |
| Friday | 6 | [illegible] | 34.5 | 39.3 | 19 | 0.25 | [illegible] | [illegible] | [illegible] | [illegible] | 4 | [illegible] | [illegible] | [illegible] |
| Satur. | 7 | [illegible] | 32.8 | 39.7 | 19 | 0.29 | [illegible] | [illegible] | [illegible] | [illegible] | 5 | 13 | 7 | 3 |

The highest temperature during the above period occurred on the 1st, 1852, and 3d, 1850—therm. 57 deg.; and the lowest on the 5th, 1830—therm. 10 deg.

## Notices to Correspondents

CONIFEROUS SEEDS: *W W.* Sow now, in pure yellow loam, and place in a cool house or pit.

GARDEN WALLS: *Inquirer.* Bricks are the better of the two, being warmer than stone; and besides, brick walls afford a much more convenient surface for training.

NAMES OF FRUITS: *J M.* 1, Very different from the Marie Louise; it is the Vicar of Winkfield, for which our climate is not warm enough; 3, Hollandbury; 6, 7, King of the Pippins; 8, Trumpington.—*E W.* The Pear is the Chaumontel.—*M B.* 1, Sturmer Pippin; 2, Like Cornish Aromatic; 3, Fearn's Pippin; 4, Blenheim Pippin.—*S J.* 1, Beauty of Kent, and a very fine specimen; 2, Catshead; 7, Waltham Abbey Seedling; 9, Duchesse d'Angoulême. The others appear to be seedlings of little merit.—*B M.* 2, Golden Noble; 3, Court Pendu Plat; 5, Beurré d'Aremberg; 7, London Pippin; 8, Beurré Diel; 9, Van Mons Leon le Clerc; 10, Beurré Rance; 13, Easter Pippin.—*W B H.* The Grape is the Kishmish, a white stoneless variety, of no value in this country, being too acid. It requires a very great heat to render it otherwise.

NEW GARDEN: *Pinus Abies.* For the lawn trench, and for the garden trench and manure as much as necessary, laying the surface in rough ridges for a while. If the gravel forms a hard pan, break it up in the bottom of the trench. The fitness of such a soil as you describe for growing "good crops" depends upon its depth and quality. If very sandy, you must give it body by admixing marl or loam; if poor you must enrich it by copious and repeated manurings. The Fir-leaves are not likely to have done any injury, or to communicate their peculiar flavour to vegetables raised on the ground. If they lie thick and undecayed on the surface we should rake them up and burn them.

SALSAFY: *A B.* would be obliged by Mr. W. Earley further telling him whether when he says "at the bottom of the trench place a good thickness of decomposed manure," he means to place the manure at the bottom of the underspit, which was moved in the process of bastard trenching, or merely at the bottom of the top spit, which was thrown upon it.

MISC.: *Mark Lucas.* Unstamped Papers should be sent with a penny stamp *on each.*

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.
The NEXT SESSION COMMENCES on SATURDAY, February 7. Students entering the College at that time are eligible for election to a Scholarship.
For Prospectuses and further information, apply to the PRINCIPAL.

MESSRS. WAY AND EVANS, ANALYTICAL CHEMISTS, have REMOVED their LABORATORY from 15, Welbeck Street, Cavendish Square, to 106, Leadenhall Street, E.C., where all Letters and Samples for Analysis should in future be addressed.—Jan. 31.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

AGRICULTURAL and CHEMICAL COLLEGE, KENNINGTON.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. NESBIT, LANSDELL & Co., 37 and 38, Lower Kennington Lane, London, S.
Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.
Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.
Full particulars of terms will be forwarded on application.

DRAINAGE of LANDS (by Contract, or laid out and superintended at 5s. per acre) and the ERECTION of AGRICULTURAL BUILDINGS and all other permanent Improvements to Landed Estates, are undertaken by Mr. HUMBERT, Land Agent and Surveyor, Watford, Herts, and such Works can, if desired, be entirely executed under powers conferred by special Acts of Parliament, by Money raised by loan, and paid off (both principal and interest) by small annual payments spread over a number of years in the form of a rent charge, without immediate payment by the Land Owner.

Drainage, &c.
JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes, Drainage Engineer) undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally.
Under-drainage, Outfall Drainage, Watercourses, Embankments, and River Works; Reclamation of Marshes, Lakes, and Moor Lands; Irrigation, Warping, Clearing, Inclosing; the Erection of Farm Buildings, Labourers' Cottages, Construction of Farm Roads, &c., executed either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.
Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.
22, Parliament Street, Westminster, S.W.

WEST of ENGLAND and SOUTH WALES LAND DRAINAGE and INCLOSURE COMPANY.
ESTABLISHED 1844.
The Right Hon. the EARL of DEVON, *Chairman.*
Lands drained and improved without recourse to the private funds or moneys of the Proprietor.
This Company's Act not requiring Proprietors to liquidate the cost, the amount might remain a permanent charge on the lands, or be paid off when convenient, or be made redeemable over any term of years. The works are undertaken by the Company, or Proprietors might avail themselves of the power of the Act only, and get the works executed by Agents or other parties. Outfalls through adjoining lands are obtainable under the Company's Act. Works are also executed by the Company for parties advancing their own Capital, or not requiring to obtain the money under the Company's Act.
FREDERICK BRODIE, Secretary.
Offices: Exeter; and 30 Parliament Street, London.

Land Drainage.
WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.
Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rentcharge on the estate created for various terms of years so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.
No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.
Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.
Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.
Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.
TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.
The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.
1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.
Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
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HALLETT'S PEDIGREE NURSERY WHEAT.
MARK.
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Produced (1862) 62 bushels per acre, weighing 64 lbs. a bush.
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TO BE DISPOSED OF (for Cash), about 30 bushels of GREEN-TOP SWEDE TURNIP, new Seed of 1862, and can be warranted. For price and further particulars, apply to
W. HUZZARD, Etton, near Beverley, Yorkshire.

# The Agricultural Gazette.

*SATURDAY, JANUARY* 31, 1863.

MEETINGS FOR THE FOLLOWING WEEK.

| | | | |
|---|---|---|---|
| MONDAY, | Feb. 2 | London Farmers' Club .. .. (Mr. Steed on the Malt Tax.) | 6 P.M. |
| WEDNESDAY, | — 4 | —Agri. Society of England .. .. | Noon |

WE last week called attention to the energetic agricultural improvements of a wealthy landowner. Let us now describe the doings of an enterprising tenant farmer. It is a significant and a striking fact that while the methods adopted by the former are especially directed towards ransacking the natural storehouse of the soil, and making the land yield its natural stores of fertility and wealth, the latter is engaged in using the soil simply as a machine, taking a large manufactured produce from it because he brings a large quantity of raw material to it.

The former, in fact, owns a naturally rich soil whose stores are naturally inaccessible; the latter occupies what naturally is a shallow, free, and open soil, which if it is to yield anything beyond its naturally small produce, must have the raw material of that produce brought to it. The latter, as well as the former, is the owner of his land, though not unconditionally, and only for a term of years. He pays a rent, but that only quickens his enterprise and activity; in both cases the land is held for a certain period absolutely, and that is what makes the enterprise and activity in either case reasonable.

Mr. CAMPBELL occupies a stiff clay soil, which is his own; he is therefore right not only in making the natural storage of food for plants within it more accessible and convertible by drainage and by tillage, but also in adding to it artificially by a great expenditure on manure and cattle food, and by using the resultant growth of Grass in such a manner as shall ensure the increased storage of fertilising matters in the land.

All this is, moreover, enforced upon him by the absence of any great market near him, and by the special difficulty and cost of cultivating an adhesive soil in any other way.

Mr. ARNOT, of Carshalton, on the other hand, owns (for the period of his lease) a comparatively poor soil, possessing no inaccessible storage of fertilising matter within its substance. It is free and easy working land, adapted for what is thus in its case the comparatively inexpensive cultivation of plough-land crops, for which there is a market close by. His plan of operation therefore differs from that of Mr. CAMPBELL. His object, no doubt, is to some extent to improve that tillage of the soil by which its natural powers may be fully utilised, but mainly it is to cheapen and facilitate such a tillage; and being near a market both for the raw material and the produce, to convert by means of the good and easily worked machinery of his soil, the former into the latter. He therefore brings all that organisation of labour which is the main distinction between the Scotch farmer and the English from Forfarshire to Surrey—he brings the cheaper and more efficient steam engine to displace the slow and costly horse—he buys large quantities of stable dung and artificial manure—and by means of Potatoes, Wheat, &c., he converts it into food for the enormous gathering of men close by.

The following is a more precise account of his operations, to which we have once before alluded in our columns. Our object is more especially to point out, even in this case of easily worked land, the greater cheapness of steam power applied to cultivation; but also to describe an example in which liberal manuring has proved extremely profitable.

Little Woodcote Farm, near Carshalton, includes some 610 acres of arable land on the thin chalk land about two miles from the Carshalton Station. It has been in Mr. ARNOT's occupation since 1855. It is worked on a seven years' course of cropping, namely: 1, Potatoes; 2, Wheat; 3, Barley (excepting, perhaps, 20 or 30 acres of the Wheat stubble, which may be put half to Potatoes and half to Vetches); 4, Mangel Wurzel and Turnips; 5, Barley or Oats; 6, Clover; 7, Wheat. The Clover comes better in the second year after Mangel Wurzel than in the second year after Potatoes, notwithstanding that both crops are removed from the land. This is a fact ascertained by experience in Surrey, which differs from the experience of agriculturists in the North. The Potato land receives 16 to 18 loads of dung per acre, placed in the drills in the old-fashioned way, and thereafter $1\frac{1}{2}$ cwt. of guano, 2 cwt. of superphosphate, and 1 cwt. of sulphate of soda are strewn broadcast over the whole, before the sets are covered by the splitting of the intervening ridgelets. The Wheat after the Potatoes receives $1\frac{1}{2}$ cwt. of guano and $\frac{1}{2}$ cwt. of nitrate of soda per acre over the young plant. What of the Wheat stubble is prepared for Potatoes or Vetches receives a dressing of stable dung—the rest sown with Barley receives 1 cwt. of guano and $1\frac{1}{2}$ cwt. of superphosphate of lime as a top dressing. The Mangels and Turnips receive 16 to 18 loads of dung and a dressing of 4 cwt of superphosphate of lime. The Oats, after this crop, excluding any land that may be fed off with sheep, receive 1 cwt. of nitrate and 1 cwt. of Glauber salts (sulphate of soda). The seeds are manured with 12 to 16 loads per acre of stable dung at this time of the year, and are mown the following summer and ploughed up for Wheat, which gets 1 cwt. of guano and 1 cwt. of nitrate of soda per acre. All the Vetches receive 1 cwt. of guano, and 1 cwt. of superphosphate per acre. Some 4000 or 5000 cubic yards of stable dung are brought on to the farm every year, equal to 18 or 20 yards per acre over all the Mangels, Potatoes and Clover. Four horses are kept continually on the road, carrying produce to market, and bringing home manure.

This indicates an enormous conversion of manure into farm produce by means of the land, which is thus used almost entirely as a machine for the conversion in this way of raw material. The Potatoes (Rocks and Regents) are sold off the land—from 6 to 8 tons an acre are an average crop—and there has been very little disease under the treatment they have thus received during the past six years. The straw of the grain crop is mostly sold off the land. The Clover is sold as hay. The grain is all sold; the Mangels and Tares are sold to the extent for which there is a demand, and the remainder is consumed by a few cattle kept in yards, and by a flock of some 200 or 300 sheep kept in a store condition.

Here is the case of a farm where the artificial manure plan of fertilisation is chosen in preference to the plan of feeding stock with imported food, and thus enriching the home-made farm-yard dung. The land is not exhausted by the sale of the resultant produce, simply because every year the supplies whence a corresponding growth is to be obtained are artificially forthcoming for it. Of course the crops produced are not built up merely of the re-arranged atoms of the manure thus added; there is an immense quantity of other matter in them; but this is due to the natural agencies of air and soil and sun and shower, which are used by the living plant without any such exhaustion of the soil as both practical men and theorists are inclined under such circumstances to foretell.

The soil is well cultivated, as well as being liberally supplied, and in this way its powers both as a feeding ground and as a mere machine are effectually brought to bear.

It is to the economy of labour on the farm that our further remarks must be directed. Upwards of 600 acres of arable land, of which two-sevenths are in fallow crop, are worked by 8 horses and a 10-horse power steam plough, with its water-cart horse.

To this must be added 4 hired horses nearly constantly employed in cartage, but we believe that taking this into account, and remembering that nearly all the produce and all the manure is carted to and fro, most agricultural readers will wonder at the smallness of the force employed.

The 10-horse power engine working FOWLER'S 4-furrow plough turned over 645 acres between harvest 1861 and harvest 1862. Three hundred and 15 acres were turned over in 62½ days during autumn, and 335 acres were moved in 67½ days between January and July. The wages, oil and coal, paid for, amounted to 110*l.* 5*s.* 11*d.*, which is 3*s.* 5*d.* per acre. This is the whole cost of immediate outgoings to be put against the work done. You have to add for wear of rope, interest of capital, and tear and wear, before you learn the whole expenditure. But 3*s.* 5*d.* per acre over the work accomplished with the plough, is the whole immediate expense.

Mr. ARNOT has this year had the figure-of-eight arrangement of draught-wheels under the engine displaced by the new clip drum; he has also got a cultivator for use this spring; and a considerable expenditure has thus been incurred, which must be considered partly as chargeable for repairs against the work hitherto accomplished, and partly as an addition to the capital sum. Since the accomplishment of these changes, *i. e.* since Sept. 15. and up to Nov. 28, 1862, his engine has been at work 21½ days ploughing, accomplishing 103 acres in the time; 21 days scarifying, accomplishing 167 acres; and 9 days threshing, turning out 417 quarters of grain. Some of the ploughing was done for a neighbour, and paid for at 14*s.* an acre, the rest done at home is charged 12*s.* an acre. The scarifying, all at home, is charged 6*s.* an acre. The threshing is charged 1*s.* 3*d.* to 2*s.* a quarter. And the actual earnings of the apparatus thus amount during autumn to 155*l.* 9*s.* 10*d.* The actual cost of wages, coals, oil and repairs during the same time in accomplishing all this work has been 89*l.* 0*s.* 1*d.*, not much more than one half the earnings; and taking out the wages, coals, and oil of the days at work with the steam plough alone, we have a sum of 66*l.* 9*s.* 9*d.* spent against 155*l.* 9*s.* 10*d.* earned in ploughing at 12*s.* and 14*s.* per acre, and scarifying at 6*s.* an acre. There is certainly ample room here for interest of capital and tear and wear and cost of rope.

Whether we look at the actual work accomplished in a given time by the engine and apparatus, and the expense incurred in a given performance; or consider the whole cost per annum of horse labour and engine combined in cultivating and managing a 600-acre farm of arable land; there is certainly here very skilful and economical work.

And it is not only in the work of cultivation, but in harvest work as well, that economical management is seen. Mr. ARNOT'S experience is as good a testimonial to Messrs. BURGESS & KEY as it is to Mr. FOWLER.

The book in which the whole money cost of cutting and tying the corn crop on Little Woodcote Farm has for many years been recorded is now before us. The following are extracts for the last five years, when BURGESS & KEY'S reaper has been employed:—

| Year. | Acreage cut. | Total cost. | Cost per acre. |
|---|---|---|---|
| 1858 | 180 | £40 17 8½ | £0 4 6 |
| 1859 | 183½ | 41 2 8 | 0 4 6 |
| 1860 | 208½ | 52 17 8 | 0 5 1 |
| 1861 | 190 | 29 1 6½ | 0 3 0¾ |
| 1862 | 293 | 69 12 0 | 0 4 9 |

These sums include the whole wages paid in cutting and cooking or tying the crop. They include the whole cost of oil and repairs, but they do not include the expense of raking or of pitching and building the corn, nor do they include the cost of horses in working the machine; the whole cutting is let to a single man at 3*d.* per acre. He is supplied with horses as often as he requires them, and they are brought to him in the field.

The whole operations of the farm, carried on in like manner, are systematically and vigorously conducted. Mr. ARNOT has his house full of agricultural pupils, and we do not know where young men are more likely to acquire a practical knowledge of the business and the art of farming.

## THE EWE FLOCK.

WE are continually recurring to the proper management of the ewe flock at this season of the year, and it is because it constitutes one of the most important features in farm economy, and is one which being so often neglected, or better changes put off till too late, that leads to such great casualties as the result. "The lambing time" is fast approaching, and it is in order that every flockmaster may be properly prepared for it that we so frequently call attention to this particular department of business. The ewe flock at the precise period of lambing ought to be in one uniform state or condition—not too fresh, not too poor—but in a docile, healthy, thriving, or improving state. The difficulty lies in bringing them on, and up to this satisfactory condition. The general course pursued in wintering breeding ewes is to run them thinly on the ordinary Grass lands or seeds, and in Turnip counties on common Turnips, with hay or chaff in addition. In the former case nearly all depends upon the state of the pastures when they are first laid on in the autumn, and the continuance of open weather throughout the winter.

If the pastures abound in Grass during the autumn, leaving a good winter supply, and the weather continues mild and tolerably free from frosts, snows, or heavy rains, the flock will require but little further attention. But should the pastures be short, or weather cold, stormy, or in any way ungenial, then every attention will be requisite to carry them safely and favourably through the winter, so that they arrive at "lambing time" in that healthy condition, without having undergone any violent change, &c., necessary to insure a good lambing season. For this purpose I would recommend the closest attention, the inspection of every animal, and the removal of every one not found progressing favourably to other and better keeping. This must be done with judgment. It will not do to change their keeping to another kind too suddenly, or give them too much of it, but keep to a similar kind, as nearly as possible, giving other aids in addition, as Turnips, Mangels, corn, or cake. The animals that may be found too fat or too high in condition must not be allowed to shrink, but a little blood might be taken from them. Generally a puncture of the vein in each nostril would be sufficient for one bleeding. Allow them salt *ad libitum.* Should this upon close watchfulness be thought insufficient for their safety, a moderate bleeding from the neck vein must be resorted to. All that is wanted is to defend them from attacks of fever after lambing. It is customary with many breeders to mark the ewes as served by the ram—a very excellent course, as it enables the shepherd to make better and somewhat earlier preparation, for those likely to "lamb" first. The usual way is one mark for the first week, two for the second, and three for the third, after which they are counted as "going over again," should such be the case; and are then left till the last lot are brought forward. This plan of marking permits a partial separation as the lambing season approaches, which is desirable. It prevents too much crowding of the flock and consequent discomfort, and of course a slight shrinking of the flock, which at this particular juncture ought of all things to be avoided. Ewes cannot be kept too quiet and free from alarms. A sudden fright will cause them to gallop across a field, however large, and often abortion is the consequence and also wrong presentations in the lambing season. Abortion is one of the great things to be guarded against in a flock of ewes; should any cases occur, by all means remove the affected ewes and all external causes which may excite the sympathies of the remaining—otherwise some are sure to be too much influenced, and more cases will occur, and often to an alarming extent, and with great loss. Without being a prophet, I may judge from the unusual prevalence of that disease in corn and Grass, called ergot, that it is probable many cases may occur in different parts of the country this season. I am not acquainted with any remedy or preventative beyond what I have stated, particularly that they be undisturbed. The shepherd himself is frequently the unwilling agent or cause of these affections—no cause is more common than for the shepherd to enter the field, it may be in early morning, and give his accustomed shout or whistle. The dog barks in unison, the flock spring up from their lair and are upon their legs instantly, and in accordance with their daily practice hurry as fast as they can to some customary place to await the inspection of their disturber, and should the shepherd own an angry or nasty tempered dog the animals are greatly affrighted, and make off to the greatest distance from him. This is certainly one great cause of abortion and wrong presentations in the lambing season. Separation appears to be the safest course in case of abortion from the rest of the flock; and in the individual a washing of a solution of chloride of lime on the affected part, and in bad cases a slight injection of it into the uterus, will be serviceable. If fever arises, purgatives and mild diuretics must be resorted to. If debility, gentian and ginger with small doses of Epsom salts should be used. Another cause of abortion and wrong presentations arises from the too common practice of "ointmenting" them when too near the lambing season. Dipping and fagwatering, if done when the lambing time is near, is also very dangerous. Nothing of the sort ought to be attempted after the ewe is supposed to have passed half the time of her gestation. "Clatting" or "Clagging" ought not to take place till after lambing. In any of these operations the animal is too much turned over and about to be safely done—her very struggling is enough to seriously derange her internal position and parts. As the lambing season more closely approaches, I may recur again to this important subject. *O. F.*

## STEAM CULTIVATION.

### KNOWLE PARK, NEAR GUILDFORD.

THE following account of an estate, lying just within the district of the Weald—which occupies in our geological maps a lozenge-shaped tract over Kent and Sussex, overlapping Surrey, too, at its southern extremity—is given, not especially for the successful steam cultivation of which it has been the subject, but for several other interesting features, and particularly because of the general agricultural improvements effected on it since, nineteen years ago, it came into the hands of John Bradshaw, Esq., who will on Monday enter upon his duties as Chairman of the Central Farmers' Club. We have an example here of benefit received by agriculture and the soil from the investment of capital realised in commercial pursuits, which alone would be enough to upset all those predictions of agricultural exhaustion, whether of vegetable mould or soluble mineral matter, which theorists, ignorant of the many compensating circumstances at work for us, have lately uttered.

Mr. Bradshaw, an English merchant, purchased Knowle Park, near Cranley, Surrey, some sixteen years ago—formerly the property of the Onslow family.

There is attached to the mansion a farm of 550 acres, about 150 acres of which are Grass around the house; the remainder are arable and woodland. It lies, a gently undulating surface, seven miles south of the South-Eastern line, at the Shalford Station. The train has brought you on to the green sand formation, by a tunnel through the chalk lying between that station and Guildford; and I do not know a more instructive geological excursion for an agriculturist than that which lies in a few miles from Reading,—taking him across the poor sands and clays of the woodland plastic clay, the still poorer sands of the Bagshot district, the narrow chalk range constituting a mere ridge near Guildford, the fertile sands of the beds immediately below the chalk at Shalford and Wonersh, into the comparatively poor clay-sands of the Weald, all of which he traverses in his journey from Reading *viâ* Shalford to the village of Cranley. Hardly anywhere, in so short a time, will so many agricultural differences and contrasts be observable—the result of geological variations. For a mile or two after leaving Shalford, in a walk southward towards Cranley, you traverse a very picturesque and fertile district, whose extremely hilly surface is thereabouts cut into by deep lanes fringed with luxuriant shrubbery, its many small irregular fields being now covered with a green and luxuriant growth of Grass and Wheat and Rye, while the hills are topped by Larch and Fir. Very soon however this is changed for a less abruptly hilly surface—the sandy beds beneath the soil become ferruginous—the roads lie through wide unenclosed driftway and poor common—the fences are ragged and untrimmed—imperfect farm buildings are here and there neglected and in ruins—the soil is wet, and impoverished, as well as being naturally poor—where arable you often see a poor yellow colour, and occasionally patches of black amidst the general light fawn colour of the plough land—copsewood and generally inferior timber, with here and there an example of the older forest which once overspread the whole, is frequent—and you have all the indications of land much inferior to the district you have left in fertility, in agriculture, and in the application of farm capital.

It is probable that a visit 16 or 17 years ago to the Knowle Park estate of Mr. Bradshaw would have left just such an impression as one now gathers on the way to it from much of the land between it and Wonersh. Since that date, however, it has been in the occupation of an intelligent and wealthy man, whose agricultural tastes have led him to join the London Farmers' Club, of which he has long been one of the most active members, and of which he has this year been elected President. His estate is part of a gently rolling country of generally poor soil. Some of the low lying lands are of such depth as to be naturally fairly fertile. Much of it, especially on the summit of the rounded undulations of the surface, is a free and occasionally somewhat brashy or gravelly soil, which is fertile or not according to cultivation: while the rest is a very variable patchwork of that extremely fine and impalpable sand which, in some places more clayey than in others, everywhere runs together hard after rain, and everywhere throughout the Weald district to which it belongs is entirely difficult to cultivate.

The following is the very truthful account of the agricultural character of the soil of this district, given by Mr. Morton, in his work on Soils:—

"The soil is in every respect like the subsoil, although of a darker fawn or hazel colour, and has a pale, whitish yellow, sickly appearance in some places. When ploughed it cuts like a piece of soap, and the furrow turns over unbroken.

"It does not adhere much to the feet, but is unctuous and slippery, and close and adhesive to the particles of which it is composed.

"They are of a very fine impalpable nature, more of a fine sand than clay, mixed with little or no vegetable matter, and so close and retentive is the soil, that when once it is soaked with wet, it requires a very long time before it becomes dry, as the atmosphere has little or no effect on it, from the whiteness of its colour and the closeness of its texture.

"The peculiarity of this soil is the minuteness of the division of its parts; the silicious matter being so very fine, and the clayey particles being equally minute, they form a close firm paste, which dries into a substance almost as hard as brick, and which the roots of vegetables are unable to penetrate. From the great expense in cultivating this soil, a considerable

portion of it is in woods; some is in poor wet pasture for young horses and oxen, and the remainder is under the plough.

"There is a diluvial deposit on some parts of this soil, composed of a flinty iron-sand and gravel, but of very limited extent."

The estate of Knowle Park is no exception to the general rule of picturesqueness and landscape beauty which make Surrey so attractive as a "residential" county; nor is it any exception to the general rule which ensures a fair return for money invested in agricultural improvements. The land has been drained, some of it for 5 feet deep and more, all of it at least 4 feet deep, at intervals varying from 30 up to 70 feet, according to the character of the subsoil, which is often of an extremely pervious character. Fields have been thrown together and hedgerows removed. A very capital set of farm buildings has been erected in the midst of the property. Considerable quantities of bones and artificial manure have been already applied—a large consumption of linseed and cotton seed cake adds to the richness of the natural manure of the farm—the whole has been well cultivated after the four-course rotation of crops, and, within the past two years, steam cultivation has been brought to bear. The consequences are that land bought for 18*l.* 10*s.* an acre, is now worth from 20*s.* to 50*s.* an acre, and probably over the whole to at least 30*s.* an acre to rent.

The work of cultivating 400 acres of arable land, and of carriage and other work belonging to the estate generally, has been hitherto done by 16 horses. In the spring of 1860, Mr. Bradshaw procured Smith's steam cultivator and apparatus from Messrs. Howard of Bedford. It is worked by an 8-horse power engine. Since that time the estate has been worked by 10 horses only; a saving of six, costing most likely an expenditure of 200*l.* a year, has been thus effected. The following is the work done by the apparatus in 1861. From the 15th February to the 7th of June, in 57½ days 327 acres were traversed by the cultivator, some of the work being in duplicate. The wages, including all labour of removals, &c., were about 18*s.* a day, or 52*l.* 15*s.* 9*d.* Twenty-four tons of coal were burned, costing 24*l.* on the ground, and 14 gallons of oil were used, costing 4*l.* The whole expenditure was 80*l.* 13*s.* 9*d.*, or 4*s.* 11*d.* per acre for mere money outgoings. During the summer of that year in like manner 60 acres were cultivated in 9½ days at an expenditure of 12*l.* 6*s.* 6*d.*, or 4*s.* 1*d.* per acre; and in autumn 200 acres were cultivated in 36 days, at a cost of 42*l.* 18*s.*, or 4*s.* 3½*d.* per acre. The work on the whole amounted to 507 acres, at a cost of 135*l.* 18*s.* 3*d.* This was "cultivation" or grubbing—much of it a first time, when any movement of the soil by horse-power must have been exceedingly costly; a great deal of it a second and even a third time, when grubbing by horse-power, less expensive, would still have been much more costly than this. During the past year, in like manner, the same engine (one of 8 horse-power) and apparatus have cultivated 450 acres at a cost of 4*s.* per acre, or 88*l.* 12*s.* 5*d.* in all. The wages given daily are the ordinary wages of the farm labourer—12*s.* a-week, with 6*d.* extra for the extra care required, over-time being paid for at the same rate in addition, so that the men often take 18*s.* home.

The Weald soil is in some respects especially adapted for steam cultivation, in others less so. Mr. Bradshaw's estate is an example especially of the advantages of the district, for there is the power of cultivating almost every part of it without water carriage for the engine, owing to pools and drains supplying every station which the engine need to occupy: and there is also an unusual size of fields, which lie in 30 and 40 acre pieces. We learn here, as we do elsewhere in the district, the very little wear of rope which the soil produces. No doubt every care is taken in carrying it, though Mr. Bradshaw has not the improved rope porters for this purpose which are now sent out; but it is only in the Weald district that one learns of ropes used for two years being still unworn. The 1600 yards by which 20 and 30 acres are often done at a time still promises to be available for two or three additional seasons. The cost of repairs, too, has been hardly anything, and there is little beyond interest of capital and the mere effect of use in converting a new thing into a second-hand one, for which addition has to be made to the items already named.

If, however, where fields have been thrown together as here, the Weald district enables very cheap steam culture, taking at the same time very heavy work (for the Weald soil becomes extremely firm and difficult) out of the department of costly horse-labour, yet here the advantages of steam-tillage, as indeed of any kind of tillage, are less than in other districts. We hear of double and triple cultivation of the same land. Even when done in the dry the soil runs together, and the work has to be done over again very soon. The land needs to be stirred, and combed, and combed to get rid of its Couch; it needs to be stirred and stirred to enable its aëration during a sufficient period to ensure its fertilization. It is so with all sandy clays, and with all so-called clays whose adhesiveness depends rather upon the impalpableness of its sandy composition than upon the presence of actual alumina. At Woolstone, a calcareous clay, a single deep stirring in the dry is a thorough destruction of root weeds and a good fertilisation of the soil, because it does not run together again so readily, and because the soil is naturally full of fertilising matter, which being thus laid open by a single operation for so long a time are much more easily extracted. A lot of Couch which has vigorous hold of a rich calcareous clay soil is so thoroughly astonished by a "smashing up"—the circumstances under which it has flourished are so entirely and for so long a time changed by a single operation, that one smashing up in dry weather will destroy it. A crop of Couch which has hold of a hardened sand-clay soil in the Weald, of nothing like such vigorous growth, for it does not find such food there to sustain it, may be equally astonished by a smashing up for the time; but the land runs together again before the weeds are dead, and so they need to be actually combed out and burned, if they are to be killed.

Steam cultivation, in Mr. Bradshaw's hands, has nevertheless been advantageous and economical. It has not only dispensed with the labour of six horses, but it has so forwarded the labour of the farm, that there is nothing behindhand in the work of the season. The rotation of crops adopted—Wheat, Vetches, Rye, &c., followed by Turnips, Oats, Clover—gives occasion for a great deal of labour, and in particular the certainty of a Turnip crop after Rye and Vetches fed off (formerly a very doubtful speculation, when horse power was the only means of reducing the hardened sheepfold in the months of June and July to tilth), is now almost a certainty. There are now very good Turnips after Vetches standing on the farm. Rape grown under such circumstances is not so good. The crop of Swedes, not so good this year as usual, is nevertheless very fair—half of it is carried home to the building for cattle. The Wheat plant looks extremely well, and nothing can look better than the Vetches and the Rye. The usual practice of manuring is 7 or 8 loads of farm-yard dung, 6 bushels of half-inch bones, and 2 cwt. of dissolved bones for the Turnip crop; for Mangels, in place of the dissolved bones, 1½ cwt. of superphosphate and 1½ cwt. of guano are applied at seed time, and at twice afterwards during the growth of the young plant, 1 cwt. of nitrate of soda and 3 cwt. of salt per acre are applied. This is thus an extremely liberal application.

The young Clover receives a dressing of dung at this season of the year, and it is ploughed up early in the following autumn for Wheat, which rarely receives any spring dressing.

One of the most instructive features of the management at Knowle Park is the treatment of the farm yard manure. The buildings are exceedingly compact and compendious and economical. The labour of managing 40 head of cattle and a large stock of pigs, is diminished as much as possible by the easy connection of the different parts of the farmery; and the original cost of the building itself was reduced to a minimum by the example which it was attempted to give of utilising the old material of the estate. Four or five old farmeries were pulled down, and the timber and other material used here. Nowhere have I seen more neatness and precision in the details of management. The Wheat and Oats are brought in from the mill on the waggon, thrown into the threshing machine, worked by a fixed engine—the straw falls away into straw-house or is cut up with hay into chaff, which falls into large bins. The Turnips brought in cleaned into the root house, are either pulped or cut into finger-shaped pieces, and piled up ready for use. The cattle stalls, long ranges on either side, are easily fed and littered from the stores close by. The stock lie on boards and straw, and their urine drains from them, and the soiled litter is removed from them, into a large central tank 9 feet deep, occupying nearly the whole of the central yard. Over it is built a shed with open boarded floor, on which a large stock of porkers and bacon hogs are kept, whose waste falls from them into the same tank, where other swine and poultry find a living. The manure, 400 loads or more, which the tank holds, is thus never washed with rain water, and, derived from cake-fed beasts, and swine fed on Barley meal, is as good as it can be. There is a roadway for carts into it, underneath one of the lines of building from the outside of the farmery, by which its contents are easily removed.

The stock of the farm consists of about 40 head of cattle, and 250 large Hampshire Down ewes bought each year, which, crossed with a Cotswold ram, are fed and fattened with their produce, receiving chiefly cotton seed cake, with Vetches, Turnips, &c., and sold all through the following summer. The cattle it is proposed to buy as yearling Shorthorns in the autumn, keep on straw and cake and a few Turnips during the following winter in yards, graze during the summer, and fatten during the second winter. Some 40 young Devon and other (chiefly Shorthorn), small 2-year-old cattle, are now tied up, receiving their bushel of cut Swedes, 21 lbs. of hay and straw chaff, and 4 or 5 lbs. of cotton seed cake daily. The accommodation for these, and their management in the feeding house, seems to be exceedingly good.

The labour of the farm amounts to as much as 2*l.* an acre over the arable land. The reaping machine (Burgess & Key's) is employed, to the advantage of the labourers of the farm, as well as to the cheapening of harvest work generally. The cost of labour is, however, greater than a tenant farmer could afford. The estate is well and neatly cultivated, the roads and fences are in capital condition, the crops promise well, and the land is generally in good order and clean. It may fairly be called—as, indeed, in the occupation of the Chairman of the London Farmers' Club it ought to be—one of the example farms of England.

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Bensington near Wallingford.—The traveller by the Great Western Railway must have noticed between the Goring and Wallingford Road Station on the northern and eastern side of the line, and again, after the Wallingford Road Station upon the southern and western side, a large extent of open, flat but undulating country between him and the hills, generally well covered with grain at harvest time, unbroken by hedges, and cultivated in fields of large size. The line there crosses and skirts the lower chalk, green sand, and Kimmeridge clay formations; and the land varies in texture from a comparatively free and shallow chalky soil to a deep stiff clay, the varieties being without much regular geological sequence, because of the overlying beds of flinty gravel which here and there obscure the regular formation.

The parish of Bensington lies barely within this district—the village lies near the Thames, and the lands extend from the river up towards the chalk hills, which are there about 2 miles off.

Almost the whole of the intervening country between the Elms and Alders of the river side and the hanging Beech woods which crown the heights is open, with hardly any hedgerows, or these very neat and trim and enclosing large tracts of land. The greater part of the parish was till lately a "common field." Mr. Frampton, who occupies about 600 acres of arable land in it, the property of Mr. Newton, in this open tract of country, tells me that a few years ago his farm lay scattered in more than 500 pieces—a furlong here and furlong there, divided from the neighbours' land which lay intermixed in the same manner, by a furrow or a footpath, incapable therefore of systematic, regular, and energetic independent management.

Within the past seven years the parish has been enclosed, and Mr. Frampton's land lies now in large and open tracts, occasionally in fields of comparatively flinty, gravelly soil, without much body, elsewhere a deep calcareous loam, and in other parts again a stiff calcareous clay. It has been partly drained by 3½ and 4 feet deep drains, placed occasionally where the object has been to remove spring water, of which there is a great deal in places where the clay and chalk or green sand join; but regularly and pretty close together where the regular drainage of clay soil was needed.

The farm, though low, lies for the most part well above the flood waters of the Thames — as much as 8 to 20 feet above it, I should suppose, from its position eastward of the long straggling village which extends down to the river. But I was told that the drainage of the land is sluggish and difficult when the river is in flood nevertheless. This, however, must not, I imagine, be from any direct effect of the rise of river water, but simply from the extra quantity of rain-fall to which both the river-rise and the water-logged land are owing.

The farm, now that it lies compact together, is cultivated on the 4-field course—Wheat, Turnips, Barley, Clover. The Wheat stubbles are however as much as possible cultivated in autumn, and sown with Vetches, Rye, Trifolium, which again are ploughed up in spring and put to Turnips. Mangel Wurzels are grown over not more than 5 or 6 acres; there is a good extent of Swedish Turnips, and some little Rape, but the bulk of the Turnip break is put to common Turnips, of which a large 40-acre piece of a capital crop had just been eaten off by sheep when I was over the farm the other day. The Barley is sown down with seeds, either the broad Red Clover by itself, or Hop and Ryegrass; and what of this is eaten off early in the spring is ploughed up and sown with Turnips or Rape. There is thus a large extent of green-crop food for sheep, and most of the land bears folding. This large produce being all thus consumed upon the farm, the land yields heavy crops of straw. A very good sample of Barley, nevertheless, is grown.

The cultivation has hitherto engaged 24 to 26 horses, mostly worked in three-horse teams, besides two or three teams of oxen during winter. There are now 18 horses employed, and the work is done more easily now than formerly. The saving—equal, taking the oxen into account, to probably nearly three teams of horses, costing at least 300*l.* a year—has been effected by adopting Fowler's steam plough. Mr. Frampton, always a mechanician by taste, has long had a moveable steam-engine for threshing his own and neighbouring crops of grain. In the spring of 1861 he purchased Fowler's 10 horse-power engine and a four furrow plough and all the necessary apparatus for steam cultivation; and in that year, including its remarkably dry and useful autumn, it did good work; ploughing 97 acres and cultivating 57 acres in 31 days, at the rate of 3 or 4 acres a day for ploughing, and twice as much for cultivating. There was the time and labour of six removals included in this time, and the cost was 17*l.* 9*s.* 2*d.* for wages, and 19*l.* 16*s.* 4*d.* for coals, &c. The cost of ploughing for these items was about 4*s.* 10*d.* per acre. An accident by which the pumping apparatus of the engine was disabled interfered with the greater success which otherwise would have been achieved. The following is the amount of work done by the apparatus during 1862. It ploughed 395 acres and cultivated 145 acres at a cost of manual

labour, (including water cart and horse) of 73*l.* 10*s.*, and at a cost for coal and oil of 67*l.* 14*s.* This was at a cost of about 5*s.* 3*d.* per acre for these items.

Last October an exchange was effected, and a 14-horse engine with stronger rope is to set to work next spring. With the more powerful engine, the usual performance is 6 or 7 acres a day of ploughing, and 10 or 12 acres with the scarifier. The wages paid amount to only 9*s.* a day of 10 hours, viz. 2*s.* 6*d.* to engineer, 2*s.* 4*d.* to ploughman, 1*s.* 1*d.* to each of the porter lads, and 1*s.* 8*d.* or 2*s.* to the anchor man. Water-cart may cost 4*s.* a day. The workmen employed are the ordinary labourers, and nothing seems more certain than the fitness of such men as engineers or any other superintendence of farm machinery, after a few weeks' experience. Threepence an hour is paid for overtime to engineer and ploughman, 2*d.* an hour to the others. Coals about 21*s.* a ton upon the ground, cost 12*s.* to 15*s.* a day, and the cost of coals and oil, water cart (4*s.*) and wages does not generally exceed 5*s.* an acre for ploughing during a good day's work. The expense of new rope must be incurred every two years, and amounts to about 1*s.* an acre. The apparatus is found sufficiently compendious and manageable.

Mr. Frampton has had a road made through one open tract of land where the soil is stiffest, enabling a long furrow's work on either side of it. The apparatus is now lying by in farm-yard and shed, and it would take, so Mr. Frampton says, the labour of seven horses with the men employed in attending to it when at work, to get the steam up, move it out to its place some half a mile off, set the anchor rope and apparatus out, and set to work. Thereafter it could travel up the road, ploughing on one side, and come back down the road, ploughing the other side, probably 150 acres or more in all, fully three or four weeks' work without any time lost in shifting apparatus. It is in cases like this where the great advantage of steam power is felt. And, given weather suitable for tillage work, a soil adhesive, and barely fit for the sheepfold, and a large open tract with roadway facilitating the work—and it is impossible to doubt that steam power applied to the cultivation of the land is very much cheaper than that of horses.

As to its efficiency, that has been amply proved; and in the case of Mr. FRAMPTON'S farm it was sufficiently obvious, last week, from the firm condition of the land, both where it had been deeply turned over roughly with the digging breasts and also where the usual turnfurrow had been used.

The farm is remarkable for its excellent buildings—finer barns, stabling and shedding round the sides of a square I have never seen—nor buildings kept in more perfect repair. The inner quadrangle is laid out in yards where sheep pick over the Barley straw, which is daily thrown in fresh from the flail. A flock of 450 ewes is kept; the tegs and part of the ewe lambs being fattened off at 12 and 13 months old, and one-third of the ewes being sold every year. A few store cattle are maintained on straw and Turnips. These, with a considerable stock of Berkshire pigs, make up the live stock of the farm. The land, now recovering from the foul condition to which its piecemeal cultivation when unenclosed had reduced it, gives a good specimen of the style of management common to the country, on which steam cultivation has been engrafted by an intelligent, energetic, and enterprising man.

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One is not surprised to find that in so open a country an example of this kind has been followed. There is within six or eight miles of Bensington, near Chakendon, immediately under the chalk hills, and on a farm of lighter shallower soil, another steam plough at work. Mr. Frank Dodd, of Bottom Farm, Chakendon, has since the Battersea meeting purchased one of Fowler's 12-horse power engines, burning 15 cwt. of coal a day, and costing thus about 13*s.* a day. His wages, including engineman 15*s.*; ploughman 14*s.*; two porter lads at 5*s.*; and anchorman 10*s.*; amount to 49*s.* a week; and the whole expense for labour, water, oil, and fuel thus does not exceed 7*l.* 14*s.* per week. During four weeks this autumn, and working 23 days of this time—losing, too, the labour of as many as five removals—Mr. Dodd accomplished 106 acres of ploughing, which has cost about 6*s.* an acre. His 750 acres of arable land have hitherto been worked by 30 horses—he is now getting rid of 10 of them, and has no doubt that at less expense he will have the land worked with greater efficiency by steam.

Of course his experience over so short a time is not so trustworthy or instructive as that of others who have had some years' experience. And one can in his case therefore only declare that a shrewd and practical tenant farmer having ascertained, after a detailed examination into the cost of horse-labour and of steam respectively, that the former is the dearer of the two, has not, after an autumn trial of the latter, seen any reason to repent of his decision.

## Home Correspondence.

*John Ford's Farewell to the Subject of Thick and Thin Seeding.*—I have read your leader of January 17, p. 57, and trust that I shall commit no offence if I refer to it—supply a little information from well known and approved documents—and also add a few lines by way of "heal all," or "drops for nervous sufferers." 1st, in reference to your leader. I quite agree with Chief Justice Fitzherbert's observations in relation to "discretion." Discretion alone can determine whether a quantum of seed is or is not ridiculous, be the quantum thick or thin, or rather much or little. Thin seeders certainly have one apparent advantage, as you say, in the argument, viz., their tendency to economy, of which we farmers have need in every branch of our profession; but if the adage, "Nothing wasted nothing wanted," holds good, there is also another adage equally weighty, viz., "Penny wise and pound foolish." Each intelligent farmer must himself strike the balance between these two adages according to his experience, founded upon his particular circumstances. In your third paragraph you refer to Mr. Wilkins's "lucid English, erudition, clever irony, and pertinacity." No man admires them more than I do. I have no pretentions to these qualities, at least in any such degree as the Rev. gentleman has. As regards his clever irony, no man is more sensible of it than I am, for he has with "discretion," by his "letters patent," heaped upon me more titles than I am ever likely to receive from the Crown of England. Let us survey them, and also the inconvenience I am likely to be placed under from this "thick seeding" of titles. "Pre-Adamite John Ford," "terrigenous John Ford," "precocious John Ford," "prejudiced John Ford," "Cimmerian John Ford!" Here let me pause, and say, "Angels descend, and bring me out of Lot's abode!" Let me say, that proud as I am of these titles, sometimes "the bane of wise men and the idol of fools," I do not think that your readers will say that they betray on the part of the Rev. gentleman that "discretion" recommended by the Chief Justice. The inconvenience will be this:—if I send a letter to order a bed at a London hotel under all these glorious titles, and should not go, it is nearly certain that the innkeeper will charge me for five reserved beds, for he will never believe that all these titles can belong to poor, deluded, single John Ford, 'dragged by an angel out of Cimmerian darkness!" I have no pretentions to irony, so let me try and signalise myself by further establishing a character for "pertinacity" by calling attention to two extracts from the Journal of the Royal Agricultural Society, a Journal which I trust is not the "bane of wise men, nor the idol of fools." I was induced to search such accredited works as were within my reach by the good advice of the respected Rector of Wix, who recommended me to read the scientific works of scientific men, and I may suppose practical men, for I find that science without practice is often nothing more than "philosophy in a dilemma." I therefore, having all the volumes of the Royal Society, of which I am a member, looked into them to see the opinion and experiments of men in whom the members of the Council have sufficient confidence to admit their articles for national perusal and direction. The first extract is in volume the ninth, page 283. The article from which it is taken is addressed by Mr. Loft to Mr. Pusey, on the "varieties of Wheat and the advantage of thick sowing." The quantity of seed sown was at the rate of 5 pecks per acre, and the average (of 12 sorts of Wheat) was 45 bushels and 2 pecks per acre. The remainder of the field (15 acres) was drilled in the usual way with 8 pecks to the acre of Marigold Wheat, and it yielded rather over 57 bushels per acre. There was no difference either in land or management, except that the 12 sorts (seeded with 5 pecks) had more care and labour bestowed upon them in weeding and hoeing than the remainder of the field. Mr. Loft observes that this result is at variance with the opinion of the advocates of thin sowing as to the quantity of seed. I now, says he, generally begin with 7 pecks of seed as the minimum, gradually increasing, as the season advances, to 9 pecks per acre. Observe, he says, nothing of blight as regards the corn raised from 8 pecks; but in respect of the 12 varieties sown at the rate of 5 pecks (eight varieties being white sorts and four red), "in all the white sorts there was a considerable quantity of smut, two or three of the finer sorts being much the worst; whereas amongst the red only three cases occurred, and two of these only very slightly affected with smut. He also gives the result of another experiment with five sorts grown from 7½ pecks, and the crops per acre ranged from 39 bushels 1 peck to 57 bushels. The next extract is from the 6th volume, page 192. The article is written by David Barclay, M.P. on the advantage of thick sowing. The account of the experiments on the merits of thin and thick sowing, drilling, dibbling, and broadcast, conducted on Eastwick Farm, in the county of Surrey, is as follows: 2½ bushels drilled 9 inches apart, produced 37 bushels per acre, value 16*l.* 6*s.*; 1 bushel drilled 12 inches apart, produced 25 bushels, value 10*l.* 2*s.*; 1 bushel, dibbled 12 inches apart, produced 31 bushels, value 13*l.* 4*s.*; 1 bushel 3 pecks dibbled 9 inches apart, produced 37 bushels, value 15*l.* 12*s.*; 2¼ bushels sown broadcast produced 40 bushels, value, 18*l.* 1*s.* These figures include the value of both corn and straw. I call especial attention to the following words of Mr. Barclay. The plants in Nos. 2 and 3 (thin seedings) were by much the strongest, and looked best throughout the season, until the approach of harvest, when it became evident that the quality of the grain and straw was inferior, more particularly in No. 2, which appeared to have suffered a little from mildew! I have now done with all controversy on this subject. Locality and various circumstances must determine the quantity of seed.

Two seeders (shocking to relate)
Began a fierce debate.

* * * *

"God bless the Queen, God bless the land
With plenty, joy, and peace;
And grant henceforth, that foul debate
Twixt husbandmen may cease!"

*John Ford, Jun., Rushton.*

*Produce of Two Cows in Four Months.*—Will you be so kind as to tell me if you think the enclosed is a fair produce from two cows for the four months, April, May, June, and July, as on the list? The cows are one Short-horn and the other small, something of an Irish breed; the produce sent to a gentleman's table. They had nothing but the Grass that they got in the field, and that field is in the middle of Regent's Park, London. The butter at 1*s.* 6*d.* per lb.; cream, 3*s.* per pint; new milk at 4*d.* per quart; skim at 1*d.* per quart. But some of the skim is given away. The cows calved the beginning of March. *J. C.*

| 1862. | Butter. | Cream. | New milk. | Skim milk | |
|---|---|---|---|---|---|
| April. | lb. | pints. | quarts. | quarts. | £ s. d. |
| 1 | .. | 1½ | 5 | 6 | 0 6 3 |
| 2 | 1 | 1 | 5 | 6 | 0 6 8 |
| 3 | .. | 2 | 5 | 6 | 0 8 2 |
| 4 | .. | 1½ | 5 | 5 | 0 6 3 |
| 5 | .. | 2 | 5 | 6 | 0 8 2 |
| 6 | .. | 1½ | 5 | 6 | 0 6 9 |
| 7 | 1 | 1 | 5 | 5 | 0 6 7 |
| 8 | .. | 1½ | 5 | 6 | 0 6 8 |
| 9 | 1 | 1½ | 5 | 6 | 0 8 2 |
| 10 | .. | 1½ | 5 | 6 | 0 6 8 |
| 11 | 1 | 1½ | 5 | 6 | 0 8 2 |
| 12 | .. | 2½ | 5½ | 8 | 0 10 0 |
| 13 | .. | 1½ | 5 | 6 | 0 6 8 |
| 14 | 1¼ | 2 | 5 | 6 | 0 10 5 |
| 15 | .. | 1½ | 5 | 7 | 0 6 9 |
| 16 | ½ | 1 | 5 | 6 | 0 5 11 |
| 17 | .. | 1 | 5 | 7 | 0 5 3 |
| 18 | 1¼ | 1½ | 5 | 6 | 0 8 6 |
| 19 | .. | 1½ | 5 | 6 | 0 6 8 |
| 20 | .. | 2 | 5 | 6 | 0 8 2 |
| 21 | 2 | 1½ | 5 | 6 | 0 9 8 |
| 22 | .. | 1½ | 5 | 6 | 0 6 8 |
| 23 | 1¼ | 1½ | 5 | 7 | 0 8 7 |
| 24 | .. | 2½ | 6 | 6 | 0 9 2 |
| 25 | .. | 2 | 5 | 7 | 0 8 3 |
| 26 | .. | 1½ | 5 | 6 | 0 6 8 |
| 27 | .. | 2 | 5 | 6 | 0 8 2 |
| 28 | .. | 1½ | 6 | 6 | 0 6 8 |
| 29 | 1 | 1½ | 5 | 8 | 0 8 4 |
| 30 | .. | 1½ | 5 | 7 | 0 6 9 |
| | 11¼ | 48 | 152 | 187 | £11 6 10 |

| 1862. | Butter. | Cream. | New Milk. | Skim Milk | |
|---|---|---|---|---|---|
| May. | lbs. | pints. | quarts. | quarts. | £ s. d. |
| 1 | .. | 2 | 6 | 8 | 0 8 8 |
| 2 | 1½ | 2 | 5 | 7 | 0 10 6 |
| 3 | .. | 2 | 5 | 6 | 0 8 2 |
| 4 | .. | 2 | 6 | 7 | 0 8 7 |
| 5 | 1 | 1½ | 5 | 6 | 0 8 2 |
| 6 | .. | 1 | 5 | 7 | 0 5 3 |
| 7 | 1¼ | 1 | 6 | 6 | 0 7 4 |
| 8 | .. | 1½ | 6 | 7 | 0 6 9 |
| 9 | .. | 2 | 6 | 8 | 0 8 4 |
| 10 | 1½ | 1½ | 7 | 6 | 0 8 2 |
| 11 | .. | 2 | 6 | 6 | 0 8 2 |
| 12 | .. | 2 | 6 | 7 | 0 8 7 |
| 13 | 1 | 1½ | 6 | 6 | 0 8 2 |
| 14 | .. | 3½ | 7 | 7 | 0 13 5 |
| 15 | .. | 2 | 6 | 6 | 0 8 6 |
| 16 | 1 | 1¼ | 6 | 7 | 0 8 3 |
| 17 | .. | 1¼ | 6 | 6 | 0 6 8 |
| 18 | .. | 2 | 7 | 7 | 0 8 11 |
| 19 | 1 | 1½ | 6 | 6 | 0 8 6 |
| 20 | .. | 1½ | 6 | 6 | 0 7 0 |
| 21 | 1 | 1½ | 5 | 6 | 0 8 2 |
| 22 | .. | 1½ | 6 | 7 | 0 7 1 |
| 23 | .. | .. | 6 | 7 | 0 2 7 |
| 24 | 1½ | ½ | 5 | 6 | 0 5 11 |
| 25 | .. | ½ | 5 | 7 | 0 3 9 |
| 26 | .. | 1½ | 5 | 6 | 0 6 2 |
| 27 | 1¾ | 2 | 6 | 8 | 0 11 3 |
| 28 | .. | 4 | 8 | 8 | 0 15 4 |
| 29 | .. | 1½ | 6 | 7 | 0 7 1 |
| 30 | .. | 2 | 7 | 6 | 0 8 10 |
| 31 | 1 | 1½ | 6 | 5 | 0 8 5 |
| | 13¾ | 52 | 176 | 200 | £12 10 8 |

| 1862. | Butter. | Cream. | New Milk. | Skim Milk | |
|---|---|---|---|---|---|
| June. | lbs. | pints. | quarts. | quarts. | £ s. d. |
| 1 | .. | 1½ | 6 | 8 | 0 7 2 |
| 2 | .. | 2 | 7 | 6 | 0 8 10 |
| 3 | 1 | 1½ | 6 | 7 | 0 8 [illegible] |
| 4 | .. | 1 | 6 | 6 | 0 5 6 |
| 5 | .. | 1½ | 7 | 7 | 0 7 5 |
| 6 | 1 | 1 | 6 | 6 | 0 7 9 |
| 7 | .. | 1½ | 6 | 7 | 0 7 1 |
| 8 | .. | 1½ | 6 | 6 | 0 7 0 |
| 9 | .. | 1½ | 6 | 6 | 0 [illegible] 0 |
| 10 | 1 | 1½ | 6 | 6 | 0 8 6 |
| 11 | .. | 2½ | 8 | 12 | 0 11 2 |
| 12 | .. | 1 | 6 | 6 | 0 5 6 |
| 13 | .. | 1 | 6 | 6 | 0 5 6 |
| 14 | .. | 1½ | 6 | 8 | 0 [illegible] [illegible] |
| 15 | .. | 1½ | 6 | 6 | 0 [illegible] 0 |
| 16 | 1 | 1 | 6 | 7 | 0 [illegible] 1 |
| 17 | .. | 1½ | 7 | 7 | 0 7 5 |
| 18 | .. | 1½ | 6 | 6 | 0 [illegible] 0 |
| 19 | .. | 1 | 7 | 6 | 0 5 10 |
| 20 | .. | 1 | 6 | 6 | 0 5 6 |
| 21 | 1 | 1½ | 6 | 6 | 0 8 6 |
| 22 | .. | 1 | 7 | 7 | 0 5 11 |
| 23 | .. | 1½ | 6 | 6 | 0 7 0 |
| 24 | .. | 1 | 6 | 6 | 0 5 6 |
| 25 | .. | 1 | 6 | 8 | 0 5 8 |
| 26 | .. | 1½ | 6 | 7 | 0 7 1 |
| 27 | 1½ | 1 | 6 | 6 | 0 7 9 |
| 28 | .. | 1½ | 6 | 6 | 0 7 0 |
| 29 | .. | 1 | 7 | 8 | 0 6 0 |
| 30 | .. | 1½ | 6 | 8 | 0 7 2 |
| | 6½ | 40½ | 194 | 203 | £10 10 10 |

*Produce of Two Cows in Four Months—Continued.*

| 1862. | Butter. | Cream. | New Milk. | Skim Milk | £ | s. | d. |
|---|---|---|---|---|---|---|---|
| July | lbs. | pints. | quarts. | quarts. | | | |
| 1 | 1½ | 1 | 6 | 8 | 0 | 7 | 11 |
| 2 | .. | 1½ | 6 | 7 | 0 | 7 | 1 |
| 3 | .. | 1½ | 6 | 8 | 0 | 7 | 2 |
| 4 | .. | 1 | 6 | 8 | 0 | 5 | 8 |
| 5 | .. | 1½ | 7 | 8 | 0 | 7 | 3 |
| 6 | .. | 1 | 6 | 6 | 0 | 5 | 6 |
| 7 | 1½ | 1½ | 6 | 7 | 0 | 9 | 4 |
| 8 | .. | 1 | 6 | 8 | 0 | 5 | 8 |
| 9 | .. | 1½ | 6 | 8 | 0 | 7 | 2 |
| 10 | .. | 1 | 6 | 6 | 0 | 5 | 6 |
| 11 | 1 | 1½ | 6 | 8 | 0 | 8 | 8 |
| 12 | .. | 1 | 6 | 7 | 0 | 5 | 7 |
| 13 | .. | 1½ | 6 | 7 | 0 | 7 | 1 |
| 14 | .. | 1 | 6 | 8 | 0 | 5 | 8 |
| 15 | 1½ | 1 | 6 | 6 | 0 | 7 | 9 |
| 16 | .. | 1½ | 7 | 8 | 0 | 7 | 6 |
| 17 | .. | 1½ | 7 | 8 | 0 | 7 | 6 |
| 18 | .. | 1½ | 7 | 10 | 0 | 7 | 8 |
| 19 | .. | 1½ | 8 | 9 | 0 | 7 | 11 |
| 20 | .. | 1½ | 6 | 8 | 0 | 7 | 2 |
| 21 | .. | 1 | 7 | 8 | 0 | 6 | 0 |
| 22 | .. | 1½ | 8 | 6 | 0 | 7 | 8 |
| 23 | .. | 1½ | 8 | 7 | 0 | 7 | 9 |
| 24 | .. | 1½ | 6 | 8 | 0 | 7 | 2 |
| 25 | .. | 1½ | 7 | 9 | 0 | 7 | 8 |
| 26 | .. | 1 | 6 | 8 | 0 | 5 | 8 |
| 27 | .. | 1½ | 7 | 9 | 0 | 7 | 2 |
| 28 | .. | 1½ | 8 | 8 | 0 | 7 | 10 |
| 29 | .. | 1½ | 6 | 7 | 0 | 7 | 1 |
| 30 | .. | 1½ | 7 | 8 | 0 | 7 | 6 |
| 31 | .. | 1½ | 7 | 8 | 0 | 7 | 6 |
| | 5½ | 41½ | 203 | 239 | £10 | 11 | 9 |

[We gather from your account that your two cows have not yielded much more than 100 gallons of milk per month during the four best months in the year. It is a small yield.]

*Wages in Roxburghshire and the West of Berwickshire.*—In your "Home Correspondence" of 10th inst. under the above heading, your Correspondent "W." says:—"Since 1 bushel of Oats, of 46 lbs., makes two imperial stones of meal, I have set down 50 bushels as the cost to the farmer of the 100 stones of oatmeal." A bushel of such Oats, crop 1861, he values at 3*s*. 2*d*. 1. In a good year, 46 lbs. of Oats will yield 25½ lbs. of meal free of "multure" or millers' charge for grinding; and 100 stones of meal will require 55 bushels of 46 lbs. When weight and quality are deficient, the number of bushels must be greater. 2. "W." errs in taking the "fiars" or average price of good and bad throughout the county, Your 46 lb. Oats are produced only under the most favourable circumstances; and last year, at this dull period, they were sold at 3*s*. 8*d*. a bushel. I submit therefore, that the estimate of wages ought to be increased by 2*l*. 3*s*. 4*d*. in the item of Oats alone, as follows:—

| | |
|---|---|
| 50 Bushels at 6*d*. .. .. .. | £1 5*s*. 0*d*. |
| 5 Bushels at 3*s*. 8*d*. .. .. .. .. | 0 18 4 |
| *J. T.* | £2 3 4 |

## Societies.

WEST-LOTHIAN: *Potato Culture.*—At a late meeting of this Club Mr. Cadell, of Grange, read a paper on this subject, from which we make the following extracts:—

Prior to 1845 the cultivation of the Potato crop was considered simple. If the ground was well drained and free, and strongly manured with byre or stable manure, and properly seeded and cleared, a crop was counted upon as all but certain; but in that year a mysterious disease appeared, by which the crop was destroyed after nearly coming to maturity, and which has continued to affect it more or less every year since.

It is not my intention now to enter into the inquiry as to what kind of Potatoes have stood best, or how far their diseased state may be owing to erroneous treatment; suffice it to say, that the disease has generally been worst in wet and warm seasons, and has shown the greatest virulence on ground naturally damp, and where heavily manured; it appears also to have infested most the kind of Potatoes that flowered and bore seed, so that we now seldom see a field of them either in flower or bearing Potato-apples.

Chemistry of late years has been very much brought to bear upon agriculture, and has done a great deal in showing us what vegetables require for food, and in pointing to substances and combinations suitable for manures; but as yet chemistry has failed to detect the latent principles of disease, or to point to a thorough remedy; and, while many have despaired of finding a cure, I am inclined to think that, by practical experiment and accurate observation, we may not be long of finding out both the cause and the cure of the Potato disease, and may live to see it eradicated.

In regard to the diseases of the human kind, Professor Simpson, in his excellent little book, "Physicians and Physic," (p. 126):—"We have banished the plague which in former times often destroyed in London more lives than any other maladies counted together; we have rooted out and modified the ague, so that it is rarely a fatal affection now, while every year it destroyed thousands formerly; scurvy has almost disappeared from our mortality bills;" and others are much diminished and modified.

Now, these diseases of the genus Homo have, I believe, been remedied, or prevented, which is better, not by finding out the occult cause or principle of the disease, and applying the remedy which theory would suggest, but rather by observation of the natural causes tending to produce the disease, and learning by experience what remedies are most effective; and in like manner, by observation and experiment, coupled with what chemical and physical knowledge we may have, we may, I think, be led to find out a preventive or remedy for the Potato disease.

In the experiments I have made, I have used as much as possible simple and well-known manures, mostly single, although I believe it to be of very great advantage to mix different kinds of manures. I have used byre dung at the rate of about 20 tons per imperial acre as a standard, and in some of the experiments, along with the byre manure I applied certain substances in small quantities, with the intention of testing them as specifics against the disease, these being lime, common salt, and wood ashes.

The ground on which the experiments were made was a fine black, dry, gravelly soil which had been long used as a garden, and had been all trenched through the winter to the depth of 20 inches. Each trial consisted of three drills of 12 yards long and 2 feet apart, and the sets planted 14 inches separate, so that each trial occupied 24 superficial yards, or 1-200th of an imperial acre. The seed used was Regents, 10 lbs. to each plot.

I intended the different trials to have all the same advantages as to soil and exposure, so that they might all compare with each other, and give the comparative merits of the manures and specifics with distinctness; but not having ground enough at one place, and the latter part of them being on a piece of ground near a strip of trees by which they have been very prejudicialy affected, owing a good deal, I believe, to the cold wet season, and, therefore, in making comparisons, the first eleven must be taken by themselves, and the last thirteen by themselves.

EXPERIMENTS IN GARDEN AT GRANGE ON THE RAISING OF POTATOES, made with various Manures, partly to test certain specifics for the disease, and partly the effect of the manures in producing quantity. Planted on a dry, gravelly soil, which had been trenched; each plot being 3 drills of 12 yards long and 2 feet apart, the sets 14 inches separate, each plot occupying 24 superficial yards, or 1-200th part of an imperial acre. Planted between 15th and 25th March, 1862; lifted 15th to 17th September:—

| No. | Date of Planting. | Kind of Manure Used. | Weight. | Value. | Came Up. A 1st B 2nd C 3rd D 4th | Date when lifted. | Produce. Total. | Good. | Diseased. | Value of Manures per Imperial Acre. | Quantity of Potatoes Produced per Imperial Acre. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1862. | | Ct. lb. | D. | | | lb. | lb. | b. | £ s. d. | T. Ct. |
| 1 | Mar. 15 | Byre manure alone .. (=20 tons manure per acre) | 2 0 | 7½ | B | Sept. 15 | 101 | 87 | 14 | 6 5 0 | 9 9 |
| 2 | ,, | Do. { .. .. / with salt } .. do. .. | 2 0 / 0 1½ | 8 | B | ,, | 154½ | 154 | ½ | 6 13 4 | 13 16 |
| 3 | ,, | Do. { .. .. / with salt / and lime } .. do. .. | 2 0 / 0 1½ / 0 3 | 8½ | B | ,, | 179½ | 179 | ½ | 7 1 8 | 16 0 |
| 4 | ,, | Do. { .. .. / with lime } .. do. .. | 2 0 / 0 3 | 8 | B | ,, | 205½ | 205 | ½ | 6 13 4 | 18 7 |
| 5 | ,, | Do. { .. .. / Wood ashes } .. do. .. | 2 0 / 0 3 | 8½ | B | ,, | 206 | 205 | 1 | 7 1 8 | 18 8 |
| 6 | ,, | Do. { .. .. / Sea-ware } .. do. .. | 1 0 / 1 0 | 8 | A | ,, | 265 | 263 | 2 | 6 13 4 | 23 13 |
| 7 | ,, | Sea-ware alone .. .. .. do. .. | 2 0 | 8¼ | B | ,, | 180 | 161 | 19 | 7 1 8 | 16 1 |
| 8 | Mar. 17 | Guano, Peruvian .. .. .. (= 3 cwt. per acre) | 0 1¾ | 2½ | B | ,, | 183 | 175 | 8 | 2 1 8 | 16 7 |
| 9 | Mar. 25 | Do. Bolivian .. .. .. (= 5 cwt. per acre) | 0 2¾ | 2¾ | B | ,, | 206 | 195 | 11 | 2 5 10 | 18 8 |
| 10 | ,, | Bones, in dust .. .. .. do. do. | 0 2¾ | 2½ | A | ,, | 184 | 179 | 5 | 2 1 8 | 16 8 |
| 11 | ,, | Do., dissolved .. .. .. do. do. | 0 2¾ | 2½ | A | ,, | 200 | 195 | 5 | 2 1 8 | 17 17 |
| 12 | Mar. 17 | Blood manure .. .. .. (= 5 cwt. per acre) | 0 2¾ | 2½ | B | Sept. 16 | 138 | 119 | 19 | 2 1 8 | 16 6 |
| 13 | ,, | Soot and lime { Soot .. .. (= 5½ cwt. per acre) / Lime .. .. (= 5½ cwt. per acre) } | 0 3 / 0 3 | 1¾ | A | ,, | 124 | 99 | 25 | 1 9 2 | 11 1 |
| 14 | ,, | Stable dung .. .. .. (=10 tons per acre) | 1 0 | 3 | C | ,, | 75 | 56 | 19 | 2 10 0 | 6 14 |
| 15 | Mar. 18 | Peat from sea-shore, with Byre wash .. .. .. (=20 tons per acre) | 2 0 | 4 | A | ,, | 117 | 87 | 30 | 3 6 8 | 10 9 |
| 16 | ,, | Night-soil, near hedge .. .. (=10 tons per acre) | 1 0 | 6 | B | ,, | 88½ | 69 | 19 | 5 0 0 | 7 18 |
| 17 | ,, | Sea mud, not dried .. .. (=20 tons per acre) | 2 0 | 2 | D | ,, | 108 | 73 | 35 | 1 13 4 | 9 13 |
| 18 | ,, | Byre dung and rotten whin .. (=20 tons per acre) | 2 0 | 6 | C | Sept. 17 | 116 | 72 | 44 | 5 0 0 | 10 7 |
| 19 | ,, | Vegetable mould .. .. .. (=10 tons per acre) | 1 0 | 6 | B | ,, | 115 | 92 | 23 | 5 0 0 | 10 5 |
| 20 | ,, | Hughes' manure .. .. .. (= 5½ cwt. per acre) | 0 3 | 3 | C | ,, | 107 | 82 | 25 | 2 10 0 | 9 11 |
| 21 | Mar. 25 | Townsend's manure .. .. (= 5½ cwt. per acre) | 0 3 | 3 | C | ,, | 76 | 47 | 29 | 2 10 0 | 6 16 |
| 22 | ,, | Byre manure alone .. .. (=20 tons per acre) | 2 0 | 7½ | C | ,, | 71 | 35 | 36 | 6 5 0 | 6 7 |
| 23 | ,, | Do. nearer trees .. (=20 tons per acre) | 2 0 | 7½ | C | ,, | 67 | 39 | 28 | 6 5 0 | 6 0 |
| 24 | ,, | Do. still nearer .. (=20 tons per acre) | 2 0 | 7½ | C | ,, | 60 | 35 | 25 | 6 5 0 | 5 7 |

It may be observed that in the plot of ground done with byre manure alone, an ordinary mode of dunging (No. 1), the produce was 101 lbs., or 9 tons per imperial acre, being the smallest produce of the first eleven trials; while the plot (No. 6) with half byre dung and half sea-ware, produced the largest by 265 lbs., being the extraordinary quantity of 23 tons 13 cwt. per imperial acre; and, while of the former there were 14 lbs. diseased, there were only 2 lbs. of the latter. Singular it is that, while mixed with byre manure the sea-ware produced this wonderful crop, when used alone it produced only 180 lbs., and of this 19 lbs. were diseased. Next in effect comes Bolivian guano (No. 9), producing 206 lbs., but with 11 lbs. diseased, parallel with which and with less disease are (Nos. 4 and 5) the byre manure with lime and with wood-ashes, and after these dissolved bones (No. 11), producing 200 lbs., with only 5 lbs. diseased.

In the last-mentioned 13 plots, which were affected by the vicinity of trees—viz., a row of fruit trees on one side, and a strip of forest trees on the other—the average of the byre manure plots alone was one-third deficient of that on the other lot, while the disease was increased to nearly one-half; and it and stable dung are lowest, Nos. 12, 13, 15, 18. 19. 20, all artificial manures, being superior to the other in quantity, and mostly more free of disease. The injurious effect of the shading of the trees—for I could ascribe it to no other cause—was strongly marked, as the plots with the byre manure in this lot produced on the average only 65 lbs., in the other 101 lbs., while disease was increased from 14 per cent. up to about 40 per cent.

The substances which I used as specifics against the disease—being lime, salt, and wood ashes—are all simple and innocuous, and were applied along with the other manure in such small quantities that I scarcely contemplated their having any manurial effect, the lime being applied at the rate of 3 lbs. per plot, or 5 cwt. per acre, and the salt at the rate of 1½ lb. per plot, or 2½ cwt. per acre, and the wood ashes at the same rate as the lime. To my astonishment, the effect was that, while the crop in the cases of the lime and the wood ashes, as compared with the byre dung alone, was doubled, at the same time the disease was reduced from 14 per cent. down to one-fourth per cent. The effect of the salt used was just half the effect of the lime alone, and that of the mixture of lime and salt jointly was a medium produce between the salt and the lime; the effect in diminishing the disease was the same in both these plots.

These trials point to what may be done in increasing the produce of a crop by the proper mixtures and application of manures, and also what may be done to arrest disease in the crop. The effect of different manures and different specifics will vary under different circumstances and in different soils. Whether in any one case I have hit the best proportions of manures or specifics remains to be seen by farther and more extended trials.

## Farm Memoranda.

CHATTERIS, ISLE OF ELY, *Jan.* 22.—The winter is quickly passing away, and we are still without its usual accompaniments—frost and snow. To-day the temperature is high and the air mild and balmy, and one can scarcely resist the conviction that spring is here. We may, however, yet have some severe weather, and perhaps may sustain, in consequence, heavy losses. Cold springs are much to be dreaded in the Fens. A little seasonable frost just now would be advantageous, as it would enable us to move manure, and would pulverise the high lands and prepare them to receive the seed. It is very difficult to secure a good seed-bed for spring corn on high lands, unless they have been acted upon by frost after ploughing. We have had some strong gales of wind from the W. and N.W., and two days ago had a severe storm of rain, accompanied by vivid lightning.

The open weather has made field work very forward. The ploughs have never been interrupted, but have been kept daily at work. Much of our land designed for spring corn is ploughed, but a small portion requires a few days' frost to prepare it for ploughing. We have been much occupied during the last two months with deep ploughing. Early in November we began to plough by steam power. Our first effort was to use two ploughs from 12 to 14 inches deep, but we found our 10-horse engine was not equal to this. We then removed one body, and ploughed with the other from 15 to 18 inches deep, the subsoil being hard and gravelly. This we accomplished very satisfactorily. Our plough, made by Messrs. Howard, from a description we gave of our requirements, is fitted with a skim body, which runs immediately before the deep plough, removing the soil about 3 ins. in depth, and placing it in the bottom of the furrow; the deep plough following and covering it completely. We believe ours is the first plough Messrs. Howard have made of this description. Some slight alterations require to be made, but as a first effort it has succeeded admirably. We have ploughed 113 acres with it at a depth varying from 15 to 18 inches. In the short days of the last month, if we met with no special interruptions we were able to plough 3 acres per day, which is as much as 30 horses would do. We find 1 acre per day enough for horses; to plough this depth it will require 10, and they will find it hard work. We have also ploughed 20 acres nearly 18 inches deep with horses, doing 1 acre per day, and using 10 horses. The cost for manual labour per acre with steam power was about 4*s*. 3*d*., and with horses 5*s*. 8*d*. Besides this we have ploughed 7 acres 12 inches deep, with six horses doing 1 acre per day. Our total amount deep ploughed is 140 acres. We have 240 shearling sheep in the yards, eating Clover chaff and Mangels, with 1 pint of Peas each daily. We never saw sheep thrive better. The Mangels are of excellent quality, and not a sheep scours, although they have all they can eat. We have also 77 lambs in the yard, eating the same food with a half pint Peas, and 130 more eating Coleseed during the day, and chaff and a few Peas and Mangels in the yard at night; our losses are very slight, and sheep stock are all healthy.

The few bullocks we have, eat 1 bushel of Oats each per week, with cut chaff and 1 peck of pulped Mangels per day each. They thrive well. Instead of bruising the Oats, we put one pig to a bullock, and he finds all that passes through the stomach of the bullock unmasticated.

We have about 60 or 70 pigs eating cut Mangels and 1 pint Peas each daily. This is cheap feeding, and they grow and increase in weight very satisfactorily.

Our growing Wheats are exceedingly healthy and promising. Mild, open winters always suit our Fen lands, and if we get a moderately mild spring, we may hope for an abundant crop of Wheat. *A. S. R.*

## Miscellaneous.

*The Great French Henery.*—With care and good management no branch of domestic industry is more profitable than rearing poultry. Many persons have supposed that what is profitable on a small scale might be made still more so when carried on to a larger extent, but repeated experiments in this and other countries have proved this to be a mistake. The secret of the matter is, that hens cannot thrive and lay without a considerable quantity of animal food. Where but a limited number of fowls are kept about the farm-yard, the natural supply of insects is sufficient to meet this demand; and hence, when attempts have been made to extend the business beyond this source of supply, they have not prospered. It will be seen from the following interesting account, that M. de Sora, of France, has adopted a method that has proved completely successful, by affording an artificial supply of this essential portion of food. The French practical philosophers certainly know how to make the most of things. A Mons. de Sora has recently discovered the secret of making hens lay every day in the year by feeding them on horseflesh. The fact that hens do not lay eggs in winter as well as in summer is well known, and the simple reason appears to be that they do not get the supply of meat which they obtain in the warm season from worms and insects. M. de Sora was aware of all these facts, and living at the time upon an old dilapidated estate a few miles from Paris, the acres having been bequeathed to him a few years previously, he set himself earnestly at the task of constructing a henery, which should be productive twelve months in the year. He soon ascertained that a certain quantity of raw mince-meat, given regularly with other food, produced the desired result; and commencing with only some 300 female fowls, he found that they averaged, the first year, some 25 dozen eggs in the 365 days. The past season he has wintered thus far about 100,000 hens, and a fair proportion of male birds, with a close approximation to the same results. During the spring, summer, and autumn they have the range of the estate, but always under surveillance. In the winter their apartments are kept at an agreeable temperature; and although they have nice meat rations the year round, yet the quantity is much increased during the cold weather. They have free access to pure water, gravel, and sand, and their combs are always red. To supply this great consumption of meat, M. de Sora has availed himself of the superannuated and damaged horses which can can always be gathered from the stables of Paris and the suburbs. The useless horses are taken to an *abattoir* owned by M. de Sora himself, and there neatly and scientifically slaughtered. The blood is saved clean and unmixed with offal; it is sold for purposes of the arts at a remunerative price. The skin goes to the tanner; the head, hoofs, shanks, &c., to the gluemaker and Prussian-blue manufacturer; the large bones make a cheap substitute for ivory with the buttonmaker; while the remainder of the osseous structure is manufactured into ivory black, or used in the shape of bone dust for agricultural purposes. Even the marrow is preserved; and much of the fashionable and highly perfumed lip-salve and pomade was once enclosed in the leg-bones of old horses. Uses are also found for the entrails—and in fact no portion of the beast is wasted. The flesh is carefully dissected off the frame, of course, and being cut into suitable proportions, it is run through a series of revolving knives, the apparatus being similar to a sausage machine of immense size, and is delivered in the shape of a homogeneous mass of mincemeat, highly seasoned, into casks, which are instantly headed up, and conveyed per railroad, to the egg plantation of M. de Sora. The consumption of horses for this purpose by M. de Sora has been at the average rate of 22 per day for the last 12 months, and so perfectly economical and extensive are all his arrangements, that he is enabled to make a profit on the cost of the animals by the sale of the extraneous substances enumerated above—thus furnishing to himself the mincemeat for much less than nothing, delivered at his henery. It has been ascertained that a slight addition of salt and ground pepper to the mass is beneficial to the fowls; yet M. de Sora does not depend upon these conditions alone to prevent putrefacation, but has his store-rooms so contrived as to be kept at a temperature just removed from the freezing point through the year, so that the mincemeat never becomes sour or offensive; the fowls eat it with avidity; they are ever in good condition, and they lay an egg almost daily in all weathers and in all seasons. The sheds, offices, and other buildings are built around a quadrangle, enclosing about 20 acres, the general feeding ground. This latter is sub-divided by fences of open paling, so that only a limited number of fowls are allowed to herd together, and these are ranged into different apartments, according to their age, no bird being allowed to exceed the duration of four years of life. At the end of the fourth year they are placed in the fattening coops for about three weeks, fed entirely on crushed grain, and then sent alive to the city of Paris. As one item alone in this immense business, it may be mentioned that in the months of September, October, and November last, M. de Sora sent nearly 1000 dozen of capons to the metropolis. He never allows a hen to set! The breeding rooms are warmed by steam, and the heat is kept up with remarkable uniformity to that evolved by the female fowl during the process of incubation, which is known to mark higher on the thermometer than at any other period. A series of shelves, one above the other, form the nests, while blankets are spread over the eggs to exclnde any accidental light. The hatched chickens are removed to the nursery every morning, and fresh eggs laid in to supply the place of empty shells. A constant succession of chickens is thus ensured, and, moreover, the feathers are free from vermin. Indeed, a lousy fowl is unknown on the premises. M. de Sora permits the males and females to mingle freely at all seasons, and after a fair trial of all the various breeds, has cleared his establishment of every Shanghae, Cochin-China, or other outlandish fowl, breeding only from old fashioned barnyard chanticleers, and the feminines of the same species. He contends that the extra size of the body and eggs pertaining to these foreign breeds can only be produced and sustained by extra food, while for capon-raising the flesh is neither so delicate or juicy as that of the native breed. The manure produced in this French establishment is no small item, and since it forms the very best fertiliser for many descriptions of plants, it is eagerly sought for at very high prices by the market gardeners in the vicinity. He employs nearly 100 persons in different departments, three-fourths of whom, however, are females. The sale of eggs during the past winter has averaged about 40,000 dozen per week, at the rate of six-dozen for four francs, bringing the actual sales up to 250,000 dollars per annum. The expenses of M. de Sora's henery, including wages, interest, and a fair margin for repairs, &c., are in the neighbourhood of 75,000 dollars, leaving a balance in his favour of 175,000 dollars per year. *Bell's Messenger.*

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending Jan. 28, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | | | | | | | | | | Inches. | | |
| Thursday .. | 22 | 29.78 | 49 | 47 | S.W. | 3 | 6 | 50 | 40 | 58* | 37 | 0.04 | 41½ | 42 |
| Friday .. | 23 | 29.56 | 51 | 49 | S.W. | 5 | 8 | 53 | 47 | 67 | 45 | 0.01 | 43½ | 43 |
| Saturday .. | 24 | 29.70 | 44 | 41 | S.W. | 4 | 3 | 53 | 34 | 65 | 28 | 0.20 | 43½ | 43 |
| Sunday .... | 25 | 30.21 | 40 | 38 | W. | 2 | 2 | 50 | 37 | 69 | 32 | 0.18 | 42½ | 43 |
| Monday .... | 26 | 30.30 | 46 | 44 | S.W. | 3 | 7 | 51 | 39 | 77 | 36 | 0.01 | 43 | 43 |
| Tuesday .. | 27 | 30.17 | 44 | 40 | W. | 2 | 7 | 52 | 43 | 54 | 40 | 0.01 | 43½ | 43½ |
| Wednesday | 28 | 30.55 | 35 | 34 | W. | 1 | 2 | 47 | 29 | 79 | 24 | .. | 43 | 44 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

### Notices to Correspondents.

CART HORSES: *Corres.* You cannot have a better opportunity than is afforded by the sale at Sandwood Farm, Spaldington, near Howden, advertised elsewhere. Eighteen capital horses are to be sold, which we are assured are really an extraordinarily good team, uniting power and activity in a very unusual degree.

CO-OPERATIVE FARMS: *Correspondent.* The letter to which you refer was transferred from the *Times* to our columns; and an attempt was made, unsuccessfully, to obtain further information. You "again" call the attention of the Editor to the subject, but you do not say for what purpose; and we do not remember any former communication from you about it.

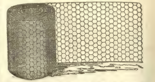
LIMEKILNS: *Calcareous.* We do not suppose that the neighbourhood of Limekilns will have an injurious effect on a field of Potatoes.

MANURE: *Agricola.* It seems to us that the agreement with the tenant ties the manure to the land; and that the purchaser buying the land with that understanding can insist on its being observed. If the tenant left half a year before his annual term was up, he did so we presume by a special agreement, in which this manure question was considered.

NEW WORK BY MR. BAILEY DENTON: *A very old Subscriber.* We are not aware of a new work on Drainage by that gentleman. He is publishing an excellent work illustrative of Farm Architecture entitled the "Homesteads of England." ,

BARNARD, BISHOP, AND BARNARDS, Norwich.

FURTHER REDUCTION in the PRICE of WIRE NETTING.—APRIL, 1861.



BARNARD, BISHOP, & BARNARDS beg to inform their friends and the public that they have made a further reduction in the prices of Machine made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard |
|---|---|---|---|
| 2-inch mesh, 24 inches wide.. | No. 19 | .. 4½d | .. 3½d. |
| 2-inch ,, ,, ,, .. | ,, 18 | .. 5 | .. 4 |
| 2-inch ,, ,, ,, .. | ,, 17 | .. 6½ | .. 5 |
| 2-inch ,, ,, ,, .. | ,, 16 | .. 8 | .. 6½ |
| 1⅝-inch ,, ,, ,, .. | ,, 19 | .. 4¾ | .. 4 |
| 1⅝-inch ,, ,, ,, .. | ,, 18 | .. 6 | .. 4¾ |
| 1⅝-inch ,, ,, ,, .. | ,, 17 | .. 7 | .. 5½ |
| 1⅝-inch ,, ,, ,, .. | ,, 16 | .. 9 | .. 7 |

All the above kinds can be made any width (under 6 feet), at proportionate prices.

Strong Galvanised Poultry Netting, 7½d. per yard, 3 feet wide, Galvanised Sparrow-proof Netting for Pheasantries, 11d. per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.

Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies.

Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10d. per yard.

The same with Galvanised Wire Rope, 1s. per yard.

Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.

*** Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations.

**Oil Paint no longer Necessary.**

HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.

Sold in casks of about 30 gallons each, at 1s. 6d. per gallon, at the Manufactory, or 1s. 8d. per gallon paid to any station in the kingdom.

Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

SAUSAGE and MINCING MACHINE.—The Guinea one of BURGESS & KEY'S is the best; it is simple, easily cleaned, and quicker in operation than any other.

BURGESS & KEY, Makers, 95, Newgate Street, E.C.

Illustrated particulars free on application.

F. C. CALVERT'S PHENYLINE (the active principle of coal-tar) is an unfailing remedy for Foot-rot, Distemper, Grease, Glanders, Scab, Mange, &c., and may be obtained of any of the following Agents:—

JOHN BELL & Co., 338, Oxford Street, London; A. PATTISON & Co., 67, Buchanan Street, Glasgow; CLAY & ABRAHAM, Liverpool; J. WOOLLEY, Manchester; HARVEY & REYNOLDS, Leeds; H. BRADEY, Newcastle-on-Tyne; J. REED, Arundel; C. CORTIS, Worthing.

TESTIMONIALS of CUPISS'S CONSTITUTION BALLS, for HORSES and NEAT CATTLE.

*From* J. HARRIES, Esq., *Llandovery.*

December 12, 1861.

Sir,—I have with much pleasure to recommend your Balls; they proved exceedingly efficacious to a pony of mine, far surpassing every other remedy that was tried—one packet performing a complete cure.—Yours respectfully,

Mr. F. CUPISS. JAMES HARRIES.

Nantmole, November 2, 1860.

Sir,—I have a Mare that was troubled very much with sore eyes; they were much swollen, and at last she could not see at all with one of them. I tried many things externally, but to no purpose. I then gave your Balls a trial, and in less than a week she was completely cured.—I remain, yours respectfully,

JOHN HOWELL.

*From* Mr. H. HUMPHREY, *Bulkeley Arms Inn, Menai Bridge, North Wales.*

"I have been in the habit of using your Constitution Balls for the last 16 years, and have invariably found them the best remedy for Cough, Influenza, and many other diseases to which the horse is liable. I have also tried them with young horses, and have found them exceedingly beneficial in getting them into condition. Those horses I have not given them to, although getting the same food, were quite the reverse."

*From* Mr. D. JAMES, *Cilshew, near Narberth, S. Wales.*

"Thanks for your early reply to my last note. I am happy to inform you that I have found (as you expected) the Horse is in very good condition, through the use of your Constitution Balls."

The Balls are prepared by FRANCIS CUPISS, Diss, Norfolk, Author of the Prize Essay on the Diseases of the Liver of the Horse. And may be had of all Patent Medicine Vendors in Packets of 3 Balls, 1s. 9d.; and 6 Balls, 3s. 6d.; or 7 small Packets for 10s. 6d.; or 7 large Packets for 21s. with full directions.

Persons using the Balls may consult the Proprietor gratuitously by enclosing a stamp in a prepaid letter.

## FOWLER'S
## STEAM PLOUGHING AND CULTIVATING PATENTS.

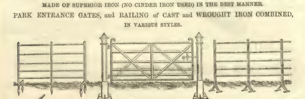
# RANSOMES & SIMS, ORWELL WORKS, IPSWICH,

Have the pleasure to announce that they have arranged with JNO. FOWLER for the use of the above PATENTS, and they will answer any inquiries respecting them, and execute any Orders promptly.

# COTTAM'S
## CONTINUOUS IRON FENCE, HURDLES, and FIELD GATES,

MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

PARK ENTRANCE GATES, and RAILING of CAST and WROUGHT IRON COMBINED, IN VARIOUS STYLES.

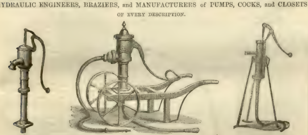


IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES, WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes. VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c. The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

Illustrated CATALOGUES and DRAWINGS free on application to
COTTAM & CO., ENGINEERS and IRON FOUNDERS,
2, WINSLEY STREET (OPPOSITE the PANTHEON), OXFORD STREET, LONDON, W.

# JOHN WARNER & SONS,
## BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.



No. 35. No. 36½. IMPROVED CAST-IRON LIFT AND FORCE PUMP. No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... ... £1 1 | 2½ inches ... ... 3 feet 3 inches high ... ... £1 10
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1½-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l*. 3*s*.) ... ... ... ... ... 3 0 0
3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l*. 15*s*.) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equa capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & SONS' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l*. 15*s*.; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s*. 5*d*. per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

PATENTEES and MANUFACTURERS,
JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

**Glass for Greenhouses.**

JAMES PHILLIPS AND CO. beg to submit their prices as follows:—

ENGLISH GLASS, 16 ounces to the foot, in Sheets averaging 40 by 30, packed in Cases containing about 280 feet, 2¼*d*. and 2½*d*. per foot.

SHEET GLASS, 16 ounces, packed in boxes of 100 feet each. Package included.

| Sizes | 3rds. | 4ths. |
|---|---|---|
| 12 by 9, 13 by 9, 14 by 9, 15 by 9; 12 ,, 10, 13 ,, 10, 14 ,, 10, 15 ,, 10 | 14*s*. 0*d*. | 12*s*. 6*d*. |
| 13 ,, 11, 14 ,, 11, 15 ,, 11, 16 ,, 11; 14 ,, 12, 15 ,, 12, 16 ,, 12, 17 ,, 12; 18 ,, 12, 19 ,, 12, 20 ,, 12, 16 ,, 13; 17 ,, 13, 18 ,, 13, 19 ,, 13, 20 ,, 13; 16 ,, 14, 17 ,, 14, 18 ,, 14, 20 ,, 14 | 16*s*. 0*d*. per 100 feet. | 13*s*. 6*d*. |

Various other sizes.

GLASS for ORCHARD HOUSES, As supplied by us to Mr. Rivers.

20 in. by 12 in. | 20 in. by 13 in. | 20 in. by 14 in. | 20 in. by 15 in.

| | 16 oz. | 21 oz. |
|---|---|---|
| Common .. .. .. | 13*s*. 6*d*. .. | £0 18 0 |
| Superior do. .. .. | 16 0 .. | 1 3 0 |
| English Glass .. .. | 18 0 .. | 1 9 0 |

The above prices include the Boxes.

SMALL SHEET SQUARES, IN 100 FEET BOXES.

6 by 4, 6½ by 4½, 7 by 5, 7½ by 5½; 8 ,, 6, 8½ ,, 6½, 9 ,, 7, 9½ ,, 7½ — 11*s*. 6*d*.
10 ,, 8, 10½ ,, 8½ — 12 6

Boxes 2*s*. each, returnable at full price.

SQUARES CUT TO SPECIAL SIZES.

16 oz. 4ths, 1¾*d*., 2*d*., and 2½*d*. 21 oz. 2¾*d*., 3*d*, and 3½*d*.
,, 3ds, 2*d*., 2½*d*., and 3*d*. ,, 3*d*., 3½*d*., and 4*d*.

London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

Milk Pans, Propagating Glasses, and every description of Glass for Horticultural purposes.

JAMES PHILLIPS & CO., 180, Bishopsgate Street Without, London, E.C.

**Glass.**

THOMAS MILLINGTON,
HORTICULTURAL WAREHOUSE,
87, Bishopsgate Street Without, London, E.C.
ESTABLISHED 1750.
NEW REDUCED TARIFF.
SMALL SHEET SQUARES.

Best. 2nds. 3rds. 4ths. — 20*s*. 16*s*. 12*s*. 6*d*. 11*s*. — Per 100 feet

| | | |
|---|---|---|
| 6 in. by 4 in. | 9½ in. by 7½ in. | 14 in. by 10 in. |
| 6½ ,, by 4½ ,, | 10 ,, by 8 ,, | 15 ,, by 10 ,, |
| 7 ,, by 5 ,, | 11 ,, by 9 ,, | 12 ,, by 11 ,, |
| 7½ ,, by 5½ ,, | 12 ,, by 9 ,, | 13 ,, by 11 ,, |
| 8 ,, by 6 ,, | 13 ,, by 9 ,, | 13½ ,, by 11½ ,, |
| 8½ ,, by 6½ ,, | 12 ,, by 10 ,, | |
| 9 ,, by 7 ,, | 13 ,, by 10 ,, | |

Best. 2nds. 3rds. 4ths. — 23*s*. 18*s*. 6*d*. 14*s*. 6*d*. 12*s*. 8*d*. — Per 100 feet

| | | |
|---|---|---|
| 15 in. by 11 in. | 16 in. by 12 in. | 24 in. by 14 in. |
| 16 ,, by 11 ,, | 17 ,, by 12 ,, | 22 ,, by 15 ,, |
| 17 ,, by 11 ,, | 18 ,, by 12 ,, | 24 ,, by 15 ,, |
| 18 ,, by 11 ,, | 22 ,, by 12 ,, | 20 ,, by 16 ,, |
| 13 ,, by 12 ,, | 17 ,, by 13 ,, | 20 ,, by 17 ,, |
| 14 ,, by 12 ,, | 23 ,, by 13 ,, | 20 ,, by 18 ,, |
| 15 ,, by 12 ,, | 22 ,, by 14 ,, | |

ORCHARD-HOUSE SIZES, as supplied to Mr. Rivers & others.

| | Best. | 2nds. | 3rds. | 4ths. | |
|---|---|---|---|---|---|
| 16 oz. | 22*s*. 0*d*. | 18*s*. | 15*s*. 0*d*. | 12*s*. 6*d*. | Per 100 feet |
| 21 oz. | 33 6 | 28 | 21 6 | 17 0 | |

20 in. by 12 in. | 20 in. by 13 in. | 20 in. by 14 in. | 20 in. by 15 in.

GLASS, cut according to size not on the List.
16 oz. 4ths. 1¾*d*. 2*d*. and 2¼*d*. per foot.
,, 3rds. 2¼*d*. 2½*d*. and 3*d*. ,,
21 oz. 4ths. 2¾*d*. 3*d*. and 3½*d*. ,,
,, 3rds. 3½*d*. 4*d*. and 4½*d*. ,,

Various thicknesses of Sheet Glass to the foot.

15 oz. 26 oz.
21 oz. 32 oz.

Paints, Colours, Brushes, &c., Linseed Oil, Boiled Oil, Turpentine
Genuine White Lead, 32*s*. p. cwt | Linseed Oil Putty, 8*s*. per cwt.
Anticorrosion Paint, 34*s*. ,, | Patent Dryers, 28*s*. to 42*s*. ,,
CRYSTAL GLASS SHADES. EBONY and GILT STANDS.
HARTLEY'S IMPROVED PATENT ROUGH PLATE.
*_* Not accountable for breakage.
SHEET LEAD, PIPE, &c., at the lowest wholesale prices.

AGRICULTURAL and HORTICULTURAL TOOLS.—Threshing Machines for Steam and Horse Power, Ploughs, Waggons, Carts, Turnip Cutters, Cake Breakers, Chaff Cutters, &c. Price List free. Illustrated Catalogues on receipt of six postage stamps.
BURGESS & KEY, 95, Newgate Street, E.C.
Works: Brentwood, Essex.

AMERICAN PORTABLE FIRE ANNIHILATOR and GARDEN ENGINE.

£2 2s.

An efficient means of Extinguishing Fires at their commencement. Nine out of ten Fires in London are put out on their first appearance by the London Fire Brigade with Hand Pumps of considerably less power.

One man will throw 7 or 8 gallons per minute from 40 to 50 feet with it.

It is an effective Garden Engine for cleansing or syringing Wall-fruit or Rose Trees, Plants, or Vines.

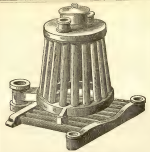
It may be used to draw water from the pail in which it is fixed, or from a tank or pond by the addition of the required length of suction. It is simple in its construction, having no suction or delivery valves to clog with dirt or leaves.

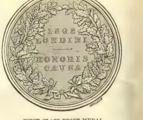
No Establishment, either private, commercial, or manufacturing, should be without one.

Six feet of Flexible Suction, with Union and Suction Rose, &c., extra, 12*s*. Longer lengths of Suction at 1*s*. 6*d*. per foot.

May be obtained of all Ironmongers and Seedsmen in Town and Country, or of the Manufacturers,
JOHN WARNER & SONS, 6, Crescent, Cripplegate, London, E.C.

FIRST CLASS PRIZE MEDAL
FOR ORMSON'S CONSERVATORY,
At the INTERNATIONAL EXHIBITION.






FIRST CLASS PRIZE MEDAL
FOR ORMSON'S PATENT JOINTLESS TUBULAR BOILER
At the INTERNATIONAL EXHIBITION.

# ORMSON'S

## PATENT JOINTLESS TUBULAR BOILER

HAS TAKEN MORE AWARDS THIS YEAR THAN ANY OTHER TUBULAR BOILER.

These Awards have been given by Scientific, Practical, and Competent Judges.

At the Exhibition of Boilers at the Royal Horticultural Society's Gardens, ORMSON'S PATENT JOINTLESS TUBULAR BOILER was the ONLY Boiler of any description to which an Award was given.

Other Tubular Boilers advertised in the pages of the *Gardeners' Chronicle* were exhibited to which NO Awards were given.

**HORTICULTURAL BUILDINGS of every description MANUFACTURED by STEAM-POWER MACHINERY.**

*Plans, Specifications, and Estimates on application.*

HENRY ORMSON,

HORTICULTURAL BUILDER TO HER MAJESTY, AND HOT-WATER APPARATUS MANUFACTURER TO THE COMMISSIONERS OF HER MAJESTY'S ROYAL PALACES, AND PUBLIC BUILDINGS, AND TO THE ROYAL HORTICULTURAL SOCIETY,

STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON, S.W.

# THE HYDROPULT,

**THE HYDROPULT**

IS INVALUABLE FOR

WATERING GARDENS,

EXTINGUISHING FIRE JUST COMMENCED,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

DRESSING with LIQUID MANURE,

SPRINKLING PLANTS,

WASHING WINDOWS,

WETTING SIDEWALKS,

SPRINKLING STREETS,

WASHING CARRIAGES,

WETTING SAILS,

A SPRAY BATH,

&c. &c.

Price
Two Guineas.

CAUTION.—Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will, in due time, be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.
"GRIFFITH & BROWETT,
Manufacturers, Birmingham;
"CHARLES P. BUTTON,
General Agent.
"VOSE'S Patent;"

and is sold at the uniform rate of Two Guineas, complete, with 2½ feet Suction and 3-feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet.

It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution.

The Hydropult WEIGHS BUT 8 LB.; will throw 7 or 8 Gallons of Water per minute 50 FEET when worked by the power of one man.

Has been recommended as an efficient FIRE ENGINE by the principal FIRE INSURANCE COMPANIES of GREAT BRITAIN. Thomas Rivers, Esq., the eminent Florist; Shirley Hibberd, Esq., and other well known gentlemen, recommend it as an invaluable GARDEN IMPLEMENT. J. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable Property in Bayswater from destruction. The City and Provincial Press accord to the invention the utmost praise. All who purchase the Hydropult are satisfied with its action; each Machine guaranteed to be perfect.

**A PORTABLE GARDEN ENGINE, AND FIRE ANNIHILATOR.**

*Prospectus, with Testimonials, on application at either Office.*

HYDROPULT OFFICE: 27, LEADENHALL STREET, LONDON, E.C.; and 309, REGENT STREET, POLYTECHNIC BUILDING, LONDON, W.—CHARLES P. BUTTON, PROPRIETOR.

**West of England, Ireland, and Wales.**

VINCENT SKINNER (*late Partner with* J. WEEKS & Co.), HORTICULTURAL BUILDER and HOT-WATER APPARATUS MANUFACTURER. HEATING on the ONE-BOILER SYSTEM. Plans and Estimates on application.

VINCENT SKINNER, Bridewell Street, Bristol.

**Exhibition Prize Medal, 1862.**

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.—This Stove is the nearest approach to Warming by Hot Water, and an efficient aid in Ventilation.

It will burn in Churches from Saturday till Sunday evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of Warming a large Apartment for 24 hours, at a cost of 3*d.*; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

It is also made for Small Conservatories, with a vapour chamber, which maintains a moist atmosphere for 12 hours with once filling.

Particulars and prices post free on application to MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

**Hothouses for the Million.**—AWARDED A PRIZE MEDAL AT THE INTERNATIONAL EXHIBITION, 1862.

HOTHOUSES for the MILLION.—On the principle invented and patented by Sir Joseph Paxton, M.P., combining simplicity, cheapness, excellence, and durability, being capable of fulfilling, in the most perfect manner, all the requirements of Horticulture.

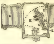
Illustrated Circulars, with Lists of Prices, can be had on prepaid application to SAMUEL HEREMAN, 7, Pall Mall East, London.

Also, A HANDBOOK on VINE and FRUIT TREE CULTIVATION, price 1*s.*; post free, 1*s.* 1*d.*

**Card.**

SAMUEL N. McGERROW, GENERAL HORTICULTURAL BUILDER, Knotty Ash, near Liverpool.

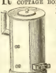
Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.



T. G. MESSENGER, HORTICULTURAL BUILDER and ENGINEER, Loughborough, has recently patented a VALVE which is unequalled for its efficiency, simplicity, durability, and cheapness. Prices as under. Two-inch, 17*s.* 6*d.*; 3-inch, 23*s.*; 4-inch, 28*s.* A liberal discount to the Trade.

These Valves can be obtained in London of Mr. J. JONES, 6, Bankside, S.E.

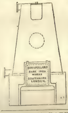
RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.



Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3*d.* per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3*l.* 10*s.*

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.




**New Method of Heating by Hot Water.**

THE IMPROVED

CONICAL BOILERS,

SOLELY MANUFACTURED BY

BURY AND POLLARD (Successors to JOHN R. PEILL, Late STEPHENSON & PEILL),

Have attained a celebrity far surpassing any other Boilers ever invented.

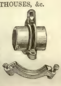
The annexed Sketch shows the improved arrangement, requiring NO BRICKWORK SETTING.

All particulars on application to BURY & POLLARD, Park Iron Works, New Park Street, Southwark, S.

## PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

# T. S. TRUSS



Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

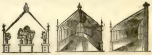
*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon



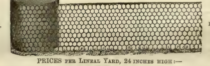
an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

## NEW IMPROVED PREMIUM WIRE NETTING.

GREAT IMPROVEMENT,



WITH REDUCED PRICE.

PRICES PER LINEAL YARD, 24 INCHES HIGH:—

| Size of Mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra Strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| $2\frac{1}{4}$ inch | Hares, Dogs, Poultry ............ | 3*d.* | 4*d.* | $3\frac{3}{4}$*d.* | 5*d.* | $4\frac{1}{2}$*d.* | 6*d.* | $5\frac{1}{2}$*d.* | 7*d.* |
| 2 inch | Game or Poultry Netting ...... | $3\frac{1}{2}$*d.* | $4\frac{1}{4}$*d.* | 4*d.* | 5*d.* | 5*d.* | $6\frac{1}{2}$*d.* | $6\frac{1}{2}$*d.* | 8*d.* |
| $1\frac{5}{8}$ inch | Small Rabbits, Hares, &c. ...... | 4*d.* | $4\frac{3}{4}$*d.* | $4\frac{3}{4}$*d.* | 6*d.* | $5\frac{1}{2}$*d.* | 7*d.* | 7*d.* | 9*d.* |
| $1\frac{1}{4}$ inch | Smallest Rabbits................ | 5*d.* | 6*d.* | $5\frac{3}{4}$*d.* | 7*d.* | 7*d.* | 9*d.* | 9*d.* | 11*d.* |

Quantities of 100 yards or upwards delivered free at nearly all the principal Railway Stations and Shipping Ports in England; and 200 yards or upwards delivered free to most parts of Scotland and Ireland.

*** *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged or may be returned unconditionally.*

J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.

JAMES WATTS AND CO., HOTHOUSE BUILDERS and HOTWATER APPARATUS MANUFACTURERS, near the Green Man, Old Kent Road, London, S.E.

200 CUCUMBER and MELON BOXES and LIGHTS, and from 400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.

Glazed and Painted complete, ready for immediate use. Packed and sent to all parts of the kingdom.

10 dozen strong Zinc HAND GLASSES, Glazed and Painted complete, ready for immediate use, 18, 20, and 22, all shifting tops.

References to the Nobility, Gentry, and Trade in most of the counties in England.

# GREEN'S

LATEST IMPROVEMENTS IN

## LAWN MOWING, ROLLING, and COLLECTING MACHINES,

FOR WHICH HER MAJESTY'S ROYAL LETTERS PATENT HAVE BEEN OBTAINED.

These Machines have carried off every Prize that has been given in all cases of competition, and have been awarded the PRIZE MEDAL at the INTERNATIONAL EXHIBITION of 1862.

**GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.**

For Illustrated Price Lists, with full particulars, address

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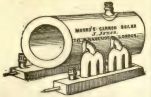


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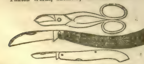

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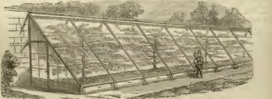

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MELONS.—The best varieties .. per pkt. 1 0

ONIONS.—The best varieties .. per oz. 6d. 0 8

PARSLEY.—Myatt's Garnishing, extra fine curled per oz. 0 3

PARSNIP.—Hollow crowned .. ,, 0 3

,, The Student .. per pkt. 6d. 1 0

SPINACH.—Winter or Summer .. per quart 0 8

TURNIP.—The best varieties .. per oz. 0 3

### Potatoes.

ASHLEAF KIDNEY .. per peck of 14 lb. 2 6

MYATT'S EARLY ASHLEAF .. ,, 2 6

DALMAHOY .. ,, 2 0

EARLY OXFORD .. ,, 2 6

YORKSHIRE REGENTS .. ,, 1 4

*** A reduction will be made on the above prices, when large quantities are taken.

### Complete Collections of Kitchen Garden Seeds.

For One Year's Supply, to suit Gardens of various sizes, at 10s. 6d., 20s., 40s., 68s., and 80s. each.

Comprising none but the most useful and approved sorts. Particulars and quantities will be found in CATALOGUE.

### Choice Flower Seeds in Collections.

*** The whole of the following are purchased of and received direct from the most celebrated cultivators, and may be relied upon as being the very finest qualities of their several kinds, and equal to the best samples supplied in previous years.

s. d.

ANTIRRHINUMS.—An assortment of 10 new and finest varieties .. 3 0

ASTER.—Cocardeau or Crown. An assortment of 4 vars. 1 0

,, Dwarf Chrysanthemum-flowered. An assortment of 12 varieties .. 2 6

,, Dwarf Pyramidal Bouquet. An assortment of 12 vars. 2 0

,, Truffaut's Pæony-flowered Perfection. An assortment of 12 varieties .. 2 0

,, New Large Flowering Dwarf Pæony. This beautiful novelty is offered for the first time. It is half the height of Truffaut's Aster. An assortment of 6 vars. 5 0

,, New Giant Emperor. An assortment of 10 varieties. 4 0

,, Double Quilled German. An assortment of 18 varieties 2 6

,, ,, ,, ,, ,, 12 ,, 1 6

,, Ranunculus-flowered. ,, 4 ,, 1 0

BALSAMS.—Double Camellia-flowered (Smith's). An assortment of 9 varieties .. 2 6

,, Double Rose-flowered. The same as the French Camellias or Andrieux. An assortment of 12 varieties .. 3 0

,, Camellia Rose-flowered. An assortment of 6 varieties 2 0

### Choice Flower Seeds in Collections.

s. d.

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CONVOLVULUS MAJOR.—An assortment of 10 varieties .. 1 6

HELICHRYSUMS.—An assortment of 8 varieties .. 2 0

HOLLYHOCKS.—An assortment of 12 varieties .. 2 6

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ORNAMENTAL GRASSES.—In 12 annual kinds .. 2 0

PELARGONIUMS.—An assortment of 12 distinct fancy varieties by name .. 6 0

,, Ditto 12 distinct spotted fancy varieties, by name .. 6 0

,, Ditto 12 large-flowered show varieties, by name .. 6 0

PHLOX DRUMMONDII.—An assortment of 12 varieties 2 6

POPPIES.—Double Pæony-flowered, ditto 8 varieties .. 1 0

PORTULACCAS.—An assortment of 8 varieties .. 1 6

SCABIOUS, SWEET.—An assortment of 6 varieties .. 1 0

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,, Brompton.—An assortment of 8 varieties .. 1 6

,, Cocardeau Biennial.—An assortment of 4 varieties .. 1 0

,, Emperor or Perpetual.—An assortment of 8 varieties 2 0

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,, Ditto, an assortment of 12 varieties .. 2 0

,, Ditto, new hybrid, foliage between rough and Wall-flower-leaved.—An assortment of 6 varieties .. 1 6

,, New Dwarf Bouquet.—An assortment of 4 varieties .. 1 0

SWEET PEAS.—An assortment of 8 varieties .. 1 0

THUNBERGIAS.—An assortment of 6 varieties .. 2 0

WALLFLOWERS (Double).—An assortment of 10 vars. 3 0

ZINNIA ELEGANS.—An assortment of 6 varieties .. 1 0

### Carnations and Picotees.

The following are saved from one of the finest collections in Europe, and are recommended with the greatest confidence. They are very robust in growth, and most profuse bloomers.

CARNATIONS.—An assortment of 12 superb varieties of Self, Flake, Bizarre, or Fancy .. 3 6

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PERPETUAL or TREE CARNATIONS.—An assortment of 12 superb varieties of Self, Flake, Bizarre, or Fancy .. 3 6

PICOTEES.—An assortment of 12 superb varieties. White ground .. 3 6

,, An assortment of 12 superb varieties. Yellow ground 3 6

,, ,, 12 ,, Perpetual or Tree 3 6

### Choice Flower Seeds, in packets.

B. S. W. has much pleasure in submitting the following List of NEW and CHOICE SEEDS, which are specially recommended for their beauty and superior qualities, many of which are offered for the first time.

Per pckt.—s. d.

ALYSSUM SAXATILE COMPACTUM .. 1 0

AMARANTHUS MELANCHOLICUS RUBER.—One of the most interesting plants for bedding purposes yet introduced .. 1s. 1 6

AMARANTHUS TRICOLOR SPLENDIDISSIMUS .. 0 4

AMARYLLIS.—Seed selected with great care from a very large and choice collection .. 2 6

AQUILEGIA VULGARIS CARYOPHYLLOIDES.—A very pretty and distinct variety of Columbine .. 0 6

ASTER VICTORIA.—The most elegant Aster in cultivation 1 6

,, NEWEST DWARF PYRAMIDAL.—These new Pyramidal Asters are nearly 1 foot high, azure blue .. 0 6

,, Ditto, azure blue and white .. 0 6

,, PÆONY-FLOWERED (extra Double).—This variety is entitled to strong recommendation, blooming at least a fortnight earlier than Truffaut's. It may be correctly described as the earliest of Asters. Snow white .. 1 0

,, Ditto, brilliant rose .. 1 0

,, WHITE CHRYSANTHEMUM-FLOWERING.—This beautiful dwarf variety of Aster is offered for the first time. Flowers pure white .. 1 0

BIDENS ATROSANGUINEA (Cosmos diversifolia) .. 1 0

BALSAM, CAMELLIA-FLOWERED, very choice, 6d. 1 0

,, ROSE-FLOWERED, very choice .. 6d. 1 0

CALCEOLARIA, HERBACEOUS.—Seed saved from carefully selected plants, and the finest formed flowers .. 1s. 6d. 2 6

CALLIOPSIS CARDAMINEFOLIA HYBRIDA ATROSANGUINEA .. 0 6

CELOSIA AUREA.—A very distinct and beautiful species .. 1 0

,, BEAUFLEUR.—A superb hybrid between C. pyramidalis and C. argentea .. 2 6

CELOSIA CRISTATA (Coccinea) .. 1 0

,, (Dwarf Cockscomb).—A very superior variety 1 0

,, SPICATA ROSEA .. 1 0

CINERARIA CRUENTA.—Seeds saved from a collection of prize flowers .. 1s. 6d. 2 6

CLIANTHUS DAMPIERII.—Well ripened seeds, saved in England .. 2 6

### Choice Flower Seeds, in packets.

s. d.

CLARKIA INTEGRIPETALA MARGINATA.—Figured in the "Floral Magazine" of November .. 1 0

,, INTEGRIPETALA ALBA .. 1 0

,, ,, NANA .. 1 0

,, PULCHELLA FLORE PLENO .. 1 0

,, ,, CARNEA .. 0 6

CYCLANTHERA EXPLODENS (ELASTICA).—A very interesting novelty, the fruit of which explodes .. 0 6

CONVOLVULUS CANTABRICUS STELLATUS NOVUS .. 0 6

DIANTHUS BARBATUS AURICULÆFLORUS.—An improved variety of Sweet William .. 0 6

,, CHINENSIS HEDDEWIGII FLORE PLENO .. 0 6

,, ,, ,, HYBRIDUS FLORE PLENO .. 1 0

,, ,, ,, IMPERIALIS HYBRIDUS ..

,, ,, LACINIATUS FLORE PLENO .. 0 6

,, ,, NANUS ATROSANGUINEUS .. 0 6

GLOXINIA TUBIFLORA.—The fragrance of this beautiful variety is most powerful and exquisite, a single plant being sufficient to perfume a whole greenhouse .. 2 6

GODETIA, THE BRIDE.—A charming addition to this beautiful tribe .. 1 0

HELIANTHUS ARGOPHYLLUS STRIATIFLORUS FLORE PLENO .. 1 0

,, MACROPHYLLUS GIGANTEUS.—This gigantic species reaches, with good manuring and frequent watering, the height of 19 feet, and sometimes even more. It produces one single flower, and reaches the enormous size of 13 inches (Prussian measure) 1 0

HOVEA CELSII .. 1 0

IPOMŒA CŒLESTINA GRANDIFLORA, a novel and exquisite variety .. 1 0

LOBELIA ALBA SANGUINEA.—A very pretty variety, with dark red flowers tipped with white .. 1 0

,, ERINUS SPECIOSA HYBRIDA.—Flowers dark blue, with large white centre. An improved variety and the best of the dwarf varieties for bedding purposes 0 6

,, ERINUS COMPACTA ALBA.—Flowers pure white 1 0

,, FULGENS MULTIFLORA.—Flowers deep scarlet.. 0 6

,, TRIGONICAULIS .. 0 6

LYCHNIS HAAGEANA .. 0 6

MAURANDYA ANTIRRHINIFLORA NOVA GRANDIFLORA.—A very pretty miniature variety, with violet coloured flowers .. 1 6

MEDICAGO LITTORALIS.—A fine bedding plant with silvery foliage, producing handsome yellow flowers 1 0

MIMULUS CUPREUS .. 1 6

NEMOPHILA DISCOIDALIS ELEGANS.—Figured in the "Floral Magazine," June, 1862 .. 1 0

,, ATOMARIA OCULATA .. 1 0

NICOTIANA SUAVEOLENS.—Flowers white and very fragrant .. 0 6

ŒNOTHERA CINNABARINA .. 0 6

,, LAMARCKIANA .. 0 6

,, MEXICANA ROSEA .. 1 0

PHACA BÆTICA .. 1 6

PHLOX DRUMMONDII PRINCESS ALEXANDRA.—Flowers a splendid scarlet, with black centre .. 2 6

,, ,, TWILIGHT.—Flowers rich violet with black centre .. 2 6

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PLANTAGO PURPUREA .. 0 6

PORTULACCA GRANDIFLORA FLORE PLENO (Double Portulacca Roses).—Mixed seed, consisting of the finest double varieties, of the most brilliant colours in scarlet, crimson, yellow-striped, &c.; will produce two-thirds double flowers, measuring from half to three-quarters of an inch in diameter. The raiser declares them to be one of the most brilliant and useful of acquisitions .. 2 6

PRIMULA (Red and White Fringed).—Very choice seed. Numerous letters have been received bearing testimony to its superior quality, and it has been proved that this seed will produce 90 per cent. of the finest fimbriated flowers .. 2s. 5 0

RHODANTHE MACULATA.—This beautiful variety received First-class Certificates at the Royal Horticultural and Royal Botanic Society's meetings 1s. 1 6

RICINUS VARIABILIS SPLENDENS .. 1 0

,, ROSEUS SUPERBUS .. 1 0

SAPONARIA CALABRICA MARGINATA .. 1 0

,, ,, ALBA .. 0 6

SENECIO ELEGANS FLORE PLENO (Magenta) .. 1 0

SOLANUM CAPSICASTRUM .. 0 6

,, PSEUDO CAPSICUM .. 0 6

,, PRINCESS BEATRICE.—Fruit the size of a Cherry, and of a beautiful light vermilion colour .. 2 6

,, TEXANUM, a distinct, novel, and handsome species 0 6

TAGETES SIGNATA PUMILA .. 0 6

TROPÆOLUM, CRYSTAL PALACE GEM .. 0 6

,, LOBBI GLORY .. 1 0

,, TOM THUMB, White .. 1 0

VINCA ROSEA, NOVA SPECIES .. 1 0

VIOLA TRICOLOR HYBRIDA.—Saved from a selection of the best named varieties of Garden Pansy .. 6d. 1 0

VISCARIA OCULATA HYBRIDA (SPLENDENS).—A splendid novelty, deserving extensive cultivation .. 1 0

ZINNIA ELEGANS FLORE PLENO.—Very choice .. 0 6

PARADISE NURSERY, SEVEN SISTERS and HORNSEY ROADS, HOLLOWAY;
VICTORIA NURSERY (NEAR THE ARCHWAY TAVERN), UPPER HOLLOWAY, LONDON, N.

Editorial Communications should be addressed to "The Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
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# THE GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 6.—1863.] SATURDAY, FEBRUARY 7. {Price Fivepence. Stamped Edition, 6d.


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ROYAL HORTICULTURAL SOCIETY.—The Annual Meeting of this Society for the Election of Council, Officers, Auditors, and Expenses Committee-men for the ensuing year will be held in the Council Room, at the Garden, South Kensington, on TUESDAY, February 10. The Chair to be taken at One o'clock, p.m., precisely.
Feb. 2, 1863. Andrew Murray, Assistant Secretary.

ROYAL HORTICULTURAL SOCIETY. Exhibitions of HYACINTHS and other SPRING FLOWERS, WEDNESDAY, February 25.
Fellows and Cards Free; Friends, 2s. 6d. each.

ROYAL BOTANIC SOCIETY of LONDON,
Regent's Park, N.W.
EXHIBITIONS of SPRING FLOWERS.
SATURDAY, March 28th, CAMELLIAS, PRIMROSES, &c.
" April 11th, AZALEAS, HYACINTHS, &c.
" April 25th, ROSES, PELARGONIUMS, &c.
The Band will play from half-past 2 to half-past 5. Visitors admitted by Tickets, to be had at the Gardens, by orders from Fellows and Members of the Society. Price 2s. 6d. each, or in packets of 10 for 1l. per packet.

CRYSTAL PALACE FLOWER SHOW.—The ANNUAL SHOW of FLOWERS and FRUIT will be held on SATURDAY, May 23.

FIFTH YEAR of the GRAND FLORAL FÊTE at YORK, WEDNESDAY and THURSDAY, June 10 & 11.
PRIZES, nearly Three Hundred and Fifty Pounds.
Schedules and Forms of Entry will be ready in a few days, and may be had on application to John Wilson, Secretary.
Committee Room, 13, New Street, York.

**Grape Vines.**

J. IVERY and SON beg to inform their Patrons that their stock of the above is unusually fine this season. A PRICED LIST now ready.
Dorking Nursery.

**Grape Vines.**

TO BE SOLD, Cheap, 1800 close-jointed vigorous Plants, with Canes 6 to 12 feet long, all struck from Eyes last spring.
Apply to the Gardener, at J. Lewis's Horticultural Works, Stamford Hill, Middlesex, N.

**High Beech, Essex.**

JAMES CRAWFORD begs to offer a very fine stock of GRAPE VINES, at low prices.

VINES, VINES.—Extra Strong Canes, for Fruiting in pots this season, price 8s. 6d. each, for Sale by
Jas. Garaway & Co., Durdham Down Nurseries, Bristol.

**Pine Plants.**

T. PAPE can supply PROVIDENCE RIPLEY QUEEN and MONTSERRAT PINE PLANTS, clean, all sizes.
T. Pape, Undercliffe Gardens, Bradford, Yorkshire.

**Pine Plants.**

TO BE DISPOSED OF, by a gentleman leaving for town and giving up his House, &c., about 100 good healthy PINE PLANTS, this and last year's growth.
Apply by letter to Mr. F. Stead, 23, Jarratt Street, Hull.

**Surplus Stock of Dwarf, Maiden, Royal George, and Noblesse Peaches.**

WM. WOOD and SON are desirous of offering the above on advantageous terms.
Address, Nurseries, Maresfield, Uckfield, Sussex.

WEBB'S PRIZE COB FILBERTS, and other COB NUTS as exhibited at the INTERNATIONAL FRUIT and FLOWER SHOW, Kensington. Trees of these splendid varieties of Filberts may be had by application to
Richard Webb, Calcot Gardens, Reading.

**Chinese Herbaceous Pæonies.**

JOHN SALTER begs to announce that he can furnish good Plants of all the best varieties of these noble flowers; this being the season for planting.
Versailles Nursery, William Street, Hammersmith Turnpike.

TO BE SOLD cheap, 100 PINUS EXCELSA (Himalaya Pine), 7 to 8 feet, with good balls. Would make a fine avenue.
R. Fennessy & Son, Waterford Nursery.

CHEAP GRASS SEEDS for HILL SIDES and RAILWAY BANKS.—Rough Grasses, Sainfoin Siftings, &c., suitable for the above purpose, at 2s. per bushel and 3d. per lb.
Address, Raynbird, Caldecott, & Bawtree, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

**Agricultural and Garden Seeds.**

CHARLES SHARPE and CO.,
Seed Growers, Seed Merchants, and Nurserymen,
Sleaford.
SPECIAL PRICED LIST of SEEDS of 1862 growth on application.

**Genuine Garden and Agricultural Seeds.**

JAMES CARTER and CO.,
Seed Farmers and Nurserymen,
237 and 238, High Holborn, London, W.C.

**Best Seeds, Carriage Free.**

BUTLER and McCULLOCH,
Seed Merchants,
Covent Garden Market, London, W.C.

BARR and SUGDEN,
Seed Merchants,
12, King Street, Covent Garden, W.C.

**New and Genuine Garden and Agricultural Seeds.**

Special Prices on Application to
JAMES FAIRHEAD and SON,
Seed Growers and Merchants,
7, Borough Market, London, S.E.

**Garden and Agricultural Seeds, Carriage Free.**

WILLIAM WOOD and SON,
Nurserymen and Seed Merchants,
Maresfield, near Uckfield, Sussex.

**Agricultural Seeds.**

GEORGE GIBBS and CO.,
Seedsmen,
26, Down Street, Piccadilly, London, W.

**Agricultural and Garden Seeds.**

H. and F. SHARPE,
Seed Growers and Merchants, Wisbeach.
Special PRICED LIST of NEW SEEDS on application.

ANDRÉ LEROY'S NURSERIES, at Angers, the largest and richest in France.
CATALOGUES sent on application.

**Choice Flower Seeds.**

B. S. WILLIAMS,
Paradise and Victoria Nurseries, Holloway, London, N.
A PRICED and DESCRIPTIVE CATALOGUE post free to all applicants.

**Choice Kitchen Garden Seeds.**

B. S. WILLIAMS,
Paradise and Victoria Nurseries, Holloway, London, N.
A PRICED and DESCRIPTIVE CATALOGUE, post free to all applicants.

CHOICE GLADIOLI.
A DESCRIPTIVE CATALOGUE on application.
B. S. Williams,
Paradise and Victoria Nurseries, Holloway, London, N.

DOUBLE ITALIAN TUBEROSES, 3s. per dozen.
Just arrived.
Butler & McCulloch, Seed Merchants, Covent Garden Market, London, W.C.

TROPÆOLUM LOBBIANUM ELEGANS (Crystal Palace Scarlet), Seed scarce.
Per packet, 1s. and 2s. 6d.
Butler & M'Culloch, Seed Merchants, Covent Garden Market.

GENISTAS (CYTISUS FRAGRANS), in 48's; and ERICAS, in small 60's. Price to the Trade on application.
S. W. Talbot, Waltham Abbey, N.

**New Garden Seeds of our own Growth.**

JAMES CARTER and CO. are now prepared to execute orders for the above, saved at their Seed Farms.
237, 238, & 261, High Holborn, W.C.

CARTER'S SELECT LIST of New and Choice VEGETABLE, FLOWER SEEDS and PLANTS is now published, gratis and post free.
237, 238, & 261, High Holborn, London, W.C.

**Seeds.**

CHARLES TURNER'S DESCRIPTIVE CATALOGUE, of the best Varieties only, is now ready. It also contains several Novelties.
The Royal Nurseries, Slough.

**Cheap and Genuine Vegetable Seeds.—See**

B. S. WILLIAMS'S Advertisement on last page of *Gardeners' Chronicle*, Jan. 31.
Paradise and Victoria Nurseries, Holloway, London, N.
*** PRICED and DESCRIPTIVE CATALOGUE post free on application.

**Choice Flower Seeds and Novelties.—See**

B. S. WILLIAMS'S Advertisement on last page of *Gardeners' Chronicle*, Jan. 31.
Paradise and Victoria Nurseries, Holloway, London, N.
*** PRICED and DESCRIPTIVE CATALOGUE post free on application.

**Plymouth Seed Company, Plymouth.**

THE GENERAL PRICE CURRENT and the SPRING FARM SEED LIST are now ready, and may be had gratis on application.
See General Advertisement Page.

GARDEN SEEDS and FLOWER SEEDS of the finest and most rare varieties, at the lowest prices at which they can be delivered, carriage free, are quoted in Wheeler's "Little Book" for 1863.
J. C. Wheeler & Son, Seed Growers, Gloucester.

**Good Seeds, Carriage Free, at Market Prices.**

SUTTON and SONS,
Seed Growers and Merchants,
Royal Berkshire Seed Establishment, Reading.

**Roses.**

WM. PAUL (Son and Successor to the late A. Paul) has still a fine stock of ROSES, NEW and OLD, Standards, Dwarf Standards, and Dwarfs.
Plants good and prices moderate.
Nurseries and Seed Warehouse, Waltham Cross, N.

**Rose Nurseries, Hertford.**

E. P. FRANCIS offers DWARF HYBRID PERPETUAL ROSES, strong and vigorous on Manetti Stock, at reduced prices, for LIST of which see *Gardeners' Chronicle*, January 24, 1863.

**Standard Roses.**

WILLIAM EPPS, Jun., can supply fine STANDARD ROSES, at 5l. per 100; 15s. per doz.
The Nurseries, Ashford, Kent.

**Roses, Gladiolus, Fruit Trees.**

R. M. STARK respectfully solicits an inspection of his Stock, especially of the articles noted above, which he offers at moderate prices. DESCRIPTIVE CATALOGUES on application.
Edgehill Nursery, Edinburgh—Feb. 7.

FOR SALE, a few Thousand first-rate MANETTI STOCKS. For price, apply W. C. Lay, London Road Nursery, Newbury, Berks.

POLYANTHUS SEED from the best Laced Florists' Flowers, in packets, sent free on receipt of 13 postage stamps.
James Woods, Florist, Harwich, Essex.

**Cheap and Select Hardy Nursery Stock.**

WM. JACKSON and CO., Bedale, Yorkshire, beg to refer to their advertisement of the above in the *Gardeners' Chronicle*, page 96, January 31.

SEEDS, SEEDS.—The above, pure from the Seed field, cheap and warranted. For cheap COLLECTIONS, see LIST, free on application.
Wm. Dillistone, Munro Nursery, Sible Hedingham, Essex.

RHODODENDRONS of all sorts and sizes may be obtained in any quantity of W. H. Rogers, Red Lodge Nursery, Southampton. Also every description of well grown Nursery Stock, extending over 60 acres.
PRICED CATALOGUES forwarded on application.

**Narrow-leaved English Elms.**

WOOD and INGRAM beg to offer to the Trade extra fine Seedlings of the above, at 5s. per 1000.
Huntingdon Nurseries.

**Purple Beech.**

THOMAS METHVEN, Nurseryman, Leith Walk, Edinburgh, is in want of the above, 7 to 9 feet high, and will be glad to hear from any one having such to offer.

SPRUCE FIR, TWICE TRANSPLANTED.
1 to $1\frac{1}{2}$ feet, 15s. per 1000. | $1\frac{1}{2}$ to 2 feet, 20s. per 1000.
Apply to James Garaway & Co., Durdham Down Nurseries, Bristol.

**Important to Nurserymen and Others.**

SURPLUS STOCK of 1 and 2 year SEEDLING FOREST TREES, &c. PRICED LIST on application to Michael Burke, Drumlargan Nurseries, Summerhill, Co. Meath, Ireland.

**To the Trade.**

WANTED, TRANSPLANTED LARCH, $1\frac{1}{2}$ to 2 feet. State quantity.
Messrs. Tremble, Penrith.

CUTHILL'S PRINCE ALBERT CUCUMBER; an Improvement on Highland Mary.
The best for present sowing. Per packet, 1s.
Butler & M'Culloch, Seed Merchants, Covent Garden Market.

NEW CELERY.—WILLIAMS'S MATCHLESS RED, a very superior variety, 2s. per packet.
B. S. Williams,
Paradise and Victoria Nurseries, Holloway, London, N.

**Potatoes for Planting.**

SUTTON'S DESCRIPTIVE LIST,
Post Free.
Sutton & Sons, Royal Berkshire Seed Establishment, Reading.

**To the Trade.**

MYATT'S PROLIFIC ASHLEAF KIDNEY POTATO.—The above excellent variety, sound and in good condition; also a few Seeds DALMAHOY POTATO, to be had of J. Myatt, Offenham, Evesham. Price List on application.

WEBB'S IMPERIAL KIDNEY POTATOES.—No Potato like it for quantity, quality, beauty and size, at 12s. per Bushel, on application to
Richard Webb, Calcot Gardens, Reading.

WHEELER'S GLOUCESTERSHIRE KIDNEY POTATO.—This is one of the earliest, the most productive, the best flavoured, and the most profitable Potato ever introduced.
For price and all particulars, see Wheeler's "Little Book."

SEED POTATOES.—Splendid Stocks of Martin's Early Globe, Early Oxford, Early Fox's Seedling, Early Round Frame, Early Dalmahoy, Myatt's Prolific, and Jackson's Ash-leaved Kidney, Forty-fold, Fluke Kidney, and Flour-ball varieties at low prices.
H. & F. Sharpe, Wisbeach.

**Hardy Scarlet and other Choice Rhododendrons.**

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

---

**New Verbenas.**

ROBERT REA, Nurseryman, &c., London Road, Ipswich, begs leave to announce that he intends sending out the following NEW VERBENAS after the 20th of April; they have been selected with great care from a large number of Seedlings. With their various colours, fine form, and good habit, he feels quite confident they will give satisfaction.

COMET.—Cerise scarlet, fine formed pip, large and compact truss, large white eye, good for either bedding or exhibition.

PRINCE ALFRED.—Fine plum purple with conspicuous large white eye, extra fine pip and truss, superb.

MAUVE QUEEN.—A fine dark mauve-coloured flower with large white eye, quite new in colour, highly recommended for either bedding or exhibition.

MULBERRY KING.—Bright mulberry crimson, large white eye, fine ball-shaped truss, an exceedingly rich and striking variety.

BLUE IMPERIAL.—Style of Leviathan, light blue with large white eye, extra fine and effective.

IPSWICH GEM.—A most beautiful fine-formed, rose-coloured flower, with conspicuous large white eye, pip and truss unequalled, a very free bloomer.

INTERNATIONAL.—Deep plum colour, extra large white eye, a superb variety.

FAIRY NYMPH.—Very delicate pink with lemon-coloured eye, surrounded with dark red, quite novel in colour; a fine variety.

SUNSET.—Rosy purple-shaded lake, large white eye, a fine formed flower, good for exhibition.

SCARLET GEM.—Fine scarlet, extra large white eye, round flat pip and good truss.

Price 3s. 6d. each; the set for 30s.; with the usual discount to the Trade.

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**Vegetable and Flower Seeds, Carriage Free.**

WM. PAUL (Son and Successor to the late A. Paul) respectfully announces that his SEED CATALOGUE is now ready, free by post.

The COLLECTION of VEGETABLES recently Commended by the Royal Horticultural Society was grown from Seeds furnished by him.

Nurseries and Seed Warehouse, Waltham Cross, N.

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**Seeds for the Kitchen Garden, Flower Garden, and Farm.**

JOHN CATTELL'S DESCRIPTIVE CATALOGUE of the above is now ready, and will be forwarded, post paid, on application; it contains select lists only, and includes every novelty worthy of cultivation.

All parcels of Seeds of the value of 21s. and upwards carriage paid to any Railway Station in England.

Nursery and Seed Establishment, Westerham, Kent.

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**New Sorts of Peas.**

THE ADVANCER, PRINCESS ROYAL, SMUGGLER, GILSON'S GLORY (2s. 6d. per quart), and other NEW PEAS, are included in SUTTON'S PRICED SEED LIST, just published, and which may be had, Gratis and Post free, on application addressed

Sutton & Sons, Seed Growers, Reading, Berks.

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**Cole's White Perfection Celery.**

WM. COLE has much pleasure in offering again to his numerous customers the above, which has proved itself to be the best White Celery in cultivation. In sealed ½ oz. packets, free by post, 1s. 6d. Price to the Trade upon application.

Nurseries, Withington, near Manchester.

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KIMBERLEY'S SUPERB SOLID RED CELERY. —This is without exception the best Celery in cultivation. Charles Kimberley has much pleasure in offering this superb Celery for the first time, although he has grown it for upwards of 20 years. Thousands of plants are annually sold in Coventry Market. The seed now offered is saved from bleached roots of 1862; ½ oz. packets free by post, 1s. 6d.

Stoke Nursery, near Coventry.

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**Stirling, Scotland.**

W. DRUMMOND and SONS' CATALOGUE of SELECT VEGETABLE and FLOWER SEEDS, POTATOES, GARDEN TOOLS, &c., for 1863, is now ready, and may be had on application.

The distinctive features of this Catalogue are such as have commended themselves alike to the Gardener and Amateur. Being simple in arrangement, and sufficiently descriptive, a selection from its columns is rendered easy and satisfactory. Moreover, we still adhere to the system introduced by us several years since, of discarding, in the various sections, all comparatively inferior varieties, as well as omitting what are mere repetitions of the same sorts under different names.

*** Seeds Carriage Paid, as formerly.

W. Drummond & Sons, Seed and Implement Warehouse, Stirling.

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**Seeds made Proof against the Attacks of Birds.**

SAMUEL WALTERS, Seed Grower and Merchant, Hilperton, Trowbridge, Wilts, begs respectfully to offer SEEDS prepared as above stated, in small or large collections. Some of the advantages of using seed so prepared are—a less quantity of seed will produce a greater number of plants; all contrivances to frighten away birds can be dispensed with; the anxiety to secure seeds from the attacks of birds will be no more felt by the use of new and good home-grown seed so prepared. Unusual success may be expected. A nominal charge only will be made for Proof Seed, or when a Collection of Garden Seeds of 20s. value and upwards be requested and supplied by S. W., no extra charge will be made. The Seed can be tested at once by putting it on side of other Seed not prepared—the birds will eat the latter, but not the former.

AMATEUR'S GUIDE in a comprehensive form will be sent with each Collection of Proof Seeds.

KITCHEN GARDEN, FLOWER, and FIELD SEEDS always on Sale.

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NEW CUCUMBERS, at 1s. per packet.

Recommended by the Fruit Committee of the Royal Horticultural Society. See GUIDE to the KITCHEN GARDEN.

Barr & Sugden, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

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CARTER'S CHAMPION CUCUMBER, recommended by the Royal Horticultural Society as being an excellent bearer. Fruit solid and firm, and the best of the Sion House class. 1s. per packet. A few ounces of our own saving to offer the Trade.

237, 238, & 261, High Holborn, London, W.C.

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**Seakale.**

GEORGE CLARKE begs to announce that he has SOLD OUT of FORCING SEAKALE, but can supply any quantity of healthy clean roots for planting. Prices will be forwarded on application.

Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, near the Victoria Railway Station, Pimlico, S.W.

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**To Seedsmen and Others.**

THOMAS AYRES, Seedsman and Grower, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz:—

WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP, „

SEED POTATOES of the following varieties:—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.

SCARLET RUNNER BEANS (English grown).

A PRICE LIST forwarded upon application.

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**To the Seed Trade.**

H. and F. SHARPE have a Surplus Stock of true—

| | |
|---|---|
| Early Long Pod Beans | Ne Plus Ultra Peas |
| Mackie's Monarch ditto | Laing's Imperial Swede Turnip |
| Broad Windsor ditto | Early Green Top Yellow ditto |
| Early Emperor Peas | Fine Red Surrey Carrot |
| Woodford's Green Marrow do. | Early Nonpareil Cabbage |
| Flack's Blue Imperial ditto | „ Emperor ditto |
| British Queen ditto | „ Enfield Market ditto |

which they can offer at a low figure.

Seed-growing Establishment, Wisbeach.

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**Cucumbers and Melons.**

EDWARD TILEY has this season a fine stock of true Seed of the above, well-ripened and in excellent condition, including, amongst others, the following well-known first-rate varieties, at 1s. per packet:—

| Cucumbers. | Melons. |
|---|---|
| Sir Colin Campbell | Garibaldi |
| Victory of Bath | M'Ewen's Scarlet and Green-flesh |
| Lord Kenyon's Favourite | Golden Drop Green-flesh |
| Captivation | Golden Perfection Green-flesh |
| Mills's Jewess | Green Gage |
| Conqueror of the West | Golden Ball |
| Incomparable | Pine Apple |
| Cuthill's Black Spine | Camerton Court Green-flesh |
| Champion of England | Blackall's Green-flesh |
| Stockwood Ridge | Bowood Green-flesh |
| Ayres' Prolific | Beechwood Green-flesh |
| Manchester Prize | Windsor Prize Green-flesh |
| Sutton's Champion | Hampton Court Green-flesh |
| Burges' Conqueror | Cuthill's Camberwell Beauty |
| Henderson's A 1 | General Havelock |
| General Canrobert | Monro's Green Gage |
| Gordon's White Spine | Monro's Crystal Palace Hero |
| Phenomenon | Scarlet King |
| Rifleman | Incomparable |
| Manchester Prize | Brombam Hall |
| Hunter's Prolific | Rouse's Incomparable |
| Syon House | Austen's Incomparable |
| Allen's Victory | Queen's Melon |
| Trollope's King | Bailey's Green-flesh |
| Ipswich Standard | Emperor |
| Tiley's Improved | Fleming's Trentham Hybrid |
| Hamilton's Black Spine | Duncan's Green-flesh |
| Dickson's Newton Hero | Egyptian Green-flesh |
| Kelway's Victory | Gordon Castle Green-flesh |
| Gen. Outram (2s. 6d. per pkt.) | |

Tiley's EMPEROR RED CELERY, the best in cultivation, testimonials to which effect are being received almost daily, price 1s. per packet.

Tiley's SOLID WHITE CELERY, 1s. per packet.

The true OLD BATH COS LETTUCE, 1s. per packet.

Tiley's EARLY MARROW CABBAGE, which has given universal satisfaction, 1s. per packet.

Edward Tiley, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

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IVERY'S NONSUCH LETTUCE, the best summer variety in cultivation. Per pkt., 1s.

The undernamed having procured their seed of W. I., are able to supply the preceding true. No more can be sold to the Trade.

| | |
|---|---|
| Burgess & Kent, Messrs., Stoke-upon-Trent | Hurst & Son, Messrs., Leadenhall Street, London |
| Brigden, Mr. T., King William Street, London | Harrison, Mr. C. H., Birmingham |
| Brown, Mr. J., Liverpool | Hewet, Mr. T., Birmingham |
| Burgess, Mr. C., Cheltenham | Hopwood, Mr. W., Cheltenham |
| Baskerville & Son, Messrs., Bristol | Hume & Cousens, Messrs., Gloucester |
| Butler, Mr. D., Bath | Harris, Mr. J., Bristol |
| Boshell, Mr. F., Borough, London | Ivery & Son, Messrs., Dorking |
| Clark, Mr. W., Bishopsgate Street, London | Johnson, Mr. J., Liverpool |
| Clark & Son, Messrs., King Street, Covent Garden | Paul, Mr. W., Waltham Cross |
| Chives, Mr. G., Chester | Perkins, Mr. E., Leamington |
| Cuthbert, Mr. J., Liverpool | Pope, Mr. H., Birmingham |
| Clark, Mr., Cheltenham | Potter, Mr., Farringdon Street, London |
| Charmes, Mr. T., Exeter | Skirving, Mr. W., Liverpool |
| Dickson & Son, Messrs., Chester | Sealy, Mr. J., Bristol |
| Dickson & Brown, Messrs., Manchester | Tomkins, Mr. J., Birmingham |
| Denyer, Mr. W., Gracechurch Street, London | Thompson, Mr. G., Chester |
| Flanagan & Son, Messrs., Mansion House Street, London | Thompson, Mr. T. B., Birmingham |
| Fisher, Holmes, & Co., Messrs., Sheffield | Whalley, Mr. T., Liverpool |
| Grey, Mr., West Derby, Liverpool | Watkinson, Mr. H., Manchester |
| Garaway & Co., Messrs., Bristol | Wood & Son, Messrs., Worcester |
| Haywood, Mr. J. S., Worcester | Wood & Son, Messrs., Maresfield |
| | Wrench & Son, Messrs., London Bridge |
| | Youell & Co., Messrs., Yarmouth |
| | Yates, Messrs. G. & W., Manchester |

N.B. W. I.'s DESCRIPTIVE CATALOGUE of SEEDS is now ready, all being of the choicest varieties, sent post free on application.

Hanover Nursery, Peckham, London, S.E.

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THE NEW PARSNIP "STUDENT."—SEED of this improved PARSNIP, "ennobled" by Professor Buckman, of the Royal Agricultural College, Cirencester, is now ready for delivery by Messrs. Sutton & Sons, Post free, in packets, 6d., 1s., or 2s. 6d. each. Also Wholesale to the Trade.

It can also be obtained from any of the Seedsmen named in the List which appeared in *Gardeners' Chronicle* of Jan. 31.

Royal Berks Seed Establishment, Reading.

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POTATOES.—Ashleaf and Myatt's Improved, 26s.; Dalmahoy and Shaw, 14s.; Regent and Blues, 12s. per 2 cwt. sack. Sacks, 1s. each. Flukes, fine sample Fortyfold, &c.

STRAWBERRIES.—Black Prince, 15s.; Admiral Dundas, British Queen, Elton Pine, Eleanor, Wizard of the North, 10s. per 1000, 2s. per 100. RASPBERRIES, &c.

Geo. Cornwell, Seedsman, &c., Barnet, Herts, N.

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**Change your Seed.**

Seed Potatoes and Swede Turnip Seed.

WM. JACKSON and CO., Seed Growers and Nursery and Seed Merchants, Bedale, Yorkshire, have the pleasure to inform Agriculturists that they have grown large quantities of the following articles, carefully selected for Seed:—

DALMAHOY, FLUKE, and PRINCE REGENT (a great cropper) POTATOES, Free from disease, and fine samples.

The best PURPLE TOP, the best GREEN TOP, and the best HARDY BRONZE TOP, SWEDE TURNIP SEED.

These kinds have never failed to produce excellent crops.

CATALOGUES with particulars and prices, which are very moderate, sent to any part of the kingdom on application.

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DAINTREE'S EARLIEST SEEDLING POTATO. —The earliest and most prolific round variety in cultivation, verified by reports in the various papers, and by private reports from all parts of the country, numbers of which will be forwarded on application. Present price, 8s. per Bushel, or 12l. per Ton; sacks 1s. 6d. each.—Apply to Mr. Simon A. Daintree, Fendrayton, St. Ives, Hunts.

☞ N.B.—Genuine Italian Rye-grass, and all the Agricultural Seeds of home growth, supplied as usual

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EXTRAORDINARY POTATOES.—A gentleman resident in the Country offers for SALE a few BUSHELS of SEED POTATOES of a new and most wonderful kind. For the table they are unsurpassed as to whiteness and delicacy of flavour, and their productiveness is almost incredible, even on indifferent soil; and further, the disease never attacks them.

For price, &c., address by letter to Z. Z., care of Editor, 162, Fleet Street, London, E.C. Early application is necessary.

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**Mona's Pride, New Early Kidney Potato.**
**Picea nobilis Cones.**

TOOLE and CO. have for SALE a limited supply of the above NEW EARLY KIDNEY POTATO, the finest ever yet introduced, being much earlier than the Ashleaf, larger, and more prolific.

Price 5s. 6d. per sealed bag of 14 lbs.

Also a few well ripened Cones, PICEA NOBILIS, at 21s. each.

41, Westmorland Street, Dublin.

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HOW'S EARLY FLUKE.—This new KIDNEY POTATO has been raised from the apple of the Fluke. In 1861, 1200 yards produced 132 bushels. In 1862, tested in alternate rows with other sorts, it was freest from disease, and by far the heaviest crop. It boils white, and is of first-rate quality. Its flavour when dug young is much extolled. Two First Prizes have been awarded to it at the last Redmarley Horticultural Shows held in July. For early market or the gentleman's table it is unsurpassed. Price 10s. per bushel of 56 lbs.

W. A. How, Redmarley, Newent, Gloucester.

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**Myatt's Early Prolific Ash-leaved Kidney Potatoes.**

H. and F. SHARPE are now taking orders for the above, which has this season proved itself to be the earliest and most prolific Potato in cultivation, and as fine in quality as any of the Early Kidney varieties. Having a good stock they can offer them at a low price to the Trade.

Also JACKSON'S ASH-LEAVED KIDNEY, WALNUT-LEAVED KIDNEY, and all the early Round varieties at equally low prices, which may be had on application.

Seed Growing Establishment, Wisbech.

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THE ROYAL ASH-LEAVED KIDNEY POTATO. —For a full description of this fine early sort, see advertisement in *Gardeners' Chronicle* for Jan. 31.

Price 5s. 6d. per Peck Bag of 14 lbs., sealed.

Sold in London by Messrs. Wrench & Sons, 39, King William Street, E.C.; and by Messrs. Thos. Rivers & Son, Nurseries, Sawbridgeworth, Herts.

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SEED POTATOES.—The Subscriber has now for SALE, grown by himself, EVERGREEN REGENTS, at 5l. per ton, and EARLY DALMAHOYS, at 6l. per ton, in bulk, put on the rail at Edinburgh, or free on board at Leith or Granton; if in bags 10s. per ton extra. Both varieties sound, grown after old pasture, and carefully selected for seed. The Dalmahoy is the best cropper, and the earliest of all the early field varieties.

Orders for quantities of not less than One Ton, will be executed on receipt of cash, or a satisfactory reference to respectable parties in Edinburgh or Leith.

Apply to John Gibson, Woolmet, Dalkeith, N.B.

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**Important to Agriculturists.**

A DISTINCT NEW POTATO.—The SKERRY BLUE, one of the most productive ever yet offered to the public. The Tops grow very strong, and require to be planted thin—it possesses a most delicious flavour.

The Subscriber intimates to those who were disappointed last season, that they should order early. He subjoins one or two opinions of its merit, which he has received from those who had a few from him last season.

"The Crescent, Castlebellingham, Nov. 4, 1862.

"Sir,—The 1½ cwt. of Skerry Blue Potatoes I had from you, has surprised me. I dug 32 cwt. of sound Potatoes; there was not a dozen of damaged ones in the lot. I did not plant these Potatoes for a month after my general crop. Had I planted earlier, I firmly believe the produce would have been larger. Since 1846, I have never seen Potatoes equal to the 'Skerry Blue,' grown by me, from the seed supplied by you.—Yours, &c., "Wm. Woolsey."

"Ballybrooney Ballina, Dec. 12, 1862.

"The produce of the 2 cwt. of Skerry Blues you sent me in April I have just now raised. I have about 2 tons of clean sound Potatoes; not half a dozen of tainted ones in the lot could I discover. They are admired by every one in this part of the country. "Yours most truly, Samuel Moore."

Prices by the cwt. or ton. Delivered in *Liverpool* or Glasgow, on application to

Andrew G. Daly, Nursery and Seedsman, Newry.

DOBSON'S PRIZE CALCEOLARIA SEED is unequalled in the kingdom. Annual Sale exceeds 3000 packets. In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each.

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE CINERARIA SEED.—Ten First Prizes awarded to our collection in the spring, 1862. In sealed packets, 1s., 2s. 6d., and 5s.

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE PRIMULA SINENSIS SEED. In sealed packets, 1s., 2s. 6d., and 5s.

J. DOBSON & SONS, Seedsmen, Isleworth.

**Notice.**

PURCHASERS of LARGE QUANTITIES of FARM or GARDEN SEEDS will be supplied liberally by SUTTON & SONS.

For prices apply (stating quantity required) to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

CHARLWOOD AND CUMMINS beg to announce that their CATALOGUE of GARDEN, AGRICULTURAL, and FLOWER SEEDS is now ready, and will be forwarded on application. They also now offer their

NEW NEMOPHILA DISCOIDALIS ELEGANS,

commended by the Royal Horticultural Society in their Proceedings; it is thus noticed:—

"The flowers of this variety (which is a very pretty one) are of a bright chocolate or light reddish maroon, conspicuously bordered with white. The colours are distinctly marked and very effective." It is commended as a very desirable Annual for general cultivation.

2s. 6d. per packet. Price to the Trade per ounce.

14, Tavistock Row, Covent Garden, London.

A TREE or SHRUB SEED LIST will be published shortly.

**Lobelia speciosa (True).**

THOMAS METHVEN begs to state that he can supply the above, and which he can warrant genuine, in packets at 1s., 2s. 6d., and 5s.

GENERAL SEED CATALOGUE free on application.

Seed Warehouse, Leith Walk, Edinburgh.

**10,000 Aucuba japonica.**

ALEXANDER LAING begs to offer the above, fine bushy Plants, twice Transplanted, 12 to 13 inches, at 20s. per 100 for cash.

Nurseries, Beverley, Yorkshire.—Feb. 7.

**Thorn Quicks.**

JNO. CARTER, NURSERYMAN, Keighley, has a large stock of the above, from 1 to 4 years' Transplanted, well rooted and very strong.

J. C will be glad to furnish samples and prices, and also CATALOGUE of GENERAL NURSERY STOCK.

**Large Trees for Parks, Hedgerows, &c.**

WILLIAM CROWDER, NURSERYMAN, Horncastle, has a quantity of SPANISH CHESNUT, 10 to 12 feet; LIMES, 8 to 10 feet; ELM, grafted, 8 to 10 feet, all strong well grown trees and well rooted, to offer cheap to Trade or gentlemen.

THE SUBSCRIBERS have on SALE 2, 3, and 4-year Seedling NORWAY SPRUCE; 3-year Seedling THORN QUICKS; Transplanted SPRUCE, 1 to 1½ feet; 3-year Transplanted THORN QUICKS, all at very low prices, which may be had on application.

FOWLER & SON, Glasgow—Feb. 7.

FOR SALE, 100,000 3-year Seedling SILVER FIR. —The above will be offered cheap, as the ground is wanted for other purposes; also 150,000 1-year Seedling LARCH. Samples and Prices sent on application.

Apply to DOWNIE, LAIRD, & LAING, 17, Frederick Street, Edinburgh; and Stanstead Park, Forest Hill, London.

WANTED IMMEDIATELY, 100,000 2 year SCOTCH FIR, good strong stuff.

On offer, a few ENGLISH OAK, 4 feet, and 1-year GORSE, very fine.

Apply to G. FROST, Bampton, Devon; late of Brushford.

COMMON LAURELS, in quantity, 3, 4, and 5 feet high, bushy and well rooted; about 300 HORSE CHESNUTS, 5 to 7 feet; 500 ENGLISH OAK, 4 to 5 feet, to be sold reasonable. Price on application to

D. S. THOMSON, Nurseryman, near Railway Station, Wimbledon, Surrey, S.W.

**Large Fan Yews.**

MESSRS. BROWN AND CO. have a quantity to dispose of, 4 to 6 and 8 to 10 feet high. All well-grown handsome specimens, fit for immediate screens, some pyramidal, well-branched, and good leader. State size and height required. Price sent by return of post.

American Nurseries, near Farnham, Surrey.

LARGE ORNAMENTAL TREES.—The Subscribers beg to offer very fine specimen plants of ARAUCARIA IMBRICATA, from 5 to 9 ft.; CEDRUS LIBANI, 7 to 12 ft.; WELLINGTONIA GIGANTEA, 5 to 9 ft.; PINUS EXCELSA, 7 to 10 ft.; also Spruce, Scotch, and Larch Firs, from 7 to 10 ft., with Limes, Birch, Beech, Elm, Sycamore, and Laburnum, 9 to 11 ft.; likewise Weeping Ash, Lime, and Willow, on fine tall stems. The above will be sold cheap, and if taken in quantity a great reduction will be made in the price,

J. IVERY & SON, Dorking Nursery.

**To the Trade.**

MARSH AND PERKINS, 42, Drapery, Northampton, have great pleasure in offering the following Surplus Stock, all being fine and well rooted:—

LINNÆUS and VICTORIA RHUBARB ROOTS, 20s. per 100.
Transplanted SCOTCH FIR, 1½ to 2 feet, 14s. per 1000.
Extra do. do. do. 2 to 3 feet, 20s. per 1000.
Do. do. do. do. 3½ to 4½ feet, for wood planting, 40s. per 1000.
Strong 2 years' transplanted WHITE THORN QUICKS, 9s. per 1000.
ASH, 1 year Seedling, 1s. per 1000.
OAKS, ENGLISH, 1 year's Seedling, 3s. 6d. per 1000.

Cash or reference required from unknown correspondents.

TRANSPLANTED FOREST TREES and EVERGREENS, &c.

| | |
|---|---|
| SPRUCE FIR, 1 foot, per 1000 | 10s. |
| " " 1 to 1½ foot, per 1000 | 15s. |
| " " 1½ to 2 feet, per 1000 | 25s. |
| OAKS, 3 feet to 4 feet! | 25s. |
| WEEPING ELM, 10 to 12 feet stems, fine heads, per doz. | 24s. |
| COMMON LAUREL, bushy, 2 feet, per 100 | 10s. |
| BERBERIS AQUIFOLIA, 1½ to 2 feet, per 100 | 10s. |
| TREE BOX, 2 feet, bushy, per 100 | 20s. |

ALEXANDER LAING has yet the above Surplus Stock to Dispose of, having grown upon ground that must be at once cleared.

Beverley Nurseries.—Feb. 7.

MESSRS. BROWN AND CO. offer the following Selection of CHOICE PLANTS, which they will forward to any part of the kingdom:—

| | s. | d. |
|---|---|---|
| 25 AZALEAS, new hardy Belgian varieties, one of a sort, on their own roots, by name | 20 | 0 |
| 25 AZALEAS, hardy American varieties, do. do. | 15 | 0 |
| 12 Hardy RHODODENDRONS, one of a sort, including Scarlet, White, and Rose colour | 12 | 0 |
| Hardy HEATHS, LEDUMS, and KALMIAS, per doz. | 6 | 0 |
| ROSES, best sorts, Standards and Half Standards, per dozen, 12s. to | 15 | 0 |
| CLIMBING ROSES, of best sorts .. per dozen | 6 | 0 |
| PILLAR ROSES, new sorts .. do. | 9 | 0 |
| DWARF ROSES for beds or forcing, including Bourbons, Teas, and Perpetuals, per dozen | 9 | 0 |
| Choice Hardy PINUS and other CONIFERÆ. Cheap. Price List by post. | | |
| Greenhouse AZALEAS, fine varieties, per doz., 18s. to | 15 | 0 |
| CAMELLIAS, best double varieties, per dozen | 28 | 0 |
| TREE CARNATIONS, winter flowering, per dozen | 12 | 0 |

CHOICE FRUIT TREES.

Fine Standard and Dwarf-trained Peaches, Nectarines, Apricots, Cherries, Apples, Plums, and Pears, 2s. 6d. each, or 24s. per dozen.

Dwarf Plants of all the above kinds, grown especially for pot culture in Orchard Houses, &c., 18s. per dozen.

Filberts, Gooseberries, Currants, and Raspberries, p. doz., 3s.

Evergreen Shrubs of all kinds cheap; fine large Fan Yews, price by post.

American Nurseries, near Farnham, Surrey.

E. G. HENDERSON AND SON'S NEW SEED CATALOGUE will be published this week. They beg to draw attention to the following among Novelties (rules for the guidance of amateurs are given for the sowing of seeds, and after management.)

AMARANTHUS MELANCHOLICUS RUBER, 1s.
SALVIA COCCINEA PUMILA, 1s.
RHODANTHE MACULATA, 1s.
PORTULACCA GRANDIFLORA FLORE PLENA, 2s. 6d.
TAGETES SIGNATA PUMILA, 1s.
VICIA GERARDI, 1s. 6d., 2s. 6d.
VINCA ALBA OCULATA LUTEA, 1s.
PRIMULA ERECTA SUPERBA, 2s. 6d.
IBERIS GRANDIFLORA ALBA, 6d. and 1s.
MIMULUS CUPREUS, 1s.
ANAGALLIS SANGUINEA, 6d.
AGERATUM MULTIFLORUM, 6d.
ABOBRA VIRIDIFLORA, 1s. and 2s. 6d.
VICTORIA ASTERS, 1s. and 2s. 6d.
DICTAMNUS GIGANTEA ANGUSTIFOLIA, 1s.
ZINNIA ELEGANS FLORE PLENA COCCINEA, 1s.
STEVIA OVATA, 6d.
NEMOPHILA DISCOIDALIS ELEGANS, 6d.
NEMOPHILA DISCOIDALIS VITTATA, 1s.

Also the following choice seeds:—

AQUILEGIA GLANDULOSA (true), best blue and white, 6d.
" SKINNERI (true), best scarlet, 6d.
LINUM FLAVUM, fine bedding plant, dwarf golden yellow, 1s.
PENTSTEMON MURRAYANUM (true species), vermilion scarlet flower tubes, 6d.
TRITOMA UVARIA, best variety, special rule for raising seed, 6d. and 1s.
SAPONARIA CALABRICA ALBA, fine white bedder, 4d.
LILIUM GIGANTEUM, 1s.; CALENDULA SUPERBA, 4d
VENIDIUM CALENDULACEUM, fine bedding plant, 3d.
LINUM CANDIDISSIMUM, pure white, 6d.
GYNERIUM ARGENTEUM (Pampas Grass), 1s.
SPERGULA PILIFERA (Grass Lawn substitute), 6d. and 1s.
LILIUM CORDIFOLIUM, similar in style of growth to L. giganteum, but dwarfer and of a darker tint in the young growth; the large, trumpet-shaped white flowers, with dark centre midribs, are also alike to the last-named species, but are produced by smaller bulbs, and on stems not rising more than from 3 to 4 feet in height. By its blooming much more readily than L. giganteum it will prove a very popular and useful Lily. 1s.

Special directions are given for the germination of this and L. giganteum.

Wellington Nursery, St. John's Wood, London, N.W.

SPECIAL OFFER to the TRADE.

| | Per doz.—s. | d. |
|---|---|---|
| ACHIMENES, MAUVE PERFECTION | 6 | 0 |
| " MINIATA | 6 | 0 |
| ACACIA LOPHANTHA | 9 | 0 |
| ADIANTUM CONCINNUM | 24 | 0 |
| AGATHŒA CŒLESTIS FOLIIS VARIEGATIS | 6 | 0 |
| ANÆCTOCHILUS ARGENTEUS | 42 | 0 |
| ANTIRRHINUMS, choice sorts. See page 53 of 1862 Catalogue | 9 | 0 |
| ATHYRIUM FILIX FŒMINA FRIZELLIÆ | 18 | 0 |
| BEGONIAS, choice sorts. See page 31 of 1862 Catalogue | 18 | 0 |
| CALCEOLARIA SPARKLER | 9 | 0 |
| " CANARIENSIS | 9 | 0 |
| CHRYSANTHEMUMS, good sorts | 6 | 0 |
| " New sorts of 1862 | 12 | 0 |
| COLEUS VERSCHAFFELTI | 6 | 0 |
| FUCHSIAS, New sorts of 1862. See page 61 of 1862 Catalogue | 18 | 0 |
| " TRUE BLUE | 6 | 0 |
| " KING of PURPLES | 6 | 0 |
| " COMET | 6 | 0 |
| GERANIUMS, FRENCH SPOTTED 18s., 30s., and | 42 | 0 |
| " SHOW 18s., 30s., and | 42 | 0 |
| " ZONALE 18s., 30s., and | 42 | 0 |
| " VARIEGATED, QUEEN of QUEENS | 30 | 0 |
| " LADY ROKEBY | 9 | 0 |
| " GEM of ROSES | 9 | 0 |
| " FIREBALL | 9 | 0 |
| GESNERA REFULGENS | 42 | 0 |
| " VELUTINA | 42 | 0 |
| GLOXINIAS, Seedlings, good flowering plants | 6 | 0 |
| " choice named. See page 31 of 1862 Catalogue | 18 | 0 |
| GOLD FERN, GYMNOGRAMMA CHRYSOPHYLLA | 12 | 0 |
| GYMNOGRAMMA LAUCHEANA, the best Golden Gymnogramma | 30 | 0 |
| KALOSANTHES. See page 35 of 1862 Catalogue | 21 | 0 |
| PAMPAS GRASS, GYNERIUM ARGENTEUM | 12 | 0 |
| PENTSTEMONS, choice sorts of 1861. See page 48 of 1862 Catalogue | 9 | 0 |
| " choice sorts of 1862. See page 46 of 1862 Catalogue | 18 | 0 |
| PHLOX ADMIRATION | 18 | 0 |
| " choice sorts. See page 56 of 1862 Catalogue | 12 | 0 |
| PTERIS ARGYRÆA, " CRETICA ALBO-LINEATA (variegated Ferns) | 12 | 0 |
| " RUBRO-NERVIA | 18 | 0 |
| VINES, ROYAL MUSCADINE; " MUSCAT MUSCADINE; " CHASSELAS MUSQUE; " GROVE-END SWEETWATER; " OLD SWEETWATER; " BARBAROSSA; " BLACK HAMBURGH; " BLACK PRINCE | 30 | 0 |

WILLIAM BULL, Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

**Excellence and Economy Combined.**

SUTTON'S UNEQUALLED COLLECTIONS of KITCHEN GARDEN and FLOWER, &c. SEEDS.

SUTTON'S COLLECTIONS of GARDEN SEEDS will be found the most economical, as well as the best in quality of seeds, as see List of Contents, which may be had gratis and post free.

Royal Berkshire Seed Establishment, Reading.

**Pine Apple Place, Edgware Road, London, W.**

ARTHUR HENDERSON AND CO. beg to announce that their CATALOGUE of KITCHEN, FARM, and FLOWER SEEDS, Imported German Asters, Stocks, and Collection of Vegetable Seeds, for One Year's Supply—

| | | | |
|---|---|---|---|
| Collection, No. 1 | 105s. | Collection, No. 3 | 42s. |
| " No. 2 | 84s. | " No. 4 | 25s. |
| Collection, No. 5 | 15s. | | |

is now ready, and will be forwarded free on application.

NOTE.—This Catalogue contains only the best varieties of Vegetables, and an abridged List of the most valuable Flower Seeds.

**Garden Seeds.**

COLLECTIONS of KITCHEN GARDEN SEEDS, consisting of all the choicest sorts, are offered as follows:—

| | £ | s. | d. |
|---|---|---|---|
| No. 1 contains 20 quarts Peas, and all other seeds in proportion | 3 | 0 | 0 |
| No. 2 ditto 10 quarts ditto ditto | 1 | 10 | 0 |
| No. 3 ditto 5 quarts ditto ditto | 0 | 15 | 0 |
| No. 4 ditto 5 pints ditto ditto | 0 | 10 | 6 |

CATALOGUES on application.

RICHARD SMITH, Seed Merchant, corner of High Street and Broad Street, Worcester.

WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

WHEELER'S IMPERIAL LETTUCE

The price of the Lettuce is 1s. per packet, post free.

J. C. WHEELER & SON beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. WHEELER & SON, Seed Growers, Gloucester.

**Vegetable and Flower Seeds.**

CARRIAGE FREE.

JAMES DICKSON AND SONS' ANNUAL DESCRIPTIVE PRICED CATALOGUE of the above is now ready, and may be had, post paid, on application.

The *Field* of February 8, 1862, in a notice of our last season's Catalogue, says:—"This old established firm have issued their neat and well arranged Catalogue for this season. It embraces all seeds really worth growing in both departments."

JAMES DICKSON & SONS, 102, Eastgate Street, Chester; and 23, Market Place, Manchester.

**New Seeds.**

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN, of Edinburgh and London, are prepared to send out

FARM and GARDEN SEEDS

of every kind, and of the finest quality.

Orders for exportation executed with prompt and careful attention.

28, King Street, Cheapside; and 15, Lawrence Lane, E.C.

**Genuine New Seeds, Carriage Free.**

FRANCIS & ARTHUR DICKSON AND SONS, 106, Eastgate Street, Chester.

New VEGETABLE and FLOWER SEEDS of every description, of the finest possible quality.

Their DESCRIPTIVE PRICED CATALOGUE, containing many valuable New and Select Vegetable and Flower Seeds, will be sent Post Free on application.

Collections for Gardens of all Sizes are on the most liberal scale. See Catalogue.

☞ Vegetable Seeds of £2 value Carriage Free. All Flower Seeds Free by Post.

**Vegetable, Flower, and Agricultural Seeds.**

NEW AND RARE PLANTS, &c.

ROBERT PARKER begs to announce that his NEW CATALOGUE, containing select descriptive and priced lists of AGRICULTURAL, KITCHEN GARDEN, Imported GERMAN, and other FLOWER SEEDS; NEW and RARE PLANTS; Variegated, Ornamental Foliaged, Miscellaneous, Stove, Greenhouse, and Hardy Plants, &c., is now published, and will be forwarded Post Free to all applicants.

Exotic Nursery, Tooting, Surrey, S.

GLADIOLUS, SEEDLINGS of GANDAVENSIS

| | | | |
|---|---|---|---|
| 50 in 25 extra choice varieties .. .. | £2 | 2s. | 0d. |
| 25 in 25 ,, ,, .. .. | 1 | 5 | 0 |
| 12 in 12 ,, ,, .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 ,, ,, .. .. .. | 1 | 5 | 6 |
| 25 in 25 ,, ,, .. .. .. | 0 | 13 | 6 |
| 12 in 12 ,, ,, .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2s. 6d. per doz., 17s. 6d. per 100.
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The Flower of the Season.

DOBSON'S Splendid NEW PELARGONIUM, QUEEN of WHITES, acknowledged by the whole of the Floricultural Press to be the very best white flower raised. Strong Plants now ready, 31s. 6d. each. Figured in the February Number of the "Floral Magazine."
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A PRICED and DESCRIPTIVE CATALOGUE of all the new and leading kinds of Show, Spotted, French, Fancy, Scarlet, and Variegated Pelargoniums, Fuchsias, Verbenas, Petunias, Dahlias, Chrysanthemums, Bedding Plants, &c., is now ready in exchange for one postage stamp.
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B. MALLER begs respectfully to state that his DESCRIPTIVE SEED CATALOGUE can now be had free on application.
Best Reigate SILVER SAND, 16s. per ton, delivered free within four miles, or to London Bridge Railway or Wharf. Less quantities, 1s. 6d. per bushel, for cash.
Nursery and Seed Establishment, Lewisham, Kent, S.E.

Spring Blooming Plants.

CAMELLIAS, including the best new varieties, fine plants, set with bloom buds, from 30s. per doz.; extra size, from 60s.
HEATHS, EPACRIS, CINERARIAS, and JASMINUM GRANDIFLORUM (grafted), remarkably fine plants, at moderate prices.
Also HUMEA ELEGANS, extra strong, in 6-inch pots, 18s. per doz.
James Dickson & Sons, Newton Nurseries, Chester.

Grass Seeds for all Soils.

SUTTON and SONS have one of the largest stocks in Europe of the PERMANENT NATURAL GRASS SEEDS, which they mix expressly to suit the soil for which they are required.
Price 30s. per acre (carriage free). A copy of Mr. Martin Sutton's "Essay on Pastures" is sent with each lot of Grass Seeds.
Royal Berks Seed Establishment, Reading.

Good Clover Seed.

GENUINE NEW CLOVER SEED may be obtained of the undersigned. Prices (according to market and quantity required) will be forwarded on application.
Sutton & Sons, Seed Growers, Reading, Berks.

GENUINE CLOVER and GRASS SEEDS.—Samples and prices Post free on application.
☞ Orders amounting to 10s. and upwards sent carriage free.
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SEED CORN from the CHALK.—All the most approved varieties supplied by Raynbird, Caldecott, & Bawtree. Samples and prices on application.
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"The best Spring Wheat known. Drill in February and March, six pecks per acre."
Produced (1862) 62 bushels per acre, weighing 64 lbs. a bush.
Price One Guinea a Bushel, including bag sewed up and sealed, delivered at the Brighton Railway Station, with Printed Directions for Planting, on Receipt of Cheque or Post-office Order, which must in all cases accompany the Order. Less than One Bushel will not be supplied. Name of Station and Railway should accompany the Order.
Apply to Frederic F. Hallett, Esq., F.L.S., The Manor House, Brighton, Sussex.

EDWIN HOLLAMBY begs to inform his Patrons and Friends that his DESCRIPTIVE PRICED CATALOGUE of VEGETABLE, FLOWER, AGRICULTURAL SEEDS, and GLADIOLUS is now ready, and may be had gratis and post paid on application.
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WEBB'S GIANT POLYANTHUS; ditto COWSLIP; Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to
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KITCHEN GARDEN SEEDS,

FLOWER SEEDS.

In Collections including all the new and approved kinds, or separate to order.

Detail CATALOGUES post free.

Royal Agricultural Society of England. Thos. Gibbs & Co. Corner of HALF-MOON St. PICCADILLY, London. Appointed Ap. 3 1844. The Seedsmen.

AGRICULTURAL SEEDS,

GRASS SEEDS,

FARM SEEDS,

of all descriptions.

Thomas Gibbs & Co.

CORNER OF HALF-MOON St. Piccadilly, London, W.

## GARDEN SEEDS.

# S. GLENDINNING & SONS,

## NURSERYMEN AND SEEDSMEN

(SUCCESSORS TO THE LATE R. GLENDINNING),

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. 1 contains | 36 Quarts of PEAS, and all other Seeds in proportion | | | | | £5 | 5 | 0 |
| No. 2 ,, | 28 Quarts | ditto | ditto | ditto | | 4 | 4 | 0 |
| No. 3 ,, | 20 Quarts | ditto | ditto | ditto | | 3 | 3 | 0 |
| No. 4 ,, | 12 Quarts | ditto | ditto | ditto | | 2 | 2 | 0 |
| No. 5 ,, | 6 Quarts | ditto | ditto | ditto | | 1 | 1 | 0 |

COLLECTIONS of FLOWER SEEDS.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. 1, containing | 100 | Large Packets of Best Hardy Annuals ... | | ... | £0 | 18 | 0 |
| No. 2, ,, | 50 | ditto | ditto | ditto ... | 0 | 9 | 6 |
| No. 3, ,, | 24 | ditto | ditto | ditto ... | 0 | 5 | 0 |
| No. 4, ,, | 25 | ditto | Half-Hardy Annuals ... | ... | 0 | 7 | 6 |
| No. 5, ,, | 12 | ditto | ditto | ditto ... | 0 | 4 | 0 |
| No. 6, ,, | 25 | ditto | Tender Annuals | ... | 0 | 12 | 6 |
| No. 7, ,, | 12 | ditto | ditto | ditto ... | 0 | 6 | 0 |

The above Collections consist only of best and most useful varieties, and are of the finest quality.

S. G. & Sons' CATALOGUE of KITCHEN GARDEN, AGRICULTURAL, and FLOWER SEEDS, is now ready, and may be had on application.

CHISWICK NURSERY, LONDON, W.

## GENUINE SEEDS FOR THE FARM AT LOW PRICES.

# THE PLYMOUTH SEED COMPANY, PLYMOUTH,

Have a large and pure Stock of all kinds of GRASS SEEDS for PERMANENT PASTURES, Mixtures of which can be had expressly to suit any soil. The quantity recommended per Acre is 2 bushels of the Light Grass Seeds, and 12 lb. of Clovers.

| | |
|---|---|
| **Mixtures for Permanent Pasture** ... ... ... ... ... ... ... ... | per acre, 22s. to 30s. |
| **Mixtures for Permanent Lawns** ... ... ... ... ... ... ... ... | per bushel, 16s.; per lb. 1s. |
| **Mixtures for Uplands and Sheepwalks** ... ... ... ... ... ... ... | per acre, 22s. to 30s. |
| **Mixtures for Water Meadows** ... ... ... ... ... ... ... ... | per acre 24s. |
| **Mixtures for Cemeteries, Churchyards, &c.** ... ... ... ... ... ... | per bushel, 16s.; per lb. 1s. |

| RYE GRASS. per bush.— | s. | d. |
|---|---|---|
| Italian Imported ... | 6 | 0 |
| Italian, English saved | 6 | 0 |
| Perennial, in varieties 4s. to | 7 | 0 |

| CLOVERS. Per lb.— | | s. | d. |
|---|---|---|---|
| English Red | 6d. to | 0 | 9 |
| Foreign Red | 6d. to | 0 | 8 |
| White or Dutch | 9d. to | 1 | 0 |
| Trefoil ... | 4d. to | 0 | 6 |
| Alsike ... ... | | 1 | 6 |

| MANGEL WURZEL. Per lb.— | s. | d. |
|---|---|---|
| Fisher Hobbs, true | 1 | 6 |
| Long Red ... ... | 0 | 6 |
| Yellow Globe ... | 0 | 6 |
| Red Globe ... ... | 0 | 6 |
| Long Yellow ... | 0 | 6 |

| SWEDES. Per lb.— | s. | d. |
|---|---|---|
| Plymouth Improved Purple-top ... | 1 | 0 |
| Skirving's ... ... | 0 | 9 |
| Purple-top ... ... | 0 | 9 |
| Green-top ... ... | 0 | 9 |

| OTHER TURNIPS. Per lb.— | s. | d. |
|---|---|---|
| Scotch in Vars. ... | 0 | 9 |
| White Globe ... | 0 | 8 |
| Green Globe ... | 0 | 8 |
| Red ... ... ... | 0 | 8 |
| Grey Stone ... ... | 1 | 0 |
| Orange Jelly ... | 0 | 10 |
| Tankards ... ... | 0 | 9 |

| CARROTS. Per lb.— | s. | d. |
|---|---|---|
| White Belgian ... | 1 | 0 |
| Yellow do. ... | 1 | 3 |
| Altringham ... | 1 | 6 |
| Long Surrey ... | 1 | 3 |

And all other AGRICULTURAL SEEDS at Moderate Prices.

THE FARM SEED LIST IS NOW READY, AND CAN BE HAD GRATIS ON APPLICATION.

**Complete Collections of Garden Seeds, 10s. 6d., 15s., 20s., 40s., 60s. For particulars see General Price Current.**
*Seeds Carriage Free.*

ADDRESS, PLYMOUTH SEED COMPANY, PLYMOUTH, DEVON.

**Muscat of Escholata Grape.**

WM. PAUL (Son and Successor to the late A. PAUL) has a fine stock of this Vine, Fruiting Canes and others. Price 7s. 6d. to 15s. each. Most of the other popular sorts, 3s. 6d. to 7s. 6d. each.
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PINE PLANTS.—A gentleman who is declining Pine Growing, has about 60 clean FRUITING and SUCCESSIONS; consisting of Queens, Envilles, Black Jamaicas, Smooth-leaved Cayenne, &c.
Apply in the first instance to Mr. J. F. GODWIN, Seedsman, 3, Norfolk Market Hall, Sheffield.

**Wanted Immediately.**

WM. WOOD AND SON are in want of Dwarf-Trained PEACHES, NECTARINES, and APRICOTS, also MORELLO CHERRIES. Really good plants and well trained.
Address, WM. WOOD & SON, Maresfield, near Uckfield, Sussex.

NEW PRIZE MELONS, at 1s. 6d. per packet.
Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria.
For descriptions see GUIDE to the KITCHEN GARDEN.
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NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1s. per packet.
JAMES CARTER & Co., 237, 238, & 261, High Holborn, W.C.

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B. S. WILLIAMS begs to intimate that he has a fine and healthy stock of the above from Eyes, including all the best varieties for Fruiting in Pots and Planting Out. Prices on application.
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THE GREAT VINE at HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.
Strong well-ripened plants in 9-inch pots, 42s. and 60s. p. doz.
" " fruiting plants in 12-inch pots, 10s. 6d. each.
If purchased in large numbers a considerable reduction will be made in price.
JACKSON & SON, Nurseries, Kingston, S.W

**Vines.**

GEORGE CLARKE, having an enormous stock of stout, short-jointed, well-ripened, Fruiting VINES, is induced to offer them at prices considerably lower than those usually charged for such plants. He offers them at 7s. 6d. each. They embrace all the well-known leading varieties, and will produce a good crop of fruit in the ensuing season. Smaller plants, equally well ripened, 3s. 6d. to 5s. each.
Nursery, Streatham Place, Brixton Hill, London, S.; and 4, Windsor Terrace, near the Victoria Railway Station, Pimlico, S.W.

EXTRA STRONG FRUITING VINES.—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7s. 6d. each; smaller, for Planting-out, from 3s. 6d. each. A reduction in price will be made to large purchasers.
"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.
JAMES DICKSON & SONS, The Newton Nurseries, Chester.

**To Noblemen, Gentlemen, Gardeners, &c.**

LEWIS SOLOMON, of Covent Garden Market, W.C., FRUITERER, PURVEYOR to HER MAJESTY and the ROYAL FAMILY, having large orders for New Fruits, such as GRAPES, STRAWBERRIES, PEACHES, NECTARINES, &c., during the first three weeks in MARCH next, will be glad to PURCHASE such produce at remunerative prices; or, if preferred, make exchanges for them.
Applications to be made as early as possible to LEWIS SOLOMON, Grape Vine, Covent Garden Market, W.C.

EXTRA FINE DWARF-TRAINED PEARS.—The Undersigned have a remarkably fine stock of the above to dispose of on reasonable terms.
Address, WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent, Belgium, has the pleasure to offer now for the first time his two new excellent Fruits—
APPLE CALVILLE GARIBALDI .. 8s.
PEAR BÉURRÉ DE GHELIN .. .. 5s.
This excellent Pear obtained the First Prize at the great Pomological Show at Tournay, Belgium.
N.B. These two new Fruits are figured in VERSCHAFFELT'S "Illustration Horticole."

APPLE and PEAR TREES, &c.—100 doz. Dwarf and Pyramidal PEAR TREES, best sorts, 20s. per doz., packing included.
50 doz. Dwarf and Pyramidal APPLE TREES, best sorts, 12s. per doz., packing included.
GENERAL LISTS of NURSERY STOCK on application.
CHARLES B. SAUNDERS, Nurseryman, &c., Jersey.

J. SCOTT'S DESCRIPTIVE FRUIT CATALOGUE, describing the Culture and Character of nearly 800 sorts, price 7d. Also his CATALOGUES of CHOICE and GENUINE SEEDS, mostly his own saving; and his CATALOGUES of NURSERY STOCK, ROSES, and CONIFEROUS PLANTS, free on application to
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RICHARD SMITH has no hesitation in saying, that he possesses by far the largest Stock of FRUIT TREES in the kingdom, consisting of Apples, Pears, Plums, Cherries, Peaches, Nectarines, and Apricots, in Maiden Trees, Dwarfs, Bushes, Pyramids, Half-Standards, and Standards; Dwarf-trained, Half-Standard, Standard, and Horizontally-trained Trees, of the finest sorts, and in the best possible condition. DESCRIPTIVE PRICED LISTS on application.
RICHARD SMITH, Nurseryman, Worcester.

WELLINGTONIA GIGANTEA.—The attention of the Nobility, Gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12s.; per 100 or 1000 on application. A Sample free by post for 12 stamps.
J. HENCHMAN, Edmonton, London.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.
RICHARD SMITH, Nurseryman, Worcester.

**Wholesale Catalogue.**

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE for 1862 and SPRING 1863, comprising Fruit Trees of all the leading kinds, new and selected Roses, fine varieties of American Plants, Choice and Rare Conifers, Evergreen and Deciduous Trees and Shrubs, and a fine Stock of Transplanted Forest Trees, &c., can be had free on application.
Woking Nursery, Surrey.

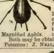
DWARF-TRAINED FRUIT TREES. Good trees moderate price.
PEARS.—Passe Colmar, Marie Louise, Williams's Bon Chrétien, Van Mons Leon le Clerc, Knight's Monarch, Ne plus Meuris, Easter Beurré, Duchesse d'Angoulême, Beurré d'Aremberg, Glou Morceau, Catillac, Crassane, Beurré Clairgeau, Beurré Magnifica, Prince Albert, Jules Bivort, Comte de Paris, Duchesse d'Orleans, Prevost, Alexandre Lambre, Zepherin Louis, Eliza d'Heyst, Cassane de Mars, Laura de Glymes, Josephine de Malines, Beurré Berckmanns, Beurré Superfin, Autumn Bergamot, Gansel's Bergamot, Beurré de Capiaumont, Jargonelle, Hacon's Incomparable, Beurré Bosc, Chaumontel, Louise Bonne of Jersey, Nelis d'Hiver, Beurré Diel, Leopold I., Bergamot d'Esperon, Comte de Flandres.
PLUMS.—New Early Orleans, Old Orleans, Red Magnum Bonum, Denyer's Victoria, Diamond, Goliah, Cooper's Large Red, Prince of Wales, Woolston's Black Gage, Angelina Burdett, Cloth of Gold, Autumn Compote, White Magnum Bonum, Reine Claude Violet, Washington, Ickworth's Imperatrice, Jefferson's Standard of England.
APPLES.—Hawthornden, Court Pendu Plat, Wellington Pippin, Cox's Orange Pippin, Lord Suffield, Reddlestone Pippin, Stamford Pippin, Yellow Ingestre, Keswick Codlin, Court of Wick, King of Pippins, Blenheim Orange, Cockle Pippin, Kerry Pippin, Nonpareil Russet, Scarlet Pearmain, Kirke's Golden Reinette, Hanwell Souring, Cellini Pippin, Mannington's Pearmain, Northern Spy, Reinette Van Mons, &c.
GEORGE JACKMAN & SON have the pleasure of offering the above named trees; all are well trained, and will be sold per dozen or hundred at moderate prices; the ground being required for other purposes, they are desirous of clearing the above stock this spring.
Woking Nursery, Surrey.—Feb. 7.

**Hendon Park Nursery.**

LONICERA AUREO RETICULATA (Japan).—The finest variegated Creeper ever offered, being variegated bright green, gold, and crimson veins. Price on application.
NEW BEDDING PANSY, BOY IN BLUE, is now in full bloom, and will continue till Christmas most effective. From 6s. per doz.
Also all the best Show Varieties. Selection left to E. S. from 6s. per doz.
EDWARD SHENTON.

REIGATE SILVER SAND.—Best quality, 8s. per ton; PEAT SOIL and LOAM, 6s. per ton; good BUILDING SAND, 3s. per ton; REIGATE BUILDING STONE, best quality, 8s. per yard, in not less than 4 ton lots, put on the Rail at Reigate.
W. SHORT, Reigate Heath, Surrey.

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., so much admired in the International Exhibition, delivered in the City at 1s. 6d., or within 2½ miles of Charing Cross, at 2s. per bag of 3 bushels. Ten bags or more on lower terms. Apply to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.
Also for particulars of SHORT FIBRE for Orchids and Drainage in pots.
Stamps or Post-office Orders payable to J. BARSHAM & Co.
BARSHAM'S BRUSHES and MATS are the best and most economical of any, and are sold in every town in the kingdom; at DEANE'S, London Bridge; and E. WHITE & SON'S, 95, Cannon Street.
CAUTION.—Every Brush is stamped "J. BARSHAM'S Patent."


Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP,
1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.
Both may be obtained of all principal Seedsmen.
Patentee: J. NEAL, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.
This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.
Sold Retail by Nurserymen and Seedsmen in boxes, 1s., 3s., and 10s. 6d. each.
Wholesale by
PRICE'S PATENT CANDLE Co. Limited.

HORTICULTURAL IMPLEMENTS and GARDEN TOOLS of every description, for the amateur or practical gardener, and of warranted quality.—DEANE & Co.'s ILLUSTRATED PRICED LIST of the above gratis on application, or post free, includes Lawn Mowing Machines, Garden Engines, Boyd's Patent Self-adjusting and Vulcan Scythes, Garden Rollers (from 30s.), Flower-Stands, Garden Seats, &c. Galvanised Game Netting from 6d. per yard. Ornamental Wire Work made to order, Garden Arches, Flower Baskets, &c. Lingham's Permanent Labels. Saynor's celebrated Pruning Knives.
DEANE & Co. (opening to the Monument), London Bridge, E.C. Established A.D. 1700.

**Notice.**

MR. A. CHANDLER (of the late Firm of CHANDLER & SONS), HORTICULTURAL VALUER, begs to inform his friends and the public that he has REMOVED from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

**Landscape and Ornamental Gardening.**

MR. J. W. CHAPMAN undertakes the Laying-out and Alteration of Gardens and Pleasure Grounds, Forming and Thinning Plantations, and the general Improvement of Estates.
Plans and Drawings for all these purposes are furnished.
Hermitage Road, Richmond, Surrey, S.W.

J. T. WILLMER, HORTICULTURAL AGENT, AUCTIONEER and VALUER, Springfield Nursery, Sunbury, Middlesex, S.W.

TO GRAPE-GROWERS.—A large, sound VINERY, consisting of 26 Lights, 9 feet by 4, and 13 rafters, Plates, and one Gable end. Price 15l.
To be seen at Ivy Cottage, Wurtemburg Street, Clapham, S.

TO BE SOLD for a third of the cost, a CAST IRON PAN for Forcing, 32 feet by 3; also 150 feet of 2-inch, complete.
Apply to ROBERT STEVENS, 5, Gloucester Terrace, Beckenham, Kent, S.E.

SHAW'S TIFFANY,
For samples and prices apply to
J. SHAW & Co., 29, Oxford Street, Manchester.

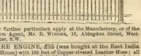
ARCHANGEL MATS, for protecting Fruit Trees, Plants, Shrubs, &c., from Frost. A large quantity, fresh imported, are now on Sale at low prices per hundred, delivered free at any of the Metropolitan Railway Stations. Also Ropes, Lines, Twines, Sacks, and Bags of every description. Tanned Garden Netting. A Price List forwarded upon application to,
JOHN MORISON, 25, Norton Folgate, N.E.

NEW TWINE GARDEN NETS, 2 yards wide, 4d. per yard; ½-inch Mesh do., 8d. per yard, 2 yards wide; REPAIRED TANNED NETS, 2 yards wide, 1½d. per yard; RABBIT NETS, 2 yards wide, fixed on cords, 1l. 18s. per 100 yards; WIRE NETTING, 2 feet wide, galvanised, 2-inch Mesh, 4d. per yard.
W. CULLINGFORD, 1, Edmund Terrace, Ball's Pond Road, Islington, N.

TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½d.; 2 yards, 3d.; 3 yards, 4½d.; and 4 yards, 6d. per yard run, in any quantity, may be had at CHAS. WRIGHT'S, 376, Strand, W.C.
VARNISHED FLOWER STICKS:—1 foot, 3d.; 1½, 4d.; 2, 5d.; 2½, 7d.; 3, 10d.; 4, 1s. 6d. per dozen. DAHLIA do., per dozen:—3 feet, 1s. 6d.; 4, 2s. 3d.; 5, 3s.; 6, 3s. 6d. An allowance to Nurserymen.

BLOSSOM of WALL FRUIT TREES.—WORSTED NET, a most effectual and approved protection, requires no removal. TANNED NETS, ¾d. per yard. NEW TWINE NET, 1½d. per yard. 300 second-hand TARPAULINGS, 7 ft. by 4 ft. 6 in., 2s. 9d. each, any sizes. 1s. per square yard for STACK CLOTHS. ROOFING, &c. WATERPROOF CAPES, lined with blue cloth, 3s. each. POLICEMEN'S CAPES, 18s. and 24s. per dozen. HORSES' LOIN CLOTHS, 7s. GALVANISED WIRE FENCING, 15-8 mesh, 18 gauge, 7d. per square yard, in various widths.
R. RICHARDSON, 99, Euston Road, London, N.W.

W. S. UNDERHILL'S NEW PATENT IRON FENCE for GARDENS, LAWNS, &c.
Manufactory: Newport, Salop.
Warranted the strongest and most durable Fence ever offered at corresponding prices. It is easily repaired if broken from accidents; can be rolled up most compactly when not in use, is admirably adapted for exportation, and can be had of any height and mesh required, at prices from 4d. to 1s. 6d. per yard and upwards.



For further particulars apply at the Manufactory, or of the London Agent, Mr. R. WINDER, 18, Abingdon Street, Westminster, S.W.

FIRE ENGINE, £35 (was bought at the East India House) with 100 feet of Copper-riveted Leather Hose; all made by Brahma. Suitable for a gentleman's mansion or small town. In perfect order.
R. RICHARDSON, 99, Euston Road, London, N.W.

AMERICAN PORTABLE FIRE ANNIHILATOR and GARDEN ENGINE.

£2 2s.

An efficient means of Extinguishing Fires at their commencement. Nine out of ten Fires in London are put out on their first appearance by the London Fire Brigade with Hand Pumps of considerably less power.
One man will throw 7 or 8 gallons per minute from 40 to 50 feet with it.
It is an effective Garden Engine for cleansing or syringing Wall-fruit or Rose Trees, Plants, or Vines.
It may be used to draw water from the pail in which it is fixed, or from a tank or pond by the addition of the required length of suction. It is simple in its construction, having no suction or delivery valves to clog with dirt or leaves.
No Establishment, either private, commercial, or manufacturing, should be without one.
Six feet of Flexible Suction, with Union and Suction Rose &c., extra, 12s. Longer lengths of Suction at 1s. 6d. per foot.
May be obtained of all Ironmongers and Seedsmen in Town and Country, or of the Manufacturers,
JOHN WARNER & SONS, 6, Crescent, Cripplegate, London, E.C.

**Old Cheshunt Nurseries, Herts, N.—Roses.**

PAUL AND SON have the pleasure to announce that their NEW HYBRID PERPETUAL ROSE, LORD CLYDE, will be ready for delivery in April next, at *7s. 6d.* each. Usual allowance to the Trade when three are taken. A Coloured Plate, by Andrews, post free for 12 stamps.

The NEW ROSES of other Raisers will be ready in March.

They have still to offer fine Home-grown STANDARD and DWARF ROSES.

DESCRIPTIVE LISTS of the New Roses, Gladioli, and Genuine Seeds now ready.

---

**Roses.**

JOHN HARRISON begs to inform his Friends and the Trade that he has still on hand at least 20,000 Choice HYBRID PERPETUAL ROSES, worked on the Manetti Stock, in the finest possible health and condition, for Sale. Prices for quantities exceedingly low.

Darlington Nursery.—February 7.

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**Roses for Forcing.**

CHARLES NOBLE has a nice assortment, one year, established in 32-pots, ready for Forcing. They are healthy vigorous plants, and cannot fail to give satisfaction. He has also a large stock of Dwarfs and Half-Standards suitable for planting in Roseries; they are offered very cheap.

Sunningdale Nursery, South-Western Railway.

---

**Rose Catalogue for 1863.**

EDWIN HOLLAMBY begs to announce that his NEW DESCRIPTIVE PRICED CATALOGUE of the above is now ready, and will be forwarded gratis and post-paid on application.

Seed and Nursery Establishment, Tunbridge Wells, Kent.

---

DWARF HYBRID PERPETUAL ROSES, on the MANETTI STOCK; Carriage paid to London.—The Undersigned offer very fine and vigorous plants of the above. For a LIST of the more popular sorts, see *Gardeners' Chronicle* for December 6, 1862. Prices given for small and large numbers (per 1000 at a much reduced rate) and a DESCRIPTIVE CATALOGUE of ROSES sent on application to

Thos. Rivers & Son, Nurseries, Sawbridgeworth.

---

**Fine Dwarf Roses.**

GEO. CLARKE has an abundance of magnificent plants of DWARF ROSES, including the leading varieties of Hybrid Perpetuals and Bourbons; also well established plants in Pots of PERPETUALS, TEAS, and BOURBONS, suitable for Forcing. Prices forwarded on application.

Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, near the Victoria Railway Station, Pimlico, S.W.

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**Roses.**

GEO. PARSONS begs to offer fine STANDARD ROSES, from 2½ to 4 feet stems, at *5l.* per 100, or *15s.* per dozen; including the New Varieties, *18s.* per dozen, or *6l. 10s.* per 100; the last New Varieties of 1862, DWARFS, *30s.* per dozen.

CATALOGUES free on application.

Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

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**Fuchsias.**

MESSRS. J. AND J. FRASER, Lea Bridge Road Nurseries, N.E., having a fine Stock of healthy vigorous young plants of all the best and NEW FUCHSIAS, beg to invite intending purchasers to an inspection of the same. The plants now offered may be grown into fine specimens by next summer.

A List with price will be forwarded on application, as also a CATALOGUE of STOVE and GREENHOUSE PLANTS, ROSES, FRUIT TREES, CONIFERÆ, &c.

---

FIRST CLASS NEW FUCHSIAS. — Coloured Drawings by Mr. Andrews of SANSPAREIL, BRIDESMAID, CONSPICUA, HERCULES, are now ready, and will be forwarded in exchange for 12 postage stamps.

G. Smith begs to offer the above as the most Superb FUCHSIAS yet offered to the Public. For description, with price, and also time of sending out, see CATALOGUE, now ready.

George Smith, Tollington Nursery, Hornsey Road, Islington, London, N.

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**Banks's Best New Fuchsias.**

E. G. HENDERSON AND SON are now sending out the three following First-class Flowers:—

MDLLE. TREBELLI (Banks).
BIANCA MARGINATA (Banks),
MARS (Banks).

As neat young plants for growing on into specimens (and others adapted for stock), price *3s. 6d.* and *5s.* each. Also plants of all last year's best varieties, *1s. 6d.* to *2s. 6d.* each.

SOLANUM CAPSICASTRUM FOLIA VARIEGATA, a beautiful table plant, with elegantly variegated leaves and red berries; drooping habit; *3s. 6d.* and *5s.* each.

Wellington Nursery, St. John's Wood, London, N.W.

---

DOUBLE ITALIAN TUBEROSE ROOTS, *4s.* per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. Cobbett's Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent.

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**Established 1787.**

THOMAS KENNEDY AND CO.,
Nursery and Seed Establishment,
Dumfries, N.B.

*₊* PRICED CATALOGUES sent free on application; FREE DELIVERY.

FARM and GARDEN SEEDS under certain limitations will be delivered free of Carriage to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

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FINE MIXED HOLLYHOCK SEED from all named varieties, *1s.* per packet; the double blue and white Perpetual TREE VIOLETS, strong plants, *4s.* per doz.

A remittance must accompany all orders by Post-office Order or penny postage stamps. All goods sent postage free.

Edward Tiley, Nurseryman, Seedsman, and Florist, 14, Abbey Church Yard, Bath.

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**Seed Catalogue.—Spring, 1863.**

WM. WOOD AND SON respectfully announce that their DESCRIPTIVE SEED CATALOGUE for the present season, containing select Lists of the most approved KITCHEN GARDEN, FLOWER GARDEN, and FARM SEEDS, is now ready, and may be had post free on application.

☞ Orders amounting to *10s.* and upwards sent carriage free. See List.

Woodlands Nursery and Seed Warehouse, Maresfield, near Uckfield, Sussex.

N.B. CATALOGUES of ROSES, FRUIT TREES, ORNAMENTAL SHRUBS, &c., may also be had.

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## INTERNATIONAL EXHIBITION.

PRIZE MEDALS 1851 AND 1862

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

## BUTLER & McCULLOCH, SEED MERCHANTS,

COVENT GARDEN MARKET, W.C.

(ESTABLISHED UPWARDS OF A CENTURY.)

COLLECTIONS OF VEGETABLE SEEDS SUITABLE FOR ANY SIZED GARDEN.

| | | | | | | |
|---|---|---|---|---|---|---|
| No. 1. | 20 Quarts of PEAS and other Seeds in proportion | | | £3 | 3 | 0 |
| No. 2. | 11 ditto | ditto | ditto | 2 | 2 | 0 |
| No. 3. | 8 ditto | ditto | ditto | 1 | 10 | 0 |
| No. 4. | 5 ditto | ditto | ditto | 1 | 1 | 0 |
| No. 5. | 5 Pints | ditto | ditto | 0 | 10 | 6 |

A Specification of the above Collections is given at page 77 of Messrs. Butler & McCulloch's systematically arranged SEED CATALOGUE for 1863, which may be had free and post paid upon application.

*All orders amounting to £1 1s. sent Carriage paid.*

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SEEDS.—GENUINE HOME-GROWN

## VEGETABLE, FLOWER, AND AGRICULTURAL.

If above the value of 20s. Carriage paid to any Railway Station, and to all Irish and Welsh Ports in communication with Bristol.

CATALOGUES post free on application.

JAMES GARAWAY AND CO., DURDHAM DOWN NURSERIES, BRISTOL.

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## WM. WOOD & SON'S

## COLLECTIONS of KITCHEN GARDEN SEEDS

FOR ONE YEAR'S SUPPLY.

| No. 1. | No. 2. | No. 3. | No. 4. |
|---|---|---|---|
| £3. | £2. | £1. | 10s. 6d. |

Containing only Seeds of first-class quality, and Varieties that can be confidently recommended.

For particulars, see CATALOGUE, a Copy of which may be had Post Free on application.

*₊* *All orders amounting to 10s. and upwards sent Carriage Free.*

WOODLANDS NURSERY AND SEED WAREHOUSE, MARESFIELD,
NEAR UCKFIELD, SUSSEX.

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A PLAIN AND STRAIGHTFORWARD

## CATALOGUE of FLOWER and VEGETABLE SEEDS (86 pages),

Not offering such peculiar advantages to Purchasers as to necessitate Deterioration in Quality of Goods, but containing everything desirable to make

A GARDEN PRODUCTIVE AND ATTRACTIVE,

at the lowest remunerative prices for REALLY GOOD and SATISFACTORY ARTICLES, is just published by

HOOPER AND CO., SEEDSMEN,

COVENT GARDEN MARKET, LONDON, W.C.,

and will be forwarded gratis and post free on application.

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## SPLENDID NEW SCARLET VERBENA, LORD LEIGH.

## S. PERKINS & SON,

In offering the above SCARLET VERBENA, have much pleasure in stating that it has been awarded a First-Class Certificate by the Floral Committee of the Royal Horticultural Society, June 11, 1862; First-Class Certificate by the Royal Botanic Society, July 9; First-Class Certificate at the Crystal Palace, Sydenham, Sept. 4 and 5; First-Class Certificate by the Rugby Floricultural Society, August 29; First Prize by the Birmingham Botanic Society, July 10.

After the above Awards, S. P. & Son think it needless to offer any remarks, further than that it is of a free habit and will prove a first-class Bedding variety; colour the most dazzling scarlet that can be conceived, with a clear white eye; truss and pip extremely large, and of the finest shape and quality.

See Editor's remarks in *Gardeners' Chronicle*, August 30, 1862, and December 27, 1862; "Journal of Horticulture," Sept. 9, 1862. An Engraving will appear in the April Number of the "Florist and Pomologist."

**Plants after April 15, 5s. each. Special Price by the dozen on application to the**

PARK NURSERY, COVENTRY.

ROYAL EXOTIC NURSERY, CHELSEA, S.W.

# JAMES VEITCH, JUN.,

RESPECTFULLY ANNOUNCES THAT HIS

## CATALOGUE of KITCHEN GARDEN and FLOWER SEEDS for 1862-63,

WITH A LIST OF IMPLEMENTS AND OTHER GARDEN REQUISITES,

IS NOW PUBLISHED, AND WILL BE FORWARDED POST FREE ON APPLICATION.

J. V., JUN., devoting his personal attention to this department of his business, can warrant his SEEDS TRUE TO NAME AND OF THE MOST GENUINE DESCRIPTION.

## SPLENDID NEW BEDDING PLANTS.

# MESSRS. VEITCH & SON,

ROYAL EXOTIC NURSERIES, EXETER AND CHELSEA,

Are now prepared to supply SEEDS of the following SPLENDID NOVELTIES, recently introduced by them, feeling confident that two such fine additions to the Flower Garden cannot fail to give general satisfaction.

### AMARANTHUS MELANCHOLICUS RUBER.

Introduced from Japan by Mr. J. G. VEITCH. Its beautiful blood red foliage renders it much superior to the Perilla, where colour and effect are required, and this, combined with its dwarf compact habit (averaging from 9 to 12 inches), cannot fail to make it the most popular dark-foliaged bedding plant yet introduced. It has been Commended by the Floral Committee of the Royal Horticultural Society, on account of its distinct habit as a bedding plant.

### MIMULUS CUPREUS.

This beautiful little perfectly hardy novelty was sent us by Mr. PEARCE, from the Andes of Chili, where he met with it at an elevation of from 6000 to 7000 feet. Its dwarf and compact habit, not exceeding 4 to 6 inches in height, its perfect hardiness, and producing its bright orange-crimson flowers in great profusion, render it equally useful for the Flower Garden or for Pot culture. It has been constantly exhibited during the past season, and had Medals awarded it at both the Royal Horticultural and the Royal Botanic Societies. It is indeed a charming plant, and cannot fail to give general satisfaction.

**Packets of either of the above, 1s., 1s. 6d., and 2s. 6d. each, according to size.**

## LARGE IMPORTATION of STANDARD ROSES.

# WILLIAM WOOD & SON

Have much pleasure in announcing the arrival of a large Importation of STANDARD and DWARF ROSES in fine order, which they will be happy to supply on most reasonable terms.

CATALOGUES free and post paid on application.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

## FOSTER'S SEEDLING GRAPE.

# MESSRS. JOHN & CHARLES LEE

have to offer Mr. Foster's stock of this fine NEW GRAPE, which can be confidently recommended for general cultivation in cool Vineries. It has borne an abundant crop in the large Conservatory of the Royal Horticultural Society at Chiswick, the bunches being large, with medium sized berries of a pale amber colour. The flavour of Foster's Seedling is most luscious, equalling the richness of its twin sister Lady Downe's, and as far as can be seen, partaking of the same quality of hanging well without shrivelling.

**Canes for planting, 7s. 6d. each. A few Fruiting Canes at 21s. each.**

ROYAL VINEYARD NURSERY AND SEED ESTABLISHMENT, HAMMERSMITH, LONDON, W.

## NEW SHRUBBY CALCEOLARIAS.

# MESSRS. JOHN & CHARLES LEE

Having purchased the entire stock of Seedling SHRUBBY CALCEOLARIAS, raised by Mr. Watson, of St. Alban's, in 1861 and 1862, have selected four distinct colours, which they intend to offer to the public the first week in May. They are the finest high coloured Shrubby Calceolarias yet raised, and in point of habit and quality are everything that can be desired for bedding or pot culture. They are decidedly shrubby and of good constitution, with a dwarf spreading habit and good foliage. The flowers rise just above the leaves, forming an even mass of exquisite colouring.

**Price 5s. each, or 15s. the set, as under :—**

PRINCESS ALEXANDRA.—Rich orange buff, of very dwarf habit, free blooming and conspicuous. Quite a new colour in Calceolarias.

MAGNIFICENT.—Deep orange flowers, of large size with close mouth, flower stalks short and stiff, a good dense habit and first-rate in every respect.

PRINCE LOUIS of HESSE.—Rich crimson flowers of medium size, free blooming, habit very dwarf and showy.

FIREFLY.—Intense orange scarlet flowers of good size, free blooming dwarf habit, the brightest colour yet raised.

*Terms to the Trade on application.*

ROYAL VINEYARD NURSERY AND SEED ESTABLISHMENT, HAMMERSMITH, LONDON, W.

HARDY FLOWER SEEDS, of Showy Colours only, sent free by post or rail, by SUTTON AND SONS.

A COLLECTION of the best 50 sorts known .. 10s. 6d.
A COLLECTION of the best 36 sorts known .. 7 6
A COLLECTION of the best 24 sorts known .. 5 0

SUTTON'S CATALOGUE of SEEDS will be sent post free.
SUTTON & SONS, Seed Growers, Reading, Berks.

**Seed Trade.**

JAMES CARTER AND CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade :—

MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE,
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION.
TOMATOE DE LAYE.
HENDERSON'S PINE-APPLE BEET.

**Seeds, Seeds, Seeds.**

S. GLENDINNING AND SONS' (Successors to the late R. GLENDINNING) CATALOGUE of KITCHEN GARDEN, AGRICULTURAL and FLOWER SEEDS is now ready and may be had on application.
Chiswick Nursery, London, W.—February, 1863.

**New and Genuine Seeds.**

GEORGE PARSONS, SEEDSMAN by Appointment to HER MAJESTY. A DESCRIPTIVE SELECT PRICED LIST, post free, on application.
27 and 28, Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

**To Nurserymen, Seedsmen, &c.**

ROBERT KENNEDY, SEEDSMAN, Great Piazza, Covent Garden, has received a consignment of a very choice parcel of Seeds from a well known British grower residing abroad. They are chiefly rare hard-wooded greenhouse plants. 1000 Seeds of CAMELLIAS from the best stock in cultivation. A few lots EUCALYPTUS, the timber of which was so greatly admired at the International Exhibition. They will be sold for the highest offer.

**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.
The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

**Genuine Seeds.—Carriage Free.**

WM. CUTBUSH AND SON beg to intimate that they are now prepared to execute orders for GENUINE GARDEN SEEDS, for which their house is extensively known.
Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.
CATALOGUES free on application.
Highgate, London, N.

**Chrysanthemums, Chrysanthemums.**

J. H. BIRD, F.R.H.S., NURSERYMAN, Stoke Newington, begs to inform his friends and the public he can supply from his great Stock of the above 20 pairs of the best large Varieties for 10s.; and 25 pairs of best POMPONES for 10s.; 20 pairs of Cuttings of the large Varieties for 5s.; and 25 pairs of Pompones ditto for 5s.
New CATALOGUES ready for one stamp.
N.B. To save trouble all orders to be paid to J. H. BIRD, Stoke Newington.

THE CHRYSANTHEMUM.—At a Preliminary Meeting, held at the Angel Hotel, Islington, February 2, 1863, SHIRLEY HIBBERD, Esq., in the Chair, the following Resolution was adopted :—
"That a Society be formed, to be called The Amalmagated Metropolitan Chrysanthemum Society."
It was further resolved, that the MEETING be ADJOURNED until MONDAY, February 16, to be holden at the Angel Hotel, Islington, at 8 o'clock in the Evening, for the Election of Officers, &c. J. JEFFRIES, Secretary (pro tem).

**The Gardeners' Chronicle.**

*SATURDAY, FEBRUARY* 7, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| TUESDAY, | Feb. 10 | Royal Horticultural (Anniversary) at South Kensington .. .. | 1 P.M. |
| WEDNESDAY, | — 11 | Society of Arts .. .. .. | 8 P.M. |
| | | Microscopical (Anniversary) .. | 8 P.M. |

A VERY important paper by M. BOUSSINGAULT, on the nature of the gases produced during the decomposition of carbonic acid by leaves exposed to light, has lately appeared in the "Annales des Sciences Naturelles."

It has long been received as incontestible that carbon is fixed under such circumstances, and that oxygen is given off, thereby replacing the loss due to combustion and to the respiration of animals. Experiments, however, have constantly given a greater or less excess of azote after exposition to sun light, over the original estimate. And though in some cases this excess was purely accidental, observation shows that it is too constant, though the quantity may be far less than was previously supposed, to be attributed to mere accident alone. Professor DAUBENY, for example, could never obtain oxygen from these experiments, free from azote, and the most recent observations of Messrs. CLOËZ and GRATIOLET, show that though the proportion of azote was less every day, as if the azote detained in the vegetable tissues or in the water in which the plant was immersed, were driven off by the oxygen, there was still a notable quantity present.

M. BOUSSINGAULT himself tried in vain to obtain

pure oxygen from the action of light on the green parts of vegetables immersed in water, slightly acidulated with carbonic acid. He determined however, to examine matters more closely. In former experiments care had been taken to eliminate the air dissolved in the water or detained in the tissue of plants; but as it was found impossible to do this effectually, he determined to eliminate nothing. Still the result was as before, an excess of azote, though less than was shown by former experiments.

The question then arose, whether this was real or apparent. Did it follow that because gas did not disappear by absorbent reagents, as carbonic acid by potash, and oxygen by moist phosphorus or alkaline pyrogallates, or whatever other method of analysis might be used, that it was indubitably azote?

The azote was therefore carefully examined, and it appeared that it contained a notable quantity of inflammable gas, constituted principally of carbonic oxide, with a slight admixture of proto-carbonate of hydrogen, the volume of inflammable matter being as nearly as possible equal to the volume of azote in excess, and therefore clearly formed during the decomposition of the carbonic acid.

The green leaves, then, of plants, M. Boussingault concludes, do not emit azote during the decomposition of carbonic acid, but together with pure oxygen, a portion of carbonic acid and proto-carbonate of hydrogen.

It is curious, he remarks, that the brilliant discovery by Priestley of the property possessed by plants of purifying the air during their respiration excited interest more with reference to its bearing on questions of health than of vegetable physiology; nor less so, after the lapse of a century, that it should appear that, during the same process, the leaves probably of all plants, and certainly those of aquatic plants, while they emit a gas which purifies the atmosphere, at the same time give out carbonic oxide, one of the most deleterious of gases. Is it not moreover possible that the notorious unwholesomeness of marshy districts may in part be due to this cause? *M. J. B.*

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We were lately much surprised on entering the room of a friend, who had several groups of Crocuses of different varieties vegetating in water, to see every plant in one set of triple glasses wearing a very peculiar appearance, while a single plant only, which however belonged to the same variety, was similarly affected in a second set.

The three lower sheaths were as usual filmy, and directed, according to circumstances, either to one side or disposed spirally. The tips only of the two following sheaths were filmy, the rest being of a firm waxy consistence, swelling out abruptly, crisp like quickly grown Asparagus, extremely glossy and nearly colourless. The upper sheath, which reached a length of from 5 to 6 inches, had merely a slight perforation on the top, through which in some cases the tips of the leaves made their appearance, while in others they were wholly concealed, and in every case more or less irregular in outline and surface, and partially or entirely chlorotised. On opening the upper sheath, the flowers were found at the base entirely confined in their own scarious envelope, with the petals extremely short and withered, scarcely surpassing half the length of the anthers, while the style and stigma were in most cases entirely concealed. Every flower, of which there were about five in each shoot, was perfectly dead. It was clear, in fact, that the whole of the nutriment which was intended to support the fructification had been diverted into the sheaths, arresting at an early stage the development of the several parts of the flower, and causing their ultimate death, while the leaves were more or less pauperised. The cause of this diversion could not be ascertained, but in every case the roots were much impaired, and in one not a single root had been formed. We have no reason, however, for believing that the hypertrophy of the sheaths was due to their condition. The disease is new to us, though possibly many of our readers may be acquainted with it, and at any rate is worth recording. *M. J. B.*

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—— Referring to some recent remarks of ours on the Classification of Dahlias (*Gard. Chron.*, 1862, p. 1099) a writer in *Gossip*, who signs himself "Telegram," while giving his adhesion to the arrangement we proposed, points to a classification of his own in the pages of that periodical published so long ago as 1858, but which has, he confesses, produced no manifest improvement in respect to the present absurd and meaningless classification into "show" and "fancy" varieties. On turning to the volume indicated, we find that "Telegram's" scheme is more comprehensive than our own, as it includes an arrangement of the plants themselves, whereas we had dealt only with the blooms of the show class. We, therefore, gladly incorporate his scheme with that we have suggested; and in doing so again urge upon the florists the desirableness for perspicuity's sake of adopting some such classification—a better one if forthcoming—as that which has been proposed, rather than continuing to follow the unmeaning arrangement at present in use. If, as "Telegram" observes, Messrs. Turner and Keynes would at once take the initiative in this matter, the whole thing would be as good as done.

In the arrangement which "Telegram" proposes, all those varieties which produce blooms up to the required standard in respect to form, are admitted as Show Dahlias, irrespective of their colours: this is the group to which our previous remarks refer. Then follows a set called Border Dahlias, including those in which the blooms are of brilliant colours, though less perfect in form, such indeed as would produce a grand effect planted at the back of a border, on the verge of a shrubbery, or in any place not immediately under the eye of the observer. The third set comprises those dwarf varieties with a spreading habit, which are capable of being massed with good effect in a flower garden, and these are called Bedding Dahlias. We add a fourth group which has sprung up since the paper was written, that of the Pompon Dahlias, which includes those varieties with diminutive but symmetrical flower-heads, and which as they become more and more dwarfed, will be the most suitable of all Dahlias for planting in a flower garden, as they are now the most suitable for bouquets, &c. Thus we should come to range all the cultivated varieties of Dahlia in one of four primary groups, thus—

1. Show Dahlias, with the "blooms" or flower-heads nearly or quite perfect in respect to the technical "properties" which constitute floral excellence.
2. Border Dahlias, with bright-coloured attractive blooms, and a floriferous habit.
3. Bedding Dahlias, with a dwarf spreading free-blooming habit, and bright attractive decided colours.
4. Pompon Dahlias, with diminutive symmetrical blooms, combining the chief points of Class 1 (except size), with the habit of Class 3, or a near approach thereto.

As a basis for the subdivision of his leading groups, "Telegram" proposed to take colour, and suggested its application according to the following formulary:—Selfs, Shaded, Tipped, Edged, Striped, and Mottled. Here, however, we prefer our own plan, which is we think sufficiently detailed for all practical purposes, and more simple than the foregoing; it reads thus:—Self-coloured, Laced, Tipped and Striped. The fourth class of Pompons will for a few years require the weeding out of all the coarser-bloomed sorts which get associated with the genuine minimums, as well as of all the taller growers, and there should be a constant aim, in breeding, to secure absolute dwarfness, combining therewith the free blooming, slender, and graceful habit which the more typical varieties of this group now assume, and which has already rendered them especial favourites.

As regards the plea of Mr. Rawlings (1862, p. 1124) for the retention at the exhibitions of a "fancy" class to receive the dark sorts having light tips and edges, on the ground that they require a class to themselves, because they are of inferior form, and would be prevented by the superiority of the others from appearing in a good stand, "Telegram" observes, with much force and truth, that the very reason urged for its retention is precisely that which should lead to its being got rid of altogether; for, he continues, "I believe no more effectual means could be devised for the perpetuation of an inferior race than giving prizes expressly for these sorts of imperfect form. Besides, a class which contains such varieties as Duchess of Kent, the two Gems Burbury's and Stafford's, Lady Paxton, Madame Alboni, Miss Jones, Mrs. Crisp, Norah Creina, Pluto, Pauline, Queen Mab, and a few others, is well able to hold its own amongst the best. The sorts named are not only admissible into a first-rate stand, but would, if I mistake not, be found amongst the most effective. There can be no doubt that these will soon be followed by others of equal or even superior excellence; while those deficient in form should be forthwith consigned to the borders, where they will be more effective than those adapted solely for exhibition."

This writer takes exception to our recommendation, that blooms which have sported back to selfs from the striped and tipped classes, should not be admissible for exhibition in any class. If, he says, a self-coloured flower possesses the required properties, I think it ought not to be excluded simply because it has varied or sported from its original state of variegation, or *vice versâ*. We still believe they ought not to be admitted in cases where class-showing is adopted. Of course in open classes such blooms might be introduced, but where a series of prizes is offered for the exhibition of varieties in certain classes, it appears to us only fair and reasonable that the exhibitions in these several classes should consist of varieties which legitimately belong to them. A "self" bloom of a normally striped variety is what is technically called a "flower run," and we cannot see any reason why it should not be treated as such, and condemned so far as its exhibition is concerned.

As regards the redistribution of the present amount of prizes, which would be necessary were the "fancy" class to be abolished at the exhibitions, and which we at least do not wish to see diminished, "Telegram" (whose opinion, if we rightly guess, is of some weight), thinks an increased number of prizes in the several classes would be more acceptable to amateur exhibitors than an increase in the number of classes. He also very judiciously points out that in respect to the relative value of prizes, the gradations should be easier than they frequently are. It is by no means unusual to read in an exhibition schedule such an item as this: For the best 24 Dahlias, 5*l.*; second, 2*l.* 10*s.*; third, 1*l.* 10*s.*; fourth, 1*l.* Here there is offered 10*l.* in all; but the difference between the first and second prize is too great, for it often happens—oftener, indeed, than not—that the first and second collections are very nearly on a par. If, urges "Telegram," "the exact sum of 10*l.* for the class be a Medo-Persic necessity, would it not be better to allot it thus:—First, 4*l.*; second, 3*l.*; third, 2*l.*; fourth, 1*l.*? Or, to make use of the funds available by reason of the extinction of the 'fancy' section, five prizes instead of four might be offered, of which the highest would be 5*l.* and the lowest 1*l.* in value; and so throughout the entire number of classes." We are quite ready to endorse this recommendation for the more regular gradation of the amount of the prizes, because nothing in its way can be more unsatisfactory than to see a stand of blooms which has only just—by a hair's breadth—failed to take the premier place, awarded a prize which is only half the value of that carried off by the hair's-breadth winner. It is seldom indeed that there is the great discrepancy between the exhibitions which take the two first places, which there should be to make such a distribution as that supposed, a fair and equitable one.

—— Favoured by the climate of Sicily, M. Michel Angelo Console, Assistant Director of the Botanic Garden of Palermo, has had the rare opportunity of examining the flowers of certain plants, formerly referred to Opuntia, but now called Consolea, to wit, *O. rubescens* and *O. spinosissima*. He finds in their blossoms a structure which has not hitherto been observed or recorded in the plants of this family. The base of the style, which is tapered below so as to become substipitate, stands in a kind of cup at the apex of the ovary. In other words the style is inserted in a cupuliform disk. It seems that the species in which this structure has been observed, have other characteristic features, as for example, the stems are tall, nearly simple, and everywhere inarticulated and continuous. These facts have induced M. Lemaire to propose for the plants a new genus of Cactaceæ, which he calls Consolea, in honour of M. Console, and to which he refers O. rubescens, an unarmed, and O. catacantha, ferox, leucacantha, and spinosissima, all aculeate species.

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## GARDEN DECORATION.

Crewe Hall is a handsome building of the time of James I., and remarkable for elaborated Oak panelling, &c., in the dining-room as well as in the "carved parlour;" also a stair with a very quaint balustrade leading to a long morning room ("the gallery" above the entresol) which occupies the entire length of the house east and west. A large segmental bay window, projecting on its centre, commands the Park scenery with its beautiful lake. The space between the house and the shore of the latter has been converted into a geometric garden (on various levels) terminated by a boat-house, which acts as an architectural terrace having flanking flights of steps to a landing place.

The principal compartment of flower beds, &c. (the subject of the accompanying chromo-lithograph) is particularly effective, and forms a striking foreground to the lake and woods beyond. Owing to the elevated floor of the said gallery bay window (above that of the chapel) the scroll work tells to great advantage, through the admirable management of Mr. Wm. Whitaker, the head gardener. The single lines of Box, by his judicious treatment, have now arrived at proper and uniform dimensions, viz. 3 inches high and 2 inches thick, thus giving great solidity to the various forms of tracery, very different from the gossamer appearance they frequently assume on being first planted with very thin Box.

East of the house there is another parterre with two compartments of embroidered beds divided by a long straight walk, flanked by Araucarias, and leading to the shrubbery.

The parterre now illustrated affords another example of the beautiful geometrical designs of Mr. Nesfield, some of which have already appeared in our last volume.

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## DIES ORCHIDIANÆ.*—No. IV.

(*Continued from p. 54.*)

Having lingered long enough among the Orchids of 30 years ago, I must now proceed to devote a "Dies" or two to the Orchids of the present day. This will

* You must allow me, Mr. Editor, to object to the appropriation of the above heading by other writers, especially when coupled with such a very discourteous attack as was made in your last Number but one upon my valued friend Prof. Reichenbach. Surely the *Dies Orchidianæ* are quite as much the *peculium* of "Serapias" as were the *Noctes Ambrosianæ* of the late lamented Christopher North.

lead me and my readers—if I have any—to the nurseries of Messrs. Low, Rollisson, Williams, and Veitch, as well as to the private establishments of Messrs. Day, McMorland, and Rucker; all of which I was enabled to visit during the few days I spent in town last November. This month, as every one knows, is famous for its fogs, in London more especially, and I need not therefore have felt surprised when, on attempting to look out of the windows of my hotel in Berners Street, I found it impossible to see across the street. This did not promise much sport in Orchid-hunting; however, I started in a state of sullen despair for Clapton Nursery, and was rewarded by finding myself in bright sunshine long before I reached my destination, although in Berners Street (as I afterwards learned) the fog had continued without any mitigation throughout the livelong day!

Arrived at Clapton I soon found that I had enough work before me, for here were four large houses all filled to overflowing with fine Orchids; most of them imported during the last few months from Brazil, Moulmein, or the East Indian Archipelago. The profusion in which some of the more popular kinds had been safely brought across the seas quite took me by surprise. In one house an endless row of fine plants of Cœlogyne pandurata, ranged horizontally along the walls, had all the effect of a frieze. Another house was mainly devoted to Lælia purpurata, the demand for which Mr. Low told me was so great that he had sold one houseful already in the course of the year! Phalænopsis amabilis, and two or three other species, hung in festoons from the rafters, as did also Sophronitis grandiflora and Ionopsis violacea. The last is a delicate but beautiful plant, something like an Oncidium, and appears to flower freely treated like the Burlingtonias. The Sophronitis is better known. though it is only of late that it has received the homage it so well deserves. This I have no doubt is the identical Orchid that a South American traveller once assured me he had often observed in the virgin forests of Brazil, almost wrapping, as it were, the trees in a sheet of flame! And although I must confess that I was disposed at the time to abate somewhat from the above description, on the score of traveller's license, still, after having seen masses of the plant in flower in Mr. Day's collection, at Chatsworth, and elsewhere, I begin to think that my informant's account was no exaggeration. It clips hold of the trunks of large trees in a peculiar fashion, having much the appearance of an ancient *testudo*, and is easily peeled off in large sheets, which may again be as easily replaced on logs of wood (cork-wood is the best) of the same curvature. Then add a few bits of living Moss, suspend near the glass, and success is certain. There are several varieties of this Sophronitis, differing much in the size of their flowers, and the intensity of their colouring, which in some cases approaches nearer to pure scarlet than anything yet observed among Orchids, in which—as a tribe—the colour in question is the rarest of all.

Among Mr. Low's Brazilian importations I was pleased to see a goodly number of Burlingtonias, which for some reason or other have always been rare in this country. This may in part be due to the circumstance of their not succeeding under pot culture; but only suspend them on blocks of wood, and give them plenty of heat and moisture in their growing season, and then no plants could be more manageable, certainly none can be more beautiful. I was also glad to notice a few plants of my old favourite Rodriguezia coccinea, once the commonest of Orchids, but of late years rarely seen, because, like the Burlingtonias, it has a trick of disappearing if kept in a pot. Prof. Reichenbach, I perceive, now refers all the Burlingtonias to Rodriguezia, and here I confess I am disposed to agree with him. Mr. Low had a new Lælia, so-called, in flower, and a beautiful thing it was; but I thought it inclined more to Cattleya, so I counted the pollen-masses and found that they were four, as in the latter genus, instead of eight, as in the former. And oh, why will not gardeners do this very simple sum in arithmetic for themselves, and thereby save a very large proportion of the confusion that now surrounds these two favourite genera. The plant above referred to proved to be one of the many fine and distinct varieties of that Protean species, Cattleya (Lælia) elegans.

But if Mr. Low was rich in Orchids from the New World, his importations from the Old were still more interesting and important; indeed, besides large supplies of old-established favourites, there was a greater amount of novelty than I ever before remember to have met with at one and the same time at one and the same place.

I counted as many as half a dozen air-plants which, by their habit, I cannot doubt were new, and quite as many Cœlogynes and Dendrobiums. Of the latter D. infundibuliforme, D. nodatum, and D. Lowii, have already been noticed in the columns of the *Gardeners' Chronicle*, but there were others of equal promise, *e. g.*, D. salaccense, D. pictum, and a species from Borneo, of which dried specimens were shown to me, and which I am satisfied will prove the very best of all the pendent-stemmed kinds. Mr. Low had called it D. Dayii. I noticed also a pretty Dendrobium in flower that had much the appearance of D. palpebræ, but was still, I think, distinct. It may be provisionally called D. bicolor. Time would fail me were I to attempt to describe the multitudes of Cypripediums (the list of these was likely I heard to be soon swelled by novelties already on their way to Europe), Limatodes rosea, Calanthe vestita, &c., but I must not omit to notice that one large house was rendered quite gay by crowds of the last-named Calanthe, of which I scarcely knew whether most to admire the variety with a crimson or that with a yellow-eyed lip. Both were most beautiful, when seen in such profusion, and are really invaluable as winter-flowering plants. They insist, however, upon having a good quantum of heat, so that there is no chance of their ever elbowing Lycaste Skinneri, which seems disposed to make itself quite at home in our drawing-rooms! *Serapias.*

## WINTER FLOWER GARDENING.—No. I.

Will you permit me to offer a few practical remarks on the subject of that great desideratum, a winter flower garden.

I have read with much interest the leading articles in Nos. 48 and 49 of last year, and rejoice to see you taking up this too long neglected branch of gardening. When it is remembered that a winter garden must last for seven months, and on the other hand that the summer display is at most for four months, there is no question as to which is the most important of the two. I have therefore given a good deal of consideration to the former, and for 14 years our "modern flower garden" has not been "bare at this season of the year," nor has it once been filled on the deplorable make shift plan of cut branches merely stuck in the ground. That plan however I pass over with a certain amount of respect, as it shows at least the wholesome craving for a garden all the year round, and the truth of that abhorrence of a vacuum which we inherit from Nature herself. You suggest what to do. Will you hear what we have done, so that readers of the same means, and with similar situation and soil, may be spared disappointment, and be encouraged to follow your advice and suggestions.

Many have been the trials and failures with us, but we are now on a regular system which suits our situation, close to the sea and unsheltered, and our soil, which is poor and light; and year after year we have had cheerful gay beds without disappointment, even in the winter of 1860-1.

The beds are on Grass, 35 in number, the largest 23 feet by 7½, and a circle of 13 feet diameter, and the smallest circles of 5½ feet diameter.

There is in each bed a centre of evergreens, a border or ring of colour, an edging of variegation, and close to the Grass early bulbs. Now the article of colour is my strong point, to which I wish to draw attention and to popularise. Looking over your second article, in spite of the long list of costly and beautiful shrubs and plants, colour, in the common acceptation of the word, is wanting until the Crocuses bloom, and for the dead months it must be so, unless you employ the various varieties of the Brassica tribe. By the use of these you obtain every shade, from the darkest purple of the Siberian to the vivid Magenta, mauve, and rose of the Borecoles, and also pure and yellow white. All other green looks dead when compared with the lively growing green of the German Kale, and in the unhearted Dutch Cabbage, the various shades of purple and red, combined with rich bloom, have a very telling effect in large centre beds.

The names of Kale and Borecole at first sound rather startling as ornaments for the flower garden, and in conjunction with Yuccas, Thuja aurea, Skimmia japonica, and the other tempting and beautiful shrubs named at p. 1148 of your Journal. I really know not how they would combine; but then that would be a winter garden on a grand scale, which is beyond the means of hundreds who, like myself, have constant enjoyment and work in their smaller gardens, and it is for this class I write.

Our first attempt was on a grand scale. Variegated Hollies, Juniperus virginiana and canadensis, Cypresses, Ericas, Berberis, Daphnes, Rhododendron hirsutum variegatum, besides those Evergreens which now I only use. Also edgings of Cineraria maritima, Santolina squarrosa, Carnations, Pinks, Onopordon Acanthium, Hellebores, Thymes, Hepaticas, Saxifrages, Alyssums, Stocks and Wallflowers; besides bulbs both early and late flowering.

The effect was all that could be desired (except the want of colour in winter), but it was a failure, because the first six classes of evergreens will not bear lifting in the cold winds and hot suns of May, without care and trouble, which at that busy season cannot be commanded in a small establishment, where there can be no reserve garden or orchard house, or unlimited number of hands. The outlay was very considerable, but it was to be once for all, and the plants were to last for years. Many were dead, few presentable, and none good specimens by the next winter. It was the first and last experiment on a grand scale. A few shillings, *not* yearly, now suffice. *F. J. H., Wardie Lodge, Edinburgh.*

(*To be continued.*)

## Home Correspondence.

*Garden Law: No. 1, Useless Premises.*—A nurseryman takes on lease at a high rent a piece of land, having houses, &c., upon it. He takes the lease solely for the purposes of his business, but after he has got his lease he discovers that, owing to the bad construction of the houses and the defective drainage of the land, it is impossible to get his plants to grow or even to keep them alive. He complains to his landlord, who declines to do anything, but who nevertheless insists on being paid his rent. To this the tenant objects, and, not being prepared to lay out his own money in improving his landlord's property, quits the premises in disgust and refuses to pay. A lawsuit ensues, and the question arises whether the tenant is bound to pay the rent, or whether he is not entitled to repudiate the lease. The landlord urges that he entered into no agreement with the tenant, except that he should peaceably enjoy the property for so many years at a certain rent. The nurseryman answers, "You knew very well that I only wanted the place for the purpose of carrying on my business; the place is not fit for any such purpose, and I ought not to be bound to keep what is of no use to me. If I had hired a house of you that was not fit for habitation I could have left, as somebody did who took furnished apartments at Brighton, and found them so infested with bugs as to be unendurable. I am much in the same position. He wanted the apartments to live in, and they were not fit for his purpose; I wanted the land to grow plants in, and it's not fit for my purpose. He gave up his rooms and was not obliged to pay any rent; I give up my land—why should I pay any more than he?" The landlord replies, "I know nothing about the bugs at Brighton. It may be that if a person takes furnished apartments he is entitled to have them in such a state that he can live in them; but as to what you say about the house, I take it that if you go and look over an unfurnished house, and then take a lease of it, and after you have got into it, you find you do not like it, and you cannot live in it, you must nevertheless pay your rent. That is my case; you saw the place before you took it; if it does not suit you, that is your affair. I never promised that it should." The judge declares that the landlord's law is better than the tenant's, and says that by the law of England, if a man contracts for the use of land for a specified time, at a specified rent, he is bound by that bargain, even though he took it for a particular purpose, and that purpose is not attained. "Suppose, for instance," adds the judge, "that he took it with the object of making a handsome income out of it as a farm—if his object fail altogether, is it to be said that he is not liable for any rent? Suppose again he takes it for building purposes, and finds that the subsoil is such that no foundations can be made except at a ruinous expense—is he to be discharged from his contract to pay rent?" The judge is a little perplexed by the case of the lodgings, especially as he decided it himself, but he agrees with the landlord that there is a difference between furnished apartments and an unfurnished house or a piece of land. Whatever the law may be as to the lodgings, the judge declares that a person who lets a house or a piece of land, does not implicitly undertake that it is fit for habitation, cultivation, or any other purpose. The decision is therefore against the tenant, and he has to pay. *Lincoln's Inn.*

*Orchidology.*—Let "Mr. Crabro Scandicus" give short technical characters for the so-called genera Lælia, Brasavola, Schomburgkia, and Cattleya, in *Gardeners' Chronicle*. If there should be found any, I'll gladly accept the genera again; if not, he may enjoy genera without characters. So much for science. As to his astonishing libel, I do not feel inclined to give him any answer. Critics should depend on arguments, not on calumniations. *H. G. Reichenbach, fil., Leipsic, Jan.* 30.

*Grape Growing in Norfolk.*—Mr. Hardie seems to have got into hot water with his brother gardeners for going out of the old road of Grape growing. He is not the only man who has been abused in the same way. When Stephenson proposed railway travelling he was put down as a dangerous man; and so are all who attempt to strike out a new path of their own. I do not perceive the great difficulty which some of your correspondents seem to see in reference to Mr. Hardie producing Grapes the first season from green wood. Let us just take a glance at the good old way of growing the Vine during the first season. We order our plants from some nursery, and give from 3*s.* 6*d.* to 5*s.* each for them, *i. e.* for Hamburghs and Muscats About the middle of March we plant the Vines spreading out the roots, &c., and we attend to them with great care, both with respect to root and branch, letting them grow as much as they can without pinching or stopping; by autumn they will have made nice rods. In December we prune; some cut back to the bottom of the rafter, others down to 3 feet from the bottom, but in this they are guided by the strength of the Vine. The other system consists in sending to some nursery, in which you know good Vines are grown. You say you want some strong ones in 12-inch pots; they come to hand all safe, with rods as thick as your finger; the price 10*s.* or 15*s.* each, *i. e.* for Hamburghs and Muscats. You prune to the length you think you will want them. In the first week in February a hotbed is made, and when the heat has declined to about 90° you turn the Vines out of their pots, previously giving them a good watering. Then you loosen what roots you can by reducing the ball a little, doing as little injury as possible; place each Vine on the hotbed, about 8 inches apart, filling every

part amongst the balls, with light soil composed of decayed leaves and light sandy material. The tops are then made secure to rods. In the first week in April, if the Vines are removed from the hotbed, it will be found that they have made hundreds of young roots—in fact, that they are one mass of young fibres. As I have already said, remove them to a well-prepared border, heated to about 70°, and plant them, putting round each ball some soil from the hotbed; give a good watering with warm water, and let the Muscats occupy one house and the Hamburghs another. Let the house be kept moist and cool, say from 48° or 50° at night, until the Vine buds have broken; after that they may gradually have a higher temperature, until you reach 65° at night, and 10° higher in the daytime before you give air. Let there be no want of moisture in the house; examine the border frequently to see that the roots are all right; if they are getting dry give a good watering with warm water. This treatment is for Hamburghs. For the Muscats gradually rise the temperature of the house until you reach 70° at night, allowing 10° more in the daytime before you give air, providing plenty of moisture, and giving very little front air at any time. Attend to the roots the same as for Hamburghs; stop all the shoots but one when they have got about 6 inches in length; leave the strongest, and let it grow until it has made a growth of about 10 feet in length; remove all the laterals, 6 feet from the bottom, letting the leading shoot reach 12 feet in length; then cut it back to 10 feet; in three or four days remove the other laterals. There must be plenty of moisture both at the roots and in the house. Most of the eyes will break, and show plenty of fruit; there will be no danger in ripening the fruit, provided the leaves are kept green. Fruit which is produced by the green shoot in summer is found to grow a great deal quicker than the general crop—at least I have found such to be the case. The above relates to Muscats, which were mentioned as having been grown so successfully in Norfolk, for most gardeners will have noticed that when a green shoot of a Muscat gets stopped or broken, some of the principal eyes will burst and show one or two bunches, even if the laterals are on, and the shoot is at the top of the Vine. I have thus, it will be seen, given an account of two systems. In the first the Vine bursts into leaf but makes very slow progress during the first month, and sometimes it will nearly stop growing altogether—for the following reason, viz.: because there are no young fibres to furnish it with nourishment; but after it has been planted 10 or 12 weeks its progress is more rapid, for then plenty of mouths have been made to feed it. In the other system the Vines burst into leaf with a vigour that is astonishing—the shoot grows away without any stoppage. The reason here is the same as in the other case; it has got hundreds of mouths waiting and eager to supply it with abundance of food. Let us suppose that the Vine has grown 12 feet; in that event the young shoot will be nearly 1 inch in diameter; stop such a shoot as recommended above, and it will be sure to show plenty of fruit, and ripen it too. After all the fruit is cut, prune the Vine down to the bottom; there will be some eyes there which have not broken, and some of them will make a shoot the second season that will put the Vines to shame that were planted on the old system. I would not, however, recommend allowing Vines to bear on the green shoot the first year, but each Vine should carry a nice crop the second year. I would recommend that all which are planted should have their roots previously excited, but not to plant before the middle of April, unless you can heat the border either from below or from above with litter or leaves. If it is considered good work to get fruit from the green shoot of strong young Vines, I think that it is a far greater feat to plant an eye in January 1861, and cut fruit from a plant sprung from that eye at Christmas of the same year. *J. A. B. G. L. Y.*

*Strelitzia Nicolai.*—I have at the present time a seedling Strelitzia sending out its flower stalk. The seed was sent me from the Cape some 10 years ago under the name of S. albiflos, but which Mr. Van Houtte says is the same as his S. Nicolai. It is like S. augusta except that it has no stem, and that the leaves are much longer. The spathe is upwards of a foot long, in form similar to S. Reginæ. I have never heard of its having flowered in Europe. *St. Bertin, Clos St. Bertin, St. Omer, France.* [S. Nicolai, which is said to be a Cape plant, has been flowered at St. Petersburg, and named there by Dr. Regel. It has large white flowers, and leaves which are somewhat heart-shaped at their base; and at length it acquires a tall stem.]

*Conifers.*—How can the learned Editor of the *Gardeners' Chronicle* admit into his columns such stuff as is quoted at p. 103 from a mensual magazine. The writer of that article does not say why Pitch Pine does not come from Pinus rigida, its true source, but he *thinks* (!) it may come from P. Coulteri and others—a very wise idea considering that P. Coulteri, ponderosa, and Benthamiana are from the West of North America, while the Pitch Pine comes from the East. Perhaps this intelligent gentleman imagines that Pitch Pine comes hither in balloons. Faugh! *Crabro Scandicus.*

*Mildness of the Season.*—I enclose for your inspection some Snowdrops in full bloom, Elder in leaf, Gooseberry in blossom, and several small branches of Thorn, on some of which not only are the leaves well developed, but the young wood has grown several inches. The hedge from which they were cut gives one the idea that we are in the month of April instead of January. This place is 400 feet above the sea, and ten miles south of Edinburgh. I have just returned from the south of England, where I saw no Snowdrops in blow, nor any appearance of vegetation in the most sheltered hedges. I have been a close observer of these things all my life, eagerly watching for the bursting of the first buds in spring, but I never remember seeing vegetation so forward in the month of January before. I hope that Admiral Fitzroy will drop into your office and inspect these signs of the weather in the north; he may then for once make a right forecast of "S.W., mild, fine," instead of the everlasting "W.N.W. to N.E. and back, and heavy snow," of which I should think he must be even getting tired himself. *George Dalrymple, Hereford Castle, Dalkeith, Jan.* 28.

*Grapes.*—I am sorry to see so respectable a house as that of Paul & Son pushing forward the Muscat of Escholata Grape, which I could never find different from the Muscat of Alexandria grown out of doors. Will they oblige me and other Grape growers with some *precise* information as to its differences? *Vinicola.*

*Barking Trees.*—Is barking likely to prevent young Oak roots from "stooling out" and producing underwood? I have a wood full of young Oak saplings; they must be thinned, and I want to make them produce underwood. If cut over now, no doubt they would grow out freely next summer; but then the crop of bark would be sacrificed. I therefore propose to have them felled and barked next spring. My keeper fears that if this is done, there will be no undergrowth next year, as he has observed this to be the case where Oak of large size has been felled. Please tell me if it is necessary to cut now in order to secure the regrowth, or whether it is possible to secure the crop of bark, and also the underwood. *R. P. L.* [Try the experiment with a few. Bark them as soon as the bark will run and then cut down the rods.]

*Mosses.*—I would advise "F. J." not only to study the book by Wilson, but to obtain from Mr. Brocas, 25, Hart St., Bloomsbury, dried specimens, which he would furnish, beautifully arranged, at a moderate expense, (from 5*s*. to any extent). She would find reference to named specimens greatly aid her researches, and add to her enjoyment of this interesting study; and she could add to this the further pleasure of sending him fresh specimens she could not decidedly name, for his opinion—or of sending occasionally a little basketful of Mosses, Fungi, Lichens, &c., fresh gathered in her rambles, as a very acceptable contribution to a botanist's London shop. *F. T.*

*Poisonous Milk.*—From an extract from the *Malta Times*, which has appeared within the last few days in the daily papers, it appears that the inmates of two of the principal hotels in Valetta had been seized with symptoms of virulent cholera, occasioned as it turned out on inquiry, by the use of goat's milk. Even a cat, which had taken some, showed symptoms of having been poisoned. Towards the end of last year a number of exactly similar cases happened at Sliema, where the family of a field officer was poisoned, evidently by goats' milk; and about the same time other cases occurred among the officers and men of her Majesty's ships Marlborough, Algiers, and Firebrand, but with no fatal consequences. Poisoning by milk, therefore, appears to be not an uncommon occurrence in Malta; but, continues the Malta paper, we are not aware if experiments were ever made by scientific men to ascertain beyond doubt the real cause of the milk assuming this dangerous character. The natives attribute it to the goats browsing on a particular plant belonging to the natural family Euphorbiaceæ, or Spurgeworts, which they call *tenhuta*, and which they say possesses the property of rendering the milk poisonous to human beings, without inflicting any serious injury on the animal itself. On the other hand, we have heard this popular belief ridiculed by some of the more learned Maltese physicians. A correspondent of the *Times* also points to something of a similar nature as occurring in the Western States of America. He says that for two or three months in the year the milk of the cow becomes a fatal poison. "Many of the first settlers fell victims to it; a person drinking a bowl of milk in the morning would be seized with pain and vomiting during the course of the day, and be a corpse by evening. This poisonous quality is attributed to some peculiar herb eaten by the cows at a certain season of the year, which, though not injurious to themselves, renders their milk poisonous to man, and consequently, every year when the 'milk disease' commences, which is discovered by the milk changing colour after standing some time, the cows are shut up and fed upon hay." What are the delinquent plants in these two cases? *M.*

*Colonial Botanical Gardens.*—The designation of Mr. Walter Hill is Colonial Botanist, and Director of Botanical Gardens and Queen's Domains, Queensland. There is under him a head gardener with staff. The gardens are supported by a grant from the Brisbane Legislature of 1188*l*. per annum, no small sum for an infant colony. *Good Hope.*

*Salsafy.*—In answer to "A. B.," who asks at what depth a good thickness of well-decomposed manure should be placed, I beg to say that it should not be deeper than 8 inches below the surface, as indeed I stated at p. 53; and for this reason: had I explained my meaning in the same workmanlike manner as the question has been put by "A. B.," I might have led my indulgent readers into greater mistakes than I would have wished to have done, simply because those who wish practically to follow my suggestions would have been entirely at the mercy of the workman who might chance to have been entrusted with the trenching in question, as any observant person knows that there is a great difference between different workmen in the use of the spade. I have here beneath my own notice no less than four varieties of digging—one man at all times buries his spade well in, "past the hilt," perpendicularly moving the soil, which when the crumbs are taken out, gives nearly a clear foot deep trench, while others vary back to about five inches; so instead of writing, a spit only, or a spit and the crumbs, I answer—place the manure at the depth of 7 or 8 inches from the surface. *W. Earley, Digswell, Welwyn.*

*Late* versus *Early Grapes.*—With regard to the friendly passage of arms, in the matter of Grapes, that has taken place betwixt Mr. Tillery and myself, some misapprehension seems to exist. Many appear to imagine that I claimed some special merit for being able to produce new ripe Grapes on New Year's Day, and that I considered it more difficult to do so than on the 1st of March. Now, the very opposite of this is what I laboured to prove, which a single quotation from the pages of the *Florist*, where the discussion commenced, will show. At page 70 of that work I wrote, after remarking on the fine crops Mr. Davis used to ripen at Oakhill in March, "What I contend for is that the same Vines would have produced ripe Grapes in January with greater ease to themselves and all concerned than in March." I observe that Mr. Tillery, like a gallant knight, has challenged all and sundry to meet him next year with their new Grapes, he being armed with his old. For my own part I will fulfil my engagement by meeting him before the Committee on the 25th of the present month, and whatever may be its decision I will bow to it, and there the matter shall end as far as I am concerned. *Wm. Thomson, Dalkeith Park.*

*Fuchsias.*—Fearing that some slight confusion or misunderstanding might arise among exhibitors of Fuchsias from Mr. Cannel's letter which appeared in your pages of the 24th ult., I have ventured, as one who has taken an active part in discarding the old stagers, to explain to Mr. Cannel and others that it is by no means intended to confine the plants of Fuchsias exhibited to 12 months growth, or what are termed yearlings—it matters not whether they are of 14 or 18 months' growth. It might be hazardous to exceed this, but the principal object has been to obtain for our exhibitions young and well grown specimens, developing the true character of this useful flower, such as Mr. Cannel himself has so successfully exhibited. I quite coincide with the opinion that the size of the pot in which the Fuchsias are to be shown should be stated, and I trust we shall find this to be the case when the Schedules for 1863 of our two Royal Societies appear. *X., Feb.* 4.

*Japan Flax.*—The enclosed has been imported from Nagasaki as Japan Flax, and recently offered to nurserymen as a substitute for bast for tying, for which it seems admirably adapted. Will you kindly tell us the name of the plant from which it is prepared, and if it would succeed here? It looks like a fine preparation of hemp. *Enquirer.* [We are making enquiries.]

## Foreign Correspondence.

QUEENSLAND: *Expedition to Cape York.*—His Excellency Sir George Bowen, Governor of the colony, left Brisbane on the 27th of August last, in H.M.S. Pioneer, on an expedition to Cape York for the purpose of ascertaining its adaptability for a settlement. Booby Island, the furthest point in that direction of the Queensland territory, was reached on the 9th of September, and on the 10th the return voyage was commenced, the course being through Endeavour Straits. The Governor and Commodore Burnett spent some days in carefully examining Cape York and its vicinity, both by sea and land, and ultimately decided that Port Albany (Albany Island) would be the best site for the proposed settlement. There is good anchorage, plenty of fresh water, good pasturage for sheep and cattle, and a quantity of land fit for cultivation. Albany Island, in fact, forms a large natural paddock, separated from the mainland by a deep channel only one-third of a mile broad. Port Albany is about five miles from Cape York. The township is to be named "Somerset," in honour of the First Lord of the Admiralty. His Excellency also visited Endeavour River (where Captain Cook refitted his ship in 1770), and Rockingham Bay—the two points on the east coast of Australia which will probably be next occupied, as colonisation gradually extends its steps northward. Good anchorage and level ground, with plenty of water and timber, were found at the mouth of the Endeavour River. The two principal streams which flow into the bay were traced for some considerable distance up, but bars and sand-banks render them of little use for navigation. The eternal "Mangrove swamp" lines the coast up to the foot of a high range of hills running parallel to the shore. Mr. Walter Hill, the Government Botanist, accompanied the expedition in his official capacity, and the following

are extracts from his report dated November 6, 1862, and addressed to the Hon. the Secretary for Lands and Works:—

Fitzroy Island is upwards of five miles in circumference, high, rocky, and well timbered. The upper margin of the coral beach is overrun with Ipomœa maritima, Canavalia Baueriana, and other Creepers, succeeded by Scævola Kœnigii, Tournefortia argentea, and Morinda citrifolia, with occasional trees of Mimusops Kauki, Calophyllum Calaba, Pandanus spiralis, and Casuarina paludosa. The two principal streams pass through narrow valleys filled with dense scrub, occupied by Calamus australis (Lawyers), Seaforthia elegans, Guettarda speciosa, Wormia alata, Careya arborea, Sciodaphyllum macrostachyum, with examples of the following orders:—Meliaceæ, Cinchonaceæ, Fabaceæ, Rutaceæ, Moraceæ, and Malvaceæ. Among the parasitical plants in the scrub were three species of Dendrobium, two of Platycerium, and three of Loranthus. The trees in the forest ground consist principally of Eucalyptus, Acacia, Erythrina, with Livistonia inermis gracing now and then the ridges. The Grasses consist of Panicum, Poa, Sporobolus, Ectrosia, Anthistiria, and others of equal value for pasture. The greater portion of the soil consists of a light black sandy loam, well adapted for grazing purposes, but there are also patches composed of black loam mixed with vegetable matter, both in the scrub and forest ground, well suited for gardening purposes. Water is plentiful, both on the eastern and western sides.

Pelican Island is upwards of a quarter of a mile in length, and about 4 feet above high-water mark. The soil is of a very sandy nature, and partly covered with coarse Grass, and a yellow flowering Sida about 3 feet high. Booby Island is a mere rock, about a quarter of a mile in diameter, flat, and intersected by a small valley, in which are a few stunted trees and creepers, comprising Ficus syringifolia and others. Dayman's Island, in Endeavour Straits, is about one mile in length, half a mile in breadth, and about 300 feet high, rocky, with patches of scrub scattered about. Among the plants collected were Barringtonia speciosa, and a Dendrobium with large scarlet flowers. The soil is a brown sandy loam, of a barren nature, and only 2 or 3 inches in depth. Two small native wells were found, filled with excellent fresh water.

Evans' Bay, south of Cape York Island, is surrounded by a flat sandy beach, at the back of which is a dense scrub, composed of a good variety of trees, with Melaleuca Leucadendron, Calophyllum Calaba, Mimusops Kauki, a species of Hibiscus, and the Broom-like Casuarina paludosa, facing the bay. The inner portion is occupied with some noble plants of Caryota urens, Seaforthia elegans, Careya arborea, Thouinia australis, Cargillia laxa, Jambosa eucalyptoides, Terminalia Chuncoa, Maba obovata, Mimusops parvifolia, Wormia alata, and the singular Sciodaphyllum macrostachyum, about 50 feet high, sending out a few branches with immense digitate dark glossy leaves, and four or five long racemes of small scarlet flowers. The soil of this scrub is rich black sandy loam, and is suitable for the cultivation of most tropical productions. One of the most interesting plants gathered in the neighbourhood of Evans' Bay was a Palm not hitherto mentioned as Australian, Sagus farinifera, one of the East Indian sago-producing species; a single plant was first seen in the scrub, near the top of Bremer Peak, and afterwards a clump in one of the small scrubs close to the Bay. Two native wells, with fresh water of excellent quality, were found.

Albany Island, in one of the little Bays named Port Albany, separated from the mainland by a deep narrow channel, is upwards of 3 miles in length and about 1 in its greatest breadth, and consists of three-fourths open forest, the rest scrub. There are several hundred acres of the open forest ground which have scarcely a tree upon them, and are thickly clothed with excellent Grasses suitable for grazing purposes, comprising the following genera, viz:—Agrostis, Panicum, Holcus, Ectrosia, Anthistiria, &c. The belts of scrub on the rocky headlands are densely covered with stunted trees, shrubs, and creepers, comprising the following genera:—Bombax, Erythrina, Eugenia, Eucalyptus, Mimusops, Ficus, Myristica, Pittosporum, Dolichos, Tecoma, &c. The greater part of the soil consists of red sandy loam mixed with small ironstone nodules. The rapid growth, especially at this dry season, of the young Grass which had been burnt only six days before, leads me to believe that there would be sufficient pasturage all the year for 100 head of mixed cattle (six months old and upwards), together with 500 head of sheep. In addition to these grazing capabilities, there are several spots where the soil is well adapted for the growth of the most useful vegetable productions. The successful trial that was made in sinking a well through the sandstone rock near the beach for fresh water, and the finding of three springs on different parts, indicate that abundance of water of excellent quality can be procured. Among the interesting plants collected on the island, I may mention two. The first is a species of Parinarium, a middle-sized shady wide-spreading tree resembling the Elm in the colour and form of its leaves; its young branches are drooping. At the time of our visit it was laden with fruit of oblong form, about an inch in length, and half an inch in diameter, and of a yellow colour when ripe, the pericarp of which is very mealy, and agreeable to eat, and would be wholesome if it were not so extraordinarily astringent. The other is Dioscorea bulbifera (a kind of Yam) which was found in the scrub in great quantity, and proved good eating. Both of these plants are much used by the natives. On the mainland, opposite Albany Island, two running fresh water streams, upwards of eight feet wide, flowing in different directions, were discovered. A narrow belt of dense scrub, of great luxuriance, yielded five species of palms, viz.—Caryota urens, Seaforthia elegans, and species of Areca, Zalacca, and Pinanga, the latter rising to a height of 110 feet. The other occupants of the scrub belong to the orders of Araceæ, Scitamineæ, Leguminosæ, Meliaceæ, Sapindaceæ, Myrtaceæ, &c. Along the valley are some beautiful clear flats, with fine open ridges, which are occasionally covered with dense scrub. The soil of these flats is of great depth, and consists of black loam, with about one-fourth of silver sand, and is suitable for the growth of any tropical production. These localities would be admirably suited for small farms. The soil on the open forest ground is of a lighter texture, and better adapted for grazing purposes than cultivation. The variety of timber trees on the forest land is much greater, and of a better description for building purposes, than that found on Albany Island. Amongst the plants collected on the mainland and used as articles of food by the natives, were Curcuma longa (turmeric), Zingiber sp. (ginger), a species of Dolichos with large bean-like seeds, and two species of Ferns, the roots of which are pounded and eaten. During our stay at Port Albany the temperature was always cool and agreeable, owing to the constant breeze—the thermometer was never once above 85°.

On Dunk Island my excursion was confined to the flat behind the beach, which is thinly timbered and thickly clothed with Grass. Near the base of the hill I observed the Dioscorea bulbifera (Yam) growing in great quantities, and the numerous pits that were turned up showed that it was largely used by the natives. The soil of the flat was of a light black sandy loam, with a large amount of vegetable matter. Fresh water was found in one of the lagoons near the beach. Next day we proceeded to a fresh water river (unnamed), about two miles south of the Mackay River. At its mouth is a sandy bar, on which the water was three feet deep at low water, but after having crossed the bar we found nine feet of excellent fresh water. About a quarter of a mile from its mouth we landed on the south side, and extended our journey along its bank for about half a mile. The soil was of a sandy nature, and thinly covered with small Acacias, Casuarinas, and Callistemons. After returning to the cutter we traced the river up for about half a mile, our further progress being stopped for want of sufficient depth of water. The entrance to the Mackay River is about 180 yards wide, with a sandbank across, on which the water was 3 feet 6 inches deep at low water. On proceeding up this tortuous river, we found its channel became narrower, and varied from 7 feet to 16 feet in depth. The banks on either side for about a quarter of a mile up are low and sandy, and, after that, are, for miles, skirted on either side by thick Mangrove swamps, behind which the land gradually rises into hills of moderate height, many of them densely clothed with scrub. We traced the river upwards of ten miles, and landed on a small flat on the north side, upon which were a few good-sized Eucalyptus and Acacia trees. The soil here is a light sandy loam. On our return we visited the scrub on the north side, about a mile from the inlet. This consists of trees, shrubs, and creepers, in greater variety than I had previously seen. Among the very interesting plants collected during my short stay of only fifteen minutes, I may mention three of the most striking. The first, a remarkable Cycadeæ, which in its habit and foliage resembles no other of that natural order, having branched fronds. The second, a beautiful Zingiberaceous plant, the foliage, root, and habit of which resemble an Alpinia; the beauty of this plant consists in its large, stiff, shining bracts, which are about half an inch broad at the base, slightly curved inwards and tapering to a point; the heads of flowers which resemble those of a Pine-apple in shape and size, and are of a fine crimson colour, are produced on the top of a flower-stem 12 inches high. The other plant referred to is the Musa Jackeyi, W. H. (a Banana which I have named after Mr. Kennedy's faithful aboriginal companion 'Jackey'), growing in great abundance on the border of the scrub, and attaining the height of 20 feet. Two small plants and a fine bunch of the fruit were procured. The plants were packed in a glazed case; and the fruit, which was hung up on the quarter deck of the ship, was fast getting ripe, when it was unfortunately thrown overboard by accident. The soil in this scrub consists of a rich mellow loam mixed with vegetable matter.

At Maryborough I visited the Cotton Company's establishment, which is situated about eight miles below the township, on the banks of the Mary River. My visit only extended to one of the portions of land under cultivation, a plot about 20 acres in extent, the soil consisting of a dark brown sandy loam, well adapted for the cultivation of Cotton, &c. The plants were about 8 inches in height and appeared to be very healthy. *From the Queensland Courier.*

## Notices of Books

*Essai d'une nouvelle Classification de la Famille des Graminées.* Par E. A. Remy. Première Partie. Les Genres. Baillière. 1861.

A classification of Grasses, based on sound principles, and practically useful, is perhaps the greatest desideratum in Systematic Botany. Many have essayed such a work, and the names of Trinius and Ruprecht of Russia, Kunth of Berlin, and Palisot de Beauvois of France, all hold high rank amongst the systematic writers on this difficult family of plants; if to these we add those of Robert Brown as the most sagacious expounder of the floral structure of Grasses, Nees von Esenbeck as the most laborious describer of species, and Steudel as the author of the most complete (in appearance, for it is, with the exception of the subject of this review, the most contemptible) systematic work on the order, we shall have pretty well exhausted the names of those who have hitherto especially distinguished themselves as writers on the Gramineæ.

To this band must now be added the name of M. Remy, to whom we can have no hesitation in assigning the first rank in point of boldness (we should rather say audacity), whatever his other qualifications may be.

M. Remy commences by informing us that Grasses are assuredly the most widely diffused of all plants, a position we at once dispute; and goes on to say that this must be so "in order that it should be possible that they should be able to fulfil the mission which the Creator of all things has assigned to them"—a reflection which seems to us to be neither more nor less than twaddle. In the same lofty strain he asks us—"What would become of mankind in Europe without Wheat; in Asia without Rice; in Africa without Millet; and in America without Maize?" and satisfies himself with the answer, that the years when these fail are very disastrous! And by way of "improving the occasion," he next wanders back into the mazes of antiquity, apparently in search of foreshadowings of his own sage lucubrations, and tells us that Pythagoras "580 ans av. J. C." assures us "*dans le même but*," that vegetables were endowed with intelligence; also that Empedocles, Anaxagoras, and Democritus laid the foundations of serious investigations, by teaching that the seed was the vegetable egg, and that the leaves absorbed and exhaled the atmosphere. In this manner the history of scientific graminology is evolved, and the names of several scores of Greeks, Romans, Thessalonians, and Arabs, besides European authors of the dark ages, lead us down to that of Linnæus, where we pause to read—not a word about Grasses—but "a very ingenious history of the origin and progress of Botany!"

The really practical part of M. Remy's book begins at p. xxxv. of the Introduction, with a resumé of all the modern arrangements of the order, beginning with that of Palisot de Beauvois, and ending with his own. The exposé of his own method is prefaced with the statement that its object is "to classify all known Grasses by certain invariable, constant, and always obvious characters." Brave words these, M. Remy; let us see how he justifies them. "The sexes and the inflorescence are the foundations of the classification I propose. Starting from this point I divide all Grasses into five great classes.

I. Flowers complete, all hermaphrodite (*Hermaphroditées vœrées*).
II. Flowers hermaphrodite and rudimentary, the latter apparently asexual and always sterile. (*Hermaphroditées incomplétées*).
III. Male and female flowers and hermaphrodite flowers mixed in the same panicle (*Polygamées*).
IV. Male and female flowers on the same plant (*Monoïcées*).
V. Male and female flowers on different plants.

All of the Classes contain 4 tribes, viz 1-flowered, 2-flowered, 3-flowered, and many-flowered, except Class V. which has but one (the 2-flowered)."

What M. Remy's pretensions or qualifications, opportunities or experience may be, to become an exponent of Grasses we know not; all we can say is, that characters more unreal, capricious, variable or obscure, could hardly be found upon which to base a classification of the order. In proof we may state that *Calamagrostis, Oryza* and *Spartina* all rank amongst the Unifloræ of Class I.; that *Arundo, Poa, Triticum*, &c., are decreed always to have many flowers and all complete! and so on throughout every class and tribe in the book that is not monotypic or nearly so.

Lastly, with regard to the sequence of the genera, nothing can be worse; for *Triticum* and *Ægilops* rank under different classes, and *Hordeum* in a third, standing between *Gymnopogon* and *Erianthus!* and so on throughout the work, of which we fervently hope the second part will never appear.

*British Seaweeds; Drawn from Prof. Harvey's "Phycologia Britannica."* By Mrs. Alfred Gatty. 4to. (Bell & Daldy).

This is a handsome quarto volume, containing 80 coloured plates with figures illustrative of 384 species of British Seaweeds. These are described in 166 pages of letterpress, and further illustrated by 44 preparatory pages, which comprise, besides a charmingly written "Introduction," "Rules for Preserving and Laying out Seaweeds," "The Amateur's Synopsis," "List of Families, Genera and Species," systematically arranged; and an "Alphabetical Table of Genera and Species." The plates, which are reduced copies of those of "Phycologia Britannica," have appeared before, but without letterpress, under the title of "The Atlas of British Seaweeds" (Reeve). The whole of the text now given is new, and will be found admirably adapted to the use of the amateur collector. In an appendix 10 new species, discovered since the completion of the "Phycologia," are fully described; and in the "List of Families, &c.," the changes in nomenclature, introduced of late years, are indicated; and thus the subject is brought down to the present day.

Those who are acquainted with Mrs. Gatty's "Parables from Nature," and especially with her delightful parable about "Red Snow," need not be told that the literary part has been ably executed by a competent and loving observer. In her present work she has endeavoured, and we think most successfully, to translate the terms and phrases of science into the language of amateurs, and especially of amateuresses. If a Latin or Greek term be unavoidable, it is explained by its English equivalent; and Anglo-Saxon words are carefully substituted for such words as "ovate, cordate, flabelliform;" for "ramulus" we have branchlet, and for "ramellus," branchleteen, &c. Mrs. Gatty's familiarity with the plants themselves has enabled her to do this charitable office without falling into the errors to which a mere compiler, in departing from a beaten track, would be liable; and if she have not made a "reading made easy" of this branch of Botany, it is the fault of the subject and not of the authoress. The publishers have well done their duty in paper, print, and binding, and have produced a volume which will be an ornament to a drawing-room table, and a most acceptable present to friends going to the sea-side. *W. H. H.*

## Garden Memoranda.

ROYAL HORTICULTURAL SOCIETY'S NEW GARDEN, SOUTH KENSINGTON.—That differences of opinion should exist respecting the merits of the style of gardening adopted here is not to be wondered at; we believe however that when carefully examined they will be found to relate more to matters of detail than to the general features of Mr. Nesfield's plan, which is that of a fine Italian garden; and that when its latent beauties come to be fully developed, and its peculiar characteristics rendered more striking by means of the addition of evergreen plants to furnish it in winter, few gardens will be more universally admired or have a finer appearance than that now under notice. The introduction of more evergreen decoration is indeed a matter of the necessity of which the Council has long been aware; but an opportunity of carrying it even partially into effect could not be conveniently found until the past autumn. Now, evergreens have been planted wherever it has been considered consistent with the general aspect of the garden to do so, and, as might be anticipated, with excellent effect; while at the same time spring ornamentation has not been neglected—on the contrary, the pretty terra cotta vases that line the dwarf parapet wall in front of the conservatory are filled with Crocuses edged with Forget-me-Nots;

and on the border below have been planted next the brickwork rows of Wallflowers, then ribbons of Crocuses and Hyacinths, the whole being finished by an edging of Forget me-Nots. In this way a spring display will be created which will last until the usual bedding-plants occupy the place.

On the conservatory terrace beds have been filled with dwarf evergreen shrubs, such as Rhododendrons, Box, Yew, and Chinese Privet, edged with spring bulbs, here and there intermixed with Christmas Roses. Round the band-houses too have been put Rhododendrons broken into groups by means of flights of steps, and bordered by a broad Grass edging, inside of which are rows of spring bulbs. Lombardy Poplars have been introduced alternately with the Chesnuts which form cross lines in this part of the garden, and further down near the water have been added beds of Rhododendrons and hardy Azaleas, intermixed with Crocuses and rows of Delphinium formosum, the one forming a good succession to the other.

In large angular beds at the four corners of the garden, on the level of the middle arcades, have been planted Rhododendrons intermixed with early blooming standard shrubs and small trees, such as variously coloured Thorns, Laburnums, and Lilacs, &c., to give importance to masses which have hitherto been occupied only with dwarfer plants. Among these have also been introduced Aucubas and spring bulbs, the whole being bordered with Erica vagans.

The different friezes, both on the east and west sides, of which coloured representations appeared in our volume of last year, are filled with bulbs, associated more or less with such plants as blue and white Forget-me-Nots, Pansies of different colours, and dwarf Silenes.

The neighbourhood of the great central cross walk has been well furnished with Rhododendrons, both in the shape of single bushes of considerable size, and of moderate-sized clumps. This useful shrub, when planted in masses, on heights, at the top of the different flights of steps, and at the corners of walks, as it is here, has, even when not in bloom, a striking appearance. Several new beds of Rhododendrons have also been planted along the borders of Grass near the bridges contiguous to the canals; and among masses of Rhododendrons right and left of the beautiful French fountains which still remain in the garden, have been introduced spring-flowering, deciduous trees, such as Thorns, Bird Cherries, Laburnums, double flowered Peaches, Almonds, and other low growing trees, while in the open glade between these and the Exhibition building has been planted an avenue of splendid Lime trees, presented by her Majesty from the grounds at Windsor Castle. While speaking of Limes, we may add that those presented by Mr. Gibbs, of Bristol, appear to have become perfectly reconciled to their new situation, and look as if they might make a vigorous start in spring. A new line of Lime trees running the whole length of the garden has also been introduced on the east side, and we believe a similar line has been planted opposite.

In the middle of the two large triangular Box-embroidered beds have been planted Variegated Hollies, Box, Berberis, Aucubas, and Golden Yews, the whole set off and skilfully associated with spring bulbs, Forget-me-Not, and Pansies, arranged so as to form ribbons or broad bands of different colours. The great circular central series of Box-embroidered beds in front of the principal piece of water has also been planted with Van Thol Tulips, supported in the spandril or side beds by rows of Double Daisies. If all succeed, therefore, this portion of the grounds may be expected to be quite gay in the early spring months. Standard Roses were planted on Grass round the outside of the stone kerb which forms a natural and appropriate boundary to this charming embroidered work, but they did not thrive, and their places have now been filled with handsome specimens of Yucca recurva, a plant apparently well suited to withstand the smoke and dust of a suburban garden, and one whose graceful habit forms a striking contrast with most kinds of masonry.

The great central walk, excellent though it is, seems to be too broad, as strips of turf laid experimentally along portions of the sides of it apparently prove; this fault, now that it is perceived, may therefore soon be expected to be remedied.

In the Conservatory the great standard Camellias are loaded with flower buds and open blooms. Orange and Lemon trees are furnished with fruit, and masses of Palms and other fine leaved plants give rest to the eye and form evergreen screens, which shut out from view hard lines of brick and mortar. Cobœa scandens and other climbers envelope the pillars and cross ties with masses of living green, and along the front are numerous semi-circular stages, beautiful at all seasons—now filled with Chinese Primroses in flower, Solanums covered with crimson fruit, and other plants of equally ornamental character. The wire decorations attached to these stages are at present being painted and otherwise put in order for the coming season, and the curved wire boxes of the Toothed Lycopod, which form an edging to them, are being filled afresh, it being found that this Lycopod does not last good more than one season without renewal. In a propagating stove are multitudes of plants of Isolepis gracilis, with which the masses in the Conservatory are to be margined. Hyacinths and other spring-flowering bulbs are also in a forward state for its decoration, and altogether such a display may soon be expected to be produced as will render this house very gay.

Works of art have been liberally introduced in suitable situations in the grounds, and to those in the Conservatory has recently been added an extremely interesting statue of Linnæus, presented by J. L. Tupper, Esq., at the request of Dr. Lindley. It is a full-sized representation of that great botanist when young, in long shaggy coat and low round-crowned hat, with "specimen" book in hand, in contemplative mood examining the marsh plant, Calla palustris. It is the original of Mr. Tupper's marble statue in the Taylorian Museum at Oxford, and affords a striking proof of what may be done with statuary when a man of real genius abandons the wearisome conventionalisms of sculptors.

When will the Council order the absurd medallions provided by Mr. Henry Cole and his staff to be painted out?

## Miscellaneous.

*North-West American Indians.*—I have seen three or four canoes full of Haida Indians (from Queen Charlotte Island), each canoe holding 16 or 18 people, all black as my hat. . . . Sometimes they wear caps or tie handkerchiefs round their heads, and in wet weather they frequently wear mushroom-shaped hats made of the bark of the Thuja, cut in narrow strips, plaited much like Panama straw, and painted with various devices. Their canoes are of all sizes, from frail things a man can hardly find room to sit in, to boats large enough to hold 30 or 40 people with their equipment. They are all made of single trees, although sometimes the very large ones have a bow and stern tacked on. After they cut the tree down they burn out the inside, and then finish it off and shape it with axe and knife. The models of some are beautiful, their shape and fashion varying according to the place they are required for. Thus all the Indians inside the island and northward of it have round and pointed sterns, while in the strait of Fuca and on the west coast of the island they have straight-up and down sterns, each being adapted to the waters in which they are used. The Birch-bark canoes, made from the bark of Betula papyracea, and so celebrated in the interior and east of the Rocky Mountains, are unknown, or at least unused, on the coast. *Mayne's British Columbia.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—The winter has been so favourable for indoor plants generally that comparatively little fuel will have been required; a slight increase of warmth may now, however, be indulged in for a couple of hours or so on sunny afternoons; but let the temperature sink at night again to 45° or 50°. See that all insects are removed before the growing season commences. Such pests as red spider are not so commonly met with now as they were 20 years ago, a circumstance doubtless to be attributed more to the fact of a greater degree of humidity being maintained now than formerly, than to any special receipt for its destruction having become of general application. Humidity alone is not however, sufficient at all times to keep red spider in check; but sulphur rightly applied in conjunction with atmospheric moisture will be found a perfect cure for it. Apply it on an under pipe or on the least heated portion of a flue as thick as paint, and worked up with soft soap to make it stick. Great care must however be taken not to use it on any surface that is so warm as to produce inconvenience to the hand when grasping it—a simple but safe rule for the guidance of beginners.

### FORCING DEPARTMENT.

Pineries.—Proceed steadily; if pits are at liberty, and provided with permanent bottom heat of say 80°, it would be a good plan to shift a small portion of the plants into large pots in the expectation of their producing early fruit. Where a constant succession is required, let the final removal into the fruiting pots take place successively; no doubt this influences in a considerable degree the period of fruiting. Young stock which has thoroughly filled the pots, might also have a liberal shift, provided pit-room is at hand. With young plants an early growth, with a long summer before them, is important. In all potting, use good turfy loam, the newer and the rougher the better; when the soil is in a proper condition water will pass through precisely where it falls without puddling the surface.

Vineries.—Proceed as before recommended; lessen the atmospheric moisture when the Vines are in blossom, and dispense altogether with syringing for a while; allow plenty of day heat with a lively circulation of air.

Peach House.—Continue to make slow advances in heat on bright days.

Cucumbers and Melons.—Make a successional sowing or two of each of these for fear of disappointment. Any surplus strong plants of the early sowings may be planted in large pots or boxes, and placed in a light part of any warm structure; 70° of heat, and abundance of atmospheric moisture night and day, are the indispensable conditions. All glass frames or pits at work must be kept washed and thoroughly clean: the importance of this in early forcing can never be overrated. Hang mats or other coverings upon rails free from dirt. Keep at all times plenty of leaves and dung well blended, and in a state of high fermentation, ready for new beds, linings, &c.; a portion should be mixed once a week at this period.

### FLOWER GARDEN AND SHRUBBERIES.

Continue to make the necessary preparations for clumps or masses, by sweetening or renewing the soil. Plant out things of biennial character, in masses, where requisite; in borders the re-arrangement of perennials had better stand over until the latter begin to bud in March. A calculation should now or soon be made as to how far the inmates of cold frames will be able to supply the demands to be made upon them. No doubt that damp has reduced the numbers of some kinds. Strong plants, or pots of stores, which had become well established in the autumn, of Verbenas, Fuchsias, Petunias, Heliotropes, Salvias, Calceolarias, &c., should be removed forthwith to some of the houses or pits at work. These will quickly furnish abundance of early cuttings, which should be slipped off, and propagated. Water sparingly at present.

### HARDY FRUIT AND KITCHEN GARDEN.

Sow Tomatoes in heat; also Sweet Basil, Marjoram, &c.; get hand-glasses up for Cauliflowers in pots; enrich the stations very much, adding fresh loam also if at hand. Turn out four strong plants from the pots—one in each angle; they should be well soaked with liquid manure previously. Get Seakale and Rhubarb for next year's forcing planted immediately on rich ground, trenched; throw a hillock of old tan, ashes, or sand, round each crown to coax them on through the vicissitudes of the weather during this month and March. Plant Box edgings where requisite, and thoroughly drain any portion of the garden which exhibits the least appearance of requiring such an operation. Where water is apt to stand on the surface, through the puddling properties of heavy rains, try to improve the texture, by a dressing of sand, ashes, lime rubbish, charcoal dust, &c. Plant Horse-radish if not already done; dibble it in in rich light soil from a foot to 15 inches deep. Get all planting of fruit trees finished, and stake and mulch. Remember to drain thoroughly. Nowhere is this advice more necessary than in the orchard; although Apples and Pears are fond of adhesive soils, they will never prove profitable where water is allowed to accumulate.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Feb. 4, 1863, as observed at the Horticultural Gardens

| Jan. and Feb. | | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. | 29 | 10 | 29.857 | 29.742 | 57 | 45 | 51.0 | 45 | 43½ | W. | .00 |
| Friday | 30 | 11 | 29.598 | 29.368 | 52 | 45 | 48.5 | 46 | 44 | S.W. | .14 |
| Satur. | 31 | 12 | 29.721 | 29.369 | 49 | 31 | 40.0 | 47 | 44½ | N.W. | .16 |
| Sunday | 1 | 13 | 29.853 | 29.738 | 50 | 38 | 44.0 | 44 | 44½ | S.W. | .06 |
| Mon. | 2 | 14 | 29.886 | 29.835 | 52 | 45 | 48.5 | 45½ | 45 | S.W. | .08 |
| Tues. | 3 | ○ | 29.899 | 29.712 | 51 | 29 | 40.0 | 46½ | 44½ | S.W. | .04 |
| Wed. | 4 | 16 | 30.150 | 29.850 | 50 | 44 | 47.0 | 46 | 44½ | W. | .53 |
| Average. | | | 29.853 | 29.659 | 51.5 | 39.5 | 45.5 | 45.7 | 44.3 | | .48 |

Jan. 29—Densely overcast; very fine; rather boisterous at night.
— 30—Overcast; densely clouded; fine; rain.
— 31—Fine; rain; slight frost.
Feb. 1—Densely overcast; fine; rain.
— 2—Overcast; densely clouded; boisterous; rain.
— 3—Uniformly overcast; heavy clouds; fine; slight shower; frosty
— 4—Clear; fine; cloudy; fine.
Mean temperature of the week 7 4-5th deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Feb. 14, 1863.

| February. | | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday | 8 | 45.4 | 32.9 | 39.1 | 20 | 0.67 in. | 1 | 4 | 4 | 2 | 5 | 14 | 4 | 3 |
| Mon. | 9 | 45.1 | 31.7 | 38.4 | 15 | 0.40 | 1 | 6 | 4 | 2 | 2 | 14 | 5 | 3 |
| Tues. | 10 | 44.5 | 29.4 | 36.9 | 14 | 0.52 | 7 | 7 | 3 | 2 | 5 | 9 | 3 | 1 |
| Wed. | 11 | 44.1 | 29.7 | 36.9 | 15 | 0.34 | 9 | 6 | 2 | — | 5 | 9 | 2 | 4 |
| Thurs. | 12 | 44.6 | 29.9 | 37.2 | 15 | 0.26 | 4 | 7 | 1 | — | 4 | 11 | 8 | 2 |
| Friday | 13 | 43.9 | 29.6 | 36.8 | 14 | 0.37 | 3 | 5 | 5 | 1 | 5 | 10 | 6 | 2 |
| Satur. | 14 | 45.2 | 31.3 | 38.3 | 14 | 0.50 | 1 | 5 | 3 | 3 | 3 | 12 | 8 | 2 |

The highest temperature during the above period occurred on the 10th, 1831—therm. 65 deg.; and the lowest on the 13th, 1835—therm. 0 deg.

## Notices to Correspondents

Books: *Maidstone.* Either M'Ewen's pamphlet, or that of Cuthill on the Strawberry, may possibly answer your purpose.

Epacrises: *Belmont.* They are greenhouse plants, which thrive perfectly in a mixture of peat, leaf-mould, and silver sand. They will bloom freely in spring without forcing. When done blossoming, let the flower-spikes be cut off, and induce the plants to make wood, which must be ripened out of doors in the autumn. Cuttings of Epacrises strike freely in pots or pans filled with silver sand, under bell-glasses, and placed on a gentle bottom heat.

Names of Plants: *A H.* 1 & 3, Lomaria lanceolata; 2, Lomaria fluviatilis; 4, Woodwardia (Doodia) media.

Oxalis versicolor: *W P.* It usually blossoms freely enough, and doubtless your plants of it, now covered with flower buds, and apparently in good health, will do the same; but they will not stand forcing.

Plants for Hanging Baskets: *C S T.* Convolvulus mauritanicus, Isolepis gracilis, Lycopodium denticulatum, Ivy-leaved Pelargoniums, the Saxifrages—sarmentosa and cuscutæformis, any of the less rampant cross-bred Tropæolums, Thunbergias, Maurandyas, &c. These are some of the more useful of the many plants adapted for basket culture.

Rose Seeds: *A Novice.* Keep it in damp river sand for a year; then sow it like any other hard seed. You may sow it at once if you like, but it is a great chance if you get anything by so doing.

Vines: *A Z.* Let them by all means be shaken out of the pots in which they are at present, and the roots carefully spread over the border as far as they will go; turning out with a ball direct from the pots would not answer.

On Sale,

PERUVIAN GUANO.
Apply to Messrs. Gibbs, Bright, & Co.,
1, North John Street, Liverpool.

To Farmers, &c.

CHEAP GYPSUM MANURE.—Parties requiring GYPSUM can be supplied at 10s. per Ton, bulk, at the Works at Kennington, S.
Address, X. L., 34, Chapel Street, North Brixton, S.
*** Delivered on Rail, adding for bags and cartage.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. Purser, Secretary.
116, Fenchurch Street, E.C.

LAWES'S WHEAT MANURE for AUTUMN SOWING.
In consequence of the high price of Peruvian Guano, J. B. Lawes has manufactured a WHEAT MANURE for the present season, which will be found very suitable for that crop. A supply is now ready for delivery, and it can be obtained of J. B. Lawes, or through any of his appointed Agents. Price 8*l.* per ton at the Factories, Deptford and Barking Creeks.
Genuine Peruvian Guano direct from Messrs. Gibbs; Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address John Bennet Lawes, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

THE FARMERS' BAROMETER, 50s., a new Instrument by Negretti & Zambra, will correctly indicate whether the Barometer falls for Rain or for Wind.
Particulars by enclosing stamp, 1, Hatton Garden, E.C.; 59, Cornhill, E.C.; and 122, Regent Street, W.

AGRICULTURAL and HORTICULTURAL TOOLS.—Threshing Machines for Steam and Horse Power, Ploughs, Waggons, Carts, Turnip Cutters, Cake Breakers, Chaff Cutters, &c. Price List free. Illustrated Catalogues on receipt of six postage stamps.
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Prices sent free on application.

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N.B. The principal Seed-houses in the three Kingdoms have been supplied by us for the last 30 years. Price Lists and Samples may be had on application. No connection with any other house in the Trade.

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Sold in casks of about 30 gallons each, at 1*s.* 6*d.* per gallon, at the Manufactory, or 1*s.* 8*d.* per gallon paid to any station in the kingdom.
Apply to Hill & Smith, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

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PROTECTION from the COLD WINDS & MORNING FROST.
"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.
Two yards wide .. .. .. 1*s.* 6*d.* per yard run.
Four yards wide .. .. .. 3*s.* per yard.
An improved make, 3 yards wide, 2*s.* 6*d.* per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1*s.* 4*d.* per yard run.
Elisha Thomas Archer, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.
"It is much cheaper than Mats as a covering."

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"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. Glenny."
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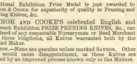

International Exhibition Prize Medal is just awarded to Saynor & Cooke for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR and COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.
Caution.—None are genuine unless marked Saynor. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

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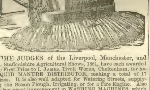


THE JUDGES of the Liverpool, Manchester, and Staffordshire Agricultural Shows, 1861, have each awarded the First Prize to I. James, Tivoli Works, Cheltenham, for his LIQUID MANURE DISTRIBUTOR, making a total of 17 Prizes. It is also well adapted for Watering Streets, supplying the Steam Plough, Irrigating, or for a Fire Engine. Also his last great improvement in WASHING MACHINES, which have been awarded several First Prizes, and will wash 20 Shirts in 20 minutes.

Exhibition Prize Medal 1862.

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These inventions are recommended as possessing numerous advantages not to be found in anything hitherto made. At the late Meeting of the Royal Agricultural Society at Leeds, Musgrave Brothers received a Silver Medal, and two Awards of "Highly Commended," being the only Prizes conferred on any competitor in this class.
Particulars sent on application to the Inventors and Makers, Musgrave Brothers, Ann Street Iron Works, Belfast.

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for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use: also Spouting at 10½*d.* per yard,
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(formed of Twisted Wires like a rope or cable), the strongest, cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, from 1*s.* per yard.
This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.
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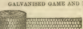

Galvanised, 24 ins. wide, 2-inch mesh, 4*d.*, 4½*d.*, and 6¾*d.* per yard.
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GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS and ROSE STAKES, &c.
Strong CATTLE HURDLES from 2*s.* per yard.

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of all sizes, for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to
Henry J. Morton & Co., 2, Basinghall Buildings, Leeds.

MESSRS. WAY and EVANS, Analytical Chemists, have REMOVED their LABORATORY from 15, Welbeck Street, Cavendish Square, to 106, Leadenhall Street, E.C., where all Letters and Samples for Analysis should in future be addressed.—Feb. 7.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. Nesbit, Lansdell & Co.

AGRICULTURAL and CHEMICAL COLLEGE, Kennington.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. Nesbit, Lansdell & Co., 37 and 38, Lower Kennington Lane, London, S.
Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.
Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.
Full particulars of terms will be forwarded on application.

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MR. JOSEPH BEAUMONT, Land Agent, Surveyor, and Drainage Engineer (for several years Assistant to Mr. Josiah Parkes, Drainage Engineer) undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally.
Under-drainage, Outfall Drainage, Watercourses, Embankments, and River Works; Reclamation of Marshes, Lakes, and Moor Lands; Irrigation, Warping, Clearing, Inclosing; the Erection of Farm Buildings, Labourers' Cottages, Construction of Farm Roads, &c., executed either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.
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WEST of ENGLAND and SOUTH WALES LAND DRAINAGE and INCLOSURE COMPANY.
Established 1844.
The Right Hon. the Earl of Devon, *Chairman.*
Lands drained and improved without recourse to the private funds or moneys of the Proprietor.
This Company's Act not requiring Proprietors to liquidate the cost, the amount might remain a permanent charge on the lands, or be paid off when convenient, or be made redeemable over any term of years. The works are undertaken by the Company, or Proprietors might avail themselves of the power of the Act only, and get the works executed by Agents or other parties. Outfalls through adjoining lands are obtainable under the Company's Act. Works are also executed by the Company for parties advancing their own Capital, or not requiring to obtain the money under the Company's Act.
Frederick Brodie, Secretary.
Offices: Exeter; and 30 Parliament Street, London.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.
To Landowners, the Clergy, Estate Agents, Surveyors, &c. in England and Wales and in Scotland.
The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.
1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
For further information, and for forms of application, apply to the Honourable William Napier, Managing Director, 2, Old Palace Yard, Westminster, S.W.

NEW HARDY WHITE SWEDE.—The Favourite Swede of the Flockmasters on the Hampshire, Wiltshire, and Cotswold Hills. Grows rather coarse on some soils or when sown early; but it is very productive, hardy, and it is the only Swede that can be depended upon to keep sound through the winter without storing. Excellent for late sowing and upon poor land.
Seed 1*s.* per lb., or 42*s.* per bushel.
Supplied by Raynbird, Caldecott, & Bawtree, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

International Exhibition. Prize Medals 1851 and 1862, Awarded for "Excellent Seed Corn and Seeds," to
RAYNBIRD, CALDECOTT, and BAWTREE, Seed Merchants and Growers, Basingstoke, Andover; and 89, Seed Market, Mark Lane, London, E.C.
Samples of all kinds of AGRICULTURAL SEEDS and SEED CORN, sent post free on application.

Present Prices of Farm Seeds.

THE NEW FARM SEEDS are NOW READY, at Reduced Prices.
PRICED LISTS may be had, Post Free, from Sutton & Sons, Royal Berkshire Seed Establishment, Reading.

# The Agricultural Gazette.

*SATURDAY, FEBRUARY 7, 1863.*

Some weeks ago (in last year's volume), we gave detailed statistics of the Frocester Court Dairy during the past seven years. We now repeat the table then published, in order that the figures of

ast year, the eighth of the series, may be added, and in order that they may be compared in some particulars with the figures of an American experience which are given in the last number of the New York State Agricultural Society's Transactions.

STATISTICS OF FROCESTER COURT DAIRY, IN GLOUCESTERSHIRE.

| Year. | No. of Cows. | Yield of Milk in Gallons. | | | | Yield of Cheese. | | Yield of Butter. | | | | Value of Produce. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total. | Per Cow. | Given to Calves and Pigs. | Made into Cheese. | Total. | Per Cow. | Milk. | Whey. | Total. | Per Cow. | Total. | Per Cow. |
| | | Gallons | Gallons. | Gallons. | Gallons. | lb. | lb. | lb. | lb. | lb. | lb. | £ | £ s. d. |
| 1855 | 30 | .. | .. | .. | ... | 10,860 | 362 | 1402 | 461 | 1863 | 62 | 444 | 15 0 0 |
| 1856 | 45 | .. | .. | .. | ... | 19,040 | 423 | 2272 | 647 | 2919 | 65 | 741 | 16 0 0 |
| 1857 | 55 | 34,728 | 631 | say 3000 | 31,728 | 25,424 | 464 | 3375 | 91 | 3466 | 63 | 906 | 16 10 0 |
| 1858 | 52 | 26,247 | 507 | say 3000 | 23,247 | 20,160 | 388 | 1687 | 344 | 2031 | 39 | 638 | 12 5 0 |
| 1859 | 60 | 32,009 | 533 | 3400 | 28,607 | 22,756 | 378 | 1728 | 697 | 2425 | 40 | 795 | 13 5 0 |
| 1860 | 66 | 34,470 | 522 | 3439 | 31,031 | 29,344 | 444 | 1757 | 729 | 2486 | 37 | 1070 | 16 4 0 |
| 1861 | 71 | 38,831 | 550 | 4874 | 33,957 | 32,262 | 454 | 1589 | 862 | 2457 | 34 | 1068 | 15 0 0 |
| 1862 | 73 | 38,238 | 524 | 6038 | 32,200 | 30,876 | 423 | 2112 | 640 | 2752 | 38 | 1034 | 14 3 0 |

In the English experience, taking the last six years during which the record is complete, 377 cows yielded 204,523 gallons of milk, or 542½ gallons of milk apiece per annum. Of this nearly 23,000 gallons were given to calves and pigs, and the remainder (180,770 gallons) was made into cheese, yielding 16,802 lbs. of cheese, and 15,617 lbs. of butter, or 444½ lbs. of cheese, and 41¼ lbs. of butter per cow. The total annual yield, including the value of the whey given to pigs, varies from 12*l*. 5*s*. to 16*l*. 10*s*. per cow per annum. Two years ago it was 16*l*. 4*s*. per cow; last year it was 14*l*. 3*s*.; the year between it was 15*l*. And the difference has not been owing to any difference in the yield of produce: it will be seen that the yield of cheese was 423 lbs. per cow last year, notwithstanding the loss owing to an attack of distemper. The loss is attributable to the fall of prices alone; and it is probably owing to the large importations of dairy produce from America. The loss of 2*l*. per cow is the measure of the share borne by the dairy districts of England in the general calamity of the American war.

The following figures, given by way of comparison with the Gloucestershire experience, are descriptive of the produce of 50 cows of the "native" breed kept on the farm of the Hon. Z. PRATT, Prattsville, Greene county, New York. The farm contains 365 acres, 40 of which are fine alluvial soil, the rest loam and gravel, lying on the slope of the Catskill mountain. Colonel PRATT'S 50 cows yielded 31,842 gallons of milk in 1857, and 32,556, 30,087, 26,276, and 28,301 gallons during the four succeeding years—149,062 gallons altogether—equal to 596 gallons annually per cow. The greatest daily yield by the 50 cows was 3½ gallons per cow on one day in 1859, and in every year it reached or exceeded 3¼ gallons as the maximum daily yield of the year. In the Frocester Court Dairy the maximum weekly yield per cow was 22¼ gallons in 1862, 22¼ gallons in 1861, and as much as 24½ gallons in 1857; varying thus from 3¼ to 3½ gallons daily; nearly the same as in the case of Col. PRATT. The annual yield of milk is however greater in the American dairy, and it may be accounted for by the greater richness of the food given to the cows, which receive "2 quarts each per day of mixed provender, consisting of one third each of corn, Oats, and Buckwheat, ground together, hay also being supplied from February till the 10th of May, then Grass alone until Sept. 1, when 'corn' sown broadcast for forage began to be fed, and afterwards Pumpkins, both of which were found to add to the flavour and colour of the butter. This, especially the early spring food, is much better keep than English dairy cows receive, and is quite enough to account for the greater yield of milk.

Colonel PRATT'S is a butter and pork dairy exclusively. The following are his returns:—

STATISTICS OF PRATTSVILLE DAIRY, NEW YORK.

| Years. | No. of Cows. | Yield of Milk in Gallons. | | | Butter in lbs. | | Quarts of Milk to 1 lb. of Butter. | Pork in lbs. | | Sales. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total. | Per Cow. | Maximum of one Day. | Total. | Per Cow. | | Total. | Per Cow. | Total. | Per Cow. |
| | | | | | | | | | | £ s. d. | £ s. d. |
| 1857 .. | 50 | 31,842 | 636½ | 3.28 | 6,500 | 130 | 20 | 4627 | 92½ | 375 3 0 | 7 10 0 |
| 1858 .. | 50 | 32,556 | 651 | 3.31 | 8,050 | 161 | 16.16 | 7408 | 148 | 469 0 0 | 9 7 6 |
| 1859 .. | 50 | 30,087 | 601⅜ | 3.53 | 8,300 | 166 | 14.5 | 6455 | 129 | 457 12 0 | 9 19 0 |
| 1860 .. | 50 | 26,276 | 525¼ | 3.40 | 9,143 | 182¾ | 11.2 | 6516 | 130 | 520 18 0 | 10 8 4 |
| 1861 .. | 50 | 28,301 | 572½ | 3.34 | 10,860 | 217⅕ | 10.4 | 6625 | 132½ | 564 18 0 | 11 5 0 |

The calculation of the money return has been made from the published account at the rate of 4*s*. to the dollar. It appears from the accompanying statement that the increase in the yield of butter from 182 lbs. to 217 lbs. per cow in the last year of the series, as compared with 1860, has been owing not merely to the more favourable character of 1861, but also to a very great change in the actual cows of the dairy, for "in the belief that the best milkers yield the most profit, the best cows that could be found for dairy purposes have been carefully selected in the new purchases that have been made, so that in point of fact only about 30 of the 50 cows milked in 1861 formed part of the herd in 1860."

It will be seen that the yield of milk during the last two years is smaller than during the previous three, but its richness is marvellously increased—the yield of butter being about 1 lb. to 21 pints of milk in 1861, and barely more than half this quantity in 1857. The yield is stated, month by month, for the last two years, as follows:—

| | 1860. | | 1861. | |
|---|---|---|---|---|
| | Quarts per lb. of Butter. | Weight per gallon. | Quarts per lb. of Butter. | Weight per gallon. |
| | lbs. | lbs. | lbs. | lbs. |
| May 1 .. .. | 12.96 | 7.91 | 12.2 | 8.02 |
| June 1 .. .. | 11.43 | 8.28 | 12.4 | 7.74 |
| July 1 .. .. | 12.14 | 8.30 | 10.74 | 8.03 |
| August 1 .. .. | 11.35 | 8.66 | 10.45 | 8.28 |
| September 1 .. | 11.83 | 8.09 | 9.94 | 8.12 |
| October 1 .. .. | 9.28 | 8.53 | 8.85 | 8.07 |
| November 1 .. | 8.21 | 7.26 | 8.50 | 8.12 |
| Average of the 7 days .. .. | 11.03 | 8.19 | 10.29 | 8.05 |
| Average of the whole season | 11.2 | 8.28 | 10.42 | 8.05 |

The increasing richness of the milk as the season passes, is very strikingly illustrated by these figures, which we quote from the statement in the New York State Society's Transactions.

—— WE have to beg readers of the Saturday's edition of the last Number of the *Agricultural Gazette* to substitute the following sentence in the last column of the leading article for what is there said about the cost of steam cultivation during the past autumn on Mr. ARNOT'S farm at Carshalton.

"The actual earnings of the apparatus thus amounted during the autumn to 155*l*. 9*s*. 10*d*. The actual cost of wages, coals, oil, and repairs during the same time in accomplishing all this work (ploughing and threshing) has been 89*l*. 0*s*. 1*d*., not much more than one half the earnings; and taking out the wages, repairs, and coals and oil of the days at work with the steam plough and cultivator alone, we have a sum of 58*l*. spent against 120*l*. earned in ploughing at 12*s*. and 14*s*. an acre, and scarifying at 6*s*. an acre. There is here certainly ample room for interest for capital, and for tear and wear and cost of rope."

In like manner the sum, 3*s*. 5*d*. per acre, stated as the cost of ploughing over the whole year between harvests of 1861 and 1862, should have been described as the cost of wages, oil, and repairs of repairs only. The coal bill, amounting to 63*l*. 15*s*., or 2*s*. an acre, was not included. The whole charge therefore is 5*s*. 5*d*. per acre, to which the charge for rope and interest of capital, and general tear and wear, must be added before the whole expenditure is understood.

It is proper also to add that Mr. FRANK DODD, of the farm near Chakendon, Oxfordshire, whose experience was given at p. 108, has since informed us that the statement of wages in steam ploughing, amounting to 49*s*. a week is not true of the actual period described, for during the first three weeks of the use of the plough, other labourers than his own, and more of them, were engaged than have subsequently been employed. Of course the 6*s*. an acre, at which his expenditure in ploughing 104 acres in 23 days was thus estimated, did not include any charge for tear and wear, or interest on outlay, or horse labour in the removals of apparatus from one place to another.

## THIN SEEDING.

THERE were two or three things in my little classical farming which I forgot to mention, and which I think my readers will excuse me if I now state.

First, on taking my land, for I rented it, I drained it thoroughly to an average depth of about 5 feet, and the drains worked delightfully, completely conveying away all the water, and at the same time raising of course the temperature of the land. Secondly, the land being infested with wireworms, I advertised for live moles, and several boxes full were brought me by mole-catchers, which I bought and turned down, first giving 3*s*. a dozen, and then 2*s*. But did they not injure my land?—injure it! no; but during the growth of my crops, though for some time they made the land like a honeycomb, the crops were not injured in the least by them, but if anything improved; but all the wireworms were soon destroyed, and then, having performed me this great service, the pretty little fellow workers migrated to my neighbour's field to benefit them in the same way, but of course were bowstringed by the wise and intelligent men whom they went to serve.

Oh! when will men learn to use their thinking faculties. Wisdom, like Truth, is certainly at the bottom of a very deep well.

But I am told a thousand times over by land cultivators, "We know that moles do but little harm, but we do not like to see the mole-hills they make." "Then, my friends," I reply, "take a hoe and knock them about as I do; yes, you yourselves knock them about—why not? Take a little manual exercise of this kind the first thing in the morning, and it will enable you to relish your breakfasts the better, and perhaps keep off the gout and apoplexy."

"But we do not like to see mole hills," and I will tell you, my friends, what I do not like to see, and it is this: the very essence of your farmyard manure running first into your horse-ponds, and then into ditches, and thence into brooks, and thence to the sea, to be mingled with the waters of the ocean! This is a thousand times more annoying to me—nay, more painful—than it would be to see my land covered over with mole-hills, for the latter would be but for a season; the work would soon be done, and then my kind friends would leave me, as I have said, to be bowstringed by the wise and intelligent men whom they went away to serve. But your wasting all the essence of your manures, the pabula that ought to be for your crops, is perpetual; your grandfathers and grandmothers, uncles and aunts and cousins did the same; and your neighbours, Master Turniptop and old John Weatherhog, do the same —[There are not now so many gentlemen of these names in the agricultural districts as the rev. gentleman appears to imagine]—and they say—"Muck cannot be too dry for land, and they like it when it has well smoked and heated." But, my friends, do you not reflect—why not?—that one ton of your farm-yard manure, if it were wisely made, is of more real value for your land, than much of the rubbish called guano you are purchasing at 7*l*., 8*l*., or 9*l*. or 10*l*. a ton?

My most valued friends, for many of you are excellent men—none better—but do think a little, will you? and should you do this, then every quart of liquid from your farm-yards, and your house, and the houses of your labourers, who may not require it themselves, will be taken to your fields, and then away with this new-fangled, lazy-basket compositions of all kinds of rubbish called guanos, as your lands will be always in heart by the application to them of really valuable fertilisers.

But one more word in behalf of my favourite little fellow labourer, the mole; but now he shall plead for himself, and do you attend to what he says, for he is a wise and learned little creature, and is taught by One who cannot lead him wrong—

"I put no man to pain,
I eat not his grain,
They hate me in vain."

Why then employ poachers, midnight assassins, to bow-string him?—for nine-tenths of the mole-catchers are poachers in disguise; but the innocent farmers pay them to wander about their fields by day in order that they may know where to set their nets and gins by night. But so the world rubs on.

But thirdly, another thing I did on my classical farm was this: My principle was, as I had before explained more fully, to put the seed into my ground as the learned and scientific Xenophon taught his disciple, the philosophical Socrates, that seed ought to be put in, that is, evenly, grain separate from grain; and as Nature, science, and common sense also confirm it should be put in. But I could not get my land so seeded; the drills that are so much boasted of would not do it, but scooped up the seed, throwing it into the furrows made by the coulters by cupsfull. The drill, then, would not do, there being no even seeding by that, and so I tried the dibbling plan; and this was worse: for here the droppers, in spite of all I could say against it, dropped from their little benumbed fingers whole handsful of seeds into holes at a time.

The last time I tried the dibbling plan was rather ludicrous, and though I have encroached rather too far, I must give a short account of it. I engaged a man to dibble my field with Wheat, but one grain in a hole only was to be put in, except by chance. He commenced with his droppers, and I found the children dropped, as usual, half a dozen or a dozen seeds in a

hole. That I said would not do, and should not do; and so the man turned rather restive, and intimated that I was sadly deficient in brains. At this I said to him, "Leave off this job, and I will set you to put in a plot of Windsor Beans;" and so away we went to the plot, and my man made the holes, and then dropped a single Bean into each hole, when I stopped him again, saying, "Drop in 6, 8, or 10, or more into each hole, as you do of Wheat," when the poor man thought worse of my intellect than he did before, and so all I could do was to call him off to some other employment, as reasoning of course would have been vain with such a 2-bushel an acre seeder.

But since then I have invented and made a drill, by which I put in my seed exactly as I like, thick or thin; and last year I had a little Wheat, Barley, and Oats put in by it in single grains, and the Wheat and Barley, though I have had better, averaged from 1500 to 1600-fold, and were as thick in the ground as they could grow; but the Oats were wonderful, the admiration of all who saw them.

But, to be as brief as I can, will any one of my farming friends be so good as to inform me and the world why farmers in dibbling put into each hole 6, 8, 10, 12, and even—I write what I have often proved—20 grains of Wheat in a hole, while for a crop of Beans they put in but one? If any one will show me a sound reason for this, I shall ever afterwards esteem him as one of my choicest philosophical friends; and if he will favour me, also, with his photograph, I will place it the very first in my album. And I further add, if farmers will seed their land as Nature teaches, we shall hear no more of the two bushel an acre men, except their regrets that they had not opened their eyes to the light somewhat sooner. *Geo. Wilkins, Parsonage, Wix, Manningtree, Jan. 27.*

## Home Correspondence.

*The Ketton Short-horns.*—"An eminent breeder insinuated in a letter to Sir John Sinclair, in the 'Farmers' Magazine,' 1814, that Mr. Colling had crossed some of his stock with kyloes, and that if he had not done so, his stock would have sold for some thousand pounds more. Mr. Colling undoubtedly purchased annually many female kyloes, and the best he could procure, which he used as nurses for his young calves, but the produce of such kyloes were fed for the butcher and were by no means intended for breeding. The first bulls of fame at Ketton were called Hubback, Punch, and Ben. I have heard that Mr. Colling bought one of the first-named bulls (and which was depastured in the lanes contiguous to Great Burdon and Haughton-le-Skerme) of a neighbouring farmer. Ben, the last-named bull, he purchased of another farmer, who resided near Great Stainton, and had a good assortment of cattle, and was called Benjamin Ord, an uncle of my father. My father accompanied Mr. Colling when he purchased Ben." To this, communicated anonymously to the *Darlington Telegraph*, we add the following from a correspondent: Old Mr. Westall, who is now living in Darlington, tells me that the breeder of Hubback, Mr. Robert Colling, and Mr. Westall's father attended Houghton-le-Skerme Church, and that on the Sunday previous to Good Friday Mr. W.'s father and Robert Colling, having previously agreed to buy Hubback for their joint use, asked the breeder, on their return from church, what he would take for him, and was told 10*l.* They offered 8*l.*, which was refused. On the morning of Good Friday Mr. W.'s father went to this church, and there met Hubback's master, and agreed to buy him at 10*l.*; and whilst this was being done, Robert Colling had gone to the man's house and waited for his return from church, and as Mr. W.'s father believed with the intention of buying the bull on his own account, and not, as had been agreed upon, for their joint account (however, I suppose it is a mere surmise that Robert went to buy him exclusively for himself). Robert and old Westall kept him, and each put nearly twenty cows to him, when they sold him to Charles Colling for 20*l.*, and they had to put their cows to the bull, and not be charged, but Mr. W. says the first cow his father sent Charles demanded 5*l.* The above are the particulars Mr. Westall related to me about two years ago, and as far as his veracity I believe it is true. *W. Wooler.*

*Diseased Stock in Ireland.*—Being one of those who, at the request of Doctor Kirkpatrick, had supplied Professor Gamgee with much of the materials which formed the subject matter of his late lecture before a meeting of the Royal Dublin and its visitors, I was with many others not a little surprised and disappointed at the use he appeared to have made of such information, and the apparent conclusions he had arrived at. Still I would be far from censuring his lecture without first seeing whatever he may have had in view, but kept in the background relative to the cure as well as the prevention of those diseases; though I must confess that in as far as his lecture might influence me, I have little hopes of much practical service being rendered by that lecture beyond what may be derived from Mr. Ganley's project, and which I fear you have with the best possible intentions thrown cold water upon, *in limine*, before it can be well understood. I have the pleasure of knowing Mr. Ganly well and for a long time, and believe him quite incapable of suggesting anything that would not be perfectly legitimate and practically beneficial to both the consumers and producers of flesh-meat —nay, to the public at large, without injury to any individual. As regards remedial measures you say: "Among these the veterinary surgeon stands first." Until lately I thought the same, but from having seen the "doctors' differences" so fully displayed by eminent veterinary surgeons of late, I fear that some of those early prejudices indulged in by me and other Irishmen have had some just grounds for their origin, nor has this lecture of Professor Gamgee done much to remove them. You further say—"The only society which is likely to help the unfortunate men who are suffering by the liability of their live stock to disease is a mutual insurance company for bearing one another's burden. In as far as England is concerned I think you are quite right, but very much fear the impossibility of such an organisation in Ireland I have many reasons for indulging in this fear, which it would not become me to give in full in your pages; however there is one which I cannot avoid giving. Some time ago a friend of mine became the agent in Ireland for a cattle insurance company, and requested my advice on the appointment of district inspectors. This I gave him, and to help the project, at his request, agreed to be the inspector for a large district in my own neighbourhood, but a little experience in that unenviable capacity soon convinced me of the impossibility (on my part at least) of preventing frauds and injustice being practised on both sides, so I resigned the job and let it go into other hands, and the whole affair soon fell to the ground, as I had anticipated, because there was not nor could there be an adequate check against fraud and double dealing. But the case may be, and I am sure can be, quite the reverse with a well formed project in preventing the sale of diseased meat to be consumed as human food, in preventing a great sacrifice on the part of the producers, and in conferring an universal benefit, if I may so express it, on all classes in Ireland; and, as already said, I am sure, if Mr. Ganly takes up the matter and receives that support which the importance of it would entitle it to, he will set an example for all Ireland at least, and perhaps worth the consideration of England also. *Edward Carroll, Kilgreany Lodge, Clonegal.*

*The American Stone Breaker.*—Can any of your readers give information of experience in working the American stone breaker, a model of which was in the Exhibition, and apparently did its work so well. *R. Neville Grenville.*

*Potato Disease and the means of Averting it.*—I have seen with much pleasure your Leader signed "B," on the subject of Potato disease and the simple means of averting it, if no new feature of an unforeseen character presents itself. In corroboration of the views of "B," I will give you a short note on some of my latest experiments. In October last year I selected some Potatoes considerably diseased, and planted them in the garden at Cranmore House, but without any manure beyond what was unexhausted in the ground after the previous Cabbage and Carrot crops; and my successor there, to whom I sold the farm, had the earliest, soundest, and best crop of the kind in the locality. On coming here the latter end of March I had everything to do—no preparation having been made for anything. Remembering the old practices of my grandfather in producing early Potatoes, with some amendment I adopted the same, on what is libellously termed the "lazy bed" system. But, unlike "B," I did not plough or dig the lealand at all—I merely had the land laid out in beds, 2½ feet wide, leaving an alley or furrow of 1 foot between them, to afford cover. I had about 6 tons of well-rotted dung, with about twice that weight of earth in compost, placed and spread on the beds, and the tubers planted at 9 inches from the edges of the beds, and at 1 foot in every other way asunder. They were covered then with the spade and shovel, and on a larger scale with the earth ploughed in the furrows and shovelled over the tubers. When they were well over ground I had at the rate of 2 cwt. of Lawes' superphosphate, and the same money value (15*s.*) respectively applied to the statute acre of other portable manures, spread over the beds between the stalks, which were then earthed up, and left so, merely pulling up whatever weeds appeared, till the crop was fit to dig, which was by the middle of July, just in three months after being planted. The disease made its appearance on the stalks—the crop then nearly matured—in the last week in August, when I had the crop, with the exception of one short bed which I left for experiment, dug and pitted in very narrow and very shallow pits, covered up with dry earth and a sod placed with the green side up on the top of the pits to prevent the wet entering there, and from then till now I could scarcely discover a diseased tuber in any of the four following varieties —Kemps, Dalmahoys, Pinkeyes, and Scotchdons. The produce varying from 6½ to 9 tons to the acre according to the above order. The bed I left for experiment I have tried at the beginning of each month since the general crops were dug out. The disease in the tubers had made some progress by the 1st of October, and increased ever since till now, when there is scarcely a sound tuber in what are remaining. Am I right in saying the foregoing simple process possessed the following advantages:—1. A cheap and expeditious mode of planting; 2. A security against disease by having the plants grown on a bed rendered dry by the deep furrows or alleys beside it; 3. An early maturity, by which a second and valuable crop can be had on the same*; and 4. By having the crop removed thus early, that great curse to Ireland, the propagation of weeds, so visible in most places where the Potato crop had become diseased, is totally averted? I think I am, and the state of the land on which I grew the Potatoes proves it. And here let me thank your correspondent "B." for the matter and manner of his letter, which may tend to benefit the small farmers of Ireland if our local papers, as is their wont on such occasions, have the matter transferred to their columns. *E. C.*

*Flat Island Guano.*—In reference to the Flat Island guano mentioned in your Notices to Correspondents, allow me to state that I have seen it at Melbourne. Its appearance is something more like lumps of chalk in dry mud than anything else, and it is obtained for the Melbourne market from a small island called Mud Island, or Flat Island, lying somewhere near the entrance to Port Phillip Heads, where sea-birds congregate in vast numbers. It has no smell whatever of ammonia. As the Peruvian guano sells at Melbourne freely at 15*l.* 10*s.* per ton, the statement that the Mud Island is better than the Peruvian can only be reconciled with truth if we suppose that at 5*l.* 5*s.* per ton, it is better for some purposes than the Peruvian is at 15*l.* 10*s.* *D.*

*Steam Ploughing at Carshalton.*—In your *Gazette* of last week I find a mistake has occurred with regard to the immediate outgoings against the work done by the steam plough on my farm, which, if not rectified, will make me look singular even in the eyes of the steam-ploughing community. The item 110*l.* 5*s.* 11*d.* stands only against wages, oil, and repairs. The coal bill has by some means been omitted, which amounts to 63*l.* 15*s.*, or 2*s.* an acre, thus making the actual outgoings 5*s.* 5*d.* instead of 3*s.* 5*d.* per acre. *James Arnot, Woodcote, Feb. 2.* [The correction is made in a leading paragraph.]

*Sparrow Murder.*—It is quite clear to me, that the Almighty Creator intended some kinds of animals to prey upon others, and those others to be preyed upon, so that the earth should be replenished, and a just balance kept up among them; but man for his own amusement, and in his folly and ignorance, destroys the balance, and in England it is altogether destroyed. Hence we are over-run with rats, and mice, and sparrows, and hence the necessity there is for them to be destroyed, and, if possible, I would destroy every rat in the kingdom, and the mice also (although the latter are of some use), and I would destroy sparrows also. The whole? No. And would I sustain Sparrow Clubs? No; on the contrary, condemn them *in toto*; nevertheless, I would destroy sparrows, or sanction their being destroyed, and thank any one who will destroy some few scores or hundreds that I am most unwillingly supporting in my garden, pig-styes, yard &c.; and this I should do because the kestrels and hawks are everywhere destroyed, and hence sparrows are now, where they are not kept down, doing infinitely more injury than good. But now to be serious, and do you be serious also, if you can; and I will tell you what all this fuss about "sparrow murder" is about; and what it is? Because the sparrows eat caterpillars; so says Dr. Bree. But do they eat caterpillars? No, they do not, and this every tyro of a naturalist knows, and this I, myself, have proved hundreds of times. A sparrow will perish with hunger rather than touch a caterpillar; and this, I stake my reputation in proving to the satisfaction of every man who can understand what a proof is; and hence the house of snow which the Doctor has erected is completely melted away. But, sparrows are notorious thieves, as every farmer and gardener knows to his cost, and though a few are very useful, yet the numbers are now unbearable and they must be diminished—murder indeed! hang the rogues. *G. Wilkins, Wix Parsonage, Jan. 13, 1863.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

Monthly Council: *Wednesday, February* 4.—Present: Viscount Eversley, President, in the chair; Earl Cathcart, Earl Powis, Lord Berners, Lord Feversham, Lord Tredegar, Lord Walsingham, Hon. W. Cavendish, M.P., Hon. A. Vernon, Sir A. K. Macdonald, Mr. Raymond Barker, Mr. Barthropp, Colonel Challoner, Mr. Dent, M.P., Mr. Druce, Mr. Exall, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Major-General Hood, Mr. Holland, M.P., Mr. Jonas, Mr. Lawes, Mr. Lawrence, Mr. Milward, Mr. Pain, Mr. Randell, Mr. Sanday, Mr. Shuttleworth, Mr. Thompson, M.P. Mr. Torr, Mr. Wallis, Mr. Burch Western, Mr. Wilson, Mr. Frere, Professor Simonds, Professor Voelcker.

The following new members were elected:—

Arnold, Matthew, Westmeon, Petersfield
Ashby, James, Capel, near Dorking
Ashmore, John, Norton, Evesham
Baker, John, Hockley, Rayleigh, Essex
Barker, Charles Stuart, 12, Buckingham Street, Adelphi, W.C.
Beaumont, Richard, Wollaton, Nottingham
Birch, George Francis, Clare Park, Farnham
Boruford, Benjamin, Pitchill, Evesham
Bower, George, St. Neot's
Branson, William Charles, Little Weldon, Wansford
Brown, Benjamin, Manor House, Shipbourne, Tunbridge
Brown, Richard, Cippenham, Slough
Campain, Joseph George, Cowbit, Spalding
Campain, Samuel Wm.; Deeping St. Nicholas, Spalding
Chaundler, Robert James, Crondall, Farnham
Christian, John, Barrow House, near Oakham
Coney, William, Battenhall, Worcester
Coote, George, Smeetham Hall, Sudbury

* Cabbages, late Turnips, Rape, Italian Rye-grass, Early Wheat for thin seeding, by dibbling, ribbing, or otherwise.

Crisp, Edwards, M.D., 278, King's Parade, Chelsea, S.W.
Davies, John Morgan, Froodvale, Llandilo
Davison, John Terry, Easton Maudit, Northampton
Dickson, Arthur, Queen's Park, Chester
Esam, William, Averham Park, Southwell
Fletcher, Thomas, Deeping St. Nicholas, Spalding
Ford, John, Moreton Hall, Warwick
Ford, John, Market Rasen
Garrard, Edward Holland, Clopton House, Broadway, Worcester
Garringe, Hugh, Southwick Green, Shoreham
Grantham, Captain, H. V., Scawby, Brigg
Grimes, Wm. Howlett, Bubbenhall, Kenilworth
Haselwood, Lewis Robert, 33, Queen's Square, Bloomsbury
Haywood, George, Derby
Haywood, James, Jun., Derby
Headley, Edward, 2, New Square, Cambridge
Hearne, Stephen Street, Abbots Salford, Evesham
Heatley, John, Eaton, Market Drayton
Heatley, Richard Thomas, Dodicote Grange, Market Drayton
Hill, Henry, 22, Queen's Gate Terrace, South Kensington, S.W.
Johnson, Joseph, Windsor
Longland, James, Grendon, Northampton
Loveden, Pryse, Gogerddau, Aberystwith
Marsh, Richard, Sandwich
Masterman, Thomas Wm., The Hall, Rotherfield, Tunbridge Wells
Neame, Edward, Selling Court, Faversham
New, David, Waverley House, Nottingham
Palmer, Robert, Bexington, Bridport
Palmer, Walter James, Pencoyd Court, Ross
Parris, John Williamson, Farnham, Bishop's Stortford
Perry, William Perry, Kingsomborne, Stockbridge
Prance, Courtenay Connell, The Elms, Evesham
Pritchard, William, Albert Street, Camden Road, N.W.
Quibell, William Oliver, Newark
Ralphs, John, Saighton, Chester
Reading, William, Ashorne, Leamington
Reeves, Robert, Bratton, Westbury
Robinson, John, Rudly, Hutton Rudly, York
Robinson, John George, 21, Montague Square, W.
Scriven, Edward, Wormleighton Hill, Southam, Warwick
Scudamore, John, Pengeley Court, Ross
Seymour, Captain Henry, Park Place, Old Windsor
Shellabear, Samuel, Holkham, Wells
Smith, William Robert, Rushford, Evesham
Smithin, Benjamin, Sheriff's Leuch, Evesham
Smithin, Joseph, Wadborough, Kempsey
Spicer, John William Gooch, Esher Place, Esher
Thornton, Edward, Little Pitchford, Shrewsbury
Tindal, C. G., Yattendon, Newbury
Turner, William, Jun, Stourton, Birkenhead
Tuson, Richard V., R.V. College, Camden Town, N.W.
Vesey, Charles C., Lucan House, Lucan, Dublin
Vickerman, Charles Ranken, Thoby Priory, Brentwood
Ward, Thomas Johnson, Fern Park, Olveston, Gloucester
Watson, Robert, Standard Hill, Ninfield, Battle
Webb, James, Spring Hill, Hadbury, Pershore
Whitworth, George, Lower Road, Rotherhithe, S.E.

FINANCES.—The Hon. General Hood, Chairman of the Committee, presented the Report, from which it appeared that the Secretary's receipts during the past two months had been examined by the Committee, and by Messrs. Quilter, Ball & Co., the Society's accountants, and were found correct. The balance in the hands of the bankers on Jan. 31 was 2698*l*. 10*s*. 4*d*. The balance-sheet for the quarter ended December 31, 1862, and the statement of subscriptions and arrears were laid on the table, the amount of arrears then due being 711*l*.

JOURNAL.—Mr. Thompson, M.P., Chairman, reported that the Committee had taken into consideration the selling price of the "Journal," which was at present 10*s*., and concurred in recommending that the price be reduced to 6*s*., which it was thought would lead to a considerable extension of the sale both at home and abroad. The Council unanimously adopted this report.

The Chairman also gave notice that the following would be the course of subjects for discussion at the Weekly Meetings of Council before Easter:—

25th February.—Mr. J. Taylor will exhibit and explain his improved materials for the construction of cottages, as introductory to a general discussion of the Economy of Labourers' Dwellings.
18th March.—Mr. Bailey Denton on the influence of Underdrainage on the Rivers, and on the Water Economy of the country generally.
25th March.—Professor Tanner on the difficulties experienced in breeding from Pedigree Stock.

VETERINARY.—The following form of veterinary certificate was approved and ordered to be attached to the certificate of entry sent in by every exhibitor in the Horse Classes at the ensuing show at Worcester:—

I hereby certify that I have this day examined a ——, aged ——, the property of ——, chiefly with reference to h— freedom from hereditary diseases, and more especially of those of the visual and respiratory organs, and find h— to be perfectly free from all such affections. (Signed) A. B., Member of the Royal College of Veterinary Surgeons.

May, 1863.

GENERAL WORCESTER.—Lord Walsingham reported that the arrangements for the show yard and trial-ground were in a forward state of progress. The Council resolved that the trials of machinery should commence on Wednesday, July 15, at 12 o'clock, and continue on the following Thursday, Friday, and Saturday, commencing at 9 o'clock, the admission on each day to be 5*s*. The whole showyard of stock and implements should be open on Monday the 20th, at 8 o'clock, at 10*s*. each person; Tuesday and Wednesday, at 2*s*. 6*d*.; Thursday and Friday, at 1*s*.; to close each day at 6 o'clock. Horse-boxes would be provided by the Society for stallions and hunters, for which a charge of 40*s*. would be made to exhibitors.

A letter was read from H.M. Secretary of State for Foreign Affairs, announcing an International Exhibition of Stock and Implements at Hamburg, from the 14th to the 20th July, the particulars of which have already appeared in our columns.

The following books were presented to the Society's library, for which the thanks of the Council were directed to be returned. "The Prince Consort's Farms," by J. C. Morton; "Farm Life," by W. J. M. Pocock; The Bombay Magnetical and Meteorological Observations; "Complete Works on Husbandry, by F. W. Hofmann, Vienna; "Description des espèces bovine, ovine et porcine de la France," by M. Lefour; "Synopsis of the Vegetable products of Norway," by Dr. Schübeler; "English Botany," edited by J. T. B. Syme, F. L. S., and the first part of a series on "The Farm Homesteads of England," by J. Bailey Denton. C. E., F.G.S.

The Council then adjourned to its weekly meeting on Wednesday next.

The Half-Yearly Audit of Accounts to the 31st of December, 1862, took place on Friday the 6th inst.

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AGRICULTURAL IMPROVEMENT OF IRELAND: *Jan.* 24.—A meeting of Council was summoned to consider a question at issue between the Council and an English agriculturist, Captain Broughton, who had been a competitor at the meeting of the Society held in Limerick last year. Captain Broughton exhibited a ram in class "F," which won the first prize of 10*l*. After the show of the Society at Cork in 1861 there was a surplus of receipts over the expenditure, which the local committee turned to account by offering two challenge cups of 50*l*. each, one of which was for the best shearling ram in classes "F and G." Captain Broughton's ram won the prize in "F," where his merit was tested by competition, but there was no competition in "G." The judges thought that though the ram deserved the prize of 10*l*. he had not sufficient merit to obtain the challenge cup. The judges therefore "recommended" the Council to withhold the cup in this case, "if they had the power." There is a rule which requires the judges to withhold premiums if the animals for which they are claimed be not of sufficient merit, and particularly "if there be little or no competition." The decision of the judges regarding the cup was not an award, but a recommendation, coupled with the expression of a doubt whether the Council had power to act upon it. The merit of the ram had been recognised and rewarded with the first prize; it was thought the challenge cup should have followed as a matter of course, and that the judges had no right to intercept it. They avowed a doubt as to the legality of the course they recommended, and it would have been more politic, as well as more generous for the Council to give the benefit of the doubt to the competitor, especially when he came from the other side of the Channel. They decided to withhold the cup from Captain Broughton. That gentleman questioned the justice and legality of the decision. The subject has been repeatedly under discussion in the Council, who have by large majorities re-affirmed their original decision. Captain Broughton offered to leave the matter to arbitration, and this also the Council unwisely declined. At length Captain Broughton threatened legal proceedings, but his solicitor subsequently proposed that he and the Council should jointly submit the case for the opinion of counsel, in order to avoid litigation, and this meeting was called to consider a letter from the solicitor proposing this plan, he being at liberty to supply any omission of facts which he thought necessary to a clear understanding of the question. Some members—namely, Mr. O'Reilly Dease, Captain Vesey, and the Hon. King Harman indignantly protested against such a course, as calculated to stultify the Council, to compromise its dignity, by yielding to terror, and to encourage future litigation. Others took a more prudent course—Mr. Naper, Lord Talbot de Malahide, Mr. Garthan, Mr. Wade, and Mr. Donnelly advocated compliance with the proposal made on behalf of Captain Broughton. A resolution was moved to the effect that they should themselves get the opinion of counsel, and act upon it without concert with the "plaintiff." On this Mr. Garthan moved an amendment to the effect that both parties should join in submitting the case to counsel, binding themselves to abide by the opinion, and agreeing that whichever party was in the wrong should pay the fee. This amendment was carried by a majority of 11 to 4. The question turns entirely on the interpretation of one of the rules regulating the awards. Could it be said that the ram was deficient in merit after standing competition and receiving a prize? Could a challenge cup offered for the best animal in a certain class be rightfully refused to one which the Society's own judges declared to be the best in that class? It is of great importance to the interests of this most useful and ably-managed Society that cases like this should be precluded hereafter, and that the present difference should be amicably settled. It is not good policy to strain the rules in doubtful cases—for the withholding of premiums, thus discouraging the competition on which the utility of the Society mainly depends. It was the less called for in this case, as the cup could be competed for again next year.

[Of course the power of the Judges and of the Council is limited by the terms in which the challenge cup was offered by its donor—but on the general question there can be but one opinion of the propriety of the Council giving full effect to the awards and recommendations of its Judges].

## Farmers' Clubs.

LONDON.—This Society on Monday evening resumed its monthly meeting for discussion under the presidency of John Bradshaw, Esq., of Knowle Park, near Crawley, Guildford, who has been elected its Chairman for the ensuing year. The Malt Tax was the subject announced on the card for discussion, and Mr. Steed, of Baldock, had been announced to open the discussion.

The CHAIRMAN congratulated the Club on the subjects placed on the card for discussion during the present year. Some of them had never been brought forward on that arena before. One had been before them several times; every time it was invested with fresh interest: he alluded to steam cultivation. The drainage of land, which had also been frequently discussed, was again to engage their attention. He wished to throw out one suggestion with regard to the discussions of the present year; it was, that it was desirable, as tending to add to the effectiveness of the discussions, that some of the members should come there prepared to speak on the subject upon the card. He thought it would also add to the value of the remarks made, if when a gentleman got up to speak he would take care to announce from what county or district he came; for they all knew that climate and soil had a great deal to do with the success of practice in agriculture. Unfortunately the gentleman who was to have introduced the subject that evening was labouring under indisposition, and could not attend. He had, however, sent his paper to the Secretary, Mr. Corbett, who would read it, and, being well acquainted with the question treated, would afterwards open the discussion with some remarks of his own.

Mr. CORBETT, after remarking that he did not receive Mr. Steed's letter till Saturday morning, and that the title of the paper was "The operation of the Malt Tax," proceeded to read as follows:—

As my name is put down to propose this subject to-night, I hope I shall not be out of place by offering several remarks thereon, as they affect both the producers as well as consumers of Barley and Malt. We are all aware that this is a Barley-producing country, and as free trade is or ought to be our motto, why should we be taxed from 50 to 60 per cent. on the produce of our native soil, independent of all other charges on the land? It is now about two years since the repeal of this tax was last agitated in Suffolk, Norfolk, and Herts, and I then expected the desire to repeal it would have been general throughout the country; but, alas! myself with many others have been disappointed. When we consider the many advantages which would result from the repeal of this tax, it is a marvel that it has not been removed a long time since. We ought to drink our beer free from tax, as well as eat our bread free. By repealing it, certainly the price of Barley would be much improved, not only for the best quality, but other descriptions would also follow, and the inferior sorts would be malted for food for cattle and sheep; and I do not hesitate to say double the quantity of malt would be made to what is at present: this would stimulate the farmers to use their own produce, instead of expending immense sums for linseed cake, and it is very desirable that a substitute should be found to reduce the price of cake from 30 to 40 per cent., which undoubtedly the repeal of this tax would affect. It follows of course, if malt is used instead of cake, the price of cake must be considerably reduced, and from my own experience I find malt is equal if not superior to cake or any other article used for the production of meal, for both beasts and sheep are so fond of it, that they devour it greedily. We might fatten three beasts where we only fatten two, and sheep in proportion, provided this tax were repealed, and every class of the community, from peer to peasant, would be greatly benefited, from the price of meat being considerably reduced, and the farmer having the manure from his extra number of fat stock, it would fully compensate him: it would also greatly stimulate the breeding and rearing of store stock of every description. We may remember when free trade first came into operation, which I think was twelve or fourteen years ago, the late Sir Robert Peel remarked they must repeal the malt tax, and Lord John Russell expressed himself in similar terms; now, since that period the country has paid in round numbers five millions per annum for malt tax for the last fourteen years—seventy millions! and so we seem to go on. Is it not high time a stop was made? And no better time than the time present. When the paper duty of one million two hundred thousand was repealed, about two persons in one thousand were benefited; but give us the malt tax, and all classes of the community would be profited, even to the teetotallers, who, though no consumers of malt in the shape of drink, are uncommonly good trenchermen, and they would get their meat considerably cheaper. We must not forget that these seventy millions of hard cash within the last fourteen years have been drawn principally from the mechanics and labourers of this country, they being the principal consumers of malt liquors, consequently they pay a large proportion of the malt tax. It is not a long time since one of the late Duke of Bedford's tenants told him the malt tax was not fairly levied, for when a brewer exported his malt liquors the Government allowed a drawback on all malt liquors so exported, and to my knowledge this is a fact. The Duke told his tenant he thought this could not be so, but would make it his business to enquire in the proper quarter; he did so, and, to his astonishment, found his tenant correct. It is possible there are some few now present who are not aware of this, and may I not presume that in the House of Commons, out of upwards of 600 members, there may not be some who require to be enlightened on this important subject?

Having finished reading the paper, Mr. Corbett then addressed the meeting, and the following are some of his remarks:—I need not tell the usual frequenters of this room that this is the shortest paper ever offered for discussion to the members of the Central Farmers' Club. Taking the subject of the operation of the malt tax as exhausted, or rather taking the necessity of repeal as admitted, let me remark that I believe few members of the Club would leave this room satisfied if there had been no discussion as to the best means of getting rid of the tax. On this subject I am to some extent a practical authority, as the Secretary of this Club. And here it may be as well to say, that if the members of this Club and of local farmers' clubs will look back to the lists of subjects, they will find that the repeal of the malt tax was discussed by this Club

before it was discussed by any other Club in the kingdom. I am the more disposed to direct attention to this fact, because it often happens that gentlemen who come here talk as if the repeal of the malt tax was with us a new idea. In conjunction with the Anti-Malt-Tax Association, this Club has frequently dealt with the subject. Having been the Secretary of the Association which I have just mentioned, I wish here to say a few words in reference to its course:—

What is the history of those proceedings? In the course of two or three years we spent between two and three thousand pounds; we agitated the whole country; we held meetings repeatedly in London, and we also convened meetings in many districts which had manifested sympathy in our object. Petitions were sent to the House of Commons, not only from the Society, but from various parts of England. Whenever there was to be an election which we seemed at all likely to influence, we sent some one down to watch, and whenever there was an apparent chance of obtaining a hearing, we went before the Prime Minister, or the Chancellor of the Exchequer, or some other great personage, on whichever side happened to be in power. I myself went repeatedly before leading members of both the great parties in the House of Commons. We spent, as I said before, two or three thousand pounds in two or three years, and did nothing, simply because we had no one to represent us in Parliament. Meetings were well attended, but there were no Members of Parliament present. At some of our meetings in London, where there were nearly 200 persons, there were but two or three members. This was no joke. There was old Mr. Frewen from Sussex attending regularly, and there was another gentleman who was, I think, rather anxious to become a Member of Parliament; while the late Mr. Cayley now and then sent us a letter. But we had no direct parliamentary influence; it was with the greatest difficulty we got a member to introduce us to the Premier or the Chancellor of the Exchequer, or whomsoever else we might wish to see. So it went on till the different districts became tired of subscribing without seeing any result. The same district subscribed two or three times over. One man put his name down for 5*l*., another put his down for the same amount, and at last both got rather sick of it. Let me here observe, that one thing which has operated against the repeal of the malt tax hitherto has been the impossibility of securing any general movement in support of the object. The agitation for the repeal of the malt tax partakes rather of the nature of an epidemic. Sometimes it will seize one county, sometimes another; now it secures an immense number of friends in Sussex, and then it appears in a distant part of the kingdom. At the present moment there are three counties which are especially distinguished for the agitation of this question: Berkshire, Sussex, and Dorsetshire—[A voice, "and Suffolk"].—Yes, I will add Suffolk. Well, on looking back to the period of 1847 and 1848, I find that some of the counties which have been so active of late were at that time worse than lukewarm; they scarcely subscribed one penny in aid of the object. This is a great difficulty in the case, and it is one which we must take seriously into account. It is, in truth, very difficult indeed to get any general movement in favour of the repeal of the malt tax. This leads me back to my first point. I saw some years ago, as I see now, that the agitation in favour of the malt tax has failed hitherto because the farmers, or the malt-tax abolitionists—call them which you will—have had no representatives in the House of Commons. If you have watched the proceedings of Parliament during the last two or three years, you must have observed that when Mr. Gladstone has brought forward a budget proposing the repeal of the paper duty, the wine duty, or anything else, one man, and only man, has got up and said a word in favour of the repeal of the malt-tax, and that man is Mr. Ball, the member for Cambridgeshire. And mark this, Mr. Ball's remarks on that topic have frequently been received with laughter. What is the consequence? Mr. Ball is going to leave the House of Commons. He has already signified to the electors of Cambridgeshire his intention of retiring; and I really believe that, unless farmers do a great deal more for themselves than they have done, they will not have one representative in that assembly. It seems to me that there is one very palpable deduction from the past. Gentlemen who only look at this question on the surface, say, "Let us have a general movement; let us rouse the whole country; let numerous petitions be sent to Parliament; let us have meetings in all directions, and let us fight the matter out throughout the kingdom." Now I believe that that is a very great mistake. I believe that, instead of fighting collectively, you will have to fight individually—instead of getting up at farmers' club meetings, and other meetings, and making fine speeches on this subject, farmers will have to make straightforward speeches to their representatives. If this question be not fought at the homestead now, it will have to be fought at the hustings; that is, if it is to be fought with any hope of success. Look at the manner in which the constituents of great towns act in relation to their representative in Parliament. If he does not act in accordance with their wishes, where is he at the next election? Why, nowhere. I say advisedly that, so far as the repeal of the malt tax is concerned, that special question has scarcely one representative in Parliament. Country gentlemen can occasionally fight the battle of country gentlemen. We have had a pretty recent instance of this kind. I am not going to enter into the particulars. County members can at times be excited, but they have never been so in reference to the malt tax. I have been before leading members of both parties, and have found them equally lukewarm. They have always said "This is not the proper time." It was not the proper time in 1847 and in 1848, and it will not be the proper time in 1863 and 1864. After the greatest study and long experience of the subject, it appears to me that the whole question resolves itself into two practical points. In the first place, when a county member comes before you and asks you for your vote, you ought to say to him, "Will you vote for the repeal of the malt tax?" This meeting may not separate, without determining that there shall, if possible, be an early interview obtained with the Chancellor of the Exchequer; and I would therefore suggest in the second place that every member of the Club who is present should tell each of his representatives in Parliament that on a certain day the interview will be held, and ask him to form part of the deputation. The member may say, "This is not the proper time." Well, let us make it the proper time. Let us say to him, "We are going to the Chancellor of the Exchequer—say on the first Tuesday in March; will you go with us?" There are many influential men, who, if they would only speak half as strongly before their members as they do in this room, might do a great deal for the repeal of the malt tax.

## Farm Memoranda.

Northumberland Farm: *February* 1.—Unlike ordinary seasons, the month of January has passed away without exhibiting any of those characteristics of winter—frost and snow—which are usually considered seasonable at this season of the year, but instead of which the weather has been most mild and spring-like, though of a very variable character; at one time the cheering sunshine, accompanied by the inspiring notes of birds, reminding us of the approach of summer, whilst anon these pleasing sensations are interrupted by a sudden deluge of rain, often preceded or accompanied by a severe squall of wind, the latter usually rising to its maximum force during the night. The rainfall during this month registers about 3 inches; the wind usually blowing from the west or south-west. During the middle of the month we certainly had one or two days' frost, which, however, was easily dissipated by a milder change. A frost during the ensuing month would be most seasonable and acceptable in producing a disintegrating action on our strong clays intended for spring seeding; besides this, it would enable us to cart out our farmyard manure more advantageously, as well as have the effect of destroying a large percentage of insect life, which will otherwise run baneful riot over our growing crops during the coming summer. We may yet have severe weather to contend against when we are least prepared for it, probably during seed time or the lambing season, in which case we shall feel it most severely in these exposed parts.

*Labour.*—Owing to the open state of the weather, the ploughs have been kept almost uninterruptedly going, the excessive wet not having prevented the ploughing of lea on the dry lands, though it drove us off for a time from the stronger stubbles. All the lea and Wheat stubbles are now ploughed, and awaiting a favourable seed-time—the former for Oats and the latter for Beans. Turnips are nearly all pulled, and the land ploughed close up in preparation for Barley, whilst the draughts are at present finishing some Oat-stubble intended for a fallow crop. After waiting from time to time for a frost, to enable us to cart out our manure more easily, and with as little damage as possible to the land, we were at last—though grudgingly—obliged to lay aside the ploughs for a few days, so as to employ our force in emptying some of the cattle courts and boxes which had become completely filled with a three months' accumulation; but in very rare instances were we able to form our manure heaps so conveniently for subsequent use, as we could either wish or had intended, considering it preferable policy not to cut the land up during its present wet state, at the risk of a longer cartage at Turnip time. We continue threshing out grain to suit the requirements of our stock with regard to fodder, and we still find our Wheat yield sadly deficient, though not to the extent as is represented in Scotland. Barley is a fair yield, though somewhat high coloured, but malting well; and Oats are producing a better result than we have experienced for many years. It every day becomes more apparent that the growth of the Wheat crop in this country must be curtailed if success in farming is to be attained; and even on the strong clays where they are drained—(and most of them are, or ought to be at the present day), and have received an application of lime, a crop of Oats or Barley, though it be high coloured, would unquestionably be more satisfactory to the grower. We can easily imagine old farmers feeling a sort of affection for Wheat, from the pleasing recollections of the fortunes they made by its growth and sale at war prices during the early part of the present century, when England was an exporting country; but a great change has come over this country since that period, during which interval John Bull has discovered that a superior sample of bread-stuff can be grown and imported from other countries, and as his epicurean tastes ever lead him to secure the best of everything at almost any cost, we are in duty bound to observe the very broad hints which he is invariably giving us to stop; advice which I anticipate the majority of clay land farmers, from their unprecedented experience during the past year, will be willing now to accept.

*Stock.*—The first lot of our fat bullocks are now prime and ready for the butcher; some of them will go to market during the first week of February, and the rest in rapid succession; whilst the second lot must go on for a couple of months longer. They are receiving about 9 stones of Swedes per day in the boxes, and 12 to 13 stones in the yards (the cattle in the boxes are heavier than those in the yard), besides 4 lb. of meal and a little hay, in addition to a liberal supply of Oat-straw. The grazing cattle are now all confined to the yards, receiving white Turnips and Oat-straw, and are doing well. Our Swedes have pulled off a light crop, but the Yellows, and especially the Whites, are a very bulky crop. The sheep stock is extremely healthy, and are running thinly over the old Grass fields, receiving a liberal allowance of white Turnips and hay chaff; we have not yet had a single death, though we hear of heavy losses in hoggets on the Turnip breaks on the lighter farms. Young Wheats are looking well, and not too far forward, whilst young Clover plants are gathering bone and presenting a very luxuriant appearance. *J. W.*

## Miscellaneous.

*Astro-meteorology for February.*—Turn we now to the probable weather to be looked for in February. The transition from the mild influence at the end of January falls on the 2nd, when the earth will be approaching the chilling influences of Herschel, which will probably give us a little seasonable frost, to keep vegetation from getting too forward; the earth will then approach the double influences of Saturn and Venus under solar power, and a conjunction of the Sun and Mercury on the 10th, when we may anticipate strong gales, with downfall, rain or snow, according to temperature. On the 13th we pass the influence of Mercury and approach the benefic planet Jupiter, which will greatly moderate the temperature, and produce fine dry weather; but about the 19th it will be worth while to notice the cooling-down of the temperature again as the earth approaches the combined influences of Saturn, Herschel, and Neptune; again giving us cold and downfall, with strong gales of wind demanding the Admiral's warnings. I think the Admiral's warnings will be required on the 6th, 10th, 16th, and 23rd; yet the following periods, 3rd, 8th, and 20th, demand particular notice. The month will probably end fine. ***Mr. W. H. White, in an Agricultural Paper.***

## Calendar of Operations.

### FEBRUARY.

West Sussex: *Jan.* 27.—We are now into Spring so far as the weather goes; everything is assuming a reviving appearance, and the land is getting dry and very suitable for working, but it has not been such a favourable winter for our clay lands; they do much better with a few sharp frosts, and we have hardly yet seen ice. The weather, though rough, has been mild to a greater degree than usual. We are now getting ready for Pea-sowing, but as the land has turned up rather heavily we should like a little frost upon it before sowing it, or a little rain after it is dry may do as a substitute; at any rate we must wait a week or two for what may turn up. We are now in the early Down lambing season, and the weather is all that we can wish for, but the success with many has not been what could be wished, and it would appear that what we call a fine season is not always the best for lambing—we have now the most delicate nursing, followed by disaster; and open air random attendance followed by vigour in the flock. And it is no use to expect that any plan will answer well when the flock is not in a sound state; and the chief object ought to be to have them in a sound healthy condition before lambing; fair feeding and a judicious amount of exercise are indispensable to their health. A very frequent error is their being left too quiet before lambing. I remember one year having bad luck, many of the ewes being lame; they were fed well and exercised rather sparingly, and when lambing came, several ewes were lost at first. They had good pasture with plenty of good hay; any system of doctoring seemed to do no good, and things looked as badly as they well could do, when we turned them out of their old Grass pasture into a bare seed field, giving them Mangel, and driving them on the road about a mile each morning, and the result was that there was not one loss after this plan was adopted. Giving them Mangel at such a stage did not seem very safe, and in ordinary circumstances, perhaps, would not be judicious, but in this case it seemed very beneficial. Work is pretty well advanced, but extra carting has been deferred during the winter, as the land was never in a fit state for it, so that some alterations and improvements must wait for some time longer. Wheat looks well and equal over the land; perhaps thin seeders may get a pull this time—I mean those who use 1 bushel and under, (we use $1\frac{1}{2}$ to 2), as the present mild winter has secured the success of every plant. Vetches, Rye, &c., are good, but I do not think such is the case with Trifolium, which often now fails, perhaps owing to the cause of its not being looked upon as a Clover plant, and so being sown too soon after the other Trefoils. We have seen failures in it and the after Clovers that could certainly be accounted for in this way, but we do not think the fact is generally admitted. Cattle are doing well, and the roots are keeping well; Swedes are growing, and a sharp frost will do them good by putting them back in their place. *G. S.*

[The following passages are extracted from *Morton's Farmers' Calendar.* Routledge.]

Peas.—This is the season for sowing the hardy sorts of Pea; and towards the end of the month any kind of field Pea may be sown. The Pea can hardly be called an ameliorating crop, but admitting of cultivation in the wide intervals between the rows in which it is usually sown, and afterwards covering the ground with a bulky smothering growth of haulm, it is when well cultivated a fallow crop. The land should thus be left cleaner after Peas than it was; and as the crop yields in its nutritious straw a capital contribution to the dung heap, a frequent crop of Peas is no evidence of cross-cropping. It rarely, however, forms a regular part of the rotation, being taken now and then, in addition to the common course of cropping, when the land seems fit for it, or unfit for the crop which it is taken to displace. The soils best adapted for it are the lighter loams, which are hardly stiff enough for Beans; and calcareous soils are especially fitted for it. Pea straw contains in its ashes from 35 to 40 per cent. of lime, and 12 to 15 per cent. of potash. This indicates the kind of soil which the plant requires. Peas need liberal treatment and good cultivation like any other crop, but bad farmers are too apt to sow this pulse when the land will yield nothing else. They have a proverb among them, which signifies, that the season does for Peas as much as good husbandry; and they from thence take care that good crops shall be owing to season alone. Hence arises the general idea of Peas being the most uncertain crop. This is owing to their being too often sown on land that is not in good order. Let the careful husbandman lay it down as a maxim, that he should sow no crop on land that is not in good order; not merely in respect of fine tilth at the time of sowing, but also of the soil being in good heart and clear of weeds. I would not, however, here be understood to rank all kinds of crops together; because Beans and Peas will admit of cleaning while they grow. On that account, if a farmer comes to a field which his predecessor has filled with weeds, a horse-hoed crop of Beans might be expedient, when a Barley crop would be utterly improper. Peas, when managed in a spirited manner, will not have the reputation of being so very uncertain a crop, for this character has, in some measure, been owing to ill conduct. From these remarks, however, the reader is not to understand that I think Peas as certain as other crops; but this quality will still much depend on management.

Peas after Clover.—The white boiling Pea, of many sorts, and under various names, is more tender than the Greys and various kinds of hog Peas; but I have many times put them into the ground in February, and though very smart frosts followed, they received no injury. I have uniformly found, that the earlier they were sown the better. There is also a particular motive for being as early as possible; which is, to get them off in time for stubble Turnips. If they are sown in this month, and a right sort chosen, they will be off the land early in July, so that Turnips may follow, at not too late a time for sowing that crop. All the sorts of early Peas should be cultivated on dry soils only. Upon sands, dry sandy loams, gravels, and chalks, they succeed well. Broadcast Peas are to be utterly rejected in every case. The only question that can arise in their culture is between drilling and dibbling. If the former is determined on, the land should have been ploughed in autumn, with the skim-coulter. The surface being worked

shallow with a scarifier and harrow as soon as possible after winter, drilling should directly follow. If dibbling is determined on, the land, if already clean, need not be ploughed till winter time or after it, and a heavy roller follows the plough. Dibbling Peas on a Clover layer generally results in a good crop. It is the practice of some farmers to manure for Peas. If the land is in heart, and they are put in on a layer, they do not want manure. A very good crop may be gained without it. I have had five, and even five quarters and a half an acre, without any manure applied for this crop. Dung makes them run to long straw, and that is not favourable for podding productively. Beans will benefit from a heavy dressing of dung, but with Peas the case is different. There are very few situations in which the farmer can have such a command of manure as to give him a sufficiency. It is therefore of much consequence to him never to spread a load but where it will be sure to answer best. Every man complains of a want of dung; and he should be careful therefore to give it to the crops that will pay best for the expense. As to distance between the rows of Peas, the practice of various farmers differs exceedingly. Equidistant rows from 9 to 18 inches are common. I have seen them at 2 feet, and even at 3. In dibbling, it is common in Norfolk and Suffolk, to put in a row on every flag or furrow-slice of 9 or 10 inches breadth; and I have known very good crops in most of these distances. If horse-hoeing, or much hand-hoeing is intended, double rows at 9 inches, with intervals of 18, do well; but the greatest crops I have known have been from planting every furrow-slice. Where drilled in rows, the interval of 15 to 18 inches is to be preferred. This enables an efficient horse-hoeing of the land during the early stages of their growth. From two to two bushels and a half per acre is the usual quantity when planting every furrow. If they are drilled at greater distances, 6 or 7 pecks will do. Some have trusted to 1 bushel per acre, but that quantity is too small.

PEAS AFTER A STUBBLE CROP are sown by the drill after the harrow upon land which was cleaned, manured, and ploughed the previous autumn. The manure thus lying some months in the ground becomes more thoroughly incorporated with the soil; and is less likely to produce too gross and leafy a growth. The sorts sown may be (1) the early Grey Warwick, which, however, being of more rapid growth, is adapted for March or later sowing; it is not so productive as other sorts, and is especially adapted for late districts and land in good condition; (2) the Common Grey field Pea, later, more prolific, yielding a very bulky straw, and better adapted therefore for dry soils and districts, and for land not in such rich condition; (3) the Partridge Pea, or Grey Maple, very prolific, yielding plenty of straw, and better adapted than the last for a late country; (4) the Winter Field Pea—referred to in autumn, when it is sown. There are also several white boiling Peas adapted for field culture which may be named, as (5) the Early Charlton, of medium bulk as to straw, yielding an abundant crop and tolerably early; (6) the Carolina Pea, later, equally abundant; (7) the White Sickle, a good cropper, yielding long bent pods, but much later than the others. The place of the crop in the rotation is either after Clover, as already named, or after a corn stubble; and in the latter case it generally takes either the place of Clover in cases where there is believed to be a liability to "Clover sickness," or the place of Turnips in cases where there is believed to be a liability to the "finger and toe" disease. After autumn culture as already described, the land as soon as dry in February, is either scarified or merely well harrowed down, and the seed, 2 to 3 bushels per acre, is drilled in rows, 15 to 18 inches apart, permitting the subsequent use of the horse-hoe. The ground is then again harrowed, and the field is shut up till the rows appear.

BEAN CULTURE.—Early in this month the farmer should begin to plant his Beans, and, if possible, finish it before the end of the month, as later crops do not succeed so well. The land ought to have been cleansed, manured, and ploughed the autumn before; by which means the only object now will be to sow the seen. When cultivated in rows, 20 to 26 inches apart, and therefore allowing of the cultivation of the land during its growth, the Bean is a fallow crop; *i. e.* it tends to clean the land, and to lay it open to "atmospheric influence." And where it is grown that its produce may be consumed on the farm, it may be considered in every respect as a fallow or restorative crop, and may be allowed to take the same place in the rotation as the Turnip or any other green crop. When, however, it is grown for the sale of its produce, excepting on those lands which are peculiarly adapted for it, it should take the place of a corn or scourging crop in the rotation. The soil which the Bean prefers is a stiffish loam. There are many ways of cultivating the plant, but the best plan is either to drill or to dibble it. 1. When the land was manured in the autumn, as described in October and November, the field, lying all winter in the lands in which it has been ploughed, will now harrow down, and the drill following will sow 2 or 3 bushels per acre, in rows 2 feet apart. 2. If the land has not been manured in autumn, it may have been well to rib it up in ridgelets 2 feet wide, or thereabout. The manure is carried on as soon as possible after winter, spread in the rows, and a Bean barrow going up each row drops the seed over the manure, and the whole is covered up by the splitting of the intervening ridgelets with the double-mould-board plough. The new ridgelets covering the seed are afterwards partly harrowed down before the young plants appear. This is the plan generally adopted in Scotland; and I add the following description, written a few years ago, of an actual day's work in February on a Galloway farm:—"We are now occupied with Bean sowing, which is performed in the following manner:—The land, which was trench-ploughed in autumn, from exposure to the weather now breaks down before the drill plough, without any other previous operation; 6 drill ploughs, following each other, go a 'bout' in the morning, making 12 drills; a drill barrow, which sows 3 drills, then enters, and at a 'bout' finishes 6 drills. By this time the 6 ploughs have again drawn 6 drills, and on returning up the field, they cover the first 6 drills, now sown. They then draw off 6 new drills, and again cover 6 on their return, the drill barrow going at the same rate, and sowing at a 'bout' 6 drills also. A space of 12 drills is left between the opening and covering, which gives plenty of room for the working of the barrow and the passing of the horses. The drills are 27 inches wide, and are made across the winter furrows. Part of the land was dunged on the stubble, but the part* which was not dunged is dressed with 3 cwt. of guano per acre, sown in the drills by hand, and covered in with the seed. Two and a-half bushels of Beans are sown per acre, and with this force we get over from 10 to 12 acres a day. An expeditious plan at this season is of the greatest consequence, in taking advantage of a favourable seed time for Beans." 3. Or, thirdly, if the manure be spread broad-cast, it is not an uncommon practice to plough in the seed, a Bean barrow following every second or third plough, as they turn the manure under. The young plants thus come up in scattered rows, at intervals of 18 or 27 inches, giving ample opportunity for horse-hoeing. 4. Lastly, Beans are often hoed or dibbled in; the former operation costs about 6*s.* per acre. The seed is planted across the ridges in rows about 12 inches apart; the labourer in the act of making each trench with his hoe fills the one already made, in which he has previously scattered a quantity of seed. Beans are sometimes dibbled; either the unharrowed furrow slice is used as the labourer's guide, and two or three Beans are put into each of the dibble holes, which are made in alternate furrows, or, what is better, the land is first harrowed down, and a double line is used, the cords of which are 10 or 12 inches apart, and the labourer facing them manages both rows at once. He makes in succession about 4 holes in the near line, and places seed in them; and after doing the same on the far line, he moves sideways up the rows and repeats the operation. The holes are filled in by a subsequent harrowing. Two to three bushels of seed are thus used, and about 5*s.* per acre are paid for it.

SOIL FOR BEANS.—Everybody knows that all the sorts of strong and heavy soils are the common ones generally applied to this crop. The Winter Bean, sown in autumn (see October), is alone adapted to the lighter class of soils. Chemists tell us that the ashes of Bean straw contain no less than 21 per cent. of potash, and an equal quantity of lime. The mineral part of the grain is also remarkable for the quantity (42 per cent.) of potash which it contains. And this seems to indicate what is, indeed, plain from experience, that clays which are richer than lighter soils in alkaline matters, and especially calcareous clays, are well adapted to the cultivation of this crop. The place of the plant in the rotation is that of a manured fallow crop, coming after other grain, and preceding a grain crop, generally Wheat. Artificial manures are of little use to the Bean crop; as much of the manure of the farm as can be spared is ploughed in for it either in autumn, or as soon as possible after winter. And Mr. Lawes recommends that the richer part of the farm-yard dung be kept for other crops which need it more. "Beans and Tares," he says, "may be manured with the inferior qualities of dung."

OF THE SORTS OF BEANS we name—(1) the Winter Bean, a small oblong kind—two bushels containing seed enough per acre—weighing very well, often 70 lbs per bushel, adapted for light soils, and hardy enough for autumn sowing. (2) The Common Horse Bean, a good deal larger, needing 2 to 3 bushels or more as the seeding of an acre, and requiring to be sown in spring on stiff soils. (3) The Common Tick Bean—much smaller—very prolific, 2 bushels containing seed enough per acre. (4) Heligoland Bean, a plump, round seed, adapted for good soils; not so large as the Horse Bean; 2 bushels or 10 pecks containing seed enough for an acre. (5) Long Pod—a name for many different sorts, all of them much larger than those already named, requiring fertile land, in good order, for their efficient culture. (6) Mazagan, also as much of a garden Bean as the Long Pod, but yielding a valuable produce per acre in fields well cultivated and in good condition.


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| 7 ,, | .. | 0 10 ,, | 16 ,, | .. | 3 6 ,, |
| 8 ,, | .. | 1 0 ,, | 17 ,, | .. | 4 0 ,, |
| 9 ,, | .. | 1 2 ,, | 18 ,, | .. | 5 0 ,, |
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| 11 ,, | .. | 1 6 ,, | 20 ,, | .. | 7 9 ,, |

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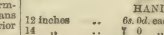

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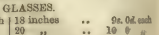

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From 12 inches long, 1½*d.* per running inch.

Improved ANTI-CORROSION and other PAINTS.
GAS and LAMP GLASSES, GLOBES, &c.
CHIMNIES of every description.
Not accountable for Breakage.

TRANSPLANTING LARGE TREES. — Five different sizes of Mr. BARRON'S MACHINES, with efficient men to work them, can be hired by parties applying to him. His Machines, built under his superintendence, can also be supplied.
Elvaston Castle.—Feb. 7.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER, Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, London, N.E.

## Garden Decorations in Terra Cotta.

WERE AT THE EXHIBITION.

PULHAM'S CUPID'S FOUNTAIN.—Near the Japanese Court, a pleasing and novel design, engraved in the *Art Journal* of October.

PULHAM'S HEBE FOUNTAIN (in S.E. Transept).—A novel and beautiful adaptation of Hebe, being made so that water can actually flow from her jug down into the cup. An engraving will be in the "Masterpieces of the Exhibition."

PULHAM'S NOVEL FERNDELABRUM.—For growing SIXTY FERNS (or Flowers) on a space of 4 ft. 8 in. over 9 feet high. A little Boy at the top to let water on them out of his shell by the turn of a tap. Price 9*l.* A Stereograph for nine stamps.

THE BEST TERRA-COTTA VASES.—Engraved in the *Art Journal* of October.

PULHAM'S NOVEL CONSERVATORY TUBS or TREE VASES (in the Nave and S.E. Transept).—An octagon base, with eight pieces set in it, held by eight screws, to unscrew from outside or in; can be taken to pieces and put together again in a few minutes; 3 ft. over; can be moved, full, by two men (on a peculiar truck). The best at the Horticultural Garden Show in terra-cotta.

The Prize Medals of 1862 and 1851 awarded to JAMES PULHAM, of Broxbourne, Herts. Also Notice of Artistic Merit and of Sound and Durable Material. (Durability guaranteed.)

A Set of Stereographs sent for inspection on receipt of Twelve stamps.


## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending Feb. 4, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 29 | 29.90 | 49 | 47 | S.W. | 3 | 8 | 50 | 34 | 64* | 29 | 0.01 | 42½ | 43½ |
| Friday .. | 30 | 29.59 | 50 | 48 | S.W. | 3 | 8 | 55 | 43 | 82 | 39 | .. | 44 | 44 |
| Saturday .. | 31 | 29.40 | 47 | 46 | S.W. | 2 | 6 | 52 | 43 | 54 | 40 | 0.30 | 45 | 44 |
| Sunday .... | 1 | 29.77 | 45 | 44 | S.W. | 3 | 8 | 50 | 34 | 76 | 29 | 0.04 | 44½ | 44½ |
| Monday .... | 2 | 29.93 | 47 | 44 | S.W. | 3 | 6 | 49 | 33 | 78 | 34 | 0.09 | 43½ | 44 |
| Tuesday .. | 3 | 29.77 | 47 | 45 | S.W. | 2 | 7 | 50 | 44 | 57 | 41 | 0.46 | 44½ | 44½ |
| Wednesday | 4 | 30.20 | 42 | 39 | S.W. | 3 | 6 | 40 | 34 | 61 | 30 | 0.01 | 44 | 44½ |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

GRASS: *S. Broome, Temple Gardens.* The Grass is the Avena flavescens, or Yellow Oat Grass. Your notes on the change in the meadow resulting from cultivation are very interesting. The little book on Meadow and Pasture Grasses by Professor Buckman of Cirencester will perhaps be the best for your purpose. Sowerby has published Engravings of Grasses, which are well done, and therefore somewhat costly.

OIL OF VITRIOL: *A Subscriber.* If by "Spirits of Vitriol" you mean sulphuric acid, then the only instance in which we have understood it has been applied directly to the soil, was at the suggestion if we remember aright, of Dr. Daubeny, on the chalk soil of a farm belonging to the late Mr. Davies Gilbert, with what result we do not know. The idea was that it would be efficient as a manure by the formation of gypsum.

PASTURE: *Cor.* The seeds sent belong to the genus Alopecurus; but whether it be a rough variety of A. pratensis (Meadow Foxtail), or a distinct species, it is difficult to say from the seed alone.—*A.* The usual practice with regard to the droppings on the pastures is to knock them abroad when they have arrived at a certain degree of consistency. We believe that an old man and donkey cart might be usefully employed constantly during summer in collecting them and forming a heap, wherever there is extent and herd enough to give him work.

* Guano and other artificial manures are of little use to Beans.

**Hothouses for the Million.**—AWARDED A PRIZE MEDAL AT THE INTERNATIONAL EXHIBITION, 1862.

HOTHOUSES for the MILLION.—On the principle invented and patented by Sir Joseph Paxton, M.P., combining simplicity, cheapness, excellence, and durability, being capable of fulfilling, in the most perfect manner, all the requirements of Horticulture.

Illustrated Circulars, with Lists of Prices, can be had on prepaid application to SAMUEL HEREMAN, 7, Pall Mall East, London.

Also, A HANDBOOK on VINE and FRUIT TREE CULTIVATION, price 1s.; post free, 1s. 1d.

---

DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

---

T. G. MESSENGER, HORTICULTURAL BUILDER and ENGINEER, Loughborough.

T. G. M.'s PATENTED BUILDINGS combine all the modern improvements, are most effectually ventilated by means of his unequalled Apparatus, can be made either plain (and which are at the same time elegant in appearance), or of the most elaborate design. They can be fixed as permanent buildings, or made to be portable.

T. G. M.'s HEATING APPARATUS continues to give the greatest satisfaction for its heating qualities and small consumption of fuel.

ILLUSTRATED CATALOGUES of the above, Glazing without Putty, Garden Engines, &c., sent upon application.

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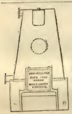


**New Method of Heating by Hot Water.**

THE IMPROVED

CONICAL BOILERS,

SOLELY MANUFACTURED BY

BURY AND POLLARD (Successors to JOHN R. PEILL, Late STEPHENSON & PEILL),

Have attained a celebrity far surpassing any other Boilers ever invented.

The annexed Sketch shows the improved arrangement, requiring

NO BRICKWORK SETTING.

All particulars on application to BURY & POLLARD, Park Iron Works, New Park Street, Southwark, S.

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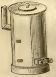
RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.



Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3d. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3l. 10s.

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

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# PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

## T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet ... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet ... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet ... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

---

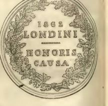
# JOHN TAYLOR & SONS,

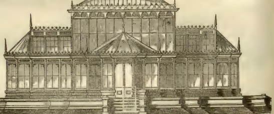
## HORTICULTURAL BUILDERS AND ENGINEERS,

HARROW ROAD, LONDON, W.

INTERNATIONAL EXHIBITION,
CLASS IX., 2191.

PRIZE MEDAL
For CONSERVATORY,
DOUBLE CHAMBER CORRUGATED
and HORIZONTAL
TUBULAR BOILERS.



J. TAYLOR AND SONS call the attention of the Nobility and Gentry to the very superior manner in which they erect CONSERVATORIES, VINERIES, FORCING, FRUIT, and PLANT HOUSES of every description, combining the most modern improvements with elegance of design and durability of materials and workmanship.

Our VENTILATING APPARATUS for the Roofs and Fronts of Horticultural Buildings, &c., supersedes any now in use, as being the most simple and effective in its action.

Our system of HEATING APPARATUS for Churches, Public Buildings, Mansions, Schools, Offices, Baths, Horticultural Buildings, &c., is particularly worthy of notice, we having for many years devoted especial attention to this branch. The great variety of work which has passed through our hands has gained us such experience in the mechanical details as to insure success and entire satisfaction in any undertaking entrusted to our care.

The superiority of our DOUBLE-CHAMBER CORRUGATED and HORIZONTAL TUBULAR BOILERS has caused them to be acknowledged as the best now in use, being both powerful and rapid in action.

---

# GREEN'S

LATEST IMPROVEMENTS IN

## LAWN MOWING, ROLLING, and COLLECTING MACHINES,

FOR WHICH HER MAJESTY'S ROYAL LETTERS PATENT HAVE BEEN OBTAINED.

These Machines have carried off every Prize that has been given in all cases of competition, and have been awarded the PRIZE MEDAL at the INTERNATIONAL EXHIBITION of 1862.

**GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.**

For Illustrated Price Lists, with full particulars, address

T. GREEN, SMITHFIELD IRON WORKS, LEEDS; and 2, VICTORIA STREET, HOLBORN HILL, E.C.

## GRAY'S OVAL TUBULAR BOILER.

INTERNATIONAL EXHIBITION,

**Class IX., No. 2119.**

ELEVATION.

PLAN.

Mr. Gray begs to call the attention of the Nobility, Gentry, Nurserymen, Gardeners, &c., to his

**NEW OVAL TUBULAR BOILER,**

acknowledged by practical judges to be a great improvement on every form of Tubular Boiler yet introduced. It has proved itself superior to all other Boilers for quickness of action and economy of Fuel, doing its work with one-third less the amount required by any other.

*Extract from Report in* Gardeners' Chronicle *of International Exhibition, May 24, page* 476.

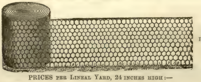
"The upright form of Boiler is usually made on a circular plan, but the oval form given to Mr. Gray's variety of it is said to be preferable in consequence of its bringing the tubes in closer contact with the fire. The usual form of a furnace being a parallelogram rather than a square, it seems feasible that the Boilers on the oval plan should bring the tubes more completely within range of the burning fuel; and this being so the change, though a slight one, is no doubt an improvement.

They are made of all sizes, which, with prices, may be had on application.

JAMES GRAY, HORTICULTURAL WORKS,
DANVERS STREET, PAULTON'S SQUARE, KING'S ROAD, CHELSEA, S.W.

## NEW IMPROVED PREMIUM WIRE NETTING.

GREAT IMPROVEMENT,



WITH REDUCED PRICE.

PRICES per Lineal Yard, 24 inches high:—

| Size of Mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra Strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 2¼ inch | Hares, Dogs, Poultry ............ | 3*d.* | 4*d.* | 3¾*d.* | 5*d.* | 4½*d.* | 6*d.* | 5½*d.* | 7*d.* |
| 2 inch | Game or Poultry Netting ...... | 3½*d.* | 4½*d.* | 4*d.* | 5*d.* | 5*d.* | 6½*d.* | 6½*d.* | 8*d.* |
| 1⅝ inch | Small Rabbits, Hares, &c. ...... | 4*d.* | 4¾*d.* | 4¾*d.* | 6*d.* | 5½*d.* | 7*d.* | 7*d.* | 9*d.* |
| 1⅓ inch | Smallest Rabbits.................. | 5*d.* | 6*d.* | 5¾*d.* | 7*d.* | 7*d.* | 9*d.* | 9*d.* | 11*d.* |

Quantities of 100 yards or upwards delivered free at nearly all the principal Railway Stations and Shipping Ports in England; and 200 yards or upwards delivered free to most parts of Scotland and Ireland.

⁂ *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged or may be returned unconditionally.*

J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.

# ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, N.W.

## IRON HURDLES, FENCING, and GATES.

The PROPRIETORS of the ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,
WERE AWARDED THE
SILVER MEDAL of the ROYAL AGRICULTURAL SOCIETY for their IRON HURDLES and GATES, which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30*s.* to 500*l.*

*The Hurdles can be seen in process of Manufacture at the Works.*

GAME WIRE NETTING.

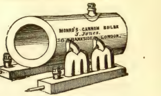
PROFESSOR VARNELL'S ENAMELLED and WROUGHT-IRON STABLE FITTINGS.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their Horses. They can be had Plain, Galvanised, or Enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized Stalls and Loose Boxes are erected for inspection at St. Pancras Iron Works.

Address—THE MANAGERS, ST. PANCRAS IRON WORKS,
OLD ST. PANCRAS ROAD, LONDON, N.W., Opposite Old St. Pancras Church.

## HEATING BY HOT WATER.




MONRO'S CANNON BOILER.

## J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

PLANS, ESTIMATES, and DESCRIPTIVE CATALOGUES
SENT POST FREE ON APPLICATION TO

J. JONES,

6, BANKSIDE, LONDON, S.E.

**Card.**

SAMUEL N. McGERROW,
General Horticultural Builder,
Knotty Ash, near Liverpool.

Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

**Heating.**

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

Apply to Joseph Meredith, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

W. J. HOLLANDS, Iron Merchant, 31, Bankside, London, S.E.

HOT WATER PIPES, from Stock, per yard:—2-inch, 1*s.* 2*d.*; 3-inch, 1*s.* 10*d.*; and 4-inch, 2*s.* 4*d.* BENDS, from stock, 1*s.* 7*d.*, 2*s.* 6*d.*, and 3*s.* 8*d.* each. THROTTLE VALVES, 10*s.* 6*d.*, 13*s.* 6*d.*, and 15*s.* each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

**Greenhouses, Orchard-houses, and Conservatories.**

H. FREEMAN'S Horticultural Works, Triangle, Hackney, N.E. Established 20 years.

Good substantially made GREENHOUSES, glazed, ready for fixing, 42 feet by 13 feet, 50*l.*; 21 feet by 13 feet, 28*l.*; 12½ feet by 10 feet, 15*l.* ORCHARD-HOUSES. 10 per cent. cheaper. A handsome CONSERVATORY, 46 feet by 19 feet, for Sale.

Estimates given.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE PROOF STRONG ROOM DOORS; CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
Chubb & Son, 57, St. Paul's Churchyard, London, E.C.

METCALFE, BINGLEY, and CO.'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. Metcalfe's celebrated Alkaline Tooth Powder, 2*s.* per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2*s.*, 3*s.* 6*d.*, and 5*s.* each. 130 B, and 131, Oxford Street, W.

HAIR RESTORED, preserved, and beautified, by the use of ROWLAND'S MACASSOR OIL.—It prevents hair from falling off or turning grey, strengthens weak hair, cleanses it from scurf and dandriff, and makes it beautifully soft, pliable, and glossy. For children it is especially recommended, as forming the basis of a beautiful head of hair. Price 3*s.* 6*d.*, 7*s.*, 10*s.* 6*d.*, (equal to four small), and 21*s.* per bottle.

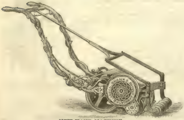
Caution—Ask for Rowland's Macassor Oil. Sold at 20, Hatton Garden, E.C., and by Chemists and Perfumers.

# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.



NEW HAND MACHINE.

THE FIRST PRIZE MEDAL

OF THE

INTERNATIONAL EXHIBITION

WAS AWARDED TO

ALEX. SHANKS AND SON

FOR THEIR

PATENT LAWN MOWERS.

12-INCH or LADY'S MACHINE.

ALEXANDER SHANKS AND SON are gratified to find that the Improvements introduced into their PATENT LAWN MOWERS last season have been so entirely successful, that universal satisfaction has resulted from the use of these Machines wherever they have been tried. The Patentees have pleasure in intimating that they have this season introduced further Improvements into their already celebrated Lawn Mowers, which are fully described in their Illustrated Price Lists, which will be at once forwarded on application.

SHANKS' PATENT LAWN MOWERS are in use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL. They are also in use in many hundreds of the principal Gardens in the Kingdom, and in almost every country throughout the world, where their merits have been thoroughly tested, with the most satisfactory results. The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.

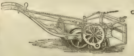
LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

# SHANKS' NEW PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

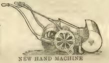
NEW PATENTED IMPROVEMENTS THIS SEASON.

EXHIBITION PRIZE MEDAL AWARDED.



HORSE MACHINE.

PONY MACHINE.



NEW HAND MACHINE

### SHANKS' NEW PATENT MACHINE

Mows the Grass, Wet or Dry, on Lawns uneven or otherwise, in a much neater manner than the Scythe, and at half the expense.

NO PERSON HAVING A LAWN SHOULD BE WITHOUT A MOWING MACHINE.

The first practical Gardeners of the day who have devoted their attention in examining all the different Lawn Mowers offered, do not hesitate in recommending SHANKS' Machine as *the best Mower for general use.* The important Improvements introduced last season have undergone a thorough practical test, and satisfied the most sanguine expectations. *Further Improvements, simplifying the Machine, and adding to its efficiency, have been introduced into the* NEW PATENT LAWN MOWER for 1863.

PRICES.

### SHANKS' NEW PATENT HORSE MACHINE.

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for Use.

| Width of Cutter. | | | | |
|---|---|---|---|---|
| No. 1.—48-inch Machine | ... £28 | 0 | 0 | *Drawn by a Horse.* |
| No. 2.—42-inch Machine | ... 26 | 0 | 0 | *Drawn by a Horse.* |
| No. 3.—36-inch Machine | ... 22 | 0 | 0 | *Drawn by a Horse.* |
| No. 4.—30-inch Machine | ... 19 | 0 | 0 | *Drawn by a Horse or strong Pony.* |

Patent Delivering Apparatus for Nos. 1 and 2 Machines, 40*s.*; for Nos. 3 and 4 Machines, 30*s.*; Box with complete Set of Tools, 10*s.*; Silent Movement, 20*s.*; Boots for Horses' Feet, 24*s.* per set.

### SHANKS' NEW PATENT PONY and DONKEY MACHINE.

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for Use.

| Width of Cutter. | | | | |
|---|---|---|---|---|
| No. 5.—30-inch Machine ... ... | ... £15 | 15 | 0 | *Drawn by a Pony.* |
| No. 6.—28-inch Machine ... ... | ... 14 | 10 | 0 | *Drawn by a Pony.* |
| No. 7.—25-inch Machine ... ... | ... 12 | 10 | 0 | *Drawn by a Donkey.* |

Patent Delivering Apparatus for Nos. 5 and 6 Machines, 30*s.*; for No. 7 Machine, 25*s.*; Box with complete Set of Tools, 7*s.* 6*d.*; Silent Movement, 12*s.* 6*d.*; Boots for Pony, 21*s.*; Donkey, 10*s.* per set.

### SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for use.

| Width of Cutter. | | | | |
|---|---|---|---|---|
| No. 8.—24-inch Machine ... | ... £8 | 17 | 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... | ... 8 | 7 | 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine ... | ... 7 | 12 | 6 | *Do. by a Man and a Boy.* |

| Width of Cutter. | | | | |
|---|---|---|---|---|
| No. 11.—16-inch Machine ... | ... £6 | 17 | 6 | *Easily Worked by a Man.* |
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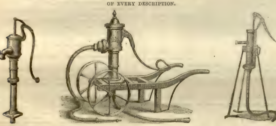

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☞ *An Edition of the* GARDENERS' CHRONICLE and AGRICULTURAL GAZETTE *is published on Monday Afternoon at 4 o'Clock, containing full Reports of the Mark Lane and Cattle Markets, written expressly for the Paper.*

ROYAL HORTICULTURAL SOCIETY.—First Exhibition in 1863. The SHOW of HYACINTHS and other SPRING FLOWERS will be held at South Kensington on WEDNESDAY, February 25. Open at 1 o'clock. Admission, Half-a-Crown.
Packets of 25 Five Shilling Tickets, admitting one or two persons according to the daily charge, to the Fêtes and Promenades, during the Season, can now be obtained.

ROYAL BOTANIC SOCIETY of LONDON,
REGENT'S PARK, N.W.
EXHIBITIONS of SPRING FLOWERS.
SATURDAY, March 28th, CAMELLIAS, PRIMROSES, &c.
" April 11th, AZALEAS, HYACINTHS, &c.
" April 25th, ROSES, PELARGONIUMS, &c.
The Band will play from half-past 2 to half-past 5. Visitors admitted by Tickets, to be had at the Gardens, by orders from Fellows and Members of the Society. Price 2*s*. 6*d*. each, or in packets of 10 for 1*l*. per packet.

HORTICULTURAL SOCIETY of LIVERPOOL.—The First EXHIBITION of HYACINTHS and SPRING FLOWERS will be held in St. George's Hall, Liverpool, on WEDNESDAY, March 18.
For Schedules of Prizes and any further information, apply to R. W. KER, Hon. Sec., 4, Basnett Street, Liverpool.

**Grape Vines.**
J. IVERY AND SON beg to inform their Patrons that their stock of the above is unusually fine this season. A PRICED LIST now ready.
Dorking Nursery.

VINES, VINES.—Extra Strong Canes, for Fruiting in pots this season, price 8*s*. 6*d*. each, for Sale by JAS. GARAWAY & Co., Durdham Down Nurseries, Bristol.

**Pine Plants.**
TO BE DISPOSED OF, by a gentleman leaving for town and giving up his House, &c., about 100 good healthy PINE PLANTS, this and last year's growth.
Apply by letter to Mr. F. STEAD, 23, Jarratt Street, Hull.

**Surplus Stock of Dwarf, Maiden, Royal George, and Noblesse Peaches.**
WM. WOOD AND SON are desirous of offering the above on advantageous terms.
Address, Nurseries, Maresfield, Uckfield, Sussex.

EXTRA FINE DWARF-TRAINED PEARS.—The Undersigned have a remarkably fine stock of the above to dispose of on reasonable terms.
Address, WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

WEBB'S PRIZE COB FILBERTS, and other COB NUTS as exhibited at the INTERNATIONAL FRUIT and FLOWER SHOW, Kensington. Trees of these splendid varieties of Filberts may be had by application to
RICHARD WEBB, Calcot Gardens, Reading.

LARGE ARAUCARIA EXCELSA.—A fine Specimen, 10 feet by 6 feet, to be disposed of, Cheap.
Apply to E. COOLING, Derby.

TRUE NATIVE HIGHLAND SCOTCH FIR, Two-year Seedling.
Apply to JOHN GRIGOR & Co., Nurseries, Forres, Scotland.

**To the Trade.**
ENGLISH OAKS, 1 year's Seedling, 3*s*. 6*d*. per 1000. Cash or reference from unknown Correspondents.
Apply to MARSH & PERKINS, 42, Drapery, Northampton.

WANTED, STRONG BEECH, 8 ft.
ENGLISH OAK, 8 ft.
Strong, handsome, well rooted trees.
J. C. WHEELER & SON, Gloucester.—February 14.

WANTED, 300,000 good SEEDLING LARCH, One or Two years.
Address, with price and samples per 100,000, A. E., Nurseryman, Beverley, Yorkshire. Net cash.

**To Florists.**
WANTED, a quantity of nice saleable free-flowering GREENHOUSE and STOVE PLANTS. State lowest cash price and full particulars as to size, &c.
Address FLORIST, *Gardeners' Chronicle* Office, W.C.

**Genuine Garden and Agricultural Seeds.**
JAMES CARTER AND CO.,
SEED FARMERS and NURSERYMEN,
237 and 238, High Holborn, London, W.C.

**Best Seeds, Carriage Free.**
BUTLER AND McCULLOCH,
SEED MERCHANTS,
Covent Garden Market, London, W.C.

BARR AND SUGDEN,
SEED MERCHANTS,
12, King Street, Covent Garden, W.C.

**New and Genuine Garden and Agricultural Seeds.**
SPECIAL PRICES ON APPLICATION TO
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**Garden and Agricultural Seeds, Carriage Free.**
WILLIAM WOOD AND SON,
NURSERYMEN and SEED MERCHANTS,
Maresfield, near Uckfield, Sussex.

**Agricultural Seeds.**
GEORGE GIBBS AND CO.,
SEEDSMEN,
26, Down Street, Piccadilly, London, W.

**Agricultural and Garden Seeds.**
H. AND F. SHARPE,
SEED GROWERS and MERCHANTS, Wisbeach.
Special PRICED LIST of NEW SEEDS on application.

**Good Seeds, Carriage Free, at Market Prices.**
SUTTON AND SONS,
SEED GROWERS and MERCHANTS,
Royal Berkshire Seed Establishment, Reading.

**Agricultural and Garden Seeds.**
CHARLES SHARPE AND CO.,
SEED GROWERS, SEED MERCHANTS, and NURSERYMEN,
Sleaford.
SPECIAL PRICED LIST of SEEDS of 1862 growth on application.

ANDRÉ LEROY'S NURSERIES, at Angers, the largest and richest in France.
CATALOGUES sent on application.

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Paradise and Victoria Nurseries, Holloway, London, N.
A PRICED and DESCRIPTIVE CATALOGUE post free to all applicants.

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A DESCRIPTIVE CATALOGUE on application.
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DOUBLE ITALIAN TUBEROSES, 3*s*. per dozen.
Just arrived.
BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

TROPÆOLUM LOBBIANUM ELEGANS
(Crystal Palace Scarlet), Seed scarce.
Per packet, 1*s*. and 2*s*. 6*d*.
BUTLER & M'CULLOCH, Seed Merchants, Covent Garden Market.

**New Garden Seeds of our own Growth.**
JAMES CARTER AND CO. are now prepared to execute orders for the above, saved at their Seed Farms.
237, 238, & 261, High Holborn, W.C.

CARTER'S SELECT LIST of New and Choice VEGETABLE, FLOWER SEEDS and PLANTS is now published, gratis and post free.
237, 238, & 261, High Holborn, London, W.C.

NOVELTIES.—The Novelties of the Season, Illustrated in CARTER'S GARDENER'S and FARMER'S VADE MECUM, post free for 12 stamps.
JAMES CARTER & Co., 238, High Holborn.

**Seeds.**
CHARLES TURNER'S DESCRIPTIVE CATALOGUE, of the best Varieties only, is now ready. It also contains several Novelties.
The Royal Nurseries, Slough.

**Choice Kitchen Garden Seeds.**
B. S. WILLIAMS'S Advertisement on last page of *Gardeners' Chronicle*, Jan. 31.
Paradise and Victoria Nurseries, Holloway, London, N.
⁂ PRICED and DESCRIPTIVE CATALOGUE post free on application.

**Plymouth Seed Company, Plymouth.**
THE GENERAL PRICE CURRENT and the SPRING FARM SEED LIST are now ready, and may be had gratis on application.
See General Advertisement Page.

GARDEN SEEDS and FLOWER SEEDS of the finest and most rare varieties, at the lowest prices at which they can be delivered, carriage free, are quoted in WHEELER'S "Little Book" for 1863.
J. C. WHEELER & SON, Seed Growers, Gloucester.

RHODODENDRONS of all sorts and sizes may be obtained in any quantity of W. H. ROGERS, Red Lodge Nursery, Southampton. Also every description of well grown Nursery Stock, extending over 60 acres.
PRICED CATALOGUES forwarded on application.

**Roses.**
WM. PAUL (Son and Successor to the late A. PAUL) has still a fine stock of ROSES, NEW and OLD, Standards, Dwarf Standards, and Dwarfs.
Plants good and prices moderate.
Nurseries and Seed Warehouse, Waltham Cross, N.

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WILLIAM EPPS, JUN., can supply fine STANDARD ROSES, at 5*l*. per 100; 15*s*. per doz.
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**Rose Nurseries, Hertford.**
E. P. FRANCIS offers DWARF HYBRID PERPETUAL ROSES, strong and vigorous on Manetti Stock, at reduced prices, for LIST of which see *Gardeners' Chronicle*, January 24, 1863.

**Roses.**
EDWIN HOLLAMBY begs to announce that he has still a fine stock of STANDARD and DWARF ROSES of most of the leading kinds, in very fine plants.
DESCRIPTIVE PRICED CATALOGUE free on application.
Nursery and Seed Establishment, Tunbridge Wells, Kent.

FOR SALE, a few Thousand first-rate MANETTI STOCKS. For price, apply W. C. LAY, London Road Nursery, Newbury, Berks.

10,000 DOUBLE SCARLET STOCKS.
10*l*. per 1000, in 60 pots.
J. REEVES, Ladbroke Nursery, Notting Hill, W.

ASH.—A quantity of the above, from 12 to 20 feet high, well adapted for working upon, to be sold cheap.
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**Notice.**
PURCHASERS of LARGE QUANTITIES of FARM or GARDEN SEEDS will be supplied liberally by SUTTON & SONS.
For prices apply (stating quantity required) to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**New Verbenas.**
ROBERT REA begs to refer to his Advertisement of the above in the *Gardeners' Chronicle* of Feb. 7.
Nursery, London Road, Ipswich.

POLYANTHUS SEED from the best Laced Florists' Flowers, in packets, sent free on receipt of 13 postage stamps.
JAMES WOODS, Florist, Harwich, Essex.

**Genuine Seeds, Carriage Free.**
G. J. WOOLLETT'S PRICED LIST of the above sent free on application.
Caterham Nurseries, Caterham, Surrey.

PHALÆNOPSIS AMABILIS, GRANDIFLORA, ROSEA, and SCHILLERIANA.
Strong flowering plants of the above may be obtained of R. WARNER, Broomfield, Essex.
Prices on application.

**Purple Beech.**
THOMAS METHVEN, NURSERYMAN, Leith Walk, Edinburgh, is in want of the above, 7 to 9 feet high, and will be glad to hear from any one having such to offer.

**Cheap and Select Hardy Nursery Stock.**
WM. JACKSON AND CO., Bedale, Yorkshire, beg to refer to their advertisement of the above in the *Gardeners' Chronicle*, page 96, January 31.

**Important to Nurserymen and Others.**
SURPLUS STOCK of 1 and 2 year SEEDLING FOREST TREES, &c. PRICED LIST on application to MICHAEL BURKE, Drumlargan Nurseries, Summerhill, Co. Meath, Ireland.

CUTHILL'S PRINCE ALBERT CUCUMBER; an Improvement on Highland Mary.
The best for present sowing. Per packet, 1*s*.
BUTLER & M'CULLOCH, Seed Merchants, Covent Garden Market.

NEW CELERY.—WILLIAMS'S MATCHLESS RED, a very superior variety, 2*s*. per packet.
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Paradise and Victoria Nurseries, Holloway, London, N.

POTATO ONIONS and SHALLOTS.—Good sound bulbs.
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MYATT'S SEEDLING POTATOES, 11*s*. per cwt.
ASHLEAF KIDNEY POTATOES, 12*s*. 6*d*. "
A large quantity of Fluke and other Seed Potatoes to offer at H. BROWN'S, 4, Commutation Row, Liverpool.

**To the Trade.**
MYATT'S PROLIFIC ASHLEAF KIDNEY POTATO.—The above excellent variety, sound and in good condition; also a few Seeds DALMAHOY POTATO, to be had of J. MYATT, Offenham, Evesham. Price List on application.

WEBB'S IMPERIAL KIDNEY POTATOES.—No Potato like it for quantity, quality, beauty and size, at 12*s*. per Bushel, on application to
RICHARD WEBB, Calcot Gardens, Reading.

WHEELER'S GLOUCESTERSHIRE KIDNEY POTATO.—This is one of the earliest, the most productive, the best flavoured, and the most profitable Potato ever introduced.
For price and all particulars, see WHEELER'S "Little Book."

**Azalea Altaclerensis.**

MESSRS. JOHN and CHARLES LEE are now prepared to send out strong blooming plants of this beautiful HARDY AZALEA, the following description of which is extracted from the Report of the Floral Committee of the Royal Horticultural Society of May 6, 1862.

"AZALEA ALTACLERENSIS:—from Messrs. J. & C. Lee, Hammersmith. A fine large-flowered rich orange-yellow hardy Azalea, bred between A. sinensis and one of the Ghent hybrids. It had ovate elliptic hairy leaves, and very large heads of flowers, and being also of free blooming habit, it was adjudged a First Class Certificate."

Price 10s. 6d. The usual discount to the Trade.

Royal Vineyard Nursery and Seed Establishment, Hammersmith, London, W.

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WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

WHEELER'S IMPERIAL LETTUCE

The price of the Lettuce is 1s. per packet, post free.

J. C. Wheeler & Son beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. Wheeler & Son, Seed Growers, Gloucester.

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**New Seeds.**

PETER LAWSON and SON, The Queen's Seedsmen, of Edinburgh and London, are prepared to send out

FARM and GARDEN SEEDS

of every kind, and of the finest quality.

Orders for exportation executed with prompt and careful attention.

28, King Street, Cheapside; and 15, Lawrence Lane, E.C.

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**Genuine New Seeds, Carriage Free.**

FRANCIS & ARTHUR DICKSON and SONS, 106, Eastgate Street, Chester.

New VEGETABLE and FLOWER SEEDS of every description, of the finest possible quality.

Their DESCRIPTIVE PRICED CATALOGUE, containing many valuable New and Select Vegetable and Flower Seeds, will be sent Post Free on application.

Collections for Gardens of all Sizes are on the most liberal scale. See Catalogue.

☞ Vegetable Seeds of £2 value Carriage Free. All Flower Seeds Free by Post.

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**Vegetable and Flower Seeds.**

Carriage Free.

JAMES DICKSON and SONS' ANNUAL DESCRIPTIVE PRICED CATALOGUE of the above is now ready, and may be had, post paid, on application.

The *Field* of February 8, 1862, in a notice of our last season's Catalogue, says:—"This old established firm have issued their neat and well arranged Catalogue for this season. It embraces all seeds really worth growing in both departments."

James Dickson & Sons, 102, Eastgate Street, Chester; and 23, Market Place, Manchester.

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JAMES TYNAN'S importation of celebrated GERMAN ASTERS, STOCKS, WALLFLOWERS, PHLOXES, and other FLOWER SEEDS, is now ready, and comprises as usual an extensive assortment of the very best varieties, selected from the most noted Continental growers. They are made up, as formerly, in large or small packets, to suit the requirements of purchasers. Every description of Vegetable and Agricultural Seeds of the finest quality.

Flower Seeds free by post.

J. Tynan, Importer of Continental Seeds, 68, Great George Street, Liverpool.

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**Seeds made Proof against the Attacks of Birds.**

SAMUEL WALTERS, Seed Grower and Merchant, Hilperton, Trowbridge, Wilts, begs respectfully to offer SEEDS prepared as above stated, in small or large collections. Some of the advantages of using seed so prepared are—a less quantity of seed will produce a greater number of plants; all contrivances to frighten away birds can be dispensed with; the anxiety to secure seeds from the attacks of birds will be no more felt by the use of new and good home-grown seed so prepared. Unusual success may be expected. A nominal charge only will be made for Proof Seed, or when a Collection of Garden Seeds of 20s. value and upwards be requested and supplied by S. W., no extra charge will be made. The Seed can be tested at once by putting it on side of other Seed not prepared—the birds will eat the latter, but not the former.

AMATEUR'S GUIDE in a comprehensive form will be sent with each Collection of Proof Seeds.

KITCHEN GARDEN, FLOWER, and FIELD SEEDS always on Sale.

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IMPROVEMENT OF OLD PASTURES, PARKS, AND MEADOWS,

BY SOWING THE MOST SUITABLE KINDS OF

**GRASS AND CLOVER SEEDS.**

SUTTON'S RENOVATING MIXTURES.

**Quantity of Seed required, 8 to 12 lb. per Acre. Price reduced to 9d. per lb., or 80s. per Cwt.**

*From the* Rev. Canon Guthrie, *Vicarage, Calne.*

"I have no hesitation in expressing my great satisfaction at the *manifest improvement* both to lawn and *pasture* from the Seeds which I received from you, though I was somewhat late in the sowing."

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"Five years ago I wrote to you to send me a Mixture of Grass Seeds to sow upon 10 acres of old Pasture. At the time I took the Farm the 10 acres of Meadow were almost useless. I now have a most excellent pasture."

Meadows and Upland Pastures may be increased in value 50 per cent. by sowing these Seeds.

Our RENOVATING MIXTURE consists of the Finest GRASSES and PERENNIAL CLOVERS. If the Seeds are sown *early in the season*, the improvement in the Pasture will be very great, and at a small expense.

SUTTON'S PERMANENT MEADOW GRASS SEEDS, mixed expressly to suit the soil, 30s. per Acre.

Fine LAWN GRASS SEEDS, 18s. per Bushel. Also

Good CLOVER and RYE-GRASS SEEDS for Alternate Husbandry at market prices.

ROYAL BERKSHIRE SEED ESTABLISHMENT, READING.

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KITCHEN GARDEN SEEDS,

FLOWER SEEDS.

In Collections including all the new and approved kinds, or separate to order.

Detail CATALOGUES post free.

Thos. Gibbs & Co. Corner of Half-Moon St. Piccadilly, London. Royal Agricultural Society of England. Appointed Ap. 3. 1844. The Seedsmen.

AGRICULTURAL SEEDS,

GRASS SEEDS,

FARM SEEDS,

of all descriptions.

Thomas Gibbs & Co.

CORNER OF HALF-MOON St.

Piccadilly, London, W.

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# WM. WOOD & SON'S

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Containing only Seeds of first-class quality, and Varieties that can be confidently recommended.

For particulars, see CATALOGUE, a Copy of which may be had Post Free on application.

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NURSERYMEN AND SEEDSMEN

(SUCCESSORS TO THE LATE R. GLENDINNING),

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

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| No. 3 | ,, | 20 Quarts | ditto | ditto | | ditto | 3 | 3 | 0 |
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| No. 3, | ,, | 24 | ditto | ditto | ditto | ... | 0 | 5 | 0 |
| No. 4, | ,, | 25 | ditto | Half-Hardy Annuals | ... | ... | 0 | 7 | 6 |
| No. 5, | ,, | 12 | ditto | ditto | ditto | ... | 0 | 4 | 0 |
| No. 6, | ,, | 25 | ditto | Tender Annuals | ... | ... | 0 | 12 | 6 |
| No. 7, | ,, | 12 | ditto | ditto | ditto | ... | 0 | 6 | 0 |

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# WILLIAM WOOD & SON

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CATALOGUES free and post paid on application.

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## VEGETABLE, FLOWER, AND AGRICULTURAL.

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## NEW SEED CATALOGUE

FORWARDED POST FREE ON APPLICATION.

Amongst other NEW and RARE FLOWERS are the following. In addition to the usual information, valuable practical rules are given for the guidance of Amateur Cultivators in the sowing and after-management of all the Flowers described in the Catalogue.

VICIA GERARDI.—A very useful and elegant annual climbing plant, resembling somewhat the Eccremocarpus, with bunches of lavender-purple Swainsonia-like flowers, which might be compared to those of Wistaria sinensis, but smaller. A beautiful plant for covering pillars, trellis-work, and walls to the height of 8 or 10 feet. 1s. 6d. and 2s. 6d.

LINUM CANDIDISSIMUM.—Neat habited plant of densely branched growth, 12 to 18 inches in height; flowers pure white, very effective for medium-sized beds. Differs from L. monogynum, that species being broader leaved, more strictly upright, and showing an almost total absence of side growth. 6d.

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PENTSTEMON MURRYANUM.—The most distinct of the many species of Pentstemon, and very rare in collections, with long spikes of vermilion-scarlet trumpet-like flowers an inch and a half in length. A beautiful plant for the flower-garden. 6d.

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SWEET WILLIAM, HENDERSON'S PERFECTION.—Marked improvements upon Hunt's strain by their more brilliant tints, broader flower lobes, even rose-petaled margins, and wider belts of colour. The flowers with large white disc and broad middle zone of rich crimson, purple and violet form the Auricula-eyed section. 6d. and 1s.

ABOBRA VIRIDIFLORA.—An extremely pretty tuberous-rooted climbing perennial herbaceous plant, allied to the Gourd section, with elegantly divided leaves and numerous small oval or egg-shaped scarlet fruits, forming an ornamental plant for trellis work or walls throughout the summer months. 1s. and 2s. 6d.

HELIANTHUS MACROPHYLLUS GIGANTEUS.—A splendid plant of a very gigantic stature, from 10 to 15 feet or more in height; the enormously large round leaves on long footstalks, hanging down in an oblong position, give to the plant the appearance of a colossal pyramid; only one flower upwards of a foot in diameter is produced by each plant. 6d.

HELIANTHUS WEBBI.—The interest and value of this species consists in its having a shrub-like branched habit of growth, attaining from 3 to 4 feet in height. This remarkable plant is expected to originate a new and desirable class of varieties for exhibition purposes, it having already passed into all the colours found in florist varieties of the present time, and no doubt but higher improvements in form, and other essential properties, will be obtained in connection with its superior culture. It will be found well adapted for decorative purposes, by its taller growth, and longer continuance in bloom. 2s. 6d.

VENIDIUM CALENDULACEUM.—Marygold-leaved, large orange flowers with brown centre, very effective for early bedding, for which purpose it is unequalled among annuals. 3d.

CALANDRINIA UMBELLATA, 4d.; Ditto Ditto GRANDIFLORA, 6d.—Charming little plants of compact dwarf habit, with neat small foliage, and a profusion of very rich violet-crimson salver-like blossoms, well adapted for warm situations on rock-work, or sunny spots on south borders, the latter variety being an improvement as to size of flower.

AQUILEGIA GLANDULOSA and SKINNERI are the two finest and most distinct in character of this tribe; the first is a broad blue-petaled, the latter a long scarlet and yellow blossomed variety; both early summer flowering plants. 6d. each.

CANDYTUFT (IBERIS GRANDIFLORA ALBA).—Large-flowered white; a much more effective plant than any other in its tribe, having numerous large trusses, from 2 to 4 inches in length, of snow-white blossoms, continuing in bloom twice as long as the well-known common kinds, and making a very beautiful group or bed until the latest autumn months. For decoration in the flower-garden, either as a separate bed, or as a ribbon row, it far surpasses any annual or other bedding plant in its colour. 6d. and 1s.

NEMOPHILA DISCOIDALIS ELEGANS.—A pretty and effective variety; the ground colour is a rich reddish maroon with a distinct white border. 6d.

LILIUM CORDIFOLIUM, similar in style of growth to L. giganteum, but dwarfer and of a darker tint in the young growth; the large trumpet-shaped white flowers, with dark centre midribs, are also alike to the last-named species, but are produced by smaller bulbs, and on stems not rising more than from 3 to 4 feet in height. By its blooming much more readily than L. giganteum it will prove a very popular and useful Lily. 50 seeds, 1s.

LILIUM GIGANTEUM.—A noble Lily, rising fom 6 to 10 feet in height, nearly hardy, with fine dark green heart-shaped leaves, and beautiful white trumpet-shaped flowers. 50 seeds, 1s.

GOSSYPIUM ARBOREUM (the Cotton Plant).—Handsome free-blooming Hibiscus-like flowers; plants in small pots, producing its flowers freely at every leaf, and followed with fine pods of cotton.

WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON, N.W.

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**Banks's Best New Fuchsias.**

E. G. HENDERSON AND SON are now sending out the three following First-class Flowers:—

MDLLE. TREBELLI (BANKS).
BIANCA MARGINATA (BANKS),
MARS (BANKS),

as neat young plants for growing on into specimens (and others adapted for stock), price 3s. 6d. and 5s. each. Also plants of all last year's best varieties, 1s. 6d. to 2s. 6d. each.

SOLANUM CAPSICASTRUM FOLIA VARIEGATA, a beautiful table plant, with elegantly variegated leaves and red berries; drooping habit; 3s. 6d. and 5s. each.

THE TIETJEN STRAWBERRY, hardier than "British Queen," of the same quality, colour, &c., 30s. per 100.

GLOXINIAS: BRILLIANT, LEVIATHAN, BIRD of PARADISE, and MOST BEAUTIFUL, the four most distinct new Gloxinias, 3s. 6d. and 5s. each.

AUCUBA HIMALAICA, 7s. 6d., 10s. 6d., to 21s. each.

PRIMULA SINENSIS FILICIFOLIA, white and red, 5s. each.

STUARTIA PENTAGYNIA, strong plants, 5s. each.

LOBELIA ERINUS SPECIOSA PAXTONI, 1s. 6d. each; 12s. per doz.

DOUBLE PANSY "GOOD GRACIOUS," 1s. 6d. each; 12s. per doz.

LONICERA AUREA RETICULATA, leaves light green, richly netted over with golden yellow veins, 5s. each.

LAPAGERIA ROSEA, 1s. 6d., 2s. 6d.; stronger, 5s. and 7s. 6d.

PRIMULA SINENSIS ERECTA SUPERBA, a fringed variety of P. Kermesina, 2s. 6d.

PRIMULA PICTA, mottled, 1s. 6d.

BEDDING DAHLIAS (pot roots), 6s. and 9s. per doz.

LILLIPUTIAN " " " 6s., 9s., to 18s. per doz.

Wellington Nursery, St. John's Wood, London, N.W.

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MESSRS. E. G. HENDERSON and SON, Wellington Road, St. John's Wood, London, N.W., beg to draw attention to the Plants figured in Part XV. of the "Illustrated Bouquet":—

IMATOPHYLLUM MINIATUM
SWAINSONIA VIOLACEA
PRIMULA PRÆNITENS (SINENSIS) FILICIFOLIA RUBRA
STRAWBERRY TIETJEN
REINECKIA CARNEA VARIEGATA

The following SEEDS are also included in Messrs. HENDERSON & SON'S SEED CATALOGUE, forwarded post free on application:—

CLIANTHUS DAMPIERI, home-ripened seed.—A most beautiful cool greenhouse plant, with clusters of large rich scarlet pea-shaped flowers, 3 to 4 inches in length, each flower being marked with a large conspicuous black cloud-like blotch in front. This magnificent plant has flowered in Messrs. E. G. H. & SON'S Nurseries, extending upwards of 15 feet in length, being trained horizontally against upright supports. It was ascertained that this single plant produced 680 trusses of bloom in one summer, which, averaging six flowers in a truss, formed an aggregate of 4000 blossoms as the produce of a single seed! See Catalogue for the peculiar treatment in the sowing and after management of this plant. Plants, 3s. 6d. Seeds, 1s. and 2s. 6d.

CUCUMBER.

HENDERSON'S A 1 HOUSE CUCUMBER.—The Royal Horticultural Society of London have fruited 118 varieties in their gardens at Chiswick, and decided this as the second best black-spined variety, its length 17 inches, straight and even, fine dark colour. A superior variety. Per packet, 1s. 6d.

ALL THE YEAR ROUND.—Very prolific, for quality and usefulness not surpassed at any season of the year. Per packet, 1s. 6d.

CITRON GOURD (for Preserves).—This is a truly valuable and highly interesting esculent fruit, and constitutes a true variety of the hard-fleshed Water Melon, which, though not edible in its raw state, is now proved and strongly recommended for its valuable adaptation in making a very delicious preserve. Full directions for its culture and method of preparing the preserve are given in the Catalogue. 1s.

BUSH VEGETABLE MARROW (true).—This valuable variety is sufficiently dwarf and bushy to form a compact habited plant, and from its short-jointed character and abundant bearing, its produce may be compared to a nest of fruits overlaying each other. 6d. and 1s.

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**Hardy Scarlet and other Choice Rhododendrons.**

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

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CHARLWOOD AND CUMMINS beg to announce that their CATALOGUE of GARDEN, AGRICULTURAL, and FLOWER SEEDS is now ready, and will be forwarded on application. They also now offer their

NEW NEMOPHILA DISCOIDALIS ELEGANS,

commended by the Royal Horticultural Society in their Proceedings; it is thus noticed:—

"The flowers of this variety (which is a very pretty one) are of a bright chocolate or light reddish maroon, conspicuously bordered with white. The colours are distinctly marked and very effective." It is commended as a very desirable Annual for general cultivation.

2s. 6d. per packet. Price to the Trade per ounce.

14, Tavistock Row, Covent Garden, London.

A TREE or SHRUB SEED LIST will be published shortly.

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**Fuchsias, Silvery-leaved and Variegated Plants.**

J. SCOTT, Merriott, Crewkerne, Somerset, holds fine Stocks of the following, ready to send out:—

FUCHSIAS, in 100 named kinds (newest), at 4s. per dozen, late autumn struck, will make splendid specimens for exhibition.

VARIEGATED PLANTS, 3s. per dozen: Agathaea cœlestis, Arabis fol. var., Bellis Aucubæfolia, Sedum carneum var., Veronica chamædryoides.

SILVERY-LEAVED PLANTS, 3s. per dozen: Cineraria maritima, Centaurea candidissima, 1s. each; Gnaphalium lanatum, G. arenarium, G. margaritaceum, Silvery Arctotis, Stachys lanata, and Cerastium tomentosum.

VARIEGATED GERANIUMS, 3s. per dozen; Alma, Bijou, Countess of Warwick, Manglesii, Shottisham Pet, and Brilliant.

BEDDING GERANIUMS, 3s. per dozen: Christine, Rose Queen, Crystal Palace, Punch, Lamartine, and Tom Thumb; and 100 sorts (to name), my selection, of Greenhouse sorts, at 6s. per dozen.

**Roses for Forcing.**

CHARLES NOBLE has a nice assortment, one year, established in 32-pots, ready for Forcing. They are healthy vigorous plants, and cannot fail to give satisfaction. He has also a large stock of Dwarfs and Half-Standards suitable for planting in Roseries; they are offered very cheap.

Sunningdale Nursery, South-Western Railway.

**The Best New Roses for 1863.**

5000 STRONG DWARF PLANTS in Pots, in 50 varieties, will shortly be ready.

DESCRIPTIVE CATALOGUES, gratis and Post-free on application.

Address WM. WOOD & SON, Nurseries, Maresfield, Uckfield, Sussex.

**Roses.**

GEO. PARSONS begs to offer fine STANDARD ROSES, from 2½ to 4 feet stems, at 5l. per 100, or 15s. per dozen; including the New Varieties, 18s. per dozen, or 6l. 10s. per 100; the last New Varieties of 1862, DWARFS, 30s. per dozen.

CATALOGUES free on application.

Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

DWARF HYBRID PERPETUAL ROSES, on the MANETTI STOCK; Carriage paid to London.—The Undersigned offer very fine and vigorous plants of the above. For a LIST of the more popular sorts, see *Gardeners' Chronicle* for December 6, 1862. Prices given for small and large numbers (per 1000 at a much reduced rate) and a DESCRIPTIVE CATALOGUE of ROSES sent on application to

THOS. RIVERS & SON, Nurseries, Sawbridgeworth.

DAHLIAS; DAHLIAS.—A special DESCRIPTIVE LIST of surplus stock of SHOW, FANCY, BEDDING, and LILLIPUTIAN or BOUQUET DAHLIAS, about 300 varieties, with 400 VINES struck from Eyes. Also a list of HOLLYHOCKS struck from Eyes last autumn.

May be had on application to J. C. PADMAN, Providence Nursery, Boston Spa, near Tadcaster.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. CORBETT's Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent.

**Seeds, Seeds, Seeds.**

S. GLENDINNING AND SONS' (Successors to the late R. GLENDINNING) CATALOGUE of KITCHEN GARDEN, AGRICULTURAL and FLOWER SEEDS is now ready and may be had on application.

Chiswick Nursery, London, W.—February, 1863.

A. STANSFIELD AND SONS beg to announce that their LIST of BRITISH FERNS for this season, including the New and Rare varieties, at reduced prices, is now ready, and may be had on application, enclosing two postage stamps. Also their GENERAL FERN LIST, No. 6, for 4 postage stamps, which purchasers may deduct.

Vale Nurseries, Todmorden.

A PRICED and DESCRIPTIVE CATALOGUE of all the new and leading kinds of Show, Spotted, French, Fancy, Scarlet, and Variegated Pelargoniums, Fuchsias, Verbenas, Petunias, Dahlias, Chrysanthemums, Bedding Plants, &c., is now ready in exchange for one postage stamp.

GEO. SMITH, Tollington Nursery, Hornsey Road, Islington, London, N.

FIRST CLASS NEW FUCHSIAS. — Coloured Drawings by Mr. ANDREWS of SANSPAREIL, BRIDESMAID, CONSPICUA, and HERCULES, are now ready, and will be forwarded in exchange for 12 postage stamps.

G. S. begs to offer the above as the most Superb FUCHSIAS yet offered to the Public. For description, with price, and also time of sending out, see CATALOGUE, now ready.

GEORGE SMITH, Tollington Nursery, Hornsey Road, Islington, London, N.

**New Fuchsia.**

ROBERT REA, NURSERYMAN, &c., London Road, Ipswich, has much pleasure in announcing that he intends sending out after the 20th of April, plants of his SEEDLING FUCHSIA DEFIANCE, which was so much admired last season. Defiance is a fine bold double flower of great substance, bright scarlet tube and sepals, dark violet barrel-shaped corolla, sepals much reflexed. This will be a standard flower for years, and will be grown in every collection.

10s. 6d. each, with the usual discount to the Trade.

B. MALLER begs respectfully to state that his DESCRIPTIVE SEED CATALOGUE can now be had free on application.

Best Reigate SILVER SAND, 16s. per ton, delivered free within four miles, or to London Bridge Railway or Wharf. Less quantities, 1s. 6d. per bushel, for cash.

Nursery and Seed Establishment, Lewisham, Kent, S.E.

GLADIOLUS, SEEDLINGS of GANDAVENSIS.

| | | | |
|---|---|---|---|
| 50 in 25 extra choice varieties .. .. | £2 | 2s. | 0d. |
| 25 in 25 " " .. .. | 1 | 5 | 0 |
| 12 in 12 " " .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 " " .. .. .. | 1 | 5 | 6 |
| 25 in 25 " " .. .. .. | 0 | 13 | 6 |
| 12 in 12 " " .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2s. 6d. per doz., 17s. 6d. per 100.

BUTLER & MCCULLOCH, Seed Merchants, Covent Garden Market, W.C.

**Spring Blooming Plants.**

CAMELLIAS, including the best new varieties, fine plants, set with bloom buds, from 30s. per doz.; extra size, from 60s.

HEATHS, EPACRIS, CINERARIAS, and JASMINUM GRANDIFLORUM (grafted), remarkably fine plants, at moderate prices.

Also HUMEA ELEGANS, extra strong, in 6-inch pots, 18s. per doz.

JAMES DICKSON & SONS, Newton Nurseries, Chester.

**Hendon Park Nursery.**

LONICERA AUREO RETICULATA (Japan).—The finest variegated Creeper ever offered, variegated bright green, gold, and crimson veins. Price on application.

NEW BEDDING PANSY, BOY IN BLUE, is now in full bloom, and will continue till Christmas most effective. From 6s. per doz.

Also all the best Show Varieties. Selection left to E. S. from 9s. per doz. EDWARD SHENTON.

**Muscat of Escholata Grape.**

WM. PAUL (Son and Successor to the late A. PAUL) has a fine stock of this Vine, Fruiting Canes and others. Price 7s. 6d. to 15s. each. Most of the other popular sorts, 3s. 6d. to 7s. 6d. each.

Nurseries and Seed Warehouse, Waltham Cross, N.

**Grape Vines.**

TO BE SOLD, Cheap, 1800 close-jointed vigorous Plants, with Canes 6 to 12 feet long, all struck from Eyes last spring.

Apply to the GARDENER, at J. Lewis's Horticultural Works, Stamford Hill, Middlesex, N.

**Foster's Seedling Grape.**

MESSRS. JOHN AND CHARLES LEE have to offer Mr. Foster's stock of this fine NEW GRAPE, which can be confidently recommended for general cultivation in cool Vineries. It has borne an abundant crop in the large Conservatory of the Royal Horticultural Society at Chiswick, the bunches being large, with medium sized berries of a pale amber colour. The flavour of Foster's Seedling is most luscious, equalling the richness of its twin sister Lady Downe's, and as far as can be seen, partaking of the same quality of hanging well without shrivelling.

Canes for planting, 7s. 6d. each. A few Fruiting Canes at 21s. each.

Royal Vineyard Nursery and Seed Establishment, Hammersmith, London, W.

**Grape Vines.**

B. S. WILLIAMS begs to intimate that he has a fine and healthy stock of the above from Eyes, including all the best varieties for Fruiting in Pots and Planting Out. Prices on application.

Paradise Nursery, Seven Sisters and Hornsey Roads, Holloway, London, N.

THE GREAT VINE at HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

St rong well-ripened plants in 9-inch pots, 42s. and 60s. p. doz.
r urchased in large numbers a considerable reduction will
If P de in price.
be ma JACKSON & SON, Nurseries, Kingston, S.W.

EXTRA STRONG FRUITING VINES.—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7s. 6d. each; smaller, for Planting-out, from 3s. 6d. each. A reduction in price will be made to large purchasers.

"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.

JAMES DICKSON & SONS, The Newton Nurseries, Chester.

PINE PLANTS.—A gentleman who is declining Pine Growing, has about 60 clean FRUITING and SUCCESSIONS; consisting of Queens, Envilles, Black Jamaicas, Smooth-leaved Cayenne, &c.

Apply in the first instance to Mr. F. G. GODWIN, Seedsman, 3, Norfolk Market Hall, Sheffield.

**Pine Plants.**

TO BE DISPOSED OF, 100 well-rooted and remarkably healthy and clean grown PINE PLANTS, from 16 to 18 months old, calculated to throw fruit in October, 1863. For further particulars, apply to

Messrs. WHEELER & SON, Nurserymen, Gloucester.

PINE PLANTS WANTED: Smooth Cayenne, Black Jamaica, Hurst House Seedling, about a dozen of each, strong clean plants, to fruit in nine months to a year.

Address, stating price, delivered on rail, to H. B. D., Messrs. Dawson & Sons, 74, Cannon Street, London, E.C.

APPLE and PEAR TREES, &c.—100 doz. Dwarf and Pyramidal PEAR TREES, best sorts, 20s. per doz., packing included.

50 doz. Dwarf and Pyramidal APPLE TREES, best sorts, 12s. per doz., packing included.

GENERAL LISTS of NURSERY STOCK on application.

CHARLES B. SAUNDERS, Nurseryman, &c., Jersey.

**To Noblemen, Gentlemen, Gardeners, &c.**

LEWIS SOLOMON, of Covent Garden Market, W.C., FRUITERER, PURVEYOR TO HER MAJESTY and the ROYAL FAMILY, having large orders for New Fruits, such as GRAPES, STRAWBERRIES, PEACHES, NECTARINES, &c., during the first three weeks in MARCH next, will be glad to PURCHASE such produce at remunerative prices; or, if preferred, make exchanges for them.

Applications to be made as early as possible to LEWIS SOLOMON, Grape Vine, Covent Garden Market, W.C.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent, Belgium, has the pleasure to offer now for the first time his two new excellent Fruits—

APPLE CALVILLE GARIBALDI .. 8s.
PEAR BEURRÉ DE GHELIN .. .. 5s.

This excellent Pear obtained the First Prize at the great Pomological Show at Tournay, Belgium.

N.B. These two new Fruits are figured in VERSCHAFFELT's "Illustration Horticole."

NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1s. per packet.

JAMES CARTER & CO., 237, 238, & 261, High Holborn, W.C.

NEW PRIZE MELONS, at 1s. 6d. per packet.

Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria.

For descriptions see GUIDE to the KITCHEN GARDEN.

BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

CUCUMBER and MELON SEED. — PRINCE ALBERT, HIGHLAND MARY, BLACK SPINE, LONG GUN, 1s. per packet each; best MELONS, 1s.; MUSHROOM SPAWN, 5s. per bushel.

CUCUMBER PAMPHLET now ready, 1s. 1d.

JAMES CUTHILL, F.R.H.S., Camberwell, London, S.

**Apples, Pears, and Plums.**

JOHN ADAMS AND CO. beg to inform the Trade and the public generally, that they have a fine stock of the above, 2 and 3 year old Pyramid and Dwarf-trained Trees of all the leading sorts, also an extra quantity of COMMON LAURELS, about 3 feet high. Prices, &c. on application.

Brentford.—Feb. 14.

**Wanted Immediately.**

WM. WOOD AND SON are in want of Dwarf-Trained PEACHES, NECTARINES, and APRICOTS, also MORELLO CHERRIES. Really good plants and well trained.

Address, WM. WOOD & SON, Maresfield, near Uckfield, Sussex.

**Fruit Trees.**

RICHARD SMITH has no hesitation in saying, that he possesses by far the largest Stock of FRUIT TREES in the kingdom, consisting of Apples, Pears, Plums, Cherries, Peaches, Nectarines, and Apricots, in Maiden Trees, Dwarfs, Bushes, Pyramids, Half-Standards, and Standards; Dwarf-trained, Half-Standard, Standard, and Horizontally-trained Trees, of the finest sorts, and in the best possible condition. DESCRIPTIVE PRICED LISTS on application.

RICHARD SMITH, Nurseryman, Worcester.

**Wholesale Catalogue.**

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE for 1862 and SPRING 1863, comprising Fruit Trees of all the leading kinds, new and selected Roses, fine varieties of American Plants, Choice and Rare Conifers, Evergreen and Deciduous Trees and Shrubs, and a fine Stock of Transplanted Forest Trees, &c., can be had free on application.

Woking Nursery, Surrey.

DWARF-TRAINED FRUIT TREES. Good trees moderate price.

PEARS.—Passe Colmar, Marie Louise, Williams's Bon Chrétien, Van Mons Leon le Clerc, Knight's Monarch, Ne plus Meuris, Easter Beurré, Duchesse d'Angoulême, Beurré d'Aremberg, Glou Morceau, Catillac, Crassane, Beurré Clairgeau, Beurré Magnifica, Prince Albert, Jules Bivort, Comte de Paris, Duchesse d'Orleans, Prevost, Alexandre Lambre, Zepherin Louis, Eliza d'Heyst, Cassane de Mars, Laura de Glymes, Josephine de Malines, Beurré Berckmanns, Beurré Superfin, Autumn Bergamot, Gansel's Bergamot, Beurré de Capiaumont, Jargonelle, Haoon's Incomparable, Beurré Bosc, Chaumontel, Louise Bonne of Jersey, Nelis d'Hiver, Beurré Diel, Leopold I., Bergamot d'Esperon, Comte de Flandres.

PLUMS.—New Early Orleans, Old Orleans, Red Magnum Bonum, Denyer's Victoria, Diamond, Goliah, Cooper's Large Red, Prince of Wales, Woolston's Black Gage, Angelina Burdett, Cloth of Gold, Autumn Compote, White Magnum Bonum, Reine Claude Violet, Washington, Ickworth's Imperatrice, Jefferson's Standard of England.

APPLES. — Hawthornden, Court Pendu Plat, Wellington Pippin, Cox's Orange Pippin, Lord Suffield, Reddlestone Pippin, Stamford Pippin, Yellow Ingestre, Keswick Codlin, Court of Wick, King of Pippins, Blenheim Orange, Cockle Pippin, Kerry Pippin, Nonpareil Russet, Scarlet Pearmain, Kirke's Golden Reinette, Hanwell Souring, Cellini Pippin, Mannington's Pearmain, Northern Spy, Reinette Van Mons, &c.

GEORGE JACKMAN & SON have the pleasure of offering the above named trees; all are well trained, and will be sold per dozen or hundred at moderate prices; the ground being required for other purposes, they are desirous of clearing the above stock this spring.

Woking Nursery, Surrey.—Feb. 14.

**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

## SPLENDID NEW SCARLET VERBENA, LORD LEIGH.

## S. PERKINS & SON,

In offering the above SCARLET VERBENA, have much pleasure in stating that it has been awarded a First-Class Certificate by the Floral Committee of the Royal Horticultural Society, June 11, 1862; First-Class Certificate by the Royal Botanic Society, July 9; First-Class Certificate at the Crystal Palace, Sydenham, Sept. 4 and 5; First-Class Certificate by the Rugby Floricultural Society, August 29; First Prize by the Birmingham Botanic Society, July 10.

After the above Awards, S. P. & SON think it needless to offer any remarks, further than that it is of a free habit and will prove a first-class Bedding variety; colour the most dazzling scarlet that can be conceived, with a clear white eye; truss and pip extremely large, and of the finest shape and quality.

See Editor's remarks in *Gardeners' Chronicle*, August 30, 1862, and December 27, 1862; "Journal of Horticulture," Sept. 9, 1862. An Engraving will appear in the April Number of the "Florist and Pomologist."

**Plants after April 15, 5s. each. Special Price by the dozen on application to the**

PARK NURSERY, COVENTRY.

POTATOES.—Ashleaf and Myatt's Improved, 26s.; Dalmahoy and Shaw, 14s.; Regent and Blues, 12s. per 2 cwt. sack. Sacks, 1s. each. Flukes, fine sample Fortyfold, &c.
STRAWBERRIES.—Black Prince, 15s.; Admiral Dundas, British Queen, Elton Pine, Eleanor, Wizard of the North, 10s. per 1000, 2s. per 100. RASPBERRIES, &c.
GEO. CORNWELL, Seedsman, &c., Barnet, Herts, N.

DAINTREE'S EARLIEST SEEDLING POTATO.—The earliest and most prolific round variety in cultivation, verified by reports in the various papers, and by private reports from all parts of the country, numbers of which will be forwarded on application. Present price, 8s. per Bushel, or 12l. per Ton; sacks 1s. 6d. each.—Apply to Mr. SIMON A. DAINTREE, Fendrayton, St. Ives, Hunts.
N.B.—Genuine Italian Rye-grass, and all the Agricultural Seeds of home growth, supplied as usual

EXTRAORDINARY POTATOES.—A gentleman resident in the Country offers for SALE a few BUSHELS of SEED POTATOES of a new and most wonderful kind. For the table they are unsurpassed as to whiteness and delicacy of flavour, and their productiveness is almost incredible, even on indifferent soil; and further, the disease never attacks them.
For price, &c., address by letter to Z. Z., care of Editor, 162, Fleet Street, London, E.C. Early application is necessary.

SEED POTATOES.—The Subscriber has now for SALE, grown by himself, EVERGREEN REGENTS, at 5l. per ton, and EARLY DALMAHOYS, at 6l. per ton, in bulk, put on the rail at Edinburgh, or free on board at Leith or Granton; if in bags 10s. per ton extra. Both varieties sound, grown after old pasture, and carefully selected for seed. The Dalmahoy is the best cropper, and the earliest of all the early field varieties.
Orders for quantities of not less than One Ton will be executed on receipt of cash, or a satisfactory reference to respectable parties in Edinburgh or Leith.
Apply to JOHN GIBSON, Woolmet, Dalkeith, N.B.

SUTTON'S LIST of POTATOES for PLANTING.
CARRIAGE FREE.
*₊* *The sorts marked* (K) *are kidney-shaped.*

| Per pk. or stone of 14 lbs.— | s. | d. |
|---|---|---|
| SUTTON'S EARLY RACEHORSE (K), considerably earlier than any other Potato known .. .. .. | 5 | 0 |
| HUDSON'S NONSUCH (K), forwarder than the Early Ashleaf .. .. .. .. .. .. .. .. | 5 | 0 |
| HUDSON'S EARLY MAY (K), quite new; one of the best Potatoes for the main crop; it comes early, bears enormously, and keeps well .. .. .. .. | 4 | 0 |
| DAINTREE'S EARLIEST, new sort, highly spoken of, direct from Mr. Daintree .. .. .. .. .. .. | 2 | 6 |
| EARLY ASHLEAF (K), a well-known early sort .. | 3 | 0 |
| MYATT'S EARLY ASHLEAF (K), more productive than the preceding .. .. .. .. .. .. | 3 | 0 |
| EARLY WALNUTLEAF (K), somewhat similar to Ashleaf, but shorter haulm, and rather earlier, and fuller flavour .. .. .. .. .. .. .. .. | 3 | 0 |
| HANDSWORTH EARLY, one of the forwardest and best for forcing; very short in the haulm .. .. | 3 | 6 |
| EARLY CHINA, quite new, second early .. .. | 4 | 0 |
| SODEN'S EARLY OXFORD, one of the best early round Potatoes .. .. .. .. .. .. .. .. | 3 | 0 |
| IMPROVED EARLY SHAW, a favourite Potato with the London Market Gardeners, and Hotel Keepers .. | 3 | 0 |
| WEBB'S IMPERIAL (K), new large, very fine .. .. | 3 | 6 |
| FLUKE (K), fine productive and popular sort .. .. | 2 | 0 |
| DALMAHOY, fine flavour, second early, and good for main crop .. .. .. .. .. .. .. .. | 2 | 6 |
| WELLINGTON, pink-eyed, strongly recommended .. | 2 | 0 |
| BRACKEN (K), a fine mealy Potato, red skin, delicious flavour .. .. .. .. .. .. .. .. | 2 | 6 |
| GOLDEN BALL or RED REGENT, large, well-shaped, and fine-flavoured. (This sort gained a First Prize at the International Show, 1862, where it attracted much attention) .. .. .. .. .. .. .. | 2 | 6 |
| RED ASHLEAF (K), mealy, and keeps well .. .. | 3 | 6 |
| SKERRY BLUE, very large and productive, new from Ireland .. .. .. .. .. .. .. .. | 2 | 6 |
| DAWE'S MATCHLESS (K), prolific, large, fine flavour and shape .. .. .. .. .. .. .. .. | 3 | 6 |
| THE KING (K). This may be fairly described as the finest Potato in cultivation; gained a First Prize at the Royal Horticultural Society's International Show, and at Birmingham .. .. .. .. .. .. .. | 5 | 0 |

Mr. Hudson, one of the most experienced Potato growers in the kingdom, writes us:—"In all my fields of Potatoes, the King and Early May are free from disease, though other sorts have it worse than usual. These two Potatoes are about the finest and most productive of all I have ever grown, and to Market Gardeners will prove invaluable."

| | s. | d. |
|---|---|---|
| FLOUR BALL, the true sort, strongly recommended .. | 2 | 0 |
| YORK REGENT, fine true stock. (Price per ton on application) .. .. .. .. .. .. .. | 1 | 9 |
| FORTYFOLD, very productive, mealy, and fine flavour. | 2 | 0 |

| | |
|---|---|
| Early Frame | Prince of Wales |
| Birmingham Prizetaker | Lemon Kidney |
| Alstone Kidney | Goldfinder |
| Lapstone Kidney | British Queen |

Cheaper by the sack or bushel. Prices on application.
For field culture in large quantities, we can supply good sorts of Potatoes at much lower rates.
N.B. We deliver Potatoes, as well as Seeds, carriage free.
SUTTON'S PRICED LISTS of SEEDS, post free.
SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**Important to Agriculturists.**

A DISTINCT NEW POTATO.—The SKERRY BLUE, one of the most productive ever yet offered to the public. The Tops grow very strong, and require to be planted thin—it possesses a most delicious flavour.
The Subscriber intimates to those who were disappointed last season, that they should order early. He subjoins one or two opinions of its merit, which he has received from those who had a few from him last season.

"The Crescent, Castlebellingham, Nov. 4, 1862.
"Sir,—The 1½ cwt. of Skerry Blue Potatoes I had from you, has surprised me. I dug 32 cwt. of sound Potatoes; there was not a dozen of damaged ones in the lot. I did not plant these Potatoes for a month after my general crop. Had I planted earlier, I firmly believe the produce would have been larger. Since 1846, I have never seen Potatoes equal to the 'Skerry Blue,' grown by me, from the seed supplied by you.
"Yours, &c., WM. WOOLSEY."

"Ballybrooney Ballina, Dec. 12, 1862.
"The produce of the 2 cwt. of Skerry Blues you sent me in April I have just now raised. I have about 2 tons of clean sound Potatoes; not half a dozen of tainted ones in the lot could I discover. They are admired by every one in this part of the country. "Yours most truly, SAMUEL MOORE."
Prices by the cwt. or ton. Delivered in Liverpool or Glasgow on application to
ANDREW G. DALY, Nursery and Seedsman, Newry.

SEED POTATOES.—Splendid Stocks of Martin's Early Globe, Early Oxford, Early Fox's Seedling, Early Round Frame, Early Dalmahoy, Myatt's Prolific, and Jackson's Ash-leaved Kidney, Forty-fold, Fluke Kidney, and Flour-ball varieties at low prices.
H. & F. SHARPE, Wisbeach.

DAINTREE'S EARLIEST SEEDLING POTATO, 8s. per bushel, or 12l. per ton; sacks, 1s. 6d. each.
RED REGENTS POTATOES, the best late variety, at 7l. per ton; sacks, 1s. 6d each.
Address Mr. SIMON A. DAINTREE, Fendrayton, St. Ives, Hunts.

THE ROYAL ASH-LEAVED KIDNEY POTATO.—For a full description of this fine early sort, see advertisement in *Gardeners' Chronicle* for Jan. 31.
Price 5s. 6d. per Peck Bag of 14 lbs., sealed.
Sold in London by Messrs. WRENCH & SONS, 39, King William Street, E.C.; and by Messrs. THOS. RIVERS & SON, Nurseries, Sawbridgeworth, Herts.

**Myatt's Early Prolific Ash-leaved Kidney Potatoes.**

H. AND F. SHARPE are now taking orders for the above, which has this season proved itself to be the earliest and most prolific Potato in cultivation, and as fine in quality as any of the Early Kidney varieties. Having a good stock they can offer them at a low price to the Trade.
Also JACKSON'S ASH-LEAVED KIDNEY, WALNUT-LEAVED KIDNEY, and all the early Round varieties at equally low prices, which may be had on application.
Seed Growing Establishment, Wisbech,

HOW'S EARLY FLUKE.—This new KIDNEY POTATO has been raised from the apple of the Fluke. In 1861, 1200 yards produced 132 bushels. In 1862, tested in alternate rows with other sorts, it was freest from disease, and by far the heaviest crop. It boils white, and is of first-rate quality. Its flavour when dug young is much extolled. Two First Prizes have been awarded to it at the last Redmarley Horticultural Shows held in July. For early market or the gentleman's table it is unsurpassed. Price 10s. per bushel of 56 lbs.
W. A. HOW, Redmarley, Newent, Gloucester.

SEED POTATOES from the NORTH of SCOTLAND.—The following sorts, grown by Mr. SIMPSON, Teawig, in Inverness and Ross-shires, on clay loam and light soils.
DALMAHOYS,
WALKER'S EARLY REGENTS,
WHITE ROCKS.
They will be delivered free in sacks in London, Liverpool, or Newcastle, at very moderate rates, which may be learned by writing, stating quantities required, to A. SIMPSON, Beauly, N.B.; or applying to A. TOD, 17, Duke Street, London Bridge, E.C.

ADDITIONAL AGENTS for the SALE of SEED of the "STUDENT" PARSNIP.
Batt, Rutley, & Silverlock, Strand, London, W.C.
Clarke, Henry & Sons, 39, King Street, Covent Garden, London, W.C.
Dickson, James & Sons, 102, Eastgate Street, Chester.
Fraser, Richardson, & Goad, 82, Bishopsgate Street Within, London, E.C.
Handasyde, Thos., Glen Nurseries, Musselburgh, N.B.
Minier, Nash, & Nash, 60, Strand, London, W.C.
Pillenger, John, Chepstow Nurseries, Chepstow.
Pierpoint, Thos., 126, Bridge Street, Warrington.
Shaw, John, 29, Oxford Street, Manchester.
Wheeler, Geo., Warminster Nursery, Wilts.
The above-named Seedsmen have been supplied direct from Messrs. SUTTON & SONS, Reading, who have Seed on Sale Wholesale to the Trade, or Retail at 6d., 1s., or 2s. 6d. per packet.
Royal Berks Seed Establishment, Reading.

**International Exhibition. Prize Medals 1851 and 1862,**
AWARDED FOR "EXCELLENT SEED CORN AND SEEDS," TO
RAYNBIRD, CALDECOTT, AND BAWTREE, SEED MERCHANTS and GROWERS, Basingstoke, Andover; and 89, Seed Market, Mark Lane, London, E.C.
Samples of all kinds of AGRICULTURAL SEEDS and SEED CORN, sent post free on application.

TRADE
HALLETT'S PEDIGREE. NURSERY WHEAT.
MARK.
"The best Spring Wheat known. Drill in February and March, six pecks per acre."
Produced (1862) 62 bushels per acre, weighing 64 lbs. a bush.
Price ONE GUINEA A BUSHEL, including bag sewed up and sealed, delivered at the Brighton Railway Station, with Printed Directions for Planting, on Receipt of Cheque or Post-office Order, which must in all cases accompany the Order. Less than One Bushel will not be supplied. Name of Station and Railway should accompany the Order.
Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

**Established 1787.**
THOMAS KENNEDY AND CO.,
NURSERY AND SEED ESTABLISHMENT,
Dumfries, N.B.
*₊* PRICED CATALOGUES sent free on application:
FREE DELIVERY.
FARM and GARDEN SEEDS under certain limitations will be DELIVERED FREE OF CARRIAGE to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

CHEAP GRASS SEEDS for HILL SIDES and RAILWAY BANKS.—Rough Grasses, Sainfoin Siftings, &c., suitable for the above purpose, at 2s. per bushel and 3d. per lb.
Address, RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

**Grass Seeds for all Soils.**
SUTTON AND SONS have one of the largest stocks in Europe of the PERMANENT NATURAL GRASS SEEDS, which they mix expressly to suit the soil for which they are required.
Price 30s. per acre (carriage free). A copy of Mr. Martin Sutton's "Essay on Pastures" is sent with each lot of Grass Seeds.
Royal Berks Seed Establishment, Reading.

FINE GRASS LAWNS in FLOWER GARDENS, &c.—The great expense of cutting and carting Turves from a distance may be avoided, and a *superior* Turf produced in a few months, by sowing SUTTON'S LAWN GRASS SEEDS, which consist solely of the finest and shortest growing kinds, perfectly *free from Moss and other weeds*.
Price 18s. per bushel, or 1s. per pound. Quantities of not less than 1 bushel will be sent Carriage free.
SUTTON & SONS, Seed Growers, Reading, Berks.

**Good Clover Seed.**
GENUINE NEW CLOVER SEED may be obtained of the undersigned. Prices (according to market and quantity required) will be forwarded on application.
SUTTON & SONS, Seed Growers, Reading, Berks.

GENUINE CLOVER and GRASS SEEDS.—Samples and prices Post free on application.
☞ Orders amounting to 10s. and upwards sent carriage free.
WM. WOOD & SON, Seed Merchants and Nurserymen, Maresfield, near Uckfield, Sussex.

SEED CORN from the CHALK.—All the most approved varieties supplied by RAYNBIRD, CALDECOTT, & BAWTREE. Samples and prices on application.
Address, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

AUGUSTE VAN GEERT'S NURSERY, Ghent, one of the finest on the Continent.
CATALOGUES may be had on application, or of his Agents, Messrs. R. SILBERRAD & SON, 5, Harp Lane, Great Tower Street, London, E.C.

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., so much admired in the International Exhibition, delivered in the City at 1s. 6d., or within 2½ miles of Charing Cross, at 2s. per bag of 3 bushels. Ten bags or more on lower terms. Apply to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.
Also for particulars of SHORT FIBRE for Orchids and Drainage in pots.
Stamps or Post-office Orders payable to J. BARSHAM & Co.
BARSHAM'S BRUSHES and MATS are the best and most economical of any, and are sold in every town in the kingdom; at DEANE'S, London Bridge; and E. WHITE & SON'S, 95, Cannon Street.
CAUTION.—Every Brush is stamped "J. BARSHAM'S Patent."

ROLL TOBACCO CLOTH.—The cheapest and best article for Smoking Greenhouses and Destroying the Fly, 1s. 4d. per lb., over 10 lbs., 1s. 1d.
JOSEPH BAKER, 10, Gough Square, Fleet Street, E.C. Post Office Orders payable Fleet Street.

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.
Extra strong, 3s. per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.
Can be obtained through the principal Nurserymen and Seedsmen in England.
A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.
PAGE & TOOGOOD, Seed Merchants, Southampton.

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.
NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.
Both may be obtained of all principal Seedsmen.
Patentee: J. NEAL, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.
This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.
Sold Retail by Nurserymen and Seedsmen in boxes, 1s., 3s., and 10s. 6d. each.
Wholesale by
PRICE'S PATENT CANDLE CO., Limited.

**Notice.**
MR. A. CHANDLER (of the late Firm of CHANDLER & SONS), HORTICULTURAL VALUER, begs to inform his friends and the public that he has REMOVED from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

THE FARMERS' BAROMETER, 50s., a new Instrument by NEGRETTI & ZAMBRA, will correctly indicate whether the Barometer falls for Rain or for Wind.
Particulars by enclosing stamp, 1, Hatton Garden, E.C.; 59, Cornhill, E.C.; and 122, Regent Street, W.

SHAW'S TIFFANY,
For samples and prices apply to
J. SHAW & Co., 29, Oxford Street, Manchester.

ARCHANGEL MATS, for protecting Fruit Trees, Plants, Shrubs, &c., from Frost. A large quantity, fresh imported, are now on Sale at low prices per hundred, delivered free at any of the Metropolitan Railway Stations. Also Ropes, Lines, Twines, Sacks, and Bags of every description. Tanned Garden Netting. A Price List forwarded upon application to
JOHN MORISON, 25, Norton Folgate, N.E.

**Do as Others Do!**
BUY YOUR SEED BAGS from JAMES T. ANDERSON, SACK and BAG MAKER, and RUSSIA MAT MERCHANT, 15, SHERBORNE LANE, King William Street, London, E.C., who will supply you with a first-rate article at a low price. ARCHANGEL MATS, the pick of the season. Russian and Prussian Dunnage Mats.
Prices sent free on application.

**The Old Established Seed Bag and Sack Manufactory.**
ALEXANDER NICOL AND CO., MANUFACTURERS of SEED BAGS and SACKS, RYE GRASS SEED BAGS, GRAIN and POTATO SACKS of all sizes and descriptions, SHOP and NURSERY TWINES, GARDEN LINES, &c.
Chalmers St. Works, Arbroath, N.B.
N.B. The principal Seed-houses in the three Kingdoms have been supplied by us for the last 30 years. Price Lists and Samples may be had on application. No connection with any other house in the Trade.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.

RICHARD SMITH, Nurseryman, Worcester.

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WELLINGTONIA GIGANTEA.—The attention of the Nobility, Gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12s.; per 100 or 1000 on application. A Sample free by post for 12 stamps.

J. HENCHMAN, Edmonton, London.

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FINE SPECIMEN WELLINGTONIAS.—50 splendid SPECIMEN PLANTS of WELLINGTONIA GIGANTEA, 4½ to 5½ feet high, strong sturdy plants (from seed), grown on cold clay, in a very exposed situation, transplanted 2 years since, and will remove with large balls. Price moderate.

Apply to GEORGE T. FOX, The Nurseries, Wetley Rocks, near Leek, Staffordshire.

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COMMON LAURELS, in quantity, 3, 4, and 5 feet high, bushy and well rooted; about 800 HORSE CHESNUTS, 5 to 7 feet; 500 ENGLISH OAK, 4 to 5 feet, to be sold reasonable. Price on application to

D. S. THOMSON, Nurseryman, near Railway Station, Wimbledon, Surrey, S.W.

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**Thorn Quicks.**

JNO. CARTER, NURSERYMAN, Keighley, has a large stock of the above, from 1 to 4 years' Transplanted, well rooted and very strong.

J. C. will be glad to furnish samples and prices, and also CATALOGUE of GENERAL NURSERY STOCK.

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FOR SALE, 100,000 3-year Seedling SILVER FIR.—The above will be offered cheap, as the ground is wanted for other purposes; also 150,000 1-year Seedling LARCH. Samples and Prices sent on application.

Apply to DOWNIE, LAIRD, & LAING, 17, Frederick Street, Edinburgh; and Stanstead Park, Forest Hill, London.

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THE SUBSCRIBERS have on SALE 2, 3, and 4-year Seedling NORWAY SPRUCE; 3-year Seedling THORN QUICKS; Transplanted SPRUCE, 1 to 1½ feet; 3-year Transplanted THORN QUICKS, all at very low prices, which may be had on application.

FOWLER & SON, Glasgow—Feb. 14.

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TRANSPLANTED FOREST TREES and EVERGREENS, &c.

| | |
|---|---|
| SPRUCE FIR, 1 foot, per 1000 | 10s. |
| ,, ,, 1 to 1½ foot, per 1000 | 15s. |
| ,, ,, 1½ to 2 feet, per 1000 | 25s. |
| OAKS, 3 feet to 4 feet | 25s. |
| WEEPING ELM, 10 to 12 feet stems, fine heads, per doz. | 24s. |
| COMMON LAUREL, bushy, 2 feet, per 100 | 10s. |
| BERBERIS AQUIFOLIA, 1½ to 2 feet, per 100 | 10s. |
| TREE BOX, 2 feet, bushy, per 100 | 20s. |

ALEXANDER LAING has yet the above Surplus Stock to Dispose of, having grown upon ground that must be at once cleared.

Beverley Nurseries.—Feb. 14.

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JAMES VEITCH, JUN., having a very large stock of the CHOICE HARDY TREES named below, offers them at the low prices annexed. The whole of them are in the finest possible condition, and may be seen growing, together with a fine collection of other Trees and Shrubs, in his new Nursery, at Coombe Wood, Kingston Hill, S.W.

This Nursery is situated 1½ mile from the New Malden and Coombe, 2½ miles from the Richmond, 2 miles from the Kingston, and 3 miles from the Putney Stations, South Western Railway, and at the three latter Stations Flys can at all times be obtained. It is distant about 5 miles from the Chelsea Nurseries.

The prices include delivery at the London wharfs and railway stations.

ABIES DOUGLASII TAXIFOLIA.—This is the best variety of the Douglas Fir, 4 to 5 feet, 3l. per dozen.

ABIES DOUGLASII TAXIFOLIA, 5 to 6 feet, 4l. 4s. per doz.
The above are really fine formed specimens.

ARAUCARIA IMBRICATA.—Strong good shaped plants, 1l. 10l. per dozen.
Do. do. Strong good shaped plants, 2 ft., 2l. 2s. to 3l. per doz.
Do. do. Fine specimens, from 3 to 5 to 7 feet, 15s. to 21s. to 42s. to 63s. to 105s. each.
N.B.—These plants are so robust and well formed, they should be seen to be appreciated.

CEDRUS DEODARA.—Beautifully formed plants, 3 to 4 ft., 1l. 16s. per dozen.
Do. do. Beautifully formed plants, 4 to 6 ft., 3l. per dozen.
Do. do. ,, 6 to 8 ft., 4l. 4s. per doz.
Do. do. Splendid specimens, 8 to 10 ft., 10s. 6d. to 21s. each.
These are all very handsome plants.

CEDRUS DEODARA ROBUSTA.—Fine plants, 4 to 5 ft., 2l. 2s. per dozen.
Do. do. do. Fine plants, 5 to 6 ft., 3l. 3s. per dozen.

CUPRESSUS LAWSONII.—Very nice plants, 2 to 3 ft., 1l. 10s. per dozen.
Do. MACROCARPA, 12 to 18 inches, all transplanted in August, 1862, 12s. per dozen, 3l. 15s. per 100.
Do. do., 2½ to 3 ft., 1l. 10s. per dozen.

CRYPTOMERIA LOBBII, 3 to 4 feet, 2l. 2s. per dozen
,, ,, 4 to 5 feet, 3l. per dozen
N.B. This is the most hardy, the finest green foliage, and closest habit of the Cryptomerias.

JUNIPERUS CRACOVIA, fine plants, 3 to 4 feet, 1l. 4s. per doz.; 7l. 10s. per 100.

PINUS BENTHAMIANA, 3 to 4 feet, 3l. per dozen.
,, INSIGNIS, 3 to 4 feet, 2l. 2s. per dozen; 15l. per 100.
,, ,, 5 to 6 feet, 3l. per dozen.
These Pinus insignis were all transplanted in August, 1862, and are remarkably fine plants.

PINUS INSIGNIS.—Very fine specimens, 6 to 10 feet, 7s. 6d. to 21s. each.

PINUS PYRENAICA.—Very fine plants, 4 to 5 feet, 3l. per dozen.

SEQUOIA (TAXODIUM) SEMPERVIRENS, 5 to 6 feet, 2l. 2s. per dozen.

THUJA LOBBII.—A beautiful kind, 2 feet, 1l. 10s. per dozen.
Do. do. Fine plants, 3 feet, 2l. 2s. per dozen.
Do. OCCIDENTALIS (American Arbor-vitæ), 3 to 4 feet, 6s. per dozen; 2l. 2s. per 100.
Do. do. Very fine plants, 4 to 5 ft., 15s. per doz.; 5l. per 100.
This is an admirable plant for hedges.

WELLINGTONIA GIGANTEA, 2 years, very strong, 1l. 10s. per doz.; 10l. 10s. per 100.

WELLINGTONIA GIGANTEA, 1 ft. 6in., 3l. per doz.
Do. do., 2 feet, 4l. 4s. per dozen.
Do. do. Plants of larger sizes from 3 to 4 to 6 feet, magnificently formed specimens, 21s. to 63s. to 84s. each.

These latter are such beautiful plants that they would amply repay for a visit of inspection, and may be selected.

The Royal Exotic Nursery, King's Road, Chelsea, S.W.

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**Narrow-leaved English Elms.**

WOOD AND INGRAM beg to offer to the Trade extra fine Seedlings of the above, at 5s. per 1000.

Huntingdon Nurseries.

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W. VIRGO AND CO. have a few thousands of BERBERIS AQUIFOLIA and DULCIS, EVERGREEN PRIVET, and COMMON LAUREL, fit for cover planting. Price and samples on application at the Nursery.

Wonersh Nursery, near Guildford, Surrey.

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A BARGAIN.—A large quantity of SCOTCH and SPRUCE FIR, 2 to 3 feet high, fine healthy stuff, to offer cheap.

For price apply to GEORGE BATLEY, the Nursery, Rugby.

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**To the Trade.**

JOHN PERKINS begs to offer the following:—
1-year SEEDLING ASH, 1s. per 1000.
1-year ENGLISH OAK, 3s. per 1000.
1-year TURKEY OAK, 5s. per 1000.
Extra strong 2-year WHITE THORN, 6s. per 1000.

Samples of the above on application to 52, Market Square, Northampton.

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LARGE ORNAMENTAL TREES.—The Subscribers beg to offer very fine specimen plants of ARAUCARIA IMBRICATA, from 5 to 9 ft.; CEDRUS LIBANI, 7 to 12 ft.; WELLINGTONIA GIGANTEA, 5 to 9 ft.; PINUS EXCELSA, 7 to 10 ft.; also Spruce, Scotch, and Larch Firs, from 7 to 10 ft., with Limes, Birch, Beech, Elm, Sycamore, and Laburnum, 9 to 11 ft.; likewise Weeping Ash, Lime, and Willow, on fine tall stems. The above will be sold cheap, and if taken in quantity a great reduction will be made in the price.

J. IVERY & SON, Dorking Nursery.

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**To the Trade.**

JOHN BROWN AND CO. have a surplus stock of COMMON LAURELS, 2 to 4 feet; also a few cwt. of HOLLOW-CROWNED PARSNIP and ASHLEAF KIDNEY POTATOES. Price on application.

American Nurseries, Downham Market, Norfolk.

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**Choice Flower Seeds and Novelties,**

OFFERED BY

B. S. WILLIAMS, Paradise and Victoria Nurseries, Holloway, London, N.

| | | Per packet. s. | d. |
|---|---|---|---|
| PRIMULA, Red or White (fringed), very superior; see testimonials in Catalogue | 2s. | 3 | 6 |
| CALCEOLARIA, herbaceous, finest mixed | 1s. 6d. | 2 | 6 |
| CINERARIA CRUENTA, ,, ,, saved from a collection of prize flowers | 1s. 6d. | 2 | 6 |
| AMARANTHUS MELANCHOLICUS RUBER | 1s. | 1 | 6 |
| MIMULUS CUPREUS | 1s. | 1 | 6 |
| RHODANTHE MACULATA | 1s. | 1 | 6 |
| ASTER VICTORIA, a very elegant variety | | 1 | 6 |
| ,, Newest DWARF PYRAMIDAL, azure blue | | 0 | 6 |
| ,, ,, ,, azure blue and white | | 0 | 6 |
| ,, PÆONY FLOWERED GLOBE, extra double snow white | | 1 | 0 |
| ,, ,, ,, brilliant rose | | 1 | 0 |
| ,, WHITE CHRYSANTHEMUM-FLOWERING, flowers pure white | | 1 | 0 |
| SWEET WILLIAMS, very choice seed | | 0 | 6 |
| GLOXINIA TUBIFLORA, very fragrant | | 2 | 6 |
| HELIANTHUS MACROPHYLLUS GIGANTEUS, height about 19 feet | | 1 | 0 |
| PORTULACA GRANDIFLORA FLORE PLENO (Double Portulaca Roses) | | 2 | 6 |
| DWARF COCKSCOMB | | 1 | 0 |
| CLARKIA INTEGRIPETALA MARGINATA | | 1 | 0 |
| ,, ,, ALBA | | 1 | 0 |
| ,, ,, NANA | | 1 | 0 |
| CONVOLVULUS CANTABRICUS STELLATUS NOVUS | | 0 | 6 |
| GODETIA, THE BRIDE | | 1 | 0 |
| PHLOX DRUMMONDI, PRINCESS ALEXANDRA | | 2 | 6 |
| ,, ,, TWILIGHT | | 2 | 6 |
| TROPÆOLUM LOBBI, GLORY | | 1 | 0 |
| ,, CRYSTAL PALACE GEM | | 0 | 6 |
| ,, TOM THUMB (White) | | 1 | 0 |
| SAPONARIA CALABRICA MARGINATA | | 1 | 0 |
| ,, ,, ALBA | | 0 | 4 |

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THOMAS METHVEN begs to state that he can supply the above, and which he can warrant genuine, in packets at 1s., 2s. 6d., and 5s.

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|---|---|
| EARLY YORK CABBAGE | EARLY NONPAREIL |
| ,, BATTERSEA | DRUMHEAD |
| ,, BARNES | RED CABBAGE |

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| Collection, No. 1 | 105s. | Collection, No. 3 | 42s. |
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is now ready, and will be forwarded free on application.

NOTE.—This Catalogue contains only the best varieties Vegetables, and an abridged List of the most valuable Flower Seeds.

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| 50 Mixed ditto, fine quality .. .. | 4s., 8s., and | 0 | 10 | 0 |
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New CATALOGUES ready for one stamp.
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WILLIAM BULL'S Establishment for New and Rare Plants, King's Road, Chelsea, S.W.

# The Gardeners' Chronicle.

*SATURDAY, FEBRUARY* 14, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| WEDNESDAY, | Feb. 18 | —Society of Arts .. .. .. | 8 P.M. |
| THURSDAY, | — 19 | —Linnean .. .. .. .. | 8 P.M. |
| FRIDAY, | — 20 | Royal Horticultural (Election of Fellows) at S. Kensington .. .. | 2 P.M. |

WE saw the other day at Mr. STANDISH'S nursery at Bagshot, whence are being removed to a new nursery at Ascot, sundry good-sized Conifers, what appeared to us to be a very capital contrivance for TRANSPLANTING TREES. The plan, we understand, originated with Mr. SORLEY, of Falkirk, and has been for a year or two in use in different parts of Scotland, where by its aid large trees are successfully removed at any period of the year, the month of August being indeed preferred for many kinds, especially evergreens.

The apparatus is simple in the extreme, and herein consists one of its strongest recommendations; and it is not only simple in itself, but it is also simple in its application. There are four semicircles of ordinary sheet iron, hollowed out in the centre, so as to admit the bole of the tree in the concave part. The edges of these half-annular iron plates are strengthened by being turned over a small iron rod, and the outer curved margin, as well as the two straight ends of each, are provided with a series of brass eyelet-holes, large enough to admit the passage of a cord. This is all the essential part of the contrivance. There is in addition, we believe, employed for transporting the trees, a kind of truck or barrow similar in its construction to those we see in daily use for moving corn sacks, or for moving luggage at our railway stations. The head of this carriage is thrust under the ball, and the top of the tree being then brought over, the whole mass is easily and safely removed, provided there is sufficient force brought to bear upon it. It is however in the application of the iron plates that the great advantage of the plan consists, and for this the inventor deserves great credit.

When a tree is to be transplanted, the first operation, after securing the branches as far as may be necessary, is to excavate a trench at a distance from the bole sufficient to secure a good "ball" of earth about the roots, the extremities of the roots beyond the circumference of this "ball" being more or less carefully preserved in excavating according to the nature of tree. The ball of earth (its size having been previously determined on), is then to be undermined on one side, and one of the iron plates with the convex side outwards slipped beneath it, while another is placed on the upper side of the ball with its concave edge towards the bole, and as near to it as may be convenient. These two plates are then to be judiciously laced together, with as much force as will keep the earth firm, the ends of the roots being for the present left free between the cords. A cord should be passed from the straight ends of the two plates above and below the ball, and either held or tied firmly on the opposite side to keep the plates themselves temporarily in their right position. The other side is then to be undermined (the tree being gently inclined if necessary), and a pair of plates placed above and below opposite the first pair, the ends of the opposite pairs being firmly laced together, and the outer edges being also laced as before. When this has all been properly done, there remains the ball of earth held firmly together by means of the four half-annular plates of iron, two above and two beneath, which are secured by vertical lacing at the circumference of the ball, and by horizontal lacing where the ends of the semicircles meet. The lacing, of course, has to be made strong in proportion to the size and weight of the ball; but once done, and the projecting roots carefully laid round and laced over, with any kind of packing material to protect them, the tree might be sent from one end of the kingdom to the other without injury at any season, provided the materials protecting the roots were kept in a moistened state.

When a tree thus removed has reached its destination, and is lowered into its place, nothing is required but to cut or unlace the cord or rope which has held the plates together, to lift off the upper and to slip out the lower plates, and then carefully to fill in the soil about the extremities of the roots, the growth of which latter will be facilitated, and the steadiness of the tree assisted greatly by the influence of the undisturbed mass of earth which has thus so easily been retained about the base of the roots.

We believe the plates are employed of various sizes, and that Mr. SORLEY himself may be consulted as to their application. Those we saw in use with Mr. STANDISH, and which we were informed were calculated for a ball of about half a ton weight, would have formed a circle of some three feet in diameter, having, of course, a large opening in the centre when the ends of their two halves were brought into contact.

The plan is so simple and so effectual that it deserves to be made generally known.

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IT has long been a question of interest whether ROOTS have any power of selection from the food dissolved in the moisture which surrounds their delicate spongelets, the only point apparently which is capable of absorption; and then whether they are able to return to the soil any matter which is useless or prejudicial, or which they cannot conveniently deposit by means of elimination from their juices during their passage from one part to another. The question is clearly one of great importance as regards the theory of cultivation, and especially of that part which treats of the exhaustion or deterioration of the land from preceding cropping, and there are collateral points of interest.

M. CAUVET, an apothecary in the French army, has made some interesting experiments on the subject, the results of which have appeared in a recently-published number of the "Annales des Sciences Naturelles," dated 1861, a publication the botanical part of which drags its slow length along to the great dissatisfaction of its subscribers.

Previous experiments have been generally made with plants whose stems were mutilated, and therefore not in a natural state, and whose rootlets were much injured by removal from the ground, and by washing away the adherent soil. To avoid these evils M. CAUVET employed seeds which he had caused to germinate through holes in wooden discs placed over glasses filled with water. Each perforation was occupied by a single plant, and it was possible to examine the tips of the root, and any rootlets it might give off, by simply lifting up the disc, which could be done without the slightest injury to the spongelets.

Colouring matter mechanically suspended in water was clearly useless, though employed in many previous experiments. Substances therefore were used which were perfectly soluble in water, and which could be taken up into the cellular tissue, provided the fluid penetrated the spongelets.

It appeared from the experiments that coloured liquids, whether active, as solutions of minerals, or inert, as decoction of Phytolacca, were not absorbed completely into the system, so long as the roots were physiologically sound, though they affected the cells of the spongelets, and the superficial cells of the parts immersed. Active liquors affected the spongelets rapidly and decomposed them. In the first case, the roots are surrounded, especially at their extremity, by a deposit of colouring matter, which renders the absorption of the solution extremely difficult or prevents it altogether, inducing at length the destruction of the spongelets, while in either case, as soon as the spongelets are decomposed, the fluid enters the plant, following the course of the fibro-vascular bundles, a circumstance which has an important bearing on the condition of these bundles in Potatoes, Turnips, &c., affected by disease. M. CAUVET deduces from this the corollary that it is useless to study the course of the sap in plants by means of coloured injections.

Having established these points, he proceeded to examine the question whether there is really any excretion from roots. In the course of his experiments, he ascertained that roots physiologically sound do not absorb indifferently all substances dissolved in water; and confirmed his former views that it is only after the more or less complete destruction of the spongelets that coloured substances, whether poisonous, inert, or not capable of being assimilated, can be absorbed, and that death ensues unless new roots are thrown out; that roots physiologically sound have no power of rejecting substances, whether poisonous or otherwise, which have been already absorbed, but that when the plant survives the first shock, the poison or deleterious matter is carried to the leaves, which die in the order of their evolution, while a minute quantity is eliminated from the sound leaves together with the water of evaporation. Arsenious acid, for example, is not absorbed by plants growing in a soil which has been purposely poisoned, unless the dose is too large, and then it arrests germination and destroys the plant. If the plant chances to grow, an appreciable quantity of arsenic is not found by chemical analysis in the fruit, and animals nourished with the leaves do not appear to be inconvenienced.

The latter point has an interesting bearing on some questions of Forensic Medicine, and may quiet the alarms of those who believe that evil consequences can arise from the dressing of Wheat with poisonous salts, alarms which are put in a very striking way in M. DUMAS'S "Montecristo," in a conversation between MONTECRISTO himself and Madame VILLEFORT.

As regards cultivation, then, we have two important facts—first, that plants do exercise a certain degree of selection in their choice of food, refusing to imbibe inert or injurious substances—more however by their action on the spongelets, than by any actual election; secondly, that inasmuch as the roots of plants do not give out any excretory matter to the soil, the theory of rotation of cropping as put forth by DECANDOLLE and LIEBIG is void of truth. The barrenness of a field after a particular crop does not depend upon the deposit in the soil of matters injurious to the plants of the same species. Within certain limits therefore it must depend upon the elective faculty, and not on any excretion, that plants owe the differences which we observe, species by species, in the quantity or quality of their saline elements. The fact that in the same plot of ground *Tamarix* and *Salsola* give very different chemical results, the former containing more magnesia and the latter more soda, while in *Eryngium maritimum*, which grows exclusively on the sand bordering the sea, and strongly impregnated with chlorate of soda, there occurs three times as much potash as soda, certainly indicates some power of selection, for if soda, potash, and magnesia, were indifferently taken up into the plant—and it is an established fact that there is no excretion from the roots—they must be found on analysis. The bearing on such

questions as that of the cause of chlorosis, Clover sickness, and several other maladies to which plants are subject, is at once evident, and it is greatly to be wished that M. Cauvet should continue his experiments, which tend so much to throw light on numerous physiological questions. *M. J. B.*

—— Mr. Keynes has made (*Flor. and Pomol.* ii. 11) a useful suggestion relative to the Exhibition of Dahlias, and one to which we are happy to give further publicity in our columns. His object is to check favouritism in the awarding of prizes, and the plan he suggests seems to have the double preliminary advantage of being one which may be readily carried out in practice, and which would not occasion any serious extra outlay. As it must also inevitably act as a check against the recognition of the exhibitions of particular individuals, and, to the same extent, render null the partiality in the distribution of awards, which it is alleged does now and then come into play even in these purer times, it might be very well adopted as a step in avoidance of even the apparition of evil. In addition to all this, it would do away at a stroke with the unsightly diversity which a series of ill-fitting and variously-coloured boxes is apt to produce in exhibitions of which cut florists' flowers form the staple.

What Mr. Keynes suggests is this:—(1) That the managers of exhibitions should provide stands for the exhibition of Dahlias and other subjects shown in a cut state; (2) that a trifling charge should be made for the use of these stands; and (3) that no names or marks of any kind should be allowed till the awards are decided. We feel inclined to add another condition, namely, that it should be made imperative, that all cut flowers should have their names neatly written on uniform card sheets, plain or ornamented, ruled off in spaces according with the number of flowers in the stand. These should be provided by the societies. With a few sheets of cardboard, and the manipulation of a dexterous clerk, they might all be easily prepared while the awards were being made, the exhibitors being required to hand in previously a list, bearing the letter and number of their respective stands. Some plan should also be contrived by which these lists might be elevated above the stands so as to be readily seen, which is not the case when they are nailed down in front of the table.

As regards the first of the above suggestions there can be no doubt that such an arrangement would improve the appearance of exhibitions just so far as the uniformity of the stands and the consequent neatness which might be secured in their arrangement would be preferable to the confused picture presented by the diverse forms and colours of the stands and boxes we now see generally used. Besides, it is pointed out that the same stands would be available for the display of nearly every kind of cut flower brought to the exhibitions, perhaps only excepting Roses; and as nothing more would be required than a neat plane surface of board, with removable legs of two sizes to bring this surface to the proper angle of sight, and with apertures at proper distances to receive the tubes in which the flowers would be brought, the first cost of providing such stands in sufficient number for a whole exhibition would be an item of no serious amount. Such an arrangement would no doubt be a convenience to exhibitors, as they would then only have to carry their travelling boxes; and it would—it must—in great measure prevent the recognition of the ownership of the flowers while under the scrutiny of the censors.

The second point, that of charging a small fee for the use of the stands—which fee Mr. Keynes proposes should be sent when the entries are made, as a check upon the false or sham entries of convenience in which some exhibitors indulge, is one which probably our exhibition authorities would not care to adopt. It might lead to misunderstanding; indeed it would be almost certain to do so, by multiplying the little details of management. Its main advantage would, we think, consist in whatever influence it might have in rendering the entries *bonâ fide*. If exacted, it would soon repay the cost of the stands.

The third point which we find amongst Mr. Keynes' suggestions, is one on which we suppose florists are particularly sensitive. It is true that in the case of plants generally, this principle of withholding exhibitors' names while the awards are being made, has (with much advantage as regards the management of a show) been abandoned, and as far as we have seen without any resulting inconvenience; but then plants are so much more readily recognised than cut flowers, independently of all extraneous marks, that there would certainly be less advantage from concealment in their case than in that we are considering; and as the exhibitors of florists' flowers, some at least of them, seem to attach importance to the revival of the old *régime* of withholding exhibitors' names, it would be a very easy concession to comply with their wishes.

Mr. Keynes does not pronounce very distinctly on the question of abolishing the class of Fancy Dahlias, to which we have more than once adverted; but we may take it for granted that he is acquiescent, since we find that he proposes as the most desirable arrangement in reference to exhibitions of this flower to form classes of "the best 24 self-varieties, and the best 24 striped tipped edged or shaded." These would make, he adds, two distinct classes, and prove very attractive. As no champion has yet advanced anything which really tells in favour of retaining the "fancy" class, we regret to see the Royal Horticultural Society continuing it for another year in its prize schedule.

## THE BEST EXHIBITION RANUNCULUSES.

At the request of some amateur florists who are desirous of obtaining information about the choice kinds of Ranunculuses, and such as are in the estimation of different cultivators best adapted for show, I issued a circular to above 20 growers of this flower, resident in various parts of England and Scotland, asking them to make a return of the 12 sorts which they esteemed most highly, and considered fit to be placed at an exhibition. The subjoined is the result.

The replies were varied, and not without interest. Nine returned lists of 12 sorts together with their colours, as given below. One had discontinued the growth of his favourite of 25 years' standing for newer and more modern claimants on his regard. One or two never grew any seedlings, but cultivated the old sorts year after year in the same garden until they were exhausted. A 5th learned experimentalist doctored his collection with nostrums, and lost 80 per cent. of his plants, and became disheartened. A 6th from sheer modesty wrote well of one or two sorts, but could not make up his mind to recommend twelve different named varieties. And lastly, one cultivator replied that he grew none under name, mixtures being his hobby. Most of the respondents indicated their affection for the Ranunculus, and in regretful strains expressed sorrow that they could not more satisfactorily reply to my solicitation.

Subjoined, however, are the returns as far as received; they will be found sufficient, I think, to excite interest in the flower, and to give an indication of the position certain varieties, the names of which recur several times in the list, hold in the estimation of growers competent to give an opinion on the subject.

In several cases, such names as occur once only, belong to modern seedlings, a circumstance which accounts for their non-appearance in other lists.

Twelve Sorts returned by Mr. W. Littleboy, Benson, Oxon.

| | |
|---|---|
| Eva, gold, red edge | Victor, Tyso's, dark purple |
| Marquis of Hereford, crimson | Commodore Napier, sulphur, red edge |
| Melancthon, white, edged | Sir R. Sale, white shaded |
| Sir W. Hoste, yellow, red edge | Playfair, orange mottled |
| Naxara, nearly black | Sophia, white, rose edge |
| Eliza, sulphur | |
| Herald, white, crimson edge | |

Twelve Sorts by Mr. Calcot, Oxford.

| | |
|---|---|
| Apollo, Costar's, dark red | Naxara |
| Apollo, crimson | Sophia |
| Temeraire, white, red stripe | Delectus, yellow, red edge |
| Coronation, straw mottled | Cedo Nulli, orange |
| Miss Forbes, white, red spot | Sabina, pale yellow |
| Eliza | Edgar, yellow, brown edge |

Twelve Sorts by Mr. T. P. Mew, Newport, Isle of Wight.

| | |
|---|---|
| Eliza | Exhibitor |
| Liffey | Miriam |
| Sir W. Hoste | Auriga |
| Talisman | Preceptor |
| Meekness | Zebrina |
| Petrel | Grand Prior |

Twelve Sorts by Mr. J. West, Shillingford, Oxon.

| | |
|---|---|
| Rose Incomparable, white, rose [edge | Horatio, yellow, brown edge |
| Venus, white spotted | Marquis of Hereford |
| Mustapha | Balcot |
| Delight, yellow, red edge | Reine de Sheba |
| Pertinax, yellow spotted | Eliza |
| Kilgour's Princess, white mot. | Delectus |

Twelve Sorts by Mr. J. Waterston, Paisley.

| | |
|---|---|
| Ann Hathaway, white, pink edge | Jenny Meldrum, white, purple edge |
| Beritola, white, rose edge | Mackenzie, white, black edge |
| Camperdown, wht. purple edge | Mary Howitt, white, pink mottle |
| Chevalier, white, purple edge | Mrs. Guir, white, purple edge |
| Dr. Darwin, yellow, red mottle | Oceano, white, dark mottle |
| Humboldt, white, purple edge | |
| Lord Gough, yellow, red edge | |

Twelve Sorts by Mr. G. Kirtland, Bletchington.

| | |
|---|---|
| Tillett's Blush, rosy mottled | Apollo |
| Sophia | Orange Brabançon, orange |
| Horatio | Quilla Filla, rose mottled |
| Model of Perfection | General Napier |
| Henning, white, purple edge | Naxara |
| Coronation | Eliza |

Twelve Sorts by Mr. T. Hearnshaw, Nottingham.

| | |
|---|---|
| Naxara | Rubro magnificus, scarlet |
| Melange, striped | Plato, white |
| Œil Noir, dark | Viola la vrai Noir, dark brown |
| Orissa, striped | Delectus |
| Melpomene, scarlet | Herald |
| La Temeraire, striped | Gomer, yellow edge |

Twelve Sorts by Mr. Lightbody, Falkirk.

| | |
|---|---|
| Miranda, white, rose edge | Goldfinder, yellow, red edge |
| Dr. Horner, white, purple edge | Lord Berners, white, dark edge |
| Talisman, white, purple edge | Chevalier, white, purple edge |
| Prince Albert, dark edge | Florimel, white, red edge |
| Sir Philip Broke, cream, purple edge | Pelopidas, white, purple edge |
| Mrs. Trahar, white, rose edge | Princess Louisa, white, rose edge |

Twelve Sorts by Mr. C. Tyso, Wallingford.

| | |
|---|---|
| Melancthon, white purple edge | Indicator, yellow, red spot |
| Naxara | Festus, yellow, brown spot |
| Kilgours' Princess | Fairy, white, purple spot |
| Alexis, yellow spot | Marquis of Hereford, crimson |
| Delectus | Eupatoria, white, purple edge |
| Eva, yellow, red edge | Procilla, yellow, red edge |

*Carey Tyso, Florist, Wallingford, Berks.*

## BENTHAMIA FRAGIFERA.

Although this fine shrub has been in cultivation ever since 1825, during which time few plants have been more universally grown, yet even now its real character is but little understood, or its merits valued. I have therefore sent you a specimen branch covered with fruit, which will, I think, convince all who may see it, that under proper treatment the Benthamia may be brought to be one of the most useful and attractive of out-door shrubs.

The plant from which the specimen in question was taken is 15 feet high, and is literally a mass of fruit, so much so that it has been found necessary to prop it up. It was planted in 1835 on a dry sloping bank, closely backed on the north side by a thick evergreen shrubbery, which has so overgrown the Benthamia as to give it the appearance of having been set against a wall. A two-fold advantage is thus obtained; first, protection is afforded from sharp northerly winds; and secondly, the roots of the neighbouring evergreens prevent all excess of moisture from accumulating and impoverishing the soil. It is to the latter circumstance that I attribute my success in fruiting it so profusely in the present instance; for, owing to the soil being so poor, the growth of the plant has been much checked, the result of which has been an unusually heavy crop of fruit.

In support of this statement I send you a specimen from another plant of Benthamia, growing not more than 10 yards from the first; this forms a specimen shrub, measuring 15 feet through the middle. The side facing the south annually produces flower buds in great abundance, but in consequence of the propensity of the plant to grow freely, and also owing to the plant being deprived of any kind of shelter either at the root or head, as in the case of the other specimen, they have never yet developed themselves, all falling off during the growing season.

To those who know the Benthamia only as an evergreen shrub, the following remarks may not be out of place. Its blooming season is June. Although not very attractive the flowers should by no means be despised; they resemble those of a Strawberry; in colour they are greenish yellow, and they measure about the size of a half crown piece, and are produced in great abundance. Then follows the fruit, which it must be remembered is edible, but in its raw state is not very palatable; as a preserve, however, it is very useful.

The foregoing will, I think, be sufficient to prove that a little careful management is all that is necessary to raise this plant to a high position among its associates. To those, therefore, who will turn their attention to it I would say: select a space against a wall or house having a south aspect, taking care that the roots are not exposed either to excess of moisture or imbedded in too much soil, for the reasons already stated. Under proper treatment as to soil, and with a little judicious stopping and tying or nailing to the wall, this plant may be kept as neat as a Myrtle or Magnolia, and have a much more graceful appearance; managed well, I am confident that it would soon become one of the most favourite evergreen plants of the present day. *Richard Westcott, Singleton Gardens, Swansea, South Wales.* [But only in the warmer parts of Great Britain. *Ed.*]

## WINTER FLOWER GARDENING.—No. II.

(*Concluded from page 125.*)

The following are the evergreens I now employ; their roots can take of themselves, and hold together without a good ball of soil; they are small leaved (with one exception) and can therefore endure our unsheltered situation; they are $1\frac{1}{2}$ and 2 feet high, with the exception of three large Rhododendron ponticum, and two large Aucuba japonica for the centres of the three largest beds. They all stood the winter of 1860–61.

| Variegated. | Green. |
|---|---|
| Aucuba japonica | Buxus sempervirens pendula |
| Buxus sempervirens aurea | ,, ,, lanceolata |
| ,, ,, argentea | ,, ,, latifolia |
| ,, ,, pendula | ,, ,, lucida |
| Green. | ,, ,, myrtifolia |
| Rhododendron ponticum | ,, ,, marginata |
| Phillyrea media | ,, ,, angustifolia |
| Buxus sempervirens | Juniperus Sabina |
| ,, ,, rotundifolia | |

The colour borders consist of the following varieties of Brassica oleracea: Red Dutch Cabbage, Triple Curled Borecole, White and Green Variegated, Purple Variegated, Purple or Russian Borecole,—arranged in different ways—1, 2, or 3 colours, red, purple, white and green, alternate or mixed, the beds in pairs, generally.

The broken and decayed leaves are regularly stripped off and sent to the pig boiler, as are the whole plants when the season advances. There is no waste of this valueless class of plants. Those selected for seed are carefully transplanted. Everything depends on the seed being good; that it be not sown too soon, so that the plants are of suitable size, unhearted (where Dutch Cabbage is used), and not left in the seed bed too long to become drawn leggy plants.

The variegated edgings are permanent, except those of White Kale, and consist this year of the following plants, viz.: Hedera Helix arborescens fol. aureis, grafted; the plants of this Ivy were 5 years old, I

think, when I got them 5 years ago from Mr. Barron, of Elvaston; these edgings have been the envy of all who have seen them, both in summer and winter. Hedera Helix fol. argenteis, on its own roots, laid. Veronica Andersonii variegata: this is an experiment; it has stood with slight and partial disfigurement the 9° of frost we had in November. Arabis præcox variegata; Linaria Cymbalaria variegata (also an experiment); Stachys lanata; Vinca minor aureo-variegata; Phalaris arundinacea variegata: this edging is mown thrice in the summer and never allowed to run up to flower.

The bulb margins consist of Crocuses (yellow, blue, and white, a different colour being placed around each pair of beds), for the 22 small beds; and Snowdrops, and Eranthis hyemalis, round the 13 large figures. These margins are never touched except to be parted when bulbs are required elsewhere, and are not the slightest inconvenience when the summer bedding-out comes. I am against later flowering Bulbs for the flower-garden beds, because you cannot permit them to remain until properly ripened; in fact, you find yourself wishing their beauty was over. To have them in the mixed flower borders is my plan, in groups of three. In one border there are five rows of Tulips, Van Thol in the front, and the large Rex rubrorum and Tournesol in alternate groups in the back row.

Now in all this I do not wish or mean to say a word against the plans or plants you suggest for the winter garden; but except in large places, or with large means, these will disappoint persons who may try them. There will be less outlay and more satisfaction in my less expensive arrangement for the mass who cannot afford to spend much; and the grand point, viz., encouragement of winter gardens, will be promoted till they become an "institution," as the "modern flower garden" already is.

Economy is my motto, in its true, broad, and liberal sense, which includes the saving of time, trouble, and temper, as well as *£ s. d.* To employ an expensive plant when a common one will have nearly as good an effect is, in certain circumstances, simply purse-proud extravagance.

To fill the beds here with plants of the same size and number, in the shape of worked Hollies and Yews, Conifers, Euonymus and Ilex, and to fill the colour-borders, would cost in price of plants, above 70*l.*, besides the certain loss from transplanting twice a year, and the risks of severe winters; whereas the money value of my plan for the centres and borders is under 5*l.*, and some of the shrubs are from the original first outlay, so that such an investment might really be trusted as one likely to have been made once for all.

It is my present belief that you must be satisfied by having your "modern flower garden" in perfection in summer, autumn, and winter; and let the spring flowering perennials be in the mixed flower borders with the late bulbs, Hyacinths, Tulips, Narcissus, &c.

Variegation was a hobby of mine long before fashion made it the rage, and for the three following reasons:—1st, in our poor soil the variegation is kept up; 2d, with variegated plants you have a certain amount of colour and show at once when you begin to bed out, and one that is independent of rain and sun; and 3d, nothing looks better against Grass. Naturally my next aim was to employ hardy, permanent variegation, thus reducing the amount of propagation necessary annually, and in this point I am succeeding.

Thuja aurea will never in our day be cheap enough to use instead of Golden Chain Geranium. It would be admirable for such an edging, and its slow growth would insure its taking advantage of the protection of snow in severe winters.

I would that every one had as intense enjoyment in a garden at all seasons of the year as I have myself, though they may not have my hereditary love of it. I wish that the expression so frequently heard in winter, "There is nothing to see in the garden just now," were by the powerful help of your periodical rendered no longer a truth, and that I should have the same greeting when visiting my friends in winter (and which they receive at all seasons when they visit me) that I have in summer, "Take a look at the garden before you come in," or "Of course you stopped at the garden as you came up to the house."

I set aside failure from seasons and weather, and make it a principle never to grumble at the effects and disappointments from either; but it does try the temper when one has wilfully or stupidly used such plants as experience has proved to be a risk. Let there be risks and experiments in the other portions of the garden, but not, at least on the wholesale scale, in the winter beds. I have always some plants on trial (and never have slavishly the same arrangement for either summer or winter), and if they fail am always prepared with a substitute at either season.

There is another neglected branch of flower gardening which I have been for years working at, and of which I will send you a memorandum. It is for a hardy herbaceous mixed border, in which I do not admit one bedding-out plant, yet it has even now, when the bulb edgings are not yet up, a good effect, and as it is in full view of the drawing-room windows, I am determined never to have it bare. *F. J. H., Wardie Lodge, Edinburgh.*

## TREE MOVING AT COMBE ABBEY.

In the formation of a new carriage drive, and other works now in progress here, I have had much to do in the way of moving trees, the weights of which varied from 1 to 10 tons each. I had one of Mr. McNab's hand-machines made, which acts very well for tapering trees weighing from 1 ton to 25 cwt.; but for trees of greater weight, having spreading branches, it is not so useful. I however found it to answer exceedingly well in the moving of Deodars of about 15 years old. Not having a large transplanting machine, such as Mr. Barron's, or the one at the Royal Horticultural Society's Gardens, with which large Deodars were moved, I resolved to make use of the best means at command; I therefore constructed a truck 8 feet long and 6 feet wide, mounted on four wheels, each 18 inches in diameter, and 8 inches wide, made of two thicknesses of 4-inch Oak, crossing the grain to give strength, and binding the whole well together by means of an iron tire and cast iron boxes, with iron arms fitted into wood axles. The platform of the truck I boarded smoothly over, thus completing a simple but strong transplanting carriage. The other accompaniments to the truck were a builder's crab, block, and tackle, with a quantity of chain and pieces of rope for binding purposes. In moving some of our larger trees I have employed three crabs, and two crabs working in opposite directions, to turn the tree round "best side front."

It occurred to me that if we could do without suspending the entire weight of both tree and ball, much unnecessary labour would be obviated, and in doing this I have thought fit to diverge from the usual way of digging round a tree with the view of getting under it. I commence a good distance from the tree, and with a sloping excavation advance until the outside of the ball is reached; at this point underground excavation begins: two skilful workmen, having each a short pick and shovel, get upon their sides and commence to operate. When they have advanced about a foot, a strong plank or beam is fixed across the mouth of the hole close under the ball; this bearing is strengthened by an upright prop. The men again go to work, and as they throw out the debris, a man at the mouth of the hole clears it away, and also hands in props when required by the excavating party. In this way the work goes on until it is far enough advanced to receive the truck. Upon the excavation being completed the truck is got ready without delay, and brought to the edge of the hole, the first prop is knocked out, then a second and a third, &c., to the last. It is necessary that this performance be done quickly, as when the props are taken away, the ball will be likely to settle down. When the truck is adjusted under the ball, the operation of digging round the latter is then commenced. The use of leaving this piece of work to the last will now be seen, as the undisturbed soil assists in supporting the ball while excavation is proceeding. If the trees are very heavy, I generally use a crab to pull them up the incline leading from their old situation to the top of the hole; this is more safe and gentle than the snatching kind of force furnished by horses—it takes a little more time, but I am of opinion, especially in the moving, "that if a thing is worth doing at all, it ought to be done well."

When the tree is brought to its destination, it is necessary that the truck should be lowered a little at one end until the bottom of the ball is brought level with a plane which inclines gradually until it reaches the final site of the tree. The transit from the truck to the final site is effected by means of a crab. This latter movement is facilitated by throwing some water under the ball whilst on the truck, and also on the incline down which it has to travel.

For the removal of trees I feel that I cannot recommend too strongly the use of the crab, at least as far as my experience goes in the matter. It is powerful, gentle, and safe; it can be instantly stopped on the discovery of anything going wrong, and I have employed it in many ways for tree moving with the greatest success, besides those just described. *W. Miller.*

## Home Correspondence.

*Garden Law: No. 2, Repairs.*—Our friend the tenant, who learned, at the expense of a lawsuit, that he was obliged to pay rent for the premises he had taken, although they were useless for the purposes for which he took them, is again in trouble about repairs. He says his house is cracking, the walls are settling, and the plaster is crumbling; and as to his hothouses, the roofs are so rotten that he hardly dare venture under them, and the heating apparatus is so out of repair that it will not work. His landlord declines to do anything, and says there is nothing in the lease about repairs which obliges him to put things right. The tenant, before again going to law, seeks advice, and asks whether his landlord is not bound to help him? "Let me look at your lease," says his adviser. "Is this all you have got?—an agreement for a yearly tenancy, and nothing said about repairs? If this is all, I am afraid your landlord is not bound to do anything, but neither are you; you must pay your rent however, and think yourself lucky that you did not take a lease binding you to keep the premises in repair. The best thing you can do is to give notice to quit, and get rid of the place as soon as you can."—"Oh," but the tenant says, "I have got something more. Here is this lease—look at that and tell me what is to be done." The man of law runs his eye over the lease, finds that it is for 7, 14, or 21 years, that there is no covenant by the landlord to do any repairs at all, but that there is, as there almost always is, a covenant by the tenant that he will, at his own proper costs and charges, from time to time, as occasion shall require, well and substantially repair and keep in repair the demised premises, and the fixtures thereon, and yield the same up in good condition at the end of the lease. "This makes a serious difference, my good friend; you see you have bound yourself to keep the place in repair, and although you probably did not expect that there would be any occasion to do more than refasten a loose slate, mend a broken window, do a little painting, or other small matters of the same sort, you cannot on that ground escape from the bargain you have made with your landlord." "Do you mean to say," asks the tenant, "that I am bound to make good all the defects of which I complain? It is monstrous; it is owing to no act of mine that the houses are all tumbling down; they were in a wretched state when I took them, although I did not think they were so bad as they are; surely I cannot be bound to put them in a better plight than they were in when they were let."—"Had you been a prudent man," the lawyer replies, "you would have got the landlord to put the premises in a proper condition before you undertook to repair them and keep them repaired yourself; and I dare say he would have done that before the lease was granted; but now it is quite clear you cannot make him do anything, and it is equally clear that he can make you do much more than you like. A client of mine came to consult me on this very subject a little while ago. He had taken a farm on lease, and covenanted to keep the farm buildings in repair, and to deliver them up in good repair at the end of the lease. They were in a very bad state when he took them, and the outlay required to put them in proper repair was so great that he preferred running the risk of an action to repairing the premises. His landlord sued him for a breach of covenant, and the Court of Exchequer decided that the tenant was bound both to put the buildings into repair, and to keep them so afterwards; but the Court held that in determining the extent to which the repairs were to go, regard was to be had to the class of the building and to their age when they were let. Your case appears to me to be very like that, and my advice to you therefore is to be guided by it and to repair your houses. You are not bound to convert bad old houses into good new ones; but you are bound to do whatever may be necessary to put your premises into such a state of repair as is reasonable, considering their character and their age." *Lincoln's Inn.*

*Beurré Brettonneau Pear.*—I daresay there are others as well as myself, who would feel obliged to your Correspondent "G. L." (see p. 77) if he would explain how he manages to ripen this Pear on pyramids. We have fruited it here for several years both in the shape of dwarfs and standards, as well as trained against a west and a south wall, but in no case have I been able to secure a single fruit fit for dessert. I could not induce it to become half melting; it remained intractable until June and July, when it ultimately became shrivelled, and unfit either for cooking or eating. The trees have now been regrafted, and the variety dismissed from our collection. *A. Cramb, Tortworth Court.*

*Galvanised Iron Wire.*—With regard to the discussion which I have lately noticed in your columns as to the injurious effect of galvanised iron wire on the young shoots of Peach and other trees, I may observe that with me the Peaches and Nectarines under glass, and Vines also, have for several years been trained against this wire without any evil effects resulting. All the trees are in fact in most perfect health. *H.*

*Collections of Flower Seeds.*—Every one interested in growing plants from "Collections of Flower Seeds," must admit the necessity which exists for a reform in the long lists which we have presented to us in some of the seedsmen's Catalogues at the present time. This being the case, they must admire the spirit of the remarks made in your Paper of the 24th ult. I think however that all who grow the popular class of flowers referred to will agree that it would be most undesirable to adopt such sweeping measures as are there proposed. First then, in the case of Asters—I say that it is impossible to include within two divisions, Pæony-flowered and Quilled, the several most distinct varieties of Aster sinensis now in existence, and again, that a dozen colours does not include every shade worthy of cultivation. I have before me at the present time a spring catalogue of some 80 pages published by a firm in the London Seed Trade, in which I find seven varieties of Asters mentioned which it is not difficult to identify as distinct. They may in the first place be conveniently divided into two great divisions—those having ligulate or flat, and those with tubular or quilled florets. These, especially the former, may be subdivided into several distinct classes. In the first division then we have the deservedly admired Pæony-flowered, sending up a number of straight stems to about an equal height from the ground, growing about 15 inches in height, and each terminating in a single bloom at the top, thus forming one of the most suitable kinds for planting together in masses, or for forming lines of colour in the ribbon

system of gardening. We have the Chrysanthemum-flowered, which is more dwarf than the preceding, scarcely reaching a foot in height, and whose florets are more loosely and irregularly disposed upon the receptacle. Then there is the pretty little Dwarf Bouquet Pyramidal sort, with its small neat flowers, literally forming, as its name expresses, a pyramidal bouquet of flowers, and therefore adapted for growing singly in borders of mixed flowers, or in any situation where the whole plant is seen. The Ranunculus-flowered has a bloom much smaller still, in shape not unlike some of the varieties of Pompone Chrysanthemums; it grows about a foot high, and has somewhat the same habit as the Pæony-flowered. Such are perhaps the most distinct of the ligulate-floret varieties. The tubular division, although not so large as the last, gives us the Globe-flowered, with its branching stem rising to the height of 2 feet or more, and bearing a profusion of solid hemispherical-shaped blooms, and the Crown or Cocardeau, sending up straight stems of about a foot in height, the flower being an almost flat disk of white, surrounded by rays of dark blue or crimson. In Stocks there are the Ten-week, of which the smooth, or Wallflower leaved, is a very distinct variety; the Brompton or Winter, and the Intermediate—all, I believe, generally well known, With regard to colour, it is true that, if in gardening the only desideratum be a mass of white, crimson, or purple, then all intermediate shades may be dispensed with; but it should be borne in mind that one of the greatest charms presented to the amateur in the cultivation of flowers is that of noting the close approximation of colours to each other—of seeing a bed of flowers furnishing all the colours of the rainbow, in which, possibly, no two plants bring forth blooms which are in this respect positively identical. It is this very love of multiplicity of colours which has been one of the most powerful agents in converting the obscure Althæa rosea of forty years ago into the now popular Hollyhock of our gardens, and the Dahlia variabilis, introduced into this country in the latter part of the last century—a yellow disc, surrounded by one row of short rays—into the now almost universal favourite both of cottage and hall. The same remark as to colour would apply to varieties of Phlox Drummondii, Balsams, Larkspurs, Portulacas, and Tropæolums, which all become of increasing interest to us, as each respectively presents us with varied and brilliant shades of colour. It would thus appear that, so far as we can obtain sorts distinct in form or habit, or pleasing in their variety of colour, it is desirable to do so; and while we are careful, on the one hand, to avoid the many repetitions of the same article offered under different names in the Catalogues sent out by certain houses in the seed trade, not to discard, on the other, those which, in their several sorts, and in the different purposes to which they may be adapted, we find ever varied and beautiful. *Jno. Fuller, 7, Lower Calthorpe Street, Gray's Inn Road, London.* [But if one of the greatest charms in a garden is to see a bed of flowers furnishing all the colours of the rainbow, as our correspondent says, why not grow a good mixture? Why be troubled with a dozen or two dozen different but not distinct shades of each slightly varying type? What need is there to try to perpetuate the 194 so-called "distinct" varieties of Stocks, for example, which we referred to, or what advantage if it were accomplished? Why these endless "collections," in fact, except to sell? Surely, a dozen or two of the handsomest would be preferable—generally.]

*Cocoa-Nut Fibre for Orchids.*—Allow me to say a few words in favour of this material for Orchids, as I find among Orchid growers a great repugnance to use it largely, in consequence of reports to the effect that it produces Fungi. I have no doubt that the refuse from the cocoa-nut, which appears like small tanner's bark, has a tendency to produce Fungi, but I have never seen them make their appearance on the pure fibre, any more than amongst peat and moss. I have repotted the greater part of our collection in Cocoa nut fibre and sphagnum moss, mixed in equal quantities, and find nothing could possibly answer the purpose better, as the Orchids root into it very freely, and make great progress in a very short time, quite different from what they did on the old peat and moss system. In fact, it possesses all the essentials of the best fibry peat, being all fibre and no soil. Let no one therefore be afraid to make a start with it, as I have proved its utility beyond a doubt. I consider it the greatest boon ever offered to Orchid growers, and I'll warrant, after once trying it, they will never return to the old system of using peat and moss. The following genera thrive amazingly in it, viz.:—Cattleya, Dendrobium, Cypripedium, Cœlogyne, Epidendrum, Lælia, Oncidium, Miltonia, Trichopilia, Cymbidium, Pleione, Odontoglossum, Huntleya, Galeandra, &c. *George Toll, Gardener to J. A. Turner, Esq., M.P., Pendlebury, Manchester.*

*Polyanthuses.*—Having been an ardent lover and successful grower of that early spring flower, the Polyanthus, for more than 40 years, I thought that a word or two on its cultivation at this season might be acceptable to amateurs who have been unfortunate in its culture. I have heard many say—"I admire the flower, but cannot get the seed to grow; I have taken great pains with it, but all to no purpose; I have sown it in boxes and pans, set it in the greenhouse, watered it, waited a month or five weeks, and yet no plants have made their appearance; I gave it up in despair." Thus the seeds were consigned to the refuse-heap, when, had the sowers waited three or four days longer, they would have been rewarded for their trouble; as the plants seldom make their appearance under six weeks. Others have set their boxes in the sun, where in two or three hours, if they have begun to germinate, their labour is lost, for once dried in that state they never recover. If, however, the amateur will attend to the directions I am about to give, he will find a 1*s.* packet of seed will give him 200 plants, and from that quantity he may calculate to get from 12 to 20 first and second-rate varieties, that will not disgrace a florists' stage, and the remainder will be good border flowers. I generally sow my first seeds early in February in the front of a cold pit, where little or no sun comes on them, and these are generally my best and strongest plants. In March or earlier, I make my next sowing in the open air, on a shady border, making the soil as fine as I possibly can with a rake, sowing my seed, and taking great care to put no more fine mould on it than would cover the face of writing-paper. I then put on a few small bushes or brakes to keep the wind from drying the earth, and to ease the watering-pot, as in no instance must the seed be allowed to get dry; thousands of plants are lost for want of that precaution. When large enough to handle, the plants are put 3 inches apart, on a shady border. *James Woods, Harwich.*

*Rainfall in* 1862 *at Culford, near Bury St. Edmunds, Suffolk*:—

| | Ins. | | Ins. |
|---|---|---|---|
| | | Brought forward .. | 12.01 |
| January .. .. .. | 2.10 | July .. .. .. | 2.20 |
| February .. .. .. | 0.41 | August .. .. .. | 2.27 |
| March .. .. .. | 2.40 | September .. .. | 1.41 |
| April .. .. .. | 1.41 | October .. .. .. | 2.62 |
| May .. .. .. | 2.44 | November .. .. | 1.33 |
| June .. .. .. | 3.25 | December .. .. | 1.94 |
| | 12.01 | Total .. .. | 23.78 |

*P. G.*

*Muscat of Escholata Grape* (see p. 126).—In reply to your Correspondent "Vinicola," who somewhat roughly assails us in your Paper of the 7th inst., I beg to say that it is now some 25 or 30 years since I purchased the Escholata Muscat of Mr. Money, nurseryman, of Hampstead, as a new and nearly hardy variety, almost equal in flavour and size to the Muscat of Alexandria, ripening well in a greenhouse, and in a fine season even maturing its fruit on a wall with a southern aspect. My father, the late Mr. A. Paul, and myself, then in partnership, sold it to several of our customers, whose opinion after trial generally, with our own, was, that it too nearly resembled the Muscat of Alexandria, was not quite equal to it, and required nearly the same heat, though I remember once in a fine summer it almost ripened on an old south wall in the Old Cheshunt Nursery, by the side of some immense bunches of the Flame-coloured Tokay or Paix d'Amiens, and some other Grapes since almost forgotten. The Grape in question fruited this year on an old Vine thus supplied by us at E. J. Williams', Esq., of Enfield Town, where it is esteemed, but we have neither recommended nor called attention to it for many years. Should your correspondent who inquired in the "Hue and Cry" of your Paper for the Flame-coloured Tokay need a few eyes next season, if our plant fruits we should be happy to send him a few for trial. *George Paul, for Paul & Son, Cheshunt.*

*Japan Flax* (see p. 126).—We are informed by Mr. J. G. Veitch that he believes this fibre to be the cleaned inner bark of Broussonetia papyrifera (the Paper Mulberry of Japan). It is similar, he says, to samples of the same bark which he saw at Yeddo. There are however two or three other trees, the barks of which the Japanese clean and use. He adds that the fibre in question is also very similar to some he once saw at Hong Kong, which was said to be obtained from the leaves of a kind of Grass growing abundantly in Cochin China. He however never saw the latter plant growing.

## Societies.

Royal Horticultural: *Feb.* 10 (*Anniversary*).—This meeting, for the election of Council and officers for the ensuing year, and receiving the Report of the Council, was held at the Society's new Garden, South Kensington, on Tuesday last. Sir C. Wentworth Dilke, Bart., V.P., occupied the Chair. Judge Des Barres and Mr. E. Rosher having been appointed scrutineers of the approaching ballot, the Assistant Secretary read the following Annual Report from the Council to the Fellows:—

The first duty of the Council on meeting the Fellows on the present occasion is to congratulate them on the success which has attended the Society during the past season.

A reference to the Balance sheet appended to this Report will show that the receipts have largely exceeded those of the previous year.

While thankfully acknowledging this measure of success, the Council cannot but feel that had H.R.H. the deeply lamented Prince Consort, who laid the foundation of it, and to whom it is mainly due, been spared to the Society, results even much beyond this would have been achieved. A very large portion of the prosperity which the Society has enjoyed beyond its ordinary receipts is referable to the Great Exhibition. The interests of the two undertakings during the past year were closely linked together, the same causes which injured or benefited the one equally affecting the other. Had, therefore, the influence of His Royal Highness been spared to it, it cannot be doubted that the Council would now have had to present a report even more favourable than the present.

Out of the receipts during the year, amounting to 29,800*l.*, a sum of 8676*l.* was received as the Society's share of the joint Season Tickets, a sum of 1125*l.* from the various Refreshment Contractors for portions of the Society's premises let to them, and 5029*l.* from the Promenades, chiefly drawn on those days when the charge for admission from the Exhibition to the Garden was 6*d.* A statement and diagram is appended to this Report, showing the different sums received on every day throughout the Season.

The Flower shows produced upwards of 5000*l.*, which is the largest amount that has ever been drawn by the Society from that source in any one year. Had it not been for the large number of joint ticket holders, this amount would of course have been still greater. The Shows themselves were also of unparalleled excellence, the Council having determined that nothing should be spared to make them worthy of the Society, and such as would leave a favourable impression on the numerous visitors from abroad. A statement is given in the Appendix, showing the amounts received and the expenses disbursed at these Shows, so far as the latter can be separated from the general expenses of the establishment.

The Council have also to report favourably on a more important portion of the financial resourses of the Society, viz., that drawn from the subscriptions. The following comparative statement of the number of Fellows, and their rates of payment, as at 31st December, 1861, and 31st December, 1862, shows the increase during the course of the year, viz.:—

| | As at 31st Dec., 1861 | | As at 31st Dec., 1862 | |
|---|---|---|---|---|
| | Payable in Advance. | Retrospectively | Payable in Advance. | Retrospectively |
| Fellows paying 1 guinea .. | .. | 10 | 7 | 3 |
| " " 3 gs. | .. | 25 | 16 | 9 |
| " " 2 gs. | 716 | 6 | 912 | 6 |
| " " 4 gs. | 915 | 215 | 1307 | 80 |
| Fellows who have compounded by paying 20 gs | 334 | .. | 386 | .. |
| " " 40 gs. | 555 | .. | 587 | .. |
| | 2520 | 256 | 3215 | 98 |
| | 256 | | 98 | |
| | 2776 | | 3313 | |
| | | | 2776 | |
| Increase .. | .. | .. | 537 | |

The above table shows the actual state of matters each year, at 31st December. But on taking deaths and resignations into account, it appears that 633 new Fellows have joined the Society since 31st December, 1861, and that there have been 55 deaths, and 41 resignations.

It will be seen from the above table that the recommendation of the Council in last year's Report, that Fellows who paid retrospectively should change their retrospective payment into one in advance, has been well responded to—the number of retrospective subscribers having been reduced from 256 to 98. Many of those who are still in this position have no doubt continued so from inadvertence, and it is hoped that in another year the number may be still further reduced.

Through the consideration of the Fellows too, the transference of the period of payment from the 1st of May to the 1st of January has been all but unanimously carried into effect.

As regards the expenditure, the unfinished state of the Garden, together with the exceptional nature of the year, added to the fact that the previous season was equally exceptional from its being the opening year of the reconstituted Society, and from its only extending over 8 instead of 12 months, prevent the receipts and expenditure of the two years being contrasted with each other, and the Council must confine themselves to treating the expenditure of each by itself.

The expenses of the publications of the Society are large, owing to the considerable number of Fellows; but the information contained in them is (the Council have every reason to believe) considered valuable by the Fellows at large. The Council, however, with the view of making it contribute to its own support, have resolved to allow advertisements to be received on horticultural and scientific subjects.

Mr. Weir, the Plant-Collector in South Brazil, has examined and reported on a district not much known, and when last heard from was on his way to explore new ground in the interior. Mr. Cooper, the Plant-Collector in South Africa, was sent out as an explorer at the private charges of Mr. Wilson Saunders, the Treasurer of the Society, who admitted it to a share of Mr. Cooper's collections on terms so liberal as to be almost gratuitous. Mr. Cooper explored the district of the Drachenberg mountains, lying to the south-west of Natal, and found it, although in many parts barren, to contain a considerable number of plants of interest to the botanist, and some of much beauty, well worthy the attention of the horticulturist. The product of the labours of both these collectors have either already been distributed, or are about to be distributed among the Fellows by ballot.

The expenses of Chiswick have this year amounted to 2354*l.*, from which a sum of 435*l.* may be deducted, which has been received for fruit sold and reimbursement of garden charges. Upwards of 50,000 bedding-out plants have been reared at Chiswick last year for use at South Kensington. Further, it is to be noted that the Fellows have received large quantities (upwards of 3000 packages) of cuttings of Vines and other fruit-trees from this garden; that an unrivalled collection of fruit-trees is there maintained for the comparison and testing of all kinds of fruit; that the experiments and trials of the Fruit and Floral Committees are conducted there, and a large portion of the flower-seeds grown which are distributed amongst the Fellows. 2610 packets of valuable seeds, 11,000 plants, and 166 lots of bulbs have been distributed from these or other sources during the past year. In addition there have been distributed 1500 packages of seeds of vegetables, and a like number of packages of flower seeds.

The expenses of the Garden at South Kensington have amounted to 6063*l.* The details of which this is composed will be found in the Appendix.

The expenses for Promenades and Exhibitions have largely repaid themselves, besides affording much gratification to the Fellows, and the Council have resolved to continue the Promenades during the present season, twice a week from 16th May to 1st August.

The Council have the satisfaction of informing the Fellows that the Commissioners of 1851, through the Expenses Committee, with whom rests on their behalf the control and regulation of the expenses of the Society, in the most liberal manner authorised the expenditure of a considerable amount of the receipts in the execution of works which strictly speaking belong to capital—a liberality which in the present year, when there is a surplus to the half of which the Commissioners are entitled as their share of profit, is equivalent to themselves paying the half of these expenses.

The Commissioners of 1851 have throughout shown the utmost desire to promote in every way within their power the completion of the Garden. It is to them that the Society owes

the beautiful façade of the refreshment room. They have paved the upper arcades during the season, and lent, as above mentioned, valuable assistance towards the completion of the Garden, its clothing and decoration, works which the Council have felt to be of pressing importance. As regards the decoration of the Garden, the Council have been much assisted by the liberality of the Fellows, who have allowed their subscriptions, originally intended for the French fountains, to be applied in the purchase of works of art for the Garden.

As regards the planting of the Garden, the Council have, they trust, effected considerable improvements in it by the introduction of clumps of trees and shrubs. They have also provided a large supply of bulbs for its spring decoration, and they have to acknowledge the assistance received by presents from Her Majesty, and some of the Fellows.

A great deal, no doubt, still remains to be done, but so far as these objects are concerned, the work already executed justifies the Council in looking at their progress with satisfaction. It is otherwise, however, with a part of the Garden less under their control; a portion of the arcades still remains unfinished, and in a measure neutralises the beneficial effects of other improvements. The completion of the arcades belongs to the Commissioners of 1851, and notwithstanding the reluctance which the Council have naturally felt to press a body who had dealt with them so liberally, they have considered themselves called upon to make a most urgent appeal to the Commissioners on this subject.

There still remain structural works pressing for completion which belong to the Society to execute; such as the council-room portico, steps in the middle walk, a western entrance, &c.

The Council regret to have to announce the retirement of Dr. Lindley from the Secretaryship, which he has held so long with honour to himself and benefit to the Society. Last year he tendered his resignation, but was induced to withdraw it at the solicitation of the Council, on the ground that as he had supported the Society during its period of depression, so he should remain as one of its officials until the next summer (1862) should have crowned his labours with success. He has now repeated his resignation, and the Council have most reluctantly felt bound to comply with his wish, and accept it. He has been for 41 years an officer of the Society, and during that period, to use his own words, he "has endeavoured to the best of his ability to promote its true interests as a great English association for the advancement of Horticultural knowledge, until, through many changes and some adversity, it has at length gained a position of high eminence, and may be regarded as standing on a secure foundation."

The Council need not repeat the arrangements for the coming season which have been already made public. The chief alteration on those of last year is the non-admission of the public to the Garden except on fête days and promenades, a restriction by which they trust that the comfort and quiet enjoyment of their Garden by the Fellows and their friends will be materially increased.

The Council cannot conclude this Report without congratulating the Fellows on the continued interest The Queen takes in the Society and its proceedings. Constant reports of its progress have been furnished to Her Majesty throughout the season, and She has in various ways marked the interest She has taken in them.

This report having been read and adopted, some discussion took place relative to the better ornamentation of the garden, especially in winter, and the price at which the public has been admitted to it. The 5th of June, the day appointed for the inauguration of the Memorial of the Great Exhibition of 1851, by H.R.H. the Prince of Wales, was also objected to on account of its being in the week in which Ascot races take place. These matters and others of a similar character having been satisfactorily replied to, the Chairman adverted in appropriate terms to the retirement of Dr. Lindley from all active duties connected with the Society, and remarked that none knew better than the Council how hard he had laboured in its behalf. He announced that it was therefore the intention of members of the present and former Councils to have a portrait of him painted and presented to the Society. It was moved by W. Wilson Saunders, Esq., and seconded by Mr. Alderman Copeland, that the best thanks of the Society be given to Dr. Lindley for his long and eminent services. A proposition was afterwards made by Mr. Alderman Copeland, and supported by Mr. Bateman, that some suitable testimonial should be presented to Dr. Lindley by the members of the Society generally, and that a committee should be appointed to carry that object into effect. The ballot having been taken, the Chairman announced that His Grace the Duke of Buccleuch had been re-elected President; that John Clutton, Esq., had been elected Treasurer; and that W. Wilson Saunders, Esq., F.R.S., had been elected Secretary; that Mr. Jonathan Clarke, Mr. Edmonds, and Mr. James Nicholson, had been re-elected Auditors; and that Sir Daniel Cooper, Bart., the Rev. Joshua Dix, and J. Kelk, Esq., had been elected new Members of Council for the ensuing year.

## Notices of Books.

*The Earth and its Mechanism: being an Account of the various Proofs of the Rotation of the Earth.* By H. Worms. 8vo. Longman & Co. 1862.

Mr. Worms informs us in his preface, that "the present work consists of two parts, the one popular and adapted to the comprehension of the general reader; the other analytical and designed for the perusal of the mathematical student." Of the second half we say nothing; 146 pages of figures and algebraical symbols are doubtless intensely interesting to those who understand them, and compared with them the first half of the volume is certainly more easy of comprehension; but we must protest against the idea of its being "popular," or that "general readers" will find it intelligible. The simplest of Mr. Worms's explanations needs a knowledge of mechanics and allied abstruse sciences. We opened the book at random, and this is the sentence our eye fell upon:—"Let Z P H represent a meridian, $\lambda$ the latitude of the place Z, $n$ the angular velocity of the earth on its axis, C P, then by Euler's theorem we have $n \sin. \lambda$ and $n \cos. \lambda$ for the angular velocities about C Z, and the horizontal C H." If this is Mr. Worms' idea of a popular explanation, it is as different from ours, as is his notion of a general reader. We grant that it is probably difficult, if not impossible, to convey what he has attempted to describe, in any other manner; but if this be so, he must content himself with a select rather than a numerous audience. We cannot flatter him by recommending his book to those who, ignorant of mathematics, yet wish to understand the methods by which the earth's rotation is satisfactorily established. They must be content to believe it is so, and since the contrary belief is now so far exploded, that it only lingers in some remote country parts, Mr. Worms's explanations are scarcely needed to correct errors, or remove doubts.

The introductory chapter is the most amusing, as it contains a *resumé* of the various theories and hypotheses held by the ancients on the subject of the universe. Strange and wild they appear to us, more like the quaint notions of childhood, than the serious, well-considered speculations of thoughtful men.

"Anaximander says: The figure of the earth is that of a column, and the sun and moon are great vessels filled with fire; at the top of them is an opening through which the fire escapes, but should the aperture be closed an eclipse takes place. Anaximenes believed the heavens to be solid, and to consist of a kind of fine earthenware, and the stars to be like golden nails driven through it. Anaxagoras considered that the solstices were caused by the air at the poles being so thick that the sun could not pass through. He also thought that the sun and moon were rocks cast off by centrifugal force, and ignited in the upper regions of fire. Aristotle was of opinion that the spots on the moon were the reflected images of the seas and lands of the earth. Theophrastus believed that the celestial hemispheres were knitted together by means of the Milky Way, but so carelessly that spaces were left through which the fiery heavens could be seen. Xenophanes' doctrine was that the sun consisted of particles of fire extracted from the humid vapours of the earth, which were extinguished every night and renewed every morning, and that the stars were fiery clouds collected in the higher regions." In the middle of the 15th century, the following was the universal belief:—

"The earth was supposed to be immovably fixed in the centre of the universe; immediately surrounding it were the atmospheres of air and fire, and beyond these the sun, moon, and planets were supposed to travel round the earth, each fixed to a separate orb, or heaven, of solid but transparent matter. The stars were considered fixed in an outer orb, beyond which were two crystalline spheres; and on the outside of all the 'primum mobile,' which sphere was supposed to revolve round the earth in 24 hours, and by its friction, exercised on the interior orbs, to carry them round with a similar motion; hence the diversity of day and night. But, besides this principal and general motion, each orb had one of its own, which was intended to account for the apparent changes of position of the planets."

The names of Copernicus and Galileo will at once occur to every one as those whose truer views first shed light on the darkness; but a long period elapsed before the rotation of the earth was fully proved, and even in the present generation, experiments have been conducted and apparatus invented for the purpose of clearly explaining and exhibiting it. All these are fully described by Mr. Worms, with the aid of numerous diagrams and woodcuts; and to those who are conversant with these subjects his volume will be interesting and instructive. Others, we repeat, will find the attempting to read it merely time thrown away.

*Cuthill's Treatise on the Cucumber and Melon*, just published (Hamilton & Adams), is a plain and practical account of the author's method of cultivation. The success which attends it must bear evidence to the soundness of the practice; and in this pamphlet of some two dozen pages the whole plan is detailed with a degree of minuteness which hardly leaves a possibility of going astray. Our eye catches the following seasonable paragraph:—"My advice is always to sow new seed; never let it be more than two years old. If three or four years old seed is sown it often vegetates badly and irregularly, while some rots, and others push weakly. In some cases old seed may produce plants that will bear a little earlier than others, but with me the new-seed plants have invariably proved the most early and productive, as well as most healthy and lasting. So fruitful indeed are they, that I am obliged to nip out the very early fruit, for if left upon plants only a month planted out, it would weaken them too much. At one time I used to carry the new seed of both Cucumbers and Melons in my pocket, to dry, for 14 days or so, after saving it. I now however think that I was wrong, for by so doing I was drying up what Nature had put into those small seeds, making them prematurely old. Weak plants were therefore the result, the reverse of what I intended; at least I think my plants are stronger from fresh seed, than when I adopted the drying process." And then we are told how to manage the seedlings till they come to "cover the trellis," and are themselves "covered with fruit." We are warned that the only way to perpetuate a high-bred Cucumber is by cuttings. There is a good chapter on Melons; and finally there is this curious paragraph, headed "Economy in Cucumber Growing":—"An old lady called upon me some few years ago. 'Well, Mr. C., I am told you are a good Cucumber grower; but you don't know everything now. Have you ever cut off as much as was wanted, and left the remainder to grow bigger?'—'Never; I thought it would bleed.' Not a bit of it; she was obliged to adopt this plan on account of her servants devouring up her Cucumbers, that had cost her so much: her coachman and self being the gardeners. I cut a Cucumber about half off. Strange to say, it did not bleed; the remainder swelled fast. This was new to me."

## Garden Memoranda.

Royal Gardens, Stuttgart: The Wilhelmia.—This beautiful villa, which is recently erected, is in the Alhambra style, and is situated on a gentle slope of a hill opposite the town of Canstatt, about three miles from Stuttgart. The whole of the building is not quite finished, some of the offices being at present in course of erection. It is much frequented by the King, and is kept strictly private. The gardens are surrounded by buildings, consisting of detached portions of the villa in question, conservatories and arcades. They may be said to be divided into three parts. The first, in front of the building, is nearly square, and is bounded on two sides by the villa, conservatories, and winter garden, and on the other sides by open arcades. The second portion is in the form of a parallelogram, the ends of which are slightly curved. The third part is a semicircle lying at the top of and adjoining the second division; it is reached by means of a flight of steps in the centre, and forms a kind of upper terrace to the second garden. At the top of the semicircle, and forming as it were its keystone, is a beautiful detached portion of the villa, in a direct line with the principal part of the garden; and behind this again, and at about fifty yards distant from it, is another portion much smaller than the second, and called, we think, the Bath house. This is an isolated building, the arcades only going as far as the second part. The arcades around the second and third portions of the garden are open towards the garden, and terminate on either side of the circular part in a square pavilion furnished with seats, &c.; and being placed at a considerable elevation above the second garden; these pavilions command a beautiful view of it, its flower beds, fountains, and trickling cascades, the whole surrounded by Moorish architecture, curiously enriched arches, cupolas, and minarets, while beyond the Vine-clad hills with which it is surrounded come into view, forming a *coup d'œil* superior to anything seen in Germany.

The arcade around the second garden is reached by a flight of steps passing under the pavilion; it is conducted round the sides and front of the villa, and in its centre is the principal entrance to the villa. The conservatories are also arrived at through this arcade.

The gardens are laid out geometrically. They contain three fountains, a large basin in the centre opposite the principal entrance, and a smaller one on each side. The fountains simply consist of jets of water, no sculpture of any kind being introduced. There are also small fountains and cascades on either side of the steps, forming as it were the coping of the wall, an arrangement which has a novel and interesting appearance.

The lawn is nearly covered with borders for dwarf shrubs and flowers, such as Geraniums, Calceolarias and other garden plants used in England; in addition to these large masses of Cannas, Castor-oil plants, Maize, Wigandias, &c., are introduced, and as the climate is favourable to their perfect development, they produce an excellent effect.

In front of the villa the garden is laid out in quite a formal manner, with an avenue of trees in the centre leading to the entrance. Trees are also planted in different parts of the lawn; giving to the whole as much as possible the appearance of a grove; large masses of flowering plants are introduced here and there to give colour; but the principal object is evidently to furnish shade.

On either side of the villa are conservatories for plants. On the right is an Orchid-house of considerable dimensions, containing a large assortment, principally Epidendrums, Oncidiums, Maxillarias, Stanhopeas, and Catasetums, &c.; few of the rare kinds are to be found here. Small fountains are placed at the ends of the house, which assist materially in keeping the atmosphere moist.

On the left side is a conservatory of similar dimensions, containing a large collection of Azaleas, mostly small plants for early spring decoration. These houses form the front façade. At the end of this, and forming the western boundary, is the winter garden, some 200 or 300 feet in length, and about 14 or 15 feet in breadth. The plants are arranged on each side in a wavy line, so as to give a serpentine form to the walk, and in the middle of the winter garden is a square containing a small fountain about 5 feet high, with a basin about 5 feet in diameter at the bottom, and a small tazza at the top; four small jets play from the bottom into the upper tazza, which has four holes in it with guiding tubes about an inch long, through which the water falls again into the lower basin, producing the effect of eight small jets. The plants in this house are placed very closely together, and all kinds of evergreens are used, but the majority of them are Australian. An agreeable temperature is maintained, just sufficient to

keep the plants growing, the object being to produce a garden with a spring-like aspect, regardless of the permanent health of the plants. At the bottom of this is a [illegible] about 40 feet square, and from 20 to 25 feet high. This is arranged so as to give an agreeable finish to the Winter Garden. Every portion of the borders not occupied with plants is beautifully green with Lycopodium denticulatum. In the foreground is a fountain fitted to receive all kinds of fantastical jets. The sides and back are planted with fine tropical plants, the broad leaves of Musas mixing with the delicate foliage of Araucaria Cookii; Bamboos, various sorts of Ficus, Marantas, Begonias with variegated leaves, &c., all mingling together, so as to produce a group having something of a natural appearance.

A walk is carried round the house, and at the back is an elevated platform of rocks on which seats are placed. From this point a good view of the Winter Garden is obtained. A door at the end leads into the outer arcade which skirts the public road to [illegible].

Altogether this is a most interesting place, which bears ample testimony of the refined taste of the King, and many thanks are due to Dr. Steinbach for affording an opportunity of visiting it. *E.*

## Miscellaneous.

*North West American Medicine Men.*—The most influential men in a tribe are the medicine men. . . . The ceremony of curing or trying to cure a sick person is very curious. I give the following description of such a process upon an old woman, a Tyee in Shoalwater Bay. She had been sick some time of liver complaint, and finding her symptoms grow more exaggerated she sent for a medicine-man to "mamoke" (work) spells to drive away the "memmelose" or dead people, who, she said, came to her every night. Towards night the doctor came, bringing with him his own and another family to assist in the ceremony. After they had eaten supper the centre of the lodge was cleaned, and fresh sand strewed upon it. A bright fire of wood was then kindled, and a brilliant light kept up by occasionally throwing oil upon it. I considered this to be a species of incense offered, as the same light could have been produced, if desired, by a quantity of pitch-knots, which were lying in the corner. The patient, well wrapped in blankets, was laid on her back, with her head a little elevated and her hands crossed on her breast. The doctor knelt at her feet and commenced singing a refrain, the subject of which was an address to the dead, asking them why they had come to take his friend and mother, and begging them to go away and leave her. The rest of the people then sang the chorus in a low mournful chant, keeping time by knocking on the roof with long wands they held. The burden of the chorus was to beg the dead to leave them. As the performance proceeded, the doctor got more and more excited, singing loudly and violently, with great gesticulation, and occasionally making passes with his hand over the face and person of the patient, similar to those made by mesmeric manipulators; a constant accompaniment being kept up by the others with their low chant, and beating with their sticks. The patient soon fell asleep, and the performance ceased. She slept a short time, and woke refreshed. This was repeated several times during the night, and kept up for three days, but it was found that the patient grew no better, and another doctor was sent for, who soon came with his family of three or four persons, the first doctor remaining, as the more persons they have to sing the better. Old John, as the last doctor was usually called, had no sooner partaken of food than he sat down at the feet of the patient, covering himself completely with his blanket. He remained in this position three or four hours, without moving or speaking. He was communing with the "Te-man-na-was" or familiar spirit. When he was ready, he commenced singing in a loud and harsh manner, making most vehement gesticulations. He then knelt on the patient's body, pressing his clenched fists into her sides and breast till it seemed to me the woman must be killed. Every few seconds he would scoop his hands together as if he had caught something, then turning towards the fire would blow through his fingers, as though he had something in them he wished to cast into the flames. The fire was kept stirred up, so as to have plenty of embers, on which, it appeared, he was trying to burn the evil spirit he was exorcising. . . . The pounding and singing were kept up the same as at the first performance. Old John sang to his "Te-man-na-was" to aid him; then, addressing the supposed spirit, he by turns coaxed, cajoled, and threatened to induce him to depart. But all was of no avail, for in two days the woman died. *Mayne's British Columbia.*

*Cucumber Beetles.*—Various means have been tried to prevent the ravages of these striped Cucumber-beetles, which have become notorious throughout the country for their attacks upon the leaves of the Cucumber and Squash. Dr. B. S. Barton, of Philadelphia, recommended sprinkling the vines with a mixture of tobacco and red pepper, which he stated to be attended with great benefit. Watering the vines with a solution of 1 ounce of Glauber's salts in a quart of water, or with tobacco-water, an infusion of Elder, of Walnut leaves, or of Hops, has been highly recommended. Mr. Gourgas, of Weston, has found no application so useful as ground plaster of Paris; and a writer in the 'American Farmer' extols the use of charcoal dust. Deane recommended sifting powdered soot upon the plants when they are wet with the morning dew, and others have advised sulphur and Scotch snuff to be applied in the same way. As these insects fly by night as well as by day, and are attracted by lights, burning splinters of Pine knots or of staves of tar-barrels stuck into the ground during the night around the plants have been found useful in destroying these beetles. The most effectual preservative, both against these insects and the equally destructive black flea-beetles which infest the vines in the spring, consists in covering the young vines with millinet stretched over small wooden frames. Mr. Levi Bartlett, of Warner, N. H., has described a method for making these frames expeditiously and economically, and his directions may be found in the second volume of the "New England Farmer," and in Fessenden's "New American Gardener," under the article Cucumber. *Harris, Insects injurious to Vegetation.* [This is like our Asparagus beetle, which might possibly be dealt with in the same way.]

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—This structure should now be full of interest and bright, where much attention is paid to flowers, to be quite as gay as at any other period of the year. Camellias done blooming, should, if possible, be removed to some warm house where a moist atmosphere and a temperature averaging 60° will induce them to produce wood freely, shading them should the weather become bright for a few hours in the middle of the day. Under such treatment the leaves get well developed, large, and healthy. The plants may also be watered occasionally with weak liquid manure. Climbers should now have a thorough dressing, cutting away all weak and decayed wood and shortening where necessary to furnish back wood previous to the growing season. In Stove and Orchid houses some little increase of temperature may now be permitted to take place. Shut up early and use plenty of moisture, taking care however occasionally to dry the foliage by a free circulation of air.

### FORCING DEPARTMENT.

PINERIES.—As a somewhat general shift should take place during this month, let us offer a little advice about soils, &c. It is certain that first rate Pines have been grown in various soils, as well as by different so-called systems. No plan however can be complete without thorough drainage on the one hand, and plenty of atmospheric moisture on the other. Our best Pine-growers adhere in general to loam. What is wanted is not a new soil, but good texture. Few people use turf so fresh as they may and ought to do. Proper mechanical texture is the great desideratum, and this may be obtained in perfection in fresh loamy turf; lumps of charcoal and broken bones will add to its porosity, as also to its quality. Turf for Pines should be housed in September in a dry state, and should be chopped into squares, or small pieces when dry. As drainage for pots we would recommend in addition to open crocks, broken bones and charcoal mixed; on this put a layer of fresh turf in lumps, and then the ball of the shifted Pine.

EARLY VINERY.—Kinds that set difficult sorts should be impregnated artificially, choosing the middle of the day for the operation; those swelling should be thinned in the berry the moment the latter can be handled. Many exhaust their Vines by deferring too long this important operation. Follow up the close stopping of all superfluous wood, leaving some well-placed shoots, likely to be permanent ones, to ramble occasionally, if they should be below their proper strength; provide plenty of atmospheric moisture, and do not be afraid to indulge in a considerable increase of temperature on the afternoons of bright days. In houses, pushing for a succession crop, take care to observe the same principles as laid down for the early house, viz., slow breaking, and abundance of moisture in the air.

PEACH-HOUSES.—Proceed with steadiness; if the fruit is swelling off, syringing must be again resumed, and should be performed twice a day, viz., in the morning about 9 o'clock, and in the afternoon about 3 o'clock. Shut up early, and do not be afraid to allow the thermometer to range to 75° on such occasions, if by sun heat; sinking through the night to 50° or 55°.

CHERRIES, Figs, &c.—Advance steadily. Ventilate freely, if without draft. Moisture, &c., as before.

CUCUMBERS.—Take care to stop and peg down regularly plants sufficiently forward in doing both. Water frequently between the hills, and round the sides of the frame; also sprinkle the linings occasionally, in order to prevent them from burning, as it is technically termed. The earthing-over is better done in a progressive way, as too great a body of cold earth applied at once impedes the heat for a while. Ensure a temperature of 70° night and day, allowing a rise of 5° in the day if possible, and rising to 85° or even 90° during sunshine. Keep air without draft, day and night, if possible, although it is considered by some a good practice to close thoroughly, from two in the afternoon until six on sunny days, sprinkling the frame a little at closing; during this short period the plants will be found to have made most substantial growth, as well as rapid advances towards fruiting.

STRAWBERRIES.—To those in bloom near the glass, keep abundance of air; use liquid manure, and thin the fruit where too thick.

### FLOWER GARDEN AND SHRUBBERIES.

As before observed, see that all planting is completed forthwith. Improve as much as possible outlines of every kind. Plant fresh masses or groups where necessary, and introduce specimen plants where fitting opportunities offer. Much mischief is done by planting single specimens in recesses; these should be carefully preserved as a general rule, to give deep shadows, and to throw the prominent features into bold relief. If frosty weather should set in, every available means must be adopted to protect Tulips, Anemones, &c. At this season slugs are apt to be very mischievous amongst Polyanthuses, which kept in [illegible], by eating the hearts of the plants; they must therefore be trapped. When the weather is sufficiently fine, lose no time in planting Ranunculuses. These beautiful flowers delight in a cool subsoil. Seed may now be sown in pans or boxes, the compost of decayed leaves and sand having been previously well watered the night before; on this the seed may be scattered rather thinly, pressing gently on the surface; cover very slightly. It will soon be time to put Carnations and Picotees in their blooming pots. If a proper quantity of compost is not prepared, lose no time in mixing it, at the same time keeping a vigilant look out for all injurious insects, &c. Do not let a frosty day pass without giving it a turn over; the trouble will be amply repaid by the excellent state of the soil. Dahlia roots may continue to be put into gentle heat.

### HARDY FRUIT AND KITCHEN GARDEN.

See to the due preparation of ground for crops in general, but beware of carrying on any operations when the soil is in a wet state—better be a fortnight too late with any given crop. Where kitchen gardens are composed of light sandy soil, they are better dug or trenched some weeks before the ground is wanted for some crops which more especially for Broad Beans, like a firm hold of the soil. Parsnips will grow on any soil and are perhaps less liable to blight or other disturbances than any other vegetable. The best way to keep them in winter is to spread over the ground in November, the manure that is intended for the next crop, and to trench them out as wanted, leaving the soil in ridges. The ground for these should be trenched, the manure in the bottom, and the seed sown directly in drills about 15 inches apart.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Feb. 11, 1863, as observed at the Horticultural Garden.

| Day | Moon's Age | Barometer Max. | Barometer Min. | Temperature of the Air Max. | Temperature of the Air Min. | Temperature of the Air Mean | Temp. of the Earth 1 foot deep | Temp. of the Earth 2 feet deep | Wind | Rain |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | W. | [illegible] |
| Friday | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Satur. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Sunday | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Mon. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Tues. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Wed. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Average | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] |

[illegible]

Mean temperature of the week [illegible]

RECORD OF THE WEATHER AT CHISWICK,
During the last [illegible] years, for the ensuing Week, ending Feb. 21, 1863.

| Days | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained | Greatest Quantity of Rain | Prevailing Winds |
|---|---|---|---|---|---|---|
| Sunday | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Mon. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Tues. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Wed. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Thurs. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Friday | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Satur. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

The highest temperature during the above period occurred on the [illegible], and the lowest on the [illegible].

## Notices to Correspondents.

[illegible]: *H.* [illegible] yellow [illegible] [illegible]

FRANKS [illegible]: *J.* [illegible] The long [illegible] up leaf.

[illegible]: *J. W. L.* We would [illegible]

NAMES OF FRUITS: *F.* [illegible] [illegible] Park; [illegible]

WARDIAN CASE: *M C.* You will find a full description of this case, together with woodcut representations of it, in our Vol. for 1860, p. 97. An inspection of these, we should think would enable any intelligent carpenter to make one for you.

On Sale.

PERUVIAN GUANO.
Apply to Messrs. GIBBS, BRIGHT, & Co.,
1, North John Street, Liverpool.

To Farmers, &c.

CHEAP GYPSUM MANURE.—Parties requiring GYPSUM can be supplied at 10s. per Ton, bulk, at the Works at Kennington, S.
Address X. L., 34, Chapel Street, North Brixton, S.
*,* Delivered on Rail, adding for bags and cartage.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for [illegible] PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
116, Fenchurch Street, E.C.

LAWES'S WHEAT MANURE for AUTUMN SOWING.
In consequence of the high price of Peruvian Guano, J. B. LAWES has manufactured a WHEAT MANURE for the present season, which will be found very suitable for that crop. A supply is now ready for delivery, and it may be obtained of J. B. LAWES, or through any of the appointed Agents. Price [illegible] per ton at the Factories, Deptford and Barking Creeks.
Genuine Peruvian Guano direct from Messrs. Gibbs; Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
[illegible] and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E.C.; and [illegible] Quay, [illegible].

TENANT FARMERS' MANURE COMPANY
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,

MANUFACTURED BY THE PATENT

NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED).

Consisting of TENANT FARMERS, occupying upwards of [illegible] Acres of Land.

Chairman.—JOHN CLAYDEN, Esq., Littlebury, Essex.

Particulars of these Standard Manures may be obtained at the Offices. C. T. MACADAM, Secretary.
Or of the Local Agents.
Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex N.B.

Land Drainage.

WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.
Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rentcharge upon the estate extended for various terms of years so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.
No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.
Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.
Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.
Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

WEST of ENGLAND and SOUTH WALES LAND DRAINAGE and INCLOSURE COMPANY.
ESTABLISHED 1844.
The Right Hon. the EARL of DEVON, *Chairman*.
Lands drained and improved without recourse to the private funds or moneys of the Proprietor.
This Company's Act not requiring Proprietors to liquidate the cost, the amount might remain a permanent charge on the lands, or be paid off when convenient, or be made redeemable over any term of years. The works are undertaken by the Company, or Proprietors might avail themselves of the power of the Act only, and get the works executed by Agents or other parties. Outfalls through adjoining lands are obtainable under the Company's Act. Works are also executed by the Company for parties advancing their own Capital, or not requiring to obtain the money under the Company's Act.
FREDERICK BROWN, Secretary.
Offices: Exeter; and 69, Parliament Street, London.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.
TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.
The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.
1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.
Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

MESSRS. WAY AND EVANS, ANALYTICAL CHEMISTS, have REMOVED their LABORATORY from 15, Welbeck Street, Cavendish Square, to 106, Leadenhall Street, E.C., where all Letters and Samples for Analysis should in future be addressed.—Feb. 14.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LAMBDELL & Co.

AGRICULTURAL and CHEMICAL COLLEGE, KENNINGTON.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. NESBIT, LAMBDELL & Co., 37 and 38, Lower Kennington Lane, London, S.
Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.
Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.
Full particulars of terms will be forwarded on application.

THE NATIONAL EXHIBITION of SPORTING and OTHER DOGS.
TESTIMONIAL to TOMPKINS BRAHAM, Esq.
The extraordinary Success of the National Exhibition of Sporting and other Dogs at Birmingham, has attracted the attention of Sportsmen in all parts of the United Kingdom to the laborious, disinterested, and continued exertions of Mr. BRAHAM which have been the main cause of its permanent establishment, and it has therefore been determined to present that gentleman with a suitable Testimonial, in recognition of his important public services.
The contributions of Sportsmen, and of all who love a good dog, are respectfully solicited.
[illegible] M.P., has [illegible]
Subscriptions will be received by the Bankers, Messrs. Attwood, Spooner, Marshalls & Co., and by the Hon. Sec., Mr. William [illegible], [illegible] Street, Birmingham.
A considerable amount has already been subscribed, and a list will shortly be published.

Agricultural Society.

HIGHLAND and AGRICULTURAL SOCIETY.—The EXAMINATION of CANDIDATES for the SOCIETY'S AGRICULTURAL DIPLOMA will take place in the Museum, George IV. Bridge, Edinburgh, on WEDNESDAY, March 18.
Candidates must lodge intimation with the Secretary on or before March 10. JN. HALL MAXWELL, Secretary.
6, Albyn Place, Edinburgh, Feb. 14.

Present Prices of Farm Seeds.

THE NEW FARM SEEDS are NOW READY, at Reduced Prices.
PRICED LISTS may be had, Post Free, from SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

# The Agricultural Gazette.

*SATURDAY, FEBRUARY 14, 1863.*

WE see that Dr. BRADY is about to call the attention of Parliament to the report of the Committee which took evidence on the utilisation of town sewage during last Session. It is to be hoped that some honourable member will endeavour to ascertain from the Chairman of that Committee how the conclusions published with their report as an analysis of the evidence have been arrived at.

This analysis is given under several heads. Under the first we are informed that the water of the sewage is of great benefit for agricultural purposes; on the contrary, everybody knows that it is the enormous dilution of the sewage by this water which is the great difficulty in the way of turning town waste to useful account.—We are also told that town sewage contains a large amount of heat, and that this heat it has been proved is of great benefit to agriculture in stimulating vegetation. "It is evident that such a property in the sewage must greatly enhance its value as a manure." No Committee of the House of Commons was needed to teach us that warmth stimulates vegetation—but to suppose that town sewage is valuable because of the warmth which it is to convey to the roots of plants is absurd.

Under the second head we have an account of the evidence on the value of sewage as proved by its effects on land and crops. And it has evidently been drawn up by a partisan of the method which has been advocated of applying sewage in small quantities to the land. "The evidence," we are told, "proves that the crop is only benefited by the manure contained in that portion of the sewage which is absorbed by the soil within reach of the roots of the plant, and that the land is not benefited by any portion of the sewage which escapes from its surface." We do not consider that the evidence proves anything of the kind. It is, on the contrary, almost certain that on the Craigentinny and other meadows where the sewage water is used in the irrigation of Grass land, the plant benefits by the rapidly moving foul surface water even more than it does by what sinks in and may be absorbed by the soil. The contrast between meadows where there is an immense surplus of such water running to waste and others where the quantity applied is not more than the soil absorbs, is sufficient to prove this.

"The evidence further proves that by the hose and jet sewage may be much more economically applied than by open carriers." In what sense the word "economically" is here used does not appear, but if it is intended at all to suggest that the hose and jet system is more "profitable" than the system of distribution by open carriers, it will unquestionably mislead.

"The evidence further proves that," in certain quoted instances, "results have been obtained by small applications of sewage, which solve the question of sewage utilisation." The experience of Lord ESSEX on the subject is one of the foundations of this assertion—but his lordship states in his evidence, on the contrary, that his losses have been owing to too large an extent of land having been allotted for the reception of the sewage which was at his command. Small experiments in the use of the waste of particular houses and establishments over a few acres of land are of very little authority in any contest of opinion on the general subject of town waste. The London sewage is much more likely to behave like that of any other large town than to follow the rule of Kingsweston or Anerley, where the waste from a few people has a bailiff and a staff of servants to superintend its application.

Let the probabilities of the case be examined in the light of what has been realised at Rugby or at Edinburgh. Why was not Mr. JAMES ARCHIBALD CAMPBELL invited to give evidence on this subject? He has for several years had the use of Rugby sewage on a farm of several hundred acres in its neighbourhood, and no man has a right to a more confident opinion on the subject under discussion. Not having been requested to attend the Committee, he has since published, in pamphlet form, answers* to some twenty questions which ought to have been put to him. The following are some of his conclusions; they differ materially from those put forward by the compiler of the Analysis of Evidence given before the Committee of the House of Commons.

As to whether sewage will pay to apply as a dressing to land, Mr. CAMPBELL says:—"If water or liquid sewage can be distributed, as has been stated, at a cost of less than a farthing a ton, it ought, under ordinary circumstances, to be remunerative. At Rugby the receiving tank and engine house cost 450*l.*; the engine, 300*l.*; instead of 2350*l.* for laying iron pipes, &c., over 400 acres of land, which it did actually cost, allow 250*l.* for leading it to 100 acres of land: total, 1000*l.* Population of Rugby, 6700, connected with sewerage—say 25 gallons of water per head per diem, including rainfall—gives about 750 tons per diem, which at ½d. per ton for 300 days=468*l.* per annum. cost of working engine, repairs, &c., &c.—say 250*l.*—leaves 218*l.* for interest on 1000*l.* 750 tons per diem will give for 300 days 225,000 tons, or 2250 tons for each acre of the 100. I would expect from this an increased produce of about 10 tons to the acre, which at 10*s.* per ton =5*l.*"

As to whether it will pay best to distribute large quantities of sewage over a small surface, or small quantities over a large surface, "It is clearly more advantageous to apply large quantities over a small surface. It is less expensive and more productive. . . . I would expect a better paying return from 50 acres with 4500 tons per acre per annum than from 100 acres with 2250 tons per acre, but of course there is a limit. It may be overdone." It can be applied most "economically" "by means of small open gutters on the plan of Mr. DICKFORD's system of irrigation."

On these points Mr. CAMPBELL is entirely against the reporter of the Committee. And it is because we feel sure that extravagant estimates of the value of town sewage will only retard the solution of the difficulties which surround the subject, that we are glad to quote the following good advice from the pamphlet in which he describes his experience at Rugby:—

"Avoid theorists and calculators from analogy. Don't give your faith to names, however celebrated: trust not even to the testimony contained in Blue-books published under the sanction of Government Boards: unless in either case you are satisfied that actual experience of a precisely similar article, under similar circumstances to your own, has elicited the opinion given."

* "Utilization of Town Sewage: the Experience of Eight Years." By J. A. Campbell. Crossley & Billington, Rugby.

## GOOD ADVICE.

[Mr. J. Fyfe, of Shipley, thus addresses Yorkshire farmers in late districts, in the *Leeds Mercury*.]

THIS is the fourth bad harvest you have had in succession. Three years ago, the weather broke when you were in the midst of harvest operations, and your corn was nearly all spoiled. Two years since, the season was cold and wet throughout, and the greater part of your crops never ripened, and what did ripen was mostly threshed by the wind. Last year, the drought of summer came so suddenly after the rains of winter, that your stiff clay lands were quite baked, and as a consequence the crops were poor and the yield very inferior. This year the harvest was late, and a fortnight's rain and wind in the latter half of October has done great damage to your corn.

It must be obvious that to carry on farming operations under such disadvantages cannot fail to prove ruinous, especially to small farmers, who can ill afford to bear the loss. Such a series of disasters may well make you pause and consider whether any improvement can be made in your mode of farming that would prevent such calamities in future.

Whilst deeply sympathising with you in your present trials, allow me to offer a few friendly counsels which, I am persuaded, will be of service in moderating, if not entirely obviating, such evils in the time to come.

You farm, or rather attempt to grow corn under great disadvantages. Your land being high and cold, your harvests are late, even in the most favourable seasons; and your crops are always liable to be injured by the weather breaking before you get them housed. But if the spring is backward and the summer colder than usual, winter comes upon you before harvest is well begun, your crops are spoiled, your labour lost, your hopes blighted, and your substance wasted. Under these circumstances it surely becomes a grave question whether your land is really suited for corn growing. Whether, in fact, it would not pay you better, and be clearly to your advantage every way, to lay it down in Grass and make the breeding and rearing of cattle your chief business. I submit that your experience for the last four years pretty plainly indicates that you ought to adopt such a course. You might still keep a few acres under the plough to supply you with Oats and straw, Turnips, and Potatoes; and you might, if you thought proper, go through all your land in rotation in this way year by year for the sake of change. But if your land were mostly "green side up," you would avoid many of the ills you now suffer. Your farming operations would be conducted with less cost, fewer men and horses would be required, your cattle would furnish an abundant supply of manure, which, with a liberal application of lime alternately, would greatly improve your Grass; and, consuming most of your own produce, you would be comparatively independent of the corn markets and the weather.

A friend of mine, who farms high land on the edge of a moor in the north of England, was much discouraged a number of years ago with several bad harvests in succession. At length he determined to adopt the plan I have just recommended, and found it a great improvement on corn growing. When I saw him three years ago he was in good spirits, and was doing well.

If, however, you should not see your way clear to adopt this plan, and still wish to conduct your farm as a corn-growing farm, then the best, and indeed the only, thing you can do is to endeavour to hasten the harvest. If by any means you can bring on the harvest a fortnight sooner, what an immense advantage that would be to you. If, for example, the harvest had been a fortnight earlier this present year, the great bulk of your corn would have been got in in good condition. There is nothing more certain than that this can be done. If your land were well drained, well limed, well manured, and well worked, and thus brought into a good state of cultivation, and kept in good heart, your harvest most assuredly would be two or even three weeks earlier than at present.

Look at the present condition of your land. It is mostly wet, cold, stiff, clay land. If the winter is wet, it is far into the spring before you can get into the land to work it, and if drought comes suddenly after the rain, it becomes too hard to be worked; thus, much valuable time is often lost at this most precious season of the year, waiting for drought to dry the land, or rain to soften it, before it can be worked. Now, if your land were well drained, limed, and tiled, the water would sooner get away—it would become more open and friable, and you would be able to work it sooner and easier. This would be no small advantage to begin with.

Then, again, in the present condition of your land, it often happens that, after the crops begin to grow, the soil is for weeks together saturated with water. Neither air nor heat can penetrate to the roots of the plants, and the fresh rains that ought to convey food to them swim off the surface. The plants, in fact are starved, drowned, and poisoned by the noxious water in which they are immersed. And when the water does dry off, it frequently leaves the soil hardened and dried into a batter, through which the roots penetrate with difficulty, and from which they slowly obtain a scanty supply of inferior food. Is it any wonder, then, that your crops are poor, weak, and sickly, long in filling, long in ripening, and, when ripe, furnishing a very poor sample of grain? But let the land be well drained, limed, and manured, the injurious subsoil water will be speedily removed, and the fresh rains will carry down appropriate nourishment to the roots of the plants; and the pores of the soil being open, air and heat are admitted, which are so essential to healthy vegetation.

Lime acts mechanically on stiff clay soils, opening them and rendering them friable. It is itself an important food for plants, strenthening the straw and feeding the grain. Then, again, it enters into chemical combination with various elements of the soil, and converts them into wholesome food for the crops. The plants, having thus an abundant supply of proper food ready prepared and close at hand, have nothing to do but grow, and being healthy and vigorous, they are soon filled, soon ready for the sickle, and the harvest is rendered earlier by some weeks, while there is more corn of a better quality, and not half the risk of its being spoiled by bad weather. These considerations are well worth the serious attention of all farmers of high late lands.

But it may be said, "This is all very well for farmers who have plenty of capital and leases to secure a return for their outlay." I believe many landlords stand sadly in their own light in not granting leases to improving tenants. If they were to grant, say 19 years' leases at moderate rents, stipulating that so much land should be drained and so much lime laid on every year, the farmer would be greatly stimulated and encouraged to improve his land, even if he had to borrow money to do it, because he would have a just assurance of an ample return for his outlay. And the landlord himself would be benefited: his rent would be sure, and as the land became more highly cultivated, it would in the end yield a higher rent. It must be said, however, that most landlands very seldom disturb a tenant who farms satisfactorily and pays his rent, so that it may be considered a pretty safe speculation for the farmer to make improvements at his own cost, although, of course, he would feel more secure with a lease. But I fear there are many farmers who have so little enterprise about them that they are reluctant to lay out a pound in improving their land, even though they were sure of getting two in return.

I believe many landlords would be willing to advance money for draining purposes, if the tenants would agree to pay a fair percentage—say, 5 per cent.—on it. This arrangement would be found advantageous to both parties—to the landlord it would be a good investment; capital and interest are safe and sure, and it increases the value of his land, while at the same time it is greatly to the advantage of the tenant. Arable land can be drained with tiles 3 feet deep at say *5l.* per acre; that at 5 per cent. will add *5s.* to the rent. Suppose the present rent is *35s.*, it would in future be *40s.*: but the farmer would be a gainer by at least four times the *5s.* He would very nearly save it in labour alone; for it is a well-known fact that land well drained and tilled is much more easily and readily worked than wet, stiff land. Then his crops would be much better, with far less risk of their being spoiled, as has been already shown. A man may imagine that, because his rent is not high, therefore his farm is cheap, and he may be at no great pains to improve it; but if he will consider the greater amount of labour that stiff undrained land requires, and the poor crops it yields, together with the certainty —for it almost amounts to a certainty—that on cold backward land he will lose one harvest out of three, he will see that he really pays a high rent—a rent high enough for the best land, and that what he loses year by year in extra labour and spoiled crops would go far, if judiciously laid out, in bringing the present land into a good state of cultivation. Rest assured, my friends, poor farming on cold, undrained lands will not pay in these times. You must go forward, or be content to go backward—you cannot stand still.

A friend of mine in Scotland took a poor, high-lying clay farm. His landlord drained it with tiles 3 feet deep. He himself subsoil-ploughed it to a depth of 18 inches, and limed and manured it at the rate of 10 tons of lime and 20 of manure to the acre. He treated one field thus every year, till he went round the whole farm. Two years ago he took me into a field that was still on the old system, and then into an adjoining one on the new, and the difference was most surprising—indeed, I could scarcely have believed it possible. While the corn in the one was thin, short, and light, in the other it was thick, strong, and heavy, and took me quite overhead. "Go thou, my friend, and do likewise, and thou shalt in no wise lose thy reward."

Much valuable time might be gained by selecting the right kind of seed. A crop raised from seed procured from good, dry, forward land will be ripe a fortnight earlier than one raised from seed got from poor, cold, backward land. A farmer sowed a field with good Scotch Oats, but not having a sufficiency of seed for the whole field, he procured some grown on poor, cold neighbouring land. The result was the Scotch Oats were ripe, cut, and housed a fortnight before the others were ready. Surely this is worth the attention of farmers of late lands.

The evils of a broken harvest may be very much mitigated by adopting the plan of stacking corn pursued by the farmers of some parts of Scotland and Wales. Instead of letting corn stand in the field till it is sufficiently dry for a great square stack, they build little round stacks, like hay pikes, containing two or three cartloads each, in the field, with the bottoms of the sheaves outwards and the heads inwards, with a hollow up the middle, and a small opening near the ground to let in air. It is then thatched and allowed to stand till a more favourable season arrives for leading it into the barn or threshing it in the field. I have often wondered how it was that some such plan were not adopted in this neighbourhood, where the harvests are so late and uncertain. As the corn does not require so much time to dry for these little stacks, the risk of its being spoiled is considerably diminished. I am satisfied much of it has been spoiled this year, and in previous years, that might have been saved if some such plan had been followed.

## NOTES ON WEEDS.

BY JAMES BUCKMAN, F.L.S., &C., PROFESSOR OF BOTANY AND GEOLOGY.

THE Pea-flowered tribe of plants, which are said to belong to the natural order Papilionaceæ, from the butterfly-like forms assumed by the irregular petals of some of the more showy species; or Leguminosæ, from the shape of their Pea pods, are well represented on the farm by Peas and Beans, which get the name of pulse, and no less so by Vetches, Sainfoin, and even those small flowered forms called Trefoil-Clovers and their allies, which we cultivate as fodder plants. Most meadows, too, will be found to supply some species or other, which, mixing with the Grasses, are rather a good addition to the crop than otherwise. Still, though this natural order is pre-eminently useful, there are many species which can only be considered as weeds arising either from some mechanical peculiarity—such as spines in the Furze—growing in abundance as to choke other plants, as the Melilot in corn, or else from their habit of climbing or twining, smothering or choking crop plants in their vicinity, such as the climbing Vetches or the choking Tares.

Among the more prominent forms in the weed list we may tabulate the following:—

LIST OF NATIVE PEA-FLOWERED WEED PLANTS.

| | Scientific Name. | Trivial Name. | Remarks. |
|---|---|---|---|
| 1 | Ulex europæus .. .. | Gorse or Furze .. | Mostly spinous shrubs. Weeds of Sandbanks. Moors & poor pastures. |
| 2 | Genista anglica .. .. | Petty Whin .. .. | |
| 3 | ,, tinctoria .. | Dyers' Green Weed | |
| 4 | Cytisus scoparius .. | Broom .. .. | |
| 5 | Ononis arvensis .. .. | Rest Harrow .. | |
| 6 | Anthyllis vulneraria .. | Ladies' Fingers .. | |
| 7 | Melilotus officinalis .. | Melilot .. .. | Arable and Special Soil Weeds. |
| 8 | Medicago maculata .. | Spotted Medick .. | |
| 9 | Trifolium arvense .. | Corn Trefoil .. .. | |
| 10 | ,, fragiferum .. | Strawberry-headed Trefoil .. | |
| 11 | Ervum hirsutum .. | Hairy Tare .. .. | Choking Corn Weeds |
| 12 | ,, tetraspermum .. | Smooth Tare .. | |
| 13 | Vicia sepium .. .. | Bush Vetch .. .. | Bush, Brake, or Hedge-row Weeds. |
| 14 | ,, Cracca .. .. | Cow Vetch .. .. | |
| 15 | ,, sylvatica .. .. | Wood Vetch .. .. | |
| 16 | Lathyrus sylvestris .. | Narrow-leaved Everlasting Pea | |
| 17 | Astragalus glycyphyllus | Sweet Milk Vetch .. | |

Amongst these 17 species will be found several which are not only elegant in form, but which are indeed or might be made eminently useful as crop plants; the climbing Vetches and everlasting Peas may well bear out both these assertions, but inasmuch as they too often grow to the detriment of what we require, more especially in the position in which we have placed them, they are properly to be considered as weeds.

1. The well known Furze, which so soon takes possession of the neglected hill side or sandy common, has to be weeded out before the *locale* can be ameliorated. The plan which we have found answer best for this purpose, is that of sprinkling a few gallons of naphtha over the bushes, by which the ignition is started so well that the whole becomes thoroughly well burnt, the rougher stools are then to be removed, and the surface smoothed where rough, and then the whole well harrowed with bush harrows, and afterwards iron ones, with the double object of spreading the ashes more evenly and removing rough or unnecessary material. Upon this surface Grass seeds may be sown, and afterwards rolled so as to fix the seeds on the surface and smother the whole. By these means we have seen Furze and the rough Grasses, Sedges, Heaths, and weeds of different kinds all converted into a manure, which has had a wonderful effect in producing really useful meadow out of waste. Much of the common land near London, as Woking Common, Bagshot Heath, Aldershott Common, might in this way be greatly ameliorated, especially if accompanied by a few well made drains where required, rather than what Mr. Bailey Denton calls the "gridiron system of draining" without reference to the nature of the soil, and occasional liming and top-dressings, for which latter we would especially recommend "night soil," every bit of which should be economised where there are masses of people got together in poor districts.

2. Petty Whin is a spinous plant, but altogether smaller than the Furze. Unlike the former, however, its spines are so sharp and woody, that even if the plant was useful as food it could not be made available. It usually grows on poor sandy commons, frequently

with the Furze; but it often happens that in pastures where the Furze is kept down by cattle the Whin still maintains a place, in which case it should at once be removed by pulling, with a thick pair of gloves to guard the hands; and then if top-dressings of stiff soil, marl, and manure be employed, it will not be apt to grow again. Its presence betokens poverty of soil, which after all would be better in arable with liberal treatment in the rotations.

3. The Dyer's Green Weed, sometimes called Woad Waxen, is a striking little shrub-like plant, with the aspect of the Common Broom. Its usual habitat is in stiff clays, being exceedingly common in meadows upon the Oxford and Lias clay deposits. Its presence in quantity is no bad indication of sound land, as it is not partial to wet, and more especially dislikes stagnant water; still it is not only a useless plant that occupies much space, but it is an indication of poverty of soil. We have seen it quickly eradicated by a little judicious drainage to begin with, followed up by top-dressings of all kinds of refuse, especially when containing phosphates, and if no hay be taken, an autumn skimming with the scythe and spring rolling will soon eradicate the Green Weed and substitute good Grass in its stead.

4. The Common Broom may rather be considered as an ornamental shrub than as a weed; still it so completely takes possession of some dry situations, such as sandbanks and drift on Woking and other Commons, the silicious drifts on the chalk, the northern quartzose drifts, and others, that its growth is an indication of some importance. Suppose for example such drifts cover up the London clay, the Lias clays or the marls of the new red sandstone, as the Broom will keep pretty constant to the lighter soil, its presence most clearly indicates geo-agricultural lines in a most instructive manner.

5. The Rest Harrow, with its striking mauve-coloured flowers, is yet no friend to the farmer, as it is the denizen of most of our poorer neglected pastures. Still its ominous name of Rest Harrow may be differently interpreted, for as one sometimes sees it growing round the borders of rough badly farmed arable fields, where the substratum is a kind of silicious clay through which neither air nor water can circulate, we almost feel inclined to say rest harrow, make a few drains, and convert it into pasture. Again, having been consulted as to the advisability of breaking up some old pastures in different positions in which was a quantity of this plant, we have felt variously according to circumstances. For instance, in a low lying field of Lias just sprinkled with sand drift which had never been cultivated, but just depastured from time to time when it would yield a bite, we have seen town refuse, consisting of dust-binn materials, ashes, soot, old mortar, with a little superphosphate, work wonders. But even this will not do to be merely put on and there an end, cultivation is here as necessary to ensure any benefit from one's appliances as in the arable. Its treatment then should consist in draining where necessary, pulling and skimming rough weeds, which may be collected and burnt, and its ashes returned to the land, sowing therewith a little of some desirable sort of Grass-seed, bush harrowing to mix and spread over ameliorating materials and seeds, and rolling to thoroughly make all even, for roughness is the first commencement of a return to a jungle—and to consolidate the soil about the Grasses' roots, which are thus replanted when thrown out by the fangs of Jack Frost or the workings of insects.

6. The Lady's Fingers, though they may possess some claim to utility as a plant to cultivate on poor soils, yet as we think it would itself be but little improved either in its yield or quality by the process, we are not oversanguine as to the result. But be this as it may, the large patches one sometimes sees on the borders of upland meadows or on neglected banks, though it be a pretty plant, yet entitle it to a position in our weed list. We would here remark that if cultivated we have reason to believe that it would be improved in amount and quality of crop by a dressing of lime, if the soil be deficient in that mineral. As a weed it may be got rid of by improving the soil where it grows. Skimming and burning and mixing phosphatic marls (easily done in chalk marl districts), manuring, and sowing a few Grass seeds, will usually get rid of this plant, and pave the way for what we should consider far better, namely, Festuca duriuscula, Hard Fescue; Lolium perenne, Perennial Rye-grass; Poa pratensis, Smooth-stalked Meadow-grass; and Trifolium repens, Dutch Clover.

7. The Melilot is here introduced from the extent to which it sometimes prevails in our corn fields. In the midland counties this plant is by no means confined to the road side or the thicket, as some of our botanists would have us suppose, being common in all kinds of corn crops, and we are inclined to think that it became introduced with foreign farm seeds; but, be this as it may, probably from following the rotation, it is not so decidedly biennial in the arable as in the thicket. Authors describe a smaller species as a field denizen in the eastern counties, to which the name is given of Melilotus arvensis, Corn Melilot, but we incline to the opinion that it scarcely differs so much from the arable form of the M. officinalis as the latter does from the wilder plant of the thicket—yet, though it would probably not rank as a distinct species, we need not further discuss that matter here, as both forms are alike weeds in the corn, from which it should be removed by hoeing or pulling if necessary, as, if gathered with grain, its flavour is so much like that of the Anthoxanthum odoratum. Sweet Vernal Grass imparts both smell and taste, which, though not objectionable in fodder, is far from improving a sample of Wheat.

8. *Medicago maculata*, the Spotted Medick, is a Clover-like plant with small yellow flowers, and a large central purple spot on each of the trifoliate leaflets. We have had this plant communicated to us several times during the last few years, as it is evidently fast spreading all over the country in "seeds." So that, although as an interloper it is not wrongly placed as an arable weed, it is not mischievous to any extent; indeed we are not sure that it would not make a good fodder plant, as it grows so luxuriantly under cultivation.

9 and 10. The two Trefoils are here placed as marking soil; the corn one as a sand lover, the Strawberry-headed species as a native of cold hungry clays. We have seen the T. arvense so thick in the corn fields in sandy soils as to become a troublesome pest. It is only to be got rid of by weeding and never letting it seed on the one hand, and not to sow its seed, which one is so apt to do in "seeds," especially in Dutch Clover, on the other.

Its confinement to sands is so remarkable as to make it a good index of the nature of land. Thus in the Cotteswold district we have two sand beds in the oolitic series, one in the sands of the Kelloway rock, and the other in the sandy partings so common in the forest marble. In the former it occurs abundantly in the arable land, and here the Turnip crop is usually affected with Anbury, so much so, indeed, that we should take the presence of this weed in any quantity as a warning to use lime as an antidote for Anbury. In the latter we have at Cirencester a notable instance of the localising of a plant according to soil. Near Kemble, the Great Western Railway, in a deep cutting, exposes a band on either side, about two feet thick, in the middle of the slopes of sand; here this pretty little Clover has established itself, growing only on the lines of sand, and eschewing the oolitic limestone bands both above and below; and with it is intermixed that pretty sand-loving Grass, the Aira caryophyllea, both of them being rare for miles around.

The Strawberry-headed Trefoil has much the character of Dutch Clover; however, its smaller heads of pinkish flowers, succeeded by the enlarged coloured calyces now simulating the fruit after which it is named, will readily distinguish it. Our plant occurs locally in considerable-sized patches on cold wet clays, thus differing from the lighter lands to which Dutch Clover is partial; it is there an indication of poverty and want of drainage, so that the distinguishing it from the Dutch Clover may be a matter of great importance. Now, it is true that its slight amount of foliage is eaten by cattle; still we should desire its eradication as earnestly as that of any other weed, especially when we know that a drain acting properly where it grows, and a treatment of manure will not only eradicate it, but encourage the growth of good Grasses and useful Clovers in its stead.

11, 12. The two species of Tare are distinguished as follows:—Ervum hirsutum, pods hairy, two-seeded; E. tetraspermum, pods smooth, four-seeded. The former of these mostly occurs on limestones and lighter soils, and the latter on clays; both, where they occur in quantity in the corn field, twine and climb about the stems of the crop, often completely smothering it, and even bringing it down to the ground.

Some farmers give the name of Tare to our cultivated Vetches; and Mrs. Calcott, in her "Scripture Herbal," gives a drawing of the Vetch to illustrate her notice of the two species of Tare. Our plants, however, are much smaller, and from their tall, slender, climbing stems much more mischievous; but whether these be the Tares referred to in St. Matthew's Gospel, it would be difficult to say, though it is probable, as they are both of Eastern origin. Of course clean farming, with the due hoeing of Wheat, and the proper cleaning of seed, will soon eradicate these plants. In hoeing, the horse-hoe will be inefficient where the Tares abound, and where they may be sown with unclean seed, the enemy will be left in the rows.

The remaining plants of our list scarcely need to be separately discussed; they are all of them weeds of the hedgerow, completely smothering the Quicks wherever they establish themselves, in which case they do harm in proportion to their size. In this respect the two last as being such large tall plants would be the most mischievous; fortunately however they are only local, so that, although their beauty and comparative scarcity recommend them to the botanist, yet their local bushes are so dense as to destroy the hedge-row in which they may occur, and they should therefore be most carefully weeded out. To this end it will be found of little use to pull them in the autumn, as their permanent root stock will be left in the ground uninjured; but if the Vetchlings be pulled before they have attained full vigour, the hedge will not be stayed in its progress for that year, and the root stock of the weeds will be so weakened that one or two early summer attacks of this kind is usually sufficient for their destruction.

All these have had trials as crop plants, to which some of them have some claims, but it is not our province now to dwell upon this matter.

## THE SEWAGE OF TOWNS.

THE second report of the Select Committee appointed to inquire into the best means of utilising the sewage of the cities and towns of England, with a view to the reduction of taxation and the benefit of agriculture, has been just issued. The committee report as follows:—

"That it appears, from the evidence laid before them, that the value of the sewage of the cities and towns varies greatly, according to the extent to which the manure and other fertilising refuse of the place is discharged into and mixed with the town drainage, and to the extent of the area of rainfall which flows into the town drains; but, when these fertilising matters are not diluted in an unusual degree, the sewage is of great agricultural value.

"That the cost of the application of this sewage depends upon the relation of the town to the surrounding agricultural lands, and to their value and quality; but, when these relations are not unusually adverse to the application of the sewage, it can be applied to agricultural purposes with profit either to the town or to the owners of land.

"That evidence has also been laid before your committee to show that town manure can be collected before it is mixed with the drainage, and profitably applied to agricultural purposes; but this application has been too limited to admit of your committee expressing an opinion on the subject.

"Your committee think the information now obtained will enable the authorities in each town to deal with the sewage in the manner most suitable to the particular circumstances of the place; but your committee desire to add that the municipal authorities have not at present sufficient powers to enable them to rent or otherwise deal with lands in their neighbourhood for the most profitable application of the sewage in relief of local taxation."

In the analysis of the evidence, the reporter for the committee gives the following among the various conclusions at which they have arrived:—

"The evidence proves that sewage contains the elements of every crop which is grown; that, as compared with solid manure, there are advantages in the application of sewage to land. In the application of solid manure loss is sustained from evaporation, but no such loss occurs with sewage. In the application of solid manure to land, years may pass before its entire productive qualities are all absorbed, causing a loss to the farmer from the slow return of the capital sunk in manure, but in the application of sewage, or any other liquid manure, no such loss occurs, as every particle of it comes into immediate action on the crop in a day or two.—The evidence also proves that town sewage contains a large amount of heat; this heat, it has been proved, is of great benefit to agriculture in stimulating vegetation. It is therefore evident that such a property in the sewage must greatly enhance its value as a manure.—Also, that the water alone of the sewage, even if entirely deprived of its manure, is of great benefit for agricultural purposes.—The evidence further shows that 1 ton of average town sewage contains an amount of manure which, if extracted and dried, would be worth a little over 2*d.*, taking Peruvian guano sold at 11*l.* per ton as the standard; but, as it appears from the evidence that Peruvian guano is now selling at 13*l.* 10*s.* per ton, it is evident that the portion of manure contained in a ton of average town manure is now worth more than 2*d.* The evidence of Lord Essex proves that the use of sewage permanently improves land, its good effects being visible afterwards for years.—The evidence further proves also that sewage has been applied to common Grass, Italian Rye grass, and to roots and grain crops with great advantage; and, further, that sewaged Grass has a great effect in increasing the quantity and richness of the milk of cows, as well as improving the condition of the cattle.—It is further proved that the use of sewage hastens vegetation; also that cattle of all sorts appear to prefer sewaged Grass to all others, and will eat it within a few hours of its being dressed with sewage; also that the earth possesses the power to absorb from the sewage all the manure which it contains, provided the sewage be not applied in too large a quantity, and that the crop is only benefited by the manure contained in that portion of the sewage which is absorbed by the soil within reach of the roots of the plant, and that the land is not benefited by any portion of the sewage which escapes off its surface.—In the case of Lord Essex, Mr. Westwood, the late farm bailiff of the schools at Anerley, and Philip W. S. Miles, Esq., results have been obtained by small applications of sewage which solve the question of sewage utilisation, showing that if commercial results are to be sought for—results which will enable the agriculturist to pay a fair price for the sewage, and thus yield a return to the ratepayers of our cities and towns from its sale—sewage must be treated like any other manure, and applied to the soil or the crop according to their requirements, bearing in view the returns to be obtained.

"In Lord Essex's case, his lordship applied 134 tons of sewage to each of 2 acres of Wheat, and on each acre his lordship obtained an increase of produce worth 3*l.* 1*s.* 6*d.* over and above the produce of any other acre in the field, or a gross return of 5½*d.* for each ton of sewage applied. On 35 acres of his meadow Grass, his lordship applied 600 tons per acre per annum in two dressings, and states that he gets "an extraordinary crop, such as he never saw before using the sewage."

"In the case of Philip W. S. Miles, Esq., the sewage of his establishment of 30 persons was passed, principally for sanitary purposes, over 14 acres of ground, arable and pasture. Here, as is shown by the evidence of Mr. Miles and his bailiff, Mr. Foster, the value of the 14 acres of land was doubled, simply by the application of this manure.

"The extraordinary difference in the results obtained by Mr. Lawes and Mr. Miles is at once explained by the fact that in Mr. Miles's case the sewage was applied in small quantities at each application, and the earth had in consequence full power to extract from it, close to the surface, and within easy reach of the roots of the crop, all the manure which it contained: neither was any portion of the manure allowed to escape off the surface; but in the case of Mr Lawes a great portion flowed off the surface and was lost, and a further portion must have sunk beyond the reach of the roots of the crop. These are the reasons suggested by Mr Miles for the bad result obtained at Rugby, and shown to be the case by the results of the experiments at the schools at Annerly.—This committee are therefore of opinion that the evidence which has been given fully establishes the fact that sewage is applicable to all crops, and that if commercial results are sought for, it should be applied in small dressings. If the sewage of our cities and towns were utilised to the best advantage, over suitable areas, it is evident that little or no imported or manufactured manures would be used; this would greatly limit the area now supplied by such manures, and would therefore reduce the profits of all those engaged in the importation, manufacture, or sale of manure.

"In reference to the varieties of soil to which sewage has been applied, state of cultivation at the time, and comparative merits of different sorts of sewage application, the committee state that the evidence here proves that the sewage may be applied with advantage to every description of soil which is naturally or artificially drained, and that the most profitable returns, as in the case of all other manures, will be obtained when it is applied to the best soil.

"On the question when the town sewage may be applied to

land and to crops, it is stated that the evidence shows that sewage may be advantageously applied throughout the entire year with the exception of hard frosts. With regard to the probability of town sewage being injurious to land or to crops from any of the ingredients which it contains, it was proved by the evidence that some of the matters which enter the sewers of a town, in addition to the excreta of the inhabitants, and which, if applied by themselves to land, would be injurious to vegetation, yet, bearing as they do so small a portion of the entire bulk of the sewage, are lost sight of, and rendered perfectly harmless.

"On the further question, would the application of town sewage to land or to crops be likely to cause a nuisance or be attended with dangerous consequences, the committee state, as the result of the evidence, that sewage, in the state in which it is found at the outfall of the sewers, even in the hottest weather, is very slightly offensive. If applied to the land in this state, and in such dressings as can be readily absorbed by the earth, no fear of nuisance need be felt, as the soil possesses the power to deodorise and separate from liquids all the manure which they contain, provided that too large a quantity be not applied, as the power of the soil has its limits; but if the power of the soil be overtaxed, and very large dressings be applied, a nuisance will be be created in the neighbourhood, and injury to wells and running streams would occur.

"The evidence on the question whether solid manure can be profitably manufactured from town sewage, leads to the conclusion that a solid manure cannot be manufactured with profitable results."

## Home Correspondence.

*Stock versus Corn.*—At the late debate on this subject before the London Farmers' Club, Mr. Congreve said, "that the great want of the country was a more plentiful supply of lean stock," and that "if the inferior clays of the country could be laid down and turned to account in that way, it would be of the greatest advantage, which he hoped would arise from the present discussion." This is the part of the debate which at this distance of time and place I would presume to take part in. The supply of "lean stock" to which Mr. Congreve alludes can be had from Ireland, provided those English gentlemen interested in having them will support the few claims of the Irish small farmers, which I will hereafter notice. If the clay lands of England be still such as I saw so many of them 18 years ago, they must be badly calculated to produce food for rearing the improved stock of the present day, especially by Grass alone. Even if drained will they not, if left too long uncultivated, degenerate as pastures? For example, Tiptree Hall itself, whose fertility now is, as I am led to understand, truly astonishing—if left again to Nature will it not in a few years go back to something like what I saw it in 1844, for, to use the words of a shrewd countryman of mine whom I met as a labourer employed there, "Oh, if you saw this place last year you would say it was a blue look out for the Michaelmas rent." Query, would it not to some extent become so again if Alderman Mechi ceased to expend his great capital and energy on it? I fear it would. I am certain such land in Ireland would, even were it as well drained, subsoiled, and manured as Tiptree Hall. But supposing that Wheat culture must be abandoned on such lands, which is what I do not believe if drained and subsoiled as it was—does it follow that by abandoning tillage and laying down such lands to permanent pasture, a greater amount of lean stock can be had for the use of the grazier on the rich pasture land, or the stall-feeder in his well-arranged homestead? I think not, and I speak from no very limited experience in the cultivation of every kind of land, rich and poor, high and low, light and heavy. But this much we have, I hope, a right to expect—that as we send you "the raw material" in the shape of "lean stock," it is both your duty and your interest to assist us in increasing our powers to do so, and simply thus:—Instead of any of your "penny wise and pound foolish" members of parliament, whether English, Scotch, or Irish, or all combined, opposing the miserable grant for Irish agricultural education in Ireland, all who are interested in the agricultural prosperity of the United Kingdom should press on the Government the importance of increasing that grant, and extending its advantages to many parts of Ireland where there is neither agricultural school nor model farm such as are diffusing such advantages to more favoured places. The teachings now at the head or training establishment, Glasnevin, Dublin, bid fair to supply many of our wants, and to enable us to supply you with not only more lean stock to manufacture meat from, but also some more of the manufactured article itself, without causing any disagreeable rivalry. In addition to the operations carried on at Glasnevin by the application of improved machinery and agricultural teachings on a large scale, there is also a small farm under the sole management and direction of Mr. Baldwin, the agricultural lecturer; by manual labour on which he has already shown how small farms even in the best land when properly managed, are more profitable than large ones as at present managed; and that even if Wheat culture should continue to be unprofitable, that tillage will still be far more profitable than ordinary grazing; in a word, that more cattle feeding can be had on one-half of a farm fairly cultivated than would or could be had on the whole if left out under Grass under the most favourable circumstances of ordinary grazing land. One of the great wants in Ireland is this kind of agricultural teaching, which is adapted to large as well as to small farms. *F. Carroll, Clonegal.*

*Sparrows.*—Our excellent friend Mr. Wilkins will, I think, on consideration see that he is somewhat illogical in his wholesale denunciation of the sparrows, and not strictly accurate in his facts. Because, he says, the hawks and kestrels have been destroyed, the balance wisely ordained by our Creator has been overthrown, therefore he would destroy all the sparrows also. Surely the correct inference is that the absence of hawks throws some greater portion of the work of destruction on man. And now as to the caterpillar question. Does Mr. Wilkins undertake to say that at no period of their lives do sparrows eat caterpillars? It is, I think, generally stated in books of ornithology, that they feed their young with various kinds of soft food, and, among it, with caterpillars: and I think there are few persons of observation that will not corroborate this statement by their own experience. As soon as the young are fledged and betake themselves to the fields, no doubt their depredations on the corn commence, and may become serious. The reasonable plan would seem to be (and I may say also that most in accordance with the will of their Creator) to let them alone during the breeding season, and use the undoubted prerogative of man to lessen their numbers within convenient limits at other seasons—but not surely to destroy them altogether, which is going beyond man's prerogative. I may hope perhaps for a more favourable consideration from our good friend if I avow myself by my signature *A Thin-Seeder.*

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

THE FIRST WEEKLY MEETING of the Society of the present year took place on Monday last in Hanover Square. The Chair was taken at noon by Raymond Barker, Esq. The attendance was exceedingly limited.

The names of twelve new members to be proposed for election were read by the Secretary.

The Secretary afterwards observed that there was no other business to be brought before the meeting, and announced that on the 25th inst. Mr. J. Taylor will "exhibit and explain his improved materials for the construction of cottages, as introductory to a general discussion of the economy of labourers' dwellings."

The Chairman then said, that the following Wednesday being Ash Wednesday, it was not thought desirable that the Council should reassemble, and he would therefore move an adjournment till that day fortnight.

This motion having been agreed to, the proceedings terminated.

## Farmers' Clubs.

KINGSCOTE: *January, 1863.—A Comparison between the Hampshire and Cotswold Systems of Farming.*—At the last monthly meeting of this active and energetic Farmers' Club, Mr. Drew of Boxwell, who had farmed in both the counties which he undertook to compare, read a paper on this subject, from which we make the following extracts:—

*First, as to the Character of the Soils.*—So long as the farming of Gloucestershire is restricted to the Cotswolds, I must confine my remarks to that part of Hants which, as nearly as possible, resembles them in an agricultural point of view.

This constitutes the middle division of the county, and that resting on the chalk formation. The soils there are various, and the highest parts of the district or farm are generally the stiffest. The valleys, or low grounds, likewise vary, some being light and some heavy, and others of a deep loamy description. First, there is a strong loamy soil, of good quality, which seldom fails to yield first-rate crops, moderate in the expense of tillage, and good stock land. Next, the clays; heavy working, varying considerably in quantity. Some of a red tinge, and mostly producing good crops; others of a faint brown, inclining to yellow, very weak, expensive to cultivate, and making a poor return. The poorest thin soils are very light, of a brown or hazel colour, intermixed with small fragments of rubbly chalk, easy of cultivation, and the produce as easily disposed of, but without satisfactory remuneration. There is another description of soil called white land: some of a strong loamy nature, produce excellent crops, particularly of roots (Mangel especially); others being weak and fainty, very deceptive in appearance. Flints or gravel (flints predominating) are found in the whole; and in some of the valleys the surface is sometimes completely covered with them; yet oftentimes the more abundant the flints (that is if they are of the right kind), the better the soil, and the more certain the crops. Instances have been known of strangers to their influence having had the ground cleared of them; the result, that the soil would afterwards produce scarcely anything, and only restored to its former fertility by hauling them back again. The chalk rock forms the base of the whole. The very thin soils resting on the upper chalk are deficient in almost every ingredient calculated to produce good crops. All soils resting on the chalk are easily acted on by the weather; after rain the surface is almost like birdlime, rendering it heavy work to walk over the cultivated parts, the clay soils getting very tender, and often puzzle the farmer to know what to do with his flock. Still, where the beds of clay are not very thick, the water soon finds its way into the chalk. I think there is vast room for improvement on lots of these soils by draining. The frost pulverises and reduces the surface to a very fine tilth; so likewise does alternate dry and showery weather at the spring of the year. I have seen it plough up very stiff; dry weather set in and thoroughly bake it; rain following, it falls to pieces like lime. This fine and hollow surface, however, precludes the sun and wind from penetrating to any depth, and when you would imagine a field like an Onion-bed, it is often so close and tenacious a few inches in depth, that a plough will scarcely touch it; and it is double the work for the horses to what the appearance of the surface would lead one to suppose. The farms, for the most part, are large, and chiefly arable; the fields of a good size, and surrounded by hedge-rows, in many places of tremendous width, ranging from 5 to 30 yards, a great portion of which is Hazel wood, and is used for making flake hurdles for sheepfolds. On most farms there is some Down, and in some instances a portion of water meadow. The chief aim of the farmer is the production of keep for maintaining a large flock of sheep in proportion to the size of the farm, with the ultimate view of producing a large crop of corn for market. Few cattle are kept, but generally a full stock of pigs, with a good strong team of horses.—I now revert to the Cotswolds. Here, like the middle division of Hants, the farms are rather large, but on the whole not the size of the former; the country for the most part open, the fields of a good size, the fences chiefly stone-walls, the soil here also varying, but generally speaking considered of a light character; still this, like the chalk district, varies considerably. It consists of heavy land resting on tenacious clays, these like those of Hants much varying, some being good and producing excellent crops, whilst others are weak, expensive to work, and yield a bad crop for the trouble and outlay; then we have the corn brash in many instances near the rock, but on the whole a good soil, generally yielding crops exceeding the expectation of those unacquainted with them; then comes another of inferior quality, thin and weak, resting on an inferior rock, shelly and soft in its nature: there is also another description termed a "dead sand;" it is of a lighter colour than most of the former, often deep and to an unpractised eye very deceptive; it contains few stones, and is what Mr J. Morton (in his work on "Soils") terms a sleepy soil, a very appropriate one for it; it is not a little trouble or expense that will at all times arouse it to a state of gratefulness for the expense and labour bestowed upon it. On the whole the expense of tilling the Cotswolds is not so great as the Hants district. The farms, like those of middle Hants, consist of a large portion of arable, in a very few instances a little water-meadow, and some Down; permanent pasture or meadow land however is much more extensive. The farmers' chief aim and object is also to keep as large a flock of sheep as possible, the quantity of cattle kept, however, prevails to a much greater extent, but so the stock of pigs, neither are the work horses of the size or power, nor are they kept up so well for doing a good day's work. Oxen likewise are here employed in tillage much more than in Hants. Some portion of the Cotswolds are of considerable elevation, and rest for the most part on the great and inferior oolite formation, and yielding soils similar in character to those resting on the upper and lower chalk.

2. *Cropping on the Cotswolds.*—From these remarks it may be gathered that the particular divisions of the two counties (although some 70 or 80 miles asunder), may, and should be farmed on the same system, and so in reality they are, although in detail carried out somewhat differently; the rotation generally followed the four and five-field in both counties, but in some few instances a six-field is practised.

First, taking the four-field rotation of the Cotswolds and commencing with the root crop; it generally follows Wheat (a portion of which probably may first be sown to Rye and Vetches and fed off with sheep), and old Sainfoin lea; it is now general soon after harvest to scarify the stubbles, well working it and burning what filth there may be, and then haul out on that portion of land intended for Mangel and Swedes, the farm-yard manure, which on many light land farms is the whole of that made the previous winter, placing the same in convenient heaps for carting, or in many instances wheeling in barrows by men (which is the most economical plan of the two), previously to planting: the land is then ploughed to the depth, varying according to the nature of the soil or subsoil, and ranges from 3½ or 4 inches to 7 inches; it then remains until March or April, and in some cases till May, when it receives another ploughing or scarifying, on the first favourable opportunity it is again scarified, dragged, rolled, and harrowed, till what filth remains is thoroughly worked out, collected, and burned.—Mangel Wurzel is planted on the ridge, the latter end of April or beginning of May, the ridges being drawn about 26 inches wide; the yard manure in addition to guano or some special manure and salt, which is sown along the rows by hand, and covered in, and the seed either dibbled or drilled; this crop the past three years has not been so great as previously, and is receding in the extent of its cultivation.—Two methods of planting Swedes are practised: some adopt the ridge system, whilst others adhere to flat work; in either case the yard manure is applied first, and covered in, and planting by the drill, with an addition of guano, bones, super, Turnip, or some special manure, to an extent of from 14s. to 40s. per acre. Manuring in the autumn has been tried with various degrees of success; on strong and loamy soils it has succeeded tolerably well, while on light puffy land the result has been rather against than in its favour. The quantity of yard manure made on a farm is seldom more than sufficient for a moiety of the root crop, a part of the remainder sometimes remains as it was after the corn was carried, until the spring of the year, is then raftered, and cultivated across, worked, and self-burnt, the ashes spread, breast-ploughed, a double time with the harrows given, and then lightly ploughed, the seed sown broadcast, another double time with the harrows to cover the seed completes the operation. Artificial manures, however, are now more commonly added to a portion of the ashes, and drilled with the seed, and mostly followed by good crops; the remainder of the land is clean ploughed to a moderate depth at the fall of the year, accompanied by the same treatment as the Swedes, excepting the application of the yard manure, and drilled on the flat, with artificial as for Swedes; horse and hand hoeing complete the cultivation. The Mangel is taken up the latter part of October, and stored away. Storing the Swedes is pretty generally adopted, for fattening sheep the Turnip-cutter is always used. Common Turnips chiefly remain in the ground to be fed off by the breeding parts of the flock. A portion of each is sometimes hauled off to be consumed by the cattle in the yards, and greatly improves their doing, and at the same time with an addition of cake enriches the manure. Hay is given with the roots, accompanied with cake or corn, to the fatting sheep.—The second year of the rotation is Barley; Oats and April Wheat are, however, sometimes substituted, and some lightly clean plough immediately behind the sheep, after the roots are consumed; others balk plough or "rafter," again lightly ploughing just before planting; others, again, on the lightest soils, only plough once. The corn, for the most part, is put in with the drill: about 3 bushels of Barley, 2½ of April Wheat, 4 bushels of Oats, commencing as early in the season as the state of the land will permit; from 1 to 1½ bushels of Rye-grass, 6 to 8 lb. of Cow-grass or Red Clover, 3 to 4 lb. of Yellow, and 2 to 3 lb. of White Clover is either sown at the time of planting the corn, or more generally (and particularly all the early planted) sown when the corn is up and rolled in, and which will constitute the third crop of the course, or young seeds to be mown for hay, the lattermath being fed, and afterwards ploughed up for Wheat. This usually commences some time in the month of August or beginning of September, varying according to the quality and condition of the soil and other ruling circumstances. One ploughing with a skim coulter attached suffices on most land on these hills. On all the light soils early ploughing is resorted to; a better result follows, from the fact of the seed-bed being firmer. A heavy roller follows the plough; it is afterwards well worked with drags and harrows, and sometimes a second rolling; and, should it be inclined to get green, instead of extra dragging, the scarifier is run over it as lightly as possible, being afterwards well harrowed and the Wheat drilled; the quantity of seed the early part of the season about 7 pecks, increasing to 9 as the season advances. It is often rolled at spring, and hoeing is practised to some extent, but not universally so: neither are manures (either natural or artificial), applied to any extent at this or planting time, manures being thought on most of these soils to have a greater effect in producing an increase in the amount of straw

rather than in the grain.—The proportion of Sainfoin varies, as before intimated, and ranges from 8 to 15 acres in every 100 of arable. It is usually planted with spring corn, sometimes after roots, but more frequently after Wheat. In some cases it has been drilled at spring in the growing Wheat; and when the land has been clean, I have known this practice succeed admirably. Formerly it was usual for it to last seven or eight years; latterly, however, it has been more difficult to obtain a plant, and seldom last more than about four years, and often goes off the third. It has been, and still is, a valuable plant to the hill farmer, both for hay and feed. It was at one time considered—the poorer or worse in condition the land, the better it succeeded. I am not prepared to say such was the case, at the same time it seems somewhat singular that now, the land generally being in a much better state of cultivation and fertility, you seldom see so good a crop of Sainfoin hay cut as formerly, nor do we see that luxuriant lattermath, in which every description of stock was wont to do so well.—The five-field system is the counterpart of the four, extending the seeds to two years, grazing them the second, which usually produce a large amount of good keep, carrying a great quantity of stock. It is practised on all the lightest class of soils on the Cotswolds; it enables its occupier to keep an increased quantity of stock, and I believe at the same time to produce quite as large, if not a larger amount, of corn. The roots and fibres of the seeds the second year extend themselves in every direction, combined with the treading and dressings of the sheep and cattle, producing that solidity to the soil, so necessary to the Wheat crop following. The six-field is another extension, but not in the right direction, being an addition to the five of another crop of corn after Wheat the last year of the course.

3. *Cropping in Hampshire.*—1st. The four-field, when stipulated, varies somewhat from that followed on the Cotswolds, so that with 400 acres in course of cropping there would be 200 in corn and 200 in green and root crops; 200 of which, under the regular four-field system, would give 50 acres Wheat, 50 acres roots, 50 acres spring corn, and 50 acres seeds. The other 200, some would have—1st, 50 acres Wheat; 2d, 25 acres Barley and 25 acres roots; 3d, 25 acres Clover and 25 Barley; 4th, 50 acres Rape and roots. This mode would give 100 acres Wheat, 125 acres Rape and roots, 100 acres spring corn, and 75 acres seeds; the Wheat crop would follow 50 acres seeds and 50 acres of the Rape and early Turnips; spring corn, partly after roots and partly after Wheat; seeds sown partly with the Wheat, the remainder with the spring corn; while the Swedes, Rape, and Turnips succeed the 25 acres seeds, part of the Root, Barley, and Wheat crops. Others, again, would further divide the third course of the second division of the rotation, that is, would still have—1st, 50 acres Wheat; 2d, 25 acres spring corn and 25 acres roots; 3d, 12½ acres seeds, 12½ acres roots, and 25 acres Barley; 4th, 50 acres Rape and roots. Pulse, to some extent, occasionally takes the place of some of the other crops, but not to any great degree on the sheep farms of this district, provision for the flock always being the aim, and engaging the attention of the flockmaster; this would still give the 200 acres of corn, it would, however, increase the Rape and roots to 137½ acres, and at the same time reduce the seeds to 62½ acres. Sainfoin, under either system, is an indispensable requisite; the proportion, however, varies considerably, but, on the average, a larger acreage is grown than on the Cotswolds; the plant and crop is likewise better, often yields abundant crops of hay and lattermath, but is not allowed to remain down so long, its effects on the soil being so different.

The Wheat crop as a rule succeeds seeds, Rape, and early Turnips, and is the crop which above all others receives the greatest amount of stimulants in the shape of manure. Most farmers contend that it would be useless to plant Wheat without a dressing of some kind: with regard to the seeds, some persons apply all the available yard manure fit for the purpose in seasonable weather, during the preceding winter, and which increases the produce for hay and soiling. The lattermath is allowed to get up, and a heavy folding of sheep precedes the ploughing. That part not manured in the winter or spring receives a dressing after the hay crop is off, and, as far as possible, the sheep fold in addition. Ploughing does not commence so early as on the Cotswolds, seldom beginning before the middle of September. Two or three ploughs accompany each other, followed by two or three wheel-pressers. After the pressers sowing is mostly accomplished by hand. A few tines with light drags, and oftentimes only with the harrows, is all the working it receives: some work after the plough and presser, and drill the corn. The quantity of seed varies from 2 to 3 bushels per acre, usually about 2½—that following the Rape and Turnips (the crops preceding, which were seeds and Swedes) receives one plough: sometimes it is pressed, and sometimes worked down and the Wheat drilled.—I have said Sainfoin is not allowed to remain down so long as on the Cotswolds: it is here more as a substitute for seeds, and seldom lies down more than four years, often not more than three, and sometimes only two. Some bring it in for Wheat, being treated like the seeds; it is, however, the practice with others, as likewise with seeds if the land is heavy, to feed it at spring of the year, plough it up, fold the sheep over it, then cross plough, well work and clean it—in short, to make a good fallow of it, and often the Wheat succeeds well with this treatment; some consider it equal to manuring on the heavy soils. When the land at spring of the year is at all hollow, it is well rolled or trodden with the sheep: it is sometimes hoed, but not as a rule.—Next comes spring grain after Wheat and roots: the Wheat stubbles chiefly receive one ploughing, the presser following, worked down and drilled; the remainder after roots, and which is generally only that which is fed off it, early; is sometimes rafted and ploughed, sometimes ploughed twice, but more frequently only ploughed once, and the corn drilled as early as the weather will allow, but earlier than here. The spring sowing is generally completed in March, all the late fed seed land remaining over for Rape and early Turnips. The seeds are sown partly in the Wheat and partly with the spring corn, some being sown to Cow-grass or Red Clover, 14 or 16 lb. per acre, and some with Rye-grass, White and Yellow Clover, 2 bushels of the former, 2 to 3 lb. of the White, and 5 to 6 lb. of the Hop Clover, reversing it when it comes round again; this, combined with the short quantity grown, admits of sufficient time for the land to recover itself from Clover sickness. Lastly comes the root and Rape crop, which follows seeds, roots, Barley, or Oats and Wheat.—The Rape and early Turnips are first planted after a portion of seeds and Swedes of the previous year, the land being treated according to its requirements, some being repeatedly ploughed, rolled, and dragged, while others may want only one ploughing and a good harrowing, or a scarifying may be resorted to. The application of manure also is regulated by the condition or dressings left by the sheep in feeding off the previous crops; seldom more than 2 cwt. of superphosphate is used; ashes or compost, and often water is added. The Rape sometimes is sown broadcast, but often these crops are put in with a drill. The Rape occasionally is not hoed, the Turnips get one or two hoeings. Planting is effected in two ways, by the dry and the water drill, each having its advocate. Water is much more extensively used than here, and strongly recommended by many, while others think ashes or compost with the dry drill equally efficacious. I have witnessed good crops and failures under both modes. Flat work is the rule, bouting the exception, for all kinds of roots. The greater part of the yard manure is generally applied to the seeds, preparatory to Wheat, in a very long or green state; consequently a great portion is thought to remain in the land for the succeeding root crop. Artificial manure is used for all roots, but not to the amount per acre as on the Cotswolds—about 2 cwt. guano and 2 cwt. superphosphate for Mangels, 4 to 8 bushels of bones, or an equivalent in guano, and 2 cwt. superphosphate, where the yard manure was applied for the Wheat crop, for Swedes; and 4 bushels bones and 2 cwt. superphosphate for common Turnips. I do not mean to say that larger quantities are not used by many; on the other hand, I believe there are as many using less as there are more, consequently I put this at something about the average, and mostly produces a fair crop; in fact, with 1 cwt. guano, 4 bushels bones, and 1½ superphosphate to a poor soil, I have seen as good crop of roots produced as needs be. Bones and superphosphate mixed is considered by many better than either alone; it is the practice of many to burn ashes a year or so beforehand, and to purchase the bones at the fall of the year, mixing them with the ashes, keeping the heaps up together well and tidy, then letting them remain till about a fortnight before using, when the whole is carefully turned over. The bones for the most part will then go to pieces and act much quicker and more effectually, at a less cost, almost superseding the use of superphosphate. Many, again, purchase their bones early in the spring, moisten them with water, and add a portion of sulphuric acid, covering the mass with ashes, letting it remain a short time, and then occasionally turning it over; this also has been found to answer well, and they believe they get a stronger and better manure than when they purchase manufactured superphosphate. The generality of farmers, however, purchase their superphosphate or other artificial manures, and use them much as we do here, excepting, as I have before said, a more extended use of the water drill; they are planted at narrower intervals, hoeing and cultivation is much the same as here, but pitting or other means of preservation is seldom resorted to.

*Differences of Cultivation.*—The chief points of difference in the mode of carrying out the different systems, are, first, as regards the Wheat crop:—

(*a*) On the Cotswolds Clover or seeds, or what is more frequently termed one or two years lea, is the preceding crop, and often the only expense is cultivation up to the time of planting, viz., 1 clean plough, 1 roll, 4 drag tines, drilling 7 pecks of seed, and 1 or 2 harrow tines. Under the Hampshire a portion succeeds Rape and early Turnips, the previous year being seeds and Swedes; to that there is the tillages and manure for the Swede crop and the tillages and manure of the Rape and Turnips, rent, &c., besides the ploughing, working, drilling, seed, &c., up to the planting. The crop of Wheat generally is good, often much better than after seeds, and leaving the land in better heart; the remainder after seeds receives a dressing of yard manure, and the sheepfold; occasionally where this cannot be done, guano or other artificial manure is applied. (*b*) The Hants soils produce, comparatively speaking, little straw, but much kinder and stiffer than a great portion of the Cotswolds, while the yield in corn is good in quality and large in proportion to the amount of straw, consequently there is little fear (force how you may) of pushing the quantity of straw and throwing the corn down to its detriment. On the other hand, if we except the corn brash, Cotswolds often produce without manure an over-abundance of soft straw, easily lodging. I do not myself attribute the difference altogether to the mode of cultivation, but to climate—the lack of some material element in our soils to perfect its development. (*c*) Next, with regard to our Barley crop. Here it invariably follows the roots, some of which are often not fed off before May; and if we get rain when feeding off at this time, and the land is much trodden, the chance of a crop afterwards is materially lessened, and the quality not at all fit for malting purposes. On the other hand, the Hampshire farmers, by only planting their root land which has been fed off early, and the stubble lands, which cannot be much out of heart from its previous treatment for the Wheat crop and early planting, usually succeed in obtaining, if not a heavy crop, one of quality, and commanding the attention not only of their immediate customers, but those from a distance. (*d*) This brings me to their Clover and seeds. The Hants farmer, however, would think it almost madness to let any of his seed remain the whole of the second year, while the Cotswold farmer would be equally sceptical and puzzled to know in what way he could more advantageously apply them. It is a fact that would scarcely be believed by many here, that however good a piece of seed may be at the fall of the year, after being mown or grazed the preceding summer, the following spring it would scarcely be conceived to be seeds, and would not again rally, or be of much service afterwards; on the other hand, here frequently our seeds are better the second year than the first. (*e*) I will here add a few words with respect to the Sainfoin plant, which in Hampshire is considered by many as part of the seed brake, and in a measure taking the place of Clover; and is appreciated as affording good crops of hay and lattermath, but found to be a scourger to the soil, particularly if allowed to remain down long, rather than, as is the case on the Cotswolds, to stimulate and invigorate the land in proportion to the length of time it remains down. There is, however, some difference in its treatment, and which may partially explain the reason, viz., that the stock, when feeding, seldom lie on it, but are merely brought there for a few hours to fill themselves, and are then removed to some other kind of keep—a tie of Vetches, Clover, Rape, or the like. (*f*) Lastly, comes the root crop. The chief difference consists in the absence of direct application of yard manure, and relying solely on artificials; previously taking, to a considerable extent, catch crops of Rye, winter Barley, Oats, and Vetches, and growing a portion two years in succession. This latter I much question if it would answer here, as when our land is trodden late in the spring it would be almost impossible (in the generality of seasons) to obtain that fine tilth necessary to insure a good plant; the aim of the farmer in both districts is, as I have before intimated, one and the same—that of keeping a large amount of stock, believing (I may say knowing) this to be the best, if not the only means of keeping the soil in a good state of fertility, and of indirectly increasing the produce of corn, and thus, in a measure, making a return for his trouble and outlay.

5. *Live Stock.*—We will now consider kind, quantity, and mode of treatment, with the result such treatment is likely to effect, not only on the stock itself, but also the condition of the soil.

The chief stock in both districts is sheep; in Hants, however, it is the main—in fact, were it not for them, a great portion of the district must go out of cultivation, no artificial means as yet having been discovered to give that staple and solidity necessary on light puffy land for the production of corn as the feet of sheep; and the Hants farmer makes full use of his flock, not only in this respect, but also a means of conveying manure (by their droppings) to that locality by means of a fold they may deem necessary for any particular crop. The breed of sheep is also different. The large heavy coated Cotswold would be ill-suited for the purpose; it is one peculiar to the county, of the Down character, but nevertheless very different to the neat South or Sussex Down, being larger and stronger, with large heads and coarse in the bone, and, to appearance, one would imagine more calculated for the hardships and privations they are often subjected to; they are, however, like most other local breeds, very much improved the last few years; and what is termed the improved Hampshire, will readily get fat; and I have known the lambs sold at the fall fairs at almost fabulous prices, then being from 8 to 9 months old, and ranging from 50*s.* to 60*s.* a-piece; and it is not at all uncommon for lambs, when yeaned the previous January or February, to sell for 30*s.* to 40*s.* each. These prices, however, are not obtained without much trouble and expense. Their mode of treatment is somewhat thus:—Most flockmasters like their lambs to drop as early in the year as possible. They remain in a place provided for them a few days after being yeaned, and are first turned into a piece of old lea or pasture for another day or two, from whence they are drawn off to the Turnip or Swede fields, spar and hurdles being placed at intervals, with spaces admitting the lambs to run forwards; and it is surprising how soon, and to what extend, the lambs will eat the green, and also the roots; their treatment is however, regulated by the aspiration of the farmer. If extraordinary achievements are to be attained, extraordinary means must be resorted to, and troughs and Turnip cutters immediately brought into play, the ewes getting, in addition to what roots and hay they can eat, a portion of cake or corn, the roots being cut outside for the lambs, with hay, hay-chaff, cake, and corn. Should bad weather set in, they are at once removed into the leas and pasture, and their food hauled to them. I have heard of instances of farmers, on sudden and heavy rain occurring, getting up in the night for this purpose: this is the treatment they receive till the water-meadows, or the Rye and so forth are ready to receive them, but, as the lambs get strong, instead of having their range, a fold is pitched forwards for them, their dams and the dry flock following to clear up. By weaning-time the spring feed is ready to receive them; they are then drawn into different lots, and forced for their intended market, a fold of Vetches, generally their first morning's meal, then again into seeds, and back into some Vetches, then a tie of Sainfoin, and lastly another tie of Vetches for the night; the use of corn and cake regulated according to the caprice of the farmer. As the Rape and early Turnips, with the lattermath, come on, these crops take the place of the Vetches, &c., and it is extraordinary how fast they then thrive. As soon as the lambs are weaned the ewes are drafted and are pushed on for the July fairs, and have, like the lambs, realised good prices. The breeding ewes all this time are complete scavengers, clearing up what is left by the others; they, however, generally do pretty well. As soon as the sale stock is got rid of, they are pushed on, and soon make up their flesh; they are folded every night as a preparation for some future crop, as also were the sale ewes. But there is a perceptible difference in the succeeding crops, where cake and corn are used. Generally speaking, very few cattle are kept; some, however, purchase a few, for the purpose of converting the straw, giving them cake; but few follow the system, as the cattle often pay very little more than enough to cover the cost of the cake, sometimes not that. Others take in tackers from the other divisions of the county, while some consume and tread down their straw with the sheep and horses. I have seen the Wheat-straw hauled about on heavy land from the threshing-machine, spreading about, folding on it, and then ploughing in. The Hampshire farmer, in this case, is far behind the Cotswold one; attention here being devoted to the keeping of cattle for the express purpose of manufacturing his straw into manure, more than from any direct profit. It could not, however, be carried out to a like advantage by the Hants farmer, from the general use of the fold for sheep, and, in many instances, the insufficiency of mounds and the want of pasture land. And, on the other hand, the treatment of their horses is worthy of our imitation. They are powerful animals, and always kept in the yard or stable, with a liberal allowance of corn winter and summer, a certain amount of hay combined with straw in winter, with Rye, Vetches, and Clover in the summer. But they get an hour's evening run in the summer time. They are at their labour from about half-past 6 in the summer, and in the winter as soon as they can see to plough, putting on the harness by candlelight. There are several other matters requiring notice, but I must have already tired your patience. One, however, I must just notice, namely, that of chalking or marling. It has been practised there for centuries past; and its effect is astonishing, particularly on the heavy land, not only increasing the produce, but tending to lessen the tenacity of the soil, consequently the labour in its culture.

Resolution: "This meeting is of opinion that the wheel-presser might be used to advantage on the Cotswold Hills. It would also be a step in the right direction to mix bones with ashes in the autumn, to be used with the root crop in lieu of superphosphate; but to alter the system of cropping, by breaking up a portion of the old seeds for a crop previous to the Wheat, would not be advisable."

## Reviews.

*Prize Essay on the Storing of Turnips.* By W. Duthrie, Hillside, Kincardineshire. Printed for the Royal Northern Agricultural Association.

Sir J. D. Elphinstone, Bart., offered a prize for the best essay on this subject to be written by farm servants, the prize to be awarded by the Royal Northern Agricultural Association. The Society requested Mr. MacLagan, of Pumpherston, to act as judge, and they have published the essay he selected as the best, along with accompanying remarks by himself, the whole forming a very complete and instructive pamphlet on the subject. The following are extracts:—

Mr. MacLagan says:—

*On the Growth of the Turnip Crop.*—"The Turnip plant is liable to be attacked by different insects and diseases. Scarcely have the root leaves in particular seasons emerged from the soil than the Turnip flea-beetle, commonly but erroneously called the Turnip fly, voraciously attacks them, and in a short time sweeps them off the surface of the drills. The conditions most favourable for the attack of this insect are cold dry weather, and a consequent slow growth of the plant. We should therefore try to use every means for hurrying the young plant through that stage of its

growth most favourable for the attack of this insect—viz., from the time of the braird to its getting the first rough leaf. We should therefore steep the seed in water before sowing, to ensure a rapid braird, sow thick, and use those manures most suitable for the Turnip in as soluble a state as possible, so that the young plant after exhausting the nourishment contained in the seed, and struggling for existence, may have no difficulty in finding the necessary food in an available form. In England, the water-drill has been used with great advantage to assist the plant through this critical period of its growth. Sulphur has also been recommended, both as a preventive and as a cure for the flea-beetle. After the Turnip has been singled, it is often attacked by the caterpillar, or more especially the larvæ of the Turnip saw-fly. Its devastation is generally rapid and complete. The remedies proposed for it are sowing hot lime over the field, picking the caterpillars off the leaves by means of boys and girls, and turning poultry, particularly ducks, into the fields. Moles also destroy the plants to a large extent, by burrowing along the drills in search of worms. Rooks commit similar damage by searching for worms amongst bones that had been sown with the Turnips; and wood-pigeons are most destructive to young Swedish Turnip plants, by eating the leaves. The damage committed by these birds is quite incredible to those who have not had an opportunity of examining a field of Swedish Turnips that has been subjected to their depredations.

The Turnip crop, however, has suffered more from the diseases of finger-and-toe and anbury than from any other attack of insect or disease. I prefer to give the results of an experiment I made with the view of discovering a remedy for these diseases to discussing the various theories that have been published regarding them. A few years ago, I improved a moor. The rotation was as follows:—Two years Oats, third year Turnips, fourth Oats, fifth Turnips, which failed entirely, from finger-and-toe. Another crop of Oats was then taken, and lime was applied on the stubble during the winter at the rate of 8 tons per imperial acre to all the field, excepting two or three ridges, which were left unlimed for experiment. Turnips were sown after the Oats and lime in the following summer, and the result was that there was not a single sound Turnip on the unlimed ridges, and not a single diseased one on the land that was limed.

After the Turnips have reached maturity, they are liable to be attacked by animals, particularly deer, hares, rabbits, and by rooks and wood-pigeons. The destruction by the former is very great; hares, in particular, play sad havoc, not so much from what they consume, but from what they destroy; they seldom make a meal off a Turnip or two, which they may commence on, but they run along a field, breaking a great number of roots, and thus rendering them quite unfit for being stored. The wood-pigeons eat principally the leaves of the Swedish Turnips during frost, and the rooks at the same time pick holes into the roots, destroying them even more than the hares. Many allege that the wood-pigeons are also guilty of making these holes; but such is not the case, for they are quite incapable of doing this from the formation of their bills. They feed from the holes which the crows have made before them. The only remedy for these pests is to keep down their numbers, which proprietors will find it to be as much their interest as that of their tenants to do.

*On the Storing of the Crop,* the essayist insists on the following conditions:—"1st. That they are perfectly ripe before being pulled. 2d. That they are dry, both when carted and stored. 3d. That they are neither cut nor bruised in pulling. 4th. That they be carefully cleared of all earth and dung which generally rise with the roots, cutting off the smaller fibres or roots, and also the tops of the yellow varieties, not nearer the bulbs than half-an-inch, and that of the Swedish about the middle of the shank or castock. 5th. That they be carefully covered when dry. 6th. That they must be covered and ventilated, so as to prevent them from suffering from frost, stagnant gases, or a current of air."

The following are passages on the same branch of the subject by Mr. MacLagan. He says:—

"Let any one examine a field of Turnips before a black frost, and in spring, after it has been exposed for a week or two to such a frost, and the number of Turnips he will then see wasted will be sufficient to convince him of the advantage of having had them protected from the frost. In clay districts, where there is much rain, the storing of Turnips is now considered nearly as necessary an operation as the storing of Potatoes. Whenever the roots have reached maturity, storing should commence. If stored before they are fully ripe, they are apt to sprout in the pits; but I would rather run the risk of sprouting than lose a favourable opportunity of storing. The sprouting can be stopped by opening the pits, and turning the roots over, rubbing off with the hand any new sprouts that may be on them.

"As the early or white variety of Turnips is the first used, it is not generally stored for any length of time; but as I like always to have a month's supply of roots stored up ready for any emergency, the white Turnips are put into large square heaps, about 2 feet high, level at top, and covered with straw. Sometimes I store them for lambing ewes in spring, in which case I pay particular attention to the details to be afterwards described in storing the harder varieties. The first thing to be observed in lifting Turnips, preparatory to storing them, is to do so only in dry, open weather. In handling them, particular care must be taken not to wound the bulb in any way. The tops should not be cut off closer to the bulbs than about three-quarters of an inch; and if possible more than an inch of the top should not be left adhering to the bulb, but rather leave more than run the risk of injuring the bulb. If the state of the land admit of it, the Turnips should be carted from the field the same day on which they are lifted. This is a consideration not often attended to, but it is most important; one night's keen frost on Turnips topped and lying along the bottom of the drill renders them unfit for keeping any length of time in heaps or stores. A farmer of my acquaintance who sells Turnips to the cow-feeders in town, and requires always to have a fresh supply in store for his customers, makes it a practice to send out his carts to the field with the people who lift his Turnips, so that they are thrown at once, after being topped and tailed, into the carts. They should never be stored with the least moisture or frost on them. Frequently on the clay soils in this district it is impossible to take them off the field the same day on which they are pulled, without poaching the ground, and doing such injury to it as materially to deteriorate the succeeding crops. In such cases the roots should be thrown together into small heaps, as far apart as the workers can conveniently throw them, and then they should be covered up with the tops. This should be done the same day on which they are lifted. And the first opportunity of a frosty morning, or of a tract of dry weather, should be taken to cart them off to be stored for the winter. If any of the bulbs should be touched with frost, from being insufficiently covered, they should not be stored, but thrown out for immediate use. This operation will cost about 1s. 6d. per imperial acre; but if we consider the profit from it, not only in having well-preserved roots, but in having the soil in a proper state for the following crops, the trifling expense, equivalent in value to 3 or 4 cwt. of Turnips per acre, should not be grudged.

"We shall be better able to judge of the best mode of storing Turnips if we mention first what are the necessary conditions for their keeping well in stores. They should be kept dry, and safe from frost, and they should not, particularly when first stored, be covered quite close up; ventilation is absolutely necessary. I shall now proceed to state the different kinds of storing practised, pointing out the best in conformity with these conditions. Where the climate is wet and late, and the soil and subsoil retentive, it is advisable to cart all the Turnips off the field, and store them in suitable and convenient places near where they are to be consumed by cattle in the steading, or sheep on some lea field. They are better stored on the surface of the land than having a pit even six inches deep made for them, unless the subsoil be very dry. When brought to the places selected for storing, the Turnips are thrown up into triangular heaps, from four to eight feet in width at the base, and as high as they can lie, and as long as is thought convenient. The width of the heaps should vary with the time the Turnips are expected to be stored—the widest heaps being first used. About 6 inches of dry straw should then be placed next the roots, and at least 6 inches of wet straw from the stack-yard, and 3 or 4 inches of thatch. The thatch should be tied down by straw ropes. The use of the wet straw is to prevent the admission of frost to the roots in windy weather, during which dry straw has little effect in keeping out the frost. If there is a stone and lime wall near the place where it is wanted to store the Turnips, they may be thrown up against it, making the heaps as wide at the bottom as may be thought necessary, according to the time that the roots are to be used, and as steep as that no rain may find its way into the heaps, but may run down the thatch. The same covering of straw and thatch should be put on. If the Turnips are to be consumed during the winter, they should be stored on the south side of the wall, if it runs east and west, so that the stores may be opened in frosty weather during the warmest time of the day. If they are for spring use, they should be stored on the north side of the wall, where they will be less liable to sprout. The plan often followed for storing Mangel Wurzel in England is also well adapted for storing Turnips. The rows of hurdles are set up from 5 to 9 feet apart, or two lines of stakes, about 2½ feet high, are driven into the ground about the same distance apart, and wattled, and some straw is placed between the roots and the hurdles or stakes. The carts are backed between the rows, and the roots are thrown up to the height of the hurdles or stakes, and above them they are piled up like a roof, and covered with straw to the thickness of about 15 inches, including the thatch. As many of these reservoirs for the Turnips are made parallel to one another, and with a passage between each two sufficient for a man to pass along, the thatch from the several heaps should overlap at this passage, to form a protection from the frost to the Turnips piled up at the sides of the hurdles, and drains should be made in the passages to carry off the water from the roof. The Turnips in such store heaps are thus kept dry, and well ventilated, and are protected from frost.

"In some districts there will be a scarcity of straw to give a sufficient covering of it to the store heaps. In such cases, half the quantity may be used with a covering of soil. Care should be taken, however, to have the heaps properly ventilated by leaving the top of them uncovered by soil, and, likewise, air holes, about a foot square, along the whole length and at the bottom of the heaps, about 6 or 8 feet apart, covered only by straw and thatch. After the fermentation, which always takes place when roots are thrown together, called in common language sweating, has subsided, these holes may be closed up by earth. But, however advantageous the storing of roots may be to the farmers, they are never so palatable to the cattle when taken from the store heaps as directly from the field. Some farmers, therefore, prefer preserving them in the field to carting them home. A plough is made to pass between two drills, to throw up the soil so as to cover the roots; this is called furring up. Where the Turnips are small, this may be effectual enough, but large Turnips can seldom be sufficiently covered by this method. Another and better plan is to make a deep furrow between two drills, and lifting four, five, or six drills, or as many as the furrow will hold, with the tops and roots entire, to place them upright, with the roots down, and close to one another, and then cover them up with the soil, by means of the plough, a man following with the spade and covering up the bulbs entirely in any part that may not have been sufficiently done by the plough. This I believe to be the best way of preserving roots for spring use; for they will be much sweeter than those stored in heaps and covered with straw; but unfortunately, it cannot be extensively practised; for unless the subsoil be very dry and porous to carry off the water rapidly from the Turnips, a large proportion of them will be rotted. Another plan is to throw the roots into small heaps in the field 4 or 5 feet wide at the bottom, and sloping up like a roof, containing two or three cartloads each; a slight covering of straw is thrown over them, and then some earth; these are carted home during frost, and used directly by the animals. By a combination of these different methods of storing, a farmer is made independent of the weather. In wet weather he receives his supplies from the store heaps near the steading; in frost, from the small heaps in the field; and in spring, from those that were earthed up. I confess, however, that I much prefer carting them all off at once from the field, if the horse labour admit of this being done at the proper time, unless the soil and subsoil are so dry as to allow of their being earthed up with safety. Sometimes Turnips are stored to a limited extent, according to the plan called causewaying; the plants are raised entire with tops and roots, and placed close to one another in the same position in which they grew; the tops protect them from a certain degree of frost, but they should not be kept too long, for though certainly they will resist the effects of the weather better than if they were exposed where they grew in the field, they cannot be so well preserved as if they were stored according to some of the methods described above. I have not alluded to storing in the houses, because I have found that the Turnips do not keep in them so well as in the heaps. There should always, however, be attached to a steading a root-house, adjoining the houses for cattle, sufficient to contain Turnips for eight or 10 days' consumption.

"I have now, I think, described the principal methods of storing Turnips. In all of them the roots lose in weight, in some more than in others; but it must be remembered that, when exposed all winter in the open field, the loss in weight is also very large. This loss may not be of much consequence to the farmer if it is only the water of the roots, but if it arises from the juice exuding from the cut roots, it is of material importance to him, and he should endeavour to prevent it as much as possible. Hence we have advised the roots not to be cut off those Turnips that are to be stored till they are taken out of the heaps to be used. It is thought, however, that they are far more apt to sprout when the roots are left entire, but for this the farmer should always be on the outlook by examining the heaps from time to time.

"Turnips are generally topped and tailed by means of an old sickle, and when they are firmly rooted in the ground, the workers often strike the bent part of the sickle into the bulb to pull it out; thus wounding it, and rendering it unfit to be stored. A better implement for topping and tailing is a knife, with a broad piece of iron welded on at the point, perpendicular to the blade, whose edge is in the opposite direction to that of the piece of iron. The implement resembles very much a small hoe, if we suppose the blade of the knife to be the shaft of the hoe, and the piece of iron, the iron part. The use of the piece of iron is to assist the worker to raise the Turnip, when he could not do it by pulling the shaw alone. I have had sent me from England an implement, drawn by two horses, for raising Turnips more expeditiously than can be done by labourers. The report of the trial shall be published in due time, if the weather admits of a fair trial. Another implement that would be found of use in raising Turnips is a two-pronged fork, somewhat like a dung drag, but with the prongs broader. This would be found of use in pulling up firmly rooted Turnips, such as the Swedish variety; so many labourers might go before, pulling them up, while others follow, topping and tailing them, if required."

## Farm Memoranda.

ABERDEENSHIRE.—A correspondent of the *North British Agriculturist* thus details the circumstances of a farm in his own county.

As actual facts are much better than any mere general assertions, I purpose giving you a short statement of the receipts and expenditure on a farm with which I am well acquainted, and which statement I have full permission to publish.

The farm consists of 560 imperial acres, partly of light loamy, and partly of light sandy soil, on a gravelly subsoil, favourably situated as regards climate, exposure, and vicinity to markets. It is farmed partly on the 5-years' course, or 2 years' Grass, and partly on the 6-years' course, or 3 years' Grass. The rent in the years I shall refer to was 620*l*. It will now be 1110*l*. As it may be interesting to compare the different returns of grain in different years, I shall give the number of quarters of grain sold, and the money received, for seven crops, commencing with 1855:—

| | No. of Qrs. | Price. |
|---|---|---|
| 1855 | 692 | £1111 |
| 1856 | 728 | 976 |
| 1857 | 653 | 735 |
| 1858 | 884 | 950 |
| 1859 | 695 | 776 |
| 1860 | 778 | 937 |
| 1861 | 660 | 875 |
| Average of 7 years | 728 | 909 |

The profit or live stock average 976*l*. for the last 5 years. To this ought to be added the keep of 10 cows for milk for servants, say 80*l*.; and it must also be observed that the stock has been steadily improving and increasing in value, to the extent, according to valuation, of 100*l*. per annum, during the two years referred to. This would bring up the actual profit on live stock to 1156*l*., which amount agrees pretty nearly with what the Grass and Turnips might yield if let—the former for pasture, and the latter to be consumed on the farm—

| | £ | s. | d. |
|---|---|---|---|
| Say 101 acres of first year's Grass, and deduct 21 acres for hay = 80 acres at 50s. .. .. .. | 200 | 0 | 0 |
| 154 acres older Grass at 30s. .. .. .. | 231 | 0 | 0 |
| 102 acres Turnips, consumed on the farm by cattle and sheep, at 6*l*. .. .. .. .. | 612 | 0 | 0 |
| | £1043 | 0 | 0 |

Other receipts from the sale of hay, Potatoes, Turnip seed, Grass, Pigs, &c., &c., vary from 80*l*. to 150*l*. per annum. I now give a statement of the actual receipts and expenses for the years 1860 and 1861:—

1860.

| RECEIPTS. | | EXPENSES. | |
|---|---|---|---|
| Grain sold .. .. | £937 | Rent and taxes, &c. .. | £559 |
| Profit on live stock .. | 996 | * Wages .. .. .. | 348 |
| Potatoes, hay, pigs, &c. . | 122 | Manure, cake, &c. .. | 356 |
| House rent, and meal, milk, vegetables, &c. . | 75 | Tradesmen's accounts, travelling expenses of all kinds, &c. .. .. | 119 |
| Increased value of stock | 100 | Seed .. .. .. | 144 |
| | | Interest of capital, 5000*l*., at 4 per cent. .. .. | 200 |
| | | Additional for tear and wear of horses and implements, say 1000*l*., at 5 per cent. profit .. | 314 |
| | £2230 | | £2230 |

1861.

| | | | |
|---|---|---|---|
| Grain sold .. .. | £875 | Rent and taxes, &c. .. | £667 |
| Profit on live stock .. | 911 | * Wages .. .. .. | 376 |
| Potatoes, hay, &c. .. | 109 | Manures, cake, &c. .. | 414 |
| House rent, &c. .. .. | 75 | Tradesmen's accounts, &c. .. .. .. | 131 |
| Increased value of stock | 100 | Seed .. .. .. | 92 |
| | | Interest as before .. | 250 |
| | | Profit .. .. .. | 140 |
| | £2070 | | £2070 |

It is pretty clear from the above statement that the

* A considerable part of the wages is, of course, paid in meal, cows' keep, house rent, &c.

tenants' average remuneration has not been very large, even at the old rent; and how a profit is to be made at the new rent, with taxes and poor rates proportionally increased, which will bring it up in all to 1130*l.* or a rise of 510*l.*, I confess I am unable to see. The foregoing may be considered as favourable seasons for the farm referred to. There is no doubt that there will be a great deficency of grain this year—to the extent of at least one-third. Much of the Wheat will not yield 1½ qrs. per acre, and that of miserable quality. Live stock have been bringing good prices, and the return from them will be rather above an average. I have endeavoured to give the whole as carefully as possible from the farm accounts, in the hope that the statement may possibly be of some use, both to landlords and tenants, previously to their entering into new engagements. It is clear that this is a farm that has been in a favourable position during the past few seasons, as compared with many others, both because the rainy seasons we have had lately have suited it well, and also because it is well adapted for stock-rearing. Probably more might be done on it in that way. Everything at present seems to point to the conclusion that, exposed as British farmers now are to free competition with the finest grain-growing districts in the world, live stock is the thing on which they must more and more depend for their profits. *A., Aberdeenshire.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending Feb. 11, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 5 | 30.18 | 45 | 42 | S.W. | 2 | 7 | 50 | 40 | 63* | 40 | .. | 44 | 44½ |
| Friday .. | 6 | 30.35 | 47 | 46 | S.W. | 2 | 7 | 51 | 44 | 72 | 40 | .. | 45 | 44½ |
| Saturday .. | 7 | 30.24 | 49 | 47 | W. | 2 | 5 | 54 | 45 | 82 | 40 | .. | 45½ | 45 |
| Sunday .... | 8 | 30.04 | 44 | 43 | N W. | 2 | 7 | 56 | 42 | 94 | 39 | 0.03 | 46½ | 44 |
| Monday.... | 9 | 30.21 | 36 | 34 | W. | 2 | 2 | 49 | 29 | 82 | 23 | .. | 45½ | 45½ |
| Tuesday .. | 10 | 30.20 | 43 | 42 | W. | 3 | 5 | 46 | 35 | 73 | 31 | .. | 44 | 45 |
| Wednesday | 11 | 30.25 | 45 | 42 | S.W. | 2 | 4 | 52 | 40 | 80 | 34 | .. | 44 | 45 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Calendar of Operations.

FEBRUARY.

BERWICKSHIRE MERSE FARM: *Feb.* 7.—Four weeks more of fresh and boisterous weather have passed, and no signs of winter, except an inch of snow (on the 20th ult.) which soon disappeared. The wind has been unceasing, but the frequent gales seem not to have done so much damage here as in other districts. On Wednesday night we heard one peal of thunder, while a very severe storm was raging in Edinburgh and Glasgow; and since that it has blown very strong from the west, but mild and drying. The depth of rain is only 1·8 inch, yet folded sheep have frequently had a wet lair. Wheat sowing has gone on from time to time, as the land was cleared; but the rawness of the soil has scarce admitted of harrowing sufficient to cover the seed. These two days, however, have been so spring-like, that the land is drier than it was last April, and we have been enabled to give a finishing stroke to a break sown during 10 days past. Swedes still maintain their excellent feeding quality, but they are going all too fast. We may hope for early Grass to finish off fat hogs; but it is too soon to count on it. Barley and Oats are liberally made use of to eke out the store of Turnips. Corn continues to yield badly, but it is in better condition; and the prices are falling owing to mild weather, and "the appearance of the growing crop." Of the latter we have seen but little; for the larger part of it is underground, in various stages of germination and incipient growth. *J. T.*

### Notices to Correspondents

AMERICAN STONE BREAKERS.—Mr. Granville will obtain every information on this subject from Mr. L. A. Bigelow, 144, High Holborn.

COTTAGES: *Falcon.* We will take care of your MS., and return it with thanks, if not published.

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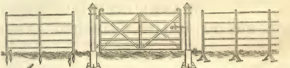
MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

PARK ENTRANCE GATES, and RAILING of CAST and WROUGHT IRON COMBINED, IN VARIOUS STYLES.



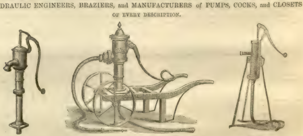
IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES, WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes. VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c. The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

Illustrated CATALOGUES and DRAWINGS free on application to COTTAM & CO., ENGINEERS and IRON FOUNDERS, 2, WINSLEY STREET (OPPOSITE the PANTHEON), OXFORD STREET, LONDON, W.

JOHN WARNER & SONS,

**BELL AND BRASS FOUNDERS TO HER MAJESTY,**

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.



No. 35. No. 36½. IMPROVED CAST-IRON LIFT AND FORCE PUMP. No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... ... £1 1 | 2½ inches ... ... 3 feet 3 inches high ... ... £1 10
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... 2 14

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... £5 15 0
1½-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... ... 3 0 0
3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET. When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & SONS' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the PATENTEES and MANUFACTURERS,

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

Paxton Works, Sheffield, Established 1738.

International Exhibition Prize Medal is just awarded to SAYNOR & COOKE for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

To the Nursery and Seed Trade.

BROWN'S FLORAL SHADING, the cheapest and best material for protecting Fruit Trees from Frost. Prices on application to CHAS. BROWN, Greenheys, Manchester.

JOSEPH HAYWOOD AND CO., MANUFACTURERS OF PRUNING and BUDDING KNIVES, SPORTSMEN'S, and all kind of POCKET CUTLERY.

Dealers in Gambia Garden Shears, Scissors, Syringes, &c.

Glamorgan Works, Sheffield.

For Samples of the best possible

GARDEN NETTING, apply to

THOS. BRITTAIN & Co., Manchester.

TANNED NETTING, at reduced prices.—1*d.* per square yard; 200 yards, 14*s.*; 500, 30*s.*; 1000 yards, 50*s.* SCRIM CANVAS, for Wall Fruit; GARDEN MATS; GREEN-HOUSE SHADES.

Be particular. FREDERICK EDGINGTON & Co., Rick Cloth Manufacturers, Thomas Street, Old Kent Road, London, S.E.

TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½*d.*; 2 yards, 3*d.*; 3 yards, 4½*d.*; and 4 yards, 6*d.* per yard run, in any quantity, may be had at CHAS. WRIGHT'S, 376, Strand, W.C.

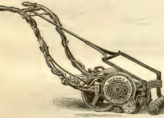
VARNISHED FLOWER STICKS:—1 foot, 3*d.*; 1½, 4*d.*; 2, 5*d.*; 2½, 7*d.*; 3, 10*d.*; 4, 1*s.* 6*d.* per dozen. DAHLIA do., per dozen:—3 feet, 1*s.* 6*d.*; 4, 2*s.* 3*d.*; 5, 3*s.*; 6, 3*s.* 6*d.* An allowance to Nurserymen.

# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.



NEW HAND MACHINE.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO ALEX. SHANKS AND SON FOR THEIR PATENT LAWN MOWERS.

12-INCH OR LADY'S MACHINE.

ALEXANDER SHANKS AND SON are gratified to find that the Improvements introduced into their PATENT LAWN MOWERS last season have been so entirely successful, that universal satisfaction has resulted from the use of these Machines wherever they have been tried. The Patentees have this season introduced further Improvements into their already celebrated Lawn Mowers, which are fully described in their Illustrated Price Lists, which will be at once forwarded on application.

SHANKS' PATENT LAWN MOWERS are in use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL. They are also in use in many hundreds of the principal Gardens in the Kingdom, and in almost every country throughout the world, where their merits have been thoroughly tested, with the most satisfactory results.

These Machines will Mow EQUALLY WELL on UNEVEN as on LEVEL LAWNS, and whether the GRASS be WET or DRY. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

*The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.

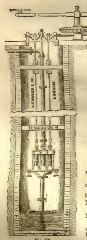
LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

# BENJAMIN FOWLER & CO.,

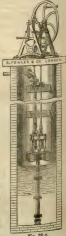
MANUFACTURERS OF

## PUMPS AND HYDRAULIC MACHINERY,

WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.




No. 37.




No. 28 *a.*

THE Landscape Sketch shows an adaptation of THE IMPROVED HYDRAULIC RAM. This is a simple Self-acting Machine, suited for raising a Supply of Water for use in Public and Private Establishments. Its adoption is not confined to positions as shown, but it is suited for any situation where a Fall can be obtained from a Stream, Brook, or Spring.

Messrs. FOWLER have fixed a great many in various parts of the country for raising from 600 to 6000 or more Gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes 50 yards to several miles in length.

No. 37. IMPROVED TREBLE BARREL PUMPS with HORSE GEARING for raising water from DEEP WELLS for the supply of MANSIONS and PUBLIC BUILDINGS.

No. 28*a.* DOUBLE BARREL PUMPS for HAND-POWER for similar purposes.

Messrs. FOWLER & Co. Manufacture and Erect every description of Engineer's Work required in Public or Private Establishments, such as Pumps for any purpose on the largest or smallest scale, Steam Engines, Water Wheels, Turbines, Warming and Drying Apparatus, Baths, Gas Works and Fittings. Estimates furnished from Plans or on inspection of position.

*Price Lists of Pumps, &c., free on application.*

# THE HYDROPULT,

**THE HYDROPULT**

IS INVALUABLE FOR

WATERING GARDENS,

EXTINGUISHING FIRE JUST COMMENCED,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

DRESSING with LIQUID MANURE,

SPRINKLING PLANTS,

WASHING WINDOWS,

WETTING SIDEWALKS,

SPRINKLING STREETS,

WASHING CARRIAGES,

WETTING SAILS,

A SPRAY BATH,

&c. &c.

Price
Two Guineas.

CAUTION.—Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will, in due time, be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.
"GRIFFITH & BROWETT,
Manufacturers, Birmingham;
"CHARLES P. BUTTON,
General Agent.
"VOSE'S Patent;"

and is sold at the uniform rate of Two Guineas, complete, with 2½ feet Suction and 3-feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet.

It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution.

The Hydropult WEIGHS BUT 8 LB.; will throw 7 or 8 Gallons of Water per minute 50 FEET when worked by the power of one man.

Has been recommended as an efficient FIRE ENGINE by the principal FIRE INSURANCE COMPANIES of GREAT BRITAIN. Thomas Rivers, Esq., the eminent Florist; Shirley Hibberd, Esq., and other well known gentlemen, recommend it as an invaluable GARDEN IMPLEMENT. J. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable Property in Bayswater from destruction. The City and Provincial Press accord to the invention the utmost praise. All who purchase the Hydropult are satisfied with its action; each Machine guaranteed to be perfect.

**A PORTABLE GARDEN ENGINE, AND FIRE ANNIHILATOR.**

*Prospectus, with Testimonials, on application at either Office.*

HYDROPULT OFFICE: 27, LEADENHALL STREET, LONDON, E.C.; and 309, REGENT STREET, POLYTECHNIC BUILDING, LONDON, W.—CHARLES P. BUTTON, PROPRIETOR.

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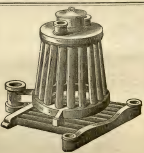
FIRST CLASS PRIZE MEDAL
FOR ORMSON'S CONSERVATORY,
At the INTERNATIONAL EXHIBITION.



FIRST CLASS PRIZE MEDAL
FOR ORMSON'S PATENT JOINTLESS TUBULAR BOILER
At the INTERNATIONAL EXHIBITION.

# ORMSON'S

## PATENT JOINTLESS TUBULAR BOILER

HAS TAKEN MORE AWARDS THIS YEAR THAN ANY OTHER TUBULAR BOILER.

These Awards have been given by Scientific, Practical, and Competent Judges.

At the Exhibition of Boilers at the Royal Horticultural Society's Gardens, ORMSON'S PATENT JOINTLESS TUBULAR BOILER was the ONLY Boiler of any description to which an Award was given.

Other Tubular Boilers advertised in the pages of the *Gardeners' Chronicle* were exhibited to which NO Awards were given.

**HORTICULTURAL BUILDINGS of every description MANUFACTURED by STEAM-POWER MACHINERY.**

*Plans, Specifications, and Estimates on application.*

HENRY ORMSON,

HORTICULTURAL BUILDER TO HER MAJESTY, AND HOT-WATER APPARATUS MANUFACTURER TO THE COMMISSIONERS OF HER MAJESTY'S ROYAL PALACES, AND PUBLIC BUILDINGS, AND TO THE ROYAL HORTICULTURAL SOCIETY,

STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON, S.W.

T. G. MESSENGER, HORTICULTURAL BUILDER and ENGINEER, Loughborough, has recently patented a VALVE which is unequalled for its efficiency, simplicity, durability, and cheapness. Prices as under. Two-inch, 17s. 6d.; 3-inch, 23s.; 4-inch, 28s. A liberal discount to the Trade.
These Valves can be obtained in London of Mr. J. JONES 6, Bankside, S.E.

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**West of England, Ireland, and Wales.**

VINCENT SKINNER (*late Partner with* J. WEEKS & Co.), HORTICULTURAL BUILDER and HOT-WATER APPARATUS MANUFACTURER. HEATING on the ONE-BOILER SYSTEM. Plans and Estimates on application.

VINCENT SKINNER, Bridewell Street, Bristol.

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**Exhibition Prize Medal, 1862.**

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.—This Stove is the nearest approach to Warming by Hot Water, and an efficient aid in Ventilation.

It will burn in Churches from Saturday till Sunday evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of Warming a large Apartment for 24 hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.
It is also made for Small Conservatories, with a vapour chamber, which maintains a moist atmosphere for 12 hours with once filling.
Particulars and prices post free on application to MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

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RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3d. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the
Patentee's Warehouse, 155, Cheapside, London, E.C.
Price complete from 3l. 10s.
Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

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**New Method of Heating by Hot Water.**

THE IMPROVED
CONICAL BOILERS,
SOLELY MANUFACTURED BY
BURY AND POLLARD (Successors to JOHN R. PEILL, Late STEPHENSON & PEILL),

Have attained a celebrity far surpassing any other Boilers ever invented.
The annexed Sketch shows the improved arrangement, requiring
NO BRICKWORK SETTING.
All particulars on application to BURY & POLLARD, Park Iron Works, New Park Street, Southwark, S.

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DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.
The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.
For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

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JAMES WATTS AND CO., HOTHOUSE BUILDERS and HOTWATER APPARATUS MANUFACTURERS, near the Green Man, Old Kent Road, London, S.E.

200 CUCUMBER and MELON BOXES and LIGHTS, and from 400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.
Glazed and Painted complete, ready for immediate use. Packed and sent to all parts of the kingdom.
10 dozen strong Zinc HAND GLASSES, Glazed and Painted complete, ready for immediate use, 18, 20, and 22, all shifting tops.
References to the Nobility, Gentry, and Trade in most of the counties in England.

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# HOTHOUSES FOR THE MILLION.

AWARDED A PRIZE MEDAL, 1862.

ON THE PRINCIPLE INVENTED AND PATENTED BY

## SIR JOSEPH PAXTON, M.P.

COMBINING SIMPLICITY, CHEAPNESS, AND DURABILITY,

BEING CAPABLE OF FULFILLING IN THE MOST PERFECT MANNER ALL THE REQUIREMENTS OF HORTICULTURE.

"We do not know in what other way so much interesting amusement, pleasant exercise, and luxurious profit can be obtained as the 'Hothouses for the Million' are calculated to afford."—*Bell's Weekly Messenger*, August 23, 1862.
"Nothing can be more easy than to build them, nothing more simple than to remove them."—*Daily News*, May 22, 1862.

The Cash Prices of LEAN-TO HOUSES, with Water-troughs, Doors and Ends complete, are as follows:—

| Ft. In. | 8 ft. Lights | 10 ft. Lights | Ft. In. | 12 ft. Lights | 14 ft. Lights | 16 ft. Lights |
|---|---|---|---|---|---|---|
| 20 7 in length | £12 0 0 | £16 0 0 | 20 11 in length | £21 18 0 | £28 10 0 | £34 5 0 |
| 31 3 in length | 16 10 0 | 21 2 6 | 31 9 in length | 29 6 0 | 37 12 0 | 45 16 0 |
| 41 11 in length | 20 18 0 | 26 18 6 | 42 7 in length | 36 16 0 | 46 14 0 | 57 7 0 |
| 63 3 in length | 30 6 0 | 38 10 0 | 64 3 in length | 51 14 0 | 64 18 0 | 80 10 0 |
| 84 7 in length | 39 6 0 | 49 11 6 | 85 11 in length | 66 12 0 | 83 2 0 | 103 11 0 |
| 105 11 in length | 48 17 6 | 60 12 6 | 107 7 in length | 81 10 0 | 101 10 0 | 126 13 0 |

SPAN-ROOF HOUSES at double the above prices for each length of house.
Circulars with Lists of Prices and Cards to view houses in operation in the neighbourhood of London, also Estimates for Heating and Erection complete, can be had on application to

SAMUEL HEREMAN, 7, PALL MALL EAST, LONDON, S.W.

A HANDBOOK of VINE and FRUIT TREE CULTIVATION, as adapted to the above Patent Hothouses, may be had of Mr. HEREMAN, price 1s.; post free, 1s. 1d.
"We cannot do better than advise every reader who has a spark of gardening spirit and taste in him to write at once for a Copy."—*Bell's Weekly Messenger*, March 17, 1862.

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# PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

## T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

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# NEW IMPROVED PREMIUM WIRE NETTING.

GREAT IMPROVEMENT,

WITH REDUCED PRICE.

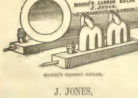
PRICES PER LINEAL YARD, 24 INCHES HIGH:—

| Size of Mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra Strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 2¼ inch | Hares, Dogs, Poultry ............ | 3d. | 4d. | 3¾d. | 5d. | 4½d. | 6d. | 5½d. | 7d. |
| 2 inch | Game or Poultry Netting ...... | 3½d. | 4¼d. | 4d. | 5d. | 5d. | 6½d. | 6½d. | 8d. |
| 1⅝ inch | Small Rabbits, Hares, &c. ...... | 4d. | 4¾d. | 4¾d. | 6d. | 5½d. | 7d. | 7d. | 9d. |
| 1½ inch | Smallest Rabbits.................. | 5d. | 6d. | 5¾d. | 7d. | 7d. | 9d. | 9d. | 11d. |

Quantities of 100 yards or upwards delivered free at nearly all the principal Railway Stations and Shipping Ports in England; and 200 yards or upwards delivered free to most parts of Scotland and Ireland.
*** *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged or may be returned unconditionally.*

J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.

## HEATING BY HOT WATER.




MONRO'S CANNON BOILER.

J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

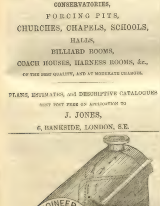
OF THE BEST QUALITY, AND AT MODERATE CHARGES.

PLANS, ESTIMATES, and DESCRIPTIVE CATALOGUES

SENT POST FREE ON APPLICATION TO

J. JONES,

6, BANKSIDE, LONDON, S.E.




FREDERICK W. BUTT, HORTICULTURAL ENGINEER, Portadown, begs to direct special attention to his IMPROVED ARCH BOILERS for Heating Greenhouses, Vineries, Forcing Pits and Public Buildings by Hot Water. These Boilers are proved to high pressure, and will be found to possess the following advantages, viz., increased heating surface, capacity, power, economy, and free circulation of water. Those with Tubular Check Drafts, Flued Ends, and Ribbed Sides, will be found most economical in fuel. Made various sizes, to heat from 100 to 4000 feet of 4-inch pipe.

Numerous testimonials and references permitted to intending purchasers on application as above.

W. J. HOLLANDS, IRON MERCHANT, 31, Bankside, London, S.E.

HOT WATER PIPES, from Stock, per yard:—2-inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS, from stock, 1s. 7d., 2s. 6d., and 3s. 3d. each. THROTTLE VALVES, 10s. 6d., 13s. 6d., and 15s. each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

### Greenhouses, Orchard-houses, and Conservatories.

H. FREEMAN'S HORTICULTURAL WORKS, Triangle, Hackney, N.E. Established 20 years.

Good substantially made GREENHOUSES, glazed, ready for fixing, 42 feet by 13 feet, 50l.; 21 feet by 13 feet, 28l.; 12½ feet by 10 feet, 15l. ORCHARD-HOUSES. 10 per cent. cheaper. A handsome CONSERVATORY, 46 feet by 19 feet, for Sale. Estimates given.

### Card.

SAMUEL N. McGERROW, GENERAL HORTICULTURAL BUILDER, Knotty Ash, near Liverpool.

Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

### Heating.

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

Apply to JOSEPH MEREDITH, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

### Under the Patronage of Her Majesty.

CLARK AND HOPE (late CLARK), HORTICULTURAL BUILDERS, COPPER, SASH, and HOT-WATER APPARATUS MANUFACTURERS, 55, Lionel Street, Birmingham. Established A.D. 1818.

### Kerry Cattle.

MR. RICHARD G. CAMPION, Youghal, County Cork, has now ready for SALE 12 Beautiful HEIFERS, in Calf to a pure bred Bull, and to drop after 1st March.

### Carhead Pigs.

MR. WAINMAN has several YOUNG BOARS and SOWS of his Battersea Prize Strains for SALE, at moderate prices.

Apply to Mr. FISHER, Carhead Farm, Cross Hills, Yorkshire.

WANTED to RENT, by a desirable Tenant, a good STOCK and CORN FARM of about 500 Acres in extent, in the South or West. A healthy convenient situation. Good House and Buildings with the Shooting indispensable.—Particulars to be addressed to S. W., care of Messrs. Dawson & Sons, 74, Cannon Street, London, E.C.

FOR SALE, a NURSERY BUSINESS, Established 20 years, in one of the best situations in this country. Stock first-class and very select. Ground 6 acres of best quality, with Plant Houses and all necessary appurtenances. Rent moderate.

Address, HORTUS, *Gardener's Chronicle* Office, W.C.

## Sales by Auction.

SALE THIS DAY, AT HALF-PAST 12 O'CLOCK PRECISELY.

### Ornamental Evergreens, Fruit Trees, Roses, &c.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., THIS DAY, Saturday, February 14, at half-past 12 o'clock precisely, A CHOICE COLLECTION of PLANTS, consisting of Common and Portugal Laurels, Yews, Firs, Larch, Tree Box, Aucubas, Arbor-vitæ, Hollies, Fruit Trees, Roses, Oaks, Conifers, Hollyhocks, &c., &c.

On view the Morning of Sale, and Catalogues had.

### Periodical Sale of Poultry and Pigeons.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on TUESDAY, February 17, at 12 o'Clock precisely, a choice assortment of POULTRY and PIGEONS, consisting of Dorkings, Cochins, Brahmas, Game, Hamburghs, Bantams, Rouen and Aylesbury Ducks, &c., from the yards of Mrs. H. Fooks, Mrs. Pattison, Mrs. Dunnage, Rev. G. Gilbert, Messrs. Boghurst, Plumbley, Jones, Smith, and other well-known fanciers. Also a capital lot of Pigeons, from the lofts of well-known breeders.

On view the Morning of Sale, and Catalogues had.

### To Noblemen, Gentlemen, Nurserymen, and Others.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on WEDNESDAY, February 18, at half-past 12 o'Clock precisely, a collection of HARDY PLANTS, consisting of Hollies, Pinuses, Red Cedars, Thujas, Piceas, Cryptomerias, Yews, Cypresses, Laurels, Laburnums, Raspberry Canes, Apple trees, Gladiolus Brenchleyensis, Carnations, Pinks, and Picotees, Violets, Delphiniums, Strawberry Plants, Dielytras, Vines, Currant Trees, &c.

On view the Morning of Sale, and Catalogues had.

### Important Sale of Coniferous Seeds.

MR. J. C. STEVENS will SELL by AUCTION at his Great Room, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, February 19, at half-past 12 o'Clock precisely, Valuable and Rare CALIFORNIAN and GRECIAN TREE SEEDS, comprising the following choice sorts:—

| | |
|---|---|
| Wellingtonia gigantea | Pinus contorta |
| Libocedrus decurrens | ,, monticola |
| Abies Douglasii | ,, ponderosa |
| ,, amabilis | ,, Lambertiana |
| ,, grandis | ,, radiata |
| Cupressus Lawsoniana | ,, Coulteri |
| Picea Nordmanniana | ,, maritima |
| ,, Reginæ Amaliæ | Juniperus attica |
| ,, new species | ,, rufescens |

and many other Hardy and Ornamental Varieties, all for absolute sale, without the least reservation.

On view the Morning of Sale, and Catalogues had.

### Ornamental Evergreens, Fruit Trees, Roses, &c.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on SATURDAY, February 21, at half-past 12 o'Clock precisely, a CHOICE COLLECTION of PLANTS, consisting of Common and Portugal Laurels, Yews, Firs, Larch, Tree Box, Aucubas, Arbor-vitæ, Hollies, Fruit Trees, Roses, Oaks, Conifers, Hollyhocks, Berberis, &c., &c.

On view the Morning of Sale, and Catalogues had.

### Choice Collection of Standard Roses, &c.

MR. ARTHUR PLEWS will SELL by AUCTION, at the Auction Mart, on TUESDAY NEXT, at 12 o'Clock, a splendid SELECTION of ROSES, Choice Ornamental Shrubs, Fruit Trees, and Miscellaneous Floral Produce.

May be viewed the Morning of Sale, and Catalogues had at the Mart; and of Mr. ARTHUR PLEWS, Auctioneer and Valuer, 50, Chancery Lane, W.C.; and New Malden, Surrey.

MESSRS. TATTERSALL will SELL by AUCTION at Hyde Park Corner, S.W., on MONDAY, February 23, the property of a Gentleman, two remarkably handsome and pure bred SUFFOLK CART STALLIONS.

1. YOUNG EMPEROR, 4-years-old, by Chester Emperor, dam by Catlin's Duke.

2. GRAND DUKE, 3-years-old, by Chester Emperor, dam by Catlin's Duke.

N.B. Chester Emperor was by Newcastle Captain, dam by Catlin's Old Boxer.

### Annual Sale of very Handsome English Grown Camellias, &c.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION at the Mart, Bartholomew Lane, City, E.C., on FRIDAY, February 20, at 12 o'Clock, about 200 Choice DOUBLE CAMELLIAS, compact plants, from 1 to 6 feet, abundantly furnished with Bloom buds; fine AZALEA INDICA in flower; a superb assortment of about 300 very handsome Standard, Half Standard, and Dwarf Roses; a fair Collection of American Plants, Lilium lancifolium rubrum and album, Ericas, Epacris, Cinerarias, Fuchsias, Verbenas, Pæonias, Dahlias in dry roots, &c.

On view the Morning of Sale. CATALOGUES may be had at the Mart; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, N.E.

### Peckham.

MESSRS. PROTHEROE AND MORRIS have received instructions to SELL by AUCTION, on the Premises, Hanover Nursery, Rye Lane, Peckham, S.E., on MONDAY and TUESDAY, February 23 and 24, at 11 for 12 o'Clock precisely, the VALUABLE NURSERY STOCK (on that portion of the ground required immediately to be cleared for the South London Railway Company), consisting of fine Evergreens and Deciduous Shrubs, including handsome specimen Araucaria imbricata, 5 to 6 ft.; Phillyreas, 4 to 6 ft.; Bushy Evergreen Oaks, 4 to 9 ft.; Common and Portuga Laurels, Hollies, Thujas, sorts; Box, Euonymus, Irish and English Yews, &c.; a choice assortment of American Plants, Standard and Dwarf Roses, Fruit and Ornamental Trees, a splendid collection of Herbaceous Plants by name; together with the Greenhouse Plants, comprising large specimen Double Camellias, Azalea indica, Chrysanthemums, &c.

May be viewed prior to the Sale. Catalogues may be had, 6d. each, returnable to purchasers, on the Premises; of the principal Seedsmen in London; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, Essex, N.E.

### Sale of Conifers, Fruit, and other Shrubs and Trees.

MESSRS. PROTHEROE and MORRIS are instructed to SELL by AUCTION, at the Mart, Bartholomew Lane, City, E.C., on WEDNESDAY, February 25, at 12 o'clock, an assortment of choice CONIFERS, comprising compact specimens of Wellingtonia gigantea, Thujopsis borealis, Araucaria imbricata, Cupressus Lawsoniana, Retinospora, Abies Douglasii, Cupressus sorts, Skimmia japonica, &c. A rich assortment of American Plants, including the newest and best Hardy, Scarlet, and Hybrid Rhododendrons, Ghent Azaleas, Andromedas, &c. Also about 200 fine Standard and Dwarf Roses, selected Fruit and Ornamental Trees and Evergreens in variety. Strong Vines, sorts, in pots, &c.

On view the Morning of Sale. Catalogues may be had at the Mart; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, Essex.

### Stratford, Essex.

MESSRS. PROTHEROE AND MORRIS are directed by Mr. Bunney to SELL by AUCTION, on the Premises, The Nurseries, Leytonstone Road, and within five minutes' walk of the Stratford Station, on the Great Eastern Railway, on TUESDAY, March 3 and following day, at 11 o'Clock each day, without reserve, the ground being immediately required for gravel digging, the valuable NURSERY STOCK, comprising quantities of fine Evergreens, of various sizes and description; some very handsome Standard and Dwarf Trained Peaches, Nectarines, Cherries, Plums, Apples, Pears; a superb assortment of Standard and Dwarf Roses; also Scarlet and other Rhododendrons, Azaleas sorts, Andromeda floribunda, Kalmias, &c., with a variety of Hardy Climbers in pots, &c.

May be viewed prior to the Sale. Catalogues may be had on the Premises; at the Eagle, Snaresbrook; of the principal Seedsmen in London; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, Essex, N.E.

### 12,000 Choice Fruit and other Trees, Fl owers, &c.

Bulstrode Gardens, Gerrard's Cross, Bucks.

TO GENTLEMEN, NURSERYMEN, MARKET GARDENERS, AND OTHERS.

G. C. HETHERINGTON has received instructions from Mr. W. Hook (who is leaving in consequence of the Duke of Somerset requiring the ground), to SELL by AUCTION, on the Premises, on MONDAY, February 23, at 11 for 12 o'Clock, the remaining portion of his Stock, consisting of about 5000 2 and 3-year-old BLACK CURRANT TREES, 600 fine Seedling Filbert ditto, 16 Hook's celebrated Seedling Cob-Nut Trees, without exception the choicest Nut out; 2000 Gooseberry Trees, 300 Sweetwater and Black Cluster Grape Vines, 3000 Moss and other Rose Trees, a quantity of Forget-me-Nots, Polyanthuses, &c.; 1000 yards of Lilies of the Valley, a few Lots of Seed Potatoes. Thirty accommodation Lots, consisting of Filbert Trees, Grape Vines, Currant, Gooseberry, Raspberry, Rose Trees, Flowers, &c.; a quantity of Pheasant's-eye and other Narcissus Plants, Spring Flowers, &c. The Seedling Filbert, Cob, Rose Trees, &c., are bedded fit for immediate removal. As the ground must be positively cleared there will be some small, as well as large lots, to suit the convenience of Purchasers, and all will be sold without the least reserve.

May be viewed four days prior to the Sale by applying to Mr. W. Hook, Gerrard's Cross, Bucks, of whom Catalogues may be obtained; also of the Auctioneer, Eton, Bucks; and of Mr, Cosier, Uxbridge; or will be sent by post on application.

### Babraham, near Cambridge.

EXTENSIVE AND MOST IMPORTANT SALE OF THE ENTIRE HERD OF FIRST-CLASS SHORTHORNED CATTLE.

MESSRS. H. STRAFFORD AND J. CARTER JONAS, who are jointly concerned on this occasion, are honoured with instructions from the Executors of the late Mr. Jonas Webb to offer for SALE by AUCTION, without any reserve, the far-famed BABRAHAM HERD of First-class SHORTHORNS, consisting of about 150 head of Bulls, Cows, and Heifers, which are chiefly descended from the following celebrated Cows: "Celia," "Dodona," "Belinda," "The Beauty," "Duffy Gwynne," &c., which on reference to the Herd Book will show a fine combination of good blood, and a marvellous illustration of the prolific character of the two former tribes in the hands of the late Proprietor for the last 20 years, during which time has been used some of the best blood of the day. The Herd will be divided in two portions, the first of which will be offered on WEDNESDAY, April 15, and the remainder on WEDNESDAY, the 15th July next.

The Auctioneers beg to call attention to the high honour gained by this Herd in winning the Gold Medal for the best Shorthorn exhibited at the recent Battersea Show, and to assure Breeders and Buyers of Shorthorns, that their instructions from the Executors are most positive, and that the whole will be sold without the slightest reserve.

Catalogues, with Pedigrees, and other particulars, will shortly be issued, and may be had on application to Mr. J CARTER JONAS, Land Agent, Cambridge; or of Mr. STRAFFORD 13, Euston Square, London, N.W.

# GREEN'S

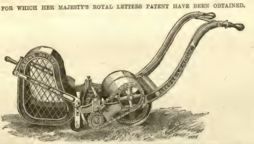
LATEST IMPROVED PATENT

## LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863,

FOR WHICH HER MAJESTY'S ROYAL LETTERS PATENT HAVE BEEN OBTAINED.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOMAS GREEN FOR HIS PATENT LAWN MOWERS.



THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOMAS GREEN FOR HIS PATENT LAWN MOWERS.

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS DURING THE SEASON OF 1862.

THOMAS GREEN AND SON, in introducing their PATENT LAWN MOWERS for the present season, have much pleasure in stating that the important Improvements which were added to their Machines for last season (which combined simplicity of construction, durability, and lightness of draught), have proved them to be superior to anything of the kind ever brought before the Public, inasmuch as they have given entire satisfaction wherever used, and have gained the largest sale of any Machines extant. They have carried off every Prize that has been given in all cases of competition, and were the only Machines highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862. (No Prizes were given).

GREEN'S PATENT LAWN MOWERS are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

| | | | | | |
|---|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a lady. | |
| „ 12 „ | 5 | 0 | 0 | Suitable for one person. | If with internal gear, 10s. extra. |
| „ 14 „ | 5 | 10 | 0 | Do. Do. Do. | Do. 10s. extra. |
| „ 16 „ | 6 | 10 | 0 | Suitable for one man or two boys. | |

| | | | | | If With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|---|
| To Cut 18 inches ... | £7 | 10 | 0 | Suitable for one man and boy | £8 | 15 | 0 |
| „ 20 „ ... | 8 | 0 | 0 | Do. Do. | 9 | 5 | 0 |
| „ 22 „ ... | 8 | 10 | 0 | Suitable for two men ... | 9 | 17 | 6 |
| „ 24 „ ... | 9 | 0 | 0 | Do. Do. ... | 10 | 7 | 6 |

### DONKEY and PONY MACHINES, including Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 24 inches | £11 | 10 | 0 | £12 | 10 | 0 |
| „ 26 „ | 12 | 10 | 0 | 13 | 12 | 0 |
| „ 30 „ | 16 | 14 | 0 | 18 | 0 | 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

### PRICES of HORSE MACHINES, including Box of Requisites and Traces.

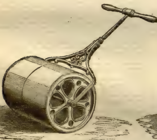
| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 30 inches | £20 | 0 | 0 | £21 | 10 | 0 |
| „ 36 „ | 23 | 0 | 0 | 24 | 16 | 0 |
| „ 42 „ | 26 | 0 | 0 | 28 | 2 | 0 |
| „ 48 „ | 29 | 0 | 0 | 31 | 8 | 0 |

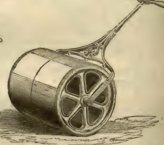
Leather Boots for Horse, per set, 1*l.* 4*s.*

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.





Diameter 20 inches, length 22 inches, price £3 5*s.* | Diameter 16 inches, length 17 inches, price £2 10*s.* | Diameter 24 inches, length 26 inches, price £4 5*s.*
Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

T. GREEN AND SON in introducing the above are well aware that the extremely simple character of this Implement cannot admit of any very radical change, yet they are confident that the Improvement just effected (and secured by Letters Patent) is a real one, and is strikingly apparent when compared with any other Garden Roller. In previous Rollers a limit was always set to weight in consequence of marks being left on the gravel, and the power required to work them, but the present one is nearly double the ordinary weight, yet is considerably easier to turn in consequence of the Roller being divided in two parts, and the outer edges being rounded off or turned inwards, thus avoiding the *unsightly marks* left by all others hitherto in use. They can be used by the most unskilful with the greatest certainty of producing a beautifully even surface, either on *Lawns or Gravel Paths,* and for the *Bowling Green and Cricket Field are really indispensable.* They are manufactured of the best materials, and got up in a manner surpassing any ever yet brought out.

T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; and 2, VICTORIA STREET, HOLBORN HILL.

Editorial Communications should be addressed to "The Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
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# THE GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 8.—1863.] SATURDAY, FEBRUARY 21. Price Fivepence. Stamped Edition, 6*d*.

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ROYAL HORTICULTURAL SOCIETY.—First Exhibition in 1863. The SHOW of HYACINTHS and other SPRING FLOWERS will be held at South Kensington on WEDNESDAY NEXT. Open at 1 o'clock. Admission, Half-a-Crown.

All Plants, &c., to be brought in at the Eastern Entrance in the Exhibition Road.

Packets of 25 Five Shilling Tickets, admitting one or two persons according to the daily charge, to the Fêtes and Promenades, during the Season, can now be obtained.

---

ROYAL HORTICULTURAL SOCIETY.
FLORAL COMMITTEE.

The next MEETING of this Committee for the Exhibition of NEW PLANTS and SEEDLINGS will be held in conjunction with the Show of Spring Flowers, which will take place in the Gardens of the Society on February 25.

The subjects exhibited must be in the Gardens by 9 A.M., in accordance with the regulations for the Show; but they may be entered without previous notice. All persons are at liberty to exhibit.

THOMAS MOORE, Secretary to the Floral Committee.

---

ROYAL HORTICULTURAL SOCIETY.
FRUIT COMMITTEE.

A MEETING of the Fruit Committee of the Royal Horticultural Society will be held on the 25th inst., for the Examination of such FRUITS and VEGETABLES as may then be submitted for adjudication, and for a comparison between New BLACK HAMBURGH GRAPES with any other variety of Old BLACK GRAPES. Chair to be taken at 12 o'Clock.

All Communications and Packages to be addressed to
ROBERT HOGG, LL.D., Secretary to the Committee.

---

ROYAL BOTANIC SOCIETY of LONDON,
REGENT'S PARK, N.W.
EXHIBITIONS of SPRING FLOWERS.

SATURDAY, March 28th, CAMELLIAS, PRIMROSES, &c.
" April 11th, AZALEAS, HYACINTHS, &c.
" April 25th, ROSES, PELARGONIUMS, &c.

The Band will play from half past 2 to half-past 5.

Visitors admitted by Tickets, to be obtained at the Gardens, by orders from Fellows and Members of the Society. Price 2*s.* 6*d.* each, or in packets of 10 for 1*l.* per packet.

---

HORTICULTURAL SOCIETY of LIVERPOOL.—The First EXHIBITION of HYACINTHS and SPRING FLOWERS will be held in St. George's Hall, Liverpool, on WEDNESDAY, March 18.

For Schedules of Prizes and any further information, apply to R. W. KER, Hon. Sec., 4, Basnett Street, Liverpool.

---

STAMFORD HORTICULTURAL SOCIETY.—The GRAND SUMMER FÊTE and ROSE SHOW will be held on WEDNESDAY, July 8.

Schedules with Rules will shortly be ready, and may be had on application to Messrs. LAXTON & HEWITT, Hon. Secs., Stamford.

---

**To Floral Societies.—Notice.**

MESSRS. J. DOBSON AND SONS having retired from Exhibiting for Prizes during 1863, beg to state that Mr. DOBSON, Sen., is open to accept engagements as JUDGE during the season.—Woodlands Nursery, Isleworth, W.

---

NEW PRIZE MELONS,
at 1*s.* 6*d.* per packet.

Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria.

For descriptions see GUIDE to the KITCHEN GARDEN.

BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

---

**Grape Vines.**

J. IVERY AND SON beg to inform their Patrons that their stock of the above is unusually fine this season. A PRICED LIST now ready.
Dorking Nursery.

---

VINES, VINES.—Extra Strong Canes, for Fruiting in pots this season, price 8*s.* 6*d.* each, for Sale by JAS. GARAWAY & Co., Durdham Down Nurseries, Bristol.

---

**Pine Plants.**

TO BE DISPOSED OF, by a gentleman leaving for town and giving up his House, &c., about 100 good healthy PINE PLANTS, this and last year's growth.

Apply by letter to Mr. F. STEAD, 23, Jarratt Street, Hull.

---

STRAWBERRIES.—A New DESCRIPTIVE CATALOGUE of more than 200 varieties of Strawberries, from good plants, of nearly every variety, can now be supplied by the Grower,

W. J. NICHOLSON, Egglescliffe, Yarm, Yorkshire.

---

WEBB'S PRIZE COB FILBERTS, and other COB NUTS as exhibited at the INTERNATIONAL FRUIT and FLOWER SHOW, Kensington. Trees of these splendid varieties of Filberts may be had by application to
RICHARD WEBB, Calcot Gardens, Reading.

---

**Best Seeds, Carriage Free.**

BUTLER AND McCULLOCH,
SEED MERCHANTS,
Covent Garden Market, London, W.C.

---

BARR AND SUGDEN,
SEED MERCHANTS,
12, King Street, Covent Garden, W.C.

---

**New and Genuine Garden and Agricultural Seeds.**

SPECIAL PRICES ON APPLICATION TO
JAMES FAIRHEAD AND SON,
SEED GROWERS and MERCHANTS,
7, Borough Market, London, S.E.

---

**Garden and Agricultural Seeds, Carriage Free.**

WILLIAM WOOD AND SON,
NURSERYMEN and SEED MERCHANTS,
Maresfield, near Uckfield, Sussex.

---

**Agricultural and Garden Seeds.**

H. AND F. SHARPE,
SEED GROWERS and MERCHANTS, Wisbeach.
Special PRICED LIST of NEW SEEDS on application.

---

**Good Seeds, Carriage Free, at Market Prices.**

SUTTON AND SONS,
SEED GROWERS and MERCHANTS,
Royal Berkshire Seed Establishment, Reading.

---

**Agricultural and Garden Seeds.**

CHARLES SHARPE AND CO.,
SEED GROWERS, SEED MERCHANTS, and NURSERYMEN,
Sleaford.

SPECIAL PRICED LIST of SEEDS of 1862 growth on application.

---

**Genuine Garden and Agricultural Seeds.**

JAMES CARTER AND CO.,
SEED FARMERS and NURSERYMEN,
237 and 238, High Holborn, London, W.C.

---

ANDRÉ LEROY'S NURSERIES, at Angers, the largest and richest in France.
CATALOGUES sent on application.

---

AUGUSTE VAN GEERT'S NURSERY, Ghent, one of the finest on the Continent.

CATALOGUES may be had on application, or of his Agents, Messrs. R. SILBERRAD & SON, 5, Harp Lane, Great Tower Street, London, E.C.

---

TROPÆOLUM LOBBIANUM ELEGANS
(Crystal Palace Scarlet), Seed scarce.
Per packet, 1*s.* and 2*s.* 6*d.*

BUTLER & M'CULLOCH, Seed Merchants, Covent Garden Market.

---

**New Garden Seeds of our own Growth.**

JAMES CARTER AND CO. are now prepared to execute orders for the above, saved at their Seed Farms.
237, 238, & 261, High Holborn, W.C.

---

CARTER'S SELECT LIST of New and Choice VEGETABLE, FLOWER SEEDS and PLANTS is now published, gratis and post free.
237, 238, & 261, High Holborn, London, W.C.

---

NOVELTIES.—The Novelties of the Season, Illustrated in CARTER'S GARDENER'S and FARMER'S VADE MECUM, post free for 12 stamps.
JAMES CARTER & Co., 238, High Holborn.

---

**Choice Kitchen Garden Seeds.**

B. S. WILLIAMS'S Advertisement on last page of *Gardeners' Chronicle*, Jan. 31.
Paradise and Victoria Nurseries, Holloway, London, N.
*** PRICED and DESCRIPTIVE CATALOGUE post free on application.

---

GARDEN SEEDS and FLOWER SEEDS of the finest and most rare varieties, at the lowest prices at which they can be delivered, carriage free, are quoted in WHEELER'S "Little Book" for 1863.

J. C. WHEELER & SON, Seed Growers, Gloucester.

---

**Plymouth Seed Company, Plymouth.**

THE GENERAL PRICE CURRENT and the SPRING FARM SEED LIST are now ready, and may be had gratis on application.

See General Advertisement, page 177.

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**New Verbenas**

ROBERT REA begs to refer to his Advertisement of the above in the *Gardeners' Chronicle* of Feb. 7.
Nursery, London Road, Ipswich.

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**Genuine Seeds, Carriage Free.**

G. J. WOOLLETT'S PRICED LIST of the above sent free on application.
Caterham Nurseries, Caterham, Surrey.

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**Seeds.**

CHARLES TURNER'S DESCRIPTIVE CATALOGUE, of the best Varieties only, is now ready. It also contains several Novelties.
The Royal Nurseries, Slough.

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PHALÆNOPSIS AMABILIS, GRANDIFLORA, ROSEA, and SCHILLERIANA.

Strong flowering plants of the above may be obtained of R. WARNER, Broomfield, Essex.
Prices on application.

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SEED CORN from the CHALK.—All the most approved varieties supplied by RAYNBIRD, CALDECOTT, & BAWTREE. Samples and prices on application.
Address, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

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HARDY SHOWY FLOWER SEEDS.—SUTTON'S DESCRIPTIVE CATALOGUE post free.
SUTTON & SONS, Reading, Berks.

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**Standard Roses.**

WILLIAM EPPS, JUN., can supply fine STANDARD ROSES, at 5*l.* per 100; 15*s.* per doz.
The Nurseries, Ashford, Kent.

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NEW ROSES for 1862 (the pick of the year) offered in fine strong plants, a DESCRIPTIVE LIST of which may be had on application to
BENJAMIN R. CANT, St. John's Street Nursery, Colchester.

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RHODODENDRONS of all sorts and sizes may be obtained in any quantity of W. H. ROGERS, Red Lodge Nursery, Southampton. Also every description of well grown Nursery Stock, extending over 60 acres.
PRICED CATALOGUES forwarded on application.

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**Narrow-leaved English Elms.**

WOOD AND INGRAM beg to offer to the Trade extra fine Seedlings of the above, at 5*s.* per 1000.
Huntingdon Nurseries.

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**Purple Beech.**

THOMAS METHVEN, NURSERYMAN, Leith Walk, Edinburgh, is in want of the above, 7 to 9 feet high, and will be glad to hear from any one having such to offer.

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**Dwarf Box for Edging.**

HENRY GODFREY, NURSERYMAN, Stourbridge, has to offer a quantity, which will be sold Cheap.
Price and sample on application.
Strong four-year old QUICK, 10*s.* per 1000.

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W. VIRGO AND CO. have a few thousands of BERBERIS AQUIFOLIA and DULCIS, EVERGREEN PRIVET, and COMMON LAUREL, fit for cover planting. Price and samples on application at the Nursery.
Wonersh Nursery, near Guildford, Surrey.

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TRUE NATIVE HIGHLAND SCOTCH FIR,
Two-year Seedling.
Apply to JOHN GRIGOR & Co., Nurseries, Forres, Scotland.

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5000 TRANSPLANTED LAURELS,
2 to 3 feet, 10*s.* to 15*s.* per 100.
Apply to J. J., 6, Lamb's Passage, Chiswell Street, Finsbury, London, E.C.

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WANTED, very strong Transplanted ASH. Apply, stating height and price, to RICHARD SMITH, Nurseryman, Worcester.

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**To Larch Growers.**

WANTED, 40,000 good PLANTS, from 18 inches to 2½ feet high.

Apply immediately, with lowest price, to the PLYMOUTH SEED COMPANY, Plymouth.

---

A BARGAIN.—A large quantity of SCOTCH and SPRUCE FIR, 2 to 3 feet high, fine healthy stuff, to offer cheap.
For price apply to GEORGE BATLEY, the Nursery, Rugby.

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ACORNS.—A few hundred bushels of the above to offer, sound and good.
Apply to W. DILLISTONE, Munro Nursery, Sible Hedingham, Essex.

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ENGLISH OAK, 1-year's Seedling, 2*s.* 6*d.* per 1000.
ASH, 1-year's Seedling, 1*s.* per 1000.
Cash or reference from unknown Correspondents.
Ap[ply] to MARSH & PERKINS, 42, Drapery, Northampton.

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S[TRO]NG Flowering AQUILEGIA GLANDULOSA, [ ]per dozen, free to London. Seeds, 2*s.* 6*d.* per packet.
Ap[ply] to JOHN GRIGOR & Co., Nurseries, Forres, Scotland.

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C[YCLA]MEN PERSICUM. — Fine varieties and foliage, in full bloom or with buds, 9*s.*, 12*s.*, & 18*s.* per doz.
S. WALTERS, Hilperton, Trowbridge, Wilts.

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POTATO ONIONS and SHALLOTS.—
Good sound bulbs.
H. BROWN, 4, Commutation Row, Liverpool.

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NEW CELERY.—WILLIAMS'S MATCHLESS RED, a very superior variety, 2*s.* per packet.
B. S. WILLIAMS,
Paradise and Victoria Nurseries, Holloway, London, N.

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**Fresh Mushroom Spawn.**

SUTTON AND SONS have a superior stock of MUSHROOM SPAWN, 5*s.* per bushel.
Royal Berkshire Seed Establishment, Reading.

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NEW SUBSTITUTE for VETCHES, "SERADELLA."—See SUTTON'S SEED LIST, which may be had post free.
Royal Berkshire Seed Establishment, Reading.

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**Potatoes for Planting.**

SUTTON'S DESCRIPTIVE LIST,
Post Free.
SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

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SKERRY BLUE POTATO.—The best adapted for Field Culture, price 5*s.* per bushel, sack included if four bushels be taken.
Remit to EDWIN LADMORE, Widemarsh Street, Hereford.

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WEBB'S IMPERIAL KIDNEY POTATOES.—No Potato like it for quantity, quality, beauty and size, at 12*s.* per Bushel, on application to
RICHARD WEBB, Calcot Gardens, Reading.

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MYATT'S SEEDLING POTATOES, 11*s.* per cwt.
ASHLEAF KIDNEY POTATOES, 12*s.* 6*d.* per cwt.
A large quantity of Fluke and other Seed Potatoes to offer at H. BROWN'S, 4, Commutation Row, Liverpool.

**Seed Trade.**

JAMES CARTER AND CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade:—
MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE.
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION.
TOMATOE DE LAYE.
HENDERSON'S PINE-APPLE BEET.

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**Garden Seeds.**

COLLECTIONS of KITCHEN GARDEN SEEDS, consisting of all the choicest sorts, are offered as follows:—

| | | | | | £ | s. | d. |
|---|---|---|---|---|---|---|---|
| No. 1 | contains 20 quarts Peas, and all other seeds in proportion | | | .. | 3 | 0 | 0 |
| No. 2 | ditto | 10 quarts | ditto | ditto .. | 1 | 10 | 0 |
| No. 3 | ditto | 5 quarts | ditto | ditto .. | 0 | 15 | 0 |
| No. 4 | ditto | 5 pints | ditto | ditto .. | 0 | 10 | 6 |

CATALOGUES on application.
RICHARD SMITH, Seed Merchant, corner of High Street and Broad Street, Worcester.

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**Pine Apple Place, Edgware Road, London, W.**

ARTHUR HENDERSON AND CO. beg to announce that their CATALOGUE of KITCHEN, FARM, and FLOWER SEEDS, Imported German Asters, Stocks, and Collection of Vegetable Seeds, for One Year's Supply—
Collection, No. 1 .. 105s. | Collection, No. 3 .. 42s.
" No. 2 .. 84s. | " No. 4 .. 25s.
Collection, No. 5 .. 15s.
is now ready, and will be forwarded free on application.
NOTE.—This Catalogue contains only the best varieties of Vegetables, and an abridged List of the most valuable Flower Seeds.

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**Vegetable and Flower Seeds, Carriage Free.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully announces that his SEED CATALOGUE is now ready, free by post.
The COLLECTION of VEGETABLES recently Commended by the Royal Horticultural Society was grown from Seeds furnished by him.
Nurseries and Seed Warehouse, Waltham Cross, N.

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**Seeds for the Kitchen Garden, Flower Garden, and Farm.**

JOHN CATTELL'S DESCRIPTIVE CATALOGUE of the above is now ready, and will be forwarded, post paid, on application; it contains select lists only, and includes every novelty worthy of cultivation.
All parcels of Seeds of the value of 21s. and upwards carriage paid to any Railway Station in England.
Nursery and Seed Establishment, Westerham, Kent.

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**Vegetable, Flower, and Agricultural Seeds.**
NEW AND RARE PLANTS, &c.

ROBERT PARKER begs to announce that his NEW CATALOGUE, containing select descriptive and priced lists of AGRICULTURAL, KITCHEN GARDEN, Imported GERMAN, and other FLOWER SEEDS; NEW and RARE PLANTS; Variegated, Ornamental Foliaged, Miscellaneous, Stove, Greenhouse, and Hardy Plants, &c., is now published, and will be forwarded Post Free to all applicants.
Exotic Nursery, Tooting, Surrey, S.

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**Established 1787.**

THOMAS KENNEDY AND CO.,
NURSERY AND SEED ESTABLISHMENT,
Dumfries, N.B.
*** PRICED CATALOGUES sent free on application:
FREE DELIVERY.
FARM and GARDEN SEEDS under certain limitations will be DELIVERED FREE OF CARRIAGE to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

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**Early Spring Flowers.**

WEBB'S GIANT POLYANTHUS; ditto COWSLIP; Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to
RICHARD WEBB, Calcot Gardens, Reading.

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FIRST CLASS NEW FUCHSIAS. — Coloured Drawings by Mr. ANDREWS of SANSPAREIL, BRIDESMAID, CONSPICUA, and HERCULES, are now ready, and will be forwarded in exchange for 12 postage stamps.
G. S. begs to offer the above as the most Superb FUCHSIAS yet offered to the Public. For description, with price, and also time of sending out, see CATALOGUE, now ready.
GEORGE SMITH, Tollington Nursery, Hornsey Road, Islington, London, N.

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DAHLIAS, DAHLIAS.—A special DESCRIPTIVE LIST of surplus stock of SHOW, FANCY, BEDDING, and LILLIPUTIAN or BOUQUET DAHLIAS, about 300 varieties, with 400 VINES struck from Eyes. Also a list of HOLLYHOCKS struck from Eyes last autumn.
May be had on application to J. C. PADMAN, Providence Nursery, Boston Spa, near Tadcaster.

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DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT's Foreign Warehouse, 18, Pall Mall.
N.B. Printed regulations for treatment sent.

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**Fuchsias, Silvery-leaved and Variegated Plants.**

J. SCOTT, Merriott, Crewkerne, Somerset, holds fine Stocks of the following, ready to send out:—
FUCHSIAS, in 100 named kinds (newest), at 4s. per dozen, late autumn struck, will make splendid specimens for exhibition.
VARIEGATED PLANTS, 3s. per dozen: Agathæa cœlestis, Arabis fol. var., Bellis Aucubæfolia, Sedum carneum var., Veronica chamædryoides.
SILVERY-LEAVED PLANTS, 3s. per dozen: Cineraria maritima, Centaurea candidissima, 1s. each; Gnaphalium lanatum, G. arenarium, G. margaritaceum, Silvery Arctotis, Stachys lanata, and Cerastium tomentosum.
VARIEGATED GERANIUMS, 3s. per dozen; Alma, Bijou, Countess of Warwick, Manglesii, Shottisham Pet, and Brilliant.
BEDDING GERANIUMS, 3s. per dozen: Christine, Rose Queen, Crystal Palace, Punch, Lamartine, and Tom Thumb; and 100 sorts (to name), my selection, of Greenhouse sorts, at 6s. per dozen.

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EXCELLENCE AND ECONOMY COMBINED.

# SUTTON'S

UNRIVALLED COLLECTIONS OF

## KITCHEN GARDEN SEEDS

FOR ONE YEAR'S SUPPLY.

SUTTON'S UNRIVALLED COLLECTIONS of KITCHEN GARDEN SEEDS are so assorted as to contain the proper quantities of the best kinds to supply a family for the whole year.

**The entire charge for the largest Collection (No. 1) is £3 0 0 (Carriage Free).**
**Ditto ditto Collection (No. 2) is £2 0 0 ditto**
**And Complete Collections for Smaller Gardens may be had at 20s. and 10s. 6d.**

A LIST *of the* CONTENTS *of the above may be had on application.*

*From* CHAS. LAWRENCE, Esq., *Cirencester.*
"I never recollect having received such a numerous collection of Seeds from any house so good in quality."

*From the* Rev. G. E. WALKER, *Shareshill, Wolverhampton.*
"Mr. Walker cannot but compliment Messrs. SUTTON & SONS on the quality of the Seeds sent last year, as they were by far the best he ever purchased."

*From the* Rev. JOHN KIRWAN, *Withycombe Rectory, Taunton.*
"I was so much pleased with the selection of Seeds sent by you, that I recommended two of my friends to take parcels from you."

SUTTON'S CHAMPION SWEDE, 1s. per lb.; Choice MANGEL WURZEL, 6d. per lb., if ordered immediately.
NATURAL GRASS SEEDS for PERMANENT PASTURE, 30s. per Acre, mixed expressly to suit the soil.

SUTTON AND SONS, SEED GROWERS AND MERCHANTS, READING, BERKS.

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**KITCHEN GARDEN SEEDS,**

**FLOWER SEEDS.**

In Collections including all the new and approved kinds, or separate to order.

Detail CATALOGUES post free.

THOS. GIBBS & Co. Corner of HALF-MOON St. PICCADILLY, London.

**AGRICULTURAL SEEDS,**

**GRASS SEEDS,**

**FARM SEEDS,**

of all descriptions.

Thomas Gibbs & Co.

CORNER OF
**HALF-MOON St.**
PICCADILLY, LONDON, W.

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# FARM AND GARDEN SEEDS

CARRIAGE FREE.

BANGHOLM SWEDE,
EAST LOTHIAN SWEDE,
WARD'S BEAUTY SWEDE,
DROPMORE SWEDE,
MARSHALL'S CHAMPION SWEDE,
GREEN-TOP SWEDE,
WHITE SWEDE,
IMPROVED SKIRVING'S SWEDE.
WHITE and RED GLOBE, and NORFOLK TURNIP,
SCOTCH YELLOW TURNIP.
DOBITO'S YELLOW OVAL MANGEL,
WARD'S DITTO,
IMPROVED YELLOW GLOBE DITTO,
IMPROVED ORANGE GLOBE DITTO,

IMPROVED LONG RED MANGEL,
IMPROVED LONG YELLOW MANGEL,
IMPROVED RED GLOBE MANGEL,
IMPROVED WHITE FIELD BEET,
RED CLOVER, | COWGRASS,
WHITE, YELLOW, and ALSIKE CLOVERS.
PACEY'S PERENNIAL RYE-GRASS, and other sorts.
ITALIAN RYE-GRASS, FOREIGN and ENGLISH SEED.
NATURAL GRASS SEEDS, in mixture or separate, suitable for various soils and localities.
LIGHT RYE-GRASS and other CHEAP GRASSES, for Sowing on Railway Banks and Waste Places.

*Orders for Exportation promptly attended to.*

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN,
28, KING STREET, CHEAPSIDE, NEAR the GUILDHALL, and
15, LAWRENCE LANE, LONDON, E.C.

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## SPLENDID NEW SCARLET VERBENA, LORD LEIGH.

# S. PERKINS & SON,

In offering the above SCARLET VERBENA, have much pleasure in stating that it has been awarded a First-Class Certificate by the Floral Committee of the Royal Horticultural Society, June 11, 1862; First-Class Certificate by the Royal Botanic Society, July 9; First-Class Certificate at the Crystal Palace, Sydenham, Sept. 4 and 5; First-Class Certificate by the Rugby Floricultural Society, August 29; First Prize by the Birmingham Botanic Society, July 10.

After the above Awards, S. P. & SON think it needless to offer any remarks, further than that it is of a free habit and will prove a first-class Bedding variety; colour the most dazzling scarlet that can be conceived, with a clear white eye; truss and pip extremely large, and of the finest shape and quality.

See Editor's remarks in *Gardeners' Chronicle*, August 30, 1862, and December 27, 1862; "Journal of Horticulture," Sept. 9, 1862. An Engraving will appear in the April Number of the "Florist and Pomologist."

**Plants after April 15, 5s. each. Special Price by the dozen on application to the**

PARK NURSERY, COVENTRY.

## LARGE IMPORTATION of STANDARD ROSES.

# WILLIAM WOOD & SON

Have much pleasure in announcing the arrival of a large Importation of STANDARD and DWARF ROSES in fine order, which they will be happy to supply on most reasonable terms.

CATALOGUES free and post paid on application.

WOODLANDS NURSERY, MARESFIELD, near UCKFIELD, SUSSEX.

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SEEDS.—GENUINE HOME-GROWN

## VEGETABLE, FLOWER, AND AGRICULTURAL.

If above the value of 20s. Carriage paid to any Railway Station, and to all Irish and Welsh Ports in communication with Bristol.

CATALOGUES post free on application.

JAMES GARAWAY and CO., DURDHAM DOWN NURSERIES, BRISTOL.

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## GARDEN SEEDS.

# S. GLENDINNING & SONS,

### NURSERYMEN AND SEEDSMEN

(SUCCESSORS TO THE LATE R. GLENDINNING),

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

| | | | | | | £ | s. | d. |
|---|---|---|---|---|---|---|---|---|
| No. 1 | contains | 36 Quarts of PEAS, and all other Seeds in proportion | | | | £5 | 5 | 0 |
| No. 2 | ,, | 28 Quarts | ditto | ditto | ditto | 4 | 4 | 0 |
| No. 3 | ,, | 20 Quarts | ditto | ditto | ditto | 3 | 3 | 0 |
| No. 4 | ,, | 12 Quarts | ditto | ditto | ditto | 2 | 2 | 0 |
| No. 5 | ,, | 6 Quarts | ditto | ditto | ditto | 1 | 1 | 0 |

COLLECTIONS of FLOWER SEEDS.

| | | | | | | | £ | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| No. 1, | containing | 100 | Large Packets of Best Hardy Annuals ... | | | ... | £0 | 18 | 0 |
| No. 2, | ,, | 50 | ditto | ditto | ditto | ... ... | 0 | 9 | 6 |
| No. 3, | ,, | 24 | ditto | ditto | ditto | ... ... | 0 | 5 | 0 |
| No. 4, | ,, | 25 | ditto | Half-Hardy Annuals | | ... ... | 0 | 7 | 6 |
| No. 5, | ,, | 12 | ditto | ditto | ditto | ... ... | 0 | 4 | 0 |
| No. 6, | ,, | 25 | ditto | Tender Annuals | | ... ... | 0 | 12 | 6 |
| No. 7, | ,, | 12 | ditto | ditto | ditto | ... ... | 0 | 6 | 0 |

The above Collections consist only of best and most useful varieties, and are of the finest quality.

S. G. & Sons' CATALOGUE of KITCHEN GARDEN, AGRICULTURAL, and FLOWER SEEDS, is now ready, and may be had on application.

CHISWICK NURSERY, LONDON, W.

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**Roses.**

WM. PAUL (Son and Successor to the late A. Paul) has still a fine stock of ROSES, NEW and OLD, Standards, Dwarf Standards, and Dwarfs.

Plants good and prices moderate.

Nurseries and Seed Warehouse, Waltham Cross, N.

**Roses.**

EDWIN HOLLAMBY begs to announce that he has still a fine stock of STANDARD and DWARF ROSES of most of the leading kinds, in very fine plants.

DESCRIPTIVE PRICED CATALOGUE free on application.

Nursery and Seed Establishment, Tunbridge Wells, Kent.

**New Roses of 1863.**

J. and J. FRASER'S DESCRIPTIVE LIST of the best varieties will be forwarded Post Free on application.

Strong healthy Plants are now ready.

A GENERAL CATALOGUE may be had on application.

Lea Bridge Road Nurseries, N.E.—Feb. 21.

**Roses for Forcing.**

CHARLES NOBLE has a nice assortment, one-year, established in 32-pots, ready for Forcing. They are healthy vigorous plants, and cannot fail to give satisfaction. He has also a large stock of Dwarfs and Half-Standards suitable for planting in Roseries; they are offered very cheap.

Sunningdale Nursery, South-Western Railway.

**The Best New Roses for 1863.**

5000 STRONG DWARF PLANTS in Pots, in 50 varieties, will shortly be ready.

DESCRIPTIVE CATALOGUES, gratis and Post-free on application.

Address Wm. Wood & Son, Nurseries, Maresfield, Uckfield, Sussex.

DWARF HYBRID PERPETUAL ROSES, on the MANETTI STOCK; Carriage paid to London.—The Undersigned offer very fine and vigorous plants of the above. For a LIST of the more popular sorts, see *Gardeners' Chronicle* for December 6, 1862. Prices given for small and large numbers (per 1000 at a much reduced rate) and a DESCRIPTIVE CATALOGUE of ROSES sent on application to

Thos. Rivers & Son, Nurseries, Sawbridgeworth.

**Roses.**

GEO. PARSONS begs to offer fine STANDARD ROSES, from 2½ to 4 feet stems, at 5*l.* per 100, or 15*s.* per dozen; including the New Varieties, 18*s.* per dozen, or 6*l.* 10*s.* per 100; the last New Varieties of 1862, DWARFS, 30*s.* per dozen.

CATALOGUES free on application.

Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

**Old Cheshunt Nurseries, Herts, N.—Roses.**

PAUL and SON have the pleasure to announce that their NEW HYBRID PERPETUAL ROSE, LORD CLYDE, will be ready for delivery in April next, at 7*s.* 6*d.* each. Usual allowance to the Trade when three are taken. A Coloured Plate, by Andrews, post free for 12 stamps.

The NEW ROSES of other Raisers will be ready in March.

They have still to offer fine Home-grown STANDARD and DWARF ROSES.

DESCRIPTIVE LISTS of the New Roses, Gladioli, and Genuine Seeds now ready.

**Azalea Altaclerensis.**

MESSRS. JOHN and CHARLES LEE are now prepared to send out strong blooming plants of this beautiful HARDY AZALEA, the following description of which is extracted from the Report of the Floral Committee of the Royal Horticultural Society of May 6, 1862.

"AZALEA ALTACLERENSIS:—from Messrs. J. & C. Lee, Hammersmith. A fine large-flowered rich orange-yellow hardy Azalea, bred between A. sinensis and one of the Ghent hybrids. It had ovate elliptic hairy leaves, and very large heads of flowers, and being also of free blooming habit, it was adjudged a First Class Certificate."

Price 10*s.* 6*d.* The usual discount to the Trade.

Royal Vineyard Nursery and Seed Establishment, Hammersmith, London, W.

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# JAMES VEITCH, Jun.,

## ROYAL EXOTIC NURSERY, KING'S ROAD, CHELSEA, S.W.,

Having a very large stock of the CHOICE HARDY TREES named below, offers them at the unusually low prices annexed. The whole are in the finest possible condition, and may be seen growing, together with a fine COLLECTION of other TREES and SHRUBS, in his

## NEW NURSERY AT COOMBE WOOD, KINGSTON HILL, S.W.

This Nursery is situated 1½ mile from the New Malden and Coombe, 2½ miles from the Richmond, 2 miles from the Kingston, and 2½ miles from the Putney Stations, South-Western Railway, and at the three latter Stations Flys can at all times be obtained. It is distant about 5 miles from the Chelsea Nurseries.

### The Prices include Delivery at the London Wharves and Railway Stations.

ABIES DOUGLASII TAXIFOLIA.—This is the best variety of the Douglas Fir, 4 to 5 feet, 3*l.* per dozen; 5 to 6 feet, 4*l.* 4*s.* per dozen. The above are really fine formed specimens.

ARAUCARIA IMBRICATA.—Strong good shaped plants, 1*l.* 10*s.* per dozen.
Do. do. Strong good shaped plants, 2 feet, 2*l.* 2*s.* to 3*l.* per dozen.
Do. do. Fine specimens, from 3 to 5 to 7 feet, 15*s.* to 21*s.* to 42*s.* to 63*s.* to 105*s.* each.
N.B.—These plants are robust and well formed; they should be seen to be appreciated.

CEDRUS DEODARA.—Beautifully formed plants, 3 to 4 feet, 1*l.* 16*s.* per dozen; 4 to 6 feet, 3*l.* per doz.; 6 to 8 ft., 4*l.* 4*s.* per doz.; Splendid specimens, 8 to 10 ft., 10*s.* 6*d.* to 21*s.* each. These are all very handsome plants.

CEDRUS DEODARA ROBUSTA.—Fine plants, 4 to 5 feet, 2*l.* 2*s.* per dozen.

CUPRESSUS LAWSONIANA.—Very nice plants, 2 to 3 feet, 1*l.* 10*s.* per dozen.

,, MACROCARPA, 12 to 18 inches, all transplanted in August, 1862, 12*s.* per dozen; 3*l.* 15*s.* per 100. 2½ to 3 ft., 1*l.* 10*s.* per dozen.

CRYPTOMERIA LOBBI, 3 to 4 feet, 2*l.* 2*s.* per dozen; 4 to 5 feet, 3*l.* per dozen.
This is the most hardy, the finest green foliage, and closest habit of all the Cryptomerias.

JUNIPERUS CRACOVIA, fine plants, 3 to 4 feet, 1*l.* 4*s.* per dozen; 7*l.* 10*s.* per 100.

PINUS BENTHAMIANA, 3 to 4 feet, 3*l.* per dozen.

,, INSIGNIS, 3 to 4 feet, 2*l.* 2*s.* per dozen; 15*l.* per 100; 5 to 6 feet, 3*l.* per dozen.
These Pinus insignis were all transplanted in August, 1862, and are remarkably fine plants.

PINUS INSIGNIS.—Very fine specimens, 6 to 10 feet, 7*s.* 6*d.* to 21*s.* each.

,, PYRENAICA.—Very fine plants, 4 to 5 feet, 3*l.* per dozen.

SEQUOIA (TAXODIUM) SEMPERVIRENS, 5 to 6 feet, 2*l.* 2*s.* per dozen.

THUJA LOBBI.—A beautiful kind, 2 feet, 1*l.* 10*s.* per dozen.
,, ,, Fine plants, 3 feet, 2*l.* 2*s.* per dozen.

THUJA OCCIDENTALIS (American Arbor-vitæ), 3 to 4 feet, 6*s.* per dozen; 2*l.* 2*s.* per 100.
,, ,, Very fine plants, 4 to 5 feet, 15*s.* per dozen; 5*l.* per 100. This is an admirable plant for hedges.

WELLINGTONIA GIGANTEA, 2 years, very strong, 1*l.* 10*s.* per dozen; 10*l.* 10*s.* per 100; 18 inches, 3*l.* per dozen; Plants of larger sizes from 3 to 4 to 6 feet, magnificently formed specimens, 21*s.* to 63*s.* to 84*s.* each.
These latter are such beautiful plants that they would amply repay a visit of inspection, and may be selected.

### Muscat of Escholata Grape.

WM. PAUL (Son and Successor to the late A. Paul) has a fine stock of this Vine, Fruiting Canes and others. Price 7s. 6d. to 15s. each. Most of the other popular sorts, 3s. 6d. to 7s. 6d. each.

Nurseries and Seed Warehouse, Waltham Cross, N.

### Grape Vines.

TO BE SOLD, Cheap, 1800 close-jointed vigorous Plants, with Canes 6 to 12 feet long, all struck from Eyes last spring.

Apply to the Gardener, at J. Lewis's Horticultural Works, Stamford Hill, Middlesex, N.

THE GREAT VINE at HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42s. and 60s. p. doz. If purchased in large numbers a considerable reduction will be made in price.

Jackson & Son, Nurseries, Kingston, S.W

EXTRA STRONG FRUITING VINES.—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7s. 6d. each; smaller, for Planting-out, from 3s. 6d. each. A reduction in price will be made to large purchasers.

"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.

James Dickson & Sons, The Newton Nurseries, Chester.

### Apples, Pears, and Plums.

JOHN ADAMS and CO. beg to inform the Trade and the public generally, that they have a fine stock of the above, 2 and 3 year old Pyramid and Dwarf-trained Trees, of all the leading sorts, also an extra quantity of COMMON LAURELS, about 3 feet high. Prices, &c. on application.

Brentford.—Feb. 21.

APPLE and PEAR TREES, &c.—100 doz. Dwarf and Pyramidal PEAR TREES, best sorts, 20s. per doz., packing included.

50 doz. Dwarf and Pyramidal APPLE TREES, best sorts, 12s. per doz., packing included.

GENERAL LISTS of NURSERY STOCK on application.

Charles B. Saunders, Nurseryman, &c., Jersey.

AMBROISE VERSCHAFFELT, Nurseryman, Ghent, Belgium, has the pleasure to offer now for the first time his two new excellent Fruits—

APPLE CALVILLE GARIBALDI .. 8s.
PEAR BÉURRÉ DE GHELIN .. .. 5s.

This excellent Pear obtained the First Prize at the great Pomological Show at Tournay, Belgium.

N.B. These two new Fruits are figured in Verschaffelt's "Illustration Horticole."

NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1s. per packet.

James Carter & Co., 237, 238, & 261, High Holborn, W.C.

THE NEW PARSNIP "STUDENT."—SEED of this improved PARSNIP, "ennobled" by Professor Buckman, of the Royal Agricultural College, Cirencester, is now ready for delivery by Messrs. Sutton & Sons, Post free, in packets, 6d., 1s., or 2s. 6d. each. Also Wholesale to the Trade.

It can also be obtained from any of the Seedsmen named in the List which appeared in *Gardeners' Chronicle* of Jan. 31.

Royal Berks Seed Establishment, Reading.

JAMES TYNAN'S importation of celebrated GERMAN ASTERS, STOCKS, WALLFLOWERS, PHLOXES, and other FLOWER SEEDS, is now ready, and comprises as usual an extensive assortment of the very best varieties, selected from the most noted Continental growers. They are made up, as formerly, in large or small packets, to suit the requirements of purchasers. Every description of Vegetable and Agricultural Seeds of the finest quality.

Flower Seeds free by post.

J. Tynan, Importer of Continental Seeds, 68, Great George Street, Liverpool.

### Ranunculuses, Anemones, &c.

C. TYSO, Florist and Seedsman, Wallingford, Berks, begs to offer choice-named assortments:—

| | | £ | s. | d. |
|---|---|---|---|---|
| 50 Splendid RANUNCULUS, one each .. | 14s. to | £1 | 0s. | 0d. |
| 50 ditto, Tyso's SEEDLINGS, one each .. | 30s. to | 3 | 0 | 0 |
| 50 Mixed ditto, fine quality .. .. | 4s., 8s., and | 0 | 10 | 0 |
| 50 DOUBLE ANEMONES, one each | 10s. 6d. to | 0 | 13 | 0 |
| 50 Ditto Single Mixed .. .. .. | 2s. 6d. to | 0 | 3 | 6 |

IMPORTED GERMAN SEEDS.—Asters, Stocks, Balsams, Immortelles, Larkspurs, Phloxes, Poppies, Zinnias, &c., in named assortments, 1s. and 2s. 6d. each.

ANNUAL SEEDS.—50 sorts, 10s.; 25 sorts, 5s.

VEGETABLE SEEDS, of the best quality.

CATALOGUES gratis, or post free for one stamp.

All the above articles can be sent by Post.

MESSRS. BROWN and CO. offer the following Selection of CHOICE PLANTS, which they will forward to any part of the kingdom:—

| | s. | d. |
|---|---|---|
| 25 AZALEAS, new hardy Belgian varieties, one of a sort, on their own roots, by name .. .. .. | 20 | 0 |
| 25 AZALEAS, hardy American varieties, do. do... | 15 | 0 |
| 12 Hardy RHODODENDRONS, one of a sort, including Scarlet, White, and Rose colour .. .. .. | 12 | 0 |
| Hardy HEATHS, LEDUMS, and KALMIAS, per doz. | 6 | 0 |
| ROSES, best sorts, Standards and Half Standards, per dozen, 12s. to | 15 | 0 |
| CLIMBING ROSES, of best sorts .. per dozen | 6 | 0 |
| PILLAR ROSES, new sorts .. .. do. | 9 | 0 |
| DWARF ROSES for beds or forcing, including Bourbons, Teas, and Perpetuals, per dozen .. | 9 | 0 |
| Choice Hardy PINUS and other CONIFERÆ. Cheap. Price List by post. | | |
| Greenhouse AZALEAS, fine varieties, per doz., 10s. to | 15 | 0 |
| CAMELLIAS, best double varieties, per dozen .. | 28 | 0 |
| TREE CARNATIONS, winter flowering, per dozen | 12 | 0 |

CHOICE FRUIT TREES.

Fine Standard and Dwarf-trained Peaches, Nectarines, Apricots, Cherries, Apples, Plums, and Pears, 2s. 6d. each, or 24s. per dozen.

Dwarf Plants of all the above kinds, grown especially for pot culture in Orchard Houses, &c., 18s. per dozen.

Filberts, Gooseberries, Currants, and Raspberries, p. doz., 3s.

Evergreen Shrubs of all kinds cheap; fine large Fan Yews, price by post.

American Nurseries, near Farnham, Surrey.

### Seeds for the Flower Garden offered by

B. S. WILLIAMS.

| | s. | d. |
|---|---|---|
| An ASSORTMENT of 12 Fine Selected Varieties of HARDY ANNUALS .. .. .. .. .. | 1 | 6 |
| An ASSORTMENT of 12 Fine Selected Varieties of HALF-HARDY ANNUALS .. .. .. .. | 2 | 6 |
| An ASSORTMENT of 12 Fine Selected Varieties of HARDY BIENNIALS and PERENNIALS, suitable for Rockwork .. .. .. .. .. .. | 2 | 6 |
| An ASSORTMENT of 12 Splendid Annual kinds of ORNAMENTAL GRASSES .. .. .. .. | 2 | 0 |

Paradise and Victoria Nurseries, Holloway, London, N.

### Choice Seeds of Asters, Balsams, and Stocks,

OFFERED BY

B. S. WILLIAMS, Paradise and Victoria Nurseries, Holloway, London, N.

| | s. | d. |
|---|---|---|
| An Assortment of 12 varieties of TRUFFAUT'S PÆONY-FLOWERED ASTER, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of four varieties of COCARDEAU or CROWN ASTER, 100 seeds of each .. .. .. | 1 | 6 |
| An Assortment of 12 varieties of CHRYSANTHEMUM-FLOWERED DWARF ASTER, 100 seeds of each .. | 2 | 6 |
| An Assortment of nine varieties of CAMELLIA-FLOWERED BALSAMS .. .. .. .. .. | 2 | 6 |
| An Assortment of 12 varieties of DOUBLE ROSE-FLOWERED BALSAMS .. .. .. .. .. | 3 | 0 |
| An Assortment of eight varieties of AUTUMNAL-FLOWERING STOCKS, 100 seeds of each .. .. | 2 | 6 |
| An Assortment of eight varieties of BROMPTON STOCKS, 100 seeds of each .. .. .. .. | 1 | 6 |
| An Assortment of 12 varieties of DWARF GERMAN TEN-WEEK STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of eight varieties of EMPEROR or PERPETUAL STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of six varieties of MINIATURE STOCKS, 100 seeds of each .. .. .. .. .. .. | 1 | 6 |

A PRICED and DESCRIPTIVE CATALOGUE, post free to all applicants, containing useful suggestions for the guidance of amateur cultivators.

NEW LILACS.—The following varieties of LILACS are all distinct and very ornamental. They are budded on Seedling Stocks which do not sucker, are from 3 to 5 feet in height, and are well adapted for Pyramids or Half Standards for Lawns.

| | Each—s. | d. | | Each—s. | d. |
|---|---|---|---|---|---|
| Charles X. .. .. | 1 | 6 | Philemon .. .. | 2 | 6 |
| Dr. Lindley .. .. | 5 | 0 | Triomphe d'Orleans .. | 2 | 6 |
| Gloire de Moulins .. | 2 | 6 | Valetteana .. .. | 1 | 6 |
| Grandiflora rubra .. | 2 | 6 | Virginalis .. .. | 1 | 6 |
| Insignis rubra .. .. | 2 | 6 | White Siberian .. | 2 | 6 |
| New Dark Red .. .. | 1 | 6 | | | |

Carriage paid to London.

Thos. Rivers & Son, Nurseries, Sawbridgeworth.

GLADIOLUS, SEEDLINGS of GANDAVENSIS.

| | £ | s. | d. |
|---|---|---|---|
| 50 in 25 extra choice varieties .. .. | £2 | 2s. | 0d. |
| 25 in 25 " " .. .. | 1 | 5 | 0 |
| 12 in 12 " " .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 " " .. .. .. | 1 | 5 | 6 |
| 25 in 25 " " .. .. .. | 0 | 18 | 6 |
| 12 in 12 " " .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2s. 6d. per doz., 17s. 6d. per 100.

Butler & McCulloch, Seed Merchants, Covent Garden Market, W.C.

### Banks's Best New Fuchsias.

E. G. HENDERSON and SON are now sending out the three following First-class Flowers:—

MDLLE. TREBELLI (Banks).
BIANCA MARGINATA (Banks).
MARS (Banks),

as neat young plants for growing on into specimens (and others adapted for stock), price 3s. 6d. and 5s. each. Also plants of all last year's best varieties, 1s. 6d. to 2s. 6d. each.

SOLANUM CAPSICASTRUM FOLIA VARIEGATA, a beautiful table plant, with elegantly variegated leaves and red berries; drooping habit; 3s. 6d. and 5s. each.

THE TIETJEN STRAWBERRY, hardier than "British Queen," of the same quality, colour, &c., 30s. per 100.

GLOXINIAS: BRILLIANT, LEVIATHAN, BIRD of PARADISE, and MOST BEAUTIFUL, the four most distinct new Gloxinias, 3s. 6d. and 5s. each.

AUCUBA HIMALAICA, 7s. 6d., 10s. 6d., to 21s. each.

PRIMULA SINENSIS FILICIFOLIA, white and red, 5s. each.

STUARTIA PENTAGYNIA, strong plants, 5s. each.

LOBELIA ERINUS SPECIOSA PAXTONI, 1s. 6d. each; 12s. per doz.

DOUBLE PANSY "GOOD GRACIOUS," 1s. 6d. each; 12s. per doz.

LONICERA AUREA RETICULATA, leaves light green, richly netted over with golden yellow veins, 5s. each.

LAPAGERIA ROSEA, 1s. 6d., 2s. 6d.; stronger, 5s. and 7s. 6d.

PRIMULA SINENSIS ERECTA SUPERBA, a fringed variety of P. Kermesina, 2s. 6d.

PRIMULA PICTA, mottled, 1s. 6d.

BEDDING DAHLIAS (pot roots), 6s. and 9s. per doz.

LILLIPUTIAN " " " 6s., 9s., to 18s. per doz.

Wellington Nursery, St. John's Wood, London, N.W.

### Hardy Scarlet and other Choice Rhododendrons.

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

### Stocks, Asters, and Balsams.

MESSRS. BUTLER and McCULLOCH strongly recommend their Collections of the above to Amateurs and Exhibitors. Messrs. B. & McC. have spared neither trouble nor expense in procuring the very best.

Butler & McCulloch, Seed Merchants, Covent Garden Market, London, W.C.

### Notice.—American Plants.

WATERER and GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by Waterer & Godfrey, Knap Hill, near Woking.

### Spring Blooming Plants.

CAMELLIAS, including the best new varieties, fine plants, set with bloom buds, from 30s. per doz.; extra size, from 60s.

HEATHS, EPACRIS, CINERARIAS, and JASMINUM GRANDIFLORUM (grafted), remarkably fine plants, at moderate prices.

Also HUMEA ELEGANS, extra strong, in 6-inch pots, 18s. per doz.

James Dickson & Sons, Newton Nurseries, Chester.

### Genuine Seeds.—Carriage Free.

WM. CUTBUSH and SON beg to intimate that they are now prepared to execute orders for GENUINE GARDEN SEEDS, for which their house is extensively known.

Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.

CATALOGUES free on application.

Highgate, London, N.

### Chrysanthemums, Chrysanthemums.

J. H. BIRD, F.R.H.S., Nurseryman, Stoke Newington, begs to inform his friends and the public he can supply from his great Stock of the above 20 pairs of the best large Varieties for 10s.; and 25 pairs of best POMPONES for 10s.; 20 pairs of Cuttings of the large Varieties for 5s.; and 25 pairs of Pompones ditto for 5s.

New CATALOGUES ready for one stamp.

N.B. To save trouble all orders to be paid to J. H. Bird, Stoke Newington.

### New Fuchsia.

ROBERT REA, Nurseryman, &c., London Road, Ipswich, has much pleasure in announcing that he intends sending out after the 20th of April, plants of his SEEDLING FUCHSIA DEFIANCE, which was so much admired last season. Defiance is a fine bold double flower of great substance, bright scarlet tube and sepals, dark violet barrel-shaped corolla, sepals much reflexed. This will be a standard flower for years, and will be grown in every collection.

10s. 6d. each, with the usual discount to the Trade.

A. STANSFIELD and SONS beg to announce that their LIST of BRITISH FERNS for this season, including the New and Rare varieties, at reduced prices, is now ready, and may be had on application, enclosing two postage stamps. Also their GENERAL FERN LIST, No. 6, for 4 postage stamps, which purchasers may deduct.

Vale Nurseries, Todmorden.

CHEAP PLANTS.—In Strong Plants.—

| | Per doz.—s. | d. | | Per doz.—s. | d. |
|---|---|---|---|---|---|
| Hepaticas, sorts .. | 3 | 0 | Primroses, Double White and Lilac .. .. | 4 | 0 |
| Auriculas, sorts .. | 3 | 0 | Sedum carneum fol. var. | 3 | 0 |
| Violets, Russian and Double White .. | 3 | 0 | Christmas Roses .. | 6 | 0 |
| Pinks, fine named .. | 3 | 6 | Golden Yellow Wall-flower .. .. .. | 4 | 0 |
| Clove, old Crimson .. | 3 | 0 | Rockets, sorts .. .. | 4 | 0 |
| Pansies, fine named .. | 3 | 6 | Hollyhocks, fine named | 6 | 0 |
| " fine mixed .. | 2 | 6 | Pampas Grass .. .. | 4 | 0 |

Also, Strong STOCK PLANTS of the following for Cuttings:—

| | Per doz.—s. | d. | | Per doz.—s. | d. |
|---|---|---|---|---|---|
| Lobelia speciosa kermesina "true." | | | Verbena Purple King .. | 4 | 0 |
| Verbenas, new, 1862 .. | 4 | 0 | Fuchsias, new, 1862 .. | 5 | 0 |
| " old varieties .. | 3 | 6 | " older varieties | 4 | 0 |
| " Mrs. Holford (white) | 4 | 0 | Dahlias, strong ground roots .. .. .. | 6 | 0 |

100 Hardy Herbaceous plants in 50 varieties, carefully named and packed for 20s. Carriage of all Orders of 10s. paid to London, and other parts within 50 miles.

Post Office Orders payable at Castle Hedingham.

Wm. Dillistone, Munro Nursery, Sible Hedingham, Essex.

## WM. WOOD & SON'S
## COLLECTIONS of KITCHEN GARDEN SEEDS

FOR ONE YEAR'S SUPPLY.

| No. 1. | No. 2. | No. 3. | No. 4. |
|---|---|---|---|
| £3. | £2. | £1. | 10s. 6d. |

Containing only Seeds of first-class quality, and Varieties that can be confidently recommended.

For particulars, see CATALOGUE, a Copy of which may be had Post Free on application.

*** *All orders amounting to 10s. and upwards sent Carriage Free.*

WOODLANDS NURSERY and SEED WAREHOUSE, MARESFIELD,
Near UCKFIELD, SUSSEX.

**The Flower of the Season.**

DOBSON'S Splendid NEW PELARGONIUM, QUEEN of WHITES, acknowledged by the whole of the Floricultural Press to be the very best white flower raised. Strong plants now ready, 31s. 6d. each. Figured in the February Number of the "Floral Magazine."
Woodlands Nursery, Isleworth, W.

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DOBSON'S PRIZE CALCEOLARIA SEED is unequalled in the kingdom. Annual Sale exceeds 3000 packets. In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each.
J. DOBSON & SONS, Seedsmen, Isleworth.

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DOBSON'S PRIZE CINERARIA SEED.—Ten First Prizes awarded to our collection in the spring, 1862. In sealed packets, 1s., 2s. 6d., and 5s.
J. DOBSON & SONS, Seedsmen, Isleworth.

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DOBSON'S PRIZE PRIMULA SINENSIS SEED. In sealed packets, 1s., 2s. 6d., and 5s.
J. DOBSON & SONS, Seedsmen, Isleworth.

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POLYANTHUS SEED from the best Laced Florists' Flowers, in packets, sent free on receipt of 13 postage stamps.
JAMES WOODS, Florist, Harwich, Essex.

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HARDY FLOWER SEEDS, of Showy Colours only, sent free by post or rail, by
SUTTON AND SONS.
A COLLECTION of the best 50 sorts known .. 10s. 6d.
A COLLECTION of the best 36 sorts known .. 7 6
A COLLECTION of the best 24 sorts known .. 5 0
SUTTON'S CATALOGUE of SEEDS will be sent post free.
SUTTON & SONS, Seed Growers, Reading, Berks.

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**New Fuchsias of 1862.**

B. W. KNIGHT, FLORIST, &c., Battle, Sussex, can supply the New FUCHSIAS of 1862 in good plants, at 6s. per dozen.
CATALOGUES sent on application.

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BEAUTIFUL FLOWERS.—Twelve packets, containing 10,000 seeds, weigh 2 oz., 1s.; sent Post-free, 1s. 4d. Tender Annuals and Perennials, weigh 1 oz., or Post-free, 1s. 2d. Dwarf German (Ten-weeks) STOCKS, as imported, 36 varieties, 6s. or—each variety 2d. per packet. BROMPTON STOCKS and WALLFLOWER, blood-red and canary-yellow, warranted double, each variety, 4d. packet. Calceolaria, Heliotropium, Salvia, Ageratum, Pentstemons, Pinks, Carnations, Picotees, Cupheas, Choice Dahlias, Petunias, Verbenas, Fuchsias, Geraniums, and other choice Seeds, 6d. per packet. Catalogue on application.
WM. CULLINGFORD, 1, Edmund Terrace, Balls Pond, Islington.

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E. G. HENDERSON AND SON offer First-class quality of CINERARIA, CALCEOLARIA, and PRIMULA SINENSIS FIMBRIATA, 1s. and 2s. 6d. per packet.

CINERARIA WEBBI.—The interest and value of this species consists in its having a shrub-like branched habit of growth, attaining from 3 to 4 feet in height. This remarkable plant is expected to originate a new and desirable class of varieties for exhibition purposes, as having already passed into all the colours found in florist varieties of the present time, and no doubt but higher improvements in form, and other essential properties, will be obtained in connection with its superior culture. It will be found well adapted for decorative purposes, by its taller growth, and longer continuance in bloom. 2s. 6d.
Wellington Nursery, St. John's Wood, London, N.W.

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**Lobelia speciosa (True).**

THOMAS METHVEN begs to state that he can supply the above, and which he can warrant genuine, in packets at 1s., 2s. 6d., and 5s.
GENERAL SEED CATALOGUE free on application.
Seed Warehouse, Leith Walk, Edinburgh.

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AMARANTHUS MELANCHOLICUS (var. ruber).—Habit very compact, height 1 to 1½ feet, with striking blood-red foliage; a most valuable bedding plant for Flower Garden decoration, after the style of Perilla Nankinensis. Price per packet, 6d., 1s., and 2s. 6d. The Trade supplied.
E. P. DIXON & SONS, Seedsmen and Florists, 57, Queen Street, Hull.

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CHARLES DALY AND SON will SELL 3-year Seedling THORN QUICK at 2s. per 1000; 1-year Transplanted do., at 4s. per 1000; 2-year do. do., at 8s. per 1000. COMMON LAURELS, at 15s. per 1000; SWEET BAYS, 3-year Potted, 6d. each; RHODODENDRONS, good furnished plants, 20s. per 100; fine large UPRIGHT YEWS, seven times Transplanted, fit for cemeteries or pleasure grounds. The above will be sold Cheap for cash. Turnip Seeds or new Greenhouse Plants will be taken in payment. LIST of PRICES Free by Post.
Coleraine, Ireland.

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LARGE ORNAMENTAL TREES.—The Subscribers beg to offer very fine specimen plants of ARAUCARIA IMBRICATA, from 5 to 9 ft.; CEDRUS LIBANI, 7 to 12 ft.; WELLINGTONIA GIGANTEA, 5 to 9 ft.; PINUS EXCELSA, 7 to 10 ft.; also Spruce, Scotch, and Larch Firs, from 7 to 10 ft., with Limes, Birch, Beech, Elm, Sycamore, and Laburnum, 9 to 11 ft.; likewise Weeping Ash, Lime, and Willow, on fine tall stems. The above will be sold cheap, and if taken in quantity a great reduction will be made in the price.
J. IVERY & SON, Dorking Nursery.

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GEORGE BAKER begs to offer the following, a selection from his extensive Stock:—
ARAUCARIA IMBRICATA, 3 feet, 6 feet, 9 feet, 14 feet.
ABIES DOUGLASII, 3 feet, 5 feet, 10 feet, 14 feet, 25 feet.
ARBOR-VITÆ (WAREANA), 3 feet, 6 feet, 8 feet.
CEDRUS DEODARA, 3 feet, 6 feet, 12 feet, 20 feet.
CUPRESSUS LAWSONIANA, 3 feet, 5 feet.
,, DISTICHA, 3 feet, 8 feet, 12 feet.
CEDRUS LIBANI, 6 feet, 8 feet, 10 feet.
CHINESE JUNIPER, 3 feet, 5 feet, 6 feet.
IRISH YEW, 4 feet, 6 feet, 8 feet
JUNIPERUS RECURVA, 8 feet.
PICEA CEPHALONICA, 3 feet, 4 feet, 11 feet.
PINUS CEMBRA, 3 feet, 5 feet, 7 feet
,, EXCELSA, 10 feet, 15 feet.
THUJA GIGANTEA, 4 feet, 5 feet, 6 feet
THUJOPSIS BOREALIS, 1 foot, 2 feet.
PINUS AUSTRIACA, 3 feet, 4 feet.
,, BENTHAMIANA, 3 feet, 4 feet.
WEYMOUTH PINE (fine), 1½ foot, 2 feet.
SPRUCE FIR, 1 foot, 2 feet.
AZALEAS (to name)
ANDROMEDAS (to name).
RHODODENDRONS (to name).
,, STANDARDS (to name).
KALMIA LATIFOLIA.
,, ,, STANDARDS (very fine heads).
Prices free by Post, on application. Also G. B.'s GENERAL PRICED LIST is now ready.
American Nursery, near Bagshot, Surrey, about 1½ mile from Sunningdale Station, S. W. R.

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RICHARD SMITH'S LIST of all the EVER-GREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.
RICHARD SMITH, Nurseryman, Worcester.

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**Large Trees for Parks, Hedgerows, &c.**

WILLIAM CROWDER, NURSERYMAN, Horncastle, has a quantity of SPANISH CHESNUT, 10 to 12 feet; LIMES, 8 to 10 feet; ELM, grafted, 8 to 10 feet, all strong well grown trees and well rooted, to offer cheap to Trade or gentlemen.

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WELLINGTONIA GIGANTEA.—The attention of the Nobility, Gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12s.; per 100 or 1000 on application. A Sample free by post for 12 stamps.
J. HENCHMAN, Edmonton, London.

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FINE SPECIMEN WELLINGTONIAS.—50 splendid SPECIMEN PLANTS of WELLINGTONIA GIGANTEA, 4½ to 5½ feet high, strong sturdy plants (from seed), grown on cold clay, in a very exposed situation, transplanted 2 years since, and will remove with large balls. Price moderate.
Apply to GEORGE T. FOX, The Nurseries, Wetley Rocks, near Leek, Staffordshire.

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**Thorn Quicks.**

JNO. CARTER, NURSERYMAN, Keighley, has a large stock of the above, from 1 to 4 years' Transplanted, well rooted and very strong.
J. C. will be glad to furnish samples and prices, and also CATALOGUE of GENERAL NURSERY STOCK.

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COMMON LAURELS, in quantity, 3, 4, and 5 feet high, bushy and well rooted; about 800 HORSE CHESNUTS, 5 to 7 feet; 500 ENGLISH OAK, 4 to 5 feet, to be sold reasonable. Price on application to
D. S. THOMSON, Nurseryman, near Railway Station, Wimbledon, Surrey, S.W.

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THE SUBSCRIBERS have on SALE 2, 3, and 4-year Seedling NORWAY SPRUCE; 3-year Seedling THORN QUICKS; Transplanted SPRUCE, 1 to 1½ feet; 3-year Transplanted THORN QUICKS, all at very low prices, which may be had on application.
FOWLER & SON, Glasgow—Feb. 21.

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FOR SALE, 100,000 3-year Seedling SILVER FIR.—The above will be offered cheap, as the ground is wanted for other purposes. Samples and Prices sent on application.
Apply to DOWNIE, LAIRD, & LAING, 17, Frederick Street, Edinburgh; and Stanstead Park, Forest Hill, London.

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**Liquorice Plants.**

FOR SALE, 40,000 Strong Plants, in fine condition, price 8s. per 1000. AMERICAN ARBOR-VITÆ, 1-year old, fine, 2s. 6d. per 1000; CHINESE ditto, 12s. 6d. per 1000.
WM. POLLARD, Nurseryman, Ferrybridge, near Pontefract.

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**To Ribbon Gardeners and Others.**

FOR SALE, about 250 Ground Roots of the Dwarf "PURPLE ZELINDA" DAHLIA, price 6s. p. doz.
Apply to Mr. J. SMITH, Basingstoke, Hants.

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**The Planting Season.**

THE EXECUTORS of MR. JNO. YOUNG, late Proprietor of the extensive Nursery Grounds, Taunton, have determined to reduce this large and valuable Stock. They respectfully invite the attention of Noblemen, Gentlemen, and the Trade to the FOREST TREES, HARDY and ORNAMENTAL TREES and SHRUBS, large and small; CONIFERÆ, EVERGREENS, HERBACEOUS, and a great variety of other PLANTS. STANDARD, DWARF, and POTTED ROSES. STANDARD, DWARF-TRAINED, and PYRAMIDAL FRUIT TREES. The varied and excellent quality of this Stock is so well known that comment is unnecessary. The grounds are open for inspection and sale daily, and in quantities at greatly reduced prices. Applications by post direct to the EXECUTORS of the late Mr. John Young, Taunton.

The above capital FREEHOLD NURSERY
(Established more than 30 years).
containing about 12 Acres of highly productive Land, with the usual Appurtenances, situate at Taunton, the County Town of Somersetshire, in excellent condition, with a good connection, is
TO BE SOLD, with Early Possession,
in consequence of the Decease of the late Owner.
For particulars, apply as above.

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**Improvement of Grass Lands by Sowing Good Seeds of the most Suitable Kinds.**

SUTTONS' RENOVATING GRASS SEEDS should now be Sown.
These Seeds consist of PERENNIAL CLOVERS and FINE GRASSES for improving the bottom. Price 9d. per lb., or 80s. per cwt. Eight or 12 lbs. per acre will be sufficient, and will produce a great increase in the produce.
SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

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**New Sorts of Peas.**

THE ADVANCER, PRINCESS ROYAL, SMUGGLER, GILSON'S GLORY (2s. 6d. per quart), and other NEW PEAS, are included in SUTTON'S PRICED SEED LIST, just published, and which may be had, Gratis and Post free, on application addressed
SUTTON & SONS, Seed Growers, Reading, Berks.

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**Cabbage Plants.**

W. VIRGO and SON beg to say they have a very large quantity of DRUMHEAD, RED and EARLY CABBAGE PLANTS to offer for Sale of the following sorts, at 3s. 6d. per 1000:—

| | |
|---|---|
| EARLY YORK CABBAGE | EARLY NONPAREIL |
| ,, BATTERSEA | DRUMHEAD |
| ,, BARNES | RED CABBAGE |

5s. per 1000. All strong, healthy, and well rooted.
Wonersh Nursery, near Guildford, Surrey.

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**To the Seed Trade.**

H. AND F. SHARPE have a Surplus Stock of true—

| | |
|---|---|
| Early Long Pod Beans | Ne Plus Ultra Peas |
| Mackie's Monarch ditto | Laing's Imperial Swede Turnip |
| Broad Windsor ditto | Early Green Top Yellow ditto |
| Early Emperor Peas | Fine Red Surrey Carrot |
| Woodford's Green Marrow do. | Early Nonpareil Cabbage |
| Flack's Blue Imperial ditto | ,, Emperor ditto |
| British Queen ditto | ,, Enfield Market ditto |

which they can offer at a low figure
Seed growing Establishment, Wisbeach.

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NEW CUCUMBERS, at 1s. per packet.
Recommended by the Fruit Committee of the Royal Horticultural Society. See GUIDE to the KITCHEN GARDEN.
BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

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CARTER'S CHAMPION CUCUMBER, recommended by the Royal Horticultural Society as being an excellent bearer. Fruit solid and firm, and the best of the Sion House class. 1s. per packet. A few ounces of our own saving to offer the Trade.
237, 238, & 261, High Holborn, London, W.C.

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YOUELL'S NORFOLK HERO CUCUMBER.—Without exception the best Ridge Cucumber known. 6 Seeds, 1s.; 18 Seeds 2s.
LAING'S MAMMOTH CELERY.—The very best, hardiest, and finest flavoured Red Celery in cultivation. 1s. and 2s. per packet, on receipt of postage stamps.
See former advertisement.
YOUELL'S Royal Nurseries, Great Yarmouth.

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**Cole's White Perfection Celery.**

WM. COLE has much pleasure in offering again to his numerous customers the above, which has proved itself to be the best White Celery in cultivation. In sealed ½ oz. packets, free by post, 1s. 6d. Price to the Trade upon application.
Nurseries, Withington, near Manchester.

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KIMBERLEY'S SUPERB SOLID RED CELERY.—This is without exception the best Celery in cultivation. CHARLES KIMBERLEY has much pleasure in offering this superb Celery for the first time, although he has grown it for upwards of 20 years. Thousands of plants are annually sold in Coventry Market. The seed now offered is saved from bleached roots of 1862; ½ oz. packets free by post, 1s. 6d.
Stoke Nursery, near Coventry.

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TAYLOR'S DEFIANCE, NEW WHITE CELERY, free through the post, per packet, 2s. 6d.
The stock of seed of this fine variety was purchased of a market gardener, who is acknowledged to send the finest Celery of any into the principal Yorkshire markets. It is the largest, most solid, and finest flavoured White Celery grown; from the extreme difficulty of seeding it, but a small quantity can be supplied.
EDWARD TAYLOR'S DESCRIPTIVE and PRICED CATALOGUE, containing many new and choice varieties of Agricultural, Vegetable and Flower Seeds, may be had Gratis on application.

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ADDITIONAL AGENTS for the SALE of SEED of the "STUDENT" PARSNIP.
Batt, Rutley, & Silverlock, Strand, London, W.C.
Clarke, Henry & Sons, 39, King Street, Covent Garden, London, W.C.
Dickson, James & Sons, 102, Eastgate Street, Chester.
Fraser, Richardson, & Gead, 82, Bishopsgate Street Within, London, E.C.
Handasyde, Thos., Glen Nurseries, Musselburgh, N.B.
Minier, Nash, & Nash, 60, Strand, London, W.C.
Pillenger, John, Chepstow Nurseries, Chepstow.
Pierpoint, Thos., 126, Bridge Street, Warrington.
Shaw, John, 29, Oxford Street, Manchester.
Wheeler, Geo., Warminster Nursery, Wilts.
The above-named Seedsmen have been supplied direct from Messrs. SUTTON & SONS, Reading, who have Seed on Sale Wholesale to the Trade, or Retail at 6d., 1s., or 2s. 6d. per packet.
Royal Berks Seed Establishment, Reading.

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MESSRS. E. G. HENDERSON AND SON'S NEW SEED CATALOGUE forwarded post free upon application.
In addition to the usual information, valuable practical rules are given for the guidance of Amateur Cultivators in the sowing and after-management of all the Flowers described in the Catalogue.
N.B. For Descriptive Notes of NEW and RARE FLOWERS from Seed, refer to page 143 of *Gardeners' Chronicle* (Feb. 14).

CLIANTHUS DAMPIERI, home-ripened seed.—A most beautiful cool greenhouse plant, with clusters of large rich scarlet pea-shaped flowers, 3 to 4 inches in length, each flower being marked with a large conspicuous black cloud-like blotch in front. This magnificent plant has flowered in Messrs. E. G. H. & SON'S Nurseries, extending upwards of 15 feet in length, being trained horizontally against upright supports. It was ascertained that this single plant produced 680 trusses of bloom in one summer, which, averaging six flowers in a truss, formed an aggregate of 4000 blossoms as the produce of a single seed! See Catalogue for the peculiar treatment in the sowing and after management of this plant. Plants, 3s. 6d. Seeds, 1s. and 2s. 6d. per packet.

CUCUMBER.

HENDERSON'S A 1 HOUSE CUCUMBER.—The Royal Horticultural Society of London have fruited 118 varieties in their gardens at Chiswick, and decided this as the second best black-spined variety, its length 17 inches, straight and even, fine dark colour. A superior variety. Per packet, 1s. 6d.

ALL THE YEAR ROUND.—Very prolific, for quality and usefulness not surpassed at any season of the year. Per packet, 1s. 6d.

CITRON GOURD (for Preserves).—This is a truly valuable and highly interesting esculent fruit, and constitutes a true variety of the hard-fleshed Water Melon, which, though not edible in its raw state, is now proved and strongly recommended for its valuable adaptation in making a very delicious preserve. Full directions for its culture and method of preparing the preserve are given in the Catalogue. 1s.

BUSH VEGETABLE MARROW (true).—This valuable varie[ty] is sufficiently dwarf and bushy to form a compact habit plant, and from its short-jointed character and abunda[nt] bearing, its produce may be compared to a nest of fr[u]i[t] overlaying each other. 6d. and 1s.

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MESSRS. E. G. HENDERSON and SON, Wellington Road, St. John's Wood, London, N.W., beg to draw attention to the Plants figured in Part XV of the "Illustrated Bouquet":—
IMATOPHYLLUM MINIATUM
SWAINSONIA VIOLACEA
PRIMULA FR.ENITENS (SINENSIS) FILICIFOLIA RUBRA
STRAWBERRY TIETJEN
REINECKIA CARNEA VARIEGATA
Wellington Nursery, St. John's Wood, London, N.W.

# TREE AND SHRUB SEEDS

OFFERED BY

# CHARLWOOD & CUMMINS, SEEDSMEN,

## 14, TAVISTOCK ROW, COVENT GARDEN, LONDON, W.C.

| | | s. | d. |
|---|---|---|---|
| ACACIA ARGYROPHYLLA | per ounce | 3 | 0 |
| " ARMATA | per packet | 1 | 0 |
| " CUNNINGHAMII | " | 1 | 0 |
| " DEALBATA | " | 1 | 0 |
| " FARNESIANA | per ounce | 3 | 0 |
| " GLANDULOSA | " | 4 | 0 |
| " GLOMERATA | " | 4 | 0 |
| " GRANDIS | per packet | 1 | 0 |
| " HISPIDA | " | 1 | 0 |
| " HYBRIDA | " | 1 | 0 |
| " JULIBRISSIN | per ounce | 3 | 0 |
| " LEPTOPHYLLA | " | 2 | 0 |
| " LEUCOCEPHALA | " | 4 | 0 |
| " LOPHANTHA | " | 1 | 6 |
| " MELANOXYLON | " | 4 | 0 |
| " NERIFOLIA | per packet | 1 | 0 |
| " SOPHORÆ | per ounce | 8 | 0 |
| " STROMBULIFERA | per packet | 1 | 0 |
| " TORTUOSA | " | 1 | 0 |
| " TRINERVA | per ounce | 4 | 0 |
| ACER CAMPESTRE (Maple) | per bushel | 4 | 0 |
| " PENNSYLVANICUM | per ounce | 1 | 6 |
| " PSEUDO PLATANUS (Sycamore) | per bushel | 4 | 0 |
| " SACCHARINUM (Sugar Maple) | per lb. | 6 | 0 |
| ÆSCULUS HIPPOCASTANUM (Horse Chestnut) | per bushel | 6 | 0 |
| AILANTUS GLANDULOSA (The new food for the silkworm) | per lb. | 6 | 0 |
| ALNUS GLUTINOSA (common Alder) | " | 1 | 6 |
| " SERRULATA (notch-leaved Alder) | per ounce | 1 | 6 |
| AMORPHA FRUTICOSA | " | 1 | 0 |
| ANDROMEDA ARBOREA | " | 1 | 6 |
| " MARIANA | " | 1 | 6 |
| " PANICULATA | " | 1 | 6 |
| ANTHOCERCIS PICTA | " | 1 | 6 |
| ARBUTUS UNEDO (Strawberry Tree) | per lb. | 8 | 0 |
| ARMENIACA VULGARIS (Apricot) | " | 3 | 0 |
| BENTHAMIA FRAGIFERA | per ounce | 1 | 0 |
| BERBERIS CANADENSIS (Canadian Barberry) | per lb. | 8 | 0 |
| BETULA ALBA (white Birch | " | 0 | 8 |
| " LENTA (soft Birch) | per ounce | 1 | 0 |
| " LUTEA (yellow Birch) | " | 1 | 0 |
| " NIGRA (black Birch) | " | 1 | 0 |
| BIGNONIA CATALPA | " | 1 | 0 |
| " RADICANS | " | 2 | 0 |
| CALYCANTHUS MACROPHYLLUS | per packet | 1 | 0 |
| CARPINUS AMERICANA (American Hornbeam) | per lb. | 16 | 0 |
| CARPINUS BETULUS (common Hornbeam) | " | 1 | 0 |
| CASSIA CORYMBOSA | per ounce | 2 | 0 |
| " LÆVIGATA | " | 2 | 0 |
| " TOMENTOSA | " | 2 | 0 |
| " TOROSA | per packet | 1 | 0 |
| CEANOTHUS AMERICANUS | per ounce | 4 | 0 |
| " AZUREUS | per packet | 1 | 0 |
| " STYRACIFOLIUS | " | 1 | 0 |
| " THYRSIFLORUS | " | 1 | 0 |
| CELASTRUS SCANDENS (a beautiful climber) | per ounce | 1 | 0 |
| CELTIS AUSTRALIS (Nettle Tree) | " | 1 | 6 |
| " OCCIDENTALIS | " | 1 | 6 |
| " ORIENTALIS | " | 1 | 6 |
| CEPHYLANTHUS OCCIDENTALIS (a very ornamental North American shrub) | " | 1 | 6 |
| CERASUS DOMESTICA (common Cherry) | per lb. | 2 | 0 |
| " VIRGINIANA (Virginian Cherry) | per ounce | 1 | 0 |
| CERATONIA SILIQUA (St. John's Bread) | per packet | 1 | 0 |
| CERCIS SILIQUASTRUM (Judas Tree) | per ounce | 1 | 0 |
| " CANADENSIS | " | 1 | 0 |
| CHIONANTHUS MARITIMA (Fringe Tree) | " | 1 | 0 |
| " MONTANA | " | 1 | 0 |
| " VIRGINICA | " | 1 | 0 |
| CISTUS ALBIDUS | " | 1 | 0 |
| " MONSPELIENSIS | " | 1 | 6 |
| " SALVIFOLIUS | " | 1 | 0 |
| CLEMATIS FLAMMULA (Virgin's Bower) | " | 1 | 6 |
| " VIRGINIANA | " | 1 | 6 |
| CLETHRA ALNIFOLIA | " | 1 | 0 |
| " ARBOREA | " | 1 | 0 |
| CLIANTHUS PUNICEUS | per packet | 1 | 0 |
| CORNUS FLORIDA (Great flowered Dog-wood) | per ounce | 1 | 0 |
| CORONILLA GLAUCA | " | 1 | 0 |
| " JUNCEA | " | 1 | 0 |
| CRATÆGUS OXYACANTHA (common white Hawthorn) | per bushel | 8 | 0 |
| CYDONIA VULGARIS (Quince) | per ounce | 1 | 0 |
| CYRILLA RACEMIFLORA | per packet | 1 | 0 |
| CYTISUS CAPITATUS | per lb. | 12 | 0 |
| " LABURNUM (English Laburnum) | " | 1 | 0 |
| " NIGRICANS (evergreen Cytisus) | " | 12 | 0 |
| " SCOPARIUS (common Broom) | " | 1 | 0 |
| " SESSILIFLORUS | per ounce | 1 | 0 |
| " SPINOSUS | " | 1 | 0 |
| " TRIFLORUS | " | 1 | 0 |
| DAUBENTONIA TRIPETIANA | per packet | 1 | 0 |
| DIOSPYROS PUBESCENS (Date Plum) | per ounce | 1 | 0 |
| DIRCA PALUSTRIS (Leather Wood). An ornamental shrub, with very flexible twigs) | " | 1 | 0 |
| EBENUS CRETICA | per packet | 1 | 0 |
| ERICA, fine mixed Cape | per ounce | 10 | 0 |
| ERYTHRINA CRISTA-GALLI | per packet | 1 | 0 |
| EUCALYPTUS FALCATA | " | 1 | 0 |
| EUONYMUS EUROPÆUS (common Spindle Tree) | p. lb. | 4 | 0 |
| " JAPONICUS (Japan) | per packet | 1 | 0 |

| | | s. | d. |
|---|---|---|---|
| FAGUS SYLVATICA (Beech) | per bushel | 14 | 0 |
| FRAXINUS AMERICANA (American Ash) | per lb. | 4 | 0 |
| " EXCELSIOR (common Ash) | per bushel | 3 | 0 |
| GENISTA JUNCEA | per ounce | 1 | 0 |
| " SPINOSA | " | 1 | 0 |
| GLEDITSCHIA TRIACANTHOS (Three-thorned Acacia) | per lb. | 3 | 0 |
| GYMNOCLADUS CANADENSIS (Kentucky Coffee Tree) | " | 4 | 0 |
| HALESIA TETRAPTERA (Snowdrop Tree) | " | 4 | 0 |
| HIBISCUS COCCINEUS | per packet | 1 | 0 |
| " SYRIACUS | per ounce | 1 | 0 |
| HYPERICUM KALMIANUM | " | 1 | 0 |
| ILEX AQUIFOLIUM (common Holly) | per bushel | 12 | 0 |
| " " ALBO-MARGINATA (variegated Holly) | per lb. | 1 | 0 |
| " OPACA (Carolina Holly) | " | 3 | 0 |
| ITEA VIRGINICA | per ounce | 1 | 0 |
| KALMIA AUGUSTIFOLIA | per lb. | 12 | 0 |
| " LATIFOLIA | " | 12 | 0 |
| KOLREUTERIA PANICULATA | per ounce | 1 | 0 |
| LAURUS BENZOIN (Benjamin Tree) | " | 0 | 8 |
| " NOBILIS (Sweet Bay) | per lb. | 3 | 0 |
| LIGUSTRUM JAPONICUM (Chinese Privet) | " | 1 | 6 |
| " VULGARE (common Privet) | " | 0 | 8 |
| LIQUIDAMBAR STYRACIFLUA (Sweet Gum Tree) | " | 12 | 0 |
| LIRIODENDRON TULIPIFERA (Tulip Tree) | " | 1 | 4 |
| MAGNOLIA ACUMINATA | " | 12 | 0 |
| " GLAUCA | " | 12 | 0 |
| " GRANDIFLORA | per ounce | 1 | 0 |
| " MACROPHYLLA | " | 1 | 6 |
| " TRIPETALA (Umbrella Magnolia) | per lb. | 10 | 0 |
| MORUS ALBA (white Mulberry) | per ounce | 1 | 6 |
| " NIGRA (black Mulberry) | " | 1 | 6 |
| MYRTUS COMMUNIS (common Myrtle) | " | 1 | 0 |
| NYSSA VILLOSA | " | 1 | 0 |
| PAULOWNIA IMPERIALIS | per packet | 1 | 0 |
| PHILLYREA LATIFOLIA | per ounce | 1 | 0 |
| PHOTINIA ARBUTIFOLIA vel CRATÆGUS ARBUTIFOLIA | " | 2 | 6 |
| PODALYRIA CORDATA | per packet | 1 | 0 |
| PRINOS GLABER | per ounce | 2 | 0 |
| " VERTICILLATUS | " | 1 | 0 |
| PRUNUS DOMESTICA (common Plum) | per lb. | 3 | 0 |
| PTELEA TRIFOLIATA (North American shrub, with Laburnum-like leaves) | per ounce | 1 | 0 |
| PYRUS AUCUPARIA (Mountain Ash) | per lb. | 1 | 0 |
| " COMMUNIS (the Pear) | " | 6 | 0 |
| " MALUS (the Apple) | " | 6 | 0 |
| QUERCUS COCCINEA (Scarlet Oak) | per lb. | 1 | 6 |
| " ILEX (evergreen Oak qt. 1s. 6d., | per bushel | 40 | 0 |
| RHAMNUS CATHARTICUS (Buckthorn) | per ounce | 0 | 9 |
| RHODODENDRON MAXIMUM | per lb. | 12 | 0 |
| " PUNCTATUM | per ounce | 1 | 6 |
| RHUS GLABRA (smooth Sumach) | " | 1 | 6 |
| " TYPHINA (Virginian Sumach) | per lb. | 6 | 0 |
| " VERNIX (varnish Sumach | per ounce | 1 | 0 |
| RIBES GROSSULARIA (Gooseberry) | " | 1 | 6 |
| " RUBRUM (Red Currant) | " | 1 | 6 |
| " " ALBUM (White Currant) | " | 1 | 6 |
| ROBINIA PSEUD-ACACIA (the common Acacia) | per lb. | 1 | 6 |
| ROSA RUBIGINOSA (Sweet Briar) | " | 4 | 0 |
| RUBUS IDÆUS (Raspberry) | per ounce | 1 | 6 |
| SAMBUCUS CANADENSIS (Canadian Elder) | " | 2 | 0 |
| SCHINUS MOLLE | " | 4 | 0 |
| SMILAX WALTERI | per lb. | 4 | 0 |
| SOLLYA HETEROPHYLLA | per packet | 1 | 0 |
| SOPHORA JAPONICA | per ounce | 1 | 0 |
| " PINNATA | " | 1 | 0 |
| STAPHYLEA TRIFOLIA | " | 2 | 0 |
| STYRAX OFFICINALE | per lb. | 12 | 0 |
| SUTHERLANDIA FRUTESCENS (Colutea frutescens) | per packet | 1 | 0 |
| TILIA AMERICANA (American Lime) | per lb. | 8 | 0 |
| " EUROPÆA (Common Lime) | " | 4 | 0 |
| " GLABRA (Smooth-leaved Lime) | " | 6 | 0 |
| ULEX EUROPÆA (Furze, Whin, or Gorse) | " | 1 | 6 |
| ULMUS CAMPESTRIS (Elm) | " | 0 | 8 |
| VIBURNUM LENTAGO | per ounce | 1 | 0 |
| " NUDUM | " | 0 | 8 |
| " OXYCOCCUS | " | 1 | 0 |
| " TINUS (Common Laurestine) | per lb. | 8 | 0 |
| VIMINARIA LATERIFLORA | per ounce | 1 | 6 |
| VIRGILIA LUTEA | " | 3 | 0 |
| VITIS VINIFERA (Grape) | " | 1 | 0 |

### CONIFERÆ.

| | | s. | d. |
|---|---|---|---|
| ABIES ALBA (white American Spruce Fir) | per ounce | 1 | 6 |
| " CANADENSIS (Hemlock Spruce Fir) | " | 2 | 0 |
| " DOUGLASII (Douglas's Spruce Fir) | 50 seeds | 2 | 6 |
| " ENGELMANNI (new species from the Rocky Mountains, closely resembling Abies Pattoniana) | 50 seeds | 5 | 0 |
| " EXCELSA (Norway Spruce Fir) | per lb. | 1 | 0 |
| " MENZIESII (Menzies's Spruce Fir) | 200 seeds | 2 | 6 |
| " PATTONIANA (Patton's Spruce Fir) | 50 seeds | 2 | 6 |
| ARAUCARIA BRASILIANA (Brazil Pine) | 100 seeds | 12 | 0 |
| CRYPTOMERIA JAPONICA (Japan Cedar) | per ounce | 8 | 0 |
| " LOBBII | per packet | 2 | 6 |
| CUPRESSUS BENTHAMII | 100 seeds | 2 | 6 |

### CONIFERÆ.

| | | s. | d. |
|---|---|---|---|
| CUPRESSUS CORNEYANA *vel* GRACILIS | 100 seeds | 2 | 6 |
| " GOVENIANA | per packet | 2 | 6 |
| " KNIGHTIANA | 150 seeds | 2 | 6 |
| " LAWSONIANA (from Northern California. forming a handsome tree 150 to 200 feet high), 1 oz., 24s.; ½ oz., 14s., | per ¼ ounce | 8 | 0 |
| " McNABIANA (from Northern California) | pr 100 seeds | 2 | 6 |
| " MACROCARPA vel LAMBERTIANA (large Californian Cypress) | per ounce | 6 | 0 |
| " SEMPERVIRENS HORIZONTALIS (Evergreen spreading Cypress) | per lb. | 4 | 0 |
| " SEMPERVIRENS STRICTA (Evergreen upright Cypress) | " | 4 | 0 |
| " TORULOSA | per packet | 2 | 6 |
| " TOURNEFORTIA | per ounce | 1 | 6 |
| JUNIPERUS ATTICA (new species from Greece) | " | 6 | 0 |
| " COMMUNIS (common Juniper) | per lb. | 1 | 0 |
| " DRUPACEA | per packet | 2 | 6 |
| " EXCELSA | per ounce | 2 | 6 |
| " OXYCEDRUS | " | 1 | 0 |
| " RUFESCENS (species from Greece) | " | 5 | 0 |
| " VIRGINIANA (Red Cedar, fine clean seed) | per lb. | 12 | 0 |
| LARIX AMERICANA (American Larch) | per ounce | 2 | 0 |
| " EUROPÆA (common Larch), Scotch seed, per cwt., 8l. 8s. | per lb. | 2 | 0 |
| " " Tyrolese seed | " | 2 | 6 |
| LIBOCEDRUS DECURRENS vel THUJA CRAIGIANA | per 50 seeds | 2 | 6 |
| PICEA AMABILIS (lovely Silver Fir) | " | 5 | 0 |
| " BALSAMEA (Balm of Gilead Fir) | per lb. | 16 | 0 |
| " FRASERI (Fraser's Silver Fir) | per ounce | 2 | 6 |
| " GRANDIS (Californian Silver Fir) | per 50 seeds | 5 | 0 |
| " NORDMANNIANA (Nordmann's Silver Fir), 1 oz., 16s.; ½ oz., 9s. | per ¼ ounce | 5 | 0 |
| " PECTINATA (common Silver Fir) | per lb. | 1 | 0 |
| " PANACHAICA (new species from Greece), per ½ oz., 5s. | per ¼ ounce | 3 | 0 |
| " PINSAPO (Pinsapo Silver Fir), 8 oz., 16s.; 4 oz., 9s.; 2 oz., 5s. | per ounce | 3 | 0 |
| " REGINÆ AMALIÆ (new species from Greece), ½ oz., 5s. | per ¼ ounce | 3 | 0 |
| PINUS ARISTATA (hardy, new, and distinct, found at an elevation of 9000 feet on the high mountains of Clear Creek and Bear River, where it forms a handsome tree 40 to 50 feet in height) | 12 seeds | 10 | 0 |
| PINUS AUSTRIACA (Austrian or Black Pine) | per lb. | 4 | 0 |
| " BENTHAMIANA | 10 seeds | 2 | 6 |
| " CANARIENSIS (Canary Pine), 4 oz., 16s.; 2 oz., 9s. | 1 ounce | 5 | 0 |
| " CEMBRA (Siberian Stone Pine) | per lb. | 3 | 0 |
| " COULTERI vel MACROCARPA, 1 oz., 12s.; ½ oz., 7s. | ¼ ounce | 4 | 0 |
| " CONTORTA (from the Sierra Nevada), cone with seeds | .. .. | 1 | 0 |
| " FLEXILIS (new and distinct, found on the mountains along the Fraser River, and on the Shasta Mountains in Northern California, forming a handsome tree 60 to 80 feet in height) | 12 seeds | 10 | 0 |
| " FREMONTIANA (Nut Pine), 1 oz., 20s.; ½ oz. 12s. | per ¼ ounce | 7 | 0 |
| " HALEPENSIS (Aleppo Pine) | per lb. | 16 | 0 |
| " INSIGNIS, 1 oz., 8s.; ½ oz., 5s. | per ¼ ounce | 3 | 0 |
| " LAMBERTIANA (Lambert's Pine), 1 oz., 12s.; ½ oz., 7s. | " | 4 | 0 |
| " LARICIO (Corsican or Larch Pine) | per lb. | 8 | 0 |
| " MARITIMA | " | 1 | 4 |
| " MONTANA | " | 6 | 0 |
| " MURICATA (small or Prickly-coned Pine) | 50 seeds | 2 | 6 |
| " PINASTER (Pinaster or Cluster Pine) | per lb. | 1 | 4 |
| " PINEA (Stone Pine) | " | 1 | 4 |
| " PONDEROSA (ponderous-wooded Pine), ¼ oz. 10s., | per ⅛ ounce | 6 | 0 |
| " PUMILIO (dwarf or Mountain Pine) | per lb. | 10 | 0 |
| " RADIATA (radiated-scaled Pine) 1 ounce, 16s.; ½ ounce, 9s. | per ¼ ounce | 5 | 0 |
| " RIGIDA (stiff leaved Pine) | per ounce | 2 | 0 |
| " SABINEANA (Sabine's Pine) 1 oz., 16s.; ½ oz., 9s. | per ¼ ounce | 5 | 0 |
| " STROBUS (Weymouth Pine) | per lb. | 10 | 0 |
| " SYLVESTRIS (Scotch Pine, or Scotch Fir) | " | 3 | 0 |
| " TUBERCULATA (tuberculated Pine) | cone with sds. | 4 | 0 |
| TAXODIUM DISTICHUM vel CUPRESSUS DISTICHA (deciduous Cypress) | per lb. | 6 | 0 |
| " SEMPERVIRENS vel SEQUOIA SEMPERVIRENS (Red Wood or Bastard Cedar) | 100 seeds | 2 | 6 |
| TAXUS BACCATA (the common Yew) | per lb. | 4 | 0 |
| THUJA NEPALENSIS (Nepal Arbor-vitæ) | " | 12 | 0 |
| " OCCIDENTALIS (American Arbor-vitæ) | " | 12 | 0 |
| " ORIENTALIS (Chinese Arbor-vitæ) | " | 10 | 0 |
| WELLINGTONIA GIGANTEA (the Mammoth Tree of California) ½ oz. 30s.; ¼ oz. 17s. 6d.; ⅛ oz.; 10s.; | $\frac{1}{16}$th ounce | 6 | 0 |

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**Abutilon.**—See page 19.

Per packet—*s. d.*

390\. ABUTILON REGELII.—A magnificent variety of this really ornamental genus, with deep golden yellow large bell-shaped flowers, exquisitely veined, and produced in great profusion. Foliage very handsome .. 1 6

**Acacia.**—See page 19.

432\. ACACIA MYRIOBOTRIA.—A splendid free-flowering variety, with elegant rich green leaves and deep primrose flowers in racemes .. .. .. .. 1 0

434\. ACACIA ODORATISSIMA PENDULA.—An elegant variety, with long slender foliage and clusters of exceedingly fragrant yellow flowers, which are produced in great abundance, and in succession throughout the year; remarkable also for its rapid growth and graceful habit.. .. .. .. .. .. .. 1 6

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**Amaranthus.**—See page 22.

493\. AMARANTHUS MELANCHOLICUS, var. RUBER. —When illumined by the sun's rays the resplendent beauty of the foliage of this plant is incomparable; its growth is very elegant; admirably adapted for ribboning, bedding, grouping, or massing with other plants: to MR. JAMES VEITCH's visit to Japan, the public are indebted for this first-class novelty .. .. .. 1 0

Per packet.—*s. d.*

**Anagallis.**—See page 23.

505\. ANAGALLIS GRANDIFLORA ASPROMONTE.—Fine carmine maroon .. .. .. .. .. 1 0

510\. " " GARIBALDI.—Vermilion .. 1 0

515\. " " SUPERBA.—Bright blue .. 0 6

The above are exquisitely pretty varieties of this neat and profuse-flowering plant.

**Aster.**—See page 26.

ASTER, VICTORIA.—Said to be "The most beautiful Aster in cultivation; flowers perfectly double, imbricated, globular, of a fine rosy-carmine, and as large as the Giant Emperor Aster. The plant is of vigorous growth, producing from 10 to 20 flowers, which form an elegant pyramid; height, 1½ feet."

630\. ASTER, LARGE-FLOWERED DWARF PÆONY.—"Half the height of Pæony Perfection Aster, and of a beautiful pyramidal habit, with very large handsome double flowers" .. .. .. .. .. .. 1 0

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*To be continued next week.*

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The following NOVELTIES are now being sent out in good plants, fit for Spring propagation.

### New Fuchsias, 7s. 6d. each.

ADELINE.—Red tube and sepals, beautifully reflexed, and of unusual length; double purple corolla of an irregular shape, some petals being long and others short; very peculiar.

FLORETTA.—Rich scarlet tube and sepals of the deepest crimson, very broad and wax-like, pure white corolla, of excellent shape.

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SPECIAL.—Broad bright red sepals, reflexing back to the tube; beautiful, large, stiff, and smooth, bright blue corolla, marked with red at the base; excellent habit.

TRIUMPHANT.—Crimson sepals, with double purple plum corolla, flaked with crimson at the base; fine form.

### New Petunias, 3s. 6d. each.

BASILISK.—Glossy crimson, with rich violet throat, very smooth, fine form.

BRIDESMAID.—Bright pink, with large white centre.

CUPID.—Double, mauve, blotched in the centre with pure white, distinct.

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GOOD THING.—Rich crimson, veined and striped with black; black throat.

MARMION.—French white, reticulated and veined with violet, very delicate, semi-double.

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ACHIM.—Rose shaded with pink, excellent form.

ASPASIA.—Bright rose, very pretty.

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COUNTESS.—Rose shaded with scarlet.

COMMISSIONER.—Brilliant scarlet, vermilion upper petals.

DORIS.—Vivid orange scarlet, white eye.

EFFECTIVE.—Vermilion shaded with rose.

ENVOY.—Very deep rosy scarlet, large flower.

GLORIOUS.—Light scarlet, light centre.

HELDI.—Glowing scarlet, large flowers.

MAJOR DOMO.—Rosy scarlet, fine flowers.

PERSIAN.—Bright rose.

TRANSCENDENT.—Bright cerise shaded with scarlet.

UNIT.—Soft rose.

UMPIRE.—Cerise shaded with pink, large flower

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THE GARDENERS' CHRONICLE.

*SATURDAY, FEBRUARY 21, 1863.*

MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, Feb. 25 { Royal Horticultural (Fruit and Floral Committees) at S. Kensington 10 A.M. / HYACINTH SHOW, ditto 1 P.M.

IT is the fate of Vines to be tortured. No poor wretch who has been rubbed by ST. JOHN LONG, scoured by MORRISON, disjointed under excruciating rheumatism by MAHOMET, or drenched with gallons of cold water without or within by one of the Water Doctors, has ever had more reason to complain than the Grape Vine under the hands of quack gardeners and sciolists. Each has his own theory. The roots are either gorged with carrion or starved in mere sand and rubble; they are parboiled, and at length dried up by contiguous flues, or rotted with stagnant water, while matters which are sure to breed some deadly spawn are mixed up with their compost; no proper proportion is maintained between the temperature of the house and the external air or soil, in consequence of which the internal air is often so dry that the leaves can scarcely maintain their plumpness; rootlets are sent out from the branches, and spongy masses appear on the leaves; light and ventilation are prevented, and the foliage becomes chlorotic; insects and moulds are feared, and the leaves and bark are half destroyed with injurious chemicals, and it is well if the whole plant is not withered at once by sulphurous vapour.

This at first sight may appear an exaggerated statement, but though British Grape growers can bear competition with the whole world, yet since every gardener tries his skill at Grape growing, though devoid alike of instruction and experience, it is not wonderful that there should be so many failures, especially when it is borne in mind that first-rate Grape growing requires great skill, and an ability to meet local difficulties with speed and precision. Our remarks, moreover, are justified by the fact that in no branch of culture do so many anomalies occur, and accordingly that there is no subject on which we are so often asked for advice, or on which the same information is so repeatedly given in our answers to correspondents.

The matter has been brought forcibly under notice by a very singular case which was sub-

mitted to us a few days since, to a part of which we fancy that we have a clue, though not all the materials which are requisite.

Several Vines were planted in July 1859 in a poor light sandy loam, full of Fern roots (some of them of considerable size) such as is often found in woods where the Beech is the only tree which flourishes: a soil which is pervious and easily drained, but which has scarcely staple enough in it for continued vigorous growth.

The Vines accordingly grew very strong the first year, but the soil apparently was much exhausted by the first effort, and in 1860 the young rods broke weakly and very irregularly, a condition which has not been since improved. Then came the mildew, while the decaying Fern was beginning to injure the tender roots; some wash, apparently too powerful, has been applied to the bark, the superficial tissues received injury, and the succeeding growth was still worse; the alburnum is again injured, and in all probability the Vines will ultimately decay.

On removing the young bark, it is quite curious to see how the tissues are in part discoloured, and the ducts completely clogged up with a reddish brown jelly, while a section shows that a precisely similar condition obtained during the previous year. We see no trace of Grape-mould at present on the young shoots or leaves, nor any signs of last year's fungus.

Whether our views of the case are quite correct or not, can only be ascertained at the place of growth, but the reasons assigned are precisely such as would account for the condition of the Vines, while it must always be borne in mind, in questions of vegetable pathology, that apparently similar effects may often be produced by very different causes.

There is still a peculiarity about the rods which requires notice, and one for which we can assign no probable reason. Every specimen communicated to us is covered with knaurs, which are clearly formed from latent adventitious buds, in the same manner as the well-known productions on several of our forest trees. The rapidity with which these have been produced, and the difference of solidity between them and the normal tissues of the stem, are very striking. It is possible that this tendency to form adventitious buds, and the quantity of nutriment which must be diverted from its natural direction to support the knaurs, may exercise considerable influence on the growth of the young rods, but to what this peculiarity is to be attributed we can form no conjecture.

Insufficient nutriment from below, the baneful Grape mildew, and an overdose of some chemical dressing, are quite enough without this constitutional peculiarity to account for the mischief. And after all it must be confessed that "constitutional" like "neuralgic" is a very convenient epithet, where effects are plain enough, but where the cause is hidden. Even supposing that we are wrong about the chemical dressing, there are plenty of instances on record where violent attacks of mildew have induced a partial or complete destruction of the wood. *M. J. B.*

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Notwithstanding the signal revolutions which modern times have witnessed in the Kingdom of Flora, the Rose still reigns supreme. Queen, not only by hereditary and prescriptive right, but also by universal assent, she occupies the same throne and sways the same sceptre now, as when Nero feasted, and when Sappho sang. Times have changed, and in the onward march of events the Rose has gathered and is still gathering richer and more glowing vestments from the loom of her beautiful foster-mother, Nature, and now as then, in gorgeousness of apparel, in grace, in sweetness, she stands forth unrivalled and alone.

Never was there a more opportune moment than the present for bringing the Rose under notice as a hardy decorative plant, for such it must still be considered, notwithstanding that the winter of 1860-61 in great measure cleared our gardens of Roses as they were, good, bad, and indifferent. If we have to mourn over the loss of some cherished gems, we have at least the satisfaction of being rid of the rubbish which had been accumulating on our hands for the last quarter of a century. And now that we are recovered from the consternation produced by the slaughter of that period, and Roses are again cheap, good, and plentiful, it may be well to consider how we can best reproduce those pictures of the past, which, though becoming dimmed by distance, are still fresh in memory. In future numbers this question, with other branches of Rosology, will be discussed by a Correspondent who is able to speak on all matters connected with Rose-culture with the authority which experience alone can impart.

No one with a knowledge of the Rose as it is, would, we presume, think of refilling his garden with the varieties of the olden times. And if, owing to the scarcity of buds, or from other causes, any grower should have renewed his stock with such materials, he will probably find it easier to grow than to dispose of them. We have entered on a new era in Rose culture. Summer Roses are less valuable than formerly. We cannot indeed altogether set them aside, but we shall do well first to reduce the groups, and then the number of the varieties. The Moss, the Austrian Brier, the Hybrid China, &c., are the only groups of this division that are likely henceforth to be extensively cultivated. The French and kindred groups, sweet, bright, and beautiful as they are, must yield to the equal beauty and greater durability of the Hybrid Perpetuals. The Bourbon and Tea-scented races, if inferior to the last-mentioned in hardihood and exactitude of form, so far surpass them in redundancy of bloom, that they are altogether indispensable.

But another question arises—"In what way shall these Roses be cultivated?" Certain kinds are best as climbing, pillar, or weeping Roses, but in general it is a matter of indifference whether they are grown as standards or dwarfs—budded or on their own roots. The purposes for which they are required, and the positions they are intended to occupy, will in most cases settle this question. But, apart from these considerations, we think that tall standard Roses have been too plentifully used in ornamental gardening. A Rose tree, except when viewed at a distance, is more beautiful growing *under* the eye than on a level with or above it. And for these reasons: the face of a flower is more captivating than the base or sides, and the upper surface of the leaves is more highly finished than the lower.

One lesson taught us by the winter of 1860-61 should not be forgotten, viz., that budded and grafted Roses are sometimes killed when those on their own roots pass safely through the severest frosts. All lovers of Roses should plant at least one of each of the most valued sorts on its own roots; the winter may indeed kill the shoots of these plants above ground, but the dormant buds beneath the earth will remain safe, and will quickly restore the plant to its original state.

The practice of planting budded and grafted Roses in autumn has been unwisely extended to those on their own roots. Against this we enter a caution. A greater mistake, we believe, could not be committed. Doubtless, many examples of non-success might be traced to this cause. Leaving out of the question the cases of Roses on their own roots which have been nursed up in heat to get them quickly into the market, the custom of transferring a plant from a pot into the ground in early autumn, exposed before it is established to all the vicissitudes of an English winter, is contrary alike to sound theory and practice. Plant in April when the growing season has commenced, and the result will be a well-established plant before the winter arrives, and one that will live and flourish in spite of its trials and difficulties.

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—— We learn from the *Builder* that the plan of an Exhibition building and Winter garden in Dublin has been finally settled. That of Mr. Alfred G. Jones of that city has been accepted.

"The Winter Garden will be formed at the south and west sides of the building, and will be of considerable extent, with continuous galleries. This building is to be constructed of glass and iron, having two principal fronts. The west front of the winter garden will run the full extent of the buildings, and unite with the Exhibition department. The building will also contain a private entrance for the use of the Lord Lieutenant and his suite, as well as dining-rooms, board-room, secretary's office, manager's residence, &c., with a basement story. The building, except on the north side, will be surrounded by an ornamental garden and grounds, the laying out of which will be under the direction of Mr. Niven, landscape gardener, of Drumcondra. The cost of the building is estimated at 40,000*l*. The whole site covers about 15 acres of ground. The architect, Mr. Jones, has engaged the co-operation of Messrs. Ordish & Le Feuvre, of London, to assist him with the details of the ironwork."

Judging from a very clever drawing engraved in the *Builder*, the building will be one of great beauty.

—— We observe that the Horticultural Society of Liége offers prizes for some subjects not included in our English exhibitions of plants, but which seem to deserve the attention of our own societies. Those to which we allude are the following:—

1. The best new seedling raised in Belgium.
2. A collection of 20 plants with parti-coloured foliage.
3. A collection of 25 useful or medicinal plants.
4. A collection of 25 bulbous plants in flower, consisting of at least 15 *distinct* species or varieties.
5. The best 6 pots of Lily of the Valley.
6. The best 6 Bromeliads.
7. The best specimens of garden labels.
8. Any garden tools or implements.
9. Any objects of art suitable for the decoration or use of gardens.
10. The best forced Vegetables.

—— A rare opportunity now occurs for sending to Cashmere a young man of energy and character, who understands the manufacture of cider, and who is also thoroughly acquainted with general gardening. The Maharajah, in whose service he would be placed, will give 200*l*. a-year, and pay his expenses there and back.

The climate of Cashmere is beautiful. Apply by letter only to Dr. Lindley, Turnham Green.

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—— We may remind the lovers of Flowers and of Floral Exhibitions that next Wednesday is the inaugural show of the season, that day having been set apart by the Royal Horticultural Society for a competitive display of Hyacinths and other spring flowers. The show is to take place at South Kensington. As the season has been remarkable for the absence either of injurious cold, or of the depressing dulness which sometimes in winter renders the production of a fine display of early blossoms a very critical and difficult task, we may look forward to a gay meeting—so far at least as the formation of incipient flowers may not have been hindered by the semi-sunless summer of last year. Another spring meeting, called a Camellia and Rhododendron show, is to take place under the same auspices on the 18th of March; and an Azalea and Rose Show is fixed for the 15th of April. Add to these the spring exhibitions of the Royal Botanic Society in the Regent's Park, for which the 28th of March and the 11th and 25th of April are the days named, and it will be evident that London residents and visitors will have ample opportunity to do homage to Flora, and that the exhibitors, Flora's especial handy-men, will not want fitting occasion to prove themselves her trusty knights.

We are glad to see that the grand old family of Amaryllids is again attracting the notice both of schedule makers and of growers for exhibition. Though ranking amongst the most gorgeous of all our gaudy flowers, they had somehow or other become unfashionable, and though seen here and there in tolerable perfection, they were by no means generally cultivated. Now, however, one meets with them somewhat more frequently, and the fact that collections of them are invited by the Royal Horticultural Society on the 25th of February, and by the Royal Botanic Society on the 11th of April, must give an impetus to their cultivation, not only directly for the purposes of competition on these occasions, but also incidentally by the attention which the display, if at all what it ought to be, cannot fail to be the means of attracting towards them. They well deserve this revival.

Camellias, which rank amongst the aristocracy of flowers, of course figure prominently in the spring schedules to which we are alluding. The Royal Horticultural Society on the 18th of March invites two sets of 6 plants, one from nurserymen the other from amateurs, as well as sets of four plants and single plants open to all comers; and in addition to these a special "plum" is held out for the best three plants from any quarter. What a grand display might be made of these flowers alone, if the blossoms would but travel better! It is even worth making an effort, some of these days, to bring them together on a much grander scale than has hitherto been attempted. But always, failing the plants, we may have exhibitions of the gathered blossoms, and these, nicely arranged in appropriate stands, form one of the prettiest series of cut flowers which are met with in the whole range of our exhibitions—second only to Roses; so that we are not at all surprised to find both Societies inviting Camellias in this form. We must say, however, that the half sovereign offered as a first prize at Kensington for a dozen blooms is hardly consistent with the general liberality in prizes which characterises that western suburb.

Auriculas—those loveliest of the early pets of the florist—are not it seems forgotten by either of the 'royal' societies, though perchance in so mild a season, the reception, fixed for April, may come rather late. This, however, is one of the little matters in which antedated calculations are liable to prove fallible. And then how pleasant and genial to see the whole family included in the invitation—to Kensington too above all places: grey-edged, white-edged, green-edged, selfs, aye and Alpines, one and all of them! We began to think Mr. Eyles had persuaded the Council to turn florists in earnest, until our eye caught first another entry just below: "8 Pansies, fancies, in pots, 15*s*.," and

than for 24 blooms of the genuine show kinds, we saw that a less amount had been fixed; so that this could not be.

One special feature worthy of note in the meetings at the Regent's Park, is the invitation of collections of Conifers and other hardy evergreens in pots. At the present day, when so many fine things of this class have been introduced, thanks in great measure to Mr. Fortune and Mr. Veitch, this hardy evergreen group might be made to form a very interesting part of the display. There is ample material also for a class of hardy variegated shrubs and trees, a well assorted group of which would prove exceedingly attractive.

## ORCHIDS ON BLOCKS.

There are several genera of Orchids which may very conveniently be grouped together for purposes of cultivation, and none more so than those specified in this paper, as they require precisely the same kind of treatment, due regard being paid to the different periods of growth and flowering. With but one exception, I grow them on blocks of wood proportioned to the size of the plant. For this purpose I use a branch of a Cork-tree, cut to different lengths according to the thickness. The bark of this tree is more capable of retaining moisture than that of most others; it has also the advantage of being light and durable, and it is but rarely that the roots of the Orchids will refuse to cling to it. Acacia wood is of about the same value for this purpose; it is more easily obtained, but it is heavier.

In fixing the plants on the blocks, I generally first place a small portion of peat-fibre or Sphagnum on them; the plant is then firmly attached by passing fine copper wire between the pseudo bulbs, finishing off by covering the roots with more Sphagnum. It is of the utmost importance that the plants should be firmly fixed in their position, in order that the roots may attach themselves the moment growth commences.

Orchids on blocks like plenty of moisture. They become dry very quickly, and if neglected sustain serious injury; I therefore see that they have constant attention, examining them daily, and employing the syringe freely during their season of growth—in short, never discontinuing its use until the plants are removed to a cooler house. It may be here remarked that the principal secret in regard to Orchid growing consists in incessant watchfulness—in fact, in constantly observing and attending to their numerous wants, varying as they do in different species and at different seasons. To a real lover of Orchids, such operations form a source of peculiar pleasure, especially to the owner of a mixed collection, who sees beauty in many a form unrecognised by others who only cherish the élite among this aristocratic class of plants. With what satisfaction do we watch the swelling bud in its various stages of development, and see the healthy roots scrambling over the rough exterior of the blocks on which they grow, revelling in Moss, or striking out boldly in mid air in search of nourishment! Here one plant may be showing flower; there another bursting into bloom, perhaps to prove something new! This I say, constantly recurring, affords unflagging interest even from January to December.

When the plants have quite finished growing, they may be rested for a time by withholding water, except what is just sufficient to prevent shrivelling, or by removing the blocks to a warm greenhouse for a month or two, according to the strength of the bulbs; after that they may be returned to their growing quarters and be treated as before. In a house with strong rafters, plants on blocks and in baskets have a fine appearance, and serve to create variety. The following are kinds most suitable for growing on blocks, and all of them are interesting either as respects beauty or curiosity. They possess another advantage in not occupying much space; they may therefore be grown even in the smallest collection, viz.:—

| | |
|---|---|
| Masdevallia infracta | Comparettia coccinea |
| M. coccinea | C. falcata |
| Leptotes bicolor | Scuticaria Steelii |
| L. serrulata | |

I grow the last named on a block placed in a basket of Sphagnum, in order that the roots may have more support.

| | |
|---|---|
| Rodriguezia recurva | Fernandezia elegans |
| R. crispa | F. lunata |
| R. secunda | Brassavola glauca |
| Broughtonia sanguinea | B. Digbyana |
| Bolbophyllum barbigerum | B. nodosa |
| Sarcopodium Lobbii | |

The last does best in a basket with Moss, and is a most useful plant for winter flowering, as is also B. glauca, Cirrhopetalum Cumingii, C. picturatum, C. chinense, C. Medusæ, Barkeria Skinneri, B. melanocaulon, B. spectabilis, and B. Lindleyana. The Barkerias require a cooler house than the others.

There are also a few species belonging to other genera which require blocks, such as Cattleya citrina, C. marginata, Dendrobium pulchellum, D. Jenkinsii, D. chrysotoxum—in fact, any epiphytal Orchid will succeed naturally on a block; but the large growers get unmanageable, and do much better under pot treatment. *L. W. J.*

## CULTURE OF THE RASPBERRY.

The following are a few extracts from a paper on the culture of the Raspberry in the south-west of France, by M. L'Abbé D. Dupuy, Secretary of the Agricultural and Horticultural Society of Gers.

It has been generally believed, M. Dupuy remarks, and he himself, he says, has participated in the error, that the climate of France is too hot for this plant, unless grown in a situation with a northern aspect, and completely shaded from the rays of the sun. He obtained some Raspberry plants from Belgium, with the intention of planting them in the most shaded part of his garden; but from some cause he had occasion to plant two of them in a very warm corner exposed to the south, and sheltered from the north and west; they grew vigorously, and bore good fruit in the following year. On mentioning the circumstance to M. Dumas, the latter replied that he was not surprised, for at Saulsaie near Lyons, M. Verrier got better crops of this fruit from a southern than from a northern aspect; and in numerous plantations of fruit trees which had been made at Bazin, the Raspberries occupied the warmest borders in the garden.

[The cultivators in the south of France doubtless see their interest in this treatment in order to get the fruit earlier, and, with a due supply of moisture, probably more abundant and more highly flavoured than in a shaded situation. Earliness is important, more especially now that railroads afford quick means of conveyance to Paris and other towns, where this fruit is much used for dessert alone or with Strawberries), much more so indeed than in England), where also it is in great request on account of its aromatic properties for syrups, vinegars, wines, &c., for ices, and for the flavouring of confectionery. Raspberries will force, and growing them on a south border in the south or south-west of France is next to forcing.]

Instead of the ordinary mode of cultivation in the south of France, by which each plant is allowed to form a sort of bush, with bearing wood and young shoots growing amongst each other, L'Abbé Dupuy recommends the following:—Dig a trench 20 inches deep, and 30 inches wide, put in the well-rooted suckers, at 3 feet 3 inches apart, and fill up with well decomposed manure and good garden soil. At the end of winter or early in spring cut down the canes to within a few inches of the surface. Cut off all the flowers as they appear in the first summer after planting, in order to encourage the production of shoots for fruiting in the following season. Numerous shoots from the stock or suckers from the root are usually pushed; when the strongest of these have attained the height of 8 or 12 inches, the weak ones are removed, and those only which are in line in the trench left, as regularly as possible at about a foot apart.

In the spring following, or even in autumn, an inch or two deep of fresh soil is put round the stems in order to encourage suckers for the year following. When the time of pruning arrives, that is, towards the end of February, a stake is secured at each end of the line of Raspberries, and at the height of 2 feet a wire, long rod, or reed, is stretched between the stakes. If the line is long, intermediate stakes are necessary. [It may be useful to observe that the end stakes which have to bear the strain are not perpendicular, but are inclined backwards from each other, at an angle of about 30° so as to resist the strain.] These preparations being made, the canes which ought to bear the fruit are pruned to the length of $2\frac{1}{2}$ feet, and trained to the wire, rod, or reed at an angle of about 60°, all being trained slanting in the same direction. In the course of the summer a young shoot is encouraged between those that have been trained as above described for bearing; which latter are cut down close to the ground in November. The same routine is repeated every year. A plantation thus managed will last from 10 to 20 years, according to the nature of the soil, and will bear abundantly, provided it gets a little manure every two or three years.

There is a method of training the Raspberry which is much practised at Haarlem, in Holland, and which the Abbé strongly recommends, because it avoids the confusion arising from the crowding of old and young wood. It is this:—The suckers or young plants are planted 5 feet apart, in rows 3 feet 4 inches asunder. On each side of the plant, and 24 inches from it, a small stake is driven so as to stand 20 inches high. Four canes for bearing are trained to these stakes, two being inclined to the right and two to the left, like the branches of a young tree to be fan-trained. The canes are shortened to the length of between 2 feet 3 inches and 2 feet 8 inches, Whilst these are bearing in summer, four shoots are allowed to grow upright in the centre, in order to be trained at the winter pruning in the same inclined position as those that, having borne, will then be cut away.

Raspberries generally bear near the top of the canes tied upright; but the author says that by the inclined mode of training above described, all the buds on the stem break into fruitful shoots in consequence of the inclination of the stem [just as Vines break their buds when bent down]. From the experience he has had of this mode, he has no hesitation in saying that it will give a more abundant produce than is obtained by the crowded bush system.

The author is of opinion that were it not for the loss of ground, the Haarlem method might be somewhat modified with advantage. By training the two inclined branches above each other, their foliage is rather close, especially near their base. He therefore proposes to train only one shoot toward each point, say N., S., E., W. [This might be tried for experiment; but it would be more expensive as regards labour, stakes, and loss of ground. On the other hand we think the Haarlem method might in many instances be advantageously employed; for when tied strictly upright the buds near the base often do not break, and the bearing branchlets consequently proceed from the weaker and more immature portion of the cane; but when inclined, bearing shoots are induced from the strongest part, and they will consequently be more vigorous and will produce larger fruit.]

## Indoor Gardening.

One of the very pleasantest interests of an indoor gardener is that, it seems to me, of raising plants from seed. The very fact of not knowing what they may prove to be, adds much to the interest of it.

Those "Sardinian Geranium" seeds, for instance, cannot, perhaps, be expected to produce a great many fine new flowers. If one should turn up, indeed, I believe that the raiser might reckon herself to have been very lucky. But then without grand blossoming we may have immense amusement, and I seldom enjoyed any garden more than I did a boxfull of seedlings of this kind two or three springs ago. I bought a half crown or five shilling packet, if I remember right, of mixed seed, sowed the seeds in a plant case, and pricked them out afterwards into small pots that stood on a window sill.

Nearly every seed contained in the packet came up. The plants were from the first leaf pretty—such velvety, nicely cut, beautifully shaped little leaves—and so green and bright looking. Some grew up directly into tiny short trees with a stem like an Oak of 2 inches high, and others spread out and grew leafy, and distressed me by being crooked. The scent was so pleasant too; and I always hoped to get if not a new blossom, anyhow a new scent. For any one who desires to have a window garden with the largest possible amount of work about it, which is often, we know, an essential, and with the smallest amount of space, and on the whole little cost, I would advise her to get three packets of seeds—Geranium, Balsam, and Mimulus—and then she would find her hands most likely well filled for the summer.

At the time when I grew these seedlings the plan of the heated plant cases was first being got up, and I had one then *outside* my window, in which the seeds came up splendidly. They were sown about March, and the case was covered at night, and had one of the glasses raised a good deal of each day.

For those who now have the plant cases in windows or conservatories, especially if not much heated, the seeds would no doubt do well, for my first experimental case gave far less heat than these do when they are fully heated; and indeed it seems that for window gardeners the very lowest temperature at which a seed will grow or a plant will thrive is safest and least likely to lead to damage in the shape of over drawing.

The Geranium seeds are apt when they begin to grow to walk up out of the soil, as the little spirals affixed to them curl and uncurl provokingly. I don't know if it was right, but I cut off most of mine, and could not see that it hurt them. The pots were not very small—5 or 6 inches across. The seeds were sown each separately, as is well worth doing in such cases, leaving a little margin of soil all round the edge, and placing the seeds at intervals of about a couple of inches. It is by no means a bad plan to put in the middle of the flower-pot a very tiny thumb pot, leaving it only partly filled with soil, and always watering through it. Any such plan for watering is helpful sometimes, for there is so much danger often of washing away the soil and leaving the little rootlets bare.

The soil I used was leaf-mould made rather sandy. The pots were most thoroughly drained quite half way up with charcoal in small pieces. The earth was firmed a little and the seeds pressed down upon it. A little soil was then spread carefully over the seeds.

Balsams are done just the same, but Mimulus or Lobelia seeds are so very small, that the smallest quantity of soil is enough to cover them; a quarter of an inch deep is quite as low as they should be, or in coming up they get too much drawn and weakened. I have quite ceased to believe in covering seeds with moss for the practice of window gardeners. One wants to see how they get on, and somehow they don't do well! But if the sun is shining the glasses may be closed on the case, which will not only shade effectually, but add very much to the warmth. We must, however, remember that such warmth is very fleeting, and will rather make it necessary to give more than less heat that night.

For those even who have not plant cases or hotbeds, or any means of heat-giving, I think it would be worth trying to devise some means for warmth. The seedlings do not require it for more than a very few weeks; and though it is very certain that a succession of things keep coming all the spring in general, still, to raise three pots full is not such a hopeless task.

When the pricking out comes, a few days of shady heat is always beneficial; and then the range of tiny plants is ready to go to a window, and to go in or out as the case may be. The more air they have certainly on a fine still day the better, but if gusty or stormy weather comes they are very liable to be uprooted.

The Balsams are good to grow, too. They do best and safest, I think, grown in 4-inch pots after the first pricking out, and then they can be re-potted into a larger size when the pots are quite full of roots. This makes them bud early and flower dwarf. They take an immense deal of water and do best indoors always, as the closer atmosphere seems to suit them best.

Mimulus grows anywhere, even in a north window, after the seeds are up. It is a step above "Musk" in beauty (being itself a Musk plant), but of the two I think it is almost the easiest grown; it blossoms, too, very early and very constantly, and its pale green leaves hanging down and spreading have a fresh pleasant look about them, quite independently of the pretty yellow and red spotted flowers. *E. A. M.*

## Home Correspondence.

*An African Orchid.*—Mr. Andersson, in his "Lake Ngami" (pp. 33, 35, vol. ii.), speaks in rapturous terms of an orchideous plant, which he observed on the banks of the Swakop River, near Walfisch Bay. He quotes also Gordon Cumming, who had been fascinated by its beauty. Andersson's own words are, "I ascended the rock, when I discovered a most beautiful air-plant in full blossom, of a bright scarlet colour, with the lower part of the interior of the corolla tinged with lemon." Again, "On a lofty and inaccessible rock overhanging the river-bed, I again saw some of those beautiful flowers which in the early morning had caused me so much delight; and, with a well-directed ball, I brought down one almost to my feet." Can any of your correspondents tell what species is referred to, and whether it has been brought alive to England? *An Orchid Grower.*

*Power of Selection in Roots.*—In your last Number is an interesting article relating to some experiments by M. Cauvet, a French apothecary, on the power of selection ascribed to the roots of plants. I am glad to see this confirmation of the views which I have put forth in papers read before the Chemical Society of London, and may refer your readers for an abstract of them to the agricultural portion of the *Gardeners' Chronicle* for last year, and in which will be found a report of two lectures of mine on the Physical Forces concerned in the Phenomena of Vegetation. It is in the second of these that an account of my experiments on the power of selecting and rejecting mineral substances ascribed to the roots is to be found. *Charles Daubeny, Professor of Botany, Oxford.*

*Collections of Flower Seeds.*—I think a reply to the queries inserted after my remarks in your impression of last week, does not involve a contradiction of any assertion I there made. In answer to the first, I would say, by all means grow a good mixture of colours—but that a dozen or two dozen varieties of Asters or Stocks include every colour worthy of a place in this "good mixture," I must still deny. If it be granted that six or seven varieties of Asters may be identified as distinct from each other, and adapted for different purposes, and that they each give us, on an average, only eight distinct colours, we have here some four or five dozen distinct sorts. In the same way, if it be admitted that there are three or four distinct varieties of annual Stocks, dissimilar in habit or blooming at different seasons of the year, in addition to the Brompton or biennial (Matthiola simplicicaulis), which forms another species, and that each furnishes us with a dozen distinct colours, we obtain, as the result, four or five dozen distinct kinds. In saying this, I cannot be understood to wish to perpetuate the "194 varieties of Stocks" you refer to, or the "endless collections" generally, which, I must agree with you, are "useless except to sell." I think I made this sufficiently apparent in my concluding observation, where I recommended that care should be exercised in selecting, in order to avoid "the many repetitions of similar articles frequently offered under different names." *Jno. Fuller, 7, Lower Calthorpe Street, Gray's Inn Road, London.*

*Tree Transplanter.*—An apparatus for transplanting large evergreens, somewhat similar to that recommended in your Paper of last week, but without the brass eyelet holes, was used here many years ago; but practically it was not found to answer, owing to the difficulty in adjusting firmly the semicircular iron plates, to "balls" of earth varying in size, and in removing the lower plates without disturbing the roots of the tree, when put in position. This led to the adoption of another plan, whereby curved iron plates, circular at the top, were fixed to and formed the upper bed of the transplanting machine, which resembles a porter's corn truck, but of course is much larger and stronger, the wheels being about 18 inches in diameter, and 8 inches wide; some iron work is fixed underneath to receive a large lever shaft or pole about 25 feet long, when the handles of the truck are not sufficient for the purpose. The machine does its work so well, and so easily enables us to remove trees with from half a ton to a ton and a half of earth, that it occurs to me it may be useful, now that the subject is under discussion, to describe its mode of action. A trench is dug round the tree of the required depth, leaving a "ball" about 4 feet in diameter, for trees not unusually large. This done, say 4 feet deep, the "ball" is well secured by sacking, barrel staves, and cords, undermined on one side, and the truck drawn down an inclined plane, and fixed with the handles in a vertical direction, so that its curved iron bed extends fully half way under the "ball;" the other side is then undermined, and a semi-circular iron plate, about 8 inches wide, is secured partly beneath the "ball," and attached by means of a strong chain to the truck. Leverage is then applied, the truck pulled down, and the tree turned over, so as to allow the side of the "ball" to rest on the iron bed; in this position the tree is drawn away and replaced, by simply allowing the lever shaft gently to resume a vertical position. There is no difficulty in drawing out the truck and removing the appliances, and I do not recollect that we have ever had a failure. *J. K. H., The Castle, Wallingford.*

*Muscat of Escholata Grape.*—Your Correspondent "Vinicola" speaks of "puffing" the Muscat of Escholata Grape. I offer it, but do not puff it. I have known it for many years, and frequently seen and tasted the fruit, and believe it to be a valuable hothouse Grape, quite different from the Muscat of Alexandria. Perhaps, "Vinicola" has obtained the latter under the former name, but I hardly think he could form a correct judgment of a hothouse Grape planted out of doors! In my opinion it is nearer to the Cannon Hall than to the Muscat of Alexandria; the leaves are more deeply serrated, the wood grosser, and the berries larger than those of the latter. Permit me to correct as light error of Messrs. George Paul & Son, in your last week's Number. They state that "the Grape in question fruited this year on an old Vine thus supplied by us, &c." Now the Vine in question was supplied by the late firm of A. Paul & Son, and not by the new firm of G. Paul & Son. *William Paul, Waltham Cross.*

*Beurré Brettonneau Pear.*—My experience as to this Pear has not been much, but it is enough to condemn it. I had a good crop last autumn, which were gathered about the 5th of November, for the shrivelling of late Pears arises often as much from being too early gathered, as from being kept in too high a temperature. They are now ripe, half melting, but totally wanting in flavour. I shall follow the example of Mr. Cramb, and regraft my trees. I may take this opportunity of stating that the Bergamot d'Esperen succeeds admirably on the pyramid. It is one of the best late Pears. Mine are now perfectly melting and delicious. They should be well thinned when about the size of Nutmegs. *G. L., Cambridge.*

*Room Orchids.*—"Serapias" says, at p. 125, in writing of Messrs. Low's magnificent Orchids at Clapton—"One house was rendered quite gay by crowds of Calanthe vestita, of which I scarcely knew whether more to admire the variety with a crimson or that with a yellow-eyed lip. Both were most beautiful when seen in such profusion, and are really invaluable as winter flowering plants. They insist, however, upon having a good quantum of heat, so that there is no chance of their ever elbowing Lycaste Skinneri, which seems disposed to make itself quite at home in our drawing-rooms." Now I must beg leave to say a word for these lovely flowers—at least in connection with Mr. Gray's Plant Cases. Last Christmas twelvemonth Messrs. Low were good enough to send me a plant of Limatodes rosea, of which people were then talking as the loveliest winter flower; and another pot contained plants of two different coloured Calanthes, the yellow and the purple-eyed. These plants were put at once into a warm plant case in my sitting-room window, and there the long spikes of blossom kept on opening slowly out, and looking very beautiful for nearly or quite six weeks. They went off at last only from accident; I was ill, and the plants for a week not attended to. The Lycaste Skinneri has the advantage of looking green, and therefore beautiful, from one year's end to the other, but in point of flowers, I think that the Calanthes and Limatodes would be quite as easily managed; in my case, in fact, they seemed more so. The difficulty would be for room gardeners to manage the after growth, as the pseudo-bulbs are not at all ornamental. Cannot some one devise some means of growing them on? My own made good green shoots and swelled out the pseudo-bulbs well; but I only see thoroughly to one plant case at a time, and these plants were in another liable to neglect, under which they suffered. I don't suppose room plants would ever yield long flower spikes like those at Clapton, where one hears of them 3 feet and more; but if anything could be done to make such flowers available to brighten up Christmas plant stands, the work would be well worth doing, as anything more beautiful than the delicate waxen blossoms with their pale pure rose colour, it would be hard to find; and the yellow and purple-eyed Calanthes grew in still longer flower spikes, and curved out amidst my Ferns and other green things most exquisitely. It has now been suggested to me to set up a case exclusively for the growth of Orchids in summer, and forcing flowers in winter, and this will be, I think, a really successful plan. *E. A. M.*

*Striking Roses from Buds.*—The Rose is as easily propagated by means of buds or eyes as the Vine. If your Correspondent "X." (see page 77), will take a strong shoot from almost any kind of Rose in a dormant state, and with a sharp knife cut it into as many pieces as there are good eyes on the shoots, the pieces not being more than one inch long, taking care to have the eye in the centre of the piece, he will doubtless succeed. One third of the wood should be cut clean off from end to end at the back of the eye, just as you would prepare a Vine eye. In preparing the cutting pans it is most essential to put a good quantity of broken potsherds in the bottom, beginning with large pieces, and finishing with others more finely broken; then mix a quantity of good loam, leaf-soil, and sand in equal proportions, rub it through a fine sieve, and fill the pans to within 1 inch of the top, pressing down the soil moderately firm. After that put in the eyes in a leaning or slanting position, pressing them firmly into the soil with the thumb and finger, taking care to keep the thumb on the bottom end of the cutting to prevent the bark from being injured. After the eyes are put in, give the pan two or three gentle raps on the bench, then put half an inch of silver or clean river sand on the top, water with a fine rose, and plunge the pans in a nice bottom heat, of say 60°, covering the surface over with moss, to prevent the soil from getting dry; they will not require any more water for a week or 10 days. The Moss should be carefully removed as soon as the young shoots begin to push through the sand. In three weeks from that time the Roses will be fit for potting off into large 60-sized pots. They should then be placed in a temperature of 70°, when they will soon repay the care bestowed on them. I however prefer grafting on the Manetti stock. I grafted a lot in a dormant state 7 weeks ago; they are now nice plants, and will be in bloom by May. *J. Wills, Oulton Park, Cheshire.*

*Dahlias.*—In answer to "Telegram's" remarks which you quote from *Gossip*, viz., "that no more effectual means could be devised for the perpetuation of an inferior race than giving prizes expressly for those sorts of imperfect form"—I beg to say that if prizes are given for a distinct class which is of inferior form at present, it does not follow that the inferiority will be perpetuated, but rather that it will be assiduously cultivated until it attains the same excellence of form which the superior classes already possess. *Geo. Rawlings.*

*Patent Bituminized Paper Pipes.*—In the summer of last year one of your Correspondents strongly recommended these pipes as possessing all the advantages claimed for them by the Company. I was disposed at the time to indorse his recommendation, having laid down about 800 feet of the 2-inch piping some few weeks previously, for the conveyance of water to and from a large reservoir on the top of a hill about 60 or 70 feet high. For a time they answered very well, but after two or three months they began to burst, and they appeared to be affected by the soil through which they passed in two or three damp places. Repair was easy, but no sooner was one fresh pipe put in than another was required, till at last I was obliged to substitute lead, feeling convinced that they would not stand the pressure to which they were subjected. They may answer for ordinary purposes on level ground, when protected from the effects of mortar, rubbish, &c., which seems to eat into the outer coating, and perhaps on this point your Correspondent will kindly give the result of his further experience. *J. K. H. The Castle, Wallingford.*

*Botanical Gardens.*—You lately gave some information respecting foreign botanical establishments. You would, I think, be imparting some desirable information if you gave the names of cities and towns in Britain where they had botanic gardens attached to them, together with the names of the managers. *A Subscriber.* [If the information is furnished us we will publish it.]

*Royal Horticultural Society.*—I am a Fellow of the Royal Horticultural Society, and take a lively interest in its prosperity. I attended the annual meeting last week, and received and heard read what appeared to me a very fair and satisfactory Report from the Council. On reading an article in the pages of one of your contemporaries, however, I find according to him that I am all wrong; that instead of the Report being satisfactory it is quite the reverse, and that instead of feeling gratified by the apparent prosperity of the Society I ought to feel a strong measure of disappointment. This rather startled me, and I turned again to the Report and the accounts and read them more carefully, and afterwards reperused your contemporary's leader; but I protest I am no more enlightened than I was before. The Report (like a good railway witness) only comes out the stronger the more I study it; and while I see more and more ground for satisfaction I see less and less cause for disappointment. It may be my stupidity, but I fail to see on what possible ground I am to feel a strong measure of disappointment. I see well enough at what your contemporary is disappointed, but what I want to know is his reason for being disappointed. It is not enough for a leader of public opinion to tell us that he is disappointed, he should tell us why. I may be disappointed that an Apple is not a Pear, but before I can expect others to sympathise with my disappointment I must give my reasons for it. I have looked carefully through your contemporary's observations to see—1st, what he is dissatisfied at; and 2d, why; and the one and sole ground of dissatisfaction is that the Council have applied the money which they borrowed, and the funds which their good management last year produced, in going on with the works in the garden. Can it be that your contemporary is under the delusion that the garden was completed 12 months ago, or is complete now? He appears to have studied last year's Report for comparison with this, but apparently his study of it has been hasty and partial, or he would never have told us that he had "been living in the fond delusion" that a sum of 16,000*l.* which he found there invested, "was still safe in India debentures or other equally safe security," seeing that the same Report showed that against the 16,000*l.* had to be placed a liability of upwards of 15,000*l.* then due for the works which had been executed. This money was expressly borrowed for the purpose of being so applied. Nobody borrows money for the mere borrowing's sake. They intend to spend it, and if it is expended in the way intended, why should they be disappointed that it is not still invested? Why should they be disappointed that their Apple is not a Pear? Again, as to the receipts drawn during the last year, amounting to no less than 31,000*l.* I see from the accounts that this has not been drawn without a large counter outlay, and I never was such an unsophisticated shepherd as to suppose it could. Your contemporary has

apparently yet to learn that money is not to be made without spending money, and as 25 per cent. is reckoned a very fair return, the 31,000*l.* gross receipts may very probably dwindle into a by no means so magnificent figure, net. But whatever the surplus might be, whether 5000*l.* or 30,000*l.*, why am I to be disappointed at its being spent? If your contemporary thinks the garden finished, then he comes to his conclusion on right premises. But if he cannot say it is,—and whether he says so or not, I for one protest against any such supposition,—if it is still unfinished, then, sir, I say it is the duty of the Council to expend every penny they can spare in completing it before they dream of investing money as capital. It is not the business of the Society to lay by money—it is organised for different purposes, and these purposes must first be fulfilled before the monies received can be applied as your contemporary would appear to wish. I do not at all dispute the desirableness of having a reserve of capital, but to make such a reserve while matters of vital importance to the prosperity or existence of the Society are stopped for want of funds, would be an absurdity on a par with your contemporary's expectation that the Council should have made a nest egg of borrowed money. *Common Sense.*

## Societies.

Entomological: *Anniversary, Jan.* 26.—F. Smith, Esq., President, in the chair. The usual annual routine business was transacted, and the following officers were elected for the ensuing year:—President, Mr. F. Smith; Treasurer, Mr. S. Stevens; Secretaries, Messrs. Shepherd and Dunning; Curator, Mr. Janson. The President delivered an address, which was ordered to be published, and thanks were given to the Council and officers for their services during the past year.

*Feb.* 2.—The President in the chair. Messrs. J. Leconte of New York, Lacordaire, and Hagen, were proposed as foreign honorary members. The President nominated Messrs. Pascoe, Waterhouse, and Gent, to act as Vice-Presidents during the ensuing year. The Secretary exhibited a small box of "manna," collected in Tasmania, being a white saccharine exudation from the young branches of the white Gum trees, caused by the punctures of a species of Eurymela, a genus of Homopterous insects allied to our common cuckoo-spit insect. Mr. F. Bond exhibited a specimen of Colias Hyale, one of the fore wings of which was only half the normal size; also a female Polyommatus Adonis, the right hand wings of which were destitute, on the underside, of many of the ordinary markings, which were exhibited on the wings of the left side. Mr. G. R. Waterhouse exhibited specimens of Homalota Soror, and read notes on that and on several closely allied species of Staphylinidæ. Mr. Haward exhibited a box of fine Coleopterous insects, collected by himself in central Europe. Mr. Stainton, on behalf of Mr. Healy, exhibited some Bramble leaves, within the burrows of which were observed the cast skins of the larvæ of a species of Nepticula, and read some notes on the mode of moulting in this curious genus of small moths, showing that although the duration of the larva state in the summer season occupies only a few days, in the middle of January the act of moulting occupies as long as four days. Mr. McLachlan read a paper on a new genus and several new species of exotic Trichoptera; and Professor Westwood exhibited drawings of two new Lucanidæ, sent from Gipps Land, New South Wales, by Dr. Howitt.

## Notices of Books.

*Geological Observations in South Australia.* By the Rev. J. E. Woods, F.G.S., &c. 8vo. Longmans.

This book will be welcomed by geologists, both here and in Australia. It contains the results of observations, carefully made and sagaciously worked out, and is a valuable addition to our knowledge of the country which it embraces. It is true that the author has confined his researches to the S.E. district of Australia, which includes, no doubt, but a small portion of this vast continent; but when we bear in mind that his geological labours extended over an area of 22,000 square miles, and that moreover they were carried on during the intervals of missionary work, one only wonders that he should have accomplished so much. For Mr. Woods is not a superficial observer, he has evidently most carefully examined all that he describes, and his conclusions are not hastily arrived at, but all evidence, whether for or against a preconceived theory, not only carefully weighed, but laid before the reader in any doubtful case, or where the author's results differ from the opinions of other geologists. Indeed, if we were to find fault, it would be with the extremely minute and somewhat prolix descriptions which render the volume rather heavy and tedious. But few possess the pen of a Darwin or a Lyell, and if Mr. Woods has failed to make his book generally interesting, he must be pardoned in consideration of its usefulness and accuracy.

The following is the description of the district included under the name of South Australia:—"There is no country more interesting in its formations or more varied in its mineralogical productions than South Australia: lofty mountains, extensive plains, sandy deserts, and inland seas, are all included in its far-stretching boundaries; with a climate like that of the south of Spain, it possesses the scenery of the Highlands in some places, while in others deserts like those of Arabia, and vying with them for bleakness, aridity, and burning heat. There are chains of salt lakes which render unprofitable a larger area than England; there are marshes and salt swamps more dank, unwholesome, and extensive, than any in the United States; there are rocky precipices, and chasms, and waterfalls to rival almost the Alps; there are extinct volcanoes of large dimensions, almost as numerous as those of Auvergne; and finally, there are caves which exceed in magnitude the Guacharo caves of Humboldt, or in stalactites the Antiparos of the Ægean Sea."

To produce these varied results, he considers that there has been "an immense area of subsidence during the Pleiocene period, accompanied by a coral formation," after which "volcanic disturbance commenced, and gave rise to submarine craters. After the cooling of the lava from these, a deposit of small fragments of shells was thrown down from an ocean current; this became hardened into stone, and was gradually upheaved; during which period, and until very recently, extensive volcanic disturbance took place, giving rise to craters which are all now extinct. The upheaved coralline rock, when decomposed, has given rise to a very indifferent sort of soil, of a sandy character, which causes large tracts of arid useless country in this part of Australia; and the same rock, being of a loose texture, easily allowed water to percolate through, forming caves and underground passages, besides honeycombing the ground in all directions."

With regard to the fauna and flora, Mr. Woods considers that Australia is far behind the rest of the world, and that its present state is very similar to that of Europe immediately after the secondary period. "In the flora the correspondence to the secondary period is well marked. There the Araucariæ, so common to the secondary rocks, are represented, and these are only found in Norfolk Island and Australia. There are the Zamiæ and Arthrozamiæ, found only at the Cape of Good Hope and Australia, being closely allied to species found in secondary deposits. There are likewise plants which, though not connected botanically with the mesozoic flora, bear a striking resemblance to them, and these are the Xanthorrhææ, which abound in all the continent.

"If we may judge from the few specimens which have been preserved to us from secondary rocks, the flora was not abundant there, and in this particular our country resembles it, for the general character of the country is most decidedly barren. Hence, with regard to the Mammalia, no indigenous animals have been found distinct from the Marsupialia, except rodents, and one or two species about whose introduction doubts have been entertained. The rodents are an order which has many affinities with marsupials, and one species occurs where the characters are interchanged—the Phascolomys. Our birds, though beautiful, are comparatively few in number, and even those not all peculiar to our country. And lastly, there are no secondary rocks found in Australia, but a great portion of the country appears to have been recently raised from the sea, where it has undergone a state of things very similar to our chalk, while the immense tracts of desert country, and the large portions that are quite unavailable, indicate a territory less adapted for the habitation of man than any tract of land of similar size on the face of the earth."

This theory is supported by a passage from Mantell's "Wonders of Geology," and further by several facts and arguments, for which we must refer our readers to the book itself; they will find some shrewd reasoning, together with a fair and candid statement of any facts that may appear to militate against the theory.

Let us turn to the present aspect of the country. Every one has heard of the "scrubs" of Australia, those impenetrable dreary tracts which form such a peculiar feature of the country. Mr. Woods' description of the Mallee Scrub conveys a good idea of the desolate nature of such a region.

"This portion of the south-eastern district of South Australia, about 9000 square miles in extent, is one uninterrupted weary prairie of Eucalyptus dumosa (by the natives termed Mallee), something like a bushy Willow in appearance. It commences about one hundred miles from the southern extremity of the coast, and goes on (as far as yet known) without any interruption right on to the N. and N. W. boundary formed by the River Murray to this district. It continues on the other side of the river, but with this we have nothing to do just now. One road passes across it for about 100 miles from the Tatiara country to Wellington Ferry, or the crossing place of the Murray. There is also a small patch of grassy country on some porphyry ranges, about 26 miles within its edge, but beyond this it is considered impenetrable. Occasionally, however, an adventurous settler has taken a few days' supply of water and provisions, and has gone 50 or 60 miles beyond the nearest settlement, but such journeys have only confirmed the idea that the scrub is totally unfit for any purpose. There are only few places, however, where it can be even explored. The trees grow close together like reeds, and certainly not thicker, without a branch, until about 14 feet from the ground, and so dense are they that 10 or 12 stems may be counted springing from one root, and occupying little more than a square foot of ground. Where a road has been cut through it, it appears as though there were a high wall on each side; indeed, the effect is not unlike that produced by a road through a trench. It is strange, that while writers on Australia give so much praise to the fertility of the country, they forget to mention that by far the larger portion of it is taken up by deserts such as this. Not only in this district, but in the whole of South Australia, there is not a single portion of available land which is not bounded either on the north, or east, or west, by a similar desert, if the term can be applied to tracts of land producing useless stunted shrubs. The appearance of such places is very gloomy. From any eminence you see nothing but a dark brown mass of bushes, as far as the eye can reach. The soil is generally a yellow sand, and when a patch of it is observed, it gives an air of sterility in exchange for monotony. But the outline is generally unbroken, seeming like a heaving ocean of dark waves, out of which, here and there, a tree starts up above the brushwood, making a mournful and lonely landmark. On a dull day the view is most sad, and even sunlight gives no pleasure to the view, for seldom bird or living thing ever lends a variety to the colour, while light only extends the prospect, and makes it more hopeless."

One shudders to think of the feelings of a wanderer, when he gradually becomes aware that he is "lost in the scrub;" scarcely less terrible must be his situation than that of the unfortunate wretch whose remains were found in the deepest recesses of one of the caves explored by Mr. Woods. "At the side of one of the boulders, in a crevice between it and the wall, where Nature seems to have made a natural couch, lies, in the position of one asleep, with the head resting on the hand and the other limbs reclining, the dried and shrivelled corpse of a native, but slightly decayed, and almost petrified by the droppings of the limestone. It is known to have been there for many years without decomposition, though the fingers and feet became annually more encrusted with stalactite. The history of his coming there is a sad one. The blacks, in addition to the destruction of the sheep spoken of above, committed murder and so many acts of violence, that the settlers resolved to be avenged. They assembled and set out with the significant motto, 'Let not your right hand know what your left hand doeth.' The natives resisted desperately; some were shot in every part of the country. One, wandering near these caves, was seen, and brought to the ground by a rifle-ball. Badly wounded he managed to crawl away unobserved, and, thinking that he would be sought for as long as life was in him, crept down into the lowest and darkest recess of the cavern, where he rightly judged few would venture to follow. There he lay down and died. Time went on. Not a tear was shed over him as he lay there uncoffined, but drops of water fell upon him from the rock above; and when, a long time after, his remains were discovered, the limestone had encased him in a stony shroud, which to this day preserves his remains from decay."

The book is illustrated with a few very pretty woodcuts, and a small skeleton map, which is, however, too vague to be of much use. It is a great pity that a really good map was not appended, as it would have added very considerably to the interest of the volume.

## Garden Memoranda.

Messrs. Veitch's Nursery, Chelsea.—We understand one of the Japanese Bamboos imported by this great establishment is now *in flower*, a very rare occurrence. It is a small species. Messrs. Veitch possess, we believe, 15 distinct kinds of Bamboo from Japan, some of which attain a great size. If hardy, as the beautiful Bambusa Metake is, they will be most valuable additions to our gardens.

Woodstock.—This fine place, the seat of Colonel Tighe, is situated some 16 miles south-east of Kilkenny, and within the mild influence of the Gulf Stream. The park, which is of large extent, contains a fine herd of deer, and possesses great natural beauties. The mansion and grounds have lately been wonderfully improved in appearance. A new terrace which has been made has literally changed Woodstock by bringing into view beautiful glimpses of the Nore, as well as 20 miles of the richest and most beautiful landscape towards Wexford. The terrace in question somewhat resembles the flower garden in front of Trentham Hall, but in certain features is quite distinct from that princely spot. It is supported on two sides by massive granite stone walls; that at the lower elevation is 13 feet high, and consists of beautiful ashlar work, with massive buttresses placed about 30 feet apart. A magnificent flight of granite steps, leading down to a bowling green, adds much to the general effect. The wall which runs parallel with the mansion is less massive, but more ornamental, supporting, as it does, large tazza-shaped vases.

All the stone work on the place has been done by native workmen. An iron stair-case leading from the drawing-room door to the terrace is allowed to be a masterpiece of elegance and durability. Looking from the drawing-room door, an Araucaria avenue forms a grand feature in the foreground. Running parallel with this avenue is a sunk drive, a large cutting, out of which 50,000 loads of earth were taken to raise new terrace levels. In the upper sides of this cutting are formed deep recesses, which are faced with masses of quartz rock, granite, &c., ornamented with Ferns and rock plants.

From a rock garden, which forms one of the many pretty features of the place, an interesting winding

track leads to a higher portion of the pleasure grounds skirting a rather closely wooded department of the deer park. Nothing could be better than the blending of the wild and dressed grounds to be met with here; and the deer seen constantly leaping and gambling among the brown bracken, add life to a retired quiet winter scene. The beauty of this walk is also much enhanced by the many varieties of Conifers which have been planted near it. Here are specimens of Pinus Montezumæ, P. insignis, a lovely tree; P. Gordoniana, P. Russelliana, and Taxodium sempervirens. There are also many fine plants of Cupressus. At the top of the walk is a pretty rustic arbour, erected by an ingenious labourer on the place. From this can be obtained a beautiful view of Brandon, and to the left, towards Kilkenny, fine distant views of hill and dale; here a noble Araucaria towers up like some giant over a retired little Rose garden. The excessive wet of the past season caused some anxiety regarding the health of the largest of the Araucarias; to prevent evil a drain 11 feet deep has been dug at 30 feet from the tree on three sides of it, and the drain has been filled to the top with stones, an attention which this pyramid of beauty well deserves. Masses of Rhododendrons divide the grounds into beautiful glades, and give an air of refinement, even to the roughest corners. In connection with this upper walk are so many cozy nooks, inviting seats, and varied forms of lovely trees, that one could stay days to note the beauties that charm the thousands who yearly visit this spot.

It is interesting to observe how some trees improve in character when allowed to develope their natural forms; a striking illustration of this occurs in two trees near the Pinus ground, viz., the Cedar of Goa, and the Leather Wood—the former large, flat-headed, and picturesque, the latter equally so of its kind, and seldom seen in good condition. Douglas Fir succeeds well, even on poor thin soil, as does also P. apulcensis, which merits the attention of planters of ornamental trees. In the flower garden there is no lack of interest; the beautiful arrangement of the terrace beds, as seen on Christmas Day, would alone have amply repaid a visit to Woodstock. The beds were filled with native Ferns and dwarf shrubs, the latter chiefly consisting of Rhododendrons, Yews, Junipers, Heaths, Ivy, Box of different sorts, &c. The Ferns were planted to relieve the denser forms of the shrubs. The most noticeable among them was the Male Fern, the fronds of which were 4 feet high and 18 inches broad. There were also several other kinds of Lastrea, as well as of Hart's Tongue, Blechnum, and Polypodium vulgare—all of which remain green until removed in spring, when they are transplanted into shady borders for use another year. The employment of bright red and other coloured gravels also tends greatly to improve the general appearance of this pretty flower garden.

We omit all notice of plant and fruit houses till another opportunity of describing them occurs. The gardens are however generously thrown open to the public, and all who can should not fail to inspect them. *J. R.*

## Miscellaneous.

*North-West American Miners and Universal Suffrage.*—Pre-eminent for certain social qualities which had rendered him generally obnoxious to the laws of whatever country he had favoured with his presence, was a certain Mr. M'Gowan. This individual had spent some time in California, where he had become very notorious, and had been honoured with the especial enmity of the "Vigilance Committee" of San Francisco. He had, I believe, had the misfortune to kill several of his comrades in those little personal encounters which one sees reported so frequently in the American newspapers under the head of "shooting" or "cutting affairs." The act for which the Vigilance Committee of San Francisco doomed him to the gallows was killing a man in cold blood in the streets of that city who knew too much of his antecedents. M'Gowan of course denied this, and always asserted that he shot his foe in self-defence. As an instance of the working of universal suffrage, it may be mentioned that this man at one time filled the office of a judge in California; and quite recently, when, after shooting at a man at Hill's Bar, whom he luckily missed, he escaped across the frontier into American territory, he has been elected to the House of Representatives of one of the border States that lie east of the Rocky Mountains. . . . . . . Colonel Moody, representing the majesty of the law, was still at Yale. Mr. M'Gowan outraged it unmistakably by committing an unprovoked assault. This, coupled with sundry other suspicious circumstances, caused Colonel Moody to think that M'Gowan's friends and admirers would, if provoked, break into serious insubordination; and he at once instructed me to drop down the river to Hope and Langley, and order up the engineers, marines, and blue jackets left at those places. . . . . . Mr. M'Gowan, after enjoying the sensation he had caused, paid the Commissioner a formal visit, and after making a very gentlemanly apology for the hasty blow which had disturbed the peace of British Columbia, committed himself frankly into the hands of justice! What could be done with such a frank, entertaining rascal? He was fined for the assault, exonerated from all previous misdemeanours, and next day, upon Hill's Bar being visited by Mr. Begbie (the Chief Justice) and myself, he conducted us over the diggings, washed some "dirt" to show us the process, and invited us to a collation in his hut, when we drank Champagne with some twelve or fifteen of his Californian mining friends. And, whatever opinion the Vigilance Committee of San Francisco might entertain of these gentlemen, I, speaking as I found them, can only say that, all things considered, I have rarely lunched with a better-spoken, pleasanter party. The word "miner," to many unacquainted with the gold-fields conveys an impression similar, perhaps, to that of "navvy." But among them may often be found men who, by birth and education, are well qualified to hold their own in the most civilised community of Europe. *Mayne's British Columbia.*

*To Prevent the Rotting of Wooden Posts and Piles.*—The following receipt has been sent to the Société d'Encouragement, Paris. The paint, it is said, or varnish, has the hardness of stone, resists damp, and is very cheap. It has been in use for the last five years. 50 parts of resin, 40 parts of finely-powdered chalk, about 300 parts of fine hard sand, 4 parts of linseed oil, 1 part of red oxide of lead, and 1 part of sulphuric acid, are mixed together. The resin, chalk, sand, and linseed oil are heated together in an iron boiler: the red lead and the sulphuric acid are then added. They are carefully mixed, and the composition is applied while hot. If it be not found sufficiently fluid, it may be made thinner by adding linseed oil. This paint, when cold and dry, forms a varnish of the hardness of stone. *Builder.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Composts for potting should be got in readiness for use when wanted. All who aim at high cultivation endeavour to keep the different soils of which they consist in a mellow, but not dry state. A good plan of effecting this is to stack them in September in the open air and to thatch them with straw, Fern, leafy Laurel branches, or any material easily procurable that will throw off heavy rains. Such heaps should be placed contiguous to the potting shed, into which they can be introduced as required; and as a general examination of all kinds of plants employed for summer and autumn decoration should now or soon take place, it is necessary that fresh materials for potting should be at hand, and in a proper condition for the purpose. As regards temperature, dispense with fires as much as possible; 55° by day and 45° by night will be sufficient. Exhausted winter flowering plants in stoves may be cut back a little, and left to break afresh, when they may be disrooted and placed in smaller pots; if all goes on well they will make fine specimens for next winter. A little Cineraria and Chinese Primrose seed may now be sown; this, together with another sowing in April, will furnish a supply for the coming autumn and winter. Attend to ornamental trellis plants, which should be kept neat and orderly. Forced bulbs will now be in full flower, and will keep conservatories and mixed greenhouses gay for some time to come. In forcing pits continue a growing moist atmosphere. Attend to introducing plants for succession, and keep Roses free from caterpillar and greenfly. See also that the plants are occasionally watered with tepid liquid manure.

### FORCING DEPARTMENT.

PINERIES.—General stock, if wintered in a proper manner, will be as well left unshifted until it has filled the pots with fresh fibres. Then shift. A brisk bottom heat should afterwards be secured, and occasional waterings with tepid liquid manure will also be found to be productive of good results.

VINERIES.—Thin liberally; those who overload their Vines either with bunches or useless berries, will find their fruit inferior both in flavour and colour to that obtained from Vines more fairly cropped.

PEACH HOUSES.—Attend well to disbudding, removing every misplaced and superfluous shoot. If the trees are too luxuriant, pinch the point out of every over robust branch as soon as it is 3 or 4 inches in length. By strict attention to this, little winter pruning will be required.

MELONS.—Keep up successional sowings—indeed, a great portion of the summer's stock might be sown and got forward without delay, provided proper means are taken to keep them free from severe checks, both at top and bottom. To this end, only one plant should occupy a pot, say a 6-inch one, and the soil should be entirely stiff turfy loam, for if not the plants are apt to suffer through drought. Melon plants of some age will be found both to show fruit and to set better than young and gross plants.

KIDNEY BEANS.—Stop the first shoot, and if started as they ought to be, four in a 5-inch pot, let them remain in such until the second buds begin to push, then remove them instantly into a much larger pot. Let the soil be two parts sound turfy loam, one part half rotten manure, and one part coarse leaf soil, adding plenty of charcoal, with a thorough drainage, and using liquid manure.

MUSHROOMS.—Spring beds should be made forthwith; these will produce until the early part of June, after which they will not be good till September.

### FLOWER GARDEN AND SHRUBBERIES.

Attend well to thorough cleanliness; hoe through or otherwise dress all margins or beds where Crocuses, Snowdrops, and other spring flowers are in bloom. Plant out Hollyhocks, which are well deserving of general cultivation. Their bold and pointed forms stand out in fine relief in masses of flat-headed shrubs. Owing to the absence of frost, and the hitherto singularly mild weather, collections of Tulips and other Bulbs appear to be but little troubled with canker. When this occurs, and the plants are fairly above-ground, cut away the parts with a sharp penknife. Shelter the beds from prevailing and cutting winds, which are more detrimental than slight frosts. As seedling Polyanthuses come into bloom, remove all that are inferior in shape, lacing, or colour. Amateurs have hardly been able to do wrong this season with Carnations and Picotees; and Stocks are looking well throughout the country. Continue the directions previously given, and keep the plants free from green-fly. Plant out in beds seedlings for blooming, retaining all the soil possible.

### HARDY FRUIT AND KITCHEN GARDEN.

Everything in the kitchen garden is now stirring. A proper rotation of crops having been secured, the next best advice is to watch the fluctuations of the weather, and endeavour to do all planting and sowing whilst the ground is in a mellow state. Sow some early Parsley, a sprinkling of early Cabbages, Dutch Turnip, Onions for drawing young, Normandy Cress, successional Peas and Beans, and a little early Celery in boxes on a slight heat. If early spring-sown Cauliflowers and Lettuces are forward enough, get them pricked out. Continue to plant out winter Cauliflower plants in rich and sheltered spots; and get winter Lettuces out in a similar way. Warm slopes, artificially prepared, high manuring, and, where at hand, old lights or mats on hoops, are the grand essentials. Bring up arrears forthwith. In reference to fruit trees make sure of thorough draining. Get nailing finished; provide against insects, and protect as far as possible all opening blossoms.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Feb. 18, 1863, as observed at the Horticultural Gardens.

| February | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth. 1 foot deep. | Of the Earth. 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 12 | 24 | 30.395 | 30.145 | 55 | 23 | 39.0 | 46 | 45 | N.W. | .00 |
| Friday 13 | 25 | 30.575 | 30.538 | 51 | 28 | 39.5 | 44 | 44 | E. | .00 |
| Satur 14 | 26 | 30.579 | 30.461 | 54 | 25 | 39.5 | 44 | 44½ | E. | .00 |
| Sunday 15 | 27 | 30.490 | 30.461 | 55 | 20 | 37.5 | 43 | 43 | E. | .00 |
| Mon. 16 | 28 | 30.538 | 30.503 | 59 | 19 | 39.0 | 42½ | 43 | E. | .00 |
| Tues. 17 | 29 | 30.556 | 30.487 | 56 | 18 | 37.0 | 41½ | 42 | S. | .00 |
| Wed. 18 | ● | 30.465 | 30.358 | 55 | 33 | 44.0 | 41 | 42 | S.W. | .01 |
| Average. | | 30.514 | 30.420 | 58.0 | 23.7 | 39.3 | 43.1 | 43.2 | . | .01 |

Feb. 12—Hazy; exceedingly fine; frosty at night.
— 13—Frosty, with fog; hazy; clearing; frosty; barometer remarkably high.
— 14—Hazy clouds; fine; frosty at night.
— 15—Frosty and foggy; fine; sharp frost.
— 16—Frosty; very fine; slight fog; frosty.
— 17—Very dense fog; barometer still unusually high; clear and fine; sharp frost.
— 18—Frosty; fine throughout; slight rain at night.
Mean temperature of the week, 1 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Feb. 28, 1863.

| February. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 22.. | 46.4 | 32.4 | 39.4 | 17 | 0.29 in. | 4 | 3 | 6 | 3 | 1 | 11 | 6 | 1 |
| Mon. 23.. | 47.1 | 31.5 | 39.3 | 13 | 0.44 | 4 | 4 | 7 | 2 | 1 | 10 | 6 | 1 |
| Tues. 24.. | 46.8 | 32.9 | 39.8 | 17 | 0.60 | — | 4 | 6 | 3 | 7 | 6 | 4 | 7 |
| Wed. 25.. | 47.4 | 32.5 | 40.0 | 19 | 0.92 | 2 | 5 | 7 | — | 6 | 9 | 5 | 3 |
| Thurs. 26.. | 47.2 | 33.1 | 40.1 | 20 | 0.48 | 4 | 6 | 5 | 1 | 4 | 6 | 8 | 3 |
| Friday 27.. | 47.9 | 33.7 | 40.8 | 18 | 0.40 | 3 | 6 | 4 | 2 | 6 | 8 | 5 | 3 |
| Satur. 28.. | 48.9 | 33.5 | 41.2 | 14 | 0.84 | 1 | 8 | 5 | — | 2 | 8 | 5 | 8 |

The highest temperature during the above period occurred on the 27th, 1846—therm. 62 deg.; and the lowest on the 24th, 1860—therm. 18 deg.

## Notices to Correspondents.

ALDERS: *J M.* The Black Alder is Rhamnus Frangula: the common Alder is Alnus glutinosa. The first is a Calycifloral plant, the other is Amentaceous.

ALPINE ROSES: *E A M.* The real Alpine Rose is a true wild Rose, and is called by botanists Rosa alpina. But what the French call the *Laurier-Rose des Alpes* is Rhododendron ferrugineum.

BEGONIAS: *E A M.* When these plants are propagated by dividing their leaves it is not the hairs that form roots, but true roots are emitted in the usual way. Many plants (*e. g.* Gloxinias) may also be propagated by laying their leaves, whole or divided, on damp warm sand.

CONVOLVULUS STELLATUS RUBER: *Epsom.* We can only repeat that this is merely the common field Convolvulus arvensis, or smaller Bindweed. It is a very pretty sort, no doubt, but has no pretension to so grand a name.

GARDEN LAW: *R H.* If you dissent from the law as explained by "Lincoln's Inn" you had better not put your opinion to any legal decision; for depend upon it if you do go into court in opposition to his advice, you will receive a lesson not likely to be forgotten.

MOWING MACHINES: *X Y Z.* There can be no doubt that Shanks's are excellent.

NAMES OF PLANTS: *LL D.* Rhododendron dauricum. The dried leaf belongs to Smilax aspera, a charming climber in the South of Europe, but not suited to our cool damp climate.

NURSERYMEN: *G C.* Whoever gave you the information deserves to be prosecuted for slander. There is no truth in the statement. The person referred to is a most respectable man, quite incapable of committing such a fraud, or of permitting it to be committed. We should incline to think that your informant is himself such a delinquent.

POPULUS CANDICANS AND ANGULATA: *J S.* You ought to find them in every general nursery of any pretensions, such as Osborn's for example, where a good collection of hardy trees is kept up.

STEPHANOTIS FLORIBUNDA: *J J C.* This fruits and ripens occasionally; mind that it is very acrid. Æschynanthus grandiflorus we never saw with its seed-vessel, except in native specimens.

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| Alsike Hybrid | Pacey's Perennial do. | Long Yellow | Marshall's Purple-top | James' Intermediate | Large Cattle Parsnip |
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# The Agricultural Gazette.

*SATURDAY, FEBRUARY* 21, 1863.

THE USES OF TIME in farm management and in agriculture generally would form a good subject for a lecture to a Farmers' Club. It is not of such topics as promptitude or patience that we would ask counsel of the lecturer. It is neither of the advantages of "taking time by the forelock," nor of the wisdom of waiting for an opportunity, that he should be desired to speak. But there would be plenty of scope in our mere dealings with the soil as well as in our relations, whether as farmers or as landowners, with our neighbours, for a discussion of the wastefulness of hurry, and for

illustrating the efficiency and economy of the costless influences of Nature when time is allowed for their operation.

In tillage operations, as in other details of farm practice, time will do what no other force, whether of hand, or horse, or steam, can accomplish. The plan of reducing hard land to tilth at once by setting steam to grind the soil to powder was conceived in disregard of the cheaper, more efficient, agency of time and weather. Crosskill's clod-crusher, the plough, the harrow, and the grubber, can cut the hardened soil into slices, break these into masses, and reduce them to smaller fragments still, but they are clods to the last. A series of revolving teeth turning rapidly as they are drawn onwards over the unmoved ground, and biting 6 or 8 inches into its depth, might, like so many circular saws, make sawdust of the land at once, but every little bit torn out would still be a bit of the original wood; and a mass of nuts or of hardened morsels, however small they may be, does not amount to tilth. *That* is the result of *time*—of moisture upon hard dry fragments, or of frost on moistened clods. One thorough breaking up of the hard clay stubble land in autumn will, after the lapse of the months of frost and thaw which intervene, present a tilth for the seed bed of spring-sown crops, such as no unassisted artificial agency can create. The more perfect this original smashing up of the land the better no doubt will be the subsequent effect of the time allowed to the operation of the weather—but this is the real cause of tilth. And it is in this way, and not because so great a power can be applied to the direct trituration of the soil, that the great advantages of the steam engine for the cultivation of the land are to be realised.

But the man who cannot wait for the weather to do the rest when he has once thrown the land open to its influence in the most perfect manner, but must attempt by artificial means at great expense to hasten on imperfectly and perhaps mischievously that which, if he had patience, he would see done for him without trouble to himself, without cost, and without fail, is to be found in many other departments of agriculture, besides the mere work of tillage.

The natural method, by which things will of themselves work round, hinging satisfactorily on the new element which may have been introduced, and by which *men* as well as material are converted—by which not so much the enemy, as his enmity, is overborne and conquered, may everywhere be found contrasted with its foil—the artificial and violent—by which knots are cut rather than untied, and by which difficulties are swept out of the way rather than overcome. The contrast between the two is indeed seen oftener in land-owning and land-agency than in mere cultivation. And, not unfrequently, differences of management arising out of such contrasts of temperament are to be seen on adjoining properties.

Not many weeks ago we referred to the active, rapid course of improvement going on at Buscot, near Faringdon. The estate had but just been bought by a wealthy energetic man, who found it in an exceedingly unfurnished and neglected state. The land, for the most part a stiff calcareous clay, was much of it locked up in stagnant water. Rush and moss and sedge occupied the place of Grass and Clover. Large Gorse coverts, a nuisance to all the country round, covered many acres. Poor roads, poor buildings, hardly any drainage, poor crops and little rent—all this, over 5000 acres, were bought for some 35*l*. per acre. A man of Mr. Campbell's temperament can have purchased such a property solely with a view to its improvement. He doubtless believes that he will double its value by spending of course a good deal less than as much again as he had given for it, in mansion, cultivation, drainage, and other permanent improvements.

There were two courses open to him—he might have set his tenants to work. The advantages of under-draining are now everywhere admitted, which is more than could have been said 20 years ago, so that he had that in his favour. If he examined the dairy districts in his neighbourhood he would find that the best pastures were not necessarily on this geological formation or on that, but they were invariably the home grounds—those where cattle had been foddered at one season, and dressed at another, every year for time-out-of-mind. And he might have patiently laboured away for years; or induced his tenants to labour for him on the plan which had brought about such a result as that. Gradually by land drainage, by increasing fertility, by better accommodation for the larger head of stock which would come to be kept, the whole estate would thus be brought up to the standard of its best fields. The immediate landlord's improvements would be the making of good roads, the grubbing up of Gorse covers, and certainly arterial drainage. The general field drainage of the whole would proceed more gradually, with the erection of additional buildings as they were needed; and as the estate improved, and more stock was kept and more labour employed, the erection of more and better cottages. That was one plan open to the landowner. It has the advantage of being the most economical, and it has the great merit of improving the population at the same time that it improves the estate. The alteration in both would go on together; it would, like every other effort to improve mankind, be gradual and slow; but, resting as it would on the altered convictions and habits of the people, it would be sure.

Another plan was open to the purchaser of the estate. He could resolve upon its drainage wholesale and at once. He could set steam power on to make bricks and tiles for the drainage and the buildings, and to enforce the tillage of the arable land. He could import an army of labourers to hurry every operation, in or out of season. He could, without waiting for the cultivative influence of drainage, and of depasturing by cattle, &c., upon the Grass land, proceed at once to stock up the bad Grasses, to sow better, and to dress the land heavily with purchased dung and artificial manure. He could, without waiting for the gradual effect of consuming at home the increased produce of the fields due to drainage, resolve upon heavy dressings of dung made from large consumption of imported cattle food. And he could, when tenants accustomed only to a particular style of management were unable to fall in with his requirements, take the whole estate in hand himself.

This is the plan which he has adopted. It has the advantage of quick results, and in the meantime of furnishing a great deal of very interesting agricultural information. Spectators see on the great scale the results of operations concerning the propriety of which many are still in doubt. Thus we shall in the next few years see well illustrated at Buscot the effect of tillage of Grass lands, deep cultivation of clays, depasturing rich loamy pastures with sheep, pig feeding on purchased food with the avowed object of merely obtaining their manure for nothing. And many of these subjects will be exhibited on a scale hitherto unparalleled in this country. Moreover the neighbourhood of the estate benefits by the disturbance of its usual practice. Men are obliged to look again into subjects which they had long thought needed no rediscussion; and they reap the advantage of being made to think. They also benefit directly and immediately by the clearance of many a nuisance which a less energetic man than Mr. Campbell has till now disregarded. The clearance of a 100 acre Gorse covert is a specimen of the kind of immediate advantage which such a man at once confers upon a neighbourhood. On all these grounds the operations on the estate at Buscot Park recently received as they deserved the praises of a writer in these columns.

He saw in them the illustration of what ample means directed to the immediate attainment of fertility in the case of a water-logged mismanaged property could do—when directed by a powerful will. There are disadvantages in dealing with an estate altogether from the outside in this way—thus enforcing the solution of all difficulties without regard to the will or assistance of the tenants—which he had not then to discuss, but which deserve consideration. They are such as men of impulsive energetic temperament always experience whatever enterprise they undertake. Mistakes are made, in themselves a loss, and they are hastily corrected before time has fully determined the extent of the blunder which has been made—plans are executed hurriedly and without a proper or efficient staff for their superintendence. The mere material result is sought, regardless of the effect which the hasty work has on the usual agency hitherto employed—and above all the result is generally only adapted to and in fact the expression of the strong will which has attained it; so that when, as ultimately must happen, things have to depend on the ordinary style of owner and of occupier, the arrangements built up at so much cost of labour and of money fall asunder, and to a great extent are lost.

All this has happened or may happen at Buscot. We have recorded how land has been redrained in a hurry on the failure of an expensive "gridiron" plan of drainage on clay land pastures across the old ridge and furrow, although it would doubtless have been wiser to wait for a while to see how much ultimately might be needed to supplement the original imperfect work. We have seen how the estate is becoming more and more dependent personally on its owner; the former tenants being parted with before time can have enabled the growth of a sufficient staff as substitute. Plans involving the keeping of large flocks of sheep at a distance, especially require the superintendence of careful, conscientious men; and, however excellent are the present heads of departments, it is hardly possible to collect in a hurry a large body of perfectly trustworthy subordinates. Moreover in the end, when the estate is in full operation, as its present owner wishes, with its immense flocks "at tack" on the Cotteswold Turnip fields during winter, and shepherded over the Buscot pastures during summer, and everything is brought into accordance with this plan, so exceptional and peculiar an arrangement with the scanty buildings it will need, and the comparatively few labourers it will employ, must unfit the estate for the general style of farm management on which after all so large a property must ultimately be dependent.

These then are the disadvantages of hasty and enforced estate improvement. And on this side, putting apart the slow and dilatory character which the operation generally exhibits, it is well to consider the advantages of the gradual and patient "continuance in well doing" on which the contrasted method of accomplishing estate improvement depends for its efficiency. These, too, may be illustrated by example.

The Coleshill property of the Earl of Radnor adjoins that of Buscot Park. It has been now for 23 years under one management. Mr. Moore, his lordship's present agent, came to Coleshill as long ago as that. He certainly did not find the estate in the disorder to which non-residence has since reduced the neighbouring property; but the drainage, the farm buildings, and the general management needed to be improved. The first was done from the outset in partnership with the tenants, they agreeing to pay a per centage on the landlord's expenditure. Some who did not trust his work had tiles given them to put in as they thought best—18 inches or 2 feet deep, by their own men; but these have since and long ago been dug up and replaced at the full depth of 3 feet 6 inches or 4 feet, the tenants having been themselves convinced of the advantages of the greater depth. And this is an illustration of the whole management. The improvements having been effected cheaply and efficiently by the tenants themselves or with their sanction, their permanence and the continued prosperity of the estate, are of course much more certainly secured, than they could be if they had depended wholly on the will and judgment of the owner.

And beyond any advantage of this kind, there is the condition of the labourer on the property to be considered. The whole estate is being gradually furnished with good cottages. Coleshill is itself a model village in this respect, and no alteration having been suddenly or hurriedly effected, the improvement in the condition of the labouring population has been a growth, and is as permanent as anything sublunary can be.

The estate is at present in the hands of a prosperous and intelligent tenantry—the home farm presents a first-class example of a good homestead, and of good management. Steam ploughing has been adopted in conjunction with three neighbouring occupiers, though, as under a partnership responsibility and divided management might have been expected, it has not proved such a success as elsewhere.

The great achievement here is land improvement by the original tenantry, who, stimulated by the owner or his agent, have adopted all the proved improvements of modern agriculture; their own interests and those of their labourers having thus been served at the same time as those of the landlord and of the country generally.

## STEAM CULTIVATION.

### EAST LEACH, NEAR LECHLADE.

The traveller from the Cotswold district southwards by Burford, Lechlade, and Faringdon, first crosses the bleak and level surface of the Great Oolite, where large square fields of shallow brashy soil are walled in and cultivated chiefly on the five-course rotation of crops, which is essentially the Norfolk, with seeds kept down two years. This he leaves perhaps by one of the valleys which send streams downward to the Thames, large springs rising at their upper end, wher

the waters of the oolitic limestone flow over the edge of the Oxford clay. A very different country then is traversed—of stiffer soil and smaller and less regular fields—with a larger share of pasture land, surrounded by Thorn fences, containing a good deal of hedgerow timber. It is on both sides of the line separating the Great Oolite from the Oxford clay that the farms of Mr. Giles Edmonds of East Leach lie. And it is down such a valley, sending a clear and copious trout stream to the Thames, that you reach East Leach on your way from Burford. There are few prettier villages than Bothrop, through which the road leads you. The churches of two parishes within a stone's throw of each other, the wooded grounds and Gothic windows of a residence overlooking both, the roadside cottages and houses of the hamlet, are passed in succession, and at length you reach the scattered homestead with the large and comfortable farm-house, the buildings, sheds, and barns, without much plan or visible arrangement, and the large unoccupied spaces amongst them, all characteristic of the English Farmery.

Mr. Edmonds occupies two farms, one of 1200 arable acres and 250 acres of pasture, attached to the homestead, though provided also with two or three others in other parts of it; and the second, at some distance, of 800 acres arable and 150 acres pasture. Of the arable land about 700 acres are stiff clay, chiefly on the Oxford clay formation; the remainder of the land is the brashy soil of the upper oolite. Of course the management of 2000 acres of arable land is a very large business, requiring the employment on an average of about 100 men, 20 boys, and 40 women throughout the year. The labour bill cannot fall far short of 3200*l.* per annum, or 32*s.* an acre. The horses employed on these farms have varied from 40 to 44, and some 50 oxen have been kept, enabling the work of 15 or 16 teams on alternate days = 7 or 8 constantly employed. The rotation of cropping adopted is 4-field on the light land, and 3-field on the heavy. Wheat, Mangel Wurzel, Turnips, Barley, Clover or Peas or Beans on the light land; Wheat, Beans, Vetches or fallow on the clay. There is thus a very large extent of tillage, probably 1,000 acres of grain crop, and near 500 acres of fallow crop every year to be cultivated. The land for the most part lies wonderfully well for steam cultivation—in a series of fields, 30 to 50 acres in extent, long rectangles, 400 yards across—laid out just as if the use of Fowler's apparatus had been contemplated at the time of the original enclosure.

Mr. Edmonds' during the past summer purchased Fowler's 14 horse-power engine with complete apparatus, 800 yards of wire rope, and 4-furrow balance plough and cultivator. He had previously hired the Cirencester steam tackle and been satisfied with the quality of the work done by it, though not with its speed. The men from Leeds however, who started his own machinery for him, got his labourers into rapid movement from the first, and they have been maintained in it, by a mode of payment which is to some extent a premium on activity, ever since. Neither engineer nor ploughman would in the first instance brook any delay. Rope porters, if not cleared out of the way, were ploughed down, and the porter lads were quickened at first starting in a manner which they have never since forgotten.

In place of 4 or 5 acres a day, with which the men in charge of the hired apparatus were satisfied, 7 or 8 acres of ploughing, 10 or 12 of cultivating, or 20 over the second time, alone were considered satisfactory, and the consequence is that during the past autumn on 54 days in August, September, and October, 490 acres of land were moved, 144 being ploughed, 239 being scarified, and the rest being worked with the digging breasts upon the plough frame. The depth and thoroughness of the cultivation left nothing to be desired. What is now lying fallow for Beans, or smashed up for Mangel Wurzel and Turnips, is well and deeply worked. The Wheat plant on the steam-ploughed Clover lea looks first-rate.

The following are the expenses of the operation:—For wages—engineer (the home' blacksmith), 3*s.*; anchorman and ploughman, 1*s.* 8*d.* each; two porter lads, 1*s.* each daily; amounting in all to 8*s.* 4*d.* a day. To this, however, is added 1*d.* per acre to both engineer and ploughman for work accomplished, and ½*d.* an acre to the anchorman, so that the three have earned in addition to their wages the sum of about 5*l.* to be divided among them during the two autumn months.

A boy and water cart is needed, costing 3*s.* 6*d.* to 4*s.* a day for the supply of water and coals. Coals cost 13*s.* a ton at the station—probably 20*s.* a ton on the ground—and 15 or 16 cwt. may be burned daily. Adding to all these items about 1*s.* a day for oil, we have a total expenditure of at least 30*s.* daily, in ploughing on an average 7 to 8 acres, or in scarifying 10 to 12 acres, or in cross scarifying, 18 to 22 acres. The cost of wages and fuel and material in ploughing, thus amounts to 4*s.*; in scarifying, to 2*s.* 6*d.* or 3*s.*; and in cross scarifying, from 1*s.* to 1*s.* 3*d.* per acre; in every case there must be added 2½*d.* an acre extra as a gratuity to the men. The repairs required by the apparatus after 500 acres of work, are literally nothing; the breakages have been confined to a few shares or skifes, and the rope is believed to be still nearly as good as new. To show that the average performance is at least what I have stated, I will quote the performance of the past autumn. On August 25 and 26, 22 acres, partly clay and partly stone brash, which had borne Vetches fed off, were scarified (with the digging breasts), and on August 27th, 21 acres of the piece were cross scarified without moving the apparatus. On the 28th, 13 acres of clay land which had been previously moved by steam, were scarified. On the 29th another 13 acres were scarified—in both cases the apparatus being moved at the end of the day's work to the new field.

On the 30th they commenced ploughing (with the digging breasts) a 20-acre piece of Wheat stubble described as sand and clay. This took three days, on the last of which however not much was done, for 1 inch of rain fell in the morning; in the afternoon the apparatus was moved to a field of 24 acres Wheat stubble on sandy land. This with moving after finishing the job to another field took three days. On the last day (Sept. 6) of the second week they commenced ploughing a 50-acre field of Clover lea for Wheat, but worked only five hours that day; the piece was finished on Friday night, and the apparatus was moved back to the first piece which had been worked on August 27; this piece, 21 acres, was scarified in one day. In the three weeks they had lost one day, moved five times, scarified the first time over 72 acres, the second time over 42 acres, with the digging breasts 20 acres, and ploughed 50 acres—in all 134 acres of scarifying, and 50 acres of ploughing, which would have needed about seven teams of horses to have done it in the time. The wages of the men and boys employed in ploughing and scarifying by horse power would, during these three weeks, have been probably 15*l.*, and the food of the horses would have been at least 20*l.* Whereas the cost of fuel, wages, and material spent in steam ploughing, at 30*s.* a day, did not exceed 27*l.* in all. And beside the mere question of cost, it must be remembered that the superiority of the work by steam power on the clay lands at any rate is unquestionable.

The following is the diary of the rest of the autumn:

| | | A. | R. |
|---|---|---|---|
| Sept. 15 | Half-day ploughing fallow land for Wheat, clay, wet day | 10 | 0 |
| ,, 16 | Ditto ditto ditto, and moved | | |
| ,, 17 | Scarified same piece worked Sept. 3d, 4th, and 5th, and some extra | 26 | 0 |
| ,, 18 | Ditto ditto ditto, and moved | | |
| ,, 19 | Scarified clay land for Wheat | | |
| ,, 20 | Ditto ditto | 36 | 0 |
| ,, 22 | Ditto ditto, and moved | | |
| ,, 23 | Ditto ditto, for Vetches | 12 | 0 |
| ,, 24 | Scarified Wheat stubble, stone brash land | | |
| ,, 25 | Ditto ditto ditto, ¾ day | 31 | 0 |
| ,, 26 | Ditto ditto ditto | | |
| ,, 27 | Ditto, across the most of work done the last three days | 22 | 0 |
| ,, 29 | Ploughed fallow clay land for Wheat | | |
| ,, 30 | Ditto ditto ditto | | |
| Oct. 1 | Ditto ditto ditto | 30 | 0 |
| ,, 2 | Ditto ditto ditto, and moved 2 miles | | |
| ,, 3 | Digging Wheat stubble, part stiff clay, part brash | 27 | 0 |
| ,, 4 | Ditto ditto ditto ditto | | |
| ,, 6 | Ditto ditto ditto ditto | | |
| ,, 7 | Moved and digging Wheat stubble, part stiff clay, part brash | 13 | 0 |
| ,, 8 | Ditto ditto ditto, moved again | | |
| ,, 9 | Digging Wheat stubble, part stiff clay and part brash | 12 | 0 |
| ,, 10 | Hindered by a foot path and moved | | |
| ,, 11 | Wet morning, began digging at 2 o'clock | | |
| ,, 13 | Not at work | | |
| ,, 14 | Digging Wheat stubble | 21 | 1 |
| ,, 15 | Ditto ditto, and moved | | |
| ,, 16 | Digging sandy land and stone brash | | |
| ,, 17 | Ditto ditto ditto | | |
| ,, 18 | Ditto ditto ditto ½ day | 30 | 2 |
| ,, 20 | Ditto ditto ditto | | |
| ,, 21 | Ditto ditto ditto and moved | | |
| ,, 22 | Not at work | | |
| ,, 23 | Ploughing Wheat stubble, beginning at 10 o'clock | | |
| ,, 24 | Ditto ditto hindered through having carted some long dung which caused it to reeve | 16 | 0 |
| ,, 25 | Ploughing ditto and moved | | |
| ,, 27 | Ditto and moved | 5 | 3 |
| ,, 28 | Ditto ditto | 13 | 2 |
| ,, 29 | Ditto ditto and moved ½ mile | | |

To this must be added about 20 acres of Wheat stubble ploughed for Beans in addition, making in all 510 acres accomplished during the past autumn. We have little doubt that if equal good fortune attends the machine during the coming year, Mr. Edmonds will be able to report the accomplishment of 1400 or 1500 acres by next winter. It is when the annual charges of interest and deterioration of value have to be divided over a great extent of land like this that the economy of the process will be the most apparent.

Mr. Edmonds' own valuation of the work done hitherto upon his farms is as follows:—

"I consider the cost of the above work to have been about as follows:—Daily expenses, Engineman, 3*s.* 6*d.*; Ploughman, 2*s.* 6*d.*; Anchorman, 2*s.* 2*d.*; three boys, 3*s.*; Water carts, 4*s.*; Coals (15 cwt.), 15*s.*; Oil, 1*s.*; total, 31*s.* 2*d.*, or on 55 working days, 85*l.* 14*s.* 2*d.* Add to this four months charge for interest and wear and tear at 12½ per cent. per annum on 900*l*—37*l.* 10*s.*, making the total cost for 490 acres of scarifying and ploughing, 123*l.* 4*s.*, or 5*s.* per acre. The wear on our rope at present seems small, and the work done has been all that I could wish. I have broken 10 skifes from contact with blocks of stones and roots of trees in old hedge rows. Cog pinion working clip drum requires repairing, a new one is desirable. Cast iron wheel for fastening hind wheels of engine when propelling itself, cracked but still in use."

We do not doubt that so favourable a report by so experienced a man will tend immensely to the extended use of Mr. Fowler's apparatus, which is already employed on many farms in that neighbourhood.

The farms are interesting in other respects than for their steam cultivation; the live stock on them consists of a flock of about 1000 Southdown ewes, of which the produce are sold fat at 16 or 18 months old. A dairy herd of Short-horns is also kept, and a considerable number of cows are annually fattened off. Nowhere have we seen feeding sheds in which attention is more perfectly paid to the comfort and well-doing of the beasts.

The large number of oxen employed formerly is now reduced; some 30 or 34 oxen are put up to fatten instead of being merely kept along for labour, and a few horses less are kept. It is impossible to doubt that when the full effect of the apparatus has been proved, a much larger saving in both horse and ox labour will be effected than has hitherto been attempted.

## COTTAGES FOR LABOURERS.

THE cottage accommodation for farm labourers has by no means received the attention from a majority of the landed proprietors it is by many people thought to deserve. Where a large property includes the whole, or a great part of a parish, it is clearly the part of the owner of such property to see that the cottages are fit for human beings to inhabit; and I think very many of our nobility and landowners on a large scale are awake to their duties, and it has been my lot to be connected with two estates upon which the cottage accommodation is considered one of the first duties of the landlord, and where cottages have been erected in large numbers suited to the requirements of the labourer.

In parishes and districts where no large owners of property exist, I have often observed the dwellings of the poor to be in the worst condition, because there is no one to take the least interest in them other than the tenant farmer, who cannot be supposed to find capital for cottage erection, yet who may do much towards their improvement by representing to their landlords the necessity of better houses for their labourers; still I am afraid that in very many instances the wages of the agricultural labourer will hardly allow of his paying rent enough to make the erection of such cottages as the present age requires a profitable business of itself; but the better the dwelling, the more moral and intelligent will be those who are reared within its walls, and it is to be hoped that many of our owners of property will consider if they cannot do something for the benefit of the labourer; still, goodness knows, the land has almost enough to pay already, yet every day increases its value, not only to the proprietor, but men are to be found who are willing even now to give higher rents than formerly.

The situation of the cottage is of very great importance, and ought to be well considered before being selected; the principal things to guide one are the healthiness of the spot and the nearness to the man's daily employment; I much prefer a high and dry site, and let the soil be porous if possible; as near to, or adjoining a good road as can be; and instead of single dwellings, they should be erected in blocks of, say four or six; by this means expense is saved, and one of the great wants of the labourer supplied—viz., a little society. The districts most requiring cottage accommodation are those that for the most part consist of large arable farms, which take more labour than the grazing districts; and in such localities the labourer generally resides in the village at too great a distance from his employment. I know a farm of 1200 acres, nearly all arable land, the occupier of which is compelled to pay 1*s.* per week to his men more than his neighbours, and this solely in consequence of his great distance from the surrounding villages, otherwise he would not be able to command the class of men for labourers he would wish to have, as most of them have to come a distance of two miles to their work; this extra outlay would go far towards paying for the erection of good cottages upon or contiguous to the farm, and go to the owner in the shape of the increased value of the farm.

The cost of building a cottage is now-a-days very various, and we must not take those built by landlords as ornaments to their properties as a rule, any more than such hovels as are erected by speculators merely for the sake of the rents they will let for, or to be any guide as to what is the right sort of dwelling for a farm labourer. In the first place, very much depends upon the materials used, and the cost of them in various localities; in places where stone is plentiful it may be the cheapest material, but more generally brick with slate or tile roofs would be employed.

A landowner, in cottage building, has his own brick kiln to supply materials, and in many instances the wood is grown upon the estate, and he ought to take care not to charge those materials too high a price, or he adds very much to the seeming expense of his building. I much prefer foreign to English timber, for roofs, doors, &c., to cottages, it being so much more durable and cheaper in the end; but where English stuff is used, it ought to be of good age and well seasoned; if not, cottages, or any other buildings, will soon be out of repair. I know of some estates where the cottages are a source of continual annoyance to the agents from their being built with young unseasoned timber grown upon the property, and thought quite good enough for cottages;

but this is a mistake, as the repairs of labourers' cottages are, in some instances, so great, as to deter owners of property from increasing the number, and mainly from bad materials used.

The accommodation a cottage should contain consists of two rooms on the ground floor, one larger than the other, for a general living room for the family, and the smaller one fitted up with sink, oven, copper, &c., for washing, cooking, and the work of the house; two bedrooms are positively necessary, and in very many instances three, it being highly improper that, when a family is growing up, children of both sexes should sleep in the same room, as is too often the case now-a-days, for those brought up in this way never make decent or moral men and women; a small shed should be added at the back of the cottage as a store place for fuel, tools, and such like articles. This amount of accommodation can be in most instances secured for an outlay of from 60*l.* to 80*l.*, yielding a rent of from 3*l.* to 4*l.* per annum, with from 20 to 40 poles of garden ground attached; this I consider of great importance, and will always tell me to whom the cottages belong, as owners of property, in most instances, allow good-sized gardens, and such a plan is much preferable to the allotment system, as a labourer is enabled to spend more time in a garden adjoining his cottage than he could on a piece of ground at some distance from it.

I don't think a large landowner ought to look to the actual rent of the cottage as the only benefit he is deriving from his outlay, but rather to the increased value of his farms from the good supply of labour that his cottages will be the means of keeping upon his property. When cottages are erected upon the farm, they in some instances are let to the tenant, and by him filled with such men as he thinks proper—this may do in a few cases, for such labourers as shepherds, herdsmen, carters, or others employed after the stock; but no landlord ought to allow his cottages to be out of his own hands, if he wishes to have them kept in proper order, and filled by respectable tenants.

I am afraid these few observations will be of but little service to the friends before whom you may introduce the subject, and I wish very much my time would enable me to go more into detail in the matter. I hope your hearers will remember that a good cottage is not all a poor man requires, but that a kind and thoughtful employer may do very much to mitigate the hardship of his lot. *J. Coleman.*

[The above letter was recently addressed by Mr. Coleman, of Woburn Park Farm, to the Secretary of the Hungerford Farmers' Club.]

## Home Correspondence.

*Furze Crushing and Cutting for Cattle Food.*—In a former letter I promised your readers a notice of the successful and economical preparation of Furze as cattle food, practised at Mr. Cliffe's, Bellevue, county of Wexford, Ireland. In this I have been anticipated, I perceive, by the conductors of that very useful Irish periodical the "Agricultural Review," and having implicit reliance on the correctness of the report, I will give you a few extracts from it, bearing on the subject of Furze. The writer says, "The Furze-preparing machine was purchased at the Exhibition in London in 1851. It is 'Burrell's patent of 1849,' and does its work most efficiently. The Furze is 'fed' to the machine by a trough similar to that of a chaff-cutter, a pair of toothed and fluted rollers take the Furze to the knives, which are arranged on the principle of Passmore's patent chaffcutter, a series of knives being set on two wheels of about 15 inches diameter, which revolve at right angles to the feeding rollers. The cut Furze then passes between two rollers of about 15 inches diameter. The surface of these rollers is smooth, one of them is set something higher than the other, the degree of pressure being regulated by a weighted lever. There are eight plantation acres of land producing Furze, which supplies the place of hay for 12 horses from Sept. 1 to May 1, as also giving 40 head of cattle feeding for one month. The cost of Furze for each horse has been found to be twopence per diem, the only additional food given to horses being one half-stone of Oats daily, and occasionally a mash of boiled Turnips and Bean-meal. The condition of the horses is all that might be desired. We may here describe the Furze meadows and their management. . . . The seed sown in March, at about 35 lbs. per acre, the roughest and poorest portion of the land being selected—in fact the Furze meadows are situated on almost otherwise valueless portions of the farm; the Furze mown in two years after being sown, and every second year afterwards. It has been found that when the Furze was cut annually it 'died out' of the land. Mr. Ford (the steward) tried and approves of sowing Furze in drills 12 inches apart. Two-year-old Furze will be found to have a quantity of woody matter, useless as feeding; this is chopped off, and nothing but the one-year-old growth prepared as food." A friend of mine two years ago, at my suggestion, sowed his Furze in drills 15 inches apart, the sites of the drills left lower by a few inches than the spaces between. The object in sowing in drills in his case was to admit of having the spaces forked or hoed between them, and the object of having the spaces higher was to admit of having some of the soil and subsoil let fall in between the plants in the drills as a top-dressing, when the hoeing or forking was being performed. He has also sown broadcast, as is customary in most other parts of Ireland where Furze is cultivated for stock-feeding; and is now of opinion, as I had anticipated when suggesting the experiment, that the drilled crop is most profitable. All those who have cultivated Furze for hedges may have remarked, as in Mr. Ford's case, at Bellevue, that by the annual cutting of the young shoots, the remaining stems will "die out." Wherever this is dreaded in a Furze meadow, by leaving the crop uncut for three years, till the plants will have acquired strength, then cutting very low for fuel, it is found that young shoots acquire renewed vigour, and continue productive for many years after. There is an advantage in using Furze, which all should bear in mind, derived from the immense quantity of valuable manure produced by their use. Where straw is scarce for litter, cut Furze whin, left by the stock at night, proves an excellent substitute. *E. Carroll.*

*Carts.*—A correspondent having inquired in the *Agricultural Gazette* of the 24th ult., who is the best maker of farm carts, perhaps you will allow me to state that for the last four years I have used carts made by the Busby Agricultural Implement Company, of Newton-le-Willows, near Bedale (Yorkshire); and that I have found them very serviceable, strong, well made, and "useful for general purposes." Mr. R. Robinson, of Broughton, near Stockbridge (Hants), makes a very light, strong, and durable one or two-horse cart. *F. S. S.*

*Moles.*—The Vicar of Wix does not rest content with knowing how to seed other men's lands better than they do themselves, but he must needs have a fling at them about moles—even their mole catcher must have a smack. My father was one of these very men whom the Vicar would hold up to ridicule upon the mole question; for more than 40 years ago, when he began draining, he waged war against the mole, his land being overrun with them; he destroyed hundreds perhaps thousands; so deadly was his fight with them, that I can say of my own knowledge there has been but one on my bottom farm (then my father's farm) for more than 30 years, and that one I had destroyed as soon as I saw its first mole hill. Then, to the extent of this one mole. the Vicar's dart hits me—yes! and since I have killed every mole that has trespassed on my land for 30 years, it hits me hard, as hard as it can any man. Now for the result; why, my lands are not overrun with wireworms, but they are yearly overspread with splendid crops of roots and corn. Besides this I am not troubled with either gout or apoplexy, although I have not had mole hills to kick for exercise. For years back the two mole catchers in this neighbourhood have been, one a schoolmaster and parish clerk, and the other a leader of a choir and constant attendant at church, both very respectable and trustworthy men. Why, then, the worthy Vicar in dipping his bucket this time has missed both "discretion and wisdom." Let us hope that he has not picked up either the gout or apoplexy; but since "discretion and wisdom" have slipped him, I shall not follow him through his out-of-place muck question. *William Smith, Woolston, Bletchley Station, Bucks, Feb.* 9.

*Sparrows and Caterpillars.*—"I will tell you what all this fuss about sparrow-murder is about, and what it is. Because the sparrows eat caterpillars, so says Dr. Bree. But do they eat caterpillars? No, they do not; and this every tyro of a naturalist knows; and this I, myself, have proved hundreds of times. A sparrow will perish with hunger rather than touch a caterpillar; and this I stake my reputation in proving to the satisfaction of every man who can understand what a proof is," &c. *G. Wilkins, Wix Parsonage, Jan.* 13, *in Gardeners' Chronicle, Feb.* 7.—That distinguished ornithologist, the Rev. F. O. Morris, says in his very interesting account of the sparrow, "I have watched pairs of sparrows repeatedly feeding their young, and have found that they bring food to the nest once in ten minutes during at least six hours of the 24, and that each time from two to six caterpillars are brought—every naturalist will know this to be under the mark. Now, suppose that the 3500 sparrows destroyed by an association for killing sparrows were to have been alive the next spring, each pair to have built a nest, and reared successive broods of young during three months, we have, at the rate of 252,000 per day, the enormous multitude of 21,168,000 larvæ prevented from destroying the products of the land, and from increasing their numbers from 50 to 500 fold!" (see 2d vol. of first edition, p. 279).—Cannot some observer assure us whether caterpillars are eaten by sparrows or not? as we cannot tell which of the above Rev. gentlemen is the best naturalist. *Correspondent.*

*Relating to Stock.*—The physiology of generation is one of the most recondite and difficult of studies; at every step one finds a new puzzle. It seems as if the Deity, for wise purposes, said, "Thus far shalt thou know, and no farther." The great puzzle in the equines are the mules and mutes, which partake of the nature and similarity of both parents, showing the mutual influence of them both without the power of breeding. Among the bovines the freemartens are an enigma not yet solved. Your readers know that if a heifer and bull calf are born at the same time from the same cow, the heifer is never in season, and therefore of course can never breed. She seems, like the mule and mute, to partake of the properties of both parents, though, as to generative organs, so far as we see, she is female; her head and fore-quarters inclining to the appearance of the male, or rather ox, and the hind-quarters to that of the female parent. I am led to supply the following remarks, by perusing an able and interesting treatise in page 15 of the *Agricultural Gazette* for 1863, relating to "crosses in breeding" and "phenomena in breeding," read by Mr. Wilson, of Cross House, at the late meeting of the Penicuik (Mid Lothian) Agricultural Society. I propose to make a few observations on Mr. Wilson's able article in relation to the phenomena of breeding, under the heads of his paragraphs (*b*) (*c*) and (*d*), having no observations as regards (*a*). (*b*). The following was told me by the Scotch steward-bailiff (a first-rate man) of a gentleman in this county, who farms more extensively than any one in this county; of course I was much amused, as your readers also will be. It tends, however, to show the dangers of the "eye." A farmer in Scotland bred a colt from a favourite mare, and to his surprise, when born, the colt had crooked fore-legs, and walked as if it had "knock-knees." The farmer said to his man, "I would as soon it had died, it walks like Tom Jones the teacher" (a knock-kneed man). To which his man replied, "I can well remember that he was standing by at the time." The farmer of course exclaimed, "I wish he had been at home teaching his boys, or any where but there." (*c.*) There are different opinions respecting the best crosses in sheep. I have many times observed, when at the Smithfield show, the excellence of the cross between the Southdown and Leicester sheep. They were remarkably handsome about their fore-quarters, apparently possessed of great aptitude to fatten, combined with well-formed backs and mellowness to the touch. Amongst the cross-bred classes there are prizes given for wether sheep under 220 lbs. live weight, which of course are weighed whilst the judges are in execution of their duty. Two or three years ago, when acting as steward at the above show, I had to see the sheep weighed, and I found them within one pound of the weight; they were about 20 months old—the same breed in the other class being much heavier. Many persons would have been surprised to have found so much weight in so small a compass;" but an old saying, that "the best goods are packed in the smallest parcels," might have been justly applied to them. They have many years won the first prize amongst the many cross bred sheep exhibited against them, and I think they are still likely to do so; but how to go on crossing I am at a loss to know. I well recollect, when, as a boy, I assisted my father (more than 30 years ago), that he thought it would be advantageous to cross his pure Southdowns with the best Leicester rams he could purchase. Accordingly he did make the cross, and certainly the issue was early and fast fatting lambs; but he found eventually that he could not successfully go on breeding from them, as they soon became, if not mongrels, yet mongrel-looking, and exhibited some of the worst qualities of one or both parents. As he did not like the cross, he began again with the pure Southdowns, and continued them till he gave up his farm and stock to me. Since my succession I have kept the same pure Southdown stock, and I feel increasingly satisfied from experience, that no class of sheep is better than the Southdowns for such a hill-farm as I occupy. Let me not here forget to express how grateful I feel to our late much lamented and much respected friend, Mr. Jonas Webb, who presented to the whole world the type of a sheep, and at the same time infused into Southdowns by careful selection, substance and constitution. I have been breeding principally, though not only, from his noble flock for many years, and sorry indeed was I when I read of his intention to abandon sheep breeding—a sorrow only exceeded by the report of his death. It is not my desire at all to run down cross-bred sheep, or throw cold water upon the zeal of cross breeders. In my own neighbourhood there are some admirable flocks of improved Hampshire Downs. Great improvement has taken place within the last 10 years in respect of this class, and I think that great praise is due to Mr. Humphrey for the improvement; yet I cannot help observing that though the ewes, wethers, and lambs of this class of sheep yield more money than our Southdowns do (sheep for sheep), we can nevertheless keep more of the Southdowns on the same quantity of feed; and when the feed is short, as sometimes it will be, they will come best out of difficulties. The estimate of a flock must be taken from what can be made of it from a given quantity of land, and not from the mere price of the sheep. Suitability, no less than variety, is the soul of life. For good pastures, with ample space to move about, the cross breds are very suitable. What may be a very good sheep for one locality may be undesirable for another. The right sheep, as well as the right man, must, to do credit, be put in the right place. As regards those two most beautiful specimens of sheep, the Southdown and Leicester, so essential to crossing, I trust I shall never live to see the total extinction of their pure blood. It will be a "blunder worse than a crime." I may observe here, that although I have never yet seen a cross bred sheep beat the pure bred, yet hope seemed to dawn upon cross bred cattle last Christmas, a cross ox having won the Gold Medal at Birmingham, (the same thing occurring at Smithfield) away from the pure breeds. I do not recollect a cross ox taking the lead before. As a lover of purity of blood in cattle, as

well as sheep, I hope it will not occur again for some time. (*d*). Respecting ewes bearing twins, I am of opinion that high feeding of the ewes during the tupping season has much to do with it. Certainly some flocks of ewes are more prolific than others. The failure is often put erroneously to the discredit of the ram instead of the ewe. I have written the above remarks with a view of enabling and causing "young" stock breeders to think well before they commence the experiment of cross breeding. *John Ford, Jun., Rushton, Blandford, Feb.* 2.

## Farmers' Clubs.

Hexham: *The Essentials to Profitable Farming.*—We preface the paper lately read on this subject to this farmer's club by its President, J. Grey, Esq., of Dilston, with the following remarks, which appeared in the *Oxford Journal*:—

John Grey, Esq., of Dilston.

There is hardly any profession whose wise and successful prosecution tends more to the general welfare than that of the land-owner. It depends greatly upon him whether his estate shall yield food, wages, and farm profits in abundance or at all. On his will and judgment rests the share which is contributed by his portion of the island to the prosperity of its population.

There cannot be greater contrasts than land managed under different ownerships presents. Much greater than those arising from differences of soil or of climate—these act directly upon the character of the population, producing all the differences between listlessness and energy, between poverty and wealth.

There are light sandy districts in this country, formerly so worthless and deserted, that land-lighthouses were necessary for the guidance of the traveller, which now, thanks to the wisdom of measures taken by their owners, present the best illustrations of fertility and productiveness. There are clayey tracts which in some parts are a poverty-stricken dairy country—and in others, owing to similar measures, are drained, tilled, and productive. On the one side in these two pictures we have a scanty population, earning a precarious livelihood from hand to mouth; while, on the other, there are intelligence, activity, well-paid labour, well-supplied markets, and a prosperous tenantry. The difference between the two is due to the differences between energy and carelessness, between parsimony and liberality, between recklessness and wisdom in the person and management of the land-owner.

The duties of such a position, on which so much depends, are rarely performed in person, and thus the office of the land-agent or deputy, to whom they are generally remitted, is one of very great importance.

We do not know an estate on which the value of a wise and liberal and energetic superintendence has been more obviously proved than it has on the Northumberland property of the Greenwich Hospital. Nor is it, we believe, possible to name any one to whom, in this direct local and immediate manner, English agriculture owes so much as it does to the gentleman whose name heads this paragraph, and who has now for nearly 30 years administered this extensive property.

Appointed then by the late Earl Grey and the late Lord Althorp sole superintendent of an estate extending from the North of the Tweed to Cross Fell in Cumberland, with all its vast mineral and agricultural productions, he might well feel diffident and alarmed. He accepted the onerous post, however, and has since performed not only the mere duties of the office—but in a most distinguished and public spirited manner those which every man in his position and degree owes to society. Mr. Grey, of Dilston, has long been known as the great agricultural authority in the North of England—as the great promoter of agricultural improvement—as the founder of Agricultural Societies—as the heart and centre of every useful public movement in the agricultural world. Known to readers of the English Agricultural Society's Journal as the writer of many useful papers on the relations of master and servant—on the relations of landlord and tenant—on farm buildings and other agricultural subjects; he is still better known as the eloquent public speaker whenever there is a wise and large-hearted plan to be promoted, or a good and genial sentiment to be advocated.

When he first came to the agency of the Greenwich Hospital estates he saw that there were many things capable of great improvement. Slovenly harvest work, carelessness in breeding stock, and general listlessness in the details of farm management, had to be dealt with and corrected. Premiums were offered—sweepstakes were established—Societies founded—and in every other possible way energetic industry was stimulated. It was to one of these Societies—the Hexham Farmers' Club, over which Mr. Grey has for many years presided—that he gave the other day an address on the essentials to profitable farming, in which he brings to bear upon an important subject that ripe and experienced wisdom which is to be acquired only by the Christian gentleman after a long life of honourable, public spirited, and useful employment.

It has been by way of bringing the good advice thus given in the North before agricultural readers in the Midland and Southern Counties that we have thus referred to the life and labours of the speaker.

Mr. Grey, in his address on the essentials to profitable farming, speaks of capital, judgment, industry, intelligence, and probity. The following are short extracts from his remarks on these five important topics:—

Every one knows how great has been the change in the practice of agriculture during the present century.

Previous to that it was a dull routine, leaving all to the land, as the nurse of plants, not knowing that different plants required different nourishment, and that land is only the medium through which that must be administered. Science must be called to aid in discovering what it is. When the mere produce of the farmyard was found insufficient to maintain the fertility of the soil, under more frequent cropping, other kinds of manure were sought for, and resorted to. The first application of the kind was bones in different shapes, which were found to yield the quickest return when dissolved in acid, which fits them at once to be assimilated by plants. Phosphates were found to be efficacious for roots. Then guano was discovered, which has ever since been imported in increasing quantities, added to many manufactured manures. One source of manurial wealth is still neglected, in the waste of sewage, which Dr. Liebig reminds us must eventually tend to the diminished fertility of the country, so great a portion of its produce being consumed in large towns, and never restored to the soil. It follows, of course, that the qualifications essential to a successful farmer are now much increased, and different from what they were formerly. More education, intelligence, and knowledge are required to keep up with the progress of scientific agriculture. The subject proposed for our present discussion is 'The essentials to profitable farming,' under which head may be enumerated capital, judgment, industry, intelligence, probity, and good moral conduct, on each of which I shall endeavour to make a few remarks.

First, Capital—a rock on which many make shipwreck at the outset, leading themselves to work afterwards in shoals and difficulties.

The man who engages in a larger concern than he has capital to do justice to is always at the mercy of the times, if they prove unfavourable, to bring him to a stand still; he is compelled to dispose of his produce in low markets, and unable to take advantage of a good bargain if it comes in his way. The capital required to stock and enter upon a farm differs according to the customs which prevail in different parts of the country. It is usual in these parts to allow six months to pass after a rent becomes due before it is collected, which gives a considerable advantage to the tenant in regard of capital, as he can often realise some produce from the land in aid of his funds in hand. The amount of capital required for entering upon a farm has often been stated at a certain sum, but that cannot be applied to farms indiscriminately, so much depends on the quality of the land, as 100 acres of very good land will require as much stock as 200 acres of an inferior quality. Much depends also on the proportions which may be in old pasture and in tillage. But it may be safe to say, allowing for such diversities, that the capital needful for entering upon a farm of mixed cultivation and stock, with safety, varies from 5*l.* to 8*l.* an acre. In another way of reckoning, it may be considered that a farmer should have at command four times the rent which he engages to pay. It hardly needs remark that all such calculations must be made to meet particular circumstances, and must therefore be liable to great variation. In countries where "tenant's rights" are in force, and take the place of leases, where tenants are left to build, enclose, and drain at their own cost, looking for repayment from their successors, in case of a change, the tenant's investment becomes so great on the premises that it is no easy matter for a new tenant to encounter such an undertaking. Hence, long occupations by the same family are found to exist in connection with the annual tenure, and necessarily with lower rents, giving to that system, in the opinions of some people, a preference over the custom of letting land on leases of reasonable length; and of all permanent works, such as building, fencing, draining, and road making, being done by the owners, so as to leave the farmer's capital to be employed solely in the legitimate object of stocking and cultivating the land.

Then, as to Judgment:—

The first and most important subject on which a farmer's judgment can be exercised is in selecting a farm suited to his means; next, in making a just estimate of its worth; and then in deciding upon the most judicious and profitable course of management to which it should be subjected. Another point on which it is essential for a farmer to exercise judgment is in selecting the kinds of live stock which are most suited to the quality of his land, its produce, and climate. Having made up his mind on this point, judgment is still called into constant exercise in bringing his animals to the greatest perfection, and selling them to the greatest advantage. There is no operation on a farm, nor any animal or implement by which it is effected, that is not a subject for the exercise of sound judgment, the absence of which may greatly detract from its profitable occupation. There is another subject on which it is of infinate importance to exercise good judgment, and that is, so to arrange the cultivation of a farm as to cause it to maintain the greatest quantity of live stock. To pretend to grow Wheat to profit, on inferior soils and in high situations, in this country, which must come into competition with the produce of the finest Wheat-growing districts in other parts of the world, is manifestly absurd. Wheat can be conveyed by sea and by rail, at a small cost as compared to its value, and without injury; but it is not so with live stock. In that we can suffer little from foreign competition; and, happily for us, we have soil and climate most favourable for its production, and a never-failing market at home for all the beef, mutton, and wool that we can supply. The result of our last harvest, and the relative prices of corn and butchers' meat at this time, tend strongly to confirm this view of the matter, which I have endeavoured, on former occasions, to impress upon you. It is difficult to uproot old prejudices; and time was, before the freedom of trade and the facilities of intercourse existed which we now enjoy, that it was in some measure true what an old farmer in this part told me nearly 30 years ago, "that nothing was worth growing but Wheat." Now, I believe, except in the most favourable situations, it pays, on an average of seasons, the least, and is the most precarious of all our crops; while the consumption of meat continues to increase, and, had it not been for the dreadful calamity under which so large a section of the operative classes of our country are now suffering, it is reasonable to suppose that the price of butchers' meat would have ruled still higher than it does at present. No doubt exists in my mind that a large portion of the inferior land in this country would yield the greatest profit, by restricting the growth of corn, and curtailing the expense of cultivation to that point which is necessary for the maintenance of live stock, making that our primary object, and the growth of corn crops subservient to it, except in situations most favoured by soil and climate. I do not say that all land of inferior quality should be laid off to permanent pasture; on the contrary, I believe that a rotation of tillage, with an interval of three years' Grass, is more profitable, and that the freshness which is recovered by that rest in pasture, is most favourable to the growth of those root crops which are indispensable to the keeping of stock during the winter. What I recommend is, to curtail the area of tillage as much as is consistent with the production of winter food for stock, and to deal with that reduced area so liberally, by draining, good cultivation and manure, as to obtain from it as much as is got from the larger surface at a greater expense. Even the heavy soils of our districts may, by draining and deeper cultivation, be made available for sheep pasture, which I need not tell you practical farmers, is the best and most profitable stock that you can rear, whether as regards the return they yield in flesh and wool, their greater exemption from disease, and the benefit derived from their manure, which is richer in quality and more equally distributed over the land than that of horned cattle. It does not come within the object of this address to compare the advantages of different rotations of cropping for different soils. I only refer to it as a subject on which sound judgment must be exercised, or much labour may be lost and many advantages sacrificed, but, as a general maxim, I believe it to be prudent to cultivate chiefly that kind of grain which the land has a tendency to grow in the greatest abundance; for if it should not be the most suitable for market, the coarsest grain can always be employed, by bruising or steaming it, for feeding stock, and seldom fails to be profitable, especially if mixed with a portion of Thorley's or Campbell's condiments.

The next point which I have named in the list of essentials to profitable farming, is Industry.

That you may say, and say truly, is essential to success in every calling, but in none that I know of are persevering industry, and constant vigilance, so indispensable as in farming. The manufacturer, in any line, employs a certain kind of machinery, and works upon certain substances which admit of little variation. As he leaves his work at night, he resumes it in the morning. Not so the farmer. He works in an ever-varying climate, the changes of which affect the soil, or the produce on which he operates, and the performance of the implements in use. A fall of rain while he sleeps makes the operation he was engaged in to-day injurious on the morrow. New arrangements must be made, and other employment resorted to, and it depends upon his capacity and activity whether they be suitable and profitable, or otherwise. Such circumstances naturally stimulate to industrious and active habits; and such, in general, are characteristic of the farmer. Yet among them you do find men, as in all situations of life, of various temperaments and dispositions; some pushing and energetic, others indolent and indifferent. And it is curious to remark how everything about a farm bears the impression of the occupier's peculiar temperament. On one farm you will find operations going on systematically and energetically, the master, present among his work people, or, if absent, well aware by the amount of work performed, how things have gone on in his absence. On that farm, you are likely to find stock of a right kind and in good keeping, and roads, fences, and gates in good order. On another, you probably find horses in plough or cart, standing behind a hedge, and the people enjoying a quiet gossip beside them. Ask for their master, and they will tell you that he would likely be found in the house. And there you will find him, with his feet on the fender, and a pipe in his mouth, or, if a warmer season invites, on a seat outside, indulging in the sun. Go through his farm, and you find the road-sides flourishing with Docks and Thistles, shedding their seed for the good of his neighbours; the hedges full of gaps, stuffed with dead thorns that kill the living ones; and gates which you must lift off the crooks or shift a pile of stones from to obtain a passage through. I speak from experience in such matters, and have no wish to draw an exaggerated picture. Is it fair, then, to abuse farming as a bad occupation, because such an one does not thrive in it, or to accuse a landlord of being rapacious and tyrannical because he would like to remove such a tenant to put his property into other hands?

I now come to speak of Intelligence as an essential for profitable farming.

No doubt, much and useful intelligence may arise from good natural abilities, and acute observation. These, even without the advantage of early instruction, have, in some instances, been the pioneers to great distinction and success; but did we ever hear of a Watt or a Stephenson who, having struggled through difficulties, and attained great eminence, did not lament the impediments they had to encounter, from the want of early education? The time has gone by with too many of us to profit by the improved education which the present state of society requires and affords; but allow me to remind such of you as have the responsibility of being parents, of the duty incumbent upon you, to educate your families so as to fit them for taking a respectable position in life. It is the best patrimony which you can bestow upon them. A liberal and judicious course of education is the foundation of future acquirement; it opens up the sources of knowledge, and gives vigour and opportunity of expansion to any peculiar tendency of intellect which the mind is disposed to. Without it no man need expect to keep pace with the onward movement of society, or to make his way in arts, manufactures, or even agriculture—to which some knowledge of chemistry and the natural sciences is indispensable. I have heard with great satisfaction of the distinguished places which two youths, who were lately pupils with my near neighbour, Mr. Lee, have taken in the late examination at the College of Cirencester; and I congratulate our late Secretary on the success of his pupils, which reflects credit upon himself. Although we cannot but look with admiration on the brilliant examples which a fortuitous education has at times produced from the lowest walks of life; on the philosophic depths of Leslie, and the poetic flights and stupendous learning of the ever-lamented Leyden, yet it is far more for the purpose of improving and instructing the great masses of the people that we ought to prize and encourage a popular education. I need hardly ask you, in the last place, whether that education should be limited to the mere business of scholastic acquirements, or if it should not also be directed to a higher and holier aim—to imbue the youthful mind with those sentiments of morality and virtue which it ought to be our especial desire to see as the characteristics of an improving age.

I have ventured to place Probity among the essentials for profitable farming, and, I may say, for success in any line of life.

Point to the unfortunate man who is known to be capable of practising falsehood, fraud, or deceit—the man who will show a better sample of grain from his pocket than he has in his sack—who will not scruple to use a defective measure, if he thinks he can escape detection, or to pass off an animal on a purchaser which is lame or diseased—and need you ask if such an one can long be successful—if he can be respected by others or happy in himself? Many complaints and disputes are heard of in our day between masters and their farm servants, and doubtless the latter have many faults. We hear of cases of idleness, drunkenness, and dishonesty; but are the faults all on their side? Are the masters always found to be actuated by a spirit of justice and mercy? Are they inclined to visit those faults with forbearance and forgiveness, with a view of reforming them, or with severity and punishment? To effect a general reform, each one should begin by reforming himself. Do we keep habitually in mind that, though God has appointed us to different stations in life, giving to each his duties, one to direct and another to serve, yet that, in His sight, we are all brethren? Do we consider it to be a part of our social duty to look to their domestic accommodation and comforts—to the moral training and religious instruction of their children—to do what we can to elevate them in principle and in feeling—in short, to purify and make more healthy the whole moral atmosphere in which we live—to impress upon all the obligations imposed upon us here, and the responsibility which we must give account for hereafter

# Reviews.

*Third Annual Report of the Cranley Village Hospital, Established* 1859.

The following is the report of the Trustees:—

The Trustees, in presenting the Third Annual Report of the Cranley Village Hospital, desire to inform the Donors and Subscribers, that the number of admissions has exceeded those of previous years, and that the results—as shown in the Report of the Cases—have been eminently satisfactory.

The admissions in 1860 were 23,—the same number as in the year 1859—whereas in this, the third year of the establishment of the Hospital, the admissions have been 30, most of these also (as was the case in previous years) could not have been properly treated in ordinary cottages.

The institution of the Village Hospital resulted, indeed, from the absolute necessity of providing better accommodation for the poor, in cases of sickness or accident, than that afforded by their own homes. The distance of the London Hospitals prevents them from being of much use to the poor in country districts, and the change also to the atmosphere of London is oftentimes in itself prejudicial to the health of country patients.

The Hospital now contains six beds. It is situated in the village of Cranley, close to the residence of the Medical Officer, who is thus enabled to afford prompt and unremitting attention.

The principle of weekly payments by the Patients has answered so well, that its adoption in all similar institutions is confidently recommended.

The Trustees believe that the utility of the Village Hospital is now generally recognised; and in soliciting your support by annual subscriptions or otherwise, they beg also to suggest that donations of port wine, brandy, and linen rags, even in small quantities, will be most acceptable.

The Hospital from the time of its first establishment has been instrumental in the alleviation of a great deal of suffering, and this alone is sufficient to enable the Trustees to recommend it with confidence to your support; they trust in the blessing of God, that it will continue to flourish as a permanent and an excellent Institution.

(Signed) JOHN BRADSHAW, JAMES ELMES, J. H. SAPTE.

Mr. Bradshaw, whose name is here appended, is the Chairman for this year of the London Farmers' Club. We had the pleasure of describing his farm in these columns the other day. We refer now to the good work in which we find him sharing here, hoping that his example may thus be copied elsewhere. Institutions of this kind are, we know, being established elsewhere. On passing through Bourton-on-the-Water the other day we found one there, and it was praised for its usefulness to the labourer, who is thus in case of accident or acute disease brought near to the medical man, and under good and constant nursing.

The following are the rules of the Cranley Village Hospital:—

1. The Hospital is designed for the accommodation of the Poor when suffering from disease, or from accident; and shall be under the direction of Three Trustees, one of whom shall be the Rector of the Parish, who shall also be the acting Manager.

2. The establishment shall consist of a regular nurse, and another woman for the necessary work of the house. A lady has also kindly promised the benefit of her assistance in all special cases.

3. The nurse shall at such times as her services are not required in the Hospital, attend poor women at their own homes during their confinements, or other illnesses, on payment of the usual fee.

4. Patients shall be received on payment of a weekly sum, the amount of which, dependent on their circumstances, is to be fixed by their employer, in conjunction with the Manager of the Hospital.

5. Admission of Patients shall be granted by the Manager, on consultation with the Medical Officer, to either of whom applications for admission may be made, addressed at the Village Hospital, Cranley.

6. The Medical Department shall be under the control and superintendence of A. Napper, Esq.

7. The Domestic arrangements shall be under the management and supervision of some of the ladies of the parish.

8. Every requisite shall be provided in the Hospital, and patients may not receive food or drink from any other source, without the sanction of the Medical Officer.

9. The funds for the establishment and support of the Hospital, shall be raised by voluntary contributions, and the Treasurer's statement of the receipts and expenditure (examined by the Trustees), shall be printed once a-year and forwarded to each subscriber.

10. All subscriptions shall be payable yearly and in advance, on the 1st of October, and any of the Trustees may receive Donations and Subscriptions, an account of which shall be rendered to the Treasurer.

11. The furniture, and all other property of the Hospital, shall be vested in the Trustees.

12. In case of a vacancy, the remaining Trustees shall elect another to make up the number.

## Miscellaneous.

*Astrometeorological Prophecy uttered this Time last Year.*—We are now enjoying all the mildness of spring under the powerful influence of Mars, instead of the anticipated cold from the moon's conjunction with Saturn and Jupiter; but it must again be remembered that Saturn and Jupiter, from their long travelling near together, their recent conjunction, and now their near neighbourship, though very slowly getting further apart, seem to have become very much assimilated, the former from the double action of the sun and Jupiter having become more modified in his influences; the latter, having received much of Saturn's cold magnetic influence, has become much cooled down, and therefore his reflected rays do not elevate the temperature of our globe, as they will do when they once get an entire sign from each other, and this will yet take considerable time, as Jupiter is a whole month in passing through one zodiacal sign, while Saturn takes two years and a half to push through one sign. We must, therefore, consider the coming year to be a mild and prolific one.

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending Feb. 18, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun.* | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 12 | 30.35 | 42 | 41 | W. | 2 | 3 | 51 | 39 | 75 | 34 | 0.01 | 44½ | 45 |
| Friday .. | 13 | 30.66 | 30 | 27 | N. | 1 | 1 | 53 | 24 | 94 | 20 | .. | 44 | 45 |
| Saturday .. | 14 | 30.65 | 39 | 37 | E. | 2 | 3 | 49 | 24 | 74 | 23 | .. | 42½ | 44 |
| Sunday .... | 15 | 30.60 | 37 | 34 | E. | 1 | 1 | 45 | 29 | 73 | 22 | .. | 42 | 44 |
| Monday.... | 16 | 30.61 | 32 | 27 | E. | 1 | 1 | 49 | 23 | 78 | 18 | .. | 41 | 43½ |
| Tuesday .. | 17 | 30.64 | 35 | 33 | S E. | 1 | 1 | 52 | 26 | 84 | 20 | .. | 40 | 43 |
| Wednesday | 18 | 30.53 | 30 | 28 | S. | 1 | 2 | 54 | 25 | 89 | 20 | .. | 40 | 43 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Calendar of Operations.

### FEBRUARY.

WESTER ROSS: *Feb.* 16.—At length we have had a few fine drying days, and already the change in the appearance of the fields is astonishing. Previously, and for many weeks, there was nothing but wading through them; now they are regaining a seed-like aspect. Throughout the month of January it rained, often heavily, and almost incessantly. The weaker sheep depasturing on Turnips were actually sticking in the mud, whilst all of them underwent a deteriorating process. The fields were so continuously washed over that little of the littering of the sheep could have remained to benefit the coming crop. Ploughing leas for Oats, which is now well advanced, was nearly the only practicable out-door operation. Now, however, the roads are dry, and right glad are we to see them thus, as for a long time before we could not cart up our hills a single load of manure. A continuation of such weather, which we may now reasonably expect, would admit of our frightfully overstocked cattle courts being emptied out, and all other out-door employment being comfortably proceeded with. Although the harvest was late, the winter has been open, and the arrears of labour are well wrought up. Autumn-sown Wheat is above ground, and, although not far advanced, appears thick and healthy. From the deficiency, nay the almost total failure of last year's crop, a smaller breadth of Wheat than usual has been sown this season. Not a few fields were so thoroughly bad that the grain would do little more than pay for the threshing; and yet, bad as our Wheat is, our Barley is very little better. The average yield of Barley with us is from 3 to 3½ quarters per acre, and the price per quarter has been from 26*s.* to 27*s.*, consequently the proceeds would amount only to some 4*l.* 10*s.* per acre, a state of things very far from being remunerative or satisfactory. The whole crop on many a farm, after deducting the grain requisite for home use, will do no more than fetch money sufficient to meet the claims of the landlord. In the early part of the season Turnips for sheep were in good demand, at high prices; now they are selling at little more than half the price they would have originally brought, and many have difficulty in getting them disposed of at any price. Fat cattle have been in good demand, at satisfactory prices. On the whole the present year is, perhaps, the worst that farmers now living have ever seen.

## Notices to Correspondents.

BEANS: *Inquirer.* Mix 2 cwt. each of guano and superphosphate and apply them broadcast on the ground before the drill.

CANADIAN OATS: *N B.* Weighing 48 lbs. per bushel they do not, nevertheless, yield more meal than other kinds at 42 to 44 lbs

COCOA NUT FIBRE: *Subscriber of* 32½ *Years.* Richardson, 99, Euston Road, N.W.

FLAX: *Subscriber.* Mr. Dickson on Flax has written a good book—M'Adam also. We forget the exact title—but this mention may bring you the title.

MR. WILKINS' DRILL.—Some persons have applied for Mr. Wilkins' drills, and the last applicant asks Mr. Wilkins to state in the *Agricultural Gazette* where he can purchase the drill. The Rev. G. Wilkins laments that he cannot at present supply the gentlemen who have written to him with his drills, as they have not yet been made for sale; but he will make an arrangement with some firm for the making of them as soon as he can. He begs also to inform the applicants that they are so simple in their construction that the machinery of them may easily be attached to the carriage of the drills in common use, and at a very small expense. He begs, also, to add that the principle is that every seed, be it of what kind it may, is forced seed after seed through a hole just large enough to admit it, so that one seed only, except accidentally, can pass through the hole at a time, and the quantity of seed is regulated by the number or fewer of the holes, and thus the quantity of seed, whether little or much, is equally distributed over the ground.

MUTTON: *Brebis.* A fat Cotswold sheep will yield a Smithfield stone of mutton for every imperial stone of live weight, *i. e.* 8-14ths of their live weight is mutton. If your sheep are short-woolled and in very good condition they will yield more mutton than this.

**Good Clover Seeds.**

SUTTON and SONS have now ready, at very moderate prices, fine new RED, WHITE, and ALSIKE CLOVER SEEDS. As also new Rye Grasses, Turnip, Mangel Wurzel, and other Agricultural Seeds, a Priced List of which may be had post free.

Address SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

GENUINE CLOVER and GRASS SEEDS.—Samples and prices Post free on application.

☞ Orders amounting to 10*s.* and upwards sent carriage free.

WM. WOOD & SON, Seed Merchants and Nurserymen, Maresfield, near Uckfield, Sussex.

CHEAP GRASS SEEDS for HILL SIDES and RAILWAY BANKS.—Rough Grasses, Sainfoin Siftings, &c., suitable for the above purpose, at 2*s.* per bushel and 3*d.* per lb.

Address, RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

**Notice.**

PURCHASERS of LARGE QUANTITIES of FARM or GARDEN SEEDS will be supplied liberally by SUTTON & SONS.

For prices apply (stating quantity required) to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

WHEELER'S GLOUCESTERSHIRE KIDNEY POTATO.—This is one of the earliest, the most productive, the best flavoured, and the most profitable Potato ever introduced.

For price and all particulars, see WHEELER'S "Little Book."

POTATOES.—Ashleaf, Myatt's Ditto, Dalmahoy, Shaw, Regent, Rock, Fluke, Fortyfold, Blues, &c.
RASPBERRIES.—Fastolff, Antwerp, Autumn-fruited, &c.
1-year ASPARAGUS; STRAWBERRIES (see last week).
GEO. CORNWELL, Seedsman, &c., Barnet, Herts, N.

THE ROYAL ASH-LEAVED KIDNEY POTATO.—For a full description of this fine early sort, see advertisement in *Gardeners' Chronicle* for Jan. 31.

Price 5*s.* 6*d.* per Peck Bag of 14 lbs., sealed.

Sold in London by Messrs. WRENCH & SONS, 39, King William Street, E.C.; and by Messrs. THOS. RIVERS & SON, Nurseries, Sawbridgeworth, Herts.

**To the Trade.**

CHRISTMAS QUINCEY, SEEDSMAN, Peterboro', has to offer, of his own growing, ASH-TOP KIDNEYS, MYATT'S PROLIFIC, DALMAHOYS, FORTYFOLDS, SHAWS, and FLOURBALLS, by the sack or ton.

Also YELLOW and RED GLOBE MANGEL, BROCCOLI, and WINDSOR BEANS. Prices on application.

SEED POTATOES from the NORTH of SCOTLAND.—The following sorts, grown by Mr. SIMPSON, Teawig, in Inverness and Ross-shires, on clay loam and light soils.

DALMAHOYS,
WALKER'S EARLY REGENTS,
WHITE ROCKS.

They will be delivered free in sacks in London, Liverpool, or Newcastle, at very moderate rates, which may be learned by writing, stating quantities required, to A. SIMPSON, Beauly, N.B.; or applying to A. TOD, 17, Duke Street, London Bridge, E.C.

DAINTREE'S EARLIEST SEEDLING POTATO.—The earliest and most prolific round variety in cultivation, verified by reports in the various papers, and by private reports from all parts of the country, numbers of which will be forwarded on application. Present price, 8*s.* per Bushel, or 12*l.* per Ton; sacks 1*s.* 6*d.* each.—Apply to Mr. SIMON A. DAINTREE, Fendrayton, St. Ives, Hunts.

☞ N.B.—Genuine Italian Rye grass, and all the Agricultural Seeds of home growth, supplied as usual

EXTRAORDINARY POTATOES.—A gentleman resident in the Country offers for SALE a few BUSHELS of SEED POTATOES of a new and most wonderful kind. For the table they are unsurpassed as to whiteness and delicacy of flavour, and their productiveness is almost incredible, even on indifferent soil; and further, the disease never attacks them.

For price, &c., address by letter to Z. Z., care of Editor, 162, Fleet Street, London, E.C. Early application is necessary.

SEED POTATOES.—Splendid Stocks of Martin's Early Globe, Early Oxford, Early Fox's Seedling, Early Round Frame, Early Dalmahoy, Myatt's Prolific, and Jackson's Ash-leaved Kidney, Forty-fold, Fluke Kidney, and Flour-ball varieties at low prices.

H. & F. SHARPE, Wisbeach.

**Seed Potatoes.**

B. S. WILLIAMS begs to intimate that he has a good stock of POTATOES for Planting, which he offers at moderate prices. Per peck of 14 lbs.—*s. d.*

EARLY ASHLEAF.—A very early variety .. .. 2 6
" (Myatt's Improved).—The most prolific Potato in cultivation .. .. .. 2 6
DALMAHOY.—Fine flavour .. .. .. .. .. 2 [illegible]
EARLY SHAW.—Second early, very prolific .. .. 1 [illegible]
EARLY OXFORD (Soden's) .. .. .. .. .. 2 [illegible]
YORKSHIRE REGENTS.—The best for general late crop .. .. .. .. .. .. .. 1 [illegible]

*** A reduction will be made on the above prices when large quantities are taken.

Paradise and Victoria Nurseries, Holloway, London, N.

HOW'S EARLY FLUKE.—This new KIDNEY POTATO has been raised from the apple of the Fluke. In 1861, 1200 yards produced 132 bushels. In 1862, tested in alternate rows with other sorts, it was freest from disease, and by far the heaviest crop. It boils white, and is of first-rate quality. Its flavour when dug young is much extolled. Two First Prizes have been awarded to it at the last Redmarley Horticultural Shows held in July. For early market or the gentleman's table it is unsurpassed. Price 10*s.* per bushel of 56 lbs.

W. A. HOW, Redmarley, Newent, Gloucester.

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., so much admired in the International Exhibition, delivered in the City at 1*s.* 6*d.*, or within 2½ miles of Charing Cross, at 2*s.* per bag of 3 bushels. Ten bags or more on lower terms. Apply to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.

Also for particulars of SHORT FIBRE for Orchids and Drainage in pots.

Stamps or Post-office Orders payable to J. BARSHAM & CO.

BARSHAM'S BRUSHES and MATS are the best and most economical of any, and are sold in every town in the kingdom; at DEANE'S, London Bridge; and E. WHITE & SON'S, 95, Cannon Street.

CAUTION.—Every Brush is stamped "J. BARSHAM'S Patent."

**Vegetable and Flower Seeds.**

CARRIAGE FREE.

JAMES DICKSON AND SONS' ANNUAL DESCRIPTIVE PRICED CATALOGUE of the above is now ready, and may be had, post paid, on application.

The *Field* of February 8, 1862, in a notice of our last season's Catalogue, says:—"This old established firm have issued their neat and well arranged Catalogue for this season. It embraces all seeds really worth growing in both departments."

JAMES DICKSON & SONS, 102, Eastgate Street, Chester; and 23, Market Place, Manchester.

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WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

WHEELER'S IMPERIAL LETTUCE

The price of the Lettuce is 1s. per packet, post free.

J. C. WHEELER & SON beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. WHEELER & SON, Seed Growers, Gloucester.

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**Genuine New Seeds, Carriage Free.**

FRANCIS & ARTHUR DICKSON AND SONS, 106, Eastgate Street, Chester.

New VEGETABLE and FLOWER SEEDS of every description, of the finest possible quality.

Their DESCRIPTIVE PRICED CATALOGUE, containing many valuable New and Select Vegetable and Flower Seeds, will be sent Post Free on application.

Collections for Gardens of all Sizes are on the most liberal scale. See Catalogue.

☞ Vegetable Seeds of £2 value Carriage Free. All Flower Seeds Free by Post.

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On Sale,

PERUVIAN GUANO.

Apply to Messrs. GIBBS, BRIGHT, & Co., 1, North John Street, Liverpool.

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**To Farmers, &c.**

CHEAP GYPSUM MANURE.—Parties requiring GYPSUM can be supplied at 10s. per Ton, bulk, at the Works at Kennington, S.

Address, X. L., 34, Chapel Street, North Brixton, S.

*** Delivered on Rail, adding for bags and cartage.

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THE LONDON MANURE COMPANY have now ready

PREPARED BONE MANURE for present use on PASTURES.

WHEAT MANURE for AUTUMN SOWING.

BLOOD MANURE for ditto.

SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.

116, Fenchurch Street, E.C.

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LAWES'S WHEAT MANURE for AUTUMN SOWING.

In consequence of the high price of Peruvian Guano, J. B. LAWES has manufactured a WHEAT MANURE for the present season, which will be found very suitable for that crop. A supply is now ready for delivery, and it can be obtained of J. B. LAWES, or through any of his appointed Agents. Price 8l. per ton at the Factories, Deptford and Barking Creeks.

Genuine Peruvian Guano direct from Messrs. Gibbs; Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

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TENANT FARMERS' MANURE COMPANY.

ODAMS'S BLOOD MANURE for CORN.

ODAMS'S BLOOD MANURE for ROOTS.

ODAMS'S SUPERPHOSPHATE of LIME,

MANUFACTURED BY THE PATENT

NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),

Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.

Chairman.—JOHN CLAYDON, Esq., Littlebury, Essex.

Particulars of these Standard Manures may be obtained at the Offices. C. T. MACADAM, Secretary.

Or of the Local Agents.

Offices: 109, Fenchurch Street, London, E.C.

Manufactory: Plaistow Marshes, Essex, N.E.

---

**Crushers of Cotton Seed and Linseed.**

MARLAND AND CO., 6, New High Street, Manchester.

Prices of Cake or Oil will be sent on application.

---

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.

Extra strong, 3s. per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.

Can be obtained through the principal Nurserymen and Seedsmen in England.

A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.

PAGE & TOOGOOD, Seed Merchants, Southampton.

---

**To Florists and Nurserymen.**

H. PERKINS calls the attention of the above to his large stock of Genuine TOBACCO PAPER and CLOTHS, at 10d. per lb., warranted free from adulteration, having taken every pains to secure the same.

Address, 10, Cambridge Circus, Hackney Road, London, N.E.

---

ROLL TOBACCO CLOTH.—The cheapest and best article for Smoking Greenhouses and Destroying the Fly, 1s. 4d. per lb., over 10 lbs., 1s. 1d.

JOSEPH BAKER, 10, Gough Square, Fleet Street, E.C. Post Office Orders payable Fleet Street.

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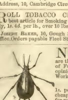


Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP,

1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. NEAL, Edward Street, Birmingham.

---

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1s., 3s., and 10s. 6d. each.

Wholesale by PRICE'S PATENT CANDLE CO., Limited.

---

# THE HYDROPULT,

THE HYDROPULT

IS INVALUABLE FOR

WATERING GARDENS,

EXTINGUISHING FIRE JUST COMMENCED,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

DRESSING with LIQUID MANURE,

SPRINKLING PLANTS,

WASHING WINDOWS,

WETTING SIDEWALKS,

SPRINKLING STREETS,

WASHING CARRIAGES,

WETTING SAILS,

A SPRAY BATH,

&c. &c.

Price Two Guineas.

CAUTION.—Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will, in due time, be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.

"GRIFFITH & BROWETT, Manufacturers, Birmingham;

"CHARLES P. BUTTON, General Agent.

"VOSE'S Patent;"

and is sold at the uniform rate of Two Guineas, complete, with 2½ feet Suction and 3-feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet.

It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution.

The Hydropult WEIGHS BUT 8 LB.; will throw 7 or 8 Gallons of Water per minute 50 FEET when worked by the power of one man.

Has been recommended as an efficient FIRE ENGINE by the principal FIRE INSURANCE COMPANIES of GREAT BRITAIN. Thomas Rivers, Esq., the eminent Florist; Shirley Hibberd, Esq., and other well known gentlemen, recommend it as an invaluable GARDEN IMPLEMENT. J. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable Property in Bayswater from destruction. The City and Provincial Press accord to the invention the utmost praise. All who purchase the Hydropult are satisfied with its action; each Machine guaranteed to be perfect.

**A PORTABLE GARDEN ENGINE, AND FIRE ANNIHILATOR.**

*Prospectus, with Testimonials, on application at either Office.*

HYDROPULT OFFICE: 27, LEADENHALL STREET, LONDON, E.C.; and 309, REGENT STREET, POLYTECHNIC BUILDING, LONDON, W.—CHARLES P. BUTTON, PROPRIETOR.

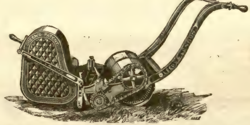
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863,

FOR WHICH HER MAJESTY'S ROYAL LETTERS PATENT HAVE BEEN OBTAINED.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOMAS GREEN FOR HIS PATENT LAWN MOWERS.



These were the only Machines highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862.

(No Prizes were given).

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS DURING THE SEASON OF 1862.

THOMAS GREEN AND SON, in introducing their PATENT LAWN MOWERS for the present season, have much pleasure in stating that the important Improvements which were added to their Machines for last season (which combined simplicity of construction, durability, and lightness of draught), have proved them to be superior to anything of the kind ever brought before the Public, inasmuch as they have given entire satisfaction wherever used, and have gained the largest sale of any Machines extant. They have carried off every Prize that has been given in all cases of competition.

GREEN'S PATENT LAWN MOWERS are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

| | | | | |
|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a lady. |
| „ 12 „ | 5 | 0 | 0 | Suitable for one person. If with internal gear, 10s. extra. |
| „ 14 „ | 5 | 10 | 0 | Do. Do. Do. Do. 10s. extra. |
| „ 16 „ | 6 | 10 | 0 | Suitable for one man or two boys. |

| | | | | | If With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|---|
| To Cut 18 inches ... | £7 | 10 | 0 | Suitable for one man and boy | £8 | 15 | 0 |
| „ 20 „ ... | 8 | 0 | 0 | Do. Do. | 9 | 5 | 0 |
| „ 22 „ ... | 8 | 10 | 0 | Suitable for two men ... | 9 | 17 | 6 |
| „ 24 „ ... | 9 | 0 | 0 | Do. Do. ... | 10 | 7 | 6 |

### DONKEY and PONY MACHINES, including Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 24 inches ... ... | £11 | 10 | 0 | ... ... ... £12 | 10 | 0 |
| „ 26 „ ... ... | 12 | 10 | 0 | ... ... ... 13 | 12 | 0 |
| „ 30 „ ... ... | 16 | 14 | 0 | ... ... ... 18 | 0 | 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

### PRICES of HORSE MACHINES, including Box of Requisites and Traces.

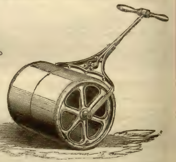
| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 30 inches ... ... | £20 | 0 | 0 | ... ... ... £21 | 10 | 0 |
| „ 36 „ ... ... | 23 | 0 | 0 | ... ... ... 24 | 16 | 0 |
| „ 42 „ ... ... | 26 | 0 | 0 | ... ... ... 28 | 2 | 0 |
| „ 48 „ ... ... | 29 | 0 | 0 | ... ... ... 31 | 8 | 0 |

Leather Boots for Horse, per set, 1l. 4s.

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

# GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.



Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s. Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

T. GREEN AND SON in introducing the above are well aware that the extremely simple character of this Implement cannot admit of any very radical change, yet they are confident that the Improvement just effected (and secured by Letters Patent) is a real one, and is strikingly apparent when compared with any other Garden Roller. In previous Rollers a limit was always set to weight in consequence of marks being left on the gravel, and the power required to work them, but the present one is nearly double the ordinary weight, yet is considerably easier to turn in consequence of the Roller being divided in two parts, and the outer edges being rounded off or turned inwards, thus avoiding the *unsightly marks* left by all others hitherto in use. They can be used by the most unskilful with the greatest certainty of producing a beautifully even surface, either on *Lawns or Gravel Paths*, and for the *Bowling Green and Cricket Field are really indispensable*. They are manufactured of the best materials, and got up in a manner surpassing any ever yet brought out.

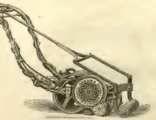
T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.



NEW HAND MACHINE.

THE FIRST PRIZE MEDAL

OF THE

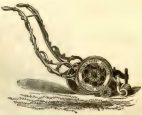
INTERNATIONAL EXHIBITION

WAS AWARDED TO

ALEX. SHANKS AND SON

FOR THEIR

PATENT LAWN MOWERS.



12-INCH or LADY'S MACHINE.

ALEXANDER SHANKS AND SON are gratified to find that the Improvements introduced into their PATENT LAWN MOWERS last season have been so entirely successful, that universal satisfaction has resulted from the use of these Machines wherever they have been tried. The Patentees have this season introduced further Improvements into their already celebrated Lawn Mowers, which are fully described in their Illustrated Price Lists, which will be at once forwarded on application.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved, and their success established.

These Machines will Mow EQUALLY WELL on UNEVEN as on LEVEL LAWNS, and whether the GRASS be WET or DRY. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

*The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.
LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

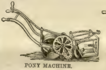
# SHANKS' NEW PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

NEW PATENTED IMPROVEMENTS THIS SEASON.

**EXHIBITION PRIZE MEDAL AWARDED.**

HORSE MACHINE.



PONY MACHINE.

NEW HAND MACHINE.

### SHANKS' NEW PATENT MACHINE

Mows the Grass, Wet or Dry, on Lawns uneven or otherwise, in a much neater manner than the Scythe, and at half the expense.

NO PERSON HAVING A LAWN SHOULD BE WITHOUT A MOWING MACHINE.

The first practical Gardeners of the day who have devoted their attention in examining all the different Lawn Mowers offered, do not hesitate in recommending SHANKS' Machine as *the best Mower for general use.* The important Improvements introduced last season have undergone a thorough practical test, and satisfied the most sanguine expectations. *Further Improvements, simplifying the Machine, and adding to its efficiency, have been introduced into the* NEW PATENT LAWN MOWER for 1863.

PRICES.

### SHANKS' NEW PATENT HORSE MACHINE.

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for Use.

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 1.—48-inch Machine ... | £28 | 0 | 0 | *Drawn by a Horse.* |
| No. 2.—42-inch Machine ... | 26 | 0 | 0 | |
| No. 3.—36-inch Machine ... | 22 | 0 | 0 | |
| No. 4.—30-inch Machine ... | 19 | 0 | 0 | *Drawn by a Horse or strong Pony.* |

Patent Delivering Apparatus for Nos. 1 and 2 Machines, 40*s.*; for Nos. 3 and 4 Machines, 30*s.*; Box with complete Set of Tools, 10*s.*; Silent Movement, 20*s.*; Boots for Horses' Feet, 24*s.* per set.

### SHANKS' NEW PATENT PONY and DONKEY MACHINE.

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for Use.

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 5.—30-inch Machine ... ... ... | £15 | 15 | 0 | *Drawn by a Pony.* |
| No. 6.—28-inch Machine ... ... ... | 14 | 10 | 0 | |
| No. 7.—25-inch Machine ... ... ... | 12 | 10 | 0 | *Drawn by a Donkey.* |

Patent Delivering Apparatus for Nos. 5 and 6 Machines, 30*s.*; for No. 7 Machine, 25*s.*; Box with complete Set of Tools, 7*s.* 6*d.*; Silent Movement, 12*s.* 6*d.*; Boots for Pony, 21*s.*; Donkey, 16*s.* per set.

### SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for use.

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 | 17 | 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 | 7 | 6 | |
| No. 10.—19-inch Machine ... ... | 7 | 12 | 6 | *Do. by a Man and a Boy.* |

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 11.—16-inch Machine ... ... | £6 | 17 | 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 | 2 | 6 | *Do. by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25*s.*; Box, with complete Set of Tools, 5*s.*; Silent Movement, 7*s.* 6*d.*

No. 16.—12-inch Machine for Pushing only, £5 5*s.*; easily worked by a Lady or a Boy; Silent Movement, 4*s.* extra.

AGENTS:

J. B. BROWN AND CO., 18, CANNON STREET, CITY, LONDON, E.C.

READ'S PATENT

## GARDEN ENGINES, MACHINES, AND SYRINGES.

GARDEN WATERING ENGINES, PAIL MACHINES, CONSERVATORY PUMPS, AND GREENHOUSE SYRINGES,
with all the latest Improvements, Manufactured only by the Patentee,

RICHARD READ, 35, REGENT CIRCUS, PICCADILLY, LONDON, W.

Caution.—Syringes of the very commonest description being extensively circulated throughout the Kingdom, and sold as "Read's," the Public are respectfully informed that *all* Read's Instruments have the Royal Arms, with the Address, "**35, REGENT CIRCUS, LONDON.**"

**Small Size (for Ladies' use), 12s. and 18s. Large Size, with three Caps, complete, 28s.**

*** *Descriptions, with Drawings, post free.*

THE GEARING OF SAMUELSON and CO.'S LAWN MOWING MACHINES IS NOT LIABLE TO DERANGEMENT.

## SAMUELSON AND CO.'S PATENT SELF-CLEANING LAWN MOWERS.

PRICES, including Packing Case, and Carriage paid to any Railway Station or Shipping Port in the United Kingdom:—

| | | | |
|---|---|---|---|
| MANUAL POWER | 12 inches cut, suitable for a Lady | £4 12 0 | |
| | 16 " suitable for One Person | 6 10 0 | |
| | 19 " suitable for One Man and Boy | 7 0 0 | |
| | 22 " suitable for Two Men | 8 0 0 | |
| PONY POWER | 22 inches cut | £8 15 0 | |
| | 25 " | 11 10 0 | |
| | 30 " | 14 14 0 | |

**If with BOYD'S PATENT BRUSH, 15s. extra.**

Testimonial *from* Shirley Hibberd, Esq.

"Stoke Newington, London, N.

"The Lawn Mower paid its cost in one season, in the saving of labour alone. Instead of the old bother of Scythe sharpening, sweeping, rolling, and loitering, the Grass is mown now almost by looking at it, the Turf improved by a regular and clean cut, and the operation one of enjoyment and healthy exercise. Instead of 'making a toil of pleasure,' one can now make a pleasure of toil, and gain time and strength that used to be wasted. I have a good collection of the best Garden Tools and Implements, and I value the Lawn Mower above them all.

"Shirley Hibberd, F.R.H.S."

All Orders direct or through Dealers will be executed according to priority of receipt. May be obtained at the Works, Banbury; or at Samuelson & Co.'s various Depôts; also of all Ironmongers and Seedsmen, and at

SAMUELSON and CO.'S WAREHOUSE, 76, CANNON STREET WEST, LONDON, E.C.

### Notice.

MR. A. CHANDLER (of the late Firm of CHANDLER & SONS), HORTICULTURAL VALUER, begs to inform his friends and the public that he has REMOVED from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

---

J. T. WILLMER, HORTICULTURAL AGENT, AUCTIONEER and VALUER, Springfield Nursery, Sunbury, Middlesex, S.W.

---

THE SPADE and its ADAPTATION.—Illustration of WALTERS's Open Spade, dimensions of ditto. SEEDS made proof against Birds and Insects; LISTS of FLOWER, VEGETABLE, and FARM SEEDS, also S. W.'s 27th ANNUAL CATALOGUE of SELECT PLANTS, ROSES, &c., in exchange for Six Postage Stamps.

S. WALTERS, Hilperton, Trowbridge, Wilts.

---

FOX'S SEED PROTECTORS, from 1*s*. per yard; WIRE NETTING, from 1*d*. per yard: HANGING BASKETS, from 6*d*. each; Wire Garden Arches, Flower Stands, Trainers, Dahlia Rods, Garden Bordering, and every article in Wire for Garden and Ornamental purposes, at

FOX & Co.'s, late BOLUS & FOX, 105, Holborn Hill, E.C., two doors east of Hatton Garden, E.C.

---

F. A. HAAGE, JUN., of Erfurt.—WOOD GARDEN STICKS and LABELS. Commended by the Royal Horticultural Society. Wholesale prices on application to

BETHAM & BLACKITH, Cox's Quay, Lower Thames Street, London, E.C.

---

TRANSPLANTING LARGE TREES. — Five different sizes of Mr. BARRON'S MACHINES, with efficient men to work them, can be hired by parties applying to him. His Machines, built under his superintendence, can also be supplied.

Elvaston Castle.—Feb. 21.

---

AGRICULTURAL and HORTICULTURAL TOOLS.—Threshing Machines for Steam and Horse Power, Ploughs, Waggons, Carts, Turnip Cutters, Cake Breakers, Chaff Cutters, &c. Price List free. Illustrated Catalogues on receipt of six postage stamps.

BURGESS & KEY, 95, Newgate Street, E.C.
Works: Brentwood, Essex.

---

HORTICULTURAL IMPLEMENTS and GARDEN TOOLS of every description, for the amateur or practical gardener, and of warranted quality.—DEANE & Co.'s ILLUSTRATED PRICED LIST of the above gratis on application, or post free, includes Lawn Mowing Machines, Garden Engines, Boyd's Patent Self-adjusting and Vulcan Scythes, Garden Rollers (from 30*s*.), Flower-Stands, Garden Seats, &c. Galvanised Game Netting from 6*d*. per yard. Ornamental Wire Work made to order, Garden Arches, Flower Baskets, &c. Lingham's Permanent Labels. Saynor's celebrated Pruning Knives.

DEANE & Co. (opening to the Monument), London Bridge, E.C.
Established A.D. 1700.

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ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER, Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, London, N.E.

---

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1*s*. 6*d*. per yard run.
Four yards wide .. .. .. 3*s*. per yard.
An improved make, 3 yards wide, 2*s*. 6*d*. per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1*s*. 4*d*. per yard run.

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

---

### Oil Paint no longer Necessary.

HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.

Sold in casks of about 30 gallons each, at 1*s*. 6*d*. per gallon, at the Manufactory, or 1*s*. 8*d*. per gallon paid to any station in the kingdom.

Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

---

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

The GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C.

---

FOR SALE, a Thorough-bred SUFFOLK STALLION, 4 years old; a sure Foal-getter, and works quietly in the team.

Apply to M. K., Post Office, Reading.

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### Kerry Cattle.

MR. RICHARD G. CAMPION, Youghal, County Cork, has now ready for SALE 12 Beautiful HEIFERS, in Calf to a pure bred Bull, and to drop after 1st March.

---

### Carhead Pigs.

MR. WAINMAN has several YOUNG BOARS and SOWS of his Battersea Prize Strains for SALE, at moderate prices.

Apply to Mr. FISHER, Carhead Farm, Cross Hills, Yorkshire.

---

TO BE LET, in the County of Pembroke, LLANGWARREN FARM, consisting of 473 Acres, more than half of which is Pasture.

For particulars, apply to J. B. LAWES, 1, Adelaide Place, London Bridge.

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FOR SALE, a NURSERY BUSINESS, Established 20 years, in one of the best situations in this country. Stock first-class and very select. Ground 6 acres of best quality, with Plant Houses and all necessary appurtenances. Rent moderate.

Address, HORTUS, *Gardener's Chronicle* Office, W.C.

---

TO BE LET, NURSERY LAND, from 5 to 30 acres, on Lease, in the locality of Bagshot, near two Railway Stations, very suitable for the growth of Trees, American Plants, and Evergreens generally. A good Residence can also be had on the ground. This is a convenient opportunity for a London Nurseryman, as a portion has been trenched, and planted with Evergreens, &c.

Apply to J. T. VINING, Esq., 51D, Moorgate Street Buildings, London, E.C.

---

### To Nurserymen, Gardeners, and Others.

TO BE DISPOSED OF, by Private Treaty, and with early possession (in consequence of the failing health of the present Proprietor), an OLD ESTABLISHED NURSERY, with Hot and Greenhouses, doing a good business, in an excellent situation, and within a few miles of Liverpool. The whole to be taken at a valuation.

For particulars, apply by letter, post paid, to M. S., Wren & Sons, Tea and Coffee Merchants, Temple Court, Liverpool.

---

### Guildford, Surrey.

TO NURSERYMEN, FLORISTS, SEEDSMEN, MARKET GARDENERS, AND OTHERS.

TO BE LET, with Immediate Possession, all that truly valuable, old-established NURSERY GARDEN and SEED BUSINESS, known as the Guildford Nursery grounds, in a good state of cultivation, close to the entrance of the town; has been in the same name upwards of 50 years. This opportunity is worthy the attention of those seeking a profitable and increasing business, being the only Nursery near this improving neighbourhood. The present Stock is small and saleable.

Inquire of Mr. DRURY, Guildford, Surrey.

---

### Established 100 years.

TO NURSERYMEN AND SEEDSMEN.

TO BE SOLD or LET, with Immediate Possession, the NURSERY and SEED BUSINESS of J. NEWMAN & Co., of Chichester. The Nursery is situated within a very short distance of the city, and consists of between 8 and 9 statute acres of very superior Freehold Land, in full working order, well stocked with a general assortment of Nursery and Greenhouse Plants. The Buildings comprise a Dwelling House, Hothouse, Propagating House, Greenhouses, Pits, Sheds, Stable, &c., and every requisite for carrying on a large business. There is a good Dwelling House and Seed Shop, in the South Street, near the Cross. Declining health is the sole reason for the Proprietor wishing to retire from the above, which offers to persons having a knowledge of the Nursery and Seed Business an opportunity seldom to be met with.

J. NEWMAN, Nurseryman, Chichester.

---

## Sales by Auction.

MESSRS. TATTERSALL will SELL by AUCTION at Hyde Park Corner, S.W., on MONDAY, February 23, the property of a Gentleman, two remarkably handsome and pure bred SUFFOLK CART STALLIONS.

1. YOUNG EMPEROR, 4-years-old, by Chester Emperor, dam by Catlin's Duke.
2. GRAND DUKE, 3-years-old, by Chester Emperor, dam by Catlin's Duke.

N.B. Chester Emperor was by Newcastle Captain, dam by Catlin's Old Boxer.

---

### Importation from Japan, just arrived.

IMPORTANT TO NURSERYMEN AND OTHERS.

MR. J. C. STEVENS will SELL by AUCTION at his Great Room, 38, King Street, Covent Garden, W.C., on MONDAY, February 23, at half-past 12 o'Clock precisely, 2000 LILY ROOTS, just received ex "Romeo" from Japan for Absolute Sale; 500 STANDARD, HALF-STANDARD, and DWARF PERPETUAL ROSES, Fruit Trees, Berberis, Laurels, Lilacs, Rhododendrons, Tree Box, Yews, Arbutus, Cedars, Hollies, Junipers, Daphnes, Hederas, Cupressus, Thorns, Pyrus, Almonds, Cotoneasters, Piceas, Arbor-vitæ, Poplars, Clematis, Thuja, Aucuba, &c.

On view the Morning of Sale, and Catalogues had.

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### Extensive Sale of Plants.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on WEDNESDAY, February 25, at half-past 12 o'clock precisely, a Choice ASSORTMENT of PLANTS, comprising Conifers, Hollies, Privets, Yews, Laurels, Laburnums, Willows, Berberis, Lilacs, Roses, Honeysuckles, Carnations, Pinks and Picotees, Ash, Clematis, Gladioli, Delphiniums, Violets, Pentstemons, Fruit Trees, Strawberry Plants, &c.

On view the Morning of Sale, and Catalogues had.

---

### Important Sale of Plants from Surrey.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on MONDAY, March 2, at half-past 12 o'Clock precisely, SPLENDID SPECIMEN CONIFERS, comprising Wellingtonia gigantea, 3 feet; Thujopsis borealis, 6 feet; Pinus Benthamiana, 6 feet; Cupressus Lawsoniana, 3 feet; Araucaria imbricata, 3 feet; Thuja Lobbi, 2 feet; Abies Douglasii, 4 feet, and others. Vines, Rhododendrons, Standard, Half Standard and Dwarf Roses, Laurels, Clematis, Berberis, &c.

On view th Morning of Sale, and Catalogues had.

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### Peckham.

MESSRS. PROTHEROE AND MORRIS have received instructions to SELL by AUCTION, on the Premises, Hanover Nursery, Rye Lane, Peckham, S.E., on MONDAY and TUESDAY, February 23 and 24, at 11 for 12 o'Clock precisely, the VALUABLE NURSERY STOCK (on that portion of the ground required immediately to be cleared for the South London Railway Company), consisting of fine Evergreens and Deciduous Shrubs, including handsome specimen Araucaria imbricata, 5 to 6 feet; Cedrus Libani, 10 feet; Phillyreas, 4 to 6 feet; Bushy Evergreen Oaks, 4 to 9 feet; Common and Portugal Laurels, Hollies, Thujas, sorts; Box, Euonymus, Irish and English Yews, &c.; a choice assortment of American Plants, Standard and Dwarf Roses, Fruit and Ornamental Trees, a splendid collection of Herbaceous Plants by name; together with the Greenhouse Plants, comprising large specimen Double Camellias, Azalea indica, Chrysanthemums, &c.

May be viewed prior to the Sale. Catalogues may be had, 6*d*. each, returnable to purchasers, on the Premises; of the principal Seedsmen in London; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, Essex, N.E.

---

### Sale of Conifers, Fruit, and other Shrubs and Trees.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, at the Mart, Bartholomew Lane, City, E.C., on WEDNESDAY, February 25, at 12 o'clock, an assortment of choice CONIFERS, comprising compact specimens of Wellingtonia gigantea, Thujopsis borealis, Araucaria imbricata, Cupressus Lawsoniana, Retinospora, Abies Douglasii, Cupressus sorts, Skimmia japonica, &c. A rich assortment of American Plants, including the newest and best Hardy, Scarlet, and Hybrid Rhododendrons, Ghent Azaleas, Andromedas, &c. Also about 200 fine Standard and Dwarf Roses, selected Fruit and Ornamental Trees and Evergreens in variety. Strong Vines, sorts, in pots, &c.

On view the Morning of Sale. Catalogues may be had at the Mart; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, Essex.

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### Important Sale of Standard Roses, Fruit Trees, Coniferæ, and other Shrubs.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, at the Mart, Bartholomew Lane, City, E.C., on WEDNESDAY, February 25, at 12 o'clock, about 500 very handsome STANDARD and DWARF ROSES; an assortment of choice CONIFERS, comprising compact specimens of Wellingtonia gigantea, Thujopsis borealis, Araucaria imbricata, Cupressus Lawsoniana, Retinospora, Abies Douglasii, Skimmia japonica, Cupressus sorts, &c. A rich collection of AMERICAN PLANTS, including the newest and best hardy Scarlet and Hybrid Rhododendrons, Ghent Azaleas, Andromedas, &c.; selected Fruit and Ornamental Trees, Evergreens in variety; strong Vines in pots, &c.

On view the Morning of Sale. Catalogues may be had at the Mart; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, Essex.

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### Sale of very Handsome English Grown Camellias, &c.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at the Mart, Bartholomew Lane, City, E.C., on FRIDAY, February 27, at 12 o'Clock, about 200 Choice DOUBLE CAMELLIAS, compact plants, from 1 to 6 feet, abundantly furnished with Bloom buds; fine AZALEA INDICA in flower; a superb assortment of about 300 very handsome Standard, Half Standard, and Dwarf Roses; a fair Collection of American Plants, Lilium lancifolium rubrum and album, Ericas, Epacris, Cinerarias, Fuchsias, Verbenas, Pæonias, Dahlias in dry roots, &c.

On view the Morning of Sale. Catalogues may be had at the Mart; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, N.E.

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### Stratford, Essex.

MESSRS. PROTHEROE AND MORRIS are directed by Mr. Bunney to SELL by AUCTION, on the Premises, The Nurseries, Leytonstone Road, and within five minutes' walk of the Stratford Station, on the Great Eastern Railway, on TUESDAY, March 3 and following day, at 11 o'Clock each day, without reserve, the ground being immediately required for gravel digging, the valuable NURSERY STOCK, comprising quantities of fine Evergreens of various sizes and description, including many specimens of Aucubas, Bays, Fan and Irish Yews, Hollies, and other Shrubs for effective purposes; some very handsome Dwarf-trained Peaches, Nectarines, Cherries, Standard Plums, Apples, Pears; a superb assortment of Standard and Dwarf Roses; also Scarlet and other Rhododendrons, Azaleas, sorts, Andromeda floribunda, Kalmias, with a variety of Hardy Climbers in pots, &c.

May be viewed prior to the Sale. Catalogues may be had on the Premises; at the Eagle, Snaresbrook; of the principal Seedsmen in London; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, Essex, N.E.

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### To Amateurs, Florists, Seedsmen, Nurserymen, and Others.

MR. ARTHUR PLEWS is favoured with instructions to SELL by AUCTION, at the Auction Mart, on THURSDAY NEXT, February 26, at Half-past 12 o'Clock, a fine COLLECTION of 1500 FRUIT TREES, 100 Standard Roses, Half Standard and Dwarf Roses, Shrubs, and Miscellaneous Horticultural Produce, consigned to him for Absolute Sale.

May be viewed the Morning of Sale, and Catalogues had at the Mart; and of Mr. ARTHUR PLEWS, 50, Chancery Lane, W.C.; and New Malden, Surrey.

---

### Close to Brighton, among the Southdowns.

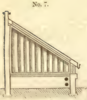
Capital Residence, with Pleasure Garden, Laundry, Stabling, Yards, Piggeries, and numerous other useful Buildings, all in the best possible state of repair; a Meadow, and about 11 acres of fertile Garden Ground, with Fruit Trees, Frame Ground, Forcing Pits, Hothouses, and Greenhouse clothed with choice Vines.

MR. WILKINSON has received instructions to LET on LEASE or DISPOSE of the LEASE of the above valuable PROPERTY, most delightfully situated, and highly eligible to any gentleman fond of horticultural pursuits or to a market gardener, or nurseryman and florist. The whole of the ground has been deep-trenched, is in a high state of productiveness, and fully stocked. The demand for garden produce at Brighton is necessarily great, while the supply is well known to be very limited, and this Property, on which a large sum has been recently expended, offers an unusually favourable opportunity for conducting a profitable business; or to the proprietors of any extensive establishment it would be equally advantageous.

For particulars and cards to view apply to Mr. WILKINSON, Brighton; or to Messrs. GADSDEN, WINTERFLOOD, & ELLIS, 18, Old Broad Street, London.

# J. JONES'S HOT-WATER APPARATUS.

No. 7.



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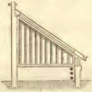
No. 9.



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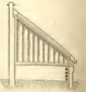


| Size of House. | No. 7. Price | No. 8. Price | No. 9. Price | No. 10. Price | No. 11. Price |
|---|---|---|---|---|---|
| 20 by 10 feet | £9 0 0 | £9 0 0 | £13 0 0 | £14 0 0 | £15 0 0 |
| 30 ,, 12 ,, | 12 0 0 | 12 0 0 | 17 0 0 | 19 0 0 | 21 0 0 |
| 40 ,, 15 ,, | 15 0 0 | 15 0 0 | 21 0 0 | 24 0 0 | 25 0 0 |
| 50 ,, 15 ,, | 18 0 0 | 18 0 0 | 24 0 0 | 28 0 0 | 29 0 0 |
| 60 ,, 15 ,, | 20 0 0 | 20 0 0 | 27 0 0 | 32 0 0 | 33 0 0 |
| 70 ,, 15 ,, | 22 0 0 | 22 0 0 | 30 0 0 | 36 0 0 | 37 0 0 |
| 80 ,, 15 ,, | 24 0 0 | 24 0 0 | 33 0 0 | 40 0 0 | 41 0 0 |
| 100 ,, 15 ,, | 26 0 0 | 26 0 0 | 36 0 0 | 44 0 0 | 45 0 0 |

No. 12.

Price
Same as No. 11.

No. 13.

Price
Same as No. 11.

No. 14.

Price
Same as No. 11.

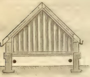
No. 15.

Price
Same as No. 11.

No. 16.

Price
Same as No. 7.

No. 17.



No. 18.

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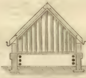

No. 20.

No. 21.

| Size of House. | No. 17. Price | No. 18. Price | No. 19. Price | No. 20. Price | No. 21. Price |
|---|---|---|---|---|---|
| 20 by 10 feet | £9 0 0 | £14 0 0 | £18 10 0 | £23 0 0 | £23 0 0 |
| 30 ,, 12 ,, | 12 0 0 | 19 0 0 | 24 0 0 | 30 0 0 | 30 0 0 |
| 40 ,, 15 ,, | 15 0 0 | 24 0 0 | 29 0 0 | 36 10 0 | 36 10 0 |
| 50 ,, 15 ,, | 18 0 0 | 28 0 0 | 34 0 0 | 42 10 0 | 42 10 0 |
| 60 ,, 15 ,, | 20 0 0 | 32 0 0 | 39 0 0 | 49 0 0 | 49 0 0 |
| 70 ,, 15 ,, | 22 0 0 | 36 0 0 | 44 0 0 | 56 0 0 | 56 0 0 |
| 80 ,, 15 ,, | 24 0 0 | 40 0 0 | 49 0 0 | 63 0 0 | 63 0 0 |
| 100 ,, 15 ,, | 26 0 0 | 44 0 0 | 54 0 0 | 70 0 0 | 70 0 0 |

No. 22.

No. 23.

No. 24.

No. 25.

No. 26.

| Size of House. | No. 22. Price | No. 23. Price | No. 24. Price | No. 25. Price | No. 26. Price |
|---|---|---|---|---|---|
| 20 by 10 feet | £15 0 0 | £25 0 0 | £25 0 0 | £18 10 0 | £14 0 0 |
| 30 ,, 12 ,, | 21 0 0 | 32 0 0 | 32 0 0 | 25 0 0 | 19 0 0 |
| 40 ,, 15 ,, | 25 0 0 | 38 10 0 | 38 10 0 | 30 0 0 | 24 0 0 |
| 50 ,, 15 ,, | 29 0 0 | 44 10 0 | 44 10 0 | 35 0 0 | 28 0 0 |
| 60 ,, 15 ,, | 33 0 0 | 51 10 0 | 51 10 0 | 40 0 0 | 32 0 0 |
| 70 ,, 15 ,, | 37 0 0 | 58 0 0 | 58 0 0 | 45 0 0 | 36 0 0 |
| 80 ,, 15 ,, | 41 0 0 | 65 0 0 | 65 0 0 | 50 0 0 | 40 0 0 |
| 100 ,, 15 ,, | 45 0 0 | 72 0 0 | 72 0 0 | 55 0 0 | 44 0 0 |

J. Jones will be happy to supply HOT-WATER APPARATUS for HOUSES according to any of the above Plans, delivered Free to any Station in England at the prices named, which include strong CAST-IRON CYLINDER or SADDLE BOILER, FURNACE DOORS, FIRE BARS, SOOT DOORS, CISTERN and DAMPER, 4-inch HOT-WATER PIPES and CONNECTIONS, all of the best quality; or he will forward ESTIMATES for WORK erected complete, with WROUGHT or CAST-IRON BOILER of any sort, at a small addition to the above prices.

☞ *The Black Circles on Sections of Houses show the arrangement of Pipes.*

Illustrated Catalogues and further particulars post free on application to

J. JONES, IRON MERCHANT AND HORTICULTURAL ENGINEER, 6, BANKSIDE, LONDON, S.E.


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# THE GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 9.—1863.] SATURDAY, FEBRUARY 28. Price Fivepence. STAMPED EDITION, 6d.

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☞ *An Edition of the* GARDENERS' CHRONICLE *and* AGRICULTURAL GAZETTE *is published on Monday Afternoon at 4 o'Clock, containing full Reports of the Mark Lane and Cattle Markets, written expressly for the Paper.*

ROYAL BOTANIC SOCIETY, REGENT'S PARK.
The FIRST EXHIBITION of SPRING FLOWERS, CAMELLIAS, PRIMROSES, &c., will take place on SATURDAY, March 28.
Tickets are now being issued, and can be obtained at the Gardens by orders from Fellows and Members of the Society, price 2s. 6d. each; or in packets of 10 for 1l. per packet. The Gates open at 2 o'clock.
The Band will play from half-past 2 to half-past 5 o'clock.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.
EXHIBITIONS of PLANTS, FLOWERS, and FRUIT, WEDNESDAYS, May 13, June 3, and 24.
Tickets are now being issued, and can be obtained at the Gardens by orders from Fellows of the Society. Price on or before May 2, 4s.; after that day, 5s.; or on the days of Exhibition, 7s. 6d. each.

STAMFORD HORTICULTURAL SOCIETY.—The GRAND SUMMER FÊTE and ROSE SHOW will be held on WEDNESDAY, July 8.
Schedules with Rules will shortly be ready, and may be had on application to Messrs. LAXTON & HEWITT, Hon. Secs., Stamford.

**To Floral Societies.—Notice.**
MESSRS. J. DOBSON AND SONS having retired from Exhibiting for Prizes during 1863, beg to state that Mr. DOBSON, Sen., is open to accept engagements as JUDGE during the season.—Woodlands Nursery, Isleworth, W.

**Grape Vines.**
WILLIAM BULL, F.R.H.S., F.R.B.S., has a large and healthy stock of well ripened VINES from EYES, either for Planting, or Fruiting in pots.
Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

**Grape Vines.**
J. IVERY AND SON beg to inform their Patrons that their stock of the above is unusually fine this season. A PRICED LIST now ready.
Dorking Nursery.

GEORGE BAKER has to offer a fine lot of WEYMOUTH PINE, 1½ to 2 feet, bushy transplanted stuff. Price, which is very low, may be had on application.
American Nursery, near Bagshot, Surrey.

**Pine Plants.**
TO BE DISPOSED OF, 100 well-rooted and remarkably healthy and clean grown PINE PLANTS, from 16 to 18 months old, calculated to throw fruit in October, 1863. For further particulars, apply to
Messrs. WHEELER & SON, Nurserymen, Gloucester.

**Pine Plants.**
TO BE DISPOSED OF, by a gentleman leaving for town and giving up his House, &c., about 100 good healthy PINE PLANTS, this and last year's growth.
Apply by letter to Mr. F. STEAD, 23, Jarratt Street, Hull.

STRAWBERRIES.—A New DESCRIPTIVE CATALOGUE of more than 200 varieties of Strawberries, from good plants, of nearly every variety, can now be supplied by the Grower,
W. J. NICHOLSON, Egglescliffe, Yarm, Yorkshire.

WEBB'S PRIZE COB FILBERTS, and other COB NUTS as exhibited at the INTERNATIONAL FRUIT and FLOWER SHOW, Kensington. Trees of these splendid varieties of Filberts may be had by application to
RICHARD WEBB, Calcot Gardens, Reading.

**Genuine Seeds, Carriage Free.**
G. J. WOOLLETT'S PRICED LIST of the above sent free on application.
Caterham Nurseries, Caterham, Surrey.

**Surplus Stock.**
2000 DAHLIAS (dry roots) of the best sorts in cultivation; also 500 PAMPAS GRASS (strong) in 32-size pots.
Apply to E. MORSE, Original Nursery, Epsom.

10,000 SCARLET INTERMEDIATE STOCKS, in 60-Pots, fit for 48's, at 10l. per 1000, or 22s. per 100.
J. REEVES, Ladbroke Nursery, Notting Hill, W.

BARR AND SUGDEN, SEED MERCHANTS, 12, King Street, Covent Garden, W.C.

**New and Genuine Garden and Agricultural Seeds.**
SPECIAL PRICES ON APPLICATION TO
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**Genuine Garden and Agricultural Seeds.**
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**Best Seeds, Carriage Free.**
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ANDRÉ LEROY'S NURSERIES, at Angers, the largest and richest in France.
CATALOGUES sent on application.

AUGUSTE VAN GEERT'S NURSERY, Ghent, one of the finest on the Continent.
CATALOGUES may be had on application, or of his Agents, Messrs. R. SILBERRAD & SON, 5, Harp Lane, Great Tower Street, London, E.C.

W. VIRGO AND CO. have a few thousands of BERBERIS AQUIFOLIA and DULCIS, EVERGREEN PRIVET, and COMMON LAUREL, fit for cover planting. Price and samples on application at the Nursery.
Wonersh Nursery, near Guildford, Surrey.

TROPÆOLUM LOBBIANUM ELEGANS (Crystal Palace Scarlet), Seed scarce.
Per packet, 1s. and 2s. 6d.
BUTLER & M'CULLOCH, Seed Merchants, Covent Garden Market.

**New Garden Seeds of our own Growth.**
JAMES CARTER AND CO. are now prepared to execute orders for the above, saved at their Seed Farms.
237, 238, & 261, High Holborn, W.C.

CARTER'S SELECT LIST of New and Choice VEGETABLE, FLOWER SEEDS and PLANTS is now published, gratis and post free.
237, 238, & 261, High Holborn, London, W.C.

NOVELTIES.—The Novelties of the Season, Illustrated in CARTER'S GARDENER'S and FARMER'S VADE MECUM, post free for 12 stamps.
JAMES CARTER & Co., 238, High Holborn.

**Choice Kitchen Garden Seeds.**
B. S. WILLIAMS'S Advertisement on last page of *Gardeners' Chronicle*, Jan. 31.
Paradise and Victoria Nurseries, Holloway, London, N.
*** PRICED and DESCRIPTIVE CATALOGUE post free on application.

GARDEN SEEDS and FLOWER SEEDS of the finest and most rare varieties, at the lowest prices at which they can be delivered, carriage free, are quoted in WHEELER'S "Little Book" for 1863.
J. C. WHEELER & SON, Seed Growers, Gloucester.

**Plymouth Seed Company, Plymouth.**
THE GENERAL PRICE CURRENT and the SPRING FARM SEED LIST are now ready, and may be had gratis on application.
See General Advertisement, page 177.

**New Verbenas**
ROBERT REA begs to refer to his Advertisement of the above in the *Gardeners' Chronicle* of Feb. 7.
Nursery, London Road, Ipswich.

**Seeds.**
CHARLES TURNER'S DESCRIPTIVE CATALOGUE, of the best Varieties only, is now ready. It also contains several Novelties.
The Royal Nurseries, Slough.

POLYANTHUS SEED from the best Laced Florists' Flowers, in packets, sent free on receipt of 13 postage stamps.
JAMES WOODS, Florist, Harwich, Essex.

RHODODENDRONS of all sorts and sizes may be obtained in any quantity of W. H. ROGERS, Red Lodge Nursery, Southampton. Also every description of well grown Nursery Stock, extending over 60 acres.
PRICED CATALOGUES forwarded on application.

PHALÆNOPSIS AMABILIS, GRANDIFLORA, ROSEA, and SCHILLERIANA.
Strong flowering plants of the above may be obtained of R. WARNER, Broomfield, Essex.
Prices on application.

**Good Seeds, Carriage Free, at Market Prices.**
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BENJAMIN R. CANT offers very fine plants of only the most approved kinds, a DESCRIPTIVE LIST of which may be had on application.
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**To the Trade.**
ROSES, Dwarf-worked, very strong; ditto on own roots of all the best and newest varieties.
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**Roses.**
EDWIN HOLLAMBY begs to announce that he has still a fine stock of STANDARD and DWARF ROSES of most of the leading kinds, in very fine plants.
DESCRIPTIVE PRICED CATALOGUE free on application.
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PAUL AND SON have still to offer fine STANDARD and DWARF ROSES, new and old; also HOLLYHOCKS, all the leading varieties. CATALOGUES on application.
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**Beech, 6 to 8 feet (strong).**
WOOD AND CO. have a few thousands of the above (well grown stuff) to dispose of at a reasonable rate.
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**Purple Beech.**
THOMAS METHVEN, NURSERYMAN, Leith Walk, Edinburgh, is in want of the above, 7 to 9 feet high, and will be glad to hear from any one having such to offer.

ACORNS.—A few hundred bushels of the above to offer, sound and good.
Apply to W. DILLISTONE, Munro Nursery, Sible Hedingham, Essex.

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Apply to JOHN GRIGOR & Co., Nurseries, Forres, Scotland.

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WOOD AND INGRAM have to offer to the Trade and others fine Stocks of the above. Cash price and Samples, if required, on application.
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WEBB'S IMPERIAL KIDNEY POTATOES, True, highly recommended; 8s. per bushel, 15s. per cwt., 6l. 10s. per Half Ton. Terms Cash.
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A large quantity of Fluke and other Seed Potatoes to offer at H. BROWN'S, 4, Commutation Row, Liverpool.

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WHEELER'S GLOUCESTERSHIRE KIDNEY POTATO.—This is one of the earliest, the most productive, the best flavoured, and the most profitable Potato ever introduced.
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Address, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

**New Roses of 1863.**

J. AND J. FRASER'S DESCRIPTIVE LIST of the best varieties will be forwarded Post Free on application.
Strong healthy Plants are now ready.
A GENERAL CATALOGUE may be had on application.
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CHARLES NOBLE has a nice assortment, one-year, established in 32-pots, ready for Forcing. They are healthy vigorous plants, and cannot fail to give satisfaction. He has also a large stock of Dwarfs and Half-Standards suitable for planting in Roseries; they are offered very cheap.
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DWARF HYBRID PERPETUAL ROSES, on the MANETTI STOCK; Carriage paid to London.—The Undersigned offer very fine and vigorous plants of the above. For a LIST of the more popular sorts, see *Gardeners' Chronicle* for December 6, 1862. Prices given for small and large numbers (per 1000 at a much reduced rate) and a DESCRIPTIVE CATALOGUE of ROSES sent on application to
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GEO. PARSONS begs to offer fine STANDARD ROSES, from 2½ to 4 feet stems, at 5*l.* per 100, or 15*s.* per dozen; including the New Varieties, 18*s.* per dozen, or 6*l.* 10*s.* per 100; the last New Varieties of 1862, DWARFS, 30*s.* per dozen.
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MESSRS. F. L. SCHIEBLER AND SON, Seedsmen and Nurserymen to his Majesty the King, Celle, Hanover, beg to offer:—

| | per 100—*s.* | *d.* |
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| MOSS ROSES, fine strong plants, transplanted, with five to six branches .. .. .. .. .. .. | 40 | 0 |
| MAIDEN'S BLUSH, very strong .. .. .. .. | 36 | 0 |
| CENTIFOLIA MINOR, fine plants for forcing .. .. | 32 | 0 |
| „ (MUSCOSA) CRISTATA, a beautiful variety, strong plants .. .. .. .. .. .. | 60 | 0 |

Delivered, carriage paid, at Hamburg, packing included. Net cash.

**New Roses.**

WM. PAUL, (Son and Successor to the late A. Paul), respectfully invites attention to the following NEW ROSES, which will be ready for delivery very shortly.

LORD HERBERT, H.P.—Rosy carmine, the petals reflexing at the summits in the way of Beauty of Waltham, large, full, and finely formed, and altogether of first-rate excellence. 7*s.* 6*d.*

LORD MACAULAY, H.P.—Velvety crimson, in the way of General Jacqueminot, but brighter in colour, thicker in the petal, and more double. The flowers are of good average size, produced abundantly and in rapid succession; the habit is good, and foliage handsome. 7*s.* 6*d.*

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All the new French Roses, 3*s.* 6*d.* to 5*s.* each, or 42*s.* per dozen. The best of the old Roses at lowest advertised prices. The plants are well established, and in the finest possible health.
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**Genuine Seeds.—Carriage Free.**

WM. CUTBUSH AND SON beg to intimate that they are now prepared to execute orders for GENUINE GARDEN SEEDS, for which their house is extensively known.
Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.
CATALOGUES free on application.
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GLADIOLUS, SEEDLINGS of GANDAVENSIS.

| | £ | *s.* | *d.* |
|---|---|---|---|
| 50 in 25 extra choice varieties .. .. | 2 | 2 | 0 |
| 25 in 25 „ „ .. .. | 1 | 5 | 0 |
| 12 in 12 „ „ .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 „ „ .. .. .. | 1 | 5 | 6 |
| 25 in 25 „ „ .. .. .. | 0 | 13 | 6 |
| 12 in 12 „ „ .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2*s.* 6*d.* per doz., 17*s.* 6*d.* per 100.
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RUSSELL'S PYRAMID PRIMULAS.—Seed of this unequalled strain is now ready, in packets, price 2*s.* 6*d.*
The great satisfaction which these kinds have given in previous seasons, renders further comment on their merits unnecessary. The additional care taken however in saving the seed last year will probably result in producing flowers much superior to any ever seen.
Printed notes on raising them and their culture, forwarded with each packet; payment can be made in postage stamps.
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**Fuchsias, Silvery-leaved and Variegated Plants.**

J. SCOTT, Merriott, Crewkerne, Somerset, holds fine Stocks of the following, ready to send out:—
FUCHSIAS, in 100 named kinds (newest), at 4*s.* per dozen, late autumn struck, will make splendid specimens for exhibition.
VARIEGATED PLANTS, 3*s.* per dozen: Agathæa cœlestis, Arabis fol. var., Bellis Aucubæfolia, Sedum carneum var., Veronica chamædryoides.
SILVERY-LEAVED PLANTS, 3*s.* per dozen: Cineraria maritima, Centaurea candidissima, 1*s.* each; Gnaphalium lanatum, G. arenarium, G. margaritaceum, Silvery Arctotis, Stachys lanata, and Cerastium tomentosum.
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Has a large stock of ROSES, NEW and OLD, STANDARDS and DWARFS, unexceptionable in quality and moderate in price. For NEW ROSES see separate Advertisement in this day's Paper. DESCRIPTIVE CATALOGUES free by Post. Special prices to the Trade by the hundred or thousand.

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## HALF STANDARD ROSES.

STRONG PLANTS, CONSISTING OF THE MOST POPULAR VARIETIES.

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## PEAR STOCKS and DWARF MAIDEN MOORPARK APRICOTS

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In Collections including all the new and approved kinds, or separate to order.

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AGRICULTURAL SEEDS,
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CARRIAGE FREE.

BANGHOLM SWEDE,
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GREEN-TOP SWEDE,
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PACEY'S PERENNIAL RYE-GRASS and other sorts.
ITALIAN RYE-GRASS, FOREIGN and ENGLISH SEED.
NATURAL GRASS SEEDS, in mixture or separate, suitable for various soils and localities.
LIGHT RYE-GRASS and other CHEAP GRASSES, for Sowing on Railway Banks and Waste Places.

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| No. 1.—20 Quarts of PEAS and other Seeds in proportion | | | ... ... ... | £3 | 3 | 0 |
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A Specification of the above Collections is given at page 77 of Messrs. BUTLER & MCCULLOCH'S systematically arranged SEED CATALOGUE for 1863, which may be had free and post paid upon application.

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| 100 Finest selected Varieties ... ... ... | 30s. 0d. | 25 Finest selected Varieties ... ... ... | 7s. 6d. |
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| 100 Finest selected Varieties ... ... ... | 20s. 0d. | 30 Finest selected Varieties ... ... ... | 5s. 0d. |
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B. & McC. strongly recommend their COLLECTIONS of STOCKS, ASTERS, and BALSAMS to Amateurs and Exhibitors; neither trouble nor expense have been spared in procuring the very best.

All Flower Seeds sent post paid; and all orders for Flower and Vegetable Seeds amounting to £1 1s. sent carriage paid.

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### NURSERYMEN AND SEEDSMEN

(SUCCESSORS TO THE LATE R. GLENDINNING),

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

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| No. 1 contains 36 Quarts of PEAS, and all other Seeds in proportion | | | | | £5 | 5 | 0 |
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COLLECTIONS of FLOWER SEEDS.

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| No. 1, containing 100 Large Packets of Best Hardy Annuals ... ... | | | | | £0 | 18 | 0 |
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| No. 3, | „ 24 | ditto | ditto | ditto ... ... | 0 | 5 | 0 |
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| No. 5, | „ 12 | ditto | ditto | ditto ... ... | 0 | 4 | 0 |
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The above Collections consist only of best and most useful varieties, and are of the finest quality.

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| BUCKLAND SWEETWATER.. | 5 0 to 7 6 |
| MUSCAT HAMBRO' .. .. | 5 0 to 7 6 |

We have to offer fine Canes of the above, and all other leading varieties.

PAUL & SON, "Old" Cheshunt Nurseries, Herts, N.

**Grape Vines.**

TO BE SOLD, Cheap, 1800 close-jointed vigorous Plants, with Canes 6 to 12 feet long, all struck from Eyes last spring.

Apply to the GARDENER, at J. Lewis's Horticultural Works, Stamford Hill, Middlesex, N.

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Strong well-ripened plants in 9-inch pots, 42s. and 60s. p. doz. If purchased in large numbers a considerable reduction will be made in price.

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**Strong Fruiting Vines.**

TO BE DISPOSED OF, four MUSCATS of ALEXANDRIA and one BLACK HAMBURGH, all five years old; would bear a crop this year.

For price, &c., apply by letter to Mr. W. G. CALDWELL, The Nurseries, Knutsford, Cheshire.

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"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.

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NEW PRIZE MELONS, at 1s. 6d. per packet.

Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria.

For descriptions see GUIDE to the KITCHEN GARDEN.

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NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1s. per packet.

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STRAWBERRIES, Trade price.—Black Prince, Admiral Dundas, British Queen, Eleanor, Elton Pine, Wizard of the North, 10s. per 1000; Prince of Wales, Eliza, Alice Maude, Oscar, Duc de Malakoff, 2s. per 100.

POTATOES. sorts, see Advertisement Feb. 21.

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APPLE and PEAR TREES, &c.—100 doz. Dwarf and Pyramidal PEAR TREES, best sorts 20s. per doz., packing included.

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APPLE CALVILLE GARIBALDI .. 8s.

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This excellent Pear obtained the First Prize at the great Pomological Show at Tournay, Belgium.

N.B. These two new Fruits are figured in VERSCHAFFELT'S "Illustration Horticole."

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GEORGE CLARKE has a good stock of short-jointed, well ripened, fruiting, and younger VINES of the principal kinds, from Eyes, price 3s. 6d. to 7s. 6d.

Also SEAKALE, clean and sound, very suitable for planting permanent beds, 5s. to 7s. 6d. per 100.

FORCING SEAKALE all Sold.

Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, Pimlico, S.W.

**Large Fruiting Mulberry Trees.**

WM. DENNIS has still left a few fine Trees from 6 to 8 feet, clean stems, and fine heads; also smaller plants of different sizes, which he will dispose of a Bargain.

A few fine LIME TREES, LILACS in kinds, GOOSEBERRIES and CURRANTS (in fruit-bearing condition), BOX TREES, &c. A quantity of Geraniums, Fuchsias, and other Greenhouse Stock; two or three Greenhouse Frames, &c. The whole to be disposed of cheap, as the ground must positively be cleared for immediate building.

King's Road, Chelsea, S.W.

NEW LILACS.—The following varieties of LILACS are all distinct and very ornamental. They are budded on Seedling Stocks which do not sucker, are from 3 to 5 feet in height, and are well adapted for Pyramids or Half Standards for Lawns.

| | Each—s. | d. | | Each—s. | d. |
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| Charles X. .. .. | 1 | 6 | Philemon .. .. | 2 | 6 |
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| Gloire de Moulins .. | 2 | 6 | Valetteana .. .. | 1 | 6 |
| Grandiflora rubra .. | 2 | 6 | Virginalis .. .. | 1 | 6 |
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| New Dark Red .. .. | 1 | 6 | | | |

Carriage paid to London.

THOS. RIVERS & SON, Nurseries, Sawbridgeworth.

E. G. HENDERSON AND SON offer First-class quality of CINERARIA, CALCEOLARIA, and PRIMULA SINENSIS FIMBRIATA, 1s. and 2s. 6d. per packet.

CINERARIA WEBBII.—The interest and value of this species consists in its having a shrub-like branched habit of growth, attaining from 3 to 4 feet in height. This remarkable plant is expected to originate a new and desirable class of varieties for exhibition purposes, in having already passed into all the colours found in florist varieties of the present time, and no doubt but higher improvements in form, and other essential properties, will be obtained in connection with its superior culture. It will be found well adapted for decorative purposes, by its taller growth, and longer continuance in bloom. 2s. 6d.

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SEEDS.—GENUINE HOME-GROWN

## VEGETABLE, FLOWER, AND AGRICULTURAL.

If above the value of 20s. Carriage paid to any Railway Station, and to all Irish and Welsh Ports in communication with Bristol.

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*Second Edition, just Published, price 2s. 6d.,* OUR

# ILLUSTRATED GUIDE TO THE FLOWER GARDEN.

COMPANION *to the above, price* 1s., OUR

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COLLECTIONS OF VEGETABLE SEEDS.

**£3 3 0 | £2 2 0 | £1 10 0 | £1 1 0 | 15s. 6d. | 10s. 6d.**

For particulars, see page 4 of "Guide to the Kitchen Garden."

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**£3 3 0 | £2 2 0 | £1 10 0 | £1 1 0 | 15s. | 10s. 6d. | 5s. 6d. | 3s. 6d.**

For particulars, see page 18 of "Guide to the Flower Garden."

### STRIKING NOVELTIES.

Continued from last week's *Gardeners' Chronicle*, page 171.

### STRONG CANNA ROOTS,

A PORTION OF THE UNRIVALLED COLLECTION OF OUR "SARDINIAN CORRESPONDENT."

Fine foliaged plants, and such as are of stately growth, have of late years been much sought after for the adornment of the FLOWER GARDEN, TERRACES, PLEASURE GROUNDS, LAWNS, SELECT SHRUBBERIES, CARRIAGE DRIVES, &c.; besides relieving the monotony too frequently to be met with in such places, plants of this character impart a somewhat Oriental aspect.

For such purposes the CANNA stands unrivalled; its large picturesque foliage, and spikes of vivid-coloured flowers, produce a truly magnificent effect, especially when planted in groups, whether on the Lawn, in the centre of large beds, or in the mixed Flower Border. Varieties enumerated in our "Guide to the Flower Garden" will be found to form one of the most striking contrasts in habit and foliage.

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|---|---|---|---|---|---|
| 3179 | 100 Roots assorted, our own selection, in 25, 30, and 40 varieties. | 5l. 5s., 6l. 6l., and £7 | 7 | 0 |
| 3180 | 50 ,, ,, ... ... ... ... ... ... ... | | 2 | 15 | 6 |
| 3181 | 25 ,, ,, ... ... ... ... ... ... ... | | 1 | 10 | 6 |
| 3182 | 12 ,, ,, ... ... ... ... ... | 12s., 18s., to | 1 | 1 | 0 |

**Celosias.**—See pages 9 and 34, also Engraving.

New Varieties raised by our "SARDINIAN CORRESPONDENT."

The whole of this beautiful class, but more especially the spicata varieties, may be dried for Winter Bouquets. For Terraces, Conservatory and Drawing Room decoration, Celosias are invaluable. Their easy culture and graceful habit entitle them to a place amongst plants cultivated for Dinner Table decoration.

896. PRINCESS ALEXANDRA, var. PYRAMIDALIS MUSCOIDES.—Rich carmine flowers in plumes, frisées, so that they resemble pretty tufts of fine Moss, 2s. 6d.

897. PRINCE OF WALES, var. PYRAMIDALIS MUSCOIDES.—Scarlet, resembling the above in every respect, except colour, 2s. 6d.

These two magnificent varieties are in the style, but far surpassing the much praised C. aurea pyramidalis. In our Engraving, left-hand group, we have endeavoured to convey some idea of the effect produced by these superb introductions.

3248. PRINCESS ALEXANDRA, var. SPICATA.—Pale pink, with long delicately beautiful spikes, 2s. 6d.

3249. PRINCE of WALES, var. SPICATA.—Vermillion-tipped primrose; extremely handsome, 2s. 6d.

Unlike Nos. 896 and 897, the flowers of these are produced in long slender spikes of a slightly pendulous character; when well grown, one plant will carry from 80 to 100 of them, and as they feather the plant from base to summit, the effect is magnificent. On the right-hand side of our ENGRAVING of CELOSIAS we have endeavoured to convey some idea of the plant.

894. ADA BEAUFLEUR.—A hybrid between C. pyramidalis and C. argentea; the flower-spikes are white, tipped with rosy-purple, about 8 ins. long; a truly beautiful variety, 1s. 6d.

SPICATA, in 12 distinct colours. See pages 9 and 64.

PLUMOSA, in 12 distinct colours. See pages 9 and 34.

**Bougainvillea.**—See page 85.

2429. BOUGAINVILLEA SPLENDENS AURANTIACA.—A novel and magnificent variety, resembling B. splendens, except in colour, which is rich orange, 5s. per seed.

**Brachysema.**—See page 86.

2430. BRACHYSEMA SPECIOSUM.—An exceedingly handsome New Holland greenhouse climber, with beautiful deep red flowers, 1s.

**Canna.**—See page 32.

785. CANNA ANNEII AURANTIACA.—A majestic variety, of erect growth, with large and beautiful orange-coloured flowers, 1s.

786. CANNA AUREA SPLENDIDISSIMA.—A strikingly beautiful variety, with large handsome golden-yellow flowers and magnificent large foliage, 1s.

793. CANNA DISCOLOR FLORIBUNDA.—An exceedingly effective variety, with large handsome leaves, beautifully veined maroon; growth majestic, 1s.

797. CANNA GÉANT.—One of the most majestic of this truly magnificent genus, with superb large foliage and beautiful orange-red flowers; should be grown as a specimen plant (See Engraving on 3d page of Wrapper), 1s.

802. CANNA GRANDIS.—An exceedingly free-flowering variety, with beautiful large oval leaves and vivid-red flowers, 1s. 6d.

815. CANNA MUSÆFOLIA MINIMA.—A strikingly attractive variety, with beautiful silvery foliage, resembling a small Banana; flowers red, 1s.

822. CANNA PERUVIANA.—A remarkably beautiful species, with exceedingly broad leaves, splendidly veined maroon, 1s. 6d.

*To be continued next week.*

BARR AND SUGDEN, SEED MERCHANTS.

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**Early Spring Flowers.**

WEBB'S GIANT POLYANTHUS; ditto COWSLIP; Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to

RICHARD WEBB, Calcot Gardens, Reading.

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**New and Genuine Seeds.**

GEORGE PARSONS, SEEDSMAN by Appointment to HER MAJESTY. A DESCRIPTIVE SELECT PRICED LIST, post free, on application.

27 and 28, Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

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MESSRS. E. G. HENDERSON AND SON'S NEW SEED CATALOGUE forwarded post free upon application.

In addition to the usual information, valuable practical rules are given for the guidance of Amateur Cultivators in the sowing and after-management of all the Flowers described in the Catalogue.

N.B. For Descriptive Notes of NEW and RARE FLOWERS from Seed, refer to page 143 of *Gardeners' Chronicle* (Feb. 14).

CLIANTHUS DAMPIERI, home-ripened seed.—A most beautiful cool greenhouse plant, with clusters of large rich scarlet pea-shaped flowers, 3 to 4 inches in length, each flower being marked with a large conspicuous black cloud-like blotch in front. This magnificent plant has flowered in Messrs. E. G. H. & SON'S Nurseries, extending upwards of 15 feet in length, being trained horizontally against upright supports. It was ascertained that this single plant produced 680 trusses of bloom in one summer, which, averaging six flowers in a truss, formed an aggregate of 4000 blossoms as the produce of a single seed! See Catalogue for the peculiar treatment in the sowing and after management of this plant. Plants, 3s. 6d. Seeds, 1s. and 2s. 6d. per packet.

CUCUMBER.

HENDERSON'S A 1 HOUSE CUCUMBER.—The Royal Horticultural Society of London have fruited 118 varieties in their gardens at Chiswick, and decided this as the second best black-spined variety, its length 17 inches, straight and even, fine dark colour. A superior variety. Per packet, 1s. 6d.

ALL THE YEAR ROUND.—Very prolific, for quality and usefulness not surpassed at any season of the year. Per packet, 1s. 6d.

CITRON GOURD (for Preserves).—This is a truly valuable and highly interesting esculent fruit, and constitutes a true variety of the hard-fleshed Water Melon, which, though not edible in its raw state, is now proved and strongly recommended for its valuable adaptation in making a very delicious preserve. Full directions for its culture and method of preparing the preserve are given in the Catalogue. 1s.

BUSH VEGETABLE MARROW (true).—This valuable variety is sufficiently dwarf and bushy to form a compact habited plant, and from its short-jointed character and abundant bearing, its produce may be compared to a nest of fruits overlaying each other. 6d. and 1s.

---

MESSRS. E. G. HENDERSON and SON, Wellington Road, St. John's Wood, London, N.W., beg to draw attention to the Plants figured in Part XV. of the "Illustrated Bouquet":—

IMATOPHYLLUM MINIATUM
SWAINSONIA VIOLACEA
PRIMULA PRÆNITENS (SINENSIS) FILICIFOL RUBRA
STRAWBERRY TIETJEN
REINECKIA CARNEA VARIEGATA

Wellington Nursery, St. John's Wood, London, N.W.

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**Banks's Best New Fuchsias.**

E. G. HENDERSON AND SON are now sending out the three following First-class Flowers:—

MDLLE. TREBELLI (BANKS).
BIANCA MARGINATA (BANKS),
MARS (BANKS),

as neat young plants for growing on into specimens (and others adapted for stock), price 3s. 6d. and 5s. each. Also plants of all last year's best varieties, 1s. 6d. to 2s. 6d. each.

SOLANUM CAPSICASTRUM FOLIA VARIEGATA, a beautiful table plant, with elegantly variegated leaves and red berries; drooping habit; 3s. 6d. and 5s. each.

THE TIETJEN STRAWBERRY, hardier than "British Queen," of the same quality, colour, &c., 30s. per 100.

GLOXINIAS: BRILLIANT, LEVIATHAN, BIRD of PARADISE, and MOST BEAUTIFUL, the four most distinct new Gloxinias, 3s. 6d. and 5s. each.

AUCUBA HIMALAICA, 7s. 6d., 10s. 6d., to 21s. each.

PRIMULA SINENSIS FILICIFOLIA, white and red, 5s. each.

STUARTIA PENTAGYNIA, strong plants, 5s. each.

LOBELIA ERINUS SPECIOSA PAXTONI, 1s. 6d. each; 12s. per doz.

DOUBLE PANSY "GOOD GRACIOUS," 1s. 6d. each; 12s. per doz.

LONICERA AUREA RETICULATA, leaves light green, richly netted over with golden yellow veins, 5s. each.

LAPAGERIA ROSEA, 1s. 6d., 2s. 6d.; stronger, 5s. and 7s. 6d.

PRIMULA SINENSIS ERECTA SUPERBA, a fringed variety of P. kermesina, 2s. 6d.

PRIMULA PICTA, mottled, 1s. 6d.

BEDDING DAHLIAS (pot roots), 6s. and 9s. per doz.

LILLIPUTIAN ,, ,, ,, 6s., 9s., to 18s. per doz.

Wellington Nursery, St. John's Wood, London, N.W.

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## LILIUMS FROM JAPAN.

# HUGH LOW & CO.

HAVE TO OFFER AT VERY LOW PRICES LILIUM ROOTS, RECENTLY ARRIVED FROM JAPAN.

No name is attached to them, but they are reported to be the finest the country produces, and the Bulbs resemble very closely in appearance those of LILIUM AURATUM.

HUGH LOW & Co. will with pleasure afford any gentleman calling at the Nursery an opportunity of comparing the Bulbs now offered with those of LILIUM AURATUM.

CLAPTON NURSERY, LONDON, N.E.

### Chrysanthemums, Chrysanthemums.

J. H. BIRD, F.R.H.S., NURSERYMAN, Stoke Newington, begs to inform his friends and the public he can supply from his great Stock of the above 20 pairs of the best large Varieties for 10s.; and 25 pairs of best POMPONES for 10s.; 20 pairs of Cuttings of the large Varieties for 5s.; and 25 pairs of Pompones ditto for 5s.

New CATALOGUES ready for one stamp.

N.B. To save trouble all orders to be paid to J. H. BIRD, Stoke Newington.

### New Fuchsia.

ROBERT REA, NURSERYMAN, &c., London Road, Ipswich, has much pleasure in announcing that he intends sending out after the 20th of April, plants of his SEEDLING FUCHSIA DEFIANCE, which was so much admired last season. Defiance is a fine bold double flower of great substance, bright scarlet tube and sepals, dark violet barrel-shaped corolla, sepals much reflexed. This will be a standard flower for years, and will be grown in every collection.

10s. 6d. each, with the usual discount to the Trade.

FIRST CLASS NEW FUCHSIAS. — Coloured Drawings by Mr. ANDREWS of SANSPAREIL, BRIDESMAID, CONSPICUA, and HERCULES, are now ready, and will be forwarded in exchange for 12 postage stamps.

G. S. begs to offer the above as the most Superb FUCHSIAS yet offered to the Public. For description, with price, and also time of sending out, see CATALOGUE, now ready.

GEORGE SMITH, Tollington Nursery, Hornsey Road, Islington, London, N.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT's Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent.

B. MALLER begs respectfully to state that his DESCRIPTIVE SEED CATALOGUE can now be had free on application.

Best Reigate SILVER SAND, 16s. per ton, delivered free within four miles, or to London Bridge Railway or Wharf. Less quantities, 1s. 6d. per bushel, for cash.

Nursery and Seed Establishment, Lewisham, Kent, S.E.

### Seeds, Seeds, Seeds.

S. GLENDINNING AND SONS' (Successors to the late R. GLENDINNING) CATALOGUE of KITCHEN GARDEN, AGRICULTURAL and FLOWER SEEDS is now ready and may be had on application.

Chiswick Nursery, London, W.—February, 1863.

EDWIN HOLLAMBY begs to inform his Patrons and Friends that his DESCRIPTIVE PRICED CATALOGUE of VEGETABLE, FLOWER, AGRICULTURAL SEEDS, and GLADIOLUS is now ready, and may be had gratis and post paid on application.

Nursery and Seed Establishment, Tunbridge Wells, Kent.

A PRICED and DESCRIPTIVE CATALOGUE of all the new and leading kinds of Show, Spotted, French, Fancy, Scarlet, and Variegated Pelargoniums, Fuchsias, Verbenas, Petunias, Dahlias, Chrysanthemums, Bedding Plants, &c., is now ready in exchange for one postage stamp.

GEO. SMITH, Tollington Nursery, Hornsey Road, Islington, London, N

A. STANSFIELD AND SONS beg to announce that their LIST of BRITISH FERNS for this season, including the New and Rare varieties, at reduced prices, is now ready, and may be had on application, enclosing two postage stamps. Also their GENERAL FERN LIST, No. 6, for 4 postage stamps, which purchasers may deduct.

Vale Nurseries, Todmorden.

AMARANTHUS MELANCHOLICUS (var. ruber). —Habit very compact, height 1 to 1½ feet, with striking blood-red foliage; a most valuable bedding plant for Flower Garden decoration, after the style of Perilla Nankinensis. Price per packet, 6d., 1s., and 2s. 6d. The Trade supplied.

E. P. DIXON & SONS, Seedsmen and Florists, 57, Queen Street, Hull.

WELLINGTONIA GIGANTEA.—The attention of the Nobility, Gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12s.; per 100 or 1000 on application. A Sample free by post for 12 stamps.

J. HENCHMAN, Edmonton, London.

JAMES TYNAN'S importation of celebrated GERMAN ASTERS, STOCKS, WALLFLOWERS, PHLOXES, and other FLOWER SEEDS, is now ready, and comprises as usual an extensive assortment of the very best varieties, selected from the most noted Continental growers. They are made up, as formerly, in large or small packets, to suit the requirements of purchasers. Every description of Vegetable and Agricultural Seeds of the finest quality.

Flower Seeds free by post.

J. TYNAN, Importer of Continental Seeds, 68, Great George Street, Liverpool.

### Ranunculuses, Anemones, &c.

C. TYSO, FLORIST and SEEDSMAN, Wallingford, Berks, begs to offer choice-named assortments:—

| | | £ | s. | d. |
|---|---|---|---|---|
| 50 Splendid RANUNCULUS, one each .. | 14s. to | £1 | 0s. | 0d. |
| 50 ditto, Tyso's SEEDLINGS, one each .. | 30s. to | 3 | 0 | 0 |
| 50 Mixed ditto, fine quality .. .. | 4s., 8s., and | 0 | 10 | 0 |
| 50 DOUBLE ANEMONES, one each | 10s. 6d. to | 0 | 13 | 0 |
| 50 Ditto Single Mixed .. .. .. | 2s. 6d. to | 0 | 3 | 6 |

IMPORTED GERMAN SEEDS.—Asters, Stocks, Balsams, Immortelles, Larkspurs, Phloxes, Poppies, Zinnias, &c., in named assortments, 1s. and 2s. 6d. each.

ANNUAL SEEDS.—50 sorts, 10s.; 25 sorts, 5s.
VEGETABLE SEEDS, of the best quality.
CATALOGUES gratis, or post free for one stamp.
All the above articles can be sent by Post.

### Hardy Climbers, Hardy Climbers.

MESSRS. DILLISTONE AND CO., of The Nurseries, Sturmer, Halstead, Essex, has to offer a first-rate Collection of the above, consisting of splendid HONEYSUCKLES, ROSES, CLEMATISES; some very beautiful IVIES, JASMINES, &c., &c. A basket containing one dozen, carefully packed and paid to London upon receipt of 10s.

100 HERBACEOUS PLANTS, properly named and carefully packed, for 20s. PANSIES by the dozen, hundred, or thousand. PAMPAS GRASS, &c., &c. NURSERY STOCK in General.

Sturmer Nurseries.—Feb. 28.

### Hardy Scarlet and other Choice Rhododendrons.

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

### Notice.—American Plants.

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

### Spring Blooming Plants.

CAMELLIAS, including the best new varieties, fine plants, set with bloom buds, from 30s. per doz.; extra size, from 60s.

HEATHS, EPACRIS, CINERARIAS, and JASMINUM GRANDIFLORUM (grafted), remarkably fine plants, at moderate prices.

Also HUMEA ELEGANS, extra strong, in 6-inch pots, 18s. per doz.

JAMES DICKSON & SONS, Newton Nurseries, Chester.

### Seeds for the Flower Garden offered by

B. S. WILLIAMS.

| | s. | d. |
|---|---|---|
| An ASSORTMENT of 12 Fine Selected Varieties of HARDY ANNUALS .. .. .. .. .. | 1 | 6 |
| An ASSORTMENT of 12 Fine Selected Varieties of HALF-HARDY ANNUALS .. .. .. .. | 2 | 6 |
| An ASSORTMENT of 12 Fine Selected Varieties of HARDY BIENNIALS and PERENNIALS, suitable for Rockwork .. .. .. .. .. .. | 2 | 6 |
| An ASSORTMENT of 12 Splendid Annual kinds of ORNAMENTAL GRASSES .. .. .. .. | 2 | 0 |

Paradise and Victoria Nurseries, Holloway, London, N.

CHEAP PLANTS.—In Strong Plants.—

| Per doz. | s. | d. | Per doz. | s. | d. |
|---|---|---|---|---|---|
| Hepaticas, sorts .. | 3 | 0 | Primroses, Double White and Lilac .. .. | 4 | 0 |
| Auriculas, sorts .. | 3 | 0 | Sedum carneum fol. var. | 3 | 0 |
| Violets, Russian and Double White .. | 3 | 0 | Christmas Roses .. | 6 | 0 |
| Pinks, fine named .. | 3 | 6 | Golden Yellow Wallflower .. .. .. | 4 | 0 |
| Clove, old Crimson .. | 3 | 0 | Rockets, sorts .. .. | 4 | 0 |
| Pansies, fine named .. | 3 | 6 | Hollyhocks, fine named | 6 | 0 |
| ,, fine mixed .. | 2 | 6 | Pampas Grass .. .. | 4 | 0 |

Also, Strong STOCK PLANTS of the following for Cuttings:—

| Per doz. | s. | d. | Per doz. | s. | d. |
|---|---|---|---|---|---|
| Lobelia speciosa kermesina, "true." | | | Verbena Purple King .. | 4 | 0 |
| Verbenas, new, 1862 .. | 4 | 0 | Fuchsias, new, 1862 .. | 5 | 0 |
| ,, old varieties .. | 3 | 6 | ,, older varieties | 4 | 0 |
| ,, Mrs. Holford (white) | 4 | 0 | Dahlias, strong ground roots .. .. .. | 6 | 0 |

100 Hardy Herbaceous plants in 50 varieties, carefully named and packed for 20s. Carriage of all Orders of 10s. paid to London, and other parts within 50 miles.

Post Office Orders payable at Castle Hedingham.

WM. DILLISTONE, Munro Nursery, Sible Hedingham, Essex.

### Choice Seeds of Asters, Balsams, and Stocks,

OFFERED BY

B. S. WILLIAMS, Paradise and Victoria Nurseries, Holloway, London, N.

| | s. | d. |
|---|---|---|
| An Assortment of 12 varieties of TRUFFAUT'S PÆONY-FLOWERED ASTER, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of four varieties of COCARDEAU or CROWN ASTER, 100 seeds of each .. .. .. | 1 | 0 |
| An Assortment of 12 varieties of CHRYSANTHEMUM-FLOWERED DWARF ASTER, 100 seeds of each .. | 2 | 6 |
| An Assortment of nine varieties of CAMELLIA-FLOWERED BALSAMS .. .. .. .. .. | 2 | 6 |
| An Assortment of 12 varieties of DOUBLE ROSE-FLOWERED BALSAMS .. .. .. .. .. | 3 | 0 |
| An Assortment of eight varieties of AUTUMNAL-FLOWERING STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of eight varieties of BROMPTON STOCKS, 100 seeds of each .. .. .. .. | 1 | 6 |
| An Assortment of 12 varieties of DWARF GERMAN TEN-WEEK STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of eight varieties of EMPEROR or PERPETUAL STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of six varieties of MINIATURE STOCKS, 100 seeds of each .. - .. .. .. .. | 1 | 6 |

A PRICED and DESCRIPTIVE CATALOGUE, post free to all applicants, containing useful suggestions for the guidance of amateur cultivators.

LARGE ORNAMENTAL TREES.—The Subscribers beg to offer very fine specimen plants of ARAUCARIA IMBRICATA, from 5 to 9 ft.; CEDRUS LIBANI, 7 to 12 ft.; WELLINGTONIA GIGANTEA, 5 to 9 ft.; PINUS EXCELSA, 7 to 10 ft.; also Spruce, Scotch, and Larch Firs, from 7 to 10 ft., with Limes, Birch, Beech, Elm, Sycamore, and Laburnum, 9 to 11 ft.; likewise Weeping Ash, Lime, and Willow, on fine tall stems. The above will be sold cheap, and if taken in quantity a great reduction will be made in the price.

J. IVERY & SON, Dorking Nursery.

### The Planting Season.

THE EXECUTORS of MR. JNO. YOUNG, late Proprietor of the extensive Nursery Grounds, Taunton, have determined to reduce this large and valuable Stock. They respectfully invite the attention of Noblemen, Gentlemen, and the Trade to the FOREST TREES, HARDY and ORNAMENTAL TREES and SHRUBS, large and small; CONIFERÆ, EVERGREENS, HERBACEOUS, and a great variety of other PLANTS. STANDARD, DWARF, and POTTED ROSES. STANDARD, DWARF-TRAINED, and PYRAMIDAL FRUIT TREES. The varied and excellent quality of this Stock is so well known that comment is unnecessary. The grounds are open for inspection and sale daily, and in quantities at greatly reduced prices. Applications by post direct to the EXECUTORS of the late Mr. John Young, Taunton.

The above capital FREEHOLD NURSERY
(Established more than 30 years),
containing about 12 Acres of highly productive Land, with the usual Appurtenances, situate at Taunton, the County Town of Somersetshire, in excellent condition, with a good connection, is

TO BE SOLD, with Early Possession,
in consequence of the Decease of the late Owner.
For particulars, apply as above.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.

RICHARD SMITH, Nurseryman, Worcester.

### Narrow-leaved English Elms.

WOOD AND INGRAM beg to offer to the Trade extra fine Seedlings of the above, at 5s. per 1000.

Huntingdon Nurseries.

### New Fuchsias of 1862.

B. W. KNIGHT, FLORIST, &c., Battle, Sussex, can supply the New FUCHSIAS of 1862 in good plants, at 6s. per dozen.—CATALOGUES sent on application.

### To the Trade.

CHRISTMAS QUINCEY, SEEDSMAN, Peterboro', has to offer, of his own growing, ASH-TOP KIDNEYS, MYATT'S PROLIFIC, DALMAHOYS, FORTYFOLDS, SHAWS, and FLOURBALLS, by the sack or ton.

Also YELLOW and RED GLOBE MANGEL, BROCCOLI, and WINDSOR BEANS. Prices on application.

A BARGAIN.—A large quantity of SCOTCH and SPRUCE FIR, 2 to 3 feet high, fine healthy stuff, to offer cheap.—For price apply to GEORGE BATLEY, the Nursery, Rugby

THE SUBSCRIBERS have on SALE 2, 3, and 4-year Seedling NORWAY SPRUCE; 3-year Seedling THORN QUICKS; Transplanted SPRUCE, 1 to 1½ feet; 3-year Transplanted THORN QUICKS, all at very low prices, which may be had on application.

FOWLER & SON, Glasgow—Feb. 28.

FOR SALE, 100,000 3-year Seedling SILVER FIR. —The above will be offered cheap, as the ground is wanted for other purposes. Samples and Prices sent on application.

Apply to DOWNIE, LAIRD, & LAING, 17, Frederick Street, Edinburgh; and Stanstead Park, Forest Hill, London.

### Green Hollies.

CORNELIUS WHITEHOUSE, Brereton Nursery, Rugeley, Staffordshire, offers an immense stock of well-grown healthy extra Transplanted HOLLIES, exceedingly well-rooted, from 12 to 15, 15 to 18, 18 to 24, 24 to 30 inches. Also very handsome SPECIMEN PLANTS from 3 to 5 feet; also ENGLISH YEWS from 2 to 2½ feet, 2½ to 3 feet and upwards. The above growing on ground to be cleared for other stock, the price will be liberal. Trade price on application.

CHARLES DALY AND SON will SELL 3-year Seedling THORN QUICK at 2s. per 1000; 1-year Transplanted do., at 4s. per 1000; 2-year do. do., at 8s. per 1000. COMMON LAURELS, at 15s. per 1000; SWEET BAYS, 3-year Potted, 6d. each; RHODODENDRONS, good furnished plants, 20s. per 100; fine large UPRIGHT YEWS, seven times Transplanted, fit for cemeteries or pleasure grounds. The above will be sold Cheap for cash. Turnip Seeds or new Greenhouse Plants will be taken in payment. LIST of PRICES Free by Post.

Coleraine, Ireland.

### Lobelia speciosa (True).

THOMAS METHVEN begs to state that he can supply the above, and which he can warrant genuine, in packets at 1s., 2s. 6d., and 5s.

GENERAL SEED CATALOGUE free on application.

Seed Warehouse, Leith Walk, Edinburgh.

DAHLIAS, DAHLIAS.—A special DESCRIPTIVE LIST of surplus stock of SHOW, FANCY, BEDDING, and LILLIPUTIAN or BOUQUET DAHLIAS, about 300 varieties, with 400 VINES struck from Eyes. Also a list of HOLLYHOCKS struck from Eyes last autumn.

May be had on application to J. C. PADMAN, Providence Nursery, Boston Spa, near Tadcaster.

TO THE TRADE.—

SPECIAL OFFER.

ABIES MENZIESII, 9 to 12 inches, 3s. per dozen; 20s. per 100.
,, ,, 18 to 24 inches, 6s. per dozen; 40s. per 100.
,, ,, 24 to 30 inches, 9s. per dozen; 60s. per 100.
PINUS INSIGNIS, 4 to 5 feet, 3s. 6d. each; 30s. per dozen.
,, ,, 5 to 6 feet, 5s. each; 42s. per dozen.
BERBERIS DARWINII, 6 to 9 in., 5l. per 1000, or 12s. 6d. p. 100.
,, ,, 9 to 12 ins, 3s. per doz.; 15s. per 100.
,, ,, 18 to 24 ins., 9s. per doz.; 60s. per 100.
CUPRESSUS LAWSONIANA, 2 to 3 feet, 200s. per 100.
,, ,, 3½ to 4½ feet, 30s. per dozen.
,, ,, 4½ to 5 feet, 36s. per dozen.
,, ,, 5 to 6 feet, 5s. to 7s. 6d. each.
THUJA LOBBI, 18 to 24 in., 12s. per doz.; or 75s per 100.
,, ,, 2 to 3 feet, 18s. per doz.; or 100s. per 100.
BLUSH CHINA ROSES, 25s. per 100.
RHODODENDRON PONTICUM, fine large bushy stuff, 1½ to 2½ feet, 40s. to 60s. per 100.
,, ,, 2 to 3 feet, 70s. per 100.
,, ,, 3 to 4 feet, 126s. per 100.
WELLINGTONIA GIGANTEA, 4½ to 5 feet, 42s. to 50s. each.
,, ,, 5 to 6 feet, 50s. to 63s. each.
,, ,, 6 to 7 feet, 63s. to 84s. each.
,, ,, 7 to 8 feet, 84s. to 105s. each.

The above are all fine healthy, well rooted stuff.

TRADE CATALOGUE of GENERAL NURSERY STOCK on application.

THOMAS CRIPPS, Nurseryman, Tunbridge Wells, Kent.

GEORGE BAKER begs to offer the following, a selection from his extensive Stock:—

ARAUCARIA IMBRICATA, 3 feet, 6 feet, 9 feet, 14 feet.
ABIES DOUGLASII, 3 feet, 5 feet, 10 feet, 14 feet, 25 feet.
ARBOR-VITÆ (WAREANA), 3 feet, 6 feet, 8 feet.
CEDRUS DEODARA, 3 feet, 6 feet, 12 feet, 20 feet.
CUPRESSUS LAWSONIANA, 3 feet, 5 feet.
,, DISTICHA, 3 feet, 8 feet, 12 feet.
CEDRUS LIBANI, 6 feet, 8 feet, 10 feet.
CHINESE JUNIPER, 3 feet, 5 feet, 6 feet.
IRISH YEW, 4 feet, 6 feet, 8 feet.
JUNIPERUS RECURVA, 8 feet.
PICEA CEPHALONICA, 3 feet, 4 feet, 11 feet.
PINUS CEMBRA, 3 feet, 5 feet, 7 feet.
,, EXCELSA, 10 feet, 15 feet.
THUJA GIGANTEA, 4 feet, 5 feet, 6 feet.
THUJOPSIS BOREALIS, 1 foot, 2 feet.
PINUS AUSTRIACA, 3 feet, 4 feet.
,, BENTHAMIANA, 3 feet, 4 feet.
WEYMOUTH PINE (fine), 1½ foot, 2 feet.
SPRUCE FIR, 1 foot, 2 feet.
AZALEAS (to name)
ANDROMEDAS (to name).
RHODODENDRONS (to name).
,, STANDARDS (to name).
KALMIA LATIFOLIA.
,, STANDARDS (very fine heads).

Prices free by Post, on application. Also G. B.'s GENERAL PRICED LIST is now ready.

American Nursery, near Bagshot, Surrey, about 1½ mile from Sunningdale Station, S. W. R.

ROYAL BERKSHIRE SEED ESTABLISHMENT.

Proprietors—**JOHN SUTTON, MARTIN HOPE SUTTON, and ALFRED SUTTON.**

UNDER THE DISTINGUISHED PATRONAGE OF

HER MOST GRACIOUS MAJESTY THE QUEEN,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
AND THE PRINCIPAL MEMBERS OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

# PRICES OF FARM SEEDS FOR MARCH

(CARRIAGE FREE).

FOR EXTRA LARGE QUANTITIES, SPECIAL CONTRACTS MAY BE MADE.

# SUTTON & SONS, SEED GROWERS, READING, BERKS,

OFFER THE UNDERMENTIONED WITH GREAT CONFIDENCE, AS BEING GENUINE NEW SEEDS, WHICH HAVE BEEN PROVED TO GERMINATE WELL,

## New Clover Seeds, perfectly free from Dodder and other Weeds.

COMMON RED, or BROAD CLOVER, extra fine and clean, 8½*d.* per lb.; 78*s.* per cwt. Second quality cheaper.

YELLOW TREFOIL (Hop Clover, or Black Medick), 5½*d.* per lb.; 48*s.* per cwt. Second quality cheaper.

WHITE, or DUTCH CLOVER, 10½*d.* per lb.; 95*s.* per cwt. Second quality cheaper.

ALSIKE, or HYBRID CLOVER, 1*s.* 3*d.* per lb.; 130*s.* per cwt. Second quality cheaper.

COW GRASS (the true kind), 10*d.* to 1*s.* per lb.; 90*s.* to 105*s.* per cwt.

MIXED PERENNIAL CLOVERS for PERMANENT PASTURE (Perennial Red, Perennial White, and Alsike), 1*s.* 2*d.* per lb.; 120*s.* per cwt.

MIXED CLOVERS for ALTERNATE HUSBANDRY (Common Red, Alsike, White, and Yellow), 10½*d.* per lb.; 95*s.* per cwt.

RIB GRASS, or NARROW-LEAVED PLANTAIN, 7*d.* per lb.

## Mixtures of Clovers and Rye-grass Seeds.

TO BE SOWN WITH CORN FOR A CROP OF CLOVER, &C., IN THE FOLLOWING YEAR.

CLOVERS and ITALIAN RYE-GRASS (Seeds), for One Year's Clover, &c., including 14 lbs. Alsike and other Clovers, at 15*s.* per acre.

CLOVERS and COMMON RYE-GRASS, including 14 lbs. Alsike and other Clovers, at 15*s.* per acre.

CLOVER SEEDS WITHOUT RYE-GRASS, at 12*s.* 6*d.* to 14*s.* per acre; according to the sorts and quantities supplied.

## Sutton's Mixtures of Permanent Pasture Grass Seeds.

The first Prize Medal of the Royal Horticultural Society was awarded to our Collection of Clover and Grass Seeds at the Great International Exhibition of Seeds and Roots in October last. The quantity we usually supply is 2 bushels of light Seeds and 12 lb. heavy Seeds per acre. 30*s.* per acre.

*** *For extra large quantities, special contracts may be made.*

CHEAPER PERMANENT MIXTURES, including Clovers and Good Permanent Grass Seeds, but omitting some of the more expensive kinds, 24*s.* to 26*s.* per acre.

MIXTURES for RECLAIMED MARSHES and HEATH LANDS, 20*s.* per acre.

MIXTURES for LAYING DOWN WATER MEADOWS, 25*s.* per acre.

MIXTURES to LAY DOWN NEW PARK LAWNS.—Seeds for this purpose will be 16*s.* per bushel.

MIXTURES for FINE GARDEN LAWNS.—Including only the finest or shortest growing kinds, 18*s.* per bushel. 3 bushels per acre of these fine sorts are required.

MIXTURES of GRASSES, CLOVERS, &c., for 3 or 4 YEARS' PASTURE, HAY, or SOILING.—These we can supply of best quality, at 22*s.* per acre, or if required to remain only 2 years, the price will be only 18*s.* 6*d.* per acre.

EVERGREEN GRASSES for CHURCHYARDS and CEMETERIES.—Price of Seed, 16*s.* per bushel.

MIXTURES for ORCHARDS and PASTURES OVERSHADOWED with TREES, 15*s.* per bushel.

MIXED PERMANENT GRASS SEEDS of COARSE KINDS, for RAILWAY EMBANKMENTS, &c., &c., 2*s.* 6*d.* per bushel, in quantities of not less than 8 bushels.

## Natural Grasses contained in Messrs. Sutton's Mixtures,

(Besides Clovers), and which may be purchased separately in quantities not less than 7 lbs. of either sort.

| | Per lb.—*s.* | *d.* | | Per lb.—*s.* | *d.* |
|---|---|---|---|---|---|
| ALOPECURUS PRATENSIS .. .. | 1 | 3 | GLYCERIA FLUITANS .. .. .. | 1 | 0 |
| ANTHOXANTHUM ODORATUM .. | 1 | 6 | ,, AQUATICA .. .. .. | 1 | 0 |
| AGROSTIS STOLONIFERA .. .. | 0 | 10 | LOLIUM PERENNE .. .. .. | 0 | 5 |
| CYNOSURUS CRISTATUS .. .. | 1 | 0 | ,, ,, STICKNEYANUM | 0 | 5 |
| DACTYLIS GLOMERATA .. .. | 0 | 10 | ,, ,, PACEYANUM .. | 0 | 5 |
| FESTUCA DURIUSCULA .. .. | 0 | 10 | ,, ,, SEMPERVIRENS | 0 | 5 |
| ,, ELATIOR .. .. .. | 1 | 0 | ,, ,, TENUE .. .. | 0 | 6 |
| ,, GIGANTEA .. .. .. | 1 | 3 | PHLEUM PRATENSE .. .. .. | 0 | 8 |
| ,, HETEROPHYLLA .. .. | 1 | 0 | POA PRATENSIS .. .. .. | 1 | 0 |
| ,, PRATENSIS .. .. .. | 0 | 10 | ,, TRIVIALIS .. .. .. .. | 1 | 0 |
| ,, OVINA .. .. .. .. | 0 | 10 | ,, NEMORALIS .. .. .. | 1 | 3 |
| ,, RUBRA .. .. .. | 0 | 10 | ,, ANGUSTIFOLIA .. .. .. | 1 | 3 |
| ,, TENUIFOLIA .. .. | 1 | 0 | ,, FERTILIS .. .. .. .. | 1 | 8 |
| ,, LOLIACEA .. .. .. | 0 | 10 | ,, SEMPERVIRENS .. .. .. | 1 | 6 |

## Rye-grasses (cheaper in large quantities).

ITALIAN RYE-GRASS, good English seed, 6*s.* 6*d.* per bushel.
FRESH IMPORTED SEED, cleaned, 7*s.* 6*d.* per bushel.
PERENNIAL RYE-GRASS, clean seed, 6*s.* 6*d.* per bushel.
PACEY'S PERENNIAL RYE-GRASS, very fine, 7*s.* 6*d.* per bushel.
EVERGREEN RYE-GRASS, 7*s.* 6*d.* per bushel.
ANNUAL, or COMMON, best quality, 5*s.* 6*d.* per bushel.
Ditto ditto, lighter seed, 4*s.* 6*d.* per bushel.

## Mangel Wurzel, 6d. per lb., or cheaper by the cwt.

YELLOW GLOBE | RED GLOBE | LONG RED | LONG YELLOW

The Mangel Seed offered as above at 6*d.* per lb. is of good stock and New Seed, which has been proved to germinate well.

## Improved Sorts of Mangel Wurzel (cheaper by the cwt.)

SUTTON'S LARGE YELLOW GLOBE.—The heaviest cropper and hardiest Mangel known. The First Prize Medal at the International Root Show in October last was awarded to us for this sort. 8*d.* per lb.

SUTTON'S ORANGE GLOBE.—Beautiful shape, with smaller greens than other sorts, 8*d.* per lb.

ELVETHAM LONG RED.—A new large variety, of superior feeding properties, 8*d.* per lb.

FISHER HOBBS' ORANGE GLOBE, very fine, 8*d.* per lb.

Prices per cwt. on application.

## Turnip Seeds.

SUTTON'S CHAMPION SWEDE.—A very large Purple-top Yellow Swede. Gained 12 Silver Cups presented by His late Royal Highness the Prince Consort in six successive years, of 20 Guineas value each, besides numerous other distinguished Prizes in other parts of the Kingdom. 1*s.* per lb.; 45*s.* per bushel.

SKIRVING'S SWEDE (SUTTON'S Selected Stock).—Our stock of this Swede is particularly true, having been grown last summer from transplanted roots carefully selected. 9*d.* per lb.; 32*s.* per bushel.

SUTTON'S HARDY PURPLE-TOP, a fine hardy Swede, 9*d.* per lb.; 32*s.* per bushel.

MARSHALL'S PURPLE-TOP, direct from Mr. Marshall, 10*d.* per lb.; 36*s.* per bushel.

HARDY WHITE SWEDE.—Choice stock, excellent for late spring food, 1*s.* per lb.; 45*s.* per bushel.

SKIRVING'S PURPLE-TOP YELLOW BULLOCK, 10*d.* per lb.; 36*s.* per bushel.

DALE'S HYBRID, 10*d.* per lb.; 36*s.* per bushel.

YELLOW SCOTCH or BULLOCK (Green-top), selected stock, 10*d.* per lb.; 36*s.* per bushel.

YELLOW TANKARD TURNIP, strongly recommended, 10*d.* per lb.; 36*s.* per bushel.

LINCOLNSHIRE RED GLOBE TURNIP, true.—From the original stock presented to us by the late Philip Pusey, Esq., 9*d.* per lb.; 32*s.* per bushel.

SUTTON'S IMPERIAL GREEN ROUND or GLOBE.—Should be sown for the main Winter Crop, instead of the Common Green Round Turnip, being a heavier and more nutritious Turnip, 9*d.* per lb.; 32*s.* per bushel.

OLD HARDY GREEN ROUND, for late spring feed, 8*d.* per lb.; 28*s.* per bushel.

POMERANIAN, large white, for early feed, 9*d.* per lb.; 32*s.* per bushel.

WHITE GLOBE, large sort, well known, fine stock, 8*d.* per lb.; 28*s.* per bushel.

TANKARD, RED, WHITE, or GREEN, for early feeding only, 9*d.* per lb.; 32*s.* per bushel.

EARLY SIX-WEEKS' STONE, or STUBBLE, for sowing very early or very late, 9*d.* per lb; 32*s.* per bushel.

GREY STONE, or MOTTLED GLOBE.—Fine large new sort, strongly recommended, 10*d.* per lb.; 36*s.* per bushel.

## Carrot (cheaper by the cwt.)

WHITE BELGIAN.—Fresh imported Seed; a very heavy cropper, 1*s.* per lb.

LARGE GREEN-TOP YELLOW BELGIAN, similar to White Belgian in size, and more nutritious, 1*s.* 3*d.* per lb.

RED INTERMEDIATE, excellent for Shallow Soils, 2*s.* 6*d.* per lb.

ALTRINGHAM, the largest Red Carrot, 2*s.* per lb.

## Cow Cabbage.

EARLY SCOTCH DRUMHEAD.—Sow in March, to feed in October and Nov., 2*s.* 6*d.* per lb.

LARGE DRUMHEAD, from fine selected plants, 2*s.* 6*d.* per lb.

THOUSAND-HEADED.—Very productive, tall, branching, strongly recommended, 2*s.* 6*d.* p. lb.

ROBINSON'S CHAMPION DRUMHEAD.—Gained First Prizes at Royal Horticultural Society's International Show, and Birmingham; some of the heads weighing 75 lbs. each, 5*s.* per lb.

LONDON MARKET, EARLY BATTERSEA, and others, 4*s.* each.

## Kohl-Rabi, or Turnip-rooted Cabbage.

LARGE GREEN.—Very large. Prize Medal at International Root Show. 2*s.* 6*d.* per lb.

LARGE PURPLE.—Not quite so large as the preceding, 2*s.* 6*d.* per lb.

## Miscellaneous.

| | Per lb.—*s.* | *d.* | | Per lb.—*s.* | *d.* |
|---|---|---|---|---|---|
| LUPINS, white, yellow, and blue; per bushel, 20*s.* .. .. .. .. | 0 | 9 | SERADELLA, substitute for Vetches .. | [illegible] | [illegible] |
| FURZE, or GORSE (20 lb. per acre) .. | 1 | 6 | LUCERNE (20 lb. per acre) .. .. | [illegible] | [illegible] |
| LARGE CATTLE PARSNIP (6 lb.) .. | 1 | 6 | LINSEED, or FLAX. Price fluctuating. | | |
| MUSTARD (24 lb.) .. .. .. | 0 | 5 | BROOM (for Cover) .. .. .. .. | [illegible] | [illegible] |
| RAPE, or COLE (4 to 6 lb.) .. .. | 0 | 4½ | BURNET .. .. .. .. .. | [illegible] | [illegible] |
| SHEEP PARSLEY .. .. .. | 1 | 0 | CHICORY .. .. .. .. .. | [illegible] | [illegible] |
| WHITE SILESIAN SUGAR BEET .. | 1 | 0 | YARROW .. .. .. .. .. | [illegible] | [illegible] |
| FENUGREEK .. .. .. .. | 0 | 9 | BUCK WHEAT .. .. per bushel | 7 | 6 |
| | | | EARLY RACEHORSE PEAS ,, | 10 | 6 |

*All Goods carriage free (except small parcels).* PRICED LISTS of FARM and GARDEN SEEDS *post free.*

SUTTON AND SONS, ROYAL BERKSHIRE SEED ESTABLISHMENT, READING.

ROYAL HORTICULTURAL SOCIETY. FLORAL COMMITTEE.

LIST of AWARDS, February 25, 1863.

FIRST-CLASS CERTIFICATES.

CYPRIPEDIUM DAYANUM, from J. Day, Esq., Tottenham.
YUCCA LINEATA LUTEA, from Mr. W. Bull, Chelsea.
TRICHOMANES ANCEPS, from Mr. W. Bull, Chelsea.
AZALEA PRESIDENT CLAEYS, from Messrs. Veitch & Son, Chelsea.
BARKERIA SKINNERI SUPERBA, from Messrs. Veitch & Son, Chelsea.

SECOND-CLASS CERTIFICATES.

LIMATODES ROSEA v. ALBA, from Messrs. Low & Co., Clapton.
ANÆCTOCHILUS ARGYRÆA, from Mr. W. Bull, Chelsea.

COMMENDATION.

HIBISCUS (sp. ?) VARIEGATUS, from Messrs. Veitch & Son, Chelsea.

SPECIAL CERTIFICATES.

Collection of 40 varieties of green and 32 of variegated HOLLIES, illustrating a paper read before the Committee, from Mr. W. Paul, Waltham Cross.
Collection of the varieties of LYCASTE SKINNERI, from Messrs. Veitch & Son, Chelsea.

The next MEETING of the Committee will take place on Wednesday, March 18, at 10 A.M.

THOMAS MOORE, Secretary to the Committee.

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ROYAL HORTICULTURAL SOCIETY. SHOW of HYACINTHS, and other SPRING FLOWERS, WEDNESDAY, February 25.

AWARDS OF THE JUDGES.

CLASS 1.—12 HYACINTHS, distinct kinds (Nurserymen).
1st, Messrs. W. Cutbush & Son, Highgate Nurseries, N., 1*l.* 10*s.*
2d, Mr. Wm. Paul, Cheshunt Nurseries, Waltham Cross, N., 1*l.*

**Prizes offered by Mr. J. Cutbush, of Highgate.**

CLASS 2.—12 HYACINTHS, 6 kinds (Amateurs).
1st, Mr. A. Carr, Gr. to B. Noakes, Esq., Highgate, N., 2*l.* 2*l.*
2d, Mr. G. Taylor, Gr. to C. A. Hanbury, Esq., East Barnet, 1*l.* 1*s.*

CLASS 3.—12 Pots of TULIPS, 6 kinds (Nurserymen).
1st, Messrs. W. Cutbush & Son, Highgate Nurseries, N., 1*l.* 10*s.*
2d, Mr. Wm. Paul, Cheshunt Nurseries, N., 1*l.*

CLASS 4.—12 Pots of TULIPS, 4 kinds (Amateurs)
1st, Mr. W. Young, Gr. to R. Barclay, Esq., Highgate, N., 1*l.* 10*s.*
2d, Mr. A. Carr, Gr. to B. Noakes, Esq., Highgate, N., 1*l.*
3d, Mr. R. Blogg, Gr. to J. P. Gassiot, Esq., Clapham Common, S., 15*s.*

CLASS 5.—CROCUSES, Collection of (Nurserymen).
1st, Messrs. W. Cutbush & Son, Highgate Nurseries, N., 15*s.*
2d, Mr. Wm. Paul, Waltham Cross, N., 10*s.*

CLASS 6.—CROCUSES, 12 pots (Amateurs).
1st, Mr. R. Blogg, Gr. to J. P. Gassiot, Esq., Clapham Common, S., 15*s.*

CLASS 7.—Collection of 18 FORCED FLOWERS, various (Nurserymen).
1st, Messrs. J. Veitch & Son, Exeter and Chelsea, 2*l.*
2d, Messrs. W. Cutbush & Son, Highgate Nurseries, N., 1*l.* 10*s.*

CLASS 8.—Collection of 12 FORCED FLOWERS, various (Amateurs).
No competition.

CLASS 9.—Collection of 12 AMARYLLIS, distinct kinds (Open).
No competition.

CLASS 10.—6 EPACRIS, not less than 3 colours (Open).
No competition.

CLASS 11.—4 GREENHOUSE ACACIAS, various (Open).
No competition.

CLASS 12.—6 GERANIUMS, forced, distinct kinds (Nurserymen).
No competition.

CLASS 13.—6 GERANIUMS, forced, 4 kinds (Amateurs).
No competition.

CLASS 14.—6 pots of LILIES of the VALLEY (Open).
1st, Messrs. J. Veitch & Sons, Royal Exotic Nurseries, Exeter and Chelsea, 1*l.*
2d, Mr. J. Salter, William Street, Hammersmith, W., 15*s.*

CLASS 15.—6 PRIMULAS, various colours (Open).
1st, Mr. G. Taylor, Gr. to C. A. Hanbury, Esq., East Barnet, 1*l.*
2d, Mr. J. Todman, Gr. to R. Hudson, Esq., Clapham Common, S., 15*s.*
3d, Messrs. Cutbush & Son, Highgate Nurseries, N., 10*s.*
Equal 3d, Mr. R. Blogg, Gr. to J. P. Gassiot, Esq., Clapham Common, S., 10*s.*

CLASS 16.—6 DOUBLE CHINESE PRIMROSES, 2 colours (Open).
2d, Messrs. W. Cutbush & Son, Highgate Nurseries, N., 15*s.*

CLASS 17.—MISCELLANEOUS COLLECTION of PLANTS in FLOWER.
Equal 1st, Messrs. W. Cutbush & Son, for Collection of 50 Hyacinths, 1*l.* 10*s.*
Equal 1st, Messrs. W. Cutbush & Son, for Collection of 50 pots of Tulips, 1*l.* 10*s.*
Equal 1st, Mr. Wm. Paul, for Collection of 50 pots of Hyacinths, 1*l.* 10*s.*
Equal 1st, Messrs. Veitch & Son, for Collection of Plants in Flower, 1*l.* 10*s.*
2d, Mr. Wm. Bull, for Collection of New and Rare Plants, 1*l.*
Equal 3d, Mr. Wm. Paul, for Box of Cut Camellias, 15*s.*
Equal 3d, Messrs. F. & A. Smith, for Collection of 6 Stove Plants, 15*s.*
Extra, Mr. J. Todman, for Collection of 3 Roses in pots, 10*s.*


DOBSON'S PRIZE CALCEOLARIA SEED is unequalled in the kingdom. Annual Sale exceeds 3000 packets. In sealed packets, 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.* each.

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE CINERARIA SEED.—Ten First Prizes awarded to our collection in the spring, 1862. In sealed packets, 1*s.*, 2*s.* 6*d.*, and 5*s.*

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE PRIMULA SINENSIS SEED. In sealed packets, 1*s.*, 2*s.* 6*d.*, and 5*s.*

J. DOBSON & SONS, Seedsmen, Isleworth.

**Select Double Hollyhocks.**

WILLIAM PERRY begs to announce that he has for SALE a good and healthy stock of Young Plants of the above that will flower well this season. If selection is left to W. P., the price per dozen will be 9*s.*, 12*s.*, 18*s.* 24*s.*, 30*s.*

Sawbridgeworth, Herts.

**Superb Double Hollyhocks.**

THIS BEING THE BEST TIME FOR PLANTING THEM OUT.

WILLIAM CHATER has an immense stock of healthy Plants.

CATALOGUE of PRICES to be had on application.

WILLIAM CHATER, Nurseries, Saffron Walden.

HARDY FLOWER SEEDS, of Showy Colours only, sent free by post or rail, by SUTTON AND SONS.

| | |
|---|---|
| A COLLECTION of the best 50 sorts known .. | 10*s.* 6*d.* |
| A COLLECTION of the best 36 sorts known .. | 7 6 |
| A COLLECTION of the best 24 sorts known .. | 5 0 |

SUTTON'S CATALOGUE of SEEDS will be sent post free.

SUTTON & SONS, Seed Growers, Reading, Berks.

**Excellence and Economy Combined.**

SUTTON'S UNEQUALLED COLLECTIONS of KITCHEN GARDEN and FLOWER, &c. SEEDS.

SUTTON'S COLLECTIONS of GARDEN SEEDS will be found the most economical, as well as the best in quality of seeds, as see List of Contents, which may be had gratis and post free.

Royal Berkshire Seed Establishment, Reading.

**Noble Specimen Camellia.**

JOHN SALTER has for SALE a splendid Specimen plant of CAMELLIA ELEGANS; it is between 7 and 8 feet high from the rim of the pot, of a pyramidal form, and covered with buds now coming into bloom. Price 10*l.*

Versailles Nursery, William Street, near Hammersmith Turnpike, W.

**Major's Half-Shrubby Calceolaria Seed for 1863.**

HENRY MAJOR is prepared to supply the above as usual, in packets at 2*s.* 6*d.* each, or 3 for 5*s.*, post free. The seed is very select, having been saved from large and strikingly beautiful flowers.

Postage stamps are requested in payment.

Knosthorpe, near Leeds, Yorks.

**Choice Seedling Calceolarias.**

CHARLES KIMBERLEY has a large stock of the above, all saved from impregnated flowers. The plants are strong, fit to pot into 5-inch pots. He begs to offer them at 4*s.* per dozen.

Stoke Nursery, near Coventry.

**The Flower of the Season.**

DOBSON'S Splendid NEW PELARGONIUM, QUEEN of WHITES, acknowledged by the whole of the Floricultural Press to be the very best white flower raised. Strong plants now ready, 31*s.* 6*d.* each. Figured in the February Number of the "Floral Magazine."

Woodlands Nursery, Isleworth, W.

**Choice Conifers, Tree and Shrub Seeds offered by CHARLWOOD AND CUMMINS.**

For particulars see Advertisement in the *Gardeners' Chronicle*, February 21, page 170.

CATALOGUE forwarded on application.

14, Tavistock Row, Covent Garden, London, W.C.

**New and Rare Plants for 1863.**

WILLIAM BULL, F.R.H.S, F.R.B.S., begs to intimate that his CATALOGUE of NEW SOFT-WOODED PLANTS is now ready, and will be forwarded Post free on application.

Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.


# The Gardeners' Chronicle.

*SATURDAY, FEBRUARY* 28, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| MONDAY, March 2—Entomological | .. .. .. | 7 P.M. |
| THURSDAY, — 5—Linnean .. | .. .. .. | 8 P.M. |

AMONG the many new inventions brought to notice by the late International Exhibition was a kind of GRAFTING WAX, named Lhomme-Lefort, after its discoverer. Grafting waxes are not in favour in this country, possibly owing to the dampness of our climate. It appears, however, from a report by Mr. ROBERT THOMPSON, that the one now alluded to is an exception.

This composition, Mr. THOMPSON informs us, has been tried in the Horticultural Society's Garden; and so far it has proved a better grafting wax than any hitherto known. It is easily and expeditiously applied, without any heating or other preparation. It only requires to be thinly laid on with a spatula or any thin flat piece of stick. Its great merit is that it continues pliable and elastic; and with respect to these properties it has a great advantage over all other grafting compositions that have been tried in the Society's Garden.

The Mastic Lhomme-Lefort was tried for Apple and Pear grafting last spring; and afterwards it was used for grafting Vines. In all cases it succeeded very well. It was tried comparatively with well-tempered grafting clay, the same variety of Apple or Pear being employed, and all other circumstances being as nearly as possible alike in both modes. The first examination was made about the middle of May; but owing to the backwardness of the season, grafts were not so far advanced in growth as they usually are at that period, and, consequently, any difference that might have arisen from using different substances could not be so fully apparent as it would when the plants were in a more advanced stage of growth. The result, however, of careful inspection at that time led to the conclusion that the grafts covered by the Mastic Lhomme-Lefort were progressing very favourably.

More recently it has been employed in grafting Vines under glass. In this case it is much better than grafting clay, because a crowd of rootlets are apt to be emitted into the latter.

The mastic is said to prevent the bleeding of the Vine; but it is not quite effective for that purpose. The sap of the Vine destroys the elastic principle of the composition; partially decomposing it. With this exception, the statements that accompany the boxes containing the mastic are borne out.

The Vine grafts to which the mastic was applied succeeded well, and made as good shoots as with the clay; except, indeed, in the case of some imported sorts, which were much dried up and scarcely alive when put on. For Vines and small work, such as many kinds of stove and greenhouse plants, where clay cannot be applied, the composition in question appears to be well adapted.

When it becomes necessary to loosen the tyings of the grafts to which the mastic is applied, it is found that the latter comes clean away without leaving portions sticking on the young bark. In this respect it has a great advantage over many grafting compositions that have been used. They generally require to be applied hot, and on cooling form a pitchy crust, too hard for the free expansion of the tender bark.

It is now generally understood that all substances employed for covering wounds of trees are only useful by protecting the young tissue from the weather. The union of graft and stock must be the result of vital action on organisable matter; and in trees this action is chiefly carried on immediately below the inner bark, which forms a very delicate natural covering, itself being protected by the rustic outer bark. When a wound is made, as must be the case in grafting, some covering is necessary to protect the newly generated tissue formed at the junction of stock and scion; and that is the best which most resembles the soft pliable nature of the inner bark. This itself has even been tried, but its natural moist state could not be maintained. The grafting wax Lhomme-Lefort is perhaps as near an imitation of the natural covering of tissue as can be obtained.

We have already stated that it is immediately below the inner bark that organisation chiefly takes place; and as the grafting season is at hand, this important fact should be kept in mind, so as to take care in grafting that the *inner* bark of stock and scion are made to coincide with each other. The woods of these, and likewise their outer barks, may be nicely joined, but it is only at the junction of the respective inner barks that a vital union is formed: the forming tissues meeting, mixing, and growing together whilst in a semi-fluid state.

—— A CORRESPONDENT of the Phytologist states that there is at Buxton a man who trades in botanical rarities, supplying visitors with wild flowers. The consequence is what might be expected: the *rariores* become *rarissimæ*, and the latter in process of time disappear like snow on the mountains in summer time. This practice of the wholesale spoliation of the rarer plants of our Flora cannot be too strongly deprecated. The blame, however, attaches quite as much to those who buy or receive as to those who sell or give; perhaps even more so. It is stated, moreover, in the same publication, that at a well-known sale room in London the writer had himself purchased amongst a moderate-sized bundle of dried plants above a hundred examples of one species which is confined to the chalk of the south of England. What selfish greed must have had possession of the gatherer!

—— We must repeat our recommendation, that flower gardeners—amateurs especially, who may not in all cases be perfectly informed on the subject—should not be duped into buying the interminable collections of GERMAN FLOWER SEEDS, sent every year across the water, bearing glowing descriptions which are seldom realised. It is not enough for us merely to avoid, as a correspondent would (see pp. 150, 174), "the many repetitions of similar articles frequently offered under different names." That of course we would do, and we would advise every one interested in gardening to do so likewise. But we would also decline to receive as distinct and brilliant varieties the 183 sorts of Asters and 194 sorts of Stocks, which we are asked to buy of our continental cousins; and if we can further persuade the public to decline purchasing them (and considering the rubbish—we repeat the word—of which these endless collections mainly consist, we shall be perfectly justified in doing so), we may by-and-by get the seed-growers to provide something which may be better worth purchasing. We do not want, and the public does not want, to be compelled to pay for a dozen or two dozen "varieties" of Stocks and Asters, three-fourths at least of which will be destroyed as soon as their ugliness becomes

apparent, in order to get the three or four bright and cheerful looking sorts that are really wanted. We do not grant, as the Correspondent whose letter we printed last week at p. 174, seems to assume—we do not grant that six or seven varieties of Aster may be identified as distinct, and that we are to have a string of colours under each of these types, counting up to some four or five dozen in all. Even this number is moderate compared with that which the seed lists maintain; but we hold to our opinion and to our statement, that no ordinary garden requires so many as six or seven classes of Asters, even if they were tolerably distinct in character; and that beyond the best form of ligulate-flowered, the best form of quilled-flowered, and what is called the dwarf Chrysanthemum-flowered, which really has a well-marked difference of habit, the public generally has no requirement in the shape of Asters. So of Stocks: if the New Giant Pyramidal be immeasurably the finest of the annual series, as some maintain it is, the public does not want the remaining classes or breeds of annual Stock at all. This is the point on which we and our Correspondent differ *in toto*. The unwary amateur, who sees the long list of so-called distinct classes, each promising to supply him with so many bright and different colours, is tempted to buy and try them, and when flowering time comes he is disgusted to find that the differences in the groups themselves are in many cases next to imaginary, while the bright colours are many of them the veriest drabs. Now, we say that such an one would be thankful if some friendly hand would blot out from the seed lists and consign to the flames every vestige of all the inferior classes, and would not object moreover that all the dingy hues comprised in even the superior classes should share the same fate.

We are not singular in our views on this subject. A contemporary, following up our previous remarks, writes:—"It is a disgrace to the English seed trade that they have not struck a blow long since at the discreditable system the German seedsmen have of palming upon us pretended varieties, in which it is not easy to detect a difference, and many of which are utterly worthless. So long as the English seed trade passively submits to be gulled, so long will the foreign seedsmen provide them with these 'fat collections.'"

—— Contrivances for distributing water with facility must be regarded as belonging to the very essentials of gardening; and of these the watering-hose and watering-pot for soaking the roots of plants are not more important than the engine and the syringe for cleansing and refreshing their foliage. Whatever, in fact, tends to facilitate the application of this important element, facilitates the gardener's operations, and is to the extent of its adaptability to his purposes, a boon to him in carrying on his daily labours. One of these useful contrivances is the HYDROPULT of Mr. BUTTON, of which both a description and illustration have appeared in our advertising columns. Another is the American portable engine of Messrs. WARNER & SONS, also advertised, with an illustration. We find from experience of one of them in our possession, that these Hydropults work well, and as they are extremely simple and convenient, they deserve to be recommended as useful portable garden engines. They are in every way suitable for washing and syringing plants of all kinds, whether indoors or out; and as they are capable of throwing "seven or eight gallons of water per minute 50 feet when worked by the power of one man," it will be evident that they have more power, and may be used with less personal toil than the syringe; whilst they are not only less expensive than an ordinary garden engine, but have the further advantage of being less bulky, and available in many situations where an engine could not be readily introduced. All Londoners and other town residents, who care for their little gardens and greenhouses, should therefore avail themselves of such engines, and with them wage constant warfare against the army of blacks, which legion after legion come up to attack the plants which have survived the sapping and mining of the sewer contractors, and the evil influences of the other enemies of their well-being.

The machines are put forward as fire annihilators, and to the extent of their power would be available at the commencement of a conflagration.

## PLANTS FOR WINTER AND EARLY SPRING DECORATION.

AT the Anniversary Meeting of the Royal Horticultural Society which was held a few days ago (see p. 150), a discussion took place regarding the dull and dreary appearance which the Garden presented during the months of winter and spring. It unfortunately happens that these winter and spring months—or rather, I ought to say, from Feb. to June—are those when the majority of the Fellows of the Society are in London, and when they visit their garden. It is of little consequence to them to know that during the late summer and autumn months the Garden is gay with flowers of every hue (and very gay it was last autumn), for by this time the majority of them have left London for places where Roses and Geraniums grow and bloom much better than they can ever be expected to do at South Kensington. Their wish to have something to look at during the London season is therefore not at all unreasonable.

In the open ground during winter the garden must necessarily present a somewhat barren aspect in so far as flowers are concerned. But there can be no difficulty in keeping the conservatory, or other greenhouses which may be erected, gay from Christmas, until a display can be made in the ground out of doors. Most persons acquainted with such subjects will readily agree on this point, and add that it is simply a question of expense.

The object I have in view is to point out a class of plants, many of them introduced to England by the Society itself, which bloom naturally during the early part of the year, and which, at very little cost, would afford a remedy for the want which is complained of. It is a curious fact that almost all the ornamental flowering plants of Northern China produce their blossoms either very early or very late in the year. During the summer months, when our gardens in England are gay with Geraniums, Petunias, Verbenas, &c., the fierce heat and dry air of Northern China are not favourable for the development of delicate floral organs. Nature therefore chooses the beautiful spring and autumn of those regions as her flowering time, while the summer is employed to ripen the fruit, and wood, and leaves. In this way a class of plants is offered to us to be used for garden decoration at a time when few other things are in bloom. Every one knows how easily Camellias, Azaleas, Primroses, and other greenhouse Chinese plants are induced to bloom in the early part of the season in this country.

In addition to these there have been introduced to England, within the last 20 years, a race of Chinese plants, perfectly hardy in our climate, and easily induced to put forth their blossoms as early as January and February. The latter are admirably suited to supply the want so much felt by the Fellows of the Royal Horticultural Society. What, for example, can be more beautiful than masses of the snow-white flowers of double Spiræa prunifolia? Then there are the double-blossomed Peaches, trees nearly as hardy as the common Almond, producing red and white and striped flowers as large as Roses; and in addition to these may be named Forsythia viridissima, Prunus triloba, Deutzias, and Jasminum nudiflorum. The graceful Dielytra spectabilis might also do good service, either on shelves, or in hanging baskets, and be as attractive as it is at the Crystal Palace at Sydenham. Many other things might be named which could be used with good results, such, for example, as the Acacias and other Australian plants which readily produce their flowers in winter and spring; but those above mentioned are specially recommended, as they could be procured in quantity and used in masses at a trifling expense. Of course Hyacinths and other well-known flowers, together with plants with ornamental fruit, could be added, but as these are used freely already, I need not direct attention to them further than to name the Chinese Skimmia japonica as a plant very ornamental in winter, owing to its being covered with bright red berries.

Jasminum nudiflorum produces its flowers in the open air during the depth of winter, and might be used freely on the terrace walls. A plant which will cover a wall with its pretty yellow blossoms during the months of January and February, and make it look like a bank of wild Primroses, is a valuable acquisition, and Jasminum nudiflorum will do this.

These early flowering plants which I have recommended for the decoration of the conservatories in winter and spring might add greatly to the ornament of the Garden out of doors during spring and early summer; and I think if Mr. Eyles would turn his attention to the varieties of the gorgeous Tree Pæonies he would show how ornamental they are, and add another feature to the attractions of the Garden in the month of May. *R. Fortune.*

## ROSES.—No. I.

BY MR. WILLIAM PAUL, F.R.H.S, PAUL'S NURSERIES, WALTHAM CROSS.

SUMMER ROSES.—Can we dispense with Summer Roses? This is a question which we think admits of an emphatic "No." The autumnals are undoubtedly invaluable—among them the Hybrid Perpetuals furnish us with flowers of perfect form and exquisite colours, and yield a succession of bloom that prolongs the gay season of the garden to the very verge of winter; the Bourbon, Chinese, and Tea-scented flower still more abundantly in the later months of the year, and are consequently even more valuable in those gardens which are visited by their proprietors in the autumnal months only; but for gorgeousness of effect none of these equal the summer Roses. The flowers, which with the autumnals are spread over a lengthened period, are, with the former, concentrated on a point of time; and if they were counted, flower for flower, throughout the season, we doubt whether the balance would not remain in favour of summer Roses. It would appear then to be a matter of choice whether we receive the boon at once or by instalments; and certain it is that the garden is stripped of its gayest scenes and some of its brightest ornaments, if we altogether exclude the Roses of June. Such is my conviction, and following it I shall venture to enumerate the principal summer groups, describing a few of the most desirable varieties from each.

The BOURSAULT contains one variety, Amadis, which must not be lost sight of. It is one of the hardiest, thriving alike in shade and sunshine, and growing in the least favourable soils and situations. It is most valuable as a pillar and climbing Rose, producing myriads of crimson purple flowers on shoots utterly devoid of thorns. It requires very little pruning.

The SCOTCH Rose is valuable because it blooms so abundantly, and often a month earlier than other summer Roses. Planted singly it forms the prettiest dwarf bushes imaginable; it also makes an excellent low hedge. The flowers are small and globular, principally white, red, blush and purple—but there are intermediate shades—and very sweet; they resemble each other too closely to need describing. The plant will flourish on the shallowest of soils, and may be pruned closely every winter.

The DAMASK, formerly an important group, may now be brought down to three or four varieties. La Ville de Bruxelles is a full-sized Rose of free growth, with beautiful light green foliage; the flowers are salmon-rose margined with blush. Leda, or Painted Damask, is in its best form worthy of a place in every garden; the flowers are blush edged with lake, exceedingly pretty and distinct. Where care is not taken to preserve the marked form it is apt to degenerate and lose the lake margin, when, as a wholly white flower, it is comparatively worthless. Madame Hardy is still the best of white summer Roses, and cannot be too highly praised. For form, purity of colour, hardihood, and freedom of growth and flowering, it is still unrivalled. It makes a beautiful bed on a lawn, and as such, where quantity of flowers is required, should not be too closely pruned. Madame Soetmans is a creamy white, sometimes shaded with buff; a large full flower, of excellent properties, and in its best state quite a show Rose. All these require moderately close pruning, and will grow in any common garden soil.

The PROVENCE Rose includes the Cabbage, the Crested, and the White, none of which can yet be spared. The first and last are too well known to require description; the Crested is similar to the Cabbage, except that the sepals are beautifully fringed with moss. The globular form is in perfection here, and the fragrance of these Roses is proverbial. A subsection of this group, known as the MINIATURE PROVENCE or POMPON, is also highly interesting on account of its dwarf growth and tiny flowers. These delight most in a rich soil, and should be subjected to close pruning.

The MOSS ROSE will always rank high where grace and beauty are fairly appreciated. Baronne de Wassenaer is a vigorous growing sort, producing clusters of bright red flowers, of good size and globular form; it must not be pruned much. Captain Ingram is distinct and handsome, the flowers are dark velvety purple, almost black. Celina, now an old favourite, is not yet surpassed in its way; the growth is compact, the flowers are of the richest crimson shaded with purple, well mossed and produced in gorgeous abundance. This makes an excellent bed, and should be pruned closely. The Old or Common Red Moss remains a model of beauty; the hybridiser has varied this group exceedingly, but never yet produced any sort to surpass the original. Indeed the best varieties of true Moss Roses have been derived from sports rather than from seed. Clemence Beaugrand is a beautiful bright pink Rose with large double flowers; the growth is vigorous. Comtesse Murinais is a large double almost white Rose, not equal to the White Bath in form or purity, but it grows freely everywhere, which the latter does not. Gloire des Mousseuses is of first-rate excellence; the flowers are blush, very large, full, less globular than the original sort, but well mossed. Gracilis or Prolific resembles the old variety very closely, but is of dwarfer growth, and flowers more profusely; it forms a beautiful bed of about the same rate of growth as Celina. Marie de Blois produces rosy lilac flowers of good shape and size, and is above the average in merit. Nuits de Young bears velvety purple flowers, very dark and very double. Princess Alice, a variety raised from seed by me some 10 or 12 years since, is, I find, still quoted and commended in four out of five of the Rose catalogues that I have looked into; the flowers are blush with pink centres, something in the way of the Maiden's Blush; the buds are well mossed. Princess Royal, for form and colour, is one of the gems of this group; the flowers are salmon-flesh, not over large; the growth is hardly vigorous, but both growth and flowers are improved by close pruning. Purpurea rubra is a good free hardy sort with large full purple flowers. Reine Blanche is a large full pure white Rose of perfect outline, but rather flat; it grows as freely as Madame Hardy, and has some points of resemblance to that variety. White Bath, the best of the white Moss Roses where it thrives well, is unfortunately capricious, which detracts much from its value. Every garden should have a bed or beds of Moss Roses, either on their own roots or budded close to the ground. Manure highly, prune closely, and they will yield a rich harvest of the sweetest and most beautiful flowers.

*(To be continued).*

## DIES ORCHIDIANÆ.—No. V.

*(Continued from p. 125.)*

A DRIVE of less than half an hour brought me from the nursery of Messrs. Low, at Clapton, to that of Mr. Williams, in the Seven Sisters Road, Holloway. The Orchids here were looking well, a circumstance that

need occasion no surprise when it is remembered that they were under the immediate protection of the author of "The Orchid Grower's Manual." Now that I have mentioned this unobtrusive little work I cannot avoid bearing my testimony to its rare excellence. Nothing could be more trustworthy, more impartial, or, up to the eve of its publication, more complete. Looking at his subject from a purely popular point of view, Mr. Williams selects from the almost endless list of species that are (or were) in our stoves some two or three hundred of the most beautiful kinds, gives full instructions for their cultivation, and altogether ignores the rest. This he was in a measure compelled to do, since to notice in detail a host of species some thousand strong, would have swelled his little volume to an unreasonable bulk; but it may still be a question whether, when a new edition is called for, it might not be desirable just to tabulate—as is done in Loudon's *Hortus Britannicus*—all the kinds that have ever found their way into European collections, distinguishing the varieties and appending the synonymes. All this might be accomplished in less than 20 additional pages, while the gain to the general—I mean the non-scientific—reader would be incalculable. Indeed, unless some such "help" as this be speedily provided, I dread to think of the confusion in nomenclature that must soon set in, now that the tide of Orchido-mania is again rising rapidly. It is vain to expect the appearance of another such comprehensive work as that (Loudon's) already referred to, for the labour and expense required for its production would be so great as to leave no chance of remuneration to the publisher, even if he were none other than Mr. Bohn himself! All therefore that can be done is to take advantage of works dedicated like that of Mr. Williams to a particular tribe, and introduce into them complete lists of all the plants in cultivation—be their attractions what they may—belonging to such tribe.

There is one marked difference observable between the establishment of the Messrs. Low and that of Mr. Williams; the former trust almost entirely to their extensive importations for the supply of their Orchid-market, while the latter mainly relies upon careful and skilful propagation. Either system has its attractions. You may go to Mr. Williams if you want a particular variety of a particular species, but must repair to Clapton if you have confidence in your own judgment, and wish to speculate in improved plants. But although not so extensive an importer as some others in the trade, Mr. Williams was fortunate in being the first to introduce the beauteous Phalænopsis Schilleriana into the gardens of this country, where it has already established itself as a popular favourite. And no wonder, for its exquisitely mottled foliage, even if its flowers were worthless, would now-a-days ensure it a place in every collection. Such indeed is the present *furore* for variegated plants, that a horticultural Jacques might be tempted to exclaim—

"Motley's the only wear."

And it is really curious to note how the maxim of the political economists, that "demand creates supply," applies as strictly to the domains of Flora as to the empire of Plutus. For no sooner had the prevailing epidemic shown itself than plants of all orders and degrees, including even Ferns and Orchids, began to make their appearance, with the sure passport to popularity that is to be found in blotched or brindled leaves!

The Anæctochili, that look as if they had been embroidered with gold and silver thread, are a living host in themselves—a host, by the way, constantly reinforced by fresh discoveries. A singular Maxillaria (?), with white spots upon its leaves, has been imported by Messrs. Whitley & Osborne, and latest of all comes Cypripedium Hookeræ (Bot. Mag. for February), the foliage of which is justly compared by Reichenbach to that of Phalænopsis Schilleriana itself! Of the last mentioned plant the best specimen that I had ever seen was growing in Mr. Williams's Orchid house, but fine as it was it would seem to fall far short of the ample dimensions occasionally attained, according to M. Lemaire, who devotes several pages of the last number of the "Illustration Horticole" to the history and description of this remarkable novelty. In the number of flowers, as well as in the size of the leaves, cultivators, it would seem, have still a point to gain; for while native specimens have borne a hundred flowers on a spike, twenty-nine is the largest number ever obtained in cultivation, and this only in the collection of Madame Pescatore. In England 27 is the highest figure reached, and no one but Mr. Day has achieved even so much as this. Nothing indeed at present appears to be settled as to the best mode of cultivating the whole genus Phalænopsis, though, paradoxical as it may sound, all the species are justly reckoned among the easiest of Orchids to grow, and the freest to flower! Mr. M'Morland suspends them near the light, Mr. Day keeps them in the dampest and darkest corners, while M. Lemaire quotes the authority of a traveller and eye witness (M. Porte), to the effect that P. Schilleriana is never met with in shady or moist situations, but that it affects the trunks rather than the branches of trees in forests where dryness prevails for a considerable portion of the year, and at an elevation of about 1000 feet above the sea level.

While speaking of what travellers have to say about these plants, I am reminded that Mr. Williams, in the last edition of his "Manual" reports the alleged discovery of a "scarlet (query orange red) Phalænopsis" somewhere in the Indian Archipelago, and I sincerely hope the report may speedily be corroborated by the introduction of the plant. Nor do I see any inherent improbability in the case, not more so at least than would have been felt if—prior to our acquaintance with Aër. curvifolium or miniatum—we had heard of the discovery of a "scarlet" Aerides.*

In Mr. Williams's collection I also noticed with great interest a noble specimen of that truly remarkable plant, Vanda gigantea. Its habit is most stately, and in this respect at all events it may be accounted the "successful rival of the matchless three," V. Lowii, V. Batemanni, and Angræcum eburneum to wit. Its flowers, too, according to the report of its discoverer (the late lamented Griffith) are worthy of its habit, being (so he said) the only one he had seen in India capable of vying with the South American Vandæ. In this expression he is taxed by Dr. Lindley with "exaggeration," the Professor meaning no doubt to assert the claims of other Indian Orchids to contest the prize of beauty with their transatlantic cousins, and with no purpose whatever of disparaging the charms of V. gigantea. But here Dr. Lindley is taken to task in his turn by M. Lemaire, who seems to regard the remarks I have noticed as a direct affront upon the redoubtable Vanda (of which he lately gave in the "Illustration" an excellent figure taken from specimens that had flowered finely in Belgium), and like a true knight he maintains the attractions of his favourite with considerable vivacity, and evidently thinks there can be no "exaggeration" in the case.

In corroboration of M. Lemaire's views I was glad to hear that the plant had lately flowered in great perfection, with I know not how many spikes, in some suburban collection. This was doubly satisfactory as proving the beauty of the plant, and as proving too that when well established it readily brought its spikes to perfection; many of these in the more recently imported individuals having damped off.

And here I cannot forbear to remark how the genus Vanda is beginning to dominate over its fellows. No other can boast of so many first-rate plants. The list of these now comprises V. suavis, V. Batemanni, V. insignis, V. cœrulea, V. Lowii, V. gigantea, V. Cathcarti, V. violacea, and V. teres, to which the Bishop of Winchester has lately added V. densiflora, Mr. Linden V. Giuberti (a beautiful thing), and Mr. Low V. Hookeriana. Flowers of the last are now before me; they rival in size those of V. teres (which has a somewhat similar habit), but are perfectly distinct. The lip is the largest in the genus. *Serapias.*

## Home Correspondence.

*Benthamia fragifera.*—Your correspondent in Wales, who speaks of the size and general appearance of some Benthamias where he is, will be glad to learn that there are specimens of this plant far better than those which he mentions. Some few years ago, when I was living in Cornwall, there were a good many Benthamias growing in the grounds and plantations. Several of these were standing out in the shape of single specimens; of these some had clear stems several feet in height without a branch, looking just as if trimmed up, giving them the character and appearance of a tree. Many measured from 20 to 25 feet high, and one which grew in a sheltered place was over 30 feet in height, but it was drawn up, and not so handsome as those that stood in more open situations. I have seen these standard Benthamias literally covered with flowers, not only the side next the sun but all round. The colour of the blossoms generally is a dull creamy white, not very effective viewed from any position, but certainly seen to best advantage against green shrubs such as Hollies or Portugal Laurels. Almost all Cornish residences possess good specimens of Benthamia. About seven or eight years ago I collected in one season nearly 2 bushels of its fruit, which blackbirds and thrushes are very apt to destroy, even before it is ripe. It has a dull tawny aspect, which perhaps is owing to its ripening at the dullest season of the year, when the sun has little power. To the taste the fruit is very insipid. We never tried it as a preserve. *G. Dawson, Isle of Wight.*

*Aucuba japonica Fruiting in Ireland.*—I had always understood that the common spotted Aucuba was a plant which bore male and female blossoms on different trees, and that the reason it did not bear berries with us was because we had only male plants, as the female never had been imported, and in confirmation of this view I find that the recent importers of Chinese plants are advertising the "true female Aucuba," a plant of which I have already purchased. I mentioned this to my gardeners on the arrival of the true female, and thus their attention was called to the Aucuba. To my surprise yesterday one of the men took me to a large Aucuba growing in shade, and showed me a bunch of four scarlet berries, which he said were the second he had found, as he had pulled one bunch to show it to the head gardener. The berries are bright scarlet. I am sure that their appearance is unusual, as I am an observant person, and though always about amongst shrubs I never saw berries on an Aucuba before. *R. W. Hall Dare, Newtownbarry, Ireland, Feb.* 17.——A few days ago I noticed that red berries were forming on two plants of Aucuba japonica. One of the bushes which are fruiting is 7, and the other 8 feet high, and they are growing in a shrubbery here. Having never observed fruit on the Aucuba before, I apprehend that its occurrence now is an unusual circumstance, attributable, perhaps, to the excessive mildness of the present winter. *Sion Lodge, Waterford, Feb.* 20.

*Lycopodium denticulatum.*—Some of your Correspondents have asserted that this will succeed out of doors. In confirmation of that fact, I may mention that I have seen this Lycopod growing out of doors for seven or eight years, and covering some yards of ground; this was along the side of a walk amongst large trees and shrubs, upon a slope gently facing the south, and where the Grass was kept pretty short with the scythe. There this Lycopod seemed quite at home. In trying plants of doubtful hardihood out of doors, it is best to place them where the water at all seasons can pass freely away from them, and to cover them over in severe weather with some open material, such as leaves or a piece of an old mat. *G. Dawson.* [But was it not Lycopodium helveticum?]

*Strawberries.*—Allow me to ask whether it is in the power of any grower of the British Queen to assign a cause or suggest a remedy for the occasional utter failure of that valuable plant during some certain winter seasons. I have grown the British Queen with great care and general success for 12 years. I cultivate the land for its reception nearly 3 feet in depth, introducing a variety of new earths and rich manure, and I am generally rewarded with abundant and magnificent fruit. I never let the plant stand more than two seasons; I mulch the bed in the autumn, taking care to disturb the surface with the fork as little as possible—and now for the second time, only during two winters both remarkable for their extraordinary mildness, almost the whole of my strongly established second year's plants are dying. *Z.*

*Timber Clearing.*—In your impression of Jan. 31 (see p. 102) you invite correspondents to furnish information concerning the removing of large stumps of trees. In looking over an American paper the other day the following novel plan came under my notice, which may be interesting. The writer says that he removed a large stump from his house in the following manner:—"In the fall with an inch augur he bored a hole in the centre of the stump, 10 inches deep, and into it put half a pound of oil of vitriol, and corked the hole up tight. In the spring the whole stump and root, extending through all their ramifications, were so rotten that they were easily eradicated." This seems to be a cheap and easy way of removing stumps. *Andrew Pettigrew, Gardener to Charles Meeking, Esq., Richings Park, Colnbrook, Bucks.*

*Winter-blooming Orchids.*—One of your Correspondents lately wished to know the names of Orchids blooming in the winter months. I have the following species now in flower:—viz. Phalænopsis amabilis, grandiflora, rosea, Schilleriana with 76 flowers expanded, and a new unnamed species; Dendrobium nobile, Pierardi, and Paxtoni; Ansellia africana; Cymbidium eburneum; Cypripedium villosum, hirsutissimum, and barbatum; Cœlogyne cristata, flaccida, and media; Saccolabium violaceum; Odontoglossum pulchellum; Oncidium Cavendishi, and bicallosum; Vanda insignis, tricolor, and suavis; Lælia superbiens, with 14 flowers on a spike, and anceps; Cattleya Warscewiczii delicata; Zygopetalum Mackayi; Lycaste Skinneri, numerous varieties; besides several others. *Robert Warner, Broomfield.*

*Fruit Catalogue.*—When shall we get the Horticultural Society's Catalogue of Fruits? Commenced last September in the 'Proceedings,' and continued in driblets, which will make it very unhandy to use, it has now reached about the middle of letter E in the list of Apples! We shall, some of us, be grey-headed by the time we learn all about Pears or Strawberries from this source, if it continues to drag along at the same rate. Surely, so useful and important a thing as this list should be, is worth getting out with a little more alacrity; and as one of the most useful kinds of information the Society is able to supply to its Fellows, the latter have some claim to be considered in its issue. I perceive nothing is said about it in the annual report recently printed in your columns, so that I suppose it has not been thought so important a subject at head quarters as the "polychrome" beds at Kensington. *Phi.*

*Dipsads.*—Is the Teazel referred to by Thomson in 'Sophonisba,' where he writes of the Prince of Numidia being driven from his throne, to "thirst with Dipsads in the burning sand?" The leaves of the Teazel are, as is well known, united by their bases around the stem to form a hollow in which water collects; and the plant is hence sometimes called Venus's Bath. Or does the poet merely use the word as a version of the name *dipsakos*, or thirsty, which suited his story? Some of your learned readers may be able to say. *X. X.*

*Lean-to Orchard Houses.*—I have lately had so many friends apply to me on the feasibility of building lean-to orchard houses against boundary walls which could not be perforated, so as to give ventilation in the

* What can the "scarlet air-plant" be that is noticed in last week's Number as having been met with near Lake Ngami? Was it an Orchid at all? We know that South Africa produces scarlet terrestrial Orchids—*e. g.* Disa grandiflora—but these are not "air plants," nor would they be found seated on the side of an inaccessible rock.

back wall at the same height as at front, that I am induced, at the risk of recapitulation (for it is an oft-repeated theme), to beg for a small space in your columns to say that a lean-to house for the culture of orchard house trees in pots, or planted in the borders either as dwarf bushes or pyramids, must, to give the least chance of success, have a continuous shutter 1 foot wide in front, the lower part of the opening not more than 20 inches or 2 feet from the surface of the soil, and in the back wall openings 3 feet long and 1 foot, or still better, 18 inches wide and 3 feet apart, at exactly the same level as the opening in front, thus admitting two currents of air, which in calm, hot weather will meet in the centre of the house, if it be not more than 12 or 14 feet wide—the usual width. Ventilation in the front and at the top of the roof, however abundant, is of no avail, for it seems, as far as I have observed, that Peach and Nectarine trees more particularly must have fresh air admitted to the under surface of their leaves, where, to use a common but expressive phrase, the lungs, or to employ the proper term, stomata, are placed in such abundance that, to quote Mr. Darwin, "in some leaves there are, on a square inch, 60,000 on the lower surface to 3000 on the upper." To my taking advantage of this peculiarity in the structure of leaves, I owe my invariable success in cultivating Peach and Nectarine trees under glass, for all my houses have low ventilation, the span-roofed houses a continuous shutter, either glazed or of wood, on each side, and the lean-to houses ventilators front and back as above described, with no roof ventilation, but merely an aperture at each end under the gablel to allow the heated air to escape. Peaches and Nectarines may however be cultivated with success in lean-to houses against boundary walls, (but not as bushes or pyramids) if such houses are freely ventilated in front and equally so at the top of the sloping roof by a glazed shutter on hinges. The trees may be trained to trellises under the glass without the least fear of failure, for the cool air entering at the front, as it becomes rarified will ascend and make its way upwards, thus aërating the under surface of the leaves and giving health to the trees, which unless they receive fresh air after this manner become blighted, infested with red spider, and useless. To the lack of this very simple method of ventilation, at a low level, I impute many failures in orchard-house culture; builders either do not know or do not care for the wants of trees, so that they are allowed to build a most substantial house, and many gardeners from want of experience try to cultivate trees in houses that are certain to bring on disease and infertility. If trees in houses had the gift of speech, what a crowd of words would be heard every fine morning in spring and summer about 8 o'clock, and "give us air" from every tree would fill the house. My Apricot trees are now coming into full bloom, and while this mild weather lasts they will have air night and day, and if the same kind of weather is with us while the Peaches and Nectarines are in bloom, they will have the same treatment, the houses being closed only when frost is severe. In an orchard house a temperature of 26° is less injurious than close stagnant air while fruit trees are blossoming. *T. R.*

*Small Birds.*—In the agricultural portion of your Paper of Saturday last, the question is asked whether sparrows do or do not feed upon insects. During a portion of the year they most certainly do; in the first place their young, like those of all the Fringillidæ, are principally fed with caterpillars, and the parent birds destroy immense numbers of the larvæ of the Winter Moth (Cheimatobia brumata), which are so destructive to Roses, &c. Sparrows are also exceedingly fond of the common cockchafer (Melolontha vulgaris), and are very useful in checking the increase of this species, the larvæ of which sometimes do much damage in meadows by eating the roots of the Grass. In winter sparrows often seriously injure Plum and Currant trees by feeding upon the buds, and they will sometimes eat those of the Gooseberry, but the bullfinch is more partial to the buds of this tree than the sparrow. *Henry Doubleday, Epping, Feb.* 24.

*Figs.*—In your Paper of the 13th of April, 1844, appeared a most excellent article on Fig culture by Mr. Markham, but from what he says of the Nerii, it is evident that he cultivated, under that name, the White Marseilles. It always appeared to me singular how he could have fallen into such a mistake; but from an observation made by Messrs. Lee, of Hammersmith, in their catalogue, it seems that the mistake is by no means uncommon. The Nerii is no doubt the White Ischia. *G. S.*

*Pears.*—I can fully endorse the favourable opinion which one of your Correspondents, a few weeks ago, gave of the Bergamotte d'Esperen. This year it was most excellent, ripening during January and February, and any Pear which can be eaten after Winter Nelis, and yet be thought good, must, indeed, have merit. In other years it has not been so satisfactory. *G. S.*

## Societies.

Royal Horticultural: *Feb.* 20 (*Election of Fellows*).—S. H. Godson, Esq., in the chair. The following candidates were elected, viz:—

A. Bayley, Esq.; A. D. Berrington, Esq.; Mr. W. T. Catleugh, Mrs. Edwards, W. Emmens, Esq.; A. Faulkner, Esq.; W. H. Gatliffe, Esq; Major-General Hon. Chas. Grey, Mrs. T. Harrison, Mrs. Innes, Miss Anna A. Johnston, F. H. Gore Langton, Esq.; Mrs. Lewis, Miss Lewis, G. Maw, Esq., F.L.S; Mrs. Ross, Miss Saumarez, C. Seely, Esq., M.P.; J. W. Shackel, Esq.; Dr. Spence, W. Whyte, Esq.; Major-General Wortham, as Ordinary Fellows; and as Corresponding Members: S. Shelman Cowper, Esq., Queensland, New South Wales; Dr. Hurlbert, Hamilton, Upper Canada; J. G. Knight, Esq, Victoria, Australia; and the Hon. Mr. Justice Wilmot, Frederickton, New Brunswick.

*Feb.* 25 (*First Spring Show*).—This was held in the South-east Arcade, which joins the Great International Exhibition building on the one side, and is glazed on the other. The display of Spring-flowering Bulbs was most satisfactory, and miscellaneous and other plants were produced in sufficient abundance to make up a highly interesting exhibition.

Of Hyacinths many excellent collections were contributed. In the Nurserymen's class of large groups fine plants came from Mr. Wm. Paul, who showed among *Reds*, robust well-flowered examples of Queen of Hyacinths, Milton, Von Schiller, Lady Sale, Macaulay, Pelissier, Victoria Alexandrina, Madame Hodgson, Howard, and Lina. Of *Blues*, the collection contained Charles Dickens, Laurens Koster, an old but still excellent variety; William I., Pieneman, a sort with unusually large bells; Von Humboldt, Baron von Tuyll, Couronne de Celle, Prince of Saxe Weimar, Leonidas, Bleu Mourant, Grand Lilas, and last but not least Argus, a deep blue with a white eye. Of *Plum* or *Mauve* coloured kinds the best was Haydn. *Blacks*, or nearly so, were represented by La Nuit. Among *White* varieties the most conspicuous were Madame Van der Hoop, Mont Blanc, Prince of Waterloo, Alba maxima, La Tour d'Auvergne, Mirandoline, and Queen of the Netherlands. *Blush* or *Delicate Pinks* consisted of Gigantea, Tubiflora, a large-flowered kind; and Lord Wellington. *Buffs* were confined to Koning Van Holland. From Messrs. Cutbush, who furnished another collection, came among *Blues* Sir Colin Campbell, Van Speyk, Orondates, Grand Lilas, Charles Dickens, Baron Von Tuyll, Mimosa, Regulus, Garrick, and charming plants of Argus. Among *Reds* the most conspicuous were Macaulay, of which a very fine specimen was shown; Von Schiller, Mrs. Beecher Stowe, Solfaterre, Queen of Hyacinths, Susannah Maria, Howard, Madame Hodgson, a sort prettily striped with white, as were also Queen Victoria, Le Prophète, Buccaneer, Duchess of Richmond and Princess Charlotte. Of *Buffs striped with white* the best was Duc de Malakoff, a truly beautiful sort, and shown in good condition. Among *Whites* the best were Orondates, Mont Blanc, Miss Bardett Coutts, and Grandeur à Merveille. *Blushes* were confined to Duke of Wellington.

Collections of 12 Hyacinths came from Messrs. Cutbush and Mr. Wm. Paul. In addition to the sorts just named, these groups contained examples of General Havelock, blue; Snowball, white; Princess Clothilde, dark red; and Ida, the last one of the best of yellows.

The winners of the prizes offered by Messrs. Cutbush to amateurs for the best 12 varieties of Hyacinths were Mr. Carr, Highgate, and Mr. Taylor, East Barnet. Among sorts shown by these growers were La Dame du Lac, Alba Maxima, Grand Lilas, Charles Dickens, Madame Hodgson, Von Schiller, Baron Von Tuyll, Grandeur à Merveille, Mont Blanc, Princess Clothilde, Howard, Garrick, Macaulay, Couronne de Celle, and Van Speyk. Mr. Young of Highgate, who was likewise one of the competitors for this prize, sent a well grown collection, in which were also one or two extremely well flowered kinds.

Groups of Tulips were numerous, and made a good display. They were furnished by Messrs. Cutbush, Mr. Wm. Paul, Mr. Carr, Mr. Blogg and Mr. Young. Among the kinds the most effective were Vermilion Brilliant, red-striped and white Pottebakker, Royal Standard, Belle Alliance; Duc de Holstein, Tournesol, and Bruid Van Haarlem.

Of Chinese Primulas several extremely well-grown collections were shown, consisting chiefly of single white and pink sorts. These came from Messrs. Taylor, Todman, Cutbush, and Blogg. A group of double-blossomed sorts was also shown by Messrs. Cutbush.

Of Crocuses there were some interesting collections, especially one from Messrs. Cutbush, who, having covered their pots with Moss so as to quite conceal them from view, had their flowers thus growing as it were out of a green bank, a mode of exhibiting Crocuses which, in addition to being natural in appearance, sets off the beauty of the flowers to much advantage. Owing to the want of sunshine, however, on this occasion, the blossoms did not expand well. Mr. Wm. Paul also had a good group, which was shown in pots in the usual way. Among sorts the most striking were Marie d'Ecosse, white; and Albion, a prettily striped lilac kind.

Lily of the Valley was furnished in good condition in pots by Messrs. Veitch; and Mr. Salter also had good examples of the same useful spring flower, but not so finely in blossom.

Cyclamens came from Messrs. Smith, of Dulwich. The sorts consisted of red and white varieties of Persicum.

A box of beautiful Camellia blooms was furnished by Mr. Wm. Paul, and three Roses in pots, well flowered for the season, came from Mr. Todman, of Clapham.

A striking assortment of forced plants was contributed by Messrs. Veitch, who had two famous panfulls of Hyacinths—one consisting of Charles Dickens, the other Grand Vainqueur; also various hardy Ghent and Chinese Azaleas, a Rhododendron or two, Andromeda floribunda, the white variety of Ribes sanguineum, Double-flowering crimson Chinese Peach, charming masses of Dielytra spectabilis, Wistaria sinsenis, in the form of a standard, well furnished with blossom; Amaryllises of different sorts, beautiful masses of Lily of the Valley, Persian Lilacs, and Orange trees in flower. Messrs. Cutbush likewise showed forced plants, among which were Dielytras, Rhododendrons, Epacrises, Tulips, Polygonatum multiflorum, bearing numerous drooping spikes of greenish white flowers, Persian Lilacs, Narcissi, broad leaved Kalmias, and Azaleas.

Of Miscellaneous Stove and Greenhouse Plants, Messrs. Veitch contributed a handsome group, in which were Eriostemons, Chorozemas, Tradescantia (?) odoratissima in flower, Imatophyllum miniatum, bearing handsome heads of orange blossoms, a magnificent plant of Cypripedium villosum, Chinese Azaleas, Boronias, and the brilliant orange-flowered Rhododendron javanicum, the last, though small, highly ornamental and effective.

Messrs. Smith, of Dulwich, furnished Platycerium grande, Croton variegata, the prettily variegated Cyperus alternifolius, Sphærostema marmorata, Cyanophyllum speciosum, pretty examples of Eriocnema marmorata and of a variegated Hemerocallis under bell glasses, and the useful pink-blossomed Monochætum sericeum multiflorum, Gesnera cinnabarina, Camellias, and Heaths.

From Mr. Bull also came a collection, in which were Hippomane longifolia, the noble looking Fern Cibotium princeps, Dracænas, Palms, the handsome Anthurium acaule and A. leuconervium, a glaucous variety of Araucaria Cunninghami, handsome plants of Cordylines, variegated Yuccas, and other plants of that description.

Examples of artificial flowers made of rice paper were shown by Mrs. Stodart. They were tastefully set up in handsome vases, and, being extremely natural in appearance, had a fine effect. Among them were Camellias in the shape of plants twined with flowers, Convolvuluses, Roses, and Snowdrops; and the stems of the vases were encircled with a neat sprig of Fern or Lycopod. Whether all the flowers were made of Rice paper or not we had not time to ascertain; but altogether it was an interesting exhibition.

The subjects belonging to the department of the Floral Committee were not very numerous, but there were some of considerable interest. The very handsomely variegated Bornean Cypripedium Dayanum was sent by J. Day, Esq., of Tottenham; a fine yellow-striped Yucca from Mexico, called lineata lutea, and a lovely glittering fronded Trichomanes, called anceps, were both contributed by Mr. Bull; a large bright-looking form of Barkeria spectabilis, called superba, and a brilliant white-edged salmon Azalea, named President Claeys, came from Messrs. Veitch & Son. These all received First-class Certificates. Messrs. Veitch also sent a pretty white Epacris, called densa, which was said to come from Western Australia, and a variegated Hibiscus from New Caledonia, which was commended. A clear white Limatodes from Moulmein, sent by Messrs. Low & Co.; and a narrow-leaved Anæctochilus argyræus, from Brazil, exhibited by Mr. Bull, both received Second-class Certificates. A finely bloomed plant of the hybrid Rhododendron, Countess of Haddington, which had already received a first-class award, came from Mr. Parker, of Tooting; and an interesting variegation of Araucaria imbricata was sent by Mr. Fowler, gardener to the Earl of Stair. These, with a collection of 12 varieties of Lycaste Skinneri from Messrs. Veitch; a collection of 72 varieties of Holly from Mr. W. Paul, accompanying a paper on Hollies read before the Committee; and a few seedling Cinerarias, made up the display of novelties. Both the collections just mentioned deservedly received the award of a special certificate.

Among Miscellaneous subjects was a box containing cut specimens of Bougainvillæa speciosa, which, for size of floral leaf, and brilliancy of colour were magnificent. They were sent by Mr. Wainwright from his garden in Northamptonshire, where the plant which produced them is stated to be at present blooming in great perfection. Messrs. Smith had a nice collection of Cinerarias; Mr. Parker, of Tooting, the pale-flowered Rhododendron, just mentioned; and last, but not least, a cut specimen of Helleborus olympicus was shown by Mr. Harington, Acton Green. Of all the Christmas Roses this is the handsomest; it is as hardy as a Crocus, and the flowers, which are large, are white beautifully flushed with pink. Though seeds of this Helleborus were presented by Dr. Lindley to the Royal Horticultural Society a good many years ago for distribution amongst the Fellows, it is a plant not cultivated half so extensively as it deserves to be. In the garden from which the specimens shown were cut, it renders a piece of rockwork at the present time quite gay with its showy blossoms.

Of Fruit there was little. Good specimens of Barbarossa Grapes came from Mr. Park, gr. to G. H. Vernon, Esq., of Retford; and J. Crawshay, Esq., of Cyfarthfa Castle, S. Wales, sent the same variety, and a few over ripe bunches of White Tokay. Mr. Thomson showed a bunch of newly ripened Black Hamburgh, but it was not in good condition, having been bruised and otherwise injured in travelling. From Mr. Pottle, gr. to B. D. Colvin, Esq., came a good Prickly Cayenne Pine Apple, and there were a few dishes of Apples and Pears from C. W. Strickland, Esq., Messrs. Wood &

Ingram, and others. S. Rickards, Esq., sent a dish of very fine Lemons. From Messrs. Ivery, of Dorking, came good specimens of a new Cucumber called Winter Champion. It was stated to be a hybrid between Syon House Improved and Stone's Improved Black Spine.

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Linnean: *Feb.* 5.—George Bentham, Esq., President, in the chair. Robert Braithwaite, Esq., M.R.C.S., and J. Brooking Rowe, Esq., were elected Fellows. The following communications were read:—1. "On the existence of two forms, and on their reciprocal sexual relation, in several species of Linum," by Charles Darwin, Esq., M.A.—2. "A letter from Col. Yorke to Dr. Hooker, on the spiculæ contained in the wood of the Welwitschia, and the crystals pertaining to them." Communicated by Dr. Hooker.—3. "Catalogue of the Dipterous Insects collected by Mr. Wallace in Waigiou, Mysol, and North Ceram, with descriptions of new species," by Francis Walker, Esq.

*Feb.* 19.—G. Bentham, Esq., President, in the chair. The Rev. S. Owen Glenie, M.A., and C. Moore, Esq., Director of the Sydney Botanic Garden, were elected Fellows. The following paper was read:—"On the Structure and Nature of the Dracunculus or Guinea Worm," by A. Charlton Bastron, Esq., M.A.; communicated by G. Busk, Esq.

# Notices of Books.

*The Land and Freshwater Mollusks indigenous to or naturalised in the British Isles.* By Lovell Reeve, F.L.S. 8vo. pp. xxv. and 275, with a Map, Portrait, and numerous Woodcuts.

This volume, following so quickly in the wake of Mr. Jeffreys' account of British Land and Freshwater Shells, was projected several years since, and has some features about it which are calculated to make the student thankful for its appearance, though at a slight additional cost. The geographical distribution of the species is one especial point which the author had in view, to the illustration of which an excellent map is devoted; there are numerous beautiful and accurate figures of the animal in some species of each genus as well as of the shells; and there is an excellent portrait of Draparnaud, the father of modern European conchology, so far as relates to the land and freshwater species. The volume closes with a tabular view of the distribution of all the species, to which is appended a treatise in four sections on the distribution and origin of species in general.

A few species, such as Helix pomatia and Dreissena polymorpha, of exotic origin, though now completely naturalised and widely distributed—the latter, like the new Water Weed, occurring in almost every stream—are included in the volume; but such species as Bulimus Goodallii, which inhabits in the greatest abundance the Pine stoves at Chester, are excluded, as species which can only live in an artificial temperature.

As regards the animal of Pisidium, it may be remarked that it is not correct to describe the siphons as united into one tube. The fact is that one of the siphons is entirely disunited from the other, but so short as frequently to escape notice, a point which has not been sufficiently attended to by many authors. We doubt, too, whether Lymnæa and its allies really breathe water as well as air. The greater part of them certainly come up to the surface to breathe, and supposing Ancylus to be more generally submerged, which is not, however, the case, it is very possible that a little air bubble is formed at the pulmonary orifice through which there is an interchange of gases after the fashion of those insects which carry down a bubble of air with them into the water, by means of which respiration is kept up, the air being constantly renewed from that which is mixed up with the water.

As regards the figures it is sufficient to say that the greater part of them are from the pencil of Mr. G. B. Sowerby, while the descriptions will be found in every respect satisfactory. "The inland molluscan fauna of the British Isles," Mr. Reeve observes, "is very limited in kind compared with that of America within the same isothermal latitude as Britain. The warmer temperate districts of Europe, marked by the Olive and even the Vine, show a material increase in the development of molluscan life; while in the intertropical region of the Palms, embracing all that is most productive in the conditions of light, heat, and vegetation, its abundance is prodigious. Upwards of 7000 land and freshwater shells have been described from all parts of the world, of which scarcely more than 120 are British. To the casual observer a few slugs and snails in the garden or on the chalk downs, a few water snails and little horny bivalves in our ponds and ditches, and a pearl mussel or two in our running streams, are all that present themselves to his attention. The remainder are minute forms, living more or less concealed in Moss or among the decaying roots of shrubs and bushes, only to be procured with diligent search at the proper times and seasons. Our molluscan Fauna, too, is simply European in its character; it possesses no local typical speciality like the Fauna of Madeira or the Sandwich Isles. Our groves do not glow beneath the same tropical sun as the woods and forests of the Philippine Isles, of Bolivia, or of Venezuela; and our running streams are small indeed, compared with the mighty rivers of America."

The above is a faithful statement of what the young naturalist may expect to reward his searches in this branch of our Fauna. But comparatively small as the number of species is, he will find much to admire in form and structure, especially if he extends his views to a study of the animals, without which he must be considered rather as a collector than a naturalist. Even amongst the few score of species which may exist in his neighbourhood, he will find many an attractive subject for examination, and there are few localities in which he may not hope to have his diligence rewarded by some new or interesting observations of habit or economy. As regards our own experience there are few hours to which we can look back with greater pleasure than those which were engaged in the study of these humble animals.

In respect of geographical distribution, again, it is curious how very small a number of our shells are identical with those of North America. Amongst the humbler plants, though the United States possess many species which have not hitherto rewarded the researches of European botanists, there is still a vast mass of species which are altogether identical with our own; but amongst the land and freshwater mollusks, 10 British species only are found in the United States, and of these six have been introduced in various ways, like many of our common weeds. The four remaining species are Pisidium obtusatum, Paludina vivipara, Helix pulchella, and Zua subcylindrica, two of which are land, and two freshwater species. These two land shells moreover are amongst those which have the widest range, both extending throughout Europe, and in Asia from Northern Siberia to Thibet.

We must, however, give an extract of a different nature, and we have chosen one of general interest. It is well known that though snails are despised in this country as articles of food, some species, but more especially the large Apple snail, which is naturalised in several parts of England, are considered a great delicacy. It is, however, to the utility of snails in pulmonary complaints that we would more especially direct attention.

"Of its efficacy," says our author, in "cases of consumption I am able to testify on personal knowledge. Mr. Barlow, of the firm of John Dickinson & Co., paper makers, informs me that he has a brother who was in the last stage of consumption, when their father resolved to try the experiment of a diet of Apple snails. Specimens had been transported from Italy some 30 years before by an English nobleman, for the same purpose, to the range of hills in the neighbourhood of Reigate and Boxhill, in Surrey; and as they had bred abundantly, Mr. Barlow was induced to take a house in that locality. The expressed mucilaginous juice of the snail was administered to the patient without his knowledge in every conceivable form. It was taken in jellies and conserves, in gravies and with *entremets* of meats. In the course of a twelvemonth the invalid was entirely cured, went to the Crimea, and is living at this moment a strong hearty man."

The Apple snail, it may be observed, is a misnomer—however, generally adopted, the epithet pomatia referring not to the Apple-like form of the shell but to the peculiar calcareous operculum with which the aperture of the shell is closed up in winter.

It would be easy to extract many interesting passages respecting other species from this SNAIL BOOK, but we have already exceeded our usual limits, and must refer our readers to the volume itself, the acquisition of which will assuredly be no subject of regret.

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*Musci Italici.* Auct. J. De Notaris. Fascicolo I., con 35 Tavole. Geneva, 8vo. pp. 69, 1862.

Whatever comes from the pen of De Notaris, whose name is well known to every Cryptogamic Botanist, is sure to be worth attention, while his figures, if not artistic, are remarkable for the accuracy of the details. The present number is the first instalment of a work on Italian Mosses, commencing with the genus Tortula, taken in a wide sense, of which 35 species or varieties are carefully figured with copious details. The leaves of several species are remarkable for the curious plates with which the nerve is covered; but the great point of interest in the genus is the curious formation of the teeth of the peristome, which well deserve an accurate study. Few microscopic objects for example are more elegant than the peristome of Tortula ruralis, a species to be found continually in fruit, and common on the roof of almost every cottage. The abrupt transition from the cellular sheath to the twisted threads, and the manner in which these curiously constructed bodies are formed from the upper cells, are far more worth notice than many of the points over which microscopists are wont to pore hour after hour.

Though considerable difference occurs in the details both of the leaves and peristome, the genus is on the whole so natural that it is impossible to divide it satisfactorily into several genera, even were it advisable. De Notaris is wisely content merely to propose four divisions — Aloidella, Cuneifoliæ, Syntrichia, and Barbula. Indeed some other Mosses which are at present separated might without violence be included in the same category, especially where the teeth are twisted, a condition which is we believe almost universally accompanied by a similar arrangement of the cells of which the veil is composed.

As the species are often difficult of distinction, and a large number of the Italian sorts (18 out of 33) are identical with those found in the British isles, the treatise will be welcome to British Bryologists, and we trust that though each part is complete in itself, the worthy author will be spared to finish a task commenced so auspiciously.

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*The Sailing Boat: a Treatise on English and Foreign Boats, descriptive of the various forms of Boats and Sails of every Nation, with practical directions for Sailing Management,* &c. By H. C. Folkard, Esq. Third Edition. Longmans, 8vo, pp. 317.

Nearly 200 various kinds of boats, English and foreign, are described in this little book; and almost every kind of boat is represented by a woodcut or steel engraving. The work is thus made unusually attractive, and every person interested in boats will be well repaid the cost of procuring it by the curious and abundant information it contains.

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The February number of the *Botanical Magazine* contains portraits and descriptions of the following plants:—*Cereus pterogonus,* a rare species from Carthagena, which first blossomed in August of last year. It is a straggling growing plant, with the thick fleshy spiny branches four or sometimes five-angled, and bearing large white flowers, 5 to 6 inches long in the tube, and as much across when fully blown. *Phædranassa obtusa,* a pretty Quitinian bulb of the Amaryllidaceous family, with an umbel of drooping red and green cylindraceous flowers, re-introduced by Isaac Anderson Henry, Esq., of Edinburgh, and well deserving of cultivation as a winter-flowering greenhouse bulb. *Cypripedium Hookeræ,* a beautiful species, related to C. venustum and barbatum, imported from Borneo by Messrs. Low & Co., and described by Professor Reichenbach as having "the flowers of C. hirsutissimum, and the leaves of Phalænopsis Schilleriana, or nearly so." It is, in fact, a very ornamental plant, with the leaves boldly tessellated with dark green and gray, and the broad hairy petals purple towards the ends, and spotted with purple on green towards the base, the lip being brownish, and the dorsal sepal yellowish green. It has been flowered by W. Marshall, Esq., of Enfield. *Plumbago rosea, var. coccinea,* a more vigorous-habited form of P. rosea, with larger leaves, and secundly arranged bright red flowers, very showy, and bright coloured, but, as seen by us at least, hardly of the scarlet tint Mr. Fitch has given them, or of the 'bright brick-red' Sir W. Hooker mentions. It is an acquisition to its class, that of subshrubby stove plants. *Cinchona officinalis,* the plant which has supplied "a large proportion of the renowned Loxa bark of commerce." It is a very interesting and not unornamental stove shrub, having ovate acute leaves, and pale pinkish-red flowers with a straight tube and a star-shaped spreading downy limb. It has been variously called C. Condaminea, C. Uritusinga, C. academica, and C. lancifolia, but Dr. Hooker here gives reasons for retaining Linnæus's original name of C. officinalis, the first change of which, "because many species are truly officinal, and may be substituted the one for the other," being, he maintains, made on insufficient grounds. The plant has been raised and recently flowered by Mr. Howard, the author of the magnificent work on the Medicinal Barks, which has been already noticed by us.

The subjects in the *Florist and Pomologist,* are a set of five of the most remarkable of the many fine varieties of Pelargoniums introduced to notice last year, and an admirable portrait, by Mrs. Dix, of the Grosse Calebasse Pear. Mr. Keynes makes the suggestions respecting the exhibition of Dahlias to which we have already referred; and Mr. Melville recommends the Alicante Grape—which he describes as "an old variety, but recently called the Kempsey Alicante,"—as one of the finest-looking Grapes we have. "The Alicante for a black," he says, "and the Cannon Hall for a light Grape—I consider these two the most noble-looking Grapes yet extant." Both varieties however, he continues, have an inherent drawback, both being bad setters, and on that account they are not generally grown. The whole secret or cause of this he explains to be this: that the summit of the pistil of every flower is invariably covered with a sort of nectar or honeydew, which keeps off the pollen; and his remedy is, gently, with a very soft camel's-hair brush, or carefully with both hands, to strip down the individual bunches when they are coming into bloom till the dew-drops are all taken off: then the pollen gets admission. This is done between 9 and 10 o'clock in the morning, and again about 3 in the afternoon, daily, for several days till they are all set.

## Miscellaneous.

*The Defensive Arms of Plants.*—The thorns and spines with which many European plants are armed, give but a faint idea of the size which these defensive weapons attain in the tropical zone. The Cactuses, the Acacias, and many of the Palm trees, bristle with sharp-pointed shafts, affording ample protection against the attacks of hungry animals, and might appropriately be called vegetable hedge-hogs, or porcupines. The Toddalia aculeata, a climbing plant, very common in the hill-jungles of Ceylon, is thickly studded with knobs, about half an inch high, and from the extremity of each a thorn

protrudes, as large and sharp as the bill of a sparrow-hawk. The black twigs of the Buffalo-thorn (Acacia latronum) a low shrub abounding in northern Ceylon, are beset at every joint by a pair of thorns set opposite each other, like the horns of an ox, as sharp as a needle, from 2 to 3 inches in length, and thicker at the base than the stem they grow on; and the Acacia tomentosa, another member of the same numerous genus, has thorns so large as to be called the jungle nail by Europeans, and the elephant-thorn by the natives. In some of these thorny plants, the spines grow, not singly, but in branching clusters, each point presenting a spike as sharp as a lancet; and where these shrubs abound, they render the forest absolutely impassable, even to animals of the greatest size and strength. The formidable thorny plants of the torrid zone, which are often made use of by man to protect his fields and plantations against wild beasts and robbers, have sometimes even been made to serve as a bulwark against hostile invasions. Thus Sir Emerson Tennent informs us, that during the existence of the Kandyan kingdom, before its conquest by the British, the frontier forests were so thickened and defended by dense plantations of thorny plants, as to form a natural fortification impregnable to the feeble tribes on the other side; and at each pass which led to the level country, moveable gates formed of the same thorny beams, were suspended as an ample security against the incursions of the naked and timid lowlanders. *Hartwig; the Tropical World.*

*British Columbia and its Mosquitoes.*—The last day and a half the mosquitos had become intolerable, worse indeed than I had ever known them to be, even in British Columbia. Fortunately I had a small mosquito net, which the Doctor had wisely insisted upon bringing, or I do not know what I should have done. Whenever I halted I hung this on two sticks, and getting inside tucked it about me. When tea was ready, it was handed in to me under the net, watch being kept that none of the enemy entered with it. The poor Indians suffered terribly, though they coated themselves with a mixture of oil and mud. At starting they had warned us that the mosquitos would kill us all when we got to the Lilloett; and they certainly did their best to effect that purpose. Before we left the ship we had head-bags made of crape, and these were the only things that kept us from being devoured while we were walking. These were long veils which were fastened round the top of our straw hats and tied in at the neck. We even went so far as to have small cane hoops inserted in them to keep them off the face. But these only answered in clear land, of which we found very little on this trip. In the bush the hoops were always catching the boughs of trees and tearing. The moment the bag touched your face you were bitten through it, the mosquitos making nothing of any such trifling obstruction as the net of which it is composed. Indeed it was said by some of the officers engaged on the boundary expeditions, that the mosquitos were known to bite through two blankets! *Mayne's British Columbia.* [To make matters worse the wounds inflicted by these wretches are apt to fester!]

*Palmetto Wood.*—Behind Fort Sumter, a new fort, which takes its name from General Ripley, is built almost entirely of Palmetto wood. In reference to the Palmetto tree [Chamærops Palmetto]—the peculiar emblem of the State of South Carolina—it should be noticed that it possesses far more valuable properties than strangers would be apt to imagine. Palmetto wood is much used for facing wharves and other works under water, as it is never injured by the Teredo. It affords excellent material for the construction of forts, inasmuch as cannon balls soon lose their force in its spongy substance, and while they penetrate but little they make no extended fractures, nor do they detach any dangerous splinters. The top of the tree yields a substance resembling Cabbage, which makes an excellent vegetable, tasting much like the heart of an Artichoke or like Vegetable Marrow. The large, thick, fan-like leaves are converted into light but durable hats. The Palmetto grows only on lands adjacent to the sea, and the attempt to induce it to grow at Columbia, the seat of the State Legislature, has hitherto been a failure. *Times Correspondent.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—Poinsettias which have done flowering should be removed to a warm growing temperature to make new wood, of which cuttings may be made. Euphorbia jacquiniflora, too, may be transferred to a warm house, but not pruned. Routine work will chiefly consist in constantly obtaining spring bulbs and other plants in flower from the forcing pit or other houses, and removing such as have done blooming to other quarters. In cool houses Pelargoniums should be duly attended to in the way of staking and tying out the branches so as to induce them to form handsome specimens. They will bear repotting the moment blossom buds are formed in the terminal points. Water moderately after shifting until the pot is tolerably well filled with roots. Tender Annuals, as Balsams, Cockscombs, &c., may now be sown. They succeed best in a frame on a gentle bottom-heat furnished by means of fermenting materials. Orchids generally will doubtless now be preparing to push; fire heat should be kept sufficiently lively in the early part of the day to allow a free circulation of air to take place. Every leaf should be dry for an hour or so about mid-day; after that air may be gradually withdrawn, and atmospheric moisture renewed. This treatment will be found to suit the majority of stove plants as well as Orchids. Than Achimenes few plants are more useful or attractive; therefore every garden of any importance should possess a good quantity of them; their dwarf bushy habit, brilliant flowers, and the length of time they continue to bloom, render them worthy of every care. They all like a stove heat, but they may also be grown without such convenience, for most of the Achimenes and even several Gloxinias will attain a high degree of perfection in a Cucumber frame. The compost should be a light sandy loam, turfy peat, and rotten dung, in equal parts, with a little silver sand; these should be mixed well together in the autumn previously to being used, allowing the mixture to remain exposed to the action of the air till wanted, but protected from rain. Achimenes are all readily propagated; therefore a good stock of them is easily kept up. In order to maintain a succession of blooming plants from April till the dark months of the succeeding winter, some should be started at different times. After receiving a little water they should be placed in a hotbed or house where the temperature ranges from 60° at night to 70° by day, and the fermenting material in which they are plunged from 75° to 80°, not higher, as either excess of heat or water at this early stage of excitement might be injurious. When the pots become filled with roots they should be shifted at once into those in which they are to be flowered. Achimenes look best when grown in masses; this is done by taking four plants out of small pots, and planting them in a larger one or in a pan, of a foot in diameter or so, in proportion to the size required, with 2 or 3 inches of potsherds in the bottom, to secure perfect drainage; the top as well as the bottom heat now should be raised to about 80°, keeping up a moist atmosphere: Achimenes should be syringed frequently, and air given at every favourable opportunity. When small pots are employed, liquid manure should be given twice a week, but never before the roots have completely filled the pots; while growing they should be kept as near the glass as possible, removing them when in bloom to the greenhouse or conservatory, but taking care not to expose them to cold draughts; shading is sometimes necessary to preserve the flowers.

### FORCING DEPARTMENT.

Pineries.—Do not allow the bottom-heat to rise too suddenly; when much new tan has been added in consequence of recent shiftings or removals this may readily take place. Constant attention to the trial sticks is therefore now necessary in order to ensure success. For general purposes 80° or 85° will be sufficient. Let atmospheric moisture be in proportion to the natural increase of heat and light, and give air freely early in the day on all favourable occasions, shutting up a good amount of sun-heat whenever a chance of doing so occurs.

Vineries.—Attend regularly to the disbudding or stopping of superflous wood. Take good care of bunches that require shoulder tying. A brisk heat may be permitted on sunny afternoons; but be moderate at night; let 65° at that period be the maximum. Keep up a liberal amount of moisture independent of the syringe. As soon as succession houses are closed for forcing be careful to secure a thoroughly moist state of the atmosphere by frequently sprinkling the floors and every available surface, but as observed previously, a regular moist state of the atmosphere is most effectually secured by means of a slight bed of fermenting materials in the house, which will also afford a little warmth, and the moisture from this is much more congenial to vegetation than anything that can be effected by the most careful use ef either syringe or evaporating pans.

Peach Houses.—As before observed, suffer no gross shoots to push above five or six eyes, without stopping; this will do more to equalise the sap than any mode of winter pruning. If the trees are properly attended to in these respects there will be little left for the knife. When the fruit is as large as marbles, commence thinning only a few at a time. Give air freely when the weather is favourable, and syringe liberally with much force in the afternoon.

Figs.—As soon as the Fig-shoots are four or five joints long, commence stopping them; squeeze them flat between the finger and thumb; this is one of the principal secrets of success in Fig management. Ensure a steady degree of moisture at the roots; Figs are very impatient of drought—a very short period of neglect in this respect may prove fatal to the crop.

Cherries.—Advance the heat cautiously on bright days, falling back to a lower temperature at night.

Cucumbers, Melons, Kidney Beans, &c.—Follow up former directions—regularly stopping and often sprinkling lightly with water round the frame. Pot off Melons into pots singly; stop them, and get them strong for succession frames. Kidney Beans as before; giving plenty of liquid manure.

### FLOWER GARDEN AND SHRUBBERIES.

All Grass lawns should now have a thorough rolling, and all turfing repairs should be completed forthwith. Where it is absolutely necessary to cut edges of walks, let it be done now; and as soon as accomplished, run a heavy roller several times up and down the edge, to soften the cut line. All edgings should, if possible, have a slight inclination towards the walk, and they should only be fresh cut in consequence of irregularities in the line. High kept lawns should have a single mowing on the heels of the roller. As regards Tulips follow up former directions, and cover the beds with large meshed nets; when too small the plants are apt to be drawn, which should be avoided. Pansy beds are best made in the autumn; but where plants have been kept in pots during the winter months, they may now be planted with their balls entire on richly-prepared soil. Pinks ought now to be carefully gone over, the surface soil slightly forked up, and a top-dressing similar in composition to that employed for Auriculas should be put over the bed to the depth of ½ an inch. Planting time with respect to Carnations is now rapidly approaching; give all attention to the proper management of the soil, as much of after success depends upon that.

### HARDY FRUIT AND KITCHEN GARDEN.

Attend to due preparation of the ground to be used for the main crops of Carrots, Parsnips, Onions, &c. Plant Seakale forthwith, salting and manuring heavily. Give all Asparagus beds a slight salting; this should be done after soiling; the rains will carry it down in a progressive way. Onions may be sown as soon as possible; choose a piece of ground that had been manured for a previous crop, adding no fresh manure; throw it into beds. Sow when dry, cover thinly, and roll hard except in the case of clayey soils. In the orchard bring pruning to a close. Get Apricots and Peaches covered forthwith. Prune and nail Vines on walls without delay.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Feb. 25, 1863, as observed at the Horticultural Gardens.

| February | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth. 1 foot deep. | Of the Earth. 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 19 | 1 | 30.347 | 30.308 | 46 | 39 | 42.5 | 42 | 41½ | S.E. | [illegible] |
| Friday 20 | 2 | 30.340 | 30.282 | 48 | 29 | 38.5 | 43 | 42 | S. | [illegible] |
| Satur. 21 | 3 | 30.306 | 30.185 | 53 | 33 | 43.0 | 44 | 42 | S. | [illegible] |
| Sunday 22 | 4 | 30.210 | 30.191 | 51 | 26 | 38.5 | 44 | 42½ | S.W. | [illegible] |
| Mon. 23 | 5 | 30.290 | 30.171 | 51 | 44 | 47.5 | 44 | 43 | W. | [illegible] |
| Tues. 24 | 6 | 30.275 | 30.245 | 50 | 27 | 38.5 | 45 | 43 | N.E. | [illegible] |
| Wed. 25 | ☽ | 30.369 | 30.332 | 49 | 41 | 45.0 | 45 | 43 | S.W. | [illegible] |
| Average. | | 30.305 | 30.244 | 49.7 | 34.1 | 41.9 | 43.8 | 42.4 | | [illegible] |

Feb. 19—Rain; foggy; overcast; foggy.
— 20—Hazy; overcast; slight frost at night.
— 21—Dense fog; very fine throughout.
— 22—Fine; very fine; frosty at night.
— 23—Fine throughout; mild at night.
— 24—Overcast; dry haze; overcast; slight frost.
— 25—Foggy; overcast; very fine.—Barometer still high—seldom or never has it been as in this month so long continually above 30 inches.

Mean temperature of the week, 3 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending March 7, 1863.

| March. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 1.. | 47.5 | 34.0 | 40.7 | 14 | 0.62 in. | — | 8 | 2 | 1 | 5 | 10 | 7 | [illegible] |
| Mon. 2.. | 48.8 | 35.5 | 42.2 | 14 | 0.45 | 2 | 7 | 5 | — | 3 | 12 | 5 | [illegible] |
| Tues. 3.. | 49.4 | 32.3 | 40.3 | 15 | 0.22 | 3 | 7 | 5 | 1 | 3 | 9 | 6 | [illegible] |
| Wed. 4.. | 49.1 | 31.3 | 40.2 | 11 | 0.48 | 3 | 9 | 2 | 3 | 3 | 8 | 6 | [illegible] |
| Thurs. 5.. | 48.4 | 31.7 | 40.0 | 10 | 0.40 | 2 | 7 | 3 | 3 | 4 | 9 | 6 | [illegible] |
| Friday 6.. | 48.7 | 32.5 | 40.6 | 14 | 0.26 | 4 | 6 | 4 | 2 | 4 | 8 | 5 | [illegible] |
| Satur. 7.. | 49.4 | 32.8 | 41.1 | 13 | 0.11 | 4 | 6 | 4 | 1 | 4 | 11 | 4 | [illegible] |

The highest temperature during the above period occurred on the 7th, 1859—therm. 63 deg.; and the lowest on the 4th, 1852—therm. 15 deg.

## Notices to Correspondents.

Diseased Vines and Kidney Beans: *T S.* Your Vine and Kidney Beans are affected in the same way, the cause must therefore be in the house. Probably during the frosty nights of last week, the air got too dry, and in consequence your plants suffered. Depend upon it the fault is in the condition of the atmosphere of your houses. *M. J. B.*

Electricity: *Woburn.* At present we do not believe the statement. If the writer will give a satisfactory account of the new experiments we will gladly take them into consideration. To loose assertions we can pay no attention.

Gardener for Cashmere: We believe the place is filled up. Numerous applications have been made, but very few were accompanied by satisfactory recommendations.

Jasminum nudiflorum: *S. Edwards.* Doubtless the reason why this charming spring flowering shrub is so very shabby this spring, is that it could not ripen its wood in the last unfavourable summer.

Names of Plants: *J R.* Odontoglossum constrictum, not worth growing, unless extremely well done—and hardly then.

Orchard Houses: *G G.* The fumes of coke ought [illegible] allowed to mix with the air of any place in which plants of any sort are grown.

Pentas carnea: *J B.* It is too damp, and not [illegible] Keep it warm, moderately damp, and give ple[illegible] mind not to chill it in so doing.

Roses: *Lady J W.* Any sudden check might cau[illegible] buds of your Provence Roses to turn yellow [illegible] velope themselves; or the fault may lie at the [illegible] may be water-logged through the drainage b[illegible] order. If the latter should be found to be th[illegible] fully repot them, and thin the flower buds. W[illegible] may then come to perfection. Too dry an atm[illegible] doubtless the cause of thrips attacking your Vine[illegible] freely, and, if not in flower, give them frequent [illegible] with the garden engine.

Seradella: *York.* This plant, whose name is usually spelt Serradilla, is the Ornithopus sativus. It is an annual, growing from 2 to 3 feet high, and giving large crops on light sandy land. Five and forty years ago we saw a field of it near Thetford in Norfolk.

Tree Wounds: *Brechin.* Scrape out every bit of decayed wood. Next fill the hole whence the limb was torn with thoroughly well made grafting clay with which fresh burnt lime has been mixed. Then, when the surface of the clay is dry, pitch it over on a dry sunny afternoon.

JOHN KERNAN, Seedsman, 4, Russell Street, Covent Garden, W. C., respectfully solicits attention to his LISTS of VEGETABLE, FLOWER and FARMING SEEDS, for which his prices will be found considerably under other houses, for goods of equal quality; and he flatters himself that his cannot be exceeded in excellence by any other Establishment. He is ready to supply packages of all Seeds, especially such as are recommended or selected by practical gardeners, (certainly the best judges of what they really want) in preference to the puffed five or three guinea selections, which in 99 cases out of every 100 are sure to contain many that are totally useless. J. K. offers his services in purchasing at Auction Sales in the neighbourhood, excellent Fruit Trees, Roses, Rare Plants, &c, to be met with almost weekly, at prices less than the carriage of Orchard house Plants and large pots would come to, with the additional advantage of having been raised in a congenial soil, instead of the pure peat used in the neighbourhood of Woking and other parts of Surrey, from which, transplanted, they speedily fall into the sear and yellow leaf, or soon after removal die. J. K. takes this opportunity of reiterating to his numerous correspondents, asking advice how to remove Aphis, red Spider and other insects from their Orchard houses to rid themselves at once of the nuisance, by selling or even by giving away, those puffed snares and delusions, which like other periodical humbugs are got up merely to ease the unwary of their cash. Each, as experience has amply verified, has had its day, as witness the once be-praised Stanwick Nectarine, the Pear on Quince Stocks, and other similar emanations of some giddy brain, who if farmers could only be led to put faith in his fine promises, would be ready to ready to recommend crossing sheep with the wolf.

J. K. has now on Sale for immediate and general cropping the following first-rate PEAS:—Daniel o' Rourke, Sangster's No. 1, Climax, Champion of England, Scimitar, Ne Plus Ultra, British Queen, &c., &c. Also Mazagan, Longpod, and Windsor Beans, French and Scarlet Runners; Radish, olive shaped, and other varieties; Early French Horn, and other Carrots; Parsnip, Jersey, Hollow Crown (far superior to the Student); Cauliflower, Cabbage, Cucumber, Melons, Vegetable Marrow, Celery; Asparagus and Seakale Plants, all kinds of early and late forcing Potatoes, Mushroom Spawn, &c., &c.

J. K. can also recommend his Double Scarlet and Single Anemones, fine mixed Persian Ranunculus, Gladiolus of the most showy and contrasting kinds, Lilium lancifolium roseum and album, with the various spring Bulbs suitable for planting up to the end of April; genuine imported Stocks and Asters in 12 distinct colours (36 of the 48 sometimes advertised being differences without any distinction), 8s. per packet, or mixtures of the same, 6d.; also seeds of Cotton, Hops, Tobacco, and Sugar-Cane for emigrants; 30 packets of showy hardy Annuals, 5s.; a collection of new half-hardy and tender Flower Seeds, from 10s. to 20s. Some fine straight stemmed Walnut Trees for those who wish to commemorate the bridal ceremony of H.R.H. The Prince of Wales; Japan Flax, Cuba Bass, Russia Matting, Labels, genuine Guano, Gardening Knives and Implements, Fumigators, and every requisite for Horticultural and Agricultural pursuits; the patent Cow-milking Machine, 2l. 10s.; English and American Linseed-cake. Seeds and Plants selected and carefully packed for India and other colonies.

Catalogues to be had on application. The Trade supplied on liberal terms.

SEED POTATOES.—Splendid Stocks of Martin's Early Globe, Early Oxford, Early Fox's Seedling, Early Round Frame, Early Dalmahoy, Myatt's Prolific, and Jackson's Ash-leaved Kidney, Forty-fold, Fluke Kidney, and Flour-ball varieties at low prices.

H. & F. Sharpe, Wisbeach.

SEED POTATOES.—Fine Dalmahoy Early Potatoes, delivered free in London, Hull, and other places, at very moderate prices; also superior second size Regents for Seed.

Supplied on application to Mr. J. B. Taylor, Seton Mains, Prestonpans, Edinburgh.

EXTRAORDINARY POTATOES.—A gentleman resident in the Country offers for SALE a few BUSHELS of SEED POTATOES of a new and most wonderful kind. For the table they are unsurpassed as to whiteness and delicacy of flavour, and their productiveness is almost incredible, even on indifferent soil; and further, the disease never attacks them.

For price, &c., address by letter to Z. Z., care of Editor, 162, Fleet Street, London, E.C. Early application is necessary.

DAINTREE'S EARLIEST SEEDLING POTATO.—The earliest and most prolific round variety in cultivation, verified by reports in the various papers, and by private reports from all parts of the country, numbers of which will be forwarded on application. Present price, 8s. per Bushel, or 12l. per Ton; sacks 1s. 6d. each.—Apply to Mr. Simon A. Daintree, Fendrayton, St. Ives, Hunts.

N.B.—Genuine Italian Rye grass, and all the Agricultural Seeds of home growth, supplied as usual

### Seed Potatoes.

B. S. WILLIAMS begs to intimate that he has a good stock of POTATOES for Planting, which he offers at moderate prices.

| | Per peck of 14 lbs.—s. | d. |
|---|---|---|
| EARLY ASHLEAF.—A very early variety .. .. | 2 | 6 |
| " (Myatt's Improved).—The most prolific Potato in cultivation .. .. .. | 2 | 6 |
| DALMAHOY.—Fine flavour .. .. .. .. .. | 2 | 0 |
| EARLY SHAW.—Second early, very prolific .. .. | 1 | 6 |
| EARLY OXFORD (Soden's) .. .. .. .. .. | 2 | 6 |
| YORKSHIRE REGENTS.—The best for general late crop | 1 | 4 |

*** A reduction will be made on the above prices when large quantities are taken.

Paradise and Victoria Nurseries, Holloway, London, N.

THE ROYAL ASH-LEAVED KIDNEY POTATO.—This variety was raised from seed of the Ash-leaved Kidney about five years since by the late James Ashwin, Esq., of Bretforten Hall, near Evesham.

He at the same time raised some other varieties from the same sort. Some specimens of all his seedlings were given to Mr. Rivers, who after having proved them, selected the above variety as being worthy of a name, and as the best and earliest P[illegible] known.

It is like its parent in its fine flavour, shape, and leaves, but its bines are stouter and much more robust. It is also some 8 or 10 d[illegible]s earlier, and gives quite double the produce of [illegible]t, frequently from 20 to 30 fine tubers to a root. [illegible] pecks of seed produced 22 bushels. A few were [illegible] Spencer, of Bowood, last spring. The following is the report from the Manager of the Gardens, Mr. Taplin:—"We [illegible] Potato for trial with the old Ash-leaved Kidney. [illegible] was fit for use first, the Potatoes were larger and [illegible] to a root than the old sort; they were quite free [illegible], while some of the sorts planted with it were [illegible] destroyed; from its earliness and productiveness, I believe it will be found a most useful sort for early forcing." In March last, 10 varieties of Early Potatoes, including all the Early Kidney Potatoes, were planted here on the same day and in the same piece of ground with one row of the Royal Ash-leaved; the latter was earlier and more productive than any other kind.

Sold in sealed Peck Bags of 14 lbs., at 5s. 6d. per bag.

In London, by Messrs. Wrench & Sons, Seedsmen, 39, King William Street, London Bridge, E.C.; and by Messrs. Thos. Rivers & Son, Nurseries, Sawbridgeworth, Herts.

### Cole's White Perfection Celery.

WM. COLE has much pleasure in offering again to his numerous customers the above, which has proved itself to be the best White Celery in cultivation. In sealed ½ oz. packets, free by post, 1s. 6d. Price to the Trade upon application.

Nurseries, Withington, near Manchester.

KIMBERLEY'S SUPERB SOLID RED CELERY.—This is without exception the best Celery in cultivation. Charles Kimberley has much pleasure in offering this superb Celery for the first time, although he has grown it for upwards of 20 years. Thousands of plants are annually sold in Coventry Market. The seed now offered is saved from bleached roots of 1862; ½ oz. packets free by post, 1s. 6d.

Stoke Nursery, near Coventry.

TAYLOR'S DEFIANCE, NEW WHITE CELERY, free through the post, per packet, 2s. 6d.

The stock of seed of this fine variety was purchased of a market gardener, who is acknowledged to send the finest Celery of any into the principal Yorkshire markets. It is the largest, most solid, and finest flavoured White Celery grown; from the extreme difficulty of seeding it, but a small quantity can be supplied.

Edward Taylor's DESCRIPTIVE and PRICED CATALOGUE, containing many new and choice varieties of Agricultural, Vegetable and Flower Seeds, may be had Gratis on application.

Seed and Plant Establishment, Market Place, Malton, Yorkshire.

### Genuine New Seeds, Carriage Free.

FRANCIS & ARTHUR DICKSON and SONS, 106, Eastgate Street, Chester.

New VEGETABLE and FLOWER SEEDS of every description, of the finest possible quality.

Their DESCRIPTIVE PRICED CATALOGUE, containing many valuable New and Select Vegetable and Flower Seeds, will be sent Post Free on application.

Collections for Gardens of all Sizes are on the most liberal scale. See Catalogue.

☞ Vegetable Seeds of £2 value Carriage Free. All Flower Seeds Free by Post.

WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

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The price of the Lettuce is 1s. per packet, post free.

J. C. Wheeler & Son beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. Wheeler & Son, Seed Growers, Gloucester.

### Vegetable and Flower Seeds.

Carriage Free.

JAMES DICKSON and SONS' ANNUAL DESCRIPTIVE PRICED CATALOGUE of the above is now ready, and may be had, post paid, on application.

The *Field* of February 8, 1862, in a notice of our last season's Catalogue, says:—"This old established firm have issued their neat and well arranged Catalogue for this season. It embraces all seeds really worth growing in both departments."

James Dickson & Sons, 102, Eastgate Street, Chester; and 23, Market Place, Manchester.

### Cabbage Plants.

W. VIRGO and SON beg to say they have a very large quantity of DRUMHEAD, RED and EARLY CABBAGE PLANTS to offer for Sale of the following sorts, at 3s. 6d. per 1000:—

| | |
|---|---|
| EARLY YORK CABBAGE | EARLY NONPAREIL |
| " BATTERSEA | DRUMHEAD |
| " BARNES | RED CABBAGE |

5s. per 1000. All strong, healthy, and well rooted.

Wonersh Nursery, near Guildford, Surrey.

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| | |
|---|---|
| Early Long Pod Beans | Ne Plus Ultra Peas |
| Mackie's Monarch ditto | Laing's Imperial Swede Turnip |
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| Woodford's Green Marrow do. | Early Nonpareil Cabbage |
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| British Queen ditto | " Enfield Market ditto |

which they can offer at a low figure.

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☞ Orders amounting to 10s. and upwards sent carriage free.

Wm. Wood & Son, Seed Merchants and Nurserymen, Maresfield, near Uckfield, Sussex.

CHEAP GRASS SEEDS for HILL SIDES and RAILWAY BANKS.—Rough Grasses, Sainfoin Siftings, &c., suitable for the above purpose, at 2s. per bushel and 8d. per lb.

Address, Raynbird, Caldecott, & Bawtree, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

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WHEELER'S "LITTLE BOOK" for 1863.

### Agricultural Seeds.

JOHN GEORGE WAITE'S WHOLESALE AGRICULTURAL SEED CATALOGUE for Spring 1863, is now published, and will be forwarded on application.

Seed Establishment, 181, High Holborn, London, W.C.

Present Prices of Farm Seeds.—See SUTTON'S PRICED LIST at p. 194 of this day's *Chronicle*.

# The Agricultural Gazette.

*SATURDAY, FEBRUARY* 28, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| Monday, | March 2 | London Farmers' Club .. .. (Mr. Mechi on Town Sewage) | 5 P.M. |
| Wednesday, | — 4 | —Agri. Society of England.. .. | Noon |

Everybody is benefited as the quantity of invested farm capital increases—the landlord, for rent in the long run is in proportion to the fertility of the soil, whether it be natural or artificial—the farmer, for notwithstanding what economists tell us about the greater costliness of every fresh addition to an artificial fertility, practical men know well that from the latest outlay on the soil there is not only its own return but an increased benefit derived from what has been done before; for instance, that besides the advantages conferred directly by the steam plough there is an increased efficiency given by it to the land drainage which had preceded it; that besides the direct advantage of the application of lime there is the increased force given by it to previous manurings; and many other illustrations could be quoted. That the labourer and the consumer are benefited by the increased outlay and effort of the farmer is too plain to require a proof.

The converse of the proposition is equally true—everybody is injured by that which either occasionally or constantly checks the investment of farm capital. The value of the land, the profits of agriculture, the money paid as wages, the produce sent to market, all diminish with the slackened effort of the farmer. There is thus no question of greater agricultural importance than—how to encourage the investment of capital in the land.

There are two principal plans which landlords have adopted in order to a satisfactory solution of this question. They have offered their land to wealthy tenants for a term of years at a fixed annual rent, letting it, with as few restrictions as possible, be dealt with as the tenant chooses in order to the creation of fertility and the conversion of that fertility to his profit. And this, it cannot be doubted, is the only true way to encourage agricultural enterprise. It has the two great advantages of giving to regular professional

agriculturists the certainty of a home for a term of years, and to the more energetic among them an undisturbed and certain field for their enterprise. The lease alone, however, is not a security for the permanence of the fertility which it creates.

When tenants have made the outlay which the circumstances of the farm require, and the fertility thus conferred is rewarding their exertions, the end of the term draws near, and knowing that then their opportunity is about to cease, it no longer becomes their interest to make any other outlay than is repaid within the year or by the current crop. They draw upon the artificial fertility which they had created until it ceases with the end of their occupation as it began with its commencement.

When "the lease" alone exists, there is thus a tendency to an intermittent fertility. And some modification of the relation between the landlord and the tenant is needed as an inducement to the latter to maintain good and energetic management throughout his occupation of the farm. The provisions which are to have this effect, by which it becomes the interest of the farmer to keep the land at its utmost fertility to the very end of the lease, constitute the code of what the Vale of Evesham Agricultural Society call "landlord and tenant right." We have already given in our columns the terms of agreement recommended by that Society as a code for that purpose. It is plain that they are not antagonistic but supplementary to the lease for a term of years—that the latter more especially is the incentive to agricultural enterprise, and that the former ensures the maintenance of the fertility thus created.

Mr. Sanderson, of Westminster, who has related many remarkable instances in his recent agricultural history of Berwickshire, of the influence of a long lease in inducing agricultural improvements by the tenant, lately read a valuable paper on leases as compared with yearly tenancy, before the Oxford Farmers' Club. It does not appear to us that his very conclusive argument in favour of the former at all discredits the labours of Mr. Pusey, Mr. Holland, and other advocates of what is called tenant right. On the contrary, in proportion to the artificial fertility, which, as he properly contends, is the probable result of the lease, will be the need of tenant-right agreement against that periodical ebb of effort and fertility which the lease alone cannot prevent.

We shall have an opportunity hereafter, when Mr. Sanderson's paper is published by the Oxford Farmers' Club, of calling attention to the forcible arguments and illustrations which it presents. Meanwhile we give the conditions on which he proposes that the clauses of a 21 years' agricultural lease should be based, so as to give security to both landlord and tenant, assuming that skill and integrity are essential requirements in a tenant; and assuming, nevertheless, that if a landlord can legally prove that his tenant is pursuing a system of deterioration, he might at any time dismiss him at a twelvemonth's notice:—

First, no restriction as to cropping the first 17 years of a lease; secondly, no restrictions with respect to the sale of roots, straw, or hay, the first 17 years; thirdly, that for the last four years of the lease one-fourth of the entire area under cultivation should be annually allotted for root crops; fourthly, that during the last four years a root crop should intervene two white crops; fifthly, that during the last four years no straw should be consumed off the farm, unless an equivalent in value of dung be restored to it; sixthly, that all root crops during the last four years should be consumed on the farm; seventhly, that at the expiration of the tenancy one-half of the arable land should be under straw crops, or fit for straw crops (as the term of entry might regulate), one-fourth for roots, and one-fourth under Clovers. None of the above conditions would need to be enforced were a renewal of the lease agreed upon at the end of the 17th year.

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On Wednesday last the Royal Agricultural Society were engaged in considering the important question of Labourers' Cottages in the agricultural districts—and a report of the discussion will be found in another page. Mr. Taylor, of Parliament Street, whose paper on this subject, lately read before the Society of Arts, was reproduced in our pages some weeks ago, again described his many ingenious contrivances for cheapening and improving cottage architecture; and other speakers stated their experience of the subject. The readers of this discussion who may be in search of further information on the general subject of Cottage building, cannot do better than procure the little book about it, lately published by Jarrold & Sons, of 12, Paternoster Row,* containing the Essay to which was awarded the prize of 50 guineas offered by H. Tucker, Esq., Vice-President of the Faringdon Agricultural Library. It describes "the evil," "its causes," and "the remedy," with perhaps less of detailed and practical information under the last of the divisions than is desirable.

* Labourers' Cottages in the Agricultural Districts of England. Price 1s.

Under the first head evils of position, construction, and arrangement are described, with their physical, moral, and national effects in detail; and a great deal of useful statistical information, as well as of particular illustration, is collected.

There is in the second chapter also a great deal on habit, prejudice, and ignorance among both masters and servants, which well deserves the attention of the former, as showing where the responsibility for the great evils thus laid bare really lies.

In the last section of the book, the duties of cottagers themselves, and of landowners and farmers in connection with the subject, are forcibly stated; and the following suggestions are made as to the rules which ought to be observed in the erection of cottages:—

"1. Semi-detached cottages are, on the whole, to be preferred.

"2. Each garden should, if practicable, contain from a sixth to a quarter of an acre.

"3. The convenience should be away from the water supply; and if there be a cesspool, it should be at the extreme end of the garden: if a pigsty, it should be away from the house.

"4. Tiles or slates, not thatch, should be used for the roof.

"5. There ought to be two doors to the lower room, one front and back. The windows on two sides of the room, and all sashes and casements to open near to the ceiling.

"6. Three bedrooms for a family; viz., one for the parents, and one each for the boys and girls; all properly ventilated.

"7. All the internal fittings to be arranged so as to encourage cleanliness and order."

The only point on which it appears to us that insufficient stress has hitherto been laid in discussions of this subject is the power of a large garden to meet the difficulty in the way of cottage building as a profitable speculation. A pair of cottages will cost say 250*l*., and at 5 per cent. they ought to let for 12*l*. or 13*l*.; but agricultural labourers cannot afford more than 4*l*. or 5*l*. apiece for them. If, however, a large garden is attached, they can afford to pay double the agricultural rent for that; and 2*l*. or 50*s*. will be given for half an acre, for which 15*s*. to 20*s*. is the most which a farmer would offer. Though, therefore, the outlay on the mere cottage may fail of an adequate annual return, yet that will be sufficiently supplemented by the increased rental of the garden ground to make the cottage and garden together pay 5*l*., or even 6*l*. per cent. upon the outlay; and with this the owner ought to be satisfied.

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We have received the following letter, dated Cirencester, Feb. 18, 1863, and signed by Professors J. Buckman, G. T. Brown, and John Coleman:

"From a Circular issued by the Council, the public may possibly suppose that a thorough investigation had taken place into the causes of difference which have existed between the Principal and Professors, not for 'some months' only, but for some years past; that these were examined into, and that evidence had been collected and received on both sides.

"This was not the case, for while witnesses were examined and evidence produced from various parts of England on the side of the Principal, whose case was fully entered into, some of the Professors received the intimation that a Council meeting was in contemplation, in a letter from the Chairman the very day the Council met, and one not until it was over, and another not at all.

"In this letter, it was signified that if the Professor had any further complaint to make, he might appear on the following morning.

"The case was then decided, apparently without any evidence being required on the other side.

"Now in making this statement, we have no wish to criticise the conduct of the Council. The public already knows enough of the principal facts, to draw its own conclusions. Our only object is to place ourselves in a proper position before the world, and to show that the decision arrived at was not the result of a thorough investigation, such as had been promised."

The circular to which reference is here made, had previously reached us, though "not for publication;" but seeing that it has appeared in the columns of other agricultural papers, and that it has been very widely circulated otherwise, it appears to be only fair that those who consider themselves unfairly treated by it should be enabled to state their case. The following are the essential passages in the Circular referred to. It is dated January 22, 1863, and is signed by the Earl of Ducie, Mr. Holland, and Mr. Bathurst. Referring to the differences which have "for some months past existed between some of the Professors and the Principal," it says:—

"From various and inevitable circumstances the Council have been unable to meet and inquire into the nature of those differences until the present date. They have now assembled at the College (having previously invited the attendance of the existing officers), and having had before them much documentary and personal evidence, the causes of disunion have been made apparent to them.

"The Council are of opinion that those differences have mainly arisen from a misapprehension on the part of some of the professors of their position and duties in relation to the management of the Institution, which are nevertheless well defined by the charter and the following bye-laws:—

"'42. The Principal is to be appointed by the Council, to whom he is responsible for the general well-being of the College. He is to exercise a vigilant superintendence over all departments, moral, instructional, and domestic.

"'43. He is, with the approval of the Council, to fix the disposition of the students' time, the hours of rising and retiring to rest, of prayers, and of meals, and to regulate the frequency and duration of the several lectures and periodical examinations, and all other matters of detail.

"'44. He has plenary power for the enforcement of discipline by such means as he may judge best; and to him alone all appeals are to be made, and from him must be asked permission for any deviation from prescribed rules.'

"Setting aside the conflicting personal evidence brought before them (which may always be anticipated in such cases) the Council arrive at the following conclusions:—

"That the Principal has introduced, and carried into effect, many salutary reforms in the administration of the Institution.

"That since his appointment the social position and general character of the students has been advantageously developed.

"That the progress of the students in the practice and sciences taught at the college has been generally satisfactory.

"That valuable and reliable testimony has been brought before the Council of the improved religious, moral, and general conduct of the students of late years, the result, as the Council believe, of improved discipline and careful superintendence.

"Under these circumstances, the Council have to express their confidence in the Principal."

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## STEAM CULTIVATION.

### CHADBURY, NEAR EVESHAM.

It was not without reason that a protest was made at a late meeting of the London Farmers' Club against the title of the subject then under discussion. "Stock *versus* Corn" is a misnomer and a blunder. Experience to the contrary of it has indeed almost ripened into a proverb, and "the more stock the more corn" is what almost every arable farmer admits to be the truth. That which is true of a whole district must be generally true of individual occupations. And if England be compared with France or with any of the American States upon this point, it will be found that the country which carries the most sheep and bullocks also grows the most corn per acre.

We hope too that some other result may follow the discussion of such a subject than that general laying down of second-rate clay lands to pasture which was advocated by the graziers present at the discussion referred to. We recommend the occupiers of such land to pay a visit to the neighbourhood of Evesham, and they will see how the question receives its solution there. All around the town lie the richest market gardens, which owe their fertility, no doubt, to tillage and manure. And on either side, beyond the immediate influence of excessive manuring and of garden tillage, the poorer clays are made in several instances to yield larger quantities at once of grain and meat than such land almost anywhere else produces.

This is owing essentially to tillage operations—to drainage, clay burning, and steam cultivation. At Mr. Holland's home farm at Dumbleton, which stretches down on to what used to be the poor clay of the lias there, and at Chadbury on the other side of Evesham, where the highest ground is the stiffest and the poorest, the clay of the lower fields being in some places disguised by overlying deposits of gravel and sand, there are admirable examples of the way in which the arable culture of clay lands is made to yield the largest quantities of grain and butcher meat.

Let us take the latter of these farms in the first place. Till lately the property of Mr. Holland, M.P., since sold to H.R.H. the Duc d'Aumale, and for many years in the occupation of Mr. Randell, who has long been known in his own and neighbouring counties as an able and intelligent tenant farmer and energetic land agent, it has for several years been one of the most successful instances of steam cultivation in the country. Certainly the land is now in first-rate order. The young Wheat, of the most promising colour and perfect plant, is flattening out for tillering—the Vetches are already bushy and covering the ground—the Wheat stubbles, manured and cross cultivated by steam power, are preparing for Mangels under the best possible circumstances. The field Cabbages, in various stages of forwardness, are promising well. The Italian Rye-grass among Wheat stubble is ready for the sheep fold, and the Clover plant is thick and full. And the produce of the previous year is shown in great piles of Mangel Wurzel, and in a well filled stack-yard.

Mr. Randell occupies two farms. The one on the northern side of the Avon, is, excepting one or two small patches, a stiff clay, including about 390 acres of arable land in large open fields without hedgerow timber, and 100 acres or thereabouts of pasture. The other farm of 200 acres—about 150 arable and the remainder pasture—is of a lighter character. The cultivation, very heavy, by reason both of the stiffness of the soil and of the rotation which is adopted, used to be accomplished by about 20 horses on the one farm and 8 upon the other. The adoption of steam cultivation has saved at least 8 horses, for that number fewer are kept, and some of

the others, being brood mares, are less efficient in the field. On this ground alone, the cost of cultivation must be less by 240*l.* year than it used to be.

The rotation adopted on the larger farm is essentially biennial—it grows Wheat every other year; but as it varies greatly in quality the alternate cropping also varies. On the lighter portion—1st year, either Cabbages, Rye-grass, or Vetches, succeeded by Swedes or Turnips; 2d, Wheat; 3d, Clover or mixed Grass seeds; 4th, Wheat.

The best part of the clay has—1st year, part Mangels, part Cabbages; 2d, Wheat; 3d, Clover; 4th, Wheat; 5th, Beans; 6th. Wheat.

The poor clay has—1st year, Vetches or Rye-grass; 2d, Wheat; 3d, seeds; 4th, Wheat.

The acreage this year is—

| | A. | R. | P. | A. | R. | P. |
|---|---|---|---|---|---|---|
| Wheat .. .. .. .. .. .. | | | | 202 | 0 | 0 |
| Seeds .. .. .. .. .. .. | | | | 72 | 0 | 0 |
| Beans .. .. .. .. .. .. | | | | 10 | 0 | 0 |
| Potatoes .. .. .. .. .. .. | | | | 2 | 3 | 0 |
| Fallow, viz.:— | | | | | | |
| Rye-grass, to be followed by Swedes | 25 | 2 | 0 | | | |
| Cabbages, " Swedes | 8 | 0 | 0 | | | |
| " " Turnips | 10 | 2 | 0 | | | |
| " only .. .. .. | 14 | 0 | 0 | | | |
| Mangels .. .. .. .. .. | 21 | 2 | 0 | | | |
| Vetches .. .. .. .. .. | 22 | 2 | 0 | | | |
| | | | | 102 | 0 | 0 |
| Total .. .. .. | | | | 388 | 3 | 0 |

The double culture of the root crop land, which bears a previous crop of Cabbages, Rye-grass, or Vetches before Swedes, the quantity of autumn cultivation, and the early fallow of Rye-grass stubble for the succeeding Wheat crop, create a great deal of tillage work, and as on such land it is all heavy ploughing, there is plenty of room for steam power.

Mr. Randell has had Smith's cultivator at work since the spring of 1857, so that there is the experience of six years in its favour. During the first of these a good deal of difficulty was experienced in getting into work. No experienced man could then accompany the apparatus. Mr. Humphries, of Pershore, by whom it was supplied, had himself as much as his customer to learn the right method of employing it. A stranger thing than it is now-a-days, of course the whole country side assembled to witness the accidents and breakages which signalised the first few days of use; but Mr. Smith was in this instance fortunate enough to have placed his machine in the hands of a man of the requisite tenacity of purpose, patience, and resolution, and thus it happens that he can point out Chadbury as one of the best examples of his success. The sudden slackening of the rope consequent on the yielding of the then imperfect anchors often threw it in amongst the cog wheels of the windlass, and much breakage of rope was the consequence. To this it is owing that two complete sets of rope, the first of which was of iron wire, have been purchased. A portion of the second now remains, and with the third set of steel-wire rope there is every prospect of the present stock lasting five or six years.

The engine is one of 10-horse power. The labourers are—engineer, windlassman, and ploughman, two anchormen, one porter lad, and a water-cart boy; the porters at each end of the furrow being shifted by the anchormen at the ends respectively. The cost of labour is 3*s.* 6*d.* an acre for a first grubbing. This company of men contract to do the work with the 3-tined grubber for 3*s.* 6*d.* an acre, dividing it among themselves as they themselves arrange. The average amount of such work is 5½ acres a day. In crossing this work with the 5-tined grubber, 8 acres a day are generally accomplished (in both cases all the time and labour of removals are included), and the price of labour is proportionately reduced.

The following is the acreage actually accomplished during the past year:—

| 1862. | Acres grubbed. | |
|---|---|---|
| | 1st Time | 2d Time |
| Before harvest .. .. | 85 | 55 |
| After " .. .. .. | 60 | .... |

The account for repairs during 1862 amounts to 3*l.* 17*s.* 10*d.*; at 5½ acres a day, there would be 19*s.* 3*d.* to divide, viz. 1*s.* 6*d.* each to the two boys, and 16*s.* 3*d.* between the five men equally; the horse 2*s.* 6*d.* per day to draw coals and water, ½ ton coals, 5*s.*; and oil 1*s.* per day—or near 5*s.* 3*d.* per acre in the items of material and labour for grubbing. Add to this for interest upon windlass and cultivation, new shares and repairs, 22*l.* 10*s.* per annum; wear of rope, 20*l.*; use of engine (which is employed also for thrashing, 20*l.* Total 62*l.* 10*s.*; or upon 200 acres, 6*s.* 3*d.* per acre, making a total of 11*s.* 6*d.* per acre, or 115*l.* per annum as against 240*l.*, the cost of the eight horses which have been displaced. It is plain that the comparatively high cost is owing to the comparatively small acreage that is cultivated by steam power.

But it is not the saving in the cost of cultivation that constitutes the chief advantage of the application of steam—it is that the work is done better, and more of it, while the weather is fine, the most important consideration of all for clay land. Mr. Randell's fields have all been drained, and the steam cultivator, which leaves no floor beneath its moved soil, which stirs the ground moreover to a greater depth than horse cultivation hitherto has known, has opened up both soil and subsoil to the fertilising influences of the air and of the rain. The result of this and of the other departments of good management here has been to raise land from the poverty-stricken condition which poor undrained clay presents up to the standard of producing 5 quarters of Wheat, and 5 quarters of Beans, and 30 tons of Mangels per acre, and heavy crops of Clover, Vetches, Cabbages, &c.

Among the "other departments of good management" alluded to may be mentioned the practice of clay burning. The whole surface of some fields has been burned—100 to 150 cubic yards of clay gathered as clods from the surface of a rough fallow are piled in heaps over the field and burned at the cost of about 5*d.* per cubic yard, coal being supplied—and when afterwards spread and worked by tillage into the midst of the soil, a great increase of produce is the result. When banks of clay are burned in great piles, coal is supplied at the rate of about a ton of inferior stuff to every 50 cubic yards, and the price is either 5*d.* per cubic yard, coal being supplied, or 6½*d.* without the coal. The heap is burned "end on," wet clay being thrown over the burning end and sprinkled with small coal, in the proportion which practice teaches. These great piles, of which several unfinished still lie about in different parts of the farm, are drawn upon for spreading over the sheep yards.

Mr. Randell has a breeding flock of about 400 Shropshires—the lambing season is just commencing, and the ewes are in the grass fields, and in yards about an old homestead at the farther part of the farm. The system is to sell some 30 or 40 shearling rams every year, and everything else—tegs and barren ewes—fat the draught ewes for breeding. The feeding sheep are having cut Mangels, hay chaff, and malt dust, with a little cake daily. The old barns, several old sheds, and new ones are all converted into sheep houses now, and the yards are covered every two or three weeks with a layer of burned clay, receiving straw as it fouls for a week or two afterwards until ready for another layer of the clay ashes. The whole digs out a very rich mass of manure, the best possible both as to its mechanical effect and as to its composition for the clay soils which are to receive it. The flocks are of the largest framed and heaviest fleeced that I have seen in Shropshires. They are folded during summer on Vetches, Cabbages, Rye-grass, and Clover, and Early Turnips; and during winter they come home to yards for Swedes and Mangel Wurzel, and hay. Besides the flock a dairy of 10 or 12 cows is kept, and their produce, with the draught cows, are also fattened off.

Among the details of cultivation which may be considered peculiar to the place, the field culture of Cabbages may be named. The earliest stock is Wheeler's Imperial; but the crop is now from home-saved seed several generations old. During the growth of the crop those Cabbages are marked which are of the character which it is desired to maintain. And when the whole crop is cut, these Cabbage stumps are transplanted to the seed bed. There they are transplanted from time to time to hinder the formation of Cabbages, until in the second year they are allowed to bloom, and the seed is preserved. They are sown in seed-beds in July and August. Several acres of the Wheat stubble are steam-cultivated and manured, and if very rough the whole stubble, &c., is ploughed under, and the Cabbages are pricked out in rows upon the ploughed ground, 24 inches wide, and at intervals of about 15 inches in the rows. Early in November some 40 bushels of soot are sown per acre, partly as a remedy for or security against the ravages of slugs, and the intervals are horse hoed—and guano is applied before another horse hoeing in March. These Cabbages are either sold to market men, who come and cut them as they think proper, or if there be no market for them they are folded off with sheep in time to enable a crop of early Turnips for an autumn fold, or of Swedes or Mangel Wurzel to be removed before the Wheat seed time. Three successions of Cabbages are thus grown in as many different fields, the last of them not off till past midsummer, when, however, there is still time for a good fallowing before Wheat sowing.

That portion of the Wheat stubble which is intended for Mangel Wurzel is manured immediately after harvest with 18 to 20 loads of farm-yard dung, then broken up with the steam cultivator, and, if the weather continue dry, scuffled across. In this state it lies till spring; it is then looked over by men with forks to remove the Couch-grass, and has a ploughing by horses. About the first week of April a mixture of 4 cwt. of guano and 3 cwt. of common salt is applied broadcast, and 3 cwt. of superphosphate mixed with 1½ cartloads of ashes from the sheep sheds drilled with the seed.

The crop is lifted and piled up early in October along the roadside, so as to facilitate carriage to the folds in spring. Boys cut off the leaf as they stand in the field, and men lift them and throw them into carts. They are secured simply by a covering of earth, and no attempt is made to turn either root or top until they are taken from the heap. Heavy crops are grown. A portion of the Wheat land is occasionally sown with Italian Rye-grass, which is folded over in spring with ewes and lambs and immediately broken up and well fallowed for the succeeding Wheat crop. The rest of the Wheat stubble which is in seeds, is mown for hay, and broken up early if Rye-grass was sown among it, being cultivated and cross cultivated by steam power in July and August. In one instance last autumn, it was found that the Clover in a Wheat stubble had failed where Cabbages had been grown and eaten off by sheep before the previous Wheat crop—succeeding perfectly however where Mangel Wurzel carried off had been the previous root-crop. The explanation offered was that the salt of the dressing for Mangels may have kept down the slugs, to which the destruction of the young plant was owing.

In walking across the farm one is struck at present with the vigorous and promising growth of the young Wheat, the Vetches, the Cabbages, and the Italian Rye-grass. There is not a field where traces, often abundant, of the large dressing of burned earth do not exist. And on the very highest and poorest clay of the farm, where the dung-cart never comes, steam-tillage, burned earth, artificial manure, and the summer sheepfold, enable the same severe rotation as elsewhere, on land not worth more originally than 10*s.* or 12*s.* an acre; and the Wheat plant and the Rye-grass look as well here as anywhere.

The spectator from this, the highest part of the estate, looks down now on a very different scene from that of 20 years ago, when Mr. Randell first came here. The fields have been enlarged, the hedgerow timber has been cleared away; the tile-yard, now given up, has sent out tiles and bricks enough to drain the land and erect the necessary buildings of the homestead. A house, which, with its garden, shrubberies, and grounds, displays exceedingly good taste and infinite fertility of resource, has been erected. The whole estate is completely in hand, and has long been doing its full share in the work of feeding the population, and meeting the demands of landlord, tenant, and labourer.

Of course the main features of the scene are as they were. Yonder is the Cotswold range, with the outlying mass of the Bredon hill, and at our feet the Avon flows, skirting the farm on its way from Evesham to the Severn. And a beautiful English landscape it has always been. Within the last few years this and several other farms around have been purchased by the Duc d'Aumale, for whom Mr. Randell, acting as his agent, has built a shooting-box, stables, kennels, and other offices, displaying here the same good taste and ingenuity which he had long exhibited at home. And his Royal Highness brings his harriers and spends several months of every autumn at Chadbury, welcomed by the neighbourhood for the genial friendly manner in which he shares with neighbours the enjoyments of his quiet country life.

## THE MANUFACTURE OF STEAM PLOUGHS.

In the Court of Common Pleas, at the sittings in Guildhall, a case has been on for trial before Lord Chief Justice Erle, by a special jury which has lasted nearly the whole of the week, touching the alleged infringement of patents obtained by Messrs. Fiskin and Mr. John Fowler for improvements in the manufacture of steam ploughs by Messrs. Howard, the implement makers of Bedford. The plaintiffs, Messrs. Beadel & Co., to whom the patents of Messrs. Fiskin and Fowler have been assigned, were represented by Mr. Bovill, Q.C., Mr. Hindmarch, Q.C., and Mr. Aston, and the defendants were represented by Sir Fitzroy Kelly, Q.C., Mr. Webster, and Mr. Barrow.

The action was brought for the violation of two several patents. The first was granted to David and Thomas Fiskin, and was dated July 18, 1855, and the second was granted to John Fowler the younger, and David Grey, on February 15, 1856. Both were for improvements in machinery for steam ploughing, and the defendants were charged with manufacturing a machine for a similar purpose in which both patents were infringed. The defendants pleaded that they were not guilty, and that the letters patent obtained by the plaintiffs was not valid on account of the insufficiency of the specifications.

Mr. Bovill, Q.C., opened the case for the plaintiffs in a speech of considerable length, in which he stated that although the action was brought by Messrs. Beadel & Co., Mr. John Fowler, whose property the patents were, and who had assigned his interest in them to Messrs. Beadel, was virtually the plaintiff. Mr. Fowler was an agricultural engineer, and carried on business at Cornhill and Leeds. For some years great attention had been paid to the question of steam ploughing, but although large prizes were offered by the Royal Agricultural Society and other Societies in England and Scotland, no one succeeded in inventing a machine which by the aid of steam could be adapted to the cultivation of the land, until the problem was solved by Messrs. Fiskin in 1855. Many attempts had previously been made, but the machine of Messrs. Fiskin was the first approach towards a really useful and serviceable plough. The difficulty had been to produce a plough sufficiently portable and manageable in the field. In the machine invented by Messrs. Fiskin the motive power was given by means of an ordinary steam engine, but the improvements which rendered the machine valuable were the adoption of a principle of counterpoise, commonly called the "tip action," which enabled the ploughs to be depressed into and raised out of the land without difficulty, and the invention of a moving anchor by which the position of the

machine was readily changed on reaching the headland after each "bout." Up to the date of Messrs. Fiskin's patent those objects were only attained by the aid of a considerable amount of manual labour, which had the effect of rendering steam ploughing rather more expensive than the ordinary ploughing by horse power. The machine of Messrs. Fiskin consisted of a new and very peculiar arrangement of the ploughs, and in the mode of lifting, and made a great stride in progress towards perfection. They placed a set of ploughs at each end of their machine upon separate sets of levers. There were thus two sets of ploughs and two sets of levers, the whole of which were connected together by a very ingenious arrangement. By working a screw and a sector shaft the ploughman was enabled without difficulty to raise one set of ploughs out of the land, and as they were lifted the set at the opposite end were depressed into the land ready for action in the opposite direction. A patent for this invention was taken out in the year 1855, and in the following year Mr. Fowler obtained a patent for further improvements. Mr. Fowler adopted the balancing power, which formed a great feature in the machine of Messrs. Fiskin, but instead of having two separate sets of levers he fixed two sets of ploughs upon one rigid lever, and by attaching chains to each enabled them to sink into or rise out of the land by the action of draught power. The action, in point of fact, was very similar to that exhibited by two children playing at "see-saw." The ploughs were placed upon a balance, and when one set was pulled down by the draught of the wire rope the other was naturally lifted out of the land. After Mr. Fowler had taken out his patent he entered into an agreement with Messrs. Fiskin, by which he obtained an assignment of their patent, and on the 23d of May, 1859, both patents were assigned to the plaintiffs. In 1861 Messrs. Ransome & Sims, Messrs. Clayton & Shuttleworth, and Messrs. Howards, entered into an arrangement by which they should be authorised to use both Fiskins' and Fowlers' patents in the construction of steam ploughs, on the payment by each firm of a sum of 30,000*l.*; but before the agreement was completed, on the 17th December, 1861, Mr. James Howard wrote a letter to Mr. Fowler, in which he said, "Upon canvassing the subject with my brother I found that he has such insuperable objections to carrying the agreement further, that if the agreement is carried out it must be with the omission of our names." Messrs. Howard, however, had since constructed a plough in which it was alleged that they had adopted both the balancing principle adopted in Messrs. Fiskin's plough, and the draught action invented by Mr. Fowler, and it was for these infringements of the existing patents that the present action had been brought. The questions for the consideration of the jury, as stated by Mr. Bovill, would be—first, was Messrs. Fiskin's plough new, and was their anchor new; and secondly, were the improvements of Mr. Fowler new? He believed there was no pretence for saying that there had ever been anything like them made before, or that they were not useful and valuable inventions.

Mr. Carpmael, patent agent and civil engineer, was examined at some length. He stated that he had paid great attention to the construction of implements for agricultural purposes, and particularly in reference to steam ploughing. He had seen the specifications contained in the letters patent obtained by Messrs. Fiskin, and he had also seen their plough at work. The machine they had patented was altogether new, and was a valuable invention. The improvements patented by Mr. Fowler were also new, and materially simplified the arrangement and working of Messrs. Fiskin's machine.

Mr. Fowler, C.E., Mr. Bramwell, C.E., of Great George Street, Mr. Amos, C.E., consulting engineer to the Royal Agricultural Society, and Mr. Bovill, C.E., gave similar evidence.

Mr. Clayton, of the firm of Clayton & Shuttleworth, implement makers, was also examined. He stated that the inventions both of Messrs. Fiskin and Mr. Fowler were new, and that the firm of which he was a member would not have consented to pay so large a sum as 10,000*l.* for the privilege of using them if they did not believe them to be of the greatest value. They were quite ready to carry out their part of the agreement.

Similar evidence was given by Mr. Ransome, of the firm of Messrs. Ransome & Sims, implement makers, of Ipswich.

Sir Fitzroy Kelly, Q.C., for the defence raised several objections upon points of law in regard to the sufficiency of the specifications, a note of which was taken by the Lord Chief Justice. He then proceeded to urge that it was a principle in law that a patent at the time it was granted must be valid. It could not be rendered valid by any act done subsequently. It was also an established principle that the patent must be granted to the inventor and not to any other person. He believed he should be able to show that with regard to Fiskin's patent there were two several parts of the machine patented, which were not the invention of David & Thomas Fiskin, but which were the invention of a brother named William Fiskin and a machinist of Stockton-upon-Tees named Rogers. William Fiskin claimed to be the inventor of the balancing power, and Rogers of the moving anchor. Since the negotiations between Mr. Fowler and Messrs. Howard for the use of his patents had been broken off, William Fiskin had written to the defendants to say that it was he who invented the balancing power, and in addition to that Messrs. Fiskin had offered to grant them a license to use it. If he succeeded in establishing that fact the learned judge would tell the jury that in law the patent was invalid, but should he fail in doing so he believed he should be able to prove beyond doubt, from the evidence of Mr. Rogers, that he had invented another very material part of the machine patented, namely, the moving anchor. If he succeeded in proving that upon that ground also the patent would be invalid.

Wm. Fiskin, who appeared to be an adverse witness, was called, and a letter written by him to Messrs. Howards, in which he claimed to have invented the balancing power, was put into his hands. He stated that since that letter was written he had found other letters written by his brothers, from which he ascertained that the idea of the balancing power had suggested itself to them before it had suggested itself to him.

Robert Rogers, machinist of Stockton-on-Tees, stated that Thomas Fiskin brought him the model of a steam plough shortly before the agricultural show at Carlisle in 1855. Mr. Fiskin was introduced to him by Mr. Fowler, an engineer of Stockton (not the patentee). In the original model, Mr. Fiskin proposed to work the balancing movement by a lever, but in constructing the machine, witness found that it would not act, and suggested that a screw and sector shaft should be used, which, after some opposition from Mr. Fiskin, was ultimately adopted. Witness suggested that Messrs. Fiskin should patent the invention, but they said they had not the means of doing so; and he then suggested that they should pay him his account for constructing the machine, and he would then take out a provisional protection. They paid him 30*l.* off a bill of 37*l.*, and he took out a provisional protection, making the drawing and specification in the name of Messrs. Fiskin. Another agreement was then entered into by which he was to take out a complete patent for Messrs. Fiskin, which was to be assigned to him, he paying them a royalty upon all the machines he constructed. In 1857 he received 60*l.* to give up his interest in the patent. After the provisional protection had been obtained, and before the complete patent was taken out, he invented the moving anchor, and applied it to the machine.

Mr. Pole, C.E., Inspector of Government Artillery; Mr. Newton, patent agent; Mr. Howard, one of the defendants, and other witnesses were called to prove that the defendants in their machine, although they adopted the same principle as Messrs. Fiskin and Fowler, had applied it in a different manner, and had not infringed the existing patents.

Mr. Bovill then called, to contradict the evidence given by the defendants,—

Thomas Fiskin, who admitted having taken a model of his machine to Rogers in 1855, and requested him to construct it, but alleged that at that time there was a moving anchor to it. He denied the statements of Rogers, both with regard to the screw and sector and the moving anchor, and said he had had the idea of a moving anchor for years before he succeeded in perfecting his machine. He also produced a letter written in 1850, in which he described its action. He added that he and Rogers were in constant consultation as to the best mode of carrying out the invention.

Lord Chief Justice Erle remarked to the jury that an inventor in carrying out an idea he had discovered was fairly entitled to avail himself of the practical skill of a machinist.

Mr. Fowler, of Stockton-on-Tees, deposed to having introduced Thomas Fiskin to Rogers in 1855. Previously to doing so Mr. Fiskin had explained to him the nature of the machine he had invented, and he distinctly remembered that the moving anchor was described to him.

After a speech from Sir Fitzroy Kelly in summing up the evidence on behalf of the defendants, Mr. Bovill replied upon the whole case.

At the sitting of the Court this morning, Lord Chief Justice Erle proceeded to charge the jury, requesting their careful attention to the case, which he observed was of great importance to the parties concerned. He had reserved some points of law, with which the jury had nothing to do. The three questions for their consideration were—first, had the defendant infringed the patent granted to Messrs. Fiskin in 1855; secondly, had he infringed the patent granted to Mr. Fowler in 1856; and thirdly, were Mr. Fiskin and David Fiskin the first and true inventors of the invention under their patent of 1855—the screw and the sector. If the defendant had infringed the patent granted to Messrs. Fiskin, he had also infringed the patent granted to Mr. Fowler. His lordship, after calling the attention of the jury, at considerable length, to the particular nature of the inventions and improvements which had been spoken to by the witnesses, handed them in writing the questions which he had propounded for their consideration.

The jury then retired, and in the course of about 10 minutes returned into Court, finding a verdict for the plaintiffs on all the issues.

Mr. Hindmarsh asked his lordship to name a sum, so as to guide the costs of the case.

His lordship thought 40*s.* with the usual certificates would be sufficient.

The verdict was entered accordingly.

## Home Correspondence.

*Sparrows and Caterpillars.*—Your "Correspondent," in replying to Mr. Wilkins on this subject, is wrong in stating that the Rev. F. O. Morris alleges that he has seen the sparrow feed its young with "caterpillars." Mr. Morris simply quotes the experience of Mr. John Hawley, of Doncaster, in the passage printed by your correspondent. The relative merits as naturalists of "the two rev. gentlemen," are not therefore at issue on this point. The Rev. G. Wilkins, moreover, is too severe when he writes that "every tyro of a naturalist knows" that the sparrow does not eat caterpillars. Yarrell has never been considered "a tyro" in natural history, and he distinctly affirms—"Their young are fed for a time with soft fruits and insects, particularly caterpillars, and so great is the number of these that are consumed by the parent birds, and their successive broods of young, that it is a question whether the benefit thus performed is not a fair equivalent for the grain and seeds required at other periods of the year." Vol. i., page 476. Buffon states that the house sparrow destroys caterpillars by thousands. The Rev. J. G. Wood, in his recent work on Natural History, alleges that a single pair of sparrows have been watched for a whole day, and were seen to convey to their young no less than "40 grubs per hour;" and this rev. gentleman adds the startling paragraph—"At Maine, for example, the total destruction of the sparrows was ordered by Government, and the consequence was that in the succeeding year even the green trees were killed by caterpillars;" page 474. Mr. Jesse, in his "Gleanings of Natural History," states that a pair of sparrows destroys "thousands of caterpillars" during the breeding season; and finally, Mr. Edward Peacock, of Messingham, Lincolnshire, quoted by Mr. Morris, has discovered "green caterpillars" in the stomachs of young sparrows. The question, therefore, is not so plain to "every tyro of a naturalist." It is probable that the sparrow will refuse to touch hairy caterpillars; but even at the risk of being numbered among those who do not "understand what a proof is," I am not yet prepared to accept the very positive statement of the Rev. Mr. Wilkins, that the "sparrow will perish with hunger rather than touch a caterpillar." The fact admits of simple proof, and the season is now approaching in which such "proof" can be obtained by any person desirous of settling the interesting question. *John Hitchman, Mickleover, near Derby.*

*The Condition of the Working Classes* in all its bearings is most important. Advice will be almost thrown away if the recipient feels it impracticable to follow the precepts laid down. Tell a hungry man there is bread in the baker's shop, it will not satisfy his appetite unless he has the means of purchasing food. The most earnest wish of a labouring man will not stretch the walls of his cottage, or enable him with a wife and six children, and with only three rooms to shelter them at night, to separate the sexes, so as to observe common decency in his family. When advocating any beneficial change in Society, too hard a line should not be drawn between the classes; they all come within the influence of the home circle. In the human body there are many members dependent upon each other for assistance, their combined and healthy action making up the perfect man, physically speaking—classes, amongst men and women, having their particular duties and vocations, work together, much in the same manner, in a well governed country, so long as they observe the laws of God and man; a deviation from these will cause derangement in the social machine. There the parallel ceases, and the community have the advantage over the individual. The injury or loss of an eye cannot be replaced by an arm or a leg, the use of each is distinct and permanent; not so with classes, whose rise in the scale of society may be progressive according to circumstances, from the lowest to the highest offices in the country. Since the world began there have been and must continue to be, men and women appointed to fulfil the various duties required by the state; and domestic wants by cultivation of the soil, commercial enterprise, home offices, administration of the laws, education, religious instruction, and defence by sea and land. Taking the worst class first: the better you make the labourer intrinsically, the more useful he will become to those who employ him, as well as more happy and contented within himself. A little thing is often the turning point in a man's character—a rough word hastily spoken, or a slight disappointment, may drive him to the public house, because the mind is always dwelling upon the cares and struggles of life, instead of looking for the "silver lining in the cloud." How can he do so, having but an overcrowded cottage to return to after a wet walk home and a hard day's toil? *Falcon.* [No. 1 has never arrived.]

*Woolston.*—My Wheat after Beans, the land cultivated, and drilled by steam-power at one operation, at a cost of only 6*s.* 2*d.* per acre, looks well. My heavy land Barley (last year) planted by the same machine at one

operation, including cultivating the land after roots fed on, produced 54 bushels per acre. The land was never known to have produced over 40 bushels of Barley per acre under horse culture, and my neighbour's land last year, of the same quality, gave under horse culture only from about 24 to 32 per bushels per acre, which according to the reports in the agricultural papers was not much exceeded on the heavy lands throughout the country. The general cry throughout the year has been a bad crop of Barley, in consequence of the bad weather and a bad seeding, whereas the bad result was caused by a bad system, which may now be obviated by the adoption of a better power, by which the farmer may take advantage of best weather, and get results equal mine. I have now fixed Monday, March 2, as the day on which I shall begin working my combined cultivating and drilling machine. I shall first plant my light land Beans, 12 acres: then my heavy land Beans, 10 acres; then my heavy land Barley after roots fed on, 12 acres. Then I shall move the machine on to Loughton, where it will cultivate and drill with Barley 17 acres after roots fed on for Mr. Bignell; after which, and as soon in April as my sheep have eaten all my light land Swedes, 13 acres, the machine will be brought back to cultivate and drill the land with Barley. Now, since it is utterly impossible for me to show this machine in actual operation at any of the agricultural summer shows, except by scratching it through a bit of unfit land, by which but few of the public can understand its merits—Farningham to wit; or by setting it up in a show yard, a mere dummy—Battersea to wit—I have determined that I will not put myself to the costly trouble of showing it at all at any of the public shows to be held this summer; therefore, if any of the public would like to see the greatest agricultural novelty of the age, the machine that will ere long clear England's light land of its twitch, in actual operation, they may do so by visiting Woolston when any of the above work is being done. *William Smith, Woolston, Bletchley Station, Bucks, Feb.* 19.

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

A MEETING of the Council and Members of the Society was held at the Society's rooms on Wednesday, Mr. Raymond Barker in the Chair.

LABOURERS' DWELLINGS.—Mr. J. Taylor exhibited and explained his improved materials for the construction of cottages, as introductory to a general discussion on the economy of labourers' dwellings. He said he did not propose to show any particular plan of cottage buildings, more than was necessary to show how his own materials were introduced. If he attempted to exhibit a perfect model of a cottage, he must fail, because the requirements of cottages in different localities, and the number of boys and girls, must be taken into account. He proposed to point out principally the general defects of cottage building, one of the principal of which was damp, the source of most of the diseases under which the labouring classes in the rural districts suffer. He then, by means of diagrams, proceeded to describe a labourer's cottage with three bedrooms, a kitchen or long room on the ground floor, and a washhouse or scullery with an oven, copper, sink, &c. One of the bedrooms in front, near the parent's room, was for boys—the other, at the back, for girls. There was a centre party wall and a side wall, a gable front and back, with a common lean-to roof; the timbers lean from the centre down to the side wall, and he thus avoided all intricacies of roof and a great deal of expense. There were no valleys and no gutters, but along the side walls a single rain-water trough, from which the water ran down into a butt. The walls were perfectly square, and presented the least external surface to our very damp climate. He then exhibited a diagram of a pair of cottages which he was about to build at Bishops Waltham, and which was a modification of the former plan. It contained two bed-rooms on the upper story for the parents and girls, and a sleeping room for boys on the ground floor. One of the evils experienced in cottages was the damp which rose up to the walls by capillary attraction; and to meet this, instead of slates, cement, or asphalte, he proposed to use a damp-proof course made of brown stone ware, which was very much superior on account of its hardness and durability. It was made of earth expressed through a die and perforated, by which means an open air space was created right through, so that if a cottage was built in a pond of water no damp could arise beyond that point. It had also the advantage of having a perforated course all round the building, producing a thorough separation of air. One thing wanted in a foundation was bonding and strength; the best thing for that purpose was a layer of York stone, but that was too expensive to be generally used. His perforated course was as strong as York stone, and would bear 600 feet of brickwork upon it: in fact it might be regarded as a piece of York stone. Three purposes were thus answered—damp was kept down, air introduced, and the bonding secured. He next adverted to the construction of walls. In his opinion a brick wall 9 inches thick was unfit to form the habitation of any human being, because the mortar joint on the brickwork was the ready source of wet being conveyed from the exterior to the interior, and even good bricks were of an absorbent character. Again, a 9-inch wall, although strong enough, was not stiff enough. It was so yielding, that on being built it oscillated every time the workmen ran up the ladder, owing to the yielding mortar joints. To construct a cottage economically, the bulk of the materials used must be produced on the spot; and he proposed to use a small quantity of his own materials along with the local materials. He made a perforated block by means of an ordinary brick machine in the usual way. He made them in pairs, which gave facilities for drying and burning. An ordinary brick would never dry straight and true; it would warp in various ways; but when made in pairs that objection was obviated. The bricklayer when he got the block could immediately divide it into two with a chisel. He would lay a course of bricks, which were called "headers," and then take one of these blocks and lay it upon the "headers." He would then follow with the ordinary brick, and carry it along the inside of the wall. Then came another of the facing blocks and a course of "headers." By this arrangement all the through mortar joints which were usually the means of wet, were as it were closed, and the more wet there was upon the flange of the facing block the more the yielding brickwork at the back was thickened by the vertical bond, much as a piece of angle iron was placed to stiffen a wall. A wall was thus made perfectly stiff, and it had no more bulk in it than an ordinary 9-inch wall, and would be perfectly dry within the external surface. Another material which abounded in almost every locality where bricks were expensive was concrete, or materials suitable for it. Hitherto concrete had not been available for the construction of walls. In the foundation it would bear any weight, because it was retained in the trench and was prevented from spreading. When a concrete wall was built by the ordinary method, it was at once, on the removal of the mould board, exposed to the action of the atmosphere, and immediately began to decay. What he proposed was, to use concrete in the construction of walls in the same manner as it was used in the trench. The plan he adopted was to enclose it within facing blocks of brick. First the bricklayer would lay a course of flange bricks on the outside, and then the labourer would fill in the trench, so created, with concrete. By using a flange brick the pressure of the concrete upon that brick counteracted the outward thrust given by the concrete, which was consequently retained just the same as it was retained in the trench for the formation of a building. The blocks or bricks of the particular form were cheap enough to be used for cottage buildings, by reason of their being burnt in blocks of six together, and being capable of separation by the bricklayer. Each of these bricks was 12 inches long and of the ordinary width, but on the principle of moulding and burning the joints were straighter and truer than were to be found in the very best description of bricks. If concrete walls were used for cottages very few of these bricks would be necessary. With respect to flooring, he had made a paving tile with a flange at the side of it. The next tile rested upon the flange, and longitudinally openings were formed by leaving out a small portion of that flange, so that the air not only circulated longitudinally from one side to the other beneath the paving, but transversely. The paving was laid at exactly the same level, and there was a perfect circulation of air everywhere beneath the paving, and the floor well preserved its level. Alluding to the subject of roofing he said he thought tiling a better roof than slating. In and about London it was more costly, to the extent of 35 per cent. at least. The advantage of slate was that less timber was required. Ordinary plain tiling was many times the weight of slate. The reason was that to keep out the wet, plain tiling had to be laid double over every part. Hence the great weight. The tiled roof was much warmer in winter and much cooler in summer than the slated roof. He had invented a roof half the weight of the plain tiling and only a trifle heavier than slating, in consequence of not requiring to be laid double. This tile was made with two flanges, having notches in the flanges. These notches allowed the tile when turned topsy turvy to go down and take a level bearing upon the two side tiles beneath it.

In reply to a question, Mr. TAYLOR said that the floor varied from 6 to 10 inches above the ground surface, and all the unnecessary depth of foundation, sleepers, walls, &c., required by wooden flooring were avoided; and provided the soil was sufficiently good, they might build nearly upon the surface instead of going down 18 inches for a foundation. He next called attention to warming by means of the usual open fireplace. By the present system of warming the greater the warmth the greater the draft; and the next defect was that 75 per cent. of the heat produced rushed up the chimney. Then, again, there were the evils resulting from smoke. There was no smoke in the lower part of the fire where the greatest heat was to be found; but on coming to the upper part of the flue the smoke was thrown off and ascended. In his plan he had a register at that point, and the smoke not being able to ascend the chimney passed down into the fire, where all the carbon was at once consumed as fuel, which it really was. When that had taken place, the smoke deprived of the carbon went up the chimney, when the smoke and heat which otherwise would have gone up the chimney passed round the parts which formed the fire place, and these were hollow; they were in fact between two fires. The room was by this means provided with a large quantity of moderately warmed air, not overloaded by coming into contact with over heated surfaces, but moderately warm, and the three defects which he had pointed out were all remedied by one and the same agency. The smoke—the carbon in the smoke—was consumed without any trouble—the heat which would have escaped up the chimney was made use of—and the room, instead of being supplied with cold air from the door or the window, was supplied with a moderately warm air. He next pointed out the means by which he proposed to remove the common evil of a smoky chimney, and described the *modus operandi* by which the chimney was swept and kept clean, which appeared to be of a very simple and easy character. If his plan were adopted, the services of a chimney sweeper would not be required more than once in 5 or 6 years.

Mr. BAILEY DENTON observed that however important the principle of construction might be, there was a still more important question, and that was the cost. He wished to know how was that cost to be met, what proportion was to be borne by the landowner—what proportion by the tenant, and whether it was possible for the ordinary farm labourer to contribute more for rent than one-seventh of his wages, which in many cases did not exceed 9*s*. or 10*s*. a week.

Mr. TAYLOR, after entering into some details as to the cost of the brickwork, said that three-roomed cottages might be constructed of concrete walls with his brick facing for, 140*l*. a pair, assuming the materials to be within a reasonable distance. Of course that could not be done if the materials had to be conveyed 100 miles. The use of these materials would benefit the labouring classes in a sanitary point of view, would benefit him as a manufacturer, and would undoubtedly be a great advantage to the landed proprietor and also to the tenant.

Mr. WOODS, of Chichester, spoke of the advantage of using mud walls, of which he had seen specimens in Suffolk and Wiltshire, and which were always kept carefully whitewashed. The only objection to the use of these walls was that a nail could not be driven into them, nor anything placed to fasten the windows without injuring walls of that description.

After some further discussion a vote of thanks to Mr. Taylor, proposed by the Chairman and seconded by Mr. McDouall, was passed, and the Secretary announced that the next meeting for discussion would be on the 18th of March.

## Farmers' Clubs.

KINGSCOTE: *Feb.* 3.—The Monthly Meeting of this association was held on Feb. 3, J. T. Harrison, Esq., President of the Association, in the Chair. There was an unusually large attendance of members, who had the pleasure of listening to one of the most interesting and instructive papers ever read before this association, the subject being on Artificial Manures, their relative value and economic application to farm crops, by Mr. Edward Drew, of Calcot.

The following are extracts from this paper:—

1. *As to Artificial Manures.*—In dealing with the subject I take the more extended view, although I question its correctness, and include as artificials all substances or fertilisers imported or derived from extraneous sources, dwelling more particularly on those fertilisers best known and most used and appreciated by us. These comprehend guano, bones, nitrate of soda, sulphate of ammonia, soot, superphosphate of lime, with a few of the manures specially prepared for roots, corn, &c.

Before entering on them, perhaps it may not be uninteresting to shortly review the important progress made and the attention devoted to these manures during the past 20 or 25 years. Previous to this time bones were the principal artificial manure: others were, however, known and used, but on a very limited scale, and chiefly in the vicinity of large towns or cities, or near to the place of supply, such for instance as night soil, hair, feathers, fish, greaves, woollen rags, horn shavings, soapers' ashes, soot, salt, rape cake (with lime, chalk, and marl, to as great if not greater extent than at the present time), and extraordinary results are recorded of the effects of some of these, one of which in 1777 is from the use of old feathers. An application of 10 bushels per acre, at a cost of 15s., yielded a crop of 48 bushels of white Wheat, against 28 bushels on unmanured land. Bones at the commencement of the present century were only used in four or five counties, but in a rough state, and in large dressings. Arthur Young, in his prize essay of the Bath and West of England Society in the year 1804, states they were used to a considerable extent in the neighbourhood of London, even to the amount of 250 to 300 bushels an acre, but the dressings varied according to the opinions of individuals. They were first broken and boiled for the grease, then sold to the farmers, and at that time worth from 3*d*. to 4*d*. a bushel, which some few years before were to be had for 1*d*. a bushel; their duration exceeded all other manures, their effects having been seen for 30 years. As time advanced they were not so lavishly applied, and a more systematic mode of applying them adopted; by some they were mixed with dung, ashes, mould, or road-scrapings, and formed into heaps some time before using, and occasionally turned over, which promoted heating and assisted decomposition; the whole was then spread on the land (on the tillage) and immediately ploughed in, the price 1s. per bushel, the quantity used from 50 to 60 bushels per acre. Their good effects were soon so apparent that it caused an increase in the demand, and as a consequence, a rise in price which necessitated a still further economy in using, and experience having shown that the finer they were the better the effect, mills were brought into action for the purpose of crushing or grinding them, and one of these mills was in use in this immediate neighbourhood some 30 years ago, which no doubt many of you recollect, and know more about than I do (I allude to that at Owlpen). Bone dust was also brought from the Messrs. Procter's of Bristol about this time; it is however a curious fact that the Messrs.

Procter crushed bones and sent them into other countries, years before they were used and appreciated here. The mode of applying them now is by the drill (mixed with ashes), at the rate of from 8 to 20 bushels per acre, costing from 2s. to 2s. 6d. per bushel. The present era of progress commenced about the year 1840. Nitrate of soda had previously claimed attention, and the wonderful working of guano was talked of, the first importation of which took place in 1841. The dissolving of bones by means of sulphuric acid was manifesting itself, but we do not see superphosphate in our regular manure list until 1844, and it was backed by the use of sulphate of ammonia; in fact step by step, chemical inquiry, manure manufacturing (and not a little manure quackery) began, and was advancing in most rapid and great strides, and it has now attained such magnitude as to render it not only a matter of import to the producer and consumer of meat and corn, but also a flourishing branch of commercial enterprise.

*Present Consumption of Artificial Manures* :—

In illustration of which I will give you a statement made by Professor Anderson at Dumfries, of an approximate estimate, from inquiries made by him, as to the extent to which these several dressings were used. The value of guano imported and retained for home consumption in the year 1858, was 3,857,724*l.*; the usual import he puts at not less than 2,500,000*l.*; the annual import of bones, 84,000 tons; home produce, 50,000 tons; or a total of 134,000. 20,000 tons of this amount he deducts for the use of the bone turners and other purposes, leaving a balance of 114,000 tons to be employed in agriculture, of which he thinks 40,000 may be used as bone-dust, at a cost to the farmer of 6*l.* per ton, the other 74,000 tons, converted by sulphuric acid into 110,000 tons of superphosphate, valued at 7*l.* per ton. Mineral phosphates he puts at 48,000 tons, yielding 72,000 tons of superphosphate, at 5*l.* per ton; 13,000 tons of nitrate of soda, at 15*l.* per ton; and 6000 tons of sulphate of ammonia, at 15*l.* per ton; to these he adds the sum of 50,000*l.* to represent the value of other artificial dressings, such as blood, fish, soot, salt, potash, &c., or a total proximate value of the artificial manures consumed yearly by the agriculturists of this country as follows:—

| | | | | |
|---|---|---|---|---|
| Guano .. .. .. .. .. | | £2,500,000 | 0 | 0 |
| Bone dust .. .. .. .. .. | | 240,000 | 0 | 0 |
| Superphosphate from bone, | 110,000 tons | 770,000 | 0 | 0 |
| Do. from coprolite, | 72,000 ,, | 360,000 | 0 | 0 |
| Nitrate of soda .. .. .. .. | | 195,000 | 0 | 0 |
| Sulphate of ammonia .. .. .. | | 90,000 | 0 | 0 |
| Other substances .. .. .. .. | | 50,000 | 0 | 0 |
| | | £4,205,000 | 0 | 0 |

The quantity of guano imported in 1841 (its first year) was 2881 tons, advancing in 1845 to 283,300 tons; the next four years it receded to an average of about 81,500 tons, when it again turned upwards, rising in 1855 to 305,061 tons, of the computed real value of 3,137,160*l.*; the quantities not so large in 1850-7, but in 1858 it amounted to 353,541 tons, being the largest quantity ever imported in one year, since which there has been a considerable falling off. The supply of other manures without doubt, however, has correspondingly increased, and the manufacture of superphosphate and other special manures to an enormous extent, and which to some degree may be judged of from the immense increase in the supply and use of sulphuric acid. I have been informed of one company having used 700 carboys a day; when we consider that this is sufficient for the production of something like 1000 tons per week from one house, some idea may be gathered of the magnitude of the trade, and it is not to say the trade is concentrating, for we are constantly hearing of fresh manufacturers starting, whilst the old and established ones say their business rather increases than diminishes. I will shortly allude to those artificial manures or fertilisers most in use and favour in this immediate neighbourhood, which are guano, nitrate of soda, soot, and salt, with specially prepared manures, for our corn and Grasses. I know of but one instance of bones being tried for corn, and that (so far as the crop was concerned) a failure, and only in very few cases to pasture. Guano, bones, superphosphate, with specially prepared manures, according to the opinions and experience of the farmer, are applied to the several root crops.

*Choice of Artificial Manures* :—

As practical men, we know there is nothing like muck; science confirms our opinion of its merits. In selecting our artificials, we should endeavour to procure (bearing in mind the crop to be raised) those nearest resembling yard manure in their fertilising properties. First in order (of the artificials) I will take guano. There are few who have not witnessed the good effects that this manure has on vegetation; theorists and consumers all agree that for general purposes hardly any other manure can compete with it, and all efforts to find one of equal reputation at less cost have failed. It is considered by chemists to belong to the nitrogenous class of manures, rich in ammonia, at the same time containing a proportion of phosphates, and a manure more calculated for grain crops than for roots.—Next comes nitrate of soda and sulphate of ammonia. Nitrate of soda has been used in this neighbourhood for some years, but not extensively; it is considered more as a stimulant than a manure, and is better calculated (combined with salt) as a top-dressing at spring for corn crops, and the Grasses, than for roots. If pure it should consist of 94 or 95 of chemically pure nitrate, and contains much the same amount of ammonia [nitrogen] as guano, but in rather a different state; it does not lose its virtue in dry, hot weather, like guano; on the other hand, if an excess of rain occurs, there is a probability of a portion being washed away. It has, however, generally extraordinary powers of invigoration, producing most marked effects on vegetation.

Sulphate of ammonia contains a larger per-centage of ammonia than any of the others. It is not very extensively used, and is very similar in its action to nitrate of soda.

I will now pass on to soot, another of the nitrogenous group, and one of the oldest of the extraneous fertilisers used in this locality. Some here probably recollect the immense quantities used for Wheat and Potatoes, by the late Mr. Joseph Dimery, of Stancomb, and to which he in a great measure attributed his success in raising such good crops, under what I should consider a scourging course of cropping, viz., roots, Potatoes, and Wheat.

Soot owes its fertilising action in a great measure to ammonia. It sometimes contains as much as 5 per cent; it should average rather over 2; it is best adapted for the cereals, and has in many instances produced good results.

I will now pass on to those that are considered more immediately as root fertilisers, such as bones, superphosphate, and special manures. Bones have been longest used, but are now to a great extent superseded by the others. Bones in their natural state contain a large proportion of phosphate, with a good deal of gelatine and fat, and about 5 per cent. of ammonia. The presence of grease prevents their rapid decomposition, and accounts for their tardy action. After being subjected to boiling or steaming they act more readily, and even after burning they are more soluble still, showing that their manuring properties are chiefly derived from the phosphates. Chemists now tell us it is a complete waste of money to apply them in their natural state, and that they never should be used without first subjecting them to the action of acid. Superphosphate, next to guano, undoubtedly is the most important, and the most extensively used artificial manure, even if it does not now stand first in point of quantity. Professor Anderson's calculations were made some time since, then being 182,000 tons. In all probability they now exceed 200,000, whilst the imports of guano have considerably fallen off. The sources from which it is derived are bones, bone-ash, animal charcoal, the inferior varieties of charcoal, coprolites, and mineral phosphates; a good deal of variation no doubt exists in the qualities of this manure.

Then comes special prepared Turnip manure, a superior one of which occurs in the same set of experiments by Dr. Voelcker on Swedes. The difference in this and the superphosphates consists in the Turnip manure being much richer in organic matters, and containing a larger per centage of ammonia. It is altogether a very interesting set of experiments, and would well repay a little time and attention devoted to their perusal. I had thought to have selected analyses of a few of our grain and root crops, to show the difference existing in their composition. I found, however, time would not admit of my doing so; I must therefore content myself by stating a few of the principal points of difference in the nutriment they require, and source of its supply. The constituents abounding in Wheat are starch and gluten; its mineral matter (or ash) ranging between 1½ and 2 per cent., the ruling elements of which are phosphoric acid, potash, and magnesia—valuable constituents, and which if not abounding in the soil, have to be supplied in the shape of manure, the best for which science informs and practice confirms are those abounding in nitrogen, such as nitrate of soda, sulphate of ammonia, guano, soot, and the like. Barley and Oats are of somewhat similar character, abounding in starch and the protein compounds, but varying a little in the quantities, yielding however rather more ash, which differs somewhat in its composition; that of Barley contains a large portion of silica, and Oats still more. Our root crops contain a very large quantity of water, some of them over 90 per cent.; at the same time it must be borne in mind they yield a great weight per acre, consequently the apparent insignificant quantities of other ingredients much exceed those existing in corn crops. Twenty tons of Turnips per acre contain an excess over a crop of 25 bushels of Wheat and 1½ ton of straw (according to Professor Johnstone), three times the amount of protein compounds, more than double the quantity of sugar, pecten, gum, &c., and almost double the quantity of saline matters, and an excess of oil or fat. Independently of the food drawn from the land and the application of manure, plants derive a portion of their nourishment from the atmosphere, some being taken in through the leaves, whilst other is carried down by the rain into the soil, and admitted through the roots—large leaved plants, like the Turnip, having a decided advantage in this respect over the narrower leaved tribe, as corn. Various and rather conflicting opinions and statements exist as to the proper kind of manure for roots; practice, however, by the large employment of superphosphate, seems to confirm theoretical views—that those manures are best in which phosphates abound.

(*To be continued.*)

## Reviews.

*Two Letters on the New Highway Act.* By a Warwickshire Incumbent. T. B. Wright, Union Street, Birmingham.

These two letters appeared in the first instance in the *Midland Counties Herald*, and we are glad to announce their publication in a separate form, as great service will undoubtedly be done by their extensive circulation. Both the efficiency and economy of good management are well illustrated in these pages, and the argument for the general adoption of the new Act appears to us irresistible.

The following passage state forcibly the evils of the present system:—

"I verily believe that human ingenuity would be taxed in vain to discover any system more plausible, and at the same time more utterly subversive of the end in view than the system we have all been up to the present date suffering under. What, it may be argued, can be more reasonable, more likely to promote productive expenditure, wise economy, and good and sufficient highways, than to entrust the entire control, maintenance, and management of them to the respective parishes through which they pass, whose inhabitants of course use them most? But look at the practical working of the plan, and it will at once be seen that there are causes at work which must ever render the present system hopelessly bad. Road making is just as much an art as shoemaking or any other craft, and proficiency in it can only be acquired by long and extensive practice, and by a thorough knowledge of certain fundamental laws. Now, who are the persons mostly selected by the parishes to serve the office of surveyor? Are they not usually tenant farmers who, although perfectly honest and well-intentioned, have had no training or experience in the art of the office they have undertaken? If an efficient man is appointed, and he proceeds to place the roads in shape and in good and substantial repair, and by consequence, to require somewhat more than the accustomed rate, he is for a certainty ejected with ignominy and reproaches from office after a tenure of one or two years, and is succeeded by some noisy ignoramus who spends and does next to nothing, and suffers the roads to deteriorate and go down, and ultimately resigns office with honour and praise. The result is, that in the long run the roads cost three times as much as if they had been properly kept up, and the cost had been scattered over a course of years. My house is situated on the confines of the districts assigned to some half-dozen surveyors, and within an easy walk I can witness every possible prank and vagary played, and the utter violation of every fundamental law which must be observed in the maintenance of a good and serviceable road. Let me illustrate this remark by a few examples, and let me ask your readers whether their experience does not coincide with mine.

"Perfect and complete drainage is so essential that without it a road is continually heavy and in a bad state, and requiring constant renewal of materials, and on the recurrence of a frost is blown up. Outlets from the water tables into the ditches cannot therefore be too numerous; and where there are causeways, should be conducted under them by drain pipes. But my friends, the rural surveyors, don't agree to this, and consequently I have to traverse whole lengths of uselessly muddy roads, where the ditches are closed up, and footpaths or green mounds on each side bank up the water and keep the road chronically rotten. In this parish, containing 51 miles of road, I do not believe that last year the surveyors expended 2*l.* in pipes for drainage out of a total expenditure of 455*l.*

"A road should fall transversely from the centre, at the rate of 1 in 24. In some cases the centre of the road will be seen to be the lowest, and the water running longitudinally along it, and in other cases the road is made so convexed and hog-backed that the pressure of the wheels cannot be perpendicular, and the constant thrust of the metal is to the side of the road, which is thus spoiled.

"Then, again, there should always be a relative proportion observed in the outlay on labour and material; but in the nine districts of this parish, no rule whatever can be traced, and, looking to the small sum in some cases expended on materials, it is hard to understand how it happens that the highway remains as good as it does.

"Then, again, metal should never be added more than a stone's thickness at a time, and the stones should not be larger than 2 inches. But my friends cannot submit to any such tedious process as this. Stones are not broken down to the required size. The whole weight needful is frequently thrown on at once, and the result is that a considerable portion of the metal is ground to pieces; the road becomes corduroy fashion and one-sided by reason of the traffic following one track; and it continues in a loose and unsettled state for double the time to what would have been the case had the required thickness been added one coat at a time.

"As water is the greatest enemy, so the sun and the wind are the greatest friends to good roads. For the obtaining of these last essentials it is needful that the hedges should be kept low and trees should be trimmed up. Few amongst us care to embroil ourselves with our neighbours or go to law with them, and least of all in carrying out the duties of a thankless public office, and so it happens that the haplesss surveyor suffers the occupiers of land, especially if they chance to be the big men of the parish, to damage the road by their high hedges and overshadowing trees, and to occupy it by their filthy manure heaps, and to encroach upon it by their buildings and new set hedges, enclosing intakes of land, rather than quarrel with them, and lose both time and money by summoning them to abate their nuisances.

"The rate for the maintenance of the parish roads is levied on all without exception; and at the appointed time the inevitable surveyor knocks at *pauperum tabernas regumque turres*. But though all have to contribute to the income, a very large class are utterly neglected and ignored in the expenditure. On an average I traverse twice weekly on foot the two miles of parish road between my house and a neighbouring important village. For half the distance there is no footpath whatever. Over the remaining half there certainly is a footway; but, as to the best of my belief, it has not, for three-fourths of the distance, been touched by the surveyors for the last 20 years, and still obstructs the passenger with the identical petrified kidneys or boulders, and the same uneven surface which I recollect on first making its acquaintance, its presence is only adding insult to injury."

We hope the voice of the Warwickshire Incumbent will be widely heard and generally listened to.

## Farm Memoranda.

Tabley, near Knutsford.—Farm contains 117 acres. In pasture 47½ acres, Clover and seeds mown 18 acres, Oats 16½ acres, Barley 17½ acres, Potatoes 4 acres, Swedes 8 acres, Mangels 4 acres; homestead, orchard, gardens and occupation roads 1½ acres. Live stock consists of 4 farm horses, 5 colts, 1 brood mare, and 12 dairy cows, 6 heifers, 100 sheep, 50 pigs, and 4 rearing calves; total 182. Fed on Grass, Hay, Straw, Oats, Beans, Indian and Barley meal, with oilcake. Make annually about 300 tons of manure, which is applied to root crops. Purchase annually about 5 tons of Bradbury's guano substitute, and about 10 tons of fine ground bones. The farm has been all drained by my landlord. I have eradicated upwards of a mile and a half of old fences, and planted 2787 yards of new ones, my landlord finding Quicks. Have filled up several large pits, and made a culvert of 1090 yards, and 16 inches inside, through the farm, my landlord finding culvert bricks. By this have gained near 4 acres of arable land. Have also gained near 3 acres by inclosing waste land from the high road. Have erected a hay shade of 28 yards by 7, and about 20 feet high to the eaves, at a cost of 95*l.*, a bakehouse and other buildings costing 20*l.* Also made a new occupation road through the farm, of 423 yards long, at my own expense. July 15, 1862. (Signed) Thomas Hurst.

This farm lies well as to good roads, near a railway and town, and in a good climate. The soil mostly a light sandy and peaty loam, easy to cultivate, but requiring considerable assistance in manure. Mr. Hurst has not stated in his certificate, what is his customary rotation. But it appears to be—1st, Oats after seeds, 2d, root crops, 3d, Wheat or Oats, or Barley seeded, 4th, seeds mown, and then pastured two years. This year he has no Wheat. The farm is now in seven fields, and one is in permanent pasture. The root crops were very healthy and clean, as well as the head ridges around. One fourth of the Barley crop was very light, with many annual weeds in this portion. The remaining three quarters a very fine thick uniform crop, of good colour, with plenty of Clover and seeds at bottom. Oats the strongest and best crop we have seen this season; stood well, and 5 feet high. Clover and seeds had been a heavy first crop, and the 2d crop coming well on. The 2d and 3d year's seeds, pastured, full of Grass of a good quality. The old turf very good. All the fences on the farm are new, well grown, and healthy, 4 feet broad at bottom, and cut to a point at top, about 5 feet high. The farm is well laid out for convenient approach to the fields, and these of proper form and size. The homestead is in the wrong place, but in all other respects well arranged and in very correct order. The whole, including house and dairy, showing constant attention to cleanliness. The live stock of the right sort for the purposes intended, and the same may be said of the implements. Gates, posts, and occupation road in good order.

Orrell, near Liverpool.—This claimant's farm is 98 acres. There are 9 acres in pasture, meadow or clover mown 30 acres, 4 of which are covered with dung water. Wheat after Potatoes 16 acres, Oats 3½ acres, Barley 13 acres, Potatoes 16 acres, Turnips and Mangel 3½ acres, orchard, gardens, and roads 3 acres. Customary rotation of crops on this farm:—1, Potatoes and other green crops; 2, Wheat; 3, Barley or Oats, under which seeds are sown to lie 3 or 4 years, sometimes 5 years. Stock on this farm:—4 horses, 2 colts, 6 dairy cows, 6 heifers and stirks, 8 pigs, 3 calves—total, 29 heads. In summer the stock are fed

mostly in the pastures on cut Grass or Clover. Makes 180 tons of manure in the year, applied to Potatoes or Turnips. Buys 220 tons of cow and horse manure, applies that to green crop. Buys 280 tons of night soil and street sweepings, and 4 tons of guano, applied to Grass crops and general purposes. Has drained 43 acres since 1853. Does not state the quantity or number of tiles used; but the subsoil of this farm is mostly of a broken sandy character; the drains would operate at wide apart. Since 1853 has eradicated 3,500 lineal yards of old fences, and filled up the ditches; has eradicated 200 yards of old fences and filled up the ditches; these ditches averaged near 6 feet deep, and a considerable quantity of material had to be carted for filling up the ditches. Laid tiles on slates in all the ditch bottoms. Filled up 4 pits, 2 of them very large. Cost 87*l.*; and by that gained 3½ acres of land. Built new steaming house, with apparatus, and shandry house—these cost 50*l.* Half of all tiles used were at claimant's own expense. Planted 2,700 yards of Quicks, part of which, with the railing, found by claimant, and portion by the landlord.

All the meadow and Clover land on this farm is in a highly cultivated condition. The pasture land, 9 acres, is in two fields, and is the best we have seen in the same locality. Wheat in two fields, beautiful corn and good crops and clean. The Barley and the Oats, with seeds under both, tall and thick crops. The Potatoes, in two fields, showed equal to the best in district, and far superior to most crops this year. Both Turnips and Mangel, have seen only a few instances equal during our inspection. All the fences on this farm are modern, some only planted a few years, and all of them in a growing state, well kept, and look well. The gates substantial, and in good repair. Yards, barns, and piggeries, in nice order. Orchards and garden clean, and in productive condition. House altogether respectable looking, both inside and outside.

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending Feb. 25, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | | | | | | | | | | Inches. | | |
| Thursday | 19 | 30.43 | 41 | 41 | W. | 1 | 10 | 53 | 32 | 94* | 28 | 0.17 | 40 | 42 |
| Friday | 20 | 30.40 | 4[illegible] | 41 | S. E. | 1 | 5 | 50 | 40 | 63 | 38 | 0.15 | 42 | 42½ |
| Saturday | 21 | 30.37 | 39 | 38 | S. | 1 | 6 | 44 | 32 | 51 | 28 | .. | 42½ | 43 |
| Sunday | 22 | 30.29 | 40 | 39 | N. W. | 1 | 2 | 55 | 37 | 87 | 31 | 0.01 | 42½ | 43 |
| Monday | 23 | 30.38 | 44 | 42 | W. | 2 | 6 | 51 | 35 | 89 | 29 | .. | 43 | 43¾ |
| Tuesday | 24 | 30.35 | 45 | 45 | W. | 1 | 8 | 51 | 43 | 70 | 40 | 0.01 | 44 | 44 |
| Wednesday | 25 | 30.45 | 44 | 43 | S.W. | 1 | 7 | 48 | 40 | 52 | 39 | .. | 44½ | 44 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

BOOKS: *Inquirer.* Morton's "Farm Calendar" (Routledge) or the "Cyclopædia of Agriculture" (Blackie), 10*s.* 6*d.* and 3*l.* 15*s.* respectively.

GROWING IRISH FLAX.—The following is the extent grown in Ireland in each of the following years:—1854, 151,403 acres; 1855, 97,075 acres; 1856, 106,311 acres; 1857, 97,721 acres; 1858, 91,646 acres; 1859, 136,282 acres; 1860, 128,595 acres; 1861, 147,957 acres; 1862, 149,889 acres. This last item has just been published.

SUBSOIL: *Agricola.* It is impossible to give advice founded upon a mere examination by the eye of a handful of the soil. We can only urge as general truths, that the drainage of land when water stagnates, the marling of sands, the addition of lime when no calcareous matter, or when an excess of organic matter exists, are all profitable operations.

TOLL BARS: *A Traveller.* We are not learned in the law; but it is plain that the spirit of the Act, and of decisions under it, is against the charges you name, viz., for carting the tops of trees (not timber) from one part of a farm to the other, and for the farmer riding his pony from one part of the farm to the other.


### Seed Trade.

JAMES CARTER AND CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade:—
MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE,
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION,
TOMATOE DE LAYE,
HENDERSON'S PINE-APPLE BEET.

### Garden Seeds.

COLLECTIONS of KITCHEN GARDEN SEEDS, consisting of all the choicest sorts, are offered as follows:—

| | | | | | £ | s. | d. |
|---|---|---|---|---|---|---|---|
| No. 1 contains 20 quarts Peas, and all other seeds in proportion | | | | | 3 | 0 | 0 |
| No. 2 | ditto | 10 quarts | ditto | ditto | 1 | 10 | 0 |
| No. 3 | ditto | 5 quarts | ditto | ditto | 0 | 15 | 0 |
| No. 4 | ditto | 5 pints | ditto | ditto | 0 | 10 | 6 |

CATALOGUES on application.
RICHARD SMITH, Seed Merchant, corner of High Street and Broad Street, Worcester.

### Fine Apple Place, Edgware Road, London, W.

ARTHUR HENDERSON AND CO. beg to announce that their CATALOGUE of KITCHEN, FARM, and FLOWER SEEDS, Imported German Asters, Stocks, and Collection of Vegetable Seeds, for One Year's Supply—
Collection, No. 1 .. 105*s.* | Collection, No. 3 .. 42*s.*
" No. 2 .. 84*s.* | " No. 4 .. 25*s.*
Collection, No. 5 .. 15*s.*
is now ready, and will be forwarded free on application.
NOTE.—This Catalogue contains only the best varieties of Vegetables, and an abridged List of the most valuable Flower Seeds.

### Seeds for the Kitchen Garden, Flower Garden, and Farm.

JOHN CATTELL'S DESCRIPTIVE CATALOGUE of the above is now ready, and will be forwarded, post paid, on application; it contains select lists only, and includes every novelty worthy of cultivation.
All parcels of Seeds of the value of 21*s.* and upwards carriage paid to any Railway Station in England.
Nursery and Seed Establishment, Westerham, Kent.

### Vegetable and Flower Seeds, Carriage Free.

WM. PAUL (Son and Successor to the late A. PAUL) respectfully announces that his SEED CATALOGUE is now ready, free by post.
The COLLECTION of VEGETABLES recently Commended by the Royal Horticultural Society was grown from Seeds furnished by him.
Nurseries and Seed Warehouse, Waltham Cross, N.

### Vegetable, Flower, and Agricultural Seeds.
NEW AND RARE PLANTS, &c.

ROBERT PARKER begs to announce that his NEW CATALOGUE, containing select descriptive and priced lists of AGRICULTURAL, KITCHEN GARDEN, Imported GERMAN, and other FLOWER SEEDS; NEW and RARE PLANTS; Variegated, Ornamental Foliaged, Miscellaneous, Stove, Greenhouse, and Hardy Plants, &c., is now published, and will be forwarded Post Free to all applicants.
Exotic Nursery, Tooting, Surrey, S.

N E W C U C U M B E R S, at 1*s.* per packet.
Recommended by the Fruit Committee of the Royal Horticultural Society. See GUIDE to the KITCHEN GARDEN.
BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

CARTER'S CHAMPION CUCUMBER, recommended by the Royal Horticultural Society as being an excellent bearer. Fruit solid and firm, and the best of the Sion House class. 1*s.* per packet. A few ounces of our own saving to offer the Trade.
237, 238, & 261, High Holborn, London, W.C.

YOUELL'S NORFOLK HERO CUCUMBER.—Without exception the best Ridge Cucumber known. 6 Seeds, 1*s.*; 18 Seeds 2*s.*
LAING'S MAMMOTH CELERY.—The very best, hardiest, and finest flavoured Red Celery in cultivation. 1*s.* and 2*s.* per packet, on receipt of postage stamps.
See former advertisement.
YOUELL'S Royal Nurseries, Great Yarmouth.

NEW HARDY WHITE SWEDE.—The Favourite Swede of the Flockmasters on the Hampshire, Wiltshire, and Cotswold Hills. Grows rather coarse on some soils or when sown early; but it is very productive, hardy, and it is the only Swede that can be depended upon to keep sound through the winter without storing. Excellent for late sowing and upon poor land.
Seed 1*s.* per lb., or 42*s.* per bushel.
Supplied by RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

THE NEW PARSNIP "STUDENT."—SEED of this improved PARSNIP, "ennobled" by Professor BUCKMAN, of the Royal Agricultural College, Cirencester, is now ready for delivery by Messrs. SUTTON & SONS, Post free, in packets, 6*d.*, 1*s.*, or 2*s.* 6*d.* each. Also Wholesale to the Trade. It can also be obtained from any of the Seedsmen named in the List which appeared in *Gardeners' Chronicle* of Jan. 31.
Royal Berks Seed Establishment, Reading.

Established 1787.

T H O M A S K E N N E D Y AND CO., NURSERY AND SEED ESTABLISHMENT, Dumfries, N.B.
*** PRICED CATALOGUES sent free on application: FREE DELIVERY.
FARM and GARDEN SEEDS under certain limitations will be DELIVERED FREE OF CARRIAGE to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

### To Seedsmen and Others.

THOMAS AYRES, SEEDSMAN and GROWER, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz.:—
WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP,
SEED POTATOES of the following varieties:—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.
SCARLET RUNNER BEANS (English grown).
A PRICE LIST forwarded upon application.

### To the Trade.

THE SUBSCRIBERS have still a few hundred thousands of each of the following SEEDLINGS to offer:—

| | |
|---|---|
| 1 year Seedling Larch | 2 year Seedling Pears |
| 2 year Seedling Silver Fir | 1 year Seedling Pinus Austriaca |
| 3 year Seedling Spruce | 1 year Seedling Pinus Laricio |
| 2 year Seedling White American Spruce | 1 year Seedling Pinus maritima |
| 1 year Seedling English Oak in drills | |

Also a large Stock of Transplanted BEECH, 1½ to 2 feet; Transplanted NORWAY SPRUCE, 9 to 15 inches and 12 to 18 inches; Transplanted WHITE AMERICAN SPRUCE, 1 to 2 feet; all extra fine stock. Samples, with prices, which are very low, may be had on application.
MORRISON BROTHERS, Aberdeen.

REIGATE SILVER SAND.—Best quality, 8*s.* per ton; PEAT SOIL and LOAM, 6*s.* per ton; good BUILDING SAND, 3*s.* per ton; REIGATE BUILDING STONE, best quality, 8*s.* per yard, in not less than 4 ton lots, put on the Rail at Reigate.
W. SHORT, Reigate Heath, Surrey.

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., so much admired in the International Exhibition, delivered in the City at 1*s.* 6*d.*, or within 2½ miles of Charing Cross, at 2*s.* per bag of 3 bushels. Ten bags or more on lower terms. Apply to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.
Also for particulars of SHORT FIBRE for Orchids and Drainage in pots.
Stamps or Post-office Orders payable to J. BARSHAM & Co.
BARSHAM'S BRUSHES and MATS are the best and most economical of any, and are sold in every town in the kingdom; at DEANE'S, London Bridge; and E. WHITE & SON'S, 95, Cannon Street.
CAUTION.—Every Brush is stamped "J. BARSHAM'S Patent."

On Sale,

P E R U V I A N G U A N O.
Apply to Messrs. GIBBS, BRIGHT, & Co.,
1, North John Street, Liverpool.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value.
E. PURSER, Secretary.
116, Fenchurch Street, E.C.

### To Farmers, &c.

CHEAP GYPSUM MANURE.—Parties requiring GYPSUM can be supplied at 10*s.* per Ton, bulk, at the Works at Kennington, S.
Address, X. L., 34, Chapel Street, North Brixton, S.
*** Delivered on Rail, adding for bags and cartage.

TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,
MANUFACTURED BY THE PATENT
NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),
Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.
Chairman.—JOHN CLAYDON, Esq., Littlebury, Essex.
Particulars of these Standard Manures may be obtained at the Offices.
C. T. MACADAM, Secretary.
Or of the Local Agents.
Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex, N.E.

L A W E S ' S M A N U R E S.
The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | £ | s. |
|---|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. | 6 | 0 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 | 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 | 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.
Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

CAUTION to BUYERS of GUANO.—Having been informed that Guano has been Imported into Liverpool, and offered for Sale as "BAKER'S ISLAND GUANO," I hereby give Notice that I control the Deposit of "Baker's Island," and that the Genuine GUANO can only be procured of W. H. WEBB, at New York; or through my Agents, Messrs. GUION & Co., of Liverpool, and GRINNELL, TINKER, & MORGAN of London.
WILLIAM H. WEBB.
Burling Slip, New York, December 9, 1862.

### Crushers of Cotton Seed and Linseed.

MARLAND AND CO., 6, New High Street, Manchester.
Prices of Cake or Oil will be sent on application.

### Prize Medal at the International Exhibition, 1862.

E. WOLFF AND SON'S SOLID INK PENCILS in CEDAR for GARDEN TALLIES.—These Pencils are the Best and Cheapest Invention ever used for Writing on Garden Tallies of all descriptions, the action of the air, rain, &c., not having the slightest effect upon them. The advantages resulting from their use are—Firstly, the simplicity of an ordinary lead pencil; secondly, the superiority and portability of a dry pencil over liquid ink, or Paint; and, thirdly, their reasonable price, which places them within the reach of all classes.
These Pencils are also useful for all kinds of Writing, Memoranda, &c.
Price 3*d.* each; extra thick, 6*d.* each.
To be had Retail of all Seedsmen, Nurserymen, and Stationers, and Wholesale at the Manufactory, 22 & 23, Church Street, Spitalfields, N.E.

No. 46a.

No. 50.

No. 49 a.

# BENJAMIN FOWLER & CO.,

MANUFACTURERS OF

## PUMPS AND HYDRAULIC MACHINERY,

WHITEFRIARS STREET, FLEET STREET, LONDON.

No. 4.

No. 38.

No. 49.

THE Landscape Sketch shows an adaptation of THE IMPROVED HYDRAULIC RAM for forcing water to considerable heights and distances to supply Mansions, Farms, &c., where a few feet fall can be obtained. Full particulars of this useful Self-acting Machine can be had on application.

No. 4. FOWLER'S Useful YARD, GARDEN, and COTTAGE PUMPS, from 1*l*. 5*s*. each.
No. 38. FOWLER'S Portable LIQUID MANURE PUMPS, with flexible suction pipe.
No. 46a. FOWLER'S DOUBLE-ACTION PORTABLE FORCE PUMPS and FIRE ENGINES for Water or Liquid Manure.
No. 50. FOWLER'S Improved (Holman's Patent) DOUBLE-BARREL FARM FIRE ENGINES and IRRIGATING PUMPS.
No. 49. GARDEN ENGINES of all sizes.
No. 49a. Improved SWING WATER CARRIERS, holding 24 and 35 gallons, for Garden Use.

*Further Particulars, Estimates, and Illustrated Price Lists on application.*

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## SAMUELSON & CO.'S PATENT LAWN MOWING MACHINES.

SAMUELSON & CO.'S IMPROVED GARDEN ENGINES, GARDEN ROLLERS, AND GARDEN SEATS.

CATALOGUES FREE, ON APPLICATION TO BRITANNIA WORKS, BANBURY, or to

SAMUELSON AND CO.'S LONDON WAREHOUSE, 76, CANNON STREET WEST, CITY,

WHERE SAMPLES MAY BE SEEN.

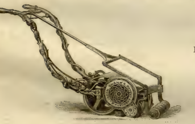
---

# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.



NEW HAND MACHINE.

THE FIRST PRIZE MEDAL

OF THE

INTERNATIONAL EXHIBITION

WAS AWARDED TO

ALEX. SHANKS AND SON

FOR THEIR

PATENT LAWN MOWERS.

12-INCH OR LADY'S MACHINE.

ALEXANDER SHANKS AND SON are gratified to find that the Improvements introduced into their PATENT LAWN MOWERS last season have been so entirely successful, that universal satisfaction has resulted from the use of these Machines wherever they have been tried. The Patentees have this season introduced further Improvements into their already celebrated Lawn Mowers, which are fully described in their Illustrated Price Lists, which will be at once forwarded on application.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved, and their success established.

These Machines will Mow EQUALLY WELL on UNEVEN as on LEVEL LAWNS, and whether the GRASS be WET or DRY. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

*The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.

LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

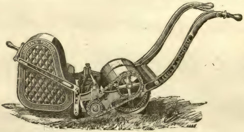
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863,

FOR WHICH HER MAJESTY'S ROYAL LETTERS PATENT HAVE BEEN OBTAINED.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOMAS GREEN FOR HIS PATENT LAWN MOWERS.



These were the only Machines highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862.

(No Prizes were given).

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS DURING THE SEASON OF 1862.

THOMAS GREEN AND SON, in introducing their PATENT LAWN MOWERS for the present season, have much pleasure in stating that the important Improvements which were added to their Machines for last season (which combined simplicity of construction, durability, and lightness of draught), have proved them to be superior to anything of the kind ever brought before the Public, inasmuch as they have given entire satisfaction wherever used, and have gained the largest sale of any Machines extant. They have carried off every Prize that has been given in all cases of competition.

GREEN'S PATENT LAWN MOWERS are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

| | | | | |
|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a lady. |
| " 12 " | 5 | 0 | 0 | Suitable for one person. If with internal gear, 10s. extra. |
| " 14 " | 5 | 10 | 0 | Do. Do. Do. Do. 10s. extra. |
| " 16 " | 6 | 10 | 0 | Suitable for one man or two boys. |

| | | | | | If With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|---|
| To Cut 18 inches ... | £7 | 10 | 0 | Suitable for one man and boy | £8 | 15 | 0 |
| " 20 " ... | 8 | 0 | 0 | Do. Do. | 9 | 5 | 0 |
| " 22 " ... | 8 | 10 | 0 | Suitable for two men ... | 9 | 17 | 6 |
| " 24 " ... | 9 | 0 | 0 | Do. Do. ... | 10 | 7 | 6 |

### DONKEY and PONY MACHINES, including Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 24 inches ... ... | £11 | 10 | 0 | ... ... ... £12 | 10 | 0 |
| " 26 " ... ... | 12 | 10 | 0 | ... ... ... 13 | 12 | 0 |
| " 30 " ... ... | 16 | 14 | 0 | ... ... ... 18 | 0 | 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

### PRICES of HORSE MACHINES, including Box of Requisites and Traces.

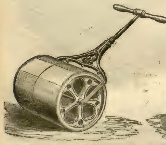
| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 30 inches ... ... | £20 | 0 | 0 | ... ... ... £21 | 10 | 0 |
| " 36 " ... ... | 23 | 0 | 0 | ... ... ... 24 | 16 | 0 |
| " 42 " ... ... | 26 | 0 | 0 | ... ... ... 28 | 2 | 0 |
| " 48 " ... ... | 29 | 0 | 0 | ... ... ... 31 | 8 | 0 |

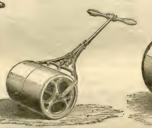
Leather Boots for Horse, per set, 1*l.* 4*s.*

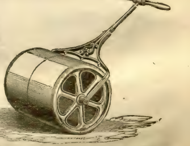
The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.







Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s. Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

T. GREEN AND SON in introducing the above are well aware that the extremely simple character of this Implement cannot admit of any very radical change, yet they are confident that the Improvement just effected (and secured by Letters Patent) is a real one, and is strikingly apparent when compared with any other Garden Roller. In previous Rollers a limit was always set to weight in consequence of marks being left on the gravel, and the power required to work them, but the present one is nearly double the ordinary weight, yet is considerably easier to turn in consequence of the Roller being divided in two parts, and the outer edges being rounded off or turned inwards, thus avoiding the *unsightly marks* left by all others hitherto in use. They can be used by the most unskilful with the greatest certainty of producing a beautifully even surface, either on *Lawns or Gravel Paths,* and for the *Bowling Green and Cricket Field are really indispensable.* They are manufactured of the best materials, and got up in a manner surpassing any ever yet brought out.

---

T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

CONSERVATORY SPECIALLY DESIGNED FOR

**HIS HIGHNESS THE LATE VICEROY OF EGYPT,**

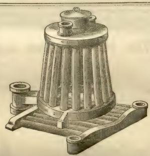
BY

# JOHN WEEKS & COMPANY,

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS,

KING'S ROAD, CHELSEA, S.W.

FIRST CLASS PRIZE MEDAL
FOR ORMSON'S CONSERVATORY,
At the INTERNATIONAL EXHIBITION.



FIRST CLASS PRIZE MEDAL
FOR ORMSON'S PATENT JOINTLESS TUBULAR BOILER
At the INTERNATIONAL EXHIBITION.

# ORMSON'S

## PATENT JOINTLESS TUBULAR BOILER

HAS TAKEN MORE AWARDS THIS YEAR THAN ANY OTHER TUBULAR BOILER.

These Awards have been given by Scientific, Practical, and Competent Judges.

At the Exhibition of Boilers at the Royal Horticultural Society's Gardens, ORMSON'S PATENT JOINTLESS TUBULAR BOILER was the ONLY Boiler of any description to which an Award was given.

Other Tubular Boilers advertised in the pages of the *Gardeners' Chronicle* were exhibited to which NO Awards were given.

**HORTICULTURAL BUILDINGS of every description MANUFACTURED by STEAM-POWER MACHINERY.**

*Plans, Specifications, and Estimates on application.*

HENRY ORMSON,

HORTICULTURAL BUILDER TO HER MAJESTY, AND HOT-WATER APPARATUS MANUFACTURER TO THE COMMISSIONERS OF HER MAJESTY'S ROYAL PALACES, AND PUBLIC BUILDINGS, AND TO THE ROYAL HORTICULTURAL SOCIETY,

STANLEY BRIDGE, KING'S ROAD, CHELSEA, LONDON, S.W.

JOHN WARNER AND SONS,
8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

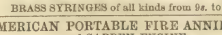
| | | |
|---|---|---|
| 10 gallons .. | .. | £2 15 0 |
| 16 ,, .. | .. | 3 15 0 |
| 24 ,, .. | .. | 5 0 0 |

Larger sizes may be had in either Wood or Iron.

No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | | |
|---|---|---|
| 35 gallons | .. | £2 10 0 |
| 20 ,, | .. | 2 0 0 |



BRASS SYRINGES of all kinds from 9s. to 21s.

AMERICAN PORTABLE FIRE ANNIHILATOR and GARDEN ENGINE.

£2 2s.

An efficient means of Extinguishing Fires at their commencement Nine out of ten Fires in London are put out on their first appearance by the London Fire Brigade with Hand Pumps of considerably less power.

One man will throw 7 or 8 gallons per minute from 40 to 50 feet with it.

It is an effective Garden Engine for cleansing or syringing Wall-fruit or Rose Trees, Plants, or Vines.

It may be used to draw water from the pail in which it is fixed, or from a tank or pond by the addition of the required length of suction. It is simple in its construction, having no suction or delivery valves to clog with dirt or leaves.

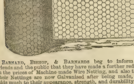
No Establishment, either private, commercial, or manufacturing, should be without one.

Six feet of Flexible Suction, with Union and Suction Rose, &c., extra, 12s. Longer lengths of Suction at 1s. 6d. per foot.

The above may be obtained of all Ironmongers and Seedsmen in Town and Country, or of the Manufacturers,

JOHN WARNER & SONS, 8, Crescent, Cripplegate, London, E.C.

BARNARD, BISHOP, AND BARNARDS,
Norwich.
FURTHER REDUCTION in the PRICE of WIRE NETTING.

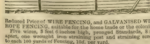


BARNARD, BISHOP, & BARNARDS beg to inform their friends and the public that they have made a further reduction in the prices of Machine made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard |
|---|---|---|---|
| 2-inch mesh, 24 inches wide.. | No. 19 | .. 4½d | .. 3½d. |
| 2-inch ,, ,, ,, .. | ,, 18 | .. 5 | .. 4 |
| 2-inch ,, ,, ,, .. | ,, 17 | .. 6½ | .. 5 |
| 2-inch ,, ,, ,, .. | ,, 16 | .. 8 | .. 6½ |
| 1½-inch ,, ,, ,, .. | ,, 19 | .. 4¾ | .. 4 |
| 1½-inch ,, ,, ,, .. | ,, 18 | .. 6 | .. 4¾ |
| 1½-inch ,, ,, ,, .. | ,, 17 | .. 7 | .. 5¼ |
| 1½-inch ,, ,, ,, .. | ,, 16 | .. 9 | .. 7 |

All the above kinds can be made any width (under 6 feet), at proportionate prices.

Strong Galvanised Poultry Netting, 7½d. per yard, 3 feet wide, Galvanised Sparrow-proof Netting for Pheasantries, 11d. per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.



Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies.

Five wires, 3 feet 6 inches high, pronged Standards, 8 fee apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10d. per yard.

The same with Galvanised Wire Rope, 1s. per yard.

Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.

*** Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations.

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.

Extra strong, 3s. per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.

Can be obtained through the principal Nurserymen and Seedsmen in England.

A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.

PAGE & TOOGOOD, Seed Merchants, Southampton.

ROLL TOBACCO CLOTH.—The cheapest and best article for Smoking Greenhouses and Destroying the Fly, 1s. 4d. per lb., over 10 lbs., 1s. 1d.

JOSEPH BAKER, 10, Gough Square, Fleet Street, E.C. Post Office Orders payable Fleet Street.

To Florists and Nurserymen.

H. PERKINS calls the attention of the above to his large stock of Genuine TOBACCO PAPER and CLOTHS, at 10d. per lb., warranted free from adulteration, having taken every pains to secure the same.

Address, 16, Cambridge Circus, Hackney Road, London, N.E.

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP,

1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. NEAL, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

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MR. A. CHANDLER (of the late Firm of CHANDLER & SONS), HORTICULTURAL VALUER, begs to inform his friends and the public that he has REMOVED from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

MORTON'S PATENT NOISELESS LAWN MOWER.—This Machine Rolls, Collects, and Delivers the Grass, and Combines all the most recent improvements, including those secured by her Majesty's Royal Letters Patent for 1863. For efficiency and simplicity it cannot be surpassed, and can be worked by any one unskilled in Machinery. It is superior to all other Machines yet introduced to the notice of the Public for keeping Lawns and Pleasure Grounds in the highest state of perfection. No place, however small, should be without one.

Catalogues, with Prices, can be obtained free on application to GRIMMOND, LAIRD & Co., 15, Cannon Street West, E.C.

*** Agents wanted in every town. Apply as above.

W. S. UNDERHILL'S NEW PATENT IRON FENCE for GARDENS, LAWNS, &c.
Manufactory: Newport, Salop.

Warranted the strongest and most durable Fence ever offered at corresponding prices. It is easily repaired if broken from accidents; can be rolled up most compactly when not in use, is admirably adapted for exportation, and can be had of any height and mesh required, at prices from 4d. to 1s. 6d. per yard and upwards.

For further particulars apply at the Manufactory, or of the London Agent, Mr. R. WINDER, 18, Abingdon Street, Westminster, S.W.

Kerry Cattle.

MR. RICHARD G. CAMPION, Youghal, County Cork, has now ready for SALE 12 Beautiful HEIFERS, in Calf to a pure bred Bull, and to drop after 1st March.

Carhead Pigs.

MR. WAINMAN has several YOUNG BOARS and SOWS of his Battersea Prize Strains for SALE, at moderate prices.

Apply to Mr. FISHER, Carhead Farm, Cross Hills, Yorkshire.

TO BE SOLD, a newly formed NURSERY, with excellent Dwelling House, two handsome Conservatories, and two Greenhouses 40 feet long, each delightfully situated, opposite the Grove, Church End, Finchley.

For particulars apply on the Premises.

TO BE LET, in the County of Pembroke, LLANGWARREN FARM, consisting of 473 Acres, more than half of which is Pasture.

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TO BE DISPOSED OF, by Private Treaty, and with early possession (in consequence of the failing health of the present Proprietor), an OLD ESTABLISHED NURSERY, with Hot and Greenhouses, doing a good business, in an excellent situation, and within a few miles of Liverpool. The whole to be taken at a valuation.

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Apply to J. T. VINING, Esq., 54D, Moorgate Street Buildings, London, E.C.

## Sales by Auction.

Important Sale of Plants from Surrey.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on MONDAY, March 2, at half-past 12 o'Clock precisely, SPLENDID SPECIMEN CONIFERS, comprising Wellingtonia gigantea, 3 feet; Thujopsis borealis, 6 feet; Pinus Benthamiana, 6 feet; Cupressus Lawsoniana, 3 feet; Araucaria imbricata, 3 feet; Thuja Lobbi, 2 feet; Abies Douglasii, 4 feet, and others. Vines, Rhododendrons, Standard, Half Standard and Dwarf Roses, Laurels, Clematis, Berberis, &c.

On view the Morning of Sale, and Catalogues had.

Seeds and Cones.—Important Sale.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on THURSDAY, March 5, at half-past 12 o'Clock precisely, CONIFEROUS SEEDS and CONES, comprising Wellingtonia gigantea, Cupressus Lawsoniana, macrocarpa and McNabiana; Picea nobilis, amabilis and grandis; Abies Pattoniana, Libocedrus decurrens, Thuja gigantea, Juniperus excelsa, Magnolias, five good varieties; Araucaria Brasiliensis, Pinus Lambertiana, ponderosa, Sabiniana, &c.

On view the Morning of Sale, and Catalogues had.

Consignment of Plants from Ghent.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on FRIDAY, March 13, at half-past 12 o'Clock precisely, Choice CAMELLIAS, BEGONIAS, LILIES, RHODODENDRONS, Azaleas, Cannas, Delphiniums, Piceas, Paeonias, and other Greenhouse and Hardy Plants.

On view the Morning of Sale, and Catalogues had.

Stratford, Essex.

MESSRS. PROTHEROE AND MORRIS are directed by Mr. Bunney to SELL by AUCTION, on the Premises, The Nurseries, Leytonstone Road, and within five minutes' walk of the Stratford Station, on the Great Eastern Railway, on TUESDAY, March 3 and following day, at 11 o'Clock each day, without reserve, the ground being immediately required for gravel digging, the valuable NURSERY STOCK, comprising quantities of fine Evergreens of various sizes and description, including many specimens of Aucubas, Bays, Fan and Irish Yews, Hollies, and other Shrubs for effective purposes; some very handsome Dwarf-trained Peaches, Nectarines, Cherries, Standard Plums, Apples, Pears; a superb assortment of Standard and Dwarf Roses; also Scarlet and other Rhododendrons, Azaleas, sorts, Andromeda floribunda, Kalmias, with a variety of Hardy Climbers in pots, &c.

May be viewed prior to the Sale. Catalogues may be had on the Premises; at the Eagle, Snaresbrook; of the principal Seedsmen in London; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, Essex, N.E.

Sale of very Handsome English Grown Camellias, &c.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at the Mart, Bartholomew Lane, City, E.C., on FRIDAY, March 6, at 12 o'Clock, about 200 Choice DOUBLE CAMELLIAS, compact plants, from 1 to 6 feet, abundantly furnished with Bloom buds; fine AZALEA INDICA in flower; a superb assortment of about 300 very handsome Standard, Half Standard, and Dwarf Roses; a fair Collection of American Plants, Lilium lancifolium rubrum and album, Ericas, Epacris, Cinerarias, Fuchsias, Verbenas, Paeonias, Dahlias in dry roots, &c.

On view the Morning of Sale. Catalogues may be had at the Mart; and of the Auctioneers and Valuers, American Nurseries, Leytonstone, N.E.

Battersea.

To Gentlemen, Nurserymen, Builders, and Others Engaged in Planting.

MESSRS. PROTHEROE AND MORRIS have received instructions from the Executors of the late THOMAS GAINES, Deceased, to SELL by AUCTION on the Premises, Surrey Lane, Battersea, on MONDAY, March 9, 1863, at 11 o'Clock, the ground being required for building upon, the whole of the valuable NURSERY STOCK, consisting of a quantity of fine Evergreens and Deciduous Shrubs, comprising some handsome Variegated and Green Hollies, large Aucubas, Chinese Arbor-vitae, 3 to 7; Irish and English Yews, Box, Privet, Laurels, Thuja sorts, fine Mulberries, a quantity of Herbaceous Plants, &c.

May be viewed prior to the Sale. Catalogues may be had on the Premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex, N.E.

N.B. The whole Collection of Choice Greenhouse Plants, Greenhouses, Pits, and other Effects, will be submitted to public competition the middle of next April.

Close to Brighton, among the Southdowns.

Capital Residence, with Pleasure Garden, Laundry, Stabling, Yards, Piggeries, and numerous other useful Buildings, all in the best possible state of repair; a Meadow, and about 11 acres of fertile Garden Ground, with Fruit Trees, Frame Ground, Forcing Pits, Hothouses, and Greenhouse clothed with choice Vines.

MR. WILKINSON has received instructions to LET on LEASE or DISPOSE of the LEASE of the above valuable PROPERTY, most delightfully situated, and highly eligible to any gentleman fond of horticultural pursuits or to a market gardener, or nurseryman and florist. The whole of the ground has been deep-trenched, is in a high state of productiveness, and fully stocked. The demand for garden produce at Brighton is necessarily great, while the supply is well known to be very limited, and this Property, on which a large sum has been recently expended, offers an unusually favourable opportunity for conducting a profitable business; or to the proprietors of any extensive establishment it would be equally advantageous.

For particulars and cards to view apply to Mr. WILKINSON, Brighton; or to Messrs. GADSDEN, WINTERFLOOD, & ELLIS, 18, Old Broad Street, London.

# THE HYDROPULT,

## THE HYDROPULT

IS INVALUABLE FOR

WATERING GARDENS,

EXTINGUISHING FIRE at its COMMENCEMENT,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

DRESSING with LIQUID MANURE,

SPRINKLING PLANTS,

WASHING WINDOWS,

WETTING SIDEWALKS,

SPRINKLING STREETS,

WASHING CARRIAGES,

WETTING SAILS,

A SPRAY BATH,

&c. &c.

Caution. — Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will in due time, be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.

"Griffith & Browett, Manufacturers, Birmingham;

"Charles P. Button, General Agent.

"Vose's Patent;"

and is sold at the uniform rate of Two Guineas, complete, with 2½ feet suction and 3-feet delivery hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet. It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution.

## A PORTABLE GARDEN ENGINE AND FIRE ANNIHILATOR.

SECURED BY ROYAL LETTERS PATENT.

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Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet.

The Hydropult is a simple, effective, and convenient Apparatus for throwing Water by hand. It weighs but 8 lbs., is made of Brass and Copper, costs but Two Guineas, and will throw 7 or 8 gallons of water per minute 50 feet when worked by the power of one man.

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THE HYDROPULT IS THE MOST EFFECTIVE FIRE ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

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Read the following from Thos. Rivers, Esq., the eminent Florist and Nurseryman:—

"The Hydropult is admirably adapted for Nurseries, and will be found invaluable for Watering and Syringing Plants and Trees in pots."

Shirley Hibberd, Esq., says in the "Gardeners' Magazine:"

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"Percy M. Dove, Esq.,
"Manager Royal Insurance Company."

"The invention will prove extremely valuable for all the purposes to which such Machines are applied.

"Swinton Bolt, Esq.,
"Secretary Liverpool and London Insurance Company."

Important to Yachting Clubs.

We take pleasure in presenting to the public the following Testimonial from Lieut.-Colonel Wheatley:—

"I have much pleasure in stating that both I myself and several friends have used your Hydropult for Wetting Yachts' Sails and Washing and Baling out Boats with the greatest success; and, for an instrument of its size, consider it most useful and applicable to Yachting purposes, obviating the necessity of a large engine or skeats during a match.

(Signed) "W. Wheatley."

Royston.

"I consider the Hydropult the most convenient Garden Engine I have seen. My gardener is delighted with it.

"Arthur Nash."

"The Hydropult fully answers my expectations. It is a most useful little tool in a Greenhouse, or to clean Carriages, Windows, &c.

"Sampson Lloyd, Esq.,
"Proprietor of Old Park Ironworks, Wednesbury."

"I would state that the Instrument now in use at the Asylum gives entire satisfaction. Their applicability and general utility for Household, Farm, Garden, and other purposes, cannot be too highly spoken of.

"W. F. Knight, Esq.,
"Secretary Borough Lunatic Asylum, Birmingham."

"I required the Hydropult to Lay Dust in Yards, &c., which it does effectually.

"James Flynn, M.D.,
"Resident Physician and Manager Clonmel District Lunatic Asylum."

Valuable premises in Oxford were saved from destruction by the use of the Hydropult alone.

T. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable property in Bayswater from destruction.

*Prospectus, with Testimonials, on application at either Office.*

Hydropult Office: 27, LEADENHALL STREET, LONDON, E.C.; and 309, REGENT STREET, POLYTECHNIC BUILDING, LONDON, W.—CHARLES P. BUTTON, Proprietor.

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# THE GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE.


**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 10.—1863.] SATURDAY, MARCH 7. {Price Fivepence. STAMPED EDITION, 6*d*.


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ROYAL BOTANIC SOCIETY,
REGENT'S PARK.
The FIRST EXHIBITION of SPRING FLOWERS, CAMELLIAS, PRIMROSES, &c., will take place on SATURDAY, March 28.
Tickets are now being issued, and can be obtained at the Gardens by orders from Fellows and Members of the Society, price 2*s*. 6*d*. each; or in packets of 10 for 1*l*. per packet. The Gates open at 2 o'clock.
The Band will play from half-past 2 to half-past 5 o'clock.

ROYAL BOTANIC SOCIETY,
REGENT'S PARK.
EXHIBITIONS of PLANTS, FLOWERS, and FRUIT, WEDNESDAYS, May 13, June 3, and 24.
AMERICAN PLANTS, MONDAY, June 8.
Tickets are now being issued, and can be obtained at the Gardens by orders from Fellows of the Society. Price on or before May 2, 4*s*.; after that day, 5*s*.; or on the days of Exhibition, 7*s*. 6*d*. each.

THE CHRYSANTHEMUM.—A GENERAL MEETING of the AMALGAMATED METROPOLITAN CHRYSANTHEMUM SOCIETY will be held at the Angel Hotel, Islington, on MONDAY, March 16, when the Committee will submit a Code of Rules, &c., for the Government of the Society. The Chair to be taken at 8 o'Clock P.M., by ALFRED SMEE, Esq., of the Bank of England, F.R.S., the President of the Society. J. JEFFERIES, Hon. Sec.
10, Catherine Street, Barnsbury Park, N.

**Grape Vines.**
J. IVERY AND SON beg to inform their Patrons that their stock of the above is unusually fine this season. A PRICED LIST now ready.
Dorking Nursery.

**Pine Plants.**
TO BE DISPOSED OF, by a gentleman leaving for town and giving up his House, &c., about 100 good healthy PINE PLANTS, this and last year's growth.
Apply by letter to Mr. F. STEAD, 23, Jarratt Street, Hull.

FIGS, in Pots.—Nice strong Plants of all the best varieties by the dozen.
Apply to H. LANE & SON, Nurseries, Berkhampstead.

WEBB'S PRIZE COB FILBERTS, and other COB NUTS as exhibited at the INTERNATIONAL FRUIT and FLOWER SHOW, Kensington. Trees of these splendid varieties of Filberts may be had by application to
RICHARD WEBB, Calcot Gardens, Reading.

STRAWBERRIES.—A New DESCRIPTIVE CATALOGUE of more than 200 varieties of Strawberries, from good plants, of nearly every variety, can now be supplied by the Grower,
W. J. NICHOLSON, Egglescliffe, Yarm, Yorkshire.

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CUTHILL'S SIX SORTS, all at 5*s*. per 100; Selected, 7*s*. 6*d*. CUCUMBER and MELON, 1*s*. per packet. Best MUSHROOM SPAWN, 5*s*. per bushel.
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3000 DAHLIAS (dry roots) of the best sorts in cultivation; also 500 PAMPAS GRASS (strong) in 32-size pots.
Apply to E. MORSE, Original Nursery, Epsom.

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D. NICKLIN, FLORIST, &c., Guildford, Surrey, respectfully offers 20 choice named Pansies for 10*s*., package included.

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**Choice Kitchen Garden Seeds.**
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*** PRICED and DESCRIPTIVE CATALOGUE post free on application.

GARDEN SEEDS and FLOWER SEEDS of the finest and most rare varieties, at the lowest prices at which they can be delivered, carriage free, are quoted in WHEELER'S "Little Book" for 1863.
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Strong flowering plants of the above may be obtained of R. WARNER, Broomfield, Essex.
Prices on application.

J. IVERY and SON beg to announce that their new PRICED and partially DESCRIPTIVE CATALOGUE of HARDY BRITISH FERNS is now ready, and will be forwarded on application.
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SCOTCH FIR.—Splendid bushy well rooted stuff, 2 feet high. Price on application at
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SEED CORN from the CHALK.—All the most approved varieties supplied by RAYNBIRD, CALDECOTT, & BAWTREE. Samples and prices on application.
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ROSES, Dwarf-worked, very strong; ditto on own roots of all the best and newest varieties.
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**Roses.**
EDWIN HOLLAMBY begs to announce that he has still a fine stock of STANDARD and DWARF ROSES of most of the leading kinds, in very fine plants.
DESCRIPTIVE PRICED CATALOGUE free on application.
Nursery and Seed Establishment, Tunbridge Wells, Kent.

WANTED, OLD SWEET-SCENTED CHINA ROSES.
Address, E. WARREN, Worton Lane, Isleworth, W.

**Hollyhocks and Roses.**
PAUL AND SON have still to offer fine STANDARD and DWARF ROSES, new and old; also HOLLYHOCKS, all the leading varieties. CATALOGUES on application.
"Old" Cheshunt Nurseries, Herts.

**Cabbage Plants Transplanted.**
ROBERT PARKER begs to offer strong Plants by name of six of the best varieties in cultivation, at 5*s*. per 1000; if taken in large quantities a reduction will be made.
Exotic Nursery, Tooting, Surrey, S.

CABBAGE PLANTS.—Fine Drumheads, 3*s*. 3*d*. per 1000; Red Pickle plants, 4*s*. per 1000; Extra fine Early Cabbage, 3*s*. 4*d*. per 1000 of sorts; Large Asiatic Cauliflowers, 2*s*. 6*d*. per 100; Choice Early sorts of Cabbage Seed, 2*s*. 2*d*. per lb.
By THOS. WELLAND, Surrey Gardens, Godalming, Surrey.

NEW CELERY.—WILLIAMS'S MATCHLESS RED, a very superior variety, 2*s*. per packet.
B. S. WILLIAMS,
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NUTTING & SONS, Seedsmen, 60, Barbican, E.C.

**Fresh Mushroom Spawn.**
SUTTON AND SONS have a superior stock of MUSHROOM SPAWN, 5*s*. per bushel.
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WEBB'S IMPERIAL KIDNEY POTATOES.—No Potato like it for quantity, quality, beauty and size, at 12*s*. per Bushel, on application to
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WEBB'S IMPERIAL KIDNEY POTATOES, True, highly recommended; 8*s*. per bushel, 15*s*. per cwt., 6*l*. 10*s*. per Half Ton. Terms Cash.
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WHEELER'S GLOUCESTERSHIRE KIDNEY POTATO.—This is one of the earliest, the most productive, the best flavoured, and the most profitable Potato ever introduced.
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Apply to FREDERICK MANSFIELD, Morden, near Mitcham Surrey.

**Seed Potatoes.**
JOHN HARRISON begs to offer to the Trade fine clean Seed of the undernamed POTATOES, free from any disease, viz., Ash-leaf Kidney, 6*s*. per bushel; Lemon do., 6*s*.; Haiges' Kidney, 7*s*.; [illegible], 6*s*., of 4 stones per bushel.
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See SUTTON'S SEED LIST, which may be had post free.
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J. DIXON is offering ITALIAN SEED to the Trade. Samples and Prices sent on application.
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JAMES CARTER AND CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade:—
MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE,
NEW FEATHER STEM SAVOY,
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COLLECTIONS of KITCHEN GARDEN SEEDS, consisting of all the choicest sorts, are offered as follows:—

| | | | | | £ | s. | d. |
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| No. 1 | contains 20 quarts Peas, and all other seeds in proportion | | | | 3 | 0 | 0 |
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All parcels of Seeds of the value of 21s. and upwards carriage paid to any Railway Station in England.

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ROBERT PARKER begs to announce that his NEW CATALOGUE, containing select descriptive and priced lists of AGRICULTURAL, KITCHEN GARDEN, Imported GERMAN, and other FLOWER SEEDS; NEW and RARE PLANTS; Variegated, Ornamental Foliaged, Miscellaneous, Stove, Greenhouse, and Hardy Plants, &c., is now published, and will be forwarded Post Free to all applicants.

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| | Per doz.—s. | d. | | Per doz.—s. | d. |
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| Auriculas, sorts | 3 | 0 | Sedum carneum fol. var. | 3 | 0 |
| Violets, Russian and Double White | 3 | 0 | Christmas Roses | 6 | 0 |
| Pinks, fine named | 3 | 6 | Golden Yellow Wall-flower | 4 | 0 |
| Clove, old Crimson | 3 | 0 | Rockets, sorts | 4 | 0 |
| Pansies, fine named | 3 | 6 | Hollyhocks, fine named | 6 | 0 |
| „ fine mixed | 2 | 6 | Pampas Grass | 4 | 0 |

Also, Strong STOCK PLANTS of the following for Cuttings:—

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| Lobelia speciosa kermesina, "true." | | | Fuchsias, new, 1862 | 5 | 0 |
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100 Hardy Herbaceous plants in 50 varieties, carefully named and packed for 20s. Carriage of all Orders of 10s. paid to London, and other parts within 50 miles.

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| 50 Splendid RANUNCULUS, one each | 14s. to | £1 | 0s. | 0d. |
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IMPORTED GERMAN SEEDS.—Asters, Stocks, Balsams, Immortelles, Larkspurs, Phloxes, Poppies, Zinnias, &c., in named assortments, 1s. and 2s. 6d. each.

ANNUAL SEEDS.—50 sorts, 10s.; 25 sorts, 5s.
VEGETABLE SEEDS, of the best quality.
CATALOGUES gratis, or post free for one stamp.
All the above articles can be sent by Post.

GEORGE BAKER begs to offer the following, a selection from his extensive Stock:—
ARAUCARIA IMBRICATA, 3 feet, 6 feet, 9 feet, 14 feet.
ABIES DOUGLASII, 3 feet, 5 feet, 10 feet, 14 feet, 25 feet.
ARBOR-VITÆ (WAREANA), 3 feet, 6 feet, 8 feet.
CEDRUS DEODARA, 3 feet, 6 feet, 12 feet, 20 feet.
CUPRESSUS LAWSONIANA, 3 feet, 5 feet.
„ DISTICHA, 3 feet, 8 feet, 12 feet.
CEDRUS LIBANI, 6 feet, 8 feet, 10 feet.
CHINESE JUNIPER, 3 feet, 5 feet, 6 feet.
IRISH YEW, 4 feet, 6 feet, 8 feet.
JUNIPERUS RECURVA, 8 feet.
PICEA CEPHALONICA, 3 feet, 4 feet, 11 feet.
PINUS CEMBRA, 3 feet, 5 feet, 7 feet.
„ EXCELSA, 10 feet, 15 feet.
THUJA GIGANTEA, 4 feet, 5 feet, 6 feet.
THUJOPSIS BOREALIS, 1 foot, 2 feet.
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WEYMOUTH PINE (fine), 1½ foot, 2 feet.
SPRUCE FIR, 1 foot, 2 feet.
AZALEAS (to name)
ANDROMEDAS (to name).
RHODODENDRONS (to name).
„ STANDARDS (to name).
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„ STANDARDS (very fine heads).

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In offering the above SCARLET VERBENA, have much pleasure in stating that it has been awarded a First-Class Certificate by the Floral Committee of the Royal Horticultural Society, June 11, 1862; First-Class Certificate by the Royal Botanic Society, July 9; First-Class Certificate at the Crystal Palace, Sydenham, Sept. 4 and 5; First-Class Certificate by the Rugby Floricultural Society, August 29; First Prize by the Birmingham Botanic Society, July 10.

After the above Awards, S. P. & SON think it needless to offer any remarks, further than that it is of a free habit and will prove a first-class Bedding variety; colour the most dazzling scarlet that can be conceived, with a clear white eye; truss and pip extremely large, and of the finest shape and quality.

See Editor's remarks in *Gardeners' Chronicle*, August 30, 1862, and December 27, 1862; "Journal of Horticulture," Sept. 9, 1862. An Engraving will appear in the April Number of the "Florist and Pomologist."

**Plants after April 15, 5s. each. Special Price by the dozen on application to the**

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All Flower Seeds sent post paid; and all orders for Flower and Vegetable Seeds amounting to £1 1s. sent carriage paid.

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Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

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WHITE and RED GLOBE, and NORFOLK TURNIP,
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PACEY'S PERENNIAL RYE-GRASS, and other sorts.
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NATURAL GRASS SEEDS, in mixture or separate, suitable for various soils and localities.
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**Vegetable and Flower Seeds.**

CARRIAGE FREE.

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Nice plants of this interesting novelty can still be supplied at 21s. each.
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**Choice Coniferæ, Tree and Shrub Seeds offered by**

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CATALOGUE forwarded on application.

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**Large Trees for Parks, Hedgerows, &c.**

WILLIAM CROWDER, Nurseryman, Horncastle, has a quantity of SPANISH CHESNUT, 10 to 12 feet; LIMES, 8 to 10 feet; ELM, grafted, 8 to 10 feet, all strong well grown trees and well rooted, to offer cheap to the Trade or gentlemen.

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WOOD AND INGRAM beg to offer to the Trade extra fine Seedlings of the above, at 5s. per 1000.

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FINE TRANSPLANTED LARCH FIR, 2 to 3 feet.
1-year SEEDLING LARCH FIR.
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The above will be offered on reasonable terms by Wm. Wood & Son, Woodlands Nursery, Maresfield, Uckfield, Sussex.

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2 years SILVER FIR | 2 years NORWAY SPRUCE
3 years NORWAY SPRUCE.

The above will be sold Cheap. Prices and Samples, if required, on application.

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TO BE DISPOSED OF, 30 fine healthy plants of WELLINGTONIA, which can be removed with safety, ranging from 5 to 8 feet high.

For particulars of price, &c., address A. B., care of Mr. Chadwell, Stationer, Peterborough.

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| 1 year Seedling Larch | 2 year Seedling Pears |
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Also a large Stock of Transplanted BEECH, 1½ to 2 feet; Transplanted NORWAY SPRUCE, 9 to 15 inches and 12 to 18 inches; Transplanted WHITE AMERICAN SPRUCE, 1 to 2 feet; all extra fine stock. Samples, with prices, which are very low, may be had on application.

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TO THE TRADE.— Special Offer.

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BERBERIS DARWINII, 6 to 9 in., 5l. per 1000, or 12s. 6d. p. 100.
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18 to 24 ins., 9s. per doz.; 60s. per 100.
CUPRESSUS LAWSONIANA, 2 to 3 feet, 200s. per 100.
3½ to 4½ feet 30s. per dozen.
4½ to 5 feet, 36s. per dozen.
5 to 6 feet, 5s. to 7s. 6d. each.
THUJA LOBBI, 18 to 24 in., 12s. per doz.; or 75s. per 100.
2 to 3 feet, 18s. per doz.; or 100s. per 100.
BLUSH CHINA ROSES, 25s. per 100.
RHODODENDRON PONTICUM, fine large bushy stuff, 1½ to 2½ feet, 40s. to 60s. per 100.
2 to 3 feet, 70s. per 100
3 to 4 feet, 126s. per 100.
WELLINGTONIA GIGANTEA, 4½ to 5 feet, 42s. to 50s. each.
5 to 6 feet, 50s. to 63s. each.
6 to 7 feet, 63s. to 84s. each.
7 to 8 feet, 84s. to 105s. each.
The above are all fine healthy, well rooted stuff.

TRADE CATALOGUE of GENERAL NURSERY STOCK on application.

Thomas Cripps, Nurseryman, Tunbridge Wells, Kent.

**Hardy Climbers, Hardy Climbers.**

MESSRS. DILLISTONE AND CO., of The Nurseries, Sturmer, Halstead, Essex, has to offer a first-rate Collection of the above, consisting of splendid HONEYSUCKLES, ROSES, CLEMATISES; some very beautiful IVIES, JASMINES, &c., &c. A basket containing one dozen, carefully packed and paid to London upon receipt of 10s.

100 HERBACEOUS PLANTS, properly named and carefully packed, for 20s. PANSIES by the dozen, hundred, or thousand. PAMPAS GRASS, &c., &c. NURSERY STOCK in General.

Sturmer Nurseries.—March 7.

NEW CUCUMBERS, at 1s. per packet.

Recommended by the Fruit Committee of the Royal Horticultural Society. See GUIDE to the KITCHEN GARDEN.

Barr & Sugden, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

CARTER'S CHAMPION CUCUMBER, recommended by the Royal Horticultural Society as being an excellent bearer. Fruit solid and firm, and the best of the Sion House class. 1s. per packet. A few ounces of our own saving to offer the Trade.

237, 238, & 261, High Holborn, London, W.C.

YOUELL'S NORFOLK HERO CUCUMBER.— Without exception the best Ridge Cucumber known. 6 Seeds, 1s.; 18 Seeds 2s.

LAING'S MAMMOTH CELERY.—The very best, hardiest, and finest flavoured Red Celery in cultivation. 1s. and 2s. per packet, on receipt of postage stamps.

See former advertisement.

Youell's Royal Nurseries, Great Yarmouth.

**Flower Seeds sent Free by Post.**

WOOD AND INGRAM beg to offer

| | | | s. | d. |
|---|---|---|---|---|
| 12 fine varieties of HARDY and HALF-HARDY ANNUALS for | .. | .. | 1 | 8 |
| 24 ditto | ditto | ditto .. | 2 | 10 |
| 36 ditto | ditto | ditto .. | 4 | 0 |
| 48 ditto | ditto | ditto .. | 5 | 0 |

Nurseries, Huntingdon.

**Camellia alba plena.**

JOHN HARRISON has a noble Specimen of the old DOUBLE WHITE CAMELLIA, 9 feet in height and as much through, in a tub 22 inches by 24, getting too large for his houses. It is a beautiful well furnished plant, with at least 400 to 500 bloom-buds upon it at the present time ready to bloom. Price Twenty-five Guineas.

Darlington Nursery.

**Lupine Seed for Field Culture.**

SUTTON AND SONS, Seed Growers, Reading, can supply the proper kinds of LUPINE SEEDS for Field Culture, as recommended by Baron Herm Von Nathusiel, and Mr. Thos. Crisp, in the "Journal of the Royal Agricultural Society," No. XLIII. Instructions on Cultivation sent with the Seed. PRICED LISTS post free.

Royal Berkshire Seed Establishment, Reading.

**Pine Apple Place, Edgware Road, London, W.**

ARTHUR HENDERSON AND Co. beg to announce that their CATALOGUE of NEW and CHOICE FLOWER SEEDS, containing all the Novelties up to the present time, is now ready, and will be forwarded Free on application.

DOUBLE DWARF POPPIES.—The most beautiful Stock in cultivation. Colours varied and brilliant; flowers as double as a Hollyhock. Seed 1s. per packet, Post free. To the Trade, 3s. 6d. per ounce.

Hooper & Co., Seedsmen, Covent Garden Market, London, W.C.

**Notice.**

PURCHASERS of LARGE QUANTITIES of FARM or GARDEN SEEDS will be supplied liberally by Sutton & Sons.

For prices apply (stating quantity required) to Sutton & Sons, Royal Berkshire Seed Establishment, Reading.

**To Seedsmen and Others.**

THOMAS AYRES, Seedsman and Grower, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz :—

WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP, ,,
SEED POTATOES of the following varieties :—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.
SCARLET RUNNER BEANS (English grown).

A PRICE LIST forwarded upon application.

**Established 1787.**

THOMAS KENNEDY AND CO., Nursery and Seed Establishment, Dumfries, N.B.

*** PRICED CATALOGUES sent free on application: FREE DELIVERY.

FARM and GARDEN SEEDS under certain limitations will be delivered free of Carriage to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

JUST ARRIVED, CAMELLIAS and AZALEAS, full of Flower Buds, 21s., 24s., and 30s. per dozen; ORANGE TREES with Fruit and Bloom, 2s. 6d. and 3s. 6d. each. British and Foreign FERNS, immense variety. FERN CASES and AQUARIUMS of every description.

R. Green, 154, Kingsland Road, N.E., and the Bedford Conservatories, Covent Garden Market, entrance Centre Avenue only.

BARR & SUGDEN 12 KING ST. COVENT GARDEN

*Second Edition, just Published, price 2s. 6d.*, Our

# ILLUSTRATED GUIDE TO THE FLOWER GARDEN.

Companion *to the above, price* 1s., Our

## ILLUSTRATED GUIDE TO THE KITCHEN GARDEN,

COLLECTIONS OF VEGETABLE SEEDS.

£3 3 0 | £2 2 0 | £1 10 0 | £1 1 0 | 15s. 6d. | 10s. 6d.

For particulars, see page 4 of "Guide to the Kitchen Garden."

COLLECTIONS OF FLOWER SEEDS.

£3 3 0 | £2 2 0 | £1 10 0 | £1 1 0 | 15s. | 10s. 6d. | 5s. 6d. | 3s. 6d.

For particulars, see page 18 of "Guide to the Flower Garden."

## STRIKING NOVELTIES.

Continued from last week's *Gardeners' Chronicle*, page 192.

### STRONG CANNA ROOTS,

A Portion of the Unrivalled Collection of our "Sardinian Correspondent."

Fine foliaged plants, and such as are of stately growth, have of late years been much sought after for the adornment of the FLOWER GARDEN, TERRACES, PLEASURE GROUNDS, LAWNS, SELECT SHRUBBERIES, CARRIAGE DRIVES, &c.; besides relieving the monotony too frequently to be met with in such places, plants of this character impart a somewhat Oriental aspect.

For such purposes the CANNA stands unrivalled; its large picturesque foliage, and spikes of vivid-coloured flowers, produce a truly magnificent effect, especially when planted in groups, whether on the Lawn, in the centre of large beds, or in the mixed Flower Border. Varieties enumerated in our "Guide to the Flower Garden" will be found to form one of the most striking contrasts in habit and foliage.

| | | | | | |
|---|---|---|---|---|---|
| 3179 | 100 | Roots assorted, our own selection, in 25, 30, and 40 varieties. 5l. 5s., 6l. 6l., and £7 | 7 | 0 | |
| 3180 | 50 | ,, ,, ... ... ... ... ... ... ... | 2 | 15 | 6 |
| 3181 | 25 | ,, ,, ... ... ... ... ... ... ... | 1 | 10 | 6 |
| 3182 | 12 | ,, ,, ... ... ... ... ... 12s., 18s., to | 1 | 1 | 0 |

**Celosias.**—Magnificent new Varieties.

See Illustrations in our "Guide to the Flower Garden," and for prices see last week's *Gardeners' Chronicle*.

**Clitoria.**—See page 86.

2450. CLITORIA TERNATEA VIOLACEA FLORE PLENO. —A new variety of this truly beautiful and easily cultivated genus, and to which we would invite the special attention of those who are fond of climbers, whether for training on wire-globes, trellis-work, or rafters. (The whole of the Clitorias are remarkable for their elegant large flowers, some of which, especially C. gesnatia atro-cœrulea, are of the most intense blue.) It is the first double variety yet obtained, and without doubt the most charming novelty of the season; flowers large, very double, and of an exquisitely beautiful satiny-purplish lavender. (See Engraving.) 1s. 6d.

**Chlora.**—See page 36.

924. CHLORA GRANDIFLORA.—Our "Sardinian Correspondent" informs us that this is a unique bedding plant, producing when in bloom a grand effect. The growth of the plant is elegant, the flowers are of a beautiful pale orange, and produced in profusion throughout the summer and autumn months; height, 1½ feet. 1s.

**Cineraria.**—See page 37.

951. CINERARIA PLATANIFOLIA.—A most remarkable plant, combining to immense heads of golden-yellow flowers, large velvety green leaves; in the centre of flower beds, or intermingled with other plants, it imparts a charm of no ordinary character. 1s. 6d.

**Clarkia.**—See page 37.

971. CLARKIA INTEGRIPETALA MARGINATA.—(Illustrated in the *Floral Magazine* of November last). A most desirable addition to this favourite class; petals entire and of a rich magenta-rose, conspicuously bordered with pure white. 1s.

970. CLARKIA INTEGRIPETALA ALBA.—Similar to the above, but pure white; very handsome. 1s.

973. CLARKIA TOM THUMB INTEGRIPETALA.—This variety possesses the good qualities of the above two, but much more dwarf and compact in growth; flowers rosy-crimson. 1s.

**Convolvulus.**—See page 39.

1037. CONVOLVULUS STELLATUS RUBER.—This beautiful trailing Convolvulus, whether grown in hanging baskets or in beds, is equally attractive; in the former (as is shown in our Engraving) it is remarkable for its elegant growth, while for flower beds it is most valuable, blooming profusely, and throwing above its remarkably neat foliage a profusion of pretty deep rose-coloured blossoms, with attractive double white star in centre. 1s.

**Cordia.**—See page 39.

1038. CORDIA DOMESTICA.—A truly ornamental evergreen shrub, with pretty orange flowers. 6d.

**Dianthus.**—See page 43.

1176. DIANTHUS JAPONICUS SUPERBUS FLORE PLENO.—A superb variety of this favourite genus, with large handsome double flowers of various shades, and possessing a fine, robust, compact habit; altogether superior to the beautiful Heddewigii. 1s.

*To be continued next week.*

BARR AND SUGDEN, SEED MERCHANTS.

GOOD MANGEL WURZEL SEED which grows well.
RED GLOBE | YELLOW GLOBE | LONG RED
YELLOW OLIVE-SHAPED | LONG YELLOW.
6*d.* per lb., or cheaper by the cwt.
SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**Good Clover Seeds at Market Prices.**

SUTTON AND SONS have now ready, at very moderate prices, fine new RED, WHITE, and ALSIKE CLOVER SEEDS. As also new Rye Grasses, Turnip, Mangel Wurzel, and other Agricultural Seeds, a Priced List of which may be had post free.

Address SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**Sutton's Improved Italian Rye-Grass.**

SUTTON AND SONS have an excellent Stock of the above now ready.
Price 7*s.* per bushel, or cheaper in large quantities.
Royal Berks Seed Establishment, Reading.

**Clovers and Rye-Grass Seeds.**

SUTTON AND SONS can supply the proper quantities of the best kinds of CLOVER and RYE-GRASS SEED, either Common or Italian Rye-Grass, at 16*s.* per acre; or Clovers without Rye-Grass at 14*s.* per acre.

The sorts of Clovers supplied by SUTTON & SONS are the Alsike, the Common Red, and the White Clover (14 lb. per acre).

The great produce of the above-named Mixture is shown by the following:—

*From* C. F. THRUSTON, Esq., *Talgarth, Machynlleth, July* 31.

"I cut a crop of Grass on June 2, which had been previously dressed with soot and guano. It was full ripe, and the Italian Rye-Grass was really 4 feet high, Clover in proportion. I am now (July 31) getting a second crop from it equally heavy."

*In ordering it is only necessary to state that "Clovers and Italian Rye-Grass," or "Clovers and Common Rye-Grass," or "Clovers only," are required for so many acres, when the proper quantities will be sent.*

Royal Berkshire Seed Establishment, Reading.

GRASS SEEDS for LAYING DOWN LAND to PERMANENT PASTURE or MEADOW.

Having been amongst the very first in this country to recommend the use of the Natural Grasses in the formation of Permanent Pasture, and having over a long period of years given the subject a considerable share of attention, we, from the marked success which has attended their culture, feel quite warranted in recommending our carefully prepared Mixtures or Assortments, to the notice of those who purpose laying down land for a period of years. In choosing for these Mixtures, our aim is to imitate, as near as possible, the varieties composing the rich old pastures of Britain, and which it is obvious cannot be obtained by adopting the too common mode of sowing down with Ryegrass and Clover only, for although these yield heavily at first they are soon exhausted, and leave the land bare, to be filled up in course of time by an inferior herbage.

Parties ordering will please state the nature and extent of the land to be sown, and whether with or without a grain crop. When not instructed to the contrary, the Seeds will be sent out mixed and ready for the sower. The mixing being a most important operation, is much more perfectly done by our practised hands than it can be by those unaccustomed to it. After numerous carefully tested experiments, we find it the best plan to sow light and heavy seeds together.

When requested, we will be glad to furnish a list of the varieties and quantities suited to any given description of land. The Cost for a full Supply of Seeds will range from 25*s.* to 28*s.* per statute acre.

Carriage of Seeds paid to the principal Railway Stations throughout the kingdom.

W. DRUMMOND & SONS, Stirling.

*** PRICED CATALOGUES of all the leading descriptions of Seeds required for the Farm or Garden, may be had prepaid on application.

GIANT ASPARAGUS ROOTS, 2*s.* 6*d.* per 100.—This delicious vegetable does not require half the expense usually incurred in planting it. For instructions, see RICHARD SMITH'S SEED LIST for 1863.

Strong Transplanted SEA KALE, 2*s.* per doz.
RICHARD SMITH, Nurseryman, Worcester.

**The King and Queen Potatoes.**

SUTTON AND SONS have much confidence in recommending these two new sorts of POTATOES, as decidedly the finest and best in cultivation.

The following Prizes have been awarded to Mr. Spencer for these Potatoes:—

The Prize at the Crystal Palace, 1861.

Three Prizes at the International Show at the Royal Horticultural Society's Gardens, South Kensington, in October last.

The Prize at the Birmingham Cattle and Root Show, Bingley Hall, in December last; and upwards of 20 other Prizes in various parts of the kingdom.

To be had of Messrs. SUTTON & SONS, Reading. Price 5*s.* per Peck (of 14 lbs.)

SEED POTATOES.—Splendid Stocks of Martin's Early Globe, Early Oxford, Early Fox's Seedling, Early Round Frame, Early Dalmahoy, Myatt's Prolific, and Jackson's Ash-leaved Kidney, Forty-fold, Fluke Kidney, and Flour-ball varieties at low prices.

H. & F. SHARPE, Wisbeach.

EXTRAORDINARY POTATOES.—A gentleman resident in the Country offers for SALE a few BUSHELS of SEED POTATOES of a new and most wonderful kind. For the table they are unsurpassed as to whiteness and delicacy of flavour, and their productiveness is almost incredible, even on indifferent soil; and further, the disease never attacks them.

For price, &c., address by letter to Z. Z., care of Editor, 162, Fleet Street, London, E.C. Early application is necessary.

DAINTREE'S EARLIEST SEEDLING POTATO.—The earliest and most prolific round variety in cultivation, verified by reports in the various papers, and by private reports from all parts of the country, numbers of which will be forwarded on application. Present price, 8*s.* per Bushel, or 12*l.* per Ton; sacks 1*s.* 6*d.* each.—Apply to Mr. SIMON A. DAINTREE, Fendrayton, St. Ives, Hunts.

N.B.—Genuine Italian Rye grass, and all the Agricultural Seeds of home growth, supplied as usual

MYATT'S PROLIFIC POTATOES, 24*s.* per sack, (2 cwt.); ASHLEAF KIDNEY do. 22*s.*; DALMAHOYS, FORTYFOLDS, SHAWS and FLOUR BALLS, 12*s.*; Sacks 1*s.* 6*d.* each.

YELLOW GLOBE MANGEL WURZEL SEED, 4*d.* per lb., 30*s.* per cwt; RED GLOBE, 4*d.* per lb., 32*s.* per cwt.; PURPLE TOP SWEDE, 8*d.* per lb., 26*s.* per bushel of 50 lbs; WHITE FLESHED do., 9*d.* per lb., 30*s.* per bushel (Bags included).

ALTRINGHAM CARROT SEED, 1*s.* per lb.; Selected do. 1*s.* 6*d.*; WINDSOR BEANS, 9*s.* per bushel.

Remittances to accompany order from unknown correspondents.

CHRISTMAS QUINCEY, Seed Grower and Seedsman, Peterborough.

**Cole's White Perfection Celery.**

WM. COLE has much pleasure in offering again to his numerous customers the above, which has proved itself to be the best White Celery in cultivation. In sealed ½ oz. packets, free by post, 1*s.* 6*d.* Price to the Trade upon application.

Nurseries, Withington, near Manchester.

KIMBERLEY'S SUPERB SOLID RED CELERY.—This is without exception the best Celery in cultivation. CHARLES KIMBERLEY has much pleasure in offering this superb Celery for the first time, although he has grown it for upwards of 20 years. Thousands of plants are annually sold in Coventry Market. The seed now offered is saved from bleached roots of 1862; ½ oz. packets free by post, 1*s.* 6*d.*

Stoke Nursery, near Coventry.

THE NEW PARSNIP "STUDENT."—SEED of this improved PARSNIP, "ennobled" by Professor BUCKMAN, of the Royal Agricultural College, Cirencester, is now ready for delivery by Messrs. SUTTON & SONS, Post free, in packets, 6*d.*, 1*s.*, or 2*s.* 6*d.* each. Also Wholesale to the Trade.

It can also be obtained from any of the Seedsmen named in the List which appeared in *Gardeners' Chronicle* of January 31 and February 21.

Royal Berks Seed Establishment, Reading.

CHEAP GRASS SEEDS for HILL SIDES and RAILWAY BANKS.—Rough Grasses, Sainfoin Siftings, &c., suitable for the above purpose, at 2*s.* per bushel and 3*d.* per lb.

Address, RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

**Cabbage Plants.**

W. VIRGO and SON beg to say they have a very large quantity of DRUMHEAD, RED and EARLY CABBAGE PLANTS to offer for Sale of the following sorts, at 3*s.* 6*d.* per 1000:—

| | |
|---|---|
| EARLY YORK CABBAGE | EARLY NONPAREIL |
| ,, BATTERSEA | DRUMHEAD |
| ,, BARNES | RED CABBAGE |

5*s.* per 1000. All strong, healthy, and well rooted.
Wonersh Nursery, near Guildford, Surrey.

**To the Seed Trade.**

H. AND F. SHARPE have a Surplus Stock of true—

| | |
|---|---|
| Early Long Pod Beans | Ne Plus Ultra Peas |
| Mackie's Monarch ditto | Laing's Imperial Swede Turnip |
| Broad Windsor ditto | Early Green Top Yellow ditto |
| Early Emperor Peas | Fine Red Surrey Carrot |
| Woodford's Green Marrow do. | Early Nonpareil Cabbage |
| Flack's Blue Imperial ditto | ,, Emperor ditto |
| British Queen ditto | ,, Enfield Market ditto |

which they can offer at a low figure.
Seed-growing Establishment, Wisbeach.

NEW HARDY WHITE SWEDE.—The Favourite Swede of the Flockmasters on the Hampshire, Wiltshire, and Cotswold Hills. Grows rather coarse on some soils or when sown early; but it is very productive, hardy, and it is the only Swede that can be depended upon to keep sound through the winter without storing. Excellent for late sowing and upon poor land.

Seed 1*s.* per lb., or 42*s.* per bushel.

Supplied by RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

**Dahlia Pot Roots.**

GEORGE RAWLINGS has a quantity, which he begs to offer at 6*s.* per dozen. Among them are UMPIRE, CRITERION, JUNO, ANDREW DODD, and such first class flowers. Mixed varieties at 10*s.* per 100. A small quantity of Choice Seed at 2*s.* 6*d.* per packet of 50.

21, Globe Road, Bethnal Green, N.E.

**Rhododendron, Countess of Haddington.**

First-Class Certificates at Royal Horticultural Society's Exhibition, March 19, 1862, and at Royal Botanical Society's Exhibition, April 2, 1862.

ROBERT PARKER begs to announce that this beautiful variety will be distributed in August next; price of Plants, 21*s.* each. Orders are now being booked, and will be executed in rotation. The Stock being limited early orders are solicited. A Plant was exhibited at the Royal Horticultural Society's Exhibition, Feb. 25, 1863, of which notice can be seen in reports of Show in *Gardeners' Chronicle* of Feb. 28, and *Journal of Horticulture* of March 3. Other Plants will be exhibited at the coming Spring Exhibitions.

*** The usual discount to the Trade.
Exotic Nursery, Tooting, S.

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., so much admired in the International Exhibition, delivered in the City at 1*s.* 6*d.*, or within 2½ miles of Charing Cross, at 2*s.* per bag of 3 bushels. Ten bags or more on lower terms. Apply to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.

Also for particulars of SHORT FIBRE for Orchids and Drainage in pots.

Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are the best and most economical of any, and are sold in every town in the kingdom; at DEANE'S, London Bridge; and E. WHITE & SON'S, 95, Cannon Street.

CAUTION.—Every Brush is stamped "J. BARSHAM'S Patent."

THE SPADE and its ADAPTATION.—Illustration of WALTERS'S Open Spade, dimensions of ditto. SEEDS made proof against Birds and Insects; LISTS of FLOWER, VEGETABLE, and FARM SEEDS, also S. W.'s 27th ANNUAL CATALOGUE of SELECT PLANTS, ROSES, &c., in exchange for Six Postage Stamps.

S. WALTERS, Hilperton, Trowbridge, Wilts.

## GENUINE SEEDS FOR THE FARM AT LOW PRICES.

# THE PLYMOUTH SEED COMPANY, PLYMOUTH,

Have a large and pure Stock of all kinds of GRASS SEEDS for PERMANENT PASTURES, Mixtures of which can be had expressly to suit any soil. The quantity recommended per Acre is 2 bushels of the Light Grass Seeds, and 12 lb. of Clovers.

| | |
|---|---|
| Mixtures for Permanent Pasture ... | per acre, 22s. to 30s. |
| Mixtures for Permanent Lawns ... | per bushel, 16s.; per lb. 1s. |
| Mixtures for Uplands and Sheepwalks ... | ... per acre, 22s. to 30s. |
| Mixtures for Water Meadows ... | per acre 24s. |
| Mixtures for Cemeteries, Churchyards, &c. ... | per bushel, 16s.; per lb. 1s. |

**RYE GRASS.**

| per bush.— | s. | d. |
|---|---|---|
| Italian Imported ... | 6 | 0 |
| Italian, English saved | 6 | 0 |
| Perennial, in varieties 4s. to | 7 | 0 |

**CLOVERS.**

| Per lb.— | s. | d. |
|---|---|---|
| English Red 6d. to | 0 | 9 |
| Foreign Red 6d. to | 0 | 8 |
| White or Dutch 9d. to | 1 | 0 |
| Trefoil ... 4d. to | 0 | 6 |
| Alsike ... ... | 1 | 6 |

**MANGEL WURZEL.**

| Per lb.— | s. | d. |
|---|---|---|
| Fisher Hobbs, true | 1 | 6 |
| Long Red ... ... | 0 | 6 |
| Yellow Globe ... | 0 | 6 |
| Red Globe ... ... | 0 | 6 |
| Long Yellow ... | 0 | 6 |

**SWEDES.**

| Per lb.— | s. | d. |
|---|---|---|
| Plymouth Improved Purple-top ... | 1 | 0 |
| Skirving's ... ... | 0 | 9 |
| Purple-top ... ... | 0 | 9 |
| Green-top ... ... | 0 | 9 |

**OTHER TURNIPS.**

| Per lb.— | s. | d. |
|---|---|---|
| Scotch in Vars. ... | 0 | 9 |
| White Globe ... | 0 | 8 |
| Green Globe ... | 0 | 8 |
| Red ... ... ... | 0 | 8 |
| Grey Stone ... ... | 1 | 0 |
| Orange Jelly ... | 0 | 10 |
| Tankards ... ... | 0 | 9 |

**CARROTS.**

| Per lb.— | s. | d. |
|---|---|---|
| White Belgian ... | 1 | 0 |
| Yellow do. ... | 1 | 3 |
| Altringham ... | 1 | 6 |
| Long Surrey | 1 | 3 |

And all other AGRICULTURAL SEEDS at Moderate Prices.

THE FARM SEED LIST IS NOW READY, AND CAN BE HAD GRATIS ON APPLICATION.

Complete Collections of Garden Seeds, 10s. 6d., 15s., 20s., 40s., 60s. For particulars see General Price Current.
*Seeds Carriage Free.*

ADDRESS, PLYMOUTH SEED COMPANY, PLYMOUTH, DEVON.

**Chrysanthemums, Chrysanthemums.**

J. H. BIRD, F.R.H.S., NURSERYMAN, Stoke Newington, begs to inform his friends and the public he can supply from his great Stock of the above 20 pairs of the best large Varieties for 10s.; and 25 pairs of best POMPONES for 10s.; 20 pairs of Cuttings of the large Varieties for 5s.; and 25 pairs of Pompones ditto for 5s

New CATALOGUES ready for one stamp.

N.B. To save trouble all orders to be paid to J. H. BIRD, Stoke Newington.

---

FIRST CLASS NEW FUCHSIAS. — Coloured Drawings by Mr. ANDREWS of SANSPAREIL, BRIDESMAID, CONSPICUA, and HERCULES, are now ready, and will be forwarded in exchange for 12 postage stamps.

G. S. begs to offer the above as the most Superb FUCHSIAS yet offered to the Public. For description, with price, and also time of sending out, see CATALOGUE, now ready.

GEORGE SMITH, Tollington Nursery, Hornsey Road, Islington, London, N.

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A PRICED and DESCRIPTIVE CATALOGUE of all the new and leading kinds of Show, Spotted, French, Fancy, Scarlet, and Variegated Pelargoniums, Fuchsias, Verbenas, Petunias, Dahlias, Chrysanthemums, Bedding Plants, &c., is now ready in exchange for one postage stamp.

GEO. SMITH, Tollington Nursery, Hornsey Road, Islington, London, N.

---

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT's Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent.

---

**Hardy Scarlet and other Choice Rhododendrons.**

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

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**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

---

LINDEN'S AMATEUR COLLECTIONS of the choicest GERMAN FLOWER SEEDS direct from Erfurt. —Packets containing 30 species, 2s. 6d; 15, 1s. 3d. (Discount allowed to the Trade), forwarded prepaid.

Pinus Laricio, 85s. and 70s.; Abies, 25s.; Picea, 35s.; Strobus, 4s. 6d.; austriaca, 3s. 6d.; sylvestris, 3s. and 2s. 6d.; Tilia europaea, 65s., &c. Nett cash, prepaid to London, Hull, Glasgow, or Dublin. All Seeds warranted fresh and true.

EMIL LEIBIUS, Importer, 3, Barnsbury Grove, London, N.

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**Genuine Seeds.—Carriage Free.**

WM. CUTBUSH AND SON beg to intimate that they are now prepared to execute orders for GENUINE GARDEN SEEDS, for which their house is extensively known.

Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.

CATALOGUES free on application.

Highgate, London, N.

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GLADIOLUS, SEEDLINGS of GANDAVENSIS.

| | £ | s. | d. |
|---|---|---|---|
| 50 in 25 extra choice varieties .. .. | 3 | 2 | 6 |
| 25 in 25 " " .. .. | 1 | 5 | 0 |
| 12 in 12 " " .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 " " .. .. .. | 1 | 5 | 6 |
| 25 in 25 " " .. .. .. | 0 | 13 | 6 |
| 12 in 12 " " .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2s. 6d. per doz., 17s. 6d. per 100.

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, W.C.

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RUSSELL'S PYRAMID PRIMULAS.—Seed of this unequalled strain is now ready, in packets, price 2s. 6d.

The great satisfaction which these kinds have given in previous seasons, renders further comment on their merits unnecessary. The additional care taken however in saving the seed last year will probably result in producing flowers much superior to any ever seen.

Printed notes on raising them and their culture, forwarded with each packet; payment can be made in postage stamps.

GEORGE CLARKE, Nursery, Streatham Place, Brixton Hill, London, S.; and 4, Windsor Terrace, Pimlico, S.W.

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E. G. HENDERSON AND SON offer First-class quality of CINERARIA,

CALCEOLARIA, and PRIMULA SINENSIS FIMBRIATA,

1s. and 2s. 6d. per packet.

CINERARIA WEBBI.—The interest and value of this species consists in its having a shrub like branched habit of growth, attaining from 3 to 4 feet in height. This remarkable plant is expected to originate a new and desirable class of varieties for exhibition purposes, in having already passed into all the colours found in florist varieties of the present time, and no doubt but higher improvements in form, and other essential properties, will be obtained in connection with its superior culture. It will be found well adapted for decorative purposes, by its taller growth, and longer continuance in bloom. 2s. 6d.

Wellington Nursery, St. John's Wood, London, N.W.

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**Fuchsias, Silvery-leaved and Variegated Plants.**

J. SCOTT, Merriott, Crewkerne, Somerset, holds fine Stocks of the following, ready to send out:—

FUCHSIAS, in 100 named kinds (newest), at 4s. per dozen, late autumn struck, will make splendid specimens for exhibition.

VARIEGATED PLANTS, 3s per dozen: Agathaea cœlestis, Arabis fol var., Bellis Aucubæfolia, Sedum carneum var., Veronica chamædryoides.

SILVERY-LEAVED PLANTS, 3s. per dozen: Cineraria maritima, Centaurea candidissima, 1s each; Gnaphalium lanatum, G. arenarium, G. margaritaceum, Silvery Arctotis, Stachys lanata, and Cerastium tomentosum.

VARIEGATED GERANIUMS, 3s. per dozen; Alma, Bijou, Countess of Warwick, Manglesii, Shottisham Pet, and Brilliant.

BEDDING GERANIUMS, 3s. per dozen: Christine, Rose Queen, Crystal Palace, Punch, Lamartine, and Tom Thumb; and 100 sorts (to name), my selection, of Greenhouse sorts, at 6s. per dozen.

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# GRAND EXHIBITION OF HYACINTHS, 1863.

## WM. CUTBUSH & SON

BEG TO ANNOUNCE THAT THEIR

GRAND EXHIBITION OF HYACINTHS AND OTHER SPRING FLOWERS

WILL BE HELD AT THEIR

NURSERIES, HIGHGATE, during the TWO WEEKS commencing MONDAY, MARCH 16.

Admission by Tickets, which can be had free on application or by Private Address Card.

The Nurseries are easy of access by Omnibus from London Bridge Station, the Bank, Holborn, Tottenham Court Road, Islington, and Charing Cross to the foot of the Hill, from thence a distance of about 7 minutes' walk.

☞ NOT OPEN ON WEDNESDAY, MARCH 18.

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# NEW AND BEAUTIFUL PLANTS.

## WILLIAM BULL, F.R.H.S., F.R.B.S.,

NURSERYMAN AND NEW PLANT MERCHANT,

KING'S ROAD, CHELSEA, LONDON, S.W.

The following NOVELTIES are now being sent out in good plants, fit for Spring propagation.

### New Fuchsias, 7s. 6d. each.

ADELINE.—Red tube and sepals, beautifully reflexed, and of unusual length; double purple corolla of an irregular shape, some petals being long and others short; very peculiar.

FLORETTA.—Rich scarlet tube and sepals of the deepest crimson, very broad and wax-like, pure white corolla, of excellent shape.

HERO.—Light red tube and sepals, the latter reflexed and unusually wide and long; lake corolla; an immense flower, very striking.

MONARCH.—Crimson tube and sepals, the latter beautifully reflexed; large double corolla, peculiarly formed; large, showy, and attractive.

NORA.—Crimson sepals beautifully reflexed, double purple corolla flaked with bright crimson at the base, distinct.

SPECIAL.—Broad bright red sepals, reflexing back to the tube; beautiful, large, stiff, and smooth, bright blue corolla, marked with red at the base; excellent habit.

TRIUMPHANT.—Crimson sepals, with double purple plum corolla, flaked with crimson at the base; fine form.

### New Petunias, 3s. 6d. each.

BASILISK.—Glossy crimson, with rich violet throat, very smooth, fine form.

BRIDESMAID.—Bright pink, with large white centre.

CUPID.—Double, mauve, blotched in the centre with pure white, distinct.

ENSIGN.—Violet pink, blotched and margined with pure white.

GOOD THING.—Rich crimson, veined and striped with black; black throat.

MARMION.—French white, reticulated and veined with violet, very delicate, semi-double.

SENSATION.—Bright rose, rayed with violet, violet centre and light throat, very attractive.

SILVER SPOT.—Bright crimson, blotched with white.

### New Petunias, 3s. 6d. each.

STANDARD.—Clean bright crimson, large and very double, a fine noble flower.

STARTLER.—Double, bright crimson, blotched with pure white.

UNDINE.—Deep rose, rayed and barred with crimson, dark throat.

### Azalea William Bull, 21s. each.

This fine Azalea was raised in Belgium, and named by M. Ambroise Verschaffelt, from whom the stock for circulation in the United Kingdom has been purchased. The flowers individually are of unusual size and substance, and well formed; colour crimson and violet, richly spotted; a really superb variety.

### New Zonale Geraniums, 5s. each.

ACHIM.—Rose shaded with pink, excellent form.

ASPASIA.—Bright rose, very pretty.

CAROLINE.—Carmine shaded with orange scarlet, immense truss.

CHANCELLOR.—Clear rose with scarlet centre.

COUNTESS.—Rose shaded with scarlet.

COMMISSIONER.—Brilliant scarlet, vermilion upper petals.

DORIS.—Vivid orange scarlet, white eye.

EFFECTIVE.—Vermilion shaded with rose.

ENVOY.—Very deep rosy scarlet, large flower.

GLORIOUS.—Light scarlet, light centre.

HELDI.—Glowing scarlet, large flowers.

MAJOR DOMO.—Rosy scarlet, fine flowers.

PERSIAN.—Bright rose.

TRANSCENDENT.—Bright cerise shaded with scarlet.

UNIT.—Soft rose.

UMPIRE.—Cerise shaded with pink, large flower.

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# BEDDING PLANTS, &c.

## WOOD & INGRAM

BEG TO OFFER AS FOLLOWS.

### Zonale Geraniums,

VERY FINE SUMMER-STRUCK PLANTS.

| Per dozen.— | s. | d. |
|---|---|---|
| AGATHA .. .. .. .. | 3 | 0 |
| AURORA (Halley's) .. .. .. | 6 | 0 |
| BLACKHEATH BEAUTY (Halley's) | 6 | 0 |
| BLACK PRINCE .. .. .. | 3 | 0 |
| BRILLIANT .. .. .. .. | 3 | 0 |
| BRITISH FLAG .. .. .. | 5 | 0 |
| CERISE UNIQUE .. .. .. | 3 | 0 |
| CHRISTINA .. .. .. .. | 4 | 0 |
| COTTAGE MAID .. .. .. | 2 | 6 |
| COURONNE DE FLORE .. .. | 5 | 0 |
| COUNTESS .. .. .. .. | 5 | 0 |
| DEFIANCE (Giant) .. .. .. | 4 | 0 |
| FIREBALL .. .. .. .. | 3 | 0 |
| FLORIAN .. .. .. .. | 5 | 0 |
| FROGMORE .. .. .. .. | 2 | 6 |
| HENDERSONII .. .. .. | 2 | 6 |
| HON. MRS. FELLOWES .. .. | 4 | 0 |
| HUNTSMAN .. .. .. .. | 3 | 0 |

| Per dozen.— | s. | d. |
|---|---|---|
| IMPERIAL CRIMSON .. .. | 4 | 0 |
| KING OF SCARLETS .. .. | 3 | 0 |
| KINGSBURY PET .. .. .. | 3 | 0 |
| LADY DOWNES .. .. .. | 4 | 0 |
| " E. STANLEY .. .. | 5 | 0 |
| " MIDDLETON .. .. | 3 | 0 |
| LEONIE .. .. .. .. | 6 | 0 |
| MADAME LAVOCAT .. .. | 8 | 0 |
| MARTIN GIREAUD .. .. | 8 | 0 |
| MODEL NOSEGAY .. .. .. | 3 | 0 |
| MRS. MAYLER .. .. .. | 5 | 0 |
| MRS. ROWLEY, fine pink .. | 9 | 0 |
| PAUL L'ABBÉ .. .. .. | 6 | 0 |
| PAULINE .. .. .. .. | 4 | 0 |
| PET SUPERB .. .. .. | 3 | 0 |
| PRINCESS OF PRUSSIA .. .. | 12 | 0 |
| " ROYAL .. .. | 5 | 0 |
| RAINBOW .. .. .. .. | 4 | 0 |
| RUBENS .. .. .. .. | 4 | 0 |
| SIR C. CAMPBELL .. .. .. | 4 | 0 |
| SYMMETRY .. .. .. .. | 3 | 0 |

| Per dozen.— | s. | d. |
|---|---|---|
| TOM THUMB .. .. .. | 3 | 0 |
| TRENTHAM .. .. .. .. | 4 | 0 |
| TRIOMPHE DE PARIS .. .. | 3 | 0 |
| VIRGINIAN .. .. .. .. | 3 | 0 |

### Variegated-leaved Geraniums

SIMILAR FINE PLANTS.

| | s. | d. |
|---|---|---|
| BIJOU .. .. .. .. .. | 5 | 0 |
| BRILLIANT .. .. .. .. | 3 | 0 |
| FLOWER OF THE DAY .. .. | 3 | 0 |
| GOLDEN CHAIN .. .. .. | 6 | 0 |
| IVY-LEAVED .. .. .. .. | 4 | 0 |
| JANE .. .. .. .. .. | 4 | 0 |
| LADY PLYMOUTH .. .. .. | 4 | 0 |
| MANGLE'S PINK .. .. .. | 3 | 0 |
| " RED .. .. .. | 3 | 0 |
| PERFECTION .. .. .. .. | 3 | 0 |
| QUEEN VICTORIA .. .. .. | 4 | 0 |
| SHOTTISHAM PET .. .. .. | 6 | 0 |
| SILVER QUEEN .. .. .. | 4 | 0 |

CARNATIONS and PICOTEES, named flowers, 12s. per dozen pairs.

| Per dozen.— | s. | d. |
|---|---|---|
| GNAPHALIUM LANATUM, new silvery-leaved edging plants | 3 | 0 |
| SEDUM CARNEUM VARIEGATUM .. .. .. .. | 4 | 0 |
| AGATHÆA CŒLESTIS FOL. VARIEGATIS .. .. .. | 3 | 0 |
| LOBELIA SPECIOSA .. .. .. .. .. | 2 | 0 |
| KONIGA VARIEGATA .. .. .. .. .. | 3 | 0 |
| BELLIS AUCUBÆFOLIA, very fine .. .. | 4 | 0 |

Also a choice collection of PELARGONIUMS, Show, French and English, Spotted and Fancy varieties, fine bushy plants, once cut down, 9s. per dozen; Summer struck, fine plants, 5s. per dozen. CINERARIAS, fine plants, in 5-inch pots, just showing bloom, 6s. per dozen. LACHENALIA PENDULA, with 3 to 5 spikes of bloom, 9s. per dozen: ACACIA ARMATA, good blooming plants, 9s. per dozen; EUGENIA UGNI, 9s. per dozen; DIOSMA CAPITATA, 6s. per dozen; &c., &c.

HUNTINGDON NURSERIES.

GRAPES for COOL VINERIES.
BLACK HAMBRO' .. .. 3s. 6d. to 5s. 0d.
BUCKLAND SWEETWATER.. 5 0 to 7 6
MUSCAT HAMBRO' .. .. 5 0 to 7 6
We have to offer fine Canes of the above, and all other leading varieties.
PAUL & SON, "Old" Cheshunt Nurseries, Herts, N.

THE GREAT VINE at HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.
Strong well-ripened plants in 9-inch pots, 42s. and 60s. p. doz. If purchased in large numbers a considerable reduction will be made in price.
JACKSON & SON, Nurseries, Kingston, S.W

EXTRA STRONG FRUITING VINES.—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7s. 6d. each; smaller, for Planting-out, from 3s. 6d. each. A reduction in price will be made to large purchasers.
"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.
JAMES DICKSON & SONS, The Newton Nurseries, Chester.

NEW PRIZE MELONS, at 1s. 6d. per packet.
Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria,
For descriptions see GUIDE to the KITCHEN GARDEN.
BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1s. per packet.
JAMES CARTER & Co., 237, 238, & 261, High Holborn, W.C.

APPLE and PEAR TREES, &c.—100 doz. Dwarf and Pyramidal PEAR TREES, best sorts, 20s. per doz., packing included.
50 doz. Dwarf and Pyramidal APPLE TREES, best sorts, 12s. per doz., packing included.
GENERAL LISTS of NURSERY STOCK on application.
CHARLES B. SAUNDERS, Nurseryman, &c., Jersey.

STRAWBERRIES, Trade price.—Black Prince, Admiral Dundas, British Queen, Eleanor, Elton Pine, Wizard of the North, 10s. per 1000; Prince of Wales, Eliza, Alice Maude, Oscar, Duc de Malakoff. 2s. per 100.
POTATOES, sorts, see Advertisement Feb. 21.
GEO. CORNWELL, Seedsman, &c., Barnet, Herts, N.

Vines and Seakale.

GEORGE CLARKE has a good stock of short-jointed, well ripened, fruiting, and younger VINES of the principal kinds, from Eyes, price 3s. 6d. to 7s. 6d.
Also SEAKALE, clean and sound, very suitable for planting permanent beds, 5s. to 7s. 6d. per 100.
FORCING SEAKALE all Sold.
Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, Pimlico, S.W.

Select Double Hollyhocks.

WILLIAM PERRY begs to announce that he has for SALE a good and healthy stock of Young Plants of the above that will flower well this season. If selection is left to W. P., the price per dozen will be 9s., 12s., 18s. 24s., 30s.
Sawbridgeworth, Herts.

Superb Double Hollyhocks.
THIS BEING THE BEST TIME FOR PLANTING THEM OUT.

WILLIAM CHATER has an immense stock of healthy Plants.
CATALOGUE of PRICES to be had on application.
WILLIAM CHATER Nurseries, Saffron Walden.

Early Spring Flowers.

WEBB'S GIANT POLYANTHUS; ditto COWSLIP: Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to
RICHARD WEBB, Calcot Gardens, Reading.

Major's Half-Shrubby Calceolaria Seed for 1863.

HENRY MAJOR is prepared to supply the above as usual, in packets at 2s. 6d. each, or 3 for 5s., post free. The seed is very select, having been saved from large and strikingly beautiful flowers.
Postage stamps are requested in payment.
Knosthorpe, near Leeds, Yorks.

Choice Seedling Calceolarias.

CHARLES KIMBERLEY has a large stock of the above, all saved from impregnated flowers. The plants are strong, fit to pot into 5 inch pots. He begs to offer them at 4s. per dozen.
Stoke Nursery, near Coventry.

Seeds, Seeds, Seeds.

S. GLENDINNING AND SONS' (Successors to the late R. GLENDINNING) CATALOGUE of KITCHEN GARDEN, AGRICULTURAL and FLOWER SEEDS is now ready and may be had on application.
Chiswick Nursery, London, W.—March, 1863.

EDWIN HOLLAMBY begs to inform his Patrons and Friends that his DESCRIPTIVE PRICED CATALOGUE of VEGETABLE, FLOWER, AGRICULTURAL SEEDS, and GLADIOLUS is now ready, and may be had gratis and post paid on application.
Nursery and Seed Establishment, Tunbridge Wells, Kent.

New and Genuine Seeds.

GEORGE PARSONS, SEEDSMAN by Appointment to HER MAJESTY. A DESCRIPTIVE SELECT PRICED LIST, post free, on application.
27 and 28, Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

AMARANTHUS MELANCHOLICUS (var. ruber).—Habit very compact, height 1 to 1½ feet, with striking blood red foliage; a most valuable bedding plant for Flower Garden decoration, after the style of Perilla Nankinensis. Price per packet, 6d., 1s., and 2s. 6d. The Trade supplied.
E. P. DIXON & SONS, Seedsmen and Florists, 57, Queen Street, Hull.

Old Cheshunt Nurseries, Herts, N.—Roses.

PAUL AND SON have the pleasure to announce that their NEW HYBRID PERPETUAL ROSE, LORD CLYDE, will be ready for delivery in April next, at 7s. 6d. each. Usual allowance to the Trade when three are taken. A Coloured Plate, by Andrews, post free for 12 stamps.
The NEW ROSES of other Raisers will be ready in March.
They have still to offer fine Home-grown STANDARD and DWARF ROSES.
DESCRIPTIVE LISTS of the New Roses, Gladioli, and Genuine Seeds now ready.

New Roses of 1863.

J. AND J. FRASER'S DESCRIPTIVE LIST of the best varieties will be forwarded Post Free on application.
Strong healthy Plants are now ready.
A GENERAL CATALOGUE may be had on application.
Lea Bridge Road Nurseries, N.E.—March 7.

Roses for Forcing.

CHARLES NOBLE has a nice assortment, one-year, established in 32-pots, ready for Forcing. They are healthy vigorous plants, and cannot fail to give satisfaction. He has also a large stock of Dwarfs and Half-Standards suitable for planting in Roseries; they are offered very cheap.
Sunningdale Nursery, South-Western Railway.

DWARF HYBRID PERPETUAL ROSES, on the MANETTI STOCK; Carriage paid to London.—The Undersigned offer very fine and vigorous plants of the above. For a LIST of the more popular sorts, see *Gardeners' Chronicle* for December 6, 1862. Prices given for small and large numbers (per 1000 at a much reduced rate) and a DESCRIPTIVE CATALOGUE of ROSES sent on application to
THOS. RIVERS & SON, Nurseries, Sawbridgeworth.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.
RICHARD SMITH, Nurseryman, Worcester.

WELLINGTONIA GIGANTEA.—The attention of the Nobility, Gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12s.; per 100 or 1000 on application. A Sample free by post for 12 stamps.
J. HENCHMAN, Edmonton, London.

Excellence and Economy Combined.

SUTTON'S UNEQUALLED COLLECTIONS of KITCHEN GARDEN and FLOWER, &c. SEEDS.
SUTTON'S COLLECTIONS of GARDEN SEEDS will be found the most economical, as well as the best in quality of seeds, as see List of Contents, which may be had gratis and post free.
No. 1, £3; No. 2, £2; No. 3, £1; No. 4, 10s. 6d.
Royal Berkshire Seed Establishment, Reading.

New and Rare Plants for 1863.

WILLIAM BULL, F.R.H.S, F.R.B.S., begs to intimate that his CATALOGUE of NEW SOFT-WOODED PLANTS is now ready, and will be forwarded Post free on application.
Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

# The Gardeners' Chronicle.

*SATURDAY, MARCH* 7, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| WEDNESDAY, March 11 | Microscopical | 8 P.M. |
| | Society of Arts | 8 P.M. |

THE illustrious Princess who this day comes amongst us as the affianced bride of our future Sovereign will, we doubt not, be too deeply affected by the grand spontaneous welcome that awaits her to receive any but the most favourable impressions of the vast metropolis through which she will wend her triumphal way. The arches, the banners, the draperies, and, more striking than either, the interminable forest of heads that will line every inch of the course of the royal pageant, will, in her eyes, more than compensate for a thousand deficiencies which other strangers, arriving under other circumstances, could not fail to descry. It is quite beside our present purpose to chronicle all our manifold short-comings, but if required to specify the two most flagrant offences against good taste that must strike the eye of an intelligent foreigner, we would instance the strange prudery that almost entirely hides our noble Thames from view, and the equally strange *absence of trees* that stamps such a character of nudity and desolation upon the whole of the eastern and much of the western portions of London.

He may travel for miles without a trace of vegetation, and according as the day may be cold or hot may imagine himself at Archangel or Algiers, in the depth of winter or the height of summer! The almanack and the thermometer will be his only guides, for his eye—unable to detect any clue to the season—can render him little or no aid!

We may well wonder that a state of things such as we have thus faintly attempted to describe should, under any circumstances, have come to pass, but it will be a still greater marvel if we did not eagerly seize the very first opportunity of remedying it. Such an opportunity, as our readers are well aware, is now to be found in that magnificent EMBANKMENT which will ere long open a splendid roadway along the sides of the Thames, and at the same time provide a plateau on which lines of trees may be placed with perfect ease and admirable effect. And yet, so far as the latter are concerned, it seems but too probable that this glorious opportunity will be utterly neglected, for we read the other day in a paragraph that had but too much the air of an official announcement, that the idea of planting trees on the embankment had been definitively abandoned. Can this be possible! We have already waited too long in the hope that some member of Parliament would rise to ask Mr. COWPER whether there was any authority for so extraordinary a statement, but as nothing of the kind appears as yet to have been done, it is high time that public attention should be thoroughly aroused. The matter is to the full as important as the carrying on of the embankment past Montague House, and yet no one cares to stir about it. How is this? We would heartily commend it to some lively M.P. in quest of a grievance, for if well worked it might almost serve to make a reputation in this halcyon session. We may probably have occasion to revert to this subject, and shall assuredly keep an eye upon it.

In the meantime we would commend the question—or, at all events, so much of it as pertains to the selection of appropriate trees—to the good offices of the Committee on Arboriculture that has recently been appointed by the Royal Horticultural Society, and which commenced its useful labours at South Kensington on Tuesday last. Indeed we scarcely know how such a body could render more valuable service than by searching out the trees best qualified to do battle against the various influences that abound (much more than they need) in the atmosphere of London and other great towns. Even if it should be found that our range of choice is more limited than in Paris and other large continental cities, we have at all events the satisfaction of knowing that *our* trees, whatever they be, will not have to be cut down every 20 or 30 years to form barricades.

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THE inquiry of a Correspondent a few weeks since, respecting the treatment of HEDYCHIUMS, reminds us that a word may be said on behalf of these noble Scitamineans, which have most undeservedly gone out of general cultivation. Indeed, Hedychiums are not the only plants of the Scitamineous order which stand in this neglected position, and whose place in our plant stoves have been usurped by many less worthy subjects. Witness the Alpinias, many of which are exceedingly beautiful, and some of them, Alpinia nutans for example, hardly to be surpassed; its pendent racemes of exquisitely tinted flowers almost rivalling those of the grandest of our Orchids in the singularity and beauty of their form and colouring. Alpinia magnifica, another neglected species, is quite a sensation plant, its cone-shaped bright red inflorescence, surrounded by a ruff of magnificent white-edged crimson bracts, being so unlike any of the ordinary garden plants. Several species of Curcuma too, might be instanced as plants of exceedingly ornamental character now scarcely ever seen, being elbowed out of our hot-houses by the monstrous specimens of Aralias and such like "foliage" plants which the madness of fashion has permitted to usurp far more than their share, both of our glass houses and our exhibition tables. We may add to this short catalogue of unappreciated worthies belonging to the same Scitamineous family (which however in modern times has been broken up into two, represented respectively by the Ginger and the Arrow-root) a whole troop of Cannas, plants which are for the most part of a very striking character, and which are now becoming popularized for the sake of their foliage. Among these, Canna iridiflora, with its large long-tubed drooping rose-coloured flowers, stands preeminent as a grand example of the nobility of the order; and C. flaccida, with its large yellow blossoms, and C. glauca, with its distinctly glaucous leaves and yellow blossoms, are of almost equal interest in their way, to say nothing of the many species with scarlet and crimson blossoms, typified by the common Indian Shot, all of them telling plants, and some of them very handsome in foliage as well as flower.

Of the Hedychiums themselves, with their long, richly-coloured, and deliciously fragrant flower-spikes, what can possibly be finer, for instance,

than a well grown mass of coccineum, in which the flowers are scarlet; of longifolium, in which they are of an orange-red; of angustifolium, in which they are of a soft vermilion-scarlet; of elatum, in which they are of a tender creamy blush; or of Gardnerianum, in which they are remarkably bold in character and of a clear yellow colour? Then again there is coronarium, which produces its exquisitely scented snow-white flowers in succession from June to October, a plant impregnating the atmosphere around it with so delightful an odour as to have called forth the remark that a person entering a house in which it is blooming finds the smell so grateful that a feeling of reluctance is experienced at the thought of leaving. Still again, there are flavum with yellow, and flavescens with yellowish flowers, both showy, and both remarkable for their fragrance, the scent of flavum having been compared to that of a ripe Orange with a mixture of Jasmine. There are many more of these noble things to be had for the seeking.

All the plants we have mentioned are alike in this respect: they are all perennials, requiring rest in winter, and stimulating treatment during their season of growth. They all have tuberous rootstocks, which require to be kept moderately dry during the dormant period, and the stems in all of them perish after flowering, the plant either going to rest absolutely, or having a tendency to do so, so that in most cases there is nothing left during the winter but the rootstock. Tuberous rootstocks and annual stems are indeed very general though not universal characteristics of the Scitamineous family; and they indicate the general features of the management which it is necessary to adopt in order to ensure their successful cultivation.

The treatment required during the resting period may be said to be rather of a negative character. Thus when the plants have done flowering, which will be about October or November, they are to be set away in any back or out-of-the-way part of the stove, and the supply of water reduced. Thus circumstanced, their leaves soon turn yellow, and their stems wither; and when they have become well ripened in this way they may be cut down nearly to the base. They may continue to occupy the same position, but water is to be entirely withheld from them until the spring.

The treatment necessary during the season of growth, is on the contrary of a very active nature; and in the bygone times when Hedychiums were still in favour, it was something like what we now proceed to sketch. In spring, about the month of March, a little earlier or later as the case might be, the rhizomes were taken out of the roots, and then, all or nearly all of the old soil being removed from them, they were repotted in fresh earth. If they were healthy and not overcrowded, nor larger in the mass than was necessary to furnish a sufficient number of stems to form a good plant, they were repotted whole. If the masses were large, so that a greater number of stems would be produced than the soil that could be given them would nourish; if the rootstock consisted of too large a proportion of the older tubers without strong or vigorous eyes; or if propagation were desired, the root stocks were parted before potting—in the first case, so as to reduce them to a convenient size; in the second, to give encouragement to the younger portions, so that vigorous buds capable of yielding strong shoots for flowering might be organised; and in the third so as to form as many separate plants as might be desired, or as the mass of tubers would yield.

The strong flowering plants, which require rather ample pots, were planted at once into those in which they were to flower. They were found to require a rich and rather strong soil. That to be recommended consisted of mellow turfy loam of good heart broken up rather roughly, and mixed with about a fourth part of decayed hotbed manure. In potting it was found necessary to apply a liberal drainage of broken rubble, and on this was beneficially placed a layer of the rougher portions of the loam and dung for the roots to feed upon, as they struck down towards the bottom of the pots—which they were found to do as soon as they got into active growth. After potting the plants were plunged in a bed of tan on dung and leaves where there was a brisk bottom-heat, under the influence of which they soon pushed freely. This bottom-heat, however, it may be remarked, though beneficial, is not essential. At this stage and onwards they were most liberally supplied with water. The bottom heat was continued with advantage during the whole of their progress till they reached the flowering state. These were the main features of their cultivation.

When the roots have become numerous in the pots, and the soil is getting exhausted, there can be no question that the vigour of the stems of such plants may be kept up by judicious applications of liquid manure. Rapid and vigorous growth are the objects to be secured, and abundant heat and moisture, with good soil as a basis—in other words good feeding, are the agencies through which they must be obtained. These being secured, a good display of bloom follows as a necessary consequence. The plants as they come into flower may be removed for the decoration of the stove conservatory.

Some if not most of the species will grow and flower in a very satisfactory manner planted out in the border of a warm conservatory; and they have a very fine appearance in such a situation.

Why should we not have introduced at our autumn flower shows a class of Hedychiums? They would have a grand effect, if they could be secured in perfection. They are so well nigh forgotten by the present generation that they would appear with all the charm of novelty as a striking feature in the displays of that season, which now consist in great measure of cut flowers. Their near relations, the Cannas, would be good supporters, even if invited solely for the sake of their noble and telling foliage; in spite of the tendency of their flowers to fall off.

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In a paper on keeping and planting Potato sets, by M. Gauthier, the author recommends choosing the large and the middling-sized tubers for sets, and asserts that it is much more profitable to give the small ones to animals; for small sets produce tubers of diminutive size. This is perfectly correct. Instances may be adduced to the contrary, but they are the exceptions. The eyes or buds are often as numerous in small tubers as in large ones of the same variety; but the buds are small, and throw up comparatively weak stems, which produce only small Potatoes. Instead of planting small tubers whole, M. Gauthier prefers large ones cut in sets; and this he advises to be done three weeks or a month after the Potatoes are taken up. If cut at the time of planting the produce is much diminished; it is, he says, like cutting trees when they are in sap—their vegetation is interrupted. When the cut surface of the Potato is healed or dried over before vegetation takes place in spring, there is little or no loss of sap.

For keeping the sets till the time of planting, he recommends shallow, open lath boxes [open-worked baskets would answer the same purpose], which may be placed above each other, with pieces of wood between so as to admit a good circulation of air; the more air the better. They should by no means be put in a cellar. By this mode of keeping an earlier and more abundant produce is obtained. It is important that early growth should be encouraged, in order that the tubers may be the better matured before September or October, when the disease sets in. In *planting*, therefore, care should be taken not to break the shoots that may have pushed from the sets in the boxes. Some that had been planted with their shoots entire on the 15th of April made stems 10 inches high by the 15th May, whilst at this time those sets from which the shoots had been broken off were only pushing through the ground. When manure is employed, the author thinks it should be placed over instead of under the sets.

For obtaining early dishes of the Marjolaine or Ash-leaved Kidney Potato, M. Gauthier recommends planting in 5 or 6-inch pots, and placing these anywhere in a greenhouse or conservatory, on the tops of Orange boxes for example, where they will be no trouble except watering occasionally. They should be planted out of the pots in the open ground as soon as they can be secured from frost, care being taken to shelter them with straw mats. This is better than leaving them in the pots, where, however long they may remain, the plants only produce small tubers. By the above mode Potatoes may be obtained, the author says, almost as early as on a hotbed.

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## FISH AND FISHING.

For a long time I have been one of your delighted and edified readers. For a very much longer period I have been an ardent lover of all that appertains to gardening, horticulture, floriculture, &c.; and contemporaneously I have had another ruling passion—a passion for fishing. I have been pondering over these two ruling passions existing in myself, and I come to a conclusion that they are born of one parent, namely, the love of Nature, and that therefore they are twin sisters.

In the country districts your main supporters reside, and methinks that among those supporters many must possess my "twin-sisterly tastes," the love of gardening and the love of fishing; and those I think might be grateful for some information on the latter subject, if you would contrive to devote a small corner to the subject.

In forwarding you the following lines, I should state that they were written for another purpose, to which they have never been applied. They refer rather to the increase of fish than to "fishing." But they are important as referring to the existence of fish, as a necessary preliminary to "fishing." And they may enlighten some, at least, of your readers as to what is progressing to insure a larger supply, and a cheaper, of admirable substances of food for the table. The English Salmon Fisheries Bill of 1861 only came into operation at the close of that year, yet its effect seems to be marvellous; salmon at this moment are abundant in the London market, and are described as very abundant in all rivers legislated upon. Large fish, similar to those sold in London in February, 1862, for which 3*s*. or 4*s*. per lb. was demanded, are already, February, 1863, offered for 1*s*. 8*d*. per lb. To how much less the price may fall during this year it is impossible to conjecture. What will another year's progress, under good legislation, place within the reach of the poor man's pocket?

Many years ago I knew a man who had literally raised himself from a coal pit underground working lad to the position of great wealth and standing in a town in Lancashire. "Village," it used to be called, but he had raised it into a "town." He was locally known as the "Father of ———." Though he would sometimes point to a poor spot whereon a hut which he occupied in his younger days had stood, he was too single-minded and single-hearted to speak of the large fortune he had accumulated. Only once did I hear anything like exultation escape him. "Sir," said he, "God has always been most merciful to myself and to my family, but the proudest worldly moment in my life happened in this wise. From my early experience underground I formed a conjecture that under a certain piece of land there was coal. It was for sale, and I bought it at a reasonable price. My best friends advised me against it. I commenced my shaft and went deeper and deeper, my friends almost ridiculing me. I had sunk a deal of money, still I persevered in my fore-judgment; but even I began almost to fail in hope—when lo! the surest signs known to a practical coal miner showed themselves. All was realised at last, when we came to a most extensive and remunerative coal bed, which has confirmed my fortune for my children. I conquered a great difficulty against the advice of my friends, and in that is my greatest pride in life—far higher than the pecuniary gain which that coal mine has yielded me."

Well now, so it may well be, and so it is, with the "Fisheries Preservation Association." That Association came into existence at the suggestion of two or three energetic gentlemen early in the year 1861. Of course, as with all new things, friends poured in, and great promise was held out. There was no great *éclat* attending its exertions. Yet the Council of the Association, bongré malgré, through thick and thin, and without hope of pecuniary reward, have stuck to the ship, "steering for the great aim of the Association, Fisheries Preservation!" and by its almost weekly meetings from May, 1861, to the present moment in 1863, apparently without ostensible advantage, has, like my mining friend, achieved something like a great success at last.

It must not be forgotten that the Association effected great good in assisting the passing of the "English Salmon Fisheries Act." Had not the Association existed and acted strenuously, the models of the objectionable engines which had almost destroyed the breed of salmon in English rivers, would never have been seen in the Committee Rooms of the House of Commons, and the Bill would have been thrown out. Not the slightest doubt exists that the exhibition and explanation of these models altered the opinion of very many Members in the House, and turned the shaking balance into a large majority, which passed the Bill triumphantly.

Since then the Association has formed several deputations to this Minister and that, in hopes of relief against crying evils to the salmon fisheries—apparently, at times, hopeful, but until recently, hopelessly. The stoppage of the export of salmon taken from our rivers, while in the very act of spawning, to France, has been the subject of its great labours of late; millions of ova have been destroyed, and we have lost the hope of thousands of large salmon which our rivers might have yielded in a few years hence.

The Council worked with energy to induce Sir G. Grey to lend a sure and helping hand to prevent this loss, until he finally announced that he was powerless. The Council thought that the 16th and 17th Vict. c. 157, s. 150, would have justified a proclamation or Order in Council, prohibiting the export. But Sir G. Grey was forced to follow the opinion of the law officers, which was "contra," and reluctantly (as I believe) declined to act.

For the late "close season" the thing is of course

hopeless; those millions of ova are dead irretrievably, and the Council began almost to despair.

But a bright gleam of hopeful sunshine suddenly darts across the straits from France, and all its labours seem crowned with success. *Le Moniteur de la Flotte* indicates that the Emperor thinks well of the "Fisheries Preservation Association," and determines to act upon a policy which is most wise and beneficent to his subjects, as regards the supply of wholesome food.

Doubtless we shall hear that during a certain season there will be a total prohibition against the sale in the French market of any salmon or trout, and through the act of France all poaching during "fence months" or "close season" in Great Britain and Ireland will be virtually knocked on the head. "Close the market, and poaching (or the demand) will cease."

What will ensue upon this common-sense act of the Emperor? I prophesy nothing less than this, namely, that the last remaining scales of hesitation will drop from the eyes of our Government, and that it will, in the present session, support any measures brought in to stop the export of foul salmon, to prohibit the sale of any of the salmo genus during a certain "close time," whether they come from north, south, east, or west, and to enforce one uniform close time throughout the British dominions. I prophesy this, if not more, namely, that the Government will themselves propose such measures.*

If such things happen, who has brought them about? The Fisheries Preservation Association in a very great measure!

Finis coronat opus.

And it has its reward. But its work does not finish there. The Association started as a Society for the Preservation of Fisheries; and if it has the support of the public as fish consumers in general, and of all persons interested as sportsmen or as owners of fisheries in particular, it has an undying duty to carry out, till all abuses are abolished. Trout must be legislated upon, and the pollution of all waters, whether as fisheries or on the score of public health, must be prohibited.

In former days, centuries back, our inland fisheries were of immense value for the food they yielded. They were thought worthy subjects of Royal Charter, and there were then hundreds of fish to each one caught in the present day. Even in my time, I knew rivers 40 years ago wherefrom you could charm every day a large basket of trout; but now in some of them the trout is wholly extinct, and in others you may fish for a week and consider yourself lucky if you catch two or three. The truth is that mills (formerly innoxious), especially modern paper and rag mills, so pollute our streams that the ova will never vivify, or if they do vivify the tender young are poisoned; and so, unless an effectual stop be put to the poisoning, the breed will become extinct. *E. C.*

* The *Times* of this day, Feb. 25, shows that this latter prophecy is about to be fulfilled.

## ROSES.—No. II.

By Mr. William Paul, F.R.H.S, Paul's Nurseries, Waltham Cross.

Summer Roses (*continued from* p. 196.)—The French and its hybrids, once the leading group of the genus, has been depreciated more than any other by the improvements of modern times. It must not however be yet laid aside. The varieties grow freely in any common garden soil, and produce fine masses of highly fragrant flowers in the summer time. The colours are varied and beautiful, the growth compact, and the plants require close pruning. Adèle Prevost is a pretty silvery blush Rose, of good form, and flowers very freely. Boula de Nanteuil is a superior crimson purple variety, with fiery centre, still one of the best of very dark summer Roses. Cynthie produces pale rose-coloured flowers, delicately margined with blush, and is also a free-flowering sort. Duchess of Buccleuch is a large bold dark rose-coloured flower, with blush margin, a little coarse but still a show Rose. Grandissima, or Louis Philippe as it is also called, is a good purplish-rose coloured variety. Kean is by no means a bad show Rose; the flowers are rich velvety purple dashed with scarlet, large and full. Œillet parfait produces pure white flowers, broadly striped with rosy crimson; the flowers are not large, but they are neatly formed; the growth is not vigorous, but is improved by close pruning. Taken altogether, this is one of the best of striped Roses. Blanchefleur deserves a word of special commendation; it is hardly a show Rose, but its white flesh-tinted flowers are produced in such gay profusion that scarcely any Rose of its colour is so effective. La Volupté, or Letitia, is still a show Rose, of a bright rose-colour, the petals exquisitely arranged. Some of the French Roses are beautiful in colour and outline, and the petals are admirably disposed. Their fault as show Roses is that they have a papery appearance, owing to the delicate texture of the petals, and they fall out of shape too soon after gathered.

The Hybrids of the Chinese, Bourbon and Noisette are the glory of the Rose garden in summer, and many of them are excellent show Roses also. Hardy and free, they are alike suited for pots, pillars, or standards. Some should be pruned very little, others moderately, few close. If those of strong growth be cut much they grow too vigorously and are scant of flowers. Blairii No. 2 cannot be too highly commended as a wall Rose where a great height or breadth is required to be covered quickly. The growth is extraordinarily rapid, and the foliage and flowers fine; the latter are of a blush pink, very large and double. Prune sparingly. Charles Duval, although an old Rose, is still a good one; the flowers are deep pink, large and full; the foliage is handsome. Charles Lawson is a first-rate pot Rose, and good either as a standard or pillar; the flowers are vivid rose-colour, large and full—quite a show Rose. Chénédolé is a beautiful Rose, with flowers of a light vivid crimson; the growth is very vigorous, and it is equally good as a pot, pillar or standard Rose. It should be pruned very little. Coupe d'Hébé is one of the gems of this group, and hardly surpassed by any other Rose; the flowers are of a rich deep pink, exquisitely cupped, large, and very double. Like the preceding it is good as a pot, pillar, or standard Rose, but should be pruned tolerably close. General Jacqueminot produces flowers of a rich purplish crimson, which are glowing and effective on the tree or pillar, but hardly suited to figure at the exhibitions. Juno as a pot Rose is of matchless beauty, and is good out of doors in fair weather; but unfortunately the flowers, which are rose edged with blush, are quickly soiled by rain or wind. This variety, which partakes somewhat of the group Alba, should be pruned closely. Madame Plantier is one of those profuse blooming Roses admirably adapted for bedding; the flowers are white, produced in clusters, individually below the average in size. Madeline is desirable for its distinctness; the flowers are flesh-colour edged with crimson, not over-large, but quite full and very beautiful. Paul Perras is a very superior pot Rose, growing to the largest size as such; the flowers are of a pale rose colour, large, full, and fine. Paul Ricaut is a bright crimson flower, large, full of glowing colour, and exquisite form; most valuable as a pot Rose, but good also as a dwarf or standard. It should be pruned rather closely. Perfection is a peach-coloured flower, not large, but distinct, and perfect in form. Vivid, one of my first seedlings, now ranking among the old varieties, is still unequalled as a brilliant-coloured standard, wall, or pillar Rose; the flowers are of the richest crimson, and so abundant that no Rose in the garden can compare with it for effect. It requires very little pruning.

The Roses of the Alba group, of which the Maiden's Blush and the Celestial may be taken as the types, are still valuable for their delicate colours and distinctness. Felicité and La Séduisante, both flesh-coloured Roses, with blush margins, are the best. Then there are Madame Audot, flesh colour; Madame Legras, white; and Queen of Denmark, pink, which are not surpassed in their way. Sophie de Marsilly is a fair-weather Rose, exquisitely beautiful when first opening if lucky enough to escape the rain and wind; the flowers are blush, with rosy centres, large and full. Common soil and moderate pruning suits these Roses, which are valuable in the garden, but not large enough for show Roses.

The Austrian section contains the only hardy yellow Roses that are worthy of general cultivation, and these flourish best in country air; Harrisoni, a yellow variety of American origin, produces almost double flowers in magnificent profusion. It is best grown as a weeping Rose, and pruned once in two years only. The Persian Yellow has flowers of a deeper hue, and more double than the preceding; the young leaves have the fragrance of the Sweet Briar. The Copper Austrian, although single, is so rich and distinct in colour that every one should possess it. All these are valuable.

The Ayrshire are most appropriate for covering banks, running up trees, poles and high buildings; the growth is slender but very rapid; they form the best of weeping Roses. Dundee Rambler, Ruga, Splendens, and Thoresbyana, all white or nearly white varieties, are the best.

The Evergreen Roses are not unlike the last, except that they hold their leaves through a great part of the winter; they are suited for the same purposes, and require but little pruning. Félicité Perpetué, Leopoldine d'Orleans, and Rampante, which are the best, produce white flowers; Banksiæflora, whose flowers are white with creamy centres, is pretty and distinct; Myrianthes Rénoncule, flowers blush, shaded with rose, is also interesting and useful.

The Banksian Roses form a most distinct and beautiful group, wholly unlike any others, and are well worthy of more extended cultivation. The flowers are very small, double, and exquisitely formed; they are produced in clusters, and those of the white variety are very sweet. To grow them in perfection they should be planted as conservatory climbers; or, if grown out of doors, are best trained against a south wall in a soil that is dry and warm. *If left unpruned* for two or three years, merely nailing the shoots to the wall, they will bloom in perfection.

(*To be continued.*)

## Indoor Gardening.

Now that March has come in, people want to be spring-like, and my indoor gardening this week will step outside the window.

What is the meaning, I wonder, of late-blossoming flowers in London? And as for the country windows and the rough pretty outside balconies, is it not an important object to fill them also quickly brim-full?

Nothing looks ever lovelier than a fringe of green leaves round a window; no gay well-filled flower boxes half make up the want of that; the flickering light and shade, and the pleasant bright green leaves, make such a charming tracery edging over window frames. But nurserymen stock boxes and supply balconies largely, all with the low growing plants, such as Stocks and Mignonette, and Nasturtiums, &c.; and we must look out for ourselves if we want to have frames of green. The plants I have used mostly have been the Japan Honeysuckle or Lonicera, a charming evergreen thing with leaves that are free from insects, and most delicious sweet-scented flowers, small and pink and delicate, waxen and really lovely. This plant I have had in a large pot growing up to the top of a window. It does charmingly for a verandah or where a pillar requires filling, and for a cool conservatory it also would answer well. Many balcony owners might also well be glad to have the gay flowers of Jasminum nudiflorum, which in several gardens in London blossoms all through the winter. The garden wall of a friend of mine is always gay with it all winter and if it were so arranged as to be trained out in front of Ivy, there would be abundant leaves to show off the primrose flowers. It has been in blossom for months on a wall of mine, and even for cut flowers it really is very pretty. The Ivy and the Jasmine might occupy two pots, and either be made fairly stationary or come into view each autumn, when the long wreaths of Clematis and the blue hanging Passion-flowers have ceased to enliven the walls. I got last spring a quantity of blue Passion-flower at the Ashburnham Park Nursery, somewhere at Chelsea. That was the only place where I then could find it growing, but no doubt young plants could be got from any nursery. Passiflora cœrulea is the best sort I think to grow; it is free in flowering, and grows so gracefully and quickly, with really the least protection. I kept it in pots some winters (including the very cold one) and it kept quite well and safe in an empty and fireless room. The pots were rather large, and the soil well rammed in. In summer—from this time even—it might be out of doors. In a balcony, for instance, how nicely it would answer in a pot sunk in a box, or in a sort of case, made of four tiles cemented at the edges. If the space within contained Cocoa refuse the roots would root into it nicely, and these tile-faced boxes would have a good effect.

Then brackets may be used, screwed firmly against the walls, or little rustic balconies like those I described last year. In these things the creepers are charming—Clematis winds about, being like the others hardy and quickly grown. In places not quite in towns the climbing Roses grow beautifully if we only are careful to give them sufficient drainage and to keep their leaves fresh and clean. The Honeysuckle hangs down long gracefully waving wreaths every now and then, adorned with its yellow flowers, and its pinky buds half opening. The quick-growing Cobœa scandens tangles into a green mass, and the bells of the "morning glory" open to the sunshine. The grand things are the watering, the root sheltering, and the washing. People will have to get hydropults and work them all summer industriously! Their reward will be the most fresh and radiant leafage possible; and though the trees in London may soon lose their first green brightness, this will not be the case with the plants which are thus washed frequently.

I never can myself feel happy without some Vine leaves—no other leaves compare with them for bright and transparent beauty. Why may not indoor gardeners have an æsthetic Vine? If indeed its foliage does surpass all others, why should it be grown solely where Grapes are practicable? A very young Vine cutting, even just a mere common sort, would make a fair show in a year or two, for it is very different growing leaves or Grapes, and abundant and frequent waterings will soon make our Vine leaves grow.

The climbers that I have grown thus have been in 8-inch flower pots, or even now and then in some of smaller size. The Calystegia, or great white Bindweed, grows splendidly, and Hops will succeed sometimes if abundantly washed and watered. If ever it is allowable to use manure for window plants, we might in this instance give some now and then to the Hop bine. And any stray little ladybirds who may happen to cross our path will best fulfil their vocation eating the Hop-bine's insects.

The guano water should be always exceedingly weak. And though it often does harm to pot plants by inducing leaves not flowers, in cases like these, where we want leaves, it will be much more to the purpose. The prices of all these climbers is always very reasonable. I think I have always bought them from a shilling to half-a-crown each. *E. A. M.*

## Home Correspondence.

*The Royal Horticultural Society's Garden, South Kensington.*—Will any one in the secret have the goodness to explain to me and other curious persons, why, when every suburban garden is rejoicing in the brilliant ornaments of spring, this great place is as desolate as a dirty London Square. Report says that the Society had last year an income of nearly 30,000*l.*—a prodigious sum to be spent on a garden of a few acres. Have the guineas been sown for a crop and refused to grow? I happened the other day to call on an old friend rather fond of flowers, and I found him in the midst of an acre

or so of Crocuses of the most superb tints; the ground was ablaze with colour. The richest Turkey carpet that ever left the looms of the East was dull and lustreless in comparison. Thence I proceeded to South Kensington, where I expected far greater things. All I could find in that head-quarters of gardening was such gayness as bits of many-coloured stones and tiles could supply. At last my eye fell upon a fragment of a pattern that appeared to have been stuck over with Potato sets. A nearer view showed them to be points of dingy yellow flowers—possibly Tulips—and that was all. And this towards the end of a spring unparalleled for warmth and sunshine. Oh! *B. J. B.*

*Garden Law: No. 3, Fires caused by Rubbish Heaps.*—A friend had the misfortune to have his premises destroyed by fire the other day, in consequence of some carelessness on the part of his neighbour. It appeared that the latter had lighted a heap of rubbish near a shed on our friend's land, and the wind lying towards the shed, that soon caught fire, and the flames spreading rapidly, the whole of the adjoining buildings were consumed. The premises destroyed consisted of a dwelling-house held for 21 years under a lease, and of a greenhouse and other buildings held for the same time under an agreement. The lease contains a covenant by the tenant to repair, but there is no provision applying in terms to destruction by fire, The agreement is altogether silent about repairs. The landlord requires not only that the premises shall be rebuilt, but also that the rent for them shall be paid just as if nothing had happened. We are asked whether this demand must be complied with, and whether there is any remedy against the man to whose carelessness the fire was owing. Let us see how the matter stands. There are three totally different subjects for consideration. There is, first, the rent; secondly, the restoration of the property; and, thirdly, the negligence to which the accident was owing. The two first of these questions concern the landlord and the tenant only, and must turn mainly on the bargain they have made with each other. There are two bargains, however; one contained in the lease, and the other in the agreement; and the terms of the two are not alike. They both, however, contain an undertaking by the tenant to pay rent, and there is nothing whatever to qualify that part of the agreement. The rent, therefore, must be paid, although for some time to come the property will be of no use to the tenant. This may seem hard; but when a man deliberately enters into a bargain he cannot escape from it on the ground that by some accident it is hard upon him to keep it. For the same reason he must repair, that is rebuild, the dwelling house; for he has expressly agreed to repair and keep in repair that part of the property, and if he did not intend his covenant to apply to accidental destruction by fire, he should have taken care to say so. This reasoning, however, is inapplicable to the greenhouse and the other buildings held under the agreement, for that contains nothing about either repairs or fire. To determine what ought to be done with these, we must therefore find out what the law as to losses by fire is as between landlord and tenant where they have entered into no agreement upon the subject. Turning to our law books, we find that the landlord is not bound to rebuild. We further find, in the absence of any bargain to the contrary, a tenant is not liable to make good the damage caused by fire not attributable to any act or default of himself or his servants. We conclude, therefore, that as regards the greenhouse and other buildings, neither the landlord nor the tenant need rebuild them; but, whether rebuilt or not, the tenant must pay his rent. There remains to be considered what the liability is of the person on whose property the fire originated. He says that the fire was an accident; that, although his heap of rubbish was rather near his neighbour's shed, still, when the rubbish was lighted, the wind blew from the shed, and that the fire arose entirely from the circumstance that the wind afterwards shifted. He insists therefore that he is in no way responsible for the damage which has occurred, and being somewhat of a lawyer he quotes an Act of Parliament and a passage from Blackstone in support of his contention. There is no question however, that the rubbish was intentionally lighted by him or his servants; that it was nearer to the shed than was safe; and that there was a want of proper care in watching and managing the burning heap. The Act of Parliament which renders persons irresponsible for fires accidentally beginning in their houses or on their property, was not intended to screen people from the consequences of negligence, and notwithstanding the Act, it has been decided more than once, since the time of Blackstone, that damage caused to one person by fire occasioned by the carelessness of another or his servants must be made good by him. There was an instance some years ago of a hay-stack taking fire spontaneously and burning down a house; the owner of the house brought an action against the owner of the stack, and negligence on his part being proved, obtained heavy damages against him. There was another instance in which a farmer's crops were seriously damaged by fire from a rubbish heap burning on his neighbour's land; the farmer obtained damages, although it was insisted that the fire was purely accidental. We conclude therefore that our friend whose shed and houses were destroyed is not without remedy against his neighbour to whose carelessness the loss was attributable. *Lincoln's Inn.*

*Birds and Insects.*—As I am a good deal used to birds and their ways, may I be allowed to give my testimony on their behalf, in the present argument, as to whether they eat seeds or insects. There is a certain fable too well known to need quotation. The Chameleon was green as well as white and blue—and is it not a fact that while a pair of old sparrows may prefer a few young Peas, the voracious appetites of their numerous young are exclusively fed upon live food. One proof seems to me conclusive for those who are not satisfied with outdoor observations. In rearing young birds, all bird keepers know that it is impossible to keep them in health without insects or their substitutes; the hard-boiled eggs, &c., are mere means of supplying these, and, after all, thriving nestlings are far better fed by old birds, who have the range of orchards, and who, eat what they may themselves, flock in with endless grubs for the benefit of their young. As for a bird declining to eat some one sort of insect, it does not seem to me to go for very much—most birds appear to have some one especial prey. And as to large hairy caterpillars, who can expect to see them bolted! Silk-worm experience would lead to the conclusion that in the tiny new hatched state, they form a more likely prey; and happily young nestlings are altogether insatiable. Their days are extremely long—and there are many months—so that any one who has enjoyed the task of rearing such small fry, must be qualified to guess fairly at their untiring "usefulness;" far out-balancing surely the small parental ravages. People must have seen too the incessant return of small birds to some one particular tree? If that tree be well examined, a swarm of tiny creatures is sure to be found upon it—black flies, or green flies, or little new hatched caterpillars—according to the tastes of their particular offspring. As collateral evidence I see, while writing this, the mention of a young cuckoo, for whom "animal food" is required. If sparrows did not generally feed their own young with insects, surely the young cuckoo would not be put into its nest? *E. A. M.*

*The British Queen Strawberry.*—I have read what "Z." has said (see p. 197). As he generally succeeds with the British Queen, I can give no other reasons for his failure than radiation and too much rain. Where drainage is not free, and water lies on the surface (called water-logged), the Queen suffers much. She is particularly sensitive of snow-water. Her stalks and leaves being hairy, water, which gives power to frost, lodges in her. The Queen in some lands will often winter better exposed to all four winds on the top of a hill than in protected valleys, where she is subjected to radiation, too much moisture, and frosts. In my valley, facing the W., I have never had but one good crop in 10 years. I have put her on a severe ledge at the west end of my house, exposed to the fury of the W. and S.W. winds, and also to the severe blasts of the north. She is by the side of Eliza, to which as a plant she bears no comparison, and she is in tolerable condition. If she fails this year, I fear she must go. This I shall regret, as she is my idea of fragrarian excellence. I have another garden, where she does well without any trouble, but the place is open to "boys and birds." Suitability of soil is the one grand key to the Queen. The Blandford land is peculiarly adapted to her. I have lately reviewed her in three gardens there, viz., Mr. Ingram's on the top of the hill, and also at Mr. May's and Mr. Hector's, whose gardens face each other on either side of the river Stower (or Stour); and the result is the same. Mr. May's Queens planted last March are wonderful for health, and bold, vigorous, and many crowns. Though the garden is subject to the overflowing of the Stower, still the Queen revels there. She will not fail this year there—nor did I ever know her fail there. I sent Mr. Gloede to see her there this last year. Suitability of soil, free drainage, high cultivation, freedom from radiation, and dryness are, I believe, the main keys. Strong soil, friable, is better than light soil, and the exposed tops of hills are better for her than wet valleys. Still, observe, where soil has been suitable to her, I have seen her, without variation, beat every other difficulty. I think the London market gardens must be suitable to her, for I observed this last year and also on a former occasion, that the pottles were chiefly filled with the Queen; and next to her the favourite seemed to be the Empress Eugenie, a noble production, with which with Eliza, Wonderful, Trollope's Victoria and Marguerite, I am filling my garden. This latter Strawberry is very hardy, is large, handsome, and I think, with sun, it will be very good. I must not forget to say, that my good friend Mr. Gloede tells me, that the winter there has cut up the foliage of all his Strawberries excepting "Eliza!" The best chance to succeed with the Queen is to spring plant her, keep her runners off, and force her into strong growth. Canvas over head would keep her dry. Plain straw would be the best mulching; and where Celery was last grown would probably be the best place. *W. F. Radclyffe, Rushton.*

*Orchard Houses.*—Without intending in any way to detract from the merits of your correspondent "T. R." (to whom we are indebted for the agreeable and useful structures of which he treats), I am tempted to express my strong dissent from some of the doctrines laid down in his letter published in your last Number. Admitting the necessity for thorough ventilation in all houses where fruit trees are grown, my own experience entitles me to deny that there is any necessity for perforating the back wall of a lean-to house, for the admission of air, "in order to have the least chance of success." Neither can I admit that the ordinary method of ventilation "in front, and at the top of the roof, however abundant, is of no avail," because, at this moment, I have a house which is ventilated precisely in that manner, containing potted pyramid trees, in the best state of health, and which are studded all over with well set fruit, which any one may see to whom you give my address. It may be true that the under surfaces of leaves contains 20 times the number of stomata of the upper surfaces; but I should be very unwilling to perforate my walls, or to loosen a single brick, in favour of so wild a notion as that of specially aërating the under surfaces of the leaves of my trees, under the idea of "taking advantage of the peculiarity in their structure" above referred to; as if it were possible to aërate the one surface of a leaf by such means, more or less than the other. Where there are thorough ventilation, and other necessary conditions, the presumption is that the leaves may be safely left to do their duty. *John Cocks, Gardener, Clapham Park.*

*Transplanting Trees.*—In reply to the remarks of "J. K. H." in your Paper of last week respecting my tree planter, I beg to say that neither of his methods bear the least resemblance to mine, as there is no difficulty whatever in the putting on or taking off the plates, neither ball nor roots being disturbed in the smallest degree by the operation. I have long ago had recourse to Mr. McNab's plan of the barrel staves, which "J. K. H." lays claim to, but I have laid them aside as things that have been. I lift hundreds of large trees annually, with the most complete success, and at half the usual cost. *Thomas Sorley, Falkirk.*

*Muscat of Escholata Grape.*—In answer to your Correspondent, "Vinicola," I have to state that I have cultivated this Grape for 23 years. It was purchased of Mr. Money, of the Haverstock Nursery, or, as he afterwards called it, Eschol Place, and my stock of it is from that source. It differs from the Muscat of Alexandria in being hardier, its berries larger, of a deeper yellow, and it will ripen in the same temperature as the Black Hamburg. In a critique on it in Loudon's "Gardeners' Magazine" for 1839, the writer admits that it is hardier and of a deeper colour than the Muscat of Alexandria. When first sent out, Mr. Money stated, that with him it had ripened on the open wall. *John Jennings, Shipston-on-Stour.* [We are sorry to differ from our Correspondent, but we remember Mr. Money and his Grape perfectly. Judging from the specimens he used to exhibit, it was like a half ripe Muscat of Alexandria, and not worth growing out-of-doors. If we are wrong we shall confess our error whenever we shall see a *ripe* specimen, not a half ripe one.]

*The Male of Aucuba japonica.*—I was much interested in observing by the letters of two correspondents (see p. 197) that some scarlet berries had been produced on Aucuba japonica in Ireland this year, and I may mention that I have some recollection of the same thing having happened on the Continent some years ago. Your correspondent "R. W." is in error when he says that the plant in our gardens is the male of this species. It is the lady which has been so long amongst us, and separated from her better half. One of the objects I had in view in visiting Japan was to re-unite the two, and I may take the liberty of stating that I found the gentleman in a garden near Yeddo, the capital of the country, and sent him home in a Ward's case. He is now just coming into bloom in Mr. Standish's nursery at Bagshot. We may soon expect to see the Aucubas of our gardens covered during the spring months with bright scarlet berries as they are in the woods of Japan. Without the male plant a few berries now and then may be produced, but never, I should imagine, in any quantity. The plant sold to your correspondent under the name of the "true female Aucuba" is probably the green-leaved kind from which the variegated one in our gardens originally sprang. It is, in my opinion, the most beautiful shrub of the two, and if it prove hardy will be a valuable addition to our evergreens. *R. Fortune.*

*The Royal Wedding Day.*—Pray, Mr. Editor, call upon the public to do something to be remembered on the above day. Advise every village or town in the empire that possesses a green or a public park to publicly plant a tree of some kind—an Oak, a Deodar Cedar, Cedar of Lebanon, Atlas Cedar, or above all a Wellingtonia, as a lasting memorial of the auspicious day. *Quercus Britannicus.* [We advise as "Quercus" advises.]

*Lancashire Distress and the Members of the Mossley Botanic Society.*—Will you have the kindness to allow me the privilege of appealing to your numerous readers on behalf of the members of our Botanic Society at Mossley, who, through the stopping of our mills for cotton, are now undergoing the most severe privations. I need not tell you how long the cotton famine has existed, nor of the dreadful ordeal through which we have so far passed, as the various newspapers have made you acquainted with these things. If those of our wealthy friends who can afford it will kindly lend us their assistance we shall feel exceedingly grateful. Anything they may feel disposed to send, either in money or clothing, will be thankfully received, and we shall be glad to make any return which lies in our power. Parties wishing for specimens of such things as grow within 20 miles of Mossley shall be served to the best of our ability. We have got a very fair share o

Mosses and Ferns. Among the latter I may name Botrychium Lunaria, Ophioglossum vulgatum, Cystopteris fragilis, C. dentata, Polypodium vulgare, P. Phegopteris, P. dryopteris, P. calcareum, &c.; Asplenium Ruta-muraria, A. Trichomanes, &c. These and others grow in such profusion that there is no fear of their habitat being destroyed. Parties willing to contribute anything to our assistance, or who may want any specimens we can furnish, will please send to the subjoined address, and they will be cheerfully attended to; or any gentleman coming our way will be accompanied to any part of our neighbourhood. *James Walker, Carr Hill, Mossley, near Ashton-under-Lyne, Lancashire.*

*Conifers.*—If a well-known botanist cannot escape the lash of your very scientific Correspondent, "Crabro Scandicus," how can an unknown writer expect to escape, especially when Orchids and Pinuses are generally said, among the learned in those matters, to be in a sad state of confusion. Perhaps your critical Correspondent will explain, for the benefit of your readers, the difference between Pinus rigida of the east side of North America and ponderosa of the west; for taking soil and situation into account, botanists on the spot (who?) have not been able to discover any. Until this is satisfactorily explained, possibly some of your readers may fancy Pitch Pine arrives in this country in balloons. *A Constant Reader, Penkridge.* ["Crabro" is too far off to be consulted at present; so we will answer for him as much as we can understand of this inquiry. As for the two Pines, as far as we know anything about them, *P. ponderosa* has much broader leaves and larger cones, with recurved hooks, not little prickles on the cone-scales. It is no wonder that these Conifers, or any other plants, should be in a state of confusion, when they are taken in hand by persons knowing nothing of botanical science, among whom most certainly is *not* included Mr. Crabro's victim.]

*Crocuses.*—I send two flowers of a purple Crocus with white stigma and anthers, a variety I never saw before. They are growing with others of the usual sort, namely yellow and orange anthers. I shall be obliged by your informing me if it is new, and if you think it will probably continue to be distinct, in which case I should be glad to dispose of a few roots. *Mary.* [We cannot match this among a good many thousands now before us. But two questions arise: 1, is the variety likely to be permanent; 2, is it handsome enough to deserve preserving? To neither can we give a satisfactory answer.]

## Societies.

BOTANICAL OF EDINBURGH: *January* 8.—Professor Maclagan, President, in the chair. Archibald Hewan, Esq., Old Calabar, presented a box of beans of Physostigma venenosum, the Calabar Ordeal Bean. The following communications were read:—1. *Irish Hepaticæ.* By Benj. Carrington, M.D., F.L.S., being the concluding portion of a record of Irish Cryptogams collected in Kerry during the summer of 1861.——2. *On some British Cyperaceæ recently discussed by Dr. Carrington.* By Professor Babington, M. A. In this paper the author made remarks on Carex Grahami, C. saxatilis, C. pulla, C. rigida, Eleocharis Watsoni, E. palustris, E. uniglumis, and Scirpus Holoschœnus.——3. *Remarks on some Fibrous Plants of Madras.* By Dr. Alexander Hunter. From experiments he had made in cleaning fibres of a great number of Indian plants, Dr. Hunter felt satisfied that the steeping and rotting process was not suited to the heat of the Indian climate. Plants putrify rapidly under water in India, and the fermentative process, which goes on for weeks sometimes in a cold climate, is occasionally completed in from 12 to 18 hours in India, and is immediately succeeded by putrefaction, which discolours and takes the strength from the fibres. The best method of separating the woody fibre and bark (or boon of flax, as it is called) is to crush or beat the plant as soon after it is cut as possible, taking care not to double up the stalks, otherwise the fibres get entangled like tow; continue the beating for half an hour, and then place in water for a night; to remove the sap, squeeze and hang up the bundles in the shade to dry; when thoroughly dry, the bundles may be rolled up in coarse gunny bags of cloth, and well beaten on a board with a wooden mallet. This separates the woody fibre and boon, leaving the flax soft, white, and very pliant. The more the fibre is beaten and knocked about, the finer and softer the flax becomes, and the interposition of the cloth prevents the fibre from being cut by the beating; it should afterwards be combed or hackled.——4. *Remarks on the Cotton Plant of the Peruvian Coast.* By C. R. Markham, Esq. The author, while travelling in the Coimbatore and Madura collectorates, in the autumn of 1860, was struck with the resemblance of the climate in many respects to that of the coast-valleys of Peru. This part of India appeared to be admirably adapted for the cultivation of the valuable long-stapled Cotton which is indigenous to the Peruvian coast-valleys. This Peruvian Cotton plant is indigenous and perennial, and was cultivated by the subjects of the Incas in the coast valleys long before the discovery of Peru by the Spaniards. The ancient Peruvians used a machine for cleaning their cotton, which closely resembled the Indian *churka.* The same machine was, according to Frezier, used by the Brazilians in 1720. The long strip of coast line between the Andes and the Pacific Ocean extending from the river Loa in 21° 48′ S., to the river Tumbez, in 3° 35′ S., a distance of 1620 miles, consists of a sandy desert, intersected by chains of rocky, barren hills, and traversed by 60 rivers and streams, with as many fertile valleys on their banks. This region is bounded inland by the cordillera of the Andes, and varies from 9 to 60 miles in breadth. The coast valleys thus surrounded by sandy deserts, which extend from the foot of the Andes to the shores of the Pacific, are the native habitat of the Peruvian Cotton. The climate of this region is very peculiar, rain is unknown, and the northern part, especially, is exposed to a long season of excessive dryness.——5. *On the Flora of Jersey.* By F. Naylor, Esq. Mr. Naylor stated that during two visits to Jersey in the latter part of the summers of 1861-1862, both of several weeks' duration, he made frequent botanical excursions, and left little of the Island unexplored. The list of flowering plants and Ferns, so far as he knew, now amounted to 850 species. Since the publication of Babington's "Primitiæ Floræ Sarnicæ," in 1839, 52 species have been added to the flora of that Island, several of which were first observed by the author. The paper was illustrated by dried specimens of all the rarer species.——6. *Notes on the Flora of Moffat, with special reference to the Ferns and other Cryptogamic Plants.* By Mr. John Sadler. The author remarked that there had been various incidental notices of the flora of Moffat—celebrated for its mineral waters and healthy atmosphere—principally the results of Professor Balfour's class excursions; but though visited year after year, by hundreds, no attempt had been made to publish anything like a complete list of the plants of the district. Mr. Sadler enumerated 540 species of flowering plants. In Black's Guide to Moffat, Silene acaulis and Saxifraga Hirculus are recorded as being found in the district, but the author believed the statement to be incorrect. Ferns grow remarkably luxuriant throughout the whole district, and, with their allies, number 37 species. The district is peculiarly rich in Musci, Hepaticæ and Lichenes, and would doubtless amply reward a more careful search; the number of species already known to exist are:—Musci, 155, many of great rarity; Hepaticæ, 50; and Foliaceous Lichens, 50.——Mr. J. Robertson, Glasgow, sent specimens of a beautifully variegated variety of Geum urbanum, which he had met with in a wood near Dunkeld. The plants were perceptible at a considerable distance from their light coloured foliage.

## Notices of Books.

*The Weather Book: A Manual of Practical Meteorology.* By Rear-Admiral Fitzroy. Longman & Co. 1863.

Under this plain and unpretending title, we have one of the most interesting and instructive works that has yet appeared in this country on Meteorology, and the physical laws which regulate the various alterations that are constantly taking place in the atmosphere. The subject when viewed in its proper light is of vast importance, and has engaged the attention of some of the most sagacious and learned men of all nations, from the earliest period of our history to the present time. In the sacred writings numerous occurrences of a meteorological character will be found recorded with wonderful accuracy: and no one who reads the account of them can refrain from admiring the beautiful and expressive language in which they are described. For more than 4000 years there have, at certain intervals, been seen in the sky and upon our globe the return of the seasons, attended with a change of weather peculiar to each. The regularity with which these changes were observed to succeed one another naturally led to the belief that they were not the work of chance, but must be the effect of certain laws; and it is with the hope of acquiring some knowledge of the nature and mode of operation of these laws, that meteorologists have for a very long period pursued their investigations. Hitherto, it must be admitted, they have failed to solve the difficult problems, but their observations have to a certain extent paved the way; and we are led to anticipate results of the highest importance to science, and of the greatest benefit to the community, by the establishment of a Government department for meteorological purposes at the Board of Trade, under the superintendence of Admiral Fitzroy—an officer alike distinguished for scientific attainments, great practical experience, and careful observation during many years in all parts of the world.

That the gallant officer is "the right man in the right place," we think all who read his Weather Book will readily acknowledge. It is ably written, and bears evidence in almost every page of being the production of one who has made the science of meteorology his particular study. After some introductory remarks, and a minute description of the various instruments that are necessary for meteorological purposes, we are furnished with a brief sketch of the progress that the science has made up to the present time. A rapid glance is then taken of the differences of climate and atmospheric conditions appertaining to the tropical, temperate, and polar zones. The motions of the air around and about our world are stated to be owing to solar influence acting consecutively, and continually, so as to cause atmospheric circuits and a general exchange of air over all our globe. "This great general circulation, is, however affected and exceedingly modified, locally, by continents, oceans, mountain ranges, and deserts; which much augment conflicts of air currents, and occasion the varieties of winds, storms, and climates experienced in each hemisphere; all alike in origin, all in accordance as to general principles, and all now explicable by the same natural laws." These are fully explained, as well as the movement of air currents. Respecting the latter, it is observed, "that comparisons of accumulated facts have induced the conclusion that winds move in parallel currents, or circulate round centrical areas; and that whether the extension of such movement or circulation be immense, as between the tropics and the polar regions, or whether it be small even as the dust-whirl, the laws of circulation, or gyration, are uniform, except in such very rare and limited cases as to be unimportant." It is further worthy of notice that while there are various currents, sweeps, or circuits in any given area of our temperate zone intermixed and incessantly moving, the result of numerous simultaneous observations has made it apparent that "the entire mass of the atmosphere in our latitude has a constant, a perennial movement toward the east, averaging about five miles an hour. This induction from facts, having since been fully proved, and amply corroborated, has induced the Board of Trade to provide means for daily forecasts of weather, and occasional warnings of expected gales of wind or storms."

Previous, however, to entering upon this subject the reader is presented with a mass of highly interesting information on the effects of the greater currents of air, and their offsets around the world, together with an extensive but generalised view of all climates, with their prevalent winds and weather. As an example of the manner in which this is done, we subjoin the following extract with reference to central America. "We must not proceed farther without a notice of the tropical currents across those northern breadths of South America that are covered with the most abundant vegetation and the most extensive forests, and are watered by the longest rivers in the world. All the perennial wind there brings moisture from the Atlantic, which is stopped, precipitated, and from the mountains, returned by the rivers. Across the Andes to Peru not a shower reaches, and the country there is absolutely sterile; while in the vast territories extending from those mountains to the estuaries of the Amazon and Orinoco, rain is abundant all the year, forests spread everywhere, and animal life abounds. In Peru the houses have no roofs to keep out water; rain is a prodigy; and everywhere, unless artificially irrigated from a mountain torrent, the country is uniformly barren and brown; producing no vegetation (naturally), maintaining no conspicuous animal life except llamas (vicuñas or guanacoes), condors and seals; though by artificial expedients and immense labour formerly, now a productive, rich, and in some places a populous region. Similar harsh sterility extends both ways from central Peru northward, as far as Payta, near the equator, and toward the south, along part of Chile. On those shores in particular, where, in former ages, such multitudes of sea-birds swarmed as in their seemingly interminable flights actually darkened the air, guano abounded; no rain washed away its accumulations, age after age; and not until the comparative civilisation of those countries, under Ynca rule, were those deep deposits at all disturbed by man."

With regard to the climate of Australia, it is observed—"In extra-tropical Australia, inland as well as on the coasts, occasional hot winds, from the interior arid and heated deserts, sweep across the country like a sirocco, or being *dry*, almost as a simoom. They are immediately met and displaced by polar winds, raising dust in clouds ('brickfielders'), and changing the temperature 20° or 30°, even to 50°, almost suddenly.

"As through all the extra tropical range of Australia, extensive as it is, tropical upper currents are rainless, having passed over heated arid land only, and as the natural polar-currents are not usually moisture-bearing, though in passing over an ocean they are slightly moistened by taking up vapour—the consequence is that dry sterility is general. Localities of course may differ; fertile valleys—near heights attracting rain and occasional water-courses, occur often; but there are few fresh-water rivers, and fewer large lakes. Untowardly there are *many* salt streams.

"Tasmania, in point of climate, winds, and weather approaches Australia, excepting that it is less hot, arid, and saline, but windier and more rainy; therefore being, extensively wooded, shelter in extremes of temperature is available, and agriculture flourishes."

In this way the climate, winds and weather of the most remarkable places in each quarter of the globe are noticed; after which a brief outline is given of the practical system of meteorologic telegraphy established at the Board of Trade, and the methods by which the various observations at different stations throughout the kingdom are utilised. The more difficult parts that relate to the conditions and circumstances under which the ever changing state of atmosphere occur, are fully explained, as well as the reasons for such decisions as are made in forecasting weather. With respect to the latter, it is observed, "the term forecast is strictly applicable to such an opinion as is the result of a scientific combination and calculation, liable to be occasionally, though rarely, marred by an unexpected 'downrush' of southerly wind, or by a rapid electrical action not yet sufficiently indicated to our extremely limited sight and feeling." These forecasts have been ridiculed, from not being correct for all places in one district; but when rightly understood they will be found both useful and interesting to those who can form independent judgments of the probable changes likely to take place in their locality, and will compare the daily tables with the indications of their own

instruments. Like the storm signals the notices of expected bad weather should be understood to be merely *cautionary*—as it must be borne in mind that the system at present in operation is only a tentative experiment to render meteorology useful.

Our space will not admit of entering further into this subject. We must therefore refer the reader to the book itself, in which are given a variety of interesting details relating to storms, cyclones, meteors, &c., besides a number of plates illustrative of barometric curves, tropical and polar air currents, clouds, Royal Charter storm, &c.

To nautical men, we think, the Weather Book will be of the greatest value; indeed it ought to be studied by them with the utmost care and attention. The portion of it which is most deserving the notice of the farmer and gardener, and others engaged in out-door pursuits, will be found comprised in the following extracts relating to the movements of the barometer and thermometer, with the inferences to be drawn from them, and the appearance of the elements.

"By attention to the following observations (the results of many years' practice, and many persons' experience) any one not accustomed to use a barometer may do so without much difficulty.

"A barometer shows whether the air is getting lighter or heavier, or is remaining in the same state. The quicksilver falls as air becomes lighter, rises as it becomes heavier, and remains at rest in the glass tube while the air is unchanged in weight. It should always be remembered that the state of the air *foretells coming* weather, rather than indicates weather that is present (an invaluable fact too often overlooked); and that the longer the time between the signs and the change foretold by them, the longer such altered weather will last. To know the state of the atmosphere, not only barometer and thermometer should be watched but appearances in the sky should be vigilantly noticed. A rapid rise of the barometer indicates unsettled weather; a slow movement of some duration the contrary, as does likewise a steady barometer; which when continued, and with dryness, foretells very fine weather lasting for some time. A rapid and considerable fall is a sign of stormy weather and rain. Alternate rising and sinking always indicates unsettled and disagreeable weather.

"The direction of the wind affects a barometer—the north-east wind tending to raise it most, the south-west to lower it the most, and winds from points of the compass between them, proportionally as they are nearer the one or the other extreme point. Another remarkable peculiarity is, that the wind usually appears to veer, shift, or go round with the sun, and that when it does not do so, or backs, more wind or bad weather may be expected, instead of improvement, after a short interval.

"Allowance should *invariably* be made for the previous state of the barometer and thermometer during some days, as well as some hours, because their indications may be affected by distant causes, or by changes close at hand."

With the indications of the instruments, Admiral Fitzroy recommends every prudent person to combine observation of the elements; and the more accurately the two sources of foreknowledge are compared, the more satisfactory their results will prove. We subjoin a few of the more marked signs of weather, that he thinks may be useful.

"A rosy sky at sunset presages fine weather; a sickly-looking, greenish hue, wind and rain; a dark red, rain; a red sky in the morning, bad weather or much wind (perhaps rain); a grey sky in the morning, fine weather; a high dawn—(that is when the first indications of daylight are seen above a bank of clouds) wind; a low dawn, fair weather. Soft-looking clouds foretell fine weather; hard-edged, oily looking clouds, wind. A bright yellow sky at sunset presages wind, a pale yellow wet; therefore by the prevalence and kind of red, yellow, or other tints, the coming weather may be foretold very nearly. Small inky clouds foretell rain. High upper clouds crossing the sun, moon, or stars, in a direction different from that of the lower clouds, or the wind then felt below, foretell a change of wind toward their direction.

"After fine clear weather, the first signs of a coming change, are usually light streaks, curls or wisps of white distant clouds, which increase and are followed by a murky cloudiness. This appearance, as wind or rain will prevail, is an infallible sign.

"Misty clouds forming, or hanging on heights, show wind or rain coming, if they remain, increase or descend. If they rise, or disperse, the weather will improve or become fine.

"When sea-birds fly out early, and far to seaward, moderate wind and fair weather may be expected. When they hang about the land, or over it, expect a strong wind with stormy weather.

"There are other signs of a coming change in the weather known less generally than may be desirable, and therefore worth notice; such as, when birds of long flight—rooks, swallows, or others—hang about home, and fly up and down or low, rain or wind may be expected. Also when pigs carry straw to their styes, when smoke from chimneys does not ascend readily (or straight upwards during calm) an unfavourable change is probable.

"Dew is an indication of fine weather, so is fog. Remarkable clearness of atmosphere near the horizon, distant objects, such as hills, unusually visible, and what is called 'a good hearing day,' may be mentioned among signs of wet, if not wind, to be expected.

"More than usual twinkling of the stars, indistinctness or apparent multiplication of the moon's horns, haloes, and the rainbow, are more or less significant of increasing wind, if not approaching rain, with or without wind. Remarkable clearness is a bad sign. The 'young moon with the old moon in her arms,' is a sign of bad weather."

Let us add, in conclusion, that the work is a beautiful example of correct typography, and is furnished with a capital index.

*The Journal of Botany* (Hardwicke) is a new monthly periodical, to be conducted under the editorial management of Dr. Seemann, and to be sold (post free) at 2*s*. a number. It is to consist of two distinct sections; the one devoted to general botany, the other to the botany of the British Isles. In both divisions original papers on subjects new to science are to be given, and, when necessary, illustrated either in the text or by special plates. Each number will contain at least one full-page plate by Fitch, illustrative of new species described in the letterpress. Original communications will of necessity relate to the different sections of the science, of which it is likely that systematic papers will form the bulk; yet structural, morphological, and physiological botany will be attended to. Nor will geographical nor palæontological botany be neglected. Mere details of excursions, with records of collecting plants, will be very properly excluded, unless there is some real addition to knowledge contained in them.

The January number—the only one we have seen—contains some good papers, worthy of Dr. Seemann's reputation.

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—Camellias, Acacias, Cytisus, Rhododendrons, Azaleas, Deutzias, Orange trees, Epacrises, and last, but not least, Roses, will now be a blaze of beauty where plant growing is well attended to. During bright weather like the present they will require abundance of water, to which weak clear liquid manure should be constantly added. Dispense with fire heat as much as possible, and canvas screens should be at hand to be drawn over the brightest parts of the house for a few hours on sunny days. Orchids will now be pushing vigorously, and many on blocks and baskets will require careful attention in the way of watering, which should be done on sunny mornings early and air given freely for a couple of hours in order to prevent moisture from lodging amongst the buds and tender shoots. Attend to disrooting and cutting back winter flowering stove plants. Those done first, if the operation is conducted in proper order, will be the earliest next autumn and winter. In the mixed greenhouse force on Fuchsias where fine specimens are required; a moist atmosphere, with a slight amount of shading, will cause the shy sorts to make wood by retarding the flowering principle. Those wintered in outhouses or cellars should now be brought forth and potted, if possible, to give them a start for the decoration of lawns or the flower-garden. Brugmansias should be disrooted, pruned back, and started in heat. Shift, when necessary, New Holland plants in a growing state, likewise. Pelargoniums, Calceolarias, and Cinerarias, with a view to having fine specimens. Pot successions of Gloxinias and Achimenes, and keep them rather dry and warm. In the forcing pit keep Roses free from insects, watering frequently with liquid manure. Provide successions of plants for forcing. Dutch bulbs should not remain long in heat. Hyacinths lose much of their effect when the bells are too far asunder through too much excitement in proportion to light. In sowing annuals do not forget Phlox Drummondi and Rhodanthe Manglesii, together with Portulaccas, Cockscombs, and Balsams.

### FORCING DEPARTMENT.

Pineries.—It should be understood at all times, that a sudden check of any kind whatever is at variance with the whole economy of Pine growing. In shifting early in spring this frequently happens if the plants are allowed to stand unplunged in a temperature of 50°, whilst the tan bed from which they were taken has probably been 85°. Such a great discrepancy is found to be followed by pernicious effects. Attend well to atmospheric moisture; rest assured that as far as the Pine alone is concerned, it is not easy to overdo it at this period. Be sure to secure a powerful solar heat, with occasional syringings. Do not be afraid of a thermometer of 90° at 3 o'clock on a sunny afternoon.

Vineries.—Look well to the bottom-heat of early forced Vines, the roots of which are outside. Endeavour to keep fermenting material to 80° or 90°. When material of this kind is suffered to become inactive at this period, it is worse than useless. Early Grapes now about stoning should be run over once more with the scissors; let the shoulders be well set out. Keep up a soft and warm atmosphere on all ordinary occasions, but allow the heat to rise to 85° or 90° early in the afternoon of bright days, sinking to 65° at night.

Peach Houses.—Trees on which fruit is swelling will now begin to enjoy a little liquid manure; guano water, clear and weak, will be found of great service. Gross shoots need scarcely be feared with this application, provided all luxuriant wood is stopped as soon as it is 5 or 6 inches long.

Figs.—Provide against red spider by copious syringings, and the application of sulphur on the pipes. Be sure to follow up stopping.

Cucumbers and Melons.—Make it a point to turn one of the linings to the early Cucumbers and Melons, once every week until May. See that they are in good condition as regards moisture, and take care that no burning extends into the bed. Secure by frequent sowing and good cultivation in pots, stout plants full of health, of choice Melons. Do not object to turning out old plants in preference to young ones, provided they have not received any check.

Kidney Beans.—Secure abundance of atmospheric moisture to Kidney Beans; water both these and Strawberries continually with clear manure water; as soon, however, as Strawberries begin to change colour, use ordinary water only.

### FLOWER GARDEN AND SHRUBBERIES.

Crocuses are blossoming unusually well this year, and where they have been planted in quantity and in sufficient variety they give the out-door garden at this comparatively flowerless season a gay and dressy appearance. Among yellows, lilacs, and whites are some very large and showy kinds, which when planted in parallel rows close together, have a striking effect, a point that should not be forgotten at next planting season. If not already done a thorough collection of the best hardy annuals should now be sown; they are of most service and most esteemed before Verbenas, Pelargoniums, &c., come to perfection. Where a frame or pit is at liberty we would recommend their being sown in small pots in loamy soil, and not turned out until they are slightly pot-bound; the flower then gains the predominance, and the great proportion of this above the leaf constitutes the chief beauty of most annuals. Get Dahlias in heat for purposes of propagation.

### HARDY FRUIT AND KITCHEN GARDEN.

Make sowings forthwith on well situated beds of Green Kale, Savoys, Leeks, Brussels Sprouts, Cauliflower, and Dwarf Cabbage; and a little Pomeranian Cabbage, a sprinkling of Somers's, or other late spring Broccoli may also be added. Get in Parsley. Give a slight salting to Asparagus beds and Seakale ground. Sow Peas, Beans, and Radishes, as soon as former sowings are fairly above ground. Prick out very early Celery in a frame. Old mellow dung made firm is good, and prevents tap roots. Sow Sweet Marjoram and Basil, on heat. Protect fruit blossom by all possible means. Straw-ropes, mats, canvas, bunting, nets, Fir boughs, and fronds of Fern, should all, or any of them, be in requisition. As soon as nailing Peach trees is finished, mix sulphur and soap water to the thickness of paint, and draw a band of the mixture between the shoots, in all directions; this once done, and that well, will tend to secure the trees from red spider. Proceed with grafting, following in the order in which the buds break. Thrust a wisp of hay once a week into white Broccoli, the heads of which are showing, for fear of frost.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending March 4, 1863, as observed at the Horticultural Gardens

| February and March. | Moon's Age. | Barometer. | | Temperature. | | | | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Of the Air. | | | Of the Earth | | | |
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 26 | 8 | 30.351 | 30.260 | 51 | 43 | 47.0 | 45½ | 44 | S.W. | .00 |
| Friday 27 | 9 | 30.256 | 30.218 | 54 | 29 | 41.5 | 46 | 44 | W. | .00 |
| Satur. 28 | 10 | 30.227 | 30.073 | 60 | 28 | 44.0 | 46 | 44 | S.W. | .00 |
| Sunday 1 | 11 | 29.912 | 29.854 | 53 | 34 | 43.5 | 46 | 44 | S.W. | .00 |
| Mon. 2 | 12 | 29.876 | 29.832 | 58 | 32 | 45.0 | 46 | 44 | S.W. | .01 |
| Tues. 3 | 13 | 29.805 | 29.691 | 67 | 29 | 48.0 | 46 | 44½ | S.E. | .00 |
| Wed. 4 | 14 | 29.651 | 29.555 | 70 | 28 | 49.0 | 46 | 45 | S.E. | .00 |
| Average. | | 30.011 | 29.926 | 59.0 | 31.8 | 45.4 | 45.9 | [illegible] | | .01 |

Feb. 26—Fine; cloudy; very fine.
— 27—Fine; very fine throughout; slight frost at night.
— 28—Foggy; exceedingly fine; slight frost.
March 1—Cloudy; very fine throughout.
— 2—Densely overcast; cloudy; very fine.
— 3—Quite cloudless; exceedingly fine with bright sun; very dry air.
— 4.—Foggy; fine; unusually hot for the season; very fine, slight frost.

Mean temperature of the week, 4½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending March 14, 1863.

| March. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 8.. | 49.7 | 31.9 | 40.3 | 14 | 0.17 in. | 3 | 7 | 2 | 3 | 5 | 7 | 4 | 6 |
| Mon. 9.. | 49.9 | 31.4 | 40.6 | 10 | 0.47 | 3 | 4 | 3 | 2 | 6 | 9 | 5 | 6 |
| Tues. 10.. | 50.2 | 31.7 | 40.9 | 13 | 0.69 | 4 | 3 | 1 | 4 | 5 | 10 | 4 | 5 |
| Wed. 11.. | 49.5 | 32.3 | 40.9 | 15 | 0.33 | 1 | 5 | 3 | 5 | 3 | 14 | 4 | 2 |
| Thurs. 12.. | 50.7 | 32.5 | 41.6 | 18 | 0.24 | 1 | 4 | 3 | 3 | 4 | 12 | 5 | [illegible] |
| Friday 13.. | 50.7 | 34.5 | 42.6 | 14 | 0.36 | 2 | 2 | 6 | 3 | 3 | 10 | 6 | 5 |
| Satur. 14.. | 51.2 | 35.2 | 43.2 | 16 | 0.70 | — | 6 | 5 | — | 5 | 13 | 6 | 2 |

The highest temperature during the above period occurred on the 10th, 1828, 12th, 1841, and 15th, 1828—therm. 67 deg.; and the lowest on the 10th, 1847—therm. 7 deg.

## Notices to Correspondents.

A packet of Replies to Correspondents having miscarried on its way to the printing office, we are under the necessity of asking those gentlemen whose enquiries have not been answered to have the goodness to repeat them.

To Correspondents. Some complaints having reached the Editor that letters are not answered nor parcels acknowledged, he desires to explain that no unpaid or imperfectly paid letters or parcels are ever taken in.

Strelitzias: *St. Omer*. We await further information with curiosity.

Vallota purpurea. *A Z* inquires whether this is what is often called the Scarborough Lily, and if so, how and why it received the name?

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.

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**Manures for Present Use.**

PERUVIAN GUANO, Genuine as Imported by the Contractors of the Peruvian Government, Deliveries direct from the Docks; NITRO-BIPHOSPHATE (Blood and Offal Manure), Fish Offal ditto (PHOSPHATE); SUPERPHOSPHATE of LIME (made from Bone), see Royal Agricultural Society's Journal, vol. 6, page 2; and all others of known value, may be had on the best terms by application to MARK FOTHERGILL, 23, Great Tower Street, Mark Lane, E.C.

Established 1839.

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ODAMS'S BLOOD MANURE for CORN.
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MANUFACTURED BY THE PATENT

NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),

Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.

Chairman.—JOHN CLAYDON, Esq., Littlebury, Essex.

Particulars of these Standard Manures may be obtained at the Offices. C. T. MACADAM, Secretary.

Or of the Local Agents.

Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex, N.E.

LAWES'S MANURES.

The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. | |
|---|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 | 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 | 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 | 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.

Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

CAUTION to BUYERS of GUANO.—Having been informed that Guano has been Imported into Liverpool, and offered for Sale as "BAKER'S ISLAND GUANO," I hereby give Notice that I control the Deposit of "Baker's Island," and that the Genuine GUANO can only be procured of W. H. WEBB, at New York; or through my Agents, Messrs. GUION & Co., of Liverpool, and GRINNELL, TINKER, & MORGAN of London. WILLIAM H. WEBB.

Burling Slip, New York, December 9, 1862.

**Land Drainage, and other Agricultural Improvements**

MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5s. per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.

ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

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Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.

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Full particulars of terms will be forwarded on application.

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2, Old Palace Yard, Westminster, S.W.
TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

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Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W

**Exhibition Prize Medal 1862.**

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES, PATENT IRON COW HOUSE FITTINGS, and IRON PIGGERIES.

These inventions are recommended as possessing numerous advantages not to be found in anything hitherto made. At the late Meeting of the Royal Agricultural Society at Leeds, MUSGRAVE BROTHERS received a Silver Medal, and two Awards of "Highly Commended," being the only Prizes conferred on any competitor in this class.

Particulars sent on application to the Inventors and Makers, MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

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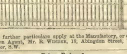
THE JUDGES of the Liverpool, Manchester, and Staffordshire Agricultural Shows, 1861, have each awarded the First Prize to I. JAMES, Tivoli Works, Cheltenham, for his LIQUID MANURE DISTRIBUTOR, making a total of 17 Prizes. It is also well adapted for Watering Streets, supplying the Steam Plough, Irrigating, or for a Fire Engine. Also his last great improvement in WASHING MACHINES, which have been awarded several First Prizes, and will wash 20 Shirts in 20 minutes.

W. S. UNDERHILL'S NEW PATENT IRON FENCE for GARDENS, LAWNS, &c.
Manufactory: Newport, Salop.

Warranted the strongest and most durable Fence ever offered at corresponding prices. It is easily repaired if broken from accidents; can be rolled up most compactly when not in use, is admirably adapted for exportation, and can be had of any height and mesh required, at prices from 4d. to 1s. 6d. per yard and upwards.



For further particulars apply at the Manufactory, or of the London Agent, Mr. R. WINDER, 18, Abingdon Street, Westminster, S.W.

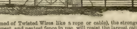
**Prices Reduced.**

H. J. MORTON AND CO., Galvanised Iron Works, 2. Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING

for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use; also Spouting at 10½d. per yard

WIRE STRAND CABLE FENCING



(formed of Twisted Wires like a rope or cable), the strongest, cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, from 1s. per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

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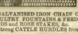

Galvanised, 24 ins. wide, 2-inch mesh, 4d., 4½d., and 6½d. per yard.

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of all sizes, for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

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HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.

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**Present Prices of Farm Seeds.—See**

SUTTON'S PRICED LIST at p. 194 of the *Gardeners' Chronicle* of February 28.

Royal Berks Seed Establishment, Reading.

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AWARDED FOR "EXCELLENT SEED CORN AND SEEDS," TO

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Samples of all kinds of AGRICULTURAL SEEDS and SEED CORN, sent post free on application.

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TRADE

HALLETT'S PEDIGREE NURSERY WHEAT.

MARK.

"The best Spring Wheat known. Drill in February and March, six pecks per acre."

Produced (1862) 62 bushels per acre, weighing 64 lbs. a bush.

Price ONE GUINEA A BUSHEL, including bag sewed up and sealed, delivered at the Brighton Railway Station, with Printed Directions for Planting, on Receipt of Cheque or Post-office Order, which must in all cases accompany the Order. Less than One Bushel will not be supplied. Name of Station and Railway should accompany the Order.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

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THE SUBSCRIBERS beg to call the attention of English Agriculturists to their large and carefully selected stock of BARLEY and OATS for SEED, comprising all the most approved varieties, and grown expressly for the Subscribers' trade by careful and well-known growers in the Lothians, Berwickshire, and Roxburghshire.

They will have pleasure in forwarding samples and prices on application.

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FARM SEEDS of the finest quality, are offered at fair Market Value.

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for 1863.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.

STOCK and IMPLEMENT PRIZE SHEETS are now ready, and will be forwarded on application to H. HALL DARE, Secretary.

12, Hanover Square, London, W.

# The Agricultural Gazette.

*SATURDAY, MARCH* 7, 1863.

THE mild spring weather of February and March is urging young Wheats, Winter Beans, Rye, and Grass, into unusually early growth. In order to the full benefit of the natural agencies at work, it is necessary that the crops be artificially supplied with all that warmth and life will enable them to use.

Measures have been already taken with regard to most of them with that end in view. The Clover stubble, the corn stubble, the previous crop, received its dressing of farm yard dung before the Wheat, the Beans, the Rye were sown. And by previous land drainage and subsequent tillage the land was adapted both as a storehouse for these fertilising substances and as an apparatus for doling them out to the growing plant. Nevertheless there is much possible in the way of the direct administration of food to the mouths of the plant as they become enabled by returning spring to receive it.

Top dressings of growing plants are indeed more and more becoming known as the method of manuring best adapted to our high pressure system of farming. Mr. Alderman MECHI, who this day discourses of town sewage in our columns, has repeatedly urged that the very ingredients which day by day, through the dairymen, are brought into the city from the neighbouring pastures, should be immediately returned to the field and at once built up again within the growing plant. And it is more and more becoming understood, that it is the truest economy to feed the plant rather than to load the soil—to treat the latter as a machine rather than a warehouse, believing that if properly tilled, it is practically inexhaustible of its stores, which are in fact continually replenished without much help from man.

The subject of top-dressings is thus annually

becoming of greater importance, and no season is better than the present for drawing attention to recent experience connected with it.

Dr. VOELCKER has for several years published the results of his experiments with common salt, nitrate of soda, salts of ammonia, guano, and soot, as top-dressings for Wheat.

First, of 1860, as reported in the Transactions of the British Association for 1861; the following are among his results:—

"1. The natural produce of this field, it will be seen, amounted to nearly 34 bushels. The grain on all plots was lighter than it is usually, and weighed only 59 lbs. per bushel.

"2. Nitrate of soda and salt produced the greatest increase in grain and straw—a result well corresponding with the results obtained in 1859. In grain we have an increase of 13 bushels per acre, and in straw an increase of 12 cwt. 3 qrs. 4 lbs., upon the unmanured portion of the field.

"This large increase was obtained with an expenditure of 1*l*. 13*s*. per acre—an outlay which, even at a lower market-price of Wheat, paid excellent interest.

"3. Nitrate of soda applied by itself was not quite so beneficial, but still gave a large increase both of grain and straw.

"4. Chloride of sodium, or common salt, on the other hand, hardly increased the yield in grain, and slightly reduced the yield in straw.

Common salt certainly has the effect of checking the growth of Wheat, and is therefore frequently employed in cases in which the Wheat is too luxuriant, or, as it is called by farmers, too proud-looking. Such Wheat has a tendency to fall down before the grain is quite ripe, especially if the season happens to be wet and stormy. Common salt is used by farmers for the purpose of preventing the laying of Wheat, and is said to strengthen the straw. It does so, not by supplying to the Wheat plant a constituent deficient in the soil, but by retarding the abundant development of the haulm of Wheat and other Cereals.

"5. Next to nitrate of soda, Peruvian guano was the most efficacious and most economical manure for Wheat. 2½ cwt. per acre gave an increase of 12 bushels of Wheat over the unmanured portion, besides an increase of 9 cwt. of straw.

"6. Two cwt. of sulphate of ammonia per acre, applied by itself, gave a larger increase than 4 cwt. of a mixed mineral and ammoniacal manure, containing less ammoniacal and more mineral compounds than the 2 cwt. of sulphate of ammonia.

"Thus, the latter gave an increase of 10 bushels of grain and 11 cwt. of straw, whilst the mixed mineral and ammoniacal manure gave only an increase of 8 bushels of grain and 6 cwt. of straw, in round numbers."

Secondly, in 1861, as reported in the late volume of the Journal of the English Agricultural Society, when "all the top-dressings produced a considerable increase in corn. Nitrate of soda and salt, as in former years, gave the best result, though almost identical with that obtained from nitrate of soda alone. Previously, both in 1859 and 1860, the addition of common salt to nitrate of soda had an excellent effect upon the crop. The apparent inefficiency of this admixture in 1861 is the more surprising, as salt alone then produced an increase of nearly 7 bushels of corn."

The cost of the manure in this case varied from 3*s*. worth of common salt to 2*l*. 5*s*. worth of ulmate of ammonia per acre. One and a half cwt. of nitrate of soda, costing 25*s*. 6*d*., gave an increase of 14 bushels of Wheat, worth 4*l*. 9*s*. 11*d*. The mixture of nitrate of soda with common salt —1½ cwt. of the former with 3 cwt. of salt per acre, has generally proved at Cirencester the most productive of all the top-dressings—and we strongly recommend that on all free calcareous soils a top-dressing of this kind be tried wherever a luxuriant growth is not otherwise expected.

Of the results in 1860 Dr. VOELCKER wrote thus in the Journal of the Agricultural Society:—

"1. That 1½ cwt. of nitrate of soda and 3 cwt. of salt gave by far the most profitable return of all the top-dressings.

"2. That guano gave a better return than sulphate of ammonia.

"3. That there was hardly any economical advantage in applying salt alone as a top-dressing.

"4. That although the outlay for soot amounted to only 16*s*. per acre, it gave a less profitable return than the most expensive top-dressing in the list."

The nitrate of soda and common salt mixture thus seems, by the Cirencester experience, which is upon a soil of the kind just named, to be the most promising application that can be made. And as soon as soon as rain threatens, this dressing may be usefully thrown broadcast over the young Wheat wherever there is any doubt of a luxuriant growth. Soot, though it has long had a good character as a dressing for grain crops, did not acquit itself so well in the Cirencester experience. And its liability to adulteration, of which the police courts have just given a curious illustration, renders it the less trustworthy. The following conversation just reported between the magistrate and the constable, the magistrate's clerk, and a witness, is sufficiently instructive and suggestive:

Police Constable JOHN SMITH, 79 G, said—The copperas is used by the man CLARK in his business as a sweep.

Mr. BARKER—What can a sweep want with copperas in his business?

The police-constable said that CLARK told him that he used it for dyeing sawdust to sell to the farmers as soot.

Mr. MOULD (chief clerk) to CLARK—You had better be careful how you go on in that way, for if you are caught in the act of committing such a fraud you will most likely be transported.

Mr. BARKER—This is a very disgraceful fraud on the farmers, and one that I hope will be made public through the agency of the press. A more disgraceful fraud I never heard of, and it is one that was calculated to do the farmers an immense amount of harm.

## STEAM CULTIVATION.

### DUMBLETON, NEAR EVESHAM.

NOWHERE in the Island is the landscape more beautiful, or the charm of a country life more delightful and attractive, than on the westward slopes of the oolitic range in Gloucestershire. From a foreground of green knolls, white cottages, Fern-fringed lanes, and over-hanging beechen woods, you there look across a rich and fertile vale 8 or 10 miles wide, sprinkled with villages and towns, church spires, and here and minster towers. And in the midst the Severn flows—towards the south a broad and tidal frith—everywhere a striking feature in the view—the sky line on its farther side broken by the Malverns in the north, and the Mendips in the south, and throughout sufficiently irregular and bold to make a worthy setting to so fair a scene. This at any rate is the feeling which all brought up upon the oolite, wherever they may be, in whom its brown soils, white stones, green fields, and ruddy autumns, excite home memories, will share in common with the writer.

Dumbleton Hall, near Evesham, stands within an outlying fragment of the oolitic range, here some 4 or 5 hundred feet in height, and possesses all the beauty of the foreground which has been referred to—but less of the distant landscape. It looks inwards on the broad valley which here lies between it and the Cotswolds, and it is not until you climb the hill at the foot of which it stands, that you learn how wide a panorama is commanded on the other side.

The estate stretches from the brashy soils upon the lower oolitic limestone, which here caps the hill, across calcareous sands and marlstones still lower in the geological scale over a considerable extent of the lias clay which constitutes the valley. Formerly in the occupation of a dozen tenants, who went as "the twelve apostles" among their neighbours, possibly because of the profession of poverty which was in their case enforced by the circumstances of the land, it has since shared largely in the agricultural improvements which have nowhere been more marked than in the calcareous clay land districts of the country.

It was during the present ownership of the estate that one of these farms, significantly named "Starve-all," was declined by its former tenant on terms so low that, rather than reduce them, the proprietor resolved on taking it in hand himself. And it is a fortunate thing for English agriculture that, as in the case of Mr. Coke, of Holkham, Mr. Holland was thus driven to take an interest in farm practice and improvements. Since that date a large expenditure has been incurred in drainage, roads, farm buildings, and good tillage, but in the course of another year or thereabouts, we understand that the whole account will have been balanced—the capital sums which have been advanced being repaid with interest on them by the farm returns, and the land being lettable at a much higher rent as the result of the speculation.

Mr. Holland was one of the earliest to adopt steam cultivation on his clay land farm, and several of his tenants have now followed his example; he has also acquired the highest reputation as a breeder of Shropshire sheep and Shorthorn cattle. And but that his sales of stock are for breeding purposes, his home farm would be as striking an illustration as we know of the possibility of combining the growth of grain with that of meat on the same land.

There are two home farms, the one at the top of the hill, and the other in the vale, separated or connected by the Park land surrounding the Hall. The former is of light brashy soil, about 350 acres in extent, of which some 130 acres are arable. It is provided with an admirable homestead, in which there is the best possible accommodation for stock in stalls and boxes draining to a tank where the liquid manure ferments before it is used as a dressing on the pastures—and there are pumps and other machinery by which steam-power can be applied to lift the waste water for delivery at any point, and by which also the threshing, Turnip-pulping and chaff-cutting, &c., may be carried on.

The land is cultivated for the most part on the 4-field course of cropping, and the steam plough has been drawn up the hill side to work upon the highland arable fields. It is however in the vale that it has been of greatest use. The land there, both deeper and stiffer, is most benefited by the steam power, which stirs or turns it without trampling it. And the greater power needed in fallow operations there makes horse power so much the more costly. There are about 400 acres in the Vale Farm, of which 230 are arable. The rotation is one of six years—Wheat every other year, the alternate crops being Mangel Wurzel, seeds, and Beans respectively. The surface, formerly in exceedingly high ridges—seen still in the old pastures as great rolling waves of land, in the hollows of which boys are hidden from each other, has been gradually levelled—the drains which stood 3 or 3½ feet deep being thus now 4 feet below the surface.

A great deal has been done to burning the land, of which a more particular account was given in our description of Mr. Randell's farm at Chadbury. In some few cases an even more complete burning of the surface soil has been effected here than there, costing, in fuel and labour, as much as 12*l*. 10*s*. per acre; but no doubt is entertained of the profitable nature of the outlay. Ordinarily a dressing of about 150 cubic yards per acre, at a cost of about 6*d*. or 7*d*. per cubic yard, has been the application.

The cultivation formerly required 16 horses, now 10 horses are employed, by which there is a saving of at least 200*l*. a year. Mr. Holland purchased Mr. Fowler's original apparatus in 1858. Since then he has exchanged it for the improved arrangement. The following report by himself is dated Dec. 31, 1860, since which therefore he has had two years' experience:—

"Dumbleton Hall, Evesham, Dec. 31, 1860.

"Although this is my third season of ploughing by steam-power, yet from my having commenced with an imperfect (10-horse) engine, a 3-furrow plough, and old anchor and ropes, my experience will not allow of my replying satisfactorily to your queries, which have reference rather to what can now be done with the more perfect machinery and tackle supplied by Mr. Fowler, than to what could be accomplished under the above circumstances.

"It was only at Michaelmas last that I started one of Fowler's improved (12-horse) engines; and it was not until the middle of October that I was able to avail myself of his recent alterations in the disposition of ropes and tackle of his new and less complicated anchor, and of his improved 4-furrow plough.

"I have stated that I have been using a steam plough for three seasons, but that up to Michaelmas last I worked with defective machinery. Up to that time I had steam ploughed (in all, from the period of my commencing) 500 acres. My expenses were as follows:—

| | £ | s. | d. |
|---|---|---|---|
| Mr. Fowler's bill .. .. .. .. | £751 | 19 | 6 |
| Railway expenses (carriage) .. .. | 26 | 19 | 4 |
| | £778 | 18 | 10 |

My repairs during these two seasons, whilst making use of old machinery, amounted to 93*l*. 7*s*. 2*d*. This cannot, however, be considered as a basis on which to calculate, wear, tear, and depreciation connected with improved steam ploughing machinery.

"I will therefore state what I have done since discarding my defective machinery at Michaelmas last, at which date, to the cost of plant already given, must be added the sum paid to Mr Fowler on exchanging my old for improved plant:—

| | £ | s. | d. |
|---|---|---|---|
| Expended up to Michaelmas last .. .. | £778 | 18 | 10 |
| Additional sum paid to Mr. Fowler on exchanging old for new plant at Michaelmas last .. .. .. .. .. .. | 40 | 19 | 6 |
| | £819 | 18 | 4 |

Since Michaelmas I have steam ploughed about 140 acres in 31 days (and many of these have been short winter days), under the influence of a bad season, and much of it being land lying on the side of a hill of considerable inclination. Notwithstanding these drawbacks, the average day's ploughing, accomplished according to this statement, amounts to something above 4½ acres; and I think that, with Fowler's improvements, I am justified in stating that (including removals from field to field) I can plough on an average 5 acres of stiff land in a day, at a depth of from 4 to 6 inches for a corn crop, and from 8 to 10 inches for roots; or if, instead of ploughing, we are using a steam cultivator (or scuffler), our average day's work may be put at 10 acres a day, at a depth of from 8 to 10 inches. The total area of my arable land is under 400 acres; the amount of steam cultivation that can be beneficially applied to it may be thus (approximately) stated:—

| | Acres. | Days. |
|---|---|---|
| For Wheat (one ploughing) .. .. | 100 | 20 |
| For roots (ditto) in the autumn .. .. | 100 | 20 |
| Spring cultivation land (scuffled twice) .. | 100 | 20 |
| Extra work (foul land scuffled once) .. | 100 | 10 |
| For Barley (one ploughing) .. .. | 100 | 20 |
| | 500 .. | 90 |

"In thus estimating the work done by the steam plough in the course of the year upon land in my own occupation, I have thought it best to base the calculation on some system; I have therefore taken the four-course system as my basis, that being the one more generally understood; still I ought to state that, as I by no means confine myself to four courses, the amount of ploughing and that of cultivation (scuffling) must vary with the seasons.

"The expenses of a day's work at steam-ploughing are as follows:—

| | s. d. | £ s. d. |
|---|---|---|
| The engine-man .. .. .. | 8s. 0d. | 0 11 9 |
| Ploughman .. .. .. .. | 2 6 | |
| Two men at 2*s*. 2*d*. each .. .. | 4 4 | |
| Boy with water cart .. .. .. | 1 0 | |
| Extra labour .. .. .. .. | 0 11 | |
| A horse with the water-cart .. .. .. | | 0 3 0 |
| Half a ton of coals .. .. .. .. | | 0 7 0 |
| Oil .. .. .. .. .. | | 0 1 0 |
| Total .. .. .. .. .. | | £1 2 9 |

You lately suggested that a charge of 1*l*. 10*s*. per day would probably be sufficient to cover the cost of interest, repairs, and depreciation of machinery and tackle. I am willing to adopt this estimate, which, when added to the day's expenses (1*l*. 2*s*. 9*d*.), gives as the total cost of ploughing 5 acres 2*s*. 12*s*. 9*d*., being a charge of (say) 10*s*. 6*d*. an acre for steam ploughing; and since we can in a day cultivate (scuffle) double the quantity ploughed, the cost of cultivating may be considered as one-half, or 5*s*. 3*d*. an acre.

"About here in ordinary ploughing four horses are used in a team. They get over on an average three quarters of an acre in a day, and it is reckoned that the cost of ploughing an acre may be put at 20*s*. According to my showing, the cost therefore of steam ploughing is 10*s*. 6*d*. an acre, against horse ploughing at 20*s*. It should be remembered, however, that when the plough and tackle are not at work the engine is useful in other departments of the farm; I ought not there-

fore properly to charge the ploughing, as I have done, with the whole cost of the interest and wear and tear of the engine."

Since the date of this letter, when the capital sum invested in steam ploughing was 820*l.*, two years have elapsed, during which the experience of its working was as follows :—

| | 1861 | | | 1862 | | |
|---|---|---|---|---|---|---|
| Ploughed (acres) .. .. .. .. | 330 | | | 412 | | |
| Scarified (acres) .. .. .. .. | 254 | | | 300 | | |
| Days at work .. .. .. .. | 154 | | | 169 | | |
| | £ | *s.* | *d.* | £ | *s.* | *d.* |
| Cost of fuel .. .. .. .. .. | 54 | 0 | 0 | 56 | 0 | 0 |
| Cost of oil, &c. .. .. .. .. | 10 | 0 | 0 | 10 | 0 | 0 |
| Cost of repairs .. .. .. .. } Cost of alterations, including rope .. } | 32 | 7 | 3 | 162 | 0 | 0 |
| Cost of wages .. .. .. .. | 90 | 9 | 0 | 125 | 17 | 0 |

The original purchase of rope in 1858 was 1000 yards, and since then the following ropes have been bought.

| | Yards. | |
|---|---|---|
| 1861.. .. .. | 450 | } charged above under the head of repairs and alterations. |
| 1862.. .. .. | 450 | |

Of the present condition of the rope it may be said that there is the same stock in equally good order now at the end of 1862 as there was at the end of 1860 ; the whole of the rope bought in the interval therefore must be considered as worn in doing the work of these two years. The whole cost for two years, which however includes unusual outlay on alterations, amounts to 540*l.*, which, set against the acres of work done, amounts to 8*s.* 4*d.* per acre. This, it must be remembered, is in a country where 20*s.* an acre is considered an ordinary charge for the 4 and 5 horse ploughing which one sees going on in the neighbourhood.

The tillage of the land by steam power is not injurious to the interests of the labourer. The wages paid on the farm amount to from 1300*l.* to 1500*l.* annually, about 6 eighths of the whole being in piece-work payments. In connection with the labourers on the estate, it may be mentioned that the tillage of Dumbleton has been long undergoing improvement, which has latterly been more rapidly prosecuted, 5 pairs of cottages on the model of the prize cottage at the Leeds show, having been erected at a cost of 230*l.* per pair. The rent charged to the labourer for cottage and garden is 4*l.* a year, it being understood that the difference between this and 6*l.*, the fair rental for the outlay, is to be borne half by Mr. Holland and half by his tenant. The cottages are erected as additions to the farms, and 5*l.* a year is charged to the tenant, he covenanting to let his labourer have it for 4*l.* Nothing can be more comfortable or commodious than the living-room, store room and back kitchen, with its oven, sink, &c.,—and three bed-rooms over head, with ventilation openings in the ceiling. The out-houses, including pigsties, woodbox and privy, are convenient without being unsightly ; and the whole arrangement is both good and good looking.

Mr. Holland's lower farm, like the one upon the hill, has a convenient homestead. The arrangement of the machinery for threshing is ingenious. The stable yard lies alongside of the range of building which contains engine-house, granary, chaff-house, &c., and the fixed engine drives a shaft which lies outside under the eaves of the building its whole length—a strap from one or other of the riggers on this shaft drives a moveable threshing machine, which is thus placed alongside any of the ricks. The other machinery is equally well placed—the chaff-cutter, driven by steam power, delivers cut hay into a rotatory screen, and the uncut screenings are passed up again to the upper floor by a fuse, which blows them up through a long shaft, while any stones, sticks, &c., mixed with it fall to the ground. A chamber close by receives the chaff, and the whole is steamed, receiving thus a savoriness and common quality which unsteamed it is without. Stables on one side are faced by a large feeding-house on the other side, and this range of granary, machine-house, &c., connecting the two ends, form three sides of a square. Within this square sheds have been erected, enclosing a feeding yard. And other shedding and yards occupy a square beyond the line of the stables. The feeding-house, arranged in boxes with mangers suspended on chains, and thus capable of being raised as the lair rises under the cattle, is filled now with a lot of heavy fatting beasts, of which 60 or 70 are fed every year.

The yards are occupied by the pedigree stock of the Short-horn breed, of which Mr. Holland has now gradually acquired a very considerable herd. The bulls used have been of Colonel Towneley's Butterfly and of Captain Gunter's Duchess strains ; Master Butterfly 5th and the Duke of Cambridge having been lately employed, and a son of the 7th Duke of York being now in use.

The flock upon the farm is one of the best of the Shropshire breed. Mr. Holland has for many years been engaged in the formation of it, and he has now become well known by its success at the shows, both of fat and breeding stock, at the meetings both of the English Agricultural Society and of the Midland Counties and Smithfield Clubs.* Some 400 ewes are kept ; 40 or 50 rams are annually disposed of, at prices averaging about 14*l.* a head. Some draught ewes are also annually disposed of, and the remainder of the flock is sold fat at 15 months old, averaging about 22 lb. a quarter. The fleeces average 7 lb. from the tegs, and nearly 5 lbs. from the ewes. The annual produce of the flock amounts to between 1700*l.* and 1800*l.*

Both the flock and the herd have a first-rate reputation, and they have been made the subject of reports by writers well qualified to describe them. Our present object has been to refer to Mr. Holland's doings in connection with steam cultivation, and to that we must for the most part confine our remarks.

The farm, which has been laid open for this purpose by the removal of hedgerows, and which is naturally adapted to it by the stiffness of its soil, is one of our best illustrations at once of the recent agricultural improvement of the country generally—the sales of grain are 10-fold now upon the same extent of arable land what they were 10 years ago—of the compatibility of the large increase of grain produce with a much larger herd of live stock—and of the fact that the farm which employs the most machinery is likely to be the place where most labourers also are employed, and where their interests are the best observed.

## BLENHEIM.

There is here, as at Holkham, the seat of the Earl of Leicester, and at Coleshill, the seat of the Earl of Radnor, a large arable home farm around the grounds of the Park. At Blenheim, as at Holkham, it lies within the Park boundary—a certain portion of the Park land, from 300 to 400 yards in width, having long ago been broken up within the wall upon the northern side of the domain. Here too, as at Holkham, it is chiefly a light soil capable of pair-horse cultivation. Very commodious, substantial, and well arranged buildings have been erected in both places as farmeries, and other points of agricultural resemblance will occur to the memory of those who have visited these—two of the most princely of the homes of English noblemen.

Steam cultivation has been adopted at both places. Lord Leicester has long had Fowler's engine and apparatus at work upon his seaside enclosure of heavy alluvial clay, where he finds that "one ploughing or smashing up of the stubble, if done directly after harvest when the land is hard and dry, is quite sufficient for the spring and summer crops." And he has during the past autumn been ploughing and subsoiling a portion of the Wheat stubbles on his home farm, which is "an average description of Norfolk soil, light, with a chalk or gravel subsoil."

At Blenheim, on the other hand, where there is no very stiff land, and where most of the land is a light calcareous and sometimes a brashy soil, the Duke of Marlborough has, since October, 1861, employed Howard's apparatus, drawn by a double cylinder 10-horse power engine of Messrs. Clayton & Shuttleworth's manufacture. And quoting in like manner from the trade catalogue of the maker, we learn from Mr. Scott that the apparatus has given "the greatest satisfaction."

Having lately gone over the Blenheim home farm and seen the apparatus at work, and learned a good deal of further information from Mr. Scott, we are able to give his experience in somewhat greater detail. The following, therefore, is the story of steam cultivation so far as relates to the Blenheim home farm.

The land includes two farms—the one at the northern end of the park a light brashy soil and 650 acres arable, and the other at the southern end of a heavier soil, 150 acres arable and as much pasture. Besides these, some 70 acres of water meadow and 300 or 350 acres of pasture are mown every year ; and there is the Grass land of the park to stock. The smaller occupation is a dairy farm, and includes among its buildings a fine double cow range on the model of that at the Prince Consort's home farm, near Windsor. It is however with the large arable farm alone that we have at present to do.

It is cultivated on the 5-course rotation of crops ; viz., 1, Wheat ; 2, roots ; 3, Oats ; 4, Barley ; 5, half seeds, and half Peas and Beans. Till lately the labour of the farm had been done by 22 horses—11 pairs. Since October 1861, when the steam cultivator was purchased, both farms have been managed by 18 horses. And as six horses may be fairly put aside for the additional land, it may be said that the labour of the home farm is now accomplished by 12 horses in place of 22.

Mr. Scott estimates the weekly horse keep at 1 bushel of Oats besides cut Clover, and pasture at night, during four months—1½ bushels of Oats and straw chaff, with 3½ trusses of hay during four months—and the same hay and chaff with 2 bushels of Oats weekly per head during other four months of the spring and autumn seed time.

| | | | |
|---|---|---|---|
| The Oats, 10 qrs. per annum, cost 3*s.* per bushel | £12 | 0 | 0 |
| The hay, 100 trusses per annum, at 3*s.* a cwt. .. | 7 | 10 | 0 |
| The Clover cut and brought home, about 4 tons, at 10*s.* a ton .. .. .. .. .. .. | 2 | 0 | 0 |
| The night pasture, 18 weeks, at 2*s.* 6*d.* .. .. | 2 | 5 | 0 |
| Total cost per annum .. .. | £23 | 15 | 0 |

The wages of the horsemen are 11*s.* a week all the year round, 2*l.* at Michaelmas, and 1*l.* 12*s.* for beer at the two harvest times, in all 32*l.* 4*s.* Add for shoeing 10*s.* a horse ; contracted repairs of harness, 10*s.* per horse ; and maintenance of value, 10 per cent. on the value of the animal, 3*l.* 10*s.* ; in all, 5*l.* per horse, and the total cost of a pair of horses comes thus to 85*l.* a year. ; and as five pairs are believed by Mr. Scott to have been saved by the use of the steam plough, here is a sum of above 400*l.* saved per annum.

What does the substituted steam power cost ? The wages spent daily in working it are—for engineer, 3*s.* ; windlassman, 2*s.* ; ploughman, 2*s.* 4*d.* ; two anchormen, at 2*s.* ; two porter lads, at 1*s.* 2*d.* each ; water cart and boy, 3*s.* 8*d.* ; in all about 18*s.* The coals consumed are from 7 to 8 cwt. a day, a very small consumption for a 10-horse power engine, but declared to us as a fact, and they cost about 15*s.* a ton on the field. The oil, about a gallon a week, may be charged at 6*d.* a day. The whole charge thus amounts to 23*s.* 6*d.* a day. Now, the usual day's work is about 7 acres ; thus, in the autumn of 1861, 102 acres were cultivated 7 or 8 inches deep twice over in 29 days, including all the labour of removals, which, however, in a farm lying so well for the work is not much. This, therefore, amounts to less than 3*s.* 6*d.* per acre for one-way work. There has been a very small amount of breakages or consequent expense for repairs. The machinery was at work all last year, and has already begun this year. The rope has broken twice, the result of accident ; but it will outlast this, its second year. There have been several dozen shares broken and used, costing 9*d.* apiece, but excepting that, very little expense has been incurred.

During last year 318 acres were done over twice, and 104 acres were done over once. At the rate of the work during the previous autumn it must have occupied about 70 days, costing, therefore, about 82*l.* for labour and fuel, 25*l.* for nearly half a new rope, not 21*l.* for repairs of all kinds, and about 52*l.* (10 per cent.) for an annual sinking fund to meet the effect of tear and wear. The total expenditure cannot be more than 180*l.* a year, against more than double that sum spent on the team of horses which have been displaced. The quantity of work for an engine on a farm of this size is very considerable.

There are 130 acres of Wheat every year after seeds and Pea stubble, in both cases needing a double "cultivation" with the grubber ; there are 130 acres of Swedes, Turnips, and Mangel Wurzel after Wheat, which receive a one-way cultivation in autumn, and another cultivation in spring. There are 130 acres of Oats, which are put in after a double cultivation of the folded root land. There are 130 acres of Barley after Oats, receiving a single grubbing in autumn, and a cross cultivation in spring ; the remaining 130 acres are seeds and Peas and Beans, the last (about 65 acres) receiving a double cultivation after Barley. Here then are 1040 acres of cultivation to be done, and this may be accomplished during a favourable season by steam-power. It is plain that in such a case there will be an immense saving of horse labour, and that excepting harrowing and carriage, the labour of cultivation will be undertaken wholly by steam-power—and a good many more horses will in all probability be dispensed with.

The farm is particularly interesting for the example which it gives of a good farm homestead. A large rectangle of building, including stables, cartshed, granaries, feeding stalls, barns, and machinery for cutting chaff and threshing corn, and pulping and cutting roots, piggeries, &c., contains within it other sheds and yards in which young stock are fed. The plan adopted is to rear all the stock fattened on the farm. Some 35 or 40 heavy Shorthorn oxen or fat cows are thus now fattening in the stalls. The following is the plan of rearing and feeding the calves which at three years old are sold fat.

During the first week the calves suck their mothers. Afterwards they are fed out of a pail, receiving 4 quarts of new milk daily. In about eight weeks they receive skim milk, with hay and roots, as much as they will take. They get out to grass during summer, and receive then about 1 lb. of oilcake daily apiece. In autumn they are brought into yards and receive about half a bushel of cut roots with hay, and the allowance of cake is continued ; during the following summer they receive nothing but their pasture. In the second winter they receive pulped roots and straw chaff, and after a third summer's grazing are brought into the sheds and get about 50 lbs. of pulped roots, 16 lbs. of straw chaff, and 4 lbs. of meal, and 3 lbs. of Flaxseed daily until they are ready for the butcher. They are sold at three years old generally to weigh about 8 cwt.

The other stock of the farm includes about 700 Oxford Down ewes, of which the produce is annually sold fat and naked at 15 months old.

There are few pleasanter holidays for the agriculturist who is at the same time interested in fine scenery, fine buildings, and fine paintings than a day at Blenheim Palace, park, and farms. Approaching Woodstock through a somewhat flat and dreary country, the stranger traverses it to the end of a street of lofty houses, apparently ending in a *cul de sac ;* he turns to his left, and entering through a gateway into the park he finds himself to his astonishment abruptly at the head of a valley half filled with a lake, spanned by a noble arch, and looked down upon by one of the most magnificent palatial residences in England.

* It may be mentioned in illustration of the vexed question of trimming and clipping sheep, which it is argued ought to be left to the will of the exhibitor—for, whether the public are thereby deceived or not, most certainly *judges* are not—that Mr Holland exhibited a pen of Shropshires at Birmingham last winter in their natural untrimmed condition, and lost the prize. Feeling that he had suffered for lack of the same attention to the appearance of his sheep which his successful rivals had paid, he had the same sheep carefully trimmed, exhibited them against the same rivals next week before the Smithfield Club, and *won the prize!*

There are all the beauties of ample extent, of undulating surface, of well timbered turf covered with "horned cattle," both of Robin Hood's description and the more strictly agricultural sort. A large herd of Kyloes are purchased every year, and with every variety of stock upon it the Park is well grazed. Of the beauties, internal and external, of the Palace we need not speak; the chief points of interest on the farm have been already named.

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Pirton Court Farm, near Gloucester.—Messrs. Witcomb, who here occupy a large farm, chiefly of stiff clay land upon the lias, have had Mr. Howard's apparatus at work since Sept. 1861. There are two farms in the occupation of these gentlemen—one, their own property, chiefly a grazing and dairy farm near Gloucester, whence the daily produce of milk is taken into the city; the other, about four miles from Gloucester, on the Cheltenham road, extending from the oolitic hill-side into the vale, where it is partly on the lias clay and partly on the calcareous gravel with which the lias is in places overspread. This latter farm is 500 acres in extent, and of these 330 are arable, cultivated partly on the 3-field course proper for the stiffest clays; where Wheat, Beans, and Vetches, or Rape or bare fallow succeed each other; and partly on the four-field course proper for the lighter land. This is an instance where the apparatus has been purchased by a tenant farmer exclusively as a matter of direct profit. There is nothing in the management of the land—certainly nothing in the style of the homestead or farm buildings to indicate that either the owner or the occupier here are doing more than immediate profit would justify or demand. It is on such cases that one especially depends for an answer to the question whether steam cultivation is a paying speculation.

We do not gather from our visit to this farm that the cost of cultivation by draught labour has been very much diminished by the addition of steam power. Formerly the farm was worked by 14 horses and 20 bullocks—the former in 4-horse teams on the heavy land, and 2-horse teams on the lighter land. Their cost, with the labour connected with them, can hardly be estimated at less than 400*l*. per annum. And the 20 oxen displacing 20 fatting beasts, whose food would go to the production of flesh, not of mere force, may be put down as a charge of 160*l*. or thereabouts per annum. And putting the labour at a man and a boy to every four for six months in the year, another 80*l*. must be charged on their account. The whole draught labour of the farm thus used probably to cost 640*l*. a year, a good deal of course being due to the carriage and other labour belonging to the pasture land, all of which still remains the same. Since, however, the adoption of steam cultivation, which necessarily takes a good deal of heavy cultivation off the draught animals, the only difference made has been to get rid of the oxen altogether, without, however, adding to the number of the horses employed. There are now 14 horses at work, which at the rate already named cost probably 400*l*. a year in food, wages, tear and wear, &c.

The cost of working the steam-driven apparatus stands as follows:—half a ton of coals, 7*s*.; engineer, 3*s*.; ploughman, 2*s*.; 2 anchormen, at 2*s*.; windlass-man, 2*s*. 6*d*.; 3 porter lads at 1*s*.; horse and water-cart, 4*s*., in all 23*s*. 6*d*. a day, so that with 6*d*. for oil, the charge is 26*s*. a day. The work done will average 4 acres a day. This work is grubbing the stiff clay land some 6 or 8 inches deep, and would need a team of six or eight horses for its performance, and could not be done under 12*s*. or 14*s*. an acre. It costs as regards immediate outgoings 6*s*. 6*d*. an acre by steam power. It is an extraordinary thing that the doing so much of the heavy work which firmly occupied the teams should not have led to a more considerable reduction of the number. In the autumn of 1861, during 40 days of September and October, 240 acres of this grubbing were accomplished, and where the land was light as much as 8 acres were easily done with an 8-horse power engine. During the past year the following work was accomplished. In spring they grubbed 240 acres over one way. In autumn the work done was 159 acres. The general cultivation was 7 or 8 inches deep. The average performance—first and second time over together—exceeded 5 acres a day, which is a good deal, considering that it is an 8-horse power engine which is employed. Messrs. Witcomb purchased 1400 yards of rope, with the apparatus, in 1861. They bought another 1400 yards in the autumn of 1862, the original rope having proved very defective. There are now however 2000 yards effective, and the second rope is hardly worn at all. The cost of rope for one and a half year's work, at 5*l*. per 100 yards, can hardly be estimated at less than 50*l*., which is considerably more than is generally incurred in working the number of acres which has been accomplished.

Nothing is more striking than the contrasts on this subject which obtain as regards the tear and wear of rope. Though this hinges a good deal on the character of the soil over which it is drawn, it is far from being wholly dependent upon it. Probably the least waste of rope is to be found in the Weald district of Sussex, where the soil is an impalpable sand. And the greatest waste is on the upper chalk, which is full of flints, but even here, when great care is taken, as we have seen on a farm near Shoreham, the waste of rope is exceedingly small compared with what it is elsewhere. At Pirton, again, on what is generally a clay soil, the wear of rope is much greater than it ought to be.

The profit arising from steam cultivation at Pirton Court Farm evidently is not so much in the diminished cost of the labour by steam-power, as in the superiority of the work. On walking across several of the fields, we saw Wheat stubble which had been broken up for Beans, the land lying dry and well stirred, unsodden, though a stiff clay and without any surface drainage. Of course the land is underdrained; and it is by the size of its fields well adapted to the use of the steam cultivator, a furrow of 400 yards being generally a possible thing. The young Wheat was looking exceedingly promising when we walked across it a fortnight ago.

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Messrs. Savory, iron founders and machinists, of Gloucester, are bringing out another method of applying steam-power to the culture of the land, which promises extremely well, and is likely to answer wherever there is ample employment of other kind for the engines during the time of year when they cannot work on the land. Two engines are employed on the two headlands—a large cylindrical drum envelopes the boiler, revolving on and geared to 4 inner wheels, to one of which the engine gives revolution. The drum carries the rope, and some 400 or 500 yards may be wound on it, one strand thick. There is an exceedingly ingenious screw arrangement for coiling and uncoiling the rope. The plough, Fowler's balance plough, or any other, is drawn one way by the one engine and the other way by the other engine, each unwinding as the other winds. There is thus but one rope across the field, and when the last furrow is reached the plough is detached from the near engine and dragged its last furrow alone. Each engine is thus ready at once to walk out of the field as soon as its work is done. In fact, one engine is off before the last furrow is completed—the other in moving off draws the plough and what porters are needed behind it. The method of self-driving is very simple and ingenious, and the whole package of the several parts well designed and compendious. The wear of rope will probably be reduced under this plan to a minimum, the careful and exact winding being the main feature and merit of the method.

Of course the employment of two 8 or 10-horse engines involves a large capital; but when this is not a difficulty, the ultimate cost of ploughing in this way is not likely to be excessive. One pair of engines has lately been sent out to the West Indies. Another has been purchased, and was employed last autumn by Mr. Bomford, of Pitchill, Evesham, on a farm of 600 acres of strong loam, near Evesham.

There were 32 horses formerly employed on this farm, and now 20 only are employed, which is equal to a saving of 300*l*. a year. The apparatus was bought only on Nov. 4, 1862, and cost 800*l*., including 400 yards of rope to each engine, and two 8-horse power engines. The labour is three men and three boys to two engines at 3*s*. a day, the ploughmen at 2*s*. 6*d*., the boys at 10*d*. each. The coals consumed were 1 ton daily at 15*s*. Mr. Bomford says:—"With the 8-horse engine and Howard's cultivator we can thoroughly cultivate from 12 to 14 acres, and with Fowler's 3 furrow plough we can plough 7 acres per day of 10 hours.

Both soil and drainage are very much improved by steam cultivation, and Mr. Bomford is able to speak on this point, for he has had the autumn's experience of steam cultivation, having the previous autumn cultivated all his stubbles with Howard's apparatus.

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## AGRICULTURAL STATISTICS.

It may be that the suggestion of your Correspondent the Rev. Mr. Williams, in a late Number of your journal, that Parliament should extend a fostering surveillance to agriculture, is worthy of more attention than it has received. But there is an important preliminary inquiry—how far this may be necessary, or in other words how far the farmers of England can feed the people of England? Are the imports of grain 5 per cent. or 50 per cent. of the required supply? In the present state of peace with the whole world, this may be of less consequence; but if the formidable means for the defence of the country, of late years called into existence, are the shadows of events which come before, they may indicate a "state of siege" for these islands, in which the provision of the garrison cannot be too soon looked into. And this would not be such a difficult matter. It is a fact that in the late Census, when the farmers were required to return the extent of their farms, not 10 per cent. of them neglected to do so, and the majority of these probably from inadvertence merely. It therefore appears that there is no indisposition on their part to furnish this information, and if in addition they were requested to return the extent of Wheat grown by them, it would probably be all the information on the subject of agricultural statistics of any real value to obtain. So simple an inquiry could hardly be refused—where it was, an estimate might still be adopted. The same machinery which so efficiently discharged the duties in the late census might again be employed—the registrars of births and deaths throughout the country. Of these there are about 1800 throughout England and Wales, while the number of farmers and cultivators is about 260,000, or on an average less than 150 to each registrar's district. By means of the post the registrar might forward a simple form of inquiry to each cultivator within his district, asking only for the extent of land farmed by him and of Wheat grown. To these two questions he would be requested to reply, and to return his answer by post to the Central Office in London, and thus all local inspection would be avoided, which is considered so great an objection by the agricultural community. In this way a return from every part of the country might be obtained, and the result for each county published. This return would supply a serious defect in the present estimates of the harvest as published in the local and agricultural newspapers, where the terms average, under average, &c., apply to the quality only, and never to the extent of the crop. In this way it may be hoped a more correct estimate of the harvest, and of the probable range of prices, might be obtained than ever has been previously, and some light thrown upon such important questions as, with a deficient yield of say one-fourth, would the price of bread be doubled or quadrupled? But as this would only be where after successive returns, that had become comparative, we cannot too soon commence the inquiry. *R. Duke.*

The following is the circular which might be used in the plan proposed:—

"Sir,—It being the desire of Parliament to obtain some information as to the extent of land in cultivation, and of Wheat grown, I beg to forward the enclosed paper, and to direct your attention to the two questions therein contained. In the estimate made each year of the harvest, and usually published by the local newspapers, it is exceedingly desirable that a more trustworthy basis should be adopted, the terms average, under average, &c., being applied invariably to the quality, and not to the extent of the crop. This defect it is now proposed to supply, and in a matter of such importance I hope that you may not be indisposed to assist. For this purpose the enclosed paper is forwarded, if you will be good enough to reply to the two questions therein, and to post your answer before the 1st of May, leaving the postage unpaid. The information thus obtained will be made up at this Office, and the result for the whole country published, and in this way it is hoped a more valuable indication of the prospects of the harvest and of the probable range of prices may be obtained, than ever has been previously. Any further information that you may desire will be freely supplied on application to Mr. ——, Registrar of Births and Deaths. "I am, &c.

"Registrar-General."

*Superintendent Registrar's District,* Epsom. } No. 37.
*Registrar's Sub-District,* Carshalton. } 1.

(*Enclosed paper.*)

| Subject of Inquiry. | Answer. |
|---|---|
| What is the extent of land farmed by you? | |
| How many acres have you under Wheat this season? | |

Be pleased to reply to the above two questions, writing your answer opposite each, and to post this paper before the 1st July, leaving the postage unpaid.

Mr. John Smith, Farmer,
Banstead, Carshalton.

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## Home Correspondence.

*Sparrows and Grubs.*—I copy the following from the *Gardeners' Chronicle* of Jan. 31, 1863.

"All that is necessary where a single crop only is desired, which is conceived to be the most useful plan for Austria, especially for small proprietors, the persons who are expected most to profit by the scheme, is to cover the hedge of Ailantus, the most convenient form in which the plants can be grown, with a common net spread over hoops, to protect the caterpillars from the house-sparrow, which is peculiarly fond of them; a curious matter, as they are so very different from any caterpillar to which sparrows are used,"

This is accompanied by a note describing the caterpillars, which "are very fat, and greedily sought by the birds." In the *Agricultural Gazette* of the following week I saw a statement from Mr. Wilkins, the rector of Wix, in which he stated that he could prove that sparrows never eat caterpillars—that they would not touch them, &c. This statement was the same, less some "trenchant irony" and "lucid English," which had already appeared and been answered in a local paper. May I ask, Mr. Editor, which end of your Paper we in the country are to be guided by? As to the caterpillar question, it is really one utterly unworthy of notice in the form it has been thrown into by Mr. Wilkins. When I say that I have seen sparrows—house-sparrows—Passer domesticus, hundreds, if not thousands of times, carrying caterpillars and grubs to their young, I have said that which is supported by numerous other eye-witnesses, as recorded in our Natural History Journals, and which is confirmed by the authority of every writer upon ornithology worthy of the name of naturalist. Mr. Wilkins is a gentleman who writes—with the best intention no doubt—most dogmatically. I am far from desirous of detracting in any way from the experience of a man who has read Parke's Chemistry, and cultivates a classic farm of 1½ acre in extent. Such a person may conceive himself an undoubted authority upon the "vitality of seeds," "thin seeding," "mole killing," and "sparrow murder," but I think it would be quite as well both for the scientific questions of which he treats, and a due regard for the opinions of others—equally, at all events—competent to form an opinion upon them, were those questions raised with less egotism and a more moderate appreciation of facts, which are not the less undoubted because they are denied by Mr.

Wilkins, with that "trenchant irony" and "lucid English" for which, as you say, his lucubrations are remarkable. *C. R. Bree, M.D., F.L.S., Colchester, Feb.* 22.

*The House Sparrow.*—Apropos to Mr. Wilkins, I send two extracts from authors of authority in the matter of birds. *T. S. P.*

"If unfortunately it is too true that the sparrows cause great injury in ripe fields of Wheat, Barley, and Peas, it must be acknowledged that they are very useful in our orchards and gardens, by destroying in the spring thousands of insects, on which they feed their young ones as well as themselves." *J. M. Bechstein, M.D., &c., &c., of Waltershausen in Saxony.*——"Although sparrows are so fond of grain during the harvest, I have seen them take to their nest, as food for their young ones, flies of all kinds; even butterflies, worms, and grubs. Indeed such insects form their principal subsistence, when they cannot obtain grain; a fact which may, perhaps, be thought to render them less fitted than they are sometimes considered to be for culinary purposes. *C. Jennings.*

*Grass Lands.*—Can you direct me to any work on Grass lands, teaching their proper management under different conditions of soil, climate, locality, and use or application; and also stating what, under those various circumstances, are in practice the usual obligations of tenants and landlords in respect of such Grass lands? I find the general treatises on farming very defective on this subject. I own a Grass farm within two miles of the suburbs and four miles of the centre of one of our very large towns, and of course its application is for dairy purposes. It is almost entirely depastured by milch cows, and besides milk the tenant sells hay without stint. His neighbours do the same. They claim to be under the single condition of bringing back in return for each ton of hay sold, 2 tons of stable manure or 4 tons of "short" manure, meaning cinders and broken crockery from the town "mixens;" but the landlord has no means of knowing the quantity sold, and on the weekly hay-market day it is rare to see the hay-carts and waggons returning from the town otherwise than empty. The tenants consider themselves under no obligation to manure land which they do not mow, though daily carrying off its phosphates in their milk. Allow me to ask you what one might fairly require of the tenant in this case, or what treatment will save the land from losing heart. *H. G.*

*Sparrows.*—I have distinctly seen and watched sparrows collect caterpillars from off the vegetables and fly with them to their nests. *Geo. Nichols, Hunslet, near Leeds.*——It has been a decided opinion of mine for many years that sparrows devour the caterpillars (if so they are called) that infest and curl up the leaves of Roses, Apple blossoms, &c., but they never touch a hairy caterpillar of any kind. I have caught a sparrow with as many as eight of those insects in its beak at one time, but whether the good sparrows thus do is not counterbalanced by their bad habits, I must leave for others to decide. I know right well they are very destructive to the buds of Cherries, Gooseberries, and Currants, though not so much so as the bullfinch. The ground underneath the May Duke (for they touch no other Cherry), the Greengages, Diamond and all Plums, is covered with the husks of the fruit-buds, caused alike by bullfinches, sparrows, and tomtits. We always have a lad with a gun upon the look-out for them at this season of the year. *J. Dillistone, Sturmer Nurseries.*

*Trials of Reapers.*—As there is no authoritative trial of reaping and mowing machines at the Royal Agricultural Society's Show at Worcester this year, we are desirous of having our mowers, combined machines, and self-acting and other reapers subjected to thorough testing trials by practical men in those districts of England where they are not yet introduced, and we shall be glad to correspond for this purpose with any gentlemen who may address us in consequence of this letter. *Samuelson & Co., Banbury.*

# Societies.

## ROYAL AGRICULTURAL OF ENGLAND.

MONTHLY COUNCIL: WEDNESDAY, *March* 4, 1863.—Present: Viscount Eversley, President, in the Chair. The Duke of Marlborough, Earl Cathcart, the Earl of Powis, Lord Berners, Lord Tredegar, Lord Walsingham, Hon. W. Cavendish, M.P., Hon. Major-General Hood, Sir E. C. Kerrison, Bart., M.P.; Mr. Amos, Mr. Arkwright, Mr. Barker, Mr. Barnett, Mr. Bramston, M.P., Mr. Buller, M.P., Mr. Cantrell, Mr. Dent, M.P., Mr. Druce, Mr. Exall, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Holland, M.P., Mr. Wren Hoskyns, Mr. Jonas, Mr. Lawes, Mr. Lawrence, Mr. Pope, Mr. Rigden, Mr. Sanday, Mr. Shuttleworth, Mr. Thompson, M.P., Mr. Torr, Mr. Wells, Mr. Frere and Dr. Voelcker.

The following New Members were elected :—

Andrews, James; Kinnersley, Severn Stoke, Worcester
Apps, John, Jun.; Goudhurst, Staplehurst
Ashwin, Richard; Aldington, Evesham
Bourne, Samuel; Goldsmith House, Whitchurch, Salop
Broughton, Capt. P., Jun.; Tunstall Hall, Market Drayton
Bundock, Alex. F.; 39, Albion Street, Hyde Park, W.
Cadle, Thomas; Longcroft, Westbury-on-Severn
Chadwick, Joseph; Kirkstall, Leeds
Cook, Richard Samuel; Pailton Lodge, Lutterworth
Deedes, Wm.; Sandling Park, Hythe, Kent
Dowdeswell, Geo. Morley; Park Gate House, Catsfield, Battle
Eyre, Edwin; The Cottage, Bishops Stortford
Firkins, Geo. John; Bishampton, Pershore
Fisher, A. B., Poulshot, Devizes
Gough, Ashwin D.; Hinton-on-the-Green, Evesham
Green, John; Newtown Farm, Worcester
Haine, George; Over Farm, Gloucester
Holton, Wm. Fifield, Cleeve Prior, Evesham
Lake, Edward; Hill Side, Strood, Kent
Morris, Edwyn John; Stanley Poutlarge, Winchcomb, Glo'ster
Pocock, Wm. J. M.; St. John's Villa, Redland, Bristol
Prosser, Benjamin; Offerton Farm, Hindlip, Worcester
Stallard, Josiah; Worcester
Stebbing, Henry; Stow Bedon, Attleboro', Norfolk
Stedman, Robert; Pakenham, Bury St. Edmunds
Torrens, Robert, M.P.; Ramslade, Bracknell, Berks

On the motion of Mr. Fisher Hobbs, seconded by Mr. Lawrence, the Council unanimously elected Mr. Edward Bowly, of Siddington House, Cirencester, a Member of Council, in the room of the late Mr. Jonas Webb.

FINANCES.—The Hon. General Hood, Chairman of the Committee, presented the Report, from which it appeared that the Secretary's receipts during the past month had been examined by the Committee, and by Messrs. Quilter, Ball, & Co., the Society's accountants, and were found correct. The balance in the hands of the bankers on the 28th February was 2904*l.* 3*s.* 10*d.* The Committee recommended that 37 names of members in arrear of subscription be erased from the list of the Society. This report was adopted.

JOURNAL.—Mr. Thompson, M.P., announced the inability of Professor Tanner from illness to open the discussion which had been announced for the 25th inst. On the 18th March Mr. Bailey Denton will read a paper on the Influence of Under-drainage on the Rivers, and on the Water Economy of the country generally.

CHEMICAL.—At the meeting of this Committee held yesterday, Professor Voelcker gave the detailed statement (proposed in the last report) of the analyses furnished to members during the year 1862. They were as follows :—

| | |
|---|---|
| Guano .. .. .. .. .. .. .. | 61 |
| Ammoniacal salts, nitrate of soda, and refuse materials .. .. .. .. .. .. | 36 |
| Superphosphates and similar artificial manures .. | 84 |
| Bone dust .. .. .. .. .. .. | 13 |
| Limestone, chalk, and marls .. .. .. .. | 16 |
| Milk and cheese .. .. .. .. .. .. | 10 |
| Soils 22, waters 16 .. .. .. .. .. | 38 |
| Oilcakes .. .. .. .. .. .. .. | 105 |
| Turnips, feeding meals, and other articles of food | 18 |
| Total | 379 |

The two last articles of this list belong to a class in which (it will be remembered as mentioned in the last report) adulterations had been found to prevail, frequently of an injurious character, not only to the fattening but even the health of animals, from the presence of poisonous weeds. The Committee have therefore requested Professor Voelcker to make this the subject of one of his lectures this year, and have named the third Wednesday (15th) of April for this lecture.

Amongst the above list of analyses, some few are of a rather singular character. Prince Halim Pasha, brother of the late Viceroy of Egypt, sent for analysis some of the mud of the river Nile (the earliest, doubtless, of top-dressing), and specimens of cement from ancient buildings, containing a large per centage of nitre, commonly dug up for use as manure by the natives of Egypt.

The papers in the last Journal by the Chemical Professor are :—

1. On Wheat experiments (Top dressings)
2. On Cheese experiments
3. Commercial value of Artificial Manures
4. Poisonous Cheese.

The papers in the forthcoming Number are—

1. On the Power of Soils of known composition to absorb Soluable Phosphates.
2. Further Experiments with Top-dressing in Wheat.
3. Report of Analysis of Waters from Ilchester.

To these papers the Committee have awarded the annual grant of 200*l.*

The second lecture this year will be on the application of different kinds of manures to Grass-lands, founded on the late experiments of Mr. Lawes at Rothamsted, who has also promised to place the general result of his experience at the assistance of the Lecturer.

This lecture is fixed for the 20th of May.

WORCESTER MEETING.—Lord Walsingham reported that 100 horse boxes of a good and substantial character had been ordered of the contractor in anticipation of a numerous entry for the forthcoming Show. 2*l.* would be charged to each exhibitor in the thoroughbred hunter and hackney classes for the use of these boxes. The committee recommended that the following work, heretofore performed at the office of the honorary director, be done at the Society's rooms, viz.: the examination of certificates; the preparation of MS. of catalogues; the preparation and forwarding of admission orders, tickets, and other documents usually sent to exhibitors of stock and implements. The forage to be delivered by tickets, under the direction of the hon. director and steward. Mr. Cantrell had consented to act as steward of forage. This report was adopted.

Letters inviting the authorities of Carlisle, Darlington, Durham, Newcastle, and Sunderland, to offer sites for holding the Meeting of 1864 in that district were directed to be sent.

The Council having ordered that the Society's house be closed on Saturday the 7th and Tuesday the 10th inst., on account of the Procession and the Marriage of his Royal Highness the Prince of Wales, adjourned to their Weekly Meeting on Wednesday next.

# Farmers' Clubs.

LONDON: *March* 2, *Town Sewage.*—Mr. Alderman Mechi read a paper on this subject, from which we make the following extracts:—There is a great lamentation just now because we can no longer manufacture for ourselves and the world at large our usual supply of Cotton goods. We have not been used to this, but we have been used to import foreign food, and so we hear no complaint of our not producing our own food. We depend upon foreigners for one-third of our daily bread, and a good deal of our meat, cheese, eggs, and butter. We do not ask ourselves if we could produce all this at home, and whether that production would not employ an amount of native labour and capital with immense advantage to our country. Perhaps this evening's meeting may somewhat tend to remedy this national anomaly and discredit. There can be no reasonable doubt but that we have the means to produce our own food superabundantly, did we choose so to do.

I think we are all agreed that the great want of British agriculture is more manure—much more manure. On this point there is a remarkable unanimity among farmers. We may over-manure for our cereals, but never for our pastures, Rye-grass, green root, and leguminous crops. It is impossible to take a railway trip through almost any district of the United Kingdom, without being convinced that it is only half-manured, and that its powers of production might be greatly increased if our 50,000,000 of available acres could receive an extra manurial dressing. Employing at present merely a tenant's capital of 4*l.* per acre, with a gross produce of 3*l.* 12*s.* per acre, the small increase of 10*s.* per acre would add 25,000,000*l.* annually to our supply of human and animal food. The use of town sewage will render less necessary the purchase of guano and artificial manures, and it will diminish the necessity for purchasing foreign feeding stuffs as a source of manure. This is a very important consideration, for I know one Norfolk farmer who pays 8000*l.* annually for Linseed cake alone; and another who, during his holding, has paid 70,000*l.* for cake, and 50,000*l.* for artificial manures, being equal to 100*l.* per acre over his whole farm. We all know that we cannot feed our animals with purchased food except at a considerable loss, chargeable against their manure. I purpose to extract as briefly as possible from the Parliamentary and Government documents, as much of the valuable evidence as our limited time this evening will permit.

*How will the Landlord's interest be affected by the Use of Town Sewage?*—Will its use increase or diminish the value and fertility of his land at the end of a lease? The once sandy wastes on the sea-shore near Edinburgh, not then worth 5*s.* per acre, now produce an annual income of from 20*l.* to 30*l.* per acre, solely by the application of town sewage. The same remark applies in degree to all the other instances quoted before the Committee. The tithe rent-charge being a fixed commuted charge, the profit thus resulting to the landlord will be considerable.

*How will the Tenant's interest be affected by the use of Town Sewage?*—The evidence clearly proves that by large applications of sewage the crops of Grasses (and consequently of milk, butter, cheese, meat, and manure) may be increased from three to six fold and upwards, according to soil. Now, supposing that a tenant has a long lease of a suitable farm, it is quite clear that his present rent, chargeable against each ton of produce grown on the sewaged land, will be gradually diminished from 25 to 70 or 80 per cent. The same remark applies to tithes, rates, &c. But there is this enormous additional advantage, that, having four times as much manure from the produce of the sewaged soil, he will be enabled to grow much heavier crops on the other parts of his farm unsewaged, and thus increase the profits over the whole of his farm.

*What is the Probable Value of the Human Excrement of the United Kingdom?*—There is no difficulty in answering the question, when applied to the feeding of animals; and the same principle holds good for human beings, because they eat the cattle which have consumed the cattle food. Science has revealed to us that, although our food passes from us altered in appearance, its elements are unchanged, and little is abstracted from it by full-grown persons or animals. Taking the cost of consumable products (liquid and solid) used by the 30 millions of our population at 9*l.* per head, or 270,000,000*l.*, and taking the excrementitious residue of such consumption at the very low estimate of one-tenth of the cost of the articles consumed, we should have as a result an excretal value of 27,000,000*l.* Seeing that more than one-third of our population live in towns, and that the others who do not are very careless of their excreta, we may reasonably ask, is it not an act of folly, and of gross commercial error, to waste such a treasure, instead of availing ourselves of it to fertilise our soil, and cheapen and increase our food? We paid to foreigners 76,000,000*l.*, in the year 1861, for the consumable products they sent us. Ought not the excretal result of such an enormous importation to have greatly fertilised our soil? To the estimate I have made must be added the excreta of animals which is deposited in our streets. In London alone the horses consume 30,000 quarters of Oats per week, and hay in proportion. Here is Mr. Lawes's table, which is confirmed by the research of eminent chemists :—

TABLE showing the Estimated Value of the Manure obtained from the consumption of 1 ton of different articles of food; each supposed to be of good quality of its kind :—

| Description of Food. | Estimated money value of Manure from 1 ton of each kind of Food. £ s. d. | I annex the average market price of the articles. £ s. d. |
|---|---|---|
| 1. Decorticated cotton-seed cake .. | 6 10 0 | 9 0 0 |
| 2. Rape cake .. .. .. .. | 4 18 0 | 6 0 0 |
| 3. Linseed cake .. .. .. | 4 12 0 | 10 10 0 |
| 4. Malt dust .. .. .. .. | 4 5 0 | 5 5 0 |
| 5. Lentils .. .. .. .. | 3 17 0 | 8 0 0 |
| 6. Linseed .. .. .. .. | 3 13 0 | |
| 7. Tares .. .. .. .. | 3 13 6 | 15 0 0 |
| 8. Beans .. .. .. .. | 3 13 6 | 8 0 0 |
| 9. Peas .. .. .. .. | 3 2 6 | 9 0 0 |
| 10. Locust Beans .. .. .. | 1 2 6 | 7 0 0 |
| 11. Oats .. .. .. .. | 1 14 6 | 7 0 0 |
| 12. Wheat .. .. .. .. | 1 13 0 | 14 0 0 |
| 13. Indian corn .. .. .. | 1 11 6 | 7 0 0 |
| 14. Malt .. .. .. .. | 1 11 6 | |
| 15. Barley .. .. .. .. | 1 9 6 | 8 0 0 |
| 16. Clover hay .. .. .. | 2 5 0 | 5 10 0 |
| 17. Meadow hay .. .. .. | 1 10 0 | 4 10 0 |
| 18. Oat straw .. .. .. | 0 13 6 | 1 10 0 |
| 19. Wheat straw .. .. .. | 0 12 6 | 1 15 0 |
| 20. Barley straw .. .. .. | 0 10 6 | 1 10 0 |
| 21. Potatoes .. .. .. | 0 7 0 | 5 0 0 |
| 22. Mangels .. .. .. | 0 5 0 | 0 15 0 |
| 23. Swedish Turnips .. .. | 0 4 [illegible] | 0 15 0 |
| 24. Common Turnips .. .. | 0 4 0 | |
| 25. Carrots .. .. .. | 0 4 0 | 1 5 0 |

*How other Nations value Human Excrements.*—The evidence of Mr. White, M.P. for Brighton, and formerly an Alderman of London, is especially interesting. That gentleman has resided

many years in China. The Chinese are evidently beforehand with us in the art of producing food. They don't throw away human dung as we do, and then go many thousand miles to buy birds' dung at a high price to replace it. Almost the whole manuring in China is effected by the application of the sewage—in fact, by much-diluted liquid manure; the Chinese have the idea that manure, whether the production of bipeds or of quadrupeds, if applied to land in a dry state, burns the plant. They also say that you do not require to manure, or, as they put it, to fatten the land, but what you want is to feed the plant; and therefore they do not manure the land previous to sowing, but manure the growing plant. The custom in China is, daily to take from the houses all excrementitious, with any other animal and vegetable refuse, for manurial purposes. When this sewage is taken into the country, it is deposited in a tank or shallow well, which is ordinarily found at the corner of almost every field. The way in which they put this sewage upon the land is this:—they take a small quantity, a scoopful, and put it into a bucket of water; and in this very diluted state the cultivator throws it over his crop, or applies it to the root of each plant. Nearly the whole cultivation of China is by the application of sewage manure, and that in a liquid state.

Sir Joseph Paxton says:—At this time they are taking the better kind of sewage in small iron tanks by railway, and they take it down the railway a very considerable distance. The tanks are brought to the station, they are filled, and are so fastened that no impurity can escape from them. They are brought to the railway trucks, taken down 30 or 40 miles, and they are fetched away by the farmers. The tank is lifted off the truck and put into a little cart which the farmer has, and he takes it away, and he dilutes the sewage with water, in order to supply his plants, and he gives it out to them according to their requirements.

*The Croydon Sewaged Meadows.*—Mr. Marriage, of Chelmsford, a practical farmer, who rents them, has favoured me with the following dependable facts. He pays 1500*l.* annually for the 300 acres. The former rental, before the sewage was applied, was under 2*l.* The cost of levelling, making the carriers, &c., is about 5*l.* per acre, 3*l.* of which was allowed by the town of Croydon. The ground is very level, with a gentle slope; and thus the expense of laying out has been small. The inhabitants of Croydon are about 28,000; but he only gets the sewage from 18,000, or about 60 persons to the acre. This, he thinks, is an ample supply; and he knows, from experiments tried, that, although the water passes from his land quite clear, it still contains a great deal of fertilising matter. He only gets the fluid excrements, the solid being arrested by filter-beds. He would prefer having the whole. The sewage is mixed with a daily supply of water equal to one million gallons, to which must be added the rainfall and drainage from springs that ooze into the pipes, and increase the quantity to 2 million gallons. The sewage goes on winter and summer. The first cut of Grass was last year, the 10th April, and it was continued up to the 7th of November, being nearly all sold to cowkeepers, &c., who are now beginning to appreciate the advantage of using it. He continued to cut it for his own cows until the 27th of November. Although the meadows are newly sewaged, he reckons the produce at 32 tons per acre: this, if dried, would represent about 9 tons of hay. He differs with Mr. Lawes as to the Grass not having fattening properties. Some bullocks which he turned out gained flesh twice as fast as they would have done in Essex pastures. He fed 40 of his own cows, from May to the end of November, with the refuse Grass only, which he did not send to market. They were in full milk, and gained considerably in condition, although they had nothing but the Grass, and, being stall fed, lay on the bare bricks, he having no straw for them. He is, with me, of opinion that a ton of this Grass is worth much more than a ton of Mangel (for which the cowkeepers pay 1*l*.), as it contains twice as much dry matter. Mangel Wurzel alone would destroy cows by purgation; while the sewaged Grass alone gives milk and condition. Mr. Marriage thinks the meadows will improve annually for some time, as this is only their third year of sewaging. [The Edinburgh and Rugby meadows, which Mr. Alderman Mechi next described, have been already referred to in our Columns].

*What Crops would Pay Best for Sewage.*—On this point the evidence is most unanimous. Italian Ryegrass stands first, then ordinary pastures, Clovers, &c. Italian Ryegrass, I know, from long experience, is much to be preferred. It is a more greedy feeder, it grows more quickly, and will dispose of much more moisture than any other Grass. It stands stiffer, like a corn crop, admits more air to the soil, will stand more forcing, and does not get laid and rotten like ordinary Grasses. It possesses another most valuable property—it fattens rapidly, and no animal will ever scour upon it. We all know how immense are losses in health and condition by animals scouring; Italian Ryegrass prevents this. Nothing impoverishes soil more with ordinary farming and dry manure than Italian Ryegrass: but with sewage it has the contrary effect, and fertilizes the farm. After sewaged Italian Ryegrass I can take abundant Pulse, and then cereal crops. One acre of highly-sewaged Italian Ryegrass, cut and brought to the homestead, suffices to keep my 80 head of young and old bullock stock and my farm horses for a whole week (the stock have cotton-cake, &c., in addition), and it is fit to cut again in summer in five or six weeks. It is easy to understand what a quantity of manure is thus produced in summer for other parts of the farm.

*What it costs to Lay Out Land to receive Sewage by Gravitation and open Carriers, or by Underground Pipes and Hose and Jet.*—Mr. King says, "I have laid out the meadows at Hayward's Heath Lunatic Asylum, containing 500 or 600 inmates. It is about 17 acres, and the cost of laying out was 3*l*. per acre. It is done by means of contour channels, to suit the inequalities of the ground, which is very hilly. A portion of these meadows is drained; the rest I have recommended them to drain. I have very little doubt that the value of the estate will be doubled by the application of the sewage. The cost of preparing the land on the Edinburgh meadows was 13*l.* 10*s.* per acre." Mr. Blackburn says, "It would cost 8*l*. per acre to lay down land with underground iron pipes, and the necessary appliances to put on 2000 tons per acre per annum. At Tiptree, in my own case, it took 15 yards of 3-inch iron pipes per acre.

| | £ | s. | d. |
|---|---|---|---|
| Piping, &c. .. .. .. | £2 | 0 | 0 |
| Pumps, &c. .. .. .. | 0 | 10 | 0 |
| Tank .. .. .. .. | 0 | 10 | 0 |
| Gutta percha hose .. .. | 0 | 7 | 6 |
| | £3 | 7 | 6 |

My engine was already there for other purposes. This was on 170 acres; on a smaller area it would cost more per acre. My pumps will throw 100 gallons per minute.

*The question of Dilution.*—Objectors to the use of town sewage urge that it loses its power by dilution. This objection will not stand the test of examination. It is admitted that 1270 tons of sewage contain the manurial elements of one ton of best Peruvian guano. Now, every ton of guano spread over our fields receives from Nature a much greater dilution by rainfall than the much abused sewage; and, in fact, without rainfall to intermix it with the soil it would be valueless. 1270 tons of sewage per acre are equal to a rainfall of 12½ inches. As our average annual rainfall is 26 inches, or 2600 tons per acre, and as a ton of guano is usually spread over 10 acres, it follows that it is actually diluted by and mixed with 26,000 tons of water, while its equivalent in sewage is only mixed with 1270 tons, to be added in fact to the natural rainfall of 26,000 tons. Mr. J. B. Lawes says:—"The largest produce I ever obtained with an enormous quantity of dry manure, was about 12 tons of green produce. The quantity obtained by sewage irrigation was 33 tons of green produce per acre. 12*l*. is a large rent for a very good irrigated meadow. If you put on sewage enough you would probably get 30*l*. or 40*l*. a-year." In plain English, Mr. Lawes's evidence shows that, while an enormous application of dry or ordinary manure can only produce 12*l* per acre in Grasses and green crops, the same or a less quantity of such manure diluted with several thousand tons of water would produce 36*l*. per acre, or an increase of 200 per cent.! What a lesson these facts teach the British farmer in the use of his farm manure on Grass lands where water is accessible! What becomes of the objections to dilution for Grass crops?

*Are we, as Agriculturists, prepared to take this Sewage?*—The witnesses generally say that we are not. Sir Joseph Paxton says:—The farmers around are a long way behind the times; the truth is, that farmers are 100 years behind horticulturists, and the application of this sewage question, in the extended form in which it has been suggested, will be the greatest difficulty when you come to these gentlemen, the farmers; they will have their own way, and they have a right to do so. Mr. John C. Morton, being asked by Mr. Whitbread, the value of sewage manure as a fertiliser being admitted, what, in his opinion, had been the chief causes which have operated to prevent the application of it more largely than has hitherto been the case? says—I suppose that it has been occasioned by *vis inertiæ*; men not being wide awake. Lord Essex being asked—Have the farmers in the neighbourhood tried this sewage at all?—They have no means of doing it; I have got it all. They have seen the result at my farm, and they say that it is all very fine, and so on. My own opinion is, that when they see the practical results, and find that it pays, they will soon adopt it.

*Value of Sewage Tested per Head of Population.*—The evidence agrees that an average of 60 people, giving, with rainfall and water supply, about 4000 tons of sewage per annum, will produce an enormous increase per acre of pasture Grass or Italian Rye-grass. If you were to ask a farmer whether 60 well fed sheep and lambs kept a whole year upon 1 acre of ground would manure that amply? he would be astonished at your proposition, seeing that two to two and a-half sheep per acre is above the average manurial supply of the United Kingdom. Now comes the question—what is the worth of the annual excreta of each human being in this metropolis? Mr. Lawes puts it at 2*s*. per heap, but as every individual consumes in food and drinkables about 9*l*. per annum, this valuation neither accords with his own table, nor with the recognised valuation of farmers themselves.

2*s*. per head would give 3-8ths of a penny per ton of sewage.
4*s*. ,, ,, 6-8ths ,, ,, ,,
6*s*. ,, ,, 1⅛*d*. ,, ,,
8*s*. ,, ,, 1½*d*. ,, ,,
10*s*. ,, ,, 1⅞*d*. ,, ,,

The latter is in my opinion nearer the value than Mr. Lawes's estimate, if delivered on the farm, but comparison and competition will soon fix a proper value. I consider Mr. Morton's estimate of ½*d*. per ton much below its value. Lord Essex gets the Watford sewage (60,000 tons) at, I believe, 3*d*. per head, or 1-5th of a penny per ton. Farmers would be very glad to get sheep fed on their land on such terms, and weight for weight a human being produces better manure than a sheep. Of course, the price paid to the town or corporation, and the cost when delivered on the farm, must vary very much, according to distance and expense of conveyance; but when absolutely placed on the field, good town sewage cannot, in my opinion, be worth less than 1½*d*. to 2*d*. per ton. In conclusion, let me entreat the people of England not to neglect the truthful and ominous warning of Baron Liebig in his letter to me; "I know that the prophets of future evil have at all times been derided by their own generation; but if history and natural laws can furnish any ground for a just conclusion, then there is none which stands more firmly than this, that if the British people do not take pains to secure the natural conditions of the permanent fertility of their land, if they allow these conditions, as hitherto, to be squandered, their fields and meadows will at no distant time cease to yield their returns of corn and meat. But it does not belong to the province of natural science to discuss the question whether the might, strength, and independence of the nation will be preserved, after this state of things shall have gradually arisen."

# Reviews.

*The Farm Homesteads of England. A Collection of plans of English Homesteads existing in different parts of the county, carefully selected from the most approved specimens of farm architecture to illustrate the accommodation required under various modes of Husbandry, with a digest of the leading principles recognised in the construction and arrangement of the Buildings.* Edited by J. Bailey Denton, M. Inst. C.E., F.G.S. &c., 52, Parliament Street, Westminster.

We have received a copy of the first number of this magnificent work, and hasten to direct the attention of our readers to what will when completed be a remarkably fine testimony to the high standing of English agriculture. Mr. Denton instead of following an example already shown in many publications, and issuing for his reader plans and estimates of his own devising, with an exclusive view to his own professional interests, has preferred exhibiting in a number of examples the influence of the varying circumstances of our agriculture in the production of a series of farmeries due to a number of architects, connecting them all by a discussion of the general subject, so as to bring into full relief the principles common to all, on which a homestead, whatever the peculiarities of the farm for which it is to be provided, must be designed and erected. The following is a passage from a prospectus of the work:—

"We have only to add that of late years, and in the highest quarters, an inclination has been evinced to view the question of Farm Architecture by the light which modern science throws upon it. Prejudice has given way to common sense, and a considerable outlay is not necessarily regarded as an improvident proceeding, but as necessitating the utmost attention to site and arrangement, and a due reference to climate,—the nature of the farm,—the system of husbandry observed, and the character of the machinery employed. Upon the estates of those who take a lead in agriculture, has arisen, therefore, a number of homesteads specially designed to provide for modern requirements, and affording evidence that tenants of intelligence and capital regard good arrangement as a means of economy in the homestead with an appreciation equal to that of good soil and large fields as a means to success in cultivation. In the several neighbourhoods where superior homesteads are to be found, there is noticeable a growing dissatisfaction with the defective buildings which surround them, and their influence is felt beyond these local limits, for they are visited and studied by those who are also contemplating an expenditure in buildings of an improved character.

"In order to facilitate the study of these precedents the editor has selected the best existing specimens, and now presents to the agricultural public a series of plans and views delineating them; and purposes to add, in the form of a digest, illustrated with drawings, the result of a careful examination of the numerous buildings which have come under his notice."

The plans are beautifully executed as lithographs, the page being large enough for the smallest details to be entered on the scale that has been adopted. Isometrical projections are given along with the plans, enabling a perfect realisation of the character of the buildings, and a sufficiently detailed account is in every case given of the farms on which they are respectively erected.

The whole will be an exceedingly valuable illustration of the skill and judgment which has of late been brought to bear on the improvement of landed property.

# Farm Memoranda.

NORTHUMBERLAND FARM. *Report for February.*—A decided change from the previous months may be said to have marked the weather of February;—the violent winds—not often unaccompanied by rain—which raged during the greater portion of the winter having disappeared, and given place to weather of an entirely different phase. Sharp frosts have been experienced during the nights, which however soon succumbed to the powerful influence of a brilliant sun, that almost daily shone forth towards the middle of the day, with a warmth characteristic of midsummer. Such a change was not unacceptable to the strong-land farmer, from its ameliorating effect on the retentive furrow, and its reduction and conversion into a more satisfactory seed bed;—while at the same time winter Wheat received a healthful and desirable check to its growth. On the whole, this month must be considered as having been most favourable for farming operations; owing to the frost during the early part of it, we were enabled to cart out an immense mass of farm-yard manure for our Turnip break without damaging the land in the smallest degree; whilst during the latter part, seed time absorbed our special attention.

*Labour.*—The manure above referred to as having been carted out early in the month, was in some cases driven on, whilst in others it was thrown up by hand, according to its ultimate disposition and present composition; in the latter case it will rot sooner, and will save a second turning, which is at this open season of great consequence; whilst, should it be required for use at an earlier period than the other, it will naturally be more fit for application. In addition to this work, the draughts have been chiefly occupied in ploughing land after Turnips in preparation for Barley, also a remnant of Oat stubble for a fallow crop; and another operation in ploughing which we must not omit to mention as one which we appreciate to a considerable degree in the spring cleaning of fallows, viz., ribbing across the previous winter furrow, a process which has the effect of bringing all the Couch to the top and exposing it to the atmosphere. This will be left for two or three weeks, and then harrowed, grubbed, again harrowed, and the Couch taken off; all our Swede land for the ensuing crop has been thus treated. We commenced drilling Beans on the 24th, the land being previously thoroughly broken up by Bentall's broadshare, grubbers, harrows, &c., which had the desired effect of producing an excellent seed-bed on most of the land (though in some instances it broke up sour and lumpy), upon which was drilled with Garret's drill—on 12 acres—a mixture of large Scotch Beans and Peas at the rate of three bushels per acre, the rows being 16 inches apart; we prefer sowing the large Scotch Bean on our strongest land in this case, whilst on our sharper loams we drilled pure Heligoland Beans at the same distances apart, and 2½ bushels per acre, to the extent of 22 acres. I am glad to be able to notice the increased breadth of Bean land drilled this year with the large drill, instead of the antiquated barrow and plough, and I am satisfied that the more my northern brother-farmers adopt this system, the more they will like it; it has endless advantages over the broadcast (dirt-producing) system, as well as over the ploughing-in; not the least important of which is its compulsory and rigorous injunction for the thorough and efficient working of the land as a preparation for a seed-bed; besides this, the extra breadth that can be drilled per diem, and the saving of manual labour where a corresponding horse-hoe follows (drill-husbandry being incomplete without the horse-hoe) are important considerations which must not be lost sight of. Much employment has been given in the barn during the present month, in threshing Beans and Barley; the latter having been threshed in preference to Wheat, which is a miserable sale at present. The Beans have met a ready sale at seed prices, upwards of

50 quarters having been disposed of for that purpose at 44s. per quarter. Barley to the amount of 50 quarters has been sold at Leeds for malting at 35s. and 35s. 6d. per quarter, being about 4s. per quarter more than we can have at home, while a fair profit remains, after paying carriage, commission, &c. The net weight of the Beans was 68½ lbs. per bushel; and of the Barley 56 lb. We have also been selling Oats of 43 lb., being a slight admixture of Canadian among Potato, at 26s. per quarter. Wheat still threshes out a poor yield; Barley very fair for strong land, 5 quarters per acre; Oats 6½ quarters per acre, and Beans 3½ quarters; the Beans would have been an enormous yield had we not experienced the severe winds at the particular moment when they were in bloom.

*Stock.*—Much of our fat stock has been disposed of during this month, at fair remunerative prices for feeding; 20 bullocks have been sent off at prices varying from 19*l.* to 25*l.* 10s. a head. Our Swedes running somewhat short earlier than we expected, some of these cattle went off sooner than we had intended, though at the same time they were good beef; those now remaining will require a couple of months to finish them properly. Grazing cattle are doing exceedingly well on straw and yellow Turnips. Hoggets are divided into two lots, one small lot being on the Turnip break receiving cut Swedes, Oats, and cut hay, whilst the other is on old Grass receiving somewhat similar treatment. The ewes have been better treated lately in preparation for lambing, on cut hay and good yellow Turnips, which we consider more milk-producing than Swedes, whilst the cut hay has the effect of checking any over-laxative tendency produced by the luxuriant growth of the Grass. We have already four lambs, and during the ensuing fortnight we expect them coming very quickly. Corn markets are dull, but beef and mutton is gradually rising in price; and the price of lean stock for summer grazing will, I fear, leave but a meagre profit to the grazier. Winter Wheat is healthy and sticking well to the ground; Clover fields are most luxuriant and will afford a full bite for ewes and lambs when required; and the old Grass fields, though somewhat checked by the recent nightly frosts, show a prospect of a sufficiency of spring food. *J. W.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending March 4, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 26 | 30.42 | 44 | 42 | S.W. | 2 | 7 | 50 | 41 | 65* | 30 | .. | 45 | 44½ |
| Friday .. | 27 | 30.31 | 46 | 43 | S.W. | 2 | 6 | 50 | 42 | 60 | 40 | .. | 45 | 44½ |
| Saturday .. | 28 | 30.28 | 40 | 40 | S.W. | 1 | 9 | 56 | 32 | 89 | 20 | .. | 45 | 45 |
| Sunday .... | 1 | 29.93 | 46 | 44 | S. | 3 | 8 | 57 | 34 | 95 | 27 | 0.08 | 44 | 44½ |
| Monday .... | 2 | 29.91 | 49 | 48 | S. | 2 | 7 | 54 | 39 | 79 | 34 | 0.07 | 44 | 44¾ |
| Tuesday .. | 3 | 29.83 | 46 | 43 | S. | 2 | 1 | 57 | 38 | 69 | 30 | 0.01 | 45 | 44½ |
| Wednesday | 4 | 29.69 | 49 | 45 | S. | 2 | 4 | 64 | 37 | 102 | 30 | .. | 45½ | 45 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

CIDER AND PERRY: *H W C.* Will any one tell our correspondent which is the best book on the making of cider and perry. There are articles by Mr. Towers in the Cyclopædia of Agriculture.

GRASS SEEDS: *T S.* Sutton's of Reading send out a pamphlet, containing useful instructions, and Lawson's (Edinburgh) Agrostographia, a quarto pamphlet, contains all the information you ask for.

MILK: *D. Scadding.* Milk from cows down with the foot and mouth disease has in cases within our knowledge proved injurious to pigs. The disease goes generally by the name of the distemper or "epidemic." It is not the "thrush."


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Address, 16, Cambridge Circus, Hackney Road, London, N.E.

Magnified Aphis.
NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.
NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.
Both may be obtained of all principal Seedsmen.
Patentee: J. NEAL, Edward Street, Birmingham.

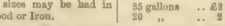
Red Spider Magnified.
GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.
This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.
Sold Retail by Nurserymen and Seedsmen in boxes, 1s., 3s., and 10s. 6d. each.
Wholesale by PRICE'S PATENT CANDLE CO. Limited.

JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½. No. 579½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:
10 gallons .. .. £2 15 0
16 " .. .. 3 15 0
24 " .. .. 5 0 0
Larger sizes may be had in either Wood or Iron.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.
35 gallons .. £2 10 0
20 " .. 2 0 0


BRASS SYRINGES of all kinds from 9s. to 21s.

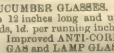
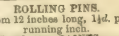
AMERICAN PORTABLE FIRE ANNIHILATOR and GARDEN ENGINE.

£2 2s.
An efficient means of Extinguishing Fires at their commencement. Nine out of ten Fires in London are put out on their first appearance by the London Fire Brigade with Hand Pumps of considerably less power.
One man will throw 7 or 8 gallons per minute from 40 to 50 feet with it.
It is an effective Garden Engine for cleansing or syringing Wall-fruit or Rose Trees, Plants, or Vines.
It may be used to draw water from the pail in which it is fixed, or from a tank or pond by the addition of the required length of suction. It is simple in its construction, having no suction or delivery valves to clog with dirt or leaves.
No Establishment, either private, commercial, or manufacturing, should be without one.
Six feet of Flexible Suction, with Union and Suction Rose, &c., extra, 12s. Longer lengths of Suction at 1s. 6d. per foot.
The above may be obtained of all Ironmongers and Seedsmen in Town and Country, or of the Manufacturers,
JOHN WARNER & SONS, 8, Crescent, Cripplegate, London, E.C.

Glass for Greenhouses.
JAMES PHILLIPS AND CO. beg to submit their prices as follows:—
ENGLISH GLASS, 16 ounces to the foot, in Sheets averaging 10 by 30, packed in Cases containing about 280 feet, 2¼d. and 2½d. per foot.
SHEET GLASS, 16 ounces, packed in boxes of 100 feet each. Package included. 3rds. 4ths.
12 by 9, 13 by 9, 14 by 9, 15 by 9; 12 " 10, 13 " 10, 14 " 10, 15 " 10 — 14s. 0d. 12s. 6d.
13 " 11, 14 " 11, 15 " 11, 16 " 11; 14 " 12, 15 " 12, 16 " 12, 17 " 12; 18 " 12, 19 " 12, 20 " 12, 16 " 13; 17 " 13, 18 " 13, 19 " 13, 20 " 13; 16 " 14, 17 " 14, 18 " 14, 20 " 14 — 16s. 0d. 13s. 6d. per 100 feet.
Various other sizes.
GLASS for ORCHARD HOUSES, As supplied by us to Mr. Rivers.
20 in. by 12 in., 20 in. by 13 in., 20 in. by 14 in., 20 in. by 15 in. — 16 oz. / 21 oz.
Common .. .. .. 13s. 6d. .. £0 18 0
Superior do. .. .. 16 0 .. 1 3 0
English Glass .. .. 18 0 .. 1 9 0
The above prices include the Boxes.
SMALL SHEET SQUARES, IN 100 FEET BOXES.
6 by 4, 6½ by 4½, 7 by 5, 7½ by 5½; 8 " 6, 8½ " 6½, 9 " 7, 9½ " 7½ — 11s. 6d.
10 " 8, 10½ " 8½ — 12 6
Boxes 2s. each, returnable at full price.
SQUARES CUT TO SPECIAL SIZES.
16 oz. 4ths, 1½d., 2d., and 2½d. 21 oz. 2½d., 3d, and 3½d.
" 3ds, 2d., 2½d., and 3d. " 3d., 3½d, and 4d.
London Agents for Hartley's Improved Patent Rough Plate.
Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.
Milk Pans, Propagating Glasses, and every description of Glass for Horticultural purposes.
JAMES PHILLIPS & Co., 180, Bishopsgate Street Without, London, E.C.

THOMAS MILLINGTON, 87, Bishopsgate Street Without, E.C. HORTICULTURAL GOODS.

PROPAGATING GLASSES.
3 inches .. 0s. 4½d. each; 4 " .. 0 5½ "; 5 " .. 0 6½ "; 6 " .. 0 8 "; 7 " .. 0 10 "; 8 " .. 1 0 "; 9 " .. 1 2 "; 10 " .. 1 4 "; 11 " .. 1 6 "
12 inches .. 1s. 9d. each; 13 " .. 2 0 "; 14 " .. 2 6 "; 15 " .. 3 0 "; 16 " .. 3 6 "; 17 " .. 4 0 "; 18 " .. 5 0 "; 19 " .. 6 0 "; 20 " .. 7 0 "

HAND GLASSES.
12 inches .. 6s. 0d. each; 14 " .. 7 0 "; 16 " .. 8 0 "
18 inches .. 9s. 0d. each; 20 " .. 10 0 "; 24 " .. 12 0 "
If open top, 1s. extra.

CUCUMBER GLASSES. From 12 inches long and upwards, 1d. per running inch.

ROLLING PINS. From 12 inches long, 1½d. per running inch.
Improved ANTI-CORROSION and other PAINTS.
GAS and LAMP GLASSES, GLOBES, &c.
CHIMNIES of every description.
Not accountable for Breakage.

Paxton Works, Sheffield, Established 1738.

International Exhibition Prize Medal is just awarded to SAYNOR & COOKE for superiority of quality in Pruning and Budding Knives, &c.
SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.
CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

Important to Nurserymen and large Plant Growers.
DEAL WOOD LABELS, 3½ ins. in length, 2s. p. 1000
" " 4½ " " 3s. "
" " 6½ " " 4s. "
ASH LABELS 4½ " " 3s. "
SYCAMORE LABELS 4½ " " 4s. "
" " 6½ " " 6s. "
The above Labels are admirably adapted for retailing out in Shops. They are done up in packages of 4000, 5000, and 10,000 each, but a thousand of each will be sent as samples if desired, on application to EDWARD TAYLOR, Derwent Nurseries, Malton, Yorkshire.

HORTICULTURAL IMPLEMENTS and GARDEN TOOLS of every description, for the amateur or practical gardener, and of warranted quality.—DEANE & Co.'s ILLUSTRATED PRICED LIST of the above, gratis on application, or post free, includes Lawn Mowing Machines, Garden Engines, Boyd's Patent Self-adjusting and Vulcan Garden Scythes, Garden Rollers (from 30s.), Flower Stands, Garden Seats, &c. Galvanised Game Netting from 6d. per yard. Ornamental Wire Work made to order, Garden Arches, Flower Baskets, &c. Lingham's Permanent Labels. Saynor's celebrated Pruning Knives.
DEANE & Co. (opening to the Monument), London Bridge, E.C. Established A.D. 1700.

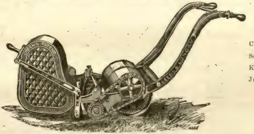
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863,

FOR WHICH HER MAJESTY'S ROYAL LETTERS PATENT HAVE BEEN OBTAINED.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOMAS GREEN FOR HIS PATENT LAWN MOWERS.



These were the only Machines highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862.

(No Prizes were given).

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS DURING THE SEASON OF 1862.

THOMAS GREEN AND SON, in introducing their PATENT LAWN MOWERS for the present season, have much pleasure in stating that the important Improvements which were added to their Machines for last season (which combined simplicity of construction, durability, and lightness of draught), have proved them to be superior to anything of the kind ever brought before the Public, inasmuch as they have given entire satisfaction wherever used, and have gained the largest sale of any Machines extant. They have carried off every Prize that has been given in all cases of competition.

GREEN'S PATENT LAWN MOWERS are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

| | | | | |
|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a lady. |
| ,, 12 ,, | 5 | 0 | 0 | Suitable for one person. If with internal gear, 10s. extra. |
| ,, 14 ,, | 5 | 10 | 0 | Do. Do. Do. Do. 10s. extra. |
| ,, 16 ,, | 6 | 10 | 0 | Suitable for one man or two boys. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | If With Patent Delivery Box. | | | |
| To Cut 18 inches | ... | £7 | 10 | 0 | Suitable for one man and boy | £8 | 15 | 0 |
| ,, 20 ,, | ... | 8 | 0 | 0 | Do. Do. | 9 | 5 | 0 |
| ,, 22 ,, | ... | 8 | 10 | 0 | Suitable for two men ... | 9 | 17 | 6 |
| ,, 24 ,, | ... | 9 | 0 | 0 | Do. Do. ... | 10 | 7 | 6 |

### DONKEY and PONY MACHINES, including Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 24 inches ... ... | £11 | 10 | 0 ... ... ... | £12 | 10 | 0 |
| ,, 26 ,, ... ... | 12 | 10 | 0 ... ... ... | 13 | 12 | 0 |
| ,, 30 ,, ... ... | 16 | 14 | 0 ... ... ... | 18 | 0 | 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

### PRICES of HORSE MACHINES, including Box of Requisites and Traces.

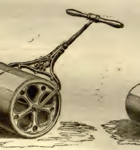
| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 30 inches ... ... | £20 | 0 | 0 ... ... ... | £21 | 10 | 0 |
| ,, 36 ,, ... ... | 23 | 0 | 0 ... ... ... | 24 | 16 | 0 |
| ,, 42 ,, ... ... | 26 | 0 | 0 ... ... ... | 28 | 2 | 0 |
| ,, 48 ,, ... ... | 29 | 0 | 0 ... ... ... | 31 | 8 | 0 |

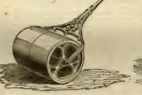
Leather Boots for Horse, per set, 1l. 4s.

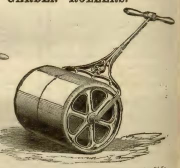
The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.







Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s. Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

T. GREEN AND SON in introducing the above are well aware that the extremely simple character of this Implement cannot admit of any very radical change, yet they are confident that the Improvement just effected (and secured by Letters Patent) is a real one, and is strikingly apparent when compared with any other Garden Roller. In previous Rollers a limit was always set to weight in consequence of marks being left on the gravel, and the power required to work them, but the present one is nearly double the ordinary weight, yet is considerably easier to turn in consequence of the Roller being divided in two parts, and the outer edges being rounded off or turned inwards, thus avoiding the *unsightly marks* left by all others hitherto in use. They can be used by the most unskilful with the greatest certainty of producing a beautifully even surface, either on *Lawns or Gravel Paths*, and for the *Bowling Green and Cricket Field are really indispensable.* They are manufactured of the best materials, and got up in a manner surpassing any ever yet brought out.

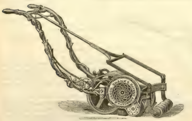
T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.




NEW HAND MACHINE.

THE FIRST PRIZE MEDAL

OF THE

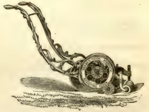
INTERNATIONAL EXHIBITION

WAS AWARDED TO

ALEX. SHANKS AND SON

FOR THEIR

PATENT LAWN MOWERS.



12-INCH or LADY'S MACHINE.

ALEXANDER SHANKS AND SON are gratified to find that the Improvements introduced into their PATENT LAWN MOWERS last season have been so entirely successful, that universal satisfaction has resulted from the use of these Machines wherever they have been tried. The Patentees have this season introduced further Improvements into their already celebrated Lawn Mowers, which are fully described in their Illustrated Price Lists, which will be at once forwarded on application.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved, and their success established.

These Machines will Mow EQUALLY WELL on UNEVEN as on LEVEL LAWNS, and whether the GRASS be WET or DRY. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

*The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.

LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.



# SHANKS' NEW PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

NEW PATENTED IMPROVEMENTS THIS SEASON.

EXHIBITION PRIZE MEDAL AWARDED.

HORSE MACHINE.

PONY MACHINE.

NEW HAND MACHINE.

### SHANKS' NEW PATENT MACHINE

**Mows the Grass, Wet or Dry, on Lawns uneven or otherwise, in a much neater manner than the Scythe, and at half the expense.**

NO PERSON HAVING A LAWN SHOULD BE WITHOUT A MOWING MACHINE.

The first practical Gardeners of the day who have devoted their attention in examining all the different Lawn Mowers offered, do not hesitate in recommending SHANKS' Machine as *the best Mower for general use.* The important Improvements introduced last season have undergone a thorough practical test, and satisfied the most sanguine expectations. *Further Improvements, simplifying the Machine, and adding to its efficiency, have been introduced into the* NEW PATENT LAWN MOWER for 1863.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for Use.

### SHANKS' NEW PATENT HORSE MACHINE.

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 1.—48-inch Machine ... | £28 | 0 | 0 | Drawn by a Horse. |
| No. 2.—42-inch Machine ... | 26 | 0 | 0 | Drawn by a Horse. |
| No. 3.—36-inch Machine ... | 22 | 0 | 0 | Drawn by a Horse. |
| No. 4.—30-inch Machine ... | 19 | 0 | 0 | *Drawn by a Horse or strong Pony.* |

Patent Delivering Apparatus for Nos. 1 and 2 Machines, 40*s.*; for Nos. 3 and 4 Machines, 30*s.*; Box with complete Set of Tools, 10*s.*; Silent Movement, 20*s.*; Boots for Horses' Feet, 24*s.* per set.

### SHANKS' NEW PATENT PONY and DONKEY MACHINE.

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 5.—30-inch Machine ... ... ... | £15 | 15 | 0 | *Drawn by a Pony.* |
| No. 6.—28-inch Machine ... ... ... | 14 | 10 | 0 | *Drawn by a Pony.* |
| No. 7.—25-inch Machine ... ... ... | 12 | 10 | 0 | *Drawn by a Donkey.* |

Patent Delivering Apparatus for Nos. 5 and 6 Machines, 30*s.*; for No. 7 Machine, 25*s.*; Box with complete Set of Tools, 7*s.* 6*d.*; Silent Movement, 12*s.* 6*d.*; Boots for Pony, 21*s.*; Donkey, 16*s.* per set.

### SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for use.

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 | 17 | 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 | 7 | 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine ... ... | 7 | 12 | 6 | *Do. by a Man and a Boy.* |
| No. 11.—16-inch Machine ... ... | £6 | 17 | 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 | 2 | 6 | *Do. by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25*s.*; Box, with complete Set of Tools, 5*s.*; Silent Movement, 7*s.* 6*d.*

No. 16.—12-inch Machine for Pushing only, £5 5*s.*; easily worked by a Lady or a Boy; Silent Movement, 4*s.* extra.

*** *The Machines are warranted to give ample satisfaction, and if not approved of may be at once returned.*

AGENTS:

J. B. BROWN AND CO., 18, CANNON STREET, CITY, LONDON, E.C.

# THE HYDROPULT,

**THE HYDROPULT**

IS INVALUABLE FOR

WATERING GARDENS,

EXTINGUISHING FIRE JUST COMMENCED,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

DRESSING with LIQUID MANURE,

SPRINKLING PLANTS,

WASHING WINDOWS,

WETTING SIDEWALKS,

SPRINKLING STREETS,

WASHING CARRIAGES,

WETTING SAILS,

A SPRAY BATH,

&c. &c.

Price
Two Guineas.

CAUTION.—Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will, in due time, be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.
"GRIFFITH & BROWETT,
Manufacturers, Birmingham;
"CHARLES P. BUTTON,
General Agent.
"VOSE'S Patent;"

and is sold at the uniform rate of Two Guineas, complete, with 2½ feet Suction and 3-feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet.

It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution.

The Hydropult WEIGHS BUT 8LB.; will throw 7 or 8 Gallons of Water per minute 50 FEET when worked by the power of one man.

Has been recommended as an efficient FIRE ENGINE by the principal FIRE INSURANCE COMPANIES of GREAT BRITAIN. Thomas Rivers, Esq., the eminent Florist; Shirley Hibberd, Esq., and other well known gentlemen, recommend it as an invaluable GARDEN IMPLEMENT. J. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable Property in Bayswater from destruction. The City and Provincial Press accord to the invention the utmost praise. All who purchase the Hydropult are satisfied with its action; each Machine guaranteed to be perfect.

## A PORTABLE GARDEN ENGINE, AND FIRE ANNIHILATOR.

*Prospectus, with Testimonials, on application at either Office.*

HYDROPULT OFFICE: 27, LEADENHALL STREET, LONDON, E.C.; and 309, REGENT STREET, POLYTECHNIC BUILDING, LONDON, W.—CHARLES P. BUTTON, PROPRIETOR.

---

THE GEARING OF SAMUELSON AND CO.'S LAWN MOWING MACHINES IS NOT LIABLE TO DERANGEMENT.

# SAMUELSON AND CO.'S PATENT SELF-CLEANING LAWN MOWERS.

PRICES, including Packing Case, and Carriage paid to any Railway Station or Shipping Port in the United Kingdom:—

| | | | | | | |
|---|---|---|---|---|---|---|
| MANUAL POWER | 12 inches cut, suitable for a Lady | £4 12 0 | | PONY POWER | 22 inches cut | £8 15 0 |
| | 16 " suitable for One Person | 6 10 0 | | | 25 " | 11 10 0 |
| | 19 " suitable for One Man and Boy | 7 0 0 | | | 30 " | 14 14 0 |
| | 22 " suitable for Two Men | 8 0 0 | | | | |

If with BOYD'S PATENT BRUSH, 15s. extra.

TESTIMONIAL *from* SHIRLEY HIBBERD, Esq. "Stoke Newington, London, N.

"The Lawn Mower paid its cost in one season, in the saving of labour alone. Instead of the old bother of Scythe sharpening, sweeping, rolling, and loitering, the Grass is mown now almost by looking at it, the Turf improved by a regular and clean cut, and the operation one of enjoyment and healthy exercise. Instead of 'making a toil of pleasure,' one can now make a pleasure of toil, and gain time and strength that used to be wasted. I have a good collection of the best Garden Tools and Implements, and I value the Lawn Mower above them all.

"SHIRLEY HIBBERD, F.R.H.S."

All Orders direct or through Dealers will be executed according to priority of receipt. May be obtained at the WORKS, Banbury; or at SAMUELSON & CO.'S various Depôts; also of all Ironmongers and Seedsmen, and at

SAMUELSON AND CO.'S WAREHOUSE, 76, CANNON STREET WEST, LONDON, E.C.

# ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, N.W.

## IRON HURDLES, FENCING, and GATES.

The PROPRIETORS of the ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,

WERE AWARDED THE

SILVER MEDAL of the ROYAL AGRICULTURAL SOCIETY for their IRON HURDLES and GATES, which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30s. to 500l.

*The Hurdles can be seen in process of Manufacture at the Works.*

GAME WIRE NETTING.

PROFESSOR VARNELL'S ENAMELLED and WROUGHT-IRON STABLE FITTINGS.

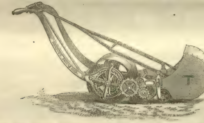
These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their Horses. They can be had Plain, Galvanised, or Enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized Stalls and Loose Boxes are erected for inspection at St. Pancras Iron Works.

ADDRESS—THE MANAGERS, ST. PANCRAS IRON WORKS,
OLD ST. PANCRAS ROAD, LONDON, N.W., OPPOSITE OLD ST. PANCRAS CHURCH.

# MORTON'S

## PATENT NOISELESS LAWN MOWER.



This Machine Rolls, Collects, and Delivers the Grass, and Combines all the most recent Improvements, including those secured by her Majesty's Royal Letters Patent for 1863. For efficiency and simplicity it cannot be surpassed, and can be worked by any one unskilled in Machinery. It is superior to all other Machines yet introduced to the notice of the Public for keeping Lawns and Pleasure Grounds in the highest state of perfection, and is likely to be the Leading Machine of the Season. No place, however small, should be without one.

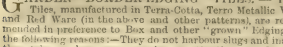
Catalogues, with Prices, can be obtained free on application to

GRIMMOND, LAIRD, AND CO., 15, CANNON STREET WEST, E.C.

*** *Agents Wanted in every Town. Apply as above.*

**Lawn Mowing Machines, with Recent Improvements.**

MAPPLEBECK AND LOWE, MACHINISTS and MANUFACTURERS, Birmingham.
Drawings and Prices on application.



GARDEN BORDER-EDGING TILES. — These Tiles, manufactured in Terra-Cotta, Terro Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are invaluable.

To be obtained at F. & G. ROSHER'S Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.

Illustrated Price Lists free on application. The Trade supplied

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER, at their Premises as above.

THE RAIN and the COLD.—Every Change in the Weather foretold, and FARMING and GARDENING operations greatly assisted, by the use of L. CASELLA'S POPULAR INSTRUMENTS for the WEATHER. Reliable Thermometer for Registering Cold, 4s. 6d.; the Gardener's Barometer, 12s. 6d. to 25s.; Rain Gauge, 15s. 6d.

The New ILLUSTRATED LIST of PRICES free by post.

L. CASELLA, Sole Medalist of the Patent Thermometer for Registering Cold, and Maker to the Admiralty, the Ordnance, &c., 23, Hatton Garden, London, E.C.

AGRICULTURAL and HORTICULTURAL TOOLS.—Threshing Machines for Steam and Horse Power, Ploughs, Waggons, Carts, Turnip Cutters, Cake Breakers, Chaff Cutters, &c. Price List free. Illustrated Catalogues on receipt of six postage stamps.

BURGESS & KEY, 95, Newgate Street, E.C.
Works: Brentwood, Essex.

**Carhead Pigs.**

MR. WAINMAN has several YOUNG BOARS and SOWS of his Battersea Prize Strains for SALE, at moderate prices.

Apply to Mr. FISHER, Carhead Farm, Cross Hills, Yorkshire.

FARM WANTED, from 100 to 150 acres; Arable and Pasture, good Land, and within 30 miles of London. S. M'R., *Gardeners' Chronicle* Office, W.C.

TO BE DISPOSED OF, an Old Established NURSERY and SEED BUSINESS, of moderate size, in an excellent locality, adjoining a large important Town, close to a first-class Railway Station, with Vinery, Greenhouses, and Pits conveniently arranged, and well supplied with Water. May be taken to by valuation or private treaty.

Address L. H. M., Messrs. Hurst & Son, Seedsmen, 6, Leadenhall Street, London, E.C.

TO BE LET, in the County of Pembroke, LLANGWARREN FARM, consisting of 473 Acres, more than half of which is Pasture.

For particulars, apply to J. B. LAWES, 1, Adelaide Place, London Bridge.

**Guildford, Surrey.**

To NURSERYMEN, FLORISTS, SEEDSMEN, MARKET GARDENERS, &c.

TO BE LET, with Immediate Possession, all that truly valuable old-established NURSERY GARDEN and SEED BUSINESS, known as the Guildford Nursery Grounds, in a good state of cultivation, close to the entrance of the town; has been in the same name upwards of 50 years. This opportunity is worthy the attention of those seeking a profitable and increasing business, being the only Nursery near this improving neighbourhood. The present Stock is small and saleable.

Inquire of Mr. DRURY, Guildford, Surrey.

**To Nurserymen, Gardeners, and Others.**

TO BE DISPOSED OF, by Private Treaty, and with early possession (in consequence of the failing health of the present Proprietor), an OLD ESTABLISHED NURSERY, with Hot and Greenhouses, doing a good business, in an excellent situation, and within a few miles of Liverpool. The whole to be taken at a valuation.

For particulars, apply by letter, post paid, to M. S., Wren & Sons, Tea and Coffee Merchants, Temple Court, Liverpool.

# Sales by Auction.

**Consignment of Plants from Ghent.**

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on FRIDAY, March 13, at half-past 12 o'Clock precisely, Choice CAMELLIAS, BEGONIAS, LILIES, RHODODENDRONS, Azaleas, Cannas, Delphiniums, Piceas, Pæonias, and other Greenhouse and Hardy Plants.

On view the Morning of Sale, and Catalogues had.

**Forthcoming Sales.**

MR. J. C. STEVENS begs to announce that he has received instructions to SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on

Thursday, March 12.—Philosophical Instruments, Photographs, Lathes, &c.
Friday, March 13.—Consignment of Plants from Ghent, Camellias, &c.
Saturday, March 14.—Hardy and Ornamental Plants, Roses, Conifers, &c.
Monday, March 16.—Bird Skins, Horns, and other Natural History objects, &c.
Tuesday, March 17.—Poultry, Pigeons, and Fancy Birds.
Wednesday, March 18.—Pinks, Carnations, Bulbs, Conifers, Fruit Trees, &c.
Thursday, March 19.—Seeds and Cones from Vancouver's Island.
Friday, March 20.—Photographic Apparatus, Air Pumps, Telescopes, &c.
Saturday, March 21.—Garden Stands and Baskets, Roses, Bulbs, Conifers, &c.
Monday, March 23.—Insects, the property of the late J. Walton, Esq., F.L.S.
Tuesday, March 24.—Insects, &c., several private Collections.
Wednesday, March 25, Hardy and Ornamental Plants, Bulbs, &c.
Friday, March 27.—Photographs, Philosophical Instruments, &c.
Saturday, March 28.—Conifers, Roses, Ornamental Shrubs, &c.
Tuesday, March 31.—Poultry, Pigeons, Fancy Birds.

Also in APRIL.

Several collections of Established Orchids.
An interesting collection of Torquoises from Arabia Petrea.
Importation of rare Araucarias from Sydney.
An important collection of British Birds' Eggs.
50,000 choice Bedding Plants, four entire Sales.
Hardy and Ornamental Plants, Bulbs, &c., two entire Sales.
500 lots of Poultry and Pigeons, two entire Sales.
A large collection of Bird and Animal skins, Horns, &c.
Library of Botanical Works, the property of a gentleman.
Library of Books of the late John Walton, Esq., F.L.S.
Several Importations of Orchids from India and other parts.
Valuable Collection of Skeletons of Birds and Animals.
Collection of Eggs and Bird Skins from Lapland.
Consignment of Roses, Fruit Trees, &c., from Holland.
Importation of Impeyan Pheasant Skins from India.

Catalogues of any of the above Sales will be forwarded on receipt of Two Stamps by Mr. J. C. STEVENS, Auctioneer and Valuer, 38, King Street, Covent Garden, London, W.C.

**Battersea.**

TO GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS ENGAGED IN PLANTING.

MESSRS. PROTHEROE AND MORRIS have received instructions from the Executors of the late Thomas Gaines, Deceased, to SELL by AUCTION on the Premises, Surrey Lane, Battersea, on MONDAY, March 9, 1863, at 11 o'Clock, the ground being required for building upon, the whole of the valuable NURSERY STOCK, consisting of a quantity of fine Evergreens and Deciduous Shrubs, comprising some handsome Variegated and Green Hollies, large Aucubas, Chinese Arbor-vitæ, 3 to 7; Irish and English Yews, Box, Privet, Laurels, Thuja sorts, fine Mulberries, choice Standard and Dwarf Roses, Dwarf-trained Peaches and Nectarines, Herbaceous Plants, &c.

May be viewed prior to the Sale. Catalogues may be had on the Premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex, N.E.

N.B. The whole Collection of Choice Greenhouse Plants, Greenhouses, Pits, and other Effects, will be submitted to public competition the middle of next April.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at the Mart, Bartholomew Lane, E.C., on FRIDAY, March 13, at 12 o'Clock, about 100 Choice DOUBLE CAMELLIAS, 1 to 6 feet, abundantly furnished with Bloom buds; fine AZALEA INDICA in flower; a superb assortment of about 300 handsome Standard, Half Standard, and Dwarf Roses; Selected Fruit and Ornamental Trees; a fine Collection of American Plants, Gladiolus Brenchleyensis and others; Lilium lancifolium, Ericas, Cinerarias, Fuchsias, Verbenas, Dahlias in dry roots, &c.

On view the Morning of Sale. Catalogues may be had at the Mart; and of the Auctioneers, American Nurseries, Leytonstone, Essex, N.E.

**Babraham, near Cambridge.**

EXTENSIVE AND MOST IMPORTANT SALE OF THE ENTIRE HERD OF FIRST-CLASS SHORTHORNED CATTLE.

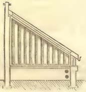
MESSRS. H. STRAFFORD AND J. CARTER JONAS, who are jointly concerned on this occasion, are honoured with instructions from the Executors of the late Mr. Jonas Webb to offer for SALE by AUCTION, without any reserve, the far-famed BABRAHAM HERD of First-class SHORTHORNS, consisting of about 150 head of Bulls, Cows, and Heifers, which are chiefly descended from the following celebrated Cows: "Celia," "Dodona," "Belinda," "Bodice," "The Beauty," and "Daffy Gwynne," which on reference to the Herd Book will show a fine combination of good blood, and a marvellous illustration of the prolific character of the two former tribes in the hands of the late Proprietor for the last 20 years, during which time has been used some of the best blood of the day. The Herd will be divided in two portions, the first of which will be offered on WEDNESDAY, April 15, and the remainder on WEDNESDAY, the 15th July next.

The Auctioneers beg to call attention to the high honour gained by this Herd in winning the Gold Medal for the best Shorthorn exhibited at the recent Battersea Show, and to assure Breeders and Buyers of Shorthorns, that their instructions from the Executors are most positive, and that the whole will be sold without the slightest reserve.

Catalogues, with Pedigrees, and other particulars, may be had on application to Mr. J. CARTER JONAS, Land Agent, Cambridge; or of Mr. STRAFFORD, 13, Euston Square, London, N.W.

# J. JONES'S HOT-WATER APPARATUS.

No. 7.



No. 8.

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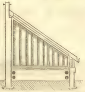
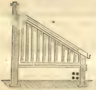


No. 11.

| Size of House. | No. 7. Price | No. 8. Price | No. 9. Price | No. 10. Price | No. 11. Price |
|---|---|---|---|---|---|
| 20 by 10 feet | £9 0 0 | £9 0 0 | £13 0 0 | £14 0 0 | £15 0 0 |
| 30 ,, 12 ,, | 12 0 0 | 12 0 0 | 17 0 0 | 19 0 0 | 21 0 0 |
| 40 ,, 15 ,, | 15 0 0 | 15 0 0 | 21 0 0 | 24 0 0 | 25 0 0 |
| 50 ,, 15 ,, | 18 0 0 | 18 0 0 | 24 0 0 | 28 0 0 | 29 0 0 |
| 60 ,, 15 ,, | 20 0 0 | 20 0 0 | 27 0 0 | 32 0 0 | 33 0 0 |
| 70 ,, 15 ,, | 22 0 0 | 22 0 0 | 30 0 0 | 36 0 0 | 37 0 0 |
| 80 ,, 15 ,, | 24 0 0 | 24 0 0 | 33 0 0 | 40 0 0 | 41 0 0 |
| C0 ,, 15 ,, | 26 0 0 | 26 0 0 | 36 0 0 | 44 0 0 | 45 0 0 |

No. 12.



Price
me as No. 11.

No. 13.

Price
Same as No. 11.

No. 14.

Price
Same as No. 11.

No. 15.

Price
Same as No. 11.

No. 16.

Price
Same as No. 7.

No. 17.

No. 18.

No. 19.

No. 20.

No. 21.

| Size of House. | No. 17. Price | No. 18. Price | No. 19. Price | No. 20. Price | No. 21. Price |
|---|---|---|---|---|---|
| 20 by 10 feet | £9 0 0 | £14 0 0 | £18 10 0 | £23 0 0 | £23 0 0 |
| 30 ,, 12 ,, | 12 0 0 | 19 0 0 | 24 0 0 | 30 0 0 | 30 0 0 |
| 40 ,, 15 ,, | 15 0 0 | 24 0 0 | 29 0 0 | 36 10 0 | 36 10 0 |
| 50 ,, 15 ,, | 18 0 0 | 28 0 0 | 34 0 0 | 42 10 0 | 42 10 0 |
| 60 ,, 15 ,, | 20 0 0 | 32 0 0 | 39 0 0 | 49 0 0 | 49 0 0 |
| 70 ,, 15 ,, | 22 0 0 | 36 0 0 | 44 0 0 | 56 0 0 | 56 0 0 |
| 80 ,, 15 ,, | 24 0 0 | 40 0 0 | 49 0 0 | 63 0 0 | 63 0 0 |
| 100 ,, 15 ,, | 26 0 0 | 44 0 0 | 54 0 0 | 70 0 0 | 70 0 0 |

No. 22.

No. 23.

No. 24.

No. 25.

No. 26.

| Size of House. | No. 22. Price | No. 23. Price | No. 24. Price | No. 25. Price | No. 26. Price |
|---|---|---|---|---|---|
| 20 by 10 feet | £15 0 0 | £25 0 0 | £25 0 0 | £18 10 0 | £14 0 0 |
| 30 ,, 12 ,, | 21 0 0 | 32 0 0 | 32 0 0 | 25 0 0 | 19 0 0 |
| 40 ,, 15 ,, | 25 0 0 | 38 10 0 | 38 10 0 | 30 0 0 | 24 0 0 |
| 50 ,, 15 ,, | 29 0 0 | 44 10 0 | 44 10 0 | 35 0 0 | 28 0 0 |
| 60 ,, 15 ,, | 33 0 0 | 51 10 0 | 51 10 0 | 40 0 0 | 32 0 0 |
| 70 ,, 15 ,, | 37 0 0 | 58 0 0 | 58 0 0 | 45 0 0 | 36 0 0 |
| 80 ,, 15 ,, | 41 0 0 | 65 0 0 | 65 0 0 | 50 0 0 | 40 0 0 |
| 100 ,, 15 ,, | 45 0 0 | 72 0 0 | 72 0 0 | 55 0 0 | 44 0 0 |

J. Jones will be happy to supply HOT-WATER APPARATUS for HOUSES according to any of the above Plans, delivered Free to any Station in England at the prices named, which include strong CAST-IRON CYLINDER or SADDLE BOILER, FURNACE DOORS, FIRE BARS, SOOT DOORS, CISTERN and DAMPER, 4-inch HOT-WATER PIPES and CONNECTIONS, all of the best quality; or he will forward ESTIMATES for WORK erected complete, with WROUGHT or CAST-IRON BOILER of any sort, at a small addition to the above prices.

☞ *The Black Circles on Sections of Houses show the arrangement of Pipes.*

Illustrated Catalogues and further particulars post free on application to

J. JONES, IRON MERCHANT and HORTICULTURAL ENGINEER, 6, BANKSIDE, LONDON, S.E.

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# THE GARDENERS' CHRONICLE
AND
# AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 11.—1863.] SATURDAY, MARCH 14. Price Fivepence. STAMPED EDITION, 6*d*.


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ROYAL HORTICULTURAL SOCIETY'S CAMELLIA SHOW at South Kensington on WEDNESDAY NEXT. Open at 1 o'Clock. Band at 2. Admission, 2*s*. 6*d*.
The Exhibition Building will be open to the visitors, and an Organ performance will be given.

ROYAL HORTICULTURAL SOCIETY. FLORAL COMMITTEE.
The next MEETING of this Committee for the Exhibition of NEW PLANTS and SEEDLINGS will be held in conjunction with the Show of Spring Flowers, which will take place in the Gardens of the Society on March 18. The subjects exhibited must be at the Gardens by 8.30 A.M., in accordance with the regulations for the Show, but may be entered without previous notice. All persons are at liberty to exhibit.
THOMAS MOORE, Secretary to the Floral Committee.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.
The FIRST EXHIBITION of SPRING FLOWERS, CAMELLIAS, PRIMROSES, &c., will take place on SATURDAY, March 28.
Tickets are now being issued, and can be obtained at the Gardens by orders from Fellows and Members of the Society, price 2*s*. 6*d*. each; or in packets of 10 for 1*l*. per packet. The Gates open at 2 o'clock.
The Band will play from half-past 2 to half-past 5 o'clock.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.
EXHIBITIONS of PLANTS, FLOWERS, and FRUIT, WEDNESDAYS, May 13, June 3, and 24.
AMERICAN PLANTS, MONDAY, June 8.
Tickets are now being issued, and can be obtained at the Gardens by orders from Fellows of the Society. Price on or before May 2, 4*s*.; after that day, 5*s*.; or on the days of Exhibition, 7*s*. 6*d*. each.

**To Floral Societies.—Notice.**
MESSRS. J. DOBSON AND SONS having retired from Exhibiting for Prizes during 1863, beg to state that Mr. DOBSON, Sen., is open to accept engagements as JUDGE during the season.
Woodlands Nursery, Isleworth, W.

**Grape Vines.**
J. IVERY AND SON beg to inform their Patrons that their stock of the above is unusually fine this season. A PRICED LIST now ready.
Dorking Nursery.

**Pine Plants.**
TO BE DISPOSED OF, by a gentleman leaving for town and giving up his House, &c., about 100 good healthy PINE PLANTS, this and last year's growth.
Apply by letter to Mr. F. STEAD, 23, Jarratt Street, Hull.

FIGS, in Pots.—Nice strong Plants of all the best varieties by the dozen.
Apply to H. LANE & SON, Nurseries, Berkhampstead.

**Strawberry Plants.**
CUTHILL'S SIX SORTS, all at 5*s*. per 100; Selected, 7*s*. 6*d*. CUCUMBER and MELON, 1*s*. per packet. Best MUSHROOM SPAWN, 5*s*. per bushel.
JAMES CUTHILL, F.R.H.S., Camberwell, London, S.

STRAWBERRIES.—A New DESCRIPTIVE CATALOGUE of more than 200 varieties of Strawberries, from good plants, of nearly every variety, can now be supplied by the Grower,
W. J. NICHOLSON, Egglescliffe, Yarm, Yorkshire.

WEBB'S PRIZE COB FILBERTS, and other COB NUTS as exhibited at the INTERNATIONAL FRUIT and FLOWER SHOW, Kensington. Trees of these splendid varieties of Filberts may be had by application to
RICHARD WEBB, Calcot Gardens, Reading.

PHALÆNOPSIS AMABILIS, GRANDIFLORA, ROSEA, and SCHILLERIANA.
Strong flowering plants of the above may be obtained of R. WARNER, Broomfield, Essex.
Prices on application.

**Notice.**
PURCHASERS of LARGE QUANTITIES of FARM or GARDEN SEEDS will be supplied liberally by SUTTON & SONS.
For prices apply (stating quantity required) to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

MR. JOHN HUDSON, of Castle Acre, Norfolk, is now Thrashing his GOLDEN MELON BARLEY for SEED, which he can supply in quantities of Five Quarters and upwards, at 50*s*. per qr., including new sack.
Castle Acre Lodge.—March 14.

**Garden and Agricultural Seeds, Carriage Free.**
WILLIAM WOOD AND SON, NURSERYMEN and SEED MERCHANTS, Maresfield, near Uckfield, Sussex.

**Agricultural Seeds.**
GEORGE GIBBS AND CO., SEEDSMEN, 26, Down Street, Piccadilly, London, W.

**Agricultural and Garden Seeds.**
H. AND F. SHARPE, SEED GROWERS and MERCHANTS, Wisbeach.
Special PRICED LIST of NEW SEEDS on application.

**Genuine Garden and Agricultural Seeds.**
JAMES CARTER AND CO., SEED FARMERS and NURSERYMEN, 237 and 238, High Holborn, London, W.C.

**Best Seeds, Carriage Free.**
BUTLER AND McCULLOCH, SEED MERCHANTS, Covent Garden Market, London, W.C.

**Good Seeds, Carriage Free, at Market Prices.**
SUTTON AND SONS, SEED GROWERS and MERCHANTS, Royal Berkshire Seed Establishment, Reading.

BARR AND SUGDEN, SEED MERCHANTS, 12, King Street, Covent Garden, W.C.

**New and Genuine Garden and Agricultural Seeds.**
SPECIAL PRICES ON APPLICATION TO
JAMES FAIRHEAD AND SON, SEED GROWERS and MERCHANTS, 7, Borough Market, London, S.E.

ANDRÉ LEROY'S NURSERIES, at Angers, the largest and richest in France.
CATALOGUES sent on application.

AUGUSTE VAN GEERT'S NURSERY, Ghent, one of the finest on the Continent.
CATALOGUES may be had on application, or of his Agents, Messrs. R. SILBERRAD & SON, 5, Harp Lane, Great Tower Street, London, E.C.

HARDY SHOWY FLOWER SEEDS.—SUTTON'S DESCRIPTIVE CATALOGUE post free.
SUTTON & SONS, Reading, Berks.

**New Fuchsias of 1862.**
B. W. KNIGHT, FLORIST, &c., Battle, Sussex, can supply the New FUCHSIAS of 1862 in good plants, at 6*s*. per dozen.—CATALOGUES sent on application.

TROPÆOLUM LOBBIANUM ELEGANS (Crystal Palace Scarlet), Seed scarce.
Per packet, 1*s*. and 2*s*. 6*d*.
BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market.

**New Garden Seeds of our own Growth.**
JAMES CARTER AND CO. are now prepared to execute orders for the above, saved at their Seed Farms.
237, 238, & 261, High Holborn, W.C.

CARTER'S SELECT LIST of New and Choice VEGETABLE, FLOWER SEEDS and PLANTS is now published, gratis and post free.
237, 238, & 261, High Holborn, London, W.C.

NOVELTIES.—The Novelties of the Season, Illustrated in CARTER'S GARDENER'S and FARMER'S VADE MECUM, post free for 12 stamps.
JAMES CARTER & Co., 238, High Holborn.

**Choice Kitchen Garden Seeds.**
B. S. WILLIAMS'S Advertisement on last page of *Gardeners' Chronicle*, Jan. 31.
Paradise and Victoria Nurseries, Holloway, London, N.
*** PRICED and DESCRIPTIVE CATALOGUE post free on application.

**Pine Apple Place, Edgware Road, London, W.**
ARTHUR HENDERSON AND Co. beg to announce that their CATALOGUE of NEW and CHOICE FLOWER SEEDS, containing all the Novelties up to the present time, is now ready, and will be forwarded Free on application.

J. IVERY and SON beg to announce that their new PRICED and partially DESCRIPTIVE CATALOGUE of HARDY BRITISH FERNS is now ready, and will be forwarded on application.
Dorking Nursery.

**Seeds.**
CHARLES TURNER'S DESCRIPTIVE CATALOGUE, of the best Varieties only, is now ready. It also contains several Novelties.
The Royal Nurseries, Slough.

SCOTCH FIR.—Splendid bushy well rooted stuff, 2 feet high. Price on application at
H. LANE & SON, Nurseries, Berkhampstead.

**Narrow-leaved English Elms.**
WOOD AND INGRAM beg to offer to the Trade extra fine Seedlings of the above, at 5*s*. per 1000.
Huntingdon Nurseries.

W. VIRGO AND CO. have a few thousands of BERBERIS AQUIFOLIA and DULCIS, EVERGREEN PRIVET, and COMMON LAUREL, fit for cover planting. Price and samples on application at the Nursery.
Wonersh Nursery, near Guildford, Surrey.

**Present Prices of Farm Seeds.—See**
SUTTON'S PRICED LIST at p. 194 of the *Gardeners' Chronicle* of February 28.
Royal Berks Seed Establishment, Reading.

**New Roses, 1863.**
MESSRS. VEITCH AND SON can supply strong healthy plants of the most approved kinds.
PRICED CATALOGUE free on application.
Nursery, Exeter.

ALL the NEW ROSES of 1863.—In fine strong Plants now ready.
DESCRIPTIVE LISTS on application.
Woodlands Nursery, near Uckfield, Sussex.

**New Roses for 1863.**
BENJAMIN R. CANT offers very fine plants of only the most approved kinds, a DESCRIPTIVE LIST of which may be had on application.
St. John's Street Nursery, Colchester.

**To the Trade.**
ROSES, Dwarf-worked, very strong; ditto on own roots of all the best and newest varieties.
Apply to H. LANE & SON, Nurserymen, Berkhampsted.

**Roses.**
EDWIN HOLLAMBY begs to announce that he has still a fine stock of STANDARD and DWARF ROSES of most of the leading kinds, in very fine plants.
DESCRIPTIVE PRICED CATALOGUE free on application.
Nursery and Seed Establishment, Tunbridge Wells, Kent.

**Hollyhocks and Roses.**
PAUL AND SON have still to offer fine STANDARD and DWARF ROSES, new and old; also HOLLYHOCKS, all the leading varieties. CATALOGUES on application.
"Old" Cheshunt Nurseries, Herts.

WANTED, STRONG ASH and OAK.—Apply, stating height and price, to Mr. RICHARD SMITH, Nurseryman, Worcester.

GARDEN SEEDS and FLOWER SEEDS of the finest and most rare varieties, at the lowest prices at which they can be delivered, carriage free, are quoted in WHEELER's "Little Book" for 1863.
J. C. WHEELER & SON, Seed Growers, Gloucester.

**Choice Pansies.**
D. NICKLIN, FLORIST, &c., Guildford, Surrey, respectfully offers 20 choice named Pansies for 10*s*., package included.

POLYANTHUS SEED from the best Laced Florists' Flowers, in packets, sent free on receipt of 13 postage stamps.
JAMES WOODS, Florist, Harwich, Essex.

DOUBLE DWARF POPPIES.—The most beautiful Stock in cultivation. Colours varied and brilliant; flowers as double as a Hollyhock. Seed 1*s*. per packet, Post free. To the Trade, 3*s*. 6*d*. per ounce.
HOOPER & Co., Seedsmen, Covent Garden Market, London, W.C.

DANVERS'S new YELLOW ONION (true).—The Subscribers offer the above to the Trade.
NUTTING & SONS, Seedsmen, 60, Barbican, E.C.

**Fresh Mushroom Spawn.**
SUTTON AND SONS have a superior stock of MUSHROOM SPAWN, 5*s*. per bushel.
Royal Berkshire Seed Establishment, Reading.

**Potatoes for Planting.**
SUTTON'S DESCRIPTIVE LIST, Post Free.
SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

WHEELER'S GLOUCESTERSHIRE KIDNEY POTATO.—This is one of the earliest, the most productive, the best flavoured, and the most profitable Potato ever introduced,
For price and all particulars, see WHEELER's "Little Book."

EARLY POTATOES.—LEMON KIDNEY, the earliest and best variety (see Article in "Royal Agricultural Journal,") may be had on application to the Author's Bailiff, JOHN HELM, Poulton Hall, Morecambe.

NEW CELERY.—WILLIAMS'S MATCHLESS RED, a very superior variety, 2*s*. per packet.
B. S. WILLIAMS,
Paradise and Victoria Nurseries, Holloway, London, N.

WEBB'S IMPERIAL KIDNEY POTATOES.—No Potato like it for quantity, quality, beauty and size, at 12*s*. per Bushel, on application to
RICHARD WEBB, Calcot Gardens, Reading.

POTATOES.—SKERRY BLUES, the best adapted for field culture, price 5*s*. per bushel of 56 lbs., sack included if 4 bushels be taken.
Remit to EDWIN LADNINE, Widemarsh Street, Hereford.

**No. 1 Peas and Yellow Globe Mangel.**
WOOD AND INGRAM beg to offer to the Trade and others fine Stocks of the above. Cash Price and Samples, if required, on application.
Huntingdon Nurseries.

SEED CORN from the CHALK.—All the most approved varieties supplied by RAYNBIRD, CALDECOTT, & BAWTREE. Samples and prices on application. Address, Basingstoke; and [illegible], Seed Market, Mark Lane, E.C.

HARDY FLOWER SEEDS, of Showy Colours only, sent free by post or rail, by

SUTTON AND SONS.

| | |
|---|---|
| A COLLECTION of the best 50 sorts known .. | 10s. 6d. |
| A COLLECTION of the best 36 sorts known .. | 7 6 |
| A COLLECTION of the best 24 sorts known .. | 5 0 |

SUTTON'S CATALOGUE of SEEDS will be sent post free.

Sutton & Sons, Seed Growers, Reading, Berks.

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CHOICE HARDY FLOWER SEEDS, of showy colours, and best sorts only, with Cultural Directions :—

A Selection of the best 12 sorts, 1s. 6d. ; large packets, 2s. 6d.
A Selection of the best 24 sorts, 2s. 6d. ; ,, 3s. 6d.
A Selection of the best 36 sorts, 3s. 6d. ; ,, 5s. 0s.
A Selection of the best 50 sorts, 5s. ; ,, 7s. 6d.
A Selection of the best 12 half-hardy sorts, 2s. 6d. and 5s.

A List of other Collections sent free by post.

J. Scott, Merriott, Somerset.

The BEDDING CATALOGUE and FLOWER GARDEN DIRECTORY will be ready in April, price 6d.

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**Hardy Scarlet and other Choice Rhododendrons.**

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

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**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by Waterer & Godfrey, Knap Hill, near Woking.

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**Genuine Seeds.—Carriage Free.**

WM. CUTBUSH AND SON beg to intimate that they are now prepared to execute orders for GENUINE GARDEN SEEDS, for which their house is extensively known.

Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.

CATALOGUES free on application.

Highgate, London, N.

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GLADIOLUS, SEEDLINGS of GANDAVENSIS.

| | | | | |
|---|---|---|---|---|
| 50 in 25 extra choice varieties .. .. | £2 | 2s. | 0d. |
| 25 in 25 ,, ,, .. .. | 1 | 5 | 0 |
| 12 in 12 ,, ,, .. .. | 0 | 12 | 0 |
| 50 in 50 choice varieties .. .. .. | 2 | 12 | 6 |
| 50 in 25 ,, ,, .. .. .. | 1 | 5 | 6 |
| 25 in 25 ,, ,, .. .. .. | 0 | 13 | 6 |
| 12 in 12 ,, ,, .. .. .. | 0 | 5 | 0 |

Extra fine mixed, 2s. 6d. per doz., 17s. 6d. per 100.

Butler & McCulloch, Seed Merchants, Covent Garden Market, W.C.

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RUSSELL'S PYRAMID PRIMULAS.—Seed of this unequalled strain is now ready, in packets, price 2s. 6d.

The great satisfaction which these kinds have given in previous seasons, renders further comment on their merits unnecessary. The additional care taken however in saving the seed last year will probably result in producing flowers much superior to any ever seen.

Printed notes on raising them and their culture, forwarded with each packet; payment can be made in postage stamps.

George Clarke, Nursery, Streatham Place, Brixton Hill, London, S.; and 4, Windsor Terrace, Pimlico, S.W.

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**New Verbenas and Fuchsias. Double and Single Petunias of 1862.**

WM. KNIGHT offers strong well-established Plants of all the best varieties of the above for Bedding or Exhibition, having been one of the most successful exhibitors of the above. Nothing but first-rate proved flowers in their classes are offered. VERBENAS, 5s. per doz.; FUCHSIAS, 6s. per doz.; PETUNIAS, 6s. per doz.

Floral Nursery, Hailsham, near Hurst Green, Sussex.

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**Rhododendron, Countess of Haddington.**

First-Class Certificates at Royal Horticultural Society's Exhibition, March 19, 1862; Royal Botanical Society's Exhibition, April 2, 1862; and Edinburgh Horticultural Society's Exhibition, March 19, 1861.

ROBERT PARKER begs to announce that this beautiful variety will be distributed in August next; price of Plants, 21s. each. Orders are now being booked, and will be executed in rotation. The Stock being limited early orders are solicited. A Plant was exhibited at the Royal Horticultural Society's Exhibition, Feb. 25, 1863, of which notice can be seen in reports of Show in *Gardeners' Chronicle* of Feb. 28, and *Journal of Horticulture* of March 3. Other Plants will be exhibited at the coming Spring Exhibitions.

*** The usual discount to the Trade.

Exotic Nursery, Tooting, S.

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JOSEPH FRYER, Clarendon Nurseries, Camberwell, S., has a large Stock of the undermentioned, which he can supply cheap :—Limes, Poplars, Laburnums, Scarlet Thorns, Lilacs, Guelder Roses, Yellow Broom, Althæa frutex, Weigelas, Aucubas, Andromedas, Vacciniums, Salisburias, Ivies, Clematis, Glycine, Pyrus japonica, Menispermum, Periploca, Euonymus japonicus and variegatus; fine Dwarf-trained Apples, Pears and Plums; fine Standard-trained Pears, and Plums; fine Grape Vines, from layers; Figs, Gooseberries and Currants, a large stock of Herbaceous and Alpine Plants, Ferns and Lycopods, &c.; likewise all sorts of Peat Mould, Loam, Manure, Gravel, Silver Sand, Turf, Grotto Material, &c.

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**The Nurseries, Ghent (Belgium).**

JEAN VERSCHAFFELT begs to offer the following interesting Novelties at moderate prices, as marked, viz.—

RHODODENDRON JEAN VERSCHAFFELT, the finest hardy variety known. Strong plants, 10s. each.

RHODODENDRON SOUVENIR DE JEAN BYLS (J. V.)—One of the most distinct hardy varieties lately sent out. Strong plants, 21s. each.

CAMELLIA QUERCIFOLIA (the Oak-leaved Camellia).—Nice plants of this interesting novelty can still be supplied at 21s. each.

AZALEA INDICA, for late blooming.—J. V. begs to offer a few hundred very fine plants of Indian Azaleas for late flowering, well set with bloom buds, at 5l. per 100. The plants are very strong, and include only first-rate varieties.

Apply to Jean Verschaffelt, 43, Rue de la Caverne, Ghent, Belgium.

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**Choice Seeds of Asters, Balsams, and Stocks,**

OFFERED BY

B. S. WILLIAMS, Paradise and Victoria Nurseries, Holloway, London, N.

| | s. | d. |
|---|---|---|
| An Assortment of 12 varieties of TRUFFAUT'S PÆONY-FLOWERED ASTER, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of four varieties of COCARDEAU or CROWN ASTER, 100 seeds of each .. .. .. | 1 | 0 |
| An Assortment of 12 varieties of CHRYSANTHEMUM-FLOWERED DWARF ASTER, 100 seeds of each .. | 2 | 6 |
| An Assortment of nine varieties of CAMELLIA-FLOWERED BALSAMS .. .. .. .. | 2 | 6 |
| An Assortment of 12 varieties of DOUBLE ROSE-FLOWERED BALSAMS .. .. .. .. | 3 | 0 |
| An Assortment of eight varieties of AUTUMNAL-FLOWERING STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of eight varieties of BROMPTON STOCKS, 100 seeds of each .. .. .. .. | 1 | 6 |
| An Assortment of 12 varieties of DWARF GERMAN TEN-WEEK STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of eight varieties of EMPEROR or PERPETUAL STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of six varieties of MINIATURE STOCKS, 100 seeds of each .. .. .. .. | 1 | 6 |

A PRICED and DESCRIPTIVE CATALOGUE, post free to all applicants, containing useful suggestions for the guidance of amateur cultivators.

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**Seeds for the Flower Garden offered by**

B. S. WILLIAMS.

| | s. | d. |
|---|---|---|
| An Assortment of 12 Fine Selected Varieties of HARDY ANNUALS .. .. .. .. | 1 | 6 |
| An Assortment of 12 Fine Selected Varieties of HALF-HARDY ANNUALS .. .. .. .. | 2 | 6 |
| An Assortment of 12 Fine Selected Varieties of HARDY BIENNIALS and PERENNIALS, suitable for Rockwork .. .. .. .. | 2 | 6 |
| An Assortment of 12 Splendid Annual kinds of ORNAMENTAL GRASSES .. .. .. .. | 2 | 0 |

Paradise and Victoria Nurseries, Holloway, London, N.

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E. G. HENDERSON AND SON offer First-class quality of CINERARIA, CALCEOLARIA, and PRIMULA SINENSIS FIMBRIATA, 1s. and 2s. 6d. per packet.

CINERARIA WEBBI.—The interest and value of this species consists in its having a shrub-like branched habit of growth, attaining from 3 to 4 feet in height. This remarkable plant is expected to originate a new and desirable class of varieties for exhibition purposes, it having already passed into all the colours found in florists' varieties of the present time, and no doubt but higher improvements in form, and other essential properties, will be obtained in connection with its superior culture. It will be found well adapted for decorative purposes, by its taller growth, and longer continuance in bloom. 2s. 6d.

Wellington Nursery, St. John's Wood, London, N.W.

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SEEDS.—GENUINE HOME-GROWN

# VEGETABLE, FLOWER, AND AGRICULTURAL.

If above the value of 20s. Carriage paid to any Railway Station, and to all Irish and Welsh Ports in communication with Bristol.

CATALOGUES post free on application.

JAMES GARAWAY AND CO., DURHAM DOWN NURSERIES, BRISTOL.

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# FARM AND GARDEN SEEDS

CARRIAGE FREE.

BANGHOLM SWEDE,
EAST LOTHIAN SWEDE,
WARD'S BEAUTY SWEDE,
DROPMORE SWEDE,
MARSHALL'S CHAMPION SWEDE,
GREEN-TOP SWEDE,
WHITE SWEDE,
IMPROVED SKIRVING'S SWEDE.
WHITE and RED GLOBE, and NORFOLK TURNIP,
SCOTCH YELLOW TURNIP.
OBITO'S YELLOW OVAL MANGEL,
WARD'S DITTO,
PROVED YELLOW GLOBE DITTO,
MPROVED ORANGE GLOBE DITTO,

IMPROVED LONG RED MANGEL,
IMPROVED LONG YELLOW MANGEL
IMPROVED RED GLOBE MANGEL,
IMPROVED WHITE FIELD BEET,
RED CLOVER, | COWGRASS,
WHITE, YELLOW, and ALSIKE CLOVERS.
PACEY'S PERENNIAL RYE-GRASS, and other sorts
ITALIAN RYE GRASS, FOREIGN and ENGLISH SEED.
NATURAL GRASS SEEDS, in mixture or separate, suitable for various soils and localities.
LIGHT RYE-GRASS and other CHEAP GRASSES, for Sowing on Railway Banks and Waste Places.

*Orders for Exportation promptly attended to.*

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN,

28, KING STREET, CHEAPSIDE, NEAR the GUILDHALL, and

15, LAWRENCE LANE, LONDON, E.C.

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# GARDEN SEEDS.

# S. GLENDINNING & SONS,

## NURSERYMEN AND SEEDSMEN

(SUCCESSORS TO THE LATE R. GLENDINNING).

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. 1 | contains | 36 Quarts | of PEAS, and all other Seeds | in proportion | | £5 | 5 | 0 |
| No. 2 | ,, | 28 Quarts | ditto | ditto | ditto | 4 | 4 | 0 |
| No. 3 | ,, | 20 Quarts | ditto | ditto | ditto | 3 | 3 | 0 |
| No. 4 | ,, | 12 Quarts | ditto | ditto | ditto | 2 | 2 | 0 |
| No. 5 | ,, | 6 Quarts | ditto | ditto | ditto | 1 | 1 | 0 |

COLLECTIONS of FLOWER SEEDS.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. 1, | containing | 100 | Large Packets | of Best | Hardy Annuals ... ... | £0 | 18 | 0 |
| No. 2, | ,, | 50 | ditto | ditto | ditto ... ... | 0 | 9 | 6 |
| No. 3, | ,, | 24 | ditto | ditto | ditto ... ... | 0 | 5 | 0 |
| No. 4, | ,, | 25 | ditto | Half-Hardy Annuals | ... ... | 0 | 7 | 6 |
| No. 5, | ,, | 12 | ditto | ditto | ditto ... ... | 0 | 4 | 0 |
| No. 6, | ,, | 25 | ditto | Tender Annuals | ... ... | 0 | 12 | 6 |
| No. 7, | ,, | 12 | ditto | ditto | ditto ... ... | 0 | 6 | 0 |

The above Collections consist only of best and most useful varieties, and are of the finest quality.

S. G. & Sons' CATALOGUE of KITCHEN GARDEN, AGRICULTURAL, and FLOWER SEEDS, is now ready, and may be had on application.

CHISWICK NURSERY, LONDON, W.

**Superb Hollyhocks.**

R. B. BIRCHAM begs to state that he has a very large Stock of fine healthy Plants now ready for planting out, and shall be happy to supply orders upon the most liberal terms.
CATALOGUES sent upon application.
Hedenham Rosery, Bungay, Suffolk.

**Superb Double Hollyhocks.**
This being the best time for Planting them out.

WILLIAM CHATER has an immense stock of healthy Plants.
CATALOGUE of PRICES to be had on application.
William Chater, Nurseries, Saffron Walden.

**Select Double Hollyhocks.**

WILLIAM PERRY begs to announce that he has for SALE a good and healthy stock of Young Plants of the above that will flower well this season. If selection is left to W. P., the price per dozen will be 9*s.*, 12*s.*, 18*s.*, 24*s.*, 30*s.*
Sawbridgeworth, Herts.

**Major's Half-Shrubby Calceolaria Seed for 1863.**

HENRY MAJOR is prepared to supply the above as usual, in packets at 2*s.* 6*d.* each, or 3 for 5*s.*, post free. The seed is very select, having been saved from large and strikingly beautiful flowers.
Postage stamps are requested in payment.
Knosthorpe, near Leeds, Yorks.

**Choice Seedling Calceolarias.**

CHARLES KIMBERLEY has a large stock of the above, all saved from impregnated flowers. The plants are strong, fit to pot into 5-inch pots. He begs to offer them at 4*s.* per dozen.
Stoke Nursery, near Coventry.

EDWIN HOLLAMBY begs to inform his Patrons and Friends that his DESCRIPTIVE PRICED CATALOGUE of VEGETABLE, FLOWER, AGRICULTURAL SEEDS, and GLADIOLUS is now ready, and may be had gratis and post paid on application.
Nursery and Seed Establishment, Tunbridge Wells, Kent.

**New and Genuine Seeds.**

GEORGE PARSONS, Seedsman by Appointment to Her Majesty. A DESCRIPTIVE SELECT PRICED LIST, post free, on application.
27 and 28, Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

JUST ARRIVED, CAMELLIAS and AZALEAS, full of Flower Buds, 21*s.*, 24*s.*, and 30*s.* per dozen; ORANGE TREES with Fruit and Bloom, 2*s.* 6*d.* and 3*s.* 6*d.* each. British and Foreign FERNS, immense variety. FERN CASES and AQUARIUMS of every description.
R. Green, 154, Kingsland Road, N.E., and the Bedford Conservatories, Covent Garden Market, entrance Centre Avenue only.

**The Flower of the Season.**

DOBSON'S Splendid NEW PELARGONIUM, QUEEN of WHITES, acknowledged by the whole of the Floricultural Press to be the very best white flower raised. Strong plants now ready, 31*s.* 6*d.* each. Figured in the February Number of the "Floral Magazine."
Woodlands Nursery, Isleworth, W.

DOBSON'S PRIZE CALCEOLARIA SEED is unequalled in the kingdom. Annual Sale exceeds 3000 packets. In sealed packets, 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.* each.
J. Dobson & Sons, Seedsmen, Isleworth.

DOBSON'S PRIZE CINERARIA SEED.—Ten First Prizes awarded to our collection in the spring, 1862. In sealed packets, 1*s.*, 2*s.* 6*d.*, and 5*s.*
J. Dobson & Sons, Seedsmen, Isleworth.

DOBSON'S PRIZE PRIMULA SINENSIS SEED
In sealed packets, 1*s.*, 2*s.* 6*d.*, and 5*s.*
J. Dobson & Sons, Seedsmen, Isleworth.

**Flower Seeds sent Free by Post.**

WOOD AND INGRAM beg to offer

| | | | | s. | d. |
|---|---|---|---|---|---|
| 12 fine varieties of HARDY and HALF-HARDY ANNUALS for | | | .. | 1 | 8 |
| 24 ditto | ditto | ditto | .. | 2 | 10 |
| 36 ditto | ditto | ditto | .. | 4 | 0 |
| 48 ditto | ditto | ditto | .. | 5 | 0 |

Nurseries, Huntingdon.

**Early Spring Flowers.**

WEBB'S GIANT POLYANTHUS; ditto COWSLIP; Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to
Richard Webb, Calcot Gardens, Reading.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.
Richard Smith, Nurseryman, Worcester.

WELLINGTONIA GIGANTEA.—The attention of the Nobility, Gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12*s.*; per 100 or 1000 on application. A Sample free by post for 12 stamps.
J. Henchman, Edmonton, London.

AMARANTHUS MELANCHOLICUS (var. ruber).—Habit very compact, height 1 to 1½ feet, with striking blood-red foliage; a most valuable bedding plant for Flower Garden decoration, after the style of Perilla Nankinensis. Price per packet, 6*d.*, 1*s.*, and 2*s.* 6*d.* The Trade supplied.
E. P. Dixon & Sons, Seedsmen and Florists, 57, Queen Street, Hull.

**Green Hollies.**

CORNELIUS WHITEHOUSE, Brereton Nursery, Rugeley, Staffordshire, offers an immense stock of well-grown healthy extra Transplanted HOLLIES, exceedingly well-rooted, from 12 to 15, 15 to 18, 18 to 24, 24 to 30 inches. Also very handsome SPECIMEN PLANTS from 3 to 5 feet; also ENGLISH YEWS from 2 to 2½ feet, 2½ to 3 feet and upwards. The above growing on ground to be cleared for other stock, the price will be liberal. Trade price on application.

**Choice Coniferæ, Tree and Shrub Seeds offered by**

CHARLWOOD AND CUMMINS.
For particulars see Advertisement in the *Gardeners' Chronicle*, February 21, page 170.
CATALOGUE forwarded on application.
14, Tavistock Row, Covent Garden, London, W.C.

**Surplus Stock.**

JOHN PALMER AND SON, Nurserymen, Annan, beg to inform their Friends and the Trade generally that they have several Millions of the following, of first-class quality:—
2 years SILVER FIR | 2 years NORWAY SPRUCE
3 years NORWAY SPRUCE.
The above will be sold Cheap. Prices and Samples, if required, on application.

**Large Fruiting Mulberry Trees, and large Irish Ivies, 10 to 20 feet.**

WM. DENNIS has still left a few fine Trees from 6 to 8 feet, clean stems, and fine heads; also smaller plants of different sizes, which he will dispose of a Bargain.
Fine LILACS, the best kind, to be sold cheap.
A few fine LIME TREES, GOOSEBERRIES and CURRANTS (in fruit-bearing condition), BOX TREES, &c. A quantity of Geraniums, Fuchsias, and other Greenhouse Stock; two or three Greenhouse Frames, &c. The whole to be disposed of cheap, as the ground must positively be cleared for immediate building.
King's Road, Chelsea, S.W.

GEORGE BAKER begs to offer the following, a selection from his extensive Stock:—
ARAUCARIA IMBRICATA, 3 feet, 6 feet, 9 feet, 14 feet.
ABIES DOUGLASII, 3 feet, 5 feet, 10 feet, 14 feet, 25 feet.
ARBOR-VITÆ (WAREANA), 3 feet, 6 feet, 8 feet.
CEDRUS DEODARA, 3 feet, 6 feet, 12 feet, 20 feet.
CUPRESSUS LAWSONIANA, 3 feet, 5 feet.
" DISTICHA, 3 feet, 8 feet, 12 feet.
CEDRUS LIBANI, 6 feet, 8 feet, 10 feet.
CHINESE JUNIPER, 3 feet, 5 feet, 6 feet.
IRISH YEW, 4 feet, 6 feet, 8 feet.
JUNIPERUS RECURVA, 8 feet.
PICEA CEPHALONICA, 3 feet, 4 feet, 11 feet.
PINUS CEMBRA, 3 feet, 5 feet, 7 feet.
" EXCELSA, 10 feet, 15 feet.
THUJA GIGANTEA, 4 feet, 5 feet, 6 feet.
THUJOPSIS BOREALIS, 1 foot, 2 feet.
PINUS AUSTRIACA, 3 feet, 4 feet.
" BENTHAMIANA, 3 feet, 4 feet.
WEYMOUTH PINE (fine), 1½ foot, 2 feet.
SPRUCE FIR, 1 foot, 2 feet.
AZALEAS (to name)
ANDROMEDAS (to name).
RHODODENDRONS (to name).
" STANDARDS (to name).
KALMIA LATIFOLIA.
" " STANDARDS (very fine heads).
Prices free by Post, on application. Also G. B.'s GENERAL PRICED LIST is now ready.
American Nursery, near Bagshot, Surrey, about 1½ mile from Sunningdale Station, S. W. R.

TO THE TRADE.—
Special Offer.
ABIES MENZIESII, 9 to 12 inches, 3*s.* per dozen; 20*s.* per 100.
18 to 24 inches, 6*s.* per dozen; 40*s.* per 100.
24 to 30 inches, 9*s.* per dozen; 60*s.* per 100.
PINUS INSIGNIS, 4 to 5 feet, 3*s.* 6*d.* each; 30*s.* per dozen.
5 to 6 feet, 5*s.* each; 42*s.* per dozen.
BERBERIS DARWINII, 6 to 9 in., 5*l.* per 1000, or 12*s.* 6*d.* p. 100.
9 to 12 ins, 3*s.* per doz.; 15*s.* per 100.
18 to 24 ins., 9*s.* per doz.; 60*s.* per 100.
CUPRESSUS LAWSONIANA, 2 to 3 feet, 200*s.* per 100.
3½ to 4½ feet 30*s.* per dozen.
4½ to 5 feet, 36*s.* per dozen.
5 to 6 feet, 5*s.* to 7*s.* 6*d.* each.
THUJA LOBBI, 18 to 24 in., 12*s.* per doz.; or 75*s.* per 100.
2 to 3 feet, 18*s.* per doz.; or 100*s.* per 100.
BLUSH CHINA ROSES, 25*s.* per 100.
RHODODENDRON PONTICUM, fine large bushy stuff, 1½ to 2½ feet, 40*s.* to 60*s.* per 100.
2 to 3 feet, 70*s.* per 100.
3 to 4 feet, 126*s.* per 100.
WELLINGTONIA GIGANTEA, 4½ to 5 feet, 42*s.* to 50*s.* each.
5 to 6 feet, 50*s.* to 63*s.* each.
6 to 7 feet, 63*s.* to 84*s.* each.
7 to 8 feet, 84*s.* to 105*s.* each.
The above are all fine healthy, well rooted stuff.
TRADE CATALOGUE of GENERAL NURSERY STOCK on application.
Thomas Cripps, Nurseryman, Tunbridge Wells, Kent.

**Excellence and Economy Combined.**

SUTTON'S UNEQUALLED COLLECTIONS of KITCHEN GARDEN and FLOWER, &c. SEEDS.
SUTTON'S COLLECTIONS of GARDEN SEEDS will be found the most economical, as well as the best in quality of seeds, as see List of Contents, which may be had gratis and post free.
No. 1, £3; No. 2, £2; No. 3, £1; No. 4, 10*s.* 6*d.*
Royal Berkshire Seed Establishment, Reading.

THE NEW PARSNIP "STUDENT."—SEED of this improved PARSNIP, "ennobled" by Professor Buckman, of the Royal Agricultural College, Cirencester, is now ready for delivery by Messrs. Sutton & Sons, Post free, in packets, 6*d.*, 1*s.*, or 2*s.* 6*d.* each. Also Wholesale to the Trade.
It can also be obtained from any of the Seedsmen named in the List which appeared in *Gardeners' Chronicle* of January 31 and February 21.
Royal Berks Seed Establishment, Reading.

YOUELL'S NORFOLK HERO CUCUMBER.—Without exception the best Ridge Cucumber known. 6 Seeds, 1*s.*; 18 Seeds 2*s.*
LAING'S MAMMOTH CELERY.—The very best, hardiest, and finest flavoured Red Celery in cultivation. 1*s.* and 2*s.* per packet, on receipt of postage stamps.
See former advertisement.
Youell's Royal Nurseries, Great Yarmouth.

NEW CUCUMBERS,
at 1*s.* per packet.
Recommended by the Fruit Committee of the Royal Horticultural Society. See GUIDE to the KITCHEN GARDEN.
Barr & Sugden, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

CARTER'S CHAMPION CUCUMBER recommended by the Royal Horticultural Society as being an excellent bearer. Fruit solid and firm, and the best of the Sion House class. 1*s.* per packet. A few ounces of our own saving to offer the Trade.
237, 238, & 261, High Holborn, London, W.C.

**Seed Trade.**

JAMES CARTER AND CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade:—
MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE,
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION.
TOMATOE DE LAYE.
HENDERSON'S PINE-APPLE BEET.

**Seeds for the Kitchen Garden, Flower Garden, and Farm.**

JOHN CATTELL'S DESCRIPTIVE CATALOGUE of the above is now ready, and will be forwarded, post paid, on application; it contains select lists only, and includes every novelty worthy of cultivation.
All parcels of Seeds of the value of 21*s.* and upwards carriage paid to any Railway Station in England.
Nursery and Seed Establishment, Westerham, Kent.

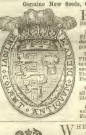
**Vegetable and Flower Seeds, Carriage Free.**

WM. PAUL (Son and Successor to the late A. Paul) respectfully announces that his SEED CATALOGUE is now ready, free by post.
The COLLECTION of VEGETABLES recently Commended by the Royal Horticultural Society was grown from Seeds furnished by him.
Nurseries and Seed Warehouse, Waltham Cross, N.

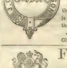
**Vegetable, Flower, and Agricultural Seeds.**
New and Rare Plants, &c.

ROBERT PARKER begs to announce that his NEW CATALOGUE, containing select descriptive and priced lists of AGRICULTURAL, KITCHEN GARDEN, Imported GERMAN, and other FLOWER SEEDS; NEW and RARE PLANTS; Variegated, Ornamental Foliaged, Miscellaneous, Stove, Greenhouse, and Hardy Plants, &c., is now published, and will be forwarded Post Free to all applicants.
Exotic Nursery, Tooting, Surrey, S.

**Genuine New Seeds, Carriage Free.**




FRANCIS & ARTHUR DICKSON AND SONS, 106, Eastgate Street, Chester.
New VEGETABLE and FLOWER SEEDS of every description, of the finest possible quality.
Their DESCRIPTIVE PRICED CATALOGUE, containing many valuable New and Select Vegetable and Flower Seeds, will be sent Post Free on application.
Collections for Gardens of all Sizes are on the most liberal scale. See Catalogue.
☞ Vegetable Seeds of £2 value Carriage Free. All Flower Seeds Free by Post.




WHEELER'S LITTLE BOOK for 1863.
WHEELER'S TOM THUMB LETTUCE.
WHEELER'S IMPERIAL LETTUCE
The price of the Lettuce is 1*s.* per packet, post free.
J. C. Wheeler & Son beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.
J. C. Wheeler & Son, Seed Growers, Gloucester.

FARM SEEDS of the finest quality, are offered at fair Market Value.
A LIST of PRICES at which they can be delivered arriage free, and 5 per cent. discount allowed for Cash, is contained in
WHEELER'S "LITTLE BOOK" for 1863.

**Established 1787.**

THOMAS KENNEDY AND CO.,
Nursery and Seed Establishment,
Dumfries, N.B.
*** PRICED CATALOGUES sent free on application.
FREE DELIVERY.
FARM and GARDEN SEEDS under certain limitations will be delivered free of Carriage to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

**Cole's White Perfection Celery.**

WM. COLE has much pleasure in offering again to his numerous customers the above, which has proved itself to be the best White Celery in cultivation. In sealed ¼ oz. packets, free by post, 1*s.* 6*d.* Price to the Trade upon application.
Nurseries, Withington, near Manchester.

KIMBERLEY'S SUPERB SOLID RED CELERY.—This is without exception the best Celery in cultivation. Charles Kimberley has much pleasure in offering this superb Celery for the first time, although he has grown it for upwards of 20 years. Thousands of plants are annually sold in Coventry Market. The seed now offered is saved from bleached roots of 1862; ½ oz. packets free by post, 1*s.* 6*d.*
Stoke Nursery, near Coventry.

### The King and Queen Potatoes.

SUTTON AND SONS have much confidence in recommending these two new sorts of POTATOES, as decidedly the finest and best in cultivation.

The following Prizes have been awarded to Mr. Spencer for these Potatoes:—

The Prize at the Crystal Palace, 1861.

Three Prizes at the International Show at the Royal Horticultural Society's Gardens, South Kensington, in October last.

The Prize at the Birmingham Cattle and Root Show, Bingley Hall, in December last; and upwards of 20 other Prizes in various parts of the kingdom.

To be had of Messrs. SUTTON & SONS, Reading. Price 5s. per Peck (of 14 lbs.)

### The King of Potatoes.

JOS. H. ROBINSON, SEEDSMAN, Coventry, has a limited quantity of the above superior POTATO to offer at 2s. per peck, or 7s. per bushel. Also MYATT'S ASHLEAF, 2s. and 7s. EARLY LEMONS, the earliest and best Ashleaf out, 2s. and 6s. 6d. DALMAHOY SECOND EARLY, 1s. 3d. and 4s. FLUKES, 1s. 3d. and 4s.

The "King" may fairly be said to be the finest Potato in cultivation; gaining the First Prize at the Royal Horticultural Society's Show, and at Birmingham.

POTATOES:—Ashleaf, Fortyfold, Shaw, Dalmahoy, Regent, Flukes, &c. STRAWBERRIES: Black Prince, Admiral Dundas, British Queen, Eleanor, Elton Pine, Wizard of the North, 10s. per 1000; Prince of Wales, Princess Royal, Eliza, Alice Maude, Oscar, Duc de Malakoff, 2s. per 100.

GEO. CORNWELL, Seedsman, &c., Barnet, Herts, N.

SEED POTATOES.—Splendid Stocks of Martin's Early Globe, Early Oxford, Early Fox's Seedling, Early Round Frame, Early Dalmahoy, Myatt's Prolific, and Jackson's Ash-leaved Kidney, Forty-fold, Fluke Kidney, and Flour-ball varieties at low prices.

H. & F. SHARPE, Wisbeach.

EXTRAORDINARY POTATOES.—A gentleman resident in the Country offers for SALE a few BUSHELS of SEED POTATOES of a new and most wonderful kind. For the table they are unsurpassed as to whiteness and delicacy of flavour, and their productiveness is almost incredible, even on indifferent soil; and further, the disease never attacks them.

For price, &c., address by letter to Z. Z., care of Editor, 162, Fleet Street, London, E.C. Early application is necessary.

GIANT ASPARAGUS ROOTS, 2s. 6d. per 100.—This delicious vegetable does not require half the expense usually incurred in planting it. For instructions, see RICHARD SMITH'S SEED LIST for 1863.

Strong Transplanted SEA KALE, 2s. per doz.

RICHARD SMITH, Nurseryman, Worcester.

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H. AND F. SHARPE have a Surplus Stock of true—

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| Early Long Pod Beans | Ne Plus Ultra Peas |
| Mackie's Monarch ditto | Laing's Imperial Swede Turnip |
| Broad Windsor ditto | Early Green Top Yellow ditto |
| Early Emperor Peas | Fine Red Surrey Carrot |
| Woodford's Green Marrow do. | Early Nonpareil Cabbage |
| Flack's Blue Imperial ditto | ,, Emperor ditto |
| British Queen ditto | ,, Enfield Market ditto |

which they can offer at a low figure.

Seed-growing Establishment, Wisbeach.

### To Seedsmen and Others.

THOMAS AYRES, SEEDSMAN and GROWER, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz:—

WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP, ,,
SEED POTATOES of the following varieties:—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.
SCARLET RUNNER BEANS (English grown).

A PRICE LIST forwarded upon application.

### Cabbage Plants.

W. VIRGO and SON beg to say they have a very large quantity of DRUMHEAD, RED and EARLY CABBAGE PLANTS to offer for Sale of the following sorts, at 3s. 6d. per 1000:—

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| EARLY YORK CABBAGE | EARLY NONPAREIL |
| ,, BATTERSEA | DRUMHEAD |
| ,, BARNES | RED CABBAGE |

5s. per 1000. All strong, healthy, and well rooted.

Wonersh Nursery, near Guildford, Surrey.

GOOD MANGEL WURZEL SEED which grows well.

RED GLOBE | YELLOW GLOBE | LONG RED
YELLOW OLIVE-SHAPED | LONG YELLOW.

6d. per lb., or cheaper by the cwt.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

NEW SUBSTITUTE for VETCHES. "SERADELLA."

See SUTTON'S SEED LIST, which may be had post free.

Royal Berkshire Seed Establishment, Reading.

### Two Hundred and Fifty Guineas in Ten Prizes.

FOR FIVE YEARS SUCCESSIVELY HIS LATE ROYAL HIGHNESS THE PRINCE CONSORT'S PRIZE CUPS HAVE BEEN AWARDED TO

SUTTON'S CHAMPION SWEDES at the Royal East Berks and South Bucks Agricultural Societies.

New Seed now ready, 1s. per lb., or 45s. per bushel, carriage free.

Royal Berkshire Seed Establishment, Reading.

NEW HARDY WHITE SWEDE.—The Favourite Swede of the Flockmasters on the Hampshire, Wiltshire, and Cotswold Hills. Grows rather coarse on some soils or when sown early; but it is very productive, hardy, and it is the only Swede that can be depended upon to keep sound through the winter without storing. Excellent for late sowing and upon poor land.

Seed 1s. per lb., or 42s. per bushel.

Supplied by RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

### Sutton's Improved Italian Rye-Grass.

SUTTON AND SONS have an excellent Stock of the above now ready.

Price 7s. per bushel, or cheaper in large quantities.

Royal Berks Seed Establishment, Reading.

### Good Clover Seeds at Market Prices.

SUTTON AND SONS have now ready, at very moderate prices, fine new RED, WHITE, and ALSIKE CLOVER SEEDS. As also new Rye Grasses, Turnip, Mangel Wurzel, and other Agricultural Seeds, a Priced List of which may be had post free.

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### Lupine Seed for Field Culture.

SUTTON AND SONS, SEED GROWERS, Reading, can supply the proper kinds of LUPINE SEEDS for Field Culture, as recommended by Baron Herm Von Nathusiel, and Mr. Thos. Crisp, in the "Journal of the Royal Agricultural Society," No. XLIII.

Instructions on Cultivation sent with the Seed. PRICED LISTS post free.

Royal Berkshire Seed Establishment, Reading.

### Clovers and Rye-Grass Seeds.

SUTTON AND SONS can supply the proper quantities of the best kinds of CLOVER and RYE-GRASS SEED, either Common or Italian Rye-Grass, at 16s. per acre; or Clovers without Rye-Grass at 14s. per acre.

The sorts of Clovers supplied by SUTTON & SONS are the Alsike, the Common Red, and the White Clover (14 lb. per acre).

The great produce of the above-named Mixture is shown by the following:—

*From* C. F. THRUSTON, Esq., *Talgarth, Machynlleth, July* 31.

"I cut a crop of Grass on June 2, which had been previously dressed with soot and guano. It was full ripe, and the Italian Rye-Grass was really 4 feet high, Clover in proportion. I am now (July 31) getting a second crop from it equally heavy."

*In ordering it is only necessary to state that "Clovers and Italian Rye-Grass," or "Clovers and Common Rye-Grass," or "Clovers only," are required for so many acres, when the proper quantities will be sent.*

Royal Berkshire Seed Establishment, Reading.

### Grass Seeds for all Soils.

SUTTON AND SONS have one of the largest stocks in Europe of the PERMANENT NATURAL GRASS and CLOVER SEEDS, which they mix expressly to suit the soil for which they are required.

The following letter has been received, besides many others:—

*From* Professor LINDLEY, *Royal Horticultural Society, London.*

"We have already made trial of your Grass Seeds, and it is only justice to say that they have proved the best we have sown for many years."

| PRESENT PRICES ARE— | | Per Acre. s. | d. |
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| Best quality MIXTURES for Laying Down to PERMANENT PASTURE .. .. .. .. .. | | 30 | 0 |
| Cheaper MIXTURES, omitting certain sorts | 20s. to | 26 | 0 |
| Best quality ditto, for Three or Four Years' Lay | .. | 22 | 0 |
| Ditto ditto, for One or Two Years' Lay | 15s. to | 18 | 6 |
| CLOVERS and fine GRASSES for Renovating Old Pastures .. .. .. .. .. .. | 6s. to | 9 | 0 |
| Finest LAWN GRASS SEEDS .. .. | per bushel | 18 | 0 |
| PARK LAWN GRASS SEEDS .. .. | ,, | 16 | 0 |

The First Prize Medal was awarded to SUTTON & SONS for their Grass and Clover Seeds at the Great International Exhibition of Roots and Cereals at South Kensington in October last.

A Copy of Mr. MARTIN SUTTON'S "Essay on Pastures" is sent with each lot of Grass Seeds.

Seeds sent carriage free to all parts of the kingdom. Export orders delivered free to the Ship's side in any English Port.

PRICED LISTS of GARDEN and FARM SEEDS gratis and post free.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

CHEAP GRASS SEEDS for HILL SIDES and RAILWAY BANKS.—Rough Grasses, Sainfoin Siftings, &c., suitable for the above purpose, at 2s. per bushel and 3d. per lb.

Address, RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

GRASS SEEDS for LAYING DOWN LAND to PERMANENT PASTURE or MEADOW.

Having been amongst the very first in this country to recommend the use of the Natural Grasses in the formation of Permanent Pasture, and having over a long period of years given the subject a considerable share of attention, we, from the marked success which has attended their culture, feel quite warranted in recommending our carefully prepared Mixtures or Assortments, to the notice of those who purpose laying down land for a period of years. In choosing for these Mixtures, our aim is to imitate, as near as possible, the varieties composing the rich old pastures of Britain, and which it is obvious cannot be obtained by adopting the too common mode of sowing down with Ryegrass and Clover only, for although these yield heavily at first they are soon exhausted, and leave the land bare, to be filled up in course of time by an inferior herbage.

Parties ordering will please state the nature and extent of the land to be sown, and whether with or without a grain crop. When not instructed to the contrary, the Seeds will be sent out mixed and ready for the sower. The mixing being a most important operation, is much more perfectly done by our practised hands than it can be by those unaccustomed to it. After numerous carefully tested experiments, we find it the best plan to sow light and heavy seeds together.

When requested, we will be glad to furnish a list of the varieties and quantities suited to any given description of land. The Cost for a full Supply of Seeds will range from 25s. to 28s. per statute acre.

Carriage of Seeds paid to the principal Railway Stations throughout the kingdom.

W. DRUMMOND & SONS, Stirling.

*** PRICED CATALOGUES of all the leading descriptions of Seeds required for the Farm or Garden, may be had prepaid on application.

### Agricultural Seeds.

JOHN GEORGE WAITE'S WHOLESALE AGRICULTURAL SEED CATALOGUE for Spring 1863, is now published, and will be forwarded on application.

Seed Establishment, 181, High Holborn, London, W.C.

### Agricultural Seeds of First Quality.

COW CABBAGE, CARROTS, KOHL RABI, MANGEL WURZEL, RAPE, WHITE MUSTARD, TURNIPS, SWEDES, CLOVERS, RYE-GRASSES, GRASSES FOR PERMANENT PASTURE, FURZE OR GORSE, SERADELLA, &c., &c.

WM. WOOD AND SON beg to offer Seeds of the above, genuine and unadulterated, and will be happy to forward samples and prices (which are very moderate) on application.

DESCRIPTIVE PRICE LIST of AGRICULTURAL SEEDS now ready.

☞ Orders amounting to 10s. and upwards, sent carriage free.—See List.

Seed Warehouse, Maresfield, near Uckfield, Sussex.

N.B. Special quotations at reduced rates for large quantities.

### International Exhibition. Prize Medals 1851 and 1862,

AWARDED FOR "EXCELLENT SEED CORN AND SEEDS," TO

RAYNBIRD, CALDECOTT, AND BAWTREE, SEED MERCHANTS and GROWERS, Basingstoke, Andover; and 89, Seed Market, Mark Lane, London, E.C.

Samples of all kinds of AGRICULTURAL SEEDS and SEED CORN, sent post free on application.

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THE SUBSCRIBERS beg to call the attention of English Agriculturists to their large and carefully selected stock of BARLEY and OATS for SEED, comprising all the most approved varieties, and grown expressly for the Subscribers' trade by careful and well-known growers in the Lothians, Berwickshire, and Roxburghshire.

They will have pleasure in forwarding samples and prices on application.

They would also direct attention to their stock of SEED POTATOES of the various descriptions, carefully selected from the growing districts of Ireland and Scotland.

M'LEAN & HOPE, 1, King's Stables, Grassmarket, Edinburgh.

TRADE

HALLETT'S PEDIGREE. NURSERY WHEAT.

MARK.

"The best Spring Wheat known. Drill in February and March, six pecks per acre."

Produced (1862) 62 bushels per acre, weighing 64 lbs. a bush.

Price ONE GUINEA A BUSHEL, including bag sewed up and sealed, delivered at the Brighton Railway Station, with Printed Directions for Planting, on Receipt of Cheque or Post-office Order, which must in all cases accompany the Order. Less than One Bushel will not be supplied. Name of Station and Railway should accompany the Order.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

COCOA-NUT REFUSE, as used for FERNS, BEGONIAS, &c., so much admired in the International Exhibition, delivered in the City at 1s. 6d., or within 2½ miles of Charing Cross, at 2s. per bag of 3 bushels. Ten bags or more on lower terms. Apply to the PATENT COCOA FIBRE COMPANY, Kingston-on-Thames, S.W.

Also for particulars of SHORT FIBRE for Orchids and Drainage in pots.

Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are the best and most economical of any, and are sold in every town in the kingdom; at DEANE'S, London Bridge; and E. WHITE & SON'S, 95, Cannon Street.

CAUTION.—Every Brush is stamped "J. BARSHAM'S Patent."

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.

Extra strong, 3s. per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.

Can be obtained through the principal Nurserymen and Seedsmen in England.

A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.

PAGE & TOOGOOD, Seed Merchants, Southampton.

ROLL TOBACCO CLOTH.—The cheapest and best article for Smoking Greenhouses and Destroying the Fly, 1s. 4d. per lb., over 10 lbs., 1s. 1d.

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H. PERKINS calls the attention of the above to his large stock of Genuine TOBACCO PAPER and CLOTHS, at 10d. per lb., warranted free from adulteration, having taken every pains to secure the same.

Address, 16, Cambridge Circus, Hackney Road, London, N.E.

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. NEAL, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1s., 3s., and 10s. 6d. each.

Wholesale by PRICE'S PATENT CANDLE Co., Limited.

# SAMUELSON & CO.'S PATENT LAWN MOWING MACHINES.

**SAMUELSON & CO.'S IMPROVED GARDEN ENGINES, GARDEN ROLLERS, AND GARDEN SEATS.**

CATALOGUES FREE, ON APPLICATION TO BRITANNIA WORKS, BANBURY, or to

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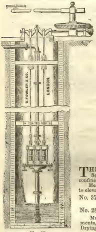
WHERE SAMPLES MAY BE SEEN.




No. 37.

# BENJAMIN FOWLER & CO.,

MANUFACTURERS OF

## PUMPS AND HYDRAULIC MACHINERY,

WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.

THE Landscape Sketch shows an adaptation of THE IMPROVED HYDRAULIC RAM. This is a simple Self-acting Machine, suited for raising a Supply of Water for use in Public and Private Establishments. Its adoption is not confined to positions as shown, but it is suited for any situation where a Fall can be obtained from a Stream, Brook, or Spring.

Messrs. FOWLER have fixed a great many in various parts of the country for raising from 600 to 6000 or more Gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes 50 yards to several miles in length.

No. 37. IMPROVED TREBLE BARREL PUMPS with HORSE GEARING for raising water from DEEP WELLS for the supply of MANSIONS and PUBLIC BUILDINGS.

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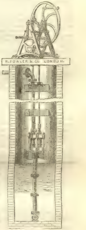
Messrs. FOWLER & Co. Manufacture and Erect every description of Engineer's Work required in Public or Private Establishments, such as Pumps for any purpose on the largest or smallest scale, Steam Engines, Water Wheels, Turbines, Warming and Drying Apparatus, Baths, Gas Works and Fittings. Estimates furnished from Plans or on inspection of position.

*Price Lists of Pumps, &c., free on application.*




No. 28 *a*.

# THE HYDROPULT,

**THE HYDROPULT**

IS INVALUABLE FOR

WATERING GARDENS,

EXTINGUISHING FIRE JUST COMMENCED,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

DRESSING with LIQUID MANURE,

SPRINKLING PLANTS,

WASHING WINDOWS,

WETTING SIDEWALKS,

SPRINKLING STREETS,

WASHING CARRIAGES,

WETTING SAILS,

A SPRAY BATH,

&c. &c.

CAUTION.—Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will, in due time, be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.

"GRIFFITH & BROWETT,
Manufacturers, Birmingham;

"CHARLES P. BUTTON,
General Agent.

"VOSE'S Patent;"

and is sold at the uniform rate of Two Guineas, complete, with 2½ feet Suction and 3-feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet.

It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution.

The Hydropult WEIGHS BUT 8 LB.; will throw 7 or 8 Gallons of Water per minute 50 FEET when worked by the power of one man.

Has been recommended as an efficient FIRE ENGINE by the principal FIRE INSURANCE COMPANIES of GREAT BRITAIN. Thomas Rivers, Esq., the eminent Florist; Shirley Hibberd, Esq., and other well known gentlemen, recommend it as an invaluable GARDEN IMPLEMENT. J. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable Property in Bayswater from destruction. The City and Provincial Press accord to the invention the utmost praise. All who purchase the Hydropult are satisfied with its action; each Machine guaranteed to be perfect.

**A PORTABLE GARDEN ENGINE, AND FIRE ANNIHILATOR.**

*Prospectus, with Testimonials, on application at either Office.*

HYDROPULT OFFICE: 27, LEADENHALL STREET, LONDON, E.C.; and 309, REGENT STREET, POLYTECHNIC BUILDING, LONDON, W.—CHARLES P. BUTTON, PROPRIETOR.

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| BLACK HAMBRO' .. .. | 3s. 6d. to 5s. 0d. |
| BUCKLAND SWEETWATER.. | 5 0 to 7 6 |
| MUSCAT HAMBRO' .. .. | 5 0 to 7 6 |

We have to offer fine Canes of the above, and all other leading varieties.

PAUL & SON, "Old" Cheshunt Nurseries, Herts, N.

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THE GREAT VINE at HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42s. and 60s. p. doz. If purchased in large numbers a considerable reduction will be made in price.

JACKSON & SON, Nurseries, Kingston, S.W

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EXTRA STRONG FRUITING VINES.—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7s. 6d. each; smaller, for Planting-out, from 3s. 6d. each. A reduction in price will be made to large purchasers.

"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.

JAMES DICKSON & SONS, The Newton Nurseries, Chester.

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NEW PRIZE MELONS, at 1s. 6d. per packet.

Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria.

For descriptions see GUIDE to the KITCHEN GARDEN.

BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

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NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1s. per packet.

JAMES CARTER & Co., 237, 238, & 261, High Holborn, W.C.

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POT VINES, BEARING FRUIT.—Fine plants of the leading kinds, each having at present 20 to 40 bunches of Fruit on them; suitable for growing in Pots or planting a fruitful Vinery at once, 7s. 6d. each. Smaller plants for Fruiting next season, 3s. 6d. to 5s.

PEACHES, NECTARINES, PLUMS, &c., in Pots, established with bloom buds, 5s. to 7s. 6d. each.

GEO. CLARKE, Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, Pimlico, S.W.

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**Vines and Seakale.**

GEORGE CLARKE has a good stock of short-jointed, well ripened, fruiting, and younger VINES of the principal kinds, from Eyes, price 3s. 6d. to 7s. 6d.

Also SEAKALE, clean and sound, very suitable for planting permanent beds, 5s. to 7s. 6d. per 100.

FORCING SEAKALE all Sold.

Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, Pimlico, S.W.

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**New Roses of 1863.**

J. AND J. FRASER'S DESCRIPTIVE LIST of the best varieties will be forwarded Post Free on application.

Strong healthy Plants are now ready.

A GENERAL CATALOGUE may be had on application.

Lea Bridge Road Nurseries, N.E.—March 14.

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**Roses for Forcing.**

CHARLES NOBLE has a nice assortment, one-year, established in 32-pots, ready for Forcing. They are healthy vigorous plants, and cannot fail to give satisfaction. He has also a large stock of Dwarfs and Half-Standards suitable for planting in Roseries; they are offered very cheap.

Sunningdale Nursery, South-Western Railway.

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DWARF HYBRID PERPETUAL ROSES, on the MANETTI STOCK; Carriage paid to London.—The Undersigned offer very fine and vigorous plants of the above. For a LIST of the more popular sorts, see *Gardeners' Chronicle* for December 6, 1862. Prices given for small and large numbers (per 1000 at a much reduced rate) and a DESCRIPTIVE CATALOGUE of ROSES sent on application to

THOS. RIVERS & SON, Nurseries, Sawbridgeworth.

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**New Roses.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully invites attention to the following NEW ROSES, which will be ready for delivery very shortly.

LORD HERBERT, H.P.—Rosy carmine, the petals reflexing at the summits in the way of Beauty of Waltham, large, full, and finely formed, and altogether of first-rate excellence. *7s. 6d.*

LORD MACAULAY, H.P.—Velvety crimson, in the way of General Jacqueminot, but brighter in colour, thicker in the petal, and more double. The flowers are of good average size, produced abundantly and in rapid succession; the habit is good, and foliage handsome. *7s. 6d.*

MRS. WILLIAM PAUL, H.P.—Bright violet red, shaded with fiery red; flowers constantly, and in clusters, large and full. Raised by M. Verdier, of Paris, the raiser of Madame Furtado, and others of our finest Roses. *5s.*

RED ROVER, H.P.—Bright red petals, large, thick, and round; flowers abundantly and in succession up to Christmas. Not double enough for a show Rose, but the most effective pillar Rose ever offered. *3s. 6d.*

WILLIAM PAUL, H.P.—A seedling from Senateur Vaisse, but brighter in colour. Raised at Lyons by the raiser of Lord Raglan, Senateur Vaisse, and other first-class sorts. *5s.*

BEAUTY OF WALTHAM, H.P.—Bright rosy crimson, of good size, form, and substance, and deliciously sweet. This Rose is found to surpass the description originally given of it. *3s. 6d.*

All the new French Roses, *3s. 6d.* to *5s.* each, or *42s.* per dozen. The best of the old Roses at lowest advertised prices. The plants are well established, and in the finest possible health.

PRICED CATALOGUE free by post.

Nurseries and Seed Warehouse, Waltham Cross, N.

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**Hardy Climbers, Hardy Climbers.**

MESSRS. DILLISTONE AND CO., of The Nurseries, Sturmer, Halstead, Essex, has to offer a first-rate Collection of the above, consisting of splendid HONEYSUCKLES, ROSES, CLEMATISES; some very beautiful IVIES, JASMINES, &c., &c. A basket containing one dozen, carefully packed and paid to London upon receipt of 10s.

100 HERBACEOUS PLANTS, properly named and carefully packed, for 20s. PANSIES by the dozen, hundred, or thousand. PAMPAS GRASS, &c., &c. NURSERY STOCK in General.

Sturmer Nurseries.—March 14.

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**KITCHEN GARDEN SEEDS,**

**FLOWER SEEDS.**

In Collections including all the new and approved kinds, or separate to order.

Detail CATALOGUES post free.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND. THOs. GIBBS & Co. Corner of HALF-MOON St. PICCADILLY, London. APPOINTED APL. 3. 1844. THE SEEDSMEN

**AGRICULTURAL SEEDS,**

**GRASS SEEDS,**

**FARM SEEDS,**

of all descriptions.

Thomas Gibbs & Co

CORNER OF HALF-MOON St. PICCADILLY, LONDON, W.

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# GRASS SEEDS AND CLOVER SEEDS.

J. C. WHEELER AND SON GLO'STER

# J. C. WHEELER & SON,

## SEED GROWERS, of GLOUCESTER,

ARE IN A POSITION TO OFFER

GRASS SEEDS AND CLOVER SEEDS

ON EXTREMELY LIBERAL TERMS.

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BARR & SUGDEN 12 KING ST. COVENT GARDEN

*Second Edition, just Published, price 2s. 6d.,* OUR

# ILLUSTRATED GUIDE TO THE FLOWER GARDEN.

COMPANION *to the above, price* 1s., OUR

## ILLUSTRATED GUIDE TO THE KITCHEN GARDEN,

COLLECTIONS OF VEGETABLE SEEDS.

£3 3 0 | £2 2 0 | £1 10 0 | £1 1 0 | 15s. 6d. | 10s. 6d.

For particulars, see page 4 of "Guide to the Kitchen Garden."

COLLECTIONS OF FLOWER SEEDS.

£3 3 0 | £2 2 0 | £1 10 0 | £1 1 0 | 15s. | 10s. 6d. | 5s. 6d. | 3s. 6d.

For particulars, see page 18 of "Guide to the Flower Garden."

## STRIKING NOVELTIES.

Continued from last week's *Gardeners' Chronicle*, page 192.

### STRONG CANNA ROOTS,

A PORTION OF THE UNRIVALLED COLLECTION OF OUR "SARDINIAN CORRESPONDENT."

Fine foliaged plants, and such as are of stately growth, have of late years been much sought after for the adornment of the FLOWER GARDEN, TERRACES, PLEASURE GROUNDS, LAWNS, SELECT SHRUBBERIES, CARRIAGE DRIVES, &c.; besides relieving the monotony too frequently to be met with in such places, plants of this character impart a somewhat Oriental aspect.

For such purposes the CANNA stands unrivalled; its large picturesque foliage, and spikes of vivid-coloured flowers, produce a truly magnificent effect, especially when planted in groups, whether on the Lawn, in the centre of large beds, or in the mixed Flower Border. Varieties enumerated in our "Guide to the Flower Garden" will be found to form one of the most striking contrasts in habit and foliage.

| | | | | |
|---|---|---|---|---|
| 3179 | 100 | Roots assorted, our own selection, in 25, 30, and 40 varieties. | 5l. 5s., 6l. 6l., and | £7 7 0 |
| 3180 | 50 | " " ... ... ... ... ... ... ... | | 2 15 6 |
| 3181 | 25 | " " ... ... ... ... ... ... ... | | 1 10 6 |
| 3182 | 12 | " " ... ... ... ... ... | 12s., 18s., to | 1 1 0 |

**Gloxinia.**

1337. GLOXINIA TUBIFLORA.—(Cultural treatment same as the tuberose), producing, during the autumn months, its delightfully fragrant pure white trumpet-shaped flowers, in long handsome tuberose or Hyacinth-like spikes. A single plant is sufficient to perfume a Conservatory. 1s. 6d. We can also supply strong flowering roots at 3s. 6d. each.

**Goditia.**—See page 49.

1348. GODITIA, THE BRIDE.—Pure white, base of flower rich vermilion, very beautiful. 1s.

**Gynerium.**—See page 94.

2718. GYNERIUM ROSEUM.—A variety of the Pampas Grass, somewhat dwarfer than Gynerium argenteum, and having the panicles of blossoms tinged with rose. 1s.

**Helianthus.**—See page 51.

1379. HELIANTHUS ARGOPHYLLUS STRIATIFLORUS.—(See Engraving on 1st page of wrapper, and Ornamental foliage plants on 3d page of wrapper). A remarkably neat compact little Sunflower of a golden yellow, sometimes striped with brown, and with the most beautiful silvery foliage; a strikingly effective plant for flower, shrubbery borders, and large beds cut out of the grass. 1s.

**Hibiscus.**—See page 52.

1429. HIBISCUS MUTABILIS FLORE PLENO.—A magnificent variety of this highly ornamental genus, with large beautiful carmine double flowers, changing to purple. 1s.

1433. HIBISCUS ROSEUS PALLIDUS GRANDIFLORUS.—Flowers pale rose, of an immense size, and produced in great profusion; truly magnificent. 1s.

1434. HIBISCUS SPLENDIDUS.—Flowers beautiful bright rose, spotted with reddish purple; blooms freely during the winter months. 1s. 6d.

**Hypericum.**—See page 53.

1448. HYPERICUM WEBBII.—A splendid border plant, with gigantic leaves; an exceedingly effective ornamental foliage plant. 1s.

**Incarvillea.**—See page 88.

2487. INCARVILLEA SINENSIS GRANDIFLORA.—An elegant climber, with large handsome trumpet-shaped flowers of rich orange-scarlet tinged brown. 4d.

*To be continued next week.*

BARR AND SUGDEN, SEED MERCHANTS.

## ROSES AND HYACINTHS.

# WM. PAUL (SON and SUCCESSOR to the late A. PAUL)

Respectfully invites inspection of his ROSES and HYACINTHS, now in FULL BLOOM. Many of the kinds are quite new, and have never bloomed in England before.

Entrances from the Platform, Waltham Station (Great Eastern Railway), and High Road, Waltham Cross.

NURSERIES AND SEED WAREHOUSE, WALTHAM CROSS, N.

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## GRAND EXHIBITION OF HYACINTHS, 1863.

# WM. CUTBUSH & SON

BEG TO ANNOUNCE THAT THEIR

GRAND EXHIBITION OF HYACINTHS AND OTHER SPRING FLOWERS

WILL BE HELD AT THEIR

NURSERIES, HIGHGATE, during the TWO WEEKS commencing MONDAY, MARCH 16.

Admission by Tickets, which can be had free on application or by Private Address Card.

The Nurseries are easy of access by Omnibus from London Bridge Station, the Bank, Holborn, Tottenham Court Road, Islington, and Charing Cross to the foot of the Hill, from thence a distance of about 7 minutes' walk.

☞ NOT OPEN ON WEDNESDAY, MARCH 18.

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## NEW PURPLE VERBENA, LORD CRAVEN.

# DOWNIE, LAIRD, & LAING,

In offering the above truly magnificent variety, have no hesitation in pronouncing it by far the finest purple ever raised. It was unanimously awarded a FIRST-CLASS CERTIFICATE by the Floral Committee of the Royal Horticultural Society of London, 26th August, 1862, the only place exhibited.

The following is their report:—"A remarkably fine Verbena, producing bold, well-filled trusses, of large, flat, well-formed flowers, an inch in diameter, of a rich velvety puey purple self colour," and being of medium growth, free and branching habit, will prove a first-rate Bedding Variety.

Figured in Hogg's *Florist* for March, 1863, and Van Houtte's *Flore des Serres*, who requested permission to figure it.

See Editor's remarks in *Gardeners' Chronicle*, 27th December, 1862.

**Plants after 23d April, 5s. each, or 42s. per dozen. Per 100 on application.**

STANSTEAD PARK, FOREST HILL, LONDON, S.E.; and EDINBURGH.

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## INTERNATIONAL EXHIBITION.

PRIZE MEDALS 1851 AND 1862

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

# BUTLER & McCULLOCH, SEED MERCHANTS,

COVENT GARDEN MARKET, W.C.

(ESTABLISHED UPWARDS OF A CENTURY.)

COLLECTIONS OF VEGETABLE SEEDS SUITABLE FOR ANY SIZED GARDEN.

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| **No. 1.—20 Quarts of PEAS and other Seeds in proportion** | | | ... ... ... | **£3 3 0** |
| **No. 2.—11 ditto** | **ditto** | **ditto** | ... ... ... | **2 2 0** |
| **No. 3.— 8 ditto** | **ditto** | **ditto** | ... ... ... | **1 10 0** |
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| **No. 5.— 5 Pints** | **ditto** | **ditto** | ... ... ... | **0 10 6** |

A Specification of the above Collections is given at page 77 of Messrs. BUTLER & McCULLOCH'S systematically arranged SEED CATALOGUE for 1863, which may be had free and post paid upon application.

COLLECTIONS OF FLOWER SEEDS.

NEW ANNUALS.

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| 12 Extra fine Varieties ... ... ... | *10s. 6d.* | 6 Extra fine Varieties ... ... ... | *5s. 0d.* |

ANNUALS FOR BEDDING OUT.

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| 100 Finest selected Varieties ... ... ... | *30s. 0d.* | 25 Finest selected Varieties ... ... ... | *7s. 6d.* |
| 50 ditto ditto ... ... ... | *15s. 0d.* | 12 do. ditto ... ... ... | *4s. 0d.* |

HARDY ANNUALS.

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| 100 Finest selected Varieties ... ... ... | *20s. 0d.* | 30 Finest selected Varieties ... ... ... | *5s. 0d.* |
| 50 ditto ditto ... ... ... | *10s. 0d.* | 15 ditto ditto ... ... ... | *2s. 6d.* |

B. & McC. strongly recommend their COLLECTIONS OF STOCKS, ASTERS, and BALSAMS to Amateurs and Exhibitors; neither trouble nor expense have been spared in procuring the very best.

All Flower Seeds sent post paid; and all orders for Flower and Vegetable Seeds amounting to £1 1s. sent carriage paid.

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**Chrysanthemums, Chrysanthemums.**

J. H. BIRD, F.R.H.S., NURSERYMAN, Stoke Newington, begs to inform his friends and the public he can supply from his great Stock of the above 20 pairs of the best large Varieties for 10s.; and 25 pairs of best POMPONES for 10s.; 20 pairs of Cuttings of the large Varieties for 5s.; and 25 pairs of Pompones ditto for 5s

New CATALOGUES ready for one stamp.

N.B. To save trouble all orders to be paid to J. H. BIRD, Stoke Newington.

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**To the Trade.**

THE SUBSCRIBERS have still a few hundred thousands of each of the following SEEDLINGS to offer:—

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| 1 year Seedling Larch | 2 year Seedling Pears |
| 2 year Seedling Silver Fir | 1 year Seedling Pinus austriaca |
| 3 year Seedling Spruce | 1 year Seedling Pinus Laricio |
| 2 year Seedling White American Spruce | 1 year Seedling Pinus maritima |
| 1 year Seedling English Oak in drills | |

Also a large Stock of Transplanted BEECH, 1½ to 2 feet; Transplanted NORWAY SPRUCE, 9 to 15 inches and 12 to 18 inches; Transplanted WHITE AMERICAN SPRUCE, 1 to 2 feet; all extra fine stock. Samples, with prices, which are very low, may be had on application.

MORRISON BROTHERS, Aberdeen.

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FIRST CLASS NEW FUCHSIAS. — Coloured Drawings by Mr. ANDREWS of SANSPAREIL, BRIDESMAID, CONSPICUA, and HERCULES, are now ready, and will be forwarded in exchange for 12 postage stamps.

G. S. begs to offer the above as the most Superb FUCHSIAS yet offered to the Public. For description, with price, and also time of sending out, see CATALOGUE, now ready.

GEORGE SMITH, Tollington Nursery, Hornsey Road, Islington, London, N.

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A PRICED and DESCRIPTIVE CATALOGUE of all the new and leading kinds of Show, Spotted, French, Fancy, Scarlet, and Variegated Pelargoniums, Fuchsias, Verbenas, Petunias, Dahlias, Chrysanthemums, Bedding Plants, &c., is now ready in exchange for one postage stamp.

GEO. SMITH, Tollington Nursery, Hornsey Road, Islington, London, N.

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DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The annual importation of the above-named beautiful and fragrant Flower has just been received, and large and well selected Bulbs may be obtained, without disappointment, at A. COBBETT'S Foreign Warehouse, 18, Pall Mall.

N.B. Printed regulations for treatment sent.

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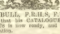
**New and Rare Plants for 1863.**



WILLIAM BULL, F.R.H.S, F.R.B.S., begs to intimate that his CATALOGUE of NEW SOFT-WOODED PLANTS is now ready, and will be forwarded Post free on application.

Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.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# The Gardeners' Chronicle.

*SATURDAY, MARCH* 14, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| WEDNESDAY, March 18 | Royal Horticultural (Fruit and Floral Committees) at S. Kensington | 10 A.M. |
| | CAMELLIA SHOW, ditto | 1 P.M. |
| THURSDAY, — 19 | Linnean .. .. .. .. | 8 P.M. |

FEW, perhaps, of our readers are aware how very small a proportion of the timber required for our navy is of British growth. The complaint, however, of the scarcity of trees of sufficient scantling for large vessels is not of yesterday. In a report of the Commissioners appointed to inquire into the condition of the Crown Woods and Forests, dated July 22, 1789, the rapid decrease of the quantity of native timber is brought prominently forward, and is attributed to a great proportion of the land best calculated for the growth of Oak being taken into cultivation, while freeboards and hedgerows which produced large quantities of excellent trees have been contracted or entirely destroyed.

To meet the deficiency, the Commissioners, influenced probably by the earlier results of the Duke of ATHOLL'S forests, strongly recommended the cultivation of Larch, which from its hardy nature, rapid growth, and excellent qualities, seemed to justify their favourable report. They remarked, meanwhile, that the ships built with this timber at Archangel were quite as durable as those of Russian Oak, and though they naturally clung to their own native wooden walls for the navy, they thought that if the builders of merchant vessels could be induced to try Larch timber, there would be more Oak available for dockyards.

Two or three years later one admirable vessel at least was built from the DUKE'S forests, which far outlived hundreds of more recently built Oak vessels, but unhappily, like the reputation of some single-speech orators, that of the Larch forests, so far as the navy was concerned, began and ended almost at the same time. The trees began to decay rapidly at the heart, and in process of time it was found that whatever might be the merits of the Larch as a source of profit when of a few years growth only, no dependence could be placed upon it for large timber.

The Larch rot was found, indeed, to be more especially prevalent where the land did not admit

of complete draining, a circumstance which seemed at once to be supported by the fact that the Larch on its native mountains flourished most where, though abundantly supplied with moisture, the water never stagnates.

In ill-drained land, especially where the ground had previously borne a growth of timber, whether of the same or of some different kind, the central root after a few years rotted, and the infection being communicated to the earlier central rings of growth, the heart of the tree decayed rapidly, so that when felled it was quite hollow, as if bored for draining pipes.

In dry situations again, where the subsoil was impervious, from the presence of conglomerate or some other rock of close texture, after a few years the trunks became cankered, and the produce so small as to render the plantations almost worthless.

Unhappily the soil which seems best calculated for Larch is not exempt from the evil. At the present moment we are in possession of discouraging facts respecting some Larch plantations which have hitherto yielded a fair profit, situated as they are on a good loam with an admixture of sand in the New Red Sandstone district of Cheshire, upon a bank sloping down to a brook, which receives at once all the superfluous water.

The first absolute evidence of evil was exhibited by a particular tree, which had died from some unknown cause, and which when felled, though the timber seemed at first in a healthy condition, was clothed between the bark and young wood by enormous sheets of fungous mycelium having the appearance of kid leather or common dry rot, but much tougher than the latter, proceeding evidently from several distinct points of growth, though at length in great measure continuous from the confluence of neighbouring patches. Of this we have specimens before us both from the upper and lower parts of the tree, where they present a very different appearance, in the one case being coated on either side with a thin brown skin, while in the other the part nearest the young wood is even and of a pure white, the outer surface being coated with portions of the latest formed bark, which adhere closely to it. Unhappily neither shows the slightest trace of fructification, so that we are unable to indicate the precise species to which they belong, though we believe that they are due to one of the following three Polypori, *P. abietinus*, *P. versicolor*, and *P. destructor*, all of which are more or less generally distributed upon decayed Larch.

It was at first believed that the Fungus had seized upon the living tree, and exhausted its vitality, thus departing from the common habit of feeding on "vegetable carrion," but further investigation showed that the tree from which the mycelium was taken, was far from being the only one affected, and that the only way of preventing an aggravation of evil was at once to fell the whole. For the central rings in other trees, when closely examined, appeared to be in the condition of seasoned rather than of growing timber, without any indications of moisture, and containing a very small quantity of resin if any. They did not indeed at present exhibit any traces of fungous matter, but it appeared quite certain that there would soon be unmistakeable symptoms of its prevalence.

The woodman attributed their condition to a severe attack three years since of the white aphis, which had evidently depressed the vitality of the trees, for not only has the foliage ever since been scanty, but the rings of growth corresponding to those years have been unusually narrow and irregular. It was found moreover that where the wood was affected, the bark had a peculiar rough aspect, the cones were retained at the top of the tree, while many of the lower branches were dead, a circumstance which at once pointed out the individuals in which the timber had begun to lose its tenacity.

We believe that in all cases of ordinary rot the Fungus commences its attacks from below, but we have already recorded a case of decay in which the contrary course seemed to have been taken, the Fungus being a *Peziza* and not a *Polyporus*.

As the soil is so good, and there have hitherto been no cases of Larch rot, it is very probable that the first attack of Fungus was really coincident with the devastation of the aphides, the low condition of vitality induced by the insects rendering the roots more susceptible of inoculation from any spawn that might exist in the soil.

In cases like that before us, the wiser plan is certainly to turn the plantation at once to profit. In general it is however worth consideration, since it is clear that in this climate Larch will seldom make large timber, what is the best time for turning the trees to profit. A careful comparison of the breadth of the rings of growth at different periods will at once indicate the time at which it is most profitable to cut down the trees.

With ordinary underwood it is quite certain that nothing is gained by letting the Elm and Ash poles stand to a second or third cycle. In the midland counties of England, where it is usual to cut the underwood every 14 years, we find that up to that period the growth is extremely rapid, and for five years later; but that after that period the breadth of the rings suddenly diminishes, so that it takes three or even four years to equal the growth of one of the preceding years, a decrease which is not sufficiently compensated by the increase of surface over which the new wood is developed. We are sure that sufficient attention has not been paid to this fact, which may be of considerable importance in the profitable management of undergrowth. The plantations of Larch to which our remarks are directed, it may be observed, are of 26 years' standing, and it is probable that, taking the risk of Larch rot into consideration, and the decrease of rapidity of growth after a certain number of years, the most profitable course will be to make the last felling about that period, though of course differences of locality will greatly modify our practice. *M. J. B.*

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Owing we suppose to the singularly damp season of 1862, succeeded by a winter of unusual mildness, the Aucuba japonica has been producing its scarlet "fruit" in several places, as has been announced in our columns. This not having occurred near London, we should have been unable to examine the so-called fruit had we not been favoured with specimens by some very obliging correspondents. The Aucuba being a plant which bears its male and female flowers on different individuals (diœcious in the language of botanists), its production of real fruit under any conditions of climate, however unusual, would be wholly opposed to the laws of Nature unless both male and female were present, which is not the case in our English shrubberies, where all the specimens are without exception female. We are glad to announce that Nature remains true to herself, and that A.D. 1862 has not witnessed anything so monstrous and unnatural as the birth of children without fathers.

The Aucuba, like the Apple and Pear, produces in the form of fruit a body composed of two totally different parts. The first or inside is the real fruit with the seed within it; the second, or outside, is a sort of husk which bears much the same relation to the fruit as a bird's nest to a bird's egg. In the case before us Aucuba has formed her husk without the fruit, just as a bird might have built her nest and laid no egg—that is all.

In truth it would have been a great disappointment had the abortions of 1862 been really fruit. For we have always looked forward hopefully to the time when the male plants lately brought alive from Japan by Mr. Fortune and Mr. Veitch, should enable our shrubberies to glow with the fiery berries of this plant. Our abortions have been miserable things about as big as a grain of Wheat; the real perfect berries of Aucuba are as large as Sloes. We possess unripe specimens, gathered near Yokohama, by Mr. J. G. Veitch, and in woods near Jeddo, by Mr. Fortune, each of which, although much shrunk in drying, measures five-tenths of an inch in length and three-tenths in breadth. An Aucuba bush loaded with scarlet fruit like this will really be something to admire, and we hope that no time will be lost by the fortunate possessors of the males in dispersing them through the country.

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## SEEDLING FRUITS.

Raspberries.—Although the Raspberry may be, in the estimation of many, one of our inferior fruits, it has been made so fertile in variation that more than usual interest has been felt in its cultivation. I therefore trust that if I give it more space than it may be thought to deserve as a garden fruit, I shall do so because the facts I shall have to detail may be of interest to the physiologist.

About 30 years or so since, I received from a gardener living at Wethersfield, in Essex, a plant of what he called the Black Raspberry, which he said was a hybrid between the Blackberry (Rubus fruticosus) and the Red Antwerp Raspberry, and which gave purple fruit. I cultivated this sort and soon found that it differed much in its habit from any Raspberry known, making very strong curved shoots of a dark purplish brown, from 8 to 10 feet in length in one season, and giving fruit of a purplish rose colour, very acid, and very different to any other varieties.

From this sort I commenced to raise seedlings many years ago, and found that there was but little variation in the fruit, although the canes of some were very full of spines, while others were nearly smooth; but all were summer-bearing Raspberries. I must here state that I disbelieved the assertion of the person who sent me the original plant, of its being a hybrid between the Blackberry and Raspberry, on the ground that the former flowers in August, while the latter flowers towards the end of May, in average seasons; so that unless artificial means were used to force the Blackberry, so as to make it flower with the Raspberry, no crossing could take place. I then came to the conclusion that it was probably a cross between the Dewberry (Rubus cæsius), which flowers in May and June, and the Raspberry, which I believe to be the fact. I continued to raise seedlings from my seedlings for three or four generations with scarcely any change, till in one batch I observed in the autumn some 10 or 12 canes of a totally different habit from the rest, for they were of a bright bluish tint, with a bloom of the colour of Plum bloom, and the ends of the canes were then (September) full of flowers and fruit, some of which were commencing to ripen. I was at first totally at a loss to account for this sudden change, till on looking over the canes whence I had gathered the seed I found that one plant of a new kind of Raspberry which I had recently imported from America had been planted at the end of the row of my black Raspberries. This sort was sent under the name of the "Ohio Everbearing Raspberry," said to have been discovered growing wild in Ohio by Mr. Longworth. I found the canes of this sort of the same bright blue as those of my seedlings, and like them full of flowers and fruit, which when they ripened were small, very firm and compact, with a peculiar web-like film spread over each berry, and of a very dark purple, like the wild American summer Raspberry, called the Black Cap.

I at once saw that to this sort I owed my hybrids. I must here observe that although the Ohio Everbearing Raspberry, in common with other autumn-bearing sorts, gives its full crop on the young canes the growth of the same season, it gives flowers and small inferior fruit in summer on canes of the preceding season; this will account for my summer Raspberries being hybridized by it.

In the course of the winter following my discovery, I selected all my blue-caned seedlings, and formed a row of them a long distance from any sort of Raspberry, hoping to keep the stock pure. In the autumn of 1859 my seedlings all bore a plentiful crop, and to my great delight all gave fruit of a good size and of the same dark purple colour, and very remarkable for their flavour—a combination of the Blackberry and Raspberry. I must confess I was much interested in these Raspberries, for they seemed a new creation. I even began to think that I had established a species, thought about "selection" and other ideal matters, for the canes, the leaves, and the fruit were all so perfectly *sui generis*, as to lead one to that train of thought.

In the autumn of 1859, I had all the finest fruit of these autumnal black Raspberries selected, and the seeds sown. In 1860 I had an abundant crop of seedlings, of which I took more than usual care, for they were planted on an old hot-bed, and by the end of summer were two to three feet high. Nothing in garden experiments could be more interesting than my crop of seedling Raspberries, and alas! nothing to me more disappointing, for instead of finding them all alike with blue canes and habit like their parents, I found on close examination that some of the canes were red, some white or yellow, some purple, and so on, and their leaves—never could we imagine such a diversity. Many of them nearly as large as those of Hollyhocks, and nearly as rugose; some of the plants were stout and full of spines, like the common Blackberry, others perfect pigmies. In 1861, all these seedlings were planted out thinly, so as to give them space to grow and bear fruit; some hundreds of them gave fruit, and all those with blue canes gave purple fruit, like the parent stock, but a great number gave red fruit, small and worthless. Some twenty or thirty gave fruit of a pale yellow, and a few canes bore bright orange-coloured berries. One among them was remarkable for giving in October some of the largest and most beautiful orange-coloured Raspberries ever seen; but strange to say, although as a rule yellow Raspberries are much sweeter than red, yet my orange-coloured seedlings were acid, and seemed to combine the Blackberry with the Raspberry flavour; but there was no end to their diversity in size, colour, habit, and flavour. I have been, and am, totally at a loss to account for this, particularly as regards the orange-coloured and pale yellow varieties, for my row of black Raspberries, whence the seed was gathered, is at least from 500 to 700 yards from any yellow variety.

It would seem as if my original black Raspberry, stained with the nature of the Dewberry, was open to change more than our common kinds of Raspberries, so that its flowers, fertilised with the pollen of the Ohio Everbearing by the bees, produced fruit (seed) which has

opened up new races of Raspberries unlike any ever produced in our gardens. How wonderful is all this!—that one foreign plant has through accident wrought such changes, for it must be stated that the seed of our common kinds of red and yellow summer Raspberries, although growing near plants of the Ohio Everbearing, has produced plants with little or no variation. I have also raised many hundreds of seedlings from those two well-known autumn-bearing varieties, the October red and yellow Raspberries (Merveille des Quatre Saisons of the French), thinking that as the Ohio Everbearing had wrought such changes in my summer-bearing black Raspberry, it would from blooming at the same season as the above-mentioned autumn-bearing sorts, and growing with them so that the bees would fertilise the flowers—it is very remarkable to find the flowers given by these autumn-bearing Raspberries in August and September most attractive to bees, which swarm on them—and have some extraordinary effect on the seed given by the October red and yellow sorts. Seed was sown, some hundreds of plants were raised, all of which have borne fruit, but not a single deviation can be found at all marked—all produce fruit like the parent sorts, varying a little in size; leaves and shoots are all alike.

The following fact seems to give more interest to my hybrid Raspberries, and to make them appear to be of a distinct race. They do not put forth suckers from their roots like our common sorts, but, on being cut down annually, they form "stubs," like those in a wood cut periodically, with but few and, in most cases, no suckers.

Seedling Raspberries from the Yellow Antwerp produce, for the most part, yellow fruit with but little variation, except that a few will give red fruit. It is rare to find any variety worth perpetuating among them. Seedlings from the Red Antwerp and Fastolf also vary but little. In France the latter is said to have produced both the yellow and red October Raspberries (Merveille des Quatre Saisons), which I have referred to above, and which reproduce themselves from seed with but little variation.

Strawberries.—There are but few horticultural employments more interesting than raising Strawberries from seed. If some ripe berries are squeezed flat, laid on the surface of some mould in a flower pot, and the flattened pulp covered with a covering of fine earth to the thickness of a crown piece—if all this is done in June, and the surface of the mould covered with a piece of slate or tile to keep the seeds from being disturbed by heavy rains or vermin, a large crop of young plants may be expected in April or May following; and these if planted out thinly, will in the following year bear a full crop of fruit, some of which may, in the opinion of the raiser—for do we not love our children?—be worthy of bearing the names of the kings, queens, and princes of the earth.

"Time flies away," as the church clerk at a village in Essex once translated and transferred to his sign-board "Tempus Fugit." It is more than 20 years since that my brother, who was addicted to crossing Turnips, and other bucolic matters at which we gardeners are apt to look with lofty eyes and a little contempt—for do not the farmers think much of themselves, and are they not patted on the back by great men, and have they not a Royal Society with Imperial resources, and are they not addicted to taking more pleasure in looking over a flock of fat "ship," as my old neighbour used to call them, than at a fine house of Peaches or Grapes, much to our distaste?—well, my brother sowed a considerable quantity of the seeds of Myatt's Eliza Strawberry, and the young plants when planted out here formed a large bed; it was interesting to see such a level mass of foliage. The second year they all or nearly all bore fruit, and then in the centre of the bed was discovered one plant with comparatively large leaves, and forming a robust tuft. This sort gave large fruit, very different from the parent sort and its surrounding brethren, all of which partook largely of the stock they were raised from, and, as we then thought, were not worthy of being named, although it has often occurred to me since then that many of them were more worthy than many new kinds recently introduced. The robust-growing seedling was named the Seedling Eliza, and has now made its way to a high place among Strawberries. I mention this remarkable sort making its appearance amongst a crowd of others, because it reminds me of the method of raising seedling Roses in France. Large quantities of seed are sown, and the sower is often rewarded by a fine variety—one in 500 or 1000, perhaps—making its appearance in the midst of a crowd—a specimen of "natural selection," and worthy of cultivation.

The most difficult Strawberries to break into by crossing, are the Hautbois and Alpine varieties; millions of the latter have been raised from seed, but up to the present time no fruit-bearing cross-bred varieties have made their appearance. Several sorts have been introduced varying in the size and flavour of their fruit, but no Alpine Strawberry with the autumn-bearing propensity peculiar to the race and partaking of the size and flavour of the British Queen, has yet been raised.

The Hautbois Strawberries are also very obstinate in their adherence to race, a cross with the Alpine seems as if it would not be unnatural, looking at the races in their wild state; but although said more than once to have taken place, it has not, that I am aware of, yet occurred.

A few years since a variety was raised at Bordeaux, said to be a cross between the Alpine and Hautbois, bearing freely in autumn and partaking in its flavour of both sorts. The first season after its introduction it bore freely in the autumn, and one almost fancied that what had been said about it was true, for its fruit in September, with a little stretch of imagination, seemed to taste like the Alpine. This habit of bearing in the autumn soon ceased, and the sort—evidently a seedling—proves to be much like the Prolific Hautbois, only more vigorous and a more abundant bearer. I have expressed my belief of this variety being a seedling because I have found that seedling Hautbois Strawberries for one or two seasons have a great tendency to produce flowers and fruit late in autumn, and then relapse into the habit of the race.

Feeling interested in the Belle Bordelaise Strawberry, I sowed the seeds of nearly all my first crop, and raised hundreds of young plants: trusting, as in the case of the Seedling Eliza, to nature or chance making a selection. I planted them in a large bed, and was not disappointed, for in the midst of a crowd of luxuriant seedlings, all with the true Hautbois character, I one day saw a cluster of magnificent berries peeping through the leaves of its neighbours. They were the largest berries of this race I had ever seen. On looking more closely into the bed, I found another cluster of berries nearly as large; all the rest of the seedling plants gave berries of a very inferior size, and were destroyed. The first sort selected I distinguished as No. 1, the second as No. 2. No. 1, in 1862, gave very fine fruit and bore abundantly; No. 2 proved a failure, being late in ripening and inferior in flavour. Seedlings from the Seedling Eliza retain the robust habit of the parent, but their fruit up to the present time has not been found equal to the parent stock. Seedlings from Carolina Superba seem to give hopes of a more robust habit than the parent. On the whole, seedling Strawberries are most interesting, but the raiser must not have high hopes, for it is necessary to test all by high standards, such as the Queen, Carolina Superba, and some others that are of high excellence. In 1861-2 a large bed of seedlings, some thousands in number, all raised here from a few choice sorts, bore abundance of fruit; their variation in growth was most remarkable; some were dwarf and compact, some tall and straggling, and the variation in the shape and size of their fruit was also remarkable; and more so, there was scarcely a bad Strawberry among them—but not one was superior to our well known and popular varieties. *Thos. Rivers.*

## PLANTS OF PERU.—No. IX.

*(Continued from p. 101.)*

Cinchonas.—On the 28th of March the steamer reached Bombay, where the cases were disembarked, taken to the Town Hall, and placed in a position where they were secure from the clouds of sand and dust which are wafted about by the wind, and from the rays of the sun. Early next morning, Dr. Birdwood, the Curator of the Bombay Museum, made arrangements for getting the cases put on board H.M. Steamer Dalhousie, which was about to proceed to Madras, but would stop at Calicut and other towns on the coast, on her way to that place. The cases were accordingly carried to the quay by coolies, and put into boats, which conveyed them to the steamer. When they had been all placed on board, Dr. Birdwood, who had kindly superintended the operation, returned to the town, and I was engaged in shading the cases when the captain of the steamer came to me and inquired "if I was going to accompany them to Calicut." I replied that I was. "Show me then," said he, "your order; for I have received instructions to take the cases to Calicut, but none concerning you." I said that it was probably an oversight on the part of Dr. Birdwood, but that I believed it was understood I was to go along with the cases to their destination. "Well, well," was the reply, "that signifies nothing; if you cannot produce an order you must go ashore."—Very well," I said, "but you must put the cases ashore also."—"No, no," was the answer, "I have an order for them, but none for you, and so, if you do not make off quickly, I will send you ashore in 'irons.'"

In order therefore, to avoid confinement I went ashore and proceeded to the Town Hall, to state my case to Dr. Birdwood, who, however, had gone to another part of the town on important business; on reporting the matter, however, to another gentleman, I was advised to go to Commodore Wellesley, and relate the matter to him. The Commodore's residence was a considerable distance from the town, but my adviser sent his servant along with me to point out the way. And as there was no time to be lost we set out at a running pace, under a very hot midday sun, with clouds of sand and dust blowing about in every direction. On reaching the house of the Commodore, I reported my difficulties, and he at once provided me with the necessary order. On again reaching the steamer I handed the note received from the commodore to the captain, which in some measure seemed to satisfy him, but on requesting permission to move the cases under an awning, I was peremptorily informed that they must remain in their present place. And so, during six days' voyage between Bombay and Calicut, they were exposed to the full rays of an Indian sun, for the Russian mats I had brought with me from England on being spread over them broke and crumbled to dust; they therefore afforded but little shade. [We hope that this will meet the eyes of the gentlemen of the India Board. This gentle Captain would be benefited, or at least future passengers would be, if he were called upon to explain his conduct.] The steamer arrived at Calicut on the 4th of April, when the cases were disembarked without sustaining any injury. At Calicut I had ready an effective assistance from the Deputy Collector of the district, Mr. Bates, who immediately provided canoes for the transportation of the cases, which had to be taken up a river that falls into the sea a little way to the south of Calicut. About 6 P.M. of the same day on which the cases were disembarked, they were placed in the canoes, and we proceeded up the river. The night was dark and silent, but the banks of the river were lined with fishermen, who went about from one place to another, bearing large flaming torches, that now and then lighted up the dark foliage of the lofty Palm forest behind, and presented a scene which strongly reminded me of those exhibited by the camp fires at night on the banks of the Guayaquil river in South America.

Early on the following morning we came to a shallow part of the river, over which the canoes could not be dragged; the cases had therefore to be carried by coolies from this place to Ootacamund. The first day's journey was over rising grounds and long undulating plains, some of which were partially cultivated and bore fine crops of Rice and Plantains. Here and there along the sides of the road were groves of the Banyan tree, Ficus indica, whose wide-spreading branches, thickly set with foliage, afford protection from the fierce rays of the sun. This day I saw one of the many cunning tricks practised by the mendicants of India. Just before entering a small village where we intended to remain for the night, a man was observed a little way in advance lying under the shade of a Banyan tree, with his knees drawn up to his breast, and rolling about and groaning, as if he was enduring the greatest possible agony. As we approached, groans were increased to loud cries, and his features were much distorted. When we came opposite to where he lay, my companion dismounted, and taking hold of a small stick which I held in my hand, was about to deal him a smart stroke across the knees, when he sprang to his feet and ran off with a rapidity to which even very active men in England could make no pretensions. Early next morning we reached the ascent of the Sispara Ghaut, where we were met by Mr. M'Ivor, the Superintendent of the Government Gardens at Ootacamund, who conveyed us to the summit on the same evening. The vegetation of this Ghaut is very fine, containing several kinds of Palms and Tree Ferns, some of which attain a great altitude; and I saw here, too, the Angiopteris evecta, Pteris argyræa (a variegated Fern), and several kinds of Torenia. Two days' journey more over the summits of the Neilgherries brought us to the scattered village of Ootacamund, where I arrived with the fifteen cases containing Red Bark plants on the 8th of April. On reaching Ootacamund the plants were placed in the Government Gardens under the charge of the Superintendent. Next day they were counted by Mr. M'Ivor, who stated their number to be 470; including six of C. Calisaya taken from Kew, which were still alive. There were, however, a number of plants that had lost their leaves during the voyage between Bombay and Calicut, and these were not included in the reckoning, but on transplanting it was found that they likewise possessed healthy roots and buds; therefore the entire number amounted to nearly 500 "Red Bark" plants. Owing to the capricious and perverse character of the captain of the steamer Dalhousie, [This quarter-deck Captain once more to be noted down] the plants were, as I have already stated, subjected to much ill usage during the voyage between Bombay and Calicut. They were placed on a part of the deck where they were entirely exposed to the fierce rays of a tremendous sun, and ropes, &c., streaming with salt-water were continually being dragged over them; the latter frequently caught hold of the covers of the cases, pulling them off, and breaking many of the leaves and shoots. Before leaving Bombay the cases contained 580 plants; there was therefore a loss of 19 between Peru and the mainland of India. During the voyage between Peru and England only six plants were lost, and these were previously very delicate, having been raised from seeds about two months before leaving the slopes of Chimborazo. *Robert Cross, Quito, Oct.* 1862.

## WHEN AND HOW SHOULD STRAWBERRIES BE PLANTED.

On reading the title of this article, many experienced cultivators will doubtless say, "These are old questions which have long ago been debated and settled; therefore it is unnecessary to bring them up again." Others, and the greater number, may perhaps find in them certain points to which they may again profitably advert. I am inclined to think so; for having examined plantations of Strawberries in different localities, I have come

to the conclusion, that they have not generally been made with the precautions necessary to insure the desired result.

Some advise Strawberries to be planted in the end of August, or in September, or better still, between the 1st and 15th of October; others prefer the months of March or April. Those who advocate the former period say that the plants put out in the end of summer or beginning of autumn have time to establish themselves in the soil before winter and to gain sufficient strength to bear a crop in the following summer. This reasoning, it must be admitted, appears plausible. The success of plantations made at this season depends however, in a great measure, on the soil being well worked, and in proper condition as regards moisture; on the plants being sufficiently strong and furnished with good roots, and on their being carefully transplanted. I agree with the opinion of those who prefer spring planting. For more than a quarter of a century I have planted at all seasons, but the spring plantations have always proved the best. The cause of this success lies in the following facts:—

The plants established round the stools since last summer without being detached from their parent plant, will be found much stronger after winter than those that have been separated before winter, either for planting out in nursing beds, or at once in the plantation. When carefully taken up with all their fibres in spring they soon take root, and grow vigorously in well prepared newly dug ground; and in June or July they produce as much fruit as those that have been detached in a young state and planted before winter.

On taking up some young Strawberry plants it will be observed that the very slender fibrous roots extend obliquely in the soil in all directions round the parent plant. From this *fact* the cultivator should infer that in transplanting he ought to extend the roots in a similar oblique direction, covering them successively with soil up to the necks of the plants. On examining these a fortnight after it will be found that new spongioles have been formed all along the roots, a circumstance which shows the utility of preserving all the fibres when taking up the plants.

Every cultivator must be aware that Strawberries push roots more than a foot into the ground, provided it is deep, and rendered loose and permeable by manures suitable to the nature of the soil. They extend obliquely more than a foot and a half in all directions round the plant. If they are planted so closely that the roots entangle each other in struggling to obtain nourishment, it may be easily conceived that the produce must in consequence be diminished, not only in the first, but also in the second, and more especially in the third year after planting. By some this is ascribed to the plants being exhausted; but this is an error arising from mistaking the effect for the cause. It would be more reasonable to say that the elements of nutrition in the soil become insufficient for the demand. These observations show the necessity of planting widely apart, so as to prevent the roots of Strawberries and other plants from coming in contact with each other if we wish to obtain fine produce.

Those who plant exclusively with a view to crop, and to obtain the fruit in full perfection, cut off the runners in spring and summer as they are produced. The fewer runners a variety of Strawberry throws out, the easier the plantation is kept in order. A variety naturally disposed to make few runners is preferred to those that produce many, if in other respects it possesses equal merit, a property which is becoming more and more appreciated by connoisseurs. Such being the case, I was rather astonished to observe that Mr. Radclyffe makes the limited production of runners a fault as regards La Constante; and this is a reproach thrown on this Strawberry which is even not well founded; for if planted in good soil, neither too dry, nor too stiff, cold, and wet, it produces runners sufficiently well. A dozen young plants which were planted out in April, 1862, furnished by October 127 plants, which was at the rate of more than 1000 per cent. The circumstance of this variety not producing a superabundance of runners is considered one of its meritorious characters by the most intelligent cultivators.

What will Mr. Radclyffe say when he shall have cultivated two varieties to which I have given the names of Model and Bijou. The first name applies to the plant and its fruit; the second exclusively to the fruit, which is truly a Bijou in every respect. They are improved seedlings from La Constante, and produce runners in an infinitely more moderate degree. *J. De Jonghe, 9, Chaussée de Nieuwmolen, Saint-Gilles Lez Bruxelles, Feb. 20.*

## Home Correspondence.

*Spontaneous Generation.*—In the "American Journal of Science," July 1862, or rather in an extract from it, there is a notice of "Experiments on the formation of infusoria in boiled solutions of organic matter, enclosed in hermetically sealed vessels and supplied with pure air," by Jeffries Wyman M.D., Horsey Professor of Anatomy in Harvard College. He refers to Pasteur's admirable researches on fermentation, and states that in his (Pasteur's) experiments, where the vessels had been submitted to a boiling heat, and no air admitted except through red hot tubes of iron, the contents remain unaltered an indefinite time—no organisms appeared. Whereas in Dr. Wyman's experiments, 33 in number, and conducted with even more care than Pasteur's, organisms, viz., Vibrios, Bacteriums, ferment-cells were found very generally, and in some cases Monads, Spirillums, and Kolpoda-like bodies were seen, some of them having ciliary movements. He states that Professor Asa Gray witnessed the opening of some of the flasks, and satisfied himself of the presence of infusoria in the contents.

*Dipsads.*—The Dipsad mentioned by your correspondent "X. X." is not a plant, but a fabulous serpent, thus included among the African serpents by Lucan, ix. 610:—

> "Stabant in margine siccæ
> Aspides, in mediis sitiebant Dipsades undis."

The supposed effect of its painless bite in destroying its victim by intolerable thirst is described in the same book, ix. 737, 760. *T.*

*Phalænopsis Schilleriana.*—I am extremely gratified in being able to state that this fine plant has nearly approached the point I affirmed it would do about this time last year in your columns, in which I asserted that I had received dried spikes, consisting of several branches, and bearing upwards of 100 flowers. Mr. R. Warner of Broomfield, Chelmsford, has at the present time a magnificent specimen of this plant in bloom; its spike, which is 3 feet long, consists of seven branches with laterals, and is furnished with 76 beautifully expanded flowers, all of which are in perfection, producing a grand effect. The plant in question is growing on a block; although only imported about 18 months ago, it has leaves a foot in length, and 4 inches in diameter. In the same collection I also saw two other plants of P. Schilleriana in flower; both varieties differed from one another, and one was finer than any I ever before witnessed. There appears to be great variety among plants of P. Schilleriana; some have foliage not so much variegated as others, and some of the flowers are of a deeper colour and more spotted upon the upper part of the lip than the kind first imported. *B. S. Williams, Paradise Nursery, Holloway.*

*Fruiting of Aucuba japonica.*—About four years ago I saw a few bright red oval berries on a variegated Aucuba in my garden at Sunningwest Rectory, near Oxford. My gardener, who has been employed in the same garden for many years, said he had never seen them before. Your Irish correspondents say nothing as to the size of the berries; those I saw were hardly bigger than a grain of Wheat. The Aucuba which produced the berries in question was, like those in Ireland, in the shade. I had other plants in more open parts of the garden which were more luxuriant, but bore no fruit. *G. H. Sawyer.*——Having noticed (see p. 197) that some of your correspondents are surprised at finding the blotched-leaved Aucuba japonica in fruit, I beg to inform them that I have gathered beautiful berries several times from plants in the shrubbery here during these last six or eight years. The plants which fruited grew in shade under the drip of Limes, Elms, and other trees. I inclose two clusters for your inspection, which I have this day obtained from one of our plants about 5 feet high; the fruit is however much smaller than that gathered in previous years. *J. Mitchell, Gardener to P. P. Smith, Esq, Tremorvah, Truro, Cornwall.*

*Leafless Cedars of Lebanon.*—In one part of our pleasure grounds are two Cedars of Lebanon, varying from 30 to 35 feet in height, which have always had a healthy appearance until last autumn, when they began to lose their leaves, and they have continued to do so ever since, which has left them naked. My employer has therefore desired me to ask if you have heard any similar complaints from other quarters respecting Cedars being affected in the manner just described. *A Constant Reader.* [No.]

*The Royal Wedding Day.*—I have much pleasure in stating that I followed the excellent suggestion of your Correspondent, by planting a tree yesterday on the highest part of Selborne Hill, in the presence of a goodly number of the inhabitants of this parish, including the clergyman and his lady, and a large number of children, headed by our excellent schoolmaster and mistress. The whole affair went off well, and will, I hope, be long remembered. The tree is named the Prince's Tree. *Thomas Bell, The Wakes, Selborne.*

## Societies.

LINNEAN: *March* 5.—G. Bentham, Esq., President, in the chair. Dr. W. Carmichael McIntosh was elected a Fellow. Sir C. J. F. Bunbury, Bart., exhibited cones of Taxodium sempervirens produced in the arboretum at Barton Hall, Suffolk, on a tree planted in 1847. The following papers were read:—1. "Notes on the Geographical Distribution of the aculeate Hymenoptera, collected by Mr. A. R. Wallace, in the Eastern Archipelago," by F. Smith, Esq.——2. "On the Parasitism of the Mistletoe (Viscum album)," by John Harley, M.D., communicated by Dr. Hooker. After alluding to the fragmentary and superficial nature of the information to be found in our language on the subject of the parasitism of the Mistletoe and other plants (which subject he had been led to investigate, in the hope that it might throw some light on the cause of cancer and analogous diseases), the author proceeded to give an account of the general arrangement of that part of the Mistletoe which lies within the nourishing plant. Most writers, *e.g.*, Henslow, Griffith, Unger, Schacht, and Pitra, agree in stating that the young plant first sends into the bark of the nourishing plant a single root or sucker, which pressing inwards comes into perpendicular relation to the wood of the nourishing plant, in the cambium layer of which the point rests, and there ceases to grow. In its passage towards the wood, it gives off several horizontal or side roots, which run along the branch in the bark, or upon the surface of the wood. These side roots give origin to perpendicular suckers, which come into contact, like the original root, with the surface of the wood; while the wood and bark of the mother plant, in their periodical increase, form layers around the suckers, which grow in exactly the same manner in the cambium stratum, and thus the hardened suckers come to be embedded in the body of the wood. Dr. Harley's own researches led him to the conclusion that the horizontal ramifications of the Mistletoe are contained entirely in the bark, and do not as represented by Schacht run upon the surface of the wood, and consequently do not 'become embedded, like the other roots, in the wood, by means of the growth of the stem,' as is stated by Unger; but unless the layer of bark which intervenes between these roots and the surface of the stem be accidentally killed, they are continually removed further from the surface of the wood by the formation of the new layers of bark. The base of the Mistletoe and all its ramifications are what the author calls roots. Owing to the regular arrangement of the medullary system of plants, the roots of the parasite have a corresponding regularity of distribution, each perpendicular root invariably occupying the position of a medullary ray of the nourishing plant. This conclusion the author rests on the following fact:—the base of the Mistletoe is always attached at right angles to that particular part of the branch upon which it grows, and this relative position is maintained with regard to the roots of the parasite which lie within the stock. The young roots of Mistletoe are invariably found, on making a transverse section of a branch infested with them, to be convergent, like radii, from the circumference to the centre if this be occupied by the medullary canal, or if not so, towards the excentrical pith. In their progress inwards they gradually taper and terminate in excessively fine extremities at variable distances from the medullary canal, some few occasionally reaching it. The roots lie strictly parallel with the contiguous medullary rays. A vertical section of the nourishing plant made at right angles to the medullary rays, divides the roots of the parasite at right angles to their long axes. The majority of the sections have, like the medullary rays, an elliptic shape, and the direction of the ellipse invariably corresponds in the two. Like the medullary rays the roots tend to become confluent in the longitudinal direction; and they are arranged in linear series up and down the branch, an arrangement which corresponds to that of the medullary rays themselves. Dr. Harley finds that the medullary system of the two plants are everywhere confluent, and that there is such an assimilation of the constituent cells of the two systems, as would lead one to suppose that the cells which form the surface of the roots of Viscum, and connect it with the tissues of the nourishing plant, belong to the medullary system of the latter rather than to that of Viscum. The young cellular root of viscum may be regarded generally as a prolongation of the central pith of the parasite. The woody fibres of the two plants never, as far as the author's observations have gone, come into actual contact; the plain thick-walled prosenchyma of Viscum constantly thins away and disappears towards the attached surface of the parasite, so as to be entirely absent at the line of junction between the two plants. As regards the relation of the vascular system of the two, Unger considers their inosculation to be an essential condition of all cases of parasitism, and Pitra appears to have adopted the same view. That the vessels of the two plants do not however directly inosculate, and that their inosculation is probably accidental and contingent upon the relation of the parenchymatous systems of the two plants, appears evident, for the reticulated ducts of Viscum invariably run parallel to the surface of the part in which they are contained. Its vertical roots run horizontally inwards, parallel to the medullary rays, and therefore at right angles to the fibrovascular bundles which regularly diverge around them. In longitudinal sections of these roots it is readily and uniformly observed that the reticulated ducts run parallel with the long axis of the root; rows of the long reticulated cells which compose them frequently occupy the surface of the root, which is bounded by prosenchymatous cells and ducts seen in transverse section. There then, it is clear, the vascular tissues of the two plants are arranged at angles to each other. The relation of the fibrovascular bundles of the two plants may best be made out in the Poplar, the large ducts of which correspond in size with those of Viscum. As to the relations of the cortical systems of the parasite and its nurse, the author, after careful scrutiny of a great number of specimens, finds the contiguous barks of the two to form a living union with each other, and thus to cover over the line of junction between the woody systems with a living layer, by which the uninterrupted circulation of the sap is secured. Dr. Harley concludes that the essential condition of parasitism is a confluence of the medullary systems of the parasite and its nourishing plant; and that the roots of the parasite actually

invade the cellular system of the plant upon which it grows. The second conclusion is in opposition to the views of all the authors whom he has consulted on the subject. When the roots of the Mistletoe have fairly infixed themselves into the medullary system of the nourishing plant, their invasive growth ceases; but they increase and lignify about their outer portions, while the inner extremities now lying deep in the hard wood, constantly retain their original soft cellular condition. The author considers the life of the parasite as dependent upon these delicate cellular processes. They are, he observes, to Viscum what the cellular rootlets of terrestrial plants are to them. Hence he objects to the reiterated statements commonly made in botanical works that the Mistletoe contracts an organic adhesion with the cambium layer, and becomes grafted just as a bud does in the ordinary operation of budding. Parasitism and grafting, he argues, differ in this important particular, that whereas the life of the scion is maintained by woody union with the stock, that of the parasite cannot be so maintained, but requires for its preservation a root, by the selective action of which the materials of its nutrition and growth may be elaborated from the sap of the nourishing plant.

Botanical of Edinburgh.—The Society met on Thursday, 12th February, at 5, St. Andrew Square—Professor Balfour, V.P., in the chair. Various donations to the Society's library were laid on the table. The following communications were read:—I. "*Notice of Plants collected in the counties of Leeds and Grenville, Upper Canada, in July* 1862." By George Lawson, LL.D.——II. "*A Record of the Plants collected by Mr. Pemberton Walcott and Mr. Maitland Brown in the year* 1861, *during Mr. F. Gregory's Exploring Expedition into North-West Australia.*" By Ferdinand Mueller, M.D.——III. "*Extracts from Indian Letters from Dr. Cleghorn.*" Communicated by Professor Balfour. In one of the letters, dated Punjaub, 15th October, 1862, Dr. Cleghorn said:—In fulfilment of Lord Canning's instructions, I have just completed one of the most extensive and adventurous journeys ever made on the Himalaya, and from the rapid nature of the movements, often very fatiguing. It has been my duty to follow the flexures of four of the great Punjaub rivers (Sutlej, Beas, Ravi, and Chenab) from the plains up to the highest points where timber of value is found to grow. In some places I diverged to examine the main tributaries, or to test the amount of breakage in many of the timber slides.——IV. "*Notes on the Physiological Action of the Calabar Poison Bean (Physostigma venenosum — Balfour).*" By Thomas R. Fraser, M.D.—This paper was an abstract from Dr. Fraser's graduation thesis of last session. It was concluded from an experimental investigation that the spermoderm of the Calabar Bean possesses properties as a sedative of the spinal cord, hydragogue cathartic, and diuretic. The most energetic action was obtained from the kernel. It was concluded—1st, to act on the spinal cord by destroying its power to conduct impressions; 2d, this destruction may result in two well-marked and distinct effects—*a*, in muscular paralysis, extending gradually to the respiratory apparatus, and producing death by asphyxia; *b*, in rapid paralysis of the heart—probably due to an extension of this action to nervous ganglia of the heart—causing death by syncope; 3d, a difference in dose accompanied this difference in effect; 4th, the action does not extend to the brain proper, *pari passu* with the action on the spinal cord; the functions of the brain may, however, be influenced secondarily; 5th, it produces a paralysis of muscular fibre—striped and unstriped; 6th, it acts as an excitant of the secretory system, increasing especially the action of the alimentary mucous membrane; 7th, topical effects follow the local application of the watery emulsion and alcoholic extract; these are—destruction of the contractility of muscular fibre, and contraction of the pupil when applied to the eyeball or eyelids. It is probable that this last action may be of importance in illustrating the action of the Bean. Valentin has shown that the iris receives its nervous supply from two sources, from cerebral and from spinal filaments. He has concluded that the cerebral filaments are supplied to the circular muscle or contractor of the pupil, and the spinal to the radiating muscle or dilator of the pupil. The actions of these two nervous supplies must be regarded as antagonistic. When therefore the influence of one set of fibres is removed, that of the other will be unchecked, and will produce a greater degree of its proper action. Thus, when the influence of the cerebral supply is removed, the fibres, which are acted on by the spinal nerves, will be unchecked, and dilatation of the pupils will result. The kernel of the Calabar Bean can in its action be referred to the spinal cord in the same way. The contraction of the pupils may be caused in three ways—by cerebral irritation, by spinal depression, and by a combination of cerebral irritation and spinal depression. The symptoms disprove any cerebral irritative action, and so neither the first nor last of these can be regarded as the cause of the contraction. The symptoms on the other hand, distinctly indicate a depressing action on the spinal cord. By this action the power of the cord to transmit impressions is destroyed, and so, necessarily, the power of transmitting the spinal influence to the iris. The balance between the dilator and contractor muscles is removed, the circular fibres, being unopposed, act, and the pupil is contracted. Dr. Fraser described a similar physiological action to result from the administration to man.——V. "*Register of the Flowering of Spring Plants in the open air, at the Royal Botanic Garden, Edinburgh.*" By Mr. M'Nab. The register showed the dates at which the flowering took place in 1861, 1862, and 1863 respectively. Those for the latter year were as follow:—Aubrietia grandiflora, Jan. 16; Corylus Avellana, Jan. 16; Tussilago fragrans, Jan. 18; Helleborus orientalis, Jan. 18; Hepatica triloba, Jan. 20; Helleborus purpureus, Jan. 23; Galanthus nivalis, Jan. 26; Garrya elliptica, Jan. 26; Rhododendron atrovirens, Jan. 27; Symphytum caucasicum, Jan. 28; Primula denticulata, Feb. 2; Leucojum vernum, Feb. 2; Tussilago alba, Feb. 2; Omphalodes verna, Feb. 2; Eranthis hyemalis, Feb. 3; Erica herbacea, Feb. 6; Galanthus plicatus, Feb. 7; Crocus susianus, Feb. 9; Crocus vernus (blue), Feb. 10; Rhododendron Nobleanum, Feb. 11; Sisyrinchium grandiflorum, Feb. 12; Nordmannia cordifolia, Feb. 12. Plants in flower on 12th Feb. 1863, not included in the above list, but which have been flowering more or less during the winter months:—Helleborus niger, Tritoma media, Cheiranthus Cheiri, Mathiola incana, Gentiana acaulis, Arabis albida, Viola odorata, Jasminum nudiflorum, Bellis perennis (single white, double red, and double white), Primula veris (varieties), Primula vulgaris (varieties), Andromeda floribunda, Viola tricolor (varieties). Dr. John Lowe sent the following list of plants flowering in the open air on the 6th of February, in his garden at Lynn, Norfolk:—Eranthis hyemalis, Galanthus nivalis, Viola odorata, Primulas of various kinds, Coronilla sp., Hepaticas, Arabis albida, Crocus (yellow), Helleborus, Omphalodes verna, Cheiranthus Cheiri, Erica herbacea, Jasminum nudiflorum, Doronicum caucasicum, Daphne mezereon, D. Laureola, Mathiola incana. The following wild flowers were also in flower on 6th February, in the neighbourhood of Lynn:—Galanthus nivalis, Lamium album, L. purpureum, Vinca major, V. minor, Primula veris, Corylus Avellana, Ulex europeus, Sarothamnus scoparius, Malva sylvestris, Draba verna, Anthriscus sylvestris, Stellaria media, Bellis perennis, Senecio vulgaris, Leontodon taraxacum, Mercurialis perennis.——William Ivory, Esq., exhibited 31 species and varieties of plants which were in flower on 12th February, at St. Rocque, near Edinburgh.——Mr. John Sadler exhibited twigs of various Pear trees from the Experimental Garden, with flowers nearly expanded.

Royal of Edinburgh: *The Neill Prize.*—The following remarks were made at last meeting of the Royal Society by Sir David Brewster, on presenting the Neill Medal to Dr. Greville:—Before presenting the Neill Medal to Dr. Greville, in conformity with the decision of the Council, it may be proper for the information of strangers, and even of many Fellows of the Society, to give a brief notice of the bequest to science which was made by the late Dr. Patrick Neill. Although Dr. Neill was a member of this Society, he never took an active part in its proceedings, and I believe never communicated any paper to its Transactions. He was one of the founders of the Wernerian Society, and discharged the duties of its secretary during the 30 years of its existence under the able presidency of Professor Jameson. The Wernerian Society was, indeed, the rival of the Royal Society of Edinburgh, and its seven volumes of Transactions contain many papers by distinguished writers which would otherwise have been communicated to this Society. Dr. Neill's first publication appeared in 1806, and was entitled "A Tour through some of the Islands of Orkney and Shetland." In 1829 he published his "Horticultural Tour in Flanders," and in 1845 his "Fruit, Flower, and Kitchen Garden," which was a republication of the article "Horticulture" in the "Edinburgh Encyclopædia." Dr. Neill communicated only two papers to the Wernerian Transactions, one entitled "A List of Fishes in the Forth, and Lakes and Rivers near Edinburgh," and another "On the Fossil remains of the Beaver in Perthshire and Berwickshire." Dr. Neill died in 1850, and bequeathed to the Royal Society of Edinburgh the sum of 500*l.*, "the interest of which was to be applied in furnishing a medal every second or third year to any distinguished Scottish naturalist, to be adjudicated by the Council of the Society." In fulfilling this trust, the Council wisely adopted the triennial in place of the biennial period, and the first adjudication of the prize was made to Dr. Lauder Lindsay for his researches on the structure of Lichens. The second adjudication was made to Dr. Robert Kaye Greville "for his contributions to Scottish natural history, more especially in the department of cryptogamic botany, including his recent papers on Diatomaceæ." Dr. Greville's contributions to natural history have been both numerous and valuable, and their merits have been recognised by the most distinguished botanists of the age. His "Scottish Cryptogamic Flora" was published between 1823 and 1829. His "Flora Edinensis" appeared in 1824. His "Algæ Britannicæ, or, description of marine and other inarticuled plants in Britain belonging to the order Algæ," was published in 1830, and he has inserted in the "Microscropical Journal" no fewer than 12 papers on the Diatomaceæ, an interesting subject which still occupies his attention. But Dr. Greville's services to science have not been limited by his writings. He has been an ardent collector of plants and other objects of natural history; and his complete herbarium of phanerogamous and cryptogamous plants, as well as his collection of insects, have been placed in the Museum of our University. He has also made a collection of land and freshwater mollusca, which is the finest in Scotland. These various contributions to natural history have been highly appreciated both in this and in foreign countries. In 1824 the University of Glasgow conferred upon Dr. Greville the degree of Doctor of Laws, and many of the natural history Societies in Europe and America have received him among their corresponding or honorary members. Though somewhat foreign to the present occasion, the society will, I trust, excuse me for adding that Dr. Greville has taken an active part in those interesting questions of philanthropy, on the solution of which the happiness and security of society depend. He has felt, as I am sure most of us here feel, that there is something greater than science, and something higher and more enduring than fame; and it is no slight ground of congratulation, that some of those who have been commissioned by their Maker to study His works, and to sound the depths of His wisdom and His power, have shunned the fatal course which others have pursued, of sapping the foundations of that faith and hope which science is so able to sustain. Dr. Greville—In the name of the Council I now beg to present to you the Neill Medal, and to congratulate you on this honour, which you have so well merited.

## Notices of Books.

*English Botany, or Coloured Figures of British Plants.* Third Edition, enlarged, rearranged according to the Natural Order, and entirely revised. (Hardwicke). No. 1, with 24 plates.

The old English Botany, in some 36 8vo volumes, was remarkable for the excellence of its plates by the first Sowerby, and the worthlessness of its letter-press by Smith. In the second edition, in seven 8vo. volumes, the valuable plates were retained, and new letter-press of a satisfactory character, though very concise, was substituted. We have now before us the first number of a third edition, in which all our wild flowering plants are to be republished, with such corrections and additions as have become necessary in the course of time. Mr. Syme is to write the pure science, Mrs. Lankester the literary matter, and the learned Coroner the utilitarian; plates, either old retouched and augmented, or new, will be provided by Messrs. J., J. de C., and J. E. Sowerby. For the present we can only report that the work promises well, and that the new figures are better than the old ones, which is saying a good deal. We only hope that Mr. Syme will not lend himself to the promulgation of Mr. Hewitt Watson's silly notions about super-species and sub-species, which if produced in the form of plates, will soon exhaust the patience of both publisher and buyers.

*Running the Blockade* (Ward & Lock) is an amusing collection, by Lieut. Warneford, R.N., of rough and ready stories, that must we think prove immensely popular with British seamen. We are not so sure that it will be to the taste of the Northerners, considering the strong Confederate spirit that pervades it.

*The Insect Hunter's Companion: being instructions for collecting and preserving Butterflies and Moths, and comprising an Essay on Pupa digging.* By the Rev. Joseph Greene, M.A. 12mo., Van Voorst.

A capital book on a subject most interesting to the young naturalist. What would we not have given for such advice when we began collecting. But why not extend the instructions to all branches of Entomology?

## Garden Memoranda.

A. J. Doxat's, Esq., Putney Heath.—At few places are Neapolitan Violets grown in greater perfection than they are here; a short account therefore of the way in which they are treated may not be uninteresting, unusually plentiful though these fragrant little winter and spring flowers are this season. Strong plants are obtained by dividing the old ones of the previous year's growth. This operation Mr. Shrimpton, Mr. Doxat's gardener, performs early in May. A sloping border under the shade of a north wall is selected for their reception, and on this they are planted with a trowel in rows about a foot apart, and 8 inches asunder in the row. Care is taken to keep the soil loose, and during the summer season weak manure water is given them twice a week from July until the beginning of September. It is applied by means of a small spouted watering pot, taking care to keep the heart of the plants dry, otherwise the liquid is apt to prove injurious. Runners are kept closely pruned in from the moment the plants are placed in the border until the time when they are removed to the frame, which is usually about the middle of October. They are moved if possible with a good ball of earth to each plant, and are placed in the frame, which is

filled with good light soil, and set on a thick bed of leaves. After planting, the frame is kept nearly close and well shaded. This is continued for a week or ten days, after which the plants enjoy plenty of light and air. Great care is taken not to over water them during dull weather. Under this management Violets are obtained in abundance all through the winter and spring months.

On open walls, here as elsewhere, there is every prospect of good crops of Peaches, Nectarines, Apricots, and Plums. Figs also look promising. When these were wont to be covered here in winter the result was no crop; but during these last two or three seasons, when they have received no protection whatever, they have borne well. They are, however, well sheltered from cutting winds.

## Miscellaneous.

*The Princess Alexandra's Bridal Bouquet.*—It will doubtless interest our readers to learn that Mr. James Veitch, jun., of the Royal Exotic Nursery, King's Road, Chelsea, had by special permission of his Royal Highness the Prince of Wales, the honour of presenting the wedding bouquet. It was of the most beautiful description, being composed of Orange blossoms, White Rose buds, rare Orchideous flowers, and sprigs of Myrtle, with a trimming of Honiton lace. The Myrtle was, by express command of her Majesty, sent from Osborne, and was taken from plants reared from the sprigs used in the bridal bouquet which Mr. Veitch had the honour to present to her Royal Highness the Princess Royal. It is, we understand, her Majesty's desire to have Myrtle plants raised and kept in the gardens at Osborne from each of the bridal bouquets of the Royal family in remembrance of these auspicious events. *From the Times.*

*New Mode of Cultivating Asparagus*; by R. R. Gauthier.—Asparagus, the author observes, does not succeed well in some soils, especially in cold clays; but he says he has discovered a mode of growing it as easily as Wheat, and at less than the usual expense. Asparagus requires a great amount of heat, in cold soils it pushes slowly, and the quality is not so good as in warm ground. We must therefore in unfavourable soils have recourse to butting or earthing up, forming a conical heap on the base of each stool. *Sowing.*—The seed should be selected from the plants that have been observed to give the finest produce. It should be gathered when ripe, which is generally in September or October; and it should be sown immediately, in fresh dug ground. The seeds should be lightly covered with some good vegetable mould. In the month of May following, the plants will have attained the height of some inches. They should then be planted, choosing the strongest of those that have their buds farthest apart, and rather few roots. The plants, says M. Gauthier, which have their roots much developed often yield small shoots. *Planting.*—If the soil is strong, it must be trenched and abundantly manured with leaves, decayed vegetables, or preferably with street manure, finishing with some good soil at top. There are three ways of planting. 1st. At 6 or 7 inches apart, for obtaining green Asparagus called *Aux petits pois.* 2d. At 13 inches for Asparagus, green or blanched, under glass. For the blanched, soil should be put in the frames or on the beds, to the height of about 12 or 13 inches; for the green Asparagus this is not necessary. 3d. At 3 feet 3 inches distant, and in quincunx for the large blanched Asparagus. When the plants are sufficiently strong, generally when about three or four years old, form over each stool a conical heap of soil like a large mole hill, 10 or 12 inches high, and which may be progressively augmented in following years, according to the strength of the plants, to 20 inches. This work should be done in a dry time in March, the finest soil being gathered together by means of a hoe. The Asparagus is gathered when it pushes an inch or two above the hills; and in doing this great care should be taken not to injure the crowns. The fourth year after planting only a few shoots are gathered from each stool; this gathering should not be continued for more than three weeks at most. In the climate of Paris the cutting of Asparagus continues till the 15th of June; if prolonged beyond this period it will be at the expense of future crops. In the course of November we cut down all the stems to about 13 inches. [In this country they are at once cut nearly close to the ground.] Then we uncover the stools, so as to leave on each only a very slight covering of soil. By so doing, the maturity of the plants is perfected. Every second year, soon after the earthing up is taken down, it is necessary to give the Asparagus plantations a good dressing of rotten dung. Those who prefer a different system of culture from that above indicated should, however, says M. Gauthier, use plants of one year old, and plant when they begin to push.

*British Columbian Timber.*—Beaver harbour is fine, roomy, and well sheltered. . . . The timber here is fine—the Douglas and White Pines growing very large. Three or four years ago a large number were felled, with the intention of shipping them to China and elsewhere; but from some mismanagement in the Company which had undertaken the work, they were never despatched, and are now lying about the beach in all directions. There is a considerable quantity of Yellow Cypress here also. This wood is not found on the south-east part of the island. Some has been cut on the west side, but it becomes more plentiful as you travel north; and in the Russian territory near Sitka it exists in large quantities. It is very light and tough, and is by far the best wood on the coast for boat plank. When green it emits a peculiar though not unpleasant smell, and can always be recognised in the woods by its leaf, which differs from that of the Common Pine—which tree it otherwise closely resembles, being convex on both sides. *Mayne's British Columbia.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—The climbers in this structure will now want attention at least once a week. Prune off superfluous shoots, stop or pinch the points of over luxuriant leaders, to induce a flowering habit in such kinds as produce blossoms from the axils of their leaves, and keep them neatly tied and trained. Growing Orchids in stoves should now be carefully shaded for two or three hours on bright days, more especially those which have been disturbed at the root; these, if convenient, should be removed to a house or pit by themselves, as established plants which have remained undisturbed will enjoy more sunshine. Keep up a lively circulation of air all the early part of the day in mixed greenhouses, and dispense with fire heat as much as possible. Where a house of this character has stove as well as common greenhouse plants in it, a climate superior in point of heat to that of an ordinary greenhouse must be maintained; and in order to do as little mischief as possible through the compromise necessary, let all advances in point of extra warmth be made during the day time when there is light. Therefore practice early shutting up; and on such occasions take care that the fire has been very low, or out for an hour or two previously. The heat thus secured for the evening, if accompanied by sufficient atmospheric moisture, will establish a healthy and short-jointed growth. Make a sowing of tender annuals, if not already done. Pot off Balsams, Cockscombs, &c.; these things will do better, however, in a frame, with fermenting materials, close to the glass, and well matted up at night. Continue potting off stock for out-door decoration; also making cuttings of Verbenas, Fuchsias, Petunias, Dahlias, Geraniums, &c.; they will all be wanted. Shade newly-potted Stocks, and remember, that in making cuttings the leaf should not be first allowed to flag, and then an attempt made to restore it by abundance of water; foliage should never be allowed to droop.

### FORCING DEPARTMENT.

PINERY.—Little new can be added at present. Give air freely to growing successions in dung-pits; induce them to grow more in bulk than in length.

VINERIES.—Endeavour to avoid the consequences of indulging in too much atmospheric moisture in the day time. Many berries are doubtless scalded, as well as leaves injured, by a surplus of atmospheric moisture in the morning, or too early in the afternoon, in an endeavour to accelerate forcing by shutting up unreasonably early. Night is the period established in the order of nature for copious dews. See that late Vines which have been laying out all the latter part of the winter are now introduced. If they bleed, scrape and dry the wounds, and apply the late Mr. Knight's plaster; which is scraped cheese and powdered oyster-shells, kneaded into a fine paste.

PEACH HOUSES.—Persist in stopping at all times every gross shoot on all the upper parts of the tree—allowing such, however, to ramble when they grow towards the extremities of the lower parts; this is the best way of equalising the sap. Syringe freely—especially in the afternoon—and at that period endeavour to create atmospheric moisture for the night, by sprinkling all available surfaces, except flues or pipes.

FIGS.—Follow up stopping; give manure-water very freely.

CHERRIES.—These should have free syringings, with abundance of air early. The syringing, however, must cease the moment any change of colour in the fruit is perceived.

STRAWBERRIES.—Keep up successions; do not suffer those on which fruit is swelling to get dry; use plenty of liquid manure according to former directions, viz., constantly clear and weak.

MUSHROOMS.—A late bed may now be made.

### FLOWER GARDEN AND SHRUBBERIES.

See that rolling, mowing, &c., proceed in due order. Now is the period to lay the foundation of a fine lawn. Let all fresh turfing be completed forthwith. Early herbaceous plants overgrown may now be divided, the exterior portions of the stools should be reserved and the interior rejected. Be sure in planting them again to introduce fresh soil. Cut in all coarse evergreens or shrubs before the bud becomes too much advanced; this is a good time to cut in Holly hedges. The period has now arrived when plants for out-door decoration require attention. Though premature, Polyanthuses in some places are in full bloom; seedlings should now be strictly scrutinised, and reference made to the properties that constitute a good flower, which are given at length in our former volumes; protection not only from late spring frosts, but from cutting winds, will, however, be still necessary in many cases. Tulips never stood in more need of screening than they do just now. Many have potted out a portion of their stock of Carnations and Picotees, and there appears to be a much greater disposition to spindle amongst the layers this year than usual. Keep seedling Ranunculuses from frost, and throw mats over beds containing choice Pansies, the hoops over which ought to be at least a yard high in the centre. Propagate Dahlias in gentle heat; the most slender cuttings strike root most readily.

### HARDY FRUIT AND KITCHEN GARDEN.

A sowing of late spring Broccoli may soon be made. See to early Horn Carrots—slugs are reported to be devouring them, although followed up with liming and sprinkled over with coarse sand. Nothing is better, perhaps, than cinder-ashes riddled extremely fine, and the mere dust taken out; these sown thickly over the ground present such a sharp macadamised kind of surface, that snails and slugs are at the last point of starvation before they will venture on them. Be sure to salt all Asparagus and Seakale-beds—little and often is best. The time is approaching for planting Asparagus; it should not be put in until 6 or 8 inches high. Continue to protect blossoms, and to eradicate insects by all possible means. See that all winter and early spring work amongst fruit trees is brought to a close forthwith.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending March 11, 1863, as observed at the Horticultural Garden

| March. | | Moon's Age. | Barometer. | | Temperature. | | | | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Of the Air. | | | Of the Earth | | | |
| | | | Max. | Min | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. | 5 | ○ | 29.628 | 29.567 | 66 | 35 | 50.0 | 46½ | 45 | S.E. | .00 |
| Friday | 6 | 16 | 29.646 | 29.287 | 55 | 36 | 45.6 | 46½ | 46 | S.E. | .08 |
| Satur | 7 | 17 | 29.553 | 29.390 | 52 | 30 | 41.0 | 48 | 45 | S. | .22 |
| Sunday | 8 | 18 | 29.550 | 29.533 | 50 | 25 | 37.6 | 47 | 45 | W. | .03 |
| Mon. | 9 | 19 | 29.566 | 29.405 | 50 | 24 | 37.0 | 45 | 44½ | W. | .06 |
| Tues. | 10 | 20 | 29.547 | 29.276 | 46 | 30 | 38.0 | 45 | 44½ | N.E. | .01 |
| Wed. | 11 | 21 | 29.581 | 29.465 | 45 | 21 | 33.0 | 45 | 44 | N. | .00 |
| Average | | | 29.567 | 29.417 | 62.0 | 28.7 | 40.3 | 46.1 | 44.7 | | .34 |

March 5—Slight fog; exceedingly fine and warm; fine at night.
— 6—Clear and fine; overcast; rather boisterous.
— 7—Overcast; fine; overcast; heavy rain.
— 8—Fine; cloudy; showers; frosty at night.
— 9—Frosty; clear; fine; sharp frost at night.
— 10—Hazy; fine; hazy; slight rain; fine; overcast; foggy.
— 11—Uniformly overcast; fine but cold; sharp frost.
Mean temperature of the week, ½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending March 21, 1863.

| March. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 15.. | 51.0 | 31.4 | 42.2 | 17 | 0.37 in. | 3 | 8 | 4 | 1 | 3 | 7 | 7 | 4 |
| Mon. 16.. | 51.5 | 31.8 | 43.1 | 12 | 0.68 | — | 3 | 7 | — | 2 | 11 | 5 | 3 |
| Tues. 17.. | 50.0 | 33.5 | 41.8 | 12 | 0.37 | 4 | 5 | 3 | — | 4 | 7 | 7 | 3 |
| Wed. 18.. | 50.4 | 33.5 | 42.0 | 11 | 0.21 | 3 | 8 | 2 | 2 | 2 | 6 | 12 | 2 |
| Thurs. 19.. | 51.3 | 34.0 | 42.7 | 12 | 0.33 | 4 | 5 | 2 | 1 | 2 | 10 | 7 | 3 |
| Friday 20.. | 51.5 | 34.1 | 42.8 | 16 | 1.11 | 3 | 4 | — | 2 | — | 13 | 5 | 6 |
| Satur. 21.. | 51.0 | 32.9 | 42.0 | 17 | 0.21 | 9 | 3 | 3 | 3 | 3 | 2 | 7 | 1 |

The highest temperature during the above period occurred on the 15th, 1828, 19th and 20th, 1836—therm. 67 deg.; and the lowest on the 17th and 20th, 1845—therm. 17 deg.

## Notices to Correspondents.

APPLE TREE: *Z.* It is covered with American blight. Try the effect of painting it over with a strong lather of Gishurst Compound. Care must, however, be taken to brush it well into all crevices and cracks, or some of the pest will survive the dressing and reestablish, and the work will have to be all done again.

CROCUSES: *G. Ipswich.* Of all the new sorts by far the finest is Le Majestueux, at least what is sold by Barr & Sugden under that name. Very large, and most elegantly veined with sharp purple lines on a ground delicately tinted with violet.

FRUITS AND FORCING: *J C N.* The Charlesworth Tokay is closely allied to the Muscat of Alexandria. The White Nice produces very large bunches like the Syrian, but the berries are not so large as those of the latter; their skin is thinner, and their pulp not so firm. If you wish to prevent your Peaches, which were planted end of last October, from throwing their fruit, you must give the trees plenty of air, and but little artificial heat whilst they are in blossom; they ought not however to be allowed to bear much till they are better established. As for the cause of Fig trees casting their fruit when half grown, although a common occurrence, we doubt whether any one can satisfactorily explain it. We have known intelligent gardeners who had their Fig trees, under glass, loaded with fruit at one place; but the same persons, acting on the same system at another place, failed in obtaining such crops; and they confessed they could not account for the fact.

MUSHROOMS.—We have received from *Mr. Harley*, gardener at *Fairford*, a box of fine large Mushrooms, but as they were packed up on Feb. 23, and only reached us last Friday, they were of course in such a state as prevented any opinion being formed of their quality. They appeared to have been the brown sort, which is always a great bearer. Mr. Harley says the spawn from which they had been produced was made by himself of turfy loam and horse droppings in nearly equal quantity, well worked together in a moist state; when half dry cut into bricks; when perfectly hard dried thoroughly. He has been gathering Mushrooms since the 16th August last by the bushel from three beds, each 3 yards long by 2 wide, the depth of dung being about 14 inches. He adds that he could now send a bushel more of the same quality from a bed made Jan. 10.

NAMES OF PLANTS: *R G., Edinburgh.* Gongora truncata.—*G S.* Garrya elliptica, the female.—*Gloster.* Forsythia viridissima; the "greenish straps" are not flowers, but the scales of leaf buds.—*Steckley.* 1, Thujopsis dolabrata; 2. Thujopsis borealis. We are unfortunate enough not to understand the question about a Vine in a pot.—*H H.* Soldanella alpina.

SCRAPS ON PLANTING: *S S.* You must excuse us. We really cannot affront our readers by criticizing such ignorance.

THE MASTIC LHOMME LEFORT: *G D.* desires to learn where he can obtain this grafting wax. We only know that it was sent to the International Exhibition. No doubt it may be had in Paris.

THE STANWICK NECTARINE: *Acklington.* This delicious fruit cracks because when swelling it has too much water, either by its roots or through the atmosphere. When swelling it requires warmth and *dryness.* The questions are gone to the Horticultural for answer.

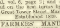
THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
116, Fenchurch Street, E.C.

**Manures for Present Use.**

PERUVIAN GUANO, Genuine as Imported by the Contractors of the Peruvian Government, Deliveries direct from the Docks; NITRO-BIPHOSPHATE (Blood and Offal Manure), Fish Offal ditto (PHOSPHATE); SUPERPHOSPHATE of LIME (made from Bone), see Royal Agricultural Society's Journal, vol. 6, page 2; and all others of known value, may be had on the best terms by application to MARK FOTHERGILL, 23, Great Tower Street, Mark Lane, E.C.
Established 1839.

TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,

MANUFACTURED BY



THE PATENT

NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),
Consisting of TENANT FARMERS, occupying upwards of 80,000 Acres of Land.
Chairman.—JOHN CLAYDON, Esq., Littlebury, Essex.
Particulars of these Standard Manures may be obtained at the Offices. C. T. MACADAM, Secretary.
Or of the Local Agents.
Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex, N.E.

LAWES'S MANURES.
The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.
Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

CAUTION to BUYERS of GUANO.—Having been informed that Guano has been Imported into Liverpool, and offered for Sale as "BAKER'S ISLAND GUANO," I hereby give Notice that I control the Deposit of "Baker's Island," and that the Genuine GUANO can only be procured of W. H. WEBB, at New York; or through my Agents, Messrs. GUION & Co., of Liverpool, and GRINNELL, TINKER, & MORGAN of London. WILLIAM H. WEBB.
Burling Slip, New York, December 9, 1862.

AGRICULTURAL and HORTICULTURAL TOOLS.—Threshing Machines for Steam and Horse Power, Ploughs, Waggons, Carts, Turnip Cutters, Cake Breakers, Chaff Cutters, &c. Price List free. Illustrated Catalogues on receipt of six postage stamps.
BURGESS & KEY, 95, Newgate Street, E.C.
Works: Brentwood, Essex.

HENRY J. MORTON AND CO., 2, Basinghall Buildings, Leeds.

**Galvanised Iron Water Cistern**

or Cottage Houses, &c., to contain 50 gallons, 26s.; 80 gallons, 31s. each; and 140 gallons, 37s., and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

**Galvanised Iron Pumps**

or Liquid Manure or Domestic Use, 3 inches diameter, 30s. and 32s. 6d. each; Tail Pipe for same at from 10d. per foot.

**Galvanised Iron Swing Water Barrows**

or Garden or Farm use, containing about 20 gallons, entirely formed of iron, 35s. 0d. each.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the COLD WINDS & MORNING FROST.
"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.
Two yards wide .. .. .. 1s. 6d. per yard run.
Four yards wide .. .. .. 3s. per yard.
An improved make, 2 yards wide, 1s. 8d. per yard.
An improved make, 3 yards wide, 2s. 6d. per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1s. 4d. per yard run.
ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.
"It is much cheaper than Mats as a covering."

**Oil Paint no longer Necessary.**

HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.
Sold in casks of about 30 gallons each, at 1s. 6d. per gallon, at the Manufactory, or 1s. 8d. per gallon pai to any station in the kingdom.
Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

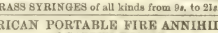
JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:
10 gallons .. .. £2 15 0
16 ,, .. .. 3 15 0
24 ,, .. .. 5 0 0
Larger sizes may be had in ith er Wood or Iron.

No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.
35 gallons .. £2 10 0
20 ,, .. 2 0 0



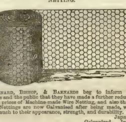
BRASS SYRINGES of all kinds from 9s. to 21s.

AMERICAN PORTABLE FIRE ANNIHILATOR and GARDEN ENGINE.

£2 2s.

An efficient means of Extinguishing Fires at their commencement Nine out of ten Fires in London are put out on their first appearance by the London Fire Brigade with Hand Pumps of considerably less power.
One man will throw 7 or 8 gallons per minute from 40 to 50 feet with it.
It is an effective Garden Engine for cleansing or syringing Wall-fruit or Rose Trees, Plants, or Vines.
It may be used to draw water from the pail in which it is fixed, or from a tank or pond by the addition of the required length of suction. It is simple in its construction, having no suction or delivery valves to clog with dirt or leaves.
No Establishment, either private, commercial, or manufacturing, should be without one.
Six feet of Flexible Suction, with Union and Suction Rose, &c., extra, 12s. Longer lengths of Suction at 1s. 6d. per foot.
The above may be obtained of all Ironmonger and Seedsmen in Town and Country, or of the Manufacturers,
JOHN WARNER & SONS, 8, Crescent, Cripplegate, London, E.C.

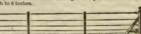
BARNARD, BISHOP, AND BARNARDS, Norwich.
FURTHER REDUCTION in the PRICE of WIRE NETTING.



BARNARD, BISHOP, & BARNARDS beg to inform their friends and the public that they have made a further reduction in the prices of Machine-made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard |
|---|---|---|---|
| 2-inch mesh, 24 inches wide.. | No. 19 | .. 4½d | .. 3½d. |
| 2-inch ,, ,, ,, .. | ,, 18 | .. 5 | .. 4 |
| 2-inch ,, ,, ,, .. | ,, 17 | .. 6½ | .. 5 |
| 2-inch ,, ,, ,, .. | ,, 16 | .. 8 | .. 6½ |
| 1½-inch ,, ,, ,, .. | ,, 19 | .. 4¾ | .. 4 |
| 1½-inch ,, ,, ,, .. | ,, 18 | .. 6 | .. 4¾ |
| 1½-inch ,, ,, ,, .. | ,, 17 | .. 7 | .. 5½ |
| 1½-inch ,, ,, ,, .. | ,, 16 | .. 9 | .. 7 |

All the above kinds can be made any width (under 6 feet), at proportionate prices.
Strong Galvanised Poultry Netting, 7½d. per yard, 3 feet wide, Galvanised Sparrow-proof Netting for Pheasantries, 11d. per yard, 2 feet wide. Wire Netting of every mesh from half an nch to 6 inches.



Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies.
Five wires, 3 feet 6 inches high, pronged Standards, 8 fee apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10d. per yard.
The same with Galvanised Wire Rope, 1s. per yard.
Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.
*** Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

AGRICULTURAL and CHEMICAL COLLEGE, KENNINGTON.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. NESBIT, LANSDELL & Co., 37 and 38, Lower Kennington Lane, London, S.
Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.
Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.
Full particulars of terms will be forwarded on application.

**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.
Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.
22, Parliament Street, Westminster, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.
TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.
The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W

**Land Drainage.**

WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.
Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rentcharge on the estate created for various terms of years so as to adapt the rate percent. of annual charge to the circumstances of the tenants.
No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.
Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.
Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.
Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.
STOCK and IMPLEMENT PRIZE SHEETS are now ready, and will be forwarded on application to
H. HALL DARE, Secretary.
12, Hanover Square, London, W.

# The Agricultural Gazette.

*SATURDAY, MARCH 14, 1863.*

—— WE last week saw Mr. SMITH's new combined cultivator and drill most successfully worked by steam power at Woolston. Built on a very strong framing, for it is at once a grubber and a sowing machine, it is first drawn round the headlands of the field, commencing close to the hedgerows, stirring the land and at the same time depositing the seed in rows; and when a sufficient width of headland has thus been finished to furnish turning ground for the tool, the whole of the field is gradually planted in the same way from one side of it to the other. On the previous Monday the tool had been taken to a 12-acre field; it had started work at 10 A.M., the headlands were accomplished by 1 P.M., and

the whole field was finished by 1 P.M. on the following day. Fourteen cwt. of coals had been burned during this process, and 7 men and 2 boys had been employed for one day and a half. The land, a Wheat stubble of 1862, had been manured and grubbed by steam-power in autumn, and now the combined cultivator and drill crossed the working of the previous season. It is impossible for land to have been in better condition for planting, or to have been planted in better form.

Close by, young Wheat, looking the right colour and planted exceedingly well, had been sown by the machine directly on a Bean stubble, with no other preparation or cultivation than was thus accomplished at a single operation.

On the stiffer land, where the implement was employed in planting Beans last Friday, the tool was crossing the autumnal cultivation of last year's Barley stubble. By shifted snatch-blocks the tool was in the first instance drawn in and out wherever desired, in order to the thorough cultivation and planting of a somewhat crooked headland. And the union of the round-about system of draught with the arrangement for turning the tool at the land's end which characterises Mr. SMITH's plan of steam cultivation, is admirably adapted to the application of steam power to the draught of a sowing machine.

We cannot doubt the success of the new tool; it will be a very great addition to the advantages and facilities which steam power has already conferred on arable farmers. We must add that it appears to us a very great addition to the value of Mr. SMITH's property in steam cultivation. And on this view of the matter we offer him our cordial congratulations. English agriculturists owe much to his ingenuity, foresight, and resolution in connection with steam cultivation. None of those to whom we owe its successful prosecution hitherto has a more numerous or a better satisfied body of clients and disciples, nor has any of them hitherto a larger extent of land in this country under his particular plan of cultivation by steam power. We are glad therefore of any fresh promise that occurs to Mr. SMITH or to any other of our leaders on this subject of an adequate reward for his labours.

——— PROFESSOR DAVY has lately called the attention of the Royal Dublin Society to the method which Mons. MARCHAND has devised for determining the richness of milk. He declares it to be perfectly trustworthy, and therein to differ from the other principal methods hitherto employed to determine the quality of milk, which are all more or less fallacious.

M. MARCHAND's method consists in adding to a certain volume of milk in a long glass tube, closed at one end, and of about half an inch in diameter, an equal volume of ether (having previously rendered the milk slightly alkaline by the addition of a few drops of a solution of caustic soda or potash). The same volume of alcohol as that of the ether employed is then added, the proper quantities of milk, ether, and alcohol to be used being indicated by three marks on the tube. After each addition to the milk, the tube is to be well shaken for a few moments, during which time it is to be firmly closed with the thumb of the hand holding it. The alcohol having been added, and the contents of the tube finally well shaken, it is then only necessary to immerse the tube for a few minutes in a vessel of warm water (the temperature of which is about 100° F.), when an oily layer will form on the surface of the mixture in the tube, and its thickness will be in direct proportion to the richness of the milk in butter.

By having a graduated sliding scale, whose divisions bear a certain relation to the volume of milk employed, and this latter to a pint or quart, the amount of butter in either quantity of milk can be known in a few minutes.

The accuracy of this method of determining the quantity of butter in milk, Professor DAVY has satisfied himself of by many experiments; and he is of opinion that it might be of much use as a means not only of testing the milk supplied to different public institutions, with a view of detecting adulteration, but likewise for the purpose of having them supplied with milk of a certain degree of richness, and that when it was discovered by this method to fall below a fixed standard it should not be taken into those institutions.

THE first part of the volume for 1863 of the Journal of the Royal Agricultural Society has just made its appearance. Last year's Journal appeared in October, 1862, in one volume at once —in a publication which, taken to be the usual half, was pronounced to be an unusually good specimen of the work. It was a disappointment to learn that the whole Journal for the year had thus been issued; but we have the advantage thereby of getting the work for the future published in time—the first part in early spring, the second in early autumn. And the advantage of suiting the topics to the season is in the present instance seen almost at once. At the commencement of the Part we have a further report from Dr. VOELCKER on top-dressings for grain crops, in the middle another valuable and elaborate report from Mr. LAWES on top-dressings for Grass lands, and towards the close an instructive paper from Mr. LAWRENCE, of Cirencester, on Carrot and Cabbage culture—all of them topics on which we want information *now*, in order that it may be turned to account during the coming season.

To the other papers in the volume we shall hereafter direct attention; meanwhile the following may be given as a further contribution to the history of top-dressings which occupied us last week. The field on which the experiments took place was of a somewhat clayey calcareous soil—"moderately stiff and fair Wheat land." The conclusions reached are stated thus:—

"1. Nitrate of soda, as in previous years, produced a considerable increase both in corn and in straw.

"2. The larger application of nitrate of soda produced a correspondingly larger increase in corn.

"It will be seen that whilst 1 cwt. of nitrate of soda and 2 cwt. of salt gave an increase of $9\frac{3}{4}$ bushels of corn, $1\frac{1}{2}$ cwt. of nitrate and 3 cwt. of salt gave an increase of $12\frac{1}{2}$ bushels of corn, and 2 cwt. of nitrate and 4 cwt. of salt an increase of $15\frac{3}{4}$ bushels. Thus for each $\frac{1}{2}$ cwt. more nitrate of soda an additional increase of almost exactly 3 bushels of Wheat was obtained.

"3. In the third experiment 2 cwt. of nitrate of soda and 4 cwt. of salt gave scarcely a larger increase than in the fourth experiment, in which 2 cwt. of nitrate of soda was used alone. This was also the case in my Wheat experiments in 1861; whilst in the preceding years of 1860 and 1859 the addition of salt to the nitrate of soda had a marked beneficial effect upon the Wheat crop.

"4. Salt alone, applied at the rate of 3 cwt. per acre, it will be seen, produced as large an increase as 1 cwt. of nitrate and 2 cwt. of salt.

"This is a curious result, but it stands not solitary, for in 1861 salt alone produced an increase of nearly 7 bushels of corn. But as salt alone in the years preceding 1860 had hardly any effect upon the increased production of corn, it appears very desirable that further experiments with this cheap fertiliser should be made.

"5. Peruvian guano, applied at the rate of 2 cwt. per acre, produced nearly as good a result as 2 cwt. of nitrate of soda.

"6. The addition of salt to the guano, it appears, had little effect in further increasing the produce in corn, as it had in conjunction with nitrate of soda.

"This is the more remarkable, since salt alone had such a favourable effect when used by itself.

"7. Salt, added both to guano and to nitrate of soda, appears to have checked over-luxuriance in the straw. Thus it will be seen that whilst 2 cwt. of nitrate of soda produced an increase of nearly $12\frac{1}{2}$ cwt. of straw, the same quantity of nitrate mixed with 4 cwt of salt gave only an increase of $9\frac{3}{4}$ cwt. of straw in round numbers. And again, whilst 2 cwt. of Peruvian guano gave $9\frac{3}{4}$ cwt. of increase in straw, the same quantity of guano mixed with 2 cwt. of salt produced only an increase of 7 cwt. of straw. To show the commercial results I have constructed the following table. The Wheat is valued at 48*s.* a quarter, the price at which it was actually sold, and the straw at 30*s.* per ton, as a usual selling price.

"As regards economy, there can thus remain no doubt that nitrate of soda, as well as Peruvian guano, either alone or mixed with salt, may be used with great benefit as top-dressings for Wheat—at least, on calcareous soils which, like our soils, contain an abundance of mineral plant food.

"On light land, guano and salt appear to me preferable to nitrate of soda or salt, because guano supplies phosphates and alkalies, as well as nitrogenised matters, whilst nitrate of soda is efficacious as a manure solely in virtue of its nitrogen.

"Caution ought, therefore to be used in applying this salt as a top-dressing for Wheat on light land. The opinion that nitrogenous top-dressings are beneficially applied to Wheat grown on poor land requires to be accepted with discrimination. If the poverty, or rather unproductiveness, is caused by a bad mechanical condition and improper aëration of the soil, such top-dressings frequently produce marvellously beneficial results —results, however, which perhaps are not greater than those attending deep ploughing, exposure to air, and similar means for improving naturally unproductive clay soils. But if land is unproductive, like many sandy soils, simply because it does not contain in sufficient quantity all the mineral constituents which enter into the composition of the ash of Wheat, top-dressings with nitrate of soda will tend to its more rapid exhaustion; and though such a dressing may for a season produce a somewhat larger corn-crop, it is doubtful whether the injury done to the land is not greater than the temporary benefit which is realised by the crop."

"On the whole," says Dr. VOELCKER, "I am inclined not to recommend nitrate of soda, as is commonly done, as a top-dressing for Wheat on poor land, if, as explained, the poverty of the land is caused by a deficiency of mineral food; but I would feel little hesitation about using it liberally on clay soils and all land which good cultivation renders productive. Chemically speaking, the better the land—that is, the more abundant in it the stores of mineral food—the more largely nitrogenous top-dressings may be used, and *vice versâ*."

In keeping with this is the experience of Mr. STRATTON, at Wall's Court, near Bristol, related in an appendix, who had an extraordinary return from a top-dressing of nitrate of soda on his clay soil, which, though described as an inferior clay soil, is not poor in a chemical sense, but full of mineral riches.

## THE LAMBING SEASON.

EVERY true breeder of sheep looked forward with no ordinary interest as the lambing season approached, and the state of his ewe flock invariably excites his careful attention and solicitude. He is anxious that no reasonable cause of failure shall be chargeable to any neglect, mismanagement, or ignorance on his part; hence he endeavours to re-assure himself that he has so far done what was requisite and necessary to their safety, and he is now making every proper provision to insure their successful passage through this their trying and difficult time—the lambing season. To aid the general breeder at this precise time, it may not be inappropriate to remind him of a few of the common and ordinary requisites necessary to insure a successful season.

*The Lambing Field.*—Every breeding farm of moderate, or any extent, ought to possess a suitable and convenient field in which to collect the ewe flock during the short period of lambing. This should be near to the residence of the shepherd, and be under pasture, dry, and well sheltered. The food upon which they have been fed for the last few weeks should be brought them, and given in moderate quantity. Lamb-pens and shelters should be made according to requirement throughout the field. The lamb-pens for the use of the ewe immediately after lambing in cold weather, and the shelters for the lambs to creep to as they please. In addition to this field, warm and convenient paddocks, provided with lamb-pens well covered, should be attached, into which the ewes should be driven every cold or wet night, so as to be more immediately under the eye of the shepherd. This arrangement conduces much to the comfort of the shepherd and the safety of the flock. No plan can be devised from which something detrimental may not arise. Now, great care is requisite in this case. These paddocks must be kept as sweet and clean as possible, otherwise the cleanings of the ewes and other gangrenous impurities coming in contact with the uterus or vagina of the ewe may cause gangrene and consequent death—besides, occasional cases of fever arise which in certain seasons have become infectious. The ewes, therefore, should be fetched in the last thing at night, and put out as early as good judgment dictates in the morning; those already lambed to a separate field, those yet to lamb to be returned to the lambing field, any sickly or weak ones to remain in the lamb pens. Care must be taken to supply their food with great regularity, so that no restlessness takes place. This uneasiness is often the cause of great losses amongst the weaker lambs, the dams seeking more after their own food than to take care of their progeny.

These common attentions being provided for, we now come to the ewes, and their requirements during lambing. The treatment should always be founded upon principles of patience, quietude, and kindness. When the ewe manifests unequivocal symptoms of labour, the shepherd should keep a close watch upon her. After a reasonable time (and plenty of time should be given) he should with the aid of his crook catch her, and examine to see if the presentation is correct, which may be ascertained by the finger, and he ought to find the muzzle with a forefoot on either side of it, but somewhat under it. If this is the case he may safely leave her to her own efforts for some time longer, or rather till the tongue of the lamb begins to protrude and becomes discoloured, or the ewe exhibits signs of exhaustion; in either case he must no longer wait, but aid her in such way as in his judgment seems best. If he has to draw the lamb away, he should gently lay her on her right side, and as quickly as possible seize one of the fore-legs and very steadily draw it forward, (the ewe will generally cease to struggle when the shepherd begins to draw); when this is brought out, he should then take hold of the other leg with one hand, and endeavour with the other to bring the head forward at the same time, but not forth; the leg should come first, and if the head has been brought forward, it will immediately follow; the lamb should then be gently drawn away

and at once laid to the head of the ewe, who, if not greatly exhausted, will immediately commence licking it clean. In a few minutes it should be suckled; indeed, if the ewe lies quietly it may be suckled as she lies; but it is wrong to hold her up and set her on her rump, as is too much the case, to suckle the lamb. This often brings on "paining," and not unfrequently results in the expulsion of the womb. It is certainly very important to the lamb, especially in bad weather, to get it suckled speedily; but to do so at once, irrespective of the painful condition of the dam, is wrong. Good judgment is necessary.

Wrong presentations unfortunately often occur from too many causes, which with due care in many instances might be avoided — alarms, jumping grips, long drifts, running, &c. When a wrong presentation occurs, the shepherd's first duty is to seek assistance to hold the ewe properly. He should then grease his hand and introduce it with the utmost care into the uterus or vagina, and according to the case so act. If it is a side presentation, or the breech, or the back, the fœtus must be pushed back into the womb, and a leg if possible be got forward—the foreleg if it can be done, but if not, the hind legs will generally suffice. The first leg brought forward should have a strong tape or list placed securely on it to hold by, the assistant aiding; then get the other forward—if this can be done, parturition will speedily ensue. Occasionally the lamb has to be turned in the womb, a most difficult and hazardous task, the head must be found if possible, and be brought to the mouth of the womb, together with the forelegs; failing this the shepherd must use his own discretion, which often results in taking the lamb away piecemeal. This is best done by introducing a noosed cord, and placing it on the legs first, and as they are drawn forward to take them off, and so on till all is brought away. If the lamb can be turned so as to form a fair presentation, it may be desirable to leave the ewe to her own efforts awhile, but generally the better course is to take it away if all appears fair to do so. In cases of a dead lamb in the womb, the like course must be pursued. The shepherd should always be provided with a cordial drink, consisting of milk, brandy, and sweet spirit of nitre, about equal parts, and give one or two tablespoonfuls as the case may require; but in a case of paining a tablespoonful of laudanum is better, to be repeated when the paining returns. A strong dose of laudanum will lay the ewe in quiet, during which rest the womb has time to partially settle in its usual position. Laudanum has also been found very efficacious in subduing the great restlessness consequent upon strong or protracted labour. In cases of the ceasing of pains during labour, infusion of ergot of Rye is strongly recommended to recall them. In cases of fever, Epsom salts are as useful as any other medicine, and but little bleeding. The succulent food given is generally of a sufficiently purgative character, but watchfulness is very requisite in a sickly ewe, and gruels and cordial drinks should be given. Should the womb become inverted it may be replaced, and a strong dose of laudanum administered; but should paining recur, and expulsion again and again take place, it is best to tie a ligature round it. It will slough off in a few days, and but little harm will result. Of course in such a case the ewe must be fatted after rearing her lamb. Should inflammation of the womb take place, bleeding and Epsom salts must be resorted to, but no infusions. This affection requires close watching, often commencing on the two or three first days after lambing, and is difficult to discover.

The Cæsarian operation should only be resorted to in extreme cases. Lambs have often to be taken from an opening in the side of the ewe when the case is otherwise hopeless. If this is requisite it should be done by a veterinary surgeon, who might possibly save the ewe. The expulsion of the placenta on cleansing is occasionally attended with some difficulty—resort in this case must be had to the infusion of the ergot of Rye, to be followed in a day or two by 2 ounces of Epsom salts with a little ginger.

The treatment of the young lambs as they are dropped is simple but important. In a protracted labour some are actually dead, in other cases they appear so; in all cases the shepherd should attempt to inflate the lungs by cleansing the mouth, and then blowing strongly into it so as to reach the lungs. His first duty to the lamb in all cases should be to cleanse the nostrils and mouth, then place it before the dam; in a few minutes it may be suckled, and shortly afterwards the dam and lamb may be taken to the nearest shelter, but always having regard to the state of the ewe, and on no account drive a ewe already exhausted to any distance. If the lamb is starved down recourse must be had to the "kitchen fire," and a slight covering over its head or mouth: it should be held awhile to the fire before laying down—quickness in imparting warmth is the only chance in most cases. The udder should always be cleared of wool, lest the lamb draws it into the stomach, where it is fatal. The shepherd should always have at hand, laudanum, castor-oil, Epsom salts, warm milk, gin; also his crook, a small hook or curved wire, bright, a cord or tape, and his ruddle or marking material. *O. F.*

## LAMMERMUIR SHEEP FARMS.

THE district is divided into sheep farms, varying in extent from 1000 to 5000 acres. Although the depopulation system, so common in many districts of the Highlands of Scotland, and so obnoxious from the sudden and wholesale manner of ejection, is unknown here, yet the fact is undeniable that our hills and valleys were in former days much more thickly peopled than they are now. The crofter system of the Highlands, whereby a clan held possession of a district, each householder cultivating a plot of ground around his dwelling, never apparently existed here; but it is certain that at no very remote date the farms were smaller, and the homesteads, such as they were, more thickly planted among the hills. Many of the present farms embrace the area of two or three of the holdings of bygone days, the names of which are still retained in current leases, although in many instances nothing but grassy mounds remain to mark where dwellings have been. Not only were the farms more numerous, but in the glens stood many a thatched cottage, now level with the ground, which in those times supplied labour to the surrounding farms. On this farm alone the householders are eight or nine fewer in number than they were, even in the recollection of men still living, and the same remark applies in greater or less degree to the whole district.

From old farm books and memoranda, which date from the year 1744, we gather some information about the labourers employed on the farm 100 years ago. Their wages were paid largely in kind, and money seems to have been a very scarce commodity. Day's wages rate about 4*d.* a day for ordinary labour; 6*d.* a day (with meat) for clipping, and as high as 8*d.* for mowing.

One or two entries in these old books we extract as curiosities:—

"David Symington wrought two days and a half at 4*d.* a day, is 10*d.*, for July, 1748.

"19th day of May, 1755 (or 6), counted with George Fream, and he has wrought seven days at a mark a day, and 10 days of a labouring man at half a mark a day at the (washing) pool of ——, for making it better.

"11th ——, 1772. Hired George Barry for 36 sheep, 20*s.*, and two pair of shoes.

"Hired James Barry for 20 sheep, 20*s.*, and two pair of shoes.

"Hired James Robinson for 30 sheeps' Grass—the ordinary dry boll and a cow.

"April 14th, 1772. Having measured the dykes there are one hundred three score and eighteen roods—money 1*l.* 2*s.*—Bountith—one firlot—½ peck."

The dykes referred to appear from similar entries to have been for cattle folds, which most probably were constructed of turf, for shelter or fencing, as the remains of such are visible in the old pastures to this day. Throughout this whole range of hills much more land has been under the plough at a former time than what is now kept in cultivation. Almost every acre of good land bears the mark of the plough. Some of the old ridges are crooked like the letter S, showing that oxen had been used in draught—these are seen occasionally on very wet meadow land, and for the purpose of surface drainage have been always ploughed one way till the ridge was gathered high in the centre, and the furrow scraped bare and deep. No doubt the crop would then confine itself very much to the deep soil of the middle of the ridge. The existence once of many little local grinding mills—abandoned and in ruins now—indicate a period when cultivation was more extended—the inhabitants more numerous, and more accustomed perhaps to live upon oatmeal of their own production than Wheaten bread. We of the present day are however strongly disposed to doubt whether all this ploughing has not deteriorated rather than improved the grazings of our hills; most of the dry lea land being completely over-run and choked up with fog, or having in large measure reverted to the original Heath. This fog, by the way, seems to follow the plough, sooner or later taking possession, whereas any patches of good soil which have escaped the plough produce bushes of Heather intermixed with rich and sweet Grass. The explanation of so much ploughing is found, we think, in the fact of the farms being more numerous, also in the high price of grain during the wars of the beginning of the present century; but last, and principally, that the style of cultivation followed in those days rendered the breaking of fresh ground a frequent necessity. Turnip and drill husbandry being as yet unknown, and the rest and restoration of cropped land in well sown down and well fenced fields unpractised (the only rest given consisting in an occasional bare fallow, frequently followed by a close succession of white crops), utter exhaustion of the soil ere long drove the persistent cultivator to fresh fields, there for a while to pursue the same process of extraction, while the forsaken subject, having sown itself away to Grass or something else, was supposed to be resting and recovering itself for a future day and a fresh infliction. Much of such ill-used land, however, has not recovered itself yet, and possibly never will, till again taken through hands and dealt with in a more liberal manner. But we must not be too severe in our review of the farming of those days, for what better could they do in a country such as this. Their systems and practice may appear odd and antiquated now, but we must bear in mind that their resources and appliances were very limited. They had no roads, or at best only bridle paths over which the corn had to be marketed, and lime brought home long distances on horses' backs. Without the Turnip crop above all without the artificial manures of modern times, we could not expect their practice to have been much different. Money also was by no means plenty, or at least little of it found its way into this remote and unproductive hill country.

The old books already referred to furnish us with information about the sheep department also, and the one from which we now quote contains a record of the numbers of sheep on the same farm for about a century, as enumerated at stated times when "counting" with the shepherds. The first extract dates 119 years ago:—

"Having counted, 15th of September, 1744, I have of old sheep 28 score and 7; 14 score and 1 ewes; 16 score of lambs."

And bearing upon prices we have the following:—

"April 1756. Sanders Carr has got 60 ewes, at 7*l.* 10*s.* the score, and I have got 6*l.* of their price." The price was thus 7*s.* 6*d.* a head.

"Jan. 20, 1751. Sold my two red oxen at 9*l.* 10*s.* sterling, and I have received 38*s.* ready money, and John Sligh is owing me 7*l.* 12*s.* sterling."

—— "1750. William Currie. Wool at 7*s.* a stone; he got 70 and 3 stones."

The Valley of the Whitadder Water at a still earlier period was an extensive forest of natural wood, which, extending from the opening into the Merse of Berwickshire back 10 miles among the hills, was so dense on each side of the river that a man might have stept from branch to branch for miles of the stretch, abundant confirmation of this being found in the clumps of brushwood still existing here and there on the hill-sides.

The general introduction of sheep seems to have been the destruction of the natural timber, in cropping over the tender seedlings as they appeared, and which in succession would have taken the place of the old decaying trees. The ground seems full of roots or seeds yet, as is shown by the turf cope of stone walls, where out of reach of the sheep, frequently sending up vigorous stems of Mountain Ash. The valley itself seems to have been a mountain pass between the two counties of Berwick and East Lothian; the ruins of a line of old border towers or keeps, with lockfast accommodation for cattle on the ground floor, plainly telling of the days when the possession of goods and chattels was not so peaceable as now.

But to come down to times which we know more about, we find the hills stocked with black-faced or Highland sheep, hardy mountaineers, which live on what the hills afford them, and look for nothing from the stock-master but a handful of hay saved from their pastures during summer, to put over a snow storm when they cannot reach the Heather. These were certainly the kind of sheep for those days when Turnips were not grown, and many believe them to be the best kind yet, for high and exposed ranges. This may be true where the altitude of the sheep range is too high for the introduction of the combined arable and pastoral system, but where this can be done with a fair prospect of the arable land paying its way—the command of Turnips and well sown down Grasses enables the flockmaster to maintain a larger and finer class of sheep, and one which will yield more return for forcing and extra keep. Such a breed we have in the Cheviot, and for Turnips and good keep they pay much better than the black-faced. The teeth of black-faced sheep fail soon upon Turnips, and their wool does not pay so much for extra keep as that of the Cheviots or Leicesters. We believe however that in their own range they are the safest and most profitable, living and thriving where Cheviots would pine and dwarf. The question whether Cheviots or black-faced pay best where the farming is partly arable, is more easily settled however than the other question of how far it is prudent and profitable to carry the arable department up among the hills. Soil, locality, climate, and access are the circumstances which determine this. We might at times be disposed to assert limits, were it not that in practice we see the steady march of reclamation and its wonderful effects; the prices of mutton and wool being no doubt the stimulating cause. The circumstances which affected this question in a former day are not the same to us, and many new elements must enter into our consideration of it, chief of which are the demand for store sheep of a good quality for low country feeding, the opening up of the country by railways, and the command of artificial manures. The class of sheep most in demand for low country purposes, is the cross between the Cheviot ewe and the Leicester ram. The black-faced ewe is also crossed with the Leicester ram to a large extent, and the produce is a valuable sheep, both of the above crosses leaving a large return for good keep on Turnips, whether as hoggs the first winter, or fat sheep the second. This transition state of things, however, though decidedly apparent in this range of hills, is seen in much greater activity in those districts of high lying country which have been intersected by railways. There the plough has combed the steep hill side, the open country has been enclosed and subdivided into fields, a regular system of arable farming introduced, and there even the Cheviot ewe has given place to the finer class of half Leicesters, which far exceed in quality and even in num-

bers the original stock, which had the whole country to themselves; the plough bringing more sheep in its wake than it displaces by its innovations. Good roads, of which there are few even yet in Lammermuir, would do much for its improvement. It is within the recollection of men still living that many of the present lines of road were formed; and in their formation a most provoking system of engineering was followed, the level haughs of the river sides, which, without much cutting, would have furnished a line for a railway, being carefully avoided, and those heights crossed which have rendered our present roads a successive wave of hill and hollow—totally impracticable for single horse carts, and rendering that heavy work for two horses which could easily have been accomplished with one. The cause of this lasting blunder we are at a loss to discover; most probably the old bridle paths, which for the sake of dry and firm footing traversed the high ground, were closely followed. Until better access is secured the improvement of many districts must be a tedious process, as they are so far removed from the limestone; and lime is the prime agent in the reclamation of land, working like a spell on the fresh moulds. Being so far removed from the limestone rock its effects are the greater, a much smaller quantity telling with good effect on new land than what is required for the frequently dosed land of the low country. Four tons an acre is amply sufficient for a first dressing, and without lime it is most unprofitable practice to break up and continue to work this new land. Turnips will not grow on it to any purpose, but the deficiency is most apparent when the land, having been put through one rotation, is again sown down to Grass. Then every shovelful of lime shows where it was spread, in the take of the Grasses and the bloom and progress of the sheep. Good roads would also give us a command of draining tiles, which are much required, as large portions of the old arable land are very wet, rendering the cultivation of this kind of land very precarious in our wet climate.

The continuance of such land in cultivation at all we consider more than questionable, as it requires a drier climate for its satisfactory working than we have, especially while large tracts of dry Turnip soil remain unimproved which might be substituted for it. Those portions of meadow land which remain untouched, we consider it a radical mistake to plough, as they form the mainstay of the pasturage, and when well surface-drained they produce a close and thick sward of Grass, which if once broken up would require years to restore; whilst to plough up boggy ground without first draining it is a ruinous policy. These surface drains are laid on either across the meadow land or straight up and down hill, like furrow-draining. Their cost is about 1*d.* per rood of 6 yards. Of course it would be better and in the long run more economical to drain these hill meadows with tiles, but the undertaking is beyond the reach of a tenant. And in the meantime few investments which he can make, pay better than these surface drains, although they require to be renewed every six or eight years, according to the character of the meadow. We hold that these portions of bog and meadow land should be let alone, and the work of reclamation carried on upon the dry, and in its present state, less valuable grazing. Large portions of such land are to be found on every farm of the district, which are paying little or no rent as they are, would be little missed by the flocks whilst under the operation, and which would add largely to the produce of Turnips when kept in rotation, and to the extent of good Grass when well limed and sown down to pasture.

It is the good ground and not the bad which maintains the flocks at present; and if these portions of inferior grazing were improved and added to the area of Grass already existing, they would be increased both in numbers and quality. We believe at the same time that it is possible to carry this work of reclamation too far, especially where it is intended to allow the sheep to graze at large in flocks or hirsels. A certain amount of rough pasture is required for winter keep, and mountain sheep eat good heather which great relish, instinct and taste leading them to mix their food by grazing on the low grassy grounds in the fore part of the day and on the high and heathery portions in the afternoon. Those portions of good earthy soil which grow a mixture of Heather and Grass cannot have too much pains bestowed on them to make them grow good Grass, as they grow the worst description of Heather, whilst that which grows on peaty soils is more tender and succulent, and we believe the very best crop which can grow on such land, especially when renewed every few years by burning. Peaty soils, also, stand very few years in Grass, reverting speedily to Heather or to a worthless fog. We shall shortly describe the plan usually followed in breaking up hill ground, which consists in ploughing with a furrow (shallow or otherwise) for the first time, and well turned over, as much as possible to kill the existing vegetation. It is then left for a year or more to rot. In the autumn it is cross-ploughed, and again in the following spring it is ploughed for the third time; the lime having been applied between the different ploughings, in such a manner as not to bury it too deep. The land having been split up into ridges by the last ploughing is now ready for Oat seed. Two white crops in succession are in this instance taken, and the second is generally the best, from the turf being better mouldered down. Next come Turnips, and lastly a crop of Oats sown down with Grass seeds. Some people, impatient at the lengthened process, attempt to tear the turf to pieces by force, sowing Oats after the first ploughing, and forcing it into Turnips the second season. This method has, however, little to recommend it, as the first crop of Oats is insignificant, and the turf stubbornly refuses to yield tilth or mould enough for the Turnip crop, whilst the land afterwards is not well enough reduced for a successful take of Grass seeds. Time and weather do more for the reduction of new land than any expenditure of physical force. Simultaneous with the breaking up and liming, the work of enclosing is carried on, generally by stone walls; and till land is enclosed its reclamation is only temporarily effected, as sheep grazing over it during the day and wandering from it at night do not enable it to maintain its fertility. Wire fences are often erected where stones cannot be procured, but the lack of shelter is a great drawback in them. Turf walls are sometimes built, and Whins sown atop protected by rails on each side: but best of all is the stone wall, which, as we have heard it pithily expressed, is "major" at the very first. If fences are necessary for the advantageous grazing of infield land, they are equally beneficial as marches and boundaries between the different farms, as however well neighbours may seem to agree on the take and give principle, the good boundary fence secures the flocks from many alarms and disturbances. We believe also that these division fences might with great advantage be introduced to separate the different flocks on the same farm, as the strife of herdsmen is still well known in our day. Valuable and important as the already mentioned improvements are in our sheep farming, one remains to be noticed, which is second in benefit to none of them, and that consists in the laying out of plantations. Of these we have at present very few, and their extension is slow; yet trees of the Pine variety grow well on our hills. As draining, liming, and enclosing improve our soils, plantations no less ameliorate our climate. They ought to be placed in clumps and belts all over our hill ranges. When enclosed with stone walls, they form at once good shelter stells, and in the course of 10 or 12 years the trees are over-topping the fences, and every year after increasing the area of their sheltering influence till they are full grown. In rough stormy weather the flocks need never leave their vicinity for their food, and when snow storms force them together into a place of security, there is no fold so much to be trusted as the lea side of a thick plantation. Into the detail of the management of hill flocks we have not entered, confining our remarks more especially to those causes and circumstances which seem destined in the course of time to alter alike the appearance of the district and the character of its farming. *J. S. B.*

## CO-OPERATIVE FARMING.

The following letter appeared in the London *Times* of 22d of December last:—

"Sir,—The interesting article from our "Own Reporter," dated Rochdale, respecting Co-operative societies, induces me to trouble you with a few lines on the same subject. About 30 years ago, upon a small farm [of 100 acres] in Suffolk becoming vacant, I called together 20 labourers, and offered to lend them capital without interest if they would undertake to farm it, subject to my rules and regulations. They gladly availed themselves of my offer. In the course of 10 years they paid me back my capital, so that I was induced to let another farm of 150 acres to 30 men, upon the same terms. These have also nearly paid back the capital, and instead of eating dry bread, as I regret to say many of the agricultural labourers are now doing, each man has his bacon and numberless comforts that he never possessed before; thus the rates are reduced, as these 50 families are no longer burdensome. The farmers are sure to meet with honest men, as conviction for crime would debar them of their share, and the men themselves have become much more intelligent, and present happy, cheerful countenances. If every country gentleman would follow my example, distress among the agricultural poor would not be known. I merely add, that I have no land so well farmed. I shall be happy to send you my plan, rules, and regulations, if required. "John Gurdon."

"Assington Hall, Suffolk, Dec. 19.

We have since received two letters from Mr. Gurdon, with further details of his Co-operative Farming. In his first letter to us, he says he has received many inquiries, and adds:—

"I am for adopting the newest improvements, such as threshing machines, ploughs, &c.; and my societies are both for advancing with the times. I have drawn out a plan for a cattle mutual assurance, as less expensive to the farmer and less open to imposition. I have also drawn out a plan for suburban villages, say four or five miles on the London railways, whence the labourers would be brought up to their daily work and taken back at night, embracing economy, morality, education, health and happiness."

The substance of the printed agreement under which the Assington farm is let is to the following effect:—

"I agree to let to the undermentioned persons, forming themselves into an Agricultural Association, a farm, called 'Severals,' containing 136 acres, for the annual rent of 194*l.*, and 3*l.* for each house, upon the following conditions:—That the society consist of 30 members. That they conduct themselves with propriety and pay their rent regularly. That the land be farmed upon the four-course husbandry. That every 12 years the land be re-valued. That all repairs be done by the Association, the landlord finding rough materials. To insure the premises for 300*l.*, &c."

The names of the members are given, together with the rules and regulations, and Mr. Gurdon writes a second letter, as follows:—

The subject of co-operative farms is a most interesting one to the cultivators, as well as to the lords of the soil. We must all admit that, owing to the depressed state of the labour market, the former are insufficiently remunerated; the consequence is that poaching and petty thefts are the crying evils of the age. My desire was to raise the labourer in his class, without taking him out of it, by giving him a stake in the country, and thus becoming a responsible man, not only to his Maker, but his neighbour; I do not add, to be independent of his fellow-creatures, for such a principle I detest. Dependence upon God, in the first instance, and secondly, upon our neighbour, is the mainspring of society—each forming a link in the human chain. I am for progressing with the times. I like large farms and extended fields; they save the landlord many buildings, they give full scope to machinery, and they meet the requirements of the march of intellect; still there must be small isolated off-hand farms, which are generally ill cultivated or neglected; it is to these I wish to call your attention. One of this sort, 100 acres, more or less, becoming vacant, I called together twenty of the better class of labourers, and offered them the farm and the necessary capital without interest, if they would undertake to cultivate it conformably to my regulations, each man paying down 2*l.* as a guarantee. They gladly accepted my proposal, and in the course of 10 years or so the capital was paid back, and they were in complete possession as tenants of a well-cultivated and well-stocked farm. I was so fully satisfied with this success, that upon another farm of 150 acres becoming vacant, I put in 30 men upon the same terms; and only 50*l.* of the capital lent remains unpaid, and they hope to liquidate this sum during the year. Simple and inexpensive as my plan is, after so long an experience I can say confidently that it has not one drawback. The labourer himself has now something to lose; his sympathy is drawn out towards his master, for in his calamities he can feel as one who might have been in the same predicament. Physically speaking, he is better fed, and can, consequently, do greater justice to his employer than heretofore; the farmer can also put more confidence in him, as conviction for theft would deprive him of his share in the society, which is now worth upwards of 50*l.* The landlord has also his advantages; less marauding, less poaching, and (as in my case) 50 families not only taken off the parish rates, but paying to them. Their interest is to keep the rates low. To give further security to this part of the scheme, they must each of them insure in the Stoke and Melford Benefit Club, for 10*s.* a week during sickness; 5*s.* a week after 65, when all payments cease; 5*l.* for funeral expenses. I might here remark, that in 1828 I established this Club upon Government principles, and that owing to the energy and unwearied attention of the clergy, who act as directors in their several parishes, the capital now invested amounts to upwards of 23,000*l.* The form of agreement may be altered to meet the wishes of the landlord, but it is necessary to write to J. Tidd Pratt, Esq., 28, Abingdon Street, Westminster, S.W., for instructions how to act to render the society valid. When I was at Assington, I attended the Michaelmas quarter meetings, and was surprised at the shrewd and apposite remarks made by these uneducated labourers. As only ten or twelve members are required upon the two farms, the remainder serve their old masters as usual. In passing through the village, you would not know that any such institution existed, unless you met a well-appointed waggon, inscribed "The Assington Agricultural Co-operative Society," or "The Assington Agricultural Association." Three years ago I advanced the societies a sum of money at 5 per cent., to purchase a first-rate threshing machine. They work it themselves, and they have paid me back a large portion of the capital. The editor of the "Agricultural Society's Journal" (Mr. Frere) has been down to inspect the farms. He was so pleased with the manager of one of the farms, that he offered to take him as a bailiff at a good stipend, but he did not wish to leave his present situation. *From the "Co-operator," a monthly periodical, conducted by Mr. H. Pitman, of Manchester.*

## Home Correspondence.

*On Breeding Sheep.*—At a time like the present, when the breeding of sheep is likely to produce a better return than corn-growing, it becomes an important question to consider whether we cannot improve our system, so as upon the same food to grow a greater quantity of stock. There has been very marked progress in the system of feeding horned stock. Dry in-calf cows are kept in good condition upon 20 lbs. of roots daily, pulped and mixed with straw-chaff. Ewes in the same condition are allowed to gnaw an equal quantity. The cow has a similar digestive apparatus, and is ten times as heavy; and consequently, in proportion to their respective live weights, the ewe is consuming ten times the quantity of roots. The question for experiment to decide is how far we can adopt the system of pulping roots and mixing with chaff, for sheep, and by economising the Turnips, keep twice as many sheep per acre as we do now. It may be objected that the process we contemplate will be attended with too much labour. In answer to this, we would ask what is the proportion between the cost of

attendance and the value of the roots? For fatting sheep on Swedes—where the roots are cut up, the value of the labour represents from one-sixth to one-seventh of the value of the roots. Now, in case of ewes, if we can keep double the quantity of stock upon a given area of roots, we can afford to lay out double the amount of labour, and still leave a very large profit. By adopting this plan another most important advantage would be gained—the keeping our stock longer on the same land, and thus leaving a double supply of manure. According to our present methods of feeding, the sheep pass much too rapidly over the soil; and although in the case of fatting sheep we can use artificial food, which causes the manure to be much enriched, this is often attended with a heavy outlay not always remunerative—whilst the ability to keep on dry healthy land a much increased breeding flock is a point of immense national importance. The state of the markets for several years past prove that we do not grow enough meat for our ever increasing population, and it would appear from statistics that there is very little increase in our production—at any rate not in proportion to the increased demand. Foreign importation cannot make up the deficiency. Could we only find a means of economically growing two sheep where one was grown before, we have the means of supplying food at a reasonable price, sufficient for our enormous population. The plan I am about to suggest is best suited for large arable farms of a light nature. The land often lies far removed from the buildings, any system of centralizing the produce, and converting the straw into manure by beasts is unprofitable, from the heavy expense of labour in carting to and fro; and certainly it will be a great improvement if we could devise a means of mixing the straw and roots, and making ewes consume the same on the land. The corn must be stacked near the roots that are to be consumed; threshed by a portable machine, and straw stacked and thatched. The roots must be cleaned and placed in large heaps at regular distances; and now the operations may commence. It will be necessary to have a root pulper and chaff cutter combined, to be worked by horse-power (one horse), this might be made in a portable form, and need not occupy much space; being placed upon wheels it could be moved as required. A light shed, also on wheels, with covered sides and a waterproof roof, would be necessary to hold the prepared food, which might be cut up every other day. One horse and lad, besides the ordinary attendants, would be required three or four days a week. Considering the increased number of sheep kept, we do not think the extra labour would be very great. *John Coleman, Cirencester, Feb. 24.*

*The Great Steam Plough Trial* has cleared away a good deal of mist, as well as putting two of our leading steam ploughmen, the Messrs. Howard and Fowler, in the shade; the former by sending them back empty with the piper to pay. The *Bedford Times* says, that a straw will be catched at before five judges in June to try to shift the load on to another's back, but then there is a "should" in the way. We shall see what we shall see. The latter has lost all his laurels, for they are all adjudged to the Messrs. Fiskin. Now although this trial has cleared away some mist, &c., it has brought up a fog; for Mr .Bovill, the leading counsel for the plaintiff, said:—

"One of the patents was granted originally to two gentlemen named Fisken, in 1855, and the other to Mr. Fowler, and a Mr. David Greig in 1856. Both relative to steam ploughs, that is, ploughs used in connexion with steam machinery; and in point of fact, by the ploughs which were the subject of these patents, the problem how far steam ploughs could be rendered available for the cultivation of the land, was solved. Up to that time, although various attempts had been made; no one had succeeded in making a plough that would answer the purpose, although large prizes had been offered by various Agricultural Societies in England and Scotland, as an inducement for persons to perfect machinery for steam ploughing. When the patent of Messrs. Fiskin was taken out, the problem was solved, and the first approach was made to the construction of a really useful and serviceable plough."

Mr. Hindmarsh, another counsel on the same side, said that the date of the Messrs. Fiskin's patent was 19 July, 1855. Mr. Carpmael, a witness, said:—

"I am acquainted with Messrs. Fiskins' patent. . . . . Before the date of that patent, many attempts had been made to bring steam ploughing machinery into operation, but without success."

Mr. Fowler in his evidence says:—

"I remember in 1855 going to the agricultural show at Carlisle. . . .received an order for making a machine to draw any given surface plough that might be brought forward."

Now let us see the thickness of this fog. Mr. Bovill may be a very learned advocate in a court of law, but for all that he may not be very learned upon the question of steam ploughing, except as to dealing with data that may be placed before him, for when he says that by the Messrs. Fiskins' patent of July 19, 1855, the problem was solved and the first approach was made to the construction of a really useful and serviceable plough, he says wrong. Let me refer him to March 19, 1855, the date of my steam plough patent; hundreds of these ploughs are now in useful and serviceable operation, and my own farm has been regularly worked by it ever since December 1855. Mr. Carpmael might have been looked to as an authority upon the question, he being an eminent patent agent, agent both for Mr. Fowler and myself; surely he must have forgotten my patent of March 19, 1855, or he never would have dubbed Messrs. Fiskins' machinery, patented July 19, 1855, as the date of the first successful operation in steam agriculture. Then, upon the evidence that I have placed before you. I claim the laurels apparently won at this trial by the Messrs. Fiskin, and Mr. Fowler would have acted more fairly towards me, if he, instead of saying that he received an "order" at Carlisle, that he had received instructions from me, and contracted to make for me according to those instructions, a machine to draw any given surface plough. Now let me call his attention to the words of the Lord Chief Justice: "An inventor in carrying out an idea he had discovered, was fairly entitled to avail himself of the practical skill of a machinist;" then let us have no more of this foggy stuff. I shall not go into the question as to whether my plough, that turns at the land's end, is to die out to make room for the double action one of the Messrs. Fiskin; but I shall, and do claim the honour of having been the first to solve the problem and stand here before you as king upon the question of steam ploughing. Yes; and if I may be permitted to live a few years longer, I shall see the double action thing a dead letter, for a thing that can live only by working its engines at double its nominal power must die. *William Smith, Woolston, Bletchley Station, Bucks, March 4.*

## Farmers' Clubs.

KINGSCOTE: *Feb. 3.—Artificial Manure.*—We continue our report of Mr. Drew's paper on this subject.

I will now pass on to the second division of our subject, the relative values of artificial manures. This is a question easier asked than answered, being one depending on a number of contingent circumstances. First of all there is the requirements of the crops, the nature and condition of the land, the available food already naturally existing in the soil, and state of the weather, and time and mode of application, with various others.

Different plants possess different habits and wants, whilst the soil may be deficient in those very substances which are essential to their development; when this is the case those manures must be resorted to which in the opinion (from previous experience) of the farmer, he thinks most calculated to supply the necessary ingredients in the best available form, and from the best and cheapest source, attention being paid (not to the immediate cost of the article) but to the requirements of the particular crop to which it is to be applied. Generally speaking the money value of a manure depends in a measure on the amount of ammonia and phosphates it contains. A table was furnished some few years since by Professor Way, setting a price to the different substances contained in manures, by which an approximate value (on analysis) might be arrived at; it has, however, since been shown by Dr. Voelcker that it is not entirely to be depended on, the efficacy of the manure not altogether depending on the quantity, but also on the state and combination of the different ingredients it is composed of; the source of supply of some of the elements also affected their value as did the influence of climate. Reviewing the experiments that have from time to time been tried by different persons under apparently similar circumstances, one is struck with the very great difference in the results. The great point at issue between ourselves is—what proportion does the increased value of the produce bear to the expense attending their application? In order to set this before you, as far as my experience shows, I will detail to you a few experiments I have tried, bearing on the matter, as also an account of others I have been favoured with, likewise some useful information and practical opinions received from trustworthy sources.

The first experiment I tried with artificials to the cereals was to Wheat in the year 1860.

(*a*) The soil is of a poor weak sandy description, about 3½ inches in depth, the land in fair condition, having carried a good deal of stock the previous year, being the 2d year's seeds, it looked fresh and well when ploughed up. The Wheat came up well, was a good plant, and was strong and healthy all the early part of the winter; from alternate frosts and thawing a great portion of the Wheat was killed, leaving barely half a plant, and this very weak. Plots were measured out, and nitrate of soda, guano, and special prepared Wheat manure applied on the 19th of April, at an expense in each case of 32*s.* per acre. In one week a decided improvement in the appearance of the nitrated plot had taken place; in another week the whole of the plots showed a marked effect, the nitrate of soda taking the lead, followed by the guano, and in the distance the Wheat manure. The several lots continued in the same order, until harvest, and on threshing the result was as follows:—

| Manure. | Bushels of Wheat of 60 lbs. | Straw. | Total value. | Profit. | Loss. |
|---|---|---|---|---|---|
| | bus. lbs | cwt. qrs. lbs. | £ s. d. | £ s. d. | £ s. d. |
| None .. | 16 20 | 21 1 24 | 5 19 6 | .. | .. |
| Wheat manure. | 20 0 | 26 3 4 | 7 6 9 | .. | 0 4 9 |
| Guano .. | 24 28 | 29 2 4 | 8 16 3 | 1 4 9 | .. |
| Nitrate of soda .. | 30 24 | 33 2 8 | 10 16 3 | 3 4 3 | .. |

The straw and corn were kindest and best where the Wheat manure was applied; the next without manure; 3. Guano; and lastly, the nitrate. The quantity of tailings on light corn about equal from the Wheat manured portion and where none was used; from guano rather more, and the nitrate more than double. All was sold together at 6*s.* per bushel.

(*b*) I tried the same experiment again in 1861, on stone brash land of rather better soil after two years seeds, and in fair condition, the Wheat a full plant, the manure applied the beginning of May when mowing fast, at a cost of 40*s.* per acre.

| Manure. | Wheat. | Value. | Straw. | Total value. | Loss. |
|---|---|---|---|---|---|
| | bus. lbs. | £ s. d. | cwt. qrs. lbs. | £ s. d. | £ s. d. |
| None .. | 31 9½ | 9 18 6 | 25 2 4 | 11 9 9 | .. |
| | Tail 60 lbs. | 0 5 6 | | | |
| Nitrate of soda. | 35 44 | 11 3 4 | 36 1 26 | 13 5 7 | 0 4 2 |
| | Tail 64 lbs. | 0 5 9 | | | |
| Guano .. | 35 9 | 11 4 ( | 31 0 8 | 12 19 1 | 0 10 8 |
| | Tail 40 lbs | 0 4 1 | | | |
| Wheat manure. | 32 32 | 10 7 4 | 30 3 6 | 12 3 4 | 1 6 5 |
| | Tail 56 lbs. | 0 5 3 | | | |

Nos. 1, 3, 4, about of equal quality and weight, viz., 61 lbs. per bushel, sold at 6*s.* 4½*d.* No. 2, not so good, and over 1 lb. per bushel deficient in weight, sold at 6*s.* 3*d.* per bushel.

(*c*) Wheat with like manures in 1862 with sulphate of ammonia, soot and dissolved bone in addition, the soil sandy with some stone, two years seeds in fair condition, the plant of Wheat even; the manures sown the latter end of April.

| Manure. | Cost. | Wheat. | Straw. | Total. | Profit. |
|---|---|---|---|---|---|
| | £ s. | bus. lbs. | cwt. qrs. lbs | £ s. d. | £ s. d. |
| None .. | .. | 30 48 | 33 2 0 | 11 13 3 | .. |
| 80 bushels of soot .. | 2 0 | 37 58 | 51 2 16 | 14 18 4 | 1 5 1½ |
| Dissolved bone .. | 2 0 | 32 16 | 40 0 0 | 12 9 8 | Loss. 1 3 7 |
| Nitrate of soda .. | 2 0 | 36 56 | 51 2 8 | 14 11 7 | Profit. 0 18 4 |
| Wheat manure .. | 2 0 | 36 32 | 42 2 24 | 14 0 1 | 0 6 10 |
| Sulphate of ammonia.. | 2 0 | 37 22 | 44 1 16 | 14 7 1 | 0 13 10 |
| 40 bushels of soot .. | 1 0 | 36 24 | 36 1 20 | 13 13 0 | 0 19 9 |
| Guano .. | 2 0 | 37 58 | 44 2 8 | 14 11 3 | 0 18 0 |

The samples of corn, with the exception of plots 4 and 6, were much alike; they stood in the order to appearance, of—1, Wheat manure; 2, soot; 3, guano; 4, no manure; 5, dissolved bones; sulphate of amonia next; nitrate worst,—the whole put at 6*s.* 6*d.* per bushel, 62 lbs., the straw, at 1*s.* per cwt. The nitrated plot made the first start, followed by the 80 bushels of soot and sulphate, next guano, then the 40 bushels of soot, afterwards the Wheat manure, whilst there was scarcely any perceptible difference from first to last where the dissolved bones were used. As the crops approached maturity, it was evident the nitrated and sulphate of ammonia plots were blighted, the nitrated especially, and it bent down. The whole of the others was tolerably kind, particularly with soot, which was first ripe by about 3 days, whilst the nitrated lot was 4 or 5 days later than either.

(*d*) I will now give you an account of some experiments from Mr. Rich, of Wellsley, with Wheat drilled in the autumn of 1855, on good dry stone brash land on new lea, (or one year's seeds). Manure applied in April 1856.

| | bush. | lbs. |
|---|---|---|
| No. 1, White trump Wheat with 1¼ cwt. nitrate soda and 1 cwt. common salt .. .. | 47 | 15 |
| No. 2. Without manure .. .. .. .. | 35 | 36 |

N.B. The weight of straw of No. 1 to 2 was as 14 to 9½.

2, To Wheat in the spring of 1858 on shallow stonebrash soil.

| | bush. | lbs. |
|---|---|---|
| No. 1. 2 cwt. nitrate soda .. .. .. .. | 44 | 26 |
| No. 2. No manure .. .. .. .. .. | 37 | 27 |
| No 3. 1½ cwt.. guano .. .. .. .. .. | 44 | 0 |

Again, to White Trump Wheat drilled in the autumn of 1861, on dry stone brash and on new lea manures, sown April 8, 1862.

1¼ cwt. nitrate of soda, 82½ cwt. common salt, produced per acre 41 bushels 58 lbs of Wheat and 30¼ cwt. straw. Unmanured, 29 bushels, 18 lbs., and 18½ cwt. of straw.

In this experiment the whole field was manured excepting a stripe 2 perches wide across the whole field. At harvest time a stripe of 1 perch wide on each side was measured off and accurately separated and threshed as against the unmanured plot. The natural weight per imperial bushel of the manured Wheat exceeded by 2 lbs. per bushel that of the unmanured. Mr. Rich did not give the actual money results, as he says prices are constantly varying, both in the manures and produce. The return could not be otherwise than satisfactory; an outlay of from 20*s.* to 25*s.* giving an increase in the first case of nearly 12 bushels and 50 per cent. more straw; in the second of 12½ bushels of corn and 11¾ cwt. of straw. Calculating the Wheat at 6*s.* per bushel, and the straw at 1*s.* per cwt., it would at the least give a profit of over 3*l.* per acre.

(*e*) The next account of some trials by a friend in Hampshire on light chalk soil (rented at 12*s.* 6*d.* per acre):—1st, to Barley after Turnips fed off with sheep.

| Manures per acre. | Cost. | Barley per acre. | Straw and chaff. |
|---|---|---|---|
| | £ s. d. | bus. pk. | ton cwt. lb. |
| None .. .. .. .. | .. | 24 2 | 0 17 1 |
| 2 cwt. guano and 1 cwt. salt .. | 1 7 6 | 27 3 | 0 19 0 |
| 2 cwt. guano and 1 cwt. salt .. | 1 7 6 | 32 2 | 1 1 0 |

*Remarks.*—No. 3.—The manure sown broadcast and harrowed in at the time of planting the Barley. No. 2. The manure applied as a top-dressing when the Barley was about 4 inches high in a wet morning, but dry weather set in afterwards.

2d. A comparison of superphosphate and bones (half dissolved in sulphuric acid) applied to Turnips, with its effect in the following year on the Barley crop; the Turnips fed off with sheep.

| No. | Manure per acre. | Cost. | 1st year Turnips. | 2d year Barley | Straw. |
|---|---|---|---|---|---|
| | | £ s. d. | tn. ct. qr. | bus. pk. | tn. ct. qr. |
| 4 | 3 cwt. superphosphate and 20 bus. ashes .. .. | 1 2 10 | 12 2 2 | 32 1 | 0 18 0 |
| 5 | Dissolved bone and 20 bus. ashes .. .. .. | 1 2 10 | 11 15 0 | 36 3 | 1 2 1 |

*Remarks.*—Weight of Barley from No. 4, 50 lb. per bushel. From No. 5, 50½ lb. per bushel.

My friend does not state the advantage or otherwise attending the application of the manure; at the same time we can draw our own conclusions, and there are one or two matters in these interesting experiments claiming attention. In the first, it would hardly enter our minds to use stimulants of any kind to any crop following roots fed off with sheep, and not of first-rate quality; then there is the great difference in the yield of corn and straw from the same kind and quality of manure, but applied at different times, and which informs us that the benefits attending the use of artificials depends on other circumstances as well as the manures themselves. No. 3 of this experiment realising a profit of almost 1*l.*, whilst No. 2 would leave a loss of nearly 10*s* on the manure. In the second experiment it is worthy of remark that although the superphosphate (which doubtless contained a larger quantity of ready available food) gave a greater weight of Turnips per acre than the partly dissolved bone, the latter had a greater influence on the succeeding Barley crop, both in the yield of corn and straw.

(*f*) I now come nearer home, and will relate an account of an experiment tried by our worthy Secretary, Mr. F. Burnett, on Kingscote Farm, with different artificial manures applied as a top dressing to Wheat in the spring of last year on a two years' lea.

| Description of Manure. | Cost. | Wheat per acre. | Value. | Loss. |
|---|---|---|---|---|
| | £ s. | Bushel. | £ s. d. | s. d. |
| Special Wheat manure .. | 2 0 | 38½ | 11 11 0 | 1 0 |
| Guano .. .. .. | 2 0 | 36½ | 10 19 0 | 13 0 |
| Nitrate of soda .. .. | 2 0 | 37½ | 11 5 0 | 7 0 |
| Soot .. .. .. .. | 1 12 | 38 | 11 8 0 | 4 0 profit |
| None .. .. .. .. | .. | 32 | 9 12 0 | .. |

*Remarks.*—No. 3. The greatest increase is straw, but the corn of inferior quality. No. 1. The next largest quantity of straw and next worst sample of grain. Nos. 2 and 4. Very similar in quantity of straw and similarity of grain. The best sample, No. 5.

Mr. Burnett does not make any calculation on the increase of straw; he however admits that it is deserving of consideration, and says the extra quantity from the nitrate and special manures would counterbalance the inferiority in the quality of the grain from these manures.

(*g*) I have also received an account of some valuable experiments tried on the Royal Agricultural College Farm, a detail of which you will find in the Journal of the Royal Agricultural Society of England, copies of which are in our library, and would well repay a perusal. They are too extensive for me to fully enter into, but I will just give you the general results:—1st, to Wheat and Barley in 1860.

| No. | Manure per Acre. | Cost. | Profit in Wheat per Acre. | Results with Barley. |
|---|---|---|---|---|
| | | £ s. d. | £ s. d. | £ s. d. |
| 1 | Procter's special manure.. .. | 1 12 0 | 1 4 6 | 0 3 1¼ loss |
| 2 | 2½ cwt of guano | 1 12 0 | 2 13 0 | 0 6 8 ,, |
| 3 | 1½ cwt. nitrate of soda .. .. | 1 10 0 | 2 1 6 | 1 7 6 gain |
| 4 | 1½ cwt. do., and 3 cwt. common salt .. .. | 1 13 0 | 3 1 6 | 0 19 3 ,, |
| 5 | 3 cwt. salt .. | 0 3 0 | 0 6 0 | 0 9 9 ,, |
| 6 | Nothing .. .. | .. | .. | .. .. |
| 7 | 2 cwt. sulphate of ammonia .. .. | 1 12 0 | 1 18 3 | 1 2 4 ,, |
| 8 | 32 bushels soot .. | 0 16 0 | 1 18 4 | 1 3 2 |

The Wheat was put at 7*s.* per bushel, and the Barley at 5*s.* 6*d.*, but the increase in straw not taken into consideration. The same experiment was continued in 1861, straw and corn taken into account; the Wheat valued at 50*s.* per quarter, straw at 1*s.* per cwt.; Barley at 38*s.* per quarter, straw at 6*d.* per cwt.

| No. | Manure. | Profit per acre, Wheat & Straw. | Barley & Straw. |
|---|---|---|---|
| | | £ s. d. | £ s. d. |
| 1 | 2½ cwt. Guano, cost 32*s.* 6*d.* .. | 1 11 9½ | 1 14 5½ |
| 2 | 4 cwt. Procter's, special manured, 32*s.* .. .. .. | 1 11 8½ | 2 4 7¼ |
| 3 | 1½ cwt. nitrate of soda, 22*s.* 6*d.* | 3 4 6¾ | 1 2 10¾ |
| 4 | Nothing .. .. .. .. | .. | .. |
| 5 | 3 cwt. salt, 1½ cwt. nitrate of soda, 25*s.* 6*d.* .. .. .. | 3 12 3½ | 1 12 3½ |
| 6 | 3 cwt. salt, 3*s.* .. .. .. | 1 19 7¾ | 0 6 10¼ |
| 7 | 2 cwt. sulphate of ammonia, 32*s.* .. .. .. | 2 18 8 | 0 5 6 loss |
| 8 | 6 cwt. ulmate of ammonia, 45*s.* sent expressly for experiment.. .. .. .. | 0 9 10 | 0 15 6½ do |

2d. Swede experiment on poor dry dead sandy land drilled on the flat in 1846, excepting No. 1, sown broadcast.

| | Per Acre. Tons. | Cwt. |
|---|---|---|
| No. 1. 20 yards ordinary farm yard dung, 4 cwt. guano, and 30 bushels ashes, sown broadcast | 12 | 14 |
| 2. 20 yards per acre .. .. .. .. .. | 11 | 6 |
| 3. 20 yards per acre and 30 bushels ashes .. | 11 | 12½ |
| 4. 2¾ cwt. (Peruvian) guano, and 60 bush. ashes | 8 | 13 |
| 5. 20 bushels bones .. .. .. .. .. | 11 | 17¾ |
| 6. 5 bushels bones dissolved in 140 lbs. acid and 20 bushels ashes .. .. .. .. | 9 | 11½ |
| 7. 3¾ cwt. Fothergill's superphosphate and 20 bushels ashes .. .. .. .. .. | 11 | 1½ |

Much of the seed did not vegetate on No. 1.

3d. With Orange Globe Mangel in 1849.

| | Per Acre. Tons. | Cwt. |
|---|---|---|
| No. 1. 21 loads farm yard dung and 3 cwt. Peruvian guano .. .. .. .. .. .. | 22 | 12 |
| 2. 30 loads of dung .. .. .. .. .. | 22 | 16 |
| 3. No manure .. .. .. .. .. .. | 8 | 8 |
| 4. 6 cwt. guano .. .. .. .. .. | 19 | 5 |

4th. With Long Red Mangel on good land in the year 1858.

| | Per Acre. Tons. | Cwts. |
|---|---|---|
| No. 1. 20 loads dung and 3 cwt. bacon salt .. .. | 30 | 11 |
| 2. Yellow Globe do., same manure .. .. | 36 | 6 |
| 3. 3 ditto, 20 loads dung, 3 cwt. salt, and 1½ cwt. guano .. .. .. .. .. .. | 29 | 7 |

Mr. Rich adds:—the result of this experiment is extraordinary, the plant being equally good in the three cases, but the addition of the guano giving the least produce.

(*g*) These, with two or three I have myself tried, will I think be sufficient for our purpose. The first was in the year 1854, to Swedes after Wheat the soil stone brash of medium texture.

| Plot 1. | Manure per Acre. | Cost. | Weight of Swedes. |
|---|---|---|---|
| | | £ s. d. | tn. ct. qr. lb. |
| 1 | None .. .. .. .. .. | .. | 7 11 1 0 |
| 2 | 30 bushels ashes .. .. .. | 0 2 6 | 12 3 0 9 |
| 3 | Do. and 4 cwt. Peruvian guano .. | 2 16 6 | 19 14 1 7 |
| 4 | Do. and 2 cwt. guano, and 9½ bush. bones | 2 15 6 | 18 1 3 19 |
| 5 | Do. and 10 bush. bones .. .. | 2 17 6 | 20 10 2 4 |
| 6 | Do. and 6 cwt. superphosphate .. | 2 7 6 | 21 17 2 5 |
| 7 | Do. and 6 cwt. special manure .. | 2 17 0 | 17 0 2 19 |
| | Do. and 20 yards dung, 4 bush. bones, and 1½ cwt. guano | 5 5 6 | 28 9 0 0 |

There is something inexplicable about this experiment as regards the special manure, as it should have given a better result, but I cannot give the reason.

2. To Swedes in the year 1860 after Wheat, the soil dry and sandy, part of the manure was sown along the boults and covered in, the remainder drilled with about 30 bushels of ashes per acre.

| Plot 2. | Manure per Acre. | Cost. | Weight of Roots. |
|---|---|---|---|
| | | £ s. d. | tn. ct. qr. lb |
| 1 | 20 bush. bones .. .. .. | 3 5 0 | 17 16 3 11 |
| 2 | 8 cwt. special manure .. .. | 3 6 0 | 19 8 3 20 |
| 3 | 4 cwt. guano .. .. .. .. | 2 19 6 | 17 4 3 9 |
| 4 | 12 cwt. special manure .. .. | 4 18 6 | 19 12 3 21 |
| 5 | 30 bush. bones .. .. .. | 4 16 3 | 20 16 3 27 |
| 6 | 6 cwt. guano .. .. .. .. | 4 8 0 | 18 2 3 13 |
| 7 | 4 cwt. special manure and 10 bush. bones | 3 4 9 | 20 0 3 23 |
| 8 | 2 cwt. guano and 10 bush. bones . | 3 1 3 | 17 10 3 10 |
| 9 | 2 cwt. guano and 4 cwt. Turnip manure | 3 3 0 | 15 16 3 0 |
| 10 | 20 yds. manure and 8 bush. bones | 4 17 6 | 24 15 0 25 |

It is observable in this experiment that an addition of one third more manure did not increase the weight of roots to a corresponding extent. I shall however advert to this more particularly presently. I will only trouble you with one more I tried last year with Swedes after Wheat on a very poor piece of sandy land of a dead nature; the manure was applied by hand in boults, the seed drilled with a small quantity of ashes on the 28th of May; the roots taken up, cleaned from root and top, and weighed on the 3d of December.

| Plot 3. | Manure per Acre. | Cost. | Weight of Roots. |
|---|---|---|---|
| | | £ s. d. | tn. ct. qr. lb. |
| 1 | 10 bushels of bones and 2 cwt. of guano | 2 17 0 | 16 1 6 18 |
| 2 | 8 cwt. superphosphate .. .. | 2 16 0 | 16 13 1 26 |
| 3 | 7 do. Turnip manure .. .. | 2 16 0 | 18 10 2 0 |
| 4 | 4 do. guano .. .. .. .. | 2 15 0 | 18 16 2 19 |
| 5 | None .. .. .. .. .. | .. | 8 17 1 4 |
| 6 | 6 cwt. superphosphate .. .. | 2 2 0 | 16 1 0 18 |
| 7 | 10 bush. bones, 4 cwt. superphosphate | 2 18 0 | 17 11 3 27 |
| 8 | 3½ cwt. Turnip manure and 2 cwt. guano | 2 15 6 | 20 13 2 21 |
| 9 | 10 bush. bones and 3½ cwt. Turnip manure | 2 18 0 | 16 19 2 17 |
| 10 | 4 cwt. superphosphate and 2 do. guano | 2 15 6 | 19 2 3 10 |
| 11 | 20 bush. bones .. .. .. | 3 0 0 | 17 18 0 18 |
| 12 | 15 yards dung, 8 bush. bones, and 1 cwt. each of Turnip manure and superphosphate | 4 11 6 | 23 15 1 3 |
| 13 | 15 yards dung .. .. .. | 2 12 6 | 16 0 0 11 |

(*h*) My experience will not warrant my adding much as regards the application of manures to pastures, not having accurately carried out any experiment with them. I have occasionally applied them, and as far as observation goes, believe they might be much more extensively used. Nitrate of soda is very quick and invigorating, rendering the herbage very sweet; but its effects are soon gone, and scarcely, if at all, visible the second season. Guano I have also tried; it does not act so quickly as the nitrate, but is much more lasting. Specially prepared manures for Grass, again, I think are more tardy still; this likewise improves the feeding, and I have witnessed stock grazing to the very verge where it has been put, leaving the unmanured untouched. I will give you a little experiment, tried by my friend in Hants with guano and farmyard dung to a piece of old dry pasture that previously had never been known to produce more than 12 cwt. of hay per acre. The dung was applied early in January, the guano in the last week of February, 1861.

| Plot. | Manure per acre. | Cost. | Produce in 1861. | Produce in 1862. | Remarks. |
|---|---|---|---|---|---|
| | | £ s. d. | tn. ct. qr. | tn. ct. qr. | |
| 1 | 6 cwt. guano and 2 cwt. salt and 13 hdds. liquid manure | 5 0 0 | 7 8 0 | 3 6 0 | The Grass much sweeter, and the Grass all gone |
| 2 | 20 cartloads pit dung | 5 0 0 | 5 2 1 | 4 18 2 | The after Grass better both years after the dung. |

I am not informed whether the produce was dry hay—if it was it was a most extraordinary increase. The artificial gives the best return the first year, but falls off considerably the second, whilst the pit dung is not so great the first, but almost maintains itself the second; averaging the two years, there is a difference of about 7 cwt. a year in favour of the guano.

(*i*) The Hon. Southeron, M.P., instigated some very interesting experiments by the application of different kinds of artificial manures to pasture land in the neighbourhood of Shipton Moyne in the year 1856-7; on the whole however they did not hold out much inducement for an extensive use, very few returning their cost, and in most of the cases entailing a loss. Many hold out that our pastures and Grass lands do not receive that amount of manuring or attention as they are deserving. Were I able to do so, time would not allow my entering fully into this matter, and it will leave an opening for discussion afterwards.

(*To be continued.*)

## Farm Memoranda.

Warburton Park, near Warrington.—This farm is 305 acres, and is disposed to pasture 82 acres, old measure 16 acres, meadow covered with dung water 25, meadow irrigated from a river or brook 24 acres. Wheat after Potatoes and other green crop 65 acres, Oats 16 acres, Clover and Vetches for stall feeding and some for hay 28 acres, Potatoes 54 acres, Turnips 9 acres, Mangel 3 acres, orchard and garden 1½ acres, occupation road 1½ acres. The customary rotation on this farm is—Potatoes, then Wheat, and about 16 acres more or less of Oats; on some of the green crop soil Wheat is here sown with Clover and other seeds under. Stock on this farm:—54 dairy cows, 1 bull, and from 30 to 40 feeding beasts; farm horses 12, colts 7, sheep or lambs 124, pigs 10; total number generally from 240 to 250. Sometimes a dozen rearing calves, but none returned this year. The stock are mostly fed in the pastures in summer, except the horses, which have cut Clover and other green food. In winter they have pulped roots, chopped hay, a little straw three times in the day, and three fodders of hay during day time. The stall fed cows have 8 lbs. of oilcake besides hay daily. The claimant does not state the quantity of manure made on his farm. Buys 500 tons—not less, of horse dung annually, and 1400 tons of night soil, besides many tons of guano. The farm yard manure is used separately for early Potatoes, and the other manures for general purposes on the farm. Claimant drained all this Farm in the first four years of his tenancy, and entirely at his own cost, excepting the tiles; has expended in that time 170*l.* in filling up pits, old fences pulled down, and deep ditches; and sunk 5465 yards of deep ditches and new fences, planted 3025 yards, all done by claimant, excepting the landlord found quicks. The tenant had to cut down and saw, and put up the railing; has made entirely a new occupation road through the farm, 1320 lineal yards; has done the whole of this at his own expense entirely, and the cost of material and carting it cost for several years upwards of 40*l.* per annum. Tenant has made 22 gates entirely at his own cost. Has built a large milk house and dairy, calf sheds, shed for implements, a stable for four horses, a gig-house, a loose box, a smithy and engine house, and found all materials except for the milk house, dairy, and calves sheds, and for those he had to fell the timber and prepare it for its different purposes. Forming and paving farm yard, which is a very large one; the stones for paving were obtained mostly from the draining and other such operations on the land. Claimant farmed and laid out both the front and back garden, and says that his expenditure on this farm has been excessive.

*Inspectors' Remarks.*—The soil on this is various. Some rich alluvial, some good upland. There are also many acres of a clayey soil, not of a favourable character, and except in particularly good seasons requiring skilful management for successful arable cultivation. The old alluvial meadow is frequently top-dressed with town's and other manure, besides being occasionally irrigated, and by those means made to yield a great production. 27 acres of Clover mown this year showed for far the best of any seen this year, and 9 acres of an old meadow, near the house, is in a luxuriant condition. The pasture land on this farm is in five fields. One field of 32 acres has been down three years, except a small portion which has been down longer; another field of 22 acres, down two years; another field of 11 acres, somewhat older turf; but from appearances we should think none except one field of pasture has been down above six years, and with the exception of pastures which were boned last year, or the year previous, we have seen none equal to them during our inspection this year. The Wheat, 65 acres, is in three fields, and a few acres of a fourth field, and all the Wheat, omitting about three acres in one field of 13 acres, is equal to the best we have seen this year, and the three acres, as above excepted, was a full average crop. A considerable breadth of the Wheat is sown under with Clover and seeds, and whenever examined they showed full of plant and clean. Oats, 16 acres, a full and tall crop, within a line of the very best seen this year. Potatoes, 54 acres, are nearly all on three fields; many acres had been cleared for the market, and about 20 hands were employed in taking up Potatoes when we made our inspection, and showed a large crop, with but few diseased ones. The Potato cultivation on this farm is well managed; it is liberally manured and kept clean. A considerable surface is in beds, 3 and 4 sets wide. The Turnips and Mangels, 12 acres, are in one field—not a favourable soil for a moist season. The Turnips showed for a great crop. The Mangels had vegetated indifferently in places. The omissions were planted or sown with common Turnips, and of both Mangels and Turnips there would be a great crop from the land. All the different crops were well cultivated up to fence sides and head lands. The different improvements in buildings, roads, and fields drained, were pointed out to be examined by the inspectors, and were examined; also the main open sewer, of more than a mile in length, which claimant had cut from 5 feet to more than 9 feet deep, in places with width in proportion. This was to take the surface water from the centre of the farm, vast volumes of water accumulating there in heavy falls of rain. The different erections before enumerated, also the sheds that have been built by this claimant, are convenient and substantial. The yard is large and well paved. The occupation roads made by claimant are in the best condition. The fences planted by claimant are well kept, and the older fences maintained well for all purposes of protection for crops and stock. There is a powerful steam-engine on this farm, and mill gearing for making household flour and meal and crushing different grain. The back yard of the house is spacious and convenient. These have been done by the claimant. The house is very neat, and a nice drive for a carriage to the front, where a piece of well regulated lawn has also been made by this claimant. Everything about this place looks respectable. *Journal of the Manchester and Liverpool Agricultural Society.*

## Miscellaneous.

*The Choice of Seed* hinges (1) on the character of the different varieties of each crop offered in the market, and for this the reader must refer to the description given of each; and (2) on the locality where the seed was grown; though on this point we believe that undue importance is generally placed. Let it, in the

first place, be admitted that a healthily grown, thoroughly ripened seed is perfect of its kind, and, these conditions being fulfilled, it matters nothing whether it be grown on chalk, or clay, or sand. A "change" from one geological formation to another, or from one farm to another, is not, as some seem to think it, necessarily an advantage. Healthily grown and thoroughly ripened Wheat is to be had in any county in the kingdom; and if, having it, you have that which is perfect of its "kind," it is plain that you need not travel for a "change." The question, however, is—What of the character of a grain is involved in this term "kind;" and the answer we presume to be—All that it inherited or can transmit. Now nothing is more certain in agricultural experience than that besides those characters of plants which botanists admit as the permanent distinctions of species, there are other habits or features of greater or less permanence, which plants acquire by the constant treatment of the cultivator or the constant influence of habitat and climate, and which, though capable of alteration and ultimate extinction by other treatment, are yet not altogether transient, but will reappear in subsequent seasons in greater or less degree, according as the circumstances of the locality or season are favourable or otherwise. Thus, we doubt not that a "kind" distinguished for several years under good cultivation for extraordinary productiveness, will be more likely than one of inferior character in this respect to yield well even under inferior cultivation. And the advice on this subject which we should offer would be, simply to look out for seed of a sort which has been known for many years to yield most bushels per acre of good grain. If it can be had from your neighbour, then you will be saved the trouble of sending to either end of the island for it. There are, however, characters which grain from Sussex and from Aberdeen respectively are likely to bring with them in addition to the quantity or quality of their produce; and if a choice must be made between the two, it must hinge upon the relative value of those characteristics which the respective climates of those counties are likely to have encouraged, and, as it were, imprinted. Is hardiness and ability to withstand severity of winter and spring especially desired? then seed from the northern county will probably be preferred. *Morton's Farmers' Calendar.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending March 11, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 5 | 29.69 | 43 | 42 | S. | 2 | 1 | 65 | 35 | 100* | 30 | .. | 46 | 45 |
| Friday .. | 6 | 29.52 | 49 | 47 | S. | 2 | 5 | 61 | 40 | 95 | 32 | .. | 46 | 45½ |
| Saturday .. | 7 | 29.61 | 42 | 40 | S.W. | 2 | 6 | 54 | 36 | 74 | 33 | 0.08 | 46 | 46 |
| Sunday .... | 8 | 29.61 | 38 | 36 | S.W. | 2 | 3 | 54 | 32 | 80 | 29 | 0.25 | 45½ | 45½ |
| Monday.... | 9 | 29.63 | 35 | 33 | W. | 1 | 2 | 47 | 27 | 90 | 22 | 0.08 | 44 | 45 |
| Tuesday .. | 10 | 29.37 | 34 | 32 | S. | 1 | 2 | 48 | 23 | 88 | 19 | .. | 43 | 45 |
| Wednesday | 11 | 29.58 | 36 | 35 | N.W. | 1 | 8 | 50 | 29 | 79 | 26 | .. | 43 | 44½ |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

GRASS SEEDS: *G Frost.* Your samples have been unfortunately lost. Will you be so good as send others.

RAPE: *Wisbech.* How far must the different varieties of Rape or Swede be planted apart, to avoid danger of inoculation? Will any one who has had experience be good enough to answer this question. Absolute safety is to be secured, we imagine, only by a very long interval, for bees travel miles; but the question is, what in practice is found to be a sufficient distance?—Also are Early Cabbage and Swedish Turnip seed liable to cross breed?


# HOWARD'S

## STEAM PLOUGHING and CULTIVATING APPARATUS

WILL BE AT WORK NEAR BEDFORD THROUGHOUT THE SEASON.

Price of a Complete Set with 10-Horse Engine ... ... ... £515 0 0
Price of a Complete Set without Engine ... ... ... ... 220 0 0

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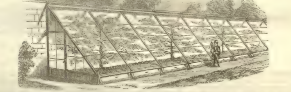
# ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

BY ROYAL LETTERS PATENT.



## SCOTT'S GLASS WALLS,

Designed to meet the suggestions of JAMES SCOTT, Esq., of Hornsey, as being the desiderata of such structures. They are devoid of shadow, durable, portable, and a tenant's fixture, with the strength and durability of a permanent structure. Further particulars and prices by post or on application.

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## THE PATENT IN-DOOR PLANT CASES

(TO WHICH A PRIZE WAS AWARDED AT THE ROYAL HORTICULTURAL SOCIETY'S EXHIBITION).

SOLE MANUFACTURER,

# JAMES GRAY, HORTICULTURAL WORKS,

DANVERS STREET, CHELSEA, LONDON, S.W.

The PATENT IN-DOOR PLANT CASE is one of the most useful of the Gardening novelties of the day. It is a handsome ornament for the Drawing Room or Sitting Room, and at all times forms a fresh, pleasant, and interesting object to the mind and eye. It is always under command, and will preserve many of the most tender Exotic Plants through the severest winter with comparatively little of the trouble and annoyance attending the use of Lamps, Gas, and Heating appliances of any other kind.

To all who have a taste for the cultivation of In-door Plants, for raising Seedlings, striking Cuttings, &c. the Plant Cases will be found an inestimable boon.

The Cases are highly approved and recommended by Professor Lindley, and by Messrs. Veitch, of The Royal Exotic Nursery, King's Road, Chelsea.

*Sizes and Prices on application.*

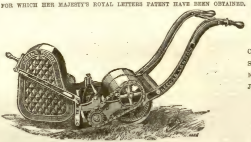
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863,

FOR WHICH HER MAJESTY'S ROYAL LETTERS PATENT HAVE BEEN OBTAINED.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOMAS GREEN FOR HIS PATENT LAWN MOWERS.



These were the only Machines highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862.

(No Prizes were given).

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS

DURING THE SEASON OF 1862.

THOMAS GREEN AND SON, in introducing their PATENT LAWN MOWERS for the present season, have much pleasure in stating that the important Improvements which were added to their Machines for last season (which combined simplicity of construction, durability, and lightness of draught), have proved them to be superior to anything of the kind ever brought before the Public, inasmuch as they have given entire satisfaction wherever used, and have gained the largest sale of any Machines extant. They have carried off every Prize that has been given in all cases of competition.

GREEN'S PATENT LAWN MOWERS are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

| | | | | |
|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a lady. |
| " 12 " | 5 | 0 | 0 | Suitable for one person. If with internal gear, 10s. extra. |
| " 14 " | 5 | 10 | 0 | Do. Do. Do. Do. 10s. extra. |
| " 16 " | 6 | 10 | 0 | Suitable for one man or two boys. |

| | | | | | If With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|---|
| To Cut 18 inches ... | £7 | 10 | 0 | Suitable for one man and boy | £8 | 15 | 0 |
| " 20 " ... | 8 | 0 | 0 | Do. Do. | 9 | 5 | 0 |
| " 22 " ... | 8 | 10 | 0 | Suitable for two men ... | 9 | 17 | 6 |
| " 24 " ... | 9 | 0 | 0 | Do. Do. ... | 10 | 7 | 6 |

### DONKEY and PONY MACHINES, including Traces.

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|---|---|---|---|---|---|---|
| To Cut 24 inches ... ... | £11 | 10 | 0 | £12 | 10 | 0 |
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| " 30 " ... ... | 16 | 14 | 0 | 18 | 0 | 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

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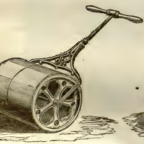
| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 30 inches ... ... | £20 | 0 | 0 | £21 | 10 | 0 |
| " 36 " ... ... | 23 | 0 | 0 | 24 | 16 | 0 |
| " 42 " ... ... | 26 | 0 | 0 | 28 | 2 | 0 |
| " 48 " ... ... | 29 | 0 | 0 | 31 | 8 | 0 |

Leather Boots for Horse, per set, 1*l*. 4*s*.

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.



Diameter 20 inches, length 22 inches, price £3 5*s*. | Diameter 16 inches, length 17 inches, price £2 10*s*. | D.ameter 24 inches, length 26 inches, price £4 5*s*.
Diameter 30 inches, length 32 inches, price £7.

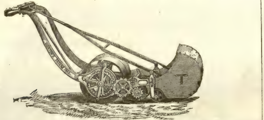
*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

T. GREEN AND SON in introducing the above are well aware that the extremely simple character of this Implement cannot admit of any very radical change, yet they are confident that the Improvement just effected (and secured by Letters Patent) is a real one, and is strikingly apparent when compared with any other Garden Roller. In previous Rollers a limit was always set to weight in consequence of marks being left on the gravel, and the power required to work them, but the present one is nearly double the ordinary weight, yet is considerably easier to turn in consequence of the Roller being divided in two parts, and the outer edges being rounded off or turned inwards, thus avoiding the *unsightly marks* left by all others hitherto in use. They can be used by the most unskilful with the greatest certainty of producing a beautifully even surface, either on *Lawns or Gravel Paths*, and for the *Bowling Green and Cricket Field are really indispensable.* They are manufactured of the best materials, and got up in a manner surpassing any ever yet brought out.

T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

# MORTON'S

## PATENT NOISELESS LAWN MOWER.



This Machine Rolls, Collects, and Delivers the Grass, and Combines all the most recent Improvements, including those secured by her Majesty's Royal Letters Patent for 1863. For efficiency and simplicity it cannot be surpassed, and can be worked by any one unskilled in Machinery. It is superior to all other Machines yet introduced to the notice of the Public for keeping Lawns and Pleasure Grounds in the highest state of perfection, and is likely to be the Leading Machine of the Season. No place, however small, should be without one.

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**Lawn Mowing Machines, with Recent Improvements.**

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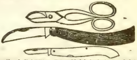

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SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

Caution.—None are genuine unless marked Saynor. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

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Manufactory: Newport, Salop.

Warranted the strongest and most durable Fence ever offered at corresponding prices. It is easily repaired if broken from accidents; can be rolled up most compactly when not in use, is admirably adapted for exportation, and can be had of any height and mesh required, at prices from 4*d.* to 1*s.* 6*d.* per yard and upwards.

For further particulars apply at the Manufactory, or of the London Agent, Mr. R. Winder, 18, Abingdon Street, Westminster, S.W.

# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.

THE FIRST PRIZE INTERNATIONAL EXHIBITION MEDAL AWARDED.

NEW HORSE MACHINE.

NEW PONY MACHINE.

NEW HAND MACHINE.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved, and their success established.

These Machines will Mow equally well on Uneven as on Level Lawns, and whether the Grass be wet or dry. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

### SHANKS' NEW PATENT HORSE MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 1.—48-inch Machine ... | £28 0 0 ... ... ... | 40*s.* extra. |
| No. 2.—42-inch Machine ... | 26 0 0 ... ... ... | 40*s.* ,, |
| No. 3.—36-inch Machine ... | 22 0 0 ... ... ... | 30*s.* ,, |
| No. 4.—30-inch Machine ... | 19 0 0 ... ... ... | 30*s.* ,, |

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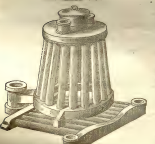

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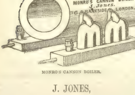


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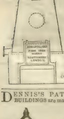


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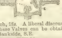

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**Notice of Removal.**

MR. ARTHUR PLEWS has the honour to announce that on and after MONDAY NEXT his Offices will be REMOVED from No. 50, Chancery Lane, to his Great Horticultural Sale Rooms, No. 11, Catherine Street, Strand, W.C.

**Sale of Philosophical Instruments, Photographic Apparatus, Books, &c.**

MR. ARTHUR PLEWS has the honour to announce that he purposes establishing SALES of the above-mentioned description of property at his NEW SALE ROOMS, 11, Catherine Street, Strand, W.C., EVERY THURSDAY throughout the year.
Full particulars and Scale of Charges can be had on application.

**Sales of Horticultural Stock, Seeds, Bulbs, &c.**

MR. ARTHUR PLEWS has the honour to announce that he purposes establishing SALES of HORTICULTURAL STOCK at his NEW SALE ROOMS, 11, Catherine Street, Strand, W.C., EVERY TUESDAY and FRIDAY throughout the year.
Full particulars as to Scale of Charges can be had on application.

**Sales of Poultry, Rabbits, Pigeons, and Fancy Birds.**

MR. ARTHUR PLEWS has the honour to announce that he purposes establishing SALES of POULTRY, RABBITS, PIGEONS, &c., at his NEW SALE ROOMS, 11, Catherine Street, Strand, W.C., EVERY WEDNESDAY throughout the year.
Full particulars and Scale of Charges can be had on application.


## Sales by Auction.


SALE THIS DAY, AT HALF-PAST 12 PRECISELY.

**Highly Important Sale of Splendid Specimen Plants.**

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., this Day, SATURDAY, March 14, at half-past 12 precisely, SPECIMEN PLANTS of Wellingtonia, Piceas, Araucarias, Irish Yews, Hollies, Thujas, Laurels, Aucubas, Tree Box, Roses, Berberis, &c.
On view and Catalogues had.

**Consignment of Fruit Trees, Roses, and Rhododendrons from France.**

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY NEXT, March 16, at half-past 12 o'Clock precisely, 2000 splendid STANDARD, DWARF, and TRAINED FRUIT TREES, all the best and newest varieties.; 200 STANDARD ROSES, fine bushy heads; 100 dwarf standard ditto; 100 fine RHODODENDRONS, &c., all very choice Plants, just arrived from France for absolute Sale.
On view the Morning of Sale, and Catalogues had.

**Indian Seeds.**

MR. J. C. STEVENS will SELL by AUCTION, during THIS MONTH, at his Great Rooms, 38, King Street, Covent Garden, W.C., 128 lbs. of clean SEED of CEDRUS DEODARA, and 12 lb. of assorted seeds expected to arrive by next mail from India.
The day of Sale will shortly be announced.

**Periodical Sale of Poultry and Pigeons.**

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on TUESDAY, March 17, at half-past 12 o'Clock precisely, an assortment of Choice POULTRY, consisting of Spanish, Hamburghs, Cochins, Bantams, Dorkings, Game, Andalusians, Turkeys; Aylesbury Ducks; Himalaya and English Rabbits, &c., from the yards of Mrs. Fookes, Mrs. Larger, Mrs. Pattison, Mrs. Stow, Rev. G. Gilbert, and other well-known fanciers. Also a large number of FANCY PIGEONS from well-known breeders and exhibitors.
On view the Morning of Sale, and Catalogues had.

**Important Sale of Moss Roses and other Plants.**

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY, March 18, at half-past 12 o'clock precisely, upwards of 700 DOUBLE CRIMSON MOSS ROSES, LANEII and LUXEMBOURG (two of the finest Moss Roses in cultivation, from one of the first and largest Rose growers in England); also a splendid assortment of Carnations, Pinks, and Picotees, about 500 pair. Fine specimen Irish Yews, Common and Portugal Laurels, Willows, Laburnums, Lilacs, Honeysuckles, Cryptomerias, Cypresses, GLADIOLI, Delphiniums, Gazanias, Dianthus, Iris, Fuchsias, Gooseberry and Currant Trees, Strawberry and Rhubarb Plants, &c.
On view the Morning of Sale, and Catalogues had.

**The First Sale of Californian Tree Seeds this Season.**

HIGHLY IMPORTANT SALE OF CONIFEROUS SEEDS JUST RECEIVED DIRECT FROM CALIFORNIA, IN SPLENDID CONDITION.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, March 19, at half-past 12 o'Clock precisely, about 800 ounces of clean SEED of Wellingtonia gigantea, Sequoia sempervirens, Thuja gigantea, Libocedrus decurrens, Cupressus Lawsoniana, macrocarpa, and M'Nabiana; Picea nobilis, grandis and amabilis; Abies Pattoniana, Menziesii and Douglasii; Pinus Lambertiana, monticola, ponderosa, Sabiniana and Fremontiana; Taxus Lindleyana, &c.
On view the Morning of Sale, and Catalogues had.

**Hardy & Ornamental Plants, Roses, Wire Baskets, &c.**

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on SATURDAY, March 21, at half-past 12 o'clock precisely, 100 ORNAMENTAL GALVANISED and PAINTED FLOWER BASKETS and STANDS, suitable for Conservatories, part of the stock of a large Manufacturer; 800 Bulbs of Gladiolus Bowiensis and Gandavensis; 1000 Standard, Dwarf and Moss Roses, from several well-known English growers, comprising most of the newest and best varieties. Also a Miscellaneous assortment of Hardy Plants from Woking, comprising Rhododendrons, Cedars, Junipers, Araucarias, Apple and Pear trees, Berberis, Laurels, Ash, Beech, Kalmias, Azaleas, Hollies, Ericas, Clematis, Honeysuckles, Ivies, &c.
On view the Morning of Sale, and Catalogues had.

**Consignment of Plants from Holland for absolute Sale.**

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, March 26, at half-past 12 o'Clock precisely, a splendid assortment of FRUIT TREES, ROSES, RHODODENDRONS, Hollies, Conifers, Kalmias, Deutzias, Weigelas, Hydrangeas, Berberis, Forsythias, Syringas, &c., from a well known Nurseryman in Holland.
N.B. The Fruit Trees, Roses, and Rhododendrons are particularly fine.
On view the Morning of Sale, and Catalogues had.

**Fruit Trees, Ornamental Shrubs, Perennials, &c.**

MR. ARTHUR PLEWS will SELL by AUCTION, at the Auction Mart, London, on TUESDAY NEXT, March 17, at half-past 12 o'Clock precisely, a fine Collection of HORTICULTURAL and FLORAL PRODUCE.
May be viewed the Morning of Sale. Catalogues may be had of the Auctioneer, 50, Chancery Lane, W.C.

**Horticultural and Floral Produce.**

MR. ARTHUR PLEWS will SELL by AUCTION at his Great Horticultural Sale Rooms, 11, Catherine Street, Strand, W.C., on FRIDAY NEXT, March 20, at half-past 12 o'clock precisely, a large quantity of HORTICULTURAL and FLORAL PRODUCE.
May be viewed the Morning of Sale and Catalogues had.

**Picotees, Carnations, Pinks, Standard, Dwarf, and Climbing Roses; Hollyhocks, Heartsease, &c., &c.**

MR. J. WILLMER will SELL by AUCTION as above, at the Auction Mart, Bartholomew Lane, E.C., opposite the Bank of England, on THURSDAY, March 19, at 12 o'Clock.
Catalogues at the Mart, and of Mr. J. WILLMER, Springfield Nursery, Sunbury, Middlesex, S.W.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at the Mart, Bartholomew Lane, E.C., on FRIDAY, March 20, at 12 o'Clock, about 100 Choice DOUBLE CAMELLIAS, 1 to 6 feet, abundantly furnished with Bloom buds; fine AZALEA INDICA in flower; a superb assortment of about 300 handsome Standard, Half Standard, and Dwarf Roses; Selected Fruit and Ornamental Trees; a fine Collection of American Plants, Gladiolus Brenchleyensis and others; Lilium lancifolium, Ericas, Cinerarias, Fuchsias, Verbenas, Dahlias in dry roots, &c.
On view the Morning of Sale. Catalogues may be had at the Mart; and of the Auctioneers, American Nurseries, Leytonstone, Essex, N.E.

**Ruddington Manor.**

IMPORTANT SALE OF CHOICE STOVE AND HOTHOUSE PLANTS.

WM. WRIGHT is honoured with instructions from Sir Thomas Parkyns, Bart., to SELL by AUCTION, on TUESDAY, March 24, at 11 o'clock precisely, the following Rare Specimens of STOVE and GREENHOUSE PLANTS, consisting of—

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| Marantas | Cacti |
| Allamandas | Franciscea |
| Rhynchospermums | Chorozemas |
| Rondeletias | Epacris |
| Echites | Ericas |
| Thunbergias | Aphelexis |
| Aerides odoratum, 7 stems, 4 feet high; 34 spikes of bloom last year | Azaleas, Standards & others |
| And other Orchids. | Kennedyas |
| Dracæna terminalis | Pimeleas |
| Strelitzia Reginæ, 2 large plants. | Lapageria rosea, a remarkably fine specimen, showing 37 blooms at one time last season |

And numerous other Stove and Greenhouse Plants.
LARGE COLLECTIONS of FUCHSIAS, GERANIUMS, FERNS, CALCEOLARIAS, CINERARIAS, &c.

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DON'S HORTUS CANTABRIGIENSIS; or, an Accented Catalogue of Indigenous and Exotic Plants, &c., with the additions and improvements of Pursh Lindley, and Sinclair, 13th edition, brought down to the present time, by P. N. Don, 8vo, cloth, (pub. at 1l. 4s.) reduced to 5s. This is an extremely useful list of all known plants, especially those cultivated in Great Britain, arranged according to the Natural Orders, with an Alphabetical Index.

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HENRY G. BOHN, YORK STREET, COVENT GARDEN, W.C.

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# THE GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 12.—1863.] SATURDAY, MARCH 21. {Price Fivepence. STAMPED EDITION, 6*d*.


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☞ *An Edition of the* GARDENERS' CHRONICLE and AGRICULTURAL GAZETTE *is published on Monday Afternoon at 4 o'Clock, containing full Reports of the Mark Lane and Cattle Markets, written expressly for the Paper.*

ROYAL BOTANIC SOCIETY, REGENT'S PARK.
FIRST EXHIBITION of SPRING FLOWERS, CAMELLIAS, PRIMROSES, &c., SATURDAY NEXT, March 28.
Visitors admitted only by Tickets to be obtained at the Gardens by orders from Fellows of the Society, price 2*s.* 6*d.* each; or in packets of 10, 1*l.* per packet. Gates open at 2 o'clock. Band at half-past 2.
N.B. Fellows, Members, and Bearers of Ivory Tickets only, admitted free, as on the General Exhibition days.

CRYSTAL PALACE.—The GREAT FLOWER SHOW of the season will take place on SATURDAY, May 23.

**To Floral Societies.—Notice.**
MESSRS. J. DOBSON AND SONS having retired from Exhibiting for Prizes during 1863, beg to state that Mr. DOBSON, Sen., is open to accept engagements as JUDGE during the season.
Woodlands Nursery, Isleworth, W.

**New Roses of 1863.**
PAUL AND SON have now ready their usual fine Plants of the finest Novelties of the season. DESCRIPTIVE LIST on application.
"Old" Cheshunt Nurseries, Herts.

**New Roses, 1863.**
MESSRS. VEITCH AND SON can supply strong healthy plants of the most approved kinds.
PRICED CATALOGUE free on application.
Nursery, Exeter.

ALL the NEW ROSES of 1863.—In fine strong Plants now ready.
DESCRIPTIVE LISTS on application.
WM. WOOD & SON, Woodlands Nursery, near Uckfield, Sussex.

**New Roses for 1863.**
BENJAMIN R. CANT offers very fine plants of only the most approved kinds, a DESCRIPTIVE LIST of which may be had on application.
St. John's Street Nursery, Colchester.

ROSES.—An extensive assortment of beautiful healthy ROSES in POTS, just coming into flower; also fine strong Plants of the leading kinds out-doors, now in good condition for Planting. An inspection solicited.
GEORGE CLARKE, Nursery, Streatham Place, Brixton Hill, S.

**Roses.**
EDWIN HOLLAMBY begs to announce that he has still a fine stock of STANDARD and DWARF ROSES of most of the leading kinds, in very fine plants.
DESCRIPTIVE PRICED CATALOGUE free on application.
Nursery and Seed Establishment, Tunbridge Wells, Kent.

PRIZE ROSES in POTS, splendid Plants, which have gained Prizes at the Horticultural and Botanical Fêtes, to be SOLD or EXCHANGED for SPECIMEN GREENHOUSE PLANTS, EPACRIS, AZALEAS, ERICAS, &c.
Apply to Mr. HEWIT, Gardener, Exchequer Place, Lewisham, S.E.

**New Roses of 1863.**
J. AND J. FRASER'S DESCRIPTIVE LIST of the best varieties will be forwarded Post Free on application.
Strong healthy Plants are now ready.
A GENERAL CATALOGUE may be had on application.
Lea Bridge Road Nurseries, N.E.—March 21.

**Roses for Forcing.**
CHARLES NOBLE has a nice assortment, one-year, established in 32-pots, ready for Forcing. They are healthy vigorous plants, and cannot fail to give satisfaction. He has also a large stock of Dwarfs and Half-Standards suitable for planting in Roseries; they are offered very cheap.
Sunningdale Nursery, South-Western Railway.

**Hollyhocks and Roses.**
PAUL AND SON have still to offer fine STANDARD and DWARF ROSES, new and old; also HOLLYHOCKS, all the leading varieties. CATALOGUES on application.
"Old" Cheshunt Nurseries, Herts.

**A Great Bargain.**
ONE YEAR SEEDLING LARCH at a nominal price.
Apply to WM. WOOD & SON, Woodlands Nursery, Maresfield, near Uckfield, Sussex.

**Agricultural Seeds.**
GEORGE GIBBS AND CO., SEEDSMEN,
26, Down Street, Piccadilly, London, W.

**Agricultural and Garden Seeds.**
H. AND F. SHARPE, SEED GROWERS and MERCHANTS, Wisbeach.
Special PRICED LIST of NEW SEEDS on application.

**Genuine Garden and Agricultural Seeds.**
JAMES CARTER AND CO., SEED FARMERS and NURSERYMEN.
237 and 238, High Holborn, London, W.C.

**Best Seeds, Carriage Free.**
BUTLER AND McCULLOCH, SEED MERCHANTS,
Covent Garden Market, London, W.C.

**Good Seeds, Carriage Free, at Market Prices.**
SUTTON AND SONS, SEED GROWERS and MERCHANTS,
Royal Berkshire Seed Establishment, Reading.

BARR AND SUGDEN, SEED MERCHANTS,
12, King Street, Covent Garden, W.C.

**New and Genuine Garden and Agricultural Seeds.**
SPECIAL PRICES ON APPLICATION TO
JAMES FAIRHEAD AND SON, SEED GROWERS and MERCHANTS,
7, Borough Market, London, S.E.

**Garden and Agricultural Seeds, Carriage Free.**
WILLIAM WOOD AND SON, NURSERYMEN and SEED MERCHANTS,
Maresfield, near Uckfield, Sussex.

ANDRÉ LEROY'S NURSERIES, at Angers, the largest and richest in France.
CATALOGUES sent on application.

AUGUSTE VAN GEERT'S NURSERY, Ghent, one of the finest on the Continent.
CATALOGUES may be had on application, or of his Agents, Messrs. R. SILBERRAD & SON, 5, Harp Lane, Great Tower Street, London, E.C.

TROPÆOLUM LOBBIANUM ELEGANS (Crystal Palace Scarlet), Seed scarce.
Per packet, 1*s.* and 2*s.* 6*d.*
BUTLER & MCCULLOCH, Seed Merchants, Covent Garden Market.

**New Garden Seeds of our own Growth.**
JAMES CARTER AND CO. are now prepared to execute orders for the above, saved at their Seed Farms.
237, 238, & 261, High Holborn, W.C.

CARTER'S SELECT LIST of New and Choice VEGETABLE, FLOWER SEEDS and PLANTS is now published, gratis and post free.
237, 238, & 261, High Holborn, London, W.C.

NOVELTIES.—The Novelties of the Season, Illustrated in CARTER'S GARDENER'S and FARMER'S VADE MECUM, post free for 12 stamps.
JAMES CARTER & Co., 238, High Holborn, W.C.

**Choice Kitchen Garden Seeds.**
B. S. WILLIAMS'S Advertisement on last page of *Gardeners' Chronicle*, Jan. 31.
Paradise and Victoria Nurseries, Holloway, London, N.
⁂ PRICED and DESCRIPTIVE CATALOGUE post free on application.

**Pine Apple Place, Edgware Road, London, W.**
ARTHUR HENDERSON AND Co. beg to announce that their CATALOGUE of NEW and CHOICE FLOWER SEEDS, containing all the Novelties up to the present time, is now ready, and will be forwarded Free on application.

J. IVERY and SON beg to announce that their new PRICED and partially DESCRIPTIVE CATALOGUE of HARDY BRITISH FERNS is now ready, and will be forwarded on application.
Dorking Nursery.

**Seeds.**
CHARLES TURNER'S DESCRIPTIVE CATALOGUE, of the best Varieties only, is now ready. It also contains several Novelties.
The Royal Nurseries, Slough.

W. VIRGO AND CO. have a few thousands of BERBERIS AQUIFOLIA and DULCIS, EVERGREEN PRIVET, and COMMON LAUREL, fit for cover planting. Price and samples on application at the Nursery.
Wonersh Nursery, near Guildford, Surrey.

GARDEN SEEDS and FLOWER SEEDS of the finest and most rare varieties, at the lowest prices at which they can be delivered, carriage free, are quoted in WHEELER'S "Little Book" for 1863.
J. C. WHEELER & SON, Seed Growers, Gloucester.

**Choice Pansies.**
D. NICKLIN, FLORIST, &c., Guildford, Surrey, respectfully offers 20 choice named Pansies for 10*s.*, package included.

**Agricultural Seeds.**
JOHN GEORGE WAITE'S WHOLESALE AGRICULTURAL SEED CATALOGUE for Spring 1863, is now published, and will be forwarded on application.
Seed Establishment, 181, High Holborn, London, W.C.

**Notice.**
PURCHASERS of LARGE QUANTITIES of FARM or GARDEN SEEDS will be supplied liberally by SUTTON & SONS.
For prices apply (stating quantity required) to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**Grape Vines.**
J. IVERY AND SON beg to inform their Patrons that their stock of the above is unusually fine this season. A PRICED LIST now ready.
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**Pine Plants.**
TO BE DISPOSED OF, by a gentleman leaving for town and giving up his House, &c., about 100 good healthy PINE PLANTS, this and last year's growth.
Apply by letter to Mr. F. STEAD, 23, Jarratt Street, Hull.

**Strawberry Plants.**
CUTHILL'S SIX SORTS, all at 5*s.* per 100; Selected, 7*s.* 6*d.* CUCUMBER and MELON, 1*s.* per packet. Best MUSHROOM SPAWN, 5*s.* per bushel.
JAMES CUTHILL, F.R.H.S., Camberwell, London, S.

WEBB'S PRIZE COB FILBERTS, and other COB NUTS as exhibited at the INTERNATIONAL FRUIT and FLOWER SHOW, Kensington. Trees of these splendid varieties of Filberts may be had by application to
RICHARD WEBB, Calcot Gardens, Reading.

DOUBLE DWARF POPPIES.—The most beautiful Stock in cultivation. Colours varied and brilliant; flowers as double as a Hollyhock. Seed 1*s.* per packet, Post free. To the Trade, 3*s.* 6*d.* per ounce.
HOOPER & Co., Seedsmen, Covent Garden Market, London, W.C.

**10,000 Fuchsias.**
G. WELLS, FLORIST, &c., Grove Nursery, Coleman Street, Camberwell, S., begs to offer all the newest FUCHSIAS at 5*s.* per dozen, package included.

**Orchids.**
WANTED to PURCHASE, large Specimen Plants of the good old varieties, chiefly SACCOLABIUMS; or if preferred, good new varieties may be had in exchange.
ROBERT WARNER, Broomfield, Essex.

NEW CELERY.—WILLIAMS'S MATCHLESS RED, a very superior variety, 2*s.* per packet.
B. S. WILLIAMS,
Paradise and Victoria Nurseries, Holloway, London, N.

DANVERS'S new YELLOW ONION (true).—The Subscribers offer the above to the Trade.
NUTTING & SONS, Seedsmen, 60, Barbican, E.C.

**Cabbage Plants Transplanted.**
ROBERT PARKER begs to offer strong Plants by name of six of the best varieties in cultivation, at 5*s.* per 1000; if taken in large quantities a reduction will be made.
Exotic Nursery, Tooting, Surrey, S.

DALMAHOY POTATOES.—Surplus stock of the above, in good sound condition, may be had of
JAMES CARTER & Co., 237 and 238, High Holborn, W.C.

WHEELER'S GLOUCESTERSHIRE KIDNEY POTATO.—This is one of the earliest, the most productive, the best flavoured, and the most profitable Potato ever introduced.
For price and all particulars, see WHEELER'S "Little Book."

WEBB'S IMPERIAL KIDNEY POTATOES.—No Potato like it for quantity, quality, beauty and size, at 12*s.* per Bushel, on application to
RICHARD WEBB, Calcot Gardens, Reading.

EARLY POTATOES.—LEMON KIDNEY, the earliest and best variety (see Article in "Royal Agricultural Journal,") may be had on application to the Author's Bailiff, JOHN HELM, Poulton Hall, Morecambe.

SKERRY BLUES.—This highly approved POTATO to be SOLD in small or large quantities.
Address, Mr. WILLIAM DAVIES, Cilhendne Farm, Dudlestone, near Chirk; or Messrs. H. B. & G. LANG, 5, St. Dunstan's Hill, Tower Street, London, E.C.

POTATOES.—SKERRY BLUES, the best adapted for field culture, price 5*s.* per bushel of 56 lbs., sack included if 4 bushels be taken.
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POTATOES.—About 50 BUSHELS of EARLY OXFORD for SALE, grown upon a sandy soil and fit for Seed. Apply to H. GRAZEBROOK, Chertsey.

MANGEL WURZEL SEED in every variety, supplied at very moderate rates, direct from the Grower. Mr. SIMON A. DAINTREE, of Fendrayton, St. Ives, Hunts.

MR. JOHN HUDSON, of Castle Acre, Norfolk, is now Thrashing his GOLDEN MELON BARLEY for SEED, which he can supply in quantities of … upwards, at 50*s.* per qr., including new sacks …
Castle Acre Lodge.—M…

COCOA-NUT REFUSE for Ferns, … Plants, &c.; also SHORT FIBRE … See long Advertisement with full particulars … which cut out and keep for reference.
Patent Cocoa Fibre Company, Kingston-on-Thames …

NEWSPAPER … ONE PENNY

GRAPES for COOL VINERIES.

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| BLACK HAMBRO' .. .. | 3s. 6d. to 5s. 0d. |
| BUCKLAND SWEETWATER.. | 5 0 to 7 6 |
| MUSCAT HAMBRO' .. .. | 5 0 to 7 6 |

We have to offer fine Canes of the above, and all other leading varieties.

PAUL & SON, "Old" Cheshunt Nurseries, Herts, N.

THE GREAT VINE at HAMPTON COURT.—The Subscribers being the holders of the Royal Kitchen Gardens, Hampton Court, are enabled to offer genuine the famous and truly excellent HAMPTON COURT BLACK HAMBURGH GRAPE.

Strong well-ripened plants in 9-inch pots, 42s. and 60s. p. doz. If purchased in large numbers a considerable reduction will be made in price.

JACKSON & SON, Nurseries, Kingston, S.W.

EXTRA STRONG FRUITING VINES.—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7s. 6d. each; smaller, for Planting-out, from 3s. 6d. each. A reduction in price will be made to large purchasers.

"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.

JAMES DICKSON & SONS, The Newton Nurseries, Chester.

NEW PRIZE MELONS, at 1s. 6d. per packet.

Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria.

For descriptions see GUIDE to the KITCHEN GARDEN.

BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

NEW MELON, PRINCESS ALEXANDRA.—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1s. per packet.

JAMES CARTER & CO., 237, 238, & 261, High Holborn, W.C.

POT VINES, BEARING FRUIT.—Fine plants of the leading kinds, each having at present 20 to 40 bunches of Fruit on them; suitable for growing in Pots or planting a fruitful Vinery at once, 7s. 6d. each. Smaller plants for Fruiting next season, 3s. 6d. to 5s.

PEACHES, NECTARINES, PLUMS, &c., in Pots, established with bloom buds, 5s. to 7s. 6d. each.

GEO. CLARKE, Nursery, Streatham Place, Brixton Hill, S.; and 4, Windsor Terrace, Pimlico, S.W.

**Pine Plants.**

TO BE DISPOSED OF, above 100 strong and healthy Fruiting and Successional PINE PLANTS, consisting of QUEENS, MONTSERRATS, ENVILLES, and other good sorts.

Apply to P. N. DAVIDSON, Gardener to G. J. Yarburgh, Esq., Heslington Hall, near York.

STRAWBERRIES.—A New DESCRIPTIVE CATALOGUE of more than 200 varieties of Strawberries, from good plants, of nearly every variety, can now be supplied by the Grower,

MARY NICHOLSON, Egglescliffe, Yarm, Yorkshire.

NOTICE.—M. NICHOLSON hopes by strict attention to orders to retain the support accorded to her late Husband.—March 21.

50,000 EXTRA STRONG and BUSHY PLANTS of the following sorts of CURRANTS:—Cherry Red, Red Dutch, Red Grape, Goliath, Victoria, La Versailles, White Grape, White, black flavoured, and Transparent white, all at 10s. per 100; also a large Collection of DWARF ROSES, in Pots, including all the newest and best sorts out, from 9s. per dozen. Price per 100 on application to

B. WHITHAM, Nurseryman, &c., Reddish Road Nurseries, Stockport, near Manchester.

**Hardy Scarlet and other Choice Rhododendrons.**

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

TWO FIRST-CLASS CERTIFICATES.
SILVER BANKSIAN MEDAL.

**Rhodanthe maculata.**

W. THOMPSON, SEEDSMAN, Tavern Street, Ipswich, respectfully invites attention to this beautiful novelty, introduced by him from Australia, of which seed may be had for present sowing for 12 stamps.

A DESCRIPTIVE PRICED CATALOGUE, comprising many other fine novelties, may be had gratis.

Wholesale Agents for the sale of RHODANTHE MACULATA: Messrs. A. HENDERSON & CO., Pine-apple Place, Edgeware Road, London, W.

**Rhododendron, Countess of Haddington.**

First-Class Certificates at Royal Horticultural Society's Exhibition, March 19, 1862; Royal Botanical Society's Exhibition, April 2, 1862; and Edinburgh Horticultural Society's Exhibition, March 19, 1861.

ROBERT PARKER begs to announce that this beautiful variety will be distributed in August next; price of Plants, 21s. each. Orders are now being booked, and will be executed in rotation. The Stock being limited early orders are solicited. A Plant was exhibited at the Royal Horticultural Society's Exhibition, Feb. 25, 1863, of which notice can be seen in reports of Show in *Gardeners' Chronicle* of Feb. 28, and *Journal of Horticulture* of March 3. Other Plants will be exhibited at the coming Spring Exhibitions.

*_* The usual discount to the Trade.

Exotic Nursery, Tooting, S.

**Old Cheshunt Nurseries, Herts, N.—Roses.**

PAUL AND SON have the pleasure to announce that their NEW HYBRID PERPETUAL ROSE, LORD CLYDE, will be ready for delivery in April next, at 7s. 6d. each. Usual allowance to the Trade when three are taken. A Coloured Plate, by Andrews, post free for 12 stamps.

The NEW ROSES of other Raisers will be ready in March.

They have still to offer fine Home-grown STANDARD and DWARF ROSES.

DESCRIPTIVE LISTS of the New Roses, Gladioli, and Genuine Seeds now ready.

**New Roses.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully invites attention to the following NEW ROSES, which will be ready for delivery very shortly.

LORD HERBERT, H.P.—Rosy carmine, the petals reflexing at the summits in the way of Beauty of Waltham, large, full, and finely formed, and altogether of first-rate excellence. 7s. 6d.

LORD MACAULAY, H.P.—Velvety crimson, in the way of General Jacqueminot, but brighter in colour, thicker in the petal, and more double. The flowers are of good average size, produced abundantly and in rapid succession; the habit is good, and foliage handsome. 7s. 6d.

MRS. WILLIAM PAUL, H.P.—Bright violet red, shaded with fiery red; flowers constantly, and in clusters, large and full. Raised by M. Verdier, of Paris, the raiser of Madame Furtado, and others of our finest Roses. 5s.

RED ROVER, H.P.—Bright red petals, large, thick, and round; flowers abundantly and in succession up to Christmas. Not double enough for a show Rose, but the most effective pillar Rose ever offered. 3s. 6d.

WILLIAM PAUL, H.P.—A seedling from Senateur Vaisse, but brighter in colour. Raised at Lyons by the raiser of Lord Raglan, Senateur Vaisse, and other first-class sorts. 5s.

BEAUTY OF WALTHAM, H.P.—Bright rosy crimson, of good size, form, and substance, and deliciously sweet. This Rose is found to surpass the description originally given of it. 3s. 6d.

All the new French Roses, 3s. 6d. to 5s. each, or 42s. per dozen. The best of the old Roses at lowest advertised prices. The plants are well established, and in the finest possible health.

PRICED CATALOGUE free by post.
Nurseries and Seed Warehouse, Waltham Cross, N.

DOBSON'S PRIZE CALCEOLARIA SEED is unequalled in the kingdom. Annual Sale exceeds 2000 packets. In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each.

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE CINERARIA SEED.—Ten First Prizes awarded to our collection in the spring, 1862. In sealed packets, 1s., 2s. 6d., and 5s.

J. DOBSON & SONS, Seedsmen, Isleworth.

DOBSON'S PRIZE PRIMULA SINENSIS SEED. In sealed packets, 1s., 2s. 6d., and 5s.

J. DOBSON & SONS, Seedsmen, Isleworth.

**The Flower of the Season.**

DOBSON'S Splendid NEW PELARGONIUM, QUEEN of WHITES, acknowledged by the whole of the Floricultural Press to be the very best white flower raised. Strong plants now ready, 31s. 6d. each. Figured in the February Number of the "Floral Magazine."

Woodlands Nursery, Isleworth, W.

**Bedding Plants.**

MARSH AND PERKINS, 42, Drapery, Northampton, have pleasure in offering the following strong autumn-struck Plants:—

TOM THUMB GERANIUMS,
CALCEOLARIA AUREA FLORIBUNDA,
" MACKAYII,
" PRINCE OF ORANGE.
} 8s. per 100 when equal quantities of each are taken.

N.B. Cash or reference from unknown correspondents.

**Hendon Park Nurseries, N.W.**

LONICERA AUREO RETICULATA, JAPAN.—The finest variegated creeper ever offered. Variegated gold, green, and crimson. Price on application.

PANSIES.—All the finest sorts for exhibition, from 6s. per dozen.

BEDDING PANSY, BOY IN BLUE.—Will bloom from Christmas—most effective; from 6s. per dozen.

EDWARD SHENTON.

AMARANTHUS MELANCHOLICUS (var. ruber).—Habit very compact, height 1 to 1½ feet, with striking blood-red foliage; a most valuable bedding plant for Flower Garden decoration, after the style of Perilla Nankinensis. Price per packet, 6d., 1s., and 2s. 6d. The Trade supplied.

E. P. DIXON & SONS, Seedsmen and Florists, 57, Queen Street, Hull.

WELLINGTONIA GIGANTEA.—The attention of the Nobility, Gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12s.; per 100 or 1000 on application. A Sample free by post for 12 stamps.

J. HENCHMAN, Edmonton, London.

E. G. HENDERSON AND SON offer First-class quality of CINERARIA, CALCEOLARIA, and PRIMULA SINENSIS FIMBRIATA, 1s. and 2s. 6d. per packet.

CINERARIA WEBBI.—The interest and value of this species consists in its having a shrub like branched habit of growth, attaining from 3 to 4 feet in height. This remarkable plant is expected to originate a new and desirable class of varieties for exhibition purposes, in having already passed into all the colours found in florist varieties of the present time, and no doubt but higher improvements in form, and other essential properties, will be obtained in connection with its superior culture. It will be found well adapted for decorative purposes, by its taller growth, and longer continuance in bloom. 2s. 6d.

Wellington Nursery, St. John's Wood, London, N.W.

**SPLENDID NEW SCARLET VERBENA, LORD LEIGH.**

S. PERKINS & SON,

In offering the above SCARLET VERBENA, have much pleasure in stating that it has been awarded a First-Class Certificate by the Floral Committee of the Royal Horticultural Society, June 11, 1862; First-Class Certificate by the Royal Botanic Society, July 9; First-Class Certificate at the Crystal Palace, Sydenham, Sept. 4 and 5; First-Class Certificate by the Rugby Floricultural Society, August 29; First Prize by the Birmingham Botanic Society, July 10.

After the above Awards, S. P. & SON think it needless to offer any remarks, further than that it is of a free habit and will prove a first-class Bedding variety; colour the most dazzling scarlet that can be conceived, with a clear white eye; truss and pip extremely large, and of the finest shape and quality.

See Editor's remarks in *Gardeners' Chronicle*, August 30, 1862, and December 27, 1862; "Journal of Horticulture," Sept. 9, 1862. An Engraving will appear in the April Number of the "Florist and Pomologist."

**Plants after April 15, 5s. each. Special Price by the dozen on application to the**

PARK NURSERY, COVENTRY.

**BEDDING PLANTS, &c.**

WOOD & INGRAM

BEG TO OFFER AS FOLLOWS.

**Zonale Geraniums,**

VERY FINE SUMMER-STRUCK PLANTS.

| Per dozen.— | s. | d. |
|---|---|---|
| AGATHA .. .. .. .. | 3 | 0 |
| AURORA (Halley's) .. .. .. | 6 | 0 |
| BLACKHEATH BEAUTY (Halley's) | 6 | 0 |
| BLACK PRINCE .. .. .. | 3 | 0 |
| BRILLIANT .. .. .. .. | 3 | 0 |
| BRITISH FLAG .. .. .. | 5 | 0 |
| CERISE UNIQUE .. .. .. | 3 | 0 |
| CHRISTINA .. .. .. .. | 4 | 0 |
| COTTAGE MAID .. .. .. | 2 | 6 |
| COURONNE DE FLORE .. .. | 5 | 0 |
| COUNTESS .. .. .. .. | 5 | 0 |
| DEFIANCE (Giant) .. .. .. | 4 | 0 |
| FIREBALL .. .. .. .. | 3 | 0 |
| FLORIAN .. .. .. .. | 5 | 0 |
| FROGMORE .. .. .. .. | 2 | 6 |
| HENDERSONII .. .. .. | 2 | 6 |
| HON. MRS. FELLOWES .. .. | 4 | 0 |
| HUNTSMAN .. .. .. .. | 3 | 0 |

| Per dozen.— | s. | d. |
|---|---|---|
| IMPERIAL CRIMSON .. .. | 4 | 0 |
| KING OF SCARLETS .. .. | 3 | 0 |
| KINGSBURY PET .. .. .. | 3 | 0 |
| LADY DOWNES .. .. .. | 4 | 0 |
| " E. STANLEY .. .. | 5 | 0 |
| " MIDDLETON .. .. | 3 | 0 |
| LEONIE .. .. .. .. | 6 | 0 |
| MADAME LAVOCAT .. .. | 8 | 0 |
| MARTIN GIREAUD .. .. | 8 | 0 |
| MODEL NOSEGAY .. .. .. | 3 | 0 |
| MRS. MAYLER .. .. .. | 5 | 0 |
| MRS. ROWLEY, fine pink .. | 9 | 0 |
| PAUL L'ABBÉ .. .. .. | 6 | 0 |
| PAULINE .. .. .. .. | 4 | 0 |
| PET SUPERB .. .. .. | 3 | 0 |
| PRINCESS OF PRUSSIA .. .. | 12 | 0 |
| " ROYAL .. .. | 5 | 0 |
| RAINBOW .. .. .. .. | 4 | 0 |
| RUBENS .. .. .. .. | 4 | 0 |
| SIR C. CAMPBELL .. .. .. | 4 | 0 |
| SYMMETRY .. .. .. .. | 3 | 0 |

| Per dozen.— | s. | d. |
|---|---|---|
| TOM THUMB .. .. .. | 3 | 0 |
| TRENTHAM .. .. .. .. | 4 | 0 |
| TRIOMPHE DE PARIS .. .. | 3 | 0 |
| VIRGINIAN .. .. .. .. | 3 | 0 |

**Variegated-leaved Geraniums**

SIMILAR FINE PLANTS.

| | s. | d. |
|---|---|---|
| BIJOU .. .. .. .. | 5 | 0 |
| BRILLIANT .. .. .. .. | 3 | 0 |
| FLOWER OF THE DAY .. .. | 3 | 0 |
| GOLDEN CHAIN .. .. .. | 6 | 0 |
| IVY-LEAVED .. .. .. | 4 | 0 |
| JANE .. .. .. .. | 4 | 0 |
| LADY PLYMOUTH .. .. .. | 4 | 0 |
| MANGLE'S PINK .. .. .. | 3 | 0 |
| " RED .. .. .. | 3 | 0 |
| PERFECTION .. .. .. | 3 | 0 |
| QUEEN VICTORIA .. .. .. | 4 | 0 |
| SHOTTISHAM PET .. .. .. | 5 | 0 |
| SILVER QUEEN .. .. .. | 4 | 0 |

CARNATIONS and PICOTEES, named flowers, 12s. per dozen pairs.

| Per dozen.— | s. | d. |
|---|---|---|
| GNAPHALIUM LANATUM, new silvery-leaved edging plants | 3 | 0 |
| SEDUM CARNEUM VARIEGATUM .. .. .. .. | 4 | 0 |
| AGATHÆA CŒLESTIS FOL. VARIEGATIS .. .. .. | 3 | 0 |

| Per dozen.— | s. | d. |
|---|---|---|
| LOBELIA SPECIOSA .. .. .. .. | 2 | 0 |
| KONIGA VARIEGATA .. .. .. .. | 3 | 0 |
| BELLIS AUCUBÆFOLIA, very fine .. .. | 4 | 0 |

Also a choice collection of PELARGONIUMS, Show, French and English, Spotted and Fancy varieties, fine bushy plants, once cut down, 9s. per dozen; Summer struck, fine plants, 5s. per dozen. CINERARIAS, fine plants, in 5-inch pots, just showing bloom, 6s. per dozen; LACHENALIA PENDULA, with 3 to 5 spikes of bloom, 9s. per dozen: ACACIA ARMATA, good blooming plants, 9s. per dozen; EUGENIA UGNI, 9s. per dozen; DIOSMA CAPITATA, 6s. per dozen; &c., &c.

HUNTINGDON NURSERIES.

## ORNAMENTAL GOURD SEEDS,

FREE BY POST.

MESSRS. SUTTON'S COLLECTION of the above in the Royal Horticultural Society's Gardens, in October last, formed one of the most attractive features in that great International Exhibition, and was most avourably noticed by the various Horticultural Papers. These, as well as the whole of the beautiful Assortment or which the Prize was awarded to Messrs. SUTTON at Birmingham, in December, were grown in our then rial Grounds at Reading last summer, and, together with the many NOVELTIES imported from Nice and lsewhere this season, may be had at the undermentioned very moderate prices, free by post :—

| MINIATURE GOURDS. | s. | d. |
|---|---|---|
| 30 Packets beautiful varieties ... ... ... | 7 | 6 |
| 20 " " ... ... ... | 5 | 0 |
| 15 " " ... ... ... | 3 | 6 |
| 10 " " ... ... ... | 2 | 6 |
| **MEDIUM-SIZED GOURDS.** | | |
| 12 Packets finest varieties ... ... ... | 3 | 0 |
| 6 " " ... ... ... ... | 1 | 6 |
| **EDIBLE GOURDS or PUMPKINS.** | | |

| WARTED GOURDS. | s. | d. |
|---|---|---|
| 20 Packets finest varieties ... ... ... | 5 | 0 |
| 10 " " ... ... ... ... | 2 | 6 |
| **GIANT GOURDS.** | | |
| 30 Packets finest varieties ... ... ... | 7 | 6 |
| 20 " " ... ... ... ... | 5 | 0 |
| 15 " " ... ... ... ... | 3 | 6 |
| 10 " " ... ... ... ... | 2 | 6 |
| **ORNAMENTAL CUCUMBERS.** | | |
| 10 Packets finest varieties ... ... ... | 2 | 6 |

SUTTON AND SONS, SEED GROWERS, READING, BERKS.

## BARR & SUGDEN, 12 KING ST. COVENT GARDEN

*Second Edition, just Published, price 2s. 6d., OUR*

# ILLUSTRATED GUIDE TO THE FLOWER GARDEN.

COMPANION *to the above, price 1s.,* OUR

## ILLUSTRATED GUIDE TO THE KITCHEN GARDEN,

COLLECTIONS OF FLOWER SEEDS.

£3 3 0 | £2 2 0 | £1 10 0 | £1 1 0 | 15s. | 10s. 6d. | 5s. 6d. | 3s. 6d

For particulars, see page 18 of "Guide to the Flower Garden."

## STRIKING NOVELTIES.

Continued from last week's *Gardeners' Chronicle*, page 242.

### STRONG CANNA ROOTS,

A PORTION OF THE UNRIVALLED COLLECTION OF OUR "SARDINIAN CORRESPONDENT."

Fine foliaged plants, and such as are of stately growth, have of late years been much sought after for the adornment of the FLOWER GARDEN, TERRACES, PLEASURE GROUNDS, LAWNS, SELECT SHRUBBERIES, CARRIAGE DRIVES, &c.; besides relieving the monotony too frequently to be met with in such places, plants of this character impart a somewhat Oriental aspect.

For such purposes the CANNA stands unrivalled; its large picturesque foliage, and spikes of vivid-coloured flowers, produce a truly magnificent effect, especially when planted in groups, whether on the Lawn, in the centre of large beds, or in the mixed Flower Border. Varieties enumerated in our "Guide to the Flower Garden" will be found to form one of the most striking contrasts in habit and foliage.

| | | | | | |
|---|---|---|---|---|---|
| 3179 | 100 Roots assorted, our own selection, in 25, 30, and 40 varieties. 5l. 5s., 6l. 6l., and £7 | 7 | 0 | | |
| 3180 | 50 " " ... ... ... ... ... ... ... | 2 | 15 | 6 | |
| 3181 | 25 " " ... ... ... ... ... ... ... | 1 | 10 | 6 | |
| 3182 | 12 " " ... ... ... ... ... 12s., 18s., to | 1 | 1 | 0 | |

### Passiflora.—See page 90.

2581. PASSIFLORA COMTE DE NESSELRODE —A magnificent variety, which may be grown out of doors like P. cœrulea, but requiring a little winter protection. The flowers are of a deep rosy lavender, and produced in the greatest profusion; foliage dark green, variegated and spotted with creamy yellow. 2s. 6d.

2583. PASSIFLORA DECAISNEANA.—Brilliant carmine coloured flowers, of an immense size, great beauty, and delicious fragrance; foliage large and very ornamental. One of the most noble of the Passiflora tribe, far surpassing P. quadrangularis. 2s. 6d.

2579. PASSIFLORA BUONAPARTEA.—A spendid species, handsome red, blue, and white flowers. 1s. 6d.

### Pentstemon.—See page 66.

1874. PENSTEMON INSIGNIS, beautiful rosy-violet flowers, and shining foliage. 1s.

1875. PENTSTEMON JAFFRAYANUS, beautiful sky-blue flowers. 1s.

1877. PENTSTEMON LOBBIANUS, a splendid plant, with fine bushy habit, remarkably neat foliage, and beautiful yellow sweet-scented flowers. 1s.

UPON THE EVE OF GOING TO PRESS the following were received from our "SARDINIAN CORRESPONDENT," and described by him as extremely beautiful :—

3252. PENTSTEMON PUBESCENS ELEGANS. 1s.
3253. " MONSIEUR PASSORT. 1s.
3254. " MADAME PERRET. 1s.
3255. " PERFOLIATUS GRANDIFLORUS. 1s.
3256. " DIGITALIS GRANDIFLORUS. 1s.
3257. " COBŒA GRANDIFLORUS. 1s.

### Phlox Drummondii.—See page 68.

1914. PRINCESS ALEXANDRA.—A most beautiful variety, flowers scarlet with black centre. 1s. 6d.

1919. TWILIGHT. —An exquisite variety; flowers finely formed and very large, of a rich violet colour with black centre, producing a splendid effect in beds, ribbons, &c. 1s. 6d.

### Phygelius.—See page 68.

3258. PHYGELIUS CAPENSIS AURANTIACUS. A magnificent variety of this favourite genus, with large orange tubular-shaped flowers of great beauty. A very desirable plant for flower beds and borders, also for the ornamentation of the Conservatory or Greenhouse. Cultural treatment same as Pentstemon, which it much resembles. 1s.

### Potentilla.—See page 70.

1991. POTENTILLA CARDINALIS.—An exceedingly fine variety, with handsome scarlet flowers. 1s.

1998. POTENTILLA MARGINATA.—A beautiful variety, with purple and white flowers. 1s.

2002. POTENTILLA RESPLENDENS.—Carmine and rose, very beautiful. 1s.

2003. POTENTILLA SPLENDIDISSIMA.—Flowers of a beautiful vermilion colour. 1s.

### Quercus.—See page 71.

2033.—QUERCUS MIRBECKII.—A magnificent species of African Oak, with a picturesque glossy variegated foliage and majestic growth. 6d.

BARR AND SUGDEN, SEED MERCHANTS.

---

### Seeds for the Flower Garden offered by

B. S. WILLIAMS.

| | s. | d. |
|---|---|---|
| An Assortment of 12 Fine Selected Varieties of HARDY ANNUALS .. .. .. .. .. | 1 | 6 |
| An Assortment of 12 Fine Selected Varieties of HALF-HARDY ANNUALS .. .. .. .. | 2 | 6 |
| An Assortment of 12 Fine Selected Varieties of HARDY BIENNIALS and PERENNIALS, suitable for Rockwork .. .. .. .. .. .. | 2 | 6 |
| An Assortment of 12 Splendid Annual kinds of ORNAMENTAL GRASSES .. .. .. .. | 2 | 0 |

Paradise and Victoria Nurseries, Holloway, London, N.

### Choice Seeds of Asters, Balsams, and Stocks,

OFFERED BY

B. S. WILLIAMS, Paradise and Victoria Nurseries, Holloway, London, N.

| | s. | d. |
|---|---|---|
| An Assortment of 12 varieties of TRUFFAUT'S PÆONY-FLOWERED ASTER, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of four varieties of COCARDEAU or CROWN ASTER, 100 seeds of each .. .. .. | 1 | 0 |
| An Assortment of 12 varieties of CHRYSANTHEMUM-FLOWERED DWARF ASTER, 100 seeds of each .. | 2 | 6 |
| An Assortment of nine varieties of CAMELLIA-FLOWERED BALSAMS .. .. .. .. .. | 2 | 6 |
| An Assortment of 12 varieties of DOUBLE ROSE-FLOWERED BALSAMS .. .. .. .. .. .. | 3 | 0 |
| An Assortment of eight varieties of AUTUMNAL-FLOWERING STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of eight varieties of BROMPTON STOCKS, 100 seeds of each .. .. .. .. .. | 1 | 6 |
| An Assortment of 12 varieties of DWARF GERMAN TEN-WEEK STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of eight varieties of EMPEROR or PERPETUAL STOCKS, 100 seeds of each .. .. | 2 | 0 |
| An Assortment of six varieties of MINIATURE STOCKS, 100 seeds of each .. .. .. .. .. .. | 1 | 6 |

A PRICED and DESCRIPTIVE CATALOGUE, post free to all applicants, containing useful suggestions for the guidance of amateur cultivators.

### New Plants for 1863.

B. S. WILLIAMS, Paradise and Victoria Nurseries, Holloway, London, N., has much pleasure in offering the following NOVELTIES for the first time, to be sent out after the 20th April :—

NEW ACHIMENES.

The following choice varieties are the seedling productions of that successful gardener, Mr. Parsons, of Welwyn, and they will be found great acquisitions to this beautiful class of plants, and quite equal to the descriptions given :—

ACHIMENES MAUVE QUEEN.—This splendid variety is, without exception, the finest of all that useful and most desirable class of summer flowering plants; a great improvement on longiflora major; producing an abundance of beautiful large mauve-coloured flowers, with a conspicuous light chocolate eye, splendid form, and of extraordinary waxy substance. Was exhibited by the Raiser at the Floral Committee of the Royal Horticultural Society, and was awarded a First-class Certificate. Figured in the "Floral Magazine," November, 1862. Price 10s. 6d. each.

ACHIMENES CARMINATA ELEGANS.—Another beautiful variety, and is, without doubt, the finest of the small and free-flowering sections, producing spikes 18 inches in length; being of good branching habit, is capable of producing specimens 3 or 4 feet in diameter, thus making it a charming object for the, summer and autumn months. Price 7s. 6d. each.

*** Coloured Illustrations of each of the above by Andrews will be forwarded in exchange for six postage stamps.

NEW PETUNIAS.

The following valuable varieties were raised by Mr. Holland, of Isleworth, and are a small collection selected from a large quantity of seedlings. They are confidently recommended for general excellence, being great improvements on all others previously offered.

PETUNIA CRIMSON GEM.—A compact branching and free growing variety; flowers of a soft velvety crimson, with dark throat; of great substance and fine form; an improvement on Phaeton and all in that way. This is, without exception, the highest coloured Petunia yet offered. Received a First-class Certificate from the Royal Botanic Society, May, 1862. Price 5s. each.

PETUNIA FLOWER OF THE DAY.—This remarkable flower has four broad stripes of pure white, and four bright purple above, equally divided; very constant and beautiful. Received a First-class Certificate from the Royal Botanic Society, May, 1862. Price 5s. each.

PETUNIA ROSA BELLA FORME.—A free flowering and shrubby variety, of first-class habit for bedding and other purposes, being of short jointed growth; producing an abundance of beautiful bright Magenta flowers, with a clear white throat, of great substance and perfect form. This will, without doubt, prove to be the best bedding Petunia yet offered. Price 5s. each.

*** Coloured Illustrations of Petunia Rosa Bella Forme, and Flower of the Day, by Andrews, will be forwarded in exchange for six postage stamps.

NEW ZONALE GERANIUM.

CONQUEROR OF EUROPE (HOLLAND).—Beautiful soft carmine; fine form and substance; extra large truss; long flower stalks, producing enormous heads of bloom well above the foliage; good and compact habit; fine for pot culture. Was awarded a First-class Certificate at the Royal Horticultural Society's meeting, June 1862. Price 5s. each.

Paradise and Victoria Nurseries, Holloway, London, N.

### COLLECTIONS of FLOWER SEEDS.

Free through the post, except No. 10.

| | s. | d. |
|---|---|---|
| 1. Containing 100 packets best sorts HARDY and HALF-HARDY ANNUALS. A good sized packet of mixed German Asters, Stocks, Zinnias, &c. (imported seed) is included in this collection .. | 21 | 0 |
| 2. Contains 100 packets ditto, of a smaller size .. .. | 15 | 0 |
| 3. 50 packets best sorts ANNUALS, imported German Asters, &c., as before .. .. .. .. .. | 10 | 6 |
| 4. 50 packets of a smaller size .. .. .. .. | 7 | 6 |
| 5. 25 packets ANNUALS, including imported German Stocks, &c. .. .. .. .. .. .. | 4 | 6 |
| 6. 25 packets of a smaller size .. .. .. .. | 3 | 6 |
| 7. 18 packets HARDY ANNUALS.. .. .. .. | 2 | 6 |
| 8. 18 packets of a smaller size .. .. .. .. | 2 | 0 |
| 9. 12 packets HARDY ANNUALS.. .. .. .. | 1 | 6 |
| 10. 12 packets of a smaller size .. .. .. .. | 1 | 0 |

The above Collections contain good sized packets, with Descriptive and Cultural remarks attached to most of them. They are certain to give satisfaction, as no better selection can be made.

EDWARD TAYLOR, Seedsman and Florist, Malton, Yorkshire, offers the above Collections of FLOWER SEEDS, feeling certain they will give every satisfaction.

CATALOGUES gratis on application.

**New Purple Verbena Lord Craven.**

DOWNIE, LAIRD, AND LAING will be prepared to execute all orders for the above magnificent flower after April 23. For particulars see *Gardeners' Chronicle* of March 14, page 243. 5s. each; 42s. per dozen.

CATALOGUES on application, post free.

Stanstead Park Nursery, Forest Hill, London, S.E.; and Edinburgh.

**New Plants.**

CALCEOLARIA CRAWFORD'S EMPEREUR DE MAROC.

JAMES CRAWFORD has much pleasure in offering the above magnificent SEEDLING CALCEOLARIA, which is considered the finest dark shrubby Calceolaria in cultivation for bedding. The individual blooms are more than an inch in diameter; colour the deepest crimson. Its dwarf shrubby habit makes it a fitting companion to Calceolaria aurea floribunda. Strong plants, 3s. 6d. each in April.

High Beech Nursery, Essex.

**Splendid New Fuchsia,**

CRAWFORD'S BEAUTY of HIGH BEECH.—This beautiful new Fuchsia is perfectly distinct from any yet sent out; sepals dark crimson, well reflexed corolla, beautifully variegated with crimson, white, and lake. The flower is very large, and expanded like Fuchsia La Crinoline.

Plants in April, 3s. 6d. each. Post-office orders payable to JAMES CRAWFORD, Loughton, N.E.

High Beech Nursery, Essex—March 21.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.

RICHARD SMITH, Nurseryman, Worcester.

**Choice Coniferæ, Tree and Shrub Seeds offered by**

CHARLWOOD AND CUMMINS.

For particulars see Advertisement in the *Gardeners' Chronicle*, February 21, page 170.

CATALOGUE forwarded on application.

14, Tavistock Row, Covent Garden, London, W.C.

SPECIAL OFFER.—

AMERICAN ARBOR-VITÆ, 1-year, per 1000, 8s.
HOLLY, 2-years, fine, per 1000, 7s. 6d.
RASPBERRIES, FASTOLFFS (true), per 1000, 40s.
CARNATIONS and PICOTEES, fine named sorts, per 100 pairs, 60s.

JOHN KEARSLEY & SONS, Nurserymen, Leeds.

**Green Hollies.**

CORNELIUS WHITEHOUSE, Brereton Nursery, Rugeley, Staffordshire, offers an immense stock of well-grown healthy extra Transplanted HOLLIES, exceedingly well-rooted, from 12 to 15, 15 to 18, 18 to 24, 24 to 30 inches. Also very handsome SPECIMEN PLANTS from 3 to 5 feet; also ENGLISH YEWS from 2 to 2½ feet, 2½ to 3 feet and upwards. The above growing on ground to be cleared for other stock, the price will be liberal. Trade price on application.

**Surplus Stock.**

JOHN PALMER AND SON, NURSERYMEN, Annan, beg to inform their Friends and the Trade generally that they have several Millions of the following, of first-class quality:—

2 years SILVER FIR | 2 years NORWAY SPRUCE
3 years NORWAY SPRUCE.

The above will be sold Cheap. Prices and Samples, if required, on application.

GEORGE BAKER begs to offer the following, a selection from his extensive Stock:—

ARAUCARIA IMBRICATA, 3 feet, 6 feet, 9 feet, 14 feet.
ABIES DOUGLASII, 3 feet, 5 feet, 10 feet, 14 feet, 25 feet.
ARBOR-VITÆ (WAREANA), 3 feet, 6 feet, 8 feet.
CEDRUS DEODARA, 3 feet, 6 feet, 12 feet, 20 feet.
CUPRESSUS LAWSONIANA, 3 feet, 5 feet.
„ DISTICHA, 3 feet, 8 feet, 12 feet.
CEDRUS LIBANI, 6 feet, 8 feet, 10 feet.
CHINESE JUNIPER, 3 feet, 5 feet, 6 feet.
IRISH YEW, 4 feet, 6 feet, 8 feet.
JUNIPERUS RECURVA, 8 feet.
PICEA CEPHALONICA, 3 feet, 4 feet, 11 feet.
PINUS CEMBRA, 3 feet, 5 feet, 7 feet.
„ EXCELSA, 10 feet, 15 feet.
THUJA GIGANTEA, 4 feet, 5 feet, 6 feet.
THUJOPSIS BOREALIS, 1 foot, 2 feet.
PINUS AUSTRIACA, 3 feet, 4 feet.
„ BENTHAMIANA, 3 feet, 4 feet.
WEYMOUTH PINE (fine), 1½ foot, 2 feet.
SPRUCE FIR, 1 foot, 2 feet.
AZALEAS (to name)
ANDROMEDAS (to name).
RHODODENDRONS (to name).
„ STANDARDS (to name).
KALMIA LATIFOLIA.
„ „ STANDARDS (very fine heads).

Prices free by Post, on application. Also G. B.'s GENERAL PRICED LIST is now ready.

American Nursery, near Bagshot, Surrey, about 1½ mile from Sunningdale Station, S. W. R.

TO THE TRADE.—

SPECIAL OFFER.

ABIES MENZIESII, 9 to 12 inches, 3s. per dozen; 20s. per 100.
18 to 24 inches, 6s. per dozen; 40s. per 100.
24 to 30 inches, 9s. per dozen; 60s. per 100.
PINUS INSIGNIS, 4 to 5 feet, 3s. 6d. each; 30s. per dozen.
5 to 6 feet, 5s. each; 42s. per dozen.
BERBERIS DARWINII, 6 to 9 in., 5l. per 1000, or 12s. 6d. p. 100.
9 to 12 ins, 3s. per doz.; 15s. per 100.
18 to 24 ins., 9s. per doz.; 60s. per 100.
CUPRESSUS LAWSONIANA, 2 to 3 feet, 200s. per 100.
3½ to 4½ feet 30s. per dozen.
4½ to 5 feet, 36s. per dozen.
5 to 6 feet, 5s. to 7s. 6d. each.
THUJA LOBBI, 18 to 24 in., 12s. per doz.; or 75s. per 100.
2 to 3 feet, 18s. per doz.; or 100s. per 100.
BLUSH CHINA ROSES, 25s. per 100.
RHODODENDRON PONTICUM, fine large bushy stuff, 1½ to 2½ feet, 40s. to 60s. per 100.
2 to 3 feet, 70s. per 100.
3 to 4 feet, 126s. per 100.
WELLINGTONIA GIGANTEA, 4½ to 5 feet, 42s. to 50s. each.
5 to 6 feet, 50s. to 63s. each.
6 to 7 feet, 63s. to 84s. each.
7 to 8 feet, 84s. to 105s. each.

The above are all fine healthy, well rooted stuff.

TRADE CATALOGUE of GENERAL NURSERY STOCK on application.

THOMAS CRIPPS, Nurseryman, Tunbridge Wells, Kent.

RUSSELL'S PYRAMID PRIMULAS.—Seed of this unequalled strain is now ready, in packets, price 2s. 6d.

The great satisfaction which these kinds have given in previous seasons, renders further comment on their merits unnecessary. The additional care taken however in saving the seed last year will probably result in producing flowers much superior to any ever seen.

Printed notes on raising them and their culture, forwarded with each packet; payment can be made in postage stamps.

GEORGE CLARKE, Nursery, Streatham Place, Brixton Hill, London, S.; and 4, Windsor Terrace, Pimlico, S.W.

**Hardy Climbers, Hardy Climbers.**

MESSRS. DILLISTONE AND CO., of The Nurseries, Sturmer, Halstead, Essex, has to offer a first-rate Collection of the above, consisting of splendid HONEYSUCKLES, ROSES, CLEMATISES; some very beautiful IVIES, JASMINES, &c., &c. A basket containing one dozen, carefully packed and paid to London upon receipt of 10s.

100 HERBACEOUS PLANTS, properly named and carefully packed, for 20s. PANSIES by the dozen, hundred, or thousand. PAMPAS GRASS, &c., &c. NURSERY STOCK in General.

Sturmer Nurseries.—March 21.

**Established 1787.**

THOMAS KENNEDY AND CO.,

NURSERY AND SEED ESTABLISHMENT,

Dumfries, N.B.

*** PRICED CATALOGUES sent free on application.

FREE DELIVERY.

FARM and GARDEN SEEDS under certain limitations will be DELIVERED FREE OF CARRIAGE to the chief Railway Stations in Great Britain and the principal Steam Ports in Ireland.

NEW CUCUMBERS,

at 1s. per packet.

Recommended by the Fruit Committee of the Royal Horticultural Society. See GUIDE to the KITCHEN GARDEN.

BARR & SUGDEN, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

CARTER'S CHAMPION CUCUMBER, recommended by the Royal Horticultural Society as being an excellent bearer. Fruit solid and firm, and the best of the Sion House class. 1s. per packet. A few ounces of our own saving to offer the Trade.

237, 238, & 261, High Holborn, London, W.C.

WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

WHEELER'S IMPERIAL LETTUCE

The price of the Lettuce is 1s. per packet, post free.

J. C. WHEELER & SON beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. WHEELER & SON, Seed Growers, Gloucester.

**Vegetable and Flower Seeds, Carriage Free.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully announces that his SEED CATALOGUE is now ready, free by post.

The COLLECTION of VEGETABLES recently Commended by the Royal Horticultural Society was grown from Seeds furnished by him.

Nurseries and Seed Warehouse, Waltham Cross, N.

**To Seedsmen and Others.**

THOMAS AYRES, SEEDSMAN and GROWER, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz:—

WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP, „

SEED POTATOES of the following varieties:—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.

SCARLET RUNNER BEANS (English grown).

A PRICE LIST forwarded upon application.

**Cabbage Plants.**

W. VIRGO and SON beg to say they have a very large quantity of DRUMHEAD, RED and EARLY CABBAGE PLANTS to offer for Sale of the following sorts, at 3s. per 1000:—

EARLY YORK CABBAGE | EARLY NONPAREIL
„ BATTERSEA | DRUMHEAD
„ BARNES

RED CABBAGE, 4s. per 1000. All strong, healthy, and well rooted.

Wonersh Nursery, near Guildford, Surrey.

**Two Hundred and Fifty Guineas in Ten Prizes.**

FOR FIVE YEARS SUCCESSIVELY HIS LATE ROYAL HIGHNESS THE PRINCE CONSORT'S PRIZE CUPS HAVE BEEN AWARDED TO

SUTTON'S CHAMPION SWEDES at the Royal East Berks and South Bucks Agricultural Societies.

New Seed now ready, 1s. per lb., or 45s. per bushel, carriage free.

Royal Berkshire Seed Establishment, Reading.

**New Swede.**

CARTER'S IMPERIAL PURPLE-TOP SWEDE TURNIP.—The Hardiest and best keeping Swede in cultivation.

*** This Swede was raised by an eminent Kentish Agriculturist, and carefully selected by him until he has succeeded in producing the Perfection of Swedes. Price per lb. 1s.

JAMES CARTER & CO., 237 and 238, High Holborn, W.C.

NEW HARDY WHITE SWEDE.—The Favourite Swede of the Flockmasters on the Hampshire, Wiltshire, and Cotswold Hills. Grows rather coarse on some soils or when sown early; but it is very productive, hardy, and it is the only Swede that can be depended upon to keep sound through the winter without storing. Excellent for late sowing and upon poor land.

Seed 1s. per lb., or 42s. per bushel.

Supplied by RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

SUTTON'S LIST of POTATOES for PLANTING.

Carriage free, except small parcels.

*** The sorts marked K are Kidney-shaped.

| | |
|---|---|
| Daintree's Early Seedling | Webb's Imperial, K. |
| Early China | Fluke, K. |
| Soden's early Oxford | Wellington |
| Golden Ball or Red Regent | Red Ashleaf, K. |
| | Flour Ball |
| Dawe's Matchless, K. | The King, K. |
| The Queen, K. | Alstone, K. |
| York Regent | Skerry Blue. |

PRICE LISTS on application, post free.

☞ SUTTON & SONS deliver Potatoes, as well as Seeds, carriage free (except quantities under one bushel).

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**The King and Queen Potatoes.**

SUTTON AND SONS have much confidence in recommending these two new sorts of POTATOES, as decidedly the finest and best in cultivation.

The following Prizes have been awarded to Mr. Spencer for these Potatoes:—

The Prize at the Crystal Palace, 1861.

Three Prizes at the International Show at the Royal Horticultural Society's Gardens, South Kensington, in October last.

The Prize at the Birmingham Cattle and Root Show, Bingley Hall, in December last; and upwards of 20 other Prizes in various parts of the kingdom.

To be had of Messrs. SUTTON & SONS, Reading. Price 5s. per Peck (of 14 lbs.)

KING of the POTATO.—The original Stock as received from the Raiser, Mr. Spencer, and sent out by us. Pronounced by all who have grown it, to be one of the MOST PRODUCTIVE AND BEST VARIETIES in cultivation. No Blight affects it.

Price 12s. 6d. per cwt., or 12l. per ton.

JAMES DICKSON & SONS,

The "Newton" Nurseries, Chester.

**The King of Potatoes.**

JOS. H. ROBINSON, SEEDSMAN, Coventry, has a limited quantity of the above superior POTATO to offer at 2s. per peck, or 7s. per bushel. Also MYATT'S ASHLEAF, 2s. and 7s. EARLY LEMONS, the earliest and best Ashleaf out, 2s. and 6s. 6d. DALMAHOY SECOND EARLY, 1s. 3d. and 4s. FLUKES, 1s. 3d. and 4s.

The "King" may fairly be said to be the finest Potato in cultivation; gaining the First Prize at the Royal Horticultural Society's Show, and at Birmingham.

**Early Handsworth Potatoes.**

E. P. DIXON AND SONS, Hull, have on hand a fine stock of the above well-known prolific Potato. Price on application.

Yorkshire Seed Establishment, 57, Queen Street, Hull.

POTATOES:—Ashleaf, Fortyfold, Shaw, Dalmahoy, Regent, Flukes, &c. STRAWBERRIES: Black Prince, Admiral Dundas, British Queen, Eleanor, Elton Pine, Wizard of the North, 10s. per 1000; Prince of Wales, Princess Royal, Eliza, Alice Maude, Oscar, Duc de Malakoff, 2s. per 100.

GEO. CORNWELL, Seedsman, &c., Barnet, Herts, N.

GIANT ASPARAGUS ROOTS, 2s. 6d. per 100.—This delicious vegetable does not require half the expense usually incurred in planting it. For instructions, see RICHARD SMITH'S SEED LIST for 1863.

Strong Transplanted SEA KALE, 2s. per doz.

RICHARD SMITH, Nurseryman, Worcester.

GRAYSON'S TRUE MORTLAKE GIANT ASPARAGUS, grown on the ground where the late Mr. GRAYSON brought it to such perfection, so that Grayson's Asparagus is preferred everywhere.

| | |
|---|---|
| Seed saved from the Mortlake Beds .. | 6d. per oz. |
| Plants 1-year old .. .. .. | 2s. 6d. per 100 |
| „ 2 years old .. .. .. | 4s. 0d. per 100 |

FRANCIS R. KINGHORN, Sheen Nursery, Richmond, S.W.

**Seed Trade.**

JAMES CARTER AND CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade:—

MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE.
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION.
TOMATOE DE LAYE.
HENDERSON'S PINE-APPLE BEET.

**To the Seed Trade.**

H. AND F. SHARPE have a Surplus Stock of true—

| | |
|---|---|
| Early Long Pod Beans | Ne Plus Ultra Peas |
| Mackie's Monarch ditto | Laing's Imperial Swede Turnip |
| Broad Windsor ditto | Early Green Top Yellow ditto |
| Early Emperor Peas | Fine Red Surrey Carrot |
| Woodford's Green Marrow do. | Early Nonpareil Cabbage |
| Flack's Blue Imperial ditto | „ Emperor ditto |
| British Queen ditto | „ Enfield Market ditto |

which they can offer at a low figure.

Seed-growing Establishment, Wisbeach.

**Seeds for the Kitchen Garden, Flower Garden, and Farm.**

JOHN CATTELL'S DESCRIPTIVE CATALOGUE of the above is now ready, and will be forwarded, post paid, on application; it contains select lists only, and includes every novelty worthy of cultivation.

All parcels of Seeds of the value of 21s. and upwards carriage paid to any Railway Station in England.

Nursery and Seed Establishment, Westerham, Kent.

**Vegetable, Flower, and Agricultural Seeds.**

NEW AND RARE PLANTS, &c.

ROBERT PARKER begs to announce that his NEW CATALOGUE, containing select descriptive and priced lists of AGRICULTURAL, KITCHEN GARDEN, Imported GERMAN, and other FLOWER SEEDS; NEW and RARE PLANTS; Variegated, Ornamental Foliaged, Miscellaneous, Stove, Greenhouse, and Hardy Plants, &c., is now published, and will be forwarded Post Free to all applicants.

Exotic Nursery, Tooting, Surrey, S.

**Good Clover Seeds at Market Prices.**

SUTTON AND SONS have now ready, at very moderate prices, fine new RED, WHITE, and ALSIKE CLOVER SEEDS. As also new Rye Grasses, Turnip, Mangel Wurzel, and other Agricultural Seeds, a Priced List of which may be had post free.

Address SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

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**Surplus Stock.**

H. BROWN has to offer to the Trade Sangster's No. 1 PEAS, Knight's DWARF GREEN MARROW PEAS, BRITISH QUEEN PEAS, and a few thousand strong SEAKALE and ASPARAGUS. Also a few Tons of Myatt's KIDNEY POTATO.

Price on application to 4, Commutation Row, Liverpool.

---

FARM SEEDS of the finest quality, are offered at fair Market Value.

A LIST of PRICES at which they can be delivered carriage free, and 5 per cent. discount allowed for Cash, is contained in

WHEELER'S "LITTLE BOOK" for 1863.

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**Agricultural Seeds of First Quality.**

COW CABBAGE, CARROTS, KOHL RABI, MANGEL WURZEL, RAPE, WHITE MUSTARD, TURNIPS, SWEDES, CLOVERS, RYE-GRASSES, GRASSES FOR PERMANENT PASTURE, FURZE OR GORSE, SERADELLA, &c., &c.

WM. WOOD AND SON beg to offer Seeds of the above, genuine and unadulterated, and will be happy to forward samples and prices (which are very moderate) on application.

DESCRIPTIVE PRICE LIST of AGRICULTURAL SEEDS now ready.

☞ Orders amounting to 10s. and upwards, sent carriage free.—See List.

Seed Warehouse, Maresfield, near Uckfield, Sussex.

N.B. Special quotations at reduced rates for large quantities

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**International Exhibition. Prize Medals 1851 and 1862,**
AWARDED FOR "EXCELLENT SEED CORN AND SEEDS," TO

RAYNBIRD, CALDECOTT, AND BAWTREE, SEED MERCHANTS and GROWERS, Basingstoke, Andover; and 89, Seed Market, Mark Lane, London, E.C.

Samples of all kinds of AGRICULTURAL SEEDS and SEED CORN, sent post free on application.

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TRADE
HALLETT'S PEDIGREE. NURSERY WHEAT.
MARK.

"The best Spring Wheat known. Drill in February and March, six pecks per acre."

Produced (1862) 62 bushels per acre, weighing 64 lbs. a bush. Price ONE GUINEA A BUSHEL, including bag sewed up and sealed, delivered at the Brighton Railway Station, with Printed Directions for Planting, on Receipt of Cheque or Post-office Order, which must in all cases accompany the Order. Less than One Bushel will not be supplied. Name of Station and Railway should accompany the Order.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

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CHEAP GRASS SEEDS for HILL SIDES and RAILWAY BANKS.—Rough Grasses, Sainfoin Siftings, &c., suitable for the above purpose, at 2s. per bushel and 3d. per lb.

Address, RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

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GRASS SEEDS for LAYING DOWN LAND to PERMANENT PASTURE or MEADOW.

Having been amongst the very first in this country to recommend the use of the Natural Grasses in the formation of Permanent Pasture, and having over a long period of years given the subject a considerable share of attention, we, from the marked success which has attended their culture, feel quite warranted in recommending our carefully prepared Mixtures or Assortments, to the notice of those who purpose laying down land for a period of years. In choosing for these Mixtures, our aim is to imitate, as near as possible, the varieties composing the rich old pastures of Britain, and which it is obvious cannot be obtained by adopting the too common mode of sowing down with Ryegrass and Clover only, for although these yield heavily at first they are soon exhausted, and leave the land bare, to be filled up in course of time by an inferior herbage.

Parties ordering will please state the nature and extent of the land to be sown, and whether with or without a grain crop. When not instructed to the contrary, the Seeds will be sent out mixed and ready for the sower. The mixing being a most important operation, is much more perfectly done by our practised hands than it can be by those unaccustomed to it. After numerous carefully tested experiments, we find it the best plan to sow light and heavy seeds together.

When requested, we will be glad to furnish a list of the varieties and quantities suited to any given description of land. The Cost for a full Supply of Seeds will range from 25s. to 28s. per statute acre.

Carriage of Seeds paid to the principal Railway Stations throughout the kingdom.

W. DRUMMOND & SONS, Stirling.

⁂ PRICED CATALOGUES of all the leading descriptions of Seeds required for the Farm or Garden, may be had prepaid on application.

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**Blight.**

BROWN'S PATENT FUMIGATOR. — A Portable Instrument for Fumigating Greenhouses, Stoves, and Frames, or Shrubs and Flowers in the open air, without injuring the most delicate plant; delivering the smoke cold, in a dense mass, and effecting a great saving of Tobacco. Price 10s. and upwards.

Manufactured and supplied to the Trade by Messrs. BARBER & GROOM, London; and may be had of all Ironmongers, Seedsmen, and Florists.

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**Notice.**

MR. A. CHANDLER (of the late Firm of CHANDLER & SONS), HORTICULTURAL VALUER, begs to inform his friends and the public that he has REMOVED from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

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REIGATE SILVER SAND.—Best quality, 8s. per ton; second quality, 6s. per ton, of not less than 4 tons, put on the rail at Reigate. PEAT SOILS and LOAM.

W. SHORT, Reigate Heath, Surrey.

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**To Gardeners and Others.**

BEST WHITE SILVER SAND GRIT, admirably adapted for Gardening Purposes, may be obtained on very advantageous terms by applying to

THOMAS TWINSTEAD, Heath & Reach, near Leighton Buzzard.

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THE LONDON MANURE COMPANY have now ready

PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.

116, Fenchurch Street, E.C.

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LAWES'S MANURES.

The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.

Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

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TENANT FARMERS' MANURE COMPANY.

ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,

MANUFACTURED BY THE PATENT

NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),

Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.

Chairman.—JOHN CLAYDON, Esq., Littlebury, Essex.

Particulars of these Standard Manures may be obtained at the Offices. C. T. MACADAM, Secretary.

Or of the Local Agents.

Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex. N.E.

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**Established 1848.**

THE BLAYDON MANURES.—Two Prizes were last season awarded, under the auspices of the Rutland Agricultural Society, for Turnips grown with the above Manures, viz.:—

1st.—A Silver Cup, value Five Sovereigns, was given by the Town and Trade of Oakham to Mr. T. W. Fowler, Exton, for the best Turnips (not being Swedes) grown within the County of Rutland. These Turnips were raised with 3 cwt. per acre of the 7l. 10s. Blaydon Manure, used with a moderate dressing of Farm-yard Manure.

2d.—Three Sovereigns (the 2d premium), given by the Right Hon. Viscount Campden, were awarded to Mr. Fowler, Exton, for Swedish Turnips. These Turnips were grown with 3 cwt per acre of the 7l. 10s. Blaydon Manure, along with a moderate quantity of Farm-yard Manure.

Manufactured by the Blaydon Chemical Company, Blaydon-on-Tyne.

Managing Partner, EDWARD RICHARDSON, Jun.

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POTTER'S GUANO (established 21 years), 7l. per Ton.

POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10l. per Ton.

PURE GYPSUM, 25s. per Ton, bags included.

Address, 28, Clapham Road Place, S.

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**Manures for Present Use.**

PERUVIAN GUANO, Genuine as Imported by the Contractors of the Peruvian Government, Deliveries direct from the Docks; NITRO-BIPHOSPHATE (Blood and Offal Manure), Fish Offal ditto (PHOSPHATE); SUPERPHOSPHATE of LIME (made from Bone), see Royal Agricultural Society's Journal, vol. 6, page 2; and all others of known value, may be had on the best terms by application to MARK FOTHERGILL, 23, Great Tower Street, Mark Lane, E.C.

Established 1839.

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ROLL TOBACCO CLOTH.—The cheapest and best article for Smoking Greenhouses and Destroying the Fly, 1s. 4d. per lb., over 10 lbs., 1s. 1d.

JOSEPH BAKER, 10, Gough Square, Fleet Street, E.C. Post Office Orders payable Fleet Street.

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PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.

Extra strong, 8s. per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.

Can be obtained through the principal Nurserymen and Seedsmen in England.

A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.

PAGE & TOOGOOD, Seed Merchants, Southampton.

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Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP,

1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. NEAL, Edward Street, Birmingham.

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Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1s. 8s., and 10s. 6d. each.

Wholesale by PRICE'S PATENT CANDLE CO., Limited.

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**Metropolitan Board of Works.**

THE METROPOLITAN BOARD of WORKS HEREBY GIVE NOTICE that on FRIDAY, the 8th day of May NEXT, they will receive TENDERS for the DISPOSAL of the SEWAGE discharged by the Main Outfall Sewers. All Tenders must contain a full description of the Works proposed, and must be accompanied by a Plan and Section showing their several details. The Board will further require full information as to the manner in which the Sewage is to be treated and employed, and, if by Irrigation, as to the distribution of the Sewage, the quantity and locality of the land over which it is to be distributed, the points at which the Sewage is to be intercepted, the daily quantity to be employed, the mode of effecting junctions or communications with the Board's Sewers, the provisions against Floods, failure of Pumping power, or other defect in the Company's Works, the mode of deodorisation, or otherwise preventing the Sewage from becoming a Nuisance or injurious to health: the amount of Capital to be invested, number and value of the Shares, duration of the Contract, and Royalty agreed to be paid to the Board. The Board will not enter into any Contract, or make any concession of Sewage to any parties, unless they take all steps necessary for carrying their project into effect within a time to be named by the Board, and in the event of failure to do so, any agreement or concession on the part of the Board shall be void and of no effect; and in any contract provision must be made to secure to the Board the return of the Sewage Works, and the full power to Re-let and deal with the same, and so that the Board may in case of any failure of the Contractors or their operations be left to their full rights, and without any cost to the Board. The Tender must contain the names of two or more sureties, to be approved by the Board, who shall be jointly and severally bound in a competent sum for the due performance of the Contract, and for the efficient execution of the Works in accordance with the provisions and subject to the limitations of the Metropolis Local Management and Main Drainage, and for indemnifying the Board against all loss, damage, or injury, claims for compensation, or legal proceedings arising out of the said Works or other operations of the contractors. The Board will not bind itself to accept the highest or any Tender.

The Plans and Sections of the Sewers can be seen, and all information obtained, at the Office of the Engineer of the Metropolitan Board of Works, at their Office in Spring Gardens, between the hours of 9 A.M. and 4 P.M., or on Saturdays, between 9 A.M. and 2 P.M.

The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before 4 o'Clock on Thursday, the 7th May next, and no Tender will be received after that hour. By order. JOHN POLLARD, Clerk of the Board.

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REDUCTION IN PRICE.

## PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | |
|---|---|---|
| For 30 Tons and upwards ... ... ... | £10 5 0 | per Ton, net cash. |
| For 10 Tons up to 30 Tons ... ... ... | 10 10 0 | " " |
| For 5 Tons up to 10 Tons ... ... ... | 10 15 0 | " " |
| For smaller quantities ... ... ... | 11 0 0 | " " |

The Price will not exceed 12s. per Ton additional if delivered at any other Port in Great Britain.

PETER LAWSON & SON, CONTRACTORS.
GEO. SEAGRAVE & CO., BROKERS.
WILLIAM DIXON & CO., GENERAL AGENTS.

### Superb Hollyhocks.

R. B. BIRCHAM begs to state that he has a very large Stock of fine healthy Plants now ready for planting out, and shall be happy to supply orders upon the most liberal terms.

CATALOGUES sent upon application.

Hedenham Rosery, Bungay, Suffolk.

### Superb Double Hollyhocks.

THIS BEING THE BEST TIME FOR PLANTING THEM OUT.

WILLIAM CHATER has an immense stock of healthy Plants.

CATALOGUE of PRICES to be had on application.

WILLIAM CHATER, Nurseries, Saffron Walden.

### Select Double Hollyhocks.

WILLIAM PERRY begs to announce that he has for SALE a good and healthy stock of Young Plants of the above that will flower well this season. If selection is left to W. P., the price per dozen will be 9*s.*, 12*s.*, 18*s.*, 24*s.*, 30*s.*

Sawbridgeworth, Herts.

EDWIN HOLLAMBY begs to inform his Patrons and Friends that his DESCRIPTIVE PRICED CATALOGUE of VEGETABLE, FLOWER, AGRICULTURAL SEEDS, and GLADIOLUS is now ready, and may be had gratis and post paid on application.

Nursery and Seed Establishment, Tunbridge Wells, Kent.

### New and Genuine Seeds.

GEORGE PARSONS, SEEDSMAN by Appointment to HER MAJESTY. A DESCRIPTIVE SELECT PRICED LIST, post free, on application.

27 and 28, Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

### New Verbenas and Fuchsias. Double and Single Petunias of 1862.

WM. KNIGHT offers strong well-established Plants of all the best varieties of the above for Bedding or Exhibition, having been one of the most successful exhibitors of the above. Nothing but first-rate proved flowers in their classes are offered. VERBENAS, 5*s.* per doz.; FUCHSIAS, 6*s.* per doz.; PETUNIAS, 6*s.* per doz.

Floral Nursery, Hailsham, near Hurst Green, Sussex.

### Flower Seeds sent Free by Post.

WOOD AND INGRAM beg to offer

| | | | *s.* | *d.* |
|---|---|---|---|---|
| 12 fine varieties of HARDY and HALF-HARDY ANNUALS for | | | 1 | 8 |
| 24 ditto | ditto | ditto | 2 | 10 |
| 36 ditto | ditto | ditto | 4 | 0 |
| 48 ditto | ditto | ditto | 5 | 0 |

Nurseries, Huntingdon.

CHOICE HARDY FLOWER SEEDS, of showy colours, and best sorts only, with Cultural Directions:—

A Selection of the best 12 sorts, 1*s.* 6*d.*; large packets, 2*s.* 6*d.*
A Selection of the best 24 sorts, 2*s.* 6*d.*; „ 3*s.* 6*d.*
A Selection of the best 36 sorts, 3*s.* 6*d.*; „ 5*s.* 0*s.*
A Selection of the best 50 sorts, 5*s.*; „ 7*s.* 6*d.*
A Selection of the best 12 half-hardy sorts, 2*s.* 6*d.* and 5*s.*

A List of other Collections sent free by post.

J. SCOTT, Merriott, Somerset.

The BEDDING CATALOGUE and FLOWER GARDEN DIRECTORY will be ready in April, price 6*d.*

GLADIOLUS, SEEDLINGS of GANDAVENSIS.

| | £ | *s.* | *d.* |
|---|---|---|---|
| 50 in 25 extra choice varieties | £2 | 2*s.* | 0*d.* |
| 25 in 25 „ „ | 1 | 5 | 0 |
| 12 in 12 „ „ | 0 | 12 | 0 |
| 50 in 50 choice varieties | 2 | 12 | 6 |
| 50 in 25 „ „ | 1 | 5 | 6 |
| 25 in 25 „ „ | 0 | 12 | 6 |
| 12 in 12 „ „ | 0 | 5 | 0 |

Extra fine mixed, 2*s.* 6*d.* per doz., 17*s.* 6*d.* per 100.

BUTLER & MCCULLOCH, Seed Merchants, Covent Garden Market, W.C.

### Early Spring Flowers.

WEBB'S GIANT POLYANTHUS; ditto COWSLIP: Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to

RICHARD WEBB, Calcot Gardens, Reading.

### Chrysanthemums, Chrysanthemums.

J. H. BIRD, F.R.H.S., NURSERYMAN, Stoke Newington, begs to inform his friends and the public he can supply from his great Stock of the above 20 pairs of the best large Varieties for 10*s.*; and 25 pairs of best POMPONES for 10*s.*; 20 pairs of Cuttings of the large Varieties for 5*s.*; and 25 pairs of Pompones ditto for 5*s.*

New CATALOGUES ready for one stamp.

N.B. To save trouble all orders to be paid to J. H. BIRD, Stoke Newington.

### New Chrysanthemums.

JOHN SALTER'S DESCRIPTIVE CATALOGUE of CHRYSANTHEMUMS, including the new varieties, which he will send out this Spring, as well as "HARDY VARIEGATED PLANTS," and other novelties, is now ready, and will be sent post free on receipt of two stamps.

Versailles Nursery, William Street, near Hammersmith Turnpike, London, W.

FIRST CLASS NEW FUCHSIAS. — Coloured Drawings by Mr. ANDREWS of SANSPAREIL, BRIDESMAID, CONSPICUA, and HERCULES, are now ready, and will be forwarded in exchange for 12 postage stamps.

G. S. begs to offer the above as the most Superb FUCHSIAS yet offered to the Public. For description, with price, and also time of sending out, see CATALOGUE, now ready.

GEORGE SMITH, Tollington Nursery, Hornsey Road, Islington, London, N.

A PRICED and DESCRIPTIVE CATALOGUE of all the new and leading kinds of Show, Spotted, French, Fancy, Scarlet, and Variegated Pelargoniums, Fuchsias, Verbenas, Petunias, Dahlias, Chrysanthemums, Bedding Plants, &c., is now ready in exchange for one postage stamp.

GEO. SMITH, Tollington Nursery, Hornsey Road, Islington, London, N.

### Genuine Seeds.—Carriage Free.

WM. CUTBUSH AND SON beg to intimate that they are now prepared to execute orders for GENUINE GARDEN SEEDS, for which their house is extensively known.

Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.

CATALOGUES free on application.

Highgate, London, N.

## MAGNIFICENT AND UNIQUE PLANTS.

# MR. WILLIAM BULL

Begs to intimate that his collection of NEW and RARE PLANTS now contains many specimens unequalled in England; amongst them may be mentioned, the loftiest TREE FERN, the most elegant and magnificent GLEICHENIA; the New MAIDEN-HAIR FERN "ADIANTUM FEEII;" the handsome SILVER PALM from Madagascar; the LACE PLANT from Madagascar, with leaves a foot and half in length, besides several NEW and RARE PLANTS not to be seen elsewhere.

Mr. WILLIAM BULL will be happy to show the above to any one who will favour him with a visit.

ESTABLISHMENT FOR NEW AND RARE PLANTS,
KING'S ROAD, CHELSEA, LONDON, S.W.

## ROSES AND HYACINTHS.

# WM. PAUL (SON and SUCCESSOR to the late A. PAUL)

Respectfully invites inspection of his ROSES and HYACINTHS, now in FULL BLOOM. Many of the kinds are quite new, and have never bloomed in England before.

The THREE FIRST PRIZES for HYACINTHS, the FIRST PRIZE for ROSES, and TWO PRIZES for TULIPS were awarded to these Collections at the Royal Horticultural Society's Exhibition on Wednesday last.

Entrances from the Platform, Waltham Station (Great Eastern Railway), and High Road, Waltham Cross.

NURSERIES AND SEED WAREHOUSE, WALTHAM CROSS, N.

## GRAND EXHIBITION OF HYACINTHS, 1863.

# WM. CUTBUSH & SON

BEG TO ANNOUNCE THAT THEIR

GRAND EXHIBITION OF HYACINTHS AND OTHER SPRING FLOWERS

WILL BE HELD AT THEIR

NURSERIES, HIGHGATE, during the TWO WEEKS commencing MONDAY, MARCH 16.

Admission by Tickets, which can be had free on application or by Private Address Card.

The Nurseries are easy of access by Omnibus from London Bridge Station, the Bank, Holborn, Tottenham Court Road, Islington, and Charing Cross to the foot of the Hill, from thence a distance of about 7 minutes' walk.

HIGHGATE NURSERIES, LONDON, N.

## GARDEN SEEDS.

# S. GLENDINNING & SONS,

NURSERYMEN AND SEEDSMEN

(SUCCESSORS TO THE LATE R. GLENDINNING),

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

| | | | | | | £ | s. | d. |
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| No. 1 | contains | 36 Quarts of PEAS, | and all other Seeds | in proportion | | £5 | 5 | 0 |
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COLLECTIONS of FLOWER SEEDS.

| | | | | | | £ | s. | d. |
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| No. 1, | containing | 100 | Large Packets | of Best | Hardy Annuals | £0 | 18 | 0 |
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| No. 3, | „ | 24 | ditto | ditto | ditto | 0 | 5 | 0 |
| No. 4, | „ | 25 | ditto | Half-Hardy Annuals | | 0 | 7 | 6 |
| No. 5, | „ | 12 | ditto | ditto | ditto | 0 | 4 | 0 |
| No. 6, | „ | 25 | ditto | Tender Annuals | | 0 | 12 | 6 |
| No. 7, | „ | 12 | ditto | ditto | ditto | 0 | 6 | 0 |

The above Collections consist only of best and most useful varieties, and are of the finest quality.

S. G. & SONS' CATALOGUE of KITCHEN GARDEN, AGRICULTURAL, and FLOWER SEEDS, is now ready, and may be had on application.

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GRASS SEEDS,

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of all descriptions.

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GRASS SEEDS AND CLOVER SEEDS.

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J. C. WHEELER & SON,

SEED GROWERS, of GLOUCESTER,

ARE IN A POSITION TO OFFER

GRASS SEEDS AND CLOVER SEEDS

ON EXTREMELY LIBERAL TERMS.

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CARRIAGE FREE.

BANGHOLM SWEDE,
EAST LOTHIAN SWEDE,
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DROPMORE SWEDE,
MARSHALL'S CHAMPION SWEDE,
GREEN-TOP SWEDE,
WHITE SWEDE,
IMPROVED SKIRVING'S SWEDE.
WHITE and RED GLOBE, and NORFOLK TURNIP,
SCOTCH YELLOW TURNIP.
DOBITO'S YELLOW OVAL MANGEL,
WARD'S DITTO,
IMPROVED YELLOW GLOBE DITTO,
IMPROVED ORANGE GLOBE DITTO,

IMPROVED LONG RED MANGEL,
IMPROVED LONG YELLOW MANGEL
IMPROVED RED GLOBE MANGEL,
IMPROVED WHITE FIELD BEET,
RED CLOVER, | COWGRASS,
WHITE, YELLOW, and ALSIKE CLOVERS.
PACEY'S PERENNIAL RYE-GRASS, and other sorts
ITALIAN RYE GRASS, FOREIGN and ENGLISH SEED.
NATURAL GRASS SEEDS, in mixture or separate, suitable for various soils and localities.
LIGHT RYE-GRASS and other CHEAP GRASSES, for Sowing on Railway Banks and Waste Places.

*Orders for Exportation promptly attended to.*

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23, KING STREET, CHEAPSIDE, NEAR the GUILDHALL, and
15, LAWRENCE LANE, LONDON, E.C.

INTERNATIONAL EXHIBITION.

PRIZE MEDALS 1851 AND 1862

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

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COVENT GARDEN MARKET, W.C.

(ESTABLISHED UPWARDS OF A CENTURY.)

COLLECTIONS OF FLOWER SEEDS (Carriage Free).

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12 Extra fine Varieties ... ... ... 10s. 6d. | 6 Extra fine Varieties ... ... ... 5s. 0d.

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100 Finest selected Varieties ... ... ... 30s. 0d. | 25 Finest selected Varieties ... ... ... 7s. 6d.
50 ditto ditto ... ... ... 15s. 0d. | 12 do. ditto ... ... ... 4s. 0d.

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100 Finest selected Varieties ... ... ... 20s. 0d. | 30 Finest selected Varieties ... ... ... 5s. 0d.
50 ditto ditto ... ... ... 10s. 0d. | 15 ditto ditto ... ... ... 2s. 6d.

B. & McC. strongly recommend their COLLECTIONS of STOCKS, ASTERS, and BALSAMS to Amateurs and Exhibitors; neither trouble nor expense have been spared in procuring the very best.

NEW LARGE FLOWERING GERMAN DWARF TEN-WEEK STOCKS.

12 Splendid Vars., of the most beautiful colours 2s. 6d. | 12 Splendid Vars., smaller packets ... ... 1s. 6d.

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12 Splendid Vars., of the most beautiful colours 2s. 6d. | 12 Splendid Vars., smaller packets ... ... 1s. 6d.

NEW FRENCH PÆONY-FLOWERED PERFECTION ASTER (TRUFFAUT'S).

12 Splendid Vars., of the most beautiful colours 3s. 6d. | 12 Splendid Vars., smaller packets ... ... 2s. 6d

NEW FRENCH DWARF CHRYSANTHEMUM-FLOWERED ASTER (TRUFFAUT'S).

8 Splendid Vars., of the most beautiful colours 2s. 6d. | 8 Splendid Vars., smaller packets ... ... 1s. 6d.
DOUBLE BALSAMS.—12 Splendid Varieties, of the most beautiful colours ... ... ... 2s. 6d.
CAMELLIA BALSAMS.—12 Splendid Varieties, of the most beautiful colours ... ... ... 2s. 6d.
ROSE-FLOWERED BALSAMS.—12 Splendid Varieties, of the most beautiful colours. ... ... 2s. 6d.

ROYAL HORTICULTURAL SOCIETY. HYACINTH and CAMELLIA SHOW, WEDNESDAY, MARCH 18.

AWARDS OF THE JUDGES.

SPECIAL PRIZE.—For the 3 best TREE MIGNONETTES.

Mr. J. Richards, Gr. to Lord Londesborough, Tadcaster, 3*l*.
Mr. J. Holloway, Gr. to R. Dobree, Esq., Walthamstow, Highly Commended.
T. D. Shafto, Esq., Hunton, Kent, Highly Commended.

SPECIAL PRIZES.—For the 3 best CAMELLIAS.

Messrs. Veitch & Son, Royal Exotic Nurseries, Exeter and Chelsea, 10*l*.

CLASS 1.—6 CAMELLIAS in FLOWER, distinct kinds (Nurserymen).

1st, Messrs. Veitch & Son, Exeter and Chelsea, 2*l*. 10*s*.
2d, Mr. J. Hally, Blackheath and Lee, 1*l*. 10*s*.

CLASS 3.—4 CAMELLIAS in FLOWER, distinct kinds (Open).

1st, Messrs. J. Veitch & Son, Royal Exotic Nurseries, Exeter and Chelsea, 2*l*.

CLASS 4.—1 CAMELLIA, specimen plant (Open).

1st, Messrs. J. Veitch & Son, Royal Exotic Nurseries, Exeter and Chelsea. 1*l*.
2d, Mr. J. Salter, Versailles Nursery, Hammersmith, 15*s*.

CLASS 7.—1 RHODODENDRON, specimen plant (Open).

1st, Messrs. Veitch & Son, Royal Exotic Nurseries, Exeter and Chelsea, 1*l*.
2d, Mr. Wm. Young, Gr. to R. Barclay, Esq., Highgate, 10*s*.

CLASS 8.—18 HYACINTHS, distinct kinds (Nurserymen).

1st, Mr. Wm. Paul, Waltham Cross, N., 2*l*.
2d, Messrs. Cutbush & Son, Highgate Nurseries, N., 1*l*. 10*s*.
3d, Messrs. Carstairs & Son, 106, George Street, Edinburgh, 1*l*.

CLASS 9.—12 HYACINTHS, distinct kinds (Amateurs).

1st, Mr. A. Carr, Gr. to B. Noakes, Esq., Highgate, N., 2*l*.
2d, Mr. Wm. Young, Gr. to R. Barclay, Esq., Highgate, N., 1*l*. 10*s*.
3d, Mr. G. Taylor, Gr. to C. A. Hanbury, Esq., East Barnet, 1*l*.

CLASS 10.—6 HYACINTHS, new kinds (Open).

1st, Mr. Wm. Paul, Nurseries, Waltham Cross, N., 1*l*.
2d, Messrs. Cutbush & Son, Highgate Nurseries, N., 15*s*.
3d, Mr. Wm. Young, Gr. to R. Barclay, Esq., Highgate, N., 10*s*.

CLASS 11.—6 Pots of HYACINTHS, 6 kinds (Amateurs).

2d, Mr. A. Carr, Gr. to B. Noakes, Esq., Highgate, N., 15*s*.
3d, Mr. Wm. Young, Gr. to R. Barclay, Esq., 10*s*.

CLASS 12.—24 Pots of TULIPS, 6 kinds (Nurserymen).

1st, Messrs. Cutbush & Son, Highgate Nurseries, N., 2*l*.
2d, Mr. Wm. Paul, Waltham Cross, N., 1*l*. 10*s*.

CLASS 13.—18 Pots of TULIPS, 6 kinds (Nurserymen).

1st, Messrs. Cutbush & Son, Highgate Nurseries, N., 1*l*. 10*s*.
2d, Mr. Wm. Paul, Waltham Cross, N., 1*l*.

CLASS 14.—12 Pots of TULIPS, 4 kinds (Amateurs).

1st, Mr. A. Carr, Gr. to B. Noakes, Esq., Highgate, N., 1*l*. 10*s*.
2d, Mr. Wm. Young, Gr. to R. Barclay Esq., Highgate, N., 1*l*.

CLASS 16.—MISCELLANEOUS COLLECTIONS. PLANTS in FLOWER.

1st, Messrs. Veitch & Son, 1*l*. 10*s*.
2d, Messrs. J. & C. Lee, 1*l*.
Extra 2d, Mr. W. Bull, for Collection of New and Rare Plants, 1*l*.
Extra 2d, Mr. Wm. Paul, for Collection of 100 Hyacinths, 1*l*. 10*s*.
Extra 2d, Messrs. W. Cutbush & Son, for Collection of 100 Hyacinths, 1*l*.
Extra 2d, Messrs. W. Cutbush & Son, for Collection of Amaryllis, 1*l*.
Extra 2d, Mr. W. Paul, for 4 Boxes Cut Roses, 1*l*.
Extra 2d, Messrs. Paul & Son, for 3 Boxes Cut Roses, 15*s*.
Extra 2d, Messrs. F. & A. Smith, for Hemerocallis elegans fol. var., 10*s*.

ROYAL HORTICULTURAL SOCIETY.—FLORAL COMMITTEE AWARDS, MARCH 18.

FIRST-CLASS CERTIFICATES.

PANDANUS ELEGANTISSIMUS, from Messrs. Veitch & Son, Chelsea; and also from Mr. W. Bull, Chelsea.
SKIMMIA JAPONICA VERA, from Mr. Standish, Bagshot.
TRICHOMANES SPICATUM, from Mr. Bull.

COMMENDATIONS.

RHODODENDRON ROMAIN DE SMET, from Messrs. Veitch & Son; and also from Messrs. Lee, Hammersmith.
CAMELLIA NAPOLEON III., from Messrs. Lee.
CINERARIA JOHN SPENCER, from Mr. Turner, Slough.

SPECIAL CERTIFICATES.

To Mr. Standish for flowering plants of the true AUCUBA JAPONICA (fœm.), and of A. JAPONICA VARIEGATA (mas.).
To Messrs. F. & A. Smith, Dulwich, for a collection of DOUBLE PRIMULAS, white and red, raised from seeds of plants certificated last year. Also to the same, for a group of Azalea Flag of Truce.

The next MEETING will take place on March 31st, at 12 o'clock. THOMAS MOORE, Secretary to the Committee.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

NOTICE is hereby given that an ELECTION of TWO PENSIONERS on the Funds of this Institution will take place in JULY NEXT. All persons desirous of becoming Candidates are required to send in their Testimonials and Certificates to the Committee on or before SATURDAY, April 25, after which time they will not be received.

Preference will be given to those persons who have been Subscribers for 15 years and upwards, but should there not be a sufficient number of that class of applicants, then the claims of those who have not been Subscribers so long, or not at all, will be considered.

Printed Forms of Petition can be had upon application to the Secretary. By order. EDW. R. CUTLER, Secretary.
14, Tavistock Row, Covent Garden, W.C., March 21.

# The Gardeners' Chronicle.

*SATURDAY, MARCH* 21, 1863.

MEETING FOR THE ENSUING WEEK.
SATURDAY, March 28—Royal Botanic (Spring Show) .. 2 P.M.

THE accompanying circular letter, having reference to the revival of the old BOTANIC GARDEN of CHELSEA, which has been addressed by the authorities of the Society of Apothecaries—CHARLES WEST WHEELER, Master; and HENRY COMBE and JAMES LOWE WHEELER, Wardens—to the Members of that body, claims, from its bearing on

Garden Botany, some notice in our columns. Its more general dissemination may serve to aid the efforts which the Society, seconded by its estimable Curator, is making to render the Chelsea Garden again worthy of its ancient fame :—

"The members of the Society of Apothecaries, from the earliest period of its history, have taken a very lively interest in the pursuit of botanical knowledge. Very shortly after their incorporation in the reign of JAMES I., we find them engaging in periodical botanical excursions in the neighbourhood of London; and so early as the year 1632 the Society's 'Herbarizings' had become an established annual custom.

"THOMAS JOHNSON, the learned Editor of "Gerard's Herbal," and an honoured member of the Society, has left a most graphic account of several of these early excursions, proving not only the devotion to botany of the 'Socii itinerantes' themselves, but the extent to which that devotion was shared by the Society at large. The interest thus awakened seems to have strengthened with time, for within half a century of their incorporation, the Society were able to secure for their members increased opportunities for the prosecution of their favourite study, by acquiring a Botanic Garden of their own; and the reality of this interest is strongly proved by the fact, that the means for the formation and early support of the Garden were provided by the members from their private resources.

"It was under these circumstances that, in the year 1673, the Society of Apothecaries became lessees of between 3 and 4 acres of land on the bank of the Thames at Chelsea, and at a very considerable expenditure enclosed the ground, and adapted it for the purposes of a Botanic Garden.

"Such was the origin of the Society's Garden at Chelsea, which was the first Garden in the neighbourhood of the metropolis established by a public body, and exclusively devoted to the advancement of botany as a science. For nearly two centuries have the Society maintained this Garden at their great charge, and frequently under circumstances involving considerable personal sacrifices on the part of the individual members; but on no occasion on which a strenuous effort has been necessary to preserve the Garden for the purposes to which it was originally destined, have the members of the Society been found deficient in the liberality and zeal which characterised their early predecessors.

"The Society have sought and received their reward in the assistance which they have been able to render to the general advancement of botanical science, and more especially in the opportunities afforded to successive generations of medical students for the prosecution of this branch of their professional studies. Nor have there been wanting great and good men (not belonging to their own body) who have encouraged and aided the Society in their efforts to extend the benefits of sound botanical knowledge. In the year 1721 Sir HANS SLOANE (at that time President of the Royal College of Physicians), who had become the purchaser of the land under lease to the Society, conveyed the Garden to the Society in perpetuity, 'to the end that the said Garden might at all times thereafter be continued as a Physic Garden, and for the better encouraging and enabling the Society to support the charges thereof, for the manifestation of the power, wisdom, and glory of God in the works of creation.'

"For some few years past, the Society have had to contend with numerous difficulties in their efforts to preserve the Garden in full efficiency. On the one hand, the expenses of its cultivation have pressed heavily on the resources of the Society, and on the other, the increase of buildings and manufactories in its neighbourhood, and the threatened inroads of railway companies, have created a feeling of discouragement, and even of doubt, as to the course which the Society should pursue with reference to its continued maintenance. When the executive of the Society, however, reflected how much benefit the Garden had conferred in times gone by, with what pride it had been cherished by their predecessors, and, above all, when they found how numerous a body of the medical students of the metropolis were still anxious to profit by it (no fewer than 500 students having applied for admission during the past summer), they unanimously resolved that the Garden should be continued, and that a vigorous effort should be made to render it as efficient as possible for the fulfilment of the important objects to which it has been so long devoted.

"In order to carry this resolution into immediate action, it has been determined, in addition to other arrangements:—1. To make a new and as complete a collection as possible of all medicinal and economical plants. 2. To enlarge the collection of the more important hardy herbaceous plants, arranged according to the natural system. 3. To convert the old lean-to houses into 'Aspects of the vegetation of tropical and temperate climes.' 4. To make two divisions in the span-roof house for plants requiring various degrees of heat and moisture. 5. To construct a cold house, or mere glass shelter, in order to show experimentally the value of such protection in cultivating plants in a town atmosphere. 6. To construct and plant examples of Wardian cases, in illustration of their utility in cultivating, as well as in the conveyance of plants to and from distant countries. 7. To build a new room for the use of the assistant gardeners, and to provide the same with suitable books, specimens, &c., for their instruction and amusement.

"The members of the Society will learn with great satisfaction, that in carrying out the above objects, the Society will have the benefit of the valuable advice and superintendence of their colleague, Mr. WARD.

"The Master and Wardens invite the cordial cooperation of their brethren in their endeavour to render their establishment at Chelsea worthy of the Society as a scientific body, and they venture to suggest a mode in which valuable aid may be afforded, viz., by assisting in the completion of the various collections of plants. Such individual members as may be able to assist in this respect, either personally, or through the agency of correspondents or relations abroad, will greatly oblige the Master and Wardens by so doing.

"It is hardly necessary to add that it is intended to render every facility to Professors of Botany and their pupils making use of the Garden in its renovated form."

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—— THOUGH remarkable for the beauty of its flowers, it must be confessed that the GLADIOLUS is somewhat deficient in respect to its foliage. There is scarcely enough of leaf, so at least one is tempted to think, to set off to the best advantage the bold spikes of brilliant blossoms. A suggestion has been made, and it seems experimentally tested, to use the CANNA to supply the deficiency at which we have hinted. It may therefore be worth while at this juncture to recall the subject, in order that seeds or roots of the Cannas may be taken in hand, to supply the stock which may be required by those who may be inclined to carry out this mode of planting.

And here it is necessary to put in a caution that some at least of the species and varieties of Canna would be unsuitable for the object proposed. Cannas form one of the garden subjects which have been "improved" until they have acquired a stature and dimensions which render them indeed noble objects in themselves, but which would in a genial season become quite overpowering to the Gladioli. Hence the larger and bolder forms must be omitted, unless the situation should be such as would be suitable for their being employed as a background. Probably there is no more appropriate species for mixing with Gladioli than the common old Canna indica, which is comparatively dwarf, and has narrowish green leaves, such as would accord better with the natural foliage of the Gladiolus than would the broader and variously tinted leaves of many of the majestic and giant varieties which now-a-days find a place in the seed catalogues.

While referring to CANNAS, let us say one word in their behalf as noble summer plants for the flower garden, to which their foliage, when well developed, imparts an almost tropical aspect. When used in this way indeed, our climate is not always to be trusted to bring them to perfection; and hence the means which a knowledge of their habits suggests, should always be adopted to secure the intended result. If they are, as we believe them to be in certain cases, worth introducing to our parterres, for the sake of the noble appearance they present by their foliage, then they are worth taking some trouble with to ensure success. And the secret of success is bottom-heat; such for example as it is found desirable to give to half-tender plants like Gourds and Cucumbers, which as every gardener knows thrive all the better for a little warmth at the roots, notwithstanding that they may sometimes succeed without it. The readiest means of applying this bottom-heat on a limited scale, would of course be by the introduction of fermenting materials beneath the surface of the soil, in a sufficiently drained excavation—a bed, that is to say, of leaves and dung worked up into the state in which the mixture would be fit for making a hotbed. But whatever the agency employed, the result would be similar, provided it were sufficient to warm the soil.

What that result would be, has been shown by Capt. TREVOR CLARKE, who has experimented on the growth of tropical plants in the open air, when planted in beds of heated earth. These experiments will be found recorded in the Proceedings of the Royal Horticultural Society (ii. 182). The heat in this case was supplied by a hotwater boiler and pipes, and was sufficient to raise the temperature of the earth to about 70°. Most of the plants were taken at once from a stove, some few only being planted out after a week's probation in a cool house, and no protection of any kind was given them. It was observed that they appeared to suffer no check when planted out, but grew away at once, and that at a time when ordinary bedding plants, planted out in the ordinary way, were chilled and inactive.

Now for the result as regards Cannas, and we will quote Captain CLARKE's own words:—"Two or three Cannas, including the curious C. flaccida, with Hedychium coronarium, were placed so as to hide my rude cistern, which they soon did most effectually. C. iridiflora I failed in procuring in time, and I much regret not being able to try this fine and still rare plant. C. flaccida produced its beautiful yellow Hedychium-like blossoms, but so frail in texture that they were annihilated by the first puff of wind or shower of rain. The Hedychium flowered well upon such shoots as had been made previously in the stove. It then, TOGETHER WITH THE CANNAS, MADE A HUGE THICKET OF SHOOTS. The Cannas neither flowered earlier nor more plentifully than others in the open ground without heat, but made a much more luxuriant growth."

## FERNS AND FERNERIES.—No. I.

So much has been of late years written on the subject of Ferns, that most interesting division of the Cryptogamia, that few among the readers of this Journal can have neglected to learn to admire their graceful forms, to rejoice in their refreshing colours, and to wonder at the varied growth which the several species exhibit. Nor are there many, probably, who do not number among their acquaintance some one whose appreciation of the pleasure that their quiet companionship affords, has induced him to attempt their culture—either in a garden saucer covered by a small bell glass, or in some more ambitious manner. Such an one will have heard of Wardian cases, perhaps have speculatively invested in a popular book on Ferns, and yet have obtained a very uncertain notion of the intention of the first, and a somewhat puzzled conception of the meanings intended by the novel terms employed in the other. Disappointed in the discovery that his pets do not thrive, dying just when their rapid growth seemed to promise so well, he will be ready, perhaps, to welcome a few suggestions that may guide to better fortune with their successors. Much of this ill success may, no doubt, be imputed to the self-will observed to be characteristic of all pets, and the cause of the premature death of the Ferns has probably been the same as that which killed the favourite canary bird, and compelled poor Carlo, oppressed with hearth-rug slumbers and good living, to seek relief in apoplexy. For with Ferns, let them but have earth, air, and water suited to their habits, of the several conditions of which I propose shortly to speak, and the less they are meddled with the better. Like the petulant old lady, who, troubled by the too frequent inquiries of attentive neighbours and expectant relatives, assured them that "when any serious change occurred, she would let them know," so all they wish is to be let alone. Should a tiny beetle or a wood-louse be disturbing her root, "Fragilis" will drop her head and so complain, or if "Elegans," after throwing out such pretty crozier-like shoots, be found one morning lying prostrate, he 'lets you know' that the ground is too moist round about him. Even Vulgare will cry out in dwindling size and fading colour, when, forgetting his shady home, you place him in unfamiliar company over an exposed heap of stones.

I have already mentioned Wardian cases. The learned and most amiable gentleman whose name has been given to all glazed cases adapted to the growth of plants, on the scientific principles originally set forth by him, has explained their use in the culture and preservation of many varieties of plants, and especially in the safe transport of plants from tropical climates to our own. We are here only concerned with their use for the growth of Ferns in London and other large towns, and particularly of the British species, and such hardy exotics, whether denizens of the temperate zone or of elevated regions in the tropics, as do not require hothouse cultivation. We do not propose to prevent the access of fresh air, as has been commonly imagined, but to exclude those fuliginous matters that exist to so great an extent in the London atmosphere, and which, whether by filling up the pores by which plants breathe, or by affecting chemically their tissues, are found seriously to check the healthy growth of all vegetation. This, then, in the first place; but beyond this we desire to produce that stillness of the air, and to preserve for it that excess of moisture which are observed to prevail in the fissures of rocks and other secluded situations in which Ferns especially delight to flourish, avoiding also those extremes of heat and cold, the active instruments in Nature of decay and destruction: in short, while restraining the power of destructive natural agents, preserving the effect of those of beneficial character.

A curious misunderstanding of the necessary conditions of their use led to much disappointment in the early history of Wardian cases. A certain number of these had been constructed under the immediate superintendence of the inventor, and sent on board a vessel for conveyance abroad, with instructions for their being properly filled with specimens of the more valued plants indigenous to the tropical country to which the ship was bound. Directions were also given for the previous execution of such repairs to the glazing as might be required, and for repairing. These orders were complied with, and with Chinese exactness, for the paint, thickly laid over both glass and framework, completely shut out the light; the plants were killed, and the successful issue so anxiously expected of an interesting experiment for many months postponed.

Your Fernery then may be of whatever dimensions you choose, being simply an enclosed space roofed with glass, and with glazed sashes, at least on one side; for if the arrangement of your dwelling permit, it were as well, or even better, that the ends should be of brickwork. I presume that you would wish that one side opening from your drawing-room or library should allow you the pleasure of frequently seeing your winter garden. I use the word "opening" only as meaning open to your view, for you will find it beneficial to your Ferns and consistent with your own comfort that the moist atmosphere of the Fernery should be as much as possible excluded.

Circumstances beyond your control have probably determined the aspect. Were this, however, a subject

of choice, due south should be avoided—nor is due north to be preferred. A morning sun is rather to be chosen than the reddened rays of his setting. Much light is wanted—but little sunshine. Yet, sunshine shut out by blinds is better by far than no sun at all.

Assuming, then, that your Fernery has been erected, the bottom provided with water-courses for effectual drainage, the sides and roof with blinds to give shade to every part accessible to the direct rays of the sun, and means of access to each corner provided by opening sashes from without, your next operations will be the procuring of materials in which to plant them, and the gathering together the inhabitants themselves. And the grand secret is the proper distribution of the former, so as to accommodate the various habits of the latter, for they are many of them capricious and their tastes peculiar. Now there are two ways of doing this; the one, doing it yourself as far as you can, and for the rest personally superintending your servant, and this is the mode I recommend; the other employing a nurseryman to do it for you, when the Hibernian conclusion will doubtless follow—that it will not be done at all. *Z.*

## FISH AND FISHING.—No. II.

In commencing a series of papers on a subject such as Fish and Fishing, on which the mind of the writer has perhaps dwelt for years, the task is no easy one; not for lack of what to say, but from the difficulty of deciding which head of the Hydra-headed whole to attack first. For my own part I may confess I have, at different times, written and published enough to fill a good-sized volume on "Fish and Fishing." Yet on resuming my pen upon the subject, I find that without plagiarism on myself, or any other writer, I have enough to write about, more than sufficient for another volume or two. As one goes on writing the thoughts multiply, the mind expands, and they are ever finding fresh points to touch on. So it is at this moment. I was ready to go to press with other branches of my chosen subject, Fish and Fishing, when what I consider a more imperative duty starts up before me, and that one is the importance of keeping readers wide awake as to what is immediately going on in our Legislature.

From the high standing of the *Gardeners' Chronicle and Agricultural Gazette*, I hope that my lines may come under the eyes of noble lords and honourable members in Parliament, and I wish I might be privileged to influence them. Food in one shape or the other is under the special protection of this Journal, whether it be in the shape of meat, or vegetable, or fruit, and if we can give to the poor labourer a dish of fresh fish for one day in the week, in lieu of his every day bread and cheese, no doctor will deny that we shall improve his condition by the change of diet. Encourage us therefore to increase the number of fresh water and sea fish of every denomination, if merely on the ground that we increase the supply of food. But I am one of those who would go a step further, I would add, increase fish not merely as food, but also to afford sport to the amateur of fresh water fishing.

Methinks I hear some timid lover of the rod in the Legislature exclaim, "Hush, hush! do not breathe it in Parliament, or we shall lose all." I cannot lay my hands upon the paper (the *Times*) which last year contained the speech of Lord Derby upon the nuisances arising from manufactories not only to the air but to fish in rivers. I can only mention it as an *impression*—my impression was that he would fain have said much more about injury to fish, and in favour of protection to the angler's sport, but for a certain undefinable something, not quite apparent. Now I am not so squeamish. I say, preserve fish for food sake, certainly: but do not blink the question of "sport." Though I am firmly convinced that fishermen (amateurs I mean, of course), have increased at least 100 fold within the last 20 years, yet they are not so numerous in Parliament as those who follow "game." The game laws are well and wisely in my opinion kept up without disguise by sportsmen. They know the value of sport of some kind as an innate love of every "Britisher," and as they would not wish all of us to be deer-stalkers, huntsmen, or shooters, they would surely allow (to paraphrase Pope)—

> "Some men to shooting, some to fishing, take,"

and even leave the fair sex (you know what Pope's next line declares about them) to follow "the gentle art" (as many do), without a sneer or laugh when angling; or, to use parliamentary language, the "rod fisher," should be thought of prominently in legislation.

Members in both Houses of Parliament know full well "in their sleeves" that it is "rod fishers" who have recently stirred up all this most useful commotion about the preservation of salmon rivers. The great contest has apparently been between "upper" and "lower" proprietors. Each party has, as is natural to frail human nature, demanded too much for himself, but the "rod fisher" has formed an intermediate interest, and, as such, has seen what is for the benefit of all parties. Stake nets and other fixed engines of every kind are pronounced an abomination, as indeed they are, by all, except those who use them for their pocket's sake; and their abolition by the "English" Act has already proved most efficacious for the increase of food.

In like manner, if you openly enact laws favouring the inland rod fishers for trout, grayling, &c., you are sure to encourage the breeding of fish of all kinds in inland rivers, lakes, and even ponds as a supply of food. Enact good laws, and you may safely rely on it that the "rod fishers" will do their best to see those laws carried out.

At this moment there are three Bills before Parliament which either do, or ought to, tend to the increase of fish:—

1st. There is Lord Stanley of Alderley's Bill, in the Lords, as to the pollution of air.

2d. Mr. Bruce's Bill, prohibiting the exportation of salmon at certain times.

3d. Mr. M'Mahon's Bill to assimilate the law of Ireland as to salmon fisheries, to that of England.

We will take them in order: and, 1st, Lord Stanley's Bill. I have not had the advantage of seeing that Bill, nor the report of the Lords' Committee of last year, on which it is supposed to be grounded, so I must argue at some disadvantage; but from what I gather from the *Times*, that Bill is confined to pollution of air, and by alkali works only. It is a wretched half measure, if so, at best. To a small extent it may benefit fish, because it is possible to conceive that the pollution of air, which must be imbibed by water upon which it rests, being prohibited, the breed of fish will be improved in the particular neighbourhood of alkali works, pure air being one of the most important ingredients of pure water.

Many years ago I was on a visit in Lancashire near to St. Helen's. There was a flourishing garden of fruit and vegetables at the back of the house. In front, a well-trimmed lawn and flower garden; beyond that a fine sheet of water, a dam feeding of the "Sankey Canal," which backed it; I fished in that year, and had fair success in pike and other fishing. On a subsequent visit I found, within say 100 yards of the back of the house, chemical works were erected. The exact nature of those chemical works I do not know; but this much I do know, viz., that the fruit trees and shrubs in that garden were all blighted by those chemical works, and that for a great distance, all agricultural endeavours were frustrated. Oak trees at a further distance were apparently killed. And as to fish in that dam, though I persevered fishing almost every day for near six weeks, I perhaps did not take as many fish of any kind. There was always a scum upon the water! One circumstance I particularly remember, because it "touched my pocket." My "half" had taken down with her a new silk dress; the "ground" of it was black, with an open curious sort of large amber scroll running over it. Before I returned to London the amber scroll had separated and fallen out of the black ground! and I have always attributed the circumstance to those chemical works. Whether such "chemical works" will come within the scope of Lord Stanley's Bill I know not, but I know that they ought to do so.

But now I will put the case in another point of view. As regards ownership, I put it suppositiously only. I am the owner of a "several fishery," which means that I have the sole and only right to take fish in a certain piece or stream of water. In the middle of my piece of water, a certain mill is erected, of course by permission of the land owners; that mill is innocuous in the first instance, and the proper flow or height of water is continually preserved. We will suppose it to have been always a paper mill; but clean rags become scarce—dirty refuse of every kind, whether old "Macintoshs," "tarpaulins," "old clothes," even "old boots," and in fact something of every kind, are found capable of being bleached into "paper material," and the mill, once innocent, is at last converted into a paper material, or paper stuff mill.

In former days, when rags only, and for the most part white rags, were made into paper, you can readily conceive that the process of cleaning and bleaching was simple and *quasi* harmless to fish. But where it is requisite before bleaching to get rid of india-rubber, varnish, oil and such like water-resisting things, a very strong chemical preparation is required. What that preparation used in the mill in question is, is of course kept secret by the mill owner, but we know from analysis, that lime and sulphuric acid join in the process. The refuse of these is occasionally turned direct from the mill into my river in two distinct volumes; I am able at times to trace the whiteness of the lime nearly a mile from the mill, and the brown tinge of the latter to a lesser distance, and during certain states of the atmosphere a very sickening effluvium arises from the river when thus polluted. My river was once a very celebrated trout stream, always breeding its own supply of trout. Now, it is believed to breed few or no trout; and I can only keep it up as a trout stream by a yearly supply of two or three hundred brace of "stores" (young trout of, say, 6 inches in length), and I forbid the catching of trout under 1 lb. weight. Thus instead of Nature's supply, which, as owner of the fishery, I am entitled to, I am driven to a large expense and great trouble in providing these "stores." Add to this that my river is so polluted and thickened at times, that if I am out fishing it becomes hopeless, and I am forced to "wind up" and go homewards.

I am putting my case as though I and my river were the sole complainants; but a moment's reflection and you will find that our name is "Legion." There are hundreds of owners and rivers in the same strait, though the grievances may vary in detail.

What right has another party to destroy fish which though, *de lege*, may be called *feræ naturæ*, are virtually and *de facto*, *de jure*, my fish; for no other person or body of persons has a right to touch them.

As regards the "*feræ naturæ*," I will call to mind that though game birds may wander from one man's ground to another and so give a right of shooting them to one party or the other, trout, of all fish, never do so; they stick to one locality during one part of the year, and only for the purpose of spawning resort to another chosen spot close by during the winter.

Well, my fishing right is clear, and it is of pecuniary importance, for I may lease that right; but can I find or keep a lessee if my fishery becomes deteriorated or wholly ruined by the pollutions of that mill? But yet for this wrong there is no present come-at-able remedy. "Oh!" says one, "you must submit, because we must protect trade."

"Protect trade!"—humbug! You protect one particular individual trader to the injury of another person's private rights; and you enable him to put more money into his own individual pocket by injury to that private right. Protection of trade, forsooth! If a trade must be carried on, force the trader to do so without injury to other's rights. If my mill owner at my mill must use lime and sulphuric acid for the purposes of his trade, let him; but at the same time compel him so to act that he does not ruin my right of fishery; oblige him, in other words, to get rid of his refuse lime and sulphuric acid by other means than turning it into my stream.

"Granted," says another, "that a wrong is committed, but surely under the Game Laws, Peel's Acts, you have a remedy against the lime." Granted, my friend, if I could prove that my mill owner threw the lime into my water for the purpose of catching my fish! But my mill owner is not a poacher but an honest gentleman, and never dreams at all about my fish one way or the other.

A third friend will say, "Surely you have a remedy under the Nuisance Act." (18 & 19 Vict. c. 121.) "Oh, yes; certainly there is a clause (s. 27) which

> 'Keeps the promise to the ear, but breaks it to the hope.'"

You may prosecute "any manufactory causing effluvia" upon certificate of a local "medical officer or any two legally qualified medical practitioners" that the effluvia is "a nuisance or injurious to the health of the inhabitants," &c., "provided that the provisions hereinbefore contained shall not be applicable to any place without the limits of any city, town, or populous district." Here are the trammels of law! The object of that Act is the health of the people; and although under other circumstances I might abate my nuisance under cloak of that Act, yet see the difficulties! I have first to prove that my mill is within "the limits of a city, town, or populous district." What are the "limits," and what constitutes a "populous district?" Nothing is defined as to what constitutes a "populous district, tho' it might be argued from the Act that less than "200" inhabitants does not constitute a "populous district." So that if I could only prove the immediate neighbourhood to consist of 199 inhabitants, and were not allowed by the magistrates to give a larger signification to the term "district," remedy, as far as my hidden cause of complaint, "my fishery" is concerned, is hopeless.

Then look at the earlier provisions of that section 27. "Certificate of a medical officer or other legally qualified practitioners." First, in what an invidious position you place the "medical officer," and how difficult to get witnesses in a case ever so clear! My mill owner has a large mill, and employs many hands living in the midst of my grievance, and has great parochial influence. Under the thumb and finger of his wealthy and powerful hand are "the breads and butters," in one way or other, of my "medical officer" and my "witnesses." What hope is left for me? As to other "qualified medical practitioners," the difficulties as to witnesses remaining the same, who is to defray my expenses of bringing them to and keeping them on the spot, so as to enable them to form an opinion proper to ground their certificate?

No! As the law now stands, I have my grievance without my remedy, and my millowner "pockets the halfpence."

In the same "Nuisance Act" there is one clause full of sound sense, as good as ever I saw in any Act of Parliament, one which is positive and unmistakeable, and out of which there is no escape, which any one, running, may read. It is clause 23. "Any person," &c., "engaged in the manufacture of gas who shall," &c., "cause" &c., "to flow into any stream," &c., "any washing," &c., from gas "whereby," &c., "water shall be fouled" "shall forfeit," &c.

The interest of all parties concerned in the preservation of fish would, I think, be secured by the introduction into Lord Stanley's Bill of a clause of which the following should be the skeleton.

"Any person," &c., "engaged in any manufacture who shall, &c., "cause," &c., "to flow into any stream," &c., "any refuse," &c., "whereby," &c., "water shall be fouled (or causing effluvia)," shall forfeit, &c.

As to the expression, "water shall be fouled," care must be taken. Water is colourless, so it cannot be

discoloured. "White," scientifically, is the presence of all colour, and not called "a colour." So the discolouring and colouring (where "white" is intended) ought to be carefully avoided in the wording of the section.

Would that I could fix my ideas of the things wanting in Lord Stanley's Bill upon the bright mind of Lord Derby!

I have very brief space left to touch upon Mr. Bruce's Bill prohibiting the export of foul fish. As far as it goes it will be decidedly beneficial, and a very great check upon poaching, because it will tend to close one market for foul fish. But the public must keep a very sharp look-out lest a home market is opened. Such foul salmon may be "kippered," or "pickled," or "preserved in tins for exportation." I need do no more than say "Watchers, wardens, keepers, and bailiffs, beware!"

Mr. McMahon's Bill to assimilate the Fisheries Laws of Ireland to those of England, inasmuch as the latter have proved themselves to be so very beneficial, must be also beneficial to Ireland, and not only to Ireland but to England also; for the supply of food being increased, the world at large whereunto Irish products are exported must feel the benefit. The temper of the House of Commons at present seems to favour this Bill; yet are its opponents in and out of the House numerous, powerful, and energetic. But for the most part they are owners of stake and other fixed nets, and are struggling for their own individual interests regardless of public benefit. Such men should remember that "no man ought to act as judge in his own cause."

I do not think the House will feel much doubt in passing the Bill as a whole; but there is one clause in it referring to the prohibition of netting within 50 yards below or above a "free gap," which may occasion much debate. This, of seeming insignificance, is really of the utmost importance. Fish, before passing through, in ascending a river, must find the gap and necessarily linger close to it before they make the rush through it; fish having passed it, pause in the water immediately above, perhaps from exhaustion; and fish descending a river have to go through a similar toil before they take the downward plunge. To allow the netter to fish within 50 yards is considered as giving him an unfair advantage, for which he can be on the look-out during all hours in the day.

Success to the Irish Bill, and may it pass as it stands! *E. C.*

## ROSES.—No. III.

By Mr. William Paul, F.R.H.S., Paul's Nurseries, Waltham Cross.

Autumnal Roses.—I shall here, as with Summer Roses (p. 221), describe the leading groups only. The Perpetual Moss are desirable because they prolong the season of Moss Roses; beyond this not very much can be said in their favour. They are for the most part of shy growth, and not overburdened with moss. They require a rich soil and should be pruned closely. Empress Eugenie is the prettiest of the group, but also one of the most difficult to preserve in health, being naturally a short lived Rose. The flowers are bright red, of medium size, full and perfect in form; the growth is dwarf. General Drouot grows freely enough, but the flowers, which are crimson and purple shaded, are only semi-double. Hortense Vernet produces white flowers shaded with rose. Madame Edouard Ory is one of the best; the growth is free, the flowers bright rosy carmine, large, full, and fine. Perpetual White Moss is also an excellent variety; the flowers are white, produced in clusters well massed; perhaps the most interesting of the group. Salet is a good Rose, very free and hardy; the flowers are bright rose margined with blush, large and full.

The Hybrid Perpetual, now the leading group of the genus, is of comparatively modern date, being a new branch of an old stock. In 1837 my friend M. Laffay, of Bellevue, sent me a beautiful purplish Rose which he called Princesse Hélène, describing it with all the enthusiasm of his warm and kindly nature. This was the first strongly marked divergence from the now old-fashioned Damask Perpetual Roses, which were then so much in vogue, and from which this sprang. Fortunately this hybrid produced seeds freely, and in three years we had no less than 20 varieties. Now, the number is legion, and they take much the same position in the garden now that the French Roses did a quarter of a century ago. Well, they are the finest of Roses, and improving at a more rapid rate than any other group; form, colour, and fragrance are here in perfection, and they are the hardiest and finest of autumnals. In looking through the list of candidates for election it is a task of no ordinary nature to bring down the number within reasonable limits. One has a claim for form, another for colour, a third for fragrance, and in some cases in which one or the other of these requisites may be absent the general habit of the variety is so good or so elegant that it outweighs or negatives these important considerations. I shall confine my remarks at present to the cream of the old varieties, reserving what I have to say of new Roses for a special paper.

Anna Alexieff is one of those hardy free-flowering Roses that is invaluable for masses and conspicuous situations in the garden; the foliage is handsome, and it is almost always in bloom. The flowers are rosy pink, of good size and form, usually arranged in clusters. Anna de Diesbach is quite the opposite to the last in every character but colour; the flowers are composed of fine large thick petals, produced singly, of immense size, but few and far between. Auguste Mie is a truly beautiful silvery pink Rose of exquisite form; the shape is almost equal to Coupe d'Hébé, which it resembles in some respects; it is good for standard, pot, or pillar. Baronne Hallez is a dark red Rose of average size and superior form, sweet and free, but hardly vigorous. Cardinal Patrizzi is one of the finest Roses grown under glass, but it is uncertain out-of-doors, and seldom more than second-rate; the colours are brilliant red shaded with blackish purple. Caroline de Sansal, clear flesh-colour with blush edges, is a first-class show Rose when it can be found clean; it is however a fair-weather Rose only, and while it cannot be dispensed with, it cannot be confidently relied on. Colonel de Rougemont is a very large expanded Rose of a pale rose colour, shaded with carmine; it is of rather delicate habit, and requires a rich soil, and close pruning, which extra attention it is quite worthy of. Comte de Nanteuil is a perfect Rose according to rule; the flowers are rosy carmine, large, full, and quite circular in outline; quite a show Rose. The same may be said of Comtesse de Chabrillant, whose flowers are pink and very sweet; this is not so constantly good as the last named, but when in its best state it is of matchless beauty. Duc de Cazes is a very distinct flower; the colours are purple crimson and maroon, very velvety and variously shaded; it is a most effective Rose in the garden if pruned sparingly; the growth is vigorous. Duchesse d'Orleans is a good show Rose; the flowers are lavender blush, large and full, the growth vigorous. Empereur de Maroc, though not a show Rose, can hardly be left out of a limited collection; the rich velvety maroon flowers, the summits of the petals folding back with so much regularity and grace, are unique and lovely. François Arago, with dark velvety purple flowers, is also a valuable addition to our dark Roses; it is hardy, free, and the best of its colour. François I[er] is quite first-class, whether for exhibition or garden decoration; the flowers are brilliant cherry, of good size and form. General Jacqueminot is almost too well known to need description; the flowers are brilliant red, very velvety, large and very double. The introduction of this Rose was quite an era in Rose culture; it produces seeds so freely, and the seedlings have proved so good that we have already a numerous race derived from it. General Washington has bright rosy red flowers of large size and full; it is sometimes splendid but uncertain. Gloire de Vitry is a first-rate show Rose of a bright rose-colour, large and full; the foliage is rather thin. Gloire de Santenay produces scarlety crimson flowers, large, full, and fine; it is a little uncertain, but nevertheless a superb Rose. Imperatrice Eugénie is a white Rose with rosy centre; the flowers are not large but full and exquisitely formed, the habit is rather delicate. Jules Margottin is an every day Rose, the flowers of a bright cherry colour; one of the best for a standard or a bed. La Reine, one of M. Laffay's original Hybrid Perpetuals, is not yet surpassed in its way; the flowers are rosy pink tinged with lilac, very large and globular; it is a magnificent flower, although a little uncertain. La Ville de St. Denis is still a good flower, rosy carmine, large and full. Lælia is a silvery rose shaded, very large, globular, and in every respect of first-rate quality. Lord Raglan is one of those high coloured varieties, scarlet crimson edged with violet crimson, that pleases everybody; the flowers are large, full, and of good shape, the growth is vigorous. Madame Boll is very different to any other, appearing to have some of the old French blood in it; the flowers are rose colour with blush edges, very large, full and excellent. Madame C. Crapelet is a flower of great finish; the blossoms are rosy red, veined and shaded with lilac, the form very beautiful. Madame de Cambacérès is rosy carmine, often purplish, cupped, large and full; a good free hardy Rose with beautiful foliage. Madame Furtado is a full rosy crimson flower, very sweet, and one of the best for exhibition. Madame Knorr is bright rose with pale edges, large, full, and flowers freely. Madame Masson is a grand Rose, of a reddish crimson hue, shaded with violet, very large and full. Madame Rivers has clear flesh-coloured flowers of fine form, large and full; growth vigorous. I remember seeing this Rose at Lyons in the seedling state, but it is better here than there. Madame Vigneron is one of those silvery flowers tinged with rose or purple, large, and of good outline, although a little flat. Madame Vidot is a model in form, and beautiful in colour also; transparent flesh, shaded with rose, large and full. Madlle. Bonnaire is perhaps the best of the white kinds, with rosy centre; it is of good average size, full, and of exquisite form. Prince Léon is a fine bright crimson variety, the form and colour all that we could wish for, and in its best state quite a show Rose. Queen of Denmark is sometimes very fine, though a little uncertain; the flowers are lilac flesh, large, full, distinct, and beautifully transparent. Queen Victoria, introduced by me, is still the best in its way; the flowers are white shaded with peach, the colour of the old Celestial Rose, large and full; the growth is vigorous. Senateur Vaisse is one of those full bright-red Roses with large smooth thick petals much in advance of the general run of these; the flowers are large and full, the growth vigorous. Souvenir de Leveson Gower is a fine ruby-coloured flower, very large, full and well-shaped; growth vigorous. Souvenir de la Reine d'Angleterre has bright rosy pink flowers, very large, full, and fine; the growth is vigorous, and it forms one of the best of pillar Roses. Triomphe d'Alençon, with its fresh bright red flowers, is sure to please; Baronne Prevost, which it somewhat resembles in growth and form, looks faded by the side of it. Triomphe de Lyons is the best of the very dark large well-shaped Roses, although not always clean and good. Triomphe de l'Exposition produces vivid reddish crimson flowers; it usually loses its shape too soon to be first-class for exhibition, but it is one of the most effective for garden decoration. Triomphe de Paris is a good dark Rose, of size, form, and fulness above the average. Triomphe des Beaux Arts is a plum-coloured edition of General Jacqueminot, excellent for garden decoration, but scarcely full enough for a show Rose. Victor Verdier is a decided step in advance; the flowers are rosy carmine with purplish edges; a large showy free-growing Rose with beautiful foliage, good for exhibition, and one of the very best for effect in the garden. Victor Trouillard, although irregular in shape, is valuable for its brilliant velvety crimson flowers and beautiful foliage. Virginal comes in strong contrast to the preceding; the flowers are pure white, the habit rather delicate, but the variety still indispensable. William Griffith, a well known old Rose, is one of those glossy-looking flowers of a pink or pale rosy hue, in its best state very beautiful.

The Hybrid Perpetual Roses require high cultivation to bring out their valuable qualities in full perfection; manure freely and prune closely, watering occasionally during the season of most rapid growth if the weather should be dry. Those kinds which bloom very freely should be relieved of a portion of the flowers when in the bud state, by which practice the flowers that are left will bloom finer, and the vigour of the plant be more efficiently preserved.

## Home Correspondence.

*Larch Rot.*—I believe that Mr. Berkeley has very truly as well as ably stated the chief causes of Larch going rotten at the heart. The case is exactly the same way with the Spruce Fir. You will find the same thing stated in a letter of mine from Boynton, which you published nearly 20 years ago. In both Spruce and Larch the general cause of the heart rot is the decay of the roots, from their going into a subsoil which does not suit them; the two things most certainly fatal to them, in my experience, being a wet subsoil, and chalk. It will be interesting, I think, to Mr. Berkeley and other of your readers to know that in the woods at Castle Howard and the neighbourhood, which are very extensive, the Larch is always sound and good to any age wherever the subsoil is calcareous grit. On the coralline oolite, which, as well as the calcareous grit, is always dry, the Larch is not always sound; but I believe that the Spruce is sounder and better on the coralline oolite than on the calcareous grit. I look forward to the Committee of the Royal Horticultural Society which has just been formed being the means of collecting and publishing a great deal of valuable information on this and similar subjects. *C. H. Strickland, Hildenley.*

*Strawberries.*—In reading Mr. de Jonghe's remarks upon the cultivation of Strawberries, published last week, I was surprised to find that he is an advocate for planting out runners in the spring. If from any cause they could not be planted out at the proper time in the summer, I admit that it would be better to defer the operation till spring than to move them in October, but I am convinced that the sooner the runners are planted out after they have rooted the better. When there are beds ready to receive them, by far the best plan is to peg the runners down in small pots, and as soon as they are rooted to plant them out where they are to remain, first (unless the soil is very heavy) treading the ground down until it is quite firm. In fine seasons they might be put out early in June, or at any rate by the middle of that month, and then they would make very strong plants before winter sets in. I have some beds of Sir Charles Napier which were planted out last summer, and each plant now forms a circle of fine foliage 18 inches in diameter, with from ten to a dozen strown crowns. I have plants of La Constante quite as strong, but the growth of this fine variety is more compact than that of Sir Charles Napier. *Henry Doubleday, Epping.*

*Cedar of Lebanon.*—A correspondent asks why his employer's Cedars of Lebanon lose their leaves in winter. It is probable they were grafted by dishonest nurserymen on Larch stocks, and thus take after the deciduous habit of that tree. This may become more striking as they increase in age. *R.* [The evil *may* have arisen from bad health occasioned by improper grafting, but is more likely to be the effect of the severe cold we had some year or two since, only now showing itself.]

*Vallota purpurea, or Scarborough Lily.*—In the third volume of a child's book called "Magnet Stories," is a tale called "Hope deferred," giving the following account of how the Vallota acquired that name. A sailor brought a bulb from Holland and gave it to his sister, promising to return by the time the splendid scarlet flower which he talked of, was open. He went

to sea and was supposed to be drowned, but the girl still watched her plant in the cottage window, and would not part with it, though the doctor offered a large sum for it. When it was in full beauty the boy returned safely. The plant was presented to the doctor, who gave an offset to the girl, which soon bloomed at the cottage, and then the plant was shortly spread over the town of Scarborough where all these events happened, and so gained the name of the Scarborough Lily. *G. E. O.* [A very pretty story certainly, but how much of it is true?]

*Figs Casting their Fruit.*—In replying last week to your correspondent "J. C. N.," you seem to doubt if any reason can be given for Figs casting their fruit, stating that the same gardeners treating Figs in the same way sometimes lose the fruit, and sometimes not. May it not be because sometimes they smoke their houses at the important period of caprification, and sometimes they do not? Should they happen to smoke just at that time they kill the Fig fly (I do not know its scientific name), the interior blossom thus remaining unfertilised, and the Fig as a consequence falling off. I always see this fly on my Fig trees. It is thin-bodied, something like a cheese fly, this slender form enabling it to creep through the small orifice at the large end of the Fig, and thus assist in the interior fertilisation. *J. R.* [Has this been observed by others?]

*The Royal Wedding Day.*—As one of your Correspondents suggested the planting of memorial trees on the Prince of Wales's marriage day, I see by the *Western Times*, that the firms of Messrs. Lucombe, Pince & Co. and Messrs. Veitch, have given to the citizens of Exeter three magnificent specimens of Conifers, which were duly planted by the Mayor, the ex-Mayor, and High Sheriff. The first planted was a fine specimen of Picea Nordmanniana, contributed by Messrs. Lucombe, Pince & Co., and named the "Queen's Tree," which was duly christened from a Victoria Vase won by Mr. Pince many years since. The next was a magnificent plant of Wellingtonia gigantea, contributed by Messrs. Veitch & Son, and named the "Prince of Wales's tree." The last a splendid specimen of Cedrus Deodara, contributed by Messrs. Lucombe, Pince & Co., and named the "Princess of Wales's Tree." These three trees were planted with much ceremony, and amid great rejoicings, in the Bury Meadow, a pleasure ground adjoining the City of Exeter. *G. Toll, Pendlebury, Manchester.*

*Aëration of Leaves and Lean-to Orchard Houses.*—At p. 222 I observe that Mr. Cocks dissents from my opinion, that lean-to houses require low lateral ventilation, back and front. If I were inclined to trust to my own experience of a lean-to forcing-house, and to state, as I can with truth, that I have Peaches and Nectarines well set with fruit in houses that have only been ventilated in front, and neither in the back wall or roof, and to allow this to be applied to common orchard-houses, I should grievously mislead your readers. In the cool months of early spring the air is so dense that very moderate ventilation is required in a house in which forcing is carried on. At that season it matters but little how the outer air is admitted, for by its density it rushes in, even at a small aperture, becomes rarified, dilates, and soon fills the whole house. An analogous case may be stated. If the door of a large heated room opening into a cold hall be opened only for a few minutes, the cool air at once fills the room, and is felt at all parts of it. This is just the case in early spring when the ventilators of a forcing house are opened, and not only in early spring, for as long as fire heat is used in a house, so much does the density of the outer air differ from that in the house that any common mode of ventilation will answer; for if it is admitted from above it falls at once, and as it becomes heated it rises, and thus gives to the under surfaces of the leaves that on which they live and breathe—fresh air. Mr. Cocks, in his haste to set us all right, calls aërating the under surfaces of the leaves a "wild notion." Surely he has not looked into, nor thought maturely of, the wonderful works of Nature to be seen in every garden and field. Let him then examine a blade of Wheat, or a blade of grass, or the leaves of the trees of the field; in the former two he will find the under surface differing widely from the upper, and so formed evidently for a wise purpose. There is the concave surface next to the earth crowded with stomata to catch and drink in, if I may so express it, the constant supply of fresh air they derive from the unceasing radiation of the earth. It is the same with the leaves of our vegetables and trees: the concave surface to catch radiation, the mouths to breathe the fresh air thus carried to them. This is all wonderful and beautiful. It may be a "wild notion," but on this I have built my theory, strengthened every year by practice, that orchard houses in which fire heat is not used require low lateral ventilation, after the method I have already described in your columns (p. 198). The only failures I have seen in orchard house culture have been in houses built against high brick walls with no back ventilation: so that in a house 12 or 15 feet wide, during the summer months, when there is often but little difference in the density of the inner and outer air, the air admitted in the front part only has not force enough to make its way fully across the house, and even if abundant, the trees near the front can alone be kept in health, while those on the back border—supposing the house to have a central path and two borders—will be suffocated and constantly attacked by red spider and aphides. I am quite willing to admit that very narrow lean-to houses against high brick walls, if with large ventilating sashes in front and openings at the top of the roof, may and do answer, for if I remember correctly the houses at Trentham, only 5 feet wide, thus ventilated, have seldom failed: the trees, whether potted or trained as espaliers, being in front, and also trained to the back walls. In these narrow houses a very small amount of sunshine rarifies the air so that the dense outer air rushes in, impinges against the back wall, rises rapidly, and in so doing aërates the under surfaces of the leaves of the trees. It is therefore possible—I am sorry thus to impugn the statement of Mr. C.—to aërate "one surface of a leaf more than the other." It follows as a natural consequence—it is the law of Nature; and although we gardeners are apt to think too highly of our abilities because we can grow a bunch of Muscat Grapes so as to bear a faint resemblance to such as are grown in Sicily or the south of Spain, we must to a certain extent obey her laws—assist her, but not deride her. *T. R.*

## Societies.

ROYAL HORTICULTURAL: *Mar.* 18 (*Second Spring Meeting*).—Although 8° of frost were registered in the neighbourhood of London on the morning on which this Show took place, and the City itself and its suburbs were enveloped in dense fog, yet such an assemblage of gay flowering plants as were produced on the occasion has seldom before been witnessed at so early a period. Hyacinths and Tulips especially were furnished in unusual abundance.

Of Camellias the best examples came from Messrs. Veitch, who contributed in the class of three plants, well-grown bushes of Countess of Orkney, a beautiful light kind; Général Lafayette and Valtevaredo, both good red sorts. The same firm also furnished a well grown specimen of Princesse Baciocchi, also a well formed red variety. From Mr. Salter, of Hammersmith, came a tall pyramidal plant of Elegans. In the class of six plants Messrs. Veitch showed Madame Lebois, red; Fimbriata; Comte de Paris, delicate pink shaded with rose; Bella di Firenze, red striped with white; Old Double White, and Teutonia rosea. From the same collection were also exhibited in the class of four plants, beautiful examples of Amelia Benucci, red; Alexina, white striped and shaded with pink; Double White, and Triompho di Loddi, the last a carnation-striped white. From Mr. Halley, of Blackheath, came Countess of Orkney, Elegans, Imbricata, Optima, Amabilis, and Carminata. In a collection from Mr. Standish, of Bagshot, were Sarah Frost, a red striped with white, of remarkably fine shape; Contessa Lavinia Maggi, a charming new carnation-striped variety; Duchesse de Berri, a beautiful white; and a flesh-coloured sort called Queen of Beauty. Messrs. Lee showed the handsome Contessa Lavinia Maggi, another new sort mentioned below, and a box of cut blooms, among which we noticed the fine red kind called Mathotiana. The show of these plants was not, however, what might have been expected.

Among Miscellaneous collections of plants, the best came from Messrs. Veitch, who exhibited various fine varieties of Lycaste Skinneri, Erica triumphans, a kind with large pitcher-shaped white blossoms; the white sweet-scented Rhododendron Sesterianum, a most beautiful specimen of R. jasminiflorum, one or two kinds of Eriostemon, Boronia pinnata, the Holly-leaved Chorozema, the brilliant Azalea Extrani, and the showy Amaryllis called Grand Sultan. From Messrs. Lee came Camellia Prince Albert, a carnation-striped kind, and other sorts; different varieties of Epacris, Acacia Drummondii, Andromeda floribunda, Hederoma tulipiferum, well furnished with pretty carnation-striped Tulip-shaped blossoms; the charming little Azalea amœna, Heaths of different sorts, Amaryllis, Eriostemons, and Tropæolums. A collection from Mr. Bull, of King's Road, Chelsea, was remarkable chiefly for fine foliaged plants, among which were Palms, Dracænas, the deep green ample leaved Anthurium acaule, Cibotium princeps and other Ferns, Araucarias, and Massonia cannæfolia. From the same exhibitor also came Camellia Empress Eugénie, a delicate pink kind, flushed with rose. Messrs. Arthur Henderson & Co. sent the showy flame-coloured Epacris, called Viscountess Hill. Cyclamens came from Messrs. Smith, of Dulwich, who also sent the singular bronzy-leaved Alocasia metallica, the variegated Cyperus alternifolius, Platycerium grande, Eriocnema marmoratum, and other plants.

Of Amaryllises Messrs. Cutbush had a good collection, in which the most conspicuous were Eclatante, a large white-striped red, and Charles Dickens.

From Mr. Daniels came a boxful of Bougainvillæa speciosa; but it was unfortunately not in good condition, having apparently been injured in travelling.

Mr. Taylor, gr. to C. A. Hanbury, Esq., East Barnet, contributed six plants of the pretty Primula denticulata, a plant not half so much grown as it ought to be. For greenhouse decoration during the early spring months it is invaluable.

Roses, as might be expected after so favourable a winter, were in excellent condition, and beautiful boxes of them came from Mr. Wm. Paul and Messrs. Paul & Son. Among the kinds were the new variety called John Hopper, in excellent condition; also President; Chas. Lefebre, deep crimson; Madame Falcot, said to be an improvement on Safranot; Prince Camille de Rohan, a new dark kind; Madame de St. Joseph, Devoniensis, and Reine des Violettes, the last, owing to its peculiar colour, forming a fine contrast with its associates.

Among Tree Mignonettes were some extraordinary specimens, especially three from Lord Londesborough's gardener at Tadcaster. These stood at least 5 feet in height, their stems being 3 feet and their heads 2 feet one way and as much the other. Though somewhat stiff-looking they were perfect specimens of skilful cultivation. Smaller plants considerably, but beautifully in bloom and in free growth, came from Mr. Holloway, gr. to R. Dobree, Esq., of Walthamstow; and specimens trained pyramidally were exhibited by Mr. Morrison and T. D. Shafto, Esq., Hunton, Kent. These were about 3 feet in height, and well furnished with foliage and flowers from top to bottom.

Of the display of Hyacinths too much can scarcely be said. They filled a table 150 feet in length, five rows deep. The hero of the day was Mr. Wm. Paul, who carried off first prizes in all classes. His 18 were models of fine growth. They consisted of Lord Wellington, a double variety shown in great perfection; Haydn, Snowball, Von Schiller, Marie, Duc de Malakoff, Grandeur à Merveille, Mont Blanc, Cavaignac, Florence Nightingale, Macaulay, Baron Von Tuyll, General Havelock, Solfaterre, Ornement de la Nature, Grand Lilas and Koh-i-noor; the last, perhaps, the most perfect specimen of the kind ever exhibited, and the admiration of all who saw it; its spike of bloom could not measure less than 8 inches in length. Messrs. Cutbush also furnished beautiful plants both in this class, and in that of the 100 kinds. The sorts of which these exhibitions consisted were not different from those named at p. 198. Messrs. Carstairs sent from Edinburgh a well-grown collection in small deep pots with very little rim—just the kind of pot most suitable for placing in drawing-room jardiniers. Some good collections were also contributed by amateurs.

Of new kinds of Hyacinth Mr. Wm. Paul had Macaulay, red, shaded with rose; Duc de Malakoff, fawn; Haydn, plum, shaded with violet; Florence Nightingale, delicate pink; Koh-i-noor, in the way of Macaulay; and Snowball, a good white with close spike and excellent petal. Messrs. Cutbush furnished Prince of Orange, pink striped with red; San Francisco, a good clear yellow; Feruk Khan, deep blue; Fair Maid of Denmark, white, but as shown somewhat loose in the spike; and Rouge Eclatante, deep crimson.

Tulips were not seen to advantage; for the day being dull they did not open. A very fine collection of them was shown by Messrs. Cutbush, and some good groups also came from amateurs. Among the varieties we did not find any that have not been named by us on former occasions.

Of Rhododendrons, Messrs. Veitch showed a fine specimen of an improved variety of Smithii; and Mr. Young, gr. to R. Barclay, Esq., of Highgate, a small plant of Blandyanum.

Among the subjects exhibited before the Floral Committee, perhaps the most important was one of Mr. Fortune's Japanese Skimmias, which is said to be the true S. japonica. It is a larger and freer-growing plant than the very ornamental shrub which now bears this name in our gardens, and is clothed with clean-looking smooth elliptic-lanceolate leaves, and has the branches terminated by larger thyrsoid panicles of small greenish sweet scented flowers. If these are succeeded by high-coloured berries, as in its near relative, which there seems no reason to doubt, though we understand Mr. Fortune could not afford any information on this point, it will be a most valuable acquisition to our hardy shrubs; but even independent of these it is to be regarded as a first class evergreen for its foliage alone, and such no doubt was the opinion of the Committee, for a First-class Certificate was awarded to it. Another very interesting exhibition from the same source was the green leaved or true Aucuba japonica, a female plant, loaded with flowers, and accompanied by a small male plant of the blotched-leaved variety, both recent importations from Japan. We may therefore hope to see ere long an Aucuba bush laden with perfect specimens of its handsome and highly coloured fruits. A very elegant stove plant called Pandanus elegantissimus, was exhibited both by Messrs. Veitch & Son, and Mr. Bull, and this also received a First-class Certificate. It has narrow arching green leaves, the edges and keel of which are decorated by rows of red teeth. Messrs. Veitch also exhibited a garden hybrid Rhododendron called Romain de Smet, as a variety useful for its forcing qualities; its flowers are blush, spotted equally and freely on all the segments with black dots; this was Commended. The same variety was shown by Messrs. Lee. Mr. Bull produced an interesting panfull of the elegant little dimorphous Trichomanes (or Fées) spicatum, to which a First-class Certificate was given. A very pretty flesh-coloured cupped-flowered Camellia called Napoleon III. was shown by Messrs. Lee, and obtained a Commendation; a similar award was given to a remarkably showy deep crimson Cineraria called John Spencer, from Mr. Turner. The double white Azalea called Flag of Truce was sent in abundance, and in capital condition, by Messrs. F. & A. Smith, of Dulwich, who also sent several plants of the fine strain of double red and white Chinese Primroses, raised from seeds of the

plants shown by them last season. Both these exhibitors received Special Certificates. This Azalea proves to be a much finer thing than when shown last year, and the Primulas well maintain their character for doubleness. From Mr. Mills, of Ealing, came a very promising China Rose, raised from Mrs. Bosanquet, which was recommended to be shown again when the season was more advanced. M. Jean Verschaffelt, of Ghent, sent a small plant of the high-coloured double-flowered salmon and white Azalea called Souvenir du Prince Albert, not however in good condition. A tall straggling plant of the Hebeclinium macrophyllum, with immense cordate leaves, and large corymbs of reddish-lilac flowers, said to be well adapted for summer gardens in the climate of France, but apparently not suited for out-door gardening in this country, and too coarse for indoor planting, came from Messrs. Henderson & Co., of the Pine Apple Nursery. Messrs. Dobson sent a group of a showy Magenta Cineraria, called Conqueror, and several other seedlings.

## Notices of Books.

The second number of *Seemann's Journal of Botany* (Hardwicke), contains a figure of a new Podocarpus like plant, with pinnated leaves, from the Feejees; some very excellent reports on Cinchona cultivation in India by McIvor, Thwaites and other practical men; and a good deal of interesting miscellaneous information.

The *Botanical Magazine* for March contains a reduced sketch of the entire plant, and a double plate showing the cone-like inflorescence of the most remarkable of all known vegetation, the African *Welwitschia mirabilis*, of which brief notices have already appeared in our columns. Living plants (though in a dying condition) have been received at Kew, but as to the cultivating of them in our stoves, Sir W. Hooker observes, "we despair of it altogether, as much as we do of rearing the Rafflesia Arnoldi. Climate, soil, and native locality are all against success; yet trials should be made, and no doubt will be made, to raise it from seed, whenever opportunity may offer." For the present, therefore, this vegetable wonder must be considered as lost to our gardens; nevertheless we may well join in the wish that either by means of seeds or plants it may soon again be introduced. We fear, however, that it will prove so unmistakeably ugly, as to make little way amongst cultivators. Only imagine a tree with a trunk 6 feet across, rising but a few inches above the soil, and producing but two or three strap-like leathery leaves, 6 feet or more in length, and a fork-branched cymose inflorescence of scarlet cones, rising scarcely a foot high, and we have a true picture, albeit a not very tempting one from a gardening point of view, of this "mirabilis," which no stretch of fancy would enable us to class even amongst the popular "ornamental-foliage" plants, much less amongst ornamental flowers. Still, it is worth any amount of pains to introduce it, and of care to cultivate it as a veritable curiosity. The other figures consist of:—*Pycnostachys urticifolia*, an African Labiate with an ovate terminal head of deep violet flowers, and nettle-like leaves, sent by Dr. Livingstone to Messrs. Backhouse. The curious form of the corollas gives interest to the plant, which from its fine colour must be ornamental, if of a desirable habit. *Impatiens bicolor*, a suffruticose species from the peak of Fernando Po, remarkable for its two-coloured flowers, crowded in the axils of the upper leaves; the mouth formed of the "lateral sepals" and "vexillum" is white, and the "lip," which is saccate with a blunt incurved tail, is of a deep red purple. *Monochætum Humboldtianum*, "one of the most lovely of Melastomaceous plants," a somewhat slender fruticose species, with square stems, bright green elliptic leaves, and large rich rosy-coloured flowers abundantly produced.

## Garden Memoranda.

MESSRS. CUTBUSH'S EXHIBITION OF HYACINTHS AT HIGHGATE.—This has been open to the public during the past week, and, judging by the freshness and beauty of the flowers, it may, doubtless, yet be inspected for some time to come. Seldom have the plants been finer than they are this year, or the bloom more perfect. Many hundreds of varieties of all shades of colour—reds, blues, blacks, whites, and yellows, are effectively arranged in a lean-to show-house, which at present may be said to be literally a blaze of flower. On a flat table in front are placed all the finer varieties, whose pots are covered with Moss, from among which the flower stalks and leaves issue with excellent effect. Among these we noticed beautiful examples of the new kinds mentioned in another column. Among others not recorded in the list just referred to are Noble par Merite, delicate pink, conspicuously striped with crimson; Cosmos, a fine variety in the way of Macaulay; and Miss Burdett Coutts; the last, though not altogether new, is one of the best whites, its bells being large, of great substance, and nicely arranged on the spike. At the entrance are masses of Amaryllids, Cytisus, Tulips, and Hyacinths, and here and there are vases filled with the same charming mixtures, all of which serve to vary the general appearance and heighten the effect of the exhibition, which is well supported at the back by a stage full of Primroses, Mignonette, Cyclamens, Fairy Roses, Early Tulips and other plants in flower.

## Miscellaneous.

*Sales.*—The following have lately been effected by Mr. Stevens. LILIES:—A small boxful of these, imported from Japan and stated to probably contain rare and valuable sorts, realised upwards of 300*l.* Competition for them was great, and some of the lots fetched as much as 23*l.* each, while none went for less than 25*s.* per lot. CAMELLIAS AND GHENT AZALEAS:—These realised from 5*s.* to 10*s.* per lot of 6 plants each. ROSES:—Standards fetched from 9*s.* to 18*s.* per dozen; Moss varieties, 4*s.* to 5*s.* per bundle; and ordinary dwarf bushy plants, from 7*s.* to 10*s.* per bundle. CARNATIONS AND PICOTEES:—the finest named yellows fetched from 9*s.* to 14*s.* per lot of 12 pairs. PEAR TREES:—A consignment from France, consisting of standards from 10 feet to 12 feet in height, realised from 4*s.* to 5*s.* per lot of 10 plants each. CONIFER SEEDS:—That of Abies Nordmanniana, Pattoniana, grandis, amabilis, &c., fetched from 1*l.* to 2*l.* per oz.; and packets of similar weight of clean seed of Wellingtonia from 2*l.* to 2*l.* 10*s.* per packet.

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &C.—This house should now be gay with Camellias, spring bulbs, and other early flowering plants. Stock exhausted by forcing should be placed in a pit or frame by itself to regain its lost vigour. A bottom heat of 80° with frequent syringings will in due time restore it to perfect health and put it in proper order for another campaign. Orchids should now be allowed a slight advance in temperature, and if this can be effected by shutting up early in the afternoon, so much the better. Fuchsias in mixed greenhouses and pits will be benefited by frequent applications of weak manure water. Cinerarias for late blooming may now receive a shift, and see that they are properly supplied with water at the root, as nothing conduces more to the establishment of ill health than suffering plants to become checked through drought. Follow up matters of propagation, and see that cuttings and young stock are carefully shaded when necessary.

### FORCING DEPARTMENT.

PINERY.—It is to be hoped that the cautions so oft-repeated about root-burning have been sedulously attended to. It is absolutely impossible to attain even a moderate share of success where this sad evil is allowed to take place; over-excitement of this kind tends, amongst other evils, to greatly increase the crown.

VINERIES.—Thinning and shoulder-tying being finished in early Vineries, little is necessary to be done, except to pursue an even course in regard to heat and atmospheric moisture. See that all the principal leaves, on which so much depends, have fair play as to a free exposure to light, and endeavour to prevent their coming in contact with the glass. Follow up stopping, more especially with the grosser shoots, and allow lower branches to ramble a little, to equalise the sap. Late Vines as before; keep the wood moistened at least twice a day.

PEACH HOUSES.—Early fruit will in many cases be stoning. Remember that this process will not bear pushing. If such be attempted, the trees will cast their fruit. See that young wood is carefully trained to the trellis; this is a most important point at all times. The true way to accelerate the ripening period is to endeavour by all means to promote the healthy secretions of the plant. No plant requires more sunlight than the Peach, and abortive blossoms commonly spring from inattention to the summer training.

FIGS, CHERRIES, &C.—More Figs are lost through drought than by any other evil. A constantly moist state of the soil is indispensable to their success, when confined in boxes or pots. They succeed admirably when a pit of leaves in a state of fermentation can be given up to them. Plunged in a bottom-heat of 70° or 75°, in this way, and allowed to ramble at the root, with close stopping in the wood, and a humid atmosphere of 65° or 70°, they will be everything that can be desired.

STRAWBERRIES as before.

CUCUMBERS AND MELONS.—Get out successional crops, if not done. Take every precaution to avoid burning at the roots. To this end, when making the hills for them, form a hole three parts the depth of the bed in the centre of each light; half fill it with raw turf chopped slightly, and on this place the compost for the hills. Never finally soil over the beds until all danger from burning is past, and then only half at a time, taking care that the linings are in good order at that period, or an injurious depression of the temperature will suddenly take place.

### FLOWER GARDEN AND SHRUBBERIES.

This is an excellent time to sow a good collection of Annuals, whether hardy or tender. For the latter, a slight hotbed is requisite. The more choice hardy Annuals should be sown in patches, and covered with a garden pot, taking care to remove it when they are coming up in the day time, covering them again at night. If any unimportant shrubbery borders require a little gaiety, and business presses, a mixture of some of the hardier sorts, such as Collinsias, Clarkias, Malopes, Larkspurs, and Candytufts, might be made, and strewed at random over the open parts of the border, after a thorough cleaning. Dahlias should be increased without delay, and an early batch of Chrysanthemum cuttings or suckers put out. Lobelias should be potted, and put into a dung bed. German and Ten-week Stocks should be sown in fresh soil, in a cold frame, or one that will soon cool down; and a few early German Asters on a slight heat. Let walks in ill condition be turned forthwith, and fresh coated with gravel, filling them nearly brimful; they harmonise better with the surrounding scenery than when deep.

### KITCHEN GARDEN AND ORCHARD.

Proceed with the business indicated in former Calendars. In Asparagus planting it is of the utmost importance to give every attention to a proper rotation of crops. Where Celery is grown in what are called Scotch beds, the latter make capital Asparagus ground. The preparation consists in trenching it much deeper than the rest, and in burying a considerable quantity of raw vegetable matter in the bottom of the trench; old refuse, vegetables, Cabbage stalks, weeds, or what is very good (if it can be obtained) half-rotten leaves with which some little manure has been blended for linings in the previous year. The upper part of the beds has some rotten manure of course for the Celery. In taking up the Celery for use, the bed is broken up a great depth, and the alleys with it, and thrown into a ridge, which ridge remains fallow until planting time, when it is merely levelled down. It should not be planted until the early part of next month.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending March 18, 1868, as observed at the Horticultural Gardens.

| March. | Moon's Age. | Barometer. Max. | Barometer. Min | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth. 1 foot deep. | Of the Earth. 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 12 | ☾ | 29.423 | 29.069 | 51 | 27 | 39.0 | 43½ | 43 | S.E. | .04 |
| Friday 13 | 23 | 29.401 | 29.237 | 56 | 23 | 39.5 | 44 | 43 | W. | .00 |
| Satur 14 | 24 | 29.478 | 29.289 | 51 | 30 | 40.5 | 44 | 43½ | S. | .16 |
| Sunday 15 | 25 | 29.403 | 29.170 | 50 | 31 | 4.0 | 44 | 43 | N.E. | .03 |
| Mon. 16 | 26 | 29.985 | 29.780 | 49 | 32 | 40.5 | 44 | 43½ | N.E. | .01 |
| Tues. 17 | 27 | 30.161 | 30.143 | 48 | 21 | 34.5 | 44 | 43 | N. | .00 |
| Wed. 18 | 28 | 29.975 | 29.914 | 49 | 32 | 40.5 | 43 | 43½ | N.W. | .00 |
| Average. | | 29.689 | 29.514 | 50.5 | 28.4 | 39.5 | 43.8 | 43.2 | | .25 |

March 12—Uniformly overcast; rain; slight fog and frost.
— 13—Fine; very fine; masses of low white clouds; sharp frost.
— 14—Dense fog, fine, low dusky white clouds; rain.
— 15—Overcast; fine; rain at night.
— 16—Overcast; slight showers; cloudy; rather boisterous; fine.
— 17—Clear and cold; dusky and snow-like clouds; sharp frost.
— 18—Frosty; fine; cloudy; fine, but cold.
Mean temperature of the week, 3 deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending March 28, 1868.

| March. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 22.. | 50.4 | 31.5 | 42.5 | 18 | 0.44 in | 7 | 3 | 4 | 2 | 4 | 3 | 5 | 4 |
| Mon. 23.. | 50.5 | 33.8 | 42.1 | 16 | 0.60 | 6 | 6 | 1 | 2 | 1 | 12 | 4 | 4 |
| Tues. 24.. | 50.8 | 32.2 | 41.5 | 13 | 0.13 | 4 | 5 | 4 | — | 4 | 6 | 8 | 6 |
| Wed. 25.. | 50.6 | 32.9 | 41.8 | 13 | 0.50 | 3 | 10 | 5 | — | 2 | 5 | 7 | 5 |
| Thurs. 26.. | 51.9 | 32.5 | 42.2 | 14 | 0.17 | — | 7 | 4 | 2 | 5 | 6 | 6 | 7 |
| Friday 27.. | 54.0 | 34.6 | 44.3 | 13 | 0.37 | 2 | 7 | 4 | 2 | 3 | 7 | 10 | 2 |
| Satur 28.. | 53.2 | 34.1 | 43.6 | 15 | 0.68 | 4 | 7 | 6 | 2 | 2 | 6 | 7 | 3 |

The highest temperature during the above period occurred on the 27th, 1839—therm. 75 deg.; and the lowest on the 25th, 1850—therm. 14 deg.

## Notices to Correspondents.

ANTS: *Amateur*. We really cannot say. It is difficult to keep them away by any process short of killing them, which may be done by boiling water, provided you can get at them without doing injury to the contents of the bed. The Cauliflower leaves are more likely to have been eaten by wood-lice.

FIG-TREE: *Hortus ubi*. We cannot account for your tree under glass losing its leading shoots, inasmuch as the winter has not been severe enough to injure those which are fully exposed; unless, indeed, you kept it in an excited and unripened condition too late in the autumn, and its soft watery shoots, owing to their immature condition, have been injured by the one or two sharpish frosts we have experienced.

INSECTS: *T S P*. Velia rivulorum in the apterous state. Look sharp for the rarer winged specimens. *W.*

LAW: *A Z*. We make it a general rule not to answer questions on this subject, nevertheless we think your question one, which being uncommon, should form an exception to the rule. You ask whether—"If a person rents a house from year to year and receives notice to quit at the expiration of a year, can the tenant upon leaving the premises take away a stock of first-class hybrid perpetual Roses or Rhododendrons, he having been at the expense of buying the selection himself, or do they fall to the portion of the landlord, the same as forest trees or fruit trees." We fear they do; but it does not appear that the question has ever been tried in a court of law. Why not try it yourself? If they really do fall to the landlord the law is very absurd. They are mere ornaments, and should be regarded as such, not as forest trees.

NAMES OF PLANTS: *W T T*. Notylia punctata.—*A C*. 1, Maxillaria uniflora; 2, Some Dendrobium quite shrivelled up.

PEAT EARTH: *Hortus ubi*. Your best course would be to apply for samples to those who do advertise this article, or who have done so. You will get ample choice if you do so, even though it may not be exactly the material about which you inquire. Some of the leading nurserymen supply the best kind of selected peat for particular purposes.

PELARGONIUMS: *Old Subscriber*. Your scarlet Pelargoniums are most probably in an unhealthy condition at the root, from being placed in unsuitable soil, or from being kept too wet, or even from having stood in an unfavourable position, where they were too cold and moist during winter. If so, the best remedy is to shake them out, repot them in good fresh porous soil not manured, and give them the advantage of a mild moist heat to start them fairly. We cannot, without knowing all the facts, suggest a better remedy.

VARIEGATED CORONILLA: *R L*, who inquires whether it is not a very unusual thing for Coronilla glauca to be variegated, and who has a fine plant raised from seed last year, of which many of the shoots are quite white and others variegated, is informed that there is a distinctly variegated variety of this Coronilla, not uncommon in cultivation. "R L.'s" plant may be from seed obtained from this source. If not, it is just a sport, as the one we have alluded to was originally. Of course the white parts cannot be perpetuated or kept for any length of time, independent of the green parts.

ZOOPHYTES: *J T*. Zoophytes are animals resembling plants in their manner of growth.

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Mixtures for Uplands and Sheepwalks ... per acre, 22s. to 30s.
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| RYE GRASS. per bush.—s. d. | | CLOVERS. Per lb.—s. d. | | MANGEL WURZEL. Per lb.—s. d. | | SWEDES. Per lb.—s. d. | | OTHER TURNIPS. Per lb.—s. d. | | CARROTS. Per lb.—s. d. | |
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OF

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The above sorts are all fine new Seed, and have been proved to grow well.

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SUTTON'S LARGE YELLOW GLOBE; saved from large roots, selected for their solidity and excellence of shape. A very heavy cropper, and thrives in all soils. This is also the hardiest Mangel known. (*The first Prize Medal was awarded to us for this sort at the Great International Exhibition of Roots and Cereals in October last*) ... 0 8

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The advantages of which have been proved for several years past,

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These are not mere Testimonials in the ordinary acceptation of that term, but show distinctly that the Seeds which Messrs. SUTTON have had grown from large selected Bulbs are altogether superior in germinating properties, and in the quality and trueness of their produce, to the Seed raised in the usual manner.

F. H. FRERE, Esq., *Cambridge, Editor of the Royal Agricultural Society's Journal.*

"I write to say how well satisfied I am with the Mangel seed that you furnished me with in the late trying season. It was tried on one-half of two fields, the one strong, the other light land, the other portions being sown with seed bought of a respectable local dealer. On the strong land your seed gave me a decidedly better plant—on the light land three or four times as many plants as the other dealer's seed."

*From* MR. GRAY, *Bailiff to* G. RAWLINS, Esq., *Bullington House.*

"I believe we had one of the finest lots of Mangels and Swedes in the country. We had not quite enough of your seed of Mangel, and *sent elsewhere for some to finish the field, and though sown the same day and with exactly similar treatment, we had not so much weight by one third as on the part sown with your seed.*"

*From the* Right Hon. Lord BERWICK, *Cronkhill.*

"Let me have the same Globe Mangel as last year, which has given me the best crop I ever grew; good both as to bulk of crop, and also in the fineness of roots and freedom from fangs and irregular growth; when pulled, the roots were nearly as clean and free from fibre as a Globe Turnip, and I had 50 loads per acre and more."

*From* GEORGE BEAUMONT, Esq., *Bridgeford Hill, near Nottingham.*

"We have had 4 acres of Mangel (Yellow Globe), three of which were sown with your seed, and one acre with seed grown in this neighbourhood. I am quite sure your seed produced from 8 to 10 tons per acre more than the other. I had nearly an acre weighed (from your seed), and found we had 55½ tons per acre."

Many PRIZES at Birmingham and other Shows throughout the Kingdom have been taken by Messrs SUTTON'S Customers, both for MANGEL and for SWEDES.

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PROFESSOR BROWN, VETERINARY INSPECTOR to the Bath and West of England Agricultural Society, 13 years Lecturer on Veterinary Surgery at the Agricultural College, may be consulted on Diseases of Horses, Cattle, Sheep, Dogs, &c.
Infirmary, White Horse Yard, New Cavendish Street, Portland Place, W.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.
STOCK and IMPLEMENT PRIZE SHEETS are now ready, and will be forwarded on application to
H. HALL DARE, Secretary.
12, Hanover Square, London, W.



# The Agricultural Gazette.

*SATURDAY, MARCH* 21, 1863.


THE theorist will tell you that plants obtain their food dissolved in water, which takes up those soluble parts of the soil which they need, and being sucked in by their roots introduces carbon, oxygen, nitrogen, hydrogen, phosphorus, chlorine, soda, potash, and all the other elements they require. He will also tell you that the soluble parts of the soil alone being food for plants, and the soil a thin layer, spread so thinly over the country and there washed annually by eight or ten times its quantity of so powerful a solvent as rain water is, you may wonder how it is a year's rainfall does not destroy fertility.

He has told you in the lately published Blue Book of evidence taken before the Sewage Committee of the House of Commons, that water is by itself worth any money as a fertiliser; that, let alone the fertilising ingredients it contains, it would often pay the farmer well to pay for water "pure and simple" to be pumped upon his crops,

his Grass lands, and his corn. And in the same publication he has told you that the reason why sewage does not realise upon the land all the promises of chemists who have analysed it is that it is too much diluted with mere water. He will tell you that the only probable solution of the difficulties of turning the waste of our villages and towns to agricultural account is by employing water as a carrier to the field; and he will tell you that earth is the true deodoriser, and that earth closets, not water closets, are what every true economist will advocate.

Opinions thus are various enough, and various as they are, practice can be quoted for them all, and every one of them may be defended by experience.

Water sometimes saves a crop and it sometimes mars a crop—it will carry a manure sometimes safely and sometimes wastefully—water drills and dry drills both have experienced advocates—floods and droughts are equally mischievous. Water sometimes feeds a crop and sometimes starves a crop; it will sometimes warm the roots of plants, and they will sometimes perish from the cold which is due to it—and agricultural experience is a medley from which facts may be quoted in defence of any extravagance you may choose to utter. And after each of them has been "proved," another theorist with a somewhat wider range of view shall come and reconcile them all by reference to such circumstances as time, and quantity, and degree, which have far more influence than men of merely one idea are willing to admit.

The English Agricultural Society have lately done a good deal to the discussion of many of these various aspects of the relation of water to the farmer. In the current volume of their Journal we have Mr. LAWES discoursing upon the difficulties of the sewage question, and Mr. MOULE writing on the merits of earth as the best conveyer of fertilising matter to the soil. And at last Wednesday's meeting of the Society in Hanover Square, Mr. DENTON discoursed of the advantages of land drainage. The truth is that the habits of our plants require to be consulted by the men who grow them—one of succulent growth needs a constant soaking; another, yielding seed, requires two or three months' drought. And then, again, water is mischievous or not according as it is stagnant in the soil or circulating through it.

The former of these conditions is enough to account for one half the difference of opinion which exists, and the latter will explain the rest.

The former gives, indeed, the only explanation which seems possible of what we learned last Wednesday—that Grass-land farmers on the London clay still object to under-drainage, on the score that it will diminish produce. Mr. LAWES, who writes on Grass lands in the current Number of the Agricultural Society's Journal, has taught us how perfectly the plants of our pastures are amenable to treatment—how plants disappear or "come," according to the food supplied to them. And it may very easily be that so great a change as land drainage should in the first instance destroy much herbage capable of great produce in the former state of the land, and that its first effect should be to diminish the annual yield of Grass. Other and better plants will however take the place of the aquatic growth—and Grass lands are in the long run no exception to the rule that land drainage increases the value of farm produce.

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THE volume just published of the English Agricultural Society's Journal—chiefly noticeable according to a contemporary for the absence of practical agriculturists from the list of its contributors — fairly illustrates and justifies the remarks made in these columns when its present Editor received his appointment. "The Committee," it was said, "on whom the responsibility of this appointment rests, seem to have assumed that it is the business of an agricultural editor to teach the farmers who may read his pages; and an acquaintance with the agricultural literature of other countries and of other ages has thus been held indispensable."—"Mr. FRERE, however," it was added, "will succeed in the discharge of his duties in proportion, not as he brings the maxims of French, of German, of Italian, or of Roman agriculture to bear upon his readers—not as he uses any influence from without to modify the practice of the English farmer, but just as he shall succeed in inducing and enabling English agriculturists to teach each other. Whether a man so entirely unknown to the body over whom an influence of this kind ought to be exerted in the Journal be the best fitted successfully to wield it, may be doubted."

The history of the Journal during its present editorship, though it bears ample testimony to the earnest and laborious exertions of the Editor, has not removed this doubt. As to the current Number of the work, not only is there nothing whatever in it from the pen of the experienced tenant farmer, but one-third of it is filled with accounts of French and of Italian agriculture. The whole effort of the Editor appears, indeed, to have been brought to bear on that very enforcement from without of continental practice and continental maxims which was deprecated on his appointment. No attempt has been made, or if made it has been fruitless, to present the corresponding picture, so much more useful, of English agricultural success, or of English agricultural experience.

The Journal has now for several years been silent on steam cultivation. Excepting by the scanty and altogether inadequate report of the Farningham trials, and of other annual adjudications, we know nothing whatever from its pages of the progress of our agricultural machinery. Cultivation by steam power, reaping and mowing by horse power, have been left for their progress and achievements altogether to private enterprise. Of course, if that will not ensure their success no external patronage will do it; but if is the very purpose of agricultural publications to stimulate this private enterprise by publishing its results. These, however, have been left altogether unsung, and instead of them we have the praises of the French method of silver cups and money payments presented by the Government for "remarkable agricultural results," declared by juries which are "moved by pleasant pictures"—of "mutual confidence"—"of family devotion and union," &c., &c.

All this is utterly beside the questions which arable and dairy farmers are anxiously asking here. Is steam-ploughing economical?—is the mowing machine profitable? Let a good jury answer questions like these, and we will thank them—and when business is over, we may have leisure for the due appreciation and enjoyment of any sentiment, generous, pathetic, or what not, picked up in the course of their duties: but it is the custom in this country to "let business be business," and to do one thing at a time.

We venture to submit that a few pictures such as we this day give of an English farm, drawn up in the greater detail which a portly octavo volume would enable, would have been more instructive to English readers, and more suggestive of how success is to be achieved by others, than the scanty records of French enterprise which are here collected in honour of the French system of Government patronage and reward.

We entirely agree with what is said in the well written opening sentences of Mr. FRERE's statement, nevertheless there is an easy possibility of having "Russian pass books for labourers," and French farm practice with the methods by which its improvement is encouraged, and even Italian irrigation, too much urged on English agricultural readers. And if these exclude the account which ought to be rendered of English practice, and experience, and improvements, no one will say —thanks.

As to the other aspect which Mr. FRERE's appointment to the editorship of the Journal presented at the time—the admitted superiority over all his competitors which a University education had given him—a word or two may be added on what in these pages it has enabled him to do.

We should like to know the opinion now of a leading member of the Journal Committee who was consistent throughout in declaring that an Oxford or a Cambridge man ought to preside over the literary department of the Society's labours—and who accordingly was never more consistent than when he succeeded in appointing Mr. FRERE to that position. Is it in the writings of the present Editor that he will look for that example of pure and lucid English which, read as it is in every country of the world, he desired that the Journal should present? We referred just now to certain well-written sentences from his pen; they are not obedient to the general rule. But as reference is made elsewhere to this subject we must not discuss it further here.*

Certain however it is—there never was a more complete collapse of an exploded idea than has here occurred of that which was urged three years ago, that a university education assuredly enables a man to write good English.

Let us however now leave this subject. Mr. FRERE's papers on French and Italian agriculture, though not of immediate utility, will interest the general reader. His papers on the money value of night soil and on cooperative farms, so far as they are intelligible, are also interesting to the agriculturist; but the main value of the volume hinges on the communications of Dr. VOELCKER, Mr. LAWES, and Mr. MOULE.

The first speaks of top-dressings for Wheat, and of the application of phosphatic manures to root crops. The second contributes valuable and elaborate reports on the effect of manures on the mixed herbage of Grass land, and on the utilisation of town sewage. The third writes on earth *versus* water for the removal and utilisation of excrementitious matter. Besides these we have a short readable essay on Land-agency, by Mr. TUCKETT; and papers on the Supply of Horses adapted to the English army, by Mr. WILKINSON; on Co-operative Farms at Assington, by Mr. GURDON; on the Live Stock Consumption in the Metropolis, by Mr. HERBERT; also short useful fragments from Mr. LAWRENCE, Mr. GURDON, and Mr. FRERE, on Carrot and Cabbage Culture, on Transplanting Mangels, and on the Growth of Barley after Grass. It is to be hoped for those members who read their Journals that these short and directly useful communications may hereafter occupy a larger number of pages. To some of them we shall hereafter direct attention.

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—— THE prizes awarded in the heifer classes at the annual shows of the English Agricultural Society are in every case reserved until the 31st January in the following year, before which the prize animals must have produced live calves, or they become disqualified. It is interesting, as illustrating the effect of the prize system upon young breeding animals, to know in how many cases the preliminary fattening process proves harmless. It appears from the list just published that the Duke of MONTROSE's first prize heifer in the Short-horn class has failed, and that Mr. DOUGLAS's *Queen of Athelstane*, the "reserved number" in that class, has not yet calved. Of Devon heifers, Mr. MERSON's second prize heifer is not in calf. Of Sussex heifers, Mr. HEASMAN's first prize heifer has produced a dead calf. Of "Norfolk and Suffolk" heifers, Lord SONDES' first prize heifer has not yet calved; and similar mishaps are recorded of heifers in the South Wales, Kerry, and Jersey classes.

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## AN EAST SUSSEX DOWN FARM.

ALL along the northern edge of the Sussex Downs, where they touch upon the Weald in the vale below, a great variety of soils exists in immediate neighbourhood. Within the flight of a bullet, and therefore often (indeed generally) between the upper and lower sides of a single farm, there lie the flinty red soil covering the upper level of the down, the thin chalk soil of the steep hill side itself, the light chalky soil at its foot getting gradually more marly and adhesive as you descend, the rich calcareous loam of the upper green sand, the stiff yellow clay of the gault, the free and fertile loam of the lower green sand, and the stoneless soils of various degrees of stiffness and difficulty of tillage which characterise the Wealden district. Where equal energy is applied throughout upon so various a district, one expects to see a variety of management corresponding to such various circumstances: but the bands of land of separate quality are so narrow, and the influence of the Down itself with sheep farming as its leading feature is so predominant, that the whole comes under one style of practice; and if that is quite inapplicable, as to some undrained wet gault clays it necessarily is, these are left almost neglected. The consequence is that all along the lower edge of the well managed chalk district there is a narrow belt where this gault occurs of poor, wet, generally Grass fields, whose ill grazed surface and ill fenced boundaries proclaim neglect. Such fields will rot the sheep which are the main stock of the district, and they are only available for the teams of horses and of oxen which are turned out upon them during the summer months.

The following paper describes one of the farms which stretch nearly throughout the series of soils thus enumerated. It includes 100 acres of level red soil on the hill top, 230 acres or thereabouts of the down itself, some 300 acres of arable land below the hill, of

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* One example out of many must however be permitted. Mr. FRERE wants to teach a plain farmer that "the cost of an article as food is hardly any criterion of its value as manure." He therefore says:—

"Indeed, since the refuse of a product is often in this respect more valuable than the extract, it might almost as well be asserted that the cheaper article had the higher manurial value; the relation of Wheat flour to bran and of oil to oil-cakes being cases in point, of which the former is material to the question before us; since if the value of man's excreta were calculated on the supposed number of bushels of Wheat required for the supply of the population, the sum arrived at would be too high, because that part of the Wheat which has the highest manurial value, viz., the bran, would practically not be consumed by him."

—Read it again!

which about 80 acres are on the stiff gault clay, and 170 acres of pasture and meadow land partly on the green sand and partly on the clay. The farm is managed with 12 horses, worked either in three teams of four each, or four teams of three each, and 20 oxen worked in three teams of six each, and two over for changes.

It is stocked with a flock of about 420 Sussex Down ewes with their produce; and seven or eight cows are kept by which 30 calves are reared and kept till two years old, when they are sold in good condition from the marsh land, of which 50 acres are attached to the farm. These, with a few well bred breeding sows of the small white or Windsor breed, make up the stock.

The chief points to be noted in a history of the farm, are the peculiarities of cropping and arable management, the introduction of Teazel culture to an entirely new district, the economy of ox labour, the growth of the flock, and the rearing and management of calves.

The 100 acres of arable land on the top of the down are managed on the four-field course of cropping, one half being in Oats every year, one quarter in Turnips and Rape, and one quarter in Rye-grass for sheep; this being seeded with 2 bushels of Rye-grass per acre and 6 lbs. of Trefoil and White Clover. Of the 300 acres of arable land below, 100 or thereabouts are Wheat, 50 acres are Oats, 40 are Beans and Peas, 20 are in Rape, 20 in Clover, 20 to 30 are in Teazels, 20 or 30 or thereabouts in bare fallow, 10 or thereabouts in Swedish Turnips, and as much in Mangel Wurzel.

Here we have 190 acres in grain crop, and 20 or 30 in Teazels, all crops sold off the land, against 40 acres in Rape and Swedes and Mangels, 20 acres in Clover, and 30 acres in bare fallow. The cropping is thus exceedingly severe; and that great crops are usually grown notwithstanding, proves that the lower chalk soils are naturally extremely fertile, and that the stiff gault clays prove fertile under good tillage.

The Wheat crop is taken after all the Clover, after all the Beans and Peas, after all the bare fallow, after most of the Rape below the hill, and generally after the Mangel Wurzel. The Oat crop is taken after Wheat, and occasionally after late fed Rape and Turnips, though here it is becoming more and more the practice to take spring or April Wheat in its place. The rest of the Wheat stubble is broken up for Beans or Peas, or for Swedes. The Oat stubble is either in Clover, or is broken up for Rape or Mangel Wurzel. Vetches are occasionally taken also, to be followed by late sown Rape or Turnips.

There is very little of a rotation followed—Wheat, Oats, Beans, Wheat, Rape, Wheat, Clover, Wheat, &c., do on some of the land succeed each other unintermittingly—a portion now and then being planted with Mangel Wurzel, which is then heavily manured. The sheepfold is the great machinery for manuring the land; but bulky crops of straw are fed and trod in yards by oxen, calves, yearlings, and 2-year-olds during winter, and taken out as dung to the lands which are to be in Wheat next year, *i.e.*, as to Clover, Bean stubble, bare fallow, &c. All Wheat is sown either after a direct application of manure or after the sheepfold. The dung cart also goes on the stubbles intended for Rape, Mangel Wurzel, Swedes, or Vetches The Oat and Bean crops taken after Wheat get no manure. On the lighter red soil on the level at the top of the downs, which was broken up 25 years ago, and then received a heavy dressing of chalk, the Turnips and Rape receive 2 or 3 cwt. of superphosphate of lime or 2 quarters of bonedust to the acre, besides a portion of the dung made in the yards up there, where the straw of all the Oats (grown on half the land) is consumed and trodden down by cattle in stalls and courts. The rest of the dung made there goes on the Rye-grass stubble, which has been fed by sheep during the summer, and is broken up for Oats in the autumn.

On the lower chalk and on the green-sand soils, and on the stiff Gault soils, no artificial manures are used. On the last named, of which about 80 acres are arable, the cultivation is either for Teazels, or Wheat, or Beans, or bare fallow. Many fields here are so stiff and intractable that during the wet seasons of 1860 and 1861 they were utterly unmanageable. There are fields here, through which drains 4 feet deep and 7 or 8 yards apart have been dug, out of which no water ever came; they were, in fact utterly useless, and no drainage ensued from the costly operation. Since then drains in the furrows, 30 inches deep, have been placed, and help to make the land somewhat more manageable; but even here, as already said, a wet season utterly disables the cultivator, and there were fields during the past summer then two or three years in fallow, which last autumn were at length planted to Wheat after a long time of neglect enforced by the utterly unmanageable condition of the land.

One cannot help thinking when seeing the 4-horse or 6-ox teams slowly labouring over land of this quality, that there never was a contrivance so adapted to the utter destruction of drainage. The failure of 4-feet drains, which here has been unquestionable, seems sufficiently explained by the mischievous effect of such a trampling, and if the 30-inch or 3-feet drains are to a certain extent effective in spite of this trampling, it must be because they are useful merely for draining off the surface water, which, sinking to the bottom of the ploughing, there rolls along the surface to the furrow and finds its way down through the loosened soil to the drains 18 inches lower.

We believe that if the cultivation of these soils were done by steam power, which would stir the land much deeper than it has ever hitherto been moved, without any poaching of the surface soil in doing it, it would be found that these stiff soils would be drainable by the 4 feet drains, and would thus become fertilised and useful to a much greater depth than hitherto.

As it is, the gault clays yield occasionally good but often scanty crops of Wheat and Beans, with a bare-fallow annually over a great portion of their surface.

*Teazel Culture.*—Till of late years a great portion of the arable clay land here was useless, and the cost of cultivation so far trenched on the produce that this portion of the farm was a tax and burden on the rest. Latterly, however, Teazel culture has been introduced successfully into Sussex upon this farm, where both climate and soil suit the crop as well as anywhere in the island.—For 30 acres of the crop about 10 are sown, some 20 lbs. of seed being scattered per acre in April, and harrowed in upon a single ploughing of a Wheat stubble which has been well harrowed down in spring. The young plants are singled out in autumn about 2 feet apart; and the thinnings are planted out in November over twice as much land which has been ploughed and tilled after a Bean or Wheat crop. The sown crop is dug over shallow between the plants with a long bent narrow spade adapted for surface digging. Several such diggings between the plants, in the first year, and during the growth of the whole crop in the second year, cost in all about 6*l.* per acre.

The harvesting commences in July, and continues for 6 or 8 weeks; the men who do it being continually amongst them, cutting the heads in handsful and hanging the bunches on the plant itself till partly dry. They are then strung on long poles, which are kept in open sheds till the heads are dry. In winter the whole are sorted over and are tied in bunches of 25 each, 20 of which are strung on 3-feet rods, 40 of which make a pack. There are thus 20,000 to a pack of the middling size, which are the best, and of the small heads which are less valuable. The top heads of the plants—generally the largest of the lot—are called "Kings," 9000 of which go to a pack. As many as 8 to 10 packs are not uncommon per acre. And a very large money produce per acre, considering that over two thirds it is the crop of only one year, is thus obtained from land which used to be really valueless. The spade culture of the crop makes the Teazel a capital preparation for Wheat, which is a more certain crop here than even after a fallow, for that is a very uncertain process on these clays.

This, then, is an instance, as already said, of the rarely achieved success which attends an altogether new cultivation. It has however been successful owing to the introduction of an almost entirely new staff of labourers from Gloucestershire accustomed to the management of the crop, which would seem to be a necessary thing, for strange to say, though it has undoubtedly proved a profitable crop upon this farm, an attempt to introduce it on a neighbouring farm has failed. The French seed was first used, and the seed of the crops grown from it has since been used; and a very good sample, the result of a poor stiff soil, seed of a good sort, and a very dry summer climate, has been generally united here with unusual productiveness.

A certain portion of the hazard which attends the culture of the Teazel, has however been experienced even here. A luxuriant growth and magnificent promise of a crop has been once or twice (as elsewhere more frequently has happened) destroyed by a fortnight's rain just at the critical time when the heads are shedding their blossom and should be acquiring the horny tips to the flower cups, which make them useful in the finishing processes of the manufacture of woollen goods. They are worth ½*d.* to ¾*d.* per dozen for this finishing process = 3*l.* 10*s.* to 5*l.* per pack of 20,000. Damp weather immediately before and during harvest rots the heads and destroys them.

There is also another calamity which befalls the crop, the explanation of which probably requires the attention of both chemist and physiologist, whose services must be united whenever any problem connected with the growth of a living plant has to be solved. The difficulty here is the cabbaging of the plant on ground which has several times grown the crop. This "disease" has made its appearance on some of the fields here which appear to have grown the crop with extraordinary luxuriance at first from being entirely new. Experienced Teazel growers declare that when once the liability to "cabbaging" has declared itself in any field, it is useless to risk the crop again. It will certainly come to naught in this way. And it would be interesting to learn what there is either of poison or of deficiency detectable by the chemist in soils thus affected to account for this singular misfortune.

*Details of Arable Management.*—Let us now turn to some of the original peculiarities of management characteristic of the farm and of the district. The above is one of the instances in which the good judgment of the tenant has transplanted with success the management of another county. It was however equally proved by his accepting without hesitation many of the peculiarities of the district to which he came a stranger. On the spring morning when he arrived, some 15 years ago, he was startled at seeing all the oxen on the farm arranged in S fashion on the ground; each, however, walking straight down the hill, over a Wheat field, so as to trample and apparently obliterate the plant, a firm and compact soil being essential to a good crop. This trampling is still continued whenever necessary.

The usual cultivation for Wheat is, after Clover, a single ploughing, if on heavy land; or on lighter soils a scarifying after the second cut, followed by a bastard fallow, which includes two ploughings and the seed furrow. After Beans the land is broad-shared, either by Bentall's tool or by the Kentish turn-wrest plough, armed with a wide chisel-edge share. The land is cleaned and scarified, and when consolidated so as to cut out solid in ploughing, it is ploughed and pressed and sown broadcast. If it cannot be got firm in any other way, it is trod by cattle before ploughing; 10 pair of oxen, each walking straight up and down hill, are arranged S fashion on the field for convenience of guidance and marched up and down, getting over 6 or 8 acres a day. The seed is sown broadcast, 2 to 3 bushels an acre according to the time of the year; and a sack to the acre is still not uncommon in the neighbourhood. The tenant, originally an advocate for thin sowing, has in this case, after numerous experiments, found the best result from 2 bushels to 10 pecks per acre. The average produce of the farm is about 36 bushels an acre, but it has often been 5 quarters. The sorts grown are Morton's *Red-straw White*, sown at all times, spring and autumn; *White Chaff Essex*, a short-strawed Wheat, of good quality; *Golden Drop*, one of our best red Wheats; and the *April* Wheat, a red Wheat, which has latterly come into very general use. Three bushels of it per acre are sown all through April, and often into May, and excellent crops are grown. We saw in October last the last portion of the Wheat crop cut upon the farm on the very edge of the down, and promising over half of it, a very good crop, and over the rest a fair produce. The seed was sown in the former case on the 16th of May, four months and a half before, and on the latter as late as the 26th of May! The young crop is rolled hard or trod in spring, and often fed off with sheep. There is no hoeing, but hand-weeding of Docks and Thistles is practised, and the stubbles are generally clean.

Oats are sown on the Wheat stubble ploughed in autumn, and sown rather late in spring. Six to eight bushels of Black Tartarian Oats are generally sown in the district. On this particular farm the seeding was increased (as the result of experience) from 4 bushels to 6 bushels per acre. The crop will average over a series of years 8 quarters per acre over the whole extent sown; but 10 to 12 quarters are not unfrequent.

Beans are sown on one ploughing of a Wheat stubble, and are drilled in rows 12 inches apart, at the rate of 2 bushels of a small Tick Bean per acre. Swedes are sown to a small extent, in rows 2 feet apart on the flat; and Mangel Wurzels are drilled on the ridge in rows 30 inches apart. In both cases a heavy manuring with farm dung is given. Mangels are a very severe crop upon the land, taken from it as they are and fed in yards. Swedes, too, are very severe in their effect whether fed off or not. Whether it be that their cultivation so loosens the soil as to render it unadapted to the Wheat crop, which seems on these chalky soils to require every possible means of consolidating its seed bed, or not, we cannot say—but we are assured that a Turnip crop is in many cases a perfect "poisoning" of the land, from which it does not soon recover. The principal green crop of the arable land therefore is Rape. It is sown broadcast, ½ a gallon of seed per acre, over a manured and cultivated Wheat and Oat stubble—a succession of seedings during the spring and summer months, being intended to keep the sheep in autumn, winter, and early spring. When sown too thick it is sometimes thinned by passing the harrow over it, but otherwise it receives no cultivation whatever, and produces a large quantity of most useful sheep food at little cost.

*Horse and Ox Labour.*—The cultivation of the crops, the carriage of manure, the harvesting of the hay and corn and Mangel Wurzel crops, marketing, &c., furnish employment for 12 horses and 20 oxen: the former with three men and three boys with an extra man and boy when wanted, at a cost for wages of 13*s.* a week for the man and 3*s.* or 3*s.* 6*d.* for the boys; and the latter with two men and four boys at wages of 13*s.*, 12*s.*, 7*s.*, and 4*s.* respectively. During considerable part of the year of course these men are at other work, and the oxen are in the yards or pastures.

Let us estimate the cost of horse-labour in the first place. The horses each receive 2½ bushels of Oats and ½ bushel of Beans, and one truss of hay weekly for six months of the year, with Wheat chaff *ad lib.* During the summer months they have cut green food in the stable and pasturage, without corn; and they may then be supposed to cost 6*s.* a week a piece, or 7*l.* 16*s.*

in all. During six months of corn feeding they consume 16 sacks of Oats, 13 bushels of Beans, and 13 cwt. of hay apiece, worth 14*l*. 16*s*. The annual cost of food is thus 22*l*. 12*s*. apiece.

| | | | |
|---|---|---|---|
| Food for 12 horses at 22*l*. 12*s*. .. .. .. .. | £271 | 4 | 0 |
| Wages (the extra man and boy sometimes required being repaid by the occasional employment of the carters at other work) .. .. .. .. .. | 128 | 14 | 0 |
| Shoeing, 11*s*. per horse .. .. .. .. .. | 6 | 12 | 0 |
| Saddlers' bill .. .. .. .. .. .. | 14 | 0 | 0 |
| Blacksmiths' .. .. .. .. .. .. | 25 | 0 | 0 |
| Total .. .. .. .. .. | £445 | 10 | 0 |

The horses are worth 40*l*. apiece. Two colts are bred annually, and the stock is thus kept good at no expense, the sales being sufficient to repay the cost of feeding and rearing the colts till three years old, when they are either sold or brought into the teams. The cost of extras is somewhat less in this case than in general, owing to one of the labourers on the farm being a carpenter, and a handy man in other respects, capable of home repairs, which would otherwise be the subject of tradesmen's charges.

Let us now turn to the oxen :—Bought at 15*l*. a piece, and kept three years, they may then if all has gone well, be worth 21*l*. each. The difference must be put to their credit. On the other hand, it is perhaps right that 5*l*. per cent. on their value should be charged annually to meet risk by disease or death. If, therefore, over 20 oxen there is an increase of value equal to 40*l*. a year, on the other hand, 15*l*. to 20*l*. a year must be charged for losses; leaving an annual increase of value of about 22*l*. or 23*l*. in all.

They have 20 acres of pasture and the aftermath of other 20 acres. They get straw during winter, and hay once a day—about 1 cwt. a day to the lot, with a few roots daily—during the spring months. Apparently nothing can be less expensive. But their keep would maintain 3 cows, 20 calves, and 20 yearlings, from which an annual sale of 20 yearlings at 10*l*. each, or from 8*l*. to 9*l*. more than was given for them would take place, producing about 170*l*. a year, at which therefore, the maintenance of the oxen must be valued. We estimate it in this way, because the rearing of calves is one great department of farm management here, and its profits can be fairly stated.

| | £ | *s*. | *d*. |
|---|---|---|---|
| Food of 20 oxen .. .. .. .. .. .. | 170 | 0 | 0 |
| Wages of men and boys for 40 weeks of the year .. | 88 | 0 | 0 |
| Shoeing four times a year, at 1*s*. 6*d*. .. .. .. | 6 | 0 | 0 |
| Harness, &c., probably cost more than .. .. | 3 | 0 | 0 |
| Total .. .. .. .. .. .. | 263 | 0 | 0 |
| Deduct annual increase of value .. .. .. | 23 | 0 | 0 |
| Cost of ox labour .. .. .. .. .. .. | £240 | 0 | 0 |

For this sum you get the use of three teams of six each, and the keep of other two oxen which take their places occasionally in the team. For 445*l*. 10*s*. you get the use of three teams of four horses, or of four teams of three horses each. Twelve horses cost nearly twice as much as 20 oxen. But it is plain that nothing is thereby proved as to the relative cheapness of the work done by them respectively. It is, however, certain that ox labour is going out in this district. It used to be much more general. Sussex oxen are not so generally used as formerly, and Welsh runts and Short-horns are taking their place in the teams where they are still used.

We believe that the inability of words and figures to state the case fairly between horses and oxen arises out of their inability to put down the effect of horses and of oxen respectively on the labourers of the farm. Estimated in £ *s*. and *d*., it seems plain that oxen are a much cheaper power than horses; and unless you go upon the farm itself for a number of years, it is puzzling to explain how it is that oxen are gradually disappearing as draught animals. The real explanation we believe to be in the sluggish influence of the system of ox-labour on the whole farm management. A quick-stepping team of horses adds directly to the quantity and to the quality of the work done. And just as steam cultivation, which makes everybody *run*, has that in its favour when it is compared with horse-labour—so horse-culture, which makes men and boys at least step out, will beat oxen, with a team of which they creep along at the rate of about 1½ miles an hour.

*Young Stock*.—Another point to which attention has to be directed on this farm is the rearing of calves. Seven or eight milch cows are kept, and the calves of the large cows in the milk dairies near Hastings are purchased generally at 2*l*. a head and reared. The cows come to the pail during September and October, and 30 calves gradually brought to them are reared during the winter, 15 to 20 calves being kept at a time. The calves are fed from the bucket, receiving at first 4 quarts of the new milk a-day apiece, and they pick at hay from the very first, and soon eat a little which has been cut into chaff and had a few ground Oats sprinkled over it. By-and-by the Oats are increased to a pint a day apiece, reaching the full quantity as the milk diminishes and is withdrawn, which it is when the calf is 10 or 12 weeks old. The cows receive hay only during winter, being foddered in the field as long as they can remain out. The calves are not turned out at all during the first summer. They get green Rye, Italian Rye-grass, and Vetches in April, May, June, and July in the yards, with water as much as they require in troughs, first getting out when any aftermath is ready for them in July or August. They are brought in again early in October and turned into yards, where they receive roots and straw, with a feed of hay once a day all through the winter. They are turned out next spring, then from 16 to 18 months old. Very unusual success has attended this management of the young stock. The keeping the calves in till 9 or 10 months old, feeding them in yards, letting them out first in August or thereabouts on to aftermath, seems to be a security against the "hask."

*The Flock*.—The farm is especially interesting for its flock. The tenant, formerly a Cotswold breeder, was too well satisfied that the practice of a district is the result of long and safe experience to think of introducing the large long-woolled sheep where the small framed Southdown sheep were naturalised. He gradually procured his flock some 16 years ago from well known flocks in his neighbourhood, purchasing from Messrs. Farncomb, Sampson, Grantham, and Cooper, all of them well known Sussex flockmasters. And during subsequent years, by careful attention to the characteristic points of the several families within the flock thus gathered and selecting and using rams adapted to them, there has been a constant aim to acquire and maintain the character of the pure bred Sussex Down. In the earlier years of the flock rams from Mr. Hart, of Beddingham, Mr. J. Ellman of Glynde, and Mr. Sampson of Blatchington, were used. Then two rams from Mr. Farncombe, of Bishopston, near Seaford; and rams of their produce were then used over the whole flock for two or three years. A ram descended from Mr. Rigden's flock was then employed. Then one of the old Glynde blood from Mr. Thos. Ellman, of Bedingham. Rams of Mr. Overman, of Weasenham, Norfolk; then one of Jonas Webb's; and at present rams descended from a sheep presented by the Earl of Chichester, and descended from the Goodwood flock, which gained the 2d prize at the Carlisle meeting. No very unusual expense has been incurred, 50*l*. for the hire of a Babraham ram being the utmost; but by careful attention and good judgment and management both in choosing and rejecting sheep, the flock has acquired a very good character as characteristic pure bred Sussex Downs.

Sheep have been repeatedly shown from it at the Smithfield and the Royal Agricultural Society's, and the local shows; and especially at the last, where Sussex men compete and Sussex men adjudicate, a considerable amount of success has been achieved, in competition with sheep from first-class flocks—those of the Duke of Richmond and of Mr. Rigden, &c. The first prize also for ewe tegs was won at the Paris show in 1855. And from a flock purchased 15 or 16 years ago at 30*s*. a head, ewes have been sold at 100 to 120 guineas a score, and rams from 10*l*. up to 40 guineas apiece. The number of ewes usually lambed down in March and April exceeds 400; 150 of the ewe lambs are every year retained, and the rest of the lambs are sold early in the autumn at the ordinary lamb fairs, where they realise from 1*l*. to 1*l*. 10*s*. a head. 150 ewes are sold annually to make room for the ewe tegs each year put to the ram. The fleece weighs on an average 3½ lbs., being of the finest quality; and the fat sheep average 9 stone at 18 months old.

A good deal might be added in this desultory account of an East Sussex Down Farm on the relation of master and servant. The labourers were almost all of them old servants, many of them having lived from childhood on the farm. They are a stronger and better made set of men than one generally sees among agricultural labourers. Wages are better than in the Western Counties—13*s*. a week being as common here as 9*s*. are there. Out of this, 1*s*. a week goes for a cottage and garden.

The land appears generally to be in the hands of a wealthy body of men, and the existence of the costly system of valuations on entry which prevails is against much change in the tenantry. So far also it is a check to competition for farms when vacant.

The particular occupation we have been referring to is a good specimen of farm management in several important points, as (1) in the instances described of the adoption and retention of local practice by a stranger; (2) in the careful and well considered introduction of novelties in management, *e. g.*, Teazel culture, and the rearing of dairy stock; (3) in the gradual creation of a well-bred flock by care and judgment, at comparatively little cost; and (4), especially in the relation which exists between master and servants.

Taking as a stranger to the men of the farm 16 years ago the tenant of this farm retains them still—boys grow up to manhood with him, or better places are found for them elsewhere. The old foreman and all under him, inheriting a sort of contemptuous feeling for a man "*out of the shires*," were soon taught the respect which a good master will inspire. The gardener beats all the county for Roses, flowers, and garden fruits. Every one is encouraged to do his best, sure that one whose good opinion is worth acquiring is over him; and nowhere, accordingly, are the real interests of the master looked after by a better affected set of men.

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

A MEETING OF THE COUNCIL took place at the Society's Rooms, Hanover Square, on Wednesday, Mr. Raymond Barker in the Chair. The subject fixed upon for discussion was "The Effect of Under Drainage on the Rivers and Arterial Channels of the Country." Mr. BAILEY DENTON, in introducing the subject, said:—

He intended to confine himself to facts which experience and observation assured him were sound and deserving the attention of the Society. The result of close investigation showed that of the total extent of Great Britain, which was 56,352,000 acres, there was about 22,390,000 acres of wet land capable of improvement by drainage, including such proportion as had been already drained, and the wet lands were nearly equally divided between those characterised as "clays" and those called free soils. The extent of land already permanently drained did not exceed 1,700,000 acres, so that there remained upwards of 21,000,000 acres yet to be drained. The utmost extent of land drained under the Public and Private Moneys Acts, and under the several drainage companies Acts did not exceed 1,100,000 acres, as the total outlay up to the present time did not reach 6,000,000*l*. The drainage of a permanent character executed by landowners with private funds, though very largely increasing, was still much less than the extent done with borrowed capital; and at the present rate of progress it might fairly be assumed that it would take at least a century to complete the under drainage of the country. The number of pipe yards or brick yards making pipes in Great Britain was estimated at 2800, and assuming the number of pipes made at each yard to be on the average 150,000 a year, the number made annually might be taken at 420,000,000. As 1250 pipes were used in underdraining an acre, 336,000 acres might be drained per annum; but as a large number of the pipes were applied to temporary, shallow, and unconnected works, it was not possible to ascertain from such data the extent of permanent drainage executed. Assuming, however, that a quarter of a million acres were permanently drained per annum, it would take a century before the work was completed.

The first effort in the way of agricultural drainage was the raising of the surface of wet land into the form of ridge and furrow. This might be called the aboriginal mode. The second step was the placing of bush drains under the furrows at a depth just sufficient to conduct the water under ground rather than along the surface of the furrow. The third step was the substitution of horse-shoe drains and pipes for bushes; and the fourth was that taken by Mr. Smith, of Deanston, upon his farm near Sterling, in a country where high backed lands were unknown, when he adopted a uniform system of parallel under drains. To Mr. Smith must be accredited the origination of systematic drainage, but his principles had been proved to be erroneous in many particulars. He drained both clays and free soils alike, and was the first to lead the country wrong in that particular. The next step was that of Mr. Parkes, who adhered to the parallel system of drainage, but on philosophical grounds recommended increased depth. By his able scientific papers Mr. Parkes effected a great national benefit, and an opposite correction of the system recommended by Mr. Smith; but the parallel arrangement of drains, which had been and continued to cause loss and derangement in many instances, was still advocated as suitable to all lands suffering from wetness.

It was at this juncture that the Public Moneys Drainage Act passed. That act passed in 1845, since which time five different companies had obtained special acts of parliament to supply funds to landowners, as the public money became exhausted, and landowners were still found draining under rules laid down 17 years ago. In the meantime the result had been to affect our river system prejudicially, which evil had been greatly increased by the misapplication of the parallel and frequent drain system to the free soils.

All soils having a proportion of alumina greater than 15 per cent. might be termed clay soils, and required frequent parallel drains to overcome their peculiar retentive character. These sorts could not be aerated too much, as it was only by aeration that their retentive nature could be overcome and their bulk rendered permeable. Soils with less than 15 per cent. of alumina, admitted of percolation more or less rapid as the proportion became less and the retentiveness was diminished. Aeration was not necessary for drainage in wet soils altogether devoid of clay, and they were therefore called "free soils." Whereas in dense clays too many drains could not be put in, it was the *ne plus ultra* of the drainage of free soils to reduce to a minimum the number of under conduits by which to relieve the land of stagnant water. Test holes decided the number with accuracy, and wherever test holes were the guide of operations parallelism was the exception and not the rule. It was found that practically the clay lands could not be drained by means of test holes. All that was necessary in the case of free soils was to set the water in motion, and the fewer the number of drains that would effect this object the more perfect the drainage and the better the natural powers of the soil were developed.

To realise the effect of close parallel drainage of the clay lands on the arterial channels of the country, they must remember that the extent of clay lands not drained and yet to be drained was 9 millions of acres. These 9 millions were dispersed all over the country, and the quantity of land that might be placed under water by default of outfall (say 10 inches deep) were the full extent drained, would be upwards of 200,000 acres. The free soils formed a proportion of more than half of the lands still requiring drainage; they were estimated at 12,000,000 acres. They consisted of a very large proportion of the wet land of the West of England, of Wales, and of the north of England and Scotland. The Devonian, the Silurian, and Cumbrian districts were of this character, and the saturated beds of the old red sandstone, the new red sandstone, the Bagshot sand, and the various drift superficial deposits might also be so classified. These lands suffered by reason of their formation and position from an excess of water beyond that which fell in the shape of rain upon them; and they were therefore immense stores from which we should draw with care and economy. It had been stated that drainage did not diminish evaporation, but reflection and observation of facts must dispel such a notion.

Numerous experiments clearly demonstrated that directly the water on the soil rose to the level of the drains, the drains began to discharge, and that were it not for those drains the water which found vent at the drains would gradually rise to the surface, and from thence pass off as vapour into the air. These remarks applied only to free soils. Not only in the action of water through the land, but in the hygrometric influence of the atmosphere, the two descriptions of soil were differently affected, and it was a complete fallacy to apply the same principles of drainage to both. Not long ago he read a paper upon this subject before the Institution of Civil Engineers, and there was only one opinion expressed upon the effect of under-drainage on the arterial system, which was that the floods were more quickly precipitated into the valleys in proportion to the extent of under drainage in the various river basins, and that the continuance of flood depended upon the capability of the main

outfall. It was stated that heavy rainfalls now produced a flood in two days, whereas it formerly took a week or more to do the same thing. Doubt was expressed by several eminent engineers, whether the effect of under drainage of the free soils could possibly increase the perennial supply of water to the rivers, but that was the reduction to which his experience had brought him, and he attributed it to the circumstance that hitherto the free soils for the most part had been drained in the same way as the clays, and had rather increased the evil of sudden flood than been made the means of regulating and of improving the supply in summer.

So important did he deem it that this view should be well understood, that he ventured to exhibit the plans of two works on free soil drainage. One was in Wales, on the Silurian district; and the other was in the south of England, on the Bagshot sand formation. In both cases parallel drainage was originally intended by the owners, though their intentions gave way to occasional or test-hole drainage. In the first instance a contract was entered into, but was fortunately abandoned, by which a parallel system of one uniform depth and interval was to be carried out, and the number of rods per acre would have been 132, and the cost 11*l.* 10*s.* per acre. In lieu of 132 rods of drains only 34 were put in, and instead of being of uniform depth they varied in depth from 5 to 8 feet, and were more expensive in character. The result of this drainage had been a considerable saving in cost, the creation of a constant supply of water to the river in summer, the lessening of sudden floods in winter and spring, and the maintenance of a greater amount of moisture in the ground itself without stagnation within it. The second case was very similar in the circumstances attending it. The same mode of drainage had been adopted on the Ribston estate in Yorkshire, which was only particularly mentioned as a gentleman present had watched with great care the progress of the work, and could speak to its effect. He referred to Mr. Dent, M.P., who would corroborate the statement that previously to the adoption of a wide and occasional system of drainage based upon good outfalls and carried out as deep as those outfalls would admit, a very different mode of operating would have been adopted. At the present moment the drainage was being carried out by test holes, which regulated the number of drains to be put in. It was not exaggerating the case to say that less than one third the number of drains were now adopted than would formerly have been used, and with better effect, and necessarily at less cost. Previously to the adoption of this system at Ribston the parallel system was in vogue.

Upon an adjoining estate with similar soil the close parallel system was now in operation, with a far different effect upon the question of our water economy. The Land Drainage Act of 1861 was, in his opinion, a good basis upon which to form districts for the improvment of valleys and outfalls, and for the conservation of drainage waters discharged in the spring for use during periods of drought in those districts which suffered in the summer seasons. The mode and results of draining the clay soils was fully understood, and but little advantage was to be gained by discussion. It was the drainage of the free soils to which attention was due and which could not be too much discussed, for with them it was possible to moderate the evil of sudden discharge, and instead of committing injury, to improve by their appropriate drainage the water supply of the country. It was altogether a misapplication of the term to designate systematic drainage as a scientific operation. So directly was it the reverse of science that 50 years hence our children would look upon it as an absurdity as great as the adoption of under drains 18 inches deep was now regarded by those who were draining 4 feet and more deep. In truth, up to this time the engineering element had been entirely absent from the under drainage of land.

Equi-distant parallel drainage was not science, though it required the scientific writing of Parkes to render adequate depth acceptable. But while care and diligence were requisite in the clays, the best judgment and skill were required in the drainage of the free soils. Frequently the source of evil was far from the land about to be drained, and the quantity of water to be removed was many times the quantity that fell on its surface. The criterion of sufficiency applicable to the clays in no way applied. If water stood above the pipes after draining the clays, it was quite certain that the drainage was not right; but if the water stood above the pipes in free soils, and the quantity of water discharged from the outlet was in excess of that which fell on the surface, the drainage was doing its work, whether the water was above the pipes or not. He might mention a case in which the outlets were discharging from a few drains adapted for the drainage of a large area as much as 3 inches of water over the whole superficies per diem, although but little rain had fallen on the surface for a considerable period. In that case, the water stood above the pipes, A superficial observer would declare the land not drained, though the effect of the drainage had been to discharge in the last month (February) more than twice the average quantity of water that fell annually on the surface. Again, such was the porosity of certain districts, that 1*l.* per annum well spent in securing a deep and effective outfall was equal to many pounds spent in shallow and frequent under drains, although the outfall was not sufficient of itself to effect a cure without subordinate under drains, few and far between. On the occasion of a recent flood the open outfall cuts on the Ribston estate were filled with water, and one field was observed to be in a very wet and quaggy state, so rotten in fact that it was hardly possible to walk across the field. The drainage was for the moment considered defective, although the test holes had responded to the drains that were put in with perfect satisfaction. Upon going to the outlet the water was many feet above it, on a level with the land itself, and an index well within the field was found to be full of water, up to the brim. Within a week of this observation the waters in the outfalls had receded, the outlet and well became clear, and the soil became as firm as ever. He thought that some measure for river reform was imperatively required.

The injury they were suffering was progressive and accumulative. They did not extend only to the increase of the floods but to the contamination of the water. Towns were discharging their sewage into rivers previously pure, but until the floods had increased so as to involve loss of life, until the waste that had been occasioned by the inappropriate drainage of free soils had told its own story, and until our rivers were made insufferably foul, we should find no remedy. As one who had been interested, from its infancy, in drainage as a system, and who from active employment up to the present time had become acquainted practically with existing defects, he trusted he should not be reproached with placing himself unduly prominent in forewarning that Society of approaching evils.

He felt that he could not do better than close this paper with a passage which he wrote more than 20 years ago, when struggling to obtain the first Act which founded the Drainage Commission. It was this:—"If it is thought fit that each owner and occupier of land should add their proportionate quota to our wealth as an agricultural nation by the application of science to their calling, then it is not only equitable, but it is imperatively necessary, that a general law should be laid down for the clearing and maintenance of outfalls; and that a systematic order should be adopted, with a due regard to the water of drainage as discharged. We have seen the evil of disorganisation in the sewerage of towns, and we are about to apply a remedy. No better result will follow the operation of any partial system for draining land; apathy will prevail in some cases, prejudice in others; and as each district when drained will be independent of surrounding ones, a medley of works as specific in themselves, as dissimilar in construction, will start, in defiance of order and contempt of system, into inefficient existence." That was precisely our present position.

In answer to a question from Mr. P. H. FRERE,

Mr. DENTON said that the 22,000,000 of undrained land he had referred to did not include unimprovable land.

Mr. DENT, M.P., gave some account of the estate of his father, in Yorkshire, alluded to by Mr. Denton, observing that it was a very wet district, and exceedingly unpleasant to ride over. About 35 or 36 acres were Grass land of a tenacious character, but the estate comprised almost every variety of soil from quicksand to clay. He had for some years tried to drain it on the parallel system, but had not been able to get to the requisite depth. The first work they did was to enlarge the outfalls, which tended greatly to improve the neighbouring soils. In one field he had tried Mr. Denton's system with test holes, and the result seemed very satisfactory. He wanted to ask Mr. Denton a question on one particular point. He had been staying for the last fortnight in Middlesex, and he was much surprised at observing the extremely wet state of the land. He had always understood that there was no district of the country in which better hay was grown than in the neighbourhood of London, and when he had pointed out the wet state of the land, and expressed his surprise that it would grow anything, he had been told by the farmers that it was of no use draining it, and that if they drained at all they should drain shallow, because if they drained deep the land caked to such an extent in dry seasons that all its Grass-growing power was destroyed. With respect to draining porous land, he had no doubt whatever that the system recommended by Mr. Denton was a proper one, but he expressed some doubt respecting its beneficial application to clay lands.

Mr. HOLLAND, M.P., observed that he had as severe and stiff kind of clay to deal with as any man could have. It was what was called by Mr. Denton corrugated, and the draining could only be done by a very slow process, in consequence of the subsoil as well as the surface being in that state. The consequence was that he was obliged to drain in the furrows, which were 40 or 50 feet apart. Their clay drains were therefore not complete, but as they had adopted cultivation by the steam plough, he thought in time they would be able to make the surface of the land level and their clay drains perfect by introducing one on the top of the ridge. They could not otherwise make their drains deep enough.

Mr. DENTON, in reply to Mr. Dent, stated that he had been recently over the estate of Lord Northwick, near Harrow, in company with the noble lord, and some friends and tenants. On that occasion the question of the reluctance of hay farmers to drain the land was discussed, and the farmers said that as they always had a great deal of custom in London for hay, of whatever quality it was, they did not seek so much for quality as for quantity, and consequently did not think it worth while to drain the land for feeding purposes, although they admitted that draining made the herbage sweeter and better for cattle. The present system, under which the Grass land of the Harrow district had been cultivated for many years, alike impoverished the hay farmers and the land; and he was of opinion that if drained, the latter would produce Grass of a much better quality, and equally as much in quantity. He thought a good plan would be to feed off part of the land and put the other into hay.

The CHAIRMAN called attention to the condition of the low-lying land near Reading and in Oxfordshire, in which vast quantities had been under floods of late years. He had hoped that they would have had more information with respect to the influence of under drainage upon the rivers.

Mr. DENTON replied that there was great difficulty in ascertaining what quantity of water percolated through porous soils or passed over the surface of clay lands. He also mentioned the fact that every inch of rainfall on the land was equivalent to 100 tons of water per acre.

Professor SIMONDS entered into some calculations as to the cost of cutting and getting hay to market, and contended that the position of the hay farmers in the Harrow district was, under the present system of cultivation, far from desirable. He corroborated the opinions that had been expressed with reference to the advantage of under draining land, and stated that some meadows which he had drained produced a much superior quality of Grass, while it was quite equal in quantity to that grown before. He also spoke of the present system pursued as one of a very impoverishing character.

After some further discussion Sir J. JOHNSTONE proposed, and Mr. FISHER HOBBS seconded, a cordial vote of thanks to Mr. Bailey Denton for his able treatment of this important subject, and the meeting separated.

## Reviews.

*Journal of the Royal Agricultural Society of England.* Vol. XXIV., Part 1. J. Murray.

A large portion of this Number is contributed by the Editor. We have an account of the prize farms of France, a description of Brittany cows, and a review of Italian irrigation from the pen of Mr. Frere, and if English agriculture had in him a historian as anxious and as able to present as glowing a picture of her achievements, one as proud of her self-directed and undecorated successes as he appears to be of the continental system with its pass-books for labourers, its Government patronage superintendence and direction, his readers would have reason for self-gratulation.

We have in the account of the prize farms of France a number of histories, not in sufficient detail to be of any great serviceableness to English farmers, but exceedingly interesting to the general reader.

We are told that M. Aubry on 200 acres of arable land keeps 600 head of sheep and 30 head of cow stock of all ages. M. Papin on 215 acres by the use of lime and English seed, has doubled his Wheat crops, and the produce of his meadows has likewise been doubled. The status of himself and his predecessor is thus contrasted:—

| | New Inventory. | Old Inventory. |
|---|---|---|
| Cow stock | 30 | 6 |
| Horses | 13 | 8 |
| Ewes | 220 | 150 |
| Lambs | 200 | 140 |
| Wheat crop in sheaves | 24,000 | 14,000 |
| Oat crop in sheaves | 7,000 | 5,000 |
| Rape-seed | 13½ bush. (?) | 6¾ bush. |
| Mangel | 150 tons | 0 |

M. Papin's services were held to deserve special recognition, but we are not yet in the front rank of the race. The spirit—from Mangels—manufacture which he conducts is a leading feature of farming in the department of the Lower Seine.

M. Lange holds a farm of 242 acres near Fauville.

"The rent of this farm when let, was 280*l.*; the average net profit since the owner took it in hand, has been 336*l.*; 'that is to say, the net produce has been more than doubled.' The inventory of December 31, 1859, showed a farm capital of 4119*l.*, or 17*l.* per acre. The total value of the produce was in 1848, 1858*l.*, or 8*l.* per acre under cultivation; in 1858, 3231*l.*, or 14*l.* per acre.

We then come to the leading instance of success, "M. Dargent of Reneville near St. Léonard, who at nine years of age was left an orphan, and at 20 determined himself to occupy the little farm of the family (126 acres), that he might keep together and maintain his three brothers and sisters, who had no one but him to to look to for support. Of this small property, 12½ acres were in sea-rushes, in roads, and shelter-belts against strong gales; of the pasture, if part was good, the rest was but a sheep walk on the cliffs; of the arable (77 acres), only 6½ acres were rated in the first class, and 19 acres in the second (both these had a clay subsoil); the rest were third and fourth-class lands."

The jury estimated the crops of the year as follows:—

"We estimated the first cut of the Clover crop, which we saw growing, at 2 tons 7 cwt. per acre. The Wheat-crop is stated to average 360 sheaves, and to yield 42 bushels of corn, weighing 1 ton 4 cwt. (nearly 64 lbs. per bushel); in 1854, it averaged 50 bushels. The Oat-crop averages 320 sheaves, and 57 bushels of corn, weighing 18 cwts. 3 qrs. per acre. The Rape-seed, 44 bushels (21½ 1-fifth cwt.) 'The Beet crop, 2500 hectolitres, weighs 150,000 kilogrammes; in 1857, they weighed 167,000, a fact recorded in a Report to the Society of Agriculture.' Until the disease came, M. Dargent grew 440 bushels of Potatoes per acre. After trying many varieties of seed Wheat, French and English, he keeps to the Red Wheat, there called 'Scotch,' finding that the straw, which is short, but stiff and strong, best resists the gales which are so formidable at Saint-Léonard."

The report goes on to describe the dairy stock and the flock.

"A farm managed with so much prudence, intelligence, and perseverance, could hardly fail to show a good balance-sheet. The following facts are gathered from the books:—

| | £ |
|---|---|
| The farm at Reneville was let in 1794 for | 56 |
| And again let from 1800 to 1811 (a time of high prices) for | 96 |
| Mr. Dargent values the farm when he took it at (A liberal allowance, for land was then hardly worth 30 years' purchase.) | 2880 |
| The stock he took was valued at | 1200 |
| Making a total of | 4080 |
| There were charges on the property of | 1760 |
| Which left a clear capital of | £2320 |

The jury when examining the books found that, for the 13 years from 1848 to 1859, the profits amounted to 3175*l.*, or 241*l.* on the average. The three last years showed a higher average of 252*l.*

| | £ |
|---|---|
| Mr. Dargent thinks he may fairly value the estate at | 6800 |
| The stock, as by inventory, at | 2320 |
| He had in bank or invested in 1859 | 2495 |
| He had paid for exemption from military service (!) | 777 |
| For dower for his nieces | 2400 |
| For purchase of land | 160 |
| His capital had therefore increased from | £2320 to 14,952 |

"Thus after weathering several storms—the destruction of his buildings by fire—the failure of the sugar-mill with which he was connected—the conscriptions—M. Dargent has attained his aim, never diverted from it but for a while in old times to serve in the 'Cohorts,' and again at the critical period of 1848, when the discrimi-

nation of his fellow-citizens constrained him to exhibit his good sense, modesty, and integrity in the General Assembly. The jury, when comparing M. Dargent's performances with those of his competitors, find he has done more than they, better than they, sooner than they; his younger rivals may then well make way for this 'Master of Practical Agriculture.'"

Mr. Frere concludes as follows:—

"This account has run to some length; but if more compressed it would hardly have shown either the working of this magnificent prize under favourable circumstances, or the condition of agriculture in a thriving but not a pre-eminent district. The manner in which it brought into notice and rewarded modest, persevering worth, cannot but be hailed with extreme satisfaction by all the friends of the genuine farmer."

We are of opinion that "genuine farmers" will take more pride in winning a sweepstakes, the whole management of which has lain above board and challengeable by any one in the hands of a committee of themselves, than in carrying off the annual prize offered by the Government, of which the administration is certainly so much more liable to abuse. It is a remarkable confirmation of the view that "genuine farmers" do *not* look with satisfaction on "the manner" in which this prize is awarded, that from a whole province there are but 20 competitors, of whom 9 are disqualified, for a prize of 200*l.* in money and a silver cup worth 120*l.* In the Loiret again there are but two competitors, the successful candidate having made "nearly 4½ per cent." of his money by his management! Mr. Frere concludes with a recommendation to English agriculturists to become subscribers to the *Journal d'Agriculture Pratique*, "the most readable of all modern publications which combine agricultural intelligence with scientific research," from whose pages his accounts of French farms have been obtained.

Mr. Frere gives us also an interesting account of Italian irrigation in the form of a review of Colonel Baird Smith's report; and both of these papers will be read with ease and interest. We cannot say so much for some of his shorter pieces, written probably with less care. A man who was selected for his office on account of his University education, and for that example of a pure and simple English style which he was to set before his readers, ought to be more intelligible than in these shorter papers he sometimes is. Mr. Moule has written clearly and simply of his method of utilising inoffensively the whole waste of the house and cottage, and Mr. Frere follows him, apparently to correct his estimate of the money value of night soil. There is not a greater contrast between order and confusion, between simplicity and muddle, than these two essays. The following is an extract from the latter, in which Mr. Frere, speaking as a practical farmer, says:—

"I am disposed to complain that all our chemists put on the constituents of manure a value in some cases too high, in others almost imaginary. In truth, the question of value does not belong to science but to commerce; and all the advice which a scientific man, as such, can offer will be on the comparative value of different sources of the same fertiliser.

"To the eye of science all elements of plant-food have an equal importance—are equally essential; their value only varies according to the difficulty experienced in securing a supply, and of this difficulty commerce is the sole arbiter, the purchaser limiting the course of trade by refraining from an unremunerative purchase. Yet from questions of value the philosopher cannot stand quite aloof: and therefore from time to time, startled, it may be, by local abuses, he sounds an alarm, in which his want of familiarity with the marts is as striking as his scientific knowledge is admitted. But the practical man, not much moved by general accusations of wasting plant-food or the mineral constituents of plants, will review his requirements in detail, when the list will appear to be neither very long nor very formidable.

"On the nitrogen he will have kept a pretty sharp look-out, as an element of which the waste is considerable and the difficulty of supply great. In regard to phosphate, he will probably have been for some years a greater buyer than seller, and he will thank God's providence for the mineral stores now disclosed in England and France, and no doubt hidden elsewhere. Of the alkalies, he will husband his store by not selling straw, if his land be light and the subsoil do not contain stores of wealth in reserve. For carbon he may in the long run rely on the atmosphere, which supplies carbonic acid freely enough, however scanty may be its available supplies of nitrogen. As to lime, if any difficulty exist, it is one he can easily measure, and probably remedy at no great cost. In this instance a natural defect in the soil, not any conceivable waste of man, will generally be the obstacle to be overcome. Silica and silicates will puzzle him, perhaps, but not him only; and he will wait till a special indictment is laid against him for wasting substances which do not appear to impart much value to granitic detritus, whether it be in the offscouring of our granite-paved streets, or the deposits borne by streams from primæval mountains. And at this point he will have about exhausted the list of elements, which, spoken of in the abstract, sounds such a formidable bugbear!"

What is it all about? To the practical farmer, in whose name it is uttered, it will sound more like jargon than anything else. The conclusion arrived at is stated in the last sentence:—

"Whatever, then, be the value of the excreta of the average man when priced at guano rates, since those rates give to farmyard-manure a value of 13*s.* per ton, it remains for the farmer who does not set so high a figure even on his good bullock-manure, to make a deduction accordingly, so as to reconcile the valuation with the prices of the times."

This is almost as clear and conclusive as the sentence in which the same writer sums up his opinions of Mr. Gurdon's co-operative farm, of which we gave a report the other day. The following is the last sentence of the editorial comment:—

"In these days when strikes and other combinations antagonistic to freedom, to intelligence, and to progress are rife, for the short-sighted purpose of protecting one calling to the injury of the community at large (and especially of the largest and poorest class, whose right to gain an entrance into a trade or craft is thwarted), any plan which assists workmen legitimately to unite in an undertaking on which their sympathies, their experience, and their intelligence may be brought to bear—an undertaking which holds out a prospect of considerable, and, on the whole, steady profits, seems worthy of consideration and of such discussion as the leading features of the scheme naturally suggest." [!]

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. Spearing, Moulsford, near Wallingford, Berks, during the week ending March 18, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday | 12 | 29.39 | 38 | 37 | S.E. | 2 | 7 | 42 | 27 | 53* | 21 | 0.04 | 42 | 44 |
| Friday | 13 | 29.30 | 38 | 36 | W. | 1 | 1 | 45 | 26 | 55 | 23 | .. | 41½ | 43½ |
| Saturday | 14 | 29.49 | 35 | 34 | S.W. | 2 | 5 | 52 | 25 | 82 | 21 | .. | 41½ | 43 |
| Sunday | 15 | 29.24 | 40 | 38 | N.W. | 2 | 7 | 50 | 31 | 71 | 29 | 0.12 | 41½ | 43 |
| Monday | 16 | 29.91 | 40 | 38 | N. | 3 | 7 | 47 | 31 | 76 | 27 | 0.01 | 42 | 43 |
| Tuesday | 17 | 30.17 | 39 | 37 | N. | 2 | 1 | 47 | 28 | 79 | 22 | .. | 42 | 43 |
| Wednesday | 18 | 30.02 | 38 | 35 | W. | 1 | 6 | 48 | 24 | 92 | 20 | .. | 41½ | 43 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

Ewe and Lamb: *Breton* says:—A ewe of my flock, numbering 50, yeaned a male lamb on Monday, March 16th inst., having previously yeaned a ewe lamb on the 18th of February last; both lambs are strong and likely to do well. I should like to know if this is not of very rare occurrence.

Horse Power, &c.: *Brass Spurs.* The publication of your letter may obtain for you the information you require. You can see the horse power at work at a livery stable in Guildford Street, Russell Square.—"Looking over some old memoranda I have come upon the following note—'To obtain Mr. Joseph Whitworth's report on the horse-power machine now brought into extensive use in America; commended as particularly applicable to pumping, easily moved from place to place, and of cheap construction, costing in England 20*l.* to 30*l.* May be made for two horses or oxen. Plan of the machine is in possession of Mr. Chadwick, C.E.'—I don't recollect when I made this mem., but fancy it was three or four years ago, if not more. Can you, or any of your readers, kindly tell me where I may procure the report adverted to? Will you add to your kindness by giving me a few hints on the following points? I am an old officer preparing to emigrate to one or other of our Australian colonies, hoping there to provide better for my boys than it is probable I should do in our native land. I purpose buying or clearing a farm of two or three hundred acres, and to bring about half the quantity under cultivation, and as labour is scarce in all our colonies I wish to take out with me such machines as (whilst simple of their kind) may facilitate my future operations. What would you suggest my purchasing? Steam-power on a homestead is very delightful in England, but it requires skilled labour to work it, and in the event of an accident, repairs to an engine could not be effected in the bush. For this reason I am anxious to learn what is the best mode of applying animal power (horse or oxen) now in use in England or America. Can such power be readily adapted to the various operations on a homestead beside threshing, such as chaff-cutting, pulping, churning, pumping, sawing, &c.? Would it be better to take out a threshing machine, or get one built in the colony? Would you recommend a reaping machine, or rather a combined machine, to cut both hay and Wheat, and from what maker? Would it be advisable to take hay-tedders, drills, cultivators, rollers, ploughs, &c., and to what extent; or would you advise me, as a settler, to content myself at first with the rough colonial implements? I am told of orders being constantly sent home for machines and implements, and so fancy it may be good economy to provide myself with such before I start. Did you ever hear of a really good washing machine? that is one that actually does what it purposes to do, and to get up small articles as well as the larger ones, such as sheets, &c. [On all these points we shall be glad to receive information from any one who has an experience to relate. We have understood that emigrants have expressed regret on arriving at their destination that they had burdened themselves with a lot of useless purchases, and had not trusted to being able to obtain what they really required in the Colony.]

For Samples of the best possible
GARDEN NETTING,
apply to
Thos. Brittain & Co., Manchester.

TANNED NETTING for the protection of Fruit Trees at 1*d.* per square yard: 200 yards, 14*s.*; 500 yards, 20*s*; 1000 yards, 50*s.*; SCRIM CANVAS for Wall Fruits; SUN BLINDS, AWNINGS, TULIP COVERS, &c.
Be particular. John Edgington & Co., 17, Smithfield Bars, E.C.; 108, Old Kent Road, S.E.; and 18, Piccadilly, W.

TANNED NETTING, at reduced prices.—1*d.* per square yard; 200 yards, 14*s.*; 500, 30*s.*; 1000 yards, 50*s.* SCRIM CANVAS, for Wall Fruit; GARDEN MATS; GREEN-HOUSE SHADES.
Be particular, Frederick Edgington & Co., Rick Cloth Manufacturers, Thomas Street, Old Kent Road, London, S.E.

TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½*d.*; 2 yards, 3*d.*; 3 yards, 4½*d.*; and 4 yards, 6*d.* per yard run, in any quantity, may be had at Chas. Wright's, 376, Strand, W.C.
VARNISHED FLOWER STICKS:—1 foot, 3*d.*; 1½, 4*d.*; 2, 5*d.*; 2½, 7*d.*; 3, 10*d.*; 4, 1*s.* 6*d.* per dozen. DAHLIA do., per dozen:—3 feet, 1*s.* 6*d.*; 4, 2*s.* 3*d.*; 5, 3*s.*; 6, 3*s.* 6*d.* An allowance to Nurserymen.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.
PROTECTION from the COLD WINDS & MORNING FROST.
"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.
Two yards wide .. .. .. 1*s.* 6*d.* per yard run.
Four yards wide .. .. .. 3*s.* per yard.
An improved make, 2 yards wide, 1*s.* 8*d.* per yard.
An improved make, 3 yards wide, 2*s.* 6*d.* per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1*s.* 4*d.* per yard run.
Elisha Thomas Archer, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.
"It is much cheaper than Mats as a covering."

To the Nursery and Seed Trade.
BROWN'S FLORAL SHADING, the cheapest and best material for protecting Fruit Trees from Frost. Prices on application to Chas. Brown, Greenheys, Manchester.

The Old Established Seed Bag and Sack Manufactory.
ALEXANDER NICOL and CO., Manufacturers of SEED BAGS and SACKS, RYE-GRASS SEED BAGS, GRAIN and POTATO SACKS of all sizes and descriptions, SHOP and NURSERY TWINES, GARDEN LINES, &c.
Chalmers St. Works, Arbroath, N.B.
N.B. The principal Seed-houses in the three Kingdoms have been supplied by us for the last 30 years. Price Lists and Samples may be had on application. No connection with any other house in the Trade.

BENJAMIN EDGINGTON'S MARQUEES and PAVILIONS for Royal and Noble parties for the Season, 1863. Rick Cloths with Poles, &c., Complete, New, and Second-hand. Netting and Bunting for Fruit Trees, Garden Mats, &c. A quantity of FLAGS, used at the Royal Procession, to be Sold as Second-hand.
Address, Benjamin Edgington, 2, Duke Street, Southwark, foot of London Bridge, S.E. No other Establishment.

HORTICULTURAL IMPLEMENTS and GARDEN TOOLS of every description, for the amateur or practical gardener, and of warranted quality.—Deane & Co.'s ILLUSTRATED PRICED LIST of the above, gratis on application, or post free, includes Lawn Mowing Machines, Garden Engines, Boyd's Patent Self-adjusting and Vulcan Scythes, Garden Rollers (from 30*s.*), Flower-Stands, Garden Seats, &c. Galvanised Game Netting from 6*d.* per yard. Ornamental Wire Work made to order. Garden Arches, Flower Baskets, &c. Lingham's Permanent Labels. Saynor's celebrated Pruning Knives.
Deane & Co. (opening to the Monument), London Bridge, E.C.
Established A.D. 1700.

Legal Notice.
To Railway Companies, Contractors, Landed Proprietors, Shippers, Iron Founders, Wire Fence Makers, and Others.
WHEREAS, FRANCIS MORTON, of James Street, Liverpool, in the County of Lancaster, Engineer, having obtained Letters Patent for Improvements in the construction of Posts or Pillars for Wire and Iron Fences, which are dated the 31st of March, 1859, and amended by disclaimer 4th July, 1861, and having ascertained that Imitations of these Improvements had been attempted and advertised by various parties in the United Kingdom, brought an Action before the Court of Session, in Scotland, against Robert Middleton, Commission Agent and Wire Merchant, of No. 3, Greenside Street, Edinburgh, for an Infringement of said Letters Patent, in which action Issues were adjusted and tried before the Lord President and a Jury, on the 22nd, 23rd, and 24th days of December last, and a unanimous Verdict upon all the issues raised, was returned in favour of the said Francis Morton, thereby establishing the Patent.
And further, the said Robert Middleton having by his Counsel moved the first Division of the said Court of Session for a New Trial, on the ground of the said verdict being contrary to evidence, in support of which it was pleaded that the foresaid Specification was a defective Specification, and also, that the invention had partly been in use before the date of the Patent; the Judges of the said Division after hearing a full argument upon the Legal Objections to the Specification and the Patent, and having made avizandum, they on the 6th of March, 1863, unanimously refused the Motion, thereby sustaining the Validity of the Patent.
Notice is therefore hereby given, that all Persons who have manufactured, sold, bought, contracted for, or used, any Imitation of the said POSTS or PILLARS, have been guilty of an infringement of the said Letters Patent, and have rendered themselves liable in damages therefor—and that all Persons who may hereafter manufacture, sell, buy, contract for, or use, any Imitation of the said Posts or Pillars, shall be guilty of an Infringement of the said Letters Patent, and will be prosecuted accordingly,
Parker, Rooke & Parkers, 17, Bedford Row, London, E.C.
Gibson Craig, Dalziel & Brodies, 5, Thistle Street, Edinburgh.
D. & T. Fitzgerald, 20, St. Andrew's Street, Dublin.
Law Agents for Francis Morton & Co., of James Street, Liverpool.

# COCOA NUT REFUSE AND SHORT FIBRE,

AS OBTAINED FROM THE OUTER SHELL OF THE NUT IN WORKING

J. BARSHAM'S PATENTED PROCESS,

AND SUPPLIED BY THE

# PATENT COCOA FIBRE COMPANY,

KINGSTON-ON-THAMES, LONDON, S.W.

**THE REFUSE**, in bags containing Three Bushels, will be delivered at any Booking Office in the City of London, at 1*s.* 6*d.* per bag, and elsewhere within 2½ miles of Charing Cross, for 2*s.* per bag. Ten bags, or more, will be delivered at any of the London Railway Stations or Steam Packet Wharves, at the prices following—viz., 10 bags, 14*s.*; 20 for 27*s.*; 30 for 40*s.*; 40 for 50*s.*; 50 for 60*s.*; 60 for 70*s.*; and 1*s.* 1*d.* per bag for any number exceeding 70.

*Fourpence* is allowed for each empty bag returned carriage paid and not damaged.

Each bag of Refuse weighs about 84 lbs., but the weight cannot be stated with certainty, as it depends on the moisture in the Refuse.

The Railway Companies have promised to take *large quantities* at the same rate as *manure*.

We fill a coal truck with the loose Refuse, without bags, at the Kingston Station, for 35*s.*, the carriage from thence to be paid by the purchaser. A truck holds about 4 tons, and can be passed on to any Railway in communication with the South Western.

We can also fill a barge on the Thames at Kingston to be shipped in London, at a very low rate; but the cost of shipping from the barge or wharf, and also the freight or carriage beyond London, must be paid by the purchaser.

There are two sorts of REFUSE, *Old* and *New*. For nearly all purposes the *Old* is considered the best. For Flowers and Bulbs it may be used as *a substitute for peat and leaf mould, and should be mixed with loam.* It is a remarkable fact that this Refuse does not produce Fungi.

Ferns, Begonias, Heaths, Gloxinias, Cyclamens, Fuchsias, Rhododendrons, Azaleas, and every kind of Bulb and Plant thrive well in it, and make root rapidly.

Cuttings of delicate Flowers and of Vines, Roses, &c., strike in it surprisingly, and for plunging pots in there is nothing better.

It has been tried with great success for Potatoes, Jerusalem Artichokes, Asparagus, Sea-kale, and all kinds of roots. If spread round *Strawberry* plants it keeps the fruit clean, and ground moist.

It is an excellent *medium* for mixing with *artificial manures*; and even spread alone on Meadow and Pasture Land improves the herbage, and prevents the land from parching and cracking.

*It greatly improves heavy clay soil*, and many persons have spoken very favourably of it for poor, sandy soil.

When *quite dry* it is a nonconductor, and may be used as a lining for cold pits and frames.

We daily receive orders for a further supply from parties who have used it.

**THE SHORT FIBRE.**—There is nothing so durable and efficient for *drainage* in flower-pots as this. For *Orchids* it is highly recommended by Mr. Veitch, and others. It is perfectly sweet and tasteless, and, consequently, most useful to pack and preserve from frost Apples and all kinds of Fruit and Vegetables. It is very light, and will last many years. Price 16*s.* per cwt.

*N.B. Parties giving Orders should particularly state which is required,* OLD *or* NEW REFUSE *or* FIBRE.

We respectfully request the favour of *Post Office Orders* payable to J. BARSHAM & Co., Kingston-on-Thames, or *Postage Stamps, to accompany Orders.*

Seldom is a Number of the *Gardeners' Chronicle* or of *The Journal of Horticulture* published without something being stated in its favour.

In the *Gardeners' Chronicle* (Sept. 6, 1862, page 836), edited by Professor LINDLEY, is the following article:—

"A substance called Cocoa-nut waste is now beginning to make its appearance in gardens, and as it is said to be of some importance, we have caused inquiry to be made about it. Few substances promise to prove more universally useful in gardening than this. As a mere mechanical agent for working into stiff soils it bids fair to be valuable. It makes an excellent MULCHING material, and in the finer kinds of composts for potting it will be found to form a good substitute for leaf mould. It is sometimes called Cocoa-nut FIBRE, but that is a mistake; it is the PULP or REFUSE from the outer husk of the Cocoa-nut after the fibre has been thoroughly separated from it by machinery for brush and mat-making. At the Cocoa-nut Fibre Company's Works, near Kingston-on-Thames, this refuse has been accumulating for years, and at the present time little mountains of it may be seen near the Works in question. When we saw them the other day, carts from our great Metropolitan Nurseries were being loaded at a cost of 3*s.* per one-horse cartload . . . . Practically, its uses will be found to be the same as those of PEAT or LEAF MOULD, as far as gardening is concerned. Mixed with soil most plants grow in it with unusual vigour, and even in the light, spongy material itself roots prove to be wonderfully active, filling every interstice of it with their little fibres. For ORCHIDS it looks as if it might be useful, and for Ferns it is known to be suitable, as is proved by a case of them (with Begonias and other plants), in the *International Exhibition*, from the Proprietor of the Works under notice. These are growing in (old) Cocoa-nut Refuse alone, firmly rammed down in the first instance, and well watered, but elsewhere they are found to succeed best when loam is mixed with the Refuse.*

"It is a good medium for plunging pots in. Begonias, Gloxinias, and things of that description, also grow freely in it. In short, as far as plants in pots are concerned, most things appear to thrive astonishingly in it; and when placed about a foot thick over hot-water pipes or tanks, it maintains a very steady heat. It must be kept quite wet, for if suffered to get dry round the pipes, it becomes a nonconductor of heat. Cuttings of all kinds strike readily in it; even hardwood plants, not before struck from cuttings, have succeeded in it.

"POTATOES grown in it turn out almost as clean as if washed, and an excellent crop, but not free from disease. For ASPARAGUS, especially in stiff ground, it seems important; heads, which came up crooked before, now push through the superincumbent soil, lightened by its application, straight and marketable, while previously they were nearly valueless. For other crops it promises to be equally useful, *especially where the ground is clayey or stiff.*

"As MULCHING for newly planted trees, both forest and fruit, it cannot fail to be extremely advantageous, and for putting between rows of STRAWBERRIES, in spring, to keep the fruit clean, it may be found even better than stable litter. At KEW it has been applied as a mulching for bedding plants, and it has also been found useful there for other purposes. It parts with and absorbs heat very slowly, and is an excellent preventive of evaporation in hot weather. It keeps the surface of the ground cool; therefore, is well suited for placing round newly-planted plants in beds or borders.

"For stuffing the interior of hollow wooden walls of cold pits it has been found to be more efficient than sawdust, and, if kept dry, to resist a great amount of frost; in fact, we have been informed, that, in pits thus constructed and well covered overhead, Geraniums were kept safe even during the severe winter of 1860-61. For this purpose, however, SHORT FIBRE or cuttings of Mats are better than the Refuse. This Fibre also makes excellent DRAINAGE for flower-pots, as it does not readily decay, and on that account keeps open and porous for a great length of time. In pots DRAINED with this FIBRE, into which Cocoa-nut Refuse has been introduced, HYACINTHS have been found to give the greatest satisfaction, growing with unusual freedom, and blooming in much beauty. Other Bulbs in pots, treated in the same way, may also be expected to succeed."

In the same page Mr. RIVERS gives directions for making a compost for "SURFACE DRESSING OF ORCHARD-HOUSE TREES." The REFUSE would form an excellent substitute for the kiln dust, and the FIBRE would be the best thing for thorough DRAINAGE, which he speaks of as being so very essential.

In page 861, Mr. JAMES VEITCH writes as follows:—

"We have two substances produced from the husk of the Cocoa-nut in use here—viz., first, the Cocoa-nut FIBRE itself, and secondly, the PULP or REFUSE; the former is pure Fibre, while the latter is the substance (like sawdust) separated from the Fibre. I have used the Fibre by itself for Orchids as well as mixed with peat and moss, and so far the plants appear to do very well in it. I am also trying the PULP for several kinds of terrestrial Orchids. The Fibre possesses the following properties:—

"1st. It does not decay and become sour as soon as moss.

"2d. It allows water to run freely through it, which renders it well suited for this class of plants.

"3d. No insects, such as woodlice or cockroaches, can live in it.

"4th. It presents a very cleanly appearance.

"We use the Pulp or Refuse for any of the ordinary purposes to which leaf mould would be applied. So far as I have at present found the result has been very satisfactory, plants seem to root freely in it and grow with an increased vigour."—JAMES VEITCH, *Royal Exotic Nursery, King's Road, Chelsea.*

GEORGE TOLL, Gardener to J. A. Turner, Esq., M.P. (*Gardeners' Chronicle*, February 14, 1863), says:—

"I have repotted the greater part of our collection of Orchids in Cocoa-nut Fibre and Sphagnum Moss, and find they root into it very freely, and make great progress in a very short time, quite different to what they did on the old peat-and-moss system. I consider it the greatest boon ever offered to Orchid-growers."

The following are extracts from *The Journal of Horticulture*, March, 1862, page 519:—

"Cocoa-nut Refuse is a first-rate material for growing Ferns, Orange Trees, Gloxinias, Camellias, Azaleas, and Begonias. I was induced to give it a trial about this time last year through what was said in its favour in *The Journal of Horticulture*. Twelve plants of an equal size were chosen for the Fern experiment. Six were potted in the usual Fern compost—viz., one-half turfy peat, one quarter loam, and one quarter silver sand. The other six were potted in the refuse." (A table is given of the results, greatly in favour of the Refuse.) "Unfortunately, the bursting of a flue which heated the house brought trouble. Gymnogrammas and Northochlœnas in the Fern compost were sent to the rubbish-heap; but those in the *Refuse* showing signs of life were preserved, and are doing well.

"The Refuse was tried in another way. HALF LOAM and HALF REFUSE, with a *little* sand but *no* peat, which raised Pteris argyræa 2 feet high within eight months into a plant 5 feet 6 inches high and 5 feet in diameter. Also a Drynaria morbillosa, 4 feet across, with six fronds, was potted with the Refuse compost, and the same plant is now 12 feet in diameter. Again, a plant of Davallia polyantha, with 12 fronds, and the plant 2 feet in diameter, was treated to a pot full of the Refuse, the pot 1 foot 6 inches in diameter. Well, it is at present 5 feet in diameter, and very strong.

"Then, again, an ORANGE TREE last March had become deciduous; it was potted in a 12-inch pot in a compost of half Refuse and turfy loam. About May-day it began to shoot, and made during the summer ample growth, so as to be nicely green all over, and it has kept its leaves this winter, though treated precisely as it had been previously. Upon that very tree are 200 blossom-buds ready to unfold, and more swelling.

"This Refuse restores the impaired constitutions of sickly Camellias, entirely removes the variegation on their leaves, and promotes healthy root-action. Begonias like it; Azaleas thrive well in it; and Gloxinias become half-shrubby."—GEORGE ABBEY, *Gardener, Horton Hall, Bradford.*

"It answers capitally for SEEDLINGS, but mix one-half soil with it, and pass the whole through a coarse sieve. In that state all kinds of Seedlings take to it better than any other soil we have ever tried.

"There is nothing we know which is a better dressing for all Flower-beds and all kinds of Bedding Plants. We have used it for the last seven years as such."—April, 1862, pp. 15 and 16.

"Two parts strong mellow loam, one part thoroughly decayed stable manure (such as from an old hotbed), and one part of the Cocoa-nut REFUSE would make a good compost for a FUCHSIA-BED."—Page 146.

"In May last we visited the works (Kingston-on-Thames) for the first time, and found upwards of 30,000 tons of it as black as bog peat at the bottom of the mass, such as was from 8 to 12 years old. We have no doubt whatever but all American plants would do in it as well, if not a vast deal better, than in the best Wimbledon peat."—Pp. 241, 262.

"For the last 7 years I have been telling how good I found the Cocoa-nut Refuse for all plants. The best of us do not know yet one-fourth of its value. There is not a kind of soil but it will improve. The very stiffest clay, if you drain the water from it, might be rendered as mellow by it as to do for potting Cinerarias in, or Ferns, or any plant; and the sand of the desert is not so dry but it will cool and moisten it. For all market garden plants, and for Asparagus in particular, I have full testimonials that nothing can excel it. My own garden, which was a poor, black sand, is now one of the most fertile in Surrey."—D. BEATON, *Journal of Horticulture, July 8, 1862.*

"One half of that dust (Refuse), and one half of very good loam, is a first-rate compost for CYCLAMENS. We have hundreds of them in it now."—*Ibid*, page 281.

* The reason for using the pure Refuse was to give the public a fair opportunity of judging of its valuable uses. The case is perforated with holes at the bottom, and covered with SHORT FIBRE 3 inches for DRAINAGE. The plants were watered only four times from the 1st of May to the closing of the Exhibition.

SHAW'S TIFFANY.
For samples and prices apply to
J. SHAW & Co., 29, Oxford Street, Manchester.

THE FARMERS' BAROMETER, 50s., a new Instrument by NEGRETTI & ZAMBRA, will correctly indicate whether the Barometer falls for Rain or for Wind.

Particulars by enclosing stamp, 1, Hatton Garden, E.C.; 59, Cornhill, E.C.; and 122, Regent Street, W.

THE RAIN and the COLD.—Every Change in the Weather foretold, and FARMING and GARDENING operations greatly assisted, by the use of L. CASELLA'S POPULAR INSTRUMENTS for the WEATHER. Reliable Thermometer for Registering Cold, 4s. 6d.; the Gardener's Barometer, 12s. 6d. to 25s.; Rain Gauge, 15s. 6d.

The New ILLUSTRATED LIST of PRICES free by post.

L. CASELLA, Sole Medalist of the Patent Thermometer for Registering Cold, and Maker to the Admiralty, the Ordnance, &c., 23, Hatton Garden, London, E.C.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

The GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C.

# ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, N.W.

## IRON HURDLES, FENCING, and GATES.

The PROPRIETORS of the ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,

WERE AWARDED THE

SILVER MEDAL of the ROYAL AGRICULTURAL SOCIETY for their IRON HURDLES and GATES, which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30s. to 50l.

*The Hurdles can be seen in process of Manufacture at the Works.*

GAME WIRE NETTING.

PROFESSOR VARNELL'S ENAMELLED and WROUGHT-IRON STABLE FITTINGS.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their Horses. They can be had Plain, Galvanised, or Enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized Stalls and Loose Boxes are erected for inspection at St. Pancras Iron Works.

ADDRESS—THE MANAGERS, ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, LONDON, N.W., OPPOSITE OLD ST. PANCRAS CHURCH.

# SHANKS' NEW IMPROVED PATENT

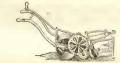
## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.

THE FIRST PRIZE INTERNATIONAL EXHIBITION MEDAL AWARDED.

NEW HORSE MACHINE.



NEW PONY MACHINE.

NEW HAND MACHINE.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved, and their success established.

These Machines will MOW EQUALLY WELL on UNEVEN as on LEVEL LAWNS, and whether the GRASS be WET or DRY. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

### SHANKS' NEW PATENT HORSE MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 1.—48-inch Machine ... | £28 0 0 | ... ... ... 40s. extra. |
| No. 2.—42-inch Machine ... | 26 0 0 | ... ... ... 40s. " |
| No. 3.—36-inch Machine ... | 22 0 0 | ... ... ... 30s. " |
| No. 4.—30-inch Machine ... | 19 0 0 | ... ... ... 30s. " |

Silent Movement, 20s. extra; Boots for Horse's Feet, 21s. per set.

### SHANKS' NEW PATENT PONY and DONKEY MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 5.—30-inch Machine ... | £15 15 0 | ... ... ... 30s. extra. |
| No. 6.—28-inch Machine ... | 14 10 0 | ... ... ... 30s. " |
| No. 7.—25-inch Machine ... | 12 10 0 | ... ... ... 25s. " |

Silent Movement, 12s. 6d. extra; Boots for Pony, 21s. per set; ditto for Donkey, 16s. per set.

### SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.

| Width of Cutter. | | |
|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 17 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 7 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine ... ... | 7 12 6 | *Ditto by a Man and Boy.* |
| No. 11.—16-inch Machine ... ... | £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 2 6 | *Ditto ditto by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25s. extra; Silent Movement, 7s. 6d. extra.

No. 16.—12-inch Machine, for pushing only, £5 5s. Easily worked by a Lady or a Boy; Silent Movement, 4s. extra.

*_* *The Machines are warranted to give ample satisfaction, and if not approved of may be at once returned.*

PATENTEES AND SOLE MANUFACTURERS:

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.

LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

*A Stock of Machines kept at the London Depot, from which Orders can be at once executed.*

AGENTS:

MESSRS. J. & C. LEE, VINEYARD NURSERY, HAMMERSMITH, W. | MESSRS. J. B. BROWN & CO., 18, CANNON STREET, CITY, E.C.

MESSRS. DOWNIE, LAIRD, & LAING, STANSTEAD PARK, FOREST HILL, S.E.

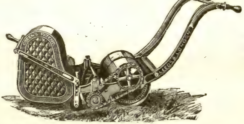
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863,

FOR WHICH HER MAJESTY'S ROYAL LETTERS PATENT HAVE BEEN OBTAINED.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOMAS GREEN FOR HIS PATENT LAWN MOWERS.



These were the only Machines highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862.

(No Prizes were given).

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS DURING THE SEASON OF 1862.

THOMAS GREEN AND SON, in introducing their PATENT LAWN MOWERS for the present season, have much pleasure in stating that the important Improvements which were added to their Machines for last season (which combined simplicity of construction, durability, and lightness of draught), have proved them to be superior to anything of the kind ever brought before the Public, inasmuch as they have given entire satisfaction wherever used, and have gained the largest sale of any Machines extant. They have carried off every Prize that has been given in all cases of competition.

GREEN'S PATENT LAWN MOWERS are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

| | | | | |
|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a lady. |
| „ 12 „ | 5 | 0 | 0 | Suitable for one person. If with internal gear, 10s. extra. |
| „ 14 „ | 5 | 10 | 0 | Do. Do. Do. Do. 10s. extra. |
| „ 16 „ | 6 | 10 | 0 | Suitable for one man or two boys. |

| | | | | | If With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|---|
| To Cut 18 inches ... | £7 | 10 | 0 | Suitable for one man and boy | £8 | 15 | 0 |
| „ 20 „ ... | 8 | 0 | 0 | Do. Do. | 9 | 5 | 0 |
| „ 22 „ ... | 8 | 10 | 0 | Suitable for two men ... | 9 | 17 | 6 |
| „ 24 „ ... | 9 | 0 | 0 | Do. Do. ... | 10 | 7 | 6 |

### DONKEY and PONY MACHINES, including Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 24 inches ... ... | £11 | 10 | 0 | ... ... ... £12 | 10 | 0 |
| „ 26 „ ... ... | 12 | 10 | 0 | ... ... ... 13 | 12 | 0 |
| „ 30 „ ... ... | 16 | 14 | 0 | ... ... ... 18 | 0 | 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

### PRICES of HORSE MACHINES, including Box of Requisites and Traces.

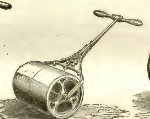
| | With Collecting Box. | | | With Patent Delivery Box | | |
|---|---|---|---|---|---|---|
| To Cut 30 inches ... ... | £20 | 0 | 0 | ... ... ... £21 | 10 | 0 |
| „ 36 „ ... ... | 23 | 0 | 0 | ... ... ... 24 | 16 | 0 |
| „ 42 „ ... ... | 26 | 0 | 0 | ... ... ... 28 | 2 | 0 |
| „ 48 „ ... ... | 29 | 0 | 0 | ... ... ... 31 | 8 | 0 |

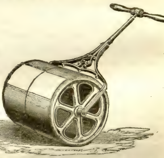
Leather Boots for Horse, per set, 1*l.* 4*s.*

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

# GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.





Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s. Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

T. GREEN AND SON in introducing the above are well aware that the extremely simple character of this Implement cannot admit of any very radical change, yet they are confident that the Improvement just effected (and secured by Letters Patent) is a real one, and is strikingly apparent when compared with any other Garden Roller. In previous Rollers a limit was always set to weight in consequence of marks being left on the gravel, and the power required to work them, but the present one is nearly double the ordinary weight, yet is considerably easier to turn in consequence of the Roller being divided in two parts, and the outer edges being rounded off or turned inwards, thus avoiding the *unsightly marks* left by all others hitherto in use. They can be used by the most unskilful with the greatest certainty of producing a beautifully even surface, either on *Lawns or Gravel Paths*, and for the *Bowling Green and Cricket Field are really indispensable.* They are manufactured of the best materials, and got up in a manner surpassing any ever yet brought out.

T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

# SAMUELSON & CO.'S PATENT LAWN MOWING MACHINES.

## SAMUELSON & CO.'S IMPROVED GARDEN ENGINES, GARDEN ROLLERS, AND GARDEN SEATS.

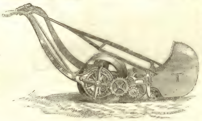
CATALOGUES FREE, ON APPLICATION TO BRITANNIA WORKS, BANBURY, or to

SAMUELSON AND CO.'S LONDON WAREHOUSE, 76, CANNON STREET WEST, CITY,

WHERE SAMPLES MAY BE SEEN.

# MORTON'S PATENT NOISELESS LAWN MOWER.

This Machine Rolls, Collects, and Delivers the Grass, and combines all the most recent Improvements, including those secured by her Majesty's Royal Letters Patent for 1863. For efficiency and simplicity it cannot be surpassed, and can be worked by any one unskilled in Machinery. It is superior to all other Machines yet introduced to the notice of the Public for keeping Lawns and Pleasure Grounds in the highest state of perfection, and is likely to be the Leading Machine of the Season. No place, however small, should be without one.



**Terms, Net Cash.**

| To Cut | £ | s. | d. | |
|---|---|---|---|---|
| 12 ins. | £4 | 15 | 0 | *Suitable for a Lady or Gentleman* |
| 14 „ | 5 | 5 | 0 | *Suitable for one Person* |
| 16 „ | 6 | 7 | 6 | *Suitable for one Man or two Boys* |
| 18 „ | 7 | 7 | 6 | *Suitable for one Man and Boy* |
| 20 „ | 8 | 0 | 0 | *Do. do.* |
| 22 „ | 8 | 8 | 0 | *Suitable for two Men* |
| 24 „ | 8 | 17 | 6 | *Do. do.* |

All Machines fitted with Silent Movement, without extra charge.

Catalogues, with Prices, can be obtained free on application to

GRIMMOND, LAIRD, AND CO., 15, CANNON STREET WEST, LONDON, E.C.; or, to the PATENTEE, CATHERINE STREET ENGINE WORKS, ARBROATH.

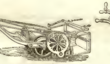
*** *Agents Wanted in every Town. Apply as above.*

# SHANKS' NEW PATENT

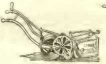
# LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

NEW PATENTED IMPROVEMENTS THIS SEASON.

EXHIBITION PRIZE MEDAL AWARDED.



HORSE MACHINE.



PONY MACHINE.

NEW HAND MACHINE.

## SHANKS' NEW PATENT MACHINE

**ws the Grass, Wet or Dry, on Lawns uneven or otherwise, in a much neater manner than the Scythe, and at half the expense.**

NO PERSON HAVING A LAWN SHOULD BE WITHOUT A MOWING MACHINE.

The first practical Gardeners of the day who have devoted their attention in examining all the different Lawn Mowers offered, do not hesitate in recommending SHANKS' Machine as *the best Mower for general use.* The important Improvements introduced last season have undergone a thorough practical test, and satisfied the most sanguine expectations. *Further Improvements, simplifying the Machine, and adding to its efficiency, have been introduced into the* NEW PATENT LAWN MOWER for 1863.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for Use.

### SHANKS' NEW PATENT HORSE MACHINE.

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 1.—48-inch Machine ... | £28 | 0 | 0 | *Drawn by a Horse.* |
| No. 2.—42-inch Machine ... | 26 | 0 | 0 | *Drawn by a Horse.* |
| No. 3.—36-inch Machine ... | 22 | 0 | 0 | *Drawn by a Horse.* |
| No. 4.—30-inch Machine ... | 19 | 0 | 0 | *Drawn by a Horse or strong Pony.* |

Patent Delivering Apparatus for Nos. 1 and 2 Machines, 40*s.*; for Nos. 3 and 4 Machines, 30*s.*; Box with complete Set of Tools, 10*s.*; Silent Movement, 20*s.*; Boots for Horses' Feet, 24*s.* per set.

### SHANKS' NEW PATENT PONY and DONKEY MACHINE.

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 5.—30-inch Machine ... ... ... | £15 | 15 | 0 | *Drawn by a Pony.* |
| No. 6.—28-inch Machine ... ... ... | 14 | 10 | 0 | *Drawn by a Pony.* |
| No. 7.—25-inch Machine ... ... ... | 12 | 10 | 0 | *Drawn by a Donkey.* |

Patent Delivering Apparatus for Nos. 5 and 6 Machines, 30*s.*; for No. 7 Machine, 25*s.*; Box with complete Set of Tools, 7*s.* 6*d.*; Silent Movement, 12*s.* 6*d.* Boots for Pony, 21*s.*; Donkey, 16*s.* per set.

### SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for use.

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 | 17 | 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 | 7 | 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine ... ... | 7 | 12 | 6 | *Do. by a Man and a Boy.* |

| Width of Cutter. | £ | s. | d. | |
|---|---|---|---|---|
| No. 11.—16-inch Machine ... ... | £6 | 17 | 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 | 2 | 6 | *Do. by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25*s.*; Box, with complete Set of Tools, 5*s.*; Silent Movement, 7*s.* 6*d.*

No. 16.—12-inch Machine for Pushing only, £5 5*s.*; easily worked by a Lady or a Boy; Silent Movement, 4*s.* extra.

*** *The Machines are warranted to give ample satisfaction, and if not approved of may be at once returned.*

AGENTS:

J. B. BROWN AND CO., 18, CANNON STREET, CITY, LONDON, E.C.

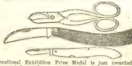
### Exhibition Prize Medal 1862.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES, PATENT IRON COW HOUSE FITTINGS, and IRON PIGGERIES.

These inventions are recommended as possessing numerous advantages not to be found in anything hitherto made. At the late Meeting of the Royal Agricultural Society at Leeds, MUSGRAVE BROTHERS received a Silver Medal, and two Awards of "Highly Commended," being the only Prizes conferred on any competitor in this class.

Particulars sent on application to the Inventors and Makers, MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

### Paxton Works, Sheffield, Established 1738.



International Exhibition Prize Medal is just awarded to SAYNOR & COOKE for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

GARDEN BORDER-EDGING TILES. — These Tiles, manufactured in Terra-Cotta, Terro Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are nvaluable.

To be obtained at F. & G. ROSHER'S Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.

Illustrated Price Lists free on application. The Trade supplied.

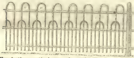
ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability, Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER, at their Premises as above.

W. S. UNDERHILL'S NEW PATENT IRON FENCE for GARDENS, LAWNS, &c.
Manufactory: Newport, Salop.

Warranted the strongest and most durable Fence ever offered at corresponding prices. It is easily repaired if broken from accidents; can be rolled up most compactly when not in use, is admirably adapted for exportation, and can be had of any height and mesh required, at prices from 4*d.* to 1*s.* 6*d.* per yard and upwards.



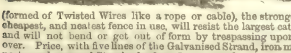
For further particulars apply at the Manufactory, or of the London Agent, Mr. R. WINDER, 18, Abingdon Street, Westminster, S.W.

### Prices Reduced.

H. J. MORTON AND CO., Galvanised Iron Works, 2, Basinghall Buildings, Leeds.

GALVANISED IRON ROOFING for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use: also Spouting at 10½*d.* per yard.

WIRE STRAND CABLE FENCING



(formed of Twisted Wires like a rope or cable), the strongest, cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, from 1*s.* per yard.

This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.

GALVANISED GAME AND POULTRY NETTING.

Galvanised, 24 ins. wide, 2-inch mesh, 4*d.*, 4½*d.*, and 6¾*d.* per yard.

Galvanised, 24 ins. wide, 3-inch mesh, 2¾*d.*, 3¾*d.*, and 5½*d.* per yard. The Netting made any width, and with openings of any size.

GALVANISED IRON CHAIN CAMP STOOLS & CHAIRS, POULTRY FOUNTAINS & FEEDERS, PRONGED DAHLIA RODS and ROSE STAKES, &c.

Strong CATTLE HURDLES from 2*s.* per yard.

PATENT IMPROVED GAS WORKS of all sizes, for the use of Private Houses, Mansions, Railway Stations, Mills, Collieries, Mines, Villages, &c. Works from 10 to 500 lights estimated for. The works can be entrusted to an ordinary labourer.—Apply to

HENRY J. MORTON & Co., 2, Basinghall Buildings, Leeds.

THOMAS MILLINGTON, 87, Bishopsgate Street Without, E.C.
HORTICULTURAL GOODS.

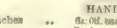
PROPAGATING GLASSES.

| | | | |
|---|---|---|---|
| 3 inches | 0*s.* 4½*d.* each. | 12 inches | 1*s.* 9*d.* each |
| 4 „ | 0 5½ „ | 13 „ | 2 0 „ |
| 5 „ | 0 6½ „ | 14 „ | 2 6 „ |
| 6 „ | 0 8 „ | 15 „ | 3 0 „ |
| 7 „ | 0 10 „ | 16 „ | 3 6 „ |
| 8 „ | 1 0 „ | 17 „ | 4 0 „ |
| 9 „ | 1 2 „ | 18 „ | 5 0 „ |
| 10 „ | 1 4 „ | 19 „ | 6 0 „ |
| 11 „ | 1 6 „ | 20 „ | 7 0 „ |

HAND GLASSES.

| | | | |
|---|---|---|---|
| 12 inches | 6*s.* 0*d.* each | 18 inches | 9*s.* 0*d.* each |
| 14 „ | 7 0 „ | 20 „ | 10 0 „ |
| 16 „ | 8 0 „ | 24 „ | 12 0 „ |

If open top, 1*s.* extra.



CUCUMBER GLASSES.
From 12 inches long and upwards, 1*d.* per running inch.

ROLLING PINS.
From 12 inches long, 1½*d.* per running inch.

Improved ANTI-CORROSION and other PAINTS.
GAS and LAMP GLASSES, GLOBES, &c.
CHIMNIES of every description.
Not accountable for Breakage.

### Monmouthshire, near Raglan.

TO BE LET, a capital FARM, consisting of about 138 Acres of Land which has been thoroughly drained. The Buildings are in good repair. Distant one mile from a Railway Station.

For particulars apply to Mr. BAILEY DENTON, 52, Parliament Street, S.W.; or to Mr. W. F. BATT, Solicitor, Abergavenny.

### Sales of Philosophical Instruments, Photographic Apparatus, Books, &c.

MR. ARTHUR PLEWS has the honour to announce that he purposes establishing SALES of the above description of property at his GREAT SALE ROOMS, 11, Catherine Street, Strand, W.C., EVERY THURSDAY throughout the year.

Particulars and Scale of Charges can be had on application.

### Horticultural Stock, Seeds, Bulbs, &c.

MR. ARTHUR PLEWS has the honour to announce that he purposes establishing SALES of HORTICULTURAL STOCK at his GREAT SALE ROOMS, 11, Catherine Street, Strand, W.C., EVERY TUESDAY and FRIDAY throughout the year.

Particulars and Scale of Charges can be had on application.

### Sales of Poultry, Rabbits, Pigeons, and Fancy Birds.

MR. ARTHUR PLEWS has the honour to announce that he purposes establishing SALES of POULTRY, RABBITS, PIGEONS, &c., at his GREAT SALE ROOMS, 11, Catherine Street, Strand, W.C., EVERY WEDNESDAY throughout the year.

Particulars and Scale of Charges can be had on application.

## Sales by Auction.

### 9000 Scotch Firs, 10,000 Quick, Fruit Trees, Shrubs, &c.

MR. ARTHUR PLEWS will SELL by AUCTION, at his Great Sale Rooms, 11, Catherine Street, Strand, W.C., on TUESDAY, March 24, at half-past 12 o'Clock, a large collection of SCOTCH FIRS, QUICK, FRUIT TREES, SHRUBS, a fine specimen of VARIEGATED HOLLY, and various Horticultural and Floral Produce.

May be viewed the Morning of Sale, and Catalogues had.

### Great Horticultural Sale Rooms, 11, Catherine Street, Strand, W.C.

MR. ARTHUR PLEWS will SELL by AUCTION, at his Great Sale Rooms, on FRIDAY NEXT, March 27, at half-past 12 o'clock precisely, a fine Collection of HORTICULTURAL and FLORAL PRODUCE, full particulars of which will be shortly announced.

May be viewed the Morning of Sale, and Catalogues had.

### Ruddington Manor.

IMPORTANT SALE OF CHOICE STOVE AND HOTHOUSE PLANTS.

WM. WRIGHT is honoured with instructions from Sir Thomas Parkyns, Bart., to SELL by AUCTION, on TUESDAY, March 24, at 11 o'clock precisely, the following Rare Specimens of STOVE and GREENHOUSE PLANTS, consisting of—

| | |
|---|---|
| Marantas | Cacti |
| Allamandas | Franciscea |
| Rhynchospermums | Chorozemas |
| Rondeletias | Epacris |
| Echites | Ericas |
| Thunbergias | Aphelexis |
| Aerides odoratum, 7 stems, 4 feet high; 34 spikes of bloom last year | Azaleas, Standards & others |
| And other Orchids. | Kennedyas |
| Dracæna terminalis | Pimeleas |
| Strelitzia Reginæ, 2 large plants. | Lapageria rosea, a remarkably fine specimen, showing 37 blooms at one time last season. |

And numerous other Stove and Greenhouse Plants.

LARGE COLLECTIONS of FUCHSIAS, GERANIUMS, FERNS, CALCEOLARIAS, CINERARIAS, &c.

The above valuable Lots have been collected by Sir Thomas Parkyns with great care, regardless of expense, he having been almost in every instance a successful Exhibitor in taking away the best Prizes at the Horticultural Shows.

In consequence of the change of Residence to some distance, the Lots, consisting of about 400 in number, are all to be disposed of.

Ruddington Manor is within 4 miles of Nottingham Railway Station. The Gardener will be attendance 10 days prior t Sale, where particularized Catalogues may be had, as also at the *Guardian* Office, Nottingham; *Mercury* Office, Derby; and of the Auctioneer, Thrumpton, Kingston, Derby.

### Forthcoming Sales.

MR. J. C. STEVENS begs to announce that he has received instructions to SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on

Saturday, March 21.—Ornamental Flower Baskets, Moss Roses, Bulbs, Rhododendrons, Conifers, &c.

Monday, March 23.—1000 Pear Trees, 200 Apricot Trees, 600 Rhododendrons, 200 Azaleas, &c., all splendid plants just arrived from France.

Tuesday, March 24.—The collections of British Insects of the late John Walton, Esq., F.L.S., &c.; also several other private collections of Coleoptera and Lepidoptera, Cabinets, Entomological Books, &c.

Wednesday, March 25.—A splendid assortment of Plants, consisting of Carnations, Pinks, Dianthus, Conifers, Laburnums, Laurels, Dielytras, Delphiniums, Phloxes, Gazanias, Iris, Clematis, Lilium giganteum, Gladioli, Dahlias, Pæonies, Violets, &c.

Thursday, March 26.—Choice Rose Trees, Conifers, Fruit Trees, Rhododendrons, Hollies, Forsythias, Syringas, and other Plants just arrived in splendid condition from a well known nurseryman in Holland.

Friday, March 27.—Valuable Photographic Lenses, Microscopes, Photographs, Opera Glasses, Stereoscopes and Slides, Watercolour Drawings, Jewellery, &c.

Saturday, March 28.—Moss Roses, Conifers, Laurels, Ornamental Evergreens, Fruit Trees, &c.

Tuesday, March 31.—Choice Poultry and Pigeons, about 250 Pens, from the yards and lofts of well known breeders and exhibitors.

Wednesday, April 1.—Pinks, Carnations, Picotees, Conifers, Fruit Trees, and other Plants.

Thursday, April 2.—Electrical and other Apparatus, the property of a gentleman deceased, Philosophical Instruments, Photographic Apparatus, &c.

Tuesday, April 7.—250 lots of Choice Poultry and Pigeons.

Wednesday, April 8.—Important Collection of Established Orchids, containing many Rare and Valuable Plants.

Thursday, April 9.—Valuable Collection of Shells, the property of a gentleman.

Friday, April 10.—Philosophical Instruments, &c.

Also in APRIL and MAY.

Several collections of Established Orchids.
An interesting collection of Turquoises from Arabia Petrea.
Importation of rare Araucarias from Sydney.
An important collection of British Birds' Eggs.
50,000 choice Bedding Plants, four entire Sales.
Hardy and Ornamental Plants, Bulbs, &c., two entire Sales.
500 lots of Poultry and Pigeons, two entire Sales.
A large collection of Bird and Animal Skins, Horns, &c.
Several Importations of Orchids from India and other parts.
Valuable Collection of Skeletons of Birds and Animals.
Collection of Eggs and Bird Skins from Lapland.
Interesting Photographic Negatives, Photographs, &c., of the celebrated Photographer, Mr. Roger Fenton.
200 Rows of valuable Tulips of R. Headly, Esq., of Staplehurst, near Cambridge.
Dr. Bird's Anatomical Museum and Medical Books.
Cabinet of Shells, the property of a well-known collector.
Valuable Collection of Birds' Eggs, the property of a gentleman.
128 lbs. weight of Clean Seed of Cedrus Deodara from India.

Catalogues of any of the above Sales will be forwarded on receipt of Two Stamps, to Mr. J. C. STEVENS, Auctioneer and Valuer, 38, King Street, Covent Garden, London, W.C.

### Standard Roses, Fruit Trees, Camellias, &c.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at the Mart, Bartholomew Lane, City, E.C., on FRIDAY, March 27, at 12 o'clock, about 300 handsome STANDARD and DWARF ROSES, Selected FRUIT TREES, choice AMERICAN PLANTS, &c. Also some fine Double Camellias, Azalea indica, Cinerarias, and other Plants in Bloom; Lilium lancifolium, Gladiolus Brenchleyensis, Fuchsias, Verbenas, Dahlias in dry roots, &c.

On view the Morning of Sale. Catalogues had at the Mart; and of the Auctioneers and Valuers, Leytonstone, Essex, N.E.

### Banbury, Oxon.

TO NOBLEMEN, AGRICULTURISTS, LAND STEWARDS, FARMERS, AND OTHERS.

Highly important SALE of First-class AGRICULTURAL MACHINERY, at Messrs. KIRBY & BARROWS', Engineers, Cherwell Works, Banbury.

MESSRS. CLARKE AND BARROWS have received instructions to SELL by PUBLIC AUCTION, on THURSDAY NEXT, March 26 (in consequence of a dissolution of partnership, and in contemplation of new and extensive arrangements by Mr. Barrows, the remaining partner), 20 Valuable and Highly-finished Portable Steam Engines, for Ploughing, Thrashing, &c., from 2 to 10-horse power; a 4-horse power Fixture Engine; 6 valuable Combined Thrashing and Finishing Machines; a set of valuable Steam Cultivating Apparatus; several useful Second-hand Portable Steam Engines and Thrashing Machines, by eminent makers, from 2 to 8-horse power; Saw Benches; 2 Patent Mop Stale Turning Machines, &c.

Luncheon at 11 o'Clock; Sale to commence at 12 o'Clock precisely.

Detailed particulars are given in Catalogues, to be had of Mr. T. W. BARROWS, the Works, and at the London Depôt, 76, Cannon Street West, E.C.; or of the AUCTIONEERS, 1½, Temple Street, Birmingham.

### Babraham, near Cambridge.

EXTENSIVE AND MOST IMPORTANT SALE OF THE ENTIRE HERD OF FIRST-CLASS SHORTHORNED CATTLE.

MESSRS. H. STRAFFORD AND J. CARTER JONAS, who are jointly concerned on this occasion, are honoured with instructions from the Executors of the late Mr. Jonas Webb to offer for SALE by AUCTION, without any reserve, the far-famed BABRAHAM HERD of First-class SHORTHORNS, consisting of about 150 head of Bulls, Cows, and Heifers, which are chiefly descended from the following celebrated Cows: "Celia," "Dodona," "Belinda," "Bodice," "The Beauty," and "Daffy Gwynne," which on reference to the Herd Book will show a fine combination of good blood, and a marvellous illustration of the prolific character of the two former tribes in the hands of the late Proprietor for the last 20 years, during which time has been used some of the best blood of the day. The Herd will be divided in two portions, the first of which will be offered on WEDNESDAY, April 15, and the remainder on WEDNESDAY, the 15th July next.

The Auctioneers beg to call attention to the high honour gained by this Herd in winning the Gold Medal with "First Fruits," for the best Short-horned Bull exhibited at the recent Battersea Show, and to assure Breeders and Buyers of Shorthorns, that their instructions from the Executors are most positive, and that the whole will be sold without the slightest reserve.

Catalogues, with Pedigrees, and other particulars, may be had on application to Mr. J. CARTER JONAS, Land Agent, Cambridge; or of Mr. STRAFFORD, 13, Euston Square, London, N.W.

# THE HYDROPULT,

**THE HYDROPULT**

IS INVALUABLE FOR

WATERING GARDENS,

EXTINGUISHING FIRE at its COMMENCEMENT,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

DRESSING with LIQUID MANURE,

SPRINKLING PLANTS,

WASHING WINDOWS,

WETTING SIDEWALKS,

SPRINKLING STREETS,

WASHING CARRIAGES,

WETTING SAILS,

A SPRAY BATH,

&c. &c.

CAUTION. — Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will in due time be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.

"GRIFFITH & BROWETT, Manufacturers, Birmingham;

"CHARLES P. BUTTON, General Agent.

"VOSE'S Patent;"

and is sold at the uniform rate of TWO GUINEAS, complete, with 2½ feet suction and 3-feet delivery hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet. It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution.

## AN INVENTION FOR THROWING WATER BY HAND POWER.

SECURED BY ROYAL LETTERS PATENT.

**PRICE TWO GUINEAS,**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet.

The Hydropult is a simple, effective, and convenient Apparatus for throwing Water by hand. It WEIGHS BUT 8 LBS., is made of Brass and Copper, costs but Two Guineas, and will throw 7 or 8 gallons of water per minute 50 FEET when worked by the power of one man.

## FIRE! FIRE! FIRE!

THE HYDROPULT IS THE MOST EFFECTIVE FIRE ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.
ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

EXTRACTS FROM TESTIMONIALS.

Read the following from THOS. RIVERS, Esq., the eminent Florist and Nurseryman:—

"The Hydropult is admirably adapted for Nurseries, and will be found invaluable for Watering and Syringing Plants and Trees in pots."

SHIRLEY HIBBERD, Esq., says in the "Gardeners' Magazine:"

"It will perhaps surprise the reader to be told that this little contrivance, which is pretty as a toy, and can be carried under the arm as easily as a trumpet, will throw from 7 to 8 gallons of water per minute a distance of 50 feet. But it will do it, as we know from having tried it, finding the experiment an agreeable exercise, and of special service in washing down a stuccoed wall, which it accomplished quite as well as if we had sent for the parish engine. Gardeners will not need to be told the value of a Portable Force Pump of this simple kind. It can be used to produce a powerful stream to extinguish a Fire, or a gentle shower to Syringe a whole house full of Plants, without the necessity of moving a single step from the position most convenient for a supply of water. Wherever a Pump or Syringe is needed the Hydropult can be brought into use, to remove Water from a Cellar or a Boat, to cleanse a Cistern, wash a Pavement, or drench the Foliage of Trees loaded with soot, or annihilate at one fell swoop the whole Insect population of a Plantation of Roses. But we will not enlarge upon its merits, they are obvious, and having a Hydropult in use we can say that it will soon pay for its cost in a Garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."

"There can be no doubt but that it can be made available in the earlier stages of Fire in Warehouses, Manufactories, or Private Houses, in preventing large conflagrations.

"PERCY M. DOVE, Esq.,
"Manager Royal Insurance Company."

"The invention will prove extremely valuable for all the purposes to which such Machines are applied.

"SWINTON BOULT, Esq.,
"Secretary Liverpool and London Insurance Company."

IMPORTANT TO YACHTING CLUBS.

We take pleasure in presenting to the public the following Testimonial from Lieut.-Colonel WHEATLEY:—

"I have much pleasure in stating that both I myself and several friends have used your Hydropult for Wetting Yachts' Sails and Washing and Baling out Boats with the greatest success; and, for an instrument of its size, consider it most useful and applicable to Yachting purposes, obviating the necessity of a large engine or skeats during a match.

(Signed) "W. WHEATLEY."

Important communication from WILLIAM CHRISTIAN, Esq., Manager of the Baldock Bank:—

"February 19, 1863.

"Mr. CHARLES P. BUTTON.—Dear Sir,—It gives me great pleasure to forward you particulars respecting the cottages in this town that were saved on the 1st of January by the use of your Hydropult. The property consisted of a row of 10 cottages, separated only from the fire that was devastating three thatched cottages by a narrow passage about one yard wide. By this useful little instrument I was able to keep the gable end, immediately facing the fire, continually wet, so that when the flames reached it, they had very little or no effect. Every one on the spot seemed very much astonished at the power of this little engine, among whom was the owner of the cottages, who is perfectly convinced, had it not been for the Hydropult, his property must have been consumed.

"On the same night I had been to another fire in the town, with the same instrument, and did great service. Feeling so satisfied with its performance there, made me take it to the second fire, so that this little engine was pumping away for over six hours altogether, without doing it the slightest injury.

"I remain, yours truly, "W. CHRISTIAN."

The *Hertford Mercury* in speaking of the above fire, says:— "The town engine was as soon as possible upon the spot, but found of little use, owing to the inconvenience of getting water. The adjoining range of tenements were saved almost entirely through the exertion of Wm. CHRISTIAN, Esq., Manager of the Baldock Bank, who brought to the scene a Hydropult, which, being kept well supplied with water by hand buckets, was made to play with great effect."

*Prospectus, with Testimonials, on application at either Office.*

HYDROPULT OFFICE: 27, LEADENHALL STREET, LONDON, E.C.; and 309, REGENT STREET.
CHARLES P. BUTTON, PROPRIETOR.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# THE GARDENERS' CHRONICLE

AND

# AGRICULTURAL GAZETTE.

**A Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.**

No. 13.—1863.] SATURDAY, MARCH 28. Price Fivepence. STAMPED EDITION, 6*d*.


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ROYAL HORTICULTURAL SOCIETY.
FLORAL COMMITTEE.
A MEETING of this COMMITTEE will take place on TUESDAY, March 31.
The Subjects for examination must be at South Kensington, for entry, by 11 A.M.
THOS. MOORE, Secretary to the Committee.

ROYAL BOTANIC SOCIETY,
REGENT'S PARK.
EXHIBITIONS of PLANTS, FLOWERS, and FRUIT, WEDNESDAYS, May 13, June 3, and 24.
AMERICAN PLANTS, MONDAY, June 8.
Tickets can be obtained at the Gardens by orders from Fellows of the Society. Price on or before May 2, 4*s.*; after that day, 5*s.*; or on the days of Exhibition, 7*s.* 6*d.* each.
The next SPRING EXHIBITION, SATURDAY, April 11.

**New Roses of 1863.**
PAUL AND SON have now ready their usual fine Plants of the finest Novelties of the season. DESCRIPTIVE LIST on application.
"Old" Cheshunt Nurseries, Herts.

ALL the NEW ROSES of 1863.—In fine strong Plants now ready.
DESCRIPTIVE LISTS on application.
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Strong healthy Plants are now ready.
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For prices apply (stating quantity required) to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

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Castle Acre Lodge.—March 28.

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| 36 " " .. .. | 3 0 | 6 0 | 9 0 |
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| 100 " " .. .. | 8 4 | 15 0 | 25 0 |
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| 12 " " .. .. | 2 6 | 3 6 | 6 0 |
| 24 " " .. .. | 4 0 | 6 0 | 10 6 |
| 6 Everlastings .. .. .. | 1 3 | 2 0 | 3 0 |
| 12 " .. .. .. | 2 0 | 3 6 | 6 0 |
| 6 Ornamental Gourds .. | 1 0 | 1 6 | 2 6 |
| 12 " " .. .. | 2 0 | 3 6 | 5 0 |
| 25 " " .. .. | 4 6 | 6 6 | 10 6 |

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| TALL DOUBLE LARKSPUR, 8 vars. .. .. .. .. | 1 | 0 |
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| DOUBLE FRENCH BALSAMS, VILMORIN'S, 28 vars. | 3 | 6 |
| " " 14 vars. | 2 | 0 |
| WALLFLOWER, GERMAN, 10 vars. .. .. .. | 2 | 0 |
| ZINNIA, ELEGANS, FL. PLENO, 12 vars. .. .. | 1 | 6 |
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# INTERNATIONAL EXHIBITION.

PRIZE MEDALS 1851 AND 1862

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

# BUTLER & McCULLOCH, Seed Merchants,

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(ESTABLISHED UPWARDS OF A CENTURY.)

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NEW LARGE FLOWERING GERMAN DWARF TEN-WEEK STOCKS.

12 Splendid Vars., of the most beautiful colours 2s. 6d. | 12 Splendid Vars., smaller packets ... ... 1s. 6d.

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## STRONG FLOWERING CANNA ROOTS.

A PORTION OF THE UNRIVALLED COLLECTION OF OUR "SARDINIAN CORRESPONDENT."

Well managed, the CANNA ROOTS we offer will make splendid plants for a summer and autumn display.

If associated with Gladioli, Hollyhocks, &c., in large beds on the lawn, or in mixed flower and select shrubbery borders, the varied and beautiful foliage of this plant cannot fail to make it one of the most conspicuous and desirable for ornamental foliage.

Of late years fine foliaged plants, and such as are of stately growth, have been much sought after for the adornment of the flower garden, terraces, pleasure grounds, lawns, select shrubberies, carriage drives, &c.; besides relieving the monotony too frequently to be met with in such places, plants of this character impart a somewhat Oriental aspect.

Amongst such the CANNA stands unrivalled; its large picturesque foliage, and spikes of vivid-coloured flowers, produce a truly magnificent effect, especially when planted in groups, whether on the lawn, in the centre of large beds, or in the mixed flower border.

To bring out the characteristic beauties of the CANNA during the early summer as well as autumn months, plant the roots in pots as early as convenient, placing them in a frame, greenhouse, sitting-room window, or wherever there is warmth. Towards the latter end of May, or beginning of June, plant them out in the warmest situations at command, and water liberally during hot dry weather with weak guano water. The plants delight in deep rich soil, therefore trench the ground to the depth of 2 or 3 feet, and manure heavily before planting out.

For DESCRIPTIVE LIST of CANNA SEED, see "GUIDE to FLOWER GARDEN."

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| 3179 | 100 Roots assorted, our own selection, in 25, 30, and 40 varieties .. .. 5l. 5s., 6l. 6s, and | £7 7 0 |
| 3180 | 50 Ditto, ditto.. .. .. .. .. .. | 2 15 6 |
| 3181 | 25 Ditto, ditto.. .. .. .. .. .. | 1 10 6 |
| 3182 | 12 Ditto, ditto.. .. .. .. 12s., 18s., to | 1 1 0 |
| | Each | s. d. |
| 3183 | CANNA ACHYRAS, dark red, 5 ft., from Mendosa | 1 0 |
| 3184 | ,, ANGUSTIFOLIA NANA PALLIDA, light red, 1 foot, from South America .. .. | 1 0 |
| 3185 | ,, ANNEI WARSCEWICZOIDES, raised by Mr. Anne, a most splendid variety .. .. | 2 6 |
| 3186 | ,, BICOLOR DE JAVA, red and yellow, 3 feet, from Java.. .. .. .. .. .. | 1 6 |
| 3187 | ,, COCCINEA VERA, scarlet, very fine, 4 to 5 feet, from South America .. .. .. | 1 0 |
| 3188 | ,, COMPACTA ELEGANTISSIMA, large, reddish-yellow, free-flowering, 2 feet, from South America .. .. .. .. .. | 1 6 |
| 3189 | ,, CRENULATA, undulated or wavy foliage, fine | 2 6 |
| 3190 | ,, CUBENSIS, scarlet, fine long foliage, 6 feet .. | 2 6 |
| 3191 | ,, ELEGANS, deep carmine, graceful variety, 6 to 7 feet .. .. .. .. .. .. | 2 0 |
| 3192 | ,, FINTELMANNII, yellow, magnificent variety, 3 feet, from South America .. .. .. | 1 6 |
| 3193 | ,, FLACCIDA, dwarf habit, handsome foliage, very large brilliant golden yellow flower, 3 feet .. .. .. .. .. .. | 2 0 |
| 3194 | ,, FLORIBUNDA, red, shaded with yellow, 3 feet, from Africa .. .. .. .. | 1 6 |
| 3195 | ,, GIGANTEA, fine, scarlet, enormous leaves, exquisite, 3 feet, from India .. .. .. | 1 6 |
| 3196 | ,, ,, AURANTIACA, orange red, very fine, 10 feet .. .. .. | 1 6 |
| 3197 | ,, HOOKERII, carmine, exceedingly handsome and graceful, 4 feet .. .. .. .. | 1 6 |
| 3198 | ,, KALOSANTHA, bright red flowers, with long petals, 3 to 4 feet .. .. .. .. | 1 6 |
| 3199 | ,, KARSTEINIANA, fine maroon, 3 feet, from India .. .. .. .. .. .. | 1 6 |
| | Each | s. d. |
| 3200 | CANNA KEGELII, shaded carmine, 3 ft., from India | 1 6 |
| 3201 | ,, LÆTAL, yellow and red, 3 feet .. .. .. | 1 0 |
| 3202 | ,, LEPTOPHYLLA, ruby, handsome foliage, 4 feet, from Lagona .. .. .. .. | 1 6 |
| 3203 | ,, LAMBERTII, scarlet, 4 feet, from Trinidad .. | 1 6 |
| 3204 | ,, LIMBATA MAJOR, intense scarlet, edged with yellow, very striking, 4 ft., from Brazil | 2 6 |
| 3205 | ,, LINDLEYANA, very remarkable foliage, 5 ft. | 2 6 |
| 3206 | ,, LUTEA PICTA, shaded yellow, 4 ft., from Brazil .. .. .. .. .. .. | 1 0 |
| 3207 | ,, MEGELII, scarlet flowers, very large, 5 feet .. | 2 0 |
| 3208 | ,, NEPALENSIS, clear yellow, very beautiful, 3 feet, from Nepal .. .. .. .. | 1 6 |
| 3209 | ,, PATENS SUPERBA, deep red, splendid, 5 ft., from Rio Janeiro .. .. .. .. | 2 6 |
| 3210 | ,, PEDUNCULATA, scarlet, 5 feet, from Rio Janeiro .. .. .. .. .. .. | 1 6 |
| 3211 | ,, ROSEA MULTIFLORA, salmon-colour, magnificent, 4 feet .. .. .. .. .. | 2 6 |
| 3212 | ,, SANGUINEA CHATEI, blood red, dark foliage and stems, 6 feet .. .. .. .. | 2 6 |
| 3213 | ,, SELLOWII, scarlet, profuse blooming, 4 to 5 feet, from Africa .. .. .. .. | 1 0 |
| 3214 | ,, species of Guatemala, brilliant red, 4 feet .. | 1 6 |
| 3215 | ,, SPECIOSA, red, 4 feet, from South America .. | 1 6 |
| 3216 | ,, SPECTABILIS, red spotted, 4 feet, from South America .. .. .. .. .. .. | 1 6 |
| 3217 | ,, STENOGYNA, magnificent foliage, 6 feet .. | 1 6 |
| 3218 | ,, SUBULATA RUBRA, brilliant carmine, with magnificent foliage, 3 feet, from Africa .. | 2 6 |
| 3219 | ,, WARSCEWICZII, brilliant red, foliage striped, 3 feet, from Central America .. .. .. | 1 0 |
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| 3222 | ,, VARIEGATA, shaded foliage, most elegant habit, 6 feet .. .. .. .. .. | 2 0 |
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# S. GLENDINNING & SONS,

### NURSERYMEN AND SEEDSMEN

(SUCCESSORS TO THE LATE R. GLENDINNING),

Are now sending out their COLLECTIONS of KITCHEN GARDEN SEEDS.

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| No. 1 | contains | 36 Quarts of PEAS, | and all other Seeds in proportion | | | £5 5 0 |
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| No. 1, | containing | 100 | Large Packets of | Best Hardy Annuals | ... ... | £0 18 0 |
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The above Collections consist only of best and most useful varieties, and are of the finest quality.

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CHISWICK NURSERY, LONDON, W.

GLADIOLUS, SEEDLINGS of GANDAVENSIS.

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| 50 in 25 extra choice varieties | .. .. | £2 2s. 0d. |
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| 50 in 50 choice varieties | .. .. .. | 2 12 6 |
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Extra fine mixed, 2s. 6d. per doz., 17s. 6d. per 100.

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, W.C.

**New Verbenas and Fuchsias. Double and Single Petunias of 1862.**

WM. KNIGHT offers strong well-established Plants of all the best varieties of the above for Bedding or Exhibition, having been one of the most successful exhibitors of the above. Nothing but first-rate proved flowers in their classes are offered. VERBENAS, 5s. per doz.; FUCHSIAS, 6s. per doz.; PETUNIAS, 6s. per doz.

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WEBB'S GIANT POLYANTHUS; ditto COWSLIP; Florist's Flower, POLYANTHUS, Roots or Seed; also SCARLET PRIMROSE—Double Crimson, Double Purple, Double White, Double Yellow, and Double Lilac ditto. COWSLIP from the Himalayas; DOUBLE POLYANTHUS; and other varieties, all of which may be had on application to

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FIRST CLASS NEW FUCHSIAS. — Coloured Drawings by Mr. ANDREWS of SANSPAREIL, BRIDESMAID, CONSPICUA, and HERCULES, are now ready, and will be forwarded in exchange for 12 postage stamps.

G. S. begs to offer the above as the most Superb FUCHSIAS yet offered to the Public. For description, with price, and also time of sending out, see CATALOGUE, now ready.

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A PRICED and DESCRIPTIVE CATALOGUE of all the new and leading kinds of Show, Spotted, French, Fancy, Scarlet, and Variegated Pelargoniums, Fuchsias, Verbenas, Petunias, Dahlias, Chrysanthemums, Bedding Plants, &c., is now ready in exchange for one postage stamp.

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Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.

CATALOGUES free on application.

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**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

E. G. HENDERSON AND SON offer First-class quality of CINERARIA,

CALCEOLARIA, and PRIMULA SINENSIS FIMBRIATA, 1s. and 2s. 6d. per packet.

CINERARIA WEBBI.—The interest and value of this species consists in its having a shrub-like branched habit of growth, attaining from 3 to 4 feet in height. This remarkable plant is expected to originate a new and desirable class of varieties for exhibition purposes, in having already passed into all the colours found in florist varieties of the present time, and no doubt but higher improvements in form, and other essential properties, will be obtained in connection with its superior culture. It will be found well adapted for decorative purposes, by its taller growth, and longer continuance in bloom. 2s. 6d.

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**Hardy Scarlet and other Choice Rhododendrons.**

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

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MARSH AND PERKINS, 42, Drapery, Northampton, have pleasure in offering the following strong autumn-struck Plants:—

TOM THUMB GERANIUMS,
CALCEOLARIA AUREA FLORIBUNDA,
,, MACKAYII,
,, PRINCE OF ORANGE.
} 8s. per 100 when equal quantities of each are taken.

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AMARANTHUS MELANCHOLICUS (var. ruber).—Habit very compact, height 1 to 1½ feet, with striking blood-red foliage; a most valuable bedding plant for Flower Garden decoration, after the style of Perilla Nankinensis. Price per packet, 6d., 1s., and 2s. 6d. The Trade supplied.

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WELLINGTONIA GIGANTEA.—The attention of the Nobility, Gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12s.; per 100 or 1000 on application. A Sample free by post for 12 stamps.

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The great satisfaction which these kinds have given in previous seasons, renders further comment on their merits unnecessary. The additional care taken however in saving the seed last year will probably result in producing flowers much superior to any ever seen.

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WM. PAUL (Son and Successor to the late A. Paul) respectfully invites attention to the following NEW ROSES, which will be ready for delivery very shortly.

LORD HERBERT, H.P.—Rosy carmine, the petals reflexing at the summits in the way of Beauty of Waltham, large, full, and finely formed, and altogether of first-rate excellence. 7s. 6d.

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MRS. WILLIAM PAUL, H.P.—Bright violet red, shaded with fiery red; flowers constantly, and in clusters, large and full. Raised by M. Verdier, of Paris, the raiser of Madame Furtado, and others of our finest Roses. 5s.

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BEAUTY OF WALTHAM, H.P.—Bright rosy crimson, of good size, form, and substance, and deliciously sweet. This Rose is found to surpass the description originally given of it. 3s. 6d.

All the new French Roses, 3s. 6d. to 5s. each, or 42s. per dozen. The best of the old Roses at lowest advertised prices. The plants are well established, and in the finest possible health.

PRICED CATALOGUE free by post.
Nurseries and Seed Warehouse, Waltham Cross, N.

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STEPHEN SHILLING has to offer the above Plants, good, strong, and well-established in pots, at 31s. 6d. per 100.

As it will save a great expense in the carriage, he will supply the same turned out of pots, carefully packed, at the following prices. 25s. per 100.; 10l. per 1000.

Delivered to the Winchfield and Basingstoke Stations, on the South Western Railway.

Orders executed in strict rotation as received.
North Warnboro' Nursery, Odiham, Hants—March 28.

BEDDING GERANIUMS, 2s. 6d. per dozen. Twelve dozen choice Bedding GERANIUMS, in 12 varieties, purchaser's selection, for 32s. 6d., basket and package included; or any kind separately, at 3s. 6d. per dozen.

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| Golden Chain | Scarlet Perfection | CrystalPalaceScarlet |
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All the leading kinds at moderate prices. Price to the Trade on application.

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CORNELIUS WHITEHOUSE, Brereton Nursery, Rugeley, Staffordshire, offers an immense stock of well-grown healthy extra Transplanted HOLLIES, exceedingly well-rooted, from 12 to 15, 15 to 18, 18 to 24, 24 to 30 inches. Also very handsome SPECIMEN PLANTS from 3 to 5 feet; also ENGLISH YEWS from 2 to 2½ feet, 2½ to 3 feet and upwards. The above growing on ground to be cleared for other stock, the price will be liberal. Trade price on application.

GEORGE BAKER begs to offer the following, a selection from his extensive Stock:—

ARAUCARIA IMBRICATA, 3 feet, 6 feet, 9 feet, 14 feet.
ABIES DOUGLASII, 3 feet, 5 feet, 10 feet, 14 feet, 25 feet.
ARBOR-VITÆ (WAREANA), 3 feet, 6 feet, 8 feet.
CEDRUS DEODARA, 3 feet, 6 feet, 12 feet, 20 feet.
CUPRESSUS LAWSONIANA, 3 feet, 5 feet.
,, DISTICHA, 3 feet, 8 feet, 12 feet.
CEDRUS LIBANI, 6 feet, 8 feet, 10 feet.
CHINESE JUNIPER, 3 feet, 5 feet, 6 feet.
IRISH YEW, 4 feet, 6 feet, 8 feet.
JUNIPERUS RECURVA, 8 feet.
PICEA CEPHALONICA, 3 feet, 4 feet, 11 feet.
PINUS CEMBRA, 3 feet, 5 feet, 7 feet.
,, EXCELSA, 10 feet, 15 feet.
THUJA GIGANTEA, 4 feet, 5 feet, 6 feet.
THUJOPSIS BOREALIS, 1 foot, 2 feet.
PINUS AUSTRIACA, 3 feet, 4 feet.
,, BENTHAMIANA, 3 feet, 4 feet.
WEYMOUTH PINE (fine), 1½ foot, 2 feet.
SPRUCE FIR, 1 foot, 2 feet.
AZALEAS (to name)
ANDROMEDAS (to name).
RHODODENDRONS (to name).
,, STANDARDS (to name).
KALMIA LATIFOLIA.
,, ,, STANDARDS (very fine heads).

Prices free by Post, on application. Also G. B.'s GENERAL PRICED LIST is now ready.

American Nursery, near Bagshot, Surrey, about 1¼ mile from Sunningdale Station, S. W. R.

TO THE TRADE.— Special Offer.

ABIES MENZIESII, 9 to 12 inches, 3s. per dozen; 20s. per 100.
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24 to 30 inches, 9s. per dozen; 60s. per 100.
PINUS INSIGNIS, 4 to 5 feet, 3s. 6d. each; 30s. per dozen.
5 to 6 feet, 5s. each; 42s. per dozen.
BERBERIS DARWINII, 6 to 9 in., 5l. per 1000, or 12s. 6d. p. 100.
9 to 12 ins, 3s. per doz.; 15s. per 100.
18 to 24 ins., 9s. per doz.; 60s. per 100.
CUPRESSUS LAWSONIANA, 2 to 3 feet, 200s. per 100.
3½ to 4½ feet 30s. per dozen.
4½ to 5 feet, 36s. per dozen.
5 to 6 feet, 5s. to 7s. 6d. each.
THUJA LOBBI, 18 to 24 in., 12s. per doz.; or 75s. per 100.
2 to 3 feet, 18s. per doz.; or 100s. per 100.
BLUSH CHINA ROSES, 25s. per 100.
RHODODENDRON PONTICUM, fine large bushy stuff, 1½ to 2½ feet, 40s. to 60s. per 100.
2 to 3 feet, 70s. per 100
3 to 4 feet, 126s. per 100.
WELLINGTONIA GIGANTEA, 4½ to 5 feet, 42s. to 50s. each.
5 to 6 feet, 50s. to 63s. each.
6 to 7 feet, 63s. to 84s. each.
7 to 8 feet, 84s. to 105s. each.

The above are all fine healthy, well rooted stuff.

TRADE CATALOGUE of GENERAL NURSERY STOCK on application.

Thomas Cripps, Nurseryman, Tunbridge Wells, Kent.

## Bedding Tropæolum.—Ball of Fire.

ARTHUR HENDERSON and SON intend sending out the above brilliant BEDDING TROPÆOLUM on the 1st of May.

For description and full details see figure and remarks in the *Floral Magazine* for January, 1863, Plate 129, colour of Tom Thumb Geranium. This will prove one of the best and most beautiful Bedding Plants of the season.

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| Per 100 Plants | .. £3 10 0 | Per 25 Plants | .. £1 10 0 |
| ,, 50 ,, | .. 2 2 0 | ,, 12 ,, | .. 0 18 0 |

1 Plant .. .. 2s. 6d.

Pine Apple Place, Edgeware Road, London, W.

HOLLYHOCKS (mixed)
from the finest Show Varieties.
Strong Blooming Roots,
4s. to 6s. per dozen; 25s. per 100.

RICHARD SMITH,
The Nurseries,
Worcester.

## To Vine and Orange Growers.

WANTED, some Young Plants of TANGERINE and MALTA, or BLOOD ORANGES, and of the MONUKKA GRAPE.

Apply to William Coles, Beckenham Place, Kent, S.E.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.

Richard Smith, Nurseryman, Worcester.

NEW CUCUMBERS, at 1s. per packet.

Recommended by the Fruit Committee of the Royal Horticultural Society. See GUIDE to the KITCHEN GARDEN.

Barr & Sugden, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

CARTER'S CHAMPION CUCUMBER, recommended by the Royal Horticultural Society as being an excellent bearer. Fruit solid and firm, and the best of the Sion House class. 1s. per packet. A few ounces of our own saving to offer the Trade.

237, 238, & 261, High Holborn, London, W.C.

## Seed Trade.

JAMES CARTER and CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade:—

MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE,
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION.
TOMATOE DE LAYE.
HENDERSON'S PINE-APPLE BEET.

GIANT ASPARAGUS ROOTS, 2s. 6d. per 100.—This delicious vegetable does not require half the expense usually incurred in planting it. For instructions, see Richard Smith's SEED LIST for 1863.

Strong Transplanted SEA KALE, 2s. per doz.
Richard Smith, Nurseryman, Worcester.

GRAYSON'S TRUE MORTLAKE GIANT ASPARAGUS, grown on the ground where the late Mr. Grayson brought it to such perfection, so that Grayson's Asparagus is preferred everywhere.

| | |
|---|---|
| Seed saved from the Mortlake Beds .. | 6d. per oz. |
| Plants 1-year old .. .. .. | 2s. 6d. per 100 |
| ,, 2 years old .. .. .. | 4s. 0d. per 100 |

Francis R. Kinghorn, Sheen Nursery, Richmond, S.W.

## To the Seed Trade.

H. AND F. SHARPE have a Surplus Stock of true—

| | |
|---|---|
| Early Long Pod Beans | Ne Plus Ultra Peas |
| Mackie's Monarch ditto | Laing's Imperial Swede Turnip |
| Broad Windsor ditto | Early Green Top Yellow ditto |
| Early Emperor Peas | Fine Red Surrey Carrot |
| Woodford's Green Marrow do. | Early Nonpareil Cabbage |
| Flack's Blue Imperial ditto | ,, Emperor ditto |
| British Queen ditto | ,, Enfield Market ditto |

which they can offer at a low figure.
Seed-growing Establishment, Wisbeach.

## Seeds for the Kitchen Garden, Flower Garden, and Farm.

JOHN CATTELL'S DESCRIPTIVE CATALOGUE of the above is now ready, and will be forwarded, post paid, on application; it contains select lists only, and includes every novelty worthy of cultivation.

All parcels of Seeds of the value of 21s. and upwards carriage paid to any Railway Station in England.

Nursery and Seed Establishment, Westerham, Kent.

## Cabbage Plants.

W. VIRGO and SON beg to say they have a very large quantity of DRUMHEAD, RED and EARLY CABBAGE PLANTS to offer for Sale of the following sorts, at 8s. per 1000:—

| | |
|---|---|
| EARLY YORK CABBAGE | EARLY NONPAREIL |
| ,, BATTERSEA | DRUMHEAD |
| ,, BARNES | |

RED CABBAGE, 4s. per 1000. All strong, healthy, and well rooted.

Wonersh Nursery, near Guildford, Surrey.

## To Seedsmen and Others.

THOMAS AYRES, Seedsman and Grower, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz:—

WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP, ,,
SEED POTATOES of the following varieties:—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.
SCARLET RUNNER BEANS (English grown).

A PRICE LIST forwarded upon application.

## The King and Queen Potatoes.

SUTTON AND SONS have much confidence in recommending these two new sorts of POTATOES, as decidedly the finest and best in cultivation.

The following Prizes have been awarded to Mr. Spencer for these Potatoes:—

The Prize at the Crystal Palace, 1861.

Three Prizes at the International Show at the Royal Horticultural Society's Gardens, South Kensington, in October last.

The Prize at the Birmingham Cattle and Root Show, Bingley Hall, in December last; and upwards of 20 other Prizes in various parts of the kingdom.

To be had of Messrs. Sutton & Sons, Reading. Price 5s. per Peck (of 14 lbs.)

KING of the POTATO.—The original Stock as received from the Raiser, Mr. Spencer, and sent out by us. Pronounced by all who have grown it, to be one of the most productive and best varieties in cultivation. No Blight affects it.

Price 12s. 6d. per cwt., or 12l. per ton.

James Dickson & Sons,
The "Newton" Nurseries, Chester.

## The King of Potatoes.

JOS. H. ROBINSON, Seedsman, Coventry, has a limited quantity of the above superior POTATO to offer at 2s. per peck, or 7s. per bushel. Also MYATT'S ASHLEAF, 2s. and 7s. EARLY LEMONS, the earliest and best Ashleaf out, 2s. and 6s. 6d. DALMAHOY SECOND EARLY, 1s. 3d. and 4s. FLUKES, 1s. 3d. and 4s.

The "King" may fairly be said to be the finest Potato in cultivation; gaining the First Prize at the Royal Horticultural Society's Show, and at Birmingham.

POTATOES for PLANTING.—MYATT'S PROLIFIC, 22s. per sack of 2 cwt.; ASHLEAF KIDNEY, 22s.; do. DALMAHOY, FORTYFOLD, SHAW'S, FOX'S SEEDLING, FLUKES, 10s. per sack; FLOUR BALLS and SHORT TOP SCOTCH, 8s.

Sacks, 1s. 6d. each. Terms, cash.
Christmas Quincey, Seed Grower and Seedsman, Peterborough

WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

WHEELER'S IMPERIAL LETTUCE

The price of the Lettuce is 1s. per packet, post free.

J. C. Wheeler & Son beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. Wheeler & Son, Seed Growers, Gloucester.

NEW HARDY WHITE SWEDE.—The Favourite Swede of the Flockmasters on the Hampshire, Wiltshire, and Cotswold Hills. Grows rather coarse on some soils or when sown early; but it is very productive, hardy, and it is the only Swede that can be depended upon to keep sound through the winter without storing. Excellent for late sowing and upon poor land.

Seed 1s. per lb., or 42s. per bushel.

Supplied by Raynbird, Caldecott, & Bawtree, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

MANGEL WURZEL SEED, &c., from well selected and Transplanted Bulbs.—YELLOW GLOBE, 4d. per lb., 30s. per cwt.; RED ditto, 4d., 32s. per cwt.; ORANGE GLOBE, 5d., 40s. per cwt.; a reduction for larger quantities. ENGLEFIELD YELLOW GLOBE, 8d. per lb.; PURPLE-TOP SWEDE, 8d. per lb.; 25s. per bushel of 50 lbs. HARDY WHITE SWEDE, 9d. per lb.; 30s. per bushel (Bags included).

ALTRINGHAM CARROT SEED, 1s. per lb.; selected ditto, 1s. 6d. Terms cash.

Christmas Quincey, Seed Grower and Seedsman, Peterborough.

## Vegetable and Flower Seeds, Carriage Free.

WM. PAUL (Son and Successor to the late A. Paul) respectfully announces that his SEED CATALOGUE is now ready, free by post.

The COLLECTION of VEGETABLES recently Commended by the Royal Horticultural Society was grown from Seeds furnished by him.

Nurseries and Seed Warehouse, Waltham Cross, N.

## International Exhibition. Prize Medals 1851 and 1862,

Awarded for "Excellent Seed Corn and Seeds," to

RAYNBIRD, CALDECOTT, and BAWTREE, Seed Merchants and Growers, Basingstoke, Andover; and 89, Seed Market, Mark Lane, London, E.C.

Samples of all kinds of AGRICULTURAL SEEDS and SEED CORN, sent post free on application.

## Agricultural Seeds of First Quality.

Cow Cabbage, Carrots, Kohl Rabi, Mangel Wurzel, Rape, White Mustard, Turnips, Swedes, Clovers, Rye-Grasses, Grasses for Permanent Pasture, Furze or Gorse, Seradella, &c., &c.

WM. WOOD and SON beg to offer Seeds of the above, genuine and unadulterated, and will be happy to forward samples and prices (which are very moderate) on application.

DESCRIPTIVE PRICE LIST of AGRICULTURAL SEEDS now ready.

☞ Orders amounting to 10s. and upwards, sent carriage free.—See List.

Seed Warehouse, Maresfield, near Uckfield, Sussex.
N.B. Special quotations at reduced rates for large quantities

**Good Clover Seeds at Market Prices.**

SUTTON AND SONS have now ready, at very moderate prices, fine new RED, WHITE, and ALSIKE CLOVER SEEDS. As also new Rye Grasses, Turnip, Mangel Wurzel, and other Agricultural Seeds, a Priced List of which may be had post free.

Address SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**Grass Seeds for all Soils.**

SUTTON AND SONS have one of the largest stocks in Europe of the PERMANENT NATURAL GRASS and CLOVER SEEDS, which they mix expressly to suit the soil for which they are required.

The following letter has been received, besides many others: *From* Professor LINDLEY, *Royal Horticultural Society, London.*

"We have already made trial of your Grass Seeds, and it is only justice to say that they have proved the best we have sown for many years."

| PRESENT PRICES ARE— | | Per Acre. s. | d. |
|---|---|---|---|
| Best quality MIXTURES for Laying Down to PERMANENT PASTURE .. .. .. .. .. | | 30 | 0 |
| Cheaper MIXTURES, omitting certain sorts | 20s. to | 26 | 0 |
| Best quality ditto, for Three or Four Years' Lay | .. | 22 | 0 |
| Ditto ditto, for One or Two Years' Lay | 15s. to | 18 | 6 |
| CLOVERS and fine GRASSES for Renovating Old Pastures .. .. .. .. .. .. | 6s. to | 9 | 0 |
| Finest LAWN GRASS SEEDS .. .. | per bushel | 18 | 0 |
| PARK LAWN GRASS SEEDS .. .. | " | 16 | 0 |

The First Prize Medal was awarded to SUTTON & SONS for their Grass and Clover Seeds at the Great International Exhibition of Roots and Cereals at South Kensington in October last.

A Copy of Mr. MARTIN SUTTON's "Essay on Pastures" is sent with each lot of Grass Seeds.

Seeds sent carriage free to all parts of the kingdom. Export orders delivered free to the Ship's side in any English Port.

PRICED LISTS of GARDEN and FARM SEEDS gratis and post free.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

CHEAP GRASS SEEDS for HILL SIDES and RAILWAY BANKS.—Rough Grasses, Sainfoin Siftings, &c., suitable for the above purpose, at 2s. per bushel and 3d. per lb.

Address, RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

GENUINE RED WELSH CLOVER.—The RED CLOVER saved in the cold climate of North Wales is found to be decidedly hardier, and to produce a much more robust and vigorous Plant than the Seed of any other country. Our supply is limited. Early application is necessary.

Apply to J. ROBERTS & SON, Seedsmen, Denbigh, N.W.

SEED CORN from the CHALK.—All the most approved varieties supplied by RAYNBIRD, CALDECOTT, & BAWTREE. Samples and prices on application.

Address, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

FARM SEEDS of the finest quality, are offered at fair Market Value.

A LIST of PRICES at which they can be delivered carriage free, and 5 per cent. discount allowed for Cash, is contained in

WHEELER'S "LITTLE BOOK" for 1863.

FARM SEEDS OF GENUINE QUALITY (at Market Prices). *Carriage Free.*

RICHARD SMITH, SEED MERCHANT, Worcester.

GRASS SEEDS for LAYING DOWN LAND to PERMANENT PASTURE or MEADOW.

Having been amongst the very first in this country to recommend the use of the Natural Grasses in the formation of Permanent Pasture, and having over a long period of years given the subject a considerable share of attention, we, from the marked success which has attended their culture, feel quite warranted in recommending our carefully prepared Mixtures or Assortments to the notice of those who purpose laying down land for a period of years. In choosing for these Mixtures, our aim is to imitate, as near as possible, the varieties composing the rich old pastures of Britain, and which it is obvious cannot be obtained by adopting the too common mode of sowing down with Ryegrass and Clover only, for although these yield heavily at first they are soon exhausted, and leave the land bare, to be filled up in course of time by an inferior herbage.

Parties ordering will please state the nature and extent of the land to be sown, and whether with or without a grain crop. When not instructed to the contrary, the Seeds will be sent out mixed and ready for the sower. The mixing being a most important operation, is much more perfectly done by our practised hands than it can be by those unaccustomed to it. After numerous carefully tested experiments, we find it the best plan to sow light and heavy seeds together.

When requested, we will be glad to furnish a list of the varieties and quantities suited to any given description of land. The Cost for a full Supply of Seeds will range from 25s. to 28s. per statute acre.

Carriage of Seeds paid to the principal Railway Stations throughout the kingdom.

W. DRUMMOND & SONS, Stirling.

*** PRICED CATALOGUES of all the leading descriptions of Seeds required for the Farm or Garden, may be had prepaid on application.

TRADE

HALLETT'S PEDIGREE. NURSERY WHEAT.

MARK.

"The best Spring Wheat known. Drill in February and March, six pecks per acre."

Produced (1862) 62 bushels per acre, weighing 61 lbs. a bush.

Price ONE GUINEA A BUSHEL, including bag sewed up and sealed, delivered at the Brighton Railway Station, with Printed Directions for Planting, on Receipt of Cheque or Post-office Order, which must in all cases accompany the Order. Less than One Bushel will not be supplied. Name of Station and Railway should accompany the Order.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

WANTED, GREEN HOLLIES, YEWS, PORTUGAL LAURELS, COMMON LAURELS, AUCUBAS, EVERGREEN OAKS, LAURUSTINUS, BIRCH, LIME, THORNS, BOX, for Cash on delivery.

Send size and price to J. G. C., care of Eyre & Co., 32, Bouverie Street, Fleet Street, E.C.

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.

Extra strong, 8s. per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.

Can be obtained through the principal Nurserymen and Seedsmen in England.

A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.

PAGE & TOOGOOD, Seed Merchants, Southampton.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2s. per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the PATENT COCOA FIBRE COMPANY, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are sold in every town.

CAUTION.—Every Brush is stamped 'J. BARSHAM'S Patent'

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. NEAL, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1s., 3s., and 10s. 6d. each.

Wholesale by PRICE'S PATENT CANDLE CO., Limited.

**Blight.**

BROWN'S PATENT FUMIGATOR.—A Portable Instrument for Fumigating Greenhouses, Stoves, and Frames, or Shrubs and Flowers in the open air, without injuring the most delicate plant; delivering the smoke cold, in a dense mass, and effecting a great saving of Tobacco. Price 10s. and upwards.

Manufactured and supplied to the Trade by Messrs. BARBER & GROOM, London; and may be had of all Ironmongers, Seedsmen, and Florists.

BENJAMIN EDGINGTON'S MARQUEES and PAVILIONS for Royal and Noble parties for the Season, 1863. Rick Cloths with Poles, &c., Complete, New, and Second-hand. Netting and Bunting for Fruit Trees, Garden Mats, &c. A quantity of FLAGS, used at the Royal Procession, to be Sold as Second-hand.

Address, BENJAMIN EDGINGTON, 2, Duke Street, Southwark, foot of London Bridge, S.E. No other Establishment.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

The GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C.

## ANNUAL GRAND EXHIBITION of UNFORCED HYACINTHS

## MESSRS. ARTHUR HENDERSON & CO.'S

ANNUAL DISPLAY of the above GALAXY of FLOWERS will be held in the LAPAGERIA HOUSE, Commencing April 1, and ending on April 12.

THE NURSERIES, PINE APPLE PLACE, EDGWARE ROAD, LONDON, W.

## NEW PLANTS FOR 1863.

## B. S. WILLIAMS,

PARADISE and VICTORIA NURSERIES, HOLLOWAY, LONDON, N.,

Has much pleasure in offering the following NOVELTIES for the first time, to be sent out after April 20:—

### New Achimenes.

The following choice varieties are the seedling productions of that successful gardener, Mr. Parsons, of Welwyn, and they will be found great acquisitions to this beautiful class of plants, and quite equal to the descriptions given:—

ACHIMENES MAUVE QUEEN.—This splendid variety is, without exception, the finest of all that useful and most desirable class of summer-flowering plants; a great improvement on longiflora major; producing an abundance of beautiful large mauve-coloured flowers, with a conspicuous light chocolate eye, splendid form, and of extraordinary waxy substance. Was exhibited by the Raiser at the Floral Committee of the Royal Horticultural Society, and was awarded a First-class Certificate. Figured in the "Floral Magazine," November, 1862. Price 10s. 6d. each.

ACHIMENES CARMINATA ELEGANS.—Another beautiful variety, and is, without doubt, the finest of the small and free-flowering sections, producing spikes 18 inches in length; being of good branching habit, is capable of producing specimens 3 or 4 feet in diameter, thus making it a charming object for the, summer and autumn months. Price 7s. 6d. each.

*** Coloured Illustrations of each of the above by ANDREWS will be forwarded in exchange for six postage stamps.

### New Petunias.

The following valuable varieties were raised by Mr. Holland, of Isleworth, and are a small collection selected from a large quantity of Seedlings. They are confidently recommended for general excellence, being great improvements on all others previously offered.

PETUNIA CRIMSON GEM.—A compact branching and free growing variety; flowers of a soft velvety crimson, with dark throat; of great substance and fine form; an improvement on Phaeton and all in that way. This is, without exception, the highest coloured Petunia yet offered. Received a First-class Certificate from the Royal Botanic Society, May, 1862. Price 5s. each.

PETUNIA FLOWER OF THE DAY.—This remarkable flower has four broad stripes of pure white, and four bright purple above, equally divided; very constant and beautiful. Received a First-class Certificate from the Royal Botanic Society, May, 1862. Price 5s. each.

PETUNIA ROSA BELLA FORME.—A free flowering and shrubby variety, of first-class habit for bedding and other purposes, being of short jointed growth; producing an abundance of beautiful bright Magenta flowers, with a clear white throat, of great substance and perfect form. This will, without doubt, prove to be the best bedding Petunia yet offered. Price 5s. each.

*** Coloured Illustrations of Petunia Rosa Bella Forme, and Flower of the Day, by ANDREWS, will be forwarded in exchange for six postage stamps.

### New Zonale Geranium.

CONQUEROR OF EUROPE (HOLLAND).—Beautiful soft carmine; fine form and substance; extra large truss; long flower stalks, producing enormous heads of bloom well above the foliage; good and compact habit; fine for pot culture. Was awarded a First-class Certificate at the Royal Horticultural Society's meeting, June 1862. Price 5s. each.

PARADISE and VICTORIA NURSERIES, HOLLOWAY, LONDON, N.

EXTRACTED FROM

# J. C. WHEELER & SON'S "LITTLE BOOK,"

OR

SELECT SEED LIST FOR 1863.

## AGRICULTURAL GRASSES.

AS NATURAL GRASSES form so large a proportion of the Plants of the Farm, a knowledge of the more useful species can hardly fail to be acceptable to the Farmer. Indeed, so many questions are involved in a due understanding of "the Grass of the Field," that in the present day we feel bound, as it were, to dissect our Meadows and to mark the nature and habits of the various plants which may enter into their composition. So far from thinking that a Pasture is all Weeds, or that any mixture of Herbs may be good, we now begin to find out that its goodness depends upon the presence of some kinds of Grasses and the absence of others; and as England, with its varied soils, presents the perfection of Meadow verdure, so then the study of Grasses will show us that their numerous species, both separately or conjointly, may so far mark the nature and composition of our soil as to enable us not only to judge of quality, but to adapt our Farming to the condition which a knowledge of Grasses will unfold to us.

In order then to enlist the sympathies of our Agricultural friends in a pursuit so useful as the study of the Grasses, we have introduced the preceding portraits of some of the more important Farm species, to each of which we have appended such scientific and practical notes as we hope will be useful as stimulating to further inquiry.

We were so impressed with the value of this kind of knowledge to those engaged in the Seed Trade as to induce us to offer Four Prizes to our Assistants and Workmen for the Four best Collections of Grasses growing in the rich Meadows of this district. On the day appointed Eight Collections were entered for competition, and the Prizes were awarded by Professor Buckman. In reference to this event the following paragraph recently appeared in the "Popular Science Review:"—

"We recently had the pleasure of examining some large and beautiful Collections of our Wild Grasses, which were made under such interesting circumstances that we cannot forbear referring to the fact. Messrs. WHEELER, Seed Growers, of Gloucester, having for some time become aware of the importance of a personal acquaintance with the Plants, the Seeds of which they sold, offered Prizes for Competition among their Commercial Travellers, Clerks, and Warehousemen, for the best Collection of Wild Grasses. The result was a very spirited contest, which led those engaged into scenes of beauty they would perhaps not otherwise have visited; and this made them acquainted not only with the appearance, but also with the habits of a Tribe of Plants, the observation of which, we venture to say, is better calculated to discipline the mind than is that of any other group in the Vegetable Kingdom."

As the result of our experience it may not perhaps be out of place for us to name some of the components of the MIXTURES which we recommend for

### PERMANENT PASTURE,

the varieties and quantities differing with the various soils and circumstances under which they are sown.

UNDER TREES, for instance, as in ORCHARDS and PARKS, we should include a good proportion of Poa nemoralis (fig. 9) and Poa nemoralis sempervirens, Dactylis glomerata (fig. 10), Lolium perenne and italicum (fig. 5), a small proportion of Anthoxanthum odoratum (fig. 1), a liberal allowance of Cow Grass Clover (Trifolium pratense perenne) and Honeysuckle Clover (Trifolium repens).

FOR GAME COVERTS, and THICK WOODY PLANTATIONS, we should diminish the quantity of Loliums (fig. 5), and should add a little of Arrhenatherum avenaceum (fig. 8), Bromus giganteus and Aira cæspitosa (fig. 15).

FOR OPEN MEADOW LAND, soil of medium quality, we should prescribe 12 lbs. of heavy seed (Clovers), consisting of Trifolium repens, T. pratense perenne, T. hybridum, and Medicago lupulina, and 2 bushels of Grass seeds (which are more equally distributed over the land if sown separately and not mixed with the heavy Clover seeds); we always send them out separately, leaving it to the option of our customers, whether to mix them before sowing, or to sow them separately, as they think most desirable; we recommend, however, the latter plan, and would suggest the desirability of choosing a mild, still day, for the operation, as if sown in rough windy weather the light seeds are blown about hither and thither.

The Grass seeds consist of the following: Lolium perenne (fig. 5), a little L. italicum, which, dying out after a year or two, leaves room for the other varieties (which do not until that time attain their full vigour) to occupy its space more worthily; Sweet Vernal, Anthoxanthum odoratum, (fig. 1); Cocksfoot, Dactylis glomerata (fig. 10); Phleum pratense (fig. 3); Poa, in sorts, (fig. 9); Festuca (fig. 11); a very small proportion of Avena flavescens (fig. 14); and a more liberal allowance of Meadow Foxtail, Alopecurus pratensis (fig. 2).—*This Mixture will produce a fine rich Permanent Pasture, and which we can offer at 30s. per Acre—everything included.*

IF THE LAND is HEAVY CLAY, we should increase the quantity of Phleum pratense (fig. 3), and Poa trivialis.

IF LIGHT SANDY or BRASHY SOIL, we should add Avena (fig. 14), Festuca rubra, Cynosurus cristatus (fig. 4), and increase the quantity of Poa pratensis (fig. 9).

FOR WET MARSHY GROUNDS, we should include a large proportion of Agrostis stolonifera (fig. 6), and some of the Water Poas.

We have figured Holcus lanatus (fig. 7), Bromus mollis (fig. 12), and Briza media (fig. 14), *merely to point them out as sorts to be avoided altogether.*

*The figures refer to the illustrations in our "Little Book."*

### Grasses and Clovers for One or Two Years' Lay, usually called "Seeds."

The quantity required per acre will be about 15 lbs. of mixed Clover Seed, and from one to two pecks of Grass Seeds, to be sown about the end of March, or the beginning of April, with either Wheat, Oats, or Barley. "The land is then to be harrowed or *bush-harrowed* across the drills of corn—if these are up—and rolled."

We are extremely careful in the selection of the finest and heaviest Grasses, and the cleanest and purest samples of Clovers for these "Seeds." We can highly recommend our mixtures as being of the very best quality—it is comprised as follows:—

FOR ONE YEAR'S LAY—the principal varieties are Lolium perenne, L. italicum, Trifolium pratense, T. repens, Medicago lupulina, with a sprinkling of Phleum pratense and Anthoxanthum odoratum.

FOR TWO YEARS' LAY—in addition to the foregoing, we recommend Trifolium pratense, T. hybridum, and Dactylis glomerata (fig. 10). *These varieties produce a most luxuriant crop.*

FOR RENOVATING OLD PASTURES—we recommend a similar mixture to that prescribed for Permanent Pasture—the application of about 10 lbs. per acre, applied in the Spring, and well bush-harrowed in, with a top dressing of manure, is attended with most excellent results.

### We offer our most Carefully Selected and most Carefully Cleaned Grass Seeds, at the Prices Annexed:

| | | s. | d. |
|---|---|---|---|
| GRASS and CLOVER SEEDS for PERMANENT PASTURE—of the most suitable sorts and varieties, all carefully arranged and mixed for any soil or situatien which may be described to us ... | per acre | 30 | 0 |
| GRASSES and CLOVERS for ONE YEAR'S LAY ... ... | „ | 14 | 6 |
| „ „ for TWO YEARS' LAY ... ... | „ | 17 | 6 |
| RENOVATING MIXTURE ... ... ... ... per lb. 9*d.* | —per cwt. | 80 | 0 |
| ITALIAN RYE-GRASS—imported Seed, genuine ... ... | per bush. | 7 | 0 |
| „ „ English grown, clean seed ... | „ | 6 | 0 |
| PERENNIAL RYE-GRASS—(Lolium perenne)—fine ... | „ | 6 | 0 |
| „ „ PACEY'S EXTRA FINE | „ | 7 | 0 |
| EVERGREEN RYE-GRASS (BUCK'S) ... ... ... | „ | 7 | 0 |

### Clovers.

Most carefully selected pure clean Seed, perfectly genuine.

| | | s. | d. |
|---|---|---|---|
| RED or BROAD (Trifolium pratense) ... ... ... ... ... | per lb. | 0 | 8 |
| COW GRASS (T. pratense perenne) ... ... ... ... ... | „ | 0 | 10 |
| WHITE DUTCH or HONEYSUCKLE (T. repens) ... ... ... | „ | 0 | 10 |
| TREFOIL (Medicago lupulina) ... ... ... ... ... ... | „ | 0 | 5 |
| ALSIKE (T. hybridum) ... ... ... ... ... ... ... | „ | 1 | 0 |
| CRIMSON (T. incarnatum) ... ... ... ... ... ... | „ | 0 | 8 |

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NOTICE is hereby given that an ELECTION of TWO PENSIONERS on the Funds of this Institution will take place in JULY NEXT. All persons desirous of becoming Candidates are required to send in their Testimonials and Certificates to the Committee on or before SATURDAY, April 25, after which time they will not be received.

Preference will be given to those persons who have been Subscribers for 15 years and upwards, but should there not be a sufficient number of that class of applicants, then the claims of those who have not been Subscribers so long, or not at all, will be considered.

Printed Forms of Petition can be had upon application to the Secretary. By order. EDW. R. CUTLER, Secretary.

14, Tavistock Row, Covent Garden, W.C., March 28.

# The Gardeners' Chronicle.

*SATURDAY, MARCH* 28, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | |
|---|---|
| TUESDAY, March 31 | Royal Horticultural (Floral Committee) at South Kensington .. 12 noon |
| THURSDAY, April 2—Linnean | .. .. .. .. 8 P.M. |

WE are glad to find the leading journal speaking out on the question of the injury done to the TREES of LONDON and its vicinity, by the deep cuttings, of whatever kind, which engineers are so fond of perpetrating—a question to which we invited attention some time since in reference to sewers. Now, the monster comes forth in the shape of a railway.

In recently animadverting on the ravages that rival railway companies are proposing to make in London—ravages too which are for the most part mere trade speculations, undertaken with the view to enrich the shareholders, the *Times* very truly says, "that some Bills which bear the most harmless of suburban titles are likely, if passed, to do a lasting injury to the metropolis itself. Such are the Bills promoted by the London and Brighton Company, and the London, Chatham, and Dover Company, both of whom actually propose to take their lines through Greenwich Park, the most ancient, and by far the most beautiful, of all the Parks round London. The promoters of these schemes say that they 'intend to studiously avoid injuring the Park,' and only mean to 'take the line through the Park by a tunnel about half a mile long.' This tunnel, however, must be constructed, we believe, on what engineers call 'the cut and cover" system; that is to say, a broad and deep cutting is first made, the tunnel then built, and the earth filled in again. A disfigurement of this kind for some 12 months or so while the works are progressing ought in itself to be a sufficient reason for the rejection of the Bill, but this will not be the least of the evil, for the formation of any tunnel through the Park will drain the moisture from the trees and kill all the noble Elms and Chesnuts in its neighbourhood. In the matter of Railway Extension the Legislature has taken special care of the north side of the metropolis, while the south side has been left to the mercy of every angry company or hungry projector. It is most earnestly to be hoped that they will not permit this last act of desecration, and that this old, historic playground of the south of London will be left in its natural beauty."

We endorse all that is said in the foregoing quotation as to the destruction of trees by these cuttings. The sewers are answerable for the greater part of the damage done to trees situated more immediately in London; and a railway cutting would not be less injurious than a sewer, whether made on the cut and cover system or by tunnelling. The great damage is done by excessive drainage, which follows in either case. We trust there will be a sharp scrutiny of all these schemes, not only southwards of the metropolis, but in every other direction. Not one tree should be suffered to be destroyed; and even to damage a mature or ancient one should be held to be a sacrilege.

So much for our Parks. As to our London squares, Colonel YOLLAND, in his report to the Board of Trade, is made to say:—"The policy of authorising the appropriation of the squares in the metropolis for the purposes of terminal stations, covering the area with lofty railway buildings, is exceedingly doubtful. In some instances circumstances might justify it; but there are no grave objections to railways passing under the squares and parks, provided the drainage and sewerage were not interfered with." To this last assertion we object *in toto*, if it means, as appears on the face of it, that provided drains and sewers are not obstructed, railways in these positions will do no harm. On the contrary, such cuttings and borings will reduce the already deficient moisture of the soil—from which more London trees die, be it remembered, than from any other cause—and destroy the vegetation it is now able, however feebly, to support. The R. Horticultural Society's Arboricultural Committee has here some pressing work on which to try its hand.

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IT was remarked lately in the *Gardeners' Chronicle* (1863, p. 270) with reference to some CEDARS casting their leaves unexpectedly in winter, that it arose probably from the effect of severe cold a year or two since. Many a failure may be accounted for in the same way. Red Cedar, the common Arbor-vitæ, the Sweet Himalayan Honeysuckle, with other cases within our own experience, after flourishing last summer are now partially dead or dying, if not absolutely destroyed. The case of the Arbor-vitæ is very curious, the flat sprigs falling off bodily though quite green and apparently healthy, the fall being sometimes confined to one side of the branch, sometimes extending to both. In the case of the Himalayan Honeysuckle, cuttings have not fared better than the original plant. They flourished through the winter, but now, like the stock, they are perishing.

The explanation of all this is not very difficult. In point of fact the same thing constantly takes place in delicate trees like the Peach and Apricot, and is one main source of gumming. The ill-ripened wood is partially affected by the frost, but not to such an extent as to destroy the vitality of the whole. The consequence is that for a year or two vegetation is actively carried on by the sound part, a very small strip of healthy tissue being sufficient to carry up the nutritive sap, which, as in branches ringed or constricted, tends to produce an abundant show of blossoms or fruit. The portions of the tissue which have been injured, soon however contaminate those which are connected with them, and in the end the whole cease to perform their functions, and death ensues. If the evil is more partial, the branches or twigs which are immediately connected with the dead bark perish at the base, and either remain upon the tree or break off, though the upper part is still fresh and green.

In the case of evergreen leaves the effect of frost is often at first partial. We see this constantly in the leaves of the common Araucaria, and according to circumstances the leaves remain on the stems half dead, or, as in the case of the Cedars alluded to above, they fall off entirely.

While speaking of the effect of cold, an observation respecting the perishing of the tips of Fig trees during the late mild winter may not be out of place: we have ourselves seen precisely what our correspondent alludes to, and it appears to us quite certain that it is due to the November frost, which acted powerfully on the ill ripened wood. We have seen however an instance of decay from

a very different cause, which may be mentioned by way of caution. The branches of some trees in an orchard house, in vigorous growth, and laden with leaves, were tied together with a view to protect them from frost, the consequence of which has been, that both leaves and young shoots rotted from the pent-up moisture. *M. J. B.*

—— THOSE who saw the close ranks of gay and varied uniforms in which the corps of HYACINTHS was passed under review at South Kensington on the occasions of the floral gatherings of February and March, will, we imagine, freely admit that in this flower we have emphatically *the flower* for early spring display: a conclusion which the experience of similar meetings last year abundantly supports. In recalling some of the materials of which these displays have been made up, as well as of those observed in the home exhibition of Mr. CUTBUSH, which, as usual, is this year well worth seeing, we are glad to find that novelties continue to make their appearance, and that if they are not always acquisitions of high merit, at least a fair proportion of them show a very decided improvement in some one or other of the features which go to make up a first-class variety. Some sorts of this character were noted by us last year, and we have found that such varieties as Reine des Jacinthes, Pelissier and Macaulay among the reds, Snowball and Madame Van der Hoop among the whites, Haydn among the violet-mauves, and Duc de Malakhoff, a red-striped buff, keep up their position, notwithstanding that the past season had not been one of the best for maturing the bulbs. Macaulay is, we fancy, destined to take a very prominent position, commercially, for to its bright colour, bold spike, and more than usually smooth flowers, qualities which render it exceedingly attractive, it adds, as we learn, a good constitution, which will admit of a market supply being provided. No one will regret growing this. Reine des Jacinthes, or Queen of Hyacinths as it is sometimes called, is still the best red for colour, a clear intense crimson-lake, and altogether very fine. Pelissier is similar, and nearly as good. Snowball, a good white, is unapproached for the form of its individual flowers, which make up a close but not a very lengthened spike. Madame Van der Hoop is purer, with the large bells well displayed on longish footstalks. Haydn comes out well, being thoroughly distinct, good in quality, and telling in colour—not so much intrinsically perhaps, as by contrast. Duc de Malakhoff, a buff or fawn colour striped with red, is this season rather more suffused with the red tint than it was last year; in either condition, however, it is very handsome and well-marked. Koh-i-noor, one of the pinks, deserves special mention as having borne the premier flower-spike in the March (unforced) exhibition, Mr. PAUL's plant of it being remarkably fine; it is a Hyacinth which generally throws a good spike of flowers, and yet one which in other respects we cannot highly praise, on account of the narrowness and pinched up appearance of the perianth segments—defects which are for the most part hidden from the casual observer by the dense packing of the flowers. A noticeable feature of the show just referred to, was the liberal infusion and the excellence of the yellow varieties, the prominent one being Ida, an excellent free-growing, bold-spiked, clear canary-coloured sort, far in advance of the yellows we have been in the habit of seeing. Another pleasing Hyacinth, on account of its distinctness and delicate colouring, was Johanna Christina, not new, but little known, here shown as an almost pure white, with a deep red stripe on each of its segments.

Turning to actual novelties, those which most pleased us, were Fair Maid of Denmark, Lamplighter, San Francisco, Feruk Khan, and one shown (by whom we failed to notice) as Lord Palmerston. Fair Maid of Denmark is remarkable for the solidity and substance of its smooth-surfaced bells, which are pure white, clean and smooth, and hang well on the spike by footstalks of moderate length. It comes between Madame Van der Hoop and Queen of the Netherlands, but has rather smaller flowers than the first, and longer footstalks than the last; the bells, which are remarkable for their purity smoothness and substance, without being scattered, hang so that each is distinctly seen. Lamplighter is quite novel, a blackish violet with a white eye, very distinct as a dark flower with pale centre, but rather small and narrow in the spike, probably attributable to the small size of the bulb. San Francisco is another good clear yellow, with a close spike, rather deeper-coloured than Ida, and therefore a decided acquisition if it proves, as appears likely, of free habit. Feruk Khan is a deep blue, producing well-furnished spikes. Lord Palmerston is a paler-coloured Argus, the tube being bright blue, the throat nearly white, and the limb a light lilac-tinted blue. We hear of another and very different Lord Palmerston as forthcoming another year.

The class of WHITE-EYED HYACINTHS begins to assume sufficient importance to be recognised amongst growers and compilers of catalogues. Lamplighter, one of the novelties of the year, is the darkest of them—a blackish violet surrounding the white. Then, we have in this way Argus, with a face of indigo blue; the Lord Palmerston just mentioned, in which it is of a lilac-tinted palish blue; and L'Honneur d'Overeen, a reddish or pucy violet—the latter closer in truss and much better coloured this year than we remember to have previously seen it. The pale eye is conspicuous in all these, and forms a pleasing feature. It is already tolerably pure; but there is no reason why the strain should not be followed up, till we get it purer still, and more thoroughly defined.

—— MR. BABINGTON tells us in the new *Journal of Botany* (No. 2) that our Cork trees are not Quercus Suber, as we had always been led to believe. At least this is an inference from the statement he makes, which is this:—M. J. GAY has pointed out in the *Bulletin de la Société Botanique de France*, that the Quercus Suber of the coasts of the Atlantic in France and Spain is not the tree so called on the shores of the Mediterranean, which latter he names Q. occidentalis. The acorns of this Q. occidentalis are said to require 14 or 15 months for their maturation, while those of the true Q. Suber ripen in four or five; and other differences of a structural character are mentioned. Now, there exists near the city of Cork, a very large Cork tree, recorded by Loudon in 1828 and still flourishing. Specimens of this tree, which grows at Summertown, have been examined by M. GAY, and he decides that it is Q. occidentalis, and not Q. Suber. We have now to learn, adds Mr. Babington, if there are any other old Cork trees in England or Ireland, and if such exist, to ascertain their species. The probabilities are, he thinks, very much against any old tree of the true Q. Suber being found. Some of our readers may be able to assist in this inquiry.

—— In a paper on African Acanthaceæ read before the Linnean Society, DR. T. ANDERSON, the greatest living authority on the plants of the Acanthaceous family, puts us right in respect to the name and native country of the very ornamental stove undershrub to be found in cultivation under the name of Stephanophysum Baikiei. This, which was said to have been received at Kew from Western Africa, is in reality, according to Dr. ANDERSON, the Siphonacanthus repens, of NEES, a species confined to Brazil; and he accordingly names it, according to botanical law, STEPHANOPHYSUM REPENS. Some mistake, he adds, must have occurred in recording the source whence the Kew plant was obtained. "It was probably sent from South America by HERBST, from whom a case was received at about the same time as one from Dr. BAIKIE of the Niger Expedition."

—— We hear that Mr. MOORE, the talented Curator of the Botanic Garden, Glasnevin, who has been holding scientific communication during a number of years with some of the leading botanists of Switzerland, has had the degree of Doctoris Philosophiæ conferred on him by the Senate of the University of Zurich, for his contributions to the advancement of natural science.

## DIES ORCHIDIANÆ.—No. VI.

(*Continued from* p. 197.)

As the spring is now considerably advanced, it is quite necessary to remind my readers that I am still supposed to be roaming about among my favourite Orchids in the dull month of November. And dull indeed that month would be, at least to the eyes of all but Chrysanthemum lovers, were it not for the interest and the charm which even at such an untoward season the Orchids never fail to impart to their shrines. This remark, while more or less true of all collections, is peculiarly apposite now that I come to speak of Mr. Day's at Tottenham, which at the time referred to was absolutely gay with Cattleyas, Lælias, and a host of other beautiful things. The Orchidaceous appetite has here evidently grown with what it fed on, for house has been added on to house, and you pass from one to another as through the chambers of a Nautilus, making at least one entire revolution before the tour is complete!

The houses are all low and small, a circumstance that in a measure accounts for the admirable health of the plants they contain; indeed houses that are neither low nor small are an abomination to Orchids, which—the epiphytal portion of them at all events—thrive the better the nearer they are to the glass. Mr. Day belongs to the modern eclectic school, admitting little into his collection that cannot boast of having what we botanists call *flores conspicui*; but then having chosen his favourites,

> "—— they come not single file,
> But in battalions."

Here, for instance, are to be found, not duplicates merely, but triplicates and multiplicates of all the most showy species of such genera as Cattleya, Lælia, Dendrobium, Cypripedium, and Phalænopsis. Of the grand old Cattleya labiata—which still holds its own against all neophytes—there were many superb varieties in flower, quite enough, indeed, to make up a show by themselves. Lælia præstans, perhaps, came next in point of attractiveness, hanging on blocks close to the rafters; while Sophronitis grandiflora, treated in the same way, was a good third. In this portion of the collection I could not fail to observe the large size and perfect health of divers specimens of Cattleya elegans, Lælia purpurata, &c. But more marvellous than all was a pyramid of Saccolabium guttatum, 5 feet high, and covered with branches on every side, each branch a fine plant in itself! It was the largest specimen Orchid I had ever seen, and had been purchased, I believe, at Dr. Butler's sale. Almost equally monstrous were certain Dendrobia, *e.g.*, D. chrysanthum and D. cucullatum var., each of which had bulky stems from 5 to 6 feet long.

The lovely genus Phalænopsis had a *quartier* of its own, damp and dark as has been already remarked, where all the known species were assembled in great force. P. rosea had longer and stronger spikes of flower than I had ever seen before; but at the best it is but a poor thing. Not so P. Lowii, the exquisitely beautiful flowers of which I now beheld for the first time, and not without regret that it had not pleased our learned professors to allow the species to retain the somewhat uncouth name given to it by its discoverer, "proboscidoidea" to wit. Certainly, the peculiar form of the anther-case must suggest the idea of a proboscis to the most careless observer. Several varieties of P. Schilleriana had been secured, varieties at least as regards the mottling and tinting of their leaves, for flowers had not been produced at the period of my visit. Since then, some I hear have bloomed in good style, though still left far behind by the wondrous spike produced on Mr. Warner's plant, which had hard upon 100 flowers upon it, and nearly three-fourths of them all open at the same time. But your readers will have already noticed the account of this given in the *Gardeners' Chronicle* (p. 246). It is to be regretted that Mr. Warner did not give us the particulars of his treatment, for, as I before observed, we are not yet agreed as to the best mode of treating the various kinds of Phalænopsis. One grand difficulty is the tendency in all the species to flower themselves to death; they are so bent on producing blossoms that they neglect altogether the production of leaves, and yet, unless both these matters proceed, *pari passu*, the plants are sure to languish. I believe the tendency in question is less perceptible in P. Schilleriana than in the other kinds, which is a great point in its favour.

Mr. Day has also some remarkably fine plants of P. amabilis and P. grandiflora, both most beautiful in their way, although the examination of a large number of imported specimens at Messrs. Low's and elsewhere, has satisfied me that these two so-called species are really varieties of one and the same thing. It had been thought that the purplish tint and rounder outline of the leaves of P. amabilis were a trustworthy criterion, but some Borneo specimens at Clapton were exactly intermediate, both in the tints and form of their leaves and in the marking of their flowers.

Cypripedium is a favourite genus with Mr. Day, and it is indulged with a house almost entirely to itself, in which I noticed many plants of C. Stonii—so named in compliment to Mr. Day's gardener. In another and cooler compartment the genus Odontoglossum mustered strong, and nothing could exceed the health and beauty of the plants. Of the charming O. nævium there were some splendid specimens, which were in the constant habit of flowering profusely every year. And so also were many other members of this most aristocratic genus (*e.g.*, O. Pescatorei, O. nebulosum, O. Cervantesii, &c.), which, now that we have learned the secret of its treatment, bids fair to take the foremost place in public favour.

Before I close this imperfect notice of Mr. Day's collection, I ought to mention two features in his *ménage* that are not, as yet, of everyday occurrence in the Orchid-growing world—a hospital and a studio! In the former, invalid or recently imported plants are stowed, while in the latter an artist finds all the needful appliances ready to his hand whenever the flowering of some remarkable novelty may put his services in requisition. In November I found him employed upon a very striking variety of Cattleya labiata that I believe exists only in Mr. Day's collection.
*Serapias.*

## NEW GARDEN FERNS.

LASTREA STANDISHII, *Moore*. POLYSTICHUM CONCAVUM, *Moore, Proc. Roy. Hort. Soc.* ii. 377.

Fronds ample, ovate, quadripinnate or decompound, spreading, the secondary pinnæ and pinnules deflexed from the plane of their rachides; ultimate pinnules crowded, obliquely ovate, obtuse, more or less lobed, the margins rather sharply but shortly toothed, and curved upwards so that the upper surface of the pinnules is concave; veins forked, not reaching to the margin, and somewhat thickened at their apices; sori medial; indusium pale-coloured reniform, entire; stipes clothed thickly at the base with brown lanceolate scales; caudex thick, decumbent, scaly.

This very handsome Fern was sent to England by Mr. Fortune, who met with it in one of the nursery gardens which he visited in Japan. Along with his other Japanese collections it passed into the hands of Mr. Standish, by whom it was exhibited during the summer of 1862 under the provisional name of Polystichum concavum, which was given to it in allusion to the remarkably concave upper surface of its fronds, and under the impression that it would prove to be a species of Polystichum. On producing its fructification later in the season, it was however, found to belong to the Lastrea family, and as the retention of the specific name first employed might lead to its being confounded with one of our English species, of which Lastrea concava is a synonym, we have taken the opportunity to associate with it the name of Mr. Standish, which is so well known to English horticulturists in connection with the Japanese intro-

ductions of Mr. Fortune. The plant is of a lovely bright pale green; and its spreading fronds, deflected pinnæ, and concave pinnules, give it a very distinct and well-marked character, while from their size and the multitude of their crowded divisions arising from their decompound structure, they are also very ornamental and effective. It is certainly almost hardy and probably quite so, the mother plant having stood uninjured in a cold moist house, where it was subjected to several degrees (about 12° as we learn from Mr. Standish) of frost. The caudex is stout and scaly, and increases slowly in a lateral direction. It will form one of the finest acquisitions for the hardy Fernery which have yet been introduced; and appears to have been hitherto quite unknown.

Trichomanes anceps, *Hooker, Sp. Fil.* i. 135, t. 40 c.

Fronds tufted, erectish, ovate, acuminate, pinnate, with the primary rachis winged, the lower pair of pinnæ broader on the posterior side; pinnæ twice or thrice pinnatifid, the primary segments oblong, the ultimate ones narrow linear, simple or sometimes bifid; sori supraaxillary, replacing (usually) the lowest anterior ultimate segment; involucres free cylindrical tapered below, with a spreading mouth, remarkably decurved from the plane of the frond; stipes slightly scabrous, terete below, flattened and margined above.

This very handsome West Indian Film Fern was shown at a recent meeting at South Kensington by Mr. W. Bull of Chelsea, who had imported it under the glowing and certainly not inappropriate name of T. magnificum. It is indeed one of the finest of the genus, remarkable for the size of its fronds, for their flatness, and for their seeming breadth of surface, notwithstanding that they are really in the most perfectly developed parts divided on a quadripinnatifid plan. This breadth of appearance results from their flatness, and from the presence of a connecting membrane between the segments. The fronds are of the deep olivaceous green hue often seen in the plants of this family, and have more or less of a metallic lustre, which is well shown off by their smooth glossy surface. A plant of so great beauty, received, as it well deserved, one of the highest class of certificates. *M.*

## A REMEDY FOR VEGETABLE CHLOROSIS.

Monsieur A. Gris, assistant naturalist to the Museum of Natural History at Paris, has published in the "Bulletin de la Societé d'Acclimation," the results of some interesting experiments on the application of salts of iron to vegetation. Plants in a good soil, with plenty of light and air, are often observed to be affected with a total loss of the green colouring matter in the leaves, which are also insufficiently developed. From the manner in which these leaves curl, shrivel, fade, and fall, and by their general state of languor and weakness, plants like these may be said to be in a state of chlorosis. The problem of restoring colour and health to such diseased plants has been solved by M. Eusèbe Gris, professor of chemistry at Chatillon-sur-Seine, who some years since conceived the happy idea of treating vegetable chlorosis in the same manner as chlorosis in the human subject.

It has been long known that ferruginous preparations have a remarkable effect in certain anemic affections, where the blood is poor in red particles; the restoring tonic, iron, being used either as a simple preparation, or as a carbonate, citrate, or sulphate, and in the form of pills, potions, or baths. By this treatment the blood is enriched, the ruddiness of health returns to the pale cheeks of the invalid, and his strength is restored.

Upon the roots of chlorotic plants, M. E. Gris applied soluble salts of iron. He observed that plants, under the influence of this root treatment, revived, became green, threw out young shoots, produced finer flowers with intensified colour, and in fact showed all the signs of reinvigorated tissue. Does then the sulphate of iron operate in the same direct manner as other salts of iron, or, reacting upon the constituents of the soil, does it produce sulphate of lime or chalk, of which the effects on vegetation have been long known? It is easy to reply to this question. Similar results are obtained by the solution of chloride and azotate of iron, and also when operating in soils altogether siliceous, or containing very slight traces of carbonate of lime. Sulphate of lime, moreover, does not effect any change in the colour of chlorotic plants.

Another experiment by which the iron was carried into the tissues of a plant without the mediation of the soil, has demonstrated, in the most complete manner, the direct and special action of the salts of iron upon vegetation. A branch affected with the disease, was impregnated with a ferruginous solution, and from a pale yellow became changed to an intense and healthy green. The experiments have been repeated in the Jardin des Plantes by MM. Brongniart, Decaisne, Payen, Newmann, Pepin, and others, who have verified the results claimed by M. Eusèbe Gris. The following experiment on Azaleas will be interesting. Seven or eight Azaleas, affected with chlorosis, were dipped in a solution of sulphate of iron, 30 grains to the quart, so as to be thoroughly soaked, leaves and branches. In eight days a decided improvement was observed. The operation was then repeated, and in addition the earth in the pots was sprinkled with a stronger solution—¼ of an oz. to the quart. Under the influence of this double absorption by the roots and stem, the sickly Azaleas not only became quite green, but threw out a bunch of young bright green leaves showing every appearance of vigorous vegetation. No other method giving these rapid results could have been adopted with such slight expense and trouble. From the pleasure garden the experiment has been extended to the orchard. Mulberries, Peaches, Pears, Vines, and Wheat have all given the same happy result.

The influence of salts of iron is not only apparent upon unhealthy plants but upon those that are healthy, the effect being immediate. From experiments made on Haricot Beans an excess of 60 in the 100 was gained, weight for weight, in those submitted to ferruginous treatment, over those which had not received the stimulant. In the cultivation of Clover an astonishing advantage has been gained by the salts of iron over superphosphate of lime; and sulphate of iron has the additional recommendation of being very cheap, and causing precocity in the plant. In the farm the experiments have at present been very small; several have been favourable, as might be expected, and where failures have occurred they may be traced to improper administration.

Sulphate of iron decomposes quickly when put dry on the ground, and it requires water to dissolve it and carry it down to the roots. The conditions of application to be observed are: the plant to be operated on, if in a pot, should be dipped, leaves and branches, in a solution containing 30 grains of sulphate of iron to 1 quart of water. This should be done immediately the iron dissolves. Plants with thick leathery leaves should be immersed a considerable time. Upon trees in the open ground, where it is not possible to immerse, the solution should be sprinkled so as to wet the leaves thoroughly; upon this the success of the operation greatly depends. The roots should also receive, like those in pots, an application of the solution of greater strength, as already indicated.

Such is the remedy for plant sickness proposed by M. Eusèbe Gris. It is a subject of so much importance, that I venture to send this English version of a French fact to your valuable Paper, hoping that it may attract the attention of some of our scientific horticulturists and agriculturists. The trial has been long and patiently carried out in France by well-known experimentalists, who have added the weight of their names to the report of its value. I have myself remarked that in soils where iron is present, trees, especially Pears are greener and more healthy than in chalky soils. In the alluvial gardens of the Touraine I have seen Pear trees positively yellow; and though this want of colour does not seem to affect their health, the treatment recommended by M. Eusèbe Gris would in all probability restore them to their natural hue. The same treatment pursued in this country would, I have no doubt, be found extremely beneficial in making many a sickly and yellow tree put on its proper garb of green. *T. Francis Rivers, Sawbridgeworth.*

## Indoor Gardening.

It seems that the Vallota purpurea is not so much grown as it might be, and yet of all our window plants it is one of the easiest managed and least injured by neglect. It may also be had in flower almost at any season; this being apparently regulated entirely by good watering while the leaves are growing, and by judicious dryness when they have made their growth.

I had half a dozen of these plants last spring. then just beginning to grow. They stood the whole summer in a window, and were watered well. Towards August I think it was, the watering of one or two was lessened, and then in a very few days the bright scarlet flowers came up and looked extremely brilliant. They are remarkably striking and glowing flowers. These plants retained their leaves, which was a great point of beauty, but others were kept watered, so that the leaves have hardly yet quite died away, and on one of these as soon as the leaves had died and considerable dryness had set in, a strong looking flower-stem rose, and now advances rapidly. It is extremely good for these bulbs, if liable to neglect, to have the surface soil covered with Cocoa fibre so as to prevent extra evaporation. These plants are in 5-inch pots, and the pots have never been sunk at all. In fact, the August flowers seemed partly due to the heat and dryness the roots thus acquired, though sponging the leaves occasionally perhaps kept them bright and green.

My plant case at the present time is quite a little Orchid house. I suppose, in point of fact, one is not yet "out of the wood;" but my Orchids have been for 10 days here, and are unspotted and lovely, while on each of the plants I have, new buds have either opened or advanced a great deal.

The loveliest of all perhaps is a Phalænopsis grandiflora. This hangs its beautiful butterflies between the other two.

The Ionopsis on one side has the loveliest little white clusters, somewhat reminding one somehow of Lilies of the Valley, though only, I think perhaps, by its excessive whiteness; Dendrobium Pierardi on the other side has its own beautiful flowers growing out of most queer looking sticks.

These plants, growing on blocks, require now and then soaking. I put the said blocks in a tumbler of lukewarm water, or in a little basin, and then with a large camel's hair pencil wash the water over the roots. This has been done at present about every three days, but that is scarcely often enough; for on one occasion a Dendrobium petal did flag. The case in which these plants are is heated at least once a day, that is in the afternoon; but the water is not made quite boiling, as great heat is not now requisite. On a sunny morning the sun fills the case with warm vapour, but if the day is cloudy I have the heating done early.

The case is kept closed all night, and till about 9 o'clock next morning, when I find it generally in rather a steamy state. It is opened a little bit then, and afterwards more so, till by 11 or 12 o'clock the air seems thoroughly dried, and has, I conclude, got changed enough. The case is not however entirely closed till evening, and though in the morning the flowers look bright and blooming, they never seem to have the least become tarnished or stained. All dripping is prevented by a warm woollen cover at night, and there is no condensation of vapour upon the flowers. The blocks are hung by wires upon the silk cord my plants creep on.

The Cissus antarctica has now nearly crossed the case, and its beautiful leaves (somewhat resembling those of a large Fuchsia) look delightfully green and fresh always. The Passion-flower (kermesina) mingles its tendrils with them, and from the opposite corner an Ivy grows across.

Ficus repens and Lygodium scandens are two more little creepers, and as I have also a plant of Lapageria rosea and of Cissus discolor, I fear as some of them grow bigger that two will have to turn out. As long as they are but low-growing they fill up the two ends prettily.

The Lycaste that has been so green and fresh-looking all the year is now again very vigorous, though I wish that my water-economy had not so long delayed its flowering. At present it seems very hopeful for soon giving the bright glow of its exquisite crimson blossoms.

Some Ferns do to fill up, and one of the Maiden-hairs is at last beginning to thrive again. In winter without heat the case was almost too cold to bring it into good growth.

A white Azalea has been blossoming the last three weeks at the cooler end, and as I find new flower buds still forming in great abundance, it evidently may be expected to last a long time more. So that the root heat is kept from it, the warmth and air circulation is entirely in its favour.

The opportunity now of seed raising is extremely well timed. The Ipomæas especially will be so little in the way while they make their first four leaves growth.

Any one, also, who wants to grow the Lilies of the Valley will only have to place pots of them at the warmer end, and if the points have started they will be out within three weeks; if they have still to begin, it may be about four or five. When once the blossom buds show, the pots must go off to the cool end, and be kept always next the light. They should have plenty of water (always warm of course), and then they will last long in flower, and the leaves will last longer still.

The Lycopodium denticulatum in my case is growing best of all self planted upon some dead Moss, which covers another pot. A layer of this material on many of our flower pots would really look very pretty with the vivid green sprays upon it. *E. A. M.*

## THE ORANGE.

The following is a portion of a paper read lately at Melbourne, Australia, by Mr. Carson, and abridged from the *Melbourne Yeoman*:—

Taking much pleasure in gardening generally, and the cultivation of the Orange in particular, I was naturally, as an amateur in quest of information, induced to refer to the many large and valuable works treating on this subject; but knowing, at the same time, that the tree I was most interested in was only grown in Britain as an exotic, it was not expected that any precise instructions applicable to its growth as an open-air standard would be found, yet considerable disappointment was felt, that works looked upon as authorities, some of them published so lately as 1855, should blindly copy previous writers, in this way perpetuating many fallacious ideas.

We are informed for instance that the acrid nature of the essential oil in the rind, and the acidity of the pulp, form an effectual protection against the attacks of insects; and in Victoria, a learned member of the Royal Society there informed the members that in Portugal the trees were trained with a clean stem for several feet, and that washing this stem with soap and water with a brush was the mode of cure for insect pests. Those who have seen an Orange tree infested with scale covering every leaf and branch, and adhering so firmly that they would seem to be part of the tree itself, can form some notion what effect any amount of scrubbing at the stem would have.

So much for theory; practically there was something to learn. For several years the Orange trees I had were under the management of an excellent gardener, yet ignorant of the treatment required by them, as under his care none were thriving and some dying; "but (said he) you must not mulch, you must not water, or you will bring the roots to the surface." So, rather than that this should happen, many of the trees themselves were removed from the surface, having, under this practice, been starved to death.

So far as my own observation goes, situation is not of so much consequence as many other apparently unimportant details of management. I have observed the trees in all aspects and at various elevations; and, where the treatment was judicious, all appeared to be successful. But till this point is more fully established, I would be disposed to recommend, where a choice exists, the site so well known to be that most favourable to all trees—the side of a hill, neither the top nor the bottom; the latter is subject to frosts, the former to high winds, which are very injurious to this tree.

Soil is intimately connected with situation; and of the influence, when combined, they exert on the tree, I have lately had a very convincing proof at Rockbear, the residence of

Thomas H. Bear, Esq., where a large number of Orange trees have been planted. This estate, embracing both sides of the Darebin Creek, has on one side the heavy rich black soil combined with the bluestone, similar to the banks of the Merri Creek; on the other side, a similar formation to Studley Park—that white rotten stone—on the sloping bank facing the north-west. This was broken up, terraced, and planted three years since. Already the produce is, without exception, the finest I have seen in Victoria, and I doubt if better can be found even in New South Wales. The larger quantity of trees, some hundreds, planted at the same time in the black soil, with an eastern aspect, in what was considered the best soil and situation, are barely existing, and are totally unproductive.

May not the undoubted success attained in this instance be attributable to the perfect drainage of the fissured rock, which freely admits the roots to any depth in search of moisture; and the failure, as justly chargeable to the want of these conditions?

The soil considered as most suitable to the Orange is a rich surface resting on a clay subsoil, this tree having two distinct classes of roots—one a strong tap root, that strikes down deep in the soil, as an anchor to hold the tree in its place; the other, and more important, to which I invite particular attention, are fine fibrous roots that run through the upper portion of the soil to the very surface. The tap roots may be likened, when four or five years old, to a stockwhip, while the latter would more resemble curled hair, and are chiefly, if not altogether, the principal feeding roots of the plant.

A proper preparation of the soil for the Orange must commence with drainage; and for so enduring a tree this ought to be of the most permanent character—say, well made pipe drain-tiles, placed not less than 4 feet deep (this is the least depth allowed by the British Land Drainage Act, as a charge on entailed estates), for any less depth would soon be choked by the roots getting in. A moderate fall, few curves, and a correct plan of the drains, to facilitate opening, should repairs be needed, are important details in underground drainage.

The preparation of the soil will also include trenching, say not less than 2 feet deep, being careful to go through any seams of gravel that may be met with. For the Orange it is not desirable to bring the clay to the surface, as may be easily understood, if we bear in mind what has been remarked concerning the roots. If it is desired to place the plants in the most favourable condition for their growth (unless the land were naturally more than usually fitted for the reception of the trees), it would be much better that the trenched land should be cropped for a year, using a very liberal supply of manure, well rotted, and the surface repeatedly turned over one spade deep. This thorough preparation of the soil is particularly required, as, when the trees start into growth, the surface is soon filled with their fibrous roots, when a careless digging with the spade is always injurious, and often fatal, according to the more or less active state of the plant at the time when this wholesale pruning of the roots takes place. The principal digging should be done in winter, using a fork, and taking care that the small roots are as little disturbed as possible. During the year the surface may be kept clean and open, by pointing over with the fork to a depth of two or three inches. This, in dry weather, will be of great service to the trees, as it acts like a mulching, yet is free from several drawbacks attending that operation.

The idea has become general that the Orange cannot have too much strong manure. I am of opinion that here also, there is a happy medium. It is not needful that trees growing 20 feet to 30 feet apart should have so rich a soil as those in a box or flower pot; yet if the same care were taken in the preparation of compost as for pot plants, no harm would be likely to arise. But when, instead of the 10 or 20 years' preparation—as in some parts of Europe,—the rankest offal is heaped on the roots, what but ultimate disease can be expected from so unnatural a process.

I have more than once, while admiring the Orange trees at Versailles, thought of the careful management that has preserved some of them for a period of 440 years growing in a box, 1421 being the date marked on some of the boxes as the period of their introduction to Versailles.

To be in a position to plant successfully, the trees require to be taken from their previous situation with the greatest care, and with as little loss or injury to the roots as possible. The operation of planting is too well known to need description. I would, however, give the caution to have the holes larger than the roots are able to cover, and that the bottom be made so firm that no settlement is likely to take place afterwards. I am the more particular on this point, as I differ altogether from those who direct that the Orange should be planted a little deeper than they were growing before—this little deeper may mean, with different parties, 3, 6, or 12 inches—an irregular surface at the time of planting may add a few inches to it. The bottom of the hole having been loosened to a depth of 2 feet or more, is sure to sink, and the tree may eventually stand, as I have found some of my trees, 18 inches to the top tier of roots. This mode of planting, it will readily be seen, places the roots in a cold, unnatural position, almost shut out from the action of the air. To such a plant the spring comes not; the warmth of the returning sun and the genial showers are alike powerless to penetrate to the abode of its damp and dormant roots, while its fellows luxuriate in the joyous season, and send their thousand feelers far and wide, perfect their ample growth in proper season, and, with a healthy development, secure comparative freedom from insect foes, power to resist atmospheric changes, beauty and productiveness. But while this is the case with a tree in a proper position in the ground, how is it with the deep planted? By the time that sufficient warmth has penetrated to their roots, and their feeble powers are called into play, the fiery rays of an almost vertical sun burn and dry up the little tender and untimely shoots—the growth is soon checked. A rather more successful attempt is indeed made in the autumn, as the heat of the summer is retained, and the return of moisture for a time gives promise of better things. But, alas! before the new-formed shoots have acquired any firmness, the remorseless hand of King Frost is upon them, and the lately beautiful green branches hang their heads. Black and blasted, they rot, and carry death below their point of origin, and the miserable tree, in vain attempts at growth, becomes the sport of the weather, and the prey of insects. Out of several Orange trees planted during my absence in England, I was able to point out the deep planted by their appearance only, and did so before they were examined. The most vigorous trees had the collar barely covered; in the worst, we had to dig 18 inches before coming to a root. I say, then, do not plant deep, let the upper roots be merely covered; look at our gums and wattles, their root can hardly be said to be under the sod, but rather through it. Nature in this, as in many other respects, is our safest guide to follow.

For the benefit of young gardeners of the amateur class, I may add that, as the Orange-tree is frequently obtained from the nurseryman in pots, they must never be planted with the ball; for it usually happens that the roots if they have been any time in the pot, are a tangled mass. If planted thus, and a vigorous growth set in (although this is not very likely), the enlargement of the roots must cause them in a short time to strangle one another. To prevent this turn out the plant from the pot, and place the ball for a short time in a tub of water, when a shake or two will remove the soil; the roots can then be seen, and in planting should be carefully disentangled, and spread so as to radiate to all points of the compass. I had lately a pot plant that, when treated in this way, showed that the tap-root had the year before been looped up into the form of a figure 8, and passed through the bend twice; this must soon have destroyed the tree. In no case of winter planting should I water at the time, as the ground at that season is moist enough; and as the roots are all more or less bruised or broken, any excess of moisture is apt to rot the injured parts, while moderate dryness assists the formation of callus and new roots.

But should it be necessary to plant in hot or dry weather, a complete soaking may be given after planting. With the view of checking the evaporation, it is sometimes recommended that the leaves should be stripped off. In some circumstances this may be a good practice, but I prefer to save the foliage, and shade the trees from the sun till a healthy growth has set in. This is managed very well by taking both ends out of a flour barrel, and placing it over the newly planted tree. These barrels are open enough to ensure efficient ventilation, and the removal of a stave now and again prepares the tree for being finally uncovered.

It is of great importance to the Orange that it should be sheltered from strong winds, as in a state of nature its position is said by naturalists to be that of a half undergrowth.

For the successful treatment of the Orange, the power to water, or rather to irrigate, is so necessary, that in the vicinity of Seville the first thing that is done when it has been determined to plant an Orange grove, is to make provision for an ample supply of water, so that the trees may be well irrigated at intervals of ten days during the summer months, when the natural supply of moisture is insufficient for the demands of the plant.

After the first year, when the trees are established, advantage may be taken of times of watering to add an occasional supply of liquid manure, and it should always be borne in mind that the watering should be abundant, and that you should wait (as an old gardener once said to me) till they ask for it. This they do very plainly, by curling the leaves so as to show a great portion of the under surface, presenting a thin shrivelled appearance; now is the time to water abundantly. An occasional watering overhead with a syringe or garden engine is very beneficial, especially to trees near towns or roads, whose foliage is likely to become covered with dust and dirt; in all cases it will dislodge numerous insects who take up their abode within shelter of the evergreen leaves.

A deficiency of water will cause them to shed their leaves, when it will take two or three years of careful cultivation to recover them. The loss of foliage to evergreens is at all times a serious matter, not soon got over.

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## Home Correspondence.

*Garden Law: No. 4, Fences.*—My fences were rotting and tumbling down, and my neighbour required me to repair them. I replied, why should I? They were mine, I put them up, the land on which they stood was my own; I had nothing beyond a cat which could stray on his land, and I preferred to remove the fences than spend more money in keeping them up. My neighbour disapproved altogether of their removal, because he had goats and other animals which were only kept within bounds by my fences, and he saw that if I took them away he would be put to some expense in keeping his beasts off my land. But this was his affair, not mine. I removed the fences and gave him notice that if I found his goats in my garden I should impound them and hold him answerable for any damage they might do. My lawyer told me that in the absence of an agreement, or such a long continued state of things as is required to create a right by prescription, a man is no more bound to keep up his fences than he is to keep up his house. He is bound to keep his own cattle off other people's land, but not to keep their cattle off his own land. I acted upon this and left my neighbour to take what course he pleased. He grumbled and threatened to go to law, but he found out that I was in the right and prudently left me alone. This was not my only difficulty with respect to my fences. When I bought my property I had some trouble to ascertain which fences were mine and which not. Some had been put up by a former proprietor wholly on his own land, and these beyond dispute were mine. Another was a wall which had been recently built at the joint expense of my predecessor and his neighbour upon the boundary between their two properties, and resting half on the land of one of them and half on the land of the other. The consequence of this was that one half of this wall belonged to me and one half to my neighbour, and that each of us might cut away that half which stood on his own land, although the other half would be so weakened by the operation as to fall down. I had no desire, however, to try this experiment, and both my neighbour and myself have been contented to train fruit trees on our own sides of the wall, which it is plain we are both entitled to do. There was another old wall, the history of which was unknown. It had evidently existed for many years, and had been used by the proprietors of the property on either side pretty well as they liked. One side supported a shed, and on the other were trained fruit trees protected from frost by a short sloping roof fastened to the wall. No one knew on whose land the wall stood, whether wholly on mine, or wholly on my neighbour's, or partly on both. In point of law this wall would be considered as belonging in common to my neighbour and myself. Both he and I therefore are entitled not only to place sheds, &c., against it, and to train trees along it, but also, as said by an eminent living judge, to amuse ourselves by running along the top of it. Of this valuable privilege neither of us can it seems lawfully deprive the other, by putting broken glass or building upon the wall. If a wall or fence belongs to two persons in common, either of them may rebuild or repair it at his own expense, but in the absence of special circumstances neither can apparently compel the other to repair his side, or to contribute to the expense of rebuilding or repairing the whole. The joint owners of a party wall should therefore always come to some distinct agreement with each other to share the expense of repairs when needed. *Lincoln's Inn.*

*Leafless Cedars of Lebanon.*—A case similar to the one spoken of by your correspondent at p. 246, occurred here in the autumn of 1861. Two Cedars of Lebanon of about 50 years' growth, some 300 yards apart on the same kind of soil, became yellow and sickly looking; the points of the young shoots shrunk, and the leaves fell in quantities. One of the trees, in an important position near our new terrace, was, by Col. Tighe's orders, operated upon in the following manner. A deep drain was cut 15 feet from the stem; this was filled to the top with stones. Between the drain and the stem, the whole surface soil as far as the roots would permit was cleared away and replaced by fresh earth, but a layer of good clean leaf-mould was first laid over the roots. The tree has regained its leaves and made a considerable amount of young growth. The other tree, which was formerly the healthiest, died last June. It was not operated upon in any way. The wood was sound, but all the young roots were gone, as if the tissues had given way from excess of moisture. *Charles M'Donald, Woodstock Park.*

*Strawberry Culture.*—"The circumstance" (says Mr. De Jonghe) "of a variety not producing a superabundance of runners, is considered one of its meritorious characters by the most intelligent cultivators." I can only judge of things as they are here. The testimony derived from persons whose circumstances are different from mine, will be different. In this fickle climate, with the variety of situations, with the liability of winter jumping on the back of summer, early establishment is a great point. This cannot be effected except by spring planting, the best way, if, after cropping, the Strawberry plant runs slowly and sparsely. As regards the inconvenience of early running before the crop is off, I find no difficulty. My servant's little girl goes from plant to plant and cuts the strings off with scissors, till the fruit is "set" and begins to "swell." There is then no further trouble on this account till the fruit is off. This inconvenience, so easily met, is not so objectionable as not being able to get runners till it is too late to establish them before the winter sets in and ruins them. Strawberry plants are generally ruined by being planted too late, and cropped in a state of weakness. I would never allow my plants to run at all, if I could get the plants, true to sort, of a nurserymen, so as to be able to put them in the first genial weather of spring. They have then more than a year to form crowns, and perfect their volume of perpendicular oblique and horizontal roots. The perpendicular roots will, under proper cultivation, descend far deeper than people suppose, especially if the ground has been trenched and manured throughout. The old Hautbois, now gone from here, in two years even in untrenched ground, sent its roots down 27 inches. I think there is one thing that both Mr. De Jonghe and Mr. Gloede overlook, or do not sufficiently weigh, viz., the difference between the climate of England and that of Belgium and France. From the noble Pears and delicious Grapes grown out of doors, kindly sent to me by Mr. Gloede, I think that France must be a forcing house out of doors. The Pears were very fine and good (not so good as Marie Louise), viz., Duchesse d'Angoulême, Beurré d'Anjou, and Délices d'Hardenpont, which he says is the same as Glou Morceau. The Grapes were full of saccharine, juicy, and sweet as honey; they were a small amber-coloured Grape, called White Chasselas. They were not a "show" sort, but I never ate any Grapes more delicious. They would doubtless grow well in an orchard house; to attempt to grow and ripen them out of doors in England would be "simply absurd." Can any one wonder then, that we should occasionally differ a little about a Strawberry plant, or its fruit. Last season, at the time that we were deluged and chilled, Mr. Gloede complained in a letter to me that, if he did not get rain soon, his plants would be burnt up. In fact, it was a case of "well" *versus* "frying pan." The sun is the soul of the natural world; and if I cannot get a burning sun I can do nothing here. But we are near perfection. Here is Model and Bijou; but alas! if they run slower and more sparingly than La Constante, I fear that they will not give me that delectation which I should wish to experience. I may, however, say in conclusion, that I am never prejudiced, that I judge of things by the evidence of my senses, and that I "stick to the bridges that carry me over." *W. F. Radclyffe.*

*Larch Rot.*—The account of this disease in your Paper of the 7th inst. reminds me of a loss which I sustained, probably from a similar cause, in reference to my drooping Larches. About 30 years ago the variety originated here from seed, and was found to grow along the ground in a prostrate manner. After some time I propagated it by inarching it standard high. I had the variety advertised, and disposed of a considerable number of plants, both in this country and on the continent. A few years ago, however, they became sadly infested by what was called "American blight." A remedy was sought for, but the general reply was, that no practicable method of curing the evil was known. And after trying many experiments on both trunk and branches, with the hope of saving a splendid specimen plant, the disease was not at all retarded but apparently increased, for the tree scarcely made any growth, and was cut down. It had been a striking object, and much admired; the branches

extended 9 feet in every direction around the bole or trunk, which was 8 feet high and 9 inches in diameter. The young stock of plants suffered also to the same extent, and I have only three now left to the tender mercy of the pest. I observed the roughness of the young shoots mentioned in your Paper, and the buff leathery appearance of the inner bark; and I have no doubt that the disease is rot, which, if it becomes general, will prove a serious visitation in a national point of view. *Wm. Godsall, Nurseryman, Hereford.*

*British Queen Strawberry.*—As this Queen of Strawberries never fails here in producing excellent crops, perhaps a few hints as to the nature of the soil and culture may be acceptable to those growers who have failed with it. I am convinced this particular variety does best in an open and dry situation, and that the soil cannot be too strong and stiff for it if well drained. It would be difficult to find a more stiff and adhesive soil than that we had to encounter here, where the new kitchen garden was formed. All the red clay from the drains, and a part from the subsoil, was burnt and mixed with the surface, and this forms the particular soil wherein the British Queens do so well. I usually force about 1000 plants in pots of this variety, and one half are annually planted out, after being forced, to keep up a succession, as I never allow any variety of Strawberry to remain longer than three years in the same place. I have however a few rows of the British Queen, planted out in the autumn of 1859, which after facing the severe winter of '60 and '61 are now as healthy, and promise to produce as good a crop as when first planted out. All that is done here in the way of culture after planting them out of pots, is to spread a good surfacing of half rotten manure on the rows in the autumn. This shelters them in severe winters; and when the young leaves begin to grow in the spring, they bind the litter from blowing about, and it keeps the fruit clean. Last year I had to prop the British Queen Strawberries up with forked sticks, the crop was so abundant, and many of the largest fruit weighed one and a half ounce each. *William Tillery.*

*Aucuba japonica.*—The appearance of small red berries upon this handsome and well-known evergreen shrub, is by no means so rare an occurrence as might be inferred from the remarks that have recently been made about it in your columns. In your volume for 1843, p. 286, will be found a sketch of the so-called fruit, which in size, form, and colour is said to have considerable resemblance to that of the Berberry. The flesh is stated to be dry and mealy, rather insipid, and of a yellowish white colour. The kernel is roundish, tapering to both ends, and somewhat paler than the pulp. The inside is waxy and bitter. According to Kæmpfer, the perfect fruit of this plant is a red oblong drupe, like a Laurel berry; and as this is confirmed by the specimens that have been brought to this country by Mr. Fortune and Mr. J. G. Veitch, who have also introduced the male form of this truly beautiful shrub, we may naturally expect that in due time we shall have plants bearing fruit of a proper size, instead of the abortions above noticed, which will render the Aucuba even still more valuable as an ornamental evergreen, than it is at present. *B.*

*The Royal Wedding.*—Will you kindly correct the last part of the statement in your Paper of March 21, headed "The Royal Wedding Day," and signed G. Toll, Manchester. The last tree planted was not a Cedrus Deodara presented by Messrs. Lucombe, Pince, & Co., but another Wellingtonia gigantea, presented by ourselves, and named "the Princess of Wales's" tree, as companion to the former. *James Veitch & Son, Nurseries, Exeter.*——A fine young specimen of Wellingtonia gigantea, the gift of Mr. Cranston, of the King's Acre Nurseries, was planted in the Cathedral Close of the ancient and loyal city of Hereford on the 10th ult., in commemoration of the marriage of H.R.H. the Prince of Wales. *Gulielmus.*

## Foreign Correspondence.

BEURRÉ BRETONNEAU PEAR.—At page 149 I observe a note relative to this variety of Pear. Mr. Cramb has not been able to obtain it fit for the dessert, either from a wall, dwarf, or standard. In the month of June the fruit was neither good for the dessert nor for cooking. A similar remark I have heard from others. On making inquiries of these as to the nature of the soil in which the trees were planted, the answer has been that it was cold, very heavy, and moist. Others, from trees planted in a light deep soil and against a west wall, have obtained fruit as melting as that of the Bergamotte Esperen, or nearly so. Having obtained the same results in my own grounds, I can support the statements just made. I am not interested in recommending the Beurré Bretonneau. It was not sent out by me, and I have only propagated a few trees of it for specimens. As many cultivators are in possession of this variety of Pear, they will doubtless be interested in knowing the result of 20 years' experience of growing it. It may be considered a posthumous fruit of the late Major Esperen of Malines. After his decease his seedling Pears came into the possession of M. Berckmans, of Heyst-op-den-Berg, who named the variety in question in compliment to his friend Dr. Bretonneau, of Tours. It is very vigorous in growth, hardy and productive. There are few Pears so well suited for orchard culture, in the shape of a standard on the free stock. It grows well in any light, warm, deep soil. If grown on a cold, heavy, damp soil, in an unfavourable climate, and rather cold season, one is nevertheless certain of having an excellent stewing Pear, from December till March. Taking all things into consideration, I would not advise any cultivator to entirely discard the Beurré Bretonneau until it has undergone further trial. *J. De Jonghe.* [We think so too:—The Beurré Bretonneau grown to *not above medium size*, proved very good and useful for this season of the year as a dessert fruit; but grown to a *large size*, as far as our experience goes, it is always bad, except perhaps for stewing.]

## Societies.

ENTOMOLOGICAL: *March* 2.—F. Smith, Esq., President, in the chair. Donations to the library from the Royal Society and the Societies of Vienna, Stettin, Entomological Society, France; Nassau, Society of Arts, &c., were announced. Mr. G. R. Waterhouse exhibited some minute British Coleoptera, belonging to the genera Mycetoporus, Bryophorus and Homalota, of the family Staphylinidæ, and read some remarks on them. Mr. F. Bond exhibited a specimen of the reputed British blue butterfly, Polyommatus Dorylas, which had been sent to him as a variety of P. Adonis, together with other insects taken in the West of England. Although figured by Lewin, it has been long rejected as a British species; the name had also been misapplied by Leach to the common English blue, P. Alexis. Professor Westwood read descriptions of two new species of Lucanidæ from New Holland, and the President exhibited and read descriptions of the various species of honey bees and wasps from Brazil, which were exhibited with specimens of their honey and wax in the International Exhibition for 1862. Eleven new species of Trigona and two of Melipona were described. No species of the restricted genus Apis was found in South America, although introduced and now common in the North, and the Brazilian honey bees were stingless. It was also the opinion of the writer that there are numerous females in a nest of Trigona, thus differing from the economy of the hive bee.

BOTANICAL, OF CANADA.—The first meeting of the third session was held in the University Hall, Kingston, C. W., on the 26th January, Professor J. R. Dickson, M.D., Vice-President, in the chair. Nineteen new members were elected. Office bearers for 1863 were elected:—*Patron:* His Excellency Lord Monck, Governor-General; *President:* Very Rev. Principal Leitch; *Vice Presidents:* Professors Litchfield, M.D., Dickson, M.D.; Williamson, LL.D.; and Thomas Briggs, Esq.; *Secretary:* Professor Lawson, LL.D.; *Auditor:* A. Drummond, Esq.; *Treasurer:* Rev. Professor Murray; *Librarian:* R. V. Rogers, B.A. An Herbarium Committee was also appointed.

Professor Lawson stated that through the kindness of Professor Caruel, formerly of Florence, now at Pisa, an ample supply had been obtained of living cocoons of the new Chinese silk moth, Saturnia Cynthia, which yields the Ailantine silk, now so successfully raised in France and Italy. The eggs which may be obtained from the moths in May next, it is proposed to distribute to such members of the Botanical Society as may desire to aid in the experiment of rearing them in Canada. This silk worm feeds on the Ailantus glandulosa, a tree that is quite hardy in Canada. Members desirous of obtaining eggs were invited to send in their names to Professor Lawson. The chief obstacle in manufacturing this silk seems to be the difficulty of unwinding or carding the cocoons, which will no doubt be overcome by the method of soaking them in caustic potash, which Mrs Lawson has found to answer so well in the case of the much larger parchment-like cocoons of the Canadian Cecropia; the potash disintegrates the parchment-like membrane into its constituent threads by dissolving the adhesive substance which glues them together.

The following communications were read:—

1. On Plants collected in Canada, by Philip W. Maclagan, M.D., Berwick-upon-Tweed.

Dr. Maclagan's detailed observations were contained in two MS. volumes, embracing original information respecting nearly 900 species of Canadian plants.

2. On the Physical Character of the East Riding of Northumberland, Canada West, with a List of the Plants. By John Macoun, Belleville. The list embraced 800 species of flowering plants, all collected by Mr. Macoun within two years. Indications were given, by reference to ancient lake terraces, &c. of the former existence of lakes at a higher level than any that now occur in the district, a point of much interest in Canadian geology as bearing upon the history of the great inland seas still existing.

3. Account of an exploration of Gaspé, during the summer of 1862. By John Bell, B.A., who accompanied a party of the Geological Survey of Canada.

This paper was accompanied by a systematic list of the plants observed during a five-months' exploration of Gaspé, in the Gulf of St. Lawrence. The party, of which Mr. Bell was a member, camped in the woods all the time; they started from Quebec on board the S. S. Lady Head on 30th May, and proceeded down the St. Lawrence to Gaspé. On the tops and sides of the mountains there was still plenty of snow, especially on the south bank of the river. Mount Albert, the highest point of the Shick Shocks, showed itself as a pure white cone. Reaching Gaspé, the forests were found to be composed of Black and White Spruce, Balsam, White Birch, and Poplar, Spruce being by far the most plentiful, found in fact everywhere from the seashore to the limits of arboreous vegetation on the highest summits,—the white growing along streams and the coast, while the black was more at home on the cold mountain sides. Snow was still (in the beginning of June) deep in the woods, and a nightly crust of ice formed on water in exposed places. Yet, two weeks afterwards all the spring flowers were in blossom, together with Birches and Willows, and the Coniferæ were filling the air with their sulphur-like pollen. On 7th June the pollen could be taken up in handfuls from the surface of the water in Douglastown lagoon and bay. Whole acres of ground were covered with continuous beds of Epigæa repens in flower. The white settlers use the bark of White Birch to line the holds of ships in which dried codfish are exported in bulk, and to such an extent has it been used that near the coast unstript trees are now scarce. Of the same bark the Indian makes his canoe his hut, his flambeaux, dishes, and boxes for domestic use, and when out hunting he sometimes even boils his venison in a birch bark "corseau." The wood is used for paddles, salmon spears, and in the construction of canoes. Thus from this tree alone, he procures means of obtaining food, shelter, and conveyance. On the old Birch trees from the cracking of the outside layers of bark there is always a large quantity of it hanging in loose sheets and shreds, and with the disintegrated pieces the crotches are filled. In a dark night, a match applied to the foot of the trees affords a grand scene. The fire rushes up the trunk like a flash of lightning, enwrapping the tree in a mass of flame, which shoots up to an immense distance, producing a noise not unlike a peal of thunder. The long tough roots of the Spruce called watap are used by the Indians for sewing together the Birch bark of their canoes, and the resin or "gum" with that of Pine and Balsam, for rendering the seams impervious to water. The bark of the Spruce can be separated at certain seasons in pieces containing 30 or 40 square feet, and such are used for temporary huts and sometimes for canoes. The total absence from the Gaspé forests of such trees as Beech, Basswood, Butternut, Hickory, Hemlock, Oak, and Ironwood, as well as the great rarity of Elm and Oak, (all common Canadian trees) is very remarkable. Four Maples occur, and there are some profitable sugar bushes near the Bay of Chaleur. In many places, especially near escarpments of rocks, young trees are seen of Balsam and Spruce, with the upper part of their bark gnawed away; this is the work of the Porcupines. Spruce trees are also frequently seen, which have been peeled by bears, in order that they might lick the sweet juice found between the bark and trunk. They seize the bark at the very base, and tearing it from the tree from about 5 or 7 feet, leave it dangling in long strips, which often remain for years attached to the treees. The summits of the Shick Shock mountains are quite bare of trees, and the Spruces which ascend the highest are very stunted, their trunks tapering like cones, and as hard as bone. On the Dartmouth River a case of natural layering was observed in two Spruce boughs. They had been weighed down by snow, and in that part, becoming covered with leaves and Moss, had sent out several strong roots. A large Cedar also was observed sending down large roots to some mould that had collected in a fork five feet from the ground. In ascending the Dartmouth River, Mr. Bell observed large quantities of Alder, Red Osier, Dogwood and Willows, the latter forming an almost impenetrable border along the river. The dried bark of the Dogwood, commonly called Red Willow, was used for smoking by the Indians before they were supplied with Tobacco, and many still, from motives of economy, mix it largely with their Tobacco. There was plenty of wild Onions or Chives along the shores of the stream, which kept the party in fresh vegetables. Dryas, Shepherdia, Anemone multifida, Potentilla fruticosa, and other showy plants formed a constant feature of the river scenery. The river banks abounded with Anemone parviflora, Pinguicula, Primulæ, &c.; and on the rich flats Aspidium Braunii produced fronds 3 ft. in length. Calypso borealis was abundant. Although considerable quantities of fine timber have been exported from Gaspé, yet it was of a quality far inferior to that made on the Ottawa, and the accessible trees worth manufacturing are now nearly all cut away. In descending the Dartmouth, which occupied but three or four days, the vegetation was observed to be much further advanced near the sea-shore than inland. "One experiences a strange and delightful feeling on getting back to broad open clearings, with floods of unbounded sunshine and fields of waving hay, speckled with Clover and Buttercups, after being nearly a month in the shade of a gloomy Spruce forest." The summer in Gaspé being a moist one, the hay crop was excellent. Haying began about the beginning of August, and in September many fields of uncut hay were still to be seen. The cold spring and moist summer caused the grain crop to be backward, and not a little of it was ruined by the September frosts.

4. On Ailantine, the silk yielded by the Saturnia, or Bombyx Cynthia, with remarks on the Ailantus glandulosa, or False Varnish Tree of China, upon which the worm feeds, by Robt. Paterson, M.D., F.R.C.P.E., Corr. Mem. Bot. Soc. Ca.

In illustration of this elaborate and valuable paper, the author sent a very interesting series of specimens, which were exhibited to the meeting, showing the eggs, the larvæ in various stages, the cocoon, and the perfect moths, male and female.

5. List of Plants collected in Ramsay and adjoining localities, during 1861-62, by John K. McMorine.

6. List of Plants collected chiefly at Fort Garry, Red River Settlement, by John C. Schultze, M.D.

7. List of Plants of Beckwith and Ramsay, C.W., by Josiah Jones Bell.

8. Lists of Plants collected at Wellington, during the summer of 1862, by John A. Kemp, M.D.

## Notices of Books.

The members of the *Alpine Club* have started a Quarterly Journal of their own (Longmans). It is to be a record of mountain adventure and scientific observation. The first paper by Mr. Kennedy is only to be read with bated breath. It records the skilful ascent of a virgin mountain called Monte della Disgrazia. Hear how this prince of Alpineers records the result.

"We gradually wind up rather steep bits, but such as present no real difficulties, and at ten o'clock reach the notch in the chain, with Picco della Speranza on our left, and the highest peak of the Disgrazia on our right. Hence we look down upon the deep valley of Chiaraggio beneath us; beyond is the Monte Nero; higher up, and in the back-ground rises the Tremoggia, the whole surmounted by the grand range of the Bernina. Immediately at our feet, and a little to the left, is the crevassed glacier that we had traversed three or four days previously, and commanding, as we now do, its whole surface, we pause in astonishment to admire the skill which had enabled Melchior to lead us through its wonderful intricacies. Having rested at this spot some twenty minutes to enjoy the grand view, and to make another breakfast, we began the real work of the day. This embraced the usual characters of a mountain ridge, a snow cornice on our left, steep couloirs of ice varied with ribs of rock on our right; our actual line of advance over some rocky tooth, up a steep slope of snow, an occasional descent, and finally, a general scramble that placed us, at half-past eleven, on the final peak. And then, indeed, a shout of exultation burst from all.

"What was our first thought? Was it, 'How shall we get down again?' or, 'How magnificent is the panorama!' or, 'Where is the top that I may pocket it;' or, 'Can we find any stones wherewithal we may build up a memorial?' or, 'What have we got to eat and to drink?' or, 'Who has the tobacco-pouch?' or, 'Where is the barometer and the boiling-water apparatus?' or was it—if it may be called a thought—the simple passive consciousness of success? This is, to

many, itself the great reward. The descent is trying, and gladly would I avoid it. The view is sublime, and I enjoy it. The top is an object in every way worthy of attainment, and as an heir-loom to posterity would I transmit it. The memorial to succeeding generations raises a feeling gratifying to the pride of man, and I am a partaker in it. The crust of bread recruits exhausted strength, and I devour it; the wine is nectar itself, and I relish it: the pipe is universal, but I nauseate it. The scientific observation is of the utmost importance, and with most unfeigned satisfaction do I behold others trying to keep their hands warm while they are conducting it. But, to my mind, each and every one of these sources of gratification sink into insignificance when compared with the exhilarating conciousness of difficulty overcome, and of success attained by perseverance."

Bravo! ye gallant sons of Britain—who but ye could have dared such an adventure, and achieved it.

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The *Florist and Pomologist* figures two of the finest new varieties of Verbenas, Lord Leigh and Lord Clyde, very indifferently drawn and coloured however, and by no means worthy of the initials attached to the plate. This work has latterly shown a falling off in respect to the colouring of its floral illustrations. There is, however, a very good figure of the Belle Agathe Cherry, a September variety, with sweet crackling flesh like the Bigarreaus. The number contains an interesting article by Mr. Hill, on the varieties of Grape cultivated at Keele Hall, a place which has become famous for its exhibitions of this fruit.

The *Illustrated Bouquet*, issued by Messrs. E. G. Henderson & Son, has at least not the fault just indicated, but on the other hand, perhaps a *leetle* tendency to overdo the subjects figured. The 15th part now before us opens with a very showy figure of *Imantophyllum miniatum*, a remarkably handsome plant certainly, which as a winter and spring bloomer is said to form one of the finest decorative objects that can be obtained for a warm conservatory from January till June. The figure represents a much finer example than those which are usually seen, but if our memory serves us, Messrs. Henderson have exhibited it nearly or quite equal to the picture they put forth. Another plate is devoted to the curious and really distinct Fern-leaved Chinese Primrose, *P. sinensis filicifolia*, the drawing of which, however, by Mrs. Withers we cannot praise either for its perspective or colouring. The plant nevertheless is a desirable one, differing from the common sorts in its oblong leaves, which are divided half-way to the midrib into coarsely-toothed lobes. It is a sport from the common sort, obtained, we understand, some years since by Mr. Kay of Finchley, but not increased to any extent till it fell into other hands, though it reproduces itself readily from seeds. The form figured has red fringed flowers, but there is a white variety with similar foliage. *Swainsona violacea* is a fine suffruticose greenhouse plant, with noble spikes of large deep violet pea-shaped flowers. This is said to be the most stately and beautiful of its family. It is Australian. The remaining plate contains representations of the *Titien Strawberry*, recommended as a hardy vigorous sort, "succeeding well in cold soils;" and of *Sanseriera carnea variegata*, here called *Reineckia*, a tolerably pretty dwarf tufted plant with striped grassy leaves, and spikes of flesh-coloured starry flowers. It was introduced by Siebold, from Japan; and it is suggested that though identified by authors as a variety of S. carnea, there are differences which indicate that it may belong to another species. Here the base of the leaf is uniformly the widest part, sheathing around those above it, whilst the original form of S. carnea has the leaves contracted at the base.

## Miscellaneous.

*Botanical Collections in the Rocky Mountains.*—The botanical readers of this Journal are familiar with the results of Dr. Parry's reconnaissance of the mountains of Colorado Territory, at and beyond the mining district, last year, that is, in the summer of 1861. The limited collections he then made being much in demand, and his desire for exploration still unsated, Dr. Parry revisited this interesting region early last summer (1862), accompanied by Messrs. E. Hall and J. P. Harbour, the party ascending Pike's Peak, and also crossing the principal range into Middle Park, &c. Dr. Parry remained in the mountain region until autumn, for the purpose of collecting the seeds of Coniferæ. Having devoted much of his time to geographical and barometrical observations, the larger part of the botanical collections, except towards the close of the season, are due to the sedulous labours of his associates, Messrs. Hall and Harbour. Most of the species collected in 1861,—often too scantily for general distribution—have now been gathered anew, and many additional ones have been secured, some of them of great rarity or novelty. Messrs. Hall and Harbour likewise collected the more interesting plants of the plains of Nebraska. A systematic enumeration of the plants collected, with characters of new species, &c., now in preparation by the present writer, will immediately be published. The principal collections of the joint expedition, distributed into sets under Messrs. Hall and Harbour's tickets, extend to 695 numbers. These sets will be extended by the addition of from 50 to 100 or more alpine plants from the special collection of Dr. Parry, distributed under and in continuation of his former numbers; so that, in the whole, the flora of the Rocky Mountains will be adequately represented. The specimens are very good and well made; and the collection as a whole is particularly interesting. 30 sets are offered to botanists. About 15 of them are nearly complete and full, and are offered at eight dollars the 100 numbers. The remainder fall off to 600 or 500 numbers, and the specimens often less copious; these are held at six dollars the 100, at which rate they are most desirable acquisitions, and they will doubtless be appropriated as soon as they are known. Applications may be addressed to Mr. Elihu Hall, Athens, Illinois, or especially to Prof. A. Gray, Cambridge.

*British Columbian Mosses.*—The mountain sides in the neighbourhood of Kamloops are covered with a bright yellow Moss, called by the Indians Quillmarcar. It is used by them as a dye, and when boiled gives them that yellow which is so familiar to those who have travelled among them in their dog-hair mats and other native work. There is also a kind of Lichen, which grows here, called by them "Whygelkine;" and which is one of their most important articles of food (L. jubatus). In its natural state it somewhat resembles horse-hair, and being boiled it is pressed into cakes 3 or 4 inches thick, looking not unlike our gingerbread. Its taste is very earthy and rather bitter. Our companion, St. Paul, gave us this, which they call "Wheela," with milk, upon our return to his hut, but two or three mouthsful were all we cared to take. *Mayne's British Columbia.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Those who desire to have Camellias in blossom from October until May must, as a matter of course, force the plants into wood successively. Let the stock be divided into say three portions; let one of these be pushed forward early in January, a second in February, and a third retarded if possible until April. The first lot of plants should now be in good condition; they should be screened from sunlight on bright days, and syringed frequently overhead; in fact, they should be kept continually moist. Maintain a temperature of about 60°, and give air whenever the weather is favourable. Weak tepid manure water may be freely administered during the growing season, but as soon as the plants cease to make wood its use should be discontinued, and a drier root management instituted. This will favour the setting of blossom buds of the two remaining portions, one of which may be treated in a manner similar to that just described; the other should be allowed to break of its own accord. In mixed greenhouses a place should be found for freely blooming Hybrid Perpetual Roses. Cuttings of these struck last season and wintered in store pots will, if potted off immediately and put under high cultivation, make nice bushes for next autumn and the ensuing spring. They should be got forward in-doors for a month or so until established in 5-inch pots, when they may receive a final shift. Pinch off all bloom buds during the summer, and keep the plants free from green fly or other insects. Cuttings of young wood struck now may be induced to flower late this autumn; but as a rule it is best for them to be older before they are allowed to blossom.

### FORCING DEPARTMENT.

PINERIES.—Secure good linings to plants in dung-pits. Young stock will now be in rapid growth; take care to give air freely night and day, if the thermometer can be kept above 60°. In the afternoon, however, syringe and shut up at 90°, if possible, for a couple of hours. Pines swelling will, of course, now require liberal waterings of warm liquid manure. Those who can find time should syringe the surface of their tan slightly, both morning and evening. It is impossible to keep up too much atmospheric humidity in Pine stoves at this period.

VINERIES.—Those who started early will now or soon have Grapes in their last stage of swelling. A mistaken notion prevails with many, that in order to produce well-coloured Grapes, the laterals, at a given period, should be reduced so as to admit the sun to shine on the berries. The most powerful sunshine will not colour Grapes in perfection, unless the Vines possess a fair proportion of leaf and healthy roots. Some of the blackest Grapes we have ever seen, and possessing the finest bloom, were in situations in which we might almost say the sun's rays never shone on them.

PEACH-HOUSE.—See that the trees are in a wholesome state as regards moisture at the root.

MELONS, CUCUMBERS, &c.—Give free airings all the early part of the day. Both require a rather dry atmosphere in order to promote fecundation.

### FLOWER GARDEN AND SHRUBBERIES.

Those who grow Neapolitan Violets, should, for the next three weeks or a month, propagate a stock, either by means of cuttings or runners. Young stock of choice Pansies, of last autumn's striking, should now be got out in the flower-garden beds, or on borders. If the soil is in any way exhausted, a little fresh material should be put in every hole; viz., such as old rotten loamy turf, mixed with old leaf soil, a little soot, and a little coarse sand. Too much manure may enlarge the blooms for awhile, but it soon makes the plant over luxuriant. Sow Sweet Peas and Mignonette. Ranunculuses are now beginning to make their appearance above ground; as they advance, it will be a necessary precaution to keep the soil well round the crown of the plant; when this is neglected, the bloom is sure to suffer; though if the surface of the bed is composed of sand to the depth of half an inch there will not be much danger.

### ORCHARD AND KITCHEN GARDEN.

Follow up sowings of Peas, Beans, Radishes, Horn Carrots, Salading, &c., according to directions in previous Calendars. Sow a little Parsley, some early Beet, &c, and look well after some good and forward seed-beds of Celery. That sown early in boxes will soon want pricking out. The old plan is very good, viz., some very rotten and mellow dung, on a sound bottom. On this, the plants, pricked 3 inches apart, will produce many fibres, and will remove with the trowel, in balls, with the most trifling amount of check. The chief reason why Celery runs, is that luxuriance of growth is succeeded by a sudden check. The buttoning of the Cauliflower is also traceable to the same cause, as is likewise premature fructification in many other plants.

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STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending March 25, 1863, as observed at the Horticultural Garden

| March. | Moon's Age. | Barometer. Max. | Barometer. Min | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 19 | ○ | 30.047 | 30.019 | 58 | 25 | 41.5 | 43 | 43 | N. | .04 |
| Friday 20 | 1 | 29.998 | 29.787 | 59 | 41 | 50.0 | 44 | 44 | S.W. | .01 |
| Satur 21 | 2 | 30.149 | 29.965 | 53 | 24 | 38.5 | 45 | 43½ | N.W. | .00 |
| Sunday 22 | 3 | 30.356 | 30.310 | 62 | 35 | 48.5 | 45 | 44 | N.W. | .00 |
| Mon. 23 | 4 | 30.457 | 30.315 | 65 | 30 | 47.5 | 46 | 44 | W. | .00 |
| Tues. 24 | 5 | 30.409 | 30.398 | 64 | 30 | 47.0 | 47 | 45 | S.W. | .00 |
| Wed. 25 | 6 | 30.462 | 30.306 | 69 | 31 | 50.0 | 47½ | 45 | N.W. | .00 |
| Average. | | 30.261 | 30.017 | 61.4 | 30.8 | 46.1 | 45.3 | 44.0 | | .05 |

March 19—Cloudy, fine but cold; overcast; rain.
— 20—Slight rain, cloudy and fine; rather boisterous.
— 21—Clear and boisterous; cloudy and fine; dry air; clear; frosty.
— 22—Fine; fine throughout.
— 23—Foggy, exceedingly fine, very slight frost at night.
— 24—Fine, very fine throughout.
— 25—Fine; hot with bright sun; very fine.
Mean temperature of the week 1 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending April 4, 1863.

| March and April | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 29 .. | 53.8 | 33.6 | 43.7 | 12 | 0.33 in. | 1 | 5 | 8 | 3 | 2 | 7 | 8 | 3 |
| Mon. 30 .. | 53.6 | 34.6 | 44.1 | 16 | 0.50 | 3 | 5 | 5 | 1 | 6 | 9 | 5 | 3 |
| Tues. 31 .. | 54.8 | 34.3 | 44.6 | 16 | 0.30 | 3 | 7 | 2 | 3 | 8 | 6 | 5 | 3 |
| Wed. 1 .. | 54.7 | 34.9 | 44.8 | 21 | 0.76 | 3 | 8 | 3 | 3 | 5 | 10 | 1 | 4 |
| Thurs. 2 .. | 55.3 | 36.5 | 45.9 | 20 | 1.19 | 1 | 4 | 4 | 3 | 4 | 12 | 3 | 3 |
| Friday 3 .. | 56.6 | 35.3 | 46.0 | 13 | 0.30 | 5 | 3 | 3 | 1 | 3 | 12 | 6 | 4 |
| Satur 4 .. | 56.5 | 36.2 | 46.4 | 14 | 0.48 | 4 | 7 | 3 | 3 | 6 | 5 | 5 | 4 |

The highest temperature during the above period occurred on the 3d, 1848—therm. 78 deg.; and the lowest on the 1st, 1838—therm. 16 deg.

## Notices to Correspondents.

ALPINIAS: *J R E R.* Such as are now in the country, would be obtained for you by any of the leading nurserymen.

AMARANTHUS MELANCHOLICUS RUBER: *S S* inquires if this Amaranthus grows as freely and as vigorously as the Perilla nankinensis. Will some correspondent who has grown it, report on its habit in this respect.

BOOKS: *Old Sub.*: Kemp on How to Lay out a Garden.

CINERARIAS: *X X.* These flowers seem to have run nearly their length as to variety, unless new blood can be found. The produce is however so satisfactory from a good "strain" of seed, that as decorative plants the named sorts are of little moment. Indeed few of the seedlings stand out sufficiently distinct and marked, to be worth naming.—*A M Elcombe* No safe opinion can be formed on withered blooms; you had better send the plant to the next meeting of the Floral Committee.

DRY-ROT: *M F.* Make a strong solution of corrosive sublimate in boiling water and brush every thing well with it, and in all probability you will be free from dry-rot for some years, perhaps 8 or 10. The effect is not however permanent. *M J B.*

GARDEN LAW: *Reader.* We really cannot undertake to answer such legal questions. By all means consult your solicitor.

HOLLIES: *H B B.* The fine broad-leaved variety you allude to is probably that called Shepherdii, one of the finest of all. Those called the Golden Queen and Silver Queen are amongst the best of the variegated sorts. Mr. W. Paul lately exhibited a very handsome one called Walthamensis.

HYBRID DIGITALIS: *J S.* The late Professor Henslow's paper on hybrid Digitalis is printed in the Transactions of the Cambridge Philosophical Society, iv., 257—278, tt. 15 18.

LAPAGERIA ROSEA: *J R E R.* The cause of the injury to the leaves is heat and dryness at the root, the actual injury being the work of thrips. Deluge the bed with water: the roots cannot have too much; and let the leaves be thoroughly cleaned by washing with a sponge. The insects will probably be killed in the process, but if any should escape or reappear they must be destroyed by repeated careful but thorough fumigations.

NAMES OF PLANTS: *J B.* Nothochlæna distans.—*S P.* Primula denticulata, a very pretty species from the Indian mountains.—*J G W.* 1, Polystichum angulare; 2, P. aculeatum. Botanists are not agreed about their distinctness, but they are at least different enough for garden purposes.—*B L.* Azalea amœna, one of the loveliest of its race, and as we are informed quite hardy.—*H S.* The female of the variegated form of Aucuba, which is the form commonly grown. There are no male plants, we believe, but those recently imported by Mr. Fortune, examples of which in blossom have recently been exhibited by Mr. Standish.—*F U.* Fabiana imbricata.—*W M.* Dendrobium Pierardi.—*F Tuckett.* It is an Oxalis, and probably O. stricta, but the specimens are so fragmentary that the habit cannot be made out from them.—*J L A.* The spotted leaf is Erythronium Dens-canis; the other Sisyrinchium grandiflorum.—*T Corder.* It appears to be a starveling of Cardamine hirsuta, but is not enough advanced for critical examination.—*M M.* We do not recognise the seeds, but will sow them and report.

VARIEGATED PELARGONIUMS: *D M.* Many of these are sports, and all are sportive. In other words, several well known sorts have originated from a sported branch, which has been propagated and perpetuated. Under liberal treatment any one of them would be liable to throw out a green shoot, but these should be cut away as soon as observed.

MISC.: *F J.* can have both the Numbers mentioned in his note.

THE LONDON MANURE COMPANY
have now ready

PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.

116, Fenchurch Street, E.C.

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LAWES'S MANURES. The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.

Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

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TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,

MANUFACTURED BY THE PATENT

NITRO-PHOSPHATE or BLOOD MANURE COMPANY
(LIMITED),

Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.

Chairman.—JOHN CLAYDON, Esq., Littlebury, Essex.

Particulars of these Standard Manures may be obtained at the Offices. C. T. MACADAM, Secretary.
Or of the Local Agents.

Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex, N.E.

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POTTER'S GUANO (established 21 years) 7*l.* per Ton.

POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10*l.* per Ton.

PURE GYPSUM, 25*s.* per Ton, bags included.

Address, 28, Clapham Road Place, S.

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### Manures for Present Use.

PERUVIAN GUANO, Genuine as Imported by the Contractors of the Peruvian Government, Deliveries direct from the Docks; NITRO-BIPHOSPHATE (Blood and Offal Manure), Fish Offal ditto (PHOSPHATE); SUPERPHOSPHATE of LIME (made from Bone), see Royal Agricultural Society's Journal, vol. 6, page 2; and all others of known value, may be had on the best terms by application to MARK FOTHERGILL, 21 [illegible] Great Tower Street, Mark Lane, E.C.

Established 1839.

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### Established 1848.

THE BLAYDON MANURES.—Two Prizes were last season awarded, under the auspices of the Rutland Agricultural Society, for Turnips grown with the above Manures, viz.:—

1st.—A Silver Cup, value Five Sovereigns, was given by the Town and Trade of Oakham to Mr. T. W. Fowler, Exton, for the best Turnips (not being Swedes) grown within the County of Rutland. These Turnips were raised with 3 cwt. per acre of the 7*l.* 10*s.* Blaydon Manure, used with a moderate dressing of Farm-yard Manure.

2d.—Three Sovereigns (the 2d premium), given by the Right Hon. Viscount Campden, were awarded to Mr. Fowler, Exton, for Swedish Turnips. These Turnips were grown with 3 cwt per acre of the 7*l.* 10*s.* Blaydon Manure, along with a moderate quantity of Farm-yard Manure.

Manufactured by the Blaydon Chemical Company, Blaydon-on-Tyne.

Managing Partner, EDWARD RICHARDSON, Jun.

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AGRICULTURAL and HORTICULTURAL TOOLS.—Threshing Machines for Steam and Horse Power, Ploughs, Waggons, Carts, Turnip Cutters, Cake Breakers, Chaff Cutters, 50*s.*, &c. Price List free. Illustrated Catalogues on receipt of six postage stamps.

BURGESS & KEY, 95, Newgate Street, E.C.
Works: Brentwood, Essex.

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### To Flock Farmers.

ANTHYLLIS VULNERARIA, or LADIES' FINGERS; a newly-introduced Forage Plant. Excellent food for Sheep, of which they are very fond. Very productive on Light Sandy and Chalky Soils; the plant covers the ground like a thick mat—its stems run up from a foot to 18 inches high. On sandy and chalk flock farms it is invaluable, growing where other seeds fail. It is very healthy food, on which sheep never scour, let the weather be ever so wet. It is an exceedingly good change for Clover and Sainfoin, producing as much or more food. Very kind for the Wheat plant. It is perennial. On referring to Sowerby's "Botany," he says the plant is highly worthy of cultivation as a food for cattle, and productive of milk. The plant was first brought into cultivation in 1858, by H. Stebbing, the present Grower.

Quantity of Seed per acre, 16 lbs, to be sown with the Barley. Price 1*s.* 9*d.* per lb. Orders will be received by

Mr. H. STEBBING, The Hall Farm, Stow Bedon, Attleboro', Norfolk.

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### Important to Flock-masters and Cattle-feeders.

CONDIMENTAL MEAL VERSUS LINSEED CAKE. 10*l.* 5*s.* per Ton is now the price of THORLEY'S CONDIMENTAL FEEDING MEAL, in Buyers' Own Sacks, free to rail. One ton of this delicious compound is equal in value to one ton and a half of the best Linseed Cake obtainable in the market. Farmers' 4 bushel sacks, 1*s.* 6*d* each.

Remittance must be made payable to the Inventor, JOSEPH THORLEY, Caledonian Road, King's Cross, London, N.

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F. C. CALVERT'S PHENYLINE (the active principle of coal-tar) is an unfailing remedy for Foot-rot, Distemper, Grease, Glanders, Scab, Mange, &c., and may be obtained of any of the following Agents:—

JOHN BELL & Co., 338, Oxford Street, London; A. PATTISON & Co., 67, Buchanan Street, Glasgow; CLAY & ABRAHAM, Liverpool; J. WOOLLEY, Manchester; HARVEY & REYNOLDS, Leeds; H. BRADEY, Newcastle-on-Tyne; J. REED, Arundel; C. CORTIS, Worthing.

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PROFESSOR BROWN, VETERINARY INSPECTOR to the Bath and West of England Agricultural Society, 13 years Lecturer on Veterinary Surgery at the Agricultural College, may be consulted on Diseases of Horses, Cattle, Sheep, Dogs, &c.

Infirmary, White Horse Yard, New Cavendish Street, Portland Place, W.

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### Land Drainage.

WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.

Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rentcharge on the estate created for various terms of years so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.

No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

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THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W

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AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

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AGRICULTURAL and CHEMICAL COLLEGE, KENNINGTON.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. NESBIT, LANSDELL & Co., 37 and 38, Lower Kennington Lane, London, S.

Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.

Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.

Full particulars of terms will be forwarded on application.

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### Drainage, &c.

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

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INTERNATIONAL AGRICULTURAL EXHIBITION, to be held at HAMBURG on JULY 14, 15, 16, 17, 18, 19, and 20.

The Prizes offered are on a very liberal scale. For the Classes devoted to British Bred Stock exclusively they amount to nearly 800*l.*, while all the others are open to general Competition.

All Entries of Stock, Implements, &c., must be made upon the Printed Forms prescribed. These can be obtained from the Secretary, and must be returned on or before May 1, the last day of Entry.

The General Steam Navigation Company, London; Messrs. Drolenvaux & Bremner, 14, Mark Lane, London; Messrs. Brownlow, Lumsden, & Co., Hull; Messrs. Lofthouse, Glover, & Co., Hull; Mr. Thomas W. Peters, Hull; Messrs. Pile, Spence, & Co., West Hartlepool; Mr. John Sutcliffe Grimsby; and Messrs. Ormston, Dobson & Co., Newcastle-on-Tyne, are authorised to receive payments from Exhibitors for Space required, which, according to the printed regulations, are required to be paid before Certificates of Admission will be granted, and are to be paid at the following rates:—

2 Prussian Thalers for each Horse, Bull, Cow, or Heifer.
1 Prussian Thaler for each Ram or each lot of three Sheep, each Boar, each Sow including a litter of Young Pigs.
¾ Thaler per foot Frontage and 10 feet in depth, for Machinery, Implements, &c., in Covered Sheds.
1½ Thaler per foot Frontage and 20 feet in depth, for Machinery, &c., in Covered Sheds.
½ Thaler per foot Frontage, and not exceeding 20 feet in depth in the Machinery in Motion Yard (Uncovered).

The Thaler to be reckoned equal to 3*s.* sterling. In making payments, the receipt of the same to be returned, with the filled-up form of application, to the Secretary, at Hamburg.

It is particularly requested to send description marks, number, weight, value, and contents of everything, with bills of lading, to Messrs. James R. M'Donald & Co., Hamburg.

By order of the Executive Committee,
GERHARD HACHMANN, Dr., Secretary, Hamburg.

To whom applications for particulars of the Prizes, &c., are to be made.

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ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.

STOCK and IMPLEMENT PRIZE SHEETS are now ready, and will be forwarded on application to
H. HALL DARE, Secretary.

12, Hanover Square, London, W.

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REDUCTION IN PRICE.

## PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | |
|---|---|---|
| For 30 Tons and upwards ... ... ... | £10 5 0 | per Ton, net cash. |
| For 10 Tons up to 30 Tons ... ... ... | 10 10 0 | " " |
| For 5 Tons up to 10 Tons ... ... ... | 10 15 0 | " " |
| For smaller quantities ... ... ... | 11 0 0 | " " |

The Price will not exceed 12*s.* per Ton additional if delivered at any other Port in Great Britain.

PETER LAWSON & SON, CONTRACTORS.
GEO. SEAGRAVE & CO., BROKERS.
WILLIAM DIXON & CO., GENERAL AGENTS.

28, KING STREET, CHEAPSIDE; AND 15, LAWRENCE LANE, LONDON, E.C.

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# The Agricultural Gazette.

*SATURDAY, MARCH 28, 1863.*

WE are asked, "WHAT IS THE VALUE OF A GALLON OF MILK?" Our correspondent says:—

"Mr. MECHI quotes from the report of the Sewage Commissioners a calculation as to the value of sewage Grass for Milch Cows, taking the value of milk at 8*d.* per gallon. This I feel sure is above its value to the farmer, although not so in the case of a milk walk where there is a ready money sale for new milk. But where it has to be turned into cheese or butter the case is very different. It takes rather more than a gallon to produce one pound of new cheese, and in summer from 3½ to 4 gallons to produce one pound of butter. Of course there are exceptional cases, but I believe I am not far from the average. Is not 6*d.* enough, if not rather too much?"

The value of milk, as of every other kind of farm produce, to its producer is just what he can make of it, and "the value of milk to the farmer" depends on the kind of market to which he has access. (1) If he sells his milk direct to the consumer he may get 3*d.* or even more per quart, from which he has to deduct the cost of distribution, and costs and losses on the collection of debts. (2) If he sells milk to the wholesale dealer, he will get 1*d.* a pint, or 8*d.* per gallon. (3) If he makes milk into butter and skim-milk cheese, the following may be his returns:—600 gallons of milk, the annual produce of a good cow will make 230 lbs. of butter and 500 lbs. of cheese; the one at 1*s.* per lb. and the other at 3*d.* per lb. are worth 16*l.* or a little more than 6½*d.* per gallon. (4) If he makes milk

wholly into cheese, he may get from 600 gallons 4 cwt. to 5 cwt. of cheese, and perhaps 2*l.* in bacon and butter per annum from the whey. And as 4 cwt. of cheese is a much more common return than 5 cwt. per annum from even a good cow, it is probable that 15*l.* per cow per annum is a more common return than 16*l.* in this way, so that 6*d.* per gallon is as much as can be expected here. (5) If he uses the milk wholly for fatting veal at the rate of 10, 16, 20, 24, 27, 30 and 32 gallons in seven successive weeks, using 160 gallons or thereabouts in that time for the addition of 1 cwt. of veal to the weight of the calf, each cow will thus feed 4 cwt. of veal per annum, which at 7*d.* per lb. will yield 13*l.* and upwards annually per cow. From this however must be deducted the value of whatever other food the calf consumes, and also a certain sum at which the risk attending the management of young stock must be valued, a risk which does not accompany the other modes of turning milk into money. Here therefore the value per gallon realised from milk is about 5*d.*; but on the other hand it must be remembered that the milk is here consumed at home, and it is an understood thing that the value of the manure realised from it (which must be a minimum in the case of calves), makes the spending value of farm produce less than its selling value.

From these facts our correspondent will be able himself to answer his inquiry.

He may also if he please take his answer from the results of Dr. VOELCKER's experiments reported in the 23d volume of the English Agricultural Society's Journal. In these experiments (*a*) 1000 gallons of new milk yielded 8 cwt. of whole-milk-cheese, which were sold at 70*s.* per cwt., for 28*l.*—or nearly 6¾*d.* per gallon. (*b*) 1000 gallons of new milk yielded 6 cwt. 2 qr. 16 lb. of cheese and 1 cwt. 1 qr. of butter, which sold for 26*l.* 18*s.*, or close on 6½*d.* per gallon. (*c*) 1000 gallons of new milk produced 6 cwt. 24 lbs. of skim-milk cheese and 2½ cwt. of butter selling for 29*l.* 10*s.* 8*d.*, or rather more than 7*d.* per gallon. And (*d*), 1000 gallons of new milk produced 3 cwt. 12 lbs. of skim-milk cheese, and 4¾ cwt. of extra rich (Stilton) cheese which sold for 24*l.* 7*s.* 10*d.*, or rather less than 6*d.* per gallon. In these cases the latter sold for 1*s.* per lb., the "extra rich" cheese sold for 70*s.* per cwt., the whole-milk cheese sold for 70*s.* per cwt., the ordinary cheese sold for 60*s.* per cwt., and the skim-milk cheese for 50*s.* per cwt.—all of them (except the latter), beyond the present market prices.

Lastly, if our Correspondent will turn to page 130 in the *Agricultural Gazette* for Feb. 7, 1863, he will find the experience of the Frocester Court dairy farm, from which it appears that during the past six years 204,523 gallons of milk have been converted—180,770 gallons into 16,802 lbs. of cheese and 15,617 lbs. of butter, the remainder being given to calves and pigs—and the whole produce when sold was 5511*l.*, or about 6¾*d.* per gallon. This last fact will, from the magnitude and duration of the data out of which it comes, be considered as an authoritative and conclusive answer to our correspondent's question.

We may mention that the statements in the outset of this article are taken from MORTON'S "Handbook of Dairy Husbandry," published by LONGMANS; and that our correspondent will find in the volume of Farm Reports published many years ago by the Useful Knowledge Society, an account of a Gloucestershire vale or dairy farm, in which there are other facts bearing on his question, on which however we are unable at the moment to lay our hands.

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WE have another question which requires a fuller answer than can be given in a single sentence. It will be found on page 229, where "H. G." points out how defective general agricultural publications are on the mutual obligation of landlord and tenant in the care of Grass lands. He says: "I own a Grass farm within 2 miles of the centre of one of our very large towns; and of course its application is for dairy purposes. It is almost entirely depastured by milch cows; and, besides milk, the tenant sells hay without stint. His neighbours do the same. They claim to be under the single condition of bringing back in return for each ton of hay sold, 2 tons of stable manure or 4 tons of 'short' manure, meaning cinders and broken crockery from the town 'mixens;' but the landlord has no means of knowing the quantity sold; and on the weekly hay market day it is rare to see the hay carts and waggons returning from the town otherwise than empty. The tenants consider themselves under no obligation to manure land which they do not mow, though daily carrying off its phosphates in their milk. Allow me to ask you what one might fairly require of the tenant in this case, or what treatment will save the land from losing heart."

Our correspondent does not say whether the land really *is* losing heart under the existing state of things. We shall be very much surprised to hear that it is. We should consider no agency in the world for improving a poor Grass farm, comparable to the establishment within two miles of it, of a large market for milk at 8*d.* to 1*s.* per gallon, and of hay at 5*l.* or more per load. If a good market for produce will not induce a tenant to do all he can to provide the raw material of that produce, nothing else can be expected to do it. If he can sell any quantity of hay at 5*l.* and 6*l.* per load, and any quantity of milk at 8*d.* to 1*s.* per gallon, from a limited extent of land, he will certainly do all he knows to make that land grow Grass. This large market town where he gets a ready sale for his produce, at the same time provides him in its "town mixens," "cesspools," &c., with the means of dressing his land more cheaply than he can do it in any other way. We should be disposed under such circumstances to leave "phosphates" or any other theoretical expressions alone, satisfied that the interest of the tenant in producing milk and hay will lead him so to strive after the production of Grass, that the land can never be permitted to get out of heart.

But perhaps it may be replied—"The land *is* getting out of heart, notwithstanding your *à priori* argument to the contrary." Then we must presume that this is because the tenant is liable to be dispossessed, and his cows to be driven off, to make room at short notice for bricks and mortar. The effects of uncertainty of occupation are nowhere more visible and striking than close by "our very large towns," where land on lease for a term will often command three or four times the sum which a tenant liable to abrupt dismissal from the builder can afford to give. Of course the agricultural value and the builder's value of the land so placed are two very different things, and a landlord cannot realise the former to its utmost if all he does is with a view to the speedy realisation of the latter.

What the law declares in the absence of any special agreement as to the mutual obligation of landlord and tenant under such circumstances is, we presume, that which men call the custom of the country. Very probably "H. G.'s" tenants are right in their definition of it, and "H. G." may very well require them at audit day to present vouchers of the quantity of manure purchased in accordance with its requirements. Probably 2 tons of good stable manure are worth as much as all that would be made at home by the consumption of a load of hay, and so far the landlord is safe from injury; but we can only repeat that the stimulant of good prices for produce appears to us so much the greater security for his safety, that to fall back upon his rights as *against* his tenants in this matter seems to us a blunder.

If, finally, the case is one of obstinate indifference, wrong-headedness, and stupidity in the tenant, who is letting the land waste under his mismanagement, and whom ordinary motives cannot spur into activity—for certainly there are such extraordinary cases—then give him notice to quit, and choose one of the 500 "ordinary" men who will offer in his place.

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## THE BABRAHAM HERD.

THE terms "Pastoral," "Grazing," Corn-growing," have hitherto applied to districts of distinct and very different agricultural character. They all *equally* apply to Babraham.

Here are no upland pastures—no "hills of flock," as the poet calls them—and yet here originated, grew, "blossomed," and bore fruit the best, most useful, and most celebrated flock of sheep our island ever knew. Here dwelt the most successful and distinguished flock-master of our century.

Babraham is an open tract of light Barley soil, all plough land and all well cultivated. There are no rich grazing grounds within its limits; very little permanent Grass of any kind whatever. This is not the place a man would choose wherein to acquire a name or achieve success as the breeder and the feeder of first-class stock, and yet here within the past quarter of a century, and especially within the past 10 years, such stock has grown—marching with the very first upon the list of English herds, "cultivated" by an independent man, who followed no one's judgment but his own—who trod after neither Bates nor Booth—who, had he only lived, would have made a "rage and fashion" of his own; and Babraham would have been as well known a landmark in the history of the Short-horned ox, as it is in that of the Southdown sheep.

The fact is, Mr. Jonas Webb did not accept, he *made* success; and while his own good judgment would always have forbidden his aiming at impossibilities, we cannot doubt that wherever he had been located, his mind and will would have dominated, overborne, and *used* his circumstances—moulded and converted them to whatever end or purpose he contemplated.

These are not the times in which resignedly to accept your lot—to follow in the beaten track; or, where the rut is deep and difficult, lie down and call on Jupiter for aid. And we owe to Mr. Jonas Webb not only the direct and immediate good of so many "sires" and "dams," transmitting all over this and other countries the power of converting green crops into meat at a cheaper rate than ever has been done before—but the inconceivably superior benefit of a successful and inspiriting example, which will in a thousand instances reproduce the energy, good judgment and resolution which he himself so remarkably displayed.

On Wednesday, the 15th of April, Messrs Strafford and Carter Jonas are to sell by auction one-half of the herd which Mr. Webb has left. There are six families, distinct as to their origin, but all united by the use of bulls of common origin, of which members will then be sold; and the following account of the herd refers to them in succession:—

1. THE "DODONA" FAMILY.—*Dodona* was bought by Mr. Strafford from the late Earl Spencer in the year 1838, and she was immediately sold by him to Mr. Webb. Mr. Strafford had previously offered 50 guineas for a bull calf of hers, that being the standard price at which Lord Spencer disposed of his bull-calves; but this animal, like many others of families which his lordship did not think well to continue, had, notwithstanding this price offered for him, been made a steer of. And his lordship's steward, Mr. Hall, offered the barren cow for 30 guineas to the young man who was then at the commencement of that connection with the breed which he has since in so many useful ways maintained.

The cow was purchased and sent to Babraham. She had been off breeding for a year or more and was thus too fat; her walk into Cambridgeshire however proved to be for her health and prosperity, and though she

### THE DODONA FAMILY.

- Dodona, by Alabaster (1616)
  - Countess, by Vanguard (5545)
    - Lady Louisa, by Paris (7314)
      - Jenny Lind, by The Minstrel (8687)
        - 3. *Mocking Bird*, 1851, by Scrivener (10,791)
          - 16. *Echo*, 1857, by Cheltenham (12,588)
          - 49. *Alice Stuart*, 1862, by ENGLISHMAN (2)
      - Grace Aguilar, by Red Roan Kirtling (10,691)
        - 15. Charlotte Elizabeth, 1857, by Cheltenham (12,588)
          - Chesterford Belle, by the Earl of Hardwicke (14,476)
          - 54. *Chesterford Belle 2d*, 1862, by Earl of Hardwicke (14,476)
    - Lady Ann, by Pam (6272)
      - 6. *Lady Jane*, 1852, by Red Roan Kirtling (10,691)
        - 14. *Lady Ducie*, 1857, by Grand Duke (12,965)
          - 58. Lady Ducie 2d, 1862, by TALLY HO (A)
        - 31. *Lady Florence*, 1861, by Sir Charles (16,948)
        - 43. *Lady Owen*, 1862, by Sir Charles (16,948)
      - Lady Erie, by Cheltenham (12,588)
        - Lady Eleanor, by Earl of Hardwicke (14,476)
          - 42. *Lady Superior*, 1861, by Count de Gourcy (17,631)
    - Lady Sixtus, by Paris (7314)
      - Merry May, by Lord of the North (11,743)
        - 13. *Merry May 2d*, 1857, by Young Cheltenham (14,264)
          - 56. *Rosa May*, 1862, by Earl of Hardwicke (14,476)
  - Duchess, by Vanguard (5545)
    - Lady Emily, by Paris (7314)
      - Agnes, by Scrivener (10,791)
        - Amy Robsart, by John Bull (11,617)
          - 10. *Countess of Leicester*, 1855, by Cheltenham (12,588)

Besides these, Chesterford Belle, by the Earl of Harwicke (14,470), has a Bull calf, No. 17 in the Catalogue, viz.:—
CHESTERFORD BEAU, 1862, by Crown Prince (17,647).

had previously refused to breed, she and her descendants, under the extraordinarily successful management of Mr. Webb, have numbered since no fewer than 189. Her first calf, a steer at Wiseton, was followed by twins—DUCHESS and MARCHIONESS—in 1839 at Babraham; a cow calf, *Countess*, in 1841; and subsequently a bull calf—OBERLIN. From *Duchess* and *Countess* there are stock in the herd at present. The former has had 6 calves, the latter 10, from 3 of which, as will be seen in the annexed table, a considerable number of descendants will be sold next Wednesday fortnight. It may be here noted that in these Tables the numbered names are those of stock in the Catalogue, the names in Italics being cows and heifers, those in capitals being bulls. The dates of both are given in all the cases of animals for sale, and the names and numbers of the bull's will enable owners of the Herd Book to trace out for themselves the strains of blood united in these animals. Of course besides the stock here enumerated, there are large numbers of other descendants of *Dodona*, which have been disposed of elsewhere during past years, or are retained for the second sale in July. Thus *Countess*, as already said, had seven calves besides the three enumerated here. *Lady Sixtus* had eleven calves besides the one here named; *Lady Ann* has had 12 (!) besides the two here named; *Lady Jane* has had nine calves in all; *Lady Louisa* has had seven; and so on. The fecundity of this family in Mr. Webb's hands has indeed been something extraordinary; and that it is due to his management is plain from *his* similar experience in the case of other families.

*Dodona* was from Mason's No. 6 in the Catalogue of the Chilton sale in 1829, which was then sold, a fine-deep framed, massive red cow seven years old. *Dodona* was put to VANGUARD, a bull also of Lord Spencer's breeding, then in the possession of Mr. Webb's landlord, the late Mr. Adeane, and produced twins.

Of the bulls used on her produce and that of the other original cows of the Babraham herd, we may as well here give some account.

The MINSTREL (8607) was bred by Mr. J. C. Adkins, of Milcote, by ACCORDIAN (5708), dam *Charmer* by LITTLE JOHN (4232), granddam *Graceful* by CALIPH, g. g. d. *Sylph* by SIR WALTER, and thus related to the Belinda family, presently to be described.

CHELTENHAM (12,588) was bought by Mr. Webb at the Tortworth sale. He was bred by the late Earl of Ducie by DUKE OF GLOSTER, dam *Chaff* by DUKE OF CORNWALL, and so back to the Rev. H. BERRY's Shorthorns.

LORD OF THE NORTH (11,743) was out of *Belinda* by MINSTREL, and so on both sides descended from *Sylph* by Sir WALTER.

SCRIVENER (10,791), another bull of Earl Ducie's breeding, was by USURER (9763), dam *Cream* by ORONTES, g.d. No. 25 at the Chilton sales and so back to Mason's herd, whence *Dodona* herself was derived.

GRAND DUKE (12,965) was by CHELTENHAM, dam *Bodice*, both of them bought by Mr. Webb at the Tortworth sale.

SIR CHARLES (16,948) was also by CHELTENHAM, dam *Erminstade*, now an old cow, bought a heifer at the Fawsley sale, by FRIAR'S COWL, g.d. *London Pride*, by JANIZARY, and so from Sir C Knightley's stock.

EARL OF HARDWICKE (14,476), by MARQUIS OF BUTE, dam *Countess of Hardwicke*, is a Babraham bull of another family, descended form *Celia*, purchased at Mr. Beauford's, of Bletsoe, near Bedford, 17 years ago, to which we shall next week refer. We may, however, now mention that her descendants have been even more prolific than those of *Dodona*, no fewer than 180 animals having been bred from them within the last 17 years at Babraham; besides her descendants in this and foreign countries. She was bought a two-year-old heifer in 1846—she had bred nine calves up to 1855. Of these, four have bred at Babraham, and there are stock of all four in the sale next month. One of them has had 14 calves, another five, the third and fourth nine apiece, and from some of them 7, 10, 11 calves respectively have since been bred, so that here again the fertility of the family has been something marvellous. *Celia* was by the 3d DUKE of NORTHUMBERLAND, hired from Kirklevington, and it will be found that *Dodona, Celia, Belinda*, Bodice, *Daffy Gwynne*, and The Beauty, both in themselves and in their descendants, unite strains of some of the most celebrated families of the Short-horn breed. Chilton, Wiseton, Kirklevington, Fawsley, Tortworth, are all well represented at Babraham; and they have not lost caste in the hands of Mr. Jonas Webb.

THE BELINDA FAMILY.—*Belinda* was purchased

THE BELINDA FAMILY.

- Belinda, by Ranunculus (2479)
  - Ladye Love, by Lord Warden (7167)
    - Astrea, by Filbert (11,473)
      - 17. *Lady Pigot*, 1857, by Cheltenham (12,588)
        - 34. *Miss Battersea*, 1861, by Earl of Hardwicke (14,476)
        - 52. *Miss Battersea 2d*, 1862, by Crown Prince (17,647)
  - Lady Bird, by Usurer (9763)
    - Buttercup, by Cheltenham (12,588)
      - 21. *Daisy*, 1857, by Merry Lad (14,947)
        - 38. *Daisy Chain*, 1861, by ENGLISHMAN (2)
        - 53. *Daisy Chain 2d*, 1862, by TALLY HO (A)
        - 6. COMMANDER-IN-CHIEF, 1860, by Hedley Vickars (16,253)
      - 5. FIELD PRINCE, 1860, by Earl of Hardwicke (14,476)
      - 12. ELFIN PRINCE, 1861, by Count de Gourcy (17,682)
    - 1. USURER, 1859, by Earl of Hardwicke (14,476)
    - Dairy Maid, by Young Cheltenham (14,264)
      - 13. YOUNG SIR CHARLES 3D, 1861, by Sir Charles (16,948)

by Mr. Webb at the Wiseton sale. By no means prepossessing, it was not until the question—Have you seen her daughter?—was put by Mr. Strafford, that he was induced to purchase her. This daughter of hers, *Lady Beautiful* by USURER, was bought by Mr. Dudding of Panton. *Her* daughter, *Lady Mary Bountiful* by BARON WARLABY, and her granddaughter and her grandson LORD OF THE MANOR by LEMNOS, sold for 480 guineas at the Panton sale. *Belinda's* dam, *Sylph*, was bought by Earl Spencer at Sir C. Knightley's sale in 1842, and she was sold at the Wiseton sale 17 years old, her calf "Brownie" by her side, fetching 70 guineas. *Belinda* is thus related to the *Charmer* family, which made Mr. Adkins's sale at Milcote in 1860: *Charmer* being bred from *Graceful*, another daughter of *Sylph*.

*Belinda*, and the relationships of so many of her family as are to be sold next month, are represented in the adjoining Table. We shall next week refer in more detail to some of her descendants, as well as to the other families to be sold next Wednesday fortnight.

(*To be continued.*)

## Home Correspondence.

*Steam Cultivation at Blenheim.*—In reading your article on the Duke of Marlborough's Steam Cultivating Apparatus, made by us, we understand it to say, that 25*l.* had been expended in the purchase of new rope, and as we had not supplied any, we wrote to Mr. Scott, the steward, asking for an explanation. We find that although the apparatus has done upwards of 1000 acres, no new rope has been purchased, and the old rope is still fit for use. This amount of work, 7 or 8 inches deep, at an average of 7 acres per day, with a consumption of only 7 or 8 cwt. of coal, is, we believe, as good a result as any you have recorded. We understand further, that little or nothing has been spent in the way of repairs. *James and Frederick Howard, Britannia Iron Works, Bedford, March* 19. [Our statement meant that 25*l.* worth of wear had taken place.]

*Seaside Grasses.*—A colonist in the province of Nelson, New Zealand, importunes me to send him some seed of such Grasses as grow in situations (he specifies Essex, on the Thames) subject to the overflow of sea-water at each spring tide. He states that a large quantity of alluvial land on the sea-shore, which when first surveyed was a fresh-water marsh, has, subsequent to its drainage and culture, so subsided in level that the sea-water at spring-tides now overflows it, rendering it unproductive. Can you give the names of the Grasses which predominate in situations such as the salt pastures on the Thames or the Severn? I would not trouble you, but have previously consulted the most eminent Grass-seed salesmen, and my correspondent in New Zealand has already received from me the seeds of such English Grasses as the seedsmen have recommended, and also seeds of the Tussack Grass of the Falkland Isles, none of which, however, have vegetated. Possibly the seeds sent him had lost their vitality before he sowed them. I fear that the fact is that here in England such pastures arrived at maturity and vigour on rich land before it was liable to any overflow of salt water, and that infinitely less than what such can survive might be fatal to the vegetation of their seed, and the early growth of the young Grasses. *F. Tuckett.*

*Smith's Steam Drill and Grubber.*—I thank you for visiting Woolston, and publishing what you saw. Allow me to report some further working of the machine, and give the opinions of practical men who saw it at work. My heavy land field containing 10 acres, in which the tackle was placed on Friday morning, the 5th inst., and in which you saw the machine at work as stated in your article, was finished at 1 P.M. on Saturday, the tackle was then shifted to my heavy land field, containing 12 acres after roots fed on, and over which you passed, seeing it lay in the state in which the sheep left it ready for work on Monday, and at 12 A.M. on Tuesday the machine had passed over the whole of the field, cultivating and seeding it with Barley at one blow into a most beautiful seed bed. My men then had a dinner of roast beef and plum-pudding, and spent the rest of the day in keeping the Prince of Wales's wedding. On Wednesday that tackle was all shifted on to Loughton, to a field of Mr. Bignell's, containing 20½ acres after roots fed on. The tackle was placed, and started in the afternoon, doing a few short pikes and a portion of the headlands; on Thursday we worked half a day, the afternoon being wet; on Friday we worked all day, and on Saturday at 1 P.M. the whole field was done. From solicitation, and a desire to give the public an opportunity of seeing my machine at work on different soils, I consented to allow it with the tackle to be passed on a distance of seven miles to do a field containing 16 acres, after roots fed on, of Mr. Nichols's, of Moulsoe. At 9 A.M. on Monday the machine began to operate upon the field, and on Tuesday at 5.55 the whole field was done. Here is the opinion of some practical agriculturists who came by appointment to see the machine at work of its efficiency:—

"Woolston, March 12, 1863.

"We the undersigned have to day witnessed the operation of Mr. Smith's combined cultivator and drill, at work on the Farm of Mr. Bignell, at Loughton, on a mixed clay soil on Turnip fed land, without any previous operation. Unhesitatingly pronounce that the work was done in a most effective manner, that the land was thoroughly and well cultivated, and the seed deposited in a nice and uniform bed. We also walked over Mr. Smith's own farm, where he has recently drilled his Barley and Beans, and were perfectly satisfied that the machine is such a one that from its simplicity of construction and easiness of working, is calculated to come into general use. J. T. COLEMAN, Dunton Lodge, Bedfordshire; G. S. BROWN, Dunton, Bedfordshire; J. FRANCIS, Knapwell, Cambridgeshire; L. E. BARNARD, Dry Drayton, Cambridgeshire; W. REYNOLDS, Cotons, Cambridgeshire; ROBERT NORFOLK, Louth Park, Lincolnshire."

Here is a word from Mr. Bignell:—

"Loughton, March 16, 1863.

"DEAR SIR, I forward by request your combined machine, with many thanks for its use. While drilling our Barley we had many visitors, and one and all pronounced the work done as first-rate.—I remain yours truly. "F. W. BIGNELL.

"To Mr. Smith."

Here is the opinion of some practical farmers who witnessed the working of the machine at Moulsoe:—

"Moulsoe, March 17, 1863.

"The cultivating and sowing machine of Mr. Smith's working on Mr Nichols's land after roots fed on well cultivates the land, and drills the seed Barley into a very nice seed bed. The necessary after harrowings will be very light, and with some dry March winds will destroy the few weeds there are left loose upon the land. THOMAS PIKE, Moulsoe, Bucks; AMBROSE WEST, Pembery, Kent; GEORGE PAYNE, Milton Keynes, Bucks; HENRY PESTELL, Broughton, Bucks; W. RIDGWAY, Broughton, Bucks; GEORGE PAYNE, jun., Milton Keynes, Bucks; CHARLES T. RILEY, Milton Keynes, Bucks; CHARLES H. PRICE, Newport Pagnell, Bucks; G. G. PRICE, Olney, Bucks."

And here are a few words from Mr. Nicholls:—

"Moulsoe, March 17, 1863.

"Sir,—We got the tackle fixed and started at 9 A.M. yesterday, and we finished the 16 acres at 5 55 P.M. to-day. The field consists of various soils, a considerable part of it is of a stiff binding nature difficult to work. The machine did its work well, cultivating the land and seeding it with Barley in the best way I ever saw, so convinced am I of its usefulness that as soon as you have proved the new one you say you are bringing out I will order one. I have sent the tackle back and am obliged. In addition to this I add my best thanks.—Yours respectfully. "WM. NICHOLS,"

"To Mr. W. Smith."

A remark from me on all this is unnecessary, but I tender my best thanks to Mr. Bignell and Mr. Nichols, for the use of their fields to work my machine upon, and to other gentlemen for their names as witnesses of its efficiency. *William Smith, Woolston, Bletchley Station, Bucks, March* 18.

*Threshing Machines.*—There appeared in the *Weekly Times* of last week, an account of an accident which happened at Chearsley with a steam threshing machine; whereby a woman lost her leg, and ultimately her life, by stepping back upon the drum. Now, Sir, the feeding boxes in those machines are so constructed that the feeder may sit at either side, his proper place therefore is to sit with his back to the rick he is threshing, thereby, "without any inconvenience to himself," keeping the two women employed on the machine perfectly clear of the drum. I hereby, through your columns, call the attention of masters, bailiffs, and machine feeders, to what I have stated as a prevention from such accidents. *T. Trotter, Farm Bailiff, Uffcott, Swindon, Wilts. March* 17.

*The Great French Henery.*—In the *Agricultural Gazette* of the 31st January last, an article extracted from "Bell's Messenger" is inserted. A friend from the country writes. "This is more like an American than a French account." May I inquire whether there has been any corroboration of this account? It is very desirable that such an extraordinary communication should be authenticated, as if it can be done in France, surely it may be accomplished here. A business with such useful results and yielding a profit of 35,000*l* a year, should not be lost sight of. It seems incredible that 8000 dead horses could be obtained in one year. *Enquirer.*

*The Crowded State of the Cottages of the Working Classes* is disgraceful in a county like England, abounding in wealth, and well able to provide better

accommodation; thus enabling the poor to carry out, in a practical manner, the precepts taught them, and at the same time give them opportunities of following examples pointed out as worthy of imitation. The immorality resulting from men, women, and children, living together day and night, without the possibility of getting away from each other, is shown by the early depravity existing amongst the youth of both sexes. Reference to the statistical returns of crime throughout England, published by the authority of Government, will too plainly prove this lamentable fact. No amount of supervision on the part of clergymen, no exertions of the well disposed, will beneficially affect the masses till an improvement takes place in their dwellings, on ordinary occasions the separation of boys and girls being impracticable for want of room. What must the misery be when sickness visits the humble dwelling! The sufferer will either be disturbed by having companions in his bed, or the other inmates of the cottage will be even more crowded than usual. What happens if the disease is infectious? There is no escape from constantly breathing an atmosphere saturated with disease. The healthy and the sick must live together; should death release the patient, until the body is buried the wretchedness of the survivors is increased to a fearful extent. This is no exaggerated picture; the truth is known to those accustomed to visit the labouring classes at their homes. The consequence of the discomfort experienced by a man who has been toiling ten hours and reaches his cottage wet and weary without the prospect of enjoying a change of clothes, a warm supper and quiet after fatigue, is a resort to the public, whereat he can dry himself, and drown his cares, for the moment, in drinking. Many an honest man might be saved from destruction had he the common comforts at home instead of being driven away to seek them elsewhere. *Falcon.*

*Moles.*—I thank Mr. Smith, of Woolston, for his article on moles inserted in the *Agricultural Gazette*, at page 180. I am particular in giving the page, as I wish my readers to turn to the article, which, like most others which are written in hostility to the devoted "Vicar of Wix," is very unique in its kind. * * * You, Mr. Smith, to address you personally, have invented some artificial grubbers with which you seem to be desperately in love; and I, on the other hand, have some natural ones with which I am as deeply in love; but then I have never exhibited any partiality for your lovers, nor should I become jealous of you, should you fall, and deeply, in love with mine. Then, my friend, why on your side all this jealousy? * * * * My dear friend, calm your mind, and sleep sound; I assure you on the honour of a Christian I shall never change my doxy for yours. But your father was a mole-catcher, and so deadly, you write, "was his fight against them," that he killed "his hundreds," nay, "perhaps his thousands;" indeed, so proficient a mole catcher was the old gentleman that he destroyed them all except a single solitary one which made his escape and flew for protection — whither, my gentle readers? whither? Turn to Mr. Smith's letter and see. Truth compels me to omit nothing so important; but to use Mr. Smith's own language, "but that one," he writes, "fixed himself on my"—what?—bottom—farm." Whereon, after we conclude Mr. Smith had lustily shouted out for mercy, he called for assistance, and had the daring intruder destroyed! Then again the Caleb Quotum of a village schoolmaster and parish clerk, and a leader of a choir, who like the pedagogue parish clerk "is a constant attendant at church," Mr. Smith records are mole catchers, and doubtless proficient ones, also catch their "hundreds," nay perhaps "thousands," as did his respectable father also; for Mr. Smith adds they "were very respectable and trustworthy men." * * * Why, Mr. Smith, to address you again personally, surely you do not expect, or a wise man would not expect, to overturn my arguments in favour of preserving moles by stating that such fellows as these, "Jacks of all trades," mole catchers professionally, exist in your parish? What would be thought of the gentleman who should defend poachers because his father had killed thousands of pheasants? and his village school-master and parish clerk, and a leader of a company of singers, had killed their thousands also? Do such statements as these refute my convictions, that moles do an immensity of good and little or no harm? or that the little injury they sometimes may perhaps do, is counterbalanced by the thousands of times more good that they do? * * * But your father was a mole-catcher also, because otherwise moles would have gotten into his drains; but had I, or any one who understands how to drain land, put drains into your father's land, moles would not have gotten into them. "No, no, no!" If any one should doubt this, let him consult the Draining Companies, and all will tell him that moles cannot get into drains made by any of them—impossible, and hence Mr. Smith, senior, might have been a cunning entrapper of innocent moles, but a wretcher drainer of land if moles could injure his drains; he proved himself to have been. And once more: 25 years ago I, myself, thoroughly drained two fields, the drains of which, though a mole has never once been destroyed in those fields, are now in the same beautiful manner that they did when first made; and 10 years ago I also drained another field, which remains just the same. And this statement, my respected friends, will, I think, show the *animus* of the renowned son of Æsculapius, who in the *Agricultural Gazette* of the 7th of this month, wrote that I had but 1½ acre of land; but as he has thrown down the gauntlet before me, I take it up, and if I do not give him hereafter a few somersaults for the amusement of my friends, they shall never hear of me more. *G. Wilkins, Wix Parsonage. March* 16. [We have been forced to shorten this letter one half.]

## Foreign Correspondence.

Farm Life on the Pampas: *Buenos Ayres, Jan.* 12, 1863. * * * At last we were ready to start. Everything promised well, as the storm had apparently gone away, and six coach horses were ready. Then the trumpet sounded, whips cracked, men shouted, and off we went, all in capital spirits, and chattering away. And a pretty sight it was for all—the yellow coach crowded on every side, two postilions in front, and a man to drive; and then we passed street after street, and got at last out of the town, and made a short halt. Just time for to fill the pipe and light it, when off we again went at a gallop; but the rain we had had made the roads heavy, and the work for the horses somewhat difficult. You, of course, know how the roads are here—not like home, where they are always kept in repair, and large rucks filled up; but here the greatest caution in some places was required, or else over we certainly should have gone. And now I even wonder we often did not turn over, for at times we would get such a pitch as to throw you nearly off your seat. On we went, through mud and water, and the poor beasts, not good ones unfortunately, after a couple of leagues began to falter a little, but their riders not. These gauchos are all the same, and have not the slightest pity for a horse; they say "gallop," and do it they will, at any cost. However, after some 2½ leagues we suddenly came to a stop, and nearly got upset, for the wheels sunk in mire, and could not get out again. Every one of us, ladies of course excepted, had to dismount and give his shoulder to the wheel, and after some five minutes' exertion managed to get the wheels out. We then mounted and were off again, but only to be again ingulphed; but this time it was under a shower of rain, which gradually grew thicker and thicker. We were now some 5½ leagues on the road, and still a league from the first post-house, where we were to change horses. At last, finding it impossible to get the coach out without fresh horses and shovels, it was proposed to walk gently on and let the coach overtake us. On we went accordingly, the ladies excepted, and on we walked until we at last found ourselves at the post-house. Once arrived, we made a hearty breakfast of sardines, biscuits, and bad French wine. After our repast was over, and still longer waiting, the trumpet was heard and the coach arrived. We by degrees got along the road all right without further accidents, passing San Vicente. About 8.30 P.M. we arrived at Ranchos, our halting-place for the night. Patience for an hour and a half brought us at length our dinner. Ranchos is about 20 leagues from Buenos Ayres; a small uninteresting place, of not more than 500 or 600 inhabitants, but possessing a little church with two large bells. Being Christmas eve there was a midnight mass, so I, travel-stained and jolly, after a fairish repast, attended it. As midnight struck, &c. * * *

—— But, to resume, after breakfast a peon who brought horses for Don Alejandro and myself from Monte Grande, for us to use in taking the sheep over, met us at Ranchos. Accordingly, we mounted our horses, the diligencia going no further, and commenced to ride for the Estancia, distant some five leagues. To make it short, after narrowly escaping a most severe thunder storm by seeking shelter in a puesto, and waiting there till it was over, we re-saddled, and about 5 P.M. arrived at the Estancia, at "Espartillar." Being Christmas Day the manager was away; but fortunately Mr. —— was there, who gave us a hearty welcome, and quickly putting our saddles away out of the second storm, which was just beginning, rushed into the house and enjoyed our good fortune over a glass of caña and water and a good pipe.

*Jan.* 13, 1863.—The next day, Friday (Dec. 26), was engaged in parting out sheep and rams from a flock, and next morning we had collected all that we had to take over to Monte Grande, in one "point," ready. At "Espartillar" there are 30 puestos, and six more in course of construction, and fully 30,000 sheep. Some oxen and horses, of course there are, but not more than a few hundreds of each. The manager is a good-looking young man, about 30 years old, who returned on the 26th; a Scotchman, who has certain shares in the sheep as payment for his work. A "puesto" is a sheep station.

On the Saturday afternoon (27th) we left with our charge, 2792 sheep and 121 rams. Besides the Frenchman and myself were three native peones to assist with the sheep, and another one to drive the bullock cart behind, to take up the little lambs or sheep that got knocked up on the road: so there were six of us altogether. We each had a horse, and three spare ones followed behind, in case of need. We had no dogs. The way we managed was this:—two peones would cut off a point of sheep, say about 60 or 70, and drive them on ahead, keeping them always on the move by shouting and waving their ponchos—the other sheep would then run after this point and try and catch them, bleating all the way—then another rode up and down the line to keep them up to the point (my business), and often the line was a mile long; perhaps the line would get broken, and then was the work to cut off another "point" and drive them on at a gallop to overtake the ones ahead, and all this in clouds of dust, sometimes so thick that it was impossible to see the sheep under your horse's legs; but on you went, shouting whistling, cracking your whip and hitting your saddle, and often the horse, just to make a noise to frighten the sheep on. The first night we arrived close to "Ranchos," where, in fairish pasture, the sheep remained all night. Of course, on the road we gave the sheep every now and then a rest. Whilst the four peones kept guard at night, Don Alejandro and I went to the village to get a good dinner, for we had had nothing but maté since breakfast. Hungry and thirsty, dirty, and dusty, we entered the place: we were like sweeps, but got cleaned for dinner about 9 P.M. Two bottles of English ale soon disappeared, followed by two of wine—our dinner was an excellent one, wound up by a little cognac and cigars. After dinner my friend and self felt very much contented, and whilst over our café, who should come in but an English gentleman, &c. * * *

Next morning at sunrise Alejandro and I were off to the flock, and in a few minutes after on the road to "Sutton's," distant some seven leagues. The first thing is to make a fire, about sun-rise, and cook the breakfast, which consists of roasted mutton (asádo), followed by maté and a smoke: no bread nor anything else. The way you eat is this:—All sit round the great piece of roasted mutton, on your saddle cloths, with legs crossed, each one in turns then draws from behind him his large knife, and with meat in one hand and knife in the other, cuts off as much as he wants. After it is cut off the joint he places one end in his mouth, and then cuts up, close to his teeth, and so continues till he has finished the strip. Water there is, and one tin pot to drink out of: a tea-kettle is also taken to boil the water for making maté.

14th inst.—Breakfast being concluded, and the two oxen yoked to their heavy cart, off we start, and pursue the road until about half-past 11 o'clock, when we make a halt, let the horses and oxen go for a feed, make a fire, roast some more mutton, and make a dinner exactly similar to our breakfast. When the dinner is concluded we take our "siesta" under the cart on our saddles, which we enjoy for some two or three hours, after which the horses and oxen are brought back to the cart, and everything prepared for the next half-day's march, which continues until sunset, when preparations are made for the night. The usual meal is cooked, and, if near a grog shop (pulperia), one of the men goes for a few biscuits and a bottle of caña or gin, to make a good day's finish. My friend and self spent the evening of each day at some neighbouring village, where our greatest treat was to get some soup, or a piece of fresh bread. As for the sleeping accommodation—why, if I had again to go over the same ground with my flock of sheep, I certainly should prefer the night in the camp, with clean saddle-rugs for my bed; for in the little hotels you meet, the beds in general are crammed with fleas, and the room with mosquitos. It is a fact what I now say: one night my compañero and I slept at a certain hotel, and the fleas were so numerous that you could put your hand on your body anywhere, and, after closing it, make sure of its being pretty full. In the morning, before sunrise, I was glad to leap out of the bed and bed-room and dress in the open yard, and felt so disgusted that I would not even wash myself in the iron basin set apart for that purpose.

On the Monday (29th Dec.) we had a severe storm, so that we could not proceed on our way, so had to pass the day as best we could, in a little storehouse which we happened to be near. We only lost four sheep in the night.

At length on Wednesday (31st) we arrived at our destination, and next day, New Year's day, had the great satisfaction of finding our sheep in good condition and up to the proper number, and receiving the expressed pleasure of the manager as to the manner in which they had come. So that we were really only four days doing the 20 leagues, although five days on the road.

On the 2d inst. I returned to town, a perfect lobster in appearance, but extremely pleased with my trip, which was most useful, in many ways, as it opened my eyes a little and made me learn a trifle of local experience.

The other week I paid a visit to a friend of mine, some five leagues out of town, who introduced me to a gentleman who has a little flock of his own, of not more than 500 or 600 ewes in all: he has also rams, young and old, but very few of the latter. The ewes are some Mestizas and others, a cross between the Mestiza ewe and Rambouillet ram: he has two extremely fine Rambouillet rams, and others also good. From each of his ewes he got at last shearling season from 7 to 15 lbs. of wool, and from the two rams mentioned, one gave 28 lbs. and the other 24 lbs. of wool! On each of the ewes' backs was marked the number of lbs. it gave, and several I saw 10 and 12 lbs. For a little ram, a cross from Rambouillet father and Mestiza mother, not a year old, being born last March, he charges 5*l.* 10*s.* (English). Every year this gentleman raises the standard for his weight of fleece, and finds a ready market when he wishes to sell. His wool fetched per arrobe (arr. = 25 lbs.), the highest price in the market, about 1*l.* 2*s.* *F. M.*

N.B. The Spanish pound weight is nearly one-seventh lighter than that of England.

## Societies.

The Bath and West of England, whose attention has been latterly directed to the improvement of the breeds of Horses in the district comprised within the sphere of its operations, held a show of Stallions on Friday last, at Exeter, as a preparatory step to the general annual meeting which will be held in the same city in the month of June next. The experiment, notwithstanding its novelty, was on the whole a very fair success; and there is no doubt that in future years it will meet with a more general response on the part of breeders, and a more lively and extensive interest among western agriculturists. It seemed to be the opinion of those in authority that as in the year 1864 the Society will hold its meeting in the important city of Bristol, it will be a very convenient arrangement for

the next stallion show to take place on the occasion of Bristol March fair (1864), and unless the time of the year be thought too early, there can be no doubt that many reasons may be adduced in its favour. The horses shown at Exeter, on Friday last, were there for practical purposes, and those which obtained the Society's diploma will not be entitled to receive the prize unless they are respectively present in the general show yard on the 9th and 10th of June next, and unless their owners produce satisfactory evidence, on or before the 5th of July, that they have served at least 40 mares in the current season, in the counties of Cornwall, Devon, Dorset, Somerset, Wilts, and Gloucester. The entries closed on the 7th of March, with nine thoroughbreds, and 14 agricultural horses, one of whom, however, failed to make his appearance good, though the fact was little observed in the presence of two animals shown as extra stock.

The exhibition took place in the cavalry barrack yard, which had been granted for the purpose by the Secretary of State for War, and a more eligible spot could scarcely have been selected for the purpose in any part of England. Early in the morning a strict examination of the animals was made by Prof. Brown, the Society's veterinary inspector, and at 10 o'clock they were paraded before the judges and such of the public as chose to be present, in a capacious ring which enabled the public to observe without the possibility of interfering. Open judging has therefore been adopted by the Society under very auspicious circumstances, and it is much to be hoped that arrangements equally satisfactory may be made when the attendance is larger and space more valuable.

The Judges for Thorough-breds, for Hacks, or Hunters (9 entries) were Mr. John Waters, of Salisbury, and Mr. Gibson, of Haldon, South Devon, and their awards were as follows:—1st Prize of 50*l.* to Mr. W. Barret, Puddaven, Totnes, Devon, for a chesnut horse, Ratan, aged 22 years, bred by Mr. Crockford; sire, Buzzard; sire of dam, Picton. 2d Prize of 15*l.* to Mr. R. G. Luxton, Bruskford, Wembworthy, Devon, for a chesnut horse, the Baldfaced Stag, aged 8 years, 2 months, 3 weeks, and 2 days, bred by General Peel; sire, Harkaway; dam Palma; sire of dam, Plenipotentiary.

In this class there was no limitation as to age, and certainly the antecedents of Ratan from the time that he ran for the Derby and won the Two Thousand Guinea stakes until the present moment, would seem to indicate that there was no necessity for adopting any stringent rule. Ratan, who is now 22 years old, and whose hocks show the consequences of active service, is nevertheless wonderfully preserved: such a shoulder, for development of muscle and general symmetry, is very rarely seen; and taking into account the number of mares he served during last season, the horse's condition and "freshing" are marvellous. For hunters he was just the animal, and to the unanimous satisfaction of the public, the judges awarded him the first prize without hesitation. With reference to Baldfaced Stag, who carried off the second prize mainly in virtue of his pedigree, there was much diversity of opinion. His white face, however much in fashion in some quarters, evidently told against him in others; and whatever his qualifications as a race-horse may be, it was very generally felt that owing to his slight build, he was scarcely the animal to be looked upon with confidence as the sire of hacks and hunters. A brown horse, Frederick (eight years), bred by the Marquis of Exeter, by Melbourne out of As You Like It, attracted much notice, and though a slight animal, was thought by many to be more deserving of the second prize than the animal to whom it was awarded. It is worthy of remark, that in this class of nine animals not less than three were disqualified: one as not being thoroughbred; one for ophthalmia, and a third for sprained tendon and contracted feet.

For Agricultural Horses (14 entries, 1 absentee), the judges were Mr. G Badham, Bulmer Eye, Sudbury, and Mr. Whippell, Barton, near Exeter. Their awards were as follows:—

First prize of 30*l.*, to Mr. W. King, Tiverton, for a roan cart horse, Model, aged 6 years, bred by Mr. J. Gibbons, Rackenford; sire, Warrior; dam, Brown.

Second prize of 10*l.*, to Mr. J. Horswell, North Melton, for a dark brown "Clydesdale" draught horse, Stapleton, aged 3 years 10 months; sire, Young Blythe; sire of dam, Ayrshire Champion. [Not eligible to succeed Model, as first prize, in event of his disqualification.]

Commended, and reserved number for the second prize only, a brown Clydesdale Horse, Young Redmount, aged 4 years and 8 months, bred by the owner, Mr. Charles Noble, Swansea.

Taken as a class there was a decided improvement as compared with the animals usually seen at the annual meetings of this Society, and it is probable that the entries would have been more numerous, excepting for the regulation which limited the competition to animals "not exceeding six years old." Another year it may be presumed that greater latitude will be allowed; for strange to say, the first prize horse, Model, though what is usually termed a "six years old," could not be certified by the Society's inspector as "not exceeding six years;" and if this circumstance should be construed as a ground of disqualification, the judges have recorded their opinion that no other horse is entitled to take the first diploma. Speaking of the class generally, it may be remarked that of bulk there was quite enough and to spare, but of limbs developed in proportion there was the usual dearth. Hairy legs were unhappily the rule instead of the exception. Small feet were observed in several instances, and in more than one case there was an absurd and injurious abundance of fat, interfering with the animal's proportions and encumbering his movements. The 1st-prize horse, Model, was a fine animal, very compact, with small head, thick cobby-looking neck, and well-placed shoulder, but with a deficiency of muscular development of the fore-arms and thighs, which seemed almost too light for the body they had to support. The 2d prize, Stapleton, though entered as a Clydesdale, had few indications of the breed beyond a hollow back and well-formed head, but his action for his weight was very good. Mr. Noble's Young Redmount was deservedly commended by the judges; for, without pinning faith to his reputed Clydesdale descent, he is a strong handsome horse, with very good action. A north-country horse named Sampson was remarkable for his great bulk, arising from obesity; he had, in other respects, some points to recommend him, but his hind quarters were deficient in squareness and breadth. The animals disqualified in this class were, one for cataract in the eye and enlarged hocks, and one as being over the age stated by his owner.

The acting stewards of the department were Mr. C. Gordon, of Wiscombe Park, Honiton, and Mr. Adair, of Heatherton, Taunton, and the general direction of the yard was entrusted as usual to Mr. Widdicombe, of Torr Hill, Ivybridge. Financially speaking the show was a greater success than the Council were prepared to anticipate, but a large proportion of the visitors were admitted free of charge on producing evidence that they were members of the Society. It was very currently rumoured that the citizens of Exeter are preparing to receive the Society in June next, in a manner even more brillant and demonstrative than that which characterised their memorable reception of the Royal Society ten or twelve years ago.

The Dog Show, Chelsea.—During the past few days, Ashburnham Hall has been crowded with spectators of the thousand dogs here gathered in competition for prizes offered by Mr. E. T. Smith and awarded by competent judges. This paragraph is intended rather as a mere record than a report of the Show. It may however be mentioned that the larger breeds are not so well illustrated as the smaller—the small terrier breeds being certainly the best represented of them all.

Class 2—Fox Terriers—is well filled with good specimens, Mr. Woolton, of Nottingham, carrying off the chief prizes. Blood hounds, Deer hounds, Otter hounds, Harriers, Beagles, Greyhounds—the succeeding classes—are not so well filled. Pointers, Setters, and Retrievers, and Spaniels, though not so numerous as at Birmingham and Islington, are fairly shown. By far the larger portion of the show, however, is of dogs not used in field sports.

Magnificent specimens of the larger classes—Mastiffs, Newfoundlands, Mont St. Bernards, &c., are present, but the most numerous classes are the Terriers of all kinds, black and tan, white, blue, Scotch, English, Skye, Dandie Dinmont, &c. Pug dogs, Italian Greyhounds, Blenheim, King Charles and other Spaniels, Maltese dogs, Poodles, and Foreign dogs made up the rest of the show, which includes upwards of 1200 entries, and probably upwards of 1000 actual animals exhibited.

## Farmers' Clubs.

(*Continued from p. 254.*)

Kingscote: *Feb.* 3.—We continue our report of Mr. Drew's interesting paper on *Artificial Manures.*

The following is information given to him by correspondents:—

(*a*) The first report is from an agriculturist in Scotland; it tends to show the extent to which it is used there more than anything else. He says, the use of artificials depended in some degree upon the rotation of cropping pursued as well as the enterprise of the farmer. Taking the six-course-shift, the system followed on most good Wheat producing soils, the method on a farm of 300 acres in divisions of 50 acres each would be somewhat as follows

| | Acres. | | £ | s. | d. |
|---|---|---|---|---|---|
| 1st, seeds | 20. | pastured (no manure) | | | |
| | 30. | mown, manured with 1 cwt. nitrate of soda, and ½ cwt. guano per acre, cost .. .. .. .. | 32 | 12 | 6 |
| 2d, Oats .. | 20. | pastured, (no manure) | | | |
| | 30. | mown, 2½ cwt. guano and 2 cwt. salt, cost .. .. .. .. .. | 53 | 12 | 6 |
| 3rd, Potatoes | 40. | 12 loads dung, artificials 25*s.* per acre | 50 | 0 | 0 |
| | 10. | Vetches, Cabbages, &c., 30*s.* „ .. | 15 | 0 | 0 |
| 4th, Wheat, | 25. | Farm yard dung. | | | |
| | 25. | 2 cwt. guano per acre .. .. .. | 38 | 15 | 0 |
| 5th, Roots, | 30. | 12 to 15 loads dung. 1½ cwt. guano, 13*s.* 6*d.*, and 2 cwt. dissolved bones, bone meal, bone dust or superphosphate, costing 8*s.* 6*d.* per cwt. .. | 55 | 17 | 6 |
| | 20. | 2 cwt. guano and 4 cwt. bones or phosphate .. .. .. . | 61 | 0 | 0 |
| 6th, Barley sown with Grasses. | | | | | |
| | 50. | The part manured with artificials only receives 10 loads dung if the roots are hauled off. | | | |
| | | Total .. .. | £306 | 17 | 6 |

It adds—This statement will hold good on the best conducted farms in this locality, and from inquiries, that 20*s.* per acre over the area of the farm for manures is within the mark, and that it is found an economic practice. The Potato crop, he says, is a great drain upon the land, but realises on an average about 17*l* per acre. With respect to their value and use he considers them better applied conjointly, 1½ cwt. of guano and 2 cwt. of bones with dung giving a better crop of roots than 3 cwt. of guano and the dung, and 2 cwt. of guano and 4 cwt. bones or phosphate a heavier weight and better quality than 5 cwt. of guano alone. On farms where the five and seven course is adopted, from 10*s.* to 15*s.* per acre over the whole area is about the sum annually expended for artificials; in that case the seeds lie two years, being only partially mown the first year, and wholly grazed the second.

(*b*) Mr. Stiles Rich, of Didmarton, says:—For roots he generally drills with a moderate quantity of ashes, 1½ to 2½ cwt. of superphosphate, or 1 cwt. of bones per acre in conjunction with well fermented farm yard dung; where the Wheat plant has been weak, (although the land may be in good condition) he found 1½ cwt. of nitrate of soda per acre act as a good and paying stimulant, that the same manure had been found beneficial when applied to young Clover; soot also had acted well, but from its disagreeableness in using, was not extensively used. On the whole he did not consider top-dressings needful, artificial feed being now so extensively used greatly assisted in maintaining the land in good heart.

Mr. H. Cox had applied 2½ cwt. of guano per acre to Carrots, Potatoes, and Peas in the same field; it trebled the crop of Carrots, assisted the Potatoes a little, but was not perceptible in the Peas. These crops were followed by Barley, and without any addition of manure showed quite the reverse of the former year, the plot where the Peas grew now being the best, whilst that after the Carrots were the worst. He adds that he differs from most farmers in the mode of applying manures; he considered that instead of being placed by the drill in immediate contact with the roots they should be mixed and commingled with the soil as much as possible. He had always found in the end the result a better and more healthy crop; his experience told him that guano answered better on strong cold land than on dry brashy soils, and payed better in cold damp seasons than in dry and hot ones; on the contrary, all preparations from bones are more effective on light land—that ammoniacal manures depended much on the weather for their usefulness. Mr. Cobban, of Whitfield Farm, had for many years used guano, nitrate of soda, salt, soot and other substances with the most satisfactory results on every description of soil; he considered a mixture as the most sure and lasting in its effects, excepting in the case of a weak plant of Wheat or other grain, where he used guano and nitrate of soda, otherwise the use of artificials was mainly confined to the root crops, about 3 cwt. per acre, with farmyard dung, and he was quite satisfied that the increased bulk well repaid the extra outlay. On the pasture land he had used half-inch bones in quantities of 16 to 20 bushels per acre, say once in 12 years, occasionally dressing with dung, and sometimes with 2 cwt. guano and nitrate of soda mixed; this would increase the crops.

Mr. J. Ritchie in 1844 applied 5 tons of guano (he does not say what kind) to a poor field of 11 acres for Swedes, and although the plant was good all over the field the crop was not worth 10*s.* per acre. He had since tried bones, guano, superphosphate without manure for Swedes, Mangel, and Turnips, two out of six of which only paid either on light or heavy land; 20*s.* to 30*s.* worth of superphosphate, in addition to from 8 to 12 loads of dung, he found to pay very well. With respect to their application to corn crops, the only ones he found to pay was nitrate of soda and soot with salt. Now, so far as the value of these fertilisers show themselves in what I have laid before you, we find (1st as regards their application to our corn crops), that the results quite coincide with the rules laid down by chemical Professors, that nitrogenous manures, such as guano, nitrate of soda, soot, sulphate of ammonia, and the like, are those most suitable for grain crops, and that of these different artificials for Wheat, nitrate of soda has given the best results, having yielded the largest profit in four cases to one over any of the others. Guano, sulphate of ammonia, and soot seem much on a par, the specially prepared manures pressing close upon them; the dissolved bone, so far as the Wheat is concerned, appears almost a failure; the increased produce from salt on the Royal Agricultural College farm is astounding, giving last year a net profit of 2*l.* 15*s.* 9½*d.* per acre for an outlay of 3*l.* I am sure this calls for further trial, and I have myself determined on making it. Some say salt should always accompany the use of highly concentrated fertilisers, as it in a measure checks the tendency to over-luxuriancy and strengthens the straw; it is, however, somewhat remarkable, although salt itself gives such a result, that in only one instance in the College trials does its addition make a return for the extra outlay, small as it is. The propriety of artificial manuring our Barleys is not so clearly demonstrated as in the case of the Wheat crop. On the whole, however, on the College farm the balance of success is on the side of the manures; although it left a loss in two cases out of seven in each year, it occurred with different manures, one of those, Proctor's special manure, leaving a loss in 1860, making the best return in 1861. The use of salt again attracts the attention, and presents some rather curious coincidences. In 1860, salt alone gives a profit of 9*s.* 9*d.*; nitrate of soda alone, a profit of 11*l.* 7*s.* 6*d.*, but the two united, a profit of only 19*s.* 3*d.*, thus tending to show that the union was rather injurious than otherwise. In 1861, the gain from salt alone was only 6*s.* 10½*d.*; nitrate alone (the best return last year, now fourth), a gain of 1*l.* 2*s.* 10½*d.*, the two combined a gain of 1*l.* 12*s.* 3½*d*, thus paying the extra outlay, and leaving a profit besides. The order of value on the average of the two years is much the same as for Wheat—1st, nitrate of soda and salt; 2, nitrate alone, then the special Wheat manures, soot and guano. My experience with regard to their use for the Oat crop, as also for the class, is so little, that I shall not enter into them, suffice to say that when any of these crops are to be taken on land not in condition to carry a full crop, I think and believe an application of some one or more of them would be attended with advantage. Next, with regard to our root crops: here our experience again tallies with theory, but not so conclusive as with the grain crops—guano or nitrogenous manure (still containing a good proportion of phosphate) having in some instances proved more efficacious than the phosphatic manures. Generally speaking, however, those abounding in phosphates are the most successful; those prepared from bone, containing a good per-centage of soluble potash, being mostly prepared. I do not, however, myself think it necessary, if you get bone superphosphate, that the soluble portion should so much exceed the insoluble as some advocate. I am aware it quickly stimulates the young plant in its early stages of growth, but I have often observed, when they grow so rapidly and arrive early at maturity, they are oftentimes more liable to decay. So far as their actual value is decided by the cost of raising a ton of roots, in the experiments I have tried, in two cases out of the three super had the advantage, a mixture of Turnip manure and bones first in the other, bones second in one, Turnip manure in another, and Turnip manure, and guano in the third. It would thus seem that super stands first, special Turnip manure and bones second. Little difference however exists between the super, guano, Turnip manure Bones, or a combination of any two of them; all of them you will observe are before the yard dung and artificials combined as far as cost per ton for manure is concerned, but it does not exactly end here, and we will further consider the matter by entering on the last division of our subject—"The economic application of artificial manures to farm crops." This, like the former, is rather an intricate one, and there are several circumstances claiming our attention in carrying

out or bringing into practice this part of the subject. In the first place care is necessary in purchasing, adulteration and trickery being carried on to an enormous extent; this however is not carried to the pitch in our neighbourhood as in some others, and our principal manufacturers, Messrs. Procter, Messrs. Robinson, and Messrs. Matthews, each send out as good articles as is possible to be produced consistent with their rate of charges. After procuring the right article, the next thing is to use it judiciously. This consists not in stinting the quantity to be applied, but by paying attention to other matters on which in a great measure success depends. The mechanical state or condition of the land must first be looked to, the time and mode also of using them has to be considered. The dressing in the little experiment with Barley by my friend in Hants plainly proves this, his second experiment also shows that some importance is to be attached to the effect different manures have on future crops—the superphosphate applied to Turnips giving 7½ cwt. more roots than the partially dissolved bone; whilst in the Barley crops, following the portion where the bone was used, yielded 4½ bushels over the other, and ½ lb. per bushel heavier in weight, the increase in straw being 3½ cwt. per acre. Other points for decision are—to what crops and to what amount can or ought we to use them? Now, under the systems chiefly followed in this district—the four-field on the strongest and the five-field on the lightest land—I do not consider there is much necessity for applying stimulants to our corn crops; in fact where there is a good plant, and the land in good heart or condition, I question its answering; but wherever the plant is thin and weak, whatever the condition of the soil, I believe their application to be most decidedly beneficial. As an assistant or auxiliary in the production of forage and roots for the maintenance of our stock, they are an indispensable requisite, and I doubt not, ere many years, will be much more extensively used than at present—not but there is a limit to which it is profitable to use them. The most economic mode is in applying that quantity of that kind and in that state which will give the greatest return of money value for the several items expended in producing a given crop, at the same time leaving the land in the best possible state for future crops. In order that we may the better understand this, I will refer back to the experiments I tried with Swedes, in the first of which an increase of weight of nearly 5 tons per acre was gained by the application of nearly 30 bushels of ashes, or a cost for manure on the whole quantity raised of only 2½d. per ton. Now with farm yard dung and artificial manure in addition, the cost for manure was higher than for either one of the artificials, being 3s. 8½d. per ton. It does not however end here, and there are the cultivations, hoeings, rent, taxes, rates &c., all to be brought into account, which when we come to sum up and add to the manure applied and then divide over the bulk grown, another feature presents itself: in the first instance 12 tons 8 cwt. 0 qrs. 9 lbs. were grown at a cost of 2s. 6d. for manure; to this must be added, say 65s. for et ceteras, making the total cost of the roots about 5s. 7d. per ton—with the large cost of 5l. 5s. 6d for manure, more than double the quantity of roots were grown, being about 29½ tons; the cost would still exceed the lesser quantity by about 1s. per ton, on the other hand this greatly increased amount of keep must be of considerable benefit, not only in keeping of stock, but in materially assisting the fertility of the soil; with respect to the given quantity that may be beneficially used I have observed and found from experiment that a full dressing answers better than a half one—that is the roots may be grown at a less rate per ton. You may ask—What do I call a full dressing? I answer, where no natural manure is used, 8 bushels of bone-dust, 1 cwt. of guano, and 2 cwt. of superphosphate. Some little, doubtless, depends on the character and condition of the soil; on some less might do, whilst on others more might be added with advantage, even to the sum of 10s. worth more. Above that I think we do not get a corresponding return. Roots are the mainstay and support of the light land arable farmer, and he should endeavour always to secure a good crop. Artificials are better in conjunction with our dung, and I believe if we, in this neighbourhood, made it go over a greater breadth of our Turnip break, supplying the deficiency with artificials, it would be more to our advantage. Again, I believe it might be further extended to our seeds. I dressed 1 acre of my old seeds last spring with prepared bone as a further trial with Wheat, but cannot say what effect it had on increasing the quantity of keep, it being sown across the middle of a field, the stock having access to the whole. One thing I can say, it in some way affected the quality of the herbage, it being kept down much closer than the other part of the field, and was a darker colour the whole season. When we consider what our northern brethren are doing in this way (I believe the calculation of 20s. per acre to the whole farm is considered generally to be expended), we must be a long way behind them, there being about 24,000,000 acres under cultivation; if the value of artificial manures consumed is only something over 4,000,000l., this for the United Kingdom would not average more than 3s. 6d., or about one-sixth of what is given for Scotland. Again, if they apply it to such an extent it must greatly diminish the proportion here. Our seven corn, root, and green crops, if to succeed, require equal attention to the other department of our business, the production of stock. To produce good and fat stock it must be well and liberally fed, so also with our growing crops; if we expect them to flourish and be bulky, we must supply and furnish means for their doing so.

Mr. Harrison proposed a vote of thanks to Mr. Drew, which was readily and heartily responded to on all sides.

East Penwith.—At the annual preliminary meeting, held last week at Camborne, when the election of officers, the fixing of the day for the show, and other routine business was disposed of, the members dined together at Tyacks', (where an excellent repast was prepared), and the subsequent proceedings were characterized by sound sense and practical utility, the speeches delivered by Professor Buckman, Mr. Burgess, and other gentleman, being far above the kind of post-prandial effusions which one is accustomed to hear at those bucolic and festive assemblies. In the evening Professor Buckman, of Cirencester Agricultural College, delivered an able and instuctive lecture on a subject which could not fail to be of deep and absorbing interest, not alone to farmers, but to every philanthropist and well-wisher of science, progress and material improvement.—"How to make two blades of Grass grow where one did before," was entertainingly and instructively treated by the learned professor.

## Reviews.

*The Farmer's Account Book.* By John Scott, of Kiddington. Published by W. Eccles, Bookseller and Stationer, Woodstock, Oxon.

It might suffice as a description of this large thin folio volume to give its title page in full, which declares it to contain forms for day-labour and contract work, farm accounts with permanent improvements, woods, buildings, gardens, stables, hall; also summary of fortnightly payments, accounts of the produce and disposal of Wheat, Barley, Oats, Beans, Peas, and Vetches; with separate accounts for horses, cattled sheep, hogs, and poultry, "of dairy produce and of sundry," sold. It also includes forms for the record of various other disbursements, as rent, tythes, rates and taxes, tradesmen's bills, manure, food for live stock, and incidental expenses—for valuations at the beginning and end of the year, and general cash account.

The book contains 139 pages, 17 inches long by 11 inches wide. Of these, the first 58, namely 29 folios, are set apart in columns for recording the work of the 12 days of the fortnights work by day labourers, with money columns for the fortnightly payment of wages.

Then follow 14 pages for a record of contract work and wages paid for it: two for statements of team work and day work connected with permanent improvements during the year: four for team work and manual labour connected with woods: two each for similar statements of work done in connection with buildings, gardens, and stables: four for accounts of milk, butter, eggs, poultry, meat, and grain supplied to the Hall. Then two in columns for summaries of fortnightly payments. Then a number of pages for records of sales and receipts on account of Wheat, Barley, Oats, Beans, Peas, and Vetches—Horses, Cattle, Sheep, Hogs, Poultry and Eggs, and sundries.

Then follow pages arranged with money columns, in which to enter disbursements on account of rates, tithes, rents, tradesmen's bills, manures and food for live stock, and lastly for incidental expenses. The whole concludes with columns for valuations at the beginning and end of the year, and with plenty of room for a general cash account.

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. Spearing, Moulsford, near Wallingford, Berks, during the week ending March 25, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun.* | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | | | | | | | | | | Inches. | | |
| Thursday .. | 19 | 30.14 | 41 | 38 | N.W. | 2 | 8 | 50 | 30 | 82 | 26 | 0.02 | 41½ | 43 |
| Friday .. | 20 | 29.92 | 49 | 47 | S.W. | 2 | 4 | 52 | 34 | 76 | 28 | 0.02 | 42 | 43 |
| Saturday .. | 21 | 30.10 | 46 | 41 | N.W. | 4 | 8 | 56 | 41 | 99 | 37 | .. | 43½ | 43 |
| Sunday .... | 22 | 30.40 | 41 | 39 | N. | 1 | 1 | 54 | 26 | 88 | 22 | .. | 44 | 43½ |
| Monday.... | 23 | 30.45 | 48 | 47 | W. | 1 | 6 | 60 | 34 | 98 | 30 | .. | 44½ | 44 |
| Tuesday .. | 24 | 30.50 | 48 | 46 | W. | 1 | 1 | 61 | 31 | 107 | 26 | .. | 45 | 44 |
| Wednesday | 25 | 30.55 | 46 | 44 | N.W. | 1 | 6 | 64 | 31 | 111 | 20 | .. | 46 | 45 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Miscellaneous.

Chelmsford:—*Spring Assizes, March* 12: *Keys v. Main.*—This was a "horse cause," which raised some curious questions, puzzling both to farmers and lawyers. It was an action for the price of a horse sold for 20l., and, as this was just the sum which would be within the County Court Act's jurisdiction, a demand of 6d. was added for "interest," a notice that interest would be demanded having been given on the 10th November, and the action being brought on the 19th of November last. The horse was bargained for at the price mentioned, and then the parties went to lunch, after which the buyer observed something about the horse which led him to doubt its soundness; but the seller, according to the evidence for the buyer, said, "Oh, he's sound," and the buyer then took the horse home. On its arrival it fell ill of the "gripes," and died within 12 hours.

Mr. Hawkins, Q.C., and Mr. Pearce were for the plaintiff; Mr. Philbrick was for the defendant. The case was commenced yesterday and lasted a great part of to-day, 15 witnesses being examined. The learned Judge, who observed that the case had taken a long time, left it to the jury whether the horse was warranted, and, if so, whether it was unsound at the time of the bargain. The jury, composed chiefly of farmers, were much perplexed, and took some time to consider their verdict. At last they said that the horse was warranted sound, and that it was sound at the time of the bargain. Thereupon Mr. Philbrick, counsel for the defendant, raised the point that the bargain was not binding under the Statute of Frauds (as it was not in writing, and the price was above 10l.) until the acceptance, and that as the warranty was not till then, the question was whether the horse was unsound at that time. The learned Judge then asked the Jury that question, which seemed to perplex them still more, as it was pretty plain that the horse had the gripes then. The Jury at length asked if the gripes was unsoundness? This point, which thus puzzled a jury of farmers, appeared also a little to perplex the Judge, who rather, in fact, avoided answering it directly, telling the Jury that it was for them. He suggested that the question might be whether the horse then had the gripes, and whether that was the disease of which he died; and, if so, was that in their opinion unsoundness, which might depend on whether, if the buyer had used proper means, the horse might have recovered. The Jury at last said that the horse did die of the disease, and had it when sent home and accepted, but that it might have recovered if properly treated; and that it was not unsound at that time, as they thought that the gripes was a disease, but not necessarily unsound. The learned Judge said this came to a verdict for the plaintiff for the price bargained for. But then the question would arise as to the 6d. claimed for interest. There could be no doubt it was only claimed with a view to costs, under the County Court Act. Did the Jury think that the 6d. was really due for costs. The Jury said "No." The verdict, therefore, was entered only for the 20l., and the effect will be that each party will pay his own costs.

## Calendar of Operations.

[The following passages are extracted from *Morton's Farmers' Calendar.* Routledge.]

*The manure heap a nursery for Weeds.*—All sorts of seeded plants are unhesitatingly mixed with manure, under the impression that as the leaves and stems of weeds decay, so must the seeds also; but let any one examine the plants that grow on the top of an exposed manure heap, and he will see Weeds seeding in sufficient quantity to stock his farm, and if but a few plants seed in this position, how regularly they become sown when the manure is spread. In no other way can we account for the frequent introduction into Turnip fields of such plants as Anthemis, stinking Chamomile, Chenopodium, "fat hen" of some countries, Stellaria media, Chickweed, Capsella bursa pastoris, Shepherd's Purse, and others of a like kind, which are almost wholly confined to manure tillage. The farmyard is again a source from whence weeds are sent to the muck heap, in refuse from threshing, which is often thrown out under the impression that fowls will eat these useless seeds, and though it is true that they do in reality destroy some, yet not one-half are picked up by them, and of those that are so, only a small portion becomes destroyed in the process of digestion. Some few years since we commenced the growth of Flax, and our first crop introduced to the field a large crop of Sinapis nigra, Black Mustard, a plant to which it was before a stranger—Sinapis arvensis, or Charlock, being the previous Mustard weed. The seed of this Flax was afterwards sown in another part of the farm, thus introducing the Black Mustard in a new place in an aggravated degree. Afterwards some of the Linseed was threshed at the farm buildings, and in various ways its weeds got to a manure heap which was traced to a field of Beans of which they were seen to occupy a large strip in the middle, the boundary lines circumscribing the growth of Black Mustard; and this is now the general Charlock of the farm, it having nearly expelled the former common Sinapis arvensis, owing to the greater fecundity of the former—

Sinapis arvensis, Charlock, yielding generally 4000 seeds to a plant.

Sinapis nigra, Black Mustard, yielding generally [illegible] seeds to a plant.

*Waste places weed nurseries.*—Fields in their proximity are overrun with their peculiar species in spite of the most careful farming. If we have Thistles in a wild hedge-row or neglected corner, we shall never be free from them in our fields. We cannot have Coltsfoot or Dandelion by the roadside without these weeds causing us the greatest trouble both in adjoining and in far-off fields. It has more than once been attempted, both for England and Ireland, to get a clause introduced in local Acts of Parliament making weeding compulsory in such situations, yet it has remained for our colonists in Melbourne to be the first to make a state law compelling, under penalty, the eradication of Thistles. From the regularity with which weeds are sown from all these sources, it is no wonder that so many men have come to look upon them as a necessity. Let, however, more correct knowledge become general as regards the nature and habits of weeds, and processes of weed destruction be devised in accordance therewith, and we feel quite sure that our enemies will be kept in abeyance.

*Early hoeing of weeds* is necessary to this end, for that weeds are often multiplied by the very processes employed to get rid of them there can be but little doubt. This may be done, either by subdivision of creeping forms, such as Coltsfoot and Couch, or by sowing seeded weeds in hoeing. A few seasons back we had a dirty piece of Beans containing, amongst other weeds, three circular patches of Coltsfoot; this was ploughed and scuffled, and the next summer Coltsfoot was tolerably evenly spread over its whole extent. The creeping root of Couch is in this way cut into bits by the plough, and though much be picked off the surface, enough of it usually is buried in some instances to increase the evil, and in all to insure its continuance. As regards sowing weeds by hoeing, it may be remarked that it is too much the practice to treat all weeds alike, and so attack them all at once in a regulation time of hoeing, and thus as some will be in seed while others are progressing to that point, though we may destroy the latter, yet at the same time we sow the former. It cannot be too strongly urged that as different soils and districts present weeds of different species which do not all arrive at their most mischievous point of growth at the same period, so the only possible way in which to effect the destruction of all is to kill them as soon as they are fully formed, and before they bloom. During March, therefore, the hoe should be at work in dry weather among young Wheats. Patches of Coltsfoot should be carefully forked out, and no bloom allowed to seed.

Wester Ross: *March* 23.—We have now had, for a full month, a continuation of wonderfully seasonable weather, and labour is correspondingly advanced. A larger proportion of our spring sowing is now accomplished than has been at this early period for several years. On many farms the sowing of Oats is completed, and everywhere, in the earlier districts, it is well advanced, and all has been harrowed in in excellent condition. The change is advantageous as it was sudden and unexpected. About the middle of February the whole country was flooded; now March dust is no scarce commodity; the fields are unusually dry, and mills propelled by water are

already receiving short supplies. Advantage has been taken of the fine condition of the ground for sowing a considerable breadth of Wheat which, from the incessant fall of rain, could not have been accomplished in winter. Autumn sown Wheat is promising, although by no means too far advanced, having been kept in check by the cold winds and frosty nights we have lately had. The pasture fields are becoming beautifully green, and the country generally is putting on a spring-like appearance. Although labour is well advanced, there is much still to do. Our Barley, which we seldom sow earlier than the middle of April, has yet to be sown, and part of the ground to be ploughed; Potato-planting has not been commenced, and the whole green crop lot has to be cleaned and prepared for Turnips. Cattle throve well through the winter, and are now selling at highly remunerative prices, Sheep are returning to their summer grazings on the hills in greatly better condition than was anticipated two months ago. Turnips have of late been so plentiful, that they were difficult to dispose of at any price. Very little of our last year's crop of Wheat has as yet been sold; the quality is so inferior, that it is scarcely worth sending south, and the millers at home cannot safely grind a larger proportion than 5 qrs. to each 100 qrs. of foreign, so that we, in the north, have this winter been dependent upon the foreign grower for 9 tenths of every loaf we ate. These spring winds will soon put our Wheat into its best condition, when we expect to get rid of it in one shape or another, and we would fain hope that we would never see its like again.

## Notices to Correspondents.

COW-MILKING MACHINE: *C W.* The Company can be addressed at the Lacteal Works, Birmingham. We should be glad to obtain information for you; but it is not our business to advertise their wares.

ELVETHAM MANGEL: *W B S.* We do not know the "Ox Noble" Mangel. The Elvetham is a long red Mangel with a bulge in it, something the shape of a half-blown bladder pulled out at either end. It is probably the best Mangel grown.

GRASSES: *George Frost.* The sample of seed of the Lolium perenne, Perennial Rye-grass—Eaver, West of England—is mixed with Bromus mollis, Soft Brome (Lop) of the farmer; 2, Plantago lanceolata, Narrow-leaved Plantain; 3, Medicago lupulina, the Trefoil of the farmer; 4, Ranunculus repens (Creeping Buttercup); 5, Myosotis arvensis? (Corn Forget-me-Not); 6, Some small Stellaria, &c. Of these, 1, 3, 5, & 6, are common weeds in seeds; 2, though sometimes purposely mixed with seeds, we consider but little, if any better, than a weed. The packets of seeds are as follow:—No. 1, Bromus mollis, Lop; 2, Aira caryophyllea, Hair-Grass; 3, Myosotis arvensis? Corn Forget-me-Not (of this we are not quite certain; 4, Stellaria, or some small plant of the Nat. Ord. Caryophyllaceæ.

IMPORTS in 1862, compared with 1861:—

| Articles. | | Quantities Imported 1861. | Quantities Imported 1862. |
|---|---|---|---|
| Animals—Oxen | No. | 81,194 | 68,818 |
| Calves | " | 25,902 | 29,069 |
| Sheep and lambs | " | 312,923 | 299,472 |
| Swine and hoggs | " | 30,308 | 18,162 |
| Flax (dressed and undressed) | cwt. | 1,383,679 | 1,798,351 |
| Guano | tons | 178,423 | 141,636 |
| Hemp (dressed and undressed) | cwt. | 792,054 | 981,765 |
| Jute, &c. | " | 932,638 | 969,943 |
| Oil seed cakes | tons | 113,725 | 101,156 |
| Potatoes | cwt. | 385,446 | 1,354,636 |
| Provisions—Bacon and hams | " | 515,953 | 1,345,694 |
| Beef, salt | " | 141,683 | 187,640 |
| Pork, salt | " | 125,313 | 226,470 |
| Butter | " | 992,772 | 1,037,371 |
| Cheese | " | 706 395 | 703,909 |
| Eggs | No. | 203,313,360 | 235,230,360 |
| Lard | cwt | 324,691 | 530,090 |
| Saltpetre | " | 813,803 | 443,248 |
| Cubic Nitre | " | 512,860 | 794,318 |
| Seeds—Clover | " | 198,120 | 168,974 |
| Flaxseed and Linseed | qrs. | 1,160,270 | 1,088,472 |
| Rape | " | 249,635 | 189,307 |
| Wool, sheep and lambs'—From Hanse Towns and other parts of Europe | lbs. | 24,408,087 | 48,544,747 |
| British possessions in South Africa | " | 18,676,286 | 18,930,886 |
| British East Indies | " | 19,161,004 | 17,959,404 |
| Australia | " | 68,506,222 | 71,339,092 |
| Other countries | " | 13,315,234 | 17,080,084 |
| Total | | 144,066 833 | 168,854,213 |
| Wool, Alpaca and the Llama tribe | " | 3,106,008 | 3.106,758 |
| Woollen rags, torn up to be used as wool | " | 17,027,696 | 20,097,280 |
| Yeast, dried | cwt. | 92,199 | 102.202 |

*2d—Articles Subject to Duty.*

| Articles. | Imported. 1861. | Imported. 1862. | Entered for Home Consumption. 1861. | Entered for Home Consumption. 1862. |
|---|---|---|---|---|
| Corn — Wheat — From Russia .. qrs. | 1,041,461 | 1,327,158 | 1,047,436 | 1,333,100 |
| Prussia | 1,027,733 | 1,450,484 | 1,033,058 | 1,457,403 |
| Denmark | 223,157 | 145,388 | 229,468 | 145,697 |
| Mecklenburg | 122,248 | 93,161 | 122,351 | 93,340 |
| Hanse Towns | 214,146 | 156,701 | 216,350 | 157,858 |
| France | 180,903 | 224,885 | 182,279 | 224,874 |
| Turkey and Wallachia and Moldavia | 231,044 | 390,068 | 231,382 | 391,299 |
| Egypt | 339,811 | 759,036 | 342,310 | 761,810 |
| United States | 2,507,744 | 3,714,770 | 2,534,951 | 3,769,481 |
| British North America | 549,525 | 861,452 | 556,855 | 870,973 |
| Other countries | 470,043 | 336,267 | 470,405 | 336,528 |
| Total | 6,912,815 | 9,469,270 | 6,966,845 | 9,542,363 |
| Barley | 1,400,401 | 1,854,944 | 1,406,981 | 1,863,683 |
| Oats | 1,859,781 | 1,609,816 | 1,875,574 | 1,623,449 |
| Peas | 399,799 | 227,716 | 402,932 | 230,133 |
| Beans | 560,531 | 475,332 | 564,478 | 479,229 |
| Indian Corn, or Maize | 3,090,352 | 2,728,791 | 3,106,596 | 2,751,267 |
| Wheatmeal and Flour—From Hanse Towns .. cwts | 279.609 | 256,973 | 281,901 | 259,016 |
| France | 460,775 | 790,040 | 461,387 | 792,965 |
| United States | 3.794,865 | 4,499,534 | 3,858,562 | 4,574,220 |
| British North America | 805,839 | 1,108,591 | 818,065 | 1,135,544 |
| Other countries | 812,350 | 551,975 | 814,368 | 552,574 |
| Total | 6,152,938 | 7,207,113 | 6,281,278 | 7,314,319 |
| Indian Corn Meal | 9,441 | 9,192 | 9,618 | 9.173 |
| Fruit—Currants, cwts | 882,757 | 875,099 | 626,872 | 701,371 |
| Raisins | 399,084 | 278,750 | 283,354 | 279.460 |
| Hops | 149,617 | 133,791 | 99,714 | 574,14 |

*** Communications have been received from *Drayton* and *Alfred*, which will appear next week.


# FOWLER'S
## STEAM PLOUGHING AND CULTIVATING PATENTS.

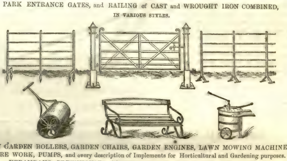
# RANSOMES & SIMS, ORWELL WORKS, IPSWICH,

Have the pleasure to announce that they have arranged with JNO. FOWLER for the use of the above PATENTS, and they will answer any inquiries respecting them, and execute any Orders promptly.

# COTTAM'S
## CONTINUOUS IRON FENCE, HURDLES, and FIELD GATES,

MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

PARK ENTRANCE GATES, and RAILING of CAST and WROUGHT IRON COMBINED, IN VARIOUS STYLES.

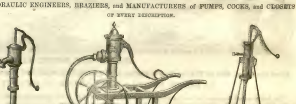


IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES, WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes.
VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c.
The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

Illustrated CATALOGUES and DRAWINGS free on application to
COTTAM & CO., ENGINEERS and IRON FOUNDERS,
2, WINSLEY STREET (OPPOSITE the PANTHEON), OXFORD STREET, LONDON, W.

# JOHN WARNER & SONS,
## BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.



No. 35. No. 36½. IMPROVED CAST-IRON LIFT AND FORCE PUMP. No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Sprender, and Suction Rose ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... 3 0 0
3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.
When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & SONS' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

PATENTEES and MANUFACTURERS,
JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

**SHAW'S TIFFANY.**
For samples and prices apply to
J. Shaw & Co., 29, Oxford Street, Manchester.

**W. S. UNDERHILL'S NEW PATENT IRON FENCE for GARDENS, LAWNS, &c.**
Manufactory: Newport, Salop.

Warranted the strongest and most durable Fence ever offered at corresponding prices. It is easily repaired if broken from accidents; can be rolled up most compactly when not in use, is admirably adapted for exportation, and can be had of any height and mesh required, at prices from 4*d.* to 1*s.* 6*d.* per yard and upwards.

For further particulars apply at the Manufactory, or of the London Agent, Mr. R. Winder, 18, Abingdon Street, Westminster. S.W.

**HENRY J. MORTON AND CO.,**
2, Basinghall Buildings, Leeds.

**Galvanised Iron Water Cistern**
for Cottage Houses, &c., to contain 50 gallons, 26*s.*; 80 gallons, 31*s.* each; and 140 gallons, 37*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

**Galvanised Iron Pumps**
or Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

**Galvanised Iron Swing Water Barrows**
for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 35*s.* 0*d.* each.

**Prize Medal at the International Exhibition, 1862.**

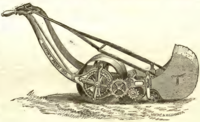
**E. WOLFF AND SON'S SOLID INK PENCILS in CEDAR for GARDEN TALLIES.**—These Pencils are the Best and Cheapest Invention ever used for Writing on Garden Tallies of all descriptions, the action of the air, rain, &c., not having the slightest effect upon them. The advantages resulting from their use are—Firstly, the simplicity of an ordinary lead pencil; secondly, the superiority and portability of a dry pencil over liquid Ink, or Paint; and, thirdly, their reasonable price, which places them within the reach of all classes. These Pencils are also useful for all kinds of Writing, Memoranda, &c.

Price 3*d.* each; extra thick, 6*d.* each.

To be had Retail of all Seedsmen, Nurserymen, and Stationers, and Wholesale at the Manufactory,
22 & 23, Church Street, Spitalfields, N.E.

## MORTON'S PATENT NOISELESS LAWN MOWER.

This Machine Rolls, Collects, and Delivers the Grass, and combines all the most recent Improvements, including those secured by her Majesty's Royal Letters Patent for 1863. For efficiency and simplicity it cannot be surpassed, and can be worked by any one unskilled in Machinery. It is superior to all other Machines yet introduced to the notice of the Public for keeping Lawns and Pleasure Grounds in the highest state of perfection, and is likely to be the Leading Machine of the Season. No place, however small, should be without one.



**Terms, Net Cash.**

| To Cut | £ s. d. | |
|---|---|---|
| 12 ins. | £4 15 0 | *Suitable for a Lady or Gentleman* |
| 14 „ | 5 5 0 | *Suitable for one Person* |
| 16 „ | 6 7 6 | *Suitable for one Man or two Boys* |
| 18 „ | 7 7 6 | *Suitable for one Man and Boy* |
| 20 „ | 8 0 0 | *Do. do.* |
| 22 „ | 8 8 0 | *Suitable for two Men* |
| 24 „ | 8 17 6 | *Do. do.* |

All Machines fitted with Silent Movement, without extra charge.

Catalogues, with Prices, can be obtained free on application to

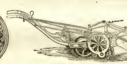
GRIMMOND, LAIRD, AND CO., 15, CANNON STREET WEST, LONDON, E.C.; or to the PATENTEE, CATHERINE STREET ENGINE WORKS, ARBROATH.

*** *Agents Wanted in Every Town. Apply as above.*

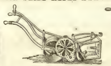
# SHANKS' NEW PATENT
## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

NEW PATENTED IMPROVEMENTS THIS SEASON.

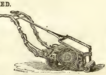
EXHIBITION PRIZE MEDAL AWARDED.



HORSE MACHINE.



PONY MACHINE.



NEW HAND MACHINE.

**SHANKS' NEW PATENT MACHINE**

**Mows the Grass, Wet or Dry, on Lawns uneven or otherwise, in a much neater manner than the Scythe, and at half the expense.**

NO PERSON HAVING A LAWN SHOULD BE WITHOUT A MOWING MACHINE.

The first practical Gardeners of the day who have devoted their attention in examining all the different Lawn Mowers offered, do not hesitate in recommending Shanks' Machine as *the best Mower for general use.* The important Improvements introduced last season have undergone a thorough practical test, and satisfied the most sanguine expectations. *Further Improvements, simplifying the Machine, and adding to its efficiency, have been introduced into the* New Patent Lawn Mower for 1863.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for Use.

**SHANKS' NEW PATENT HORSE MACHINE.**

| Width of Cutter. | £ s. d. | |
|---|---|---|
| No. 1.—48-inch Machine ... | £28 0 0 | *Drawn by a Horse.* |
| No. 2.—42-inch Machine ... | 26 0 0 | *Drawn by a Horse.* |
| No. 3.—36-inch Machine ... | 22 0 0 | *Drawn by a Horse.* |
| No. 4.—30-inch Machine ... | 19 0 0 | *Drawn by a Horse or strong Pony.* |

Patent Delivering Apparatus for Nos. 1 and 2 Machines, 40*s.*; for Nos. 3 and 4 Machines, 30*s.*; Box with complete Set of Tools, 10*s.*; Silent Movement, 20*s.*; Boots for Horses' Feet, 24*s.* per set.

**SHANKS' NEW PATENT PONY and DONKEY MACHINE.**

| Width of Cutter. | £ s. d. | |
|---|---|---|
| No. 5.—30-inch Machine ... ... ... | £15 15 0 | *Drawn by a Pony.* |
| No. 6.—28-inch Machine ... ... ... | 14 10 0 | *Drawn by a Pony.* |
| No. 7.—25-inch Machine ... ... ... | 12 10 0 | *Drawn by a Donkey.* |

Patent Delivering Apparatus for Nos. 5 and 6 Machines, 30*s.*; for No. 7 Machine, 25*s.*; Box with complete Set of Tools, 7*s.* 6*d.*; Silent Movement, 12*s.* 6*d.* Boots for Pony, 21*s.*; Donkey, 16*s.* per set.

**SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.**

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for use.

| Width of Cutter. | £ s. d. | |
|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 17 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 7 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine ... ... | 7 12 6 | *Do. by a Man and a Boy.* |
| No. 11.—16-inch Machine ... ... | £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 2 6 | *Do. by a Boy* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25*s.*; Box, with complete Set of Tools, 5*s.*; Silent Movement, 7*s.* 6*d.*

No. 16.—12-inch Machine for Pushing only, £5 5*s.*; easily worked by a Lady or a Boy; Silent Movement, 4*s.* extra.

**Machines kept in Stock, from which Orders can be at once executed.**

*** *The Machines are warranted to give ample satisfaction, and if not approved of may be at once returned.*

AGENTS:

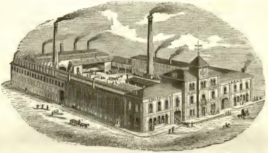
J. B. BROWN AND CO., 18, CANNON STREET, CITY, LONDON, E.C.

# THOMAS GREEN & SON,

SMITHFIELD IRON WORKS, LEEDS,

AND

2, VICTORIA STREET, HOLBORN HILL, LONDON, E.C.



THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOMAS GREEN FOR HIS PATENT LAWN MOWERS.

GREEN'S LAWN MOWERS were the ONLY MACHINES HIGHLY COMMENDED at the ROYAL HORTICULTURAL SOCIETY'S GREAT SHOW HELD at SOUTH KENSINGTON, MAY 21, JUNE 11, and July 2, 1862. (No Prizes were given)

## GREEN'S

## PATENT NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES.

GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.

FOUNTAINS, VASES, GARDEN SEATS, AND GARDEN CHAIRS.

GARDEN ENGINES, SYRINGES, WATER BARROWS AND PUMPS.

HORTICULTURAL AND AGRICULTURAL IMPLEMENTS OF EVERY DESCRIPTION.

**STABLE FITTINGS and ENAMELLED MANGERS.**

ENTRANCE AND FIELD GATES, IRON HURDLES, AND CONTINUOUS IRON FENCING.

PLAIN AND GALVANIZED WIRE NETTING.

☞ *Illustrated Price Lists Free on application.*

**To the Nursery and Seed Trade.**

BROWN'S FLORAL SHADING, the cheapest and best material for protecting Fruit Trees from Frost. Prices on application to CHAS. BROWN, Greenheys, Manchester.

TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½*d.*; 2 yards, 3*d.*; 3 yards, 4½*d.*; and 4 yards, 6*d.* per yard run, in any quantity, may be had at CHAS. WRIGHT'S, 376, Strand, W.C.

VARNISHED FLOWER STICKS:—1 foot, 3*d.*; 1½, 4*d.*; 2, 5*d.*; 2½, 7*d.*; 3, 10*d.*; 4, 1*s.* 6*d.* per dozen. DAHLIA do., per dozen:—3 feet, 1*s.* 6*d.*; 4, 2*s.* 3*d.*; 5, 3*s.*; 6, 3*s.* 6*d.* An allowance to Nurserymen.

TANNED NETTING for the protection of Fruit Trees at 1*d.* per square yard: 200 yards, 14*s.*; 500 yards, 30*s.*; 1000 yards, 50*s.*; SCRIM CANVAS for Wall Fruits; SUN BLINDS, AWNINGS, TULIP COVERS, &c.

Be particular. JOHN EDGINGTON & Co., 17, Smithfield Bars, E.C.; 108, Old Kent Road, S.E.; and 18, Piccadilly, W.

TANNED NETTING, at reduced prices.—1*d.* per square yard; 200 yards, 14*s.*; 500, 30*s.*; 1000 yards, 50*s.* SCRIM CANVAS, for Wall Fruit; GARDEN MATS; GREEN-HOUSE SHADES.

Be particular. FREDERICK EDGINGTON & Co., Rick Cloth Manufacturers, Thomas Street, Old Kent Road, London, S.E.

MR. A. CHANDLER (of the late Firm of CHANDLER & SONS), HORTICULTURAL VALUER, begs to inform his friends and the public that he has REMOVED from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

**Do as Others Do!**

BUY YOUR SEED BAGS from JAMES T. ANDERSON, SACK and BAG MAKER, and RUSSIA MAT MERCHANT, 15, SHERBORNE LANE, King William Street, London, E.C., who will supply you with a first-rate article at a low price. ARCHANGEL MATS, the pick of the season. Russian and Prussian Dunnage Mats.

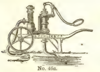
Prices sent free on application.

# BENJAMIN FOWLER & CO.,

MANUFACTURERS OF

## PUMPS AND HYDRAULIC MACHINERY,

WHITEFRIARS STREET, FLEET STREET, LONDON.

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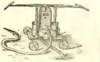
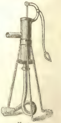


No. 50.

No. 49 a.

No. 4.



No. 38.

No. 49.

THE Landscape Sketch shows an adaptation of THE IMPROVED HYDRAULIC RAM for forcing water to considerable heights and distances to supply Mansions, Farms, &c., where a few feet fall can be obtained. Full particulars of this useful Self-acting Machine can be had on application.

No. 4. FOWLER'S Useful YARD, GARDEN, and COTTAGE PUMPS, from 1*l.* 5*s.* each.
No. 38. FOWLER'S Portable LIQUID MANURE PUMPS, with flexible suction pipe.
No. 46*a.* FOWLER'S DOUBLE-ACTION PORTABLE FORCE PUMPS and FIRE ENGINES for Water or Liquid Manure.
No. 50. FOWLER'S Improved (Holman's Patent) DOUBLE-BARREL FARM FIRE ENGINES and IRRIGATING PUMPS.
No. 49. GARDEN ENGINES of all sizes.
No. 49*a.* Improved SWING WATER CARRIERS, holding 24 and 35 gallons, for Garden Use.

*Further Particulars, Estimates, and Illustrated Price Lists on application.*

# THE HYDROPULT,

**THE HYDROPULT**

IS INVALUABLE FOR

WATERING GARDENS,

EXTINGUISHING FIRE JUST COMMENCED,

PROTECTING a ROOF from FIRE,

CLEANSING TREES from INSECTS,

DRESSING with LIQUID MANURE,

SPRINKLING PLANTS,

WASHING WINDOWS,

WETTING SIDEWALKS,

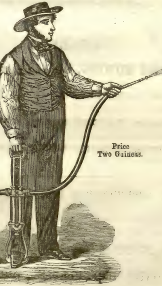
SPRINKLING STREETS,

WASHING CARRIAGES,

WETTING SAILS,

A SPRAY BATH,

&c. &c.



**Price Two Guineas.**

CAUTION.—Unprincipled parties are now palming on the public an infringement of the Hydropult Patent. This is to notify, that said pirates and all persons using or vending this article will, in due time, be prosecuted. No machine contained in a bucket is the Hydropult. Every Hydropult has a Trade Label affixed, as follows:—

"The Hydropult, a Portable Fire Annihilator and Garden Engine.
"GRIFFITH & BROWETT,
Manufacturers, Birmingham;
"CHARLES P. BUTTON,
General Agent.
"VOSE'S Patent;"

and is sold at the uniform rate of Two Guineas, complete, with 2½ feet Suction and 3-feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Fire Jet.

It is an easy matter to imitate the Hydropult in appearance, and thereby deceive the public; therefore this caution.

The Hydropult WEIGHS BUT 8 LB.; will throw 7 or 8 Gallons of Water per minute 50 FEET when worked by the power of one man.

Has been recommended as an efficient FIRE ENGINE by the principal FIRE INSURANCE COMPANIES of GREAT BRITAIN. Thomas Rivers, Esq., the eminent Florist; Shirley Hibberd, Esq., and other well known gentlemen, recommend it as an invaluable GARDEN IMPLEMENT. J. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable Property in Bayswater from destruction. The City and Provincial Press accord to the invention the utmost praise. All who purchase the Hydropult are satisfied with its action; each Machine guaranteed to be perfect.

**AN INVENTION FOR THROWING WATER BY HAND POWER.**

*Prospectus, with Testimonials, on application at either Office.*

HYDROPULT OFFICE: 27, LEADENHALL STREET, LONDON, E.C.; and 309, REGENT STREET.

CHARLES P. BUTTON, PROPRIETOR.

# NEW IMPROVED PREMIUM WIRE NETTING.

GREAT IMPROVEMENT,

WITH REDUCED PRICE.

PRICES PER LINEAL YARD, 24 INCHES HIGH :—

| Size of Mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra Strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 2¼ inch | Hares, Dogs, Poultry ............ | 3d. | 4d. | 3¾d. | 5d. | 4½d. | 6d. | 5½d. | 7d. |
| 2 inch | Game or Poultry Netting ...... | 3½d. | 4¼d. | 4d. | 5d. | 5d. | 6½d. | 6½d. | 8d. |
| 1⅝ inch | Small Rabbits, Hares, &c. ...... | 4d. | 4¾d. | 4¾d. | 6d. | 5½d. | 7d. | 7d. | 9d. |
| 1½ inch | Smallest Rabbits.................. | 5d. | 6d. | 5¾d. | 7d. | 7d. | 9d. | 9d. | 11d. |

Quantities of 100 yards or upwards delivered free at nearly all the principal Railway Stations and Shipping Ports in England; and 200 yards or upwards delivered free to most parts of Scotland and Ireland.

*⁎* *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged or may be returned unconditionally.*

J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.

# PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

## T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices :—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. |
|---|---|---|
| 16 feet by 8 feet... | £8 10 0 | £2 0 0 |
| 20 feet by 10 feet... | 8 17 6 | 2 0 0 |
| 25 feet by 12 feet... | 10 5 0 | 2 5 0 |
| 30 feet by 12 feet ... | £11 15 0 | £2 10 0 |
| 40 feet by 15 feet ... | 15 0 0 | 2 15 0 |
| 50 feet by 15 feet ... | 18 0 0 | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

GARDEN BORDER-EDGING TILES. — These Tiles, manufactured in Terra-Cotta, Terro-Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons :—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are nvaluable.

To be obtained at F. & G. ROSHER'S Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.

Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER, at their Premises as above.

**Paxton Works, Sheffield, Established 1738.**

International Exhibition Prize Medal is just awarded to SAYNOR & COOKE for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are empered by an improved process known only to the Makers.

**Farnham, Surrey.**

FARM TO LET.—Two hundred Acres, more or less, comprising 30 acres well-known productive Hop Land, some valuable Water Meadows, and the remainder Arable Land, situate near the town and within the parish of Farnham, and forming a desirable occupation.

For particulars and to treat, apply to the executors of the late THOMAS SIMMONDS, of Rock House, Farnham, Surrey.

TO BE DISPOSED OF, the Stock and Goodwill of a NURSERY and SEED BUSINESS, in a fine locality near Edinburgh.

Apply to Messrs. JARDINE, STODART, & FRASER, W.S., 31, Princes Street, Edinburgh.

TO BE LET, with immediate possession, for a term of years, The FANT NURSERY, Maidstone. A comfortable Modern Residence, containing Counting House, two Parlours, three Bedrooms, Store Closet, Kitchen, Scullery, Cellar, Pantry, &c. There are two Greenhouses, a Potting House, Frames, &c. 1a. 1r. 7p. of very superior Land around the above, and in a beautiful situation.

For terms apply to Mr. TOOTELL, Land Surveyor, Maidstone.

**Guildford, Surrey.**

TO NURSERYMEN, FLORISTS, SEEDSMEN, MARKET GARDENERS, &c.

TO BE LET, with Immediate Possession, all that truly valuable old-established NURSERY GARDEN and SEED BUSINESS, known as the Guildford Nursery Grounds, in a good state of cultivation, close to the entrance of the town; has been in the same name upwards of 50 years. This opportunity is worthy the attention of those seeking a profitable and increasing business, being the only Nursery near this improving neighbourhood. The present Stock is small and saleable.

Inquire of Mr. DRURY, Guildford, Surrey.

## Sales by Auction.

**Roses, Fruit Trees, Shrubs, &c.**

MR. ARTHUR PLEWS will SELL by AUCTION, at his Great Sale Rooms, 11, Catherine Street, Strand, W.C., on TUESDAY, March 31, at half-past 12 o'clock precisely, an excellent collection of HORTICULTURAL and FLORAL PRODUCE, comprising Apple, Pear, Plum, Cherry, Apricot, and other Fruit Trees; Roses; Ornamental Shrubs, &c.

May be viewed the Morning of Sale, and Catalogues had.

**Valuable Rifles by Westley Richards.**

MR. ARTHUR PLEWS will SELL by AUCTION, at his Great Sale Rooms, 11, Catherine Street, Strand, W.C., on WEDNESDAY, April 1, at 2 o'clock precisely; ELEVEN VALUABLE RIFLES of Government Bore, manufactured by Westley Richards, and admirably adapted for prizes.

May be viewed the Morning of Sale, and Catalogues had.

**Poultry, Pigeons, Rabbits, &c.**

MR. ARTHUR PLEWS will SELL by AUCTION at his Great Sale Rooms, 11, Catherine Street, Strand, W.C., on WEDNESDAY, April 1, at half-past 12 o'clock precisely, a variety of COCHIN, CREVECŒUR, DORKING, HAMBURGH, and other FOWLS, Choice PIGEONS of numerous varieties, DUCKS, &c.

May be viewed the Morning of Sale, and Catalogues had.

NOTICE TO OWNERS.—Property can be Included in this Sale, even if Sent to the Rooms on the Morning of Sale.

SALE THIS DAY, AT HALF-PAST 12.

**Roses.**

HIGHLY IMPORTANT SALE.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on SATURDAY, March 28, at half-past 12 o'clock precisely, 1000 STANDARD, HALF STANDARD, MOSS, and DWARF HYBRID PERPETUAL ROSES, all the newest and best varieties, from one of the first and largest Rose-growers in England; some Fruit Trees, Pinks, and Carnations, &c.

On view the Morning of Sale, and Catalogues had.

**Periodical Sale of Poultry and Pigeons.**

MR. J. C. STEVENS will SELL by AUCTION, at his Great Room, 38, King Street, Covent Garden, W.C., on TUESDAY, March 31, at 12 o'clock precisely, a choice Assortment of POULTRY, consisting of Dorkings, Buff and Partridge Cochins, Spanish, Bramahs, Game, Bantams, Hamburghs, &c., from the Yards of Mrs. Stow, Rev. G. Gilbert, Messrs. Leno, Brown, and other well known Fanciers. Also a splendid Lot of Carrier and other PIGEONS, from Messrs. Oliver, Everett, Else, and others.

On view the Morning of Sale, and Catalogues had.

**Highly Important Sale of Established Orchids.**

MR. J. C. STEVENS begs to announce that he has been favoured with instructions to SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY, April 8, at half-past 12 o'Clock precisely, a valuable COLLECTION of ESTABLISHED ORCHIDS, comprising the following well-known orts.

Aerides quinquevulnerum
,, Fieldingii
,, Lindleyana
,, Warneri
,, rubrum
,, Schrœderi
Calanthe vestita (crimson eye)
Cymbidium eburneum
Cypripedium villosum
,, hirsutissimum
,, Stonii
,, caudatum
,, species nova (Veitch)
Dendrobium albo sanguineum
,, Farmeri
,, Dalhousianum
,, taurinum
,, lutuiflorum
Lælia purpurata
,, elegans
Oncidium Lanceanum
Phalænopsis amabilis
,, grandiflora
,, roseum
,, Schilleriana
,, species nova
Saccolabium Blumei major
,, guttatum
,, Reedi
,, rubrum
Tricopilia crispa
,, suavis
Uropedium Lindeni
Vanda Batemanni
,, gigantea
,, Lowii
,, suavis (Veitch)
,, violacea
,, tricolor, &c , and many other very choice sorts.

On view the Morning of Sale, and Catalogues had of Mr. J. C. STEVENS, Horticultural Auctioneer and Valuer, 38, King Street, Covent Garden, London, W.C.

**To Gentlemen, Nurserymen, Florists, and Others.**

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at the Mart, Bartholomew Lane, E.C. on THURSDAY, April 2, at 12 o'clock, about 300 handsome STANDARD and DWARF ROSES, a first-class collection of Carnations, Picotees, and Pinks; choice Azalea indica, Camellias, Ericas, Cinerarias, and other Plants in bloom, with a fine assortment of American Plants, Fruit Trees, &c.

On view the Morning of Sale. Catalogues had at the Mart, and of the Auctioneers and Valuers, American Nursery, Leytonstone, Essex.

**Stratford, Essex.**

TO GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are directed by Mr. Garvie to SELL by AUCTION on the Premises, Stratford Nursery, Leytonstone Road, and within five minutes walk of the Stratford Station, on the Great Eastern Railway, on WEDNESDAY, April 8, at 11 o'clock, the ground being immediately required for the formation of a new road, the whole of the GREENHOUSE and BEDDING PLANTS, including the usual assortment; also five newly erected Greenhouses, several ranges of Pits and Frames; erection of Shed, Light Spring Cart, Summer House, two capital Nests of Seed Drawers, Shop Fixtures, quantity of Lights: Garden Pots, Bricks, Grindstone, Compost, and numerous other effects.

May be viewed prior to the Sale. Catalogues may be had on the Premises; of the principal Seedsmen in London; and of the Auctioneers, American Nursery, Leytonstone, Essex.

**Important Sale of many Thousands of Choice Greenhouse and Bedding Plants, 30 Greenhouses, and other Effects.**

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, & OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by the Executrix of the late Thomas Gaines, deceased, to submit to an unreserved SALE by AUCTION, on the Premises, Surrey Lane, Battersea, on MONDAY, April 27, and following days, at 11 o'Clock each day, the ground being required for building upon, the whole of the Valuable GREENHOUSE PLANTS, including all the magnificent specimens of Azalea indica, which for so many years have rendered this establishment famous, having obtained prizes at the various Metropolitan Floral Fêtes, and now, being beautifully furnished with bloom, and in such fine condition, offer an opportunity of rare occurrence to gentlemen requiring large handsome specimens for furnishing their Conservatories.

Large double Camellias, Ericas, Epacris, Crassulas, Epiphyllum (sorts); Acacia armata, Callas, Hydrangeas, Daphne indica rubra; a quantity of compact and healthy plants of Gardenias (sorts), Gloxinias, Begonias, double Primulas, Ficus elastica, Roses in Pots, Ardisias, Stephanotis; Show, Fancy, and French Pelargoniums, Scarlet Geraniums, &c. An extraordinary large assortment of Bedding Plants, too numerous to mention; some brilliant varieties of Amaryllis, Hardy and Exotic Ferns, Lilium lancifolium (sorts), &c.; together with 30 Greenhouses, several ranges of Pits, 1, 2, 3, and 4 light Boxes, thousands of feet of 3, 4, and 6-inch Hot Water Piping, Saddle and other Boilers, Erection of Sheds, quantities of Brick, Slate Shelving, Stand Glasses, Garden Pots, Mats, 3 Spring Market Vans, useful Bay Gelding, Brewing Utensils, Iron Roller, Nest Seed Drawers and Seeds, Barrows, Garden Tools, and sundry effects.

May be viewed one week prior to the Sale. Catalogues may be had, 6d. each, returnable to purchasers, on the Premises; of the principal Seedsmen in London; and of the Auctioneers and Valuers, Leytonstone, Essex.

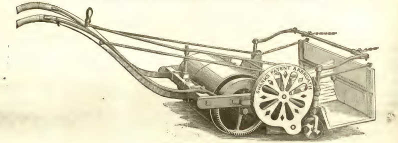
# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

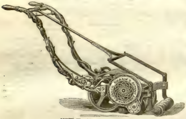
FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.

THE FIRST PRIZE INTERNATIONAL EXHIBITION MEDAL AWARDED.




NEW HORSE MACHINE.

ALEXANDER SHANKS & SON are fully aware that one of the most important considerations in making a Machine fit to be put into the hands of a labourer, to work without any difficulty, is simplicity of construction and arrangement, combined with strength and durability of the whole working parts, and they have much pleasure in intimating that their efforts to attain this end have been completely successful. Their improved Machines for Horse and Pony power, combining with these advantages the additional one of Delivering the Grass without stopping the Machine, make them peculiarly fit for all the purposes of Mowing, whether for Grass Walks, the Flower Garden, or the open Lawn. The style in which the work is executed by all the Machines, whether for Horse, Pony, or Hand Power, cannot be surpassed, and it is quite immaterial whether the Lawn be level or otherwise, or whether the Grass be wet or dry. An immense amount of labour is saved by using these Machines, while the constant action of the Rollers on the Turf greatly improves its appearance.



NEW HAND MACHINE.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved, and their success established.

12-INCH OR LADY'S MACHINE.

A. SHANKS & SON have also introduced into their NEW PATENT HAND MACHINE for 1863 important Improvements, which simplify it, and at the same time add to its efficiency. The whole Machine has been remodelled, and everything tending to increase friction carefully constructed to reduce the draught to the smallest possible amount. The Machines are admirably adapted to mow on uneven Lawns without injury to the Turf. They are fitted with loose Rollers for ease in turning; have Wheels properly guarded, so as to prevent injury to Plants or Flowers, and may be used on a verge, or close to a Flower-Bed, or on the open Lawn without any change of Rollers. The Grass Box is not shown in the above illustrations.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

### SHANKS' NEW PATENT HORSE MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 1.—48-inch Machine ... | £28 0 0 | 40s. extra. |
| No. 2.—42-inch Machine ... | 26 0 0 | 40s. ,, |
| No. 3.—36-inch Machine ... | 22 0 0 | 30s. ,, |
| No. 4.—30-inch Machine ... | 19 0 0 | 30s. ,, |

Silent Movement, 20s. extra; Boots for Horse's Feet, 24s. per set.

### SHANKS' NEW PATENT PONY and DONKEY MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 5.—30-inch Machine ... | £15 15 0 | 30s. extra. |
| No. 6.—28-inch Machine ... | 14 10 0 | 30s. ,, |
| No. 7.—25-inch Machine ... | 12 10 0 | 25s. ,, |

Silent Movement, 12s. 6d. extra; Boots for Pony, 21s. per set; ditto for Donkey, 16s. per set.

### SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.

| Width of Cutter. | | |
|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 17 6 | Easily Worked by Two Men. |
| No. 9.—22-inch Machine ... ... | 8 7 6 | |
| No. 10.—19-inch Machine ... ... | 7 12 6 | *Ditto by a Man and Boy.* |
| No. 11.—16-inch Machine ... ... | £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 2 6 | *Ditto ditto by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25s. extra; Silent Movement, 7s. 6d. extra.

### SHANKS' PATENT HAND MACHINE, for Drawing only.

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

| Width of Cutter. | | |
|---|---|---|
| No. 13.—22-inch Machine ... | £7 5 0 | *Easily Worked by a Man and Boy.* |
| No. 14.—19-inch Machine ... | 6 15 0 | |
| No. 15.—16-inch Machine ... ... ... | £6 5 0 | *Easily Worked by a Man.* |

No. 16.—12-inch Machine, for pushing only, £5 5s. Easily worked by a Lady or a Boy; Silent Movement, 4s. extra.

*** *The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

PATENTEES AND SOLE MANUFACTURERS:

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.

LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

*A Stock of Machines kept at the London Depot, from which Orders can be at once executed.*

Editorial Communications should be addressed to "The Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed by WILLIAM BRADBURY, of 13, Upper Woburn Place, in the Parish of St. Pancras, in the Co. of Middlesex, and FREDERICK MULLETT EVANS, of No. 11, Bouverie St., in the Precinct of Whitefriars, City of London, Printers, at their Office, Lombard St., Precinct of Whitefriars, City of London, and Published by them at the Office, No. 41, Wellington St., Parish of St. Paul's, Covent Garden, in the said Co.—SATURDAY, March 28, 1863.

# SUTTON'S PRICED LIST
OF
## MANGEL WURZEL SEED.

CHEAPER BY THE CWT.

| | Per lb.—s. | d. | | Per lb.—s. | d. |
|---|---|---|---|---|---|
| YELLOW GLOBE ... ... | 0 | 6 | YELLOW OVAL (or Olive shaped) ... ... | 0 | 6 |
| ORANGE GLOBE ... ... | 0 | 6 | RED OVAL (or Olive shaped) ... ... | 0 | 6 |
| RED GLOBE ... ... | 0 | 6 | | | |
| LONG RED ... ... | 0 | 6 | | | |

The above sorts are all fine new Seed, and have been proved to grow well.

### Improved Sorts of Mangel Wurzel.

Per lb.—s. d.

SUTTON'S LARGE YELLOW GLOBE; saved from large roots, selected for their solidity and excellence of shape. A very heavy cropper, and thrives in all soils. This is also the hardiest Mangel known. (*The first Prize Medal was awarded to us for this sort at the Great International Exhibition of Roots and Cereals in October last*) ... ... ... ... ... ... ... 0 8

Presuming that this superior Yellow Globe Mangel will generally be preferred for the main crop, we invariably send this sort, unless the Common Yellow, (see above,) or one of the kinds described below, is mentioned.

SUTTON'S ORANGE GLOBE; beautiful shape, with smaller greens than other sorts ... ... ... 0 8

FISHER HOBBS' ORANGE GLOBE; a very fine and popular sort ... ... ... ... ... 0 8

LONG YELLOW; this is a heavy cropper, and of fine texture. (*A special Prize Medal awarded to us for this at the International Root Show*) ... ... ... ... ... ... ... ... ... 0 8

ELVETHAM LONG RED; an improved sort, in great demand ... ... ... ... ... ... 0 8

*Price per Cwt. on application.*

### Sutton's Mangel Wurzel Seed is Saved Exclusively from Fully Developed Roots,

The advantages of which have been proved for several years past,

(SEE THE FOLLOWING LETTERS.)

These are not mere Testimonials in the ordinary acceptation of that term, but show distinctly that the Seeds which Messrs. SUTTON have had grown from large selected Bulbs are altogether superior in germinating properties, and in the quality and trueness of their produce, to the Seed raised in the usual manner.

P. H. FRERE, Esq., *Cambridge, Editor of the Royal Agricultural Society's Journal.*

"I write to say how well satisfied I am with the Mangel seed that you furnished me with in the late trying season. It was tried on one-half of two fields, the one strong, the other light land, the other portions being sown with seed bought of a respectable local dealer. On the strong land your seed gave me a decidedly better plant—on the light land three or four times as many plants as the other dealer's seed."

*From* Mr. GRAY, *Bailiff to* G. RAWLINS, Esq., *Bullington House.*

"I believe we had one of the finest lots of Mangels and Swedes in the country. We had not quite enough of your seed of Mangel, and *sent elsewhere for some to finish the field, and though sown the same day and with exactly similar treatment, we had not so much weight by one third as on the part sown with your seed.*"

*From the* Right Hon. Lord BERWICK, *Cronkhill.*

"Let me have the same Globe Mangel as last year, which has given me the best crop I ever grew; good both as to bulk of crop, and also in the fineness of roots and freedom from fangs and irregular growth; when pulled, the roots were nearly as clean and free from fibre as a Globe Turnip, and I had 50 loads per acre and more."

*From* GEORGE BEAUMONT, Esq., *Bridgeford Hill, near Nottingham.*

"We have had 4 acres of Mangel (Yellow Globe), three of which were sown with your seed, and one acre with seed grown in this neighbourhood. I am quite sure your seed produced from 8 to 10 tons per acre more than the other. I had nearly an acre weighed (from your seed), and found we had 55½ tons per acre."

Many PRIZES at Birmingham and other Shows throughout the Kingdom have been taken by Messrs' SUTTON's Customers, both for MANGEL and for SWEDES.

PRICED LISTS of other kinds of MANGEL, SWEDES, TURNIPS, GRASSES, &c., will be sent gratis and post free. ☞ *Carriage Free to all parts, except small parcels.*

SUTTON AND SONS, ROYAL BERKSHIRE SEED ESTABLISHMENT, READING.

REDUCTION IN PRICE.

## PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | |
|---|---|---|
| For 30 Tons and upwards ... ... | ... £10 5 0 | per Ton, net cash. |
| For 10 Tons up to 30 Tons ... ... | ... 10 10 0 | " " |
| For 5 Tons up to 10 Tons ... ... | ... 10 15 0 | " " |
| For smaller quantities ... ... | ... 11 0 0 | " " |

The Price will not exceed 12s. per Ton additional if delivered at any other Port in Great Britain.

PETER LAWSON & SON, CONTRACTORS.
GEO. SEAGRAVE & CO., BROKERS.
WILLIAM DIXON & CO., GENERAL AGENTS.

28, KING STREET, CHEAPSIDE; AND 15, LAWRENCE LANE, LONDON, E.C.

LAWES'S MANURES. The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.

Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

POTTER'S GUANO (established 21 years) 7l. per Ton.
POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10l. per Ton.
PURE GYPSUM, 25s. per Ton, bags included.

Address, 28, Clapham Road Place, S.

**Manures for Present Use.**

PERUVIAN GUANO, Genuine as Imported by the Contractors of the Peruvian Government, Deliveries direct from the Docks; NITRO-BIPHOSPHATE (Blood and Offal Manure), Fish Offal ditto (PHOSPHATE); SUPERPHOSPHATE of LIME (made from Bone), see Royal Agricultural Society's Journal, vol. 6, page 2; and all others of known value, may be had on the best terms by application to MARK FOTHERGILL, 23, Great Tower Street, Mark Lane, E.C.

Established 1839.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value.

E. PURSER, Secretary.

116, Fenchurch Street, E.C.

TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,

MANUFACTURED BY THE PATENT

NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),
Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.

Chairman.—JOHN CLAYDON, Esq., Littlebury, Essex.

Particulars of these Standard Manures may be obtained at the Offices. C. T. MACADAM, Secretary.

Or of the Local Agents.

Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex. N.E.

**Established 1848.**

THE BLAYDON MANURES.—Two Prizes were last season awarded, under the auspices of the Rutland Agricultural Society, for Turnips grown with the above Manures, viz.:—

1st.—A Silver Cup, value Five Sovereigns, was given by the Town and Trade of Oakham to Mr. T. W. Fowler, Exton, for the best Turnips (not being Swedes) grown within the County of Rutland. These Turnips were raised with 3 cwt. per acre of the 7l. 10s. Blaydon Manure, used with a moderate dressing of Farm-yard Manure.

2d.—Three Sovereigns (the 2d premium), given by the Right Hon. Viscount Campden, were awarded to Mr. Fowler, Exton, for Swedish Turnips. These Turnips were grown with 3 cwt. per acre of the 7l. 10s. Blaydon Manure, along with a moderate quantity of Farm-yard Manure.

Manufactured by the Blaydon Chemical Company, Blaydon-on-Tyne.

Managing Partner, EDWARD RICHARDSON, Jun.

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.

Extra strong, 3s. per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.

Can be obtained through the principal Nurserymen and Seedsmen in England.

A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.

PAGE & TOOGOOD, Seed Merchants, Southampton.

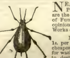
COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2s. per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the PATENT COCOA FIBRE COMPANY, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. BARSHAM & CO.

BARSHAM'S BRUSHES and MATS are sold in every town.

CAUTION.—Every Brush is stamped 'J. BARSHAM'S Patent'



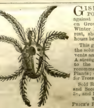
Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. NEAL, Edward Street, Birmingham.



Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1s., 3s., and 10s. 6d. each.

Wholesale by PRICE'S PATENT CANDLE CO., Limited.

**Blight.**

BROWN'S PATENT FUMIGATOR. — A Portable Instrument for Fumigating Greenhouses, Stoves, and Frames, or Shrubs and Flowers in the open air, without injuring the most delicate plant; delivering the smoke cold, in a dense mass, and effecting a great saving of Tobacco. Price 10s. and upwards.

Manufactured and supplied to the Trade by Messrs. BARBER & GROOM, London; and may be had of all Ironmongers, Seedsmen, and Florists.

**New Chrysanthemums.**

JOHN SALTER'S DESCRIPTIVE CATALOGUE of CHRYSANTHEMUMS, including the new varieties, which he will send out this Spring, as well as "HARDY VARIEGATED PLANTS," and other novelties, is now ready, and will be sent post free on receipt of two stamps.

Versailles Nursery, William Street, near Hammersmith Turnpike, London, W.

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**Chrysanthemums, Chrysanthemums.**

J. H. BIRD, F.R.H.S., Nurseryman, Stoke Newington, begs to inform his friends and the public he can supply from his great Stock of the above 20 pairs of the best large Varieties for 10s.; and 25 pairs of best POMPONES for 10s.; 20 pairs of Cuttings of the large Varieties for 5s.; and 25 pairs of Pompones ditto for 5s.

New CATALOGUES ready for one stamp.

N.B. To save trouble all orders to be paid to J. H. Bird, Stoke Newington.

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**Chrysanthemums, Dahlias, Fuchsias, Verbenas, Geraniums, Pelargoniums, Petunias, Calceolarias, &c.**

W. HOLMES'S CATALOGUE of the above is now ready, and may be had in exchange for One Stamp.

P.S. STOCK VERBENAS—The Moor, Foxhunter, Defiance, Dante, Ætna, Fireball, Nemesis, &c., cheap. *Price per 100 upon application.*

Reference or remittance from unknown Correspondents.

Frampton Park Nursery, Hackney, N.E.

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FIRST CLASS NEW FUCHSIAS. — Coloured Drawings by Mr. Andrews of SANSPAREIL, BRIDESMAID, CONSPICUA, and HERCULES, are now ready, and will be forwarded in exchange for 12 postage stamps.

G. S. begs to offer the above as the most Superb FUCHSIAS yet offered to the Public. For description, with price, and also time of sending out, see CATALOGUE, now ready.

George Smith, Tollington Nursery, Hornsey Road, Islington, London, N.

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A PRICED and DESCRIPTIVE CATALOGUE of all the new and leading kinds of Show, Spotted, French, Fancy, Scarlet, and Variegated Pelargoniums, Fuchsias, Verbenas, Petunias, Dahlias, Chrysanthemums, Bedding Plants, &c., is now ready in exchange for one postage stamp.

George Smith, Tollington Nursery, Hornsey Road, Islington, London, N.

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**New Verbenas and Fuchsias. Double and Single Petunias of 1862.**

WM. KNIGHT offers strong well-established Plants of all the best varieties of the above for Bedding or Exhibition, having been one of the most successful exhibitors of the above. Nothing but first-rate proved flowers in their classes are offered. VERBENAS, 5s. per doz.; FUCHSIAS, 6s. per doz.; PETUNIAS, 6s. per doz.

Floral Nursery, Hailsham, near Hurst Green, Sussex.

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**New Plant Catalogue.**

WM. RUMLEY and SON'S NEW DESCRIPTIVE CATALOGUE of New and Choice Fuchsias, Verbenas, Geraniums, Cinerarias, Petunias, Dahlias, Chrysanthemums, Hollyhocks, Phloxes, Calceolarias, Antirrhinums, Tropæolums, Stove, Greenhouse, Bedding, and Hardy Plants, at very reduced prices, is now ready, and may be had on application.

Gilling, near Richmond, Yorkshire.

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**Notice.—American Plants.**

WATERER and GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by Waterer & Godfrey, Knap Hill, near Woking.

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**Genuine Seeds.—Carriage Free.**

WM. CUTBUSH and SON beg to intimate that they are now prepared to execute orders for GENUINE GARDEN SEEDS, for which their house is extensively known.

Mr. C. gives his personal attention to this branch of our business, and we can confidently recommend all offered as being of the best quality, at as moderate prices as consistent.

CATALOGUES free on application.

Highgate, London, N.

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**Hardy Scarlet and other Choice Rhododendrons.**

JOHN WATERER'S CATALOGUE of the above popular plants, as exhibited by him at the Royal Botanic Gardens, Regent's Park, is now published, and will be forwarded to all applicants.

It describes faithfully the colours of all the Rhododendrons, thereby rendering every facility for making selections.

It likewise contains an abridged List of really Hardy Conifers, with their heights and prices.

The American Nursery, Bagshot, Surrey.

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**Bedding Plants, mostly 2s. 6d. per dozen.**

J. SCOTT'S FLOWER GARDEN and ANNUAL DIRECTORY will be ready to forward, from the 1st week of April, at 6d.

"All who wish to have their Gardens gay, at a moderate price, should procure the above."

Merriott, Crewkerne, Somerset.

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**Bedding Plants.**

MARSH and PERKINS, 42, Drapery, Northampton, have pleasure in offering the following strong autumn-struck Plants:—

TOM THUMB GERANIUMS,
CALCEOLARIA AUREA FLORIBUNDA,
" MACKAYII,
" PRINCE OF ORANGE.
} 8s. per 100 when equal quantities of each are taken.

N.B Cash or reference from unknown correspondents.

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RUSSELL'S PYRAMID PRIMULAS.—Seed of this unequalled strain is now ready, in packets, price 2s. 6d.

The great satisfaction which these kinds have given in previous seasons, renders further comment on their merits unnecessary. The additional care taken however in saving the seed last year will probably result in producing flowers much superior to any ever seen.

Printed notes on raising them, and their culture, forwarded with each packet; payment can be made in postage stamps.

George Clarke, Nursery, Streatham Place, Brixton Hill, London, S.; and 4, Windsor Terrace, Pimlico, S.W.

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## ANNUAL GRAND EXHIBITION of UNFORCED HYACINTHS

# MESSRS. ARTHUR HENDERSON & CO.'S

ANNUAL DISPLAY of the above GALAXY of FLOWERS will be held in the LAPAGERIA HOUSE, Commencing April 1, and ending on April 12.

THE NURSERIES, PINE APPLE PLACE, EDGWARE ROAD, LONDON, W.

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## SPLENDID NEW SCARLET VERBENA, LORD LEIGH.

# S. PERKINS & SON,

In offering the above SCARLET VERBENA, have much pleasure in stating that it has been awarded a First-Class Certificate by the Floral Committee of the Royal Horticultural Society, June 11, 1862; First-Class Certificate by the Royal Botanic Society, July 9; First-Class Certificate at the Crystal Palace, Sydenham, Sept. 4 and 5; First-Class Certificate by the Rugby Floricultural Society, August 29; First Prize by the Birmingham Botanic Society, July 10.

After the above Awards, S. P. & Son think it needless to offer any remarks, further than that it is of a free habit and will prove a first-class Bedding variety; colour the most dazzling scarlet that can be conceived, with a clear white eye; truss and pip extremely large, and of the finest shape and quality.

See Editor's remarks in *Gardeners' Chronicle*, August 30, 1862, and December 27, 1862; "Journal of Horticulture," Sept. 9, 1862. An Engraving will appear in the April Number of the "Florist and Pomologist."

**Plants after April 15, 5s. each. Special Price by the dozen on application to the**

PARK NURSERY, COVENTRY.

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## NEW SHRUBBY CALCEOLARIAS.

# MESSRS. JOHN & CHARLES LEE

Having purchased the entire stock of Seedling SHRUBBY CALCEOLARIAS, raised by Mr. Watson, of St. Alban's, in 1861 and 1862, have selected four distinct colours, which they intend to offer to the Public the first week in May. They are the finest high coloured Shrubby Calceolarias yet raised, and in point of habit and quality are everything that can be desired for bedding or pot culture. They are decidedly shrubby and of good constitution, with a dwarf spreading habit and good foliage. The flowers rise just above the leaves, forming an even mass of exquisite colouring.

**Price 5s. each, or 15s. the set, as under:—**

PRINCESS ALEXANDRA.—Rich orange buff, of very dwarf habit, free blooming and conspicuous. Quite a new colour in Calceolarias.

MAGNIFICENT.—Deep orange flowers, of large size with close mouth, flower stalks short and stiff, a good dense habit, and first-rate in every respect.

PRINCE LOUIS of HESSE.—Rich crimson flowers of medium size, free blooming, habit very dwarf and showy.

FIREFLY.—Intense orange scarlet flowers of good size, free blooming dwarf habit, the brightest colour yet raised.

*Terms to the Trade on application.*

ROYAL VINEYARD NURSERY AND SEED ESTABLISHMENT, HAMMERSMITH, LONDON, W.

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## NEW PLANTS FOR 1863.

# B. S. WILLIAMS,

PARADISE and VICTORIA NURSERIES, HOLLOWAY, LONDON, N.,

Has much pleasure in offering the following NOVELTIES for the first time, to be sent out after April 20:—

**New Achimenes.**

The following choice varieties are the seedling productions of that successful gardener, Mr. Parsons, of Welwyn, and they will be found great acquisitions to this beautiful class of plants, and quite equal to the descriptions given:—

ACHIMENES MAUVE QUEEN.—This splendid variety is, without exception, the finest of all that useful and most desirable class of summer-flowering plants; a great improvement on longiflora major; producing an abundance of beautiful large mauve-coloured flowers, with a conspicuous light chocolate eye, splendid form, and of extraordinary waxy substance. Was exhibited by the Raiser at the Floral Committee of the Royal Horticultural Society, and was awarded a First-class Certificate. Figured in the "Floral Magazine," November, 1862. Price 10s. 6d. each.

ACHIMENES CARMINATA ELEGANS.—Another beautiful variety, and is, without doubt, the finest of the small and free-flowering sections, producing spikes 18 inches in length; being of good branching habit, is capable of producing specimens 3 or 4 feet in diameter, thus making it a charming object for the summer and autumn months. Price 7s. 6d. each.

*** Coloured Illustrations of each of the above by Andrews will be forwarded in exchange for six postage stamps.

**New Petunias.**

The following valuable varieties were raised by Mr. Holland, of Isleworth, and are a small collection selected from a large quantity of Seedlings. They are confidently recommended for general excellence, being great improvements on all others previously offered.

PETUNIA CRIMSON GEM.—A compact branching and free growing variety; flowers of a soft velvety crimson, with dark throat; of great substance and fine form; an improvement on Phaeton and all in that way. This is, without exception, the highest coloured Petunia yet offered. Received a First-class Certificate from the Royal Botanic Society, May, 1862. Price 5s. each.

PETUNIA FLOWER OF THE DAY.—This remarkable flower has four broad stripes of pure white, and four bright purple above, equally divided; very constant and beautiful. Received a First-class Certificate from the Royal Botanic Society, May, 1862. Price 5s. each.

PETUNIA ROSA BELLA FORME.—A free flowering and shrubby variety, of first-class habit for bedding and other purposes, being of short jointed growth; producing an abundance of beautiful bright Magenta flowers, with a clear white throat, of great substance and perfect form. This will, without doubt, prove to be the best bedding Petunia yet offered. Price 5s. each.

*** Coloured Illustrations of Petunia Rosa Bella Forme, and Flower of the Day, by Andrews, will be forwarded in exchange for six postage stamps.

**New Zonale Geranium.**

CONQUEROR OF EUROPE (Holland).— Beautiful soft carmine; fine form and substance; extra large truss; long flower stalks, producing enormous heads of bloom well above the foliage; good and compact habit; fine for pot culture Was awarded a First-class Certificate at the Royal Horticultural Society's meeting, June 1862. Price 5s. each.

PARADISE and VICTORIA NURSERIES, HOLLOWAY, LONDON, N.

ROYAL HORTICULTURAL SOCIETY.—
FRUIT COMMITTEE.

A MEETING of the Fruit Committee will be held on WEDNESDAY, 15th inst., when the following Prizes are offered:—

| | First prize. | Second prize. |
|---|---|---|
| CLASS A.—For the best three dishes of DESSERT APPLES, distinct sorts .. .. .. .. | 15s. | 10s. |
| „ B.—For the best three dishes of KITCHEN APPLES .. .. | 15s. | 10s. |
| „ C.—For the best dish of STRAWBERRIES, 30 fruits .. .. | 20s. | 10s. |

And for the Examination of any other Fruits or Vegetables that may be submitted for the opinion of the Committee. Chair to be taken at 12 o'clock.

Packages to be delivered at the Rooms at South Kensington, W., by 11 o'clock on the day of Meeting, and along with any communications, to be addressed to

ROBERT HOGG, LL.D., Secretary to the Committee.

ROYAL HORTICULTURAL SOCIETY.
FLORAL COMMITTEE.

LIST OF AWARDS, March 31.

FIRST CLASS CERTIFICATE.

CAMELLIA FILIPPO PARLATORE.
ANTHURIUM SCHERZERIANUM.
DENDROBIUM LITUIFLORUM.
} From Messrs. Veitch & Son, Chelsea.

SECOND CLASS CERTIFICATE.

PRIMULA SINENSIS FILICIFOLIA RUBRA.
PRIMULA SINENSIS FILICIFOLIA [ALBA.
AMARYLLIS BRILLIANT.
} From Messrs. E. G. Henderson & Son, St. John's Wood.

COMMENDATION.

FORCING PELARGONIUM, MRS. LEWIS LOYD, from Messrs. Jackson & Son, Kingston.
WALLFLOWER, YELLOW PERFECTION, from F. J. Graham, Esq., Cranford.
AMARYLLIS, FIRE KING, from Mr. W. Bull, Chelsea.

SPECIAL CERTIFICATE.

To Messrs. E. G. Henderson & Son, for a collection of Flowering Plants.

The next MEETING of the Committee will take place on April 15, in connection with the Azalea and Rose Spring Show.

THOMAS MOORE, Secretary to the Committee.

ROYAL BOTANIC SOCIETY of LONDON.—
AWARDS of PRIZES, MARCH 28, 1863.

12 HARDY CONIFERS.
1st prize, to Mr. J. Standish, Nurseryman, Ascot

6 CAMELLIAS in Pots (Amateurs).
2d do., to Mr. W. Young, Gr. to R. Barclay, Esq., West Hill, Highgate

6 CAMELLIAS in Pots (Nurserymen).
1st prize, to Messrs. J. Veitch & Son, Nurserymen, Chelsea

12 CAMELLIAS, Cut Blooms (Amateurs).
1st prize, to Mr. F. Todman, Gr. to R. Hudson, Esq., Clapham Common

12 CAMELLIAS, Cut Blooms (Nurserymen).
1st prize, to Messrs. J. & C. Lee, Nurserymen, Hammersmith

12 CYCLAMENS.
1st prize, to Mr. J. Holland, Gr. to R. W. Peake, Esq., Spring Grove, Isleworth
2d do., to Mr. J. Wiggins, Gr. to W. Beck, Esq., Worton Cottage, Isleworth
3d do., to W. W. Howard, Gr. to B. Edgington, Esq., Wandsworth

12 CHINESE PRIMROSES.
1st prize, to Mr. F. Todman, Gr. to R. Hudson, Esq., Clapham Common
2d do., to Messrs. W. Cutbush & Son, Nurserymen, Highgate

6 CHINESE PRIMROSES (double-flowered).
1st prize, to Messrs. F. & A. Smith, Nurserymen, Dulwich

6 MISCELLANEOUS FOLIAGE and FLOWERING PLANTS.
1st prize, to Messrs. J. Veitch & Son, Nurserymen, Chelsea
2d do., to Mr. W. Bull, Nurseryman, Chelsea
3d do., to Messrs. J. & C. Lee, Nurserymen, Hammersmith
4th do., to Mr. B. S. Williams, Nurseryman, Holloway
4th do., to Messrs. A. Henderson & Co., Nurserymen, Edgeware Road

MISCELLANEOUS PRIZES.
Silver Medal, to Messrs. Paul & Son, Nurserymen, Cheshunt, Herts, for 7 Boxes of Roses
Small Silver Medal, to Messrs. Paul & Son, Nurserymen, Cheshunt, Herts, for Collection of Roses in Pots
Ditto, to Messrs. W. Cutbush & Son, Nurserymen, for 100 Hyacinths
Ditto, to Mr. W. Paul, Nurseryman, Waltham Cross, for 6 Boxes of Roses
Ditto, to Mr. W. Bull, Nurseryman, for a Group of New and Rare Plants
Bronze Medal, to Mr. J. Standish, Nurseryman, for 6 Camellias
Ditto, to Messrs. W. Cutbush & Son, for 50 Tulips.
Ditto, to Mr. W. Paul, Nurseryman, for Collection of Hyacinths
Small Bronze Medal to Messrs. W. Cutbush & Son, for 12 Amaryllis
Do. to Mr. W. Paul, Nurseryman, for Collection of Tulips.
Do. to Mr. J. Cross, Gr. to Sir F. H. Goldsmid, Bart., for 6 Greenhouse Plants
First Class Certificate of Merit to Messrs. E. G. Henderson, Nurserymen, St. John's Wood, for Amaryllis Brilliant
Do. to Messrs. E. G. Henderson & Son, for Primula sinensis filicifolia alba
Do. to Messrs. E. G. Henderson & Son, for Primula sinensis filicifolia rubra
Do. to Mr. W. Young, Gr. to R. Barclay, Esq., for Pandanus elegantissimus
Do. to Messrs. J. & C. Lee, Nurserymen, for Pandanus elegantissimus
Do. to Mr. W. Bull, Nurseryman, for Pandanus elegantissimus
Do. to Messrs. A. Henderson, Nurserymen, for Pandanus elegantissimus.
Do. to Mr. J. Standish, do., for Skimmia japonica vera
Do. to Mr. J. Standish, do., for Skimmia, new sp. from Japan
Do. to Messrs. J. Veitch & Son, do., for Camellia Filippo Parlatore
To Mr. W. Bull, do., for Trichomanes anceps
Do. to Mr. B. S. Williams, do., for Caladium Lowii
Do. to Mr. B. S. Williams, do., for Phalaenopsis Schilleriana, a superior variety
Do. to Messrs. A. Henderson, do., for Dracaena cannaefolia
Second Class Certificate of Merit to Mr. W. Bull, do. for Nephalaphyllum cordatum.
Do. to Mr. W. Bull, do. for Amaryllis Fire King
Do. to Messrs. J. Veitch & Son, for Camellia Giardino Santarelli
Do. to Mr. J. James, gr. to W. F. Watson, Esq., for Cineraria Emperor
Do. to Messrs. F. & A. Smith, Nurserymen, for Azalea Surprise
Do. to Messrs. F. & A. Smith, Nurserymen, for Hemerocallis elegans fol. var.

March, 1863. JAMES FLOOD.

ROYAL HORTICULTURAL SOCIETY.—The FLORAL COMMITTEE proposes to undertake during the present season an examination at Chiswick of the varieties of the following Flowers, namely:—HOLLYHOCKS, BEDDING and POMPON DAHLIAS, LANTANAS and CANNAS, together with NOVELTIES in the classes already reported on, especially PELARGONIUMS, VERBENAS, PENTSTEMONS, FUCHSIAS, and ANNUALS.

The Growers of these flowers, and the raisers of Seedlings are invited to send collections and novelties for comparison.

Contributions of this nature for the use of the Committee should be addressed to Mr. Eyles, Royal Horticultural Society, Chiswick. THOMAS MOORE, Secretary to the Committee.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

NOTICE is hereby given that an ELECTION of TWO PENSIONERS on the Funds of this Institution will take place in JULY NEXT. All persons desirous of becoming Candidates are required to send in their Testimonials and Certificates to the Committee on or before SATURDAY, April 25, after which time they will not be received.

Preference will be given to those persons who have been Subscribers for 15 years and upwards, but should there not be a sufficient number of that class of applicants, then the claims of those who have not been Subscribers so long, or not at all, will be considered.

Printed Forms of Petition can be had upon application to the Secretary. By order. EDW. R. CUTLER, Secretary.
14, Tavistock Row, Covent Garden, W.C., April 4.

Superb Double Hollyhocks.
THIS BEING THE BEST TIME FOR PLANTING THEM OUT.

WILLIAM CHATER has an immense stock of healthy Plants.
CATALOGUE of PRICES to be had on application.
WILLIAM CHATER, Nurseries, Saffron Walden.

Superb Hollyhocks.

R. B. BIRCHAM begs to state that he has a very large Stock of fine healthy Plants now ready for planting out, and shall be happy to supply orders upon the most liberal terms.
CATALOGUES sent upon application.
Hedenham Rosery, Bungay, Suffolk.

Select Double Hollyhocks.

WILLIAM PERRY begs to announce that he has for SALE a good and healthy stock of Young Plants of the above that will flower well this season. If selection is left to W. P., the price per dozen will be 9s., 12s., 18s., 24s., 30s.
Sawbridgeworth, Herts.

International Exhibition Prize Medals 1851 and 1862.
AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

BUTLER AND McCULLOCH,
Covent Garden Market, London, W.C.
(Established upwards of a Century.)

COLLECTIONS of FLOWER SEEDS, Carriage Free.

NEW ANNUALS.

| | | | |
|---|---|---|---|
| 12 Extra fine varieties | 10s. 6d. | 6 Extra fine varieties | 5s. 0d. |

HALF-HARDY ANNUALS.

| | | | |
|---|---|---|---|
| 100 Finest selected vars. | 30s. 0d. | 25 Finest selected vars. | 7s. 6d. |
| 50 do. do. | 15 0 | 12 do. do. | 4 0 |

HARDY ANNUALS.

| | | | |
|---|---|---|---|
| 100 Finest selected vars. | 20s. 0d. | 30 Finest selected vars. | 5s. 0d. |
| 50 do do. | 10 0 | 15 do. do. | 2 6 |



# The Gardeners' Chronicle.

SATURDAY, APRIL 4, 1863.


MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| WEDNESDAY, | April 8 | Microscopical .. .. .. .. | 8 P.M. |
| | | Society of Arts .. .. .. | 8 P.M. |
| SATURDAY, | — 11 | —Royal Botanic (Spring Show) .. | 2 P.M. |

A VERY interesting paper by Prof. COHN has lately appeared in the Transactions of the Silesian Horticultural and Agricultural Society, of which an excellent abstract was given by Mr. ARLIDGE in the March number of TAYLOR'S Annals of Natural History. A great portion of the observations is far too abstruse for general reading; it may not however be uninteresting to give some notice of the objects of the memoir.

Various instances of IRRITABILITY IN THE VEGETABLE WORLD have long been recorded, and more or less carefully examined, a large portion of them being manifested by the stamens, which, it may be observed, are almost the only organs in which a measurable increase of temperature has been observed, and that at the time when their functions are brought most actively into play. The phenomena which take place at that period in *Berberis*, *Parietaria*, *Cactus*, *Cistus*, &c., are well known to most botanists, while the leaves and stems of various plants also exhibit analogous phenomena.

Professor COHN has more especially examined the irritability of the stamens in the *Cynareæ*, which is of especial interest as giving a striking instance in support of Mr. DARWIN'S favourite notion, that one great object in nature is to prevent self-impregnation.

If a floret of some *Centaurea* is isolated and its corolla carefully cut away on one side, "the filaments which have hitherto been straight and in close apposition with the central style are seen to curve themselves outwards, leaving their terminal anthers still closely applied to the upper part of the style. This bending proceeds until it reaches its maximum, when each filament stands out in a half circle from the style. On now touching a filament with a needle, they all, so to speak, collapse and resume their vertical direction and close apposition with the style. Bearing in mind the fact that the filaments are fixed at their two extremities (at the upper by the anthers which are immoveable, and at their lower by their insertion into the receptacle of the floret), it becomes evident that to produce the remarkable curvature they exhibit, they must undergo considerable elongation." This elongation, indeed, amounts to as much as a fourth or seventh of the whole length of the filament. The touch of the needle therefore induces a contraction, and this it appears is in direct proportion to the intensity of the action. Electricity and other agents have a similar effect.

The theory that such effects are due to mechanical action, or to the principle of endosmose and exosmose as explained by DUTROCHET, has long since been regarded with dissatisfaction, and all wiser philosophers seem agreed in referring it to something like nervous energy, though since there are no nerves and muscles as in the higher animals, it must be regarded rather, as more strictly analogous to that irritability which is exhibited by some of the lowest members of the animal world.

At present it seems premature to determine in what precise organ this exists, though it is probable that the elasticity which tends to restore matters to their normal condition after the irritability has subsided resides in the outer cell wall.

A correspondent asks us whether the simultaneous effect produced on the several filaments by the irritation, of one is not in some degree similar to the universal collapse of the electrified hairs of a figure-head attached to an electrifying machine when one is touched. That there is some analogy cannot be denied, but analogy may exist where causes are very different. The effect, whatever it is, must be communicated rapidly from cell to cell; but whether it be the same in kind with nervous energy in animals, or whether that may not be a mere modification of electricity, as Dr. FARADAY has long since conceived respecting galvanism, chemical affinity, or magnetism, is a question which at present scarcely admits of an answer.

As however a measurable increase of temperature has been observed in plants at one period only, though it is more than probable that actual changes of temperature take place under other circumstances, though not sufficiently intense to admit of estimation, so it is probable that though certain tissues only exhibit signs of irritability, all may possess the same quality, though in a less degree, and one which we are incapable of measuring.

As regards the irritability of the stamens of *Cynareæ* in particular, it may be observed that the anthers and stigmata are not matured at the same time, so that the effect of irritability is to discharge from the anthers little pellets of pollen, destined by the action of insects to fertilise other florets in which the stigmata are in a proper state for causing the germination of the pollen grains. The pollen of a particular floret will, therefore, never fertilise its own stigma, an instance similar to the numerous examples which have been so luminously displayed in Mr. DARWIN'S admirable work on the fertilisation of Orchids. *M. J. B.*

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IN a recent number of the *Floral Magazine* we observe excellent figures of a charming CARNATION and a PICOTEE, brought out by Mr. TURNER, of Slough. Along with them appeared the following observations by the Editor.

"There can be no question but that the growth of these flowers has very considerably diminished in the metropolitan district for some time past, a fact which we believe may be taken, not as an evidence of any growing unpopularity, but of the value of that healthy stimulus which public exhibitions give to the growth of flowers; as a rule, they come into flower after the great shows are over, and even at them, when they are in bloom, but little encouragement is given to exhibitors, and hence gradually people give up that which few people see, and which is only confined to a select class of *cognoscenti*. Mr. CHARLES TURNER, of Slough, does indeed send sometimes boxes of marvellous blooms, but they are either labelled not for competition, or thrust into that marvellously heterogeneous class 'miscellaneous,' and are probably awarded a 5s. prize. These observations do not apply to the northern or midland districts; there, new flowers are annually raised, and exhibitions are expressly held for them; and the fact that there is a National Show of them, manifests that they are somewhere in the country in considerable favour: we are only referring to the decline of the interest in them around London.

We see that the northern florists are contemplating the formation of a Society for the Encouragement of Florists' Flowers there, it having been found that the difference of latitude makes a very material difference in the time in which flowers come into bloom."

It may be true that these beautiful flowers are insufficiently rewarded; we ourselves are of that opinion. But another cause for the decline of their popularity may be perhaps assigned with greater truth. It is now expected of all show plants that they should have good foliage, or at least not bad. Lovers of gardens are not satisfied with the transient colours of a Pink or an Auricula; ephemeral beauty is disregarded, and men desire that when flowers are away, agreeable foliage should be present. Now it is difficult to conceive anything less attractive than the "grass" of a Carnation. In the late Exhibition, we had specimens of what was undistinguishable from the real thing, although made of paper or muslin; but if leaves not distinguishable from those of nature can be made artificially out of such materials, why have the trouble of growing natural leaves? Why waste time and money upon producing with infinite care what a ballet-girl can buy for a penny, or herself make for less?

This is, we suspect, the true history of the unpopularity of Carnations and Picotees, and until that difficulty can be got over, we fear that no revival of popularity can be expected.

—— The production of tolerable samples of Tree Mignonette has generally been regarded as something of a feat in gardening; and hence we must confess to having felt some interest as to what was to be the result of competition in these subjects, stimulated by the liberal prize offered for their production at a late show at South Kensington. We must confess further to a feeling of disappointment at the actual result. Not, indeed, that we for a moment question the fact that a large amount of skill had been expended in the rearing of such gigantic specimens as were brought from the garden of Lord Londesborough, for on this score we believe both great credit and the full amount of the prize to have been fairly won by Mr. Richards. But this only made it the more evident that huge Tree Mignonettes are a mistake, and our regret was rather that so much skill should have been wasted upon the production of objects so unsightly, without one redeeming feature of grace or beauty to compensate for their mop-headed ugliness. Had the same amount of skill been devoted to the production of pyramidal plants, such as were to be seen on a smaller scale at the same show, an exhibition of much more pleasing and useful character would have been the result. Small samples of well proportioned Tree Mignonettes, well-grown, and well-flowered, are indeed sometimes admissible, when of a size which will permit of their being associated with the ordinary flowering plants commonly employed for the decoration of conservatories; but trees of 5 feet high, with heads of a couple of feet through or more, incapable of bearing up their own weight without the aid of an unsightly prop, however meritorious they may be as examples of skilful cultivation—and they were in this case highly meritorious—are not to be approved as exhibitions of refined taste.

—— The Fern-leaved Chinese Primroses, which were alluded to at p. 296, have again made their appearance at the floral meetings of the past week, and prove to be far better than the figures of them represent. There is about them a degree of vigour which cannot fail to recommend them to the notice of cultivators; while their distinct and elegant foliage will always render them ornamental, even when flowers are not present—the flowers themselves moreover being fully equal to those of good breeds of the ordinary fringed varieties. This being so, we have no hesitation in stating that they are highly deserving of general cultivation.

—— In the same page (296) as that just referred to, a slight error occurs in reference to the name of the Verbenas figured in the *Florist*: the variety which is spoken of as Lord Clyde should have been called Lord Craven. It is, as we have already stated, one of the most meritorious of the novelties of last year.

## FERNS AND FERNERIES.—No. II.

*(Continued from p. 269.)*

Presuming that you have been able to adopt dimensions sufficiently large—for instance, suppose a length of 9 to 12 feet, and a width of 6 or 8 feet, the shorter measurement being from the window entrance—you will now procure several barrow loads of broken bricks and lime rubbish. The crumbling remains of one of those old garden walls, so frequently removed in these days for the clearing of "eligible building sites," will suit us admirably; let this be laid to the depth of 6 inches or somewhat more, throwing it in carelessly over the bottom. Then you should, if you have opportunities among your acquaintance, collect some stones such as those used in constructing the unpicturesque walls dividing the fields or bounding the roads in Derbyshire, Somerset, or Wales. If, however, you have no means of obtaining these, you must have recourse to the next brick-field, where, if the proprietor has been unlucky with his recent kilns, you may possess yourself, at the expense of the cost of their carriage, of a quantity of burnt bricks or burrs. Setting aside some of the most crooked and unbricklike—shall we say the most "amorphous" of these for after use as "rockwork," let the remainder be heaped in irregularly, but yet with so much attention to a studied variety of elevation as will result from your placing them one on the other to a height of 3 or 4 feet at the corner towards the noonday sun; at the corner diagonally opposed to this to a height of from 12 to 18 inches. At the two remaining angles let the heaps rise to a height mid-way between these extremes; you have then a space somewhat out of the centre, upon which no stones have been placed—a valley we may say, from which in rugged masses your mountains rise in irregular slopes on every hand. You have now provided for that thorough drainage which is above all things essential. Next, throw in sufficient bog-earth, or peat mould, to form a stratum of about six inches (as loosely thrown in) over all this, digging it in among the crevices of your previous work, but without caring absolutely to fill them up; and you are ready to begin your planting.

In procuring your Ferns there are, if not more, yet three methods you may elect to follow:—the one, by purchase from those that sell—this is the easiest perhaps, but the least interesting; another, by begging of your country friends—this plan creates agreeable obligations and is a good one; the last is the digging them up yourself in the localities in which they grow—and this without question is the best plan of all, for as you gather each you learn its habits, and its natural conditions, and these in each case you have to endeavour to imitate. In the first establishment of a Fernery, however, either plan is too gradual in practice. A combining of them all, and in the order in which I have stated them, will probably succeed the best; yet let the filling your Fernery be gradual—at least extended through the spring and summer; they will thrive the better the following year. In reference to the digging up of Ferns in their native homes, I may here caution you against trusting to a trowel purchased of the ironmonger. When you have just succeeded in moving a fine "Mas" or "Hart's-tongue," on which you have set your affections, it will infallibly break in your hands. Provide yourself instead with one of steel; employ to make it a surgical instrument maker, and let it be so fashioned that the handle and blade may be of one piece of metal, the width at the greatest being not more than two inches, tapering to a point. The concave side should be hollowed in a section of a circle of about six inches; the other, being rounded to a section of much smaller diameter, will leave sufficient strength in the middle line, and cause the edges to be sharp; the handle part will have rivetted upon it a piece of hard wood, to make it of a shape and size convenient to hold, without being inconveniently heavy, which it would be were it wrought to a rounded form in solid steel.

The stronger British species, Filix-mas, Filix-fœmina, and dilatata may be planted in this mould, near your outer wall, filling in with fresh earth to each as you proceed, and banking up with the rugged pieces of stone which have been set aside for this purpose. The last named may be placed high up in your rockwork, having somewhat of a drooping character when well grown. Lobatum and aculeatum may be placed within these; then the smaller kinds, for instance, Polypodium Phegopteris, Thelypteris, and Oreopteris. Several hardy exotics may be introduced as you work upwards on either hand, and with these you will find the refuse of Cocoa-nut fibre work, lately so much commended by the gardeners, very useful. Towards the higher parts of your rockwork place Aspl. Trichomanes, and on the sunny side the Ceterach, if planted among broken tiles and decayed mortar, will perhaps be so amiable as to grow. Crown the uppermost ridge with the common Polypody, obtaining this, if you can, attached to the rugged stump of a pollard, as it grew. In the foreground, in the shady hollow we have carefully preserved for our favourites, you should have a specimen of the Killarney Fern, Trichomanes speciosum, that its delicately cut fronds and very curious fructification may be easily examined; and near to it Aspl. marinum may be placed, using with this some sand. Allosorus crispus is a beautiful small Fern, but rebels against much nursing, and will only grow in a dry, yet shaded corner. The Davallias are also very fastidious, and are not fond of so moist an atmosphere as delights most others of their kind. For Polypodium calcareum you must supply a quantity of small broken limestone, that he may be pleasantly reminded of his native haunts at Cheddar cliffs, just as Ceterach, which I lately mentioned, must be cheated into the belief that he is rooted in a churchyard wall. Should you have room for those magnificent, although in some localities common Ferns, Osmunda regalis and Scolopendrium vulgare, place under them a garden saucer, or what would be better, a fragment of a larger earthen pan, such as will sufficiently retain water within reach of their roots, but yet not restrain or cramp their growth. Several Adiantums will also thrive well; these require leaf-mould mixed with sand. Hymenophyllum will grow luxuriantly if simply laid upon a garden saucer turned upside down, over which some sand has been previously sprinkled. This last, and Trichomanes, will need that a bell-glass be kept over them till they are well rooted and established.

We have yet said nothing of Pteris aquilina, the most common, most hardy, and free growing of British Ferns; sometimes so grandly graceful as it climbs among the bramble, sometimes in a shorter growth sheltering the young deer: in old times the cottage thatcher's frequent resort, and even now serving for a bed, and a healthy one too, to the farm labourer's family. The fact is, this strong savage, like many another, is most difficult to tame. Fibrous masses dug up with a spadeful of forest earth will occasionally surprise you in the spring, by shooting up in bright green little crooks, developing into luxuriant thick stemmed plants, covered with short hair, yet weakly and needing support; one or two will overshadow their neighbours. But now perhaps, the analogy with the human savage may be still recognised in this—early in autumn they will wither, and in the succeeding year their place will know them no more.

Several kinds of Lycopodium make a beautiful green undergrowth, and in a short time will quite conceal the earth and even the rockwork. Especially L. denticulatum is useful in this, protecting the young and tender fronds, without checking their development. But root out all Ivy, and of course every blade of Grass as it shows itself; and besides (and here I advise with much regret) destroy each plant of Oxalis. Destroy it remorselessly and before it blooms, or you will not have the heart to do it; for otherwise the many white rootlets of this pretty little forester will spread so extensively as to cause many of your smaller Ferns to wither and die. You will probably find it desirable to remove, the following year, several of the pieces of stone, which in originally planting your Ferns were necessary to keep the earth about them; this you may do readily, or when the ground has become more solid and the Ferns well established, and if the case is not already crowded too thickly you may put plants in their places. *Z.*

## THE TRADE IN NUTS.

Of the commerce in fruit in this country, that in Nuts of various kinds forms a very considerable share, furnishing a carrying trade of at least 10,000 tons. The average value of the foreign Nuts sold amounts to upwards of 400,000*l*. There are but five kinds specified in the official trade returns—Almonds, Chestnuts, Cocoa-nuts, Small Nuts (Hazel Nuts), and Walnuts. But there are various other kinds forming articles of commerce in a smaller degree, among which may be mentioned Brazil Nuts, Pistachio Nuts, Cashew Nuts, Souari and Sapucai Nuts, Hickory, and Peccan Nuts.

We present a summary of the imports of the foreign Nuts during the last nine years, compiled from the Board of Trade Returns, and shall proceed to furnish some few details respecting each.

| | 1853 | 1854 | 1855 | 1856 | 1857 | 1858 | 1859 | 1860 | 1861 | Value in 1861 |
|---|---|---|---|---|---|---|---|---|---|---|
| Almonds, Sweet, cwt. | 21,743 | 23,561 | 24,581 | 34,043 | 33,465 | 33,176 | 24,619 | 19,638 | 29,307 | £158,976 |
| „ Bitter, cwt. | 6,352 | 5,910 | 7,366 | 9,194 | 6,184 | 8,370 | 10,125 | 7,361 | 7,517 | 16,168 |
| Chestnuts, bush. | 35,300 | 31,809 | 64,756 | 67,270 | 77,197 | 35,300 | 57,048 | 25,218 | 53,711 | 26,792 |
| Cocoa-nuts, No. | 1,388,774 | 1,730,963 | 2,217,350 | 1,879,388 | 2,129,993 | 2,508,869 | 2,484,423 | 2,479,251 | 2,804,657 | 17,114 |
| Small Nuts, bush. | 148,680 | 243,458 | 256,396 | 254,415 | 200,900 | 177,859 | 222,218 | 198,562 | 218,548 | 156,721 |
| Walnuts „ | 50,125 | 21,949 | 34,832 | 56,584 | 60,128 | 56,468 | 68,363 | 52,090 | 71,699 | 27,453 |
| | | | | | | | | | | £403,224 |

In 1850 the following quantities of foreign Nuts were sold in the markets of London and Liverpool:—

| | London Markets | Liverpool Imports |
|---|---|---|
| Cocoa-nuts, .. .. .. No. | 1,250,000 | 325,000 |
| Black Spanish, Barcelona, Black Sea Nuts, &c., .. .. bushels | 72,500 | 66,000 |
| Brazil Nuts .. .. .. „ | 11,700 | 27,000 |
| Chestnuts .. .. .. „ | 26,250 | 3,000 |
| Walnuts .. .. .. .. „ | 36,000 | 2,000 |
| Other sorts .. .. .. „ | 8,000 | 3,000 |

A comparison of prices with those of seven or eight years ago, will show that the variations are considerable in some kinds, especially in Almonds, which, as respects the Sweet Almonds, have nearly doubled in price. The price of Chestnuts has risen fully 50 per cent. Cocoa nuts, although the imports are so much larger, keep up in price. Walnuts are about the same, but Small Nuts have advanced in price.

*Average Prices of Nuts.*

| | 1854. | 1861. |
|---|---|---|
| Almonds, Jordan, per cwt. .. | £6 10 0 | £7 6 10 |
| „ Spanish do. .. | 3 17 6 | 6 11 7 |
| „ Morocco do. .. | 2 10 0 | 4 4 6 |
| „ Bitter do. .. | 3 0 0 | 2 9 0 |
| Chestnuts, per bushel .. | 0 6 9 | 9*s.* 3*d.* to 10*s.* |
| Cocoa-nuts, per 100. .. .. | 0 14 3 | 8*s.* 11*d.* to 12*s.* 5*d.* |
| Small nuts, per bushel .. | 0 10 0 | 13*s.* to 14*s.* 6*d.* |
| Walnuts, per bushel .. .. | 0 7 6 | 6*s.* 9*d.* to 8*s.* 8*d.* |

The duties have varied as follows:—On 9th July, 1842, a duty of 1*l.* 6*s.* 3*d.* per cwt. was fixed on Jordan Almonds, and 10*s.* 6*d.* per cwt. on other than Jordan. On the 4th June, 1853, the duty on all kinds of Sweet Almonds was reduced to 10*s.* per cwt. Bitter Almonds were made free of duty on the 19th March, 1845; and Sweet Almonds in March, 1860. Chestnuts and Cocoa-nuts have been free of duty since 1845. Small Nuts and Walnuts, on which a duty of 2*s.* 1*d.* per bushel was levied in May, 1840, were lowered to 1*s.* per bushel on the 4th June, 1853; and have been entered free of duty since the 7th March, 1860.

*Almonds.*—The Almond gives rise in France, Spain, and Italy, to a large commerce. Although there are a great number of varieties arising from cultivation, all are derived from the Amygdalus communis. There are, however, two well-defined kinds of fruit, the bitter and the sweet.

The sweet variety of the Almond was well represented at the late Exhibition in the French Court, by M. de Bec, Director of Agriculture at the School of Montaurone, Bouches de Rhone, whose description of the principal varieties was recently published in this Journal. The production of Almonds is for Provence a very fertile source of revenue, as the quality of the product is excellent and the frost does not kill the blossoms. The ordinary varieties produced there are the Crombecs and other semi-hard kinds called Aberenes, Matherones, and Molières, sold generally in the shell; the Princesses, consumed in France, Belgium, Holland, Germany, and Russia; the variety called Ladies, sent exclusively to the United States, and where the import of Almonds is from 3 to 5 million pounds a year; and the "flot" variety, employed chiefly for confectionery and burnt Almonds. This last kind is peculiar to Lower Provence, the best being grown about Aix. These are consumed entirely in Paris, and double the quantity is sold of that of other sorts, because they keep best.

The Jordan Almonds which come from Malaga were formerly the highest priced of any, but those from France, from the care in cultivating good varieties, now fetch a better price. The imports of Almonds into France in 1860 were 714,256 kilogrammes, and the exports 2,379,839 kilogrammes. In this country, although many kinds are now imported, we have chiefly clung to two varieties, known as Jordan and Valencia Almonds. The Jordan Almond is characterised by a longer narrower and more pointed kernel, about 1 inch long. The Valencia Almond is somewhat shorter, and broad in proportion to its length. Nearly half the Sweet Almonds now imported, 11,000 cwt., come from Morocco, 11,000 cwt. more from Spain and Gibraltar, and about 2000 cwt. each from Italy, Portugal, and France.

The Bitter Almonds, 7000 or 8000 cwt. in quantity, come almost exclusively from Morocco, chiefly from Mogadore. They are employed in the preparation of noyeau, macaroons and ratafia cakes. By the cook and confectioner they are used for flavouring, and are occasionally employed for medicines.

In France the fine Almonds, as the Princesses, the Ladies, &c., are sold wholesale in the shell, and the hardshelled Almonds also, the expense of breaking them being repaid by the value of the shells, which serve for fuel. Different varieties of Almonds yield of course different proportions of kernel and shell. According to M. Arnaud, 16 decalitres of wild Almonds in the shell yielded 16 kilogrammes of Almonds; the same quantity of large green, 18 kilogrammes. Again 16 decalitres of "flots or trochets" gave 26 kilogrammes of Almonds. The hectolitre of Almonds in the shell weighs about 56 kilogrammes. The price varies, but the average a few years ago was for the Princesses 100 francs the 100 kilogrammes; for Les Dames 50 francs, for Common Almonds 25 francs, and for Wild, 18 francs. *P. L. S.*

(*To be continued.*)

## APPLE FROM NOVA SCOTIA.

"This is by far the best Apple I ever tasted." Such was the opinion expressed by no mean Pomologist, on the 16th of March, 1863. It was sent, with others, packed in fresh burnt plaster of Paris, by R. G. Halliburton, Esq., at the suggestion of the Rev. G. Honeyman.

Fruit rather above the middle size, heavy, roundish; eye slightly open in a flattened depression, surrounded with small obtuse eminences; stalk $\frac{3}{4}$ inch long, moderately thick, in an evenly rounded cavity; skin smooth, glossy, lemon yellow on the shaded side, sprinkled with small brown dots, and on the sunned side having a fine blush of red intermixed with ocellated spots. Flesh firm, white, juicy and rich. A very handsome fruit, which would probably, from its firmness, retain its beauty and goodness till May.

Mr. Halliburton states that the specimens were produced in the orchard of Mr. Joseph Kaye, and, he adds: "The season is now too far advanced for some of the finest sorts of Apples which he raises; those now sent are hardly fair samples of what his orchard produces." They were, however, very beautiful, and the sort in question will form a useful and ornamental late-keeping variety wherever the climate proves suitable to it.

We ought to remark that the mode of packing in fresh-burned plaster of Paris answered in the case of the above specimens exceedingly well; and the circumstance of its doing so may furnish a very useful hint, either as regards the keeping of fruit, or sending it to a distance.

## RAISING STRAWBERRIES FROM SEED.

Strawberry growing is in every sense a fruitful subject, and if your readers have not had already more than enough of it, some of them may be interested in the practice of an amateur in raising them from seed. I give the experience of many years, and can promise, that to a lover of gardening the pastime has unusual interest.

To begin at the beginning. I place in a common garden frame, in 6-inch pots, at the end of November, ten or a dozen of the most approved varieties; for the present year I have Marguerite, as one of the very earliest; La Constante, excellent for form and flavour; British Queen, of world-wide celebrity; Frogmore Late Pine, Eugénie, Crimson Queen, Carolina Superba, &c. With ordinary care these plants bloom well in the spring. I give abundance of air and freely admit the bees. The finest and best formed berries I select for seed, and do not gather them until a little past maturity; even then I leave them in a window some days. When so far prepared, with a sharp penknife I pare off the surface containing the seed as thinly as possible, and lay these little strips of seed on writing paper, placing them on a table in a sunny window to dry and harden. With the thumb and finger the seeds are easily rubbed off the paper. In a few days I sow them on the surface of carefully prepared earth, in seed pans, strewing very fine earth over the seeds until quite concealed. I do this in wet weather if possible, as a good soaking of soft rain fixes the seed in the earth.

The seed pans are then placed in a frame, and kept rather damp, slightly shading from fierce sunshine. In three or four weeks the seed-leaf of some will appear, and when the perfect leaves of the earliest plants have attained the size of White Clover, I carefully remove them into other seed pans.

I keep them in a cold frame during the winter, and plant them in the open ground the following April, in rows 2 feet apart and 1 foot from each other.

Over-manuring induces too much foliage, and retards the fruiting. Some few plants will bear fruit the first summer, *i. e.*, at the age of one year; and all that are likely to be of a productive habit and consequently of any merit, will bear fruit the second year.

The result will be satisfactory to the grower, if his hopes are proportionate to the disappointment common to most things in this life. *K. C.*

## Indoor Gardening.

Last year I determined to try what became of old bulbs kept on. My Hyacinths, Crocuses, and Snowdrops, which bloomed in water or in plates of sand, were therefore planted out in mere banks of earth, being just pushed out of the dishes, and some earth heaped on the roots. This spring they have been flowering very well indeed, not indeed fine flowers, but exceedingly gay and pretty. They were left to die off in their heaps, and planted in the late autumn in the garden borders.

My finest Hyacinths this year, however, by far, have been a "Rustic Robin" group. The flowers have quite surprised me by the unfailing accuracy with which they have come up and opened. All colours are included; the palest and very dark blue, white, and blush, and cream-colour, delicate pink and deep rose; and though the Snowdrops and splendid Crocuses had faded in great measure before the Hyacinths came into beauty, they made the group very pretty while growing up in the windows, and even now they form a beautiful green ground. The large spikes of flowers stand many of them quite upright; but those that are near the edge are apt to wave out sideways. If any one disliked this, a small stick in the centre hole and wires attached to it would prevent its happening; but to me it looks very charming to see the wide-spreading flowers, and flowers that are let alone are so very far prettier than they can be when trained and tortured.

The whole of the treatment that this beautiful vase has met with, has been being placed in a dark cellar for a month on its first arrival—the bulbs being already planted; then it came out to a window and created a weekly astonishment, when I was informed emphatically that that dish did drink an immense deal, the tone being one that implied—might so thirsty a thing be satisfied. The fact was, indeed, the roots had enough to feed! Such a crowd of flowers I scarcely ever saw, and yet coming in succession it never has looked too crowded.

Sometimes a few Tulips are mixed in with the Crocuses, and when pale blue Crocuses and those of white streaked with a reddish purple, are used with vermilion or red Van Thol Tulips, the effect before Hyacinths come is very nearly as good as afterwards. In this "Rustic Robin," however, there are two blue Hyacinths that look remarkably lovely; one an exceedingly pale tint, almost a silver grey, the other a large striped flower, which is very odd and good looking. The Crocuses were yellow, white with a pinkish stripe, and blue—La Majestueuse, I believe. The yellow kind however ought certainly to be omitted as it does not harmonise with the other colours. This beautiful vase was sent to me ready planted by Messrs. Barr & Sugden.

I do not generally like anything with holes! It seems as if the flower roots were in a kind of prison instead of in soft brown mould; but to this plan anybody may become a convert. The entire absence of any sort of risk or trouble further than seeing that the dish is first kept quite dark, then light, and always fully watered, is really a remarkably great gain for new beginners in gardening, and if only they introduce a few more white Crocuses, some Bulbocodium, or some Scilla sibirica in place of the yellow Crocuses, the group will be, I am sure, most popular next season.

The Hyacinths used are *not* miniatures, but very fine single flowers of the usual class. *E. A. M.*

## THE ORANGE.

(*Continued from p. 294.*)

Whatever differences of opinion may exist respecting the advantages or disadvantages of pruning trees, in general most agree that to the Orange the application of an annual curtailment is inapplicable and injurious. The removal of branches will necessitate the loss of foliage; this on any tree has a weakening effect, and in the Orange is so great as frequently to cause the branch to die back, much to the loss and disfigurment of the head.

The natural form of most of the varieties, which is that of a pyramid, is the best adapted for carrying the heavy burden of fruit at most times to be found on a healthy tree, and is also as handsome a form as can be given. All then that is desirable is to stop with the finger and thumb any large water-shoot that may mar the symmetry of form; remove any dead spray that may be in the centre of the tree, and let the lower branches extend as far, and keep as close to the ground as possible, so that they do not lay on it. By so doing several advantages are gained: the pyramid having a good base will protect the roots from the sun, and what is of equal importance, the lower branches, extending beyond those above them, will get the advantage of rain, dew, and light. Deprived of these they must eventually perish, while by keeping the lowest branches longest all have nearly equal advantages, and, of course, the trees go on from year to year increasing in beauty as in productiveness. But should an irregular form with several leading branches be allowed to go on for a few years, so soon as a load of fruit comes many branches will bend to the ground, the uppermost covering and destroying the lower, while the handsome natural form of the tree is gone for ever.

The standard, with a stem clear of branches for several feet, is objectionable, for the reason already given—that the sun would in the summer months dry up the surface roots near the tree, and also that the exposed stem would be so hardened from the exposure, that it would become what is called "bark-bound;" when the barbarous cure of ripping the tree from top to bottom would likely be resorted to, a quite unnecessary operation if the natural protection of the stem is permitted to remain till the bark, from age, has acquired the power to protect itself with a rough loose outer cover, to be seen on all trees after a few years' growth.

Thinning the fruit may properly be considered as a pruning operation, and is particularly needed with the Orange tribe, as they bloom so freely, and usually set so much fruit, that the tree overbears itself while very young. The exceptions are, where some of the strong-growing sorts have been placed in favourable circumstances for growth; although longer in coming into bearing, when they do the crop is likely to be too large; so that thinning with a free hand is the best and wisest plan, as by so doing the tree gains size and strength. You will also by this means insure annual crops, that will not be got without, as this tree, like all others, if allowed an exhaustive crop, will take a season or more to recover. For want of thinning, we are told from Sydney, that some kinds give a full crop only every second or third year.

It is strongly recommended by some of our most experienced growers that the thinning should be that of the blossom, so that what is to be removed may be done in the very earliest stage. If this were done where there are a number of trees in bearing, the flowers could be used for the manufacture of orange-water; and some idea of their value may be got from the fact, that the flowers at the Tuileries and at Versailles sell annually, the one for 150*l.*, the other for 200*l.*, for this purpose.

A second thinning may also be given when the fruit is the size of a Walnut, when it may be preserved in the manner we see done by the Chinese.

As the fruit ripens irregularly it should be gathered in the same manner, and it will be found in the early part of the season to be much improved if kept a week or so after being taken from the tree.

In the neighbourhood of Melbourne, in early situations, they will begin to ripen in July, in late gardens in August or September, but in all cases they will continue in prime condition for several months, when, if not removed, they will become dry, and the bulk of them remain on the tree till the following year,—it is said even for three years, and that on each return of the ripening season the flow of the sap will take place to the old fruit also, and make them year after year more rich and juicy than they were before; this is said to be done at Genoa, the fruit being then sold to connoisseurs at very high prices in Milan, Turin, and other places.

My experience does not accord with this, as I have found a portion of the fruit to remain on for one year, when all dropped off, as some of them had been doing throughout the whole of the time. At no time was the fruit improved, but to the last were dry and worthless. I am also aware that, in another garden where the Orange has been most successfully treated, this experiment has produced similar results. I do not say that it is not to be done, but only that we do not as yet know in what way. It may be that we err in leaving the succeeding crop. If all young fruit were removed the flow of the sap to the old fruit might then take place and produce the improvement as stated. This is one of the many interesting experiments that the amateur may follow up.

Notwithstanding some writers dilate on the immunity enjoyed by the Orange from the attacks of insects, their theory being that the pungent essential oil in the rind of the fruit furnishes a complete protection, yet the fact is far otherwise, as the aphis settles on the tender shoots, while the grasshoppers make free with the leaves and young fruit, as do also the caterpillars of several kinds. Slugs, also, are particularly fond of the Orange, and any fruit or foliage that lays on the ground will soon be destroyed if slugs are about. I have had buds with an inch or more of growth eaten by them in one night. This, of course, caused the loss of an entire season. But the damage done by these has, as yet, been trifling in comparison with that produced by the coccus, commonly known as the scale or turtle bug.

There are several varieties of these insects, and on climbing plants, trained on verandahs, it frequently happens that they become so numerous as to give the branches the coral-like appearance of sea-washed rocks without the cleanness, as plants so affected are soon covered with the excrement, so as to give the idea that they have been well dusted with soot. Of the two sorts of scale preying on the Orange, one is about the

size and form of the impression taken from a pin head, and may be found on many of the Sydney fruit, alive and dead, looking like so many fly spots. The other, when full grown, is more like the disgusting bed bug. When a tree becomes affected they soon spread, covering every part—stem, branches, and leaves, back and front. The young are almost invisible to the eye, and are very active for a short time, till they have selected a spot to settle, where they remain and spend their days and nights in draining the tree of its sap.

Ants frequent the Orange tree at the period of flowering, that they may share with the bee and others the sweets it contains; but they are also constantly present on those trees infested with scale. I have often had it remarked to me, when looking at diseased and neglected trees, "Oh, I shall have them clean now, for the ants have taken to them, and they will soon eat them up." That the ants carry the scale from place to place on the trees, I can confirm from personal observation. We also found, while hand-cleaning, leaf by leaf, that if any branch was left undone for a day or two, it was hardly possible to tell the branches cleaned from those that were not. I cannot think the scale travelled themselves, but that they were carried.

A very excellent paper was lately read before the Gardeners' Mutual Improvement Society, by Mr. Wm. Ferguson, on the culture of the Orange in Victoria. The insects that preyed on the Orange were fully discussed, and to illustrate the extent of their ravages at times the fact was noticed, that in 1843, so complete was the destruction by these insects, that at the island of Fayal (one of the Azores) the entire produce was lost from this cause alone. The usual exportation from Fayal was 12,000 chests annually, but in that year not a single chest was exported.

And now another instance of extensive destruction is taking place in New South Wales, large numbers of trees, from the plant of six months to the tree of 60 years' growth, are dying from a disease of the roots. The cause is, as yet, not clearly understood.

Mr. Holroyd has attributed the successful results of his experiments to a proper system of draining, trenching, and shelter, with a limited use of bone as a manure.

Mr. Scott says, in reference to manure, that it ought to be dug in when the trees are very young, and before their roots reach it they ought never to be disturbed. The ground ought, however, at times to be slightly broken on the surface, so as to admit the moisture and air to the roots, but they ought not to be disturbed.

## Home Correspondence.

*Cork Trees.*—The following varieties of Oak with corky barks are known to the writer; the cork is by no means equally good, though in appearance not very different:—1. Quercus Suber, of Italy; 2. Q. Cookii, Spain; 3. Q. Pseudosuber, Italy, very like the next; 4. Q. var. the Corky Lucombe Oak; 5. Q., a Cork tree var. with handsomer foliage than the common. It may be added that Q. australis, and another Spanish Oak, called Encina in Spain, show great tendency to form a corky bark as they grow old. *I.*

*Contractile Tissues of Plants.*—I have just read a treatise on the contractile tissues of plants, and the experiment on the stamens of the Centaurea made by M. Cohn, there mentioned, has much interested me. The curve which the stamens assumed soon after a portion of the corolla had been removed to expose them was instantly arrested by bringing a needle point in contact with one of them, causing them all instantly to collapse. In like manner the sensitive Mimosa, with leaves expanded and leaf-stalk erect, on one of these being touched, all the leaves close and the stalks fall down on the stem. Now it struck me that there was some similarity between these movements and those which I have seen exhibited on a figure head adorned with hair attached to an electrical machine, which, on turning a few times, causes the hair to bristle up and to stand erect from the head, while on touching one of these hairs with the finger all immediately collapse in the same way as the leaves on the Mimosa by the abstraction of the repulsive electric force. I know that the plants droop at night in the same way, but does not light and its absence influence electric actions? Is there any sense in my idea? *Julia.* [See a leading article published to-day.]

*Peaches.*—Owing to last summer being so wet and sunless, I do not think that Peaches out of doors will be generally abundant this year. The wood of most trees, that I have seen, has been either too large or too small, and in either case unripe. I have lately visited my friend Mr. Sturt, at his palatial residence of Critchill, where George IV., when Prince of Wales, resided, and I reviewed his various glass houses, which are good. He has a glass-cased south wall, well worthy of inspection. It is about 160 feet in length, and about 5 feet wide. The fall is about 11 feet. The whole glass casing, from top to bottom, may be thrown open by a crank in the centre: near to which is a pump within the casing—an article generally too scarce, both in large and small establishments. The walls are lofty; and the trees are well trained, and producing abundance of bloom. Mr. Sturt has extensive Vineries, and also an Orchard-house, giving great promise of Figs, which I consider to be one of the best of fruits. The forced Strawberries: Keens' Seedlings, and Black Princes, looked healthy, and were beginning to ripen. Sooner or later, people who wish to grow Peaches and Moor Park Apricots with certainty, must glass-case their walls, especially their south walls, which are the most insidious. If, however, cultivators cannot afford to glass-case, I can assure them that the next best way is to use sheeting 2 yards wide, which costs (the double yard), 1*s.* 1½*d.* per yard. I never got any Peaches till I used it; and I have never failed since. I cut the sheeting the length of the trees; I then nail it to three or four Fir poles, place the ends of the poles in catches under the coping, and the lower ends between two fixed triggers. The trees are now in beautiful bloom from top to bottom, and are fast setting their fruit. I grow the Peaches on spurs or fan fashion, as the case may be, always removing the spurs after bearing. The trees, three in number, are on a south wall, close to a rivulet, and having nothing westwards but a high thick Thorn hedge. I never allow the walls to be wetted after the buds swell, but give water at the stumps, according to judgment. The three trees are very strong and yet very old; the youngest is 26 years old, and the other two are 42 years old. I know the date of the first by the testimony of the Rev. Cossley Saunders, rector of Tarrant Hinton, who remembers its being planted, when his father was rector of Rushton. The date of the other two trees I know by the testimony of Mr. James White, a gardener now living in this parish, who told me last spring that he was 57 years of age, and that they were planted when he was a boy 15 years old. Looking at their ages, your readers will wonder at my saying they are strong trees, well wooded, and in good bloom from top to bottom. This must be explained. Finding when I came here that the trees were "naked as lances," having wood too big at the top and little or none in the centre and base, I determined to have them cut down within about a yard of the base; I then had the roots cut off beyond a radius of 30 inches, and also all the perpendicular roots, some of which were as thick as my wrists. I then carefully removed the earth from the surface over the 30 inches of roots left, and supplied new maiden earth and rotten dung above and around them; I thus soon made nice trees of them. The first two years I did not take account of the fruit. I did not then cover with sheets, and I believe that I got but little. The next year I covered with sheets, and gathered 1040 Peaches, the next year 197; then 775; then 480; and last year I only saved 94. I think that I shall have a good crop this year. I do not know what sort the Peaches are; they are good and very red. Had your readers seen the face of my old gardener (now dead) when I ordered him to cut the trees down, and cut the roots, both horizontal and perpendicular, they would have seen a sight that would have caused in them—

> "Sport that wrinkled Care derides,
> And Laughter holding both his sides."

Finally, I should mention that in wet, windy, or sleety weather I keep on the sheets day and night, but take them off at 10 in the morning, and put them on at 4 or 5 o'clock in the afternoon in fine weather. Quick transition from cold to heat, or *vice versâ*, is bad for Peach blossoms. *W. F. Radclyffe, Rushton.*

*The Royal Wedding.*—Permit me, in reply to Messrs. Veitch, to say that I am not responsible for the statement which appeared in your columns of March 21st, headed "The Royal Wedding Day," as I extracted it from a report on the subject in the *Western Times*, and being a native of Exeter myself I naturally take an interest in all that goes on there. *G. Toll.*——Having seen in your Paper of March 28, that Messrs. Veitch inform you that the last tree planted was not a Cedrus Deodara, presented by Messrs. Lucombe, Pince, & Co., but a Wellingtonia gigantea presented by themselves, I beg to say that the last tree planted was Cedrus Deodara, presented by Messrs. Lucombe, Pince, & Co.; it was planted by Mr. Pince, and named the Princess Alexandra's tree. *J. Pike, Exeter Nursery.*

*Mushrooms.*—I beg to forward for opinion a box of Mushrooms from a bed made of such spawn as is described in your Paper of March the 14th. The bed from which these Mushrooms were gathered was spawned on the 28th of February, and what I send is the first produce from it. I have already stated (see p. 248) how I make my spawn, and I have never failed to have Mushrooms every day for many years. I may just add that I put one barrow-full of turfy loam to every six barrowfuls of horse droppings when making the bed, and that I spawn the moment the bed is made and cover it at the same time with 1 inch or so of mould taken from an old Melon bed; the soil is kept dry in a shed after having been used for the Melons. *J. Harley, Fairford Park, Gloucestershire.* [The sample sent consisted of half-grown excellent Mushrooms.]

## Societies.

Royal Horticultural: *March* 31 (*Floral Committee*).—A few interesting new flowers were shown at this meeting. The most noticeable, perhaps, was the neat and attractive Anthurium Scherzerianum, which appeared for the first time at one of the shows of last summer, but now looked brighter and more vigorous. This desirable little Orontiad has stalked lance-shaped dark green foliage, and a bright scarlet inflorescence, the ovate spathe of which is flattened out, and reflexed against the stalk which supports it. Another beautiful thing was a Camellia called Filippo Parlatore, a blush-white with rosy stripes, the petals remarkably smooth and even, and the flower of excellent form. Both these, as well as the rare and attractive Dendrobium lituiflorum, came from Messrs. Veitch's nursery, and received 1st class certificates. A large-flowered bright yellow Wallflower, shown by F. J. Graham, Esq., Cranford, was commended; as also were a crimson forcing Pelargonium from Messrs. Jackson & Son, Kingston, and named Mrs. Lewis Loyd; and a very bright light scarlet Amaryllis or Hippeaster called Fire King, from Mr. Bull, Chelsea. Another Amaryllis named Brilliant, from Messrs. E. G. Henderson & Son, St. John's Wood, was of a deeper colour, a bright crimson, and being of better form, obtained a second-class certificate. Similar awards were given to the two forms—white and red flowered—of the Fern-leaved Chinese Primrose, which came from the same establishment. Mr. Bull showed one or two promising seedling Horse-shoe Pelargoniums; and an attractive Azalea called Surprise was sent by Messrs. F. & A. Smith, Dulwich. This variety has flowers of a veiny salmon pink paler at the edges, and is very conspicuously spotted, and occasionally barred with deep red, its attractiveness being owing to its bold spotting. A plant of Phædranassa obtusa, with its curious drooping red and green tubular flowers, was sent from Edinburgh by Isaac Anderson Henry, Esq.

Royal Botanic: *March* 28 (*First Spring Show*).—Collections of Miscellaneous Plants were furnished on this occasion by Messrs. Veitch, Bull, Lee, Henderson, Williams, and Cross; and from Mr. Williams came a small group of Orchids in which was a flowering plant of the charming Phalænopsis Schilleriana. A specimen of this beautiful Phalænopsis was also shown by Mr. Wiggins, gr. to W. Beck, Esq., of Isleworth. A collection of Japanese plants, all of which have already been fully noticed in our columns, was produced by Mr. Standish. Camellias came from Messrs. Veitch, Mr. Young, gr. to R. Barclay, Esq., of Highgate, and Mr. Standish, and there were also stands of cut Camellias from Mr Todman, gr. to R. Hudson, Esq., of Clapham, and from Messrs. Lee of Hammersmith. Different varieties of Cyclamen persicum came from Mr. Holland, gr. to R. W. Peake, Esq., Mr. Wiggins, gr. to W. Beck Esq., of Isleworth, and Mr. Howard, gr. to B. Edgington, Esq., of Wandsworth; and some well grown plants of Chinese Primroses were contributed by Mr. Todman and Messrs. Cutbush. Beautiful boxfulls of cut Roses were exhibited by Messrs. Paul and Son, and Mr. William Paul, and the former also sent Roses in pots well grown and flowered. Hyacinths and Tulips came from Messrs. Cutbush, and Mr. Wm. Paul; but this time they were evidently past their best. From Messrs. E. G. Henderson & Son came a striking Amaryllis called Brilliant, and the same nurserymen also showed handsome pink and white Fern-leaved varieties of Chinese Primula. Pandanus elegantissimus was communicated by several exhibitors; and from Mr. Bull came the pretty Trichomanes anceps, and a glowing Amaryllis named Fire King. Messrs. Smith, of Dulwich, exhibited a variegated-leaved Hemerocallis, and a promising decorative Azalea called Surprise. Cineraria Emperor, from Mr. James, gr. to W. F. Watson, Esq., was considered worthy of a certificate; as were also Camellias Filippo Parlatore and Giardino Santarelli, from Messrs. Veitch. Mr. Williams showed the handsome Caladium Lowii; Mr. Bull Nephalaphyllum cordatum, and a flowering plant of Bougainvillæa spectabilis, growing in a small pot; and Messrs. A. Henderson Dracæna cannæfolia, the last a fine addition to plants remarkable for the beauty of their leaves. Hoteia or Spiræa japonica, a handsome shrub, with white feathery heads of blossoms, was shown by Messrs. Veitch; and Messrs. E. G. Henderson had a small plant of Portlandia platantha. Pansy blooms came from Mr. Bragg; and a group of Cineraria Conqueror from Messrs. Dobson, of Isleworth.

Linnean: *March* 19.—G. Bentham, Esq., President, in the chair. W. H. Baily, Esq., G. Dickie, Esq., M.D., Augustus Thorne, Esq., and W. T. Locke Travers, Esq., were elected Fellows. The following papers were read:—1. "A description of some remarkable malformations affecting the genus Lolium," by Dr. Masters. The simplest of the changes described consisted in the mere lengthening of the axis of the spikelet, by which means the constituent florets became separated by wide intervals, the axis itself sometimes also becoming remarkably flexuose. In other instances the change consisted in the spikelets assuming a more rounded outline than usual, and in the number of florets being reduced to three, in one or all of which considerable modification had taken place. The inner pales were in some of these flowers placed opposite the outer one and on the same level with it, and in others were split into two, thus rendering the symmetry of the whorl complete. Within the pales, in place of stamens and pistils was a confused mass of numerous scales, some of which resembled pales, and others were in various stages intermediate between scales and feathery stigmas; no stamens or ovules were found in any of these. In a third series, while, in the lower part of the spike the spikelets were of the ordinary form and arranged singly and alternately on the sides of the grooved rachis, the spikelets in the upper part of the spike were arranged in pairs on each notch of the rachis, as in Elymus and Hordeum, the spikelets themselves being more or less spherical, each with an outer and inner glume of the ordinary aspect, and each made up of a number of florets, arranged not in two rows but in several, which owing to the shortening of the rachis became densely tufted. So closely were the florets crowded that sometimes a fusion of the outer pales of two contiguous florets was found to have taken place. The union was occasionally found to extend to the inner pales, and in one case the inner pales of three florets had become united. In addition to this, the axis of the spikelet just within the outer glumes was occasionally seen to separate into two diverging branches, each bearing its tuft of florets. In the fork

between the two branches, was placed in some but not in all, a single floret, which thus terminated the main axis of the spikelet. This floret had an outer whorl of two pales, placed directly opposite each other, and resembling the ordinary outer pales; within these, at right angles to them, were two more, precisely resembling ordinary inner pales; and within these again a number of thin membranous scales, some of which had more or less the appearance of stigmas. Thus, in these curious specimens the following deviations from the ordinary structure of Lolium occurred: There was an alteration in the form of the spikelets; they were arranged in pairs, instead of singly on each notch of the rachis, and in more than two vertical rows; the florets were disposed in close tufts or whorls; the outer and inner pales became more or less fused; the inner parts of the florets were multiplied, and changed to scales, which exhibited transitional stages between scales and stamens; the axis of the spikelet was bifurcated and a peculiarly constructed floret occupied the angle of divergence of the two branches. The specimens all belonged to Lolium perenne.—2. "On the species of Fusidæ which inhabit the seas of Japan," by Arthur Adams, Esq.

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VAN MONS SOCIETY OF BELGIUM: *Annual Report — Tenth Publication.* — In 1859 there appeared for the first time the destruction produced by the Scolytus, the ravages of which were not perceived till then, so little was it thought that this insect would attack Pear trees. In cutting up one of the trees the inside was found entirely perforated, and individuals of the Scolytus were found measuring 6 to 7 centimetres long, and 3 to 4 centimetres in circumference. Various remedies have been tried to destroy this hidden enemy. The trees have been stripped of their bark to the inner rind, and washed with milk of lime; but what has produced the best result is a composition which was received from Scotland under the name of "Gishurst Compound," which, diluted with a certain quantity of water, was introduced with the small syringe into the perforations caused by the Scolytus, and destroyed them. *Signed: Le Directeur-Général, A. Bivort; Le Président, A. Roger.*

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## Notices of Books.

*Recollections of Tartar Steppes and their Inhabitants.* By Mrs. Atkinson. (Murray.) Small 8vo.

For a lady to travel from Russia to China across country is not only a very unusual occurrence, but one necessarily attended by so much danger, fatigue, and novelty, that an account of her adventures cannot fail to be read with interest. That any woman could be found willing to undertake such a journey seems astonishing. However, here we have a most fascinating account of all that befel one, who actually accompanied her husband wherever he went, shared his fortune or misfortunes as the case might be, and seemed rather to enjoy the hardships than to repine at them. Mrs. Atkinson married from the house of a Russian gentleman in St. Petersburg, and immediately started with her husband on his journey across the Tartar steppes. Their travels did not consist of being drawn about in a carriage and pair, over macadamised roads, or moving from place to place in luxuriously stuffed railway carriages with comfortable hotels to receive them at night; but partly in sledges drawn by six or more horses over the roughest, wildest country night and day; and then on horseback, actually living in the saddle for days together. When indulged by a night of repose, the pair frequently passed it in the open air or under a tent. The book is so full of anecdotes, each one equally amusing in its way, that it is rather difficult to make a selection; however, we give the following extracts as a specimen of the style in which it is written:—

"At 5 o'clock the horses were ready for our departure. All the women had turned out to see me off. One old woman with tears had entreated me not to go—no lady had ever attempted the journey before. There were Kalmuk women living beyond, but they had never seen them. In the early part of the day she had offered to let her daughter go to take care of me; however, when the daughter came in, a healthy strong girl some 35 summers old, she stoutly refused (to my delight) to move; the mother tried to persuade and did all she could—it was of no use, and I was left in peace. We mounted our horses, I riding *en cavalier*. I must tell you that I took from Moscow with me a beautiful saddle, which I was occupied one day in Barnaoul examining, when Colonel Sokolovsky entered. He demanded what I was going to do with it; my reply was, to ride: 'I cannot do so without one, and the Kalmuks I presume, have no such things.'—'No!' said he sarcastically, 'and they will be enchanted to see yours; but what will please them most will be the sight of an English lady sprawling on the steppes, or with a broken leg in the mountains. But,' said he 'seriously speaking, you cannot go with such a saddle: first, the horses are not accustomed to them; and secondly, in the mountains it is quite out of the question.' He then offered me one of his own, which I accepted, and left mine till our return; and thankful am I that I did so, otherwise I should not be here to tell the tale of our narrow escapes. At times, we have had ledges of rock to ride round, where, had I had a side-saddle, my legs would have been crushed to pieces or torn off. At times, I have had to lift my feet on to the saddle, there being barely room for the horse to pass between high masses of rock. Then there were passes to ride over, formed by the granite mountains, in places quite perpendicular down to the Bia. Our horses have stood on many points, where we could see the water boiling and foaming probably 1000 feet below us; just imagine me on one of these places with a side-saddle!"

The kind of society into which they were thrown was sometimes very droll; the following is an account of a ball given in honour of Mrs. Atkinson:—

"Having heard that some of the officers' wives had arrived, I thought it my duty to visit them, as is customary in Siberia, but was told by our host that it was needless, and, indeed, he would rather I should not; that a building was being temporarily erected in which he intended giving a ball to commemorate his arrival as governor or priestoff, and in honour of us, and then I could make the acquaintance of the ladies. To this arrangement I readily consented. The house was at length completed, and the invitations sent out for the same day. Having but one dress besides my travelling one, I drew it forth and looked with dismay at its tumbled appearance. I had a small iron with me fortunately, the only one in Kopal, so I despatched our Cossack to and fro to the kitchen to have it heated. Thus, with a flannel petticoat for an ironing blanket, and a box for a table, I managed to make it decent, and forthwith I commenced my toilet. The guests were bidden for 5 o'clock, but our host begged of me to be ready earlier to receive his lady visitors. In the midst of my dressing a bouran (a storm of wind and snow) arose. I was obliged to rush to one side of the tent to hold it down, my candle was blown out, leaving me in total darkness.

"Mr. Atkinson ran outside to call the men, who were heard screaming and running in all directions, as the kitchen, with all the delicacies for the coming feast, was being nearly swept away; at last, with ropes and beams of wood, it, as well as our tent, was secured. With some difficulty I got a light, and resumed my dressing; in the meantime I received three notes to hasten operations.

"Having smartened myself to the best of my ability, we started; it was only three paces, for all our tents had been bodily moved to the vicinity of the house. We found our host in full uniform; he was scarcely recognisable; indeed he laughed to see himself. Then there was his body-guard, a Kirghis, by name Yarolae, the grandest man in the place; he wore a magnificent new dressing gown, a splendid shawl round his waist, and a tall-pointed silk cap, and red boots; altogether he looked and felt superb.

"The room had wooden stools placed round; the carpenter had been several days busy preparing them, and at one end of it a few planks were raised from the ground; these were covered over with a carpet, and served as a sofa. This being the place of honour, I was seated here to await the coming guests, who shortly made their appearance.

"Yarolae's bearing was usually calm and dignified, but hearing the wail of the camel he became quite excited, and giving a caper, he said, 'Here they are! and made a rush down stairs. He shortly returned, followed by two ladies; and walking like a prince into the centre of the apartment, he announced in a voice of thunder, 'Madame Ismaeloff and Madame Tetchinskoy.' The contrast between them and the gaily attired Kerghis was too striking. The former lady was a saucy faced old body, with a bright shining skin, a clean dark coloured cotton dress, a white collar which reached to her shoulders, a white cap with a very full border, a lilac silk shawl, and brown worsted gloves, completed her attire; her companion, a small person, had a similar dress, but instead of the shawl she wore a pink satin mantle trimmed with lace. They came up to me, each giving me three kisses, and took a seat on either side of me, without uttering a word. Yarolae was again off; the next visitor was proclaimed by the roaring of a bull. The door was thrown open very wide, and 'Anna Pavlovna' was announced. My gravity was this time sorely tried, and more so as I glanced at the Baron. His face was irresistible; he went forward to shake Anna by the hand; her deep-toned sonorous voice resounded through the room. She was a tall stout woman, dressed in the Russian peasants' dress, a cotton of the brightest and most variegated colours, very short, and round the bottom it was edged with pink, about two inches deep; a pair of good strong shoes with nails, and no stockings, and bound round her head was a red cotton handkerchief. As you may imagine, she was gloveless; but what an arm and hand she had! big enough to knock down any one who approached her ungraciously. But her face was beaming with smiles and good-nature. She, too, came forward like the others, and bowing down low saluted my cheeks three times, and then took her seat."

To add to the difficulties of travelling in these wild regions, Mrs. Atkinson became one fine day a happy mother; her little son was named after the mountain at the foot of which it was born, and so ever after went by the name of Alatau. A singular practice amongst the Siberians is mentioned by her under the name of a Baby Pie. "This custom first came under my notice when Alatau was about two months old; he was very restless one day when my visitor called (I knew we were going to have a storm), but she proposed he should be baked. 'Baked!' I shrieked.—'Yes.' Explanations were entered into, when I learned it was quite a common custom to do so; but if I did not like to have him placed in an oven, I could cover him with a crust and put him on the hot stove, when hairs would come out on the back; these plucked out, the child would be perfectly easy. I mentioned the circumstance to a friend in this town, who tells me it is quite true that Siberian peasants bake their children. There is a particular disease they have, it is said, can only be removed by baking. A crust is made of Rye-flour, when the child is enclosed within it, in the same way as a fowl in a pasty, leaving a small aperture for the child to breathe through; then it is placed in the oven with its door closed, but only a few seconds, and it is said that it proves a sure remedy."

As no more space can be spared for further extracts, we advise any one who wants a few hours' amusement to get the book and read it.

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## Garden Memoranda.

OAK HILL, EAST BARNET, THE SUBURBAN RESIDENCE OF CHARLES BARING YOUNG, ESQ.—At one time this place was famous for the size and general excellence of its Grapes; it was from a Vinery here that a cluster* of Black Hamburgh, weighing 8 lbs. 6 oz. (see *Gard. Chron.* 1843, p. 825), astonished visitors to the July exhibition of the Horticultural Society, in whose garden at Chiswick it was shown in 1836. Since then, however, its character for high cultivation has not been maintained. During the last 10 years or more the garden has been let for the growth of vegetables and fruit for market, and lately everything has been allowed to fall into bad repair. The walls, which appear to have been well built, are still in good condition, as are also most of the glass houses; but the trees both on open quarters and trained are all but a complete wreck. Since it has come into the possession of its present owner, however, the spirit of improvement seems to be actively at work. Old trees have been cleared away and new ones now occupy their places, most of the glass houses have been furnished with Ormson's boilers and heating apparatus, borders have been remade, and quarters trenched. To the mansion new wings are being added, and pleasure grounds in character with its improved appearance are we believe about to be laid out. The reputation of Oak Hill Gardens may therefore now be expected to revive.

The mansion is pleasantly situated on the brow of the hill, overlooking an extensive and beautiful valley, and backed up and surrounded by Oaks of unusual vigour, the soil being apparently very suitable for the growth of this particular kind of tree. To the left lies the kitchen garden, in which the alterations just recorded are being skilfully carried out by Mr. Richardson, Mr. Baring Young's gardener. The principal compartment forms a square, against the south-west wall of which are two large late Vineries, and on either side of these are Peaches and Nectarines, both of which promise to produce good crops. Against the east wall has been planted the better sorts of dessert Cherries, on the north Morello Cherries, and on the west, Plums. The borders for these have been trenched nearly 3 feet deep and well manured, and this year, on account of want of accommodation elsewhere, seeds of root crops have been sown on them. Among Plums, have been planted Kirke's, Green Gage, Jefferson, Woolston Blue Gage, a fine dessert variety, Angelina Burdett, Coe's Golden Drop, Reine Claude de Bavay, and Ickworth Imperatrice. Nectarines consist of Violette Hâtive, Elruge, Downton, and Pitmaston Orange. Of Peaches there are Noblesse, Red Magdalen, Royal George, Violette Hâtive, Barrington, Téton de Venus, and Late Admirable. Among Cherries there are Reine Hortense, Bigarreau, Elton, May Duke, and Black Tartarian. The open quarters of this compartment are to be chiefly planted with bush fruits, but at present they are occupied with Cauliflowers, Peas, Beans, Spinach, and other vegetables. Cauliflower plants have been put out about three weeks; but as yet they have made little progress, no less than 8°, 10°, and 12° of frost having lately been experienced here. For the earliest crops of Peas, Sangster's No. 1 and Dickson's Early Favourite have been selected, and these are to be succeeded by Champion, a strong-growing productive variety. In another compartment is an Apricot wall, consisting of Moor Park and Shipley, the last a variety which when well grown is stated to be excellent. Under the walls in warm situations may be found Brown Cos Lettuces, which, however, appear to have an unusual disposition to run this season.

As regards glass houses, the early Vinery now presents a highly satisfactory appearance. The bunches promise to be large in size, the berries are stoning, and the foliage is healthy and vigorous.

In the centre of this house is a bed of Oak leaves, which being kept constantly damp affords a moist genial atmosphere for the Vines. This bed has also been employed this spring for the forcing of Rhubarb, and it has been found useful for starting early Potatoes previous to their being planted elsewhere. The Vine border, both outside and in, has been carefully examined; a considerable portion of exhausted earth has been removed, and a mixture of good sound loam and horse droppings substituted. To this, therefore, as well as to a good thinning out of superfluous wood, must be attributed much of the increased vigour

* This was not, strictly speaking however, one bunch; but two or three issuing from the same bud.

which has been infused into the Vines. A Muscat house is just coming into flower, and a second house of Black Hamburghs is also in a forward state. In Peach houses, which are heated by pipes from the boiler that warms the early Vinery, good crops have set.

Pine Apples are grown here with success, as are also Strawberries and early vegetables. A long frame is filled with early Potatoes, among which there is not at present the slightest trace of disease, and another is occupied by Radishes, among which Carrots are sown as soon as the Radishes have fully developed their seed leaves. By the time the Carrots are well above ground the Radishes are cleared off; about half an inch in depth of soil sifted over the Carrots at the time of sowing, nicely covers the crowns of the Radishes, and renders what would otherwise be hard and uneatable, crisp and enjoyable. Other pits are filled with Cucumbers and Melons, which are grown on dung beds.

Mushrooms are raised successfully on beds made on the Mushroom-house floor, on which Rhubarb and Seakale are also forced. One bed is just coming into bearing, and others are being formed to succeed it; in this way Mushrooms are obtained all the year round.

Slugs and weeds on walks are kept in check by strewing salt thickly over them just before rainfall.

## Miscellaneous.

*Arum canariense for making Arrow-root.*—We noticed in the Annual Report of the Acclimatisation Society a short notice of an Arum suited for making Arrow-root, and producing lucrative returns to the cultivator. As considerable doubt existed as to the correct botanical name of the plant, we applied to H. M. Sheriff, in Guernsey, and received a specimen which Dr. Schott, of Vienna, the greatest authority on Aroideæ, declared to be Arum canariense, peculiar to Madeira and the Canary Islands, but hitherto unknown to him from the Azores. We further learn from Mr. Martin's letter, dated Guernsey, January 6, 1863, that he made about 300 lbs. of Arrow-root last summer, and that the Arum canariense is now perfectly naturalised in Guernsey; also that he forwarded roots to the Crystal Palace Company, the Kensington Museum, and the Acclimatisation Society. "This Arum," says Mr. Martin, "was introduced by me into the island of Guernsey, and I have been cultivating it for the last seven years. It first came under my notice through the means of a plant brought in a pot from the Azores, and given to a brother-in-law of mine, as a plant producing Arrow-root. I at once determined to try its powers of enduring our climate; and I have found it perfectly hardy, bearing well the severest of our winters. Growing, however, the winter through, it required the shelter of a walled garden, or land otherwise protected from high winds, which break the leaves and thus retard its growth. The digging of the crop and the replanting takes place at the end of July or commencement of August:—It might be done simultaneously, the smaller corms being planted as they are separated from the larger ones destined for Arrow-root. They, however, can remain out of the ground for some weeks—a longer time if kept quite dry. In planting, I have, after repeated trials of various modes, adopted the following:—I dig a trench as for Potatoes, but levelling the bottom with the spade, so as to have a level surface of about 6 inches in breadth and as much as possible of uniform breadth; then drop into this furrow very thickly the small corms. These latter, though not attaining the size of the larger ones, will yet acquire a respectable size. I lay them thick for two reasons: one is that many of the corms will not grow the first year, and the second is that it has become evident to me that the corms, on increasing their size, require the assistance of each other to get the better of the pressure of the soil, which, after winter rain, gets hard. Between each row I leave a space of 18 inches, or, when I plant in very rich soil, 2 feet. The corms so planted I leave two years before taking them up. A crop may, however, be obtained yearly by planting corms of the size of a good-sized egg; but I prefer the other mode. At the second year, the plants not having been disturbed, are up much earlier, and become much finer and healthier plants than those planted one year for the other, and produce much finer corms for the next planting. To obtain a first-rate crop, the soil needs to be rich and well manured. If this is done at the time of planting, the more rotten and decayed the manure is, the better. If, however, you prepare your soil early the previous spring, you can turn in manure in its ordinary state. The manure in all cases is spread upon the soil and forked in. This plant seems to delight, like our common Arum maculatum, in rich vegetable mould; and, like it, seems to do best in large clumps or close patches. This was what first suggested to me the propriety of planting thick. The produce of this plant is enormous; from 1¼ perch I manufactured one year 60 pounds of arrow-root, which I sold at the rate of 1*s.* per pound, being at the rate of 78*l.* per Guernsey vergée or 193*l.* sterling the English acre. This was planted with corms the size of an egg, in rows one foot apart and three inches in the rows. That was a remarkably good year for bringing the plants to perfection; I have never succeeded so well since. It has never failed, however, in paying me well for the ground it occupied, and the labour required by it. In some years it has been attacked with a disease peculiar to the plant. Early in spring I have found the leaves and stalks acquire a rusty appearance, and this gradually spreading, until the plant disappeared altogether. On digging the corm, it was perceived that it had stopped its swelling from the time of attack. I have observed this same disease in the common Arum, and in Arum serpentaria, which I have also in my garden. With regard to the extraction of the fecula, this operation is performed just in the same way as potato-starch is obtained, and therefore does not need any particular explanation here. There resides in this, as well as in the common Arum of our hedges, an acrid principle, which would make it very dangerous if eaten in its undried state. By drying, however, its poisonous qualities entirely disappear by evaporation, and in this state it becomes really superior to the Potato. This has led me to believe that if this root was kiln-dried, it might afterwards be stored and used as Potatoes the winter through. I have not yet, however, made the experiment, save with a few roots dried before a fire, and so far proving perfectly successful." *Seemann's Journal of Botany.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

Conservatory, &c.—Trimming and dressing as well as constantly exchanging the plants, will now be the order of the day. Endeavour to maintain a proper temperature without any great amount of fire heat, which after this time should be dispensed with as much as possible. Young stove plants in free growth will require prompt attention in the way of shifting and watering, and great attention must be paid to newly imported Orchids; they should have a mild constantly moist atmosphere, but no water should be given until they begin to push, and then it should be applied with moderation and care. In mixed greenhouses, let the leading shoots of Epacrises, Chorozemas, Correas, Heaths, with many other choice plants, which produce the best effect in a bushy condition, be frequently pinched or stopped, in order to form good specimens. Give shifts, when necessary, to specimen plants, and, above all things, secure efficient drainage. Such portions of cold pits as are not filled with young stock, may now be usefully occupied with some of the hard wooded tribes of the conservatory, or mixed greenhouse, in order to make way for a free and healthy growth in the rising generation, and to afford choice specimens abundance of room.

### FORCING DEPARTMENT.

Pineries.—Montserrats, or Jamaicas, intended for fruiting early next autumn, or perhaps later in the season, will soon begin to show; these are easily injured by over-watering, especially if not in a high temperature. They will, however, now require a moderate supply, which should be enriched with good but clear liquid manure. See that the bottom heat does not decline at this period: on the contrary maintain it steadfastly at 80° or 85°; to this end frequently introduce a little new tan between the pots.

Vineries.—Attend to disbudding late Vines, which may now be breaking; see that all is right at the root. A tarpaulin would be an excellent thing to draw on the borders should heavy rains occur; the pernicious consequences resulting from saturated borders are still unfortunately too much underrated.

Peaches and Nectarines.—Keep the shoots well tied in in the early house, and be careful not to get them crowded. In disbudding, the bearing wood of the present year should be divested of all shoots except the terminal one and those near the base. When a deficiency occurs in any part of the tree, more may be tied in. Ventilate freely in fine weather, and be careful to close up early in the afternoon. Syringe once or twice daily, and keep a moist atmosphere by throwing plenty of water on the paths, borders, &c. Attend to the disbudding and thinning of the fruit in the second house.

Figs.—As the season advances gradually raise the temperature of the house. Syringe mornings and afternoons. Keep a moist atmosphere. When the borders require watering, give them a good soaking. Plants in pots and tubs should have some weak manure water occasionally.

Cucumbers and Melons.—Do not let the advancing season lull you into a belief that linings may be neglected. In so fitful a climate as ours, they will bear slight renewals through most of the summer months, provided fine fruit be the object. Stop the young shoots of Cucumbers at every second eye. But after once stopping in the seedling state, suffer the Melon leaders to stretch nearly to the side of the pit or frame before stopping them.

### FLOWER GARDEN AND SHRUBBERIES.

If no scheme has been formed for the disposition of mass flowers, it should be done forthwith, in order that sufficient stock may be got together without delay. Not a moment's time should be lost in propagating extra things for such purposes. Choice Carnations, if at hand, should be turned out in beds or borders; three in a group, in rich soil, produce a bold and gay effect. Beds of Pinks must be kept thoroughly clean, and small sticks may be put to the plants; it is better done now than when they are further advanced. Ranunculuses are making progress; cover the beds with mats from heavy rains as well as on frosty nights. Pansies ought to be covered as just recommended for Ranunculuses; and if the cultivator will look his bed over about 9 or 10 o'clock in the evening, with a candle and lanthorn, he will not lose his labour, for at that time snails and other vermin may frequently be found hard at work with his collection.

### HARDY FRUIT AND KITCHEN GARDEN.

Peaches, Nectarines, and Apricots on open walls promise to produce good crops. Even under the protection of common fishing nets they are setting satisfactorily. Pear trees, too, are loaded with blossom buds ready to expand; in the south, at least, therefore, there is at present every prospect of a good fruit season. In the kitchen garden Scarlet Runners, and an early crop of French Beans, may now be sown. The ground for the Runners should be well manured, and deeply dug; and the shoots when about 5 feet high should be constantly stopped. This will save the necessity of using unwieldy sticks, and will secure a succession. The first Kidney Beans will be best raised in a hothouse or frame, and transplanted. They, however, must be gradually hardened before transplantation. Nasturtiums may now be sown, as also an early sowing of Gherkins. These may be raised as recommended for Kidney Beans. Sow also a little early Red Beet, Scorzonera, and Salsafy. Globe Artichokes should now be dressed: remove a little soil, and pull away all the suckers but about four or five, and fill up with a dressing of rich manure. A row transplanted now in good soil will succeed the main crops, if well watered and attended to. Box-edgings should be clipped, if not already done.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending April 1, 1863, as observed at the Horticultural Garden.

| March and April | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 26 | 7 | 29.291 | 30.253 | 60 | 27 | 43.5 | 48 | 45½ | W. | .00 |
| Friday 27 | ☽ | 30.368 | 30.131 | 58 | 40 | 49.0 | 47½ | 45½ | W. | .00 |
| Satur. 28 | 9 | 29.930 | 29.807 | 60 | 49 | 51.5 | 48 | 45½ | W. | .00 |
| Sunday 29 | 10 | 29.834 | 29.773 | 59 | 44 | 51.5 | 48 | 45½ | E. | .00 |
| Mon. 30 | 11 | 30.027 | 29.962 | 61 | 46 | 53.5 | 49 | 45½ | E. | .00 |
| Tues. 31 | 12 | 30.183 | 30.159 | 57 | 21 | 39.0 | 49 | 46 | E. | .00 |
| Wed. 1 | 13 | 30.109 | 29.907 | 61 | 24 | 42.5 | 48½ | 46 | E. | .00 |
| Average. | | 30.106 | 30.011 | 59.2 | 35.8 | 49.6 | 48.3 | 45.9 | | .00 |

March 26—Very fine; cloudy; very fine; slight frost.
— 27—Very fine; becoming overcast; very fine.
— 28—Cloudy; fine; rather boisterous; overcast.
— 29—Overcast; very fine; fine at night.
— 30—Fine throughout.
— 31—Light hazy clouds; very fine; clear; sharp frost.
April 1—Frosty; clear and fine; frosty at night.
Mean temperature of the week 5 1-5th deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending April 11, 1863.

| April. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 5 | 57.0 | 36.2 | 46.6 | 17 | 0.80 in. | 2 | 6 | 4 | 2 | 3 | 6 | 12 | 2 |
| Mon. 6 | 57.1 | 36.4 | 41.7 | 13 | 0.30 | 3 | 9 | 4 | 2 | 4 | 12 | 2 | 1 |
| Tues. 7 | 57.5 | 37.0 | 42.3 | 17 | 0.50 | 2 | 8 | 4 | 2 | 2 | 12 | 6 | 1 |
| Wed. 8 | 55.6 | 35.5 | 45.6 | 20 | 0.69 | 2 | 6 | 7 | 1 | 5 | 8 | 8 | 2 |
| Thurs. 9 | 54.4 | 35.1 | 44.8 | 18 | 0.73 | 2 | 7 | 7 | 1 | 4 | 6 | 6 | 1 |
| Friday 10 | 55.3 | 33.2 | 44.2 | 14 | 0.27 | 2 | 6 | 8 | 3 | 3 | 8 | 6 | 3 |
| Satur. 11 | 55.2 | 35.3 | 45.3 | 18 | 0.51 | 2 | 8 | 5 | — | 2 | 12 | 2 | 6 |

The highest temperature during the above period occurred on the 7th, 1859—therm. 79 deg.; and the lowest on the 10th, 1860—therm. 20 deg.

## Notices to Correspondents.

Azaleas: *R D.* The varieties sent are inferior to sorts already in cultivation.

Books: *G T S.* The work you inquire about is passing through the press.

Caladiums: *N C.* The tubers of these plants should be kept quite dry in a cool place safe from frost, after having been well ripened off in autumn. They may be started any time in spring, as required. Do not water them at first, nor until they begin to start.

Camellias: *J M W.* Some varieties are very liable to produce blotched leaves, especially the double striped, which yours resembles. It probably arises from a close and too damp condition of the soil.

Cannas: *Jons.* Apply to any nurseryman or seedsman. There is no difficulty in obtaining any quantity. They are fine things in sheltered places.

Cinerarias: *W J W.* Large and showy as a decorative plant, being of good colour, but of no merit as a florist's flower.

Coleus Verschaffeltii: *S A M.* Though this plant may be grown in a greenhouse, or even out-doors in summer in favourable seasons, it is properly a stove plant. Farfugium grande should be admissible amongst greenhouse plants, as it is not thoroughly hardy, and cannot be grown in a state fit for exhibition except under glass.

Dahlia Showing: *W H.* Certainly, if it is advisable to keep exhibitors' names out of reach of the judges—and while exhibitors think it is necessary, it may be politic to do so—it is equally necessary that the stands made use of should be uniform, that no writing of any kind, (*i.e.* by the exhibitors) should be permitted, and that new flowers "not out," should be altogether excluded. We quite approve of the suggestion that Societies holding exhibitions should furnish the stands—for their own sakes, as well as for that of the exhibitors.

Diseased Mulberry: *Constant Sub.* We find neither eggs nor grubs in your Mulberry branches, but in their stead plenty of a little Fungus, Fusarium lateritium, whose presence is incompatible with life. Whether, however, the branches had perished before they were attacked by the Fungus is a knotty point which we cannot answer. Prune out the dead wood, and if a healthy growth does not follow, the case is hopeless. *M J B.*

Names of Plants: *C J D L.* Asplenium lanceolatum.—*J A.* 1, Scilla sibirica; 2, Muscari botryoides; 3, Muscari moschatum.

Rhododendrons: *J Saow.* They are near campanulatum, but apparently not superior to it.

Strawberries: *Saxmundham.* Your plants, at least the two you have sent, swarm with red spider. They break very weakly, and we should doubt if they were well established, before they were taken into the house. We have seen a complete failure from this latter cause for the last two years, and we have heard of many similar cases. *M J B.*

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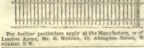

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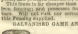

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4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.
Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.
STOCK and IMPLEMENT PRIZE SHEETS are now ready, and will be forwarded on application to
H. HALL DARE, Secretary.
12, Hanover Square, London, W.

INTERNATIONAL AGRICULTURAL EXHIBITION, to be held at HAMBURG on JULY 14, 15, 16, 17, 18, 19, and 20.
The Prizes offered are on a very liberal scale. For the Classes devoted to British Bred Stock exclusively they amount to nearly 800*l.*, while all the others are open to general Competition.
All Entries of Stock, Implements, &c., must be made upon the Printed Forms prescribed. These can be obtained from the Secretary, and must be returned ON or BEFORE MAY 1, the LAST DAY of ENTRY.
The General Steam Navigation Company, London; Messrs. Drolenvaux & Bremner, 14, Mark Lane, London; Messrs. Brownlow, Lumsden, & Co., Hull; Messrs. Lofthouse, Glover, & Co., Hull; Mr. Thomas W. Peters, Hull; Messrs. Pile, Spence, & Co., West Hartlepool; Mr. John Sutcliffe, Grimsby; and Messrs. Ormston, Dobson & Co., Newcastle-on-Tyne, are authorised to receive payments from Exhibitors for Space required, which, according to the printed regulations, are required to be paid before Certificates of Admission will be granted, and are to be paid at the following rates:—
2 Prussian Thalers for each Horse, Bull, Cow, or Heifer.
1 Prussian Thaler for each Ram or each lot of three Sheep, each Boar, each Sow including a litter of Young Pigs.
⅔ Thaler per foot Frontage and 10 feet in depth, for Machinery, Implements, &c., in Covered Sheds.
1½ Thaler per foot Frontage and 20 feet in depth, for Machinery, &c., in Covered Sheds.
⅓ Thaler per foot Frontage, and not exceeding 20 feet in depth in the Machinery in Motion Yard (Uncovered).
The Thaler to be reckoned equal to 3*s.* sterling. In making payments, the receipt of the same to be returned, with the filled-up form of application, to the Secretary, at Hamburg.
It is particularly requested to send description marks, number, weight, value, and contents of everything, with bills of lading, to Messrs. James R. M'Donald & Co., Hamburg.
By order of the Executive Committee,
GERHARD HACHMANN, Dr., Secretary, Hamburg.
To whom applications for particulars of the Prizes, &c., are to be made.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

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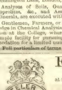
Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.
Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.
Full particulars of terms will be forwarded on application.

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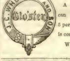
for 1863.



FARM SEEDS OF GENUINE QUALITY (at Market Prices).
*Carriage Free.*
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For prices apply (stating quantity required) to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

# The Agricultural Gazette.

*SATURDAY, APRIL* 4, 1863.

MEETING FOR THE ENSUING WEEK.

MONDAY, April 6 { London Farmers' Club .. .. 6 P.M. (Mr. Dobito on Land Drainage) }

SANGUINE men already speak of "THE GLORIOUS SUMMER OF 1863!"

We have had a magnificent equinoctial week, and Mr. DU BOULAY tells us that we shall, there-

fore have a May, June, July, August, and September, during which "neither heat nor cold, drought nor moisture will anywhere so predominate as to interfere with a great and final result on the crops."—"The produce of Wheat may be superlative in quantity and quality."—"Spring crops also, including Barley, Oats, Beans, Peas, and Potatoes, may all be thoroughly good. Mangel Wurzels when once up, so far as weather is concerned, should be enormous." Nor does Mr. Du Boulay see "why the early crop of hay should not be good, though it is quite possible that the latter pastures may be rather bare from dryness and heat; and that Turnips in England in the months of August and September may be inclined to mildew from the same cause. The crops in England, Scotland, and Ireland, are likely to be housed in the best condition before the arrival of the autumnal rains."—"The only influence" known to Mr. Du Boulay "that might disturb these views of the probable summer, is that of the *larger comets, should any of them* arrive." His observations "apply to all three countries—England, Scotland, and Ireland—for, speaking generally, the equinoctial week has been uniform over all."

Now, what is this equinoctial week, whose weather, according to Mr. Du Boulay, is always characteristic of the ensuing summer? There is nothing whatever special, during its continuance, in those relations of the sun and earth on which the leading features of our weather hinge, which can be expected to make their influence more durable or greater then than at any other time. The equinoctial week is one of a series which very closely resemble one another. Ever since mid-winter the northern limit of that hemisphere of day upon the earth at which the sun is always looking, has been creeping northwards: by and by it reaches the north pole: and for one instant on a particular day in this equinoctial week, the line separating day and night upon the earth becomes coincident with a great circle passing through the poles. But there is no stoppage of its gradual movement; in fact it is hurrying forwards then more rapidly than ever; there is nothing on which to build the theory of any special impress then made upon the earth. This movement of the northern edge of daylight is continual during its annual oscillation between the winter and the summer solstice,—marching at the rate of so many yards a minute, and not much above a hundred miles a week upon an average. What is there in the hundred miles, or two, of circum-polar sea which are the utmost of its traverse during this equinoctial week to make the relation of the sun and earth more lasting or more powerful in their weather influence than at any other time?

Weather prophets of Mr. Du Boulay's class seem to forget that these relations are *always* gradually changing, and changing at a rate which, taken from day to day and even from week to week, may be considered uniform. The daily increase in the length of days, owing to this movement of the northern limit of sunlight upon earth, is in our latitude about four minutes or thereabouts, at the vernal equinox, when it is the greatest; but for weeks on either side of the 21st of March it is still marked in our almanacs as 4′ or alternately 3′ and 4′—the difference is a matter of seconds: and there is nothing whatever in those two points of time which divide this particular week from its neighbours to make its meteorological character in any respect more significant or influential than theirs.

But it may be replied:—"No one asks for any explanation—*the fact* is all we care for. Having *that*, we are able to foresee our lot, and make provision for its circumstances." To this the right rejoinder is:—"You have not got the fact: the whole thing is a delusion arising from remembrance of the circumstances which favour it, and forgetfulness of all others." We remember 30 summers, but not one in which "this extraordinary season" was not spoken of. And no induction of particulars, though gathered from the lifetime of the oldest man, will furnish any "law" to which the details of so variable and at all times so capricious a thing as English climate will be found obedient.

Mr. Du Boulay may be right in his prediction; certainly we do not undertake to say the early hay crop will not be as good as he foretells. We know nothing about it; the only thing indeed of which we are equally certain is that neither does he. Either of us, however, may make a lucky shot, and so contribute one, as we may imagine, towards that myriad which must be forthcoming before a reasonable Englishman will believe that he has got a clue to the mysteries of English weather.

As for another writer* on meteorology and "planetary influences," who, shut up within the London fog of Wednesday week, thought that Neptune had been playing him a trick, and that "Mars had consequently suffered a loss of his sustaining influence"—it may be interesting to him to know that Mars was altogether in the ascendant in the country. There never was a more glorious spring morning—Neptune had no influence at Babraham at all events, where we spent the day. Mars had it all his own way there. We learn however that he was to arrive "at the transition point on Tuesday last, and that the efforts of Herschel on the 7th April will probably cause a downfal!" Certainly the publication of such maundering as this ought to be confined to "All-fool's-day."

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The greater portion of our space is this week occupied with an account of the Babraham herd to be sold by Messrs. Strafford and Carter Jonas, on Wednesday week.

A few additional words must be allowed us here on the forthcoming sale. The catalogue of the Babraham sale, exceedingly instructive and detailed, evidently drawn up by a master of Short-horn pedigrees, and worthy of the editor of the "Herd-book," who is to officiate as auctioneer, shows how strikingly that advantage of a long pedigree to which we have elsewhere alluded is in every instance possessed by the animals which it names.

*Celia*, the descendant of an old Teeswater family, which Mr. Coates, the predecessor of Mr. Strafford, had of the Millbanks of Barningham: *Dodona*, whose progenitor *Fortune*, was bred by Mr. Charles Colling: *Belinda*, descended from *Sylph*, and thus tracing immediately to Hubback: *Bodice*, in like manner tracing to the Studley Bull: the *Beauty*, tracing almost immediately from Kirklevington: and the *Gwynnes* from Colling's *Princess* by Favorite:—these are the mothers of the herd; and the six families from them, which have multiplied in Mr. Webb's hands in a most surprising manner, are divided over two days' sale, the former of which takes place on Wednesday week. The Short-horn breed to which they belong, formerly little better than a local tribe, is now the dominant race of beef-producing animals in all civilised countries. In our own, herds tracing from the common Teeswater origin, lie along the whole length and across the whole breadth of the island. Mr. Strafford has, ere now, travelled direct from one sale to another 700 miles apart. He is next week to officiate in a county not hitherto distinguished for the excellence of its cattle, and we hope that the herd now to be scattered there may thus distribute the seed of a better class of stock than has hitherto prevailed in the eastern counties.

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The International Agricultural Exhibition which is intended to be held at Hamburg during the week commencing with the 14th July next bids fair to open up a new and extensive market for the sale of British stock, machinery, and implements.

Not that either the stock or the implements will be new to the Port of Hamburg, as for years past there has been a constantly increasing demand for both for that part of Germany of which Hamburg is the port of admission; but the past supply, satisfactory and encouraging though it may have been, will be but small when compared with the future demands from the same and from fresh quarters, if this Exhibition be as successful as it at present bids fair to be.

The Committee entrusted with its organisation and management comprises most of the best known and esteemed names in the city.

The site of the Show ground, about 80 acres in extent, is well chosen, being within a very short distance of the city, the railroad, and the river; the Committee undertaking that the delivery of machinery, &c., from the steamers to the ground, including lighterage, cartage, labour, &c., shall not exceed 3*s.* 6*d.* per ton.

The Prize Sheet is very liberally arranged—special classes being formed for British stock—horses, cattle, sheep, and pigs.

In the Machinery and Implement classes, a Prize of 1000 Thalers (about 150*l.* sterling) is offered for steam ploughs; while medals will be given to such other articles as the judges consider worthy of reward.

Medals will also be given for agricultural produce of every description.

Great Britain has been invited to nominate a Juror for each division of the Exhibition.

Already we are informed that nearly all the leading implement-makers of this country will be well represented there; and that, notwithstanding the closeness of the date of the meeting to that of the Royal Agricultural Society, many applications have also been received from owners of Stock.

The President of the Great German Agricultural Society, Baron Von Nathusius of Hundisburg, Prussia, who has greatly interested himself in the forthcoming Exhibition, states "That all good stock that may be sent from Great Britain will meet with ready purchasers if the owners are disposed to sell; that his opinion is formed from having heard from all parts of Germany of the intention of the leading breeders to attend the show for the purpose of making purchases."

The Governments and Agricultural Associations on the continent have in many instances voted sums of money for the purpose of enabling exhibitors to attend at a reduced expenditure to themselves.

Sweden pays all the freight of exhibitors' stock and machinery, both to and from the show—and all the railways and steamers running to Hamburg have made a considerable reduction in their rates of transport.

Intending exhibitors from Scotland can learn the rates of entry and of transport from Messrs. J. Currie & Co., of Leith; or Mr. Thomas Couper, of Dundee, who are, we understand, the authorised agents of the executive committee of the Exhibition.

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## STEAM CULTIVATION.

### PEASEMORE, NEWBURY, BERKS.

An account of this farm, and of the experience of Mr. Plummer, tenant of it, as to steam cultivation was given in these pages two years ago. Mr. Plummer was the purchaser of Fowler's apparatus in 1860. He then paid 780*l.* for a 12-horse engine, 800 yards of rope, anchorage, and balance plough and rope porters. He has since then bought the following quantities of rope:—Sept. 4, 1860, 500 yards; June 10, 1861, 500 yards; July 6, 1861, 200 yards; May 2, 1862, 500 yards. He has also had his engine and tackle altered up to the latest improvements. His whole expenditure on rope, repairs and alterations, since March 17, 1860, the date of the purchase, and up till now has been 320*l.* The whole of the tackle is in good working order, and the rope will last another year. To this 320*l.*, therefore, we have only to add the cost of fuel, oil, wages, &c., and we shall have the whole actual outgoings incurred by steam cultivation on this farm; and putting the sum thus reached against the work accomplished we shall arrive at its actual cost per acre to Mr. Plummer. It may be alleged that in order to determine exactly what it has cost him, we ought to value the apparatus for sale, when probably it would be found that another 200*l.* or 300*l.* must be charged against the work. But it is sufficient to know that the apparatus is practically and intrinsically better than it was when originally bought, so that the sum per acre at which the cost of repairs, purchases, fuel, oil, and wages amounts to is really the cost of the work to Mr. Plummer.

The farm is 770 acres arable and 30 acres pasture; it is a strong clay soil, resting on chalk—the depth of the work is from 6 to 9 inches; and the value of the ploughing by horse-power at that depth may be put at 16*s.* per acre, and of grubbing at that depth by horse-power at 9*s.* Now, during the spring of last year 140 acres were ploughed and 405 acres were grubbed by steam power, and during the autumn 170 acres were ploughed and 210 acres were grubbed. At the prices just named the ploughing was worth 248*l.*, and the grubbing was worth 276*l.* 15*s.* In all the work was worth 524*l.* 15*s.*

What did it cost by steam power? It cost 87*l.* 1*s.* 8*d.* in wages, including water cart; 60*l.* 1*s.* 8*d.* in fuel; 6*l.* in oil; and 98*l.* in repairs, including all purchase of rope. In all it cost 251*l.* 12*s.* 4*d.*—in short it cost rather less than half what horse work would have

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* "6. Great alterations take place in the electric affinity of any place, owing to previous saturation with moisture, or electricity from the fall of a great storm. Hence all that the meteorologist can do is to point out the great periods of change from warm to cold, wet to dry, &c., and *vice versâ*, and the probable change or break up of the existing condition of the atmosphere, and thus rendering warnings of the instruments with great accuracy. Take a case in point—the present time. The weather was splendid up to the 24th instant; on the 25th, under the influence of Neptune, Mars suffered a loss of his sustaining heat, and consequently influence (*vide* table). Latent moisture became visible in remarkable fog, instead of developing itself in rain, hail, or thunder, from previous great heat and evaporation; but the close influence of Mars (being only 4° of longitude) exerts its absorbing power, and holds up the moisture. But on arriving at the transition point on the 31st instant, the effects of Herschel on the 7th of April will probably cause a downfal: Herschel being antagonistic to Mars will probably succeed in turning the balance from dry to wet." *Mr. W. H. White in the Mark Lane Express of March* 30.

cost. 8s. an acre for ploughing and 4s. 6d. an acre for grubbing will cover all the cost of repairs, rope, fuel, oil, and wages. This work, 925 acres altogether, was done in 118 days, including all kinds of stoppages—at the rate therefore of close on 8 acres a day. The tenant reports that the tilth of the soil since steam cultivation has been adopted cannot be better, and the produce is much improved.

Will any one say that Mr. Plummer has reason to regret his purchase of Mr. Fowler's apparatus? His is one of the few instances in which accurate records have been kept. His work since his purchase of the apparatus has been as follows:—in 1860 not a full year, for there is many an apparatus which had ploughed this year 100 acres before March 17, when the steam plough came to Peasemore in 1860—in 1860, 320 acres were ploughed and 465 were grubbed; in 1861, 180 acres were ploughed, and 860 were grubbed; in 1862, 175 acres were ploughed, and 750 were grubbed. The work of 1862 was done at the rate of close on 8 acres a day in 118 days, during which wages including water cart, cost 14s. 9d. a day, fuel cost 10s. 3d. a day, and oil cost close on 1s. a day, or 26s. in all. Using these averages to ascertain the expense in 1860 and 1861, and supposing that only 7 acres a day were done in the first two years, the 1828 acres which during that time were worked, must have occupied 261 days, and cost in fuel, oil, and wages, 339l. 6s.; add for the work of 1862, 153l. 12s. 4d., for wages, fuel and oil as already specified, and add 320l., the whole cost of repairs and purchases during the past three years; and we have the whole outgoings to Mr. Plummer (since he bought the apparatus for 780l.). They amount to 812l. 18s. 4d., for which 675 acres of stiff clay soil have been ploughed from 6 to 9 inches deep, and 2078 acres have been grubbed from 6 to 9 inches deep. If the ploughing be charged at 8s. 8d., and the grubbing at 5s. per acre, the sum to be charged for the work done is 815l. 6s. 8d. This, therefore, is the cost of steam cultivation at Peasemore. And let it be remembered, that there was in these years all the cost of an apprenticeship—and all the expenses of accident and of very considerable alterations.

Mr. Plummer's farm used to be worked with 36 horses—it is now worked with 19. It is not too much to say that the 17 horses worked in five teams must have cost 500l. a year, and that the three years of them, which were saved, must have been worth 1500l, the substituted steam power costing little more than half as much, while there is ample testimony to the great superiority of its work.

## THE BABRAHAM HERD.

(Continued from p. 299.)

The value of any particular Short-horn for breeding purposes depends on two considerations: *first*, on its possession of those qualities which you wish it to hand down to its posterity, and *secondly*, on its descent through a long line of ancestry in which those same qualities have been exhibited.

The former of course is a consideration of great value. On it alone depends the decision of judges at our cattle shows. They do not know the animal before them. They handle it and realise its "quality" by the kindliness of its touch, on which more than on any other thing the grazier depends for a judgment of its probable profitableness as a feeder. And they scan the outline and realise the proportions of its frame, the development of its various "points," on which more than on any other thing depends the proportion between coarse and fine meat in the fattened animal. Our judges do not know the animal or its family descent when it comes before them for the adjudication of a prize; but it is a striking testimony to the influence of a good ancestry that their awards are so rarely given away from members of the more distinguished families of Short-horns known to students of the Herd Book. There have been cases nevertheless in which animals with short pedigrees have beaten all competitors. The prize bull at the York meeting of the English Agricultural Society, was, if we remember right, a case in point. In such a case the value of the animal as it appears to the judge of mere form and quality, would fall as soon it became known that its merits were merely individual, and had not been inherited through a pedigree of any length. This is owing to the fact, that the power of an animal to hand down its good qualities depends very much upon their having been inherited by itself; and upon the number of previous generations through which they have been thus inherited. It would appear that there is such a thing as momentum in this matter, and that the force with which the qualities of a generation are transmitted depends on the number of previous generations through which they have been received. It is thus that the pedigree of an animal becomes the very highest element in the determination of its value, and that there is use in a written report, owing to its undoubted power of stating all that is known of its descent, however short it may fall of ability to depict an individual animal, or to present it accurately to the mind of the reader.

The Babraham herd will be admitted by all who will during the ensuing fortnight examine it to possess all the qualities of kindly handling, massive and symmetrical form, with every indication of good condition and robust constitution, and there is not one of its families (to two of which we referred last week), which does not possess the great advantage of inheriting these merits through a long ancestry.

The Rose Tribe.—Let us take the family of *Roses* in the herd, which will probably stand as high as any on the priced list next Wednesday week, and which being more definitely in our memory than any other after the short inspection made the other day, may be named more confidently than any other in illustration of the power of a report to indicate the value of an absent animal.

Mr. Jonas Webb attended the Cobham Park sale four years ago, when Mr. Harvey Combe's herd was dispersed; and he then bought *The Beauty*, then 5 years and 9 months old, and in calf by Mr. Tanqueray's celebrated bull Marmaduke (14,897), by the equally celebrated bull Duke of Gloster (11,382). *Beauty*, for which 160 guineas were paid, is now an oldish cow, of a strawberry-roan colour, not very large, and though well made and symmetrical, of a somewhat slender build, and apparently not of such vigorous constitution as her produce show that she possesses. Her calf to Marmaduke, *Red Rose*, dropped at Babraham two months after the Cobham sale, is now a large deep-framed red cow, massive everywhere, but with just that preponderance of development in the hind quarter which makes her the model of a dairy cow. She had a red bull calf, Lord Chancellor, by Usurer (19,035), when barely two years old. Usurer, one of the *Belinda* tribe, and named last week, is the first on the list of bulls for sale next Wednesday week. The Lord Chancellor is now being used at Babraham, and will figure at the sale in July. Again, on March 29, 1862, less than 11 months after the Lord Chancellor, she had twins, one of them a roan heifer, called *Cambridge Belle*, now a handsome yearling, by Young Duke of Cambridge 2d (17,709), also for sale next week, of first rate descent, through *Duchess* blood and Lord Ducie's *Bodice*.—*Again*, in less than 11 months after *Cambridge Belle*, on Feb. 29, 1863, she has had twins a second time—heifer calves, red and white, 61 and 62 in the Catalogue—*Red Rose 2d* and *3d*, by Englishman, a *Celia* bull whose descent is given further on. So much for the first of *Beauty's* calves *Red Rose*, now less than 4 years old, and the mother of five animals! *Beauty* calved again in 1861 to Sir Charles, descended from the Fawsley herd by Cheltenham, bought at Tortworth, and a descendant from the herds of Mr. Bates and Mr. Berry. Her calf this time was a bull, Guelder Rose, a well made 2-year old white bull, to be sold next week. And again, May 14, 1862, she had a heifer calf by Count de Gourcy, a *Celia* bull by Young Duke of Cambridge 2nd, to be referred to in the sequel. Mr. Jonas Webb was then disabled by illness, and it is a trait of his enthusiasm, that unwilling to wait till he could walk out to the yard, he had the young calf brought into the drawing room next morning for his inspection. Hence her name, *Drawing Room Rose*. She is a long well made calf of a good roan colour, and with a wonderfully strong coat of hair. The table on our next page contains a list of the descendants of *The Beauty*.

Let us now look at the descent of the *Drawing Room Rose* in illustration of the fact which may be also alleged of all the other Babraham animals, that the pedigrees go back to the oldest Shorthorn herds of which any record has been kept. The granddam of *Drawing Room Rose*, Cambridge Rose 6th, was bought for 70 guineas at the Kirklevington sale by Mr. Harvey Combe. She is the 3d generation from the Cambridge Premium Rose, so called as being the animal with

### DESCENDANTS OF CELIA.

- Celia, by 3d Duke of Northumberland (3647)
  - Countess of Hardwicke, by Percy (6283)
    - 1. *Countess of Caledon*, 1850, by The Minstrel (8687)
      - 20. Drum Major, 1863, by Young D. of Cambridge 2d (17,709)
    - Countess of Mexborough, by The Minstrel (8687)
      - 2. *Empress of Russia*, 1851, by Plenipotentiary (10,617)
        - 45. *Princess 3d*, 1862, by Usurer (19,035)
        - 7. Remus, 1861, by Sir Charles (16,948)
      - 19. *Duchess de Maille*, 1857, by Cheltenham (12,588)
        - 51. *Princess de Maille*, 1862, by Young D. of Cambridge 2d (17,709)
        - A. Tally Ho, 1859, by Sir Charles (16,948)
      - Wickham Duchess, by Cheltenham (12,588) — 22. *Miss Tanqueray*, 1858, by Lord Hendon (14,823)
      - 26. *Young Countess of Mexborough*, 1859, by Thorndale (17,123)
      - Chesterford Duchess, by Lord of the South (13,266)
        - 37. *Lady Harriet*, 1861, by Sir Charles (16,948)
        - 28. *Marchioness of Bute*, 1859, by Lord Erskine 1st (14,815)
    - 39. *Lady Beautiful*, 1861, by Sir Charles (16,948)
    - 18. Earl of Hardwick 2d, 1862, by Young D. of Cambridge 2d (17,709)
    - 4. *Lady Stuart*, 1852, by Red Roan Kirtling (10,691)
      - 11. *English Lady*, 1856, by Young England (14,513)
        - 48. *Princess Alice*, 1862, by Sir Charles (16,948)
        - 8. English Gentleman, 1861, by Sir Charles (16,948)
      - 46. *English Queen*, 1862, by Sir Charles (16,948)
      - 18. *English Rose*, 1857, by Cheltenham (12,588)
        - 2. Englishman, 1859, by Sir Charles (16948)
        - 10. Dr. Dunkelburg, 1862, by Count de Gourcy (17,632)
    - Lady Elizabeth 2, by Marquis of Bute (11,788)
      - 25. *Lady Anna Burdett*, 1859, by Sir Charles (16,948) — 35. *Matchless*, 1861, by Count De Gourcy (17,632)
      - Lady Alicia Burdett, by Young Duke of Cambridge (14,433) — 40. *Starlight*, 1861, by Usurer (19,035)
  - 5. *Miss Bletsoe*, 1852, by Scrivener (10,791)
    - 27. *Miss Bletsoe 2d*, 1859, by Sir Charles (16,948)
    - 60. *Miss Bletsoe 4*, 1863, by Englishman 2
  - 7. *Young Celia*, 1853, by Lord of the North (11,743)
    - Young Celia 2, by Lord of the South (13,216) — 20. *Miss Emily*, 1857, by Young Duke of Cambridge (14,433)
    - 32. *Young Celia 7*, 1861, by Sir Charles (16,948) — Miss Emily 2, by Earl of Hardwicke (14,476) — 15. Field Marshal, 1862, by Sir Charles (16,948)
    - Young Celia 3, by Young Cheltenham (14,264) — 43. *Bonny Bly*, 1861, by Sir Charles (16,948)
    - Young Celia 4, by Earl of Hardwicke (14,476) — 11. Architect, 1861, by Sir Charles (16,948)
    - 17. *Young Celia 8*, 1862, by Earl of Hardwicke, (14,476)
    - 14. Young Lord of the North, 1861, by Sir Charles (16,918)
  - Miss Beauford, by Red Roan Kirtling (10,691) — Miss Amelia, by Marquis of Bute (11,788) — 29. *British Queen*, 1860, by Sir Charles (16,948) — 19. Prince Alfred, 1863, by Count De Gourcy (17,632

Besides these *Miss Tanqueray* (No. 22), by Lord Hendon (14,823) above, has a heifer calf and a yearling heifer of 1861 and 1862 respectively, named *Miss Tanqueray 2d*, and *3d*, the former by Usurer (19,035), and the latter by Englishman (Lot 2), which stand 41 and 59 in the Catalogue.

which Mr. Bates took the prize in the cow class at the 2d annual meeting of the English Agricultural Society. *Cambridge Rose 6th* was by 3D DUKE OF YORK (10,166), a pure *Duchess* bull, being from *Duchess* 51, by 4TH DUKE OF NORTHUMBERLAND; and so, on both sides of her descent we have pure Bates's blood, which is traced from Robert Colling's herd. The sire of *The Beauty* was PURITAN (9523), bred by Lord Ducie by DUKE OF CORNWALL (5947), out of *Lady Fairfax*. *Lady Fairfax*, of the *Fairfax* family, was bred by Mr. Whittaker; his sire was by 4TH DUKE OF NORTHUMBERLAND, which thus stands in the same relationship to the sire as it does to the dam of *Beauty*. The dam of the DUKE OF CORNWALL, *Lily*, was by YOUNG ST. LEGER (2585). We thus through Bates, Lord Ducie, and Whitaker, trace the *Beauty's* descent direct from the herds of Charles and Robert Colling.

Look, now, at the *sire* of *Drawing Room Rose*. COUNT DE GOURCY (17,623), was the g.g. son of *Celia*, a cow by the 3D DUKE OF NORTHUMBERLAND, already named, and tracing on her mother's side from the very beginnings of the family of Mr. Coates' connection with Shorthorns. Her daughter was put to the MINSTREL (8687) bred by Mr. Adkins, from one of the CHARMER tribe, and, by ACCORDIAN, a descendant of "Lady Marion," a celebrated cow of Lord Carlisle's. The *Countess of Caledon*, the produce of this union, was the dam of COUNT DE GOURCY, by the YOUNG DUKE OF CAMBRIDGE (14,433) which is on the mother's side a *Gwynne*, and on the father's side a pure Bates bull, being *Duke of Cambridge* (12,742) by GRAND DUKE (10,284), who was from *Duchess 55th*, out of *Cambridge Rose 7th*, own sister to the dam of *The Beauty*.

It is plain then that the *Rose* tribe, and this member of it in particular, unites the blood of some of the best and oldest families known to the Short-horn breeder; and no one looking at *Red Rose* and her produce, or at GUELDER ROSE and *Drawing Room Rose*, the other produce of the *Beauty*, can say that it has degenerated in the hands of Mr. Jonas Webb.

The CELIA FAMILY, though a very much more numerous tribe, must not occupy so much of our time. *Celia*, from whom they have all descended, was bought at Mr. Beauford's of Bletsoe, near Bedford, 17 years ago. She was by a Bates bull, as already mentioned, and on her mother's side she traces through *Columbine*, bred by Mr. Kelk, to REGENT, a bull bred by Mr. R. Colling, and *Charlotte Palatine*, a cow bred by Mr. Coates, the author of the "Herd Book." The relationships to her of that portion of her family to be sold next week are given in our previous page.

These, though a large family, are but a tithe of the produce of this extraordinary cow. We have before us the complete list of her descendants, excepting those which have been sold out of the country. They number 178—9 in the first generation, and (from 4 of these) 38 in the second generation, and (from 15 of them) 68 in the 3d generation, while from some of these there are families of 6 and 10. The bulls employed upon *Celia* and her descendants were named last week; some of them were bred by Earl Ducie, Mr. Adkins, and Mr. Clover, and others by Mr. Jonas Webb, from one or other of the six families to which his herd was confined. It is worth noting that ENGLISHMAN, the sire of FIRST FRUITS (the gold medal bull at Battersea last year, is a *Celia* bull, his name

DESCENDANTS OF THE BEAUTY.

| | | |
|---|---|---|
| 8. *The Beauty*, 1853, by Puritan (9523) | 24. *Red Rose*, May 5, 1859, by Marmaduke (14,897) | 44. *Cambridge Belle*, 1862, by Young Duke of Cambridge (17,709) |
| | | 61. *Red Rose 2d*, 1863, by ENGLISHMAN (2) |
| | | 62. *Red Rose 3d*, 1863, by ENGLISHMAN (2) |
| | | B. LORD CHANCELLOR, 1861, by Usurer (19,035) |
| | 9. GUELDER ROSE, 1861, by Sir Charles (16,948) | |
| | 47. *Drawing Room Rose*, 1862, by Count de Gourcy (17,632) | |

DESCENDANTS OF BODICE.

| | | |
|---|---|---|
| Bodice, by Usurer (9763) .. .. | 9. *Duchess of Gloster*, 1853, by Duke of Gloucester (11,382) | 4. YOUNG DUKE OF CAMBRIDGE 2D (17,709) 1859, by Young Duke of Cambridge (14,433) |
| | 23. *Duchess of Gloster 4th*, 1858, by Young Duke of Cambridge (14,433) | 36. *Duchess of Gloster 6th*, 1861, by Usurer (19,035) |
| | | 51. *Duchess of Gloucester 7th*, 1862, by Earl of Hardwicke (14,476) |
| | 3. GRAND DUKE 3D (17,994), 1859, by Young Duke of Cambridge (14,433) | |
| | 10. GRAND DUKE 4TH, 1861, by Count de Gourcy (17,632) | |

THE GWYNNES.

| | | |
|---|---|---|
| Daffy Gwynne, by Sir Harry (10,819) | 12. *Young Daffy Gwynne*, 1856, by Young England (14,513) | PRINCE GWYNNE (D), 1861, by Sir Charles (16,948) |
| | 30. *Young Daffy Gwynne 3d*, 1860, by Lord Royston 2d (16,449) | 55. *Young Daffy Gwynne 5th*, 1862, by Young Duke of Cambridge 2d (17,709) |

appearing in the table on the previous page in the 4th generation from her. The ENGLISHMAN was 2d in the young bull class at Leeds.

BODICE and DAFFY GWYNNE and their descendants.—These two families, of which ten members are to be sold next Wednesday week, must be referred to very shortly. *Bodice*, by USURER (9763), was bought by Mr. Jonas Webb at the Tortworth sale for 115 guineas. She traces back to the STUBLEY BULL (627), one of the earliest of the Short-horns recorded in the "Herd Book." Her produce has been by *Duchess* bulls, as will be seen in the above list.

Of the *Gwynnes* only three are to be sold next week. *Daffy Gwynne* was bought at the Hendon sale in 1855. Her descendants will be found above. They trace from Colling's *Princess* by FAVOURITE (252), a cow to which we owe some of the best animals of the breed. And they unite in themselves families of as great merit and antiquity as have been named in the case of the *Roses*. But we have not room for the detailed history which they deserve. It must suffice for the present that we have thus presented to our readers the relationships and names of the animals in Mr. Strafford's catalogue of the first Babraham sale. To the remainder of the herd, which will be sold in July, we shall hereafter call attention.

## THIN SEEDING AND MILDEW.

I OWE a letter to Mr. Ford, in reply to his farewell one, and as some of the readers of your Journal are expecting one from me, and as I consider the subject highly important, I hope you will favour me with a column or a part of it, as it may be, for what I am about to write, and *in limine* I will inform Mr. Ford that it has been from no want of courtesy towards him, but from my having had a rather severe cold, that I have not replied to his letter before.

But it appears from this farewell letter that Mr. Ford has dropped upon a congenial spirit in the person of a Mr. Loft; who has once in his life, among many of his trials, and from, I conclude, a long practice, had one good crop of Wheat from Mr. Ford's minimum quantity of seed, namely 57 bushels of crop from two bushels of seed, an exploit which puts both these gentleman into high glee, and makes Mr. Loft a kind of farming hero, and gives Mr. Ford the opportunity of being his voluntary bugleman, and of praising his own system of thick seeding at the same time. But it appears Mr. Loft has performed his feat but once, and as one swallow does not make a summer, neither does the opportune success of one trick make a conjuror; Mr. Loft must try again, and repeat his exploit; or, let his bugleman sound his praises through his horn until he has blown all the breath out of his body, his hero will be lost to fame, and soon, like many other marvel-workers, sink into oblivion and be heard of no more.

No, no; if Mr. Ford's friend would maintain his reputation, he must repeat the feat again, and I should say also again and again; and why not? "Why not? Parson Wilkins, I did not expect such a question from you; why not? do you not see, that if Mr. Loft were often to repeat this trick, that others, clever men, would learn it of him, and then again others of them, until corn would become so plentiful, that it would not be worth the growing." But, after all, these fears may be vain, for only look at the enormous importations into this country of all kinds of provisions which are recorded in public prints, and which are so absolutely required to the keep the inhabitants of it from perishing by want; and look again at the diminutively small quantities that the British farmers themselves grow in it. For one example; from March 2 to March 5, in 3 days only, and it is the same all the year round, but in those 3 days only the foreign arrivals were 26,090 qrs. of Wheat, 1,510 sacks, and 24,380 barrels of flour, whilst of English there were only 1440 quarters, and 1130 sacks; and the same proportions as to all other kinds of grain, and the same proportions of importations of all other kinds of grain. Awful and alarming, my readers, is the contemplation of this state of things; England might equally as well be a mere rock, for were from any accident importations stopped for six months only, dreadful would be the sufferings, and if for 12 months famine would depopulate the land.

And painful it is to know, that though it is evident that the lands of the country, by really scientific cultivation, and I add rational seeding, might be made to support, or nearly support, all the population of it, yet it is as certain that at this time they do not produce corn enough for the consumption of 17 weeks out of the 52 of the whole year! and hence the rational alarm. And still more painful it is to know, that when any farmer or other person, by adapting science to his practice, produces from smaller quantities of seed twice or three times the produce that the jog-trot gentlemen do, then immediately as marked men persecution follows them, hunts them whithersoever they may go or wherever they may be. "Is this true, Mr. Wilkins?" True? I have now a file of letters sufficient to make, if printed, a tolerable sized volume, some anonymous, and some not, but all proclaiming that their farming practices are capable of great improvements, but they dare not openly advocate them, from a fear of the persecutions that would be sure to follow them as raisers of rents! and even from Mr. Ford's own neighbourhood, I have a letter this week from an evidently educated gentleman, who clearly knows farming well, and who says that some years since the Rev. A. Huxtable, under the fiercest opposition, effected great improvements in the growing of root crops, and to whom the country, he adds, is greatly indebted; and he goes on to state, "that still greater improvements were required in the growing of corn crops, and that the lands were ruinously over seeded." This gentleman posts his letter at Blandford, and yet apologised for not giving his name, from a fear of the ill feeling towards him which would be sure to follow his doing so.

Another, but not from Dorsetshire, sends me an account of his produce for many years, and the seed used to produce it, and which is very small, but the produce marvellous; and he entrusts his name to me, but begs of me not to publish it, as some years back he was mobbed out of the market "as an enemy to his brother farmers, and a raiser of rents!" and so they go on, all denouncing the present system, but none daring openly to advocate a change. A nobleman's steward also writes in the same strain; he is also a thin seeder, but is looked on with suspicion and jealousy, because he advocates better tillage, more economy in saving manures, and the using of less seed!

But, my readers, permit me to give you a few out of many examples of a better practice.

After last harvest, when driving through a bye lane some 30 miles from my home, I saw a farmer in a field with his men, and ploughs, and harrows, preparing it for Wheat sowing. On seeing that the work was unusually well done, I stopped and had some conversation with him, who was quite a stranger to me, and I to him. He told me that he farmed on the plan of the parson of Wix; that his quantity of seed was one bushel only, and that the next field to that he was in, had on it last year exactly six quarters of very fine Wheat an acre, which he had sold at a very high price. Had he mildew? No. Then, again, I passed a very large field in another part before harvest, of a very intelligent gentleman well-known to me; and so I called to see him, and to go through the field—a very large one, and which had been drilled in slips of different quantities of seed, from two pecks to, I think I remember, six pecks; but, as he will read this letter I must ask him to correct me if I make a mistake. But we went through the field, when he asked me to point out the parts seeded with the largest and of smallest quantities of seed; but I was not able to do so; and he told me that many farmers had tried the same, but all had likewise failed, and that he himself should not have known except from a paper he held in his hands, and some marks he had set up; but the whole of the crops were very fine; indeed, it was the fine appearance of them that led me to wish to walk through the field before I knew how it had been seeded. But had not the owner mildew? No; he is too sensible, and cultivates too well to have mildew. This, my readers, is true, refute it who can. But, again, a most valuable friend of mine farms of his own land many hundred acres; and some 30 years back his farm and neighbourhood were notorious for mildew; but my friend cut down his high hedges, threw several small fields into one, drained his lands, and cultivated well, and thus banished his mildew. I know all his lands well, and have often seen them, but I have not seen a crop mildewed for very many years—indeed, I repeat that mildew cannot be bred, except upon badly cultivated, undrained, and over-seeded land; or certainly not on well drained, well cultivated and properly seeded land. But again, some 20 years since and more, I knew an old gentleman who farmed his own lands of about 300 acres; his seed of Wheat was 2 and 2½ bushels, and his crop 4 and some chance times 4½ quarters an acre, but 4 quarters he often told me was a good crop.

Well, about 16 years since the old gentleman died, and the farm was sold and let to a tenant who gave an unusually high rent for it, the highest I knew. The man had never been on a farm before, and knew nothing of farming, and all the farmers proclaimed that

he would—indeed, that he must—break. But he commenced, and let me observe, his subsistence and that of a large family depended solely on his farming. But he set-to in earnest, disregarded all the farming around him, but copied from the gardeners, and his farm soon became like one large garden. He cultivated the best I had ever seen, double ploughing all his land, and to as great a depth as the ploughs could be made to go. He seeded as Nature and his own strong and good sense taught him; of Wheat one bushel of seed only, and Barley, &c., in like proportions, and his root crops are all so marvellous every year that they are worth going miles to see them. But what are his crops? Of Wheat he averages nearer six quarters than five every year from his one bushel of seed, and his other crops are all equally as large and fine. But has he not mildew? Mildew, indeed! He is again too good a judge to admit mildew into his fields, or anything else except what he sows for. Mr. Ford, of course, doubts the truth of what I am writing, but if before next harvest, he will kindly pay me a visit, he shall have the best treatment I can give him. I will obtain permission to show him over this farm; and now from the experience of the past, I will venture to predict that the Wheat crops on it shall average 44 fold for all the seed drilled to produce them, and other crops in like perfection, but I cannot undertake to do this to more than one person; except I by letter may induce a noble neighbour of Mr. Ford's, well known to me, to accompany him.

But, Mr. Ford, to be very serious—how is it that the best farmers I know—those like the above, who produce the largest returns from given quantities of land, were not bred farmers. How, did I say? The answer is obvious; they entered on their operations without ancient prejudices; went into the market gardens, and not on farms, for information, and hence their success. A few years since in one of such what I call gardens, 5 acres of land were in Peas, in rows $2\frac{1}{2}$ feet apart; and when I observed to the owner of the plot, that a farmer would have put in four or five rows where he had but one—"Yes," said he, "he would, but I give 4*l.* an acre for my land, and so I must grow corn, and not merely straw only, while farmers can afford to grow straw who give but 30*s.* an acre for theirs." *G. Wilkins, Wix Parsonage, March* 11, 1863.

## Home Correspondence.

*Anthyllis vulneraria.*—What can Mr. Stebbing mean by calling the common Anthyllis vulneraria a "newly introduced plant?" Why it is as old as this tight little island itself, and may be found wild on every chalky down here in the south. *Viator.*

*Emigration.*—In your Notices to Correspondents of March 21, I noticed a letter from a gentleman about to emigrate to one of the Australian colonies, inquiring about horse power and agricultural implements. I have been thinking of emigrating to Queensland myself. I am by trade a millwright, and have had a good experience in the manufacture of agricultural machinery at Mr. B. Samuelson's, Banbury, and other places I was seven years with the late Mr. Newberry, of Hook Norton, the manufacturer of the dibbling machine, and have had experience in corn mills, both wind and water. I have lately turned my attention to market gardening, &c., with a small dairy farm, but my lease expires in a short time, and my land is about to be sold. I have a family of six children to provide for, and I think I shall be able to do better for them in Queensland than here. As I shall not have capital to take out machinery and implements, I think of taking out tools, lathes, &c., for the manufacturing of such things as may be required; and if my experience will be of any service to your correspondent I shall be glad to communicate with him, or if Queensland should be his destination, I might be of some service to him there. *William Burbury, White Moor Gardens, Kenilworth.*

*Parturition of Ewes.*—In your Notices to Correspondents (March 21) it is asked whether it is not a very rare occurrence for a ewe to yean a lamb on the 18th of February, and then to yean another on the following 16th of March; having had much experience amongst lambing ewes, I am inclined to think no such case ever occurred. When a boy, assisting with a large flock in the lambing season, I fancied I had made the same discovery as "Breton," but our more experienced shepherd soon dispelled the illusion. The case to which I allude happened in this wise. We folded the ewes every night, and in the mornings, generally, several ewes had lambed; on this occasion one ewe amongst others had a lamb following her in the morning, to which she showed all the maternal feeling, letting it suck, &c. She was put into a field amongst the ewes that had lambed; by and by, about a fortnight after, she had dropped twins; hence my astonishment, and hence my pride in being able to chronicle an extraordinary case, but my pride was doomed to get a fall; the shepherd indignantly told me it was my stupidity in having allowed the ewe to retain a lamb that she had enticed from its mother (that probably had produced twins), that was the foundation of my marvellous case; and in truth that the ewe of my wonderful story had only become a mother in reality when she dropped the twins. I shall say nothing of the scepticism I had on the subject, and in my ignorance the contempt I felt for the man who so ruthlessly set aside what I had seen, or fancied I had seen, but after years proved to me that the more I knew the less likely would I be to scout the experience of older and more practical men. Since that time I am sure that I have seen not less than 20 cases where ewes have enticed a newly dropped twin lamb from the mother, and where we knew by examination that the ewe claiming the lamb had not then yeaned, and in some cases where we thought the ewe so claiming to be a mother before the time would only produce one lamb, we have allowed her to retain the adopted one, and when she yeaned, allowed her to retain both; but if, as has happened with us, twins came when only a single lamb was expected, we generally took away the adopted lamb, especially if it was two or three weeks old, as in such cases the newly-arrived lambs had little chance in the struggle for life with the elder and more robust foster-companion. These facts are so well known amongst Leicester flocks that I am sure I could find almost endless corroborative testimony to what I have stated, and so well assured am I upon the point, that, unless I saw a ewe produce a lamb, say to-day, and then saw her produce another, say a fortnight hence, that I would be inclined to think "Breton's" case like my own when I was a tyro in such matters. *R. P., Cumberland, March* 25.

*Horse Power.*—In answer to "Brass Spurs," I have been residing in the British American colonies for the last 32 years, and have had some experience in very many separate departments of labour-saving machines, and if you write to Mr. Garthshaw, of Dundas, Canada West, North America, you can there obtain the price and plan of the machine that is used there. It is used for cutting fire-wood, for pumping where a great deal of water is needed, for cutting chaff, or threshing grain. It is worked by two horses or oxen, but oxen are best for general use for three or four years, such as clearing land, &c. It is best to go and see what you want first, and send home for all machines that you require. You want no reaping or mowing machine, no hay tedders, drills, cultivators, rollers, or ploughs for a bush farm for the first three or five years. A good washing machine you can get out there that will wash, clean, and do its work quick. I am going out the beginning of next month, and shall commence making them as soon as I get there. Go out and see for yourself before you buy anything. *Samuel Calver, Westleton, Suffolk.*

*The Potato and its Culture.*—The season has been so remarkably fine, that Potato planters have been enabled to get their land in a very forward state, and planting has already commenced to a considerable extent. It has become such an important branch of British husbandry, particularly in the richer districts, that any light which can be thrown upon its better management and most acceptable varieties, cannot fail to be valuable to every grower. The varieties of the Potato most cultivated for the London and the chief consuming markets, are the Flukes and Regents, but there have lately come into demand several other useful varieties; such as the Rocks, Snowballs, Dalmahoys, Walker's Early Regents, Skerry Blues, Bellahaddarens, and many others, either as varieties or sub-varieties. The writer of this short paper has in the past season cultivated the Flukes, Regents, Snowballs, Dalmahoys, Walker's Regents, Skerry Blues, and Bella-haddarens. So far as his experience goes, the Dalmahoys, Bella-haddarens, and Walker's Regents are so much alike in their size, shape and growth, that they might be taken to be very nearly allied, if not the same kind. The Walker's Regents did certainly arrive somewhat earlier to their full growth, and they had a few more diseased tubers amongst them, than the other sorts; all, however, were remarkably free from disease. The Skerry Blues were altogether free, and one acre of the latter would produce as great a weight of Potatoes as the other three put together, *i. e.*, three times the quantity. I have seen nothing to equal them in quantity under suitable culture since the commencement of the Potato disease, and the quality is exceedingly good, being very "mealy and floury," and excellent in flavour and colour. The Flukes, Regents, and Snowballs were my field crop; the others were grown in experiment, *i. e.*, I had five sacks of seed Skerry Blues, one do. each of the others, and one of Flukes as a test; the latter the worst crop. The whole were well got in upon soil in fine condition in two distinct situations as a further proof, and every crop was good, but the Skerry Blues far exceeded my expectations, although planted much too thickly, as I discovered upon witnessing the large crop of haulm they produced. The Flukes in this neighbourhood have all produced excellent crops this year, and also in the last, but the previous year this sort did not at all yield favourably, and was much diseased; however, it is now the popular kind, and much sought after. Regents, Rocks, and Snowballs (the latter very similar to the Regent), are also quite favourites with the larger cultivators. I would remark that there are thousands of acres grown in this (the writer's) district; it is a chief crop. The varieties of Potatoes named above all stand very high in character wherever they are grown. Many have been the experiments tried in this district to prove the best mode of cultivation, and the best method of planting. It is universally allowed that poor land and even good land, if out of condition, is not well adapted for the growth of Potatoes. All the open deep loams are sought after for this purpose, and high prices are given for permission to grow Potatoes. The free and open loams of considerable depth are considered best adapted for the Potato crop, and these are got into as fine a tilth as possible. The planting commences early in March and will be continued up to the middle of May; but the earlier the better, if the soil and season is suitable. The result of all the long tried experiments has been the adoption and almost general practice with our best cultivators of ridging the soil at about 30 inches intervals, then to deposit from 8 to 12 loads per acre of well rotted dung, over which is sown about 2 cwt. of Peruvian guano. The sets, which are always large, are then planted nearly in the bottom between the ridges, 14 to 18 inches apart, and the ridge is ploughed over them. If the weather is very dry they are lightly rolled down; but in suitable seasons they are best undisturbed till the first horse-hoeing takes place. They generally receive three horse-hoeings and two hand hoeings before moulding up. The moulding time requires watchfulness; every advantage is taken of favourable rains. The great object is to produce a heavy crop of tubers; hence the Potato sets are prepared with care; every one is looked over, and superfluous eyes are cut out. It is far preferable that the plant should have but two or three good stalks so as to produce large Potatoes only. Many stalks will produce many Potatoes, but they are too small to be marketable; hence some growers pluck off superabundant stalks to make the plant more vigorous. *O. F.*

*Agricultural Machinery for the Colonies.*—In a recent Number, page 278, a correspondent who intends emigrating is desirous of information relative to what would be the best machinery, &c., to take out with him to work a farm. As one who has had for the last 20 years experience in colonial life, although not a farmer, perhaps he will allow me to submit one suggestion to him. It is quite in accordance with what you mention at the end of the paragraph, that is, let him take nothing whatever with him in the shape of farming machinery. It will be far better for him, he will find, to go to a colony with his money, in bank drafts, in his pocket, and when located to his mind to look round him and see what implements his neighbours use, or what are generally used by the best farmers in the colony. He will thus profit by the experience of others, and which, it may be, they have found rather expensive experience. As a rule, also, the merchants of all English colonies are too alive to their own interests to allow the requirements of any class there to be unsupplied, and of course, if farmers require machinery for the cultivation of their lands, it is their interest to supply such as is known to be effective. If it is not so it is left on their hands. The question is simply whether an emigrant chooses to pay an importer in the colony, say 25 per cent. profit, so that he may have exactly what suits his purpose and no more; or whether he chooses to take out with him an assortment of machinery according to his own ideas of what he may want, and knowing nothing whatever of the land on which it is to be applied, or the labour he may be able to command in its application. Another thing to be considered is the risk of damage to machinery in its transit. I pity any unlucky individual who may have chanced to get into such a hobble; the knocking about from pillar to post between the captain and mates of the ship, the agents, the draymen, and in fact all concerned, is seldom submitted to more than once in a lifetime. The merchants accustomed to this sort of thing soon get such matters straight, but any private person in such circumstances endures so much annoyance, loss of time, and expense, that he will find purchasing what suits him in the colony is by far the cheapest in the end. In the meantime let him and the boys, before they leave this country, see as much as possible of all the appliances of machinery in actual operation on farms and if possible understand them thoroughly. He will then be able if necessary to send home for such as he may want if he cannot get it in the colony. He can always reckon on what it will cost him there (say Australia), as any merchant will import for him, if he prefers keeping his own money in use on his farm, at a profit of about 20 per cent., cash paid on delivery, and in good order, in about five or six months' time, the merchant paying all charges of every description in the transit. The merchant has also certain advantages on this side—such as discounts, &c., to which the purchaser on the other side has a right, and which a small purchaser here seldom, if ever, gets. If, however, he would like to take out articles connected with domestic matters, I would recommend his doing so. If he intends going far into the bush, a steel mill for grinding Wheat and sifting the flour he would find useful. He and the boys, all of them, ought to learn to use this, make their own yeast, and bake their own bread. They ought also to have some idea of cooking a savoury dish. Such things may never be required of them, but their knowing how to do them can do no possible harm. A complete set of good carpenter's tools is of course absolutely essential, and generally whatever is found to be of use in domestic matters ought to be purchased here and taken out. They are generally not bulky. But there is one thing which I should say is almost imperative in regard to those, and that is that the way of using them properly ought to be known and practised here by all of them, old and young, before they go, so that when they do settle down they may set about their work without requiring to be shown how to do this or that, and know also how to repair any thing that may require it. As I

have no doubt your Correspondent will find plenty of advisers who will recommend all manner of things in the shape of steam ploughs, reaping machines, winnowing machines, &c., I thought if he made up his mind to purchase nothing whatever till he had got on his farm, that he might as well know there are people who agree with him in thinking that to be his best plan. *Alfred, Gravesend, March* 23. [Thanks.]

*Sparrows.*—I have read with inconceivable surprise in a local paper a letter from the Rev. George Wilkins, of Wix Parsonage, Essex, on sparrow murder, which was, I believe, copied from your columns. As that letter contains some egregious errors, which if spread abroad are likely to do much mischief among persons who know but little of natural history, the sooner they are rectified the better. Mr. Wilkins says that the house sparrow, Fringilla domestica, does not eat caterpillars, and will sooner perish than do so; and that he has repeatedly proved this to be the fact. Perhaps Mr. W. is unaware that there are certain caterpillars which few or no birds will eat. The larvæ of our three common White Cabbage butterflies, Pontia Brassicæ, Rapi and Napi, are I believe hateful to the stomach of every British bird except the garden warbler, Sylvia hortensis. As far as I know, the Cuckoo is the only bird which will feed on that destructive pest, the larva of the Gooseberry saw-fly, Nematris ventricosus. Now if Mr. Wilkins shut up some sparrows with a lot of these caterpillars, I am not in the least surprised at their loathing such noxious pabulum, even to the death. You might just as well shut up some starving men in a hay loft, and be surprised to find them dead, and the hay untouched. It is an undoubted and incontrovertible fact, that sparrows do eat caterpillars, and largely too, together with all sorts of insects. It is really almost past belief, that in the latter half of the 19th century any person living in the country, and possessing the most ordinary powers of observation, can be found capable of asserting that this bird is not insectivorous. During the breeding season it is almost entirely so. Every one who has the slightest acquaintance with the house Sparrow in its wild and natural state is as well aware of this fact as he is of his own existence. It is the height of folly and ignorance to deny it. I shall not easily forget some years since taking a young and nearly fledged sparrow from the nest and hanging it up to a tree in a cage, for the old ones to feed. In the course of three or four hours the whole of the bottom of the cage was covered with a thick stratum of insects, consisting of caterpillars of various kinds both large and small, butterflies, moths, &c. Among the beetles were a goodly number of the genus Elater, the larvæ of which are the destructive and too well-known wireworms. There was not a grain or seed amongst all this mass of food brought by the parent birds to their young ones. Mr. Wilkins hurls sneers at the head of Dr. Bree, and with an egotistical coolness which is to say the least astounding, designates the doctor's unanswerable arguments as a house of snow melting away beneath the blaze of ornithological light emanating from Wix Parsonage. Fortunately for himself and the cause of natural history, the Doctor's reputation as a painstaking, accurate, and veracious naturalist has been so long established with the general public, that he can afford to smile at all such antagonists. He needs no advocacy from private friends. I may however state that I have for some years had the pleasure of being intimately acquainted with Dr. Bree, and know him to be one who never asserts a thing unless he has previously by long personal and practical experience proved it to be true. Sparrows are no doubt mischievous, and their numbers must be thinned; but on the whole they do more good than harm by their enormous destruction of insects injurious to crops. Our colonists are at the present time giving as much as 12*s.* per pair to introduce them into the colonies; and were our English farmers and gardeners once to succeed in exterminating the species, they would be only too glad to buy it back at a much dearer rate. *H. Harpur Crewe, The Rectory, Drayton-Beauchamp, near Tring, March* 23.

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

MONTHLY COUNCIL: *Wednesday, April* 1.—Present, Viscount Eversley, President, in the chair; Lord Feversham, Lord Tredegar, the Hon. General Hood, the Hon. A. Vernon, Sir A. K. Macdonald, Bart., Sir Watkin W. Wynn, Bart, M.P., Mr. Raymond Barker, Mr. Barthropp, Mr. Bramston, M.P., Mr. Cantrell, Mr. Druce, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Holland, M.P., Mr. Hudson, Mr. Pain, Mr. Randell, Mr. Sanday, Mr. Shuttleworth, Mr. Turner, Mr. Wells, Mr. Wilson (of Stowlangtoft), Professor Wilson, and Dr. Voelcker.

The following Members were elected:—

Allnutt, Henry, 200, Fleet Street, London
Beamand, William, Newcastle, Clun, Salop
Bulmer, Jeffrey, jun., Middleton-on-Row, Darlington
Clark, Joseph H., Altwood House, Maidenhead
Clarke, William, Brack Farm, Luton
Coventry, Earl of, Croome Court, Kempsey, Worcestershire
Curtis, Thomas, The Hall, Berkhampsted
Errington, George, 10, Rutland Square, Dublin
Evans, E. Bickerton, Whitbourne Hall, Worcester
Fawcett, Theodore, 119, Pall Mall, London
Fisher, Peter, Prospect House, Whitehaven
Fitzwygram, Frederick, Lieut.-Colonel, Carlton Club, London
Ford, Charles Henry, Bishopton, Stockton-on-Tees
Gibson, John Kirk; Ingleby, Lincoln
Grant, Sir George MacPherson, Bart., Ballindalloch Castle, N. B.
Gunn, Robert, Great Dalby Lodge, Melton Mowbray
Hardy, Peter, The Grange, Claines, Worcester
Herbert, William, Kempsey, Worcester
Hill, Thomas Rowley, Catherine Hill House, Worcester
Holorocke, George, Attenborough, Nottingham
Holehouse, John, Llangathock House, Abergavenny
Homer, Thomas Alner, Tolpuddle, Dorchester, Dorset
Howman, Henry Arthur, Bexwell Rectory, Downham Market
Lane, Ebenezer, Honey Street, Marlborough
Morris, John, Town House, Madley, Hereford
Morris, Philip S., Woodmanton, Worcester
Oldrin, John, Rushmere, Wangford, Suffolk
Owen, William, Withybush, Haverfordwest
Pickernell, John, Holt Castle, Worcester
Pullen, William, Worcester
Ramsden, John Charles, Oxton Hall, Tadcaster
Richmond, William, 62, South John Street, Liverpool
Savill, John, Orange Hall, Gosfield, Halsted
Smith, James, Little Moyle, Carlow, Ireland
Southall, Thomas, Worcester
Talbot, G. G. Chetwynd, Hon. and Rev., Withington, Cheltenham
Tamplin, R. G., Morrastone, Ross, Hereford
Thompson, James, Bishop Auckland, Durham
Tooke, Rev. J. T. Hales, Scawby Vicarage, Brigg
Tucker, Edwin, Frogmore Street, Abergavenny
Waller, F. S., Whittington Court, Andoversford
Ward, Samuel R. C., Yafforth, Northallerton
Watson, John, Waresby, Kidderminster
Welby, E. Montague Earle, Denton Hall, Grantham

FINANCES.—The Hon. Major General Hood presented the report, from which it appeared that the Secretary's receipts during the past quarter had been examined by the Committee and by Messrs. Quilter and Ball, the Society's accountants, and were found correct. The balance in the hands of the bankers on 31st March was 3093*l.* 15*s.* 9*d.* The balance sheet for the quarter, and the statement of subscriptions and arrears, were laid on the table, the amount of arrears then due being 401*l.* The Committee recommended that 2000*l.* be placed on deposit with the Society's bankers.

JOURNAL.—Mr. Holland, M.P., on behalf of the Committee, informed the Council that Sir Charles Domvile has placed at the disposal of the Journal Committee the sum of 25*l.* to be offered as a prize for an approved Essay on the *Farm Management best suited to the vicinity of large Towns.*

The Committee recommended the following subjects for lectures or discussions on the under-mentioned days, viz.:—

April 15. Lecture by Professor Voelcker on Oilcake.
„ 29. Lecture by Professor Simonds on the Natural History of Parasites affecting the internal parts of the bodies of animals, with the nature, symptoms, and treatment of the diseases to which they give rise.
May 13. Steam Cultivation, by Mr. Buck.

GENERAL WORCESTER.—Mr. Fisher Hobbs reported that the Committee recommended the issue of the usual advertisements for tenders for the Supply of Refreshments and green forage during the Show. The contractor reported that the siding on the railway being ready, he proposed to commence the erection of the works in the week after Easter.

MEETING OF 1864.—Memorials with plans and sections were presented, signed by the Mayors and Town Clerks and the authorities of Darlington, Durham, and Newcastle-upon-Tyne, soliciting the Council to hold the Society's Country Meeting at those places in the year 1864, and a Committee was appointed to inspect the various sites offered for show yard and trial fields, and to report to the Council on the 6th of May.

The Council having given directions for replies to various letters, granted the Secretary leave of absence for a week at Easter, and adjourned over Easter week to the 15th inst., when Professor Voelcker will deliver a lecture on Oilcake at 12 o'clock.

## Reviews.

*Sutton's Amateur's Guide,* Reading, contains, as its title page declares, much useful information in horticulture and agriculture. Messrs. Sutton's Farm Seed List also contains valuable instruction on Grass seed and sowing. And we extract from its pages the following on Carrot culture, written by a successful grower of that root, in Wiltshire:—

"For several years past this valuable root has been gradually extending itself in importance in many parts of the country as an article adapted for field culture, and large breadths are now grown annually.

"The soil best suited to the growth of the Carrot is a sandy loam, which should be prepared early in the autumn. If after a grain crop, the stubble should be raftered, scarified, and nicely cleaned off, then apply a fair dressing of good farmyard manure, and the whole surface of the land clean ploughed about four inches deep; let it remain in this state for about three weeks, then give it two lines with the harrow, and plough the whole as deeply as possible, in which state it may remain the whole of the winter; but if the season should be fine, and circumstances of time permit, a ridging up crossways, with a double mould-board, would ameliorate and altogether improve the soil. About the 1st of March it should be harrowed down very fine, and allowed to remain so for a month, during which time nearly all the annual weed-seeds will have germinated; the land should then have a shallow ploughing and remain for a fortnight (unless the weather should be very dry), then nicely dressed down with the harrow and rolled lightly, and it will then be in a fit state for drilling, which should be done between the 20th and 25th of April.

"*Directions for Drilling.*—The best method of drilling Carrots is to mix 6 lbs. of Carrot seed, rubbed through a fine sieve (to separate it), and ½ lb. Mustard seed with 2 bushels of very dry sand, sifted, and apply it with the corn barrel of any of the Suffolk corn drills, at the rate of 2 bushels to the acre. No. 22 wheel in Garrett's drill will accomplish this very nicely, and the seed by this method will be distributed almost as evenly and regularly as if it were dropped by the hand. But for this purpose it is essential to have the sand perfectly dry, otherwise it will clog the cups. It is a good plan to secure a few bushels of road dust in March, which when run through a fine sieve is the best material which can be used for the purpose, on account of its extreme weight, which causes the seed to be deposited as evenly as possible. The distance of the drills from each other should depend upon the sort to be sown, of which for the purpose of cattle feeding the White Belgian is the heaviest cropper; the Red Altringham is also nearly equal to it per acre when well grown. The Red Intermediate is becoming a great favourite, and will grow a great weight per acre, on account of their being allowed to stand thicker on the ground than the other sort, and it is the most valuable for culinary purposes. The White Belgian should be drilled 16 inches apart, the Red Altringham 14 inches, and the Red Intermediate 12 inches.

"The Mustard will very soon show where the drills are, and as soon as the rows can be discerned, the spaces should be lightly and carefully hoed, whether the annual weeds have made their appearance or not. By this method you will steal a march in advance of them, and probably save your delicate young crop of Carrots from being prematurely smothered. After this is completed, put some women or girls to pull up the Mustard, and in a very few days the rows of Carrot will be sufficiently advanced to admit of being singled out. This should be done by careful hands with a 3-inch hoe, with a light handle about 2 feet long. Three or four men will get over a considerable space of ground in a day. There will be no necessity for leaving them positively single. If two or three are occasionally left in a bunch, the crop will not be any the less in weight, but where persons will go to the expense and trouble of singling them by hand, the sample will be so much the more even in size. After they are singled, the spaces should be again flat-hoed, and nothing more will be required until they are fit to dig, which, with cutting off the tops, can be well done at from 20*s.* to 25*s.* per acre; when they should be hauled and pitted, or "clamped" in the usual way, and secured from the frost. *R. C.*"

*Year Book of Agricultural Facts and Annual Record of Farming Progress for* 1862. Edited by Robert Scott Burn.

In this annual volume, a well devised framework or skeleton is clothed around with the facts of the year, so as to present in a symmetrical body the agricultural history of the period. "The field" constitutes the first division of the book, and under this head we have all the facts relating to steam culture, drainage, manures, seeds and sowing, harvesting, and cross cultivation. The live stock of the farm, the dairy, pigs and poultry, diseases of cattle and sheep, occupy other four divisions. Implements, buildings, the labour question, and a miscellaneous section occupy the remaining divisions of the book. A good index enables it to be used as a work of reference. We cordially recommend the work to any who wish to retain a record of agricultural progress.

*McLean and Hope's Descriptive Catalogue and Price List of Manures, Feeding Stuffs, &c.* 1, King's Stables, Grassmarket, Edinburgh. An octavo of 150 pages includes an essay on vegetable physiology and plant nutrition, reviews of the state of trade as regards our principal imported and manufactured manures and feeding stuffs, an instructive essay on the analysis and valuation of manure, a very useful descriptive account of the varieties of Wheat, Barley, Oats, Beans, Peas, Potatoes, Turnips, Grasses, and Clover in cultivation, and a blank diary for the entry of engagements throughout the year, together with an almanac, besides the usual trade and other advertisements.

*Wheeler and Son's Little Book, or Select Seed List for* 1863, Gloucester, contains useful essays on Grass land culture, with woodcuts of the principal Grasses, and remarks on the cultivation of Turnips and other roots.

We have received a Russian translation, published at St. Petersburg, of Morton's *Handbook of Dairy Husbandry.* (Longmans).

## Calendar of Operations.

### APRIL.

NORTHUMBERLAND FARM.—A few days of beautiful and genial weather formed the greater part of the first week of March, during which period large breadths of Clover lea were seeded with Oats on the lighter soils of this country; but it was otherwise with us on the strong loams and clays, which were baked to such an extent by the previous winds and dry weather as to render them utterly impervious to the teeth of the harrow. The rain, however, which fell during the greater part of the following week, with the addition of a night's frost, had a most salutary effect on our stubborn leas, for as soon as fairly dry on the top, we started drilling in good earnest on the morning of the 20th, the land being previously double-harrowed long way as well as across the furrow, the drill of course following in the same direction as the latter process. Since commencing, our drill has been kept continuously at work, and has put in, in very nice order, 90 acres of Oats, including 16 acres (instead of Barley) after Turnips, as well as 17 acres after Beans, which last year took the place of Clover in the rotation. Especial care has been taken to have the land thoroughly pulverised previous to drilling, which is so much preferable to so many harrowings afterwards. The Bean stubble, which had been deeply ploughed in the autumn, was first run over with the clod crusher, and then broad-shared across the furrow, which with numerous harrowings produced a most desirable seed bed; the broadshare having the combined effect of breaking up the soil, as well as checking any weeds which may have germinated:—the land after Turnips was also well reduced with grubbers, &c. The description of Oats sown, have been Potato (on the best land), Blainslie and Early Angus, at the varying rate of from 2¼ to 2¾ bushels per acre—the width apart of the drills being 7½ inches on the lea, and 9 inches on the Turnip and Bean land. No Barley has been yet sown, though, weather permitting, we may probably choose the first week in April for that purpose. On the whole we have had a most favourable seed time; and though we know not what may be the succeeding weather, or how the harvest may turn out, yet one thing is quite certain, that we have had a much better start than last year, which may be considered generally speaking as one of the worst ever known. Besides the above, the draughts have been engaged in carting manure (in bad weather), broadsharing, ploughing, grubbing, and otherwise preparing Swede land; rolling Wheat in prepa-

ration for the horse-hoe, carting stones from Clover fields, and such like; the women and other labourers being occupied in barn work, picking stones on Clover land, repairing hedges, turning manure heaps; the stones have also been gathered on the Wheat and Oat fields so as to remove any obstruction that could present itself to the reaping machine. *Stock.*—The treatment of both fat and grazing cattle closely resembles that of February; no sales or purchases have been made this month, the only difference in this department being in the case of the cows, some of which have calved, and others approaching that stage. The *Sheep* stock has engrossed our especial attention during the whole of the month. Commencing during the last week of February, the ewes have continued to lamb ever since, with very fair success, our loss in lambs so far only amounting to 3 per cent.; the latter part of the month, however, has been somewhat too dry, and showers would be beneficial in many ways to our flock. At present we have 156 lambs following 102 ewes, which is a fair average, though we have often had it higher; 25 ewes are yet to lamb. The ewes previous to lambing receive a liberal allowance of yellow Turnips, and after lambing are removed into first year's Clover field, in which temporary houses are erected, so that they and their lambs may be nightly housed. The wether hoggets, since they came from the Turnip break, have been receiving cut Turnips and hay chaff in an old Grass field, whilst the genuine hoggets are running over old Grass also, but will soon be put on 2d year's Grass. The young rams are having cut Swedes, chaff, corn, and cake. The appearance of the crops generally is satisfactory, though the late dry winds have checked vegetation. Wheat still sticks well to the ground, and in many places is too thick, though on the whole it is very promising; and young Clovers are very thriving and most luxuriant. The annual hiring of our hinds took place during the first week of March, and with one exception on this farm they were all re-engaged at wages similar to last year. The general feeling of this neighbourhood is that corn wages were the same as last year, but money wages a shade lower. *J. W.*

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending April 1, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 26 | 30.38 | 49 | 45 | W. | 2 | 6 | 66 | 39 | 108* | 33 | .. | 47 | 45½ |
| Friday .. | 27 | 30.44 | 47 | 42 | N.W. | 3 | 2 | 59 | 34 | 90 | 29 | .. | 47 | 46 |
| Saturday .. | 28 | 30.02 | 55 | 50 | W. | 3 | 6 | 56 | 42 | 99 | 39 | .. | 47 | 46 |
| Sunday .... | 29 | 29.88 | 49 | 46 | N.W. | 3 | 6 | 57 | 45 | 88 | 41 | .. | 47½ | 46 |
| Monday .... | 30 | 30.04 | 50 | 46 | N.W. | 2 | 6 | 58 | 45 | 93 | 42 | .. | 48 | 46 |
| Tuesday .. | 31 | 30.20 | 42 | 39 | S.E. | 2 | 7 | 57 | 39 | 96 | 37 | .. | 48 | 47 |
| Wednesday | 1 | 30.16 | 42 | 39 | S.E. | 1 | 1 | 58 | 26 | 102 | 22 | .. | 47½ | 45½ |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

BREEZE, &C.: *N.* Breeze and coal ashes are of little value as manure, except for their mechanical influence on the texture of clay soils. Resistance to draught is made up, (*a*) of friction, and (*b*), that share of the weight of the body drawn which on a hill side would, if there were no friction, make it roll down hill. And the ability of the draught animal to overcome it, depends on the position in which the animal stands. The posture marked *b*, depends on the inclination of the hill, and is in proportion to the whole weight of the animal as the height is to the length of slope. If then 7 and 10 in your formula are the length of the slope, then the draught should be in the one case one seventh, in the other case one tenth of the weight, *plus* the percentage in either case due to friction—the difficulty which the horse will find in overcoming the friction increases rapidly with the slope, not so much on account of the increasing weight, but in consequence of his being placed at a disadvantage for overcoming it.

COPPICE WOOD: *Improver.* Your plan is no doubt the cheapest, and it will in all probability answer sufficiently well. Any of the old stools which retain unusual vigour can be grubbed up as necessary. We shall be happy to name Grass seeds adapted to such a situation, if the sward should prove defective.

HEMP: *J C N.* A rich deep loamy soil, the best for all other plants, is also the best for Hemp. Sow 2 bushels of seed, or 10 pecks, very early in May, on deeply tilled land which has received a good dressing of well rotted manure. It is generally sown broadcast, harrowed in, and afterwards hand weeded. It is grown to some extent in South Lincolnshire, and also in Dorsetshire.


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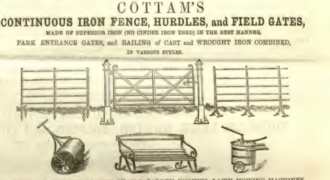

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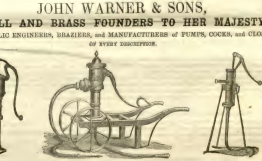

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2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
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1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... 3 0 0
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Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET. When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

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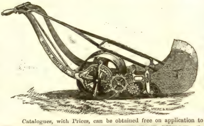
PATENTEES and MANUFACTURERS,
JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

## MORTON'S PATENT NOISELESS LAWN MOWER.

This Machine Rolls, Collects, and Delivers the Grass, and combines all the most recent Improvements, including those secured by her Majesty's Royal Letters Patent for 1863. For efficiency and simplicity it cannot be surpassed, and can be worked by any one unskilled in Machinery. It is superior to all other Machines yet introduced to the notice of the Public for keeping Lawns and Pleasure Grounds in the highest state of perfection, and is likely to be the Leading Machine of the Season. No place, however small, should be without one.



**Terms, Net Cash.**

| To Cut | | | | |
|---|---|---|---|---|
| 12 ins. | £4 | 15 | 0 | *Suitable for a Lady or Gentleman* |
| 14 „ | 5 | 5 | 0 | *Suitable for one Person* |
| 16 „ | 6 | 7 | 6 | *Suitable for one Man or two Boys* |
| 18 „ | 7 | 7 | 6 | *Suitable for one Man and Boy* |
| 20 „ | 8 | 0 | 0 | *Do. do.* |
| 22 „ | 8 | 8 | 0 | *Suitable for two Men* |
| 24 „ | 8 | 17 | 6 | *Do. do.* |

All Machines fitted with Silent Movement, without extra charge.

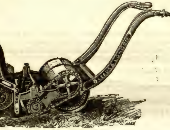
Catalogues, with Prices, can be obtained free on application to

GRIMMOND, LAIRD, and CO., 15, CANNON STREET WEST, LONDON, E.C.; or to the PATENTEE, CATHERINE STREET ENGINE WORKS, ARBROATH.

*** *Agents Wanted in every Town. Apply as above.*

# GREEN'S LATEST IMPROVED PATENT
## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863.



GREEN'S NEW PATENT LAWN MOWER.

GREEN'S NEW PATENT GARDEN ROLLER.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOS. GREEN FOR HIS PATENT LAWN MOWERS.

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS DURING THE SEASON OF 1862.

GREEN'S PATENT LAWN MOWERS have carried off every Prize that has been given in all cases of competition, and were the only Machines Highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862. (No Prizes were given.) They are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

Upwards of 14,000 of the above Machines have been sold since the year 1856, and thousands of letters have been received by the Patentees testifying to their efficiency. They do not deem it necessary to publish more than the two following:—

TESTIMONIALS.

"Royal Horticultural Society, South Kensington, W., Feb. 28, 1863.

"Dear Sir,—Your Mowing Machines, which have been in constant use here for two seasons, have answered well. They do their work efficiently, and with a less amount of manual labour than any other Machines I have tried,

"To Mr. Green." "Yours truly, Geo. Eyles."

"Royal Gardens, Windsor, March 27, 1863.

"Dear Sir,—The Hand Mowing Machines you supplied last season for the use of the Royal Gardens, Windsor, give great satisfaction.

"To Mr. Green." "Yours very truly, Thomas Ingram."

PRICES.

| | | | | |
|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a Lady. |
| „ 12 „ | 5 | 0 | 0 | Suitable for One Person. If with internal gear, 10s. extra. |
| „ 14 „ | 5 | 10 | 0 | Do. Do. Do. Do. 10s. extra. |
| „ 16 „ | 6 | 10 | 0 | Suitable for One Man or Two Boys. |

| | | | | | If with Patent Delivery Box |
|---|---|---|---|---|---|
| To Cut 18 inches ... | £7 | 10 | 0 | Suitable for One Man and Boy | £8 15 0 |
| „ 20 „ ... | 8 | 0 | 0 | Do. Do. | 9 5 0 |
| „ 22 „ ... | 8 | 10 | 0 | Suitable for Two Men ... | 9 17 6 |
| „ 24 „ ... | 9 | 0 | 0 | Do. Do. ... | 10 7 6 |

**DONKEY and PONY MACHINES, including Traces.**

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 24 inches ... ... | £11 10 0 ... ... ... | £12 10 0 |
| „ 26 „ ... ... | 12 10 0 ... ... ... | 13 12 0 |
| „ 30 „ ... ... | 16 14 0 ... ... ... | 18 0 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

**PRICES of HORSE MACHINES, including Box of Requisites and Traces.**

| | With Collecting Box. | With Patent Delivery Box |
|---|---|---|
| To Cut 30 inches ... ... | £20 0 0 ... ... ... | £21 10 0 |
| „ 36 „ ... ... | 23 0 0 ... ... ... | 24 16 0 |
| „ 42 „ ... ... | 26 0 0 ... ... ... | 28 2 0 |
| „ 48 „ ... ... | 29 0 0 ... ... ... | 31 8 0 |

Leather Boots for Horse, per set, 1*l.* 4*s.*

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.

Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s. Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

GARDEN ENGINES, SYRINGES, WATER BARROWS, and PUMPS. CAST IRON FOUNTAINS, VASES, GARDEN SEATS, and GARDEN CHAIRS. IRON HURDLES, WIRE FENCING, WIRE NETTING, &c. Also every description of HORTICULTURAL and AGRICULTURAL IMPLEMENTS.

*Illustrated Price Lists free.*

T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

EDWIN HOLLAMBY begs to inform his Patrons and Friends that his DESCRIPTIVE PRICED CATALOGUE of VEGETABLE, FLOWER, AGRICULTURAL SEEDS, and GLADIOLUS is now ready, and may be had gratis and post paid on application.
Nursery and Seed Establishment, Tunbridge Wells, Kent.

A. VAN GEERT, Nurseryman, Ghent, Belgium, begs respectfully to announce that he has just published a SUPPLEMENT to his CATALOGUE of PLANTS, which may be had on application to his Agents, Messrs. R. Silberrad, 5, Harp Lane, London, E.C.

**Introduction of New Plants.**

AMBROISE VERSCHAFFELT, Nurseryman, Ghent, Belgium, begs to announce that his NEW CATALOGUE (No. 72) is ready, and contains all his NOVELTIES to be sent out this season.
The Catalogue will be forwarded on application.

L. T. DAVIS begs to offer the following PLANTS at very low prices:—
SCARLET RHODODENDRONS.
CRIMSON Do.
COMMON Do. (Ponticum)
VARIEGATED HOLLIES, of sorts } Specimen Plants.
GREEN HEDGEHOG, Do. }
PERNETTYA MUCRONATA.
AMERICAN ARBORVITÆ.
BERBERIS DULCIS.
DOUBLE WHITE PRIMROSES.
" LILAC Do.
" PURPLE Do.
The above can be had of various sizes. Prices will be given on application. Carriage paid to Belfast.
Ogle's Grove Nursery, Hillsborough, County Down.

WM. HY. TREEN, Victoria Nursery, Rugby, Warwickshire, begs to announce that his NEW VERBENA and FUCHSIA CATALOGUE, containing several Novelties, is now ready, and will be sent free on application. The following Prizes were awarded to W. H. T. for Verbenas alone during 1862:—
Crystal Palace, Sydenham, May 24, 1862.—24 Varieties, three of each. First Prize.
Jephson Gardens, Leamington, May 28.—24 Varieties, five of each. First Prize.
Warwick Castle, July 1.—24 Varieties, five of each. First Prize.
Royal Horticultural Society, South Kensington, July 2.—24 Varieties, five of each. Extra Prize, although no prize was offered.
Royal Botanic Gardens, Regent's Park, July 9. — 24 Varieties, five of each. Special Certificate.
Stamford, July 17.—24 Varieties, five of each. First Prize. 24 Varieties, five of each. Extra Prize.
Rockingham Castle, August 8.—24 Varieties, five of each. First Prize.
Newnham Paddox, August 13.—24 Varieties, five of each. First Prize.
Kenilworth Castle, August 19.—24 Varieties, five of each. First Prize.
Rugby, August 29.—24 Varieties, five of each, (Prize offered by the Society, Mr. C. J. Perry and Mr. W. H. Treen; Mr. Perry exhibiting). First Prize to W. H. Treen.
Leicester, September 4.—24 Varieties, five of each.—First Prize.
Royal Horticultural Society, September 10.—24 Varieties, five of each. Extra Prize. New Verbena. First Class Certificate.
Stamford, September 17.—48 Varieties, five of each. First Prize. Silver Medal.
Besides 39 Prizes for other productions.

CARTER'S CHAMPION CUCUMBER, recommended by the Royal Horticultural Society as being an excellent bearer. Fruit solid and firm, and the best of the Sion House class. 1*s.* per packet. A few ounces of our own saving to offer the Trade.
237, 238, & 261, High Holborn, London, W.C.

GIANT ASPARAGUS ROOTS, 2*s.* 6*d.* per 100.—This delicious vegetable does not require half the expense usually incurred in planting it. For instructions, see Richard Smith's SEED LIST for 1863.
Strong Transplanted SEA KALE, 2*s.* per doz.
Richard Smith, Nurseryman, Worcester.

**Seed Trade.**

JAMES CARTER and CO., Holborn, W.C., have a few lbs. of the following to offer to the Trade:—
MELVILLE'S GARNISHING KAIL,
VARIEGATED BEET, for garnishing,
SNOW'S WINTER BROCCOLI, true,
LITTLE PIXIE CABBAGE.
NEW FEATHER STEM SAVOY,
DANVER'S YELLOW ONION.
TOMATOE DE LAYE.
HENDERSON'S PINE-APPLE BEET.

**To Seedsmen and Others.**

THOMAS AYRES, Seedsman and Grower, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz:—
WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP, "
SEED POTATOES of the following varieties:—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.
SCARLET RUNNER BEANS (English grown).
A PRICE LIST forwarded upon application.

**Cabbage Plants.**

W. VIRGO and SON beg to say they have a very large quantity of DRUMHEAD, RED and EARLY CABBAGE PLANTS to offer for Sale of the following sorts, at 3*s.* per 1000:—

| | |
|---|---|
| EARLY YORK CABBAGE | EARLY NONPAREIL |
| " BATTERSEA | DRUMHEAD |
| " BARNES | |

RED CABBAGE, 4*s.* per 1000. All strong, healthy, and well rooted.
Wonersh Nursery, near Guildford, Surrey.

**Turnip and Mangel Wurzel Seed.**

H. and F. SHARPE can supply the Trade with the following Varieties, true to name, all of their own growth, new and genuine, and on very advantageous terms.

| Turnip. | Turnip. |
|---|---|
| Improved Purple-top Swede | Lincolnshire Red Globe |
| Champion do. | Improved Green Norfolk |
| Skirving's Improved do. | Fine White Stone |
| Marshall's Improved do. | |
| Yellow Tankard | Mangel Wurzel. |
| Pomeranian White Globe | Elvetham Long Red |
| Drummond's Early Field Yellow | Fine Orange Globe |
| | " Long Yellow |
| Green-top Scotch | " Red Globe |

Seed Growing Establishment, Wisbech.

**The King Potato.**

SUTTON AND SONS have much confidence in recommending this new POTATO, as decidedly the finest and best in cultivation.
The following Prizes have been awarded to this Potato:—
The Prize at the Crystal Palace, 1861.
The First Prize at the International Show at the Royal Horticultural Society's Gardens, South Kensington, in October last.
The First Prize at the Birmingham Cattle and Root Show, Bingley Hall, in December last; and many other Prizes in various parts of the kingdom.
To be had of Messrs. Sutton & Sons, Reading. Price 5*s.* per Peck (of 14 lbs.), or cheaper in large quantities.

WHEELER'S LITTLE BOOK for 1863.

WHEELER'S TOM THUMB LETTUCE.

WHEELER'S IMPERIAL LETTUCE

The price of the Lettuce is 1*s.* per packet, post free.

J. C. Wheeler & Son beg to inform the Trade that their "Little Book" is entered at Stationers' Hall, and that they cannot allow it to be copied.

J. C. Wheeler & Son, Seed Growers, Gloucester.

REIGATE SILVER SAND.—Best quality, 8*s.* per ton; second quality, 6*s.* per ton, put on the rail at Reigate PEAT SOILS, LOAM, &c. The Railway rates are lower when not less than 4 tons are conveyed in a Truck.
W. Short, Reigate Heath, Surrey.

**Manures for Present Use.**

PERUVIAN GUANO, Genuine as Imported by the Contractors of the Peruvian Government, Deliveries direct from the Docks; NITRO-BIPHOSPHATE (Blood and Offal Manure), Fish Offal ditto (PHOSPHATE); SUPERPHOSPHATE of LIME (made from Bone), see Royal Agricultural Society's Journal, vol. 6, page 2; and all others of known value, may be had on the best terms by application to Mark Fothergill, 23, Great Tower Street, Mark Lane, E.C.
Established 1839.

LAWES'S MANURES. The Manures manufactured by J. B. Lawes for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 0 |

These Manures can be obtained of Mr. Lawes, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.
Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address John Bennet Lawes, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. Purser, Secretary.
116, Fenchurch Street, E.C.

**Established 1848.**

THE BLAYDON MANURES.—Two Prizes were last season awarded, under the auspices of the Rutland Agricultural Society, for Turnips grown with the above Manures, viz.:—
1st.—A Silver Cup, value Five Sovereigns, was given by the Town and Trade of Oakham to Mr. T. W. Fowler, Exton, for the best Turnips (not being Swedes) grown within the County of Rutland. These Turnips were raised with 3 cwt. per acre of the 7*l.* 10*s.* Blaydon Manure, used with a moderate dressing of Farm-yard Manure.
2d.—Three Sovereigns (the 2d premium), given by the Right Hon. Viscount Campden, were awarded to Mr. Fowler, Exton, for Swedish Turnips. These Turnips were grown with 3 cwt. per acre of the 7*l.* 10*s.* Blaydon Manure, along with a moderate quantity of Farm-yard Manure.
Manufactured by the Blaydon Chemical Company, Blaydon-on-Tyne.
Managing Partner, Edward Richardson, Jun.

POTTER'S GUANO (established 21 years) 7*l.* per Ton.
POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10*l.* per Ton.
PURE GYPSUM, 25*s.* per Ton, bags included.
Address, 28, Clapham Road Place, S.

TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,
Manufactured by the Patent
NITRO-PHOSPHATE or BLOOD MANURE COMPANY (Limited),
Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.
Chairman.—John Claydon, Esq., Littlebury, Essex.
Particulars of these Standard Manures may be obtained at the Offices. C. T. Macadam, Secretary.
Or of the Local Agents.
Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex, N.E.

TURF.—A quantity of capital Turf for Sale. Apply to Mr. H. D. Austin, Castle Hill, Ealing.

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.
Extra strong, 3*s.* per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.
Can be obtained through the principal Nurserymen and Seedsmen in England.
A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.
Page & Toogood, Seed Merchants, Southampton.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2*s.* per bag.
For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the Patent Cocoa Fibre Company, Kingston-upon-Thames.
Postage Stamps or Post-office Orders payable to J. Barsham & Co.
Barsham's BRUSHES and MATS are sold in every town.
Caution.—Every Brush is stamped 'J. Barsham's Patent'

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1*s.* and 2*s.* per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of Geo. Glenny, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1*s.* per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.
Both may be obtained of all principal Seedsmen.
Patentee: J. Neal, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.
This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.
Sold Retail by Nurserymen and Seedsmen in boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.* each.
Wholesale by
Price's Patent Candle Co. Limited.

**Blight.**

BROWN'S PATENT FUMIGATOR.—A Portable Instrument for Fumigating Greenhouses, Stoves, and Frames, or Shrubs and Flowers in the open air, without injuring the most delicate plant; delivering the smoke cold, in a dense mass, and effecting a great saving of Tobacco. Price 10*s.* and upwards.
Manufactured and supplied to the Trade by Messrs. Barber & Groom, London; and may be had of all Ironmongers, Seedsmen, and Florists.

REDUCTION IN PRICE.

## PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | | | |
|---|---|---|---|---|
| For 30 Tons and upwards ... ... ... | £10 | 5 | 0 | per Ton, net cash. |
| For 10 Tons up to 30 Tons ... ... ... | 10 | 10 | 0 | " " |
| For 5 Tons up to 10 Tons ... ... ... | 10 | 15 | 0 | " " |
| For smaller quantities ... ... ... | 11 | 0 | 0 | " " |

The Price will not exceed 12*s.* per Ton additional if delivered at any other Port in Great Britain.

PETER LAWSON & SON, Contractors.
GEO. SEAGRAVE & CO., Brokers.
WILLIAM DIXON & CO., General Agents.

28, KING STREET, CHEAPSIDE; and 15, LAWRENCE LANE, LONDON, E.C.

RUSSELL'S PYRAMID PRIMULAS.—Seed of this unequalled strain is now ready, in packets, price 2s. 6d.

The great satisfaction which these kinds have given in previous seasons, renders further comment on their merits unnecessary. The additional care taken however in saving the seed last year will probably result in producing flowers much superior to any ever seen.

Printed notes on raising them, and their culture, forwarded with each packet; payment can be made in postage stamps.

George Clarke, Nursery, Streatham Place, Brixton Hill, London, S.; and 4, Windsor Terrace, Pimlico, S.W.

**Choice Ferns, &c.**

A. VAN GEERT, Nurseryman, Ghent, Belgium, begs to offer at very reasonable terms the following in good healthy plants:—

LOMARIA DISCOLOR, at 18s. per dozen.
WOODWARDIA ORIENTALIS, 18s. per dozen.
GYMNOGRAMMA LUTEA ALBA, 18s. per dozen.
PTERIS CRETICA fol. ARGENTEIS, 6s. per dozen.
THUJA VERVAENEANA, 18s. per dozen.

N.B.—A. V. G. begs to say that his new hardy large flowering RHODODENDRON, AUGUSTE VAN GEERT, of which a drawing can be seen at his Agent's, Mr. R. Silberrad, Harp Lane, London, will be sent out next September. Good plants at 7s. 6d. to 21s. each. Orders can now be booked.

**New Chrysanthemums.**

JOHN SALTER'S DESCRIPTIVE CATALOGUE of CHRYSANTHEMUMS, including the new varieties, which he will send out this Spring, as well as "HARDY VARIEGATED PLANTS," and other novelties, is now ready, and will be sent post free on receipt of two stamps.

Versailles Nursery, William Street, near Hammersmith Turnpike, London, W.

**Chrysanthemums, Chrysanthemums.**

J. H. BIRD, F.R.H.S., Nurseryman, Stoke Newington, begs to inform his friends and the public he can supply from his great Stock of the above 20 pairs of the best large Varieties for 10s.; and 25 pairs of best POMPONES for 10s.; 20 pairs of Cuttings of the large Varieties for 5s.; and 25 pairs of Pompones ditto for 5s.

New CATALOGUES ready for one stamp.

N.B. To save trouble all orders to be paid to J. H. Bird, Stoke Newington.

**Chrysanthemums, Dahlias, Fuchsias, Verbenas, Geraniums, Pelargoniums, Petunias, Calceolarias, &c.**

W. HOLMES'S CATALOGUE of the above is now ready, and may be had in exchange for One Stamp.

P.S. STOCK VERBENAS—The Moor, Foxhunter, Defiance, Dante, Ætna, Fireball, Nemesis, &c., cheap. Price per 100 upon application.

Reference or remittance from unknown Correspondents.
Frampton Park Nursery, Hackney, N.E.

**Grass Seeds for all Soils.**

SUTTON and SONS have one of the largest stocks in Europe of the PERMANENT NATURAL GRASS and CLOVER SEEDS, which they mix expressly to suit the soil for which they are required.

The following letter has been received, besides many others:
*From* Professor Lindley, *Royal Horticultural Society, London.*
"We have already made trial of your Grass Seeds, and it is only justice to say that they have proved the best we have sown for many years."

| Present Prices are— | | Per Acre. s. d. |
|---|---|---|
| Best quality MIXTURES for Laying Down to PERMANENT PASTURE .. .. .. .. | | 30 0 |
| Cheaper MIXTURES, omitting certain sorts | 20s. to | 26 0 |
| Best quality ditto, for Three or Four Years' Lay | .. | 22 0 |
| Ditto ditto, for One or Two Years' Lay | 15s. to | 18 6 |
| CLOVERS and fine GRASSES for Renovating Old Pastures .. .. .. .. .. | 6s. to | 9 0 |
| Finest LAWN GRASS SEEDS .. .. | per bushel | 18 0 |
| PARK LAWN GRASS SEEDS .. .. | " | 16 0 |

The First Prize Medal was awarded to Sutton & Sons for their Grass and Clover Seeds at the Great International Exhibition of Roots and Cereals at South Kensington in October last.

A Copy of Mr. Martin Sutton's "Essay on Pastures" is sent with each lot of Grass Seeds.

Seeds sent carriage free to all parts of the kingdom. Export orders delivered free to the Ship's side in any English Port.

PRICED LISTS of GARDEN and FARM SEEDS gratis and post free.

Sutton & Sons, Royal Berkshire Seed Establishment, Reading.

# AUSTRALIAN TREE FERNS—DICKSONIA ANTARCTICA & ALSOPHILA EXCELSA.

## HUGH LOW & CO.

Have pleasure in offering very fine specimens of the above-named TREE FERNS, suitable for the decoration of GREENHOUSES and CONSERVATORIES. The Trees are in the most luxuriant health, and a selection may be made from upwards of 100, varying in height of stem from 1 foot to 5 feet 9 inches, in circumference of stem from 1 foot 3 inches to 2 feet 6 inches, and fronds of many of the specimens spread 6 feet.

*Prices, which are very moderate, can be had on application.*

CLAPTON NURSERY, LONDON, N.E.

# CALADIUM (ALOCASIA) LOWI.

## HUGH LOW & CO.

Have much pleasure in offering this noble Ornamental Foliage Plant, introduced by them from Borneo. It has been so extensively exhibited and sold that it is now pretty generally known. A specimen in the Clapton Nursery measures 2 feet 6 inches in height, by 2 feet 6 inches in diameter, with leaves 19 inches in length, by 9 inches in width; shape of leaves sagittate, colour of upper surface bright green, intersected by veins of ivory whiteness, and a belt or margin of the same colour completely encircles the leaf; the under surface of the leaves is reddish or crimson purple; a shining metallic lustre overspreads the upper surface. The plant is of the easiest possible culture, retains its leaves perfectly, and as an exhibition plant will be generally preferred to Alocasia metallica. Higher praise than this it would be difficult to award.

**Price of good well-established Plants, 31s. 6d. each.**

CLAPTON NURSERY, LONDON, N.E.

# ORCHIDS FROM BRAZIL, THE PHILIPPINE ISLANDS, VENEZUELA,

### THE TENASSERIM PROVINCES, BORNEO, AND THE MALAYAN ARCHIPELAGO.

## HUGH LOW & CO.

Have for Sale, at very moderate prices, large quantities of ORCHIDS received direct from their Collectors and Correspondents in the above-named countries, and they respectfully invite gentlemen interested in Orchid Cultivation, to visit the Nursery and inspect the Collection, which contains many species quite new, and as yet undescribed. Orchidaceous plants at the Clapton Nursery are at present date grown in seven span-roofed houses, and the collection is steadily augmented by a regular system of monthly and bi-monthly importations.

H. L. & Co. subjoin names of some of the species now on Sale, and they have only to add that Purchasers will be treated with great liberality.

AERIDES CRISPUM.
" LOBBI.—Amongst our importations of this fine species many beautiful varieties have appeared.
" LINDLEYANA.
" MACULOSUM.
" QUINQUEVULNERUM.
" SUAVISSIMUM.
" " Borneo variety, very much superior to the ordinary type of the species.
" REICHENBACHI.
" VIRENS.
" WARNERI.
" Species Moulmein, with very broad leaves, a most abundant flowering species, as native specimens in possession of H. L. & Co. prove.
BOLBOPHYLLUM, species Moulmein, with reticulated sheaths over the bulbs.
BURLINGTONIA DECORA.
" FRAGRANS.
" VENUSTA.
CIRRHOPETALUM STRIATUM.
CYMBIDIUM TIGRINUM.
CALANTHE VESTITA LUTEA.
" " NIVALIS.
" " ROSEA.
CATTLEYA AMETHYSTINA.
" CITRINA.
" CRISPA.
" LEOPOLDI.
" LOBATA.
CATTLEYA MOSSIÆA in many varieties.
" ELEGANS (Lælia).—Many of the plants imported by H. L. & Co. have recently flowered. Some are the dark varieties in various shades of colour, others light in the way of Lælia Schilleriana, L. Stelzneriana, and L. Warneri.
CHYSIS LIMMINGHI.
CŒLOGYNE CILIATA.
" ELEGANS.
" LOWI.
" PANDURATA (asperata).
" PARISHI (papagena).
" SCHILLERIANA.
CYPRIPEDIUM BARBATUM GRANDIFLORUM.
" BARBATUM SUPERBUM.
" FAIRRIEANUM.
" HOOKERÆ.
" HIRSUTISSIMUM.
" STONEI.
" VILLOSUM.
DENDROBIUM AGGREGATUM MAJUS.
" ALBO SANGUINEUM.
" BICOLOR.
" CHRYSOTOXUM.
" CRETACEUM.
" CUCULLATUM GIGANTEUM.
" DALHOUSEANUM.
" DENSIFLORUM.
" EBURNEUM.
" FARMERI.
DENDROBIUM FIMBRIATUM.
" FORMOSUM GIGANTEUM.
" FYTCHEIANUM.—Imported by this name, may possibly prove to be the rare D. Heyneanum.
" INFUNDIBULUM.
" LUCENS (Reichenbach fil).
" LOWI.
" NODATUM.
" PAXTONI.
" PIERARDI.
" PICTUM.
" SCULPTUM (Reichenbach fil).
" TORTILE.
ERIA CONVALLARIOIDES.
IONOPSIS PANICULATA.
LEPTOTES BICOLOR.
LÆLIA BRYSIANA.
" ELEGANS (see Cattleya elegans).
" PERRINI MAJOR.
" PURPURATA.—Many varieties and plants of various sizes. Our stock of this superb Orchid exceeds 1000 plants.
LIMATODES ROSEA.
" " SUPERBA.
" " VESTALIS (Reichenbach fil).
LUISIA PSYCHE (Reichenbach fil).
ONCIDIUM BARBATUM.
" PAPILIO MAJOR.
" PUBES.
" Several Brazilian species.
PHALÆNOPSIS AMABILIS.
" ROSEUS.
PHALÆNOPSIS GRANDIFLORA.—Borneo variety. The best white-flowered Phalænopsis yet known. The bloom are produced in the greatest profusion and on very small plants. During the winter months H. L. & Co. have rarely had fewer than from 100 to 150 plants in bloom, and at one time the number reached 300.
SACCOLABIUM CURVIFOLIUM.
" AMPULLACEUM.
" BLUMEI.
" " MAJUS.
" " " variety DAYI—on very small imported plants of this beautiful species the flower spikes measure 22 inches in length.
" REIDI.
" VIOLACEUM.
SARCANTHUS PARISHI.
" GRACILIS.
SOPHRONITIS CERNUA.
" GRANDIFLORA.—Many of our imported plants bloomed, and amongst them were fine varieties, very bright in colour and large in size.
VANDA CŒRULEA.
" GIGANTEA.—Flower spikes on imported plants, clearly prove this to be a much finer species than it was supposed to be.
" HOOKERIANA.
" INSIGNIS.
" SUAVIS.
" TRICOLOR.

Twenty-four Cases (containing DENDROBIUMS, LÆLIAS, CATTLEYAS, AERIDES, MILTONIAS, and SACCOLABIUMS) have been received since the 1st of April, by steamers *Ripon* and *Parana*. This lot is well worth inspection by intending Purchasers before the Plants are potted and divided.

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# The Gardeners' Chronicle.

*SATURDAY, APRIL* 11, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| WEDNESDAY, April 15 | Royal Horticultural (Fruit and Floral Committees) at S. Kensington | 10 A.M. |
| | AZALEA AND ROSE SHOW, ditto | 1 P.M. |
| THURSDAY, — 16 | Linnean .. .. .. .. | 8 P.M. |

WE have just received from an eminent Rose grower in Surrey a deplorable account of the ravages committed by the little parasite PERONOSPORA SPARSA, which was described and figured in this Journal, April 5, 1862.

The disease made its appearance in a quantity of Roses grafted this spring, between 3000 and 4000 in number, and it bids fair to exterminate the whole. *Old* stock plants in a house that had been closely shut up some time, with heat on an average of from 55° to 65°, unfortunately got the first batch of 2000 grafts put in with them, before the disease was noticed. The infected leaves were at once removed, and the old plants taken away in the hope of saving the grafts from contagion, but to no purpose. Sulphur was applied; the plants were dipped in a solution of the Gishurst compound; they were removed to another house, which was painted and whitewashed last summer—but in spite of every precaution the parasite soon reappeared, always in the first place occupying the most fully developed leaves, and extending even to the young wood. The only method which now suggests itself is to trust them to the open air, with protection from frost and nightly radiation.

Unfortunately, in a case like the present, there is little hope from external remedies. Like the Potato mildew, *Peronospora infestans*, the Mould in the first instance burrows amongst the tissues of the leaves, and therefore cannot very easily be acted upon by any chemical mixture or gas, which would not at the same time destroy the tissues of the mother plant itself. A plant which we had last year, strongly infested with the parasite, was failing day by day, when in despair it was turned into the open ground, and improved very little in its new place of growth. It has however made a tolerably strong shoot this spring, which we have this morning carefully examined with a lens, but can find no trace of the Fungus. So far, then, there is some encouragement for the success of the plan which has been adopted by our Correspondent. We can suggest no other treatment, for the reasons above stated.

It is not, however, certain that sublimed sulphur, though so efficacious in the cases of Hop and Vine mildew, is a specific in every attack from Mould. The disastrous results which were produced in a valuable collection of young Conifers, a few years since in Kent, and which seemed to arise principally from a little dark-stemmed Mould belonging to the genus *Polyactis*, a Mould it should be observed whose mode of growth was entirely superficial, were not arrested in the slightest degree by sulphur, in whatever way it might be applied. No sulphur fumes, which were not sufficiently strong to kill the Conifers, had the slightest effect upon the Mould, which ran from plant to plant with extreme rapidity, and soon destroyed every twig on which it was established. We have seen the same thing since amongst young Wellingtonias, but it spread very little, and seemed to be arrested at once by free exposure to the air.

It may be remarked respecting the infected Rose leaves forwarded to us from Surrey, that the fungus is very sparingly scattered over them, insomuch that we could only certify its existence by carefully scraping the surface with a sharp scalpel, by which means we obtained both spores and threads, which placed the matter beyond all doubt. The substance however of the leaves, or as botanists call it the parenchyma, is far more affected, in consequence of which the whole under surface is of a beautiful Rose colour.

Rose growers, especially those who pay much attention to forced Roses, would do well to watch their stock, and if they see traces of the parasite, which may be recognised with a common pocket lens, to destroy at once the "scabby sheep." The Mould, it should be observed, does not look like meal, but has a slightly downy appearance like that of the Mould which later in the year is so destructive to different kinds of Onions. The colour of the threads, especially above, is, like that, of a pale reddish grey, by which the species may be readily known. *M. J. B.*

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EVERY gardener of the most moderate pretensions knows, that he cannot succeed in the management of a stove or conservatory without constant attention to the thermometer. On the contrary, there are very few who know the least about the hygrometer, though a knowledge of the exact condition of the air as regards its comparative moist or dry condition is of quite as much importance as that of its temperature.

"The fitness of an atmosphere for maintaining a healthy vegetation," says Dr. LINDLEY in his "Theory and Practice of Horticulture," "depends upon the amount of moisture suspended in it, and upon its temperature. The *hygrometer* indicates the former, as the *thermometer* does the latter.

"The effect of bringing warm moist air into contact with a cold surface is to rob the air of a part of its moisture. Thus in a cold night the glass roof of a greenhouse may be seen streaming with water, which runs down and forms 'drip,' and in this often unsuspected manner air is rendered dry, notwithstanding the operations of syringing, steaming, &c."

It is scarcely possible for the cultivator to bear these facts too strongly in mind, while he makes sufficient allowance for the absorbing power of heated flues, and the increase of dryness due to the raising the night temperature above what is absolutely necessary for the maintenance of vitality. It is of the utmost consequence that he should be fully aware of the fact, that with every decrease of internal temperature the difference between the temperature of the external and internal air is diminished, and in consequence the tendency to drip. "In an atmosphere of heat and moisture, the Vine leaves may actually die of drought, and that this occasionally happens, and is a frequent, though unsuspected cause of injury to tender foliage near a glass roof, is perfectly certain."

These truths have been forcibly brought before us by the withered condition of certain Vines and Kidney Beans in a case which lately came under our notice, where it was quite certain, as both were equally affected, that the withering arose from some condition of the house, and not from anything in the plants themselves. Since these were submitted to us, we have had occasion to witness another most singular but highly instructive case. A particular Vine in a house of moderate size, has for some years been subject to lose its leaves soon after expansion, while all its companions remained sound and healthy. The leaves did not fail all at once, and those parts which showed the first indications of weakness, were at once discernable from the excessive development of down on the under surface. After a few days certain patches became discoloured and ultimately dried up, and in many instances the whole leaf withered. The reason for all this was at once obvious. The Vine was precisely that which was planted in the very hottest part of the house, where the moisture was most absorbed by the walls along the flue, and where consequently there was the greatest difference between the external and internal temperature. As the peculiar arrangements of the house did not readily admit of alteration, the gardener, after some years of disappointment, has determined to root out the Vine altogether.

In an adjoining house, devoted principally to the growth of early Cucumbers, a great bottom heat was kept up, and the consequence has been, as we pointed out at first, that the leaves would wither, and, as we expected, the crop has failed, as there were no means of protecting the glass from the effect of radiation or frost.

The gardener was at first unwilling to allow his mistake, and, as is so frequently the case where unexpected mischief arises, the condition of his plants was ascribed to thrips, though not the slightest trace of an insect could be found, and the leaves did not look as if they had been attacked by these insidious enemies.

We may indeed remark that, fatal as the ravages of thrips occasionally are, the mischief referred to them is more frequently the consequence of some mistake in cultivation, than of a parasite. Like some words of doubtful meaning which are used by doctors to satisfy patients who insist upon having a name for every malady, thrips serves many a turn where the cause of disease is unknown. Within our own experience a valuable collection of Orchids, which suffered greatly under injudicious management, was pronounced at once to be affected by thrips. But when a proof of the presence of the parasites was demanded, not a single individual could be found. We are always, therefore, philosophically sceptical where this is alleged as a cause, and especially as the matter is plain enough when the insects abound in a collection, as for example in one of Ferns.

We believe that in most cases the real cause of vegetable diseases can be made out by a little patience and moderate intelligence; and we most strongly recommend our horticultural friends to eschew, as far as possible, all explanations which merely skim over the surface, without diving into the essential causes. Repeated failure and a complete loss of self-respect, without taking into view the ultimate estimation of others, can only be the result of a contrary practice. *M. J. B.*

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As the season for active operations in garden cropping is approaching, we especially invite the attention of all whom it may concern, to a paper on the subject of growing ROOT CROPS in general, and SALSAFY in particular, which will be found at p. 53 of our present volume. Mr. EARLEY, the gardener at Digswell House, near Welwyn, in Hertfordshire, distinguished himself at a meeting of the Royal Horticultural Society in December last, by an exhibition of remarkably well grown roots, amongst which his Salsafy was conspicuous. Indeed a sample of the same excellent vegetable subsequently sent to us, and referred to at the page above quoted, resembled beautifully grown small Parsneps, so admirably had it been managed. The treatment by which this result had been obtained, is explained in the paper to which we refer, and it is to the *rationale* of the mode of treatment which was in this case adopted that we now desire to invite attention.

Given, the seed of a Salsafy or other similar garden root, the question is, how to convert it

into a presentable esculent. The answer is this:—Let it be sown in poor but well wrought upper soil; and let there be moreover, beneath this poor upper stratum, at a depth of 7 or 8 inches, a good bed of earth well manured. Then, unless accidents intervene, it will occur, that the tap root not finding suitable pabulum near the surface will push its way downwards until it reaches the good soil, and being there supplied with abundant nourishment it will acquire the necessary size and succulence, whilst the small rootlets given off in its progress through the poorer soil above will dwindle away, instead of acquiring bulk and impoverishing the main root as they otherwise would be likely to do.

There can be no question that this, which is the groundwork of the treatment Mr. Earley practises, and which he has so well explained, is the proper way of managing all crops of this nature. The presence of manure in the upper soil can indeed result in nothing but the encouragement of strong lateral roots, which are themselves not only a useless portion of the crop, but seriously disfigure as well as diminish the substance of the principal roots.

Let us add a word in recommendation of Salsafy, which though not commonly grown, is one of the most wholesome and delicate of all our garden roots. It is indeed rarely seen in a decent condition, though here and there may be found a gardener who sends good specimens into the kitchen. More commonly, nothing better is produced than a bundle of forks not so big as a lady's little finger—such samples being indeed excellent illustrations of what root growers appropriately call "fingers and toes." We trust that the sensible and highly practical remarks of our correspondent, by helping to render Salsafy crops a success, may not be without result in introducing so desirable an esculent more frequently and more freely to our tables.

## New Plants.

255. Abies Albertiana, *A. Murray*, *Proc. Roy. Hort. Soc.*, iii., 149, with figure.

In the publication above quoted, Mr. A. Murray has shown that the Oregon plant to which the name of Abies Mertensiana has become affixed in gardens, is not the plant so named by Bongard, the latter being found in the island of Sitcha.

"In 1851," he writes, "seeds were received from Jeffrey, while on his Oregon expedition, which have produced a most beautiful and elegant Hemlock Spruce. Subsequent importations of seeds of the same tree have taken place from Oregon and British Columbia, and from these, young trees are now being gradually distributed over Britain. Jeffrey sent home his seeds and specimens under the name of Abies taxifolia. This was at once seen to be a misnomer, but in the absence of other denomination or description it was usually spoken of as 'Jeffrey's Abies taxifolia,' with a sort of reservation that this was a wrong name. Mr. Gordon, however, in his 'Pinetum,' pronounced it to be Abies Mertensiana, and as such it is now generally recognised, some good arboriculturists, however, reserving their opinion, and preferring to distinguish it by the name of the Californian Hemlock Spruce. Specimens of Jeffrey's species are preserved in the Kew and Edinburgh Botanic Museums, and specimens of young branches and leaves are to be had in most nurseries; but until now no specimens of Bongard's species were accessible in this country. We have, however, lately received, through the kindness of Professor Regel, of St. Petersburgh, specimens of Bongard's Abies Mertensiana collected by Eschscholtz in Sitcha. From an examination of these it appears clear beyond a doubt that Jeffrey's plant is not Bongard's Abies Mertensiana. Both are true Hemlock Spruces, but in Jeffrey's the pulvini are small and widely separated, while in Bongard's they are placed unusually close to each other; we know of no Hemlock Spruce which has them so close to each other, and Bongard, in his description, takes particular notice of this character: he says that 'the branches and branchlets are very much tuberculated after the leaves have fallen.' The cones, also, are different, Jeffrey's having a slight resemblance to those of A. Pattoniana, and Bongard's being exceedingly like the cone of the Japanese Larix leptolepis, or rather the allied Larix japonica brought home by Mr. J. G. Veitch."

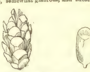
The true Abies Mertensiana has not yet been introduced into this country.

Jeffrey's Californian Hemlock Spruce, first known as Jeffrey's Abies taxifolia, and now being introduced as Abies Mertensiana, is not then the latter plant, nor is it Lambert's A. taxifolia, but a new species; and a name being required by which to distinguish it, "none more fitting can be suggested by any one connected with the Horticultural Society than that of their deeply lamented President the Prince Consort. Nor is it alone His Royal Highness's connection with the Horticultural Society that seems to invite such a recognition. It is perhaps not generally known, but is not the less true, that His Royal Highness took much interest in coniferous trees, and had made a very complete collection at Osborne, of those kinds which would thrive under exposure to the sea breeze. It is, therefore, more justly to His Royal Highness in his quality of a lover of Conifers, that the only mark of distinction which Botanists have it in their power to bestow upon those whom they delight to honour, is now applied with mournful respect."

The following is the description of Abies (Tsuga) Albertiana given by Mr. Murray in the journal already quoted:—

Tsuga foliis subdistichis planis acutiusculis margine minutissime serrulato subtus glaucis, strobilis parvis quinque seriebus squamarum, bracteis linearibus obtusis, squamis elongato-ovatis.—Habitat in Oregon et Californiâ Superiori.

"A tree of 100 to 150 feet in height. Branches flexible and weeping. Branchlets slender, with a dirty-brown bark, pubescent. Pulvini slightly angularly decurrent, thickened at the apex, wholly adpressed to the branchlet; phyllulæ semi-orbicular. Buds small, surrounded at the base by pulvini, and enclosed by one row of about five scales. Leaves from 3 to 7 lines long, perennial, subdistichous, petiolate, linear, somewhat pointed, entire, above glabrous and without stomata, below with a midrib, on each side of which are about 9 or 10 irregular and inconspicuous rows of stomata. Inflorescence not observed. Cones fawn-coloured, about an inch in length, elongate-ovate, with five rows of scales in the longitudinal spiral, amounting to about 25 scales in all. Scales elongate, oblong-oval, about 6 or 7 lines in length, and 3½ lines in breadth, coriaceous, somewhat glabrous, and substriated on the



Abies Albertiana.

Abies Mertensiana.

outside where exposed, tomentose inside and where covered by the neighbouring scales, stipitate, eared at the base on one side, rounded on the other, margins

Abies Albertiana.

slightly irregular. Bracts linear, blunt at the point, with the margins entire, about 3 lines in length, and three-quarters of a line in breadth. Seeds small, inequilateral, easily separated from the wing, which is about three times the length of the seed, and one and a half times its breadth.

"Agassiz, in his 'Lake Superior,' says, 'There are in all continents remarkable differences between the vegetation of the shores of a continent east and west within the same limit, or the same isothermal line.' We may add that it seems that the western coasts of continents under such conditions are more likely to have similar conditions of climate than an opposed east and west coast, even although they be nearer in position. Hence that we may *à priori* expect, under the same isothermal lines, to find the plants of the western coast of America more likely to thrive in this country than those of the eastern coast, and that we may reasonably anticipate that the Abies Albertiana will thrive better than the common Abies canadensis, a supposition which is confirmed by the more rapid growth and greater hardiness of the young plants of Abies Albertiana already tried.

"Along with this we give a figure of the tree itself, copied from a photograph of a specimen growing on Mr. George Patton's property of the Cairnies in Perthshire. This was raised from the first consignment of seeds received from Jeffrey in 1851: is consequently about 11 years old. It is about 15 feet high, and the place where it is growing is on the southern slope of the Grampian Hills, about 10 miles west of Perth, and consequently in a much worse climate and more exposed district than will be found in three-fourths of the kingdom. Another beautiful specimen, 14 feet 6 inches high, is to be seen at Hafodunos, the property of H. R. Sandbach, Esq.

"Specimens of the cone and leaves of Abies Mertensiana and of Abies Albertiana may be seen in the collection of the Royal Horticultural Society."

## FISH AND FISHING.—No. III.

"Patience and perseverance" might have been the motto or moral of my first letter, and assuredly it may be of this. I may add, moreover, that it ought to be and must be that of every angler; for without those virtues an angler *non est* in these days of scarcity of inland fish. I now purpose exemplifying the motto in a phase more of "fishing" than of "fish." Formerly I spoke of the advantages of those virtues attendant on mining and on fish preservation. Now

I shall carry them out with me in my fishing basket, and go, in spirit, a-fishing. In spirit, indeed—for I must imagine myself somewhere about 40 years younger, a fancy rather hard to carry out.

Some time between the years 1821 and 1825 I was on a visit at Newmarket, then of all places the dullest of the dull, except for racing, coursing, and gambling, none of which were to my taste. I had taken down with me my fishing-tackle, because I was promised good use for it at Mildenhall, about nine miles distant. Something intervening to prevent my journeying in that direction for several days, I began to make the inquiry, "Is there not fishing nearer at hand?" No; none had ever heard of such a thing. "Nothing but racing and coursing here." After awhile that excellent fellow, that merry, noble, generous, dauntless spirit, H—— (my subsequent brother-in-law), arrived. He was more than half a fisherman, and we laid our wise heads together. "What's to be done? No fishing? Is there no stream or water nearer at hand than Mildenhall where we can try?"—"Alas," says he, "there's none. That wealthy fellow C—— has expended thousands of pounds near this town in the endeavour to bring even a tiny rivulet to flow thro' his extensive grounds; but all in vain! Yet wait, now I think on it, there's Exning with its mill; let us try that:" and with a will off we bounded, hope lending wings to our feet. But there, alas! we only found just water enough to drown all hope.

'Twas very like one attempt at fishing I made in hot Jamaica. "Come," said my friend; "come, catch my callipeva." Of river fish this is the greatest delicacy in Jamaica; but perhaps, for want of scientific trying, it had never been taken with rod and line, tho' I think that fishing, as tho' for barbel in deep and rapid streams near the coast, would have succeeded. This fish's mouth is small, not unlike the barbel. It grows to 7 or 8 lbs. weight, from 20 in. to 3 ft. in length, and I have no doubt would prove a game fish on the hook. It is migratory, and found in rivers not far from the sea. It is sometimes left in "ponds" near the sea, formed after subsidence of heavy floods. In colour it is very white and silvery, with large scales. The flesh is white, but very fat and rich. Without semblance of flavour or exterior appearance, but merely because it is a rich delicacy, I suppose, it is called the Jamaica salmon. Scientifically it is the Mugil (mullet) liza.

Well, wishing to emulate my younger fishing days, but yet with sore distrust, I accepted my Jamaica friend's invitation: I went, I saw the so-called "pond," but did not conquer the fish which might have been therein. There was the "pond" water clear to the bottom and still as crystal, not 4 feet deep, the sun shining bright as sun can shine in hot Jamaica; and tho' my two servants groaned beneath the weight of every artifice we anglers can invent to cheat the fish, not one attempt was made; the thing was utterly hopeless, as old experience had told me. I may as well also confess that I had some slight fear of "master alligator" upon me; for it was just the sort of place for him to lurk in. So, in like manner from Exning, I returned that day with drooping spirits.

Next morning came, and with it another hope. "My Uncle's moat," said he. "I've dreamt of it all night. I wonder if there be fish! 'Tis only four miles off!"—"We can but look and try," I straight replied. We went and there we found what had been once a splendid moat round the ancient mansion; but, now, alas! 'twas sadly choked with rubbish and foul weeds. Nathless, with tackle fine, we tried to catch, e'en a roach, if such there were in the small watery space that still remained, but all in vain; we could not see a fin. "By heavens! H——, what is that? That's surely not a log under those Lily leaves. There, don't you see it? Stand still. See, there it moved, I vow! Why 'tis a monstrous pike, basking in the sun!! Ye gods! that I had pike tackle here!"—"Indeed it is; but what would you do?" quoth H——.—"Catch him, to be sure," cried I.—"Wait till I next go to my ship. I'll borrow a cable," said he. And there we stood gazing in morbid silence upon that truly monstrous pike, near 4 feet long, without one means of taking him. The sight provoked me into folly and loss, if not to madness. My rod was slight, my line but single gut, without even running tackle; yet the ruling passion strong upon me, I could withstand no longer. Stepping aside I soon secured a frog and placed it on my slender hook, small as it was for small fry. I pitched it in, close to the monster's jaws, rather on one side. One turn of that broad tail! The fish was gone; so was my frog, and hook, and line. Of course! That was a mad attempt certainly, and so ended hope No. 2. But, thought H—— and I, "he lives—and so do we—to fight another day." Were we not busy that night? Our trolling hooks new gymped, our lines well tested—all in fact prepared. Next morn we sailed forth, armed—doubly, trebly armed—with every kind of rare device to catch this monster pike. But, to anticipate, all we caught again was disappointed hopes; so full of which is this dear art of mine!

For at his door next day, just returned home, we met H——'s Uncle, who welcomed us right heartily. "What brings you here, and with fishing rods?"—"To catch a pike," said H——, "which in your absence yesterday we saw in the old moat."—"What! catch my pet, tame pike? Sure you would not wish to do so. 'Tis the only one in the water, and has been fed by our family's hand for years. 'Tis a kind of heirloom, a kind of Pusey Horn, by which, almost, we hold as it were our tenure here. You would not surely wish to catch that fish! So come in, take some refreshment, and I'll tell you what to do if you want fishing, and do not grudge a walk. At Burwell there must be fish," said Uncle, "seeing that the poor Rush-cutters often bring them thence, tho' nothing very large." With somewhat dampened ardour, yet with a gleam of hope refreshed, as also was the inward man, following Uncle's directions, once more we sallied forth. Two miles' walk brought us to the upper portion of the fen at Burwell, which is drained into the Cam by a steam-engine some four miles further on. Soon we got to work, and almost every bait we cast into the dead, still, but coloured water, yielded us a small perch; and we returned at evening well pleased, with basket filled, although with tiny prey. With this we were not satisfied. Next day we went again, and further on. As many, but still larger fish we carried home, our arms aching with our divided burthen. The next day saw us—still insatiate mortals—at our work again, but further still we went, until we reached the Cam itself, and there we had some sport! H——'s two younger brothers went with us to aid the carrying home, and well it was they did, though twice such strength were not too much to carry our burthen. Reaching the Cam, to us an unknown river, we found a humble inn, a punt, and fisherman, and all were put in requisition. Close by we found, too, the steam-engine employed to drain off the fen into the Cam. "Wait a while, good sirs," said Palinurus, "the engine will soon be working, and then's the time." And soon we found it so. Mooring the boat on one side of the narrow creek, which now ran briskly from off the engine, in water not three feet deep, H—— and I commenced in earnest, two hooks on each line, baited with minnows. Great shade of Isaak Walton, what sport we had! We fished for four hours—thereabouts. At every swim we hooked one fish each, and at almost every swim two fish each; and, as fast as we could bait, the line went in and float went down, giving us no time to bait ourselves. Not one that we did catch weighed less than half a pound, most were 2 lbs., and some were 3 lbs. and one was 5 lbs. weight! In fact it became perfectly ridiculous, catching every perch till we exhausted every card of invitation which our minnow can afforded. And then we got some worms and fished again, insatiate dogs! We laughed and laughed until our sides ached, and H—— was really ill with mirthfulness. Seeing the rain approaching, for it had lowered all the day—ourselves "an hungered," and 10 miles from home, at last we gave it up—this murderous work! And then we ate a monstrous dish of grease-fried eels at the small inn, and for want of better beverage must fain drink bad brandy and water. The rain already down, 'twas time to retrace our homeward path. Path! D—l a path there was! But under the pilotage of H—— we plodded along the great Roman Dyke, and across the dreary waste of Downs. But our fish? What of them? Why, handerchiefs were called into requisition to aid the two large baskets we had with us—not mere fishing creels. The larger basket, filled to overflowing, H—— and I bore on a stake between us; the boys carried the lesser one, and each of us, in the otherwise disengaged hand, carried his handkerchief crammed in like fashion. The rain held off. We plodded on in line, Indian file, weary enough, and by degrees, finding our loads too great, we were forced to leave perhaps one-half our fish as food for birds upon the way—for there were no poor cottagers in our line of march! Weary outright, at last we reached Newmarket, and then it rained in torrents. How many fish we caught that day we never reckoned—at least one hundred weight and a half! and having for two days supplied all my host's friends around with goodly perch, many which reached Newmarket were thrown at last to rot upon the dunghill! Such sport as that in point of weight and numbers I never had before, or since. This at Newmarket, where fishing was not known to exist! True, that was murderous work! and you will say we ought to have abstained earlier, and so we ought; yet you will remember we had worked and walked hard and far to get this sport, and the fish would be caught. However, such days are few and far between, one only perhaps happening in a fisher's life. *E. C.*

## SUCCULENT PLANTS.

For the last nineteen years I have been a grower of Succulents, and have about 800 or 1000 different varieties, so you will see that at least there is one private collection in London, and I know of another more extensive, which belongs to a successful grower in "the trade." Let me ask you, Mr. Editor, the reason why you would leave out the Echinocacti in your suggested exhibition class, at p. 6? Surely in the Echinos (my special favourites) there are beauties to be found worth the most minute inspection. Were I to give my opinion I should set Echinocactus first, Mammillaria second, Cereus third, and so on. Again, you say these plants have gone out of cultivation, because of the ugliness of many sorts which used to be mixed up in collections with more sightly varieties, and so the good went out of fashion along with the bad. Pardon me when I say that I differ from you in opinion. I believe the main cause to be, first of all, fashion. As in our parterre fashion, which you have made a noble stand against lately, so with succulents, fashion, "degraded fashion," has been doing enough in our gardens to ruin them all by the rule of "everlasting sameness."

Again, few persons know how to grow succulents. I visited Messrs. Loddiges' collection about 20 years ago, and I don't think there was a single plant (among many valuable sorts which they had there) but what was in such a starved condition as to be a perfect cripple for life; and this was the rule in all the collections which I knew, instead of the exception. The late Mr. C. Palmer, of Shacklewell, was once advocating the "dry system" to me, when I told him he did not know how to grow his plants, and he admitted it too, when he witnessed the small collection which I then possessed, and saw what I could do in one season. Since then I have learned a little more, and I am of opinion that I can grow in 3 months in summer now what then I could not do in 18 months! The fact is, that when we have a high summer temperature—and the higher the better—we may water succulents as freely as an Oleander or a Fern, provided they are properly potted, in all respects. They want, to grow them in perfection in this country, a wet and a dry season; the wet one accompanied with a high temperature, in summer; the dry one with a temperature of not less than 40° at any time, in winter; and during the dry season a little water now and then should be given. It may be said they do not need any water in the dry season; I reply, they can do without it altogether, but they do better with it. On the 14th June, 1859, I broke off a hard piece of a woody branch of Opuntia monacantha, which I tied by a piece of copper wire to an iron rod near the roof in my greenhouse, and there it is still alive, and there it shall remain as long as it has any life. I merely name this to show how they will cling to life. Not a single root has it made, and yet it lives!—struggling hard against death, and having had to endure a temperature of 130° many a day, in summer, since then. Again, you speak of "large Aloes which never flower." Pray do not thus speak of Aloes; with proper treatment nearly all will flower, almost every year or so—I say if properly treated, but alas, who treats them properly! The collection of W. Wilson Saunders, Esq., of Reigate, is, however, a fine exception to the rule; Aloes can be grown there, as well as many other succulents, including Sempervivums, which may be said to be in a state as near perfection as it is possible to desire. It just occurs to me that you may mean the "Agaves," which are commonly called "Aloes;" of course these do not flower except to die, but yet they are noble plants in their proper place. Again, the poor Stapelias appear to have offended you, and that lately too, I suppose, as you gave them a good character in your leading article a few years ago. I must say a word in their favour. I think when S. variegata is in flower it would beat for beauty a great many of our "grand Orchids." I once pointed it out to a gentleman in Kew Gardens, and soon he brought a number of ladies to see it; I may truthfully say it had quite an ovation paid to it. And again: S. grandiflora, S. patula, S. quinquenervia, and others, are beautiful as well as curious, even though ill as regards the scent of them. A few years ago I plucked a flower from Stapelia grandiflora, of a rather large size, to show to some friends, who I can assure you, were wonderfully delighted with it, and have spoken of it many times since. Such things plainly prove that variety is appreciated in plants and flowers still.

I much like your suggestion as to plant cases filled with Succulents; they could I believe be made wonderfully attractive. I would just throw out a hint. Let the bottom be filled with earth, and then build up rockwork in the centre; let the earth be covered with some of the graceful kinds of Stonecrop, and plant the case with plants of great variety in their appearance and habit—a few different kinds of Cerei of robust habit in the centre, Echinos of different sorts next; Mammillarias, white-spined mixed with black-spined, forming edgings and borders; and the whole intermixed here and there with other kinds—a few Haworthias for instance, such as H. tessellata, H. radula, H. papillosa, and H. fasciata, to give effect. Then, again, from the top of the case could be suspended Cereus flagelliformis to hang down, while Cereus triangularis could climb over all. Then, as a set-off against the prevailing colour of green, Pachyphytum bracteosum, Echeveria pumila, Kleinia Haworthii, and others, could be introduced. Such cases of plants could be got up with taste and would please everybody.

As to the details of growing them: let them have a light porous soil, tolerably rich, and well drained. They want free exposure to light always. When you have command of a high temperature in summer (and the higher the better then), plenty of water can be given at all times, but it must be accompanied with heat. About September and October gradually withhold water, but give plenty of light and air, only taking care never to suffer a lower temperature than about 45° at this time. In winter I give a little water just now and then, to keep them from flagging. This is the year's course of treatment. One mistake old Succulent growers made was this: they forgot that the plants had dew at night in the hot

seasons in their natural state, and overlooking this they were led to carry the dry treatment to such an excess as to make most of their plants cripples. But treat them well and they will reward you for it; indeed their wants are not pressing at any time. If they want watering to-day, and it is a scorching hot summer day, and you make them wait a week, they will take your neglect very patiently, and this is a grand thing in their favour; but it is not wise to carry this neglect too far, for this has done more in my opinion to set people against succulents than everything else besides. When Messrs. Loddiges' succulents were sold off by Stevens about 16 years ago, Mr. C. Palmer, of Shacklewell, remarked to me that they were nearly all irrecoverably starved—and he was an advocate for the dry treatment too! *N. Burgess, Hackney.*

## Home Correspondence.

*Garden Law: No. 5, Trees.*—Trees belong to the owner of the soil in which they grow. If land is let on lease, neither the landlord nor the tenant can lawfully cut down the trees without the consent of the other; but if the trees are blown down, or are wrongfully cut by the tenant or by a stranger, the wood belongs to the landlord. Bushes and underwood may be cut by the tenant, and the cuttings, whether made by himself or not, belong to him, and not to the landlord. The tenant, moreover, is entitled to the fruit produced on his land during his lease. If an ordinary tenant plants a tree it becomes a fixture which he cannot remove without his landlord's leave. Nurserymen indeed are entitled to remove what they have planted with a view to sell in the way of their trade. But even a nurseryman has no right to destroy what he has planted, if it has grown so large as to be incapable of removal. A tenant, who is not a gardener by trade, cannot remove a Box edging planted by himself; and the same rule is usually considered as applying to ordinary bulbs and flowers planted in the earth. With respect to these, it is certainly not easy to understand why they should not be regarded as ornamental fixtures, and as forming, on that ground, an exception to the general rule. A learned judge, however, who was once asked whether a tenant could not remove flowers which he had planted in the ground, answered no; and it would not be safe for a tenant to go to law to test the soundness of this opinion. At the same time the question as to the right of an ordinary tenant to remove flowers and bulbs has never, that I know of, been actually decided, and until it has it may be considered as doubtful. Curious questions occasionally arise with reference to boundary trees. If a tree is clearly in my land, the mere fact that its roots or branches extend into or over my neighbour's land does not confer upon him any property in the tree or in its fruit. But if the tree has not projected beyond the boundary long enough to give rise to a prescriptive right, he may cut off so much of the branches as are over his land, and even if the tree is thereby killed I have no remedy. So he may cut off those parts of the roots which are in his soil, and however much the tree may suffer, I am in the position of a man who sustains a loss, but no injustice. It is as the lawyers say *damnum absque injuria.* On the other hand, the tree being mine, I can cut it down if I like. A real boundary tree, however, is one which cannot be said clearly to grow in the land of one man rather than in that of another. It grows on the boundary of two or more properties; its trunk is on the border, its roots and branches extend in all directions and equally or nearly so into and over all the adjoining land. In such a case as this, the tree is considered as belonging to all the owners of the lands on the boundaries of which it grows. It is their common property, and none of them can lawfully destroy it without the consent of the rest. If in any particular case there are any circumstances tending to show that the tree belongs to one individual only, the result may of course be different. But where there is nothing to judge by except the tree's position, and that is as above supposed, the better opinion is that the tree is common property. *Lincoln's Inn.*

*Beurré Bretonneau Pear.*—I beg to differ from Mr. De Jonghe (see p. 295) as to the merits of this Pear. My statements are derived exclusively from personal experience, therefore I can rest upon them with the greatest security. Our soil is not what Mr. De Jonghe would infer, wet and uncongenial, which is proved from the fact that some of the delicately constituted varieties ripen their fruit satisfactorily, planted in the same situation as Beurré Bretonneau. But let us dismiss this position and take the case of trees trained on a south and west wall. During the formation of this garden nine years ago all the original soil was removed to the depth of 3 feet; 1 foot of stones was placed over the bottom, and the remaining space was filled with fibrous sandy loam, a medium for the roots that ought to meet every requirement and satisfy the most fastidious. No vegetable cropping has ever been allowed, with the exception of a few early Potatoes or Spring Lettuce, but withal Beurré Bretonneau has invariably proved quite worthless, whether large or small. Between Beurré Bretonneau and Bergamotte d'Esperen there exists no comparison as regards quality. Both are growing with us on the same aspect, in the same kind of soil, therefore I am able to strike a comparison of merit with the greatest accuracy, during a course of several years. Bergamotte d'Esperen ripens its fruit well, whether grown as a dwarf or pyramid, and that too in rather exposed situations; but from a wall the fruit is double the size, more tender, juicy, melting, and higher flavoured. No one possessing accommodation and who values late Pears should omit Bergamotte d'Esperen. Occasionally a few may prove uncertain as to ripening, but this occurrence is rare, and hardly or ever takes place unless during sunless summers. Allied in quality to Bergamotte d'Esperen in size and time of ripening I may mention Beurré Sterckmans, which is a splendid Pear, that may be grown as a dwarf or pyramid, but its rich sugary and vinous properties are never so fully brought out as when grown against a south, east, or west wall. The usual period of ripening is during the end of January or February, but it may be kept till March if packed in boxes among dry sand. Like Bergamotte d'Esperen it possesses the property of ripening gradually, extending over a couple of months. *A. Cramb, Tortworth Court.*

*Peaches.*—There is a slight inaccuracy in my last article. The numbers of Peaches should be 1024, 197, 755, 480, 94. In the year 1861, 510 were left on, but 480 only were gathered; 30 dropped at stoning time. There are two causes of dropping, viz., want of water, and leaving on too many. Since writing my last article they have set regularly and abundantly, and many have burst their skins. The leaves are beautiful, and free from blister; the foliage is always beautiful here, and but slightly blistered. I attribute this to covering the trees, and to giving them water in dry sultry weather, even though the nights be cold. I have invariably found that after watering they have immediately set their blooms. The wetter the winter the more water things require, as the sun and dry winds "set" the ground. Moreover, I believe that gum proceeds from the juices being stewed out for want of water. I have watered with cold water, but, doubtless, water with the chill taken off would be preferable. As the trees have been covered off and on since the 13th of Feb., I have let the rain to-day (Monday) into them, as the rain is from the south, and the sky is too cloudy for a morning frost. I have not this year covered my Apricots, and the hoar frosts have killed all the blossoms, which were very abundant. *W. F. Radclyffe.*

*Rheea fibre.*—I have a sample of Rheea fibre grown in Jamaica and prepared in England, which was sent home to me to ascertain its commercial utility and value. I heard that it is worth 14*l.* per cwt., or 280*l.* per ton; but cannot learn for what purpose it is used, or whether such price be really obtainable. I shall feel greatly obliged if some one will give me the required information. *Inquirer.* [Will some reader answer this query.]

*Fruit Wall.*—I am contemplating putting up a wall for Peaches, Nectarines, and Apricots, and will be glad to learn from your own experience, or that of your Correspondents whether it would not be advisable to grow them under glass instead—I mean with the aid of sufficient artificial heat to keep out frost. I would propose to plant out the trees instead of keeping them in pots. Notwithstanding Mr. Rivers's partiality for Orchard-houses (without artificial heat), I find that most people end by introducing a pipe and boiler into their houses; and as gardeners never have room enough under glass for the present system of bedding out plants, these fruit houses, when thus adapted, can be put to good service. *Australian.* [Certainly adopt glass, and the means of warming too, if the expense of doing so is not a consideration.]

*Cork Trees.*—Referring to your article in the *Gardeners' Chronicle,* page 292, I beg to say the finest specimen of Quercus Suber I have yet seen, stands on the left hand, and close to the road leading direct from Parson's Green to Fulham, in the nursery grounds of Messrs. Osborne, and only a short distance from the celebrated Fulham Oak. A portrait of this Cork tree is to be found in the 8th volume of Loudon's Arboretum. In the days of Whitley, Brames, & Milne, I measured the thickness of the cork on the bark of this fine specimen, and found it in some parts equal to the length of the blade of a pruning knife, and quite sufficient for a "long cork," and of quality not bad considering that it had never been disbarked. At the time referred to it produced acorns sparingly, and the seedlings were remarkable for their dissimilarity to the parent tree, and to one another. One of these forms a beautiful evergreen on my lawn here (Forres), about 16 feet high, perfectly hardy, and with foliage close to the surface of the ground. Having never been pruned to a single trunk it has not yet produced any cork. It blossoms abundantly, but as yet has produced no ripe acorns; they fall off every winter, whether on account of severe frost or for want of being properly fertilised I cannot tell. Enclosed are specimens, and from these you may be able to determine whether the fructification is annual, or biennial. But respecting Quercus Cerris, Loudon says at page 1846 of the "Arboretum," it flowers in April, and ripens its acorns in the climate of London in October of the second year, and sometimes in the autumn of the first year. If this is correct, respecting a deciduous Oak, may it not occur also with an evergreen? *J. G.* [The young acorns were dead. We have sent the specimens for inquiry.]——By a slip of the pen you have said (p. 292) that the Mediterranean plant is *Q. occidentalis,* whereas it is the tree of the Atlantic coast that is to be so called: that of the Mediterranean being *Q. Suber. C. C. B.*

*Stephanophysum Baikiie.*—I must decline the honour of having introduced this, as mentioned at p. 292. Instead of having sent it to Kew, I was myself indebted for it to the kindness of Sir William Hooker, who sent it to me with many other valuable plants, when I was in Rio de Janeiro. I found that it grew and flowered best in the open ground, exposed to the full sun in the hottest part of the year, and did not require the shade nor the constant moisture of a forest, in which most of the South Brazilian Acanthaceous plants delight. I therefore was led to believe that if Brazilian, the plant must come from the drier and warmer provinces of the north. The only new plant of the same family which I recollect having sent to Kew is a Dipteracanthus named after me by Sir W. Hooker. *Hermann Herbst, Thurlow Cottages, White Horse Road, Croydon, Surrey.*

*Rhododendron Aucklandii.*—This is now in flower here. There are five heads of bloom on it, averaging six flowers each, the largest being about 5 inches across. It is remarkably handsome, and incomparably superior either to Edgworthii or Dalhousiæ. *W. H. Rawson, Jun., Hill House, near Halifax.*

*Rockets.*—Can you inform me if the old White Rocket is now in existence. Years ago it was the only sort known in this neighbourhood, and abounded in every garden, and very plentifully in my own; but from some cause with which I am unacquainted it has entirely disappeared, and I have tried on many occasions to obtain it again without success. Most nurserymen say they have it; but when plants are obtained, they are found to be a rough-leaved kind of recent introduction, having flowers of a French white colour, and with blossoms more diffused; and this sort seems the only one common for sale in the shops of florists and seedsmen at this season of the year. The old sort was a pure white, the spike of flowers close and well-formed, and the upper surface of the leaves brownish. It certainly is, if existing, a plant too beautiful to be lost, and I should be glad to obtain it once more. *George Wood, Rochford, Essex.*

*Canna iridiflora.*—You mentioned this plant a short time ago, but where can it be obtained? it certainly is one of the most beautiful of the class. I once had it from the Horticultural Society's Garden, but being very impatient of wet when at rest it was lost in consequence. I have seen it advertised in the seedsmen's catalogues, but I pointed out to several of them that it could not be true, or, if so, it could not be sold at the price offered. I have bought several packets of seeds at various times, but not a seed of it ever came up, though the class is extremely easy to raise. The only catalogue in which I have seen plants of it advertised, and that recently, is Mr. Van Geert's, of Gand, in Belgium, but the price (25 francs) seems very high, and to denote its scarceness. *George Wood, Rochford, Essex.*

*The Poet and "the Holly Tree."*—In the April Number of the Proceedings of the Royal Horticultural Society, which has just been presented to the Fellows, there is a very interesting paper by Mr. Wm. Paul, of Waltham Cross Nursery, on the Varieties of our English Holly. The author quotes Southey's well-known lines on the Holly Tree:—

> Below a circling fence its leaves are seen,
>   Wrinkled and keen;
> No grazing cattle through their prickly round
>   Can reach to wound;
> But as they grow where nothing is to fear
> Smooth and unarmed the pointless leaves appear,

and remarks, "It may seem ungracious to throw a doubt on so charming a fantasy, and my opportunities of observation have not been sufficiently extended to allow me to speak decidedly; but as far as I *have* observed, the evidence is not conclusively in favour of Southey's view." I had always believed there was no doubt of its being a fact that two kinds of leaves are frequently produced upon old Holly trees, just as the poet describes them, and I have some recollection of having met with such trees myself. Of the Chinese Holly (Ilex cornuta), which is a species somewhat like our own, I can speak with more confidence. When fully grown it has, in almost all instances, prickly leaves near the base, "wrinkled and keen," while above

> "Smooth and unarmed the pointless leaves appear."

*R. Fortune.*

*Cannas.*—Many no doubt will be trying their hand at growing Cannas out of doors through the summer season this year for the first time. To experimentalists in the matter, therefore, I beg to offer a few practical hints in addition to the remarks you gave at page 268. Let us presume that next month on a dry day a bed has been emptied of the soil to the depth of 2 feet, and that the bulk of the mould taken therefrom has been mixed with some more invigorating material, such as rotten dung, leaf-mould, or peat, and that the bed is filled up to within 6 inches of the surface with fermenting material as you have recommended. After treading well in, put on 6 inches of the mixed soil, spread evenly over, and if procurable and the soil is any way heavy, river sand and charred rubbish may be sprinkled over all with advantage; the bed will now be filled up to the surrounding level. Procure from any source, tubers that have not yet been started into growth, place them if healthy on the bed already prepared for them, 2 feet apart, and cover with the remaining soil, giving the bed a fall from the centre of 8 inches if 6 feet wide; thus elevated they will be, in addition to the slight bottom heat, benefited by the sun's rays. This plan was adopted here last year with perfect success,

and this year 2000 will be so planted: with this exception, that we trench deeply, mixing dung with the soil without the aid of fermenting material. Canna Annei we find the hardiest of all varieties; many beds of it were not removed from their summer to their winter quarters in an old ice house, and now I see that they are beginning to show themselves above ground; this variety grows 10 feet high, and a mass in a bed some 14 feet in diameter, with a row of one of the dark-foliaged kinds, edged with Caladium esculentum alternately planted with Perilla or Coleus Verschaffelti, produces a very pleasing effect on a lawn. Though this is easily accomplished here, it may, by following your advice to apply simple bottom-heat, be done also in England. *H. K., France.*

## Societies.

Botanical of Edinburgh: 12*th March.*—Prof. Archer in the chair. Several donations to the library were laid on the table. The following communications were read:—I. Professor Balfour gave a description of Pandanus odoratissimus, or Fragrant Screw Pine, which has recently produced pistilliferous flowers in the Palm-house at the Royal Botanic Garden. This Pandanus is a native of the East Indies, China, and the Islands of the Pacific Ocean. The plant in the garden is about 50 years old, and is about 40 feet in height, with a stem about 2 feet in circumference. It has 16 large alternate branches and is provided with 60 aërial roots, some of them 5 feet long. The leaves vary in length from 3½ to 5 feet. The plant has produced two globular spadices of pistillate flowers. As no staminate flowers have appeared on any of the plants in the Palm-house, the fruit will not be perfected. The fragrance is chiefly confined to the staminate flowers. The plant is used for hedges and for various economical purposes, such as the preparation of matting, bags, baskets, &c. A specimen of the pistilliferous spadix was exhibited. The species, so far as known, has not previously produced flowers in the botanic gardens of this country.——II. *On a Method of taking Impressions of Plants by means of Printers' Ink.* By W. Elliot, Esq., of Wolfelee. Mr. Elliot explained to the meeting the process of taking impressions of fresh plants by means of a press and printers' ink. The specimens are covered equally on both sides with the ink by means of a roller, and then placed in the press between sheets of paper, and pressure applied. The whole process, which however, is one well known, is exceedingly simple.——III. *Remarks on the economical uses of the Carnauba Palm* (*Copernicia cerifera*). By Prof. Archer.——IV. *Notes regarding some new and rare British Mosses.* By Mr. J. Sadler, F.R.P.S.——V. *Second List of the Flowering of Spring Plants in the open air at the Royal Botanic Garden.* By Mr. M'Nab. Knappia agrostidea, Feb. 13; Symplocarpus fœtidus, Feb. 15; Daphne Mezereon, Feb. 16; Tussilago nivea, Feb. 16; Muscari botryoides, Feb. 20; Dondia Epipactis, Feb. 23; Orobus vernus, Feb. 25; Arabis albida, Feb. 28; Scilla bifolia cœrulea, Feb. 28; Ribes sanguineum, March 2; Scilla bifolia alba, March 4; Erythronium Dens-canis, March 4; Draba aizoides, March 4; Orobus cyaneus, March 6; Narcissus pumilus, March 8; Primula nivalis, March 8; Puschkinia scilloides, March 9; Scilla sibirica, March 10; Scilla bifolia rubra, March 10; Corydalis nobilis, March 11; Pulmonaria mollis, March 11; Hyoscyamus Scopolia, March 12; H. orientalis, March 12.

## Notices of Books.

*Evidence as to Man's Place in Nature.* By Thomas Henry Huxley, Fellow of the Royal Society. Pp. 159. Williams & Norgate, London.

Not long after the appearance of Mr. Darwin's remarkable book, the scientific world and the general public alike began to experience an uncomfortable sensation, that perhaps, after all, mankind were not so totally separated from the anthropoid apes as they had previously flattered themselves. In some quarters, and especially in the "Quarterly Review," attempts were made to repudiate the relationship altogether. On the other hand, individuals in this country, and on the other side of the Atlantic, among the latter Professor Asa Gray, looked the difficulties connected with Man's place steadily in the face, and took on the whole a very cheerful view of things. Meanwhile, M. du Chaillu's arrival from the coast of Africa, with a budget of wonderful stories about the Gorilla and other matters, and the reception which this traveller and his marvellous tales met with from some of our most distinguished scientific men, forced this Gorilla question more and more prominently before the public. The champions on one side had occasionally the opportunity of a few rounds with those of the opposite opinion: sharp things were said on either side, and these provoked retorts more cutting than courteous. Perhaps the latest of these encounters took place at a recent meeting of the British Association at Cambridge, where such terms as "cerebrum and cerebellum," "hippocampus minor," and "posterior cornu" became for a time familiar words. People formed their own conclusions as to which of the learned Professors had the better of the contest, but they naturally enough felt, that readiness at repartee, though it adds life and piquancy to a discussion, affords no fair test of truth. What we want is to have these matters calmly and plainly stated, that we may judge for ourselves. This, Professor Huxley proposes to do in the little book now before us, which contains three essays:—1, on the natural history of the man-like apes; 2, on the relation of man to the lower animals; 3, on some fossil remains of man. These will all be found deeply interesting, but more especially the second. The Preface informs us that the substance of them all has been published in the form of oral discourses during the last three years. The Professor's line of argument is of this kind:—

"No one doubts that the sloth and the ant-eater, the kangaroo and the opossum, the tiger and the badger, the tapir and the rhinoceros, are respectively members of the same orders, and that, notwithstanding that they differ, some of them, from one another immensely, in the proportion and structure of their limbs, the number of their dorsal and lumbar vertebræ, the adaptation of their frames to climbing leaping or running, the number and form of their teeth, and the character of their skulls, and of the contained brain. Yet, with all these differences, the fundamental characters of their organisation are such that zoologists must group the above pairs of animals together, as belonging, each pair of them, to one order. A newly discovered animal is soon put into its proper group. Now, bearing in mind this obvious course of zoological reasoning, let us endeavour for a moment to disconnect our thinking selves from the mask of humanity; let us imagine ourselves scientific Saturnians, if you will, fairly acquainted with such animals as now inhabit the earth, and employed in discussing the relations they bear to a new and singular 'erect and featherless biped,' which some enterprising traveller, overcoming the difficulties of space and gravitation, has brought from that distant planet for our inspection, well preserved, it may be, in a cask of rum. We should at once place him among the 'mammalian vertebrates,' then with the 'placental mammals;' then, excluding whales and hoofed creatures, sloths and anteaters, carnivorous cats, dogs, and bears, rodent rats and rabbits, insectivorous moles and hedgehogs and bats, there would remain but one order for comparison, that of the Apes (using that word in its broadest sense), and the question for discussion would narrow itself to this;—Is Man so different from any of these apes that he must form an order by himself? Or, does he differ less from them, than they differ from one another, and hence must take his place in the same order with them?"

The Professor having by this ingenious supposition placed himself free from all real or imaginary personal interest in the results of the inquiry thus set afoot, proceeds as an unconcerned Saturnian to weigh the arguments on one side and on the other with judicial calmness, and lays before us in detail the facts which seem to him to leave us no choice but to adopt the alternative of placing man in the same order with the apes.

Taking either the Chimpanzee or the Gorilla, (for it matters not which we take), as the subject for comparison, on the one hand with Man, and on the other with the rest of the Primates, and tracing in order the remarkable differences which exist between the Gorilla and Man; in the general proportions of the body and limbs; in the vertebral column itself; in the ribs and pelvis, in the skull and its capacity; in the teeth (which constitute in man a regular and even series); in the hand, the foot and the brain, which have usually been considered characteristic in man:—allowing, in every case, the very great differences which exist in all these respects, between the Gorilla and Man, which he illustrates by a series of excellent figures, among which, the skeletons of the Gibbon, Orang, Chimpanzee, Gorilla, and Man are peculiarly interesting; the horrid *refrain* of his song is always this—*the proposition still holds good, that the differences between Man and the Gorilla are of smaller value than those between the Gorilla and some other apes.*

Strictly speaking then, we are bound to confess that the Saturnian, judging from the premises placed before him, arrived at the correct conclusion; though we cannot help feeling, that if the learned gentleman had made his observations upon the living animal, instead of merely examining a specimen preserved in spirits; or, better still, had he taken a day-ticket to earth, and observed the manners and customs of the animal, it is quite possible that he might have judged otherwise.

But, seriously speaking, so long as man continues to draw up systems of natural history for men, he has an undoubted right to place the genus "Homo" apart, and in the first rank; and when, in future ages, Mr. Gorilla sits in the professorial chair, and delivers lectures on comparative anatomy to his compeers and fellows, we shall be perfectly ready to take our place among the Primates; nay, more, we promise not to complain, even if the said learned Professor should venture in *his* system to place the Gorilla *first and alone,* for he'd have a perfect right to do so.

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In a *Report upon some of the Colonial Medicinal Contributions to the International Exhibition* (a pamphlet, Churchill), Mr. Charles Hunter gives in some detail the result of his examination of the vegetable drugs, chiefly from British Guiana, which arrived in a state for a tolerable investigation. As always happens in these cases the information sent home with the specimens was very far indeed from being what it should have been, but such as it was, Mr. Hunter made the best of it. In all 24 substances were the subject of special examination, and 127 cases are separately reported on. For details the medical reader will refer to the pamphlet itself. We can only say that though many of the Guiana remedies appear to be unimportant in this country, yet others have proved "of undoubted value, and worthy a place in our Pharmacopœia." Among these a Liane or climber called Tasso, the Bou-iari, and Coutarea are more especially commended. In addition to these we have a very careful account of the Wourali poison, made famous by Waterton—a drug which acts fatally when introduced into a wound, but which may be taken with impunity into the stomach. It completely relieved a severe case of chorea in six days, during which 3½ grains of the drug were swallowed. Mr. Hunter has done his work well, and should receive the thanks of the profession; but it is our duty to add that the printer has by no means performed his part with corresponding care.

## Garden Memoranda.

Messrs. Henderson's Nursery, Pine-Apple Place.—During the past week Messrs. Henderson & Co. have held an interesting exhibition of unforced Hyacinths and other bulbs in their Lapageria house, which, being efficiently shaded with tiffany, and freely ventilated, will no doubt preserve them in freshness and beauty for some days to come. The plants were arranged in this house with very good effect, the principal stage, a parallelogram in form, being occupied by a close bank of moderate-sized Araucarias down its centre, and by three rows of Hyacinths, plunged in Moss; the extreme edge consisting of a row of the little Isolepis, so much used for decorative furnishing. This centre platform contained all the finest named varieties. The side stages were occupied by Hyacinths, Narcissi, and Tulips. At one end was a group of the principal varieties of Epacrises—a set of plants one is surprised not to see shown more largely at the spring meetings which have now become fashionable in London; and at the opposite end were various baskets and vases, both rustic and decorated, tastefully filled, for the most part with bulbs. One of these, a wire basket, was thus filled:—In the centre, well elevated, was a white Hyacinth; then came a circle of one of the gay deep rosy red Hyacinths, such as L'Ami du Cœur; then another circle of deep blue and black Hyacinths, alternately mixed; then a circle of white Hyacinths, and a margin of Cloth of Gold Pelargonium—dwarf plants in good leaf, the drooping Isolepis forming the extreme edge. Some stems of Ivy were trained over the wire work below. These materials being closely set, made up a very attractive pyramid of flowers. The entire display in this house was gay and brilliant, as fresh Hyacinths always are. The following varieties were the most striking at the time of our visit, and our notes will convey some notion of their character under cool treatment, the remarks on these flowers already made in our columns, it must be remembered, having had reference to forced plants. Among Whites, the best was Madame Van der Hoop, pure as the snowflake, and next to it Mont Blanc, which was only inferior as being less perfect in form. Of Blues, Couronne de Celle and Grand Lilas, pale sorts with large bells having an azure tube and pallid limb, were fine; as were also Porcelain Sceptre and Robinson, two sorts which differ from the former chiefly in the somewhat deeper and reddened tint (a blue lilac) of the segments; they have azure tubes, and the eye is paler than the face of the segments. Emicus, thus grown, came of a deepish bright blue with a pale eye, resembling Argus, but not so dark; Charles Dickens, with a blue tube, had a palish eye, and a grayish violet tint. Haydn looked very distinct as a reddish mauve colour. Then of Reds, Sultan's Favourite, a bold flower, was blush white, with a deep red stripe on each segment; Maria Theresa was blush with deep rosy stripes; Jenny Lind was a straw white with red stripes; and Circe, a pale salmony straw-colour with red stripes. These red striped sorts appear to develope their colours well under cool treatment; so also did La Dame du Lac, which comes of a very pleasing shade of lake pink. These were all single varieties; but there was a fair share of doubles intermixed. Of the Polyanthus Narcissi, none were more showy than Soleil d'Or, with its full yellow perianth and deep orange cup; but a few with less familiar names were decidedly better in form, being fuller and smoother. These last were mostly of a canary yellow, with orange-yellow cups: such, at least, were Guerrier, Malakhoff, Perfection, and Regina. Near the entrance to the nursery was a very good display of Hyacinths growing in open beds, the late fine, dry, bright weather having been specially favourable for their development.

The stoves were gay with flowering Begonias, amongst which B. Ingrami, which is found very useful in winter and spring, was most prominent. Imantophyllum miniatum, one of the most useful of plants for private gardens, was also flowering; it may be had in flower at any season. Here were good collections of Ferns, of variegated-leaved Begonias, and of Caladiums—some very fine specimen plants of the latter

being under treatment for exhibition. These Caladiums, which are amongst the most beautiful of all gay-leaved plants, are especially handsome at this season, when the leaves are all fresh and newly-formed. The best we noticed were Wightii, Belleymei, Chantinii, pœcile, and bicolor magnificum, the latter a splendid red-centred sort; to which picturatum and Troubetskoi must be added as smaller growers of distinct form, and the little argyrites, which is a perfect gem for summer furnishing, and for table decoration. Among basket-Ferns, an extremely useful set of plants, Davallia dissecta, and D. pentaphylla are found to be two of the best.

A pretty variegated-leaved variety of Rhynchospermum jasminoides, imported from Japan, and supposed to be at present unique, was seen in one of the propagating houses. We also noticed that the Variegated Bamboo of Japan, which is thoroughly variegated when grown cool as exhibited by Mr. Standish, has a strong tendency to revert to the green state when pushed on vigorously in a stove temperature. Those who desire to keep these plants variegated will therefore do well to avoid powerful stimulants.

Among greenhouse plants was a capital houseful of New Holland species, half-grown, and in other stages of progression towards the condition of "specimens." Of these, Boronias, Eriostemons, Chorozemas, Correas, and such, like, were now in blossom. A good collection of Camellias is kept up here; and in the Camellia house we specially noticed a very beautiful variety named De la Reine, which is not half so well known as it deserves to be; its flowers are very large, beautifully cupped, pure white, faintly streaked here and there with rose-colour. The variegated Cobæa scandens was thriving admirably in one of the houses devoted to soft-wooded plants, and proves to be a most desirable creeper. Another house yielded more Epacrises, and hosts of Cyclamens in full blossom, though they were only a year old. These were sown on the 1st of April last year, and were grown on in the cutting-house, in a temperature often reaching as high as 85°; they are now well established plants, each bearing several flowers. In the same house were some plants of a new Tropæolum called Ball of Fire, which is stated to be several shades brighter than any other variety previously known, and is certainly exceedingly brilliant, and a most prolific bloomer, throwing out not merely single flowers but short branches of blossoms from the axils of its lobe-margined leaves. This cannot but be an acquisition for the flower garden, if, as is stated to be the case, its habit is adapted for bedding.

The show-house was gay, as all show-houses should be at this season, if ever, with a great variety of flowering and foliage plants, and among them were specially noticeable plants of Clematis azurea grandiflora, gently brought forward in an orchard house, freely budding for blossom; and a most effective-looking variegated shrub, with distinctly-marked leaves broadly edged with creamy-white, which on close inspection proved to be the variegated Syringa, or Mock Orange.

## Miscellaneous.

*Storax.*—The proposition that the solid storax of the ancients was derived from Liquidambar and not from Styrax is one from which I entirely dissent; still I am free to admit that a solid resin derived from the former tree may have passed as Storax in ancient times, though I am entirely unacquainted with such a substance. Professor Krinos assumes that as no resin produced by Styrax officinale now finds its way into commerce, it is impossible to believe that that tree ever really yielded any. In this I do not concur; I have already shown that two respectable authors of the last century, Duhamel and the Abbé Mazéas, actually collected Storax from this tree, the one in Provence, the other in the neighbourhood of Rome. I have also ascertained within the last few weeks from Dr. Kotschy of Vienna, that in the neighbourhood of Alexandretta, the Styrax, which there grows to a tree, still yields its odorous resin. On the other hand I am bound to acknowledge that the endeavours I have hitherto used to obtain the resin from trees in the south of France, Asia Minor and Syria, have not been successful. In Syria it is now rare to find the Styrax forming anything better than a large bush, owing to the practice of cutting it periodically for fuel, and though I have myself examined many such bushes I have failed to find upon their stems any exudation. I believe however that where the Styrax attains the dimensions of a tree, better results will be obtained, and the correctness of the ancient accounts will be fully vindicated. Not only does the statement of Dioscorides that the Storax tree resembles a Quince indicate that he could not possibly have had the Liquidambar in view, but moreover the allusion made by him, and especially by Pliny, to localities in Syria where Styrax trees, but not Liquidambar are still found, lend some weight to the argument. The geographical distribution of Liquidambar orientale is very restricted, in which respect it differs from Styrax. In the extreme south-west of Asia Minor it is gregarious, forming forests of trees of from 20 to 60 feet in height. Dr. Kotschy informs me that he has reason to believe it occurs at Narkislik, a village near Alexandretta, and also on the Orontes. He also tells me that six fine old trees, certainly planted, exist at the convent of Antiphomti on the north coast of Cyprus, but that there are no others in the vicinity; that the tree is there called ξύλον τοῦ 'Εφέντη (Governor's wood), and that it and the bark are used as incense in the churches. He adds that there are two trees of the same kind at the convent of Neophiti near Papho, but no others on the island. Professor Krinos states that the Liquidambar is common in Syria, a fact which is not borne out by the researches of botanists who have visited that country, not one of whom has noticed its occurrence. For these reasons, I am not prepared to renounce the opinion that the Storax tree of Dioscorides and other ancient writers was the Styrax officinale of modern botanists, nor can I abandon the idea that, like its congener S. Benzoïn, it is capable of yielding an aromatic resin, which was once obtained in sufficient abundance to form an article of trade. *Hanbury in Pharmaceutical Journal.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Great care should always, but especially at this season, be bestowed on the operation of watering. Too much, too little, or an injudicious mode of appliance, are equally fatal to high cultivation. Many plants are seriously injured at the periods of shifting or potting off, by improper watering. It is the fashion to recommend what is termed a thorough soaking to newly potted stock, and we fear that in this very act the foundation of what is technically termed 'sourness' is frequently laid. A very fine rosed pot, and slight applications of water, at intervals, close on the heels of potting, is the best way, as a general rule, to penetrate the mass, and to cause the particles of soil so to arrange themselves that atmospheric influence shall be somewhat modified, but by no means intercepted. This advice has reference chiefly to newly potted stock in pots; but equal attention must be paid to ordinary conservatory specimen plants. Shrubs newly put out in the beds will now require careful watering. Specimens in tubs must also have a liberal supply, provided the drainage is in perfect order, as it should be. This is the period for the free use of liquid manure, but take care that it is perfectly clear, and not too strong. Large Orange trees should now enjoy a copious application of this renewing element. Where these trees produce gross wood, disbud or remove it altogether, and let the lower shoots take its place. Pay due attention to the watering, shifting, stopping, &c., of stove-plants. Make cuttings as they can be obtained in a young state, of Geissomeria, Plumbago, Eranthemum, Justicia, Clerodendron, Vinca, Euphorbia, Brugmansia, Begonia, Thunbergia, &c., in order to keep up a succession of clean young stock. See that growing Orchids have abundance of atmospheric moisture, with a liberal circulation of air early in the morning, shutting up close betimes, and taking care to observe moderation in the use of fire-heat, in order that a pure atmosphere may be inclosed for the night. Growing Dendrobiums will now require liberal supplies of water; and plants on blocks, frequent syringings. Propagate stock of mixed Greenhouse plants. Most of these will succeed where a medium between the cold greenhouse and the stove is observed. See to cuttings of Heaths, as soon as the wood is in a somewhat firm state. Fumigate the moment an insect appears; this is best done, in a moderate way, two evenings in succession. Some of the hard-wooded things, of no particular importance, might in a week or two be removed, to furnish more room for growing young stock and fine specimens in flower. Some protection will, however, be necessary. Old lights, or a tarpauling on poles as a lean-to, the lowest part next a south wall, and the front opening well to the sun, would answer. Mats may be hung at the front and sides at night.

### FORCING DEPARTMENT.

PINERIES.—Attend to regulating the air, heat, and atmospheric moisture, as directed last week. Fruiting houses or pits should now average 80° by day, and about 70° at night; 85° or 90° may be allowed, however, from 3 o'clock to 5 in the afternoon. Dung pits must not be so warm by 5°, as the plants in them are more liable to become drawn.

VINERIES.—Where crowded, some of the laterals may be removed in the earliest house, where the Grapes are beginning to ripen: not, however, to throw sunlight immediately on the berry, but in order to promote a perfect secretion in the principal leaves, with a view to heighten the flavour of the fruit, and to organise plump buds for the ensuing year.

CUCUMBERS AND MELONS.—Follow up successions. This is a good time to sow for a crop of autumn Melons; at least with those who have nothing but dung beds to grow them in.

MUSHROOM HOUSE.—Take care to provide a humid atmosphere. Beds made after this, should possess more moisture in the manure.

STRAWBERRIES.—In order to get fine fruit, pick off all flowers as soon as two or three are set on each plant, which will be enough. Place them near the glass and give plenty of liquid manure; also keep up a moist warm growing atmosphere until the fruit begins to colour. There will be no difficulty in getting fruit set after this, if the plants are kept near the glass, and are allowed on all favourable occasions to have abundance of air.

### FLOWER GARDEN AND SHRUBBERIES.

A thorough re-arrangement of all the herbaceous tribes should take place every spring; if this has not been done no time should be lost. Some of the grosser kinds get into too large masses, and thereby destroy all proportion in the mixed beds. Continue sowing annuals wherever required. Early struck Verbenas, Calceolarias, &c., may be planted out 2 or 3 inches apart in beds with a slight protection; they will make nice plants by the middle of May, and may be removed either to masses or borders, where they will bloom directly.

### HARDY FRUIT AND KITCHEN GARDEN.

This is an excellent time to plant a full crop of Potatoes. Kidneys, with well-protected sprouts, or any other early kinds planted now, will be little later than those planted in February. This, however, requires a little extra care; the sets should be placed in baskets, a single layer thick, on damp litter, and carefully handled; they should by no means be planted during either sunshine or wind. Those with sprouts 2 or 3 inches long, if managed thus, and covered at night until the second week in May, will closely succeed those in frames. Let a sowing of all the winter and spring Broccoli be made forthwith. Cape Broccoli and Cauliflower for Michaelmas may, however, be sown later. See that plenty of Green Kale, Savoys, Brussels Sprouts, Leeks, Scorzonera, Salsafy, Beet, &c., is got in without delay. Continue successions of Horn Carrots; indeed sow a bed every month from January to September; this is the best way to be independent of the grub. Ridge Cucumbers should be got forward; also Tomatoes and Vegetable Marrow. As soon as your young Asparagus is from 3 to 6 inches high, let new plantations be made.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending April 8, 1863, as observed at the Horticultural Garden.

| April. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth. 1 foot deep. | Of the Earth. 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 2 | 14 | 30.096 | 30.050 | 61 | 26 | 43.5 | 48 | 46 | N.E. | .00 |
| Friday 3 | 15 | 30.206 | 30.104 | 65 | 32 | 48.5 | 48 | 46 | E. | .00 |
| Satur 4 | ○ | 29.973 | 29.900 | 56 | 29 | 42.5 | 48 | 46 | S.W. | .04 |
| Sunday 5 | 17 | 29.851 | 29.711 | 55 | 46 | 50.5 | 48 | 46 | S.W. | .00 |
| Mon. 6 | 18 | 29.591 | 29.465 | 59 | 44 | 51.5 | 48½ | 46½ | S.W. | .06 |
| Tues. 7 | 19 | 29.520 | 29.442 | 55 | 31 | 43.0 | 49 | 47 | W. | .01 |
| Wed. 8 | 20 | 29.665 | 29.590 | 59 | 47 | 53.0 | 49½ | 47 | S. | .11 |
| Average. | | 29.843 | 29.751 | 58.6 | 39.3 | 47.5 | 48.4 | 46.3 | | .22 |

April 2—Frosty; clear; quite cloudless; very fine; frosty.
— 3—Light hazy clouds; fine; clear at night.
— 4—Overcast; cloudy; fine; rain at night.
— 5—Fine; boisterous; cloudy.
— 6—Densely clouded; fine; overcast; rain.
— 7—Fine but cold; hail-shower in afternoon; slight rain.
— 8—Clear; rain; showery at night.
Mean temperature of the week 2 deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending April 18, 1863.

| April. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 12.. | 55.4 | 36.7 | 46.0 | 24 | 0.56 in. | 8 | 6 | 3 | 3 | 3 | 6 | 7 | 1 |
| Mon. 13.. | 55.2 | 33.7 | 44.4 | 15 | 0.45 | 8 | 6 | 3 | 3 | 3 | 6 | 7 | 1 |
| Tues. 14.. | 56.9 | 38.7 | 46.8 | 14 | 0.36 | 4 | 8 | 3 | 3 | 2 | 6 | 2 | 9 |
| Wed. 15.. | 57.6 | 37.7 | 47.6 | 19 | 0.47 | 1 | 9 | 4 | 1 | 5 | 8 | 2 | 6 |
| Thurs. 16.. | 56.9 | 36.4 | 46.6 | 16 | 0.63 | 6 | 9 | 5 | 2 | 3 | 5 | 3 | 4 |
| Friday 17.. | 57.2 | 35.8 | 46.5 | 14 | 0.32 | 8 | 7 | 6 | 2 | 1 | 7 | 3 | 3 |
| Satur. 18.. | 58.2 | 35.8 | 47.0 | 15 | 0.49 | 5 | 6 | 7 | 1 | 4 | 4 | 7 | 3 |

The highest temperature during the above period occurred on the 14th, 1852—therm. 73 deg.; and the lowest on the 18th, 1847, and 15th, 1862—therm. 20 deg.

## Notices to Correspondents.

BALSAMS: *T W.* The old seed is said to be the best, but a good deal depends on the treatment.

BOILERS: *Australian.* We believe the tubular boilers are the quickest in their action; but, all points considered, we are inclined for ourselves to prefer the simple saddle boiler, when rapid action is not a consideration. In all cases much depends on the setting.

BOOKS: *G H P.* Thompson's "Gardener's Assistant."

CALADIUMS: *W Roy.* We should recommend you to grow Chantinii, bicolor magnificum, Belleymei, and Wightii, and the beautiful little argyrites as a furnishing plant. This last is a capital table plant for vases.

CAMELLIA POTTING: *G W.* Shift them in July, when the buds are well set, keeping them sufficiently fed in the meanwhile, that this bud-setting may be satisfactorily accomplished.

EASTER PIPPINS: *E G.* The French have a capital way of managing these fruits; and we think you will be of opinion, after trying it, that Easter Pippins are amongst the housekeeper's most useful winter store. 1, Scoop out the inside of the Apple by the stalk, leaving the eye unpierced; 2, Fill the hole with fresh butter; 3, Place the Apple on a plate (*not tin*), crown upwards; 4, Sprinkle it thickly with powdered sugar; 5, Set it to bake *very slowly* in an oven; 6, Eat it before it cools. This was probably invented by Pomona herself—that is to say, if the great Lady had a kitchen, and anything better to eat than roasted acorns. *Vichy.*

FLOWER BEDS: *J Silver.* No doubt a courteous inquiry would meet with a courteous reply. We are not sure of the name, but it is immaterial to your inquiry.

FUNGI: *John Cranston.* The fungus which infests your frames is the Common Morel, one of the most valuable of fungi, whether dressed fresh, dried for future use, or made into ketchup. Still, as it is an intruder, you will do well to try the effect of quicklime or salt upon it, which will probably destroy it. Take care, however, that at the same time you do not injure your young plants.—*S T.* Your fungus is the Common Morel. *M J B.*

GRAM: *M M.* Gram is the Chick Pea, Cicer arietinum, which is extensively grown as a pulse in the East, and also in the warmer parts of Europe. The leaves exude an acid juice which is collected for medicinal purposes.

NAMES OF PLANTS: *J R.* 1, Acacia grandis; 2, Akebia quinata.—*H B.* Not Polystichum Lonchitis, but an immature state of P. lobatum, itself but a form of P. aculeatum.—*F B D.* The large-flowered variety of Limnanthes Douglasii.—*J E.* Aubrietia purpurea.

OSMANTHUS AQUIFOLIUS: *Mary.* This plant as well as its variegated varieties appear to be perfectly hardy, and are beautiful evergreens, promising some day to rival the Holly, which is saying a good deal. Of course, being so recently imported they have not yet had the actual trial of a severe winter, but we have *seen* them quite fresh after exposure to the trying early frost of last autumn.

STRELITZIA QUENSONI: *St. Bertin.* Received, with thanks.

**Notice.**

PURCHASERS of LARGE QUANTITIES of MANGEL WURZEL, CARROT, TURNIP' or other FARM SEEDS will be supplied liberally by SUTTON AND SONS.

For prices apply (stating quantity required) to

SUTTON & SONS,
Royal Berkshire Seed Establishment,
Reading.

SUTTON'S YELLOW GLOBE MANGEL WURZEL,

THE HEAVIEST AND BEST SORT KNOWN.

Price 8*d.* per lb.; cheaper by the cwt. Common sorts of Mangel, 6*d.* per lb. Good growing Seed.

PRICED LISTS of FARM SE DS post free.

Royal Berkshire Seed Establishment,
Reading.

**Two Hundred and Fifty Guineas in Ten Prizes.**

FOR FIVE YEARS SUCCESSIVELY HIS LATE ROYAL HIGHNESS THE PRINCE CONSORT'S PRIZE CUPS HAVE BEEN AWARDED TO

SUTTON'S CHAMPION SWEDES at the Royal East Berks and South Bucks Agricultural Societies.

New Seed now ready, 1*s.* per lb., or 45*s.* per bushel, carriage free.

Royal Berkshire Seed Establishment, Reading.

NEW HARDY WHITE SWEDE.—The Favourite Swede of the Flockmasters on the Hampshire, Wiltshire, and Cotswold Hills. Grows rather coarse on some soils or when sown early; but it is very productive, hardy, and it is the only Swede that can be depended upon to keep sound through the winter without storing. Excellent for late sowing and upon poor land.

Seed 1*s.* per lb., or 42*s.* per bushel.

Supplied by RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

**Turnip and Mangel Wurzel Seeds, Crop 1862.**
RAISED FROM EXTRA SELECTED STOCKS, & TRANSPLANTED BULBS.
SPECIAL QUOTATIONS TO THE TRADE ON APPLICATION.

JAMES FAIRHEAD AND SON, SEED GROWERS and MERCHANTS, 7, Borough Market, London.

N.B. A few Bushels of our celebrated LEWISHAM SWEDE on offer.

FARM SEEDS OF GENUINE QUALITY (at Market Prices).
*Carriage Free.*

RICHARD SMITH,
SEED MERCHANT,
Worcester.

FARM SEEDS of the finest quality, are offered at fair Market Value.

A LIST of PRICES at which they can be delivered carriage free, and 5 per cent. discount allowed for Cash, is contained in

WHEELER'S "LITTLE BOOK"
for 1863.

CHEAP GRASS SEEDS for HILL SIDES and RAILWAY BANKS.—Rough Grasses, Sainfoin Siftings, &c., suitable for the above purpose, at 2*s.* per bushel and 3*d.* per lb.

Address, RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

**Clovers and Rye-grass Seeds.**

SUTTON AND SONS can supply the proper quantities of the best kinds of CLOVER and RYE-GRASS SEED, either Common or Italian Rye-grass, at 16*s.* per acre; or Clovers without Rye-grass at 14*s.* per acre.

The sorts of Clovers supplied by SUTTON & SONS are the Alsike, the Common Red, and the White Clover (14 lb. per acre).

The great produce of the above-named Mixture is shown by the following:—

*From* C. F. THRUSTON, Esq., *Talgarth, Machynlleth, July* 31.

"I cut a crop of Grass on June 2, which had been previously dressed with soot and guano. It was full ripe, and the Italian Rye-grass was really 4 feet high, Clover in proportion. I am now (July 31) getting a second crop from it equally heavy."

*In ordering it is only necessary to state that "Clovers and Italian Rye-grass," or "Clovers and Common Rye-grass," or "Clovers only," are required for so many acres, when the proper quantities will be sent.*

Royal Berkshire Seed Establishment, Reading.

**International Exhibition. Prize Medals 1851 and 1862,**
AWARDED FOR "EXCELLENT SEED CORN AND SEEDS," TO

RAYNBIRD, CALDECOTT, AND BAWTREE, SEED MERCHANTS and GROWERS, Basingstoke, Andover; and 89, Seed Market, Mark Lane, London, E.C.

Samples of all kinds of AGRICULTURAL SEEDS and SEED CORN, sent post free on application.

**Agricultural Seeds.**

JOHN K. KING, SEED GROWER, Coggeshall, Essex, (Established 1793), has now ready for delivery from his genuine carefully selected roots,

YELLOW GLOBE MANGEL WURZEL.
KING'S CHAMPION ESSEX ORANGE GLOBE MANGEL WURZEL.
RED GLOBE MANGEL WURZEL.
ELVETHAM LONG RED and LONG YELLOW.
SKIRVING'S SWEDE TURNIP and PURPLE-TOP.

The above sorts have all been proved to grow well.
PRICED LISTS with testimonials post free on application.

INTERNATIONAL AGRICULTURAL EXHIBITION, to be held at HAMBURG on JULY 14, 15, 16, 17, 18, 19, and 20.

The Prizes offered are on a very liberal scale. For the Classes devoted to British Bred Stock exclusively they amount to nearly 800*l.*, while all the others are open to general Competition.

**All Entries of Stock, Implements, &c., must be made upon** the Printed Forms prescribed. These can be obtained from the Secretary, and must be returned ON or BEFORE MAY 1, the LAST DAY of ENTRY.

The General Steam Navigation Company, London; Messrs. Drolenvaux & Bremner, 14, Mark Lane, London; Messrs. Brownlow, Lumsden, & Co., Hull; Messrs. Lofthouse, Glover, & Co., Hull; Mr. Thomas W. Peters, Hull; Messrs. Pile, Spence. & Co., West Hartlepool; Mr. John Sutcliffe, Grimsby; and Messrs. Ormston, Dobson & Co., Newcastle-on-Tyne, are authorised to receive payments from Exhibitors for Space required, which, according to the printed regulations, are required to be paid before Certificates of Admission will be granted, and are to be paid at the following rates:—

2 Prussian Thalers for each Horse, Bull, Cow, or Heifer.
1 Prussian Thaler for each Ram or each lot of three Sheep, each Boar, each Sow including a litter of Young Pigs.
$\frac{3}{4}$ Thaler per foot Frontage and 10 feet in depth, for Machinery, Implements, &c., in Covered Sheds.
$1\frac{1}{2}$ Thaler per foot Frontage and 20 feet in depth, for Machinery, &c., in Covered Sheds.
$\frac{1}{2}$ Thaler per foot Frontage, and not exceeding 20 feet in depth in the Machinery in Motion Yard (Uncovered).

The Thaler to be reckoned equal to 3*s.* sterling. In making payments, the receipt of the same to be returned, with the filled-up form of application, to the Secretary, at Hamburg.

It is particularly requested to send description marks, number, weight, value, and contents of everything, with bills of lading, to Messrs. James R. M'Donald & Co., Hamburg.

By order of the Executive Committee,
GERHARD HACHMANN, Dr., Secretary, Hamburg.

To whom applications for particulars of the Prizes, &c., are to be made.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.

A LECTURE by Dr. VOELCKER on the ADULTERATION of OILCAKES and other FEEDING MATERIALS will be delivered to the Members, at the Society's House, 12, Hanover Square, London, at half-past 12 o'Clock, on WEDNESDAY NEXT, April 15. By Order of the Council.

H. HALL DARE, Secretary.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.

Besides the usual Prizes for Cattle, Horses, Sheep, and Pigs, SPECIAL PRIZES, amounting to £500, including ESSAYS for FRUIT, CIDER and PERRY, HOPS, and SALT, are offered by the Local Committee, to be competed for at the Worcester Meeting. For Prize Sheets and particulars apply to

H. HALL DARE, Esq.,
12, Hanover Square, London, W.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.

STOCK and IMPLEMENT PRIZE SHEETS are now ready, and will be forwarded on application to

H. HALL DARE, Secretary.
12, Hanover Square, London, W.

# The Agricultural Gazette.

## *SATURDAY, APRIL* 11, 1863.

MEETING FOR THE ENSUING WEEK.

WEDNESDAY, April 15 { Agri. Society of England.. (Dr. Voelcker on Oilcake.) .. Noon

THE sale of the late Mr. JONAS WEBB'S Shorthorn herd will take place at Babraham on Wednesday the 15th inst.; we are requested to say that for the convenience of visitors, the same arrangements as have been made for the Southdown sales will be carried out on this occasion, conveyances being provided for the transit between the Whittlesford station and Babraham. All trains up and down, except the express, will stop at Whittlesford on the day of sale. Passengers arriving at Cambridge from Norwich, Ipswich, Bury St. Edmunds, Peterborough, and intermediate stations, can take the 9.40 train for Whittlesford, the first trains from Bedford and Hitchin arriving at Cambridge in time for it.

THE *Mark Lane Express* of last Monday contained a very elaborate report of the harvest of 1862, drawn up from the returns of 600 correspondents in different parts of the country.

These returns state of the grain crops that they are "under average," "average," or "over average," respectively; and they still farther specify whether in the judgment of the reporters they are one-sixth, one-fifth, one-third, or half over or under average. Disregarding these lesser distinctions, the following under the three principal heads are the results of the inquiry:—

| Crops. | Under average.. | Average. | Over average. | Total. |
|---|---|---|---|---|
| Wheat .. .. | 508 | 100 | 10 | 618 |
| Barley .. .. | 264 | 263 | 31 | 558 |
| Oats .. .. | 111 | 335 | 116 | 562 |
| Beans .. .. | 158 | 224 | 48 | 430 |
| Peas .. .. | 191 | 191 | 23 | 405 |

Let us compare with these returns, taken from men who have threshed out a portion of their crops and are able to speak from actual knowledge, the reports published in these columns in August last from correspondents who then of course could give us only *estimates* which they had formed from mere examination and inspection of the standing crops and of the harvest work then going on. The following is the Table we then published:—

| Crops. | Under average. | Average. | Over average. | Total. |
|---|---|---|---|---|
| Wheat .. .. | 150 | 37 | 1 | 188 |
| Barley .. .. | 53 | 108 | 26 | 187 |
| Oats .. .. | 55 | 108 | 37 | 200 |
| Beans .. .. | 13 | 80 | 42 | 135 |
| Peas .. .. | 23 | 73 | 10 | 106 |

The two reports very fairly agree with one another, which confirms us in the belief that a very fair opinion can be formed at harvest time of the probable yield of crops. Thus, of the reports of the Wheat crop to our contemporary, 16 per cent. state it to be average, and 82 or 83 per cent. declare it to be under average. Of our own reports, about 18 per cent. declared it to be average, and 80 per cent. stated it as under average.

Our reports of the Barley crop were considerably more favourable than those now published—of which only 6 per cent. are over average—47 per cent., or thereabouts, being average and under average respectively. Our correspondents reported in no fewer than 14 per cent. of their returns that the Barley crop was over average, 57 per cent. being average, and the remainder under average.

Of the Oat crop our returns agree more nearly: 20 per cent. of the *Mark Lane Express* returns being over average and as many under average, 60 per cent. or thereabouts being average; whilst of the returns to the *Agricultural Gazette* last August about 19 per cent. were over average, 27 per cent. were under average, and 54 per cent. were average.

The Bean crop is reported by both Journals to have been inferior. 36 per cent. of the returns to the *Mark Lane Express* being under average, about 52 per cent. being average, and 12 per cent. being over average. While of the returns published in our columns, 31 per cent. were under average, 10 per cent. over average, and 59 per cent. an average.

Of the returns about the Pea crop published in the *Mark Lane Express*, 6 per cent. were over average, and 47 were average and under average respectively. Our own reports are more favourable, 10 per cent. being over average, and only 20 per cent. under average.

The year, so far as grain crops are concerned, has been a very bad one for the farmer. In both price and produce he has suffered. A better home crop would have checked importation, and would have sold at a higher price than has been realised.

IN the month of April, 1861, we directed the attention of our readers to a series of experiments on the germination of several samples of Turnip seeds, including both the common and Swedish sorts which we had tested in September, 1860. The results of carefully conducted experiments on no less than 50 packets from various sources led us to the following conclusions:—

1. That ten samples were genuine, the seed failing only to the amount of 8 per cent.

2d. That forty of the samples bore evidence of having been mixed, or old, or both, as they failed on an average to the extent of 28.2 per cent.

Now, having kept the packets of seeds which we considered genuine, we were induced after a lapse of two years—that was in September, 1862—to repeat our experiments; for, as it is a matter of importance to ascertain experimentally the effect of keeping seed longer than one season, it must be equally so to have within our reach a simple method of ascertaining the germinal power of seeds at all times.

In the following table, then, we repeat the results of the trials conducted in 1860, adding those of 1862 by way of comparison, and as we still preserve the samples, we shall take care to repeat the experiments hereafter, as we cannot but expect that they may afford us as much informa-

tion from year to year as they do in the two columns of figures which we now present:—

Germination of 10 Sorts of Turnips.

| No. | Name.—Copy of Label. | Came up. Sept. 1860. | Came up. Sept. 1862. | Remarks. |
|---|---|---|---|---|
| | | per cent. | per cent. | |
| 1 | Mousetail, 1859 .. | 96 | 46 | Old Seeds in Sept. 1860, when the experiments were made. |
| 2 | Pomeranian or White Globe, 1859 .. .. | 86 | 44 | |
| 3 | Yellow Tankard, 1859 | 92 | 62 | |
| 4 | Nimble Green Round, 1859 .. .. .. | 96 | 94 | |
| 5 | Lincolnshire New Red Globe, 1860 .. .. | 90 | 58 | New Seeds in Sept. 1860, when the experiments were made. |
| 6 | Smart's Mousetail, 1860 | 98 | 92 | |
| 7 | Green Top Stone, 1860 | 84 | 84 | |
| 8 | Sutton's Imperial Green Globe, 1860 .. | 98 | 80 | |
| 9 | Green Topped Scotch, 1860 .. .. .. | 90 | 86 | |
| 10 | Early Six Weeks, 1860 | 90 | 70 | |
| | Came up, 1859 .. | 92 | 61 | |
| | Failed, 1859 .. .. | 8 | 39 | |
| | Came up, 1860 .. | 90 | 78 | |
| | Failed, 1860 .. .. | 10 | 22 | |

Here, then, these experiments show us, on comparing the seeds of 1859 with those of 1860, that the previous year's samples were slightly superior. 1859 was an extraordinary year for the growth and ripening of seeds and fruits of all descriptions, and 1860 was just the reverse; and the season has a marked influence on the quality of seed.

In this case, therefore, seeds of 1859 being so well grown, a year's keeping did not show them to be inferior, but rather the reverse, when compared with new samples.

Now, if we look at the column for 1862, we shall find that the samples of 1859 represent seeds three years old, and those of 1860, seeds of 2 years old, when the experiments were made, and we have then as a result:—

| | Per cent. |
|---|---|
| *a.* Germination of Seeds 3 years old .. .. .. | 61 |
| Failed ditto ditto .. .. .. | 39 |
| | 100 |
| *b.* Germination of Seeds 2-year old .. .. .. | 78 |
| Failed ditto ditto .. .. .. | 22 |
| | 100 |

From these results we may conclude that however good and well saved seeds may be, the keeping of them over two, especially three seasons, causes a sad falling off in their powers of germination.

If, however, we examine the samples separately, we shall find that there is after all no uniformity in the results, for while some of them fall off to a great extent, yet others seem to have suffered but little during the time we have kept them. Taking the whole series, however, there can be no doubt that keeping Turnip seeds tends greatly to their injury, and we here have reason to conclude that the evil is one which increases in an accelerated ratio in proportion to the increase in time.

Now as we are informed that little is thrown away in the seed trade, but that the overplus of a glut year finds its way into the market at a future season or seasons, it becomes a matter of importance to ascertain the nature of the injury thus inflicted. We know that seedsmen do sometimes try experiments of the kind we have tabulated; but, as we may expect, and indeed happen to know, in some instances only in order to regulate them in their bargains.

These cheap seeds then, if of sorts in demand, are sold with all kinds of recommendations, and if genuine they become with keeping about equal to the new seeds prepared by the admixture of "000" seeds: this being, as our readers will recollect, the trade-mark for killed Charlock for Turnip seed mixing—in fact our genuine samples, though 3 years old, would bear 8 per cent. of mixing with 000 seeds, and then be equal to the usual market samples.

## STEAM CULTIVATION.

### MENTMORE, NEAR LEIGHTON BUZZARD.

There was no lesson of detail in the whole course of the agricultural lectures of the late Professor Low, of the Edinburgh University, which he urged more strongly upon his students than the impolicy of a too early spring cultivation of clay soils. It lives in my mind after the lapse now of a quarter of a century as if we had been taught that the whole produce of the season hinged upon running no risk here. We might, indeed, if February and March had been dry, plough back the autumn ridges; either "gathering in" over the old furrows, thus making new ones where the crowns of the ridges stood, or, what was better, as providing ampler surface drainage, of which we heard a great deal more than of any other kind, retaining the old furrows, ploughing our first slices not into but on either side of them, thus doubling the number of outlets for whatever rain might fall. Certainly however nothing like a deep cross cultivation of the land was allowed until towards May, or April showers might make us rue our recklessness, all the ensuing season. And many a tenant farmer on the clays will say Professor Low was right, and they praise him justly as having been a trustworthy teacher of farm practice.

We saw two weeks ago, however, a large tract—some 40 acres—of stiffer clay than any known to the Scottish agriculturist, which was being "smashed up" any how, with no regard to surface drainage at all, and with no regard whatever to the effect which subsequent rain might have upon their tilth. It had been drained 4 feet deep and 11 yards apart, and it was then being cultivated without any surface trampling of the land whatever. A rather foul Bean stubble had been broken up 8 inches deep, and crossed from the same station by Bedford the 3-tined grubber last autumn, and now a 10-horse engine, stationed in the middle of one side of the piece, had drawn the 5-tined implement an inch or two deeper east and west through the whole of it, without once shifting its place. Then it had drawn the same tool equally deep through it, crossing and recrossing the first tillage, and when I saw it the other day, it was accomplishing a third crossing with the 5-tined tool in the direction of the first grubbing that was given. Over the foulest portion one turn of Howard's powerful steam drag-harrows had made a capital seed-bed for spring corn. The whole breadth was thus stirred and smashed up, any root weeds were on the surface, the tool had left no glaze or trampled soil behind it. The land was as dry as thorough drainage all the winter and a dry February and March could make it. Being clay of course it was moist enough; but there was no poaching or trampling to make rain dangerous, and the drill was following the cultivator as fast as possible. In the trampling of the teams while getting in the seed, however, there was still some risk of injury, and the operation would have been a better illustration of how steam cultivation, after good land drainage, enables one to set at naught the maxims of old-fashioned farming, if the drill or sowing machine had been combined with this last cultivator in one, as in Mr. Smith's last patent they are. The weather of the week which has since elapsed, however, has been propitious, and Mr. Taylor may be congratulated on having accomplished his Oat sowing in first-rate order with very little else than steam power.

Mentmore is the mansion and estate of The Baron Meyer de Rothschild, M.P. The purchase about 15 years ago of some 500 acres in this neighbourhood has proved the nucleus around which a lordly estate, extending over some 20 square miles, has gathered in the interval. And on one of the rising grounds above the Vale of Aylesbury, in which for the most part the property lies, a mansion has arisen from Sir Joseph Paxton's designs, corresponding with the wealth thus represented. And some 1200 acres of the estate around this mansion are in the owner's hands, mainly with a view to the formation of a Park. Many miles of hedgerows have been grubbed up and fields thus thrown together—many miles of roads have been at great expense constructed, and communication thus opened with the main public highways on every side. Many acres of plantations have been made on deeply trenched and well drained sites, and the general designs have been formed and carried out under the direction of Sir Joseph; the whole of these operations, including the agricultural details, being under the immediate superintendence of Mr. George Taylor.

The estate lies for the most part on the so-called Gault formation, a stiff calcareous clay which, dug out of the subsoil, whitens as it dries, but forms naturally a dark adhesive surface soil extremely difficult to work, and extremely poor and infertile, except when drained.

Looking from the hill top on which the village stands, you are struck with the poor stunted growth of timber in the hedgerows of the vale below; and it is hard to believe that land which turns out such poor timber trees, and which, moreover, still yields (in places) such extremely poor pasture, yet grows 5 quarters of white Wheat, 8 to 10 quarters of Oats per acre, and heavy crops of Mangels, Clover, and of Beans. In further illustration of increased productiveness of this clay farm under liberal treatment in connection with thorough drainage, and the steam cultivation afterwards adopted, it may be mentioned that the harvest of 1861 yielded of Essex Rough chaff white Wheat 5½ quarters per acre over a large breadth—the produce of other corn crops, as also of green crops, being in proportion to that of Wheat.

This, then, is what drainage and steam tillage have enabled it to do—that represents the natural and unaided fertility of the land. The Mentmore estate has been, indeed, as good an example as one might desire of that sort of poverty which arises from the key of the treasure box not having been yet discovered. The lock has however here been already picked by land drainage and steam ploughing, and the natural wealth of the land is being now annually exhibited.

Previous to the Cheddington farm coming into Baron Rothschild's hands in 1854—5, this then poverty-stricken undrained tract was in "common field," let to a numerous tenantry at the annual rental of 12*s.* or 13*s.* per acre—two crops and a dead fallow being the "rotation" then adopted. It need scarcely be added that the amount of produce under such adverse conditions could be more appropriately described in bushels than in quarters, and moreover that green crops were here either wholly unrepresented or unknown. Snipes and plovers were here in abundance 10 years ago. The crops were usually sold standing, there being no homestead on the land. Wheat was grown more for the sake of its reed-like straw than for corn, there being in this locality a great demand for straw (termed "reed") of that kind, owing to the proximity of Dunstable and its bonnet factories. Previous to a systematic plan of sub-drainage being effected, this low-lying tract of poor clay was all but submerged in seasons of extraordinary wetness. When, owing to the exceeding slackness of the natural outfall, and the conspicuous absence of any artificial contrivance for the escape of surface water—the arable portion especially being gathered into high backed lands some 2 feet or more above their furrows—the water was retained on the surface in such abundance as to give it the appearance from any rising ground at a distance, of a bog-like tract some 500 acres in extent, in the deep artificial furrows of which a flat bottom boat might float! Sheep stock—the poor ewes which were run over the stubbles and grassy portion of so large a waste—were greatly liable to the rot, and mutton of that description was at a great discount in "Cheddington Field," A.D. 1853.

The state of much of the pasture laid down undrained some years ago, contrasted with the magnificent arable crops on well drained steam ploughed land close by—teaches as forcible a lesson as can be desired on the difference between clay land drained and tilled and clay land wet and poached. Mentmore will hereafter certainly be a striking illustration of that improveableness of our calcareous clay lands which they will owe to the introduction of steam cultivation after drainage.

Let me now describe the management of the home farm in more detail. There are about 1200 acres in hand, of which between 400 and 500 acres are arable, the remaining 700 to 800 acres being in pasture, park, and groups of ornamental trees and drives. It is being all gradually drained on the parallel or "gridiron" plan, 4 to 5 feet deep, the whole tract consisting of either a strong gault or stiff calcareous clay underlaid with gault, there being a total absence of either stone or gravel on this portion of the estate suitable to its numerous requirements of road-making, &c. The drainage of the arable section of the estate was begun in 1854-5, and completed the following year. Steam-power drainage (with pipes) of the whole tract was primarily contemplated; but on an examination of the system and inspection of works in progress at the time, it was abandoned for hand labour, and it was decided even at that early stage in the history of steam cultivation to resort to steam as an aid to tillage if possible rather than as a help to drainage operations.

In commencing drainage, it was necessary to look forward to the eventual conversion of the arable farm into a portion of the intended park. Hence covered outlets, in lieu of open ditches or watercourses, were resolved upon, especially as the outfall was for the most part flat and slack; and mains required to be deeply driven for great distances, in order to ensure sharp outlet-run for so large an area of land-drainage, to the uniform depth for lateral drains of 4 feet.

These main outlets are made to embrace, as far as natural levels admit, each about 100 statute acres; they consist of 12 and 9-inch bore round pipes in 2-feet lengths, having circular openings in some of them at 5 to 8-chain intervals, for the insertion of 4 and 6-inch mains, laid diagonally across the land, to receive the sectional divisions of lateral drains, consisting of 2-inch round pipes, 1 foot in length.

The old furrow lines, being generally in fair parallels, and equidistant throughout, about 30 feet apart, and lying moreover in the line of greatest fall, it was deemed the most prudent course to adhere to them as the best plan of lateral drainage under the circumstances, and none the less so because these furrows had for so long a period relieved the land of its surface waters. The efficient sub-drainage of this clay land bog was thus, it will readily be inferred, a far more costly work than in the case of ordinary drainage of enclosed land, where open ditches are usually worked to form the outlet and main carriers.

Owing to the difficulties of the natural level, the covered outlet has varied in depth from not less than 5 feet to 15 feet occasionally; and the mains themselves are not unfrequently laid 6 to 9 feet deep, in order to obtain the requisite depth of 4 feet for subsidiary drains throughout the entire area of some 500 acres of tenacious clay-land.

Through the subsequent operation of levelling down the high-backed ridges (mainly by the action of the steam cultivator) during the subsequent 5 or 6 years, the average depth of the general drainage is now increased to nearly 5 feet, and the issue of these proceedings is the complete and perfect removal of stagnant water from an immense tract of now fertile corn-land, which so recently stood at the very minimum of agricultural value. Finally, it may be remembered, whilst on the subject of drainage, that the same general plan is being pur-

sued with the Grass land, with, however, this distinction—that the lateral drains are all set out in exact parallels across ridge and furrow, upon the greatest line of fall at the distance of half a chain apart, and 4 feet 6 inches to 5 feet deep.

The cost of the drainage thus described has been proved over now some 800 acres of arable and pasture land to be just about 6*l.* per statute acre in all, or say 5*s.* to 10*s.* per lineal chain for labour only in the case of outfall, and of mains; and 2*s.* 6*d.* to 3*s.* per chain ditto for 4 feet to 5 feet lateral drains.

Large circular ponds for live stock, a rood or more in extent, are contrived in some good central positions favourable to the surface levels (for the water accommodation of about 150 acres in each case). Circular excavations are preferred, as, owing to their arch-like shape, they are found to stand better than any other form when the side is battered to a good even slope. To facilitate the approach of all kinds of stock for drinking, or for loading water-carts, graduated mouths are dug out quite to the bottom, in order that the water may be reached in the driest season. Owing to the depth thus excavated—to full 8 or 9 feet below the drainage levels, and still more owing to the plastic character of the soil, no puddling is found requisite—not even in the driest summers. Similar reservoirs (not so large, however) are also dug out in the most suitable places as to levels, cart ways, &c., upon the arable portion of the farm to meet the requirements of steam cultivation; and it may be useful to note that the large mass of clay thus taken out is either wholly or partially burned during the process of excavation in order to provide a good material (in the absence of gravel) for ballasting roads or drives—forming the bases of farm-yards, not omitting the mouths or bottoms of the ponds themselves.

Moreover the burnt clay is occasionally employed as a manure on the farm, and there is a promise of valuable results through its use, especially when first employed, either alone or in conjunction with straw, in littering down the yards filled with live stock in winter. When burning the clay is not thus resorted to for estate and farm purposes, it is used most advantageously to fill up the many old surface ponds and ditches laid dry by the action of recent land-drainage, or for making good any natural or artificial hollows required to be brought to a fair surface in the formation of the park. In one instance a reservoir of this kind is made to supply an adjacent farmyard of some 80 head of stock in winter; as well as the cattle, &c., depastured in summer over some 150 acres of surrounding Grass-land. An immense extent of enormous hedgerows has been grubbed up, and much remains to be done in that way to destroy the thin and liny aspect presented by the many miles of poor unthrifty trees composing the hedgerow timber. The bushes, faggot wood, and roots thus cleared are turned to an economical account almost on the spot by using the former to construct roads, drives, &c., on the American or "Corduroy" plan of laying down a floor of brushwood on which to lay the ballast or gravel for a base; whilst the latter are stacked into large ricks on the farm, and when dried and seasoned as fuel are used as such for burning clay into ballast, for steam cultivation, &c. By the removal of these irregular hedgerows, the refilling of the ditches, &c., much that was formerly almost useless and encumbered ground is thus reclaimed and made of considerable agricultural value over so large an extent of land. Owing to the absence of stone or gravel before alluded to, permanent roads or carriage drives are made at a great cost at Mentmore, notwithstanding that in their formation, owing to the thorough character of the land drainage as a whole, no special drainage for roads, beyond laying down the floor of faggots to keep the clay down and prevent intermixture with the ballast, is needed. The materials are placed, as far as level admit of it being done, upon the surface for a new road, to the depth of about 9 inches thick, which when well solidified by cartage, &c., is covered by a layer of broken flints, 3 or 4 inches in thickness—the only local material sufficiently durable for surface wear and tear—and which costs 1*s.* 8*d.* per cubic yard four miles off, or at the costly rate, for road-making, of about 5*s.* per cart-load at home.

(*To be continued.*)

## SMALL-POX IN SHEEP.

[The following is the report to the members of the Wilts Mutual Insurance Sheep Association, and adopted by them at their recent meeting at Devizes, as reported in the *Devizes Gazette.*]

The period having arrived up to which it was originally intended that the Wilts Mutual Sheep Association should continue, its members will naturally expect from the committee some report of the steps which have been taken to carry out the object for which the Association was formed, and of the disposal of the funds which were placed in its hands.

At the time the Association was called into existence, a disease called "small-pox," hitherto unknown in this county, was raging to a considerable extent among the flocks of Wiltshire; hundreds of sheep had already died in one flock in the immediate neighbourhood of Devizes, and the dangerous system of inoculation, which had been introduced among sheep hitherto unaffected, bid fair to propagate disease in all directions. The object of the Association, which was formed on the 11th of September last year, was, therefore, in the first place to prevent the spread of that malady by such unnatural means; and in the next, by mutual combination, to afford compensation to those who might sustain losses from its attack; and the committee may congratulate the members generally that the prompt action which was taken to accomplish the first object was the means of preventing any necessity for the second.

An order in Council had, it is true, been issued at the time the Association was formed with reference to infected districts, but this order contained no prohibition against inoculation; and looking at the open area over which thousands of sheep in this county intermingle, it seemed next to impossible, unless some decided check were put to such a source of contagion, to prevent the communication of small-pox to a large portion of the flocks upon the Downs of Wiltshire. One of the first measures, therefore, adopted by your Association was to stop at once a resort to inoculation; to separate, bury and destroy any sheep that might become infected; and thus exterminate at the outset all chance of contamination from infected animals. The result of this step, promptly taken, was, the committee have reason to believe, the means of eradicating the disease from the immediate neighbourhood in which it originally broke out, and was the means of preserving thousands of others on all sides; and, as a consequence, the demand for compensation upon the funds of the Association has been, comparatively, *nil*, the Secretary having received claims from two infected flocks only, in one of which (a flock of 450) two cases only occurred, and these having been immediately separated from the rest of the flock effectually stayed the ravages of the malady.

Your committee would, however, but imperfectly have discharged their duty had their attention been limited merely to the extinction of the disease where it was found to exist. They therefore put themselves into communication, through their Secretary, with several gentlemen in Norfolk, who had had considerable experience of the small-pox of sheep, when that disease was imported into England some 10 years ago, and, among others, with Mr. Allan Ramsay, who was said to have tried, with success, the preventive effects of vaccination in several large flocks in that county.

The communications received from these gentlemen were of a very encouraging nature, and your committee proceeded forthwith to put the matter to a practical test. With this object in view, your Chairman (Mr. George Brown) procured six healthy sheep from Mr. Pritchard, of Longcot, near Swindon, and had them vaccinated by Mr. Parker, a medical gentleman, of Shrivenham. Having taken the vaccine satisfactorily, two of these sheep were, on the 9th of October, forwarded to Mr. Church, at Aldbourne, where they were placed with two very bad cases of small-pox, so bad that the animals afterwards died in a most loathsome state of disease; the vaccinated sheep, however, appeared in no way affected, and on the 29th they were removed to Mr. Hulbert's flock at Langley, where small-pox was raging in its most virulent form, and where, it should be stated, the four other vaccinated sheep had been previously sent on the 23d of October. Here the six vaccinated sheep remained until the 3d of November, mingling with a mass of diseased sheep, resisting all contagion, and continuing all of them in a perfectly healthy state.

But Mr. Brown determined to put the experiment to the most extreme test; and on the 3d of November he accompanied Mr. Parker to Mr. Hulbert's, and there had the six sheep inoculated. That there might be no question about the matter, each sheep was inoculated in two places, and on the following week there was strong evidence of their having all taken the disease; indeed, the fact was soon placed beyond doubt, for on the 13th one of them died in a very bad state, followed by the death of another on the 19th, two more being at the same time exceedingly ill, with pustules fully out; but the remaining two appeared little affected, and with the other two have since quite recovered.

It will be observed, therefore, that up to the time of inoculation—during the 25 days that a portion of the vaccinated sheep were exposed to the small-pox in its most virulent form—the resisting effect of the vaccine was complete. How far the six sheep might have continued to escape contagion it is impossible to say; and your committee cannot but regret that the severe experiment of inoculation was not limited to three of the sheep only, leaving the other three to test the permanent effect of vaccination. The experiment has, however, exemplified one result, that inoculation is not always certain to produce the disease in a mild form, two of the sheep thus artificially impregnated with the virus having died in a shocking state; and in Mr. Hulbert's flock the losses were greater, by about 14 per cent., among the inoculated cases than in the natural ones.

Another good result has also, in the opinion of your committee, been satisfactorily established, viz., that separation, and not inoculation, is the proper mode of dealing with affected cases; for in every instance which has come within the knowledge of your committee, and there were many, where separation was practised at the outbreak of the disease, its effects were confined to those animals only first affected in each flock, and these having been removed from the others, in no single case did the disease extend further; whereas, in all cases where inoculation was practised, the disease has been extended, and its virulence and fatality have been as great, and in some instances greater, than where it was allowed to wear itself out naturally.

So far your committee have endeavoured to fulfil some of the objects for which the Association was formed; but they feel that the Association would have existed to little purpose if it allowed its members to separate without urging upon the Government the positive necessity of adopting a more strict supervision of the Import Laws. It is to the reckless importation of diseased foreign animals, under the guise of "Free Trade," that the immense losses to which the stock and flockmasters of Great Britain have been subjected since the year 1842, are directly traceable, and to which your committee cannot but ascribe the direful malady which was the means of bringing this Association into existence. They are credibly informed that the Privy Council are at this moment in possession of such a mass of facts condemnatory of the present system of importation as will render it almost impossible to resist an appeal to prompt action; facts which show that there has, throughout the past year, been a continuous transit of foreign animals from the most diseased districts of Holland, Germany, Prussia, and Hanover, into the various ports of disembarkation in this country; and further, that in March and April last, just prior to the appearance of small-pox in our English flocks, there was a large importation into London of sheep known to have been drawn not only from infected districts, but from infected flocks.

Your committee trust, therefore, that the Association will not allow the opportunity of its meeting on this occasion to pass without adopting a memorial to Government asking that greater vigilance may be exercised, than now prevails, to check the risks to which the farmers of England are at present exposed; that they will ask for the publication of the reports of their own officials, now in the possession of the Privy Council—reports which, if the committee mistake not, will show that since 1842 the diseases of cattle in this country have risen from 1 to 1½ to a common yearly average of 5, 6, and 10 per cent. Nay, "farmers may open their ears (says a Government commissioner in a recent publication) when I tell them that last year we did not lose, in England alone, less than three times the total amount of cattle we imported, and if we calculate the loss over the three kingdoms, it will be found that, for every animal we purchased from foreign dealers, we did not lose less than six or seven of our own!!!"

Surely it can form no part of a proper commerce, that our stock should be destroyed by the very animals we admit to compete with us in our markets! The matter is indeed one of the deepest importance, not merely to the members of this Association, but to the public generally, and your committee feel that they would but imperfectly have discharged their duty if they did not urge it strongly upon the consideration of the present meeting. They might well ask if it be free trade to contaminate the country with pestilence, to poison the very meat we eat, and to rob the English farmers of thousands by diseases which, prior to 1842, were hardly known in this country?

It only remains, however, now for your Committee to resign the trust reposed in them by the members of this Association, and in conclusion to express their warmest thanks to Mr. George Brown, the chairman, for the time, and trouble, and exertion he has devoted to this, as is his invariable practice to every other object in which the interest of the farmers in Wiltshire is involved; they feel that but for the personal attention and energy which Mr. Brown has given to all matters connected with the Association, much valuable information would have been lost; and they are persuaded that they only echo the unanimous voice of the members when they thank him heartily for the prominent part he has taken in endeavouring to carry into effect the objects for which the Wilts Mutual Sheep Association was called into existence.

H. Kent Norris, Secretary.

## MILK PANS.

[The following are extracts from a paper read by Mr. Cunningham at a late agricultural meeting in Cork.]

Visitors to the Munster Agricultural School Farm almost invariably put the following questions:—'Which kind of milk pan is preferred? and which kind throws up the largest quantity of cream or ultimately gives the largest produce in butter? The first question is easily answered, as glass pans are the favourites, owing to their cleanliness and economy in management. To the second question no decided answer could be given, and with the view of eliciting reliable particulars on this point, the following experiments were undertaken. The pans selected were three years in use, and of the following kinds—glass, earthenware (black glaze), delft, tinned iron, and wooden vessels. In order to carry out the experiment with the greatest accuracy, the feeding of the cows was change, and the temperature of the dairy varied at each experiment, The milk as it came from the cows was strained into a large vessel and then measured accurately into the pans. The quantity of milk set in all cases was 8 gallons, and the cream from this was about from 5 to 6 pints. I do not set much value on the measurement of the cream, as a great deal depends upon the state of the milk and the dexterity of the dairymaid in taking it off. One week was allowed to elapse before

the next experiment was commenced.—In all four experiments were made. In the first experiment the feeding was of a rich nature, and a large produce of butter was expected, and the temperature of the dairy was high for the season, viz. [illegible]. The feeding consisted of White Turnips, Swedes, Rape-cake (3 lbs. to each cow per day), grains, and hay. The expectation as to large yield of butter was realised, as two of the vessels gave the highest produce—3 lbs. of butter from 8 gallons of milk. In the second experiment the temperature of the dairy was lowered to [illegible], and the feeding was Aberdeen Turnips, Swedes, [illegible], and hay. In the third experiment the temperature was raised to [illegible], and the feeding was Mangels, Swedes, Aberdeen Turnips, and hay. The temperature was [illegible] in the fourth experiment, and the feeding was Mangels, Swedes, grains, and hay. The produce in butter is summarised in the following table:—

| Milk vessels. | 1st Experiment. | 2d Experiment. | 3d Experiment. | 4th Experiment. | Average. |
|---|---|---|---|---|---|
| | lbs. oz. | lbs. oz. | lbs. oz. | lbs. oz. | lbs. oz. |
| Glass | 3 0 | [illegible] | [illegible] | [illegible] | [illegible] |
| Earthenware (brown glazed) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Delft | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Tinned Iron | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Wooden (Leadlined) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

On tabulating the 1st experiment I was under the impression that an error had occurred in the case of the wooden vessels, as the quantity of butter yielded, when compared with the other vessels, was very small. It was then the thought struck me to vary the temperature of the dairy and to alter the feeding of the cows as I had not the least doubt but by so doing I would vary the quantity of butter in all the vessels, and which would tend to confirm the accuracy of the experiment, or the reverse. In the 2d experiment no Rape cake was given to the cows, and the temperature of the dairy was lowered to 48 degrees. It is a well-known fact that a low temperature has the effect of preventing the cream from rising, and this was exemplified in a remarkable degree in this trial, as all the pans with the exception of the wooden ones, produced the smallest quantity of butter. When we consider that the material of the wooden vessels, as compared with the materials of the other vessels, is less liable to be acted upon by a variation in the temperature, or, in other words, is a greater non-conductor, hence the produce of butter remained the same as in the first experiment, while in that of the other pans the produce was lessened very much. I believe from experiments conducted during the past season at the Albert Institution, Glasnevin, it was found that Rape cake did not add to the increased richness of the milk, but that it tended to bring the cattle into a higher condition, so that the absence of Rape cake in the feeding does not account for the sudden decrease in butter, but that it wholly arose from the sudden depression in the temperature. I may here take the liberty of stating one or two facts with regard to Rape cake. The milch cows on the Munster Farm receive about three pounds of this cake per day during the winter months, and it has the effect of counteracting in a great degree the unpleasant flavour of the Turnips, so much so, that although the tops are often given with the Turnips, still we have had no complaint from our numerous customers of the Turnipy flavour in butter. The Rape-cake gives to butter a closeness of grain and a stiff consistency even in frosty weather, and it is to the use of this Rape-cake that the Belgian farmer is able to command so high a price in the London market during the winter months. In the third and fourth experiments the temperature of the dairy was gradually raised, and a higher class of feeding was given, so that all the vessels gave a corresponding higher produce of butter. The milk turns sour or thickens in the course of from 12 to 18 hours in the wooden vessels, and in the delft and tinned iron a few hours sooner than in glass and earthenware ones. A vessel that will keep the milk longest sweet will have more time to throw up a larger quantity of cream, a circumstance which these experiments tend to corroborate—[illegible] lbs. of butter are considered a fair average produce for a cow during 12 months, and if we take this quantity as realised from the glass and earthenware pans there will be a loss of [illegible] lbs. of butter, or 5 per cent., by using pans of delft or tinned iron, and a loss of 34 lbs., or 18 per cent., by using vessels of wood. To manage a dairy successfully, cleanliness is a most essential requisite; and dampness should by all means be avoided, as it soon taints the milk, and the butter is consequently deteriorated. Vessels that require much cleansing and scrubbing, as wood, and certain sorts of earthenware, should be at once thrown aside, as the moisture absorbed soon taints the milk, as I have had ample experience in a tour of inspection, as a judge of green crops, &c., in Kerry and the West of Ireland, where I found in dairies having vessels of wood, the milk, in almost all cases, was corrupted before the cream was taken off, and this more especially if the dairies were damp and not properly cleaned. The conclusion I have come to is that glass pans have the decided advantage that they are easily cleaned, that the milk keeps longer sweet in them, and that they give the highest produce in butter, which is of a superior quality. As to breakages, the dairymaid at this farm has just remitted a small gratuity for her care in managing these pans, as not one was broken during the past 18 months. I purpose continuing these experiments still further as soon as some additions to the dairy are completed, and I shall be most happy to bring the results before you.

## VALUATION OF MANURE.

[Dr. Evan Pugh, whose name is well known to scientific men in England, and to the readers of [illegible], [illegible] [illegible] of the [illegible] [illegible].]

*Agricultural College, Centre Co., Pa., December 3, 1862.*

I herewith send you a copy of a letter written to Dr. Voelcker and his reply. It was written during the summer, in consequence of my attention having been called to the fact that an attempt was being made by parties interested in the sale of bad manures I had exposed, to show that Dr. Voelcker and myself differed upon the subject of the efficacy of chemical analysis in ascertaining the value of manures. From a two-and-a-half years' residence in England, and a most intimate association with Dr. Voelcker, I might at once have stated that there was no essential difference of opinion between us, but I chose to write to him. His letter will speak for itself. If those manufacturers of quack manures who fled to him for refuge from the expositions of science will read his letter, they will find little consolation for their illegitimate traffic. They may rest assured that the combined chemico-agricultural knowledge of the present time is against them, and as that knowledge spreads, their traffic will be circumscribed and curtailed. A manure which will not stand the test of valuation founded upon chemical analysis, will be driven from the market—its manufacturer, like the fortune-telling gipsy, can deal only with the ignorant and credulous, who will accept as science the vagaries of quacks. EVAN PUGH.

1. DR. EVAN PUGH TO DR. A. VOELCKER.

*Agricultural College, Pa., United States, July 14, 1862.*

MY DEAR DR. VOELCKER,— . . . I now [illegible] [illegible] to write to you in relation to the analysis and valuation of manures. [illegible] fertilizers of quack manures in this country to show that there is an antagonism between your views and my own in regard to the standard of valuation in manures. I recently published the analysis of a number of artificial manures manufactured in the country. All but three or four proved to be [illegible]

[illegible]

[illegible] in any measure.

Such, in short, are my views. They are not [illegible] [illegible]

E. PUGH.

2. DR. VOELCKER TO DR. E. PUGH.

*Royal Agricultural College, England, December [illegible], 1862.*

MY DEAR DR. PUGH,— [illegible]

[illegible] yours very truly. AUG. VOELCKER.

## Home Correspondence.

*Experience in Land Draining.*—When so much money is being spent in land draining, and opinions differ so widely as to the plans and cost of doing it, I may usefully employ a leisure hour in giving some account of what I have learnt in [illegible] years' practice and [illegible] years' inspection of the works of others. I saw at a very early period of my farming the serious injury that water did my young corn; not only when it rested on the land, but also when it was to be found standing within 2 or 3 feet of the surface. I saw, too, that drains of 4 feet discharged the most water and drained the land the greatest distance in all soils, as compared with 3 feet drains; and that straight lines of drains in the direction of the greatest fall of ground were the most effectual. I also noticed that corn and trees flourished on the edges of precipices and in soils where rain disappeared as fast as it fell, and inferred from this that rain enriched the soil by carrying down nutriment, and leaving it within reach of roots, in its percolation through the soil, and that when it was discharged from the surface by open drains, this nutriment was lost to the land. I also saw that while land was undrained, the laying it up in high ridges was necessary for getting rid of the water which would otherwise accumulate on the surface; but that after land has been well drained this was no longer necessary or desirable, but on the contrary, is mischievous in depriving the land of much valuable matter that rain carries and should leave behind it. In practice I soon found the necessity for carefully planning the drains with reference to the subsoil, fall of the land, and position of the outfalls, and that there was no security for the work being well done if the laying of the pipes were left to the drainers, or paid for by measurement; and that it was most necessary the

work should be done under a trusty experienced foreman at liberal day wages, kept constantly with the men to watch the work, set out and measure the drains, and assist in pipe laying. I had arrived at this stage when Mr. Parkes published his essays "On the Philosophy and Practice of Land Draining," which I read with much advantage. These, with "Gisborne's Agricultural Drainage" (first published in the Quarterly Review), and "The Minutes of Information on Draining, by the General Board of Health," continue to afford the most valuable information on land draining. The introduction of 4 feet drains, especially in clay soils, was at first generally opposed by farmers, who could not understand how water could penetrate soils they looked upon as impervious under all circumstances, but their opposition has greatly diminished since the progress of efficient deep draining in all directions has shown them their error, and few are now found advocating shallower drains who have tried 4 feet. The change effected in all soils by draining, but more particularly in clays, is very great, and may be said to be changing the feeling in favour of light soils. Strong soils as they become drained are fast recovering the estimation they formerly held, when they alone were thought suited to the growth of Wheat, and when much of the light land now in cultivation lay waste, or in commons. I will now give what I have found to be the best mode of draining, and the cost. The result of my experience is that all clay soils admit of being drained by 4 feet drains, at 27 to 36 feet distances, with pipes of 1½ and 2-inch bore for the side drains, and of 3 to 6 inch and upwards for the mains; the side drains nowhere being less than 4 feet deep, and the mains 4 feet 3 inches, going deeper through brows, &c., so as to maintain these depths in hollows. The cost of the cutting varies from 6½d. to 8d. per rod, for 4 feet side drains, and 9d. to 11d. for 4 feet 3 inch mains, together amounting to from 45s. to 60s. per acre, allowing something extra where large stones are met with, or these depths are exceeded, or the cutting is done in very dry weather. The foreman and pipe layers' wages are from 20s. to 30s., and 15s. to 18s. per week, and usually amount together to from 7s. to 10s. per acre. The cost of 1½ and 2-inch pipes a foot long is from 14s. to 21s. per 1000, and of larger in proportion; and amounts to from 28s. to 35s. per acre, exclusive of carting. These charges, with 5s. an acre for extras in mains, &c., and deepening outfalls, and 7s. to 8s. 6d. per acre for engineering and expenses, amount to from 4l. 10s. to 6l. an acre, and this may be taken as a fair estimate of the cost of draining of clay land in England. Lighter soils admit of wider and deeper draining, and the cost varies in proportion to the hardness of the subsoil and the distances between the drains, but it seldom need reach the cost of close draining of clay soils, and is generally very much less, notwithstanding the cost per rod of the cutting may be very much more, so much farther do drains draw in these soils; while in loose sands and gravels it is still much less, these often requiring only occasional drains in places where the water comes nighest to the surface, where one or two deep drains are often all that are necessary, and the cost is proportionately less. *Hewitt Davis, March* 31.

*Labourers whose Wages* do not average 12s. per week, in consequence of wet days being deducted, cannot afford to pay a high rent for their cottages, and yet require decent accommodation as well as the man who earns a guinea or 25s. The distress of the agricultural labourers is very great during the winter months, aggravated by the dilapidated tenements they are compelled to inhabit; in many instances quite unfit for human beings, cold in winter, stifling hot in summer, damp, badly drained and ill-ventilated. Visit the farms on the estates of the noblemen and gentlemen of England. The cattle, horses, and pigs are well housed. Thousands of pounds are expended in improving the land—and very wise it is to call into operation the most improved system of cultivation—implements are kept in first-rate order, carefully preserved in covered sheds. Turn towards the cottages of the men and women employed upon the farm, on whose industry and intelligence their employer's success depends, and the contrast is most melancholy and depressing. The steam-engine, carts, ploughs, harrows, &c., are well looked after; the animals properly attended to in clean dry sheds. But, those who have the charge of them, are worse provided for than the quadrupeds themselves! where self-respect does not exist, advice is but a passing shadow, having nothing to rest upon. The finer feelings of our nature are totally destroyed by the impossibility of preserving the common decencies of life amongst hundreds of our fellow-creatures. Is it right, is it just, that the class who are occupied in what are considered the lower branches of labour should be neglected, in a matter in which they cannot help themselves? In towns and villages, small houses are generally in the hands of speculators who have made a few pounds in trade, and invest their money in property which pays a high per centage, from the market being under stocked. This, with the exorbitant price asked, even for single rooms, are serious and alarming evils, throwing insurmountable obstacles in the way of moral and social improvement, which all the lecturing, talking, and abuse will never remedy till the "Slough of Despair" is bridged over. *Falcon.*

*Emigration.*—I am exceedingly obliged to your correspondents "Alfred," "Samuel Calver," and "William Burbury," whose communications all appear in your issue of the 4th inst. I think I shall act upon the advice of the two former gentlemen, and take few (if any) agricultural implements with me when I bid adieu to these shores; but I admit I have a hankering after such a machine as Mr. Calver describes. How is it that such machines, apparently so well suited to the small farmer, are unknown in England and Australia? Cuthbert and Co., of Bedale, seem to manufacture a cheap and efficient reaper, adapted to the means and the requirements of the holder of a few acres; would it not be admirably supplemented by one of the Canadian machines to thresh and cut chaff, &c.? Why, then, does not some English house introduce it, as Burgess & Co. have done by M'Cormick's reaper? I wish Mr. Burbury all success in Queensland. It is doubtless a colony where money may be made; but, for my own part, having had much experience of tropical and semi-tropical climates, I do not wish to end my days in or to take a young family to a country where the Pine Apple and Banana ripen in the open air. I would rather see my lads grow up stout and healthy in Tasmania or New Zealand. *Brass Spurs.*

*Systematic Land Drainage.*—I have looked forward with anxious interest to the discussion on under-ground drainage, which took place in the Council Rooms of the Royal Agricultural Society of England on the 18th. I must confess I felt disappointed at not seeing a report of some engineers taking a part in so important a discussion. There was one fact that came out in the discussion which would surprise me much more, did I not know that some of the holders of coarse undrained pasture and meadow land in Ireland entertain the same objections to drainage held by the holders of such lands in Middlesex.—Mr. Denton made a statement, which, however well founded, may have excited the surprise if not the opposition of land drainers, who glory in talking "in the language of science." I shall quote some of his words:—"It was altogether a misapplication of the term to designate systematic drainage as a scientific operation: so directly was it the reverse of science that 50 years hence our children would look upon it as an absurdity as great as the adoption of under drains 18 inches deep was now regarded by those who were draining 4 feet and more deep. In truth, up to this time, the engineering element had been entirely absent from the under drainage of land. Now, I have been myself engaged to a considerable extent in the drainage of every description of land in Ireland for nearly half a century, and for all the purposes of agriculture, horticulture, arboriculture, &c., and although I could subscribe to much of what Mr. Denton has stated in the foregoing extract, I would not like to subscribe to the whole of this. Yet I believe that the man who is unmindful of the laws embraced in the various sciences, or who will set any one or more of them at defiance, will fail as signally in his practice as did both the great J. Smith, of Deanston, whose memory I revere, or the great Mr. Parkes, whose name I respect, in their public drainage of the Phœnix Park, Dublin, under the patronage of her Majesty's Commissioners of Woods and Forests, and under the eyes of her Majesty's Board of Works in Ireland. The cause of Mr. Smith's failure was attributed to his system, which was an injustice both to him and it. The true cause of its failure was the imperfect manner in which the work was done in his absence, and for which he should not have been so much blamed. The cause of Mr. Parkes's still greater failure was not so much in his system either, had he not set certain laws of Nature at defiance, as did his own men—and for aught I know under his own eye—set all the laws of common sense at utter and absolute defiance, and hence it is, as I was the first to predict in 1847, as the work was being done, and as so lately exposed by my successor of the *Irish Farmers' Gazette*, the public drainage in the Phœnix Park is as great a disgrace to the nation as is all the drainage done in the same way throughout Ireland ever since, a loss not only to the owners but to the cultivators of the land so drained; nay, to all classes of the community. Of this I could adduce some hundreds of proofs, practical in different parts of Ireland; indeed, I need not go from the spot where I write this for such a proof. I have hinted in the foregoing my want of being better informed on the extract given from Mr. Denton's excellent lecture. I want other information of still greater importance. I respectfully ask your scientific readers if they know of any work on land drainage or landscape gardening in which there is described a perfect means of keeping out of drainage pipes, either the rootlets of plants or the oxide of iron, carbonate of lime, or other sedimentary matters which choke them up as they were choked up in the Phœnix Park, Dublin, and in so many other parts of Ireland, and perhaps of England too? The cause of my being so personally interested in this important matter is, I have myself by oft repeated experiments fully succeeded in accomplishing this purpose, and have been advised to take out a patent for the protection of my discovery, which after all may not be worth much if others have succeeded in doing so more cheaply, of which I have some very strong doubts, at least in as far as the most difficult and important cases in Ireland are concerned. *Edward Carroll, Kilgreany Lodge, Carlow.*

"*Earth as a Deodoriser.*"—It is matter of regret that among the various letters inserted on the subject of fertilisation in the *Times* a few weeks ago, no one appears to have touched upon the simplest of all methods of saving house waste—one that would purify every country cottage, and be applicable to the suburbs of towns. The Rev. H. Moule's shilling and penny pamphlets (Bradbury & Evans), demonstrate that any dry earth will absorb sewage and render it at once inoffensive—nay more than this, that the compound being allowed to dry, may be used over and over again many times for the same purpose, and be carried away to garden or field inoffensive at last. I am glad to see by your Paper of the 21st inst., that this gentleman claims public attention to his plan in the Royal Agricultural Society's Journal. It has been tried, without any machinery, at the schools of the workhouse with which I am connected; one old man being required to remove and supply earth—which is quickly done, morning and evening. Not to dwell upon the fact of our having relieved the children from an intolerable ordeal, allow me to say that the refuse of 55 children in 5 months, earth and all, when perfectly dry, was contained in a cartload and a half (30 cwt.,) and that its appearance was simply "earth." I should state that this was artificially dried; but there is no necessity for such extreme dryness: at the same time I must say from experience, that the success of the patent closet placed within the walls of a house does depend upon the earth being dry enough to run. As some of our eminent authorities are so wedded to liquid irrigation as to overlook this simple, yet concentrated solid manure, I venture in the cause of humanity to ask you to assist again in bringing it under the notice of those who, however willing, could not prepare and utilise liquid sewage. If I might trespass further upon your space, I would claim for the solid system greater cleanliness than appertains to the other. At the Wellington College, for instance, where sewage-irrigation is so well carried out, it is necessary (as has been stated in your columns) to have the tanks cleaned out every two or three weeks by men, and the semi-filtering layers renewed, an operation which cannot but be wet and dirty to a considerable extent. The attendant at the workhouse need not soil hand or foot from first to last. *North Wilts.*

*Weather in the Fens.*—Since I forwarded my report the other day, we have had another severe night, the thermometer registering 5° of frost, followed by a burning day, brilliant sunshine without cloud. The effect upon our crops on the Fen lands has been disastrous. The general appearance of the crop is fully 30 per cent. worse than it was two or three days ago. Rain and freedom from frosts is our only hope. With a few more such nights and days we fear much of the Wheat must be destroyed. We still hope, however, for more favourable weather, which would doubtless soon improve the withered appearance of our fields. *A. S. R., April* 3.

## Societies.

BATH AND WEST OF ENGLAND.—At the Monthly Council Meeting of this Society, on Saturday last, under the presidency of the Marquis of Bath, the programme of the approaching Exeter meeting was brought up and ordered to be printed. The stock and poultry will be openly judged on Monday, 8th June (the first day of the show); a horticultural department, under the stewardship of Mr. Jonathan Gray, is to be added to the other features of the meeting; and the shoeing of horses is to take place on the Wednesday, at portable forges within the show yard. Some conversation ensued as to the recent show of stallions at Exeter, and the stewards were requested to lay a complete statement of the cost and results of the experiment before an early meeting of Council. It appeared to be the general opinion that at any future show of the kind it will be necessary to make a distinct announcement, that the certificate of the Veterinary Inspector as to the unsoundness or disqualification of any animal will be held to be final and irreversible. The Journal Committee were requested to collect, revise, and classify the standing orders of the Society, with a view to their being printed.

## Farmers' Clubs.

LONDON: *April 6.—The Recent Land Drainage Experience.*—The following paper by Mr. G. Dobito was read:—

Mr. DOBITO said: I can imagine some men being astonished at the re-introduction of a drainage discussion into our programme for this year, and saying, "Drainage? why, the subject's worn threadbare! every farmer knows, or ought to know, all that can be said upon that subject by this time;" but while I see lands of very similar kinds, and sick with a very similar complaint (call it dropsy if you like), treated in such a variety of ways, I am convinced that there's great occasion yet for "line upon line, precept upon precept" relating to this foundation work for good farming. I have not proposed the discussion of this subject with any idea of teaching you, and through the publicity of our proceedings the public generally, what

are my views of the theory of draining, or of setting myself up as an authority on the matter, neither have I the slightest intention of entering the field with Mr. Bailey Denton, Mr. Hewitt Davis, and others, as one of the professional men: but having watched with interest the many changes in opinion that have occurred during the last 20 or 30 years, and believing that it is experience that sifts right from wrong, I thought we could not do better (five years being past since our last discussion on the subject) than devote one evening to talk the matter over, and as somebody must introduce it, I volunteered to be the victim. So much for the reason why you see a new man with a paper in his hand before you. I shall not take up your time with accounts of the varied systems of underdraining that have been practised in the eastern counties in former times—I know not how long (certainly before the present century commenced): they were all variations of the plan first brought into the notice of the rest of the British Isles by Smith of Deanston, known as the frequent drain-system. Nor shall I enter into any theoretical argument, comparing his opinions with those of Josiah Parkes, who, as you all know, advocated inch pipes, put in not less than 4 feet deep, at wide intervals. In fact, I do not propose to have anything to do with the theory of draining: if any of you are not well up in that, let me recommend the study of the admirable lecture delivered in this room in 1857 by Mr. Nesbit. My subject is, What does recent experience teach?

My object in proposing it was to enable our members to record any changes in opinion or practice that have recently come to their knowledge; and that I may show I had grounds for assuming there would be some few, at any rate, you must allow me to remind you that between 1845, the date of Parkes' evidence before a committee of the House of Lords (and mainly in consequence of whose opinions I believe the drainage commissioners insisted on a minimum depth of 4 feet), and 1854, the date of a most interesting discussion in this room, introduced by Mr. Bailey Denton, that gentleman, largely employed in drainage as he had been, could but see and acknowledge that we knew more about it than we did in 1845, that Parkes was quite out in the cost per acre, and that depth would not compensate for distance between the drains on clay soils; but he still maintained that 4 feet ought to be the minimum depth, upon the theory (I maintain it was, and still is, only a theory) that it gave a foot more of active soil. 1857 arrived: another discussion took place, introduced by Mr. Nesbit (the one I alluded to as containing such sound theory); but I call attention to it now to note that experience had again taught wisdom, and, among others, to our pleasant-looking friend Mr. Mechi, who found that his land drained 2 feet 8 inches deep at 12 feet intervals was in a better state than that drained deeper at wider intervals. Many speakers recorded their experience on that occasion, and a resolution was unanimously passed to the effect, as regards retentive clays, that they require draining at moderate depths and distances. Most surely those three years had been prolific in causing more knowledge of the subject. But, gentlemen, notwithstanding what I have recited, hundreds of acres of retentive clays are still being drained at immoderate depths and distances, and I have introduced this discussion that we may have a chance of hearing "the reason why."

I am now about to give you the result of my recent experience, hoping that others will be kind enough to do the same; but before doing so, will just say that I have not alluded to draining on gravelly and other porous soils, because I don't profess to have had much experience with them; my remarks apply to clay soils, varying somewhat as to their retentive powers.

With regard to frequent drains *v.* deep ones at wider intervals: in 1854, the Rev. W. S. M'Doual was presented to the living of Owsden, Suffolk, the income principally derived from a poor clay farm. The deceased rector had just drained about 10 acres 2 feet 8 inches deep, 5½ yards apart, filling up with bushes. The new rector obtained a Government loan, and drained the remainder of the farm 4 feet deep, at 11 yards apart. The fields were laid together, so that the shallow and part of the deep-drained land were one field; the plough, drill, &c., went across both of them every turn. In partnership with my reverend friend, I carried on the farm until 1859, and I pledge my word to the fact that every spring the land worked properly, earlier by two or three days on the frequent drained part than it did on the deep drained part. I went to the farm the other day to enquire, and both the bailiff and ploughman told me it was just the same now. On the same farm, in 1860, the new tenant finding one field where the deep draining had been done 11 yards apart particularly wet midway between the drains, put a shallow one in between each, and tells me that it does very well now, and what one would scarcely expect, that although these shallow drains cross the main of the deep ones, when a very heavy rain has fallen they run well at the eyes; of course, after light rains the water soaks into the loosened earth, where it crosses the main deep drain. There is another field he intends doing in the same way, how he has proved it to answer. In 1856, by way of experiment, on this farm about 4 acres were drained at 3 feet deep instead of 4 feet, at the same time, and exactly in the same manner, depth only excepted. The drains being 11 yards apart, neither portion dries so quickly as it ought; but there has been no perceptible difference between the two portions of the field.

I have now to record a fact that surprises me much, and which would seem to indicate that on some lands, let the draining be done ever so perfectly, it will require renewing after a lapse of years, because the clay will have regained its solidity. I don't exactly state this to be my opinion, but I don't know how else to explain the following.

W. King, of Brinkley Hall, Cambridgeshire, has some stiff clay land that has been drained many times; among others it was drained with the old-fashioned tiles—not pipe tiles, but nearly the shape of a donkey's shoe—before 1830. The bailiff on the farm came there in that year; they were done before he came 16 years ago. The land having again become wet, Mr. King drained it over again with pipe tiles, at 5½ yards apart, but not more than 3 feet deep, scarcely so much. After this renewal all went well for a time, but wetter and wetter these fields have been gradually becoming, and during the past winter he has had them drained again with Fowler's steam drain plough, as applied to windlass and common farm engine by Eddington of Chelmsford (it is done nearly 3 feet deep at 4 yards apart). While this work was being done, I went over to inspect it, Mr. King having told me that the pipes were quite open, but that the clay had regained its solidity, and that the water could not get in. I repeat that I don't father that opinion, neither do I dispute it—I won't theorise. I found a number of holes dug 4 yards apart about 3½ feet deep near the lower headland, ready for the draining plough to start from. I found some of these holes full of water to within 6 or 7 inches of the surface; I found some full to within 18 inches of the surface, and some to a level with the old drains. But mark this: in one hole they had happened to hit upon an old tile drain, and in another upon a pipe tile drain, and both were quite open and water running in them well; of course no water standing above that level, the pipe drain as perfect as when it was made; yet the next hole 4 yards off stood full of water, except to the depth of the last ploughing, within 6 inches of the surface. Heavy rain had fallen about three days before, but none within 48 hours. If I am told it was the puddling these holes in digging them that made the water stand in them, I answer, why did it not stand in all, or at least in the majority? I can only account for the variation of water in these holes by their proximity or otherwise to some of these old drains.

I have one more case of recent experience to report. Mr. G. Cooke, of Horseheath Park Farm, Linton, Cambs, purchased in 1860, of Eddington, of Chelmsford, a Fowler's steam drain plough: he works it by his own 6-horse power engine that he uses for other farm purposes, hoisted for this purpose on Eddington's patent windlass. (I am aware that Fowler's steam drain plough is considered to have failed by many men, but it was in trying to lay pipes in the channel the mole had made).

In its mole-plough form only, Mr. Cooke has drained about 300 acres with it in the last two years at leisure times; the average cost of the work, including ample allowance for wear and tear, has been 16*s.* 6*d.* per acre, making the drains 2 feet 6 inches deep, and only 16 feet apart. He was formerly a pupil of mine, and I often visit him. I know few heavy land farms so well managed or so dry as his home farm is, and when witnessing the working of this draining plough, I have been particularly struck with it as by far the cheapest, yet an effective way of draining clay lands; the windlass gives such power that the clay is forced to form itself into a pipe (certainly an unburnt one) the entire length of the drain. I have had the drains opened to examine them, and a more perfect channel for the water can't be imagined; of course I can't at present say from experience how long they will last, but to oblige me he has had some of those that have been made the longest (over two years) examined last week; where the fall is rapid the drains are now slightly increased in size, and where more nearly level there is some sediment deposited, but at the worst place there was room to insert a common fork handle. He adds that he has land drained by the old horse windlass mole-plough 20 years ago, where some drains are still open.

In conclusion, I will only say that I hope the day is not far distant when so arbitrary a clause as a minimum depth of 4 feet will be expunged from all draining companies' regulations. I don't say that there are not thousands of acres on which 4 feet is the right depth (I know there are many thousands where 4 feet is not deep enough), I may hear to-night reports which prove drains 4 feet deep to be better than shallower ones; I shan't dispute their truth on certain lands, but hundreds of such reports would not disprove the facts I have stated, or the conclusion I draw from them, that similar lands should be treated in a similar manner, although whether certain lands are similar or not may admit of an argument. I believe the regulation I am condemning is only a remnant left from Parkes's opinions 18 years ago, and when we consider that by (I think I may say) all scientific drainers of clay land, his "pipes of an inch bore, the best known conduit," are no longer used, but instead thereof pipes carrying three times that amount of water; that the wide intervals he advocated are reduced to at least half the width; and that his estimated cost of drainage soon proved to be very erroneous—we are not bound to retain his remaining theory of "not less than 4 feet deep," as if it was the instruction of a man who had never been mistaken in his directions. Let it stand or fall by its merits, not be retained as an indispensable condition, where money has to be advanced. I have endeavoured, gentlemen, to condense my introduction of this subject, to give time for you to report progress also. I hope I have not wearied you, and beg indulgence for all failings, finding myself in a position I am totally unused to.

## Reviews.

*Agriculturists their own Superphosphate Makers, with Illustrations.* By A. G. Lock, Redbridge Vitriol Works, Southampton.

In a pamphlet of 22 pages, to be had of the author, you are here taught how to make superphosphate at home, and so avoid all those risks which we owe to roguery in the manure manufacture. There are however another set of risks arising from bad making, which we owe to incompetency and want of skill in the manufacture; and against such risks as these no instructions are likely to be a complete safeguard. Those whose business it is are likely to make a better article than will be made by the amateur at home. The instructions here given are nevertheless extremely precise and detailed. And where there are special facilities for obtaining acid and bones, the raw material of the manufacture, it may be the interest of the farmer to make his superphosphate for himself.

It is not fair to the author to extract largely from his pages. The following passage is however given in illustration of the detail in which his instructions are written. And it must be added that they are rendered still more explicit and unmistakeable by several woodcuts in which the processes described are depicted :—

"To make superphosphate in the ash-heaps in the field, you, in the first place, are to screen the ashes. Decide on what quantity per acre you will use; then multiply by the number of acres you intend to manure, and lay the ashes in a heap in some convenient part of the field. If the field is a large one, or if you intend using some in other fields which are not contiguous, make more than one heap, placing them in the most convenient positions, but especially taking care that the ground on which the ash-heaps are made is perfectly level. Lay out the ashes 12 feet wide, letting them extend to the length they may last out, at a uniform thickness of 1 foot; beat them down hard in the centre for a width of 6 feet, as it is on this hard part that the bones have to be laid.

"Care must be taken that the ashes underneath are solid, in order to prevent the escape of the acid when applied.

"Draw the half-inch bones alongside, and empty the bags on that part of the ashes previously trodden hard, letting them have a width of 5 feet at the base, with a margin of 6 inches of hard ashes on each side, heaping them to a point at the top.

"The half-inch bones then have a width of 5 feet at the base, placed in the middle of the ash-heap, with a gutter or drain all round composed of ashes trodden hard, and a space at each side and the ends of 3 feet, to walk round and carry on the further operations.

"Having these disposed as I have pointed out, they are now ready for the application of the water, preparatory to dissolving. Bring a water-cart alongside the heap, and with a large water-pot saturate the bones evenly all over, until they have absorbed as much water as they will hold. When they will absorb no more, the water will run out at the bottom on to the hard gutter of ashes previously described. As soon as this is observed to be the case, no more water must be added. This watering will have to be performed three successive days, care being taken each day to apply the water evenly, and to leave off as soon as it runs out on the hard gutter. The first time the bones are watered they will take up a considerable quantity; the next time not near so much; and the last time but a small quantity. On the fourth day the bones will be ready to receive the acid; but, before commencing this process, move the hard gutter of ashes at the foot of the bones with a spade, to the depth of about 3 inches, and lay them at the foot of the bones. This course of proceeding will prevent any of the acid escaping. You now bring the carboys of vitriol to the side of the heap, taking care to have a bucket or two of water close at hand, in case of getting any upon you, as previously set forth. In the meantime, take one of the largest-sized water-pots, with a 'rose' to it; it must be quite sound, without any holes in the bottom. Take off the rose, open the holes in it thoroughly, so that the acid may pass out freely. Having done this, place the rose firmly on, seeing that it fits tightly, otherwise the acid will run back. Let two men take one of the carboys (the stopper being removed), lift it up, and rest it upon anything convenient—a spadeful or two of ashes will do—about a foot from the ground; one of them holding the water-pot in front. The carboy is then to be gently lowered; and the water-pot three parts filled. The man, now walking on the 3 feet space of ashes round the bones, proceeds to pour out of the water-pot the acid evenly all over the bones. As soon as about half the quantity of acid is applied, the bones will begin to smoke, bubble, and shrink down visibly. Do not now lose any time in putting on the remainder, and the moment afterwards, the men should begin at one end with spades, and with the 3 feet of ashes that lay around the bones, let them cover the bones up as thick as the ashes will permit, carrying them up to a point, and beating them hard over the whole surface, to prevent the escape of the steam from within, and the penetration of wet from without. As soon as the water-pot is done with, pour the buckets of water into and over it, to wash off the acid, and it will be none the worse for the use it has undergone in the course of the process.

"The heap must remain for at least a fortnight before it is disturbed; it must then be turned carefully four or five times, thoroughly to mix the dissolved bones and the ashes."

*Cattle Food Adulteration.* W. H. Harris, F.C.S., Northampton. Longman.

This is a guide to the farmer in the purchase of oilcake. Extra food used to be consumed almost exclusively in winter time. When half fat cattle are taken off rich pastures, they need oilcake to make the hay and Turnips equally good with the food they have left. It is now however the practice to give oilcake at all times of the year. You see the troughs out in the Grass field all the summer; and there is no better way of making our second-rate pastures equal to the first in their immediate effect upon the feeding animal, or of gradually raising the land itself to the higher rank.

In this little pamphlet we have coloured lithographs professing to give the appearance of oilcake in the microscope—showing that genuine cake, *i. e.*, cake which is all that it professes to be, is often a mixture of extremely various composition.

The author of this pamphlet contends that chemical analysis is the only true test of quality. The following is an extract on this subject :—

"This one thing let the farmer do: let him depend rather upon the tabulated results of analysis than the simple report of genuineness or the reverse. Let him keep in mind that when he buys food he buys meat; that he is simply buying meat in one market that he may sell it in another: for in the sample of food which

he buys there is just a given quantity of that substance and no more. Let him remember that all the art in the world cannot make it produce more than a given quantity. And we may fairly suppose that if he knew the whole science of physiological chemistry he would have but to hold in his hand at the moment of purchase an analysis of a sample of a given bulk of food, in order to tell the exact quantity of fat beef or mutton it would enable him to place upon the butcher's stall. At present, let him cast his eyes over the analysis of a food, and, as it meets a quantity of oil, let him say, "out of that I can make fat; as so many per cent. of starch, sugar, and gum meet his attention, 'out of those I can make the same substance by a less direct process of assimilation;' so many per cent., again, of nitrogenous compounds, 'and out of this,' he may say, 'I can make flesh.' But when he calculates the amount of mineral matters, indigestible fibre, or inorganic matter of any kind, let him say, 'out of these substances I can never make that which goes to the butcher.' Whenever he sees a low figure against these latter substances and a high figure against the others respectively, he may consider he is right in purchasing such food, if there is no objection on the part of his cattle to eat it."

In connection with the value as a feeding substance which analysis indicates, Mr. Harris draws attention to the value of American Nut cake, which stands exceedingly high. Now we must differ from Mr. Harris, and say that this by no means *proves* that it will stand equally high in the experience of the farmer. The quality of a cake does not depend wholly on its composition, as the chemist declares it: mere aroma, texture, and will often upset the predictions of the analyst. But on all these points we shall next week have an authoritative declaration from Dr. Voelcker, in a lecture on oilcake, at the Hanover Square Meeting of the English Agricultural Society.

## Farm Memoranda.

Chatteris, Isle of Ely, Cambridgeshire: *April* 1.—We have now come to the time when spring weather may be reasonably anticipated. The winter has been one of unusual mildness, and on no occasion have we seen the ground covered with snow, and since November we have had no really severe frosts. But notwithstanding this general exemption from the usual characteristics of an English winter, the Wheat is by no means "winter-proud." We have a full and vigorous plant, and the promise of an abundant crop. Frosty nights and warm sunny days are most commonly injurious to the plant on our fen soils; but just now they appear to exert but very little influence that is pernicious. S[illegible] Wheat goes then, we report favourably, and should we continue to get the glorious and much-longed-for weather which some of our prophets in such glowing terms predict, we have every prospect of a fine and luxuriant crop. We finished our Oat seeding on the 21st of March, having commenced on the 24th of February. We have sown 102 acres of Polands, 85 acres of which have been put in with superphosphate of lime and the water-drill. Of Frieslands we have 18 acres, and of Black Tartarians, 24 acres; 13 acres and 8 acres of which have also been put in with the water-drill and manure. These are sown after Coleseed and Mangels principally, a few after Peas, Wheat, and Potatoes. The first sown are up and look strong and healthy.

We finished Barley seeding yesterday; our Barley, 30 acres, is all sown on Wheat stubbles, and which, had it not been for steam cultivation, would have required a naked fallow. We have put all in with the water-drill and 3 cwt. of artificial manure per acre. We have a tract of high land, which, with proper cultivation and free manuring, will grow continuously Barley, Beans, and Wheat. But until we cultivated it by steam, we were compelled, not for the purpose of rest, but for cleaning, to give a full summer's fallow every five or six years. This necessity will, we doubt not, now be obviated.

Our Beans and Peas, 34 and 9 acres respectively, are just up, and present a healthy appearance. All our lands would now be benefited by a good shower.

We have just steam-cultivated one small field for Mangels. The land was stiff and hard, the subsoil being clay, but the cultivator has worked it to as fine a tilth as could be desired. In this respect the application of steam exceeds our expectations. We were prepared for the beneficial effects resulting from autumnal "smashings up," but did not anticipate such signal service from its application in the spring. We conceive both on our Barley and Mangel lands, we have been spared three ploughings. The results are far more satisfactory. It is not merely a question of money saved, or cheapness of work accomplished, but far more one of fitness for the reception of seed and production of the crop desired. Here we have been eminently successful, whereas with ploughs and horse cultivation we should have had, if equally cleaned land, hard unyielding clods, waiting the teeming shower, ere we could get a seed bed at all. Our experience of steam cultivation is therefore highly encouraging and assuring.

We are now clipping our yarded sheep. We put 240 shearlings into yards in December, giving them cut Mangels, a little Clover chaff, and 1 pint of Peas daily. We have sold 130 at an average of about 52*s*. to 53*s*. per head, and they have made for wool 13*s*. 6*d*. each, making a total of from 65*s*. 6*d*. to 66*s*. 6*d*. per sheep. These are results we are not at all disposed to complain of. We also wintered 210 lambs in yards; these have done well, and are now going to Grass, having finished their Mangels. To these we gave similar food to the shearlings, but only half a pint of Peas per day each.

We have just sold some store pigs at 40*s*. and 54*s*. each, fed on Mangels and 1 pint of Peas daily. We have another lot nearly fit for the butcher, living on Mangels and 2 st. of meal per pig per week. The meal is composed of 1 quarter Beans, 1 quarter Peas, 2 quarters black Oats, and 2 quarters tail Barley, all of our own growth.

The high price of sheep has led us to purchase for our Grass requirements some growing cattle. We have just bought 30 Galloway Scots, at 11*l*. 10*s*.; and 34 Short-horn Steers from Darlington fair last month, averaging 11*l*. 7*s*. each. These are for sale again in June. For keeping through the summer we have bought 30 younger Scots, averaging about 8*l*. 6*s*. each. These will run amongst the hoggets we have wintered, and will go on until the June of next year before being sold.

Grass is forward, and should it receive no severe check, will be fit to stock in two or three weeks. We think of putting out 64 bullocks on the 18th. Ours is early land, and produces a good deal of keeping, and does stock well in the spring; but burns in the summer, and when dry weather prevails, affords but little food. *A. S. R.*

## Miscellaneous.

*Short-horn Sale at Thrapston.*—On Tuesday and Wednesday Mr. Strafford disposed by auction of the late Mr. Yorke's herd of Short-horns. Among the prices reached, were 60 guineas for *Violet*, a four-year-old cow, purchased by Mr. Kelk, of Stanmore; 46 guineas for *Vermilion*, a three-year-old cow, her half-sister, bought by Mr. Wood; 27 guineas and 21 guineas for a yearling and a calf respectively, the produce of *Violet*; and 24 guineas for Voltaire, a yearling bull, the produce of *Vermilion*. Among the purchasers were Lord Suffield, Messrs. Kelk, Wood, Owen Wallis, Bailey Denton, &c.

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. Spearing, Moulsford, near Wallingford, Berks, during the week ending April 8, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday | 2 | 30.13 | 44 | 41 | S.E. | 1 | 1 | 61 | 27 | 108* | 24 | .. | 47½ | 47 |
| Friday | 3 | 30.26 | 51 | 47 | W. | 1 | 1 | 59 | 29 | 105 | 26 | .. | 47 | 47 |
| Saturday | 4 | 30.02 | 48 | 46 | S.W. | 2 | 6 | 65 | 40 | 114 | 33 | .. | 48 | 47 |
| Sunday | 5 | 29.80 | 47 | 45 | S.W. | 3 | 7 | 55 | 37 | 78 | 32 | 0.02 | 48 | 47 |
| Monday | 6 | 29.61 | 50 | 48 | S.W. | 4 | 3 | 56 | 46 | 88 | 32 | .. | 48 | 47 |
| Tuesday | 7 | 29.50 | 46 | 43 | W. | 3 | 3 | 53 | 38 | 90 | 34 | 0.28 | 48 | 47 |
| Wednesday | 8 | 29.69 | 50 | 46 | S.W. | 3 | 5 | 55 | 35 | 106 | 30 | 0.18 | 48 | 47 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

Analyses of Soils: *Noon Goff*. Read the late Mr. Rham's Essay on this subject in Vol. I of the Journal of the Agricultural Society. No book will teach you to perform such an analysis as you require. You must pay a large fee and spend two years in the laboratory of a professional analyst before you will acquire the skill. But if you want to know if a soil is fertile, look at the crops it bears—that is a better indication than any weight in the pan of a chemist's scales can be.

The Agricultural College: *W. E., Gloucester*.—You should append your name. The more the subject is *openly* discussed the better.


**Glass.**

THOMAS MILLINGTON,
Horticultural Warehouse,
87, Bishopsgate Street Without, London, E.C.
Established 1750.
New Reduced Tariff.
SMALL SHEET SQUARES.

Best. 2nds. 3rds. 4ths. } Per 100 feet
20*s*. 16*s*. 12*s*. 6*d*. 11*s*.

| | | |
|---|---|---|
| 6 in. by 4 in. | 9½ in. by 7½ in. | 14 in. by 10 in. |
| 6½ „ by 4½ „ | 10 „ by 8 „ | 15 „ by 10 „ |
| 7 „ by 5 „ | 11 „ by 9 „ | 12 „ by 11 „ |
| 7½ „ by 5½ „ | 12 „ by 9 „ | 13 „ by 11 „ |
| 8 „ by 6 „ | 13 „ by 9 „ | 13½ „ by 11½ „ |
| 8½ „ by 6½ „ | 12 „ by 10 „ | |
| 9 „ by 7 „ | 13 „ by 10 „ | |

Best. 2nds. 3rds. 4ths. } Per 100 feet
23*s*. 18*s*. 6*d*. 14*s*. 6*d*. 12*s*. 8*d*.

| | | |
|---|---|---|
| 15 in. by 11 in. | 16 in. by 12 in. | 24 in. by 14 in. |
| 16 „ by 11 „ | 17 „ by 12 „ | 22 „ by 15 „ |
| 17 „ by 11 „ | 18 „ by 12 „ | 24 „ by 15 „ |
| 18 „ by 11 „ | 22 „ by 12 „ | 20 „ by 16 „ |
| 13 „ by 12 „ | 17 „ by 13 „ | 20 „ by 17 „ |
| 14 „ by 12 „ | 23 „ by 13 „ | 20 „ by 18 „ |
| 15 „ by 12 „ | 22 „ by 14 „ | |

ORCHARD-HOUSE SIZES, as supplied to Mr. Rivers & others

| | Best. | 2nds. | 3rds. | 4ths. | |
|---|---|---|---|---|---|
| 16 oz. | 22*s*. 0*d*. | 18*s*. | 15*s*. 0*d*. | 12*s*. 6*d*. | Per 100 feet |
| 21 oz. | 33 6 | 28 | 21 6 | 17 0 | |

0 in. by 12 in. | 20 in. by 13 in. | 20 in. by 14 in. | 20 in. by 15 in.
GLASS, cut according to size not on the List.
16 oz. 4ths. 1½*d*. 2*d*. and 2½*d*. per foot.
„ 3rds. 2¼*d*. 2½*d*. and 3*d*. „
21 oz. 4ths. 2¾*d*. 3*d*. and 3½*d*. „
„ 3rds. 3½*d*. 4*d*. and 4½*d*. „
Various thicknesses of Sheet Glass to the foot.

15 oz. 26 oz.
21 oz. 32 oz.

Paints, Colours, Brushes, &c., Linseed Oil, Boiled Oil, Turpentine.
Genuine White Lead, 32*s*. p. cwt | Linseed Oil Putty, 8*s*. per cwt.
Anticorrosion Paint, 34*s*. „ | Patent Dryers, 28*s*. to 42*s*. „
CRYSTAL GLASS SHADES. EBONY and GILT STANDS.
HARTLEY'S IMPROVED PATENT ROUGH PLATE.
*** Not accountable for breakage.
SHEET LEAD, PIPE, &c., at the lowest wholesale prices.

**Glass for Garden Purposes.**

JAMES PHILLIPS and CO.
beg to submit their prices as follows:—

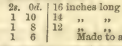
PROPAGATING GLASSES.

| | Each—*s*. | *d*. | | Each—*s*. | *d*. |
|---|---|---|---|---|---|
| 2 inches in diameter .. | 0 | 3½ | 12 inches in diameter .. | 1 | 9 |
| 3 „ „ .. | 0 | 4½ | 13 „ „ .. | 2 | 0 |
| 4 „ „ .. | 0 | 5½ | 14 „ „ .. | 2 | 6 |
| 5 „ „ .. | 0 | 6½ | 15 „ „ .. | 3 | 0 |
| 6 „ „ .. | 0 | 8 | 16 „ „ .. | 3 | 6 |
| 7 „ „ .. | 0 | 10 | 17 „ „ .. | 4 | 0 |
| 8 „ „ .. | 1 | 0 | 18 „ „ .. | 5 | 0 |
| 9 „ „ .. | 1 | 2 | 19 „ „ .. | 6 | 0 |
| 10 „ „ .. | 1 | 4 | 20 „ „ .. | 7 | 0 |
| 11 „ „ .. | 1 | 6 | | | |

HAND GLASSES.

| | Each—*s*. | *d*. | | Each—*s*. | *d*. |
|---|---|---|---|---|---|
| 12 inches .. .. .. | 6 | 0 | 18 inches .. .. .. | 9 | 0 |
| 14 „ .. .. .. | 7 | 0 | 20 „ .. .. .. | 10 | 0 |
| 16 „ .. .. .. | 8 | 0 | 24 „ .. .. .. | 12 | 0 |

Painted and Glazed with 16 oz. Sheet Glass.
If Open at Top, 1*s*. extra.

CUCUMBER  GLASSES.

| | | | | | |
|---|---|---|---|---|---|
| 24 inches long .. | 2*s*. | 0*d*. | 16 inches long .. | 1*s*. | 4*d*. |
| 22 „ „ .. | 1 | 10 | 14 „ „ .. | 1 | 2 |
| 20 „ „ .. | 1 | 8 | 12 „ „ .. | 1 | 0 |
| 18 „ „ .. | 1 | 6 | Made to any length. | | |

London Agents for Hartley's Improved Patent Rough Plate.
Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.
180, Bishopsgate Street Without, London, E.C.

**Oil Paint no longer Necessary.**

HILL and SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which Hill & Smith will forward on application.

Sold in casks of about 30 gallons each, at 1*s*. 6*d*. per gallon, at the Manufactory, or 1*s*. 8*d*. per gallon paid to any station in the kingdom.

Apply to Hill & Smith, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

PATENT GUTTA PERCHA SOLES.—Important to Gardeners.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. Glenny, Esq., the celebrated Florist:—

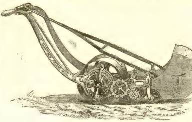
"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. Glenny."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C.

## MORTON'S PATENT NOISELESS LAWN MOWER.

This Machine Rolls, Collects, and Delivers the Grass, and combines all the most recent Improvements, including those secured by her Majesty's Royal Letters Patent for 1863. For efficiency and simplicity it cannot be surpassed, and can be worked by any one unskilled in Machinery. It is superior to all other Machines yet introduced to the notice of the Public for keeping Lawns and Pleasure Grounds in the highest state of perfection, and is likely to be the Leading Machine of the Season. No place, however small, should be without one.



**Terms, Net Cash.**

| To Cut | £ | s. | d. | |
|---|---|---|---|---|
| 12 ins. | £4 | 15 | 0 | *Suitable for a Lady or Gentleman* |
| 14 „ | 5 | 5 | 0 | *Suitable for one Person* |
| 16 „ | 6 | 7 | 6 | *Suitable for one Man or two Boys* |
| 18 „ | 7 | 7 | 6 | *Suitable for one Man and Boy* |
| 20 „ | 8 | 0 | 0 | *Do. do.* |
| 22 „ | 8 | 8 | 0 | *Suitable for two Men* |
| 24 „ | 8 | 17 | 6 | *Do. do.* |

All Machines fitted with Silent Movement, without extra charge.

Catalogues, with Prices, can be obtained free on application to

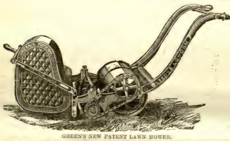
GRIMMOND, LAIRD, and CO., 15, CANNON STREET WEST, LONDON, E.C.; or to the PATENTEE, CATHERINE STREET ENGINE WORKS, ARBROATH.

*** *Agents Wanted in every Town. Apply as above.*

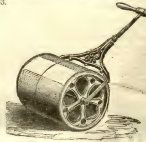
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863.



GREEN'S NEW PATENT LAWN MOWER.



GREEN'S NEW PATENT GARDEN ROLLER.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOS. GREEN FOR HIS PATENT LAWN MOWERS.

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS DURING THE SEASON OF 1862.

**GREEN'S PATENT LAWN MOWERS** have carried off every Prize that has been given in all cases of competition, and were the only Machines Highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862. (No Prizes were given.) They are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

Upwards of 14,000 of the above Machines have been sold since the year 1856, and thousands of letters have been received by the Patentees testifying to their efficiency. They do not deem it necessary to publish more than the two following :—

TESTIMONIALS.

"Royal Horticultural Society, South Kensington, W., Feb. 28, 1863.

"Dear Sir,—Your Mowing Machines, which have been in constant use here for two seasons, have answered well. They do their work efficiently, and with a less amount of manual labour than any other Machines I have tried,

"To Mr. Green." "Yours truly, Geo. Eyles."

"Royal Gardens, Windsor, March 27, 1863.

"Dear Sir,—The Hand Mowing Machines you supplied last season for the use of the Royal Gardens, Windsor, give great satisfaction.

"To Mr. Green." "Yours very truly, Thomas Ingram."

PRICES.

| | £ | s. | d. | |
|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a Lady. |
| „ 12 „ | 5 | 0 | 0 | Suitable for One Person. If with internal gear, 10s. extra. |
| „ 14 „ | 5 | 10 | 0 | Do. Do. Do. Do. 10s. extra. |
| „ 16 „ | 6 | 10 | 0 | Suitable for One Man or Two Boys. |

| | £ | s. | d. | | If with Patent Delivery Box. |
|---|---|---|---|---|---|
| To Cut 18 inches ... | £7 | 10 | 0 | Suitable for One Man and Boy | £8 15 0 |
| „ 20 „ ... | 8 | 0 | 0 | Do. Do. | ... 9 5 0 |
| „ 22 „ ... | 8 | 10 | 0 | Suitable for Two Men | ... 9 17 6 |
| „ 24 „ ... | 9 | 0 | 0 | Do. Do. | ... 10 7 6 |

**DONKEY and PONY MACHINES, including Traces.**

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 24 inches | £11 10 0 | £12 10 0 |
| „ 26 „ | 12 10 0 | 13 12 0 |
| „ 30 „ | 16 14 0 | 18 0 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

**PRICES of HORSE MACHINES, including Box of Requisites and Traces.**

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 30 inches | £20 0 0 | £21 10 0 |
| „ 36 „ | 23 0 0 | 24 16 0 |
| „ 42 „ | 26 0 0 | 28 2 0 |
| „ 48 „ | 29 0 0 | 31 8 0 |

Leather Boots for Horse, per set, 1l. 4s.

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.

Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s. Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

GARDEN ENGINES, SYRINGES, WATER BARROWS, and PUMPS. CAST IRON FOUNTAINS, VASES, GARDEN SEATS, and GARDEN CHAIRS. IRON HURDLES, WIRE FENCING, WIRE NETTING, &c. Also every description of HORTICULTURAL and AGRICULTURAL IMPLEMENTS.

*Illustrated Price Lists free.*

T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

J. LINDEN'S ESTABLISHMENT for the INTRODUCTION of NEW PLANTS, Royal Zoological and Horticultural Gardens, Brussels.

The NEW CATALOGUE for 1863 is just published, and contains a great number of newly introduced plants.

Agents in London, Messrs. R. Silberrad & Son, 5, Harp Lane, Great Tower Street, E.C., who will forward the Catalogue on application.

NEW DAHLIAS.—On and after April 20, vigorous, hardy, and strong-rooted Specimens of our new picked sorts of this favourite Flower will be ready for transporting in pots. Lists of prices, with a description of the various sorts (GRANDIFLORA and LILLIPUTIANS—the latter principally for pots in small gardens) may be had on application, by prepaid letter, to our Agents, Messrs. Street Bros., 11, Serle Street, Lincoln's Inn, London, W.C.

Twelve Sorts, selected by us, of these magnificent varieties, for 1*l.* 16*s.*, when ordered direct, by post-paid letter, from the Establishment mentioned below. The whole Collection (33 sorts) for 6*l.* The usual allowance to the Trade.

Horticultural Establishment of H. Laurentius, Leipzig, Saxony.

TO THE TRADE.—Last NOVELTIES at low prices.

| | £ | s. | d. |
|---|---|---|---|
| ANEMONE JAPON. HYBR. HONORINE JOBERT, beautiful novelty, pure white flowers, as large and abundant as the red one, per doz., 15*s.* .. per 100 | 5 | 0 | 0 |
| ASPIDIUM FRIZELLIÆ, strong plants, .. per doz. | 0 | 12 | 0 |
| per 100 | 4 | 0 | 0 |
| CHEILANTHES BORSIGIANA, very charming, rarest and finest of all the Gold Ferns; according to size. per doz. .. .. .. .. .. 2*l.* to | 4 | 0 | 0 |
| CYSTOPTERIS OBTUSA, per doz., 8*s.*.. per 100 | 2 | 0 | 0 |
| GERANIUM ZONALE EUGÉNIE MÉZARD, undoubtedly one of the best novelties of this season; bright salmon, large white eye, white borders, fine large truss, extra .. .. .. per dozen | 1 | 0 | 0 |
| GYMNOGRAMMA HYBRIDA DAVALLIÆFOLIA; this new, very pretty, and distinct variety, per doz. | 1 | 5 | 0 |
| DITTO STELZNERI; this magnificent new hybrid, according to size each .. .. 5*s.*, 10*s.*, and | 1 | 0 | 0 |
| LOMARIA PUNCTATA; young plants of this rare and fine Fern .. .. .. .. per dozen | 1 | 10 | 0 |
| LYGODIUM MEXICANUM, one of the finest climbing Ferns .. .. .. .. per doz. | 0 | 16 | 0 |
| PETUNIA, best French novelties of 1863; 12 beautiful single flowering sorts, and 10 double flowering ones, Madame Bretagne, Madame Lemoine, and the famous papaveracea amongst them; the 22 sorts .. | 1 | 0 | 0 |
| PENTSTEMON, do. do., 8 splendid new sorts; the set at .. .. .. .. .. .. .. | 0 | 10 | 0 |
| VERONICA, Wm. Henry Jacotot, Gloire de Lorraine, and Anne de Beaujen; the set of these three splendid new sorts .. .. .. .. .. | 0 | 5 | 0 |
| In Strong Plants. | | | |
| GYMNOGRAMMA GRACILIS var. .. per doz. | 0 | 10 | 0 |
| ,, LANATA .. .. ,, | 0 | 7 | 6 |
| ,, LAUCHEANA .. ,, | 0 | 10 | 0 |
| PHEGOPTERIS REFRACTA .. .. ,, | 0 | 16 | 0 |
| PTERIS TRICOLOR .. .. .. ,, | 0 | 7 | 6 |
| ,, CRETICA fol. var. .. .. per 100 | 1 | 0 | 0 |

Stelzner & Meyer, Ledeberg Nursery, Ghent, in Belgium.

**Cabbage Plants.**

H. AND R. STIRZAKER can supply in any quantity fine DRUMHEAD CABBAGE PLANTS, EARLY CURLED SAVOY, CAULIFLOWER, &c., RED for Pickling, all Autumn sown.

Also many thousand ENGLISH YEWS, PORTUGAL and COMMON LAUREL, in sizes from 1½ to 5 feet, will move with fine roots, and good furnished plants. Prices on application.

The Nurseries, Lancaster.

**Cabbage Plants.**

W. VIRGO and SON beg to say they have a very large quantity of DRUMHEAD, RED and EARLY CABBAGE PLANTS to offer for Sale of the following sorts, at 8*s.* per 1000:—

| | |
|---|---|
| EARLY YORK CABBAGE | EARLY NONPAREIL |
| ,, BATTERSEA | DRUMHEAD |
| ,, BARNES | |

RED CABBAGE, 4*s.* per 1000. All strong, healthy, and well rooted.

Wonersh Nursery, near Guildford, Surrey.

GRAYSON'S TRUE MORTLAKE GIANT ASPARAGUS, grown on the ground where the late Mr. Grayson brought it to such perfection, so that Grayson's Asparagus is preferred everywhere.

Seed saved from the Mortlake Beds .. 6*d.* per oz.
Very fine Plants, 2 years old .. .. 4*s.* per 100.

This is the best month to plant, as I have satisfactorily proved.

F. R. Kinghorn, Sheen Nursery, Richmond, S.W.

HYBRID SEEDLINGS.—A gentleman, curious in raising SEEDLING POTATOES from the best sorts, has a few Quarts to spare; they are small but sound, 3 years old, and have been proved of excellent quality; he has also a few dozen FUCHSIAS from the best double and white varieties carefully hybridised, and some of the finest strain of Red and Blue GLOXINIAS, which if well grown, will bloom this season.

For price and particulars, apply to X. Z., Emsworth, Hants.

FARM SEEDS of Genuine Quality (at Market Prices). *Carriage Free.*

Richard Smith, Seed Merchant, Worcester.

**Agricultural Seeds.**

JOHN K. KING, Seed Grower, Coggeshall, Essex, (Established 1793), has now ready for delivery from his genuine carefully selected roots,

YELLOW GLOBE MANGEL WURZEL.
KING'S CHAMPION ESSEX ORANGE GLOBE MANGEL WURZEL.
RED GLOBE MANGEL WURZEL.
ELVETHAM LONG RED and LONG YELLOW.
SKIRVING'S SWEDE TURNIP and PURPLE-TOP.

The above sorts have all been proved to grow well.

PRICED LISTS with testimonials post free on application.

**Turnip and Mangel Wurzel Seed.**

H. AND F. SHARPE can supply the Trade with the following Varieties, true to name, all of their own growth, new and genuine, and on very advantageous terms.

| Turnip. | Turnip. |
|---|---|
| Improved Purple-top Swede | Lincolnshire Red Globe |
| Champion do. | Improved Green Norfolk |
| Skirving's Improved do. | Fine White Stone |
| Marshall's Improved do. | |
| Yellow Tankard | Mangel Wurzel. |
| Pomeranian White Globe | Elvetham Long Red |
| Drummond's Early Field Yellow | Fine Orange Globe |
| Green-top Scotch | ,, Long Yellow |
| | ,, Red Globe |

Seed Growing Establishment, Wisbech.

NEW HARDY WHITE SWEDE.—The Favourite Swede of the Flockmasters on the Hampshire, Wiltshire, and Cotswold Hills. Grows rather coarse on some soils or when sown early; but it is very productive, hardy, and it is the only Swede that can be depended upon to keep sound through the winter without storing. Excellent for late sowing and upon poor land.

Seed 1*s.* per lb., or 42*s.* per bushel.

Supplied by Raynbird, Caldecott, & Bawtree, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

**Skirving's "King of the Swedes."**

WILLIAM SKIRVING, Queen Square, Liverpool, begs to acquaint the Farmers of the United Kingdom, that he has fixed the price this season for the Seed of his new variety of SWEDE at 1*s.* 3*d.* per lb., bags included.

W. S. can with confidence recommend this variety of Swede as the best now in cultivation, in every respect. This assertion is made after several years' experiments with every sort of Swede known.

The Seed of this variety having all been grown on his own Farm, he begs to say it can only be had direct from himself, this being the second year of its introduction.

All other sorts of Farm Seeds of the most superior quality, at their present market value.

**International Exhibition. Prize Medals 1851 and 1862,**

Awarded for "Excellent Seed Corn and Seeds," to

RAYNBIRD, CALDECOTT, and BAWTREE, Seed Merchants and Growers, Basingstoke, Andover; and 89, Seed Market, Mark Lane, London, E.C.

Samples of all kinds of AGRICULTURAL SEEDS and SEED CORN, sent post free on application.

**To Seedsmen and Others.**

THOMAS AYRES, Seedsman and Grower, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz:—

WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP, ,,
SEED POTATOES of the following varieties:—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.
SCARLET RUNNER BEANS (English grown).

A PRICE LIST forwarded upon application.

**Munster Farm, Fulham.**

SEA KALE SEED being scarce this season, has induced me to offer the SEA KALE SETS for next winter's Forcing for making fine large crowns, which can be had at 10*s.* per 1000. The Trade liberally supplied. Also a large quantity of DELPHINIUM FORMOSUM for Sale. Fine 2-year old plants at 3*s.* per dozen. Trade supplied liberally.

William Bagley.

NEW BEDDING GERANIUM, "LITTLE DOT."—"The Doctor's Boy" has placed the SALE of the above NEW GERANIUM in my hands, 20 per cent. of the proceeds to go towards helping the Distressed Lancashire Botanists. Two-year-old Plants, with plenty of cuttings on, will be sent out at 5*s.* each, and autumn-struck plants at 14*s.* per dozen, or 1*s.* 6*d.* each.

"'Little Dot' is the most dwarf I have seen of the Lucia rosea breed; it is also the best horseshoe leaf I have seen in that strain, and it is the most profuse bloomer I have yet seen of that much admired section of the bedding classes."—D. Beaton, in *Journal of Horticulture*, page 691, Dec. 2, 1862.

N.B. The Trade supplied.

John Hague, 36, Mount Street, Ashton-under-Lyne.

REIGATE SILVER SAND.—Best quality, 7*s.* 6*d.* per ton; second quality, 6*s* per ton, put on the rail at Reigate. PEAT SOILS, LOAM, &c. The Railway rates are lower when not less than 4 tons are conveyed in a Truck.

W. Short, Reigate Heath, Surrey.

REIGATE SILVER SAND, which is known by its superior whiteness and fine quality, and is much used in the Propagation and Growth of Greenhouse Plants, &c., in Bags, delivered to any of the railway carriers or wharfs in London, in not less than Half-Ton lots, at 2*l.* per Ton.

All orders and remittances to be addressed to James Gawkroger, 21, Union Street, Halifax, Yorkshire.

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.

Extra strong, 3*s.* per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.

Can be obtained through the principal Nurserymen and Seedsmen in England.

A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.

Page & Toogood, Seed Merchants, Southampton.

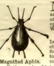
COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2*s.* per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the Patent Cocoa Fibre Company, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. Barsham & Co.

Barsham's BRUSHES and MATS are sold in every town.

Caution.—Every Brush is stamped 'J. Barsham's Patent'



Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1*s.* and 2*s.* per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of Geo. Glenny, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1*s.* per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. Neal, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.* each.

Wholesale by Price's Patent Candle Co. Limited.

**Notice.**

MR. A. CHANDLER (of the late Firm of Chandler & Sons), HORTICULTURAL VALUER, begs to inform his friends and the public that he has removed from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

## NEW PLANTS FOR 1863.

# B. S. WILLIAMS,

PARADISE and VICTORIA NURSERIES, HOLLOWAY, LONDON, N.,

Has much pleasure in offering the following NOVELTIES for the first time, to be sent out after April 20:—

### New Achimenes.

The following choice varieties are the seedling productions of that successful gardener, Mr. Parsons, of Welwyn, and they will be found great acquisitions to this beautiful class of plants, and quite equal to the descriptions given:—

ACHIMENES MAUVE QUEEN.—This splendid variety is, without exception, the finest of all that useful and most desirable class of summer-flowering plants; a great improvement on longiflora major; producing an abundance of beautiful large mauve-coloured flowers, with a conspicuous light chocolate eye, splendid form, and of extraordinary waxy substance. Was exhibited by the Raiser at the Floral Committee of the Royal Horticultural Society, and was awarded a First-class Certificate. Figured in the "*Floral Magazine*," November, 1862. Price 10*s.* 6*d.* each.

ACHIMENES CARMINATA ELEGANS.—Another beautiful variety, and is, without doubt, the finest of the small and free-flowering sections, producing spikes 18 inches in length; being of good branching habit, is capable of producing specimens 3 or 4 feet in diameter, thus making it a charming object for the, summer and autumn months. Price 7*s.* 6*d.* each.

*** Coloured Illustrations of each of the above by Andrews will be forwarded in exchange for six postage stamps.

### New Petunias.

The following valuable varieties were raised by Mr. Holland, of Isleworth, and are a small collection selected from a large quantity of Seedlings. They are confidently recommended for general excellence, being great improvements on all others previously offered.

PETUNIA CRIMSON GEM.—A compact branching and free growing variety; flowers of a soft velvety crimson, with dark throat; of great substance and fine form; an improvement on Phaeton and all in that way. This is, without exception, the highest coloured Petunia yet offered. Received a First-class Certificate from the Royal Botanic Society, May, 1862. Price 5*s.* each.

PETUNIA FLOWER OF THE DAY.—This remarkable flower has four broad stripes of pure white, and four bright purple above, equally divided; very constant and beautiful. Received a First-class Certificate from the Royal Botanic Society, May, 1862. Price 5*s.* each.

PETUNIA ROSA BELLA FORME.—A free flowering and shrubby variety, of first-class habit for bedding and other purposes, being of short-jointed growth; producing an abundance of beautiful bright Magenta flowers, with a clear white throat, of great substance and perfect form. This will, without doubt, prove to be the best bedding Petunia yet offered. Price 5*s.* each.

*** Coloured Illustrations of Petunia Rosa Bella Forme, and Flower of the Day, by Andrews, will be forwarded in exchange for six postage stamps.

### New Zonale Geranium.

CONQUEROR OF EUROPE (Holland).—Beautiful soft carmine; fine form and substance; extra large truss; long flower stalks, producing enormous heads of bloom well above the foliage; good and compact habit; fine for pot culture Was awarded a First-class Certificate at the Royal Horticultural Society's meeting, June 1862. Price 5*s.* each.

PARADISE and VICTORIA NURSERIES, HOLLOWAY, LONDON, N.

**NEW MELON, PRINCESS ALEXANDRA.**—A new hybrid of globular shape, very evenly quartered and netted, pale green flesh, with very little pulp in centre, delicate Pine Apple flavour. Can be highly recommended as a first-class variety. 1*s.* per packet.

James Carter & Co., 237, 238, & 261, High Holborn, W.C.

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**NEW PRIZE MELONS,** at 1*s.* 6*d.* per packet.

Empress Eugénie, Prince Imperial, Prince Louis of Hesse, Princess Alice, Princess Alexandra, and Queen Victoria.

For descriptions see GUIDE to the KITCHEN GARDEN.

Barr & Sugden, Seed Merchants and Florists, 12, King Street, Covent Garden, W.C.

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**EXTRA STRONG FRUITING VINES.**—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7*s.* 6*d.* each; smaller, for Planting-out, from 3*s.* 6*d.* each. A reduction in price will be made to large purchasers.

"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.

James Dickson & Sons, The Newton Nurseries, Chester.

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**FLOWER SEEDS.**

Free by Post.

| | *s.* | *d.* |
|---|---|---|
| 100 packets of the most Showy HARDY and HALF-HARDY varieties .. .. .. .. .. | 20 | 0 |
| 50 ditto ditto ditto .. .. | 10 | 0 |
| 25 ditto ditto ditto .. .. | 5 | 0 |
| 12 ditto ditto ditto .. .. | 2 | 6 |

Wm. Wood & Son, Seed Merchants, Maresfield, near Uckfield, Sussex.

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### Old Cheshunt Nurseries, Herts, N.—Roses.

**PAUL and SON** have the pleasure to announce that their NEW HYBRID PERPETUAL ROSE, LORD CLYDE, will be ready for delivery in April next, at 7*s.* 6*d.* each. Usual allowance to the Trade when three are taken. A Coloured Plate, by Andrews, post free for 12 stamps.

The NEW ROSES of other Raisers will be ready in March.

They have still to offer fine Home-grown STANDARD and DWARF ROSES.

DESCRIPTIVE LISTS of the New Roses, Gladioli, and Genuine Seeds now ready.

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### New Roses.

**WM. PAUL (Son and Successor to the late A. Paul)** respectfully invites attention to the following NEW ROSES, which will be ready for delivery very shortly.

LORD HERBERT, H.P.—Rosy carmine, the petals reflexing at the summits in the way of Beauty of Waltham, large, full, and finely formed, and altogether of first-rate excellence. 7*s.* 6*d.*

LORD MACAULAY, H.P.—Velvety crimson, in the way of General Jacqueminot, but brighter in colour, thicker in the petal, and more double. The flowers are of good average size, produced abundantly and in rapid succession; the habit is good, and foliage handsome. 7*s.* 6*d.*

MRS. WILLIAM PAUL, H.P.—Bright violet red, shaded with fiery red; flowers constantly, and in clusters, large and full. Raised by M. Verdier, of Paris, the raiser of Madame Furtado, and others of our finest Roses. 5*s.*

RED ROVER, H.P.—Bright red petals, large, thick, and round; flowers abundantly and in succession up to Christmas. Not double enough for a show Rose, but the most effective pillar Rose ever offered. 3*s.* 6*d.*

WILLIAM PAUL, H.P.—A seedling from Senateur Vaisse, but brighter in colour. Raised at Lyons by the raiser of Lord Raglan, Senateur Vaisse, and other first-class sorts. 5*s.*

BEAUTY OF WALTHAM, H.P.—Bright rosy crimson, of good size, form, and substance, and deliciously sweet. This Rose is found to surpass the description originally given of it. 3*s.* 6*d.*

All the new French Roses, 3*s.* 6*d.* to 5*s.* each, or 42*s.* per dozen. The best of the old Roses at lowest advertised prices. The plants are well established, and in the finest possible health.

PRICED CATALOGUE free by post.

Nurseries and Seed Warehouse, Waltham Cross, N.

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### Grass Seeds for all Soils.

**SUTTON and SONS** have one of the largest stocks in Europe of the PERMANENT NATURAL GRASS and CLOVER SEEDS, which they mix expressly to suit the soil for which they are required.

The following letter has been received, besides many others: *From* Professor Lindley, *Royal Horticultural Society, London.* "We have already made trial of your Grass Seeds, and it is only justice to say that they have proved the best we have sown for many years."

| Present Prices are— | | Per Acre. *s.* | *d.* |
|---|---|---|---|
| Best quality MIXTURES for Laying Down to PERMANENT PASTURE .. .. .. .. .. | | 30 | 0 |
| Cheaper MIXTURES, omitting certain sorts | 20*s.* to | 26 | 0 |
| Best quality ditto, for Three or Four Years' Lay | .. | 22 | 0 |
| Ditto ditto, for One or Two Years' Lay | 15*s.* to | 18 | 6 |
| CLOVERS and fine GRASSES for Renovating Old Pastures .. .. .. .. .. | 6*s.* to | 9 | 0 |
| Finest LAWN GRASS SEEDS .. .. | per Bushel | 18 | 0 |
| PARK LAWN GRASS SEEDS .. .. | ,, | 16 | 0 |

The First Prize Medal was awarded to Sutton & Sons for their Grass and Clover Seeds at the Great International Exhibition of Roots and Cereals at South Kensington in October last.

A Copy of Mr. Martin Sutton's "Essay on Pastures" is sent with each lot of Grass Seeds.

Seeds sent carriage free to all parts of the kingdom. Export orders delivered free to the Ship's side in any English Port.

PRICED LISTS of GARDEN and FARM SEEDS gratis and post free.

Sutton & Sons, Royal Berkshire Seed Establishment, Reading.

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**BEDDING GERANIUMS, 2*s.* 6*d.* per dozen.** Twelve dozen choice Bedding GERANIUMS, in 12 varieties, purchaser's selection, for 32*s.* 6*d.*, basket and package included; or any kind separately, at 3*s.* 6*d.* per dozen.

| Variegated. | Zonale. | Zonale. |
|---|---|---|
| Golden Chain | Scarlet Perfection | Crystal Palace Scarlet |
| Reine d'Or | Lady of Loretto | Blackheath Beauty |
| Golden Cerise Unique | Little David | Princess of Prussia |
| Flower of Spring | Beauté de Meldoise | M. Martin |
| Alma | Lady Middleton | Mde. Chardine |
| Hendersonii | Christina | Paul L'Abbé |
| Bijou | Rose Queen | Imperial Crimson |
| t. Clair | Scarlet Queen | Model Nosegay |
| Countess of Warwick | Indispensable | Minimum Nosegay |
| Shottesham Pet | Bishopstowe Scarlet | Purple Nosegay |

All the leading kinds at moderate prices. Price to the Trade on application.

A remittance respectfully requested from unknown correspondents. Post Office Orders to be made payable to Alfred Fryer, Chatteris, Cambridgeshire.

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# CARTER'S LIST OF NEW PLANTS FOR 1863.

## New Geraniums.

Mr. Beaton, the well-known raiser of the improved varieties of Nosegay and other sections of Bedding Geraniums, has selected the undermentioned from his large collection of Seedlings, and recommends them as being some of the most valuable Bedding varieties ever offered to the public; he has placed them in our hands for distribution. The Set of six varieties for 10*s.* 6*d.*

### NOSEGAY VARIETIES.

LORD PALMERSTON (Beaton).—This is unquestionably the finest of the whole group of Nosegay Geraniums. It was raised by Mr. Beaton about three years since, and sent by him to be proved at the Gardens of the Royal Horticultural Society and the Crystal Palace, and by the Directors of the respective Gardens was selected from the whole mass of bedding plants to form the most prominent Beds of last Season, where it was universally admired. The flowers are deep crimson, produced in immense trusses in the greatest profusion, as many as 130 pips, or flowers, having been counted on a single truss. As this is a variety that has been thoroughly proved, we are induced to offer large quantities at a cheap rate, so that our customers may plant largely this season.

Strong Plants.

| | | | |
|---|---|---|---|
| Single plant .. .. | 2*s.* | 3 dozen .. .. | 32*s.* |
| 1 dozen .. .. | 18*s.* | 4 ,, .. .. | 38*s.* |
| 2 ,, .. .. | 25*s.* | 8 ,, .. .. | 68*s.* |

SPREAD EAGLE (Beaton).—This is also one of the most profuse blooming of the Nosegay section; colour, deep orange scarlet, with the dwarf habit of Mangles' Silver variegated. The breadth of petal of this and the succeeding variety far exceeds that of any others of the Nosegay tribe, and will doubtless go far to satisfy the exigent requirements of the most particular Florists. Price 2*s.* 6*d.* and 3*s.* 6*d.* each.

MERRIMAC (Beaton).—This is a great improvement on "Imperial Crimson;" it has the additional breadth of petal to which we have before alluded; and in addition to being very useful for Beds and Ribands, it is very effective for Vases, &c. Price 2*s.* 6*d.* and 3*s.* 6*d.* each.

MISS PARFITT (Beaton).—The upper petals of this beautiful variety are deep crimson, the lower glowing scarlet with a white centre or eye; very dwarf and compact habit. Price 2*s.* 6*d.* and 3*s.* 6*d.* each.

### ZONALE or HORSE-SHOE-LEAVED VARIETIES.

HELEN LINDSAY (Beaton).—This is a rival of the well known "Christine," which is so extensively used for Bedding purposes in all Public and Botanic Gardens; the colour is a much richer rose, whilst the trusses of bloom are larger, and more profusely produced throughout the season. This variety is also free from the objectionable seeding propensities of Christine (which renders that otherwise admirable kind so very troublesome to keep in good order, beds of it after Midsummer assuming a ragged appearance if the seed pods are not constantly gathered). Its habit is similar to that of "Tom Thumb," leaves slightly zonale. This will be the Gem of Bedding Geraniums this season. Price 1*s.* 6*d.* each; per dozen, 12*s.*

RUBENS IMPROVED (Beaton).—Of this excellent variety it is only necessary to say that it blooms as freely as its progenitor, but with much larger trusses of the same beautiful form and colour; leaves slightly zonale: it has also the additional merit of withstanding well the sun and rain, a quality much needed in the old variety. Price 2*s.* 6*d.* and 3*s.* 6*d.* each.

## New Tropæolums.

The undermentioned are decidedly the finest varieties yet offered:—

ELEGANS "OTHELLO."—A beautiful deep maroon coloured variety of the "Crystal Palace elegans," having the same short-jointed habit and profuseness of bloom; when grown in a mass its effect is striking in the extreme. Price, 1*s.* 6*d.* each; per dozen, 12*s.*

KING OF TOM THUMBS.—A variety of the well-known T. Brilliant—habit very dwarf and compact, with a profusion of bright scarlet flowers, thrown well up above the foliage; this variety is quite distinct in colour of flower and foliage from all other varieties of Dwarf Tropæolums: the flower is very similar in shade of colour to Boule de Feu Geranium, and the habit is much more compact than any of the Tom Thumb varieties of Nasturtiums. Price 1*s.* 6*d.* each; per dozen, 12*s.*

## Lobelia Paxtoniana.

This valuable acquisition to our Summer Gardens was raised by Mr. Gordon, the indefatigable Superintendent of the Crystal Palace Gardens, and named Paxtoniana by desire of Sir Joseph Paxton, in whose garden (as well as the Crystal Palace Gardens) its merit has been proved. It is a seedling from the well-known true Crystal Palace variety of Lobelia speciosa, quite as robust as its parent, with a much more compact habit. The individual flowers are much larger, with a pure white centre or eye; the outer margin or prevailing colour (blue) more nearly resembling in tint that of the pretty annual, Nemophila insignis, than any other flower with which we are acquainted. It forms a very effective contrast and companion plant with its parent in the decoration of the summer garden, and will be largely used at the Crystal Palace during the ensuing season. Price 9*d.* each; 6*s.* per dozen.

## Lobelia Gordoniana.

A very beautiful and effective variety, fully as compact in habit as the well-known L. speciosa; it has a large pure white centre or eye, with a broad margin of intense blue; strongly recommended. Price 9*s.* per dozen; each 1*s.*

## Lobelia speciosa alba.

This (in conjunction with the two before-named varieties) has been raised by Mr. Gordon, of the Crystal Palace Gardens, Sydenham, where it will be much employed this season to add to the bedding effects there so much admired. The lower petals, which are very large, are pure white, and the upper just faintly tinged with blue. Price 9*s.* per dozen; each 1*s.*

## Echeveria metallica.

A strikingly beautiful succulent plant; has received a First-class Certificate from the Floral Committee of the Royal Horticultural Society; was produced from E. Gibbiflora, and is undoubtedly the finest of its genus. It is a great acquisition to the conservatory or cool greenhouse, as it blooms most profusely throughout the winter, and its dense succulent leaves shine with a lustrous metallic brilliance. Price 7*s.* 6*d.* each.

## New Antirrhinums.

The following are undoubtedly the finest varieties of this pretty flower ever offered. Price 1*s.* 6*d.* each; the set of 13 varieties, 12*s.*:—

QUEEN OF YELLOWS.—Yellow, deep orange throat, very showy and good.

COQUETTE.—Upper lips vermilion, shading to scarlet, lower deep yellow, with bright red spots.

VULCAN.—Orange red ground, splashed and marked with crimson.

THE MOOR.—Upper lip orange red, lower crimson with yellow throat.

EMPRESS.—Pure white ground, delicately pencilled with magenta.

MIRA.—Deep rose ground, white throat.

GARIBALDI.—Upper lip deep purple, lower shaded buff, deep orange throat.

ALBA PERFECTA.—Pure white, fine bedder.

EOLA.—White ground, upper lip broadly striped with purple

JUNG BAHADOOR.—Deep crimson, yellow throat.

SHIRZA.—Upper lips light purple, lower white and yellow striped.

ENSIGN.—Upper lips deep crimson, lower light red.

PEREGRINA.—Pure sulphur coloured; one of the best of the yellows.

## Streptocarpus Saundersi.

This elegant Greenhouse Plant is by far the finest of its tribe; it was raised by Wilson Saunders, Esq., of Reigate, and flowered most beautifully at Kew in 1861; strongly recommended. Price 7*s.* 6*d.* and 10*s.* 6*d.* each.

## New Perpetual-Flowering Pink—"Optima" (Dr. Wallace).

We have much pleasure in introducing the above extraordinary Pink—an entire novelty, and we believe destined to be the forerunner of a new class of perpetual-flowering Pinks, which will be as great favourites as the Perpetual Carnations and Picotees are for late autumn, winter, and spring decoration in Conservatories and Greenhouses. The above was raised by Dr. Wallace, of Ballynema, an enthusiastic cultivator of all the tribe for the last ten years, and he considers it far superior to any other Pink grown, in form, lacing, colour, and habit, independent of its peculiar qualities as a perpetual bloomer. Dr. Wallace has proved it in his own garden for three years, and it has always remained in bloom until cut off by severe frost. Plants in pots in frames continue blooming all the winter.

Description.—Rich dark purple, very broad lacing, smooth petals of great substance, very bold flower, extraordinary robust habit, and perpetual bloomer. Per pair, 3*s.* 6*d.*; each, 2*s.* 6*d.*

## New Petunias.

We can confidently recommend the following as very superior Bedding varieties; we have proved them with several hundred sorts. Price 1*s.* 6*d.* each; the set of 5 varieties, 6*s.*:—

STRIATA PERFECTA.—Deeply striped in the way of Madame Ferguson; the edges are fimbriated in a very novel manner.

COLLEEN BAWN.—Deep scarlet ground, beautifully striped and splashed with white, very effective.

EPHEMERA.—Crimson shaded.

CAPTIVATION.—Light lavender ground, beautifully pencilled with deep maroon.

PANTALOON.—A very curious and beautiful variety, white ground, pencilled with lavender, with green spots on the border, very effective in groups.

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PLANT SUPPLEMENT TO

## CARTER & CO.'S GARDENERS' VADE MECUM FOR 1863,

Containing FULL LISTS of STOVE, GREENHOUSE, and BEDDING PLANTS, now ready, post free, on application.

---

JAMES CARTER & CO., 237 & 238, HIGH HOLBORN, LONDON, W.C.

Two Hundred and Fifty Guineas in Ten Prizes.

For Five Years Successively His Late Royal Highness the Prince Consort's Prize Cups have been awarded to

SUTTON'S CHAMPION SWEDES at the Royal East Berks and South Bucks Agricultural Societies.
New Seed now ready, 1s. per lb., or 45s. per bushel, carriage free.
Royal Berkshire Seed Establishment, Reading.

CHOICE CAMELLIA SEED, saved from one of the finest Collections in Europe. 1s. per packet.
James Carter & Co., 237 and 238, High Holborn, W.C.

Hybrid Rhododendrons.

W. H. ROGERS, Red Lodge Nursery, Southampton, can offer the above, fine bushy Plants, averaging 1 foot, 20s. per 100; 2 feet, 40s. per 100; and 3 feet, 60s. per 100; also KALMIA LATIFOLIA, strong budded, 6 inches, 10s. per 100, or 80s. per 1000; AZALEA PONTICUM, 1 foot, bushy, 30s. per 100; GAULTHERIA SHALLON, 30s. per 100; and GAULTHERIA PROCUMBENS, 20s. per 100.

ROYAL BOTANIC SOCIETY of LONDON.
AWARDS of PRIZES, APRIL 11, 1863.

6 AZALEAS (Amateurs).
1st, Mr. J. Cross, Gr. to Sir F. H. Goldsmid, Bt., M.P., Regent's Park.
2d, Mr. T. Todman, Gr. to R. Hudson, Esq., Clapham Common.
3d, Mr. G. Taylor, Gr. to C. A. Hanbury, Esq., Belmont House, East Barnet.

6 AZALEAS (Nurserymen).
1st, Mr. C. Turner, Slough, Bucks.
2d, Messrs. J. Ivery & Son, Dorking and Reigate.
3d, Mr. W. Cutbush, Barnet, Herts.

3 NEW AZALEAS of 1860, 1861, and 1862.
1st, Mr. C. Turner, Nurseryman, Slough, Bucks.
2d, Mr. T. Todman, Gr. to R. Hudson, Esq.

12 HYACINTHS (Amateurs).
1st, Mr. A. Carr, Gr. to B. Noakes, Esq., Hope Cottage, North Hill, Highgate.
2d, Mr. G. Taylor, Gr. to C. A. Hanbury, Esq.
3d, Mr. G. Fox, Gr. to R. Gibbs, Esq., Southampton Villa, Highgate Rise.

12 HYACINTHS (Nurserymen).
1st, Messrs. W. Cutbush & Son, Highgate.

6 AMARYLLIS.
1st, Mr. R. Parker, Nurseryman, Tooting, Surrey.
2d, Messrs. W. Cutbush, Nurserymen, Highgate.

12 BRITISH FERNS.
1st, Miss Clarkson, 40, Avenue Road.
2d, Messrs. J. Ivery & Son, Nurserymen, Dorking and Reigate.

6 MISCELLANEOUS PLANTS.
1st, Messrs. J. & C. Lee, Nurserymen, Hammersmith.
2d, Mr. W. Bull, Nurseryman, Chelsea.
2d, Messrs. A. Henderson & Co., Nurserymen, Edgeware Road.
3d, Mr. B. S. Williams, Nurseryman, Holloway.

MISCELLANEOUS and NEW PLANTS.
Silver Medal, Mr. W. Paul, Nurseryman, Waltham Cross, for 8 Boxes of Cut Roses.
Do., Mr. B. S. Williams, Holloway, for Collections of New and Rare Plants.
Small Silver Medal, Mr. W. Paul, Waltham Cross, for 12 Roses in Pots.
Do., Messrs. Paul & Son, Nurserymen, Cheshunt, for 7 Boxes of Cut Roses.
Do., Mr W. Bull, Chelsea, for Collections of New and Rare Plants.
Bronze Medal, Mr. J. Cross, Gr. to Sir F. H. Goldsmid, for 12 Greenhouse Plants.
Do., Messrs. F. & A. Smith, Dulwich, for 6 Foliage Plants.
Small Bronze Medal, Mr. R. Parker, Tooting, for Collection of Amaryllis.
Do., Mr. W. R. Bragg, Slough, Bucks, for 2 Boxes of Cut Pansies.
First Class Certificate of Merit, Mr. C. Turner, Slough, Bucks, for Azalea Louise von Baden.
Do., Messrs. A. Henderson & Co., for Dracæna Rumphii.
Do., Messrs. A. Henderson & Co., for Tropæolum Ball of Fire.
Do., Mr. W. Paul, for Magnolia Lenné.
Do., Mr. W. Bull, for Anthurium species.
Do., Messrs. F. & A. Smith, for Pandanus elegantissimus.
Second Class Certificate of Merit, Messrs. J. Ivery & Son, for Athyrium Filix-fœm. mucronatum.
Do., Messrs. J. Ivery & Son, for Athyrium Filix-fœm. Iveryanum.
Do., Mr. W. Bull, for Anæctochilus argyræus.
Do., Mr. W. Bull, for Trichomanes membranaceum.
Do., Messrs. E. G. Henderson, for Cupressus Lindleyana alba.
Do., Mr. B. S Williams, for Aralia Sieboldii variegata.
Do., Mr. B. S. Williams, for Aralia species.
Do., Mr. C. Turner, for Auricula Princess of Wales.

Royal Botanic Gardens, Regent's Park, London, N.W.

ROYAL HORTICULTURAL SOCIETY.
FLORAL COMMITTEE.
LIST OF AWARDS, April 15.

First Class Certificate.
Magnolia Linné, from Mr. W. Paul, Waltham Cross.
Alocasia zebrina, from Messrs. Veitch & Son, Exeter and Chelsea.
Cheilanthes Borsigiana, from Messrs. Veitch & Son.
Greenovia aurea, from Mr. W. Bull, Chelsea.
Azalea Louise von Baden, from Mr. Turner, Slough.
Retinospora leptoclada, from Messrs. E. G. Henderson & Son, St. John's Wood.

Second Class Certificate.
Cineraria Snowflake, from Mr. Page, gr. to J. M. Strachan, Esq., Teddington.
Azalea Madame Verschaffelt, from Messrs. Veitch & Son.
Azalea Beauty of Dorking, from Messrs. Ivery & Son, Dorking.
Auricula Ensign, from Mr. Turner.

Commendation.
Valdivia Gayana, from Messrs. Veitch & Son.
Anthurium (sp.) S. America, from Mr. Bull.
Alpine Auricula Supreme, from Mr. Turner.
Pansy Exquisite, from Mr. Turner.
Fancy Pansy Feu de Joi, from Mr. Turner.
Kerria japonica variegata, from Mr. Standish, Bagshot.
Double flowered Japanese Cherry, from Mr. Standish.

Special Certificate.
To Mr. Turner, Slough; and to Mr. Bull, Chelsea; for plants of Bougainvillæa speciosa, blooming in small pots.

The next Meeting will be held on May 5.

Thomas Moore, Secretary to the Committee.

ROYAL HORTICULTURAL SOCIETY.
AZALEA and ROSE SHOW, WEDNESDAY, April 15.

Awards of the Judges.

Class 1.—9 AZALEAS, distinct kinds (Nurserymen).
1st, Messrs. Veitch & Son, Exeter and Chelsea, 2l.

Class 2.—9 AZALEAS, distinct kinds (Amateurs).
1st, Mr. Thos. Todman, Gr. to R. Hudson, Esq., Clapham Common, 2l.
2d, Mr. M. Higgs, Gr. to Mrs. Barchard, Putney Heath, S.W., 1l. 10s.

Class 3.—6 AZALEAS, distinct kinds (Open).
1st, Messrs. Veitch & Son, Royal Exotic Nurseries, Exeter and Chelsea, 1l. 10s.
2d, Messrs. J. Ivery & Son, Dorking and Reigate Nurseries, 1l.
3d, Mr. Thos. Todman, Gr. to R. Hudson, Esq., Clapham Common, 15s.

Class 4.—6 ROSES, distinct kinds (Nurserymen).
1st, Mr. Chas. Turner, The Royal Nurseries, Slough, 2l.
2d, Mr. W. Paul, Nurseries and Seed Warehouse, Waltham Cross, 1l. 10s.
3d, Messrs. Paul & Son, The Old Nurseries, Cheshunt, Herts, 1l.

Class 5.—6 ROSES, distinct kinds (Amateurs).
No competition.

Class 6.—4 ROSES, distinct kinds (Open).
1st, Messrs. Paul & Son, The Old Nurseries, Cheshunt, 1l. 10s.
2d, Mr. Charles Turner, The Royal Nurseries, Slough, 1l.

Class 7.—6 CINERARIAS, distinct kinds (Open).
1st, Mr. H. Lamb, Gr. to Captain Cahill, Southall, 1l. 10s.
2d, Mr. P. Lamb, Gr. to Miss Thackerwaite, near Southall, 1l.
3d, Mr. C. Turner, The Royal Nurseries, Slough, 15s.

Class 8.—4 CINERARIAS, distinct kinds (Amateurs).
1st, Mr. H. Lamb, Gr. to Captain Cahill, Southall, 1l.
2d, Mr. P. Lamb, Gr. to Miss Thackerwaite, near Southall, 15s.
3d, Mr. J. Holland, Gr. to R. W. Peak, Esq., Isleworth, S., 10s.

Class 9.—4 GREENHOUSE ACACIAS, distinct kinds.
No competition.

Class 10.—12 AURICULAS, 3 of each kind (Nurserymen).
1st, Mr. Charles Turner, Slough, 1l. 10s.

Class 11.—8 AURICULAS, 2 of each kind distinct (Amateurs).
1st, Mr. J. Butcher, 1, South Street, Camberwell, S., 1l. 10s.
2d, Mr. J. James, Gr. to W. F. Watson, Esq., Isleworth, 1l.
3d, Mr. Thomas Potts, 35, Glengall Grove, Old Kent Road, S.E., 15s.

Class 12.—6 ALPINE AURICULAS, distinct kinds (Amateurs).
1st, Mr. J. James, Gr. to W. F. Watson, Esq., Isleworth, 1l.

Class 13.—6 POLYANTHUS, distinct kinds (Amateurs).
1st, Mr. J. Butcher, 1, South Street, Camberwell, S. 1l.

Class 14.—4 CYCLAMENS, distinct kinds (Amateurs).
1st, Mr. James Holland, Gr. to R. W. Peak, Esq., Isleworth, 15s.

Class 15.—24 PANSIES, Cut Blooms, 12 distinct kinds (Open).
1st, Mr. J. James, Gr. to W. F. Watson, Esq., Isleworth, 10s.

Class 16.—8 PANSIES, Fancies, in pots, distinct kinds (Open).
Mr. Bragg, Slough (not for competition) Highly Commended.

Class 17. MISCELLANEOUS COLLECTION of PLANTS in FLOWER.
Extra, Mr. Chas. Turner, for a large collection of Azaleas, 3l 10s.
1st, Messrs. Veitch & Son, for Collection of Plants in Flower, 2l. 10s.
2d, Messrs. J. & C. Lee, for Collection of Plants in Flower, 2l.
Extra, Mr. W. Bull, for Collection of Fine Foliaged and Flowering Plants, 1l. 5s.
Ditto, Messrs. Paul & Son, for 8 Boxes of Cut Roses, 1l. 10s.
Ditto, Mr. William Paul, for 8 Boxes of Cut Roses, 1l.
Ditto, Messrs. H. Lane & Son, for Collection of 12 Azaleas, 1l.
Ditto, Mr. Daniels, for Bougainvillæa speciosa, 1l.
Ditto, Mr. C. Turner, for Collection of 28 Auriculas, 1l.
Ditto, Messrs. W. Cutbush & Son, for Collection of 30 Hyacinths, 15s.
Ditto, Mr. M. Higgs, for Collection of 6 Lycopodiums, 15s.
Ditto, Messrs. J. Ivery & Son, for Collection of 12 Hardy Ferns, 15s.
Ditto, Mr. J. James, for Collection of 6 Calceolarias, 15s.
Ditto, Messrs. H. Lane & Son, for Collection of 12 Roses in Pots, 15s.
Ditto, Mr. J. James, for Collection of 12 Pansies in Pots, 10s.
Ditto, Messrs. F. & A. Smith, for Collection of 15 Stove and Greenhouse Plants, 10s.

# The Gardeners' Chronicle.

*SATURDAY, APRIL* 18, 1863.

MEETING FOR THE ENSUING WEEK.

Friday, April 24 { Royal Horticultural (Election of Fellows and Ballot for Plants) at S. Kensington 2 p.m.

Although the subjects that usually occupy the attention of our ancient Universities pertain to questions with which the *Gardeners' Chronicle* has no concern, we may perhaps be permitted to offer a few remarks on some extensive works in which Oxford is about to engage, and which contemplate the formation of a magnificent Park in connection with the splendid new Museum that she has recently completed. This building, as many of our readers are doubtless aware, was first thrown open to the public when the British Association for the Advancement of Science met in Oxford in the summer of 1860, and the strikingly picturesque appearance presented by its stately halls, when thronged of an evening by the distinguished guests, will be for ever impressed on the memory of all who were privileged to witness it. With this there will perhaps mingle a certain feeling of regret that a collection of stuffed birds, and beasts, and fishes should now monopolise the space that had seemed so admirably adapted for a réunion of living men; but ere long it may possibly be reclaimed from its present occupants, and permanently devoted to a higher purpose. Indeed, the great popularity of the Curator, Professor Phillips, and the rapidly increasing attendance at his classes and lectures, while it shows that the benefits of the Museum are even now appreciated, points also to the speedy advent of a time when an amount of accommodation largely in excess of what is afforded by the present building will be imperatively required.

We have therefore heard with pleasure that through the exercise of a wise prevision on the part of the Delegates, (the select body to whom Convocation has *delegated* the chief management of the affair), some such eventual extension as that to which we have adverted, has from the very first been kept steadily in view; and hence the easterly side of the building—the only direction in which the contemplated extension could possibly take place—has received no architectural embellishment whatever, and is ready at any time, and without any waste of previous labour, to receive the requisite additions. These ulterior plans then, even if their execution be postponed for a while, must necessarily control in a great degree whatever designs the architect or landscape gardener may propose for the laying out of the ground in the immediate vicinity of the Museum.

Another element in the problem to be solved, and one to which a very influential body in the University would seem to think that all other considerations must succumb, is the provision of extensive cricket grounds. We trust however that the Delegates, while ceding everything that can reasonably be required by the votaries of this truly English game, will not forget that in the laying-out of an extensive park other interests than those of the cricketer will have to be consulted. Its main object, as it would seem to us, should aim at the supply of what in Oxford has long been an acknowledged want, by providing a sort of extensive pleasance, or *παραδεισος*, in which, excluded from the outer world, the lover of nature or the victim of Euripides may find recreation and refreshment among the thousand beauties of nature and art that in such a situation might readily be combined. Oxford has already her Botanic Garden, and therefore need not disfigure her projected park by attempting the introduction of an endless multitude of trees and shrubs, without any regard to their suitableness for the climate or position. She has also her trim parterres and formal walks in rich abundance; these likewise should be eschewed, except in immediate conjunction with the rectangular mass of the Museum buildings, where anything approaching to a curved line would be altogether out of place. No doubt the combination of these two styles—the natural and the formal—with a graceful and easy transition from the one to the other, will not only require a large extent of ground, but also demand no small amount of judicious arrangement and artistic skill. The former has happily been already secured by the purchase, on behalf of the University, of the land intervening between the Museum and the river Cherwell, and which, added to the dreary field called of old "the Parks," has brought up the total area intended to be included in the operations to 80 acres or thereabouts. Here we have a truly magnificent plateau, on which the formal accessories of the Museum, the vast exigencies of cricket, and the diversified requirements of landscape scenery, may each and all find their appropriate home.

The success of the projected improvements will of course mainly depend upon the amount of skill and taste evinced in the designs selected by the Delegates, and upon the amount of the supplies voted for carrying them into effect; but as we have reason to believe, after a careful inspection of the plans, that they are such as will do honour to the University, so we have every hope that they will neither be stinted nor stunted through the want of the requisite funds. On a future occasion we hope to have the pleasure of communicating to our readers a more exact description of the ground with which it is proposed to deal, and some details of the treatment to be adopted in laying it out.

In our Notices to Correspondents, Dec. 20, 1862, a curious Sclerotium is mentioned, which was produced in great abundance in Cornwall in the Mushroom beds of the Rev. T. Phillpott, in which it occupied a good deal of the space which ought to have produced good Mushrooms.

It is now well known that the productions referred to this genus are not perfect Fungi, but merely the winter or dormant condition of various species, whose perfect form will appear when circumstances are favourable to their development, and then only. Mr. Phillpott, at our request, kindly sent us a further supply for experiment, and we had the pleasure of hearing some few days since that Mr. F. Currey, who has paid so much

attention to these anomalous Fungi, had coaxed the Sclerotium into producing perfect fruit.

The Sclerotium itself presented a curious appearance, consisting of irregular cylindrical masses variously combined together, and anastomosing with each other. The general hue was black, but in parts there was a tinge of green or reddish brown, and the whole was naked and tolerably even. One or two of the most promising specimens were transmitted to Mr. Currey, and after three months sojourning in a damp atmosphere they have produced perfect heads, with large well developed fruit. With our own kept in light soil we have not at present had any success.

The plant turns out to be a *Xylaria*, one species of which is familiar to every gardener from its frequent growth at the base of garden stakes, looking like the snuff of a candle. The *Xylaria* produced under Mr. Currey's auspices proves to be quite new, being allied to *Xylaria pedunculata*, a species which used formerly to be found *abundantly in Northamptonshire on rabbits' dung* buried in mole hills. That before us has undoubtedly been developed on the dung which entered into the composition of the Mushroom bed, which consisted, as we are assured, simply of horse dung. Mr. Currey will shortly lay figures and a detailed account before the Linnean Society. Meanwhile we feel deeply indebted to Mr. Phillpott for calling our attention to such a curious fact in the history of Mushroom growth, apart from the peculiar interest attached to the species itself. *M. J. B.*

—— Annuals are flowers for the million, and as such will ever hold their place in many gardens, as they will do in the esteem of very many lovers of flowers. This is particularly evident at the present season, when we are besieged by inquiries such as these:—What Annuals do you recommend? Are there any good novelties this year amongst Annuals? What Annuals can we trust ourselves to buy, after having been disgusted with the advertised "choice collections?"

Without making any specific replies, it may, therefore, perhaps, prove generally useful if we just run over the inventory of Annuals, and tick off the most noteworthy amongst them; by doing which we shall doubtless supply the information sought by our correspondents.

Of course everyone would grow Mignonette, and Stocks, and Asters, and few would omit besides Convolvuluses, Larkspurs, and Everlastings. There is not much to choose among the sweet Mignonettes, only one variety which is called large-flowered, and which is rather stronger habited than the ordinary plant, being grown; it is quite immaterial which of these is taken for common use. Among annual Stocks the new Large-flowering German Ten-week, and the new Giant Pyramidal, a few colours in each, will supply all ordinary wants; these last are indeed the finest of all annual Stocks. Of Asters the Dwarf Chrysanthemum-flowered, the Pæony-flowered, and a good quilled strain are all that need be cared for, the interminable "collections" of "splendid" varieties being carefully eschewed. The Convolvulus major is now sold in separate colours if desired, but it looks better mixed for general purposes. Convolvulus minor now yields a rich dark blue form called monstrosus, which is very attractive. Among Larkspurs, after the double-flowered Rocket Larkspur, the most desirable is a double striped-flowered form of the branching kind, called tricolor elegans. Of Everlastings, none compare for a moment with the incurved series, which some seedsmen persist in calling compositum maximum, and whose large, almost globular flower-heads are often of the richest colours.

Besides these, which no one should omit, there are many other annuals of great interest and beauty, of which we may notice a few. Acroclinium roseum has charming rose-pink composite flower-heads, and is of the half-hardy series. Calliopsis tinctoria, one or other of its forms, which vary in colour, and C. Drummondii, which is a yellow with crimson spots round the disk, are amongst the most beautiful of late-flowering composites; and Cosmidium Burridgii, a variety of filifolia, is another equally handsome and of similar character. Clarkia pulchella pulcherrima, and flore-pleno, both high-coloured, are fine in their way; so are Collinsia bicolor, multicolor, and candidissima, the latter pure white, the two former differently marked with purple. Eschscholtzia crocea is one of the richest and most floriferous of annuals which yield pure intense orange-coloured flowers; so also is Erysimum Peroffskianum, which, however, with its Wallflower-like flowers and habit, is very different from the Poppy-like Eschscholtzia. Gilia tricolor and its different coloured forms are amongst the prettiest of dwarf species; and not far removed from them are the still prettier and showier Leptosiphons, amongst which two or three quite distinct types occur. Linaria bipartita splendida gives a profusion of rich deep purple flowers; as also does a newish form of Candytuft, Iberis umbellata atropurpurea; both of these are acquisitions. Linum grandiflorum, which forms a mass of glowing crimson, should never be omitted in choosing annuals, for it is decidedly one of the best of modern introduction. Of Lupines, those called Dunnettii superbus and hybridus insignis are very handsome, and remarkable in the well contrasted colours of their flower spikes. Malope grandiflora, a rich crimson Mallow, may well be selected for its beauty, as also may Hibiscus africanus, whose flowers are cream colour with a black centre. Nemophila insignis is not beaten, but maculata is very pretty, and there are besides several pretty new varieties in this family, which by the bye requires protection from cats. Phlox Drummondii yields colours of extreme richness, and is every way a most desirable border plant. So are the fine old Portulacas, Thellusoni and splendens, in places which suit them, such as hot dry rockwork. Silene Atocion is one of the prettiest amongst the dwarf pale pink Catchflys, and S. pseudo-Atocion is still more ornamental, of larger growth, and deeper colour. Good double Marigolds, of the giant, or the medium, or the minimum forms, are all especially handsome, but they have the drawback of a scent that is not agreeable to every one. Tagetes signata pumila, another of the Marigold family, forms a particularly elegant dwarf mass, and its orange-yellow flowers are showy withal. Then there is the Tom Thumb breed of Nasturtiums, of which at least the scarlet, the yellow, and the dark crimson are most telling flowers for masses, either in beds or borders. Rhodanthe maculata quite eclipses old Manglesii, lovely as that is. The Viscarias are both graceful in habit and attractive in blossom, especially that called V. oculata splendens. The yellow Canary Creeper, Tropæolum aduncum, is one of the best of common annual creepers, well supported by Major Convolvuluses and Sweet Peas. The varied Marvel of Peru, with its showy and scented blossoms, is another most desirable and pleasant-looking flower. And, finally, there is Zinnia elegans, which in its single state, with mixed colours, is one of the most attractive of the whole series; and in its double form, at least when the strain is a good one, is good indeed.

Here then, are some of the best of the Annuals, old and new, as they stand in our estimation. We have by no means exhausted the list of worthy subjects, but those who have no previous experience to guide them in making a selection, will do well to confine their choice within the limits we have indicated.

—— We regret to have to record the death of the Rev. George Jeans, Vicar of Alford, a most estimable man, and one who has been well known in the floricultural world, not only as an independent and honest writer on floral subjects, but also as a successful cultivator and exhibitor of the Auricula.

## SEEDLING FRUITS.

Apricots.—Without the aid of the orchard-house seedling Apricots are tedious to rear, for under the usual mode of cultivation many years may elapse before they come into bearing, and with our usual popular sorts, such as the Moor Park and Peach Apricot, but little variation can be expected. Still, like all seedling fruits, they are interesting. If the stones are planted in pots in the autumn, and placed in a forcing-house in January, the young plants will soon make their appearance, and if frequently shifted into larger pots, they become stout trees of 3 feet in height by the end of the first summer; but to obtain this growth they must have bottom-heat, and be under glass all the first summer of their growth. In the season following they may be grown in the common orchard-house in 10-inch pots, and about the fourth or fifth year they will come into bearing. The great object with the raiser should be to obtain early and late varieties, for no Apricot can excel the Moor Park and Peach in their season. The most interesting additions to our early kinds are some recently introduced Sardinian Apricots (Abricotiers de Sardaigne); these are of the Musch Musch race, the small Turkish or Persian variety now pretty well known, early but too small, and in flavour not rich; besides that it is a shy bearer and delicate grower. One of these "Sardinian" varieties is, however, much superior to two or three others under the same name, as its fruit is larger and it bears abundantly; from this, crossed with the Moor Park, we may expect some valuable additions to early Apricots. The Early Red Masculine, hitherto considered one of our earliest sorts, has produced here a variety paler in colour than its parent, as early, but not larger, consequently it is not worthy of cultivation. The Kaisha has reproduced itself, as has the Large Early, and the Peach.

Apricots, like many other of our long domesticated fruits, seem to form races from which, unless crossed, their seedlings deviate but slightly. Thus those cultivated so largely on the hills of India and throughout the East, are small and firm-fleshed, so that they dry well and form a valuable article of food. Some trees received some years ago from Astracan are remarkable for their wild luxuriant growth, with small leaves and a spreading habit, as if they would even here form themselves into large trees. Tristram, in his "Travels in the Great Sahara," mentions the vast number of Apricot trees grown in the oases, their fruit being used largely, stewed, and forming a valuable article of consumption. Some writer has mentioned the Red Masculine Apricot as the sort grown so largely on the Mediterranean coast of Africa: which, owing to the English sailors devouring them in large quantities whenever they had an opportunity, and thus bringing on dysentery and death, the natives called "Kill-Johns;" as this sort is the most delicate of all the varieties grown here, this seems very probable; they may not be the same varieties, but of the same race. The Breda and Brussels Apricots seem also to form a race, and seedlings adhere very closely to the type; they are not worth the trouble of raising seedlings from here, for, however hardy the trees may be, the early blossoming of the Apricot, unless in warm sheltered sites in the south, makes its cultivation as a standard almost a hopeless task; while the inferior quality of the fruit of the Breda class (unless for preserving) as compared with the Moor Park, renders it unworthy of a place in the orchard house, which seems the situation above all others calculated for obtaining good crops of fine well ripened fruit. A large span-roofed house, say 26 or 24 feet wide and 12 feet high, and well ventilated, will be found best adapted for an Apricot house. In a house of such dimensions the fruit sets freely, and no injury from spring frosts, which in April are often so severe, need be apprehended.

Oullins, a small town in France on the Rhone, is famous for its Apricots, and two or three early varieties cultivated there are found to be of great excellence. One of them, the Early Peach Apricot, is one of our finest early sorts, and yet such is the carelessness of some of the French gardeners that I have, after 10 years application, only recently received the true kind. I certainly received from three or four business friends the "Abricotier Pêche Hâtive d'Oullins," but when the trees bearing the name bore fruit, they proved anything but early. About three years since I fortunately received the true variety, which is nearly as large as the Moor Park, and ripens as early as the Red Masculine and Sardinian; the latter, in 1861, ripened on the 13th of July, and the Early Peach on the 16th. The only large Apricot approaching it in size is the Large Early, which is however very inferior in flavour. Seedlings from this fine variety have been raised here, crossed, it is hoped, with the Peach Apricot, so that we may now look forward to a valuable race of very early Apricots with large fruit.

The hard-fleshed Apricots so much used for food in warm climates may be found worthy of notice even here, for our melting sorts when ripe and full of flavour are too soft for compotes and tarts; a variety called Duc d'Ecully received from Lyons, seems a free-growing and free-bearing variety. *Thos. Rivers.*

## FISH AND FISHING.—No. IV.

The weather connected with that grand climax in my Letter III., that great catch of Perch, that marvellous "catch," militated most decidedly against one of the theories of fishing, namely, that "fish would not feed when rain was about to fall;" and it made a deep impression on my mind. Young as I then was, I had begun to study the science of Fishing, and to think of the mysteries of weather in connection therewith. I had learned most of the standing theories, and as a young hand, had had some "views," because the thoughts were also connected with my juvenile propensities for gardening. As experience in fishing grew, so I found that those theories were full of exceptional cases—so full that at last I began to look for a primary cause, a law of nature, far above all those theories for good or bad fishing days. I shall state those theories presently. I have looked for that primary cause for years in vain. I look for it now into my own brain, still in vain. I may wonder and wish to know; but am thrown back upon myself, from a conviction that it requires far higher knowledge than I possess to solve the difficult question, granted that human capacity can ever solve it—

"The wind bloweth where it listeth," &c.

But I have a fancy that a combination of talent perhaps, in one mind, else in a conjunction of minds, may ultimately lead to some good result—not useful to anglers alone; not useful to anglers and horti-flori-, agri-, arbori-culturists, all combined, alone; and not with these combined "those who go down into the sea in ships" alone, but to the whole world—I fancy a careful investigation of this subject as connected with fishing may prove useful practically. At the outset, I admit that we require a singular combination of great-mindedness—the talented meteorologist, electrician, and piscator, all conjoined; and added to these a most patient and persevering observer on all points. Such an one is not to be discovered in a day.

I believe the cause of the many disappointments which the best anglers meet with nine times out of ten, or the converse, the cause of good fishing days, is a subject that has never yet been properly thought upon. It is a subject upon which no work on angling has ever yet ventured to touch, and one which, if you ask the best anglers to solve, you ask in vain. Question: "How is it the fish won't rise to-day?" Answer: "Oh! they are not on the feed." If followed any further as to the why and wherefore, it is "Oh! the water was too low," or "too high," or "too bright," or "too much" or "too little coloured;" "the wind was too low," or "too high;" "there's rain coming," or

"we want rain;" "the river was rising," or "falling;" or "it is too hot," or "too cold!" In fact, a "too" of some kind is the universal refuge:—a cloak which covers the ignorance of us all. If we examine the first assigned cause, viz., "they are not on the feed," we find it to be a mere effect; and if we press for a reason why any one, or more of the "toos" produce the effect, our sagacious one is "dumb-founded!" How strange is this! How disgracefully strange that among the many men of first-rate talent, and men of science, who grace and have graced by their practice this beautiful art, this most delightful pastime,—"the contemplative man's recreation," an art which should teach us to "find sermons in stones, books in the running brooks," and although the effect has been observed since fishes were first sought with line and hook, none have ever turned their thoughts to the investigation of the primary cause. What is it which forbids fish to feed as other animals do? Offer any terrestrial animal food at stated intervals, he will not, be he wild or tame, reject it; but offer a fish "the double refined quintessence of an angel" when you will, you cannot *depend* on his acceptance of it. And yet no philosopher has risen hitherto to investigate so curious an anomaly! It is indeed true that—

> "There are more things in heaven and earth, Horatio,
> Than are dreamt of in our philosophy;"

and it requires more time for experiment, and the aid of far more depth in the profoundest sciences than I possess, to bring so curious a question to its conclusion. To the assistance of other inquiring minds, when I have propounded the question, I look for the beneficial result; and if that is ever arrived at—for the observation of Shakspere applies with even greater truth to the "waters on the earth,"—all I should have to boast of is having incited others to produce it. Shame! shame on us all, that still so little is known of the habits and economy of our prey, that they baffle us at every turn!

Let us consider what we do know and have observed. Fish will sometimes feed well for a week or more together, sometimes for one day, sometimes only for one hour during a week; while sometimes we may fish for many weeks in vain. Terrestrial animals take food every day when they can get it; or, as in the viper tribe, as soon as that which they have eaten is digested. As it is well known that fish never gorge themselves sufficiently to attribute their eccentricity in feeding to non-digestion, their digestive organs being very rapid in their work, we may agree they are essentially different from those other creatures. They are not hungry so frequently, or there is something we have yet to find out, which so operates on them, being hungry, that they will not or cannot take food. To suppose them so highly gifted with the powers of forbearance that they will not, is unnatural; so we may decide there is something operating which renders them incapable. Now what is that? or what causes them sometimes to feed so well?

It is generally said that when trout rise during a certain hour in a given day, it is because a particular fly is coming down the water; or because there is a fresh supply of water, or a peculiar colour, at the moment, or some other temporary like state, in the particular river.

But if we compare notes, we shall find that this has little or nothing to do with it. We all know that in different parts of a stream, miles distant, fish often rise freely during the same half hour in the day only, and although the same flies have preceded and followed that half hour in as great abundance, the fish, *extra* that period, have remained motionless. Often, too, I have been fishing for trout in one river, say the Colne, near Uxbridge; and my friends for chub in another, say the Lea, near Waltham, perhaps 20 miles off, and the same phenomenon has occurred. Here, then, it is not likely that a similarity of movement among flies could have produced the effect, nor could it have been any accidental state or change in the water. And in the case of salmon, observing often the same habit, I am more particularly impressed; because it is absurd to suppose they ever take our "flies" for natural flies, even assuming they take them as food of any kind; yet many a day have I been out on a river pretty thickly studded with rods, and up to a given hour it has been to us all, for miles up and down, on rapids and in deeps, a perfect blank; and then on a sudden salmon in all parts of the river have simultaneously taken to the fit of taking our flies, and so they've been taken. Therefore it is neither the swarm of a particular fly, nor the peculiar state of the water, in a limited sense. Again, it is said that success attends a peculiar colour of the water. But since we as often find the same colour unsuccessful, whether it be produced by rain or by innocent sheep washing or other causes, it is not that. So a good breeze is sometimes successful; but as often it fails; and as often with fine throwing we take fish in a calm. It is not that. So a south, sou'-west, or west wind, is proverbially good; but not only do these very often fail, but as often, almost, do we meet with sport with the wind at east, nor'-east and north. I remember that in 1839 my best days were with an easterly wind, and my worst with a sou'-west, both trout and salmon. It is not these. Again, a cloudy sky is upheld; but as often does that fail, and the sun sometimes gives us success. So it is not that. It is not dry weather, else would the spring of 1839 (which was, throughout, as bad a fishing year as ever remembered by fly-fishers), have yielded success. Nor is it wet weather, else would the autumn and summer of that year have done ditto. It is not the mere temperature of the water, else as water is not liable to rapid changes, we should not so frequently witness the sudden cessations or commencements of fish rising. It is not the mere temperature of the air, else would a freezing change, or a hoar-frost, or a glowing sun, by lowering or raising it, assist us. Nor is it always the water being colder or warmer than the atmosphere, *per se*, else would melting snow, chilling the water, be beneficial, and many experiments which prove the contrary, be erroneous, in the one case; and, contrary to observation, would frosty mornings, chilling the atmosphere, be of advantage, and the occasional experience of many a wader that the water is warmer than the air during the daytime, and yet no sport, be thrown away. Moreover, it is not coming or actual rain, both proverbially bad, which check our sport; for innumerable instances of the height of good sport happening at such times might be mentioned. Nor does the rising or falling of a river necessarily have the effect; for occasions have given a different result.

The general habit of cessation from feeding, immediately before rain, has been ingeniously ascribed to this, that a "fresh" brings greater quantity of food, and that instinct points this out to fish, so they prefer waiting. But this surely were strange instinct,—a wisdom incomprehensible,—for if a thick flood comes, and happens to last for a few weeks, they may starve for their wisdom.

> "Good reasons must, of force, give place to better."

*E. C.*

## ROSES.—No. IV.

By Mr. William Paul, F.R.H.S., Paul's Nurseries, Waltham Cross.

The Bourbon Perpetuals form a small but beautiful group of Roses, embracing those Hybrid Perpetuals of some catalogues in which the features of the Bourbon Rose predominate. In other words they approach nearer to the Bourbon than to the Hybrid Perpetual, but are distinct from both. The flowers are remarkable for their circular outline; they are not very large, but are more than usually abundant. The growth is moderate, and the foliage fine and handsome, remarkable for the breadth of the leaflets. The varieties are best suited to form low standard, dwarf standard, and bush Roses, and if planted in a rich soil and pruned closely, they bloom constantly and well throughout the summer and autumn. Baron Gonella is one of the best of this group; the flowers are pink and lilac shaded, large, full, and beautifully cupped; the petals are large, well-rounded at their circumference, and of unusual substance. Baronne de Noirmont is also a good Rose, deeper and brighter in colour than the preceding, and very sweet, but not so prolific. Catherine Guillot is a gem, fine everywhere, but especially so under glass; the flowers are pink, of good average size, and quite full; the form perfect. Comtesse Barbantanne is a flesh-coloured flower, large, full, and distinct, of hardy habit and vigorous growth. L'Avenir has glossy pink flowers, large, full, and beautifully cupped; the growth is vigorous, the foliage fine. Lord Palmerston is an exceedingly pretty Rose, with flowers of an empyreal brightness, which the pen of the writer and the pencil of the artist have hitherto alike failed to reach: bright rosy cherry colour is an approximation to the description; the flowers are neither large nor full, but they are nicely formed, produced abundantly, and very sweet; the effect of the tree in the garden, when in full bloom, is brilliant in the extreme. Louise Odier is a good hardy sort, with bright rose-coloured flowers, a first-rate pot Rose, and excellent either as a standard or bush. Madame Bruni is not so well known as it deserves to be; the flowers are peach-colour, Provence-scented, large, full, and of good form; a good show Rose when well grown. Mademoiselle Thérèse Appert is a peach-coloured flower, large, full, and nicely cupped; a free and constant blooming Rose of moderate growth. Marguérite Appert is a pretty and distinct Rose; flowers blush, tinted with lavender, large and full. Modèle de Perfection is, in its best state, one of the loveliest Roses I have yet seen; it must, however, be grown well to realise this character, for it is apparently not the freest of the group; the flowers are lively pink, large, full, and globular. Reynolds Hole is a distinct and desirable sort; the flowers are pink, increasing in brilliancy as they advance in age; the petals are large, well formed, and of great substance, but not very numerous; the foliage is fine.

The Rose de Rosomène is a new group formed by the withdrawal from the Hybrid Perpetuals of certain varieties which differ therefrom in general aspect. In the last group are some of the most perfectly formed Roses grown; in the present are some of the most brilliantly coloured. They are mostly of free growth, and such are the very best of high-coloured wall Roses; a few, however, are of dwarf growth, and these are equally desirable for the garden generally, or for beds on lawns. As the colours of the different varieties so nearly resemble each other it seems unnecessary to describe them individually; for walls or palings, Desgaches, Eclair de Jupiter, Gloire de Rosomène, Mdlle. Haiman, Oriflamme de St. Louis, Princesse Mathilde, and Souvenir de Montceau are the best; for beds and borders, Comte d'Eu, Comte de Falloux, Léonice Moise, and Louis XIV. may be safely recommended.

The Bourbon Roses are, in my judgment, in nowise depreciated by the newly-arisen splendour of their kinsfolk, the Hybrid Perpetuals. It is a quieter but not lower order of beauty which greets us here. They are not so well suited for show Roses, because they lack size; but they are many times more valuable for those gardens where Roses *must* abound in autumn, because they flower much more abundantly at that season. Few of the Hybrid Perpetual Roses bloom freely, some not at all, late in autumn; whereas the Bourbons flower best and freest at that season. If the plants are pruned closely in spring, and the soil kept rich and moist, so that they be kept growing, flowers, bright, sweet, and plentiful, will be sure to follow. Acidalie, the first on my list, is not so pure in blood as some, being hybridised, possibly with the Provence Rose; it is nevertheless very desirable, being a good globular-shaped white Rose, of vigorous growth, very sweet, and blooming tolerably freely in the autumn. Armosa, which has a little of the Chinese blood in it, is one of the most prolific of autumn Roses, yielding its pink flowers almost without end. Aurore du Guide produces handsome flowers, sometimes purplish violet, sometimes crimson scarlet; one of the finest of the group, but rather shy and uncertain. Bouquet de Flore is a good hardy free kind, old enough it is true, but still most desirable; the flowers are light glossy carmine, large and double. Comte de Montijo is a pretty free-flowering variety, rich reddish crimson, sometimes shaded with purple. Dr. Leprestre has brilliant purplish flowers, sometimes shaded with red, large and full. Duchesse de Thuringe has white flowers delicately tinged with lilac, and usually arranged in elegant clusters. Dupetit Thouars is one of those brilliant crimson flowers which one cannot pass by in any garden; it withal, flowers freely to the very confines of winter. Empress Eugénie has rosy blush flowers with purplish edges, large and full, and is one of the freest, hardiest, and best. Ferdinand Deppe is a good Rose, with reddish violet flowers. George Peabody came originally from America, and is one of the very few from that country that is worthy of general cultivation; the flowers are rich crimson shaded with purple; hardy, free, and good. Julie de Fontenelle is a beautiful Rose, similar in colour to the last, inferior to it in size, but superior in form. Justine is a free-blooming sort, with clear rose or rosy pink flowers. La Quintinie is one of the finest of this group, but uncertain; the flowers are bright crimson, changing to blackish violet, large, full, and of good form. Madame Angelina is a rich cream-coloured flower with fawn or salmon centre, and is a beautiful and distinct Rose, of rather dwarf growth. Marquis Balbiano is a good, free, hardy sort; flowers rose colour tinged with lilac, large and full. Marquis de Moyra and Menoux are both good sorts of the same colour—carmine. Mrs. Bosanquet is still a first-rate, free-blooming, late autumn Rose, not a true Bourbon however, but slightly partaking of the Chinese; the flowers are white tinged with flesh colour. Omar Pacha is a fine brilliant red Rose, free and hardy. Pierre de St. Cyr has pale glossy pink flowers, of good size and form, and usually abundant. Queen is one of the freest and best; flowers salmon flesh, often tinged with buff; excellent for masses. Reveil is a fine hardy dark variety; its flowers crimson, shaded with violet. Sir Joseph Paxton is of a growth more than usually vigorous; the flowers are bright rose, shaded with crimson, large and full. Souvenir de Malmaison is one of the best Roses yet raised, and in place everywhere; the flowers are delicate, flesh colour, their margins almost white, very large and full; excellent for massing. Souvenir d'un Frère is a very showy free-flowering Rose, with brilliant crimson flowers. Vicomte de Cussy is a good Rose; flowers cherry colour tinged with purple; large and almost full. Victor Emmanuel is a good dark purplish flower shaded with maroon, large and double. Vorace is sometimes fine but rather uncertain; the flowers are dark crimson purple, large and full.

## Home Correspondence.

*Gardeners' English.*—I had often thought that the Queen's English is more murdered, and the dead languages are more barbarously treated by horticulturists, than by any other class of men, not even excepting quacks and inventors. Of course I do not expect that our gardeners, of whose intellectual as well as moral characteristics I have the very highest opinion, should be perfectly instructed in all the laws regulating the forming or compounding of Greek and Latin words, or the coining of English, but mistakes are frequently made by those who cannot plead ignorance, and are still more frequently allowed to go uncorrected by those who must be alive to them. Who, one would like to know, is answerable for that which offends the eye just now in more than one of your advertising columns? Either some Geranium peculiarly adapted for the belts which are now the rage, has been named "Geranium zonale," or some Frenchman has named the floricultural class "zonale."

But that is no reason why the nurserymen's lists for the coming season should include "the following new zonale Geraniums," unless the advertisers have adopted a new floricultural orthography, and recommend their varieties as "capitale specimens of the principale and most ornamentale kinds adapted for the zonale style of bedding." If they have not done this, let them be assured that zonal is a perfectly good English word, and requires no final *e*, whether mute or sounded. *C. J. G.* [The use of the term objected to has no doubt arisen from the employment of the specific name —zonale—of the parent of the horse-shoe group, to distinguish the particular series of garden varieties of Pelargoniums which have sprung from it.]

*Ailantus Silkworm.*—May I take the opportunity of asking through your columns, where eggs or young worms of the Ailantus silkworm are to be purchased? *C. J. G.*

*Heating Vine Borders.*—I was much struck on the occasion of a recent visit to the Viceregal Gardens, Phœnix Park, by a plan for the heating of Vine borders adopted (I believe for the first time) by Mr. Smith, the intelligent head gardener to his Excellency the Earl of Carlisle. In order to equalise the temperature of the border and that of the house, Mr. Smith caused an excavation to be made, and had arches built over the roots of the Vines running under and into within 2 feet of the back wall of the Vinery. Into these recesses he put manure, covering the roots of the Vines; and in order that a fresh supply of heat might be supplied, if needed, he had trap doors placed over each arch. The idea is quite original, and one I think likely to be of great value, as it is well known that the roots of plants in general require encouragement as well as the branches. *E. A. M., Dublin.*

*The Poet and the Holly-Tree.*—I am gratified that a remark of mine should have induced so keen and practised an observer as Mr. Fortune to favour your readers with his views on this subject. My observations accord with those of Mr. F. as to the fact "that two kinds of leaves are frequently produced on old Holly trees," but not "just as the poet describes them." If I were obliged to draw conclusions from my present observations, which have been made in this neighbourhood only, they would be as follows:—1, That the English Holly varies exceedingly when raised from seed; 2, That the dominant forms are—1, a strong-growing tree-like sort, whose leaves are smooth from top to bottom; 2, a dwarfer and more bush-like sort, whose leaves are prickly from top to bottom; and, 3, an intermediate form, which has both smooth and prickly leaves alike at top and bottom. I have not yet met with any tree the whole of whose lower leaves were prickly, and whose upper leaves were altogether smooth, or sufficiently so to establish the general truth of the poet's view. But I offer these remarks as provisional only, as I am still seeking opportunities of extending my observations. My object is not to establish my present view, but to bring out the truth on a subject which must be interesting to students and lovers of natural history. It would promote this object if practised observers would examine a given number of trees in different districts, and report the result. *Wm. Paul, Waltham Cross, N.*—— At this place (Burnchurch, Co. Kilkenny), where there are many beautiful old Evergreens—Portugal and common Laurels 45 yards in circumference of branches, and Hollies in proportion, I find some specimens which support Southey's lines on the Holly tree. I send a "wrinkled and keen" leaf from the lower branches, and a "smooth and pointless" one from the top of one tree; this tree is about 35 feet high, and in form like the Lombardy Poplar. I also send a sprig from the lower branches of another tree, bearing on it both kinds of leaves [the wrinkled one uppermost]. I observe this to be common here. There are several large old Hollies here, whereon the leaves are prickly to the top. *Henry Cavendish Browne.*

*Green Fly.*—I find that green fly infesting the young and tender shoots of Roses, &c., is completely and instantly killed by immersing the shoot for two or three seconds in water at a temperature of 135°, and this without injuring the foliage in the least. *A. M. C.*

*Pyrus Sorbus* (*P. domestica of Smith*).—I beg to invite the readers of the *Gardeners' Chronicle* to give some information concerning this tree. It is supposed to be indigenous, but I am satisfied it is rare, and seldom found in collections. I have looked for it in vain in some of the best London nurseries; and elsewhere, plants of a totally different nature are offered in its place. There is a large tree of it in the Oxford Botanic Garden, and Mr. Baxter kindly gave much information about it to the writer two years ago. From experience, it may be added that it is of extremely difficult propagation. Buds on all kinds of Pyruses and Cratægus have hitherto failed with the writer. *G.*

*Loquat and Lee-chee*—I should feel greatly obliged if some of your Correspondents would give a few practical hints on the culture of the Loquat and Lee-chee, with the object of fruiting them. *Lee-chee.*

## Societies.

Royal Horticultural: *April* 15 (*Third Spring Meeting*).—Azaleas, which formed on this occasion the principal feature of the Show, were contributed in considerable abundance, and, as a whole, they were in excellent condition. From Mr. Turner, of Slough, came a large group of beautifully flowered plants, among which were the yellow A. sinensis, Iveryana, still one of the best of the carnation-striped kinds; Prince Jerome and Holfordi, both red sorts; Standard of Perfection; Criterion, Gem, Frost's Perfection, Roi Leopold, Rosy Circle, and Vesta, the last a good white kind. In another collection contributed by the same exhibitor were Gen. Williams, Chelsoni, Admiration, Model, Trotteriana, Rosalie, Iveryana, Gem, and the beautiful new kinds Duc and Duchesse de Nassau, the first rich purple and the last salmon strikingly blotched with violet in the upper petals. These plants were shut out from competition in consequence of a mistake in the size of the pots.

In collections of nine Azaleas the best came from Messrs. Veitch, who furnished handsome plants of Souvenir de l'Exposition, Perryana, Comte de Hainault, Duc de Nassau, Iveryana, Magnificent, Conqueror, Roi Leopold, and Rubens. In a group from Mr. Todman, gr. to R. Hudson, Esq., were good examples of Roi Leopold, Model, Iveryana, Dr. Livingstone, and The Bride, the last a good white variety. Mr. Higgs, gr. to Mrs. Barchard, sent, among others, useful sized well-flowered plants of Magnificent and Louise Margottin, the last a semi-double white variety.

Of groups of six Azaleas considerably the best came from Messrs. Veitch, who showed admirable examples of Petuniæflora, a finely formed purplish rose coloured kind; Iveryana; Apollo, a vivid dark orange red; Splendens, Triumphans, and Queen Victoria, the last a white kind striped with purple, not by any means first-rate in shape, but very useful for purposes of ordinary decoration. From Messrs. Ivery, of Dorking, came the charming rose-coloured variety called Crispiflora, Baron de Vriere, a sort in the way of Criterion; Gem, Model, and Louise Margottin, the last white, occasionally striped with purple. In a group from Mr. Todman, of Clapham, were Præstans, violet purple, with crimson centre, and Dr. Livingstone.

From Messrs. Lane, of Great Berkhampstead, came a group of 12 Azaleas, among which were one or two fine specimens. Of these, perhaps the most striking was Conspicua purpurea, a well-known kind, remarkable for the large size of its flowers, which are purplish lilac, conspicuously blotched with crimson on the upper petals.

Roses, both in pots and in a cut state, were excellent. Of those in pots, Mr. Turner sent a fine group of six plants, consisting of Victor Verdier, in admirable condition; Souvenir d'un Ami, Coupe d'Hébé, Souvenir de Malmaison, General Jacqueminot, and Baronne Prevost. Mr. Wm. Paul furnished Madame Damaizin, Madame Villermoz, Souvenir d'un Ami, Madame Boll, Cardinal Patrizzi, and Anna Alexieff. From Messrs. Paul & Son came Madame Damaizin, Charles Lawson, a very fine rose; Jules Margottin, Madame de Vatry, Paul Ricaut, and President. Messrs. Lane & Son furnished a miscellaneous group, in which was President Lincoln, a promising new kind, with a colour equal to that of Senateur Vaisse. Moiré, a variety in the way of Gloire de Dijon; Madame Falcot, golden yellow, and other equally good sorts, were also conspicuous.

Nothing in their way could possibly be finer than the groups of 4 Roses in pots. In that produced by Mr. Turner, the blooms were large and beautiful, and the foliage clean and healthy. The sorts consisted of Souvenir de Comte Cavour, a charming kind, vigorous in growth, and with flowers, though a shade darker and more velvety in appearance, equally brilliant as those of General Jacqueminot. The other varieties were President, Comtesse Cecile de Chabrillant, and Queen of Denmark, the last a blush-coloured variety. Messrs. Paul & Son sent Belle de Bourg la Reine, Souvenir d'un Ami, General Jacqueminot, and Victor Verdier.

Among cut Roses, of which an extensive display was furnished by Messrs. Paul & Son and Mr. Wm. Paul, were many familiar names, foremost amongst which was Senateur Vaisse; but there were also some newer kinds, which we hope to see again.

Of Cinerarias several well managed collections were produced. One from Mr. Turner, the only exhibitor amongst nurserymen, contained Alarm, crimson self; Constancy, a dark-eyed white sort, edged with purple; Reynolds Hole, rosy crimson self; Vicar of Caunton, white with blue edge; Bridesmaid, white, with narrow purple edge; and Bellissima, a large white-ground kind, broadly margined with purple. Mr. Lamb, gr. to Capt. Cahill, furnished fine examples of Reynolds Hole, Lady Seymour, Modesta, and Duke of Cambridge. From Mr. James, gr. to Mrs. Watson, and Mr. Holland, gr. to R. W. Peak, Esq., also came well flowered groups of finely grown plants. Among these were Pilot, blue self; Masterpiece, Blue Bonnet, Duchess of Sutherland, Admiration, and other well-known kinds.

Hyacinths of English growth, still in good bloom, were contributed by Mr. Cutbush and others; and there was also a collection of cut spikes shown from Haarlem by Messrs. E. H. Krelage. These had received too much injury from travelling to admit of critical inspection. Among them however were one or two good yellows; and a single sort called L'Enfant de France appeared to be new in colour; it may therefore prove an acquisition.

Cut specimens of the handsome Bougainvillæa glabra were exhibited by Mr. Daniels, gr. to the Rev. C. E. Ruck Keene, Swyncombe, near Henley-on-Thames. Collections of Miscellaneous Plants were shown by Messrs. Veitch, Bull, Lee, and E. G. Henderson.

Auriculas were exhibited in considerable quantity, and seldom have we seen them better grown or bloomed than they were on this occasion. Mr. Turner had remarkably fine collections, in which, among the *Green-edged* varieties, the most conspicuous were Beeston's & Hudson's Apollo, Stretch's Alexander, Dickson's Duke of Wellington, Traill's General Neill, Oliver's Lovely Ann, and Dickson's Prince Albert. *Grey-edged* kinds comprised among others, Dickson's Duke of Cambridge, Cheetham's Lancashire Hero, Chapman's Maria, Bone's Perfection, Lightbody's Richard Headly, and Maclean's Unique. *White-edged*, Lee's Bright Venus, Summerscale's Catharina, Taylor's Glory, Fletcher's Mary Ann, Gairn's Model, Campbell's Robert Burns, Spalding's Mary Gray, Lightbody's Meteor Flag, Martin's Mrs. Sturrock, Netherwood's Othello, and Headly's Royal Purple. Among *Selfs* the best was perhaps Spalding's Blackbird. Mr. Butcher of Camberwell, Mr. James of Isleworth, and Mr. Potts, Old Kent Road, also all showed good collections. Among *Alpines* the best were Dazzle, Brutus, and Conspicua.

Several sorts of Polyanthus were shown; but unless closely inspected they appeared to be all one and the same kind. Pansies well flowered in pots were shown by Mr. James; we also noticed cut blooms from the same exhibitor, and a group of Fancy varieties from Mr. Bragg. Calceolarias came from Mr. James, Mr. Higgs showed extremely well grown Lycopods in pans, and Messrs. Ivery had an interesting little group of Ferns. The beautiful white-blossomed Rhododendron Sesterianum was shown by Messrs. Veitch, who also furnished a small collection of Orchids, and the singular-looking scarlet Anthurium Scherzerianum. From Mr. Holland came some good Cyclamens, and little trees of Mr. Fortune's deep coloured rose-flowered Chinese Peaches were furnished by Messrs. Glendinning. A good plant of Aerides Fieldingi came from Mr. Page, Teddington.

In the department of the Floral Committee, one of the most noticeable objects was a fine new French Magnolia of the conspicua class called Lenné, shown by Mr. W. Paul; this was a purple-flowered sort, remarkable for the bold rounded form of its flowers before full expansion, and will be a most valuable acquisition among out-door shrubs. An Azalea called Louise von Baden from Mr. C. Turner was a charmingly pure white, and had flowers of great smoothness and substance. Alocasia zebrina, the motley-stalked Philippine Island plant shown last year, and Cheilanthes Borsigiana, a scarcely new, but very rare dwarf gold Fern, were sent by Messrs. Veitch. Messrs. E. G. Henderson & Son had small plants of an elegant pyramidal Conifer called Retinospora leptoclada; and Greenovia aurea, an old-fashioned plant, of a class of which it was thought advisable to bring out again by an award to some of the more showy species, came from Mr. Bull. All these obtained First-class Certificates. A grade lower in merit were placed an Azalea called Madame Verschaffelt, a veiny pink, spotted with dark red, and remarkably gay as a decorative sort, shown by Messrs. Veitch; an Azalea called Beauty of Dorking, a fine-shaped sort with white flowers mottled with red, but wanting in purity, shown by Messrs. Ivery & Son; an Auricula of the grey-edged class called Ensign, shown by Mr. Turner; and a white Cineraria called Snowflake, from Mr. Page, gr. to J. M. Strachan, Esq., Teddington. Messrs. Veitch had a very distinct and novel looking Chilian herbaceous plant, shown as Valdivia Gayana, which had long serrated rugose root leaves, and a short pyramidal panicle of pretty rose-coloured flowers; this, which may perhaps be a useful plant for early flowering with slight shelter, was Commended. The same acknowledgment was also given to the single-flowered variegated-leaved Kerria japonica, and a blush-white semi-double-flowered Cherry, both shown by Mr. Standish, and both recently introduced from Japan. Also to an Anthurium with clean-looking deep green leathery cordate leaves, on slender erect polished stalks, shown by Mr. Bull; to a gay maroon-crimson Alpine Auricula with golden eye, called Supreme; to a white-ground Pansy called Exquisite; and to a finely shaped mulberry-shaded Fancy Pansy, called Feu de Joi, all from Mr. Turner. Mr. Bull and Mr. Turner showed some small plants of Bougainvillæa speciosa, flowering in small pots; these it was understood had been grown by the latter exhibitor, and Special Certificates were awarded for them. Mr. W. Paul had a very pleasing and promising Rose, called Lord Herbert, of a bright carmine rose-colour; but as the plant had only one flower no award was made. Mr. Mills also showed a seedling Rose of very free character —a seedling from Mrs. Bosanquet, which appeared likely to be useful as a market flower. A couple of plants, in an overblown state, of the Tropæolum Ball of Fire were sent by Messrs. Henderson & Co., of Pine-apple Nursery. An Azalea called Surprise, shown by Messrs. F. & A. Smith, was not distinguishable from Madame Verschaffelt. Mr. Bragg, of Slough, brought a showy creamy-white bedding Pansy named Desirable. Finally, a plant of the pretty white-bordered Camellia, called Giardino Santarelli, was sent by Messrs. E. G. Henderson & Son from the Wellington Nursery.

Foremost among Fruit, of which there was little, were five admirable bunches of new Black Hamburgh Grapes, black as Sloes, and in all respects beautiful

specimens of skilful cultivation, from Mr. Hill, gr. to R. Sneyd, Esq., Keele Hall, Staffordshire. These were shown, Mr. Hill stated, as examples of the description of Grapes he has been cutting since the 25th of last month, when he finished his last year's ripened fruit. Mr. H. added that he has never been without Grapes fit to cut any day for the last three years. Of dessert Apples, the best came from Mr. Whiting, gr. at The Deepdene, near Dorking; the sorts were Herefordshire Pearmain, Mickleham Pearmain, and Court Pendu Plat, all in a state of good preservation. Mr. Hall, gr. to Captain Tyrrell, Fordhook, Ealing, came next with Bess Pool, Golden Russet, and Cluster Golden Pippin. The last named exhibitor obtained the first prize for Kitchen Apples, which consisted of Wellington, Yorkshire Greening, and Norfolk Beefing. Mr. Earley was placed second with Wellington, Hertfordshire Codlin, and Norfolk Beefing. Mr. Whiting had a very fine dish of Royal Russet, which looked as if it might keep perfectly good for a month or two yet to come. A seedling Kitchen Apple resembling the Alfriston was shown by W. B. Tyringham, Esq., and good samples of Beurré Rance Pears came from Mr. Ingram, Belvoir Castle. A very fine cluster of unripe fruit of Musa Cavendishii, grown under Vines, was exhibited by T. B. Horsfold, Esq., M.P., Rugeley. Mr. Turner sent fruit of President Strawberry, which appears to be a promising kind; and fine examples of Keens' Seedling Strawberry, Norfolk Beefing Apples, and Empress Eugénie and Cuthill's Prince Albert Cucumbers were shown by Mr. Barnwell, gr. to E. Mills, Esq., Bistern Park, Hants. The same exhibitor had likewise good Portsmouth Broccoli, Early Cabbages, and other vegetables. Mr. Terry, gr. to L. Ames, Esq., St. Albans, also showed a small collection of vegetables.

Examples of Dr. Watson's Fern column, a brick-coloured contrivance with projecting niches on the sides for the Ferns to grown in, surmounted by a little vase, covered by a glass shade, were shown by Messrs. Rosher, of Queen's Road, Chelsea.

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Royal Botanic: *April* 11 (*Second Spring Show*).—Collections of Azaleas, consisting of handsome little well-flowered plants, were shown on this occasion by Mr. Cross, gr. to Sir F. H. Goldsmid, Bart., M.P.; Mr. Todman, gr. to R. Hudson, Esq., of Clapham; Mr. Taylor, gr. to C. A. Hanbury, Esq., of East Barnet; and in the nurserymen's class by Mr. Turner, Messrs. Ivery, and Mr. Cutbush. Of new Azaleas Mr. Turner and Mr. Todman furnished one or two fine kinds, the most striking among which were President, Perfection, Duke of Cambridge, and Dr. Livingstone. From Messrs. Smith, of Dulwich, came the showy double white variety called Flag of Truce, and Mr. Turner had a charming single white kind named Louise von Baden. Hyacinths were contributed in considerable numbers from Highgate and East Barnet, and collections of Amaryllis came from Mr. Parker, of Tooting, and Messrs. Cutbush. Among British Ferns, collections of which were exhibited by Miss Clarkson, of Avenue Road, St. John's Wood, and Messrs. Ivery, of Dorking, were well-grown examples of Hymenophyllum Tunbridgense, and Trichomanes speciosum. From Messrs. Ivery also came the pretty new varieties of Athyrium Filix fœmina called mucronatum and Iveryanum; and Mr. Bull sent the interesting little Trichomanes membranaceum. Of Miscellaneous Stove and Greenhouse plants, collections were exhibited by Messrs. Lee, Bull, A. Henderson & Co., Smith, Williams, and Cross; and of cut Roses several beautiful boxfulls came from Mr. Wm. Paul and Messrs. Paul & Son. Among these were charming blooms of Chas. Lawson, C. Lefebre, President, Beauty of Waltham, Lælia, Senateur Vaisse, Victor Verdier, Model of Perfection, Gloire de Dijon, Madame Furtado, Jules Margottin, Madame Rivers, Madame de St. Joseph, Mrs. Chas. Wood, Maurice Bernardin, Vicomtesse Decazes, and other equally fine kinds. From Mr. Wm. Paul also came a well-bloomed collection of Roses in pots. Of other kinds of plants, Messrs. A. Henderson & Co. sent the graceful dark green-leaved Dracæna Rumphii, and the brilliant Tropæolum Ball of Fire. From Mr. Wm. Paul came the handsome Magnolia, named Lenné, and Mr. Bull sent the pretty Anæctochilus argyræus; and a useful looking species of Anthurium. Pandanus elegantissimus was shown by Messrs. Smith; the red-leaved Tradescantia odorata, a white-edged variety of Aralia Sieboldi, and another kind of Aralia, by Mr. Williams; Cupressus Lindleyana alba by Messrs. E. G. Henderson; and a pretty purple-edged Auricula, named Princess of Wales, by Mr. Turner, of Slough. From Mr. Bragg came boxes of Pansy blooms. Mr. Bull again showed Bougainvillæa speciosa in flower in 5-inch pots. Boxes of cut Camellia blooms came from Messrs. Lee and A. Henderson, and Mr. Perkins furnished the very fine pale-eyed scarlet Verbena called Lord Leigh. Cinerarias, Azaleas, Petunias and varieties of horse-shoe Pelargoniums came from Mr. Bull. In a collection of rare Orchids, Ferns, and other plants, Mr. Williams showed the charming Phalænopsis Schilleriana, and Messrs. Ivery had an interesting group of Double Primroses, consisting of white, lilac, yellow, and crimson sorts. The handsome large white-blossomed Rhododendron Veitchii was shown by Messrs. E. G. Henderson, and the pink-tinged white Rhododendron Countess of Haddington, came from Mr. Parker, of Tooting. Various collections of variegated-leaved Begonias were shown, and we also noticed a small group of hard-wooded greenhouse plants from Mr. Cutbush, of Barnet.

## Notices of Books.

*Tales and Sketches.* By Hugh Miller. Edited by Mrs. Miller. A. & C. Black, 1863.

This book will scarcely add to its author's reputation; and perhaps he thought so himself, since the "tales and sketches" which his widow now gives to the world, seem to have been laid aside amongst his papers for many years. Let us not therefore blame him for their publication; a posthumous work should ever be lightly dealt with. Who can tell how much the author might have retrenched or altered before allowing his bantlings to come forth to the light of day? Moreover, these tales are not only posthumous, but they were written at an early period of Hugh Miller's career; and naturally therefore exhibit the prolixity and weakness which are the usual accompaniments of the tentative efforts of all but master minds. On the other side of the Tweed they may perhaps meet with more approval than in England, since the subjects are of more interest to a Scotchman, who besides will not find them the less attractive by reason of the broad Scotch in which most of the dialogues are carried on. He must have a mournful temperament, however, who does not feel oppressed by the dismal melancholy of most of the stories: it is quite an exception and a relief to find one that ends well.

Perhaps it is from its possessing this distinction that we thought "Bill Whyte" rather the most interesting of the set, although Mrs. Miller is evidently right in doubting its truth. The "Recollections of Ferguson" are sad memorials of a wasted life, too sketchy to bear much moral, or to tell much to those who hear of this poet for the first time. As for the "Recollections of Burns," Mrs. Miller candidly remarks—"but of Burns' share in the dialogue the reader is the best judge. Some may hold that he is too like Hugh Miller himself." And we entirely agree with her. Occasionally we meet with descriptions and short passages which are interesting as giving us glimpses into the old Scottish life, as different from the modern English as can well be imagined. How little, for instance, does the following account of the festivities at a "lykewake" accord with our ideas of the solemnity befitting a funeral. "It is not yet 90 years since lykewakes in the neighbouring Highlands used to be celebrated with music and dancing; and even here, on the borders of the low country, they used invariably, like the funerals of antiquity, to be the scenes of wild games and amusements never introduced on any other occasion. You remember how Sir Walter describes the funeral of Athelstane? The Saxon ideas of condolence were the most natural imaginable. If grief was hungry they supplied it with food; if thirsty they gave it drink. Our simple ancestors here seem to have reasoned by a similar process. They made their seasons of deepest grief their times of greatest merriment; and the more they regretted the deceased the gayer were they at his wake and his funeral. A friend of mine, now dead, a very old man, has told me that he once danced at a lykewake in the highlands of Sutherland. It was that of an active and very robust man, taken away from his wife and family in the prime of life; and the poor widow, for the greater part of the evening, sat disconsolate beside the fire, refusing every invitation to join the dancers. She was at length, however, brought out by the father of the deceased. 'Little, little, did he think,' he said, 'that she would be the last to dance at poor Rory's lykewake.'"

The scene here described could, however, have been matched in the sister country of Ireland, where superstitions so strongly resembling those of the Highlanders are met with, that their common origin might almost be inferred from them. One of the firmest beliefs of the Irish people was that of the power of fairies to substitute a withered changeling for their babies, and this too was believed in Scotland up to a late date, in illustration of which Hugh Miller gives an amusing anecdote.

"The fairies were in ill repute at the time, and long before, for an ill practice of kidnapping children, and annoying women in the straw; and no class of people could dread them more than fishers. But they were at length cured of their terrors by being laughed at. One evening when all the men were setting out for sea, and all the women engaged at the water's edge in handing them their tackle, or launching their boats, a party of young fellows, who had watched the opportunity, stole into their cottages, and disfurnishing the cradles of all their little tenants, transposed the children of the entire village, leaving a child in the cradle of every mother, but taking care that it should not be her own child. They then hid themselves amid the ruins of a deserted hovel to wait the result. Up came the women from the shore, and, alarmed by the crying of the children and the strangeness of their voices, they went to their cradles and found a changeling in each. The scene that followed baffles description. They shrieked, and screamed, and clapped their hands, and rushing out to the lanes like so many mad creatures, were only unhinged the more to find the calamity so universal. Down came the women of the place to make inquiries and give advice, some recommending them to have recourse to the minister, some to procure baskets and suspend the changelings over the fire,—some one thing, some another; but the poor mothers were regardless of them all. They tossed their arms, and shrieked, and halloed, and the children, who were well-nigh as ill at ease as themselves, added, by their cries, to the confusion and the uproar. A thought struck one of the towns-women: 'I suspect, neighbours,' she said, 'that the loons are at the bottom of this. Let's bring all the little ones into one place, and see whether every mother cannot find her own among them.' No sooner said than done; and peace was restored in a few minutes. Mischievous as the trick was it had this one effect, that the fairies were in less repute in Cromarty ever after, and were never more charged with the stealing of children. A popular belief is in no small danger when those who cherished learn to laugh at it, be the laugh raised as it may."

A few more interesting passages will occasionally reward the perusal of this volume, but the main portion of it is so ponderous and dreary, that we cannot recommend any one to make the attempt.

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We have received a continuation of *The Jardin Fruitier du Muséum* up to the 60th part. The beautifully executed drawings of the later parts represent a larger proportion of the new varieties of Pears than appeared in the earlier numbers. According to the descriptions many of the old sorts are bad, and some of the new ones that have been highly spoken of are not worth cultivating.

*Poire Willermoz.*—A large handsome pyramidal yellow fruit, slightly tinged with red, and sprinkled with brown dots; flesh breaking or half breaking, granular, somewhat perfumed, and slightly astringent. A third-rate Pear.

*Œuf de Cygne.*—The plate correctly represents a good specimen of our Swan's Egg, which is, according to Prof. Decaisne, of English origin, and must not be confounded with the French *la P. Œuf*, a summer fruit, which is synonymous with the Colmar d'Été de Wizbourg, a comparatively inferior sort—at least so it proved when grown in this country.

*Poire de Saint Gall*: syn. Poire au Vin.—This name probably bears allusion to the wine colour of its skin when very young. Only fit for stewing.

*Bonne Malinoise.*—This is what is now so well known in this country by the name of Nelis d'Hiver, or Winter Nelis; and admitted by all to be, as regards flavour, a Pear of the highest excellence. It was raised by Jean Charles Nelis, who was born at Mechlin in 1748, and died in the same town in 1834. Fruit of it was first received in England by the Horticultural Society from M. Stoffels, of Mechlin, in 1818, under the name of La Bonne Malinoise.

*Suzette de Bavay.*—Fruit middle-sized, roundish or roundish-turbinate, the eye surrounded with five protuberances, more or less prominent. Skin smooth, yellowish green, with some specks of brown; flesh firm, or but half melting, very juicy, sweet, perfumed. Season: February—April. Its principal recommendation is its long keeping.

*Esperen*: syn. Bergamotte Esperen.—This was raised about 1830 by Pierre Joseph Esperen, of Ghent, who was born in that city in 1780, entered the army as a volunteer in 1804, left it at the Restoration to indulge in his taste for pomology, re-entered the service for a short time in 1830, and obtained the rank of Major. [It would appear that he again betook himself to raising new fruits, to one of which he chose to give the name of Soldat Laboureur]. The Esperen is a middle-sized or large Pear, roundish or bergamot-shaped, greenish yellow, spotted with brown; the flesh white, fine-grained, melting and rich. Season: March, April. One of the best late keeping Pears.

*Poire de Dame.*—In appearance this resembles the Bergamot d'Automne [of the French, not our Autumn Bergamot], and it is sometimes sold in the markets for that sort; but it is a bad Pear at its best, and decays rapidly.

*Sageret.*—A middle-sized roundish obovate Pear; but only half-melting; juicy, but not highly flavoured. Season: December.

*Briffaut.*—Medium size, pyramidal; skin smooth, the shaded side green, the other red; flesh greenish white, fine, melting, with an acidulated sugary juice. Season: August. It has the fault to which all the early Pears are subject, that of soon decaying; but the tree is an abundant bearer, and this property, together with the brilliant colour of the fruit, may render it worthy of cultivation.

*Augier.*—Of the form of St. Germain, and keeps till April. Nevertheless Prof. Decaisne says it is a very bad fruit, which ought not to be introduced in any collection. Pears are so numerous that it is important to know from such good authority what ought to be avoided.

*Culotte de Suisse*: [syn. Verte-Longue Panachée].—A variety of the Verte-Longue or Mouille-Bouche. The striped is not so good as the green, but it is ornamental, and a tree of it may be cultivated in extensive collections on that account.

*Sanguinole*: syn. Blood Pear.—Under this name several distinct varieties are confounded. Some have the skin green, and the flesh entirely red. The one figured is red next the sun. The flesh is white, mottled with bright rose colour, granular, half melting, sweet, and slightly perfumed. Season, end of August; but it is only grown for curiosity.

[The ancients attributed the colour of the Sanguinole Pear to the trees having been grafted on the Black Mulberry, but it is now well known that this pretended graft never can succeed.]

*Van Marum:* syn. Grosse Calebasse, Grise Longue, Frédéric Lelieur, Triomphe de Hasselt, Calebasse Monstrueuse du Nord.—This enormous Pear sometimes grows to the length of 8 inches, and to more than a foot in circumference. It is of a long pyriform shape, yellow, with fawn-coloured russet specks, and slightly tinged with red next the sun. Flesh white, half melting, with an acidulated sweetness, but not highly flavoured. As is the case with many large Pears, it is very difficult to know the moment when it is fit for use. If eaten a few days before it attains its point of maturity it is without flavour, and and resembles a stewing Pear; and after it is fully ripe it soon decays. Season: October.

## Garden Memoranda.

Swyncombe House, near Henley-on-Thames.—Bougainvillæa is again in glorious bloom under Mr. Daniels' skilful management. For the last month and more it has covered the roof of plant stoves 30 feet in length and 14 feet wide. In one of these we have Bougainvillæa speciosa, the plant which, commencing in 1857 as a sprig in a thumb pot, yielded in 1860 a profusion of its pink translucent bracts. It now girths 10 or 12 inches around its woody stem, and nothing can be more beautiful than the mass of bloom which covers its branches. In the other stove B. glabra is just coming into bloom; of hardly the same depth or richness of tint in its blossom as the other, it possesses the advantage of being almost a perpetual bloomer, having been in flower during 10 months of last year. The stoves are full of handsome ornamental foliage. There is a fine specimen of Cyanophyllum magnificum, 9 feet high, and clothed with healthy foliage to the pot, the leaves measuring 6 feet from tip to tip of a pair, and 19 inches across. Caladiums, Marantas, Dracænas, Crotons, Aphelandras, Tradescantias, and a large collection of tropical Ferns beautify the place with foliage; and Begonias, Euphorbias, Hoyas, Rhynchospermums, Cape Jasmines, Achimenes, Gloxinias make it gay with blossoms; all being overshadowed with the glorious amethystine canopy of Bougainvillæa. The whole display affords a capital proof of successful management. Mr. Daniels has a great deal of glass, and a large extent of garden ground under his superintendence. There are two forcing pits 50 feet by 10, and 30 feet by 12 respectively. They contain in great abundance Cucumbers, Melons, Strawberries, French Beans, &c. In one an enormous crop of Keens' Seedling was just in perfection, many of the plants having 10 to 14 full-sized fruit, admirably coloured. In the Vineries there is ample but not early promise of Grapes; also fine crops of ripe Strawberries of the Black Prince variety, and others in various stages of growth; also thousands of bedding-out plants. A large greenhouse is gay with Cinerarias, Primulas, Geraniums, Azaleas, Boronias, Aphelexis, Leschenaultias, Dielytras, Eriostemons, Tropæolums, Cyclamens, Heaths, &c. In an orchard house, 90 feet by 12, pot-culture answered well for four or five years, producing very fine fruit in great abundance—but ultimately the trees became weaker, and they have been replaced by trained trees, which were planted two years since, and now nearly cover the roof, and have set their fruit well. It is considered here that pot trees bear large numbers of fruit, but of small size and inferior quality. Thousands of bedding-out plants are kept here from the beginning of February, great care being taken to bring in nothing that is subject to green-fly. In a lofty conservatory attached to the mansion, there is a beautiful show of flowers—fine specimens of Azaleas, Heaths, Camellias, Cytisus, Acacias, Monochætums, Chorozemas, Eriostemons, Cinerarias, &c.; also a fine specimen of Araucaria Cunninghami, 12 feet high; with A. excelsa, Cookii, and others. Amongst Ferns we noticed fine plants of Cyathea dealbata, C. medullaris, and Dicksonia antarctica, &c.

In the flower garden the system of winter bedding is adopted, and the beds are extremely gay with Wallflowers, Myosotis, Arabis, Alyssum, Tulip, Pansy, Hyacinths, &c. The terrace and garden are decorated with ornamental vases, which in the summer are filled with flowering plants. In the kitchen garden we noticed some very fine Fig trees, which are covered every year as soon as they cast their leaves with a thick coat of Spruce Fir branches, which remain on them till March. Many bear and ripen abundant crops of fruit every year.

Swyncombe lies just below the edge of the Oxfordshire chalk hills, not 200 feet lower than Nettlebed, one of the highest tracts in the southern counties. It is very much exposed, and being naturally but a poor and shallow chalky soil, both good judgment and application were needed, and have been exhibited by Mr. Daniels, the intelligent gardener.

A Pinetum is being formed. Pinus austriaca is found thoroughly hardy; Spruce Fir and Beech die down to the extent of 50 per cent. in new plantations, but P. austriaca stands the severity of the weather and exposure. There are many fine specimens of Deodar and other Cedars on the grounds—and striking illustrations are presented of the advantages of trenching and deeply moving the soil before planting.

## Miscellaneous.

*Sales by Auction.*—Prices as follows have recently been realised at Stevens's, viz., Gladiolus Brenchleyensis, from 5*s.* 6*d.* to 9*s.* per 100; 50 mixed sorts, 7*s.* to 9*s.*; Pinks, Picotees, and Carnations, from 8*s.* to 12*s.* per 12 pair; Dwarf named Bedding Dahlias, from 12*s.* to 14*s.* per dozen; Moss and other Roses, from 5*s.* to 10*s.* per ten plants; Californian Conifer seeds, including Wellingtoniagigantea, from 7*s.* to 1*l.* 15*s.* per packet of about an ounce each. Hardy Rhododendrons from 6*d.* to 9*d.* per plant. Standard Apricots 12 feet in height, 3*s.* 6*d.* per 6 plants; Dwarf Apples and Pears from 4*s.* 6*d.* to 5*s.* per 20 plants; Raspberries from 5*s.* to 6*s.* 6*d.* per 50 plants; Orchids, established, consisting of the usual kinds, from 2*l.* to 26*l.* per plant, the last named sum being obtained for Dendrobium lituiflorum; Aerides Schröderi fetched 16*l.*, Phalænopsis Schilleriana, 11*l.*; Cymbidium eburneum, 15*l.* 10*s.*; Trichopilia crispa, 25*l.* 10*s.*; Uropedium Lindeni, 6*l.*; Cypripedium caudatum, 7*l.* 10*s.*; and Vanda Lowii 9*l.* 15*s.* Altogether the sale, which consisted of 195 lots, realised about 400*l.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—See that climbers and all plants of rambling habit have due attention in the way of stopping and watering. Camellias forced into wood should have a trifling check as soon as the young leaves have attained their full size; this is best accomplished by diminishing the supply of water at the root. Continue, however, to shade and syringe morning and evening. See that growing Orchids receive attention as regards shading and atmospheric moisture; the latter is often deficient in many structures, or, if present in sufficient amount, of too fluctuating and capricious a character to be of real value. In mixed greenhouses let us presume that a climate is maintained somewhat in advance of that of the cool greenhouse. By keeping one end of such a house (the end where the hot water enters) closer, using more atmospheric moisture, and at the same time a greater amount of air at the other end, it is by no means impossible for the amateur to indulge in many of the luxuries of larger establishments. Repot and propagate Begonias. This is one of the most useful families of plants that can be grown. Keep up a proper system of cultivation, by means of sweet and healthful soils, and skilful potting, together with complete drainage, and the constant use of weak and clear liquid manure, during the growing season. Cold pits will now be occupied with some of the early struck or potted off stock, hardening for the flower-garden. Any spare room may be occupied with the thinnings of other plant houses.

### FORCING DEPARTMENT.

Pineries.—See that good mellow turfy soil is ready under cover for shifting processes; also materials for thorough drainage, such as broken crocks, rough bones, charcoal, &c. Use clear liquid manure to swelling fruit, when necessary; and keep up a lively heat, with plenty of atmospheric moisture.

Vineries.—Late Grapes, such as West's St. Peter's, Lady Downe's Seedling, Black Damascus, Muscats, &c., will now be budding fast. Let disbudding, tying, stopping, &c., be duly attended to, according to principles laid down for the earlier houses.

Peaches and Nectarines.—Continue to keep the shoots well tied in in the early house, and be careful not to get them crowded. In disbudding, the bearing wood of the present year should be divested of all shoots except the terminal one and those near the base. When a deficiency occurs in any part of the tree, more may be tied in. Ventilate freely in fine weather, and be careful to close up early in the afternoon. Syringe once or twice daily, and keep a moist atmosphere by throwing plenty of water on the paths, borders, &c. Attend to the disbudding and thinning of the fruit in the second house.

Figs.—As the season advances gradually raise the temperature of the house. Syringe mornings and afternoons. Keep a moist atmosphere. When the borders require watering, give them a good soaking. Plants in pots and tubs should have some weak manure water occasionally.

Melons and Cucumbers.—Effect a second sowing of ridge Cucumbers; get the earliest sown hardened forthwith, preparatory to turning out, and let trenches for them be prepared. A trench thrown out 3 feet wide and 2 feet deep, and filled to a foot above the ground level with such materials as litter, Grass mowings, or leaves, with a little hot manure, all thoroughly blended, will make an excellent bed. When completed, raise mounds of soil 3 or 4 feet apart, to receive the hand-glasses, leaving the residue uncovered with soil for the present.

### FLOWER GARDEN AND SHRUBBERIES.

Thorough-dress all beds and borders; prepare stations on lawns for extraordinary specimens of ornamental plants, as large Fuchsias, &c., putting drainage in the bottom, and good turfy and mellow compost above. Trim and prune all climbers on out-door trellises, or conservative walls; and prepare stations for plants to fill up blanks.

Take care that the soil is close round the neck of rising plants of Ranunculus; remove all weeds as they appear, and if the beds are infested with worms, pour lime-water in the holes which they make on the surface. The forward state of Tulips this season demands for them especial attention. When the flowers begin to show colour, the top cloths of the awning may be put on. Carefully examine all diseased foliage, and expose the affected parts as much as possible to air. Apply sticks as soon as possible to Carnations and Picotees, if delayed much longer the roots will be injured by their insertion.

### HARDY FRUIT AND KITCHEN GARDEN.

Lime is well known to be useful for destroying snails and slugs; it is, however, not always at hand in a quick state. Cinder ashes riddled to the size of Radish seeds, all dust being excluded, will therefore be found a good substitute. These strewed over young crops when just emerging from the ground will be found to be an efficient protection. A handful of good Peruvian guano, blended minutely with these ashes, would also prove to be a ready mode of manuring a weak seed bed. A sloping bank should now be prepared, and planted with nice runners of the Alpine Strawberry, for fruiting in September and October; plant three in a patch, at intervals of 15 inches; the ground between should be covered with slates when the plants are established. Sow for succession round Spinach in a cool aspect; and let all Beet, Scorzonera, Salsafy, &c., be got in, if not done, these root-crops as Mr. Earley (see p. 53) directs. Secure plenty of good Parsley in highly manured beds, and examine and renew Herb plantations. Make a fresh bed or two of the last for next year's planting; this should be done every second year in all gardens, as the old plants are liable to wear out. If not already done, thin suckers from Raspberries, leaving four or five to each stool, and thoroughly clean all Strawberry plantations.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending April 15, 1863, as observed at the Horticultural Garden

| April. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 9 | 21 | 29.938 | 29.726 | 57 | 48 | 52.5 | 49 | 47 | S. | .06 |
| Friday 10 | 22 | 29.775 | 29.621 | 60 | 48 | 51.0 | 50 | 48 | S. | .05 |
| Satur 11 | [illegible] | 29.826 | 29.745 | 60 | 45 | 52.5 | 51 | 48 | N. | .02 |
| Sunday 12 | 24 | 29.900 | 29.786 | 63 | 36 | 49.5 | 51 | 49 | N.E. | .01 |
| Mon. 13 | 25 | 29.942 | 29.908 | 62 | 34 | 48.0 | 51 | 49 | E. | .00 |
| Tues. 14 | 26 | 29.910 | 29.85[illegible] | 61 | 27 | 44.0 | 51 | 49 | S. | .00 |
| Wed. 15 | 27 | 29.954 | 29.921 | 66 | 36 | 51.0 | 50½ | 49 | E. | .00 |
| Average. | | 29.892 | 29.794 | 61.8 | 39.1 | 50.2 | 50.5 | 48.4 | | .13 |

April 9—Overcast; densely clouded; fine and mild at night; rain.
— 10—Overcast; cloudy; overcast; lightning and slight rain at night.
— 11—Very fine; overcast; fine; slight shower.
— 12—Slight shower; fine; overcast.
— 13—Fine; very fine throughout.
— 14—Uniform haze; overcast; fine; frosty at night.
— 15—Fine; very fine throughout.
Mean temperature of the week 4½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending April 25, 1863.

| April. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 19.. | 58.1 | 35.0 | 46.5 | 8 | 0.45 in. | 6 | 11 | 3 | 3 | 1 | 7 | 6 | — |
| Mon. 20.. | 59.6 | 34.8 | 47.2 | 14 | 0.39 | 5 | 7 | 5 | 2 | — | 9 | 5 | 3 |
| Tues. 21.. | 58.6 | 37.1 | 47.8 | 14 | 0.28 | 4 | 6 | 6 | 3 | 2 | 5 | 8 | 3 |
| Wed. 22.. | 58.3 | 37.6 | 47.9 | 20 | 0.32 | 5 | 8 | 5 | 3 | 1 | 5 | 7 | 3 |
| Thurs. 23.. | 58.3 | 37.0 | 47.6 | 20 | 0.52 | 2 | 8 | 5 | 1 | 4 | 6 | 5 | 6 |
| Friday 24.. | 58.2 | 35.9 | 47.1 | 15 | 0.60 | 5 | 6 | 5 | 5 | 2 | 8 | 3 | 3 |
| Satur. 25.. | 59.1 | 37.6 | 48.3 | 16 | 1.40 | 5 | 7 | 5 | 3 | 7 | 5 | 2 | 3 |

The highest temperature during the above period occurred on the 25th, 1840—therm. 80 deg.; and the lowest on the 24th, 1854, therm. 18 deg.

## Notices to Correspondents.

Aponogeton distachyon: *H W.* If the tubers are planted under water at a sufficient depth to be beyond the reach of frost, it will stand uninjured through the winter. Of course it will not bloom so early thus treated, as when grown indoors, or in water which is at all influenced by heat.

Books: *J J D.* You will probably find what you want in the volumes of the "Florist" for 1859 and 1860, or in M'Intosh's Greenhouse; but the subjects are treated on, in most gardening periodicals.—*Clara.* The best account of the varieties of British Ferns is in the 8vo edition of the Nature-Printed British Ferns, in two volumes; and the most useful portable book on the subject is Moore's Handbook of British Ferns.—*C R.* Thompson's Book of Annuals, with its Supplement, will afford you useful information.

Cloth of Gold Rose: *Catharina.* Plant it against a south or east wall, and prune very little. Then when it becomes well established, you will probably get flowers. Consult the new Edition of Mr. Paul's Rose Garden.

Emigration: *N Z.* will be obliged by some of our Correspondents informing him what chance of success there is for a Gardener in New Zealand, and the rate of wages paid to good men of his class in that colony.

Grapes: *R W.* Yours is not a solitary case. We have always considered such an affection to be one of early shanking, and if we are correct in our notion, you must look to the condition of the roots, which you will probably find unhealthy, or exposed to some unfavourable influence. *M. J. B.*

Hollies: *Ilex.* The berries are best gathered after becoming fully ripe in the early part of winter, stored in heaps intermixed with sand, and sown the following autumn. There is nothing gained in the way of a crop by sowing sooner.

Names of Plants: *G.* Yes, Abies Albertiana.—*G Hall.* Narcissus incomparabilis, apparently.—*J B.* Fritillaria Meleagris.—*W H Laing.* It is not Lanopetalon, but Lasiopetalum ferrugineum, an old-fashioned greenhouse shrub.

Old Myrtle: *A M C.* If it is merely affected by thrips you should be able to cleanse it by two or three good fumigations repeated on successive evenings, and supplemented by good engine washings. It may be all the better to prune moderately close as you propose, in order to cleanse the wall by washing it thoroughly. Probably the roots are dry, which would favour the thrips. Hot water of the temperature you name would not be likely to do any injury, unless to very young growth.

POTTER'S GUANO (established 21 years) 7*l.* per Ton.
POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10*l.* per Ton.
PURE GYPSUM, 25*s.* per Ton, bags included.
Address, 28, Clapham Road Place, S.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. Purser, Secretary.

116, Fenchurch Street, E.C.

TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,

Manufactured by the Patent

NITRO-PHOSPHATE or BLOOD MANURE COMPANY (Limited),
Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.

Chairman.—John Claydon, Esq., Littlebury, Essex.

Particulars of these Standard Manures may be obtained at the Offices. C. T. Macadam, Secretary.

Or of the Local Agents.
Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex, N.E.

Established 1848.

THE BLAYDON MANURES.—Two Prizes were last season awarded, under the auspices of the Rutland Agricultural Society, for Turnips grown with the above Manures, viz.:—

1st.—A Silver Cup, value Five Sovereigns, was given by the Town and Trade of Oakham to Mr. T. W. Fowler, Exton, for the best Turnips (not being Swedes) grown within the County of Rutland. These Turnips were raised with 3 cwt. per acre of the 7*l.* 10*s.* Blaydon Manure, used with a moderate dressing of Farm-yard Manure.

2d.—Three Sovereigns (the 2d premium), given by the Right Hon. Viscount Campden, were awarded to Mr. Fowler, Exton, for Swedish Turnips. These Turnips were grown with 3 cwt. per acre of the 7*l.* 10*s.* Blaydon Manure, along with a moderate quantity of Farm-yard Manure.

Manufactured by the Blaydon Chemical Company, Blaydon-on-Tyne.

Managing Partner, Edward Richardson, Jun.

LAWES'S MANURES. The Manures manufactured by J. B. Lawes for the present season of 1863 are now ready for delivery at his Factories, at the following prices:— Per Ton.

| | Per Ton. | |
|---|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 | 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 | 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 | 0 |

These Manures can be obtained of Mr. Lawes, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.

Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.

American and other Cakes at market prices.

Address John Bennet Lawes, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

Land Drainage, and other Agricultural Improvements.

MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5*s.* per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. Nesbit, Lansdell & Co.

AGRICULTURAL and CHEMICAL COLLEGE, Kennington.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. Nesbit, Lansdell & Co., 37 and 38, Lower Kennington Lane, London, S.

Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.

Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.

Full particulars of terms will be forwarded on application.

Drainage, &c.

MR. JOSEPH BEAUMONT, Land Agent, Surveyor, and Drainage Engineer (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Estate Agents, Surveyors, &c. in England and Wales and in Scotland.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable William Napier, Managing Director, 2, Old Palace Yard, Westminster, S.W

PROFESSOR BROWN, Veterinary Inspector to the Bath and West of England Agricultural Society, 13 years Lecturer on Veterinary Surgery at the Agricultural College, may be consulted on Diseases of Horses, Cattle, Sheep, Dogs, &c.

Infirmary, White Horse Yard, New Cavendish Street, Portland Place, W.

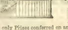
To Flock Farmers.

ANTHYLLIS VULNERARIA, or LADIES' FINGERS; a newly-introduced Forage Plant. Excellent food for Sheep, of which they are very fond. Very productive on Light Sandy and Chalky Soils; the plant covers the ground like a thick mat—its stems run up from a foot to 18 inches high. On sandy and chalk flock farms it is invaluable, growing where other seeds fail. It is very healthy food, on which sheep never scour, let the weather be ever so wet. It is an exceedingly good change for Clover and Sainfoin, producing as much or more food. Very kind for the Wheat plant. It is perennial. On referring to Sowerby's "Botany," he says the plant is highly worthy of cultivation as a food for cattle, and productive of milk. The plant was first brought into cultivation in 1858, by H. Stebbing, the present Grower.

Quantity of Seed per acre, 16 lbs., to be sown with the Barley. Price 1*s.* 9*d.* per lb. Orders will be received by Mr. H. Stebbing, The Hall Farm, Stow Bedon, Attleboro', Norfolk.

Exhibition Prize Medal 1862.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES, PATENT IRON COW HOUSE FITTINGS, and IRON PIGGERIES.



These inventions are recommended as possessing numerous advantages not to be found in anything hitherto made. At the late Meeting of the Royal Agricultural Society at Leeds, Musgrave Brothers received a Silver Medal, and two Awards of "Highly Commended," being the only Prizes conferred on any competitor in this class.

Particulars sent on application to the Inventors and Makers, Musgrave Brothers, Ann Street Iron Works, Belfast.

AGRICULTURAL and HORTICULTURAL TOOLS.—Threshing Machines for Steam and Horse Power, Ploughs, Waggons, Carts, Turnip Cutters, Cake Breakers, Chaff Cutters, 50*s.*, &c. Price List free. Illustrated Catalogues on receipt of six postage stamps.

Burgess & Key 95, Newgate Street, E.C.
Works: Brentwood, Essex.

Do as Others Do!

BUY YOUR SEED BAGS from JAMES T. ANDERSON, Sack and Bag Maker, and Russia Mat Merchant, 15, SHERBORNE LANE, King William Street, London, E.C., who will supply you with a first-rate article at a low price. ARCHANGEL MATS, the pick of the season. Russian and Prussian Dunnage Mats.

Prices sent free on application.

THE FIRST GREAT INTERNATIONAL SHOW of SPORTING and OTHER DOGS will be held at the AGRICULTURAL HALL, Islington, on MAY 25, 26, 27, 28, 29, and 30, when upwards of ONE THOUSAND POUNDS will be distributed in Prizes, in Cash or Plate at the option of the Winners, amongst which will be the following:—

FOX HOUNDS.

| | £ | s. | d. |
|---|---|---|---|
| Stud Dogs, not less than three-season hunters— | | | |
| First Prize .. .. .. .. .. .. | 20 | 0 | 0 |
| Second Prize .. .. .. .. .. | 10 | 0 | 0 |
| Bitches, not less than three-season hunters, having reared a litter of Puppies in 1862— | | | |
| First Prize .. .. .. .. .. .. | 15 | 0 | 0 |
| Second Prize .. .. .. .. .. | 10 | 0 | 0 |
| (Unentered Hounds.) | | | |
| Best Dog—First Prize .. .. .. .. | 10 | 0 | 0 |
| Best Bitch—First Prize .. .. .. .. | 10 | 0 | 0 |
| For the best Three Couple of Hounds from a Pack having hunted last season .. .. .. | 25 | 0 | 0 |
| HARRIERS (Not exceeding 20 inches in height.) | | | |
| For the best Three Couple from a Pack hunted last season .. .. .. .. .. .. | £15 | 0 | 0 |
| BEAGLES (Not exceeding 14 inches.) | | | |
| For the best Three Couples of Dogs or Bitches from any Pack hunted last season— | | | |
| First Prize .. .. .. .. .. .. | 15 | 0 | 0 |
| GREYHOUNDS. (Champion Class.) | | | |
| For Winners of a 32, or more Dog-stake, or having won Stakes to the amount of 500*l.* at any Public Coursing Meeting— | | | |
| Best Dog .. .. .. .. .. .. | 40 | 0 | 0 |
| (Champion Class.) | | | |
| Best Bitch, ditto ditto ditto .. .. | 25 | 0 | 0 |
| (Dogs not eligible for Champion Class.) | | | |
| First Prize .. .. .. .. .. .. | £15 | 0 | 0 |
| Second Prize .. .. .. .. .. | 10 | 0 | 0 |
| (Bitches not eligible for Champion Class.) | | | |
| First Prize .. .. .. .. .. .. | £15 | 0 | 0 |
| Second Prize .. .. .. .. .. | 10 | 0 | 0 |
| Best Brace of Sapling Dogs born on or after January 1, 1862— | | | |
| First Prize .. .. .. .. .. .. | 15 | 0 | 0 |
| Second Prize .. .. .. .. .. | 10 | 0 | 0 |
| POINTERS—Large Size, over 55 lb. weight. (Champion Class.) | | | |
| Best Stud Dog .. .. .. .. .. | £20 | 0 | 0 |
| (Dogs not eligible for Champion Class.) | | | |
| First Prize .. .. .. .. .. .. | £10 | 0 | 0 |
| Second Prize .. .. .. .. .. | 5 | 0 | 0 |
| (Bitches over 50 lb. weight.) | | | |
| First Prize .. .. .. .. .. .. | 10 | 0 | 0 |
| Second Prize .. .. .. .. .. | 5 | 0 | 0 |
| (Best Brace of Puppies under Six Months Old). | | | |
| First Prize .. .. .. .. .. .. | £10 | 0 | 0 |
| Second Prize .. .. .. .. .. | 5 | 0 | 0 |

(Pointers, Small Size under 55 lb. weight, same Prizes as Large Size.)

Full Prize Lists and Forms of Entry may be obtained on application to the Secretary, at the Offices of the Company, Barford Street, Liverpool Road, N., where Entries must be made. By Order. S. Sidney, Secretary.

Offices of the Company, April 18.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.

Besides the usual Prizes for Cattle, Horses, Sheep, and Pigs, SPECIAL PRIZES, amounting to £500, including ESSAYS for FRUIT, CIDER and PERRY, HOPS, and SALT, are offered by the Local Committee, to be competed for at the Worcester Meeting. For Prize Sheets and particulars apply to

H. Hall Dare, Esq.,
12, Hanover Square, London, W.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.

STOCK and IMPLEMENT PRIZE SHEETS are now ready, and will be forwarded on application to

H. Hall Dare, Secretary.
12, Hanover Square, London, W.

REDUCTION IN PRICE.

## PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | | | |
|---|---|---|---|---|
| For 30 Tons and upwards ... ... ... | £10 | 5 | 0 | per Ton, net cash. |
| For 10 Tons up to 30 Tons ... ... ... | 10 | 10 | 0 | " " |
| For 5 Tons up to 10 Tons ... ... ... | 10 | 15 | 0 | " " |
| For smaller quantities ... ... ... | 11 | 0 | 0 | " " |

The Price will not exceed 12*s.* per Ton additional if delivered at any other Port in Great Britain.

PETER LAWSON & SON, Contractors.
GEO. SEAGRAVE & CO., Brokers.
WILLIAM DIXON & CO., General Agents.

28, KING STREET, CHEAPSIDE; and 15, LAWRENCE LANE, LONDON, E.C.

# The Agricultural Gazette.

*SATURDAY, APRIL* 18, 1863.

The Babraham sale on Wednesday last, by which one-half the herd of the late Mr. Jonas Webb was scattered over England, Scotland, and Ireland, and some of it was despatched to Germany and even to Australia, resulted in the realisation of a very high average price. Eighty-two animals fetched 55*l.* 15*s.* apiece, or 4571*l.* 14*s.* in all. Sixty-two cows and heifers realised 59*l.* 12*s.* 7*d.* each, and 20 bulls averaged 43*l.* 14*s.* 9*d.* apiece. It may still further indicate the character of the sale if we say that 17 heifer calves fetched close on 50*l.* apiece—one of them, *Drawing Room Rose*, to which our report particularly referred the other day, realising no less than 225 guineas.

The following are the average prices of the six different families:—39 *Celias* averaged 51*l.* 15*s.* 6*d.*; 15 *Dodonas* averaged 50*l.* 5*s.* 2*d.*; 11 *Sylphs* averaged 55*l.* 7*s.* 3*d.*; 7 of the *Beauties* averaged 102*l.* 18*s.*; 7 from *Bodice* fetched 44*l.* 5*s.* each; and 3 *Gwynnes* realised 53*l.* 4*s.* apiece. The priced list, while it indicates remarkable evenness and uniformity of general value, yet illustrates sufficiently the effect, whether of Kirkleavington breeding, or, as some will say, of mere fashion. Thus Mr. Hales, of North Frith, Tonbridge, the sale of whose herd we reported last autumn, unable to resist the attractions of the Short-horn breed, is again a buyer, purchasing *The Beauty*, now a 10-year old cow, one of a distinguished Kirkleavington family, which Mr. Webb bought four years ago at Cobham Park for 160 guineas.

Put up now at 35 guineas, the next bid was 70, and the last 100 guineas. Mr. Hales had bought her daughter and sister, *Blush* and *Moss Rose*, for 110 and 260 guineas respectively at Cobham. Mr. Betts bought the latter at North Frith last autumn; and he has here become the purchaser of *Red Rose*, another daughter, for 160 guineas, and of *her* twin-calves *Red Rose 2d* and *3d*, seven weeks old, for 53 and 50 guineas respectively. He fought well also for the possession of *Drawing-room Rose*, another daughter of the old cow, but Australian gold proved victorious, and Mr. Irving, of Sydney, became the purchaser for no less than 225 guineas.

Next to the descendants of *Beauty*, those of *Belinda*, a daughter of *Sylph*, realised the highest average price. Mr. Pawlett, who was a purchaser of some of the same family at the Milcote sale, was a purchaser here, paying 84 guineas for *Daisy*, a four-year-old cow; and Mr. Walker, of Birmingham, paid 100 guineas for *Miss Battersea*, a yearling heifer, another of the *Sylph* family. Among the prices realised by the *Celias* may be named 100 guineas for *Miss Emily*, a red cow shown at Battersea, bought by Mr. Sharp, of East Grinstead, and 100 guineas given for *Marchioness of Bute* by Mr. Irving, of Sydney. Prices of 100 guineas and upwards were also realised for descendants of *Dodona*. Eighteen of the animals go to Austria and Prussia, and several, as already said, to Australia. A large number are distributed throughout the Eastern and Midland Counties, and many go to Scotland and to Ireland.

A very large company were present to witness the dispersal of the herd by Mr. Strafford and Mr. Carter Jonas. A finer day could not have been desired, nor, although many distinguished men who have frequently attended Babraham sales were absent, more fortunate circumstances in every way.

The remainder of the herd will be disposed of on the 24th of June. The 15th of July, which had been previously named for it, has been abandoned because it is in the week of the International Show at Hamburg.

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A Correspondent has sent us the following letter, which, as directing attention to a most important subject, we give here entire:—

"I enclose a sample of "finest Lawn Grass Seeds," sold by a nurseryman in this county to a neighbour of mine at the rate of 1*s*. per lb. Would you be kind enough to inform me how many of them are not common Rye-grass, besides a sprinkling of White Clover. On my representing to him that I thought he had been grossly imposed upon, he applied to a most respectable Edinburgh house, from whom I understand he has got a proper mixture, and, curious enough, at a fraction more than half the price of the rubbish first sent him. I beg to hand my address. *D.*"

A cursory glance at the small sample sent convinced us that there was so much of truth in our Correspondent's strictures that we determined to make as careful an analysis as we could of the contents of the packet sent us, which we here give, remarking that our estimates are made up for the imperial pint, which we conclude weighs somewhere about 5 oz., being at the rate of about 20 lb. as the weight of a bushel, which was consequently sold at the rate of 20*s*. the bushel. The contents consisted of weeds; other plants, though not weeds, useless for fine pasture; and a few good Grasses, in which most certainly the Rye-grass prevailed, while some good lawn Grasses were not even represented.

Table of Contents of a Pint of Grass Seeds ("Fine Lawn!")

| Botanical Names. | Trivial Names. | In a Pint. | Remarks. |
|---|---|---|---|
| 1. Plantago lanceolata | Lance-leaved Plantain | 1,600 | Weeds even in pasture, much less in lawn. |
| 2. Myosotis arvensis .. | Corn Forget-me-Not | 800 | |
| 3. Holcus lanatus .. | Woolly Soft Grass | 400 | |
| 4. Bromus mollis .. | Soft Brome or Lop Grass | 160 | |
| 5. Lolium perenne .. | Perennial Rye-Grass | 36,000 | |
| 6. Anthoxanthum odoratum | Sweet Vernal Grass | 6,400 | A bad lawn Grass |
| 7. Festuca ovina .. | Sheep's Fescue | 4,000 | |
| 8. Trifolium repens, &c. | White Dutch Clover | 11,520 | |
| 9. Medicago lupulina . | Nonsuch Trefoil | 960 | Of doubtful propriety. |

A few others not computed.

Now, looking at this table of contents, we can only conclude that—5, Rye-grass; 6, Sweet Vernal; 7, Fescue; 8, Dutch Clover; and 9, Trefoil, were meant to be the mixture for what is here termed "finest lawn Grass seeds," whilst we will give credit to the *nurseryman* for estimating—1, Plantain; 2, Forget-me-Not; 3, Soft Grass; and 4, Lop Grass as weeds in a lawn of any description; these latter then were probably impurities of the Rye-grass, &c.

Now did this nurseryman know that the seeds were so dirty?—if so, why did he so call the bulk from which our sample was taken? If he did not know, what an exhibition of carelessness has he made. But perhaps, after all, he was not the author of the mixture; he might have got it from a wholesale house; but even then, if he knew his business, he had a fine margin for profit, and if he had not, his seedsmen must have put it into him rather stiffly. So that, viewed in any light, here appears to us to be a case of gross ignorance or worse.

We are bound to say that in as far as the seeds go they are equal if not superior to those usually sent out for Grass mixtures, for although it is true they contained a little more mouse dirt than we like, yet they were probably not very old shopkeepers; but in saying this we must warn our readers that good seeds are necessarily good kinds, or that they are mixed in proper proportions.

What we require in Grass admixtures is that they shall be good sorts for our purpose, chosen by men of intelligence; that the seeds themselves should be of good quality and mixed in the best possible proportions, and no one ought to refuse to pay a little beyond the seed value for such intelligence; but experience teaches us that seldom are these conditions complied with—anything and everything is not too bad for Grass admixtures. Our Correspondent states that "he has got a proper mixture from a respectable house at a fraction more than half the price of the rubbish." Now let it be understood that we know nothing of any of the parties here concerned; but we can well understand how a customer may be safer with a "respectable house," and we cannot help thinking that houses of this character will show their respectability all the more strongly by aiding us in the exposure of malpractices like those to which we now point.

And now, as regards the examination of specimens of this kind, all who have done it must know that it is no slight or enviable task, as they are not matters that we can lay in the balance with that accuracy which the chemist can the constituents of a sample of guano; still, even the chemist will necessarily have the charge brought against him of a difference in analysis, for where men are rogues enough to knowingly vend a spurious article, they may easily fabricate specimens and cases for analysis.

Let, however, the botanist or the chemist choose his specimens, and we cannot but think that the one as well as the other will be enabled to affix a money value for a mixture, whether of superphosphate or of seeds; and as regards the latter, this is becoming every day a matter of the greatest importance, as nurserymen and seedsmen are everywhere advertising such wonderful Grass mixtures—of which this specimen of "finest lawn Grass seed" is no uncommon sample.

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## STEAM CULTIVATION.

### MENTMORE, NEAR LEIGHTON BUZZARD.

(*Concluded from p. 347.*)

There being no farm steading on the land suitable to its manifold requirements previous to 1857, the first corn crops grown here were sold standing—and, in consequence, much London stable dung as well as grain had to be purchased for the following season's crops. Capital London manure is delivered per canal and carted on to the land for 6*s*. 6*d*. per ton.

In illustration of the primary measures of improvement, &c., up to that date adopted, Mr. Taylor states that 300 acres of white corn, namely 225 acres Rough Chaff White, and Red Lammas Wheat, and 75 acres Canadian Oats, were sold by auction (the right to buy back the straw being reserved however). This sale realised nearly 3000*l*.

After four years of steam cultivation had been carried on, the Cheddington Farm was cropped, and yielded as follows in 1861:—

| | | | | |
|---|---|---|---|---|
| White Wheat .. | 100 | acres producing | nearly 5½ qrs. per acre | |
| Oats .. .. .. | 70 | ,, ,, | 8 quarters per acre | |
| Beans .. .. | 30 | ,, ,, | 6 | ,, |
| Mangels .. .. | 40 | ,, ,, | 30 tons per acre | |
| Swedes .. .. | 50 | ,, ,, | 20 | ,, |
| Turnips and Kohl Rabi | 30 | ,, ,, | 25 | ,, |
| Clover and Seeds .. | 80 | ,, about | 2 | ,, |
| Tares, Vetches, Cole seed, &c. .. .. | 50 | ,, | luxuriant crops of each. | |

The remainder of the land was in dead fallow.

The Wheat realised in London market, 65*s*. per quarter on the average. All the spring corn was consumed at home on the land.

The usual cultivation of the clay lands in the neighbourhood is on the 3-year rotation, Wheat, Beans, fallow, with occasional Vetches and seeds. The cropping of the above 500 acres on the Mentmore Home Farm was last year as follows:—

| | |
|---|---|
| Wheat .. .. .. .. | 50 acres |
| Beans .. .. .. .. | 40 ,, |
| Oats .. .. .. .. | 45 ,, |
| Clover and seeds .. .. .. | 80 ,, |
| Mangels .. .. .. .. | 30 ,, |
| Swedes .. .. .. .. | 50 ,, |
| Vetches .. .. .. .. | 40 ,, |
| Kohl Rabi and Rape .. .. | 30 ,, |

The rest bare fallow.

The cropping is taken in any order, according to requirements:—the "Mentmore rotation" being followed—by which we are to understand that it is the landlord or his deputy, over whom no penalty for the infraction of rules of cultivation lies, whose will or judgment decides each year of every field what crop it shall bear.

When Baron Rothschild entered as a tenant as well as a landlord on the first portion of his land, a great deal of hired horse labour was employed, and 20*s*. per acre was the charge for a four or five-horse plough team, driven by a man and a boy. The work thus accomplished was perhaps 4 or 5 inches deep, and about 3 roods per diem were got over per team. If the land were in good order it was turned over in untrodden slices, and another half day's work of the same team with the harrows would reduce it to something like tilth. How imperfect the work, and how much more costly than that of the steam-drawn grubber, any one can judge.

The cultivation and regular carriage of the home estate is now done by 20 horses; which are worked in the neighbourhood four or five horses in a plough team. But for the extra work of improvements, &c., being carried on, as distinguished from farming operations proper, cartage is hired in the neighbourhood at the rate of 5*s*. per diem for one horse and cart including drivers (generally boys, managed by the owner of the teams), the time employed being the same as for day labourers.

Five and six horses per 100 acres of tillage land are a common allowance for the cultivation of the neighbourhood, and taking into account the great extent of pasture land attached, it is not too much to say that the farm here could not be worked by less than 30 horses without aid from steam; so that at least 10 are saved by the adoption of steam power.

All the farm horses are managed by one experienced horse keeper, receiving 15*s*. per week, and by boys receiving 6*s*. to 9*s*. per week, which of course includes the necessary attendance on Sundays. They get good hay chaff and Oat straw to browse *ad lib.*, 1 bushel of Oats a week all the year round, with half a bushel to 3 pecks of Beans during the severest portion of the working year. Rock salt in lumps is placed in the mangers, and a few Mangels or Kohl Rabi are thrown in also in their season, which the horses are found to relish much.

Vetches, Rye-grass, &c., are cut green for them, and they are fed in the large roomy cattle yards during the summer months, by which plan the stock of manure is largely increased even at that season of the year. The shoeing and other blacksmiths bill for the year is 35*l*. for the farm. The harness and saddlery expenses, the cost of repairs of carts and waggons, &c., amount to about 50*l*. per annum on the average. The farrier does not cost 5*l*. a year. Putting the horses at 40*l*. apiece, they will cost 4*l*. a head per annum for deterioration of value and for risk of death. And any one adding all these items together and charging 3*l*. a ton as spending price for the hay; 3*s*. a bushel for the Oats, 5*s*. for the Beans, and 9*d*. a cwt. for the cut and carried Vetches, will find that the team of 20 horses costs Baron Rothschild at least 700*l*., and that supposing he saves 10 horses by his steam cultivation, he saves 350*l*. in this way. Let us now see what the substituted steam power costs him. He was one of the earliest adopters of steam cultivation.

He purchased Smith's apparatus as made by Messrs. Howard in the summer of 1857. He has thus had five years' experience of it. The windlass (waggon fashion), an 8-horse-power single cylinder engine by Butlin, 1400 yards of iron wire rope, and the cultivators, anchors, rope-porters, and snatchblocks cost 500*l*. The iron wire rope gave way the first year, and 1600 yards of steel wire rope, costing 70*l*. was purchased in 1858. The whole apparatus, windlass, grubber, *this* wire rope, and engine, were in use up till Midsummer, 1862. The rope is still good enough for second cultivation, *i. e.*, of land already once moved by the grubber. The engine is nearly as good as ever, and so are the windlass and grubber. Nevertheless, in the autumn of 1862, Baron Rothschild having work for another engine, and perceiving the need soon of purchasing another rope, and moreover not perfectly satisfied with the performance of the Woolston grubber, which has been found at Mentmore less steady to its work, more liable to jump out of work than it ought—resolved to try Messrs. Howard's own apparatus, and so procured Clayton & Shuttleworth's 10-horse power engine and the Bedford grubber, windlass, and apparatus generally, together with the 3-furrow balance plough, which has just been declared an infringement of Fiskin's patent owned by Mr. John Fowler. When over Mentmore lately I saw Butlin's single cylinder 8-horse power engine, six years old, but none the worse for wear, busily engaged in chaff cutting and corn crushing, and the new 10-horse power engine

and Bedford apparatus cross grubbing in the field. The repairs of the whole apparatus, including tear and wear of rope and engine, Mr. Taylor says have not exceeded 40*l*. a year. This is on a valuation of the apparatus to the farm on which it is at work. A valuation for sale would no doubt be a good deal lower. The original apparatus, it may be mentioned, *is* for sale. And probably there would be on it, engine and all, a loss of at least 300*l*. on the original purchase; while the actual bills for repairs, including one new rope, 70*l*., must be at least £185 up till now. Putting however this utmost charge that can be laid against the work of steam cultivation on the score of expense, it will prove in the end to have been much cheaper as well as much better than that of horses.

The following has been the daily expenditure hitherto:—

| | s. | d. |
|---|---|---|
| *Fuel* for 8-horse power engine, less than ½ a ton daily, costing 15*s*. a ton on the ground .. .. .. | 7 | 6 |
| *Labour*.—Engineer, 3*s*.; 2 anchormen, 5*s*.; ploughman, 2*s*. 6*d*.; 2 windlassmen, 5*s*.; 2 boys at 1*s*. 2*d*.; water cart, 3*s*. .. .. .. | 20 | 10 |
| *Oil* .. .. .. .. | 1 | 0 |
| | 29 | 4 |

For this, with the 3-tined cultivator, 4 acres of first cultivation have been daily accomplished over any stubble land, 6 to 8 inches deep; and for this 7 acres have been accomplished of crossing this first grubbing with the 3-tined grubber. The first grubbing costs about 7*s*. an acre, the second grubbing costs about 4*s*. an acre; and for 11*s*. there is thus accomplished an acre of better work than with plough and harrow used to cost from 30*s*. up to 40*s*. an acre. In addition, however, to 11*s*. must be added the annual charge for tear and wear. A sum of 240*l*. in all, or 40*l*. per annum, must be thus charged against the work accomplished; and this, divided amongst the number of acres grubbed, amounts to 1*s*. 10*d*. per acre.

The following table gives the repairs and quantity of work done by the old apparatus since its purchase in 1857:—

*Actual Repairs.*

| | £ | s. | d. | |
|---|---|---|---|---|
| From Oct. 1857 .. to Oct. 1862 .. | 185 | 10 | 9 | including rope at about 17*l*. per an., 4 years. |
| | 53 | 5 | 3 | cost price of wire rope worn out in the first year. |
| Six years .. | £238 | 16 | 0 | |

Or about 40*l*. per annum over six years.

| Year. | No. of Acres grubbed. | No. of Days at work. |
|---|---|---|
| Autumn of 1857 .. .. .. | 275 | 68 |
| " 1858 .. .. .. | 400 | 83 |
| " 1859 .. .. .. | 475 | 102 |
| " 1860 .. .. .. | 415 | 87 |
| " 1861 .. .. .. | 465 | 98 |
| Spring and Summer of 1862 .. | 225 | 47 |
| Total .. .. .. .. | 2245 | 485 |
| Autumn of 1862 .. .. .. | 350 | 75* |

* Including removals.

The last items are to the credit of the new apparatus; and in addition to these there must be put down since the first Tuesday in February, and up to Thursday, the 19th of March, during which only two days had been lost in shifting the apparatus; during 36 days, therefore, 40 acres of Oat stubble ploughed once for Beans 8 or 9 inches deep, and harrowed by steam power with a tool which drags the whole of the moved earth, 5 acres of Turnip land ploughed for Oats, 35 acres of Bean stubble for Oats, stirred or grubbed once with the 3-tined grubber and crossed with the same tool, and 20 acres of it crossed another time with the 5-tined grubber. Here are 45 acres of ploughing and 90 acres of grubbing, and 45 acres of heavy dragging equal to a grubbing, accomplished in 36 days, equal to 180 acres altogether, or 5 acres a day, which is a lower average than usual; first, because in February the days are short, and next because the 45 acres of ploughing with Howard's 3-furrow balance plough were done at a slower rate than usual—owing to its being a new tool to which the men were as yet unaccustomed.

This work has been accomplished at a cost of 56*l*. 8*s*. for fuel, oil, and wages, or at the rate of 6*s*. 3*d*. an acre. By horse power, at 1*l*. a day for a team of five, the 45 acres of ploughing would have cost at least 60*l*. The 45 acres of harrowing could not have been done at all by horse-power as steam-ploughing did it—but it would have taken at least 10 days of a team to do it anyhow after the same fashion, costing 10*l*. The 35 acres of grubbing would have taken six horses 10 days, and the crossing, which could not have been done by horses at all without doing more harm than good, would have taken four horses as many days, and the third operation over 20 acres would have taken five or six days more. To 70*l*. for the ploughing and harrowing there must therefore have been added 30*l*. for the cultivating, or 100*l*. in all—nearly twice as much as steam power cost, and for very inferior work to that done by it.

The tear and wear of the new apparatus hitherto has been nothing, but if the same charge per acre as that already estimated on this account be added, it still makes the thoroughly efficient work of steam drawn cultivation wonderfully cheap.

Mr. Taylor speaks with great confidence in praise of Howard's grubber, which he admires for its steadiness at work, and for the facility with which it can be drawn back for clearance when it gets clogged by filth or depth of work. He also speaks of the great satisfaction which Clayton & Shuttleworth's 10-horse power engine gives. It is a draught engine capable of self-propulsion, and dragging windlass and everything else behind it from the field, so that in place of six (generally on his soil) horses to the engine, three horses to the waggon-shaped windlass carrying rope, rope porters, &c., and a team to the cultivator, and at least half a day of all this force and of the men in thus shifting from one field to another and in setting to work, which used to be the rule, now the engine of itself if the roads be good, or at most with one horse in the shafts for guidance, hooks on everything and trains out of one field into another without difficulty. But the land lies open at Mentmore, and a great deal of it has been laid in very large fields, so that the labour of removals is not great. In the case quoted above, the engine had not shifted while three times the grubbing of a 35-acre piece had been accomplished. This self-propelling power of the engine it is intended hereafter to use in draught work of coals, &c., along roads from the station, and perhaps in getting crops off the fields, though here the advantage seems more doubtful. The whole apparatus as now used, costs—for engine, with wrought iron wheels, 420*l*.—for plough cultivator, windlass, rope, and rope porters, snatch-blocks, anchors, &c., including 400 yards of extra rope, 299*l*. The daily expenses are as stated above 29*s*. 4*d*., for the new engine consumes only 10 cwt. of coal, and working at 45 to 65 lbs. of steam is quite master of the heavy work which the Mentmore soil gives it to do.

There are many other particulars of interest to the agriculturist which one gleans on a visit to Mentmore. The mowing machine is employed on 200 acres of permanent Grass land as well as on the Clover. Both Burgess & Key's and Cranstoun's tool do satisfactory work cheaper than hand labour, notwithstanding that here it is the custom to let the mowing, the pitching in the field to waggons, and the *superintendence* of the building in the yard, to the same party—who will undertake it for 5*s*. an acre and one gallon of beer per acre. This seems so much less than is paid elsewhere quite as far from London, that it is worth while recording it.

The best land, consisting of about 100 acres prime old pasture (in one division of the intended park arrangement) is stocked with a mixed herd of some 50 or 60 head of Short-horn, Hereford, and Devon oxen, usually bought in in the spring at three or four years old, grazed during summer; and through the aid of 2 or 3 lbs. of cake, given them daily on the land after midsummer, the greater part of them get off fat from the pastures in autumn, the remainder being kept on for stall feeding. There is also usually kept a small herd of mountain cattle (Kerry cows and heifers) obtained direct from Ireland every year, and brought in to winter in open yards on Oat-straw (cut) and roots sliced or pulped for them. They graze along with any barren cow stock from the dairy herd, the secondary pastures during summer. They are found when thus liberally treated in winter, and not too thickly laid at Grass, to do exceedingly well here, the whole of them being usually got off the pastures fat by October. All the grazing land is filled in with ewes and lambs until the latter are weaned or sold off fat. 100 head or thereabout of 2 year old Durham or Short-horn heifers, are bought partly at Darlington and partly in the home counties in May, and sold in calf after 10 or 11 months keeping, bulls being kept on the farm for serving them. There are also about 30 milch cows in the dairy herd, chiefly for home supply, and large numbers of calves are bought and sold, some of them fat if they turn out of a kindly sort for feeding, others as heifers in calf, and others again are parted with younger, those being kept which are likeliest to do well. In rearing young stock the calf sucks the cow for three or four weeks, and is afterwards gradually weaned, being fed from the pail, and receiving hay chaff with meal and cut Carrots, which are bought for the purpose, 3 or 4 miles off, at 30*s*. to 40*s*. a ton. There are also 500 ewes, generally half breds or Shropshires, which are bought every autumn and sold fat with their produce during the following summer and autumn. The wether flock, about 500, are folded on the arable farm all summer, and receive cake and corn at Vetches until finished in autumn on Cole-seed or the Clover aftermath, which is invariably fed off here. Early lamb is not attempted. The lambing season commences in February, and the first fat lamb goes off in July, when 6*s*. to 6*s*. 4*d*. a stone are common prices, or 33*s*. to 35*s*. a head; the ewes, too, command 50*s*. besides their fleece The pay for the year's keep of ewes and lambs is thus the difference between purchase at perhaps 45*s*. and the 50*s*., together with the value of the fleece, perhaps 10*s*., and 35*s*. the value of the lamb, or 2*l*. in all.

During the ensuing year it is intended to keep on the heifers which would otherwise be sold in calf—rearing a larger number of calves than usual, and sending any surplus milk into London. In this way the risks of marketing are diminished; and they are considerable—it being an understood thing that any lot of newly bought stock goes through the distemper as soon as it gets home. But little is done to them while undergoing the disease, they are merely dosed with sulphur water and a cooling drink or two, and fed with hay on the pastures for awhile if keep is short or the weather cold. Feeding liberally a large head of stock, the cake and meal will average at least 1000*l*. a year. Besides this, considerable purchases of superphosphate and guano are made, and large quantities of bones from the Mentmore kennels are crushed in a bone-mill in connection with the other barn implements driven by steam-power, so that the land by tillage and by feeding is not likely to lose its fertility in Baron Rothschild's hands.

Farm buildings of a temporary character—substantial enough however, though wooden—painted *blue!* and roofed with slate—have been built with probably the idea of removal when the Park is completed. Comfortable yards surrounded by very deep sheds (slated and 20 feet wide)—now filled with a large stock of in-calf heifers—machinery for threshing, chaff cutting, and corn crushing—roomy granaries—long tiers of stalls and boxes for cattle feeding—implement sheds, &c., make up the ample accommodation provided in these quadrangular buildings. They are surrounded by ricks of Wheat and Oats showing strong clean bright straw—and in the fields the stubbles, filled with a capital plant of red and Alsike Clover, look clean and strong. The Alsike Clover is approved as producing a crop almost equal in strength to the Cow-grass, and somewhat of a change on land where common Clover may be taken too frequently.

Among other crops which seem to suit the soil is Kohl Rabi, which is said to yield good produce—capital for the cows and heifers when pulped and mixed with hay chaff.

Here then is the case of a mixed farm of heavy soil on which labour formerly so swallowed up returns that poor Grass land, throwing upwards to the sun as poor an annual growth as is yielded anywhere, was preferred to ploughland cultivation—on which by drainage, steam tillage, cattle feeding, and the direct application of manure, costly, bare fallows have been changed for heavy crops of Beans and Mangel Wurzel. And instead of scanty dairy produce, large sales of Wheat, of mutton, beef, and breeding stock, have been substituted with great immediate advantage to the country, and with ultimate advantage we doubt not to the spirited owner and occupier of the land.

## THE FEEDING VALUE OF KOHL-RABI, WITH A FEW REMARKS ON MANGEL WURZEL.

[The following instructive report by Mr. T. Baldwin, Albert Institution, Glasnevin, has been lately published in the Irish Agricultural Papers.]

Some Kohl Rabi having been grown last year on the Albert Model Farm, it occurred to me that it would be instructive to our pupils, and interesting and not uninstructive to the public, if we tested its feeding value practically in the cattle byre. On mentioning the matter to Dr. Kirkpatrick, he, with his usual kindness and desire to promote every object of public utility, encouraged me to carry out my views; and for this purpose we selected four beasts, on which was tried, as carefully as we could, the experiment which forms the subject of this memorandum. On the evening of January 2 last the animals were placed in a four-stall stand, in a very well constructed byre, and given in charge to a pupil named Patrick Hill, remarkable for his steadiness and good conduct. For convenience of reference, we shall divide them into—

Nos. 1 and 2, making up Lot I. Fed on Kohl Rabi, oilcake, and hay.

Nos. 3 and 4, making up Lot II. Fed on Swedish Turnips, oilcake, and hay.

Nos. 1 and 4 were more than "half fat" (using the expression in the sense in which it is employed in "Ewart's Cattle Gauge") when the experiment was commenced, as they had been stall-fed on Swedish Turnips, oil-cake, and hay for some time previously. As they differed very little in weight and condition, they made a good match; and I can say this the more confidently, because I had for several months been in the habit of seeing them at least once a day. Nos. 2 and 3 were young milch cows, which also made a capital match, being as nearly as possible equal in weight and quality.

As the animals fed on Kohl Rabi did not relish it, and as it was desirable to allow for the change which a change of food may produce in the system, the experiment did not really commence till the 12th January. At half-past 4 o'clock, p.m. on that day, I found they weighed as follows:—

| | cwt | stone |
|---|---|---|
| No. 1 .. .. .. .. .. | 10 | 1 |
| " 2 .. .. .. .. .. | 7 | 4 |
| " 3 .. .. .. .. .. | 7 | 5 |
| " 4 .. .. .. .. .. | 10 | 2 |

From that date till the 25th January they got the following kinds and quantities of feeding daily:—

| | No. 1. | No. 2. | No. 4. | No. 4. |
|---|---|---|---|---|
| Roots, stones .. .. | 7½ | 6 | 6 | 7½ |
| Oilcake, lb. .. .. | 4½ | 3 | 3 | 4½ |
| Hay, lb. .. .. | 10½ | 10½ | 10½ | 10½ |

The roots were given in three feeds, viz., at half-past 6 A.M., 12 noon, and at half-past 6 P.M.; and the cake in three feeds, at 10 A.M., 3 P.M., and half-past 8 in the evening. These hours were adopted because Nos. 1

and 4 had been fed at the same time before I took any part in their feeding. From the commencement, Nos. 1 and 2 showed an unwillingness to eat the Kohl Rabi; but as we presented it to them in as clean a state as possible, they had managed to eat it before the subsequent feed of oilcake. I would have preferred to mix the cake with the roots from the start, but we were unwilling to make too many changes in the feeding all at once.

On the evening of the 24th of January I wrote out the following scale of feeding, which came into use on the morning of the 25th :—

| | | No. 1. | No. 2. | No. 3. | No. 4. |
|---|---|---|---|---|---|
| At 6.30 P.M. | Roots, stones .. .. | 3 | 2½ | 2½ | 3 |
| | Cake, lbs. .. .. | 1½ | 1 | 1 | 1½ |
| At 12.30 P.M. | Roots, stones .. | 3 | 2½ | 2½ | 3 |
| | Cake, lbs. .. .. | 1½ | 1½ | 1 | 1½ |
| At 6.30 | Roots, stones .. | 3 | 2½ | 2½ | 3 |
| | Cake, lbs. .. .. | 1½ | 1 | 1 | 1½ |
| At 9.30 | Hay, lbs. .. .. | 7 | 7 | 7 | 7 |

In this way the Kohl Rabi was eaten up more quickly than before; still, on no one occasion did I find that they were used in so short a time as the Swedes; and I may here observe that the cows fed on this root showed almost as much unwillingness to eat it at the close as at the commencement of the experiment, notwithstanding that it lasted 40 days. The cattle were again put upon the weighing machine, between 4 and 5 o'clock P.M., on the 11th February, and weighed as follows :—

| | | |
|---|---|---|
| No. 1 .. .. .. | 10 cwt. 4 stones (barely) | |
| ,, 2 .. .. .. | 7 ,, 6 ,, | ,, |
| ,, 3 .. .. .. | 8 ,, 3 ,, | ,, |
| ,, 4 .. .. .. | 10 ,, 7½ ,, | ,, |

The increase in live weight in each beast and lot for 30 days may be put thus :—

| | | Weight on 12th Jan. | | Weight on 11th Feb. | | Increase in 30 days. |
|---|---|---|---|---|---|---|
| | | Cwt. | st. | Cwt. | st. | Stones. |
| No. 1 | Lot 1, fed on Kohl Rabi, &c. .. | 10 | 1 | 10 | 4 | 3 |
| ,, 2 | | 7 | 4 | 7 | 6 | 2 |
| | | | | | | Total 5 |
| No. 3 | Lot 2, fed on Swedish Turnips, &c. .. | 7 | 5 | 8 | 3 | 6 |
| ,, 4 | | 10 | 2 | 10 | 7½ | 5½ |
| | | | | | | Total 11½ |

It thus appears that the lot fed on Swedish Turnips, oil-cake, and hay increased in live weight in the same time more than twice as much as the lot fed on the same quantities of Kohl Rabi, oilcake, and hay. This experiment and my previous observations leave little doubt on my mind that Swedish Turnips are, weight for weight, better for stall-feeding than Kohl Rabi; and when we add to this, that the average acreable yield of the two crops on the Model Farm last season was 25 tons of Swedes against 13½ tons of Kohl Rabi, their relative value for stall-feeding is soon decided.

I am aware that others have spoken very highly of the crop for feeding purposes; but I have not seen any comparative experiments in support of their views.

I am also aware that in the able and elaborate paper on Kohl Rabi, contributed by Mr. Lawson, of Edinburgh, to the *Journal of the Royal Agricultural Society of England* (vol. xx.), an organic analysis of the root by Dr. Anderson is given, from which it would appear that it ought to possess far higher feeding value than Swedes.

It may be interesting to compare this analysis, which has also appeared in Professor Wilson's work on "Farm Crops," with Dr. Voelcker's proximate average composition of Swedes, as given in his "Chemistry of Food;" and as I propose to offer a few remarks on Mangel Wurzel, I also give its average composition from the same work.

| | Kohl Rabi. | Swedes. | Mangel Wurzel. |
|---|---|---|---|
| | Anderson. | Voelcker. | Voelcker. |
| Water .. .. .. .. | 86.740 | 89.460 | 87.780 |
| Nitrogenised compounds or flesh-formers .. .. .. | 2.750 | 1.443 | 1.540 |
| Respiratory compounds, heat-givers, and fat producers .. | 8.620 | 5.932 | 8.600 |
| Fibre .. .. .. .. | 0.770 | 2.542 | 1.120 |
| Ash .. .. .. .. | 1.120 | 0.623 | 0.960 |
| | 100.000 | 100.000 | 100.000 |

If these figures represented the average composition of these roots, and if chemical analyses were an unerring test of the absolute or comparative feeding value of the several articles of food, Kohl Rabi would possess far higher value than Swedes, and Dr. Anderson would be perfectly justified in saying, as he has said, in a passage quoted from him by Mr. Lawson, that "Kohl Rabi materially surpasses the best Swedes, which rarely contain more than 9 or 10 per cent. of solid matters, and about 1-5th per cent. of nitrogenised compounds."* It is not, however, safe to found any conclusions on the analysis of a single specimen of any root: and, in the present state of science, it is almost as dangerous to attempt to form an opinion as to the feeding value of any substance by chemical analysis alone. This is not the place to enter more fully into the merits and demerits of chemical analysis, nor do I wish to pass the boundary that separates the domain of the scientific agriculturist from that of the professional analyst; but I must say, in the interest of practical agriculture, that any attempt to found a system of cattle feeding on chemical analysis alone is liable to end in disappointments and losses. The chemist has been eminently useful to the cattle feeder; but the chemist is not in his laboratory competent to form a correct and reliable opinion of the actual relative or absolute value of feeding stuffs.

* Since the publication of Dr. Anderson's analysis of Kohl Rabi, Dr. Voelcker has analysed both the green and purple varieties, the results of which are published in the 21st volume of the Journal of the Royal Agricultural Society of England. "Theoretically," he observes, "Kohl Rabi is fully equal, if not superior, to Swedes or Mangels;" but he very properly adds—"These remarks, however, apply only to the specimens which I had an opportunity of examining. Future examinations, and above all, practical feeding experiments, are required to establish fully the comparative feeding value of Kohl Rabi."—Page 95.

All my observations on Kohl Rabi as a feeding substance incline me to think that it is better adapted for the production of milk than flesh and fat. I have found that a given weight of it produces fully as much milk and of better flavour than Swedes. The experiment more immediately under consideration is very much in favour of the former root both as regards the quantity and quality of the milk. Thus, the two heifers, which were giving about the same quantity of milk when the experiment began, yielded in 30 days—

| | | |
|---|---|---|
| No. 2. Fed on Kohl Rabi, &c. .. .. | 92½ quarts. | |
| *No. 3. Fed on Swedes, &c. .. .. | 78 | ,, |

And again, I used lactometers of the same size and construction for the purpose of determining the quantity of cream in the milk, and that produced from Kohl Rabi gave a higher per centage than the other, the excess varying from 1 to 2 per cent., the average of the trials giving 1½ per cent.

It is generally believed that cows fed on Swedes give milk richer in cream than those fed on Mangels; but taking into account the greater flow of milk obtained from Mangel Wurzel, the better flavour of the milk so obtained, the greater certainty of the crop in many cases, more especially where, from being too often repeated on the land, the Swedish Turnip fails, and the greater weight of roots obtained when the soil and climate are adapted to its growth, I hope it will not be amiss if in this statement I express the opinion that the extension of the area under Mangel Wurzel in Ireland is a problem worthy of the consideration of those who are sincerely desirous of promoting the agricultural interests of the country.

We have in Ireland upwards of 15,000,000 of acres of arable land. Of these, we had in 1862, 377,149 acres under Turnips, and only 23,245 acres under Mangel Wurzel; or 1 acre of the latter for every 16 and a half acres of the former. Comparing the areas under these crops in the four provinces for 1862, I find—

| | | | | |
|---|---|---|---|---|
| In Leinster | one acre of | Mangels for every | 9.8 | acres of Swedes. |
| In Munster | ,, | ,, | 20.7 | ,, |
| In Ulster | ,, | ,, | 22 | ,, |
| In Connaught | ,, | ,, | 36.8 | ,, |

When we consider the advantage which the Mangel crop possesses, its great freedom from those diseases which often destroy the Turnip crop; the increased chances of growing better Turnips by alternating or rotating it with Mangel, as those crops come round in the rotation; its greater production when the land is made deep and rich, as it ought to be; its admirable adaptation for milch cattle; and its well known property of keeping sound for a long time in pits, I submit that the above proportions might be materially altered in favour of this crop.

It must not be inferred from this statement that I advocate any curtailment of Turnip husbandry: what I advocate is, not a decrease in the area under any of our well established green crops, but an extension of that which I believe to be the most productive on the deeply tilled and well manured lands of this country; and if the total area under green crops is not increased, that the Mangel should receive more attention than has been hitherto bestowed upon it. I desire to see its cultivation better understood, and its properties better appreciated by the tenant farmer. On the Glasnevin soil we find it a far more productive and a safer crop than Swedes, and it is not a little interesting to find that without a single exception the average yield of the Mangel, as shown in the returns of the Registrar-General, has exceeded that of Turnips since the collection of these statistics were begun in 1847. Through the courtesy of Mr. Donnelly, I am enabled to compile the following table of the annual acreable yield of those crops.

| | Mangel Wurzel. | Turnips. |
|---|---|---|
| | Tons. | Tons. |
| 1847 .. .. .. .. | 18.0 | 15.5 |
| 1848 .. .. .. .. | 17.5 | 14.3 |
| 1849 .. .. .. .. | 18.5 | 16.1 |
| 1850 .. .. .. .. | 17.9 | 15.7 |
| 1851 .. .. .. .. | 18.0 | 15.9 |
| 1852 .. .. .. .. | 18.1 | 15.9 |
| 1853 .. .. .. .. | 17.7 | 16.4 |
| 1854 .. .. .. .. | 17.2 | 15.8 |
| 1855 .. .. .. .. | 18.6 | 16.6 |
| 1856 .. .. .. .. | 13.0 | 12.9 |
| 1857 .. .. .. .. | 13.9 | 12.5 |
| 1858 .. .. .. .. | 13.7 | 12.9 |
| 1859 .. .. .. .. | 11.4 | 10.7 |
| 1860 .. .. .. .. | 9.1 | 8.3 |
| Average of 14 years .. .. | 17.2 | 14.2 |

* In explanation of the small yield of milk, I may add that these are very young cattle, and a considerable time has elapsed since they calved.

If these figures and the reflections in which I have indulged possess any interest or value, their consideration is just now opportune for many reasons. In the first place, the proper season for preparing the ground for Mangel Wurzel is not very far distant; and secondly, every agricultural suggestion possessing any value, no matter how little, should receive the fullest consideration at the hands of those who are patriotically using their influence to alleviate the pressure of the times and to raise the small farmer to a position in which he would be able to cope with those vicissitudes of seasons, which will always weigh heavily upon him, so long as he relies mainly on grain crops to meet his engagements. Under these circumstances, I venture to suggest the propriety of enlarging the area under Mangel Wurzel, not only because it is a productive and profitable root, but also because it will extend green crop husbandry, which, bringing in its train more productive industry, more meat, more dairy produce, and even more corn, I regard as the great foundation on which to build up the permanent agricultural prosperity of Ireland.

## Home Correspondence.

*The International Agricultural Meeting at Hamburgh.*—Will you kindly say in your paper of this week, that the following are the agents in London to the International Agricultural Exhibition (Hamburg). *Shanks Barker & Sons, the General Steam Navigation Company, Messrs. Drolenvaux & Brennen,* 14 *Mark Lane.*

*Summer Forecasts.*—Your hostility to my Summer Forecasts is rather too uncompromising in its principle. It pre-supposes that no one can fairly pretend to forecast a summer season, who cannot at the same time so reduce the elements of his calculation to positive terms, as to enable others to judge as well as himself for the future and the present, and so as to make the records of the past simply minister proofs of his correctness. It has been observed in scientific treatises, that long experience and observation, and personal assiduity and application, may give a shadowy foreknowledge of atmospheric changes to come which is hardly communicable to others, and receives no accession in the progress of ages. I do not pretend that this is the case with me, but I may refer to my expressed convictions last year, "that there exists no cycle of the seasons, properly speaking, in the British isles, no real return of the peculiar changes which mark every individual summer," and therefore, as I will now add, every individual vernal equinox also. The circumstances attendant on one vernal equinox are never the same as those which surround another; and a cautious induction from all that is observed, reviewed in the light of a long and chequered experience, may therefore best describe the process to be followed each year. I conclude thus: I considered that I had something to say before I began to address others on this subject. I do not fear to find myself wrong if I am wrong, and I intend to make the first of April the day of all my future publications, if any, on this matter, as I do not mind a little harmless badinage about "All Fools' Day." *Thomas Du Boulay, Sandgate, April* 15.

*Twin Lambing.*—In your Number for April 4th, I find that "R. P., Cumberland," suggests a well known propensity of certain ewes to adopt the lambs of other ewes at various periods anterior to their own parturition, as an answer to my question of March 21st. I cannot take the fact above suggested as an answer. My shepherd is quite positive that all the well known signs of parturition were exhibited in both cases. The first lamb of Feb. 18th was small and weak for a few days and has not grown well, the lamb of March 16th was large and strong from the first, and now, April 14, bids fair to outstrip its sister. *Breton.*

*Jaundice in Sheep.*—It may interest your readers to have some particulars concerning a disease which has affected a portion of the College flock, and which I am informed has appeared in other localities. The ewes chiefly affected were purchased last fall, in moderate condition, off dry healthy land; they wintered well on Turnips and straw, lying at night in a straw yard. Soon after lambing they began to lose flesh, and on being removed from a field of Swedes, where the ewe pen was placed, on to some late sown Turnips after Vetches, a rapid change for the worse took place; several ewes died, and on being opened the flesh was found of a bright yellow colour, and the organs much diseased, congestion of lungs and liver, the latter being particularly disorganised. The urine was very dark coloured, though the kidneys appeared less diseased than other parts. The membrane of the eye was tinged with yellow and very pale, and the blood appeared thin and poor. Some of our own ewes were slightly affected, but the worst cases were amongst the purchased sheep. As several of the ewes died, the remainder of the flock was changed back to the Swedes, and corn was given—1 pint of bruised Oats and ¼ lb. of Nut meal. At the same time we gave the following dose, from a recipe of Prof. Brown:—Extract of taraxacum, ½ ounce; sulphate of magnesia, 4 ounces; carbonate of iron, 2 drachms; water, 1 pint. A fourth part of this mixture was given once or twice a day. An improvement took place almost immediately, the yellow tinge disappeared and was replaced by a more healthy red appearance, and the animals fed better. Portions of the dead animals were forwarded to Professor Brown, who, after a careful examination,

came to the following conclusions:—1st, that there was a fibrinous condition of blood, induced by feeding on watery and innutritious food; 2d, derangement of liver and imperfect secretion of bile, with defective formation of blood corpuscles and fat elements; 3d, general congestion, arising from the reflux of blood upon a system already predisposed. He recommends the continuance of the Taraxacum draught, substituting for the carbonate of iron, a solution of acetate of ammonia, 1 ounce; probably it would be well to give the first-mentioned dose until the worst symptoms were removed, and until red blood was seen in the eye. If the effect of the medicine should be to cause purging, reduce the proportion of sulphate of magnesia. I am pleased to be able to state that this treatment has been very efficacious. *John Coleman, Royal Agricultural College Farm, Cirencester.*

*"Roaring" Heifers.*—*Case* 1. When I was a schoolboy I well recollect my father's herdsman taking a heifer from the field that was purchased for fatting, and tying her up in the stall. I asked him what that was for. He said she must be fatted in the house—she is a "roarer." I could not make out the meaning of a "roarer." He explained it thus: she is as bad as a bull, and is always riding and teazing her company, and hooks and breaks the fences very much. I thought the man was for sending me off with a flying story. So I went to my father and asked him the meaning of it. He explained it to me, and told me that it often happened to some of the best Devons; and that he believed it to arise from their high living and high breeding, and also from their not being allowed to go to the bull. *Case* 2. My father purchased for me five very well bred Devon heifer calves at a sale. One of them became, as I have before described, noisy and restless; in a word a complete "roarer." So I sold her to a butcher. These calves were bred principally from the stock of Mr. Quartly, and their flesh was of the best quality. I always kept them well, allowing them three pounds of cake per day with their ordinary food. The "roarer" was especially good and level; and had she gone on well, I had intended in due time to have exhibited her at the Smithfield Show, where I once had the good luck to win a first prize with a Devon cow, bred by Lord Portman, the lamented Prince Consort being second. *Case* 3. Roaring, however, is not confined to the Devon breed. I had in my stall, a few years ago, a pure bred Hereford heifer, which I bought when only a few days old. She was fed summer and winter in the yard and stall. When she was about three years old, I was surprised at seeing her udder fill, just as heifers will before calving. A neighbour, an experienced cattle breeder, called upon me at the time, to whom I related the circumstance. He looked at her and said she would become a roarer within a month. He was right; in less than 10 days, such was the case. I have not related these things with a view of instructing experienced men, but for the sake of young graziers and stall feeders who might otherwise be vainly tempted to keep such animals. The best cure is to sell them at once to the butcher. *John Ford, jun., Rushton.*

*Lambing of Ewes.*—I see in the *Agricultural Gazette* of the 21st ult. that a Correspondent says he has a ewe that dropped a ewe lamb on the 18th of February, and a male one a month after, and he writes to know if this is common. We have had a similar case. A ewe dropped a dead lamb about the 25th of January, and was then turned over to the part of the flock that had lambed; her milk did not come then, and about the 24th of February she had another, alive at the present time. I have never seen any other case like it. *G. S.*

*Moles.*—My friend Mr. Wilkins, let us work, not talk. What's the good of moles? That's the question. I have shown that my crops do not suffer from their destruction. This does not appear to satisfy you. Then let me tell you that mole killing has been very general in this neighbourhood for very many years. Yet for all that the crops do not suffer from wire worm, except occasionally on a bit of newly broken-up land for the first year or so, where turf burning or other known remedies have not been resorted to. Then, "my dear friend, calm your mind, and sleep sound," if you can, over these plain facts. *William Smith, Woolston, Bletchley Station.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

A Meeting of the Members of the Royal Agricultural Association took place on Wednesday last at their rooms, in Hanover Square, Mr. Raymond Barker in the Chair.

### ADULTERATION OF LINSEED CAKE.

Professor Voelcker, in introducing to the notice of the meeting the subject of the adulteration of Linseed cake, said that it was a subject of special importance at the present time, when not only oilcake but all kinds of feeding mixtures were largely employed by the British farmer in fattening cattle. It was no doubt owing to the great demand for all kinds of feeding materials that those which admitted of ready adulteration were frequently found to be mixed up sometimes with matter which was injurious to health, and at other times with substances which possessed no feeding properties, or feeding properties of a very doubtful character; in point of fact, the increasing demand for oilcake had led to an amount of adulteration of the extent of which the practical farmer was hardly aware. Any one who looked at the various descriptions of oilcake exhibited for sale at the stalls in any large market, could not fail to be struck with the very great difference which was apparent in its colour and composition. No such difference was visible in the seed, samples of which he had before him, whereas if they contrasted the various specimens of oilcake which lay upon the table, they would find some specimens nearly as white as Poppy cake, and others nearly as dark as Rape-cake, while one specimen was exhibited which gave them a proper idea of the agreeable colour of the Linseed itself. It therefore did not require any great amount of analytical skill to convince them that in the one case the oilcake was adulterated with white Poppy cake, and that the dark coloured cake was in all probability adulterated with Rape, while the medium colour specimen would represent the pure Linseed-cake. The very appearance of the cake exhibited showed that it had undergone some other process than the mere crushing for the extraction of the oil, and which process would in all probability influence its quality. Those manufacturers who confined themselves to the operation of mixing Linseed of an inferior description with that of a superior quality inflicted less injury upon the practical farmers than others who were guilty of adulterating it with foreign substances, because in such cases the farmers lost in point of money only, because they paid a high price for inferior cake like Rape-cake, whereas in many instances the cattle were seriously injured and even poisoned by eating oilcake adulterated with foreign matter. He would in the first place direct their attention to those admixtures which were in themselves injurious, and secondly, to admixtures which became injurious during the time the cake was being kept. There were a variety of things added to oilcake which deteriorated the quality of meat by imparting a bad flavour to it, which was the reason why butchers would not give the same price for cattle fed upon inferior and bad tasting oilcake which they would for those fed upon cake of a superior quality. A good pure Linseed-cake ought to be made of nothing but fair Linseed—he did not mean to say absolutely pure, because none such was to be found in the market, and the purity of Linseed varied to such a degree that it was in many cases no guarantee when a manufacturer advertised his oilcake as being made from pure Linseed as imported. He had before him a variety of samples which had been collected at random as Linseed ordinarily sold in our markets, and in one of those samples, which was termed as of middling quality, he found no less than 34½ per cent. of foreign seeds which were not Linseed. A manufacturer, therefore, who stamped such seed as genuine Linseed would not be dealing honestly with his customers, even although it might be sold as imported. In order to show to what an extent the impurities existed in the ordinary Linseed, as sold in the market, he had found on actual examination of the samples that in Bombay Linseed they were 4½ per cent., in a sample of fine quality 1¾ per cent.; in Black Sea Linseed, 20 per cent.; in a second sample, 12 per cent.; in Odessa Linseed, 12½ per cent.; in medium Riga seed, 35 per cent.; in Merzhanski Linseed, 7 per cent.; in fine Black Sea Linseed, imported in 1861 and 1862, and considered of good average quality, 19 per cent.; in fine Petersburgh, 3 per cent.; in the common Petersburgh Rigelf Linseed, 41 per cent.; second quality, 43½ per cent.; and in the average quality of Riga crushing Linseed the impurities were no less than 45½ per cent. In another specimen of the common Riga Linseed, imported in 1862, the impurities amounted to 42 per cent., consisting 22 per cent. of Spurry (Specula arvensis), 3 per cent. of Lolium temulentum (Darnel), 3 per cent. of Dodder (Carmelina), 2 per cent. of Knot Grass (Polygonus aviculare), 1 per cent. of Chenorodium, and 11 per cent. of Mustard and other seeds; and above all, he found that in the common Petersburgh Rigelf Linseed, a large portion of which found its way to Hull and other ports, the impurities actually amounted to no less than 70 per cent., while even that which came from Archangel was adulterated to the extent of 34½ per cent. In the samples which he had examined he had detected, not only many seeds injurious to the quality of the cake, but several which were actually poisonous. He had taken the trouble of separating from several samples of Linseed the foreign seeds, and in one particular sample he counted no less than 29 different kinds of weed seeds, and among those which were more or less injurious were the common Darnel and the Corncockle, which often produced very injurious effects on the animal system. In some samples the wild Radish seed occurred, which was a very pungent seed. Wild Rape was frequently found in foreign Linseed. Then they found Charnock or common wild Mustard. There were seeds which were positively known to be injurious to cattle, but there were many others in the ordinary Linseed cake sold in the market which impaired the quality of the meat, though not so injurious to the health of the animals. Such were the seeds of the Gold of Pleasure plant, which imparted a disagreeable taste to the meat, and a deep yellow colour to the fat. The Parching Flax was another description of seed that injured cattle, but which he had found in the sample of oilcake before him. Good oilcake ought to be of a bright colour, and when mixed with water to form a smooth and an agreeable tasting and smelling jelly, while that which was adulterated by the admixture of other injurious seeds did not only not powder and mix well, but often had a disagreeable smell as if it had been kept too long. If oilcake when mixed with water did not become gelatinous, it was not cake of the best description, but it did not therefore follow that it was a good cake simply because it might become gelatinous by being so mixed, because it would become equally gelatinous when adulterated with such seeds as Rape, with Mustard, or Dodder seeds, which latter were in point of fact more gelatinous than Linseed itself. When cake containing these seeds was mixed with water, a strong pungent smell of Mustard was developed, and oilcake ought always to be tested in that way. Rape cake, especially that which was sold as Indian Rapecake, generally contained a large amount of wild Mustard seed, and when mixed often became so pungent as to be highly injurious to cattle; and he had before him a sample of that description of cake which had actually killed three oxen. Good Rape cake, when examined with an ordinary pocket lens, ought to exhibit nothing but the husks of the Linseed when made into a jelly, but in the specimens before him they could easily discover and single out the seeds of other plants. They could easily recognise the husks of other seeds in that way even in comparatively pure Linseed-cake, whether it was made of bad seed, or seed intermixed with other seeds, such as the hard Polygonia seeds or the seed of the climbing Buckwheat, because the husks must be left in the cake. In that way they could discover the admixture of Cotton Seed from the very peculiar character of the husk. He had before him a sample of cake branded as pure which contained Cotton husks which were very easily recognisable. He had not included bran in his list of adulterating materials, because it possessed some feeding properties and might be advantageously given with Linseed cake; but it was much more desirable for the farmer to buy bran and pure oilcake separately than to buy the two mixed together; because it was impossible to say how much bran was mixed with the oilcake; and it was often used for adulterating it to such an extent that it might be separated mechanically. There were certain seeds which were peculiarly rich in albuminous matter, or, in other words, which contained a good deal of nitrogenous substances, in which refuse matter, like bran, was rather deficient; and by mixing Linseed with bran, and at the same time adding Rape seed, they made up for the deficiency of nitrogenous matter in the bran by its excess in the Rape seed. Mere analysis of the cake did not give any idea of its purity, for he had before him samples which contained bran in such large proportion that it could be separated mechanically, and yet which on analysation was found to contain an abundance of nitrogenous matter. The best kind of Cotton-cake was hardly ever seen in the market now, in consequence of the American war; but whole seed Cotton-cake was very injurious, because it was not decottonated, or, in other words, being made from the husk, as well as the kernel, the whole of the Cotton fibre was not extracted, and the animal had not the power of ejecting it from the stomach; a stoppage took place in the lower intestines, inflammation ensued, and death followed. All the results followed in fact which would be produced by a strong irritant metallic poison; and it was, therefore, highly dangerous to give indiscriminately whole seed Cotton-cake to cattle. He had found masses of matter in such cases in the lower intestines, almost as large and as hard as cricket balls. Earth nut cake was very nutritious when made from the kernel alone, but if made from the husk as well, the same disagreeable and injurious properties became apparent. By Earth-nut he did not mean the ordinary nut-cake which was made from the refuse kernel of the Palm nut; earth-nut was a different thing; it produced a hard light kernel which made a nutritious cake; but the whole seed cake was not so nutritious. There was another kind of nut-cake which ought by no means to be used for feeding purposes, but was only fit for manure. It was made from the Curcus Bean, a parching Bean growing in the Cape de Verd Islands, three or four of which were sufficient to produce a very powerful affection of the bowels. He had known several cases of cattle poisoning in consequence of eating cake adulterated with Curcus Bean. Poppy cake was a good cake when it could be had in a fresh condition. It was remarkably sweet to the taste and very nutritious, but in a country like England, where there was not a constant demand for it, and where it was a truck in the market, in consequence of not finding a ready sale it became mouldy and acid to the taste, consequently more or less injurious to cattle. All kinds of oilcake would spoil by being kept too long or kept in damp places, and often proved a serious injury to cattle. A mixture of bran would very often produce mouldiness in oilcake, and that was one very great objection to the use of bran, because it admitted into the cake more readily the damp air. That showed the necessity of stowing the cake in dry places. If that were not done the worst description of cake, containing bran and other impurities, would become very mouldy, while the good cake itself would lose many of its qualities. Whatever may have been the original quality of the cake it became most injurious to cattle as soon as it became mouldy, and he could find no other explanation for the undoubted injury which oilcake had done to cattle, and which at one time was of a most destructive character. If oilcake was kept for a long time a sort of fungus was produced which could only be detected by a microscope, which fungus did a great deal of mischief, and mouldy Oats had in several cases proved highly injurious. Analysis might be useful to determine the amount of albuminous matter, and the other chemical constituents of the cake, but it could not indicate whether it was wholesome or not. What use would it be analysing mouldy cake, when it was known in many cases to have caused the death of cattle? All refuse matters had a tendency to become mouldy. He had before him a strong mixture, which had been bought at a very low price, and on examining it he found it to consist of the sweepings of an oil mill. He found it very injurious to cattle, but on carefully separating the constituents of the cake he could not find anything injurious in them. On examining it, however, with a microscope he discovered incipient fungi, which had since developed itself all through the cake. The use of that cake had actually killed 14 sheep, 3 horses, and a pony, all within two days he believed, which abundantly demonstrated the danger of buying any cheap description of oil-cake, and trusting to analytical results to ascertain whether it was good or not. It was not always safe even to trust to feeding with Barley-meal, which farmers themselves sent to the millers to be ground, for if he had the misfortune to fall into the hands of a dishonest miller he might have his meal returned with a mixture of sawdust or sand, as had actually occurred in two instances, in which the meal having been found to disagree with cattle had been submitted to him to discover the cause. The only safeguard the farmer had was to deal with well known firms, and he must always remember that it was impossible to get a good description of oilcake at a low price, for the simple reason that the low priced oilcake was always mixed with other feeding materials of a less expensive nature, while, as he had shown, even the "genuine as imported" oilcake was too often mixed with foreign seeds of a character injurious to the cattle. He had not treated the question upon the present occasion either chemically or analytically, his intention merely being to call the attention of the farming community to the different description of seeds, and to the materials by which oilcake was adulterated, and to point out the simple means of detecting them, namely by an examination of the husks. The whole subject was one of great importance, and many points in reference to oilcake had, he was convinced, been hitherto overlooked, which notwithstanding had a material bearing upon the interest of the farmer, and would well repay him by their investigation.

Lord Faversham, in moving a cordial vote of thanks to the learned Professor for his valuable lecture, took the opportunity of asking him whether his attention had been directed to the feeding properties of malt, and whether he considered that the present duty on malt operated as an impediment to farmers in feeding cattle. He mentioned the point because he perceived that the Chancellor of the Exchequer had, in reply to a deputation on the subject of the malt duty, expressed a wish to obtain the opinion of agriculturists of experience as to the advantage of feeding cattle upon malt. If that experience was favourable, changes might be made which would do away with the necessity of buying the adulterated oilcake now in use. This question of feeding cattle was the more important because it had been stated that large quantities of land both in England and Ireland were passing out of cultivation as far as regarded cereal crops.

Mr. Fisher Hobbs, in seconding the vote of thanks, observed that the statements they had heard from the learned Professor, fully bore out the results of an investigation made some years ago as to the extensive adulteration of Linseed-cake. It was quite evident that there was now the greatest imaginable difficulty in getting anything like good pure oilcake. With respect to the feeding properties of malt, they were really so great, that whenever he entered animals for competition he invariably fed them on that material, and with the most successful results; and as far as his experience went it would be far preferable to oilcake if it could be obtained at a reasonable rate.

Professor Voelcker, in reply to Lord Faversham's question, was of opinion that they hitherto had very few experiments of a conclusive character in regard to the feeding qualities of malt, and he had great hesitation in expressing anything like a decided opinion upon the subject. The only experiments that he knew of were those made by Mr. Hudson of Castle Acre. Mr. Lawes had a few desultory experiments by Dr. Hartley Thompson,

which were made on a very limited scale; at the same time there was a good deal of floating experience which he thought might be carefully collected. Feeders of stock he knew spoke very highly of malt when an animal was to be got into prime condition, and it had to have a large amount of food supplied to it in order to develop rapidly. Malt when judiciously administered seemed to help the digestion of animals wonderfully. Another question which struck him as being of considerable practical importance was whether food which in itself was of a somewhat indigestible character, might not be made more available by the addition of malt. He could not in the present limited state of their experience say whether it would be desirable altogether to replace Barley-meal with malt, but he had no hesitation whatever in saying that in certain particular instances, permission to farmers to convert Barley into malt for feeding purposes would be a great boon to the farming community.

Mr. Frere was of opinion that some of the oilcakes which had been mentioned by the learned Professor might be given with great advantage to store sheep, and would be extremely valuable in correcting a purgative tendency. They might be given without the danger of inflammation, which arose when those cakes were given in excess to beasts.

Mr. Holland, M.P., wished to ask the learned Professor a question as to the feeding properties of pure Linseed cake compared with those of oilcake mixed with bran. Supposing them to be mixed in proper proportions, would not cake mixed with bran be better for feeding purposes than pure oilcake, weight for weight?

Professor Voelcker had no hesitation in answering in the affirmative, namely, that a certain proportion of bran would be very useful, but it was very desirable that the farmer should mix it himself. Milking-cows fed on oilcake mixed with bran gave a larger supply of milk, while at the same time it was of a richer quality than if they were fed on oilcake alone. There was no doubt but that bran bettered the digestion. In most descriptions of oilcake there was a very large proportion of albuminous matter, and the addition of bran rendered a very considerable portion of that albuminous matter valuable which would otherwise pass off in the dung.

Mr. Holland, M.P., said the difficulty of the farmer was, that when he went into the market he found the pure oil-cake cried down, while at the same time he had to pay as high a price for oil-cake mixed with bran.

Professor Voelcker thought the objection would vanish if oil-cake were professedly sold as oil-cake mixed with bran.

Mr. Lee suggested whether it would be possible by some chemical means to advance the Barley a stage or two in the direction of malting, but at the same time prevent its being rendered valuable for brewing purposes, because he thought the Chancellor of the Exchequer would hardly give up so large a duty as that derived from malt, merely to enable the farmers to feed cattle on it.

Mr. Holland reminded the meeting that several years ago, when the malt-duty question was under discussion, a committee, which took into consideration the feeding qualities of malt, came to the conclusion that it was very good to mix with other food, but that as a food itself it was not worth considering.

The subject then dropped, and a vote of thanks to the Chairman concluded the proceedings.

## Farmers' Clubs.

Central Strathearn: *Reaping Machines.*—Mr. Dunn opened the discussion on this important subject by reading the following essay:—Since the International Exhibition of 1851 there has been no greater increase in the application of machinery to any purpose than to the cutting of grain; and in these intervening years the systems of reaping have undergone a change so thorough and so sudden as will be difficult to match in the mechanical details of arts or manufactures. This goes some way to show that farmers are not so wedded to old and antiquated systems as is sometimes reported, and that they have not been behindhand in availing themselves of discoveries and inventions in science or art which may economise time and money in their various operations. In opening the subject of the evening, I may be allowed to take a retrospective glance at the different systems of harvest work which have successively been employed throughout the country. The ancient mode of cutting grain was by the toothed hook or sickle. The toothed hook is now, however, numbered among the things that were. It was superseded by its foster brother, the scythe-hook, which, in the hands of the few, is a first-rate implement; but in the hands of the many one of the worst that was ever invented, on account of the quality of its work. The use of the scythe-hook is, or should be, confined to much-twisted pieces of crop, and the scythe to ground inaccessible to the machine; leaving all land adapted for its operation to be reaped by machinery, which, in almost every case and in every instance of proper management, surpasses both hook and scythe at a much cheaper rate per acre. It is now more than 30 years since the first attempt of any consequence to cut the crop by aid of machinery was made in this country. To our countryman, Bell, is due the highest honour as the inventor of such an implement; and, whatever may now be the merits of his "original" reaper, or of the numerous branches which have sprung from the work of his genius, the reaping machine inventor will in future ages be considered a benefactor of his country. In 1832, one of Bell's machines was at regular work on the farm of a member of an agricultural society in Fife; and satisfactory evidence of his success was found in his having gained the Society's sweepstakes "for the best and cheapest cut farm," and in having offered the same for many years without being taken up. The machines which of late years have been the competitors for public favour are constructed on the three distinctive principles of Bell, M'Cormick, and Hussey. The prices of the different sorts are:—Bell's original, about 42*l.*; Crosskill's improved Bell, about 45*l.*; M'Cormick's, by Burgess and Key, about 42*l.* 10*s.*; and Hussey's machine, by various makers throughout the United Kingdom—Dray; Cuthbert; Bamlett; Picksley, Sims, & Co.; Gardner & Lindsay; Brown & Young; Kept, Murray, & Nicholson, &c.—can be had from 19*l.* to 22*l.*, according to style and finish. With respect to draught, is has been found that Crosskill's Bell cuts 5 feet 4 inches at 4 cwt.; Burgess & Key's cuts 5 feet 4 inches at 2¾ cwt.; Dray's Hussey cuts 4 feet 3 inches at 3 cwt.; Cuthbert's, which deserves to be classed among the very lightest machines yet known, cuts 4 feet 6 inches at 1 cwt. 7 stone 10 lb. Before entering on the comparative merits of these different machines, I may mention that the superiority of any particular sort of machine over another is a matter entirely to be determined by local circumstances. For a considerable length of time it has been customary among farmers in this locality to scythe-cut as much of their crop as possible by their ordinary yearly servants, in addition to their staff of shearers or scythes hired for the harvest; and it is in these cases, I believe, that reaping-machines prove of the greatest practical value in our district; when, instead of scythe-cutting by his ploughmen and other yearly servants, the farmer employs them with a machine, by which the work can be done in a more satisfactory manner; and in the case of a heavy crop it will do its work in splendid style, where the scythe would make what is vulgarly termed a "hash." I now proceed to glance at the distinctive peculiarities of each, with the view of forming an opinion as to which may be considered the best machine for the general purposes of the members of the Strathearn Central Agricultural Society.

The propulsion of Bell's has the advantage of enabling it to enter a field at once without any previous aid from scythe or sickle; but this seems more than counterbalanced by the excessive draught on the horses and its great weight, which causes the machine to choke so often on soft land. The self-supplying and side delivery of the Bell & M'Cormick machines have been thought an immense improvement, because by one man with Bell's, and one boy in charge of M'Cormick's (as advertisements say), there can be cut down and laid in swathes from 12 to 15 acres by the former, and by the latter 20 acres of crop in a day: and that in fine weather or a windy day the grain can be cut and lie till binders can be conveniently sent to stook it up; whereas, in the case of machines on Hussey's principle, it is compulsory to stook up immediately behind the machine to make way for next cut. In fine weather, my humble opinion is, that the best plan is to bind and set up immediately behind the reaper; and in bad catching weather I believe the same practice more advisable than the trust in Providence system of allowing grain to lie in swathe exposed to the tender mercies of a changeable climate. If the cut-to-day-and-bind-to-morrow system should, however, by circumstances be rendered necessary, a new arrangement by some of the makers on the Hussey principle is going on, where the corn will be raked off in sheaves at sufficient distance from the standing crop to allow the horses to pass. With reference to lifting, it is an important point to observe that, as the side delivery machines can cut independent of binding and setting up, the labourers have the entire control of their own progress; while, when cutting, lifting, and stooking go on simultaneously with one of our hand-delivery machines, a certain pull is obtained upon the hands employed which the other system cannot command. The lifting after this machine is much more quickly performed, every sheaf being laid down separately, cleanly, and evenly; and it will also be found that Hussey's controls the men, not the men the machine.

Now for the expenses. Reaping machines in general have been found to do their work at a rate per acre so nearly similar that any difference which may exist is not worthy of consideration; and the superiority of any machine must therefore in great measure be decided by its workmanship and general advantages. I subjoin a statement of my daily expense with Cuthbert's reaper during the past two seasons:—

| | | | |
|---|---|---|---|
| Driver and Raker, at 3*s.* 4*d.* .. .. | £0 | 6 | 8 |
| 4 Binders, at 2*s.* 8*d.* .. .. .. .. | 0 | 10 | 8 |
| 4 Lifters, at 2*s.* 6*d.* .. .. .. .. | 0 | 10 | 4 |
| 4 Ropemakers, at 10*d.* .. .. .. | 0 | 3 | 0 |
| Bread and Beer .. .. .. .. | 0 | 5 | 0 |
| Oil, Knife-sharpening, &c... .. .. | 0 | 1 | 0 |
| | £1 | 16 | 8 |

Thus, by employing 14 able and half able labourers, there can be cut down by this machine, when cutting two sides of the field, six or six and a-half Scotch acres a day of 10 hours; and with the crop so situated as to allow cutting right round the field, double that quantity might be secured by the addition of extra hands. It will be found, however, in the majority of seasons, that cutting one way only will be the most suitable for a satisfactory job. In that case a lifter, roper, and bandster are dispensed with; and as less work will be done, there remains the fewer hands to do it, leaving the expense per acre as near as near be the same—viz., 6*s.* per Scotch acre, which, compared with shearing at 12*s.* 6*d.*, or scythe work at 10*s.*, shows a difference which requires no comment. It will be observed that I charge nothing for horse labour, as the animals at that season require exercise; and, if not at the reaper, are just employed at the thriftless occupation of "eating off their own heads." I may mention that during the past two seasons I have cut by machine with my ploughman and a few extra hands hired in to assist, 80 Scotch acres, 40 per annum, at 6*s.* per acre. The machine originally cost me 21*l.* sterling; so profits stands thus:—

| | | | |
|---|---|---|---|
| Difference of 4*s.* per acre on 40 acres, .. | £8 | 0 | 0 |
| Deduct tear and wear (included in estimate of expenses) | | | |
| Interest on purchase, 21*l.*, at 5 per cent. .. .. .. .. .. | 1 | 0 | 0 |
| Annual profit .. | £7 | 0 | 0 |

Which shows that in three years I will save the price of the machine, and by proper attention leave it in as good order as when it began. Bell's or M'Cormick's machine, from the greater breadth of cut, and the greater number of hands employed, may clear more ground per day than Cuthbert's, or any other machine of the Hussey principle, but it remains to be proved that they can do it at less cost per acre. There are many advantages in favour of the smaller class of machines—in price, draught, delivery, in lifting the cut grain, and in convenience of removal. With reference to the first—viz., price—little logic is necessary to prove the superiority of 21*l.* against 42*l.* The draught is also a most important point; and I have no hesitation in saying that the machine which requires three horses to work it has much need of improvement. No machine should require more than two horses to manage it comfortably, and the machine of lightest draught should at all times have the preference. The back-delivery in sheaves of the smaller machines is decidedly preferable to the swathe of the side-delivery reapers. The sheaves laid off by the rake of the former, when lifted with precision, leave nothing for the rake, and make a fine square-bottomed sheaf; while the swathe of the latter machine is very unmanageable, particularly in the case of a heavy crop, where the grain as it is cut is rolled off in a most irregular manner, and consequently the sheaf-bottoms are no cleaner than coarse scythe work; and further, in this case there is no control over the size of the sheaves, which in all probability, to save trouble, will be made as near as possible in the form of bunches; whereas, by the rake delivery, the sheaf can be put off to any size to suit the weather and crops. And the Hussey machines possess also the advantage of being easily driven from one field through ordinary gates to another scene of operation. That the machines of self-delivery and broader cut are more suitable for occupiers of land whose fields are large, and whose land can grow crops fit to be cut entirely by machinery, no one will deny; but I must state that my humble opinion, founded on personal observation and a careful consideration of each system in connection with the crops and land of this locality, is, that machines on the Hussey principle, which can be effectually managed by comparatively few hands, are the most useful reapers for the general purposes of this district. I now conclude my random remarks by proposing the following resolutions:—

1. The want of good shearers, along with the high price of their labour and the coarse manner in which scythe work is generally performed, have rendered the use of reaping machines imperative, and their perfection highly desirable, to the agricultural community.

2. That the machine of lightest draught, with manual back-delivery, is the best for this district.

3. That the best mode of moving reaping machines is by side draught, that the smooth-edged knife is preferable to the serrated, and that every machine ought to be provided with shafts for convenient backing.

4. That every farmer in this district should possess one.

## Calendar of Operations.

### APRIL.

West Sussex.—We have now got well into spring, and have had a very favourable one for farming operations. March dust is said to be valuable, and we have had it in abundance. The wind has for a great part of the month been rather cold and bleak, and vegetation has not advanced rapidly, but perhaps this is better than that we should have them early, when there is the more chance that they will be cut down by late frosts. Wheat is not far advanced considering the very mild winter, but it is even on the ground and looks very healthy, and with the remainder of the season favourable we may expect a good crop. Early sown spring corn is up and looking well; Peas have a very regular appearance. The Clover seeds are not so good as at one time they promised to be, many fields are very bad. Trifolium is fair, but it appears not to do so well now as it did some years ago; the failures are more plentiful, and even where there is plant enough, it does not prosper as formerly. And it may be well to try to find out the reason for this, which I believe is that its being a Clover plant is often ignored, and though we generally do not sow broad Clover oftener than once in eight or 10 years, we do not hesitate to have an intermediate sowing of Trifolium. This I believe to be the cause of our not getting it so good as formerly, and no doubt it causes a failure in the other Clover at times, and if we are to grow it well we must not take it so soon after broad Clover as we do, and as it is a valuable forage plant it cannot be dispensed with, and it makes rather coarse hay; it may be best to devote a part of the broad Clover course to it for cutting as green food, and as it does not produce a second crop, plough up immediately after, and put in Rape or Turnips to feed off ready for Wheat sowing. Every kind of food for cattle and sheep is abundant, and many will hardly be able to get rid of their roots in time to get in corn after them. It is a practice here sometimes to sow Rape or Turnips after late

fed Swedes, to be followed by Wheat, and this is likely to be done this year to more than the usual extent, so that we may look for plenty of food during the autumn. We have still plenty of beef and mutton in market, and prices about the same. Store cattle are not yet in much demand. Good cows and calves are seldom seen in the market, though we see many in the county, and they are very dear. Large store pigs are a very dull sale, and so are fat ones, but smaller are more readily disposed of. *G. S.*

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. Spearing, Moulsford, near Wallingford, Berks, during the week ending April 15, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 9 | 29.75 | 52 | 51 | S.W. | 2 | 7 | 53 | 47 | 84* | 43 | 0.09 | 48½ | 47½ |
| Friday .. | 10 | 29.79 | 54 | 53 | S. | 2 | 8 | 59 | 47 | 79 | 45 | 0.01 | 49½ | 47½ |
| Saturday .. | 11 | 29.84 | 53 | 50 | S.W. | 1 | 5 | 63 | 42 | 89 | 37 | 0.20 | 51 | 48 |
| Sunday .... | 12 | 29.96 | 47 | 46 | N. | 1 | 7 | 56 | 40 | 89 | 37 | .. | 50½ | 48½ |
| Monday .... | 13 | 29.99 | 51 | 48 | E. | 1 | 6 | 63 | 38 | 119 | 34 | .. | 51 | 49 |
| Tuesday .. | 14 | 29.96 | 47 | 45 | S.E. | 1 | 7 | 64 | 39 | 103 | 35 | .. | 51 | 49 |
| Wednesday | 15 | 30.03 | 50 | 48 | S. | 1 | 4 | 66 | 34 | 113 | 30 | 0.15 | 51 | 49½ |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

Breeze, &c.: *N.* The notice published at p. 327 may possibly furnish the information you want. Breeze and coal ashes are of little value as manure, except for their mechanical influence on the texture of clay soils.—Resistance to draught is made up, (*a*) of friction, and (*b*), that share of the weight of the body drawn which on a hill side would, if there were no friction, make it roll down hill. And the ability of the draught animal to overcome it, depends on the position in which the animal stands. The portion marked *b*, depends on the inclination of the hill, and is in proportion to the whole weight on the animal as the height is to the length of slope. If then 7 and 10 in your formulæ are the length of the slope, then the draught should be in the one case one-seventh, in the other case one-tenth of the weight, *plus* the percentage in either case due to friction. The difficulty which the horse will find in overcoming the draught increases rapidly with the slope, not so much on account of the increasing weight, as in consequence of his being placed at a disadvantage for overcoming it.

Bonedust: *P P P.* For clay land you had better apply it dissolved in acid. Mangel Wurzels grown on clay soil, autumn cultivated, and manured with farm-yard dung, will repay an additional dressing of 3 cwt. per acre of super-phosphate of lime. It is not however at all likely that on clay land well tilled, dependence on farm-yard dung is likely to result in any appreciable diminution in fertility—the way which A. B. has pointed out.

Clover: *M P., Walthamstow.* Mr. Lawes' "mixed mineral manure," used in his experiments on Meadow land, has been found greatly to increase the growth of Clover. It consisted of 3 cwt. of superphosphate of lime, 300 lbs. of sulphate of potash, 200 lbs. of sulphate of soda, 100 lbs. of sulphate of magnesia. If you apply these they should be mixed and sown broadcast early in spring. Probably two thirds of these quantities would be a sufficient dressing

Cottage Accommodation: *Agricola.* Landowners can borrow money of the Land Improvement Companies, giving a rent charge on their estates for a period long enough for the repayment of principal and interest.

Eggs: *Anna* asks the best mode of preserving eggs. She has been recommended to pack them in lime.

Potato Culture: *X Z.* We would apply about 3 cwt. of guano per acre broadcast over the land just before you rib it for Potatoes; then plant the Potatoes and cover them in the usual way. You should not send the plough by the young plants when the young tubers are beginning to be formed; but it may be safely done as soon as the first shoots appear above the surface. The practice is copied from the drill cultivation of Turnips, and in both cases a deep and thorough stirring of the soil when it is dry, as late as you can safely do it, is a good thing.

Seed: *Enquirer.* We cannot with certainty decide as to the name of the seed you have sent, but it certainly is not Clover Dodder.

Seradella: *C Parsons* says he should feel obliged by being informed what Seradella is. Is it a Leguminous plant? Annual, biennial, or what? and of what value is it as a forage plant, and at what time of year?


FOWLER'S

**STEAM PLOUGHING AND CULTIVATING PATENTS.**

RANSOMES & SIMS, Orwell Works, Ipswich,

Have the pleasure to announce that they have arranged with JNO. FOWLER for the use of the above PATENTS, and they will answer any inquiries respecting them, and execute any Orders promptly.

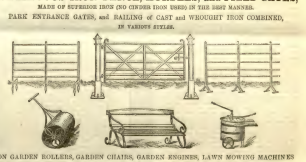
COTTAM'S

**CONTINUOUS IRON FENCE, HURDLES, and FIELD GATES,**

MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

PARK ENTRANCE GATES, and RAILING of CAST and WROUGHT IRON COMBINED,

IN VARIOUS STYLES.



IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES
WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes.
VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c.
The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

Illustrated CATALOGUES and DRAWINGS free on application to
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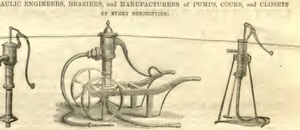
JOHN WARNER & SONS,

**BELL AND BRASS FOUNDERS TO HER MAJESTY,**

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.



No. 35. No. 36½. Improved Cast-Iron Lift and Force Pump. No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & Sons' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Sprender, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... ... 3 0 0
3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & Sons' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

PATENTEES and MANUFACTURERS,

JOHN WARNER and SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

# THE HYDROPULT,

### EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.

"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "Percy M. Dove, Manager."
"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—Swinton Boult, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—Henry Lowe, Secretary, District Fire Company."

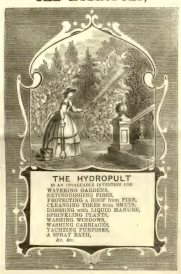
"With the object of putting out incipient fires, and for greenhouse and garden purposes, I consider it admirably adapted.—*William Douglas*, Secretary, North British Insurance Company."

"In a blowing or mixing room it would be of especial service.—F. J. Hallows, Secretary, Caledonian Insurance Company."

"38, Portland Street, London, W.C.

"Mr. Charles P. Button. Sir, I am perfectly satisfied from the statement of Mr. Green, the conductor of our fire-escape at Notting Hill, that a large amount of valuable uninsured property was saved from destruction by the timely and efficient use of the Hydropult, which was fortunately on the adjoining premises during the fire which consumed the drapery establishment of Mr. Thomas, of 4, Coburg Place, Bayswater, on Friday evening last. Your little engine was used most effectually in keeping the roof of the adjoining house saturated with water, thereby preventing the spread of the flames, as the engines of the regular district fire brigade did not arrive on the spot until more than one half hour after the fire broke out.

"A fire, at its commencement, can readily be extinguished by means of this little annihilator, and infinite service rendered in staying the progress of the flames during the interval which must elapse before fire-engines can, under any circumstances, be brought into action.—Yours truly, T. Spencer, Inspector of the Royal Society for the Protection of Life from Fire."




### EXTRACTS FROM THE PRESS.

The Hydropult.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

The Hydropult.—"All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines."—*Gardeners' Chronicle and Agricultural Gazette.*

The Hydropult.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

The Hydropult.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

The Hydropult.—"Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

The Hydropult.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*

The Hydropult.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

The Hydropult.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces."—*Mechanics' Magazine.*

Caution: Important to the Public.—The extensive sale of the Hydropult has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the Public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the City and Provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the Machine offered for sale, and see if it have attached thereto a Label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine. Griffiths & Browett, Manufacturers, Birmingham; Charles P. Button, General Agent. Vose's Patent." Unless this label be attached, the Machine is not the Hydropult.

**AN INVENTION FOR THROWING WATER BY HAND POWER** (Secured by Royal Letters Patent), price **TWO GUINEAS**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Strainer, Rose, and Small Jet. Weighs but 8 lbs. Will throw 8 gallons of water per minute 50 feet.

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

*Prospectus, with Testimonials, at the*

Hydropult Offices: 27, LEADENHALL STREET, LONDON, E.C.; and at 309, REGENT STREET, LONDON, W. CHARLES P. BUTTON, Proprietor.

# SHANKS' NEW PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

HORSE MACHINE. PONY MACHINE. NEW HAND MACHINE.

### SHANKS' NEW PATENT MACHINE

**Mows the Grass, Wet or Dry, on Lawns uneven or otherwise, in a much neater manner than the Scythe, and at half the expense.**

The first practical Gardeners of the day who have devoted their attention in examining all the different Lawn Mowers offered, do not hesitate in recommending Shanks' Machine as *the best Mower for general use.* The important Improvements introduced last season have undergone a thorough practical test, and satisfied the most sanguine expectations. *Further Improvements, simplifying the Machine, and adding to its efficiency, have been introduced into the* New Patent Lawn Mower for 1863.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for Use.

**SHANKS' NEW PATENT HORSE MACHINE.**

| Width of Cutter. | | | | |
|---|---|---|---|---|
| No. 1.—48-inch Machine ... | £28 | 0 | 0 | *Drawn by a Horse.* |
| No. 2.—42-inch Machine ... | 26 | 0 | 0 | *Drawn by a Horse.* |
| No. 3.—36-inch Machine ... | 22 | 0 | 0 | *Drawn by a Horse.* |
| No. 4.—30-inch Machine ... | 19 | 0 | 0 | *Drawn by a Horse or strong Pony.* |

Patent Delivering Apparatus for Nos. 1 and 2 Machines, 40*s.*; for Nos. 3 and 4 Machines, 30*s.*; Box with complete Set of Tools, 10*s.*; Silent Movement, 20*s.*; Boots for Horses' Feet, 24*s.* per set.

**SHANKS' NEW PATENT PONY and DONKEY MACHINE.**

| Width of Cutter. | | | | |
|---|---|---|---|---|
| No. 5.—30-inch Machine ... ... ... | £15 | 15 | 0 | *Drawn by a Pony.* |
| No. 6.—28-inch Machine ... ... ... | 14 | 10 | 0 | *Drawn by a Pony.* |
| No. 7.—25-inch Machine ... ... ... | 12 | 10 | 0 | *Drawn by a Donkey.* |

Patent Delivering Apparatus for Nos. 5 and 6 Machines, 30*s.*; for No. 7 Machine, 25*s.*; Box with complete Set of Tools, 7*s.* 6*d.*; Silent Movement, 12*s.* 6*d.* Boots for Pony, 21*s.*; Donkey, 16*s.* per set.

**SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.**

Including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for use.

| Width of Cutter. | | | | |
|---|---|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 | 17 | 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 | 7 | 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine ... ... | 7 | 12 | 6 | *Do. by a Man and a Boy.* |

| Width of Cutter. | | | | |
|---|---|---|---|---|
| No. 11.—16-inch Machine ... ... | £6 | 17 | 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 | 2 | 6 | *Do. by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25*s.*; Box, with complete Set of Tools, 5*s.*; Silent Movement, 7*s.* 6*d.*

*** *The Machines are warranted to give ample satisfaction, and if not approved of may be at once returned.*

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FARM SEEDS
of Genuine Quality
(at Market Prices).
*Carriage Free.*

RICHARD SMITH,
Seed Merchant,
Worcester.

LUPINE SEED, the entire Growth of Mr. Thomas Crisp, of Butley Abbey. may be obtained of Mr. Henry Edwards, Merchant, Woodbridge.—This Plant has been cultivated for several years with the greatest success on the poorest sandy soils, producing abundant crops of valuable Food for Sheep for summer and autumn feeding. Price 10*s.* per bushel; and new Sacks, 2*s.* each, at Woodbridge Station.
Woodbridge.—April 25.

TURF.—A Quantity of capital Turf for Sale. Apply to Mr. H. D. Austin, Castle Hill, Ealing.

TAN GRATIS, in the immediate neighbourhood of Covent Garden Market.
Apply at William Essex & Son, 28, Stanhope Street, Clare Market, W.C.

REIGATE SILVER SAND.—Best quality, 7*s.* 6*d.* per ton; second quality, 6*s* per ton, put on the rail at Reigate.
PEAT SOILS, LOAM, &c.
Collections of NEW, RARE, and BEAUTIFUL PLANTS of all kinds, carefully selected and supplied at current Prices.
W. Short, Salesman, Agent, &c., Reigate, Surrey.

THE best Quality of SILVER SAND, carriage paid to the South Eastern Railway Company's Station at Bricklayers' Arms, London, in Four Ton trucks and upwards, 11*s.* per ton, cash. In fine bags in One Ton lots, delivered to the General Carriers and Shipping Wharfs in London, 30*s.* per ton. Single bags of two bushels delivered to Messrs. Pickford & Co., Red Hill, 4*s.* 2*d.* per bag, and forwarded to all parts by enclosing 50 Postage Stamps. Small dry FULLER'S EARTH for improving the Growth of Lawns, Roses, &c, 4*s.* 2*d.* per bag of two bushels.
All orders and remittances to be addressed to James Gawkroger, 21, Union Street, Halifax, Yorkshire.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2*s.* per bag.
For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the Patent Cocoa Fibre Company, Kingston-upon-Thames.
Postage Stamps or Post-office Orders payable to J. Barsham & Co.
Barsham's BRUSHES and MATS are sold in every town.
Caution.—Every Brush is stamped 'J. Barsham's Patent'

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.
Extra strong, 3*s.* per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.
Can be obtained through the principal Nurserymen and Seedsmen in England.
A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.
Page & Toogood, Seed Merchants, Southampton.

**The only Certain Remedy for Mildew.**

JOHN BELL'S COMPOSITION for DESTROYING MILDEW on Vines, Peaches, Nectarines, Roses, and every other Plant subject to that pest, is proved to be the most efficacious that has ever been offered. Sold in Bottles at 1*s.* 6*d.*, 2*s.* 6*d.*, and 5*s.* each. A 1*s.* 6*d.* Bottle will make 12 gallons fit for use.
Seed Warehouse, 10 & 11, Exchange Street, Norwich.

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1*s.* and 2*s.* per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of Geo. Glenny, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP,
1*s.* per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.
Both may be obtained of all principal Seedsmen.
Patentee: J. Neal, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.
This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.
Sold Retail by Nurserymen and Seedsmen in boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.* each.
Wholesale by
Price's Patent Candle Co.
Limited.

HORSES' LEGS and OTHER PARTS fomented by streams of hot water (or cold) by Patent Apparatus of Vulcanized Rubber; perforated tube 12*s.*, if regulated by a tap 15*s.* Also for weak ancles, and inflammation in any part of the Human frame.
Blackwell, Saddler, &c, 259, Oxford Street, W.; and Wholesale of Silver & Co., 3, Bishopsgate Street, E.C.

JOCKEYS.—GUTTA PERCHA JOCKEYS, 56*s.* to 60*s.*, Hire 2*s.* a week; Safety Springs. Driving and Riding Reins, 8*s.* to 12*s.*; Anti Crib Biters, 15*s.*; Springs for Straps, Rollers, 2*s.*; Fetlock, Speedy, Leg, and Knee Boots.
Blackwell, 259, Oxford Street, near the Marble Arch, W.

**Glass.**

THOMAS MILLINGTON,
Horticultural Warehouse,
87, Bishopsgate Street Without, London, E.C.
Established 1750.
New Reduced Tariff.
SMALL SHEET SQUARES.

Best. 2nds. 3rds. 4ths. } Per 100 feet
20*s.* 16*s.* 12*s.* 6*d.* 11*s.*

| | | |
|---|---|---|
| 6 in. by 4 in. | 9½ in. by 7½ in. | 14 in. by 10 in. |
| 6½ ,, by 4½ ,, | 10 ,, by 8 ,, | 15 ,, by 10 ,, |
| 7 ,, by 5 ,, | 11 ,, by 9 ,, | 12 ,, by 11 ,, |
| 7½ ,, by 5½ ,, | 12 ,, by 9 ,, | 13 ,, by 11 ,, |
| 8 ,, by 6 ,, | 13 ,, by 9 ,, | 13½ ,, by 11½ ,, |
| 8½ ,, by 6½ ,, | 12 ,, by 10 ,, | |
| 9 ,, by 7 ,, | 13 ,, by 10 ,, | |

Best. 2nds. 3rds. 4ths. } Per 100 feet
23*s.* 18*s.* 6*d.* 14*s.* 6*d.* 12*s.* 8*d.*

| | | |
|---|---|---|
| 15 in. by 11 in. | 16 in. by 12 in. | 24 in. by 14 in. |
| 16 ,, by 11 ,, | 17 ,, by 12 ,, | 22 ,, by 15 ,, |
| 17 ,, by 11 ,, | 18 ,, by 12 ,, | 24 ,, by 15 ,, |
| 18 ,, by 11 ,, | 22 ,, by 12 ,, | 20 ,, by 16 ,, |
| 13 ,, by 12 ,, | 17 ,, by 13 ,, | 20 ,, by 17 ,, |
| 14 ,, by 12 ,, | 23 ,, by 13 ,, | 20 ,, by 18 ,, |
| 15 ,, by 12 ,, | 22 ,, by 14 ,, | |

ORCHARD-HOUSE SIZES, as supplied to Mr. Rivers & others

| | Best. | 2nds. | 3rds. | 4ths. | |
|---|---|---|---|---|---|
| 16 oz. | 22*s.* 0*d.* | 18*s.* | 15*s.* 0*d.* | 12*s.* 6*d.* | Per 100 feet |
| 21 oz. | 33 6 | 28 | 21 6 | 17 0 | |

20 in. by 12 in. | 20 in. by 13 in. | 20 in. by 14 in. | 20 in. by 15 in.
GLASS, cut according to size not on the List.
16 oz. 4ths. 1¾*d.* 2*d.* and 2½*d.* per foot.
,, 3rds. 2¼*d.* 2½*d.* and 3*d.* ,,
21 oz. 4ths. 2¾*d.* 3*d.* and 3½*d.* ,,
,, 3rds. 3½*d.* 4*d.* and 4½*d.* ,,
Various thicknesses of Sheet Glass to the foot.
15 oz. 26 oz.
21 oz. 32 oz.

Paints, Colours, Brushes, &c., Linseed Oil, Boiled Oil, Turpentine.
Genuine White Lead, 32*s.* p. cwt | Linseed Oil Putty, 8*s.* per cwt.
Anticorrosion Paint, 34*s.* ,, | Patent Dryers, 28*s.* to 42*s.* ,,
CRYSTAL GLASS SHADES. EBONY and GILT STANDS.
HARTLEY'S IMPROVED PATENT ROUGH PLATE.
*** Not accountable for breakage.
SHEET LEAD, PIPE, &c., at the lowest wholesale prices.

**Glass for Garden Purposes.**

JAMES PHILLIPS and CO. beg to submit their prices as follows:—

PROPAGATING GLASSES.

| | Each—*s.* | *d.* | | Each—*s.* | *d.* |
|---|---|---|---|---|---|
| 2 inches in diameter .. | 0 | 3½ | 12 inches in diameter .. | 1 | 9 |
| 3 ,, ,, .. | 0 | 4½ | 13 ,, ,, .. | 2 | 0 |
| 4 ,, ,, .. | 0 | 5½ | 14 ,, ,, .. | 2 | 6 |
| 5 ,, ,, .. | 0 | 6½ | 15 ,, ,, .. | 3 | 0 |
| 6 ,, ,, .. | 0 | 8 | 16 ,, ,, .. | 3 | 6 |
| 7 ,, ,, .. | 0 | 10 | 17 ,, ,, .. | 4 | 0 |
| 8 ,, ,, .. | 1 | 0 | 18 ,, ,, .. | 5 | 0 |
| 9 ,, ,, .. | 1 | 2 | 19 ,, ,, .. | 6 | 0 |
| 10 ,, ,, .. | 1 | 4 | 20 ,, ,, .. | 7 | 0 |
| 11 ,, ,, .. | 1 | 6 | | | |

HAND GLASSES.

| | Each—*s.* | *d.* | | Each—*s.* | *d.* |
|---|---|---|---|---|---|
| 12 inches .. .. .. | 6 | 0 | 18 inches .. .. .. | 9 | 0 |
| 14 ,, .. .. .. | 7 | 0 | 20 ,, .. .. .. | 10 | 0 |
| 16 ,, .. .. .. | 8 | 0 | 24 ,, .. .. .. | 12 | 0 |

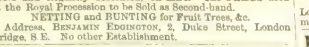
Painted and Glazed with 16 oz. Sheet Glass.
If Open at Top, 1*s.* extra.

CUCUMBER GLASSES.

| | | | | | |
|---|---|---|---|---|---|
| 24 inches long .. | 2*s.* | 0*d.* | 16 inches long .. | 1*s.* | 4*d.* |
| 22 ,, ,, .. | 1 | 10 | 14 ,, ,, .. | 1 | 2 |
| 20 ,, ,, .. | 1 | 8 | 12 ,, ,, .. | 1 | 0 |
| 18 ,, ,, .. | 1 | 6 | Made to any length. | | |

London Agents for Hartley's Improved Patent Rough Plate.
Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.
180, Bishopsgate Street Without, London, E.C.

1863.—BENJAMIN EDGINGTON has a large quantity of NEW and SECOND-HAND RICK CLOTHS, with Poles, complete, now on Sale. MARQUEES and PAVILIONS for Royal and Noble parties, with boarded floors and elegantly decorated, on Hire. The FLAGS used at the Royal Procession to be Sold as Second-hand.
NETTING and BUNTING for Fruit Trees, &c.
Address, Benjamin Edgington, 2, Duke Street, London Bridge, S.E. No other Establishment.



GARDEN BORDER-EDGING TILES.—These Tiles, manufactured in Terra-Cotta, Terro-Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are invaluable.
To be obtained at F. & G. Rosher's Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.
Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.
Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.
To be obtained of F. & G. Rosher, at their Premises as above.

**Notice.**

MR. A. CHANDLER (of the late Firm of Chandler & Sons), HORTICULTURAL VALUER, begs to inform his friends and the public that he has removed from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

SHAW'S TIFFANY.
For samples and prices apply to
J. Shaw & Co., 29, Oxford Street, Manchester.

TANNED NETTING for the protection of Fruit Trees at 1*d.* per square yard: 200 yards, 14*s.*; 500 yards, 30*s.*; 1000 yards, 50*s.*; SCRIM CANVAS for Wall Fruits; SUN BLINDS, AWNINGS, TULIP COVERS, &c.
Be particular. John Edgington & Co., 17, Smithfield Bars, E.C.; 108, Old Kent Road, S.E.; and 18, Piccadilly, W.

TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½*d.*; 2 yards, 3*d.*; 3 yards, 4½*d.*; and 4 yards, 6*d.* per yard run, in any quantity, may be had at Chas. Wright's, 376, Strand, W.C.
VARNISHED FLOWER STICKS:—1 foot, 3*d.*; 1½, 4*d.*; 2, 5*d.*; 2½, 7*d.*; 3, 10*d.*; 4, 1*s.* 6*d.* per dozen. DAHLIA do., per dozen:—3 feet, 1*s.* 6*d.*; 4, 2*s.* 3*d.*; 5, 3*s.*; 6, 3*s.* 6*d.* An allowance to Nurserymen.

**Netting for Fruit Trees, Seed Beds, Ripe Strawberries, &c.**

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c., 2 yards wide, 3*d.* per yard, or 100 yards, 20*s.*; 4 yards wide, 6*d.* per yard, or 50 yards, 20*s.* NEW TANNED NETTING, suited for any of the above purposes, or as a Fence for Fowls, 2 yards wide, 6*d.* per yard; 4 yards wide, 1*s.* per yard; ¾-inch mesh, 4 yards wide, 1*s.* 6*d.* per yard.
Can be had in any quantity of Eaton & Deller, 6 and 7, Crooked Lane, London Bridge, E.C.

**"Excellence of Quality."—See Jurors' Report.**

NORTH BRITISH RUBBER COMPANY (Limited), 56, Cannon Street West, London, E.C.; and Castle Mills, Edinburgh, Manufacturers of INDIA RUBBER and CANVAS HOSE, for Breweries, Fire and Garden Engines, &c.
SUCTION HOSE, TAPERS, and HAND-JOINTS of any size and length.
N.B. This Company are the only Manufacturers in Great Britain to whom Medals were awarded in 1862 for Mechanical Rubber and Hose.

HORTICULTURAL IMPLEMENTS and GARDEN TOOLS of every description, for the amateur or practical gardener, and of warranted quality.—Deane & Co.'s ILLUSTRATED PRICED LIST of the above, gratis on application, or post free, includes Lawn Mowing Machines, Garden Engines, Boyd's Patent Self-adjusting and Vulcan Scythes, Garden Rollers (from 30*s.*), Flower-Stands, Garden Seats, &c. Galvanised Game Netting from 6*d.* per yard. Ornamental Wire Work made to order. Garden Arches, Flower Baskets, &c. Lingham's Permanent Labels. Saynor's celebrated Pruning Knives.
Deane & Co. (opening to the Monument), London Bridge, E.C.
Established A.D. 1700.

F. A. HAAGE'S FLOWER STICKS and TALLIES, commended by the Royal Horticultural Society, can now be had Wholesale, of all sizes, on application to
Messrs. Betham & Blackith, Cox's Quay, Lower Thames Street, London, E.C.—April 25.

HENRY J. MORTON and CO.,
2, Basinghall Buildings, Leeds.

**Galvanised Iron Water Cistern**
for Cottage Houses, &c., to contain 50 gallons, 26*s.*; 80 gallons, 31*s.* each; and 140 gallons, 37*s.*, and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

**Galvanised Iron Pumps**
for Liquid Manure or Domestic Use, 3 inches diameter, 30*s.* and 32*s.* 6*d.* each; Tail Pipe for same at from 10*d.* per foot.

**Galvanised Iron Swing Water Barrows**
for Garden or Farm use, containing about 20 gallons, entire formed of iron, 35*s.* 0*d.* each.

W. S. UNDERHILL'S NEW PATENT IRON FENCE for GARDENS, LAWNS, &c.
Manufactory: Newport, Salop.
Warranted the strongest and most durable Fence ever offered at corresponding prices. It is easily repaired if broken from accidents; can be rolled up most compactly when not in use, is admirably adapted for exportation, and can be had of any height and mesh required, at prices from 4*d.* to 1*s.* 6*d.* per yard and upwards.
For further particulars apply at the Manufactory, or of the London Agent, Mr. R. Winder, 18, Abingdon Street, Westminster, S.W.

BEFORE ORDERING LAWN MOWERS, see the "Sun and Planet Motion," with Patent Compound Wheel, in Morton's NEW PATENT LAWN MOWING MACHINE for 1863, allowed to be the best of the season.
Prices and particulars of Horse, Pony, or Donkey, and Hand Machines, to be had from Grimmond, Laird, & Co., 15, Cannon Street West, London, E.C.; or of the Patentee, Catherine Street Engine and Machine Works, Arbroath.
*** Agents wanted in every Town. Apply as above.

**To Noblemen, Gardeners, Farmers, and Others.**

AMIES and BARFORD beg to call particular attention to their NEW PATENT WATER BALLASTING FIELD and GARDEN ROLLERS, which have the following advantages over all others. They are made entirely of Wrought Iron, are made water-tight, and are loaded with water to obtain increased weight at pleasure, which is moreover employed with the greatest possible per centage of crushing power directly upon the surface of the soil. The weight of a Garden Roller can thus be doubled in a few minutes, and a one, two, or three Horse Land Roller is secured, as desired, in one implement.
Great numbers have already been sold, and are giving the greatest satisfaction, and whether for Gardens, Lawns, Cricket Grounds, Road-making, or for farmers' use, they will be found superior to all others.
For Illustrated Price Lists apply to Messrs. Amies & Barford, Queen Street Iron Works, Peterborough, Patentees and Sole Manufacturers.

# NEW AND BEAUTIFUL PLANTS FOR 1863.

# WILLIAM BULL, F.R.H.S., F.R.B.S.,

## NURSERYMAN AND NEW PLANT MERCHANT, KING'S ROAD, CHELSEA, LONDON, S.W.,

IS NOW SENDING OUT THE FOLLOWING NOVELTIES FOR THE FIRST TIME.

In announcing the following NEW FLOWERS, W. B. begs to intimate that he has purposely made the descriptions as brief as possible; did merit depend on description, that to each should be most elaborate.

From the large numbers of NEW FLOWERS in each class, it may appear marvellous that all should be good and real improvements; but W. B. invites an inspection at the blooming season of the thousands of Seedlings raised at his Establishment, and the pains taken in hybridising to obtain New Varieties.

### New Verbenas, 3s. 6d. each.

The following varieties are all conspicuous showy sorts, not such as can only be grown in pots, but all excellent bedders, which they thoroughly proved themselves during the last unfavourable summer, and therefore can be confidently recommended.

ALICE, rose shaded with violet, crimson centre, large primrose eye
ANTONY, bright crimson with dark velvet centre, white eye, fine truss
BRIGHT EYE, deep bright rose, with large yellow centre
CORDELIA, rich claret, light centre, distinct and novel
DUCHESS, crimson, with large white centre, good shape
DUNDREARY, violet rose, crimson centre, large white eye
EUPHRA, rich ruby, maroon centre, large white eye
FAVOURITE, maroon, black centre, large white eye
KATHLEEN, rich violet purple, maroon centre, large white eye
SPLENDID, light crimson shaded with scarlet, large yellow centre
THE CLIPPER, brilliant vermilion, flowers large, and perfect in shape, fine truss
THE COLONEL, bright scarlet, crimson centre, white eye, an improvement on Spark.

### New Petunias, Single Flowered Varieties, 3s. 6d. each.

The following are confidently offered as very superior kinds; they are a small selection made from many thousand seedlings, the result of the most careful hybridisation.

ADELINE, French white, violet throat, each petal broadly margined with bright red, attractive
AMETHYST, lavender with violet centre, veined and reticulated with violet, and margined with white
ATHLEEN, splendid crimson, rayed with black, large black centre
BEAUTY, violet crimson or mauve, broadly margined with pure white
CAPTIVATION, pure white, beautifully rayed with violet crimson
ELLA, rose, nerved with purple, dark throat
LADY MARIA SCOTT, purple crimson, margined with light rose, rayed and reticulated with violet crimson, black throat
LILIAN, white blotched with mauve
LONGFELLOW, bright violet, white centre
PRESIDENT, French white, nerved and shaded with violet, crimson centre, dark throat, a fine flower and good shape
SOUVENIR, very bright, rose shaded with violet, large white centre
VERNON, French white, dark purple centre, veined and reticulated with dark purple
WALLACE, pure white, striped and blotched with crimson.

### New Petunias, Double Flowered Varieties, 3s. 6d. each.

CHARMER, bright crimson, centre petals white
CORNELIA, bright violet pink
FATIMA, rich carmine, beautiful imbricated form
OPTIMUM, bright crimson, good form, like a rosette
PLEASANT, rich amaranth, very full and fine
PRINCESS ALEXANDRA, rich crimson, fine and large bold flower.

### New Fuchsias, 7s. 6d. each.

The following are all so distinct and good, they are sure to please: as there are so many it may be as well to remark that besides my own seedlings, to ensure putting out a good collection, the entire stocks have been purchased from three different raisers, and hence so much variety.

BEATRICE, large and pure white tube and sepals, the latter beautifully reflexed; corolla large and full, rich violet rose margined with scarlet, white base, very attractive
ETTIE, monstrous bright rose, sepals of unusual size and length, beautifully reflexed; large purple corolla with red base, very showy
FAIRY, broad sepals, completely reflexed, of the darkest and richest crimson: large pure white corolla, red at the base, extremely elegant
JOSEFA, rich dark crimson tube and sepals, the latter very broad, elegantly reflexed and of great substance; corolla rich dark purple, very evenly shaped, wax-like and fine
LYDIA, long and elegant pure white tube and sepals, the latter beautifully reflexed; corolla rich carmine scarlet, of great substance, very attractive
MARGARET, short tube and sepals, the latter completely reflexed; large and long blue corolla, peculiarly expanded, very novel in shape
MATCHLESS, rich dark scarlet tube and sepals, the latter well reflexed; corolla rich purple, very novel and immensely large, extra
MILDRED, tube and sepals very dark crimson and of great substance, sepals beautifully reflexed, large well formed rich purple corolla
NELLY, pure white tube and sepals elegantly reflexed, bright rosine corolla, pure white at the base
PAULINE, sepals of the richest vermilion, remarkably broad, reflexing back to the tube: beautiful rich purple corolla, thick, wax-like and well formed
ROLAND, coral-red tube and sepals, the latter beautifully reflexed; long and large light blue corolla, very distinct
TIBBY, bright carmine tube and sepals, the latter completely reflexed; large expanded light blue corolla, particularly novel and striking, a gem.

### New Zonale Geraniums, 7s. 6d. each.

Two years since all the best English and Continental sorts were collected, carefully hybridised, and thousands of seedlings raised; these have been reduced to about 500 promising kinds, which will be flowered and proved again: meanwhile the following have been selected as of unquestionable merit.

ALFRED, clear orange scarlet, very large flowers of a magnificent form, shell-like petals, and large truss
AURICULA, soft flesh with bright rose coloured centre, white eye
BONNIE DUNDEE, rosy pink, large very round flower, horse-shoe foliage, fine
CECILIA, bright rose shaded with scarlet, immense flower and fine truss
DR. LINDLEY, light scarlet, the largest and best formed flower ever offered
ERIN GO BRAGH, blush margined with white, horse-shoe foliage
LUCILLA, beautiful soft clean rose, flowers of enormous size and most perfect form, trusses fine
NORA, bright rose shaded with scarlet, very fine flower and large truss, horse-shoe foliage
REALLY GOOD, vivid scarlet, white eye
ROSETTA, very deep bright pink, excellent
THE SWAN, pure white, large flower, fine shape
VISITOR, brilliant rose, immense flower, excellent form

### New Pentstemons, 5s. each.

"In illustration of the advances which this flower has made, we may refer to a series of varieties which have been sent out this year by Mr. Bull, of Chelsea, and which we have had an opportunity of observing. They are remarkable for the advance in quality they show beyond the varieties hitherto grown." (Extract from *Gardeners' Chronicle*, Nov. 15, 1862, *vide* page 1075).

The varieties now offered far eclipse any that have preceded them. Not the most unimportant feature is the improvement in their habit, and the greater redundancy of their blossoms.

ANGELINA, puce, pure white throat, distinct and pretty
CONSTANCE, dark violet-crimson lobes and tube, white throat blotched and striped with maroon
DORA, dwarf stiff habit, scarlet tube and lobes, light throat blotched and pencilled with crimson
FLORENCE, mauve tube and lobes, large pure white mouth and throat, flowers large and very attractive
HELEN, scarlet tube and lobes, very pure white throat
MAGGIE, light red tube and lobes, white throat striped with crimson
OLIVIA, deep violet-rose tube and lobes, white throat prettily pencilled and striped with crimson
SPECIAL, crimson-purple tube, violet-purple lobes, pure white throat; distinct
STANDARD, throat and lobes pure white, lobes margined with rose, violet-rose tube
UNDINE, white slightly tinged with blush
VIVIAN, bright crimson tube and lobes, white throat, mouth blotched with dark crimson
WINIFRED, rose tube, white lobes and throat, lobes edged with bright red, very dwarf

### French Spotted New Pelargoniums, 21s. each.

The following are offered for their extreme beauty, free flowering character, and their rich, novel and varied colours:—

AILEEN, dark crimson, upper petals surrounded with fiery crimson, and margined with white; pure white under petals, lightly spotted with fiery crimson
ALICIA, rich maroon upper petals, margined with rose violet; under petals rose violet, blotched with deep crimson
ANNETTE, dark crimson upper petals, margined with carmine violet; under petals rose violet, spotted with crimson
CORAL, fiery crimson; upper petals blotched with maroon, under petals slightly spotted with dark crimson
FIREBALL, upper petals fiery scarlet, blotched with rich maroon; under petals bright red, spotted with crimson
INTERNATIONAL, rich maroon upper petals, margined with rose; bright rose under petals, shaded with fiery crimson, heavily spotted with maroon
JOSEFA, rich maroon upper petals, edged with cerise; under petals pink, spotted with dark crimson; light centre
MABEL, maroon upper petals, margined with crimson; bright red under petals, spotted with crimson; violet throat
NICOLA, fiery red upper petals, shaded with scarlet, and spotted with maroon; under petals distinctly spotted with maroon, violet centre
NINA, deep crimson upper petals, edged with rose lilac; lower petals bright scarlet, heavily blotched with deep crimson, and margined with violet pink
ROSARIO, bright red upper petals, with light margin, blotched with maroon and shaded with violet; under petals bright red, shaded with violet, and largely spotted with crimson
VICEROY of EGYPT, rich maroon upper petals, margined lilac rose; under petals lilac rose, spotted with crimson

### New Bedding Tropæolums, 3s. 6d. each.

FIREFLY, vivid scarlet, rich dark throat, exceedingly stiff shell-like petals, good form
GLORY, golden yellow, all the petals cleanly spotted with maroon, excellent shape
MARVEL, cream colour, cleanly spotted with crimson on each petal, very pretty

### New Lobelia (Erinus) Favourite, 3s. 6d. each.

Very bright turquoise blue, with clean pure white centre, flowering in the most profuse manner; very distinct and exceedingly pretty and attractive, habit dense and compact; a most desirable variety for edging or bedding purposes.

### New Show Geraniums, 15s. each.

ADELINE, pure white; upper petals blotched with bright crimson, very fine
GLORY, upper petals maroon surrounded with violet crimson and edged with rose, lower petals pink, large white centre
HERO, fiery red, upper petals blotched with deep crimson, and margined with rosy violet; lower petals soft rose, pure white centre.

### New Fancy Geraniums, 21s. each.

BERTHA, rich maroon upper petals edged with white; lower petals rosy purple margined with white, pure white centre
CHARM, dark maroon upper petals, edged with pure white, lower petals bright crimson edged with white, white centre
LADY DOROTHY NEVILLE, deep rose, upper petals shaded with violet; lower petals violet rose, pure white centre, fine shape.

### Erect Gloxinias, 5s. each.

The following select and very beautiful collection has been selected from an immense number of seedlings, and are great improvements upon those at present in cultivation.

ANONYMA, blue lobes margined with lavender, white mouth and throat spotted at the base
BEAUTY, pink lobes, pure white mouth and throat
BRILLIANT, bright crimson, the lobes margined with rose, rich violet throat
CELESTIAL, rose lobes, throat encircled with deep violet, base of the tube white spotted with brown
CUPID, light blue lobes, with white marking, pure white throat
FAIRY, white tube and lobes, the mouth peculiarly encircled with violet crimson
FAVOURITE, bright rose shaded with crimson, throat encircled with violet, white tube
MODEL, pink shaded with violet, white tube
PEERESS, rich purple, the lobes margined with blue, base of the throat white spotted with brown
PRINCESS ALEXANDRA, white lobes margined with porcelain blue
ROSALIND, soft violet pink with immensely broad lobes, the mouth encircled with violet, white tube and throat
SERENA, soft rose, half of each lobe encircled with white tube and throat white.

### Drooping Gloxinias, 5s. each.

The following may be depended upon as a very superior and beautiful selection.

ACME, blue lobes edged and prettily marked with white, violet throat
ASPROMONTE, broad clear rose lobes, pure white throat spotted at the base
BEAUTY, bright blue lobes encircled with purple, white throat
FLORA, rose lobes shaded with violet crimson and marked with white, pure white throat
ILLUMINATOR, beautiful rich crimson, the lobes broadly margined with bright red
LAURETTA, blue marbled with white, very distinct and attractive
MATCHLESS, lobes rose shaded with violet crimson, white mouth, the tube prettily striped and spotted with rose
OPTIMA, deep rose encircled with violet, white throat, very distinct
PRINCESS BEATRICE, porcelain blue, each lobe spotted with violet, pure white throat
QUEEN OF PORTUGAL, rose, rich violet mouth, the base of the throat white spotted with crimson
SANSPAREIL, pure white, each lobe spotted with crimson, and the throat encircled with violet crimson, very delicate and pretty
VIRGINIE, blush, under lobes bright crimson, violet throat.

### New Bedding Shrubby Calceolarias, 5s. each.

DISTINCTION, crimson or scarlet brown, primrose cap, very showy
ECLIPSE, bright golden yellow, minutely freckled with crimson spots
GOLDEN QUEEN, bright orange, large flowers thrown well above the foliage, dwarf compact habit, blossoms well perpetuated throughout the season
LIVELINESS, rich maroon, bright yellow cap, very attractive, an improvement on Sparkler.

### New Mimulus, "Attraction," 3s. 6d. each.

SULPHUR, with orange throat, margined and blotched with dark crimson, gigantic flowers, very free bloomer.

### New Bedding Dahlia, "Gem of the Dwarfs," 7s. 6d. each.

"Of BEDDING DAHLIAS, a variety which is to be called Gem of the Dwarfs, and which is in the hands of Mr. Dean, of Shipley, appears likely to be an acquisition in its way. It is a crimson red tipped with white, and is said to be the dwarfest bedding variety yet seen, the plants never exceeding and seldom attaining so much as 18 inches in height. The variety has proved constant to this habit for three seasons, and is described as a most profuse bloomer, looking amazingly bright and showy in a bed. The blooms we have seen lead us to believe that it really deserves this good character."—(Extract from *Gardeners' Chronicle*, Nov. 8, 1862, *vide* page 1050.)

As the above has been so strongly recommended, Mr. WILLIAM BULL has purchased the entire stock.

EXTRA STRONG FRUITING VINES.—All the leading varieties, from Eyes, with stout well ripened rods, for FRUITING in POTS this YEAR. Price, from 7s. 6d. each; smaller, for Planting-out, from 3s. 6d. each. A reduction in price will be made to large purchasers.

"We can especially recommend the above, our strong Vines having for some years given unqualified satisfaction."—*Vide* Leading Article in *Gardeners' Chronicle* for December 13, 1862, p. 1170.

JAMES DICKSON & SONS, The Newton Nurseries, Chester.

**To Noblemen and Gentlemen.**

TO BE DISPOSED OF, 100 good and clean SUCCESSION PINE PLANTS, sorts, chiefly Old Jamaica, with White Providence, Enville, St. Vincent, Queen, and others. Also about 100 more PINE PLANTS, of smaller size. The lot would be a valuable acquisition to any one, being thoroughly free from bug and white scale.

Apply by letter to A. Z., Post Office, Southwell, Notts.

**"Old" Cheshunt Nurseries, Herts, N.—Roses.**

PAUL AND SON have the pleasure to announce that their NEW HYBRID PERPETUAL ROSE, LORD CLYDE, will be ready for delivery in the course of a few days, at 7s. 6d. each. Usual allowance to the Trade. A Coloured Plate, by Andrews, from "Floral Magazine," for 12 stamps. They have a splendid stock of Dwarf Roses, both new and old; also Hollyhocks.

DESCRIPTIVE LISTS of the New Roses, Hollyhocks, and Bedding Plants now ready.

**New Roses.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully invites attention to the following NEW ROSES, which will be ready for delivery very shortly.

LORD HERBERT, H.P.—Rosy carmine, the petals reflexing at the summits in the way of Beauty of Waltham, large, full, and finely formed, and altogether of first-rate excellence. 7s. 6d.

LORD MACAULAY, H.P.—Velvety crimson, in the way of General Jacqueminot, but brighter in colour, thicker in the petal, and more double. The flowers are of good average size, produced abundantly and in rapid succession; the habit is good, and foliage handsome. 7s. 6d.

MRS. WILLIAM PAUL, H.P.—Bright violet red, shaded with fiery red; flowers constantly, and in clusters, large and full. Raised by M. Verdier, of Paris, the raiser of Madame Furtado, and others of our finest Roses. 5s.

RED ROVER, H.P.—Bright red petals, large, thick, and round; flowers abundantly and in succession up to Christmas. Not double enough for a show Rose, but the most effective pillar Rose ever offered. 3s. 6d.

WILLIAM PAUL, H.P.—A seedling from Senateur Vaisse, but brighter in colour. Raised at Lyons by the raiser of Lord Raglan, Senateur Vaisse, and other first-class sorts. 5s.

BEAUTY OF WALTHAM, H.P.—Bright rosy crimson, of good size, form, and substance, and deliciously sweet. This Rose is found to surpass the description originally given of it. 3s. 6d.

All the new French Roses, 3s. 6d. to 5s. each, or 42s. per dozen. The best of the old Roses at lowest advertised prices. The plants are well established, and in the finest possible health.

PRICED CATALOGUE free by post.

Nurseries and Seed Warehouse, Waltham Cross, N.

RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.

RICHARD SMITH, Nurseryman, Worcester.

WELLINGTONIA GIGANTEA.—The attention of the Nobility, Gentry, and the Trade, is invited to the largest stock of 1-year SEEDLING PLANTS in the Kingdom, established in single pots and fit for Spring planting. Price per dozen, 12s.; per 100, 3l. 10s. A sample free by post for 12 stamps.

J. HENCHMAN, Edmonton, London.

**Dracæna (Cordyline) indivisa, from Mount Egmont, New Zealand.**

BUTLER AND McCULLOCH have received a supply of Seed of the above strikingly beautiful fine-foliaged Plant, of which the following is an extract from their correspondent's letter which accompanied it. "When known," he says, "few of your nobility can be without this splendid plant in their gardens. I believe, indeed, that it will stand your winters out of doors with moderate protection. It grows here from 10 to 15 feet high, leaves 6 feet long and 8 inches broad, of a deep green hue, having a midrib of brilliant orange yellow, with red veins running parallel with it."

The Seed we now offer our correspondent says was gathered in the snowy ranges; Plants therefore raised from it may be expected to possess more than usual hardy constitutions. Price 1s. and 2s. 6d. per packet.'

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

HENRY WALTON has much pleasure in offering the following selections of Choice Plants:—

GERANIUMS, Show, Fancy, and Spotted Varieties of 1862, at 15s. to 18s. per dozen. A large collection of choice varieties of previous years, in strong plants, at 6s. and 9s. per dozen, selections left to H. W.

ROSES, in large quantities, on their own roots and the Manetti, at 9s., 12s., and 18s. per dozen. Also now ready, all the Varieties of 1862, at 2s. 6d. each, or 24s. per dozen. John Hopper, 3s. 6d. each, 30s. per dozen.

DAHLIAS, Choice Varieties of 1862, 9s. per dozen; Select Older Varieties, 4s. 6d. per dozen, selections left to H. W.; 30s. per 100. Lilliputian or Bouquet Varieties, 4s. 6d. to 9s. per dozen.

FUCHSIAS of 1862, 5s. to 9s. per dozen.

HOLLYHOCKS, fine varieties, from 9s. to 24s. per dozen.

PANSIES, New Show and Belgian varieties, 9s. to 12s. per dozen; Older Varieties, 4s. 6d. to 6s. per dozen.

PHLOXES, a fine selection, 4s. 6d. to 9s. per dozen.

CHRYSANTHEMUMS of 1862, 6s. per dozen; Older ditto, 4s. 6d. per dozen.

VERBENAS of 1862, 4s. 6d. to 6s. per dozen; Older Varieties, from 3s. per dozen.

PETUNIAS of 1862, from 5s. to 9s. per dozen.

BEDDING PLANTS, in varieties, 3s. to 6s. per dozen.

LONICERA AUREO-RETICULATA, 2s. each, or 18s. per dozen.

CATALOGUES of the above on application, enclosing stamp.

AZALEA INDICA.—Several thousands of the above, including all the leading varieties, in fine grafted plants, such as will soon make fine specimens. The Stock is in robust health, and all home-worked. CATALOGUES and Prices on application, enclosing stamp.

Edgend Nurseries, Marsden, near Burnley, Lancashire.

**Two Hundred and Fifty Guineas in Ten Prizes.**

FOR FIVE YEARS SUCCESSIVELY HIS LATE ROYAL HIGHNESS THE PRINCE CONSORT'S PRIZE CUPS HAVE BEEN AWARDED TO

SUTTON'S CHAMPION SWEDES at the Royal East Berks and South Bucks Agricultural Societies.

New Seed now ready, 1s. per lb., or 45s. per bushel, carriage free.

Royal Berkshire Seed Establishment, Reading.

**Sutton's Grass Seeds for all Soils.**

SUTTON AND SONS HAVE NO AGENTS, AND THEY DO NOT SUPPLY SEEDS TO SELL AGAIN; but they deliver Goods Carriage Free to all parts of the Kingdom (except very small parcels), whereby the necessity for Agency is avoided.

The following letter has been received:—

*From* Professor LINDLEY, *Royal Horticultural Society, London.*

"We have already made trial of your Grass Seeds, and it is only justice to say that they have proved the best we have sown for many years."

The First Prize Medal was awarded to SUTTON & SONS for their Grass and Clover Seeds at the Great International Exhibition of Roots and Cereals at South Kensington in October last.

A Copy of Mr. MARTIN SUTTON'S "Essay on Pastures" is sent with each lot of Grass Seeds.

Seeds sent carriage free to all parts of the kingdom. Export orders delivered free to the Ship's side in any English Port.

PRICED LISTS of GARDEN and FARM SEEDS gratis and post free.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**To Persons Interested in**

BRITISH WILD FLOWERS.—Some specimens of the ORCHIS TRIBE can be forwarded fresh when they flower.

For particulars apply by letter to L. C., care of Mr. Groom, 37, Wigmore Street, Cavendish Square, W.

**International Exhibition Prize Medals 1851 and 1862.**

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

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Covent Garden Market, London, W.C.

(Established upwards of a Century.)

COLLECTIONS of FLOWER SEEDS, Carriage Free.

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| 12 Extra fine varieties | 10s. 6d. | 6 Extra fine varieties | 5s. 6d. |

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# The Gardeners' Chronicle.

*SATURDAY, APRIL 25, 1863.*

THE return of spring-tide, when all Nature is gushing forth with life and beauty, affords a fitting opportunity to recal the attention of our readers to the subject of the establishment of LOCAL MUSEUMS, a class of institutions which under good management exercise a powerful and most important influence in originating in some of the persons brought in contact with them, and in fostering in others, a love of Natural History pursuits. Indeed, so much is this the case, that it might well be desired that wherever an institution of this kind does not exist, there the establishment of one should be set about forthwith. As a first step thereto, a Natural History Club, be it village, town, or parish club, should be organised, and so constituted as to be the means of furnishing instruction and amusement to all classes in its neighbourhood by bringing them together in friendly intercourse at its different meetings, while it should also and especially be calculated to meet the wants of the working part of the community as regards the provision of innocent and improving recreation.

A little book, recently published,* now lying before us, gives a very interesting account of the working of such a club, which has been in successful operation for several years at Wimbledon, in Surrey. "There appears," says the writer of this book, "to be no reason why a local club, of the character of the Wimbledon Village Club, should not exist in every village or town, or in each parish of a large city." An institution like this, adopting such means of usefulness as meetings, lectures, lecturets, readings, excursions, or what we here find designated as chat-meetings, would "prove a healthy mental stimulus to those intelligent inhabitants who desire to take part in one of the most delightful of duties, namely, the conveyance to the minds of others, of an interest in those pleasing and elevating subjects, from which happily their own minds derive gratification." From the experience acquired in the actual management of a successful museum and club like that referred to, some useful hints may be obtained by those who may desire to engage or co-operate in a work so useful and practical.

An institution such as that to which we have been alluding should, then, be strictly local in its aims and objects, and especially anything of interest existing in the locality—and which would of course vary in each particular case—should be prominently brought out. Something no doubt would always depend on the presence of some one or more persons qualified by the extent of their knowledge, and by a happy facility of imparting it, to take a leading part in the proceedings, but no locality should hesitate to set about a work of this kind, because it cannot lean on the support of the great and the learned. Let the residents rather put trust in themselves, and work with a will towards effecting the object in view; above all let them work with geniality of feeling, and they will be sure of at least enough success to repay them for the effort. The amount of success might, and indeed, no doubt would, differ in each case, according to the advantages enjoyed, but even the humblest and least successful might be sure of a reward worth the reaping, a harvest that would lead to more abundant returns in the coming time.

Let us see how these Wimbledonians have set about their work of forming a Village Museum—premising that they already had a Village Club which had been for some years in successful operation. They determined then, in the first place, that the Museum should be purely local, consisting solely of such objects of interest characteristic of the neighbourhood, as might be found within a radius of five miles from the parish church. Secondly, that the objects selected should be specimens illustrating the nature of the soil, the tribes of living beings—plants and animals, and the antiquities of the neighbourhood. Thirdly, that the specimens (which should be in good preservation, and in a proper state for keeping so) should be accompanied by the name and address of the collector, the name of the object, the exact place and time of collection, or other circumstances of interest, all legibly written. Fourthly, that all classes of inhabitants should be invited to take part in its formation. Fifthly, that drawings or photographs should be kept when the objects themselves could not be retained or preserved; also magnified drawings of objects or parts too small to be seen by the naked eye. Sixthly, that records should be made by several persons during a series of years, of the dates of the yearly appearance and disappearance of flowers, plants, and animals. Seventhly, that a record of facts interesting in Natural Science should be preserved in the Museum. Eighthly, that a list of the plants and animals found in the Museum area should be drawn up, printed, and circulated. Ninthly, that an accurate register of the daily reading of the barometer, thermometer, and hygrometer should be kept in the Museum. Tenthly, that a descriptive catalogue of the contents of the Museum should be kept. Eleventhly, that a collection of works on Natural Science should be kept at the Museum for reference by subscribers.

The Club itself, we learn, consists of Honorary members, who pay 10s. yearly, and of Ordinary members (artisans, labourers, &c.,) who pay 8d. monthly, 1s. 6d. quarterly, or 5s. yearly. Lady members are admitted to the Honorary class, and persons residing temporarily in the district may be admitted as visitors on the introduction of a member by payment of 2s. 6d. monthly if of the Honorary, or 1d. per day if of the Ordinary class. The management rests with a Committee composed of both classes of members, elected annually by each class, out of its own body. There is a Reading Room supplied with daily and weekly newspapers, periodicals, and books, and a Smoking Room, in which chess, draughts, dominoes, and newspapers are provided; these rooms being open to members on week days from 8 to 10 A.M., 1 to 2 P.M., and 5 to 10 P.M.; and on Sundays, the Reading Room only, from 8 to 10 P.M. There is a Library from which quarterly subscribers may borrow books. And there is a Lecture Room, in which lectures, penny lecturets, penny readings with music, chat-meetings, or tea-meetings are held weekly during the season. The payment at a lecture, lecturet, and reading is 1d., or 6d. for reserved seats; at a chat-meeting 2d. It is gratifying to read that "financially and otherwise these entertainments are most successful."

It may be an encouragement to those who desire to promote the formation of a Museum of this character, to know, from the experience thus gained, that if they start with right views, that is to say, if they take a real interest in Nature's works, and are possessed by a desire to bring them to light for the instruction and enjoyment of themselves and their neighbours; if they are not too ambitious to make their Museum a show,

* Hints on the Formation of Local Museums. By the Treasurer of the Wimbledon Museum Committee. London: Hardwicke.

then there is scarcely a possibility of failure. If only a few volumes of Natural History or Botany are got together, if only a few pebbles and plants and animals are collected, arranged, and preserved by a few inhabitants of a village, still a worthy beginning has been made, and if the matter is carried no further it is not a failure; for the collection, small though it may be, is there, for the instruction and incitement onward of those, the young especially, whose tastes are daily growing and require to be directed aright. Such a simple collection too must not be thought insignificant, for in reality it signifies much. From its component parts may be learned the great lesson, that God's creatures, common, diminutive, and unattractive as many of them may be, yet one and all bear impress of the Creator's goodness; and they are, therefore, fitting objects for the careful study and contemplation of that nobler portion of His handywork, which was made in His own image.

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We would direct the attention of Orchid growers to a communication from our correspondent "Serapias" on the subject of cool treatment, that will be found in another column. We have ourselves again and again protested against the monstrous folly and injustice of the ordinary practice, under which Orchids from the sultry swamps of Singapore, or from the mild slopes of the Mexican and Peruvian Andes, have been subjected to precisely the same regime. No other tribe has fared so ill. For the accommodation of plants in general we have houses of varying temperature—the stove for such as come from hot, and the greenhouse for such as come from temperate regions; and we never hear of the denizens of a hot climate being placed in the greenhouse, or of the *habitués* of a mild climate being consigned to the stove. Why, in the case of Orchids alone, this common-sense system should have been departed from, is more than we were ever able to understand. And yet because an East Indian Aerides, that in its native habitat has a mean temperature of 80°, is found to thrive under a high degree of artificial heat, *ergo*, the same conditions must suit a Peruvian Odontoglossum, accustomed in its own country to a mean temperature of 60°, and even capable of enduring several degrees of frost! Certainly the success of the experiment has not been such as to justify this exceptional violation of all the dictates of reason and experience, for the cool country Orchids have almost invariably found an early grave, instead of a congenial home, among the salamanders of the East; and except where, as in the case of certain kinds from Guatemala, the casualties have been made good by constant importation, our collections of Orchids are still reft of half their charms. Now, however, that our "growers" have discovered that by simply applying to Orchids the rules that regulate the culture of all other plants whatever, they can do well, and with scarcely any trouble or expense, what before with immense trouble and great expense they could not do at all, we may soon expect to see the Orchid-mania revived amongst us in more than all its former intensity. Nor will it soon spend itself through lack of fuel, for the beautiful forms that still lurk in the highlands of New Granada and Peru would fill a dozen "cool" houses such as we rejoice to hear are now in request.

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—— We have received from Mr. Bull, of Chelsea, a boxfull of Mimulus flowers the produce of a new cross, the recently introduced Mimulus cupreus being one parent, and a fine large-flowered spotted sort, called Gaiety, the other. The plants resulting from this intermixture are said to be of the same dwarf habit as cupreus itself, while the flowers are full-sized (about 2 inches across), and very richly marked. Some of the blossoms now before us are exceedingly beautiful, reminding one in their curious spotting of the Tydæas, or of some of the handsomely marked herbaceous Calceolarias which were seen in the days when Calceolarias were popular. In these novel Monkey-flowers the ground colour is yellow. Some of them have the two upper and two lateral segments thickly dotted with small distinct spots or specks of a bright coppery red, while the lower segment has this kind of spotting confined to the border, and its central part is clear yellow, with a distinct bar of coppery crimson, the spotting being again continued over the palate down to the very base of the tube. Others have similar spotting on the four upper segments, but the finer dots are collected into a sort of belt, and those in the centre of each segment are just a little larger as if by confluence, the upper edge of the tube being dashed with specks of a more orange-tinted hue, and the lower segment more boldly spotted. Such as these are so lightly spotted that they may be classed as pale flowers, though marked over nearly the whole surface. But in others, the spots, while equally crowded, are larger, or there is a flush of the deep coppery tint in addition to the spots, or the spots themselves coalesce into larger variously shaped blotches, and sometimes so much so as to produce a dark ground flower with yellow specks. Some are singularly elegant, others singularly fantastic in their markings. Altogether this may be set down as a remarkably successful cross, and Mr. Bull may be congratulated on having procured for our gardens some very gay and sparkling novelties amongst Monkey-flowers.

—— It is worthy of especial mention, that Mr. Turner of Slough has succeeded in blooming a large number of plants of Bougainvillæa speciosa, in small pots. Several of these plants have been lately exhibited growing in pots of 5 inches diameter. Their bracts have not indeed been comparable for size or brilliancy with those borne on the noble specimens Mr. Daniels has familiarised us with; but it is something to have conquered so stubborn a plant, and samples which have been produced by Mr. Turner himself were sufficiently well developed to be really ornamental. We understand that the secret of this success, as of that at Swyncombe, is found in the thorough ripening of the last year's growth, and the absolute winter rest of the plants, which have been subsequently brought forward in an intermediate house.

—— The *Phytologist* records the occurrence on a farm at Pepper Moor, near Alnwick, occupied by Mr. Binks, of what are supposed to be Roman Oats. The land whereon they grew, occupies the site of an ancient encampment, enclosed with a mound, and which tradition ascribes to the Romans. The lapse of time and the spirit of improvement has gradually obliterated the traces of the encampment, and about a year ago, the last of the Whins which time out of mind had covered the surface, was cut down, and the land ploughed and sown with Barley. The space sown was about 2 acres. Mr. Binks states that he has been on the farm for 63 years, and never saw anything occupying the land but Whins. However, amongst the Barley thus sown, there were found at reaping time heads of strange-looking Oats, some unusually tall and strong with long branching stemlets, others with globular heads resembling the head of an Onion. There were no less than 75 varieties collected, which had never been seen in the district before. These have been sown separately, and are to be exhibited in autumn at the Alnwick Horticultural Show. If, observes the writer of this account, these varieties "differ from the varieties in cultivation in Great Britain, it will be strong presumptive evidence in support of the opinion of those who assert that the seeds of the cultivated cereals retain their vitality for very long periods, when placed in conditions favourable to their preservation. Whether the encampment was formed during the Roman occupation of the country or not, is a question for antiquarians to determine. If the camp was formed during the period of any of the invading inroads which have taken place in England—Roman, Scandinavian, or Saxon, the fact may be established that since the period the camp was occupied, the grains of the Oat buried in the soil have retained their vitality unimpaired."

## New Plants.

256. Lycioplesium pubiflorum, *Grisebach; Botanical Magazine*, t. 5373.

This handsome Solanaceous plant, to which Dr. Philippi has given the name of Latua venenata, has been introduced from South Chili by Messrs. Veitch

& Son, through their collector Mr. R. Pearce. It is said to be a spiny shrub, but the spines do not appear to be always present, and are perhaps only developed with age. The plant has something the aspect of a Habrothamnus, and bears acute elliptic leaves, from whose axils little fascicles of smaller leaves issue, and along with them, terminating the very much abbreviated axillary branchlets, are large pendent reddish-purple flowers, whose corollas have a swollen five-angled tube, a contracted mouth, a spreading five-lobed limb, and a felt-like surface of short close down. From the large size and profusion of these flowers this Chilian shrub may claim a place in the ranks of ornamental garden plants; amongst which it will be all the more welcome from its being, as is reported, hardy, at least as a wall plant. In such a situation as that just indicated, with a very slight amount of precautionary protection, the Messrs. Veitch were enabled to bloom it in the month of February last.

According to Dr. Philippi, this Lycioplesium is found in the moist woods of Valdivia and in the island of Chilöe. The inhabitants call it Latué, Palomato, and Palo de los bruyos, or tree of the magicians, and regard it with great superstition. The bark and fruit, like those of many other Solanaceæ, contain a strong narcotic poison. It was known that the Indians were in possession of a secret means of making people mad by means of a vegetable poison, but the plant from which it was obtained was not ascertained till a few years since, when Father Romualdo, a missionary at Daglipulli, found it to be the Latué. This shrub closely resembles the Tayu, or Palo Santo, Flotowia diacanthoides, in its growth, its thorns, and its leaves, and hence cases of involuntary poisoning often occur, the Tayu in the form of a decoction being regarded as an excellent remedy for bruises, concussions, &c. Dr. Philippi obtained much information as to the Latué and its effects from Mr. Juan Renous. One of Mr. Renous' wood cutters having received a violent blow with the blunt end of an axe, went into the forest to fetch the bark of the Tayu, but by error got the Latué instead, and drank of the decoction. Almost immediately after he became mad, and ran into the forest, where he remained three days in an unconscious state. Some days, indeed, sufficed to restore him, but he had a violent head-ache for several months. The fruit, which is as poisonous as the bark, has from its colour and size, some resemblance to young apples. It is stated that persons who were on their way from Osorno to Moullin, were induced to eat a few fruits by the way, and that they arrived almost without consciousness, and entirely prostrated.

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Poinciana Playfairii.—This I see you mention as living at Kew. It is a manuscript name given by me on collecting the plant at Aden in February 1861, after the publication of my "Florula Adenensis." I have specimens in my herbarium in good flower and fruit, and a young plant 5 feet high raised from seed recently received from Aden, is also in this Garden. I hope soon to describe the species if it proves to be different from P. elata, Linn. *T. Anderson, Botanic Garden, Calcutta.*

## DIES ORCHIDIANÆ.—No. VII.

(*Continued from p. 292.*)

The next collection to which I paid a visit was that of Mr. M'Morland, of Haverstock Hill. The Orchids here, though not very numerous, belonged to the very *élite* of their order, and were superlatively grown. The Cattleyas were in splendid health, and I noticed with especial interest what purported to be three distinct varieties of Cattleya Warscewiczii *alias* C. Trianæi, two of which were pushing into bloom at the time of my visit (November), but did not open their flowers until considerably after Christmas. By the kindness of Mr. M'Morland, a spike of each of these was sent to me, and on comparing them with native specimens gathered by Warscewicz himself, there could be no doubt as to their being all entitled to bear that veteran traveller's name. Although exceedingly beautiful, the colouring was not what the appearance of the wild specimens would have led one to expect; the latter having quite a rosy tint, while those produced in Mr. M'Morland's stove were nearly white, and exactly corresponded with the figure of C. Warscewiczii delicata, as given in Mr. Warner's work. They also approached very closely the Cattleya pallida of Lindley (a Mexican species figured in the Botanical Register). Still I believe that rose-coloured varieties really exist, and so it would seem does also Professor Reichenbach, for in his "Xenia Orchidacea," the species is represented with flowers of a hue such as Cattleya labiata itself might have borne. At any rate C. Warscewiczii is a very fine thing, and specially valuable as producing its flowers in the dreariest season of the year.

Another plant that rivetted my attention was Cypripedium caudatum, which at a distance looked like a fine specimen of Angræcum eburneum, its stem being nearly half a yard high and its leaves 22 inches long! Surely this cannot be the same species that we are accustomed to see flowering freely and finely without any stem at all, and with leaves barely a span in length? Mr. M'Morland's plant was in full bloom when I saw it, but the flowers were scarcely so large or so showy as those of the ordinary C. caudatum, a circumstance that somewhat strengthens the idea that two distinct species may be at present included under one name. The subject deserves investigation, and will I hope receive it at the hands of the first botanist who may have the opportunity of comparing fresh flowers of the

two rivals. I may add that the subject of the preceding notice had been purchased from Mr. Veitch, who procured it from the collection of Madame Yenisch, Flotbeck, near Hamburgh, which is famous for its Cypripediums. Mr. Veitch may possibly have obtained other specimens from the same quarter, as I noticed in the King's Road several plants that were evidently related to the giant of Haverstock Hill. They were growing freely in a mixture of Cocoa-nut refuse and Sphagnum, a prescription that seems to suit all the Cypripedia. Dendrobium albo-sanguineum is another charming plant that Mr. M'Morland manages to perfection. He suspends it on a block of wood close to the light, in which position it thrives amazingly, and produces flower spikes innumerable. Every Orchid-lover ought to include this species in his list, however exclusive such list may be.

The above were all growing in houses of a temperature such as Orchids ordinarily affect; but the greatest gems of Mr. M.'s collection were stowed in a cool greenhouse, for here there was a colony of the most illustrious Odontoglossa, one and all being undeniably in robust health. I shall not attempt to enumerate all the kinds, but I would single out for special comment two magnificent plants of O. Phalænopsis, because this species is not only pre-eminent for its beauty, but is usually regarded as one of the most intractable of Orchids. Here, however, it is as completely under control as the most vicious colt after half an hour with Mr. Rarey. As the subject of treatment is all important, I shall give the account of Mr. M'Morland's system of managing the Odontoglossa in his own words:—"First and above all," he writes, "they must be kept cool. The house we use is scarcely warmer than a cool greenhouse, and the plants are kept near to the door, which in summer is frequently left open. Of course we do not allow cold easterly winds to touch them, but we take advantage of all suitable days. Another very great point is to keep them near to the glass, indeed as close as possible—firmly believing from positive experiments that this is only second in importance to a low temperature. We have had two plants of O. nævium close together, one at the distance of 3 feet, the other nearly as many inches from the glass, the result being immensely in favour of the latter position. I need only add that our plants are potted in cocoa-pulp and Sphagnum (we use here very little of the fibre), and the roots absolutely revel in the mixture. Water must be given freely, and therefore good drainage is indispensable." As the best practical commentary upon Mr. M'Morland's system I may be allowed to add that he has now (April) a plant of O. nævium majus, with 18 fine spikes of flower upon it (two of the pseudobulbs bearing three spikes apiece), and that his tussocks—for such they are—of O. Phalænopsis will soon be a sheet of bloom. After all there is nothing very difficult or very wonderful in all this; plants from a cool climate thrive if you keep them cool, and perish if you roast or boil them; yet it has taken us some 30 years, and lost us treasures and pleasures innumerable, to learn this simple truth! It was at Mr. Veitch's nursery about two years ago that I first saw Orchids in a really cool house, and they were thriving wonderfully. Mr. Day's experience and Mr. Rucker's also—for both these celebrated "growers" have now their "cool" houses—points in precisely the same direction. So likewise do the experiments in Mr. Skinner's drawing-room, in which there is a plant of Lycaste Skinneri, that has never been elsewhere for two years or more, and it is now growing and flowering freely.

And let me add a little incident in my own experiences. Some five-and-twenty years ago I received in mid-winter and during a very severe frost a cargo of Orchids from Oaxaca, containing, *inter alia*, the first plants ever imported of Cattleya citrina, Odontoglossum nebulosum, &c. Of course I gave them up for lost, but to my delight and amazement, after a few weeks' time a large proportion began to push freely! Yet, although they had endured without injury a temperature many degrees below the freezing point, they were not proof against the heat of the Orchid-houses of those days, and in the course of a twelvemonth all had disappeared! *Serapias.*

## ANCIENT FRUIT LORE.—No. I.

We have no doubt our readers will be interested, as we have been, by the very quaint and often shrewd remarks on matters relating to the management and preservation of fruits, which form the subject of a rare old book published in the early part of the reign of King James I., and of which we purpose from time to time to reprint a portion in our columns. This book, which is written by Mr. N. F., bears the following minutely particular title:—

"The Fruiterers Secrets: Containing directions, for the due time, and manner, of gathering all kindes of fruite, aswell stone-fruite as other: and how they are afterwards to be ordered in packing, carrying and conueighing them by land or by water; then in separating or culling them into diuers sorts; and lastly, in reseruing or laying them vp, so, as may bee for their best lasting and continuance. Enterlaced with diuerse other secrets (and their naturall causes) touching trees, and their fruite. No Treatise, to this purpose, being heretofore published. At London, Printed by R. B. and are to be solde by Roger Iackson, at his shop in Fleete-streete, neere the conduit. 1604."

Then comes a dedication "To the right honorable, Charles, Earle of Deuonshire, Lo: Lieutenant of Ireland, and one of his Maiesties most honorable Priuie Councell," to whom N. F. wisheth long life with increase of honour, and as "one Irish-borne who by long experience hath made triall of that which he deliuereth to others" craves his Lordship's countenance, that his worke "may have free passage, in despite of malitious and scornfull tongues, into the hands of all such as desire to eat the fruite of their owne vineyards, in their due season." The Epistle to the Reader which follows this dedication, is in these terms:—

"Gentle Reader, as there haue been diuers bookes set forth for the good of this land, and the great encrease of fruite; As of planting, setting, proyning and grafting, also of preseruing them, after the order of the Apothecary: so amongst the rest, bestowe the Reading of this little worke; wherein you shall finde the true order of gathering, carrying, and keeping of all sorts of fruites, in their season, and how you shall know what time your seuerall fruites are ready to be gathered; especially all kinde of pippins, and apples, all kinde of peares, wardens, Quinces, and Medlers, also cherries and other stone fruite whatsoeuer.

"I omit the nominating of all kind of fruites; for they bee too many to be seuerally named. And commonly euery fruite country hath their seuerall names, although one kinde of fruite. As, Iohn-apples be, in some places, called Dewzings or long-lasters: and Gooddings be called old Wines, &c. Yet although not seuerally named, you shall by this Treatise know the due course how to gather all kindes in their prime and season, and afterwards to carry or conueigh them, either by land or by water, and then how to reserue or keep them, to endure longest. And, afore I proceede to the Treatise it selfe, I thinke meete to acquaint thee, from whence our great plentie of fruite, in England, came.

"One Richard Harris, of London, borne in Ireland, Fruiterer to King Henry the eight, fetched out of Fraunce great store of graftes, especially pippins: before which time there was no right pippins in England. He fetched also, out of the Lowe Countries, Cherrie grafts, & Peare grafts, of diuers sorts: Then tooke a peece of ground belonging to the King, in the parrish of Tenham in Kent, being about the quantitie of seauen score acres; whereof he made an Orchard, planting therein all those foraigne grafts. Which Orchard is, and hath been from time to time, the chiefe Mother of all other orchards for those kindes of fruites in Kent, and of diuers other places. And afore that these said grafts were fetched out of Fraunce, and the Lowe Countries, although that there was some store of fruite in England, yet there wanted both rare fruite, and lasting fine fruite. The Dutch & French, finding it to be so scarce, especially in these countries neere London, commonly plyed Billings-gate, & diuers other places with such kinde of fruite. But now (thankes bee to God) diuers Gentlemen and others, taking delight in grafting (being a matter so necessary and beneficial in a Comon-wealth) haue planted many Orchards; fetching their grafts out of that Orchard, which Harris planted called the New-garden. And by reason of the great increase that now is growing in diuers parts of this Land, of such fine & seruiceable fruit, there is no need of any foraigne fruite, but we are able to serue other places.

"Now therefore, since it hath pleased Almighty God, to giue encrease & plenty of fruite in this land, and that diuers haue taken paines in the maintenance thereof, of all degrees: (the better sort for their pleasure, & in that they doe delight to see the worke of their owne handes prosper, as also to eate the fruite thereof; the common sort, for profit, and for the better reliefe of their family). In regard, I say, of the great paines that haue been taken, in planting, setting, grafting, & proyning, whereby a great deale of ground hath been taken vp, which might serue for other good purposes; I thought good to shew what course might bee taken, that mens Labours be not lost, nor such great quantity of groũd, wherein fruite doth growe, lye in waste (as it were) and become vnprofitable, through ignorance of well handling the fruite, after God hath giuen it.

"For if there be not as great care taken for the well gathering, and good vsage of fruite, as hath been for the planting thereof, I account most of the labour in planting lost, and the grounds wherein they growe to lye partly waste, and better to be vsed for some other good purpose. But, the fruite being well handled & vsed, the ground can bee turned to no better profit. And so (committing both thy endeuours, and these my labours, to the blessing of God) I hasten to the Directions themselues.—Thy well-willer, N. F."

## ROSES.—No. V.

By Mr. William Paul, F.R.H.S., Paul's Nurseries, Waltham Cross.

It was originally my intention to have completed my remarks on old Roses before dealing with the new, but I am reminded that any information on the latter is of more value in April than in May. Therefore this digression. To-day I will review the new Roses of 1861-62, next week those of 1862-63, and subsequently resume my remarks on older varieties of Roses.

Nearly all the good new Roses of 1861-62—and there are many—belong to the group Hybrid Perpetual. Alphabetical arrangement compels me to open this series with a flower of my own raising, Beauty of Waltham; some thousands of plants having been sold within the year, this Rose will doubtless soon be well known: in my judgment it is not yet equalled for the combined qualities of brilliancy, substance, form, vigour, and hardihood. Charles Lefebvre is certainly one of the finest of that set; the flowers are crimson shaded with maroon, intensely rich and glowing, of large size, good substance, and perfect form. Duc de Rohan is also a first-class Rose, of vigorous growth, with handsome foliage; the flowers are large, full and globular, in colour bright vermilion. François Lacharme is a rich rosy crimson flower, large, full, and of good form, quite first-rate. La Brillante is of the most exquisite colour when newly expanded, but soon pales even without the sun! it is of good average size, perfectly cupped, and nearly full. Louise Darzins is quite a gem, producing its pure white exquisitely formed flowers in great abundance; it might almost be called a perpetual Madame Hardy. Madame Charles Wood is a robust-growing sort with large showy crimson flowers, and beautiful foliage; in size, form of petal, and substance, quite a show Rose, although the flower expands rather quickly, and is soon overblown. My ideal of a Rose has always been, and still is, a half blown deeply-cupped or globular flower; the old Baronne Prevost is beautiful of its kind, and so is Lafontaine, but neither of these forms, call them compact, expanded, or what you may, is at all comparable with the globular or deeply-cupped flower. Madame Ernest Dréol is a good Rose of the Baronne Prevost style, but brighter in colour, and with petals of greater substance. Madame Julie Daran has with me been a little uncertain, but this may be accidental, rather than constitutional; it appears a good hardy Rose, with large globular glossy vermilion-coloured flowers. Maurice Bernardin is quite first-rate, large, and full; in colour brilliant vermilion. Monte Christo is a beautiful Rose, indeed one of the most beautiful, but rather difficult to manage; the flowers are blackish purple painted or flushed with scarlet—not the natural flush of health, but rather a hectic glow, too clear and beautiful to be associated with hardihood and longevity; one flower is, however, a sufficient recompense for a year's care. Olivier Delhomme is a bold showy crimson Rose, of good form and hardy constitution, the foliage particularly handsome. Prince Camille de Rohan is quite distinct from any Rose I have yet seen; the flowers are dark velvety maroon, the circumference inclining to blood red, the colours very rich and splendid. Professor Koch may be called a crimson Coupe d'Hébé flowering in the autumn; a Rose of first-rate quality. Robert Fortune belongs to the useful rather than the brilliant; it does not flower so freely as some; but the flowers, which are rosy crimson, are large, full, sweet, well-formed, and always good. Souvenir de Lady Eardley yields an abundance of large almost full reddish scarlet flowers; the growth is exceedingly vigorous, the foliage fine. Souvenir de Comte Cavour (Margottin) is a good enough Rose, though not over large; the flowers are crimson and black shaded, very rich-looking and effective on the tree. Vulcain was good last year and has been better in the forcing houses this spring; the flowers are bright purplish violet, shaded with black, very dark and distinct.

The foregoing were the best of the last year's Hybrid Perpetuals with me. The experience of other growers may have been different, and I should be glad to hear their views. There were also two Tea-scented sorts which pleased me much—Gloire de Bordeaux and Triomphe de Guillot fils. Belle de Bordeaux, which is a year older than the first mentioned, was exhibited several times last year under the name of Gloire de Bordeaux. The latter was with me lighter in colour, and finer in form, but they resemble each other almost too closely. Triomphe de Guillot fils is white shaded with rose and salmon, very large, full, and sweet. If an addition to the foregoing be required, the following stand next in rank in my note book for that year:—Alexandre Dumas, Gloire de Chatillon, Madame Caillat (very good), Maréchal Vaillant, Souvenir de M. Rousseau, Paul Féval, Wilhelm Pfitzer, Madame Clemence Joigneaux (good but common in colour), Turenne, Mdlle. Claudine d'Offay, and Francois Louvat.

The number of good new Roses brought out in 1861-62 was certainly above the average, and there was a large accession of what are termed Velvety Roses. Velvety Roses! It may fairly be asked, what are they? There is a something on the face of the petals of certain Roses that we have hitherto endeavoured to express by the word "velvety." But this word is wholly inadequate to convey the real appearance. The richest velvet, however soft and pleasing, is dull and heavy-looking beside our flower; the latter has all the softness and richness of velvet and a something superadded which I have never met with except in the petals of flowers, the coats of insects, or the plumage of birds. The pen cannot describe it, the pencil cannot paint it. What we should call it I do not know. May we look on it as analogous to the youthful tint on the human cheek—the "glow of life" which forms so broad a line of demarcation between the animate and inanimate,

which constitutes alone an immeasurable distance between the simplest works of Nature and the highest efforts of art.

## Indoor Gardening.

Hanging baskets are about this time always in great requisition. There is a particularly pretty small square sort that looks like a frame of Pine sticks, made in Staffordshire ware, and exceedingly easy to fill. I had one this winter with red Tulips and Snowdrops in it, and little pale blue Scillas crept charmingly out through the holes. This is an inexpensive thing (I think mine cost 3*s.* 6*d.*), and filled with blue Lobelias, or Sedums, or Moss and Ferns, (especially with the beautiful and favourite Maiden-hair), or else with a trailing Thunbergia or Achimenes, it would be very beautiful. There is a hole at the bottom, which I filled up with a cork. A layer of charcoal will drain it, and the cork can be taken out sometimes in case of an accumulation of water beneath the soil.

Chinese Primroses would be very nice to plant in a frame of this kind. Very small pots suffice for them, and they flower the more profusely. If, we will then suppose, one of the pretty fringed white-flowered kinds were sunk in a 3-inch flower pot in the centre of such a tray, and the space all round the little pot were filled up with the Cocoa refuse, and with little red or pink Tulips planted in knots in the corners—there would be a little basket all ready, bright and blooming. The Scillas that have been blooming in other dishes might move too—merely wetting the sand most thoroughly before withdrawing them. A little dry sand should then be poured in round the transplanted roots—or else the tray should be watered so well as to settle the soil round. In fact, when I speak of planting things in Cocoa refuse, I am apt to forget to mention that it is supposed to be mixed with sand, which keeps it close and moist.

Many people have a great weakness for a regular cottage "Musk plant"—it grows so quickly and greenly, and smells so sweet after rain—and then its long hanging shoots droop down so very prettily, when it can be kept in some place where it will not scent the house too much, or where an enduring owner will tolerate much from a flower. It would be just the thing to plant now in a common flower pot or in a bowl of any shape, with a supply of charcoal drainage. I once saw a fine Musk plant suspended in a broth basin, the string going through the handles! And as the proprietor bore it, and the Musk plant thrived in it, there was nothing to do but record it.

The Musk delights in water, washing over its head, and deluging the soil—supposing drainage is possible, which it certainly is in most cases; it thrives extremely well in a soil composed of Cocoa refuse and silver sand, or else of good leaf mould of rather a peaty tendency. The baskets when planted may be hung to very great advantage inside the window curtains, —between the window and them at night, if the room is much warmed and lighted generally in the evening. I have at present some Primroses doing very well which are treated thus. The nearer the light the basket hangs the better, and it seems to me a sad mistake to hang them very high up. Of course the lower they hang, the more perpendicular is the light they get.

I am told that the Paxton flower basket is very convenient, and very pretty when arranged. I mention it here to suggest the use of oak stain for colouring such things, as the dark rich brown is far better than a brighter colour amidst leaves. This basket has a case to keep the water from dropping, but to use in a greenhouse and in a great many other ways it would be well to try for it a lining of close-pared turf. Scarcely anything looks so pretty and is so easily kept in order, being merely clipped with some garden scissors now and then. Gay bright flowers especially, look so well in these green things; the red and brilliant white flowers shining above the green wall. The larger flower-stands also never look more gay, and at the same time more green than when thus arranged. A window-box or a balcony frame, or a standing flower basket on the lawn, may be set up in this way:—A mere frame of twisted sticks from some old Oak or Apple tree, perhaps an inch in diameter, and split if wood is scarce, nailed roughly into a shape upon a board for a floor, and stained with the oak stain I mentioned just now, or varnished, then lined with the thinly pared turf, filled with some close-fitting substance (from Cocoa refuse to sand), and planted with a few gay plants put in to remain all summer, and growing better as summer goes on. Scarlet Geraniums, Heliotropes, and white Ivy-leaf Geraniums, are the three best things, I think; or Mignonette and Stocks, also Mignonette and Verbenas; or rivalling the first, if not indeed outshining it, a group of perhaps three Arums, surrounded by crimson Roses, of the lovely long-flowering sweet semi-double sort. *E. A. M.*

## Home Correspondence.

*Garden Law.*—Will our kind friend "Lincoln's Inn" enlighten us on the following points?—1. I am a nurseryman living in the country. My parish is being reassessed, and because my business is large, or as my brother parishioners think profitable, they wish my nursery land to be assessed at 200 per cent. more than the land of my neighbours; say their assessment is at 30*s.* per acre, they wish my land, parted from it by a hedge and ditch occupying a space of 4 feet, and of exactly the same nature both in subsoil and surface soil, to be assessed at 4*l.* 10*s.* per acre. I naturally object to this, and tell them that by digging and manuring I may have made my soil worth 10*s.* per acre more than theirs, but that they have no business either with the profit I derive from it or my trees. 2. My neighbours say that I have a large number of glass houses and pits which they think ought to be rated, but finding that Lord Kenyon's opinion is against this, they are willing to give up the idea; still they consider that they add to the value of the ground they stand on, and that such ground should be assessed at a much higher rate than that part of the nursery occupied by trees only. 3. A clerical gentleman at the board of assessors compared greenhouses and hothouses to a manufactory, and stated as his opinion that as a manufacturer would be rated for his building in which he placed his engines, for the purpose of manufacturing cloth, a gardener should be rated for his houses in which by the aid of hot water he manufactured plants. Rather 'cute' this, but I think it will not hold even cold water. *Observer.*

*Mistletoe on Conifers.*—It is generally believed that this parasite is either not found at all, or very rarely found, on coniferous trees. Bearing on this question I remember to have somewhere seen a statement not very long since, from which it appeared that the Mistletoe, which was said to be abundant in the forest of the Vosges, was not unfrequently found growing on the Black Fir, though not noticed on the Pine. Is it so? *Viscum.*

*Royal Horticultural Society's Show.*—The show held on the 15th inst. was attractive for the season, and the beauty of the weather added much to its attractiveness. The ladies might be seen enjoying the warm sunshine outside, in preference to the cold air of the arcade where the flowers were staged. The managers might take a hint from this; and hereafter select the warmer and pleasanter parts of the garden for the early spring shows, reserving the sunless situations for the midsummer exhibitions. *F.R.H.S.*

*Euphorbias and Poisonous Milk.*—At p. 126. one of your correspondents, referring to some cases of reported poisoning from the use of goats' milk, which had occurred at Malta, and mentioning that the mischief was attributed to the animals feeding on a species of Euphorbia called Tenhuta, asks what plant is referred to under this name. I find from a statement in the "Annales d'Hygiène Publique," that this Tenhuta is the common Euphorbia helioscopia, or Sun Spurge, a plant plentiful enough in our own country, but upon which fortunately our milk-yielding animals do not browse. Probably, however, its properties may become more concentrated in the climate of Malta. *J. C.*

*Peaches.*—I have now disfruited the three Peach trees referred to in one of your preceding Numbers. The trees are about 9 feet high and 53 feet wide. The Peaches are regular all over the trees, and there is not a single diseased or curled leaf on them. In two or three places I see gum. I never saw it in any preceding year. Top Peach 46 years old: disfruited 73, left on 96. Middle tree, 46 years old: disfruited 359; left on 320. Lower tree, 26 years old, next the rivulet: disfruited 178, left on 140. Total left on, 556. If these be added to the five years' proceeds already referred to, it will be seen, that since I have covered with sheets, these old cut down trees, now in giant strength and well wooded, have borne for six consecutive years above the average of 500 Peaches per annum. The place they stand in was once a duck pond. They are all three close to the rivulet. Mr. Sturt is much pleased with the glass case article (see p. 318), and permits me to say that his glasseries are open to inspection. Mr. Newton is the head gardener. His direction is Critchill, Wimborne, Dorset. I am four miles off, and shall be happy to entertain any of the friends of the *Gardeners' Chronicle. W. F. Radclyffe, Rushton.*

*Holly Leaves.*—I am fully prepared to support Mr. Paul's assertions respecting the Holly assuming the different forms of growth he mentions (see p. 366), as we have fine specimens of different varieties growing here in the pleasure grounds. One, 30 feet high, has smooth foliage from bottom to top; one is rough; and one has rough leaves at bottom and perfectly smooth ones at top. Another tree has both rough and smooth foliage all over; this is in direct opposition to Southey's lines. *E. Welch, Gardener, The Palace Gardens, Armagh, Ireland.*

*Wireworm.*—Permit me to ask your readers if there is any method of destroying the wireworm, *i. e.*, if I can apply anything to the ground it infests that will drive it away. Two years ago a friend of mine built a vinery, made a border of turf and manure mixed together, and planted Black Hamburghs. Three of the Vines having made little or no progress, he was induced to examine the border, and found it full of wireworms—the three Vines were literally eaten up with them, roots and stem being nearly all destroyed. He picked out of that part of the border where he had taken up the three Vines no less than a quart measure full. I never before anywhere saw anything approaching the quantity. The other Vines are doing pretty well, so that if it can be avoided he would not like to disturb them. If any of your Correspondents can give any idea as to what to apply to the border to destroy these pests, the information will greatly oblige *Jemmy Watson, Rotherham.*

*The Loquat (Eriobotrya japonica).*—In reply to your Correspondent (see p. 366), I beg to say that this fruit, belonging as it does to the natural order of Appleworts, is best grafted upon the Quince. It may however be propagated by means of seed sown as soon as it is ripe, or by cuttings made of side shoots 1 or 2 inches in length in sand under a bell glass and struck in heat. By grafting, however, which is to be recommended, excessive robustness is got rid of, and thus managed the plants may be admitted into a Peach or intermediate house; otherwise treated they would doubtless be too coarse for ordinary houses. When the Loquat is grown in the open air, it should be allotted a very warm sheltered situation, and protected from frost during the winter. The temperature of a Peach-house is, however, most suitable. With regard to soil, it should be observed that good loam and peat are best, allowing the former to predominate. It may be grown in pots if turned out to rest in summer and introduced into a stove in winter. By this means fruit may be obtained in April. *M. A., Frindsbury.*

*The Lee-Chee (Nephelium Litchi).*—This Evergreen fruit tree your Correspondent (see p. 366) will find may be propagated by seed sown in spring, or by layers or cuttings of half ripened shoots put in sandy soil and struck under a bell-glass in heat. A temperature of from 45° to 55° during winter, and from 60° to 80° in summer, and a soil consisting of sandy loam and leaf mould, appear to be most suitable for its growth. *M. A., Frindsbury.*

## Societies.

Linnean: *April* 2. G. Bentham, Esq., President in the chair. Mr. John Bain was elected an Associate. The following papers were read:—1. "On the identification of the Acanthaceæ of the Linnean Herbarium," by Thos. Anderson, Esq., M.D. The author observed, that as the Acanthaceæ are eminently tropical, comparatively few species of the order were known to botanists of the time of Linnæus. Consequently the limits of the genera were very indefinite, so much so, that many of the old genera are co-extensive with the tribes and sub-tribes now adopted. Only five genera were described in the fourth edition of the "Genera Plantarum," and with the exception of Thunbergia, a genus of later date, these are the only ones recognised in Linnæus's Herbarium. The number of species found was 67, distributed thus: — Thunbergia 1, Ruellia 18 Barleria 9, Acanthus 11, Justicia 26, Dianthera 2, There were among these 67 species, representatives of, 28 genera according to the views entertained by Dr. Anderson, and of many more if the opinions of Nees von Esenbeck as stated in the Prodromus were adopted. The paper consisted chiefly of a list of these species under the Linnean generic names, with copious synonyms of other authors, and occasional remarks.—2. "A Succinct Review of recent attempts to explain several remarkable facts in the Physiology of Spiders and Insects," by John Blackwell, Esq. A spider if placed on a rod set upright in a glass vessel with perpendicular sides, and containing a sufficient quantity of clean water to immerse its base, would in vain attempt to effect an escape in a still atmosphere, but should the individual thus insulated be exposed to a current of air, either naturally or artificially produced, it would instantly turn its abdomen in the direction of the breeze, and emit from its spinners a little of its viscid secretion, which being carried out in a line by the current would become connected with some object in the vicinity, and afford the spider a means of regaining its liberty. It was deduced from this, that the lines produced by spiders are not propelled from the spinners by any physical power possessed by the animals, as some maintain, but are drawn from them by the mechanical action of external forces.—3. "Monograph of the family of Nitidulidæ: part 1," by Andrew Murray, Esq. This paper was illustrated by a long series of beautifully finished drawings of the insects described, with figures of dissections.

*April* 16.—G. Bentham, Esq., President, in the chair. Dr. Ernest Adams and R. H. Barnes, Esq., were elected Fellows. The following communications were read:—1. The commencement of a Memoir on the Restiaceæ, by Dr. Masters. 2. "On some new Species of Amomum from West Africa," by Prof. Oliver and D. Hanbury, Esq. The authors stated that they had in preparation a monograph of the West African species of Amomum, but as there were certain points remaining to be cleared up before this could be completed, brief diagnoses of the new species were in the meanwhile laid before the Society. The technical characters of eight new species were given. The meeting then resolved itself into a special general meeting to consider certain recommendations of the Council, with respect to the disposal of a portion of the Society's collections. It appears from a statement addressed by the Council to the Fellows, that in the earlier years of the Linnean Society presents of numerous objects of Natural History and several collections were received with the general and somewhat vague idea of forming a Museum, which, together with the Library, should be open to the Fellows for consultation; but that as these collections, from their increasing number and bulk, were rapidly

filling up the Society's apartments, without the prospect of being made available for use, the Council, some years ago, after much deliberation, laid it down as a rule for their guidance, "that the income of the Society should be applied chiefly to the increase and maintenance of the Library, in such a manner as to afford to the Fellows the greatest facilities for consulting it; to the enlargement and dissemination of the Society's publications; and to the arrangement and maintenance of the Linnean and some other detached collections which have great value and importance in themselves, independently of a general Museum." Notwithstanding this resolve, it would seem that a gradual accumulation has since been taking place, and now, when more space is required for book shelves, the following proposals have been submitted for the sanction of the Fellows:—"1. That, in addition to the Library, the following collections be retained, and maintained in the manner best calculated to be of practical use to the Fellows of the Society and Science in general:—The Linnean Herbarium and Collections of every description; the Herbarium and collections of the late Sir James Edward Smith; the East Indian Herbarium presented by the East India Company, with the additions made to it from Dr. Horsfield's Java Collection and others; the British Herbarium; the arranged Australian Herbarium; the Collection of Fruits and other objects in the Cabinets presented by Mr. Janson: the Collection of British Birds' Eggs of the late Mr. Salmon; the collection of Algæ of the late Mrs. Griffiths, and some others which, being bound in books, may be considered as portions of the Library. The Council would have been very desirous to add to these a general European Herbarium, had they not found that it could not be effected without withdrawing from the general objects of the Society, Zoological as well as Botanical, funds which could ill be spared for this special purpose. 2. That the Collection of Insects and Shells of the late Sir Joseph Banks be presented to the British Museum. 3. That the duplicate set of Dr. Wallich's East Indian Herbarium be presented to the Botanic Garden, Calcutta. 4. That the General Herbarium of the late Mr. Winch be presented to the Natural History Society of Northumberland, Durham, and Newcastle-upon-Tyne. 5. That the remaining Miscellaneous Collections be sold: viz.:—Caley's Collection of Australian Birds and Mammals; Dr. Pulteney's Collection of Shells; two Cabinets containing a Miscellaneous Collection of Insects, &c.; a Cabinet containing animals in bottles and other articles; Acharius's collection of Lichens; Salmon's European Flora; and various unarranged Collections of Plants. 6. That the proceeds of these sales be applied to the purchase of books for the library." After discussion, the meeting resolved, on the motion of Dr. Seemann, that the further consideration of the question, whether it would be expedient to part with any portion of the Society's collection, should be postponed until the 4th of June.

Entomological: *April* 5.—F. Smith, Esq., President, in the Chair. Professor Lacordaire, Dr. Hagen, and Dr. Leconte of New York, were elected honorary members of the Society. General Sir J. B. Hearsey exhibited a case of beautiful Indian moths. Mr. G. R. Waterhouse read some notes on a small species of Staphylinidæ, Aleochara inconspicua. The President made some observations on the habits of the curious Claviger testaceus, which he had found in ants' nests near Croydon, and kept alive, feeding it with moistened sugar upon blotting paper. Mr. J. Lubbock made some inquiries relative to the two moths, Acronycta Psi and tridens, which, although scarcely distinguishable in the moth state, have very different caterpillars. Mr. Lowndes gave a very interesting account of the habits of different species of ants in Australia, of which he exhibited a considerable number of species captured by himself. A letter was read from Mr. C. A. Wilson, of Adelaide, giving an account of an exploration across the interior of the continent, with notices of some of the insects observed. Mr. Hewitson read descriptions of two new and very beautiful species of butterflies from Bogota, one being named Morpho Alexandra, in honour of our young Princess of Wales, and the other Papilio Burchallii. Mr. Rowland Trimen sent descriptions of some new species of butterflies from the neighbourhood of the Cape of Good Hope, specimens of which had been forwarded to the Society in a post letter. A notice was also read from Mr. Vollenhoven, giving an account of a great work in which he is engaged on the zoological collections formed by the Dutch Government in the possessions in the Eastern Archipelago.

## Notices of Books.

*Yedo and Peking: a Narrative of a Journey to the capitals of Japan and China, with Notices of the Natural Productions, Agriculture, Horticulture, and Trade of those countries, and other things met with by the way.* By Robert Fortune, Hon. Member of the Agri.-Hort. Society of India; with Map and Illustrations. John Murray, 1863.

The last 10 years have been prolific in books of travels, American and English, in China and Japan; amongst all, however, that we have perused there are none, save those of Mr. Fortune, which give us an exact notion of the native and cultivated vegetable products of these remarkable countries. In saying this we are not unmindful of the valuable catalogue of the Japanese Flora by Mr. Black, appended to Hodgson's Japan, and of the notices of ornamental and useful plants, furnished by Mr. J. Veitch to Alcock's standard work on the same country; but good as these are in their way, they neither of themselves afford any picture of the vegetation of the Islands nor enable the reader to make much of the vague and often incorrect botanical allusions with which many otherwise excellent narratives abound. With Mr. Fortune's works the case is very different; in all these, from the first, which details his two visits to the Tea districts of China in 1843-52, to this, his last, he has been ever careful to give truthful delineations of all floral and sylvan scenes, whether natural or artificial—accurately describing the garments with which the countries he has visited are clothed, in language intelligible to any educated reader, without "word painting," and without pedantry. This is his great merit; and to this is due the enduring popularity of his works, which in spite of some literary defects, will hold a deservedly high rank as standard authorities, long after two-thirds of their more elegant contemporaries shall have been consigned to oblivion.

This, Mr. Fortune's fourth visit to the seas of China and Japan, was undertaken with the view of introducing useful and ornamental plants into England, in which object he has been eminently successful; his consignments being made, as we gather from his work, to Mr. Standish, of Bagshot, who has already exhibited some most beautiful new Japanese plants of his introduction. Arriving in Nagasaki, the southernmost part of Japan, in October, 1860, Mr. Fortune proceeded almost immediately to Yokuhama and Kanagawa, ports near Yedo, which capital he visited, making large collections, chiefly in the suburban nurseries. In November he left Yedo, and traversed the remarkable inland sea (or Kino Channel), which separates the island of Niphon from those of Sikok and Kiu-siu; and he reached Shanghae in January. Early in 1861 he returned to Japan, and passed the following seven months in the same localities, and others in the neighbourhood of Yedo. In August he went to North China, visited Pekin, made an excursion thence to the Western Mountains, and finally left the "Flowery land" for England, in September 1861.

The greater part of the volume is taken up with sketches of Japan and the Japanese, and very full of interest they are. Mr. Fortune's estimate of the people and of their relative position to us, strikes us as eminently fair and sensible; the natives are neither the innocents which some romancers have depicted, nor the licentious debauchees, nor the malignant insulters of foreigners, that others describe, but are an average people as people go; habitually industrious, far beyond what is common amongst semi-civilised races, rather more drunken than most Orientals, naturally (and perhaps advisedly) mistrustful of foreigners, whose sole object is obviously self-aggrandisement; but actuated as much by a sincere desire of warding off insult and averting danger as by jealousy or suspicion, in insisting that travellers should be accompanied by native officials in their wanderings. From this work and other narratives we judge, that far too much of the acts of the officials is attributed to a definite policy on the part of the supreme power; we assume that the Government of a nation situated as Japan is towards us, is central, despotic, consistent, and above all, that it knows its own mind, not reflecting that we have by forcing ourselves upon its friendship and demanding its good offices, suddenly placed it in a perplexing position, one for which it has no precedent, and the consequences of which, whether immediate or remote, are beyond its powers to calculate or even to guess. Under like circumstances what reception would a Japanese Mr. Fortune experience from the London police, and how would his visits be welcomed at our nurseries? Assuredly not as our botanical travellers have been at the Budhist temples and gentlemen's gardens, the nurseries of Yedo, with courtesy and even kindness. For the policy of his Government in forcing a trade and treaty on an unwilling people, however, Mr. Fortune is not answerable; no more legitimate advantage of these could be taken, than that he has availed himself of; and no one better deserves the success that attended its exercise, whether for his energy in his calling, or the good feeling he everywhere displays, when speaking of the people amongst whom he was at best but an unwelcome visitor. Another point upon which we accept Mr. Fortune's testimony with unfeigned satisfaction, is the evidence his narrative affords of the general high character and excellent qualifications of the official representatives of Great Britain in Japan; and it is no small matter this, such testimony being all the more valuable as coming from an unbiassed and unprejudiced observer, who has himself experienced its effects, and whose judgment is not likely to be impeached.

We shall now turn to some of his interesting descriptions of Japan vegetation and horticulture, referring our readers to his work for his graphic account of the people and their ways, and the stirring narratives of those massacres and earthquakes for which Japan is now, as heretofore, unhappily notorious:—"One marked feature of the people is a love for flowers. Almost every house which has any pretence to respectability has a flower garden in the rear, often times small indeed, but neatly arranged. This adds greatly to the comfort and happiness of the family. * * * Many of these are exceedingly small, some not much larger than a good sized dining-room; but the surface is rendered varied and pleasing by means of little mounds of turf, on which are planted dwarf trees kept clipped into fancy forms, and by miniature lakes, in which gold and silver fish and tortoises disport themselves. It is quite refreshing to the eye to look out from the houses upon these gardens. The plants generally met with in them are the following:—Cycas revoluta, Azaleas, the pretty little dwarf variegated Bamboo introduced by me into England from China, Pines, Junipers, Taxus, Podocarpus, Rhaphis flabelliformis and some Ferns. These gardens may be called the gardens of the respectable working classes."

Amongst the upper classes, of course more extensive though still small, and often magnificent, garden and pleasure grounds are found; these are about a quarter of an acre in extent; like the smaller, they are turfed and covered with mounds and lakes, and contain plants of great size and beauty, as Azaleas 40 feet in circumference, clipped all round and over the top, like a table; Farfugium grande; also stages of potted plants, arranged as in our conservatories, amongst which are seen stunted plants of Sciadopitys verticillata, several Retinosporas, Thujopsis dolabrata, species of Laurus, Bamboo, Aroideæ, Hoya, &c.; all or most of them in both a green and variegated state.

Leaving the towns, the Budhist temples present the most attractive features to the horticulturist. In the enclosures around them he finds noble Camphor trees, Pinus chinensis and Massoniana, and Cryptomeria, the latter often planted as a fence and kept clipped like our Yews, forming an impervious screen. But the great ornament of the temple where it occurs is the Umbrella Pine, Sciadopitys verticillata, which at Yedo attains a height of 100 feet, is of a conical form, and the leaves and branches so densely crowded that the trunk above is completely hidden from view. Unfortunately Mr. Fortune's sketch of this wonderful Pine fails to convey the impression of a noble or beautiful plant; anything more positively ugly it is impossible to conceive, nor one that would more assuredly be scouted by every landscape gardener of taste. Let us hope that the artist here is to blame, as the author certainly is in describing the leaves as broad, and in calling it a "new Pine," seeing that it was, as he himself observes, named and figured by Siebold many years ago. Our space however compels us to break off here, promising to return immediately to this excellent narrative.

Messrs. Black, the Edinburgh publishers, have commenced a monthly reissue of *Kitto's Cyclopædia of Biblical Literature*, in sixpenny parts, the reissue being intended to bring the work within the reach of all classes.—The fourth of Mr. W. Longman's *Lectures on the History of England* (Longmans) delivered at Chorleywood, has just been issued, and comprises the reign of Edward I. from A.D. 1272 to A.D. 1307. It consists of a very interesting record of the leading historical facts of the period, and contains some quaint illustrations.—A *Comparative List of British Plants* (Pamplin) compiled and arranged by A. G. More, F.L.S., for the purpose of showing the different names and species adopted respectively in the Floras of Babington, Bentham, and Hooker and Arnott, and in the London Catalogue, has been reprinted from the Phytologist, and issued as a separate pamphlet.—*Porquet's Fables Parlantes* (Simpkin & Marshall), or Speaking Fables in French, seem to offer a ready means whereby learners may not only become readers, but also speaking scholars of the French language. The system of teaching is remarkably simple.—*Thompson's Spring*, by W. M'Leod (Longmans) is another educational book, and is intended for the use of pupils qualifying for the Oxford local examinations. The poem is accompanied by critical explanatory and grammatical notes, and by an analysis of sentences.

The illustrations of the *Botanical Magazine* for April are: *Cœlogyne lagenaria*, one of the beautiful dwarf Indian species of the Pleione set, the markings of whose blossoms, and the singular form of whose pseudo-bulbs, recommend it to every Orchid grower. The curious clustered bottle-shaped conical-necked pseudo-bulbs are green mottled with brown, and the large rosy flowers have a white lip, crested in the centre, crisped at the margin, and beautifully marked with yellow and red. It is some drawback, that it blossoms before the leaves appear. "The secret of their successful cultivation in England lies in keeping them cool and dry while at rest, and forcing them with heat, moisture, and light, as long as they are inclined to grow." *Encephalartus horridus trispinosus*, a spiny-leaved Cape Cycad, long cultivated at Kew. *Codonopsis cordata*, a climbing Campanulaceous perennial, with slender stems, heart-shaped leaves, and greenish-white bell-shaped flowers; native of moist woods in Java. *Lycioplesium pubiflorum*, a purple flowered Solanad noticed in another page. *Cyrtanthus lutescens*, a slender Cape bulb, with tubular fragrant pale yellow blossoms whose limb is spreading and whitish; it has been recently introduced by W. Wilson Saunders, Esq.

*Calanthe Veitchii*, a very handsome hybrid Orchid, noticed fully by us at p. 1016 of our Volume for 1859.

The *Florist and Pomologist* has good figures of two fine garden varieties of *Chrysanthemum—Princess Alexandra* and *Talbot*, which rank amongst the most distinct and useful that the late Chrysanthemum season yielded. There is also a plate of the Canino Grosso Apricot, an early vigorous-habited Italian variety; "fruit larger than the Royal, and if there is any difference in that respect a little later in ripening, of the same melting flesh and excellent flavour as the Peach Apricot, the finest of all." The principal articles relate to Roses, Petunias, and Ixoras.

The *Floral Magazine* figures what are called the Free-flowering Monochætum; the new disk-shaped [!] Nemophila, a form of discoidalis; the striped Japanese Chrysanthemum, one of Fortune's novelties, but here very unlike the state in which it was shown; and some pretty new varieties of Heaths named profusa and affinis, raised by Messrs. Rollisson, the first obtained between Macnabiana rosea and aristata major, the second between Cavendishiana and depressa.

The recent numbers of *Gossip of the Garden* contain useful notes on Florists' Novelties of 1862; as well as sundry observations on the subject of classifying Dahlias, upon the general features of which all seem agreed. Pansies, Auriculas, Tulips, Polyanthuses, and Gladioli, come in for a share of attention; and Mr. Cranston and Mr. Keynes both give their experience with respect to new Roses.

## Garden Memoranda.

S. RUCKER'S, ESQ., WEST HILL, WANDSWORTH.—There is now in bloom here a magnificent bush, or rather small tree, of the Bhotan Rhododendron called R. Nuttallii, certainly one of the most glorious plants in cultivation, not yielding precedence even to any Rhododendron with which we are acquainted. With noble leaves of the largest size, it bears masses of golden-eyed snow-white flowers, deliciously fragrant, and measuring individually fully 18 inches round the edge. On the specimen under notice seven branches terminate in close corymbose heads, each consisting of from five to six beautiful blooms of the dimensions just stated. Unfortunately the species requires a greenhouse, not being able, we believe, to bear even an inconsiderable degree of frost. For conservatory decoration it will, however, be found invaluable, as, under the protection of glass, it grows freely, and when it has attained sufficient size, little difficulty is experienced in inducing it to bloom. Mr. Rucker's plant, which is a standard, measures about 8 or 9 feet in height.

## Miscellaneous.

*Prizes in Botany.*—The Society of Apothecaries annually offer to Students in Medicine two prizes for proficiency in the knowledge of botany—systematic, descriptive, and physiological. The prizes consist of a gold medal awarded to the candidate who most distinguishes himself upon examination; and of a silver medal, and a book, or books, to the candidate who does so in the next degree. The examination, which is conducted by printed papers and *vivâ voce* questions, is held at the Hall of the Society early in August. Students intending to compete for these prizes have to send in a written notice of their intention on or before the 1st of August, which notice must be accompanied by evidence of having entered upon the Second Summer Session of their medical studies, and by certificates from their teachers of having attended the respective lectures and class examinations with diligence and regularity.

*Sales by Auction.*—A collection of ORCHIDS was sold by Stevens the other day, and realised from 1*l.* 10*s.* to 20*l.* per lot. The last named sum was paid for a flowering plant of Cypripedium Lowii, 16*l.* 10*s.* was obtained for Aerides Schröderi, 15*l.* for Cymbidium eburneum, 12*l.* 12*s.* for Saccolabium curvifolium, 10*l.* 10*s.* for Woolley's variety of Sobralia superba, 9*l.* for Dendrobium lituiflorum, 6*l.* 6*s.* for Cattleya superba, 6*l.* 10*s.* for C. maxima, 5*l.* 5*s.* for the larger variety of Rodriguezia secunda, 4*l.* for Odontoglossum hastilabium, 4*l.* 18*s.* for Phalænopsis amabilis, 4*l.* 4*s.* for Aerides suavissimum, 4*l.* 10*s.* for Cypripedium Stonei, 6*l.* 10*s.* for C. villosum, and 4*l.* 4*s.* for Vanda tricolor marginata. Altogether the sale, which consisted of 237 lots, realised nearly 500*l.*—BEDDING-OUT PELARGONIUMS, comprising among others the following kinds, viz.:—Lady Middleton, Countess of Warwick, Christina, Golden Chain, Hendersoni nanum, Minimum Nosegay, Rose Queen, Beauté de Meldoise, Bishopstowe Scarlet, Countess, Burning Bush, Red Nosegay, Reine d'Or, Paul Labbé, Golden Fleece, Scarlet Queen, St. Clair, Golden Cerise Unique, Flower of Spring, Blackheath Beauty, Jane, Beauty, Baron Hugel, Alma, Lady of Loretto, Indispensable, Model Nosegay, Julia, Scintillatum, Purple Nosegay, Little David, Cloth of Gold, Madame Vaucher, Shottesham Pet, and Daybreak, fetched on an average 1*s.* 6*d.* a dozen. Three dozen of Madame Vaucher realised 15*s.*, and similar sums were obtained for the same quantities of Hendersoni nanum, and Golden Chain. Three dozen of Cloth of Gold fetched 9*s.* 6*d.*, and a similar lot of Burning Bush, 16*s.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Azaleas will now be in full bloom, and every attention must be paid to keep them in beauty as long as possible. By judicious arrangement both borders and shelves may now be rendered extremely gay with flowering plants, and if a few red and white coloured Azaleas in the shape of standards are introduced among dwarf plants, either of the same or of other kinds, the general appearance of the house will be greatly improved. Standard plants of Deutzia gracilis, now in full blossom, as well as Cinerarias, and things of that description, will likewise be found useful for purposes of decoration, as will also forced Roses, which are flowering unusually well this season. With regard to cultivation, the instructions lately given with respect to the Camellia will be found in the main applicable to Azaleas. If wanted early they must be forced to make wood betimes in the spring; a trifling amount of check may be permitted in order to induce them to form flower-buds, and lastly they must be allowed a considerable period to rest and harden before they are again started into growth. Plants intended for flowering next January and February should be forced gently into growth as soon as they have done blooming. In stoves, Begonia fuchsioides, Gloxinias, and Amaryllises will now be in good condition. Among the last, the best dark-crimson kind appears to be Ackermanni pulcherrima. Among Orchids, Cattleya Skinneri and some of the different kinds of Dendrobium will now be getting showy, and must be kept comparatively cool and shaded on bright days. In the case of growing plants, continue to increase the temperature gradually, more especially when it can be done by means of sun heat, and accompanied by a very considerable amount of atmospheric moisture. This will be best accomplished between three o'clock in the afternoon and five, when the thermometer may sink to 65° for the night. In cool houses, early flowering plants of Chinese Primroses, now exhausted, should be removed to a pit or frame, likewise Cinerarias past their best, and other fading stock.

### FORCING DEPARTMENT.

PINERIES.—Early potted suckers or young succession plants will soon have filled their pots with roots. Where such is the case, give them a liberal shift. When dry they had better be watered occasionally with weak liquid manure, *i. e.*, after the plants shall have become sufficiently established to enable them to receive it with advantage.

VINERIES.—In most places early Grapes will now be ripe. Let it, therefore, be remembered that a tolerable amount of dryness in the atmosphere is necessary, in order to obtain good flavour. A free and wholesome circulation of air early in the morning (not later than 8 o'clock), continued until 5, will be found to increase both colour and flavour. Be very moderate in fire-heat until late Vines approach the period of blossoming. Keep the syringe employed morning and evening until the flowers begin to open; after that it must be discontinued. The preservation of a fine bloom on Grapes should always be deemed of the highest importance; in fact they cannot be said to be first-rate, however large or well-coloured they may be, unless they possess untarnished bloom. An injudicious use of the syringe is sure to destroy it; therefore if red spider makes its appearance while the syringe cannot be employed, persist in cleanliness, in the use of sulphur on the pipes, and in the abundant application of water on all floors and surfaces available for that purpose.

STRAWBERRIES.—These will want abundance of water. They must not be allowed to flag by any means, and if the weather continues bright, they may be removed to a cooler and somewhat shady shelf.

### FLOWER GARDEN AND SHRUBBERIES.

Let manuring and dressing proceed as required. Highly dressed ground should be mown at least once a week after this period, for a well kept lawn is always a pleasing object. Let all herbaceous or mixed beds or borders be finished dressing without delay, and prepare stations where blanks exist to receive Verbenas, Fuchsias, Heliotropes, Calceolarias, &c., now in course of hardening for this purpose, and for forming masses. Self-sown annuals and Pansies may be transferred with balls, to fill up blanks. See that runners of Neapolitan Violet are secured for next winter. It sometimes happens that Pansies assume a straggling habit; in such cases the shoots must be pegged down to the surface of the bed, and covered with soil after the manner of layers; thus treated they will emit new roots from the old stems, acquire fresh vigour, and flower well and abundantly for a long time. The beds ought also to be constantly examined, and every means used to trap snails and other pests; if this is not attended to, the chance of obtaining perfect blooms will be small. As seedlings flower, remove bad ones, and take cuttings of those which it is desirable to retain, as there is great risk in removing seedling Heartsease when in flower. Protect Tulips as usual from frosts, and attend to the fastening of elongating flower-stalks. Let seedling Ranunculuses in pans have the benefit of warm showery weather when it arrives. Do not allow the surface soil in the pot about Carnations and Picotees to become hard; stir it from time to time, and finish putting in the supporting sticks without delay. Pinks will also require small rods. Dahlias must not be planted out for some time yet.

### HARDY FRUIT AND KITCHEN GARDEN.

This is an excellent time to make a principal sowing of all the late or spring Broccolies, such as Portsmouth, Sulphur, Dwarf Late White, Knight's Protecting, and Somers's Particularly Late White. The last is the latest; it comes in between late spring Broccoli and the hand-glass Cauliflowers. Sow Rampion, Chervil, Chicory, and a bed of Sweet Marjoram on a warm slope. This last is much hardier than Basil, and will do very well in this way. Disbud Peaches and Nectarines. Do not suffer green fly to establish themselves for a day, if possible. Thin out the suckers of double bearing Raspberries to about three of the strongest; these should be staked out thinly and should be well manured. On all kinds of hardy fruit trees there is at present every appearance of abundant crops. Cherries are set, as are also Pears in warm situations. Apple trees are covered with bloom.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending April 22, 1863, as observed at the Horticultural Garden

| April. | Moon's Age. | Barometer. Max. | Barometer. Min | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 16 | 28 | 29.980 | 29.941 | 68 | 32 | 50.0 | 51 | 49½ | N. | .00 |
| Friday 17 | 29 | 30.161 | 30.046 | 66 | 46 | 56.0 | 52 | 50 | W. | .00 |
| Satur 18 | ● | 30.210 | 30.173 | 64 | 27 | 45.5 | 52½ | 50 | N. | .00 |
| Sunday 19 | 1 | 30.171 | 29.884 | 68 | 30 | 49.0 | 52 | 50½ | N.E. | .00 |
| Mon. 20 | 2 | 29.908 | 29.834 | 69 | 30 | 49.5 | 54 | 50 | W. | .00 |
| Tues. 21 | 3 | 29.856 | 29.778 | 61 | 45 | 53.0 | 52 | 50 | S.W. | .00 |
| Wed. 22 | 4 | 29.840 | 29.661 | 62 | 35 | 48.5 | 52 | 50 | W. | .02 |
| Average. | | 30.153 | 30.048 | 65.4 | 35.0 | 50.2 | 51.9 | 50 | | .02 |

April 16—Overcast, very fine, clear and fine.
— 17—Very fine throughout, mild at night.
— 18—Partially overcast, fine, frosty at night.
— 19—Clear, bright sun, fine, very fine, slight frost.
— 20—Cloudy; fine; very fine, slight frost.
— 21—Fine, overcast, densely clouded, very fine at night.
— 22—Densely clouded, rather boisterous, heavy shower; cloudy fine.

Mean temperature of the week 3 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending May 2, 1863.

| April and May. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 26 .. | 59.4 | 36.0 | 47.7 | 16 | 0.53 in | 4 | 8 | 3 | 3 | 1 | 10 | 3 | 5 |
| Mon. 27 .. | 58.1 | 35.2 | 46.6 | 16 | 0.14 | 11 | 2 | 8 | 2 | 5 | 5 | 3 | 1 |
| Tues. 28 .. | 60.2 | 35.8 | 48.0 | 14 | 0.64 | 4 | 6 | 6 | 4 | 5 | 5 | 4 | 3 |
| Wed. 29 .. | 61.0 | 37.7 | 49.4 | 12 | 0.75 | 4 | 4 | 8 | 2 | 4 | 8 | 1 | 6 |
| Thurs. 30 .. | 61.7 | 40.2 | 50.4 | 15 | 0.31 | 5 | 3 | 8 | 2 | 3 | 7 | 4 | 5 |
| Friday 1 .. | 61.5 | 39.9 | 50.2 | 13 | 0.51 | 3 | 6 | 7 | 4 | 5 | 7 | 4 | 1 |
| Satur 2 .. | 62.5 | 39.4 | 50.4 | 13 | 0.72 | 4 | 8 | 10 | | 5 | 6 | 2 | 2 |

The highest temperature during the above period occurred on the 28th, 1840—therm. 81 deg.; and the lowest on the 29th, 1861, therm. 18 deg.

## Notices to Correspondents.

CEPHALOTAXUS FORTUNI. Messrs. Jackman & Son, of Woking, have sent us the short-leaved variety of this Conifer now in flower. It had been previously supposed to be a female, but proves to be a male. Until it flowered the sex could not be ascertained.

DISEASED VINE LEAVES: *J C N.* We have never seen precisely the same affection on Vine leaves. It appears, though deeper in colour, to be of the same nature as the spongy spots which are so common, and which in the case of potted Vines we have found to arise from the young rootlets being dead or dying. The affection may exist without any injury to the crop, though shanking may be expected to follow it. If your Vines are making young healthy roots, you need not be afraid of any bad result. *M. J. B.*

INSECTS: *C W S.* The small objects forwarded are the dried up pupæ of a small two-winged fly belonging to the genus Phora, the larvæ of which have subsisted upon the dead bodies of the bee grubs in the comb of your starved out hive. They are not otherwise injurious to the colony. *W.*

LONICERA AUREO-RETICULATA: *Erin.* We believe there is no doubt of this being a variety of L. brachypoda, which is hardy enough in the situations in which it is usually planted, namely against a wall.

NAMES OF FRUITS: *A B.* Of the two varieties of Apples, which you say are good bearers and good keepers in the light soil of East Suffolk, No. 1 is not known; it is soft and too sweet; it wants briskness. No. 2 is Coe's Golden Drop, and very excellent.—*E S W.* Dumelow's Seedling.

NAMES OF PLANTS: *Amateur.* 1, Asplenium viride; 2, Lastrea æmula.—*C R.* Asarum europæum.—*J B.* 1, Sparmannia africana, a good old-fashioned greenhouse plant, flowering freely if not allowed to grow too rampant.—*T S* 1, Cochlearia danica; 2, Armeria maritima.—*J. Matheson.* It is probably C. lathyrifolia in a young state; but the leaflets are unusually broad.—*J W.* Willows in such a plight as those sent cannot be named satisfactorily; 1 has no leaves; 2 and the other may be S. herbacea.—*Oulton Park.* Dendrobium Lawanum.

PENTSTEMONS: *H H.* The following sorts will give you satisfaction:—Euclide, Adrienne Boppe, Charles Klein, Le Dante, Lord Clyde, Dr. Hogg, Laurent Lowerque, Rose of England, Purple Prince, Mrs. Steans, Blue Beauty.

PINE APPLES: *A D M.* Remove a portion of the superabundance of suckers with which your Pine plants are infested now; the remainder may be left on till the fruit is ripe.

RHODANTHE MACULATA: *Enquirer.* We understand that this fine new Rhodanthe requires to be grown vigorously and out of doors in order to develop its size and markings. Enquirer had better not nurse his plants too tenderly. They come very fine grown about three in a 6-inch pot, under cool pit treatment, and then transferred to an airy greenhouse when in bloom. It is a mistake to sow such things too early, and in much heat. The other sort is not yet sent out.

ROSE MILDEW: *A, Hants.* We do not find either in your forced or out-door Roses any trace of the Peronosporæ, but both are covered with Oidium leucoconium. It is, however, probable from their appearance that they were at first attacked by the Peronospora. Sulphur is generally efficient against the Oidium, and we should recommend you to persevere. *M. J. B.*

VINES: *E H.* It is impossible to state with certainty the cause of your young and tender Vine shoots drying off, in some cases at their extremities, without knowing all the circumstances connected with their vegetation. Shoots that are overstrained at their bases in tying them down will sometimes droop and die at the ends; or shoots that happen to be too near the glass in frosty nights, will exhibit a similar appearance.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

POTTER'S GUANO (established 21 years) 7*l.* per Ton.

POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10*l.* per Ton.
PURE GYPSUM, 25*s.* per Ton, bags included.
Address, 28, Clapham Road Place, S.

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THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. Purser, Secretary.

116, Fenchurch Street, E.C.

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TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,

Manufactured by the Patent

NITRO-PHOSPHATE or BLOOD MANURE COMPANY (Limited),
Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.

Chairman.—John Claydon, Esq., Littlebury, Essex.

Particulars of these Standard Manures may be obtained at the Offices. C. T. Macadam, Secretary.
Or of the Local Agents.

Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex, N.E.

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Established 1848.

THE BLAYDON MANURES.—Two Prizes were last season awarded, under the auspices of the Rutland Agricultural Society, for Turnips grown with the above Manures, viz.:—

1st.—A Silver Cup, value Five Sovereigns, was given by the Town and Trade of Oakham to Mr. T. W. Fowler, Exton, for the best Turnips (not being Swedes) grown within the County of Rutland. These Turnips were raised with 3 cwt. per acre of the 7*l.* 10*s.* Blaydon Manure, used with a moderate dressing of Farm-yard Manure.

2d.—Three Sovereigns (the 2d premium), given by the Right Hon. Viscount Campden, were awarded to Mr. Fowler, Exton, for Swedish Turnips. These Turnips were grown with 3 cwt. per acre of the 7*l.* 10*s.* Blaydon Manure, along with a moderate quantity of Farm-yard Manure.

Manufactured by the Blaydon Chemical Company, Blaydon-on-Tyne.
Managing Partner, Edward Richardson, Jun.

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LAWES'S MANURES. The Manures manufactured by J. B. Lawes for the present season of 1868 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 0 |

These Manures can be obtained of Mr. Lawes, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.

Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.

American and other Cakes at market prices.

Address John Bennet Lawes, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

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E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1*s.* 6*d.* per yard run.
Four yards wide .. .. .. 3*s.* per yard.
An improved make, 2 yards wide, 1*s.* 8*d.* per yard.
An improved make, 3 yards wide, 2*s.* 6*d.* per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1*s.* 4*d.* per yard run.

Elisha Thomas Archer, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

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Glass and Mixed Paints (Ready for Use.)
For Factories, Hot-houses, Conservatories, Garden Frames, Pits, and Dwelling-Houses, &c.

THE LONDON CO-OPERATIVE OIL and COLOUR COMPANY (Limited), from their connection with some of the largest British and Foreign Glass and Lead Manufacturers, are prepared to supply White Lead, Zinc Paint, Mixed Paints in all Colours; and strong Sheet, Rough Plate, and every other description of Glass in Crates, Cases, or Cut to Size for Home Use or Export at the very lowest wholesale prices. Gardeners, Nurserymen, and others advised as to the best mode of Erecting, Heating, Ventilating, and Glazing Pineries and other Forcing Houses. Farmers, Stewards, Market Gardeners, &c., supplied with Stucco, Anticorrosion, Metallic Oxide, and Mixed Paints ready for use for Dwelling Houses, Farm Buildings, Park Fences, Ships' Bottoms, &c.

Apply for ILLUSTRATED LISTS to Mr. Thompson, Manager, 65, 66, & 67, St. George's Street, London Docks, E.

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Oil Paint no longer Necessary.

HILL and SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which Hill & Smith will forward on application.

Sold in casks of about 30 gallons each, at 1*s.* 6*d.* per gallon, at the Manufactory, or 1*s.* 8*d.* per gallon paid to any station in the kingdom.

Apply to Hill & Smith, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

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Drainage, &c.

MR. JOSEPH BEAUMONT, Land Agent, Surveyor, and Drainage Engineer (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

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Land Drainage.

WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.

Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rentcharge on the estate created for various terms of years so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.

No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.

Applications to be made to William Clifford, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

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THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Estate Agents, Surveyors, &c. in England and Wales and in Scotland.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable William Napier, Managing Director, 2, Old Palace Yard, Westminster, S.W

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PROFESSOR BROWN, Veterinary Inspector to the Bath and West of England Agricultural Society, 13 years Lecturer on Veterinary Surgery at the Agricultural College, may be consulted on Diseases of Horses, Cattle, Sheep, Dogs, &c.

Infirmary, White Horse Yard, New Cavendish Street, Portland Place, W.

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ALFRED SIBSON, F.C.S., Author of "Agricultural Chemistry," &c., late First Assistant in the Laboratory of the Royal Agricultural College, has REMOVED his LABORATORY to 11, Eaton Terrace, St. John's Wood, London, N.W., where Samples for Analysis should be addressed.

He is now prepared to give Instruction in Agricultural and Analytical Chemistry, &c.

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AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.

ASSAYS and ANALYSES promptly attended to by J. C. Nesbit, Lansdell & Co.

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Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.

Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.

Full particulars of terms will be forwarded on application.

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ROYAL AGRICULTURAL COLLEGE.—In consequence of the RESIGNATION of the PROFESSOR of AGRICULTURE, the Council are ready to receive APPLICATIONS from Gentlemen desirous of competing for the post of Professor of Agriculture at the College.

Letters to be addressed to the Principal, Cirencester.

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ROYAL AGRICULTURAL SOCIETY of ENGLAND.

A LECTURE by Prof. Simonds, on the "Natural History of Parasites affecting the internal parts of the Bodies of Animals, with the Nature, Symptoms, and Treatment of the Diseases to which they give rise," will be delivered to the Members, at the Society's House, 12, Hanover Square, London, at 12 o'Clock, on WEDNESDAY NEXT, April 29.

By Order of the Council. H. Hall Dare, Secretary.

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ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.

PRIZE SHEETS and CERTIFICATES will be forwarded on application.

Caution.—LAST DAY of ENTRY for IMPLEMENTS, May 1. All Certificates received after that date will be returned to the Senders. H. Hall Dare, Secretary.

12, Hanover Square, London, W.

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ROYAL AGRICULTURAL SOCIETY of ENGLAND.

Besides the usual Prizes for Cattle, Horses, Sheep, and Pigs, SPECIAL PRIZES, amounting to £500, including ESSAYS for FRUIT, CIDER and PERRY, HOPS, and SALT, are offered by the Local Committee, to be competed for at the Worcester Meeting. For Prize Sheets and particulars apply to

H. Hall Dare, Esq.,
12, Hanover Square, London, W.

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REDUCTION IN PRICE.

PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | |
|---|---|---|
| For 30 Tons and upwards ... ... ... | £10 5 0 | per Ton, net cash. |
| For 10 Tons up to 30 Tons ... ... ... | 10 10 0 | " " |
| For 5 Tons up to 10 Tons ... ... ... | 10 15 0 | " " |
| For smaller quantities ... ... ... | 11 0 0 | " " |

The Price will not exceed 12*s.* per Ton additional if delivered at any other Port in Great Britain.

PETER LAWSON & SON, Contractors.
GEO. SEAGRAVE & CO., Brokers.
WILLIAM DIXON & CO., General Agents.

8, KING STREET, CHEAPSIDE; and 15, LAWRENCE LANE, LONDON, E.C.

# The Agricultural Gazette.

*SATURDAY, APRIL 25, 1863.*

What is the plant which most occupies the attention and engages the interest of the British Farmer? We happen to reside in a district of extremely various soil—a land of hill and valley, river-side and down. The cropping of the country is thus extremely various, and the situation therefore is good for forming an opinion on this subject. There is all the influence of varying elevation and exposure, of varying soil and of varying superintendence, to produce various management. And it only needs a glance from any of the neighbouring hills to perceive what a patchwork of cultivation the landscape presents. There is the margin of green along the river-side below, and the bleak uncovered down or the Beechen Pine or Larch plantation on the upper grounds, where the soil is thin and high; and between the two we have green of all shades, where the young spring crops are now covering the fields; occasional squares of yellow where the Turnip plant is coming into bloom, with various shades of brown and white where the naked soil appears. But the variety is still more apparent if you take a walk or ride across the country. A few hours' stroll lately taken over the arable land which here stretches for miles, enables us to give a more exact report. We traversed chalk and sand and clay, light and heavy soils, deep and shallow, poor and rich, high and low, dry and wet. The young Wheat was covering the ground with a very even plant, almost everywhere of good dark colour. Oats and Barley were coming through. Winter Beans were unusually luxuriant and forward, and the spring sown crop was showing itself in long straight lines of healthy green. Vetches were already almost fit for the sheep fold, only waiting until the rather too-abundant supply of winter sheep keep should be exhausted. Clovers were looking vigorous and healthy—heaps of Mangel Wurzel, still remaining, occasionally lay on the

roadside edge of fallow fields. And the autumnal furrow, now being crossed again with plough or cultivator, was gradually being prepared for the Mangel and the Turnip crops of the coming year.

Which then of all the plants we saw was the most upon the mind of the cultivator? The Clover as a preparation for the great food crop of our country, Wheat—the young Wheat plant itself, promising so well for the harvest of 1863—Vetches, to be followed by Turnips as food for the sheep stock, which in this district furnishes so large a part of the annual returns of the farm—Barley, which nowhere yields a better sample or attains a higher price than here:—Any of these might well be named in answer to this question. We have, however, no hesitation in saying it was neither Wheat nor Barley, Vetches nor the Turnip crop, nor was it Oats or Beans, or any other plant then showing the promise of a crop upon the land.

What was all the labour of the farm engaged upon? We saw long lines of men with hoes, detachments everywhere of women at work in the field; teams of horses at plough, cultivator and harrow—industry in almost every field busily at work—and all engaged in connection with this one plant to which we are referring. It was not Wheat, or Beans, or Peas, or Oats, or Barley, Clover, Vetches, or Turnips, Rape, or any other so-called cultivated plant—it was Couch Grass. It is this which is the universal growth and produce of the land. Light or heavy, deep or shallow, wet or dry, whatever be the soil—it is always *Couch*. Grain or green crop, "seeds" or Sainfoin, cultivated plant or fallow, whatever be the crop—*it is always Couch*.

Is it to this end that all our tillage processes are so laboriously conducted—for this *purpose* that harrows, cultivators, hoes, and ploughs are so constantly and so expensively at work? One might easily imagine it. Certainly there is no more constant companion or attendant on our management. These processes, professedly for its extirpation, do not extirpate it. On the contrary they are annual, recurring as regularly as seed time or as harvest; and one cannot *à priori* with any confidence declare that they are not intended, or at least that they do not contribute, to propagate and continue it. This of course however is denied: the land "*breeds*" the plant, perhaps that is the explanation; and all the fallow operations, hoeing, Couch picking, burning, are annual and continual, simply because they are inevitable.

The explanation is not satisfactory—the land does not breed the plant, and its continuance is not inevitable. We have on the chalk downs immediately above the fields, an uncommon British plant, the Pasque Flower (Anemone pulsatilla). This too is a plant which has been seen at every Easter time throwing up its large blue blossoms to the April sun; but the land does not breed it, and operations for its destruction are not necessarily perennial. Industrious collectors have already nearly destroyed it in some of its accustomed places, and a little more of this industry will destroy it altogether. All that is necessary is that work of this kind be thorough and complete for only once, and the chain which has hitherto tied its annual appearances together will have broken.

Why not try this simple remedy for Couch? It is half work which breeds the plant. The annual scraping of the land with hoes will only create the need for its endless repetition. Even ploughing does but transplant the living weed and increase the vigour of its growth. Repeated fallow operations of course reduce it—and a hot sun withers it—but half work of this or any other kind will only reproduce it—and a year's rest in Grass or a few years' rest in Sainfoin will bring all the evidences of its vitality before us again as unmistakable as ever.

The cultivator is a better tool for dealing with it than the plough—and steam power is better than horses for dragging such a tool, and for breaking up the whole soil, and combing to the surface whatever root weeds it holds. But there is better work than can be done even by steam cultivation—and the hand-worked fork for dealing with the remnants left by the more wholesale operation of the grubber, is the only security for the ultimate extinction of the plant. This in autumn, among the fallow crops and among the Clovers before the land is turned over for the succeeding grain crop, is the best, and therefore in the end the cheapest of all our means for dealing effectually with this great enemy of the English Agriculturist.

On Friday last (April 19) Dr. Brady called the attention of the House of Commons to the reports of the Royal Commission appointed to inquire into the best mode of utilising the sewage of towns, contending that the Rugby experiments instituted under that Commission were fallacious, and that while it was the fact that sewage manure contained everything that land or plants can want, yet the farmers of England had been taught otherwise by the paid agents of the artificial manure manufacturers.

There never was a more complete vindication than that which the Commissioners, including Lord Essex, Mr. Lawes, and Professor Way, received during the debate. Mr. K. Seymer said:—The Commissioners had first inquired into the possibility of utilising the solid residuum of sewage, and failing that they had turned their attention to the utilization of the liquid; and they had visited the various places where liquid manure was used on farms, in order to ascertain the mode of distribution adopted. With regard to the continuance of the Rugby experiments for the present year, the hon. member's own committee had recorded its opinion that that course was desirable. How they came, however, to adopt the hon. gentleman's analysis of the evidence it was impossible to say, but that analysis had certainly been received with ridicule and contempt by the agricultural world. Mr. Seymer referred also not only to the general conduct of the Commission, but to the position and interests of the individual members of it. Mr. Lawes had discovered valuable manures and dealt in them; but he was also an English gentleman, and entirely incapable of being actuated by those motives which had been attributed to him by the Chairman of the committee. Mr. Lawes made no manures to lay on land in the neighbourhood of large towns; and there must remain millions of acres in England, for which the manures of Mr. Lawes, and persons of his stamp, would still be in request. Mr. Lawes was well known. The farmers of England, never having been deceived by him, thoroughly trusted him; and he did not believe his character would be at all affected by what the hon. member had said of him. Mr. Way had also been spoken of as if he were an agricultural manure dealer, but he was no such thing. He might as well say the Chairman of the committee (Mr. Brady) was himself a dealer in manure because his name had appeared in the list of a blood manure company. Lord Essex had also been referred to by the hon. member, and the first sentence of his evidence was enough to put the hon. member out of court. Lord Essex had said experiments ought to be conducted on Italian Rye-grass, and Mr. Lawes was now conducting experiments on Italian Rye-grass. Lord Essex used 6000 tons of sewage in the year on his Italian Rye-grass, but he said he had none to spare for Wheat. Large quantities of sewage were required over a very small area. Practical men found they could not expend it over a large area of land. The object of the Chairman always appeared to be to find witnesses who would say that sewage was worth 2*d.* per ton, but he could not get them to say that. All they could be got to say was that the chemical ingredients in it amounted to that, taking guano as a standard; but it was impossible to get rid of the enormous dilution of water. Lord Essex said it would pay at ½*d.* or ¾*d.* per ton, or, perhaps, at 1½*d.*, but not at 2*d.* per ton. Professor Way, who the Chairman of the committee said was influenced by his interest against the use of sewage, had done more for it than any other man, because he was the first to show that within five minutes after its application to the land it became entirely deodorised. But they could not always be throwing water on land; they wanted at times to keep it dry. The Chairman had laid great stress on the high character and experience of Mr. Miles; but Mr. Miles had expressed great dislike to be examined, because he had not accurate figures to lay before the committee, and he had found the sewage somewhat of a nuisance, having applied it rather near his house.

The expenditure of public money had latterly been confined to the experiments at Rugby, which he believed to be most carefully conducted. The truth of the matter was, that if the Royal Commission had reported that the sewage was worth 2*d.* a ton, and might be spread over a large area in small quantities, the House would have heard nothing about spending the public money on the Royal Commission. Various projects in all directions had been checked for the moment by the cold wind of the report of the Royal Commission; but let any slur be cast on the proceedings of that Commission, and then all those projects would bask in the sunshine of the analysis of evidence referred to by the hon. Chairman of the select committee; they would come into flower, but he believed they would never produce any fruit.

—— In another column will be found the opinions of practical men on the value of malt as food for cattle. On this subject Dr. Voelcker was last week imperfectly reported in our columns. In his recent lecture on oilcake before the English Agricultural Society, he referred to malt as an article of food, saying that the only trustworthy experiments with which he was acquainted, were those made by Mr. Hudson, of Castleacre, and Mr. Lawes, of Rothamsted. Besides these, a few experiments had been made by Dr. R. D. Thompson, from which, however, no trustworthy conclusions can be drawn, as they were made with, we believe, only a couple of cows. He mentioned specially, that Mr. Lawes' experiments were not favourable to the substitution of malt for Barley, and contrasted them with Dr. R. D. Thompson's trials, against which objections may properly be raised.

—— On Wednesday next Mr. Wetherell will sell by auction the entire herd of first-class Short-horned cattle, the property of Mr. Ambler, of Watkinson Hall, Halifax, who has long been known as standing in the very first rank of successful Short-horn breeders. He has carried off high honours at all the principal shows of the kingdom for many years—having won no fewer than 600 prizes, exclusive of a large quantity of silver plate and gold and silver cups and medals.

## STEAM CULTIVATION.

### MENTMORE, NEAR LEIGHTON BUZZARD.

(We have received the following additional more general agricultural memoranda since the publication of our report. And we take this opportunity of correcting a misprint in column c, page 37[illegible], where the Oat crop (8th line of column) is put at only 45 acres—it should have been 145, the bare fallow being between 30 and 40 acres, not 130 or 140, as would be inferred from the published statement.)

Owing to the general surface of the land having now been brought to a pretty fair state of levelness, the Sussex fore-steerage drill and horse hoe to match have been introduced with advantage. Wheat is drilled 9 inches apart in the rows to admit of the use of the duplicate arrangement of the hoes. 1½ bushel is found a sufficient seeding now in October, especially where the fallow crop has been fed off with cake or corn given to the wethers.

A piece of Hallett's Pedigree Wheat is looking well, treated partly on his single-grain seeding method, and in part drilled at the rate of one bushel per acre. For this experiment, which promises well at present, the Baron has paid his two guineas per bushel "like a man," he having himself bought the seed of Mr. Hallett, at Battersea show, last year. The experimental plot consists of about four acres after Tares fed off, and in order to induce increased stiffness to the straw a top-dressing of silicate of potash has been given this spring, and hoed in. About half a dozen acres of very poor pasture (which formerly had been rented at 10*s.* per acre) have been drained, broken up, burnt, steam cultivated, and now sown down again to a crop of Italian Rye-grass—using 4 bushels seed to the acre—for the purpose of "soiling" stock in the yards in summer, and affording a supply of forage for cart horses, dairy cows, &c., the same period.

The vicinity of the basin of the chief outfall for arable land drainage has been selected for this forage crop; in order to freely irrigate which, a large "catch" has been excavated below adjacent drains, deep enough to contain some thousands of gallons of water for engine and hose distribution, close after each cutting and removal of the Grass are made. Moreover, owing to the principal overflow of farm-yard tanks being conducted to this outfall, the drainage waters of this chief section of arable land drainage are of course highly charged with liquid manure running direct from the yards, stables, cattle-shedding, &c. But in case that source of liquiform manure should be found too limited in summer, it is intended to compensate by applying a top-dressing of guano to the Rye-grass, close upon each cutting and irrigation of the plot.

A telling instance or two, showing the value of deep working of the most tenacious clay lands both for agricultural and arboricultural purposes, having occurred here, may now not inappropriately be adduced, even though occurring through circumstances of an accidental, rather than of a direct experimental character.

The luxuriant annual growth, indeed, of masses of ornamental trees and shrubs, both evergreen and deciduous, of rare as well as of common sorts within the park—is of itself sufficiently indicative of the immense importance of "picking the lock" of the aluminous treasure-box at Mentmore. Two feet to a yard in depth, after drainage, are the minimum of delving and trenching accomplished at 10*l.* or 11*l.* per acre for the plantations which have here been formed, commencing about a dozen years ago.

Trees and shrubs of the domain thus growing in

fullest vigour, in a stiff soil overlying stiffer gault, though most eloquent exponents of the advantages of this treatment, do, after all, but speak the same language spoken under similar conditions by the more lowly plants of the farm.

In one of the instances of deep cultivation under notice, the formation of a fox covert was the original intention. And for that purpose some half-a-dozen acres of well-drained arable land, of average condition, of a tenacious calcareous clay, similar to the farm land generally here, had been spade-trenched about 2 feet in depth to produce a thicket—the planting of which was, however, subsequently abandoned, and, consequently, the land thus dug turned over again to the farm. Wheat was the crop previously taken. The work of digging being done by contract in the winter proved a tough job for the men, the cost being considerable, namely, 1s. 4d. per perch, or at the rate of 10l. 13s. 4d. per acre. The plot lay all winter when dug in order to accomplish a thorough pulverising of the clay brought up. No manure was applied the first or second year; and the crops taken in successive seasons were as follows:—

1st. Several sorts of long Mangels—chiefly Elvetham Red, which without the aid of a particle of manure applied, yielded full 30 tons per acre.

2d. One steam grubbing was given, and Globe Mangels—both red and orange tubers—yielded a good even crop of upwards of 20 tons an acre.

3d. A moderate manuring for the next crop and two steam grubbings were given for spring Beans drilled, which yielded full 7 quarters per acre.

Part Swedes, part Carrots, were grown last year with a light dressing of dung ploughed in after once "forking" over the Bean stubble before winter with the steam cultivator; the result was a good average crop of the former, and a fair crop of the latter, which, however, was got in late, and greatly thinned down by hares. For the present season, a heavy manuring was laid on, and one steam ploughing done by the new furrow or turnover implement, about which all the legal commotion has arisen recently at Guildhall. One turn of Howard's steam drag harrow — than which there is not a more efficacious tool for the purpose —made an excellent tilth before the Sussex drill for spring Beans, which thus far at all events look well.

The experimental plot here alluded to was but an averaged conditioned example of the Cheddington Clay Farm generally, and partly for that reason was selected for the fox covert originally contemplated.

I will now advert to one other instance of what may be considered conspicuous results of a deeper cultivation of our clay staples here. It occurred last year over some 30 acres of tillage land laid down a permanent pasture with an Oat crop. This breadth had but recently been acquired, and it being desirable to include it, rather hastily, in the park arrangement, it was underdrained with land adjacent to it in 1861, fallowed and cleared immediately, and ultimately seeded down as above. Unfortunately the steam cultivation of this field could only be conducted over half of it in time for laying down altogether then —the remainder therefore was subjected to the usual routine tillage by horse power. The whole having been drained alike, cropped alike, and laid down to permanent Grass alike less the steam tillage adopted as a portion of the *modus operandi*.

Last winter and early this spring we had much rain here—the land is now Grass, and the aspect of the steam-grubbed half as compared with the other portion of the piece is most striking.

The Oats were pretty uniform throughout as a crop, but there is a wide dissimilarity apparent in the new Grass and Clover plant. Owing to the parched and sodden state of the horse-ploughed section—which it may be remarked was the upper part of the piece—the drainage, though it did not fail, certainly could not act as well as in the other case, and the consequence was that most of the Grass and nearly all the Clovers have perished. In the steam-cultivated or lower half of the field, the drainage of course would act immediately, a new tilth being made by steam for the very plants most likely to relish it; sound land and a full plant of both Grass and Clover being the present result of the different modes of cultivation adopted; whereas the upper part of this piece now requires reseeding. Such lessons as experience thus gained teaches us cannot be ignored, nor regarded as unworthy illustrations of what it is now the fashion to describe as deep drainage failures, when not succeeded by a deeper cultivation of our unwrought clay soils.

## MALT AS FOOD FOR CATTLE.

THE following are passages on this subject from the addresses of Mr. Booth, of Warlaby; Mr. Arkell, of Swindon; and Mr. J. Williams, of Baydon, at the recent interview of the deputation with the Chancellor of the Exchequer:—

Mr. BOOTH (Warlaby) said: My father and myself have, I believe, prepared more animals for the exhibitions of the Royal Agricultural and other leading Societies than almost any one else in England, and I can declare from experience that malt is superior to any other article for feeding cattle up to the very tip-top condition to which they require to be brought when they are intended for the show yard. A great number of the animals which obtained the highest honours at the Battersea Show last year were fed on malt. I have had some experience in the feeding of sheep on malt, and I can state that at the Yorkshire Show last year the prize Leicesters were animals which had been fed for the most part on malt. I can get good Barley for malting at 7l. per ton, and the malting will bring the cost up to 8l. I am now paying 10l. per ton for Linseed cake, being of course obliged to put up with the manufactured article which is offered me; and I should much prefer using malt, if the law permitted me to do so, for the feeding of stock.

Mr. THOMAS ARKELL said: As regards the feeding of stock, the malt tax of course affects us, as farmers, more injuriously than other classes of the community. Of course, as consumers, we are affected by it in the same way as other classes; but it affects us as farmers peculiarly, by preventing us from using rough second rate Barley for the feeding of stock. I believe that if Barley were malted for feeding purposes, it would be more digestible and wholesome, and would produce far better results. Pigs will eat Barley in a raw state, but not so cattle or sheep; and while the market price of pork is 5d. per lb., that of mutton and beef is 7d., being a difference of 40 per cent. in favour of pork. If I give sheep Barley, many of them die; but it does not kill pigs. Pigs will consume raw meal without experiencing any injurious effects; but ruminating animals, which yield the finest quality of meat, cannot assimilate grain in the raw article. Barley acts injuriously on their stomach, and requires something to counteract it; and for that reason I am obliged to use oil-cake. I would here remark that I wrote to Dr. Voelcker, the eminent agricultural chemist, in order to ascertain whether his views on this point coincided with my own. His reply was, that there could be no doubt that malt was more digestive than raw meal, and that when used as an addition to other food in the feeding of stock it was beneficial even in the case of pigs. I contend that the lower qualities of Barley would be more digestible, both as food and as condiment, if we were allowed to convert Barley into malt. Given as a vegetable it would be more digestible, animals would assimilate its feeding properties more readily, we should enjoy the advantage of mashing it up with such food as chaff and straw, and there would be more beef and mutton for the community.

Mr. J. WILLIAMS referred also to other injurious effects of the malt tax. He said:—I consider that the labourers and the artisans are the persons most injured by this tax, much as the farmer may and does suffer from its operation. The labourer is physically affected by it, inasmuch as he has to work under a burning sun during harvest, and, while his master wishes to give him a sufficient quantity of the national beverage, beer, he is compelled, on account of the pressure of the duty, to furnish him with it only to a very limited extent. Again, the malt-tax is objectionable on moral grounds. I believe that the greater part of the drunkenness which occurs in this country arises from the duty on malt. The production and use of beer at their own dwellings used to be regarded by labourers as a national birthright; but now they have no opportunity of obtaining it at home. What is the consequence? The higher class of society, although they have full command of the luxuries of life, are not, generally speaking, in the habit of drinking to excess. Again, the middle class, and especially farmers, have opportunities of drinking to excess; they have plenty of drink at their command; but they do not, as a rule, abuse it. I, for example, have always a barrel of good beer within reach in my own house, but I do not on that account take too much. Neither the upper nor middle class, as a rule, get inebriated. But a very large proportion of the lower class are found drinking to excess on Saturday evenings, and going about the streets and roads in a state of intoxication. Why is there this difference? It is, I believe, because the upper and middle classes have plenty to drink at home, and because the poor man has nothing to drink at home, and is therefore driven to other places. Moreover, when the poor man gets to these places he does not obtain a pure article for his money, but one which has been adulterated. Let the duty on malt be abolished, and we should have the pure essence of malt and Hops, made from our own produce, and the temptation to intoxication would be to a great extent lessened. There is one point relating to the feeding of stock, which appears to have been overlooked by the preceding speakers. A gentleman residing in my own neighbourhood, Mr. Pargiter, last year fed 300 sheep on malt. He is a maltster, and he did not know what else to do with the malt thus employed, as it was not good enough for brewing. Having, under these circumstances, fed 300 sheep on malt, he sought to obtain a remission of the duty; but it was not remitted, and he had to pay the whole 22s. 8d. per quarter for the malt thus employed. Had a foreigner, living just the other side of the Channel, say near Calais or Boulogne, purchased in England an equal quantity of malt, there would have been a drawback of the whole amount of the duty, on its being exported from the English shores; and after feeding 300 French sheep upon it, he might have competed with them in the London market against Mr. Pargiter, perhaps on the very same day on which that gentleman's sheep were offered for sale. Thus, while the foreigner might have the advantage of feeding his sheep on malt for the English market without paying any duty, the British farmer, if he wished to feed his sheep on malt, was subject to a tax of 22s. 8d. per quarter. These are facts of which every English agriculturist can appreciate the importance, without diving very deeply into the subject. Mr. Fisher Hobbs will tell you that some of the best animals he has ever produced were fed on malt. That was the case as regards his entire horse, which won the first prize last year at the Battersea Show. A gentleman who comes from Essex can also inform you that his best stallions have been fed in the same manner. I ask, is it an English system of treatment, to compel persons to pay 22s. 8d. per qr. on what is used solely in feeding their animals, and that, too, while foreigners are exempted from the burden of the duty? I hope you will now reduce this duty with the view of ultimately taking it off entirely, in order that instead of being compelled to use oilcake, linseed, and other articles of the same class, which we have to buy of others for the feeding of cattle and sheep, we may be enabled to use produce of our own, which is superior for the purpose to any article that can be purchased.

## STEAM PLOUGHING, AND THE PICTURESQUE.

ONE Sunday afternoon, not long ago, I was rambling alone in a very beautiful part of the county of Kent, and enjoying the scenery as those do who have few opportunities of getting away from a city's smoke, when I suddenly emerged from a little wood, through which I had made my way with difficulty, into a large field which lay beyond the limits of the wood. It gave me a shock to see in the middle of that field a great locomotive engine with its wheels deeply embedded in mud, and with a considerable lurch over to one side, where I suppose the ground was softest. It was Sunday, and the machine was not working, nor was there any human being in the field, or, indeed, anywhere within sight. Over against the engine, but at a considerable distance, were a couple of grim iron ploughing instruments, which it was the business of the engine to drag across the different parts of the field by means of twisted metal ropes. They had been left, when it was time to give up working the night before, arrested in mid-career. They had savagely torn up a good mass of earth, and worried it, and they seemed to be looking towards the locomotive with ferocious eagerness, like chained bull-dogs longing for their master to give the signal for beginning again. All round the field, monstrous pegs of iron—their heads all split and broken with ferocious blows—were dug deep into the earth. The wire-twisted ropes were passed round them, so that the two bull-dog-looking machines could be dragged over all parts of the enclosure without the necessity of shifting the locomotive. Some of these iron ropes were even carried into my little wood and secured round the trunks of the trees, in order to get a firmer purchase. The whole thing looked ruinous, disconsolate, truculent, and wicked. And not only was this particular field, in which the machinery lay, rendered hideous by it, but even the country which I had just before been admiring, seemed contaminated too. It was a bad business.

But a day or two before that, as the winter sun was setting, I watched, upon a certain rising ground, another kind of machine at work. It was the old plough. Two old horses, wholly free from the infectious hurry of the age, and an old labourer, to whose movements the pace of those worthy animals was peculiarly well adapted, were engaged in working this ancient machine. How slowly it made its way along the hill-side! How long each furrow was in the making, and at the end of each what a good opportunity for rest as the turn was made! The slow undulating movement of the plough had something infinitely graceful in it. The earth was lifted gently and graciously and as if it were touched by friends—not torn and lacerated by the teeth of enemies. There was peace here. It was all in harmony; in harmony with the cawing of the mighty flight of crows, in harmony with the bare trees, with the little brown woods, with the golden clouds—with the mind of the chance wayfarer who paused to look and listen. He could scarcely be better employed than in so looking and so listening, for the scene and all its accompaniments were perfect. Eye and ear were both made happy. In this chord there was no one jarring note to spoil the melody. Can a time ever come when the jar of the steam-engine will assimilate with a lovely scene, and when the clatter of the threshing-machine will mar the pleasure of a winter ramble no more than the measured thump of the flail? The threshing-machine may separate the Wheat from the straw better than the flail, the ploughing machine may turn up a whole field in an incredibly short time, but these things will never harmonise with nature, and if we get to be indifferent to them, and to admire nature in spite of them, that is the very utmost that we may venture to hope for.

The interests of the Poetical and of the Picturesque are both concerned in this agricultural-implement question. There was, until lately, both poetry and picturesqueness mixed up with almost every agricultural pursuit. If steam-farming is to go on and prosper, it can be so no longer. And doubtless it will go on, and will prosper; and the beautiful, as is usual, and I suppose right, will fall before the practical. Alas! I am afraid I must put it on record that the Picturesque is in a bad way. I don't complain. It has had its day. We have enjoyed it long, and it will take a long time

to destroy it everywhere. But it is on its last legs. It is inconvenient and unprofitable. I am told, and it is my business to chronicle it, that even the old thatched roof is doomed. It did not answer. It harboured insects. It was dreadfully inflammable, and lo! the new barns are being built with coverings of slate—slate that looks hard, and blue, and cold—slate that never becomes beautiful, even with age—slate that the moss and the lichens abhor—slate that is clean, and easily kept in repair, and makes the best roof in the world. Yes, we are to have farm-houses, and barns, and out-buildings of brimstone-coloured brick and blue slate—good sensible edifices, well in character with the steam-plough and the threshing-machine.

But how beautiful that old roof was! It was always out of repair—bless it! Half of it at least was covered with patches of dense green moss. The straw stuck out in places where it had been mended. The line of it against the sky, too, was always so irregular, for it was the practice of the wooden structure beneath it to give way here and there, and in those places the thatch would sink, and so a break was made in the line, which would otherwise have been too straight. That was the roof in which the birds could make themselves comfortable, and portions of which vagrant sparrows who lived at a distance could abstract when repairs became necessary in their sylvan residences. They will not find slate so convenient for their purpose. That, too, was the roof of our infant story-books. Little Red Riding-hood's grand-mother lived under it. The farmer guiltless of steam-ploughing, who appeared in the Christmas piece, welcoming the labourers who were returning with the last harvest-load—this jolly individual always stood at the door of a house with a roof of thatch painted bright yellow, and in a most triumphant state of repair. Lastly, it was in that roof that the dormer window appeared peeping out of the thatch, with its latticed panes, its clean white curtain, and its frame of fragrant honeysuckle,

I do not despair of seeing the day when we shall have slate roofs to our haystacks—roofs that will lift on and off, and that can be clapped over the newly made rick, like a dish cover on a leg of mutton.

The useful is the enemy of the Picturesque. There is no part of a house more agreeable to the eye than its roof—a high roof—a steep roof with gable points. But this is inconvenient. The rooms in that roof are cold, their ceilings are sloping, low in one part, high in another. The dormer windows, too, built out in the roof's surface, are liable to many objections. You attain a much greater degree of comfort by carrying—as we now do—the wall straight up to the top of the house; your upper rooms have flat ceilings, are rooms, not garrets, are warm and comfortable. But the high roof was the prettiest, for all that.

I hope nobody will imagine for a moment that I am objecting either to steam-agriculture, or to square topped houses. If by mechanical ploughing and wire fencing the ends of agriculture are forwarded, we must have steam-ploughs and iron fences. If the slate house-top answers better than the thatch, I am afraid we must own that it would be folly not to adopt it; and if your house is more comfortable with a flat and invisible roof than with a high and sloping one, your choice is soon made; only let us acknowledge that in connexion with our modern improvements there is loss as well as gain.

The loss of the old plough, and the old barn, and the old thatched house, is a serious loss. It is a loss of nearly half the attractiveness of rural England. The old forms of agriculture were so inseparable from one's delight in the country? All day long, and at any time of the day, there was something going on that it was pleasant to watch. All day long, the plough, or the harrow, or the reaping-hook and scythe, according to the season, were at work. Winter and summer there was always agricultural work a-doing. And then there was the mid-day rest, and the group of peasants beneath some shady old tree. Imagine the repose of a congregation of engineers and stokers, surrounding a grim locomotive planted in the middle of a half-ploughed field! What a group that would be for a landscape painter! Plenty of lamp-black would be wanted, at any rate. And when the night fell in the old time, when the labourer unyoked his team, and man and horse went their slow and weary way back to their master's home, when the unbroken colts gathered about the gate that opened on the lane to exchange a passing neigh with their friends who had been at work, the said colts looking vague and enormous in the darkness—and later, when the candle in the old horn lantern was kindled, and was to be seen slowly moving about the farm-yard as the hind visited the different objects of his charge before seeking rest himself—were not all these things associated with happy memories of the country, and does not the mere presence of a steam-engine in one of those out-buildings walk away with at least half of the poetry of the scene? There is a great noisy rampant threshing machine, which is always travelling about a certain part of the country with which I am familiar, and which machine goes among the natives by the name of "Puffing Billy." Good Heaven! how that engine mars the landscape as it passes! Horses go raving mad at its approach, and have to be held by the nose as it goes by. Poor things, they know they are powerless against it. "Puffing Billy" could crush them with ease, but what could they do against his iron sides?

It may be that when the first shock inseparable from these great changes is over, when our senses are more accustomed to iron, and smoke, and clatter of machinery, a new Poetry and a new Picturesqueness will become developed. *All the Year Round.*

## ENGLISH AGRICULTURAL MACHINERY.

[The following is the introduction to the Report of the Jury in Class IX. to Her Majesty's Commissioners of the late International Exhibition.]

The machinery of the farm which is illustrated here includes implements (*a*) of tillage, and (*b*) of carriage; (*c*) tools directly connected with the cultivation of plants, and (*d*) implements used in harvesting their produce; (*e*) the machinery of the barn; and (*f*) the tools and implements of the feeding house and dairy.

The plough, the cultivator, the harrow, and roller, in the first class; carts and waggons in the second; sowing machines, whether of manure or seed, and horse hoes in the third; reaping and mowing machines, hay tedders and horse rakes in the fourth class; threshing machinery, winnowers, corn separators, weighing machines, &c., in the fifth class; and corn and cake crushers, flour mills, Turnip cutters and pulpers, chaff-cutters, steaming and cooking apparatus, churns, cheese-making apparatus, and dairy utensils in the sixth class:—These make up the list of the principal implements in which the agriculturist is directly interested. Most of them are well represented in the International Exhibition of 1862; but more perfectly than any of them is the "power" exhibited by which most of them may be turned to account.

The Jury have expressly recorded in their minutes that they are unable to give in their report any detailed illustrations of the advance in agricultural machinery, which the Great Exhibitions of 1851 and 1862 prove to have been effected during the interval between them; but there are at least four particulars in which that progress has been so marked, that some reference to them is unavoidable.

1.—One of these is the immensely increased use of the movable steam engine. Although the fixed steam engine had long been employed for thrashing corn in some districts of the country, it was not till, with its boiler and its furnace, it was placed on wheels that steam power came into general use in England for this purpose. How rapid the extension of its employment thus has been, may be gathered from the number of movable engines made by one firm alone, for this is but a specimen of the general experience of manufacturers. Messrs. Clayton and Shuttleworth of Lincoln were reported by Mr. J. Evelyn Denison, M.P., in his account of the Paris Exhibition in 1855, to have sold in 1852, 243 movable engines, amounting in the aggregate to 1349 horse-power. They now sell more than double that number of a triple aggregate power annually.

This of course includes and represents an enormous foreign demand as well as the manufacture for home use; but there can be no doubt that it also represents a very great alteration in the whole style and character of one very important department of English farm management. And it must be distinctly understood that this is but one of similar illustrations which the same progress receives in the experience of many other makers, as will be subsequently shown.

The work of thrashing corn may now be said to be done in England almost entirely by steam power. Since the date of the previous International Exhibition here, the use of the flail has been gradually disappearing, and with the flail the whole character of the winter employment of a large body of agricultural labourers has changed; barns are disappearing, and other parts of our homesteads and farm buildings are partaking of the alteration.

2. It has contributed, and will still more contribute to increase the manufacture and employment of movable steam engines, and especially those of extra power, that within the last few years the cultivation of the land has been successfully effected by steam-power. Of this nothing like a certain promise existed in 1851, though long before that time the problem had occupied the minds of sanguine men.

Steam-ploughs and cultivators constitute one of the leading features of the agricultural section of the Exhibition of 1862.

Mr. Fowler of Leeds (2115) exhibits his 14-horse power engine, which travels along a headland, while from it around a horizontal pulley underneath, a wire rope extends to the other end of the field, there embracing a corresponding horizontal pulley underneath a low carriage on sharp wheels, which, sinking into the ground, constitutes an anchorage against a lateral pull. The pulley under the engine has movable rims which grip the rope tightly wrapped round it; and so, as the engine works this pulley, it draws the rope to and fro around the anchor pulley. The engine travels along its headland, and the anchorage travels along the opposite headland, and the rope, drawn to and fro between them, drags as a link in its length a framework of ploughs or cultivators, which thus turn over or stir the land in their course.

Mr. Howard of Bedford (2131) exhibits an ordinary threshing steam engine, which he uses for cultivation in the manner adopted by Mr. W. Smith, of Woolston, Buckinghamshire. He stations it in a corner of the field that is to be cultivated: by it he works a double windlass, one barrel of which winds up a wire rope while the other lets it off alternately, and thus this wire rope is drawn to and fro around pulleys stationed in the corners of the field that is being worked. As a link in this rope, a three or five tined grubber, or, as in Mr. Fowler's apparatus, a ploughing machine, is placed: it is thus drawn to and fro from end to end of the field, and so breaks up the stubble or unploughed land on which it works.

Other exhibitors show modifications of different parts of steam cultivating machinery; thus Mr. Hayes of Stony Stratford (2209) exhibits a very ingenious windlass for regulating the to-and-fro draught of the wire rope in steam ploughing, and Mr. Steevens, of 6, Godolphin Road, Hammersmith (2189), a clever ploughing apparatus to be drawn to and fro by it. The two principal plans introduced respectively by Fowler and by Smith of Woolston, are, however, the only ones that are thoroughly represented. Both are now unquestionable agricultural successes, and are receiving rapid adoption throughout the country.

3.—The third feature in which our agriculture in 1862 entirely differs from that of 1851, though really originating long before that time, may be said practically to have arisen then, and to be one of the results for which we have to thank the first Great International Exhibition.

Reaping and mowing by machinery are now generally practised, and for this we are indebted to the American exhibitors of 11 years ago. Hussey's and M'Cormick's machines, then first shown in England,—and Bell's reaper, which had for many years previously been annually used by the brother of its inventor on his farm in Scotland—have, since then, in the hands of Cuthbert and many other makers, Burgess & Key, and Crosskill, respectively, been greatly improved and adapted to the circumstances of English crops; and machines, especially on the "Hussey" principle, have been introduced by Cranston and by Burgess & Key for mowing Grass. There is now no large arable district in the country where the reaping machine is not employed, nor any extensive district of pasture land where the mower is not at work. In some counties most of the reaping is now done by machinery, and the practice is every year extending. All the different forms of both are well shown here by many different firms.

4. The last point to which the Reporter has to call attention, as a novelty of recent date in English farm management, is the employment of machinery for pulping the food given to our live stock. Since the Lincoln meeting of the Royal Agricultural Society of England; Messrs. Bentall of Maldon, Woods and Cocksedge of Stowmarket, Barnard and Bishop of Norwich, and others, have found a large demand for machines which should not, as hitherto, merely cut into slices or finger-shaped pieces the Turnips and Mangel Wurzels given to sheep and cattle, but reduce them to a state of thorough comminution, so that when mixed with chaff of hay or straw, the whole should rapidly ferment and heat. The process has two advantages: it mixes up, past all power of separation, the various qualities of hay and straw employed, which are thus uniformly interpenetrated with the juices of the root thus mixed with them, and so there is now no power, nor indeed any desire in the feeding animal to select certain parts and waste others, which is continually seen when they are fed on long hay; and it also, by the fermentation which ensues, subjects the food thus prepared to a sort of preliminary digestion, which is found to be of great use in the fattening process.

All the particulars thus pointed out as novelties of recent date in English agriculture, are well represented here. Steam engines, both fixed and movable, steam ploughs and cultivators, reapers and mowers, and the whole class of machines for preparing food are exhibited by many manufacturers, and those which have obtained Medals and Honourable Mentions, are named below.

It may be added that, with the exceptions thus pointed out, no very essential changes have taken place during the past 10 or 11 years in English agricultural machinery, as illustrated at the two Great Exhibitions respectively.

*Implements of Tillage,* excepting the steam plough and steam cultivator, remain pretty much as they were. Ploughs are not essentially different. Harrows remain nearly unaltered, the only exception to this being the use of the chain harrow—a surface of interlaced quadrangular 4-inch links of iron, which, drawn over the land, is found efficiently to break down the smaller clods and cover seed, or evenly distribute manure upon Grass land. Rollers exhibit in many forms the principle which ten years ago was the exclusive and patented peculiarity of one—viz. Crosskill's clod-crusher. Grubbers and cultivators and broadshares have not materially changed in ten years, though Bentall, Coleman, Clay, &c., each make implements of this class which were then unknown.

*Machines of Carriage.*—Carts and waggons are pretty much what they were.

*Tools employed in the cultivation of Plants.*—Sowing machines and horse hoes do not materially differ from the best of those of ten years ago. We have now, however, the water drill, which we had not then, a machine which not only deposits seeds and manure, but washes them into the ground, and thus prepares an artificially moistened seed-bed, where they shall

sprout in spite of drought. And we have in the Turnip field, but merely as an exceptional curiosity, the revolving horse hoe, by which rows of young plants are bunched out, to facilitate their being afterwards singled out by hand-hoes. All the principal machines of this class exhibited here, though certainly improved in parts and in details, are however essentially the same as they were in 1851.

*In Harvest Machinery*, as already said, a great advance has been made. Besides, however, the reaper and the mower, there are in this class the hay-tedder and horse rake, in which the improvement effected has been nearly of the kind just named—one of detail of construction, involving nothing essentially new. Perhaps the straw weaving machine of Messrs. Maggs & Hindley of Bourton, Dorset (2148), for preparing a fabric of straw which may at once be laid as thatch upon the rick, should be named in this class as a successful introduction of the last few years.

*The Machinery of the Barn*, including threshing machines, winnowers, corn and cake crushers, weighing machines, mills, &c., certainly have exhibited great improvement of late years—but here, too, it is one of parts and of details. The movable threshing machine is much more efficient and compendious than it was, and it includes many new devices for shaking the corn and straw apart, and for lifting the former and its chaff from one part of the machine to another, and even for lifting the latter to the rick. The grain, too, is turned out from it, weighed and sorted, and thoroughly cleaned and ready for market; but here, too, the alterations are of construction and detail.

*The Tools of the Feeding House* include the pulper, to which reference has already been made. Beyond this, no entire novelty occurs in this class of tools.

In the dairy we have cheese-making machines, by Keevil and by Cockey, in which the separation of the curd and whey is effected by a uniform and systematic process, instead of being dependent on the irregular movements of the dairy-maid; and hand presses for squeezing butter dry are exhibited by Messrs. Hancock (2124). Otherwise no novelty of any important kind is exhibited here in that section of Class IX. which belongs to the United Kingdom.

While, however, with the exceptions already specified, the agricultural machinery of 1862 and that of 1851 do not exhibit many entire differences of principle or design in their construction, those obvious alterations which are exhibited, whether here or in the field, are of the very greatest importance. No one has visited both the Exhibitions without being struck with the immense improvement of manufacture since the former; and everybody knows how the use of implements in the field has extended since that time. Of this, the enormous manufacture of steam-engines, drills, reapers, mowers, threshing-machines, chaff-cutters, Turnip-cutters, and pulpers, which has arisen during the interval is sufficient proof. And it is plain that along with the rapid adoption of the few novelties which have been introduced, no better illustration can be given of our agricultural improvement of late years, than the general use which now obtains of machines known formerly to comparatively few, and much better made now than then.

Mention has been made of the manufacture of steam-engines by one particular firm, because Mr. Denison, with reference to the Paris show of 1855, had quoted the extent of manufacture by that firm: but the progress thus illustrated has been equally well shown in the general extension of the manufacture; and the following figures, which show the extent of manufacture of several kinds of agricultural machines, have been obtained by throwing together in one sum the returns received from many of our leading firms. It must be mentioned that several leading manufacturers, and a great number of others in a less extensive way of business, have declined to answer our inquiries. The first column of the table in every case names the number of firms, the extent of whose manufacture of the several implements is here year by year related.

Annual Manufacture of Agricultural Machines since 1851.

| Implements. | No. of Firms. | 1852. | 1853. | 1854. | 1855. | 1856. | 1857. | 1858. | 1859. | 1860. | 1861. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. |
| Steam-engines .. .. | 6 | 270 | 353 | 489 | 615 | 680 | 587 | 552 | 721 | 824 | 898 |
| Ploughs .. .. .. | 2 | .. | .. | .. | 7,500 | 8,106 | 9,499 | 9,582 | 9,889 | 9,104 | 9,309 |
| Cultivators .. .. .. | 4 | .. | .. | .. | .. | .. | .. | 1,012 | 1,348 | 1,182 | 1,199 |
| Corn-drills .. .. .. | 3 | 338 | 450 | 453 | 606 | 686 | 545 | 488 | 529 | 635 | 708 |
| Corn horse hoes .. .. | 3 | .. | .. | .. | 356 | 451 | 408 | 377 | 360 | 511 | 883 |
| Reaping-machines .. .. | 4 | .. | .. | .. | .. | .. | .. | 82 | 100 | 516 | 1,715 |
| Hay-tedders .. .. .. | 2 | .. | .. | .. | 50 | 75 | 190 | 505 | 478 | 781 | 721 |
| Horse rakes .. .. .. | 5 | 611 | 658 | 681 | 767 | 947 | 1,116 | 1,099 | 1,499 | 1,828 | 1,789 |
| Thrashing-machines .. | 6 | 327 | 245 | 396 | 625 | 790 | 796 | 715 | 884 | 850 | 1,084 |
| Chaff-cutters .. .. .. | 3 | .. | .. | .. | 1,004 | 1,258 | 942 | 1,117 | 2,126 | 5,712 | 4,905 |
| Corn-bruisers .. .. | 5 | 64 | 93 | 549 | 2,297 | 1,949 | 2,664 | 2,136 | 2,461 | 2,781 | 2,680 |

This table is not to be taken as representing anything like the whole manufacture of agricultural machines. As already said, although, with few exceptions, all the leading firms have kindly answered our inquiries, yet a number have not unnaturally declined laying their personal affairs thus open to our inspection; and the great majority of the less important firms have not thought it necessary to give returns. And, besides this, a great many machines largely manufactured are not named upon the list at all.

Thus of Turnip-cutters and Turnip-pulpers, unmentioned here, there is an immense manufacture, one firm alone turning out 4000 annually. Of corn-dressing machines single firms turn out 300 or 400 annually. Sets of field harrows are made by single firms to the extent of 2000 every year. Manure drills or distributors are another large class of implements made by single firms to the number of 150 to 200 yearly. Steaming apparatus is made by a single firm in increasing numbers.—300 sets having been sent out during the last four years, and 100 during the first nine months of 1862.

Of reapers and mowers, the returns given are a most inadequate representation of the manufacture; at least three of the principal manufacturers being unrepresented in them. And before an accurate impression is gathered from our table, even of the implements there enumerated, it must be remembered that the individual power and capability of the machines now manufactured have risen very greatly of late years. The average power of the movable steam engine now sent out is at least 50 per cent. higher than it was seven or eight years ago. And threshing-machines, of which single firms sell 300 or 400 each per annum, correspond in their increasing size and power to the increasing power of the engines which drive them.

Perhaps there is no better illustration, whether of the enormous extent of demand which exists in English agriculture for improved machines, or of the enormous power which our manufacturing firms possess for the supply of it, than the very rapid growth of the manufacture of any particular implement which proves to be really useful. The manufacture of the reaping-machine and mower, imperfectly represented in our table, is sufficiently illustrative of this. And the corn-screen of Mr. Boby of Bury St. Edmunds, of which nearly 4000 have been sent out by a single firm in five years, is another illustration.

It is right that this report, without invidiously naming individual manufacturers, should thus call the attention of foreigners as well as native agriculturists to the ability which, thanks to British capital and ingenuity, we possess of meeting any conceivable demand for the best and newest agricultural machinery. And although the present Reporter does not pretend to give any account of the machines in the foreign sections of this class, yet he would not omit acknowledging that here also, in many an instance, there is ample proof of ingenuity, ability, and skill. *John C. Morton, Reporter.*

## Home Correspondence.

*Sewage Manure.*—I rejoice that the utilisation of town sewage has at length been deemed worthy of a discussion in Parliament. Permit me to say, with reference to that discussion, that I am not, nor shall I be, in any way connected with any sewage or manure company—my sole object in agitating is to prevent a ruinous waste and national discredit. The Government commission which is experimenting at Rugby, is doing good public service, proving that no cost or quantity of ordinary manure can compete with town sewage in the production of Grass. Every farmer knows that land which has produced good Grass abundantly, will, when broken up, give the best results in cereal and other crops, and yet we hear almost everyone saying that sewage is only good for Grass, while, indirectly at least, it is the very best producer of all our food. The objection about over dilution is a mere bugbear, for every acre of British soil gets an annual rainfall of 2600 tons. Without this the farmer would be badly off, although he only mixes with it the manure of two or three sheep. Sewage, then, is infinitely stronger than farmer's ordinary manure. A practical experience of 10 years with home sewage teaches me its value, and makes me regret that I have not a town or village near my farm. Let me recommend every doubter about sewage to read that wonderful book of Liebig's, just published, "The Natural Laws of Husbandry," and he will then be astonished that an intelligent agriculturist (Sir John Shelley) should say in the House of Commons, "But of all 'manure doctors' (in his opinion) none were so dangerous as those who talked of utilising the sewage of towns." Ratepayers and farmers are already arriving at a very different conclusion. *J. J. Mechi, Tiptree Hall, near Kelvedon, Essex, April* 20.

*Eggs.*—Perhaps "Anna," who in your last Number expresses a wish to know something about preserving eggs, may like to hear of the following practical experiment. In 1857, when on the point of leaving England for Port Phillip, and having a young family with me, I bought for their use on the voyage 20 dozen of the newest eggs I could get from the farmers near my residence; I got them all together, and with some of the freshest and sweetest butter I could procure, I gave them all a slight coating all over. I then packed them carefully, and so that they did not touch each other, in common coarse table salt in a stout box; I took them on board with us on the 5th October, we landed on the 17th January, and during that interval we had always good sweet eggs in store, and for 3 weeks after landing what remained were excellent for puddings, &c. This was the third time I had done the same thing, with the same result. *Alfred, Gravesend, April* 18.

*Steam Culture.*—Mr. Lawrence's letter, sent herewith, is evidence proving that it is not only the cost of an operation that we must look to, but that we must look to quality of work as well; for it can only be a waste of labour and tackle to work implements over land five or six, and even more times, as I read some persons do, when one operation will do better. But I will say no more, and leave the letter to speak for itself. *William Smith, Woolston, Bletchley Station, Bucks, April* 16.

"Cirencester, March 28, 1863.

"My dear Sir,—You will no doubt bear in mind my visit to Woolston when I remind you it was, if I remember rightly, on the same day on which my friend Mr. Morton had been with you. I should have been very gla to have met him there had it so chanced. I intended writing to you subsequently to express something more than the pleasure I had in seeing you and your implement sowing the Beans; but I have been prevented from doing so from one cause or another. I was very much surprised and pleased at seeing Beans so satisfactorily sown on land roughly turned up in the autumn without any intermediate preparation. I have always inclined to the opinion long since advocated by Mr. Chandos Wren Hoskyns, that the rotatory was the true action to be attached to steam-power in turning over the land in the autumn, as presenting the greatest surface to the atmospheric influences during the winter. That impression was much confirmed by a comparison of the state of the land on which you were operating as compared with the state of my own land in the spring of last year and this year, which had been turned over to a depth of 9 to 10 inches by the steam plough. We have had two wet autumns and winters with little frost, and the huge unbroken furrows turned down by the plough I find in an unmanageable state as compared with your well weathered lumps. I have a strong impression that in such winters as the last two I should have succeeded in getting a better tilth at this time and at much less cost if the land had remained unturned till the present month. The fine dry weather of the last three or four weeks has weathered the surface, and that is all; for under a depth of an inch or two the land is just in the same state in which it was in the autumn, except that it is much wetter than when it was ploughed in October. Your land on the contrary was in perfect condition even for sowing spring corn. I hope you will succeed, and without loss of time, in making the implement you mention as in contemplation to reduce the cost of your combined cultivating and sowing implement, for which there will be an ample demand from those who have seen the present one in operation. I shall be much interested in hearing of your progress, and

"I remain, my dear Sir, your very obedient servant,
"Mr. Smith." "Charles Lawrence."

## Farmers' Clubs.

Wigton: *Steam Cultivation.*—Sir Robert Brisco, President of the Club, occupied the chair.

Mr. William Lawson, of Brayton Hall, read a paper on steam cultivation:—As to the advantages connected with adopting a system of steam culture, they seem to be greater on stiff clay than on any other kind of land. 1. On heavy land the treading of the horses' feet is often very injurious, and by the adoption of steam culture this evil is avoided. 2. There is the great saving of horse labour which the system effects. 3. Steam culture must have a good influence upon the labourer intellectually. "With steam the head must be used, consequently must be better taught, and made to reflect on what the hands and the machinery under its care have to do." It creates a demand for highly paid labour; "and there is perhaps no means of bettering the labourer's condition and improving his morals so readily as by an increase of wages." 4. There are all the advantages of deep cultivation, and I think no intelligent man will deny that they are many and great. Deep down below the surface soil is a rich storehouse filled with the inorganic elements required by plants, and ready to be made into good soil by exposure to the atmosphere. Stir the ground to three times the depth it has ever been stirred before, and you make three times the quantity of soil available for the growth of crops. Break the pan that may have been trodden on by horses for years, loosen the subsoil, and you let the water get away quickly and easily down to the drains. The roots of the plants will penetrate deep into the earth, and there obtain sufficient moisture during a drought that would parch up shallow cultivated ground. I believe you will raise the temperature of the soil, and therefore be able to sow earlier, and grow a good crop with a smaller quantity of seed. In short, with an increased depth of soil, we can increase the quantity and quality of our crops without a proportionate increase of our expenditure in the shape of rents, rates, labour and taxes. 5. Steam culture enables us to do a great deal of work in the busy season, when the farmer's time is particularly valuable. We can do the right sort of work at the right time of year. I will now mention some of the difficulties which may have to be encountered in carrying out steam cultivation. 1st, the first cost of the tackle is a large item in the expense; of course, the charge for interest and depreciation diminishes in proportion to the amount of work it is made to perform. 2d, The small size and irregular shape of many of our fields stand very much in the way of profitable steam culture. This difficulty may not only be overcome, but

uch an increased available surface gained by the emoval of fences as will abundantly compensate for the expenditure required. 3d, The steam plough does not work satisfactorily where the land is laid out with the round narrow ridges and deep furrows common in this county. 4th. The prevalence of earth-fast stones forms a serious obstacle to success, causing frequent breakages of the cast-metal, consequently great expense and delay. 5th. The want of good roads for the engine to travel on is a difficulty worthy of mention. 6th. There is the necessity of training farm-labourers to the working of an entirely new system. Let us now examine the subject in a practical point of view. In my own case, the introduction of Fowler's 12 horse-power set of steam-cultivating apparatus has been attended with pecuniary loss, arising from causes not necessarily connected with the system, such as my own inexperience, and other difficulties not encountered by all steam-cultivators. This year, under tolerably favourable circumstances, I have found the cost of steam ploughing and cultivating to be about as follows:—

*Ploughing* 10 *Acres of Lea.*

| | £ | s. | d. |
|---|---|---|---|
| Wages of steam-plough people during half a day occupied in removal, at 13*s.* | £0 | 6 | 6 |
| A man and pair of horses employed in helping to move the tackle, quarter day, at 10*s.* | 0 | 2 | 6 |
| Wages to steam-plough people during two days' ploughing, at 13*s.* | 1 | 6 | 0 |
| The interest on a capital of 915*l.* at 5 per cent., is 45*l.* 15*s.*; distributing this amount over 200 working days in the year, we have a charge of 4*s.* 7*d.* a day. Two and a half days at 4*s.* 7*d.* | 0 | 11 | 5½ |
| Two and a-half days' wear and tear and depreciation, 12½ per cent., 11*s.* 5½*d.* a day | 1 | 8 | 7¾ |
| Horse and man supplying coals and water for two and a-half days, at 6*s.* 6*d.* | 0 | 16 | 3 |
| Coals—18 cwt. at 6*d.* | 0 | 9 | 0 |
| Oil—2½ quarts at 1*s.* 4½ per quart | 0 | 3 | 5 |
| Four shares broken, at 1*s.* 3*d.* | 0 | 5 | 0 |
| Total | £5 | 8 | 9¼ |

Cost per acre, 10*s.* 10½*d.*

*Cost of Scarifying 20 acres of Stubble the second time over.*

| | £ | s. | d. |
|---|---|---|---|
| Wages for half a day occupied in removal, at 13*s.* | £0 | 6 | 6 |
| Wages for working one-and-half a-day, at 13*s.* | 0 | 19 | 6 |
| Two days' interest, at 5 per cent., at 4*s.* 7*d.* per diem | 0 | 9 | 2 |
| Two days' wear and tear and depreciation—12½ per cent.—11*s.* 5½*d.* per diem | 1 | 2 | 11 |
| Man and horse supplying coals and water for two days, at 6*s.* 6*d.* | 0 | 13 | 0 |
| Coals—30 cwt. at 6*d.* | 0 | 15 | 0 |
| Oil, 2 quarts at 1*s.* 4½*d.* | 0 | 2 | 9 |
| Four shares at 8*d.* | 0 | 2 | 8 |
| Two porter wheels broken, 2*s.* 6*d.* | 0 | 5 | 0 |
| Man and pair of horses quarter day for removal at 10*s.* | 0 | 2 | 6 |
| Total | £4 | 19 | 0 |

Cost per acre, 4*s.* 11½*d.*

*Cost of Scarifying* 12 *Acres twice over, April* 1863.

| | £ | s. | d. |
|---|---|---|---|
| Removals—Steam-plough people three-quarters of a day, at 13*s.* 8*d.* a-day | £0 | 10 | 3 |
| One man and two horses, half day | 0 | 5 | 0 |
| Wages for 2¾ days' work, at 13*s.* 8*d.* | 1 | 17 | 7 |
| Three men half day washing out boiler | 0 | 4 | 7 |
| Extra porter man and boy half day | 0 | 1 | 10 |
| Two carts of coals at 6*s.* 3*d.* per cart | 0 | 12 | 6 |
| Oil, three-quarters of a gallon, at 5*s.* 6*d.* per gallon | 0 | 4 | 1½ |
| Three porter wheels, at 2*s.* 6*d.* each | 0 | 7 | 6 |
| Eight socks, at 8*d.* each | 0 | 5 | 4 |
| Interest on money expended—4 days, at 4*s.* 7*d.* | 0 | 18 | 4 |
| ,, depreciation—4 days, at 11*s.* 5½*d.* | 2 | 5 | 10 |
| Man and water-cart—4 days, at 6*s.* 6*d.* a-day | 1 | 6 | 0 |
| Breakage of anchor | 1 | 10 | 0 |
| Total | £10 | 8 | 10½ |

Cost per acre, 8*s.* 8½*d.*; or 17*s.* 5*d.* for the double operation.

Mr. Lawson read statements from other parties, giving a more favourable view of the cost of cultivation with Fowler's and Howard's implements, and also the following regarding the cost of the new method of Savory. A gentleman in the neighbourhood of Evesham has kindly written the following particulars of work done by Mr. Savory's tackle:—

"March 5, 1863.

"Sir, having purchased the first set of Mr. Savory's tackle, he has forwarded me your letter, wishing me to give you my experience of the same. We have two traction engines, a Fowler's three-furrows plough, and Howard's cultivator. We can cultivate with ease 10 acres per day of 10 hours, and plough about 6 in the same time; on good light soils and large fields we can cultivate 12 or 13 acres per day, but against that we sometimes should have stiff clays to contend with, and a few hindrances, so I have put the average at 10 acres, feeling sure that I have under, rather than over, estimated the quantity of work we can do; the cost per day I put as under, and which I am sure I have put on the safe side, especially the item for wear and tear:—

| | £ | s. | d. |
|---|---|---|---|
| 2 Engine men, 3*s.* each | £0 | 6 | 0 |
| 1 Ploughman, 2*s.* 6*d.* | 0 | 2 | 6 |
| 2 Porter boys, 1*s.* | 0 | 2 | 0 |
| Man and horse for water cart | 0 | 5 | 6 |
| 1 ton of coals delivered | 0 | 14 | 0 |
| Interest of money, wear and tear, and extra expenses | 1 | 10 | 0 |
| | 3 | 0 | 0 |

"I am, Sir, yours respectfully,

"To William Lawson, Esq."

Another gentleman writes that a pair of Savory's engines have been worked satisfactorily the whole of one night in this neighbourhood. Without now discussing those parts of the tackle which have given me most trouble, and which appear to be most open to objection, we will proceed at once to consider the question, Is steam cultivation economical? It is undoubtedly economical under certain circumstances. Wherever the agency of steam is required as a prime mover, the steam-engine must be adapted to the work, and the work to the engine. A railway locomotive is a very good thing in its proper place, but would be very unsatisfactory if used on a turnpike road. So it is with the steam-plough. Give it a fair trial on suitable ground, and it will do its work well and cheaply; and yet, be it remembered, that the economy of steam culture is not to be looked for so much in the cheapness of the performance as in the superior quality of the work performed. I think the benefit of deep cultivation was shown in my Turnip crop last year, and in that of a gentleman well known to many of us, on whose farm my steam scarifier worked last spring. What conditions are more or less essential to the successful prosecution of steam culture? 1st. The man who would engage in it should have command of a large quantity of arable land. With my apparatus last year I only ploughed 75 acres, scarified 183½, and stitched up 11¾; so that I did much too little work to make it pay. 2d. Let him begin with an engine of sufficient power. Though mine is a good 12 horse-power one, I have already seen it in circumstances where greater power would have been advantageous. 3d. Let him pull down all the crooked fences on his land, and have large fields. When we go to cultivate a field that can be done in one day, a day and a-half is charged for the working of that field, so that the cost per acre would be very much less in the case of a field large enough to require a week's work for one setting down. As a removal usually costs about 17*s.* 6*d.*, it adds 1*s.* 9*d.* per acre to the cost of cultivating a 10-acre field; 10½*d.* to that of doing 20 acres, and 5¼*d.* to that of doing 40 acres. 4th. Let him have good roads. My engine has too often stuck in the mud for want of them; but I am now laying out my farm with good straight roads parallel with and at right angles to each other, for the use of carts as well as the engine. 5th, Let him beware of setting his tackle to work in any field where the headlands are ploughed up. In cases where this precaution has not been taken, a great deal of delay and expense has arisen from the dragging of the anchor, which is at the best an unwieldy implement. 6th, Let him get rid of all the earth-fast stones in his land as soon as possible. Last spring I steam-ploughed a very stony 10-acre lea field at a total cost of very nearly 20*s.* per acre. Before sowing Oats, as many as possible of the stones were removed, and in the autumn I deeply steam-scarified that field at a cost of not more than 7*s.* per acre. I have said little about ploughing, for I have been led to believe that grubbing is generally to be preferred.

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Oxford: *How to Estimate the Nature and Value of Lands by the Grasses growing upon them.*—Professor Buckman, of the Royal Agricultural College, Cirencester, commenced by explaining that, though we speak of natural meadow, there is in reality no such thing as meadow; even the best left to a state of nature would become little better than a jungle. Meadow was kept of that even texture in which the best will be found by depasturing, rolling, and, if made into hay, manuring; and the quality of meadow depended upon a majority of nutritious as opposed to innutritious Grasses. In all meadows there will be found many Grasses of no real use to the pasture; if the meadow be good, the good species will nearly, though not quite, smother out the bad; if the meadow be impoverished, or "out of heart," the bad will preponderate, and so nearly exterminate the good. The lecturer next pointed out the usual character of harsh, rough, woody, or hairy Grasses, dwelling upon the fact that, as these are objectionable to cattle from their mechanical hindrances, as well as from their poor quality, farmers had got to call them sour, as though there was in reality a sourness of taste that caused them to be rejected. There are, however, some Grasses very bitter to the taste, but the good Grasses contain a quantity of saccharine matter, and are besides highly succulent. The next subject for consideration was that of the nature of good and bad meadows. If, said the lecturer, a meadow was full of rough Grasses, such for example as the Tussack Grass (Aira cæspitosa), there could be no doubt but that it required draining, and this pest would soon die out as the drains began to act; but, however well drained, pastures might soon get poor from too great greed in taking off hay and returning no manure, in which case, as nature had provided that poor spots as well as rich shall be occupied with vegetation, poor Grasses soon gain the ascendancy, and the better ones are all but exterminated; this war of extermination being very eloquently insisted upon as of constant and universal occurrence in meadows, so that the real state of a meadow could at once be told by the condition of its contained Grasses. The distribution of species of Grass according to soil was next adverted to. Two limestone species marked on the oolites of the Coltswolds, namely, the Bromus erectus, Upright Brome Grass, and Brachypodium pinnatum, false Brome Grass, were both denizens of the oolite; and as the spoils of the Cotswold scarps were taken into the Vale of Gloucester, these species had followed them, and so marked exactly the position to which such drifts had extended. As regards the sand-loving Grasses, the Hordeum murinum, Wall-Barley, had been marked as accompanying the Red Poppy, Papaver Rhœas, in all lands, especially in those in the sand beds of Cheltenham and Gloucester, but being absent in the lias clays between. Again, the Cotswolds being free from sand beds, this Grass was absent along their whole line. A curious instance occurred of a very pretty Grass, the Aira caryophyllea, suddenly appearing in the middle of a slope of the Great Western Railway cutting near Cirencester, because such cutting had laid bare a line about two feet thick of forest marble sand. These, and such rough Grasses as Avena pratensis and Aira cæspitosa in clays, clearly pointed out that remarkable specimens only occur under certain conditions; and hence, by observing whether they are remarkable, that is, whether they like their position and thrive there, or on the contrary starve, afford clear evidence of the indication of the nature of the soil by the Grasses. The changes effected in soil by irrigation, and the difference between irrigated and flooded meadows, formed the next subject of inquiry, and was very clearly illustrated. The Professor described the flooded meadow as one subject to river floods, which were uncontrollable as to time or extent, the irrigated meadow being one in which water can be made to flow through and between (not flood over) the roots of the herbage, and this at our own chosen time, and, when turned off, the meadow should in a few hours be dry and sound, in consequence of perfect drainage. The changes which herbage undergoes upon irrigation were clearly pointed out, and from observed facts it was ascertained to have more than doubled in four years, and the process, while it nearly kills out all bad Grasses (or, if not, improves them in quality), wonderfully encourages the growth of true Grasses of the best kind.

Mr. Clutterbuck expressed the great gratification with which he had heard the lecture, which had been exceedingly plain and intelligible. He would not venture to speak of Oxfordshire, but in that part of Berkshire in which he lived nothing so urgently required attention as Grass cultivation. Only the other day he was walking over a field where the farmer was having bullpates cut up, and he pointed to the furrows and told him that if he only got rid of that water the bullpates would die of themselves. In a paper which he recently read before the Ashmolean Society, on Port Meadow, he had shown how a scientific botanist might walk over the meadow and determine to an inch where the land was good and where it was bad, accordingly as it was higher or lower than the ordinary drainage level. Nothing in this neighbourhood was capable of greater improvement than that locality. In the low places (where the water, though not visible, was only a very little below the surface) Carnation Grass, and other bad species flourished, while on the little knolls, though consisting of exactly the same kind of soil, they found sweet Grass.

## Miscellaneous.

*Rook Poisoning.*—I regret to learn that, notwithstanding the many excellent remarks which have appeared in the *Times, Gardeners' Chronicle,* and elsewhere against the destruction of insectivorous birds, the poisoning of rooks by grain steeped in arsenic at this season, when they are in the midst of nest building, and feeding their young, is greatly on the increase in this neighbourhood. In a small rookery, near Oxford, no fewer than 32 dead rooks have been picked up within the last few days. At Godstow rooks have been seen to drop down dead from the trees, and on being opened, poisoned Wheat has been found in their stomachs. I have also seen them lying dead in the fields near Sandford. Such a proceeding is one of the most unjustifiable which the farmer can commit. He ought to know that birds which prey upon insects are his best friends, and if he had taken the trouble last year to examine carefully at the International Exhibition, as I did, the very striking and instructive collection sent from France of the birds and other animals of that country, with the contents of their stomachs carefully arranged and displayed, he would have been surprised to find how useful, as insect destroyers, many of his supposed enemies really are. Impressed with the practical utility of such a collection, I am desirous of forming a similar one in our New Museum, and shall be happy to receive the assistance of our agriculturists in carrying out this object. Long ago Mr. Spence, whose claims upon the attention of the farmer ought to be respected, even if he had done nothing beyond the publication of his work, "England's Independent Commerce," showed the absurdity of interfering with the operations of these birds. When walking with a gentleman on his estate in Yorkshire, his attention was attracted by several circular patches of dead grass, each having a stick with rags suspended to it in the centre. He at once discerned that the larva of the cockchafer had eaten the roots of the Grass, which being pulled up by the rooks, that devour this mischievous grub, these birds had been mistaken by the tenant for the cause of the evil, and the rags were placed to frighten away his best friends. On enquiry why he had set up these sticks, he replied, in his broad Yorkshire dialect, "He couldn't beer to see'd nasty craws pull up all'd Gress, and sae he'd set'd bairns to hing up some aud clouts to flay 'em away!" There is another argument which I may be allowed to allude to, showing that it is in support of the general economy of nature that at this season the rook should be protected. It is in the months of April and May that the increase in the number of these birds and their voracity are at the greatest, and it is precisely at the same time that the grubs of the cockchafer, which constitute so great a part of their food, are at their full size. All these kinds of coincidences in nature are planned by an all-wise Creator for special purposes. Nothing is done in vain, and we may be sure that if the farmer interferes

with and interrupts the operations of nature in this manner, he will suffer the penalty by the over production of enemies far more destructive than those which he has destroyed, since the preservation of a single full-grown cockchafer grub ensures the development of a numerous progeny on its arrival at the perfect state, each of such progeny taking three years to complete its transformation, during the greater part of which time it is voraciously attacking the produce of his fields. *J. O. Westwood, Hope Professor of Zoology, in the Oxford Journal.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. Spearing, Moulsford, near Wallingford, Berks, during the week ending April 22, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 16 | 30.05 | 49 | 47 | W. | 1 | 6 | 64 | 33 | 118* | 30 | .. | 51 | 49½ |
| Friday .. | 17 | 30.17 | 52 | 48 | N.W. | 1 | 1 | 68 | 36 | 117 | 32 | .. | 52 | 50 |
| Saturday .. | 18 | 30.28 | 51 | 49 | N. | 2 | 5 | 63 | 44 | 114 | 40 | .. | 52½ | 50 |
| Sunday .... | 19 | 30.20 | 51 | 48 | S.E. | 2 | 1 | 60 | 33 | 113 | 34 | .. | 52½ | 50½ |
| Monday .... | 20 | 29.96 | 55 | 50 | S. | 1 | 2 | 68 | 49 | 114 | 37 | .. | 53 | 51 |
| Tuesday .. | 21 | 29.88 | 53 | 49 | S.W. | 3 | 4 | 66 | 38 | 112 | 34 | .. | 53 | 51 |
| Wednesday | 22 | 29.71 | 53 | 52 | W. | 4 | 6 | 61 | 47 | 99 | 43 | | 52½ | 51 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Calendar of Operations.

Wester Ross: *April* 20.—Our spring sowings have been completed in first-rate condition, the weather having been all that could have been desired. If the harvest be not abundant, it certainly will not be from the lack of a dry seed bed, nor of March dust. The earlier sowings of Oats are already well above the ground, and appear close and vigorous. From the dryness of the soil, the germinating and braiding process has advanced speedily. Autumn-sown Wheat, although by no means too far advanced, appears abundantly promising. Although the weather has been particularly suitable for seed-sowing, we have had a sufficiency of east wind, and keen night frost, to keep vegetation satisfactorily in check. We are now busily occupied with Potato planting, and will be thus employed for several days; the kinds principally grown with us, now-a-days, are Regents, Rocks, and Orkney Reds; the kinds to which we were introduced in our early days being now all among the things that were. Potato planting being completed, field labour will be very much confined to preparing the ground for Turnips, and having them sown. We find it advisable to have the sowing of Swedes completed before the end of May, and as a considerable breadth, perhaps about one-third of the whole extent, is now sown with Swedes, there is no time to lose in having the ground prepared. Turnips which latterly proved so abundant that several fields were offered to be eaten off with sheep for nothing, are now all but finished and already some of the cattle are on Grass; the sheep have returned to their hill-grazings in greatly better condition than we at one time anticipated; and our winter stock of cattle have been sold off at prices higher than we ever before realized. Well it is that in a year so disastrous to the farmer there continue such a demand for stock at prices so remunerating. For Wheat there is little demand at prices ranging, according to quality, from 28s. to 44s. per qr., and the average yield per acre being from 1 to 2 qrs. the money realized would do little more than pay for seed and ploughing.

### Notices to Correspondents.

Measurement of Cattle.—*J. O.* Take the length from the front of the shoulder (one third of the way down from the withirs) to the insertion of the tail, or to such a point as that a plumb line from it will most fairly incluse the hind quarters of the ox. Take the girth where smallest, behind the shoulder. Multiply the girth in feet and inches by itself, and the product by the length. The resulting figures are then to be multiplied by the decimal ·23, and the result will be the weight in imperial stones. The last factor may be ·2 up to ·28, according to the breed and fatness of the animal. A fat Short-horn bull might need as high a factor as ·3, while a half-fat, ill bred cow, would not need a higher factor than ·2. ·22 to ·24 are the most generally useful.


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

The Hydropult.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

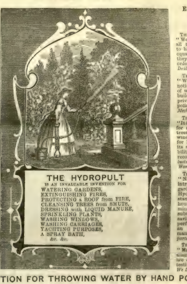
The Hydropult.—"All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines."—*Gardeners' Chronicle and Agricultural Gazette.*

The Hydropult.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

The Hydropult.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

The Hydropult.—"Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

The Hydropult.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

The Hydropult.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

The Hydropult.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces."—*Mechanics' Magazine.*

The Hydropult.—"It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation."—*Illustrated News of the World.*

The Hydropult.—"Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner."—*Builders' Reporter.*

The Hydropult.—"Many of the most scientific men of the age are daily inspecting and testing its uses."—*Age We Live In.*

## AN INVENTION FOR THROWING WATER BY HAND POWER

(Secured by Royal Letters Patent),

Price **TWO GUINEAS.**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

**Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain.**

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

**Thomas Rivers, Esq., the eminent Florist, Shirley Hibbard, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.**

EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.

"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "Percy M. Dove, Manager."

"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—Swinton Boult, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—Henry Lowe, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. Hallows, Secretary, Caledonian Insurance Company."

"38, Portland Street, London, W.C.

"Mr. Charles P. Button. Sir, I am perfectly satisfied from the statement of Mr. Green, the conductor of our fire-escape at Notting Hill, that a large amount of valuable uninsured property was saved from destruction by the timely and efficient use of the Hydropult, which was fortunately on the adjoining premises during the fire which consumed the drapery establishment of Mr. Thomas, of 4, Coburg Place, Bayswater, on Friday evening last. Your little engine was used most effectually in keeping the roof of the adjoining house saturated with water, thereby preventing the spread of the flames, as the engines of the regular district fire brigade did not arrive on the spot until more than one half hour after the fire broke out.

"A fire, at its commencement, can readily be extinguished by means of this little annihilator, and infinite service rendered in staying the progress of the flames during the interval which must elapse before fire-engines can, under any circumstances, be brought into action.—Yours truly, T. Spencer, Inspector of the Royal Society for the Protection of Life from Fire."

**CAUTION:** Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; Griffiths & Browett, Manufacturers, Birmingham; Charles P. Button, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult."

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., AND WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED BY THE POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. Spencer, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE! FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

CHARLES P. BUTTON, Proprietor,

HYDROPULT WAREHOUSE, 27, LEADENHALL STREET, LONDON, E.C.

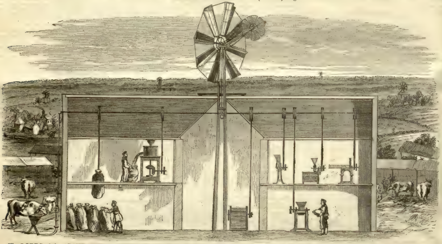
WEST END DEPOT, 309, REGENT STREET, W.

# WIND ENGINE,—Patent Self-Regulating,

## FOR PUMPING, OAT-CRUSHING, GRINDING, CHAFF-CUTTING, SAWING, OR DRIVING OTHER MACHINES.

For FARM PURPOSES most economical.—Costing nothing to work.—Erection simple and cheap. For PUMPING PURPOSES invaluable, working day and night, requiring no watching.

Power from ½ to 10-Horses. Sketch shows a 2-Horse Power (nominal) Engine as used on Farms.



The LORDS of the ADMIRALTY, the VICEROY of EGYPT, NOBLEMEN, PRACTICAL FARMERS, PUBLIC INSTITUTIONS, and COLONISTS, now use these ENGINES for all purposes.

BURY AND POLLARD, SOLE MANUFACTURERS,
PARK IRON WORKS, NEW PARK STREET, SOUTHWARK, LONDON.

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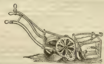
# SHANKS' NEW IMPROVED PATENT

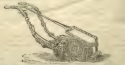
## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.
FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.
THE FIRST PRIZE INTERNATIONAL EXHIBITION MEDAL AWARDED.

NEW HORSE MACHINE.



NEW PONY MACHINE.



NEW HAND MACHINE.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved and their success established.

These Machines will Mow EQUALLY WELL on UNEVEN as on LEVEL LAWNS, and whether the GRASS be WET or DRY. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

### SHANKS' NEW PATENT HORSE MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 1.—48-inch Machine ... | £28 0 0 | ... ... ... 40*s*. extra. |
| No. 2.—42-inch Machine ... | 26 0 0 | ... ... ... 40*s*. „ |
| No. 3.—36-inch Machine ... | 22 0 0 | ... ... ... 30*s*. „ |
| No. 4.—30-inch Machine ... | 19 0 0 | ... ... ... 30*s*. „ |

Silent Movement, 20*s*. extra; Boots for Horse's Feet, 24*s*. per set.

### SHANKS' NEW PATENT PONY and DONKEY MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 5.—30-inch Machine ... | £15 15 0 | ... ... ... 30*s*. extra. |
| No. 6.—28-inch Machine ... | 14 10 0 | ... ... ... 30*s*. „ |
| No. 7.—25-inch Machine ... | 12 10 0 | ... ... ... 25*s*. „ |

Silent Movement, 12*s*. 6*d*. extra; Boots for Pony, 21*s*. per set; ditto for Donkey, 16*s*. per set.

### SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.

| Width of Cutter. | | |
|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 17 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 7 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine ... ... | 7 12 6 | *Ditto by a Man and Boy.* |

| Width of Cutter. | | |
|---|---|---|
| No. 11.—16-inch Machine ... ... | £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 2 6 | *Ditto ditto by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25*s*. extra; Silent Movement, 7*s*. 6*d*. extra.

No. 16.—12-inch Machine, for pushing only, £5 5*s*. Easily worked by a Lady or a Boy; Silent Movement, 4*s*. extra.

*** *The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

PATENTEES AND SOLE MANUFACTURERS:
ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.
LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

*A Stock of Machines kept at the London Depot, from which Orders can be at once executed.*

**International Exhibition. Prize Medals 1851 and 1862,**
Awarded for "Excellent Seed Corn and Seeds," to

RAYNBIRD, CALDECOTT, and BAWTREE, Seed Merchants and Growers, Basingstoke, Andover; and 89, Seed Market, Mark Lane, London, E.C.

Samples of all kinds of AGRICULTURAL SEEDS and SEED CORN, sent post free on application.

FARM SEEDS
of Genuine Quality
(at Market Prices).
*Carriage Free.*

RICHARD SMITH,
Seed Merchant,
Worcester.

LUPINE SEED, the entire Growth of Mr. Thomas Crisp, of Butley Abbey. may be obtained of Mr. Henry Edwards, Merchant, Woodbridge.—This Plant has been cultivated for several years with the greatest success on the poorest sandy soils, producing abundant crops of valuable Food for Sheep for summer and autumn feeding. Price 10*s.* per bushel; and new Sacks, 2*s.* each, at Woodbridge Station.

Woodbridge.—May 2.

**To Seedsmen and Others.**

THOMAS AYRES, Seedsman and Grower, Biggleswade, Beds, begs to offer the following SEEDS of his own growth of 1862, viz :—
WHITE SPANISH ONION SEED,
MANGEL WURZEL SEED, various kinds.
SWEDE, and COMMON TURNIP, ,,
SEED POTATOES of the following varieties :—EARLY ASH LEAF KIDNEY, MYATT'S PROLIFIC do., EARLY SHAW and REGENTS.
SCARLET RUNNER BEANS (English grown).
A PRICE LIST forwarded upon application.

# NEW RHODODENDRONS

PRINCE OF WALES, | PRINCESS OF WALES.

The above beautiful RHODODENDRONS will be ready for sending out early in the Autumn. Full description will appear in future Advertisements.

MAURICE YOUNG (Son and Successor to the Late William Young),
MILFORD NURSERIES, near GODALMING.

**KITCHEN GARDEN SEEDS,**
**FLOWER SEEDS.**

In Collections including all the new and approved kinds, or separate to order.

Detail CATALOGUES post free.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND
THOS. GIBBS & Co.
Corner of
HALF-MOON St.
PICCADILLY,
London.
APPOINTED AP. 3. 1844
THE SEEDSMEN

**AGRICULTURAL SEEDS,**
**GRASS SEEDS,**
**FARM SEEDS,**
of all descriptions.

Thomas Gibbs & Co.
CORNER OF
HALF-MOON St.
Piccadilly, London, W.

# FARM AND GARDEN SEEDS

CARRIAGE FREE.

BANGHOLM SWEDE,
EAST LOTHIAN SWEDE,
WARD'S BEAUTY SWEDE,
DROPMORE SWEDE,
MARSHALL'S CHAMPION SWEDE,
GREEN-TOP SWEDE,
WHITE SWEDE,
IMPROVED SKIRVING'S SWEDE.
WHITE and RED GLOBE, and NORFOLK TURNIP,
SCOTCH YELLOW TURNIP.
DOBITO'S YELLOW OVAL MANGEL,
WARD'S DITTO,
IMPROVED YELLOW GLOBE DITTO,
IMPROVED ORANGE GLOBE DITTO,

IMPROVED LONG RED MANGEL,
IMPROVED LONG YELLOW MANGEL,
IMPROVED RED GLOBE MANGEL,
IMPROVED WHITE FIELD BEET,
RED CLOVER, | COWGRASS,
WHITE, YELLOW, and ALSIKE CLOVERS.
PACEY'S PERENNIAL RYE-GRASS, and other sorts
ITALIAN RYE-GRASS, FOREIGN and ENGLISH SEED.
NATURAL GRASS SEEDS, in mixture or separate, suitable for various soils and localities.
LIGHT RYE-GRASS and other CHEAP GRASSES, for Sowing on Railway Banks and Waste Places.

*Orders for Exportation promptly attended to.*

PETER LAWSON and SON, THE QUEEN'S SEEDSMEN,
28, KING STREET, CHEAPSIDE, near the Guildhall; and
15, LAWRENCE LANE, LONDON, E.C.

# TO TURNIP AND MANGEL GROWERS.

Growers of the above will find the following Varieties well worth their attention :—

DRUMMOND'S EXTRA IMPROVED SWEDE TURNIP, 1*s.* per lb.—A large handsome oval-shaped root with clear purple skin. Is a remarkably free grower, and may be relied on as the heaviest cropper in cultivation. This is the identical stock that last year carried off the 50*l.* cup offered by J. B. Lawes, Esq., to the farmers in Ireland for the best 10 Irish acres, and for which there were a great many competitors; and in reference to this Swede the gentleman who managed the premium crop writes:—"*Allow me to congratulate you on your present stock of 'Drummond's Swede Seed,' which I have tested on my four farms here and in Scotland, and I believe it to be the best Swede out, beating*"—(here is mentioned the names of several regularly advertised varieties) "*all of which I had procured from the best authorities, and for shape, size, and quality, surpassing them all.*"

GREEN TOP YELLOW ABERDEEN IMPROVED TURNIP 10*d.* per lb.—As now *improved* this is unquestionably the most valuable Yellow Turnip grown, for while the crop is large, it is more nutritious, hardier, and a better keeper than any other variety. Hence its extensive culture by the great stock breeders throughout Scotland.

NEW OVAL-SHAPED YELLOW MANGEL, 10*d.* per lb.—The New Oval-Shaped Yellow recently introduced by us has been thoroughly tested, and has proved a most superior sort. It is of a remarkably vigorous growth, with finely shaped roots intermediate in length between the Long and the Globe, and producing several tons more per acre than any other variety. *This stock has been re-selected and is very superior.*

LONG RED MANGEL, 9*d.* per lb.—This is a very large free-growing root, stands well out of the ground, and lifts much cleaner than an inferior stock will.

With every other valuable variety of TURNIP and MANGEL in cultivation, PRICED DESCRIPTIVE LISTS of which may be had Post Free on application.

N.B. Parcels of Seeds amounting to 2*l.* and upwards are delivered CARRIAGE PAID to all the principal Railway Stations and Shipping Ports throughout the Kingdom, to which there is daily and quick transit from Stirling.

W. DRUMMOND and SONS, SEED and IMPLEMENT WAREHOUSE, STIRLING, N.B.

**Cabbage Plants.**

W. VIRGO and SON beg to say they have a very large quantity of DRUMHEAD, RED and EARLY CABBAGE PLANTS to offer for Sale of the following sorts, at 3*s.* per 1000 :—

EARLY YORK CABBAGE
,, BATTERSEA
,, BARNES
EARLY NONPAREIL
DRUMHEAD

RED CABBAGE, 4*s.* per 1000. All strong, healthy, and well rooted.

Wonersh Nursery, near Guildford, Surrey.

KING of the POTATO.—The original Stock as received from the Raiser, Mr. Spencer, and sent out by us. Pronounced by all who have grown it to be one of the most productive and best varieties in cultivation. No Blight affects it.

Price 12*s.* 6*d.* per cwt., or
12*l.* per ton.

James Dickson & Sons,
The "Newton" Nurseries, Chester

TAN GRATIS, in the immediate neighbourhood of Covent Garden Market.
Apply at William Essex & Son, 28, Stanhope Street, Clare Market, W.C.

THE best Quality of SILVER SAND, carriage paid to the South Eastern Railway Company's Station at Bricklayers' Arms, London, in Four Ton trucks and upwards, 11*s.* per ton, cash. In fine bags in One Ton lots, delivered to the General Carriers and Shipping Wharfs in London, 30*s.* per ton. Single bags of two bushels delivered to Messrs. Pickford & Co., Red Hill, 4*s.* 2*d.* per bag, and forwarded to all parts by enclosing 50 Postage Stamps. Small dry FULLER'S EARTH for improving the Growth of Lawns, Roses, &c, 4*s.* 2*d.* per bag of two bushels.

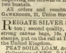
All orders and remittances to be addressed to James Gawkroger, 21, Union Street, Halifax, Yorkshire.

REIGATE SILVER SAND.—Best quality, 7*s.* 6*d.* per ton; second quality, 6*s.* per ton; best quality, packed in strong canvas bags, 16*s.* per ton; ditto 2*s.* 6*d.*, 2 cwt. bags, stamps, put on the rail at Reigate and forwarded to all parts of the United Kingdom.

PEAT SOILS, LOAM, &c.

Collections of NEW, RARE, and BEAUTIFUL PLANTS of all kinds, carefully selected and supplied at current Prices.

W. Short, Salesman, Agent, &c., Reigate, Surrey.



COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2*s.* per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the Patent Cocoa Fibre Company, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. Barsham & Co.

Barsham's BRUSHES and MATS are sold in every town.

Caution.—Every Brush is stamped 'J. Barsham's Patent'

**The only Certain Remedy for Mildew.**

JOHN BELL'S COMPOSITION for DESTROYING MILDEW on Vines, Peaches, Nectarines, Roses, and every other Plant subject to that pest, is proved to be the most efficacious that has ever been offered. Sold in Bottles at 1*s.* 6*d.*, 2*s.* 6*d.*, and 5*s.* each. A 1*s.* 6*d.* Bottle will make 12 gallons fit for use.

Seed Warehouse, 10 & 11, Exchange Street, Norwich.

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.

Extra strong, 3*s.* per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.

Can be obtained through the principal Nurserymen and Seedsmen in England.

A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.

Page & Toogood, Seed Merchants, Southampton.

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1*s.* and 2*s.* per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of Geo. Glenny, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1*s.* per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.
Patentee: J. Neal, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.* each.

Wholesale by
Price's Patent Candle Co.
Limited.

# ROYAL HORTICULTURAL SOCIETY.

## REMAINING ARRANGEMENTS for the EXHIBITIONS and MEETINGS in 1863,

TO BE HELD AT

### THE GARDEN, SOUTH KENSINGTON, W.

| | |
|---|---|
| TUESDAY, MAY 5 .. .. | Opening of Exhibition of Sculpture, at 1.<br>Floral Committee, at 12.<br>Fruit Committee, at 12. |
| SATURDAY, MAY 16 .. .. | Promenade. Band at 4. |
| WEDNESDAY, MAY 20 .. .. | Promenade. Band at 4. |
| SATURDAY, MAY 23 .. .. | Promenade. Band at 4. |
| WEDNESDAY, MAY 27 .. .. | First Great Exhibition, at 1. Bands at 2.<br>Floral Sub-Committee, at 10.<br>Fruit Sub-Committee, at 10. |
| FRIDAY, MAY 29 .. .. | Council, at 11.<br>Meeting for Election of Fellows, Ballot for Plants, &c., at 2. |
| SATURDAY, MAY 30 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 3 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 10 .. .. | Uncovering of Memorial of Exhibition of 1851. |
| SATURDAY, JUNE 6 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 10 .. .. | Promenade. Band at 4. |
| SATURDAY, JUNE 13 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 17 .. .. | Second Great Exhibition, at 1. Bands at 2.<br>Floral Sub-Committee, at 10.<br>Fruit Sub-Committee, at 10. |
| SATURDAY, JUNE 20 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 24 .. .. | Promenade. Band at 4. |
| FRIDAY, JUNE 26 .. .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| SATURDAY, JUNE 27 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 1 .. .. | Third Great Exhibition—Roses, New Plants, &c., at 1. Bands at 2.<br>Floral Sub-Committee, at 10.<br>Fruit Sub-Committee, at 10. |
| SATURDAY, JULY 4 .. .. | Promenade. Band at 4. |
| TUESDAY, JULY 7 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| WEDNESDAY, JULY 8 .. .. | Promenade. Band at 4. |
| SATURDAY, JULY 11 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 15 .. .. | Promenade. Band at 4. |
| SATURDAY, JULY 18 .. .. | Promenade. Band at 4. |
| TUESDAY, JULY 21 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| WEDNESDAY, JULY 22 .. .. | Promenade. Band at 4. |
| FRIDAY, JULY 24 .. .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| SATURDAY, JULY 25 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 29 .. .. | Promenade. Band at 4. |
| TUESDAY, AUGUST 4 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| TUESDAY, AUGUST 25 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| WEDNESDAY, SEPT. 9 .. .. | Autumn Flower Show, at 1.<br>Band at 2.<br>Floral Committee, at 10.<br>Fruit Committee, at 10. |
| TUESDAY, SEPT. 22 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, OCT. 2 .. .. .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| TUESDAY, OCT. 6.. .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, NOV. 6 .. .. | Council, at 11. |
| TUESDAY, NOV. 10 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, DEC. 4 .. .. | Council, at 11. |
| TUESDAY, DEC. 8 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, DEC. 18 .. .. | Council, at 11. |

### ELECTION OF FELLOWS.

Gentlemen and Ladies wishing to become Fellows have to be proposed by some one already a Fellow, to whom they are personally known. The subscription is Two Guineas Entrance Fee, and Two Guineas or Four Guineas a year according to the privileges wished.

### ADMISSION OF THE PUBLIC.

Previous to April 30, packets of 25 tickets may be bought by Fellows for 5*l.* per packet. These tickets are available for any Show or Promenade during the year—admitting numbers corresponding to the prices of the day: *i.e.*, one on a 5*s.* day; two on a 2*s.* 6*d.* day; and five on a 1*s.* day.

#### 1. HORTICULTURAL EXHIBITIONS AND PROMENADES.

May 5. Opening of Exhibition of Sculpture.. 2*s.* 6*d.*
Sept. 9. Autumn Flower Show .. .. .. 2*s.* 6*d.*
Free to Fellows and the Transferable Cards, and also admission by payment at the door or by Tickets previously purchased.

#### 2. GREAT EXHIBITIONS.

May 27. First Great Exhibition ..
June 17. Second Great Exhibition ..
July 1. Third Exhibition and Great Rose Show .. .. ..
Free to Fellows and the Transferable Cards, and also admission by Tickets, price 5*s.* each, purchased previously to the day of the Show. If payment is made at the door, 7*s.* 6*d.* will be charged for each admission.

#### 3. PROMENADES.

Wednesday, May 20
" June 3, 24
" July 8, 15, 22, 29
Saturdays, May 16, 23, 30
" June 6, 13, 20, 27
" July 4, 11, 18, 25
Free to Fellows and the Transferable Cards, and also admission by payment at the door of 2*s.* 6*d.*

#### 4. SPECIAL.

June 10. The Uncovering of the Memorial of the Exhibition of 1851, and Statue of H.R.H. The Prince Consort, in the presence of their Royal Highnesses The Prince and Princess of Wales.

Fellows and the Transferable Cards will be Free.

Prices of Admission and Programme of the Ceremony will be announced in a few days.

## FIRST GREAT EXHIBITION, WEDNESDAY, MAY 27.

### LIST OF PRIZES.

| Class. | | 1st Prize. £ s. | 2d Prize. £ s. | 3d Prize. £ s. | 4th Prize. £ s. |
|---|---|---|---|---|---|
| 1. 15 Stove and Greenhouse Plants .. .. | (Open) | 20 0 | 15 0 | 10 0 | 5 0 |
| 2. 12 Stove and Greenhouse Plants .. | (Nurserymen) | 10 0 | 7 0 | 5 0 | 3 0 |
| 3. 9 Stove and Greenhouse Plants .. .. | (Amateurs) | 9 0 | 7 0 | 5 0 | 3 0 |
| 4. 6 Stove and Greenhouse Plants .. .. | (Amateurs) | 6 0 | 4 0 | 3 0 | 2 0 |
| Note.—Two Plants of a Genus will be admitted in Classes 1, 2, and 3. Exhibitors can only show in one of the Classes 1, 2, 3, and 4. Orchids and Florists' Flowers are excluded. | | | | | |
| 5. 20 Orchids, exotic species .. .. .. | (Amateurs) | 20 0 | 15 0 | 10 0 | 5 0 |
| 6. 12 Orchids, exotic species .. .. | (Nurserymen) | 10 0 | 7 0 | 5 0 | 3 0 |
| 7. 10 Orchids, exotic species .. .. .. | (Amateurs) | 10 0 | 7 0 | 5 0 | 3 0 |
| 8. 6 Orchids, exotic species .. .. .. | (Amateurs) | 6 0 | 4 0 | 3 0 | — |
| Note.—Exhibitors can only compete in one of the Classes 5, 6, 7, and 8. | | | | | |
| 9. 9 Greenhouse Azaleas. Distinct kinds .. | (Amateurs) | 12 0 | 9 0 | 7 0 | 5 0 |
| 10. 9 Greenhouse Azaleas. Distinct kinds | (Nurserymen) | 10 0 | 7 0 | 5 0 | 3 0 |
| 11. 6 Greenhouse Azaleas. Distinct kinds .. | (Amateurs) | 6 0 | 4 0 | 3 0 | 2 0 |
| 12. 6 Rhododendrons in pots. Distinct kinds | (Open) | 4 0 | 3 0 | 2 0 | — |
| Indian and Bhotan kinds might be shown here. | | | | | |
| 13. 6 Roses in Pots. Distinct kinds .. .. | (Amateurs) | 6 0 | 5 0 | 4 0 | — |
| 14. 12 Roses in Pots. Distinct kinds .. | (Nurserymen) | 10 0 | 7 0 | 5 0 | 4 0 |
| 15. 6 Cape Heaths. Distinct kinds .. .. | (Open) | 5 0 | 3 0 | 2 0 | — |
| 16. 9 Pelargoniums. Distinct kinds .. | (Amateurs) | 8 0 | 6 0 | 4 0 | 2 0 |
| 17. 12 Pelargoniums. Distinct kinds | (Nurserymen) | 8 0 | 6 0 | 4 0 | 2 0 |
| 18. 6 Pelargoniums. Fancies. Distinct kinds | (Amateurs) | 5 0 | 4 0 | 3 0 | — |
| 19. 6 Pelargoniums. Fancies. Distinct kinds | (Nurserymen) | 4 0 | 3 0 | 2 0 | — |
| Note.—Plants in Classes 16, 17, 18, and 19, are to be grown in Pots 8 inches in diameter. | | | | | |

| Class. | | 1st Prize. £ s. | 2d Prize. £ s. | 3d Prize. £ s. | 4th Prize. £ s. |
|---|---|---|---|---|---|
| 20. 6 Cinerarias. Distinct kinds .. .. | (Open) | 3 0 | 2 0 | 1 0 | — |
| 21. New or Rare tender Plants in flower .. | (Open) | S.K. | S.B. | B. | |
| 22. New or rare tender Plants not in flower .. | (Open) | S.K. | S.B. | B. | |
| 23. New Orchids in flower .. .. .. | (Open) | S.K. | S.B. | B. | |
| 24. New or rare hardy Ornamental Plants .. | (Open) | S.K. | S.B. | B. | |
| N.B.—Exhibitors may compete for all the prizes in Classes 21, 22, 23, and 24. Plants exhibited at any Metropolitan Show in a previous season will not be eligible. | | | | | |
| 25. Newly introduced Plants that have received special recognition from the Floral Committee during 1860, 1861, and 1862 .. .. .. | (Open) | Six Certificates in order of merit. | | | |
| 26. Seedling Florists' Flowers and Garden Hybrids | (Open) | Certificates. | | | |
| 27. Group of Plants, showing effective arrangement for decorating a small Conservatory. .. | (Open) | 10 0 | 6 0 | 4 0 | — |
| N.B.—A space 15 feet by 10 feet will be set apart for each Exhibitor. The test of merit will be effective arrangement with the smallest number of plants. It is not desirable to fill the whole space. Valuable Plants not required. Florists and growers for market are invited to compete. | | | | | |
| 28. Miscellaneous .. .. .. .. .. | (Open) | 2 0 | 1 10 | 1 0 | 0 10 |
| N.B.—Nothing can be admitted here which is provided for in any other class. | | | | | |

### Royal Horticultural Society.

**10th JUNE, 1863,**

CEREMONIAL to be OBSERVED at UNCOVERING the MEMORIAL of the EXHIBITION of 1851, and STATUE of H.R.H. THE PRINCE CONSORT, in the presence of their RR.HH.'s the PRINCE and PRINCESS of WALES and other Members of the Royal Family.

The guests invited to take part in the procession will assemble at the West Dome of the International Building.

Whilst assembling Military Bands will play.

The Royal Party will be received by the Executive Committee of the Memorial Committee, who will conduct their RR.HH.'s to a reserved place on the platform under the Western Dome.

Their RR.HH.'s will then proceed down the Nave to a balcony over the Southern entrance of the Horticultural Gardens, and their arrival will be announced by a flourish of trumpets. "God Save the Queen" will be played by three Military Bands united in the Ante-Garden.

The Council of the Horticultural Society will present an address and receive a reply.

Military Bands will again play.

After which the Memorial Committee will read a short address and receive a reply.

H.R.H. the Prince of Wales will order the UNCOVERING OF THE MEMORIAL, which will be announced by a flourish of trumpets and a salute of Artillery, after which military music will be performed and the fountains will play.

The Royal party, headed by the procession, will then walk round the Gardens, stopping at various points to see the Memorial and the Garden.

The line of the procession will be marked by barriers and banners, and it is requested that during the procession the spectators will remain stationary.

In the event of rain the line of procession will keep under the cover of the Arcades.

The Exhibition Building will be thrown open to the visitors to the Garden.

The details of the procession will be made public as soon as possible.

GEORGE GODWIN, Hon. Sec. Memorial Committee.
W. WILSON SAUNDERS, Hon. Sec. of the Horticultural Society.

### ROYAL HORTICULTURAL SOCIETY.

**FRUIT COMMITTEE.**

A MEETING of the FRUIT COMMITTEE will be held on TUESDAY, 5th inst., when the following Prizes are offered:—

| | First Prize. | Second Prize. |
|---|---|---|
| CLASS A.—The best three dishes of DESSERT APPLES, distinct kinds .. | 15s. | 10s. |
| „ B.—Best dish of PEACHES, any variety .. .. .. .. | 25s. | 15s. |
| „ C.—Best dish of NECTARINES .. | 25s. | 15s. |
| „ D.—Best three dishes of STRAWBERRIES, distinct kinds, 30 fruits of each .. .. .. | 20s. | 10s. |
| „ E.—Best dish of CHERRIES .. .. | 20s. | 10s. |

And for the Examination of any other Fruits or Vegetables that may be submitted for the opinion of the Committee. Chair to be taken at 12 o'clock.

Packages to be delivered at the Rooms at South Kensington, W., by 11 o'clock on the day of Meeting, and along with any communications, to be addressed to

ROBERT HOGG, LL.D., Secretary to the Committee.

### ROYAL BOTANIC SOCIETY,

**LIST of AWARDS, APRIL 25, 1863.**

6 ROSES in Pots.

1st, Mr. W. Paul, Nurseryman, Waltham Cross, N.
2d, Messrs. Paul & Son, Nurserymen, Cheshunt, Herts.
2d, Mr. C. Turner, Nurseryman, Slough, Bucks.
3d, Messrs. H. Lane & Son, Nurserymen, Great Berkhampstead, Herts.

24 ROSES, Cut Blooms.

1st, Messrs. Paul & Son.

ROSES, Boxes of Cut Blooms.

1st, Messrs. Paul & Son.
2d, Messrs. H. Lane & Son.
3d, Mr. W. H. Treen, Nurseryman, Rugby.

6 CINERARIAS (Amateurs).

1st, Mr. H. Lamb, Gr. to Captain Cahill, Southall, Middlesex.
2d, Mr. J. Smith, Gr. to Duke of Northumberland, Syon House, Isleworth.
3d, Mr. J. James, Gr. to W. F. Watson, Esq., Isleworth.

6 CINERARIAS (Nurserymen).

2d, Mr. C. Turner.

6 PELARGONIUMS.

1st, Mr. C. Turner.
2d, Mr. J. Wiggins, Gr. to W. Beck, Esq., Worton Cottage, Isleworth.
3d, Mr. J. Cross, Gr. to Sir F. H. Goldsmid, Bart., St. John's Lodge, Regent's Park.

6 AURICULAS (Amateurs).

1st, Mr. J. James, Gr. to W. F. Watson, Esq.
2d, Mr. F. Potts, Glengall Grove, Old Kent Road.
2d, Rev. H. H. Dombrain, Deal, Kent.
3d, Mr. J. Butcher, 1, South Street, Camberwell.

6 AURICULAS (Nurserymen).

1st, Mr. C. Turner.
2d, Messrs. W. Cutbush & Son, Highgate, N.

24 PANSIES, Cut Blooms.

1st, Mr. J. James, Gr. to W. F. Watson, Esq.
2d, Mr. W. Bragg, Nurseryman, Slough, Bucks.

6 MISCELLANEOUS PLANTS.

1st, Messrs. J. & C. Lee, Nurserymen, Hammersmith.
2d, Messrs. A. Henderson & Co., Nurserymen, Edgeware Road.
2d, Mr. B. S. Williams, Nurseryman, Holloway, N.
3d, Mr. J. Smith, Gr. to Duke of Northumberland.

ORNAMENTAL BASKETS, &c.

1st, Mr. W. Bull, Nurseryman, King's Road, Chelsea.
2d, Messrs. A. Henderson & Co.

MISCELLANEOUS GROUPS.

Silver Medal, Mr. C. Turner, for 7 Azaleas.
Do., Mr. W. Bull, for Collection of New and Rare Plants.
Small Silver Medal, Mr. C. Turner, for 60 Auriculas.
Do., Mr. W. Paul, for 16 Roses in Pots.
Do., Messrs. H. Lane & Son, for 6 Azaleas.
Do., Mr. B. S. Williams, for Collections of New and Rare Plants.
Bronze Medal, Mr. J. James, Gr., for 9 Calceolarias.
Small Bronze Medal, Mr. W. H. Treen, for Stand of Cut Verbenas.
Do., Mr. J. James, Gr., for 12 Pansies in Pots.
First Class Certificate of Merit, Mr. C. Turner, for Bougainvillaea speciosa.
Do., Mr. W. Bragg, for Pansy Vesuvius.
Do., Mr. J. Holland, Gr., for Auricula Rev. G. Jeans.
Do., Mr. W. Bull, for Pogonia discolor.
Second Class Certificate of Merit, Mr. W. Bull, for Serissa foetida marginata.
Do., Mr. B. S. Williams, Pteridophyllum filicifolium.
Do., Mr. G. Baker, Gr., for Azalea Fascination.
Do., Mr. C. Turner, for Strawberry President.
Do., Messrs. J. Dobson & Sons, for Cineraria Snowflake.
Do., Messrs. J. Dobson & Sons, for Cineraria Princess Dagmar.
Do., Messrs. F. & A. Smith, for Azalea Lord Palmerston.

### GRAND HORTICULTURAL and FLORAL EXHIBITION at WORCESTER.

The Committee of the Worcestershire Horticultural Society have arranged to hold a GRAND SHOW of FRUIT, FLOWERS, and VEGETABLES, on TUESDAY, WEDNESDAY, and THURSDAY, July 21, 22, and 23, being the week of the annual assembling of the Royal Agricultural Society in Worcester.

The Show will be open to all England, and copies of the Schedules (which will contain Prizes to the amount of nearly 200*l.*) may be obtained by applying to the Honorary Secretary, Mr. T. H. WHEELER, No. 2, Foregate Street, Worcester, on or after the 21st April inst.


**Bedding Tropæolum.—Ball of Fire.**

ARTHUR HENDERSON AND SON are now sending out the above brilliant BEDDING TROPÆOLUM.

For description and full details see figure and remarks in the *Floral Magazine* for January, 1863, Plate 129, colour of Tom Thumb Geranium. This will prove one of the best and most beautiful Bedding Plants of the season.

| | | | |
|---|---|---|---|
| Per 100 Plants | .. £3 10 0 | Per 25 Plants | .. £1 10 0 |
| „ 50 „ | .. 2 2 0 | „ 12 „ | .. 0 18 0 |

1 Plant .. .. 2*s.* 6*d.*

Pine Apple Place, Edgeware Road, London, W.

E. G. HENDERSON AND SON offer First-class quality of CINERARIA, CALCEOLARIA, and PRIMULA SINENSIS FIMBRIATA, 1*s.* and 2*s.* 6*d.* per packet.

CINERARIA WEBBI.—The interest and value of this species consists in its having a shrub-like branched habit of growth, attaining from 3 to 4 feet in height. This remarkable plant is expected to originate a new and desirable class of varieties for exhibition purposes, it having already passed into all the colours found in florist varieties of the present time, and no doubt but higher improvements in form, and other essential properties, will be obtained in connection with its superior culture. It will be found well adapted for decorative purposes, by its taller growth, and longer continuance in bloom. 2*s.* 6*d.*

Wellington Nursery, St. John's Wood, London, N.W.

**International Exhibition Prize Medals 1851 and 1862.**

AWARDED FOR SUPERIORITY AND GENERAL EXCELLENCE TO

BUTLER AND McCULLOCH
Covent Garden Market, London, W.C.
(Established upwards of a Century.)

COLLECTIONS of FLOWER SEEDS, Carriage Free.

NEW ANNUALS.

12 Extra fine varieties 10*s.* 6*d.* | 6 Extra fine varieties 5*s.* 0*d.*

HALF-HARDY ANNUALS.

| | | | |
|---|---|---|---|
| 100 Finest selected vars. | 30*s.* 0*d.* | 25 Finest selected vars. | 7*s.* 6*d.* |
| 50 do. do. | 15 0 | 12 do. do. | 4 0 |

HARDY ANNUALS.

| | | | |
|---|---|---|---|
| 100 Finest selected vars. | 20*s.* 0*d.* | 30 Finest selected vars. | 5*s.* 0*d.* |
| 50 do. do. | 10 0 | 15 do. do. | 2 6 |


# The Gardeners' Chronicle.

*SATURDAY, MAY 2, 1863.*

MEETINGS FOR THE ENSUING WEEK.

| | | | | |
|---|---|---|---|---|
| MONDAY, | May | 4 | —Entomological .. .. .. | 7 P.M. |
| TUESDAY, | — | 5 | Royal Horticultural (Fruit and Floral Committees) at S. Kensington | Noon |
| | | | Opening of Exhibition of Sculpture, at ditto .. .. .. | 1 P.M. |
| THURSDAY, | — | 7 | —Linnean .. .. .. .. | 8 P.M. |

Two interesting though short papers have lately appeared in the Transactions of the Scottish Arboricultural Society, the one on the Diseases of Larch, the other on the Planting of Scotch Fir after Crops of old Scotch Fir, both of which are well worthy of the attention of the numerous landed proprietors who have invested or are investing capital in planting.

As regards the Larch, the subject is divided into two heads, the first treating of Larch rot, the second of the aphis disease. The latter scarcely admits of remedy. It is well, however, when the trees fail from the tips of the branches and from above downwards, that it should be generally known that their failing condition is in most cases due to a little insect which attacks the trees in such myriads as to make it a hopeless task to attempt any remedy. If the trees do not recover in a year or two, which may possibly be the case should circumstances occur year after year favourable to the development of the insects, nothing remains but to make the most of the timber, while it is still in a growing state.

The Larch rot, on the contrary, though when it once makes its appearance there is no remedy, may certainly in the first instance frequently be prevented by judicious planting. Certain soils are clearly favourable to its development, while in others it is comparatively rare. As soon as the red wood is formed, it commences its attack from below upwards, and as it is almost entirely confined to the more central wood, the outer rings may be as flourishing as ever, while the heart is a mass of decay, and the tree itself

> "All green and wildly fresh without, but worn and grey within."

Larch rot occurs occasionally in almost every kind of soil, but in poor moorish tracts or on very light sandy loams resting on freestone or limestone rocks, especially where these are nearly impervious, it is almost universal. Now as the Scotch Fir will flourish in such situations, except where the subsoil is a conglomerate, it is clear that it should be substituted for Larch. Our author however suggests very properly that Larch might be alternated with Scotch Fir, with a view to its being thinned out at the proper time; but always in such a manner that the thinning may be made systematically, and the Scotch Fir left as the permanent crop, where under proper management it will yield timber of a large scantling.

He considers the soil really adapted for Larch to be a free loam on the slopes of hills, especially if on a shattery bottom resting on slate or granite. It is, however, clear that more detailed information on this point is most desirable, and we would suggest to extensive Larch growers that much good might be done by forwarding correct statements as to conditions under which Larch has proved sound or affected by heart-rot. Such information might be communicated directed to our office, under some form like the following, marked in the corner of the envelope "Larch-rot return."

Answers should be given to the following questions:—

1. What is the name of the Parish and County in which your Larch plantations are situated?
2. What the geological formation, and the nature of the soil and subsoil?
3. What is the date at which the plantations were made?
4. What the proportion of sound and unsound trees, specifying any differences of soil in different plantations?
5. Were the plantations made on virgin soil, or where woods had previously existed?

Could we obtain trustworthy answers to such questions in any number, the result might be much ultimate importance, and we should be glad to use all possible pains in collating them.

Different, however, as the result may be on different soils, it must always be kept in mind that this difference depends greatly on the facility which the soil affords for the growth of those Fungi which produce the heart rot. It is possible that in certain soils the main roots may decay more readily than in others, but even supposing this to be the case, Fungi will be more rapidly developed on the dead root in one case than in another. In many cases, however, the evil arises not directly from the decay of the root, but from the action of fungous matter already existing in the soil, which attacks the living roots and destroys them. It is on this account that where Larch is planted on ground that has already been occupied by forest, or where the roots of Ling are very strong, decay after a time takes place.

Our author says, truly enough, "As soon as the fibrous roots of the young Larches come in contact with the decayed old Fir stools, hey are generally affected with dry rot, and thereby the disease is conveyed to the trunk of the tree."

And the caution is more necessary, as "in consequence of the great demand which exists at present for Scotch Fir, many proprietors have cut down extensive plantations of old Fir, with the view of planting up the same ground as soon as cleared with Larch. I would respectfully caution them against so injudicious a procedure; for although the fatal consequences of it may not be perceptible for a long time, yet ultimately they will not fail to discover themselves. The Larch planted upon such ground will not have arrived at 25 years of age before it will be found affected with dry rot and rendered comparatively useless."

Together with Mr. McCORQUODALE's paper, we received an instructive section of a decaying Larch from the neighbourhood of Windermere, which demands an especial notice, as, contrary to the usual habit, the deepest heart wood is not the point of attack, but merely the external rings. The cause of this would probably have been ascertained had the but been grubbed up and a vertical section made through the centre. The tree is of 30 years' growth, and other individuals from the same locality, in the Upper Silurian, on a shallow poor stony stoil, are similarly affected. Where, however, the soil is deeper on the same bottom, the decay does not appear to have been less.

We must reserve for another week that part of our author's communication which relates to the Scotch Fir. *M. J. B.*

—— THE Council of the Royal Horticultural Society are beginning the season in earnest. We understand that at their last meeting it was decided on the application of an eminent manufacturer, that Garden Implements may be shown at the great shows of this year, and further, that the implements shown at the first meeting (May 27), may remain in the Garden until the shows are concluded.

An Exhibition of Sculpture which has been some time in preparation, and for which the Garden at

South Kensington is well adapted, opens on Tuesday next; the Promenades begin on Saturday, May 16, on which day her Royal Highness the Princess of Wales will be proposed as a Fellow; and finally, the ceremonial on the occasion of uncovering the Memorial of the Exhibition of 1851, and the Statue of his Royal Highness the PRINCE CONSORT, in the presence of their Royal Highnesses the PRINCE and PRINCESS OF WALES and other members of the Royal Family, will take place on Wednesday, the 10th of June, when Fellows, holders of transferable tickets and debenture nominees will be free; while other visitors will be admitted by tickets, price 15s. each if purchased on or before May 27th (the day of the First Great Floral Exhibition), 1l. up to June 9th inclusive, and 1l. 10s. on the day of the Ceremonial. Fellows, however, will obtain them at a much lower price. A Special Meeting for the election of persons wishing to have the privileges of Fellows will take place on May 23d, at half-past 3 o'clock.

—— A GREAT EXHIBITION OF HORTICULTURAL PRODUCE is to take place in Paris in the Rue Chaussée d'Antin, No. 11, from the 9th to the 14th of May inclusive. On this occasion gold, gilt, silver, and bronze medals will be awarded. Information upon the subject may be had by application to Monsieur ROUILLARD, Secretary, 28, Rue de Longchamp, Paris. The details are described in a pamphlet of 16 pages.——It is also announced that there will be a great exhibition of Fruit and New Plants next autumn at the House of the Imperial Horticultural Society (84, Rue de Grenelle, Saint Germain, Paris). The precise time is as yet unsettled, but it will be somewhere between September 20 and October 10.

—— Messrs. VILMORIN-ANDRIEUX et CIE., of Paris, announce in their *Supplement aux Catalogues*, amongst other novelties for this year, A DOUBLE SCARLET ZINNIA ELEGANS, which during two years they have been engaged in "purifying," though it may still have, they say, some tendency to vary so far as to produce a few plants with orange or copper-coloured flowerheads. The ZINNIA AUREA named by us long since (1861, p. 114), and which also bears the garden name of Sanvitalia mexicana, they call Z. Ghiesbreghtii; the notice of this latter plant is accompanied by a capital woodcut.

—— Mr. MIERS objects to the new natural order Tecophileaceæ, proposed by Dr. LEYBOLD for Tecophilea violæflora *alias* Distrepta vaginata, and Phyganthus vernus. He also objects to the association of this Chilian herb with the Iridaceæ, or the Narcisseæ, or the Hæmodoraceæ, as suggested by different authors; and himself refers it to a group of the Liliaceæ called Conantheræ, along with Zephyra, Cumingia, Conanthera and Cyanella. In all these plants the ovary, he observes, is wholly or partially superior, but they differ much in the form and mode of dehiscence of the anthers. "It is therefore doubtful whether they possess sufficient general characters to form a valid tribe ranking among the Asphodeleæ; they should certainly either follow as a separate group, or form part of the Hyacintheæ. At all events they possess no claims to rank as a distinct natural family."

—— The office of COLONIAL BOTANIST at the Cape of Good Hope, vacant by the death of Dr. PAPPE, has, says the *Journal of Botany*, been conferred on Mr. BROWN, of Aberdeen, who has travelled over a considerable part of Africa. Another Mr. BROWN, a student of Edinburgh University, has gone to British Columbia on behalf of an Edinburgh Association, to collect plants and seeds suitable for cultivation at home.

—— Dr. A. ROBERTSON proposes to use the CALABAR BEAN, Physostigma venenosum of Balfour, as a new ophthalmic agent, having an action somewhat opposite to that of Belladonna. It induces a condition of shortsightedness, and occasions contraction of the pupil, and sympathetic dilatation of the pupil of the other eye. See also p. 247 of our present volume.

—— In the last Number of the *Florist and Pomologist* Mr. BARNES, of Bicton, records the rearing, at that place, of home-grown seeds of ARAUCARIA IMBRICATA. He further states that a large female plant growing there has for the last 19 or 20 years produced cones, and some seasons to such an extent, that it has been necessary to thin them out. "I have heard," he continues, "of its coneing at Kew and some other places, but have heard but little of the male plants, which are distinct, producing catkins." There is a fine male plant at Bicton, which it appears has produced crops of catkins for the last five or six years, and another which began to produce them last season. Another catkin-bearing tree at Lady MOLESWORTH'S beautiful place, Pencarrow, in Cornwall, is also mentioned. There is no difference, Mr. BARNES states, observable in the growth and appearance of the male and female trees by which they can be distinguished previous to their producing cones or catkins, notwithstanding that such has been stated to be the case, and "masculine" plants have been actually sent out.

—— Dr. PRIOR asks in *Seemann's Journal of Botany* (p. 94) for the meaning and origin of the following POPULAR NAMES OF BRITISH PLANTS—not the Anglo-Saxon translation, but the reason for their use:—Avens; Bennet as applied to Hemlock; Charlock, Carlock, Callock, Skellock; Chedlock, Kedlock, Chadlock; Cheet; Christopher as applied to Actæa, Osmunda, and Pulicaria; Cowslip; Daffadowndilly; Darnel, some better explanation than in Wedgwood; Dock; Fat Hen; Hardock; Hare's Beard; Haymaids or Hedge maids; Hindheal; Hollyhock; Honeysuckle; Hurrburr; London Pride; Love-lies-bleeding; Maple; March Mazzard; Mercury's Moist Blood; Nancy Pretty; None-so-pretty; Paigle; Prattling Parnel; Rampe; Raspberry; Seggrum; Tentwort; Wake-Robin. Some of our ingenious readers may be able to assist in the enquiry.

## ON GRAFTING; WITH ESPECIAL REFERENCE TO THE VINE.

IT appears from the *Revue Horticole* that a discussion on the subject of Grafting has arisen between M. Boisselet and M. Carrière, chiefly respecting the merits, as compared with the usual way of cleft grafting, of a mode of performing the operation, and of an instrument employed for the purpose by Daniel Hooibrenk. M. Boisselet, in the first place, defends the mode of cleft grafting, which M. Carrière says was unnecessary, as it was not attacked; and secondly, he states that he has frequently tried grafting with the instrument above alluded to, but has never succeeded. On the other hand, M. Carrière affirms that with the same kind of instrument he has operated successfully not only in grafting the Vine, but also the following plants:—In spring, in the open air: Apricot, Cherry, Plum, Apple, Pear, Poplar, Amygdalopsis, Cytisus, all the species. In autumn (September), in the open air: Apricot, Cherry, Pear, Plum, Cotoneaster, Purple Filbert, Syringa, Thorn. In autumn (September) under glass: the fruit trees above mentioned, together with the Birch, Oak, Beech, Thorn, Lime, Cotoneaster, and Conifers. Here M. Carrière mentions the time and circumstances under which he operated; but of these, in the case of his opponent, we are not informed. Now, in our opinion, the season, or state of vegetation of the plant, is the main point. If grafting is done at the right time, which may be sooner or later according to the nature of the subject operated upon, almost any instrument with a cutting edge will do; but if done at the wrong season, the most ingeniously constructed instrument, and with an edge as sharp as that of a razor, will not ensure success, and more especially in the case of the Vine.

Many years ago, Mr. Braddick, of Thames Ditton, generally failed in grafting the Vine at the usual time of grafting in spring. He however received some Vine cuttings from abroad in summer, after his Vines were in full leaf, and anxious to preserve the sorts, and for the sake of experiment, he then grafted them, though almost hopeless of success; but as it turned out, to his surprise, the grafts took well. By subsequent experiments, the results of which he communicated to the Horticultural Society, he established the fact that Vines ought not to be grafted till the stock or plant on which the scion is placed is in leaf. Most probably, therefore, M. Boisselet's complete failure, with the Vine at least, has occurred, like that of many others, in consequence of grafting at a season when the plant ought not to be cut on any account whatever, that is after the sap is in motion, and before the buds expand. Any incision made during that period, permits the Vine to bleed, but most profusely, if made just before the buds open; and the more vigorous the Vine, the worse the bleeding. When large limbs of Apple and other trees are cut and grafted just as they are on the point of bursting into leaf, the flow of sap is often so great as to "drown the graft," as suffusion from the overflow of sap is technically termed. But the loss of the graft is not the only bad consequence of the untimely operation. The unabsorbed extravasated sap ferments, becomes putrid or acid, and kills the vital tissue lying between the alburnum and inner bark. The stock consequently dies back to a greater or less distance below the wound, instead of keeping alive or healing over, as would be the case if cut back in autumn or winter. Many persons complain that their Pears on Quince stocks do not succeed well. They should recollect that the Quince is amongst the earliest of deciduous trees in coming into leaf, and therefore it should be headed back for grafting early in the year at latest; for when done at the time of grafting or after its sap is in active flow, it dies or cankers at the grafted part, so that a perfect union cannot possibly take place.

Presuming that due attention is paid to the proper time for grafting, the operation may be successfully performed in various ways. On the whole we consider that in most cases whip-grafting is the most preferable; and what is termed in the *Revue Horticole*, Daniel Hooibrenk's system, appears to be nothing more nor less than whip-grafting. It is better than cleft-grafting, because more of the sections of the inner barks of the stock and scion can be made to coincide than by other modes. M. Carrière, who is a very intelligent horticulturist, details a case in which Hooibrenk's mode, or, what we may as well call whip-grafting, succeeded better than cleft-grafting. In the beginning of September, he took two Vine shoots, of which the wood was then half-herbaceous. One he cut in lengths of 5 or 6 inches, each piece being cut immediately under a bud at its base, and close above one at its top, exactly as if prepared for a cutting, but a slice at top was taken off as in whip-grafting to receive the scion formed of a portion of the other shoot, which latter was cut so as to preserve a bud and leaf at its top, whilst its base was cut sloping to fit exactly its counterpart at the top of the other piece intended for the stock. The parts were then tied, and covered with grafting wax. Each grafted cutting or cutting stock was then inserted about half its length in a pot, and placed under a hand or bell glass in a propagating house. The leaf at the top of the scion continued to act, and contributed to the formation of roots, and the union of the graft.

This mode is not much required for propagating the Vine, because it can be so readily struck from eyes; yet it might be usefully employed where it is desirable that any particular sort should be put upon a vigorous stock, such as the Black Hamburgh. There are however many other plants for the propagation of which it might occasionally be very advantageously adopted.

## FISH AND FISHING.—No. V.

To recapitulate:—it is neither mere hunger or a state of emptiness,—satiety, or indigestion,—a certain swarm of flies coming down,—a peculiar state of the water,—a peculiar colour of water,—a good breeze,—a particular wind,—a cloudy sky,—dry weather or wet,—the mere positive, or *per se*, comparative temperature of the water or atmosphere,—coming or actual rain, nor the rising or falling of the water, that produces good or bad fishing days.

There is one thing, I believe, which almost invariably affects fish, a coming thunder storm, though I have heard instances of immense sport during fearful storms of this kind. So far so good: but thunder and storm can only be considered as an isolated case. I cannot help thinking that, for the primary cause I am now in search of, we must look to the electrical influences always operating in our atmosphere more or less. That electricity has, at its highest state, as before and during thunder, a great effect, we must conclude, if we are to give any credence to Yarrell's valuable work on British fishes. Speaking on the Loach, he says:—"They are said to be particularly restless before and during stormy weather, and have been preserved in vessels like the leach, as living barometers, from a notion that certain movements and alterations of position or situation indicate particular changes about to take place in the weather. The species of this genus are remarkable in having six barbules about the mouth. Fishes thus provided are known to feed at or near the bottom of the water; and it is stated, that those species which reside constantly so near the bottom as to acquire the name of ground-fish, have a low standard of respiration, and a high degree of muscular irritability. In the animals possessing this duration of the power of muscular contractility, as the eels, flat-fish, and many others, there is reason to believe there exists also greater susceptibility of any change that occurs in the electrical relations of the mediums in which they reside; the restless movements of eels and other ground fish during thunder, receive at least a probable explanation in the belief that no alteration in the weather takes place without some previous change in the electrical state of the atmosphere, which, by quality or quantity, may affect the water." Eels are known to be migratory, and perhaps their running during thunder and floods is rather attributable to their instinct or experience that the rain which accompanies thunder will enable them to "run," as their ascent or descent of a river is technically termed." "The Chinese, who breed and rear great quantities of gold carp, find that thunder does them harm, and even sometimes kills them. Pennant says, lobsters fear thunder, and are apt to cast their claws on a loud clap. These effects may be referred to spasmodic action of the muscles, induced by electrical influences. If fishes of opposite habits, such as surface-swimmers and ground-fish, are put together into the same vessel of water, and a slight galvanic discharge passed through the fluid, the ground-fish, with the lowest degree of respiration, will be the most agitated."

Sir F. Chantrey usually carrying a thermometer with him while fishing, found that when the water was colder than the air, it proved a bad fishing day. Other well known observant fly-fishers remind me that we may expect a good day, when the first fish taken, comes out, and feels warm in the hand; but when the water only has been felt to be much warmer than the air, either to the hand or legs in wading, it is generally observed to be a bad fishing day. In none of these cases has the exact temperature of the fish or elements been ascertained. In questions of this kind, facts are always important. As a general rule, fish will not rise when the water is rising: yet one day, I remember, when the water was low, and much rain was falling in the mountains, the water felt very warm. Up till three o'clock, myself and companion had not caught anything, but then the river began to swell, and by the time we got to another stream higher up, it had risen three feet, and was still rising. To our wonder, we each hooked two fine salmon, all in a quarter of an hour; and others were rising around us evidently in fly-taking mood! Of course, the fresh supply of water had reduced the previous temperature of the river. But how much we do not know.

To these cases may be added that I have never known any success in fly-fishing during a fog or thick

mist. I do not speak of mere haze—though even that may be added. In this case there is of course a superabundance of moisture in the air, immediately above the earth or river. *E. C.*

## ROSES.—No. VI.

By Mr. William Paul, F.R.H.S., Paul's Nurseries, Waltham Cross.

Last year's brood, the proved new Roses, have been already dealt with, and they were, as a whole, the best lot ever issued in a single year. Let us now endeavour to obtain some glimpses of this year's novelties, the forthcoming brood, some of which only have yet bloomed in England, and these under glass. The opinions expressed concerning them must not be taken as fixed and unalterable; although the majority were seen and described in the raiser's grounds last summer, and are now blooming in the forcing houses here. But Roses as grown and shown by the raisers in the dry warm climate of France, afford no precise information as to their suitability for British gardens, nor can we gather this with certainty from flowers produced here under glass. I never make up my mind as to the quality of a new Rose, till I have seen it flower in my own hands out of doors. But a little light is better than darkness or obscurity, and we need not refuse to look on them in the twilight, because they have not yet shown themselves in the full broad light of day. Taken as a whole the forthcoming brood appears more varied than that of last year; there is more novelty, but hardly so many bold and striking Roses. The best of the two years put together make a splendid and richly varied group. Alfred de Rougemont, H.P., a rose from the "Sunny South," is crimson purple, shaded with fiery red, very bright and large; double only with me, not "full" as the raiser describes it. Full is a term too freely used by our *confrères* on the other side of the Channel, and must be taken with due caution, because applied to new Roses which *we* should not describe as more than double. Alba Rosea (Tea scented), "a seedling from Devoniensis," may be pronounced promising; the flowers are white with a slightly rosy centre, large, double (not "full") and very sweet. Baron Adolphe de Rothschild, H.P., is a grand Rose, highly decorative, but not floriculturally perfect; the growth is vigorous, the foliage splendid; the flowers are red, produced in large clusters as in Chénédole, beautiful when first expanding, but corrugating and losing colour quickly, and hardly full enough. Baron de Rothschild, H.P., is a more perfect, though a less showy Rose than the last; the flowers are dark reddish carmine sometimes shaded with violet; petals smooth and of good substance; form, size, and habit above the average. Beauté Française, H.P., will please generally as a garden Rose; the flowers are violet red, velvety, the reverse of the petals fiery red, large and full; somewhat in the style of Lion des Combats. Duc d'Anjou, H.P., is a purplish crimson flower shaded with dark red in the way of Baronne Prevost, but much darker and very sweet; the flowers are very large and full, the growth vigorous. Emotion is a good Bourbon Rose in the way of Souvenir de Malmaison, not so large, but with higher and more exquisite colouring, and perfect form. The flowers of Gustave Rousseau, H.P., are Bishop's purple shaded with violet red, of good form and size, the summits of the petals reflexing. Imperatrice Maria Alexandrina, H.P. is a blush or almost white Rose, not large, but of good form, and full, very promising. Jean Goujon, H.P., is one of the boldest and showiest of this year's brood; the flowers are usually clear red, though sometimes shaded with purple; large and full. John Hopper, H.P., is a good rose-coloured flower, with darker centre, large and full, with fine foliage; I saw this Rose growing by the thousand with the raiser last summer, and admired it much, but am not sure that it will prove constant in autumn. La Esmeralda, H.P., is of the Jules Margottin race, but darker and brighter; large, full, and very promising. La Tour de Crouy, H. P., introduced by the same raiser as the last, is a rose-coloured sort shaded with white, very large and full. Lady Emily Peel, H.P., is described by the raiser as "white, *bordered* (*liséré*) with carmine;" I have never seen it otherwise than most delicately tinted with carmine; it is, however, a prettily-shaped Rose of delicate beauty. L'Eclatante, H.P., is a fine bright red Rose, changing to violet red as the flower advances in age; of good form, and almost full; colours and habit fine. Le Rhone, H.P., is vermilion, a large, brilliant, well-shaped flower, but not "full" as described by the raiser; it is, notwithstanding, a very promising Rose. Lord Clyde, H.P., is a fine showy Rose, crimson and purple, deeply shaded; the petals are not very numerous, and some might pronounce it a little coarse. This is one of a batch of seedlings I raised; but we parted company some three years ago, up to which time it had bloomed in summer only. Lord Herbert, H.P., is one of the Beauty of Waltham race, at present in my nurseries only; it is of quite a new colour, and stands described as rosy carmine, but blue pink would perhaps more nearly express the colour; it is a large, full, and finely shaped flower. Lord Macaulay, H.P., is a velvety scarlet crimson flower of great substance and brilliancy, of good size and form, with splendid foliage. This and the last mentioned was two of the finest that I saw in France last year. Louise Margottin, B.P., is a pretty delicate peach-coloured flower, not over large, but nicely formed, in the way of Louise Odier. Madame Alfred de Rougemont, H.P., is pure white, delicately tinged with rose or carmine; a fair-sized, full, and beautifully formed flower, as free as Louise Darzins, and something of the same habit. Madame Brianson, H.P., is a very large, quite full flower, reddish carmine shaded with light red; form perfect, foliage fine; it is quite possible that in some soils this Rose will not always open freely. Madame Emain, H.P., is a fine purplish red Rose, globular, large, and almost full. Madame Freeman, H.P., is white, slightly tinted with lemon, of average size, globular in form, and full; a nicely formed white Rose, of free growth and thoroughly perpetual. Mrs. Wm. Paul, H.P. (so named by Verdier, of Paris) is one of the best of the season; the flowers are bright violet shaded with fiery red, large and full, usually produced in clusters and thoroughly perpetual. Mademoiselle Adèle Jougant, T., produces pale but clear yellow flowers, not large nor very double, but pleasing and very sweet; the growth is free, and it forces well. Murillo, H.P., is a large, full, and well formed Rose of vigorous growth, flowers rich purplish red shaded with carmine and violet. Princess Alice, H.P., has flowers of a bright salmon pink, the reverse of the petals whitish, large, full, and very sweet; the flowers, which are abundant, are usually produced singly; the growth is erect and free, the shoots almost thornless. Red Rover, H.P., is a fiery red Rose, large and very showy, not very double, but the finest of all late blooming brilliant climbing or pillar Roses. Sœur des Anges, H.P., is a delicate rosy white flower, very large and full, distinct and beautiful. Souvenir de Charles Montault is a free-flowering variety of the Rose de Rosomène group, producing large double cupped flowers of a brilliant red; the habit is good, the growth free. Triomphe d'Angers, H.P., pleased me much both abroad and at home; the flowers are red, shaded with blackish violet, brilliant and velvety, full, of good size and form; it grows and flowers freely. Triomphe de Nancy, H.P., is a blackish velvety-crimson cupped flower, with large round petals; one of the darkest. William Paul, H.P., so named by Guillot, of Lyons, the raiser of Géant des Batailles and Senateur Vaisse, is a descendant of the "Senateur," and will be a favourite with lovers of colour; it reminds one of the most brilliant of the old "French" Roses, now discarded because so transitory; black, edged with scarlet, though not literally true, conveys the appearance of the colour; it is of average size, in the early stage of the flower nicely cupped, sufficiently full and very durable; the plant appears hardy, the growth free.

The above-named sorts are described from my own notes taken from plants in bloom. In addition to these I am growing the following:—Baronne de Lassus de Saint Genies, Caravane de Nismes, Comtesse de Courcy, Comtesse de Polignac, Deuil de Prince Albert, Dr. Spitzer, Duc de Bassano, Grandiflora, Hortense, Blachette, Le Juif Errant, Madame Charles Roy, Madame Crespin, Madame Helye, Madame Valembourg, Peter Lawson, Prince Henri des Pays Bas, Senateur Favre, Vainqueur de Goliath, Veloutée d'Orléans, all Hybrid Perpetuals; and Comtesse de Brossard, Tea-scented. This second undescribed list I have either not yet seen, or seen only in such condition that I cannot speak favourably of them. To condemn them on present evidence would, however, be unfair. Nothing is more uncertain than the first year's blooming of a Rose that has spent a week or more on a French railway, and afterwards been tossed about by sea and land. For these, then, I must beg a remand. Time, which proves all things, will shortly enable us to form a correct estimate of their value.

## Home Correspondence.

*London Pride.*—In the "Journal of Botany" I notice a passage relative to the local or common names of plants, in which it was stated that "London Pride is said to be so called because London is proud of almost the only flower (Saxifraga) that grows to perfection, even in the most crowded parts of the town." Now, I know that I have somewhere read that Saxifraga umbrosa was called London Pride because it was a great favourite of London, the partner in the firm of London & Wise, the celebrated Royal Gardeners of the early part of the last century. *R. H.*

*Blue Azalea.*—Sir R. Alcock, in his "Capital of the Tycoon," makes mention of a Blue Azalea, a variety I did not know existed. He says, vol. 2, p. 71:—"In the hedges, the Honeysuckle and the Thistle reminded us of home, while the Azaleas, pink, blue and white, in all their delicacy of hue and texture, mingling with the Camellia and Cape Jasmine, which grew wild by the hedge-side, spoke of other climes than our own." Perhaps it may interest some of your correspondents to have this passage brought to their notice, should the Blue Azalea be, as I believe, unknown in England. *Brinsley Marlay, St. Katherine's Lodge, Regent's Park.*

*Wireworm* (see p. 390).—Last year we were much troubled with this pest in our Vine borders. The plan I adopted for curing the evil was this: I cut Potatoes in slices, half an inch thick, and inserted them in the border 2 inches below the surface, placing a small stick in the traps to denote their whereabouts. The Potatoes were regularly inspected every morning for about three weeks, and scores of wireworms were daily found to have eaten into them. In this way they were easily caught and destroyed, and by following up the plan perseveringly I quite cleared the borders of this worst of all pests. *T. E., Hartham.* [This is a very old plan, and the only good one.]

*Veronica syriaca.*—Permit me to call attention to this beautiful little plant, which seems to be overlooked by those who require a brilliant porcelain blue for bedding or other purposes. I grew it in clumps of about six roots in a border last summer, the soil light and dry, and I found it had many good qualities. It began to bloom when only 2 inches high, and continued to improve, lasting as long as most annuals. *J. E., Richmond.*

*French Pisciculture.*—Some of your readers who may only skim over the columns of the *Times* may be interested in the substance of a letter on this subject by Mr. A. Smee, which appeared therein a few days since. He states that the French system of hatching fish, devised by Professor Corte, of the College of France, in Paris, and practised on a large scale at Huninguen (which system consists in placing the ova on a gridiron of glass, where they remain with a jet of water passing over them till the young fish are hatched), is absolutely perfect, and leaves nothing to be desired, provided excess of light is excluded. Any number of fish may be hatched at a cost and trouble almost nominal. He himself did not lose 5 per cent. this year of good eggs subjected to the process. Much, however (he observes), has to be learnt with respect to the treatment of the young fry, for it is still a debateable question whether we should place them in small streams full of weeds and animalculæ—their natural food, or cram them, as the French recommend, with the flesh of frogs or powdered bullock's liver. He further states that the great liberality and kindness of the French Government in gratuitously aiding English pisciculturists is beyond all praise, but the time has surely arrived when an English Society might imitate the works of the French State, and stock our rivers with salmon, trout, and grayling. As you have opened your columns to the subject of fishing, I have thought this statement worth sending you. *Piscator.*

*Meteorology.*—We have had some weeks of bright dry weather with white morning frosts; then after a long preparation, some showers and slight gales of N. and W. winds; four days since the clouds presented long feathers running from north to south, terminating in fan-shaped points at the two poles; two days afterwards similar magnetic lines sprang from the east and the western points, and arched over the heavens. Does this prognosticate anything in the weather? *L., Taunton.*

*Boilers.*—Will any person who has experience of the management of plants tell me what they know of the working of Riddell's patent slow combustion cottage boiler for the circulation of hot-water? also of Bury & Pollard's improved conical boiler? The principle of Riddell's, and likewise of Musgrave's, appears admirable—only the latter does not propose applying his to the circulation of hot-water. Can Riddell's be applied to heat a Rendle's tank in a pit, as described in Paxton's little book on greenhouse gardening? *Ignoramus.* [Perhaps some one acquainted with these boilers will kindly give our Correspondent the information he requires.]

*Peaches.*—As a humble imitator of Mr. Rivers I have been trying an orchard house, and practising "pinching." Some of my Peach trees in pots are vigorous, with fine fruit, and early. I brought them forward by watering with hot water, as hot as the hand would bear, for the first three weeks in March. But both these and those on walls out of doors are destitute of leaves on all the fruit-bearing shoots which had been pinched last summer, from April to August inclusive. I wish to know what error I have committed? The shoots are about 2 inches long, or sometimes less, with places for four leaves on them. The Wall Peaches out of doors were kept quite dry all the winter, with boards over the border; now they have liquid manure and water every week. They are pouring out gum, and their leaves become very fleshy, thick and bunchy, and curled. Are they over-fed? [Yes, doubtless.] I have only sun-heat in the orchard-house. *L.*

*Mistletoe on Conifers.*—Where the Fir (Pinus sylvestris) is the dominant tree, as in the sandy plains of Northern Germany, it is not at all uncommon to see it crowded with Mistletoe, though I do not remember ever seeing this parasite on Pinus Abies. If my memory serves me right, I think I saw in the mountains of Mexico some species of Viscum (besides the V. Oxycedri common there) growing on Fir trees. *Berthold Seemann.*

*Roman Oats.*—At p. 388 you notice prominently an article in the *Phytologist* on the growth of what are supposed to be Roman Oats, on a farm at Pepper Moor, near Alnwick. Mr. Binks exhibited specimens of the Oats referred to at Messrs. Lawson's stand, at Battersea Park Show in 1862, and I could not make out more than two or three varieties, all of which were similar to those already known, and none of them superior. As for the rather startling description of the variety which had globular heads like Onions, there was not the slightest approach to such a singular production in any of the specimens. If Mr. Binks will favour us by giving us his experience of last year, and

if his extraordinary statements are confirmed thereby, it will then be worth while to consider the subject seriously; but until this is done he must expect the public to consider him as labouring under an hallucination. *Wm. Baxter Smith*, 28, *King Street, Cheapside.* [Our object was to elicit the real facts of the case.]

## Foreign Correspondence.

THE SPRING AT PALERMO: *Palermo, April* 20.—Palermo, from whence I write, has the reputation of being one of the best European winter climates, and is therefore a place of great interest. I have reached it by a rapid journey from the vicinity of Nice in order to see what is going on in the vegetable world, and to compare its vegetation with that of the Riviera of Genoa, my usual winter quarters. This latter region I carefully scrutinised a few days ago on my way.

Palermo is situated nearly 6° more south than the Riviera, some 350 miles in a direct line. On the other hand the Riviera lies exposed in full to the southern sun, at the base of the maritime Alps, which protect it from the north. Palermo, on the contrary, is turned directly to the north. Singularly enough this protection afforded by high mountains, especially in the more sheltered portions of the Riviera, such as Villa Franca, in the suburbs of Nice, Mentone, St. Remo and Alassio, and the direct exposure of the coast line to the south sun, appear to make up for the great difference in latitude, as far as vegetation is concerned.

Thus, on Saturday, the 18th inst., I made a list of most of the flowers familiar to English gardeners which I found in full blossom at the Palermo Botanical Gardens. This list may be interesting to your readers as showing what a southern sun can do in a northern exposure in latitude 38°. Some of these plants blossom all winter in the Riviera, and no doubt here likewise. Some were going off. I may add that the formation and character of the soil is cretaceous or calcareous, as throughout the Riviera. This is my list: Salvias, Iris, Roses, white, red, and Tea, Wallflowers, Anemones, Petunias, Verbenas, Mignonette, Sunflower, Gladiolus, Spiræa, Nasturtium, Poppy, Marigold, Geranium, Candytuft, Hollyhocks 3 feet high but not in blossom, Stocks, Carnations, Tulips, Peonies, Auriculas, Cyclamen, Eschscholtzia, Banksian Roses, Judas tree, Chestnut tree, Elder tree, Hawthorn just ready to blossom, Alyssum, shrubby Euphorbias, Yellow Jasmine, Nettles, and Asphodel. Peaches set were as large as small Walnuts. We had Strawberries in profusion at the hotel, but I think they came from the south side of the Palermitan mountains. Lemon groves of large old trees, and Orange groves are abundant; but only in the more sheltered part of the plain at the foot of the mountains, behind the town. The orchards, too, are protected by high walls, partly as a security, but also partly as a protection from the winds.

All these flowers, shrubs, and trees I had left equally advanced and flourishing five days previously on the Western Riviera. Palermo is situated in the centre of a bay formed by an amphitheatre of mountains, with their concavity directed northward, so that the northern winds must strike the bay and town in full. Coming from the huge snow-covered Apennine chain, they would be much colder were it not that they have to pass over nearly 200 miles of sun-warmed sea. In this passage they absorb moisture, which the high mountains behind and round Palermo precipitate in rain. Thus Palermo, without being cold, is damp, and has 131 days on which rain falls, instead of 40 like Malaga, or 60 like Nice. I quote from the learned Palermitan Professor Scina, who has written a valuable work on the meteorology of his native town. As, likewise, only 21 inches of rain fall in the year (at Nice it is 25, at Algiers 45) we may conclude that the rain is often rather of a northern character, small and drizzling. In confirmation, I may mention that I did not see the numerous deep, wide, stony watercourses which are met with on the Riviera, and in the regions where the rain falls in a tropical manner—several inches in 12 or 24 hours. The sides of the western hills, too, were clothed with verdure from their base to their summit, and were very different from the naked sun-burnt summits of the mountain tops at Mentone and at Nice. They clearly indicated a moister climate.

The deciduous trees were rather behind-hand, scarcely as far advanced indeed as in the Riviera five days previous. The Hawthorn had not blossomed, and the Fig, Mulberry, and Plane trees were only just beginning to show leaves. Many deciduous trees peculiar to the south were totally devoid of leaves. This advanced condition of spring and early flower vegetation, and rather retarded state of deciduous tree vegetation, speak of the cold nights that characterise the south of Europe until May. The sun is very ardent, and warms the surface of the soil; but the heat does not appear to penetrate deep enough to reach the roots of trees until the spring be far advanced.

The Botanical Garden itself at Palermo, although interesting, is in rather a neglected state, and shows the want of an energetic modern direction. The plants are still classified according to the Linnean system, as forty years ago. All the trees, shrubs, and plants in the ground are unlabelled; part of those in pots only are so honoured. Many of the labels themselves are illegible from time and rust; indeed the garden struck me as being rather left to common gardeners than directed by a scientific botanist.

In conclusion, it would appear to me, judging from vegetation, that in coming so far south as Palermo there is nothing gained in temperature over the Riviera, and there is a loss in increased dampness. The higher mean temperature of Palermo, mentioned by authors, is probably attained through the sirocco or African wind, which blows occasionally, and is very hot and oppressive. *Henry Bennet, M.D., The Ferns, Weybridge.*

## Societies.

ROYAL BOTANIC: *April* 25 (*third Spring Show*).—The principal objects of attraction on this occasion were Azaleas, Roses, both cut and in pots; Auriculas, Cinerarias, and Miscellaneous Stove and Greenhouse Plants. The best Roses in pots came from Messrs. Wm. Paul, C. Turner, and Paul & Son. Conspicuous among them were Souvenir de Malmaison, Madame de Cambacérès, Paul Ricaut, Paul Perras, Chénédole, Madame Boll, Empereur de Maroc, Anna Alexieff, Souvenir d'un Ami, Charles Lawson, Beauty of Waltham, Senateur Vaisse, Victor Verdier, and other favourite kinds. Mr. Cross, gr. to Sir F. Goldsmid, Bart., and Messrs. Lane also showed good groups of Roses. Collections of miscellaneous stove and greenhouse plants and others remarkable for the beauty of their leaves, were furnished by Messrs. A. Henderson, Williams, Bull, and Lee. From Mr. Smith, gr. to the Duke of Northumberland, at Syon, also came handsome fine-foliaged and other stove plants. Mr. Williams had remarkably fine examples of Cyanophyllum magnificum, and of the extremely pretty Gleichenia dicarpa. Cinerarias, chiefly consisting of varieties previously described by us, came from Messrs. Lamb, Turner, Smith, and others. Mr. Wiggins, gr. to W. Beck, Esq., contributed Pelargoniums, as did also Mr. Turner, and Mr. Cross, gr. to Sir F. Goldsmid. Auriculas were exhibited by Mr. Turner; Mr. James, gr. to W. Watson, Esq.; Mr. Potts, Glengall Grove, Kent Road, and the Rev. H. H. Dombrain. Among the varieties, all of which were exceedingly well grown, were Spalding's Metropolitan, Oliver's Lovely Ann, Cheetham's Lancashire Hero, Meteor Flag, Dickson's Duke of Cambridge, Campbell's Pizarro, Maggie Lauder, and other equally fine sorts. Pansies, profusely flowered in pots, were shown by Mr. James; and cut blooms of the same useful spring flower from Mr. Bragg, of Slough. From Mr. Turner came a magnificent group of Azaleas; and good specimens of the same description of plant also came from Messrs. Lane & Son. Messrs. Perkins showed fine trusses of their showy Verbena Lord Leigh, and from Mr. Treen came amongst others, Foxhunter Verbena, another brilliant variety. Gloxinias and other plants were shown by Messrs. Smith, who also had a large, well-formed bright rosy purple Azalea called Lord Palmerston. Calceolarias, well grown and bloomed, were contributed by Mr. James; and Snowflake Cineraria, a highly promising white sort with a dark eye, came from Messrs. Dobson & Sons. Finally, from Messrs. A. Henderson & Co., and Mr. Bull, came tastefully arranged hanging baskets and rustic vases filled with flowering plants, in some instances intermixed with Ferns, and edged with the drooping, bright green, grass-like Isolepis gracilis.

BOTANICAL OF EDINBURGH: *April* 9.—Professor Maclagan, President, in the chair. H.R.H. the Prince of Wales was elected an honorary fellow of the Society, and a congratulatory address to H.R.H. was adopted. ——Mr. Macintosh presented a specimen of Equisetum limosum, exhibiting a beautiful spiral arrangement of the sheaths on the stem; the specimen was collected in Possil Marsh, near Glasgow, by Mr. James Lambie, Kilwinning. Professor Liston sent specimens of Petasites alba, which he had collected in a wild state in several spots near Falkirk.——The following communications were read:—1. "*Note on Lemania variegata of Agardh.*" By George Lawson, LL.D.——2. "*Some account of Paullinia sorbilis and its products.*" By T. C. Archer, Esq. The author remarked: There is no more remarkable plant in the order Sapindaceæ, if regarded from an economic point of view, than Paullinia sorbilis, although, as a plant, it is not well known to the botanical world. From its large seeds is manufactured the substance called "Guarana," which is extensively used in Brazil, Guatemala, Costa-Rica, and other parts of South America, as a nervous stimulant and restorative. The seeds deprived of their coverings are pounded into a paste, which, hardened in the sun, constitutes Guarana. It is used both as a remedy for various diseases, and also as a material for making a most refreshing beverage; and it adds another of those incidents so puzzling in human history of the discovery of such qualities in plants least likely to be suspected: such, for instance, as that the leaves of Tea, the seeds of Coffee and Cacao, the leaves and twigs of the various American Ilexes, and other plants, should have this wonderful restorative effect on the nervous system, and that this should not be a mere vague notion, such as attaches to thousands of other plants, but that it should really depend upon the presence of a chemical principle, the same in all, and the operation of which can be satisfactorily explained. The presence of an alkaloid, which he called Guaranine, was discovered some years ago in Guarana by Dr. Theodore von Martius of Erlangen, but its identity with Theine was soon established, and subsequent analyses, especially one by Dr. Stenhouse in 1856, proved that not only was the active principle of Guarana identical with Theine, but that, as far as is known, no other substance yields it so abundantly, the amount being 5.07 per cent. as against good black Tea, which yields 2.13, and Coffee from 0.8 to 1.00. The mode of using the Guarana is curious and interesting. It is carried in the pocket of almost every traveller, and with it the palate bone, or a scale of the large fish (Sudis gigas) locally called "pirarucu," the rough surfaces of which form a rasp upon which the Guarana is grated, and a few grains of the powder so formed are added to water, and drunk as a substitute for tea. The effect is very agreeable, but as there is a large portion of tannic acid also present it is not a good thing for weak digestions. Its remarkable restorative power has given it a further great reputation as an aphrodisiac. Another species of this genus, Paullinia Cupana, also enters into the composition of a favourite national diet drink. Its seeds are mingled with cassava and water, and allowed to pass into a state of fermentation, bordering on the putrefactive, in which state it is the favourite drink of the Orinoco Indians. ——3. "*Notice of Observations by F. Cohn, Breslau, on the Contractile Filaments of the Stamens of Thistles.*" Communicated by Dr. Alex. Dickson.——4. "*On an easy and effective style of Nature Printing,*" by Mrs. Stirling, Kippenross; communicated by T. C. Archer, Esq. The leaves of the specimens to be printed are smeared quickly and evenly with ink prepared from lamp black, and then gently pressed on crayon paper, the stem, branches, and footstalks, being put in with lithographic chalk, which fixes at once, and blends better with the printing than any crayon or glossy pencil. It was found that a group of Acacia or Elm leaves could be done together; but that Horse Chestnut, Ash, or Walnut leaves required to be separated. The leaves must be perfectly fresh.——5. "*Notice of the Tallow Tree of China (Stillingia sebifera), lately introduced into the Punjaub.*" By William Jameson, Esq., Saharunpore; communicated by Professor Balfour. ——6. "*Memorandum on Local Museums in the Punjaub.*" By Hugh Cleghorn, M.D.——7. "*Notice of an Ash Tree struck by Lightning at Dunipace.*" By the Rev. Thomas Robertson.——8. "*Register of Plants in Flower in the open air at the Royal Botanic Garden.*" By James M'Nab, Esq. Third Spring List:—Asarum europæum, March 15; Saxifraga crassifolia, March 18; Fritillaria imperialis, March 22; Dalibarda geoides, March 28; Corydalis solida, March 24; Narcissus moschatus, March 25; N. pseudo-Narcissus, March 28; Anemone nemorosa, April 2; Adonis vernalis, April 7. Fruit trees, &c., in flower on 9th April:—Cherry, Gean, Pear, Plum, Apricot, Currant, Gooseberry, in full flower; Apple and Thorn with buds nearly expanded; Elm, Norway Maple, Canadian Mespilus, Pyrus nivalis, in full flower; Thorn in full leaf, covered with the fruit of 1862; Thorn in full leaf, with the leaves of 1862 still green.

## Notices of Books.

*The Geological Evidences of the Antiquity of Man.* By Sir Charles Lyell, F.R.S. Pp. 520. John Murray, London. 1863.

Only a few years ago no geologist entertained the notion that man's antiquity extended beyond a very few thousand years. It is true that so early as the first year of the present century, Mr. Frere, of Hoxne, near Diss, in Norfolk, had discovered rude implements of flint, which seemed to claim for their fabricators a vastly earlier date than people then were willing to concede. He stated that "the flints were evidently weapons of war, fabricated and used by a people who had not the use of metals." Specimens of these flint spear-heads were deposited in the British Museum, but the world was not ripe for the appreciation of his discovery. In truth, some experience is necessary, both to decide that a given flint is really an implement wrought by man's art, and not a mere natural product, and then, again, to pronounce positively that it was actually found *in situ*, or in a stratum that had not previously been disturbed.

These flint localities did not produce human bones. The very few specimens of human remains that were found in other parts of the world, always had some serious drawback, in the shape of doubts as to their true origin. Insomuch that, if we mistake not, Sir C. Lyell himself was once sceptical as to the great antiquity of man.

In other sciences important discoveries have often been made independently, but almost simultaneously, and so it has been with Geology. Flint implements and other signs of man's handiwork have of late turned up abundantly, and in many places: in deep formations of peat, beneath regular beds of gravel, in the deep bed of lakes, where they must have remained thousands of years, and in caves, where they were associated with bones of extinct mammalia. Treasures long hidden have come to light in abundance; human remains are not wanting, nor skulls, of a Laplander type; and one undoubted burial place has been discovered, full of interesting remains, and containing evidences of strange antiquity.

Sir Charles Lyell gives us, in the charming book

before us, information which may be relied on respecting all these recent discoveries, together with his own estimate of their value; all this he does in such a way that the unscientific reader will have no difficulty in following him through all the region of fact. In the latter part of the volume, where he enters the region of speculation, it is possible that the reader may not be quite so well satisfied with his guidance. We give a condensed extract from the 2d chapter.

There are in Denmark deposits of peat varying in depth from 10 to 30 feet. The lowest stratum, 2 or 3 feet thick, consists of swamp-peat, composed chiefly of Moss or Sphagnum, above which lies another growth of peat, not made up exclusively of aquatic or swamp plants. In fact, Scotch Firs, often 3 feet in diameter, must have grown upon the margin, and frequently fallen in. But this tree is not now, nor has ever been in historical times, a native of the Danish islands, and when introduced it has never thriven. The Scotch Fir was supplanted by the sessile variety of the common Oak, and that again by the pedunculated (Quercus Robur). The Oak has now, in its turn, been superseded in Denmark by the common Beech. Splendid Beech-trees characterised the Danish islands, we know, in the time of the Romans, and this feature of their forest scenery remains unaltered to the present time. Now at a great depth in the peat, and immediately under a buried Scotch Fir, a stone implement was found. By collecting and studying a vast variety of such implements, and other articles of human workmanship preserved in peat, in sand-dunes, and in shell-mounds, to be described presently, the most celebrated naturalists and antiquaries have succeeded in establishing a chronological succession of periods, which they have called the ages of stone, of bronze, and of iron, named from the materials which have each in their turn served for the fabrication of implements. The general result arrived at is, that the age of stone in Denmark coincided with the period of the first vegetation, or that of the Scotch Fir; a considerable portion of the Oak period coincided with the age of bronze; while the age of iron corresponded more nearly with that of the Beech tree. Skulls from the peat, and supposed to belong to the stone period, have been found, but these need not necessarily carry us back more than a comparatively moderate time.

Along the shores of the Danish Islands mounds are seen, varying in height from 3 to 10 feet, some of them 1000 feet long, and from 150 to 200 wide, consisting chiefly of thousands of cast-away shells of the oyster, cockle, and other mollusks, of the same species as those which are now eaten by man. These shells are plentifully mixed up with the bones of various quadrupeds, birds, and fish, which served as the food of the rude hunters and fishers by whom the mounds were accumulated. The Danes call these mounds Kjokkenmödding, kitchen-middens, or "kitchen-refuse-heaps." Scattered all through them are flint knives, hatchets, and other instruments of stone, horn, wood, and bone, with fragments of coarse pottery, mixed with charcoal and cinders, but never any instruments of bronze, still less of iron. The habits of the people who lived in those days are inferred from the contents of their kitchen-middens. In the same way, the spoils of the ancient Swiss Lake-dwellings built on piles, of which so much has been said lately, are scrutinised, the evidence as to what tame animals they had, and what wild animals, whether of extinct or of living species, is all brought to light, and the fact that they split the bones containing marrow.

In 1833-34, Dr. Schmerling, a skilful anatomist and paleontologist, examined more than 40 caverns in the neighbourhood of Liège. These he considered not to have been dens of wild beasts, but that their organic and inorganic contents had been swept into them, by streams communicating with the surface of the country. Artificially shaped flints were universally found in these caves, and he adds, "none of them could have been subsequently introduced, being precisely in the same position as the remains of the accompanying animals." Human remains were rarely found. Dr. Schmerling accumulated ample evidence to prove that man had been introduced into the earth at an earlier period than geologists were then willing to believe, and Sir Charles, in admitting that he did not give the Doctor's opinions, in 1834, the fair weight to which he now considers them entitled, can only plead, that a discovery which seems to contradict the general tenor of previous investigations is naturally received with much hesitation, and, at that time, he had neither leisure nor courage to follow the Belgian philosopher through every stage of his difficult task.

The next important step towards establishing the great antiquity of man was made by M. Boucher de Perthes, between the years 1841—1847, who found in ancient alluvium, at Abbeville, in Picardy, some flint implements, whose antiquity was attested by their geological position. This gentleman was possessed of antiquarian knowledge, enough to recognise in their rude and peculiar type a character distinct from that of the polished stone weapons of a later period, usually called "celts." Still, the scientific world had no faith in the statement that works of art, however rude, had been met with in undisturbed beds lying close upon the white chalk. M. Boucher de Perthes has, if we mistake not, just made the discovery of human bones in the same strata—the one thing that was wanting to complete and crown his labours.

But we have said enough. Everybody who desires to be put in possession of authentic information on this extremely interesting subject, must study Sir Charles Lyell's book; and we venture to say that the description of the Brixham cave near Torquay, and its treasures, and the exploration of the sepulchral vault of the post-pliocene period, found at Aurignac, in the department of the Haute Garonne, near the Pyrenees, will be read with the deepest interest, not unmixed in most cases with wonder and surprise.

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We continue from p. 368 our notice of the *Jardin Fruitier du Muséum.*

*Poire Tougard.*—Syn. Calebasse Tougard. Medium sized, oblong-pyriform, green speckled with brown. Flesh salmon-coloured, melting, sugary, and agreeably perfumed. Season: October, November. A singular variety on account of the colour of its flesh.

*Saint-Waast.*—Syn. Beurré Beaumont, Besi Waët, Besi Va, Bezi Vath, Wahette (Bezi Vaet in England, under which name it was first described, in 1824, in Hort. Society's Trans., v. 5, p. 407). It derives its name, we are informed, from the ancient abbey of Saint Waast, founded at Arras by Theodoric 1st in 672; and in the gardens of that abbey the Pear in question was found about the end of the last century. It is not described as altogether first-rate in the work before us; and grown in this country it proves inferior to so many others that its cultivation may be very well dispensed with.

*Poire d'Auch.*—Syn. Bon Chrétien d'Auch, Bon Chrétien Turc, d'Amour (of some), Belle Bessa. This is quite different from the d'Auch of our English collections, which has proved to be the same as the Old Colmar. Among imported Pears, specimens of the present are sometimes seen in London, but it is only fit for stewing, or for show.

*Lesbre.*—Raised by M. J. L. Jamin, nurseryman, Bourg-la-Reine, and named by him in compliment to M. Lesbre of Ebreuil. Fruit middle-sized, obovate or obtusely turbinate; flesh fine, very melting and juicy; an excellent fruit. Season: end of August.

*Tuerlinckx.*—This is one of the new Pears; very large, pyriform, olive green, speckled with brown; flesh white, breaking; only fit for stewing. Season: December, January.

*Poiteau.*—Syn. Bergamotte Poiteau. Small or middle-sized, roundish, bergamot-shaped, yellow, spotted with brown, orange, with reddish russet specks next the sun; flesh remarkably juicy, melting and sugary, with a Crassane flavour. Season: September and October. An excellent fruit.

*Gros Blanquet Rond.*—Syn. Gros Roi Louis. An old sort, only half melting.

*Poire de Grumkow.*—Syn. Grumkower Winterbirn Moriseau. A middle-sized and somewhat irregularly formed turbinate fruit, of an olive green colour. Flesh firm, not very juicy nor rich, at most only fit for kitchen use, according to Professor Decaisne; but probably the climate of France does not suit it, for it is highly esteemed in the north of Europe. In Dittrich's *Systematisches Handbuch der Obstkunde*, it is stated that the Grumkower Winterbirne was discovered by Herr Roberstein in a cottage garden at Grumkow near Rugenwalde, in Pomerania; that it is a little gritty near the core, but elsewhere its flesh is buttery, juicy, melting, and sugary, with a rich cinnamon flavour. Season: November, December. Dittrich adds that the tree forms a fine healthy standard, and is an abundant bearer. Prof. Decaisne quotes an account of it by Ed. Lucas, *Abbild. Württembergischer Obstsort.* p. 43 (1858), who describes it as having firm flesh, very juicy, and of excellent flavour. In Wurtemberg specimens of it are frequently met with in the markets, which weigh upwards of half a pound. The tree, Lucas adds, is adapted for clay soils, and bears very abundantly. It is extensively cultivated in orchards in the low lands adjoining the Vistula, and thence the fruit is sent to St. Petersburg. From the above it appears that there is a great difference of opinion as regards the quality of this fruit between Prof. Decaisne and the German authors. This difference must be owing to climate, by which all fruits are more or less affected, but some much more than others; and what may be good in Pomerania may prove very inferior in France. For example, in the latter country the Ribston Pippin is dry and worthless compared with what it is when grown in Yorkshire. There is yet much to be done before it can be ascertained what varieties are most suitable for different countries, and likewise for various localities of the same country. We think the Grumkower may prove a suitable Pear for the north of England; at all events it is certainly worthy of trial. It may succeed as well there as on the shores of the Baltic.

*Monchallard.*—Syn. Belle Épine Fondante, Épine d'Été (of some), Épine Rose. Fruit middle-sized, form of a Doyenné, but more elongated, citron yellow, marbled with brown, and sometimes tinged with red next the sun. Flesh fine, very melting and juicy, with a particular acidulated sugary flavour. Season: August. This early sort is brought from Bordeaux to Paris, where the fruit is sold in the markets at an average of 25 cents. apiece. It was found in the Department de la Dordogne near the Château de Marvel on the estate of M. Monchallard, whose name it bears.

*Triomphe de Jodoigne.*—Fruit large, sometimes very large, pyriform, greenish yellow, sprinkled with brown dots and specks, and sometimes tinged with red next the sun. Flesh melting, juicy, sugary, and perfumed. Season: end of November and in December. It should be allowed to hang on the tree as long as possible, and succeeds on the Quince. Jodoigne or Judoigne, in Latin Judonia, Gildonacum, Gildornacum, in Flemish Geldenacken, is a small town in the province of Namur, from which this Pear takes its name.

*Giffard.*—Syn. Beurré Giffard. This is described as a very good early Pear; small or middle sized, pyriform, greenish yellow, tinged with red next the sun; flesh fine, melting, juicy and rich. Season: end of July and beginning of August, being some days earlier than the Jargonelle. It should be gathered before it readily parts from the tree. It is an abundant bearer, although the authors of *La Pomologie de Maine-et-Loire* say the contrary. This variety might well supersede some indifferent or bad early Pears at present cultivated in this country.

*Amiré Roux.*—Syn. Archiduc d'Été, Oignonet. Small, turbinate, yellow, washed with red next the sun; flesh only half melting. Season: beginning of August. One of the old French sorts, which do not succeed well in the climate of England.

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If any of our readers, weary of the realities of life, seek for an hour's amusement, we would most strongly recommend as an antagonist to blue devils, one of the cleverest *jeux d'esprit* in our language. Under the title of *Lispings from Low Latitudes*, or extracts from the diary of the Hon. Impulsia Gushington (Murray), we have before us a series of extremely amusing sketches illustrating the adventures of a middle-aged lady in search of something to excite and soothe her. To effect this desirable object the damsel resolved upon Eastern travel, and to follow in the steps of the "fascinating" author of Eöthen. How she managed to reach Cairo, what were her adventures, her opinions upon camel-riding, an old Sheikh's ideas about crinoline, her own feelings upon being called a cockatrice by an indignant Lady Fitzdoldrum, who proves not to be Lady Fitzdoldrum at all, but one Higgs, who "had left two or three husbands in India," and how the fair Impulsia was eventually soothed by a Monsieur de Rataplan, who was suffered to call her "son Impulsia;" all these and 20 other things are not only described with infinite humour, but illustrated by three and twenty of the cleverest sketches we remember to have seen. As a drawing-room book for the season it is without a rival. Lord Dufferin introduces it to the world, and intimates that if well received a second volume may be expected narrating Miss Gushington's "harrowing and heartrending" adventures "in connection with her attachment for Monsieur de Rataplan." About the reception of the present laughable diary there can be no doubt, if our English love for fun and merriment has not perished.

We observe that Messrs. Longman have commenced the issue in monthly 5*s.* numbers of a new *Dictionary of Chemistry*, founded by Mr. Henry Watts upon the well known work of Ure. The two parts before us, which reach from Abichite to Arsenic, hold out a guarantee that the work will be worthy, not only of the author, but of the many distinguished men who are associated with the Editor in so important an undertaking.

Mr. Wm. Paul has produced a second edition of his useful little volume called *The Rose Garden* (Kent & Co.) much reduced in price by the rejection of coloured plates, which now find a more fitting place in the author's Rose Annual. What gives this edition peculiar value is the *omission* of many of the varieties which have been surpassed by more modern sorts; for ourselves we could have wished to see the process of elimination carried much further.

The third and fourth numbers of *Seemann's Journal of Botany* are accompanied by illustrations of new or rare British Hymenomycetal Fungi, and of Gladiolus illyricus, one of the more recent additions to the British Flora. They also contain various interesting communications on subjects relating to British and foreign botany.

## Miscellaneous.

*Sales by Auction.*—Small plants of Japanese and New Zealand Ferns, sold the other day by Mr. Stevens, fetched from 6*d.* to 9*d.* each; Indian Azaleas and choice hardy Rhododendrons, 5*s.* per lot of 6 plants; Canna, in lots of 10 plants each, 3*s.*; Thuja aurea, in sets of 8, 6*s.*; and Gunnera scabra, in sets of 6, 4*s.* Bedding plants, consisting of Calceolarias, Verbenas, Geraniums, Gazanias, Fuchsias, and Heliotropes, realised from 4*s.* to 7*s.* per lot of 50 plants. Gladiolus Brenchleyensis fetched 6*s.* per 100. Pinks, Carnations, and Picotees, 3*s.* per dozen; and Variegated Double Daisy, 3*s.* 6*d.* per dozen.

*The Holly.*—The Holly forms an admirable single tree, or group of trees, alike appropriate on lawns, or in woods and hedgerows. It is also the densest and warmest of hedge plants, though of slow growth in comparison with the Hawthorn. It is again invaluable as an undergrowth in plantations and preserves. Many exquisite pictures of Holly and Hawthorn carelessly intertwined exist in Epping Forest, and they

are scarcely less lovely when the Hawthorn is in blossom than when the Holly is in berry. The Holly hedges at Tynninghame, in Scotland, planted about 1705, by Thomas, sixth Earl of Haddington, have attained a world-wide celebrity. They are 2952 yards in length, from 16 to 25 feet in height, and from 14 to 17 feet broad at the base. Mr. Lees, the intelligent gardener there, informs me that they are clipped annually in April. The soil is a fine deep yellow loam resting on gravel. A clipped Holly hedge, near one of my nurseries here, was once a source of attraction to every passer by. Though now neglected, it originally formed a dense, impenetrable fence, inaccessible to birds, and impregnable to those boys to whom palings, walls, and ordinary fences offer but slight difficulties, tempting even for the pleasure of overcoming them. The varieties do not reproduce themselves true from seed, and are consequently increased by cuttings, layers, budding, and grafting. From a large sowing of the berries of the variegated Holly once made in these nurseries only one plant reproduced the variegation; the others reverted to the type. Some years ago I met with a beautiful Holly, *with broad prickly leaves*, in the Botanic Gardens of Edinburgh, which the late Mr. McNab informed me was raised from the Ilex Perado hybridised with the English Holly. In a recent correspondence with Mr. James McNab, he obligingly furnished me with leaves of several seedlings still growing there, raised from the I. Perado, supposed to be fertilised with the English Holly, a large flowering plant of which was growing in the immediate vicinity. It is interesting to note the variation of these seedlings. Not one has the smooth entire leaves of the female parent (I. Perado), but all bear more or less resemblance to the English Holly. One is scarcely distinguishable from the latter; another has almost ovate leaves; a third, large broad leaves 3 to 4 inches in diameter; while the young shoots of a fourth are of a purplish hue. Some of these varieties are reported to be less hardy than the English Holly, which unfortunately diminishes their value for cold, exposed situations. It is worthy of remark that the green varieties seem in many cases to repeat themselves as to form in both a gold and silver dress; and I willingly indulge the hope that at no distant period some at least of these splendid acquisitions of modern times, as I. latifolia and I. Tarajo, may, by the skill of the hybridiser or cultivator, or by some natural freak, be brought to assume distinctly variegated forms. There are fine specimens of the Gold Holly at the Grange, Hoddesdon, the residence of the Rev. C. G. Chittenden, growing on a gravelly soil; three of which are the variety known as the "Old Gold," while the fourth is the "Queen." Previous to the winter of 1860-61, these and two of the Silver variety formed the most perfect living pyramids imaginable, averaging 30 feet in height, their lower branches sweeping the ground. The Silvers were killed by that winter; the Golds, although much injured, are gradually recovering. There is still a magnificent pyramid of the Silver Holly, probably matchless for size and beauty, growing on the lawn at the Misses Harman's, Theobalds, near Waltham Cross. It is 40 feet high, and 30 feet in diameter at the base, and each year is literally covered with berries. The soil here is sand or gravel; the subsoil clay. There exists a difference of opinion as to the best season for transplanting Hollies. Some say transplant in summer, immediately after the first growth; others say early in autumn; and others again late in spring. Now, I have transplanted with success at all these seasons; but am in favour of early autumn or late spring; attaching great importance to the adherence of soil to the roots, and looking for more complete success if the weather is showery at the time and immediately after the work is done. The Holly in a young state likes the shade, and flourishes most in a rich sandy soil that is tolerably dry; it is however less particular in this respect than many trees. *W. Paul, in Proc. Roy. Hort. Soc.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—This house should now be a blaze of floral beauty, which must be kept up by means of forcing pits for some weeks yet to come. Climbers on rafters should now have a portion of their branches pruned in harder than usual, with the view of inducing the production of shoots for late autumn flowering. Training of young growths as they progress must also have regular attention, in order that they may at all times present a neat appearance. In doing this, however, carefully avoid stiffness, for if the house is lofty climbers never look so well as when they are permitted to fall in graceful festoons from the roof. Roses, Cinerarias, Pelargoniums, and Azaleas should now be in excellent condition. Due care must therefore be paid to shading whenever the weather is warm and sunny. At such times air must also be liberally admitted. Push forward potting; as young half hardy plants get established remove them to a cool frame. Continue to propagate soft-wooded things as required. In training avoid making the stakes too prominent, and allow the natural habit of the plants to which they are applied to develope itself as much as possible. Gardenias will now be showing bloom; a pit with dung linings is most congenial to their growth. Air must be admitted to them with caution, and atmospheric fluctuations avoided. Have an eye in due time to the propagation of stock for succession or winter flowering. Secure cuttings of such plants as Brugmansias, Clerodendrons, Erythrinas, Poinsettias, Eranthemums, Euphorbia jacquiniflora and Gesnera bulbosa. Remember what was stated last week respecting the cool treatment of Orchids. Those who have only one house in which to grow their whole stock, must make a compromise in point of temperature between the natives of the hot and moist valleys, or shady woods of the east, and those from the western hemisphere, which inhabit high and airy regions. To accomplish this, we would advise a very free circulation of air during the earlier part of the day, and even a little all night if possible, accompanied with a great amount of atmospheric moisture; while to accommodate, with the least sacrifice, such genera as Aerides, Saccolabium, Dendrobium, &c., we would shut up with a considerable amount of heat, very early in the afternoon.

### FORCING DEPARTMENT.

PINERY.—Let shifting take place as soon as the plants have filled their pots. Give air freely to all growing stock, and above all plenty of atmospheric moisture.

VINERIES.—Let late Vines now breaking have every attention in regard to disbudding, &c. The litter or dung covering should now be removed from all borders, whether early or late. Litter in an unfermenting state keeps the soil cool instead of imparting warmth in the early part of summer.

PEACHES AND NECTARINES.—Continue to keep the shoots well tied in the early house, and be careful not to get them crowded. In disbudding, the bearing wood of the present year should be divested of all shoots except the terminal one and those near the base. Where a deficiency occurs in any part of the tree, more may be tied in. Ventilate freely in fine weather, and be careful to close up early in the afternoon. Syringe once or twice daily, and keep a moist atmosphere by throwing plenty of water on the paths, borders &c. Attend to the disbudding and thinning of the fruit in the second house.

FIGS.—As the season advances gradually raise the temperature of the house. Syringe mornings and afternoons. Keep a moist atmosphere. When the borders require watering, give them a good soaking. Plants in pots and tubs should have some weak manure water occasionally.

MELONS.—If there be any room to spare on kerbs or over back flues of houses "at work," some of the finer Melons may be placed thereon in pots or boxes. These, however, should be roomy and filled with mellow turfy-loam, out of which the loose soil has been separated.

### FLOWER GARDEN AND SHRUBBERIES.

Work up arrears with all possible speed while the weather is favourable. Rolling and mowing should be proceeded with unremittingly. Newly laid turf should be levelled and rolled whenever the ground is at all damp, in order that an even surface may be obtained. Ungenial weather may yet be expected; therefore beware of exposing tender plants too soon. Prick out annuals, and push forward all preparations for the embellishment of the flower garden. Inspect carefully all recently transplanted shrubs, and see that the soil is well closed over their roots. Also support them if necessary with stakes. Roses will soon want close attention. Keep aphides in check, and remove superfluous buds and suckers. In order that half-hardy flowers may be induced to make rapid progress when planted out, it is absolutely necessary that those taken from indoor protection should undergo a hardening process for at least a week. In no case is the old adage of "the more haste the worse speed" more applicable than in this affair. To be well established in their pots, and well hardened, is to insure success. Many, however, cannot command frame or pit room sufficient to receive a host of potted off Verbenas, Calceolarias, Heliotropes, Petunias, Fuchsias, Pelargoniums, &c; such, therefore, cannot pot off stock singly. The next best plan is to prepare some raised beds, in the kitchen garden, with old vegetable mould (light and sandy), and to transplant, or, as gardeners term it, prick out the struck cuttings from their store pots into these beds, about 3 inches apart—in fact, so that they can be taken up by a trowel, with a ball of earth; they must have hoops and mats, or some good covering every night, and in bad weather perhaps all day. In the second or third week in May, they may be transferred to their destination, removing with good balls of earth.

### ORCHARD AND KITCHEN GARDEN.

Sea-kale should now have all superfluous shoots thinned away—about four or five to each stool is sufficient. Keep down all blossom stems from both Rhubarb and Sea-kale; these exhaust the plant. Stir the ground between rows of early Potatoes. Weed all Carrot and Onion-beds as soon as the weeds can be got hold of. Those who are short of hands will find this the best economy. Let those who would have first rate Asparagus see that plenty of manure or half rotten vegetable matter is dug into the alleys forthwith. Disbud Peaches and Nectarines. Pinch off the foreright shoots in Apricots, leaving a leaf or two at the base; these will sometimes cause natural spurs to develope themselves.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending April 29, 1863, as observed at the Horticultural Garden

| April. | Moon's Age. | Barometer Max. | Barometer Min | Temperature of the Air Max. | Temperature of the Air Min. | Temperature of the Air Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 23 | 5 | 30.194 | 29.997 | 60 | 26 | 43.0 | 51¾ | 50 | N.W. | .00 |
| Friday 24 | 6 | 30.360 | 30.263 | 58 | 30 | 44.0 | 51½ | 50 | W. | .00 |
| Satur. 25 | 7 | 30.260 | 30.206 | 68 | 29 | 48.5 | 52 | 50¾ | W. | .00 |
| Sunday 26 | ☽ | 30.200 | 30.146 | 71 | 28 | 49.5 | 53 | 50½ | N.W. | .00 |
| Mon. 27 | 9 | 30.076 | 29.912 | 66 | 44 | 55.0 | 52¼ | 51 | W. | .00 |
| Tues. 28 | 10 | 29.839 | 29.695 | 58 | 34 | 46.0 | 52½ | 51 | W. | .02 |
| Wed. 29 | 11 | 29.911 | 29.810 | 53 | 35 | 44.0 | 52¼ | 51 | N.W. | .04 |
| Average | | 30.120 | 30.008 | 62.0 | 32.2 | 47.1 | 52.2 | 50.5 | • | .06 |

April 23—Clear, fine; low dusky white clouds; fine; frosty.
— 24—Clear; dry air; fine.
— 25—Fine; very fine; clear at night; slight frost.
— 26—Very fine, bright, with hot sunshine; frosty at night.
— 27—Quite clear with bright sun; very fine throughout.
— 28—Overcast; dusky clouds moving in strata; showers.
— 29—Clear and cold; fine; sometimes squally; showery.
Mean temperature of the week 2 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending May 9, 1863.

| May. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 3.. | 61.5 | 40.2 | 50.3 | 17 | 0.58 in | 2 | 7 | 10 | 1 | 4 | 6 | 1 | 6 |
| Mon. 4.. | 62.2 | 38.2 | 50.2 | 13 | 0.70 | 6 | 10 | 8 | — | 6 | 4 | 2 | 1 |
| Tues. 5.. | 61.3 | 39.1 | 50.2 | 19 | 1.26 | 5 | 11 | 4 | 3 | 8 | 4 | 1 | 1 |
| Wed. 6.. | 61.0 | 38.9 | 50.0 | 14 | 0.68 | — | 11 | 5 | 4 | 4 | 6 | 4 | 3 |
| Thurs. 7.. | 58.8 | 40.3 | 49.6 | 16 | 0.81 | 4 | 6 | 6 | 2 | 6 | 7 | 3 | 2 |
| Friday 8.. | 61.3 | 39.3 | 50.3 | 18 | 0.62 | 2 | 6 | 7 | — | 6 | 6 | 6 | 4 |
| Satur. 9.. | 61.2 | 38.7 | 50.1 | 15 | 0.40 | 8 | 9 | 7 | 1 | 4 | 11 | 2 | — |

The highest temperature during the above period occurred on the 6th, 1862—therm. 84 deg.; and the lowest on the 8th, 1866—therm. 21 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

BULBS: *A Constant Subscriber.* It is not advisable to leave Tulips in the ground and plant bedding-out stock among them. You must take them up as soon as the leaves begin to ripen, keeping the sorts separate, and the arrangement, if desired to be repeated, must be recorded on a plan. The same remarks apply to Hyacinths, which, if allowed to mature their foliage, and to become well ripened, produce fair border flowers another year. The Anemones had better be removed. All of them may, however, be lifted in masses as soon as the leaves begin to turn off yellowish, and the full ripening may be completed in any convenient out-of-the-way place.

CATERPILLARS: *Z*, who inquires what is the best remedy he can adopt for the destruction of caterpillars on his Plum and Apricot trees under glass, without injury to the foliage and bloom, is recommended to hand-pick them. It is a rather tedious but safe remedy. Or he might try dusting with white Hellebore powder, as is done with Gooseberry bushes.

CUCUMBER DISEASE: *D M.* It is the disease which for some 10 years past has been so prevalent amongst Cucumbers. No remedy, as far as we know, has ever been discovered. We believe it to be constitutional. *M J B.*

DISEASED BARK: *J R W.* The white substance is produced by a Coccus. When it occurs on Beech it is sometimes much more developed than in the specimen you have sent, and has been described as a fungus under the name of Psilonia nivea. Where practicable the trees should be brushed with soap and water, and a mixture of tar or grease rubbed in, which we find very efficacious against the common American blight. *M J B.*

FUNGI: *R W.* Your Fungus from Cocoa-waste is a mere mycelium. It is impossible, therefore, to tell to what tribe it belongs, or whether it is likely to be injurious. Our own impression from its character is, that it is harmless, but we cannot pledge ourselves to this effect. If it produces perfect Fungi, send us a specimen, and we will endeavour to name it. *M J B.*

INSECTS: *T S P.* The Beetle is Rhagium bifasciatum, and the fly Ichneumon castigator, as well as we can guess from the figure. *W.*

LATE BROCCOLI: *J C.* Almost all the late spring Broccolis are more or less modified forms of Knight's Protecting; and, indeed, the best stocks of these late sorts are for the most part genuine Knight's. So it was found at Chiswick last year, where some hundred or more of reputed 'sorts' were grown for trial. Ward's Superb, a late form of Knight's, was found to be one of the best late spring whites in the whole series. Snow's Superb, as a winter white, and Mitchinson's Penzance for early spring were also found to be exceedingly good. The true Autumn Whites, like Grange's, seem to have vanished; for in the whole series there was nothing to fill up the gap between Walcheren at the end of August, and Snow's Superb at the beginning of December.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to *help* them—and that most willingly. It is now requested that, in future, not more than four plants may be sent us at one time.—*A L.* Cydonia japonica.—*E M.* Ribes speciosum.—*Green Cap, Tipperary.* 1, Aubrietia purpurea; 2, Arabis alpina; 3, Saxifraga—probably palmata—very young.—*Torquay.* Berberis japonica.—*H B.* A bit no doubt of Weinmannia pinnata. Why not direct your letter to this Office instead of a place to which the Editor has not been for years.

STRAWBERRY TILE: *J P Eltin.* Your tiles, of red pottery, consisting of thick semi-circular plates with a hollow to receive the neck of the plant, seem to be as good as any others—and we must add as bad, for tiles of this kind always harbour slugs, at least when used on damp heavy soils, and they appear to be reasonable in price. On light or soils they are more useful.

TRANSPLANTING CEDAR OF LEBANON: *F. C.* Your best course will be to dig a trench around the stem as proposed, at about a yard from it, and then to effect the removal in mild open weather as early as possible next spring. It is too late now to do it without great risk.

VINE LEAVES: *F W P.* The little green excrescences on the under sides of your leaves are not considered to be a disease; they, however, clearly indicate that the atmosphere of your house is kept too close and damp. A more complete circulation of air moderately charged with moisture will, we have no doubt, be found to cure the evil.

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ALFRED SIBSON, F.C.S., Author of "Agricultural Chemistry," &c., late First Assistant in the Laboratory of the Royal Agricultural College, has REMOVED his LABORATORY to 11, Eaton Terrace, St. John's Wood, London, N.W., where Samples for Analysis should be addressed.
He is now prepared to give Instruction in Agricultural and Analytical Chemistry, &c.

Great International Dog Show at the Agricultural Hall.
On the representation of several important Exhibitors and for the convenience of parties who have Dogs at the Paris Show, the closing of the entries of the International Dog Show will be deferred until Monday, May 11, next.
THE FIRST GREAT INTERNATIONAL SHOW of SPORTING and OTHER DOGS, will be held at the AGRICULTURAL HALL, Islington, in the Week commencing MAY 25 next, when upwards of One Thousand Pounds will be distributed in Prizes, in cash or plate (suitably engraved) at the option of the Winners.
The body of the Hall, the ample accommodations of which were fully tested at the last Smithfield Club Show, will be devoted to the Sporting and larger breeds of Dogs, for whom raised wooden platforms will be erected. The Toys and small breeds will be placed in the Galleries, which are both warm and well ventilated. Kennels will be erected for the Foxhounds and Harriers of each exhibitor when they are not less than three couple. A walled yard, more than 200 feet in height, will be daily used for exercising purposes. Mr. Brailsford, Secretary of the Birmingham National Dog Show, with his experienced staff of keepers, has been specially engaged to take charge of the internal arrangements.
These shows will be conducted at the cost and risk of the Agricultural Hall Company, by whom the payment of the Prizes is guaranteed, and by whom also food, ample in quantity, and of the best quality, will be provided.
Prize Lists and forms of Entry may be obtained on application to the Secretary, at the Offices of the Company, Barford Street, Liverpool Road, N.; and at AUSTIN'S Ticket Office, St. James's Hall, Piccadilly, where Entries must be made on or before May 11. Certificates of Entry sent by post must be accompanied by Post Office Orders payable to SAMUEL SIDNEY, at the Post Office, Upper Street, Islington.
By Order, S. SIDNEY, Secretary.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
Besides the usual Prizes for Cattle, Horses, Sheep, and Pigs, SPECIAL PRIZES, amounting to £500, including ESSAYS for FRUIT, CIDER and PERRY, HOPS, and SALT, are offered by the Local Committee, to be competed for at the Worcester Meeting. For Prize Sheets and particulars apply to
H. HALL DARE, Esq.,
12, Hanover Square, London, W.

# The Agricultural Gazette.

*SATURDAY, MAY* 2, 1863.

MEETINGS FOR THE ENSUING WEEK.

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| MONDAY, | May 4 | London Farmers' Club .. .. (Mr. Spearing on Agricultural Influence of Climate.) | 6 P.M. |
| WEDNESDAY, | — 6 | Agri. Society of England .. | Noon |

—— A WRITER in the *Times* of April 27, calls attention to the frequent cases of accident resulting from the use of agricultural machinery. In the Hereford Infirmary the number of machine accidents requiring amputation was 9 during the year 1861, 10 during 1862, and 4 up to April, 1863; and the house surgeon reports that the minor accidents not requiring amputation exceeded these in number during the same period. The following remarks accompany these statistics. "I am not aware what proportion, with regard to the population employed, these cases bear to those occurring in the manufacturing districts before the public feeling was aroused to the necessity for the compulsory boxing off the gearing, &c. in mills; but it appears to me that the lamentable loss of limb in a country so thinly populated, disclosed by this return taken from the books of the Infirmary, is deserving attention with a view to such a remedy as may tend to lessen the risk of these accidents. At present I am not aware that there is any legislative obligation on the part of those using agricultural machinery to guard against accidents liable to occur from their use by men and frequently by boys, some of them not of the highest intelligence."

It is worth adding the following from a report of Mr. HOLLAND'S paper on Boiler Explosions read last year before the Agricultural Society in Hanover Square:—"As agriculturists we have not many accidents in the form of boiler explosions, but there are a great many minor accidents

connected with steam machinery which might be avoided by systematic inspection. A gentleman in Gloucestershire says in a letter to me: 'My brother-in-law, a Gloucestershire manufacturer, is guardian of a union, four-fifths of which is certainly manufacturing; but he finds on investigation that the cases which come before him requiring relief on account of accidents are not only relatively but absolutely more numerous in the agricultural parishes."

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On Wednesday next the choice of the Agricultural Society will be declared, of Newcastle, Darlington, and Durham, which is to be the scene of the great Country Meeting in 1864. The committee of the Council appointed to examine the localities made their examination last week, and their report will no doubt decide this matter. There is of course a natural desire that fresh ground should every year be selected, and that when two towns come into competition for a visit the new one should be chosen. Unfortunately the towns named above compete on terms which are otherwise exceedingly unequal. And the railway accommodation, the house accommodation, the accommodation for implement trials and for live stock exhibition, are all on the side of the town which has already received the annual visit of the Society. Newcastle, which was visited 16 or 17 years ago, has three railways from Scotland, which would, no doubt, send many competitors and many visitors; and it has also direct railway communication with the south. A show ground—the famous Town Moor, of 1400 acres—is placed at the disposal of the Society free of charge, with a railway station adjoining; and the trial ground for small implements is also close by. The population of Newcastle with Gateshead is over 100,000, and they possess many hundred hotels, inns, and lodging-houses, and capital river transit, besides their railway accommodation. Darlington and Durham, either of which the Society might wish to visit, cannot afford adequate lodging room for visitors, and do not provide a local population large enough to fill the yards with visitors.

Every other year of late the Society has lost a large sum by its show. Its funds are not in a position to risk another deficit of this kind. The locality which provides the largest local population is to be preferred on this ground, even though its rivals have the powerful plea in their behalf that they have never yet received a visit from the Society.

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—— It is announced that the period for receiving applications on the part of intending exhibitors of live stock at the coming Hamburg International Show is extended to June 1 *for Scotland*. One does not understand why this extension of time is expressly limited to the Scottish exhibitors: and in all probability it would be found that any English exhibitor who may still desire to enter horses, cattle, sheep, or pigs would find on application for schedules to Dr. Hachmann, the Secretary, at Hamburg, that a protest on the manifest unfairness of granting time to the Scottish exhibitor and refusing it to the English would be allowed, and that a schedule would be sent to him for the due entry of his stock, which would be admitted if entered before June 1. The following is extracted from Dr. Hachmann's letter on the subject, published in the *North British Agriculturist*:—

"The committee authorise you to state that the period for receiving applications on the part of exhibitors of live stock, will be extended for Scotland to the 1st June. They request me also to say that they trust you will use this extension of time in a discretionary manner, as it is most desirable to have applications made as early as possible, in order to enable the Committee to meet the requirements for space, shedding, &c., also to have the catalogue ready. I beg to send you a ground plan of the show field. As the field is some 80 acres in extent, there will be plenty of room for any requisite extension.

"The Hamburg Committee trust that the Committee which has been formed (in Scotland) will be successful in awakening a warm interest amongst your breeders and agriculturists for our exhibition. I am glad to inform you that in Germany the matter is being taken up with great warmth, and everything worth seeing in the shape of cattle, sheep, and other live stock, will be exhibited. The Governments and Agricultural Societies are sending Commissioners, who will doubtless be authorised to purchase good stock and machinery. Every facility is being given by the railways, to enable exhibitors to attend, and in many cases the Agricultural Societies have voted money to pay expenses of exhibitors, or to purchase suitable specimens for sending to our Exhibition. Some of the letters from exhibitors on your side apprehend a difficulty in not being able to understand the language, and it might be well to make the fact known that they will find the greatest portion of intelligent German agriculturists acquainted with English, and in this city, even among the lower classes, English is understood by a great many."

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## MOLES AND SPARROWS.

"Denique quid verbis opus est? spectemur agendo."

I am glad my friend Mr. Smith, for such I now gladly designate him, since he has paid me the same compliment, has been dipping into his classics, and has taken the language out of the mouth of the renowned Grecian warrior in his contest with Ulysses for the shield of Achilles, and applied it to me in my contest with him on the destruction or preservation of the mole. "*Quid verbis opus est? spectemur agendo*," we are told, was the boast of the haughty Greek, and which, my friend, Mr. Smith, I opine has correctly translated thus—

"Let us work, not talk."

But, let me remind my friend Mr. Smith, that he himself began the talk with his friend Mr. Wilkins, and rather fiercely too. But Mr. Smith asks, and rather exultingly, "What's the use of moles?" I reply, is not my friend aware, or if he be not, I opine again, he ought to be, that one of the most philosophical writers on agriculture of modern times wrote under the signature of "Mole," or of "Talpa," which Mr. Smith knows means the same thing? And would that very classical and clever writer and scholar have adopted this signature unless he believed that there was more to be learnt by farmers carefully observing the very useful and ingenious operations of the mole than those of any other creature, not excepting man himself?

But, again, the Almighty Creator himself created moles, and purposely for them to destroy grubs, or rather so far to keep down the numbers of them that they should not be a detriment to the cultivation of land; and hence the reason for calling them, as many people do, "grubbers." But, my friend, you have made machinery to grub under ground on the model of the working of moles, and give it the euphonious title of "grubber" also, as I hear you do, and now, if you could, you would exterminate every vestige of the models from which you yourself work, and on the perfection of which your fame and fortune seem to depend?

This, my friend, is not fair, it is not ingenuous; but the reverse exactly.

But come, let us reason together calmly on this subject. The Creator, if we believe modern philosophers, some millions of years back made these "grubbers," which have been at work grubbing incessantly ever since to the present day, and doing an immensity of good in the world: and I am not sure but these grubbers, which you so much despise, are not the creatures from which great men like yourself have sprung and developed themselves, and arrived at what they now are; but on this head I refer you to Mr. Darwin and other savans like himself, for better information than my humble pen can give you. But if their philosophy be correct, I really believe that the mole or grubber—call him by which name you please—was the animal from which, through the several intermediate stages, man has developed himself, and which stages, as you know, my friend, have the name of "correlations." Thus, the correlation of mankind is this—"mole, marmoset, monkey, man!" or grubber, goat, giraffe, gorilla, which you please, as one is just as rational as the other.

But, my friend, be thoughtful, will you? and think seriously before you speak, and especially before you write. Moles, you have written, should not be preserved because your venerable father and your parish clerk, who was also a schoolmaster, and a leader of a choir also, were mole-catchers; and because, of course, the preserving of moles would destroy that portion of their profession. But in your last article you advocate the preserving of moles, because "mole-killing has been very general in your neighbourhood for very many years."

My dear friend, I am aware that you mean well; but do you not destroy yourself, and with your own weapons also? The cultivating of land with oxen and horses has been general in your neighbourhood for many years also; and yet you are applying all your energies of body and mind to destroy this mode of land cultivation, and to introduce your modern grubbers in the stead of it; and I most heartily wish you, my friend, success, and if I can in any way help you in this laudable undertaking, it would be a pleasure to me to do so. But do lay aside this jealousy, and for once at least let two of a trade agree; do you not destroy nor injure my grubbers; and I assure you I will not injure yours. But you ask "what is the good of Moles?" I reply to this that two gentlemen, very extensive farmers, to the amount between them of near 2000 acres, and whose reputations are as high as any in this kingdom, and whose names I will give the Editor of this Paper, and who have farmed full half a century, shall answer your question, and if not to you, to others satisfactorily.

These gentlemen by letter and verbally have thanked me very heartily for the articles on Moles, which you as heartily condemn, and they ask me to write again on them for the benefit of farmers; and why? Because for very many years neither has allowed a mole to have been killed on his estate, and the consequence has been that neither has a wireworm on his estate; nor have the moles done them a farthing's worth of injury, but all this very great good. This, my friend Mr. Smith, is a reply to your question "*Quid verbis opus est? spectemur agendo*"—and what's the use of moles?

2. *Sparrows.*—A press of professional business, and not forgetfulness or wilful neglect, has prevented my before fulfilling my promise to reply to my old opponent Dr. Bree of Colchester, my neighbour; and I am not sorry the doctor has removed the venue, as the lawyers would call it, from a provincial paper, wherein, some time since, it was carried on rather warmly, to the *Agricultural Gazette*, wherein both sides will have fair play, with no local partiality or prejudice.

Nor am I sorry that the Rev. H. H. Crewe, or the crew of an opposite craft, as a witty friend of mine calls him, has stepped forward, or sailed up, whichever it may be, to help his friend off the rock against which he saw he was splitting, or to drag him out of the mud wherein he saw he was so fast sinking—no! but I rejoice that Mr. Crewe has shown so much chivalrous generosity, and I hope he will ultimately place his friend, the doctor, on firm and safe ground, and not, as his craft is, to put men under it.

But though the Rev. H. H. Crewe has generously done all this, I am surprised at it nevertheless, since it is the general custom for gentlemen of his profession to bury doctors' faults and mistakes, rather than accept them as their own, as the Rev. H. H. Crewe has done those of his friend, Dr. Bree. But to charge me, as Dr. Bree does, and which his reverend friend indorses, with advocating the destruction of small birds, either insect eaters or seed eaters, my friends and readers in general will allow me to state is most unjust, since all my life I have carried out the doctrines of Pythagoras as far as I have been able, and have never written nor spoken one single word advocating the destruction of any kind of birds; but on the contrary, as all my friends know, and, as I think, the readers of the *Agricultural Gazette* will remember, I have written as earnestly and forcibly as I have been able in behalf of the preservation of birds, and against their being killed in any way whatever; indeed, many years since I left off shooting because I would not kill a pheasant or a partridge; and since then I have not shed the blood of a single creature, except of a rat or mouse, or a flea which has hopped off my dog upon his master, and commenced his phlebotomising practices upon my own person; and I defy Dr. Bree or his reverend backer to produce a single individual who has ever heard me utter a word, or has seen a word that I have written, advocating the killing of any kind of birds.

Is it not, therefore, strange that I should be accused by a doctor and a divine of committing and advocating the committing of acts which are abhorrent to my nature, and which I have always written and spoken against? And if these two professional gentlemen, the doctor and the parson, have agreed together to turn my bird-preserving feelings and practices into ridicule, I feel certain that all humane and properly-thinking people will lament that they were not more wisely and profitably employed.

But Dr. Bree has written and published many letters, in which he stated that to kill a sparrow was "to commit a murder," because sparrows, he said, eat caterpillars; his reverend friend endorses this teaching, and the Doctor headed his numerous articles to the *Essex Gazette, London Standard, Agricultural Gazette*, &c., "Sparrow Murder," and to those articles I replied, calling to my recollection that murder could only be committed by the breaking of the sixth commandment of the Decalogue, and that as the killing of a sparrow, whether a cock or a hen, was not the breaking of that commandment, it could not, in the sight of Almighty God or of His rational creature, Man, be considered a murder; nor, I said, did it make it constitute a murder if the cock or hen sparrow, as Dr. Bree wrote, and as his reverend friend backs, did actually kill and eat caterpillars. Nay, my readers, I went further, and stated, and I now reiterate what I wrote, that sparrows did not eat caterpillars at all; but if they did it would no more make the killing of them the committing of murder, than do their eating of small insects, and which they, as other birds do, devour with so much eagerness and gusto.

I now state that cats will not eat robins; but because I write this, can I be fairly represented as stating that cats will not eat any or all other small birds? But because I write that sparrows will not eat caterpillars, and if they did it would not make the taking away their lives murders, I am made a laughing stock of, and my Pythagorean principles and practices of not shedding blood turned into ridicule! This is not fair.

But as for its being a murder to kill a cock or hen sparrow, I added further that Almighty God created kestrels and hawks on purpose to kill sparrows, and as man, I added, had nearly destroyed all the kestrels and hawks, and as sparrows had everywhere become destructively numerous on this account, man must supply the place of the kestrels and hawks, and by killing and keeping within bounds the numbers of sparrows. This I wrote, but here I stop for the present, but shall return to the subject another week.

Suo sibi gladio hos—the Dr. and his backer—jugulo.

*Geo. Wilkins, Parsonage, Wix, April 23.*

## RECENT AGRICULTURAL PROGRESS.

[The following passages are extracted from a review of Liebig's recent work "On the Natural Laws of Husbandry," in the *Athenæum* of April 25.]

WHEN Mr. Glaisher got up nearly five miles high above the smoke of London he could see probably the whole area of the "farm" which supplies the metropolis with food,—all Essex, Kent, Herts, Middlesex and Surrey, most of Sussex, much of Hampshire, Berks, Bucks, Oxfordshire, Cambridgeshire and Suffolk. Of course, as everybody knows, the food supply of London also comes from more distant counties and from far off countries. The cattle trains which every week unload at Paddington and King's Cross come from west and east and north as far as railroads reach, and the grain which is daily transferred to our warehouses comes literally from the ends of the earth. The counties named do, nevertheless, feed a population equal to that of London, most of whom reside in the metropolis. It is the material of their soil and of the air which floats above it, out of which the annual food of all that multitude is built; and every year for centuries the grain and meat thus grown have been sold off from it, never to return. The soluble parts of both air and soil on which plants feed have thus been annually exported from this district; and, to aggravate the loss, as one would think, every year the soil has been washed by five times its bulk of that powerful solvent, rain-water, which carries all it can to sea. What process can be imagined more perfectly adapted to the rapid deterioration of the land and the reduction of its fertility? But what is the actual fact? What would Mr. Glaisher have seen from a similar elevation a few centuries ago? The landscape may have been as green, but it was for the most part waste and wild. Trees and gorse and scrub covered the greater portion of it — perennial plants, often taking years to gather up the power to yield an occasional autumnal produce. And the soil itself, where it was inclosed, was most of it every year in bare fallow, or only naturally clothed; thus taking years to yield an occasional and scanty crop of grain. There is not a plant the farmer grows which does not give a threefold produce, four or five times as often, from tenfold the acreage within this district, now, as compared with then,—not an animal he feeds that does not now in tenfold numbers produce double the amount of flesh in one-third the time that it did five centuries ago. And it is, of course, from an increased fertility of the soil that this immense increase of production is originally derived.

This wonderful agricultural progress and success has, indeed, been equally witnessed in all parts of the island, and local examples might be named which would even more strikingly illustrate it. On the Prince Consort's Flemish Farm of stiff clay soil, now drained, steam cultivated, equipped with farm buildings, and producing heavy crops of Wheat, Oats, Beans, &c., a few deer used to find a scanty living amidst gorse and rushy Grass and woodland glades. Tiptree Farm was Tiptree Heath not 50 years ago. We take the general aspect of Mr. Glaisher's landscape, however, in preference to any particular locality within it, because it is the feeding ground of wasteful London. Its produce traverses first the streets and then the sewers of the metropolis; and the enormous drain is enough to impoverish a province. That the province is, notwithstanding, being rapidly enriched is to some extent, no doubt, owing to the guano, nitre, bones, oilcake, grain, and all kinds of food annually imported by the river which carries the elements of all these things to waste. Even more, it is owing to those agricultural improvements which put the natural resources of our growing crops in soil and air to their fullest use. And it is further due to improvements in the plants and animals themselves by which these resources are so economically utilized. But the fact remains, however it may be explained, that improvement, not impoverishment, is visible in all directions; and the circumstances, therefore, certainly are not favourable to the reception of the warning voice which, in the volume before us, Baron Liebig utters in the ears of British agriculturists.

British agriculturists, let us say at once, owe much to Professor von Liebig. It is to the faith which he inspired in the chemistry of vegetable and animal growth that we owe the rapid rise of the manufacture of artificial manures among us as well as the safety and extension of so-called "artificial" feeding in the meat-manufacture, and both of these events are of first-class agricultural importance. His confident argument, bristling with apposite illustrations, has often aroused both thought and effort, the good effects of which remain, notwithstanding the diminished confidence with which, as time has tried his theories and assertions, some of them have been ultimately received. He is here again as arrogant as ever,—warning us of our coming ruin, foreshadowed as it is by the Clover sicknesses and Turnip failures, which indicate the exhaustion of our subsoils,—laughing our scientific men to scorn, and especially sarcastic and unfair towards Messrs. Lawes and Gilbert, who have supplanted him as authorities on the chemistry of agriculture in this country.

We now grow more bread and meat than ever we have done before; and, what is a still greater proof of national prosperity, even so, we do not keep pace with the increasing numbers and demands of our population. We supply all countries with our improved breeds of cattle and sheep. Ayrshire, Durham, Hereford and Devon, but a few square miles apiece, supply the agriculturists of all nations with breeds which are unequalled anywhere. We have taught our neighbours the fertilizing influence of land-drainage, by which we have ourselves immensely benefited;—we have supplied them with all the machinery of the farm;—we have at length shown them how to apply steam-power in the cultivation of the soil, as it has been already successfully applied in most other agricultural processes. Our Example Farms, the work of private enterprise, headed by those of the late Prince Consort, furnish now the rule of ordinary practice in every county; our farmers produce more food per acre than those of any other country. And although, according to all the rules of German philosophy, we ought to be languishing and moribund, certainly we have not learnt as yet "how not to do it." Leaving the work of abstract reasoning to others, true to the instincts of our race, we succeed in the accomplishment of our work. We do not, indeed, accept the Chinese as our exemplars; but, preferring cleanliness and health, we have thus saved energy and life more than sufficient to replace, by labour in other fields, whatever our cleanliness may in the meantime have cost us. And our German censors may rest assured that, as soon as the profitableness of any process for the purpose shall be proved, *vis inertiæ* will no more hinder us than abstract reasoning hitherto has urged us; but the work of saving London sewage, and so of inaugurating the "only safe system" of agriculture, will very soon be done.

It is in some such mood as may be thus expressed, that most readers will rise from a perusal of Baron Liebig's work. The proofs which they everywhere perceive of our agricultural progress and success cannot fail to clash grotesquely with his predictions of our failure and exhaustion; and, moreover, it is not without a mixed feeling of indignation and amusement that they will find our scientific leaders, whose good services have been long and gratefully acknowledged, treated by him with insolence.

Let us not, however, following the example of his strong personal prejudice and bias, refuse to admit the useful light which he has once more thrown on the phenomena of vegetation and of cultivation. While his arrogant self-confidence repels us, let it not hinder us as agriculturists or persons interested in agriculture, from examination of his arguments and assertions. Meanwhile, it is gratifying to find, of so energetic and powerful a teacher, that these pages betray no signs whatever of that age which he confesses in such characteristic terms, "when the elements of the mortal body betray a certain tendency to commence a new circle of action."

## STEAM CULTIVATION.

### EWE FARM, NEAR WALLINGFORD.

MR. DEANE, who here occupies 800 acres of land, his own property—600 acres of which are arable—has worked Howard's cultivator since July, 1861. The land varies between a stiff calcareous clay and a less adhesive soil, in which there are many flints. It lies across the gault, green sand, and lower chalk, where the natural bed or rock is occasionally obscured by layers of flinty gravel. There are thus two qualities of land, one of which is the best possible for steam cultivation—the stiff and stoneless calcareous clay of the gault, and the other the most expensive of all soils to work by the steam cultivator, where land is full of flint and yet stiff enough to hold the flint firm while the wire rope is dragged over it.

Recently purchased, the land is still very badly out of order—a great deal has been done in breaking up the staple to a greater depth than has been reached before; and in throwing small fields together in order to make the land adapted to steam cultivation; but a great deal remains of both these kinds to do. Meanwhile Mr. Deane is very well pleased with the apparatus. This time last year, *i. e.*, on May 1, 1862. He wrote:—

"We began work just before last harvest, and kept on as long as the weather would allow, and after cultivating 209 acres, put up the apparatus for the winter. We intended to commence again at the beginning of March, but the weather was so wet and unfavourable, we did not begin till the 15th of April; since then we have only lost one day, and have done 72 acres very well, and have moved the apparatus into another field at some distance, ready for starting again. I shall be working it now every day for some time to come, if nothing happens, and I shall be very pleased for any one to come and see it, and shall be happy to show them the difference between my steam-cultivated and horse-cultivated fields, and give them all the information I can. Although we have done nearly 300 acres, we have not been hindered a single day with any breakage whatever. My neighbours now begin to think it will answer, although some of them found all the fault they could with it at first; the Earl of Macclesfield's agent came over the other day, and he was quite pleased with the work just finished. I showed him some Wheat growing on steam cultivated land, and he thought it looked remarkably well. Our crops on the land that has been steam-cultivated all look very well, and I think if we can get on through the summer as we have done during the last fortnight, I may venture to say that your Steam Cultivators will be very plentiful in this neighbourhood. Although it is very good corn land, this is one of the hardest working farms in the county, and if your cultivator does the work well on Ewe Farm, there is hardly a farmer in Oxfordshire but what it would satisfy."

The 72 acres referred to above were accomplished in 13 days, which is very good work. Since that date, *i. e.*, during the past year, though Mr. Deane has not kept a record of his work, I gathered from the list of fields given me by his ploughmen that he must have accomplished from 500 to 600 acres of steam tillage, at the rate of 5 acres a day, when the 3-tined grubber is used, and at the rate of 8 acres a day when crossing first work with the 5-tined tool.

Coals cost about 20*s.* a ton on the ground; but they are taking to the use of hedgerow wood as fuel, which will reduce the cost of this item. At present the 10 cwt. to 12 cwt. of coal burned daily by the 10-horse engine, may be put at 12*s.* The labourers employed are: engineer, 15*s.* a week; ploughman, 15*s.*; two anchor-men, 10*s.* each; windlass lad, 8*s.*; two porter lads, 5*s.* each; water, boy, and horse, 24*s.*; oil, 6*s.*: in all 4*l.* 18*s.* a week, or 16*s.* 6*d.* a day. The cost of fuel and labour is thus 5*s.* 9*d.* an acre first time over, and 3*s.* 7*d.* the second time over per acre.

The cost of rope has been considerable. The 1400 yards of rope bought in July, 1861, which had cultivated 280 acres by this time last year, and has probably worked 600 acres since, is already almost worn out, and breakages are frequent even in crossing land already worked by plough or grubber. This is owing to the very flinty soil which has been worked, and over which it seems to have been insufficiently carried. It is also in some measure owing to breakages where the cultivator has been crossing old hedgerows. Probably the cost of rope must thus be put as high as at least 1*s.* 6*d.* per acre. Beyond this however the expenditure has been hardly anything. There have been no accidents beyond an occasional breakage of rope, and the engine, which is used for threshing as well as cultivating, is as good as the day it was bought.

Mr. Deane has no former experience of his farm with which to compare that of the past year during which steam cultivation has been adopted. He works 20 horses in addition to the 10-horse engine, but these are employed in much other work connected with the improvement of an estate out of order, besides the mere labour of cultivation.

## COFFEE AS AN ARTICLE OF FOOD FOR LABOURERS.

DOCTOR PETIT, of Chateau Thierry, has recently published a pamphlet "On the Prolongation of Human Life by the Use of Coffee," a pretentious title, which the writer of a brief review of it in "Connaissances Utiles" designates as a bold attempt to solve a problem which in the middle ages occupied the minds of alchemists and sorcerers. Without dwelling on the fanciful and figurative features of the subject, I shall practically propose the question which suggests itself to me on reading the review. Should we recommend a more extended use of coffee amongst our agricultural and other workpeople in preference to tea, which is so frequently adulterated, and always of very inferior quality in the village shops, where labourers purchase it by the ounce at a cost of 20 per cent. above the price charged at respectable shops, where the quantities are mostly sold in pounds. Milk is quite unobtainable unless in small quantities during many months of the year even by a large proportion of rural labourers, who have to substitute for plain milk, tea or coffee weak with a colouring of milk. Neither of these can be considered nutritious, but we have to consider which of the two is the better. Now, besides its defectiveness in tonic and digestive qualities and its relaxing property, cheap tea is rarely unadulterated or of grateful flavour, and the inexperienced consumer has no certain means of detecting imposition, or guarding against it. Coffee on the other hand, if purchased in its berry state, cannot be deceptive, and there is no real difficulty in supplying a village roaster and mill to any village of labourers by joint stock process. By such means a great saving in the price of coffee would be gained, with the certainty of having it pure. And if in the decoction a portion of chicory should be desirable, from economical motives or from taste, the chicory can be bought separately at a much cheaper rate than the coffee, and mixed with it in any proportions desired. There again is a saving; chicory is not unwholesome, and its bitterness improves the taste of coffee in the judgment of many coffee drinkers, and it is an economical addition undoubtedly; but it ought not to be charged at coffee price merely because coffee is mixed with it by a dishonest grocer. A saving of one-fourth of the nourishment necessary for the human frame, through the use of coffee, is urged by Doctor Petit as one of his arguments, which, if well founded, is obviously important. Some evidence of this assumed fact are observable, says M. Petit, in the good condition of the labourers in the oil-mines, near Charleroi, where they work 12 hours a day without sunlight in an atmosphere loaded and vitiated with dust, and yet are in vigorous health—their allowance of meat being but 1 lb. per

work, some Potatoes, their daily beverage—coffee soup (we are not informed whether with or without milk) three or four times a day. My Hibernian countrymen would cry out—the Potatoes! the Potatoes! and discredit the value of the coffee altogether. The expression "quelques pommes de terre" is rather vague; but a good deal of the argument turns on this very point. If there were only a few Potatoes as the above French phrase would estimate supplied as food, coffee soup would have the claim to the high favour with which M. Petit invests it; but if Potatoes were the only solid food afforded (the 16 or 17 ounces of meat in 1[illegible] hours being left out of the calculation), would not Potatoes versus coffee have a strong case? It would be desirable to know something, too, of the quality of the Potatoes—fine dry mealy Potatoes, taken ad libitum? and, the Attorney-General of Ireland arguing the case, would not a verdict be recorded against coffee soup?

An important omission in the French statement of defendant's case must be noticed. We are not told that the coffee-soup drinkers had any bread whatever. Surely the notion of hard-working miners thriving on a few Potatoes and coffee alone is preposterous. Had they bread in abundance? or in any measure? and of what quality? Let the plea be amended.

M. Petit brings forward a more satisfactory illustration of his theory. Some country weavers and others who lived a few years ago in great poverty in one of the Bohemian valleys at the base of the Carpathian mountains, were so wan, emaciated, and enfeebled a race as to excite the benevolent attention of a physician. He tried on them a course of coffee, the Austrian Government withdrawing the duty of it there. The result is perceptible in the healthy appearance of the peasantry, the decided alteration for the better in their habitations, and much comfort consequent on the increase of employment, where the want of it had prevailed. Would not all this in itself be a cause of the amelioration described? A fully employed peasantry in a mountain district would gradually acquire more goats and sheep and even cows and milk, and increased animal food too, with other articles of plentiful food and comforts, would be more likely to act as renovators of the previously debilitated people than M. Petit's panacea.

Yet I do not question the good qualities of coffee, and its general claim to preference over tea, as tonic and digestive, and exhilarating, and also sedative in some cases. Used as it always is by the poor in a very diluted state there is no danger of nervousness, and tremors, and sleeplessness arising among them from the excessive use of it, especially in youth, when it should not be taken in strong doses. Similar objections have [illegible] against the use of tea taken in excess.

The French reviewer of the pamphlet refers, in some just and moderate appreciation of M. Petit's theory, to the statement that the French soldiers have been supported against the debilitating influence of the climates of Africa and Mexico by the use of coffee.

In a few words are given the scientific explanation of the *modus operandi* by which coffee is maintained by the author of the pamphlet to prolong life. "There is a constant double process of composition and decomposition of molecular particles operating in our system. In proportion as the old tissues change and wear out, new tissues are formed from nutritive substances, the elements of which we assimilate. Coffee retards this double vital action, by slackening the waste of the absorbed substances. Therefore the need of recomposition and consequently of nutriment ought to be less."

Coffee is also lauded as a means of relieving "cerebral congestions and bleeding from the head, that are often attributable to obstruction in the blood vessels, caused by the particles of phosphate of lime, which detach themselves from bone tissue (more easily in advanced life), and through the blood circulation) at last obstruct the capillary vessels."

In the East and in the Antilles, where Coffee is used in great quantities, gout and gravel are scarcely known but why? If the reader wants the solution let him buy the pamphlet, or the November number of "Connaissances Utiles," if he understands French, and if not, let him learn the language without delay. *Martin Doyle.*

## AGRICULTURAL STATISTICS OF IRELAND.

THE following extracts are from the annual report of Mr. Donnelly, the Registrar-General:—

The tables of the estimated average produce exhibit, for 1861 and 1862, the yield of cereals in quarters, barrels, and tons. A table of the extent under crops, the average produce per statute acre, and the estimated total yield of the principal crops in 1847, and in each year from 1849 to 1862, is given for all Ireland. The area under each of the principal crops in 1861 and 1862, by counties and provinces, is also shown. The extent under the principal crops, the estimated average produce per statute acre, and the total produce of the land, in 1861 and 1862, also the increase or decrease in the latter year, are given in the following tables. The decrease in the average yield of the crops in 1862 compared with 1861—Potatoes and Flax alone excepted—may, I conceive, be justly attributed to the very unfavourable season of 1862. And here I would beg to remark that the benefits resulting from thorough drainage were most forcibly exemplified during last year, as well as in 1860 and 1861—in each of which years the quantity of rain was unusually great—notwithstanding which, occupiers of well-drained land were enabled to put in their crops at a seasonable period, and to reap them comparatively early in the autumn, whilst those farming under-drained land were unable to work it until very late in the spring; and owing to the continued wet and ungenial seasons, the estimated yield of cereals in many parts of the country was much below the average, and in several instances the crops did not arrive at maturity, especially on lands requiring drainage.

TABLE I.—The extent under each of the principal crops in 1861 and 1862, and the increase or decrease in the latter year:—

| Crops. | Extent cultivated in 1861 | Extent cultivated in 1862 | Increase or Decrease in 1862: Increase | Increase or Decrease in 1862: Decrease |
|---|---|---|---|---|
| | Acres. | Acres. | Acres. | Acres. |
| Wheat | [illegible] | [illegible] | | [illegible] |
| Oats | 1,999,160 | 1,977,528 | .. | 21 6[illegible] |
| Barley | 194,955 | 192,209 | .. | 6,[illegible] |
| Bere and Rye | 11,587 | 12,128 | 546 | .. |
| Potatoes | 1,133,504 | 1,018,112 | .. | [illegible] |
| Turnips | 334,106 | 376,715 | 42,[illegible] | |
| Mangel Wurzel | 22,[illegible] | 23,116 | 861 | .. |
| Cabbage | [illegible] | 30,[illegible] | [illegible] | |
| Flax | [illegible] | [illegible] | [illegible] | |
| Hay | [illegible] | [illegible] | [illegible] | |
| Total Increase | | | [illegible] | |

TABLE II.—The Estimated Produce per Statute Acre in 1861 and 1862, and the increase or decrease in 1862:—

| Crops. | Produce per acre. 1861 | Produce per acre. 1862 | Increase or Decrease in 1862: Increase | Increase or Decrease in 1862: Decrease |
|---|---|---|---|---|
| Wheat, in barrels of 20 stone | [illegible] | [illegible] | | [illegible] |
| Oats, in barrels of 14 stone | [illegible] | [illegible] | | [illegible] |
| Barley, in brls. of 16 stone | [illegible] | [illegible] | | [illegible] |
| Bere, in barrels of 16 stone | [illegible] | [illegible] | | [illegible] |
| Rye, in barrels of 20 stone | [illegible] | [illegible] | | [illegible] |
| Potatoes, in tons of 20 cwt. | [illegible] | [illegible] | [illegible] | |
| Turnips, in tons | [illegible] | [illegible] | | [illegible] |
| Mangel Wurzel, in tons | [illegible] | [illegible] | | [illegible] |
| Cabbage, in tons | [illegible] | [illegible] | | [illegible] |
| Flax, in stones of 14 lbs. | [illegible] | [illegible] | [illegible] | |
| Hay, in tons | [illegible] | [illegible] | | [illegible] |

TABLE III.—The total produce of the principal crops grown in 1861 and 1862, and the increase or decrease in the latter year:—

| Crops. | Estimated Produce. 1861. | Estimated Produce. 1862. | Increase or Decrease in 1862. Increase. | Increase or Decrease in 1862. Decrease. |
|---|---|---|---|---|
| | Quarters. | Quarters. | Quarters. | Quarters. |
| Wheat | [illegible] | [illegible] | | [illegible] |
| Oats | [illegible] | [illegible] | | [illegible] |
| Barley | [illegible] | [illegible] | | [illegible] |
| Bere | [illegible] | [illegible] | | [illegible] |
| Rye | [illegible] | [illegible] | | 1,4[illegible] |
| | Tons. | Tons. | Tons. | Tons. |
| Potatoes | [illegible] | [illegible] | [illegible] | .. |
| Turnips | [illegible] | [illegible] | [illegible] | |
| Mangel Wurzel | [illegible] | [illegible] | | [illegible] |
| Cabbage | [illegible] | [illegible] | | [illegible] |
| Flax | [illegible] | [illegible] | [illegible] | |
| Hay | [illegible] | [illegible] | | [illegible] |

Mr. Donnelly remarks that the particulars required for these returns continue to be most readily communicated by the landed proprietors and tenant farmers, and the public, without whose valuable and generous assistance these returns could not be satisfactorily obtained by the enumerators, however efficient in the discharge of their duties.

## ON FATTENING SHEEP, CATTLE, OR PIGS ON LIGHT LAND FARMS.

THE general advantage or benefit to be derived from fattening stock on light lands is to be found in the value of the good manure which is left on the soil, especially where much Corn or cake has been consumed. The actual clear profit from fattening, or it may be loss, must of course depend on a variety of circumstances, amongst which I may briefly notice the cost and supply of food of the various kinds, seasons, and I may also here add the situation viewed with regard to shelter; then again, the age, quality, and general description of animal, selected or otherwise, the degree of fatness attained, and the state of the market when sold. To make any animal pay for feeding, the process should be conducted in moderation, allowing the animal food sufficient to keep it in a thriving condition, but not of a too expensive kind, being enabled by these means to allow it more time to make flesh at the same amount of cost. Thus, for instance, if we take two lots of lean sheep, equal in numbers, and nearly alike in quality and live weight, giving one lot ½ lb. of cake per day, with roots and hay in fair allowance, to the other 1 lb. of oilcake, with the same roots and hay as the first receive, we shall no doubt find—that with 1 lb. of cake the increase of weight would be greater than with ½ lb.; but then, again, allowing them to be thus fed, say for 16 weeks each lot, I would ask, shall we find the extra increase of weight by the highest fed lot over the other pay us for the extra money expended in the shape of extra food?

Connected with the increase in the weight of sheep for a given amount of food, I refer to various experiments, reports of which are published in the Royal Agricultural Society's Journals. The experiments I allude to were carried on by Mr. Lawes. In No. 28 of the Journal referred to, we have a report of experiments on the comparative fattening qualities of different breeds of sheep; many similar ones have appeared since. The breeds here alluded to are the Hampshire and Sussex Downs, which, being at most those kept in our district, has induced me to notice this particular report rather than any subsequent one. The experiment commenced by giving to each lot a weight of dry food proportionately to the respective live weights previously ascertained. The Hampshires, found to be 113 lb. live weight, received 1 lb. of cake per day, and 1 lb. Clover chaff each sheep; the Sussex, whose average weight was 88 lb., received food in similar proportion, about four-fifths of a pound of oilcake, and the same of Clover chaff. Swedes were given to each lot as many as they chose to eat, but the quantities which had been previously ascertained by weighing them. Both lots of sheep were weighed every four weeks, as nearly as possible at the same hour of the day. Taking the Hampshires first, we find that during the first twenty weeks they received 1 lb. of oilcake and 1 lb. of chaff daily, eating about 100 lb. of Swedes each week per head for the twenty weeks together, and taking the average of them all. At this date, March 27, they were shorn, and their oilcake increased to 1½ lb. per day each; but the chaff remained as before. Of roots they consumed rather more; the quantity stated is 148 lb. weekly as the average of the following month. The two weeks which remained to complete the 26 weeks they ate rather less roots, 112 lb. of Swedes weekly, with 1½ lb. of cake, and 1 lb. of chaff daily. The increase in live weight per head was 2 lb. 11 oz. weekly during the first month (November), 2 lb. 8½ oz. weekly during the second month (December), 2 lb. 6 oz. the third month (January), 2 lb. 12¾ oz., the fourth, and 2 lb. 14 oz. weekly during the fifth month; the sixth month, although from an extra quantity of cake, they only increased [illegible] oz. weekly, the fortnight remaining they increased 3 lb. 10½ oz. weekly. Thus it seems they decreased in proportionate gain during the first few weeks after their cake was increased, at the same time eating more Swedes; but this might have arisen perhaps somewhat from their being shorn just at that time, as afterwards they showed a considerably increased gain.

Now let us take the Sussex. These were fed in the exact manner proportionately as the Hampshires, with this difference, that at the end of twenty weeks the Sussex, by a mistake of the man attending them, received the precise weight of hay as the Hampshires, while before they had given them only in proportion to their relative live weight. Their increase in live weight weekly during the first month, was 2 lbs. 8½ oz.; the second month, 1 lb. 11 oz. weekly; third month, 1 lb. 5 oz.; fourth month, 2 lb. [illegible]; fifth month, 1 lb. 3½ oz. This brings us to the time when they were shorn, and their food increased. The sixth month they averaged weekly 2 lb. 12 oz., and the last two weeks, which concluded the experimental period, they increased live weight weekly 3 lbs. 7½ oz.

I should have wished to draw some more satisfactory conclusions from a comparison of the two lots of sheep, taking them together, than it appears I am able to do, as we find that at one time (the month after shearing) the Hampshires lost in weight compared to previous weighings, whilst the Sussex increased very considerably; then during the last fortnight the Hampshires gained more than the Sussex in proportion. One thing will be observed in which both agree—that is the increased live weight weekly was less during December and January than the periods before and after. The experiments were interesting, as they commenced early in the winter, and were carried on through it into the spring; the misfortune was their being shorn before the experiment so far had terminated. If we take both lots together for the whole period, and average them, we find they consumed weekly for the whole period per head 7 lb. 1½ oz. oilcake, 6½ lb. chaff (nearly), 92 lbs. of Swedes; increase in live weight, 2 lbs. weekly. Their live weight (the average of both lots) when put up was about 100 lbs. each, from which it does not appear they were very heavy sheep. No doubt the more correct way to deal with these figures would be by putting these calculations at so much per 100 lb. live weight, rather than so much per head, but it would not appear quite so clear at first sight. I may, however, state that the mean average gain in weight per 100 lb. live weight over the whole time was 1 lb. 11½ oz. weekly, whilst at the commencement of the experiment it was found for 100 lb. live weight there was an increase of 2 lb. weekly. Mr. Lawes observes, in reference to one point, the tables showing that as the experiment proceeded a larger amount of food was required to yield a given amount of increase in live weight—"that the experiments led to the belief that in this seeming diminished effect of the food the difference was more apparent than real, for as the animal ripens the increase is found to be much less aqueous than during the earlier periods of growth." So it becomes necessary, in drawing our conclusions from any experiment whatever, to comprehend all the various conditions by which it is surrounded.

I will now to consider the fattening of oxen and sheep relatively. Taking one view of the matter, in speaking of the "relative" advantages of sheep and beasts, I would first inquire, how many sheep are equal in consuming powers to one bullock?—a question which is

certainly one not to be answered satisfactorily in a moment. Various opinions exist, differing considerably one from another—some believe four, others six, some eight to one. My own opinion is that, taking beasts of four or five years old and sheep of two years old, feeding them under equal conditions of food, warmth, and shelter, six sheep are more in proportion to one bullock than any less number, but then the profit or loss may vary considerably, according to the system of management pursued. I would place them in this way—the beasts under cover, the sheep in a sheltered yard, but not of an expensive kind, both being provided with a fair amount of good food—

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| 6 sheep to consume 4½ lb. cake per day = 31½ lb. weekly, at 11l. per ton | 3 | 1 | 1 bullock to consume 4½ lb. cake per day = 31½ lb. weekly, at 11l. per ton .. .. .. | 3 | 1 |
| 90 lb. Swedes per day = 630 lb. weekly, at 7s. per ton .. .. .. | 2 | 2 | 90 lb. Swedes per day = 630 lb. per week, at 7s. per ton .. .. | 2 | 1 |
| 6 lb. hay per day = 42 lb. per week, at 3l. per ton .. .. .. | 1 | 1½ | 8 lb. hay per day = 56 lb. per week, at 3l. per ton .. .. .. | 1 | 6 |
| Attendance .. .. | 0 | 4½ | Attendance .. .. | 0 | 8 |
| | 6 | 8 | | 7 | 4 |
| Increasing in weight 11 lb. meat, at 8d. | 7 | 4 | Increasing in weight 12 lb. at 7½d. per lb. | 7 | 6 |

These calculations are based on my own experience on our own farms; the quantities of food named are what I believe to be moderately good keep for sheep or beasts—that is supposing we feed both on the same kinds of food for comparison's sake only. Although I have given hay in the statement for beasts, I believe straw as fodder pays better than hay. Beasts thrive better when fed on mixed kinds of food; instead of giving the full value of cake, give them, say one-half in cake, the other half in meal, with due consideration to the relative market value of the two. Then, again, with roots—Swedes in the early part of the winter are as good, and perhaps better (weight for weight), than Mangels, but in the spring I prefer Mangels instead of Swedes for bullocks. Sheep also pay better with a mixture of cake and corn together than with cake alone. The proportion of increased weight to food consumed, which I have stated in the case of sheep, is about what I have found from the average of many weighings over several lots of sheep from time to time, whilst fattening, up to 16 or 20 weeks. Mr. Lawes found with the Hampshire sheep, for the 26 weeks, that with 8 lbs. of oilcake, 7 lbs. of chaff, and 106 lbs. of Swedes weekly, that the average weekly increase in live weight was 2¼ lbs. In some other experiments he states (No. 47, Royal Agricultural Society's Journal, page 215), referring to oxen and sheep, as the general results over large numbers of animals to which he arrived, that an ox consumed 12 lbs. to 13 lbs. dry substance of food to produce 1 lb. live weight increase, whilst sheep, consuming 15 lbs. to 16 lbs. dry substance of food, should yield 1 lb. increase, showing that beasts give the least proportion of increase for a given amount of food; he also stated they expended in respiration more than sheep.

Although I have said much in reference to sheep under cover, I wish to be understood that on light lands during the autumn and the spring, if the weather is favourable for them to remain out in the field, they make nearly, perhaps quite, as much flesh as if they were under cover, leaving their manure evenly over the field, giving solidity to the land, and saving the expense of drawing the roots home and the manure back, which are considerable advantages on the side of sheep over beasts, which require their food in house. It is when fattening sheep on the land during the autumn that we have an opportunity of carting away a portion of roots to the homestead, the loss to the land being made up in the cake or corn there consumed, the roots removed being consumed by bullocks, or kept in store for the same sheep when the weather becomes unfavourable for them to remain longer in the field.

I do not consider, taking light-land farms, that much bullock fatting is of advantage, as the quantity of roots which I have just mentioned are almost the only ones which ought to be removed from the land, if intended for Wheat, believing that, except in a very few instances, the whole of the other roots would be more advantageously fed by the store sheds entirely, without any taken away. Where the root land is intended for Barley, then more roots may be taken away without loss to the following crop, with a view to converting the surplus straw of the farm into good manure, rather than to derive any large profit from grazing. The haulage and storing of roots to the homestead is somewhat expensive, and cannot be performed at less than 10*d.* to 1*s.* per ton for a mile distance, even under very favourable conditions. In such a case I would prefer putting up a cheap sheltered yard in the field for sheep to lie in during bad weather, thus making manure where it would be wanted at a future day.

These latter remarks apply to pigs the same as to sheep or bullocks. The value of pig manure to light land is considerable; but the profit in other ways depends very much on the nature and quantity of the food the pig receives. Pigs can be made to pay if fed on Barley-meal, given to them in small quantities at the commencement, with roots besides, and also a few grains, if they can be procured. Taking a pig eight months old, I consider 1 peck of Barley-meal per week, and about 3 bushels of roots per week, sufficient to begin with, to be gradually increased until the pig is fat. In this manner pigs can be made to pay for the food they consume; but if a pig is fattened on meal, and that only, I do not think 10*s.* per score will fairly show a balance in its favour. There is one advantage in having some pigs to consume any refuse food, and the litter which may be supplied them is not necessarily so good as that required by other stock. Taking a general view of the whole subject throughout, the conclusions to which I have arrived are these—that the fattening of stock, as a whole, on light land farms, is a benefit to the land, in supplying the means of converting the surplus straw into good manure, more than the profit derived directly in money value. The mixed kinds of stock possess their respective advantages at different times. To sheep I give the preference, as I believe it can be shown their profit over beasts is greater under the same conditions; the advantage to the land, at those periods of the year when sheep can be kept to consume their food there, added, gives it in their favour. Our experience tells us the simple return of manure, of which light land may have been deprived, will not of itself supply all that it requires. The extent to which the fattening of pigs can be carried on with advantage rests in a great measure on the quantity of surplus straw on the farm, and the facility with which a quantity of roots may be brought to the homestead, the loss to the land from their removal being weighed, and the manner in which it may be replaced.

[The above is condensed from a paper by Mr. C. Saunders, lately read before the Dorchester Farmers' Club. The following remarks upon it were made at the time:—

Mr. Groves took particulars of the feeding of some oxen last year, and the profit was so small that it would not be advisable for him to advise box feeding. At Michaelmas he put up three oxen in fair condition, two valued at 15*l.* each and one at 17*l.* The food they consumed in 26 weeks cost 7*l.* 3*s.* 4*d.*, cake at that time being so dear that he considered meal more economical. They "proved" as well as any animals could; and at the end of the period named he sold them for 86*l.*, which, adding together their original value and the cost of keep, only left him a profit on the three of 5*s.* 6*d.* The average cost of their keep was 7*s.* 4*d.* per head per week, and the profit only 1*s.* 5½*d.* They of course left a great quantity of very good manure, but if he had been fatting on a large scale, and had lost a bullock or two, it would have swallowed up the profit. In feeding out sheep liberally, however, they paid him very well, independent of the manure they left.

Mr. T. H. Saunders said he had for some years been in the habit of weighing sheep alive to see how they "proved." He had given a pint of corn a day and found they paid for it; but when he doubled that allowance, although in the same field of Turnips, they did not pay for their extra quantity. He had made similar experiments with pigs as well as sheep, and found slow feeding paid best. As to feeding sheep out of doors when the weather was bad, it was almost impossible to make them pay. His practice had been, instead of carting the Swedes home, to put up a temporary yard at the expense of about 20*s.*, which would hold about a couple of hundred sheep, so that they could walk out to eat their food and go in to shelter at night. Where the land was light, the solidity given to the soil by the treading of the sheep was almost as useful as the manure they left behind. He also liked to put a rick where the yard would do for two years instead of one. As long as the weather was favourable in autumn he should not put sheep in a yard, for he found that during fine weather they gained most out of doors, but when it got wet they did better in the yard. If they had a yard in the corner of a field, they could take some Turnips and place them in a row close by the yard, so that they would be there to feed when the weather got bad just where they grew, and where the manure was required. He alluded to the necessity of sheep being also well looked after and regularly fed, which was of no less importance than their having plenty of food.

Mr. Wood, the Chairman, said he had seven beasts in the Repository sale to-day which were grazed on roots and hay, without a morsel of cake or corn. He thought they averaged about 22*l.* per head, and it would not be unfair to say that the animals were worth about 12*l.* or 13*l.* each at the end of November. He was not fond of oilcake bills, though he did not say they should not feed on oilcake or a good substitute for it; but he thought they ought as much as possible to grow their fattening food on their own farms. He also argued that they should always keep all their stock, even breeding stock, in good condition, not only as affecting the animals themselves, but also the manure which they left behind. It was also of the utmost importance to keep the young stock well the first year, both sheep and calves; and in pursuance of this principle, he had for some years past cut the Turnips for all his lambs through the winter, and though there was a little more expense he was amply repaid for it. He considered that the evidence of good or bad farming was, whether there was any unused or surplus straw lying about.]

## Home Correspondence.

*Sparrows.*—Having read in your useful Paper many arguments concerning the use or destruction of the sparrow, I crave your indulgence for a few observations as I belong to that class most exposed to the depredations of insects, and to the damage the sparrow is said to do. On all small cultivations, such as an acre or two of corn, or a garden plot where a few seeds are grown, no doubt the seed will be thinned, or the acre of grain will be damaged, but upon a larger scale the sparrow does not do the mischief reported by some of your correspondents. Always, as the harvest approaches, some one is appointed to watch the crops with gun (with powder only), or lads with other annoying notice, to drive the small birds away, if corn of any description is sown near a hedge, or Quick, &c. In such localities no doubt great trouble will be occasioned, but on a 10 or 20 acre piece this will not happen. With regard to recommending the wholesale destruction of the sparrow, you may just as well destroy the rooks because they clear the rows of Beans and Peas immediately after they are planted, or just as the young plant makes its appearance, or because they pull your headland Barley or Wheat down as it becomes ripe; these are trifles all cultivators are subject to. The sparrow destroys the larva of the elater [wireworm] by hundreds daily during the breeding season, one of the greatest enemies the farmer has to contend with, both in the meadow and the tilled land; this all good farmers know well. Let those who advocate their destruction watch this bird, with its living pest of insect in its beak, carrying this food to its young five or six times in the hour from sunrise to sunset. Its young are fed with thousands of grubs picked up from and out of the earth at this season. There is no corn or other food so acceptable to the young as these pests, the greatest enemy to the husbandman and the tiller of the soil. *Newbury.*

*General Steam Cultivation Company.*—I am glad to find a General Steam Cultivation Company is at length about to be formed, and hope it will soon be well established, receiving, as a society of this nature should, the support of the patriot as well as the capitalist (and no doubt the two are often united). I am not acquainted with the directors, or any person whose name appears in the prospectus, and have not therefore at present more interest in the speculation than any other agriculturist; but if a moderate scale of charges be fixed upon, and the best implements known (and only the best), used without favour or affection to any inventor or manufacturer, I shall take some shares and place a set of tackle upon my estate, and wish we could have availed ourselves of this unusually fine spring. If the company do not send out implements until after the great gathering at Worcester, I hope advantage will be taken of the latest improvements shown. I am anxious upon this point, having some time ago hired two ploughs by different makers, both of which were immediately afterwards superseded, and neither of which did the work in the satisfactory manner I have since witnessed. Thus, unfortunately, the farmers in Bœotia (my district) are rather more prejudiced against steam power than if it had not been introduced. Perhaps one of the best immediate means of promoting the use of steam-cultivators would be for the Company to issue a good and concisely written pamphlet, wherein the effects were described, and the increased produce per acre given, by a thoroughly practical man, who could be seen and spoken to, for I fear that many farmers believe the majority of "writers" to be myths, and all to be muffs. *H. V.*

*Systematic Drainage.*—It is desirable in a matter of national importance that any words upon which passing stress is laid should be quoted accurately. In the communication of Mr. Carroll in last Saturday's *Agricultural Gazette* he unintentionally makes me say what is most certainly directly opposed to my opinions. No one has greater deference to systematic drainage than I have. Within inverted commas Mr. Carroll places these words as uttered by me:—"It is altogether a misapplication of terms to designate systematic drainage a scientific operation." What I did say, and what I most emphatically repeat, were these words:—

"It is a custom to designate systematic drainage a scientific operation; and, of all misapplications of terms, it is impossible to conceive anything so inappropriate as to call the drainage of free soils by a parallel system a scientific work. So directly is it the reverse of science, that, 50 years hence, our children will look upon it as an absurdity as great as the adoption of under-drains 18 inches deep is now regarded by those who are draining 4 feet and more deep. In truth, up to this time, the engineering element has been entirely absent from the under drainage of land. Equidistant parallel drainage is not science, though it required the scientific writing of Parkes to render adequate depth acceptable. But, while care and diligence alone are requisite in the clays, the best judgment and skill are required in the drainage of free soils. Frequently the source of evil is far from the land we are about to drain, and the quantity of water to be removed many times the quantity that falls on its surface."

Systematic drainage is not necessarily parallel drainage; on the contrary parallelism, which is correct in homogeneous soils with regular surfaces, is an unmitigated absurdity when applied to mixed soils, or to free soils with irregular surfaces. It is in fact as ridiculous as the act of a gardener who would put all plants in the same soil and the same sized pot, or that of a tailor who would provide a large household with clothes from the measure of one of its members. Systematic drainage, as recognised in science, is the connection of the appropriate modes of draining different soils and varying surfaces one with another, so as to secure uniform action and perfect discharge by a proper outfall. *J. Bailey Denton, April 16.*

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

A MEETING of this Society was held last Wednesday at their Rooms, Hanover Square. Professor Wilson in the chair.

The subject for discussion was the natural history of parasites on the bodies of animals, and the treatment of the diseases to which they gave rise.

Professor SIMONDS commenced by observing that the subject was one of so comprehensive a character that he proposed to deal only with a portion of it, viz., that which related to the parasites which were found in the bodies of animals, and which were the cause of many of the diseases to which they were subject. There were first the Epizoa, which fixed themselves in the skin of the domesticated animals; next the Entozoa,

inhabiting the internal structure of the animal, without reference to any particular organ; third, the Ectozoa, a kind of lice, ticks, and mites in the skin of animals which produced scab in sheep and mange in horses. These different varieties were also subdivided into classes according to the parts of the body which they chiefly affected.

In noticing the worm which was the most common, the Filaria bronchealis, he observed that it was met with in the bronchial tubes of the sheep, and indeed in the bronchial tubes of almost every domestic animal. Of late years this worm had excited a good deal of attention on the part not only of the public, but of the practical farmer, in consequence of the sad losses which had resulted from its existence, especially among lambs. This worm existed in the form of perfect males and perfect females, but the sexes were by no means equal, there being probably 50 or 60 females to one male. The oviparous worm, the young worm, would be hatched occasionally, while the ova was in the body of the female, and would exist there as a living worm, escaping from the oviduct as a living worm. The chief reason why these worms were so destructive to sheep and other animals was that they were perfect in the part within which they were deposited; and supposing only one impregnated female to inhabit the bronchial tube of an animal, that female would in process of time produce myriads of worms, to which the animal must eventually fall a sacrifice. It was difficult to say how the animal received these worms. Although the worm was oviparous, and found its proper habitat within the bronchial tubes of the animal, it was equally true that ova ejected with any mucus which might be coughed up (and cough was a leading symptom of the disease in the sheep), would remain on the pasture ground for an indefinite time without losing its vital property and power of development. and then when the animals fed on the ground where the ova were they would receive these ova, from which the young worm would very speedily be produced. They would thus find their way into the bronchial tubes, the impregnated female would soon perfect the egg, and then there would speedily be a considerable brood of these creatures, which, passing into the air cells of the lungs, created irritation in the lung, caused a condensation of the lung structure, produced organic changes in the lung, and destroyed that part of the lung as an aerifying organ; the lung degenerated into a fleshy-like substance, the animal would fall off in condition, have a constant cough, waste away, and eventually become affected by a diarrhœa which usually carried them off. It was not uncommon for 50, 60, or 70 per cent. of a flock of lambs to be destroyed by these creatures. The means of getting rid of them consisted in resisting their attacks, endeavouring to destroy them in the situation in which they were placed, and then expelling them from the body. In the first place it was necessary to give strength and energy to the constitution of the animal, and make the habitat of the parasites unpleasant to them, and expel them from the system as dead matter. To strengthen the constitution of the animals, the most generous food in a concentrated form should be given, taking care to throw into the organization as much food containing nitrogenous matter as possible. Cake, corn, and so on might be used unsparingly in every case of this kind, but care should be taken to give that food early, because if they waited until the diarrhœa came on that would be evidence that the system was in such a weakened condition that food of this kind would be absolutely of no use at all. The diarrhœa in this case depended upon the weakened condition of the powers of digestion and assimilation. With regard to medical treatment, and that class of agents which were called anthelmintics, some of them were good and powerful for parasitic affections, and some were of no use at all. Turpentine in conjunction with a little oil, and with some preparation of asafœtida, was as nice a compound as could be given. What was wanted was to bring something to bear directly on the parasites in the situation which they occupied; but as they occupied the ramifications of the bronchial tubes, it was difficult to get anything that would be productive of good to go down the trachea. In the case of a calf from half an ounce to 1 ounce of turpentine ought to be given; or 3 ounces of oil and 2 ounces of tincture of asafœtida. That compound might be administered daily for three or four days in succession, when it should be discontinued for the same space of time, and then again administered. Other means might be resorted to besides those of strengthening the system, such as alternating with the anthelmintics ordinary tonic agents, such as sulphate of iron and ginger in combination, to give tone and vigour to the digestive organs. Another simple plan was to impregnate the atmosphere with the fumes of sulphur.

Mr. Simonds then noticed another parasite which did great mischief to lambs and sheep, especially owing to its producing diarrhœa. There was one form of scour that was directly due to the presence of entozoons. These were termed the hairy-headed worm. As a rule they inhabited the larger intestines of the sheep and were oviparous. They were productive of mischief from the circumstance that they inserted their heads into the mucous membrane, and fed directly upon the animal tissue itself. They drew their nutriment directly from the blood. In consequence of the irritation they caused diarrhœa increased, and as it would not yield to the ordinary treatment, a great number of sheep were lost from this cause. With regard to the means of getting rid of them, they were in principle the same as those he had already mentioned. The next worm upon which he would make a few remarks was the Placia hemata. This had only recently been brought under his notice, and he thought he was justified in saying that it was new in this country, or at any rate it was an undescribed variety of Filaria. In 1858, a gentleman found that although he took every possible care of his lambs, they wasted away in condition until they died; various changes were made in their feeding, but without avail, and at length he (Professor Simonds) was asked to go down and investigate the case. The most careful examination failed to elicit the existence of any kind of disease. At length it struck him that parasites might be found in the animals. Some of the animals were killed, and after examining various parts of them without any satisfactory result, there was only the true digestive stomach left, and upon cutting that open he was hardly prepared for what he observed. The stomach was literally as thickly covered with these worms as the head of a ram with hair. There they hung, their heads buried in the mucous membrane of the stomach in myriads. No breed of sheep appeared to be exempt from these parasites, and he had subsequently met with instances of the presence of this worm in the most remote Western, as well as in the most remote Eastern Counties of England. Various means had been resorted to for the purpose of getting rid of these parasites. After making various experiments he determined to try the effect of a large dose of salt administered as a draught, and it turned out to be the most efficient agent he could have desired. In one instance he took as much as three-quarters of an ounce, and in another a whole ounce of salt, dissolved it in a half-pint of water, and gave it to the sheep. By this means he removed hundreds and thousands of these creatures, and from that moment might be dated the recovery of the animal. He had made experiments frequently in the same way and with the like success. These doses of salt must not however be repeated often, for they were poisonous if carried to too great an extent; but there was no reason for apprehending danger or mischief from one or two such doses administered at proper intervals. He understood that some farmers in Suffolk had found that where their lambs were affected with this description of worm in their stomach they had been got rid of by feeding the sheep upon Green Rape. The learned lecturer concluded by observing that he hoped his observations would be the basis for a paper on the subject, for a future number of the Journal of the Society.

After a short conversation, on the motion of Lord Berners a vote of thanks was given to Professor Simonds, and the proceedings terminated.

## Notices of Books.

*The Summer of* 1863, *founded on the Vernal Equinox; with Observations on the Summers of England, coupled with Remarks on the Locality and Meteorology of Great Britain.* By Thomas Du Boulay. Rogerson & Tuxford, 246, Strand.

We referred the other day to the worthlessness of weather prophecy, and to the apparent baselessness of Mr. Du Boulay's theory or speculation in particular. Let the author, nevertheless, state his theory himself. The following is his statement—

"Opinion differs as to the nature of the causes which make some summer seasons in Great Britain more than 5° on the average of the summer months, hotter or colder than other summer seasons. Some suppose that the sun himself varies in the amount of power emitted by his rays, and that the whole Northern hemisphere may thus during some summers be less heated by him than during others. The author adheres to an explanation of the probable causes, which he offered for consideration in a paper read at Oxford in June, 1860, before one of the Sections, at the meeting of the British Association for the Advancement of Science. That suggestion was substantially this: That the sun during every summer, is as undeviating in his power as in his place in the heavens, but that the state of things down below on the earth which each winter leaves behind it at its close, in different parts of the northern hemisphere, varies from year to year, and that to this diversity and not to the varying powers of the sun, the differing character of our summers is ultimately to be traced. All allow that surface temperatures of land or sea, however caused, have an influence in originating aërial currents, and that the weather prevailing at any given time in any given place is mainly determined by the currents of air there and then prevailing. It is not to be disputed that each winter varies in different parts of the northern hemisphere, both in the degree and the depth of cold which it imparts to the surface of land or sea. At the close of each winter, not only the position and temperature of the northern ice fields vary, but the temperature of the great plains of Europe, Asia, and America, vary also; as likewise, though perhaps less in degree, the temperature of the North Atlantic, and other waters of the Northern hemisphere; and all these again are ever further varying in their relationship of warmth and moisture to each other. Hence let the sun be as uniform as he may in the power of his rays, and in the place which he occupies in the heavens during summer, the temperatures prevailing over the varied surface of sea and land throughout the northern hemisphere can never, year by year, during summer, be the same, since they are necessarily compounded, not only of the degrees of heat imparted by the sun's rays, but also of those inherent but ever-varying temperatures which each winter may there have left behind it at its close. Thus may arise, during every summer, in the north temperate zone, different classes and combinations of dominant atmospheric currents, sometimes causing in one country, sometimes in another, seasons normal or abnormal, as the case may be. At the present moment, whilst these observations are being penned in Kent, the vernal equinox is not yet come, but is not far off; winter, therefore, has nearly done its work, and everywhere throughout the northern hemisphere, the temperatures that it is going to leave behind it at its close are nearly fixed. The weather also, is now, and has lately been in Kent very fine, but this fact throws no light whatever on the nature of the ensuing summer, because throughout the northern hemisphere it is still winter, though near its close; that is, night is still somewhat longer than day. But the question which is interesting as regards the future is this—viz., what, under the given circumstances of temperature, &c., now prevailing over the northern hemisphere in its different parts, will be the tendency of the aërial currents when day becomes longer than night; that is, when summer comes? The general tendency of those summer currents, and the nature of the alteration, if any, to be effected in the winter ones by the change from winter to summer, may, in a certain manner, and in a certain degree, be discerned at the period of the vernal equinoctial week."

This is the general equinoctial theory which Mr. Du Boulay has proposed for acceptance. And the following is his prediction, in accordance with it, of the summer of 1863:—

"The stillness and warmth and beauty of atmosphere during the latter portion of the equinoctial week in the kingdom at large, undoubtedly presents a striking contrast, as compared with the more stirring character of its earlier part; and though in some parts of the north of Ireland, and perhaps in Scotland, this stillness did not everywhere prevail, the wind being, in some parts of those countries, towards the latter part of the week, brisk or squally, west; still, that period was, in almost all parts, accompanied by so much fineness, and such a very unusually high and steady barometer for days together, that for the whole kingdom a fine summer and very fine July, August and September must be inferred.

"The summer comprises May, June, July, August, and September (not April); and bearing in mind the normal tendencies of the weather at certain periods of it, *vide* 'Summer of 1862,' the equinox as a whole may be said to present the prospect of such a complete balancing of desirable weather elements in every part of the summer, as to lead to the hope and expectation of a glorious return from the land at harvest, throughout England, Scotland, and Ireland. It is not considered probable that either heat or cold, or drought or moisture, will anywhere at any time so predominate as to interfere with a great final return from the cereal, or even leguminous crops, though there must ever be small but decided local differences of climate. Not only may it be expected that Wheat may yield a superlative return in quantity and quality, but that the spring crops also, including Barley, Oats, Beans, Peas, and Potatoes, may all be thoroughly good. Mangel Wurzel, when once fairly up, may be expected to grow very large; and there seems no reason why the early crop of hay should not be good also, though it is quite possible that the latter pastures may be rather bare from dryness and heat, and that the growing Turnips in England during August and September, may be inclined to mildew from the same cause. It may be expected that the crops throughout England, Scotland, and Ireland will be safely housed in excellent condition before the arrival of the autumnal rains.

"In this forecast neither the possible ravages of insects on Peas or Beans, &c., is taken into consideration, nor the disturbing influence of a larger comet, should it appear."

The remainder of the pamphlet is occupied with a discussion of the influence of comets and of the general subject of meteorology; but the author's complete discussion of this subject is to be found in his first publication, entitled "The Summer of 1862."

## Miscellaneous.

*Royal Agricultural Benevolent Institution.*—Her Majesty the Queen has been graciously pleased to signify to the Secretary, through Sir Charles Phipps, her consent to become the patron of this valuable nstitution.

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending April 29, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 23 | 30.09 | 52 | 45 | W. | 3 | 3 | 61 | 39 | 106* | 34 | 0.01 | 52 | 51 |
| Friday .. | 24 | 30.43 | 46 | 42 | W. | 2 | 2 | 60 | 32 | 107 | 32 | .. | 52 | 51 |
| Saturday .. | 25 | 30.34 | 55 | 50 | W. | 3 | 5 | 60 | 44 | 111 | 39 | .. | 52½ | 51 |
| Sunday .... | 26 | 30.30 | 56 | 51 | N.W. | 2 | 2 | 65 | 40 | 113 | 34 | .. | 53 | 51 |
| Monday .... | 27 | 30.12 | 56 | 53 | W. | 3 | 2 | 67 | 34 | 112 | 31 | .. | 53½ | 51½ |
| Tuesday .. | 28 | 29.89 | 49 | 47 | W. | 4 | 6 | 64 | 42 | 104 | 38 | .. | 54 | 51½ |
| Wednesday | 29 | 29.87 | 49 | 46 | N. | 2 | 6 | 58 | 37 | 107 | 31 | 0.04 | 53½ | 51½ |

[* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

### Notices to Correspondents.

AGRICULTURAL WAGES: *Constant Sub.* Probably Wiltshire stands lowest on the list of English Counties.

BATH CHEESE: *Young Housekeeper.* To one gallon of new milk add two quarts of cold spring water, and two table spoonfuls of rennet. When thick take it gently out of the vessel with the skimming dish, and lay it in a small vat of suitable size, a canvas cloth being previously placed in it. Apply dry cloths every 12 hours for two days, when it should be turned out on a plate with another over it. The cheese should be turned occasionally, and it will be fit for use in about a fortnight.

CHANCELLORS' LIVINGS AND CLERICAL CONTROVERSY: *H D R.* Thanks: but the subjects are not agricultural.

CO-OPERATIVE FARM: *Tunbridge Wells.* The paper you have been good enough to send us will appear next Saturday. It is too late for this week.

CONSANGUINITY: *Forco.* Get a cross from another family.

CREAM CHEESE: *Young Housekeeper.* Take a quart of cream, or if not desired very rich, add one pint of new milk, warm it in hot water (if necessary) until it is the temperature of milk from the cow. Add a tablespoonful of rennet, let it stand till thick, then break it slightly with a spoon and place it in a frame 8 inches square and 4 inches deep, in which a fine canvas cloth has been placed. Press it slightly with a weight, let it stand 12 hours, then put a finer cloth in the frame—a little powdered salt should be put over the cloth, it will be fit for use in a day or two.

GAS LIME: *Agricola.* You will find all about gas lime in Johnston's "Agricultural Chemistry," or in Morton's "Cyclopædia of Agriculture." Lime takes up sulphur, &c., from the gas, and after long process of oxidation by exposure to the air, it becomes to that extent an inferior gypsum. You should lay it up in heaps, and turning it frequently in composts it will improve by exposure, and may be used with safety and benefit to the land. Or it may be spread broadcast (3 or 4 tons per acre) over the stubbles.

NATAL: *A D.* We can but repeat the advice already given. In a long-established colony the wants of colonists have long since been considered by tradesmen on the spot. You had better take out nothing with you but things of personal or domestic need, about which there can be no doubt. Money will buy on the spot whatever agricultural implements and seeds are necessary.

SEWAGE COMMITTEE: *X.* Dr. Brady's analysis of the evidence given before the Sewage Committee of last session was last Tuesday cancelled by a vote of the House of Commons. Of course this would not have been done had the analysis, whatever its cousciousness, been the report of the committee of the House. But this it was not; it was merely the work of one of the members of that committee. It was Dr. Brady's doing, and the committee was appointed not to report to the House the opinion of individual members, but to report the evidence which should be given before it. If the Committee had adopted the Doctor's analysis as its report, the House would not have refused to receive it. But the analysis was not the report of the Committee, it was merely the opinion of Dr. Brady. Indeed it is most probable that if, instead of being a collation and selection of evidence in favour of certain foregone conclusions, it had fairly represented the whole body of testimony to which it referred, the attention of the House of Commons would never have been directed to the irregularity of which the Committee had been guilty in printing this analysis with its Report.

SUBSCRIPTION FOR THE BENEFIT OF MR. W. WOOFF: *The Inventor of the Patent Paring Plough.* Public Assistance is asked in aid of the above long and severely afflicted Inventor, until he becomes again able to attend to business. A published list of subscribers has reached us. Mr Wooff is disabled by serious illness. We owe to him the Patent Paring Plough, which is manufactured by Messrs. Snowden, of Gloucester, who will doubtless forward to their client any sums which may reach them for him.


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

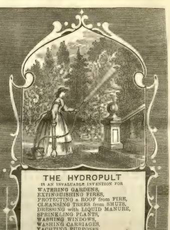
THE HYDROPULT.—"All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines."—*Gardeners' Chronicle and Agricultural Gazette.*

THE HYDROPULT.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

THE HYDROPULT.—"Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

THE HYDROPULT.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

THE HYDROPULT.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces."—*Mechanics' Magazine.*

THE HYDROPULT.—"It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation."—*Illustrated News of the World.*

THE HYDROPULT.—"Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner."—*Builders' Reporter.*

THE HYDROPULT.—"Many of the most scientific men of the age are daily inspecting and testing its uses."—*Age We Live In.*

## AN INVENTION FOR THROWING WATER BY HAND POWER

(SECURED by ROYAL LETTERS PATENT),

Price **TWO GUINEAS.**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain.

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

THOMAS RIVERS, Esq., the eminent Florist, SHIRLEY HIBBARD, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.

EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.

"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "PERCY M. DOVE, Manager."
"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. HALLOWS, Secretary, Caledonian Insurance Company."

"38, Portland Street, London, W.C.

"Mr. Charles P. Button. Sir, I am perfectly satisfied from the statement of Mr. Green, the conductor of our fire-escape at Notting Hill, that a large amount of valuable uninsured property was saved from destruction by the timely and efficient use of the Hydropult, which was fortunately on the adjoining premises during the fire which consumed the drapery establishment of Mr. Thomas, of 4, Coburg Place, Bayswater, on Friday evening last. Your little engine was used most effectually in keeping the roof of the adjoining house saturated with water, thereby preventing the spread of the flames, as the engines of the regular district fire brigade did not arrive on the spot until more than one half hour after the fire broke out.

"A fire, at its commencement, can readily be extinguished by means of this little annihilator, and infinite service rendered in staying the progress of the flames during the interval which must elapse before fire-engines can, under any circumstances, be brought into action.—Yours truly, T. SPENCER, Inspector of the Royal Society for the Protection of Life from Fire."

**CAUTION:** Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; GRIFFITHS & BROWETT, Manufacturers, Birmingham; CHARLES P. BUTTON, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult."

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. SPENCER, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE! FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

CHARLES P. BUTTON, PROPRIETOR,

HYDROPULT WAREHOUSE, 27, LEADENHALL STREET, LONDON, E.C.

WEST END DEPOT, 309, REGENT STREET, W.

## PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

# T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREEN-HOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices :—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

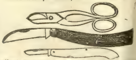
T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

**Do as Others Do!**

BUY YOUR SEED BAGS from JAMES T. ANDERSON, Sack and Bag Maker, and Russia Mat Merchant, 15, SHERBORNE LANE, King William Street, London, E.C., who will supply you with a first-rate article at a low price. ARCHANGEL MATS, the pick of the season. Russian and Prussian Dunnage Mats.

Prices sent free on application.

**Paxton Works, Sheffield, Established 1738.**



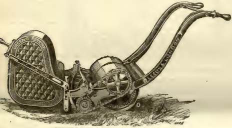
International Exhibition Prize Medal is just awarded to Saynor & Cooke for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

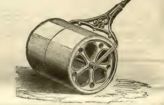
Caution.—None are genuine unless marked Saynor. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

# GREEN'S LATEST IMPROVED PATENT
## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863.



GREEN'S NEW PATENT LAWN MOWER.



GREEN'S NEW PATENT GARDEN ROLLER.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOS. GREEN FOR HIS PATENT LAWN MOWERS.

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS DURING THE SEASON OF 1862, AND DURING THE PRESENT SEASON 1863.

GREEN'S PATENT LAWN MOWERS have carried off every Prize that has been given in all cases of competition, and were the only Machines Highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862. (No Prizes were given.) They are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

Upwards of 14,000 of the above Machines have been sold since the year 1856, and thousands of letters have been received by the Patentees testifying to their efficiency. They do not deem it necessary to publish more than the two following :—

TESTIMONIALS.

"Royal Horticultural Society, South Kensington, W., Feb. 28, 1863.

"Dear Sir,—Your Mowing Machines, which have been in constant use here for two seasons, have answered well. They do their work efficiently, and with a less amount of manual labour than any other Machines I have tried,

"To Mr. Green." "Yours truly, Geo. Eyles."

"Royal Gardens, Windsor, March 27, 1863.

"Dear Sir,—The Hand Mowing Machines you supplied last season for the use of the Royal Gardens, Windsor, give great satisfaction.

"To Mr. Green." "Yours very truly, Thomas Ingram."

PRICES.

To Cut 10 inches £3 10 0 Suitable for a Lady.
" 12 " 5 0 0 Suitable for One Person. If with internal gear, 10s. extra.
" 14 " 5 10 0 Do. Do. Do. Do. 10s. extra.
" 16 " 6 10 0 Suitable for One Man or Two Boys.

The 16-inch and 14-inch Machine, with internal gear, are particularly recommended for use by one person.

| | | | If with Patent Delivery Box |
|---|---|---|---|
| To Cut 18 inches ... | £7 10 0 | Suitable for One Man and Boy | £8 15 0 |
| " 20 " ... | 8 0 0 | Do. Do. ... | 9 5 0 |
| " 22 " ... | 8 10 0 | Suitable for Two Men ... | 9 17 6 |
| " 24 " ... | 9 0 0 | Do. Do. ... | 10 7 6 |

### DONKEY and PONY MACHINES, including Traces.

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 24 inches ... ... | £11 10 0 ... ... ... | £12 10 0 |
| " 26 " ... ... | 12 10 0 ... ... ... | 13 12 0 |
| " 30 " ... ... | 16 14 0 ... ... ... | 18 0 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

### PRICES of HORSE MACHINES, including Box of Requisites and Traces.

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 30 inches ... ... | £20 0 0 ... ... ... | £21 10 0 |
| " 36 " ... ... | 23 0 0 ... ... ... | 24 16 0 |
| " 42 " ... ... | 26 0 0 ... ... ... | 28 2 0 |
| " 48 " ... ... | 29 0 0 ... ... ... | 31 8 0 |

Leather Boots for Horse, per set, 1*l*. 4*s*.

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.

Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s. Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

GARDEN ENGINES, SYRINGES, WATER BARROWS, and PUMPS. CAST IRON FOUNTAINS, VASES, GARDEN SEATS, and GARDEN CHAIRS. IRON HURDLES, WIRE FENCING, WIRE NETTING, &c. Also every description of HORTICULTURAL and AGRICULTURAL IMPLEMENTS.

*Illustrated Price Lists free.*

T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

### Sutton's Grass Seeds

AT THE ROYAL FARMS, THE ALDERSHOT CAMPS, THE CRYSTAL PALACE, THE PEOPLE'S PARK, HALIFAX, &c.

SUTTON'S GRASS SEEDS for PERMANENT PASTURE, PARKS, and LAWNS are now Sown at the Royal Farms; the Crystal Palace, Sydenham; the Horticultural Society's Gardens, and on most of the largest Estates in the Kingdom.

☞ Messrs. SUTTON'S GRASS SEEDS being mixed expressly to suit the soil for which they are required, are never known to fail. The prices are moderate, particulars of which may be had post free.

Address,
SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

### For Present Sowing.

THE HEAVIEST CARROT AND MOST CERTAIN CROPPER IS THE GREEN-TOP YELLOW BELGIAN.

SUTTON AND SONS have some fine fresh imported Seed now selling at 1s. 3d. per lb., or cheaper in large quantities (8 lb. Seed per Acre is abundance).

Also ALTRINGHAM, the largest RED CARROT.

SUTTON & SONS,
Seed Growers, Reading.

### Skirving's Swede—Sutton's Selected Stock.

SUTTON AND SONS have a choice Stock of SKIRVING'S SWEDE SEED, growth of 1862, which they can strongly recommend. 9d. per lb., or *cheaper in large quantities.*

Also SUTTON'S CHAMPION, Hardy PURPLE-TOP, and Hardy WHITE SWEDE; but the Stock of "Champion" Swede, though saved from upwards of 50 Acres of Land, being small compared with the demand, this sort cannot be supplied under 1s. per lb., or 45s. per bush.

Royal Berkshire Seed Establishment, Reading.

NEW HARDY WHITE SWEDE.—The Favourite Swede of the Flockmasters on the Hampshire, Wiltshire, and Cotswold Hills. Grows rather coarse on some soils or when sown early; but it is very productive, hardy, and it is the only Swede that can be depended upon to keep sound through the winter without storing. Excellent for late sowing and upon poor land.

Seed 1s. per lb., or 42s. per bushel.

Supplied by RAYNBIRD, CALDECOTT, & BAWTREE, Basingstoke; and 89, Seed Market, Mark Lane, E.C.

### Turnip Seeds.

MESSRS. BENJAMIN REID AND CO., SEEDSMEN, Aberdeen, Scotland, have published their LIST of SELECT TURNIP SEEDS, and will be happy to send a copy to any address.

ABERDEENSHIRE TURNIPS are widely celebrated for their bulk, solidity, and nutritious qualities.

All orders above 40s. will be sent carriage paid to any Railway Station in England or Scotland, and to the principal Irish Shipping Ports.

Seed, Plant, and Implement Warehouse, 132, Union Street, Aberdeen, N.B.

### Mangel Wurzel and Turnip Seed.

MARSH AND PERKINS, 42, Drapery, Northampton, have pleasure in offering the following, all the growth of 1862, from Transplanted Bulbs:—

YELLOW GLOBE MANGEL WURZEL, 6d. per lb.
LONG RED Do., Do., 6d. per lb.
GOLDEN GLOBE SWEDE, the heaviest cropper in cultivation, 9d. per lb.
GREEN BARREL, the best Common Turnip grown, 6d. per lb.

Cash or reference required from unknown Correspondents.

### Turnip and Mangel Wurzel Seed.

H. AND F. SHARPE can supply the Trade with the following Varieties, true to name, all of their own growth, new and genuine, and on very advantageous terms.

| TURNIP. | TURNIP. |
|---|---|
| Improved Purple-top Swede | Lincolnshire Red Globe |
| Champion do. | Improved Green Norfolk |
| Skirving's Improved do. | Fine White Stone |
| Marshall's Improved do. | |
| Yellow Tankard | MANGEL WURZEL. |
| Pomeranian White Globe | Elvetham Long Red |
| Drummond's Early Field Yellow | Fine Orange Globe |
| | ,, Long Yellow |
| Green-top Scotch | ,, Red Globe |

Seed Growing Establishment, Wisbech.

### Cabbage Plants.

W. VIRGO and SON beg to say they have a very large quantity of DRUMHEAD, RED and EARLY CABBAGE PLANTS to offer for Sale of the following sorts, at 3s. per 1000:—

| | |
|---|---|
| EARLY YORK CABBAGE | EARLY NONPAREIL |
| ,, BATTERSEA | DRUMHEAD |
| ,, BARNES | |

RED CABBAGE, 4s. p. 1000. All strong, healthy, and well rooted.

Wonersh Nursery, near Guildford, Surrey.

### Introduction of New Plants.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent, Belgium, begs to offer the following Novelties ready to send out now:—

| | £ | s. | d. |
|---|---|---|---|
| CALADIUM FORMOSUM.. .. .. .. .. | 0 | 8 | 0 |
| ,, MACROPHYLLUM .. .. .. | 0 | 8 | 0 |
| ,, MIRABILE .. .. .. .. .. | 0 | 16 | 0 |
| ,, SCHMITZII VIRIDE .. .. .. | 0 | 12 | 0 |
| ,, THELEMANNII .. .. .. .. | 0 | 12 | 0 |
| ,, VANDEN HECKEII .. .. .. | 0 | 12 | 0 |
| DIOSCOREA ARGYRÆA.. .. .. .. .. | 1 | 0 | 0 |
| DIPLACUS GODRONII, ,, VERSCHAFFELTII, ,, SPLENDIDUS } the Set .. .. | 0 | 10 | 0 |
| SYRINGA PRESIDENT MASSART .. .. .. | 0 | 8 | 0 |
| ,, AMBROISE VERSCHAFFELT .. .. | 0 | 12 | 0 |
| VIOLA ARBOREA BRANDYANA .. .. .. | 0 | 8 | 0 |

The New CATALOGUE, No. 72, and a specimen Number of the "Illustration Horticole, can be obtained Gratis by writing to AMBROISE VERSCHAFFELT.

### International Exhibition. Prize Medals 1851 and 1862,

AWARDED FOR "EXCELLENT SEED CORN AND SEEDS," TO

RAYNBIRD, CALDECOTT, AND BAWTREE, SEED MERCHANTS and GROWERS, Basingstoke, Andover; and 89, Seed Market, Mark Lane, London, E.C.

Samples of all kinds of AGRICULTURAL SEEDS and SEED CORN, sent post free on application.

FARM SEEDS
OF GENUINE QUALITY
(at Market Prices).
*Carriage Free.*

RICHARD SMITH,
SEED MERCHANT,
Worcester.

TAN GRATIS, in the immediate neighbourhood of Covent Garden Market.

Apply at WILLIAM ESSEX & SON, 28, Stanhope Street, Clare Market, W.C.

REIGATE SILVER SAND.—Best quality, 7s. 6d. per ton; second quality, 6s. per ton; best quality, packed in strong canvas bags, 16s. per ton; ditto 2s. 6d., 2 cwt. bags, stamps, put on the rail at Reigate and forwarded to all parts of the United Kingdom.

PEAT SOILS, LOAM, &c.

Collections of NEW, RARE, and BEAUTIFUL PLANTS of all kinds, carefully selected and supplied at current Prices.

W. SHORT, Salesman, Agent, &c., Reigate, Surrey.

THE best Quality of SILVER SAND, carriage paid to the South Eastern Railway Company's Station at Bricklayers' Arms, London, in Four Ton trucks and upwards, 11s. per ton, cash. In fine bags in One Ton lots, delivered to the General Carriers and Shipping Wharfs in London, 30s. per ton. Single bags of two bushels delivered to Messrs. Pickford & Co., Red Hill, 4s. 2d. per bag, and forwarded to all parts by enclosing 50 Postage Stamps. Small dry FULLER'S EARTH for improving the Growth of Lawns, Roses, &c, 4s. 2d. per bag of two bushels.

All orders and remittances to be addressed to JAMES GAWKROGER, 21, Union Street, Halifax, Yorkshire.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2s. per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the PATENT COCOA FIBRE COMPANY, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are sold in every town.

CAUTION.—Every Brush is stamped 'J. BARSHAM'S Patent'

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP,

1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. NEAL, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes; 1s., 3s., and 10s. 6d. each.

Wholesale by
PRICE'S PATENT CANDLE CO.
Limited.

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.

Extra strong, 3s. per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.

Can be obtained through the principal Nurserymen and Seedsmen in England.

A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.

PAGE & TOOGOOD, Seed Merchants, Southampton.

### The only Certain Remedy for Mildew.

JOHN BELL'S COMPOSITION for DESTROYING MILDEW on Vines, Peaches, Nectarines, Roses, and every other Plant subject to that pest, is proved to be the most efficacious that has ever been offered. Sold in Bottles at 1s. 6d., 2s. 6d., and 5s. each. A 1s. 6d. Bottle will make 12 gallons fit for use.

Seed Warehouse, 10 & 11, Exchange Street, Norwich.

POTTER'S GUANO (established 21 years)
7l. per Ton.

POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10l. per Ton.

PURE GYPSUM, 25s. per Ton, bags included.

Address, 28, Clapham Road Place, S.

THE LONDON MANURE COMPANY
have now ready

PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.

116, Fenchurch Street, E.C.

TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,

MANUFACTURED BY THE PATENT

NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),
Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.

Chairman.—JOHN CLAYDON, Esq., Littlebury, Essex.

Particulars of these Standard Manures may be obtained at the Offices. C. T. MACADAM, Secretary.

Or of the Local Agents.

Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex N.E.

LAWES'S MANURES.

The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. | |
|---|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 | 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 | 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 | 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.

Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

F. C. CALVERT'S PHENYLINE (the active principle of coal-tar) is an unfailing remedy for Foot-rot, Distemper, Grease, Glanders, Scab, Mange, &c., and may be obtained of any of the following Agents:—

JOHN BELL & Co., 338, Oxford Street, London; A. PATTISON & Co., 67, Buchanan Street, Glasgow; CLAY & ABRAHAM, Liverpool; J. WOOLLEY, Manchester; HARVEY & REYNOLDS, Leeds; H. BRADEY, Newcastle-on-Tyne; J. REED, Arundel; C. CORTIS, Worthing.

### To Machinists.

WANTED, MACHINES that will COMPRESS 4 lb. of HAY and CLOVER CHAFF, together with 3 lb. of Meal, into a Paper Bag of Small Compass.

Sample Bags containing the above-mentioned 7 lb. of MIXTURE may be had for experiment on application at THORLEY'S Steam Chaff Cutting and Condimental Feeding Mill Meals, Thornhill Bridge, Caledonian Road, King's Cross, London, N.

### Blight.

BROWN'S PATENT FUMIGATOR.—A Portable Instrument for Fumigating Greenhouses, Stoves, and Frames, or Shrubs and Flowers in the open air, without injuring the most delicate plant; delivering the smoke cold, in a dense mass, and effecting a great saving of Tobacco. Price 10s. and upwards.

Manufactured and supplied to the Trade by Messrs. BARBER & GROOM, London; and may be had of all Ironmongers, Seedsmen, and Florists.

REDUCTION IN PRICE.

## PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | | | |
|---|---|---|---|---|
| For 30 Tons and upwards ... ... ... | £10 | 5 | 0 | per Ton, net cash. |
| For 10 Tons up to 30 Tons ... ... ... | 10 | 10 | 0 | ,, ,, |
| For 5 Tons up to 10 Tons ... ... ... | 10 | 15 | 0 | ,, ,, |
| For smaller quantities ... ... ... | 11 | 0 | 0 | ,, ,, |

The Price will not exceed 12s. per Ton additional if delivered at any other Port in Great Britain.

PETER LAWSON & SON, CONTRACTORS.
GEO. SEAGRAVE & CO., BROKERS.
WILLIAM DIXON & CO., GENERAL AGENTS.

28, KING STREET, CHEAPSIDE; AND 15, LAWRENCE LANE, LONDON, E.C.

**New Scarlet Geraniums.**

WM. PAUL (Son and Successor to the late A. PAUL) has now ready for SALE two superb new SCARLET GERANIUMS. Price 10s. the pair.

WALTHAM PET.—Very bright scarlet, with fine large white eye, dwarf as "Harkaway," but much finer in truss and flower; the best dwarf scarlet for small beds or edgings. First-class Certificate from Royal Horticultural Society. Certificate also from Royal Botanic Society.

RED DRAGON.—An exceedingly smooth dark scarlet, with a peculiarly rich nap on the flower; habit of "Boule de Feu"—the best dark scarlet. All the best "Bedding" plants, 3s. per dozen and upwards.

PAUL'S Nurseries, Waltham Cross, N.

MRS. POLLOCK GERANIUM.—Twelve of the best kinds of VARIEGATED and ZONALE GERANIUMS for pot culture, including Mrs. Pollock, Rainbow, Madame Vaucher, &c., for 22s. 6d., basket and package included.

The above are strong well grown Plants, mostly in 5 or 6-inch pots, or can be sent shaken out to save expense in carriage.

A remittance respectfully requested from unknown correspondents.

ALFRED FRYER, Chatteris, Cambridgeshire.

BEDDING GERANIUMS, 2s. 6d. per dozen. Twelve dozen choice Bedding GERANIUMS, in 12 varieties, purchaser's selection, for 32s. 6d., basket and package included; or any kind separately, at 3s. 6d. per dozen.

| VARIEGATED. | ZONALE. | ZONALE. |
|---|---|---|
| Golden Chain | Scarlet Perfection | CrystalPalaceScarlet |
| Reine d'Or | Lady of Loretto | Blackheath Beauty |
| Golden CeriseUnique | Little David | Princess of Prussia |
| Flower of Spring | Beauté de Meldoise | M. Martin |
| Alma | Lady Middleton | Mde. Chardine |
| Hendersonii | Christina | Paul L'Abbé |
| Bijou | Rose Queen | Imperial Crimson |
| St. Clair | Scarlet Queen | Model Nosegay |
| CountessofWarwick | Indispensable | Minimum Nosegay |
| Shottesham Pet | Bishopstowe Scarlet | Purple Nosegay |

All the leading kinds at moderate prices. Price to the Trade on application.

A remittance respectfully requested from unknown correspondents. Post Office Orders to be made payable to ALFRED FRYER, Chatteris, Cambridgeshire.

CLOTH OF GOLD and GOLDEN FLEECE GERANIUMS.—The above fine scarlet variegated Geraniums can now be had in any quantity. Their bright scarlet flowers being perfect, the contrast with their fine golden foliage and with other plants when used for edging or in lines, is pleasing and complete.

Good strong Plants established in pots, 31s. 6d. per 100
Do., out of pots, to save part package and carriage, 25s. per 100; 10l. per 1000
Do., in pots, 4s. 6d. per dozen

P.S. Nearly 50,000 BEDDING PLANTS as follows:—
SCARLET HORSE-SHOE GERANIUMS, in varieties
Do., silver variegated, in varieties
CALCEOLARIAS, FLORIBUNDA and others
DAHLIAS, in variety
HELIOTROPIUMS of sorts
HOLLYHOCKS, fine named in pots
VERBENAS, of sorts

And other plants for Beds and Edging, can be supplied, strong and well established, turned out of pots and carefully packed, at 16s. per 100, in selections; in less quantities than 4 dozen, at 3s. per dozen. All plants delivered to the Winchfield Station, on the South Western rail, or the Reading Station, on the Great Western rail.

STEPHEN SHILLING, North Warnboro Nursery, Odiham, Hants.

**5000 Tom Thumb Geranium, and 5000 Aurea floribunda Calceolaria.**

ALEXANDER LAING offers fine Bushy Plants of the above in pots for bedding out at 15s. per 100 (cash), or 12s. per 100 turned out of pots, and tied up with Moss. A large quantity can be sent to any distance at a very small expense in carriage. The above are all autumn-struck plants, very vigorous and strong, and cannot fail to give satisfaction. Early orders solicited.

A GENERAL CATALOGUE of BEDDING PLANTS may be had on application, gratis, and post free.

Nurseries, Beverley, Yorks.

**Select Stove and Greenhouse Plants, &c.**

ROBERT PARKER begs to invite attention to his Collections of AMARYLLIS, AZALEA INDICA, EXOTIC ORCHIDS, FERNS, and LYCOPODS; ORNAMENTAL and VARIEGATED FOLIAGED PLANTS; MISCELLANEOUS, STOVE, GREENHOUSE, and HARDY PLANTS; all of which are healthy and clean. Purchasers of large or small quantities will be treated on the most liberal terms.

PRICED and DESCRIPTIVE CATALOGUES are published, and will be forwarded to applicants.

Exotic Nursery, Tooting, Surrey, S.

HENRY WALTON has much pleasure in offering the following selections of Choice Plants:—

GERANIUMS, Show, Fancy, and Spotted Varieties of 1862, at 15s. to 18s. per dozen. A large collection of choice varieties of previous years, in strong plants, at 6s. and 9s. per dozen, selections left to H. W.

ROSES, in large quantities, on their own roots and the Manetti, at 9s., 12s., and 18s. per dozen. Also now ready, all the Varieties of 1862, at 2s. 6d. each, or 24s. per dozen. John Hopper, 3s. 6d. each, 30s. per dozen.

DAHLIAS, Choice Varieties of 1862, 9s. per dozen; Select Older Varieties, 4s. 6d. per dozen, selections left to H. W.; 30s. per 100. Lilliputian or Bouquet Varieties, 4s. 6d. to 9s. per dozen.

FUCHSIAS of 1862, 5s. to 9s. per dozen.

HOLLYHOCKS, fine varieties, from 9s. to 24s. per dozen.

PANSIES, New Show and Belgian varieties, 9s. to 12s. per dozen; Older Varieties, 4s. 6d. to 6s. per dozen.

PHLOXES, a fine selection, 4s. 6d. to 9s. per dozen.

CHRYSANTHEMUMS of 1862, 6s. per dozen; Older ditto, 4s. 6d. per dozen.

VERBENAS of 1862, 4s. 6d. to 6s. per dozen; Older Varieties, from 3s. per dozen.

PETUNIAS of 1862, from 5s. to 9s. per dozen.

BEDDING PLANTS, in varieties, 3s. to 6s. per dozen.

LONICERA AUREO-RETICULATA, 2s. each, or 18s. per dozen.

CATALOGUES of the above on application, enclosing stamp.

AZALEA INDICA.—Several thousands of the above, including all the leading varieties, in fine grafted plants, such as will soon make fine specimens. The Stock is in robust health, and all home-worked. CATALOGUES and Prices on application, enclosing stamp.

Edgend Nurseries, Marsden, near Burnley, Lancashire.

**KITCHEN GARDEN SEEDS,**

**FLOWER SEEDS.**

In Collections including all the new and approved kinds, or separate to order.

Detail CATALOGUES post free.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND
THOS. GIBBS & Co.
Corner of
HALF-MOON St.
PICCADILLY,
London.
APPOINTED APL. 3, 1844
THE SEEDSMEN

**AGRICULTURAL SEEDS,**

**GRASS SEEDS,**

**FARM SEEDS,**

of all descriptions.

Thomas Gibbs & Co.

CORNER OF
HALF-MOON St.
PICCADILLY, LONDON, W.

## MIMULUS MACULOSUS.

| | | | |
|---|---|---|---|
| ADELINE. | FAVOURITE. | LADY FERMOY. | SPLENDID. |
| CHARM. | HERO. | MARVEL. | SPECIAL. |
| FLORETTA. | LAURETTA. | SOUVENIR. | STARTLER. |

**Price 5s. each.**

Twelve distinct Varieties of this exquisite New Strain will be sent out for the first time on and after the 18th inst.

This new cross has been effected with the Chilian species "Cupreus," and a showy Monkey-flowered variety named Gaiety.

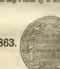
For detailed description of these exceedingly beautiful hybrids, *vide* description in *Gardeners' Chronicle* of April 25, page 388.

Hundreds of flowers of these NEW MIMULUSES are now expanded, and Mr. WILLIAM BULL will be happy to show them to any one who will favour him with a visit.

ESTABLISHMENT FOR NEW AND RARE PLANTS, KING'S ROAD, CHELSEA, LONDON, S.W.

NOTICE.—*We are sorry to observe that a respected House in the Nursery Trade has endeavoured in their Advertisements to depreciate some of the Novelties placed in our hands for sale by* Mr. BEATON. *We are quite content after this notice to let the matter stand as it is, resting assured that our Patrons and the Public have sufficient confidence in* Mr. BEATON *and ourselves to believe that we would not recommend any Plants of a second-rate character.*

## CARTER'S
## LIST OF NEW PLANTS FOR 1863.



### NEW GERANIUMS.

Mr. BEATON, the well-known Raiser of the improved varieties of NOSEGAY and other sections of BEDDING GERANIUMS, has selected the undermentioned from his large Collection of Seedlings, and recommends them as being some of the most valuable Bedding varieties ever offered to the Public; he has placed them in our hands for distribution.

**The Set of Six Varieties for 10s. 6d.**

NOSEGAY VARIETIES.

**Lord Palmerston** (BEATON).

This is unquestionably the finest of the whole group of Nosegay Geraniums. It was raised by Mr. Beaton about three years since, and sent by him to be proved at the Gardens of the Royal Horticultural Society and the Crystal Palace, and by the Directors of the respective Gardens was selected from the whole mass of bedding plants to form the most prominent Beds of last Season, where it was universally admired. The flowers are deep crimson, produced in immense trusses in the greatest profusion, as many as 130 pips, or flowers, having been counted on a single truss. As this is a variety that has been thoroughly proved, we are induced to offer large quantities at a cheap rate, so that our customers may plant out large beds this season.

STRONG PLANTS.

| | | | |
|---|---|---|---|
| Single plant | 2s. | 3 dozen | 32s. |
| 1 dozen | 18s. | 4 ,, | 38s. |
| 2 ,, | 25s. | 6 ,, | 68s. |

**Spread Eagle** (BEATON).

This is also one of the most profuse blooming of the Nosegay section; colour deep orange scarlet, with the dwarf habit of Mangles' Silver variegated. The breadth of petal of this and the succeeding variety far exceeds that of any other of the Nosegay tribe, and will doubtless go far to satisfy the exigent requirements of the most particular Florists. Price 2s. 6d. and 3s. 6d. each.

**Miss Parfitt** (BEATON).

The upper petals of this beautiful variety are deep crimson, the lower glowing scarlet with a white centre or eye; very dwarf and compact habit. Price 2s. 6d. and 3s. 6d. each.

**Merrimac** (BEATON).

This is a great improvement on "Imperial Crimson;" it has the additional breadth of petal to which we have before alluded; and in addition to being very useful for Beds and Ribands, it is very effective for Vases, &c. Price 2s. 6d. and 3s. 6d. each.

ZONALE or HORSE-SHOE-LEAVED VARIETIES.

**Helen Lindsay** (BEATON).

This is a rival of the well-known "Christine," which is so extensively used for Bedding purposes in all Public and Botanic Gardens; the colour is a much richer rose, whilst the trusses of bloom are larger, and more profusely produced throughout the season. This variety is also free from the objectionable seeding propensities of Christine (which renders that otherwise admirable kind so very troublesome to keep in good order, beds of it after Midsummer assuming a ragged appearance if the seed pods are not constantly gathered). Its habit is similar to that of Tom Thumb, leaves slightly zonale. This will be the GEM OF BEDDING GERANIUMS this season. Price 1s. 6d. each; per dozen, 12s.

**Rubens Improved** (BEATON).

Of this excellent variety it is only necessary to say that it blooms as freely as its progenitor, but with much larger trusses of the same beautiful form and colour; leaves slightly zonale. It has also the additional merit of withstanding well the sun and rain, a quality much needed in the old variety. Price 2s. 6d. and 3s. 6d. each.

For FURTHER NOVELTIES *vide* PLANT SUPPLEMENT to

CARTER & CO.'S GARDENERS' VADE MECUM FOR 1863,

Containing FULL LISTS of STOVE, GREENHOUSE, and BEDDING PLANTS, now ready, post free, on application.

JAMES CARTER & CO., 237 & 238, HIGH HOLBORN, LONDON, W.C.

**Superb New Fuchsias.**

LUCOMBE, PINCE, AND CO. are now sending out fine strong Plants of their unrivalled SEEDLING FUCHSIAS—

THE EARL OF DEVON and EXHIBITOR.

For particulars and descriptions of which, see *Gardeners' Chronicle* for April 11 and 18.

DESCRIPTIVE SPRING CATALOGUE may be had gratis on application.

Exeter Nursery, Exeter.

**Hardy Climbers in Pots.**

WM. WOOD AND SON have an immense stock of fine strong Plants of the above, suitable for planting out at once against walls, trellises, or poles, consisting of the best kinds of ROSES, CLEMATIS, BIGNONIAS, IVIES, JASMINES, PASSIFLORAS, WISTARIA, &c., at very reasonable prices.

Woodlands Nursery, Maresfield, Uckfield, Sussex.

**New Roses.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully invites attention to the following NEW ROSES, which will be ready for delivery very shortly.

LORD HERBERT, H.P.—Rosy carmine, the petals reflexing at the summits in the way of Beauty of Waltham, large, full, and finely formed, and altogether of first-rate excellence. *7s. 6d.*

LORD MACAULAY, H.P.—Velvety crimson, in the way of General Jacqueminot, but brighter in colour, thicker in the petal, and more double. The flowers are of good average size, produced abundantly and in rapid succession; the habit is good, and foliage handsome. *7s. 6d.*

MRS. WILLIAM PAUL, H.P.—Bright violet red, shaded with fiery red; flowers constantly, and in clusters, large and full. Raised by M. Verdier, of Paris, the raiser of Madame Furtado, and others of our finest Roses. *5s.*

RED ROVER, H.P.—Bright red petals, large, thick, and round; flowers abundantly and in succession up to Christmas. Not double enough for a show Rose, but the most effective pillar Rose ever offered. *3s. 6d.*

WILLIAM PAUL, H.P.—A seedling from Senateur Vaisse, but brighter in colour. Raised at Lyons by the raiser of Lord Raglan, Senateur Vaisse, and other first-class sorts. *5s.*

BEAUTY OF WALTHAM, H.P.—Bright rosy crimson, of good size, form, and substance, and deliciously sweet. This Rose is found to surpass the description originally given of it. *3s. 6d.*

All the new French Roses, *3s. 6d.* to *5s.* each, or *42s.* per dozen. The best of the old Roses at lowest advertised prices. The plants are well established, and in the finest possible health.

PRICED CATALOGUE free by post.

Nurseries and Seed Warehouse, Waltham Cross, N.

E. G. HENDERSON AND SON offer First-class quality of CINERARIA,

CALCEOLARIA, and PRIMULA SINENSIS FIMBRIATA, 1s. and 2s. 6d. per packet.

CINERARIA WEBBI.—The interest and value of this species consists in its having a shrub-like branched habit of growth, attaining from 3 to 4 feet in height. This remarkable plant is expected to originate a new and desirable class of varieties for exhibition purposes, it having already passed into all the colours found in florist varieties of the present time, and no doubt but higher improvements in form, and other essential properties, will be obtained in connection with its superior culture. It will be found well adapted for decorative purposes, by its taller growth, and longer continuance in bloom. *2s. 6d.*

EXPERIENCED GARDENERS recommended to gentlemen.

E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

**Notice.**

JOHN WATERER'S EXHIBITION of RHODODENDRONS and other AMERICAN PLANTS will be exhibited at the Royal Botanic Gardens, Regent's Park, at the End of the present Month, and will continue on VIEW throughout the MONTH of JUNE.

American Nursery, Bagshot, Surrey.

BRIGHTON and SUSSEX FLORICULTURAL and HORTICULTURAL SOCIETY.

The TENTH ANNUAL SUMMER SHOW will take place on WEDNESDAY and THURSDAY, June 10 and 11, at the Royal Pavilion, on the same grand scale as on former years.

Schedule of Prizes to be had on application to the Secretary, 96, St. James Street, or of E. SPARY, Superintendent of the Exhibition, Queen's Graperies.

By Order of the Committee,

Brighton, May 9. EDWARD CARPENTER, Secretary.

GRAND HORTICULTURAL and FLORAL EXHIBITION at WORCESTER.

The Committee of the Worcestershire Horticultural Society have arranged to hold a GRAND SHOW of FRUIT, FLOWERS, and VEGETABLES, on TUESDAY, WEDNESDAY, and THURSDAY, July 21, 22, and 23, being the week of the annual assembling of the Royal Agricultural Society in Worcester.

The Show will be open to all England, and copies of the Schedules (which will contain Prizes to the amount of nearly 200*l.*) may be obtained by applying to the Honorary Secretary, Mr. T. H. WHEELER, No. 2, Foregate Street, Worcester.

ROYAL HORTICULTURAL SOCIETY. FLORAL COMMITTEE.

LIST OF AWARDS, May 5.

FIRST CLASS CERTIFICATE.

ROSE H.P. LORD MACAULAY, from Mr. W. Paul, Waltham Cross.

CLEMATIS DOUBLE WHITE (Japan), from Mr. Standish, Bagshot and Ascot.

CLEMATIS PURPLE (Japan), from Mr. Standish.

CASSIOPE FASTIGIATA, from Messrs. Veitch & Son, Exeter and Chelsea.

OURISIA PEARCII, from Messrs. Veitch & Son.

DRACOPHYLLUM (sp.) from Messrs. Veitch & Son.

SARMIENTA REPENS, from Messrs. Veitch & Son.

RHODODENDRON PICOTEE ROSEA, from Messrs. Veitch & Son.

ATHYRIUM FILIX-FŒMINA SAGITTATUM, from Mr. W. Bull, Chelsea.

MIMULUS MACULOSUS MARVEL, from Mr. Bull.

SECOND CLASS CERTIFICATE.

BROWALLIA (sp.) from Messrs. Veitch and Son.

SPECIAL CERTIFICATE.

To Mr. Sherratt, Gr. to J. Bateman, Esq., for MOUTAN PEONIES.

To Mr. Earley, Gr., Digswell House, Welwyn, for CUT ROSES.

To Mr. Batley, Nurseryman, Rugby, for CUT ROSES.

The next MEETING will be held in connection with the First Great Show on May 27.

THOMAS MOORE, Secretary to the Committee.

**Royal Horticultural Society.**

**10th JUNE, 1863,**

CEREMONIAL to be OBSERVED at UNCOVERING the MEMORIAL of the EXHIBITION of 1851, and STATUE of H.R.H. THE PRINCE CONSORT, in the presence of their RR.HH.'s the PRINCE and PRINCESS of WALES and other Members of the Royal Family.

The Guests invited to take part in the Procession will assemble at the West Dome of the Exhibition Building.

Whilst assembling Military Bands will play.

The Royal Party will be received at the West Dome Entrance by the Executive Committee of the Memorial Committee.

Their RR.HH.'s will proceed down the Nave to a balcony over the Southern entrance of the Horticultural Gardens, and their arrival will be announced by a flourish of trumpets. "God Save the Queen" will be played by three Military Bands united in the Ante-Garden.

The Council of the Horticultural Society will present an address.

Military Bands will again play.

After which the Memorial Committee will read an Address.

H.R.H. the Prince of Wales will order the UNCOVERING OF THE MEMORIAL, which will be announced by a flourish of trumpets and a salute of Artillery, after which military music will be performed and the fountains will play.

The Royal party, headed by the procession, will then walk round the Gardens, stopping at various points to see the Memorial and the Garden.

The route will be marked by barriers and banners, and it is requested that during the procession the spectators will remain stationary.

In the event of rain the line of procession will keep under the cover of the Arcades.

The Exhibition Building will be thrown open to the visitors.

GEORGE GODWIN, Hon. Sec. Memorial Committee.
W. W. SAUNDERS, Hon. Sec. of the Horticultural.

LINDLEY TESTIMONIAL.

EXTRACT FROM MINUTES OF ANNUAL MEETING OF THE ROYAL HORTICULTURAL SOCIETY, HELD ON FEB. 10, 1863.

"It was moved by Mr. WILSON SAUNDERS, seconded by Mr. Alderman COPELAND, M.P., and unanimously agreed to, that the best thanks of the Society be given to Dr. LINDLEY on his retiring, after 40 years' service, from the Secretarial duties, for the eminent services he had rendered to the Society.

"It was also agreed, on the motion of Mr. Alderman COPELAND, M.P., seconded by Mr. BATEMAN, of Biddulph Grange, that a circular should be issued calling attention to the vote of thanks, and inviting subscriptions for a Testimonial to Dr. LINDLEY, each subscription to be limited to One Guinea."

In order to carry out these resolutions, a committee has been formed, consisting of Alderman COPELAND, M.P.; G. CORNWALL LEGH, Esq., M.P.; W. WILSON SAUNDERS, Esq., F.R.S., and JAMES BATEMAN, Esq., F.R.S., who will be glad to receive subscriptions, to be paid at the Accountant's Office of the Society, South Kensington.


# The Gardeners' Chronicle.

*SATURDAY, MAY* 9, 1863.

MEETINGS FOR THE ENSUING WEEK.

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| WEDNESDAY, May 13 | Royal Botanic | .. .. .. | 2 P.M. |
| | Microscopical | .. .. .. | 8 P.M. |
| | Society of Arts | .. .. .. | 8 P.M. |

MOST of our Orchidophilists have some favourite genus, the species of which they foster with peculiar affection, and cultivate with more than ordinary care. Mr. HUNTLEY in his day clung to ONCIDIUM, but that genus, extensive as it is, could now scarcely furnish forth a longer list of distinct and beautiful forms than might be reckoned up under the genus that bears Mr. HUNTLEY's own name, were all the species that still abide by his standard, or have been violently separated from it, gathered together in one phalanx. CATTLEYA, notwithstanding its ungainly habit, has always been surrounded by a devoted band of admirers; while the more graceful LÆLIA has followers not a few. All these genera belong exclusively to the western hemisphere; but from the east come DENDROBIUM and AERIDES and VANDA, each of which has its eager devotees. Some hands are held up for the African ANGRÆCUMS; while a single species of DISA (*D. grandiflora*) has almost monopolised the attentions of a well-known enthusiast at Clapham. Then there is CYPRIPEDIUM, which belongs alike to the Old World and the New, now rapidly and deservedly pushing itself into public favour.

To these leaders in the world of Orchidaceous fashion, there must now be added yet another genus—ODONTOGLOSSUM—which, although until very lately almost unknown to fame, appears at length to have a brilliant future before it. This genus is confined to tropical America, and was founded by the illustrious HUMBOLDT on a plant (*O. epidendroides*) discovered during his memorable wanderings in the New World about the commencement of the present century. All its species, with perhaps one doubtful exception, are *mountaineers*; they are scattered in vast profusion over the Andes of Mexico, New Granada, and Peru, preferring an elevation of from 6000 to 8000 feet above the sea level, though sometimes ascending to a still greater height. The climate therefore in which they luxuriate must be essentially different from that of the West Indies, or of the sultry coasts of Guiana and Brazil, whence our first importations of S. American Orchids were derived, as well as our first notions of what was required for their artificial cultivation. But our system of hot treatment, while it answered well enough so long as we had to deal with the natives of hot localities, broke down altogether when it came to be applied to plants accustomed to a totally different climate, and constitutionally incapable of enduring the heat of our stoves. Hence came the disappointments to which we adverted in a recent article, and which seemed to have pressed so heavily on the spirits of our Orchid-growers, that it was long before they could be induced to venture upon the easy and natural expedient of applying cool treatment to plants accustomed to a cool climate.

It is owing to the tardy recognition of these simple principles that ODONTOGLOSSUM has been kept in the background so long, for few of its species can endure, and none of them prefer, the heat of the ordinary Orchid-house; but now that juster views have prevailed, we are beginning to appreciate the rich abundance of beautiful forms that this marvellous genus has in store for us. This, however, will perhaps be better understood if we glance briefly at the history of its progress. Founded, as we have already remarked, more than 60 years ago by HUMBOLDT, on a single species, it received no accessions (except three Mexican species described by LEXARZA) until after the publication of the first edition of Dr. LINDLEY's *Genera and Species*, and yet in the second edition of that work, published some dozen years later, the roll of its constituents had risen to nearly 70, and so many splendid additions have been recently made that we may safely venture to set down the total number already known to us as scarcely, if at all, less than a hundred.

But not less remarkable than the aggregate of its species is the large proportion of showy and interesting plants that this genus offers to the notice of the cultivator; for if we except such as belong to the section Trymenium, which may possibly have eventually to be constituted into a separate genus, almost every Odontoglossum with which we are as yet acquainted is worth growing. Such plants as O. grande (according to Mr. SKINNER the finest plant of the Guatemala flora), the lovely O. Cervantesii and O. citrosmum (well termed pulcherrima by their original discoverer, LEXARZA), and the still more striking O. nævium, O. Pescatorei, O. Phalænopsis, and O. triumphans, from New Granada—these and a host of others may well be left to tell their own tale. And when zealous collectors shall have explored the sources of the thousand streams that water the marvellous country through which

"Hugo Orellana rolls his affluent flood,"

we shall doubtless see almost innumerable additions made to the already well filled ranks of the glorious genus that has its head-quarters in the district of which we speak.

But besides the intrinsic beauty of its species, ODONTOGLOSSUM has other passports to popularity. In the first place it loves a cool temperature, and if grown as it ought to be in a house with a northern aspect it may be approached at all hours, and when the heat of the ordinary Orchid house is often unbearable. Second only in importance to this consideration is the fact that a great majority of its species flower during the dull winter season, and continue in bloom for months together. Many kinds, too, are deliciously sweet, while none send forth what are in the slightest degree offensive odours, like too many other Orchids we could name. If to all this we add a neat compact habit, surely we have here more than enough to explain the high place that the genus to which we have devoted this article has already taken in public favour.

It would be unfair to a zealous continental traveller to leave this subject without acknowledging the deep debt of gratitude that Orchid lovers owe to M. LINDEN of Brussels, to whose own zeal and that of other collectors connected with his establishment, we are indebted for the introduction of at least 20 species of *Odontoglossum*, many of which are eminently beautiful, as the plates of *Pescatorea*, where about 10 of them are figured, abundantly testify.

THERE is a general impression that a new plantation of SCOTCH FIR will not succeed where an old Fir forest has been cut down, and experience has gone very far to prove the justice of the impression, though natural forests have existed for centuries without being exhausted. Doubtless in many cases evil arises from the old roots which are left behind, and which prove a deadly poison to the young plants from the fungous spawn which is generated upon them. It has however been found that where the greatest pains have been taken to grub out the old stumps, new plan-

tations will not always succeed, and Mr. M'CORQUODALE has shown satisfactorily that this arises in a great measure from the myriads of a Curculio called by Entomologists *Hylobius abietis* which find shelter amongst the chips and fragments of bark which were the result of the last felling.

Different methods of planting have been tried with a view of checking the evil, but as might be supposed none were perfectly successful; though the ravages of the insects appear to have been checked more or less where the surface of the soil round the young trees was made as even as possible, so as to yield them no shelter. One method, however, appears to have been completely successful. The land which it was proposed to plant was carefully inclosed so as to prevent the intrusion of anything which might graze on the herbage, and as soon as a strong dry head of Grass was obtained, the whole was set on fire, to the destruction of insects, eggs, and grubs, and in its proportion too, of rudiments of Fungi which in their turn might prove injurious. Strong two-year-old plants were then carefully inserted, and not after the common idle fashion of slitting, and the result has been successful far beyond the hopes of its suggester. It remains indeed to be seen whether after a time the trees may not suffer from the contagion of the old roots; but this is an after consideration, the difficulty in the former case being to get the plants to grow at all.

A correspondent in Ireland complains of the condition of the Scotch Firs in his demesne and adjacent plantations. While the old trees are perfectly healthy, the young trees, from 6 to 18 years old, whether on dry or moist soils, are rapidly decaying. As the dead leaves still cling perseveringly to the branches, it is certain that they have died suddenly, as the effect of any gradual failure of vigorous growth would have been to cause the branches to cast their leaves. This does not look like the work of insects, or of any decay from the presence of old roots in the ground, and we are unable from a bare report of the facts to assign any probable cause.

Much is still to be learnt about the successful management of forests, and unfortunately practical men are not always sufficiently acquainted with the several elements which form necessary parts of preliminary knowledge. *M. J. B.*

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—— THE remarks which we made some time since on the CLASSIFICATION OF DAHLIAS, recalling the attention of florists to the subject, have resulted in a discussion, carried on chiefly in the pages of *Gossip*, from which it appears that the arrangements proposed by "Telegram" and ourselves have met with general approval, and only await general adoption. Some collateral questions which have been mooted in the course of this discussion, call for a few further observations on our part.

It had been suggested, and of course has been all along intended, that the mode of grouping proposed to be adopted should not remain a barren theory, but that it should bear some fruit; first, in the reformation of the catalogues of dealers; and secondly, in the improvement of exhibition prize schedules, in both of which it has been the general practice to adopt what some writers very truly designate as the "absurd division" into "show" and "fancy" classes, without attaching any intelligible meaning to the terms employed. If we could secure the first of these reforms, the second would follow. But what new arrangement would really improve our exhibitions? That is a question to which probably the replies would not be unanimous.

One of the malcontents, indeed, who signs himself "Amateur," asks, "Who could seriously imagine that such a fusion should ever be attempted or thought of, as that of [showing] self and variegated blooms in the same stand?" We ask in reply—why not? What is a variegated bloom? If the words are to have any meaning, the terms self and variegated must apply respectively to whole-coloured and parti-coloured blooms. Well then, taking things as they have been, it has been the common practice to mix up selfs and parti-coloured flowers in the same stand, and "Amateur" must have made strange use of his eyes if he has failed to see this. But the absurdity of the common practice was this, that while selfs and variegated flowers of that set in which the ground colour was white with darker tips were on all hands intermixed, the variegated flowers in which the ground colour was dark with light tips were shut out to form another class, to which the term "fancy" was applied—for no reason that we can discover, but, as we imagine, from a freak of fancy on the part of some wag. Why, we again ask, if light-ground blooms with dark tips may be mixed up, as they always are and have been, with selfs, should not dark-ground blooms with light tips be equally admitted with them into the same stand? We for ourselves see no reason to the contrary, but everything in favour of such an amalgamation now that there are flowers in each of the sections alluded to, which are so closely up to the mark in points of technical excellence as not to disgrace each other by association. And this we find is also the view of "Telegram," for he says, that "such a fusion is not only a thing to be thought of, but a thing to be done;" and he adds, that if well done, the effect would be marvellously brilliant. So we believe.

The same Amateur expresses himself puzzled—uncertain to what kind of dulness to refer his difficulty—in attempting to comprehend how the selfs and variegated sorts are to be "pleasingly dispersed," and yet "kept distinct for the examination of the judges." As often happens with people who get into difficulties, Amateur's perplexity is of his own making. We at least, and he refers to us, have never suggested that at the same show the blooms should be intermixed and yet kept distinct. What we said was this:—"In all exhibitions which are strictly confined to florists' flowers, it would be quite legitimate, and we imagine would be an advantage to florists, as well as tend to the production of improved novelties, to offer separate prizes in each class." That is to say, we recommend class showing when the show is a florists' show—at a National Dahlia Show, for example, on a large scale, or at any local florists' meeting on a small scale. But we have further said:—"In all general exhibitions, on the other hand, where the minor details of floriculture could not have prominence assigned to them, it would be preferable, as productive of a more varied display, to admit all classes [of flowers] to equal competition"—florists and amateurs competing separately, so that the one class of persons may not be swamped by the other. This equalised competition was intended to prevent the comparatively few brightly-tipped flowers from being placed in juxtaposition, and to secure their being scattered throughout the stands, so as to give life and brilliancy to the whole display. We are still inclined to the same opinion; and we fail to see anything to be puzzled about in these propositions. But after all, this question of arrangement in a flower show is a much less important matter than the adoption of an intelligible mode of classification, which latter once launched must soon right itself, not only as it affects the garden and the office, but also as it concerns the exhibition table. The exhibition of blooms in four classes would indeed of itself do something to distribute without actually intermixing the flowers of different character; and an actual trial, fairly made, would do more than any words to prove what arrangements would be best in practice. For ourselves we should be quite content with that which proved to be the best.

Then as to sported blooms, the expressed opinions are against us. We have said that every variety should be referrible to one of the distinct classes proposed, and that it should be shown in that class only—we mean in those cases where the system of class-showing is adopted. And this being so, we said that a sported self bloom produced by a variety which should bear parti-coloured blooms, ought not to be admitted at all in class showing. We adhere to this opinion. Of course in mixed showing the point is altogether immaterial.

As to what groups to invite at our Exhibitions, instead of the usual stands of "show" and "fancy" blooms, several suggestions have been made, some referring to class-showing, some to mixed showing. "W. H." proposes 12 or 6 selfs, and the same of each of the other groups—laced, tipped, and striped. Mr. Keynes suggests 24 or 12 selfs, and the same numbers of variegated blooms, the latter to include all three of the above-named parti-coloured sections. "Telegram" pictures his idea of a perfect stand of 24 blooms thus: 12 selfs and 12 parti-coloured, made up of four from each of the sections. Mr. Rawlings would have dealers show 36 selfs, and 12 of each of the other sections, separately, making a total equal to the numbers now usually shown: viz., 48 of self and light ground laced varieties together = the present stand of "show" flowers; and 24 of striped and tipped sorts = to the present stands of "fancies." He, however, asks what should be done with flowers which are both tipped and striped, and is answered by the editor of *Gossip* that "until they become sufficiently numerous to form a fifth class," they may be shown either as tipped or striped. We should prefer to say they should go to that section whose character predominates in their colouring. We fancy "Telegram's" suggestion as to numbers would come out best at a mixed show; while for a classified show the suggestion of Mr. Rawlings looks like a good one, if the proportion of selfs could be somewhat reduced.

One other point has been mooted in this discussion, viz., the exhibition in competition stands of seedlings "not let out." This is manifestly wrong, there being too a plurality of objections to the adoption of such a practice. We quite agree therefore, that a rule should be inserted in all schedules to prevent so unseemly a custom. We also fall in entirely with the proposal, that societies should, wherever they can do so, provide uniform stands, and prevent lettering or numbering or marking of any kind, which may tend to render the ownership of the blooms apparent.

Such are some of the questions which just now affect the exhibition of Dahlias. We trust some or all the points may be fairly submitted to trial in the ensuing season, by those societies whose schedules have not been already made out on other bases; and that they may be all examined into and discussed thoroughly, so that the "best" course may be uniformly adopted another year. Our great dealers and our great societies should lead the way in a reform of this kind. We shall be ready to devote a portion of our space to any remarks elucidatory of the several questions involved.

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## A VISIT TO THE BULB FARMS OF HAARLEM.
### No. I.

IN walking along our streets, or in visiting our horticultural auction rooms during autumn and winter, every one is struck with the extraordinary quantity of Hyacinths, Tulips, Narcissus, and other bulbous-rooted plants which are exposed for sale. Early in the year the same things are met with in bloom in every greenhouse, and in almost every window. But if we wish to form a correct idea of the extent of this trade, and of the effect produced upon the landscape by hundreds of acres of land being covered with such plants in full flower, we must pay a visit to Haarlem in the month of April. As I have just had an opportunity of seeing these Bulb farms in their gayest attire, a short account of them will probably have some interest for the readers of the *Gardeners' Chronicle*.

The railroad from Rotterdam to Amsterdam has been laid along the coast within a short distance of the sea, and passes the towns of The Hague, Leyden, and Haarlem, in the order in which I have placed them. Between Rotterdam and Leyden the land is chiefly used for grazing purposes, and is evidently not suitable for Bulb cultivation. On reaching Leyden, however, a change was observable, the land appeared more sandy in its formation, and was evidently affected by the adjoining sand hills. Patches of Hyacinths, Tulips, and other bulbous plants were now observed in full bloom on each side of the road. As we proceeded northwards the cultivation appeared gradually more extensive, but it was only when we reached Haarlem that we found ourselves actually in the heart of the great Bulb country.

Many portions of Holland are considerably below the level of the ocean. A belt of sand hills or *Dunes* has been thrown up along the coast by the action of the winds and waves, and now forms a protection against the encroachments of the sea. These "Dunes," which extend along the coast for a great distance, are from one to three miles in width, varying from 40 to 50 feet in height, and when looked down upon present a succession of little hills and valleys to the eye not unlike the waves of a stormy sea. The Bulb farms of Haarlem are situated on the inner edges of these sandhills.

On our arrival at Haarlem we were most kindly received by Messrs. Krelage, and Messrs. Polman Mooy, of that place; and by Messrs. Byvoet and Van Velson, jun., of Overveen, a village two miles to the west of Haarlem. Mr. Krelage has a large garden in the town as well as a number of farms in the country. His town garden is remarkable for a beautiful bed of Tulips, about 600 feet in length, and formed so as to resemble a walk of flowers. Wooden arches are thrown over it at intervals for effect, and its sides are lined with tall Lilies (Crown Imperial). The views from either end of this "Tulip walk" were most remarkable and beautiful. The masses of red and scarlet Tulips were very striking, particularly when formed of the varieties known as Vermillon Brillant, and scarlet Duc van Thol. In this garden there was also a large canvas tent under which were arranged all the finest varieties of Hyacinths. Under it there were two long beds containing 110 rows in each bed (six plants in each row), the one being filled with the single kinds, and the other with double. The different colours were arranged in an artistic manner so as to heighten the effect of each other, and the whole had an excellent effect. Out of doors, besides the "Tulip walk" just noticed, there were whole fields of Hyacinths, Tulips, Narcissi, Japan and other Lilies, Fritillarias, Cape bulbs, Ranunculuses, Anemones, &c.

In the afternoon of our first day we drove out with Mr. Krelage to see his country farms, and those of Messrs. Byvoet and Van Velson, jun., at Overveen. On the road sides as we went along we observed fields of Hyacinths and Tulips in every direction covered with bloom, and the sweet scent from the former perfumed the air. The fields are all perfectly level, and are divided into squares by clipped hedges and close wooden paling for the purpose of lessening the force of the wind, and of preventing the loose sand from doing too great an injury to the flowers, as it flies about here like dry snow. The bulbs are arranged in beds, and the different kinds are kept together in masses, by which means a very beautiful effect is produced.

Having examined Mr. Krelage's country farms, we then went onwards to Overveen, to those of Messrs. Byvoet. Here the squares into which the land is divided appeared to be larger than those nearer Haarlem. Whole fields were covered with Hyacinths, Tulips, Anemones, Crocuses, Ranunculuses, &c. The Hyacinths appeared to be remarkably good; indeed, it is only necessary to say that the superb prize collections exhibited in London this spring by Messrs. Cutbush, of Highgate, and Mr. Wm. Paul, of Cheshunt, were furnished by this establishment. Many of the flowers had been already cut off, but enough remained

to give a good idea of their appearance and beauty. I do not pretend to have the knowledge of the florist, and intended to refrain from giving the names of any of the sorts with which I was particularly pleased, but I will venture to name the following as well worthy of notice:—Solfatara and Macaulay (single reds), Snowball (single white), General Havelock (single blue), Florence Nightingale (single red), La Dame du Lac (single red or salmon), and Van Speyk (double blue). The early Tulips were now at their best, and very beautiful they were. In England we have no idea of the effect produced by fields of bright colours, lying in broad masses, and arranged so as to heighten the brilliancy of each other. Here again, as elsewhere, the effect produced by the fine scarlet or crimson kinds was most striking. Broad masses of Vermillon Brillant, scarlet Duc van Thol, and a double kind named Imperator rubrorum, when viewed amongst the lighter varieties, seemed to set the fields "all in a glow."

At Mr. Van Velson's whom we visited next, we found the Hyacinth in full beauty, as he had not begun to cut the flowers. His grounds lie on each side of the road which leads from Haarlem to Overveen, and at this time of the year are the admiration of many a passing traveller. One field was covered with the flowers of the scarlet Duc van Thol Tulip already noticed, and was worth going a long way to see.

Our next day in Haarlem was spent under the guidance of Messrs. Polman Mooy—father and son. After examining the home grounds, which are much like those of the other growers I have already described, we drove out into the country to see some other farms, and to get a general idea of the extent of Bulb cultivation. As we went along the fields appeared painted with lovely colours of every hue. Almost every cottage and farm house we passed had its Bulb garden, crowded with Hyacinths and Tulips in full bloom, while now and then we came upon the more extensive fields of the regular cultivators.

In the afternoon we left our carriage on the highway and walked for some distance straight into what seemed to be the centre of Bulb cultivation. After examining field after field we took up a position somewhere in the middle of the whole. Here the scene which was presented to our view was certainly a most extraordinary one, and one which it was well worth coming from England to enjoy. Whichever way we turned, to the right or to the left, before or behind, there was nothing but flowers and masses of bright and brilliant colours. Millions of Tulips and Hyacinths surrounded us on every side, and the air was loaded with the most delicious perfumes. On leaving this "Flowery Land" the impression produced upon us was this—that no one can form any idea of it without seeing it himself, and that it is impossible to describe it when seen. On inquiring if many of our countrymen visited Haarlem in the spring, for the purpose of seeing these Bulb fields, we were told with great good humour that "Cockneys sometimes come in the autumn!—after their tour on the Rhine." *Robert Fortune.*

## FISH AND FISHING.—No. VI.

IF there be the slightest analogy between animals breathing air and animals breathing water, let us ask, why should not fishes be equally affected as are men, dogs, pigs, horses, nay the very birds of the air, by the frequent and sudden transitions in our atmosphere? How dull and heavy we feel in close damp weather!—how chilled and shrivelled in cold easterly March winds!—how brisk and lively, by comparison, in fresh open weather! In the first, the dew point and temperature so nearly coincide, that our insensible perspiration, instead of rising into upper air, becomes condensed upon our bodies into vapour, and the action of our respiratory organs through the pores of the skin is checked, producing languor and disinclination, sometimes even inability, for active exertion. Easterly winds, producing an excess of dryness in the atmosphere, beyond that which is required for our healthful vitality, carry off and absorb the insensible perspiration so quickly as to render the skin hard and dry; and from that cause produce nearly similar results as excess of moisture. And it is only in fresh open weather, when the air is neither overcharged with the one excess or the other, that we can really enjoy ourselves in activity. The entire body, as well as our lungs, is equally affected by these three states of atmosphere, and, in many cases, life itself depends on the temperature, and state of dryness or humidity of the climate or room in which an individual resides.

Terrestrial animals live and breathe in air slightly impregnated with aqueous vapour, and fish exist in water slightly aërated. And we may assume that the same exactness in the proportions of the component parts of water is as necessary to the activity of fish as those of the air are to us.

In our climate a temperature of about 65° Fahr. is most congenial to man, while his blood heat is about 98°. British fishes have also a certain blood heat, which, it is assumed, seldom or never varies, but, like that of man, is fixed and determinate according to the species or genus to which they belong; they die by 4 minutes immersion in water heated to 96° Fahr.*, and sustain life for a considerable period in ice, retaining water around them by the heat which their bodies emit.

* But see Humboldt, *contra.*

According to Mr. Shaw's experiments* salmon's spawn vivifies

In 114 days, water at temperature of 36°
In 101 „ „ „ „ 43°
In 90 „ „ „ „ 45°

So that as regards the ova of fishes a difference of 9° temperature hastens vitality 24 days — whence we might reasonably infer that the warmer temperature is more congenial than the colder.

Again, it must be borne in mind that different fish require different temperatures of water. Trout and salmon will bear much colder water than grayling; and *a fortiori*, colder than ground or pond fish.

I have made incisions in the stomachs of live pike, and found the thermometer to stand at 40°, the temperature of water then being at 42°, and of the air at 33°; and in a pike which was more nearly dead on the same day, the thermometer in the stomach stood at 39°.

In order to arouse attention to and provoke discussion, I propose the following questions to men of science:—

1. Is the blood-heat of British fishes known, and if so, at what temperature does it generally range?

2. If their blood-heat be $x$, what to them will be the most congenial temperature of the water?

3. Is there any and what objection to their requiring a peculiar temperature of water to render them most active?

4. Why it is that water clears by cold and thickens (particles of mud rising to the surface) by warmth; and whether is it the temperature of the air or of water which produces these phenomena?

5. Can the state of the atmosphere affect the air in water which fishes breathe? and in what manner?

6. Can the hygrometric state of the atmosphere affect the air in water or the component parts of water so as to operate in any way on fishes?

7. Can sudden changes in the atmosphere affect any and which of the components of water; especially so speedily as to account for the sudden risings or cessations from feeding, of fishes, and how?

These and many other questions will occur to the different minds which will take up the subject, and I pause for a reply. All that is required in the abstract being—"What is it that produces good or bad fishing days?" *E. C.*

* See Yarrell's Supplement to British Fishes, as to the growth of salmon.

## Indoor Gardening.

I DO not know how the Lilies of the Valley have got on this year with others, but with some of my friends and myself they have caused a good deal of trouble, and now that at last the mystery is explained, all parties may hope perhaps to be better off in future.

It will be remembered by those who have tried my plan, that I wrote of having Lilies exceedingly early in spring, being able to have such successions that I had seen them in flower from just after Christmas (the 6th of January was, I think, the earliest) till late in the autumn—September and October.

After writing this, and after inducing half my acquaintance to start Lilies, fancy my vast dismay on hearing that the Lilies refused to grow at the early time expected of them. Some pots of my own had done so several years without trouble, and now what could be the reason that the beautiful large fat roots sent out by Mr. Veitch, would not make in their turn the early start we looked for? It was a perfect puzzle. Well, it was really trying, I could not get at the root of it. I thought that it was the moving. No, they all were moved equally. I thought those I had formerly must have been moved with much soil. No, not a bit of it; and I was thoroughly posed.

The plants are a *different sort*, and I am quite delighted. For now we may really hope to have two different crops of Lilies.

The sort that blossoms earliest it seems has smaller flowers. I never should have known it without comparing the two, for I suppose to have any is a thing to content one in winter; but now that it is pointed out to me, the difference is quite evident. The leaves of the earlier kind are also very much the larger. The later kind apparently has almost as much bloom as leaf, and makes the whitest masses of the sweet and beautiful Lily.

When I speak of the "late" kind it is, after all, not very late; only for the January forcing the smaller sort is the right; and this I am bound to say, to avoid misleading any one. The smaller sort, with large leaves, I have seen in bloom in Worcestershire just about Christmas time, and this is, no doubt, the same sort that grows wild in such profusion in the Shrawley and Ribbesford Woods, and which is found again, I believe, in many more southern counties. This sort I have never succeeded in getting to buy in London, except of Mrs. Conway, whose late foreman, Norford, has a garden now at Old Brompton (7, Prospect Place), where, to my great joy, these Lilies reappear. The large-flowered sort is that sold by Mr. Veitch. Of this I have some most beautiful plants that are just now in blossom, which never have had any heat, but have merely been kept all winter standing in a cool window. I think between the two sorts that every one should do well. And perhaps next year we may manage to have some of the smaller kind in flower before Christmas, while the many white bells of the larger kind will open again in their course, as I think they did this year indeed, in time for the earliest flower show. It is however to the first-named kind that my forcing remarks apply.

To people who have aquariums I want to recommend strongly the Aponogeton distachyon, one of the sweetest of water plants, and, as I hear, very hardy. Its pretty forked-shaped spikes of white flowers are so sweet that one scents a whole room, and its long narrow leaves look charming upon the water.

A little plant of this in a very small flower-pot may be fixed at the bottom of a tank, and covered and hidden with bits of spar and rock.

Those who have no greenhouse or means of striking cuttings, may now be able to strike some pretty plants in windows. I think as a general rule that most things which are able to be struck in sand and water will be found to grow in windows under this treatment now. One year I was much interested in a saucer nursery, containing Verbenas, Lobelias, atoms of Myrtle, and morsels of sweet Verbena.

I think that the water on the sand keeps the air a little moist, but a sheet of paper leaning against the glass, or a blind, should be used to shade from too bright sunshine. A common china saucer, with an inch of silver sand in it, and soft rain water poured in till it stands just above the sand, is the way to plant these things. Any kind of mild root-heat seems to ensure their growing, and that too most rapidly, into the most charming little plants; but if root-heat cannot be given the chances still are that they will grow. Everybody has had plants begin to grow in pure water, and in vases, too, with a little charcoal still more. Begonias and such things only then need planting in sand, with a little mixture of cocoa refuse added, taking especial care not to break or bruise the young rootlets.

Now is the time, too, for setting up trellises to screen windows—of wicker work or bamboo, or even, at worst, of wire. I say at worst of wire, because I know it burns things; and not only that, but if the paint wears off it ironmoulds hands and dresses. I wish people would use more ivy. It is always so green and pretty, and makes such a perfect background to any flower trained on it. If the fashion gained ground a little of having common hardy things as a perennial filling up, we could at all times so easily introduce a little embellishment in the shape of a lovely Rose or of a new Geranium, and thus really have more variety than a total change now and then gives us.

Most window-gardeners, however, who now are wanting climbers, had better buy a few pots of those which are ready raised and sold in Covent Garden, or at nurseries everywhere, and which might now with a little care be kept out in the balcony. I think it also answers very well to get early a few Tom Thumbs and Heliotropes, and so on, and to nurse them up in the window, giving abundant water and equally abundant air, till in another month or so they go out as fine looking plants. At present we have plenty of Stocks and Pansies for outside. When we have turned out also Geraniums and Heliotropes, we may begin to indulge in Arums and Crimson and White Roses, which perhaps after all form the prettiest of all groups, especially when edged with the graceful down-hanging Isolepis gracilis. *E. A. M.*

## Home Correspondence.

*Roses.*—I waited for your Paper of May 2 to see if any amateur would answer Mr. W. Paul's appeal in the previous Number, but no one makes a sign. It is no wonder that Rosarians are such a learned body, for they keep all their knowledge to themselves, seeming to admire the old Latin dogma, viz., that "a man's knowledge is worth nothing if he communicates what he knows to another!" Mr. W. Paul is right in appealing to amateurs and growers generally, because the land and appliances (glass especially) of nurserymen are so superior, that growers for sale are not the best judges of what will suit the inferior circumstances of the public generally. I should be silent, were it not for the sake of both the nurserymen and young amateurs. It is not too late to purchase Roses on their own roots, or on the Manetti stock. I will therefore first recommend hardy and good varieties of the older kinds, which are the *fundamentum, stabilimentum, et momentum* of a gratifying and lasting Rosery. *H. P.'s:* W. Griffiths, La Ville de St. Denis, Anna de Diesbach, Anna Alexieff, Cécile de Chabrillant, Senateur Vaisse, Duc de Cazes, Empereur de Maroc, Princesse Mathilde, François Arago, Amiral Gravina, Maria Portemer, General Washington, Madame C. Crapelet, Madame Boll, Victor Verdier, Triomphe d'Alençon, Eugène Appert, L'Elégante, Madame Eugène Verdier, Belle de Bourg la Reine, Gloire de Vitry (own roots), Mathurin Regnier, Duchesse d'Orléans, Duchesse de Cambacérès, Souvenir de la Reine d'Angleterre, La Fontaine, Madame Knorr, Jules Margottin, Gen. Jacqueminot, Caroline de Sansal, Comte de Nanteuil, Baronne Prévost, Géant des Batailles, Pius the 9th, Triomphe de Paris, Pauline Lansezeur, Alexandrine Bachmeteff,

Madame Louise Carique, and Madame Laffay, the last on her own roots, or on Manetti. These are the cream of constitutional Roses. They are Roses for the public generally. I regret to be obliged to leave out many first-class Roses. *Bourbons:* Acidalie, Malmaison, Paxton, Louise Odier, Catherine Guillot; George Peabody, a better Rose than has ever been acknowledged; the raiser, Mr. G. Pentland, sent me 6 plants from Baltimore. *Noisettes:* Solfaterre, Triomphe de Rennes, Célestine Forestier. *Teas:* Adam, Devoniensis, Bougère, Safrano, Rubens, Sombreuil, Gloire de Dijon, Souvenir d'Elise, Souvenir d'un Ami. *Roses of* 1862. *H. P.'s:* Duc de Rohan, Madame Camille de Rohan, Beauty of Waltham, Madame Clemence Joigneaux, John Hopper, Alphonse Damaizin, Archevêque de Paris. These are sure to gratify everybody. For amateurs with good land and protected situations, I most highly commend Emile Dulac, and Gloire de Chatillon. Madame C. Wood is a good Rose for the public, but it is not circular nor quite right in the centre, when fully unfolded; in a word, it belongs to the class of Anna de Diesbach, which is defective in outline and centre. *Roses of* 1863: Sœur des Anges, President Lincoln, Deuil du Prince Albert, M. Freeman, and La Tour du Crouy are fine growers with good foliage. The following are very good plants:—Baron de Rothschild, Duc de Bassano, M. Helye, Peter Lawson, Mrs. W. Paul, Emotion (Bourbon), Alfred de Rougemont, Jean Goujon, Murillo, Vainqueur de Goliath, and Madame Brianson.' Caravane de Nimes and L'Eclatante were cut down before they came. I have three small plants of Triomphe d'Angers, one of which has bloomed. The bloom was, for a small bloom on a weak plant, first-rate; its colour was clear scarlety red without stain; it blooms freely, and yet without confusion; its petals are close packed and even. I cannot say whether it will be a good grower. Of the *Roses of* 1862, I have excellent plants of these, most of which are in good and abundant bud, but, as I have not proven them, I must refer your readers to others:—viz., Olivier Delhomme, Simon St. Jean, François Lacharme, Charles Lefebvre, Vulcain, La Brillante, Maréchal Vaillant, M. Ernest Dreol, M. Julie Daran, Professor Koch. The two last are as fine plants as you would wish to see, and well stocked with buds. This information, coupled with Mr. W. Paul's articles, may much assist buyers. *W. F. Radclyffe, Rushton.*

*Mrs. Gaines's Sale of Plants.*—The whole of the stock of plants belonging to this once celebrated nursery was disposed of by auction the other day, and generally fetched satisfactory prices. Messrs. F. and A. Dickson, of Chester, purchased the largest specimen Azaleas, which fetched 5 guineas each. Miss Mac-Pherson Grant, of Craigellachie, was also a large buyer of specimen Azaleas. Amongst other purchasers of large lots were Mr. Bennett, gr. to G. S. Foljambe, Esq., Worksop; Mr. Pullinger, gr. to — Rust, Esq. Mitcham, who purchased for 5 guineas the Rhododendron aureum, so many times exhibited by the late Mr. Gaines; also many other lots. A gentleman from Newcastle was likewise a large buyer. For many years this nursery stood almost unrivalled for florist's flowers; the Auricula, Pansy, Calceolaria, Dahlia, and Geranium, have each been cultivated here in great perfection, and for 50 years few persons in the flower way had more respect shown her than the late Mrs. Nancy Gaines, who for exactly that period was an attendant at Covent Garden Market. Latterly, the nursery has been used for market plants. The late Mr. Gaines, finding he was so surrounded with buildings, that specimens could not be successfully grown for exhibition, turned his attention almost exclusively to the growth of plants for market. The houses, I understand, are to be sold by auction early next week. I may add that the very first Geranium possessing really good properties, was sent out from this nursery; it was called Gaines's King. *E. Bennett, Osberton.*

*Wireworm.*—In reply to the query of your correspondent of the 25th ult., respecting the best mode of dealing with this destructive pest, both of the field and garden, I cannot do better than refer you to an experiment of the late Earl of Albemarle, as related by him at the Holkham sheep-shearing of 1815. I took down his lordship's words at the time, and can vouch for their correctness:—"I think I may with confidence state that oil-dust destroys wireworm. I ground my assertion on the successful result of two experiments, one on Turnips, the other on Wheat. The first was an old Sainfoin layer for Turnips, a small part of which was sown with oil-dust, at the rate of half a ton to an acre, before the last ploughing for Turnips. When they came up there was a perfect plant all over the field, but soon went off in every part, except where the dust was sown. They continued to look strong and healthy. The portion which failed, was ploughed and sown again with Turnips. Again the wireworm destroyed them. They were for the third time sown with Coleworts, which shared the same fate as the Turnips; the dusted part remaining all this time uninjured, and produced a fine crop. In order," continued the noble lord, "more fully to prove that it was the oil-dust, and no incidental change of soil, which thus preserved my Turnips, I must explain to you that the dust was not sown as the stetches were drawn out but, most fortunately for the success of my experiment, diagonally. This direction was, in the first instance, purely accidental. I verily believe that you might see exactly the path in which the seedsman walked. The next was a piece of Wheat which had been partially sown with oil-dust. In the spring the wireworms attacked it, but on examining the roots I found five wireworms dead in one piece of oil paste; it sustained but little injury, produced 8 coombs (32 bushels) per acre, and, I have no reason to doubt, was preserved by the oil-dust." At the sheep-shearing of the following year (1816), the subject was renewed by Lord Albemarle, who "hoped that he could now bring proof of what he had advanced respecting the efficacy of oil-dust in preserving a crop, though it had operated in a different way from what he had stated last year. For this additional light on the subject he was indebted to the ingenuity of Mr. Paul, who had made a series of experiments, which had enabled him to decide positively, that though he had mistaken the cause of the preservation of his Turnips and Wheat, the effect was the same. The fact was that the wireworm fed on the oilcake rather than on the plant. He had broken up an old Lucerne and Sainfoin layer, dressed it well with oil dust, and it had escaped the wireworm." General Walpole corroborated the above statement, adding that he had dressed two pieces of Wheat; one with long muck, the other with oil-dust. The first was attacked by the wireworm, the second not at all. It may be proper to observe that the oil-dust just mentioned was simply pulverised Rape-cake, not however into so fine a powder but that here and there were certain lumps, which were even more destructive to the enemy than the finer particles, as for instance in the case of the five dead wireworms found by Lord A. in what he calls a lump of oil-paste; *i.e.*, a piece of rape-cake. The fact is they eat their way into the cake, and there they stick, till suffocated; being unable to extricate themselves from the pillory in which their own greediness has placed them. *Samuel Taylor, Gloucester.*

*Lord Clyde Rose.*—Mr. Wm. Paul says (p. 413) that "this Rose is one of a batch of seedlings I raised, but we parted company some three years ago, up to which time it had bloomed in summer only." If this is intended to imply that it is a summer-blooming variety, the statement is incorrect; for it is a good autumnal Rose. As it only blossomed for the first time in August, 1860, when it was cut down and worked as far as possible, it could not flower again that season. As regards colour, it is a rich scarlet crimson, not a crimson and purple, and it will be, we feel assured, a first-rate garden Rose. With regard to this seedling, Beauty of Waltham, &c., which are named as being raised by Mr. Wm. Paul, it should have been stated that they were all raised at the old nurseries before he left them. *George Paul, "Old" Cheshunt Nurseries, Herts.*

*Rhododendron Dalhousianum.*—Our plant of this, which bloomed beautifully last year, has again upwards of 70 trusses of blossom on it this season. Some of the blooms measured as much as 19 inches round the edge of the corolla, 5 inches from tip to tip, and the cup fully 4 inches deep. *James Leith, The Gardens, Balgowen.*

*Mistletoe on Conifers.*—I have seen some years ago, the Mistletoe growing on a Cedar of Lebanon, at Chipley, near Taunton, in Somersetshire. *W. C. Trevelyan.*

*Protecting Fruit-tree Blossoms.*—I should be glad to be informed if it is universally admitted that the protection of wall trees is absolutely necessary to insure a crop of fruit. My trees have been protected, but the crop has generally been very scanty; and some gardeners, who are considered experienced men, attribute the failure to the protection, therefore I should be glad to have the experience of others in this matter. *C. W., Maidstone.*

*Pisciculture* (see p. 413).—That "Piscator" is right in urging the formation of a Piscicultural Society no one who has turned his attention for one moment to the present depreciated position of our fisheries can doubt. The exertions in the cause of salmon are to a great extent taking care of Salmo Salar. But Salmo Salar for our Thames, and Salmo Trutta for everywhere, are at this moment also of the utmost importance. If our Thames becomes more pure, through this most extensive main drainage expenditure, in the course of two or more years, we ought to be prepared to stock it with young fish—salmon fry; and we ought always to be stocking the Thames and all other rivers with all kinds of fish. Truth to tell, such is the pollution going on in almost every river, that we must keep up the stock of fish artificially, or we may bid good bye to fishing. "Rome was not built in a day," neither, were the Thames pure enough to-morrow to turn young salmon into it with a chance of success, are young salmon of sufficient size and age to be procured on the spur of the moment. We ought, therefore, to be prepared for any emergency by the formation and active operations of a Piscicultural Society of some kind, ready a year or two hence to pour any quantity of every kind of young fry into any river or pond where it may be required. I will give a hint. I am, say, owner of a trout stream so spoiled by, say pollution, that I must every year get "stores" somewhere, and I get them—whether by gift or by poaching (of which I know nothing)—I get them. But still I must be conscious that the principle is only that of "robbing Peter to pay Paul." Whereas, if a Society of Pisciculture existed, I could buy as I pleased, and rob or spoil no other river. The details of a Piscicultural Society I leave to more plodding heads. Large funds and some extent of suitable "land covered with water" would be needed. I cannot help thinking that (not to mention clubs) we have fishery societies enough; and that if funds were poured in liberally into the coffers of the Fisheries Preservation Association, or the Thames Angling Society, and either of these bodies could be induced seriously to take up the matter, it would be less expensive and more certain of success, than the formation of a third independent Piscicultural Society. I will support the proposition to the best of my ability. *E. C.*

## Foreign Correspondence.

CAPE OF GOOD HOPE: *Colonial Botanic Gardens.*—In a list, professing to give the names and official designations of the gentlemen charged with the care and management of Colonial Botanic Gardens, which appears at p. 75 of your present volume, occurs this statement:—"Africa: Cape of Good Hope.—Botanic Gardens, Cape Town, Directorship vacant by the decease of Dr. L. Pappe." I beg leave to inform you that the late lamented Dr. Pappe did not hold such an office, nor does such an official title exist in the Cape colony. Except during the first year of its existence the Botanic Gardens, Cape Town, have been continuously under the care and superintendence of the same person, whose official designation is Superintendent of Botanic Gardens.

When the office of "Colonial Botanist" was created for Dr. Pappe three years ago, he was at the same time appointed a member of the "Committee of the Botanic Gardens." This body, composed of gentlemen who have held the honorary distinction since the founding of the institution, control the finances, and otherwise lend their influence to further its interest. This was the simple link which connected Dr. Pappe with the gardens. *James M. Gibbon, Superintendent, &c., Botanic Gardens, Cape Town, Cape of Good Hope, March* 20.

THE SPRING IN SICILY: *Messina, April* 27, 1863.—Since I wrote from Palermo, (see p. 414), I have carefully examined the vegetation of the eastern coast of Sicily, from Messina to Catania and Syracuse. On progressing southwards, I have become more and more impressed with the influence and importance of protection from the north, in estimating vegetation and climate.

Messina is beautifully situated in the centre of a bay, at the base of a semicircle of low mountains, on the north-eastern shore of the straits. It is near the narrowest part, where the extreme north-eastern point of Sicily is only separated from the main land or Calabrian mountains by a space of three miles. The straits widen rapidly until, half a dozen miles south of Messina, they are 12 miles across. Messina receives the south-eastern sun in full, and is protected from the north-west, but immediately in front are the high mountains of Calabria, still covered with snow at their summits (April 21). Prominent among them stands Aspromonte, where Garibaldi was shot and taken prisoner; thence come north-easterly blasts, as is visible by the vegetation of the mountain amphitheatre above and around Messina. It is still very backward; the Fig trees are only just beginning to show leaves and fruit, and the Vines are only just sprouting. There are few flowers, scarcely any Lemon trees, and the Orange trees in the garden are small. On the hills are Olive trees low down, Pine trees higher up. Messina is situated in the same latitude as Palermo, and is protected from the north-west, which Palermo is not, but the proximity of the cold snow-covered Calabrian mountains bring its northern suburbs to the level of Cannes.

With the mountains behind and to the north of Messina, begins a chain, at first granitic, then calcareous, which runs along the coast for 70 miles to the south, just as the Maritime Alps run along the Riviera or Genoa coast. The coast line itself dips to the south-west. On the other side of the straits, the Calabrian mountains rapidly lose their great altitude, and expire at the end of the Italian mainland, some 15 miles lower down.

Owing to the above physical condition, a decided undercliff or Riviera commences at the south suburbs of Messina, protected from the north and north-west by the coast chain, and gradually less and less exposed to the north-east as it descends southwards. The influence of this protected situation at once becomes evident, not so much on the advanced or more exposed headlands, which still catch the north-east wind, as in the intervening bays or sheltered ravines. Here the vegetation assumes a very advanced and southern character. Orange trees, sometimes as large as moderate-sized Oaks, and Lemon trees sometimes overtopping a two-storied house, become the rule. I saw Oleanders, too—trees 30 feet high. The white Mulberry tree and the Almond tree were in full leaf; the latter had fruit full size, evidently stoning. The Fig trees, moreover, were in full leaf, and the fruit large. The Vines had made shoots 4 or 5 feet long. What they call the black Mulberry tree was still all but leafless, as at Palermo, only a few buds and terminal leaves appearing. Few if any cultivated flowers were to be seen, with the exception of Carnations in full bloom in pots or vases on the balconies, which most houses of any pretension possess. Wild flowers were numerous in the orchards and fields, and prominent among them

the Gladiolus, which was seen in great profusion. Barley and Oats were in the ear, Wheat some 2 feet high.

In the midst of this exuberant fertility was a numerous population, which appeared very poor, squalid, and badly fed. The men are better looking than the women, who seem to have even the beauty of youth ground out of them by work, insufficient food, and exposure to the sun. They wear no covering on their heads, except occasionally a handkerchief thrown over the back part. To screen the eyes from the ardent sun, therefore, they contract a habit of frowning, which impresses premature wrinkles on the youngest brow. Thus the girl of 15 appears 20, the woman of 20, 30; the one of 30, 50; and the one of 50, 80.

About 15 miles from Messina the mountain chain leaves the coast and takes an inland or westerly direction, skirting for some distance the northern foot of the Etna. Thus, at Giardini begins the domain of the king of European volcanoes, of Mount Etna. No better view of Mount Etna can be obtained than from the road from Messina to Catania. For 30 miles the road skirts the eastern or sea base. The entire circumference of the base of Mount Etna is 120 miles. Thus does the traveller become gradually impressed with the real grandeur of this magnificent mountain. At first it is difficult to believe that it is more than 10,500 feet high. The rise up to the plain at the summit, from which issues the small final cone, is so gradual, and the plain itself extends over such an extensive area—at least 20 miles from north to south—that the great volcano looks more like a snow-covered ridge than a single mountain. The snow at this time of the year covers at least the upper third of the huge mountain, a vast superficies.

From this moment the scene changes. The soil is merely decomposed lava, a mixture of large masses like scoria or slag from a manufactory, of smaller pieces like cinders, and of a brownish black earth like ashes, The more modern currents of lava seem to resolve themselves into these elements. When cultivation commences, the large masses are dug up and piled up for walls, the small ones are used to Macadamise the roads, and the ash-like remains constitute the soil. A very fertile soil it appears to be, merely requiring water to produce anything that is sown.

The southern character of the vegetation recedes under the cooling influence of the vast snow-covered plains of Mount Etna. The Fig trees have only terminal leaves, and the fruit is very small. The White Mulberry trees and Vines have also only a few leaves. The black Mulberry trees are mere sticks, scarcely having their buds formed. Lemon and Orange trees still appear, but only in sheltered valleys and depressions, and are often protected by high walls; neither are they as large, as vigorous, as tree-like. The Olive tree, however, holds his own, as also do the Opuntiæ or Barbary Figs. The latter are extensively cultivated throughout Sicily as hedges, and for the sake of their fruit. They grow to the height of some 12 or 15 feet, in a very singular grotesque manner, and assert their claim to being dicotyledonous plants by becoming regular trees, with a large round trunk and bark. This transformation of the flat, fleshy, leaf-shaped branches is quite remarkable.

The geologically celebrated Val di Bove, with its dykes, is seen at a distance, a wide and long chasm on the flanks of the mountain, also the Oak and Chestnut forests below the snow line. They appear as mere black patches. As we approach Catania the very peculiar grim, coal-mouth character of the region becomes more and more apparent. The walls on the road-side and in the fields and the outhouses are all made of clinkers, the road of cinders, the soil of ashes. Vineyards are numerous; the Vines—indeed, nearly every thing in Sicily—are planted in the fields between ridges or pyramids, some 18 inches high, of the loose black soil, in order to retain moisture. Even Wheat is planted in this way in tufts at the bottom of furrows between ridges. In flower gardens the same system is followed.

This soil, formed of decomposed lava, appears to contain all the elements of nutrition required for vegetation. Every thing seems to flourish and thrive in it, provided there is water. The ground vegetation shows less difference than that of the trees. Beans and Peas are ripe. The Vetches are in full blossom. Lupines, white and blue, are very abundant; they are extensively cultivated as fodder everywhere. Hellebore in flower and very common. Almond trees in full leaf, and fruit natural size. White and Red Convolvulus and Scarlet Poppies common. Occasionally, near water, Poplars in full leaf; in the same situations, Bamboos with new shoots, 3 or 4 feet long. They grow to 20 feet or more and are much used for light fencing, as supports to Vines, and for a variety of purposes. Pomegranate trees are often seen from 10 to 20 feet in height. *J. Henry Bennett, M.D., The Ferns, Weybridge.*

*(To be continued).*

## Societies.

ROYAL HORTICULTURAL: *May* 5 (*Exhibition of Sculpture.*)—One of the duties left for this Society to perform by H.R.H. the late Prince Consort, was that of working out his idea of making the Society's Garden at South Kensington subservient to the encouragement of art, by holding out inducements to sculptors to exhibit their works in the garden, which his Royal Highness thought would present a field for displaying sculpture to advantage, such as was not to be had elsewhere in London. He anticipated, moreover, that such display might react in developing a taste for art in the people, as well as prove of advantage to sculptors in enabling them to get their works seen, appreciated, and sold. Following out this idea, the Council of the Society organised an exhibition of sculpture, which was opened on Tuesday, and will continue open for three months. At the suggestion of H.R.H. they also offered a sum of 500*l.* to be employed in the purchase of some one or more of the works exhibited; and they have with much judgment entrusted the entire management, superintendence, and placing of the works to the Council of the Sculptors' Institute, who have not only most ably performed this responsible and difficult task, but have themselves largely contributed to the exhibition, The result is a collection of statues, busts, groups, &c., executed in plaster, bronze, or marble, to enumerate the exhibitors of which would merely be to give a list of the most eminent British sculptors of the day.

The opening of the exhibition was honoured by the presence of their Royal Highnesses the Prince and Princess of Wales. They arrived shortly before 12 o'clock, and were received by the Council of the Royal Horticultural Society, with their President, the Duke of Buccleuch, and their Vice Presidents, Sir Wentworth Dilke. Dr. Lindley, and Mr. Blandy at their head. The Council of the Sculptors' Institute, Mr. Weekes, Mr. Foley, Mr. Calder Marshall, Mr. Woodington, and Mr. Stephens, were also present, and had the honour of accompanying their Royal Highnesses round the exhibition, and giving them information regarding the different works exhibited.

Nearly 50 statues, several of them of marble, were placed in the Conservatory, and have added increased beauty to its many charms. A still larger number is placed in each of the arcades, on either side of the Conservatory, nearly filling the eastern upper arcade, and half filling the western. Besides these, a successful feature of the arrangement was the placing a number of larger models (almost entirely portrait statues) on the walks and terraces in front of the Conservatory.

The most interesting of these to horticulturists is the model of a statue by Stephens of Sir Thomas Dyke Acland, an old and valued Fellow of the Royal Horticultural Society, erected in marble in Exeter. With less association with horticulture, but not less claim to recognition as works of art, are Foley's statue of Goldsmith, to be erected in bronze in front of Trinity College, Dublin, and an admirable statue to be erected in marble in Bombay of a celebrated Asiatic, Weekes' statue of the Marquis Wellesley, Woodington's model of the statue of Steele erected at Carlisle, and Durham's bronze statue of the Queen, which was intended to have been placed on the Memorial of the Exhibition of 1851, and with which their Royal Highnesses seemed much pleased.

*May* 5 (*Floral Committee*).—Various highly interesting subjects were furnished on this occasion. A special Certificate was awarded to Mr. Sherratt, gr. to J. Bateman, Esq., for most beautiful cut blooms of white and purple-flowered varieties of Moutan Peonies, indicating superior cultivation. A similar mark of distinction was also conferred upon two boxes of Cut Roses, one from Mr. Earley. gr., Digswell House, Welwyn; the other from Mr. Batley, nurseryman, Rugby. To the brilliant rich crimson scarlet new Hybrid Perpetual Rose Lord Macaulay, from Mr. Wm. Paul, a First-class Certificate was awarded; and two new Japanese Clematises, one with blossoms perfectly double, measuring at least 6 inches across, the other single, with purple flowers shaded with rose, also earned two similar awards for Mr. Standish. From Messrs. Veitch came Cassiope fastigiata, a small white-flowered Heath-like plant; Ourisia Pearcii, with slender upright red-stained stalks, each bearing towards the top six or seven drooping brilliant crimson scarlet Pentstemon-like flowers; a little white-blossomed Dracophyllum, different in habit of growth from gracile; the creeping scarlet-flowered Sarmienta repens, described by us on former occasions; and a handsomely spotted purple Rhododendron named Picotee rosea. To all these First-class Certificates were awarded; and a Second-class one was given to a Browallia loaded with round bright orange yellow blossoms, shown by the same firm. First-class Certificates were awarded to Mr. Bull, King's Road, Chelsea, for a pretty new Fern, Athyrium Filix-fœmina sagittatum, and Mimulus maculosus Marvel, a charming variety belonging to the set of new hybrids noticed at p. 388. From Messrs. Veitch likewise came the white Rhododendron Princess Alice, the lilac-flowered singular looking Calceolaria punctata, and Stenogastra multiflora. Mr. Bull sent a veined Petunia named President, several Geraniums of the scarlet class, and two bushes of Thuja occidentalis globosa. Mr. Watson, St. Albans, furnished Dracæna Veitchii, and some smaller plants of other Dracænas closely related to that kind. Mr. Treen, nurseryman, Rugby, had Verbenas, among which Foxhunter and Firefly were conspicuous. Mr. Batley also showed Verbenas, among which Colossus was remarkable for its size, and one named Dr. Temple was also a large brilliant carmine scarlet variety. From Mr. Kinghorn came a double whitish Azalea, called ochroleuca.

*May* 5 (*Fruit Committee*).—May Duke Cherries, ripe and of fair size, were contributed by Mr. Freeman gr. to the Countess of Derby at Knowsley, and Mr. Sclater, gr. to the Earl of Cawdor at Stackpole, Pembroke. A first prize was awarded to Mr. Hall, gr. to Captain Tyrrell, for 3 dishes of Apples, consisting of Golden Russet, Cluster Golden Pippin, and Bess Pool, all in a state of fair preservation, except perhaps the last, which was evidently considerably past its best. To Mr. Green, gr. to Mrs. Honeywood, Mark's Hall, Kelvedon, was awarded a second prize for Apples, consisting of Cockle Pippin, Ashmead's Kernel, and a kind unknown. Mr. Rodgers, gr. to J. Noble, Esq., Berry Hill, Taplow, showed a good white-fleshed Melon, named Golden Gem; and specimens of the Archerfield Muscat Grape, good, but scarcely ripe, were furnished by Mr. Thomson, who stated that they had been grown in a house along with Black Hamburghs. From Messrs. Downie, Laird, and Laing, came heads of a fine-looking white Broccoli, said to be a favourite in the neighbourhood of Edinburgh.

## Notices of Books.

*Sermons preached before H.R.H. the Prince of Wales, during his Tour in the East.* By Arthur Penrhyn Stanley, D.D. Pp. 232. John Murray. London.

Our Prince of Wales has enjoyed a very great advantage, which has not heretofore fallen to the lot of English Princes in general, viz., that of visiting foreign lands. Now, of all countries in this world, there are none so capable of exciting the youthful imagination, at once pleasurably and profitably, as Egypt and the Holy Land. Who is there, with a spark of enthusiasm in his nature, that would not willingly live on dry bread for a twelvemonth, to procure the wherewithal to convey him to these sacred regions! These our Prince had the privilege of being introduced to, under the auspices of the late lamented General Bruce and Professor Stanley, the very best guides that could have been selected; the one, full of information respecting these countries, which he had made his study, and possessed of the happy art of imparting his knowledge in the most agreeable manner; the other a most accomplished, judicious, and invaluable companion.

On the Sundays during this tour Dr. Stanley preached sermons, which derived additional interest from the circumstances under which, and the localities where, they were delivered, and these are published by her Majesty's command. To these 14 sermons, which are thus records of thoughtful hours during this well-arranged journey, Dr. Stanley has added, for the information of others, notices of some of the localities in the East which were visited. The first of these is Hebron, with the tombs of the patriarchs, Abraham, Isaac, and Jacob, and this will be found peculiarly worthy of attention, not only from the interest which must attach to this venerable sanctuary, first Jewish, then Christian, now Mussulman, which is supposed to cover the cave of Machpelah, all the circumstances of which we have so often read with delight; but, of all the Holy Places in Palestine, there is none that rests on better historical evidence, and it had this additional charm, that it was supposed to be absolutely inaccessible to a Christian. How great was the difficulty of obtaining access to it, and how the obstacles were eventually overcome, we are told in the narrative, which is sufficiently gratifying to an Englishman—

"On opening the shrine of Abraham the guardians groaned aloud. But their chief turned to us with the remark, 'The princes of any other nation should have passed over my dead body sooner than enter. But to the eldest son of the Queen of England we are willing to accord even this privilege.' He stepped in before us, and offered an ejaculatory prayer to the dead Patriarch, 'Oh, friend of God, forgive this intrusion. We then entered."

The other notices are of the Samaritan Passover on Mount Gerizim, Galilee, with Gennesareth, and its hallowed associations, Hermon and Lebanon with its famous Cedars (all these are accompanied with maps); and lastly, Patmos, suggesting much of the sublime imagery of the Apocalypse.

*A Yachting Cruise in the Baltic.* By S. R. Graves, Commodore of the Royal Mersey Yacht Club. London, Longmans.

In this volume, which gives a spirited account of a northward trip, such as would have had charms for the adventurous, we find sundry notices which are not without interest for our readers. Thus: in Copenhagen the Commodore tells us, "every window is filled with pretty flower-pots, in which Roses, Pinks, and Fuchsias seem to thrive to perfection. These beautiful plants give a neat effect to the fronts of the houses, and tell the passing stranger of the deeply-rooted love of flowers which forms part of the national character of the Danes as well as of the Swedes." In the Cathedral of Upsala the writer met with the memorials of Linnæus, which he thus describes:—"The greatest of the Swedish worthies who await the final judgment in the vaults of Upsala Cathedral, lies beneath the organ, with the following inscription to mark his last resting-place: it was placed over his grave by his wife, the daughter of a physician named Moræus, with whom Linnæus

became acquainted while lecturing on mineralogy and practising as a physician at Fahlun:—'Ossa Caroli A Linne, Eq. aur.—Marito optimo Filio unico Carolo A Linne Patris successori et sibi Sara Elizabetha Moræta.' In the side chapel, on the north side of this grave-stone, the disciples and admirers of the great Botanist have erected to his memory a fine mural tablet of Elfdal red porphyry containing a medallion bronze portrait of Linnæus in profile, by Sergell. It bears the following inscription, which has the merit of being somewhat more intelligible than that marking his grave:—"Carolo A Linné Botanicorum principi.—Amici et discipuli. MDCCCXVIII." The expense of this monument, plain and simple as it is, amounted to 2000 dollars (upwards of 460*l.* sterling) of which sum 400 (93*l.*) were expended upon the letters alone. This monument was erected just 20 years after the death of Linnæus." In Moscow, the Commodore had an opportunity of witnessing the Apple Festival, one of the most important in the Russian calendar. "There are many holy days observed by the Russian Church, but the most prominent are the Honey Festival on the 1st of August, and the Apple Feast. Both are peasant festivals and much regarded; at the former the honey is blessed, and at the latter the Apple. No Russian ever thinks of eating an Apple before the 6th of August (old style), when the day's ceremony has blessed the fruit — a restriction which must be attended with very good results in a country pre-disposed to cholera. The Cathedral of the Repose, Uspenski Sabor, was the first we entered; and the congregation was pressing forward to the priests who stood in front of the Ikonostast. The leading priest, magnificently dressed, held a gold and diamond-studded cross to all who presented themselves to imprint upon it their eager kiss. On his right stood another, who had dishes of blessed Apples on a table before him; and we observed that all who had kissed the cross received an Apple." Other places and scenes and customs come in for their share of observation; and in due time the "Ierne," which had borne the cruisers over the northern waters, was safe again at her moorings in the Mersey.

## Miscellaneous.

*Birmingham Rose Show.*—Our readers will perceive, on reference to an advertisement in another column, that Thursday and Friday, the 16th and 17th of July, are the days fixed for holding the next show. It is also announced that the prize list and regulations are now ready, and may be had on application to the Secretary.

*Sales by Auction.*—A large assortment of bedding plants sold the other day by Mr. Stevens, realised the following prices:—viz., Calceolaria floribunda and other sorts in lots of 60 plants, fetched from 3*s.* to 5*s.* per lot; Verbena Lord Raglan, and other kinds in similar lots, from 3*s.* to 5*s.* per lot; Mangles' Silver Bedding Geranium in sets of 36, 5*s.* per set; other varieties of Geranium, amongst which were Trentham Rose, Tom Thumb, Perry's Eclipse, Pink Nosegay, Cottage Maid, Compactum, Flower of the Day, and Brilliant, from 4*s.* to 7*s.* per lot of 36 plants. Ageratums, Heliotropes, Cupheas, Petunias, Gazanias, and Variegated Alyssums, from 3*s.* to 4*s.* per lot of 60 plants; and a few lots of Roses in pots, realised 7*s.* per lot of 6 plants each.

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—The gaiety of this house will still be maintained chiefly by means of Azaleas; after they have done flowering examine the state of their roots, and, if necessary, give them a shift previously to starting them into growth. Exhausted stock that has been forced should have a pit or frame fitted up especially for its reception. It should not be allowed to mix with plants in general. The amateur may carry out this principle with a small frame. A bed of fermenting material of a mild character, covered 6 or 8 inches deep with tan, and well topped up with linings and mats at night, is the thing required. A bottom-heat of 80°, with frequent syringing and the plants plunged, of course, will restore them to perfect health and prepare them for another campaign. Orchids should now be allowed a slight advance in temperature, especially by shutting up early. Fuchsias will be benefited by the application of clear liquid manure. Very liberal shifts will be necessary at this period, more especially with those intended for very large specimens. Cinerarias for late blooming should, if pot-bound, be shifted; likewise let plants in need of water have immediate attention—nothing conduces more to the encouragement of insects than suffering plants to become checked through drought. By starting Camellias into growth about this time, and getting their wood ripened early, they will be in full blossom in November, at which season their flowers retain their beauty much longer than after the sun becomes powerful in spring. Proceed as diligently as possible with the repotting of such of the hard-wooded greenhouse plants as require it, so as to afford them every chance of making vigorous growth. Be careful, however, before potting, to have the ball in a nice moist state, and avoid giving large shifts to weakly growers.

### FORCING DEPARTMENT.

Pineries.—Attend carefully to the bottom-heat, particularly where this is produced by fermenting materials, as tan, &c., and see that it is not allowed to rise too high, which it is apt to do after fresh materials have been added, either during bright weather or where there are pipes under the bed. Where much fire heat is used it requires some experience to be able to keep the soil in a proper state as regards moisture, but this must be effected at any expense of attention if success is to be insured. Maintain a thoroughly moist atmosphere, but do not push young stock too fast. Avoid allowing water to lodge in the hearts of plants showing fruit, and spare the flowers of those in bloom in syringing. Pot off or plant out suckers as they can be obtained sufficiently strong, and attend to keeping up regular successions.

Vineries.—See that houses in which Vines are not yet started are properly cleansed, the Vines painted with the usual composition of soft soap, sulphur, &c., and everything put into proper working order; also get the rods bent in time to induce the buds to push regularly. Attend to disbudding and stopping, &c., as may be necessary, in succession houses, and see that inside borders are kept properly moist, giving tepid manure-water as may be necessary to effect this, and do not be afraid of giving too much of it to Vines in pots.

Melons.—Encourage those newly planted out with a moist warm atmosphere, so as to get them into full growth as quickly as possible; but plants that are fairly established should be kept cooler, admitting air on every favourable opportunity, in order to secure short-jointed fruitful wood. Keep the shoots thin and regular, pinching out any not wanted, but avoid stopping the main shoots until they reach the sides of the pit, when by pinching out the points the laterals will start into growth and show fruit abundantly; and by this time the plants will have gained sufficient strength to set and carry a fair crop. Do not exceed 65° at night, and admit air when the thermometer rises to 75°, but do this very carefully on cold days. Endeavour to maintain a steady bottom-heat of about 80° or 85°, and keep the soil in a healthy state as to moisture. See to providing young plants for succession crops.

Cucumbers.—Stop, thin, and water freely. See that the ball of earth, in such as are newly put out, is well soaked with water previous to planting.

### FLOWER GARDEN AND SHRUBBERIES.

If not already done, a good collection of annuals may yet be sown. For such as are tender a slight hot-bed is requisite. The choicer hardy kinds may be sown in patches and covered with a garden pot, taking care to remove it when they are coming up. If any rough or unimportant shrubbery borders require a little gaiety, and business presses, a mixture of some of the hardier sorts might be made, such as Collinsias, Clarkias, Mallows, Larkspurs, and Candytufts, &c., and strewed at random over the open parts of the border after a thorough cleaning. Dahlias should be pushed forward without delay. Lobelias may be potted and put into a dung bed. Follow up matters of propagation, and see that cuttings of young stock are carefully shaded when necessary. Recently transplanted evergreens are suffering greatly this spring, and must receive attention in the way of watering, both overhead and at the root. Those who took our advice and planted last September, are now congratulating themselves on their success, few of the plants moved in autumn having perished.

### HARDY FRUIT AND KITCHEN GARDEN.

Attend carefully to the protection of blossoms of Apricots, Peaches, and Nectarines; but remove the covering as frequently as may be convenient on fine days, so as to fully expose the trees to sun and air. Get a supply of tobacco water in readiness to attack aphides immediately they make their appearance. In some places they are very numerous this year. Sow Broccoli on beds of light dry rich soil in an open situation for the main crop, and Cabbages, Cauliflowers, Lettuces, &c., in succession. Also attend to sowing small breadths of Turnips about once a fortnight, so as to secure having a regular supply in a fit state for use. Put in a small breadth of some early variety of French Bean soon on a warm dry sheltered border, and plant a quantity in small pots to be raised in a cold frame and planted out as soon as all danger of frost is over. Use the hoe liberally among growing crops. The frost of last week has in some localities, we learn, blackened the tops of Potatoes.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending May 6, 1863, as observed at the Horticultural Garden.

| April and May. | Moon's Age. | Barometer. Max. | Barometer. Min | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 30 | 12 | 30.161 | 30.058 | 50 | 24 | 37.0 | 52 | 50½ | N. | .12 |
| Friday 1 | 13 | 30.231 | 30.153 | 62 | 27 | 44.5 | 51½ | 50 | N.E. | .00 |
| Satur 2 | 14 | 30.123 | 29.985 | 64 | 31 | 47.5 | 51 | 50 | N.E. | .00 |
| Sunday 3 | ○ | 29.939 | 29.860 | 72 | 41 | 56.5 | 51½ | 50½ | W. | .00 |
| Mon. 4 | 16 | 29.830 | 29.800 | 70 | 44 | 57.0 | 53 | 51 | W. | .00 |
| Tues. 5 | 17 | 29.942 | 29.793 | 70 | 32 | 51.0 | 54 | 51 | S.W. | .01 |
| Wed. 6 | 18 | 30.002 | 29.953 | 72 | 38 | 55.0 | 54 | 51½ | W. | .00 |
| Average. | | 30.029 | 29.936 | 65.7 | 33.8 | 49.8 | 52.4 | 50.6 | | .13 |

April 30—Cloudy and cold; blustering wind and showers; frosty at night.
May 1—Frosty, 8 deg. below freezing, early A.M.; clear and fine; slight frost.
— 2—Clear; fine throughout.
— 3—Clear and fine; cloudy and fine; clear at night.
— 4—Overcast; fine; clear; fine at night.
— 5—Fine; very fine; hot sun; shower; fine.
— 6—Dry haze; very fine throughout.
Mean temperature of the week ½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending May 16, 1863.

| May. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 10 | 61.9 | 40.0 | 50.4 | 16 | 0.33 in. | 6 | 8 | 5 | 1 | 5 | 7 | 3 | 2 |
| Mon. 11 | 62.4 | 40.5 | 51.4 | 15 | 0.52 | 6 | 7 | 8 | 1 | 5 | 5 | 2 | 3 |
| Tues. 12 | 63.4 | 41.1 | 52.2 | 17 | 1.14 | 2 | 10 | 6 | 2 | 3 | 7 | 4 | 3 |
| Wed. 13 | 63.6 | 38.9 | 51.2 | 17 | 1.10 | 3 | 8 | 8 | 1 | 4 | 7 | 4 | 2 |
| Thurs. 14 | 63.4 | 40.7 | 52.0 | 14 | 0.66 | 4 | 10 | 3 | 2 | 8 | 7 | 2 | 2 |
| Friday 15 | 64.8 | 41.1 | 52.9 | 13 | 0.46 | 6 | 6 | 6 | — | 2 | 12 | 3 | 2 |
| Satur. 16 | 66.1 | 43.1 | 54.1 | 14 | 0.34 | 2 | 7 | 4 | 1 | 4 | 11 | 4 | 4 |

The highest temperature during the above period occurred on the 15th, and 17th, 1833—therm. 86 deg.; and the lowest on the 15th, 1850—therm. 25 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

Arbor Vitæ: *Ignoramus.* This is not difficult to raise from seeds, which should be sown in loamy soil. If they are sown in autumn, as soon as gathered, they will germinate the following summer, but if kept till the spring, it frequently happens that they do not germinate for a whole year. Probably yours would have grown if you had waited a little longer. Lignum vitæ is a very different thing; not a Conifer at all.

Books: *A W E.* The Greenhouse, by Macintosh, will probably suit you.

Cardamine pratensis: *Alfred.* You are mistaken; abortive ovaries are what you have sent, not the "fruit" of this plant, by which term is meant the ripe ovary with perfectly formed seed.

Cedar of Lebanon Seeds: *I R.* Drive an iron pin down the axis of the cone. This will break it up, and admit of the seeds being picked out from between the scales. Of course some care is necessary to avoid crushing the seeds themselves.

Copyright: *W C.* You should consult your solicitor.

Diseased Grapes: *Young Beginner.* Your case is unhappily no uncommon one. We have the sanction of the best Grape-growers that the affection depends upon something defective in the condition of the roots. In your case there is no Fungus. *M J B.*

Garden Law: *Cheltenham.* We by no means undertake to answer legal questions. We can only give you information to be applied by yourself. In the absence of a special agreement to the contrary, a nurseryman may remove hothouses, pits, &c., erected by himself for the purposes of his trade, but not a dwelling house. He is not entitled to a longer notice to quit than other people.

Melon Leaves: *H S.* The under surface of your Melon leaves is sprinkled with patches of a white mealy mould which alone is sufficient to destroy your plants, but besides these the leaves are affected apparently with the common Cucumber disease, in consequence of which the tissues are so delicate that they cannot bear exposure to the sun. Their recovery is precarious. Shading from the sun and plenty of air are the most probable palliatives. *M J B.*

Names of Plants: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. It is requested that, not more than four plants may be sent us at any one time.—*Ignoramus.* The leaf of your so-called Laurel is that of the Croton variegatum of gardens. The cause of your ill success with this and the other plants referred to, is doubtless the want of a sufficiently high temperature for them. They cannot be cultivated without stove heat. Air plants are not generally or purposely grown upside down, but the direction is immaterial to them; hence, they may be seen hanging in all directions when grown on blocks.—*G L R.* 1, Symphytum officinale; 2, Nepeta Glechoma; 3, Ajuga reptans.—*C W S.* We regard it as Vicia hybrida.—*W T T.* Possibly some Isochilus; but we are unable to determine it from so bad and incomplete a specimen.—*C.* asks if some reader who may be in the neighbourhood of Cirencester, will kindly say what flowering shrub is at the present time blooming in such abundance on the railway banks near the junction?—*Harry.* 1, Cercis Siliquastrum; 2, Andromeda pulverulenta; 3, Kölreuteria paniculata; 4, Acer spicatum.—*G M.* 1, Cerastium tomentosum; 3, Tetratheca verticillata; 4, Mahernia incisa.—*W M.* Lonicera Ledebourii.—*W D.* The beautiful orange-flowered Natal plant which you send is Sandersonia aurantiaca.—*Lover of Wild flowers.* Lithospermum officinale.

Pampas Grass: *R T K.* Plant it in good soil, and it will take care of itself; though when making its growth, that is in summer, it is benefited by having plenty of moisture given to it, with some manure.

Pentstemons: *H H.* The following sorts will give you satisfaction:—Euclide, Adrienne Boppe, Charles Klein, Le Dante, Lord Clyde, Dr. Hogg, Laurent Lowerque, Rose of England, Purple Prince, Mrs. Steans, Blue Beauty.

Preparing Soil for a New Garden: *N Y.* The more of the clay you can add to your 14 inches of poor porous soil, on gravel, the better. Spread it on the surface in autumn, that it may be well disintegrated by frost, and then fork it up so as to mix it intimately with the soil. Six inches thick of this dressing, or even a foot if it can be got, will not be too much, especially as the clay is not very stiff, if it is turned about so as to be well aërated and broken up by exposure. A moderate dressing of the old mortar might be added, but we would not recommend the application of fresh lime.

Primrose Leaves: *L T D.* If you examine your Primrose leaves with a lens you will find that the discoloured parts are imperfectly nourished. Sulphur, Gishurst Compound, &c., will do you no good. The remedy, if any is to be found, must pass through the roots into the system. Have you tried a *weak* solution of sulphate of iron? You should, however, endeavour to discover the cause. Examine the tips of the roots and see if they are sound. If not we fear the case is hopeless. *M J B.*

Pruning Conifers: *L.* The less "pruning" they get the better. If, however, you merely wish to trim a little here and there for the sake of symmetry, we should advise its being done by and by when the new growth is completed.

Vine Leaves: *C D H.* The affection of your Vine leaves is very curious, but we can make nothing of it from crushed leaves. Be so good as to send some fresh leaves in a little box by post directed "M. J. B., King's Cliff, Wansford," and we shall then be able to study the matter more fully. *M J B.*

Vine Mildew: *G M G.* We are sorry to say that you are quite right in supposing your Vines attacked by Oidium. Persevere in the use of flowers of sulphur, especially when the fruit is forming, or as long as you see any of the white mould. *M J B.*

Vine Roots: *W T.* From the nature of the scraps of soil which adhere to your Vine roots, it is probable that the manure employed was far too rank for permanently healthy growth, though the eyes at first seem to have rooted very freely. We do not find the slightest particle of mycelium about the roots, or anything except the manure likely to have produced the mischief. *M J B.*

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Full particulars of terms will be forwarded on application.

THE FIRST GREAT INTERNATIONAL SHOW of SPORTING and other DOGS will be held at the Agricultural Hall, Islington, N., in the Week commencing MAY 25.

Private view on MONDAY, May 25 (after 4 P.M.), when the Fox Hounds will be judged in public in front of the great Orchestra.

PRICES OF ADMISSION.

| | | | s. | d. |
|---|---|---|---|---|
| MONDAY, | May 25 (after 4 P.M.) | .. .. | 5 | 0 |
| TUESDAY, | „ 26 | .. .. .. | 2 | 6 |
| WEDNESDAY, | „ 27 | each day .. .. | 1 | 0 |
| THURSDAY, | „ 28 | | | |
| FRIDAY, | „ 29 | | | |
| SATURDAY, | „ 30 | | | |

For the use of Schools, &c., Forty Tickets, admissible before 11 A.M. on WEDNESDAY, THURSDAY, FRIDAY, and SATURDAY, for 1*l*., may be obtained on application to the Secretary, at the Office, Barford Street, Liverpool Road, N.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.

WORCESTER MEETING, 1863.

PRIZE SHEETS and CERTIFICATES for ENTRY of STOCK will be forwarded on application.

LAST DAY of ENTRY, JUNE 1.

CAUTION.—All Certificates received after that date will be returned to the Senders. H. HALL DARE, Secretary.

12, Hanover Square, London, W.

# The Agricultural Gazette.

*SATURDAY, MAY* 9, 1863.

MEETING FOR THE ENSUING WEEK.

WEDNESDAY, May 13 { Agri. Society of England .. .. Noon (Mr. Ruck on Steam Cultivation.)

OUR pages are this week full of a subject which has occupied us weekly, more or less, for several years. The application of a new power to the cultivation of the land, will indeed so entirely revolutionise arable farming that no apology is needed for continually directing attention to steam-tillage. And we have to-day accordingly given details of experience in almost all the plans of rival manufacturers and rival inventors. Clients respectively of Messrs. FOWLER, HOWARD, and SMITH, have all contributed reports. And by an examination of the tables, and of the individual histories which accompany them, our readers will learn the cost of wages, fuel, wear of rope, repairs, &c., under the variety of circumstances in which steam-tillage is now being prosecuted in almost every county in the kingdom.

We shall not here attempt to give the averages, which may be calculated from these tables under the several methods of applying steam-power. Any one who is curious in the subject would, however, give a very significant and instructive contribution to next Wednesday's discussion in Hanover Square, when Mr. RUCK is to relate what he has done in steam-cultivation on his farm at Castle Hill; if he should present to the meeting which Mr. RUCK is to address, the averages of cost and of performance, under the three rival systems this day illustrated in our columns. We prefer, however, to believe in individual experience, when a full history of circumstances is given. The best results, and not the mere averages, are what ought to be expected, and may be obtained, if the requisite energy and perseverance are applied. And Mr. RUCK—like many another public-spirited and energetic man whose experience is recorded in our pages to-day—is better worth listening to when he describes his own individual practice and its results, than if he should try to estimate the average experience of all who have endeavoured to follow in their steps.

We have only to add here, that another method of applying steam-power has been introduced by Messrs. SAVORY, of Gloucester, of which, in the tables and reports in the following pages, no report is given.

There is, in fact, but one case in which the plan has been adopted on an English farm, and that for as yet so short a time that no report of a year's experience has yet been possible. Having been over that farm last Thursday, we may however very shortly here describe the plan.

Mr. BOMFORD, of Pitchill, near Evesham, occupying 800 acres of land, 600 of which are arable, heretofore worked by 34 or 35 horses, has been enabled to put down 10 or 12 of them, and will hereafter be able to put down more, by the adoption of steam-cultivation. His land lies on the junction of the lias and the new red sandstone, the latter presenting either a marly or a gravelly soil, the former a stiff clay. The four-course rotation of crops is adopted on the lighter soils; the six-course, with Wheat every other year, on the heavy land. Nothing can look better than the Wheat, Barley, Beans, and Clover at present promise on the farm; and Mr. BOMFORD is satisfied that his management, under which small and numerous fields have been thrown into large rectangular enclosures, divided by the cleverest fences we have anywhere seen; and drained, cultivated, seeded, and fed or harvested all in an exceedingly "husbandlike," practical, and successful manner—is being wonderfully facilitated, improved, intensified and cheapened by steam-tillage.

It will enable him to take two green crops always in the year in place of one—it will cheapen, quicken, and, where formerly impossible, enable fallow operations. The cost is an altogether second-rate and almost immaterial consideration. The ability to work clay land when it ought to be worked makes all the difference between failure and success in clay-land farming. We saw last Thursday a foul clay-land field, which in 10 days, at three operations, had been smashed, deeply broken up by steam-power, roasted by this unusual drought, and thoroughly cleaned accordingly—which could not have been worked by horse-power efficiently, if at all. It now has to be stifle burned at the rate of 100 to 150 cubic yards per acre; and it will, piecemeal, be prepared and sown with Rape, to be afterwards fed off, and followed by Wheat next year, thus yielding not only a fallow crop, as a preparation for the succeeding grain crop, but receiving, one can not but feel, a permanent accession to its fertility by the process to which it has been subjected.

Mr. BOMFORD, in the first place, adopted the Woolston system of applying steam-power; he has also FOWLER's 3-furrow balance plough and HOWARD's cultivator. He speaks in the highest terms of the efficiency of this cultivator; but he has given up the plan of a stationary engine, and of the rope "all round" coiled and uncoiled from a stationary windlass. There is unquestionably a difficulty at certain times of the year, and in certain conditions of the soil, of getting about with a movable engine; but at such times and in such a condition of the land, he says, no steam tillage at all ought to be undertaken. He uses two engines, one at each end of the furrow. They carry surrounding their boilers, revolving on friction rollers, large cylindrical drums, on which the rope coils and uncoils, being regulated in this particular by an exceedingly ingenious traversing hand, to which a to-and-fro motion is given at just the rate required to avoid overlapping and ensure close coiling. There is but one line of rope across the field, and in it as a link, drawn to and fro, is the cultivator, or whatever tool is used. The one engine stands and pulls, while the other engine moves on one step to the station from which it next will pull while the other unwinds. A great speed is attained—the tool goes habitually 4 or 5 miles an hour, and we saw it going faster the other day, tearing up the soil to a great depth, and in the most thorough way. Two engineers, one ploughman, and two porter lads, costing perhaps 10*s*. a day (for wages): two 8 or 10-horse power engines, consuming 16 to 20 cwt. a day (for fuel): 800 yards of rope, only 400 in use at a time, carefully coiled, and thus subjected to a minimum of waste: a cost of probably 1*s*. 6*d*. a day for oil, considerably more than where one engine suffices:—very great facility in moving from one field to another with all the apparatus:—a double allowance, not necessarily a double difficulty or expense, of water: an ability to draw the cultivating apparatus to and fro with unusual speed: a diminished liability to accident, owing to the tool being always drawn by the engine to itself: an increased first cost, owing to two engines being required: a greater usefulness for threshing and other purposes. These are among the particulars, *pro* and *con*, on the merits of which any intending purchaser must make up his mind before determining on the choice of Mr. SAVORY's apparatus.

As to the bearing on them of Mr. BOMFORD's experience at Pitchill, near Evesham, we must defer our remarks.

DR. BRADY's analysis of the evidence given before the Sewage Committee of last session was on Tuesday of last week cancelled by a vote of the House of Commons. Of course this would not have been done had the analysis, whatever its one-sidedness, been the report of the committee of the House. But this it was not; it was merely the work of one of the members of that committee. It was Dr. BRADY's doing, and the committee was appointed not to report to the House the opinion of individual members, but to report the evidence which should be given before it. If the Committee had adopted the Doctor's analysis as its report, the House would not have refused to receive it. But the analysis was not the report of the Committee, it was merely the opinion of Dr. BRADY. Indeed it is most probable that if, instead of being a collation and selection of evidence in favour of certain foregone conclusions, it had fairly represented the whole body of testimony to which it referred, the attention of the House of Commons would never have been directed to the irregularity of which the Committee had been guilty in printing it.

Mr. KER SEYMER was however impressed, not only with a sense of this irregularity, but with the ludicrous unfairness of the analysis itself. He rightly said the so-called analysis has been treated in "a very irreverent manner by agriculturists;" and as he contended that it really was not what it professed to be, he moved that the so-called analysis appended to the report of the Select Committee on Sewage of Towns be cancelled. Mr. PAGET seconded the motion. It was not until long after this analysis was ordered to be printed, that he had discovered it was not an analysis, but consisted of deductions from evidence, animadversions on evidence, and statements as to the opinions of the committee upon such and such points. It was not right that such a document should be published to the world as containing the opinions of the committee when that committee had not enjoyed the usual opportunity of expressing their opinions. Dr. BRADY made his reply the occasion of quoting LIEBIG as to the utter worthlessness of Mr. LAWES's researches—Mr. LAWES had been described as a great benefactor to his country, but the opinion of LIEBIG was something very different. There were three propositions he wished to submit to the House—(1) That English agriculture was at present in want of manure; (2) that the manufacture of artificial manure was to some extent a supply; (3) that it was not for the interest of those engaged in that trade that any change should be made in the existing state of things. Dr. BRADY's discussion was, however, cut short on the score of irrelevancy. He was called to order—the question being not the value of Mr. LAWES's services or their disinterestedness, to which ample testimony was borne—but the fairness of Dr. BRADY's own analysis of the evidence brought before the Sewage Committee.

The upshot of the discussion was that Mr. KER SEYMER's motion was assented to, and thus it is no longer before the public on the authority of a Parliamentary Committee that, as compared with solid manure, sewage possesses many advantages in its application to the land—that its liquidity stops all loss from evaporation, and brings every particle of it into immediate action on the crop—that its "heat" is of great benefit to agriculture—and that its mere water is of great agricultural use. It is no longer a Parliamentary Committee which declares that sewage has been applied to roots and grain crops with great advantage, and to Grass with the effect of increasing the richness of the milk of cows fed on it. All these assertions are henceforth to be taken as expressing merely the opinions of Dr. BRADY—not of the Committee of which he was the Chairman.

The real value of *his* analysis has already been the subject of discussion in our columns. We believe that the present use of London sewage, and that of many other large towns, is most wasteful, and that it will hereafter be turned to better account, but it will not be by means of or because of the agricultural value of its water or of its heat, nor because the crop to which it may be applied will be benefited only by the manure contained in that portion of the sewage which is absorbed by the soil within reach of the roots of the plant. Neither will the problem be solved by what the "analysis" declares to be the "economical" use of hose and jet in place of open carriers.

# STEAM CULTIVATION IN 1862.

THE following particulars have been given to us in return to a circular of inquiries asking (1) for the horse-power of the engine; (2) for the number of acres ploughed and cultivated during 1862; (3) for the depth of the work; (4) for the number of days at work; (5, 6, 7, & 8) for the wages, coal, oil, and repairs paid for. Accompanying these bare details are a number of particulars relating to the history of the several cases in previous years, which will enable readers to gather an impression of the cost and profits of Steam Culture in the instances thus described.

## FOWLER'S STEAM PLOUGH, 1862.

| No. | Power of Engine | Acres Cultivated. | | Depth of Work. | Days at Work. | Wages Paid. | Coals. | Oil. | Repairs and Rope. |
|---|---|---|---|---|---|---|---|---|---|
| | | Ploughed. | Grubbed. | | | | | | |
| | | | | Inches. | | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| 1 | 12 | 310 | 615 | 6 to 9 | 118 | 87 1 8 | 60 10 8 | 6 0 0 | 98 0 0 |
| 2 | 14 | 270 | 240 | .. | 56 | 45 0 0 | 42 0 0 | 2 16 0 | 20 0 0 |
| 3 | 12 | 73½ | 184 | .. | 81 | 50 14 0 | 10 10 0 | 6 12 0 | 23 0 0 |
| 4 | 14 | 320 | 285 | .. | 121 | 85 0 0 | 48 16 0 | 11 10 0 | 48 0 0 |
| 5 | 10 | 240 | 400 | .. | .. | 104 11 2 | 94 0 0 | 8 0 0 | 83 8 0 |
| 6 | 12 | 57 | 246 | 6 to 12 | 38½ | .. | .. | .. | 8 18 0 |
| 7 | 14 | 462 | 116 | 7 to 8 | 96 | 62 12 0 | 69 2 0 | 7 4 0 | 22 9 6 |
| 8 | 12 | 50 | 1400 | 7 to 10 | 220 | 19 4 0* | .. | .. | 42 0 0 |
| 9 | 14 | 287 | 76 | .. | 64½ | 52 10 0 | 81 0 0 | 8 15 0 | 14 0 0 |
| 10 | 10 | 509 | .. | .. | 125 | 92 9 0 | 67 18 0 | 5 0 0 | 49 8 8 |
| 11 | 10 | 835 | 115 | 7 | 80½ | 63 7 7 | 45 0 0 | 2 5 0 | 69 10 3 |
| 12 | 14 | 236 | 63 | 9 to 10 | .. | .. | .. | .. | 22 1 6 |
| 13 | 14 | 500 | 200 | 7 to 9 | 150 | 120 0 0 | .. | 10 0 0 | .. |
| 14 | 12 | 712 | | .. | 169 | 100 10 0 | 56 0 0 | 10 0 0 | .. |
| 15 | 12 | 232 | .. | .. | .. | 56 5 10 | .. | .. | 51 12 7 |
| 16 | 12 | 257 | 200 | .. | .. | .. | .. | .. | 5 0 0 |
| 17 | 10 | 282 | 357 | .. | .. | .. | .. | .. | 8 13 0 |

1. Mr. S. M. PLUMMER, Peasemore, Berks.—Size of farm: arable, 770 acres; pasture, 30. Character of soil, strong clay resting on chalk. Rotation of cropping adopted, four-field. Number of horses formerly employed, 36; 19 employed now. Apparatus purchased March 17, 1860, cost 780*l.* Length of rope originally bought, 800 yards. Number of yards bought since:—Sept. 4, 1860, 500 yards; June 10, 1861, 500 yards; July 6, 1861, 200 yards; May 2, 1862, 500 yards. Cost of alterations since purchase, none. Repairs since purchase, 320*l.*; including rope. Horse power of engine, 12. Daily cost of wages:—Engineman, 3*s.*; ploughman, 3*s.*; anchorman, 2*s.*; 3 boys for rope, 2*s.* 6*d.*; total, 10*s.* 6*d.* Cost of water-cart a day, 4*s.* 6*d.*, including boy. Daily consumption of coal, 14 cwt. Cost of coal per ton on the ground, 14*s.* 8*d.* Acres done each year since first purchase:—Ploughing: 1860, 320; 1861, 180; 1862, 175. Grubbing: 1860, 468; 1861, 860; 1862, 750. The depth of the work done varies from 6 to 9 inches. The tilth of the soil could not be better, and the produce much improved. The whole of the tackle is in good working order, and rope enough to last another year.

2. Mr. GILES EDMONDS, Eastleach, Gloucestershire.—Size of farm: arable, 2050 acres; Pasture, 425. Soil, stiff clay, sandy loam, stone brash and light stone brash. Rotation of cropping adopted: 3-field on heavy, 4-field on brash, and 5-field on light stone brash, (two years' seeds). Number of horses formerly employed, 43; employed now, 40. Number of oxen formerly employed, 50 in seven teams; employed now, 16 in two teams. A much larger deduction may be made—as a proof, 8 or 10 of our horses have been and are laid up with influenza, yet our work is as forward as it can be. Apparatus bought August, 1862. Rope originally bought: 800 yards besides headland ropes. None bought since. No alterations since purchase. Repairs since purchase, about 20*l.* including shares. Horse-power of engine, 14-horse. Daily cost of wages; one at 3*s.* 6*d.*, one at 2*s.* 6*d.*, one at 2*s.* 2*d.*, in some cases we find it convenient to have another man in attendance; three boys at 1*s.*, 3*s.* Water-cart, 4*s.* a day. Coal 15 cwt., costing 20*s.* per ton. Having so recently had the plough cannot speak as to the effect of any increased depth of tillage, &c.; as far as I can see the engine and apparatus are worth as much as when bought, though we know that wear and tear must detract from the value. I should consider 12½ per cent. on the year would be sufficient to keep up the whole machinery. March 3, 1863, we have worked our cultivator lately, 12 days, doing 172 acres and moving seven times, twice out of the seven about two miles.

3. Mr. WILLIAM LAWSON, Brayton, Carlisle.—Size of farm: arable, 233 acres; meadow, 13. Apparatus bought Jan. 4th, 1862; cost 825*l.* Length of rope originally bought, 800 yards steel wire, and 350 yards iron wire; none bought since. Alterations, 6*l.* Repairs, 23*l.* since purchase. Horse-power of engine, 12. Daily cost of wages: Engineman, 3*s.* 4*d.*; ploughman, 3*s.*; anchorman and 2 porter men, 2*s.* 6*d.* each; total, 13*s.* 10*d.* for 5 men. Cost of water-cart, 6*s.* 6*d.* daily. Coal, 12 cwt. a day; only 10*s.* a ton. We scarify to a greater depth than horse-cultivation usually goes. Turnip crops have been remarkably good after my steam-scarifying. The engine and apparatus are probably now worth 700*l.* at least.

4. Mr. JOHN WALKER WATTS, Orlingbury.—Farm: 540 acres arable, and pasture 250 acres. Four-course cropping on the stiffest land, and six-course on the lightest. Number of horses formerly employed, 22; now 12. Date of purchase of apparatus, October, 1861; cost, 875*l.* Length of rope originally bought, 800 yards; none bought since. 14-horse power engine. Daily wages: engineman, 3*s.*; ploughman, 2*s.*; anchorman, 2*s.*; 2 porter boys, 1*s.* each. Water-cart, 3*s.* 6*d.* a day; coal, 14 cwt. a day, costing 11*s.* 6*d.* a ton. Did 100 acres of ploughing in 1861. The harvest of 1863 will be the first test of the additional productiveness of the land, but the great depth of culture obtained, the manner in which the seed went in, and the universal healthy appearance of the crops, leave no doubt as to the highly beneficial results.

5. Mr. COLEMAN, Royal Agricultural College, Cirencester.—Size of two farms: arable, 1060 acres; pasture, 140. Soil, principally medium, some stiff marl and some portion light thin brash. Rotation of cropping adopted, 4 and 5-course. Number of horses formerly employed, 24; employed now, 19. Oxen formerly employed, 20; employed now, none. Date of purchase of apparatus, Oct. 1861; cost, 838*l.* 19*s.* Length of rope originally bought, 800 yards; none bought since, but 2 headland ropes have been purchased; this is not included in the 800 yards. Cost of alteration and repairs since purchase, 95*l.* Engine, 10-horse power. Daily wages: Engineer, 3*s.*; ploughman, 2*s.* 6*d.*; anchor-boy, 1*s.* 6*d.*; 3 boys, 1*s.* Cost of water-cart a-day, 2*s.* 6*d.* Daily consumption of coal, 15 cwt.; costing 16*s.* 6*d.* a ton. 135 acres of ploughing done in 1862. The nature of the work done has been most satisfactory; on account of the engine being small a large cultivator has not been purchased, so that all the work, whether ploughing or smashing, has been done by the same implement. The land being in parts very shallow and also hilly is not naturally suitable for steam culture. The average work of each day has been about 5 acres, and this in a season which was very unfavourable, and as the work of the first year is satisfactory.

6. Mr. S. STRICKLAND, Headley Hall, Tadcaster.—Farm: arable, 300 acres; pasture, 30. Soil, strong limestone. Rotation of cropping adopted: 1st, Clover and Italian Rye Grass; 2d, Wheat or Barley; 3d, Potatoes; 4th, Wheat; 5th, Turnips; 6th, Barley. Number of horses formerly employed, 14; employed now 10, but 5 of them in foal; could do quite as well with 8. Date of purchase of apparatus, 31st July, 1862. Cost, 548*l.*, at an auction at Leamington, but cost in April, 1862, 900*l.* Length of rope originally bought, 900 yards. Cost of alterations since purchase, 42*l.* 11*s.* 3*d.* before set to work, and 3*l.* 13*s.* repairs since. Engine of 12-horse, self moving. Wages, 2*s.* 6*d.*, 2*s.* 6*d.*, 2*s.*, 2*s.*, 1*s.* Cost of water-cart a day, 5*s.*, with man. Daily consumption of coal, ½ ton of slack, costing on the ground, say 7*s.* a ton. Began cultivating in October, and have ploughed and cultivated the number of acres named above; the men having beasts and horses to attend to never work with engine, &c., more than 8 hours per day. As yet I cannot speak to the productiveness of the farm, but very much like the prospect, it lying so very much dryer. When at work with 3-furrow plough 12 inches deep by 13 inches, cannot plough that depth more than 1 acre in two hours, the subsoil being so very strong, and never ploughed before more than 5 inches. When cultivating we can do comfortably 10 acres in eight hours, though we have stones to contend with often. I cannot see but the engine and everything is now as good as when set to work; of course there will be some wear and tear. I thresh with the engine also.

7. Mr. COOPER, Fen Drayton, Cambs.—Size of farms: arable, 450 acres; pasture, 50. Soil gravelly and stiff. Rotation of cropping adopted: 1st, Wheat; 2nd, Barley and Oats; 3d, Onions, Cucumbers, Potatoes and roots; 4th, Turnip seed. Number of horses formerly employed, 19; now, 14. Date of purchase of apparatus, 26th of July, 1862. Cost 945*l.* with cultivator. Length of rope originally bought, 800 yards. Cost of repairs since purchase, 22*l.* 9*s.* 6*d.* Horse-power of engine, 14 horse-power. Wages: engine-man, 3*s.* 6*d.*; ploughman, 3*s.* 6*d.*; anchor boy, 1*s.* 8*d.*; 2 porter boys, 1*s.* 5½*d.* each; water-cart boy, 1*s.* 5½*d.*; total, 13*s.* 0½*d.* Cost of water-cart a-day, 4*s.* Daily consumption of coal, 18 cwt., costing 16*s.* a ton on the ground. Horse for water-cart, 19*l.* 4*s.* Out of the 462 acres put down to ploughing, 284 were done with digging breasts. Included in the 22*l.* 9*s.* 6*d.*, put down to "cost of repairs," is the price of new shares, blacksmith's bill, &c. The average depth of ploughing and digging is 8 inches; and of cultivating, 7 inches. As to the quality of the work, there is no comparison between horse and steam tillage. Steam ploughing is so effectual, that I consider that all work done by the end of September improves the land three times more than the cost of ploughing. In your form there is no item for shifting from one field to another; these I put down at 5*s.*—there are 31, making 7*l.* 15*s.* The engine has travelled 39 miles to do this work, and with the rest of the apparatus appears to be in as good condition as when purchased.

8. Mr. THOMAS M. RICHARDSON, Hibaldstow, Kirton-in-Lindsey.—Farm: arable, 400 acres, and many acres worked on hire for neighbours; Soil, light as well as strong clay. Rotation of cropping adopted: 4-course system on the light land, and Beans in lieu of Turnips on the clay soil. Number of horses formerly employed, 12; now, 6; oxen, 4; now, none. Date of purchase of apparatus, one set in October, 1860, made by myself. Cost about 700*l.*, with the engine. Length of rope originally bought, 1800 yards; none bought since. Cost of alterations since made, 25*l.* Cost of repairs since made, 74*l.* Horse-power of engine, 12 horse-power, with double cylinders, improved traction, and made by myself. Daily cost of wages, 4 men at 2*s.* 6*d.* each; 2 boys at 10*d.* each. Cost of water-cart a day, 4*s.* per day. Daily consumption of coal, 8 cwt. on the light land and 12 cwt. on strong land. Cost of coal per ton on the ground, 12*s.* 150 acres grubbed in 1860 and 700 grubbed in 1861. The strong land was ploughed at a depth of 9 and 10 inches, and the light land at a depth of 7 inches, and the effect was very satisfactory in the following crop of Swedes, being very superior to any ever seen grown in any previous year, but on the whole I prefer cultivating the land to ploughing it, as the frost penetrates deeper, and the whole is more thoroughly pulverised, and no weeds are buried. The engine is in all respects as good as ever, having had new brasses, and well attended to on all occasions. My apparatus may be described "An engine fixed and worked on the triangular system with large pulleys and iron anchors, with self-acting porters on the sides, and Fowler's cultivator, and it is well adapted for working irregular and oblong fields, but is not to be compared with the direct system in large square fields. I have, however, now purchased Mr. Fowler's clip-drum apparatus attached to an anchor windlass, which is driven forward on the headland by the engine attached to it, and a movable anchor on the opposite headland, and with his large cultivator I commenced working in August, 1862, immediately on the removal of the Wheat crop, and have continued working it during the winter months, both on my own farm and my neighbours, and have very frequently done from 15 to 20 acres per day on our cliff soils at the following charges to neighbours, viz., 8*s.*, 7*s.* 6*d.*, and 7*s.* per acre, the occupier finding coals and leading water. During the spring I have already (March 12) cultivated 300 acres with this system, and only had one breakage of the small anchor by great neglect of the man in attendance, and I fully expect to do 500 more before the 1st of May, as the weather is more favourable and the days are longer, and I allow the men 3*d.* per hour for extra hours after 6 o'clock. In fact the farmers in this neighbourhood would almost prefer to allow the engine to cross-cultivate their fallows than bring their horses out of the stable, as our work is so superior to horse work, as it pulverises it well, and to a depth of 9 inches really subsoils it, which work horses could not possibly do at any price, and brings out all the Couch Grass by the roots without cutting it (as the plough unfortunately did); consequently the harrows soon collect it together, for it dries quickly with a little wind and sun. I employ my other set now only in irregular fields, as I cannot do more than three fourths of the work in the same time, and at the same expense. The engine being a traction one removes and conveys the whole of the apparatus, with only the assistance of a horse to lead water when on the road. *T. M. Richardson.*

9. Mr. GROSVENOR HODGKINSON, M.P., Winthorpe Hall, near Newark.—Size of farm; arable 700 acres, pasture 60 acres Soil, principally a moderately stiff clay on limestone. No regular rotation is adopted. Number of horses formerly employed, 26; now, 14. Date of purchase of apparatus, Sept. 6, 1862. Cost, 960*l.* Length of rope originally bought, 850 yards; none bought since. No alterations since purchase. Repairs since purchase, probably about 14*l.* Engine, 14-horse power. Wages: 5 hands employed, at a daily cost of about 11*s.*; water-cart, about 5*s.* 6*d.* a day, including driver. Coal, about 15 cwt. a day, costing 12*s.* 6*d.* per ton on the ground. Acres done each year since first purchase: ploughing, from the purchase of the engine to the present time, 287 acres; grubbing ditto, 76 acres. I have not had the apparatus sufficiently long to give any opinion as to the effect on the productiveness of the farm, but I am satisfied that the thoroughness of the tillage is far superior to that produced by horse power, and that the percolation of the water has been more perfect on the land cultivated by the apparatus than on that ploughed by horses.

10. Mr. J. M. READ, Elkstone, Cheltenham.—Farm: arable, 780 acres; pasture, 243. Soil: part light, rocky, and side-land; mostly Fuller's earth clay; most difficult land to cultivate. Cropping: mostly on the 4-field rotation. Number of horses formerly employed, 16; employed now, 16. Number of oxen formerly employed, 30; employed now, none. Apparatus bought Jan. 1861; cost, 703*l.*; slack gear added, 10*l.*, and drags, 21*l.* Rope originally bought, 800 yards, bought 800 yards since; a plough rope, costing 41*l.*, put in to begin 1862. Old one used after for other ropes. Some of the old plough ropes used now, 1863, for headland ropes. Horse-power of engine, 10. Wages: engineman, 3*s.*; ploughman, 2*s.*; anchorman, 1*s.* 6*d.*; 3 porter boys at 10*d.*, 2*s.* 6*d.* Cost of water-cart a day, 4*s.*; daily consumption of coal, very variable; cost of coal per ton on the ground, 20*s.* Ploughed 718 acres, and grubbed 500 acres in 1861. Land more deeply cultivated; a better tilth obtained; surface water escapes more quickly, and larger crops follow, particularly upon the heavy lands. Engine, and ploughs, and anchors, little worn; ropes and porters more so.

11. Mr. E. MARJORIBANKS, Fawley Court and Greenland Farms, Henley-on-Thames.—Size of farm: arable, 440 acres; pasture, 381. Soil, chalk and gravel. Four-course cropping. Number of horses formerly employed, 24; employed now, 14. Date of purchase of apparatus, September, 1859; cost, 735*l.* Length of rope originally bought, 800 yards. Bought since: Sept., 1860, 430 yards steel rope; Oct., 1861, 150 yards steel rope; Oct., 1862, 450 yards steel rope—about one-fourth worn. Cost of alterations since purchase, including shares, ropes, &c., 200*l.* 12*s.* 9*d.* Horse-power of engine, 10. Wages: Engineer, 2*s.* 6*d.* per day; stoker, 1*s.* 2*d.*; ploughman, 2*s.* 2*d.*; anchor-man, 2*s.*; 2 rope boys, 2*s.* 4*d.*; water-boy, 1*s.* 8*d.*; in all 11*s.* 10*d.* Extra overtime: men, 3*d.* per hour; boys, 2*d.* per hour; and 6*d.* per acre for more than 6 acres ploughed daily. Water-cart, 1 horse, 3*s.*; daily consumption of coal, from 8 to 14 cwt.; cost of coal per ton on the ground, 20*s.* Ploughed, 753 acres; and grubbed 100 acres, up to end of 1861. The usual depth of ploughing is about 7 inches. The soil appears much improved in texture by the deep cultivation. The young Wheat looks strong and healthy on the deep ploughed land, and am of opinion that the deep ploughing and early sowing is more favourable to the Wheat than shallow ploughing. The engine has just gone to be altered and have all the improved gear fixed on it. I hardly dare fix a price on the engine and apparatus, as every part appears so very durable excepting the shares, ropes, and other usual wearing parts that can be easily replaced.

12. Mr. JAMES CHRISTY, Jun., near Chelmsford, Boynton Hall. Farm: arable, 677 acres; pasture, 92. Soil: heavy; stiff marl. Cropping adopted: 4-course; and latterly since the introduction of steam, 5-course. Number of horses formerly employed, 28; employed now, 20. Apparatus bought July 7th, 1862; cost with grubber, 935*l.* Length of rope originally bought, 800 yards; none bought since. Cost of alterations and repairs since purchase, 22*l.* 1*s.* 6*d.*, including shares, points, &c. Engine, 14-horse power. Daily wages: driver, 3*s.* 4*d.*; 2 men, 2*s.* 4*d.* each; 3 boys, 2*s.* 6*d.*; total, 10*s.* 6*d.* Cost of water-cart a day, 5*s.* Coal, 12 cwt. a day, costing 20*s.* a ton on the ground. A considerable portion of the land ploughed with the digging breasts in the autumn, 9 and 10 inches deep, has now been sown with Barley; and notwithstanding the absence of frost during the winter it was (to use a local expression) "like an ash-heap," and I never saw so thorough a tillage. The same applies to the land intended for Wurzel, although left on the flat. Some of the work, as above stated, was done for neighbours, and as the engine has done some threshing, I cannot fill in all the particulars. I have only felt my way as to the reduction of horses, as they were so cheap last autumn, but have no doubt of very considerably reducing the number still further.

13. Mr. S. HEAD, Swindon, Wilts.—Apparatus bought March 8, 1862, costing with grubber, draining plough, and certain additions, 965*l.* Length of rope originally bought, 800 yards;

none bought since. Horse-power of engine, 14. Daily wages: engineman, 3s. 6d. when ploughing, 2s. 6d. when not; ploughman, 2s. 6d. when ploughing, 2s. when not; anchorman, 1s. 10d. when ploughing, 1s. 3d. when not; 2 porter boys, 1s. 8d. when ploughing, 1s. 2d. when not. Cost of water-cart a day, 4s. Daily consumption of coal, about 14 cwt, costing on the ground 15s. to 20s. per ton. Present value of engine and tackle, with additions and extras as above, 800l. General depth from 7 to 9 inches. To all appearance the effect has been most beneficial. We worked by contract for the farmers, who did all the best of their work themselves, and saved up the worst for "the steamer." No water has stood on our work during the winter, though it often did before. The farmers are all very anxious to be able to hire the steam plough this year when they want it. Where the farm is adapted for it, and the machinery is well managed, the steam plough will pay for itself in two or three years.

14. Mr. E. Holland, Dumbleton Hall, Evesham.—Farm: arable, 363 acres; pasture, 374. Cropping: Wheat and green crops alternately. Number of horses formerly employed, 25; now, 10. Apparatus bought in 1858, costing 751l. 19s. 6d. Rope originally bought, 1000 yards; bought since, 900 yards. Alterations since purchase, 40l. 19s. 6d.; repairs and rope since purchase, 316l. 9s. 6d. Engine, 12 horse-power. Daily wages: 5 men and boys, 11s. 2d. Water-cart a-day, 3s. Coal, 10 cwt. a-day; costing 14s. per ton. The engine and tackle, with the additional repairs, is, with the exception of fire-box, as good as when started.

15. The Earl of Radnor; E. Hankey, Esq.; Messrs. W. Stratton and C. Belcher; Coleshill, Berks.—Size of farms: 830 acres; pasture, 1230. Soil varies greatly; sand, stone brash, and strong retentive clays. Rotation, usually the 4-course. No alteration in the horses employed, the steam-plough having been added as an experiment, and rather supplementary than otherwise. Date of purchase of apparatus, Feb., 1861. Cost, 840l. Cost of alterations and repairs since purchase: 1861, 72l. 4s. 3d.; 1862, 51l. 12s. 7d. Horse power of engine, 12. The company has charged 12s. per acre for ploughing, and 9s. for scarifying with the breasts off the plough. In 1861 we had nothing for a dividend; in 1862 we paid 5 per cent.; but then we did not take into account the present value of engine, &c., or I fear we should have exhibited a heavy loss. The work has been thoroughly done, at an average depth of 8 inches. The effect on the productiveness of the farm cannot be stated, as only one operation has taken place on the same land. The value of the work done was probably quite equal, if not in excess of the cost, say 18s. per acre, including labour, coal, oil, and water-cart. The following was the account for 1861-2:—

| Receipts. | | £ | s. | d. | Payments. | | £ | s. | d. |
|---|---|---|---|---|---|---|---|---|---|
| 1861. | For Ploughing | 197 | 6 | 6 | 1861. | Labour .. | 102 | 0 | 2½ |
| 1862. | ,, ,, | 139 | 4 | 0 | | Bills .. | 48 | 4 | 7 |
| | | | | | | ,, .. .. | 8 | 12 | 6 |
| | | | | | | ,, .. .. | 23 | 19 | 8 |
| | | | | | 1862. | Labour .. | 56 | 5 | 10½ |
| | | | | | | Bills .. | 51 | 12 | 7 |
| | | | | | | Div. 5 per cent. | 42 | 0 | 0 |
| | | | | | | Balance .. | 3 | 15 | 1 |
| | | £336 | 10 | 6 | | | £336 | 10 | 6 |

16. Mr. Henry Codd, Ashe, near Overton.—Farm: arable, 477 acres; pasture, 7. Soil, chalk. Cropping, 5-course. Number of horses formerly employed, 14; employed now, 6. Date of purchase of apparatus, Feb. 28, 1862, cost 900l. Length of rope originally bought, 800 yards; none bought since. No alterations since purchase. Repairs, 5l. Horse-power of engine, 12. Daily wages:—three men and two porter boys, anchor man, 1s. 8d. per day; ploughman, 2s.; engineman, 3s.; porter boys, 1s. each; total, 8s. 8d. per day. Cost of water-cart a day, 5s. Daily consumption of coal, 10 to 12 cwt. per day. Cost of coal per ton on the ground, 1l. The Barley and Oats after the steam plough and grubbing are decidedly better than after the horses—at least three sacks per acre, also the Turnip and Swedes. The number of days I have not kept an account of, so cannot fill up the cost of work. We plough 8 acres in a full day in summer, and 6 acres in winter; 16 acres a day scarifying once in a place, and half that quantity twice in a place. About 1s. worth of oil per day.

17. Messrs. Hy. & W. Hole, Corton, near Heytesbury.—Farm: arable, 740 acres; down and pasture, 360 acres. Soil: chalk. Rotation of cropping adopted: 200 acres in 5-field, and 540 acres in 4-field system. Number of horses formerly employed, 22; now 12. Number of oxen formerly employed, 6; now, 6. Date of starting the apparatus, 25th Sept., 1861; cost, 800l. Length of rope originally bought, 800 yards; none bought since. No alterations since purchase. Repairs since purchase, 25l. 12s. 6d. Horse-power of engine, 10. Daily wages: engine-driver, 2s. 6d.; ploughman, 2s.; anchor lad, 1s.; three porter boys, at 8d., 2s.; total, 7s. 6d per day. Cost of water-cart a day, 7s.; coal, from 8 to 10 cwt. a day, costing per ton on the ground, 14s. 6d. Ploughing, 274 acres; grubbing or scarifying, 357 acres; raftering, 75 acres; in all, 706 acres, from 25th Sept. 1861, to 8th Nov. 1862. The great advantage of steam cultivation in our opinion is, that the work is done just at the time it is required, and is far superior to that done by horses; and there is no expense attached to the apparatus when not at work as with horses. The engine and apparatus is in good repair, and apparently little the worse after the twelve months' wear. I will here mention that we have dragged (after ploughing and scarifying) 315 acres, and pressed with a heavy four-wheeled presser 67 acres at the same time when ploughing for our last Wheat crop; this is a considerable advantage. The raftering is very well done by the plough. We also use the engine for threshing the corn grown on the farm; and when dry weather, she will take the whole apparatus with her, which is a great boon when busy with our horses. The above account perhaps will seem but a small quantity of work done in the time, but as you will see we lost the spring of 1861, and the best month (March) of 1862, which was wet every day; and also, the land not having been thoroughly cultivated before, there were large flints, &c., which came in contact with the plough, and were a great hindrance, being obliged to drive slow, or the breakage of skives and shares would have been considerable; therefore did not exceed 4 acres per day, i. e., including all hindrances and removals; but now on working the land a second time that difficulty is overcome, and we can now get over from 5½ to 7 acres per day. Perhaps you will think the price I have mentioned for water-cartage rather high; but we are badly situated for water, and are obliged sometimes to haul it up steep hills, requiring two horses, and I believe it costs us from 1s. to 1s. 6d. per acre in water.

18. Wm. F. Bethell, Rise, near Hull.—3 Farms: arable, 540 acres; pasture, 220. Soil: chiefly strong clay and clayey loam. Number of horses formerly employed, 24; employed now, 24; I expect to lay down six, but they are used for other purposes at times. Date of purchase of apparatus, August, 1862; cost 953l. 15s. Length of rope originally bought, 800 yards. Cost of alterations and repairs since purchase, trifling. Horse-power of engine, 14. Daily wages:—engineer, 4s. 6d.; ploughman, 3s.; anchorman, 2s. 6d.; 1 man, 2s. 6d.; 1 boy, 1s.; total, 13s. 6d. Cost of water-cart a-day, 5s. Coal 15 cwt. a day, costing 17s. 6d. per ton on the ground. Ploughing and digging in autumn, 60 acres. You will see that I have scarcely used the apparatus owing to circumstances, viz.:—I had to redrain much of the land intended to plough, and was advised not to risk the tackle upon the soft new drains. The work done was chiefly digging from 6 to 8 inches; soil very strong, daily average about 5½ acres; calculated expense, allowing 72s. per day for all charges, including wear and tear, &c., at 40s., at about 13s. per acre. The quality of work very good, and quite superior to horse work; I should say well worth 20s. per acre. Wages here are high, and as I do not keep an engineer at present I have to pay rather more for one when required.

19. Mr. C. Whitehead Griffin, Werrington, near Peterborough.—Farm: arable, 300 acres; pasture, 180. Soil, part strong clay, part gravel, part Fen soil, peat. Number of horses formerly employed, 13; employed now, 11. Apparatus bought April, 1862; cost, 800l. Length of rope originally bought, 800 yards; none bought since. Cost of repairs since purchase, about 20l. Engine, 12 horse-power. Daily wages: 2 men at 3s.; 1 man, 2s. 6d.; 2 boys, 1s. 6d. Water-cart a day, 7s. Coal from 12 cwt. to 1 ton a day, costing per ton on the ground, 14s. Ploughed about 400 acres last autumn. Upon some very strong land we went from 10 to 12 inches, but finding we were having so many breakages resolved to let 10 inches be the very outside; having now got used to the tackle, we have no difficulty in doing about 8 acres a day. The tillage is far preferable to work done by horse-power, owing to the speed; at present I do not feel disposed to say much for the result; but with greater experience shall be happy to give more information. I will only add we have done about 250 acres without a breakage.

20. Mr. J. King, Chadhurst Farm, near Runton, Warwick.—As regards my own personal experience of steam cultivation after four years' trial I do not hesitate one moment in saying that upon good sized farms, especially clay farms, steam is far superior and much more economical than horse power in the cultivation of soil. The farm I occupy is a little over 600 acres, of which nearly one-half is arable, being a mixed clay soil, some parts very tenacious. Before I began steam cultivation, which I did four years ago (having for a partner in the steam plough my friend Mr. E. Righton, of Thornton), the number of horses kept was from 12 to 15, and the summer work consisted of 50 acres of fallow, with 10 or 12 acres of Turnip fallow. Through the medium of Fowler's steam plough I have been able to do away with the 50 acres of dead fallow, the same being either in crop or seeds. The number of horses I shall require for work until next harvest will be five, just enough to work three carts. One result of steam culture I must not forget to mention; viz., the superior seed-bed we obtain over horse culture. I find the land that is steam-worked lies much sounder for future operations, is more impressible and yielding to the drill, &c., and is much readier cleaned. With these few remarks I must beg to add that the steam tackle I am speaking about is not employed upon my farm one-fourth of its working time, as we let it out on hire when not employing it ourselves. I will venture to say, without fear of contradiction, that no person having tried steam culture upon a large clay farm would ever be induced to farm such land without this masterpiece of machinery.

21. Mr. Stratton, Broad Hinton, Swindon.—Farm: arable, 1100 acres; pasture, 810 acres. Soil, heavy. Number of horses formerly employed, 30, and 20 oxen; employed now, 28 horses. Date of purchase of apparatus, Oct. 1859. Length of rope originally bought, 800 yards. Cost of alterations since purchase, 240l. Horse-power of engine, 12. Daily wages, 12s. 6d. when ploughing. Water-cart a day, 4s. 6d. Coal, 11 cwt., costing 19s. a ton on the ground. Cultivated nearly 1000 acres last year. As I have before told you I think the advantage we gain in doing work well and at the right season, is of greater consideration than the saving in expense.

## SMITH'S CULTIVATOR—1862.

| No. | Power of Engine | Acres Grubbed. | Depth of Work. | Days at Work. | Wages Paid. £ s. d. | Coals. £ s. d. | Oil. £ s. d. | Repairs. £ s. d. |
|---|---|---|---|---|---|---|---|---|
| 1 | 10 | 1075 | 6 to 8 | 116 | 133 8 0 | 39 2 0 | 5 10 0 | .. |
| 2 | 10 | 240 | .. | 42 | 40 8 6 | 10 10 0 | 2 2 0 | 3 17 10 |
| 3 | 8 | 170 | .. | 24 | 15 12 0 | 9 12 0 | 1 0 0 | .. |
| 4 | 10 | 161 | .. | 23 | 33 7 10 | 9 0 0 | 1 3 0 | 1 0 0 |
| 5 | 8 | 591 | 5 to 8 | 79 | .. | .. | .. | .. |
| 6 | 8 | 527 | 5 to 9 | 88 | 68 4 0 | 39 10 6 | 4 10 0 | 5 15 0 |
| 7 | 10 | 100 | 5 to 6 | 14 | 10 10 0 | 5 0 0 | 1 7 6 | .. |
| 8 | 10 | 328 | 6 | 50 | 35 0 0 | 17 10 0 | 1 0 0 | 10 0 0 |
| 9 | 12 | 37 | 6 to 8 | 7½ | 3 14 6 | 2 0 0 | 0 4 0 | 0 5 6 |
| 10 | 8 | 176 | 5 to 6 | 33 | 53 19 0 | 9 14 0 | 2 10 0 | 13 0 0 |
| 11 | 10 | 212 | 9 | 52 | 33 16 0 | 21 19 0 | 1 7 6 | 2 0 0 |
| 12 | 10 | 58 | .. | 14½ | 12 12 8 | 5 0 0 | 15 0 0 | 2 0 0 |
| 13 | 10 | 174 | .. | 35 | 28 17 6 | 15 8 0 | 1 15 0 | 9 0 0 |
| 14 | 8 | 95 | .. | 15 | 13 10 0 | 7 8 0 | .. | .. |
| 15 | 8 | 408 | 4 to 10 | 52 | .. | .. | .. | .. |
| 16 | .. | 162 | .. | 18 | .. | .. | .. | .. |

1. Mr. Francis Sowerby, Aylesby, near Great Grimsby.—Farm: arable, 600 acres; pasture, 300. Soil loamy, strong clay subsoil. Rotation, 4-course. Horses formerly employed, about 24. Employed now, about 17. Apparatus bought Sept, 1859, cost 503l. 2s., with 8-horse engine, which was exchanged for 10-horse, in August, 1862. Rope originally bought, 1400 yards; bought since, 1400 yards, March, 1862. No alterations since purchase. Cost of repairs since purchase difficult to come at, as the engine has threshed upwards of 1000 tons of Corn annually, as well as cultivating land; but I should say that 10l. a year would cover all repairs (except the rope), both for engine and cultivating apparatus, including wear of shares. The first rope did upwards of 1300 acres; the second has done 1000, and appears as if it would do twice as much more, it being much better than the first—the last made by Howard. Horse-power of engine, 8-horse for 3 years, 10-horse, 1862. Wages about 23s. per day: 5 men averaging 4s. each, and 3 boys, 1s. each, including water-cart boy. The men work by piece, engine man and windlass man 6d. per day extra. Cost of water-cart a day, 2s. 6d.; daily consumption of coal, 8 cwt.; costing per ton on the ground about 17s. Acres grubbed each year: 251 in 1859, 364 in 1860, 692 in 1861, and 1075 in 1862. Depth from 6 to 8 inches, the land thoroughly worked, roots and other crops have been very good. The cultivating apparatus appears almost as good as when first bought. The 8-horse engine worth at present 160l.

2. Mr. C. Randall, Chadbury, Evesham.—Farm: arable, 450 acres; pasture, 160. Soil, generally clay. Rotation of cropping adopted: 1st, green crop; 2nd, Wheat; 3rd, part seeds, part Beans; 4th, Wheat. Number of horses formerly employed, 28; employed now, 20. Date of purchase of apparatus, June 1857; cost 450l. Length of rope originally bought, 1200 yards. Bought since: July, 1859, 1200 yards; 1861, 1000 yards steel rope. No alterations since purchase. Repairs since purchase, about 60l., including shares. Horse-power of engine, 10 horse-power. Daily wages, 3s. 6d. per acre; or about 19s. 3d. per day, divided among 5 men and 2 boys. Cost of water-cart a-day, 2s. 6d. (1 horse). Daily consumption of coal, 10 cwt.; costing 10s. per ton on the ground. Acres grubbed each year: 136 in 1857; 280 in 1858; 245 in 1859; 127 in 1860; 153 in 1861 (wet summers); 240 in 1862. The effect of the application of steam to the cultivation of clay land is, that the work is better done; and of greater importance still, more of it is done while dry weather lasts. Instead of the subsoil being compressed, as formerly, by the action of the horses' feet, it is now cracked by the tines of the cultivator, and the drainage thereby rendered more effective; while the autumn cultivation, which should be commenced during harvest so soon as a field is cleared, goes far to ensure a crop of roots upon land, where without the aid of steam, there would be difficulty and much uncertainty in obtaining them. On light land the steam cultivation is valuable, as by its use such land is more effectually and more economically kept clean; but on clays, in addition to these advantages, it enables the occupier to take advantage of dry weather to effect an amount of work therein which no application of horse-power could do—or do as well. There is scarcely anything about the apparatus to get out of repair; the rope will wear out, and 20l. per annum may be required to replace it. The same sum should be also charged for the use of the engine, which must be kept for threshing if there were no cultivator.

3. Mr. George Martin, Hubert's Bridge, near Boston.—Farm: arable, 498 acres; pasture, 130. Soil, part strong clay and part loamy soil. Number of horses formerly employed, 16; no alteration at present. Apparatus bought Sept. 16, 1862, costing 180l.; the engine I had previously. Rope originally bought, 1400 yards. Cost of alterations and repairs since purchase, under 30s. Horse-power of engine, 8. Daily wages, 3 men at 2s. 6d. per day, 2 men at 2s. per day, 3 boys at 8d. per day; total, 13s. 6d. Water-cart very seldom required; water in ditches next fields. Daily consumption of coal, 8 cwt., costing per ton on the ground, 14s. You will see by the date of my purchase of the apparatus that I cannot speak as to the produce, but I am well satisfied with the cultivation so far. Mine is a very good as well as a cheap set of tackle, manufactured by Mr. Ashby, Louth, Lincolnshire.

4. ——, near Salisbury.—Farm: arable, 600 acres; pasture, 200. Soil, principally a chalk loam, with clay and sand in the vale. Rotation of cropping, the 5 and 4-course. Number of horses formerly employed, 20; employed now, 16 Apparatus bought Sept. 12, 1861. Cost, 327l. 17s. Length of rope originally bought, 1400 yards; none bought since. Cost of alterations since purchase, 2l. 13s. Horse-power of engine, 10. Daily wages:—6 men scarifying at 2s. per acre; extra wages, 1s.; engine driver, 6d. windlass boy, 8d. per day. Cost of water-cart a day, 10s. on the hill and 5s. in the vale. Daily consumption of coal, 8 cwt. per day up to Nov., 1862, afterwards a daily decrease of 3 cwt. on account of new bars, "Patent," costing per ton on the ground, 1l. As regards the productiveness of the farm I imagine that the work was done too deep, as my Barley and Turnip crops were lighter than common. 16 acres in the lowland which I did were trodden by the sheep in wet weather feeding off Rye, and much parched by the sun, and it was with difficulty that it could be done at all the first time, the consequence being the rope was broken twice, and little work also done in the day, not perhaps over 4 acres the first time of doing and 6 the second. The rope was repaired by my own men. The engine—one of Clayton's—I think to be as good as at first. The apparatus was manufactured by Messrs. Tasker, Andover; independently of the windlass the other parts are very much shaken.

5. Mr. Marshall Hanley, Croft, Boston.—Farm: arable, 510 acres; pasture, 500 acres. Soil: loam on silt and loam on clay. Rotation of cropping: Fallows, Oats, Wheat, seeds, Peas or Beans, and Wheat; 5-field. Number of horses formerly employed, 22; now 18. Date of purchase of apparatus, August 29th, 1860; cost, 231l. 4s. Length of rope originally bought, 1400 yards, and bought since, 800 yards, Jan. 18, 1862; 800 yards August 1, 1863; both these very good, and at less cost than the 1400 yards. Horse-power of engine, 8-horse. Daily wages, 15s. 10d., 6 men and 2 boys. Cost of water-cart a day, only occasionally in very dry weather, 4s. Daily coal, half a ton, costing per ton, 16s. Depth of grubbing from 5 to 8 inches. My farming is not all together, the apparatus frequently had to be moved 3 to 5 miles. I calculate I can work my engine and apparatus at 50s. per day, covering all expenses and interest of capital. I think no person farming 350 acres of arable land at the present day ought to be without an 8-horse portable engine,

and if he has one he would find Ashley's, of Louth, Lincolnshire, apparatus, a great assistance. He is licensed by Mr. Smith, of Woolston; the cost is 180*l.* cash, at Louth.

6. Mr. THOS. INSKIP, Fenstanton, near St. Ives, Huntingdonshire.—Farm: arable, 600 acres. Soil, heavy land with a portion of gravel land and red loam. Cropping, four-shift. Number of horses formerly employed, 21. I took another farm in 1860, when I bought my steam tackle which saved me 6 horses at least. Date of purchase of apparatus, Jan. 1860; cost 241*l.* Length of rope originally bought, 1400 yards; bought since, 1400 yards, Feb. 1862. Repairs since purchase, about 20*l.* Horse-power of engine, Clayton & Co, 8-horse double cylinder. Daily wages: Engine-driver, windlass-man, 4 field men, 1 water-boy, 15*s.* 6*d.* per day. Cost of water-cart a-day, 4*s.* Coal, 10 cwt. a-day; 18*s.* per ton. Grubbed; 425 acres in 1860; 400, in 1861; 527, in 1862. We cultivate from 5 to 8 or 9 inches deep. The engine and apparatus is in good working order, and does not seem to be materially injured.

7. Mr. JOHN WHITE, Zeals Farm, Mere, Wilts.—Farm: arable, 470 acres; pasture, 300 acres. Soil, sandy loam. Cropping adopted, 4-course system. Number of horses formerly employed 18, now 18; formerly 8 oxen, now put down. Date of purchase of apparatus, August 1, 1862, cost 540*l.* Length of rope originally bought, 1600 yards; none bought since. No alterations nor repairs since purchase. Horse power of engine, 10. Daily wages:—three men at 2*s.* 6*d.* each; 2 men at 2*s.* each; 1 hauling water, 1*s.* 6*d.*; 2 boys, 1*s.*; in all, 15*s.* Cost of water-cart a day, 1 horse at 4*s.* Daily consumption of coal, about 7 cwts. at 20*s.* a ton. The land cultivated with steam by me, was from 5 to 6 inches in depth, which land was well "smashed up" and brought to a fine tilth. Having bought the apparatus rather late last summer, I have not as yet had much opportunity of judging the merits as to the productiveness at my farm, in consequence of land being cultivated by steam, but what I have seen, I am perfectly satisfied. I now estimate the steam engine and apparatus to be worth 530*l.*

8. Mr. J. W. TUBB, Melcomb, Banbury.—Farm: arable, 165 acres; pasture, 113. Soil: part clay, part red soil on stone. Horses employed now, 6. Apparatus bought September, 1859; cost 243*l.* Length of rope originally bought, 1400 yards; bought since, 400 yards, June 1862. Repairs since purchase, about 25*l.* Horse-power of engine, 10. Daily wages, 2 men at 2*s.* 6*d.*, 3 men at 2*s.*, and 1 boy, 1*s.* Water-cart about 2*s.* a-day. Coal, 8 to 10 cwt., costing 16*s.* per ton. Grubbed 260 acres in 1860; 332 in 1861; 325 in 1862. The general depth of the work has been about 6 inches. I find the crops, both here and at other places where the tackle has worked, better after the steam than after horses, especially on clay land, though I consider the great advantage of steam cultivation to be in the quantity of work that can be done in the time and the cheapness of it. As regards the present value of the apparatus, the windlass and the cultivators appear nearly as good as ever they were, and have cost scarcely anything in repairs; the rope, snatch-blocks, &c., are much worn, though still able to do a good deal of work. I have sent you as good an account of my work as I can, it is very near the truth, though I have not kept a correct account of anything except the quantity of work done, but have put the number of days and expenses rather over than under the mark.

9. Mr. JOHN ELLIOT, Tarbert Mains, Park Hill, Ross-shire.—Farm: arable, 164 acres; pasture, 30. Soil, light sandy loam. Cropping: 5 years' course, or 2 years Grass, 1 year Oats, 1 year Turnips and Potatoes, 1 year Barley and Wheat. Number of horses formerly employed, 6; and 6 now. Apparatus bought 1860, costing 770*l.* 14*s.* 6*d.* Length of rope originally bought, 1400 yards; none bought since. Alterations since purchase, 1*l.* 5*s.* 6*d.* Repairs since purchase, 5*s.* 6*d.* Engine, 12-horse power. Daily wages: 3 men at 1*s.* 8*d.* each, and one at 1*s.* Water-cart, 4*s.* a day. Coal, 7 cwt. a day, at 16*s.* a ton. Engine and apparatus none the worse. We saw wood and thresh with the engine. The tillage is much better than with horses. General depth in spring, 6 inches, and in autumn ploughing, 8 inches. The Turnips were much better on the part of the field ploughed by steam than on that ploughed with horses, and, I may add, much easier cleaned. We had fully 2 quarters per acre of Oats more after the steam plough than that ploughed with horses, all in the same field. I have just finished a field of 24 acres, which I see by your paper I cannot enter, as you want to know the number of acres done in 1862. Our plough is a three-furrow one, and we just plough 1 acre in two hours. The inclosed answers give the expenses when working, removing the engine and apparatus to the field and home again. I cannot give the actual expenses, therefore I leave that part out just now. But if you require any information in future I will keep an exact account of the removals. I will now try to explain how I do with so few men and boys. Our ground is so very soft that it would not hold the anchors. I got two strong chains 40 yards long, and eight wooden posts 4 feet long 10 inches square, and fixed them thus. (A plan showing field with posts stationed at intervals around it.) By having 9 inches of the top of the post round, and a ring with a hook to slip on the top of the post, and hook the ends of the chain on, you may go on for a day and never stop; but when the chains are wrought up just lift the ring off No. 1 post and put it on No. 2, and No. 3 on No. 4. The two men that attend the plough and rope porters get the holes made for the posts when the steam is getting up; and the man that drives the water assists, too, in making the holes and keeping right the porters or rollers You may ask why I did not plough more with the steam plough than I have done, seeing the great advantage derived from it. My answer is, that I want to test it fairly with horse ploughing before I adopt it altogether. Our climate is not steady; although I had 2 quarters of Oats more to the acre, and a considerably heavier crop of Turnips, still the season might have something to do with it.

10. —— Warwickshire.—Farm: arable, 300 acres; pasture, 140 acres. Soil: heavy adhesive clay and gravel, which sets hard after rain, lying between lias and new red sandstone formations. Number of horses formerly employed, 16; now, 15; to be reduced to 10 or 11 this year. Apparatus bought, Jan. 1861, costing 267*l.*; engine valued at 240*l.* Length of rope originally bought, 1400 yards; bought since, 500 yards, Aug. 1862. Alterations since purchase, 37*l.* 3*s.*, including 29*l.* 8*s.* for new rope, and 7*l.* 10*s.* for rope porters, &c. Repairs since purchase, about 20*l.* Horse-power of engine, 8; Clayton, Shuttleworth & Co.'s. Daily wages: engineer, 3*s.* 6*d.*; 4 men, at 1*s.* 10*d.* or 2*s.*; and 1 lad, 1*s.* Water-cart, 4*s.* 6*d.* a day, not always required; three men, 1*s.* 10*d.*, to carry water, say average, 3*s.* 6*d.*; coal, about 8 cwt. a day, at 14*s.* a ton. Grubbed, 300 acres in 1861; 283 acres in 1862. A greater depth than from 5 to 6 inches can rarely be obtained on first breaking up, and from 2 to 3 inches more for each subsequent crossing may be gained if desired. The effect upon productiveness of land has not so far been very marked, either for or against. Wear and tear upon engine and windlass is apparently slight, but rope has suffered chiefly from working my neighbours' fields, which were very gravelly. Rope porters are also much worse for wear, but I think 10 per cent. per annum an ample provision for deterioration. I have done 107 acres for neighbours, working at 9*s.* an acre, employer finding coal and water-cart. You will see by this account that the expenses of steam cultivation for last year were heavy, partly owing to the wet autumn allowing of little work being done and causing much delay, and partly to the wear of rope caused by cultivating a neighbour's fields, which were very gravelly, of irregular shape, and having very high-backed ridges running in various directions; these caused such wear of rope that it was constantly breaking near the cultivator end, causing much delay and the necessity of turning the rope end for end, and the addition of 500 yards of an extra thickness. All these circumstances of course much hindered our getting on, so that little more than 3 acres a day was the result. I have generally deducted 10 per cent. for wear and tear, though when only worked 63 days in the year this will in all probability prove too much. 20*l.* should be deducted yearly for use of engine in threshing, sowing, &c. I have put down the wages as per day wage here, but in truth the work on our own farm was let to the men at 1*s.* 10*d.* per acre, with the 3-tine cultivator, and 1*s.* 3*d.* per acre with the 5-tined cultivator, exclusive of engineer and waterman. The horse-power has not been hitherto reduced, owing to the desire to clean the land, which the last three years have tended to render very foul, but I anticipate reducing the number to 10 or 11 very shortly.

11. Mr. JOHN S. CRAWLEY, Hackwood, Luton.—Farm: arable, 262 acres; pasture, 173. Soil, strong clay. Rotation of cropping, five-course. Number of horses formerly employed, 22; now, 17. Apparatus bought July 1860; cost, 606*l.* Rope originally bought, 1200 yards; bought since, 1400, Sept. 1861. Horse-power of engine, 10. Daily wages, 13*s.*; viz., engine driver, 2*s.* 6*d.*; ploughman, 1*s.* 10*d.*; 2 lads for rope-porters at 1*s.* 3*d.*, 2*s.* 6*d.*; 2 anchor-men, 1*s.* 10*d.*, 3*s.* 8*d.*; 2 boys, 9*d.*, 1*s.* 6*d.*; beer, 1*s.* Water-cart, 4*s.* Coal, 8½ cwt. a day; 20*s.* a ton. Average depth 9 inches; steam cultivation combined with draining has increased the yield of the soil and improved the quality of the produce. The cost above represents the price of Chandler & Oliver's set, but the plough was found not to answer, and Smith's cultivator substituted.

12. —— near Burford, Oxon.—Farm: arable, 500 acres; pasture, 55 acres. Soil: medium soil on stone-brash. Rotation, four-field. Number of horses formerly employed, 17, and 4 oxen; now 10 horses. Apparatus bought October 1862; cost with 10-horse engine, 530*l.* Rope 1200 yards, none bought since. No alterations or repairs. Daily wages: engine man, who also attends to windlass, 3*s.*; ploughman, 2*s.* 6*d.*; two anchor-men, 2*s.* each, 4*s.*; one porter-lad, 1*s.* 6*d.*; total, 11*s.* Water-cart, 3*s.* 8*d.*; coal, 8 cwt., heavy work, 10 cwt. 18*s.* a ton. The wages, &c., equal 12*l.* 12*s.* 8*d.*, are made up of—Wages to men, 8*l.* 1*s.* 8*d.*; water-cart, 2*l.* 12*s.* 2*d.*; moving tackle, 1*l.* 18*s.* 10*d.*; total, 12*l.* 12*s.* 8*d.* Having the tackle only in October, 1862, cannot say as to its effect on my farm. Engine and apparatus still good.

13. Mr. W. SIMMONDS, Wanborough, near Guildford.—Farm: arable, 520 acres; pasture, 56; wood, waste, roads, &c., 30. Soil: a chalk hill, loam resting upon chalk, and heavy loam resting upon clay, and a small portion very stiff clay, altogether a heavy working soil. Rotation 4-course, as nearly as circumstances and season will permit. Number of horses formerly employed 13; now 11: but the acreage increased by the addition of a small farm adjoining, (130 acres) last Michaelmas. N.B. One extra man in addition to permanent staff only. Apparatus bought April 8, 1862. Cost 250*l.*; smith's tackle complete, 300*l.*; 10 horse power engine (Clayton & Co.) Rope originally bought, 1400 yards; none bought since. No alterations since purchase. Repairs since purchase, 6*l.*, not including shares; this expense arising almost entirely from broken anchors, caused by the stubborn nature of the subsoil, broken in the driving in. Horse-power of engine, 10, double cylinder. Daily wages, 15*s.* 6*d.* per day, without water-cart; engineer, 3*s.* 6*d.*, windlass man, 2*s.* 6*d.*, ploughman, 2*s.* 6*d.*, 2 anchor men, 2*s.* 6*d.* each, 2 porter boys, 1*s.* each. Water-cart, 4*s.* Coal, 8 cwt. a-day, costing 22*s.* a ton. The tillage has been thorough and effectual, and being below any previous cultivation, will account for some extra expenses in consequence of the bound and flinty nature of the subsoil. The engine is well up to its work, and the apparatus has stood its work well. An 8-horse power single cylinder engine would not have answered for this farm; of that I am satisfied. I find 4 or 5 acres per day about the average when going deep with the three-tined implement. Too early to form an opinion upon the probable increased production of the farm; but a considerable increase confidently anticipated. Diminished quantity of seed corn; superior quality, increase of crop from deep tillage and early sowing. The roots were very good, and the Wheat plant is looking well.

14. ——, near Chichester.—Farm: arable, 400 acres. Soil: part rather strong red soil on the chalks, mixed with many and some rough flints; part light chalky land; for the most part stiff ploughing land. Rotation of cropping adopted: part 4-course, part 5-course, viz., 2 years Turnips, Wheat, seeds, Oats. Horses formerly employed, 12 to 14; now, 12 to 14. Apparatus bought April, 1861; cost, 250*l.* Rope originally bought, 1400 yards; none bought since. No alterations nor repairs since purchase. Power of engine, 8-horse. Daily wages: engineer, 3*s.*; 4 men, 8*s.*; 2 lads, 2*s.*; total, 13*s.* Cost of water-cart a day, a man and part of horse's time, 5*s.* Daily consumption of coal, about 7 cwt., at 26*s.* per ton. Grubbed 168 acres in 1861. The land has been cultivated to the same depth as before. The tillage is complete; the earth is most minutely broken to pieces. The engine and apparatus seem to be in very good condition. I have not reduced my horse strength yet. I have used the steam cultivator as an extra and a very efficient power, when additional strength has always been wanted on a farm; especially during some few fine days in spring. As to cost, I have not included the cost of engine. My cultivating tackle was more expensive than the same would be now, for I bought mine of Messrs. Howard just at the moment when Smith and H. quarrelled. I have not added the item, but I have considered 7*s.* per day would be a reasonable charge for wear and tear.

15. Mr. GEO. ARMSTRONG, Graffham, near St. Neots.—Farm: arable, 605 acres; pasture, 152 acres. Soil: clay; about ¼ woodland. Rotation: 4-course shift generally; 5-course occasionally. Horses formerly employed, 25; employed now, 18. Apparatus bought 1858. Rope originally bought 1400 yards; bought since, 1400 yards in 1859; and 1400 yards in 1861; 3d rope nearly worn out. Horse-power of engine, 8. Daily wages: 1 engineman, 2*s.* 6*d.*; 5 other men, 2*s.*; 1 water-cart boy, 1*s.* Coal, ½ ton per day. Grubbed 400 acres in 1858; 718 acres in 1859; 433 acres in 1860; 761 acres grubbing, and 23 acres ploughing in 1861; 408 acres in 1862. Depth from 4 to 10 inches; with regard to the effect on the farm, I would not be without it for double the cost.

16. Mr. JOHN WYATT DAY, Wootton.—Farm: arable, 169 acres; pasture, 10 acres. Soil: wold land. Rotation of cropping adopted: 4-course shift has been adopted for 40 years; do not sow seeds or Turnips; substitute Tares and Potatoes; have no sheep; move the land twice a year, spring and autumn, when I can. Number of horses now as formerly, 6. Apparatus bought in 1861; cost, 180*l.* Length of rope originally bought, 700 fathoms; none bought since. No alterations nor repairs since purchase. I hire a 10-horse engine, at 15*s.* a day, and they find oil. Daily wages: 2 anchormen, 2*s.* 3*d.*; 2 boys, 6*d.*; 1 man to oil, 2*s.* 6*d.*; 1 windlass man, 2*s.* 6*d.*; 1 to lead water and other odd jobs. Water-cart, 3*s.*, including man. Grubbing averages 10 or 15 acres per day. Broke the wire rope once from the windlass man allowing the rope to get in the cogs, but splicing it only detained half an hour; made a good joint of it so that we could not find it. I have done near 20 acres in a day, I reckon it far better than ploughing.

[We have several additional reports from other customers of Mr. Smith, but we must defer their publication till next week.]

## HOWARD'S CULTIVATOR.

| No. | Horse-power of Engine. | Acres Cultivated. | Depth. | Number of Days Work. | Wages. | Fuel. | Oil. | Repairs. |
|---|---|---|---|---|---|---|---|---|
| | | | Inches. | | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| 1 | 10 | 508* | 12 | 77 | {67 7 6 / 11 11 0} | 35 9 0 | 4 7 0 | 12 18 0 |
| 2 | 8 | 468 | 6 | 60 | .. | .. | 1 10 0 | 7 0 0 |
| 3 | 8 | 284 | .. | 48 | 111 0 10 | 21 10 0 | 1 16 0 | 5 0 0 |
| 4 | 8 | 390 | .. | .. | .. | .. | 3 0 0 | .. |
| 5 | 8 | 466 | .. | 103 | 65 4 8 | 36 1 0 | 2 11 6 | 2 12 0 |
| 6 | 8 | 213 | 7 | 86 | .. | .. | .. | .. |

1. Mr. JOSEPH BAYLEY, Pyrgo Park, Romford.—Farm: arable, 204 acres; pasture, 229. Soil, loam; cropping, 4 years' system. Horses employed now, four pairs. Apparatus bought 1862, cost 630*l.*; rope originally bought, 1600 yards, none bought since; alterations since purchase, 5*l.*: repairs since purchase, 12*l.* 18*s.*; engine, 10-horse power. Daily wages: engineman, 3*s.* 6*d.*; windlass man, 2*s.* 4*d.*; ploughman, 2*s.* 4*d.*; two anchormen, 2*s.* 2*d.*; two porters' boys, 1*s.* 4*d.*; waterman, 2*s.* 4*d.*; water-cart, 3*s.*; coal, 8½ cwt. a-day, at 1*l.* 1*s.* 8*d.* a ton. In 1862 508 acres grubbed, 50 harrowed. 12 inches the average depth.

2. Mr. ROBERT BARTON, Wigan Farm, St. Ives.—Farm: arable, 520 acres; pasture, 140. Soil, heavy clay; cropping, 4-course system. Horses formerly employed, 27; now, 23; but have 110 acres more land now. Apparatus bought July 1861, cost 200*l.*, exclusive of engine; rope originally bought, 1400 yards, bought since, 800 yards, July 1862 and 800 yards February 1863; alterations since purchase, 17*l.*, and 70*l.* for new rope; repairs since purchase, 20*l.* exclusive of rope; engine, 8-horse. Daily wages: piece-work, 2*s.* 7*d.* per acre for men and boys, including removals and carting water, I finding horses for water-carting and removal: coal 1*s.* an acre; water cart a-day, horse 3*s.*; coal, 10 cwt. a-day, at 16*s.* per ton. Grubbed 206 acres twice over in 1861.

3. Mr. J. HENDERSON, The Shrubbery, Sandwich.—Farm: arable, 200 acres, pasture 100. Soil, loam; cropping, one-third Wheat, one-third Barley and Oats, one-third Clover, Beans, and roots. Horses formerly employed, 10, and one or two odd; now six horses, and two odd, sometimes at work, at other times remaining in the yard. Apparatus bought August 1861, cost 200*l.*; rope originally bought 1400 yards, none bought since; alterations since purchase, 45*l.*; repairs, not exceeding 5*l.* altogether; engine, 8-horse power. Daily wages: five men are paid 2*s.* 6*d.* per acre; water cart, 3*s.* 2*d.*, two porters and water cart boys 1*s.* per acre in addition to their usual pay, and the men receive 3*s.* for each remove from field to field; coal, ½ a ton, at 1*l.* per ton. The engine is never driven beyond 60 lbs. pressure per square inch, therefore is not more injured by cultivating than by any other work. I have hardly had the apparatus sufficiently long to say much about the effect of the work on the productiveness of the farm. The land is moved 12 inches deep for roots, and 8 inches for Barley; I am satisfied the result will be good. The men share their 2*s.* 6*d.* per acre thus—engine-driver, 7*d.*, windlass man, 6*d.*, others 5*d.* each; 2*d.* goes to a common fund.

4. Messrs. R. T. & J. WITCOMB, Pirton Court, Churchdown, Gloucester.—Farm: arable 300 acres; pasture 200. Soil, half clay and half sand; cropping, Wheat, Beans or Clover, and Wheat on clay,—roots, Barley, Beans or seeds and Wheat on sand. Horses formerly employed, 14, and 20 oxen; 14 horses employed now, no oxen. Apparatus bought Sept. 1, 1861, cost 483*l.*; rope originally bought, 1400 yards, bought since 1400 yards, Sept. 25, 1862, costing 47*l.* 10*s.*; no alterations; repairs since purchase, about 5*l.* 10*s.*; horse-power of engine, 8. Daily wages: engine-man, 3*s.*, windlass ditto, 2*s.* 6*d.*, two anchor ditto, 4*s.*, ploughman, 2*s.*, three porter boys, 3*s.*; water-cart, 4*s.* 6*d.*; coal, 10 cwt. at 11*s.* per ton. Grubbed 240 acres in 1861 and dragged 75 acres, besides 400 acres of grubbing in 1862. We have broken up our very heavy land deeper and better with the steam cultivator than it was possible to do it with horse, and I think has grown better crops. There is nothing much worn but the rope.

5. Mr. J. LANCASHIRE, Micheldever, Micheldever Station.—Farm: arable, 710 acres; pasture, 14. Soil: on the chalk subsoil; great portion light. Cropping: on the 4 and 5 field system. Number of horses formerly employed, 18 by

my predecessor; now 15. Apparatus bought Sept 1861, cost 210*l*., with driving belt, &c. Rope originally bought, 1400 yards; bought since, 200 yards the next spring. No alterations since purchase. Repairs, 52*s*. Engine, 8-horse, but being extra stayed with thicker boiler plate, is worked up to 12-horse. Daily wages:—engineer, 3*s*.; windlass, 2*s*.; cultivator lad, 1*s*.; 2 anchor men, 3*s*. 4*d*.; 2 porter lads, 1*s* 8*d*.—11*s*.; water cart man, 1*s*. 8*d*.; in all, 12*s*. 8*d*. Water cart, 3*s*. 6*d*. Coals, 7*s*. per day, 20*s*. per ton. Grubbed 130 acres in 1861; and 446 in 1862. Steam cultivation gives that quick fine tilth not to be obtained by horse power. To those who have not yet purchased an apparatus, my advice is, chose that which allows your engine to be stationary; your first outlay will be less, and your repairs will be less. My land was not only very foul, but some of it had lain undisturbed till late, and was an additional cost in working.

6. R. PULLEN, Shackerley, Wolverhampton.—Farm: arable, 230 acres; pasture, 100 acres. Soil: sandy loam. Cropping, 4-course. Horses formerly employed, 10; now, 8. Oxen formerly employed, 4; none now. Apparatus bought at Leeds meeting, 1861; cost, 200*l*., exclusive of engine. Rope originally bought, 1400 yards; none bought since. Alterations since purchase, 15*l*. 7*s*. 1*d*. Repairs since purchase, 5*l*. 13*s*. 6*d*. Engine: 8-horse power. Daily wages: 2*s*. 6*d*., 2*s*. 6*d*., 2*s*., 2*s*., 2*s*., 1*s*.; total, 12*s*. Water-cart, 8*s*.; coal, 8 cwt., at 10*s*. a ton. I have cultivated the above acres about 7 inches in depth; should have gone deeper, but was prevented by sand-stone rock. I am perfectly satisfied with the result, but shall be able to speak more confidently after another season. My impression is, that steam culture is most beneficial on strong land. The rope has been broken several times, and I should think that 15 per cent. would not more than cover the depreciation.

[We have several additional reports from other customers of Messrs. Howard, but we must defer their publication till next week.]

## Societies.

BATH AND WEST OF ENGLAND.—The Monthly Council meeting was held at Taunton on Saturday last, the Marquis of Bath in the Chair. The Journal Committee reported that Dr. Crisp's Prize Essay on the Lamb Disease, respecting which many inquiries have been made, forms one of the papers in Vol. XI., pt. 1, of the Journal, which is now in the course of distribution among members. Mr. Jonathan Gray, as Steward of the new department of Horticulture, announced that by an arrangement with the representatives of the late Mr. Lawrence, of Devonshire Buildings, Bath, the whole of that gentleman's celebrated collection of Horticultural specimens would be exhibited at the Exeter meeting, on condition that on the following day (Saturday, June 13th), they should be sold by auction in the Horticultural tent in the Society's show yard. A number of resolutions, in the nature of standing orders, for the regulation of the Society's future proceedings, were discussed and agreed to. Several new members were elected, and the Council adjourned.

### ROYAL AGRICULTURAL OF ENGLAND.

MONTHLY COUNCIL: *Wednesday, May* 6.—Present, Viscount Eversley, President, in the Chair; the Duke of Marlborough, Earl Cathcart, the Earl of Powis, Lord Berners, Lord Feversham, Lord Portman, Lord Tredegar, Lord Walsingham, the Hon. W. Cavendish, M.P.; the Hon. General Hood, Sir John Johnstone, Bart., M.P.; Sir E. C. Kerrison, Bart., M.P.; Sir A. K. Macdonald, Bart., Mr. Amos, Mr. Raymond Barker, Mr. Barthropp, Mr. Barnett, Mr. Bowly, Mr. Bramston, M.P.; Mr. Buller, M.P.; Mr. Cantrell, Col. Challoner, Mr. Dent, M.P.; Mr. Druce, Mr. Exall, Mr. Brandreth Gibbs, Mr. Hammond, Mr. Fisher Hobbs, Mr. Wren Hoskyns, Mr. Hudson, Mr. Humberstone, M.P.; Mr. Jonas, Mr. Lawes, Mr. Lawrence, Mr. Milward, Mr. Pain, Mr. Pope, Mr. Randell, Mr. Rigden, Mr. Shuttleworth, Mr. Robert Smith, Mr. Thompson, M.P.; Mr. Torr, Colonel Towneley, Mr. Turner, Mr. Wallis, Mr. Burch Western, Mr. Wilson (of Stowlangtoft), Professor Wilson, Mr. Frere, and Dr. Voelcker.

The following new Members were elected:—

Allerton, Alexander Rice, Colemans, Prittlewell, Essex
Abell, Martin, Worcester
Archer, James, Combermere Abbey, Whitchurch, Salop
Asten, William, Oddingley, near Droitwich, Worcester
Ashwin, Manley Connell, Ryon Hill, Stratford-on-Avon, Warwick
Armstrong, William James, Killylea, Co. Armagh
Barnes, William, Toft, Bourne
Button, William, Botley, Oxford, Berks
Bosworth, John Green, Greetham, Oakham, Rutland
Begg, David, Canons Park, Edgware, Middlesex
Bishop, James, Stretton Hall, Penkridge, Stafford
Blathways, George William, Dyrham, Chippenham, Gloucester
Carew, R. R., Carpenders Park, Watford, Herts
Caldwell, John, Inworth, Kelvedon, Essex
Coulson, Robert Cummins, Burnigill House, Durham
Cooke, William, Stanford, Worcester
Davies, Robert Joseph, Cwrtmaur, Llangeitho, Cardigan
Druce, A. F. Milton, Eynsham, Oxford
Fenton, William, Beaumonds, near Rochdale, Lancaster
Gilford, William, North Luffengham, Uppingham
Gilliatt, W. J., Ashby Puerorum, Horncastle, Lincolnshire
Hemming, Richard, Bentley Manor, Bromsgrove, Worcestershire
Hooper, Robert N., Llansannor Court, Cowbridge, Glamorgan
Hutchinson, John, Brougham Castle, Penrith, Westmoreland
Holder, William, Eastham, Tenbury, Worcestershire
Hartell, Jeremiah, Willenhall, Wolverhampton, Stafford
Haddock, Henry, 6, Gloucester Place, Regent's Park, N.W.
Jones, Benjamin, Talardd, Llangbyther, Carmarthen
Jones, W. H., Canon Bridge, Madley, Hereford
Jones, George, Whitley Court, Upton St. Leonard's, Gloucester
Kimber, James Weaving, Tubney Warren, Abingdon, Berks
Kelham, Robert, Bleasby Hall, Southwell, Notts
Lunn, Robert, Norton, Evesham, Worcestershire
Lathbury, John, Westmore Hall, Burton-on-Trent, Staffordsh.
Lee, Jessie, Church Gate, Leicester
M'Cann, George, Malvern, Worcestershire
Morris, William Rudkin, North Luffenham viâ Leicester, Rutland
Morgan, Roger, Llanellen, Abergavenny, Monmouth
Morse, Joseph Ramey, Lound, Lowestoft, Suffolk
M'Laren, James, London
Oldacres, Walter, Broad Fields, Lichfield, Stafford
Oakley, James, Wilford, Nottingham
Padmore, Richard, M.P., Worcester
Page, Henry Robert, Beckenham Place, S.E.
Pursell, Samuel, Oxley, Wolverhampton
Randle, Thomas, Ombersley, Droitwich, Worcestershire
Randall, Robert G., Wingfrith, Dorchester, Dorset
Symondson, George, Upshire Hall, Waltham Abbey, Essex
Scawin, Thomas, Durham
Smith, Charles, Kent Street, Liverpool
Smith, Alexander M., Kent Street, Liverpool
Sweeten, Benjamin, Thomas, Ash Grove, Penrith, Cumberland
Somerset, John, Milton, Pewsey, Wilts
Simpson, Sam. Matthews, Kingham Hill, Chipping Norton, Oxon
Teverson, Henry W. F., Bocking, Braintree, Essex
Turner, George, Jun., Beacon Downes, Exeter, Devonshire
Thompson, William, Tregoyd Farm, Hay, Breconshire
Thompson, George, Dudley, Worcestershire
Turk, William, Charlton Rings, Cheltenham, Gloucestershire
Vernon, Harry Foley, M.P., Hanbury Hall, Droitwich, Worcestershire
Wingfield, Charles, Onslow Hall, Shrewsbury, Salop
Watton, James, Cwmliccoediog, near Cemmes, Montgomeryshire
Ward, Robert, Harringworth, Uppingham, Northamptonshire
Warren, Samuel, Newtown Iron Works, Ledbury, Herts.
Whitaker, John, Leigh, Lancashire
Yeoman, George Dundas, Hill House, Richmond, Yorkshire

FINANCES.—The Hon. Major-General Hood, Chairman, presented the report of the committee, from which it appeared that the Secretary's receipts during the past month had been examined by the Committee, and by Messrs. Quilter, Ball & Co., the Society's accountants, and were found correct. The balance in the hands of the bankers on April 30 was 2820*l*. 10*s*. 6*d*.

JOURNAL.—Mr. Thompson, M.P., Chairman, reported the following arrangements for the weekly meetings of the Council. Wednesday, May 13, Mr. Ruck will deliver a lecture on Steam Cultivation; June 10, Mr. Coleman, of Cirencester, on breeding and feeding Sheep, with a view to increasing the sheep stock per acre.

VETERINARY.—The report of the Governors of the Royal Veterinary College for the year 1862 was reserved for consideration at the next Monthly Council.

GENERAL WORCESTER.—Lord Portman, Chairman, reported that the arrangements for the Worcester Meeting on July 20 were all making satisfactory progress.

COUNTRY MEETING OF 1864.—The report of the Committee appointed to inspect the various sites offered to the Society at Darlington, Durham, and Newcastle, having been read, the Council were favoured by the attendance of the following deputations:—

DARLINGTON DEPUTATION.—Henry Pease, Esq., M.P., and James Farrer, Esq., M.P., Members for South Durham; The Hon. W. E. Duncombe, M.P., and W. S. Morritt, Esq., M.P., Members for North Riding of York; F. A. Milbank, Esq., Hart, county of Durham; the Hon. E. J. Yorke, Esq., M.P., and H. Paull, Esq., M.P., representing the Banking interests of the county of Durham; W. J. Scarth, Esq., Agent of Duke of Cleveland. *Local Committee.*—Edmund Backhouse, Esq., Chairman; John Michell, Esq., Forsett Park; and H. F. Pease, Esq., Brinkburn. *Tenant Farmers.*—Messrs. D. Nesham, J. Fertham, John Wood, and R. Kay. Messrs. J. Parrington, Cleveland Agricultural Society; and R. Scarth, Secretary of do. Mr. John Hodgson, Secretary of Northern Counties Fat Cattle Society. Mr. T. B. Special, Hon. Sec. of Local Committee.

CITY OF DURHAM DEPUTATION.—The Right Hon. the Earl of Durham, Lord Lieutenant of the County of Durham, Lambton Castle; the Right Hon. the Viscount Boyne, Brancepeth Castle; the Very Rev. the Dean of Durham, D.D., Warden of the University; the High Sheriff of the County of Durham, Horsley, Durham; the Right Hon. the Attorney-General, M.P.; the Right Hon. R. J. Mowbray, M.P.; R. D. Shafto, Esq., M.P., Whitworth Park; Lord Adolphus Vane Tempest, M.P.; Henry Fenwick, Esq., M.P. (for Sunderland), South Hill; W. S. Lindsay, Esq., M.P. (for Sunderland); the under-Sheriff of the County of Durham; John Fawcett, Esq., J.P., North Bailey, Durham; Henry John Baker Baker, Esq., J.P., Elemore Hall, Durham; John Henderson, Esq., J.P., Leazes House, Durham; Samuel Rowlandson, Esq., J.P., The College, Durham (on behalf of the Dean and Chapter of Durham, and the University of Durham); Edward Peele, Esq., Registrar to the Dean and Chapter of Durham; William Boyd, Esq., Alderman of Durham; Thomas Calvert, Esq., Councillor of Durham: Mr. John Furneis, Coxhoe, Chairman of the Durham County Agricultural Society's Committee; Mr. R. C. Coulson, Burnigill, Secretary to the Durham County Agricultural Society; Mr. William Crozier, C.E., Surveyor to the County of Durham. —W. R. Fitzgerald and Joseph Hatton, Secretaries to the Joint Committees.

NEWCASTLE-UPON-TYNE DEPUTATION.—Corporation of Newcastle: Mayor of Newcastle, Alderman Headlam, and Alderman Laycock. Farmers' Club of Newcastle: Sir Matthew White Ridley, Bart., M.P., President; Mr. G. H. Ramsay, Mr. J. Wilson, and Mr. E. J. Browell, Secretary. Northumberland Agricultural Society: Sir Edw. Blackett, Bart.; Hon. Henry George Liddell, M.P.; and Henry Silvertop, Esq. Landowners, &c.: Earl of Tankerville; Lord Lovaine, M.P. for North Northumberland; Wentworth B. Beaumont, Esq., M.P. for South Northumberland; Rt Hon. T. E. Headlam, and Somerset Beaumont, Esq., Members for Newcastle; Robert Ingham, Esq., M.P. for South Shields, county of Durham; Mr. J. C. Tone, C.E., Engineer of Railway to the Yard; Right Hon. William Hutt, M.P. for Gateshead, in county of Durham; Richard Hodgson, Esq., M.P. for Tynemouth.

These gentlemen having communicated to the Council the fullest local information connected with their respective districts, and having answered satisfactorily the inquiries made of them by the Council, the President expressed to them the best thanks of himself and the Council for their kindness in having attended the meeting that day, and for the deep interest they had evinced in promoting the objects of the Society.

The Deputations having withdrawn, the Council proceeded to the consideration of the particular locality best suited, under all circumstances, for holding the County Meeting next year; and after some discussion of the respective advantages of each position to which their attention had been called, it was decided on the motion of Mr. Milward, seconded by Lord Portman, in favour of Newcastle-upon-Tyne, by 21 votes to 18.

HOUSE LIST.—Agreeably with the bye-laws the Council arranged by ballot the following election list to be recommended by them for adoption at the ensuing General Meeting on the 22d inst.:—

ATTENDANCES (FROM THE RISING OF THE LEEDS MEETING, IN 1861, TO THE PRESENT TIME).

| Names. | Monthly Councils. Total, 18. | Special Councils, Total, 4. | Weekly Councils. Total, 23. | Committees. No. of Meetings. | Committees. Attendances. |
|---|---|---|---|---|---|
| Acland, Thomas Dyke, Sprydoncote, Exeter, Devon | 2 | 1 | 0 | 19 | 2 |
| Barnett, Charles, Stratton Park, Biggleswade, Beds | 7 | 2 | 1 | 60 | 23 |
| Buller, James Wentworth, M.P., Downes, Crediton, Devon | 1 | 1 | 0 | 0 | 0 |
| Cantrell, Charles, Riding Court, Datchet, Bucks | 11 | 2 | 8 | 41 | 26 |
| Cathcart, Earl, Thornton-le-Street, Thirsk, Yorkshire | 4 | 1 | 2 | 7 | 5 |
| Clayden, John, Littlebury, Saffron Walden, Essex | — | — | — | — | — |
| Dent, John D., M.P., Ribston Hall, Wetherby, Yorkshire | 9 | 0 | 3 | 14 | 10 |
| Hamond, Anthony, Westacre Hall, Brandon, Norfolk | 5 | 0 | 0 | 11 | 1 |
| Hood, Major-General the Hon. Alex. Nelson, Cumberland Lodge, Windsor, Berks | 15 | 4 | 11 | 92 | 60 |
| Hudson, John, Castleacre Lodge, Swaffham, Norfolk | 5 | 2 | 0 | 11 | 0 |
| Humberston, Philip Stapylton, M.P., Mollington, Cheshire | 3 | 0 | 1 | 5 | 1 |
| Milward, Richard, Thurgarton Priory, Southwell, Notts | [8 | 3 | 0 | 58 | 22 |
| Pain, Thomas, Laverstock Hall, Salisbury, Wilts | 10 | 1 | 7 | 52 | 27 |
| Pope, Edward, Great Toller, Maiden Newton, Dorset | 8 | 1 | 0 | 5 | 1 |
| Ridley, Sir Matthew White, Bart., M.P., Blagdon, Morpeth, Northumberland | — | — | — | — | — |
| Rigden, William, Hove, Brighton, Sussex | 11 | 2 | 1 | 5 | 2 |
| Stanhope, James Banks, M.P., Revesby Abbey, Horncastle, Lincolnshire | 2 | 1 | 1 | 0 | 0 |
| Torr, William, Aylesby Manor, Great Grimsby, Lincolnshire | 11 | 2 | 0 | 57 | 35 |
| Turner, George, Beacon Downes, Exeter, Devon | 5 | 1 | 0 | 0 | 0 |
| Vernon, Hon. Augustus, Sudbury, Derby | 9 | 4 | 7 | 34 | 14 |
| Wallis, Owen, Overstone Grange, Northampton | 5 | 1 | 0 | 6 | 4 |
| Western Thomas Burch, Felix Hall, Kelvedon, Essex | 10 | 3 | 5 | 0 | 0 |
| Wilson, Henry, Stowlangtoft Hall, Bury St. Edmunds, Suffolk | 8 | 2 | 3 | 0 | 0 |
| Wilson, Professor John, Iver, Uxbridge, Bucks | 7 | 0 | 4 | 16 | 9 |
| Wynn, Sir Watkin Williams, Bart., M.P., Wynnstay, Rhuabon, Denbighshire | 7 | 2 | 0 | 0 | 0 |

The applications of firms who had neglected to make their entry for the Worcester Show by the prescribed date were directed to be returned.

The Council then adjourned to their Weekly Meeting on the 13th inst., when Mr. Ruck will read a paper on Steam Cultivation.

Mr. Turner having moved that the Society hold their Country Meeting in 1865, in the district comprising the counties of Cornwall, Devon, Dorset, and Somerset, it was seconded by Mr. Milward and adopted.

ROYAL COLLEGE OF VETERINARY SURGEONS.—The annual meeting of this body was held on Monday last at the College, Red Lion Square, the President, Professor Simonds, in the chair. The annual report read by the Secretary stated that the number of the members of the College practising in the kingdom was 1018, while the number of those who improperly assumed the title of veterinary surgeon was 1244, and those practising as farriers 1189. It was strongly urged by several speakers that legislative interference should be sought to protect the legitimate members of the profession from the false representations of unqualified practitioners, and also to secure immunities and exemptions for the members in reference to serving as jurors; and it was stated that a special committee had been appointed by the Council for the carrying out of those objects. After some discussion the report was unanimously adopted. The following gentlemen were elected to fill the vacancies occasioned by the retirement in rotation of six members of the Council: Messrs. Cartledge, Silvester, Braby, Jex, Gamjee, and Secker. A vote of thanks to the President terminated the proceedings. In the evening the members of the College dined together at the Freemasons' Tavern.

## Farmers' Clubs.

LONDON: The MONTHLY MEETING of this Club was held on Monday last, at the Club House, Blackfriars, Mr. Bradshaw presiding. The subject for discussion, which was introduced by Mr. J. B. Spearing, of Moulsford, Wallingford, was announced as "*Practical Remarks on the Effect of Temperature on Cultivation, from Observations of the Three past Seasons.*" After a few opening remarks from the Chairman, Mr. SPEARING said:—

The subject of meteorology is one which for the last few

years has received a very considerable amount of attention, and has so far become interesting to almost all classes of society that we scarcely see a public journal which does not contain either the regular recorded observations of those who are known to study the subject, or notes from others who make casual comments; to say nothing of the many predictions which others give as to what the future weather or temperature may be. Surely, then, a subject which is so interesting to the many, must be especially so to agriculturists, whose spirits, operations, success, and I may almost say very existence depends upon the weather or temperature, and how it affects the produce of the land. In preparing this paper I have studiously avoided everything purely scientific, and if I have introduced anything that may be considered so it is only in those instances where it is brought to bear especially upon practice.

When we look around us in the spring and admire the works of Nature, we cannot but feel that all is governed by a law which is not to be calculated by time, but rather by heat or temperature; and it will be my business here to show that the more the cultivators of the soil study these laws, the less frequent will mistakes be made as to the times of planting, &c., and the more certain will be the results of their labours. If I may be allowed to use so mechanical an expression, I will say that our trees and plants are to the earth what the safety-valve is to the engine: when the pressure or temperature reaches a certain height, then vegetation opens some at one degree of heat, some at another, but all and each in beautiful order, and in their respective places. One case in point will be sufficient to show the correctness of this assertion. Take the apple tree, which bursts into blossom when the temperature of the earth reaches 52° or 53°. Here let me remark that wherever degrees of heat or temperature are spoken of in this paper, the Fahrenheit scale is referred to. In 1860 I observed the first Apple-blossom on the 7th of May, on which day the temperature of the earth was 54°. In 1862 I observed the first blossoms just ready to burst on the 4th of April, the temperature of the earth being 51½°. I believe they would have opened in a day or two had the temperature risen, but the weather suddenly changing, it gradually receded to 46° on the 17th. The blossoms were kept in this state of suspended animation for 21 days. When the temperature of the earth reached 52° on the 25th they then came out. The trees produced a moderate crop of fruit, but they were not fine, and did not keep. I believe this accounts for the crop of Apples being so partial last year. In those localities where they were farther advanced on the 4th of April than mine, I think there were none (except on those blossoms in the most sheltered parts of the trees); but in those districts more backward, I believe the crop to have been large and fine.

I have for some years taken trouble in ascertaining at what temperature different plants came into blossom, but I was led to keep a regular record from a simple fact, which it may not be out of place here to relate. In front of my house is a fine Horse-chesnut tree, which, from yearly coming into flower several days earlier than any other in the neighbourhood, and on the same level, appeared to be quite an exception to the general rule, and perplexed me much, until I accidentally discovered an old well, about 15 yards from its base. On clearing it out, for the purpose of erecting a pump, it was found to be entirely filled with small fibrous roots from the tree, to within 7 or 8 feet of the surface. These were all removed, and ever since the tree has come out later, and about the same time as others in the neighbourhood, and now bears fruit, which it had never done before. The difference of 4° in the temperature of this well at 18 feet deep, and of the soil at 1 foot deep, quite explains its being earlier in flower.

In all accounts I have read of the effect of temperature on cultivation, the temperature of the air has been taken, and all calculations made therefrom. In the remarks I have to make, the temperature of the earth at 1 foot deep is given, as I consider, for all agricultural purposes, it is more simple and more easily ascertained; and, moreover, the mean temperature of the earth at 1 foot deep, and the mean temperature of the air, are so nearly alike, for any given period of time, that the difference, so far as agriculture is concerned, is immaterial. We know that England is subject to a very variable climate, from the constant antagonism of a warm climate on the west side, with a cold continental one on its east. We also know by experience that the three last summers have been remarkable for the great absence of anything like excessive heat; and although hot summers are considered to be neither productive or beneficial for stock or crops, yet there is an amount of heat absolutely necessary to mature our crops, more especially for Wheat, and two or three degrees below the required amount is of the utmost consequence.

It is said that summers with a temperature of 63° are the most congenial to the produce of this country. In the summer of 1860 the temperature of the soil reached 64° in the valley of the Thames. This being a very early district, our Wheat ripened well, and we had a fair average crop of good quality; but I went over much land where the temperature never reached 62°; here the Wheat was by no means good either in quantity or quality; and there was a great deal of strong land in high and cold situations where the temperature of the soil never reached 60°, and it is needless to say that here the Wheat was miserably bad, and it cannot be said that it ever ripened at all, for when cut in a withered state it was still green. If, therefore, Wheat will ripen at 64°, and not under 60°, I think we must all be impressed with the necessity of deep drainage on cold lands; for I have observed where land has been thus drained, the temperature of the soil is raised 2° or 3°, and this is of the utmost importance in cold wet seasons, besides bringing the harvest somewhat earlier. I am not prepared to say the precise maximum temperature under which our crops will flourish, but there is abundant information on the subject to satisfy us that Wheat thrives best where the mean summer temperature is 10° or 12° higher than ours. As we travel farther south, we see in those countries where heat is greater annuals cannot flourish, as they are unable to make their way down so as to extract the necessary nourishment; consequently shrubby plants and trees are cultivated, as Olives, Vines, Figs, &c., whose roots penetrate deeper, and enable them to thrive.

We may infer, then, that although our climate is changeable, yet lying as it does between the two extremes, is, on the whole, most suitable and encouraging for the full development of agriculture, affording as it does ample provision for stock which thrive better in our latitude than any other: and, at the same time, produces cereal crops which in most seasons can compete with the produce of any other country.

I will now remark on the crops which most affect the farmer, and speak first of the Wheat plant. There seems great diversity of opinion as to the best or proper season of planting; many contend that on poor land it is desirable to begin sowing by new Michaelmas Day, others as early in October as possible, while only a few think November soon enough. The result of my observations is, that it is not a question of time. I do not think it is safe to plant Wheat in the autumn until the temperature of the earth is reduced to 50°, which is seldom if ever the case until the last week in October on warm soils, and the middle of October on cold and more backward ones. In 1860 mine was reduced to 50° on the 30th of October; in 1861, on the 31st October; and in 1862, on the 1st of November. If Wheat is sown before the temperature is sufficiently reduced, it does not remain long enough in the ground to take good root, and I have seldom seen a good crop of Wheat grow from seed that came up in less than 30 days. In 1860, Wheat drilled on the 26th of October came up on the 28th of November, lying 32 days in the ground, and took 1426° of heat, at a daily average of 44°. In 1862, that which was drilled on the 30th of October came up on the 1st of December, lying 31 days in the ground, and took 1379° of heat, at a daily average of 44½°. Another disadvantage arises from sowing when the temperature is too high: weeds vegetate which could not at a later period, and if not impossible are certainly very difficult to eradicate. The first thing the young Wheat plant has to contend with is the winter season. Under most circumstances I think we may safely say that from its hardiness the severity of the winter season is of but little consequence provided the seed was sown sufficiently late so as not to become too gay or winter proud. I do not mean to say that Wheat under propitious circumstances never recovers a check thus received, but I think you will all agree with me that it is desirable, if possible, to avoid subjecting it to such a test. The plant commences its growth in the spring as soon as the temperature of the soil reaches 43° or 44°. In 1860 I first perceived the Wheat begin to grow on the 28th of March, when the temperature of the soil was 44°. It was 145 days to the 20th of August before it was ripe, from which we must deduct 12 days when the temperature was below 42° (when Wheat cannot grow or progress): this leaves 133 days for it to mature in. In 1861, I noticed the Wheat begin to grow on the 24th of March, when the temperature was 43°, and it was 130 days to the 2d of August before it was ripe. The temperature was not once below 42°, so that there was no deduction to be made from the 130 days. In 1862 the temperature of the soil reached 43° on the 11th, 12th, and 13th of January. It then receded for 17 days, after which it gradually increased for five days, reaching 46° on the 4th of February. It ranged from 39° to 46° again up to the 11th of March; so that the Wheat was constantly growing above ground the whole of the spring, consequently it did not take good or deep root in the soil, and was not likely to produce a heavy or even an average crop. The weather in March is of the utmost, or I may say vital, importance to the Wheat plant. As the land becomes dry in March, the roots keep penetrating deeper and deeper into the soil to obtain moisture, and by so doing ample provision is made for the plant to extract that nourishment and support which is necessary for its future wellbeing and development; but on the contrary, if we have much wet in March, accompanied, as it generally is, by a high temperature, then the plants grow above ground, and the roots being supplied with moisture on the surface are not induced to penetrate sufficiently into the soil so as to be able at the required time to draw that amount of nourishment from the land which alone can enable it to produce a heavy crop. Nor would it be able to do so if the summer afterwards should prove to be more than usually dry and propitious. The amount of rainfall for March, 1861, was 2.06 inches; for March, 1862, was 4.29 inches; and for March, 1863, only 0.63 inches. The next critical period through which Wheat has to pass is from the time of its coming into ear to the time when the blossom is fully set. At this time the temperature of the air is of more importance than at any other stage of its growth. Extreme heat is not desirable, but a medium temperature, with the least possible daily range; for I have never observed red gum, rust, or mildew to any extent unless there had been a difference of from 32° to 35° between the mean maximum or heat of the day and the mean minimum or cold at night; and it prevails to a greater or less degree just in proportion as the range of temperature increases or diminishes. I have known Wheat to vary from 49 to 70 days from the time of its coming into ear to the time it was ready for the sickle, according to the amount of heat, as it requires 3000° to 3500° to mature it. In 1860, the Wheat which came into ear on the 12th June took 69 days to ripen, and 4191° of heat, from which we must deduct 562°, for 10 days, when the temperature was below 58°, this leaves 3,629° for the 59 days, at an average of 61½°. The greatest heat the soil reached this season was 64° on the 14th and 15th July, after which time the earth gradually lost its heat. In 1861, Wheat which came into ear on the 5th of June took 55 days to ripen, and 3506° of heat, from which deduct 281° for five days, when the temperature was below 58°. This leaves 3225° for 50 days, at an average of 64¼°. The greatest heat the soil reached this year was 67° on the 20th of June, and on the 13th and 14th of August. In 1862, Wheat which came into ear on the 9th June, took 3406° of heat, and 56 days at an average of 61°. The highest temperature of the soil was 64° on the 30th July, where it remained for seven days. It only reached 64° once more this year, viz., on 29th August.

With regard to Barley it cannot be said that it is so universally grown to advantage as Wheat, and the effect of temperature on it is even more striking. The proper period for planting is of the utmost importance, for though Barley may be sown too early in the spring, yet as a general rule the early sown is the most productive, because the temperature being low, the seed remains sufficient time in the ground, and grows but slowly when it comes up, which enables it to take deep root in the soil. Late sown Barley is very unproductive in warm seasons; the temperature of the soil being high at the time of planting, it comes up quickly, and continues to grow so rapidly that it makes no root, consequently cannot extract much nourishment from the land or produce a heavy crop; if, however, the weather is cold about the beginning of June (which has been the case one or two seasons lately), this backward Barley then receives a seasonable check, which enables it to take deeper root, and not unusually produces a crop nearly equal to the forward sown. In my opinion it is a great mistake to leave the roots on the best and highest conditioned land to feed off last, as in the generality of seasons it produces three or four sacks of Barley less per acre than it would if sown early, whereas the poorer land will almost invariably grow as much sown late as it would if sown forward, and should it not, the difference will never be more than one or two sacks per acre, from the fact of its having longer time to develope by not being forced to maturity so quickly. In 1860 Barley drilled on the 3d of April came up on the 23d, remaining 19 days in the ground, and took 802° of heat, at a daily average of 42°; whereas that which was drilled on the 24th of April came up on the 5th of May, lying 10 days in the ground, and took only 500° of heat, at an average of 50°. In 1861 Barley drilled on the 25th of March came up on the 11th of April, remaining 16 days in the ground, and took 736° of heat, at an average of 46°; whereas that drilled on the 9th of May came up on the 20th, lying 10 days in the ground, and took only 512° of heat, at an average of 51°. In 1862 Barley drilled on the 1st of April came up on the 19th, lying 17 days in the ground, and took 831° of heat, at a daily average of 48°; whereas that drilled on the 6th of May came up on the 14th, remaining only seven days in the ground, and took no more than 397° of heat, at a daily average of 56°; had the temperature continued to increase, this Barley last spoken of could not have produced anything like a satisfactory crop, but it decreased considerably the last two weeks in May, which so far checked it that the yield was about three sacks per acre less than the earlier sowing on land close adjoining and of similar quality. Barley does not require so much heat as Wheat, which is testified by the fact of its being cultivated some degrees beyond the northern limit of the growth of Wheat; we must also have observed that our best Barley-growing districts do not produce so good a quality in those seasons when the summer temperature is above 63° as it does when it is below. I may also add that in those summers when the mean temperature ranges above 63°, much of the strong and colder lands produce a good fair average quality, and where this description of land has been well and deeply drained, some of our finest qualities of Barley are grown in warm seasons.

I will not detain you by speaking of Oats, as they require a lower temperature than either Barley or Wheat, and grow finest in moist and cool climates, they therefore require the least attention and skill in their cultivation.

I must not close without speaking of root crops, although I fear you will consider my figures uninteresting. The system of autumn cultivation or cleaning of stubble for roots is yearly gaining ground, and must, I think, eventually become universal, as frequent ploughings in the spring and summer months raise the temperature of the soil too much for roots, and often materially injure the crop, more especially in dry and warm seasons. Moderately warm and moist summers are best suited for the growth of roots, as they cannot take up their food from the soil unless supplied with a proper amount of moisture. I wish here especially to speak of the Swedish Turnip, because I think there are many very grievous mistakes made in their cultivation; first, as to the time of sowing, which should not take place until the temperature of the soil has been 55° for some few days in succession, as they cannot grow freely at a lower temperature, consequently they are a long time coming to the hoe, and the hardier weeds growing freely choke up the plants, and render the operation of hoeing more tedious and expensive. I maintain that Swedes should be grown with one of two objects in view—either for storing or for consuming on the land without pulling; if for storing, the system most generally adopted is good, viz., of drilling the manure and depositing the seed immediately over it, some on the ridge, others on the flat. If the land is at all strong and cold, the ridge is generally found to answer best, and the temperature of the soil in which the seed is deposited is somewhat raised by so doing; on the other hand on warm gravel, loam, or chalky soils they are considered to do as well on the flat. The plants, when singled out, are forced to the greatest extent, having their food placed so close to them; but they are not thereby induced to throw out many roots in search of food, and are consequently not in a position to stand even a moderate frost. If Swedes are grown for the purpose of consuming on the land without being previously stored or pitted, then I think it is very clear the former mode of cultivation is both injudicious and unsafe. The land for this purpose should be previously got into good condition, either by farm-yard or artificial manure, some time before the seed is planted, and previous to the last ploughing; the seed should then be drilled with only a very small portion of artificial manure, so as to start the plants and bring them to the hoe; they will then have to work for their own good, and in so doing will fulfil the law of nature, and throw out sufficient roots to enable them to stand almost any degree of frost they are likely to be subjected to. I acknowledge that there is not so heavy a crop grown under this system, but what is the use of growing a heavy crop that will not stand a moderate winter, when they are grown for the express purpose? I must here confess I am not a very strong believer in what is called the hardiness of this or that sort of Swede; I believe them all to be hardy in their natural state, and are still so under judicious treatment, but that they are only rendered tender by excessive cultivation. I venture to say this much on the point, from having some years ago grown in a field of about 30 acres nearly 20 different varieties of Swedes for experiment, a land of each, all cultivated alike and planted at the same time; they were subjected to quite an average amount of frost, and I could perceive but little, if any difference, in their capability of standing it; but I observed that the green of those which I had from the North of England did not run so soon by several days in the spring as those which came from the South. I also had a fair opportunity of ascertaining what soils were most preferred by the hares, and I gave them credit for being first-rate judges.

Kohl Rabi, which only a few years ago was introduced into this country as an extremely hardy plant, capable of standing the most severe northern winter (the truth of which we can none of us doubt); when grown in a warmer climate, and forced to a considerable extent, it proves to be anything but hardy; that which I grew in 1859 and 1860 was killed each winter by the frost. The springs of 1860 and 1861 afforded ample opportunity for testing the correctness of what I have asserted on the cultivation of the Swedish Turnip. In the spring of 1860 a very large proportion of the Swedes standing in the fields in my locality were rotted, and I believe it was very generally so. I took considerable interest in examining and trying to ascertain the cause, because we had no degree of frost to justify such a fact. I have no doubt that many of you remember that after a moderate amount of frost, accompanied by a fall of snow, we had a sudden thaw for two days, which slacked the soil about five inches below the surface, and saturated it with the melted snow: it suddenly changed and froze again for several days: after the frost went away it was discovered that many of the roots were rotting, and it was found that it was only from the bottom at the taproot the mischief began, and it was rapidly spreading upwards. Now none of those Swedes I examined that were deeper embedded in the soil with good roots to them, and had been cultivated in the manner I last described, were the least affected, except now and then a plant which had not taken sufficient root in the soil. At Christmas, 1860, and early in January, 1861, the roots in my neighbourhood were saved after a very severe frost by a most remarkable coincidence. Christmas eve and the night of the 28th December were two of the hardest frosts known in this country for many years; in the air the thermometer went 6° below zero, making 38° of frost. The temperature of the soil at one foot deep rapidly went down from 35° on the 19th of December to 32° on the 28th, and to 31° on the 29th and 30th; had it receded another degree I believe there would not have been a sound root left, but a sudden thaw commenced on the 30th, and continued for three days, during which the sun shone brightly, and raised the temperature of the earth to 36°. On the 2d January it began freezing again, and continued very severe for 18 days, but the earth never lost its heat or went below 36° again, so that the roots were not affected by the frost, and it was the three days' sun which saved them. I did hear of some places where the Swedes were partially rotted, but they could not have been deeply rooted in the ground, as it takes 2° or 3° of frost to destroy the taproot of the Swede. This I think must be another convincing argument in favour of deep draining, as 1° or 2° in the temperature of the soil not only give to the Wheat that gluten on which the real value of the flour depends, but occasionally saves a crop of roots from destruction. I could go on multiplying instances of this kind if it was desirable; but I trust sufficient has been said to convince in a measure some who have hitherto felt no interest in meteorological observations, and have not taken the trouble to consider how much the effect of temperature on cultivation is a farmer's question, and one he would do well to study. Perhaps one more observation on the subject may strengthen my remarks. A few years since, when the project was started for building distilleries in this country for the purpose of extracting spirit from the Mangel Wurzel or Beet-root, would a knowledge of climate and its effect upon the production of spirit allow any one for a moment to sup-

port that such an operation was at all likely to be successful? I speak of it because at the time I was powerfully persuaded to join in the undertaking; but the statement and calculation produced at once convinced me that they were based upon experience gained in the south of France. A slight knowledge of the subject would satisfy one that that which was a decided success there would in all probability be a disastrous failure here: even if a good spirit could have been produced, the fact of having to work down nearly 50 tons of roots to gain the amount of spirit which could be obtained from about one-fourth of the quantity in the south of France, was in reality to multiply the working expenses by four or five, and thereby leave no profit upon the manufactured article. I believe there are seasons when our mean summer temperature ranges above 64° that spirit could be distilled from roots at a profit, but the roots should not be from our most fertile valleys, where 40 or 50 tons per acre are not unfrequently grown, but on some of the warm and sheltered hill-sides facing the south, where about 20 tons per acre would be considered a good crop, as we must bear in mind that sun is very necessary in the production of sugar or spirit. We all know that our wall fruit grown in the most sheltered situations, and exposed to the full rays of the sun, have but little flavour in summers when there is a deficiency of heat.

It might have been expected that I should have spoken more of the amount of rainfall and moisture, but I have not done so because those summers which have been more than usually cold have generally been accompanied by a large fall of rain; the rain, in fact, being rather the cause than the effect of the low temperature.

## Miscellaneous.

*Sale of Mr. Ambler's Short-Horns.*—The sale of the entire stock of Short-horned cattle belonging to Mr. H. Ambler, the well-known eminent Yorkshire breeder, took place in a large field at Watkinson Hall, near Halifax, on the 29th ult., and was attended by about 1000 persons, including agriculturists and gentlemen interested in the rearing and feeding of cattle from all parts of the kingdom. Mr. Wetherell, of Aldborough, near Darlington, was the auctioneer, and previous to beginning the sale announced that every animal which entered the ring would be sold, and that neither Mr. Ambler nor anybody on his behalf would bid 1*s*. The competition was keen throughout the sale; 25 cows and heifers sold for 1207*l*. 10*s*., being an average of 48*l*. 6*s*. each; 10 bulls, 454*l*. 13*s*., an average of 45*l*. 9*s*. 4*d*. each; eight dairy cows, 181*l*. 13*s*. an average of 22*l*. 16*s*. 8*d*. each; 24 pigs were afterwards sold, which realised 122*l*. 5*s*., or 5*l*. 2*s*. each. The total proceeds of the sale amounted to 1966*l*. 1*s*.

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending May 6, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 30 | 30.15 | 44 | 42 | N.E. | 3 | 6 | 55 | 32 | 106* | 27 | 0.02 | 52 | 51½ |
| Friday .. | 1 | 30.30 | 47 | 43 | N.E. | 2 | 1 | 55 | 24 | 109 | 21 | 0.01 | 50½ | 51 |
| Saturday .. | 2 | 30.18 | 52 | 46 | N.E. | 2 | 1 | 60 | 30 | 121 | 25 | .. | 51 | 50½ |
| Sunday .... | 3 | 29.99 | 49 | 47 | N.E. | 2 | 6 | 62 | 35 | 123 | 31 | .. | 52 | 51 |
| Monday .... | 4 | 29.87 | 56 | 53 | N.W. | 2 | 7 | 70 | 46 | 125 | 43 | .. | 53 | 51 |
| Tuesday .. | 5 | 29.82 | 61 | 56 | W. | 3 | 2 | 68 | 46 | 116 | 40 | .. | 54 | 52 |
| Wednesday | 6 | 30.06 | 54 | 50 | N. | 1 | 8 | 66 | 36 | 115 | 33 | 0.02 | 54 | 52 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

MANGEL WURZEL: *E S T.* The Mangels will keep very well over the summer. Keep them dry enough to hinder their sprouting, and not so dry as to get quite withered. You may easily feed stock on Mangels all the year round.

REFINERS' REFUSE. *M. D.* It will be a useful superphosphate if treated with sulphuric acid. Guano has in certain experiments proved the more efficient for a moistening with sulphuric acid before application to the land. But there is no need of doing this except in dry windy weather and broadcast application.


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

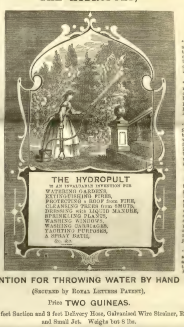
THE HYDROPULT.—"All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines."—*Gardeners' Chronicle and Agricultural Gazette.*

THE HYDROPULT.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

THE HYDROPULT.—"Country readers who order it on our recommendation, will not only not repent but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

THE HYDROPULT.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

THE HYDROPULT.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces."—*Mechanics' Magazine.*

THE HYDROPULT.—"It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation."—*Illustrated News of the World.*

THE HYDROPULT.—"Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner."—*Builders' Reporter.*

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## AN INVENTION FOR THROWING WATER BY HAND POWER

(SECURED by ROYAL LETTERS PATENT),

Price **TWO GUINEAS.**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain.

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

THOMAS RIVERS, Esq., the eminent Florist, SHIRLEY HIBBARD, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.

### EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.

"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "PERCY M. DOVE, Manager."

"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. HALLOWS, Secretary, Caledonian Insurance Company."

"38, Portland Street, London, W.C.

"Mr. Charles P. Button. Sir, I am perfectly satisfied from the statement of Mr. Green, the conductor of our fire-escape at Notting Hill, that a large amount of valuable uninsured property was saved from destruction by the timely and efficient use of the Hydropult, which was fortunately on the adjoining premises during the fire which consumed the drapery establishment of Mr. Thomas, of 4, Coburg Place, Bayswater, on Friday evening last. Your little engine was used most effectually in keeping the roof of the adjoining house saturated with water, thereby preventing the spread of the flames, as the engines of the regular district fire brigade did not arrive on the spot until more than one half hour after the fire broke out.

"A fire, at its commencement, can readily be extinguished by means of this little annihilator, and infinite service rendered in staying the progress of the flames during the interval which must elapse before fire-engines can, under any circumstances, be brought into action.—Yours truly, T. SPENCER, Inspector of the Royal Society for the Protection of Life from Fire."

**CAUTION:** Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; GRIFFITHS & BROWETT, Manufacturers, Birmingham; CHARLES P. BUTTON, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult."

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. SPENCER, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

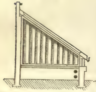
FIRE! FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

CHARLES P. BUTTON, PROPRIETOR,
HYDROPULT WAREHOUSE, 27, LEADENHALL STREET, LONDON, E.C.
WEST END DEPOT, 309, REGENT STREET, W.

# J. JONES'S HOT-WATER APPARATUS.

No. 7.



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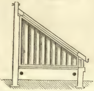

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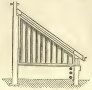

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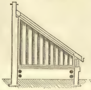
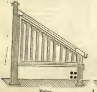


No. 11.

| Size of House. | Price (No. 7) | Price (No. 8) | Price (No. 9) | Price (No. 10) | Price (No. 11) |
|---|---|---|---|---|---|
| 20 by 10 feet | £9 0 0 | £9 0 0 | £13 0 0 | £14 0 0 | £15 0 0 |
| 30 „ 12 „ | 12 0 0 | 12 0 0 | 17 0 0 | 19 0 0 | 21 0 0 |
| 40 „ 15 „ | 15 0 0 | 15 0 0 | 21 0 0 | 24 0 0 | 25 0 0 |
| 50 „ 15 „ | 18 0 0 | 18 0 0 | 24 0 0 | 28 0 0 | 29 0 0 |
| 60 „ 15 „ | 20 0 0 | 20 0 0 | 27 0 0 | 32 0 0 | 33 0 0 |
| 70 „ 15 „ | 22 0 0 | 22 0 0 | 30 0 0 | 36 0 0 | 37 0 0 |
| 80 „ 15 „ | 24 0 0 | 24 0 0 | 33 0 0 | 40 0 0 | 41 0 0 |
| 100 „ 15 „ | 26 0 0 | 26 0 0 | 36 0 0 | 44 0 0 | 45 0 0 |

No. 12.



Price
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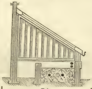
No. 13.



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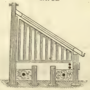


Price
Same as No. 11.

No. 15.

Price
Same as No. 11.

No. 16.

Price
Same as No. 7.

No. 17.

No. 18.

No. 19.

No. 20.

No. 21.

| Size of House. | Price (No. 17) | Price (No. 18) | Price (No. 19) | Price (No. 20) | Price (No. 21) |
|---|---|---|---|---|---|
| 20 by 10 feet | £9 0 0 | £14 0 0 | £18 10 0 | £23 0 0 | £23 9 0 |
| 30 „ 12 „ | 12 0 0 | 19 0 0 | 24 0 0 | 30 0 0 | 30 0 0 |
| 40 „ 15 „ | 15 0 0 | 24 0 0 | 29 0 0 | 36 10 0 | 36 10 0 |
| 50 „ 15 „ | 18 0 0 | 28 0 0 | 34 0 0 | 42 10 0 | 42 10 0 |
| 60 „ 15 „ | 20 0 0 | 32 0 0 | 39 0 0 | 49 0 0 | 49 0 0 |
| 70 „ 15 „ | 22 0 0 | 36 0 0 | 44 0 0 | 56 0 0 | 56 0 0 |
| 80 „ 15 „ | 24 0 0 | 40 0 0 | 49 0 0 | 63 0 0 | 63 0 0 |
| 100 „ 15 „ | 26 0 0 | 44 0 0 | 54 0 0 | 70 0 0 | 70 0 0 |

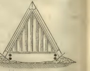
No. 22.

No. 23.

No. 24.

No. 25.

No. 26.



| Size of House. | Price (No. 22) | Price (No. 23) | Price (No. 24) | Price (No. 25) | Price (No. 26) |
|---|---|---|---|---|---|
| 20 by 10 feet | £15 0 0 | £25 0 0 | £25 0 0 | £18 10 0 | £14 0 0 |
| 30 „ 12 „ | 21 0 0 | 32 0 0 | 32 0 0 | 25 0 0 | 19 0 0 |
| 40 „ 15 „ | 25 0 0 | 38 10 0 | 38 10 0 | 30 0 0 | 24 0 0 |
| 50 „ 15 „ | 29 0 0 | 44 10 0 | 44 10 0 | 35 0 0 | 28 0 0 |
| 60 „ 15 „ | 33 0 0 | 51 10 0 | 51 10 0 | 40 0 0 | 32 0 0 |
| 70 „ 15 „ | 37 0 0 | 58 0 0 | 58 0 0 | 45 0 0 | 36 0 0 |
| 80 „ 15 „ | 41 0 0 | 65 0 0 | 65 0 0 | 50 0 0 | 40 0 0 |
| 100 „ 15 „ | 45 0 0 | 72 0 0 | 72 0 0 | 55 0 0 | 44 0 0 |

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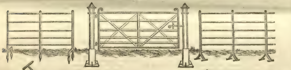

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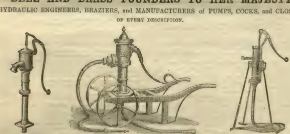

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2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0

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By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

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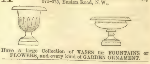


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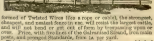


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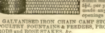


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To Mr. B. Peed, Gr. to Mrs. Tredwell, St. John's Lodge, Norwood, for 16 Stove and Greenhouse Plants
To Mr. G. Baker, Gr. to A. Bassett, Esq., Stamford Hill, for 20 Exotic Orchids

#### LARGE GOLD MEDAL.

To Mr. R. Baxendine, Gr. to H. Smallpiece, Esq., Milmeade House, Ripley, Surrey, for 16 Stove and Greenhouse Plants
To Mr. R. Bullen, Gr. to A. Turner, Esq., Bow Bridge House, Leicester, for 20 Exotic Orchids

#### MEDIUM GOLD MEDAL.

To Messrs. J. & J. Fraser, Nurserymen, Leyton, Essex, for 10 Stove and Greenhouse Plants
To Mr. John Green, Gr. to Sir Edmund Antrobus, Bart., Lower Cheam, Surrey, for 10 Stove and Greenhouse Plants
To Messrs. J. Veitch & Son, Nurserymen, Chelsea, for 8 Greenhouse Azaleas
To Mr. J. Green, Gr. to Sir E. Antrobus, Bart., Lower Cheam, for 8 Greenhouse Azaleas
To Mr. B. Peed, Gr. to Mrs. Tredwell, for 20 Exotic Orchids
To Messrs. H. Lane & Son, Nurserymen, Great Berkhampstead, Herts, for 10 Roses in Pots
To Mr. T. Page, Gr. to W. Leaf, Esq., Park Hill, Streatham, for 12 Exotic Orchids

#### GOLD MEDAL.

To Messrs. J. & C. Lee, Nurserymen, Hammersmith, for 10 Stove and Greenhouse Plants
To Mr. H. Chilman, Gr. to Mrs. Smith, Ashstead House, Ashstead, for 10 Stove and Greenhouse Plants
To Messrs. Jackson & Son, Nurserymen, Kingston, Surrey, for 10 Cape Heaths
To Mr. B. Peed, Gr. to Mrs. Tredwell, for 8 Cape Heaths
To Mr. C. Turner, Nurseryman, Slough, for 8 Greenhouse Azaleas
To Mr. T. Page, Gr. to W. Leaf, Esq., for 8 Greenhouse Azaleas
To Mr. S. Woolley, Nurseryman, Cheshunt, Herts, for 8 Exotic Orchids
To Mr. W. Paul, Nurseryman, Waltham Cross, for 10 Roses
To Mr. C. Turner, for 12 Pelargoniums
To Mr. T. Bailey, Gr. to T. T. Drake, Shardeloes, Amersham, Bucks, for 10 Pelargoniums.

#### LARGE SILVER GILT MEDAL.

To Messrs. Jackson & Son, Nurserymen, Kingston, for 10 Stove and Greenhouse Plants
To Mr. Wm. Kaile, Gr. to Earl Lovelace, East Horsley Towers, Ripley, Surrey, for 10 Stove and Greenhouse Plants
To Mr. Page, Gr. to Wm. Leaf, Esq., Park Hill, Streatham, for 6 Stove and Greenhouse Plants
To Messrs. J. & C. Lee, Nurserymen, Hammersmith, for 10 Foliage and Flowering Plants
To Mr. O. Rhodes, Nurseryman, Sydenham Park, Kent, for 10 Cape Heaths
To Mr. T. Page, Gr. to W. Leaf, Esq., for 8 Cape Heaths
To Messrs. J. & J. Fraser, for 8 Greenhouse Azaleas
To Mr. J. Cross, Gr. to Sir F. H. Goldsmid, Bt., M.P., St. John's Lodge, Regent's Park, for 8 Greenhouse Azaleas
To Mr. C. Turner, Nurseryman, for 6 Greenhouse Azaleas
To Mr. Wiggins, Gr. to W. Beck, Esq., Worton Cottage, Isleworth, for 6 Exotic Orchids
To Mr. E. P. Francis, Nurseryman, Hertford, for 10 Roses
To Mr. T. Terry, Gr. to C. W. G. Puller, Esq., M.P., Youngsbury, Ware, Herts, for 6 Roses in Pots
To Messrs. J. & J. Fraser, for 12 Pelargoniums
To Mr. J. Weir, Gr. to Mrs. Hodgson, The Elms, Hampstead, for 10 Pelargoniums

#### LARGE SILVER MEDAL.

To A. Ingram, Gr. to J. J. Blandy, Esq., High Grove, Reading, Berks, for 6 Stove and Greenhouse Plants
To Mr. A. Ingram, Gr. to J. J. Blandy, Esq., for 6 Cape Heaths
To Messrs. H. Lane & Son, for 6 Greenhouse Azaleas
To Mr. Smith, Gr. to Duke of Northumberland, Syon House, Isleworth, for 6 Exotic Orchids
To Mr. C. Turner, for 6 Fancy Pelargoniums
To Messrs. J. & J. Fraser, for 6 Fancy Pelargoniums
To Mr. T. Bailey, Gr., for 6 Fancy Pelargoniums

#### SILVER GILT MEDAL.

To Mr. O. Rhodes, Nurseryman, Sydenham Park, Kent, for 10 Stove and Greenhouse Plants
To Mr. J. Wheeler, Gr. to J. Phillpott, Esq., Stamford Hill, for 6 Stove and Greenhouse Plants
To Messrs. A. Henderson & Co., Nurserymen, Edgware Road, for 10 Foliage and Flowering Plants
To Mr. R. Baxendine, Gr. to H. Smallpiece, Esq., for 8 Cape Heaths
To Mr. H. Chilman, Gr. to Mrs. Smith, for 6 Cape Heaths
To Mr. G. Clarke, Nurseryman, Brixton Hill, for 8 Greenhouse Azaleas
To Mr. W. Kaile, Gr. to Earl Lovelace, for 8 Greenhouse Azaleas
To Mr. J. Wheeler, Gr. to J. Phillpott, Esq., for 6 Greenhouse Azaleas
To Mr. J. Green, Gr. to Sir E. Antrobus, for 6 Exotic Orchids
To Mr. H. Lamb, Gr. to Captain Cahill, Southall, Middlesex, for 6 Cinerarias
To Mr. J. Weir, Gr., for 6 Fancy Pelargoniums

#### SILVER MEDAL.

To Mr. J. Wheeler, Gr. to J. Phillpott, Esq., for 6 Cape Heaths
To Mr. H. Chilman, Gr., for 6 Greenhouse Azaleas
To Mr. T. Pointer, Gr. to C. J. Perry, Esq., Castle Bromwich, Birmingham, for 6 Cinerarias
To Mr. H. Lamb, Gr. to Captain Cahill, for 6 Fancy Pelargoniums
To Mr. B. S. Williams, Nurseryman, Holloway, for collection of New and Rare Plants
To Mr. W. Paul, for 7 Boxes of Roses
To Messrs. Paul & Son, Nurserymen, Cheshunt, Herts, for 6 Boxes of Roses
To Mr. H. Lavey, Gr. to E. A. De Grave, Esq., Fetcham, Surrey, for 30 British Ferns

#### SMALL SILVER MEDAL.

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To Mr. H. Chilman, Gr. for 6 Exotic Orchids
To Mr. Venner, Gr. to C. J. Beecham, Esq., The Grove, Hanwell, for 6 Cinerarias
To Mr. Pepler, Gr. to Earl Granville, Golders Green, Hendon, for 6 Fancy Pelargoniums
To Messrs. Downie, Laird, & Laing, Nurserymen, Edinburgh, for 36 Pansies
To Mr. Fraser, Gr., Belmont, for 24 Pansies
To Mr. C. Turner, for 18 Tulips
To Mr. H. Lavey, Gr. to E. A. De Grave, Esq., Fetcham, Surrey, for 12 Exotic Ferns
To Messrs. Lane, Berkhampstead, for collection of Cut Roses
To Mr. Wm. Bull, Nurseryman, King's Road, Chelsea, for large group of New and Rare Plants
To Miss Clarkson, 40, Avenue Road, St. John's Wood, for 24 British Ferns
To Mr. J. Smith, Gr. to the Duke of Northumberland, for Napoleona imperialis

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To Mr. H. Lavey, Gr., for 6 Greenhouse Azaleas
To Mr. H. Hooper, Nurseryman, Bath, for 36 Pansies
To Mr. J. James, Gr., for 24 Pansies
To Mr. J. James, for 6 Calceolarias

#### CERTIFICATE.

To Mr. J. August, Gr. to the Rev. A. Bridges, Beddington, for 24 Pansies
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To Messrs. Downie, Laird, & Laing, Sydenham and Edinburgh, for collection of Seedling Fancy Pansies
To Mr. C. Turner, Nurseryman, Slough, for collection of Auriculas
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To Messrs. Veitch & Co., for Rhododendron Princess Alice
To Mr. B. S. Williams, for Caladium Lowii
To Mr. Standish, Nurseryman, Royal Nursery, Ascot, for Clematis Fortuni
To Mr. Standish, Nurseryman, Royal Nursery, Ascot, for Clematis florida Standishii
To Mr. W. Bull, Nurseryman, for Athyrium Filix-fœmina sagittatum
To Mr. W. Bull, Nurseryman, for Pogonia discolor
To Mr. W. Bull, Nurseryman, for Areca dealbata
To Mr. W. Bull, Nurseryman, for Caladium Lowii
To Mr. W. Bull, Nurseryman, for Yucca lineata lutea
To Mr. A Verschaffelt, Nurseryman, Ghent, Belgium, for Dieffenbachia Verschaffeltii
To Mr. C. Turner, Slough, for Seedling Scarlet Pelargonium (second year of blooming) Orion
To Mr. C. Turner, for Seedling Pelargonium (second year of blooming) Prince of Wales
To Mr. C. Turner, for Seedling Tulip Richard Headley
To Mr. W. Paul, for Rosa Lord Herbert
To Mr. W. Paul, for Rosa Lord Macaulay
To Messrs. Henderson & Co., for Tropæolum Ball of Fire
To Mr. J. Holland, Gr. to R. W. Peake, Esq., Spring Grove, Isleworth, for Petunia Royalty

#### SECOND-CLASS CERTIFICATES OF MERIT.

To Messrs. Veitch & Co., for Ligularia Kæmpferi argentea
To Messrs. Veitch & Co., for Browallia Jamesoni var. multiflora
To Messrs. Veitch & Co., for Aglaonema commutatum
To Mr. J. Verschaffelt, Ghent, for Rhododendron Jean Verschaffelt
To Mr. B. S. Williams, for Aralia punctiloba
To Mr. C. Turner, Slough, for Azalea Louise von Baden
To Mr. W. Bull, Nurseryman, for Justicia variegata
To Mr. W. Bull, Nurseryman, for Anæctochilus argyræa
To Mr. W. H. Treen, Nurseryman, for Seedling Verbena Rugby Hero.

#### COMMENDATIONS.

To Messrs. Veitch & Co., for Hibiscus species
To Mr. W. Bull, for Saccharum violaceum
To Mr. G. W. Hoyle, Reading, for Seedling Pelargonium (first year blooming) The Prince
To Mr. G. W. Hoyle, Reading, for Seedling Pelargonium (first year blooming) Alexandra
To Mr. G. W. Hoyle, Reading, for Seedling Pelargonium (first year blooming) Emmeline
To Mr. G. W. Hoyle, Reading, for Seedling Pelargonium (first year blooming) Philo

**New Roses.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully invites attention to the following NEW ROSES, which will be ready for delivery very shortly.

LORD HERBERT, H.P.—Rosy carmine, the petals reflexing at the summits in the way of Beauty of Waltham, large, full, and finely formed, and altogether of first-rate excellence. *7s. 6d.*

LORD MACAULAY, H.P.—Velvety crimson, in the way of General Jacqueminot, but brighter in colour, thicker in the petal, and more double. The flowers are of good average size, produced abundantly and in rapid succession; the habit is good, and foliage handsome. *7s. 6d.*

MRS. WILLIAM PAUL, H.P.—Bright violet red, shaded with fiery red; flowers constantly, and in clusters, large and full. Raised by M. Verdier, of Paris, the raiser of Madame Furtado, and others of our finest Roses. *5s.*

RED ROVER, H.P.—Bright red petals, large, thick, and round; flowers abundantly and in succession up to Christmas. Not double enough for a show Rose, but the most effective pillar Rose ever offered. *3s. 6d.*

WILLIAM PAUL, H.P.—A seedling from Senateur Vaisse, but brighter in colour. Raised at Lyons by the raiser of Lord Raglan, Senateur Vaisse, and other first-class sorts. *5s.*

BEAUTY OF WALTHAM, H.P.—Bright rosy crimson, of good size, form, and substance, and deliciously sweet. This Rose is found to surpass the description originally given of it. *3s. 6d.*

All the new French Roses, *3s. 6d.* to *5s.* each, or *42s.* per dozen. The best of the old Roses at lowest advertised prices. The plants are well established, and in the finest possible health.

PRICED CATALOGUE free by post.

Nurseries and Seed Warehouse, Waltham Cross, N.

**Superb New Fuchsias.**

LUCOMBE, PINCE, AND CO. are now sending out fine strong Plants of their unrivalled SEEDLING FUCHSIAS—

THE EARL OF DEVON and EXHIBITOR.

For particulars and descriptions of which, see *Gardeners' Chronicle* for April 11 and 18.

DESCRIPTIVE SPRING CATALOGUE may be had gratis on application.

Exeter Nursery, Exeter.

**Splendid New Double Fuchsia, Grand Admiral.**

GEORGE WHEELER, NURSERYMAN, Warminster, Wilts, is prepared to send out the above. Tube and sepals bright crimson scarlet, sepals broad and well reflexed, corolla deep violet purple, large and full, a most profuse bloomer, the branches curving very gracefully, makes the habit unexceptionable. It has been declared by the best judges to be the finest double Fuchsia ever offered either for Exhibition or Greenhouse Decoration.

G. W. feels confident it will give general satisfaction. Price *7s. 6d.* each.

FISHERIES PRESERVATION ASSOCIATION.— THIS ASSOCIATION having obtained through the Government an Act for the Suppression of the Export of Salmon in a breeding state, are about to agitate the necessity of stopping the Pollution of rivers by mills and factories, as far as may be practicable, and of the Preservation of TROUT and other fish, in the hopes of eventually inducing legislation on these subjects also.

Under the belief that the exertions of this Association, by dealing so severe a blow at poaching through the cutting off of the export market for unseasonable fish, will be recognised as extremely serviceable to proprietors and others in the preservation of their fisheries, and that the measures the Council are about to take up will also be of great value to them and the public generally, the Council appeal to those interested, to assist them in their endeavours. Funds are required to carry out the objects of this Association. The means at the disposal of the Council have hitherto been very limited. Having however accomplished so much with such small means, they are justified in hoping that, if fairly supported by the Public, they may be able to carry into effect the difficult and onerous tasks they have undertaken.

All subscriptions and donations to be made payable to the Treasurer, P. HOOD, Esq., 15, Lower Seymour Street, Portman Square, W.

ROYAL OXFORDSHIRE HORTICULTURAL SOCIETY.

*Patron*—H.R.H. THE PRINCE OF WALES.

The SUMMER EXHIBITION of the above Society will be holden in the Gardens of Trinity College, Oxford, on TUESDAY, June 16, on which day H. R. H. THE PRINCE OF WALES and H. R. H. THE PRINCESS OF WALES intend to honour Oxford with a visit, when, in addition to the Prizes confined to Members, the following are offered, open to all England, entrance free:—

A.—STOVE or GREENHOUSE PLANTS (not Orchids, Fuchsias, or Geraniums), 9 varieties: 1st prize, *10l.*; 2d ditto, *8l.*; 3d ditto, *7l.*

B.—CAPE HEATHS, 6 varieties: 1st prize, *5l.*; 2d ditto, *4l.*

C.—GERANIUMS (not Fancies), in 8-inch pots, 12 varieties: 1st prize, *6l.*; 2d ditto, *5l.*; 3d ditto, *4l.*

D.—GERANIUMS (Fancies), in 8-inch pots, 12 varieties: 1st prize, *5l.*; 2d ditto, *4l.*; 3d ditto, *3l.*

E.—FINE FOLIAGED and VARIEGATED PLANTS, 9 varieties: 1st prize, *4l.*; 2d ditto, *3l.*

F.—ROSES, CUT FLOWERS, 48 kinds, 3 trusses of each: 1st prize, *4l.*; 2d ditto, *3l.*; 3d ditto, *2l.*; 4th ditto, *1l.*

Exhibitors of Roses to show in their own stands, and on Moss.

No person will be allowed to take more than one Prize in each class.

Notice of intention to exhibit must be given, by post, on or before Monday, June 8.

The Flowers must be labelled with their names, and staged ready for the Judges by 10 o'clock on the morning of the day of Show, and will not be allowed to be removed till the close of the Exhibition (7 o'clock P.M.).

Exhibitors will be required to sign a declaration that the Flowers are *bonâ fide* their own property, or the property of their employers.

The Judges have the power of withholding the first or any other Prize if the Flowers exhibited are not worthy.

By permission of the Commanding Officers, the Bands of the Coldstream Guards and of the Second Oxon Rifle V.C. will play alternately during the afternoon.

W. R. HOBBS, Acting Secretary.

23, St. Giles's Street, Oxford, May 8, 1863.

**Royal Horticultural Society.**

10th JUNE, 1863,

CEREMONIAL to be OBSERVED at UNCOVERING the MEMORIAL of the EXHIBITION of 1851, and STATUE of H.R.H. THE PRINCE CONSORT, in the presence of their RR.HH.'s the PRINCE and PRINCESS of WALES and other Members of the Royal Family.

The Guests invited to take part in the Procession will assemble at the West Dome of the Exhibition Building.

Whilst assembling Military Bands will play.

The Royal Party will be received at the West Dome Entrance by the Executive Committee of the Memorial Committee.

Their RR.HH.'s will proceed down the Nave to a balcony over the Southern entrance of the Horticultural Gardens, and their arrival will be announced by a flourish of trumpets. "God Save the Queen" will be played by three Military Bands united in the Ante-Garden.

The Council of the Horticultural Society will present an address.

Military Bands will again play.

After which the Memorial Committee will read an Address.

H.R.H. the Prince of Wales will order the UNCOVERING OF THE MEMORIAL, which will be announced by a flourish of trumpets and a salute of Artillery, after which military music will be performed and the fountains will play.

The Royal party, headed by the procession, will then walk round the Gardens, stopping at various points to see the Memorial and the Garden.

The route will be marked by banners, and it is requested that during the procession the spectators will remain stationary.

If it rains the procession will keep under the Arcades.

The Exhibition Building will be thrown open to the visitors.

GEORGE GODWIN, Hon. Sec. Memorial Committee.
W. W. SAUNDERS, Hon. Sec. of the Horticultural.

LINNEAN SOCIETY, BURLINGTON HOUSE, PICCADILLY, May 15.

The ANNIVERSARY MEETING of this Society will be held here, on MONDAY, the 25th of this Month, at 3 o'clock precisely, for the Election of a COUNCIL and OFFICERS for the ensuing Year; and the Members will afterwards DINE together at Willis's Rooms, King Street, St. James's, W.C. Dinner to be on the Table at 6 o'clock. Tickets for the Dinner, including Tea and Coffee, at *20s.* each, may be had of Mr. KIPPIST, at the Apartments of the Society; or at the Rooms.

GEORGE BUSK, Secretary.

# The Gardeners' Chronicle.

*SATURDAY, MAY* 16, 1863.

WE have the painful duty of announcing the sudden death of Mr. JAMES VEITCH, the old and highly respected head of the great firm of VEITCH & SONS. He was seized with spasms at Exeter last Thursday morning, and in less than two hours was a corpse. What renders the sad event the more distressing, is that his wife had died suddenly only a few days previously.

AT length the last scene of THE GREAT INTERNATIONAL EXHIBITION OF 1851 is about to be presented to the public. It is officially announced that on the 10th of June there will be a grand Ceremonial in the Garden of the Royal Horticultural Society, when the Memorial of the Exhibition, consisting of a Statue of His late Royal Highness the deeply lamented PRINCE CONSORT, will be uncovered, in the presence of their Royal Highnesses the PRINCE and PRINCESS OF WALES and other members of the Royal Family. On this great occasion the guests specially invited to take part in the procession will assemble beneath the West Dome in the present International Exhibition Building. The Royal party is to arrive at four o'clock precisely, when it will be received by the Memorial Committee, who will conduct their Royal Highnesses to the place reserved for their reception. Their Royal Highnesses will proceed down the Nave of the building to a balcony over the entrance to the Horticultural Gardens, when the Council of the Society will present an address, and receive a reply. The Executive Committee of the Memorial Committee is next to read a short address, and receive a reply. His Royal Highness the PRINCE OF WALES will then order the MEMORIAL to be uncovered. After which the Royal party, headed by the procession, will pass round the Garden within a space marked by barriers and banners, unless it should rain, in which case the line of procession will keep under the cover of the Arcades. These proceedings will be accompanied by flourishes of trumpets, salutes of artillery, military music, and all the accessories required to give the greatest possible effect to a Great State Ceremonial. It may be convenient to our readers to know what are the regulations about tickets on the occasion.

All Fellows, holders of transferable tickets and debenture nominees, will be free. The price of cards of admission will be *15s.* each if purchased on or before May 27th (the day of the first Great Floral Exhibition), *1l.* up to June 9th inclusive, and *1l. 10s.* on the day. But each Fellow paying or compounding for *2l. 2s.* a year will be entitled at any time up to and inclusive of May 27th, to purchase three tickets at half-price. Fellows of *4l. 4s.* (or 40 guineas), can in like manner buy six tickets. There will be a Special Meeting on May 23d, at half-past 3 o clock, for the election of candidates wishing to become Fellows before the ceremonial.

OUR leading article of Dec. 27, 1862, respecting the SPOTTING OF PAPER AND LINEN, excited so much interest, that we think it may not be unacceptable to make a few more observations on the subject. In one case which has recently come before us, some cardboard which had been damped for printing off some engravings, was in the course of 24 hours so spotted by a minute black mould, probably the young state of *Cladosporium herbarum*, that it was perfectly useless. We know of nothing which could have prevented this except the use of corrosive sublimate mixed with the size, but it is a question how far this could be used without the prospect of ulterior injury from the decomposition of the metallic salt.

We think it the more necessary to notice this because Professor BABINGTON has sent us lately some paper from his herbarium which has been stained by some black metallic deposit, apparently arising from the green paper with which his presses are lined.

The colour of the deposit was so exactly that of arsenic, that we thought we had an easy solution of the case. The green paper burnt exactly like touch paper, and we conceived that the paper had first been dipped in a solution of arsenite of potash and then immersed in a solution of nitrate of copper, the effect of which would be to form an arseniate of copper, while the potash and nitrogen combined to form saltpetre. But unfortunately, like many plausible theories, it failed from the fact, not only that our own rough analysis but a more legitimate one by Professor LIVEING failed to show the presence of arsenic, though there were traces of lead.

We are unable to explain exactly the matter as regards lead. As however chromates become green when treated with alcohol or hydrochloric acid, we might conceive a first immersion in a solution of bichromate of potash, and a second in nitrate of lead, when a result somewhat similar to the former might take place; or as the lead existed only in very small quantities, bichromate of potash without any salt of lead may have been used, and the trace of lead may be due to some impurity in the potash. Paper steeped in a solution of bichromate of potash, it is well known, affords excellent touch paper.

But be the proper explanation what it may, the case is suggestive, and indicates the necessity of rejecting papers coloured with mineral solutions for herbaria. Supposing paper to be coloured with arseniate of copper, we may expect discoloration, as the arseniates are not peculiarly stable.

Our former leader related principally to cases where paper or woven fabrics of Flax, Cotton, or other vegetable substances were submitted merely to damp air. If, however, actual moisture is present, there are several Fungi capable of producing variously-coloured stains, as brown, bright crimson or scarlet, yellow, deep blue, pink or other tints, disposed according to circumstances in roundish spots or broad patches. We have, for example, seen the thick calico curtains of a shower bath, which was in constant use, spotted with blotches of the brightest red, which were due to a species of *Epicoccum*, to the great consternation of neighbours, who imagined them to be "great gouts of blood." Yellow and brown are also very common, which, like crimson spots of a different nature, arise from some obscure gelatinous fungi, which we believe to be a peculiar condition of some of the common moulds. Blue is less frequent, but that also belongs to the same category with the cases just mentioned.

There exists, moreover, a host of black Fungi which render paper kept constantly damp black and smutty, while there are others which give it a green or yellow tint. In such cases it is vain to look for a preventive; but if books or paper be submitted merely to the ordinary action of the moisture contained in the atmosphere, which is sufficient to produce mischief even where the greatest pains are taken to prevent it, it is well to call to one's aid any appliances or precautions which may be likely to be useful, and to ascertain the sources of evil, without which we can scarcely be likely to suggest any remedy. *M. J. B.*

—— THE first of the great Metropolitan Flower Shows has come and gone, leaving behind, as the first show of the season always does, pleasant reminiscences of freshness and beauty such as none of the later exhibitions, brilliant as they may be, seem to be capable of

producing. This year the opening show has fallen to the lot of the Royal Botanic Society, and on Wednesday last the garden in the Regent's Park was *en fête*.

The general details of the exhibition will be found in another place. Here we confine ourselves to a brief sketch of the novelties produced, amongst which some interesting subjects occurred. Foremost amongst those of them which appeared in a flowery dress, was a new Japanese Clematis shown by Mr. Standish. This had double white flowers nearly 6 inches in diameter; it was evidently a free-growing and free-blooming plant, which may be expected to prove a valuable addition to this genus of hardy climbers. We hope to notice it more fully on some future occasion, and in the mean time apply to it the provisional designation of C. Fortunei, after its introducer. One of its most striking peculiarities is, that the downy sepals, of which there are several rows, are distinctly clawed, the narrow claw being about the same length as the lance-shaped blade. The flowers have a pleasant aromatic scent. Another fine Clematis from the same source, with deep violet-coloured flowers, which though less novel in aspect was not less beautiful, is perhaps, judging from its broad-based sessile sepals, a form of C. florida, and we therefore adopt for it the provisional name of C. florida var. Standishii. The deep violaceous tint of its flowers is very beautiful, and will make it especially welcome. From Mr. Veitch's collection was sent a little Dracophyllum from King George's Sound, which promises to be a first-class exhibition plant. Its kinsman, the well known D. gracile, is a plant which in these days, when sameness rules our shows, one is always glad to see brought out, but we have apparently in this novelty a much finer plant for exhibition purposes, its habit being stiffer, more branching, and more compact, and its foliage better developed, while its flowers are larger, of an equally pure white, and arranged in more compact heads. The same collection yielded a gay conservatory bush from the Andes of Ecuador, a twiggy soft-wooded shrub, with neat ovate leaves, and a profusion of shaded orange-yellow and deep orange flowers, exactly like Browallia Jamesoni, except in this one particular, that whereas that is a remarkably shy bloomer, this is altogether as free; hence it has been distinguished as B. Jamesoni var. multiflora. Mr. Veitch also had a fine hardy Rhododendron called Picotee rosea, a variety with close trusses of well-formed clear carmine rose flowers heavily spotted with black; it was superior in form but closely similar in colour, to another shown by Mr. J. Verschaffelt, and bearing the name of Rhododendron Jean Verschaffelt. Mr. Turner had a large-flowered white Indian Azalea, called Louise von Baden, remarkably pure in colour, though here and there sporting into rose stripes, and certainly a very telling variety, though now it had become fully blown, it was not equal in some points to the promise which it bore when shown earlier in the season. Mr. Veitch's curious Peruvian Calceolaria punctata, one of the Jovellana section, though not a showy plant, was interesting from its structure, which is so dissimilar from that of an ordinary Calceolaria.

A few better known flowering plants also appeared. Thus Mr. Veitch had a fine group of the hardy crimson Ourisia coccinea, which carried off awards last year; as also did his lovely hybrid white-flowered sweet-scented Rhododendron Princess Alice; and a little lilac-flowered stove Gesnerad, Stenogastra multiflora, which was bred between S. concinna and Gloxinia hirsuta.

Passing on to the plants of what is called the ornamental-foliage class, the most decided novelty, and the most beautiful withal, was a Melastomaceous plant from Messrs. Veitch, to which the temporary name of Melastoma? argyroneura has been applied, pending its bearing flowers. It is a shrub of moderate vigour, with bold, but not over large, elliptic leaves, which are densely clothed with short hairs, especially evident on the young parts, very rugose, and of a deep olivaceous green, lightened up by a broadish line of silvery brightness passing along the course of the midrib, this line being more permanent than such markings usually are, and continuing bright and clear on the mature and older leaves. The same establishment furnished Ligularia Kæmpferi argentea, a Japanese Coltsfoot, with cordately-reniform leaves, heavily bordered and a good deal variegated with cream-colour; and Aglaonema commutatum, a Philippine Island Arad, of compact dwarfish habit, with neat oblong acute leaves, slightly marbled with greyish-green—a plant which from its moderate size and close habit is likely to be useful in situations for which the usually rampant race of foliage-plants is unsuited. Mr. Bull had a Caladium called Cannærtii, which is said to be even better than Chantinii, but it was not enough developed to enable one to judge if it is really so. It is different in marking, though of the same general character, and may perhaps hereafter, when more fully grown, be found to be an acquisition. A beautiful Adam's Needle from the same establishment was called Yucca lineata lutea; it had singularly deflexed leaves, which were of a deep green at the edge, and a clear yellow in the centre, the markings being sharp and definite. A Justicia variegata, also from Mr. Bull, with green leaves marked by reddish ribs and dark brown patches, was pleasing, though not without a fast-living and weedy look. This cannot be said of a Brazilian Arad, Dieffenbachia Verschaffeltii by name, shown by Mr. A. Verschaffelt, which was every way a good-looking plant, having an erect stem, and ovate-oblong green leaves which were marked by a few white blotches, and supported by erect white ivory-like stalks, which contrasted pleasantly with the green parts of the foliage.

Some few more familiar but interesting and valuable plants were interspersed amongst the foregoing. Such were, the curious and rare one-leaved golden-haired Pogonia discolor, and the so-called Anæctochilus argyræus, a Physurus-like plant with lance-shaped leaves silvered along the centre, both from Mr. Bull. The valuable Alocasia Lowii, which made its appearance last autumn, and to which we shall again refer, was shown both by Mr. Bull and Mr. Williams; the former of whom also had a neat little sport of the Lady Fern, called sagittatum, from its narrow pointed fronds and refracted pinnæ; a handsome pinnated Palm, silvered beneath, called Areca dealbata; a neat little bushy shrub, Serissa fœtida marginata; the white-veined Echites argyræa; and the purple-stemmed Saccharum violaceum; and the latter a curious Aralia, shown as punctiloba, which had dark brown leaves like crassifolia, but marked by equi-distant blotches of bright green. Mr. Veitch had young plants of Litobrochia nobilis in the interesting white-ribbed sagittate condition which marks its juvenescence, so different from the ample palmate fronds of its mature growth.

One of the greatest rarities of the Exhibition was sent from the noble collection at Syon, in the form of a flowering branch of Napoleona imperialis, whose flowers are very singular in structure, and so entirely unlike all those which are familiar in our gardens.

Amongst seedlings we especially noticed two exquisite Roses from Mr. W. Paul: Lord Herbert, a rosy carmine, and Lord Macaulay, a crimson, both evidently front rank flowers. A Petunia from Mr. Holland, with flowers of magenta and white in ray-like stripes, was immeasurably superior to any we have hitherto seen in respect to form—so smooth and even, with the limb standing forward, as to resemble exactly, when seen at a little distance, the flower of a Convolvulus; this was called Royalty. Amongst the yearling Pelargoniums were two brilliant-coloured varieties of considerable promise, called Alexandra and The Prince.

## A VISIT TO THE BULB FARMS OF HAARLEM.
### No. II.

Having given a general view of the appearance presented by the Bulb fields near Haarlem in the month of April, when Hyacinths and Tulips are in full bloom, I shall now endeavour to describe the nature of the soil, and mode of cultivation and propagation, especially as regards the Hyacinth.

The natural ground about Haarlem is composed almost entirely of sand, furnished originally by the Dunes or sand-hills already noticed—

"Holland that scarce deserves the name of land,
As but the offscouring of the British sand;
And so much earth as was contributed
By English pilots when they heav'd the lead;
Or what by the Ocean's slow alluvion fell,
Of shipwreck'd cockle and the mussel-shell;
This indigested vomit of the sea
Fell to the Dutch by just propriety."

Water is found a very little below the surface of the ground—from 2 to 5 feet—depending, of course, upon situation, and the dryness or wetness of the season. Thus two of the requirements for successful cultivation, namely soil and moisture, are supplied by Nature. The natural soil is enriched from time to time by being mixed with fresh cow-dung, which is the only manure used in the cultivation of the Hyacinth. As Holland is a great grazing country, this manure can be obtained in abundance.

The ground is prepared for the bulbs in the following manner. It is trenched 2 or 3 feet deep in spring, and manured at the same time. The manure is placed about 9 inches below the surface, and is usually about 2 or 3 inches in thickness. A crop of vegetables, generally Potatoes, is then planted on the land, in order to bring it into proper condition for the Hyacinths. The Potatoes or other vegetables are taken up in the end of the summer, and then the ground is dug again, carefully levelled, and is ready for the reception of the bulbs. These are planted in the months of September and October.

Rotation of cropping is carefully observed. Hyacinths, as a rule, are not grown more than one year on the same land. The second year their place is occupied by Tulips and Crocuses; and the third by Narcissi, or vegetables again. About once in every six years, the land is trenched deeper than usual (3 or 4 feet), and fresh soil is brought nearer the surface. Hyacinths appear to be easily affected by the composition of the soil, and are liable to become diseased. Whenever a kind of gum oozes from the bulbs, it is a sure sign that the soil requires renewing, and this deep trenching is resorted to as a remedy.

It is estimated that 100 acres of land are annually under Hyacinth cultivation in the vicinity of Haarlem, and that 400 or 500 acres more are covered with other bulbs or tubers. The value of this land is about 300*l.* an acre, and the annual rental is about 25*l.* an acre. This "shipwrecked cockle and the mussel-shell" of the poet quoted above, would therefore seem, in these latter days, to be of considerable value. *Robert Fortune.*

## FISH AND FISHING.—No. VII.

Many years ago I submitted my views, and certain questions about "good and bad fishing days," to the late Sir A. Carlisle. He was a great fisherman, and was full of experience and anecdote. I do not think he took time enough to study my subject with any depth, but wrote only his off-hand preconceived notions. But his anecdotes of his fishing days are livelily told, and tend to upset some ideas; for instance, that of rain, and of coming and actual thunder storm—so I give his reply in his own words, written A. D. 1840.

"Doctors differ," says Sir Anthony Carlisle, "about fishing as about many other things, because individual powers of observation and of reasoning vary in each person; if even the natural and mental faculties of men were exactly alike, the experience of every man necessarily differs from that of others.

"Having practised trout fishing for half a century, and in most of the rivers between the Tyne and the Wye, I have had as many good and bad days as most of my brother anglers; and it appears to me that the times of trout feeding are governed by the general demands of hunger; but the particular hours for feeding seem to be influenced by the visible temptations of food, such as flies, worms, and larvæ. The transmission of atmospheric temperature to running water is slow, and an exact correspondence between their respective heat seldom occurs; so that if fishes were to wait for this coincidence they would very seldom dine.

"Whenever, as early in the spring or in winter, the steady temperature of a river is 10 or 15 degrees below that of the air, the torporising effects of cold will abate both the power and the propensity of trout to move rapidly, and on this rapidity their predatory successes depend.

"When a sudden glow of warmth happens, much exceeding that of a river, flies, caterpillars, and worms stir about, and present themselves on the surface, or fall into the stream. These temptations, aided by a genial warmth, which enlivens the fish, send them abroad; and an unexpected abundance of trout is often displayed in places where none were to be seen under the double chills of cold air and cold water.

"In different rivers, the kinds as well as the supplies of food differ exceedingly, but a knowledge of these supplies in a given stream will inform the angler of the length of fasts imposed upon his prey by the preceding weather, and he may be assured of success when he fortunately unfurls his tackle after a long fast, and at the beginning of a feast. At this crisis appetite subdues fear, and the contest is between the largest and the strongest trout, often despite of man, and of their natural enemies.

"The best trout fishing days of my life were first as a boy about twelve years of age, in the river Greta at midsummer, and after a long continued drought. A thunder storm broke upon the distant Fells, but the river did not at first come down to my station at the head of a pool; I had no other tackle but worm lines, and being well provided with an old worsted stocking foot filled with brandling worms, I saw the rapid stream suddenly swell and become tinged with moor earths. At every throw in I hooked a fine trout, and within two hours I counted 41 fish; but now the river filled its banks and the water ceased to be transparent, when I hied my way home to the village of Bowes with my proud achievement.

"My second great day was at Chenies, where I rented a part of the river. The season was in May; the day broke with warmth and rain; I set out at 9 o'clock A.M., with a school-boy to carry my landing net and pannier. I put on two middle-sized flies, the dropper red from a partridge's tail, the other dun wings with peacock's hackle. The rain came in heavy drops, and kept the surface of the river covered with bubbles; there was not a breath of wind. The water was everywhere rolling with the waves of contending trout in eager pursuit of the falling flies, or heaving with the circles which marked the plunges of large fish. I did not once throw my line without drawing one, or often two trout; and such was my inexorable occupation that I only once had occasion to change a fly for one in which the peacock hackle had unfurled.

"By 4 o'clock I had sent four panniers filled to my hostess at a very humble alehouse, and, beginning to regard myself as a poacher, I wound up my line, and, with the rain-water—which had run in streams under my shirt—in my shoes, I proceeded to look over my doings. I had thrown back 30 brace of trout, each under half a pound, and counted the remainder, 60 brace, into a washerwoman's clothes-basket, put them into my carriage, and drove to London.

"My third exploit was at Hungerford, when I first showed Sir Humphry Davy the art of outwitting trout. The process of fly fishing seemed to him at first sight so simple that he took General Popham's keeper up the stream, and we met at the corn mill weir at noon to eat pigeon pie. My basket did not allow the lid to be closed from the cluster of tails sticking out, but he, alas! had "caught no fish." During the afternoon he caught one unsuspecting trout.

"The daylight was now 'going out of the sky,' and I well knew where some lusty lurking trout awaited the homeward steps of weary anglers. I therefore

rigged out my strongest bottom piece and adorned it with a large white moth. My companion sat down on the bank near to a plashy place where the beautiful Bog Bean was in full flower. At every throw I drew out a pound and a half or two pounder, until the complaining of my friend and a dinner message urged me to desist. I made only one condition, which was that after the first drawing in of my line without a fish I would renounce, and I threw in seven times successfully, after which a huge round-backed trout boldly gulped my fly, and darted under a batch of large entangled weeds. My triumph now recorded 20 large fish taken within an hour and a half.

"On another occasion, while fishing in the same stream, where it falls over the mill weir, I observed numerous large trout chasing the minnows; I waded into mid-water, not more than knee deep, and with a live minnow lip-hooked on to a worm-line, I presently filled my pannier, after taking many fine fish within a few yards, and plainly within sight of myself.

"I will just add that trout are not day feeders, and excepting during evening twilight, or at the break of morning, you may fish in vain. When a boy I have passed many summer nights fishing without disturbing the midnight repose of a single trout, but my preceptor being an astronomer the time was beguiled by teaching me the constellations." *Anthony Carlisle, April,* 1840.

## ROSES.—No. VII.

By Mr. William Paul, F.R.H.S., Paul's Nurseries, Waltham Cross.

I gladly return to the review of old Roses, highly interesting and important as are the new. There is less restraint; one breathes a freer air in company with old friends whose faces, habits, and sentiments are familiar to us. I always feel when talking or writing of new Roses much as I do when in a company of strangers—that to be at once truthful and polite, we must be guarded. If others experience the same feelings, I can understand the why and wherefore of Mr. Radclyffe's very just observation, that "Rosarians keep all their knowledge to themselves." But strangers should be talked to, and new Roses talked of, notwithstanding, and in order that the greatest amount of good may be derived from it, we should exercise to the utmost our own good nature, and draw in return on our neighbours' charity. Now to our old Roses.

The Noisette, as we remember it originally, is not worthy of comparison in point of size with the modern kinds which have descended from it, enriched as they have been with a plentiful infusion of the blood of the Tea-scented. There are only Aimée Vibert and Miss Glegg, white, and Fellenberg, crimson, of the old style of Noisettes (small flowers in large clusters), that we should consider worth recommending in the present state of Rose culture. Amongst those mixed with the Tea-scented, America is a first-class Rose under glass, although it seldom opens clean and perfect out of doors; it is most beautiful at this moment planted out in one of my Rose-houses, quite equal though somewhat different to the finest Gloire de Dijon. Celine Forestier or Liesis is a hardy yellow Rose, and one that blooms freely enough out of doors; the growth is so vigorous that it forms an admirable variety for a weeper, wall, or house. Cloth of Gold is the finest of all yellow Roses, but difficult to manage; it is best planted against a south wall and pruned but little; if budded on the Dog-rose, the growth will usually be vigorous, and the flowers as plentiful as one can reasonably expect of so large a Rose. Cornelia Koch reached me from America some two or three years ago, and has been most beautiful in my forcing-houses; it is straw colour, large, full, and globular. Desprez à fleur jaune is still valuable as a wall or house Rose, on account of the distinctness of its flowers, which are red, buff and sulphur, the rapidity of its growth, and the magnificence of its foliage. Miss Gray, or Isabella Gray, was introduced by me from North America, although I never recommended it; it is a good Rose occasionally, but uncertain, even under glass, and of no use out of doors except against a south wall; it is, perhaps, the deepest yellow in this group. Lamarque is a charming sulphur-coloured Rose, large, full, and globular; this also is a good wall or conservatory Rose. Miss Glegg is a beautiful pure white Rose, of dwarf growth, flowering abundantly and in clusters, and therefore well suited for planting in masses. Ophirie is quite unique in colour, copper-colour, and a vigorous Rose, with handsome foliage; it is in character as a weeping standard, on a pillar, or against a wall. Solfaterre is a nice sulphur-coloured Rose, large and very double, of vigorous growth, but apt to cast its leaves, from which habit it is hardly to be recommended for general purposes. Triomphe de Rennes seems a good hardy canary-coloured sort, of vigorous growth, with fine foliage; the flowers are large, full, and fine. The best places for these Roses are in the conservatory to clothe pillars, or in the Rose-house; next in order, on walls or pillars in sheltered situations. Aimée Vibert, Fellenberg, and Miss Glegg, are an exception to these remarks, as they are best suited for borders or beds out-of-doors.

The Chinese or Bengal Roses are invaluable for flowering in small pots, or for planting in beds on lawns, as no Roses flower so abundantly and so late in the year. Archduke Charles is quite an oddity; the flowers expand shaded rose, changing to crimson on exposure to the sun, which is contrary to the general rule, as the sun usually lessens rather than heightens the colour of flowers after expansion. Cels multiflora is a pretty flesh-coloured Rose, large, full, free flowering, and very hardy. Cramoisie Supérieure is an admirable sort for bedding; the flowers are rich velvety crimson, not large, but full and abundant. Duchess of Kent forms a pretty enough variety, being white edged with rose; the habit is very dwarf. Eugène Beauharnais is something like Cramoisie Supérieure, but the colour is more purplish; it is a good hardy Rose of free growth. Fabvier is almost scarlet, and one of the best bedding Roses we have for placing on lawns, it blooms so profusely, and is so dazzling that a bed of it will make a garden radiant with splendour. Madame Breon is a large full flower, of a rich rose-colour, good and free. Madame Bureau produces pure white flowers, large and very double, is good for pot culture, but scarcely hardy enough for planting in beds out of doors. President d'Olbecque is one of the hardiest and freest of Chinese Roses; the flowers are cherry-red, very pretty and distinct; the plant is of hardy constitution, thriving equally well as a dwarf or as a standard.

## NEW FRUITS.

*Prune Decaisne.*—Under this name a new Plum is figured in the *Revue Horticole*, where also it is described by M. Carrière. It is about the size of the Washington, and not unlike it in form and appearance. Carrière states that it was raised by MM. Jamin and Durand, nurserymen, at Bourg-la-Reine, near Paris, from a stone of Coe's Golden Drop, which was sown about 1846, and that the tree fruited for the first time in 1859.

The writer of the article, an eminent horticulturist, gives a full description of the tree and its fruit. The former is vigorous. The fruit is roundish-oblong, obtuse at both ends, not tapered to the stalk like its parent; its skin is thin, green, becoming yellowish at maturity; its flesh yellowish green, containing a large quantity of sugary juice. Season: September and October. This, which is considered an excellent fruit, comes in succession to the Green Gage. From the above brief extracts from M. Carrière's description, it would seem that this new and large-sized Plum is highly deserving of trial.

## Home Correspondence.

*Setting Muscat Grapes.*—As it is well known that there is some difficulty in getting Muscats to set freely and well, I have been induced to furnish an account of a plan which I have tried with success. It consists in fanning the bunches with a common fan, such as ladies use. I begin fanning as soon as the bunches come into flower, three times a day—first in the morning, about an hour after giving air when the pollen is dry, again about the middle of the day, and lastly just before closing the house in the afternoon. I work the fan as near the bunches as possible without touching them, and strongly enough to put the whole bunch in motion. The result is I have a splendid crop of Muscats, and have had plenty to thin out; the berries are all of a good average size, and are growing rapidly. This is the first season in which the Vines have borne fruit, as they were only planted in the spring of last year. They were then strong healthy plants, well ripened and well rooted. *W. Eaton, Gardener, Haverfield, Kew, Surrey.*

*Rose Exhibitions.*—In country places exhibitors are often put to considerable inconvenience in not being able to procure Schedules of Societies for forthcoming exhibitions early enough. Under ordinary circumstances, by the time they reach us, it is too late to have plants in proper condition to meet their requirements. Last year, for instance, the Crystal Palace Schedule came out offering a prize of 5*l.* for 10 Roses in Pots, not exceeding 8 inches in diameter; we happened to have plants at the Show, and fine they were, in that sized pot, but as no others were shown the 1st prize was withheld, and a 2nd one, of 3*l.*, awarded. Competition amongst nurserymen is getting very great, and expenses serious, and when a prize is offered we are of opinion that it should be given. The Royal Botanic Society issued a Schedule in 1862, offering 10*l.* for the best 10 Roses in 13-inch pots in June, when we exhibited 10 plants, the finest we ever saw for the end of that month, and the 1st and 2nd prizes were withheld, and a 3rd awarded to us, merely because nobody showed against us. The plants exhibited on this occasion were much finer than some which received a larger Medal at the May Show. These hints, therefore, are thrown out in order that Societies, for their own sakes, may know better how to draw a straight line between themselves and exhibitors. The amount of money lost, is trifling compared with the disappointment of not getting a 1st or 2nd prize when we imagine that we have a right to it. *H. Lane & Son, The Nurseries, Great Berkhampstead, Herts.*

*Orchids in a Cool House.*—In desiring to carry out the principles enunciated at p. 388, of giving a cooler treatment to Orchids that naturally inhabit temperate regions, I feel (doubtless in common with others) the need of more information. First, with respect to the house. Will it answer to remove the plants to an ordinary cool greenhouse, containing such plants as are usually kept there, and freely ventilated night and day at this season? And, if so, may they be removed at once from a house which has had lately a temperature of 72° at night, and 85° by day? Then, when removed, will ordinary greenhouse treatment, as regards watering, shade, &c., serve for them? And, finally, as to the species which will thrive under this treatment. The following, from my own small collection, appear to me to be suitable, so far as I am able to judge; but will some one have the goodness to correct, if needful, and to enlarge the list?

| | |
|---|---|
| Barkeria Skinneri | Lælia albida |
| ? Cymbidium aloifolium | ,, furfuracea |
| ? ,, giganteum | Lycaste Skinneri |
| Cypripedium insigne | Odontoglossum grande |
| ,, venustum | Oncidium ampliatum |
| ? Cyrtochilum maculatum | ? ,, sphacelatum |
| Dendrobium chrysanthum | Phajus Tankervilliæ |
| ? ,, nobile | ? Stanhopea tigrina |
| ,, speciosum | ? ,, venusta |
| Epidendrum aurantiacum | |

I have prefixed an interrogation to those of which I am most doubtful. Any further information on the subject will oblige *W. T. T., South Devon.*

*Liebig's "Natural Laws of Husbandry."*—Baron Liebig, in his "Natural Laws of Husbandry," just published, states at page 7 that the gardener is aware that whilst the flat shining seeds of the Stock Gillyflower produce plants with single flowers, the shrivelled seeds produce double flowers throughout—by the word throughout I suppose he means that all the shrivelled seeds produce double flowers. Is this a fact? He goes on to say, "The influence of the soil and climate gives rise to different varieties of plants, which, like races, are possessed of certain peculiarities, and are propagated by means of seed as long as the conditions remain the same. Planted in another soil or in a different climate, the new variety will lose again some one or other of its distinguishing characteristics." Now I find that when I order from a respectable seedsman different varieties of garden vegetables, they invariably come true, and this without reference to soil or climate, so far as these islands are concerned; what then does the Baron mean? He goes on to tell us that seeds that have passed uninjured through the digestive system of animals are most likely to produce varieties, and as an instance names Byrsonima verbascifolia. What is Byrsonima verbascifolia? And is it more liable to produce varieties than Potato seed? I have looked through the "Natural Laws of Husbandry" in the hope that I might be rewarded, as I thankfully acknowledge I have been by the perusal of your "Theory of Horticulture," by valuable hints in the management of my garden, but I cannot understand it. *A Lady Gardener.* [The Byrsonima is a tropical tree.]

*Aphides.*—A Correspondent of yours a short time ago recommended immersing Rose shoots in water of 135° as the best cure for aphis. Where Rose trees are numerous, syringing would perhaps be more convenient; and, if any be desirous of trying the experiment without risking his thermometer cracking in hot water, he can obtain the desired temperature by mixing equal parts of boiling water and of water at 58°, for $212 + 58 \div 2 = 135$. This mixture must of course be made in a vessel previously warmed, and, if a syringe be used, it must be warmed also. *G. S.*

*Wireworm.*—It is not explained whether the fine part of the oil-dust, when eaten by the worm, kills it; and if not, does the worm remain in the soil ready for another crop, or if not it, its progeny? (See p. 438, May 9.) A farmer next me had crop after crop eaten by wireworm. At last he tried Mustard, of which he had speedily a fine crop, which his sheep ate greedily, and throve upon it. This crop was untouched by the worm, and he has found it a corrective to grow it, and dig it in as dressing. *G.*

*Orchard Houses.*—Your Correspondent, who complains that the pinched in spurs of his orchard-house Peaches produce no leaf-buds, may possibly have cut off the ends in the autumn. If so, the result is natural, as spurs so pinched in, seldom produce any other leaf-bud than a terminal one. If, however, they were not shortened, I should recommend that the shoots be not pinched in so rigorously, but be allowed to extend a little more. Two inches seems a very small growth for a whole summer. *G. S.*

*Mycelium and Conifers.*—Those who are engaged in planting are aware, that in replanted lands a large amount of deaths occur among the young trees, after a few years' growth. This is chiefly to be observed among Larches, and the species of Pinus; rarely among either those of Picea or Abies, and seldom or never among the deciduous trees, such as Oak, Elm, Ash, and so forth. These losses are attributed, I believe correctly, to the growing roots coming into contact with the decayed roots of former plantations. Why some varieties should suffer, and others be exempt, appears remarkable. Again, if a plantation of Coniferous trees be thinned, the roots of the cut down trees of course decay, and the roots of the growing trees come into contact with them necessarily—yet no losses occur, as in the other case. If any light can be thrown on these points, it would be valuable to planters. *S., May* 8.

*Rose Lord Clyde.*—Permit me to assure Mr. G. Paul that in my description of the Rose Lord Clyde, I "intended to imply" nothing. I wrote out in plain English what I knew and thought of it. To have passed it by unnoticed when writing on new Roses would have been unfair to the advertiser; to have written otherwise than I knew or thought, unjust to the public, to the *Gardeners' Chronicle*, and to myself. However, he has seen more of it than I have, and I am glad to hear him report that it is "a rich scarlet crimson," and "a good autumna

Rose." The other remarks of his are not so easily dealt with. I am not disposed to yield up the honour of having originated these English Roses, although I willingly yielded a just share of the profit. It is true that I raised them when a partner in the defunct firm of "Adam Paul & Son," but no other individual except myself and one of my present foremen, had anything to do with the business, by word or deed, from the first act to the period of flowering. It is alike unfair and untrue to say that I "left" the "old nurseries." Mr. G. Paul is under an illusion in imagining that by assuming the name of "Paul & Son," he constitutes the old nurseries. The public should note that the present firm of "Paul & Son" is not the old and late firm of "Adam Paul & Son:" the partnership of the late firm expired by effluxion of time in 1860; the "old nurseries" were divided; one share (the half) having been willed to me by my late father. I am just planting my seed Potatoes, and to make use of a homely but apt simile, I opine that if an old Potato is cut in half, the one half remains as old as the other. *Wm. Paul, Paul's Nurseries, Waltham Cross, N.*

*Vines.*—I should feel obliged if any of your correspondents could inform me respecting the treatment of Vines when the buds have swollen and the bunches appear in spring. I have a Vinery which is not heated artificially this year. After reading many of the authors who have written upon Vineries, I find that they advise the stopping of the shoots, some at the joint where the bunch is, others at that above it. But no direction is given as to how long the shoot should extend before this is done. No mention is made whether water should be given to the Vines between the time of the bunches appearing, and the period when the flowers begin to open, which occupies from three weeks to a month. All authors agree that water should be withheld when they are in flower; but that steam may be admitted freely. *J. R., Liverpool.*

## Societies.

Royal Botanic: *May* 13.—This was in most respects an excellent exhibition. The Azaleas and Pelargoniums were in fine flower, and made a brilliant display. The Roses, also, were produced in first-rate condition, and there was, as usual, a large assemblage of stove and greenhouse plants. The day, though cloudy, was favourable until late in the afternoon, when a heavy shower compelled the visitors, who were tolerably numerous, to seek shelter in the tents and conservatory. Their Royal Highnesses the Prince and Princess of Wales inspected the exhibition in the morning, previous to its being thrown open to the public.

*Stove and Greenhouse Plants:*—With the general appearance of masses of these most readers are familiar. Among the different subjects shown on this occasion, many well known forms were recognisable; but we did see, and with admiration, one striking novelty in the shape of a fine bush of Clerodendron Thomsonæ, from the nurseries of Messrs. Jackson, of Kingston. Few persons acquainted with this only in a small state, could have conceived that it would have made an effective exhibition plant; but that such was the case was universally admitted, its scarlet flowers, half hidden by a snow-white calyx, produced as they were in great abundance, appearing to advantage even at a distance. Of blue Leschenaultias there were many good specimens, as well as of other ordinary stove and greenhouse plants; from among which, however, we missed the usually brilliant collections of Mr. Spode and Mr. Collyer, neither of whom showed on this occasion. In the different groups were the following kinds, which, for convenience of reference, we have arranged alphabetically. The figures affixed to the different names indicate the number of specimens of the plant in question that were shown:—Acrophyllum venosum, 3; Adenandra fragrans, 1; A. uniflora, 1; A. speciosa, 1; Alocasia metallica, 2; Allamanda grandiflora, 2; Ananassa sativa variegata, 1; Aphelexis humilis rosea, 1; A. macrantha purpurea, 8; A. macrantha rosea, 2; A. sesamoides, 1; A. spectabilis, 2; Azalea alba elegans, 1; A. duplex rubra, 1; A. carminata, 2; A. coronata, 1; A. Criterion, 1; A. delecta, 1; A. Fielder's White, 1; A. Glory of Sunning Hill, 1; A. indica alba, 1; A. punctata rosea, 1; A. Souvenir de l'Exposition, 1; A. variegata, 1; Boronia Drummondii, 3; B. pinnata, 1; B. serrulata, 2; B. tetrandra, 1; Caladium Chantini, 1; Chorozema Henchmanni, 1; C. Lawrenceanum, 3; C. varium elegans, 3; Clerodendron Thomsonæ, 1; Cordyline indivisa, 1; Croton variegatum, 1; Cyathea Smithii, 1; Dracæna cannæfolia, 1; Dracophyllum gracile, 2; Epacris grandiflora, 2; E. pulchella, 2; E. miniata, 1; E. miniata grandiflora, 1; Erica ampullacea rubra, 1; E. Beaumontiæ, 1; E. Cavendishiana, 7; E. depressa, 4; E. fastigiata lutescens, 1; E. perspicua nana, 1; E. ventricosa coccinea minor, 1; E. vestita rosea, 1; Eriostemon buxifolius, 2; E. intermedius, 2; E. neriifolius, 1; Franciscea calycina, 2; F. confertiflora, 3; F. latifolia, 1; Hederoma macrostegium, 2; H. tulipiferum, 5; Hovea Celsi, 1; Imantophyllum miniatum, 1; Ixora coccinea, 1; Jacaranda filicifolia, 1; Labichæa heterophylla, 1; Lælia purpurea, 1; Leptodactylon californicum, 1; Leschenaultia biloba, 2; L. intermedia, 1; Medinilla magnifica, 1; Mussænda frondosa, 1; Pimelea decussata, 1; P. Hendersonii, 4; P. spectabilis, 1; Phœnocoma proliferum, 1; Polygala cordata, 1; P. Dalmaisiana, 4; Rhopala magnifica, 1; Rhynchospermum jasminoides, 2; Stephanotis floribunda, 2; Tetratheca ericifolia, 2; T. verticillata, 2; Vinca rosea alba, 1.

*Awards.*—16 plants: 1st, Mr. Peed; 2d, Mr. Baxendine. 10 plants: 1st, Mr. Green; equal 1st, Messrs. Fraser; 2d, Messrs. Lee and Mr. Chilman; 3d, Mr. Kaile and Messrs. Jackson; 4th, Mr. Rhodes. 6 plants: 1st, Mr. Page; 2d, Mr. Ingram; 3d, Mr. Wheeler.

*Orchids.*—Of these there was the usual bank, but with one or two exceptions there was a general absence of fine specimens. The most remarkable plants, as far as good cultivation and fine flower were concerned, were Dendrobium primulinum, from Mr. Baker, Gr. to A. Bassett, Esq., of Stamford Hill; and a panful of Orchis foliosa from Mr. Bullen, Gr. to A. Turner, Esq., Leicester. Than these nothing in their way could possibly be finer. A striking variety of Lælia purpurata, possessing much more colour than usual, and with a large and beautiful lip, was also conspicuous. Mr. Bullen's plants, we may remark, indicated extremely good cultivation; but the large ugly, red painted tubs in which they were shown, completely spoiled the good effect which they should otherwise have produced. The following were the varieties exhibited, which we have arranged in the same manner as we have done in the case of Stove and Greenhouse plants:—Aërides affine, 1; A. crispum, 2; A. Fieldingii, 3; A. Lindleyanum, 1; A. Lobbii, 1; A. odoratum, 1; A. retusum, 1; A. roseum, 1; A. Veitchii, 1; A. virens, 2; Anguloa Ruckeri, 1; Brassia verrucosa, 1; Calanthe Masuca, 1; C. veratrifolia, 6; Camarotis purpurea, 1; Cattleya amethystina, 1; C. Forbesii, 1; C. labiata, 1; C. Mossiæ, 3; C. Skinneri, 2; Chysis bractescens, 1; Cypripedium barbatum, 8; C. caudatum, 1; C. hirsutissimum, 1; C. Lowii, 2; C. venustum, 1; C. villosum, 1; Dendrobium cærulescens, 1; D. chrysanthum, 1; D. Dalhousianum, 1; D. densiflorum, 2; D. Devonianum, 1; D. Farmeri, 1; D. formosum giganteum, 1; D. nobile, 4; D. primulinum, 1; Epidendrum crassifolium, 1; Lælia Boothiana, 1; L. cinnabarina, 1; L. purpurata, 3; Lycaste cruenta, 1; L. Skinneri, 1; Maxillaria tenuifolia, 1; Odontoglossum nævium, 1; Oncidium ampliatum majus, 5; O. crispum, 1; O. Lanceanum, 1; O. leucochilum, 1; O. pulvinatum, 1; O. Phillipsianum, 1; O. phymatochilum, 1; O. roseum, 1; O. sphacelatum, 1; Orchis foliosa, 1; Phaius Wallichi, 1; Phalænopsis amabilis, 2; P. grandiflora, 4; Saccolabium ampullaceum, 2; S. curvifolium, 2; S. guttatum, 4; S. Holfordi, 1; S. præmorsum, 1; S. retusum, 3; Trichopilia coccinea, 1; Vanda insignis, 2; Vanda suavis, 4; V. teres, 1; V. tricolor, 5.

*Awards.*—20 plants: 1st, Mr. Baker; 2d, Mr. Bullen; 3d, Mr. Peed. 12 plants: 1st, Mr. Page. 8 plants: 1st, Mr. Woolley. 6 plants: 1st, Mr. Wiggins; 2d, Mr. Smith; 3d, Mr. Green. 4th, Mr. Wheeler; equal 4th, Mr. Chilman.

*Azaleas.*—Most of those exhibited on this occasion were literally "mountains of bloom," a remark especially applicable to the fine specimens furnished by Messrs. Veitch and Mr. Turner, both of whose groups consisted of plants of large size; of the two Mr. Turner's collection was perhaps the most effective in point of flower; but Messrs. Veitch had the best grown plants, which were equally fine on all sides; in short they were models of skilful cultivation. The varieties were:—Admiration, 1; alba magna, 1; A. "Mellior," 1; Alexandra, 1; Apollo, 2; arborea purpurea, 1; Barclayana, 1; Broughtoni, 4; Beauty of Reigate, 1; carminata, 1; Chelsoni, 1; conspicua purpurea, 1; coronata, 2; Criterion, 3; delicata, 2; delecta, 2; Duke of Devonshire, 1; Eclipse, 1; Empress Eugenie, 2; exquisita, 3; Extrani, 2; Eulalie, 1; Fentoni, 1; Fielder's White; formosa, 1; Gem, 3; Gledstanesii formosa, 1; Glory of Sunning Hill, 2; Holfordi, 1; Iveryana, 5; Juliana, 5; lateritia, 2; Leeana, 1; Louise Margottin, 2; macrantha purpurea, 1; magnificans, 2; Magnificent, 1; magnifica flore pleno, 1; Maria Louise, 1; Minerva, 1; Mrs. Fry, 1; Murrayana, 1; narcissiflora, 1; optima, 2; perfecta elegans, 1; præstantissima, 1; rosea superba, 1; semiduplex maculata, 2; Sir Charles Napier, 1; speciosissima, 1; Stanleyana, 1; Symmetry, 2; triumphans, 7; The Bride, 1; variegata, 1; Vesta, 1; White Supreme, 1; violacea superba, 2; Woolerii, 1.

*Awards.*—8 plants: 1st, Messrs. Veitch; equal 1st, Mr. Green; 2d, Mr. Turner and Mr. Page; 3d, Messrs. Fraser; equal 3d, Mr. Cross; 4th, Mr. Clarke and Mr. Kaile. 6 plants: 1st, Mr. Turner; 2d, Messrs. Lane; 3d, Mr. Wheeler; 4th, Mr, Chilman: 5th, Mr. Clarke; equal 5th, Mr. Lavey.

*Roses.*—Seldom have collections in pots been shown in finer condition than on this occasion. Messrs. Lane's plants were truly magnificent, more especially one of Souvenir d'un Ami, which could not measure less than 8 or 9 feet in height, loaded with blooms. Mr. Wm. Paul had brilliant specimens of Lord Raglan and Senateur Vaisse; and from Mr. Terry came an extremely well-flowered plant of the bright yellow Vicomtesse Decazes. Among cut blooms were some unusually fine examples of Lælia, Celine Forestier, President, Safranot, Adam, and Amiral Gravina, the last a promising dark kind. The varieties in pots were—Baron Prevost, 2; Blairii No. 2, 1; Chas. Lawson, 3; Chénédolé, 2; Comte de Nanteuil, 1; Comte de Paris, 1; Comtesse Molé, 1; Coupe d'Hébé, 2; Gen. Jacqueminot, 1; Gloire de Dijon, 1; Jules Margottin, 3; La Reine, 1; Lion des Combats, 1; Lord Raglan, 1; Madame Chas. Jacquin, 1; Madame de St. Joseph, 1; Madame Willermoz, 1; Paul Perras, 3; Paul Ricaut, 3; Senateur Vaisse, 1; Souvenir d'un Ami, 3; Triomphe de Paris, 1; Vicomtesse Decazes, 1.

*Awards.*—10 plants: 1st, Messrs. Lane; 2d, Mr. Wm. Paul; 3d, Mr. Francis. 6 plants: 1st, Mr. Terry.

*Heaths.*—With the exception of Queen Victoria, a fine kind belonging to the aristata class, there was nothing new among these. The following varieties were shown, viz.:—affinis, 1; Alberti superba, 1; Beaumontiæ, 1; Bergiana, 1; Cavendishiana, 1; depressa, 3; depressa multiflora, 1; eximia, 1; Fairrieana, 1; fastigiata lutescens, 1; favoides elegans, 1; florida, 1; intermedia, 1; mirabilis, 1; mutabilis, 1; odora rosæ, 1; profusa, 1; propendens, 1; Queen Victoria, 1; Sindryana, 1; suaveolens, 1; tortiliflora superba, 1; tricolor dumosa, 1; tricolor Wilsonii, 2; vasiflora, 1; ventricosa Bothwelliana, 1; ventricosa coccinea minor, 3; ventricosa magnifica, 1; ventricosa perspicua nana, 1; ventricosa tumida, 1; Webbiana, 1.

*Awards.*—10 plants: 1st, Messrs. Jackson. 8 plants: 1st, Mr. Peed; 2d, Mr. Page; 3d, Mr. Baxendine. 6 plants: 1st, Mr. Ingram; 2d, Mr. Chilman.

*Pelargoniums.*—These were particularly well grown and flowered, and made a fine display. The sorts were—Ariel, 3; Aurelia, 1; Beadsman, 2; Candidate, 2; Desdemona, 3; Empress Eugénie, 1; Etna, 1; Fairest of the Fair, 3; Governor General, 1; Guido, 1; Leviathan, 3; lilacinum, 1; Lord Canning, 1; Mazeppa, 1; Mr. Marnock, 2; Monarch, 1; Osiris, 2; Peacock, 1; Picnic, 1; Pizarro, 1; Rose Celestial, 4; Sanspareil, 1; Sir C. Campbell, 2; The Belle, 2; Virginie (Miellez), 1. *Fancies.*—Acme, 2; Arabella Goddard, 1; Carminata, 3; Celestial, 2; Clara Novello, 3; Clemanthe, 1; Cloth of Silver, 1; delicatum, 3; Electra, 1; Emily Witcher, 2; Evening Star, 2; Lady Craven, 2; Lady Hume Campbell, 1; Lady of the Lake, 1; Madame Sontag, 1; Madame Van der Weyer, 1; Mrs. Turner, 1; modestum, 1; Negro, 3; Queen of Roses, 1; Queen of the Valley, 2; Roi des Fantaisies, 1; Rosabella, 1; Zoë, 1.

*Awards.*—12 plants: 1st, Mr. Turner; 2d, Messrs. Fraser. 10 plants: 1st, Mr. Bailey; 2d, Mr. Weir. Fancies, 6 plants: 1st, Mr. Turner, Messrs. Fraser, and Mr. Bailey; 2d, Mr. Weir; 3d, Mr. Pepler; 4th, Mr. Lamb.

*Cinerarias.*—One or two collections of these were shown, but it was evidently past their season. The sorts were:—Bellissima, 1; Brilliant, 1; Colleen Bawn, 1; Conqueror, 1; Decorator, 1; Duchess of Sutherland, 1; Duke of Cambridge, 2; Eva, 1; Gaiety, 1; Goliath, 1; Great Britain, 1; Lord Elgin, 2; Luna, 1; Maria, 1; Masterpiece, 2; Miss Rosa, 1; Miss Todman, 1; Miss Eyles, 1; Mrs. Dickens, 1; Mrs. Eyles, 1; Mrs. F. Watson, 1; Perfection, 1; Precursor, 1; Purple King, 1; Queen Victoria, 1; Reynolds Hole, 1; Topsy, 1.

*Awards.*—6 plants: 1st, Mr. Lamb; 2d, Mr. Pointer; 3d, Mr. Venner.

*Miscellaneous Plants.*—Among these were interesting groups of seedling Calceolarias from Mr. James, Messrs. Dobson & Son, and others; collections of Ferns from Mr. Lavey of Fetcham, and Miss Clarkson; sets of fine foliaged and other plants from Mr. Williams of Holloway, and Mr. Bull of Chelsea; and various Auriculas, cut specimens of Tulips, Verbenas, and Pansies, from Mr. Turner, Mr. Treen, Messrs. Downie Laird & Laing, Mr. Dean, &c. A few pots of President Strawberry, a large-sized good new kind, were contributed by Mr. Turner.

## Notices of Books.

*Essays and Reviews: their origin, history, general character and significance, persecution, prosecution, the Judgment of the Arches Court—Review of Judgment.* By the Rev. R. B. Keunard, M.A. Hardwicke. 8vo, pp. 313.

This is a work written with very great ability, by one who has evidently drunk deeply into the spirit of the Essayists, and we only wish the zealous author had refrained from using language so strong as to defeat his purpose, by raising up a feeling of antagonism in the mind; for people will not suffer themselves to be over-ridden by violence, or threatened into the belief of anything which does not commend itself to their calm judgment.

Mr. Kennard "puts forth his book with the hope of dispelling the cloud of prejudice and misrepresentation through which the volume of 'Essays and Reviews' has hitherto been regarded by what is commonly called the religious world." He thinks that, "as a consequence of the late judgment in the Court of Arches, the clergy of our national church may rest assured that there is nothing in the laws and constitution of that church which fetters the free and unbiassed exercise of their reason." As to the danger of free inquiry, Mr. Kennard thinks "it may reasonably be questioned, whether the real dangers which threaten the peace of our Zion do not arise from another and directly opposite quarter—from that spirit of insolent dogmatism which claims to dispense with inquiry, and substituting reckless assertion for argument and denunciation for proof, affects an authority which it is forsooth dangerous to question and impious to reject."

With this preface one is of course prepared to find a vigorous stream of indignation directed against those who have ventured to express opinions adverse to the Essayists; but surely nothing can be worse than the attack upon Dr. Whately: "if the command, Thou shalt not bear false witness against thy neighbour, is binding even upon archiepiscopal lips."

Our author gives his own account of the history of these "Essays and Reviews," tracing "their origin and spiritual parentage" to the Baconian philosophy which all men follow in their scientific pursuits, and which ought in his opinion to be applied to the investigations of theology. He brings in Bishop Hampden as approving of this principle by saying "we must study the Sacred Records as we study Nature;" Bishop Butler, who thinks it "not at all incredible that a book which has been so long in the possession of mankind should contain many truths as yet undiscovered;" and Archdeacon Hare, who asserts "that

though the truth is one and ever the same, it is also infinite, full of infinite riches, and capable of infinite expansion," &c.

Next Mr. Kennard informs us that there was a twofold work commenced in 1854 under the name of "Oxford" and "Cambridge Essays," which however came to an end after the appearance of four volumes; and then "some of the leading members of the critical school in the church agreed to continue the publication with a more distinctly theological aim." Some such scheme was discussed so early as 1835 by Archdeacon Hare and Dr. Arnold, and to this Dr. Whately and Dr. Hampden were expected to contribute.

The Gorham controversy, he says, "had shown the really liberal and comprehensive character of the church formularies." Mr. Wilson's Bampton Lectures, the writings of Hare, Maurice, and Kingsley, as well as those of Dr. Stanley and Mr. Jowett, "seemed to prepare men's minds for receiving something better, deeper and truer, than the old mediæval theology, whether cast in a Tractarian or a Calvinistic form, had been able to supply;" "and the moral consciousness of the age had got beyond its recognised theology."

Mr. Kennard then gives an excellent summary of the leading objects and distinctive characteristics of each of the seven essays, introducing a short account of Bünsen and his death, not forgetting to tell us how much Dr. Arnold loved and revered that extraordinary man.

Then comes the history of the persecution, which he traces in its cause to "that conflict between reason and authority which is coeval with Christianity itself;" and in its immediate occasion to a couple of articles, the one in the "Westminster Review," written "with a desire to inveigle those who stood on more secure position, to the narrow ledge of the precipice, on the midway of which he (the writer of it) himself was standing; the other in the "Quarterly," which is characterised as displaying "astonishing ignorance of all that has passed of late in theological literature, as well as of science," and showing "an unreasoning dread lest inquiry into any part of theological truth should overturn the whole of religion." The alarm was sounded, and Dr. Irons (who it seems has a happy knack of cooking up illustrative extracts) in conjunction with Dr. M'Caul, solicited the signatures of the clergy to an address to the Archbishop of Canterbury. They signed it "on the strength of garbled extracts, wrested from their context, and so arranged as to conceal the real purpose of the writers, &c." Forth came an "episcopal manifesto" which Mr. K. and his friends think was a heavy "blow to the *prestige* of the English Episcopate," and which Dr. Deane in his pleading pronounced to be "a more unbecoming and cowardly act than any he had met with in the whole of his reading."

Next came the startling announcement that the Bishop of Salisbury intended to commence proceedings against Dr. Rowland Williams in the Court of Arches. This Bishop, we are reminded, had very lately "made a large claim for toleration in his own behalf, and that of his party in the church," in connection with Archdeacon Denison's case.

The history of the prosecution is then given, together with that of Mr. Wilson, another of the Essayists. The articles of charge are stated, the gist of the real questions in dispute being very clearly pointed out, with the most important part of the pleadings for the defence, and the grounds of the judgment, which are very freely commented upon and called in question; though it is acknowledged that "the learned judge approached his duty with an earnest desire to adhere to the principles of strict law and justice;" "of this (he says) we have the strongest proof in his determination to dismiss all charges of misinterpretation of Scripture as beyond his cognizance;" and accordingly his Lordship ruled "that the articles of objection must be reformed by striking out all reference to extracts from the Bible found in the Prayer-book." Mr. K. thinks the learned judge fell into a grave error in one part in what he calls "this unfortunate attempt to develope and define the doctrine of the church;" and in another part he strongly "objects to the inquisitorial character of the process by which the learned judge allows himself to guess at the author's opinions, and to impose his own inferences on his words;" and concludes by saying, "The spirit of ecclesiastical intolerance has done its worst, and this is the result."

The sentence passed against the defendants was this: "that they should be suspended *ab officio et beneficio* for one year, and that they should pay the costs." On their part an appeal to the Privy Council was immediately lodged, and thus, for the present, the case remains.

Mr. Kennard holds a very valuable living in Dorsetshire. His style is remarkably vigorous, and, unlike the majority of the Essayists, he writes most clearly; he is evidently thoroughly in earnest, perhaps enthusiastic, and he is not afraid of using strong language. Moreover, his book is printed in fine large readable type.

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We continue from p. 415, our remarks on the *Jardin Fruitier du Muséum.*

*Des Deux Sœurs.*—Fruit middle-sized, oblong, often in form like the St. Germain, citron yellow; flesh melting, juicy, sugary, slightly astringent, but without perfume. Season: end of September, and November. The author remarks, that although recommended by most nurserymen, this fruit does not appear to him worthy of ranking among the best varieties. He says he had specimens of it from Mechlin, Namur, Grenoble, and Lyons, and, like those from the Garden of the Museum, he found the flesh very fine, and juicy, but without flavour. The original tree was found in the garden of the Demoiselles Knopp, of Mechlin, and M. Esperen gave it the name of P. des Deux Sœurs.

*Comte de Flandres.*—Syn. St. Jean-Baptiste. Fruit large, pyriform, greenish yellow, with a patch of fawn-coloured russet round the insertion of the stalk; flesh white, fine, melting, sugary, with a delicious aromatic perfume. Season: November to January. A first-rate fruit. It is remarkable for its core being without seeds, a circumstance which had escaped the notice of the Belgian pomologists, but was observed by Prof. Decaisne, and also, he says, by F. Jahn, in *Illustrirtes Handbuch der Obstkunde.* This variety is one of Van Mons' seedlings. It fruited for the first time in 1843.

*Prévost.*—Small or middle-sized, obovate, obtuse at the stalk, very smooth, yellow, washed with red next the sun, sprinkled with small points and russet specks; flesh firm, or breaking, not very juicy, and somewhat astringent; it ought rather to be considered a kitchen than a dessert fruit. Season: December to April. The tree is a great bearer. Named after Nicolas Joseph Prévost, editor of the *Pomologie de la Seine Inférieure.*

*Conseiller de la Cour.*—Syn. Baud de la Cour, Bô de la Cour, Duc d'Orléans, Grosse Marie, Maréchal de la Cour, Maréchal Decours. Middle-sized, oblong-obovate, yellow, spotted with brown; flesh white, somewhat granular, firm or half melting, juicy, partaking of the flavour of the Crassane. Season: October, November. Named by Van Mons, from the designation of his son, Conseiller à la Cour d'Appel, Brussels.

*Catinka.*—Middle-sized, obtusely-obovate, greenish yellow, sometimes obscurely tinged with red next the sun; flesh fine, melting, buttery, very juicy, and highly flavoured. Season: October; but when at maturity it speedily decays. One of Major Esperen's seedlings.

*Vicomte de Spœlberg.*—Syn. Beurré de Bruxelles, Beurré de Mons, Délices Van Mons. Middle-sized, turbinate, tapering into a thick fleshy stalk; skin citron yellow, sprinkled with small green dots; flesh white, fine and musky. Season: October, November. [There are considerable differences of opinion with regard to the quality of this Pear. Professor Decaisne found it a very good fruit, and so it is described to be by Willermez and Bivort; but Oberdieck says it possesses no superior qualities, even in such warm seasons as those of 1857 and 1859, and that it is greatly outrivalled by numerous other varieties. We are likewise of this opinion, judging from specimens of it which were produced in England.]

*Bachelier.*—Large, oblong; surface uneven like that of the Duchesse d'Angoulême; skin smooth, greenish yellow, with some patches of russet brown; flesh fine, very melting, juicy, and sugary, but not particularly high flavoured. Season: November, December. Raised by M. Louis-François Bachelier, horticulturist at Cappellebrouck, Département du Nord.

*De Duvergnies.*—Syn. Duvernay, Beurré Duverny, Beurré Duvery, Délices Van Mons. Middle-sized, obtuse-pyriform; stalk short; skin fine, greenish yellow, tinged with red next the sun. Flesh very fine, melting, juicy, sugary and rich. Season: September. A very good fruit; exquisite in warm seasons. This must not be confounded with the sort described in the *Annales de Pomologie Belge,* under the name of *Devergnies.*

*Clairgeau.*—Syn. Beurré Clairgeau, Clairgeau de Nantes.—[This sort has been frequently noticed in our columns, in which also a particular account of its origin has been given by M. De Jonghe of Brussels, who purchased, and doubtless still possesses, the original tree obtained from seed by Pierre Clairgeau, nurseryman at Nantes. It is a beautiful fruit, and the tree is remarkably healthy and vigorous, and bears abundantly at an early age. The fruit is not equal in quality to the Marie Louise and many others, the flesh being not quite melting; nevertheless, considering all its properties, it deserves cultivation. In the work before us, it is characterised as a very good fruit, and we may rest assured the author found it such when grown in France. Season: November, December. It should be worked on the Pear stock.]

*Jules Bivort.*—Syn. Délices de Lovenjoul, Délices de Lavienjan, Délices de Lavoyan. Large, oblong, obtuse at the extremities, speckled and marbled with russet, and tinged with reddish-brown next the sun. Flesh white, very fine, melting, juicy, sugary, and rich; a fruit of first-rate quality, and sometimes exquisite. Season: October, November. First made known by M. Bivort, who named it after one of his sons.

*Hardy.*—Syn. Beurré Hardy. Large, oblong or obtusely pyriform, olive yellow, but mostly covered with brown or ferruginous russet; flesh very fine, melting, juicy, sugary, and agreeably perfumed. Season: October. Raised by M. Bonnet, of Boulogne-sur-Mer, from whom it was obtained by M. Jamin, and named by him in compliment to Julien-Alexandre Hardy, formerly professor of arboriculture at the Garden of the Luxembourg. [It succeeds very well in this country, where it has been fruited, and proved excellent.]

*Bonne-Jeanne.* — Small, turbinate, yellow, and brilliant red; flesh white, not melting. Season, end of August or beginning of September. [This is described as an extraordinary bearer, as many as 20 fruits having been counted on a branch 10 or 12 inches long. It is only fit for vending in the streets, or as a common market Pear; but its high colour renders it especially attractive to children, and it consequently meets with a ready sale. Owing to this, and to the trees being very productive, this variety is rather extensively cultivated in some parts near Paris, and doubtless it pays just as bad sorts, but great bearers, do about London. A person on being asked which are the best Pears for a market gardener to grow near London? replied, "Perhaps the worst in quality I could name."—"You have said it," he remarked, "for if I had planted such I should have been a thousand pounds in pocket." This ought not to be the case, but doubtless it will be so, till sorts that are of good quality and at the same time abundant bearers, are better known.]

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*Handbook of Travel Talk* (Murray) has appeared opportunely now that people are thinking of repairing to the Continent. In 329 closely printed pages we find in it almost every possible phrase of which a traveller in France, Germany, or Italy can have need; and who among us is not sometimes at a loss for the proper form of expression in those countries? When we add that the German is by Hausman revised by Wintzer, the French by Tarver revised by Chapman, and the Italian by Comelati revised by Ant. Biaggi, we have said all that is necessary to recommend the volume to the travelling public.

Among children's books worthy of special notice we must mention a very neat edition of *Sandford and Merton;* several continuations of *Laurie's Standard Reader;* and *Playtime with the Poets,* a small nice volume of extracts from our best authors, prepared by a lady (Longmans). *Bessy's Money,* an interesting story of the days when "bloody Queen Mary" lighted the fires of Smithfield (Hall & Co.), must also be received with favour.

*Page's Introductory Text Book of Physical Geography,* 12mo. (Blackwoods) is a well written, well-arranged, and, let us add, well selected array of facts relating to the state of the globe we inhabit, its crust, its land, its water, its climates, its plants and animals, and finally the races of men now existing upon it.

## Garden Memoranda.

Bougainvillæa speciosa at Fir Vale, Sheffield. — Of the beauty of this fine plant, when in flower the other day at Swyncombe House, a full report will be found at p. 368. We now furnish an account of the satisfactory progress made by the same kind of Bougainvillæa at Fir Vale, under the skilful management of Mr. Payne.

Nothing can be more truly beautiful than the festoons of rosy mauve-coloured bracts that at present hang gracefully 4 or 5 feet in length, in a span-roofed stove at Fir Vale, where the plant has been extremely gay for these last five weeks, and to all appearance its grandeur will not be diminished for some time yet to come.

A point of some importance is the extreme ease with which this plant can be raised from cuttings, and the short space of time required to have it in flowering condition. Few plants except this can be induced in twelve months to yield wreaths of charming inflorescence that may be measured by the yard!

In managing this plant Mr. Payne's practice is as follows. On the 29th of April, 1862, he purchased a small plant, then about 4 inches in height; it was introduced into the stove and placed at the coolest end, where the temperature might average about 60°. This suited it well, and in the middle of May it was put into a larger pot, in two parts turfy loam, and one part leaf-soil and sand. Again, in the end of June it was found desirable to furnish it with a still larger pot, using the same material as that just mentioned; and in July, seeing that the plant progressed most rapidly, a still larger-sized pot (one about 12 inches in diameter) was given it. By October this pot became thoroughly filled with roots, and in order to induce the plant to produce flowers, Mr. Payne commenced lessening the supply of water to the roots, with the view of making the wood ripe and firm. This practice was carefully pursued until the beginning of last March, when liberal syringings of tepid water to the branches were administered, the roots receiving the same attention as before. The result was a profusion of glorious racemes of gay-coloured bracts, and in 12 months the plant had acquired 14 feet in length of flower-producing growth—a pretty good return for one year's cultivation. It will thus be seen that no bottom-heat was employed, and no atmospheric warmth beyond that of a common stove, so there is now no reason why this fine plant should not be found in full beauty in most places where plants are cultivated to any extent.

One peculiar feature in connection with this Bougainvillæa is that the spines on the wood of the present year's growth produce bloom with the greatest uniformity, while in every case in the wood of last year the spines retain their true character. From this it would seem that young wood will furnish flowers, as well as that of last season, but although it is singular to see bunches of bracts on the spines, the inflorescence is then by no means so imposing in appearance as that furnished by old wood.

## Miscellaneous.

*Hazel Nuts.*—Hazel-nuts come into commerce under the general term of Small Nuts, but included in these are sometimes Pecan and Hickory Nuts from the United States. Of the imports of Hazel Nuts in 1861, 177,142 bushels came from Spain, 30,315 from Italy, and 4202 bushels from Turkey. Hazel Nuts are the fruit of the wild bush of Corylus Avellana, unchanged and unimproved by cultivation. The fruit differs from that of the domesticated varieties only in being smaller, while the tree is more hardy. This plant, which is a native of all the cooler parts of Europe, Northern Asia, and North America, is the parent of the many varieties of Nuts and Filberts now cultivated for their fruit. The trade in Hazel Nuts is very stationary in this country, and the consumption does not vary greatly. In 1846, we imported, chiefly from Spain, 182,702 bushels; in 1847, 207,784 bushels; and in 1848, 150,022 bushels. In the last 10 years the imports have ranged between 148,000 and 256,000 bushels per annum. In trade, though both produced by the variety barcelonensis, the Nuts are classed into two kinds: 1. The Spanish, which are the fresh nuts coming from Gijon, which will not keep for any time, and are said to be coloured by the Jew dealers with the fumes of sulphur. They are sold at public sales in barrels of about three bushels each. 2. The Barcelonas, which are kiln-dried and shipped from Tarragona; the annual export from thence is said to be about 8000 tons. The trade in Hazel Nuts in France is very inconsiderable, and only sufficient for local consumption; they are brought to Paris from the neighbourhood of Toulon and Languedoc. The nuts of the Constantinople variety (Corylus Colurna) are roundish and very hard; 160,000 cwt. of these nuts are annually raised at Trebizond and Kuirasond. Large and very fine nuts of this species grown in the Crimea were shown in the Russian collection at the late Exhibition, priced at 69*s*. 3*d*. the cwt. The Filbert is the fruit of the tubulosa variety of the Corylus Avellana. The term was originally applied to those kinds of Nuts which have very long husks, but owing to the number of varieties that have of late years been obtained, this distinction, which was never scientific, appears to be nearly disregarded, and Nuts and Filberts are almost synonymous terms, excepting that the wild uncultivated fruits, and those varieties which most nearly approach it, are never called Filberts. Filberts are mostly grown in Kent, where as much as 30 cwt. per acre has been raised on particular lands. In order to preserve Filberts in a fresh and plump state, it is only necessary to prevent their parting with their moisture by evaporation. Burying them in heaps in the earth, putting them in earthen jars in a wine cellar, and covering them with dry sand, are all excellent plans. It is estimated that 1000 tons of Filberts are annually sold in this country. *Technologist.*

*Tree Mallow.*—A company has been formed in New Jersey for the cultivation on a large scale of Hibiscus Moscheutos, a shrub belonging to the Mallow tribe, which grows freely in a wild state, in the swamps of New Jersey and the neighbouring States. The plant is a perennial, and forms every year (in proportion to the cutting it receives) a vast number of fibrous stems. The quantity of fibre obtained from 2½ acres of the plant is somewhere approaching 8 tons, and every ton of fibre is sold for 500 francs to the paper makers in North America. The company just formed is full of hope; for these provinces abound in vast swamps, at present uncultivated, but which, when planted with the Hibiscus, will yield an abundant harvest of fibre. A variety called Hibiscus tiliaceus is manufactured by the natives of Tahiti into mats, fishing nets, ropes and thread. *Les Mondes.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—The usual routine of watering, and keeping the plants clean and properly trained, will be all that is necessary here for some time to come. A few plants may require repotting now and then, and all young stock must be shifted by degrees, as it advances; but no precise time can be pointed out for this work, the whole depending upon the state of the plants, and means of the cultivator. Keep down the temperature in the Conservatory by all possible means, in order to prolong the beauty of plants in flower. Continue to encourage greenhouse plants to make rapid growth during this month, and maintain a moist atmosphere at night. As few plants, where there is a conservatory, are allowed to flower in the greenhouse, the syringe may be used freely in the afternoons of fine days. Heaths in full growth will require abundance of water, at least in bright weather. Many good specimens are lost through imperfect watering. The Erythrina Crista-galli is a fine old plant; cuttings may be made of the young shoots of those which have been headed down. Old plants started in heat in January, and now exhausted with flowering, if removed to a cool and light house, and suffered to go to rest, will bloom well a second time in September, by the excitement of heat and moisture, after resting a few weeks. After the stock for the flower-garden masses is removed from pits and frames, the surplus Verbenas, Fuchsias, Geraniums, Calceolarias, Petunias, &c., remaining in store, should be potted off forthwith into 3-inch pots, and should receive every attention in the way of cultivation. As soon as they grow freely they should be stopped, and made to form bushy plants. These will be a reserve, to succeed plants in full bloom at this period, and also to fill up gaps as they occur in the beds or borders.

### FORCING DEPARTMENT.

Pineries.—If the weather should set in warm and bright, shading must be resorted to. Sprinkle the paths frequently; this will keep the foliage in a green healthy state. Many of the successions will now require repotting, and to prevent the plants receiving any check let the operation be done as soon as it is needed. Where fruit is ripening, water very little; the moisture of the atmosphere will furnish nearly all that is required at that stage of growth.

Vineries.—If outside borders have been kept covered with warm litter they will not require water, except in very dry situations. It will be proper, however, to examine them, and if water is found necessary use weak liquid manure from the farmyard, or guano-water. Continue to syringe in the afternoon, and to shut up early, at from 90° to 95°, in Vineries in which fruit is swelling; but avoid wetting the Grapes after they have begun to change colour. Give air early in the morning during bright sunshine, beginning with a little, and increasing gradually as the sun approaches the meridian.

Peach House.—Persist at all times in stopping gross shoots. Liquid manure should be applied with freedom to trees carrying a full crop; in fact it will benefit all, unless excessively luxuriant, provided the stopping of gross wood is constantly attended to.

Cherry House.—Give more air and keep a drier atmosphere where fruit is ripening. Administer plenty of water to trees now swelling off a crop. Syringe freely and keep the foliage clear of insects.

Fig House.—Avoid wetting the fruit after it begins to soften. Watering as the plants may require it, and keeping insects in check, must be duly attended to. Air must also be admitted on all favourable occasions.

Strawberries.—If these are not well supplied with water, they will not attain full size. Look them over often, watering only such as require it.

Melons.—Do not let the heat in the beds decline; but add fresh linings as required. If the plants want water, give it in the morning, in order that the vapour arising from the soil may pass off during the day. We have seen instances during the past week, of leaves being ruined by frost at night, owing to their being in a damp state, and too near the glass. Keep the shoots thin and regular.

### FLOWER GARDEN AND SHRUBBERIES.

Watch Rose buds inserted last August; rub off those on the stock in a progressive way, and let all Roses, whether standard or dwarf, be well top-dressed with good rotten manure if not already done. The Moss and Provence kinds intended for forcing next winter should have a rich mulching, fairly covering the pots. Where Roses are infested with grub it will be necessary to go over the plants frequently to destroy this pest. Green-fly is also sometimes troublesome; a good washing with the garden-engine on two or three successive evenings will greatly assist in getting rid of these destructive pests, but this must be done after all danger of frost is over. Planting of bedding stock must be deferred for a week or so yet. Begin with Calceolarias, Verbenas, Scarlet Geraniums, &c., leaving Heliotropes, Lantanas, Anagallis, and such things as are usually injured by frost, until the planting of the more hardy kinds is completed. Branches of evergreens are easily obtainable in most places, and a sprinkling of these, stuck into the beds after planting, will be of great service in protecting the plants from the drying effects of bright sunshine, and will also help to ward off frost should it occur. In the meantime, as before recommended, get all beds well prepared for the reception of their summer occupants, thoroughly pulverising the soil by occasional diggings; also get arrangements for planting decided on, so as to be able to add manure or leaf-mould for such things as will be benefited by such additions to the soil.

### HARDY FRUIT AND KITCHEN GARDEN.

Disbudding Peaches and Nectarines must soon be commenced, removing a few of the strongest shoots at first from the most vigorous branches, leaving weaker ones to be operated on hereafter. Go over Apricot trees and remove all strong shoots not required to fill up vacancies on the wall. The fruit will soon require thinning, an operation which must be performed at different times, and always with care and judgment. Pay attention to the destruction of insects in order to afford the young shoots a fair chance to make healthy growth. Look after caterpillars on Gooseberry trees. One way of getting rid of this pest is to give the trees a heavy washing with a powerful engine, throwing the water against the under sides of the leaves, which will wash off the caterpillars; they may then be readily killed on the ground. Trenches must soon be got filled with fermenting materials in readiness for Cucumbers, &c., and expose the plants rather freely to light and air, to prepare them for planting under the protection of hand-glasses. If not already done, see to sowing plenty of sweet Basil, Savory, &c., on a warm border of light rich soil. Every spare half hour may now be profitably employed in stirring the ground among growing crops. Vegetation is at length beginning to make progress, and weeds, like other things, grow apace; they therefore require sharp looking after. Planting, if any, in the way of Vegetables, should be done, as indeed it usually is, in drills. In that way, the plants get more effectually watered, and the first hoeing, by filling in the drills, acts as a slight earthing up. Keep paths clean, straighten their edges, and endeavour to render them not only neat, but otherwise as comfortable for walking on as circumstances will permit.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending May 13, 1863, as observed at the Horticultural Garden.

| May. | | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. | 7 | 19 | 30.259 | 30.062 | 69 | 28 | 48.5 | 54 | 52 | N. | .00 |
| Friday | 8 | 20 | 30.363 | 30.170 | 70 | 28 | 49.0 | 53½ | 52 | E. | .00 |
| Satur | 9 | 21 | 30.088 | 29.903 | 71 | 31 | 51.0 | 53¼ | 52 | E. | .00 |
| Sunday | 10 | [illegible] | 29.965 | 29.926 | 66 | 32 | 49.0 | 54 | 52 | S.E. | .06 |
| Mon. | 11 | 23 | 30.013 | 29.836 | 64 | 45 | 54.5 | 54 | 52 | W. | .12 |
| Tues. | 12 | 24 | 29.722 | 29.595 | 57 | 49 | 53.0 | 54 | 52 | S.W. | .20 |
| Wed. | 13 | 25 | 29.679 | 29.595 | 65 | 43 | 54.0 | 54 | 52 | S.W. | .10 |
| Average. | | | 30.012 | 29.856 | 66.0 | 36.5 | 51.2 | 53.8 | 52.0 | | .40 |

May 7—Overcast; fine; low dusky white clouds; fine; clear; frosty.
— 8—Overcast; fine with slight dry haze; fine; frosty at night.
— 9—Dry haze; overcast; fine; very fine.
— 10—Overcast; fine throughout.
— 11—Fine; cloudy and fine; rather boisterous with rain.
— 12—Rain; cloudy; drizzling rain; heavy showers.
— 13—Rain; showery; fine at night.
Mean temperature of the week ½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending May 23, 1863.

| May. | | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday | 17.. | 65.5 | 42.0 | 53.7 | 15 | 0.58 in. | 2 | 7 | 4 | 1 | 4 | 11 | 4 | 4 |
| Mon. | 18.. | 65.2 | 42.8 | 54.0 | 16 | 0.17 | 2 | 7 | 5 | 3 | 3 | 11 | 5 | 1 |
| Tues. | 19.. | 66.5 | 43.1 | 54.8 | 12 | 0.50 | 2 | [illegible] | 7 | 2 | 4 | 5 | 3 | 1 |
| Wed. | 20.. | 66.6 | 43.3 | 54.9 | 17 | 0.14 | 2 | 6 | 7 | 3 | 4 | 10 | 1 | 4 |
| Thurs. | 21.. | 66.3 | 44.9 | 55.6 | 18 | 0.36 | 3 | 6 | 10 | 2 | 5 | 6 | 3 | 2 |
| Friday | 22.. | 65.7 | 43.5 | 54.6 | 17 | 0.30 | 6 | 6 | 4 | 3 | 3 | 10 | 3 | 2 |
| Satur. | 23.. | 67.9 | 45.4 | 56.6 | 13 | 0.53 | 1 | 6 | 6 | 3 | 3 | 9 | 4 | |

The highest temperature during the above period occurred on the 22d, 1847—therm. 89 deg.; and the lowest on the 18th and 19th, 1854; 20th, 1853; and 19th and 20th, 1856—therm. 30 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

Birds: *A Correspondent* whose gardener complains most bitterly of the injury which has been and is being done by the birds to the fruit blossoms, particularly Black Currants and Apple blossoms, asks how far he ought to allow the gardener to shoot the birds. No one doubts how great is the injury done to a country by an indiscriminate and unlimited destruction of them; but on the other hand it is equally certain that they are to fruit growers a great nuisance. The best remedy is perhaps to net over bushes, and to scare them from trees by clappers, and strange objects hung among the branches, such as a man's hat, or the stuffed figure of a man or woman, a shot being occasionally fired at them, the victims being then hung up as a warning to others.

Daisies: *S.* The specimen, which has been returned, is by no means uncommon. It is merely a monster in what is called the cockscomb state. Try Berberis Aquifolium, planted thick.

Diseased Peach Leaves: *D M J.* You will find a case similar to that of your Peach leaves, fully discussed in our Number of May 31, 1862, p. 499. Your Peach trees, it appears are on the back wall, and have in all probability been chilled by a current of cold air from above. *M. J. B.*

Executors: *Crozier.* They cannot show, under the conditions laid down.

Fungi: *R W.* Your Fungus is a delicate and beautiful form of Agaricus clypeolarius, a species which is not uncommon in stoves. We have never known it or its immediate allies to be injurious, and we think you need have no apprehensions about your Orchids. *M. J. B.*

Garden Law: *G. S.* Market Gardeners' Cucumber pits and frames, tool house, &c., are rateable to the poor.

Melons: *One who has been 30 Years in the Line* says that, up to Monday last, he had as fine a house of Melons as was possible, but on that morning he noticed a few of the leaves spotted, as though scalding water had been thrown upon them. On the following day he found them worse. He then whitened the glass, thinking the mischief might proceed from burning by the glass, but this had no effect. From the specimens sent us we should say that the leaves have been killed in consequence of condensation on very cold glass at night having deprived the air of its moisture, and so exhausted the leaves of theirs. The best remedy would, in that case, be an outside covering on those nights when frost prevails.

New Plants: *— & Co.* It is as we have stated. We have nothing whatever to re-consider. Private interests must be subordinate to those of the public; at least they always will be here.

Names of Plants: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. It is requested that not more than four plants may be sent us at any one time.—*J P.* 1, Appears to be Funkia subcordata; 2, Probably Isolepis gracilis; 3, Too young for determination. Specimens should be perfect. We do not undertake to name those that are not so, for the simple reason that we cannot.—*J F.* Polygala vulgaris.—*W D.* By an accidental misprint, the name of your specimen was given last week as Sandersonia antiaca, instead of S. aurantiaca.—*W. Cull,* Paulownia imperialis.—*P.* Cratægus punctata, a North American Thorn.—*A B.* Some Proteaceous plant; probably a Grevillea—not to be named without flowers.—*Don.* Pelargonium tomentosum.—*W T T.* Isochilus prolifer.

Nardoo: *J E T.* This New Holland substance is the fructification of a Marsilea, a cryptogamic plant inhabiting the vast Australian plains. Wills speaks of sandhills black with it. As a food it is wretched; such nutritive qualities as it possesses are due to the starch it contains.

Pelargoniums: *D M.* It depends on the wording of the schedules. Sanspareil is a "spotted" variety certainly: but not French, having been raised by Mr. Hoyle. There have been two Sparklers, one spotted, the other not: which do you mean?

POTTER'S GUANO (established 21 years) 7*l.* per Ton.
POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10*l.* per Ton.
PURE GYPSUM, 25*s.* per Ton, bags included.
Address, 28, Clapham Road Place, S.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
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TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,
MANUFACTURED BY THE PATENT
NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),
Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.
Chairman.—JOHN CLAYDON, Esq., Littlebury, Essex.
Particulars of these Standard Manures may be obtained at the Offices. C. T. MACADAM, Secretary.
Or of the Local Agents.
Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex, N.E.

LAWES'S MANURES.
The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.
Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

SEWAGE of the METROPOLIS.—The METROPOLITAN BOARD of WORKS hereby give notice, that they have EXTENDED the TIME for receiving TENDERS for the DISPOSAL of the SEWAGE of the METROPOLIS until FRIDAY, the 10th July next. All tenders must contain a full description of the works proposed, and must be accompanied by a plan and section showing their several details. The Board will further require full information as to the manner in which the sewage is to be treated and employed, and, if by irrigation, as to the distribution of the sewage, the quantity and locality of the land over which it is to be distributed, the points at which the sewage is to be intercepted, the daily quantity to be employed, the mode of effecting junctions or communications with the Board's sewers, the provisions against floods, failure of pumping power, or other defect in the company's works, the mode of deodorisation or otherwise preventing the sewage from becoming a nuisance or injurious to health; the amount of capital to be invested, number and value of the shares, duration of the contract, and royalty agreed to be paid to the Board. The Board will not enter into any contract, or make any concession of sewage to any parties unless they take all steps necessary for carrying their project into effect within a time to be named by the Board; and in the event of failure to do so any agreement or concession on the part of the Board shall be void and of no effect; and in any contract provision must be made to secure to the Board the return of the sewage works, and the full power to re-let and deal with the same, and so that the Board may, in case of any failure of the contractors or their operations, be left to their full rights, and without any cost to the Board. The tender must contain the names of two or more sureties, to be approved by the Board, who shall be jointly and severally bound in a competent sum, for the due performance of the contract, and for the efficient execution of the works in accordance with the provisions, and subject to the limitations of the Metropolis Local Management and Main Drainage Acts, and for indemnifying the Board against all loss, damage, or injury, claims for compensation or legal proceedings arising out of the said works, or other operations of the contractors. The Board will not bind itself to accept the highest or any tender. The plans and sections of the sewers can be seen, and all information obtained at the office of the Engineer of the Metropolitan Board of Works, at their office in Spring Gardens, between the hours of 9 A.M. and 4 P.M., or on Saturdays between 9 A.M. and 2 P.M. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before 4 o'clock on THURSDAY, the 9th JULY NEXT, and no tender will be received after that hour. Parties who have already sent tenders, and who may be desirous of altering or amending their proposals, may obtain them on application to the Clerk of the Board.—By order, JOHN POLLARD, Clerk of the Board.—May 11, 1863.

BURGESS AND KEY'S REAPING and MOWING MACHINES.
No. 1. McCORMICK'S NEW PATENT REAPING MACHINE delivers the Corn in Sheaves by self-acting Rake; price 34*l.*
No. 2. BURGESS AND KEY'S SCREW DELIVERY REAPER delivers the Corn in Swathe; price 36*l.*
No. 3. BURGESS AND KEY'S COMBINED REAPER and MOWER. The Corn is raked off this Machine by a man; price 30*l.*
No. 4. BURGESS AND KEY'S MOWER for Natural and Artificial Grasses; price 25*l.*
All the above are STANDARD IMPLEMENTS, and as to their efficiency BURGESS & KEY refer intending purchasers to the list of Prizes received from various Agricultural Societies, and, with still more confidence, to the large number of Agriculturists who have them in use in all parts of the world.
Immediate Orders are requested to ensure timely delivery.
Full particulars and drawings forwarded on application to
95, Newgate Street, London, or Brentwood, Essex.

Do as Others Do!
BUY YOUR SEED BAGS from JAMES T. ANDERSON, SACK and BAG MAKER, and RUSSIA MAT MERCHANT, 15, SHERBORNE LANE, King William Street, London, E.C., who will supply you with a first-rate article at a low price. ARCHANGEL MATS, the pick of the season. Russian and Prussian Dunnage Mats.
Prices sent free on application.

Land Drainage, and other Agricultural Improvements.
MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5*s.* per acre for Under Drainage, and a fixed charge for Outfall and other works.
For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

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37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

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Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.
Full particulars of terms will be forwarded on application.

Drainage, &c.
MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.
Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.
22, Parliament Street, Westminster, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.
TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.
The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.
1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
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Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

REDUCTION IN PRICE.

PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | |
|---|---|---|
| For 30 Tons and upwards ... ... ... | £10 5 0 | per Ton, net cash. |
| For 10 Tons up to 30 Tons ... ... ... | 10 10 0 | " " |
| For 5 Tons up to 10 Tons ... ... ... | 10 15 0 | " " |
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The Price will not exceed 12*s.* per Ton additional if delivered at any other Port in Great Britain.

PETER LAWSON & SON, CONTRACTORS.
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28, KING STREET, CHEAPSIDE; AND 15, LAWRENCE LANE, LONDON, E.C.

THE FIRST GREAT INTERNATIONAL SHOW of SPORTING and other DOGS will be held at the Agricultural Hall, Islington, N., in the Week commencing MAY 25.
Private view on MONDAY, May 25 (after 4 P.M.), when the Fox Hounds will be judged in public in front of the great Orchestra.

| PRICES OF ADMISSION. | | | s. d. |
|---|---|---|---|
| MONDAY, | May 25 (after 4 P.M.) .. .. | | 5 0 |
| TUESDAY, | " 26 | from 8 A.M. to 8 P.M. | 2 6 |
| WEDNESDAY, | " 27 | from 8 A.M. to 8 P.M. | 1 0 |
| THURSDAY, | " 28 | | |
| FRIDAY, | " 29 | | |
| SATURDAY, | " 30 | | |

For the use of Schools, &c., Forty Tickets, admissible before 11 A.M. on WEDNESDAY, THURSDAY, FRIDAY, and SATURDAY, for 1*l.*, may be obtained on application to the Secretary, at the Office, Barford Street, Liverpool Road, N.

INTERNATIONAL AGRICULTURAL EXHIBITION at HAMBURGH.
The time of ENTERING LIVE STOCK for this EXHIBITION is extended from the 1st of May to the 1st of June.
By order of the Executive Committee.

HAMBURGH INTERNATIONAL AGRICULTURAL EXHIBITION.
NOTICE.—To insure insertion in the CATALOGUES, all ENTRIES of LIVE STOCK from Great Britain and Ireland should be made before the 25th of May.
All communications to be made post paid to the Secretary of the Committee, Dr. HACHMANN, Advocate, Hamburgh.
N.B. As all the Hotels at Hamburgh are engaged, a Committee of gentlemen has been formed who have undertaken to procure lodgings for strangers. Application must be made to Dr. H. DONNENBERG, Hamburgh, post paid, stating accommodation required.

YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW at SOUTH STOCKTON ON TEES, August 5, 6, and 7, 1863.
For Prize Sheets apply to JOHN HANNAM, Secretary.
Kirk Deighton, Wetherby.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.
PRIZE SHEETS and CERTIFICATES for ENTRY of STOCK will be forwarded on application.
LAST DAY of ENTRY, JUNE 1.
CAUTION.—All Certificates received after that date will be returned to the Senders. H. HALL DARE, Secretary.
12, Hanover Square, London, W.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER, 1863.
TENDERS for GREEN FODDER, HAY, and STRAW.
Persons desirous of Tendering for the supply of either of the following, viz.: 1st, about 10 Acres of GREEN FOOD, consisting of Green Vetches, and of Green Clover or Trifolium; 2d, of HAY, 30 Loads more or less of the best quality; 3d, of STRAW, about 50 Loads, of 36 Trusses each, for use in the Society's Show Yard at Worcester, from the 17th to the 25th of July, can obtain particulars, and Forms of Tender, on application to H. HALL DARE, Secretary.
12, Hanover Square, London, W.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
The ANNUAL GENERAL MEETING of Members will be held at the Society's House, 12, Hanover Square, London, on FRIDAY, May 22, at 12 o'clock.—By order of the Council,
H. HALL DARE, Secretary.

# The Agricultural Gazette.

*SATURDAY, MAY* 16, 1863.

THE delightful rains of the last few days have benefited alike those who do and those who do not keep rain gauges. The study of meteorology does not result in any alteration or improvement of our climate. The man who daily observes and records the weight, heat, and moisture of the air, like Mr. SPEARING, of Moulsford, to whom agriculturists are indebted for an extremely interesting paper on one class of meteorological facts, read at the Farmers' Club last week, does not thereby exert any influence on these phenomena or modify their power either over himself or over his neighbours. It is not even at all likely that he will obtain any greater insight into the weather of the future by his constant daily study of the weather of the present. The only forecasts on this subject that are of any value have been obtained by means of the telegraph, which informs us how the wind and weather are elsewhere. Putting them, however, on the lowest ground of probable utility, meteorological facts, like all other facts, are worth collecting as so much addition to our knowledge, and we may be confident that here, as everywhere, "knowledge is power." Whether it be statistics of profit or of loss—agricultural or commercial—every addition to our knowledge must ultimately prove serviceable; and neither our agricultural results, the food produce of our soils, depending so much on the efforts of the husbandman, nor the circumstances of weather to which these results are so largely due, even though they be altogether beyond his control, are any exception to the rule that whatever *is* is worth knowing.

Besides, although we cannot absolutely alter weather, we can do so virtually, both directly and

indirectly; and therefore there is an immediate benefit derivable from our knowledge of it.

*We* do not live naked out of doors, and neither do our plants. It is of service to ourselves to know the climate of our habitation, that house and clothing may be furnished accordingly. Such knowledge is of use to us also as cultivators of plants, and for exactly the same reason. The greater part of a plant lives under cover, and that is all that we can say for ourselves. The covering may be cold or warm, inadequate or otherwise for a plant as much as for an animal. The underground temperature, contrasted with that of air, to the former of which the roots of plants are exposed, has as much to do with their prosperity as the temperature indoors compared with that outside has to do with the well-being of the farmer. And in this case we can directly alter climate. It is found that by deep tillage and land drainage the temperature at 9 to 15 inches deep, where the roots of plants reside, can be raised from 2° to 3° of FAHRENHEIT's thermometer. These 2° or 3° are all the difference that exists between the hill top and the valley, between a northern and a southern county, between success and failure in the growth of Wheat, of Mangel Wurzel, of Trifolium. On these two or three degrees, which are within our power, it depends whether the seed shall sprout early or at all, whether the spring growth shall be vigorous or tardy, whether the harvest shall be late or early.

The Horse Chesnut on Mr. SPEARING's lawn, which blossomed several days earlier than its neighbours, was found to have sent its roots down into the neighbouring well, whose water was 4° warmer than that of the surface soil. This was quite a sufficient explanation of the superiority it displayed; and there is many an instance of superiority in cultivated crops which is to be explained in a precisely similar manner. Mr. SPEARING has long been in the habit of recording underground temperatures with the eye of a farmer as well as of a scientific man. His paper—in which the direct effect of a warm subsoil, both as beneficially feeding the plant with warm food, and as sometimes injuriously hurrying it through the period of that root growth which in our variable climate should be deep and ample as a security against drought—is full of most valuable and interesting facts and reasonings, well deserving the study of the agriculturist.

If Apple trees and Horse Chesnuts, whose blossoms may be 20 or 30 feet from the ground, are so affected as this trustworthy and experienced observer declares by the temperature of the soil-water which these trees draw upwards through 30 or 40 feet of air—unquestionably the growth of the visible parts of our cultivated plants not a yard high must be still more dependent on those variations of the underground climate of our cultivated soils, which we can influence by our management.

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ON Friday of last week an interesting lecture was delivered at the Royal Institution by Prof. AUG. VOELCKER, of the Cirencester Agricultural College, on some physical and chemical properties which manifest themselves in all cultivated soils. And he took occasion to animadvert upon LIEBIG's recent work on the Laws of Husbandry. There was ample ground for a defence both of English chemists and of English agriculturists against the attacks of the German philosopher in a discussion of this kind, and Dr. VOELCKER did not fail to point out the services rendered to the agricultural world by English scientific men in their contributions to a true theory of farm experience, and by English practical men in the example they have set to all the world of profitable and abundant food production.

Dr. VOELCKER's lecture will hereafter be published in full, but in the meantime he has been good enough to permit the publication in these columns of large extracts from it, which will appear next week.

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WHATEVER doubt may be thrown upon the policy of publishing the statistics of farm produce or farm profits, no question can possibly arise of the advantages of making known the statistics of disaster. Whatever may be the department of industry affected, and whatever the source of injury or loss affecting it, a full publication of the extent and nature of that loss is certainly of benefit. It directs attention to the mischief and quickens efforts for the removal of it. In this way for example the returns of shipwreck annually published are of use to commerce by the impulse which they give to precautionary measures of all kinds. And in this way, too, English agriculturists would benefit if they too had annual returns of the loss and injury they suffer by preventible causes.

It is some such consideration as this which has no doubt urged Mr. HOLLAND, M.P., to introduce a Bill for extending and continuing the provisions of the Act of the 12th year of her Majesty's reign "to prevent the spreading of contagious or infectious disorders among cattle, sheep, and other animals." That Act, introduced on the first appearance of the sheep-pox, required the destruction of all infected animals exposed for sale; it forbade, under penalty, the exposure of such stock in public places; it gave power to her Majesty's Privy Council to place particular districts under the special operation of the Act whenever it might appear to them advisable; and it enacted penalties for any wilful obstruction put in the way of its operation. The original Act was to expire in 1850, but it has been maintained by various continuing Acts until the present time; the last of them, however, expires on the 1st of August of this year.

The Bill introduced now by Mr. HOLLAND and Sir W. MILES is mainly for the purpose of continuing the powers of the original Act, which was last year most usefully put in force for the abatement of the last attack of *variola ovina*.

The principal novelty in the Bill as now introduced, is the proposed appointment of an Inspector-General of meat and livestock, who shall have all the powers of inspection already possessed by clerks of markets and policemen, and whose power is guaranteed by the same penalties as are enacted in the previous Acts. It is to be the special duty of the Inspector to report annually to the Lords of Her Majesty's Privy Council on all such matters as relate to the health of live stock in the country. The following is the clause defining the duties of his office:—

"It shall be lawful for the Lords and others of her Majesty's Privy Council to appoint from time to time an Inspector-General of Meat, Cattle, Pigs, Sheep, and other Animals, who shall be removable at pleasure, and who shall have power, within all parts of Great Britain and Ireland, at all times to inspect any Oxen, Bulls, Cows, Heifers, Calves, Pigs, Sheep, and other Animals landed from any any ship or vessel in port, or being in any fair, market, highway, or other public place; and such Inspector shall have all the same powers which the Clerk or Inspector of any Fair or Market, or any Constable or Policeman, have or has under the said first-recited Act or this Act; and such Inspector-General shall report annually to the Lords of her Majesty's Privy Council any Matter which may come to his knowledge, and in his judgment is necessary to be reported, as to any contagious or infectious Disease which may prevail among Cattle, Sheep, Pigs, or other animals within the said United Kingdom, together with the best means of Prevention and Cure thereof, and also whether any such Disease has been imported with Cattle, Sheep, and Pigs, or otherwise from foreign countries, with the particulars thereof, and generally on any matter of importance connected therewith, which Reports shall be annually laid before Parliament."

The office which it is thus proposed to create appears to us to be as much for the benefit of her Majesty's subjects in general, who are poisoned in large numbers by "measly" pork and diseased meat, as it is for the interest of the owners of cattle, sheep, and pigs, whose liability to the losses due to infectious and contagious disorders, might be reduced if the facts of the case were known with sufficient exactness, and on a sufficiently large scale. It is to be hoped that this view of the subject will be generally taken by county members, with whom the adoption or rejection of the measure will probably rest. The names on the back of the Bill are a sufficient guarantee of the goodwill towards the agricultural interest with which it has been drawn.

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## STEAM CULTIVATION IN 1862.

(*Continued from p. 292.*)

### THE WOOLSTON CULTIVATOR.

[We continue our reports from last week, commencing with Smith's Cultivator.]

17. Mr. ROBERT MOORE, Haddenham, Bucks.—Soil, generally heavy. Apparatus bought October, 1860, cost, about 260*l.* Rope originally bought, 1400 yards; none bought since, but I am now having all new. Horse-power of engine, 8-horse. Daily wages: 6 men, 15*s.* per day. Farmers bring water. Daily consumption of coal, about 8 cwt. at 23*s.* per ton. Depth from 8 to 12 inches, generally very foul, but can see good effects on the crops. My windlass still in very good order; ropes bad; the porters, &c., want a little repairing. 61 acres twice, 15 once, with Mr. Smith's cultivator, 1860; 244 acres twice, 28 once, with ditto, 1861; 198 acres twice, 66 once, with ditto, 1862. Up to November, 1862. I have not any land in my occupation, but let my implements out by the acre; I have worked some of the heaviest and roughest land in this neighbourhood, and some in Middlesex.

18. Mr. R. NORFOLK, Oil Mills, Louth, Lancashire.—I was at Mr. Smith's of Woolston a week back. I met several experienced men there. I read over to them, intalking about expenses, the items annexed. They thought them correct. I hand them to you; this is all I think you require from me:—March, 1863. Cost in working (7 and 8 inches deep) Smith's of Woolston 3-tined cultivator, going over 500 acres of land. Engine driver and smith per day, 3*s.* 6*d.*; windlass man, 2*s.* 6*d.*; 2 anchor men, 5*s.*; water-cart and horse, 2*s.* 6*d.*; man or lad, 2*s.*; 3 porter lads, 3*s.* 6*d.*; coals, 6*s.* 6*d.*; oil, 6*d.*; total, 1*l.* 6*s.*; 5 acres per day, at 5*s.* 6*d.*, 1*l.* 7*s.* 6*d.*; or 6½ acres the second time over, at 4*s.*, 1*l.* 6*s.*; = 9*s.* 6*d.* per acre twice over. To work land twice over to be ready for seeds with Smith's 3-tine grubber, cost per acre, 9*s.* 6*d.*; wear of rope per acre, 4*s.*; wear of windlass and porters, 6*d.*; depreciation in the wear of steam-engine, 6*d.*; horses and men to move engine and tackle, 6*d.*; interest of money on the outlay, 1*s.* Total per acre, 16*s.*

19. ——, near Stony Stratford.—Farm: arable, 222 acres; 71 pasture. Soil, chiefly clay. Horses formerly employed, 10; now, 7. Apparatus bought 1858; cost 200*l.* without engine. Length of rope originally bought: 1400 yards iron wire; bought since, 1400 yards steel, May 1861. No alterations since purchase. Engine of 8 horse-power. Daily wages: 6 men and boy—engine-driver, 2*s.* 6*d.*; ploughman, 2*s.* 6*d.*; windlass-man, 2*s.*; 2 anchor-men, 2*s.* each; man to shift rollers, 2*s.*; odd boy, 1*s.*; total, 14*s.* Water-cart a-day, 8*s.* 6*d.* Coal: 7 or 8 cwt., at 17*s.* per ton. Average of annual cultivating and cross cultivating on own farm, about 100 acres: 70 acres last autumn, done in 14 days. Our usual depth is 7 or 8 inches, and when greater depth is required we subsoil between ridges. The general effect here is to keep the land drier in winter and more exposed for atmospheric action, so that it can be worked earlier in the spring and is more tractable. The land, owing to better tillage, is certainly more productive than I found it before commencing steam cultivation. The tackle, excepting fair wear and tear, is in as good working order as ever. The small acreage done in 1862 arose from the work having been pushed up so in 1861 that during the last summer I had no fallow except a small portion done by horses, and I do not expect to need another dead fallow while I hold the farm.

20. Mr. SIMEON RUDDLE, Knowl Hill Farm, Wimborne, Dorset.—Farm: arable, 800 acres; pasture, 250 acres. Soil: loam, with chalk subsoil. Rotation of cropping:—about 600 acres on the 5-field system, viz.:—Wheat, Turnips, Barley, and two years Grass; about 20 acres is laid down every year to Sainfoin in the Wheat field after two years Turniping, and remains until it comes in proper course for Wheat again. The Barley crop by so doing is alone lost. The other 200 acres in the four-field. Number of horses formerly employed, 23; employed now, 20. Oxen formerly employed, 12; now, 9. Apparatus bought August, 1862, cost 200*l.*; apparatus alone. Length of rope originally bought, 1400 yards; none bought since. No alterations since purchase. Repairs since purchase, 1*s.* 6*d.* Engine, 8-horse. Daily wages:—engine man, 3*s.*; two anchormen at 1*s.* 6*d.*; and 2 porter boys at 1*s.*, 8*s.* Cost of water-cart a day, 4*s.* 6*d.* Coal about 8 cwt., or 1 cwt. per acre, at 24*s.* per ton; grubbed, 90 acres in 1862. The tillage has been performed about 6 inches in depth, and to the entire satisfaction of myself and those who have seen it. The Turnip crop for which it was used is very good. The soil is much more pulverised by its use than by the plough. The land I occupy was formerly in three farms, consequently extra work required doing, and the strength is not so much lessened.

21. Mr. T. T. RUDDLE, Whitsbury, Salisbury.—Farm: arable, 900 acres. Soil: chiefly down lands, very light; some thin sand and gravel. Cropping: 5 field. Apparatus bought May 21st, 1861; cost, 200*l.*, windlass and scarifier. Rope originally bought, 1400 yards. No alterations or repairs since purchase. Engine: an 8-horse power to Dec. 10, 1861; since then, Brown & May's "Devizes" 10-horse traction engine, 400*l.* Wages in cultivating: 4 men, 2 boys, 1*s.* 6*d.* per acre at grubbing; windlass not requiring a man. Water-cart, 5*s.*; coal, depends on the depth, 25*s.* a ton. Grubbed, 233 acres in 1862. My roots did well after the scarifier, the greater part being ploughed only in the autumn; when in work (with long ridges) an acre an hour was smashed up. The traction engine saves much trouble in moving, in fact doing the work of 8 horses when moving from field to field. You see from the above I have not had it sufficient time to give it a thorough test.

22. Mr. JOHN S. EVENDEN, Meopham.—I cannot reply to your enquiries respecting steam ploughing in the manner you require. Having some traction engines used in thrashing, I purchased a set of ploughing tackle, not with any idea to reduce the cost per acre, but to obtain that deep cultivation that cannot be done with horses on my land. For this reason, the more horses I employ the more they tread and pave down the bottom of the furrow, which makes the land hold and retain the water as if in a basin, which is, as you are aware, most injurious to any crop. With my steam plough I have been enabled to break through that bottom that has been panned and trodden down by horses for ages, leaving the bottom, now shook and broken, ready to receive the next furrow slice; the water now, instead of standing on the surface, percolates freely through the soil, and the sequel has been that last harvest the crop was doubled to any ever grown on the same field before. I must tell you that I have used the Kent turn-wrest plough — a better implement never entered a field — although the *Times* spoke of them at the Farningham trial as strange looking implements. They also said exceedingly efficient—in this they were right. I imagine any person having to judge which was the most strange looking implement, a Kent plough or a Fowler's sailing across a field, he would not have a very difficult task. As to cost I cannot enter into it. I did not care what it was; it was impossible to obtain the same cultivation in any other way. I have always found the crop amply pay for it.

23. ——, near Wilton.—We have not had the cultivator long enough to give any reliable information. Apparatus bought in summer of 1862, costing 232*l.*; engine, 295*l.* Rope originally bought, 1600 yards. Engine, 10-horse power. Daily wages: We do our work by the acre, 2*s.* an acre, exclusive of water-cart. Coal, about 7 cwt. a day, at 1*l.* per ton. We can do from 8 to 10 acres per day, and find it more valuable in the spring than any other time in cutting across our fallows.

24. Mr. THOMAS ALBERT, Bromwich.—Apparatus bought May, 1860; cost, 527*l.* Rope originally bought, 1400 yards; bought since, Oct. 1861, 1400. Repairs since purchase about 70*s.* Engine, 8 horse-power, 2 cylinders. Daily wages, 1*l.*, 7 men. Water-cart, 5*s.* Coal, 10 to 12 cwt. per day of 10 hours, at 10*s.* per ton. Grubbing about 4 to 5 acres per day heavy soil; 9 to 12 light lands, in a day of 10 hours. The work done by this engine and tackle is for hire, and at a cost of from 15*s.* to 27*s.* per acre to the employer, which in all cases has given universal satisfaction.

25. Mr. JOHN CORNISH KING, Broadway.—Farm: arable, 220 acres; pasture, 80. Soil, sticky clay. Wheat and Bean land. Only entered on it at Michaelmas, 1861, but feel sure could not have done the same work with 25 horses; employed now,

8. Apparatus bought Jan., 1862, cost 510l. Rope originally bought, 1400 yards. None bought since. Repairs, very trifling. Engine, 10-horse power, but not sufficient power. Daily wages:—Engineman, 2s. 8d.; windlass, plough, and 2 anchormen, 2s. each; porter boy, 8d.: Water-cart a day and man, 5s. Daily consumption of coal, about 8 cwt., at 12s. a ton. Grubbed 210 acres in 1862. Depth from 10 inches to 1 foot. The young Wheats after steam are all looking well. We admit to having taken a deal out of the tackle, having had 120 acres under summer fallow, as full of Squitch Grass as it possibly could be, some of it not having been cultivated for two years. We cultivated from 3 acres to 7 acres per day.

26. Mr. T. B. Dring, Claxby, Spilsby, Lincolnshire.—Farm consists of several holdings, including farms taken during the time very much out of condition, and quantity of horses regulated according to circumstances, but steam has always prepared me to undertake a farm out of condition, as I could go to work in a day's notice, which I found most valuable when I did not know where to go to get horses in a day's notice. Apparatus bought 1857; cost, engine and tackle complete, 450l. Length of rope originally bought, 1400 yards; bought since, 1400; alterations since purchase, good deal, having made many improvements; ordinary repairs trifling on engine and tackle. Horse-power of engine, 8. Daily wages: 5 men, 3s.; 2 boys, 1s. each. Coal, 6 cwt. a-day, at 16s. 6d. a ton. I have no account of quantity done each year, but a very great quantity. The engine made by Messrs. Clayton & Shuttleworth, Lincoln, in 1855, has done a very great deal of threshing, besides an immense quantity of grubbing, from 6 to 10 inches deep on strong land when very hard, and now appears none the worse, although at no cost in repairs, except trifling jobs. First set of ropes was iron, and with bad usage from the men not then understanding it lasted between two and three years; the second steel ropes now are nearly as good as ever, or say one-third worn.

27. (Second set). T. B. Dring, Claxby, Spilsby.—Farm: arable, 514 acres; pasture, 114. Soil: loamy soil took from lea. Cropping; some part four-course shift, other part six-course. Crops got in at proper time. Number of horses formerly employed, 30; employed now, 20, but 90 acres arable have been added, and much better master of the work. Engine made by Messrs. Roxby & Co., Lincoln. Apparatus bought April 1859; cost about 400l. Rope originally bought, 1400 yards; none bought since. Alterations since purchase, not great. Repairs since purchase; but little. Engine, 10-horse power. Daily wages; after harvest 5 men at 3s., engineer 1s. over, 2 boys 1s. each, during spring 2s. 9d. per day, engineer 1s. over, 2 boys 9d. each. Water-cart, a day, horse and boy 4s. Coal 10 cwt., costing 19s. per ton. Engine and tackle not much worse, one rope, iron, nearly worn out; the other, steel, (both got at a time), not above half or two-thirds worn out; general depth 7 to 8 inches deep, enough for this land. Engine (Roby's) with ropes on axle, no windlass, tackle made by our smith principally; so the outlay was reduced to the lowest point.

28. ——, Biggleswade.—Farm: arable, not quite 300 acres. Soil, chiefly clay. Number of horses formerly employed, 10; employed now, 7. Engine bought in 1854, the cultivating tackle in 1859. Length of rope originally bought, 1100 yards; bought 600 yards more steel rope in Sept. 1862, and had it joined to the former, in order to work a larger piece without so often moving the tackle; altogether now 1000 yards on each drum. Alterations since purchase very trifling; repairs, ditto. Engine, 7 horse-power (Hornsby's). Daily wages: engine and windlass men, 2s. 6d. each, with beer; four others, including the water-carting man, 2s. 2d. each, and a lad 1s., with beer. Coals, from 8 to 9 cwt. a day, depending on the depth of work and length of the days, costing about 16s. on the ground. Grubbed about 60 acres in 1859, 70 acres in 1860, 100 acres twice over in 1861, and about 120 acres in 1862. Depth of cultivation from 6 to 10 inches; the engine and tackle seem to be quite as effective as at the first. The rope has never yet broken from wear, but once it was snapped in two between the cogs of the wheel.

29. Mr. Wm. Ackroyd, Otley, Yorkshire.—Farm: arable 770 acres; pasture 200. Soil: clay. Cropping: 1, Green crop or fallow; 2, Wheat or Barley; 3, Beans or Clover; 4, Wheat; 5, Oats. Horses formerly employed, 19; now, 16. Apparatus bought in November, 1859; cost 494l. 16s. 6d. Rope originally bought, 1400 yards; bought since, 400 yards, June, 1862. Alterations, engine and rope, since purchase, 8l. 10s.; repairs since purchase, 32l. Horse-power of engine, 8. Daily wages, stating number of hands, and wages of each: engine-driver, 3s.; windlass-man, 2s. 4d.; 3 men, at 2s., 6s.; 2 boys, at 1s., 2s. Cost of water-cart a-day, 4s. Coal, 10 cwt., at 20s a ton. Neither moving nor oil are charged in this statement. Grubbing: Nov. 1859 to Nov. 1860, 627 acres; in 1861, 173; in 1862, 370. As to cost, I should say the work is better done rather than cheaper. My green crops have been better after steam cultivation than they were after the plough. I may say the same of Barley crops. There is not much improvement in the Wheat crops, although there is more straw. The deep cultivation has improved the drainage, as the land dries sooner after a heavy rain. My farm is decidedly cleaner and in a better state than when I commenced steam cultivation. The apparatus I should value at three-fourths of the original cost.

30. ——, near Bilsworth.—Farm: arable, 504 acres. Pasture, 56 acres. Soil: loamy clay, subsoil blue clay and chalk stones. Cropping: Wheat, Beans, Wheat, seeds, Wheat, Tares, Wheat, Mangel or Turnips, part Wheat and Oats. Number of horses formerly employed, 15; employed now 12. Number of oxen formerly employed, 16: employed now, 8. I having only hired the engine and tackle cannot reply to many of your questions, the rope being nearly worn out when I had it, necessitating a new one. The general depth has been from 7 to 9 inches. The land runs to Twitch very much; I have known it in the Turnips grow above a yard long, and I have now in my office Twitch 5 feet long dragged out of the fallow by Mr. Smith's grubber. I much prefer grubbing to ploughing, although there may be circumstances in which ploughing is necessary. The opinion I have formed of the advantages of grubbing over ploughing are the destruction of Twitch, the comminuting and mixing of the soil rendering it more productive, and with steam the performance of the work at the proper time, which can scarcely be over estimated on stiff soils.

31. Mr. J. C. Robinson, Stevington, Bedford.—Farm: arable, 370 acres; pasture, 180 acres. Soil: strong clay generally. Cropping: 8-field course, viz., 1st, Roots; 2d, Barley; 3d, Red Clover; 4th, Wheat; 5th, Tares or seeds for sheep feed; 6th, Wheat or Barley; 7th, Beans; 8th, Wheat or Barley. Horses formerly employed, 20; now, 12. Apparatus bought Oct 1859; cost, [illegible], and engine, 255l. Rope originally bought, 1400 yards; bought since, 800 yards in August 1861, and 800 yards in May 1862. Repairs since purchase, say 15l. for snatch blocks, and the same for engine. Horse-power of engine, 8. Daily Wages: 13s. 4d.—5 men and a boy; driver, 3s. a day; other men, 2s. 2d. each; boy, 1s., beer included. Water-cart, horse and boy, say 3s. 6d. Coal, 5 to 8 cwt., according to work, at 17s. per ton, with carriage home to fields. I think since I have used the steam cultivator, about half of the work on the farm has been done by horses and half by steam. 1. General depth, 5 to 8 inches. 2. Tillage; I consider the air has freer access to the soil, as it lies lighter than when trodden. 3. Effect on productiveness of farm; my land before steam cultivation lay in high back lands, but I have almost got it flat now; the last three years it has been in a state of transition from one to the other, so I consider the principal effect has to be realised. But my root-crops have been better, and the soil now after the two or three years' steam cultivation will not offer that resistance it has done. 4. Engine &c.; unable to state its value, but it is not in a bad state of repair.

32. Mr. Joseph Topham, Great Stoughton.—Farm: arable, 500 acres; pasture, 130 acres. Soil: clay. Cropping, 6-course shift. Horses formerly employed, 18; now, 10. Apparatus bought July 1862, cost 234l. No alterations or repairs since purchase. Engine, 12-horse power. Grubbed, 228 acres in 1862; at 2s. per acre for wages; 1s. for fuel, and 1d. for oil in 28 days. In the autumn of 1858, Mr. G. Armstrong of Graffham and myself, purchased of Mr. Smith of Woolston, a set of his tackle, believing that to be best adapted for clay land. In 1862 we dissolved partnership, and both have in every way answered our expectations. The above is a correct account of the work done with the set I purchased in the autumn of 1862.

33. Mr. T. W. Dring, Lutton Marsh, Long Sutton, Lincolnshire.—Horses formerly employed, 13; now, 12, but less to do. Apparatus bought July, 1859; cost, 200l. 1s. 6d. Rope originally bought, 1400 yards; none bought since. No alterations, but trifling repairs since purchase. Engine, 10-horse power. Grubbed 170 acres in 1859, 140 in 1860, 150 in 1861, and 110 or thereabouts in 1862, at 3s. 6d. per acre for wages; 1 cwt. per acre of coal. Average work 7 acres per day. Depth of work done from 8 to 14 inches, but the latter depth only when crossed. I consider it a valuable implement on a farm, not so much to reduce the number of horses, but the value is in doing an extra quantity of work when it is required—that is in autumn and spring.

34. ——, Kimbolton Park Farm.—I can give but very imperfect answers to your questions, for the following reasons, viz., That when we purchased our cultivator four years ago the engine of "7-horse" power had been in use for seven years, and consequently was not likely to show so good a result as a new engine of greater power, particularly when our object was to cultivate to a greater depth than we had been previously ploughing. We therefore were obliged to put on a 3 feet driving pulley to gain power, which you are aware was at the expense of speed. Also our fields being generally small and most of them containing many trees, our average quantity of work is small compared with others who have greater advantages. As to results, I think we can equal if not surpass many, as previously to using the steam cultivator the quality of our corn was generally 2s. per quarter below the average (of the neighbourhood), and we could not get a plant of Clover at all. During the last two years we have not only grown splendid crops of Clover, but the quality of our corn has advanced 3s. per quarter, with an increase of from 4 to 8 bushels per acre; and I have no doubt will continue to increase. Our working expenses per day are as follows, viz.:—2 men, at 2s. 2d. per day, 4s. 4d.; 3 men, at 2s., 6s.; 2 porter boys at 8d., 1s. 4d.; 1 lad with water cart, 1s.; 1 horse, 4s.; 8 cwt. of coals, at 1s. 1½d., 9s.; oil, 1s.; total, 1l. 6s. 8d. Three acres and a half is our average quantity per day, and 7 acres the second time over. With regard to expense of repairs we cannot correctly ascertain, as we keep a smith on the estate, though I think it less than the same work would cost done by horses. The rope has not cost us anything for repairs, nor have we had any of it new; and I think it will wear one or two years more without further repairs. You see that our farm is not the best adapted for steam cultivation, consisting as it does of about 200 acres arable, 250 pasture, 240 park; the arable consisting partly of strong clay and recently broken-up Grass land. Yet I am satisfied that it answers our purpose, as it not only enables us to do a great deal of work at the best time (particularly in the autumn), when we go to the depth of 8 inches, thus thoroughly exposing the soil to the frosts of winter. We also put it to our drill at a time when the land is too moist to bear the tread of horses, which is a great advantage on our heavy land. With respect to the number of horses, we cannot gain so great an advantage as on a large farm, where nothing is required for the horses to do but the cultivation of the farm. It would, however, require 4 extra horses to do our work, and even then the work could not be done in the same manner or at the same time as now. As to our course of cropping, the four-course was the system, but now we have adopted Mr. Smith's rotation, viz., to take a crop of Clover the 4th year, and thus make it the eight-course system, and by it we get a large quantity of manure, and I have no doubt that in a few years we shall be able to dispense with artificial manure, except in the shape of oilcake. The land will also increase in value.

## THE BEDFORD CULTIVATOR.

[The following are additional replies to inquiries concerning the operation of Howard's Cultivator.]

7. Mr. John W. Pell, Stanion, Thrapstone.—Farm: arable, 541 acres; pasture, 170. Soil, principally strong land, some Turnip land, very little good eating off. Cropping, four-field. Horses formerly employed, 18; now, 14; it is in two farms 10 miles apart, or could do with less. Apparatus bought, May 9, 1862; cost, 200l. Rope originally bought, 1400 yards; bought since, 700; no alterations since purchase; repairs, [illegible]. Engine, 8 horse power. Daily wages: engine-man, 3s. per day; windlass-man, 2s. 6d.; ploughman, 2s. 6d.; 2 anchor-men at 2s., 4s.; 2 porter boys at 9d., 1s. 6d.; water-cart, 1s. 6d.; in all, 15s. I will refer you to Messrs. Howard's Catalogue of January, 1863; there you will have the best information I can give. I can only say I am perfectly satisfied with it. I have broken up 28 acres twice over the last seven days.

8. Mr. William Pike, Stevington, Bedford.—Farm: arable, 442 acres; pasture, 270 acres. Soil, clay, Cropping: 4-course. Horses formerly employed, 22: now, 18. Apparatus bought April, 1861; engine 10-horse power. Daily wages, 15s.; 5 men and 2 boys; engine man, 2s. 6d.; the others usual pay, with 6d. per acre in lieu of beer for the lot. Coal, 10 to 12 cwt. a day, at 20s. a ton. Grubbed 460 acres in 1858; 720 acres in 1859; 750 acres in 1860; 810 acres in 1861; 383 acres in 1862. The first three years I did some for my neighbours with Smith's tackle, which accounts for the extra number of acres, and greater part cultivated twice over.

9. Mr. John D. King, The Hall, Thorpe Abbotts, Scole.—Farm; arable, 455 acres; pasture, 70. Soil; heavy, mixed and light land in equal proportions. Cropping; four-course. Horses formerly employed, 18; now 14. Apparatus bought June 1862. Cost 200l. Rope originally bought, 1600 yards. None bought since. Engine; 12-horse, traction, by Burrell, of Thetford. Daily wages: 2 men, 3s. 6d.; 3 men 1s. 10d., 2 boys, 6d. Coals, 10 cwt. a day, at 18s. a ton. Since purchasing my apparatus I have cultivated 73 acres twice, and 31 acres once over, at a depth of 8 inches, leaving the land in a fine state for the winter. I am perfectly satisfied it will answer my purpose; we have had no breakage except a porter, from the boy not being accustomed to his work.

10. Mr. Wm. Bulstrode, Cookham Dean, Maidenhead.—Farm: arable, [illegible] acres; pasture, 60. Soil, partly very stiff clay, partly sharp gravel, partly loam on chalk subsoil. Cropping, mostly 5-course—1, roots; 2, spring Corn; 3, Clover, &c.; 4, Wheat; 5, spring Corn. Horses formerly employed, 13; now, 8. Apparatus bought May 16, 1861; cost 250l. N.B. This includes 4 extra snatch-blocks, 4 extra anchors, 40 roller-porters, and 4 patent lever porters, and patent drag-harrows. Rope originally bought, 1760 yards; none bought since. No alterations since purchase. Repairs chiefly confined to porters and windlass pinions broken through inattention. Engine, 10-horse power, double cylinder. Daily wages: driver, 3s. 6d.; windlass man, 3s.; ploughman, 3s.; 2 anchor men, at 2s. 6d., 5s.; 2 porter men, 5s.; total, 19s. 6d. Water-cart, 5s., including man. Coal, 10 cwt. a day, at 19s. a ton. Drag-harrowed on my farm, 1861, 0, 1862, 55; on neighbours' farms, 1861, 75; 1862, 81. Grubbed, on my farm, 1861, 220; 1862, 338; on neighbours' farms, 1861, 146; 1862, 243. The tillage has been thoroughly satisfactory, varying in depth from 6 to 10 inches. The engine and apparatus are in excellent condition, with the exception of the rope, which is much worn, but still capable of doing a large amount of work. The number of acres cultivated per day has averaged about 7.

11. Mr. Charles Street, Cople, Bedford.—Farm: arable, 360 acres: pasture, 100. Cropping, 4-course. Horses formerly employed, 15; now 10. Apparatus bought August 19, 1861, cost 485l. 15s.; rope originally bought, 1600 yards; none bought since. Repairs since purchase, 12l. Engine, 10-horse power. Daily wages: engineer, 2s. 10d.; windlassman, 2s. 8d.; three men, 2s. 2d.; two boys, 6d. each. Water-cart a day, 8s. Coal, 10 cwt. a day, at 17s. per ton. Grubbed 240 acres in 1861, 386 in 1862.

12. Mr. Thomas Nock, Sutton Maddock, Shifnal.—Farm arable: 255 acres; pasture, 25. Soil: strong loam. Cropping, 4-course. Horses formerly employed, 10; now 8. Apparatus bought April 1862, cost 490l. 5s. Rope originally bought, 1400 yards; none bought since. No alteration or repairs since purchase, Engine, 10-horse power. Daily wages, 15s., 5 men and 3 boys: water cart, 5s.; coal, 8 cwt. a day, or 10s. a ton. Grubbing, 152 acres in 1862, 72, 80.

13. Mr. W. C. Morland, Lamberhurst, Hurst Green.—Farm: arable, 180 acres; pasture, 250. Soil: stiff. Cropping: 6-course. Horses formerly employed, 6; now, 6. They were never so lightly worked as they have been this winter, though I took 60 acres additional land in hand last Michaelmas. Apparatus bought, April, 1862; cost, 200l. Rope originally bought, 1400 yards; none bought since. Additions since purchase, 40l.: repairs very small. Engine, 8-horse single cylinder. Daily wages: engine-driver, 2s. 6d.; windlass-man, 2s. 6d.; 2 anchormen, 4s.; ploughman, 2s.; 3 boys, 3s.—14s. Water-cart not required. Coal, 6 to 8 cwt. a day, at 26s. a ton. Grubbing in 1862, 230 acres, in 88 days. The work has been done at depths varying from 9 to 14 inches, the greatest depth having been attained when the land was in the driest state. I am much pleased with the working of the tackle, which I find simple and easy to manage. I consider that it leaves the land in a greatly improved condition, but I have as yet had no crops that will enable me to speak of the results. I observe, however, that the land dries much sooner, and treads sounder after heavy rains. The wear on the tackle has been small.

## CARROTS AND CABBAGE.

By Mr. C. Lawrence.

(*Extracted from the Royal Agricultural Journal.*)

How does it happen that these valuable foods for stock are so rarely met with on ordinary farms?

Is it that their feeding qualities, as compared with other roots in common cultivation, are imperfectly known?

Is it that the comparative produce of food per acre has been under-estimated? or

Is it from misapprehension as to to the comparative expense and trouble of raising them, which may be attributable to defective preparation and subsequent management?

I had contemplated an illustration of our second question by giving a table of analyses of Carrots, Cabbage, Mangolds, and Swedes, compiled from those of various chemists which have been published in our Journal, and other works of authority, under the several heads of "Nitrogenised organic substances capable of producing flesh;" "Substances fitted for the support of animal heat and the formation of fat;" "Inorganic matters, (ash)," &c.; but every year's experience teaches us that however valuable and useful may be the indications afforded by the chemical laboratory, there exist occult operations in the animal laboratory that produce results which tend to discourage too close a reliance on such analyses. Moreover, all these roots yield very various analyses at different stages of their growth and maturity, and no comparative analyses that had not been made of each kind in a perfect state of maturity can be depended on. There are some very valuable observations on the first question under our consideration in a pamphlet recently published by Dr. Voelcker, being a report by him in the "Journal of the Bath and West of England Society," of the result of investigations which he had been requested to make "on the scouring lands of central Somerset." Feeders of stock, who may be free from the pest of scouring land, may pass over this article as inapplicable to their individual cases; but I commend to the attention of all stockmasters an attentive perusal of at least the observations commencing at page 16 of the pamphlet.

We have hitherto placed it seems too much reliance on the amount of the nitrogen disclosed by analyses in the various roots and green crops; while Dr. Voelcker's recent investigations, reported in the paper referred to, tend to show that a large proportion of nitrogen in such crops is rather an indication of their immaturity than of their feeding value. The Doctor observes on this point:—

"Not many years ago a high per centage of nitrogen in hay, Turnips, Mangels, and other kinds of agricultural produce, was regarded as a proof of their superior nutritive value; but a thorough investigation, which I undertook on account of the frequent discrepancies in the calculated theoretic nutritive value of various articles of food, and the value assigned to them by practical men, has shown me that the higher proportion of nitrogen in one of two samples of hay, Turnips, Mangels, &c., by no means indicates a higher feeding value, but the very

reverse. I have been actively engaged for more than three years with an inquiry into the changes which roots undergo in their various stages of growth, and especially when they approach maturity."

I know that Dr. Voelcker's opinion is that the practical feeding value of different foods depends more on the relative amount of sugar than of nitrogenised matters. In his very instructive pamphlet "On the Chemistry of Food," he thus writes of Cabbage:—

"Indeed, no kind of green food cultivated on a large scale in the field contains so much nutritious matter as Cabbage. Being much more nutritious, weight for weight, than Turnips, and at the same time very succulent, Cabbages form a valuable food for milk cows. Cattle are very fond of Cabbage, and dairy cows fed on it and some hay produce much and rich milk, and the butter made from the latter is free from the disagreeable flavour which it always has when cows are fed upon Turnips. Cabbages, for this reason, are a valuable substitute for Turnips, and deserve to be more extensively cultivated in England than they are present."

Dr. Voelcker states, in a letter to me, that "one ton of dry matter of Carrots is worth more than a ton of *the dry matter of Cabbages*."

Having disposed of our first inquiry, the second, as to the comparative produce of food per acre, will receive various estimates in different parts of England. Every farm will, however, in the course of three or four crops, show what is its average acreable produce of Cabbages, Carrots, Mangels, and Turnips. Dr. Voelcker has observed, in reference to the farm attached to our Agricultural College, which my farm joins, "the calcareous soil in the neighbourhood of Cirencester, on the whole, is not favourable to the growth of these roots (Parsnips and Carrots), it being in most instances too stony and shallow." Yet I have grown 32 tons of the white Belgian Carrot, the roots weighed without the tops, and the tops weighed separately, amounted to 7 tons—about 35 tons of Mangels, exclusive of leaves, and 24 tons of Swedes per acre. These crops were on fields in which we could plough 7 or 8 inches without meeting any obstruction from stones. I have never weighed a crop of Cabbages; but, from having frequently weighed a given number of plants at maturity, I am able to estimate about an average yield per acre as 30 tons. On similar land, under the same treatment, the average yield of Swedes would be about 18 tons, and of Mangels about 22 tons. We have weighed many heads of Cabbages in a crop weighing 26 lbs. and upwards; and I have seen specimens grown in the neighbourhood which, I was informed, weighed 36 lbs.; but under the treatment I have described I estimate 14 or 15 lbs. each as an average weight throughout the crop.

Considering the comparative ease with which a Cabbage crop is kept clean, we do not consider the cost of the cultivation of it to exceed that of Mangels and Swedes. The cost of labour attending the Carrot crop, when raised, will considerably exceed that required in maturing those crops; but it must be borne in mind that the tops of the Carrots, when the roots are taken up, greatly exceed in weight and nutritive value the tops of Mangels or of Swedes at the season at which the latter are usually heaped or fed off on the ground.

(*To be continued*).

## THE STEAM-PLOUGH TRIAL.

BEADLE AND OTHERS *v.* HOWARD AND OTHERS.

THIS, tried in February last, resulted in a verdict for Mr. Fowler. Since then Messrs. Howard obtained a rule to enter a verdict for them, on the ground of the insufficiency of Mr. Fowler's specification. This rule came on for argument last week at Westminster Hall. It was discharged. Messrs. Howard, however, appealing, the cause came to a Court of Error.

The LORD CHIEF-JUSTICE said: The question which we have had to consider is, What is the construction of the specification of Fowler's patent, and has there been an infringement of Fisken's patent, and has there been an infringement of Fowler's patent? The rule was granted in respect of the insufficiency of the specification, and whether there was evidence of an infringement. The specification is to be read as if by a party conversant with the state of knowledge at the time when the patent was granted. As to Fisken's patent, it is in evidence in this case that the ingenuity of men had been applied a number of times in endeavouring to use steam power in the cultivation of land, that is, in ploughing, which is the main operation, but also in using many of the other agricultural implements that go in and out of the land, but more particularly so as to adapt steam power to the turning of the plough. The problem was to apply steam power usefully to ploughing, and with steam power it was out of the question to get the turn of the plough. Various devices had been made to use it; Campbell's was one approximation to it, but it did not go to the entire point, and such being the state of knowledge, Fisken's invention attained the useful end. It was necessary to have three or four ploughs in one frame, working by steam, to be profitable; but then the weight of lifting three ploughshares out of the ground and getting three other ploughshares into the ground was a considerable difficulty, and the useful end that was invented by Fisken was that the principle of equipoise could be applied in working the ploughs, or as Fisken in their imperfect invention put two lever frames, but still counterbalancing each other. The principle of equipoise was the end which had occurred to Fisken. Fisken's patent discloses the mode of acting, and it is certain that Mr. Howard has not adopted the screw and sector contained in Fisken's; but I am of opinion that the screw and sector was an entirely unsubstantial part of the invention. The great invention was the putting the two lever frames so acting in correspondence, that gravitation would help to bring one down and the other up. It is clear to my mind that that part of the invention is found embodied in Mr. Howard's machine. Mr. Howard is answerable for appropriating the balance principle with a combination of mechanical means, so exactly similar to that of Fisken that the difference is to my mind colourable only; it was in substance the same. Then has Mr. Howard infringed Fowler's invention? The specification of Fowler is to be read by a person conversant with the state of knowledge, as I have said, at the time when it was granted. It is, in Fowler's mind, an improvement upon Fisken, from whom he bought the patent, and it is clearly to be read as intending to specify an improvement on Fisken's. There being in the mind of a person who reads Fowler's specification a knowledge of what Fisken had done down to that time, Fisken's invention was cumbrous, because he had two lever frames, where one upon one fulcrum would be more operative; it was cumbrous because he had the apparatus of the screw and sector, and the slotted lever, with the necessity for the ploughman turning the winch to bring the ploughs the requisite length; the ploughman turning the winch, the screw and sector gave the 6 inches of additional elevation wanted for the resting ploughs to enable the mechanism to work. Then what is Fowler's invention? He says: "I get rid of the two sets of lever frames, and put both sets of ploughs upon a double frame, turning upon one fulcrum," and he greatly simplified the machine by that process, "and I bring the working ploughs into the ground, and lift the resting ploughs the 6 inches above the surface that is required for the working of the machine, and I do that by applying the traction to one side of the lever frame, which pulls down the ploughs that are to work," and every inch that one set of ploughs is pulled down by the traction of the machine must lift the resting ploughs the very same space; and if the working ploughs are to go down 6 inches, the traction applied, as Mr. Fowler applies it, would lift the resting ploughs the required 6 inches. That is the improvement which is to be gathered from Fowler's specification, and which he made. Now, has Mr. Howard infringed upon it? Now one of Fowler's improvements is, instead of two single frames, carrying two sets of ploughshares; he has got one lever frame, a double frame carrying two sets of ploughshares acting in correspondence with one another. Has Mr. Howard taken his ploughshares in one lever frame? He has not. He has taken two lever frames, but he has joined those two lever frames with a chain which goes over the centre of that machine, making these two lever frames, for the purposes of applying gravitation, and bringing one set of ploughshares down, and the other set of ploughshares up—making those two lever frames as rigid as if they were one lever frame constructed upon Fowler's principle. The chain makes them act precisely as Mr. Fowler's acts. It is not so simple probably, for Mr. Howard might have had hopes that the similarity would not be found so clear, because to the eye there is the most beautiful simplicity that there could be in any machine of this sort existing in Fowler's; but, to the eye, there is considerable complexity about Mr. Howard's machine, and he might have hoped that that apparent dissimilarity would induce those who had to judge between these parties to say "Mr. Howard's is entirely unlike Mr. Fowler's; the one is beautiful in its simplicity, and the other has a great deal of complexity; and it is a further step in the road of improvement where there has been no borrowing of the idea of the former inventor, but it is a road which I have cut out for myself." I think Mr. Howard cannot maintain that he has not really taken the principle of Mr. Fowler. All we have to decide is, has he taken substantially the mechanical means for which Mr. Fowler was entitled to take out a patent? I think that he has got really one frame for his two sets of ploughshares; colourably two, and by the chain made one. Then Mr. Fowler had another grand improvement—by applying the traction, so that the working ploughshares could get into the ground, the resting ploughshares could be lifted the 6 inches that was required out of the ground; he did that by applying the traction to the lever frame which brought them down, and brought them into the ground. Has Mr. Howard done the same? I answer again substantially, Yes, he has applied his traction, not to the moveable frame carrying the ploughshares, but to the fixed frame upon which the whole apparatus rests. But he has applied the traction in that way so as to produce the same useful end that Fowler had invented by the application of traction. It seems to me, therefore, that Mr. Howard has adapted Mr. Fowler's invention, taken it and made a colourable variation. I do not use such a word as that with reference to Mr. Howard; he stands remarkably high, I believe, among the makers of agricultural implements, and I hope and trust that it was from a spirit of improvement, and a belief that it was an improvement. But I have nothing on earth to do with any merits or demerits more than to judge in point of law between these parties; and it is clear to my mind that the principle and the mechanical means to be found in Fowler's are to be found, in substance, in Mr. Howard's, and therefore Mr. Howard has infringed.

Mr. Justice Willes, Mr. Justice Byles, and Mr. Justice Keating concurred. Rule discharged, and the verdict for Mr. Fowler confirmed.

## Home Correspondence.

*Moles.*—It is true that it was I who first began the work, (not the talk), with my friend Mr. Wilkins. Now let me remind him that it was he who first began and still keeps on talking. This reference to "Talpa" renders him but little aid, for in that work the mole's mode of working is referred to by way of comparison to mechanical action, not for the purpose for which Mr. Wilkins tells us the mole was created—to "destroy grubs." His only other bit of evidence is that of two gentlemen farming nearly 2000 acres, who thank him for his articles on moles, they themselves being preservers of moles, consequently their estates are free of wire-worms. Now what argument is there in the evidence thus brought? Little or none. The reference to "Talpa" is beside Mr. Wilkins's question, "the destruction of grubs," and the two farmers who have encouraged the mole have not proved that had they have been mole killers their crops would have suffered. It is asserted "that neither of them has a wireworm on his estate." This I will not believe, for I know the little long legged fly that lays the eggs that breeds them, and I also believe that their eggs are laid and hatched on every man's land. It is of no use telling us that "the Almighty created moles for good," for upon the same ground we might defend the rat, the mouse, and the louse, especially the latter, for without doubt it was "created for good" to punish the slothful, and if we may believe history the mole may be looked upon "as good" for a similar cause, that of a punishment for idleness; for not keeping him under by killing what we can of him. The great naturalist Buffon tells us that the destruction caused by the mole is sometimes very great, and that they increase in such numbers that he himself caught 1300 of them in three weeks; besides this we are told that in Holland in 1742 they were so numerous that the hopes of the agriculturists were in danger. In addition to this we are told that even in ancient times they were considered as pests—even a temple was erected in Æ la to the destroyer of them. Even Darwin, to whom I am referred, was a mole killer, or why does he give us so much about the best methods of catching them? *William Smith, Wools'on, Bletchley Station, Bucks, May 5.*

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

AT the Meeting of the Council and Members of the Society on Wednesday last, the Right Hon. Lord Berners in the Chair, Mr. Ruck, of Cricklade, delivered a Lecture on Steam Cultivation, of which the following is a report:—

Mr. RUCK began by saying that he particularly wished to guard himself against being considered as an advertising medium, or as in any way favouring one system of steam ploughing to the detriment of another. Thirty years ago he found Baxter saying that the injudicious agriculturist went blundering on, in some of his operations being perfectly right without knowing why, whilst in others he was egregiously wrong, yet not able to detect the cause of his error. This observation, he hoped, would bring the farmers of the present day to think upon and study the subject of steam culture. Science had done much for agriculture during the last 10 years. Superphosphate had been a wonderful thing on light lands, and he believed that steam power was destined to do as much as superphosphate. He himself lived on a farm that had been occupied by his father and grandfather for upwards of 70 years, and he used to work 56 oxen, 7 teams in the morning and 7 in the afternoon. At that time his opinion was that he could do the work with oxen free of cost. Now he was entirely dependent on the profits of farming, and there was no system of culture worth mentioning if the balance sheet did not show that it was a profitable one. He had had considerable experience in steam cultivation, having now growing upwards of 400 acres of Wheat, all planted after the steam plough with Fowler's tackle. This remark brought him to the question: What is the proper size of a farm upon which the tenant may apply the use of steam tackle? He had been in the habit of using a 14-horse set, and he should put down the quantity of arable land at 800 acres. But, after all, a tenant could not be expected to embark in steam ploughing unless he had a proper holding. It would not be fair to require him to make a great outlay, if he had only a yearly tenancy and the chance of being turned out of his occupation on a six months' notice to quit. His order to Mr. Fowler was given at the Chester meeting of this Society in 1859. He then sold his oxen, and continued the use of steam in 1860, 1861, 1862, up to the present time, and the whole of the cultivation of his land had been done by that means. That was, so far as ploughing and heavy dragging were concerned. By the use of steam the land was turned into such a state as to constitute what he should call good land. They must have a deep surface soil with a porous subsoil, so that the water would in no way do it an injury, nor the sun burn it up. This was done on all land which was under spade husbandry, and they would always find that the land greatly improved. Allotments, for instance, were a great deal better to look at, and they were better, than lands alongside of them which might have been subjected to the plough for years. With respect to drainage, he used Fowler's draining plough without pipes by horse-power in the year 1851, and the drains were good now, and the line of the drains could be seen in the growing Wheat at that moment being so much better and of a darker colour. This he attributed in a large measure to the

aëration of the soil. During the last season, he had used one of Fowler's steam draining ploughs on the Manor Farm, and it had worked very successfully. The mode in which they used it without pipes was this: they started the mole-plough at the bottom of the field in the main drain or ditch, and worked it up hill, so that no water lay in the drain at all, but the moment it got into the drain it ran into the outfall and was gone. He only put three pipes to the mouth of each drain. This was when they had open drains, which he considered preferable to close drains upon clay lands. He had found that clay lands drained by the draining plough had answered better than when spade husbandry had been employed, the land on each side being well shaken for at least a yard. It was not his intention to trouble the meeting with a long array of figures. He preferred confining his remarks entirely to one day's work; and if he gave them the cost of the work done in a day, he thought they would be able to arrive at a better conclusion than by giving a lot of figures; because different farms implied different land, different labourers, and different management altogether. Now the prime cost of Fowler's 14-horse set was, he believed, about 945*l*. But with regard to figures, he had no doubt most of the gentlemen present had seen the *Gardeners' Chronicle* of the 9th of this month, in which there was an elaborate statement of the cost of work, and the quantity of work done. His outlay was, for the engine-man, 3*s*. 4*d*. a day; ploughman, 3*s*. 4*d*.; 2 portermen, at 2*s*., 4*s*.; anchor-man, 2*s*.; a man to supply water and coals, 2*s*.; 1 horse, 2*s*. 4*d*.; oil, 1*s*.; and coals, 10*s*.; making altogether 28*s*. as the daily cost. To that he added for wear and tear 12*s*., which made the total cost 2*l*. per day.

Mr. Holland, M.P., asked what quantity of coal that 10*s*. covered?

Mr. Ruck: 12 cwt. With this power they would be enabled to plough an acre of land in one hour, or 8 acres per day. They would also have sufficient power to attach the drag, and thus do the work twice over in a place. That work of 8 acres in a day, would cost 5*s*. per acre. Scarifying they could do at the rate of 16 acres a day, with a drag attached. This would cost 2*s*. 6*d*. an acre. The first work he had mentioned with plough and drag, he should estimate to cost 15*s*. an acre if done with horse-power. The second work with scarifier and drag attached, if done with horse power he should put at 7*s*. 6*d*. an acre. The ploughing would be done 6 inches deep, and the scarifying 10 inches deep; and he considered one operation with steam to be equal to two by horse-power.

He would now make a remark about the rotation of crops, and he would recommend in all cases after deep culture a crop of Beans to follow; as he thought the Bean crop was the best to get the soil into proper condition after it had been turned up deep. With regard to the advantage of steam culture to the landlord, he was inclined to place it very high. He was of opinion that the value of land might be increased one-third by the use of steam; he took it that a 14-horse set would do as much work in a day as 30 horses. They could use it whenever the weather was fine, and it ate nothing when it was not at work. The steam horse never tired. They could get up with their work by making longer days; and perhaps it might be advisable to use two sets of men. The work done was far superior to any done by horse-power. The land after steam culture drained very much better. He knew the case of a piece of land which had been drained 14 years, and had lain quite wet under horse and oxen culture; but since it had been cultivated by steam he had never seen a drop of water on its surface, though no alteration had been made in the drains, which were now just what they were 14 years ago. The soil was a particularly tenacious clay of the Oxford kind; and this land they could drain without using pipes. He believed that all land would be greatly improved by means of the application of steam-power; but he particularly wished to draw their attention to its use on light lands, for it was upon the light lands of England that he considered there would be the quickest return, inasmuch as by one operation they would entirely change the nature of the soil. They prevented its burning or frying up, and a great quantity of land would by the use of steam be rendered capable of growing Beans, for which it was now altogether unsuitable. He might just mention that he put the cost of ploughing by steam with drag attached at 5*s*. an acre, the cost of scarifying with drag attached at 2*s*. 6*d*. an acre, and the cost of digging at 5*s*. an acre.

The cost of draining with a mole as large as a decanter, and a yard deep, with pipes, he put at 3*d*. per chain, or 10*s*. an acre; at 40 chains to the acre, and 1 lug (a perch or pole), 16½ feet apart. The land worked better and quicker after rain when steam-ploughed than when horse-ploughed. In fact he had been drilling on clay land in wet weather, when his neighbours could not get upon their gravel or brashy land. The great advantage of steam cultivation was that when the day's work was finished, and the fire was put out, there was no baiting and no harness to take off horses. The labourer made the most of his time. He had not to walk in the morning first to the stable and then to the field; but he went direct from his home to the field, and returned direct to his home as soon as the day's work was done. Owing to the superior cultivation by steam he found the soil was much improved by atmospheric influences, and if, as had been stated, the rain-fall was 26 inches, it would seldom do any damage to land that was under that system of culture. This they might have noticed in the case of allotment ground, for it was not often that allotment ground required draining, in consequence of its superior cultivation, the land by being deeply cultivated, retaining the moisture without injury. Again, he found that superphosphate would act much better upon strong lands after being cultivated by steam than after horse-power. This he attributed to its working down into a finer tilth. Superphosphate upon clay lands in a rough state would do no good, but it would accomplish wonders upon clay soils if worked into a proper tilth. Further, under steam culture they increased the size of the worms, and there was no better criterion with regard to the state of land when it was fit to grow a crop than the size of the worms. Where they had no worms they would have no corn; and it was rather strange that nitrate of soda killed the worms in a half an hour from the time it was sown. He did not know how to account for that, but with the great amount of science which the Royal Agricultural Society had at its command, he had no doubt it could be accounted for why where there were the largest worms, and the greatest quantity of them, there they would have the largest crop. Whilst referring to worms he would observe that no Grass land which was subject to worm-cast could be good.

And here he would remark that if they could do as much work per day by the steam power he had mentioned as with 30 horses, the prime cost for the power he should put as equal. Allowing, then, 30 horses with harness to cost 900*l*., and the implements they worked 100*l*., that made together 1000*l*.; whilst the prime cost of a 14-horse set cultivator was 945*l*. It was not only for that reason steam culture was coming into use. Another reason was that farmers now generally used threshing machines; and upon a rough calculation the outside cost for threshing 800 acres of land would be about 80*l*. a year, and on the same farm the steam cultivation would come to 800*l*. There was a greater margin then for saving where they had an outlay of 800*l*. than where they had one of only 80*l*. He looked upon farmers like a flock of sheep running through a gap. It was very difficult to get one to start; but once he did start, they all ran in a body. The plough, from its wedge-like form, would turn over a greater weight of soil with less cost than any implement that had yet been brought out; and the injury done to the land by the treading of horses was avoided. They went an extra depth. They broke the pan without bringing up the subsoil to the surface. The pace of the plough, too, was of very great importance. With the horse system, to plough for a show-field they must go extremely slow, so that the furrow was turned over without being broken; but with steam power, by driving the plough, say at the rate of 3½ miles an hour, it was thoroughly broken and the cultivation much forwarded. He was inclined to think that there was very little land in England that could not be cultivated by steam. If the land were in ridges he would recommend that it should be ploughed lengthwise, and not levelled too quickly. He had a neighbour in Gloucestershire, Mr. Reed, of Elkstone, who had an extremely hilly farm, some of which was as steep as the roof of a house, and having many large stones in it bad to cultivate; yet he had worked it with steam very successfully. The wear and tear of the steam apparatus would be principally on the clip drum, the anchor, the rope, and the porters; and compared with horses in harness, shoeing, farriery, &c., he considered the wear and tear of the one and of the other to be so nearly the same in amount that he could scarcely say which he was paying most for.

In addition to other advantages, the risk of the steam-engine was not so great as the risk with horses. Horses were subject to all sorts of illnesses. They were often attacked with influenza, and frequently in the busiest times of the year he had known one half his horses disabled and rendered unfit for work. Not so with the steam engine, which was always fitted for work. They could also turn the steam-engine to account by threshing, grinding, and doing other things on the farm with it during the winter, when their horses were living expensively and standing idle. Now he would by all manner of means recommend any gentleman who was inclined to embark in steam culture at the first onset to buy sufficient power; for no more manual labour was required when they had a 30-horse power engine than when they had only a 5 or 6-horse power engine. If they had a 14-horse power engine, and upon a rough calculation the power of four horses was consumed in the draft of the rope and friction, they would then have 10-horse power left with which to cultivate the land; but if they had only an 8-horse engine, and the power of four was consumed by the draft of the rope and friction, they had only a 4-horse power to cultivate the land. The question, then, in his opinion, resolved itself simply into one of 12 cwt. of coals *versus* the keep of 30 horses. They got their work done at the proper time. They had no ridge or furrow, and no water-furrow was required. Drilling could be done in the same direction in which the land was ploughed, and this was a matter of very great importance. He had seen one-third more of Wheat grown in the same field when it had been drilled the same way in which it was ploughed, then when it was drilled across the furrow. There was moreover a saving of seed; and they had no difficulty with the horse-hoe. He had been in the habit of having all his crops horse-hoed for years past. He used Smith's horse-hoe at the rate of 10 acres a day with one horse. Having no furrows he had no difficulty with the reaping machine; the one he used being Cuthbert's. Neither had he any difficulty with the mowing machine (Burgess & Key's), whilst the carting could of course be done much better. He had yet this further advantage; no sheep died from being on their backs in furrows. By the use of steam too, he believed that summer fallow would be entirely extinguished. Again, rolling would not be required any more than it was required under spade husbandry, and the increase of crops he placed at one quarter to the acre. The increase of stock also must be very great. In the autumn they ploughed their land and planted it with Vetches or Rye at one operation, which in the spring of the year they fed off before they came on with their root crops: consequently their flock of sheep would be greatly enlarged. Their root crop would be of much greater weight and of better quality, and the land in a much better state for the sheep to be on, being drier and more healthy for the animals than when it had been horse-ploughed. And as to malting Barley, whenever he had sold any he had always had the maltster sending to him again for more, finding that the steam-ploughed Barley was superior to the horse-ploughed for malting purposes. The crops of seeds they would find to be wonderfully better in consequence of the extra depth of cultivation. Clover that would hardly stand more than once in five or six years with horse culture, they would have no difficulty in growing every three or four years with steam. But the benefits accruing from steam culture did not end here. The improvement resulting to the labouring man was also very considerable. Extra wages encouraged emulation; a desire was awakened to rise in the rank; and there was more time given for educating the boys, who were not required to come into the field when of so tender an age. Here he should like to notice the mistaken notion which some persons entertained with regard to the length of rope. He found that the plough travelled a few seconds faster from the engine to the anchor, say 400 yards, than from the anchor to the plough. The extra power required (as tested by a dynamometer) to move the anchor was only half a horse-power as the rope was running around the anchor 66 feet, and moving the anchor only 1 foot forward. Consequently it acted at a greatly reduced multiplier. The time required to move the engine forward, and to turn the plough, was only 15 seconds, which was quicker than any pair of Scotch horses could turn. The process of travelling with the engine from field to field or along the road was extremely simple. He had never had any difficulty whatsoever; and he would as soon trust his men with taking an engine from field to field as he would trust them with a one-horse cart. One argument which had been urged against the use of steam was that if they did away with horses they would have none to do their harvesting with. Now, in the north, it was the custom, the moment they began harvest, to turn out half their horses, and use very few of them with carts; and if they made their ricks in the field they easily got over that difficulty. He himself had put eight horses on a fine harvest, and by making the ricks in the field they had been enough to cart the corn upon 800 acres. With respect to making the ricks on the ground in the field during the summer months, the mice did them much less damage than when they were placed on saddles.

He would strongly recommend any gentleman who determined upon adopting steam culture not to cultivate too deeply at first. The Boydell system of travelling over the land was altogether out of the question, because of the large amount of power consumed to propel the engine, horse-hoe, &c., and the damage which was done by pressing the land. He would advise them to have ample power, for he found that sometimes in the same field he came upon a piece of clay, and that then he required double the power to draw the engine which was necessary to go through gravel or stone brash. Hence the propriety of being prepared with sufficient power to drive through the whole. Double power was required also where Couch existed—a very good reason he thought why Couch should be eradicated. In conclusion, having mentioned Mr. Fowler's tackle, it was no more than justice to that gentleman to say that he considered he was deserving the very best thanks of the country for the skill and energy, as well as the large amount of capital, which he had brought to bear in carrying out steam cultivation to a successful issue. For his own part, he could not consent to return to the old system of culture on any consideration. In fact, he would as soon pay rent for a farm and use steam, as have a farm of his own for life under the old system. He looked forward with confidence to the period when steam would effectually cultivate, plant, and completely finish all the operations upon the land at one time; and that would entirely abolish summer fallow. Seeing was believing; and although his farm was not the land of Goshen nor yet the garden of Eden, if any gentleman in that room was inclined to embark in steam culture, and would like to see what

changes he had made in his occupation, he should be most happy to show them to him.

Mr. Dent, M.P., had recently seen Howard's cultivator in operation on a strong piece of clay land at Bedford. It was working 9 inches deep, going at a great pace, and turning and breaking up the clods in a wonderful manner. From what he saw there it struck him that to a great extent the steam cultivating system would take the place of the system of inversion, and the crops in the neighbourhood of Bedford seemed to prove that steam culture must largely increase the production of corn.

Mr. Frere, referring to what Mr. Ruck had stated respecting Clover, observed that, according to Liebig, Clover was a deep-feeding plant, and its failure was attributable to the exhaustion of the available under soil.

In answer to the Chairman, Mr. Ruck said that he employed 12 horses on his farm, and had sold the whole of his 56 oxen.

The discussion was continued by Col. Kingscote, M.P., Mr. Bradshaw (Chairman of the Central Farmers' Club), Mr. Barker, and Mr. Sidney.

Mr. Holland, M.P.—I beg to propose a vote of thanks to Mr. Ruck for his kindness in attending here to-day, and to express the sense of the meeting of the valuable practical information he has laid before us in reference to this important subject. Steam cultivation is, no doubt, still in its infancy, and as long as it remains in its infancy it cannot be expected that any very general rule can be laid down for its application to particular soils. We know this, that in common life, though a medical man is a well-educated man professionally, he never dreams of applying his professional skill until he has felt the patient's pulse. So, just in the same way, steam cultivation must not be applied to any particular field or farm until the person occupying it has ascertained what he actually wants. This once decided would settle the question as to smashing up or turning over the land. Now, as far as I am concerned, I cannot do without turning over the land, because my land is very heavy, with a high ridge and a furrow that must be brought down considerably before I can cultivate properly. To get all the advantages of climate and rainfall, the land ought to be comparatively flat, and it takes much time, a long series of years, and great patience before that can be accomplished, much care being required not to turn over too rapidly, or until the subsoil brought up to the surface has been thoroughly aërated and chemically changed. But the day may come when some one else after me will extend steam cultivation after I have made the land comparatively flat; then will arise the question whether he will not change, and seeing there is a large amount of soil aërated at a great depth, cease to turn over, and take to smashing or breaking through the soil. I am glad to hear Mr. Ruck state his views with regard to ploughing light lands. Upon the land at the College there is a large body of clay, but the adjoining land was originally stone brash, and no doubt it has more or less blended with its neighbour. All beyond that, however, is stone brash, and although we cannot go deep there, it is a great advantage to be able to take a large area with the machinery in the course of a day; an area so large that it would be impossible to do it without considerable expense by horse-power, but is easily and economically accomplished by means of steam cultivation. The changes which take place in the course of cultivation are curious. Although we are obliged in the first instance to supply ourselves with a large amount of steam power, say from 12 to 14-horse power, yet after we have gone over the heavy land two or three times, we find that we must work our engine with less power; but a power that will be more practical for operations on other parts of the farm. One of the objections, indeed, to employing the large 14-horse power engine in threshing and other operations in connection with the farm-yard is, that it consumes more coal, and uses more power than we need; for we do not want anything like that power, yet we consume fuel in proportion to it. After we have got our fields into deep cultivation therefore, a less powerful engine than we required at first will answer our purpose; and I, myself, am now working fields at a pressure of from 55 to 60 lbs. the square inch, where in the first instance I worked from 80 to 85 lbs. to the inch. I find there is great economy in the employment of steam; and if in the course of time an engine can be got that will do the threshing and other work in the farm-yard more economically, be generally applicable, in short, to farming purposes, and at the same time less expensive for cultivating the land, the gain will be very great. With respect to the company mentioned by Mr. Ruck, I expect much good to result from its formation; because it is the want of money that has hitherto prevented steam power from being generally applied by tenant farmers to the land. However, now that Mr. Ruck has led the way, and as he says it is the habit of farmers to follow one another like sheep through a gap, I don't think we can have a better bell-wether than my friend. I feel certain we are progressing in the right direction, and in future I anticipate seeing steam culture making unprecedentedly rapid strides. I will only add, in repeating my thanks to Mr. Ruck for his able lecture, that the Royal Agricultural Society is moving in a right direction when such a question as this is introduced by a tenant farmer, and followed by a discussion in which other tenant farmers have borne a part; and I hope and believe that the lecture and discussion, when circulated throughout the country by means of the agricultural press, will serve to enlighten the farming community upon the subject, and be productive of widely extended good.

The motion of thanks was seconded by Col. Kingscote, carried unanimously, and briefly acknowledged by Mr. Ruck.

The meeting then separated.

## Foreign Correspondence.

Uruguay: *Estancia del Guayavo*, Feb. 21, 1863.—On Monday, the 2d inst., I signed my contract to the satisfaction of all concerned. I am to have 1500 sheep, including 10 per cent. wethers; a homestead, with two rooms; a little out-house for a kitchen, a cattle pen, two horses, and two or three milch cows, to be returned in good condition by me, at end of agreement, viz., 31st December, 1865. Beef, half a bullock for consumption of homestead, for which I shall twice a week have to ride, almost a league, before sunrise. Rams for my flock will also be supplied at the proper season, free of cost. All expenses connected with shearing, washing, curing, &c., I have to pay. In remuneration for my services I am to have one-third of the increase and one-third of the wool. I don't expect to be much in pocket for at least some time to come, but I shall have, I hope, some 800 sheep of my own at the end of the term (three years). But time will show. Such is the sum and substance of my agreement.

The same evening (2d inst.) George and myself, together with a young fellow, late an officer on board one of the Royal Mail Steam Packet Company's boats, whom I shall designate as "Chip," left Buenos Ayres for Monte Video, where we arrived on Tuesday afternoon.

On arriving at Monte Video I went direct to the house of —— & Co., where I found Mr. James ——. We had a welcome reception, and it was decided our baggage should leave for Guayavo next day in a bullock cart belonging to the Estancia, he had kept back expressly, which was very good of him, and we were to leave by the diligencia on the following Sunday (8th).

On Sunday morning, at half-past 4, A.M., Geo. Chip and I were inside the diligencia, ready to start. The conveyance was rather heavy, drawn by seven horses, and crammed with people, eight inside and four outside. We went on at a very good rate, and glad and happy I felt when I found we were among fine old hills and valleys once more. What a contrast to the treeless plains of Buenos Ayres! Our first halt for the night was at Florida, where, through the consideration and politeness of a fellow traveller, a Spaniard by birth, who had been through Peru and Chili, and acquainted with the town, showed us over an immensely fine orchard, where were trees, bending with fruit of every species—Apple trees, Pear trees, Peach, Quince, Walnut, Fig—and everything was so well kept that it was quite a treat. We went to bed early after a hearty dinner, and next morning before sunrise were again in the diligencia on the road to Durazno, which you can find in the map, I believe, some 25 leagues north of Monte Video. Knowing the road, our wise compañeros took our breakfast with them, ready, so that about 8 A.M., when we came to a halt, to change horses, we all dismounted, and soon found ourselves squatting in a circle, round a huge piece of beef, bread, and two or three bottles of wine, enjoying the meal wonderfully. In consequence of a small bet made between two passengers as to the hour of arrival at Durazno, and a promise on the part of the passenger, who wished to get in early, to the driver, that, if he did win, he, (the driver) should have the money, we arrived in splendid time, and coachee became the recipient of the wager. The landlord of the hotel where we stayed is the biggest man I have ever seen. I forget his weight, but it is enormous—I must again inquire and let you know. He holds the Englishman up as as a little god—nothing can be done too quickly for his English visitors, no one served before—the best of wine, &c., that he has; but don't he make Johnny pay for it all! And he owns to it too, for on one occasion, on being called to account for his immense charge, he quietly said, "Well, if it weren't for the Englishmen who come I could never live, as the natives pay me nothing." So what can a body do? He does everything to please you, and at the same time stands in bodily dread (literally) of them. After sunset we all sat in the open court, under an immense Vine, to dinner. It seemed a kind of table d'hôte, for natives (three or four) and two resident Englishmen also sat down with us; and a jolly meal we made, winding up the evening with a game or two at billiards, a smoke, and then to bed.

All the next day, Tuesday (10th), we stopped there, as the peon forgot to bring our horses in time in the morning. At breakfast, about 11 A.M., while sitting under the Vine, all of a sudden a band struck up some lively music, much to our pleasure—this band had come voluntarily to give us a welcome, and in the midst of the band playing, some of the waiters let off fireworks hard by. What a surprise, eh? This may show you how our countrymen are treated. Next morning (11th) we left Durazno for the Guayavo. We had a fine string of 15 horses, and being, with the peon, five in number, we had three each for the march—about 18 leagues. The Estancia is to the north-east of Durazno, but when I get a definite point of its position you shall have it. We crossed the rivers Yei, Carpentaria, and Guayavo, and five minutes ride above the latter put us down at this farm house, about half-past 7 P.M., just in time for a hearty dinner.

The whole establishment here consists of two separate branches, one called the Guayavo, the sheep establishment; and the other, San Jorge, the cattle establishment: in this latter there are no sheep whatever.

There is a general manager, who lives at San Jorge (a Mr. —— but at present there is no settled manager here (Guayavo), although there are two young Englishmen, one, I think, on probation, and the other is the bookkeeper, also having sheep of his own here, hiring a man to mind them. I have not got my sheep yet, but expect them next week.

We have therefore passed the time since we have been here at the farm house. It is a lovely country, and we spent the time first-rate. Every evening we go to the river (Guayavo) for a swim, which is in some parts extremely deep. I have been employing my time a little in the carpentering way, and have made myself a nice little strong stool, two sets of pegs, and a shelf for the chinaware. George has made three bookshelves. We also do a little at shooting and fishing.

## Farm Memoranda.

Northumberland Farm: *Report for April.*—A month fraught with most interesting farm operations has just drawn to a close. The whole of April has been most favourable for the various processes of cultivation; a drying and cold north-west wind, which increased to a hurricane on the 29th, being the only drawback in checking the growth of Grass and spring corn. As a rule, spring corn has come away admirably on drilled land, though there are some complaints on broad-casted land, owing to the irregularity of the depth at which the seed is deposited. The Oats have been all rolled since they were a braird—a plan which we find to answer much better on strong land than rolling immediately after drilling. Barley was drilled during the second week of April at the rate of 2 bushels per acre, and 9 inches apart; the Grass seeds were harrowed in with it, and then all rolled down together, and it has since come away very regularly. Wheat has been horse-hoed—the Grass seeds being previously sown—since which it has grown apace and now entirely covers the ground, whilst its general appearance augurs well for a good harvest. Grass has been somewhat checked in growth by the above-mentioned dry winds, still it has a very thick bottom, and as a rule cattle will be turned out on full bite.

*Horse Labour.*—The chief employment of this branch of labour has been in broadsharing, grubbing, harrowing, rolling, and otherwise preparing the fallow land for Potatoes, Mangels, Turnips, &c.; horse-hoeing Wheat and Beans, carting manure to Potatoes, rolling Wheat, Oats, and Barley; drilling Barley and Grass seeds, and such like. For preparing Turnip land in the spring, the writer from several years' experience is now convinced that the broadshare stands unequalled; having the cutting action of the plough it mutilates the land in a similar manner without turning it over to be baked, parched, and thus robbed of its moisture, which is of such importance in brairding the seed. The grubber and harrow following it soon reduce the land to the finest mould, and readily bring to the top any Couch that may be below.

*Hand Labour.*—Our hands have been chiefly occupied in gathering Couch, spreading manure, planting Potatoes, the ordinary barn work, turning manure heaps, repairing hedges, in addition to the men whose labour is necessarily represented in connection with horse labour, as drilling, hoeing, &c.

*Stock.*—A portion of a lot of fat Irish bullocks, purchased during last autumn, have been disposed of, as our Swedes began to disappear more rapidly than desirable where justice had to be done to the whole herd. Store stock have been keeping their condition on a small quantity of Turnips, straw, and a little hay, but will have to be turned out to Grass early in May. A lot of fresh heifers have been purchased at Penrith Fair, which are likely to go off fat during July and August. The sheep stock is now distributed all over the farm, according to the requirements of their respective ages, and the end for which they are intended. The ewes have finished lambing, and with the exception of a slight loss among the ewes, we have not to report an average mortality among lambs. The ram and wether hoggets have been washed and shorn, and in the course of a few weeks the latter will go to to market. The process of washing and shearing the rest of the flock will follow about the middle of May. *J. W.*

## Calendar of Operations.

MAY.

Berwickshire Merse Farm, *May* 4.—It is not often that we have a spring so favourable to the general work of the farm. Grass came unusually early, to make up for the deficiency of the Turnip crop, and hoggs have made great improvement on the change of food. The closing days of the month, no doubt, were cold and wintry, threatening starvation; but May has brought its own weather, and changed the grey to green again. The hail showers were very severe for several days, and the young Oat blade was more cut up than we ever saw it before. These two months have been remarkably

windy, and the occasional showers were dried up "in less than no time." The rainfall amounted to about an inch in March, and 2 inches in April; and it was only once or twice the land was too wet for profitable working. We faced winter with our work a month behind; but now it is well forward, and we may begin the drilling of Swedes by the middle of the month. Before the cold days corn was generally healthy and vigorous, and we trust it will soon recover. Beans have to a large extent taken the place of Potatoes, which proved a bad speculation. Potatoes may be said to present the *beau ideal* of a bad crop, when you sell 3*l*. worth off an acre, and the buyer forgets to pay for what he gets. Our hoggs have consumed large quantities of Corn, and we begin to clip them for the market this week. Cattle are being finished off with with Linseed cake in addition to the Barley meal they have got all winter, and they seem likely to meet a good demand. Our lambing is just finished, having been six weeks in hand. We have a very large number (10 per cent.) of barren ewes; yet, with numerous twins and few deaths, we expect to wean a very good crop. With dry weather and plenty of milk, the lambs are quite hearty. *J. T.*

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending May 13, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 7 | 30.12 | 54 | 52 | W. | 1 | 7 | 70 | 46 | 124* | 41 | .. | 55 | 52 |
| Friday .. | 8 | 30.38 | 56 | 51 | E | 1 | 1 | 67 | 30 | 120 | 27 | .. | 55 | 53 |
| Saturday .. | 9 | 30.11 | 56 | 51 | S.E. | 1 | 2 | 67 | 32 | 114 | 30 | .. | 55 | 53 |
| Sunday .... | 10 | 29.99 | 54 | 50 | N. | 2 | 6 | 74 | 39 | 124 | 35 | .. | 56 | 53 |
| Monday .... | 11 | 30.05 | 55 | 48 | W. | 2 | 3 | 65 | 32 | 118 | 27 | .. | 55½ | 53½ |
| Tuesday .. | 12 | 29.73 | 54 | 53 | S.W. | 3 | 7 | 60 | 47 | 120 | 45 | 0.11 | 55 | 53½ |
| Wednesday | 13 | 29.65 | 58 | 54 | S.W. | 3 | 3 | 60 | 46 | 96 | 43 | 0.21 | 55 | 53 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

CLOVER AND GRASS SEEDS: *Mr. Lovell*. The following is the result of the analyses of 10 samples:—

| | Copy of Label. | Weed Seeds in a Pint. | Remarks. |
|---|---|---|---|
| I. | 1. White Clover Seed, 1863 | 20,800 | Principally Plantain |
| II. | 2. Do. do. 1863 | 12,800 | Various, but little Plantain |
| III. | 1. Trefoil seed, 1863 .. | Pure | But poor seed |
| IV. | 2. Do. 1863 .. | 960 | Brighter sample |
| V. | 1. Alsike Clover seed, 1863 | 30,720 | An uneven impure seed |
| VI. | 2. ,, ,, 1863 | 23,040 | Brighter; weed principally a small Grass seed |
| VII. | 1. Red Clover seed, 1863.. | 9,600 | Of which 8,000 Plantain |
| VIII. | 2. ,, ,, 1863.. | 4,160 | Of which ,640 Plantain, the rest mostly Umbelliferæ |
| IX. | 1. Rib Grass seed, 1863 .. | 67,200 | Principally Clover seed, probably got from dirty Clover |
| X. | 2. ,, ,, 1863 .. | 19,200 | Probably got in like manner |

Upon these we would make the following remarks:—1. The samples are meant to be of seed of the year 1862. 2. Our estimate is founded upon the samples sent, which were small. They are made up to pints for convenience. 3. As regards the Plantain or Rib Grass in the Clovers, their seeds have been estimated as weeds, for however some people may like Plantain, it is out of place in a pure sample of Clover seed. 4. In like manner in IX. and X., labelled "Rib Grass Seed," the Clovers have been estimated as weeds upon the principle that "a Tulip in a Potato garden is a weed;" though we confess that for the sake of fodder we should prefer it all to be Clover. *J. B.*

ERRATA: In the report of Fowler's Steam Plough, p. 442, under the head wages, cancel 19*l*. 4*s*. opposite No. 3 in the table, which relates to it. Under the heading of Howard's Cultivator, p. 444, for No. 1, Mr. Joseph Bayley, read No. 1, Joseph Bray, Esq.; and in No. 3, report from Mr. J. Henderson, of Sandwich, for two porters and water cart boy, "1s. per acre," in addition to their pay, read "1d. per acre."— In 27th line from bottom, col. *b*, p. 418, for "advocate" read "deprecate."


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

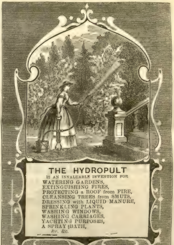
THE HYDROPULT.—"All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines."—*Gardeners' Chronicle and Agricultural Gazette.*

THE HYDROPULT.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

THE HYDROPULT.—"Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

THE HYDROPULT.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

THE HYDROPULT.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces."—*Mechanics' Magazine.*

THE HYDROPULT.—"It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation."—*Illustrated News of the World.*

THE HYDROPULT.—"Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner."—*Builders' Reporter.*

THE HYDROPULT.—"Many of the most scientific men of the age are daily inspecting and testing its uses."—*Age We Live In.*

## AN INVENTION FOR THROWING WATER BY HAND POWER

(SECURED by ROYAL LETTERS PATENT,)

Price TWO GUINEAS

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain.

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

THOMAS RIVERS, Esq., the eminent Florist, SHIRLEY HIBBARD, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.

EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.

"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "PERCY M. DOVE, Manager."

"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. HALLOWS, Secretary, Caledonian Insurance Company."

"33, Portland Street, London, W.C.

"Mr. Charles P. Button. Sir, I am perfectly satisfied from the statement of Mr. Green, the conductor of our fire-escape at Notting Hill, that a large amount of valuable uninsured property was saved from destruction by the timely and efficient use of the Hydropult, which was fortunately on the adjoining premises during the fire which consumed the drapery establishment of Mr. Thomas, of 4, Coburg Place, Bayswater, on Friday evening last. Your little engine was used most effectually in keeping the roof of the adjoining house saturated with water, thereby preventing the spread of the flames, as the engines of the regular district fire brigade did not arrive on the spot until more than one half hour after the fire broke out.

"A fire, at its commencement, can readily be extinguished by means of this little annihilator, and infinite service rendered in staying the progress of the flames during the interval which must elapse before fire-engines can, under any circumstances, be brought into action.—Yours truly, T. SPENCER, Inspector of the Royal Society for the Protection of Life from Fire."

**CAUTION**: Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; GRIFFITHS & BROWETT, Manufacturers, Birmingham; CHARLES P. BUTTON, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult.

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. SPENCER, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE! FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

CHARLES P. BUTTON, PROPRIETOR,
HYDROPULT WAREHOUSE, 27, LEADENHALL STREET, LONDON, E.C.
WEST END DEPOT, 309, REGENT STREET, W.

## SHANKS' NEW PATENT LAWN MOWERS for 1863.

**SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.**

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for use.

| Width of Cutter. | | |
|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 17 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 7 6 | |
| No. 10.—19-inch Machine ... ... | 7 12 6 | *Do. by a Man and a Boy.* |
| No. 11.—16-inch Machine ... ... | £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 2 6 | *Do. by a Boy.* |

No. 16.—12-inch Machine for Pushing only, £5 5*s.*; easily worked by a Lady or a Boy.

*** *The Machines are warranted to give ample satisfaction, and if not approved of may be at once returned.*

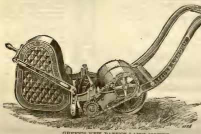
**Machines are kept in Stock, from which Orders can be at once executed.**

J. B. BROWN AND CO., 18, CANNON STREET, CITY, LONDON, E.C.

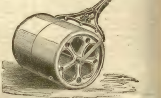
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863.



GREEN'S NEW PATENT LAWN MOWER.



GREEN'S NEW PATENT GARDEN ROLLER.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOS. GREEN FOR HIS PATENT LAWN MOWERS,

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS

DURING THE SEASON OF 1862, AND DURING THE PRESENT SEASON 1863.

GREEN'S PATENT LAWN MOWERS have carried off every Prize that has been given in all cases of competition, and were the only Machines Highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862. (No Prizes were given.) They are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

Upwards of 14,000 of the above Machines have been sold since the year 1856, and thousands of letters have been received by the Patentees testifying to their efficiency. They do not deem it necessary to publish more than the two following :—

TESTIMONIALS.

"Royal Horticultural Society, South Kensington, W., Feb. 28, 1863.

"DEAR SIR,—Your Mowing Machines, which have been in constant use here for two seasons, have answered well. They do their work efficiently, and with a less amount of manual labour than any other Machines I have tried,

"To Mr. Green." "Yours truly, GEO. EYLES."

"Royal Gardens, Windsor, March 27, 1863.

"DEAR SIR,—The Hand Mowing Machines you supplied last season for the use of the Royal Gardens, Windsor, give great satisfaction.

"To Mr. Green." "Yours very truly, THOMAS INGRAM."

PRICES.

| | | |
|---|---|---|
| To Cut 10 inches | £3 10 0 | Suitable for a Lady. |
| " 12 " | 5 0 0 | Suitable for One Person. If with internal gear, 10*s.* extra. |
| " 14 " | 5 10 0 | Do. Do. Do. Do. 10*s.* extra. |
| " 16 " | 6 10 0 | Suitable for One Man or Two Boys. |

The 16-inch and 14-inch Machine, with internal gear, are particularly recommended for use by one person.

| | | | If with Patent Delivery Box. |
|---|---|---|---|
| To Cut 18 inches ... | £7 10 0 | Suitable for One Man and Boy | £8 15 0 |
| " 20 " ... | 8 0 0 | Do. Do. ... | 9 5 0 |
| " 22 " ... | 8 10 0 | Suitable for Two Men ... | 9 17 6 |
| " 24 " ... | 9 0 0 | Do. Do. ... | 10 7 6 |

### DONKEY and PONY MACHINES, including Traces.

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 24 inches ... ... | £11 10 0 | £12 10 0 |
| " 26 " ... ... | 12 10 0 | 13 12 0 |
| " 30 " ... ... | 16 14 0 | 18 0 0 |

Leather Boots for Donkey, 16*s.*; for Pony, 20*s.*

### PRICES of HORSE MACHINES, including Box of Requisites and Traces.

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 30 inches ... ... | £20 0 0 | £21 10 0 |
| " 36 " ... ... | 23 0 0 | 24 16 0 |
| " 42 " ... ... | 26 0 0 | 28 2 0 |
| " 48 " ... ... | 29 0 0 | 31 8 0 |

Leather Boots for Horse, per set, 1*l.* 4*s.*

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.

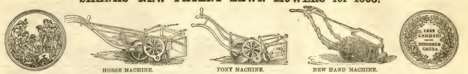
Diameter 20 inches, length 22 inches, price £3 5*s.* | Diameter 16 inches, length 17 inches, price £2 10*s.* | Diameter 24 inches, length 26 inches, price £4 5*s.* Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

GARDEN ENGINES, SYRINGES, WATER BARROWS, and PUMPS. CAST IRON FOUNTAINS, VASES, GARDEN SEATS, and GARDEN CHAIRS. IRON HURDLES, WIRE FENCING, WIRE NETTING, &c. Also every description of HORTICULTURAL and AGRICULTURAL IMPLEMENTS. *Illustrated Price Lists free.*

T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

# SHANKS' NEW PATENT LAWN MOWERS for 1863.




HORSE MACHINE. PONY MACHINE. NEW HAND MACHINE.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for Use.

## SHANKS' NEW PATENT HORSE MACHINE.

| Width of Cutter. | | |
|---|---|---|
| No. 1.—48-inch Machine | ... £28 0 0 | Drawn by a Horse. |
| No. 2.—42-inch Machine | ... 26 0 0 | Drawn by a Horse. |
| No. 3.—36-inch Machine | ... 22 0 0 | Drawn by a Horse. |
| No. 4.—30-inch Machine | ... 19 0 0 | *Drawn by a Horse or strong Pony.* |

Patent Delivering Apparatus for Nos. 1 and 2 Machines, 40*s*.; for Nos. 3 and 4 Machines, 30*s*.

## SHANKS' NEW PATENT PONY and DONKEY MACHINE.

| Width of Cutter. | | |
|---|---|---|
| No. 5.—30-inch Machine | ... ... ... £15 15 0 | *Drawn by a Pony.* |
| No. 6.—28-inch Machine | ... ... ... 14 10 0 | *Drawn by a Pony.* |
| No. 7.—25-inch Machine | ... ... ... 12 10 0 | *Drawn by a Donkey.* |

Patent Delivering Apparatus for Nos. 5 and 6 Machines, 30*s*.; for No. 7 Machine, 25*s*.

## SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for use.

| Width of Cutter. | | |
|---|---|---|
| No. 8.—24-inch Machine | ... ... £8 17 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine | ... ... 8 7 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine | ... ... 7 12 6 | *Do. by a Man and a Boy.* |

| Width of Cutter. | | |
|---|---|---|
| No. 11.—16-inch Machine | ... ... £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine | ... ... 6 2 6 | *Do. by a Boy.* |

No. 16.—12-inch Machine for Pushing only, £5 5*s*.; easily worked by a Lady or a Boy.

*** *The Machines are warranted to give ample satisfaction, and if not approved of may be at once returned.*

AGENTS:

J. B. BROWN AND CO., 18, CANNON STREET, CITY, LONDON, E.C.



# THOMAS MILLINGTON,

## GLASS MERCHANT. (Established 1750.)

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

# REDUCED TARIFF FOR SHEET GLASS AND HORTICULTURAL GOODS.

THE AGRICULTURAL HALL, ISLINGTON, CONTAINING AN ACRE OF GLASS, WAS SUPPLIED BY T. MILLINGTON.

Mr. Rivers and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home use and for Exportation.

PROPAGATING GLASSES.

| | | |
|---|---|---|
| 2 inches diam. | 0*s*. 3½*d*. | each. |
| 3 ,, | 0 4½ | ,, |
| 4 ,, | 0 5½ | ,, |
| 5 ,, | 0 6½ | ,, |
| 6 ,, | 0 8 | ,, |
| 7 ,, | 0 10 | ,, |
| 8 ,, | 1 0 | ,, |
| 9 ,, | 1 2 | ,, |
| 10 ,, | 1 4 | ,, |
| 11 ,, | 1 6 | ,, |
| 12 ,, | 1 9 | ,, |
| 13 ,, | 2 0 | ,, |
| 14 ,, | 2 6 | ,, |
| 15 ,, | 3 0 | ,, |
| 16 ,, | 3 6 | ,, |
| 17 ,, | 4 0 | ,, |
| 18 ,, | 5 0 | ,, |
| 19 ,, | 6 0 | ,, |
| 20 ,, | 7 0 | ,, |

FLOWER TUBES.
2*d*. each, or 1*s*. 6*d*. per dozen.

ZINC HAND GLASSES.
Painted and Glazed with 16-oz. Sheet Glass.

| | | |
|---|---|---|
| 12 inches | 5*s*. 6*d*. | each |
| 14 ,, | 6 6 | ,, |
| 16 ,, | 7 6 | ,, |
| 18 ,, | 8 6 | ,, |
| 20 ,, | 9 6 | ,, |
| 24 ,, | 11 6 | ,, |

If open top, 1*s*. extra.

BEE GLASSES.

| | | |
|---|---|---|
| 4 inches diameter | 0*s*. 6*d*. | each |
| 5 ,, | 0 8 | ,, |
| 6 ,, | 0 10 | ,, |
| 7 ,, | 1 1 | ,, |
| 8 ,, | 1 4 | ,, |
| 9 ,, | 1 8 | ,, |
| 10 ,, | 2 0 | ,, |
| 11 ,, | 2 6 | ,, |
| 12 ,, | 3 0 | ,, |

FLAT TOP BEE GLASSES.

| Height | Width | *s*. *d*. |
|---|---|---|
| 4 inches | by 7 inches | 1 6 each |
| 4½ ,, | by 7½ ,, | 1 9 ,, |
| 5½ ,, | by 7½ ,, | 2 0 ,, |
| 6½ ,, | by 8 ,, | 2 3 ,, |
| 7½ ,, | by 8½ ,, | 2 10 ,, |

FERN SHADES & STANDS.

| Ins. dia. | Shades. | Stands. |
|---|---|---|
| 6 .. | 1*s*. 4*d*. each. | 1*s*. 0*d*. each |
| 7 .. | 1 8 ,, | 1 3 ,, |
| 8 .. | 2 0 ,, | 1 6 ,, |
| 9 .. | 2 6 ,, | 1 9 ,, |
| 10 .. | 3 3 ,, | 2 0 ,, |
| 11 .. | 4 0 ,, | 2 6 ,, |
| 12 .. | 5 6 ,, | 3 0 ,, |
| 13 .. | 7 6 ,, | 3 6 ,, |
| 14 .. | 10 0 ,, | 4 0 ,, |
| 15 .. | 14 0 ,, | 4 6 ,, |
| 16 .. | 18 6 ,, | 5 0 ,, |

WASP TRAP, 2*s*. 6*d*. per doz.

Crystal Glass Shades, Ebony and Gilt Stands, Gas and Lamp Glasses, Chimneys and Globes, &c.

MILK PANS.

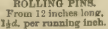
| | | |
|---|---|---|
| 6 inches diameter | 0*s*. 6*d*. | each |
| 8 ,, | 0 9 | ,, |
| 10 ,, | 1 0 | ,, |
| 12 ,, | 1 3 | ,, |
| 14 ,, | 1 9 | ,, |
| 16 ,, | 2 3 | ,, |
| 18 ,, | 2 9 | ,, |
| 20 ,, | 3 3 | ,, |
| 22 ,, | 3 9 | ,, |
| 24 ,, | 4 6 | ,, |

PRESERVE JARS.

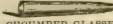
| In. diam. | Without Lids. | With Lids. |
|---|---|---|
| 3 .. | 0*s*. 4½*d*. .. | 0*s*. 6½*d*. ea. |
| 4 .. | 0 6 .. | 0 9 ,, |
| 5 .. | 0 8 .. | 0 11 ,, |
| 6 .. | 0 10 .. | 1 2 ,, |
| 7 .. | 1 0 .. | 1 4 ,, |
| 8 .. | 1 4 .. | 1 8 ,, |
| 9 .. | 1 8 .. | 2 2 ,, |
| 10 .. | 2 0 .. | 2 8 ,, |

FISH GLOBES.

| | Without feet. | With feet. |
|---|---|---|
| 8 inches diam. | | |
| 9 ,, | | |
| 10 ,, | | |
| 11 ,, | Per lb. | |
| 12 ,, | 7*d*. | 9*d*. |
| 13 ,, | | |
| 14 ,, | | |
| 15 ,, | | |
| 16 ,, | | |



ROLLING PINS.
From 12 inches long, 1½*d*. per running inch.



CUCUMBER GLASSES.
From 12 inches long and upwards, 1*d*. per running inch.

SHEET GLASS.

In Cases for cutting up, in Sizes as Manufactured.

| | 300 feet. 15 oz | 200 feet. 21 oz | 200 feet. 26 oz | 200 feet. 32 oz |
|---|---|---|---|---|
| Fourths quality .. .. | 33*s*. 0*d*. | 33*s*. 6*d*. | 39*s*. 6*d*. | 45*s*. 0*d* |
| Thirds do. .. .. | 42 0 | 42 0 | 49 0 | 56 0 |
| Seconds do. .. .. | 62 0 | 64 0 | 74 6 | 85 0 |
| Best do. .. .. | 88 6 | 88 6 | 103 6 | 118 0 |

CRYSTAL SHEET GLASS.

For Pictures and best Glazing purposes.

Averaging 16 oz. to the foot.

| | |
|---|---|
| Best quality, in cases of 200 feet .. .. .. | 100*s*. |
| Second quality, in cases of 100 feet .. .. | 82*s*. |

Averaging 30 oz. to the foot.

| | |
|---|---|
| Best quality, in cases of 100 feet .. .. .. | 100*s*. |
| Second quality, in cases of 100 feet .. .. | 82*s*. |

## SQUARES, in 100 and 200 Feet Boxes.

Small Squares not exceeding 9½ inches by 7½ inches.

| Ins. Ins. | Ins. Ins. | Ins. Ins. | Ins. Ins. |
|---|---|---|---|
| 6 by 4 | 7 by 5 | 8 by 6 | 9 by 7 |
| 6½ by 4½ | 7½ by 5½ | 8½ by 6½ | 9½ by 7½ |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 9*s*. 9*d*. | 11*s*. 3*d*. | 13*s*. 9*d*. | 16*s*. 9*d*. |

Squares not exceeding 14 inches by 11 inches.

| | | | |
|---|---|---|---|
| 10 by 8 | 12 by 9 | 12½ by 10½ | 14½ by 10½ |
| 10½ by 6½ | 12½ by 9½ | 13 by 10 | 15 by 10 |
| 11 by 9 | 13 by 9 | 13½ by 10½ | 13 by 11 |
| 11½ by 9½ | 12 by 10 | 14 by 10 | 14 by 11 |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 10*s*. 9*d*. | 12*s*. 3*d*. | 15*s*. | 18*s*. |

Squares not exceeding 20 inches by 18 inches.

| | | | |
|---|---|---|---|
| 15½ by 10½ | 14 by 12 | 17 by 13 | 24 by 16 |
| 16 by 10 | 14½ by 12½ | 18 by 13 | 20 by 17 |
| 14½ by 11½ | 15 by 12 | 18 by 14 | 22 by 17 |
| 15 by 11 | 15½ by 12½ | 22 by 14 | 24 by 17 |
| 15½ by 11½ | 16 by 12 | 24 by 14 | 20 by 18 |
| 16 by 11 | 16½ by 12½ | 22 by 15 | 22 by 18 |
| 13 by 12 | 17 by 12 | 24 by 15 | 24 by 18 |
| 13½ by 12½ | 18 by 12 | 22 by 16 | |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 11*s*. 6*d*. | 13*s*. 6*d*. | 16*s*. 6*d*. | 20*s*. |

Orchard House Sizes, as recommended by Mr. Rivers.

| Ins. Ins. | 15 oz. | | 21 oz. | |
|---|---|---|---|---|
| 20 by 12 | 4ths .. | 11*s*. 6*d*. | 4ths .. .. | 15*s*. 0*d*. |
| 20 by 13 | 3rds .. | 13 6 | 3rds .. .. | 19 0 |
| 20 by 14 | 2nds .. | 16 6 | 2nds .. .. | 25 0 |
| 20 by 15 | Best .. | 20 0 | Best .. .. | 30 0 |
| 20 by 16 | | | | Per 100 feet. |

Squares Cut to Sizes not on List.

| Under | 15 oz. 4ths. | 15 oz. 3rds. | 15 oz. 2nds. | 15 oz. 1st | 21 oz. 4ths. | 21 oz. 3rds. | 21 oz. 2nds. | 21 oz. 1st. |
|---|---|---|---|---|---|---|---|---|
| 1 ft. super. | 1½*d*. | 1¾*d*. | 2*d*. | 2½*d* | 2½*d*. | 2¾*d*. | 3½*d*. | 4½*d*. |
| 2 ft. super. | 1¾ | 2 | 2½ | 3 | 2¾ | 3 | 4 | 5½ |
| 3 ft. super. | 2 | 2¼ | 2¾ | 3½ | 3 | 3½ | 4½ | 6 |
| 4 ft. super. | 2¼ | 2½ | 3 | 4 | 3½ | 3¾ | 4½ | 6½ |

GLASS TILES, in SHEET and ROUGH PLATE. PLATE GLASS, PATENT PLATE, and HARTLEY'S IMPROVED ROUGH PLATE.

## PAINTS, COLOURS, VARNISHES, &c.

| | Per cwt.—*s*. *d*. |
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| GENUINE WHITE LEAD .. .. .. .. .. | 30 0 |
| ANTI-CORROSION PAINT .. .. .. | 28*s*. to 24 0 |
| LINSEED OIL PUTTY .. .. .. .. .. | 8 0 |

| | Per gallon.—*s*. *d*. |
|---|---|
| FINE OAK VARNISH .. .. .. .. | 10*s*. to 12 0 |
| ,, CARRIAGE .. .. .. .. | 12*s*. to 14 0 |
| PATENT DRYERS .. .. .. per cwt. | 28*s*. to 42 0 |

| | Per gallon.—*s*. *d*. |
|---|---|
| LINSEED OIL .. .. .. .. .. .. .. | 3 9 |
| BOILED OIL .. .. .. .. .. .. .. | 4 2 |
| TURPENTINE .. .. .. .. .. .. .. | 8 6 |

MILLED LEAD in Sheet and Pipe of all sizes. Old LEAD bought or taken in exchange.

LIFT PUMPS, WATER CLOSETS, and PLUMBERS' BRASS WORK of all kinds.

NETT CASH.

**Sutton's Grass Seeds**

AT THE ROYAL FARMS, THE ALDERSHOT CAMPS, THE CRYSTAL PALACE, THE PEOPLE'S PARK, HALIFAX, &c.

SUTTON'S GRASS SEEDS for PERMANENT PASTURE, PARKS, and LAWNS are now Sown at the Royal Farms; the Crystal Palace, Sydenham; the Horticultural Society's Gardens, and on most of the largest Estates in the Kingdom.

☞ Messrs. SUTTON'S GRASS SEEDS being mixed expressly to suit the soil for which they are required, are never known to fail. The prices are moderate, particulars of which may be had post free.

Address;

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

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DOBSON'S PRIZE CALCEOLARIA SEED is unequalled in the kingdom. Annual Sale exceeds 2000 packets. In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each.

J. DOBSON & SONS, Seedsmen, Isleworth.

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DOBSON'S PRIZE CINERARIA SEED.—Ten First Prizes awarded to our collection in the spring, 1862. In sealed packets, 1s., 2s. 6d., and 5s.

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DOBSON'S PRIZE PRIMULA SINENSIS SEED. In sealed packets, 1s., 2s. 6d., and 5s.

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RICHARD SMITH'S LIST of all the EVERGREEN FIR TRIBE suitable for Britain, giving size, price, popular and botanical names, derivations, description, form, colour, foliage, growth, timber, use in arts, native country and size there, situation, soil, and other information, with copious Index of all their synonymes. Free by post for 12 postage stamps.

RICHARD SMITH, Nurseryman, Worcester.

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E. G. HENDERSON AND SON offer first-class quality of CINERARIA, PRIMULA SINENSIS FIMBRIATA, and PANSY. Also, CINERARIA WEBBI, new shrubby species.

All the above 1s. and 2s 6d. per packet.

☞ EXPERIENCED GARDENERS recommended to Gentlemen.

Wellington Nursery, St. John's Wood, London, N.W.

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**Cheap Bedding Plants.**

WM. DILLISTONE will forward (Carriage free to London), upon receipt of Post Office Order for 18s. on Castle Hedingham, 100 Strong Plants in Pots; consisting of GERANIUMS, FUCHSIAS, DAHLIAS, VERBENAS, CALCEOLARIAS, &c.

N.B. The above are warranted to give satisfaction. CATALOGUES upon application.

Munro Nursery, Sible Hedingham, Essex.

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BEDDING PLANTS—BEDDING PLANTS.—The undersigned beg to offer the above, of all the popular kinds in well hardened Plants, per 100, 20s., prepaid hamper included. Cheaper by the thousand. Carriage paid to Brick Lane Station.

A CATALOGUE of 35 pages sent upon application, enclosing a stamp. Post-office Orders payable at Halstead.

Messrs. DILLISTONE & Co., Sturmer and Woodlands Nurseries, near Halstead, Essex.

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BEDDING PLANTS. — Scarlet and Variegated Geraniums, Verbenas, Lobelia speciosa, Agathæas, plain and variegated; Amaranthus, new purple-leaved; Ageratums, Calceolarias, Cerastiums, Cineraria maritima, Gnaphalium lanatum, Perillas, Pentstemons, Petunias, Tagetes signata pumila, Tropæolums, &c.; all thoroughly established in single pots. And extra fine sturdy plants from 2s. per doz.

CATALOGUES on prepaid application.

WOOD & INGRAM, Huntingdon.

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LOUIS VAN HOUTTE'S NEW CATALOGUE, No. 96, is to be had at Messrs. R. SILBERRAD & SON, 5, Harp Lane, London, E.C.

☞ L. v. H.'s goods will be delivered free out of the Custom House in London, without any expense whatever to the buyer, but per contra 5s. will be charged for each package.

Ghent, Belgium.

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**Choice Variegated Plants, for Edging and Ribbon Borders.**

B. S. WILLIAMS begs to intimate that he has a large Stock of the undermentioned, and can supply strong plants at the following prices:—

ARABIS ALBIDA VARIEGATA, 6s. per dozen; less by the 100.
AMARANTHUS MELANCHOLICUS RUBRA, 6s. per doz.
CERASTIUM TOMENTOSUM, 4s. per dozen.
CINERARIA MARITIMA, 4s. per dozen.
FESTUCA OVINA GLAUCA, 6s. per dozen.
GNAPHALIUM LANATUM, 4s. per dozen; less by the 100.
STACHYS LANATA, 3s. per dozen; 20s. per 100; less price per 1000.
TUSSILAGO FARFARA VARIEGATA, 6s. per dozen.

Paradise and Victoria Nurseries, Holloway, London, N.

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**New Roses.**

WM. PAUL (Son and Successor to the late A. PAUL) respectfully invites attention to the following NEW ROSES, which will be ready for delivery very shortly.

LORD MACAULAY, H.P.—Velvety crimson, in the way of General Jacqueminot, but brighter in colour, thicker in the petal, and more double. The flowers are of good average size, produced abundantly and in rapid succession; the habit is good, and foliage handsome. 7s. 6d.

MRS. WILLIAM PAUL, H.P.—Bright violet red, shaded with fiery red; flowers constantly, and in clusters, large and full. Raised by M. Verdier, of Paris, the raiser of Madame Furtado, and others of our finest Roses. 5s.

RED ROVER, H.P.—Bright red petals, large, thick, and round; flowers abundantly and in succession up to Christmas. Not double enough for a show Rose, but the most effective pillar Rose ever offered. 3s. 6d.

WILLIAM PAUL, H.P.—A seedling from Senateur Vaisse, but brighter in colour. Raised at Lyons by the raiser of Lord Raglan, Senateur Vaisse, and other first-class sorts. 5s.

BEAUTY OF WALTHAM, H.P.—Bright rosy crimson, of good size, form, and substance, and deliciously sweet. This Rose is found to surpass the description originally given of it. 3s. 6d.

All the new French Roses, 3s. 6d. to 5s. each, or 42s. per dozen. The best of the old Roses at lowest advertised prices. The plants are well established, and in the finest possible health.

PRICED CATALOGUE free by post.

Nurseries and Seed Warehouse, Waltham Cross, N.

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**Hardy Climbers in Pots.**

WM. WOOD AND SON have an immense stock of fine strong Plants of the above, suitable for planting out at once against walls, trellises, or poles, consisting of the best kinds of ROSES, CLEMATIS, BIGNONIAS, IVIES, JASMINES, PASSIFLORAS, WISTARIA, &c., at very reasonable prices.

Woodlands Nursery, Maresfield, Uckfield, Sussex.

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**Select Stove and Greenhouse Plants, &c.**

ROBERT PARKER begs to invite attention to his Collections of AMARYLLIS, AZALEA INDICA, EXOTIC ORCHIDS, FERNS, and LYCOPODS; ORNAMENTAL and VARIEGATED FOLIAGED PLANTS; MISCELLANEOUS, STOVE, GREENHOUSE, and HARDY PLANTS; all of which are healthy and clean. Purchasers of large or small quantities will be treated on the most liberal terms.

PRICED and DESCRIPTIVE CATALOGUES are published, and will be forwarded to applicants.

Exotic Nursery, Tooting, Surrey, S.

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CALCEOLARIA, CINERARIA, and PRIMULA.

CALCEOLARIA, saved from carefully hybridised flowers, possessing all the recognised floral qualifications, viz., size, form, colours, and marking. Price, 1s. and 2s. 6d. per packet.
CINERARIA, extra choice, 1s. per packet.
PRIMULA SINENSIS FIMBRIATA, extra choice, 1s. and 2s. 6d. per packet.

BUTLER & MCCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

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**Notice.—American Plants.**

WATERER AND GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.

The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by WATERER & GODFREY, Knap Hill, near Woking.

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# FARM AND GARDEN SEEDS

CARRIAGE FREE.

BANGHOLM SWEDE,
EAST LOTHIAN SWEDE,
WARD'S BEAUTY SWEDE,
DROPMORE SWEDE,
MARSHALL'S CHAMPION SWEDE,
GREEN-TOP SWEDE,
WHITE SWEDE,
IMPROVED SKIRVING'S SWEDE.
WHITE and RED GLOBE, and NORFOLK TURNIP,
SCOTCH YELLOW TURNIP.
DOBITO'S YELLOW OVAL MANGEL,
WARD'S DITTO,
IMPROVED YELLOW GLOBE DITTO,
IMPROVED ORANGE GLOBE DITTO,

IMPROVED LONG RED MANGEL,
IMPROVED LONG YELLOW MANGEL,
IMPROVED RED GLOBE MANGEL,
IMPROVED WHITE FIELD BEET,
RED CLOVER, | COWGRASS,
WHITE, YELLOW, and ALSIKE CLOVERS.
PACEY'S PERENNIAL RYE-GRASS, and other sorts.
ITALIAN RYE-GRASS, FOREIGN and ENGLISH SEED.
NATURAL GRASS SEEDS, in mixture or separate, suitable for various soils and localities.
LIGHT RYE-GRASS and other CHEAP GRASSES, for Sowing on Railway Banks and Waste Places.

*Orders for Exportation promptly attended to.*

PETER LAWSON AND SON, THE QUEEN'S SEEDSMEN,

28, KING STREET, CHEAPSIDE, NEAR the GUILDHALL; and

15, LAWRENCE LANE, LONDON, E.C.

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NOTICE.—*We are sorry to observe that a respected House in the Nursery Trade has endeavoured in their Advertisements to depreciate some of the Novelties placed in our hands for sale by* Mr. BEATON. *We are quite content after this notice to let the matter stand as it is, resting assured that our Patrons and the Public have sufficient confidence in* Mr. BEATON *and ourselves to believe that we would not recommend any Plants of a second-rate character.*

# CARTER'S

# LIST OF NEW PLANTS FOR 1863.

## NEW GERANIUMS.

Mr. BEATON, the well-known Raiser of the improved varieties of NOSEGAY and other sections of BEDDING GERANIUMS, has selected the undermentioned from his large Collection of Seedlings, and recommends them as being some of the most valuable Bedding varieties ever offered to the Public; he has placed them in our hands for distribution.

**The Set of Six Varieties for 10s. 6d.**

NOSEGAY VARIETIES.

### Lord Palmerston (BEATON).

This is unquestionably the finest of the whole group of Nosegay Geraniums. It was raised by Mr. Beaton about three years since, and sent by him to be proved at the Gardens of the Royal Horticultural Society and the Crystal Palace, and by the Directors of the respective Gardens was selected from the whole mass of bedding plants to form the most prominent Beds of last Season, where it was universally admired. The flowers are deep crimson, produced in immense trusses in the greatest profusion, as many as 130 pips, or flowers, having been counted on a single truss. As this is a variety that has been thoroughly proved, we are induced to offer large quantities at a cheap rate, so that our customers may plant out large beds this season.

STRONG PLANTS.

| | | | |
|---|---|---|---|
| Single plant | 2s. | 3 dozen | 32s. |
| 1 dozen | 18s. | 4 „ | 38s. |
| 2 „ | 25s. | 8 „ | 63s. |

### Spread Eagle (BEATON).

This is also one of the most profuse blooming of the Nosegay section; colour deep orange scarlet, with the dwarf habit of Mangles' Silver variegated. The breadth of petal of this and the succeeding variety far exceeds that of any other of the Nosegay tribe, and will doubtless go far to satisfy the exigent requirements of the most particular Florists. Price 2s. 6d. and 3s. 6d. each.

### Miss Parfitt (BEATON).

The upper petals of this beautiful variety are deep crimson, the lower glowing scarlet with a white centre or eye; very dwarf and compact habit. Price 2s. 6d. and 3s. 6d. each.

### Merrimac (BEATON).

This is a great improvement on "Imperial Crimson;" it has the additional breadth of petal to which we have before alluded; and in addition to being very useful for Beds and Ribands, it is very effective for Vases, &c. Price 2s. 6d. and 3s. 6d. each.

ZONALE or HORSE-SHOE-LEAVED VARIETIES.

### Helen Lindsay (BEATON).

This is a rival of the well-known "Christine," which is so extensively used for Bedding purposes in all Public and Botanic Gardens; the colour is a much richer rose, whilst the trusses of bloom are larger, and more profusely produced throughout the season. This variety is also free from the objectionable seeding propensities of Christine (which renders that otherwise admirable kind so very troublesome to keep in good order, beds of it after Midsummer assuming a ragged appearance if the seed pods are not constantly gathered). Its habit is similar to that of Tom Thumb, leaves slightly zonale. This will be the GEM OF BEDDING GERANIUMS this season. Price 1s. 6d. each; per dozen, 12s.

### Rubens Improved (BEATON).

Of this excellent variety it is only necessary to say that it blooms as freely as its progenitor, but with much larger trusses of the same beautiful form and colour; leaves slightly zonale. It has also the additional merit of withstanding well the sun and rain, a quality much needed in the old variety. Price 2s. 6d. and 3s. 6d. each.

For FURTHER NOVELTIES *vide* PLANT SUPPLEMENT to

CARTER & CO.'S GARDENERS' VADE MECUM FOR 1863,

Containing FULL LISTS of STOVE, GREENHOUSE, and BEDDING PLANTS, now ready, post free, on application.

JAMES CARTER & CO., 237 & 238, HIGH HOLBORN, LONDON, W.C.

ROYAL HORTICULTURAL SOCIETY-FLORAL COMMITTEE.

The next MEETING of this Committee for the Exhibition of NEW PLANTS and SEEDLINGS will be held in conjunction with the First Great Show of the season, which will take place in the Gardens of the Society on May 27. The above subjects will form Classes 21, 22, 23, 24, and 26 of the Schedule for that day; and Sub-committees will be appointed to adjudicate upon them.

Class 21 is for New or Rare Tender Plants in flower.
Class 22 is for New or Rare Tender Plants not in flower.
Class 23 is for New Orchids in flower.
Class 24 is for New or Rare Hardy Ornamental Plants.
Class 26 is for Seedling Florist's Flowers, and Garden Hybrids of all kinds.

The subjects exhibited must be in the Gardens by Half-past Eight o'clock in the morning, in accordance with the regulations; but they may be entered without previous notice. It is however required that a written statement of the subjects for exhibition in the respective classes should be handed in by 9 o'clock, to allow time for the entries to be made before 10.

All persons are at liberty to exhibit.

THOMAS MOORE, Secretary to the Floral Committee.

Royal Horticultural Society.

10th JUNE, 1863,

CEREMONIAL to be OBSERVED at UNCOVERING the MEMORIAL of the EXHIBITION of 1851, and STATUE of H.R.H. THE PRINCE CONSORT, in the presence of their RR.HH.'s the PRINCE and PRINCESS of WALES and other Members of the Royal Family.

The Guests invited to take part in the Procession will assemble at the West Dome of the Exhibition Building.

Whilst assembling Military Bands will play.

The Royal Party will be received at the West Dome Entrance by the Executive Committee of the Memorial Committee.

Their RR.HH.'s will proceed down the Nave to a balcony over the Southern entrance of the Horticultural Gardens, and their arrival will be announced by a flourish of trumpets. "God Save the Queen" will be played by three Military Bands united in the Ante-Garden.

The Council of the Horticultural Society will present an address.

Military Bands will again play.

After which the Memorial Committee will read an Address.

H.R.H. the Prince of Wales will order the UNCOVERING OF THE MEMORIAL, which will be announced by a flourish of trumpets and a salute of Artillery, after which military music will be performed and the fountains will play.

The Royal party, headed by the procession, will then walk round the Gardens, stopping at various points to see the Memorial and the Garden.

The route will be marked by banners, and it is requested that during the procession the spectators will remain stationary.

If it rains the procession will keep under the Arcades.

The Exhibition Building will be thrown open to the visitors.

GEORGE GODWIN, Hon. Sec. Memorial Committee.
W. W. SAUNDERS, Hon. Sec. of the Horticultural.

# The Gardeners' Chronicle.

*SATURDAY, MAY 23, 1863.*

MEETINGS FOR THE ENSUING WEEK.

WEDNESDAY, May 27 { Royal Horticultural (Fruit & Floral Sub-Committees) at S. Kensington 10 A.M. / FIRST GREAT EXHIBITION, at South Kensington .. .. 1 P.M.

NOT less important than the question of the preservation of the existing Trees of our Parks and Squares from the insidious burrowings and cuttings of railway engineers and sewer contractors, is the problem of ascertaining whether there can be found any other kinds of trees besides those commonly in use, affording variety of foliage and character, which are adapted to yield the shade and shelter so requisite to render our few out-door London promenades enjoyable, and which are at the same time suited to bear up against the depressing influences of a London atmosphere. The common Maple-leaved Plane may be instanced as one in every way adapted for the purpose, but we do not want to see this Plane usurping every place in which a tree can be planted, if we can get, besides it, some others which are of different aspect, and not less suitable.

There is indeed on every side abundant scope for the labours of an Arboricultural Committee—such as that which has been recently nominated by the Royal Horticultural Society, so comprehensive and extensive is the science of arboriculture; and, we may also add, so little generally understood. In every part of the country may be found a field for its labours, in one or other of the departments of profitable or ornamental tree-culture. We heartily trust, therefore, that it may lose no time in setting about the fulfilment of the important duties which have been assigned to it, inasmuch as a lifetime affords little enough space for the acquirement of much of the knowledge which is indispensable for their complete accomplishment. But leaving this broader field to be occupied as best it may, there is one little branch of arboriculture which we would at this moment most urgently press on the immediate attention of members of this committee, as a kind of inaugural duty, and that is, to ascertain experimentally how many appropriate and useful SHADE TREES for LONDON PARKS and GARDENS can be found which admit of general cultivation. What, indeed, with the meagreness of shadeless Poplars, the pitiableness of dying Elms, and the sameness of ever-recurring Planes; there is need enough that the question should at once be taken up. Let us offer a few suggestions thereupon.

Of course there are two courses which might be simultaneously followed in carrying on such an enquiry. The one would be to ascertain the result of what has been done already. The other would be to set about doing something further, with the direct object of eliciting new information. Neither of them should be lost sight of, or avoided.

There are to be found in London and its suburbs a good many trees, in various stages of growth or decay; some of them indicative of what to adopt, and others of what to avoid in making further plantations. With the object therefore, of learning the result of what has been already done, a deputation of this committee might usefully explore the various districts of the metropolis, noting as they go the kinds of trees which are found, together with the soil in which they are growing, the circumstances under which they are placed, and the progress they have made or are making, in whichever direction it may tend. Some useful information would be obtained in this way, and at least some hints would be gathered up which would have a bearing on the more active measures which should be also undertaken.

The action which we think should be taken is that of planting trees for experiment, and of watching and reporting upon their growth, with the direct object of learning experimentally and making known which of them, in addition to those already employed, are suitable for general use as Shade Trees in London and other towns. In recommending such a work, we believe we are pointing to a very legitimate object to be undertaken by such a body as that we now refer to. The Committee would of course, either of its own knowledge, or by the aid of its officers, or of a selected sub-committee of its practical members, determine in the first place what trees amongst those to be found in cultivation, but not commonly planted in London, would be the most likely to thrive and assume an umbrageous character. This done, it would cast about for space whereon it might try the selection it had made, allowing the experimental trees every fair encouragement that a judicious preparation of the site might afford, but nothing more. As a committee of the Royal Horticultural Society, and in default of a wider field for experiment, we venture to think it might first try its hand within the limits of the 20 acres at South Kensington. Suppose a portion of the ante-garden were to be placed at its disposal, and a row or two of additional trees various in kind, were to be introduced therein, the garden itself would at least gain something in the matter of shade; and whatever trees might thus be planted, they could hardly be less adapted to yield an ornamental effect than some already placed there.

But in the investigation of a question so important to the public as that of finding out some distinct and varied kinds of trees fit to be planted about our towns and cities, the public might fairly be asked to lend its aid. We think therefore that certain portions of the several London parks which lie east, west, north, and south of St. Paul's, might very well be set apart for the trial; and we would advisedly include all these, in order that the inquiry might be made the more general, so as to yield a more complete answer. And even supposing that but half a dozen good intramural trees, various in character and unlike those now commonly used, were to be found out by all this effort, still a public benefit would have been realised, and one which would be quite worth all the labour and pains it had cost. By means, too, of such an inquiry as that which we have thus shadowed forth, if it were set about in earnest, we might reasonably hope that the water-side embankments of the metropolis (and not indeed of the metropolis alone), which are to sweep away so much that is loathsome to the sight, and to afford such facilities for the migration of the townspeople, would also in due time be furnished with stately avenues of shade-yielding trees such as would not disgrace our noble river. That alone would be a result which would ennoble the acts of an Arboricultural Committee.

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IN the "Genesee Farmer" for February, 1863, there is a short but interesting notice of a successful attempt to grow COTTON IN ILLINOIS during last summer. How much credit is due to it we cannot say, as there are such scanty details, but such as it is we present it to our readers. The writer is enthusiastic as to his success, and is confident that under existing circumstances Cotton may be raised at a profit of 10 cents per lb. He does not however give us any data by which we may test his conclusions.

The mode of cultivation adopted is said to be that which is used for Indian Corn, only the plants must in the first instance be raised on a hot-bed, and planted out as soon as all danger of frost is over. Furrows are first made with a horse-hoe, and then the soil thrown up on each side against the plant. A man must follow to straighten the plants and press up the soil with a hand-hoe. They must be planted rather thickly at first, and then gradually thinned, so as to ensure the retention of the most vigorous. It is presumed that they are left ultimately about three feet asunder.

As in ordinary Cotton cultivation, the ground must be well hoed and cleansed, and the plants must on no account be allowed to flag from want of water. It was, moreover, found that the best practice was to apply the water after the fashion of a syringe.

Unfortunately no exact account is given of the quantity or quality of the produce, though it is remarked "old planters said they never saw a heavier set on the same amount of land—never so heavy." The seed was the "green seed" from the State of Mississippi.

It is thought that Cotton may be raised with profit in other States if a proper mode of cultivation is adopted. We should, however, be glad to have more exact details, without which we should not be justified in building very much on the report. *M. J. B.*

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—— THE opinions which have been expressed by various competent Rosarians, widely separated by locality and circumstance, enable us to form a pretty good notion of the best and most generally useful of last year's Roses. When men so well versed in the subject as RADCLYFFE, and PAUL, and KEYNES, and CRANSTON pronounce, as they have pronounced in different publications, those who are less well informed may be tolerably certain of not being led astray by their statements. We have, therefore, devoted a "half-hour" to the agreeable task of comparing their several reports, with the view of finding out which of the varieties form the cream of the Roses of 1862. It is satisfactory to be told that they are generally of robust growth and free-flowering habit.

The result then of comparing notes in reference to that dominant class the H. P.'s, is that of the dozen sorts most highly praised, we find one is spoken of in the highest possible terms by all four of the above-mentioned authorities, whilst the eleven others receive very warm encomiums from three of them. No others gain so much praise on all sides. These 12 Roses may therefore be regarded as having established a reputation, and no one need hesitate to add them to his collection.

The enviable position of having most thoroughly won the suffrages of the aforenamed critics, is held by the Duc de Rohan, a brilliant crimson flower, which, according to Mr. RADCLYFFE, is "sure to gratify everybody," and to which the epithets superb and first-class are unhesitatingly applied. To the same series of richly-coloured crimson flowers belong Maurice Bernardin, which is said to be quite first rate; Oliver Delhomme, spoken of as one of the very best; Charles Lefebvre, a magnificent sort, and one of the finest, with the flowers shaded with maroon; Souvenir du Comte Cavour, a rich and effective crimson with dark velvety shading; and Madame Julie Daran, which is generally spoken of with satisfaction, though the terms used are not quite so ardent as in the other cases. These, then, are no mean accessions to the ranks of high-coloured Roses. Not inferior, but of another stamp, come Beauty of Waltham, a rosy crimson, which is not surpassed in beauty or in quality; François Lacharme, on which the epithets beautiful, exquisite, and quite first-rate are worthily bestowed; Robert Fortune, which is said to be both superb and useful; John Hopper, which is generally acknowledged to be first-class; and Madame Charles Wood, which is set down as quite a show variety. Such are the most decided acquisitions to the rosy-coloured series, the sorts varying among themselves in tint as well as in character. Lastly we have a white called Louise Darzins, with equally satisfactory vouchers, and pronounced to be quite a gem. These are all of the Hybrid Perpetual series.

Among Tea-scented Roses three of the authorities already quoted, speak in the highest possible terms of Gloire de Bordeaux, a variety with the habit and foliage of old Gloire de Dijon, from which it was raised, but with flowers quite different in colour, being of a "silvery white, the back of the petals rosy-pink." If it has the good qualities of its parent, it deserves all praise.

The exhibition of the coming 1st of July will, we should hope, afford opportunity for the critically inclined portion of the public to learn something further of the many other varieties introduced in 1862, some of which are hardly yet fully tested; and also for obtaining a glimpse of some of those of 1863. With this object, we suppose, classes have been provided: 1. For 18 New Roses of 1862 and 1863; 2, for 12

trusses of any new kind of 1862; and 3, for 20 New Roses in 8-inch pots. The Rose-growers should do themselves the justice of taking care that these classes are well represented, and not suffer them to be left, as on some previous occasions, little better than blanks.

Let us add further, that it is to be hoped that the invited Bouquets of Roses and Decorated Vases of Roses will be very much better set up on this occasion than they have been hitherto. These might be made very telling features of the show, if not spoiled by the vulgarity of their accompaniments.

## A VISIT TO THE BULB FARMS OF HAARLEM. No. III.

THE land having been prepared as I have described (p. 460), is then divided into beds 3½ feet wide, and the bulbs are planted, 6 inches apart, in rows, across the beds. This is the space usually given to full-grown bulbs; young, undersized ones, not requiring so much room, are planted closer together. They are then covered with about 3 or 4 inches of soil, the beds are neatly levelled, and the operation is considered completed.

The planting takes place in the months of September and October. The latter month is preferred, for if the bulbs are planted too early they are not unlikely to commence growing and throwing up leaves before the winter comes on, and this is not desirable. But when such a quantity of land has to be planted about the same period, it is often necessary to begin planting somewhat earlier than prudent in order to get through with the work. During the depth of winter the Hyacinths beds are covered over, 6 inches deep, with a reed indigenous to the country, in order to protect the bulbs from the frost. The covering is removed in spring, the beds are cleaned, and nothing more requires to be done until the plants come into bloom. The time of flowering varies, of course, with the earliness or lateness of the seasons, but as a general rule it may be put down at from the beginning to the middle of April.*

When the Hyacinth is in full bloom—not before, the flower-stems are removed, being cut off 2 or 3 inches above the soil. This is done, not to strengthen the bulbs as one might at first sight suppose, but to prevent the heavy fleshy flower-stems from falling over the leaves and rotting them during wet weather. The cultivators are therefore always anxious to have the operation over before the approach of heavy rains. It is their opinion that the bulbs, instead of being strengthened, would be injured were the flower-stems removed too early; and hence the idea that preventing a plant from flowering enables it to retain or renew its vigour does not find favour at Haarlem, in so far as the Hyacinth is concerned. Indeed in some varieties, such for example as one very largely cultivated—Ami du Cœur—the flower stems are allowed to wither on the plants; for it is found, if they are removed, the bulbs crack, throw off suckers, and become deteriorated. The cultivator has in view the production of sound marketable bulbs, and these, it is found, can only be obtained by allowing the flower stems to be fully developed before being cut off, or in some instances, like that just mentioned, by not being cut at all.

During the period when the flower-stems are being removed, it is a common sight to see cart-loads of the finest blooms lying like manure heaps in the corner of every field—a strange sight to the eyes of persons from other countries who are accustomed to bestow so much care in the rearing of the Hyacinth in glasses and flower pots, and to look with delight on the collections which are annually placed under tents at exhibitions. But so it is. During the latter part of our stay at Haarlem, millions of these flowers were cast to the dunghill or strewed on the roadsides and edges of the fields, where children had been playing with them. Some attempts have been made to extract the scent, and thus turn the flowers to some account, but they have failed; and indeed this is not surprising when we remember that the flowers of the Hyacinth, however sweet when just expanding, soon lose all fragrance, and become, if anything, rather disagreeable. Sometimes the flowers are strewed over newly prepared land, to prevent the sand from being blown about by the wind, and this is, I believe, the only use ever made of them.

Hyacinth bulbs are ripe, and are taken out of the ground in the beginning of June. They are laid on the surface of the beds with their roots to the sun, and after a little exposure they are covered with dry sand. Here they remain for 10 or 12 days, when they are again taken up, exposed to the sun and air for a while to dry up the moisture, and then they are picked or sifted; the rootlets are removed, the stems cut off, and they are finally taken into the drying house. Those for exportation are sometimes selected and arranged by themselves at once, and are usually sent out in the beginning or middle of August.

The drying houses on every farm play a very important part in Bulb culture. Those of Messrs. Byvoet at Overveen, which I had an opportunity of examining minutely, are admirably constructed for the purposes for which they are intended. They are fitted up with wooden shelves, tier above tier, somewhat like an English fruit room. They have large doors and windows, which can be thrown open on fine days, so as to allow the air to circulate freely amongst the bulbs. The roofs are either thatched with the reed of the country and covered with tiles, or with wood under the tiles. In either case they are made to a certain extent non-conducting, and an even temperature is consequently the result. Mr. Byvoet informed me that he prefers having a number of smail drying houses to one large one, as his property is safer in case of fire. *Robert Fortune.*

*Erratum.*—In my first letter, for Mr. Wm. Paul of *Cheshunt*, read of *Waltham Cross.*

## FISH AND FISHING.—No. VIII.

IN conclusion of the subject—good and bad fishing days—I am sorry to anticipate that many readers will "pooh-pooh" such an inquiry; first, because the subject is too deep for some anglers to trouble themselves with; and again, because some will ask for the "cui bono." The latter are content, and perhaps wisely so, to go out "a fishing" for mere air and exercise, indifferent as to whether they catch fish or not. But to these I would say, that if they value their time, and one day for going out is to them the same as another, and if they wish to catch fish, it would be well if they could ascertain, through any investigation, whether there existed a chance of success or not. London and Thames anglers, in particular, spend much money in travelling to their favourite place of resort, and in engaging their boat or punt, which they would rather have saved if they could have foreseen it would have been unproductive. In this limited view they might find the *cui bono* out.

What, of the *cui bono*, will he say who has a "ticket of leave" for one day only, to fish in a splendid preserve? A warning, of a character like unto Admiral Fitzroy's storm signals, which are only intended as "warnings,"—such as "Monday, or till

### E. C.'s SCIENTIFIC ANGLER'S DIARY.

DATE, ______________ PLACE, ______________ COMPANION, ______________

| Point of Wind. | Quantity of Wind. | Temperature. Air. | Temperature. Water. | Kind of Day. | State of Water. | If Fish rising at natural flies, and the time. | If leaping out of water, and time. | Barometer. |
|---|---|---|---|---|---|---|---|---|
| | | Morn. | | | | | | |
| | | Noon | | | | | | |
| | | Even. | | | | | | |

| Kind of Fish taken or lost. | On top or under water. | Weight | Length. | Girth. | Contents of Stomach. | Hour of Day. | Kind or Name of Spot where taken or lost. | Temperature of Stomach. | Bait or Fly. | Kind of Fly most on Water. | State of day and sky at the moment. | General Observations. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
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NOTE.—Many of these points might be recorded by a river-keeper, easily instructed for the purpose.

Wednesday next, are likely to be good fishing days,"—would be invaluable to fishermen.

But there is a much higher view to take than the mere convenience of anglers.

Convinced I am that if the meteorologist-angler would study meteorology and fishing, and the electrician-angler would study electricity and fishing—in conjunction one with the other, or if a Fitzroy, a Glaisher, a Faraday, and a Piscator were combined in one person, he would, by viewing things through a new medium, hit on new discoveries, which would not only be interesting to hygienic science in particular, but would yield most valuable advantages to science in general.

Who at present can account for facts well known to medical men of high eminence in the tropics, viz., that certain powerful medicines are rendered inert or intense in their actions, according to the existing state of the atmosphere?

For the use of anglers in general, and especially for those who will aid this investigation by the accumulation of "facts" falling under their individual observation, I subjoin the plan of a note-book. To this the electrician and the meteorologist will of course add, interbound, leaves or columns for their particular observations on the electrometer, hygrometer, &c.; and I earnestly hope, as I believe, that a year's observation of "facts" may lead to the establishment of sound and useful "theory"—the discovery of another "Law of Nature" always affecting fish and man! *E. C.*

* The following is the order in which the various kinds of Bulbs come into bloom about Haarlem:—In March, Crocuses; April, Hyacinths, Tulips, Narcissi, Fritillarias; middle of May, Anemones; end of May and June, Ranunculi.

## ANCIENT FRUIT LORE.—No. II.

(*Continued from p. 389.*)

THE preliminaries mentioned in a former article having been gone through, Mr. N. F. proceeds to discourse on Fruits as follows; and first—

*Of Cherries.*

Cherries are the first fruite that are to be gathered, especially which here shalbe mentioned: Of which fruite there are foure sorts here in England, (that is to say) Flemish cherries, English cherries, Gascoyne cherries, and blacke cherries, whereof two are chiefly to be mentioned, that is the Flemish and the English.

The Flemish cherries are not so called, in respect that they growe in Flaunders, but that the first grafts and chiefe original of them came from Flaunders, and therefore they are called Flemish cherries: and in what place soeuer in England these graftes be, or any trees growing from them, from time to time since the first beginning of them, they are sooner ripe then they that are naturally of themselues English Cheries, in some places foureteene daies sooner, in other some three weekes, according to the forewardnes or backwardnes of the grownds wherin they grow: But whersoeuer they grow, although in one plot or acre of groũd, you shall yet find that the one willbe ripe before the other chãge their cullor red. And as soone as you see your Cheries to change their color, & be red (that is, whẽ they begin to ripen) you must haue a care that you set one to keep thẽ frõ the birds, which wil be very busie about them, & especially at the breake of day, untill eight of the clocke in the forenoone: and so likewise when the heate of the day is past, beginning at foure or fiue of the clocke untill nine at night: The keeper must with a peece shoote, or make some other noise, to feare the birds, or with a sling to throw at them, being carefull to watch at those times. There are two kindes of birds especially, that hurt cheries most: the one is called a Jay: which must be narrowly looked vnto, or els she will pick the cheries as fast as they ripen. The other, which is called a Bulfinch, will eate stones and all: but you shall heare her chirpe before she lights vpon the tree.

*The order of gathering of Cheries.*

Now for the gathering of your cheries (because all cheries vpon a tree cannot be ripe and ready to be gathered at one time) prouide a fine light ladder: & looking about your tree, wher you see most store ripe, there set it vp. Be careful for placing thereof, for feare of breaking any boughes. Also you must haue a fine hooke in your hand called a gathering hooke, to pull the bough tenderly vnto you, which you cannot reach with your hand.

You must prouide you also a chery pot or kibzey to gather your cheries in: and to the same cherie pot there must be tyed with a string a little hooke, that when the gatherer sets to gather, he may hang his chery pot upon any bough neer, as occasion serues, and so to be remoued at his pleasure: Alwaies prouided, that the gatherer haue a great care that he pull no more but the very same stalke that the chery hangs by: for the next knot, or brut to the stalke, is it commonly that yeelds fruite, the yeare next ensuing.

At the gathering of your cheries there must be great heede taken that they be not roughlie handled: onely pull them off by the stalke and lay them into your pot. For much handling of them (being a very tender fruite) will make them change their colour, and turne blackish.

¶ *How to carry and conuey Cheries.*

If there be any great store of cheries that must be

caryed any farre way, from whence they be gathered, there must be prouided eyther fine baskets or siues: into which (when the chery pots be full) you must poure them out. Each of these siues should haue two laths in the bottome on the outside, not crost, but both one way: each lath must be about the breadth of two fingers: and about the breadth of the palme of a mans hand betwixt, or somewhat more asunder. The reason why I wish these laths to be vsed in the bottome, is, because that when they be caryed vpon ones head, the siue being weake bottomed of it selfe, the carryers head will make a dent therein, the breadth of his head, which wold cause the cheryes, in all that circle of his head, to breake and to be brused: but the two laths will keepe his head from spoyling of the cheryes, and so to be easily carryed, hauing a wreath or some such thing betwixt him and the laths, for hurting of his head.

The French men commonly vse to carry their cherries in the very same pots that they gather them in, & never put them out vntill such times as they are to be spent. The Dutchmen doe turne them out of their cherry pots, into deepe rod-baskets. This latter way is not so good. For, lying so thick one vpon another, it quickly bringeth them into a heat: and once being in a heat, they presently rot.

But the Fruiterers of London (whose way I holde to be the best) doe first gather them into kibseis, or little open baskets: and by reason of their great quantity they poure them out gently into their siues, or broad baskets made siue-fashion: so filling them that the siues or baskets may be three inches (or there about) emptie at the top. For when they be put into a Ship, Hoy, or boate, they are often (for want of roome) set one vpon another: which would hurt the cherries, if the siue or basket were full.

But otherwise, they that haue no great store to carry or conueigh by land, may conueigh them on horsebacke in a payre of panniers, on each side one, lyned thinne both in the bottom and top with fresh fearn. Prouided, that your panniers or baskets be full: or els the fruite will be spoiled with tossing.

## EXTRACTS FROM THE NEW ACT FOR THE PROTECTION OF GARDEN OR ORNAMENTAL GROUNDS IN CITIES AND BOROUGHS.

1. Where in any city or borough any enclosed garden or ornamental ground has been set apart otherwise than by the revocable permission of the owner thereof in any public square, crescent, circus, street, or other public place, for the use or enjoyment of the inhabitants thereof, and where the Trustees, Commissioners, or other body appointed for the care of the same have neglected to keep it in proper order, or where such garden or ground has not been vested in or placed under the management of any Trustees, Commissioners, or other body for the care of the same, and from the want of such care, or from any other cause, has been neglected, the Metropolitan Board of Works, where the same is in any place under their jurisdiction, except the City of London (where the provisions of this Act shall be carried into effect by the Corporation of the said City), and the corporate authorities in any other city or borough, shall take charge of the same, putting up a notice or notices to that effect in such garden or ornamental ground, and if after due inquiry the person entitled to any estate of freehold in the same cannot be found, or if it shall be vested in any person by whom it is held, subject to any condition or reservation for keeping the same as and for a garden or pleasure ground, or that the same shall not be built upon, but not otherwise, shall cause any buildings or other encroachment made therein within the period of 20 years before the passing of this Act to be removed, and (if requested by a majority of two-thirds of the owners and of the occupiers of the houses surrounding the same) shall vest such garden or ornamental ground in a committee consisting of not more than nine nor fewer than three of the rated inhabitants of such houses to be chosen annually by such inhabitants, in order that the same may be kept as a garden or ornamental ground for the use of such inhabitants; and the vestry or board of any and every parish or district within which the same or any part thereof is situate shall from time to time cause to be raised the sums required by such committee for defraying the expenses of the maintenance and management of such enclosed garden or ornamental ground, or of such part thereof as is situate within their parish or district, by an addition to the general rate to be assessed on the occupiers of such houses; or if the said owners and occupiers shall not agree as aforesaid to undertake the charge of such garden or ornamental ground, the Metropolitan Board of Works or Corporate authority aforesaid shall, within six months after the notice herein-before mentioned shall have been put up within the same, or within such further time as the said Board or authority may think it expedient to allow for such agreement to be come to, vest the same in such Vestries or Boards, who shall thenceforth take charge of and maintain the same as an open place or street in such manner as shall appear to them most advantageous to the public, subject to the approval of the Metropolitan Board of Works or Corporate Authority, as the case may require; saving and always reserving to every person and persons, his and their heirs, executors administrators, and assigns, all such estate, right, title, and interest as he, she, or they would or ought to have had and enjoyed of, in, to, from, or out of the gardens and grounds aforesaid in case this Act had not passed.

2. And whereas it is expedient that the same should be carefully protected from undue encroachment, where any right to require that any garden or ornamental ground as aforesaid be kept and maintained as such, or that the same shall not be built upon, shall belong to any person in right of any house or other property, and he shall by notice in writing signed by him addressed to the Metropolitan Board of Works where the same is in any place under their jurisdiction, except the City of London, where the same shall be addressed to the Corporation of the said city, or to the corporate authorities in any other city or borough, requesting the said Metropolitan Board of Works or Corporate Authority to protect the right before mentioned, the said Metropolitan Board of Works or Corporate Authority, after due inquiry, may, if they shall think fit, accede to such request, and then and thereupon the right of such person to require that such garden or ornamental ground to be maintained as such, or that the same shall not be built upon, shall thenceforth be vested in such Metropolitan Board of Works or Corporate Authority, who shall be fully empowered, for and in their own name, to exercise all the rights, powers and privileges in relation thereto, and take such legal proceedings for asserting, defending, and protecting the same, as the said person might have exercised or taken.

3. Any charge incurred by the Metropolitan Board of Works in the execution of this Act shall be deemed to be expenses of the said Board for payment whereof provision is made by the Act for the better local management of the metropolis; and the expenses incurred by any Corporate authority shall be deemed to be expenses necessarily incurred by them in carrying into execution within and for their city or borough the Act intituled An Act to provide for the Regulation of Municipal Corporations in England and Wales, and any other Act amending the same.

4. Where any such garden or ground is managed by any committee of the inhabitants of any square, crescent, circus, street, or place, such committee may make, and from time to time revoke and alter, bye-laws for the management of the same, and for the preservation of the trees, shrubs, plants, flowers, rails, fences, seats, summer-houses, and other things therein, which bye-laws shall be entered in a book kept for that purpose by the committee, signed by the chairman of the meeting at which the same shall be passed, and which book shall and may be produced and read, and taken as evidence of such byelaws, in all courts whatever, and any inhabitant or servant, or other person admitted to such garden by any inhabitant, offending against the same, after they shall have been duly allowed as herein-after provided, upon proof thereof before a magistrate acting for the district in which such garden is situate, shall be liable for each offence to a penalty not exceeding *5l.*: Provided always, that such byelaws shall not come into operation until the same shall have been allowed by some judge of one of the superior courts, or by the Justices in quarter sessions; and it shall be incumbent on such judge or justices, on the request of such committee, to inquire into any byelaws tendered to them for that purpose, and to allow or disallow the same as they think meet.

5. Any police constable who shall see any person throwing any rubbish into any such garden, or trespassing therein, or getting over the railings or fence, or stealing or damaging the flowers or plants, or committing any nuisance therein, may apprehend such person, under the authority hereby given to him; and any person convicted before any magistrate acting for the district shall be liable for each and every offence aforesaid to a penalty not exceeding *40s.*, or to imprisonment for any period not exceeding 14 days; and in case it shall be necessary to state in any proceedings the ownership of the property of such garden, flowers, or plants, it shall be sufficient to describe the same as the property of the committee by the name of A. B. and others.

6 The provisions contained in the 225th, 226th, 227th, and 228th Sections of the Act, passed in the Session of Parliament held in the 18th and 19th years of the reign of her most Gracious Majesty the Queen, Chapter 120, shall be incorporated in this Act, and shall apply to any penalty or forfeiture imposed by this Act, or any bye-law made in pursuance thereof, in and for every matter or thing done or omitted to be done within the metropolitan district; and the Act passed in the 12th year of the reign of her Majesty the Queen, Chapter 43, shall apply to every penalty or forfeiture imposed by this Act, or any bye law made in pursuance thereof, for any matter or thing done or omitted to be done within any other part of England and Wales.

7. Nothing in this Act shall extend to or include any garden, ornamental ground, or other land belonging to her Majesty in right of her crown or of her Duchy of Lancaster, or any garden, ornamental ground, or other land for the time being under the management of the Commissioners for the time being of her Majesty's Works and Public Buildings, or of the commissioners for the time being acting under the Crown Estate Paving Act, 1851, or to any garden, ornamental or other ground, for which special provision is made for the due care and protection thereof by any public or private Act of Parliament.

8. Nothing in this Act shall extend to Scotland or Ireland.

## Home Correspondence.

*Cool Treatment of Orchids.*—The best reply I have it in my power to give to your correspondent who inquires (see p. 461) whether certain Orchids of his will succeed under cool treatment, is to furnish a list of such as I have myself subjected to it, all of which—so far as a few months' experience will enable me to judge—like it well. Your correspondent should, however, remember that the system I have been advocating is not intended to interfere with the hot treatment of plants that come from hot, but simply to supply cool treatment to such as come from cool localities, and which will not therefore endure being boiled or roasted alive. Unfortunately our catalogue of cool country plants is at present very meagre, simply because we have hitherto lost them as fast as they came, but we look confidently to the enterprise of our nurserymen, such as Messrs. Veitch and Messrs. Low, to provide materials for a fresh start. Even under cool treatment Orchids require air, shade, and humidity, and will not succeed unless treated very differently from other greenhouse plants. A cool house ought always to face the north. Ada aurantiaca, Brassia Gireoudiana, B. cinnamomea, Cypripedium Schlimii, Epidendrum sceptrum, E. vitellinum, E. verrucosum majus, Barkeria spectabilis and Skinneri, Cycnoches barbatum (Paphinia barbata), Cattleya citrina, Comparettia falcata, Cyrtochilum maculatum, Disa grandiflora, Eriopsis biloba and altissima, Cœlogyne cristata, Lælia autumnalis, and anceps, Lycaste Skinneri, Maxillaria venusta, Notylia bicolor, Masdevallia coccinea and tovariensis, Odontoglossum augustatum, O. aureo-purpureum, O. bictoniense, O. cariniferum, O. Cervantesii, O. cordatum, O. crinitum, O. grande, O. læve, O. nebulosum, O. nævium majus, O. Pescatorei, O. Phalænopsis, O. pulchellum, O. pretiosum, O. Reichenheimii, O. Uro-Skinneri, O. terrestre, O. stellatum, Oncidium ornithorhynchum, O. leucochilum, O. tigrinum, O. Skinneri, Paphinia tigrina, Pescatorea (Huntleya) cerina, Sophronitis cernua grandiflora, and pterocarpa, Uropedium Lindeni, Trichopilia picta and suavis, Warrea Lindeniana. The above include nearly all the American Orchids with which I am acquainted that not only delight in a cool house, but are worth growing in any house at all. A few more might, however, be added, such as Cypripedium insigne, Odontoglossum hastilabium, &c., to which a cool house is not essential. *Serapias.*

*Shrubs in South Devon.*—The late mild winter has been favourable to half-hardy plants in this county. I have Chamærops excelsa coming into flower. The large Chinese Guelder Rose, Viburnum macrocephalum, is covered with bloom and is really a fine thing. Would it not unite with the common Guelder Rose of our shrubberies, as budded or grafted standard high, it would be a very striking plant. A huge plant of Abutilon vitifolium is covered with its showy flowers; and blossoms, for the first time, will soon be developed on a new South American Buddlea, raised from seeds received from the Royal Horticultural Society a few years ago. These plants were all killed to the ground in 1860, but will soon be in flower, both against a wall, and as standards. My hybrid Rhododendrons have not bloomed as freely as usual, but, nevertheless, have been gorgeously beautiful, though none can yet compete with their Indian parent R. arboreum, which has produced glorious flowers this year in the open air. Of Sikkim Rhododendrons none have bloomed with me out of doors but ciliatum, glaucum, and blandfordiflorum; the latter is a very striking species, as it is totally unlike any other, being similar in form and colour to the Australian Lily, the name of which it bears. Would not its orange and yellow colour give novelty of hue if crossed with some free-seeding white or crimson variety? This species flowers freely with me, and seems very hardy. Through the kindness of Sir W. J. Hooker I received some years since a collection of these fine plants, but though they are not permanently injured by the coldness of our winters, they are nevertheless often damaged by spring frosts, as they start into growth far too early for safety. In the conservatory Dalhousiæ and Edgworthii have been very fine, and the late blooming Maddenii is generally beautiful, far superior to Dr. Hooker's figure, and much more fragrant than Edgworthii. I would also add that many perfect flowers of Magnolia exoniensis have opened this spring, and that the old but somewhat rare Iris Susiana has flowered abundantly. The Cloth of Gold Noisette Rose, and America, are blooming freely, with others. One plant of Ilex latifolia has produced berries the last season, but the fruit of this fine species is very inferior to its foliage. *A Devonian, May* 16.

*Bog Firs.*—Sir Charles Lyell, in his "Geological Evidences of the Antiquity of Man." speaks of an era of Scotch Fir; he also states that this Scotch Fir where introduced, has never thriven. The same might be said in respect of the bogs in this part of Ireland, for when planted on drained or reclaimed bogs, generally speaking Scotch does not thrive, while other Firs do. But I think it is assuming too much to say, that the timber found in the Irish bogs is the Scotch Fir. Whatever it may be in a Danish bog, I am strongly of opinion, from the appearance of the timber, that in those of Ireland it is not the Scotch Fir. I attach no importance to the colour of the timber, but to the grain, to the large amount of resin, and especially to the cleavage and general appearance of the timber. It most nearly resembles the Pitch Pine of commerce—speaking only from the appearance of the timber, as I have never seen leaves or cones in the bogs, nor have I heard of any having been found, unless it be one cone much broken and mutilated, given me by a person in Belmullet, and which was stated to have been found in digging turf 3 or 4 feet below the surface of a bog behind the canal that connects Blacksod Bay with Broadhaven Bay. This is quite a large cone, and very little decayed; but as bark is often found quite fresh in appearance, and not having seen this cone *in situ*, I do not attach much importance to it. The bogs here occupy equally the sides of hills and valleys, often extending under the sea to low-water mark, and are full of timber. I hope these remarks may be the means of eliciting more information on the subject. *Benjamin B. Billington, Roy Towers, May* 12. [We should like to see the cone.]

*Boilers.*—If your correspondent "Ignoramus," who inquired about Bury & Pollard's conical boilers, will refer to the *Gardeners' Chronicle* of March, 1842, and February, 1843, he will see that Professor Lindley offers his valuable testimony to the obvious advantages of these boilers for Rendle's tank system of heating. These conical boilers are those of Stephenson & Peill, to whose business Bury & Pollard have succeeded. *W.* ——In reply to the inquiry of "Ignoramus" respecting Bury & Pollard's improved conical boilers, I beg to say it is the well known boiler of Stephenson & Peill, whose successors Bury & Pollard are. This description of boiler is most economical in its consumption of fuel, and has been tested in these gardens nearly 20 years. One of them in use here, heating three Vineries and two Melon pits, works well, and could if required heat more. I have no doubt they might be easily applied to heat a Rendle's tank in a pit. *J. Miller, The Gardens, Frognal, Footscray, Kent.*

*Roses.*—Your Correspondent Mr. Radclyffe is evidently learned in Roses, and, what is more to the purpose, is plainly willing to impart to your readers his knowledge respecting the Queen of Flowers. Last year he wrote of white, red, and black mildew, telling us how to cure the two former, but not the latter, which in my experience is the most destructive of the three, attacking young and old leaves alike, and spreading with equal rapidity on each. If Mr. Radclyffe will now kindly supply the omission I allude to, I dare say he will oblige others as well as myself. *C. R. S.*

*Cuthill's Black Prince Strawberry.*—I have this day (Derby Day) about 10 early Black Prince Strawberries showing colour, and three or four, which the sparrows have half spoiled, ripe. This is earlier than any I have had before in the open ground without protection. *James Cuthill, Camberwell.*——I gathered a pottle of perfectly ripe fruit of Black Prince on Monday the 18th inst., and I have continued to do so every day

since. In the course of a week the ground will be covered with ripe fruit. The real value of this variety is, I consider, its earliness; and to get it thus early and prolific, it requires to be treated differently from other kinds. I grow it on a bank facing the south, thrown up as steep as possible, and composed of refuse from the gas works, such as old mortar, clinkers and clay. From experience I find my last summer's runners, no matter how late, are those which produce the earliest fruit. They will succeed on a rock, provided you have just soil enough to plant them in, and will continue bearing all the season up to Christmas should hard winter frost keep off. The Black Prince seems a very hardy kind, for the sharp frost we had some time since, when the fruit was as large as a horse bean, and the plants were covered with blossoms at the same time (in fact they are white with blossom even now), had not the least effect on it, although every blossom that was open of other sorts was killed. *Robert Shackell, Bath.*

*Wireworm.*—Prevention, it is said, is better than cure. On first entering my present service, which was in March, 1859, owing to the miserable condition the Vines were in, I found it necessary to plant the houses afresh. I had the privilege of walking over the estate to make choice of a plot of pasture from which I could take material for the border. I selected a piece which was well exposed, elevated, and laid due south; there was, however, in the soil a much greater mixture of sand than I could have wished. On the 20th of April, 1859, I had the turf cut 3 inches thick and stacked. On my examining the soil I found wireworm in it in great numbers, and the largest I ever saw. On the 18th May the stack of turf was chopped to pieces, and to every 8 cart loads of this chopped turf were added, 1 cart load of old dung, 1 ditto brick rubbish, and two bushels of soot. The soot was employed for the destruction of the wireworm. Upon the drainage of the border, turf of the same thickness was laid with the grassy side downwards, and upon this was strewed soot to the thickness of half an inch. On May 25 the soil was placed upon this sooted turf; on the 31st of the same month the Vines (Black Hamburgh) were planted, and 12 weeks after planting they reached the top of the house, a distance of 20 feet. They were cut down on the 15th December following, were allowed to break with the season, and finer canes I never witnessed. The following spring every eye showed three and some four bunches. They were permitted to carry a light crop, and some of the bunches weighed 3 and 4 lbs; they still give every satisfaction. Two years after I had occasion to make another border. The turf was cut and brought from the same spot, the soil prepared and Vines planted as above, and they are everything one could wish. I have been thus precise in my description, because I am anxious to show to those contemplating making Vine borders that they have nothing to fear from wireworm provided they follow the steps just laid down. *C. Squires, Heywood, Westbury, Wilts.*

*Rose Lord Clyde.*—In reply to Mr. Wm. Paul's assertions at p. 462 that my statements are "unfair, untrue," and respecting my "being under an illusion," allow me to explain that the Rose seed was gathered and mostly attended to as to sowing, budding, &c., afterwards, by separate parties in the nursery, and not exclusively by Mr. W. Paul and the man now his foreman. As to my claim of the old Cheshunt Nurseries, I was upwards of 14 years an equal partner with my late father, Mr. A. Paul (trading as A. Paul & Son), till his death in 1847, when Mr. Wm. Paul joined me as junior partner for an expressed period, at the expiration of which he left the Old Nurseries, retaining only a portion of 8 to 9 acres of the outer ground. *George Paul (Paul & Son), Old Cheshunt Nurseries, Cheshunt Street, Herts.* [Here this matter must stop.]

*Stakes or no Stakes.*—Mr. Editor: I'm a woodman least however I gets a living by selling steaks to gentlemen as grows them 'nation great plants for egsibishun and a perty good living it has bean I assure ye, but zir I vansy youl be surprised as I assure you I was when at a flower show tother day I heeard a young feller say as how them plants as was on the stages wasnt growd but factored by the woodman and rope maker. Zir I wishd youd a been thur or some of them chaps from Lunnun as could a talked to him and just a took the shine out on him as it was I felt it cumbent upon myself to ax him if he could show anything like um hisself. he sed as how he had got some at whoam of the same sort as had all the graceful beauty of natur about um and that look at um anyhow they was all round alike and they hadnt no stiks in um. Of course zir I nor nobody else belived him and I told him so and then with a lot a fine talk he let on about big plants in Lunnon with terible fine faces and hundreds of stiks in um end with hols behind big enough for a Friars cooking Kitchen. I thought zir he was just come strait from the Pope with his new fangled notions, and as I seed I had no chance to talk it out of him I would just write to you and ax you to help us. I am afeard our trade will suffer and that all on us who have druv such a roaring trade in stiking wood shall have to pine away in the workhouse fancy zir if plants was to be growd as this chap wanted um to be how could we get sale for our nice strait stiks why we couldnt sell um at any price and should have to make um all up at once into faggots to be burned. Why zir you dont know what he sed and it makes my blood tingle when I thinks on it why zir I heeard him say as how they could all be growd with next to no stiks and that he had Heeths and Hedromas Pimelers and Broniers and a lot of other plants 3 or 4 feet through um and would give more money than I ever seed for every stik I could find in um. Why zir I was to mad to take him at his word but I wish now I had, I shouldnt then have troubled you with this do Mr. Editor take it up for us and give this chap a rap over the knuckles for his presumption in meddling with we poor woodmen and our trade and I am sure we shall be all grateful to you. I shall look out perty sharp for your next peaper and till then beg to subscribe myself zir yours &c. *A Regular Woodman.*

## Societies.

Linnean: *May* 7.—G. Bentham, Esq., President, in the chair. A portrait, by Eddis, of J. J. Bennett, Esq., who till recently filled the post of Secretary to the Society, was presented by James Salter, Esq., Treasurer of the fund, in the name of 62 Fellows who had subscribed thereto. H. C. Bastian, Esq., and H. T. Mennell, Esq., were elected Fellows; and Prof. Alexander von Bunge, a Foreign Member. The following papers were read:—1. "On two aquatic Hymenoptera, one of which uses its wings in swimming." By J. Lubbock, Esq. Till now, the author stated, no aquatic Hymenoptera or Orthoptera had been discovered, though the former group alone has been estimated as comprising some 50,000 species, 3500 of which live in Great Britain. In a basin of pond water, on an early day in August last, he had been astonished to see one of these Hymenoptera, Polynema natans by name, quite at ease in the watery element, and actually swimming by means of its wings. At first he could hardly believe his eyes, but having found several specimens and shown them to some friends, the fact was undoubted. The same phenomenon, moreover, was again observed within a week by Mr. Duchess, of Stepney. Another of the aquarian Hymenoptera, now first described under the name of Walkeria aquatica, was found in the same pond, but this, unlike the former which swam by means of its wings, held its wings motionless when under water, and used its legs only; and though these were neither flattened nor provided with any well-developed fringe of setæ, they seemed very well to serve this purpose: indeed, the motion of this species was more rapid than that of the former. Both species are fond of creeping along the sides of the vessel in which they are kept, or on the leaves and stems of aquatic plants; but they frequently quit their support, and swim boldly out into the open water. In these insects respiration appears to take place in the usual way through spiracles. A common house fly placed under water ceased to move in half an hour, while the specimens now referred to lived under water for several hours without suffering any apparent inconvenience, and one was observed to be quite lively after having been so placed at least 12 hours, which it was stated, from further observation, is probably about the limit of their endurance. Drawings of the two insects accompanied the paper, which also contained a technical account of their organisation.——2. "Note on the embryo of Ancistrocladus." By G. Bentham, Esq., and J. D. Hooker, M.D. The authors stated that at page 191 of the first part of their "Genera Plantarum," they had fallen into an error in regard to this genus, (which they place in Dipterocarpeæ) in describing what Mr. Thwaites had called a ruminated albumen, as contortuplicate cotyledons. A further examination of ripe seeds communicated by Mr. Thwaites, had proved that they were at fault in doing so. The affinity of the genus they however still regard as being with Dipterocarpeæ, thus adding, they say, one more to the already large proportion of exalbuminous natural orders in which albuminous genera occur.

Nova Scotia Horticultural.—The annual meeting of the Shareholders of this Society took place the other day, when the report of the Directors was submitted, read and adopted. The financial affairs of the Society are satisfactory. During the year a large amount had been expended in erecting a Lodge, introducing gas, and repairing and putting up new fences; and it appeared that whilst a considerable amount had been expended, beyond the receipts of the Fruit and Vegetable Show held in the Gardens on the 30th September last, the articles for which prizes were awarded being sent to the London Exhibition, and receiving very marked notices from many of the leading London journals (thereby bringing the fruit of this province into notice), to this day, the Directors of the Society had not seen the medals awarded to the fruit, &c., by the Royal Horticultural Society, or been treated with common courtesy by the Committee, who induced the Directors to undertake and hold the exhibition here. A vote of thanks was passed to the Directors and others for their services. The following gentlemen were then elected to serve the ensuing year, viz.:—Dr. Chas. Cogswell, President; John Naylor, Esq., Vice-President; George McKenzie, James Cochran, J. T. Twining, Edwd. Binney, and James Thomson, Esqrs., Directors; and Arch. Scott, Esq., Sec. and Treasurer. The report stated that there was now on sale at the Society's Garden, over 3000 acclimated ornamental and fruit trees, 2000 Currant and Gooseberry bushes, with 2500 pot plants, besides bed plants, Dahlias, Hollyhocks, &c., with a well selected stock to arrive by the Roseneath from Glasgow.

## Notices of Books.

*Yedo and Peking: a Narrative of a Journey to the Capitals of Japan and China.* By Robert Fortune. Murray, 1863. (Second Notice.)

(*Continued from* p. 391.)

Amongst the novel agricultural operations practised by the Japanese and Chinese, none appear to us more curious than that of preparing fresh vegetable matter for manure. This method of economising the weeds and such like natural enemies of the husbandman, seems to be extensively pursued, old men, women, and children, being seen employed on every hill-side, cutting Grass and weeds for the purpose. Mr. Fortune calls this (p. 182) using "vegetable matter in a fresh state for manure;" but it is not exactly so, for he goes on to describe the process as consisting in mixing the weeds with mud and water, when the compost rots after a very short time, and affords nourishment to the Rice crops.

Japan, he says, is of all the countries the most beautiful in spring. "The trees were now clothed with leaves of the freshest green, and many of the early kinds were in full blossom. On every hill-side and in every cottage garden there were some objects of attraction. The double-blossomed Cherry-trees and flowering Peaches were most beautiful objects, loaded as they now were with flowers as large as little Roses. Camellias, forming goodly-sized trees, were common in the woods, and Azaleas adorned the hill-sides with flowers of many hues. Here, the A. obtusa, with flowers of the most dazzling red, was peculiarly at home. Cydonia japonica was seen in a wild state creeping amongst the Grass, and covered with red blossoms; and several varieties of Primrose (P. cortusoides) were met with under trees in the shady woods."

Of the outskirts of Yedo he says, "Park-like scenery, trees and gardens, neatly clipped hedges, succeeded each other. The whole country here (the village of Su-mae-yah) is covered with nursery gardens. One straight road more than a mile in length is lined with them. I have never seen in any part of the world such a large number of plants cultivated for sale. Each nursery covers 3 or 4 acres of land, is nicely kept, and contains thousands of plants, both in pots and in the open ground. As these nurseries are generally much alike, a description of one will give a good idea of them all.

"On entering the gateway, a pretty little winding pathway leads up to the proprietor's house, usually situated near the centre of the garden. On each side of this walk are hardy ornamental trees and shrubs of the country, often dwarfed or clipped into round table forms. The beautiful little Yew (Taxus cuspidata) occupies a prominent place amongst dwarf shrubs. Then there are the different species of Pines, Retinosporas, Thujas, and the beautiful Sciadopitys verticillata, all duly represented. Plants cultivated in pots are usually kept near the house of the nurseryman, or enclosed with a Bamboo fence. Glass houses are not yet in use for rearing tender plants, instead of which sheds and rooms fitted with shelves are used, into which the Japanese huddles them for shelter during the cold months." Amongst other plants in the nurseries, Mr. Fortune notices Cacti, Aloes, Fuchsias, and other exotics to Japan, which are not yet introduced into China. In one garden he found nothing but varieties of Acorus growing in square Nanking pots, and in each pot was a rock of agate, crystal, or other rare stone, many of them representing the famous Fusi-yama, or "Matchless Mountain" of Japan.

We have already alluded to the frightful earthquakes that almost periodically devastate large tracts of these lovely plains. To their evil influence much that is singular in the domestic architecture of the Japanese, which has so charmed the eyes of all visitors, may, according to Mr. Fortune, be attributed. He says, "On carefully examining the structure of one of these buildings (which are a subject of admiration to every foreigner who visits Japan) one sees the principles upon which it is put up, and the reasons for its peculiar construction. Buildings such as we erect in England would be very unsafe in Japan. Here the main part of the house is a sort of skeleton framework. Every beam is tied or fastened to its neighbour, so that when the earth is convulsed the whole building may rock and sway together without tumbling down. In order to render these buildings more secure it seems necessary to have the roof of great strength and weight, and this accounts for their heavy and massive structure." We do not see the force of this reasoning as regards the roof, whose weight and solidity surely may be better accounted for by the fact that the houses would otherwise become the sport of the terrific tornadoes which infest this island, and do as much damage as the earthquakes.

Elsewhere it is stated, that in one year (1859-60) no less than 28 shocks had been felt; and that the natives do not hesitate to express their dread that some day their fair and beautiful land may disappear in the waters of the sea. As usual in all earthquake countries the natives dread the shocks more than strangers; the sound of creaking timbers, and his bed moving in a most uneasy manner, "as if some strong power was endeavouring to carry it bodily away, but changing his mind had set it down again," is told of by Mr. Fortune with perfect *sang froid*, though in Yedo alone, only eight years before his visit, it is supposed that 200,000 person fell victims to an earthquake and its consequent conflagrations.

Before leaving these pleasant pages, to which every lover of horticulture and natural scenery will often recur, we must allude to an episode in our traveller's wanderings which he himself details as reflecting on the conduct of our officials in Japan, but which according to his own showing leaves no one but himself to blame. We do this with reluctance, but fair play demands it. Yedo, it appears, is a sealed city to all foreigners but the resident ministers of the several foreign Powers, their establishments, and those persons alone to whom they grant passports,—the wisdom of which restriction is fully admitted by Mr. Fortune in his narrative. Being naturally anxious to visit Yedo,

however (and to no one could there be less objection to grant a passport), Mr. Fortune applied for permission, not to the representative of his own Government (Mr. Alcock's *locum tenens*), but to the American minister; and having thus obtained a passport he repaired forthwith to Yedo, without even reporting the step he had taken to the British Legation, the members of which he met on entering the city. Under these circumstances Mr. Fortune is surprised to receive that same evening a letter from the gentleman in charge of the embassy, requesting him to take his departure without delay. One would suppose that the least a traveller could do after this would be to solicit a personal interview, offer an apology for the disrespect he had thoughtlessly shown, and make a formal request for a permit. But no, he answers by letter, saying that he had been misinformed at Kanagawa as to the extent of powers left with Mr. Alcock's *locum tenens* at Yedo (an unlucky insinuation that the latter is a nobody); that Mr. Alcock would, had he been at Yedo, have granted the permission, and that he therefore hopes that his representative will not insist on his departure. Who can wonder that the answer to this is an order to leave Yedo at once. Mr. Myburgh would, had he adopted any other course, have been strangely wanting in what was his duty, not only to his Government, but to himself. Into the question of the propriety or otherwise of the American Minister giving an invitation to a British subject under the circumstances, we are not called upon to enter; but that Mr. Fortune's whole proceeding must have appeared contemptuous towards the British Legation can no more be questioned, than that it was wanting in consideration at the outset, and courtesy at the end.*

We have left little space for an allusion to Mr. Fortune's visit to China, all we can say of which is that it is highly interesting, but far too brief; the account of his excursion to the mountains west of Pekin is extremely suggestive, and we should like to hear much more of that curious country from him. In conclusion we may heartily congratulate our author on having written four books on the same country, of which all are good, and the last as good as the first.

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The *Botanical Magazine* for the month of May figures the following plants:—*Alocasia Lowii*, a beautiful Bornean addition to the class of ornamental-leaved stove plants, having very much the character of A. Veitchii, but with the advantage of being a plant of freer growth. It is a fine thing. *Saxifraga Fortunei*, an evergreen Saxifrage introduced from Japan by Mr. Fortune. It has the general features of S. sarmentosa, but the cordate-reniform seven-lobed leaves are green, and the white unspotted flowers, which grow in a branched panicle, have the lower petal about three times as large as the rest, and notched with a few coarse teeth. It is a very pretty plant, but will be quite eclipsed by a variety in which the leaves are beautifully variegated, also introduced by Mr. Fortune to the nursery of Mr. Standish. *Hæmanthus natalensis*, a near ally of H. insignis, and a fine greenhouse bulb, with the sheaths at the base of the stem beautifully spotted and tipped with crimson, the leaves themselves oblong acute, and the flowers collected into a roundish head at the top of the scape, pale green with orange-yellow anthers, and surrounded by an involucre of rich ferruginous purple bracts; it comes from Natal. *Scilla natalensis*, another ornamental greenhouse bulb from Natal, with a tall scape supporting a long raceme of blue flowers, and broad lance-shaped leaves sheathing the stem by their broader base. *Heterotropa parviflora*, a neat little Japanese perennial, with a good deal the appearance of our common Asarabacca, except that the leaves are cordate approaching to sagittate, with a pallid stripe along the centre, and a good deal marked with blotches of grey.

The *Florist and Pomologist* figures *Delphinium alopecuroides*, a very handsome double purple perennial Larkspur, with close fox-brush-like flower-spikes, raised by Mr. Wheeler, of Warminster; and a Pear called Nouvelle Fulvie, one of Grégoire's seedlings, described as a delicious fruit, ripening in January and February. The fruit is large, of a long pyriform shape, considerably bossed and uneven in its outline, deep green before ripening, then yellowish, a good deal russetted; the flesh is fine-grained, buttery, and melting, with abundant sugary juice and perfumed flavour. There is a capital article by "R. T. C." on Cape Bulbs, a class of plants which have most undeservedly been suffered to fall out of cultivation, or nearly so; an account of a plan of assisting seedling fruits into early bearing, by Mr. Webster, of Gordon Castle; and a suggestion by Mr. Tillery to grow every year a batch of seedling Gladioli in Rhododendron clumps, which suit them to perfection, so that a supply of bulbs may be had for massing in the pleasure-ground.

In the present issue of *Gossip of the Garden*, Mr. C. J. Perry, a well known authority in Verbena matters, very properly recalls attention to the distinction that ought to be made between bedding and show varieties. A bedding Verbena, he says, has no better claim to a place among the show varieties than a bedding Dahlia has with Lord Derby. As a rule no Verbena with a large eye—a fine feature in the show sorts—is suitable for bedding, the eyes becoming in every sense eye-sores. We urged this subject of bedding Verbenas on the attention of seedling raisers some time ago, and we quite agree with Mr. Perry, that a great improvement might soon be worked out. What is required is, no doubt, a Verbena with a dwarf bushy growth, covering the ground completely as it grows, and requiring no pegs; the foliage moderate in size and dark in colour; the trusses erect on short footstalks, only just long enough to carry them out of the leaves, the trusses being flat, and not given to produce seed, but dying away and giving place to others as the pips fade, and the colours being positive. These qualities, he remarks, are combined in a vivid scarlet called Spark, sent out last season.

In the *Floral Magazine* are pictures of *Imantophyllum miniatum*; a fine crimson *Rose, François Lacharme*, one of the best of last year's varieties; *Camellia Duchesse de Berri*, one of the best of the double whites; and three blazing *Pelargoniums—Improvement, Censor*, and *Souvenir*, some of which might be described as reticulate-flowered if we dared trust the representations.

The Fifth Part of *Seemann's Journal of Botany* has a figure of *Tropæolum Heyneanum*, a little known species found by Mr. Markham in Southern Peru, and having small orange-coloured flowers remarkable for their multifidly-cut petals, the segments being blunt in the upper and awl-shaped in the lower petals. The plant was formerly cultivated in the German gardens. Mr. Syme, who has visited the Lyndhurst habitat for Gladiolus illyricus, and seen the plant growing, considers that it is really indigenous. "The best way of finding the plant is to stoop down and look through between the leafstalks underneath the fronds of the Pteris aquilina, when, if the Gladiolus be in flower, the crimson spikes may be discerned at a considerable distance." Mr. Syme acquiesces in the use of the name G. illyricus for this New Forest plant, "the only others with which it could be confounded being G. imbricatus and G. communis," plants which "seem to be merely subspecies of one super-species to which the name communis properly belongs." A translation is given of a paper by Alph. De Candolle, on a new character in the fruit of Quercus, and on the best subdivision of that genus. In this it is stated, in reference to the question affecting the Cork tree mentioned at p. 292, that, long ago, André Michaux and his son pointed out that some Oaks ripen their fruit at the end of the first year, and others in the course of the year following. This character, which had been neglected for half a century, has had attention recalled to it by M. Gay, to whom we are especially indebted for the discovery that of two species confounded under the name of Quercus Suber, one has annual, the other biennial fruit. This character was particularly examined by M. De Candolle in hundreds of specimens of the same species, and he found that the duration of the fruit was most easily determinable even from a dried branch, and perfectly constant in each species. All that is required, was to see if the ripe fruit was fixed to the new wood, or to that of the previous year. This unfortunately is only an isolated character. A more important one apparently, discovered in the course of the learned Professor's inquiries, was found to be derived from the relative position of the atrophied ovules to the seed, which is always single. Applied to the species Suber and occidentalis this gives the following result:—In Suber the ovules originate slightly above the base of the ovary, and are found ultimately in a spiral line round the mature seed. In occidentalis, the specimens examined showed the atrophied ovules to be decidedly inferior. In the same number, is a paper on dimorphism in the genitalia of flowers by Professor Asa Gray.

*The Popular Science Review*, No. 7, contains among other matter an elaborate dissertation on a Beech twig, beginning in little and ending in less; with the exception of a speculative theory about buds, prepared by the author out of very old materials imperfectly understood.

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BOOKS RECEIVED.—*Observations on Wines*. By A. & H. Grainger & Co., 17 Walworth Road.——*The Technologist*, No. XXXIV. By P. L. Simmonds (Kent & Co.).——*A Manual of European Butterflies*. By W. F. Kirby (Williams & Norgate). A very nice systematical book, which is certain to be popular among Entomologists. It is accompanied by *a synonymic list* of European Butterflies, printed on one side only of each page, so that the names may be cut out for labelling Cabinets.——A fifth of his admirable *Lectures on the History of England* (Longmans), has appeared from the pen of Mr. Wm. Longman. It relates to the eventful reign of Edward the 2d, and is illustrated by most useful wood engravings.——*Journal of the Bath and West of England Society for the Encouragement of Agriculture*, Vol. XI., Part I. n. s. (Ridgway), is a capital number, full of most valuable practical information.——*Watts's Dictionary of Chemistry*, Part 3, (Longmans), extends from Arsenic to Bismuth.

## Garden Memoranda.

MR. BARNES' NURSERY, CAMBERWELL.—Since we last visited this nursery a marked improvement is observable in all its departments. The out-door stock comprises nearly everything that may be expected to be found in more extensive establishments; and, although the locality is not free from the smoke of London, yet under Mr. Barnes' skilful management few or no failures are experienced. Roses even succeed tolerably well, and annually produce a plentiful crop of bloom. To ensure this, however, considerable pains are taken. At planting time the ground is thoroughly trenched 3 feet deep, and the wants of the plants in the way of water are also well attended to. The quarters in which stools are growing are top-dressed in winter with half-rotten dung, which serves as a protection, and at the same time contributes materially towards the nourishment of the plants. Fruit trees in pots are also plunged and mulched in a similar manner, and nothing in their way can possibly be finer than their appearance is at the present time. With trained and other fruit trees this nursery is also well stocked; as it likewise is with Aucubas and certain other sorts of evergreens; even Conifers, especially Thuja aurea, disregarding the suburban situation, look as healthy as if they were miles in the country.

In-door Camellias have bloomed profusely this season, and are now in close pits making wood; even from the old Double White few buds have dropped. This may be owing to the atmosphere of the house in which they are growing being kept steady as to temperature, and otherwise in a favourable condition for promoting a healthy vegetation. Azaleas, of which Mr. Barnes has an extensive collection, also succeed here uncommonly well, even weakly growers attaining a vigour which under ordinary circumstances they seldom possess. This is no doubt correctly attributed to their being worked on A. Verschaffelti, which makes a more robust and suitable stock than phœnicea, and at the same time one which may be rapidly increased to any amount from cuttings. Among the different varieties with which the houses are stocked, Reine Blanche and Ivery's Queen appeared to be the best whites; Magnet, bright rosy salmon, is of fine habit, and a remarkably free grower; Bride of Abydos, white, striped and mottled with purple, is also a variety possessing an excellent constitution; and Leeana is likewise a good white, occasionally striped with pink. The best double white kind is undoubtedly Flag of Truce, and among double pinks Glory of Sunning Hill still holds a conspicuous position. If, however, we may judge from a single bloom which Mr. Barnes showed us, it is likely soon to be eclipsed by King of the Doubles, a bright rosy pink sort, with blooms as large as those of an Oleander, which therefore cannot, we think, fail to be considered a real acquisition.

In a house filled with greenhouse plants were many beautiful examples of Lonicera aureo-reticulata, a plant stated to strike from cuttings as freely as a Willow; we may therefore hope soon to see this fine new Japanese Honeysuckle as common as a China Rose. In other houses young Vines are grown in great abundance and perfection, and in a corner of a propagating house were some variegated Geraniums grafted on Emperor, a strong-growing scarlet. Of shy sorts, such as Mrs. Pollock, Sunset, and others of that description, Mr. Barnes expects to make in this way more vigorous plants, and thus cause them to attain greater size in a shorter time than they could be induced to do under ordinary cultivation. In stoves, on the roof of one of which Stephanotis floribunda is flowering beautifully, is a good stock of the usual inmates of such structures, including the singular looking Alocasia metallica, and a great variety of Caladiums and other plants kept chiefly for the beauty of their leaves. A tiffany house has just been put up for the accommodation of the hardier sorts of Ferns, which are about to be placed in it in tasteful order.

Gladioli, planted in the first week in April, are just coming up; for succession Mr. Barnes would recommend a second planting to be made this month, and another in June. He is of opinion that Gladioli are generally put in the ground too early, and that if planted as just indicated more satisfactory results would be obtained.

The show houses are gay with flowering plants, and altogether the nursery is now in excellent order, and well worth inspection. The walks, which are being put into good repair for the season, are being edged with Rosher's hard burnt blue Staffordshire tiles, which when well laid down have a neat appearance, and are said to resist the influence of frost.

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## Miscellaneous.

*Sales by Auction.*—Orchids, consisting of established plants, sold at Stevens' the other day, realised the following prices, viz.:—Cymbidium eburneum, 5*l*.; Aerides Veitchii, 6*l*. 10*s*.; A. maculosum speciosum, 4*l*. 10*s*.; Trichopilia crispa, 6*l*. 15*s*.; Vanda Batemanni, 4*l*. 4*s*.; V. cristata, 4*l*.; Cypripedium Veitchii, 4*l*.; C. caudatum, 4*l*.; C. villosum, 3*l*.; Camarotis purpurea, 3*l*. 3*s*.; Cattleya labiata picta, 3*l*.; C. marginata, 3*l*. 10*s*.; C. Mossiæ aurantiaca, 3*l*. 15*s*.; C. quadricolor, 4*l*. 8*s*.; Phalænopsis grandiflora, 4*l*. 10*s*.; P. amabilis, 3*l*. 15*s*.; Saccolabium ampullaceum, 3*l*. 15*s*.; S. Dayanum, 3*l*.; Miltonia candida grandiflora, 3*l*. 15*s*.; other lots

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* We regret that we cannot agree with our experienced and able reviewer in this view of the dispute between Mr. Fortune and Sir Rutherford Alcock's *locum tenens*. Mr. Fortune had already visited the capital in the autumn, and was anxious to examine its gardens once more in spring, and states (p. [illegible]) that his only reason for not applying to Mr. Myburgh in the first instance was, that "he might not have the power to grant the request, and that it would be disagreeable for him to refuse it." Mr. Fortune's letters were abundantly courteous, and considering that he was the guest of the Minister of a friendly Power, the language and acts of Mr. Myburgh were alike unjustifiable and uncalled for.

fetched from 10*s.* to 2*l.* 10*s.* per lot, of which there were in all 152. A few hardy Ferns, sold along with the Orchids just named, realised from 4*d.* to 8*d.* each.

*Wood-lice in Churches.*—A correspondent asks for informatian as to means of getting rid of wood-lice in a church. Various recipes for destroying insects of different kinds have been given in our columns; but we do not think "Keating's Insect destroying Powder" has been mentioned. We have found it effectual in destroying insects in a garden, and it is said to be equally useful in clearing away such pests as fleas, bugs, &c.; it might, therefore, be sprinkled about the resorts of the wood-lice; and we dare say that in a short time they may thus be got rid of. We should like to know the result. This powder (unlike Keating's Vermin-killing Powder) is said to be "harmless to animals," although destructive to all sorts of insects. For flying and some other insects it is used as a fumigant, sprinkled on red-hot coals or wood, or set fire to after being twisted up in a piece of paper. *The Builder.*

*Tropical Forests.*—Among the forms of tropical vegetation, the creeping plants, Bushropes, or Lianas (Cissus, Bauhinia, Bignonia, Banisteria, Passiflora), that contribute so largely to the impenetrability of the forests, hold a conspicuous rank. Often three or four Bushropes, like strands in a cable, join tree to tree, and branch to branch; others, descending from on high, take root as soon as their extremity touches the ground, and appear like shrouds and stays supporting the mainmast of a line-of-battle ship; while others send out parallel, oblique, horizontal, and perpendicular shoots in all directions. Frequently trees above 100 feet high, uprooted by the storm, are stopped in their fall by these amazing cables of Nature, and are thus enabled to send forth vigorous shoots, though far from their perpendicular, with their trunks inclined to every degree from the meridian to the horizon. Their heads remain firmly supported by the Bushropes; many of their roots soon refix themselves in the earth, and frequently a strong shoot will sprout out perpendicularly from near the root of the reclined trunk, and in time become a stately tree. No European is able to penetrate the intricate network of a forest thus matted together: astonished and despairing he stands before the dense cordage that impedes his path, and, should he attempt to force his way through the maze, the strong thorns and hooks with which the tropical creepers are generally armed would soon make him repent of his boldness. Even the Brazilian planter never thinks of entering the forest without a large knife, or without being accompanied by slaves, who, with heavy scythe-like axes attached to long poles, clear the way by severing the otherwise impenetrable cordage. But if the naturalist vents dire imprecations on the creepers, which render forest exploration so difficult, they are the delight of the monkeys and tiger-cats that climb them with astonishing celerity. The rapid ascension of the highest trees, or even the passage over streams, is rendered easy by their means to whole herds. No less pliable than tough, the lianas of the western hemisphere are used by the Brazilians as cordage to fasten the rafters of their houses, in the same manner as the equally flexible rattans are employed throughout the East Indian world. *Hartwig's Tropical World.*

*Disappearance of the Vine Disease.*—Dr. Télèphe, of Bordeaux, has been the first to remark, that since the appearance of Oïdium, the large kinds of edible fungi, and especially Boleti, have disappeared from those localities where the Vine has been diseased. This observation was made known in 1853 to the Linnean Society of Bordeaux; and it has been remarked that since the minute Cryptogams (such as Erysiphe oïdium on the Vine, Botrytis on the Potato, and Ustilago carbo on the Maize) have been attacking and destroying these necessaries of life, so have the large kinds of Mushrooms been comparatively rare. But since the autumn of 1862, the Agarics and Boleti have reappeared in great quantities about Bordeaux, and the markets of this large town have been encumbered with them. From this fact, Dr. Desmartis considers himself justified in foretelling the final disappearance before long of the Vine disease. *Les Mondes.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Climbing or trained plants while growing will require constant attention in the way of thinning and stopping, and if bright weather, which may now be expected, should set in, a slight shading will be of benefit on very hot days. As soon as the weather shall have become more genial, air must also be freely admitted, and pot plants, especially fine specimens, must be allowed abundance of room. Maintain a moist temperature, and see that nothing suffers for want of water. Inspect carefully young stock, especially that for blooming next winter. Early-sown Chinese Primroses and Cinerarias may be had in flower in October and November. Another sowing may be made shortly for spring decoration. Continue to start at intervals successions of Achimenes. Chrysanthemum cuttings may be put in; they will do without bottom heat; short-jointed wood will strike freely under a hand-light. Gloxinias require partial shade and a moist heat. Gesneras may be treated in the same way, but they like more light. Amaryllis may be removed to the conservatory for blooming, where they will prove a great acquisition. Where it can be accomplished watering should still be done in the morning, in order that all superfluous moisture may be dried up before evening.

### FORCING DEPARTMENT.

PINERIES.—Now is a good time to go through the whole stock of succession Pines, beginning with the largest. Let them be taken out of the pits and turn them out and examine their roots in order to see if a shift is required. After the larger plants have received attention, follow with those of smaller size, putting them into larger or smaller pots, according to the amount of vigour they possess. Some of the old tan will probably require replacing with new material; but it is requisite to use caution as to the depth of fresh tan at this season, for fear of overheating, and burning the roots. If the temperature of the old tan is not much below 85°, it will be sufficient to turn it over to the depth of a couple of feet. In replacing the plants take care to keep such as are likely to fruit in the autumn by themselves as much as possible, in order that when wanted they may be removed without disarranging the whole pit. Plenty of room must be allowed to prevent the plants from becoming drawn.

VINERIES.—Houses in which Grapes are ripening should be kept at 90° or even higher, with sun heat, but if allowed to fall down to 70° at night, so much the better. On nights following clear sunny days, little or no fire will be necessary; avoid over-cropping, and take care to keep red spider in check.

PEACH HOUSES.—Forced trees in pots that have ripened a few early fruit, should be kept in the house till the beginning of next month at least to finish their growth. Give them plenty of water, and syringe once a day. During the present cold weather it would be an advantage to fruit now ripening if a little fire were made in the day time, and some air given through the back ventilators.

FIGS.—In favourable weather let these have plenty of air during the day, and abundance of water, and, except where fruit is ripening, use the syringe freely.

CHERRIES.—Spare lights placed now over trees of May Duke against walls would forward the crop very much without farther trouble than drawing the lights a little apart during sunshine, and pushing them close and closing the ends with canvas during the night. They must, however, be securely fastened during stormy weather like the present.

MELONS.—This season has been remarkably favourable for early Melons, and with many these will be ripened, and the crop gathered in time to admit of a second set of plants being turned out in the same pit. This is much preferable to the plan of obtaining a second crop from the same plants; they will succeed if planted before the middle of next month.

### FLOWER GARDEN AND SHRUBBERIES.

Recently planted shrubs will require constant inspection until the beginning of June. Masses of American plants, under or near large trees, should have a top-dressing of some kind to keep them cool, and to compensate for the exhaustion occasioned by the roots of the trees. A coating of bog-earth or half-rotten leaves will be suitable. Conservative walls, trellises, or ornamental arcades, should have close attention at this period. Get out masses of flowers as soon as they are hardened. Now is the time to establish a firm and even sward or lawn. The roller and scythe, or mowing machine, will be in frequent request, and much labour is involved in these operations properly carried out. See that edgings hitherto neglected are put in order for the summer; do not, however, cut beyond the original boundary, and keep the walks filled with gravel. Let the roller be passed frequently along the edges in order to level them down to the walk, this takes away the harshness of the outline. Tulip-roots should be taken out of the ground when the foliage has assumed a yellow, withered appearance. Ranunculuses will shortly be in bloom; these, to keep in perfection for some time, should have a light awning over them, when an occasional watering between the rows will be of service.

### HARDY FRUIT AND KITCHEN GARDEN.

About London out-door fruit in open quarters got considerably shaken by the wind and rain on Monday and Tuesday last; but still sufficient is left for a crop. On walls trees fared better, and artificial thinning will in most cases have to be resorted to with an unsparing hand. Stopping and keeping down insects will also require attention. In the kitchen garden, where any of the main crops have failed more seed should be immediately sown, or where they have partially failed, procure plants, if possible, to fill up with. Destroy slugs with quicklime, which should be strewn over every part of the garden several nights or mornings in succession. Thin Beet to a foot apart. If the first crop has altogether failed, it is not yet too late to sow another. Make another sowing of both early and late Broccoli, the former to come in in October and November, and the latter late in the spring. Earth up Cabbages that were planted early in spring; tie up the leaves of a few of the most forward of the autumn-planted, to cause them to form hearts for early use. Continue to prick out Celery. In planting out a second time, before finally transplanting into trenches, make a bed of equal parts of rotten dung and loam, about 4 inches thick, on a piece of hard ground, so that at the time of planting the whole of the earth and dung may adhere to the roots after the trowel is passed between each of the plants. A few trenches should now be got ready for the earliest Celery. Give the rows a good width, because Celery should never be earthed up until it has nearly attained a size fit for use, and, therefore, the intervening spaces may be cropped with Lettuces, Early Dwarf Cabbages, and Cauliflowers, all of which would come off before the final earthing. Let ridge Cucumbers be got in without delay, and shade for a few days. At the same time a few lights may be sown with seeds of Vegetable Marrow and Cucumbers for succession and for Gherkins. For the latter purpose, on warm soils, seeds sown in the open border will suffice; but on colder soils it is better to forward them in pots, and have a sloping bank thrown up facing the south; plant them near the top, and train the stems downwards, stopping them occasionally.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending May 20, 1863, as observed at the Horticultural Garden

| May. | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 14 | 26 | 29.816 | 29.825 | 62 | 49 | 55.5 | 55 | 52½ | S.W. | .08 |
| Friday 15 | 27 | 29.879 | 29.753 | 65 | 41 | 53.0 | 55 | 52¾ | S.W. | .18 |
| Satur. 16 | 28 | 29.906 | 29.876 | 65 | 40 | 52.5 | 55½ | 52¼ | S.W. | .03 |
| Sunday 17 | ● | 29.785 | 29.769 | 65 | 32 | 48.5 | 55 | 53 | S.W. | .00 |
| Mon. 18 | 1 | 29.851 | 29.831 | 67 | 40 | 53.5 | 55 | 53 | N.E. | .40 |
| Tues. 19 | 2 | 29.879 | 29.868 | 54 | 41 | 47.5 | 54 | 52½ | N.E. | .22 |
| Wed. 20 | 3 | 30.015 | 29.997 | 48 | 45 | 46.5 | 53½ | 52 | N.E. | .21 |
| Average. | | 29.884 | 29.815 | 60.9 | 41.1 | 51.0 | 54.7 | 52.5 | | 1.01 |

May 14—Cloudy and fine; cloudy; rain at night.
— 15—Rain; showery and warm.
— 16—Cloudy; squally, fine but rather boisterous; fine at night.
— 17—Overcast; fine throughout.
— 18—Fine; overcast; boisterous with heavy rain at night.
— 19—Boisterous with cold rain; many trees blown down; very boisterous.
— 20—Boisterous with rain.

Mean temperature of the week 2 4-5th deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 37 years, for the ensuing Week, ending May 23, 1863.

| May. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 17.. | 65.5 | 42.0 | 53.7 | 15 | 0.58 in. | 2 | 7 | 4 | 1 | 4 | 11 | 4 | 4 |
| Mon. 18.. | 65.2 | 42.8 | 54.0 | 16 | 0.17 | 2 | 7 | 5 | 3 | 3 | 10 | 5 | 2 |
| Tues. 19.. | 66.5 | 43.1 | 54.8 | 12 | 0.50 | 2 | 7 | 7 | 2 | 4 | 5 | 3 | — |
| Wed. 20.. | 66.6 | 43.3 | 54.9 | 17 | 0.44 | 2 | 6 | 7 | 3 | 4 | 10 | 1 | 4 |
| Thurs. 21.. | 66.3 | 44.9 | 55.6 | 16 | 0.36 | 3 | 6 | 10 | 2 | 5 | 6 | 3 | 2 |
| Friday 22.. | 65.7 | 43.5 | 54.6 | 17 | 0.30 | 6 | 6 | 4 | 3 | 3 | 10 | 3 | 2 |
| Satur. 23.. | 67.9 | 45.4 | 56.6 | 13 | 0.53 | 1 | 6 | 6 | 3 | 3 | 9 | 4 | 5 |

The highest temperature during the above period occurred on the 22d, 1847—therm. 89 deg.; and the lowest on the 18th and 19th, 1844; 20th, 1853; and 19th and 20th, 1856—therm. 30 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

ANTHURIUMS: *H H.* These are not Arads, as you have been told, but Orontiads. Their affinity is with Pothos, not with Caladium. You cannot therefore show them in a group of Caladiums.

FLORISTS' FLOWERS: *J H Smith.* If your Tropæolum leaves will retain their character, the sort will richly deserve the name of "Cloth of Gold." It is remarkably handsome.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. It is requested that not more than four plants may be sent us at any one time.—*C F.* 1, Amelanchier vulgaris; 2, We do not recognise; it is a very young female, and may possibly belong to Betula nana or diffusa.—*R M.* The deep yellow is Dendrobium chrysanthum; the other is Dendrobium Devonianum.—*W C.* 1. Phalænopsis intermedia; 2. Brassia cinnamomea.—*G H.* Some Carex extremely young—possibly C. flava.—*W R P.* 1, Veronica officinalis; 2, Lotus corniculatus; 3, Polygala vulgaris blue; 4, ditto, white.—*Joseph Dawson.* 1, Dracæna? imperfect specimen; 2, Eleocharis acicularis.

ROSES: *E D D.* Catherine Guillot is a good, free-growing Rose, but likely to flower better on a south than on a west wall; Souvenir de Monteeau, Princesse Mathilde, Mademoiselle Haiman, Oriflamme de St. Louis, and Laure Davoust are all suitable for a west wall. Madame Melanie is a good Hybrid Perpetual Rose of the colour of the old Tuscany.

TOBACCO WATER: *Amateur.* This is obtainable from the Tobacco manufacturers. When pure it is strong, and should be diluted with pure water, 1 gallon being mixed with from 3 to 5 of the liquor, according to its strength. You can make it yourself, if you please, by steeping strong rough Tobacco in boiling water, at the rate of about a quarter of a pound to the gallon, and keeping it close till cool, to retain the steam. It is to be applied with a syringe.

VARIEGATED RASPBERRY: *Anon.* The leaf is very prettily variegated, and we do not remember to have seen anything in the same way. If permanent, and the plants are freely marked, it will be a desirable addition to the already crowded ranks of variegated plants in cultivation.

VERBENAS: *E D D.* You will not be far wrong if you use Purple King, purple; Snowflake, white; Mars or Spark, scarlet; Lady Cotton Sheppard, rose; and Tweediana, crimson. There are some newer ones reputed to be better, but we cannot say if they are so.

WISTARIA: *E D D.* The Wistaria is perfectly hardy, and will "do" anywhere, provided it has good soil to grow in. On a north aspect it would be later—that would be all the difference.

WINE: *A Constant Reader.* In our opinion the South African wines, especially what is called Port, are by no means as suitable to persons who only take them for their health, as European wines.

POTTER'S GUANO (established 21 years) 7*l.* per Ton.
POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10*l.* per Ton.
PURE GYPSUM, 25*s.* per Ton, bags included.
Address, 28, Clapham Road Place, S.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
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TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
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Manufactory: Plaistow Marshes, Essex. N.E.

LAWES'S MANURES.
The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.
Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

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MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.
Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.
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THE LANDS IMPROVEMENT COMPANY.—
Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.
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The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.
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Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

AGRICULTURAL and CHEMICAL COLLEGE, KENNINGTON.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. NESBIT, LANSDELL & Co., 37 and 38, Lower Kennington Lane, London, S.
Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.
Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis, or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.
Full particulars of terms will be forwarded on application.

Land Drainage.
WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.
Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure with a commission thereon, may be charged on the property improved, by way of rentcharge on the estate created for various terms of years so as to adapt the rate percent. of annual charge to the circumstances of the tenants.
No investigation of title being required, or notices given Reversioners or Mortgagees, no legal expenses are incurred.
Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.
Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.
Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.
PRIZE SHEETS and CERTIFICATES for ENTRY of STOCK will be forwarded on application.
LAST DAY of ENTRY, JUNE 1.
CAUTION.—All Certificates received after that date will be returned to the Senders. H. HALL DARE, Secretary.
12, Hanover Square, London, W.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER, 1863.
TENDERS for GREEN FODDER, HAY, and STRAW.
Persons desirous of Tendering for the supply of either of the following, viz.: 1st, about 10 Acres of GREEN FOOD, consisting of Green Vetches, and of Green Clover or Trifolium; 2d, of HAY, 30 Loads more or less of the best quality; 3d, of STRAW, about 50 Loads, of 36 Trusses each, for use in the Society's Show Yard at Worcester, from the 17th to the 25th of July, can obtain particulars, and Forms of Tender, on application to H. HALL DARE, Secretary.
12, Hanover Square, London, W.

YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW at SOUTH STOCKTON ON TEES, August 5, 6, and 7, 1863.
For Prize Sheets apply to JOHN HANNAM, Secretary.
Kirk Deighton, Wetherby.

HAMBURGH INTERNATIONAL AGRICULTURAL EXHIBITION.
NOTICE.—To insure insertion in the CATALOGUES, all ENTRIES of LIVE STOCK from Great Britain and Ireland should be made before the 25th of May.
All communications to be made post paid to the Secretary of the Committee, Dr. HACHMANN, Advocate, Hamburgh.
N.B. As all the Hotels at Hamburgh are engaged, a Committee of gentlemen has been formed who have undertaken to procure lodgings for strangers. Application must be made to Dr. H. DONNENBERG, Hamburgh, post paid, stating accommodation required.

THE GENERAL STEAM CULTIVATION COMPANY (Limited).
Notice is hereby given, that NO FURTHER APPLICATIONS for SHARES will be RECEIVED from London after MONDAY, the 25th inst., and from the country after WEDNESDAY, the 27th inst.
By Order, W. SWIFTE, Secretary pro tem.
70, Cannon Street West.

ON SALE, in the GREAT INTERNATIONAL DOG and POULTRY SHOW, Islington, on E. & F. CROOK'S STAND, Registered POULTRY FOUNTAINS, FEEDING CAGES, and Vermin Proof PHEASANT FEEDING BOXES. Also Portable Brass Mantelshelf Fire Screens, enriched Brass Fire Screen Poles; and the new Royal Wedding Commemoration Candlesticks, containing Medallions with correct Likenesses in bas-relief of the Prince and Princess of Wales.
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REDUCTION IN PRICE.

PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

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|---|---|---|
| For 30 Tons and upwards ... ... ... | £10 5 0 | per Ton, net cash. |
| For 10 Tons up to 30 Tons ... ... ... | 10 10 0 | " " |
| For 5 Tons up to 10 Tons ... ... ... | 10 15 0 | " " |
| For smaller quantities ... ... ... | 11 0 0 | " " |

The Price will not exceed 12*s.* per Ton additional if delivered at any other Port in Great Britain.

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GEO. SEAGRAVE & CO., BROKERS.
WILLIAM DIXON & CO., GENERAL AGENTS.

28, KING STREET. CHEAPSIDE; AND 15, LAWRENCE LANE, LONDON, E.C.

THE FIRST GREAT INTERNATIONAL SHOW of SPORTING and other DOGS, will be held at the AGRICULTURAL HALL, Islington, during NEXT WEEK.

THE GREAT INTERNATIONAL DOG SHOW at the AGRICULTURAL HALL.—The Doors will open on MONDAY NEXT as soon after 4 P.M. as possible, when all the Classes have been judged except the HOUNDS, which will be judged in public in front of the Great Orchestra.

THE GREAT INTERNATIONAL DOG SHOW at the AGRICULTURAL HALL.

| ADMISSION. | s. d. |
|---|---|
| MONDAY, (after 4 o'Clock P.M.) .. .. | 5 0 |
| TUESDAY, open from 8 A.M. to 8 P.M... .. | 2 6 |
| WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, } from 8 A.M. to 8 P.M. .. | 1 0 |

INTERNATIONAL DOG SHOW, AGRICULTURAL HALL, Islington.—FISH HATCHING will be practically demonstrated at the International Dog Show by FRANK BUCKLAND, Esq., M.A. With the permission of the Proprietor of *The Field*, the Fish Hatching Apparatus from *The Field*, containing Living Salmon, Trout, Grayling, Danube Salmon, and Perch will be shown. The Ova of Salmon in the Process of Hatching, and various Illustrative Diagrams will also be exhibited.

THE GREAT INTERNATIONAL DOG SHOW.—The largest Show of FOX HOUNDS ever exhibited in London, including entries from the following Packs:—the Duke of Beaufort's, Lord Fitzhardinge's, The Cambridgeshire, The Cotswold, and The New Forest, &c, &c.

THE GREAT INTERNATIONAL DOG SHOW.—Selections from eight Packs of HARRIERS, including Three Couples from the Pack of his Royal Highness the Prince of Wales.

THE GREAT INTERNATIONAL DOG SHOW.—Upwards of Eight Hundred DOGS used in Field Sports, besides SAPLINGS and PUPPIES.

THE GREAT INTERNATIONAL DOG SHOW.—FOX-HOUNDS, STAG-HOUNDS, HARRIERS, and BEAGLES will be shown in open Kennels, not chained up.

GREAT INTERNATIONAL DOG SHOW.—Four Couples of the Old Breed of NEW FOREST BLOODHOUNDS from the celebrated Stag Hound Pack of THOS. NEVILLE, Esq., of Clelland.

GREAT INTERNATIONAL DOG SHOW.—Foreign Dog Classes—Tartar, Russian, Pyrenean, Algerian, Watch Dogs, Wolf Dogs, Boar Hounds, Slave Hunting Hounds—Chinese, Japanese, and Maltese Lap Dogs.

GREAT INTERNATIONAL DOG SHOW.—Bloodhounds, Mastiffs, Mount St. Bernards, Monster Dogs of many countries, &c.

GREAT INTERNATIONAL DOG SHOW.—Nearly 400 Toys and Fancy Dogs of the choicest and smallest breeds.

# The Agricultural Gazette.

*SATURDAY, MAY* 23, 1863.

THE utilisation of house waste, to which attention was last week directed before the Society of Arts by Dr. THUDICHUM and the Rev. H. MOULE, is a thing on which both theoretical and practical men are now urgent. Very few however can claim a place in the latter of these classes. There used to be a great many more than there are. The cleaning of cesspools used to be a much larger business than it is; and many more acres used to be dependent upon this source of fertility in the neighbourhood of towns and even villages than is now the case. Water-closets have diminished the supply, and superphosphates and guano have been substituted for it. There can however be no doubt of the value of the stuff thus wasted. The only man we know at present who on any considerable scale has learnt and continues to realise this fact, grows much better Turnips at a cheaper rate upon the material thus collected every now and then from every privy in his village, and mixed up with earth and ashes until the time when it is wanted, than he can from superphosphate. And a fact like his experience is worth a good deal more in the estimation of agriculturists than all the angry protest on this subject on the part of scientific men. And it is not much more than *this* which has yet been addressed to us from without.

LIEBIG praises Oriental agriculturists at the expense of the Western "barbarians," because they have for so long a time known and acted on the fact on which Mr. ALDERMAN MECHI so frequently insists—that a man is at least as good as a sheep; writers have long urged on farmers that manure—"food *minus* growth"—must be better and more fertilizing when food is liberal and fattening is not desired, as it is where men are fed, than it is when food is merely vegetable, and the object is to place it on the body of the fatting animal—moreover, we come every now and then upon a

garden experience which seems to prove the value of what is now so generally neglected. But none of all this can tell in any given locality with anything like the effect which is produced when a successful Turnip grower tells his brother farmers at the market table that he has for many years been in the habit of paying half-a-crown apiece to his villagers for leave to come and take away the garden box as soon as it is full; and that he gathers in this way many thousand bushels of good stuff per annum, which he finds to be both cheaper and much better than superphosphate.

To all the more general considerations, however, which have been named, we have now to add the growing conviction that our successful efforts to cleanse our towns are washing out to sea an immense body of this valuable manure. Advertisements for proposals to utilise the immense body of waste which we are getting rid of in the metropolis, are appearing at the time when continental chemists are condemning our reckless mismanagement, and the Society of Arts have done well at such a time to direct the public attention once more to the possibility of turning this valuable material to account.

To this end they invited Dr. THUDICHUM and Mr. MOULE to address one of their weekly evening meetings. The former collected an immense quantity of information, which is published in the Journal of the Society of Arts, on the quantity and composition per individual of the material wasted, and suggested means of saving and collecting for sale the whole of the liquid portion of it. Mr. MOULE, on the other hand, whose experience as a clergyman among a poor population long ago directed his attention to this subject, again brought forward his plan for deodorising house waste of all kinds by means of earth, the material thus produced being, when well mixed and partly dried, capable of repeated and perfectly successful use for this purpose many times in succession.

We see in the papers that Mr. TAYLOR, of Romsey, has invented an apparatus by which it is intended to turn the solid parts only of manure to better use, just as Dr. THUDICHUM's plan contemplates only the utilisation of the urine. It is the latter which is the most valuable part of what is now wasted, but there cannot be a doubt of the superiority of the plan of Mr. MOULE, by which both are saved. And he has the testimony not only of his own garden but of large agriculturists in his neighbourhood to the great fertilising power of what he thus obtains. A full detail of his plans, and of the experience by which their value has been proved, will be found in the last number of the English Agricultural Society's Journal.

Meanwhile the contrast which this cheap and simple method of feeding our fields presents to the costly method of applying artificial manures ought to obtain for it the favourable consideration of agriculturists. It is just lately that the East Lothian Farmers' Club have published the results of experiments in the growth of Turnips which had been planned for its members, and have since been carried out by them. Twelve or 13 different methods of manuring were directed, and have been adopted. They consist of various dressings of farmyard dung, Peruvian and Bolivian guano, superphosphate, bones, rape-dust, sulphate of ammonia, &c, varying in cost from 3*l.* 15*s.* up to 6*l.* 2*s.* per acre! And the resultant crops seem to have varied from 10 to 20 tons per acre — the cost of the increased produce due to the application amounting to 6*s.* to 10*s.* per ton—quite as much as they were worth. It will be a more satisfactory thing both to individual farmers and to the country at large when the increased fertility of which we have reason to boast is more cheaply bought by a careful husbanding and application of those homely sources of it of which we now make no use.

Certainly we are not disposed to acquiesce in LIEBIG's declaration, that our management as a whole is tending to the exhaustion of our fertility; but there cannot be a doubt of his accuracy if his assertion is taken as meaning merely that this advance is not because of, but in spite of very much that is now a source of culpable and reckless waste.*

—— THE trial (BEADEL *v.* HOWARD) reported in our columns last week, was not an appeal, but the hearing of the arguments in the Court of Common Pleas upon the points of law reserved in the first trial. The appeal to the Court of Error has yet to be heard.

* We add as a foot-note the remarks on the subject with which Dr. VOELCKER concluded his lecture at the Royal Institution the other day. It must not, however, be forgotten that the lecturer had previously admitted the great wastefulness of much that now characterises farm management and social arrangements.

"So far from being in a progressive state of exhaustion, it might be readily demonstrated, if time permitted, that the productiveness of the soils of England has wonderfully increased during the past 50 years, and that the deplorable but hitherto unavoidable loss which the sanitary laws of a civilised country necessitate is perfectly insignificant in comparison with the immense amount of animal riches in the great majority of soils, and with the abundant restoration of fertilising matters to naturally poor land.

"But I must not enlarge on this subject, and be content in preference to my own experience on the Cotswold Hills to mention a few facts kindly supplied to me by Mr. J. Coleman, the intelligent manager of the Duke of Bedford's home farms at Woburn.

Farm in the parish of Oxnead, western part of Norfolk. Crop, Wheat:

| | | |
|---|---|---|
| 1773 .. .. .. | Produce per acre, | 15 bushels |
| 1784 .. .. .. | ,, ,, | 23 ,, |
| 1796 .. .. .. | ,, ,, | 28 ,, |

Average of 30 years to 1802, 26 bushels per acre. This district now produces 32 to 36 bushels as an average crop.

"Holkham, Norfolk: In 1800 the average produce in Holkham Park was 24 bushels per acre. Since that it has steadily been increasing, and yields now as an average of the last 10 years, 36 bushels.

"Waterden, near Wells, Norfolk: 1800, the average of 20 years previous was 24 bushels per acre. The present average is now 36 bushels.

Wymondham, near Norwich:

| | | |
|---|---|---|
| 1800 | Average of Wheat crop .. .. | 20 bushels |
| 1860 | ,, ,, .. .. | 32 bushels |

"Mr. Hudson, of Castle Acre, also informs me that in 1800 the average produce of Wheat round Lynn was 20 bushels—that now it is 32 to 36 bushels.

"Many other instances of increased productiveness of both heavy and light land, occur no doubt to every intelligent observer who has taken an interest in agricultural progress, and few people will doubt that agriculture has been more rapidly developed in England than in any other country.

## CO-OPERATIVE FARMS.

SINCE I published in the Royal Agricultural Journal the plan of my co-operative farms in Suffolk, I have received many letters from all parts of the kingdom, inquiring if I could not devise some means by which gentlemen might engage in agriculture as a profitable and agreeable profession. As it is, the necessity for constant supervision of your labourers, who are ever watching an opportunity for slighting their work or purloining, renders it profitless and irksome. In an intellectual point of view no profession can surpass it; the Mantuan Bard devoted two of his poems to the subject, and the cultivator is constantly reminded

"To look thro' nature up to nature's God."

How then is this state of things to be remedied? Make these selfsame labourers co-partners, then your interests will become theirs; you will then be ready to address them as in the days of old, "The Lord be with you," and they will be as ready to respond "The Lord bless thee." Co-operation thus comes in to our aid, and I would here just observe that societies founded upon these principles will be the bulwark of our land, ever ready to show a bold front against discontented and revolutionary demagogues. Co-operation I conceive to be the handmaid of sympathy; as our immortal bard says,

"One touch of nature makes the whole world kin."

Fourrier, a Frenchman, wrote upon the subject of farming co-operation, and my friend the late Lord Wallscourt carried it out most successfully on his estate in the county of Galway; a balance sheet was drawn out every Michaelmas, and the profits were divided between the landlord, bailiff, and labourers, similar to prize-money to a ship's company. On this basis I form my plan of agricultural co-operative societies, already proved to be practical and sound. By rules and regulations, I bind the parties more compactly together, and by the march of intellect I introduce machinery, store shops, &c., which have proved most advantageous to the general weal. *John Gurdon, Tonbridge Wells, May* 1.

*For Example.*—A younger son, or one possessing a few thousand pounds, having been educated at Cirencester College, or passed a certain time under an experienced agriculturist, invests his capital in a farm, at the rate of 1000*l.* for every 100 acres; he takes the farm on a running lease, the rent to be increased or decreased every eight years, without reference to the state of the land. As four men and perhaps a boy are required to cultivate 100 acres, he calls together a certain number of the best workmen, proportionate to the size of the farm, and offers to take them into partnership, subject to the following terms. The principal to find the capital, to receive out of the assets of the farm 5 per cent. interest; to inhabit the farmhouse and premises, and forage for one horse; his duty to consist of keeping the accounts, paying all liabilities, and receiving all assets; to select two of the members to form a committee with him as general managers of the farm; each member to pay down on being enrolled 2*l.*, as much more as they wish, to go into the general fund, for which they shall receive 5 per cent. interest; that quarterly meetings be held, and at the Michaelmas, or annual meeting the accounts to be balanced, and after paying rent, &c., interest on the capital, the surplus to be placed in the Government Savings Bank, to the amount of 200*l.*, as a reserved fund to meet contingencies; all extra monies to be paid as extra dividend according to each man's capital advanced; that the committee selected from amongst the members receive a certain remuneration, as may be voted out of the profits at the annual meeting; that a steam engine be fixed for threshing the corn, grinding it, heating the ovens, turning the bread-making machine, (Stevens' machine, 139, Cheapside), steaming food, &c.; that bread, beer, pork, bacon, milk, butter, &c., be provided; and a store and slop shop be established, similar to the one at Rochdale; that coals be contracted for in summer, and laid in to each member's dwelling after harvest; that any member convicted of fraud, or any other crime, or a frequenter of public houses, be excluded the society; that each member become enrolled in a benefit club founded on Government principles to insure against sickness; that the rules be laid before Tidd Pratt, Esq., to be duly registered under the Limited Liabilities Act; and that any of these rules may be altered at the annual meeting if carried by a majority of members.

*Analysis of Benefits to the Members.*—The principal receives 5 per cent. for capital expended in the farm and establishment; if it is a paternal farm or private property, the benefits will be greater, as each member will be off the parish rates); likewise he receives his share according to his capital of all surplus, over and above the reserve fund; he inhabits rent free the farmhouse, premises, and garden; one horse is kept for his especial use, while he pays market price for provender for any other horse or horses; he participates with the other members in the articles, &c., purchased at cost price; furthermore he would be relieved from the responsibility and irksomeness of overlooking and directing the men, and other daily duties, at a cost to the proceeds of the farm, of say 20*l.* for pork, and 10*l.* as remuneration for the two committee men.

The members to pay down 2*l.*, or more if they wish it, to merge in the general fund, for which they would receive 5 per cent., and a further dividend on the surplus profits, and all the necessaries of life at cost price. As there would be a good profit on Wheat reduced to bread, Barley to beer (both articles being sold to the society at market price), also on the store shop, &c., there would be a handsome dividend at the disposal of the members; there is no reason why others should not be allowed to deal at the store shop, but the surplus profit should belong exclusively to the members.

## A COMPARISON OF SHEEP.

THE members of the Parlington Tenants' Club, having concluded their second experiment in winter feeding the following different breeds of shearling sheep, for the purpose of ascertaining with an equal or given quantity of food the class most profitably adapted to their locality, comply with the wishes of their friends in again publishing the result.

It may be remembered that in the summer grazing they tested with 12 sheep of each class, but in the winter feeding they selected six out of each class, and only tested with that number. The remaining 24 were again divided into 12, three of each class sent to Barrowby to feed upon cut Turnips alone, and the other 12—three of each class—were sent to Stourton Grange, to run with the occupier's shearlings, which had in the mass half-a-pound of cotton-cake per day in addition to cut Turnips; but as these were large sheep, it may be presumed they would take the lion's share, and would probably get 1 lb. per day. Tabular statements, showing the effect of this at Barrowby and at Stourton Grange, are also given.

To do away with the objection of the inequality of condition, lambs were bought, wintered, summer grazed, and then winter fed.

Reference to the tabular statement published in November, 1862, would show the increase of the Shropshire Downs over the others, and upon reference to the table published in October, 1861, this increase is well supported; for though upon that occasion they were second in the race, the Leicesters taking the lead, it must be borne in mind (and shown by these tables) that the Leicesters are less feeders. 12 of these were upon that occasion pitched against 10, the Leicesters being pretty well off for food, whilst the Shropshire Downs were short. In the winter feeding of the Shropshire Downs in 1861-62 they were second, but upon this occasion the result is adverse.

The experiment was carried out by close folding upon swathe, and though the ground was changed, they all showed lameness, but the Shropshire the more so. The remark that the Shropshire Downs had done their work is scarcely supported if reference is made to their progress in the tabular statement at Stourton Grange; and if again to that at Barrowby, the inference is that the allowance of cake, at one time ¼ lb. per day, and afterwards not more than ½ lb., was not sufficient to materially increase their weight. There is this remarkable fact, that whilst as hogs they only clipped 66 lb. of wool, as shearlings in 10 months they clipped 84 lb., showing a greater disposition to grow wool upon this soil and climate than the others. Therefore, as a whole, I see no reason to withdraw my observation in March last, viz, "The mutton of the Shropshire Down, with its increased wool, bears its own testimony, and will force its way with thinking men." The propensity of the north sheep to feed upon Turnips is fully borne out in these tabular statements, whilst the excess of wool in the improved Lincoln, with its greater proportion of flesh to that of the very pure Leicester, is an animal of great and increasingly great repute.

Living close upon the manufacturing town of Leeds,

we observe a change in the taste of the operative from that of excessive fat meat to one of a less wasteful and more fleshy description. Combining this with the results of these experiments may in some measure have modified our views and led to a more critical support of others, concluding that the cultivation of an animal of

| Description of Sheep. | Number of Sheep. | Weight of Sheep on the 18th October, 1862. | Weight of Sheep on the 18th March, 1863. | Increase. | Weight of Sheep when shorn. | Weights of Mutton. | Weights of Wool. | Weights of Tallow. | Weights of Pelts. | Weight of Turnips consumed. | Weight of Linseed cake consumed. | Value of Turnips at 6s. 8d. per ton. | Value of cake at 10l. 10s. per ton. | Value of food consumed. | Mutton gained during the time of winter feeding upon Turnips and cake. | Price of mutton per lb. | Value of the mutton so gained. | Wool gained during the time of winter feeding. | Price of wool per lb. | Value of wool. | Value of mutton and wool added. | Loss upon mutton and wool. And showing the relative value that the several classes bear to each other. | Profit upon mutton and wool. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | st. lb. | st. lb. | lb. | st. lb. | lb. | lb. | lb. | lb. | stones. | lb. | £ s. d. | £ s. d. | £ s. d. | lb. | d. | £ s. d. | lb. | s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| Shropshire Downs .. .. | 6 | 82 1 | 89 9 | 106 | 84 7 | 747 | 39½ | 101 | 80 | 1159 | 255 | 2 8 3½ | 1 3 10¾ | 3 12 2¼ | 67 | 6¾ | 1 17 8¼ | 19¾ | 1 7½ | 1 12 1 | 3 9 9¼ | 0 2 5 | .. |
| Lincolns .. .. | 6 | 83 8 | 100 11 | 241 | 93 1 | 804 | 69 | 95 | 104 | 1305 | 357 | 2 14 4½ | 1 13 5½ | 4 7 10 | 148 | 6¼ | 3 17 1 | 34½ | 1 8 | 2 17 6 | 6 14 7 | .. | 2 6 9 |
| Leicesters .. .. | 6 | 78 13 | 84 0 | 141 | 78 10 | 718 | 42 | 83 | 76 | 1112 | 255 | 2 6 4 | 1 3 10¾ | 3 10 2¾ | 91 | 6 | 2 5 6 | 21 | 1 7½ | 1 14 1½ | 3 19 7½ | .. | 0 9 4¾ |
| North Sheep .. .. | 6 | 73 7 | 95 5 | 306 | 89 2 | 806 | 45 | 80 | 74 | 1421 | 306 | 2 19 2½ | 1 8 8¼ | 4 7 10¾ | 197 | 6½ | 5 6 8¼ | 22½ | 1 7½ | 1 16 6¾ | 7 3 3¼ | .. | 2 15 4½ |

Table showing the Result where Twelve Sheep, Three of each Class, were fed upon Turnips alone at Barrowby, from the 18th October, 1862, to the 18th March, 1863.

| Description of Sheep. | Number of Sheep. | Weight of Sheep on the 18th October, 1862. | Weight of Sheep on the 18th March, 1863. | Increase. | Weight of Sheep when shorn. | Weights of Mutton. | Weights of Wool. | Weights of Tallow. | Weights of Pelts. | Mutton gained in the above time. | Price of mutton per lb. | Value of the mutton so gained. | Wool gained in the above time. | Price of wool per lb. | Value of wool. | Mutton and wool added, showing the relative value that the several classes bear to each other. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | st. lb. | st. lb. | st. lb. | st. lb. | lb. | lb. | lb. | lb. | lb. | d. | £ s. d. | lb. | s. d. | £ s. d. | £ s. d. |
| Shropshire Downs .. .. .. | 3 | 33 2 | 39 1 | 0 13 | 35 12 | 303 | 24 | 44 | 35 | 7 | 6¾ | 0 3 11½ | 12 | 1 7½ | 0 19 6 | 1 3 5¾ |
| Lincolns .. .. .. .. | 3 | 36 0 | 41 11 | 5 11 | 38 10 | 321 | 34½ | 42 | 48 | 47 | 6¼ | 1 4 5¾ | 17½ | 1 8 | 1 8 9 | 2 13 2¾ |
| Leicesters .. .. .. .. | 3 | 34 0 | 37 5 | 3 5 | 34 6 | 308 | 23 | 37 | 34 | 30 | 6 | 0 15 0 | 11½ | 1 7½ | 0 18 8¼ | 1 13 8¼ |
| North Sheep .. .. .. | 3 | 34 12 | 43 1 | 8 3 | 40 7 | 352 | 20½ | 42 | 36 | 71 | 6½ | 1 18 5½ | 10½ | 1 7½ | 0 16 7¾ | 2 15 1¼ |

Table showing the Result where Twelve Sheep, Three of each Class, were Fed upon Cotton Cake and Turnip at Stourton Grange, the amount of Cake not given, having been fed when folded with other Sheep.

| Description of Sheep. | Number of Sheep. | Weight of Sheep on the 18th October, 1862. | Weight of Sheep on the 18th March, 1863. | Increase. | Weight of Sheep when shorn. | Weights of Mutton. | Weights of Wool. | Weights of Tallow. | Weights of Pelts. | Mutton gained in the above time. | Price of mutton per lb. | Value of the mutton so gained. | Wool gained in the above time. | Price of wool per lb. | Value of wool. | Mutton and wool added, showing the relative value that the several classes bear to each other. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shropshire Downs .. .. .. | 3 | 37 8 | 46 2 | 8 8 | 42 10 | 377 | 20½ | 45 | 38 | 75 | 6¾ | 2 2 2¼ | 10½ | 1 7½ | 0 16 7¾ | 2 18 10 |
| Lincolns .. .. .. .. | 3 | 38 8 | 50 12 | 12 4 | 37 2 | 400 | 37 | 43 | 50 | 104 | 6¼ | 2 14 2 | 18½ | 1 8 | 1 10 10 | 4 5 0 |
| Leicesters .. .. .. .. | 3 | 34 1 | 39 0 | 4 13 | 36 4 | 317 | 24 | 31 | 30 | 43 | 6 | 1 1 6 | 12 | 1 7½ | 0 19 6 | 2 1 0 |
| Lincolns .. .. .. .. | 3 | 35 8 | 47 9 | 12 1 | 45 1 | 391 | 23½ | 42 | 39 | 104 | 6¼ | 2 16 4 | 11¾ | 1 7½ | 0 19 1 | 3 15 5 |

little muscle, but entirely given to laying on of fat, and consequently less wool, may not to ourselves be the most profitable.

Parlington, April 13, 1863. Thos. J. Fox.

## THE LAWS OF HUSBANDRY.

[The following passages are extracted from a lecture lately delivered before the Royal Institution by Professor Aug. Voelcker.]

The analysis of all fertile soils has revealed in them the presence of a variable amount of organic matter, of ammonia, nitric acid, potash, soda, lime, magnesia, oxide of iron, chlorine; phosphoric, sulphuric, and silicic acid; in short, all the mineral constituents which are found in the ashes of plants. These mineral or ash-constituents, I need hardly observe, are not merely accidental, but essential materials, without a proper supply of which no plant can grow healthily and come to full maturity. In one sense they are all equally important, for the absence of any single one in the soil, be it lime or potash, phosphoric or silicic acid, is detrimental to the luxuriant development of the vegetable organism. No one who has given the slightest consideration to the clear arguments and abundant evidence with which Liebig enforced this truth will hesitate to give assent to this mineral theory. Whatever else may be the views of agricultural chemists with respect to the functions of ammoniacal salts or nitrates, or the form in which the soil-constituents must be presented to the growing plant, in order that it may thrive and bear fruit, all agree in considering this an established truth, which no subsequent discoveries can invalidate. It is therefore natural to expect in unproductive or barren soils a deficiency or total absence of one or more of those mineral constituents which enter into the normal composition of our crops. The chemical examination of soils has shown indeed that sterility is directly traceable in some instances to the absence or deficiency of lime, or to that of phosphoric acid, or the deficiency of potash in others. But in numerous other cases, indeed in the majority of instances, the low state of fertility or the barrenness of soils cannot be traced to the deficiency or total absence of an important mineral constituent, nor to the presence in the soil of a substance injurious to vegetation. The fault is frequently not connected with the absence but with the inaccessibility of the mineral constituents to the feeding organs of plants. All the substances needed by plants are often present in the soil in over abundance, the soil considered as a storehouse is full, and notwithstanding it is unproductive. This is the case for instance when the free circulation of air and the equal diffusion of the soil-constituents, and their accumulation in the surface soil, are rendered impossible by stagnant water. With the removal of the water by thorough drainage, such a soil is rendered at once productive.

However, excluding such and similar obvious causes of sterility, on which time does not allow me to enlarge, it is undeniable that the mere chemical analysis of soils explains but rarely why Wheat or Clovers grow luxuriantly on one soil and not on another, or why a fertiliser which is remarkably effective on one soil has scarcely any effect on another of apparently the same composition. It is indeed well known that the dissimilarity in soils in regard to the natural capacity of producing crops as a rule cannot be explained exclusively by the abundant or scanty presence of matters which are acknowledged to be essential mineral food-constituents of plants.

The combinations in which these substances exist in the soil, their unequal or uniform distribution in the surface soil, the composition and physical condition of the subsoil, the relative depth of both, the porosity of the land, especially the power of absorbing and retaining, as well as modifying in a variety of ways the crude manuring agents which are applied to the land, unquestionably are intimately connected with the great variations which we notice in the agricultural capabilities of different soils.

Before the appearance of Baron Liebig's celebrated work —"Chemistry, in its Application to Agriculture," which has given the death-blow to the humus-theory, the fertility or barrenness of a soil was generally considered to depend entirely upon its physical properties and the presence or deficiency of humus. Little or no importance was otherwise attached to its chemical composition. Soon after the publication of Liebig's writings, which have given such a powerful impetus to the study of agricultural chemistry in England and on the continent, scientific men fell into the opposite extreme, and expected the bare chemical analysis of a soil, and the ash-analyses of plants, would enable them to discover at once the means of restoring the fertility of land impaired by the crops raised upon it; to improve by certain purely mineral manuring mixtures every description of land, and to grow on it, irrespective of its natural adaptation to the growth of particular crops, any kind and almost any amount of agricultural produce.

These extravagant and unphilosophical views, I need hardly remark, have produced a reaction which has rendered agricultural chemistry somewhat less popular than formerly, but at the same time more scientific, and therefore more directly useful to the enlightened agriculturist. Till within the last 10 years the study of the characters of soils, it appears to me, has been prosecuted too much in a one-sided direction. On the one hand, merely the relative proportions of the more important mineral constituents, such as potash, phosphoric acid, lime, &c., in the various soils was deemed sufficient to account for all their agricultural peculiarities; and on the other hand, their physical properties were too much considered, independently of their chemical composition. It cannot be denied, however, that an intimate connection exists between the physical condition and the chemical composition of soils, but this relation has not been as yet fully recognised. For a long time we have been in the habit of looking upon the soil as inert matter, incapable of exerting any other influence upon the living plant than that which it produces in consequence of its containing potash, lime, magnesia, and other mineral plant-food.

A new direction to chemico-agricultural inquiries was given about 10 years ago by Prof. Way's researches into the absorptive powers of soils for manure. These investigations are highly important both in a theoretical and practical point of view, and well deserving of special mention, particularly as Prof. Way's merits in opening a new and extensive field for future researches have not been very generously acknowledged by continental chemists, who have built upon the foundation laid by him.

Prof. Way's investigations originated in an observation of Mr. Thompson, of Kirby Hall, near York, who, in 1845, first observed that soils have the faculty of separating ammonia from its solutions. This observation, and an experiment made by the Rev. Mr. Huxtable, in which this gentleman found that liquid manure, after the passage through a bed of an ordinary loamy soil, was deprived of smell and discoloured, induced Mr. Way to institute a series of experimental researches on the powers of soils to absorb manuring substances, which have not only fully confirmed Mr. Thompson's previous observations, but have also brought to light numerous highly important and unexpected facts, of which I will attempt to give a brief account.

On passing solutions of ammonia through different soils, Prof. Way found that all possess the powers of retaining ammonia, some more, some less. He also noticed that the amount of ammonia absorbed by the same soil varied with the strength of the ammoniacal solution, more ammonia being taken up by the soil from a stronger than from a weaker solution.

In similar filtration experiments he showed moreover that potash, lime, magnesia, and phosphoric acid are likewise absorbed by all soils to a considerable extent, and that in short they possessed the power to retain all the more important fertilising constituents of manure which may be passed through them in a state of solution.

Still more important than the facts respecting the rapid absorption of free alkalies and acids is the observation by the same chemist that all cultivated soils possess likewise the power of separating the ammonia, potash and other bases from their saline combinations. Thus when solutions of salts of ammonia, potash, magnesia, &c., were passed slowly through a layer of soil 5 or 6 inches deep, it was remarked that the clear liquid after filtration no longer contained any of the ammoniacal or other salts employed. A careful examination of the filtered liquids furnished the important result that the alkaline salt is not absorbed as such by the soil, but that the latter possesses a decomposing power, in consequence of which the acid of the alkaline salt passes through the soil, generally in combination with lime, whilst the base alone is absorbed by the latter.

These observations have since been confirmed by Liebig, by myself and many other chemists.

Prof. Way principally operated with simple salts; it may therefore be urged, with some plausibility, that in the case of a highly complex mixture of soluble substances, such as that presented in liquid manure, changes may take place in the soil, which are likely to lead to a waste of much manure, when applied long before the crop is sown which it is intended to benefit. Thus it may be urged that it by no means follows as a necessary consequence that because a soil absorbs ammonia when a solution of sulphate of ammonia is passed through it, the same absorption would take place when an ammoniacal salt mixed with some dozen other substances is filtered through it.

Fully impressed with the force of this argument, I endeavoured to study the changes which complex liquids, containing a variety of saline organic and inorganic combinations, undergo in passing through soils of known composition, and already in 1857 communicated some such filtration experiments to the pages of the Royal Agricultural Society. Three years later I published a second paper on the same subject, and have since been actively engaged in further studying the remarkable properties which all soils appear to possess of absorbing and retaining potash, ammonia, phosphoric and silicic acid, and other mineral constituents, and of modifying in the most varied way the

composition of complex saline solutions which are passed through them.

[Dr. Voelcker then referred to a tabulated statement of the results of a series of filtration experiments, from which the following conclusions were drawn:—]

1. It will be noticed that the liquid manure in contact with the calcareous clay-soil parted with a considerable quantity of ammonia, which in some form or other was taken up by this soil. The sandy soil, on the other hand, possessed in a very weak degree the power of absorbing ammonia from liquids.

2. The amount of organic matter in the liquid was less before than after filtration, whilst the proportion of mineral matter in the liquid was sensibly diminished in both cases in passing through the soils.

3. It is worthy of notice that the liquid originally contained no oxide of iron. Left in contact with the soils it dissolved from both appreciable quantities of oxide of iron.

4. The next point which I would notice is of special interest. It will be seen that the liquid manure in contact with the calcareous clay soil became much richer in lime. When salts of potash or of ammonia, or mixtures of various saline combinations, are passed through soils, as a rule a considerable proportion of the alkaline bases become fixed in the soil, and lime instead passes into the filtered liquid. But whilst this is quite true in the case of the majority of fertile soils, which always contain a good deal of lime, in the case of the sandy soil, instead of lime passing into the liquid, a considerable quantity of lime contained in the liquid manure was actually removed by the soil.

5. A striking difference in the composition of the liquid after its passage through the calcareous and through the sandy soil will likewise be noticed if the quantities of potash in the filtered liquids are compared with each other.

In the first experiment the small proportion of potash left in the liquid after contact with the soil is particularly interesting, inasmuch as it shows that the soil not only possessed the power of absorbing ammonia, but also potash with even greater avidity.

On the other hand, on passing through the sandy soil, the proportion of potash taken up by the soil is quite inconsiderable. We have in this result an indication that soils which do not manifest a high power of absorbing ammonia likewise have not much effect upon soluble compounds of potash.

6. In accordance with many other experiments, scarcely any chloride of sodium was absorbed by both soils. The power of soils to absorb the more important alkali, potash, presents us with a striking contrast to the apparent indifference of soils to absorb soda from its soluble combinations.

7. It is satisfactory to have in these experiments direct proofs of the power of soils to take up phosphoric acid from soluble combinations. The phosphoric acid in most soils is frequently insufficient to supply the wants of the crops we usually cultivate on the farm; it is therefore fortunate that soils possess the power of depriving manuring mixtures of a constituent so largely required for sustaining a healthy growth of plants. This property of soils to store up food for plants, it will be seen, is not confined to one particular kind of fertilizing matter, but it applies to them all and manifests itself in different ways. In most cases special power exists in soils to remove ammonia, potash, and phosphoric acid from liquid fertilisers brought in contact with them; and less important and more abundant materials pass into the liquid that drains away. But this order is reversed if liquid fertilizers act upon such soils as the one used in the experiment before us. Here lime, a cheap and usually abundant constituent of soils, is actually absorbed from liquid manure, and retained in a soil which is peculiarly deficient in lime. On this sandy soil, I may observe in passing, lime and marl benefit nearly all crops more than any other description of manures. Again, it may be noticed, that we have here an instance of phosphoric acid becoming absorbed from its soluble combinations by a purely sandy soil in which lime is almost altogether absent. At the same time it will be seen that phosphoric acid is not so completely removed by such a soil as by the stiffer and more calcareous soil.

8. Lastly, it will be seen that whilst in the first filtration experiment most of the silica was removed from the liquid in passing through the calcareous soil, the same liquid in contact with the siliceous soil dissolved an appreciable quantity of soluble silica.

It will also be noticed that neither these soils nor any other soil with which I have since experimented had the power of absorbing completely the whole of the ammonia, potash, or phosphoric acid contained in the liquid manure. A certain amount of these constituents always remained in the liquid which was left in contact with the soil. As the liquid manure contained a good deal of ammonia and potash, it may be urged that the quantity of soil employed in the experiments in relation to that of the liquid was insufficient for the purpose of complete absorption. But this argument certainly does not hold good in the case of phosphoric acid. Though the proportion of phosphoric acid in the liquid was but small, some of it passed through the soils unabsorbed. This is the case whether a solution containing much or little phosphoric acid is filtered through a clay soil or a calcareous, a sandy, or any description of soil. If a dilute solution of soluble phosphate of lime is passed through a soil, it may readily be ascertained that there is phosphoric acid in the filtered liquid. If now a fresh and stronger solution containing phosphoric acid be shaken with the soil through which the first solution has passed, it will be found that the soil takes up a fresh and much larger quantity of phosphoric acid. Operating in the same way with salts of ammonia or potash, precisely similar results were obtained. Though the soluble and most valuable constitutents of fertilising liquids in passing through various soils are rendered comparatively insoluble, even when large quantities of potash, ammonia, or phosphoric acid were contained in the liquid, in no instance were they rendered perfectly insoluble.

Indeed if the liquid which is filtered through a soil is very dilute, scarcely any absorption of the more important soluble fertilising constituents takes place, although it may be readily shown that the soil possesses in a high degree the power of rendering these constituents comparatively insoluble.

Thus sewage of towns in percolating a soil leaves scarcely any of its soluble constituents in the latter, simply I believe because the compounds of potash, ammonia, &c., which are formed in the soil under this circumstance, are sufficiently soluble to remain dissolved in the large quantity of water which ordinarily characterises town sewage.

Referring to another experiment the lecturer said,—Another point of special interest is the proportion of potash in the original liquid, and in the clear solution after its passage through the soil. Instead of diminishing when brought into contact with soil, the amount of potash in a gallon of the liquid manure left in contact with soil for three days was larger than in the original liquid before filtration. It thus appears that the soil contained, like most clay soils, abundance of alkaline silicates, which yielded to liquid manure a certain small amount of potash, and also soda, thus increasing the proportion of alkalies in the filtered liquid.

All soluble saline matters, however useful, are necessary; they may impede the rapid growth of plants if they are presented too abundantly, or in too concentrated a solution, to the roots of plants. It appears to be one of the functions of the soil to transform such readily soluble compounds into combinations which are so little soluble in water that in common life they pass as insoluble, but which are still sufficiently soluble to supply the growing plant with the necessary amount of mineral food. This beautiful power of soils effectually prevents the waste which heavy rains would occasion, and corrects any misapplication that may be made of fertilising matters. Soluble phosphates, salts of ammonia, and potash, without question are the most active and valuable mineral food-constituents of plants, but in order to be of benefit to plants they must be presented to them in extremely weak solutions, and all the mineral matters found in the ashes of plants—must be present in the soil. Now if fertilisers containing these important soluble saline matters are applied too copiously to sandy soils, and continued rain falls during autumn, or in next spring, the efficiency of our constituents is destroyed in a great measure, since sandy soils have not the power of absorbing and retaining soluble fertilising matters to the same extent as clay soils. On the latter description of soils heavy and long continued rain does not sensibly destroy the efficacy of guano, sulphate of ammonia, and similar saline constituents; on the contrary, heavy rains are most beneficial and necessary for the diffusion of these fertilisers in land which like clay-soils contain in many cases inexhaustible riches of mineral food. This store of mineral food is unavailable, and consequently of little or no benefit before it has undergone a variety of changes, which may be effected either by mechanical means, such as steam-ploughing, grubbing, harrowing, &c., or by the application of certain soluble manuring matters, which like salts of ammonia have the power of acting upon the mineral matters in the soil chemically, and producing soluble mineral matters in greater abundance than could otherwise be furnished to the growing plant.

*(To be continued.)*

## NOTES ON WEEDS.

BY JAMES BUCKMAN, F.L.S., F.G.S., &c.; PROFESSOR OF BOTANY AND GEOLOGY.

THE natural order of Wild Plants now to be described in their characters as weeds, belong to the natural order Rosaceæ, the varied forms of which, as ranging around the genus Rosa, have been arranged in an order bearing its name.

Like those of most other groups, many of its species can only be considered as weeds when they grow out of place, in which light, indeed, all plants may be so named, so that the following list only includes those that are common as weed pests.

### LIST OF NATIVE ROSACEOUS WEED PLANTS.

*a.* TREES:—

1. Cratægus oxyacantha; Whitethorn.
2. Pyrus malus; Crab.
3. ,, torminalis; Wild Service.
4. ,, Aria; Whitebeam.
5. Prunus spinosa; Sloe, or Blackthorn.

*b.* SHRUBS:—

6. Rosa canina, vars.; Common Wild Dog Rose.
7. ,, arvensis, vars.; Creeping Wild or Harvest Rose.
8. Rubus fruticosus; Blackberry.
9. ,, idæus; Raspberry.

*c.* HERBACEOUS PLANTS:—

10. Spiræa Ulmaria; Meadow Sweet.
11. ,, filipendula; Field Drop-wort.
12. Geum urbanum; Common Avens.
13. Potentilla anserina; Silverweed.
14. ,, reptans; Cinquefoil.
15. Agrimonia Eupatoria; Agrimony.
16. Sanguisorba officinalis: Great Burnet.
17. Poterium sanguisorba; False Burnet.

1. The *Whitethorn, Hawthorn, or May* would seem to have got its first name from the light colour of its bark when contrasted with that of the Blackthorn; Hawthorn, from its being the thorn bearing the fruit known as Haws, and May from the month in which its "Hawthorn hoar" is so conspicuous, and few can witness its beauty when—

> "From the Whitethorn the May-flower shed
> Its dewy fragrance round his head,"

without emotion, and as a well-grown ornamental tree it has all our sympathies. Again, as the best plant for growing live fences, we would give it its meed of praise, but when it is allowed to grow tall straggling hedges, keeping both sunlight and air from our fields, we deem it little better than a weed, and indeed so fully as to wish that at least half of the Hawthorn hedges in the country were rooted out.

But the more prominent position in which this plant occurs as a weed is neglected pastures. In districts where pastures have been deemed to be so poor as not to be worth attention, young Hawthorns come up with Gorse, Briars, Brambles, and others, making it one of the first requisites that any amelioration must begin with these interlopers, and here our plan would be to cut them down or root them up, burn all such rubbish to ashes, which scatter over the soil, roll, and depasture; you thus remove what would prevent Grass growing on the one hand, and would tear the coats of the sheep when put to feed on what did grow on the other.

2, 3, and 4. The genus *Pyrus* offers several species which from the large leaves they grow, and their more or less upright unarmed stems, are great pests where they find their way into a hedgerow, as they not only prevent the Quicks from growing as they should do by overshadowing them, but they always make weak places in the hedge. Cattle readily break through hedge bushes of Whitebeam or Wild Service; and who, seeking a short cut, would fear to pass through their lithe limbs; we would therefore recommend that in planting hedges care should be taken to exclude these and other shrubs of a like kind.

5. *The Sloe or Blackthorn* was formerly much planted with the Whitethorn for fences, it is however objectionable, as it will not bear cutting and plashing to the same extent; and if cut down its new shoots are comparatively flexile and unarmed. Like the Whitethorn, its seeds are everywhere sown by birds; a neglected pasture, therefore, in its transition to jungle, is seldom without a few thickets of the Blackthorn.

6, 7. *Wild Roses.* There are no greater pests in the hedge-rows than wild Roses, as their fast growth when compared with Quicks, their larger leaves, and with the second form in our list, their climbing habit, effectually prevents the growth of the best hedgerow plant, and though the prickles on the Rose briars are sufficiently repellant, yet as the old stems gradually die out they universally cause a weakness in the fence, which the Quicks seldom or never overcome unless the briars be sedulously weeded out at an early period. Besides the hedgerows, the woods and thickets become tangled with different forms of wild Roses, of which the harvest is the most troublesome, from its larger and more flexile stems.

8. The *Blackberry or Bramble* is as great a pest in the hedgerow as the Roses, and indeed as their branches are even longer, and those of many species which creep along the ground, form new plants by rooting near the extremity of the shoots, by which means they not only sometimes take possession of the length of the hedgerow, but extend outwards in, and beyond, the ditches, and so form a tangled mass, which takes up room, and prevents the growth of the Quicks, leaving only weak places, where its old stems die and decay, or else choke up everything subject to its young and rampant growth. Both the Roses and Brambles are pests in neglected places; they are too so widely distributed over the world that they have come to be recognised as the effect of the curse pronounced upon Adams disobedience.

> "Cursed is the ground for thy sake."
> Thorns also and Thistles shall it bring forth to thee."

Here, doubtless, the term thorns was applied indiscriminately to Briars and Brambles, which take possession of neglected places in an incredibly short space of time. If, however, these plants be considered as emblematic of waste land, and want of cultivation, it is quite certain that they cannot be maintained, when an opposite state of things is sedulously aimed at.

9. The *Raspberry* in hedgerows is objectionable from its large leaves, upright growth, and mostly unarmed stems, so that while it smothers out the Quicks it cannot even boast of a repellant armature.

10. The *Common Meadow Sweet* of our ditches,

hedgerows, and damp meadows is only a weed wherever it occurs. In the hedgerows it smothers the growth of the hedge. In the ditch it impedes drainage, and in the meadow it takes up much room which would be better occupied by more nutritious herbage. In the two first places it can be rooted out, but the wet meadow is soon cleared of it as the result of efficient drainage.

11. The *Field Dropwort* is a denizen for the most part of dry uplands on calcareous soils, where its tuft of leaves close to the ground renders it very objectionable, and from which it would be well to remove it with the hoe or spud, as the sweet herbage of Sheep's Fescue, frequent in such positions, suffers greatly from interlopers of this description.

12. The *Avens* is common in hedgerows, borders of fields, and waste places; it is of no use, and therefore about the farm it is only a weed.

13. The *Silver Weed* is a great pest in the arable field, and especially where some damp spots remain; it is of rapid growth, and its creeping habit of growth so close to the soil effectually prevents any crop plant from flourishing where it has taken possession. It often appears in "seeds," with which it is too often sown with the Barley, in which it increases by scions, so that the next year it may be noticed that the wished for crop has been smothered out, and this useless weed has taken its place. In pastures especially, in some damp spots it sometimes takes entire possession in quite large patches, and as it has nothing to add either for depasturing or the rick, wherever it so occurs, may be properly considered as wasted land.

14. The *Cinquefoil* affects drier soil than the previous species, and is even more remarkable for its spreading habit of growth, a single plant sometimes covering yards of ground in a season, as, like the Strawberry and the Creeping Buttercup, it multiplies by scions. This too is frequent in "seeds" forming complete patches of useless growth, and like the preceding is often sown with the crop seeds. In both cases the young plants should be looked for, as hoeing these out in the Barley stubbles will give the Rye-grasses and Clovers a chance by as early as may be destroying the hopes of a useless colony.

15. *Agrimony* is introduced into the list with some diffidence, as, although its spreading root-leaves would certainly take up much room in a pasture where it is a constant denizen, yet its spike of flowers yields something to the rick which may be deemed valuable, as it is a bitter aromatic plant, perhaps not objectionable in the hay; at the same time we notice that in depasturing, cattle usually avoid it, as the ground must be heavily stocked indeed to prevent its flowering. On the whole, therefore, in the sound pastures in which it so frequently abounds, it would perhaps be better to discourage this plant and encourage the growth of Grasses and Clovers in its stead. It is easily spudded or hoed out, and will give no further trouble.

16. The *Great Burnet* is sometimes so abundant in low meadows among calcareous soils, its habitat being for the most part rich moist marls, that it almost takes possession of the field; in this case it is decidedly objectionable. It is somewhat bitter and aromatic, but its woody stems render it objectionable in the rick, which is, indeed, much curtailed in useful matter where this plant gets possession. It is, however, easily kept under by thickly depasturing, and not making hay for a year or two, and we strongly advise this course to be pursued with reference to this, which is the real Burnet.

17. The *False Burnet*, as a wild plant, never attains any great size, and as it is a denizen of dry calcareous pastures and broken ground on limestones, and perfectly harmless in its properties, in this condition it is scarcely noticeable as a weed; indeed it is sometimes recommended for permanent pasture admixture on calcareous uplands. There is, however, a larger form of the False Burnet, which is now attracting considerable attention, as being by far too constant an attendant upon Sainfoin seed.

This plant is referred by Professor Babington and the Continental botanists to another species as Poterium muricatum, which is by them distinguished from the P. sanguisorba, but is "usually larger in all its parts" (Bab.) with a larger and more decidedly four-winged fruit. We however agree with Bentham in considering this to be a variety only, and in fact an agrarian form induced by its seed being gathered with a crop and treated as a crop plant, so that its larger form may be easily accounted for, and we are not wanting in evidence to show that under cultivation the P. sanguisorba greatly increases in size, while if left to grow wild the cultivated form relapses into the wilder state. But we incline to think that the agrarian Burnet has got into agriculture by being introduced with foreign seeds; and as its introduction seems to have been small at first, it attracted but little notice, for as the leaves both of the Burnet and Sainfoin were pinnate, the difference that the botanist would observe of the leaflets, in the former being serrate, and those of the latter having an entire margin, would hardly attract the attention of the farmer; however, it soon became so serious a matter, that some crops of so called Sainfoin in their second or third year presented as much as 90 per cent. of Burnet, and as the latter grew taller than the Sainfoin it effectually smothered it out, and in its place supplied a sticky, non-succulent and non-nutritious herbage that made farmers begin to inquire seriously about the seed.

Here however as the seeds, or rather the fruits, of both plants were pretty much of the same colour, and both wrinkled, samples of fully half Burnet passed muster in the seed market; and though these fruits are so different in shape and size, yet we were astonished to find that during the trial of an action against a seedsman for supplying Sainfoin seed containing a large quantity of Burnet, when good Sainfoin seed was paid for, the judge, jury, and most of the farmers present, confessed their inability to distinguish them; it becomes, therefore, at this point a duty to describe the two.

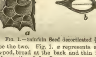

FIG. 1.—Sainfoin Seed decorticated $\frac{4}{1}$

Fig. 1. *a* represents a short wrinkled Pea-pod, broad at the back and thin in front, as seen in the section 1 *b*. In the interior is a single small pulse seed, which is easily freed from its wrinkled shell. Fig. 2, *a* is a drawing of a fruit of False Burnet. The section *b* shows it to be quadrangular, with a wing at each angle, and to possess two seeds in each capsule. The capsules are rather muricated (*i.e.*, furnished with short excrescences and not regularly wrinkled like the Sainfoin). Now the Burnet is easily separable from a sample of Sainfoin, as the former readily passes through the sieve; but the objection to sift it may be well understood when the bulk is diminished by the amount of the Burnet, and also that of the smaller Sainfoin seeds, which pass through at the same time.

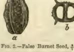

FIG. 2.—False Burnet Seed, $\frac{4}{1}$.

The best plan then to pursue is to mill the Sainfoin seed, in which case its outer covering is removed, and you simply have a sample of kidney-shaped pure seed like enlarged Clover seeds, in which the Burnet may be detected; because it will not mill, but simply gets its wings broken off, so that the wrinkled, two-seeded capsule still remains.

Now the fact of the Burnet being a two-seeded capsule is most important to be noticed, as from analyses we have made of dirty Sainfoin crops, we have estimated as follows:—

| | Sainfoin Plant | Burnet Plant | Other Weeds |
|---|---|---|---|
| Crop in Berkshire, 3d year .. | 10 | 50 | 40=100 |
| Crop in Cirencester, 3d year .. | 5 | 25 | 70=100 |

Here, then, we have a large proportion of Burnet, surely much more than could be accounted for from the number of capsules; at least we will hope so; but when we consider that the capsule of the Sainfoin is *single*-seeded, and that of the Burnet is *two-seeded*, we may readily conceive how each capsule of the latter may at least grow a single seed, but the best sample of the former could hardly be expected to all come up. Now as we have as many as 64,000 capsules of Burnet in a bushel of Sainfoin seed, that × 2 = 128,000 seeds, and when we consider that the Burnet grows so much faster than the Sainfoin, we have two elements for the success of the former, namely the certainty of getting its crop, and the equal certainty of smothering out a large proportional of what may germinate of the seeds of the Sainfoin.

This matter would not be of such importance if the Burnet was equal in point of feeding properties, but it is not so, for whatever quality may be in the smaller and more succulent P. sanguisorba form, the P. muricatum is, on the contrary, hard and woody, and almost useless.

## Home Correspondence.

*Successional Crops of Cattle Food.*—The high price to which "butcher's meat" has attained makes it the imperative duty of all stock masters to do their best to make their farms produce as much food for the feeding and fattening of it as possible. It is impossible to say what the price, or rather the scarcity of animal food for man would have been during the past three years, had it not been for the large importations of pork and bacon, chiefly the latter. At the present time good American bacon is selling at 3½*d.* per lb., British at 6*d.* to 7*d.* per lb., pork at 5*d.* to 5½*d.* per lb., mutton and beef at 6*d.* to 8*d.* per lb. The difference between pork and other fresh meat is about 2*d.* per lb., which of course is owing to the large importations of such salted provisions. Of fresh meat we cannot receive any large quantity at any time. In the summer none at all. It must all come in the living animal. This with freight and risk makes the importation of fat stock expensive, so much so, that the British feeder can meet the importer fairly in the market. First, because of his superior breed of stock, and, secondly, from the superiority of his mode of grazing and judicious application of fatting foods. But the point to be aimed at is to grow on the farm as great an amount of food as possible, and to keep up a successional supply of it. Corn and bread stuffs can be imported to an unlimited extent. It is not so with meat, particularly fresh meat. It is to the economical production of fresh meat that every farmer or stock master must now pay especial attention, it having become the most essential and most profitable part of his business. It is not the province of every farm to produce this fatted meat. Some farms are to all intents and purposes breeding farms, for the supply of which others are fatting farms; but both are engaged in their respective ways to provide for the public wants—the public larder. To keep up a successional supply of nutritious food on every farm is no easy task. Throughout the summer, autumn, and winter, the difficulty is not great. The Grass pastures and grazing seeds make ample provision for the stock during the summer and autumn, and the root crops for the winter. It is only in the early spring months and autumn that any difficulty arises, *i. e.* the interim between roots and Grass and Grass and roots. Now, to provide against this uncertainty there are several common matters of business to be adopted and attended to. The culture of Mangel Wurzel should be universal, and a portion of the crop must be held to bridge over this space between Turnips and Grass till near Midsummer, then to be dealt out on grazing pasture or otherwise to the stock as required. The culture of Cabbage should, where practicable, be also adopted. In average seasons a supply of Cabbage of one variety or other may, with care and judgment, be maintained throughout the whole year. The large Drumhead Cabbage and early varieties would form the great feature in Cabbage culture, and if the Cabbage is carefully cut and carried to the stock, the stalks on putting out new shoots would yield a fresh supply, at least in early spring. The young Clovers and Grass seeds should always be reserved for these trying intervals to every grazier, and the Cabbage and Mangel Wurzel might be led on to their pasturage with advantage, both in eking out the pasturage and preventing a too sudden and direct change of keeping to the stock. The same process may be followed with early Cabbage on Eddishes, and aftermath Clovers. The order of management should be something like this. To commence in early spring with stocking the summer pastures and Grass seeds, the stock should have daily dealt out to them a requisite supply of reserved Mangel Wurzel, Cabbage Sprouts, roots and corn. As the pastures improve these supplies may be discontinued. In the autumn, prior to stocking the winter crops, *i.e.*, Coleseed, Turnips, &c., the stock should be amply supplied with early Cabbage on pasturage as named above. These early varieties should be planted in May, and will yield a large amount of food for September and October; next comes the winter provision of Swedes, Turnips, and Coleseed, the Mangel Wurzel being graved down for spring uses, and in March their consumption should commence partly in the fold-yard to cattle, and as above named, to sheep in the fields, aided by the reserved Drumhead Cabbage. This course will complete the round from summer stocking to summer stocking again. In all probability a course something like the above will ultimately become the most profitable, and lead to a great extension of root and Cabbage cultivation. Rye, Lucerne, Sainfoin, Tares, and artificial Grasses may in some cases be grown as substitutes, but they are generally of too slow growth to be of much service when most needed. Reserved roots are the chief dependence. *O. F.*

*Systematic Drainage.*—Permit me to thank Mr. Bailey Denton for having set me and some others right who have misunderstood his exact meaning, and consequently rendered liable to misrepresent his views to some extent on systematic drainage. I would more deeply regret my having unintentionally misrepresented his meaning, though quoting, as I supposed, his own words, had I not in doing so elicited his letter in the *Agricultural Gazette* of last Saturday, in regard to any part of which I trust there can now be no mistake. I am the more solicitous on this head as I am prepared to endorse many sentiments expressed in his last note. If I have correctly read it, Mr. Denton reiterates a sentiment of great importance, namely, "in truth up to this time the engineering element has been entirely absent from the underdrainage of land." When such has been the case in England, where there are so many of the first engineers in the world, it is little wonder that so much imperfect drainage has been done in Ireland, where so few of our really practical engineers have been engaged in the superintendence and inspection of such works, whether well or ill designed. Mr. Denton makes some other important announcements; thus "systematic drainage is not necessarily parallel drainage; on the contrary, parallelism, which is correct in homogeneous soils with regular surfaces, is an unmitigated absurdity when applied to mixed soils, or to free soils with irregular surfaces." Hence again the "unmitigated," nay the unparalleled evils that have occurred in Ireland by the enforcement of this "parallelism" which Mr. Denton so justly deprecates; and until Mr. Denton's strictures began to appear it would be little short of "treason felony" in Ireland for any practical man to give utterance publicly to such sentiments, though he might have privately in his practice "ran a coach and six" through the parallel lines marked out, or at best

approved by the Board of Works, the observance of which has been in many important cases so arbitrarily enforced by some of the Board's supposed most eminent drainage inspectors. Mr. Denton concludes his very useful letter by the following important sentence:—"Systematic drainage, as recognised in science, is the connection of the appropriate modes of draining different soils and varying surfaces one with another, so as to *secure uniform action and perfect discharge* by a proper outfall." I have emphasised the words "to secure uniform action and perfect discharge" in underground drainage, for that has been, and to most people still is, the great difficulty encountered in Ireland, and perhaps in many parts of England too, in rendering such drainage permanently useful. That difficulty I have succeeded in overcoming, but not being, nor am I yet aware if any one else has succeeded in doing so by an equally cheap and efficacious manner, I put the question in my last letter in hopes of having a reply from some of your scientific and practical readers before I would go to further trouble and expense in taking out a patent for my discovery, which, whatever its value might be to England, would under existing circumstances be of no small importance to Ireland at least. Mr. Denton's lectures and letters on underground drainage will, I hope, be studied by the promoters of the Bill now before Parliament, with the view of enabling landed proprietors in Ireland to drain their lands I should hope effectually. I have not seen the Bill yet, nor do I know in what manner this desideratum is intended to be accomplished. I am anxious that Mr. Denton's views should be well known to, and carefully studied by those engaged in teaching agriculture in Ireland; for if there be any one subject in connection with the management of land in Ireland which more than another demands the close attention of agricultural teachers, it is the thorough and perfect drainage of land. Yet in as far as I am acquainted with agricultural teachings in Ireland, there is none for which the Board of Education in Ireland is so badly prepared. But when I say this, let me not be supposed as seeking to detract from the merits of either teachers or inspectors. What I mean is that the Board has no suitable farms of adequate extent to enable the teachers to do their duty to anything like an adequate degree in this most important matter. *Edward Carroll, Kilgreany Lodge, Clonegal, May* 4.

*Sewage Manure.*—In your Paper of last week upon the utilisation of town sewage, Mr. Mechi reports in favour of it from his own experience of 10 years, and regrets that he has not a town or village near his farm. Last year, in the beginning of June, I read Mr. Thomas Ellis's letter to the Chairman of the Metropolitan Board of Works, in which is given a plan for utilising in its liquid state the sewage of the metropolis, together with a detailed estimate of cost, and suggestions for division of profits between the Metropolitan Board of Works and a projected company, by which there would be placed at the disposal of the Board of Works for the reduction of local taxation over the metropolitan area, an annual sum of not less than 700,000*l.*, that is, supposing that the farmers would pay 2*d.* per ton for it when delivered to them. Just at this moment it appears to me, any one that is able to give any information upon the importance or otherwise of such a subject, will be giving most useful information. For this purpose, on the 31st of June I went to Cuckoo Farm, Hanwell district school, to see the bailiff, Mr. Spelman; and get his report and experience of the utilising the sewage of that school, containing about 1200 persons, when he told me they did not apply the sewage properly from the want of means, or the proper application of steam power. In his opinion a 30-horse engine properly placed upon this farm, would enable him to apply the sewage with great advantage, but from the want of a better arrangement, the sewage was in general too powerful, and did as much harm as good. In some cases I saw it destroyed the Grass, in others it was so rank and thick in the growth as to become rotten at the bottom, from over-enriching the land; but when it was distributed over the land by the cart in lesser quantity, it had so improved the land that the produce of Grass was double in quantity to that where no sewage was applied. In all cases of the proper application of "house" sewage manure upon this farm they obtain one load per acre more hay. As they were mowing the Grass at the time I saw this to be a fact, and that the part of this field that was dressed with sewage manure was earlier by nearly a fortnight; and so thick as to rot the Grass at bottom. For the want of a plan of properly utilising the sewage, as I have said before, a vast waste was then going on, the 12-inch sewer pipe discharging the black liquid into the river Brent, half a mile from the school, and all running through the length of the farm. Mr. Spillman told me it was 120 acres, part of it in Grass and part arable. The purpose of this farm is to supply the school with milk and vegetables; the quantity of milk allowed is ½ pint for each person per day. Pigs are fed upon the waste. He had 100 pigs, 30 cows, 6 horses, and the sewage of 1200 persons to manure this farm, but he was sorry to say much was wasted for the want of an engine to apply the manure under the soil as well as upon the top; all that was wanted is to properly arrange the drains to be a system of land drainage, and likewise manurage, without interfering at all with the growing crop. He considered an underground system of manuring was wanted here. *Joseph Newton.*

## Foreign Correspondence.

MONTEVIDEO: BY A NORTHERLY ROUTE TO THE INTERIOR OF THE REPUBLIC OF URUGUAY, OR BANDA ORIENTALE OF THE RIVER PLATE, &c., (*the favourite area of English immigrants.*) On our journey of eleven hours by diligence, from Montevideo to Florida, we saw no end of ostriches and deer on either side of our road. It is a lovely country, and a striking contrast to the level treeless plains of Buenos Ayres. Here it is hill and dale; and every river side, but not elsewhere, is well wooded. On the 9th of February we again started and reached Durazno, after a seven hours' drive. There we quitted the diligence, to perform the rest of our journey on horseback, but, the rain falling in torrents all the next day, our cavalcade did not start from Durazno until the 11th. On arriving at the Estancia, or grazing farm, I was almost too tired to hold my horse. There we remained until the 28th, most kindly entertained by Messrs. S. and T., who gave us the loan of everything they had that we could make use of towards rendering our future abode tolerably comfortable. For instance, we constructed two stools, a table, and a lot of pegs. Food, &c., to be saved from the ravages of ants must hang by lines from pegs. Shelves are no security.

During our stay at this Estancia Mr. T., John, myself, and ——, our fellow traveller, went all four of us out to fish and shoot, with great success, for the rivers abound in fish, and the woodland in birds. Pigeons perch together so thickly, that when fired at hap-hazard in a tree, 20 or thereabouts would tumble down. Partridges are numerous, but young just now. Ostriches are not worth powder and shot; but when they get into full feather, by Jove, I shall have no trouble in killing 50 in one day. They feed in twenties close to our door, but deer are more difficult of approach, owing more to the intrusive flocks of sheep than to a shyness of man. On the 28th Feb. John and I left the hospitable Estancia, taking with us 1500 sheep (1350 ewes and 150 wethers), which last caused the flock to wander in the stormy afternoon of that day, and we were a bit tired out by the arduous task of keeping them together. Since then the weather has luckily been fine. That night of the 28th I did not sleep a wink on account of fleas. On the two following days I was fully engaged in cooking and in sweeping under the thatched roof. You should have have seen our cobwebs! when that job was finished, I had the walls white-washed, and next the earthen floor thoroughly swept. Our "presto," or residence is newly built, and a capital one it is, too, nicely thatched; the floor is even, and swept every morning, so that altogether our dwelling has quite a tidy appearance. I have acted as cook and housekeeper, whilst John has been supervising the flocks. Boots, bridles, saddlery, &c., are kept in "kit-order." He praises my cooking achievements, and we live very comfortably indeed together, nor have I ever once repented having come out here. The ground about us is rocky, but by spring I shall have fenced in a bit of garden. We get up at 5.30; go to bed at 9; and consume half a bullock per week amongst us all. Is not our soup strong, and our steaks of the choicest?

A young horse is to be broken in betimes to-morrow, so I must give over writing to-night, for what with the fleas and the fatigue of a busy day, I am getting tired of the pen.

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

STEAM CULTIVATION.—The following is an extended report of the discussion following Mr. Ruck's paper last week:—

Lord BERNERS said: With regard to the different soils to be cultivated, and the different systems to be used, I believe that Fowler's system of 14-horse power is not suited to every up-and-down or hilly soil, especially where there are angles in the field. One of the first things that ought to be done is to throw your fields into a large size—I should say from 20 to 30 or 40 acres is the size I should recommend. The subject of breakage Mr. Ruck has not mentioned. That I experienced at the outset with Fowler's implement was very great; so much so, indeed, as to render its use most uneconomical. Since that Mr. Fowler has sent me another set of implements, and I have had scarcely any breakages, excepting the eyes of the ropes, which are constantly coming out. Now, Howard's apparatus has no eyes. I have one of their cultivators also, and nothing can possibly do the work better. When they first came in I felt that Fowler's system of traction was the best, and that it ought to be engrafted upon Smith's as it was then, and which is now improved by Howard's, than which nothing can do better. The great advantage I find to be that when the ground is as hard as a rock, and it is impossible for any number of horses to do the work, I have with Fowler's diggers burst the land up 9 and 10 inches deep. Mine is a 12-horse engine, but I cannot do anything approaching the quantity of work which Mr. Ruck mentions. From 2 to 2½ acres a-day with the diggers is as much as I have ever been able to accomplish. Mr. Ruck has also alluded to the drag, but he did not tell us what sort of drag he uses. I have recently employed a rotating harrow, which was sent me by Messrs. Smith & Co., of Stamford, and it is one of the best implements when attached to a steam cultivator that I know of. As I understand Mr. Ruck, his land does not require any rolling; but so far is this from being the case on my strong land, that I have never had so much clod-crushing and rolling to get my land into a state fit to sow it with Mangel as during this year.

Colonel KINGSCOTE, M.P., said: Mr. Ruck has intimated that upon light lands he thinks steam cultivation would pay better than upon heavy lands. In our district there is a large tract of hilly country called the Cotswolds, the soil of which is very light and very poor, not being more than 5 inches deep. Does he not think that the cost of steam culture on the light land would very far exceed the cost of horse culture? You cannot plough deeper with the steam engine there than with horse-power, on account of the character of the subsoil. At the College of Cirencester adjoining, the steam-plough is used; but the soil is deeper, and you can hardly call it the same as the soil of the Cotswolds, upon whose light soil I have never yet seen a steam-plough in operation.

Mr. BRADSHAW (Chairman of the Central Farmers' Club) said, that after hearing the remarks of one of the Council, inviting the gentlemen present to give the results of their experience of the working of steam cultivation, or smashing-up the soil, he would take the liberty of mentioning what had been his experience during the last three years. He commenced operations on the 15th of February, 1861; and upon an occupation of 400 acres of arable land, he calculated that at the end of the present year his steam engine and tackle would be all paid for. The price per acre of smashing-up came to 4*s.* 11*d.* for the first operation; 4*s.* 3½*d.* for the second, and 4*s.* 1*d.* for the third. But the same work by horse-power with manual labour would be 12*s.* an acre. He formerly employed 16 horses; he now used 10, had his land under perfect control, and at the end of the year his steam machinery would be free. He was a warm advocate in favour of smashing-up as against the plough. Indeed, he would never plough any land except Red Clover lea; and the reason he would plough that was, in order that he might have the full benefit of the under-growth of roots, which contained a large portion of carbon, and when decomposed furnished the best description of manure for Wheat. He had this season tried an experiment with land which had been merely smashed-up and made fallow of, and land which had been similarly treated with the addition of the plough for Wheat; and on the land without the plough the Wheat on the surface looked far superior to that whereon the plough had been used. The Couch upon some of his land measured 1½ foot in length; but there was not a particle of Couch now remaining on the land which had been steam cultivated twice. As far as regarded smashing-up, he would not advise any man to smash-up his land with steam tines in the autumn, unless he did it early enough to perfectly eradicate and destroy the weeds. He would rather plough 3 inches deep, and smash-up in the spring with a steam-cultivator; then he should obtain the finest preparation for Swedes or Mangels that he could desire, and that he had done this year.

Mr. SIDNEY had visited Mr. Ruck's farm more than once, and observed that he had the advantage of having a worthy landlord, and that a fine road ran through the estate; whilst Mr. Ruck himself was a man of an enterprising spirit, which enabled him to make the best use of these advantages. It would be universally agreed that we had now arrived at that point in the history of steam cultivation when it was no longer a theory but a practical matter, and there was no intelligent farmer occupying land of sufficient space and of a retentive soil but would be happy to avail himself of its use if he had it in his power. Mr. Ruck had remarked that it was necessary that those who entered upon steam-culture should have something more solid than a six months' tenure to depend upon; but the fact was that it was not every landlord who was able to give security of tenure, or to embark in such a large expenditure as he would have to incur where the construction of roads was required. Good roads would now become of the same importance to a farm as good drains; but in the mean time those who had not good roads must avail themselves of that description of machinery for cultivation which did not require them, and at the present moment it seemed as if the advantages were pretty evenly balanced between Fowler's and Howard's implements; the former having more power, whilst the latter dispensed with the necessity for good roads by cultivating from one corner.

Mr. HOLLAND, M.P., proposed a vote of thanks to Mr. Ruck.

Col. KINGSCOTE seconded the vote of thanks.

Mr. RUCK, in acknowledging the compliment, replied to the remarks of Col. Kingscote respecting light land, and said that the cost of steam culture with drag attached upon strong land was only 5*s.* an acre, and that fact he wished to stick in the gizzards of the light-land Gloucester farmers. He owned he was surprised to hear the noble Chairman say that he could only do 2½ acres of digging per day. Now, the digging and the ploughing were of the same width; and unless something very extraordinary took place, he could not see but that the noble lord had had sufficient power to do 6 or 8 acres upon any land. With regard to breakages, he could only say that his bailiff had that morning put

an account into his hand of 222 acres ploughed, 437 acres dragged, and 247 acres scarified; and all that work had been done this year with one engine without breakage to the extent of a single sixpence. As to the remarks of Mr. Bradshaw about the comparative merits of smashing-up and ploughing, according to his (Mr. Ruck's) experience this year, the land that was dug for Wheat was beating the land that was ploughed for Wheat; but he would never recommend smashing-up in any case unless they planted in the autumn. If it was intended to go an extra depth, he thought the land should be ploughed and left exposed for the frost of winter. He had no doubt, however, that smashing-up for Barley was better than ploughing. Mr. Sidney had made an observation respecting a small farm which he (Mr. Ruck) had purchased at Lady Day, 1862. It was 300 acres, and its prime cost freehold was 13*l*. 6*s*. 8*d*. an acre. He had broken up and put into Wheat 160 acres, and the remaining 140 acres were for the present in Grass. Whether he should be sufficiently successful to grow Wheat enough in two years to pay for the land was yet to be seen. He was in hopes, however, of being able to do so, besides paying all expenses.

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending May 20, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. | ° | ° |
| Thursday .. | 14 | 29.89 | 56 | 52 | S.W. | 3 | 3 | 61 | 45 | 97* | 42 | 0.06 | 55 | 53 |
| Friday .. | 15 | 29.79 | 57 | 55 | S.W. | 3 | 5 | 64 | 49 | 104 | 47 | 0.10 | 55 | 53 |
| Saturday .. | 16 | 29.91 | 54 | 50 | S.W. | 3 | 4 | 64 | 45 | 94 | 41 | 0.21 | 55 | 53 |
| Sunday .... | 17 | 29.81 | 55 | 53 | S. | 2 | 7 | 68 | 45 | 102 | 42 | 0.02 | 55 | 53 |
| Monday .... | 18 | 29.91 | 57 | 53 | N.E. | 2 | 2 | 65 | 35 | 112 | 32 | 0.06 | 55 | 53½ |
| Tuesday .. | 19 | 29.97 | 42 | 41 | E. | 3 | 8 | 65 | 41 | 117 | 33 | 0.11 | 55 | 53½ |
| Wednesday | 20 | 30.09 | 46 | 44 | E. | 2 | 7 | 58 | 41 | 65 | 39 | 0.12 | 53 | 53 |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

## Notices to Correspondents.

BUTTER MAKING: *C C F*. Mr. Grafton will much oblige us by mentioning if any progress has been made in the new butter-making principle which he described some months ago.

COLONIES: *A Young Man* writes thus:—Knowing that your Paper is interested in the welfare of Agriculturists, I beg the insertion of this. I write to ask what Colony any of your readers would re commend for a young man of 20 with a few thousand pounds, for farming. Queensland and New Zealand, Canada and British Columbia, seem to be the Colonies most thought of now-a-days. If any of your readers would give an account of any of these Colonies from experience or otherwise, or would recommend any one of them, they would much oblige.

COLTSFOOT: *J K*. Pull the flowers in early Spring, and cut off the leaves as soon as and whenever they appear, and if you can fork or fallow the land, get rid of the root; in fact, take every opportunity of destroying whatever of it you can get at.

GROWING FLAX. The following is the extent of Flax grown in Ireland in each of the following years:—1854, 151,403 acres; 1855, 97,075 acres; 1856, 106,311 acres; 1857, 97,721 acres; 1858, 91,646 acres; 1859, 136,282 acres; 1860, 128,595 acres; 1861, 147,957 acres; 1862, 149,880 acres.

PEDIGREE WHEAT: *H W M.* says:—I was induced last autumn to sow a considerable breadth of land with Pedigree Wheat. I am now informed that millers will not purchase it, and that I shall experience some difficulty in disposing of it. [The Wheat is coarse—and so will any Wheat become if sown excessively thin for a series of years.]

PROFITS OF FARM: *X Y Z*. Your question is one that admits of more than one answer. If you charge on the crop all that it takes out of the land, and credit it with whatever it puts into the land, then it will follow that in a rotation, so long as it yields an average produce, every crop is alike profitable or alike a loss. 28 to 36 bushels of Wheat, at 7*s*. 6*d*.; 40 to 50 bushels of Barley, at 4*s*. 6*d*.; 50 to 70 bushels of Oats, 3*s*., may be the ordinary yield of crops under good farming. Potatoes may yield from 3 to 6 tons per acre.


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

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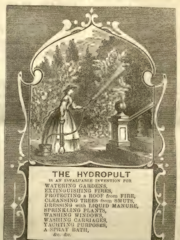
THE HYDROPULT.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

THE HYDROPULT.—"Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

THE HYDROPULT.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

THE HYDROPULT.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces."—*Mechanics' Magazine.*

THE HYDROPULT.—"It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation."—*Illustrated News of the World.*

THE HYDROPULT.—"Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner."—*Builders' Reporter.*

THE HYDROPULT.—"Many of the most scientific men of the age are daily inspecting and testing its uses."—*Age We Live In.*

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(SECURED by ROYAL LETTERS PATENT),

Price TWO GUINEAS

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain.

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

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EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.
"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "PERCY M. DOVE, Manager."
"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. HALLOWS, Secretary, Caledonian Insurance Company."

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It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

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| | | Jap | Gal. | Jap | Gal. | Jap | Gal | Jap | Gal. |
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| 2-inch ,, ,, ,, .. | ,, 18 | .. 5 | .. 4 |
| 2-inch ,, ,, ,, .. | ,, 17 | .. 6½ | .. 5 |
| 2-inch ,, ,, ,, .. | ,, 16 | .. 8 | .. 6½ |
| 1⅝-inch ,, ,, ,, .. | ,, 19 | .. 4½ | .. 4 |
| 1⅝-inch ,, ,, ,, .. | ,, 18 | .. 6 | .. 4¾ |
| 1⅝-inch ,, ,, ,, .. | ,, 17 | .. 7 | .. 5½ |
| 1⅝-inch ,, ,, ,, .. | ,, 16 | .. 9 | .. 7 |

All the above kinds can be made any width (under 6 feet), at proportionate prices.

Strong Galvanised Poultry Netting, 7½d. per yard, 3 feet wide, Galvanised Sparrow-proof Netting for Pheasantries, 11d. per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.

Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies.

Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10d. per yard.

The same with Galvanised Wire Rope, 1s. per yard.

Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.

*** Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations.

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# FOWLER'S
## STEAM PLOUGHING AND CULTIVATING PATENTS.

## RANSOMES & SIMS, ORWELL WORKS, IPSWICH,

Have the pleasure to announce that they have arranged with JNO. FOWLER for the use of the above PATENTS, and they will answer any inquiries respecting them, and execute any Orders promptly.

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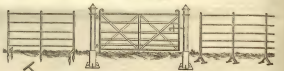
## CONTINUOUS IRON FENCE, HURDLES, and FIELD GATES,

MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

PARK ENTRANCE GATES, and RAILING of CAST and WROUGHT IRON COMBINED, IN VARIOUS STYLES.



IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes. VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c. The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

Illustrated CATALOGUES and DRAWINGS free on application to
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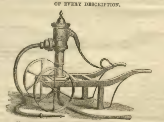
# JOHN WARNER & SONS,
## BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.

No. 35.



No. 36½. IMPROVED CAST-IRON LIFT AND FORCE PUMP.

No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2¼ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3l. 3s.) ... ... ... ... ... 3 0 0
3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3l. 15s.) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & SONS' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2l. 15s.; 2-inch Flexible Rubber and Canvas Suction Pipe, 2s. 5d. per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

PATENTEES and MANUFACTURERS,
JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

# ROYAL HORTICULTURAL SOCIETY.

## THE FIRST GREAT SHOW,

### WEDNESDAY, MAY 27.

### AWARDS OF THE JUDGES.

CLASS 1.—15 STOVE and GREENHOUSE PLANTS (Open).

1st, Mr. B. Peed, Gr. to Mrs. Tredwell, Lower Norwood, 20*l.*
2d, Mr. J. Green, Gr. to Sir E. Antrobus, Bt., Lower Cheam, 15*l.*
3d, Mr. R. Baxendine, Gr. to W. H. Smallpiece, Esq., Guildford, 10*l.*
4th, Mr. O. Rhodes, Crystal Nursery, Sydenham, 5*l.*

CLASS 2.—12 STOVE and GREENHOUSE PLANTS (Nurserymen).

1st, Messrs. J. & J. Fraser, Lea Bridge Road, Leyton, 10*l.*
2d, Messrs. J. & C. Lee, Hammersmith, 7*l.*
3d, Mr. W. Cutbush, Barnet, Herts, 5*l.*
4th, Messrs. T. Jackson & Son, Kingston, S.W., 3*l.*

CLASS 3.—9 STOVE and GREENHOUSE PLANTS (Amateurs).

1st, Mr. H. Chilman, Gr. to Mrs. Smith, Epsom, 9*l.*
2d, Mr. W. Kaile, Gr. to the Earl of Lovelace, Ripley, Surrey, 7*l.*

CLASS 4.—6 STOVE and GREENHOUSE PLANTS (Amateurs).

1st, Mr. A. Ingram, Gr. to J. J. Blandy, Esq., Highgrove, Reading, 6*l.*
2d, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 4*l.*
3d, Mr. C. Smith, Gr. to A. Anderson, Esq., Norwood Grove, S., 3*l.*
4th, Mr. J. Wheeler, Gr. to J. Phillpott, Esq., Stamford Hill, N., 2*l.*
Extra, Mr. C. Penny, Gr. to H. H. Gibbs, Esq., Regent's Park, 1*l.* 10*s.*
Ditto, Mr. J. Tegg, Gr. to Baron Hambro', Roehampton, 1*l.*

CLASS 5.—20 ORCHIDS, exotic species (Amateurs).

1st, Mr. W. Milford, Gr. to E. McMorland, Esq., Haverstock Hill, 20*l.*
2d, Mr. G. Baker, Gr. to A. Bassett, Esq., Stamford Hill, 15*l.*
3d, Mr. R. Bullen, Gr. to A. Turner, Esq., Leicester, 10*l.*
4th, Mr. B. Peed, Gr. to Mrs. Tredwell, Lower Norwood, 5*l.*

CLASS 6.—12 ORCHIDS, exotic species (Nurserymen).

1st, Messrs. Veitch & Son, Exeter and Chelsea, 10*l.*
2d, Mr. S. Woolley, Cheshunt, 7*l.*

CLASS 7.—10 ORCHIDS, exotic species (Amateurs).

1st, Mr. C. Penny, Gr. to H. H. Gibbs, Esq., Regent's Park, 10*l.*
2d, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 7*l.*
3d, Mr. J. Green, Gr. to Sir E. Antrobus, Bt., Lower Cheam, 5*l.*
4th, Mr. H. Chilman, Gr. to Mrs. Smith, Ashtead House, Epsom, 3*l.*

CLASS 8.—6 ORCHIDS, exotic species (Amateurs).

1st, Mr J. Wiggins, Gr. to W. Beck, Esq., Isleworth, 6*l.*
2d, Mr. J. Smith, Gr. to The Duke of Northumberland, Isleworth, 4*l.*
3d, Mr. J. Wheeler, Gr. to J. Phillpotts, Esq., Stamford Hill, 3*l.*

CLASS 9.—9 GREENHOUSE AZALEAS, distinct kinds (Amateurs).

1st, Mr. J. Green, Gr. to Sir E. Antrobus, Bt., Lower Cheam, 12*l.*
2d, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 9*l.*
3d, Mr. B. Peed, Gr. to Mrs. Tredwell, Lower Norwood, 7*l.*
4th, Mr. H. Lavey, Gr. to A. De Grave, Esq., Fetcham, 5*l.*

CLASS 10.—9 GREENHOUSE AZALEAS, distinct kinds (Nurserymen).

1st, Mr. Charles Turner, Slough, 10*l.*
2d, Messrs. Veitch & Son, Exeter and Chelsea, 7*l.*
3d, Messrs. J. & J. Fraser, Lea Bridge Road, Leyton, 5*l.*

CLASS 11.—6 GREENHOUSE AZALEAS, distinct kinds (Amateurs).

1st, Mr. C. Penny, Gr. to H. H. Gibbs, Esq., Regent's Park, 6*l.*
2d, Mr. T. Todman, Gr. to R. Hudson, Esq., Clapham Common, 4*l.*
3d, Mr. A. Ingram, Gr. to J. J. Blandy, Esq., High Grove, Reading, 3*l.*
4th, Mr. J. Wheeler, Gr. to J. Phillpotts, Esq., Stamford Hill, 2*l.*
Extra, Mr. H. Chilman, Gr. to Mrs. Smith, Epsom, 1*l.*
Ditto, Mr. H. Lavey, Gr. to E. A. De Grave, Esq., Fetcham, 1*l.*
Ditto, Mr. Wm. Kaile, Gr. to the Earl of Lovelace, Ripley, Surrey, 1*l.*

CLASS 12.—6 RHODODENDRONS, in pots, distinct kinds (Open).

1st, Mr. C. Noble, Sunningdale Nursery, Bagshot, 4*l.*

CLASS 13.—6 ROSES, in pots, distinct kinds (Amateurs).

1st, Mr. T. Terry, Gr. to C. W. Giles Puller, Esq., Youngsbury, Herts, 6*l*

CLASS 14.—12 ROSES, in pots, distinct kinds (Nurserymen).

1st, Mr. Wm. Paul, Waltham Cross, 10*l.*
2d, Messrs. H. Lane & Son, Great Berkhampstead, 7*l.*
3d, Messrs. Paul & Son, Cheshunt, Herts, 5*l.*

CLASS 15.—6 CAPE HEATHS, distinct kinds (Open).

1st, Mr. T. Peed, Gr. to Mrs. Tredwell, Lower Norwood, 5*l.*
2d, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 3*l.*
3d, Messrs. T. Jackson & Son, Nurserymen, Kingston, 2*l.*
Extra, Mr. H. Chilman, Gr. to Mrs. Smith, Epsom, 1*l.*

CLASS 16.—9 PELARGONIUMS, distinct kinds (Amateurs).

1st, Mr. J. Shrimpton, Gr. to A. J. Doxat, Esq., Putney Heath, 8*l.*
2d, Mr. J. Weir, Gr. to Mrs. Hodgson, Hampstead, 6*l.*

CLASS 17.—12 PELARGONIUMS, distinct kinds (Nurserymen).

1st, Mr. Charles Turner, Slough, 8*l.*
2d, Messrs. J. & J. Fraser, Lea Bridge Road, Leyton, 6*l.*

CLASS 18.—6 PELARGONIUMS, Fancies, distinct kinds (Amateurs).

1st, Mr. J. Weir, Gr. to Mrs. Hodgson, Hampstead, 5*l.*
2d, Mr. H. Lamb, Gr. to Capt. Cahill, Park House, Southall, 4*l.*

CLASS 19.—6 PELARGONIUMS, Fancies, distinct kinds (Nurserymen).

1st, Mr. C. Turner, Slough, 4*l.*
2d, Messrs. J. & J. Fraser, Lea Bridge Road, Leyton, 3*l.*

CLASS 20.—6 CINERARIAS, distinct kinds (Open)

1st, Mr. H. Lamb, Gr. to Capt. Cahill, Southall, 3*l.*
2d, Mr. J. Smith, Gr. to the Duke of Northumberland, Isleworth, 2*l.*

CLASS 21.—NEW or RARE TENDER PLANTS in FLOWER (Open).

Mr. J. Standish, for Clematis Fortunei, S.K.
Mr. J. Standish, for Clematis florida Standishii, S.B.
Messrs. Veitch & Son, for Dracophyllum sp., S.B.
Mr. J. Standish, for Weigela sp., B.

CLASS 22.—NEW or TENDER PLANTS NOT in FLOWER (Open).

Mr. Wm. Bull, for Caladium Lowii, S.K.
Messrs. Veitch & Son, for Miconia (?) argyroneura, S.B.
Messrs. Veitch & Son, for Eranthemum sp., S.B.
Messrs. Veitch & Son, for Pandanus elegantissimus, S.B.
Mr. Wm. Bull, for Pandanus elegantissimus, S.B.
Mr. W. Young, for Pandanus elegantissimus, S.B.
Mr. Wm. Bull, for Areca dealbata, S.B.
Mr. Wm. Bull, for Yucca lineata lutea, S.B.
Mr. J. Standish, for Acer sp., B.
Mr. A. Verschaffelt, for Dieffenbachia Verschaffelti, B.

CLASS 23.—NEW ORCHIDS IN FLOWER (Open).

Messrs. Low & Co., for Dendrobium Parishii, S.K.
Messrs. Veitch & Son, for Phalænopsis Lobbii, S.B.
Mr. C. Penny, for Odontoglossum Uro-Skinneri, B.

CLASS 24.—NEW or RARE HARDY ORNAMENTAL PLANTS (Open).

Messrs. Veitch & Son, for Abies firma, S.K.
Messrs. Veitch & Son, for Spiræa sp. California, S.B.
Mr. B. S. Williams, for Lastrea Oreopteris cristata, B.
Messrs Ivery & Son, for Athyrium Filix-fœmina Applebyanum, B.
Mr. Wm. Bull, for Athyrium Filix-fœmina diffissum, B.
Mr. Wm. Bull, for Euonymus ovatus aureo-variegatus, B.

CLASS 25.—NEWLY INTRODUCED PLANTS (Open).

Messrs. Veitch & Son, for Lapageria alba, 1st Certificate
Messrs. Veitch & Son, for Sphærogyne latifolia, 2d Certificate
Mr. Wm. Bull, for Cibotium princeps, 3d Certificate
Messrs. Veitch & Son, for Lomaria gibba, 4th Certificate
Messrs. Veitch & Son, for Lonicera brachypoda aureo-reticulata, 5th Certificate
Messrs. Veitch & Son, for Anthurium Scherzerianum, 6th Certificate

CLASS 26.—SEEDLING FLORISTS' FLOWERS and GARDEN HYBRIDS (Open).

Messrs. Veitch & Son, for Rhododendron Sesterianum, 1st Class Certificate
G. W. Hoyle, Esq., for Pelargonium Diadem, 1st Class Certificate
G. W. Hoyle, Esq., for Pelargonium Artist, 1st Class Certificate
W. Beck, Esq., for Pelargonium Prince of Wales, 2d Class Certificate
W. Beck, Esq., for Pelargonium Princess of Wales, 2d Class Certificate
G. W. Hoyle, Esq., for Pelargonium The Prince, Commendation
G. W. Hoyle, Esq., for Pelargonium Penelope, Commendation
Mr. Wm. Bull, for Petunia Vernon, Commendation

CLASS 27.—GROUP of PLANTS for SMALL CONSERVATORY (Open).

1st, Mr. C. Turner, Slough, 10*l.*
2d, Messrs. Veitch & Son, Exeter and Chelsea, 6*l.*
3d, Messrs. J. & C. Lee, Hammersmith, 4*l.*

CLASS 28.—MISCELLANEOUS (Open).

1st, Messrs. Veitch & Son, for Collection of Plants, 3*l.*
1st, H. Lane & Son, for Collection of Azaleas, 3*l.*
2d, Messrs. J. Ivery & Son, for Collection of Hardy Ferns, 2*l.* 10*s.*
3d, Mr. Wm. Bull, for Collection of New and Rare Plants, 2*l.*
3d, Messrs. Paul & Son, for Collection of Cut Roses, 2*l.*
3d, Mr. W. Paul, for Collection of Roses in pots, 2*l.*
3d, Messrs. A. Henderson & Co., for Collection of Stove and Greenhouse Plants, 2*l.*
3d, Mr. Charles Turner, for Collection of Azaleas, 2*l.*
Extra, Mr. J. Salter, for Collection of Hardy Variegated Plants, 1*l.* 10*s.*
Ditto, Mr. J. Green, for Collection of 6 Tall Cacti, 1*l.*
Ditto, Mr. H. Lavey, for Collection of British Ferns, 15*s.*
Ditto, Mr. H. Lavey, for Collection of Exotic Ferns, 15*s.*
Ditto, Messrs. Downie, Laird, & Laing, for Collection of Pansies, 15*s.*
Ditto, Mr. J. Fleming, for Collection of Eucharis Amazonica, 15*s.*
Ditto, Mr. H. Hooper, for Collection of Pansies, 10*s.*

SPECIAL PRIZES for the BEST THREE GROUPS of FRUITS and FLOWERS for the DECORATION of the DINNER-TABLE are offered by Sir C. WENTWORTH DILKE, Bart., Vice-President of the Royal Horticultural Society, to be awarded at the Second Great Exhibition, WEDNESDAY, June 17. First Prize, Gold Knightian Medal, or 10*l.*; Second Prize, Gold Banksian Medal, or 7*l.*; Third Prize, Society's Large Silver Medal, or 3*l.*

Novelty of design and beautiful arrangement will be the test of merit; valuable Flowers or Fruits are therefore not demanded.

Each set must consist of three groups, and may be either one of Flowers and two of Fruit, or two of Flowers and one of Fruit, or Fruit and Flowers mixed in all three.

They may be shown either in épergnes, glass or china dishes, wicker or wire work, or in any other way, most to the taste of the exhibitor.

Ladies are invited to join in the competition.

The Prizes will be awarded by a Jury of Ladies.

The groups will be received as late as 9·30 o'clock on the morning of the Show, PROVIDED SPACE SHALL HAVE BEEN SECURED FOR THEM THE DAY BEFORE. Letters to be addressed to Mr. G. EYLES, Royal Horticultural Society's Garden, South Kensington, W.


# The Gardeners' Chronicle.

*SATURDAY, MAY* 30, 1863.


MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| MONDAY, | June 1—Entomological | .. .. .. | 7 P.M. |
| WEDNESDAY, | — 3—Royal Botanic | .. .. .. | 2 P.M. |
| THURSDAY, | — 4—Linnean | .. .. .. .. | 3 P.M. |

LAST Wednesday's exhibition at South Kensington must have been witnessed with feelings of exultation by all lovers of English Gardening, as well as by the Fellows of the Royal Horticultural Society. It has been our fate to inspect the earliest of these manifestations of skill in cultivation, which dawned under a little tent in the shrubbery at Chiswick between 30 and 40 years ago, and which now have reached the zenith in the architectural promenades of South Kensington: in other words, which in the beginning represented the long and wretched continental war, and now in the end display the results of long and prosperous peace. It has so happened that the plain old Horticultural Society, which was charged with the destinies of the art—the all-important art—of cultivation, struggling and struggling, and rising and rising by its own inherent strength, has at last received from Royalty an impetus worth the exertions of half a century.

Does any one recollect the state of gardening here after the battle of Waterloo? Do they remember the frowsy specimens, the dried up pot-plants, the sticks called hothouse things, when everything horticultural was miserable and ugly, except plantations, and weavers' windows? And do they call to mind these last? the Stapelias and Aloes, and Mesembryanthemums, and other succulents which were the pride of Norwich? Above all things do they remember the dingy places called Gardens, at Chelsea, and Kew, and Kensington, under the care of the AITONS, and DICKSONS, and SMITHS, and ANDERSONS, and MUNROS, and SWEETS of the day. We hope they are remembered by some at least, as they are by ourselves, and, if so, that our modern gardening will be compared with those strange days, when the name of "florist's flower" was ignominious, and when "Collection" was thought of far more importance than "cultivation."

To the old English Gardener the superb specimens shown on Wednesday would have been beyond all his ideas of possibility; to him Chinese Azaleas were unknown, or if known were small half starved twigs peeping out of a little Moss; of Rhododendrons he knew nothing beyond the wild ponticum, the worst of its race; what Pelargoniums were to him may be learned from the pages of *Sweet's Geraniaceæ*; Orchids hardly existed; and as for Roses in pots they did not deserve the name of flowers. Now-a-days, what with hybridizing, and raising from seed, and importation, and amplification, the superb Chinese Azaleas rival in magnitude a giantess's crinoline; Roses, envious of such dimensions, are rapidly extending their perfumed arms; and we soon shall learn that a flower-show, instead of being lost under a tent, can hardly be contained within the walls of a cathedral.

Soon do we say? Even on Wednesday the vast dimensions of the International Exhibition building were none too great for the occasion, and Captain FOWKE's beautiful nave with its exquisite tracery only formed a fitting canopy to the flowers. It cannot be doubted by any well informed person that these great results have been obtained by the steady and well directed action of the Horticultural Society, which for 50 years has been expending its funds in the diffusion of horticultural knowledge, founded on physiological science, and in constantly stimulating cultivators by prizes won at public exhibitions.

Let us hope that the old Chiswick Garden, the unquestionable parent of our present high cultiva-

tion, may not be wholly forgotten amidst the excitement of South Kensington. Although to a great extent neglected, its beautiful trees, now old enough to display their true characters, form a scene that will well repay a visit; and we can promise the lovers of thoroughly good management an instructive lesson in domestic gardening.*

For the details of the gorgeous scene of Wednesday, we must refer to the ample report to be found in another column, and to the long list of prizes officially published by the Society. It must be highly gratifying to the exhibitors to know that their inimitable productions were seen and appreciated by their Royal Highnesses the PRINCE and PRINCESS OF WALES, and a crowd of the greatest personages in the land.

THE Union Assessment Committee Act of last Session excited, as might have been expected, a great deal of attention throughout the country. Rating committees, valuation lists, the principles of assessment, and the rateable value of lands, have, ever since that Act came into operation, formed the staple of conversation at the dinner-table of every country gentleman, at every farmers' meeting, and in every country parsonage. And this was likely enough to be the case in rural neighbourhoods; partly because the duties of overseers, and the obligations of poor law guardians, are among the chief public concerns of the men of business in agricultural districts; and partly, and perhaps chiefly, because by the course of legislation on this subject, the occupier of the land has been chiefly burdened with the charge of maintaining the poor, and because, unhappily, in agricultural parishes and small country towns, the poor-rate forms but too important an element in the annual expenses of the tax-paying population.

The fact was, that by this Act of Parliament, although it introduced no new principle of assessment, the attention of every payer of poor-rate, and every person charged with its assessment, was called pointedly and freshly to the subject. And more than this, by the extension of the area, so to speak, of criticism, the assessment of each parish being brought at once under the notice and control of the neighbouring parishes of the union, overseers were put upon their mettle, the old assessment was revised, and not only the individual ratings of individual farms subjected to comparison one with the other, but the assessment of the whole parish, as compared with its neighbours, was narrowly watched. In short, not only was the critical glance of the assessor limited by the ambit of his own parish, but it travelled further afield over all the parishes composing the union.

This ferment has not yet entirely subsided, and we still from time to time have inquiries addressed to us on rating matters, which are no doubt of very general interest to many of our most valued correspondents. Although, therefore, we cannot profess to go very deeply or at any great length into the matter, we propose shortly to call attention to one or two points upon which information has been most frequently sought.

Many of the difficulties which have been stated to us have arisen from not referring at once to the language of the Parochial Assessment Act, which is still law, and regulates the whole matter. Many of those who have to deal with the subject proceed rather upon what they conceive *à priori* to be just and proper, or upon what they have heard from others, instead of applying at once to see what the Act of Parliament says. Let us refresh their memories. The rate, then, is to be made upon an estimate of "the net annual value of the property rated; that is to say, of the rent at which the same might reasonably be expected to be let from year to year, free of all the usual tenants' rates and taxes, and Tithe Commutation Rent-charge if any, and deducting therefrom the probable annual average cost of the repairs, insurance and other expenses (if any) necessary to maintain the property in a state to command such rent."

Now if our correspondents would bear in mind this definition, they might be left to answer their own questions. Whatever difficulty there may be in applying the definition to the rating of railways, gas mains, or tithe rent charge, there can be very little in applying it to the case of agricultural land or even of market gardens or nursery grounds. The same questions have to be answered, as are proposed in every case where the terms of tenancy for a farm, or a market garden, or a nurseryman's premises have to be arranged between the parties. The point is, what rent will a tenant give, he, the tenant, bearing the burden of all usual tenant's rates and taxes, and tithe commutation rent charge, if any be payable? What will he give, that is to say for the property in its present condition, for its present use: not as lessee for a term, but for the privilege of the occupation for the ensuing year? The next question is, what is a fair estimate to be made for the probable average annual cost of repairs, insurance, and other expenses of *the same nature* necessary to maintain the property in a state to command the rent?

Now, it is asked, by some of our subscribers, is it fair in assessing a nursery garden or a florist's premises, to take into account, as an element of increased value, the greenhouses, forcing pits, and hothouses standing on the premises? We answer, undoubtedly, yes. It is true that in some cases greenhouses and similar buildings may be what are technically called "trade fixtures," and may be removable therefore during the term, by the tenant who has erected them, but the question is—do they not enhance and increase the value of the land and premises which are occupied by the florist or nurseryman for the purpose of his trade? If so, we repeat they are to be taken into consideration; and on this general principle, than which nothing can be better known or established, that all real property should be rated at its actual annual value, and if that annual value be increased by any erection or improvement upon it, then that the value of that erection or improvement is to be taken into account. If, as has been said, the ability to carry on a gainful trade on land, adds to the value of the land, that value cannot be excluded, on the ground that it is referable to trade.

This subject will be found fully considered in the *Gardeners' Chronicle* of February 26, 1859. The law has not since been altered, and all our observations then made are applicable to the present state of things. We will, however, add two remarks for the benefit of those among our readers who may not have access to that Number of our Paper; the first, by way of caution, repeated; the second by way of reply to an objection lately urged. The caution is this: In assessing such a property as nursery grounds, or florists' premises, the assessor must not take into consideration the profits of the individual tradesman. The only questions to be answered are those above suggested—What are the premises, as they are, with all the greenhouses, &c., upon them, worth to let to a tenant in the same way of business? What is the amount of tithe commutation rent charge paid upon the property? And what is the average annual cost of repairs and such like expenses. Possibly these expenses may be great in the case of such property, and if this be so, the amount of the rateable value will be proportionately reduced. But it has been objected—Is not this taking of the value of greenhouses into consideration, just the same thing as if you were to assess manufactories at an increased value because of the value of the machinery annexed to them. The answer is, that it has been expressly decided over and over again that manufactories ought so to be rated. One instance out of many will suffice. The occupiers of certain premises, used by them for manufacturing iron from ironstone, were rated in respect of them, and of the machinery thereon—which although fixed to the freehold was in fact personal property, and it was agreed that personal property ought not to be rated. The Court held that they were properly rated for it, for that all real property should be rated according to its actual value, as combined with the machinery attached to it, without considering whether the machinery were real or personal property, whether it would go to the heir or executor, or whether it would on the expiration of a lease go to the landlord or the tenant.

Taking, therefore, the text suggested by one of our correspondents, we repeat what we said in the article already alluded to, that although greenhouses may not be rateable *per se*, as greenhouses, yet that, indirectly, the occupier pays poor rate in respect of their value, should their existence on the land on which they stand, increase the value of that land.

There are two other kindred points deserving notice. A Correspondent, a nurseryman, who by labour and expense seems to have improved his land, which was originally poor agricultural land, scarcely worth to let 10s. an acre, to such an extent that it is now valuable garden ground, thinks it hard that he should be assessed at any higher rate than his neighbour, who has allowed his land to remain in its natural poor condition. Reference to the Act of Parliament again furnishes an answer. The rent is the criterion: the rent, that is to say, at which a tenant would take the land to use it, as it is, for the year in which the assessment is made. Will our friend say, that the land which he has improved would not let at a higher rent than that of his neighbour, poor and barren as that remains? If he can say that it will not, then the two properties ought to be rated at the same figure. If, as he must admit to be the case, and as in fact he does admit by the very mode in which he has stated his grievance, the annual value of his land to let is very much greater than his neighbours, then he must pay poor-rate accordingly. We trust that he will have his reward for his industry, and that the produce of his land will be so increased as not only to enable him to pay the far higher rent which the landlord will no doubt demand at the expiration of the lease, and the increased poor-rate which the annually increasing value of the property calls upon the assessor to lay upon it, but also to leave a good margin of profit for one who seems so well to have deserved to prosper. Or again, to put a case which may be more agreeable to contemplate. Let him, unless restrained by his lease, become landlord instead of tenant. He will doubtless find a tenant in his turn, who will give him a rent for his improved land; higher, just in proportion to its improved productiveness, than the landlord of his neighbour receives for the poor stony field, or drowned bit of marsh, out of which the rich nursery was, so to speak, created. And thenceforth it will be left to his tenant, who as occupier will have to pay the increased poor-rate, to quarrel with the overseers of the parish.

There *is* one matter, however, on which overseers may go wrong, to the prejudice of the nurseryman. Of course, in estimating the value of the premises for the purposes of the rate, the assessor must not take into consideration the stock of trees and plants on the premises. These are like the goods on the tradesman's shelves, and in no way add to the annual value of the land as a letable property. To take these into consideration (if we may put a case, which may serve to illustrate both branches of the subject) would be as if the overseers were to assess greenhouses standing for exhibition and sale upon the premises of one of our greenhouse builders. These, it is evident, are in no sense connected with the land or its enjoyment or use, as are the greenhouses necessary for the purposes of the florist, but are mere chattels exposed for sale, just like the stock in trade of any other tradesman.

The last point to be noticed arises chiefly on the assessment of farm houses. It is often, but erroneously, alleged, and it is urged as an argument for exemption in other cases, that farmhouses are not and ought not to be rated to the relief of the poor. Nothing, we believe, is further from the fact than this. If, indeed, such be the case in any parish, there the assessors are wrong. But the real state of things is generally this. In the parish rate-books the assessment of a farm appears, not in detail, field by field, but as assessed generally at so much an acre. The farm house perhaps does not appear in the rate at all. But nevertheless it is *in effect* rated, and in this way. The farm is valued for rating purposes, and correctly so, as it would best let to a tenant, viz., at so much an acre; or rather at a lump sum, which, divided by the acreage, gives a result of so much an acre. But the careful assessor, in thus dealing practically with the total, has, or ought to have carefully considered the details of value; as, for instance, the existence and convenience and state of repairs of the farmhouse, the lay of the lands, the distribution of pasture and arable, and all the conditions of profitable cultivation, and even the separate value of each field. In the result he deals practically with the matter, adds up his figures, and states in one sum total the rateable value of the farm. It is obvious, therefore, that during this process the farm-house has been practically rated at its value in the hands of the occupier, though its assessment does not appear separately in the rate book. A case however might easily be suggested which would at once show the fallacy of the theory, that farm houses are not, or at least *should not be* assessed. Suppose, what is by no means impossible, that the farm house is in one parish, and the lands or the greater part of them in another. Ought such a farm house to escape assessment in the parish in which it is situated? Obviously not. It is rateable property of assessable value, and so long as the parochial system of assessment prevails, the parish in which it is situated ought to have the benefit of this assessable value. This can only be

* This establishment, as well as that at South Kensington, is under the able management of Mr. EYLES, who, we are bound to say, is most ably seconded by BARRON and BEAUMONT, skilful young gardeners, now acting as his foremen at Chiswick.

done by a separate assessment. It is clear, that the neighbouring parish in which the lands are situated would get all the advantage, if the practical rule above described (which is correct enough in its results where farm houses and lands are situated in the same parish) were strictly followed, and the rateable value of the farm house, so to speak, merged in and distributed over the increased assessment of the lands attached to it.

—— The novelties produced at the Great Show held on Wednesday at South Kensington, deserve a separate notice. We take them in the order of entry.

The first class, consisting of New or Rare Tender Plants in flower, was not very fully represented. The finest subject was Clematis Fortunei, and the two next best, Clematis florida Standishii, and a Dracophyllum from King George's Sound, each of which has been already mentioned at p. 460. A white-flowered Japanese Weigela from Mr. Standish was quite novel, and seemed likely to be a very useful shrub in its class—but it would surely have classed better with hardy than with tender plants. Anthurium leuconeurum, a rather nice-looking Orontiad taken in respect of its foliage, is not at all improved in appearance by the addition of its green spathe and spadix, as shown by Mr. Bull. Two or three garden seedlings were wrongly set up in this class.

The New or Rare Tender Plants not in flower were more numerous. The best of them was, however, a plant already familiar from its appearance at the minor meetings, namely, Alocasia Lowii. Pandanus elegantissimus, a very elegant plant certainly, with its spiny red-edged and red-keeled arching leaves, came from three sources, which, with others that we may not happen to specify exactly, will be found particularised in our advertising columns. Mr. Veitch's Miconia? argyroneura, the same as that mentioned as a possible Melastoma at p. 460, was hardly so fresh-looking as on the occasion when we previously noticed it; but we have some faith in it as a useful stove plant, requiring less space than Cyanophyllum, and therefore useful in many places where that could not well be accommodated. A beautiful Acanthad from Peru, supposed to be an Eranthemum, also came from Mr. Veitch; this was dwarf habited like Eranthemum leuconeurum, but had the obtusely oval leaves picked out all over with rosy-pink reticulations, whence it might be designated rubronervium; but whatever name it may get, (and it will soon be in flower), it is a remarkably elegant plant. The yellow-centred Yucca lineata lutea, and the ivory-ribbed Dieffenbachia Verschaffeltii mentioned at the page already referred to, were again shown. Areca dealbata, a small-growing Palm, from Mr. Bull, is to be highly recommended for its elegant pinnate fronds, which were white beneath, and had spiny stipes. Here was also shown by Mr. Standish, a very distinct Japanese Acer, the leaves of which might be said to be mostly yellow speckled over with green, so abundant was the yellowish variegation. Here also Mr. Bull showed the singular Pogonia discolor, with its one cordate olivaceous golden-haired leaf, looking as if cut off, and stuck into a pot of soil; some Anæctochili—argyræus, which is Physurus-like with lance-shaped leaves silvered down the centre, and Dayii, which is like a dark Lowii; two or three Caladiums—mirabile, which is very promising, thickly white-spotted on green, with yellow-green ribs and primary veins, Cannartii which, whatever it promises, has not yet caught up to Chantinii, which it was said to beat, and Lemaireanum, which is not half so good as argyrites; several Ferns, of which Adiantum Féei and Litobrochia nobilis have already obtained the highest testimonials; Litobrochia alcyonis, one of Linden's plants, which is nothing but L. sagittata, breaking out into the subhastate form which is its highest development; and Gymnogramma "Stelznerii," which was not crested as Stelzneriana ought to be, and wanting the cristate appendages, is worthless. A Dichorizandra, called argenteo-marginata, from the same exhibitor, was a good thing in its way, but does not differ, if our memory serves us, from one which Linden sent over some two or three years ago under the name of albo-marginata, and for which a second prize was then awarded. Here also Messrs. E. G. Henderson & Son showed Coleus nigricans, a nettle-like plant with broadly ovate leaves of a dark brownish-purple, the tips of the blunt serratures only being green. We may mention besides, a Palm suitable for small collections, grown by Mr. Young, of Highgate, and called Thrinax elegans, which is really elegant, having light fan-shaped leaves, borne upon slender polished stalks.

Of New Orchids in flower very few were to be seen. Dendrobium Parishii from the Clapton nursery was the best and most novel in character; this has thickish deflexed stems, which, after ripening, bear two-flowered racemes (one flower constantly abortive in the plant shown) of clear bright rosy mauve-coloured flowers, not very large but abundant, the lip fringed all over, and of the same rosy hue as the sepals and petals down its centre, but marked with two large lateral intense crimson-purple blotches. Phalænopsis Lobbii, the same as intermedia, was shown by Mr. Veitch, and next to rosea is perhaps the least attractive species in our gardens of a genus which generally takes the highest rank amongst Orchids; its white flowers were about the size of those of Schilleriana, and had a rose-coloured lip. Mr. Penny, of St. Dunstan's Lodge, Regent's Park, had a very fair sample of Odontoglossum Uro-Skinneri.

Passing on to the New or Rare Hardy Ornamental Plants, we find the judges attached the most importance to some healthy examples of the Japanese Abies firma, now about a foot in height; these were from Mr. Veitch. It is singular that in this promising Conifer, the leaves, which are linear and bifid, and are distichously disposed, are set on on each side of the branch in three rows, in which they alternate with each other, the leaves themselves being also of three different lengths. Mr. Veitch further showed a Spiræa from California, a dwarf bushy shrub with wavy sessile ovate irregularly serrated leaves, and remarkably compact small corymbs of bright rosy flowers, with long projecting white anthers. A handsome Euonymus called ovatus aureo-variegatus, from Mr. Bull, had the shining bluntly oblong leaves of a deep green with a bright golden blotch in the centre, and was a very effective shrub. Two or three Ferns here shown also deserve mention, namely a handsome crested variety of Lastrea montana, which came from Mr. Williams; a much cut Lady Fern, Athyrium Filix-fœmina diffissum, from Mr. Bull; and from Mr. Ivery a sport of the Lady Fern called Applebyanum, a curious plant in which the characteristics of Frizelliæ and Fieldiæ appear in about equal proportions, a dichotomously forked apex being superadded.

Among Seedlings the Pelargoniums formed the most conspicuous feature, but few of them were fully up to the mark in technical properties. The best and most effective were Diadem and The Artist, two of Mr. Hoyle's flowers. The first of these, Diadem, was remarkably telling, being decided and distinct in colour, which, added to a good form and habit, and a considerable freedom in producing its flowers, left little to be desired; the colour was a deep and bright rosy purple, very decided in the lower petals, the throat clear white, and the upper petals very dark maroon, edged with rosy purple. The Artist had a good deal of general resemblance to this, but was more of a rose colour, less of a purple. Mr. Hoyle also had an attractive orange red flower called The Prince, the upper petals of which were light maroon, and the throat light, shaded with purple. Another, called Penelope, had the top petals dark maroon edged with rose, and the lower ones spotted and mottled with maroon. Of Mr. Beck's set Prince of Wales and Princess of Wales were the most noteworthy, the former being a bright crimson marbled with maroon in the lower, and bright maroon with a broad edge of crimson in the upper petals; the latter marbled with bright maroon on a crimson ground below, and dark maroon above, both being remarkable for their effectiveness. We also noticed Eurydice, a beautiful light variety, which received a high award last year, but is, we believe, not yet let out. Of the hosts of mediocrities and inferiorities in this and other flowers we have no room to speak. We observed examples of the hybrid spotted Mimuluses, to which we have already adverted, both from Mr. Bull and Messrs. E. G. Henderson & Son.

## FISH AND FISHING.—No. IX.

### SALMON LADDERS.

"A nice piece of Salmon, very pink and curdy and nicely boiled—delicious!"

"But, Papa, what is all this talk in the *Times* about 'Salmon Ladders'? What does it mean? Can Salmon climb? Is there a new species discovered. furnished with claws like West Indian Land Crabs?"

"No, darling, only the ordinary Salmon. Salmon Ladders are contrivances—er—I think they are also called 'Fish Passes'—er—well, you are quite right in inquiring, but in truth I must refer to C., for I know nothing about such matters." (And so E.C. replies.)

Nothing like a proper scientific name, for then we are at home at once as to family, genus, and species, but for Salmon Ladders there is no such scientific name; and well may you be at a loss, Paterfamilias, and daughter, loving, obedient, and good. Thousands who look over the *Times* are as ignorant of fishing matters in general, and of Salmon Ladders in particular, as you are; and doubtless an explanation will be acceptable. A Salmon Ladder, a Salmon or a Fish Pass, for they are the same in a general sense, is a contrivance to enable a salmon to ascend, or climb, or pass with facility over an otherwise difficult obstruction to its progress up a river or down. Salmon (vulgo) is a migratory species of fish called Salmo salar. It lives and fattens in the sea, and breeds and the young spend their youth in fresh water. The ovum or egg is deposited and vitalized by the parents in the shallows of a fresh-water river; when hatched, and after (say) one year or two years abiding in the river, the young one leaves the river, forcing its way to the sea. After a while (we won't specify the time) it again seeks a shallow in the fresh water or river in order to deposit its spawn, and reproduce. Its descent as young fry was easy, but on its return upwards as a fish of size, it finds an obstruction in the shape of a weir, or the more natural impediments of high rocks, and how is it to get over?

The leaping power of a salmon is certainly immense; certainly it is the strongest fish for which we angle that swims. To say, as some old authors do, that it can leap up a fall of 16 feet may be somewhat apocryphal, though I do not say it is so, it being foreign to my present object. You have only to examine a salmon's tail, to handle it, to judge of its immense muscularity. It is the only fresh-water fish (so to call it) of which you can take a firm grasp by the tail and lift it about, dead or alive, without its slipping out of your hand—as any other fish will do. In fact a cool angler having "first hooked his salmon!" can "land" it, without net or "gaff," by firmly grasping it above the tail.

Well, without reference to the height to which a salmon can leap, the object of a salmon ladder is to enable the fish to ascend to spawning ground without the exertion of leaping, especially considering that he or she may be heavy with spawn, milt or roe, and these salmon ladders may be contrived so as to assist a fish without unnatural exertion over an obstruction, not only of 6 feet, but of 60 or 100 feet in height, instinct telling them to force their way through opposing water, where there is depth and width enough for their bodies to wriggle.

The difficulty I now labour under is to make you understand the construction of a salmon ladder.

The principle is to erect an inclined plane from the lower to the higher level of water, with such breaks or rests intervening in the force of water—rising by degrees—as will enable the fish to rest and pass, step by step, upwards. Thence the term "ladder."

I go so far as to allege that if you have a natural obstruction across your river of 100 feet high, say a natural rock, and wish to open the water above it as spawning ground, there are no engineering difficulties; you may certainly do it, if you have money, &c., by cutting a narrow artificial inclined plane, with rests, through a portion of the width of the rock, with resting holes here and there from the lowest to the highest level of the water, without much decreasing the level of the water in the main stream, or as it is termed the milling power of the water, and you may be perfectly sure that salmon will work their way up to the highest point, and deposit their spawn in the shallows above, provided the gradients from step to step are properly adopted, about 18 inches one above the other.

This "ladder" once completed might be called a natural ladder. An artificial ladder, such as the *Times* and other papers now refer to, is comparatively a very minor easy affair.

In substance the salmon-ladder recommended by the Government Inspectors is only a very great improvement on the principle I have mentioned. Whether you make it of stone, or wood, or slate, or brick, or a mixture of these, does not affect the principle, but it must be of sufficient size and proper shape. If you want a salmon full of spawn to surmount without difficulty a sloping or a perpendicular weir—the higher water level being 6 feet above the lower—in principle you have to make a permanent sloping trough, say 30 feet long and 5 feet wide (inside measure), and sink the interior base of the upper end of it, say 18 inches into the top of the weir, or below the level of the water above. Then by upright rectangular partitions, say 18 inches high, you divide the trough, say into six compartments, only that instead of making each a distinct compartment closed off from each other, you leave an open space 9 inches wide at the longitudinal end of each partition, at one end of one and at the opposite end of the other, alternately. The water flowing down, instead therefore of flowing over each partition, flows from one compartment to another, round and through each 9 inch open space at the end of each partition in a serpentine course.

Each compartment is about 5 feet square, and as you will perceive, will contain 18 inches depth of water. The uppermost opening for the water, instead of 9 inches wide must be 12 inches width to allow for waste, &c., and a surplus to the 9-inch width of flow between the other compartments.

There can be no difficulty in an ascending salmon getting up such a contrivance, through each open space of 9 inches, unless he or she be of such an enormous weight and width that it could not pass through 9 inches, not very common! In each compartment there is necessarily back water and eddy, and the fish has time to rest if needful and ascend from one compartment to the other into the free water above with perfect ease and freedom from all risk of injury, though a salmon full of spawn.

If salmon be capable of pleasurable sensations, fancy their delight when, arrived at the top of the ladder, they once more plunge into the depths of the open expanse of waters free from all restraint. Would that I were happy as such a fish!

Of course I have not been labouring or intending to describe this salmon ladder in the way of an artistic specification of how it is to be built. I have only endeavoured to explain the broad principle. "Have I conveeyed myself," as an Irish gentleman used to say to the jury, or have I,

> "Like Mr. Parker,
> Made that darker
> Which was dark enough before?"

and describing the broad principle, I have endeavoured to enable you to judge of the merits of an honorable writer in his attempt to upset a broad principle known for years, and also, from the very nature of the thing, known to be correct.

Mr. Grantley Berkeley (in the *Times*, April 21), starts his attack against the plan suggested by the Inspectors of Fisheries or "Home Office" for salmon ladders very authoritatively. "I am convinced," he

says, that neither the fresh fish nor the kelts (that is fish which have spawned and are desirous of returning to the sea) will use the ladder," and he calls it "a speculative invention. On being called to account for this presumptuously sweeping condemnation by Mr. F. Fane (*Times*, April 23), in a second letter (*Times*, April 28), he brings forth his "facts and experience." These, as they appear in print, at least require a great deal more explanation to be rendered comprehensible to those who do not know the locality. Col. T. T. Whyte (*Times*, April 29), however shows that, up other ladders, salmon can and do ascend; and there are hundreds of other persons who have seen them in the act of ascent wherever these or any ladders are erected.

Salmon ladders in one form and another have existed and been found to work well for very many years in Ireland and Scotland, and they are, therefore, not mere "speculative inventions." But the perhaps greatest beauty of all salmon ladders is that at the "Falls of the Conway," N.W. In September, 1858, I went to visit them, and wished, in common with all other fisherman of those parts, that the upper waters could be opened as spawning ground by means of a ladder: the thing was talked of then—now it is done! A beautiful and simple salmon ladder runs through and up the solid rock, of 28 or 30 feet perpendicular height, and thousands of salmon ova are doubtless deposited above, where 4½ years ago no parent fish could by possibility reach.

I cannot resist the temptation to insert a short passage from the second report of the Inspectors dated March 1863, as to these "Falls of the Conway."

"On the Conway proper, the greater] proportion of the breeding ground was lost, shut up by the Falls of Conway. These falls are 28 feet high, and a pass or ladder has this year (1862), been constructed over them by two gentlemen owning water above, upon plans most kindly drawn and furnished by Mr. Forsyth, C.E. of the Board of Public Works in Ireland. The work will for long, probably, be the most remarkable of the kind constructed in England, and will no doubt be as great an object of curiosity and of interest as it promises to be of utility. It was completed too late for this breeding season, constant floods having delayed its progress; but that the year might not be entirely lost, five pair of salmon, male and female, were caught below and carried above the falls."

PLAN, SECTIONS AND ELEVATION OF A SALMON PASS OVER A SLOPING WEIR 50 FEET BROAD AND 8 FEET HIGH.

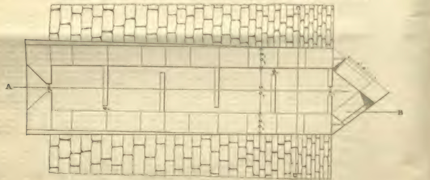



FIG. 1.

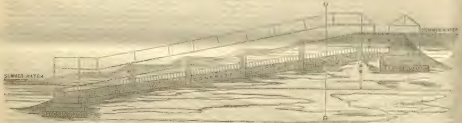



FIG. 2.

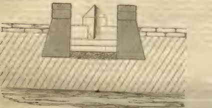


FIG. 3.

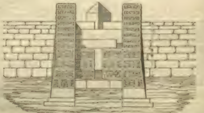


FIG. 4.

Facts! facts! Mr. Berkeley! I am therefore sorry that I must place myself in the ranks of the legion who condemn Mr. Berkeley's annihilation. Look at the principle of a salmon ladder, and especially at the details of that of the Inspectors or Home Office; consider the enormous muscular power of the salmon to ascend, and the enormous pressure of animal instinct and natural necessity in its seeking a fresh-water river to spawn in, at one season, and of a return to the sea, to live and fatten in, at another season—a similar and most wonderful instinct, implanted in the young fry, of "leaping" out of any place of confinement to the sea, how they can, for the first time in their lives: consider this, and can any reasonable mind doubt that these Salmon Ladders are of the utmost assistance to the fish, and of vital importance to the public for keeping up the breed and stock of salmon.

True that every ascending or descending fish may not find the entrance to the ladder up or down. But if some fish do find the entrance, especially ascending fish, and succeed in depositing their spawn far above, it will be a blessing conferred on our languishing salmon fisheries. Better that even only one pair of fish ascend rather than none, and British salmon become extinct. Far better would it be, if, instead of raising crotchets, Mr. Berkeley would accept the good the Home Office ladder may afford to hundreds of persons; and if, rather than objections, he would assist in devising schemes for improvements, so that salmon might be guided and steered to the ladder, its foot or head, and so enabled to ascend or descend in safety. But I suppose that would "not bring fish to his net!" *E. C.*

REFERENCES TO THE WOODCUTS.

FIG. 1. Plan or bird's-eye view of Salmon Ladder.—A is the lowermost end and B the uppermost. The Diamond linear B, seen also in Figs. 2, 3, 4, is called an Ice Break, to "fend off" ice, and [illegible] to pass off away from the Ladder altogether and pass over the sloping stone-work of the weir, represented by rectangular blocks on each side—over where the dotted line passes from B, and on the corresponding side of the triangle marked—4 ft. [illegible] inches depth of water pass into the inner triangle—that gives 216 inches of water perpetually entering and passing through the 12 inch first gap marked "12 in." in Fig. 1, and in Fig. 2, "[illegible] ft."

FIG. 2 shows the section on line A B, Plan Fig. 1, the fall of the water down the inclined plane of the ladder, and the different compartments into which a fish must enter and may rest.

FIG. 3 is the section on line C D on Plan, Fig. 1, and C D, Fig. 2, looking up the Ladder, with the Ice Breaker seen in the centre distance.

FIG. 4 is the "elevation" looking up stream from A on Plan (Fig. 1), showing the entrance below and the different compartments the fish has to enter on his passage upwards.

## BRITISH COLUMBIA.—No. I.

We have all read with much interest the [illegible] in the *Gardeners' Chronicle* of the letters sent from New Westminster, and as 1862 is now ended, we can review with the eye of actual experience the progress of the vast system of internal communication through the awful gorges of the Fraser—so boldly sketched out by Governor Douglas in the programme for 1862. Let us take note of what has been done. Despite unexpected and serious difficulties, that arose almost directly the road contracts had been given out, a very large portion of what was hoped for in June last, was completed by the 1st of October last; and as fine roads as any of the old countries of Europe can boast are the result. Rivers and streams spanned, mountains 5000 feet high scaled by zig-zags which remind one of Mont Cenis and Mont St. Bernard, tunnels blasted through precipitous gorges, excavations along the sides of "bluffs," the slipping hill faces, morasses traversed, and forests cut through, preparatory to the application of Macadam and the inner carpeting of gravel over all, attest the history of more to be [illegible] with money, and the old story of the triumph of mind over matter.

At this moment you may get into your carriage (here it is a waggon) at Lillooet, and roll along, [illegible] of your seat, till you get near Williams Lake, about 10 or 12 miles below Fort Alexandria.

On the other route, from Yale via Lytton to Alexandria, where there has been much heavier blasting, and consequently more delay and expense, a marvellous progress has been made. There is now a perfectly [illegible] road, for waggons, from Yale to Lytton; thence to [illegible] and Kinbasket Ferry on the Thompson; [illegible] the [illegible] (partially completed only) to [illegible] Creek, where the Lytton to Alexandria Road forms a junction with the Lillooet to Alexandria Road. The bridges across the Fraser have still to be done. From the junction they continue on together to Alexandria. The steamer from Alexandria towards Tête Jaune Cache has been completed, under one of the enterprising steamboating family of Wright. An American, one of the road contractors on the line of the country, failed, and performed "a skedaddle," which being translated, means—paid off his creditors with [illegible] about. The other engineers—Moberly, Trutch, and Gus Wright, carried through their work like men, but have become prematurely old from the incessant anxiety and tax upon their energies which this single scheme of roadwork has brought with it. And every one of these has lost money by the operation. The Government has had its roads made, not only safely, but cheaper and better than I ever heard of in any country.

There is no investment of Government money which pays so well or so quickly as investing in roads in this country. The cost of carriage is reduced from famine price to a living one at one stroke. It is a fact, though I scarcely expect even you, posted as you are in [illegible] Columbian matters, to believe it, that by the roads already made and making, the cost of freight of goods from Lillooet to Alexandria has been reduced from about 60 cents per lb. to 25 cents per lb.—or, calculating 2240 lbs. to the ton, a reduction of 785 dollars, or 157*l.* a ton.

In the face of such facts as these, repeated over and over again *ad nauseam*, in our experience of roads, Government withdrew the Act the Governor had authorised for borrowing 100,000*l.* for the purpose of making these new roads in the spring of 1862, and he said behold, a month or so afterwards, when the road contracts are cut, it is withdrawn, and a loan for only 50,000*l.* substituted in its place. Had the second 50,000*l.* been at hand, I have no hesitation in saying that the roads would have been completed both by the Lillooet and Lytton, in every part up to Alexandria, by the 1st of December last.

The revenue is wonderfully springing and elastic—in spite of (humanly speaking) the most unexpected and adverse circumstances. From about 47,000*l.* in 1860, it rose to 60,656*l.* 0s. 11*d.* in 1861. Judging from the published Customs accounts, and the goods over the toll-roads, the revenue of 1862 cannot be less than 85,000*l.*, although fully two months of the cream of the mining season, as far as the customs is concerned, was cut off by the long and extraordinary winter of 1861–62, which killed thousands of cattle and pack animals—the only means of transport—besides deferring the commencement of navigation for six or eight weeks. You may judge therefore how such a falling back in the loan affected the roads, and of course to that extent marred the expectations formed in June last from New Westminster.

The programme is still the same, and is being actively and energetically carried out, as far as means will allow. Considerable settlement on agricultural lands through which the Yale and Lytton route passes is already taking place.

The Canadian emigration last year was a wretched failure. Can it be that the chronic heart-disease of Canada, its paid politicians and patriots as a business, has already gone, like a canker into the heart of its manhood, and unfitted it to contend with difficulties? Whatever the reason may be, those who came were very soon "played out." I never saw men "cave in" at the first touch of difficulties in such a way as they did. The Canadians [illegible] are most rabid politicians—the curse of Canada. Politics—and such politics!—seem to stick to them. A few men together, as at New Westminster, dub themselves "the people," and in the name of "the people" borrow about 100*l.*, and create some passing Canadian friend, only a week or two in the country, their delegate (though we can't even get an English envoy)—shouting like madmen for "Responsible Government," or universal suffrage as I think it should be called. In other words they try to open the flood gates to jobbery, to the ruin of the physique and morale of this young and rising country.

Though roads are the great subject of interest in the colony, I dare say some of your agricultural friends will like to hear about the climate. I therefore enclose a sample of the worst year in British Columbia for the benefit of your friends thinking of coming here. Will you interpret it for them. The emigration of women here, I suppose, will be proclaimed to you as a great success. We married housekeepers, however, think it a "great failure." The half-servant, half-lady class, are sure to come to grief in a colony, though of course they supply a felt want. I repeat once more, every woman virtuous, and not pediculose, who reaches the colony and will work, may at once command from 60*l.* to 80*l.* a year, board and lodging, and as certain as the day is long, by patience and respectable conduct for little less than a year, a good, respectable, well-to-do husband. But every crinoline the moment she lands is literally hunted down (unless she herself seeks to be hunted, which many also have done), and is obliged to marry to avoid the pressure of solicitations. There is not enough care taken on board ship, or in the selection. Lady philanthropists, choosing future servants merely by testimonials, are apt to "put their foot in it," and send on board a great deal more than a sprinkling of wolves in sheep's clothing. In the idle feverish "abandon" of ship life this evil leaven permeates by far too much of the seething living mass; and years may have to pass by before the taint so acquired is got rid of. It cannot be too frequently insisted on that the great danger to women is when at sea. The check of family emigration is the best. Like Belgium these weak ones are preserved by the jealousy of the surrounding powers.

If we had a loan of 300,000*l.*, or even half of that, we would get our roads for waggons right into Canada, to be followed by railroads. The gold I need not talk about. I'm sick of hearing and seeing so much about it, and of it. If seeing is believing, why our wealth for ages to come in that bright yellow commodity is past all doubt.

What are you at home going to do with us British Columbians? Are we to be "tied to Vancouver's Island"—the continent where the wealth is, to the island where it is not? Are we to have a Governor, or a change in the form of Government. If so, what? Is it to be elective? when as I said before, you can't get any jury of Englishmen in any town except New Westminster, and those mostly all are Canadians.

Are we to lose our gallant old Governor to deliver us to the half dozen folks at New Westminster, who call themselves "the people," just when we want him most? [illegible], *Vancouver's Island, Feb. 8, 1863.*

## Home Correspondence.

*Roses.*—Permit me to inform your correspondent "C. R. S." that black blotch prevailed here last year, 1862 extensively. No Rose tree is more subject to it than Baronne Hallez. As it was a very wet year here, I am inclined to think that what we call black mildew is nothing more than injury occasioned to the "lungs" by superfluity of moisture, and restraint of evaporation by the too cold temperature of the weather. I am not sure that it is a "fungus," properly so called. I never, with my glasses, could discover a spore. Now, until we can discover what it is, we cannot devise a preventive or cure. We must first know what the doctors call "the prognosis and diagnosis," before we can meet the evil or cure it. The checks of weather, after the sap rises, in the main stems may possibly produce the disease, which becomes manifest ultimately on the lungs. I believe canker and gum and curl on trees proceed greatly from the action of the weather injuring the general health of the trees. I used to think "curl in Peach leaves" to be the effect of insects, but I have abandoned that theory, as I never could detect an insect. I am persuaded that the curl in Peach leaves proceeds from exposure of the leaves during maturity to the severity of weather. I believe also, that what we call "black mildew" is not mildew at all, but disease arising from overcharge of moisture met by estoppel of the proper function of the leaves, or at any rate finding its outlet there. "C. R. S." asks for a cure. I omitted the cure when last I wrote on this subject, because I was not sure of the origin or nature of the disease. I never knew trees permanently injured by this black blotch. Orange mildew will spoil a tree for the year; and some sorts it will kill. White mildew, if the wood is not ripe already, will spoil the new wood for another year. The best cure for orange mildew is to take the leaf with the nucleus of orange oil (it is on the under side of the leaf) before it bursts and spreads its spores all over the leaves, both upper and under side. If a tree badly affected drops its leaves and makes new ones, they will be canary coloured. White mildew can be stopped from coming on, and cured when on the trees, by 2 ounces of blue vitriol dissolved with hot water, and put to a stable bucket of cold water, and poured over the leaves with a common watering pot. But supposing "black blotch" not to be a mildew, but proceeding from superfluity of moisture, would it not be a good plan to fork deeply about the roots, or cautiously take the plant up, shake it out, and put it back again. The mischief in all cases of injury to the leaves, whether by wind or mildew, is this; the sap rises, but the lungs are gone, or their functions stopped. I am on a dense clay; and therefore I suppose that when "C. R. S." says this disease does him so much mischief, that he must be upon an impermeable clay. I think orange mildew is the most permanently injurious and destructive of the present and future welfare of a Rose tree, especially if it is not of a robust character. Taking all the enemies of Roses into consideration (including the Rosarian!) no Rose will last in this country for any length of time that has not these three marks—"vigorous growth, hardy constitution, and good foliage." The last is only another word for strong health. *W. F. Radclyffe, Rushton.*

*Peaches Dropping.*—Can any of your correspondents tell me the reason why my Peaches and Nectarines fall off. They are as large as good-sized Peas, and the trees are to all appearance in perfect health. They are under the system of pinching at every five or six joints; the wood is of equal size throughout the trees, perhaps a little strong. They are in pots, some of them plunged up to their rims and some not. There was a splendid crop, and some of them are still doing well, but others badly, though all are standing in the same house. I cannot see any cause for this. The house is a lean-to, 70 feet long, facing the east. All the lights open at the front, and the top-lights at the back. The house has been ventilated according to the weather, between 8 and 4 o'clock; the watering, syringing, and airing under my own superintendance: this is an orchard house. In another Peach house standing due south the trees are suffering similarly; they are trained in the usual fan shape upon wires near the roof. I have had 12 years' experience amongst such trees, and have never had them fall off as they have done this season. Where three dozen would have been a fair crop I have only three to six fruit left. *F. M., Ipswich.* [Are you sure there has not been a chill at the root, nor drought? and how about the ripening of last year's wood?]

*Birds.*—At page 464, a Correspondent asks how far he ought to allow his gardener to shoot the birds that are so destructive among fruit trees. You state, and as far as my experience goes, truly, that the best remedy is to net over the bushes. I may however add, that clappers, old hats, &c., are of no use whatever. Gentlemen ought to allow sufficient nets to be bought to protect their fruit if they will not have the birds kept in moderation. Many places swarm with birds, and the gardener is neither allowed nets to protect the fruit, nor is permitted to kill the birds; still the same quantity of fruit is expected of him. A gardener in such a position is as much in a fix as the Egyptian brick makers. *S.*

## Societies.

ROYAL HORTICULTURAL.—*May* 23 (*Election of Fellows*).—Henry Cole, Esq., C.B., in the Chair. The following candidates were elected Fellows, viz.:—

Mrs. W. P. Adam; Charles P. Bagot, Esq.; the Countess of Bandon; Miss M. A. Biller; Hervé Bouchier, Esq., F.S.A.; Joseph Bravo, Esq.; Alfred C. Bridge, Esq.; Dr. Blakeley Brown; Mrs. Blakeley Brown; Edward Campbell, Esq.; Mrs. Campbell; [illegible]; [illegible] Charles, Esq.; Matthew Clark, Esq.; Miss [illegible]; Michael Coates, Esq.; George W. Coutts, Esq.; Hermann Cox, Esq.; Miss Crawford; Sir Stuart Alexander Donaldson, Esq.; Miss D'Oyley; Miss Erskine; Col. Augustine Fitzgerald, Esq.; Lady Maria Forrester; Henry Stanhope Freeman, Esq.; William Gosling, Esq.; William Henderson, Esq., F.G.S.; Mrs. Henry; Mrs. Charles Holland; Mrs. John Hughes; Mrs. [illegible]; Lewis Lloyd, Esq.; Rev. Lewis Lloyd; Mrs. T. M. Mackay; Dr. [illegible]; Henry M[illegible], Esq.; Mr. Charles Noble; Mrs. [illegible]; Henry [illegible], Esq.; Colonel the Hon. E. Douglas Pennant, M.P.; George Pettit, Esq., M.P.; Rev. James Pycroft; Mrs. [illegible]; Mrs. James Ramsay; Charles Rivaz, Esq.; The Lady Mayoress (Mrs. Grace Rose); Lady Rowe; George Sharp, Esq.; Lady Taylor; George Todd, Esq.; George Trollope, Esq.; Mrs. Turnbull; Mrs. F. G. Vesey; Hon. Mrs. Warren Vernon; Augustus Wetherbee, Esq.; Mrs. Westwood; William Wheeler, Esq.; and Mrs. W[illegible].

*May* 27 (*First Great Exhibition*).—Some account of the leading features of this in all respects wonderful display of gardening skill, will be found in another column. We therefore at once proceed to details.

*Stove and Greenhouse Plants.*—Never have we seen these produced in greater numbers or in better condition than on this occasion, and the long triple lines of them with which the great central promenade was guarded, elicited, as well they might, universal admiration. Nor was the proper disposition of colour overlooked, a point of vital importance in exhibitions of this description, where effect is the great object aimed at. Bright yellow was furnished by Allamandas and Cavendish Heaths, blush white and flame in the different tints of Azalea, lilac by the charming little half hardy Heath-leaved Tetratheca, and violet by the various species of Franciscea—altogether forming a bank only equalled in variety and beauty by that of Orchids themselves. Conspicuous in the different collections were Hoya bella, to which favourable allusion is made in our notice of the exhibition at the Crystal Palace. The only regret, in connection with it, and it was universal, was that the plant was not tilted up a little in front, so as to show to better advantage the under surfaces of its charming flowers, hanging as they did in multitudes, looking like clusters of rubies set in frosted silver. Of Genetyllis macrostegia there was an unusually well managed specimen from Mr. Green, loaded with flowers possessing more than ordinary colour. Dracophyllum gracile was present in more than one collection, and in every instance was all that could be desired as far as skilful cultivation was concerned; its numerous heads too of snow-white blossoms, served to give variety and character to the various groups of plants with which it was associated. Among Everlastings the greatest favourites seemed to be macrantha purpurea and humilis rosea, the last a really pretty kind. Pimeleas, from among which we now-a-days nearly altogether miss spectabilis, were chiefly confined to Hendersonii, of which some fine specimens were contributed. Of Rhynchospermum jasminoides several plants were furnished in great beauty, their clean-looking shining deep green leaves setting off their pure white blossoms with admirable effect; thus managed they vied in beauty even with the lovely Stephanotis floribunda itself. Different tints of blue were represented by Leschenaultia biloba and the Cabbage-leaved Statice, and purplish violet by Hardenbergia monophylla, a plant seldom now found on exhibition tables, but one which when properly managed cannot well be dispensed with. The following will show who were the successful exhibitors under this head:—

*Awards.*—15: 1st, Mr. Peed, gr. to Mrs. Tredwell; 2d, Mr. Green, gr. to Sir E. Antrobus, Bart.; 3d, Mr. Baxendine, gr. to W. H. Smallpiece, Esq.; 4th, Mr. Rhodes. 12: 1st, Messrs. Fraser; 2d, Messrs. Lee; 3d, Mr. Cutbush; 4th, Messrs. Jackson. 9: 1st, Mr. Chilman, gr. to Mr. Smith; 2d, Mr. Kaile, gr. to Earl Lovelace. 6: 1st, Mr. Ingram, gr. to J. J. Blandy, Esq.; 2d, Mr. Page, gr. to W. Leaf, Esq.; 3d, Mr. Smith, gr. to A. Anderson, Esq.; 4th, Mr. Wheeler. Mr. Penny and Mr. Tegg also showed in this class.

*Orchids.*—Chiswick, even in its best days, seldom furnished a finer display of these than was present at South Kensington on this occasion. Need we state, therefore, that they formed one of the most important features of the show. True, we missed the noble contributions to this section of the exhibition that were wont to come from Mr. Rucker's establishment at Wandsworth, and that of the Messrs. Veitch, of Exeter; but in place of these we had a new exhibitor from Leicester with a fine collection, whose only demerit was the large ugly red painted tubs in which it was shown. In a charming group from Mr. McMorland, were furnished the rare Peruvian Odontoglossom Phalænopsis with yellow-eyed comparatively large white flowers, stained and streaked with purplish rose;

various kinds of Lady's Slipper of the bearded species, of which there are now so many fine varieties; Lælia purpurata and its handsome near relations Brysiana and elegans; the singular-looking Odontoglossum nævium; the pale variety of Dendrobium Farmeri, various Aerides and other plants, all in unusually good condition. In a collection from Mr. Basset, were the yellow Cattleya citrina with three blooms on it; an excellent Anguloa Clowesi; Cypripedium Lowii, bearing three remarkably large and fine flowers; Saccolabium retusum; Aerides of different sorts; and Phalænopsis grandiflora. Conspicuous in other collections were Dendrobium nobile, beautifully in bloom even in a small state; the now seldom seen Arpophyllum giganteum, by no means in good condition, but sufficiently so to show the beautiful symmetrical arrangement of the little purple shell-like flowers on the spike; the fine Cœlogyne Lowii, mentioned below; and noble masses of Oncidium ampliatum majus and flexuosum; the last one of the most useful of all plants for cutting, from the light airy-looking sprigs of clear yellow blossoms which it produces, having a fine appearance in bouquets. In addition to these there were likewise good examples of Dendrobium densiflorum, loaded with pendulous clusters of yellow blossoms; the yellow D. chrysotoxum; Chysis Limminghii, in this instance really a handsome plant, the colours of the flowers being unusually well developed; and last but not least, the rare and beautiful Odontoglossum Pescatorei, one of the few flowers which are favourites with everybody.

*Awards.*—20: 1st, Mr. Mitford, gr. to E. McMorland, Esq.; 2d, Mr. Baker, gr. to A. Basset, Esq.: 3d, Mr. Bullen, gr. to A. Turner, Esq.; 4th, Mr Peed. 12: 1st, Messrs. Veitch; 2d, Mr. Woolley. 10: 1st, Mr. Penny, gr. to H. H. Gibbs, Esq.; 2d, Mr. Page, gr. to W. Leaf, Esq.; 3d, Mr. Green: 4th, Mr. Chilman. 6: 1st, Mr. Wiggins, gr. to W. Beck, Esq.; 2d, Mr. Smith, gr. to the Duke of Northumberland.

*Azaleas.*—With the size and wonderful beauty of the noble specimens of these contributed by Mr. Turner and Messrs. Veitch, all were struck with amazement, and no wonder, for never before, perhaps, were Azaleas seen in better condition, or presenting greater variety of colour than they did on this occasion. Even surrounded as they were with flowers of every hue they were the admired of all admirers, and formed, it must be confessed, by far the most striking feature of the show. The varieties were:—Admiration, 1; alba magna, 1; Apollo, 2; arborea purpurea, 1; Barclayana, 1; Broughtoni, 4; Beauty of Reigate, 1; carminata, 1; Chelsoni, 1; conspicua purpurea, 1; coronata, 2; Criterion, 3; delicatissima, 1; delecta, 2; Duke of Devonshire, 1; Eclipse, 1; Empress Eugénie, 2; exquisita, 3; Extrani, 2; Fentoni, 1; Fielder's White; formosa, 1; Gem, 3; Gledstanesii formosa, 1; Glory of Sunning Hill, 2; Holfordii, 1; Iveryana, 5; Juliana, 5; lateritia, 2; Leeana, 1; Louise Margottin, 2; macrantha purpurea, 1; Madame Miellez, 1; magnificans, 2; Magnificent, 1: magnifica flore pleno, 1; Marie Louise, 1; Minerva, 1; Model, 1; Mrs. Fry, 1; Murrayana, 1; narcissiflora, 1; optima, 2; perfecta elegans, 1; petuniæflora, 1; præstantissima, 1; rosea superba, 1; semiduplex maculata, 2; sinensis, 1; Sir Charles Napier, 1; speciosissima, 1; Stanleyana, 1; Symmetry, 2; triumphans, 7; Trotteriana, 1; The Bride, 1; variegata, 1; Vesta, 1; White Supreme, 1; violacea superba, 2; Woolerii, 1.

*Awards.*—9: 1st, Mr. Turner; 2d, Messrs. Veitch; 3d, Messrs. Fraser. *Amateurs.*—1st, Mr. Green; 2d, Mr. Page; 3d, Mr. Peed; 4th, Mr. Lavey. 6: 1st, Mr. Penny; 2d, Mr. Todman; 3d, Mr. Ingram; 4th, Mr. Wheeler.

*Roses.*—Fine as these undoubtedly were on Wednesday last, it must be admitted that they lacked the freshness and delicacy of tint which they possessed earlier in the month. Some of the fine plants then in perfection have, however, been kept back with singular skill to grace the present gathering, a glorious instance of which was to be found in Messrs. Lane's large Souvenir d'un Ami, quite an exhibition in itself, loaded as it still is with blossoms. Mr. Wm. Paul had also a magnificent collection, remarkable in which were Charles Lawson and Chénédolé, two well-known kinds, apparently unusually well suited for purposes of pot culture. The exhibitions of Roses in small pots and of cut blooms were also highly creditable to those by whom they were furnished. The varieties in pots were—Adam, 1; Baron Prevost, 2; Blairii No. 2, 1; Chas. Lawson, 3; Chénédolé, 2; Comte Boubert, 1; Comte de Nanteuil, 1; Comte de Paris, 1; Comtesse Molé, 1; Coupe d'Hébé, 2; Gen. Jacqueminot, 1; Gloire de Dijon, 1; Jules Margottin, 3; Juno, 1; Lamarque, 1; Lælia, 1; La Reine, 1; Lion des Combats, 1; Louis Bonaparte, 1; Louise Peyronney, 1: Lord Raglan, 1; Madame Chas. Jacquin, 1; Madame de St. Joseph, 1; Madame Willermoz, 1; Mansais, 1; Niphetos, 1; Paul Perras, 3; Paul Ricaut, 3; Pauline Plantier, 1; Senateur Vaisse, 1; Souvenir d'un Ami, 3; Souvenir de la Reine d'Angleterre, 1; Triomphe de Paris, 1.

*Awards.*—12: 1st, Mr. W. Paul; 2d, Messrs. Lane; 3d, Messrs. Paul & Son. 6: 1st, Mr. Terry.

*Cape Heaths.*—Queen Victoria still stands pre-eminent in the aristata class, and we also noticed very fine specimens of the following varieties, viz.:—affinis, 1; Alberti superba, 1; Beaumontiæ, 1; Bergiana, 1; Cavendishiana, 1; depressa, 3; depressa multiflora, 1; eximia, 1: Fairrieana, 1; fastigiata lutescens, 1; favoides elegans, 1; florida, 1; intermedia, 1; mirabilis, 1; mutabilis, 1; odora rosæ, 1; profusa, 1; propendens, 1; Queen Victoria, 1; Sindryana, 1; suaveolens, 1; tortiliflora superba, 1; tricolor dumosa, 1; tricolor Wilsoni, 2; vasiflora, 1; ventricosa Bothwelliana, 1; ventricosa coccinea minor, 3; ventricosa magnifica, 1; ventricosa perspicua nana, 1; ventricosa tumida, 1; Webbiana, 1.

*Awards.*—6 plants: 1st, Mr. Peed; 2d, Mr. Page; 3d, Messrs. Jackson. Mr. Chilman also showed in this class.

*Pelargoniums.*—These were particularly well grown and flowered, and made a fine display. The sorts were—Ariel, 3; Aurelia, 1; Beadsman, 2; Candidate, 2; Desdemona, 3; Empress Eugénie, 1; Etna, 1; Fairest of the Fair, 3; Governor General, 1; Guido, 1; Leviathan, 3; lilacinum, 1; Lord Canning, 1; Mazeppa, 1; Mr. Marnock, 2; Monarch, 1; Osiris, 2; Peacock, 1; Picnic, 1; Pizarro, 1: Rose Celestial, 4; Sanspareil, 1; Sir C. Campbell, 2; The Belle, 2; Virginie (Miellez), 1. *Fancies.*—Acme, 2; Arabella Goddard, 1; Carminata, 3; Celestial, 2; Clara Novello, 3; Clemanthe, 1; Cloth of Silver, 1; delicatum, 3; Electra, 1; Emily Witcher, 2; Evening Star, 2; Lady Craven, 2; Lady Hume Campbell, 1; Lady of the Lake, 1; Madame Sontag, 1; Madame Van der Weyer, 1; Mrs. Turner, 1; modestum, 1; Negro, 3; Queen of Roses, 1; Queen of the Valley, 2; Roi des Fantaisies, 1; Rosabella, 1; Zoë, 1.

*Awards.*—12 plants: 1st, Mr. Turner; 2d, Messrs. Fraser. 9 plants: 1st, Mr. Shrimpton; 2d, Mr. Weir. Fancies, 6 plants: 1st, Mr. Turner; 2d, Messrs. Fraser. 1st, Mr. Weir; 2d, Mr. Lamb.

*Rhododendrons.*—A small group of crimson, purple, and pale blush coloured kinds was contributed by Mr. Noble, of Bagshot, in which were The Prince, Princess Alexandra, The Sentinel, The General, and Snowball.

*Miscellaneous Collections of Plants.*—Under this head Messrs. Veitch showed some wonderfully fine things, conspicuous among which were the variegated Musa vittata and Alocasia macrorhiza, also the beautiful A. zebrina, Dracænas, and variegated Yuccas of different sorts; the variegated Japanese Ligularia Kæmpferi, Lomaria gibba, the new variegated-leaved Japanese Honeysuckle, the double-flowered orange Hemerocallis disticha, and the singular-looking scarlet Anthurium Scherzerianum; tree Ferns, and standard Azaleas, Orchids, and Palms. From Mr. Williams, Mr. Bull, and Messrs. Lee and A. Henderson also came interesting collections of miscellaneous plants.

*Ferns.*—One of the most charming exhibitions of these we have seen for some time was furnished on this occasion by Messrs. Ivery, of Dorking, whose plants being arranged with skill and effect were much admired. The surface of the soil in the pots was tastefully covered with Dicranum hornum, a Moss well suited for the purpose, and which gave a green and cool aspect to the exhibition. From Mr. Lavey, of Fetcham, also came a small group of Ferns.

*Miscellaneous Subjects.*—Among these were excellent collections of cut specimens of Pansies, both fancy and other kinds, from Messrs. Downie, Laird & Laing, and Mr. Hooper, of Widcome Hill, Bath. Also Verbenas from Mr. Treen and others; beautiful variegated-leaved Geraniums from Messrs. E. G. Henderson, hardy variegated plants from Mr. Salter, of Hammersmith; and last but not least, a beautiful panful of Eucharis amazonica from Mr. Fleming, gr. to the Duke of Sutherland, at Cliveden.

*Groups of Plants showing Effective Arrangement for Decorating a Small Conservatory.*—For the display of these, a space of 15 feet by 10 feet was set apart for each exhibitor, and the test of merit was effective arrangement with the smallest number of plants; the intrinsic value of which was of little or no importance. The prizes offered under this head were contested by some six competitors; Mr. Turner, to whom the first prize was awarded, occupied his space with a dense square bank of flowering plants, placed thickly together, and consisting of beautifully flowered Azaleas, Pelargoniums, Calceolarias, Roses, Ferns, and similar plants, relieved here and there by the introduction of noble specimens of the large handsome-leaved Cyanophyllum magnificum, and edged with rows of Perilla and Stachys lanata, and of Variegated Arabis, which formed a boundary to the whole. Messrs. Veitch, to whom the second prize was awarded, contrary to the plan followed by Mr. Turner, grouped his plants in the space allotted to him for his exhibition. Against the back wall was a conical stage filled with red and white Azaleas, Calceolaria aurea floribunda, Pelargoniums, Fuchsias, Hydrangeas, and plants of that description, edged with a row of Stocks and Mignonette placed alternately. Right and left of this at short distances apart, so as to leave passages between, were wire baskets (set on pedestals of the same kind) filled with Rhopalas, surrounded with the gracefully drooping Isolepis gracilis. A little in advance of these again were other baskets filled with Fuchsias, Rhodanthe Manglesii, and Saxifraga sarmentosa, the latter hanging down in festoons, while at the corners, elevated on green-coloured china pedestals, were moss-covered columns overrun with Saxifragas, Ferns, Selaginella cæsia, and plants of that description. Low vasefuls of Ferns were also set in suitable positions in the intervening spaces, altogether forming an arrangement so very simple yet effective that in the opinion of many who were present, it should have been awarded a first prize. Messrs. Lee followed with a nicely managed group, as did also Mr. Bull and Mr. Shenton, that from Mr. Bull consisting chiefly of fine-foliaged and variegated plants of large size. A small set of little flowering plants placed one row above another in a corner very perfectly represented the old plan of greenhouse stage decoration.

Among Fruit, of which a little was shown, were one or two Black Prince and Smooth-leaved Cayenne Pine Apples; various examples of a handsomely netted green-fleshed Melon; Oscar and President Strawberries, the last a fine looking new kind from Mr. Turner; a few Peaches and Figs; and lastly, Mr. Cuthill sent a punnet of fruit of his Black Prince Strawberry gathered out of doors, being the first open-ground Strawberries that have made their appearance in public this season. Of Mushrooms, Mr. Cuthill had also some beautiful examples, comparatively large yet fresh, and quite pink in the gills, and another exhibition of the kind also came from Mr. Drummond of Bath.

Of Vegetables, there was one collection in which there were very good Asparagus, young Celery, new Potatoes, Carrots and Turnips, Cauliflowers, Cabbage, Onions, Spinach and Lettuces.

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CRYSTAL PALACE: *May* 23 (*First Great Flower and Fruit Show*).—This, the Company's opening exhibition of the season, was in most respects highly satisfactory. Of stove and greenhouse plants there was a large display; Orchids were plentiful and finely in blossom; Azaleas were good, as were also Roses and Pelargoniums; and, considering the season, there was an excellent exhibition of fruit.

*Stove and Greenhouse Plants.*—Particularly noticeable among these were some remarkable examples of Tetratheca ericæfolia, in the shape of handsome pyramidal bushes literally loaded from top to bottom with lilac flowers, the most striking sample of which was in a collection of large and fine plants from Mr. Peed. Among Chorozemas, we noticed Henchmanni in one or two instances strained tightly over wire trellises, a system of treatment now discarded by most of our best cultivators. In skilful hands a few slight wooden stakes, hidden from view among healthy foliage and wreaths of scarlet blossoms, are all that is required for the support of this very beautiful Chorozema. Gompholobium polymorphum and plants of similar habit grown in this way are much more effective than stiff formal bushes like that just noticed. Barnes's variety of Phœnocoma proliferum well flowered, and other kinds of Everlastings, were conspicuous in most of the collections, in which were also noble specimens of Erica depressa, covering their pots with multitudes of greenish yellow blooms. Genetyllis (or Hedaroma) tulipifera when in good health and bloom is by no means a bad exhibition plant; but we fear the same cannot be said of G. macrostegia, which in exhibitors' phrase is not a "telling plant." Of Adenandra fragrans several were shown, and its round pink-flushed white blossoms, each as large as a shilling, served to set off to good advantage the collections in which it occurred. Among Allamandas were some charming specimens of Schottii and grandiflora; and we also remarked an example of the beautiful Meyenia erecta. This, however, together with Vincas, and some other plants that had evidently been pushed forward in heat to be ready for the occasion, suffered so much from the exposure to which they were subjected, that before the day was half over their withering blossoms were quite worthless as regarded effect. Of Hoya bella a charmingly-flowered specimen was shown by Mr. Smith, gr. to A. Anderson, Esq., of Norwood Grove; than this nothing could possibly be finer, and it received, as it deserved, universal admiration. The sweet-scented Rhododendon Gibsoni was furnished in beautiful condition by Mr. Green; among whose plants was also a nice Stephanotis floribunda. The following indicates the position in which the different collections stood as regards merit:—

*Awards.*—15: 1st, Mr. Peed, gr. to Mrs. Tredwell, Norwood: 2nd, Mr. Green, gr. to Sir E. Antrobus, Bart., Cheam. 12: 1st, Mr. Chilman, gr. to Mrs. Smith, Ashstead, Epsom. 8: 1st, Mr. Peed. 6: 1st., Mr. Page, gr. to W. Leaf, Esq., Streatham.

*Orchids.*—Of these the usual flowery bank attracted much attention. Mr. Bullen again showed his fine panful of Orchis foliosa, still nearly in as good condition as at Regent's Park; Anguloa Ruckeri, in the same collection, had 8 flowers on it, all of which however were not expanded. Associated with these, were fine plants of Aerides Lindleyanum, A. odoratum, with some 50 flower spikes on it; the charming Dendrobium Devonianum, the only fault of which was too much tying; Cypripedium caudatum, and Cattleya Mossiæ. From Mr. Bassett's gardener came Lælia cinnabarina, bearing nearly a dozen spikes of bright orange-scarlet flowers; a good plant of the large variety of Dendrobium macrophyllum, with noble pendulous spikes of Rhubarb-scented blossoms; Anguloa Clowesi, with nine bright yellow flowers; and a glorious specimen of Saccolabium retusum. Of the rare Aerides Schröderi, Messrs. Jackson furnished a good example; and in other exhibitions were the brown blossomed Oncidium crispum, showy masses of O. ampliatum majus, the pale variety of Dendrobium Farmeri, D. tortile, and D. pulchellum. From the garden of Mr. Gibbs, Regent's Park, came a beautiful plant of Cœlogyne Lowii, bearing a dozen or more good spikes of pale straw-coloured blossoms. Lælia purpurata in the same collection was also beautifully in bloom, as were likewise Trichopilia crispa, and one or two of the many fine varieties of bearded Lady's

Slipper, now to be found in most groups of Orchids. The following will show who the principal winners were in the different classes :—

*Awards.*—16 : 1st, Mr. Bullen, gr. to A. Turner, Esq., Leicester, and Mr. Baker, gr. to S. Bassett, Esq., Stamford Hill. 10 : 1st, Mr. Penny, Gr. to H. H. Gibbs, Esq., Regent's Park. 6 : 1st, Mr. Wiggins, gr. to W. Beck, Esq., Isleworth.

*Azaleas.*—The most successful exhibitor of these on this occasion was Mr. Turner, of Slough, in whose collections were large and effectively flowered plants, especially of Criterion, Perryana, Murrayana, the double sort called Glory of Sunning Hill, and Optima. Among newer varieties Messrs. Ivery had Flower of the Day, some of the pink-striped white blooms on which could not measure less than 4 inches across. Of soft rosy-flowered sorts with dark crimson eye few are more striking than Kinghornii; and of whites, one of the very best is certainly Louise von Baden. Comte d'Hainault is a showy salmon; Brilliant, Mars, and Sir H. Havelock are all of the crimson scarlet class, to which they are worthy additions; and to Double varieties have lately been added: Leviathan, white, and King of the Doubles, rich rose; while of the character of Etoile de Gand are Salmonea alba cincta and President de Claëys, the last in this instance with a greater amount of colour in it than either of the other two. The older varieties were: Admiration, 1; alba magna, 1; Apollo, 1; arborea purpurea, 1; Barclayana, 2; Broughtonii, 4; carminata, 1; Chelsonii, 1; conspicua purpurea, 1; coronata, 2; Criterion, 3; delicata, 1; delecta, 2; Duke of Devonshire, 1; Eclipse, 1; Empress Eugenie, 2; Extranii, 2: Eulalie, 1; Fentoni, 1; Fielder's White, 1; formosa, 1; Gem, 2; Gledstanesii formosa, 1; Glory of Sunning Hill, 2; Holfordii, 1; Iveryana, 3; Juliana, 3; macrantha purpurea, 1; magnificans, 2; Minerva, 1; Murrayana, 2; narcissiflora, 1; optima, 2; perfecta elegans, 1; præstantissima, 1; rosea superba, 1; semiduplex maculata, 2; Sir Charles Napier, 1; Stanleyana, 1; Symmetry, 2; triumphans, 4; variegata, 1; Vesta, 1; violacea superba, 2.

*Cape Heaths.*—We have still to repeat that, with the exception of Queen Victoria, a fine kind belonging to the aristata class, there was nothing new among these. Mundula, a pretty little white-flowered sort, was, however, exhibited in good condition; as was also mirabilis, a kind not perhaps so commonly seen as most others. The following varieties were shown, viz.: Albertii superba, 1; Beaumontiæ, 2; Bergiana, 1; Cavendishiana, 3; depressa, 3; depressa multiflora, 1; eximia, 1; Fairrieana, 1; fastigiata lutescens, 1; favoides elegans, 1; florida, 1; intermedia, 1; mirabilis, 1; mundula, 1; mutabilis, 1; odore rosæ, 1; profusa, 1; propendens, 1; Queen Victoria, 1; Sindryana, 1; suaveolens, 1; tortiliflora superba, 1; tricolor dumosa, 1; tricolor Wilsoni, 2; vasiflora, 1; vestita coccinea, 1; ventricosa Bothwelliana, 1; v. coccinea minor, 3; v. magnifica, 1; v. perspicua nana, 1; v. tumida, 1; Webbiana, 1.

*Awards.*—6 : 1st, Messrs. Jackson, of Kingston-on-Thames.

Of *Tall Cacti* a few were produced, but they were by no means in such fine condition as we have seen them at Chiswick in years gone by. The varieties most worth naming were Epiphyllum speciosum elegans and E. Greenii, both excellent sorts, well deserving a place in every collection of plants of which tall Cacti form a part. We also noticed a plant of the creamy white E. crenatum.

*Awards.*—6 : 1st, Mr. Green, gr. to Sir E. Antrobus, Bart., Lower Cheam.

*Roses.*—Messrs. Lane again showed their finely blossomed plant of Souvenir d'un Ami, not less beautiful than it was the other day at Regent's Park; Mr. Wm. Paul had also finely flowered plants well furnished with clean and healthy foliage; and of smaller specimens Mr. Turner had a nice collection. Of cut blooms beautiful exhibitions were contributed by Mr. Wm. Paul and Messrs. Paul & Son. The varieties in pots were:—Baron Prevost, 1; Blairii No. 2, 1; Chas. Lawson, 2; Chénédole, 1; Comte de Paris, 1; Comtesse Molé, 1; Coupe d'Hébé, 3; Gen. Jacqueminot, 1; Gloire de Dijon, 1; Jules Margottin, 2; La Reine, 1; Lion des Combats, 1; Lord Raglan, 1; Madame Chas. Jacquin, 1; Madame de St. Joseph, 1; Madame Willermoz, 1; Paul Perras, 3; Paul Ricaut, 2; Senateur Vaisse, 1; Souvenir d'un Ami, 2; Triomphe de Paris, 1.

*Awards.*—10 : 1st, Messrs. Lane and Mr. Wm. Paul. ten in pots, not exceeding 8 inches in diameter: 1st, Mr. Turner.

*Pelargoniums.*—These being well grown and flowered, made a fine display. The spotted sorts especially were much admired; but with these as with the ordinary kinds, more strikingly different variety of colour is wanted. Among Fancies there is less to complain of in this respect, though greater diversity of general appearance, even in these, would be an improvement. The sorts were—Ariel, 2; Beadsman, 2; Candidate, 1; Desdemona, 3; Empress Eugénie, 1; Etna, 1; Fairest of the Fair, 4; Governor General, 1; Guido, 1; Leviathan, 2; lilacinum, 1; Lord Canning, 1; Mazeppa, 1; Mr. Marnock, 2; Monarch, 1; Osiris, 1; Peacock, 1; Picnic, 1; Pizarro, 1; Rose Celestial, 3; Sanspareil, 2; Sir C. Campbell, 2; The Belle, 1. *Fancies.*—Acme, 2; Arabella Goddard, 1; carminatum, 2; Celestial, 2; Clara Novello, 1; Clemanthe, 1; Cloth of Silver, 1; delicatum, 4; Electra, 1; Emily Witcher, 2; Evening Star, 2; Lady Craven, 2; Lady Hume Campbell, 2; Lady of the Lake, 1; Madame Sontag, 1; Madame Van der Weyer, 2; modestum, 1; Negro, 3; Queen of Roses, 1; Queen of the Valley, 2; Roi des Fantaisies, 2; Rosabella, 1.

*Awards.*—10 : 1st, Mr. Bailey, gr. to T. T. Drake, Esq., Shardeloes; 2d, Mr. Turner, Slough; 3d, Messrs. Fraser, Lea Bridge. 6 : 1st, Mr. Shrimpton, gr. to A. J. Doxat, Esq., Putney Heath. *Fancies.*—6 : 1st, Mr. Turner.

Among Seedling Pelargoniums, the best in the opinion of the judges were Diadem, purple with white eye, and dark blotched top; Artist, rose with pale eye and dark top; Peliades, rose with white eye and maroon top; and The Prince, crimson scarlet with white eye and dark blotched upper petals. Mr. Bull had some pretty kinds belonging to the scarlet class, to which favourable allusion has been made in previous reports.

*New Plants.*—Prominent among these were Mr. Standish's new Japanese Clematises, and a new snow-white flowered Weigela, also from Japan. Mr. Parker had a rosy-pink flowered Rhododendron named Countess of Haddington, which has been shown before; and Mr. Bull various flowering plants and others remarkable for the beauty of their leaves.

*Miscellaneous Subjects.*—Among these were interesting groups of Seedling Calceolarias from Mr. James, of Isleworth; fine collections of variegated and other plants from Mr. Hutt, gr. to Miss Burdett Coutts, and Messrs. Lee, of Hammersmith; Ferns from Mr. Lavey, of Fetcham, and cut specimens of Tulips, Verbenas, and Pansies from Mr. Hunt, Mr. Turner, Mr. Treen, and Messrs. Downie Laird & Laing. The latter also showed a plant of the large-flowered Tree Carnation called Souvenir de Malmaison, a desirable and showy variety.

Among fruit were some two dozen good Pine Apples, consisting of two very fine specimens of Black Prince, a Providence or two, and the rest Black Jamaica and Queens. Of the last some good examples were furnished by Mr. Barnes, of Bicton.

Grapes consisted chiefly of Black Hamburgh, of which beautiful bunches came from Mr. Hill, gr. to R. Sneyd, Esq., Keele Hall, Staffordshire, from whom also came very fine examples of Black Prince. Very good Black Hamburghs—scarcely thinned enough—came from Mr. Clements, East Barnet. Mr. Richardson, Oak Hill, likewise contributed well grown Black Hamburghs; as did also Mr. Frost, gr. to E. L. Betts, Esq., Mr. M. Henderson and others. White Grapes, especially Muscats, were so unripe as to be unworthy of notice.

Of Cherries some were large and brilliant in colour. Mr. A. Henderson, gr. to the Duke of Sutherland, at Trentham, had beautiful specimens of Bigarreau Napoleon, Circassian and Elton; and from Mr. Tillery, gr. to the Duke of Portland, at Welbeck, came large fruit of Black Tartarian. Of May Dukes a few were shown; but not in first-rate condition.

Well grown Figs of the Brown Turkey kind were contributed by Mr. Cross, Regent's Park, and Mr. Frost.

Of Strawberries most beautiful examples of Sir Charles Napier, British Queen, and Empress Eugénie, were shown by Mr. Smith of Twickenham; Mr. Tillery had some good British Queen, and Mr. Horwood, fine examples of Victoria; other sorts consisting of Keens' Seedling, Alice Maude, President, and Oscar. Of the two last fine fruit was contributed by Mr. Turner of Slough. Strawberries in pots were also shown in good condition by Mr. Turner and others.

Melons generally looked good, the season having been favourable for ripening them; the best, a pale-fleshed hybrid Cashmere, came from Mr. Meredith, Garston, to whom a second prize was awarded for Gem, in the scarlet-fleshed section. The best fruit in this group, however, came from Mr. Enstone.

Peaches and Nectarines, as might have been expected, were not numerous. The best were furnished by Mr. A. Henderson from Trentham, and by Mr. Evans, gr. to W. N. Newdigate, Esq. The varieties of Peach were Royal George, and of Nectarine, Violette Hâtive.

## Notices of Books.

In *The Natural History Review*, No. 10, we find many able original papers and reviews, among which must especially be mentioned one on the extraordinary desert genus Welwitschia, evidently from the hand of a master in the science of Botany; and a capital notice of Alph. De Candolle's treatise on Species. We can only find room for a single sentence.

"M. De Candolle is no doubt right in saying that every definition of a species is false, though he does not seem to appreciate the fact, that it is impossible to define what is (as he everywhere confesses) in its origin unknowable, and in its essence illimitable; he is, however, unintentionally no doubt, unjust to Linnæus in quoting his aphorism, 'Species tot numeramus, quot diversæ formæ in principio sunt creatæ,' as his definition of species. If M. De Candolle will refer again to the Philosophia Botanica he will find that these 'characteres' are in no way given as definitions, but are expressions of facts in the author's opinion, and in so far as species were concerned, of the opinion of every contemporary author: it would be as inaccurate to call the preceding aphorism a definition, viz., 'Filum ariadneum Botanices est Systema, sine quo Chaos est res herbaria,' or that again preceding, 'Systema classes per appropriata membra resolvit: classes, ordines, genera, species, varietates;' and not only are these in no way given as definitions, but the sagacious Swede everywhere so obviously avoids attempting the definition of the term species, that it is difficult to understand how any one familiar with the logical method of Linnæus's mind, as evinced in all his writings, could attribute to him so grave an error of judgment, as to propound a statement of fact for a definition."

There is also an admirable review of Lyell's book on the Antiquity of Man. The opening paragraph is this:—

"Until the great antiquity of this earth was admitted, geology could hardly be treated as a science, and as long as we endeavoured to compress the history of man into the narrow limits of 6000 years, the atoms of truth which we possessed were unable, for want of space, to arrange themselves in their proper order. Realising the difficulty, zoologists, more or less boldly, hinted at a diversity of origin; philologists took refuge in the Tower of Babel; and archæologists abandoned in despair all hope of ever reconstructing the past. Of late years, however, science has made immense progress, and although with singular disregard for truth, and scanty reverence for the book which we profess to venerate above all others, we still place at the commencement of our bibles Archbishop Usher's unfortunate estimate, 4004 B.C., yet there is perhaps no educated man in this country who is not well aware that the antiquity of the world is to be measured, not by thousands, but by millions of years. Without claiming for ourselves the gift of prophecy, we doubt not that the great antiquity of man will ere long be as generally recognised."

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We now conclude, from p. 463, our notice of the *Jardin Fruitier du Muséum*, as far as Part 60:—

*Louise Bonne.*—[This is not the Pear now so well known and much cultivated under the name of Louise Bonne (of Jersey), but the old French sort, described by Merlet, *Abrégé bons Fruits*, in 1675. It was found on the estate of Essars in Poitou, and called after the lady of the place, whose name was Louise. It is not suited for the climate of England; and we are informed that it is often deficient in flavour in the northern departments of France; but from Provence, Professor Decaisne states he has received it very highly flavoured.] Middle-sized, oblong, obtuse at stalk, pale green; flesh greenish white, very juicy, sweet, but not rich. Season: October to January.

*Fondante de Noël.*—Syn. Belle après Noël. Middle-sized, roundish, smooth, yellow, beautiful red next the sun; flesh fine, juicy, and sugary. Season: December, January. [A good bearer, and one of the new sorts which succeed in the climate of England.]

*Orpheline d'Enghien.*—[This is the now well-known Beurré d'Aremberg, and the figure given of it is admirably characteristic. It has many synonyms, which it may be useful to give in order to prevent the inconvenience which arises from obtaining and cultivating under various names the same variety.—Beurré d'Aremberg (or, as the French write it, Arenberg), Aremberg parfait, Beurré Burchardt, Beurré Deschamps, Beurré Hardenpont, Beurré des Orphelines, Colmar Deschamps, Crassane Steven, Délices des Orphelines, Duc d'Aremberg, De Parmentier, Petit Beurré d'Hardenpont. The name of Beurré d'Aremberg is so well-established in this country that any substitution would be inexpedient.]

*Bernard.*—Syn. Riaulot. Small, or medium, Apple-shaped; stalk most remarkably short and thick. A very good Pear. Season: November, December.

*De Stuttgard.* — Syn. Bellissime de Provence, Rousselet de Stuttgard, Stuttgarter Gaishertenbirn. A small pyriform russet red Pear, of little merit.

*De Montgeron.*—Syn. Beurré de Montgeron, Vermillon d'Espagne. Medium size, roundish, obtuse at the stalk, which is very long and slender; colour bright reddish brown next the sun; flesh melting or half-melting, and juicy. Season: end of September. Attractive by its bright colour; but its quality is not first-rate. It has been confused with other varieties. Originated in the hedge of an orchard on the farm of Bois-la-Dame, commune de Saint-Léger (Cher); thence grafts were taken to another property of the same family at Montgeron (Seine et Oise).

*Orange Tulipée.*—Syn. Poire aux Mouches. Medium, roundish, yellow and deep red, streaked. A very old French sort, described in the *Jardinier François* in 1665. Comes from the South of France in large quantity to Paris, where it is sold in the streets at a very low price. [Not worth growing.]

*Saint Roch.*—Syn. Doyenné Saint Roch. Middle-sized or large, regularly obovate. Quality only second rate. Season: September. Much cultivated in the department of La Gironde.

*Impériale à Feuilles de Chêne.*—Medium, oblong obovate or somewhat pyriform, with breaking flesh; only fit for stewing. Keeps till April. [A very shy bearer, and not suited for the climate of England].

*D'Œuf.*—Syn. Colmar d'Eté de Strasbourg, Strasburger beste Birn (Best Pear), Eyerbirn. Small, oval, greenish, dotted with brown, red next the sun; flesh half melting. Season: end of August. [This is not our Swan's Egg, which ripens later. The D'Œuf, according to Knoop, originated in Switzlerland, and

was described by Joh. Bauhin in 1650. As there are so many early Pears much superior in quality to this, it may be considered unworthy of cultivation. We have briefly noticed a good many such; and it may be said that they are unworthy of being so admirably figured and described as all varieties are in the *Jardin Fruitier du Muséum*. It is, however, important that not only the good, but likewise the indifferent and bad, should be well known, in order that the ground may not be encumbered with the latter; and the work under notice is of great value as regards realising this desideratum.]

## Miscellaneous.

*Gutta Percha.*—The Isonandra Gutta, which furnishes the gutta percha, or gutta tuban, is a native of the eastern Archipelago and the adjacent lands. A few years since this substance, now so celebrated and of such wide extended use, was totally unknown in Europe, for though from time immemorial the Malays employed it for making the handles of their hatchets and creeses, it was only in the year 1843 that Mr. Montgomery, an English surgeon, having casually become acquainted with its valuable properties, sent an account of it, with samples, to the Royal Society, for which he was most justly rewarded with its gold medal. The fame of the new article spread rapidly throughout the world; science and speculation seized upon it with equal eagerness; a thousand newspapers promulgated its praise; it was immediately analysed, studied, and tried in every possible way, so that it is now as well known and as extensively used as if it had been in our possession for centuries. The Isonandra Gutta is a large high tree, with a dense crown of rather small dark green leaves, and a round smooth trunk. The white blossoms change into a sweet fruit, containing an oily substance fit for culinary use. The wood is soft, spongy, and contains longitudinal cavities filled with brown stripes of gutta percha. The original method of the Malays for collecting the resin consisted in felling the tree, which was then placed in a slanting position, so as to enable the exuding fluid to be collected in Banana leaves. This barbarous proceeding, which from the enormous demand which suddenly arose for the gutta would soon have brought the rapidly rising trade to a suicidal end, fortunately became known before it was too late, and the resin is now gathered in the same manner as caoutchouc, by making incisions in the bark with a chopping knife, collecting the thin, white milky fluid which exudes in large vessels, and allowing it to evaporate in the sun, or over a fire. The solid residuum, which is the gutta percha of commerce, is finally softened in hot water, and pressed into the form of slabs or flat pieces, generally a foot broad, a foot and a half long, and three inches thick. Gutta percha has many properties in common with caoutchouc, being completely insoluble in water, tenacious but not elastic, and an extremely bad conductor of caloric and electricity. The name of vegetable leather which has been applied to it, gives a good idea both of its appearance and tenacity. The uses of gutta percha are manifold. It serves for water-pipes, for vessels fit for the reception of alkaline or acid liquids which would corrode metal or wood, for surgical implements, for boxes, baskets, combs, and a variety of other articles. The wonder of the age, submarine telegraphy, could hardly have been realised without it, as it is only by being cased in so isolating a substance, and one so impermeable by water, that the metallic wire is able to transmit the galvanic stream through the depths of ocean from land to land. *Hartwig's Tropical World.*

*Fructification of Wellingtonia.*—The Marquis de Vibray, who lately exhibited in Paris the first fructification of Abies pinsapo, has brought before the Academy of Sciences the first cones of Wellingtonia gigantea, the Giant of California. These first cones, although not fertilised, have probably attained their normal condition, when we bear in mind their age. The young tree now in question has produced 39 cones, 30 have been gathered, and 9 of the finest have been left, in order to be able to study their further development at a later period. The female flowers appear in greater number than the male catkins, which is exactly the reverse of what has been observed upon monœcious resinous plants. Last spring only three male catkins could be found upon this same tree, of which but one had arrived at its normal condition; it was situated half a yard at least below the three lowest cones, and about a yard and half from the 36 others. "No doubt," observes M. de Vibray, "I could have tried upon this Conifer the same experiment which I have previously made upon Tsuga Douglasii and others, that is to say, I could have fertilised them artificially, which is the method I have employed to propagate both successfully and prematurely some of the species lately introduced; but Wellingtonia did not seem to be sufficiently rare to necessitate so delicate an operation, which in this case must be most especially uncertain in its result, on account of the very few grains of pollen available. It is extraordinary to see the Wellingtonia, which attains such an enormous size in California, fructify thus early, it being only 9 or 10 years since its seeds were first introduced. But the same thing has happened with other trees of large magnitude recently introduced. Even the common Spruce often produces its first cones when only 8 or 10 years old. The Editor of *Les Mondes*, from whom we borrow this statement, observes, that none of the seeds left at his office by M. de Vibray presented any appearance of having been fertilised; they were attached a little above the upper half of the scale, about three upon the upper scales, six upon the scales in the middle of the cone, and five upon the lower scales. The cone-bearing shoots are slightly thickened, and entirely covered with closely-packed imbricated scale-like leaves.

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Continue to clear away exhausted specimens, in order to give place to Pelargoniums, Calceolarias, Roses, or other gay flowers now in perfection. If a canvas screen is used for shading from bright sunshine, some of the Orchids in flower, especially those found to stand cool treatment, may be removed to this house for the sake of prolonging their beauty. Take all possible precaution to avoid insects, remembering that, in this as in most cases, prevention is better than cure. Stanhopeas in baskets should be well examined, or fine flower spikes may be lost through coming in contact with the sides. Let the house have a thorough circulation of air early in the morning, regulating the amount by the warmth of the atmosphere. Continue to shift young growing stove plants, and to remove plants pushed on early for autumn or winter flowering to the cool shelves of the greenhouse, in order to harden their wood and prepare them for early excitability. See that growing Fuchsias have abundant watering. Let a stock of young things be got forward in cold pits forthwith. Achimenes, for late flowering, may be brought on gently in such places, as well as many other plants likely to be required for autumn and early winter decoration.

### FORCING DEPARTMENT.

PINERIES.—Spare no pains with young stock just commencing vigorous growth. If the pots are not well filled with roots, depend chiefly upon a great amount of moisture in the air of the pit. If the pots are well established, give free and frequent waterings with clear liquid manure. Keep down all useless suckers and gills.

VINERIES.—Grapes ripening must have abundance of air every day, and a circulation all night if possible, with a dryish atmosphere. In succession crops encourage the growth of laterals in some degree, whilst the berries are stoning. Where borders are shallow and well drained, a coating of half rotten manure, 6 inches in depth, may be applied forthwith, provided the weather continues hot and dry. When this material has been spread for a couple of days, a thorough soaking of water may be given; not, however, all at once, rather on two mornings in succession.

MELONS.—Where the fruit is swelling the soil should be kept in a properly moist state, and every means should be used to preserve the foliage in perfect health, as there is no possibility of obtaining good flavoured fruit unless the leaves are kept in health. Keep the Vines thin, and prevent their being encumbered with useless laterals, and remove any decaying leaves at once, as these when left only serve as a harbour for insects. There is yet plenty of time to secure a good crop in dung beds, and if any of the frames which have been used for getting up bedding-out plants can be spared for this purpose, the plants should be got out at once.

### FLOWER GARDEN AND SHRUBBERIES.

Should the weather continue dry, much care will be necessary in watering plants recently put out in masses. All plants intended for specimens on highly relieved beds should, when planted out, by all means have a hollow basin or concave surface reserved around the stem, or rather on the upper side for a fortnight after planting; this will serve to retain water, and cause it to percolate the soil in contact with the roots. If this is not done, the water on such raised ground runs off, and in this act produces a glazed or puddled surface, under which no plant will thrive until the crust is broken. If not already done, Dahlias ought now to be planted out; at the same time supports for them should be put down, so that the roots may not be injured, which would probably be the case if delayed to a later period. Water and mulch the surface of the soil round the stems. Pansies may be struck under hand-glasses on a shady border; let the cuttings be as thin as possible. Polyanthuses will require some attention; they are extremely apt to suffer from the attacks of red spider; during dry weather shade is absolutely necessary for their successful cultivation.

### HARDY FRUIT AND KITCHEN GARDEN.

A thorough picking of grubs or insects from fruit trees in general should now take place. Vines on walls or buildings must be attended to, as to disbudding, stopping, &c. Apricots must be well examined for the grub, and Peaches judiciously thinned both of wood and fruit. In the kitchen garden this is a proper time to make a sowing of some good white Broccoli, to supply the table through October and November. Cauliflowers sown now, will also head in the autumn, and may then be housed in cellars, sheds, or outhouses, and thus continued in use for many weeks in succession. It is a good plan to sow some Cape Broccoli in drills, prepared after the manner of a Celery trench. The seed should be dropped in patches about a foot apart, to be afterwards thinned to about three plants in a patch. Sow a little more of Knight's Protecting, and a sprinkling of some very late spring Broccoli; it may serve to prolong the succession next spring. Every attention should now be paid to Celery plants; they must have abundance of water in every stage. Those pricked out from the seed bed should have well prepared beds, the surface of which, for 2 inches deep, should consist of well rotted manure, soaked with water, and rolled or pressed level previous to pricking out the plants. If the weather proves sunny they should be shaded with boughs.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending May 27, 1863, as observed at the Horticultural Garden

| May. | Moon's Age. | Barometer. Max. | Barometer. Min | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 21 | 4 | 30.134 | 30.083 | 58 | 30 | 44.0 | 53 | 52 | N.E. | .00 |
| Friday 22 | 5 | 30.007 | 29.916 | 57 | 30 | 43.5 | 53 | 52 | N.E. | .00 |
| Satur 23 | 6 | 29.822 | 29.788 | 63 | 26 | 44.5 | 53 | 52 | N.E. | .00 |
| Sunday 24 | 7 | 29.860 | 29.866 | 67 | 35 | 51.0 | 52½ | 52 | N.E. | .06 |
| Mon. 25 | ☽ | 29.884 | 29.897 | 58 | 26 | 42.0 | 52½ | 51 | N.E. | .00 |
| Tues. 26 | 9 | 30.177 | 30.111 | 70 | 30 | 50.0 | 53 | 52 | N. | .00 |
| Wed. 27 | 10 | 30.196 | 30.154 | 73 | 39 | 56.0 | 53 | 52 | N.E. | .00 |
| Average. | | 30.028 | 29.969 | 63.7 | 30.8 | 47.1 | 52.8 | 52.0 | | .01 |

May 21—Cloudy and cold; slight frost at night.
— 22—Fine, but cold; cloudy and cold, yet air very dry; slight frost.
— 23—Fine; low dusky white clouds; unusual frost at night for the period of the season.
— 24—Fine; clear and fine; cold at night.
— 25—Fine, but cold; low white clouds and clear intervals; frosty.
— 26—Frosty; fine throughout; cold but not frosty at night.
— 27—Very fine throughout.
Mean temperature of the week 10 deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending June 6, 1863

| May and June. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 31 | 69.1 | 45.3 | 57.2 | 14 | 0.18 in | 2 | 8 | 6 | 1 | 5 | 8 | 5 | 2 |
| Mon. 1 | 68.0 | 44.4 | 56.2 | 13 | 0.27 | 1 | 11 | 3 | – | 5 | 11 | 3 | 3 |
| Tues. 2 | 68.0 | 44.7 | 56.4 | 16 | 0.87 | 1 | 4 | 3 | 4 | 3 | 10 | 6 | 5 |
| Wed. 3 | 68.7 | 44.5 | 56.6 | 17 | 0.91 | 1 | 4 | 5 | 1 | 5 | 13 | 3 | 5 |
| Thurs. 4 | 68.9 | 45.0 | 57.0 | 14 | 0.76 | 2 | 5 | 2 | 2 | 4 | 11 | 7 | 4 |
| Friday 5 | 70.5 | 46.9 | 58.7 | 21 | 0.64 | 2 | [illegible] | 2 | 1 | 6 | 9 | 7 | 3 |
| Satur. 6 | 66.5 | 48.1 | 57.3 | 19 | 0.28 | 5 | 7 | 2 | 2 | 4 | 10 | 4 | 3 |

The highest temperature during the above period occurred on the 6th, 1846—therm. 90 deg.; and the lowest on the 31st May, 1857—therm. 32 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

ARALIA SIEBOLDII: *G.* We do not know enough of this plant to speak of its hardiness with confidence; but we believe it has that quality in dry warm gardens.

BROCCOLI: We have received from *Messrs. Sutton & Sons*, of Reading, a specimen of a very large White Broccoli weighing 17 lbs., after the removal of some of the outer leaves, and measuring (the close head, or flower) 4 feet in circumference. In appearance it was rather coarse and inclined to open, but when cooked it proved as tender and delicate as it is possible that any Broccoli can be.

FERNS: *S A M.* If the plants invariably produce the ragged fronds they are probably varieties which have sported into this depauperated condition. We have seen P. argyræa in this state. If only here and there affected the damage is possibly to be attributed to some local injury which has taken place while the fronds were in the young state, for which injury many causes, such as insects, mollusks, or drought, might be surmised. It may, however, after all, be attributable to some constitutional deficiency of vigour.

FUNGI: *W M.* Your Fungus looks exactly as if the vesicles of some Mucor had fallen on the leaves. The structure is exactly the same. Be so good as to examine the horse-droppings to which you allude, and see if they are covered with a Mucor. If not, the matter, which is very curious, requires further investigation. The habit, but, as far as we can see, not the structure, is exactly that of Perisporium. *M. J. B.*

GLASS: *S Y.* Good sheet glass, 21 oz. to the foot, is the best for roofing greenhouses and hothouses; a lighter would do for pits. But you should take care it is of the best quality.

GOVERNESS: *E T C.* There is no difficulty in finding a gentlewoman able and willing to take charge of the children provided she is properly paid. We don't understand your want of success. At all events we would readily relieve you of your perplexity, should you think it worth while to confide in us.

NAMES OF FRUITS: *Sub.* Your Apple is unknown. It is not the Sturmer Pippin, which is a much better sort.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. It is requested that not more than four plants may be sent us at any one time.—*M N S.* The specimens are so vilely sent that they cannot be recognised with certainty. We believe the Phlox to be stolonifera, and the Pentstemon may be the true procerus, a very bad name. *Repens* strictly means creeping *through* the ground or *into* it; *reptans* creeping *on* the ground. But this difference is far from being always remembered by writers.—*E B.* 1, Cardamine pratensis; another 1, Doronicum Pardalianches; 3, probably Trifolium minus; 4, Cerastium vulgatum.—*Diss.* Some species of the Viticella section, and probably Sieboldi, as far as we can judge without seeing the leaves.

TREE PÆONIES: *Ipswich.* The variety called Gloria Belgarum was raised from seed in Belgium by a gentleman named Goethals. It is a marvel among marvels, the like of which we have never seen. The flowers are of the deepest rose colour, nearly full double, and considerably more than a foot *in diameter*, that is to say about 4 feet round!

VINES: *M D.* The affection of your Vine leaves is very singular. Our belief is that they are over nourished, and in consequence the leaf-cells are either gorged with or discharge a gummy matter. It would be dangerous to tamper with the roots now, but if you have reason to believe that this is the case, pains should be taken to supply less generous food in the autumn after the crop is gathered. *M. J. B.*

POTTER'S GUANO (established 21 years) 7*l.* per Ton.
POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10*l.* per Ton.
PURE GYPSUM, 25*s.* per Ton, bags included.
Address, 28, Clapham Road Place, S.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
116, Fenchurch Street, E.C.

TENANT FARMERS' MANURE COMPANY.
ODAMS'S BLOOD MANURE for CORN.
ODAMS'S BLOOD MANURE for ROOTS.
ODAMS'S SUPERPHOSPHATE of LIME,
MANUFACTURED BY THE PATENT
NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),
Consisting of TENANT FARMERS, occupying upwards of 30,000 Acres of Land.
Chairman.—JOHN CLAYDON, Esq., Littlebury, Essex.
Particulars of these Standard Manures may be obtained at the Offices. C. T. MACADAM, Secretary.
Or of the Local Agents.
Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex, N.E.

LAWES'S MANURES.
The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. | |
|---|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 | 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 | 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 | 0 |

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AMIES AND BARFORD beg to call particular attention to their NEW PATENT WATER BALLASTING FIELD and GARDEN ROLLERS, which have the following advantages over all others. They are made entirely of Wrought Iron, are made water-tight, and are loaded with water to obtain increased weight at pleasure, which is moreover employed with the greatest possible per centage of crushing power directly upon the surface of the soil. The weight of a Garden Roller can thus be doubled in a few minutes, and a one, two, or three Horse Land Roller is secured, as desired, in one implement.
Great numbers have already been sold, and are giving the greatest satisfaction, and whether for Gardens, Lawns, Cricket Grounds, Road-making, or for farmers' use, they will be found superior to all others.
For Illustrated Price Lists apply to Messrs. AMIES & BARFORD, Queen Street Iron Works, Peterborough, Patentees and Sole Manufacturers.

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E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.
PROTECTION from the COLD WINDS & MORNING FROST.
"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.
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Four yards wide .. .. .. 3*s.* per yard.
An improved make, 2 yards wide, 1*s.* 8*d.* per yard.
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Also "Frigi Domo" Netting, 2 yards wide, 1*s.* 4*d.* per yard run.
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"It is much cheaper than Mats as a covering."

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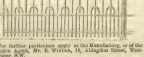

For further particulars apply at the Manufactory, or of the London Agent, Mr. R. WINDER, 18, Abingdon Street, Westminster. S.W.

Prices Reduced.
H. J. MORTON AND CO., Galvanised Iron Works, 2. Basinghall Buildings, Leeds.
GALVANISED IRON ROOFING
for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use: also Spouting at 10½*d.* per yard.
WIRE STRAND CABLE FENCING

formed of Twisted Wires like a rope or cable), the strongest, cheapest, and neatest fence in use, will resist the largest cattle, and will not bend or get out of form by trespassing upon or over. Price, with five lines of the Galvanised Strand, iron main posts, and pronged Standards, from 1*s.* per yard.
This fence is far cheaper than posts and rails, or any kind of iron fencing; and possesses four times the strength of solid bars. Will not rust nor corrode. Upwards of 1200 miles of this Fencing supplied.
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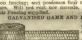

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Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
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YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW at SOUTH STOCKTON ON TEES, August 5, 6, and 7, 1863.
For Prize Sheets apply to JOHN HANNAM, Secretary.
Kirk Deighton, Wetherby.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.
PRIZE SHEETS and CERTIFICATES for ENTRY of STOCK will be forwarded on application.
LAST DAY of ENTRY, JUNE 1.
CAUTION.—All Certificates received after that date will be returned to the Senders. H. HALL DARE, Secretary.
12, Hanover Square, London, W.

# The Agricultural Gazette.

*SATURDAY, MAY* 30, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| MONDAY, | June 1 | London Farmers' Club .. .. (Mr. Morton on Steam Cultivation.) | 6 P.M. |
| WEDNESDAY, | — 3 | Agri. Society of England .. | Noon |

—— A FULL report will be found in another page of the great Dog Show in the Agricultural Hall, Islington, which during the past week has been attracting its thousands.

There will also be found elsewhere the report of a lecture before the Oxford Farmers' Club on recent experience in Steam Cultivation near Oxford.

A great deal of very old as well as of recent experience on that subject exists within a few miles of that city. Some of the oldest customers, both of Mr. FOWLER and of Mr. SMITH, occupy farms in that neighbourhood. Mr. LANGSTON, M.P., of Sarsden, and Mr. PULLEN, of Sutton Courtney, have had, the one about three years' experience of the steam plough and the other nearly five years' experience of the steam cultivator; and ample testimony exists in many other places in the county both to the quality and economy of the work performed by them.

During the past week Mr. MORTON has been engaged in putting both classes of implements "through their paces" on ground kindly supplied for the purpose by Mr. PULLEN, of Sutton Courtney—testing by means of the dynamometer the waste of steam power under the various methods of applying it in tillage work; and although unfortunately the machines thus tested were not all of one rank in their several classes, and the experiments may thus be of comparatively little value as determining the relative merits of the

several plans in operation, yet a number of interesting positive results were obtained, which we hope to give next week.

It was not however to these trials that the lecturer referred on Wednesday last at the Oxford Farmers' Club, but to the more prolonged experiment which each man's experience who has worked a Fowler, Smith, or Howard, on his own farm for a year or two, supplies. And it will be found from the report, that there is now no room for doubt as to the superiority both as regards economy and quality of tillage done by steam over ordinary horse cultivation. In addition to the details of these experiments, we hope next week to give a report of work done during the last spring on a number of farms cultivated by Fowler's, Smith's, and Howard's apparatus respectively, in all parts of the country.

—— The eleventh volume of the Journal of the Bath and West of England Society (Part I.) has just made its appearance, full of substantial and useful agricultural information. The opening article is an attempt to correct certain criticisms on the Valuation of Horse-power and its Cost, which were made in the Journal of the English Agricultural Society, and ought to have been corrected there. The article contains a report of Dutch experience on this subject, which we shall hereafter transfer to our columns. Dutch Agriculture is also the subject of another extremely interesting article by Mr. Spender in this volume.

The subject of horse breeding is discussed by two very able men, Mr. Henry Corbet, the Secretary of the Farmers' Club, and Professor Brown. The former criticises and corrects ordinary agricultural mismanagement by that which his experience as a judge has taught him, as well as by his extensive knowledge of other men's experience where the breeding of hunters and hacks has been properly conducted. The other writes on the several breeds of agricultural horses exclusively—on the fitness of each to particular districts, and on the management needed for the improvement of the agricultural horse in the west of England. The two papers are together exhaustive of the subject.

An essay on the Lamb Disease, by Dr. Crisp, will be read with great interest by many who have suffered from the attack it describes.—Mr. Scott Burn summarises the facts on town sewage which have been lately published, and adds a great deal of the results of his own original research.—Mr. Luttrell, of Badgworth Court, describes the results of an experiment made for the purpose of testing the relative grazing values of Downs and Devonshire notts. The Rev. T. Philpotts contributes an interesting account of Cornwall market gardening; and there is a republication from the Journal of the English Agricultural Society of Prof. Simonds' report on Splenic Apoplexy. Altogether Mr. Goodwyn, the editor of the Journal, may be congratulated upon having produced a very excellent number of the work, one containing matter both of general interest and of that special local fitness, which in the organ of a provincial Society is to be expected.

—— The Short-horn herd of Mr. Noakes, of Brockley Farm, near Lewisham, six miles from London Bridge, is to be disposed of by auction on Tuesday next. Mr. Strafford, the Editor of the "Herd Book," announces that it is descended from first-class stock, numbering among its originals, animals bred by Sir C. Knightley, Capt. Gunter, Messrs. Adkins, Bolden, Combe, &c.

## CARROTS AND CABBAGE.

BY MR. C. LAWRENCE, OF CIRENCESTER.

*Mode of Cultivation.*—First, as to Carrots. Under a strong impression of the feeding value of these roots, many years antecedent to the publications to which I have referred, I have for a long period given much attention to the treatment of this root as well as Cabbage, and I have devoted to them about one-sixth of my root-quarter. Assuming the selection of good clean seed, we allow 5 or 6 lbs. per acre. For some years the great difficulty we had to encounter was the rapid growth of the ordinary annual weeds of the field, as compared with the slow vegetation of the Carrot seed; the consequent continual labour and cost in keeping the rows clean, an expense which has led many persons to abandon the crop. Another difficulty was the peculiar adhesive nature of the seed, in consequence of which the patchy and irregular plant of Carrots in the field is matter of common observation. We have got over the latter difficulty by mixing a moderate quantity of dry ashes with the seed, and rubbing them together till the seed is well separated. We then put the entire quantity for the acreage to be sown, thus separated, in a heap, and moisten it with a watering-pot, turning it over until the whole is damp, but not wet. This should be done about ten days before sowing the seed, and the heap should be turned over two or three times during that interval, until the commencement of vegetation is perceptible. Before sowing, sufficient dry ashes should be scattered amongst the heap to insure its running freely through the drill.

Carrot-seed is commonly sown too early; it will not vegetate freely under a given temperature of the earth, prior to which the seeds of the common annual weeds will have made a vigorous start. We have successfully encountered this difficulty by harrowing down the land appropriated for Carrots about a fortnight before we propose to sow the seed; indeed, just before we begin to prepare the seed. During this time the seeds of the annual weeds brought to the surface by the harrowing will generally have vegetated, and the Carrot seed will have just sprouted. A second light-harrowing will upset the former, and the Carrot seed thus started will get sufficiently ahead of the weeds to render the destruction of any aftergrowth of them an easy matter. We drill the seed in rows 18 inches apart. As soon as the rows are distinctly visible we flat-hoe between the rows on a dry day, and use the horse-hoe when the plants are about 3 inches above the ground.

Carrots are so difficult to single with the hoe that the attempt does not answer. Our men cut them out 6 inches apart with a sharp hoe, leaving two or three in a bunch, at the cost of *5s.* an acre; boys or girls holding down with one hand the Carrot to be left, drawing the rest with the other hand, at *3s. 6d.* per acre. It must be seen that the men cut the plants off under the crowns, otherwise they will shoot again, and injure the crop by overcrowding. The Carrots will be left about 7 inches apart, and when about 6 inches high will require a second hoeing. We prepare the land for Carrots and Cabbages in the same way as for the other root crops, viz., by manuring immediately after harvest, and giving as deep a ploughing as the character of the soil admits of to lie during the winter. By these means we never fail in securing a perfectly regular plant, and covering the ground with a very valuable crop. We consume them mainly in feeding horses during the winter and spring months until Vetches are ready, and fatting pigs. About 1 peck of pulped or sliced Carrots, mixed with the chaff and corn at each feed, keeps the horses in good health and condition.

The lifting a good crop of Carrots without breaking them requires careful management. We use strong forks made for the purpose attached to a common spade handle, having two prongs 10 inches long, the space between them being 2½ inches at the points, and 1½ inch at the base, the iron on which they are formed extending 3 inches to the right of the handle, to enable the men to press the forks down into the ground with the foot. An iron plate should extend at least a foot up each side of the handle. The strain on the attachment of the fork to the handle is great in raising a long Carrot. The best mode of raising the Carrots is for each man to be followed by a boy or girl; the man raises the roots, and the attendant draws them by the top and lays them in regular rows. The cost of this varies considerably. A moderate crop, not running deep, in an open soil, can be raised at *15s.* an acre; while a large crop, having long roots in a deep tenacious soil, will cost *30s.* to raise carefully. When the men have got considerably in advance, women follow to top the roots. This requires careful supervision, or they will make a proper mess of it, and have roots and tops scattered in all directions, with dirt intermixed, involving much waste. When one row has been pulled, two rows on either side should be placed on the site of that row, in order to leave room for the carts without crushing root or top. The roots should be laid together, the tops lying right and left of the roots. The cutters will thus drop the tops in one heap and the roots on another; leaving in line alternate heaps of roots and tops, which can be carted away separately. The tops —very nutritious food, and relished by all animals— are thus kept free from dirt. A shilling per ton of roots is a proximate cost of raising the roots, topping, and placing them as described.

*Cabbage.*—Assuming 4 acres of ground to be set apart for this crop, I recommend planting 3 acres with Cabbage, and 1 acre with Savoys, which do better than Cabbage late in the winter. The seedsmen reckon 1 lb. of seed to produce plants for an acre. We sow the large Drumhead variety, and taking care to procure the best of seed, we find practically that with proper care in sowing and after management, 1 lb. produces plants sufficient for three acres of ground. We sow ½ lb. of the large Savoy seed. Prepare about 20 perches of ground, in July, sheltered from the north and east, and while moist, sow the Cabbage seed in drills 12 inches apart thinly, the last week in the month, or not later than the first week in August. When the plants are above ground keep them clean. By the middle of October draw the plants and reset them across the same ground, laid in shallow trenches, 3 or 4 inches from each other in the row, the trenches 9 inches apart. This plan forms strong, short-stemmed plants, with good fibrous roots which grow away as soon as planted out the next season; whereas, if left in the seed-bed, they get drawn up with long stems and less perfect roots, and are weeks recovering their removal in the spring. Ridge up the land as for Mangolds or Swedes, but let the ridges be 3 feet apart; and about the middle of April plant out half the Cabbage plot, setting the plants 3 feet apart in the rows. The rest of the ground may be planted about one month later.

The Savoy seed may be sown in March, and the plants set out in the end of May or early in June.

I extract from my "Handy Book for Young Farmers" our practice to insure accuracy in setting out the plants to facilitate hoeing, &c.

"This is accomplished by the use of a line attached to a stick just 3 feet long at each end of the line, which is laid across the ridges. As each row of plants has been set, the workers at each end of the line move it forward just the length of the stick to which it is attached. The plants should be loosened in their seed-bed before drawing by a small hand-fork, to prevent damage to the young root by pulling them from the firm ground, stowed in baskets by boys or girls, and carried to the ground, and laid down by them on the ridges just before the planters. The planting may be done by women, each of whom should be furnished with a trowel to open the ground freely on setting the plants. This is material when the land is moist, as it should be for the purpose, as the roots then strike out freely; the common setting pin being turned round forms a puddled hole, which obstructs the striking out of the young roots. The two outside setters may be men to manage the line. We have set out in this way 10,410 plants on upwards of two acres of ground between the hours of 8 and 12 in the morning, by 4 men, 6 women, and two boys to place the plants."

The purpose to which, more especially, we devote the crop of Cabbage is to feed the wether lambs after removing them from the young Clovers at the end of October, and before they get on the Swedes at mid-winter. We fold the lambs on the Cabbages as they stand, without any cutting; they eat up not only the Cabbage without any waste, but make their way into the stems. They are most useful for all stock during the autumn months, when Clovers are being ploughed up and the Grass grounds are dried up. *Agricultural Society's Journal.*

## THE INTERNATIONAL DOG SHOW.

On Monday last, at the Agricultural Hall, Islington, commenced the most successful and the largest show of Dogs ever witnessed in this country. The Prince of Wales and his Princess began the week visiting it, and the example brought all the pride and beauty of the west in its train. Throughout Monday afternoon and Tuesday, a half-crown day, a stranger might have judged Islington to have been a fashionable quarter, by the splendid equipages which abounded in the locality.

The Royal party remained in the building for a considerable time, and the Hon. Col. Hood attended on Tuesday to convey to the Directors the expression of their satisfaction.

The dog has not unaptly been described as a gift of Providence to man—an aid almost indispensable for conquest and management of the lower animals. He is our friend and companion, uncalculating as regards his own comfort or convenience, and staunch in his fidelity, following his master through all shades of fortune. Unlearned in virtue, the dog, from the promptings of his own feelings alone, practises the most perfect integrity. A long course of domestication and peculiar treatment, have, as is well-known, divided the canine race into nearly a hundred varieties, all less or more distinct as respects size, appearance, and special qualities and dispositions. His is a chapter in the book of Natural History, which well deserves the attention it receives. There is something unnatural in an aversion towards a race which have such representatives as Argus, that faithful hound, which through the strange vicissitudes of twenty years cherished a remembrance of his absent master, and was the first to know "his lord"—

. . . . . . "He knew, and strove to meet;
In vain he strove to crawl, and kiss his feet."

—as Montargis, which belonged to Aubry de Montdidier, and discovered to Charles V. the murderer of its master; as St. Leger's greyhound, which visited him daily for four years while he was a prisoner at Vincennes; as that faithful wolfhound, whose tragic death is told so touchingly in the ballad of "Gelert's Grave;" as Sirrah, who immortalized himself by performing that memorable night's work for the distracted shepherd, James Hogg, and saved a whole flock of lambs which he thought hopelessly sacrificed; and as those many Spaniels and Newfoundlands who have saved the lives of children and of sailors near the chill terrors of a watery grave.

All this veneration for the breed (the Egyptians held it sacred) is easily put to the test, however, at Islington. The incessant cry of nearly 2000 dogs in an echoing building is rather a difficult trial to bear. One is helped to endure this annoyance by the entire absence of another, that of smell.

The arrangements are exceedingly good. The Sporting or Field dogs occupy the ground floor, and the galleries are given to all dogs not thus classed. The former are accommodated upon low platforms running lengthwise of the building and extending round to the back beneath the orchestra. These platforms are ranged back to back with a boarded division between, to which the animals are chained and littered with straw. The promenades are broad enough for any dress that Fashion may import in her carriage from Belgravia. Kennels have been improvised for the Foxhounds, Harriers, and Beagles, which, owing to the use of a large meshed iron wire, have a light appearance. One of these, containing the famous pack, hunted in France by the Duke of

Beaufort, occupies a post of honour in the central part of the arena.

"The English Foxhound of the present day is a perfect living model," says a celebrated writer on dogs, "and how he became such it is in no one's power to determine." A century and a half ago there was no animal resembling the present breed of foxhounds; when hunted at all in Great Britain, the fox was hunted by a dog resembling the Welsh harrier, a rough-haired strong dog. The improvement in our horses, and the mixture of the blood from the race-course with that of the old-fashioned hunter, has out-fashioned the hound which used to "hang" upon the scent, and produced an animal which will suit the run of our hard-riding modern sportsmen, by "carrying a head." Such are Lord Fitzhardinge's stud dog Cromwell, Mr. C. F. Colmore's Royal, also his three couple from a pack hunted last season. The heads are moderately small, the fore legs straight as arrows, the back ribs, or "spur-place," deep, the hocks well let down, and the chests roomy. As a rule they are of a small size, though for a country which "carries" we fancy Mr. Villebois's taller animals have a better chance. Some of these we believe to stand 26 inches, or about 3 inches above the general height. Four couple of stag hounds, a sort of mongrel bloodhound, of the old New Forest breed, attracted a good deal of attention. They are from the kennel of T. Neville, of Chelland, Hants, and although not possessing the symmetry of the English foxhound, are fine majestic animals of their kind, and unerring in their scent. They are a heavy breed, black and tawn in colour, with pendent ears. The Harriers were well represented. His Royal Highness the Prince of Wales, J. Saxby, Esq., and the Right Honourable Earl Brownlow were amongst the exhibitors. George Race of Biggleswade won with his three couples. — The Beagle, a hound that dwells too long on the scent for modern habits, and is therefore getting neglected for swifter breeds, was not in great force.

The Bloodhounds were splendid and numerous. Their awfully deep but highly sonorous tongues could be heard beyond and above all others. These modern representatives of the breed are rather deficient in the wide forehead, expansive nostrils, lips, and long, smooth, pendulous ears, of from 8 to 9 inches in length, of a former breed, but they are swifter than their ancestors. They are generally about 26 inches in height. Some of these dogs can claim alliance with the Duke of Bedford's breed, as Mr. Boom's Welcome. The pedigree of the Duke's dogs can be traced back for 300 years. Mr. Forster's Forrister, and Mr. Stephenson's Baron are splendid animals. And we must not omit Mr. Best's Juno, by Mr. Ansdell's Lion. The colour for the most part is black and tawn. They are not often found except in the neighbourhood of a deer park, or in possession of "Associations for the prosecution of felons."

Of Otter hounds, a breed of dogs fast disappearing, the Show was confined to about six specimens of this rough-haired large-looking terrier breed. Of some the colour is twan and black, and white and tawn. The Hon. Rowland C. Hill's Priestess and Barmaid were the approved specimens.

Of the Deerhounds there were 38. Mr. Bridge's grizzle dog Oscar won the 1st prize; the Earl of Stamford and Warrington's Bran won the 2d; both are valued at 1000*l*. Mrs. Walbrey showed Bear, a great grandson of Sir Walter Scott's Maida. Another Oscar, Beresford Hope's, claims special notice for its beauty

Amongst the Foreign Hounds, were two exhibited by the Duchess of Manchester: Sultan, a Russian Wolfhound, a very tall dog with long head, terrific mouth, black and white skin of flossy silk, but withal a pleasant expression; and Juba, a North German Boar hound, to which the first prize was awarded. There was a German Otter hound, smaller and smoother than the English; a Polish Wolf hound, black, resembling Juba, a very "American dog," raw boned, gaunt, and leggy; a black and white Boar hound with square form; Cuba, a Slave-hunter of bloodhound mould.

The Monster dogs of any breed proved very attractive, particularly Lion, an African Slaver fairly bred; a noble black and tawn Tartar dog; Season, a Slaver, highly commended; a Russian Retriever; and an awful black brindle sour-looking monster, with two sinister green eyes.

Surely there never was such a show of Greyhounds, and it must be no little satisfaction to be a winner in a collection displaying such high merit. The hall contains nearly 100 of this breed. The blood of Figaro, King Cob, and Snowball, the Emperor, Bugle and Dusty Miller, goes to produce much of the beauty ranged upon the platforms accorded to this much improved race of dogs. Some measure 28 inches. The Saplings are exceedingly good. Amongst the Pointers, there is nothing like Mr. Newton's Ranger, whose *cartes* are selling at 1*s*. each, although the show is superlative and large. The judges in this and other classes for dogs engaged in field sports, except Harriers and Foxhounds, namely:—the Earl of Suffolk, Lord Suffield, Lord Bury, M.P., Colonel Leslie, M.P., George Moore, Esq., and Messrs. Ker, Randel, Wentworth, and Marshal, must in this first prize have experienced considerable difficulty in making their award. It must have required some nice discrimination to do justice to the varying claims of some 194 animals. A glance at the appended list will give the reader the knowledge he desires respecting the prizes, which were, to our thinking, very fairly given. Opinion seemed to run rather in favour of the small than of the large breed. The class of Setters was also fine and large. Mr. Bayley's Bob First, a white dog with tan head and flossy skin, was very beautiful; also Mr. Dixie's black and white Bounce; also Mr. Dodd's Spot, a most intelligent white and tan. Of the black and tan variety the show was good, and the braces of puppies were very pretty. The Irish setters won general commendation, particularly from those who are won by the affectionate look of a dog.

The Retriever, a universal favourite, was represented by 148 specimens. Besides the prize animals, we specify Lord Berner's Nero, Mr. Turner's Sailor, Capt. Copathy's Drake, Mr. Griffin's Charlie, a glorious playmate for children; Mr. Hill's two Jets, one a great prize-taker, a fine fellow, with close curling skin.

The Spaniels and Clumbers, a curious looking breed, with large heads, huge limbs, projecting elbows, long flossy hair, white or white and tan, and long ears, made a good show.

Beneath the orchestra were cages where bitches, selected from all these breeds, displayed the pleasures of maternity, and suckled their young or tumbled them about, as the case might be, to the great delight of crowds of admiring people.

The galleries, as we have before said, were devoted to dogs not used in field sports. Each gallery gave space for four lines of dogs, with ample room for the circulation of visitors between the platforms.

The Sheep Dogs form a very intelligent class. Mr. E. Greaves's Yarrow takes the lead. He looks much like the celebrated Yarrow tried at Edinburgh some years ago for preferring obedience to his master, who was a sheep stealer, to obedience to the law, and got hanged for it.

Amongst the Mastiffs every one stops at that princely fellow named The Governor, Mr. Lukey's, a fawn coloured dog with black muzzle. One naturally recalls the old story of Sir Harry Lee, saved from assassination at the hand of his Italian valet, by the favourite mastiff, who in spite of all opposition had secreted himself beneath his master's bed. A full length portrait of Sir Harry with the mastiff by his side, and the words "more faithful than favoured," is still preserved among the family pictures. Mr. Hamburgh's Duchess, connected by matrimonial alliance with Mr. Ansdell's Leo, is a formidable and magnificent animal, so also is Mr. C. C. Layard's, a light tawn, with black muzzle.

One class devoted to Foreign Mastiffs and Watch Dogs of any kind, contained some wonderful creatures, one or two possessing a striking approach to, or perhaps it would be best to say, scarcely any remove from the wolf.

The Mount St. Bernard breed mustered in great force; at least, there were 19 entries. Most of the dogs were of a red tan colour, with black muzzles. The class as a whole wore a let-me-alone-or-I'll-bite-you aspect, though a general air of benevolence shone through this savagery. This race of dogs exhibit the way in which special faculties are inherited. Their power of tracking footsteps does not show itself before the snow falls, when it seems suddenly to be aroused, even by those dogs which are in England, and who have never known an Alpine winter nor Hospice duty. Mr. Fyler's Thünn is certainly the most splendid specimen we ever saw.

The class of Newfoundlands was of course a great attraction to all lovers of the canine race. Their stately forms, sage bearing, and benevolent heads procures them not admirers only but lovers. Ladies and gentlemen were coaxing, nay some were fairly hugging these curly-coated favourites. Mr. Bowles's Leo, a black dog; Mr. Fisher's Pompey, Mr. Wright's Rover, were all three extremely fine specimens. Probably all these animals have so endeared themselves to their masters and mistresses that when they die they will be mourned as real friends. Who could, without deeply feeling the loss, be called upon to part with such a dog as Mr. Tolley's Neptune, a splendid black fellow with white shirt front. In that case the words of the pathetic Byron might be adopted.

"But the poor dog, in life the firmest friend,  
The first to welcome, foremost to defend;  
Whose honest heart is still his master's own;  
Who labours, fights, lives, breathes, for him alone:  
Unhonoured falls, unnoticed all his worth,  
Denied in Heaven the soul he holds on earth.  
* * * * *  
To mark a friend's remains these stones arise;  
I never knew but one—and here he lies."

The Bull dogs have a large class of admirers; they are affected mostly by a class of men who hold about the same relation amongst men as the dogs do amongst their own species. The only redeeming point about them is their pluck and intensity of purpose, which is a quality which always makes itself respected, as was shown in the case of Tom Sayers, who in spite of his abominable profession, won the loudly expressed acclaim of the country. Bulldogs proper were divided by weight, those over and those under 20 lbs. being considered separately. The Bull Terriers, a large class, were similarly divided, as over and under 10 lbs. The uglier the animal the greater the chance of the prize. Of Black and Tan Terriers over and under 7 lbs., there was an endless show. The smaller ones were very beautiful, some were valued at exceedingly high rates, and many were established, like the toy dogs, in most luxurious apartments. One slate-coloured morsel of perfect symmetry, belonging to Mr. Higgins, named the Blue Prince, and valued at 1000*l*., very much surprised some visitors by giving tongue, which much resembled the sound of a cracked silver bell. The Skyes were wonderful, both for number and breeding. Pepper, Quix, Topsy, Sugar, Charlie, Monkey, Dandy, Celt, Topsy, Jim, Dan, Sancho, Plin, Jessie, Flo, Sandie, Trousers, were repeated in different size and colour, but with the same quaint, long body, and covert eyes, all up and down the platform devoted to the class, times without number. The Dandy Dinmonts seem to have become very popular. Of course we find Peppers, and Mustards, and Dandys, and Whiskeys, and Topsys, without end in this diverting class. Were the history of these rough-coated little fellows written as Scott wrote the history of his, or as Dr. J. Brown has written the history of Rab and his friends, and of "our dogs," and as well written, what a charming addition should we have to our canine biography!

The Italian Greyhounds are worthy of great admiration for their exquisite beauty. Mr. Burke's Sophy, in a glass-case, which she occupies with two large silver cups, won at former shows, possesses marvellous perfection. There are 12 specimens, of which Mr. Hanley exhibits 5. The King Charles Spaniels nearly all reside in glass cases, sleep upon velvet cushions, and drink out of tumblers. There are some very pretty creatures, but most of them seem afflicted with some nose or eye affection, and for all purposes for which a dog is to be desired, one of the Dandy Dinmont breed seems to be worth a dozen of them. Messrs. Mandeville and Gilbert's Blenheim Spaniels are beautiful creatures.

There was scarcely a chance of seeing the Toy Terriers for the bonnets which crowded round them. Thirty or 40 of them were to be found under 5 lbs. weight, and tended with the greatest luxury. They ranged in price from 5*l*. to 100*l*. The prettiest lot was that exhibited by Mr. Barton, of Minnie, Topsy, and Rose, black and tawn, occupying separate compartments in one cage. There were also prizes offered for dogs under 3 lbs. weight, and a class of 8 formed.

The Pomeranians were well represented by 18 specimens, some of which were valued at 1000*l*.

The Poodle, a dog which, under M. Leonard's tuition was made to talk, was not well represented. Of the Japanese there were several, one, Mr. B. D'Almella's, valued at 2000*l*.

The Esquimaux, a tawn, and tawn and white breed, with a good deal of the wolf type in look and manner, was well supported. Of the Dalmatian, or plum-pudding breed, formerly used to follow carriages, there were several species; also of the Maltese, a breed resembling the Dandy Dinmont, with long woolly hair. In this class was Mr. Mandeville's Fido, occupying a case filled with silver cups and gold medals, a little creature, covered with white flossy hair. This favourite's portrait was selling rapidly. Beyond these there were Greek and Manilla terriers, Silician dogs, Pugs, Indian, Australian (like a large fox), Chinese (white brindle, and slate colour), Brazilian dogs, and a large class comprising Various, in which were classed all the dogs that could not be otherwise disposed of.

The following is the award of the judges. We have only space for the principal prizes, which are as follows:—

DIVISION I.—DOGS USED IN FIELD SPORTS.

Class 1. Foxhounds. Stud Dogs.—1st prize of 20*l*., Lord Fitzhardinge, Berkeley Castle, Gloucestershire.

Class 4. Three Couples of Hounds.—Prize of 25*l*., Mr. C. F. Colmore, Moor End, near Cheltenham. (Cotswold Pack).

Class 5. Harriers. Three Couples of Hounds.—1st prize of 15*l*., Mr. G. Race, the Road Farm, Biggleswade. Highly Commended, His Royal Highness the Prince of Wales.

Class 7. Bloodhounds (Champion Class).—1st prize of 10*l*., Mr. T. A. Jennings, Pickering, Yorkshire.

Class 10. Otter hounds.—1st prize of 7*l*., Hon. R. C. Hill, Hawkestone.

Class 11. Deer hounds (Dogs).—1st prize of 10*l*., Mr. Bridge, Sandpit, Windsor Park; 2d. 5*l*., Earl of Stamford and Warrington.

Class 13. Foreign Hounds.—1st prize of 6*l*., Duchess of Manchester, Kimbolton Castle. North German boar hound.

Class 14. Greyhounds (Champion Class) Dogs.—1st prize of 40*l*., Mr. J. Spinks, Westfield House, Knotty Ash, Liverpool.

Class 18. Brace of Greyhound Saplings.—1st prize of 15*l*., Mr. R. Hatchett, Bedfont, near Hounslow, Middlesex.

Class 20. Pointers, large (Champion Class).—1st prize of 20*l*., Mr. W. G. T. Newton, Ranceby Lodge, Sleaford, Lincolnshire.

Class 21. Pointers (Dogs) not eligible for Champion Class.—1st prize of 20*l*., Earl Brownlow.

Class 22. Pointer Bitches (large size).—1st prize of 10*l*., Mr. W. G. T. Newton, Ranceby Lodge, Sleaford.

Class 23. Pointer Dogs (under 55 lb.) (Champion Class).—1st prize of 20*l*., Mr. G. Bayley, Stamford Lodge, Stalybridge.

Class 26. Brace of Pointer Puppies.—1st prize of 10*l*., Mr. G Bayley, Stamford Lodge, Staleybridge. (Subject to investigation as to age.)

Class 27. Setters (Champion Class).—1st prize of 20*l*., Mr G. Bayley.

Class 28. Setters (English Dogs).—1st prize of 10*l*., Mr. R. Taylor, Wimbledon Common, Surrey.

Class 15. Retrievers (Dogs).—1st prize of 15*l*., Mr. C. G. Hill, Commerce Square, Nottingham.

Class 36. Retrievers (Bitches).—1st prize of 15*l*., Sir St. G Gore, Hopton Hall, Wirksworth.

DIVISION II.—DOGS NOT USED IN FIELD SPORTS.

Class 41. Sheep Dogs (Scotch Breeds).—1st prize of 5*l*., Mr E. Greaves, M.P., Barford, Warwickshire.

Class 43. English Sheep Dogs.—1st prize of 5*l*., Mr. W Guimmet, Biggleswade.

Class 44. Mastiffs.—1st prize of 15*l*., Mr. E. Hanbury, Highworth, Wilts.

Class 46. Mount St. Bernard's.—1st prize of 10*l*., Mr. J. W. T. Fyler, Heffleton, near Wareham, Dorset.

Class 47 Newfoundlands.—1st prize of 10*l*., Mr. F. W. Hammond, 373, Oxford Street.

Class 48. Bulldogs (over 20 lb.).—1st prize of 8*l*., Mr. J. Lamphier, Soho Street, Handsworth, near Birmingham.

Class 50. Bull Terriers (over 10 lb. weight).—1st prize of 6*l*., Mr. H. Kendrick, 4, Arthur Street, Gray's-Inn Road.

Class 51. Bull Terriers (under 10 lb.).—1st prize of 6*l*., Mr. M'Donald, 27, Long Acre.

Class 52. White Smooth-haired Terriers.—1st prize of 6*l*., Mr. F. White, Crescent Lane, Clapham Common.

Class 53 Black and Tan Terriers (over 7 lb.)—1st prize of 6*l*., Mr. G. Fitter, 3, High Park Corner, Nechells, Birmingham.

Class 54. Black and Tan Terriers (under 7 lb.)—1st prize of 6*l*., Mr. J. Wade, 6, Meredith Street, Clerkenwell.

Class 55. Other English Terriers.—1st prize of 6*l*., Mr. F. White, Crescent Lane, Clapham Common.

Class 56. Skye Terriers.—1st prize of 5*l*., Mr. C. Stallibras, Finsbury.

Class 58. Other Scotch Terriers.—1st prize of 5*l*., Mr. J. Spink, 18, Westgate, Bradford.

Class 59. Italian Greyhounds.—1st prize of 8*l*., Mr. L. Burke, 14, Richmond Grove, Barnsbury Road.

Class 60 King Charles Spaniels.—1st prize of 10*l*., Mr. J. Woolmington, 9, Farringdon Mews.

Class 62 English Toy Terriers (under 5lb).—1st prize of 8*l*., Mr. J. Dale, 10, Thornton Street, Walworth.

Class 64. For best Monster Dog of any kind not included in preceding classes.—Prize of 10*l*., Mr. N. A. Woods, Camberwell Grove. Samson, a lion mastiff from Algiers.

Class 65. For the smallest well shaped and healthy Dog under 3lb weight, not included in preceding classes.—1st prize of 5*l*., Mr. R. H. Bailey, 9, Orange Row, Kennington Road, Newington.

Class 66—First Division. Pomeranian Dogs.—1st prize of 8*l*., Mr. D. J. Laskie, Hounslow.

Class 66 Fourth Division. Dalmatian.—1st prize of 3*l*., Mr. W. Batty, Astley's Theatre.

Class 66—Seventh Division. Pugs.—1st prize of 3*l*., to Mr. H. Gilbert, 23, Upper Phillimore Place, Kensington.

## Home Correspondence.

*Profits of Stock Feeding—Farmers' Fallacies.*—I have frequently said, that in my practice, pigs lose less money than any other stock. In this farmers generally disagree with me, and take an opposite opinion. I could never ascertain the exact grounds on which they based their opposition until I read in your recent paper a discussion by the Dorchester Farmers' Club on a paper read by Mr. Saunders. The calculations arrived at by this meeting very much astonish me as a man of business, and if other portions of farming practice are resolved upon similarly erroneous estimates, we must consider our agronomic economy in a most unsatisfactory condition. If I make comparison between sheep, pigs, and bullocks, I charge them equitably or equally with the market price of their food. Not so the Dorchester farmers. They charge hay and roots to their sheep and bullocks at feeding prices; hay at 3*l*. per ton, and roots at 7*s*. per ton; but the pig food is charged at selling or market price! Now with us the market price of hay is 5*l*. per ton, and of roots 14*s*. per ton, so that the poor pig, consuming corn at market price, has to contend with a discrepancy of from 40 to 50 per cent. against him. This is unfair and unbusiness-like. There are obvious reasons why a pig should pay best. When you sell a pig you get paid meat price for his skin, which, as in all other animals, forms a material per-centage of his weight. Again his head, with the skin on, sells at quite half meat price. He makes a quicker return for his food, which being of a concentrated nature involves less cost of attendance; and, if properly attended to, he is rarely attacked with disease. The principal objection to pig feeding is a limited market, for, especially at certain seasons, the markets are soon overdone with pork, whereas there is always a market for beef and mutton. Thousands of pigs get diseased by burying themselves in manure, or holes rooted in the ground. A pig floor should always be either of brick covered with cement, or a wooden sparred floor; stable-dung or a thick bed of manure heats them, after exposure chills them, and they then get "heaves" or lung disease. When I had hundreds I seldom lost a pig. I have been a good deal snubbed because I maintain that live stock are necessary evils, but we never see any one, not being a farmer, fattening animals with purchased food as a source of profit. I commend, however, every farmer to keep much stock and purchase much food: for what he loses by his stock will be more than repaid by the extra produce resulting from abundant manure. There is no difficulty in making stock "appear" to pay if you knock off some 40 per cent. of the market price of the food which they consume. *J. J. Mechi.*

## Societies.

ROYAL AGRICULTURAL OF ENGLAND.

The Half-yearly General Meeting of this Society was held on Friday of last week, the chair being taken by the President, Viscount Eversley. The election of the Council, proceeded with in the ordinary manner, resulted in the adoption of the already given House List.

Lord Portman proposed, as President for the ensuing year, Lord Feversham.

Mr. Robert Smith seconded the proposal, saying that he had long noticed the very able support which his lordship had long given to the cause of agriculture. As a tenant farmer he felt it an honour and a pleasure to second the proposal that Lord Feversham should be President of the Society for the ensuing year.

The motion was then carried unanimously. The Secretary read the following report:—

REPORT OF THE COUNCIL.

The Council have the satisfaction of reporting favourably of the progress made by the Society in the attainment of its practical and useful objects.

The number of its members at the present time differs only by 6 from the numbers at the date of the last general meeting, 205 names having been removed by death or otherwise from the list, while 211 new members have within the last five months been elected into the Society, which now consists of—

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|---|---|
| Life Governors .. .. .. .. | 80 |
| Annual ,, .. .. .. .. | 88 |
| Life Members .. .. .. . | 1263 |
| Annual ,, .. .. .. .. | 3735 |
| Honorary ,, .. .. .. .. | 17 |

making a total of 5283.

Mr. Bowly, of Siddington House, Cirencester, has been elected a member of Council in the place of the late Mr. Jonas Webb.

The funds of the Society are in a highly satisfactory state; every claim against it has been regularly discharged as it has become due; and while 16,488*l*. 17*s*. 10*d*. remains invested in the New Three per Cents., an ample cash balance is available for current purposes in the hands of the bankers. A deposit account having been opened with the bankers, the Society will receive interest on the funds which accumulate in the early part of the year, and will not be required till the show yard is erected.

The Council have to report the favourable progress of the preparations for the country meeting of the Society, to be held this year in the city of Worcester, in the week commencing on Monday, the 20th of July, which will be the day on which the judges will award the prizes in the classes of live stock. The show and trial yards will be open as follows:—

Wednesday, July 15: The trial-yard open from noon till 6 P.M.

Thursday, Friday, and Saturday, July 16, 17, and 18: The trial-yard open from 9 A.M. till 6 P.M.

Monday, July 20: Cattle-yard open from 8 A.M., when the judges will commence inspecting the live stock and making their awards; the implement-yard open from 8 A.M.; the show-yards will close at 6 P.M.

Tuesday, Wednesday, Thursday, and Friday, July 21, 22, 23, and 24: The general show open from 6 A.M. to 6 P.M.

Mr. Dent, M.P., has accepted the office of steward of stock; and Sir Archibald Macdonald that of steward of implements, in the place of the Hon. A. Vernon, resigned. The entries for implements are more numerous than in any previous year in all the three departments of shedding, seed and model sheds, and machinery in motion.

Papers have been read at the Weekly Meetings by Mr. Taylor, of 88, Parliament Street, on Materials for Cottage Building; by Mr. Bailey Denton, on the effect of Underdrainage on the Rivers and Arterial Channels of the Country; on the Adulteration of Oilcakes, by Professor Voelcker; on Animal Parasites, by Professor Simonds; and by Mr. Ruck, on Steam Cultivation.

The Council have decided, subject to the usual conditions, to hold the Society's Country Meeting next year at Newcastle-upon-Tyne.

The Country Meeting in the year 1865 will be held in the district comprising the counties of Cornwall, Devon, Dorset, and Somerset. By order of the Council,

H. Hale Dare, Secretary.

After a vote of thanks to the auditors a discussion ensued on the needlessness of requiring a veterinary certificate of soundness from exhibitors of horses, considering that the Society's own inspector afterwards examined them.

A vote of thanks was then passed to Viscount Eversley, the President of the Society, who in acknowledging the compliment, referred to the agricultural progress of the period of the Society's operations, adding that as he had taken no part in this work of improvement he was entitled to speak of the success of this Society.

## Farmers' Clubs.

Oxford: *May 27.—Steam Cultivation.*—Mr. J. Chalmers Morton read the following paper:—

The subject for discussion this afternoon is Steam Cultivation in the neighbourhood of Oxford, and if the announcement of it shall have induced those gentlemen who have adopted steam cultivation in this neighbourhood to be present for the purpose of relating their experience of it, my end in proposing this subject will have been fully answered. They know what their experience has been, of course much better than any stranger can do whom they have permitted to walk over their farms in order to become acquainted with it; and a word or two from them will have much greater weight whether for or against the adoption of steam cultivation than anything that he can say. And though I entirely believe in the ultimate success of steam cultivation on all large arable farms, as well as in the present success of it on the great majority of those farms where it has been already adopted—yet I for one shall be glad to hear the results of actual experience here or anywhere, whether it be favourable or otherwise to the extension of it. One cannot, I think, help taking some interest in the attempt to apply that great power to the manufacture of food which has proved such a wonderful aid and stimulant to the other great manufactures of the country. And it may be added—one cannot but hope that the enterprising men who have embarked many thousands of pounds in the attempt to apply this power in some simple and practical way to tillage operations may meet with an adequate reward.

But apart from these considerations—apart from the merely intellectual interest one feels in the successful solution of a difficult problem—apart from the patriotic interest one feels in what is certain one day to increase the food produce of our country—and barring the friendly regard which we all entertain towards Messrs. Fowler, Smith, and Howard, and the other enterprising inventors and capitalists who are in the van of this movement—(and of course all this is barring a very great deal indeed)—apart, however, from these considerations, I have no personal interest whatever in the success of steam cultivation, and it is nothing whatever to me whether any of the manufacturers whom I have named shall sink or swim.

They have all been exceedingly friendly, and I owe to them every help and facility which they could give for becoming acquainted with their plans and the results of them upon farms. During the past 10 days Mr. Fowler has at very considerable expense to himself placed at my disposal the whole of his apparatus which he is to show at the ensuing meeting of the Bath and West of England Agricultural Society; and Mr. Pullen of Sutton Courtney has been good enough to let me have 30 or 40 acres of land on which I might put it through its paces. Mr. Howard too sent his cultivator that it might be tried under the same circumstances. Smith's tackle has been on the ground as a regular implement of the farm for years. I owe thanks to every every one of these gentlemen, and especially on this occasion to Mr. Pullen and to Mr. Fowler—but excepting for services of this kind I am under no obligation whatever to any of them, and never shall be. Certainly therefore any powers of judgment I possess are in no way warped by thought of advantage to myself. We all want the mere truth upon the subject, and the chairman will, I hope, ask those gentleman who may have an unfavourable experience to report to be good enough to relate it. I ought, perhaps, to apologise for introducing my story with this talk about myself, but having formed a very confident opinion on this subject it seemed right in the first place to put it plainly that I claim to be an independent and disinterested witness.

Well now, there are three men in the neighbourhood of Oxford who have thought about steam cultivation. There is the man who has only a general knowledge of agriculture—the Theorist who occupies himself with it merely as a matter of scientific or national interest; there is the Practical man who has actually adopted steam cultivation, and has an experience to relate—and there is the Practical man who has as yet concluded against the adoption of it. Let us hear each of these gentlemen state his case, and first, for the Theorist.

He is of course, from the very first mention of the subject, confident that steam power must be of great benefit to agriculture. He knows what an impulse its creation, as we may say, by Watt, has given to all industry; how its application to the cotton, woollen, and other manufactures has increased, and in many places created these industries; how its successful application by Stephenson to locomotion has cheapened travelling, multiplied speed, diminished danger; how its successful application to navigation has shortened voyages, and how the walls (no longer wooden) of our own little island, have been heightened, strengthened, made impregnable, by its successful application to the art of Defence. Of course a general law, of whose force we have so many notable examples, can have no exceptions (that is *his* position), and agriculture which indeed already has for many years to some extent shared in the benefits so generally following the application of steam-power, has yet to receive an impulse like the rest. Besides, when he comes to inquire into the work of tillage, now done by hand or horse-power, he finds so many particulars in which steam-power is their superior, that any doubt he might have had vanishes at once. "What," he asks, "is the object of these long teams of cattle that I see traversing your fields at this season of the year, going to and fro twice for about every yard in width of the fields they traverse?—Are you aiming at the hardening and consolidation of the land?"—"Certainly not," is the reply; "we are ploughing the land, lifting the soil, exposing a fresh surface to the sun and air. What we aim at by these means is to mix and lighten up the layer of earth in which we place manure for the growth of plants—to soften and reduce it, so that the seeds we sow on it may be covered, each of them, by moist particles smaller than itself—to feed and mellow it so that the young plants shall spread their roots abroad without difficulty and find the food they need for growth."—"Well, but"—may not the answer be—"these teams with the men and boys and tools belonging to them, weigh 40 cwt. apiece, and to take those 40 cwt. trampling and sliding along every 9 or 10 inch width of the soil you want to 'lighten up' and 'soften,' is an odd way of going to work, isn't it?" The answer which is given to this is not satisfactory. "We well know," it is replied, "that there is nothing like treading with teams of horses or of oxen for hardening the ground. Indeed when the land is loose about the young Wheat plant it is in some districts in the early spring a common practice to adopt that plan of hardening it—but in ploughing they walk along the *furrow*, and the tool too slides along in their wake *below* the layer of the earth we move, which therefore may be lifted, broken, and loosened, untrodden, notwithstanding we are forced to use a team and a tool which must harden what they tread upon." This answer does not satisfy the Theorist, and I do not think it *ought* to satisfy either him or any other man.

Of course he immediately thinks of the difference in the fertility of deep and shallow soils—he thinks of the plants he has seen drooping in undrained flower pots—he thinks of the deep layer of cultivable material, beneath the foot-floor of these teams, which is covered by them with an impenetrable roof. And there are many other considerations which prove to

him that tools drawn over and through the ground which cannot go below a certain ordinary depth, nor there without doing as much mischief to what lies below them as they do good to what lies over them, are not the best adapted to tillage operations, and that is the predicament in which all horse and ox-drawn implements stand, excepting only those which are intended for the purpose of pressing the soil—rollers, land pressers, clod-crushers, and the like. But if you will have patience with the Theorist for about five minutes longer he shall speak his mind on the subject in his own fashion, and then we shall leave him and hear what the practical and experienced man has to say upon our subject.

The following then is the address of the Theorist to a company of agriculturists. He says:—

Gentlemen,—I think it will be generally admitted that we do get some good by considering the *reasons* of our practice, and by studying the way in which that which is done in the field is believed to tell at harvest time, even though no immediate alteration should follow in the plans which have been always adopted. It is well for example sometimes to talk of agriculture not merely as a business by which crops are grown and rent is paid, which of course it is, but also as a set of processes by which the powers of chemistry and of life are wielded for the growth of animals and plants, which of course it also is—a sort of natural and living chemistry, in fact, by which certain particles in the soil and air are gathered up and assorted and combined, so as to become food for living plants and animals. That of course is the truth, for it is simply on the combination of certain atoms in the soil and air that all growth of plants depends. If the atoms that are wanted from the soil are not in the soil, or are not *accessible* there, for that is the same thing in its result, the plants will starve, and if the wrong sorts are there the plants will be poisoned; and the operations of tillage are what experience has shown to be the best adapted to bring the particles of the soil and air into use in this way. Now it is the fact, ascertained by actual examination by men who know and can recognise these particles when they are present, that there is abundance of nearly all of them that plants can want in our soils and subsoils. You add ammonia in guano and in dung, you add phosphoric acid in bone dust and superphosphate; you add potash and soda in ordinary farm-yard dung, in wood ashes, and common salt; but there is already in all ordinary soils a much larger quantity of ammonia or nitrogen and potash, and even of phosphoric acid and some other things, without which plants cannot prosper, than any ordinary dressing of the usual manures contains. The small quantity added produces its effect, while the large quantity to which it is added is inert and ineffective, because the former is at once dissolved in the soil-water, and taken up by the roots of plants, while the latter is held locked up as in a treasure box of which the key cannot be found. A heap of earth out of which all the dissolvable material has been washed that will yield to washing, has not thereby lost it all. Let the heap lie exposed to air with the rain water trickling through it for a month, and it will yield another lot of soluble material to a second and third, and many successive washings; and this shows that the key to your treasure box consists in exposing it throughout its extent to the action of the air and rain. To do this you stir it deeply and you drain it. The latter enables the active rain water to trickle through it just as it does through the heap lying on the ground, and the former introduces active air directly into the land. If you dig a hole in the hardened ground, you will not easily get back into it all that you have taken out of it, and the heap remaining over represents the bulk of the air which you have introduced by stirring it. The fertility of a soil depends, then, upon the soil, not only actually but accessibly, containing abundance of the stuff on which plants feed—it depends on the right plants being put to feed upon this stuff—and it depends on the soil being fitted as to consistency, dryness, and warmth, to the habits and constitution of the plants in question. Over nearly all these circumstances tillage exerts immense influence. Of course you must choose the right plants to sow and grow in order to fertility.

Supposing however that the right plants are there, the feeding of them and the adaptation of the land as to consistency, drainage, and even warmth, are all greatly affected by the tillage of the soil. The land must be drained, there must be either an artificial or a natural drainage, the rain water, which is both food and feeder, must be allowed to pass through the land, and no doubt food must be directly applied in manure. Plants need a number of substances as food, and all of them are equally important. It is that one of the lot of which there is least in proportion to the wants of the plant as we cultivate it that rules the crop, and if Nature does not supply it, Art must. It is thus that ammoniacal dressings seem especially to favour the growth of, Grasses—that bonedust containing phosphoric acid rules the growth of Turnips and so on. But the soil, and especially a clay soil, contains naturally abundance of these things. If however you stir only a shallow layer—only a half depth—of this soil, it is on the face of it plain that you have only half the feeding ground for your crop; or, going a full depth if you cultivate it imperfectly—if it be not reduced to tilth—you may thereby create only half the proper quantity of internal surface—that inner surface which wraps around all the particles of which the soil consists, which is doubled by every halving of the size of these particles, and on which depends the extent both of the pasturage within the soil on which plants can feed and on which air and rain-water can deposit or prepare the food plants feed upon. And moreover, supposing you have been able to cultivate a full depth of soil and to reduce it to a satisfactory tilth, if you do it in a way which lays a floor more or less impervious beneath it, through which the rain-water cannot readily pass, why then your work will not last, it will be liable to clog up again; and the chances are that the rain-water, lodging in the midst of it, will starve instead of feed the roots growing there, and the plants will perish of cold and of starvation, if not of poison. Now all this, especially on clay lands, horse cultivation is very apt to do. A floor is laid at 5 or 6 inches deep by the plan of perpetually trampling in the furrow, and drawing the tillage tool upon its sole plate there. Your scanty layer of earth upon this floor is teazed and worried year after year with very little chance, for want of drainage, of getting its treasures fairly opened for the use of the crop, and the land is cold and wet. Drain it and break up this pan, and expose a greater depth to the action of percolating rain water, and you will have food and warmth and proper dryness at once. It is the Theorist, remember, who is now speaking, but you no doubt know lots of instances near Oxford where all this has been done, where for poor, rushy, sedgy Grass, worth 10*s.* to 14*s.* an acre, there is now substituted the finest promise of Oats, and Wheat, and Beans, and so far as the appearance on the ground at present is concerned, the land looks tripled and quadrupled in value. All this has been done by tillage—by drainage, which is essentially a tillage operation—by steam cultivation, which on clay land is the only perfect method of effecting tillage, and thereafter by substituting for the starved growth of the natural surface the seeds of more useful plants for man and beast. Gentlemen, our little island contains stored up upon its surface an enormous supply of food for plants. The very guano island, transported bodily and spread over it, would not I believe be a very large proportionate addition to the quantity of our existing plant food. Of course it would add greatly to the fertility of the land, but that is because the stuff thus added would be immediately accessible—the larger inner natural store which we already have may however be made more immediately and directly useful than it is. The treasure box may be better opened than it is—horse tillage, which tramples down more than it lifts and softens—which rivets the bolts upon a better treasure box than that which it imperfectly unlocks, must be displaced by the employment of a greater power—one which will lift and shatter a greater body of earth—one which can be applied from a distance, and will not indurate and poach the land it does not move.

So much for the Theorist, and there are lots of examples in this neighbourhood which prove that he talks good sense, and although we call him mere theorist let us remember that he is talking of what he knows to be fact—it is not mere speculation and supposition that he is urging on us. It is the truth that a deeper tillage, were it possible—a more thorough tillage if we could manage it of that which is already moved, *would* lay open a treasure-box of which comparatively little use is at present made. The theorist is urging a most important fact upon our attention, and the only reason why we place him in a class apart from the so-called practical man—one carrying less weight with men in actual business—is that he knows nothing and professes to know nothing of the expense of what he recommends us to do. It may be very good advice, it is a very good thing that he advises us to do, but even gold may be bought too dear. We want to know the cost as well as the results of steam cultivation, and therefore we turn with even greater interest to what men who have put it to the test can tell us.

Let me then first name those farms over which I have had the pleasure of walking in Oxfordshire, where steam cultivation is adopted, and I shall take the liberty of putting the tenants of some of them in the witness box before you.

Mr. Pullen, of Sutton Courtney; Messrs. Druce, of Eynsham; and, I believe, Lord Dillon, use Smith's apparatus. Messrs. Newton & Taylor, of Campfield, near Woodstock; Mr. Frampton, of Benson, near Wallingford; Mr. Majoribanks, of Fawley Court; and Mr. Dodd, of Chakenden, near Henley; Mr. Taylor, of Tetsworth; Mr. Langston, of Sarsden, use Fowler's apparatus. Mr. Williams, of North Court, near Abingdon; Mr. Dean, of Ewe Farm, near Wallingford; and his Grace the Duke of Marlborough, use Howard's apparatus. I have walked over the farms of Messrs. Pullen, Druce, Newton, Frampton, Dodd, Marjoribanks, Langston, Williams, Deane, and the Duke of Marlborough, and they have been good enough, many of them, to give me full particulars of their expenditure and labour, and on all of them I could see the results, even where the expense had not been fully related.

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Let us take Smith's tackle first, and as the oldest steam ploughman in this part of the country let us put Mr. Pullen in the witness box. Of course you will understand that in this evidence by him, I am putting words into his mouth, which however express the sense of what I have learned from him. He says:—

I bought Mr. Smith's apparatus immediately after the Chester Meeting of the English Agricultural Society in September 1858. The farm, which then consisted of 700 acres—600 arable—required 10 3-horse teams for its cultivation: 500 acres or more of the land are a free-working loamy soil—some few fields of a stiff clay soil. The apparatus cost 210*l.*; the 7-horse engine to work it cost, second-hand, 150*l.* With this there have been cultivated from 500 to 600 acres annually, and I have thus dispensed with four of my 3-horse teams. The annual cost of four teams is at least 400*l.*; the annual cost of the engine and apparatus is not more than 200*l.* There is thus a considerable saving in the actual money outlay in wages, food or fuel, and repairs annually. And there cannot be a doubt of the superiority of the work by steam power, crowded as it can all be into the best time of the year, instead of being tediously driven into short days and wet and wintry weather. The farm now consists of 800 acres, 700 being arable; the number of horses kept is 20. The steam cultivator is still kept constantly employed. After two years' use of the original 7-horse engine, it was sold at a loss of about 20*l.*, and a new 8-horse double-cylinder engine by Roby, of Lincoln, was bought for 300*l.* The very same cultivator that was originally purchased is still in use. A third rope was bought last year; the second rope is still to some extent useful, so that the rope lasts rather more than two years, costing thus 20*l.* to 25*l.* a year, or considerably less than 1*s.* an acre of the work done by it. The other annual out-goings are not more than 25*l.*—5*l.* for repairs of rope porters, 4*l.* for new shares for cultivator, 4*l.* for repairs of grubbers, and the remainder for repairs of engine.

The work done in the spring of 1862 was 166 acres of grubbing Turnip fold, &c., for Barley, and 129 acres of stubble for Turnips. The work done in the autumn was 206 acres, chiefly of Bean stubble and Clover lea for Wheat, and 50 acres of Wheat stubble for Barley. This amounts in all to 550 acres, which is about the average quantity accomplished in the year. Of this 263 acres were done the first time, the same quantity was done a second time, and 25 acres were done a third time over. The work done the first time with the three-tined implement is accomplished at the rate of 5 or 6 acres a day; the subsequent cultivating is done with the five-tined cultivator, at the rate of nearer 8 or 10 acres a day. This is on my lighter soil, of which, indeed, the greater part of the farm consists, which has been already repeatedly cultivated by steam power.

Labour, coals, and oil cost about 24*s.* a day. The engine being employed 80 days in accomplishing the tillage (one way) of 550 acres, the work was done at the cost of 3*s.* 6*d.* an acre for fuel and labour; 1*s.* an acre (25*l.* a year) must be charged for repairs; 1*s.* an acre must be charged for rope. And there may also be charged 2*s.* an acre, viz., 55*l.* a year, or 10 per cent., on capital—to create a sinking fund which shall reprovide the apparatus when it is worn out. And the whole cost of my steam cultivation is thus at most 6*s.* 6*d.* an acre on the work accomplished. Of course to be strictly correct, 25*l.* or thereabouts—another shilling an acre—is chargeable for ordinary interest on the capital employed.

On the other hand, however, it must be remembered that the engine is constantly at work in other ways—in threshing, &c.—and that to charge the whole sum to which it is liable for repairs and interest on the 80 days when it is ploughing is unjust. On the whole, therefore, I do not believe that cultivating by steam power costs me 7*s.* an acre; and that is a sum for which such work could not be done by horses. Besides, its efficiency is such that a number of horses can be dispensed with whose keep and management alone cost nearly double that amount over the work that is accomplished.

That then is Mr. Pullen's account of his experience. He is not likely to give up steam cultivation. He is much more likely to induce his neighbours to follow his example.

Take now Mr. Druce's farm near Eynsham. The one occupied by Mr. Joseph Druce is about 700 acres (500 being arable) of poor stiff clay—much of it till lately in very poor Grass. The other, occupied by Mr. Samuel Druce, a lighter but variable soil, for the most part on gravel, though here and there on the clay—about 500 acres, of which 400 are arable. The two farms used to be worked by 27 horses and 22 oxen. Smith's tackle has been at work on the farm for three years: all the oxen are gone and eight of the horses. The tackle gets over from 300 to 400 acres or thereabouts on each of the farms in the year, doing something like 7 acres a day, including first and second time of grubbing in one average quantity. Thus Mr. Samuel Druce tells me that this spring he has grubbed 70 acres at various depth, 7 inches and upwards, and he has grubbed these 70 acres a second time—thus doing 140 acres of work altogether in 20 days, besides which there were five removals. The coals, costing 14*s.* a ton on the ground, are consumed at the rate of 8 to 10 cwt. a day—the oil costs 1*s.* 6*d.* a day—the wages 15*s.* 2*d.*, viz. for five men and three boys—the water is provided in wells wherever needed, and the whole expenditure in fuel and wages in 20 days, barring removals, thus comes to 23*l.* 10*s.*, which is a very small amount indeed for 140 acres, not exceeding 3*s.* 6*d.* an acre, and leaving an ample margin for tear and wear of rope, for wear of engine and apparatus, and for interest on capital. Putting the annual quantity down at 700 acres at 3*s.* 6*d.* or even 4*s.* for fuel and wages, and 1*s.* for rope, and adding 50*l.* a year for repairs and sinking fund, and 25*l.* a year for interest of capital, we have a total expenditure of 250*l.* a year on steam cultivation, for which we have got rid of nine horses, and by the displacement of 28 oxen, as well as by the increased fertility of the land, we can keep so much more stock.

Mr. Druce has had Smith's windlass three years, and has not yet spent more than 4*l.* 10*s.* upon it in repairs. His example may certainly be quoted as a capital one to follow.

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Let us turn now to Howard's apparatus and quote some instances of its adoption. Mr. Williams, of North Court, has had it for a year, working it with a 10-horse power engine, and he has done a great deal of work with it both on his own farm and on his neighbours—notwithstanding that he lets it out for work elsewhere, it has enabled him to part with one third of the draught labour on his own farm of 560 acres.

He has cultivated 670 acres—200 acres of it for neighbours—receiving generally 20*s.* to 25*s.* an acre for double work—the hirer supplying coals and water. The 470 acres which he has done at home have already enabled him to part with 10 oxen and 4 horses.

The average day's work of the apparatus is declared to be 5 to 6 acres of cultivation the first time over, and 6 to 8 acres of cultivation the second time over. In one instance 50 acres of land which had been cross-ploughed, were stirred with the three-tined grubber, and again with the five tined grubber, at the rate of 10 acres a day, including the labour lost in removals with the 7-horse power engine, working from 5 a.m. to 9 p.m.

The cost of repairs and of wear had not been great—6*l.*, or thereabouts, then would cover the whole of the breakages; in fact, 250 acres had been cultivated with breaking only one share. The wages paid are engineer, 15*s.* a week; windlass-man, 7*s.* a week; ploughman, 13*s.*; and the two anchormen, 12*s.* a week apiece. The two porter boys receive 4*s.* 6*d.* a week each; and the cost of water cart may be 21*s.* to 24*s.* a week. In addition to this, 3*d.* an hour for overtime is allowed to engineer, and 2½*d.* an hour for the other men engaged. The whole weekly cost, excluding overtime, is 4*l.* 10*s.* a week for wages and water. To this add 2*l.* 5*s.* a week for coal—half a ton being used daily, and coal costing 14*s.* to 15*s.* a ton in the field.

Mr. Williams's estimate of the cost is as follows:—

| | | | |
|---|---|---|---|
| Wages and water per diem | £0 | 15 | 4 |
| Coal | 0 | 7 | 6 |
| Oil | 0 | 0 | 6 |
| Interest | 0 | 1 | 8 |
| | £1 | 5 | 0 |

Equal to 5*s.* an acre over heavy work, or 3*s.* 6*d.* an acre over light work.

Besides this add per acre:—

| | | | |
|---|---|---|---|
| For removal | £0 | 0 | 8 |
| For rope | 0 | 1 | 0 |
| For repairs | 0 | 1 | 0 |
| For depreciation | 0 | 2 | 0 |
| | £0 | 4 | 8 |

Making the whole cost to vary from 8*s.* 2*d.* to 9*s.* 8*d.* per acre.

Mr. Deane, of Ewe Farm, Wallingford, has worked Howard's Cultivator since July, 1861.

His farm lies across two qualities of land, one of which is the best possible for steam cultivation—a stiff and stoneless calcareous clay, and the other the most expensive of all soils to work by the steam cultivator, where land is full of flint, and yet stiff enough to hold the flint firm while the wire rope is dragged over it.

He accomplished from 500 to 600 acres of steam tillage during 1862, at the rate of 5 acres a day, when the 3 tined grubber is used, and at the rate of 8 acres a day when crossing first work with the 5-tined tool. The 10 cwt. to 12 cwt. of coal burned daily by the 10-horse engine may be put at 12*s.* The wages and water cost 16*s.* 6*d.* a day. The cost of fuel and labour is thus 5*s.* 9*d.* an acre first time over, and 3*s.* 7*d.* the second time over per acre.

The cost of rope has been considerable, owing to the very

flinty soil which has been worked, and over which it seems to have been insufficiently carried. It must thus be put as high as at least 1s. 6d. per acre. Beyond this however the expenditure has been hardly anything. He has done 300 acres this spring.

Mr. Deane works 20 horses in addition to the 10-horse engine, but these are employed in much other work connected with the improvement of an estate out of order, besides the mere labour of cultivation.

Turn now to the results of Howard's apparatus on the Blenheim Home Farm, hitherto under the management of Mr. Scott :—

On a comparatively light and sometimes a brashy soil, the Duke of Marlborough has, since October, 1861, employed Howard's apparatus, drawn by a 10-horse power engine. The farm at the northern end of the park, a light brashy soil and 650 acres arable, and the other at the southern end of a heavier soil, 150 acres arable and as much pasture. Till lately the labour of the larger arable farm had been done by 22 horses. Since October, 1861, when the steam cultivator was purchased, both farms have been managed by 18 horses. And as five or six horses may be fairly put aside for the land which has been added, it may be said that the labour of the home farm is now accomplished by 12 horses in place of 21 or 22. Mr. Scott estimates the cost of horse keep at 23l. 15s. per annum. Add wages, shoeing, harness, maintenance of value, and the cost of the 9 or 10 horses saved, come to at least 350l.

What does the substituted steam power cost? The wages spent daily are in all about 18s. The coals consumed cost 5s. 6d. to 6s. a day. The oil is charged at 6d. a day. The whole charge amounts to 23s. 6d. a day. The usual day's work has been about 7 acres. This, therefore, amounts to less than 3s. 6d. per acre for one-way work.

During last year 348 acres were done over twice, and 104 acres were done over once. At the rate of the work during the previous autumn it must have occupied about 70 days, costing, therefore, about 82l. for labour and fuel, 25l. for nearly half a new rope, not 21l. for repairs of all kinds, and about 52l. (10 per cent.) for an annual sinking fund to meet the effect of tear and wear. The total expenditure cannot be more than 200l. a year, against the much larger sum spent on the team of horses which have been displaced. What this work during the past spring has been I have not ascertained.

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The witnesses for Messrs. Smith and Howard both tell a very satisfactory tale. Let me now turn to the examples of Fowler's apparatus, which, notwithstanding its greater cost, occurs in even larger numbers in this county.

Mr. Newton and Mr. Taylor, who have had a 10 horse-power threshing engine, furnished with Eddison's platform, carrying Fowler's clip drum and self-driving gear, which, with rope, and anchorage, and plough, and cultivator, cost about 500l., have done rather more than a year's work with it on the two farms. About 800 acres have been grubbed a good depth—a good deal below that of ordinary horse tillage, and the effect is seen especially in the shallow and brashy soil, by the greater ability of the crop to withstand a drought. The remaining work of the farms, which used together to take 40 horses and some 16 oxen, has been done by 29 horses alone, so that 11 horses and 16 oxen have been saved by the partial use of a 10 horse-power engine applied in this way, for it does all the threshing of one of the farms besides.

On the larger farm of the two, however, it appears that too large a number of horses have been put down, and that the saving on the one farm may be put at six horses, and on the other it is more likely ultimately to be one or two horses only, with the 16 oxen which were formerly employed. The quality of the work, especially that of the cultivator, is first-rate; and certainly the cleanliness, colour, and vigour of the Wheat, Barley, and Bean crops on Mr. Newton's farm, through which I walked yesterday, prove that both the tillage and the manuring of the land are in the hands of a liberal and energetic manager. The quantity of the work has averaged 10 acres a day when cultivating. The wages paid are 1l. a week to both engineer and ploughman, 15s. to anchormen, 7s. or 8s. a week apiece to three boys. In all less than 4l. a week, or with the water-cart about 15s. a day; the fuel costs about 7s. 6d. a day, and the oil 1s.; so that the cost of fuel and wages and oil and water is less than half a crown the acre. The wear of rope has been considerable. The cost of repairs has been slight, barring one breakage, which was purposely done at a cost of 10l., owing to the absence of a key which would have cost 1s. 6d. Mr. Newton and Mr. Taylor are pleased with their purchase and their experience, and I do not see how they could be otherwise than satisfied.

Take now the case of the Sarsden Farm of 1150 acres, 800 being under the plough.

Mr. Langston was the purchaser of a 10-horse power engine and Mr. Fowler's apparatus so long ago as July, 1858. Up to May, 1861, that is, during two years and two months, it had ploughed 680 acres, and scarified 450 acres. The ploughing was on the average at the rate of 5 acres a day, including all removals and stoppages, and the scarifying was at the rate of 10 to 12 acres daily. The whole daily cost in wages and water was 14s.; and as 680 acres of ploughing had taken about 135 days to do, and 450 acres of cultivating had taken about 35 days to do, there had then been wages paid on 170 days, equal to 119l. in all. Besides this 170 days' consumption of coal cost 84l. 10s., and the cost of oil was about 8l. 10s., or 93l. in all. The wear of rope, according to the experience of those first two years, was at the rate of 30l. every other year for a certain portion, and 25l. every three years for the rest—in all about 24l. a year, or for the period 52l. The cost of repairs had not been more than 18l. during the time. The cost of the apparatus, including new implements, had been 860l. This included various alterations. The sum chargeable for depreciation per annum, at 10 per cent., amounts to 86l. a year, or 176l. 8s. over the two years and two months. The whole expenditure for the period thus amounted to 546l. 10s., or barely 10s. an acre over the work accomplished. Excluding the large item of 10 per cent. for depreciation of value, the expenses are barely 7s. an acre.

In the course of 1861 a new clip drum was put to the old engine, and the apparatus was parted with for use on another home farm. In August, 1860, a new 14-horse power engine, with the clip drum, a balance plough, and cultivator, with the arrangement in it for taking up the slack rope, was procured for the use of the Churchill Lodge Farm; and this did 525 acres of grubbing with the digging breasts upon the balance plough in the autumn of 1861 and the spring of 1862. Since the Battersea Meeting, and during the autumn of last year, it was again vigorously at work, accomplishing 504 acres of grubbing part seeds for Wheat, and of Wheat stubbles for Beans, Mangel Wurzel, &c. The rope purchased in 1861 has now done close on 1200 acres of work, and will last another year with ease. This is a great improvement upon the expense of the first two years, both as to quantity of work accomplished and as to tear and wear of rope. The average daily work, too, is improved. They can now plough close on six acres a day, and cultivate with the digging breasts 8 to 10, including all the time lost in removals.

It is a great saving which, for the food of some nine or ten horses and ten bullocks, substitutes 1s. 6d. an acre for coals, 1s. 6d. an acre for wages, 1s. an acre for wear of rope, and perhaps 1s. 6d. an acre for tear and wear and depreciation of value.

Mr. Savidge reports thus of his spring work:—The season has been so favourable for steam work that it has truly been farming made easy. We commenced our spring work in February, and up to this time we have grubbed 431 acres at from 6 to 10 inches deep; our only breakage has been eight bottom clips and two rope eyes pulled off. I may here state that in several fields we have used a large 4-horse drag by the side. Our rope after two years' hard work is but little worn. Our crops are promising, particularly the Wheat, and the fallows all clean.

As a last detailed report I may refer to Mr. Frampton, of Benson, near Wallingford.

He occupies 600 acres of arable land, cultivated chiefly on the 4-field course. The cultivation has hitherto engaged 24 to 26 horses, mostly worked in 3-horse teams, besides two or three teams of oxen during winter. There are now 18 horses employed, and the work is done more easily now than formerly. The saving—equal, taking the oxen into account, to probably nearly three teams of horses, costing at least 300l. a year—has been effected by adopting Fowler's steam plough. In the spring of 1861 he purchased Fowler's 10-horse power engine and a four-furrow plough and all the necessary apparatus for steam cultivation; and in that year, including its remarkably dry and useful autumn, it did good work; ploughing 97 acres and cultivating 57 acres in 31 days, at the rate of 3 or 4 acres a day for ploughing, and twice as much for cultivating. There was the time and labour of six removals included in this time, and the cost was 17l. 9s. 2d. for wages, and 19l. 16s. 4d. for coals, &c. The cost of ploughing for these items was about 4s. 10d. per acre. During 1862 he ploughed 395 acres and cultivated 145 acres at a cost of manual labour (including water-cart and horse) of 73l. 10s., and at a cost for coal and oil of 67l. 14s. This was at a cost of about 5s. 3d. per acre for these items.

This spring he reports that he has ploughed 196 acres, and grubbed 119 acres from 7 to 9 inches deep in 51 days at a cost of 42l. in coal, 2l. 11s. in oil, 25l. 6s. in wages and very trifling repairs. This performance has been at the rate of 5 acres a day ploughing, and 10 acres a day grubbing, at a cost of 70l. for coals, oil, and fuel, covered by 5s. 6d. an acre for the ploughing, and 2s. 9d. an acre for the cultivating. To this must be added the cost of tear and wear of rope and engine, and interest of capital.

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In all these examples, then, we have on the one side an evident economy, and on the other an evident advantage from steam tillage. The reports universally are, that there is both a saving of expense and a superiority of tillage by the substituted steam power; and I do not know one in this neighbourhood where an absolute failure is confessed. There are, however, a great many, no doubt, who do not yet believe in either the economy or the advantage which is claimed. And if we put one of them into our witness box, he will probably ask—How is it that we find so many instances where the apparatus has been let out for hire at very much higher prices than any you have named where the proprietor and letter of the apparatus has not succeeded? I know two or three at this moment who have not succeeded, and several who have abandoned the speculation after losing hundreds, besides a whole company which tried it—in Gloucestershire, and were forced ultimately to call in their liquidator and divide—the *loss*.

In answer to this, it must be remembered that the *letter* of a steam cultivator is in a very different position from the man who owns one and uses it on his own land. He sends his apparatus long distances. He gets only the roughest jobs to do which horses cannot do. He always has fresh land, never cultivated so deep before, to undertake; and above all, he has a staff of men to maintain whether they are at work or not.

The farmer who owns a steam cultivator—removes at most from one field to another. Mr. Druce has had five removes this spring; he showed me one of them—the engine was moved barely 5 yards. If he had been letting out his tackle it would have been more probably five miles. His land once well steam ploughed carefully and cautiously, let us suppose even at a loss because of its slowness, is ever afterwards capable of being worked at double speed. No more land-fast stones or tree roots will break his tackle, and he can go ahead like Mr. Edmonds, of East Leach, who has this spring already cultivated 713 acres, and ploughed 15 with his 14 horse-engine in 48 days, at a cost of 36l. for coals, 3l. 12s. for oil, 31l. for wages, 18l. for water-cart, and 15l. to 20l. for repairs—under 100l. in all, or less than 3s. an acre. And, lastly, the man who works his own tackle on his own farm sets his men to other work when they are not steam ploughing.

But I am not satisfied with answering in this way the objections derived from the experience of those who let out their tackle for hire; I think the objection may be made to recoil upon the objectors; for look at the prices which men are willing to give for steam cultivation—10s. to 12s. an acre, besides coal and water, for ordinary work,—16s. to 20s. an acre for deeper and more difficult work. This is their own valuation of the work. Suppose a farmer was to put to his credit the work done upon his farm at rates such as these—take Mr. Edmonds for example, who has spent just 34l. 12s. for wages and oil, and 15l. to 20l. for repairs in doing 738 acres of work, for which he might claim so large a sum according to the minimum rate—do you suppose that there is no profit there—that the hundreds of pounds which he has thus earned over and above his expenditure are exhausted in tear and wear of rope or engine? And lastly, I think many do not know at what cost the less perfect horse tillage of their farms is done. Horses cost 30l. to 40l. apiece per annum, taking wages, food, tradesmen's bills, and tear and wear into account, and we can get rid of 8 or 10 of them on every large farm by an apparatus costing less to work and doing better work.

*Doing better work*: it is on that, the question hinges after all.—As I said before I have nothing whatever to do with any of the manufacturers of any of these machines, but being interested in agricultural questions, and it being my business as having charge of an agricultural journal, to examine and report on the examples of agricultural progress one sees all around him now-a-days—and nowhere more than here—I am glad of any opportunity of making known the success of the several plans they have devised, and I hope that those gentlemen who have an experience on this subject to relate will follow the example which, at the request of this Club, I have thus very imperfectly set them.

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## Miscellaneous.

*Adulteration of Milk.*—At the last meeting of the Board of Guardians of the South Dublin Union, the following report on the composition of the milk supplied to the workhouse, by Professor Cameron, M.D., was read:—

"Dublin, 6, Waterloo Terrace, Upper Leeson Street, May 5.

"Dear Sir,—I have been so very busy since I received the last specimen of milk which you desired to have analysed, that it is only now I have been able to bring my experiments upon, and in relation to it, to a close. Their results I beg to communicate to you for the information of your board of guardians. This specimen, as well as the previous ones which I examined for you, contained no ingredient foreign to milk, but its proportion of water was so considerable, and its per centage of butter so low as to indicate unmistakeably that the proportion of these constituents had been artificially adjusted by the milkman. This will be at once apparent if you compare the following analyses:—

Centesimal composition of pure milk (average quality).

| | |
|---|---|
| Water | 87.5 |
| Butter | 3.5 |
| Casein and albumen (cheesy matter) | 4.0 |
| Sugar | 4.5 |
| Saline matter | 0.5 |
| Total | 100.0 |

An analysis of milk (M'Cabe's) supplied to the South Dublin Union Poorhouse. One hundred parts contain:—

| | |
|---|---|
| Water | 91.28 |
| Butter | 2.16 |
| Casein and albumen | 3.37 |
| Sugar | 2.54 |
| Saline matter | 0.65 |
| | 100.00 |

"The above figures show that the milk supplied to the poorhouse contains 30 per cent. less of fixed or nutritive matter than is found in pure milk, and that, consequently, it is one-third less valuable as an article of food. Although the relative proportions of the nutritive constituents of milk vary considerably, the fluctuations in its amount of water are confined within very narrow limits. One specimen of milk may contain 50 per cent. more butter than another, but it will be relatively deficient in sugar or in casein, and in both the percentage of water will be nearly, if not quite, equal. With the view of ascertaining whether or not the proportion of water in normal milk is ever so low as that which I found in the suspected sample, I determined the amount of that constituent in 12 specimens of pure milk, the produce of different cows. The results were as follow:—

Per centage of water—

| | | | |
|---|---|---|---|
| No. 1 | 87.00 | No. 7 | 87.88 |
| No. 2 | 86.98 | No. 8 | 88.42 |
| No. 3 | 87.84 | No. 9 | 87.59 |
| No. 4 | 87.84 | No. 10 | 88.06 |
| No. 5 | 87.96 | No. 11 | 87.35 |
| No. 6 | 87.78 | No. 12 | 87.56 |

"The proportion of water in the suspected sample was 91.28, or nearly 3 per cent. greater than the amount contained in the poorest sample of the pure milk. This circumstance, together with the fact of its being deficient in butter, clearly shows that it had been deprived of a portion of its cream, and abundantly diluted with water before it was delivered to you—facts which, no doubt, your lactometer failed to indicate, as that instrument is a most fallacious guide in the attempt to estimate the nutritive value of milk. It is a somewhat general belief that plaster of Paris, chalk, flour, and brains are employed as adulterants of milk; but, excepting one instance, where I found a small proportion of chalk, I have never detected any of these substances in milk. I have, however, rather frequently noticed the presence of common salt. In this respect my experience is in complete harmony with that of the London chemists who have devoted themselves to the detection of the adulteration of food. Dr. Hassall, the analyst to the Lancet Sanitory Commission, examined 23 specimens of the milk supplied to London; 12 of them were found to be genuine, and the others were adulterated with 10 to 50 per cent. of water; in no instance was any other adulterant detected. There is no doubt but that the milk supplied to the inhabitants of Dublin is almost invariably adulterated with water, and deprived of a portion of its cream before it comes into the hand of the consumer. As a necessary consequence, it is very deficient in nutritive power." *Charles A. Cameron, Public Analyst to the City of Dublin, in the Irish Farmers' Gazette.*

*Grain-bearing Grasses.*—Aullo (Paspalum frumentaceum), and Munyo and Kodro (P. scrobiculatum), supply in India a cheap grain, which is considered wholesome. The latter, under the name of Koodaka, is cultivated in the Gawel range north of Berar, and forms the staple food of the natives. Fundungi is a small edible grain produced by Paspalum exile, which is much cultivated and

esteemed in Sierra Leone and other parts of Western Africa by the natives, to whom it is known under the local name of Hungary Rice. It produces a semi-transparent cordiform grain, about the size of a Mignonette seed. The ear consists of two conjugate spikes, the grain being arranged on the outer edge of either spike and alternated; they are attached by a peduncle to the husk. It is sown in May and June, and ripens in September, and grows to the height of 18 inches; its stems, which are very slender, are bent to the earth by the mere weight of the grain. The grain is trodden out with the feet, and is then parched or dried in the sun, to allow of the more easy removal of the chaff and the process of pounding, which is performed in wooden mortars. It is then winnowed with a kind of cane fanner, on a mat. Teff (Poa abyssinica) is another African grain used for food. Bread is made of it by allowing the dough to become sour, when, generating carbonic acid gas, it serves instead of yeast to leaven it. It is then baked in circular cakes, which are white, spongy, and of a hot acrid taste, but easy of digestion. This bread, carefully toasted and left in water for three or four days, furnishes the bousa or common beer of the country, similar to the quas of Russia. Polish Millet, or Manna Kroup, is produced by Glyceria fluitans. This genus succeeds best in very wet districts, and produces such abundance of sweet seeds that they are exported from the Syrian coast and sold in Turkey, Hungary, and the South of Germany, under the name of sweet Manna seeds for the table, where they are presented in the form of soup, puddings, and confections of various kinds. In Russia and North America the seeds are also collected. Bryant, in his 'Description of California,' says he saw five old Indian women gathering Grass seed for bread. This process is performed with two baskets, one shaped like a round shield, and the other having a basin and handle. With the shield the top of the Grass is brushed, and the seed by the motion is thrown into the deep basket held in the other hand. *Technologist.*

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By Mr. J. B. SPEARING, Moulsford, near Wallingford, Berks, during the week ending May 27, 1863.

| Day of Week. | Day of Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. Inches. | Dry Bulb Thermometer. | Wet Bulb Thermometer. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud 0–10. | Reading of Self-Registering Thermometers. Max. in Air. | Min. in Air. | Max. in Rays of Sun. | Min. on Grass. | Rain Fallen in previous 24 hours on the Ground. Inches. | Temperature of the Earth. 1 foot deep. | 2 feet deep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Thursday .. | 21 | 30.20 | 53° | 50° | E. | 2 | 6 | 54° | 44° | 67°* | 42° | 0.17 | 52½° | 52½° |
| Friday .. | 22 | 30.11 | 49 | 45 | E. | 2 | 7 | 57 | 34 | 83 | 31 | .. | 52 | 52 |
| Saturday .. | 23 | 29.91 | 51 | 46 | E. | 3 | 5 | 55 | 30 | 92 | 27 | .. | 51½ | 52 |
| Sunday .... | 24 | 29.92 | 54 | 50 | E. | 2 | 4 | 60 | 32 | 109 | 28 | .. | 51½ | 51½ |
| Monday .... | 25 | 29.99 | 60 | 47 | E. | 2 | 8 | 66 | 36 | 120 | 34 | .. | 53½ | 52 |
| Tuesday .. | 26 | 30.20 | 50 | 47 | E. | 2 | 7 | 62 | 31 | 118 | 27 | .. | 53 | 52½ |
| Wednesday | 27 | 30.29 | 60 | 55 | N.W. | 1 | 2 | 68 | 36 | 122 | 32 | .. | 53 | 52½ |

* These readings are taken from a Vacuum Solar Radiation Thermometer, which registers from 20° to 30° higher than an exposed blackened bulb.

### Notices to Correspondents.

BOOKS: *Enfield.* We do not know any work especially on your subject, but most agricultural works refer to it. It is matter more appropriately for an article in the *Agricultural Gazette*, and we shall refer to it soon.

MANGEL: *G R A.'s* maggot between the skins of Mangel leaves is an Anthrax, which for the last dozen years or thereabouts has made havoc with Mangel in the north of England—hand picking and high cultivation are the only remedies.

MANURE FOR PASTURE: *Metropolis.* In the absence of farm yard or town dung, probably bone dust applied now will be most beneficial to the Grass. If you get some well broken and mix it with some damp mould to heat and rot before applying, it will be more immediately active: 16 bushels an acre are a good dressing.—The Thorn and hedges of it are to be grown just as any other plant is cultivated, by planting in land properly prepared, and taking care that no other plant is growing with it. Clean the hedge, stir the earth about the roots, and cover them up with good compost mould.


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

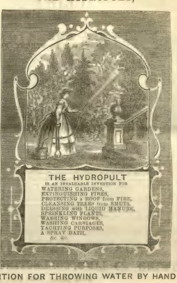
THE HYDROPULT.—"All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines."—*Gardeners' Chronicle and Agricultural Gazette.*

THE HYDROPULT.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

THE HYDROPULT.—"Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

THE HYDROPULT.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

THE HYDROPULT.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces."—*Mechanics' Magazine.*

THE HYDROPULT.—"It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation."—*Illustrated News of the World.*

THE HYDROPULT.—"Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner."—*Builders' Reporter.*

THE HYDROPULT.—"Many of the most scientific men of the age are daily inspecting and testing its uses."—*Age We Live In.*

## AN INVENTION FOR THROWING WATER BY HAND POWER

(SECURED by ROYAL LETTERS PATENT),

Price **TWO GUINEAS**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain.

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

THOMAS RIVERS, Esq., the eminent Florist, SHIRLEY HIBBARD, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.

EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.
"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "PERCY M. DOVE, Manager."
"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. HALLOWS, Secretary, Caledonian Insurance Company."

**CAUTION:** Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; GRIFFITHS & BROWETT, Manufacturers, Birmingham; CHARLES P. BUTTON, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult.

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. SPENCER, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE! FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

THE HYDROPULT WILL BE ON EXHIBITION AND FOR SALE

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GREAT INTERNATIONAL DOG SHOW, MAY 25, 26, 27, 28, 29, and 30.

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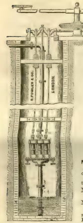
WEST END DEPOT, 309, REGENT STREET, W



37.

# CLINTON & OWENS,

(LATE BENJAMIN FOWLER & CO.),

MANUFACTURERS OF

## PUMPS AND HYDRAULIC MACHINERY,

WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.

THE Landscape Sketch shows an adaptation of THE IMPROVED HYDRAULIC RAM. This is a simple Self-acting Machine, suited for raising a Supply of Water for use in Public and Private Establishments. Its adoption is not confined to positions as shown, but it is suited for any situation where a Fall can be obtained from a Stream, Brook, or Spring.

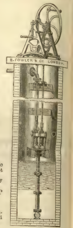
Messrs. FOWLER have fixed a great many in various parts of the country for raising from 600 to 6000 or more Gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes 50 yards to several miles in length.

No. 37. IMPROVED TREBLE BARREL PUMPS with HORSE GEARING for raising water from DEEP WELLS for the supply of MANSIONS and PUBLIC BUILDINGS.

No. 28*a*. DOUBLE BARREL PUMPS for HAND-POWER for similar purposes.

Messrs. FOWLER & Co. Manufacture and Erect every description of Engineer's Work required in Public or Private Establishments, such as Pumps for any purpose on the largest or smallest scale, Steam Engines, Water Wheels, Turbines, Warming and Drying Apparatus, Baths, Gas Works and Fittings. Estimates furnished from Plans or on inspection of position.

*Price Lists of Pumps, &c., free on application.*



28

# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.

THE FIRST PRIZE INTERNATIONAL EXHIBITION MEDAL AWARDED.

NEW HORSE MACHINE.

NEW PONY MACHINE.

NEW HAND MACHINE.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved and their success established.

These Machines will MOW EQUALLY WELL on UNEVEN as on LEVEL LAWNS, and whether the GRASS be WET or DRY. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

### SHANKS' NEW PATENT HORSE MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 1.—48-inch Machine ... | £28 0 0 ... ... ... | 40*s.* extra. |
| No. 2.—42-inch Machine ... | 26 0 0 ... ... ... | 40*s.* „ |
| No. 3.—36-inch Machine ... | 22 0 0 ... ... ... | 30*s.* „ |
| No. 4.—30-inch Machine ... | 19 0 0 ... ... ... | 30*s.* „ |

Silent Movement, 20*s.* extra; Boots for Horse's Feet, 24*s.* per set.

### SHANKS' NEW PATENT PONY and DONKEY MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 5.—30-inch Machine ... | £15 15 0 ... ... ... | 30*s.* extra. |
| No. 6.—28-inch Machine ... | 14 10 0 ... ... ... | 30*s.* „ |
| No. 7.—25-inch Machine ... | 12 10 0 ... ... ... | 25*s.* „ |

Silent Movement, 12*s.* 6*d.* extra; Boots for Pony, 21*s.* per set; ditto for Donkey, 16*s.* per set.

### SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.

| Width of Cutter. | | |
|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 17 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 7 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine ... ... | 7 12 6 | *Ditto by a Man and Boy.* |

| Width of Cutter. | | |
|---|---|---|
| No. 11.—16-inch Machine ... ... | £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 2 6 | *Ditto ditto by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25*s.* extra; Silent Movement, 7*s.* 6*d.* extra.

No. 16.—12-inch Machine, for pushing only, £5 5*s.* Easily worked by a Lady or a Boy; Silent Movement, 4*s.* extra.

*_* *The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

PATENTEES AND SOLE MANUFACTURERS:

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.

LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

*A Stock of Machines kept at the London Depot, from which Orders can be at once executed.*

## NEW PATENT DOUBLE-CYLINDER GARDEN ROLLER.

This Roller will turn round the sharpest curves or angles, and even in its own length, without damaging or disfiguring either Grass or Gravel in the dampest weather.

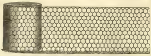
Although the Patent Garden Roller is somewhat heavier than the ordinary Roller, it is used with much less labour, especially in winding walks and borders, and the work, especially on Grass, is much better done.

PRICES.

| | | | |
|---|---|---|---|
| 20 Inches | ... £3 5 0 | 26 Inches | ... £4 15 0 |
| 22 " | ... 3 15 0 | 28 " | ... 5 15 0 |
| 24 " | ... 4 5 0 | 30 " | ... 7 0 0 |

## IMPROVED PREMIUM WIRE NETTING.

GREAT IMPROVEMENT, WITH REDUCED PRICE.



PRICES PER LINEAL YARD 24 INCHES HIGH.

| Size of Mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra Strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Jap | Gal. | Jap | Gal. | Jap | Gal | Jap | Gal. |
| 2 in. | Poultry .. .. | 3½d. | 4½d. | 4d. | 5d. | 5d. | 6½d. | 6½d. | 8d. |
| 1⅝ in. | Small Rabbits .. | 4d. | 4¾d. | 4¾d. | 6d. | 5½d. | 7d. | 7d. | 9d. |

**Quantities of 100 yards or upwards delivered free at nearly all the principal Railway Stations and Shipping Ports in England; and 200 yards or upwards delivered free to most parts of Scotland and Ireland.**

*** Every description of Netting warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.

## GARDEN ENGINE.

Of improved make, painted Tub, with Registered Spreader complete—to hold 12 Gallons, £3 5s.; 16 Gallons, £3 15s.; 20 Gallons, £4 10s.; 30 Gallons, £5 5s.

GARDEN SEATS and CHAIRS, IRON and WIRE ARCHWAYS, CAST-IRON VASES, and every description of Horticultural Machines, Tools, and appliances.

*Every article guaranteed to be satisfactory.*

☞ CATALOGUES of AGRICULTURAL IMPLEMENTS, &c., in Parts as under, Free on application:—

**Part I. Implements of Tillage, &c. | Part II. Harvesting and other Machines. | Part III. Barn Machinery and Miscellaneous.**

J. B. BROWN AND CO., 18, CANNON STREET, CITY, LONDON, E.C.

# THOMAS MILLINGTON,

## GLASS MERCHANT. (Established 1750.)

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

# REDUCED TARIFF FOR SHEET GLASS AND HORTICULTURAL GOODS.

THE AGRICULTURAL HALL, ISLINGTON, CONTAINING AN ACRE OF GLASS, WAS SUPPLIED BY T. MILLINGTON.

Mr. Rivers and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home use and for Exportation.

PROPAGATING GLASSES.

| | | |
|---|---|---|
| 2 inches diam. | 0s. 3½d. each. | |
| 3 " .. | 0 4½ | " |
| 4 " .. | 0 5½ | " |
| 5 " .. | 0 6½ | " |
| 6 " .. | 0 8 | " |
| 7 " .. | 0 10 | " |
| 8 " .. | 1 0 | " |
| 9 " .. | 1 2 | " |
| 10 " .. | 1 4 | " |
| 11 " .. | 1 6 | " |
| 12 " .. | 1 9 | " |
| 13 " .. | 2 0 | " |
| 14 " .. | 2 6 | " |
| 15 " .. | 3 0 | " |
| 16 " .. | 3 6 | " |
| 17 " .. | 4 0 | " |
| 18 " .. | 5 0 | " |
| 19 " .. | 6 0 | " |
| 20 " .. | 7 0 | " |

FLOWER TUBES.
2d. each, or 1s. 6d. per dozen.

ZINC HAND GLASSES.
Painted and Glazed with 16-oz. Sheet Glass.

| | | |
|---|---|---|
| 12 inches .. | 5s. 6d. each | |
| 14 " .. | 6 6 | " |
| 16 " .. | 7 6 | " |
| 18 " .. | 8 6 | " |
| 20 " .. | 9 6 | " |
| 24 " .. | 11 6 | " |

If open top, 1s. extra.

BEE GLASSES.

| | | |
|---|---|---|
| 4 inches diameter | 0s. 6d. each | |
| 5 " | 0 8 | " |
| 6 " | 0 10 | " |
| 7 " | 1 1 | " |
| 8 " | 1 4 | " |
| 9 " | 1 8 | " |
| 10 " | 2 0 | " |
| 11 " | 2 6 | " |
| 12 " | 3 0 | " |

FLAT TOP BEE GLASSES.

| Height | Width | s. d. |
|---|---|---|
| 4 inches | by 7 inches | 1 6 each |
| 4½ " | by 7½ " | 1 9 " |
| 5½ " | by 7½ " | 2 0 " |
| 6½ " | by 8 " | 2 3 " |
| 7½ " | by 8½ " | 2 10 " |

FERN SHADES & STANDS.

| Ins. dia. | Shades. | Stands. |
|---|---|---|
| 6 .. | 1s. 4d. each. | 1s. 0d. each |
| 7 .. | 1 8 " | 1 3 " |
| 8 .. | 2 0 " | 1 6 " |
| 9 .. | 2 6 " | 1 9 " |
| 10 .. | 3 3 " | 2 0 " |
| 11 .. | 4 0 " | 2 6 " |
| 12 .. | 5 6 " | 3 0 " |
| 13 .. | 7 6 " | 3 6 " |
| 14 .. | 10 0 " | 4 0 " |
| 15 .. | 14 0 " | 4 6 " |
| 16 .. | 18 6 " | 5 0 " |

WASP TRAP, 2s. 6d. per doz.

Crystal Glass Shades, Ebony and Gilt Stands, Gas and Lamp Glasses, Chimneys and Globes, &c.

MILK PANS.

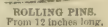
| | | |
|---|---|---|
| 6 inches diameter | 0s. 6d. each | |
| 8 " | 0 9 | " |
| 10 " | 1 0 | " |
| 12 " | 1 3 | " |
| 14 " | 1 9 | " |
| 16 " | 2 3 | " |
| 18 " | 2 9 | " |
| 20 " | 3 3 | " |
| 22 " | 3 9 | " |
| 24 " | 4 6 | " |

PRESERVE JARS.

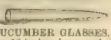
| In. diam. | Without Lids. | With Lids. |
|---|---|---|
| 3 .. | 0s. 4½d. .. | 0s. 6½d. ea. |
| 4 .. | 0 6 .. | 0 9 " |
| 5 .. | 0 8 .. | 0 11 " |
| 6 .. | 0 10 .. | 1 2 " |
| 7 .. | 1 0 .. | 1 4 " |
| 8 .. | 1 4 .. | 1 8 " |
| 9 .. | 1 8 .. | 2 2 " |
| 10 .. | 2 0 .. | 2 8 " |

FISH GLOBES.

| | Without feet. | With feet. |
|---|---|---|
| 8 inches diam. | | |
| 9 " | | |
| 10 " | | |
| 11 " | Per lb. | |
| 12 " | 7d. | 9d. |
| 13 " | | |
| 14 " | | |
| 15 " | | |
| 16 " | | |



ROLLING PINS.
From 12 inches long, 1½d. per running inch.



CUCUMBER GLASSES.
From 12 inches long and upwards, 1d. per running inch.

SHEET GLASS.

In Cases for cutting up, in Sizes as Manufactured.

| | 300 feet. | 200 feet. | | |
|---|---|---|---|---|
| | 15 oz. | 21 oz. | 26 oz. | 32 oz |
| Fourths quality .. .. | 33s. 6d. | 33s. 6d. | 39s. 6d. | 45s. 6d |
| Thirds do. .. .. | 42 0 | 42 0 | 49 0 | 56 0 |
| Seconds do. .. .. | 62 0 | 64 0 | 74 6 | 85 0 |
| Best do. .. .. | 88 6 | 88 6 | 103 6 | 118 0 |

CRYSTAL SHEET GLASS.

For Pictures and best Glazing purposes.

Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet .. .. .. 100s.
Second quality, in cases of 100 feet .. .. 62s.

Averaging 30 oz. to the foot.

Best quality, in cases of 100 feet .. .. .. 100s.
Second quality, in cases of 100 feet .. .. 52s.

**SQUARES, in 100 and 200 Feet Boxes.**

Small Squares not exceeding 9½ inches by 7½ inches.

| Ins. Ins. | Ins. Ins. | Ins. Ins. | Ins. Ins. |
|---|---|---|---|
| 6 by 4 | 7 by 5 | 8 by 6 | 9 by 7 |
| 6½ by 4½ | 7½ by 5½ | 8½ by 6½ | 9½ by 7½ |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 9s. 9d. | 11s. 3d. | 13s. 9d. | 16s. 9d. |

Squares not exceeding 14 inches by 11 inches.

| | | | |
|---|---|---|---|
| 10 by 8 | 12 by 9 | 12½ by 10½ | 14½ by 10½ |
| 10½ by 6½ | 12½ by 9½ | 13 by 10 | 15 by 10 |
| 11 by 9 | 13 by 9 | 13½ by 10½ | 13 by 11 |
| 11½ by 9½ | 12 by 10 | 14 by 10 | 14 by 11 |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 10s. 9d. | 12s. 3d. | 15s. | 18s. |

Squares not exceeding 20 inches by 18 inches.

| | | | |
|---|---|---|---|
| 15½ by 10½ | 14 by 12 | 17 by 13 | 24 by 16 |
| 16 by 10 | 14½ by 12½ | 18 by 13 | 20 by 17 |
| 14½ by 11½ | 15 by 12 | 18 by 14 | 22 by 17 |
| 15 by 11 | 15½ by 12½ | 22 by 14 | 24 by 17 |
| 15½ by 11½ | 16 by 12 | 24 by 14 | 20 by 18 |
| 16 by 11 | 16½ by 12½ | 22 by 15 | 22 by 18 |
| 13 by 12 | 17 by 12 | 24 by 15 | 24 by 18 |
| 13½ by 12½ | 18 by 12 | 22 by 16 | |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 11s. 6d. | 13s. 6d. | 16s. 6d. | 20s. |

Orchard House Sizes, as recommended by Mr. Rivers.

| Ins. Ins. | 15 oz. | | 21 oz. | | |
|---|---|---|---|---|---|
| 20 by 12 | 4ths .. | 11s. 6d. | 4ths .. .. | 15s. 0d. | Per 100 feet. |
| 20 by 13 | 3rds .. | 13 6 | 3rds .. .. | 19 0 | |
| 20 by 14 | 2nds .. | 16 6 | 2nds .. .. | 25 0 | |
| 20 by 15 | Best .. | 20 0 | Best .. .. | 30 0 | |
| 20 by 16 | | | | | |

Squares Cut to Sizes not on List.

| | 15 oz. | | | | 21 oz. | | | |
|---|---|---|---|---|---|---|---|---|
| Under | 4ths. | 3rds. | 2nds | 1st | 4ths | 3rds. | 2nds. | 1st. |
| 1 ft. super. | 1½d. | 1¾d. | 2d. | 2½d. | 2½d. | 1¾d. | 3½d. | 4½d. |
| 2 ft. super. | 1¾ | 2 | 2½ | 3 | 2¾ | 3 | 4 | 5½ |
| 3 ft. super. | 2 | 2¼ | 2¾ | 3½ | 3 | 3½ | 4½ | 6 |
| 4 ft. super. | 2¼ | 2½ | 3 | 4 | 3½ | 3¾ | 4½ | 6½ |

GLASS TILES, in SHEET and ROUGH PLATE. PLATE GLASS, PATENT PLATE, and HARTLEY'S IMPROVED ROUGH PLATE.

**PAINTS, COLOURS, VARNISHES, &c.**

| | Per cwt.—s. d. | | Per gallon.—s. d. | | Per gallon.—s. d. |
|---|---|---|---|---|---|
| GENUINE WHITE LEAD .. .. | 30 0 | FINE OAK VARNISH .. .. | 10s. to 12 0 | LINSEED OIL .. .. | 3 9 |
| ANTI CORROSION PAINT .. .. | 28s. to 34 0 | " CARRIAGE .. .. | 12s. to 14 0 | BOILED OIL .. .. | 4 2 |
| LINSEED OIL PUTTY .. .. | 8 0 | PATENT DRYERS .. per cwt. | 28s. to 42 0 | TURPENTINE .. .. | 8 0 |

MILLED LEAD in Sheet and Pipe of all sizes. Old LEAD bought or taken in exchange.

LIFT PUMPS, WATER CLOSETS, and PLUMBERS' BRASS WORK of all kinds.

NETT CASH.

SHAW'S TIFFANY.
For samples and prices apply to
J. Shaw & Co., 29, Oxford Street, Manchester.

**To the Nursery and Seed Trade.**

BROWN'S FLORAL SHADING, the cheapest and best material for protecting Plants under Glass from Sun. Prices on application to Chas. Brown, Greenheys, Manchester

TANNED NETTING, at reduced prices, 1*d.* per square yard; 200 yards, 14*s.*; 500, 30*s.*; 1000 yards, 50*s.* SCRIM CANVAS, for Wall Fruit; GARDEN MATS; GREENHOUSE SHADES.
Be particular. Frederick Edgington & Co., Rick Cloth Manufacturers, Thomas Street, Old Kent Road, London, S.E.

TANNED NETTING for the protection of Fruit Trees at 1*d.* per square yard: 200 yards, 14*s.*; 500 yards, 30*s.*; 1000 yards, 50*s.*; SCRIM CANVAS for Wall Fruits; SUN BLINDS, AWNINGS, TULIP COVERS, &c.
Be particular. John Edgington & Co., 17, Smithfield Bars, E.C.; 108, Old Kent Road, S.E.; and 18, Piccadilly, W.

TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½*d.*; 2 yards, 3*d.*; 3 yards, 4½*d.*; and 4 yards, 6*d.* per yard run, in any quantity, may be had at Chas. Wright's, 376, Strand, W.C.
VARNISHED FLOWER STICKS:—1 foot, 3*d.*; 1½, 4*d.*; 2, 5*d.*; 2½, 7*d.*; 3, 10*d.*; 4, 1*s.* 6*d.* per dozen. DAHLIA do., per dozen:—3 feet, 1*s.* 6*d.*; 4, 2*s.* 3*d.*; 5, 3*s.*; 6, 3*s.* 6*d.* An allowance to Nurserymen.

**Netting for Fruit Trees, Seed Beds, Ripe Strawberries, &c.**

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c., 2 yards wide, 3*d.* per yard, or 100 yards, 20*s.*; 4 yards wide, 6*d.* per yard, or 50 yards, 20*s.* NEW TANNED NETTING, suited for any of the above purposes, or as a Fence for Fowls, 2 yards wide, 6*d.* per yard; 4 yards wide, 1*s.* per yard; ¾-inch mesh, 4 yards wide, 1*s.* 6*d.* per yard.
Can be had in any quantity of Eaton & Deller, 6 and 7, Crooked Lane, London Bridge, E.C.

**Do as Others Do!**

BUY YOUR SEED BAGS from JAMES T. ANDERSON, Sack and Bag Maker, and Russia Mat Merchant, 15, SHERBORNE LANE, King William Street, London, E.C., who will supply you with a first-rate article at a low price. ARCHANGEL MATS, the pick of the season. Russian and Prussian Dunnage Mats.
Prices sent free on application.

PATENT GUTTA PERCHA SOLES.—Important to Gardeners.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. Glenny, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. Glenny."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.
The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C.

**Blight.**

BROWN'S PATENT FUMIGATOR.—A Portable Instrument for Fumigating Greenhouses, Stoves, and Frames, or Shrubs and Flowers in the open air, without injuring the most delicate plant; delivering the smoke cold, in a dense mass, and effecting a great saving of Tobacco. Price 10*s.* and upwards.
Manufactured and supplied to the Trade by Messrs. Barber & Groom, London; and may be had of all Ironmongers, Seedsmen, and Florists.

**The only Certain Remedy for Mildew.**

JOHN BELL'S COMPOSITION for DESTROYING MILDEW on Vines, Peaches, Nectarines, Roses, and every other Plant subject to that pest, is proved to be the most efficacious that has ever been offered. Sold in Bottles at 1*s.* 6*d.*, 2*s.* 6*d.*, and 5*s.* each. A 1*s.* 6*d.* Bottle will make 12 gallons fit for use.
Seed Warehouse, 10 & 11, Exchange Street, Norwich.

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1*s.* and 2*s.* per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of Geo. Glenny, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1*s.* per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.
Both may be obtained of all principal Seedsmen.
Patentee: J. Neal, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use.

This gets rid of smell, and if the solution be decanted, prevents any staining of foliage. A strength of from 1 to 2 oz. to the gallon of water is recommended for growing Plants; one from 4 to 16 oz. for Trees at rest.

Sold Retail by Nurserymen and Seedsmen in boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.* each.
Wholesale by
Price's Patent Candle Co.
Limited.

PAGE'S BLIGHT COMPOSITION is unquestionably the most effective preparation extant.
Extra strong, 3*s.* per gallon (sufficient to make 4 gallons fit for use); 10 gallons and upwards carriage paid to London.
Can be obtained through the principal Nurserymen and Seedsmen in England.
A concise CATALOGUE of SEEDS will be forwarded upon application, and a Comparison of Prices with the most elaborate publications is solicited.
Page & Toogood, Seed Merchants, Southampton.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2*s.* per bag.
For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the Patent Cocoa Fibre Company, Kingston-upon-Thames.
Postage Stamps or Post-office Orders payable to J. Barsham & Co.
Barsham's BRUSHES and MATS are sold in every town.
Caution.—Every Brush is stamped 'J. Barsham's Patent'

REIGATE SILVER SAND.—Best quality, 7*s.* 6*d.* per ton; second quality, 6*s.* per ton; best quality, packed in strong canvas bags, 16*s.* per ton; ditto 2*s.* 6*d.*, 2 cwt. bags, stamps, put on the rail at Reigate and forwarded to all parts of the United Kingdom.
PEAT SOILS, LOAM, &c.
Collections of NEW, RARE, and BEAUTIFUL PLANTS of all kinds, carefully selected and supplied at current Prices.
W. Short, Salesman, Agent, &c., Reigate, Surrey.

CALCEOLARIA, CINERARIA, PRIMULA, &c.

CALCEOLARIA, saved from carefully hybridised flowers, possessing all the recognised floral qualifications, viz., size, form, colours, and marking. Price, 1*s.* and 2*s.* 6*d.* per packet.
CINERARIA, extra choice, 1*s.* per packet.
PRIMULA SINENSIS FIMBRIATA, extra choice, 1*s.* and 2*s.* 6*d.* per packet.
DRACÆNA (CORDYLINE) INDIVISA, from Mount Egmont, New Zealand.—Beautiful fine foliaged plant, 1*s.* and 2*s.* 6*d.* per packet.
Butler & McCulloch, Seed Merchants, Covent Garden Market, London, W.C.

**New Bedding Scarlet Horse Shoe Geranium Adonis.**

JOHN HALLY, Nurseryman, Seedsman, and Florist, Blackheath, S.E., intends sending out the above on June 24. It is a distinct and good thing, and a great improvement on all existing Scarlets. Flowers of a bright, light, pure scarlet, with clear white eye, and of perfect shape. It was tried at Chiswick last year as a bedding plant, and is thus described by Mr. Moore in the Proceedings of the Royal Horticultural Society for March last. ADONIS * * * (the highest mark of merit), Hally. Moderately vigorous habit, leaves darkly zoned. Flowers scarlet, of excellent form, with white eye—considered to be a superior novelty." It received a Certificate of Merit at the Royal Botanic Society's Show in Regent's Park, on June 3. Plants, 5*s.* each, with the usual discount to the Trade. The following Nurserymen have already ordered it in quantities, and will be able to supply it:—

Messrs. Backhouse & Sons, York.
" Bunyard & Son, Maidstone.
" " " for their Nursery at Ashford.
" Downie, Laird, & Laing, Stanstead Park, Sydenham and Edinburgh.
" Francis & Sons, Hertford.
" A. Henderson & Co., Pine Apple Nursery, Edgware Road.
" E. G. Henderson & Son, Wellington Nursery, St. John's Wood.
" J. & C. Lee, Hammersmith.
" Osborn & Sons, Fulham.
" Low & Co., Clapton Nursery.
Mr. Wm. Ivery, Hanover Nursery, Peckham.

**Skirving's Swede—Sutton's Selected Stock.**

SUTTON and SONS have a choice Stock of SKIRVING'S SWEDE SEED, growth of 1862, which they can strongly recommend. 9*d.* per lb., or *cheaper in large quantities.*
Also SUTTON'S CHAMPION, Hardy PURPLE-TOP, and Hardy WHITE SWEDE; but the Stock of "Champion" Swede, though saved from upwards of 50 Acres of Land, being small compared with the demand, this sort cannot be supplied under 1*s.* per lb., or 45*s.* per bush.
Royal Berkshire Seed Establishment, Reading.

**Notice.—American Plants.**

WATERER and GODFREY'S CATALOGUE is now ready, and will be sent on application; it gives a fair price and description of all the Rhododendrons and other American Plants worth growing, as well as a general summary of the most extensive Nursery Stock in Europe.
The Exhibition of American Plants in the Royal Horticultural Society's Garden, South Kensington, were supplied by Waterer & Godfrey, Knap Hill, near Woking.

**Select Stove and Greenhouse Plants, &c.**

ROBERT PARKER begs to invite attention to his Collections of AMARYLLIS, AZALEA INDICA, EXOTIC ORCHIDS, FERNS, and LYCOPODS; ORNAMENTAL and VARIEGATED FOLIAGED PLANTS; MISCELLANEOUS, STOVE, GREENHOUSE, and HARDY PLANTS; all of which are healthy and clean. Purchasers of large or small quantities will be treated on the most liberal terms.
PRICED and DESCRIPTIVE CATALOGUES are published, and will be forwarded to applicants.
Exotic Nursery, Tooting, Surrey, S.

J. C. PADMAN, Boston Spa, near Tadcaster, offers CALADIUMS, good Plants.

| | | | | | |
|---|---|---|---|---|---|
| Caladium argyrites .. | 1*s.* | 6*d.* | Caladium Houlletii .. | 2*s.* | 0*d.* |
| " bicolor .. .. | 1 | 0 | " marmoratum .. | | 6 |
| " " splendens . | 1 | 0 | " Mafaffa .. .. | 2 | 0 |
| " " picturatum | 1 | 6 | " pictum .. .. | 2 | 0 |
| " Chantinii .. | 1 | 6 | " Wightii .. .. | 2 | 6 |
| " esculentum .. | 1 | 0 | | | |

One Set for 15*s.*; hamper and package included. Half Specimen Plants, 2*s.* 6*d.* & 3*s.* 6*d.*
SPECIAL CHRYSANTHEMUM LIST on application.

**Lobelia Princess of Wales.**

W. H. CAPARN and SON have but a few dozens of this new and beautiful Lobelia left, to which they beg to call the attention of all lovers of a first-class Bedding plant; it equals the old speciosa in colour, while it has a much larger bloom, with conspicuous white eye; it is also a more robust grower. Very strong plants, 9*s.* per dozen; smaller, 6*s.* per dozen.
King's Road Nursery, Newark-on-Trent.

**New Roses.**

WM. PAUL (Son and Successor to the late A. Paul) respectfully invites attention to the following NEW ROSES, which will be ready for delivery very shortly.
LORD MACAULAY, H.P.—Velvety crimson, in the way of General Jacqueminot, but brighter in colour, thicker in the petal, and more double. The flowers are of good average size, produced abundantly and in rapid succession; the habit is good, and foliage handsome. 7*s.* 6*d.*
MRS. WILLIAM PAUL, H.P.—Bright violet red, shaded with fiery red; flowers constantly, and in clusters, large and full. Raised by M. Verdier, of Paris, the raiser of Madame Furtado, and others of our finest Roses. 5*s.*
RED ROVER, H.P.—Bright red petals, large, thick, and round; flowers abundantly and in succession up to Christmas. Not double enough for a show Rose, but the most effective pillar Rose ever offered. 3*s.* 6*d.*
WILLIAM PAUL, H.P.—A seedling from Senateur Vaisse, but brighter in colour. Raised at Lyons by the raiser of Lord Raglan, Senateur Vaisse, and other first-class sorts. 5*s.*
BEAUTY OF WALTHAM, H.P.—Bright rosy crimson, of good size, form, and substance, and deliciously sweet. This Rose is found to surpass the description originally given of it. 3*s.* 6*d.*
All the new French Roses, 3*s.* 6*d.* to 5*s.* each, or 42*s.* per dozen. The best of the old Roses at lowest advertised prices. The plants are well established, and in the finest possible health.
PRICED CATALOGUE free by post.
Nurseries and Seed Warehouse, Waltham Cross, N.

**New Scarlet Geraniums.**

WM. PAUL (Son and Successor to the late A. Paul) has now ready for SALE two superb new SCARLET GERANIUMS. Price 10*s.* the pair.
WALTHAM PET.—Very bright scarlet, with fine large white eye, dwarf as "Harkaway," but much finer in truss and flower; the best dwarf scarlet for small beds or edgings. First-class Certificate from Royal Horticultural Society. Certificate also from Royal Botanic Society.
RED DRAGON.—An exceedingly smooth dark scarlet, with a peculiarly rich nap on the flower; habit of "Boule de Feu"—the best dark scarlet. All the best "Bedding" plants, 3*s.* per dozen and upwards.
Paul's Nurseries, Waltham Cross, N.

**Bedding Tropæolum.—Ball of Fire.**

ARTHUR HENDERSON and SON are now sending out the above brilliant BEDDING TROPÆOLUM.
For description and full details see figure and remarks in the *Floral Magazine* for January, 1863, Plate 129, colour of Tom Thumb Geranium. This will prove one of the best and most beautiful Bedding Plants of the season.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Per 100 Plants .. | £3 | 10 | 0 | Per 25 Plants .. | £1 | 10 | 0 |
| " 50 " .. | 2 | 2 | 0 | " 12 " .. | 0 | 18 | 0 |

1 Plant .. .. 2*s.* 6*d.*
Pine Apple Place, Edgeware Road, London, W.

# FARM AND GARDEN SEEDS

CARRIAGE FREE.

BANGHOLM SWEDE,
EAST LOTHIAN SWEDE,
WARD'S BEAUTY SWEDE,
DROPMORE SWEDE,
MARSHALL'S CHAMPION SWEDE,
GREEN-TOP SWEDE,
WHITE SWEDE,
IMPROVED SKIRVING'S SWEDE,
WHITE and RED GLOBE, and NORFOLK TURNIP,
SCOTCH YELLOW TURNIP,
DOBITO'S YELLOW OVAL MANGEL,
WARD'S DITTO,
IMPROVED YELLOW GLOBE DITTO,
IMPROVED ORANGE GLOBE DITTO,

IMPROVED LONG RED MANGEL,
IMPROVED LONG YELLOW MANGEL,
IMPROVED RED GLOBE MANGEL,
IMPROVED WHITE FIELD BEET,
RED CLOVER, | COWGRASS,
WHITE, YELLOW, and ALSIKE CLOVERS.
PACEY'S PERENNIAL RYE-GRASS, and other sorts.
ITALIAN RYE-GRASS, FOREIGN and ENGLISH SEED.
NATURAL GRASS SEEDS, in mixture or separate, suitable for various soils and localities.
LIGHT RYE-GRASS and other CHEAP GRASSES, for Sowing on Railway Banks and Waste Places.

*Orders for Exportation promptly attended to.*

PETER LAWSON and SON, THE QUEEN'S SEEDSMEN,
28, KING STREET, CHEAPSIDE, near the Guildhall; and
15, LAWRENCE LANE, LONDON, E.C.

SPECIAL PRIZES for the BEST THREE GROUPS of FRUITS and FLOWERS for the DECORATION of the DINNER-TABLE are offered by Sir C. WENTWORTH DILKE, Bart., Vice-President of the Royal Horticultural Society, to be awarded at the Second Great Exhibition, WEDNESDAY, June 17. First Prize, Gold Knightian Medal, or 10*l.*; Second Prize, Gold Banksian Medal, or 7*l.*; Third Prize, Society's Large Silver Medal, or 3*l.*

Novelty of design and beautiful arrangement will be the test of merit; valuable Flowers or Fruits are therefore not demanded.

Each set must consist of three groups, and may be either one of Flowers and two of Fruit, or two of Flowers and one of Fruit, or Fruit and Flowers mixed in all three.

They may be shown either in épergnes, glass or china dishes, wicker or wire work, or in any other way, most to the taste of the exhibitor.

Ladies are invited to join in the competition.

The Prizes will be awarded by a Jury of Ladies.

The groups will be received as late as 9·30 o'clock on the morning of the Show, PROVIDED SPACE SHALL HAVE BEEN SECURED FOR THEM TWO DAYS BEFORE. Letters to be addressed to Mr. G. EYLES, Royal Horticultural Society's Garden, South Kensington, W.

BRIGHTON and SUSSEX FLORICULTURAL and HORTICULTURAL SOCIETY.

The TENTH ANNUAL SUMMER SHOW will take place on WEDNESDAY and THURSDAY, June 10 and 11, at the Royal Pavilion, on the same grand scale as on former years.

Schedule of Prizes to be had on application to the Secretary, 96, St. James Street, or of E. SPARY, Superintendent of the Exhibition, Queen's Graperies.

By Order of the Committee,
Brighton, June 6. EDWARD CARPENTER, Secretary.

# The Gardeners' Chronicle.

## *SATURDAY, JUNE* 6, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| WEDNESDAY, June 10 | Royal Horticultural (Uncovering of Memorial of Exhibition of 1851), at South Kensington .. .. | 1 P.M. |
| | Microscopical .. .. .. .. | 8 P.M. |

IT may perhaps interest many of our readers to know that QUININE has been already extracted from Bark grown in India. A box has been transmitted to England by Mr. M'IVOR containing samples of bark of one and two years' growth, leaves, &c., which were transmitted to Mr. HOWARD for analysis. The result of the examination has been very successful. At present that gentleman has only operated upon 500 grs. proceeding cautiously, as the quantity of the bark sent was small. He found exactly the same constituents as in South American "Red Bark," and was able to obtain a first and second crystallisation of very white sulphate of Quinine, mixed (as is usual when obtained from Red Bark) with sulphate of cinchonidine. He has also obtained some cinchonine. This, Mr. HOWARD considers a very satisfactory and promising result, when the immature age of the bark is considered (viz., two years' growth), especially as the percentage product of alkaloid appears to him to be as great as would be met with in South America under the same circumstances. Shortly, he hopes to supply more definite information on this point, as well as on others of moment connected with these investigations.

Mr. M'IVOR in his last report of March 31, 1863, gives the number of Cinchona plants in the Nilghiri Hills, at 146,548, of which 35,750 are planted out. There is an increase by propagation during the month of March of 10,809, of which the average growth during that season is $4\frac{8}{11}$ inches; 1619 plants have been sold to private individuals, and 44,000 more have been applied for. Native heads of families, in Coorg alone, have applied for 5000 plants.

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MONSIEUR PASTEUR, who has so deeply studied the question of SPONTANEOUS GENERATION, has lately directed his attention to the phenomena of decomposition in the animal kingdom, and has arrived at the conclusion that wherever putrefactive fermentation takes place, minute animals exist. Accordingly he finds that where every care is taken to prevent any access to the external air, meat will remain perfectly sound for an indefinite length of time.

The confines between animal and vegetable life, or rather between animal and vegetable organisms, for we are of opinion that there is no essential difference between the two, are so incapable of exact distinction, that it is very possible that some of those obscure bodies which appear on meat in an incipient state of putrescence, as for example the red substance which occurs in what is called blood-rain, and whose ultimate particles exhibit active molecular motion, may have been considered as belonging to the animal kingdom, though others consider them as vegetables.

We regard the subject as one of great interest in an economical point of view, as showing the circumstances under which alone we may expect to preserve animal substances for any considerable time free from taint, but it is, as we believe, of no less importance as regards morbid action in man. We have long believed that hospital gangrene, the most formidable and unmanageable of all complaints, and the cause often of the most painful interest to the surgeon, both in public and private practice, is the effect of one of these very minute organisms, whether rightly referred to the animal or vegetable world. And if this is really the case, there might be some hope of successful treatment. The first step to cure is a knowledge of the cause of disease. It is well known that many cutaneous disorders take their origin from inoculation through some of the more common and larger species of mould. It is not therefore improbable that the very minute bodies which occur in little gelatinous groups, consisting of myriads of individuals, wherever animal matter begins to ferment, may be capable of communicating disease. The subject is at the present moment of peculiar interest as connected with one or two sad cases which have lately occurred of disastrous effects from vaccination, and at the least suggests extreme caution in the choice of vaccine matter, if it be not capable of leading to very important results. *M. J. B.*

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—— A GLORIOUS summer's day, a brilliant and ample display of flowers and fruits, and a throng of admiring visitors, were the three prominent characteristics of the flower show in the Regent's Park last Wednesday. As a further attraction must be added, the grand American show of Mr. JOHN WATERER, which was just in its prime, and is this year we fancy more gorgeous than ever, the only fault apparent being the almost total absence of names to the different varieties of Rhododendrons and other plants of which it is composed, so that as not one in a hundred could hope for the aid of a Cicerone, one might wander through the labyrinth of beauty, without becoming much the wiser for the effort.

We leave the general features of the exhibition to be dealt with elsewhere, and here take a hasty glance over the novelties produced. A considerable number of these have indeed already been noticed in our remarks on the May exhibitions. Such are the Messrs. VEITCH's Miconia argyræa, Eranthemum rubronervium and Pandanus elegantissimus; Mr. IVERY's Athyrium Filix-fœmina Applebyanum; Mr. WILLIAMS' Lastrea montana cristata; Mr. YOUNG's Pandanus elegantissimus, and Thrinax elegans; and Mr. BULL's Athyrium Filix-fœmina diffissum, and Euonymus ovatus aureo-variegatus; while others, as Sphærogyne latifolia, Lapageria rosea albiflora, Thujopsis lætevirens, Alocasia zebrina, Sarmienta repens, Yucca albo-spica, and Adiantum Féei, all comparatively new, did but confirm the good opinions formed respecting them when first brought out in the preceding and previous years.

Of absolute novelty indeed amongst flowering plants there was little, if we altogether exclude garden seedlings, but taking these into account we may signalise as a grand acquisition to the ranks of hard-wooded greenhouse plants, an Erica called exquisita, from Messrs. Low & Co., of Clapton. This Heath had apparently been bred between obbata and some of the varieties of tricolor, and was remarkable for its bulky tubular flowers, which were of the deep salmony red frequently seen in this class of Heaths, and had a dark ring at the mouth, and bold spreading blush-white limb segments. The great merit of the variety consisted in the enlarged diameter of its flower tubes, this quality being combined with clear and definite colours, and a good habit. An Osbeckia Wightiana from Mr. VEITCH, had erect hairy stems, small ovate hairy leaves, and close heads of large purple but fugacious flowers, which have a curious rusty-looking stellately hairy calyx. It did not appear to be of much importance for garden purposes. The comparatively new double-flowered Ghent Azalea, called Van Houttei, was shown by Messrs. FRASER, and is a very effective hardy shrub, having its orange-yellow flowers suffused with red.

The precedence amongst new plants not in flower must be accorded to Ferns, of which several very beautiful ones were shown. As evergreen species of a hardy character, Mr. VEITCH's Woodwardia japonica and Lastrea erythrosora, both Japanese plants, must be regarded as fine acquisitions. The first has ovate pinnate fronds, of rather bold character, the pinnæ being broadish, notched with good-sized roundish shallow lobes. The second is taller and more graceful, of a shining green with ovate bipinnate fronds, which are most remarkable for having their under surface decorated with lines of red dots, these dots being in fact the indusia overlying the spore-cases in the form of deep red scales, which are very evident in the younger stages of the fructification. Another charming Fern, but somewhat doubtful as to its true designation, was also shown by Mr. VEITCH, under the provisional name of Marattia? Cooperi: a question which cannot be settled till it fructifies. The plant is one of the Marattia group, and one of the most elegant of that group yet introduced; its stipes dark-coloured, supporting about two pairs of branches, these branches bipinnate, with shortish oblong acuminate leaflets or pinnules, which are doubly inciso-serrate on the margin, and of a motley half-variegated green colour, the whole frond being most gracefully pendent from the upright stipes. British Ferns were represented by a very pretty Lady Fern, which has not before been exhibited in London, Athyrium Filix-fœmina coronatum, shown by Mr. BULL, a plant with the fronds narrow at the base, the apex forming a very large flattish crest spreading at right angles to the plane of the frond; and also by the curious Polystichum angulare Elworthii, miscalled Bayleyanum, shown by Mr. IVERY, a variety in which the place of the ordinary pinnæ is for the most part occupied by a pair of shorter divergent pinnæ, as occurs in Miss FIELD's Lady Fern. Another of Mr. IVERY's Ferns, Athyrium F.-f. Laveyanum, is a free dense leafy sport, with blunt pinnules and short blunt pinnæ, here and there irregular in growth, but though pretty as all Lady Ferns are, it is wanting in distinctness of character.

Amongst the plants of this category not being Ferns, one of the best and most novel was Rhynchospermum jasminoides variegatum, a Japanese variegated greenhouse shrub imported by Messrs. HENDERSON & Co., and now for the first time exhibited. This seems likely to be a very ornamental thing in its way, the leaves being freely edged with cream-colour in an irregular manner, the variegation sometimes occupying nearly the one half of the leaf. Messrs. VEITCH had a very nice looking Japanese shrub, called a Retinospora, but with a Thujopsis-like aspect, a very elegant evergreen plant with glaucous leaves; and from the same firm was a Juniperus rigida, and a so-called Cryptomeria, both Japanese, and both green bushy plants with needle-shaped foliage; also Aralia pandurifolia, an erect-habited New Holland shrub, with oblong blunt leaves 6 or 8 inches long, and Schistocasia Portei, a Philippine Island Arad, with pedately pinnatifid leaves, having broad linear oblong segments like those of a Phlebodium.

Passing on to the seedlings of florists' flowers, the Pelargoniums were the most noticeable. Diadem and Artist, the two finest of the season as yet, and both formerly noticed, were there; so were Prince of Wales and Princess of Wales, the latter a remarkably pleasing as well as brilliant flower. We were also much pleased in some respects with NYE's Asteroid, and DOBSON's Startler, two brilliant crimsons, having the lower petals a good deal clouded and marked with maroon, and the upper ones deep maroon with crimson edges. NYE's Jewess was another beautiful flower something in the same way, but rather darker. These three have a certain distinctness of character as well as brilliance about them, which even in the absence of some points of merit, render them attractive. Among a host of the Zonal set of Pelargoniums were two very fine sorts, namely, Adonis from Mr. HALLY, and Dr. Lindley from Mr. BULL. The former has a very dark horse-shoe, and light scarlet flowers with a pale eye; the latter a broad but less deeply stained zone, and fine scarlet flowers, the shape and general properties in both being first-rate. Two Petunias also specially attracted our attention. One of these, called Duchess of Northumberland, was from Mr. HOLLAND, who appears to have a remarkably fine "strain" of this flower; the flowers in this variety were remarkably smooth, and not reflexed, white ground, with tolerably regular bars of magenta rose somewhat spread out near the margin. The other was much less perfect in shape and smaller in size, but novel and very pleasing in colour, a very deep magenta, marked with five distinct white bars, forming a well defined star. This was named pulchella, and came from Mr. WILLIS, of Muswell Hill.

Amongst some interesting Gloxinias from Messrs. E. G. HENDERSON & SON, we were particularly struck with one called Georgiana, a variety with horizontal scarcely drooping flowers, and remarkable for being as regular in the form of its limb as the erect-flowered kinds; the colour is a kind of pucy magenta, with a white spot extending from the throat in the direction of each segment; it was distinct and showy, and was in every way desirable. With it were some of the striped sorts, as Lady Victoria Howard, purple ground with white feathery streaks; and Lady Emily Villiers, red with white feathery streaks; also another unusual-coloured sort, punctata, the flowers of which were white dotted all over thickly with purple as in Sinningia.

We mention a very nice exhibition of cut flowers of Ixia, Sparaxis, and similar plants from Messrs. HOOPER, for the purpose of expressing a hope that some amongst the thousands who witnessed them on this occasion may have resolved that such lovely flowers shall no longer rest in the state of neglect to which fashion has of late years doomed them. They are worthy of any effort which modern skill can make, in perfecting their cultivation. One or two critical remarks relating to other matters we must defer for the present.

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## NEW PLANTS AND FLOWERS:

WHICH HAVE RECEIVED MEDALS AND CERTIFICATES FROM THE R.H.S. FLORAL COMMITTEE, FROM JULY 7, 1859, TO MAY 5, 1863.

A LIST of the subjects which have gained awards at the meetings of the Floral Committee of the Royal Horticultural Society, is in point of fact, a record of almost if not quite all the more deserving novelties in the shape of introduced plants, and seedling flowers, which have come before the public, since that very

useful body has been at work. Such a list, therefore, which we now print for the purpose of ready reference, will, we doubt not, be found serviceable to those of our readers who take interest in new introductions of whatever kind, amongst plants and flowers; whilst by those who are themselves but novices in the matter of plant-selection, it may be consulted as a very trustworthy guide. Doubtless in distributing its certificates, this Committee has made some mistakes both of omission and commission—for "to err is human,"—but even granting this, the awards have on the whole been marked by sound judgment, and the very existence of such a tribunal has acted as a wholesome check upon the crowd of worthless novelties which are ever being thrust forward to catch the unwary purchaser. The list is as follows:—

Abies excelsa aurea—Lee, Sep. 23, 1862—F. C.
Acanthad, Weir No. 39—R. H. S., April 22, 1862—C.
Achimenes Mauve Queen—Parsons, Aug. 26, 1862—F. C.
*Acer polymorphum atropurpureum—A. Henderson; Veitch, June 5, 1861—S. B.
Acer polym. rubro-variegatum—Standish, July 2, 1862,—S.K.
Acer sp. (dissected leaves)—Standish, July 2, 1862—S. B.
Acer sp. (1)—Standish, July 2, 1862—S. B.
Acer sp. (2)—Veitch, July 2, 1862—B.
Adelaster albivenis—Veitch, April, 23, 1861—C.
Adiantum chilense—Veitch, May 6, 1862—F. C.
Adiantum Féei—Linden, June 5, 1861—(1st pr.); Bull, Sep. 10, 1862—F. C.
Adiantum patens—Veitch, Feb. 9, 1860—F. C.
Adiantum scabrum—Veitch, May 6, 1862—F. C.
Adiantum sulphureum—Veitch, May 6, 1862—F. C.
Adiantum tinctum—Veitch, July 2, 1862—B.
Aërides hybridum—Veitch, June 11, 1862—F. C.
Aërides nobile—Veitch, Sep. 10, 1862—F. C.
Agathæa cœlestis fol. variegatis—Bull, March 12, 1861—F. C.
Agave americana elegantissima—Bull, Nov. 12, 1861—F. C.
Alocasia Lowii—Low, Sep. 23, 1862—F. C.
Alocasia macrorhiza variegata—Veitch, Oct. 8, 1861—F. C.
Alocasia metallica—Low, Sep. 22, 1859—F. C.
Alocasia Veitchii—Veitch, Sep. 8, 1859—F. C.
Alocasia zebrina—Veitch, June 11, 1862—S. K.; Id., April 15, 1863—F. C.
Alsophila glauca (contaminans)—Veitch, Nov. 12, 1861—F. C.
Amaranthus melancholicus ruber—Veitch, July 23, 1861—C.
Amaryllis Brilliant—E. G. Henderson, March 31, 1863—S. C.
Amaryllis Fire King—Bull, March 31, 1863—C.
Amaryllis Unique—Williams, March 19, 1862—F. C.
Anæctochilus argyræus—Bull, Feb. 25, 1863—S. C.
Anæctochilus Bullenii—Low, Aug. 27, 1861—F. C.
Anæctochilus Petola—See Macodes Petola
Anæctochilus Schælleri—Bull, Oct. 8, 1862—S. C.
Anæctochilus sp.—Osborn & Son, Oct. 8, 1861—F. C.
Angræcum sesquipedale—Veitch, Dec. 10, 1861—F. C.
Anthurium leuconeurum—Bull, Aug. 26, 1862—S. C.
Anthurium Scherzerianum—Wendland, July 2, 1862—B.; Veitch, March 31, 1863—F. C.
Anthurium sp.—Bull, April 15, 1863—C.
Aquilegia caryophylloides—Carter, June 14, 1860—C.
Aralia leptophylla—Veitch, April 9, 1862—F. C.
Aralia Sieboldii variegata—Veitch, May 28, 1861—C.
Araucaria Cunninghamii glauca—Bull, Oct. 8, 1862—F. C.
Araucaria sp. Port Molle—Bull, Sept. 10, 1862—S. C.
Arthrobotrya articulata—See Polybotrya Lowii
*Asplenium flabellifolium—Linden, June 5, 1861 (1st pr.)
Asplenium flabellulatum—See Asplenium myriophyllum var.
Asplenium myriophyllum—Linden, May 10, 1860—F. C.; Id., June 5, 1861 (1st pr.)
Asp. myriophyllum var.—Bull; Veitch, April 1, 1862—F. C.
Asplenium rachirhinæ—See Asplenium rachirhizon
Asplenium rachirhizon—Bull; Veitch, April 1, 1862—F. C.
Astrocaryum mexicanum—Bull, Oct. 8, 1862—C.
Athyrium Filix-fœmina Frizelliæ—Bull, Aug. 13, 1861—F. C.
Athyrium F.-f. Iveryanum—Ivery, Sept. 10, 1862—F. C.
Athyrium F.-f. mucronatum—Ivery, Sept. 10,1862—F. C.
Athyrium F.-f. multiceps—Veitch, Aug. 11, 1859—F. C.
Athyrium F.-f. Parsonsiæ—Parsons, June 26, 1862—S. C.; Id. Sept. 10, 1862—F. C.
Athyrium F.-f. plumosum—Stansfield, June 28, 1860—F. C.
Athyrium F.-f. sagittatum—Bull, May 5, 1863—F. C.
*Aucuba japonica (vera fœm.)—Standish, June 5, 1861—B.
Aucuba japonica picturata—Standish, May 21, 1862—B.
Auricula Ensign—Turner, April 15, 1863—S. C.
Auricula Mrs. Eyles—Holland, April 9, 1862—C.
Auricula Rev. G. Jeans—Turner, April 9, 1861—C.
Auricula Richmond's North Star—Turner, May 10, 1860—F. C.
Auricula Volunteer—Turner, April 26, 1860—F.C.
Auricula (Alp.) Supreme—Turner, April 15, 1863—C.
Azalea amœna hybrida—Standish, June 14, 1860—C.
Azalea (indica) Beauty of Dorking—Ivery, Ap. 15, 1863—S. C.
Azalea (ind.) Bride of Abydos—Barnes, May 6, 1862—C.
Azalea (ind.) Duc d'Aremberg—F. & A. Smith, Ap. 9, 1862—F.C.
Azalea (ind.) elegantissima—Williams, May 21, 1862—C.
Azalea (ind.) Flag of Truce—Todman, March 26, 1861—F. C.
Azalea (ind.) Kinghornii—Kinghorn, April 9, 1861—F. C.
Azalea (ind.) Louise von Baden—Turner, April 15, 1863—F. C.
Azalea (ind.) Mad. A. Verschaffelt—Veitch, April 15, 1863—S. C.
Azalea (ind.) Magnet—Barnes, June 28, 1860—C.
Azalea (ind.) Mars—Kinghorn, May 24, 1860—C.
Azalea (ind.) President—Kinghorn, May 10, 1860—F. C.
Azalea (ind.) President Claeys—Veitch, Feb. 25, 1863—F. C.
Azalea (ind.) Souvenir du Prince Albert—J. Verschaffelt, May 6, 1862—S. C.
Azalea (sinensis) altaclerensis—Lee, May 6, 1862—F. C.
*Bambusa variegata—Standish, June 5, 1861—B.
Barkeria Skinneri superba—Veitch, Feb. 25, 1863—F. C.
†Begonia amabilis—Veitch, May 12, 1859—2d C.
Begonia blanda—Parker & Williams, Sep. 22, 1859—F. C.
Begonia Gem—Low, Sep. 22, 1859—C.
Begonia imperialis—Veitch, May 6, 1862—S. C.
Begonia Lowii—Low, Sep 22, 1859—F. C.
Begonia mutabilis—Harland, May 21, 1862—S. C.
†Begonia Queen Victoria—Veitch, May 12, 1859—3d C.
Begonia smaragdina—Veitch, May 6, 1862—S. C.
Begonia sp. Santa Martha—Salter, Nov. 12, 1861—C.
Begonia Zebra—Low, Sep. 22, 1859—C.
Bertolonia margaritacea—R. H. S., Aug. 26, 1862—F. C.
Biota sp. (pendulous)—Veitch, May 21, 1862—B.
Bougainvillea glabra—Daniels, Oct. 8, 1861—F. C.
Browallia Jamesoni multiflora—Veitch, May 5, 1863—S. C.
†Caladium Chantinii—Veitch, May 12, 1859—2d C.
Caladium Lowii—See Alocasia Lowii
Caladium Veitchii—See Alocasia Veitchii
Caladium Wightii—Osborn, July 12, 1860—F. C.
Calamus australis—Veitch, Oct. 8, 1861—F. C.
Calandrinia sp. Chili—Veitch, July 9, 1861—C.
Calanthe Dominii—Veitch, Sep. 10, 1862—S. C.
Calanthe Veitchii—Veitch, Dec. 8, 1859—F. C.
*Calceolaria bellidifolia—Veitch, June 5, 1861—B.
Calceolaria canariensis—G. Smith, June 28, 1860—C.; Id., May 28, 1861—F. C.
Calceolaria ericoides—Veitch, Sep 10, 1862—S. C.
Calceolaria plantaginea—Veitch, May 21, 1862—B.
Calceolaria suavis—Veitch, July 2, 1862—B.
Calc. (dwf. bed.), Cloth of Gold—Downie, June 26, 1862—S. C.
Calendula officinalis, fl. pl.—Whiting, August 23, 1860—C.
Camellia Comtesse Lavinia Maggi—Veitch, March 19, 1862—F.C.
Camellia Filippo Parlatore—Veitch, March 31, 1863—F. C.
Camellia Napoleon III.—Lee, March 18, 1863—C.
Campsidium chilense—Veitch, March 4, 1862—F. C.
*Campylobotrys pyrophylla—Linden, June 5, 1861—F. C.
Campylobotrys regalis—Linden, May 10, 1860—F. C.
Campylobotrys refulgens—Bull, April 9, 1861—F. C.
Campylobotrys smaragdina—Linden, May 10, 1860—F. C.
Carnation Sir H. Havelock—Turner, July 7, 1859—F. C.
Carnation Rose of Castile—Turner, Aug. 2, 1860—F. C.
Carnation Shakespere—Bragg, Aug. 9, 1860—F. C.
Cassiope fastigiata—Veitch, May 5, 1863—F. C.
Cattleya amethystoglossa—R. Warner, March 4, 1862—F. C.
Cattleya Dominiana—Veitch, Nov. 10, 1859—F. C.
Cattleya Dominiana alba—Veitch, Sept. 10, 1862—S. C.
Cattleya Hybrid (Nos. 1 and 4)—Veitch, Aug. 11, 1859—C.
Cattleya guatemalensis—Veitch, March 26, 1861—F. C.
Cattleya Schilleriana var.—See Lælia Schilleriana.
Cerasus sp (semi-double blush)—Standish, April 15, 1863—C.
Chameranthemum Beyrichii—R. H. S., April 22, 1862—F. C.
Cheilanthes Borsigiana—Veitch, April 15, 1863—F. C.
Chrysanthemum Abbé Passaglia—Salter, Nov. 11, 1862—S. C.
Chrysanthemum Canary Bird—Salter, Dec. 13, 1860—C.
Chrysanthemum Caractacus—Salter, Dec. 13, 1860—C.
Chrys. carissimum—Salter, Nov. 6, 1861—C.; Id. Nov. 12, 1861—F.C.
Chrys. Duchess of Buckingham—Salter, Nov. 11, 1862—S. C.
Chrys. Duchess of Wellington—Salter, Nov. 12, 1861—F. C.
Chrysanthemum General Slade—Salter, Nov. 6, 1861—F. C.
Chrysanthemum Golden Hermine—Salter, Dec. 13, 1860—C.
Chrysanthemum grandiflorum—Standish, Dec. 9, 1862—S. C.
Chrys. laciniatum—Standish, Nov. 11, 1862—S. C.; Id., Dec. 9, 1862—F. C.
Chrysanthemum Lady Hardinge—Salter, Nov. 8, 1860—F. C.
Chrys. Lady H. St. Clair—Downie, Nov. 6, 1861—F. C.
Chrys. Little Harry—Salter, Nov. 8, 1860—C.; Id., Dec. 13, 1860—F. C.
Chrysanthemum Madame Heine—Bull, Nov. 12, 1861—C.
Chrysanthemum Princess Alexandra—Salter, Nov. 11, 1862—S.C.
Chrys. Princess Louis of Hesse—Salter, Nov. 11, 1862—S. C.
Chrysanthemum Sparkler—Salter, Nov. 12, 1861—C.
Chrysanthemum striatum—Standish, Dec. 9, 1862—S. C.
Chrys. Striped Queen—Downie & Co.—Nov. 6, 1861—C.
Chrysanthemum (pompon) Bessie—Ingram, Nov. 6, 1861—C.
Chrys. (pompon) Mrs. Hutt—Hutt, Nov. 11, 1862—F. C.
Cibotium princeps—Bull, Feb. 18, 1862—F. C.; Id., May 21, 1862—S. K.
Cineraria Amazon—F. & A. Smith, March 8, 1860—C.
Cin. carminata variegata—F. & A. Smith, April 9, 1862—C.
Cineraria Constancy—Turner, April 26, 1860—C.
Cineraria Duke of Cambridge—Turner, April 26, 1860—C.
Cineraria Handel—Turner, March 8, 1860—C.
Cineraria John Spencer—Turner, March 18, 1863—C.
Cineraria Lord Elgin—James, April 9, 1862—S. C.
Cineraria Magenta—Turner, April 12, 1860—C.
Cineraria Maid of Astolat—Turner, March 26, 1861—C.
Cineraria marginata—Wiggins, March 29, 1860—C.
Cineraria Miss Eyles—Turner, March 8, 1860—F. C.
Cineraria Prairie Bird—Turner, March 26, 1861—C.
Cineraria Queen of Beauty—Turner, March 29, 1860—C.
Cineraria rosea plena—Kendall, May 14, 1861—C.
Cineraria Snowflake—Page, April 15, 1863—S. C.
Cissus cordifolius—Veitch, May 24, 1860—C.
Clarkia pulchella fl. pleno—Carter, July 9, 1861—F. C.
Clarkia pulchella integripetala—Carter, July 28, 1859—C.
Clarkia pulchella, 'Tom Thumb'—Carter, July 26, 1860—C.
Clematis florida v. Standishii—Standish, May 5, 1863—F. C.
Clematis Fortunei—Standish, May 5, 1863—F. C.
Clematis reginæ—Anderson-Henry, April 22, 1862—S. C.
Clerodendron calamitosum—Veitch, Oct. 13, 1859—C.
Clerodendron Thomsonæ—Jackson, May 21, 1862—S. K.
†Clianthus Dampieri—Veitch, May 12, 1859—1st C.
Cobœa scandens variegata—Bull, June 25, 1861—C.
Coleus Verschaffelti—Bull, June 25, 1861—C.
Convolvulus mauritanicus—E. G. Henderson, June 5, 1861—B.; Id., Aug. 13, 1861—C.
Cordyline stricta erythrorachis—Veitch, July 26, 1860—F. C.
Crinum sp.—Davis, June 11, 1862—S. B.
*Cryptomeria sp. (1) Japan—See Retinospora lycopodioides
Cryptomeria sp. (2) Japan—Veitch, Aug. 26, 1862—F. C.
Cupania Pindaiba—Bull, June 25, 1861—C.
Cupressus Barkeri—Barker, Sep. 23, 1862—F. C.
Cyathea Cunninghamii—Standish, June 14, 1860—F. C.
Cyathea Smithii—Standish, June 14, 1860—F. C.
Cymbidium giganteum discolor—Veitch, March 8, 1860—F. C.
Cyperus alternifolius variegatus—Veitch; Bull, Oct. 8, 1861—F.C.
Cypripedium barbatum grande—Williams, April 1, 1862—S. C.
Cyp. barbatum latisepalum—Williams, March 4, 1862—C.
Cypripedium Dayanum—Day, July 12, 1860—C; Id., Feb. 25, 1863—F. C.
Cypripedium insigne Maulei—Maule, Dec. 13, 1860—F. C.
Cypripedium Stonei—Day, Sep. 23, 1862—F. C.
Cyrtomium anomophyllum—Standish, April 22, 1862—S. C.
Cyrtomium caryotideum—R. H. S., Sep. 24, 1861—F. C.
Dahlia Andrew Dodds—Keynes, Aug. 23, 1860—F. C.
Dahlia Apollo—Turner, Aug. 25, 1859—F. C.
Dahlia Beauty—Turner, Sep. 8, 1859—F. C.
Dahlia Beauty of Hilperton—Edwards, Sep. 27, 1860—F. C.
Dahlia Bellona—Harrison, Sep. 10, 1862—S. C.
Dahlia Black Prince—Keynes, Sept. 11, 1861—C.
Dahlia Bob Ridley—Turner, August 13, 1861—C.
Dahlia Caractacus—Turner, August 12, 1862—F. C.
Dahlia Charles Turner—Keynes, August 26, 1862—F. C.
Dahlia Charlotte Dorling—Turner, August 27, 1861—C.; Id., Sep. 10, 1862—S. C.
Dahlia compacta—Rawlings, Sep. 8, 1859—C.
Dahlia Countess of Portsmouth—Rawlings, Sep. 11, 1861—C.
Dahlia Countess of Shelburne—Turner, August 26, 1862—F. C.
Dahlia Cygnet—Turner, August 13, 1861—C.
Dahlia Delicata—Perry, Sep. 11, 1861—C.
Dahlia Elegance—Turner, Sep. 13, 1860—C.
Dahlia Fair Maid of Bath—Keynes, August 27, 1861—C.
Dahlia Flower of the Day—Turner, August 25, 1859—F. C.
Dahlia George Eliot—Turner, Sep. 8, 1859—C.
Dahlia George Grapes—Turner, August 25, 1859—C.
Dahlia George Parker—Turner, Sep. 27, 1860—C.
Dahlia Goldfinder—Keynes, Sep. 11, 1861—C.
Dahlia Handforth Hero—Henshaw, Sep. 11, 1861—C.
Dahlia Imperial—Keynes, Aug. 27, 1861—C.
Dahlia Joy—Rawlings, Sep. 6, 1860—C.
Dahlia Juno—Rawlings, Sep. 27, 1860—C.
Dahlia Lady Douglas Pennant—Keynes, Aug. 11, 1859—F. C.
Dahlia L'Etoile—Keynes, Aug. 13, 1861—C.
Dahlia Lord Derby—Pope, Sep. 27, 1860—C.; Id., Sep. 11, 1861—F. C.
Dahlia Lord Dundreary—Turner, Aug. 26, 1862—S. C.
Dahlia Lord Russell—Leslie, Oct. 8, 1862—S. C.
Dahlia Le Premier—Keynes, Sep. 10, 1862—S. C.
Dahlia Maria Carter—Keynes, Aug. 27, 1861—C.
Dahlia Masterpiece—Keynes, Sep. 13, 1860—C.
Dahlia Marquis of Bowmont—Dodds, Sep. 13, 1860—F. C.
Dahlia Minnie Dodds—Dodds, Aug. 13, 1861—C.
Dahlia Miss Henshaw—Henshaw, Oct. 8, 1861—C.
Dahlia Miss Sarah Boyce—Rawlings, July 28, 1859, C.; Id., Sep. 22, 1859—F. C.
Dahlia Model—Perry, Sep. 11, 1861—F. C.
Dhlia Mrs. Bailhasche—Keynes, Aug. 25, 1859—F. C.
Dhlia Mrs. Bush—Turner, Sept. 11, 1861—C.; Id., Sep. 24, 1861—F. C.
Dahlia Mrs. Col. Vyse—Turner, Aug. 11, 1859—C.
Dahlia Mrs. Dodds—Dodds, Aug. 23, 1860—F. C.
Dahlia Mrs. Wellesley Pigott—Keynes, Aug. 25, 1859—F. C.
Dahlia Neville Keynes—Keynes, Aug. 25, 1859—C.; Id., Sep. 8, 1859—F. C.
Dahlia Nora Creina—Turner, Sep. 13, 1860—C.
Dahlia Patent—Keynes, Sep. 10, 1862—F. C.
Dahlia Pluto—Turner, Aug. 25, 1859—C.
Dahlia Princess of Prussia—Turner, Sep. 27, 1860—C.
Dahlia Reliance—Rawlings, Sep. 11, 1861—C.
Dahlia Rev. Joshua Dix—Keynes, Aug. 11, 1859—C.
Dahlia Serenity—Rawlings, Sep. 10, 1862—S. C.
Dahlia Sir G. Douglass—Dodds, Aug. 11, 1859—C.
Dahlia Splendid—Green, Aug. 11, 1859—C.
Dahlia The Bride—Rawlings, Sep. 10, 1862—S. C.
Dahlia Una—Turner, Aug. 13, 1861—C.
Dahlia William Dodds—Keynes, Aug. 11, 1859—F. C.
Dammara sp. Japan—Veitch, May 21, 1862—S. B.
Delphinium alopecuroides—Wheeler, July 9, 1861—F. C.
Delphinium Fraseri (Beauty)—Fraser, July 12, 1860—C.
Delphinium bicolor grandiflorum—Downie, June 11, 1862—C.
Dendrobium Bullenianum—Low, May 21, 1862—S. B.
Dendrobium cucullatum majus—Low, March 19, 1862—F. C.
Dendrobium Falconeri—Bateman, June 11, 1862—S. K.
Dendrobium lituiflorum—Veitch, March 31, 1863—F. C.
Dendrobium Lowii—Low, Nov. 12, 1861—F. C.
Dendrobium nodatum—Low, July 2, 1862—S. B.
Dendrobium salaccense—See Dendrobium Bullenianum
*Dendrobium sp.—Pilbeam, June 5, 1861—S. B.
Dianthus sinensis Heddewigii—E. G. Henderson, July 7, 1859—C.
*Dichorizandra albo-marginata, Linden, June 5, 1861—(2d pr.)
Diplazium glaberrimum—Bull, Sept. 10, 1862—S. C.
Disa grandiflora superba—Leach, July 22, 1862—F. C.
Doryopteris nobilis—See Litobrochia nobilis.
Dracæna ferrea variegata—R. H. S., June 25, 1861—F. C.
Dracæna Ghiesbreghtii—Bull, April 22, 1862—S. C.
Dracæna indivisa—Standish, June 28, 1860—F. C.
Dracæna sp.—Veitch, July 2, 1862—S. B.
Dracophyllum sp.—Veitch, May 5, 1863—F. C.
Drynaria diversifolia (Hillii)—Veitch, Oct. 8, 1862—F. C.
Echeveria sp.—Saunders, Sep. 24, 1861—F. C.
*Echites argyræa—Linden, June 5, 1861—(1st prize)
Epacris Vesta—Veitch, April 9, 1861—C.
Epidendrum prismatocarpum—R. Warner, July 2, 1862—B.
Epigynium leucobotrys—E. G. Henderson, Aug. 23, 1860—F. C.
Eranthemum verbenaceum—R. H. S., April 22, 1862—S. C.
Erica aristata virens—Low & Co., March 29, 1860—C.
Erodium guttatum—Saunders, April 23, 1861—C.
Eugenia hybrida—Veitch, Oct. 8, 1862—S. C.
Eurya angustifolia—Standish, May 6, 1862—F. C.
Eurya sp. (broad-leaved)—Standish, June 11, 1861—F. C.
Ficus Cooperi—Veitch, May 21, 1862—S. B.
Fuchsia conspicua—G. Smith, Aug. 12, 1862—S. C.
Fuchsia Count Cavour—Banks, July 26, 1860—C.
Fuchsia Garibaldi—See Fuchsia Count Cavour
Fuchsia Hugh Mollon—Veitch, Aug. 13, 1861—C.
Fuchsia Lord Elcho—Banks, July 26, 1860—F. C.
Fuchsia Mammoth—G. Smith, June 25, 1861—F. C.
Fuchsia Minnie Banks—Banks, July 26, 1860—F. C.
Fuchsia Negro—G. Smith, July 26, 1860—C.
Fuchsia, Prince Leopold—Banks, July 26, 1860—F. C.
Fuchsia Solferino—G. Smith, July 28, 1859—C.
Fuchsia Universal—G. Smith, Sep. 24, 1861—C.
Gazania splendens—E. G. Henderson—July 7, 1859—C.
Genista Everestiana—Everest, April 22, 1862—F. C.
Gesnera refulgens—Bull, Sep. 11, 1861—C.
Gilia achilleæfolia alba—Carter, June 28, 1860—C.
Gladiolus Herr Rosenberg—Standish, Sep. 27, 1860—C.
Gladiolus Mrs. Blount—Standish, Sep. 27, 1860—C.
Gladiolus Rev. Joshua Dix—Standish, Oct. 11, 1860—F. C.
Gladiolus striata formosissima—Standish, Aug. 13, 1861—C.
Gleichenia furcata—Sim, July 12, 1860—F. C.
Gleichenia (glauca)—Veitch, Oct. 8, 1862—F. C.
Gleichenia pubescens—Veitch, Aug. 9, 1860—F. C.
Gleichenia rupestris—Sim, July 12, 1860—F. C.
Gleichenia semivestita—Sim, July 12, 1860—F. C.
Gloxinia Cygna—Lee, July 12, 1860—C.
Gloxinia Lady Willoughby—Milne, July 12, 1860—C.
Gonatanthus cupreus—See Alocasia metallica.
Goodyera Dominiana—Veitch, June 11, 1862—F. C.
Graptophyllum versicolor—Veitch, Nov. 12, 1861—C.
Greenovia aurea—Bull, April 15, 1863—F. C.
Grevillea Hillii—Veitch, April 9, 1862—F. C.
Gymnogramma peruviana laciniata—Parsons, Nov. 11, 1862—S.C.
Gymnogramma Wetenhalliana—Kelly, Sep. 13, 1860—F. C.
Hemerocallis disticha fl. pleno—Veitch, May 24, 1860—F. C.
Hemerocallis sp. Japan (striped)—Veitch, July 22, 1862—F. C.
Hibiscus (? sp.) variegatus—Veitch, Feb. 25, 1863—C.
Hollyhock Advancer—Johnston, Oct. 11, 1860—C.
Hollyhock Alfred—Chater, Aug. 11, 1859—C.
Hollyhock Brunette—A. Paul & Son, July 28, 1859—F. C.
Hollyhock Countess Dowager Jane Somers—Chater, July 28, 1859—C.
Hollyhock Countess Russell—Chater, Aug. 27, 1861—F. C.
Hollyhock Exhibitor—Chater, July 28, 1859—C.
Hollyhock Gem of Yellows—Chater, Aug. 12, 1862—F. C.
Hollyhock George Keith—Downie, Aug. 13, 1861—F. C.
Hollyhock Glory of Walden—Chater, Aug. 12, 1862—F. C.
Hollyhock Harriet—Chater, July 28, 1859—C.
Hollyhock Hesperus—Chater, Aug. 12, 1862—S. C.
Hollyhock Imperator—Chater, Aug. 12, 1862—F. C.
Hollyhock Invincible—Chater, Aug. 27, 1861—C.; Id., Sep. 11, 1861—F. C.
Hollyhock Joshua Clarke—Chater, July 28, 1859, C.; Id., Aug. 13, 1861—F. C.
Hollyhock Lady Dacres—Downie, August 27, 1861—F.C.
Hollyhock Lady H. St. Clair—Downie, Aug. 13, 1861—C.
Hollyhock Lady King—Chater, August 27, 1861—C.; Id., Sep. 11, 1861—F.C.
Hollyhock Leonora—Chater, July 28, 1859—F. C.
Hollyhock Ne plus ultra—Chater, August 27, 1861—F. C.
Hollyhock Novelty—Chater, July 28, 1859—C.
Hollyhock Perfection—A. Paul & Son, July 28, 1859—C.
Hollyhock Prince Imperial—Bircham, Sep. 11, 1861—C.
Hollyhock Stanstead Rival—Downie, August 13, 1861—F. C.
Hollyhock Warrior—Chater, July 28, 1859—C.
Hypolepis distans—Dean, July 9, 1861—C.
Illicium sp. (variegated)—Standish, June 11, 1861—C.
*Juniperus drupacea—Jackson, June 5, 1861—B.
Kerria japonica variegata—Standish, April 15, 1863—C.
Lælia albida var.—R. Warner, Dec. 8, 1859—C.
*Lælia grandis—R. Warner, June 5, 1861—S. K.
Lælia Schilleriana var. (1)—Backhouse, Sept. 8, 1859—F. C.
Lælia Schilleriana var. (2)—Veitch, May 21, 1862—S. B.
Lapageria rosea albiflora—Veitch, July 2, 1862—S. K.
Lastrea deltoidea—Sim, July 12, 1860—C
Lastrea Filix-mas Bollandiæ—Bull, June 26, 1862—S. C.
Lastrea Standishii—Standish, May 21, 1863—S. B.
Latania Verschaffeltii—Bull, Sept. 10, 1862—F. C.
Lepanthes Calodictyon—Osborn, Oct. 8, 1861—F. C.
*Libocedrus tetragona—Veitch, June 5, 1861—S. K.
Ligustrum japonicum aureo-variegatum—Veitch, June 11, 1862—B.
Lilium auratum—Veitch, July 2, 1862—S. K.

Limatodes rosea alba—Low, Feb. 25, 1863—S. C.
Linaria bipartita splendens—Carter, July 26, 1860—C.
Lithospermum fruticosum—Lee, April 22, 1862—S. C.
Litobrochia nobilis—Veitch, June 11, 1862—S. B.; Bull, Sept. 23, 1862—F. C.
Lobelia (Erinus) speciosa kermesina—Carter, Aug. 26, 1862—C.
Lobelia Purple Standard—Kinghorn, Aug. 23, 1860—F. C.
Lomaria cycadifolia—Lee, April 23, 1861—F. C.
Lomaria elongata—Standish, Nov. 12, 1861—F. C.
Lomaria fluviatilis—Lee, April 23, 1861—F. C.
Lomaria Fraseri—Standish, May 28, 1861—F. C.
Lomaria gibba—Veitch, July 2, 1862—S. K.
Lomatia elegantissima—Bull, April 22, 1862—S. C.
Lonicera brachypoda aureo-reticulata—Standish, July 2, 1862—S. K.
Lonicera japonica hybrida—Ingram, August 9, 1860—C.
Luzula sylvatica aureo-vittata—Salter, April 1, 1862—C.
Lycaste Skinneri superba—Veitch, April 12, 1860—F. C.
Lycopodium Phlegmaria—Veitch, August 12, 1862—F. C.
Lygodium polystachyum—Veitch, July 7, 1859—F. C.
Macodes Petola—Low, Sep. 22, 1859—F. C.
Magnolia Lenné—W. Paul, April 15, 1863—F. C.
Maranta argyræa—Linden, May 10, 1860—C.
Microlepia hirsuta angusta—Veitch, May 10, 1860—C.
Microlepia scabra—Standish, May 6, 1862—S. C.
*Mimulus cupreus—Veitch, June 5, 1861—B.
Mimulus maculosus Marvel—Bull, May 5, 1863—F. C.
Musa vittata—Veitch, April 1, 1862—F. C.; Bull, Jackson, Lee, Low, Veitch, May 21, 1862—S. B.
Mutisia decurrens—Veitch, Aug. 13, 1861—F. C.
Nasturtium Yellow Tom Thumb—See Tropæolum
Nemophila discoidalis elegans—Charlwood, July 9, 1861—C.
Nepenthes Dominiana—Veitch, June 11, 1862—F. C.
Nephelaphyllum pulchrum—Veitch, Nov. 10, 1859—C.
Nephrodium molle polydactylum—Sim, July 12, 1860—C.
Niphobolus Lingua corymbiferus—Veitch, July 22, 1862—C.
Nolana lanceolata—Veitch, June 11, 1862—B.
Odontoglossum Uro-Skinneri—Veitch, August 11, 1859—C.
Œnothera grandiflora (Lamarckiana)—Carter, Sep. 27, 1860—C.
Ophiopogon Jaburan fol. var.—Bull, Nov. 11, 1862—F. C.
Oreopanax dactylifolium—Bull, Feb. 18, 1862—C.; Id. June 11, 1862—B.
Osmanthus aquifolius variegatus—Standish, May 6, 1862—S. C.
Osmanthus aquifolius variegatus aureus—Standish, May 21, 1862—B.
Osmanthus aquifolius variegatus nanus—Standish, June 11, 1861—F. C.
Osmunda regalis cristata—Osborn, June 11, 1862—S. B.
Ourisia coccinea—Veitch, May 21, 1862—S. K.
Ourisia Pearcii—Veitch, May 5, 1863—F. C.
Oxalis valdiviana—Veitch, June 11, 1862—B.
Pandanus elegantissimus—Bull, Veitch, March 18, 1863—F. C.
Panicum capillare—Carter, July 28, 1859—C.
Pansy Exquisite—Turner—April 15, 1863—C.
Pansy (fancy) Aurea marginata—Downie, May 21, 1862—F. C.
Pansy (fancy) Feu de Joie—Turner, April 15, 1863—C.
Pansy (fancy) Princess Alice—Dean, May 28, 1861—C.
Pelargonium Amazon—Beck, May 28, 1861—C.
Pelarg. Ardens—Beck, June 11, 1862—F. C.
Pelarg. Bellatrix—Beck, June 11, 1862—F. C.
Pelarg. Belle of the Ball—Foster, May 21, 1862—F. C.
Pelarg. Canopus—Beck, June 11, 1862—F. C.
Pelarg. Censor—Foster, June 11, 1862—S. C.
Pelarg. Colossus—Hoyle, June 11, 1862—F. C.
Pelarg. Conflagration—Foster, May 21, 1862—F. C.
Pelarg. Cynosure—Beck, June 11, 1862—S. C.
Pelarg. Esperance—Beck, June 11, 1862—S. C.
Pelarg. Eurydice—Beck, June 11, 1862—F. C.
Pelarg. Illuminator—Foster, June 11, 1862—F. C.
Pelarg. Improvement—Foster, May 21, 1862—F. C.
Pelarg. Lord Palmerston—Hoyle, June 11, 1862—F. C.
Pelarg. Merrimac—Foster, June 11, 1862—F. C.
Pelarg. Modesty (Beck)—Turner, June 28, 1860—C.
Pelarg. Nymph—Beck, June 11, 1862—S. C.
Pelarg. Oriana—Beck, June 11, 1862—F. C.
Pelarg. Perdita (Foster)—Turner, June 28, 1860—F. C.
Pelarg. Regina formosa—Beck, June 11, 1862—F. C.
Pelarg. Royal Albert—Hoyle, May 21, 1862—F. C.
Pelarg. Royalty—Foster, June 11, 1862—F. C.
Pelarg. (fancy) Arabella Goddard—Turner, June 28, 1860—F. C.
Pelarg. (fancy) Miss-in-her Teens—Turner, June 11, 1862—S. C.
Pelarg. (spotted) Butterfly—Beck, June 11, 1862—S. C.
Pelarg. (spotted) Caliban—Beck, June 11, 1862—S. C.
Pelarg. (spotted) International—Bull, June 26, 1862—S. C.
Pelarg. (spotted) Landseer—Foster, June 11, 1862—S. C.
Pelarg. (spotted) Monitor—Foster, June 11, 1862—S. C.
Pelarg. (spotted) Viceroy of Egypt—Bull, June 26, 1862—S. C.
Pelarg. (decorative) Lady Churston—Veitch, June 11, 1861.—C.
Pelarg. (decorative) Mrs. Ponsonby Moore—Veitch, May 14, 1861—C.
Pelarg. (decorative) Theophraste—Bull, June 26, 1862—C.
Pelarg. (forcing) Floribundum—F. & A. Smith, Ap. 9, 1861—C.
Pelarg. (forcing) Mrs. Lewis Loyd—Jackson, Mar. 31, 1863—C.
Pelarg. (forcing) Snowdrop—F. & A. Smith, April 9, 1861—C.
Pelarg. (scented-lvd.) Madame Caillag—Bragg, July 26, 1860—C.
Pelarg. (scarlet) Waltham Pet—W. Paul, May 21, 1862—F. C.
Pelarg. (zonal) Aurora—Hally, Mar. 29, 1860—C.; Id. April 26, 1860—F. C.
Pelarg. (zonal) Blackheath Beauty—Hally, Aug. 11, 1859—C.
Pelarg. (zonal) Conq. of Europe—Williams, May 21, 1862—F. C.
Pelarg. (zonal) Firefly—G. Smith, July 23, 1861—C.
Pelarg. (zonal) Herald of Spring.—Turner, April 23, 1861—F. C.
Pelarg. (zonal) Nesfield—Turner, May 21, 1862—S. C.
Pelarg. (zonal) Prince of Hesse—Turner, April 23, 1861—C.
Pelarg. (zonal) Princess of Prussia—Conway, July 12, 1860—C.
Pelarg. (marbled) Sheen Rival—Kinghorn, Sept. 22, 1859—C.
Pelarg. (variegated) Argus—G. Smith, Aug. 9, 1860—F. C.
Pelarg. (variegated) Clara—Turner, April 23, 1861—C.
Pelarg. (variegated) Delicata—E. G. Henderson, Aug. 27, 1861—C.
Pelarg. (variegated) Flower of Spring—Turner, April 12, 1860—F. C.
Pelarg. (variegated) Italia Unita—E. G. Henderson, Sept. 10, 1862—F. C.
Pelarg. (variegated) Lucy Grieve—E. G. Henderson, Sept. 10, 1862—F. C.
Pelarg. (variegated) Meteor—Parker & Williams, July 26, 1860—C.
Pelarg. (variegated) Mrs. Pollock—E. G. Henderson, Aug. 27, 1861—F. C.
Pelarg. (variegated) Sunset—E. G. Henderson, Aug. 27, 1861—F. C.
Pentstemon Blue Beauty—Downie, Oct. 8, 1862—C.
Pentstemon compactus—Wemyss, Oct. 8, 1862—S. C.
Pentstemon Lobbianus—Low, Aug. 27, 1861—F. C.
Pentstemon Mrs. Steans—Downie, Oct. 8, 1862—F. C.
Pentstemon Princeps—Downie, Oct. 8, 1862—C.
Petunia Butterfly—Holland, Aug. 12, 1862—S. C.
Petunia Eclipse—G. Smith, July 12, 1860—C.
Petunia Eliza Mathieu—G. Smith, May 21, 1862—F. C.
Petunia Emma—Bull, May 21, 1862—S. C.
Petunia Guido—Bull, July 2, 1862—S. C.
Petunia inimitabilis fl. pleno—Veitch, May 14, 1861—F. C.
Petunia Madame Rendatler—Veitch, May 6, 1862—S. C.
Petunia Mrs. Ferguson—Ferguson, May 6, 1862—F. C.
Petunia Ruby—Bull, May 21, 1862—S. C.
Petunia Venus—Bull, June 26, 1862—S. C.
Phalænopsis Lowii—Low, Oct. 8, 1862—F. C.
Phalænopsis Schilleriana—Warner, M'Morland, Bull, Feb. 18, 1862—F. C.
Phlox Lydia—Downie, June 25, 1861—C.
Phlox Orion—Sankey, Sep. 13, 1860—C.
Phlox Reine blanche—Downie, June 25, 1861—C.
Phyllagathis rotundifolia—Veitch, March 19, 1862—F. C.
Physurus fimbrillaris—R.H.S., April 22, 1862—F. C.
*Picea sp. Vancouver's Island—Standish, June 5, 1861—B.
Picotee Elise—Turner, Aug. 9, 1860—F. C.
Picotee Favorita—Turner, Aug. 9, 1860—C.
Picotee Flower of the Day—Turner, July 23, 1861—F. C.
Picotee Queen of Picotees—Keynes, Aug. 9, 1860—C.
Picotee Lady Elcho—Turner, July 22, 1862—F. C.
Picotee Mrs. Hole—Turner, July 23, 1861—C.
Picotee Princess Alice—Turner, Aug. 2, 1860—F. C.
Picotee Rev. A. Matthews—Turner, July 7, 1859.—C.
Picotee Rev. H. Matthews—Turner, Aug. 2, 1860—F. C.
Picotee Rival Purple—Turner, July 7, 1859—C.
Picotee Rosy Circle—Turner, July 23, 1861—F. C.
Picotee (fancy) Countess of Derby—Keynes, Aug. 9, 1860—C.
Picotee (yellow) Empress of India—Bragg, Aug. 9, 1860—C.
Picotee (yellow) Garibaldi—Bragg, Aug. 9, 1860—C.
Pimelea elegans—Veitch, May 14, 1861—F. C.
Pink Beautiful—Turner, July 12, 1860—F. C.
Pink Bertram—Turner, June 26, 1862—F. C.
Pink Blondin—Turner, June 26, 1862—S. C.
Pink Bridesmaid—Turner, June 26, 1862—F. C.
Pink Delicata—Turner, June 25, 1861—F. C.
Pink Device—Turner, June 26, 1862—F. C.
Pink Exquisite—Turner, June 26, 1862—F. C.
Pink Lady Rokeby—Bragg, June 25, 1861—F. C.
Pink Marion—Turner, June 26, 1862—F. C.
Pink Mr. F. Coafle—Hooper, July 2, 1862—F. C.
Pink Mrs. Turner—Turner, June 28, 1860—F. C.
Planera acuminata—Veitch, May 21, 1862—B.
*Podocarpus variegatus—Veitch, June 5, 1861—B.
Pogonia discolor—Veitch, Oct. 13, 1859—F. C.
Pollia purpurea—Bull; Low, Aug. 27, 1861—C.
Polybotrya apiifolia—Veitch, July 2, 1862—B.
Polybotrya Lowii—Low, Aug. 27, 1861—F. C.
Polygonatum oppositifolium albo-vittatum—Standish, April 22, 1862—F. C.
Polystichum aculeatum corymbiferum—Thompson, July 26, 1860—F. C.
Polystichum concavum—See Lastrea Standishii
Polystichum triangulum laxum—Sim, July 12, 1860—F. C.
Polystichum vestitum venustum—Lee, April 23, 1861—F. C.
†Pothos argyræa—Veitch, May 12, 1859—1st C.
Prenanthes arborea—Saunders, April 23, 1861—C.
Primula sinensis atro-rosea plena—Turner, March 8, 1860—F. C.
Primula sinensis filicifolia—E. G. Henderson, March 26, 1861—C.
Primula sinensis filicifolia alba—E. G. Henderson, March 31, 1863—S. C.
Primula sinensis filicifolia rubra—E. G. Henderson, March 31, 1863—S. C.
Primula sinensis nivea plena—Bull, March 26, 1861—C.
Primula sinensis rubella plena—Bull, March 26, 1861—C.
Primula sinensis delicata—F. & A. Smith, April 1, 1862—F. C.
Primula sinensis The Fairy—F. & A. Smith, April 9, 1862—C.
Primula sp. Andes—Veitch, July 9, 1861—C.
Pteris argyræa—Veitch, July 7, 1859—F. C.
Pteris cretica albo-lineata—Bull; Veitch, March 26, 1861—F. C.
Pteris nemoralis variegata—Cole, May 21, 1862—B.
Pteris tricolor—Linden, Feb. 9, 1860—F. C.
Quercus sempervirens—Veitch, July 2, 1862—B.
Quercus sp. Japan—Veitch; Standish, July 2, 1862—S. B.
Retinospora leptoclada—E. G. Henderson, April 15, 1863—F. C.
*Retinospora lycopodioides—Veitch, June 5, 1861—B.
*Retinospora obtusa—Standish, June 5, 1861—S. B.
*Retinospora obtusa variegata—Standish, June 5, 1861—B.
Retinospora pisifera—Veitch, Sep. 11, 1861—F. C.
Retinospora pisifera aurea—Standish, May 6, 1862—F. C.
Retinospora squarrosa—Veitch, June 11, 1862—S. B.
Retinospora sp. Japan—Veitch—June 11, 1862—S. K.
Rhaphis flabelliformis variegata—Veitch, Sep. 10, 1862—S. C.
Rhodanthe atrosanguinea—Thompson, July 2, 1862—S. B.
Rhodanthe maculata—Thompson, June 25, 1861—F. C.; Id., July 2, 1862—S. B.
Rhodanthe maculata alba—Thompson, June 25, 1861—C.
Rhododendron Brookeanum flavum. See Rhod. Lobbianum.
Rhod. Countess of Haddington—Parker, March 19, 1862—F. C.
Rhod. Denisonii—Bousie, April 9, 1862—F. C.
Rhod. jasminiflorum superbum—Veitch, August 26, 1862—F. C.
Rhod. Lobbianum—Veitch, March 8, 1860—F. C.
Rhod. McNabii—Bousie, April 9, 1862—C.
Rhod. Princess Alice—Veitch, March 19, 1862—F. C.
Rhod. Sesterianum—Veitch, March 19, 1862—F. C.
Rhod. (hardy) Amilcar—Standish, May 24, 1860—F. C.
Rhod. (hardy) Athenia—Standish, June 14, 1860—C.
Rhod. (hardy) Lady Bowring—Veitch, May 21, 1862—S. C.
Rhod. (hardy) Lady Lopez—Veitch, May 21, 1862—C.
Rhod. (hardy) maculosissimum—Standish, May 24, 1860—F. C.
Rhod. (hardy) ochroleucum—Veitch, May 21, 1862—S. C.
Rhod. hardy) Picotee rosea—Veitch, May 5, 1863—F. C.
Rhod. (hardy) præcox—Davis, March 12, 1861—C.
Rhod. (hardy) Romain de Smet—Lee; Veitch, March 18, 1863—C.
Rhod. (hardy) Rosabelle—Standish, May 24, 1860, C.
Rhod. (hardy) striatum formosissimum—Standish, May 21, 1862—F. C.
Rhod. (hardy) Suwaroff—Standish, May 21, 1862—S. C.
Rhus vernicifera—Veitch, Aug. 26, 1862—F. C.
Rose (H. P.) Beauty of Waltham—W. Paul, June 11, 1861—F. C.
Rose (H. P.) John Hopper—Ward, June 26, 1862—F. C.
Rose (H. P.) Lord Macaulay—W. Paul, May 5, 1863—F. C.
Rose (Tea) President—A. Paul & Son, March 29, 1860—F. C.
Saccharum violaceum—Bull, Oct. 8, 1862—C.
Salisburia adiantifolia fol. variegatis—Standish, July 2, 1862—B.
Salpiglossis chilensis—See Campsidium chilensis
Saponaria calabrica roseo alba—Carter, Aug. 23, 1860—C.
Sarmienta repens—Veitch, May 21, 1862—S. K.; Id. May 5, 1863—F. C.
*Sciadopitys verticillata—Standish, June 5, 1861—S. K.
Sedum carneum variegatum—E. G. Henderson, Sep. 11, 1861—C.
Selaginella atroviridis—Veitch, July 28, 1859—C.
Selaginella conferta—Veitch, Dec. 8, 1859—F. C.
Selaginella Lobbii—Veitch, July 28, 1859—F. C.
Selaginella Wallichii—Veitch, Dec. 8, 1859—F. C.
Selaginella sp. India—Veitch, Oct. 8, 1862—S. C.
Serissa fœtida marginata—Bull, May 21, 1862—B.
Skimmia japonica (vera)—Standish, March 18, 1863—F. C.
Solanum Capsicastrum variegatum—E. G. Henderson, Sept. 23, 1862—F. C.
Sphærogyne latifolia—Veitch, May 21, 1862—S. K.
Sphærostema marmoratum—Low, Sept. 22, 1859—F. C.
Spiræa Nobleana—Noble, Aug. 9, 1860—C.
Spraguea umbellata—Veitch, July 7, 1859—C.
Statice profusa—Parker & Williams—Nov. 8, 1860—C.
Stenogastra concinna—Veitch, June 5, 1861—S. B.; Veitch, Nov. 12, 1861—F. C.
Stenogastra multiflora—Veitch, May 21, 1862—B.
Swainsona violacea—E. G. Henderson, May 6, 1862—F. C.
Symphytum tuberosum variegatum superbum—Salter, April 9, 1861—C.
Tachiadenus carinatus—Veitch, July 26, 1860—C.
Taxus baccata erecta—Crowder, Sept. 27, 1860—F. C.
Theophrasta (?) argyræa—Linden, May 10, 1860—C.
Thibaudia macrantha—Veitch, Dec. 13, 1860—F. C.
*Thuja pygmæa—Veitch, June 5, 1861—B.
*Thujopsis dolabrata variegata—Standish, June 5, 1861—S. B.
Thujopsis lætevirens—Veitch, May 21, 1862—S. K.
Tilia europæa fol. argenteis—E. G. Henderson, May 6, 1862—S. C.
Todea superba—Veitch, May 28, 1861—F. C.
Trichomanes anceps—Bull, Feb. 25, 1863—F. C.
Trichomanes spicatum—Bull, Mar. 18, 1863—F. C.
Tricyrtis grandiflora—Standish, Nov. 11, 1862—F. C.
Tropæolum Garibaldi—Garaway, Sep. 27, 1860—C.
Tropæolum Yellow Tom Thumb—Carter, Aug. 11, 1859—C.
Tydæa Countess of Ilchester—E. G. Henderson, Dec. 8, 1859—C.
Tydæa elegans—Parker & Williams, Ap. 26, 1860—C.
Vaccinium Vitis Idæa fol. variegatis—Salter, Sep. 24, 1861—C.
Valdivia Gayana—Veitch, April 15, 1863—C.
Verbena Clara—Perry, July 28, 1859—C.
Verbena Cruor—G. Smith, July 12, 1860—C.
Verbena Dr. Sankey—Edmonds, Aug. 25, 1859—F. C.
Verbena Fairest of the Fair—G. Smith, June 28, 1860—C.
Verbena Foxhunter—Miller, July 9, 1861—F. C.
Verbena Grand Eastern—Woods, July 12, 1860—C.
Verbena Lord Craven—Downie, Aug 26, 1862—F. C.
Verbena Lord Leigh—Perkins, June 11, 1862—F. C.
Verbena Lucy Tait—Cunningham, July 26, 1860—C.
Verbena Nemesis—G. Smith, Aug. 9, 1860—F. C.
Verbena Pink Perfection—G. Smith, Aug. 9, 1860—C.
Verbena Rugby Hero—Treen, Sep. 10, 1862—F. C.
Veronica Chamædrys pulcherrima—Salter, April 9, 1861—C.
Wallflower Yellow Perfection—Graham, March 31, 1863—C.
Weigela Stelzneri—Standish, May 6, 1862—C.
Woodwardia orientalis—Standish, Nov. 12, 1861—F. C.
Yucca lineata lutea—Bull, Feb. 25, 1863—F. C.
Zinnia elegans fl. pleno—Vilmorin; Carter, Sep. 27, 1860—F. C.

The value of the several awards is indicated by the following initial letters, one or other of which will be found attached to the name of each subject:—S. K., Silver Knightian Medal; S. B., Silver Banksian Medal; B., Bronze Medal—the foregoing being awards made to certain subjects at the great summer shows; F. C., First-class Certificate; S. C., Second-class Certificate; C., Commendation. It should be observed that the S. C. was not made use of before 1862, so that prior to that date, the C. is really equivalent to a second-class instead of a third-class award, as it afterwards became. For the sake of completing the record of the awards made directly to New Plants by the Society since its resuscitation, we have included a few subjects (marked *) which were shown on the day of the opening, June 5, 1861. A few of the plants produced on this occasion being set up among the miscellaneous objects, were awarded prizes, which we have entered as 1st, 2d, and 3d respectively. We have also added a few other subjects (marked †), to which awards were made by the Society at the show in St. James's Hall, May 12, 1859, a month or two before the meetings of the Floral Committee were instituted; these received certificates of the 1st, 2d, and 3d class.

## ROSES.—No. VIII.

By Mr. William Paul, F.R.H.S., Paul's Nurseries, Waltham Cross.

The Tea-scented is the only first-class group that remains unnoticed, and this is quite worthy of a separate paper. It is unfortunate that the most beautiful varieties are, as a rule, the tenderest. Those who have grown them out of doors only, can form no idea of their increased beauty when cultivated under glass. Plant them out in a house with or without heat; if heat be employed they will grow stronger, bloom earlier, and suffer less from mildew. The strong-growing sorts may be trained to pillars, or up the rafters of the house in the way of Vines, and will produce flowers from every joint. The intermediate and dwarfer kinds may be grown as pyramids and bushes. Tea-scented Roses succeed admirably grown in pots under glass, especially if worked on the Manetti, and require little pot room and little pruning when in a young state. If grown out of doors the best plan is to plant them in a border in front of, but a little distance from a south wall, for if fastened to the wall they are liable to suffer from the attacks of red spider. Budded on the Dog Rose in August, and allowed to remain dormant through the winter, they form beautiful objects in the flower garden during the succeeding summer and autumn. No lover of Roses should reject the Tea-scented because they are tender, or on the assumption that they are difficult of culture; they are better worthy of a house or frame than half the greenhouse plants that are cultivated, and far easier to manage than one-fourth of the Hybrid Perpetual Roses. But then they must not be treated as ordinary Roses. If grown out of doors, a warm and light, rather than a moist and heavy soil is required, and they should not be pruned till late in spring (April). Distinct in colour, exquisite in form, rich in foliage, and surpassing all in delicacy and power of fragrance, they deservedly hold a very high position among the subjects of the "Queen of Flowers."

Abricoté is a good hardy free-growing sort, though scarcely vigorous; the flowers are fawn-colour with apricot centres, large and double, very beautiful as buds. Adam has rosy-blush flowers, very large and full, and is one of the sweetest and best. Amabilis is a good, hardy, vigorous-growing sort, with large, full, flesh-coloured flowers. Auguste Oger has large rosy flowers, with deeper coloured centres, and is of moderate growth. Auguste Vacher is distinct and good; the flowers are yellow shaded with copper-colour, of good average size and quite full: the growth is moderate. Belle de Bordeaux is of rampant growth, and the branches are well clothed with beautiful deep green leaves; the flowers are pink, large and full.

In addition to the above, Bougère, although one of our oldest Roses, cannot yet be dispensed with; the flowers are rosy bronze, very large, full, and globular; the growth is vigorous. Clara Sylvain is a good pure white Rose with creamy centre, large and full, of moderate growth. Comte de Paris is a beautiful flesh-coloured flower, shaded with rose; large, full, hardy in habit, and of great excellence. Comtesse Ouvaroff is beautiful in bud, but does not always expand symmetrically; the flowers are rose shaded, large and full. Devoniensis, which is an English seedling raised at Plymouth, is still one of the best; the flowers are pale yellow, very large, full, and beautiful. Duc de Magenta has immense salmon-coloured flowers, which if few in number are of unequalled breadth and substance. Elise Sauvage, Madame William, and L'Enfant trouvé —for I regard these as one and the same—is one of the sweetest and loveliest of the group; the flowers are yellow with a rich orange-coloured centre, and very sweet; the habit is sometimes robust, but more usually delicate. Enfant de Lyon deserves a special word of commendation on account of the freedom with which it flowers, and the exactitude of its form; although it resembles "Narcisse" a little too closely, it is of a paler yellow. Eugène Desgaches is quite first-class; its large, full, and globular clear rose-coloured flowers are very beautiful; the growth is vigorous. Gloire de Dijon stands unrivalled and alone: it is as hardy as a summer Rose, having lived through the winter of 1860-61 in places where all the Hybrid Perpetual Roses were killed. Flowers of this Rose were sent to me from Dijon before it was introduced, and exhibited at one of the Horticultural Society's shows at Chiswick. I have seen it grow 20 feet in a season trained against a house, producing leaves of a size and substance truly remarkable; the flowers are yellow, fawn, and salmon, variously shaded, large, full, and globular. Josephine Malton is a beautiful but delicate Rose with cream-coloured flowers, large and double.

Julie Mansais, I may add, is not one of the freest of Roses, but when well grown it is certainly one of the loveliest; the flowers are usually white, though sometimes tinged with lemon, large and full. La Boule d'Or is the deepest yellow of this group, and sometimes beautiful under glass; out of doors the buds are often as hard as a cricket-ball, and as little disposed to open; it is nevertheless desirable for its colour, and is hardy, vigorous, and free. Loose petals of this Rose were sent to me from Paris the year before it was introduced. I was struck with the colour, but adjudged it too hard in the bud; Rosists can make out a flower from a petal as physiologists an animal from a bone. Louis de Savoie is a fine large pale yellow Rose, good for under glass. Madame Bravy is a prettily-shaped cream-coloured flower, good out of doors as well as within. Madame Damaizin is very free both in growth and flowering, and hardy also; the flowers are salmon-colour, large, full, and sweet. Madame Falcot is quite first-class; it is much in the style of Safrano, but deeper in colour, and more double; it remains to add that it does not grow so freely as that old favourite. Madame de St. Joseph has very large salmon-pink flowers, powerfully fragrant and of great beauty; it is best under glass. Madame Halphin differs from all others; the flowers, which are large and tolerably full, vary from salmon-pink to yellowish white. Madame Pauline Labonte is a large flat salmon-coloured rose, showy, and very hardy. Madame Villermoz is one of the gems of this group; the large full wax-like flowers—white shaded with salmon—and splendid foliage unite to form an object of rare beauty; the habit is also hardy, the growth free. Marquise de Foucault produces variable flowers, white, fawn and yellow, large, very sweet, of perfect outline, but not full. Moiret is a grand old Rose, but one that is only occasionally to be caught in perfection; the flowers are pale yellow shaded with fawn and rose, very large, full, and of great substance. Narcisse deserves universal cultivation; the flowers are yellow with creamy edges, perfectly circular and full, reminding one of a transverse section of a hard boiled egg; the plant is hardy, the habit good and free. Niphetos is a match for Duc de Magenta in size, though more globular in form, and of a different colour—pale lemon to snowy white. President ranks also amongst the largest and most beautiful of this group, surpassing both the preceding in fragrance and form; the flowers are rose shaded with salmon. Safrano, in the bud state, is one of the most beautiful, but the expanded flower is thin and poor; the buds are apricot, the flowers fawn-colour; the plant grows so freely, flowers so abundantly, and is withal so uncommon in colour, that it forms a most attractive object in the garden. Sombreuil is a good hardy free-flowering white Rose, of large size and vigorous growth, well suited for out of doors. Souvenir d'Elise Vardon is an indoor Rose, varying in colour from white to creamy yellow, very large and of great substance; the flowers are usually few, but fine. Souvenir d'un Ami, or Victoria as it is sometimes called, is not surpassed by any other in the group; the flowers are salmon and rose shaded, large, full and globular; the constitution is hardy, the foliage fine. Vicomtesse de Cazes, if of loose and irregular shape, produces flowers of exquisite colour, coppery yellow, and cannot be set aside as a decorative Rose in house or garden; it is very sweet, free, and tolerably hardy.

## Home Correspondence.

*The R.H.S. May Show.*—The first of the Great Shows of the Royal Horticultural Society has left behind it pleasant recollections of gay throngs both of visitors and flowers, mingled with vivid impressions of the vastness of the great Exhibition building in which it was held. Will you, however, allow me a small space to observe that the latter—the building that is—however comfortable for promenading, and however convenient to the Society, while minus its monster tents, has the same effect on a flower show as other large buildings that could be named, its vast height and expanse dwarfing and diminishing the plants in appearance, and its dry atmosphere having a strong tendency towards their exhaustion. On such a sunny day as the Society was fortunate enough this time to have had for its fête, a tiffany or other light awning thrown across the nave would, I fancy, have greatly improved the scene, considered simply as a flower show. And it need not have been very costly. The hint is offered for cogitation by the proper authorities before another show takes place. *Nemo.*

*New Greek Conifers.*—What is Picea Apollinis? Link and Antoine describe this as a distinct species. Endlicher made it a variety of P. pectinata. Carrière regards it as a species allied to, but distinct from, P. pectinata; and Mr. Gordon records it as a synonym of P. cephalonica. In our opinion it is entitled to rank as a species forming the transition between P. pectinata and P. cephalonica. Its leaf is pointed, as is that of P. cephalonica, but not so sharp. The numbers of rows of stomata on the leaf, as well as the branches and cones, are much the same in both. The scale of the cone has its lip more turned over than in P. cephalonica, and its bract is broader, and somewhat more expanded at the base. Its seed is similar to that of P. pectinata; but quite distinct from that of P. cephalonica. The expansion of the wing is present in P. Apollinis and in P. pectinata, but does not occur in P. cephalonica. It has certainly more to do with P. pectinata than with P. cephalonica.—What is Picea Panachaica? This, we believe, is one of Dr. Heldreich's new species. The form of its seed corresponds with that of P. cephalonica. The other parts seem all equally identical with it, with the exception of the leaf, which is a trifle narrower, and more elongate. The distribution and number of the rows of stomata, however, are the same, and we can see no reason for holding this to be different from P. cephalonica.—What is P. Reginæ Amaliæ? Dr. Seemann, in the *Gardeners' Chronicle* (1861, p. 755) has recorded the discovery and history of this so-called species. With all humility we confess ourselves compelled to differ from Dr. Landerer's opinions as given in the article just referred to. We have not seen the flower, and therefore we speak under reservation of what it may show; but we have seen all the other parts, and have come to a diametrically opposite conclusion. The most of the distinctions pointed out by Dr. Seemann do not occur in the specimens we have received—the leaves are not there more sparse than in P. Apollinis. The cones are no doubt only about 6 inches long; but so were the cones of P. Apollinis, sent along with them. The only differences we have been able to detect between it and that species are, that the leaves are thicker and shorter, and more pointed—as much pointed, indeed, as in P. cephalonica; but the termination is of the same character as in P. Apollinis, viz., bevelled off from behind, whilst in P. cephalonica it tapers to a point, nearly as much from before as behind. The disposition of the rows of stomata is the same as in P. Apollinis; the leaves are the same. The cones are a trifle more slender, but the scales and bracts are the same; and so are the seeds; at least, if there is any difference, it is of the most trifling description. The wing is longer and larger; but this is a character often varying according to the size of the cone, as well as the part of the cone, from which the seed comes. We do not think the habit of second growth, even although it were special, and confined to the plants found in the district whence this variety comes, can be relied on as a specific character, and we doubt whether the same habit may not be found under particular circumstances in the allied species. For instance, in this country, Picea cephalonica, when injured either by frost or otherwise, shows a similar tendency. We therefore place ourselves in the ranks of those who do not consider this a good species. We view it as a variety of P. Apollinis. *A. Murray.*

*Gishurst Compound.*—Judging by the attacks on my own fruit and Rose trees, blights of all sorts are in unusual strength this year. The following, which is the last account I have received of the use of Gishurst, may therefore be acceptable. The writer, Mr. Cranston, of Hereford, says:—"I am pleased to state that it has effectually cured a large house of Roses which were badly infested with mildew. About 2½ oz. to the gallon of water is also an effectual remedy for the green fly upon Roses out of doors; this I am now using upon a piece containing some 40,000 or 50,000 plants. I find, however, that it does not kill the black fly upon Cherry trees without the addition of tobacco." *George Wilson, Belmont, Vauxhall.*

*Peas.*—I picked Peas from a south border on May 17, 25, 29, and 31; and on June 2. Is not this unusually early? *H. S., Carshalton, Surrey.*

*Law of Rating.*—In your last Number you refer to the rating of nurserymen's greenhouses, and the question of tenants' rights. In the Act of Elizabeth everything visible is liable to be rated, even a cobbler's lapstone and a tailor's needle; but as the tailor earns most money with his needle, how would you rate it? The law, finding this so difficult, has abandoned rating it. Now if you rate a nurseryman's greenhouse, you must rate a draper's shop, fixtures, and those of every other trade; also private houses, where the grates, coppers, gas-fittings, &c., are the tenant's, or you will have inequality of rating. For the sake of argument, let us say a farmer puts up machinery to grind his roots, cut his chaff, and thrash his corn at a cost of 600*l.*, and that he loses 1000*l.* per annum; his next door neighbour has a farm at the same rent, on which he keeps removable dwelling-houses for herdsmen, pens to keep his stock in, altogether worth 3000*l.*, and he realises 1000*l.* per annum. How would you rate these two farms. *John E. Lane, The Nurseries, Great Berkhampstead, Herts.*

*Rhododendron Edgworthii.*—This came into bloom here in the open air on the 13th ult. The plant is 2 feet 2 inches high by 7 feet 4 inches in circumference, and has 16 trusses, two of which have two flowers, 8 three flowers, 4 four flowers, and 2 five flowers. The largest flower is on one of the five-flowered trusses, and it measures 12 inches in circumference at its mouth. I am induced to call your attention to it, as I am told it is the first to have bloomed in the open air in this country. It was one of a batch of 12 varieties bought by me in 1856 from Mr. Clark, the Curator of the Botanic Gardens, Glasgow, who had received the seed from Dr. Hooker. It has never had the slightest protection, and is exposed to a north-west wind, coming over about 11 miles of sea. I have crossed it with the pollen of the scarlet magnificum, a seedling of arboreum, and with other two scarlet varieties. Mr. Clark recommended me to cross it with altaclerense, but that variety flowered with me here in the open air in February. *R. B., Anne's Lodge, Ascog, Rothesay.*

*Monstera deliciosa.*—Could any of your Correspondents inform me whether it is rare or not for the Monstera deliciosa to flower; I have it in bloom now. Which is the proper name, deliciosum or deliciosa, and why is it called so? Is its fruit delicious? *G. Wheeler, Gr. to H. Westcar, Esq., Hersham, Surrey.* [The name is deliciosa. The flower-spike grows into a succulent oblong fruit, the soft vinous fragrant pulp of which, lying between the axis and the hexagonal scales of the surface, is eaten. Hence the name. You will find an engraving of the fruit in our Volume for 1858, at p. 883.]

## Societies.

ROYAL BOTANIC: *June* 3 (*Second Great Exhibition*).—This was in most respects a repetition of that held the other day at South Kensington, a full report of which was given at p. 509. The following remarks will therefore be chiefly confined to subjects not shown on that occasion.

*Stove and Greenhouse Plants.*—These were again furnished in admirable condition; Allamandas especially were in unusually fine bloom, as were likewise Dracophyllums, Everlastings, and Cape Heaths. One or two Kalosanthes also made their appearance; it is in the July displays, however, that these are seen to most advantage. Who the successful exhibitors were, under this head, will be seen from the following:—

*Awards.*—16: 1st, Mr. Peed; 2d, Mr. Green; 3d, Mr. Baxendine. 10: 1st, Messrs. Fraser; 2d, Mr. Rhodes; 3d, Mr. Cutbush. 10: 1st, Mr. Chilman; 2d, Mr. Wheeler; 3d, Mr. Kaile. 6: 1st, Mr. Page; 2d, Mr. Tegg

*Orchids.*—In a charming group from Mr. Baker, gr. to A. Bassett, Esq., was an extremely well-flowered plant of the red Trichopilia crispa; and Mr. Milford, gr. to E. M'Morland, Esq., again showed his rare Odontoglossum Phalænopsis in beautiful condition. From Mr. Beck, of Isleworth, also came a small but fine collection, in which Aerides Larpentæ and Fieldingi, Saccolabium guttatum, and Oncidium Lanceanum were conspicuous.

*Awards.*—20: 1st, Mr. Baker; 2d, Mr. Milford; 3d, Mr. Peed. 8: 1st, Mr. Woolley. 12: 1st, Mr. Penny; 2d, Mr. Page; 3d, Mr. Green; 4th, Mr. Chilman. 6: 1st, Mr. Beck; 2d, Mr. Smith; 3d, Mr. Wheeler.

*Azaleas.*—These, though evidently past their best, were still in some instances sufficiently brilliant to show what they had been; and visitors who had not had the good fortune to see them in better condition were evidently delighted with them. Now that the blooms are somewhat off them, it is clear that some of the plants are too stiffly trained, a fault which, let us hope, another year's growth may help to remedy.

*Awards.*—6: 1st, Mr. Turner; 2d, Messrs. Fraser. 6 (Amateurs): 1st, Mr. Penny; 2d, Mr. Green: 3d, Mr. Cross; 4th, Mr. Page.

*Cape Heaths.*—These were again shown in considerable numbers, and, as the summer advances, seem to improve in appearance. One of the best of the ventricosa section is undoubtedly magnifica, a fine kind, with an unusually large amount of soft rose colour in it, and Queen Victoria, in the aristata class, as we have before observed, is quite a gem. Let us hope that other additions of equal value may yet be forthcoming.

*Awards.*—10: 1st, Messrs. Jackson; 2d. Mr. Rhodes. 8: 1st, Mr. Peed; 2d, Mr. Page; 3d, Mr. Baxendine. 6: 1st, Mr. Chilman; 2d. Mr. Wheeler.

*Variegated Plants.*—Among these were noble exam-

ples of Caladium Chantinii, Alocasia macrorhiza, and Dieffenbachia from Messrs. A. Henderson & Co; and from Mr. Hutt, gr. to Miss Burdett Coutts, and Mr. Smith, gr. to the Duke of Northumberland, at Syon, also came strikingly large and fine specimens.

*Awards.*—1st, Messrs. A. Henderson; 2d, Mr. Hutt; 3d, Mr. Smith.

*Ferns.*—Both tender and hardy varieties of these were contributed in considerable abundance, and being good specimens of their respective kinds, they were much admired.

*Awards* (Tender):—12: 1st, Messrs. A. Henderson; 2d, Mr Lavey; 3d, Mr Young. (British):—1st, Messrs. Ivery; 2d. Miss Clarkson; 3d, Mr. Lavey.

*Pelargoniums.*—Seldom have these been shown in better condition than they were on this occasion, more especially the 1st prize collection from Mr. Turner. These were all that could possibly be wished for as far as skilful cultivation was concerned, and they were literally bouquets of bloom. Mr. Bailey had also some fine plants. The sorts, together with the number of times each variety was shown, were as follows:—Ariel, 3; Aurelia, 1; Beadsman, 2; Bacchus, 1; Candidate, 2; Carlos, 1; Desdemona, 3; Empress Eugénie, 1; Etna, 1; Fairest of the Fair, 3; Governor General, 1; Guillaume Severyns, 1; Guido, 1; Lady Canning, 1; Leviathan, 3; lilacinum, 1; Lord Canning, 1; Lord Clyde, 1; Mazeppa, 1; Mr. Marnock, 2; Monarch, 1; Nestor, 1; Osiris, 2; Peacock, 1; Picnic, 1; Prince of Wales, 1; Pizarro, 1: Rose Celestial, 4; Sanspareil, 1; Sir C. Campbell, 2; Symmetry, 1; The Belle, 2; Viola, 3. *Fancies.*—Acme, 2; Arabella Goddard, 1; Carminata, 3; Celestial, 2; Clara Novello, 3; Clemanthe, 1; Cloth of Silver, 1; delicatum, 3; Electra, 1; Emily Witcher, 2; Evening Star, 2; Lady Craven, 2; Lady Hume Campbell, 1; Lady of the Lake, 1; Madame Sontag, 1; Madame Van der Weyer, 1; Mrs. Turner, 1; modestum, 1; Negro, 3; Queen of Roses, 1; Queen of the Valley, 2; Roi des Fantaisies, 1; Rosabella, 1.

*Awards.*—12: 1st, Mr. Turner; 2d, Messrs. Fraser. 10: 1st, Mr. Bailey; 2d, Mr. Shrimpton; 3d, Mr. Weir. (Fancies) 6: 1st, Mr. Turner; 2d, Messrs. Fraser. (Amateurs) 6: 1st, Mr. Bailey.

*Roses.*—Those in pots begin to show the ill effects of the last week's brilliant sunshine; but in the shape of cut blooms they were all that could be desired. Conspicuous among yellows were unusually good examples of Celine Forestier, Boule d'Or, Auguste Vacher, Triomphe de Rheims, and last but not least, Vicomtesse Decazes. There was also an interesting box of Gloire de Dijon from Mr. Terry. Among specimens in pots, the most noticeable perhaps was Lælia, the blooms on which were wonderfully large and showy. This was in the collection from Messrs. Lane.

*Awards.*—10 plants in pots: 1st, Mr. Wm. Paul; 2d, Messrs. Lane. 6: 1st, Mr. Terry. 50 cut blooms: 1st, Messrs. Paul & Son; 2d, Mr. Mitchell; 3d, Mr. Wm. Paul. 25 ditto: 1st, Mr. Hollingsworth: 2d, Mr. Terry. 24 ditto: 1st, Mr. Turner; 2d, Messrs. Paul & Son: 3d, Mr. Hollingsworth.

*Miscellaneous subjects.*—These consisted of some beautiful specimens of fine-folinged plants from Messrs. Veitch, Williams, and Bull; one or two collections of Fuchsias, which we hope to see in better condition in July; a poor group of tall Cacti; a collection of Calceolarias, extremely well grown and flowered, from Mr. James, of Isleworth; and some hanging baskets from Messrs. A. Henderson & Co., tastefully filled, but in which stove and greenhouse plants, and others which are hardy or nearly so, were grouped together indiscriminately.

*New Plants.*—Of these, and of seedlings, some account will be found in another column.

Fruit.—This was shown in considerable abundance, and was good for the season.

*Pine Apples.*—Remarkable among these were some specimens of Providence, weighing from 8 to 9 lbs. each, from Mr. Jackson and Mr. Bailey. Queens were not first-rate; but we noticed a good Enville.

*Awards.*—Providences: 1st, Mr. Jackson; 2d, Mr. Bailey; 3d, Mr. Young. Queens: 1st, Mr. Howard; 2d, Mr. Solomons; 3d, Mr. Barnes; 4th, Mr. Bailey.

*Grapes.*—Black sorts were good, especially some Black Prince from Mr. Hill. Of White Frontignans there were some beautiful bunches from Mr. Drewitt, and good Chasselas Musqué came from Mr. Petch. Muscats were not ripe; those indicating the nearest approach to maturity came from Mr. Clements. Mr. Hill sent some good examples of Buckland Sweetwater, and Mr. Bailey had good bunches of his Muscadine, a compact sort, becoming very white when fully ripe.

*Awards.*—Black Hamburgh: 1st, Mr. Clements; 2d, Mr. Turner and Mr. Petch; 3d, Messrs. Hill, Jackson, Penny, and M. Henderson. Others also exhibited in this class. Black Prince: 1st, Mr. Hill; 2d, Mr. Goldsmith; 3d, Mr. M'Pherson. Sweetwater: 1st, Mr. Hill; 2d, Mr. Hutt; 3d, Mr. Bailey, Mr. Henderson, and Mr. Tegg. Frontignans: 1st, Mr. Petch; 2d, Mr. Drewitt; 3d, Mr. M. Henderson. Others also showed in this class.

*Peaches.*—These were not very plentiful; but the dish of Royal George to which the first prize was given was good. Fruit of the Stirling Castle won the second prize.

*Awards.*—1st, Mr. A. Henderson; 2d, Mr. Carmichael; 3d, Mr. Evans and Mr. Taylor. Messrs. Turner, Petch, Beck, and Tegg also showed good Peaches.

*Nectarines.*—The dish of Violette Hâtive, to which the first prize was given, consisted of very perfect fruit of high colour; but not large. Other varieties were also mostly below average size.

*Awards.*—1st, Mr. Petch; 2d, Mr. Allen; 3d, Mr. Tegg; 4th, Mr. Henderson; 5th, Mr. Robinson; 6th, Mr. Enstone.

*Cherries.*—Among these were beautiful specimens of Black Circassian and Elton from Mr. A. Henderson, Trentham. Mr. Wilson, of Warwick, also showed good fruit. Among other sorts we noticed a good dish of Reine Hortense.

*Awards.*—1st, Mr. Henderson; 2d, Mr. Wilson.

*Strawberries.*—Among these were fine fruit of President, a productive and excellent kind, larger than Keens' Seedling and quite as early; Oscar, British Queen, Sir C. Napier, and Alice Maude.

*Awards.*—1st, Mr. Turner; 2d, Mr. Pottle; 3d, Mr. Horwood; 4th, Mr. Jackson.

*Melons.*—Of these there was a large display. Among Green-fleshed sorts, that to which the first prize was awarded was Golden Perfection; but Mr. Meredith, Garston, near Liverpool, also had a most excellent hybrid of the Persian class, with a skin nearly as thin as that of a Pear. This when better known, cannot fail to be a favourite. In the Scarlet class the best was Gem.

Among Miscellaneous Fruit was a fine bunch of Bananas from Mr. Mart, fruiterer, Oxford Street.

## Notices of Books.

*The Science of Home Life.* By Prof. Bernays. Allen & Co. 1862.

This is a useful compendium; a sort of "Enquire Within" on scientific subjects; but, as is generally the case with such compilations, it is not so suitable for reading as for reference—an admirable book to consult on any knotty question. The subjects treated of are mostly connected with every-day life. Heat, the atmosphere, water, soap, glass, metals, liquors—such are some of the topics touched on; each is briefly described, and whatever is worth knowing about it is concisely given. Thus, to take tea as an example: we are first told what sort of water and teapot makes the best tea; a description of the cultivation of the Tea plant follows, with an account of the process of preparing the leaves for market; the constituents of tea are next described, with the best method of making it; and the advice on the latter point we will quote, as, although every woman supposes she knows how to make tea, we take leave to assert that not one in twenty knows how to make it properly.

"In order to make a good infusion of tea, Soyer recommended that the tea should be very finely divided, as tea-dust, and briefly shaken in the heated, dry teapot, before the introduction of the water, with the object of bringing out the aroma in the greatest perfection. Many housewives pride themselves on a supposed ability to make good tea economically, which they manage either by letting the tea stand (to draw, as they express it) for a long time, or by placing it before the fire, or by the use of soda. But these and all similar expedients are worse than unavailing—they simply spoil the tea. The only secret of making good tea is to use the leaves in sufficient quantity, to heat the teapot thoroughly, and then, after the introduction of the leaves, to fill it up at once with boiling water; to allow it 'to draw' only for about five minutes, and then to pour it off, either into the cups from which it is to be drunk at once, or into another tea-pot. All the pleasant and valuable properties of the tea are extracted in that time. What comes out of it afterwards may be a strong-tasting liquor, but is unworthy the name of tea."

We often see such books as this condemned, as tending to make learners fancy they know all that is to be taught; yet we cannot think it is the book that should be blamed, but rather the beginner who suffers himself to rest satisfied with the knowledge he has picked up from books never intended to teach science, but merely compiled as aids to the memory, or as a commencement which shall induce the reader to examine fuller sources of information. For these purposes this volume appears to be admirably fitted, and would have been still more so, had the author been more careful in the construction of his index. Several of the headings given in it are wrongly paged; while again, many subjects are dwelt on in the book, to which there is no reference whatever in the index—both errors which will materially impair the usefulness of the work.

*Rudimentary Treatise on the Principles of Design in Architecture.* By E. L. Garbett, Architect. Virtue & Co., 1863. Second Edition.

It is a humiliating fact, but still it is the truth, that the prevailing feature of English, and especially of London architecture, is ugliness. No doubt our streets and buildings differ, and here and there a bright exception occurs, on which the eye rests with pleasure; but the exception proves the rule, and we need not search far for evidence that we have not yet learnt how to combine beauty with fitness for modern needs.

That we are on the road to acquire this knowledge, however, may be inferred from the constant complaints which are uttered on the subject. Not a public building, nor even a private one of any pretension, is erected, but it is forthwith assailed by hosts of detractors, who mercilessly pick it to pieces, some rightly, some wrongly; and since to know our faults is the first step towards amending them, we look upon these criticisms as a hopeful sign. Still, many condemn without knowing why, and if we know not where the error lies, how can we correct it? This Mr. Garbett undertakes to teach us, and he does it by quoting Emerson's words, "the selfish and even cruel aspect which belongs to our great mechanical works;" adding, "I cannot help suspecting that these words touch the root of the evil. Have we not here a clue to the solution of the riddle? And is not an unarchitectural building ugly simply because it looks selfish? It will be observed that the productions of other arts have not this inherent defect; they are goods to their owners without being evils to any one. But a great building is, in certain respects, a necessary evil; it shuts out from us air and light, and the view of beauteous nature; it encumbers a portion of the earth's surface, and encloses a portion of the free atmosphere. It has no right to do so, without making or attempting what compensation it may for these injuries."

How to make this compensation, how to "soften down this crude, selfish rudeness by a politeness either natural or acquired, is the aim of this little book; and in spite of its somewhat dogmatic tone, and occasionally fanciful theories, it contains much by which an architect may profit, and which is well worthy of careful attention. Those who have never studied the subject of Architecture will find it too technical, and probably in part unintelligible, but even they may gain a few ideas from it to guide them in forming a correct estimate of the works of others. The following is a useful piece of advice on this subject.

"Of course, it is not meant to be implied by these remarks that ornament is not conducive to beauty, but only that it is not necessary thereto; and it may be added, that a building which is not beautiful in itself, or when stripped of all except its necessary members, cannot by any addition of ornament be made pleasing, except to vulgar tastes. Hence we have a good test by which to try the justice of our admiration of a rich building, and detect in ourselves any lurking taint of vulgarity which, perhaps, will always remain, however we may advance in the cultivation of a pure taste. Let us fancy the building (or, if necessary, draw sketches of it), despoiled of everything that is merely decorative, and then see whether, in this naked state, it still excites our admiration. If not, then we may be sure that we were only dazzled with the enrichments, behind which the unskilful architect has taken refuge; and in such a building every ornament is too much. If, on the other hand, the bare carcass remains beautiful, though stripped of all its finery, all that finery may be restored, and none of it will be added in vain, provided it be consistent with itself and with the character of the building, properly placed, and consistent everywhere with its situation. If it fulfil these conditions, every decoration added to this building, from the simple moulding to the historic sculpture of a Phidias or a Chantrey, will be a useful addition, and will add to the real beauty of the whole."

Truth and consistency must be the aim of the architect; and while seeking for beauty he must remember that this cannot be attained at the expense of fitness: a fitness of parts as of decoration. And above all, let him beware of sham—that rock on which so many split. He, in short, like all earnest workers, should lay to heart the familiar truth with which Mr. Garbett closes his volume—"Seek not to seem what you would be, but be what you would seem."

Books Received.—*Flora of Edinburgh.* By Prof. Balfour and Mr. Sadler (pp. 174, 12mo, Black), a list of names of plants, arranged according to the Natural system, with a map and good reference to localities.——*A Northern Plea for Peace. Address of the Hon. William B. Reed, of Pennsylvania, (late American Minister to China, &c., &c.), to the Democratic Central Committee at Philadelphia.* Henry F. Mackintosh. A northern protest against the "cruel and wicked war" now raging in the disunited States.——*Some Remarks on a Protomorphic Phyllotype.* By G. Sigerson, M.D., Dublin. Fowler (a pamphlet). The author regards stipules as "indications of a protomorphic leaf-type," and he concludes "that type to be the orbicular leaf."!!

## Garden Memoranda.

Cliveden, near Maidenhead.—As it has now become generally known that flower gardening is carried on here with unusual success under the able management of Mr. Fleming, some account of the appearance of this fine place, at the present time, may not be unacceptable. The effect produced on the beautiful lawn which lies between the mansion and the Thames, especially when viewed from the noble terrace in front of the house, is grand in the extreme, the whole of the beds, which are of large size and peculiar pattern, being now as full of blossoms as they could possibly be in July or August.

Omitting from want of space many of the natural beauties of this terrestrial paradise, and commencing with a small flower garden in front of the conservatory, the most effective beds consist of Cheiranthus Marshallii, of the double white English Saxifraga granulata, and the double blossomed variety of Cardamine pratensis; while others are made up of double red and white Daisies, double

red Anemones, and fancy Pansies, among which latter one of the most attractive is Magpie, a deep purple white-spotted variety, very suitable for this description of out-door decoration.

Passing onwards to the lawn, which is a sunk panel some 5 acres in extent, surrounded by a charming turf-covered promenade whose slopes at certain distances apart are decorated with red and white Thorns, we find the masses planted as follows, viz. :—one with blue Forget-me-Not and white Tulip (La Candeur), another with Anemones and Tulips, a third with Silene pendula, a fourth with Limnanthes Douglasii, a fifth with red and white Silene mixed, a sixth with Anemones, a seventh with red Silene, and an eighth with Forget-me-Not. These occupy one side of the lawn, and those on the opposite side are exactly similar, the dense masses of soft rosy-coloured Silene now in perfection, setting off the blue Myosotis and straw-coloured Limnanthes to excellent advantage. The connecting link between these two admirable series of beds at the point farthest from the mansion, is an immense circle with a grassy centre, encompassed with gay flowers, now broken here and there into masses by means of Honesty pegged down, and later in the season by Perilla, the intermediate colours during spring being blue, red, white, and yellow, and in summer scarlet, white, and blue: the whole when viewed from a distance looking not unlike a gigantic brooch of rich and varied colours set in a field of green.

Below the great terrace in connection with the mansion, right and left of the central flight of steps, are two admirable ribbon borders, at present full of flowers, the different colours of which are arranged with much skill both as regards effect and contrast; and the lines being curved they present an agreeable wavy appearance. The front line next the Grass consists of a broad belt of Ivy laid closely on the ground, behind which are rows of Double White Daisy, yellow, blue, and purple Pansies, the bright rose-coloured Silene pendula, with Honesty and Stocks, the two last forming a background against the terrace wall, which is gracefully overhung with Roses, Jasmine, Wistaria, and other plants of a similar description. The borders just mentioned, both of which are composed of the same materials, are each 47 yards in length; and as looked down upon from the terrace, have a very striking effect.

A little in advance of the curves of the ribbons in question are circular beds on the Grass, and corresponding beds occupy suitable positions on the other side of a gravel walk, which runs parallel with the terrace. These are filled with blue and purple Pansies, Anemones, and Tulips, and in summer they form stations for Orange trees, of which this establishment can boast of some exceedingly handsome specimens.

As soon as the beauty of the spring flowers begins to fade, the beds are immediately cleared of their occupants, and refilled with ordinary half-hardy bedding plants, such as Geraniums, &c., thousands of which are now being prepared and hardened off in shady borders for the purpose. In this way, by means of materials not at all expensive or extraordinary in character, a display is annually kept up from March until September, such as, we venture to say, is not anywhere else to be found in England.

Around the flower-garden and elsewhere in the woods, in which the voice of the cuckoo may now be heard, mingled with that of multitudes of song birds, are miles of green drives, from which charming peeps of the surrounding country or bits of choice meadow land, just now owing to drought bearing a scanty crop, can here and there be obtained; and nearer the mansion are glades of Rhododendrons tastefully broken up into masses, at particular points of which, large-leaved half-hardy plants, such as Cannas, Caladium esculentum, Seaforthia elegans, Brugmansias, &c., have been introduced. In order that the latter may succeed satisfactorily, however, stations are first prepared for them, in which is put a good bed of warm dung, which furnishes bottom heat until the warmth of summer renders such assistance unnecessary.

Between the Thames and the flower garden, which occupies a table land 200 or 300 feet above the water, is a steep bank traversed by zig-zag woodland walks overhung with Yews, many of them wonderful specimens, and Scotch and Spruce Firs, the latter in many instances overrun with Traveller's Joy. These form in summer agreeable retreats from the heat of the sun, and at certain points, delightful views of the Thames with its little islands and the neighbouring country may be had; while contiguous to the water is a banqueting room and neat fishing cottage, and all the conveniences for pursuing the latter kind of sport, as well as for boating.

We need scarcely add that the kitchen garden and fruit department are managed with equal skill to that displayed in the dressed ground, and that the result is all that could be wished. Forced Strawberries we noticed in abundance; Grapes ripe, black as sloes, and covered with a beautiful bloom; and in a well constructed "Trentham case" is a fine crop of Peaches, many of which are ready for gathering. Figs in pots are literally loaded with fruit, which number six or seven on the end of every branch; these are on a leaf bed under Vines, and in the compost in which they are potted is put a good deal of chalk, of which they appear to be fond. On walls out of doors are good crops of fruit, as also on standards, but in more exposed situations in the neighbourhood it is thought that the crop of Apples at least may be thin.

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—The conservatory should now be thoroughly relieved of all superfluous stock. Nothing therefore will be required in structures of this kind but to carry out a cleanly system of cultivation and to introduce specimens in flower from other houses or pits. Keep the atmosphere as moist as circumstances will admit. Ventilate thoroughly, and shade with thin canvas during bright sunshine. Attend to plants for autumn and early winter decoration, such as Japan Lilies, Chrysanthemums, Scarlet Salvias, Tree Carnations, and things of that description. Give them plenty of pot room, good rich compost, a moist atmosphere, and proper space for the development of their branches and leaves. Selago distans is a good useful plant which must not be forgotten; it flowers freely and requires nothing better than a cold pit to grow in Epacrises, winter blooming Heaths, and Cytisus should likewise be cultivated in quantity, for few plants surpass them for winter decoration. The atmosphere of plant houses can scarcely be kept too moist at this season; therefore sprinkle every available surface frequently, and syringe growing stock lightly twice a day during bright weather.

### FORCING DEPARTMENT.

Pineries.—Where the bottom-heat is obtained from tan or other fermenting matter, it will be necessary to add a little fresh material at intervals, in order to increase the heat, but, except in particular cases, it will be safer to surface with a few inches of fresh tan in a rather dry state than to turn the whole bed, mixing fresh materials with it, an operation which often causes too strong a heat; and at this season there is more danger of erring on the side of too much than too little bottom heat. Give every attention to keeping up a succession of fruit. Perhaps the most certain method of doing this, is by securing and potting a number of suckers proportionate to the demand, at short intervals during the growing season. Therefore attend to keeping up a regular supply of young plants, even if this should necessitate throwing away a few overgrown plants which have failed to fruit at the desired time. We have frequently seen gardeners allow the number of large plants to increase, so that there was little room left for the young stock, which suffered accordingly, and disappointment came in due course. Do not let the growing stock suffer for want of pot room, or through dryness at the root, and afford it a moist atmosphere, syringing and shutting up early in the afternoon, so as to give the house a good steaming. Recently potted plants, especially if they were much pot bound before being repotted, should be kept rather close and shady, with a thoroughly moist atmosphere, and very carefully attended to with water until they appear to have taken to the fresh soil.

Vineries.—In the case of fruit intended to be kept as long as possible, the berries should be thinned, so that they will hardly touch when fully swelled, for it is scarcely possible to keep Grapes sound except they are severely thinned. Be particularly careful of the foliage of the Vines intended to furnish a late supply, and if plants must be grown in the house, see that they are not infested with black thrips or red spider, for if either of these pests is allowed to gain a footing on the Vines the foliage will probably be greatly injured, and then there will be no chance of keeping the Grapes in good condition for any time after they are ripe. Muscats must be encouraged with a brisk temperature while setting.

Peach House.—Use means to eradicate insects, if any, from the early house as soon as the fruit is gathered, in order that the trees may be perfectly free from them before the lights are removed. Syringe copiously to destroy red spider, dust with sulphur for mildew, and smoke with tobacco for green-fly.

Melons.—In dung beds keep up a good heat by means of linings. Let no water fall upon the fruit after it is fully swelled, and give air more freely. Sprinkle late Melons overhead early in the afternoon before closing up the frames; a little air may be left on during warm nights if the bottom heat is brisk. Keep the Vines thin, and shade lightly.

Cucumbers.—Attend to watering and thinning out superfluous shoots. If in frames, and the latter are small, they may be raised by placing bricks under the corners so as to allow the shoots to run outside. Stop and train those under handlights, and supply them liberally with water.

### FLOWER GARDEN AND SHRUBBERIES.

All newly bedded-out things will during this hot weather require daily waterings. The benefit of little basins round specimen plants will now be readily seen. Let the young shoots on all old Fuchsia stools be thinned out to five or six. Attend diligently to standard Roses, constant disbudding is necessary at this period; also keep down suckers. Let every attention be paid to propagating a reserve stock of ordinary half hardy plants to fill gaps, and let those already rooted, or the remains of store pots, have kindly cultivation forthwith, in order to be ready to fill blanks. They should be kept in a shady border entirely by themselves, and should receive frequent waterings.

### HARDY FRUIT AND KITCHEN GARDEN.

In order to have a good and constant supply of winter Endive a full sowing should now or very soon be made. Endive is generally sown too thickly. Another good sowing should be made in the first week of July, and a second towards the middle, after which the plants will not attain full size. As soon as the plants are a few inches high, some mow the tops of the leaves off with a scythe, cutting about one-third of the leaves away. This they do to stiffen the plants and cause more heart to develope itself; it also enables them to bear transplanting better. A good breadth of dwarf and compact Cabbages may be sown for early Coleworts; also a bed of Horn Carrots. This is a good time for a liberal sowing of autumn Turnips; the Dutch or Stone are useful sorts for the kitchen garden.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending June 3, 1863, as observed at the Horticultural Garden

| May and June. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 28 | 11 | 30.240 | 30.121 | 76 | 45 | 60.5 | 56 | 53 | W. | .00 |
| Friday 29 | 12 | 30.249 | 30.113 | 80 | 48 | 64.0 | 58 | 54 | S.W. | .00 |
| Satur. 30 | 13 | 30.148 | 30.068 | 75 | 33 | 64.0 | 59½ | 55 | S.W. | .02 |
| Sunday 31 | 14 | 30.182 | 30.118 | 69 | 39 | 51.0 | 60 | 55½ | E. | .00 |
| Mon. 1 | ○ | 30.203 | 30.131 | 72 | 34 | 53.0 | 59 | 56 | E. | .00 |
| Tues. 2 | 16 | 30.115 | 29.997 | 75 | 38 | 56.5 | 59 | 56 | S.E. | .00 |
| Wed. 3 | 17 | 29.943 | 29.851 | 83 | 41 | 60.0 | 60 | 57½ | S.W. | .00 |
| Average. | | 30.148 | 30.057 | 77.1 | 42.6 | 58.8 | 58.8 | 55.3 | | .02 |

May 28—Very fine throughout.
— 29—Uniformly overcast; very fine.
— 30—Overcast; fine; hot; very fine; slight rain at night.
— 31—Overcast; fine; very fine.
June 1—Fine; very fine; cold at night.
— 2—Fine, very fine, hot and dry; very fine.
— 3—Fine, hot and sultry; cloudy; very fine.
Mean temperature of the week 2¼ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending June 13, 1863.

| June. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 7.. | 68.7 | 47.3 | 58.0 | 14 | 0.53 in. | 3 | 9 | — | 4 | 3 | 11 | 3 | 4 |
| Mon. 8.. | 70.1 | 47.1 | 58.6 | 14 | 0.45 | 4 | 8 | 1 | — | 3 | 15 | 4 | 2 |
| Tues. 9.. | 70.0 | 47.8 | 58.9 | 19 | 1.48 | 1 | 7 | 3 | 2 | 3 | 15 | 3 | 3 |
| Wed. 10.. | 71.2 | 47.5 | 59.4 | 17 | 0.95 | 1 | 9 | 2 | 2 | 4 | 8 | 7 | 4 |
| Thurs. 11.. | 71.8 | 48.4 | 60.1 | 12 | 0.47 | 1 | 6 | 3 | 3 | 5 | 9 | 10 | — |
| Friday 12.. | 71.0 | 49.3 | 60.2 | 17 | 0.78 | — | 7 | 3 | 1 | 7 | 13 | 3 | 3 |
| Satur. 13.. | 71.9 | 48.7 | 60.3 | 17 | 0.56 | 1 | 5 | 6 | 1 | 2 | 12 | 8 | |

The highest temperature during the above period occurred on the 7th, 1846—therm. 90 deg.; and the lowest on the 9th, 1862—therm. 34 deg.

## Notices to Correspondents.

Books: *Rougham.* We have inquired of a learned Indian friend and will report next week.

Eugenia Ugni: *E D D.* The cuttings should be taken from the half-ripened wood.

Fungi: *Ignoramus.* The Maple leaf has the superficial cells diseased, assuming the form which has been described by botanists under the name of Erineum acerinum, though not really a Fungus; the other leaf is infested by a common *Oidium*, the young state of a fungus called Erysiphe. *M. J. B.*

Green-fly: *Exeter.* There is no more convenient way of removing this pest than frequent syringing with clear soft water driven *with force* among the leaves, especially if the operation is performed at midday. To syringe gently is useless.

Lawns: *Constant Reader*, who has lately taken possession of a lawn that is covered with Moss, Plantain, Hawkbit, Daisy, and other weeds, and who cannot destroy the turf as there is no better to be had in the neighbourhood, should in the first place spud out at least the worst of the aforesaid weeds, then cut the sward as close as possible, and sow the bare places with good selected lawn-grass seeds, covering them with an inch or so of fine soil, and keeping moist by frequent waterings when dry weather may render it necessary. If it proves not to be so bad as it seems, and the surface is not much bared by the eradication of the weeds, the turf itself may cover if well scarified to get out the Moss, and dressed all over with some good compost, whatever may come most readily to hand.

Names of Conifers: *Bath.* It is not creditable to a nurseryman that for mere trade purposes he keeps up such a name as Picea for a group which no botanist of the present day will recognise as distinct, or even distinguishable, from Abies. Undoubtedly a dealer has the same right to an opinion as a man of science; but we think that it would be only courteous in the former, if he explained publicly on what *scientific* grounds an adverse opinion is acted on.

Names of Plants: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. It is requested that not more than four plants may be sent us at any one time.—*P, Devon.* 1, Sanicula europæa; 2, Pedicularis sylvatica; 3, Polygala vulgaris.—*A Devonian.* Myrica californica; and Leucopogon Richei, as far as we can judge without flowers.—*H C.* All we can say is that if it is not Maxillaria punctata you have set us a task beyond our strength.—*J D.* We suppose a crushed half open specimen of A chusa officinalis.—*C A.* Polygala vulgaris.—*A Reader.* Ranunculus hederaceus.—*Ada.* Terribly bad specimens; 1, Fabiana imbricata; 2, Alchemilla vulgaris; 3, Crushed to pieces.—*P P B.* 1, Buddlea globosa; 2, Phlomis fruticosa; 3, Sisyrinchium striatum.

Red Spider: *Elizabeth* would be greatly obliged for advice on the following point:—What is the best and cheapest way to clear a plantation (of two acres) of Gooseberry trees from red spider? The crop for this year is probably gone, but she wishes if possible to save the trees.

Snake Plant: *Diss.* This is Trichosanthes anguina. It was in fruit at Kew.

Tabernæmontana: *J C.* The probability is that your plants of the double-flowered variety of T. coronaria, are overtaxed: *i. e.* either the crop of flowers is too much for the strength of the plant, or there is a deficiency of root-action and consequent sluggishness in the system. Have they been brought on too rapidly in the earlier stages before the roots were well established? We cannot, without knowing all the circumstances, suggest any more likely cause for your not being able to get them to open their flowers.

Tacsonia Ignea: *E D D.* This should grow freely enough in a compost of good turfy peat and sandy loam, thoroughly drained. Perhaps yours has been planted in poor effete soil, or kept too wet. When it starts let it run freely, after which it will flower. If it is planted out we advise you to take it up and prepare the soil anew; if in a pot let the old earth be removed as much as possible without injuring the roots, and let it then be repotted in better earth, keeping it rather close till re-established.

POTTER'S GUANO (established 21 years) 7*l*. per Ton.
POTTER'S CONCENTRATED MANURE, guaranteed by analysis, 10*l*. per Ton.
PURE GYPSUM, 25*s*. per Ton, bags included.
Address, 28, Clapham Road Place, S.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
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MANUFACTURED BY THE PATENT
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| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
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American and other Cakes at market prices.
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On application at THORLEY'S Steam Chaff Cutting Mills, Thornhill Bridge, Caledonian Road, King's Cross, London, N.

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Sold in casks of about 30 gallons each, at 1*s*. 6*d*. per gallon, at the Manufactory, or 1*s*. 8*d*. per gallon paid to any station in the kingdom.
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WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.
Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rentcharge on the estate created for various terms of years so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.
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No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
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PHOSPHO GUANO.
The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | |
|---|---|---|
| For 30 Tons and upwards ... ... ... | £10 5 0 | per Ton, net cash. |
| For 10 Tons up to 30 Tons ... ... ... | 10 10 0 | „ „ |
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ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER MEETING, 1863.
PRIZE SHEETS and CERTIFICATES for ENTRY of STOCK will be forwarded on application.
LAST DAY of ENTRY, JUNE 1.
CAUTION.—All Certificates received after that date will be returned to the Senders. H. HALL DARE, Secretary.
12, Hanover Square, London, W.

YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW at SOUTH STOCKTON ON TEES, August 5, 6, and 7, 1863.
For Prize Sheets apply to JOHN HANNAM, Secretary.
Kirk Deighton, Wetherby.

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This Wheat will be exhibited at the forthcoming International Agricultural Meetings at Odense, Denmark; Lille; Hamburg; and at the Worcester Meeting of the Royal Agricultural Society, upon the STAND of Messrs. THOS. GIBBS & Co., their Seedsmen.
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Royal Berkshire Seed Establishment, Reading.


# The Agricultural Gazette.

*SATURDAY, JUNE* 6, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| TUESDAY, June 9 | } | Meeting of the Bath and West of England Agricultural Society at Exeter. |
| WEDNESDAY, — 10 | } | |
| THURSDAY, — 11 | } | |

THE discussion which followed Mr. MORTON'S paper before the London Farmers' Club on STEAM CULTIVATION last Monday evening, was both vigorous and instructive. The paper itself is reported in full elsewhere. A mere *resumé* of the discussion is all that we can at present find room for here.

Mr. ALDERMAN MECHI referred to the value and importance of that deep cultivation which only steam power could accomplish—as illustrated in particular instances of an imperfect kind on his own farm, where a DEANSTON subsoil-plough had been long ago employed—and in examples of a more perfect kind on the same estate, furnished by the long lines of green in his Wheat fields now just over the drains, where of course the land had been smashed up and stirred—in fact, taken out and replaced by spade—to the full depth of the drain. He said that the ordinary cultivation of Great Britain is not 5 inches deep, and that another 2 or 3 inches would add 200 or 300 tons of feeding matter to our crops. He quoted Baron LIEBIG in proof of the assertion that there is abundance of material in our soils, which will become efficient and available for plant growth if only stirred and exposed to the air by steam-power. Mr. MECHI also rightly named his own constant exposures in former days of the evil of small fields and hedgerow timber as having had

useful influence in preparing arable districts for the steam plough.

Mr. Williams, of Baydon, spoke of his own more direct labours in furtherance of steam cultivation, and of the way in which a morbid and excessive love of the picturesque hindered landowners from giving that aid to steam cultivation which would be given by the removal of solitary trees in ploughed fields, costing the tenant a pound for every shilling they were worth to their owner. Mr. Williams spoke too (though amid the impatience of the meeting) of the deplorable injury to agricultural progress which was being suffered by costly litigation between men to whom steam cultivation was so greatly indebted, as it was to both Mr. Fowler and Messrs. Howard.

Mr. Coleman, of Woburn, recommended Mr. Williams, instead of merely protesting against the existence of outstanding trees, to offer an increased rent for their removal: he would find landowners amenable like other men to offers of that kind; and if the alleged increased value of land was a reality it ought to be paid for. Dr. Ellis, of Richmond, spoke of the value of deep stirring even light soils. He was followed by Dr. Voelcker, who referred at some length to Baron Liebig's argument on the exhaustion of English soils, declaring that there is an enormous surplus of fertilising matter present in clayey soils, and that steam power will there be most usefully available. On light land he believed that a pair of quick-stepping light horses would outstep and outstrip steam power, both in efficiency and economy.

To him followed Mr. Dring, of Spilsby, whose address we hope hereafter to give in full. It was a most admirable impromptu critique of the position which both Dr. Voelcker and Mr. Coleman occupied in suggesting the greater economy of horse-power on light land. He concluded by praising Mr. Howard and Mr. Fowler as our leaders, and by an emphatic eulogium on Mr. Smith, of Woolston, and on the apparatus which he had bought from Mr. Smith many years ago, and had used in steam cultivation with great advantage to himself ever since.

Mr. James Thomas, of Woburn, followed by Mr. Charles Howard, of Bedford, strongly condemned those who gave such inadequate reports of cost as Mr. Morton had quoted. There is no one who does more to retard and damage steam cultivation than the man who publishes extravagant and obviously absurd statements of its great advantages. Both these gentlemen to a certain extent, (so we understood them,) believed in the advantage of applying steam power to tillage—and very possibly both might hereafter become purchasers of steam ploughs or cultivators—but certainly to declare what everybody knows to be absurd—viz., that ploughing and grubbing can be done at the prices which had been reported that evening by Mr. Morton, would not induce them to hasten a favourable decision on the subject. Mr. C. Howard pointed out also the injustice of lumping ploughing and grubbing and harrowing together, and averaging the whole performance at so much an acre.

Mr. John Fowler declared that the efficiency of steam cultivation is so great, that to compare one "blow" of the steam plough with one "blow" of the common plough, is most unjust. One "blow" of the steam plough, which Mr. Morton had proved could be done so cheaply, has to be compared with a whole series of operations by horse power, which indeed together are not so efficient as the single "smashing up" which steam power enables us to give the land.

In reply, Mr. Morton justified the statements, and took the responsibility of them to a great extent upon himself. The one example to which Mr. Charles Howard had taken especial exception has been expressly left in the paper on the responsibility of the gentleman who had supplied it. As to the practice of lumping together in one average a number of operations—ploughing, grubbing, and harrowing, and estimating the cost per acre of the whole—that had been done in only one example. All the other cases had been divided in the valuation which had been made upon the facts contributed, between the two operations ploughing and grubbing, to which these facts related. Mr. Morton concluded by alleging that the margin of the impossible and the incredible had been of late and year by year forced backwards by the energy and skill of agriculturists, and that while the whole cost of the operations named as having been done by steam power included a great deal besides the immediate outgoings which alone had that evening been referred to, yet he entirely believed in the truth of the statements which had been made on the authority of his correspondents, as to the cost of ploughing and grubbing, so far as coals, wages, oil, and immediate repairs are concerned.

After a few words of explanation from Mr. Charles Howard, and a short speech from the Chairman, the discussion terminated.

We regret our inability to give in our present Number a detailed account of our correspondents' returns. This, with a report of dynamometrical experiments at Sutton Courtney, and at Bedford, by Messrs. Harrison, M. Inst. C.E., and J. C. Morton, will appear next week.

## FARM VALUATIONS.

If the Rev. G. Wilkins wishes for a topic on which to enlighten his agricultural brethren, I recommend this subject to his notice. Of all the imposts which prevail, and under which the farmers as a body of men are too well content to labour, none seem to me to occupy a more prominent place than the custom of valuation. No sooner is a man about to enter upon a farm, than, with a patience and submission which seems peculiar to his calling, he consents to pay an enormous tax, for he knows not what, because, in having entrusted the matter to his friend the valuer, his interests are supposed to be duly represented and cared for. It is not however always so, indeed my experience is very far removed from that, and having been called upon to pay smartly for such ill reposed confidence, it is but natural to protest against a system so demoralising and pernicious in its character, that it serves to give countenance to fraud and deceit, at the same time ill provided to reward the persevering efforts of the honest and well disposed.

Allow me to extract an item from that singular document, the Inventory of a Farm Valuation, viz.:—Part of —— Field: Turnips five times ploughed, six ditto harrowed, ten ditto small harrowed, nine ditto rolled; labour to Couching; dressed with superphosphate of lime; the seed, and drilling the same and superphosphate of lime; one time horse-hoed; twice ditto hand-hoed, rent and taxes, *0l. 0s. 0d.* This is dragging with a vengeance, and dragging the money out of one's pocket too—and for what? To mark out a line of programme for a valuation. Is it then a matter of surprise that after all this turning and broiling in the sun, that the soil, deprived of its moisture, has been reduced to a state unfavourable to vegetation, and the incoming tenant finds to his dismay, instead of the thriving and abundant crop of roots to which his charge of *5l.* or *6l.* per acre should fairly entitle him, nothing but a miserable and stinted growth, or what is still more frequently the case, only the parched and barren fallow.

To do away with the obnoxious clauses relating to valuation, and to meet the ends of common sense and justice, is a simple and easy matter. And this is, that the hay, straw, roots, and manure, shall be considered the tenant's property, over which he shall have the power of disposal in whatever way he chooses, the effect of which will be that an incoming tenant may purchase what may suit his convenience, and consequently have to pay only for value received.

Who in these days of progress will be long content to pay for a crop of Couch-grass in place of a crop of roots, for four or five times ploughing, when one single and simple operation will produce a far better crop? Besides, under the present system it seems to be to the interest and advantage of the outgoing tenant to have his fallows abundantly stocked with Couch, in order that the ploughings, the harrowings, and scratchings may be paid for and excused. I believe that all this may date its origin from some misconceived idea, that the landlord's interests are in some way bound up and protected, but upon this subject I will not now attempt to enter. I am well content to have made a case to show that if a man farms badly it shall be to his own loss and detriment, and not that of another; or to have established a plea in favour of right and justice over the present imperfect, unsatisfactory, and absurd custom of farm valuation. *W. S., Guildford.*

## THE LAWS OF HUSBANDRY.

(*Continued from p. 492.*)

In dilute solutions of sulphate of ammonia and choride of ammonia I find phosphate of lime and magnesia are greatly more soluble than in water, even when charged with carbonic acid, and it is a striking fact, which I have observed repeatedly, that on spots where Couch-weed ashes were made, the excess of soluble alkaline mineral matters here produces the same rankness or over luxuriance which ammoniacal manures are known to produce in Wheat and other cereals. On sandy soils these same saline matters would be injurious to vegetation, for these soils do not contain, like clay soils, the mineral matters which, by rendering soluble substances comparatively insoluble, mitigate their energy.

A wise provision thus prevents the accumulation of these energetic fertilising matters in sandy soils; and beyond money needlessly expended in the purchase of such matters, no serious harm is generally done by their misapplication.

The power of soils to modify manuring matters we have seen depends in a great measure on the chemical composition of the soil, and I may add, also on the concentration of the liquid, and the quantity of soluble fertilising matter which is incorporated with that portion of the soil which is penetrated by the roots of plants; it is thus modified materially by the quantity of rain which falls during the season. Hence the effect which the same manure is capable of producing not only varies greatly on different soils, but also with a rainy or dry season.

It appears to me inconsistent with common sense, and certainly not conducive to the progress of scientific agriculture, to frame isolated facts into general laws according to which agriculture, as a profession, is to be regulated, if our prosperity, and even our existence as a nation, is to continue.

Liebig's new work, "The Laws of Husbandry," abounds in statements which are quite true in special cases, but which have no bearing upon the general practice of agriculture.

That there are laws which regulate the growth of the humblest herb and the mightiest forest tree no sensible man will gainsay, but we may well doubt whether the straw and the corn of the Wheat plant are developed in conformity to a pretty mathematical formula, which man may fancy to have discovered. Unquestionably great men, by taking too comprehensive a view, not unfrequently miss the very truth which they seek to establish.

After all much permanent good and a large amount of physical truth is brought to light by the painstaking, conscientious labours of those indefatigable students of Nature, who devote a life-time to the pursuit of one special object of inquiry, and I feel assured their labours do not deserve the cold-hearted, ungenerous, and unjust ridicule in which even great men occasionally indulge.

From the preceding account of some very remarkable properties of soils, it may be gathered that the office of the soil is not merely to supply mineral food to the crops we raise upon it, but also to manufacture, so to say, crude food into a condition fit for assimilation, to prevent injury to the living plant by too large an accumulation of soluble matters in the surface soil, to store up for future use such an excess, to diffuse it equally in that portion of the land reached by the roots of the plant, and to modify it in conformity with the requirements of our crops in a manner differing with each description of soil. In short, the soil is the great workshop in which food is prepared for plants, and we can only then hope to attain unto a more perfect knowledge of the nutrition of plants, and the best means of administering to their special wants, when we shall have studied, in all their details, the remarkable changes which we know take place in soils when fertilising substances are brought into contact with them. The subject is full of practical interest, but also surrounded by great difficulties, which it appears to me can only be overcome when the investigation is pursued in a truly scientific spirit, without reference to the direct application, which in due course, no doubt, well-established chemical principles will receive in agriculture. It is the undue anxiety to obtain at once what is popularly called a practical result, the grasping after results which at once may be translated into so many bushels of corn, which is a great hindrance to the more rapid advancement of agricultural science; and it is to be hoped, for the sake of the true interest of the agriculturist, that the voice of those capable of understanding and appreciating purely scientific results will be sufficiently powerful to keep in check the too great anxiety for immediate available results.

If we inquire into the causes of the absorbing properties of soils, we meet with a good deal of difference of opinion. Liebig regards this power as analogous if not identical with the physical power which charcoal possesses in retaining colouring matters, and consequently considers the soluble fertilising matters which are brought in contact and absorbed either wholly or partially by the surface soil as present in what he calls a physical state of combination. Professor Way, on the other hand, believes the absorption is effected by certain double silicates. The double silicate of alumina and soda, when brought into contact with lime, according to Way, parts with the soda and takes up lime. When the double silicate of alumina and lime thus formed is brought into contact with magnesia, lime passes into solution, and a double silicate of alumina and magnesia is formed; this in its turn is decomposed by salts of potash, and in the same way the double silicate of alumina and potash is changed by salts of ammonia into the double silicate of alumina and ammonia, whilst the potash passes into solution.

I have prepared, according to Professor Way's directions, a double silicate of alumina and soda, and repeating Way's experiments find that indeed such a replacement takes place; but if the double silicate of alumina and ammonia, which, according to Way, is the strongest double silicate, is mixed with a large quantity of a solution of a lime-salt, or salt of potash or magnesia, ammonia passes into solution, and one of the three mentioned bases is absorbed.

Thus if a preparation made after Mr. Way's directions,

and containing silica, alumina and ammonia, is mixed with an excess of a solution containing a salt of potash, ammonia passes into the solution and potash is absorbed by the preparation. From a similar preparation containing silica, alumina and potash, an excess of a solution of a lime salt removes potash, and lime becomes absorbed. But as in no case I have been able to notice a substitution of one base for another in equivalent proportions, and no double silicates in a definite composition can be produced by Mr. Way's plan of operation, and the existence of such definite compounds in soils has never been demonstrated, I may be allowed to suggest a different cause or causes in explanation of the undoubted absorption of ammonia, potash, &c., by the soil.

As already stated, the composition of the soil materially affects the precise manner in which soluble fertilising matters are absorbed or otherwise changed by the soil; I am inclined, therefore, to consider the absorption of such matters to depend upon the display of chemical affinity, modified by the well known action of masses, and the complicated action of the numerous chemical combinations which actually exist in the soil. The absorption of soluble phosphates, or of phosphoric acid, at once, is intelligibly explained by the affinity which carbonate of lime, oxide of iron, or aluminum, compounds which occur in every fertile soil, possess for phosphoric acid.

The absorption of ammonia, potash, and of phosphoric acid by soils, and their separation from saline compounds, accords with well-known chemical facts; and as the substances just mentioned in a practical point of view are by far the most important fertilising constituents, I think we are warranted in maintaining that the principal absorptive properties of soils are due to chemical and not to purely physical causes.

The mechanical or physical condition of soils, however, affects very materially their productive powers, and it is only in a soil in a proper physical condition that the chemical properties on which I have dwelt, and other important changes, can properly manifest themselves. The cultivation of land by deep ploughing, subsoiling, harrowing, digging, and especially the steam-cultivation of heavy land, for these reasons should engage our most serious attention. It is by such means that the porosity of stiff soils, and with it their capillary attraction, is greatly improved; that air is freely admitted into the soil, and the decomposition of the insoluble mineral compounds in the soil is promoted; that the accumulation of imperfectly decomposed organic matters in the soil, so injurious to vegetation, is prevented, and their final resolution into carbonic acid is effected, and that nitrates are formed in the soil. All the important transformations take place, but very imperfectly, in close, badly cultivated and insufficiently aërated soils, and in many cases the mere mechanical working of land, especially if effected by steam-power, wonderfully developes the inherent and almost boundless productive powers of some land.

Great stress is laid by Liebig, as it is indeed by all good farmers, on the mechanical cultivation of the land, for, dwelling upon the benefits which result from this, Liebig directs special attention to the physical state of combination as he calls it in which the mineral matters must exist in the surface soil in order that they may be of utility to the growing plant. Whatever may be the precise meaning of the term physical state of combination, or whether we assume that the mineral food must be presented to plants in solution or in some other mysterious form variously represented on Liebig's "Laws of Husbandry," certainly mineral food cannot be of any service to plants except it be present in the surface soil in an available form. The word available perhaps conveys as current a meaning as the more novel and less graphic expression "physical state of combination."

In such an available condition mineral food cannot be brought into the surface soil, unless water can freely percolate through the land and circulate in it. This is effected by various mechanical means, such as subsoiling, trench-ploughing, surface turning, &c. By all these means the porosity, and with it its capillary attraction, is improved, in consequence of the restored or increased porosity of the land during the colder and more rainy months of the year. The mineral food constituents in the subsoil, rendered slightly soluble and available by diffusion through the soil, are brought into the surface. As soon as continued dry and warmer weather sets in, and vegetation makes a fresh start, the mineral food previously prepared in the lower strata of the soil begins to move in an upward direction in a porous soil. With the evaporation of moisture from the surface fresh food is conveyed into the surface by capillary attraction, and thus its fertility is again restored. The appearances of efflorescences of nitre and other saline matters on the surface of soils during long-continued dry weather sufficiently shows the display of capillary attraction. It explains likewise the reason why the exhausted surface of land, abounding at a greater depth in practically speaking inexhaustible mineral riches, remains unproductive when it rests on an impervious, undrained subsoil; why winter fallow does not materially restore the fertility of the surface if it is not accompanied by repeated ploughing, subsoiling, and similar mechanical operations tending to increase its porosity; and why, on a well cultivated clay soil, vegetation is most luxuriant when the intervals between wet and dry weather are neither too short nor too prolonged.

When rain falls too frequently, the land is not only kept cold and wet, but the necessary amount of mineral food cannot be brought by capillary attraction within reach of the plants; on the other hand, if dry weather continues for too long a time, more soluble food is brought within reach of the plant; and as an excess or too concentrated a condition of such food is injurious to all plants, we can likewise well understand why vegetation suffers a great deal more from drought on naturally rich or highly-manured land than on naturally poor soil.

# Societies.

## ROYAL AGRICULTURAL OF ENGLAND.

Monthly Council: *Wednesday, June* 3.—Present: Viscount Eversley, President, in the Chair; the Duke of Marlborough, Lord Feversham, Lord Leigh, Lord Portman, Lord Tredegar, Lord Walsingham, Hon. W. Cavendish, M.P.; Major-Gen. Hon. A. N. Hood; Sir E. Kerrison, Bart., M.P.; Sir A. Macdonald, Bart.; Mr. Amos, Mr. Raymond Barker, Mr. Barthropp, Mr. Bramston, M.P.; Mr. Bowly, Mr. Dent, M.P; Mr. Druce, Mr. Exall, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Holland, M.P.; Mr. Wren Hoskyns, Mr. Humberston, M.P.; Mr. Jonas, Mr. Lawes, Mr. Lawrence, Mr. Milward, Mr. Pain, Mr. Randell, Mr. Shuttleworth, Colonel Towneley, Mr. Wallace, Mr. Burch Western, Professor Wilson, Mr. Frere, and Dr. Voelcker.

The following New Members were elected:—

Abell, James, Leopard Grange, Worcester
Allen, Newland, The Vache, Chalfont, St. Giles, Bucks
Bainbridge, Robert S., Woodhorn Grange, Morpeth, Northumberland
Baker, Charles Newcombe, Half-moon Passage, London, E.C.
Baker, Samuel Camfield, Beaufort Street, King's Rd., Chelsea
Bartley, William Handy, Sansome Place, Worcester
Barber, William, Elm Hill, Grimley, Worcestershire
Beach, John Allen, the Hill, Staunton Swan, Worcestershire
Beachell, John, Rawcliffe, Selby, Yorkshire
Besley, John Edward, Bloxwich, Walsall, Staffordshire
Berkeley, Robert, Spetchley Park, Worcestershire
Bomford, Heming James, Dunnington, Alcester, Warwicksh.
Bonner, W. Griffiths, Holme Lacy, Hereford
Bradham, William, Hilton, Wolverhampton
Caldwell, Bonham, Leominster
Chalk, Thomas, Barbourne, Worcestershire
Chesterfield, The Countess of, Bretby Park, Burton-on-Trent
Clark, William, Hepscott Hall, Morpeth, Northumberland
Cleasby, John H., High Heworth, Gate Head, Durham
Cobb, Thomas, Radnor Cliff Villa, Sandgate, Kent
Collier, W. F., Woodtown, Tavistock, Devon
Collins, Barnabas, Hunston, Ixworth, Suffolk
Corles, Edward, the College Green, Worcester
Cotterell, Sir Henry George, Garnons, Hereford
Crawshay, Edward, Othorpe House, Market Harboro'
Crossley, Francis, Somerleyton, Lowestoft, Suffolk
Cutting, Robert Coote, Ridlington, Uppingham
Dobinson, Francis, Wilderwick House, East Grinstead
Diamond, James, Beer Ferris, Tavistock
Dyson, John, 24, Dock Street, Leeds
Fair, Jacob Wilson, Lymm, Warrington
Fries, Count August, Moravia, Praitz, Brünn, Austria
Gandy, Rev. James H., Castle Eaton, Fairford, Wilts
Gardner, Richard W., Parsonage, Ombersley, Droitwich
Gilstrap, George, Winthorpe House, Newark-on-Trent
Goldingham, H. G., Newland Court, Malvern
Hardon, Edwin, Eageley, Stockport
Hales, Clark, Manor House, Bassingbourne, Royston, Cambridgeshire
Harris, John, Sutton, Keyworth, Notts
Helps, Arthur, Vernon Hill, Bishops Waltham, Hants
Herbert, Edmund, Powick, Worcestershire
Heygate, Robert H. J., Docklow, Leominster
Heygate, Captain E. N., Buckland, Leominster
Hodgson, Richard, Crofton Mills, Blyth, Northumberland
Howard, R. G. F., Temple Bruer, Lincoln
Hurt, Albert F., Alderwasley, Belper, Derbyshire
Hunter, Samuel S., Old Court, Abergavenny
Johnson, James, East Harptree, Bristol
Johnston, Alex. R., The Grove, Yoxford, Suffolk
King, Richard H., Wooperton, Alnwick
Lea, John Wheeley, Stanfield House, Worcester
Le Grand, Emile, Woodhorn, Morpeth
Leney, Charles, Lenner, East Peckham, Kent
Lewis, Richard Ed., Weston, Monk Hapton, Bridgnorth, Salop
Lindsay, Robert L., Lockinge, Wantage, Berks
Mackinder, Herbert, Mere Hall, Lincoln
Maddock, Henry, Sealand, Chester
Mannsfild, Count, Dobrisch, Prag, Austria
Meir, Henry, Green Gates, Tunstall, Staffordshire
Miles, Charles Wm., Burton Hall, Malmesbury, Wilts
Mousley, Geo., Hoxton Hall, Chester
Mulliner, Job, Royton Farm, Wrexham, Denbigh
Nevett, Wm., Yorton Villa, Harmer Hill, Salop
Nevill, Thos., Montford, Shewsbury, Salop
Ogles, Charles, Rawcliffe Bridge, Selby
Pattison, Thomas, Newcastle-upon-Tyne
Pearce, George, Walcot, Pershore, Worcestershire
Perkins, Joseph, jun., Laughton, Sheddingworth, Rugby
Phillimore, Edward, Cheltenham
Phipps, Thomas, Bucklehampton, Pershore
Powis-Lybbe, Philip Lybbe, Hardwick, Reading
Richardson, Richard, Halewood, Prescot, Lancashire
Riddell, John, Bewick Folly, Alnwick
Rix, Nathaniel, sen., London Colney, St. Albans
Sample, Thomas, Bathal Castle, Morpeth
Scott, Wm. C., Thorpe, Chertsey, Surrey
Seaman, Joseph, Worcester
Shipway, Wm., Hanley Castle, Upton-on-Severn
Sheriff, Alex. Clunes, Worcester
Shield, John, jun., 66, Grey Street, Newcastle-on-Tyne
Smith, John, Althrey, Wrexham
Smith, Thomas, Little Mollington, Chester
Stallard, John, Worcester
Steward, Wm., Lambton, Fence House, Durham
Swan, Wm., Walker, Newcastle-on-Tyne
Talbot, Wm., jun., Lane House, Burton, Westmoreland
Taylor, John, Rajhmahal, Bengal
Thompson, Francis, Burton-on-Trent
Tomes, Alfred, Rouse Lench, Evesham
Toundrow, H. T., Redmarley, D'abitot, Newent
Travers, Robt. F., Great Carlton, Louth
Upfill, Thos. B., Sheepcote Street Works, Birmingham
Waddington, J., Langrish, Petersfield, Southampton
Webb, William, Worcester
Webb, William, Chemical Manure Works, Worcester
Williams, Edwine, Lenastone Farm, Ross
Williams, Henry Edward, Manor House, Braunston, Rugby
Wittenoom, Charles, Western Australia
Wood, Joseph, Lansdowne Villa, Worcester
Wood, Walter A., 77, Upper Thames Street, E.C.
Woodhouse, Edward, Worcester
Worcester The Bishop of, Hartlebury, Kidderminster

Finances.—The Hon. Major-General Hood presented the report, from which it appeared that the Secretary's receipts during the past month had been examined and found correct. The balance in the hands of the bankers on the 31st May was 2297*l*.

Journal.—Mr. Thompson, M.P., reported that the Committee recommended that on Wednesday the 24th inst., the subject for a lecture and discussion be as follows, viz.: "On the Application of different kinds of Manure to Grass Land," by Professor Voelcker.

On Wednesday, the 10th inst., Mr. Coleman will read a Paper "On Breeding and Feeding Sheep, with a view to increasing the Sheep Stock per acre." The committee begged leave to defer reporting further respecting the preparation of an Index for the 25 Vols. of the Journal until next month.

Chemical.—It is proposed by the committee that the lecture by Dr. Voelcker on "The Comparative Effect of different Manures upon Grass Lands," which was originally fixed for Wednesday, May 20 (Derby Day) shall be given on Wednesday, the 24th of this month. It will be remembered that Mr. Lawes has kindly promised to place the general results of his valuable experiments on this subject at the aid of the lecturer. The attention of the Committee was drawn to the case of pastures infested by weeds injurious to young stock; a correspondence having recently taken place on the part of Dr. Voelcker with Mr. Howard, of Northleach, respecting a field (situated in that locality), on which lambs never thrive, suffering injury to such extent as to cause death if they are not removed in time. It was found on examination that a plant grows on this field not met with elsewhere in the district; specimens were forwarded and identified as Wild Parsley (Petroselinum segetum). Whilst upon this subject Professor Voelcker referred to a correspondence with Mr. Meynell Ingram, on the subject of the supposed deleterious effect of water supplied to his kennels in preventing the breeding capacity of the hounds through wasting (in the nature of tabes testiculorum). Professor Voelcker had submitted the water to a careful analysis, and discovered it to contain a large proportion of organic matter (4·75 grs.). Supposing this to be the result of decomposed animal substances, the injurious effect of it appeared to the Professor to be partially accounted for. There was nothing in the inorganic constituents at all likely to cause injury. It was unanimously resolved that Professor Voelcker's attention should be directed to the determination of the practical value of salt as a fertiliser. Such very opposite opinions being in existence amongst the highest authorities on this subject, it is thought well worthy of careful and continued field experiments. The present Laboratory subjects are—1st, the solubility of phosphatic matter, and 2d, the means of rendering guano more effective, both by composition and mode of application. The next Journal will contain a paper by the Professor on Milk.

Veterinary.—

Report of the Governors of the Royal Veterinary College to the Council of the Royal Agricultural Society, for the Year 1862-3.

The Governors of the Royal Veterinary College have the satisfaction of presenting their Annual Report to the Council of the Royal Agricultural Society, and in so doing they desire, in the first place, to express their gratification at the increased interest which, during the past year, the Members of the Society have taken in the alliance existing between the two Institutions. The communications received from various parts of the country seeking advice with regard to the nature and causes of disease among cattle and sheep, with a view either to prevention or cure, have considerably exceeded those of former years; and being steadily on the increase, afford good proof that the advantages possessed by the College in disseminating sound pathological principles are duly appreciated by the owners of stock.

The Governors are fully persuaded that this improved state of things is due to no other cause; as the communications chiefly refer to ordinary, not to extraordinary and unusual cases of disease. They are, moreover, assured that disease upon the whole has not been more prevalent than in former years.

Many cases of great practical interest to the agriculturist have also been received from practising Veterinary Surgeons, and these having been first published in the pages of the "Veterinarian," and often with comments by the professors, have subsequently been reproduced in the public papers, particularly in those which circulate among the farming community. By this means valuable information has been brought directly home to the members of the Society and others who are interested in the well-being of the stock of the farm.

The malady above all others which has excited public attention during the past year has doubtless been the small pox of sheep. The sudden and unexpected outbreak of this disease in an extensive sheep breeding district in an inland county, could not fail to create the deepest anxiety, especially when it is remembered that on the former appearance of this disease in England it spread over the whole eastern division of the kingdom, and destroyed many thousands of sheep. On that occasion also its devastating effects were continued for a period of nearly three years, notwithstanding all the efforts which were made to arrest its progress, among which was the passing of a special Act of Parliament, the Sheep and Cattle Contagious Act. The introduction of this disease from the continent was at that time clearly proved; and although its outbreak on the late occasion has not been so satisfactorily traced to a continental origin, there is still no reason to believe to the contrary, or that it has had a spontaneous origin in this country.

The Professor of Cattle Pathology was early on the spot, and gave his unremitting attention for an almost unbroken period of three months to the means best calculated to exterminate

the disease. Those efforts, aided by the co-operation of your Society and of the Government, and supported by the agriculturists themselves, proved eminently successful, so much so indeed, that after a few months not a single case of small pox existed, save among those sheep reserved for scientific purposes. A series of experiments early directed by the Government, are being carried out with a view of ascertaining the best means of protecting sheep against an attack of this fatal and loathsome malady. The solution of this important question has been confided to Mr. Marson, Surgeon to the Small Pox Hospital, and to Professor Simonds. The Governors of the Royal Veterinary College have freely lent all the assistance in their power to the Commission. For this purpose they have kept for several months a number of sheep at the College, which have in turn been brought under the disease by inoculation, in order to furnish the necessary supply of small pox lymph for the experiments.

The advantages possessed by the College Infirmary for such a purpose will be apparent to every one, particularly when it is remembered that these sheep have been kept perfectly isolated from all others, without the least risk being incurred of the spread of this highly contagious and fatal malady.

Besides the small pox of sheep many flock-masters in the northern and western divisions of the country in particular have sustained rather serious losses from the prevalence of rot, arising from the excessive rainfall in the early part of the summer of last year. The Governors would therefore call the attention of agriculturists to the system of preventing this destructive disease which has been advocated by the Professor of Cattle Pathology in an elaborate paper, which has been published in the Society's Journal, containing recommendations both scientific and practical. These losses, added to those which took place in 1860-61 from the same disease, have tended to diminish the supply of sheep to a very serious extent, and it is therefose a subject of thankfulness that the present lambing season has hitherto proved more than usually prolific. The weather for the last few weeks has been all that could be desired, and the losses consequently of ewes and lambs have been much less than in ordinary seasons. In some few exceptional cases, where a special cause has been in operation, as for example, the supplying the ewes throughout the winter with too great a quantity of untopped Turnips, in consequence of a superabundant supply of food of this kind, the withholding of all corn, cake, or hay, many ewes have been affected with venous congestion in some or other part of their organisms, and particularly at the time of parturition, which has quickly terminated in death. Too great care in regulating the amount of green vegetable matter, especially in the form of Turnip sprouts, given to in-lamb ewes, so as to maintain a healthy state of their systems, cannot be observed, and attention of this kind is particularly needed during an early and warm spring as in the present year. Where this precaution has been taken all has gone on satisfactorily; where neglected, serious losses have occurred. In a few instances also, but from causes not so apparent, a large proportion of lambs have been found to be affected with paralysis at the time of their birth. The Professor has under investigation a case of this kind which occurred in the county of Sussex, and in which the deaths have reached a high per centage. The flock is a very valuable one, and apparently has been well managed, circumstances which render the investigation the more difficult. It is believed, however, that sufficient light will be thrown on the causes to elucidate the adoption of means, which will effectually prevent a similar occurrence—a desideratum most important, as no curative means can possibly prove of any avail. The other chief malady from which sheep have suffered, during the year, has been an affection of the lung, produced by worms, filariæ, within the bronchial tube. This parasitic disease, in common with others of the same class, has evidently been on the increase for the last few years. The cause of this is not well understood, nor can it be, except by a patient and long-continued research into the natural history of each individual parasite. Investigations of this kind have long occupied the attention of professors of cattle pathology, some of which have already been made public, as for instance the natural history of the liverfluke, the cause of the rot in sheep. In the pulmonic disease alluded to, lambs and young sheep are the chief victims, and the general symptoms which the animals exhibit, are an almost continuous cough, which is increased by exertion, a fastidious appetite, and a falling away in condition. In most instances these symptoms are succeeded by diarrhœa, which has quickly carried off the patient. The success of treatment mainly depends on an early attention to the case; if this be neglected, the remedies, otherwise most effectual, will be of but little service. The inhalation of a medicated air, such as that produced by the mingling of diluted chlorine gas with the atmosphere of a shed into which the animals are driven, or the burning of sulphur with tar, often proves very efficacious, especially if conjoined with a few doses of turpentine and Linseed oil, in quantities of half a drachm of the former to two of the latter, given daily for three or four days in succession. Chalybeate tonics, such as the sulphate of iron, are highly beneficial, and so also is a moderate quantity of salt, when mixed with the animal's cake or corn diet—a variety of food is imperatively needed in all these cases. No new epizootic has shown itself among the cattle; but both the lung disease, pleuro-pneumonia, and the mouth and foot disease, Eczema epizootica, have been as rife as in former years. The contagious nature of these affections is being more generally admitted, and to the extent that this opinion gains ground, and care is taken to prevent diseased animals coming in contact with the healthy, will be the limitation of these diseases. The Governors have so often spoken of the means best calculated to prevent the extension of pleuro-pneumonia in particular, or its occurrence on a farm, that they deem it unnecessary to add to this report on this subject. Suffice to say that where the prophylactics, which they have in former reports recommended, have been rigorously enforced, the disease has been cut short in its progress, and the lives consequently of many animals have been saved. The same fatality which belongs to pleuro-pneumonia in England attends it in all other countries, and, as such is the case, the Governments of most of the continental states have long since made the disease the subject of special legislative enactments, an example which perhaps it would be right for us to follow.

With regard to the educational departments of the College, to which the Governors attach the greatest importance as being the means by which the country will ultimately be furnished with a number of scientific practitioners equal to the requirements of every district, they have to report that the lectures and clinical instructions have been daily continued, and that the number of pupils in attendance has been as numerous as in any former year.

Since the last report the number of pupils having passed the preliminary examination instituted by the Governors, subsequently obtained the diploma of the Royal College of Veterinary Surgeons, amounts to 40. The entrance also during the year of pupils has been a full average. The system of education has differed in no essential particular from that which has proved so effective heretofore. Four lectures a week have been delivered on the nature, causes, and treatment—preventive and curative—of the diseases of cattle, sheep, and pigs, during the sessional year of seven months, and clinical instructions have been daily given whenever bovine or other animals of the farm have been forwarded to the College Infirmary. Many morbid specimens, in addition to those sent by the members of the Society, have also been procured for the demonstration of the various forms of disease, so that the pupils have been continually instructed either theoretically or practically in this branch of their profession.

Valuable assistance has likewise been given by all the professors to the advancement of the science of Cattle Pathology, in the delivery of the lectures, practical demonstrations, dissections and clinical observations, and also by the inculcation of a knowledge of chemistry,—organic and inorganic—materia medica, and toxicology.

Before concluding this report the Governors would call attention to the completion and publication of a new register of the qualified members of the profession, by which agriculturists will be enabled at once to ascertain whether those who call themselves veterinary surgeons in their respective neighbourhoods are in reality scientifically educated practitioners. Many persons who can lay no legal claim to the title still continue thus to designate themselves. This is a subject of some importance to the agricultural community, as it appears from a statistical return, which has just been obtained by the Royal College of Veterinary Surgeons, that while there are 914 members of the College settled in practice within the United Kingdom, there are no less than 1244 individuals who assume the name of veterinary surgeon, besides 1189 farriers. Thus it is seen, that much still remains to be done by the united efforts of the Royal Agricultural Society and the Royal Veterinary College. The Governors trust that they have adduced sufficient evidence in this report of their determination to fulfil the conditions of their alliance with the Royal Society in full integrity. They consider the interests of the agricultural community to be most identified with their own; they require only the cordial co-operation of agriculturists in their efforts to improve the veterinary art in its application to cattle, sheep, and pigs. No means, which are at their disposal, have been spared to accomplish this improvement. They have especially sought to give practical effect to the provisions of the Society's charter by engrafting sound principles of medical science upon the minds of their pupils, the future members of the profession. C. N. Newdegate, Chairman.

Mr. Raymond Barker having presented the report from the Royal College of Veterinary Surgeons, moved that the usual grant of 200*l*. to the College be continued for the current year. The motion having been seconded by the Hon. Major-General Hood, was agreed to.

General Worcester.—Lord Portman reported that the Contractor was making satisfactory progress in the works in the Show-yard at Worcester. His Lordship having moved that a sum not exceeding 30*l*. be allowed for enclosing additional space if found requisite by the Honorary Director, and that a sum not exceeding 100*l*. be placed at the disposal of Mr. Pain for advertisements and placards, the same were agreed to. The trials of Steam Cultivators will take place on the same days as the other trials, viz., July 15, 16, 17, and 18.

On July 21 and 22, these implements will be exhibited to the public in motion on land in the vicinity of the Show Yard.

The Secretary was directed to send a notice to each exhibitor of steam engines not to use any coal except smokeless, or coke.

Lord Portman, in bringing forward his motion that the quadrennial arrangement for the trials of implements being about to expire, it is expedient to consider on what system any prizes for implements shall be given in future, remarked that the subject was one requiring careful consideration, and moved that it be referred to the Implement Committee to prepare a new quadrennial scheme for prizes for implements, which was acceded to.

Sir Archibald Macdonald having moved, and Mr. Wren Hoskyns seconded, that Mr. John Hungerford Arkwright be appointed Steward Elect of Implements at Worcester, the same was agreed to.

The Council having decided that the Judges for the various classes exhibited at Worcester should be appointed by the Council without the previous recommendation of a Committee, the President ordered a Special Council to be summoned for this purpose on Wednesday the 17th inst., at half-past 12 o'clock.

Mr. Lawes, of Rothamsted, presented a handsomely bound copy of his works—"Memoirs on the Chemistry of Animal and Vegetable Growth;" "Rothamsted Memoirs"—Vol. 1. Feeding Experiments; Vol. 2. Field Experiments. And Mr. Bailey Denton presented the 2d Part of his "Farm Homesteads of England;" for which the best thanks of the Society were recorded.

The Council then adjourned.

## Farmers' Clubs.

London: *June 1.—The present state of Steam Cultivation.*—Mr. J. Chalmers Morton read the following paper:—

Our subject this evening has on several previous occasions occupied the attention of this Club. Eight years ago Mr. Williams, of Baydon, urged upon us the practicability of applying steam power to the tillage of the land. Four years ago Mr. Alderman Mechi made the tillage of the land by steam one of his subjects when calling our attention to the various ways in which agriculture had availed itself, or might avail itself of steam power; and 15 months ago Mr. James Howard discussed the rise and progress of steam cultivation in this country.

The first of these papers was of course a good deal of it speculative—full of estimate and prophecy—confident, as might have been expected from an able man who had well studied his subject, and wonderfully accurate its estimates have since proved to have been, considering the small foundation of actual fact and experience which then existed on which to build—it related to *the future*. The last of these papers was by the very definition of its subject historical, describing with the most praiseworthy fairness and impartiality the successive steps by which the progress of steam culture in the interval had been achieved—it related to *the past*. The subject this evening relates especially to *the present*; but while that is the literal and technical wording of it on the card, yet it is plain that as it is both the child of the past and the parent of the future, a discussion of the *present* gives us the whole field over which to range. So that although my principal object will be to lay before you the present opinions—*convictions* they may *now* be called—held regarding steam cultivation by the scores of men who have now had many year's experience of it—the testimony of experienced farmers to the *economy* of the field work done by steam during the spring of the present year, and testimony to the *quality* of the field-work done by steam, given by crops actually growing. Although my paper will for the most part be neither historical nor suggestive, but only descriptive, yet I shall be perfectly in order if I should digress to consider both how the present state of things has been produced by patronage or discouragement in the past, and how it is likely in its turn to modify the character of farm management in the future.

It is on this aspect of the *present* indeed that the greatest interest after all of course must linger. I have no doubt that the whole style and character of arable farming will be very materially altered by that general adoption of steam cultivation which is to be. And on this I claim the concurrence of all who have previously addressed this Club on the different branches of arable farming. Ask Mr. Shaw, of Northamptonshire, who many years ago spoke here of breaking up Grass land, whether if steam power had then been available for the purpose he would not have materially altered the plans he then recommended—or Mr. Mechi, who 14 years ago spoke here of deep cultivation by the plough, the spade, and the fork, whether he would not gladly have added the steam cultivator to his list if it had been obtainable—or Mr. Lawrence, of Cirencester, who in 1850 addressed us on the best method of obtaining a good root crop, whether steam cultivation would not have greatly helped him—or Mr. Baker, of Writtle, who has so often and so ably addressed this Club on the circumstances of agriculture, whether the possibility of applying steam power to cultivation, which in his time was never generally admitted, is not one of the most important of them all. Especially I would appeal to Mr. Bond, of Long Melford, Suffolk, who seven years ago read a useful paper here on the autumnal cultivation of Wheat stubbles and the subsequent preparation and growth of a root crop on stiff retentive soils—I would ask him whether steam power, if it had been at his disposal, would not have strengthened his argument, made easy and effective all his plans and ensured them more general adoption. And I might come nearer the present time and call for favourable testimony to steam cultivation from Mr. Thomas in connection with the subject of rotation of crops, from Mr. Robert Smith in connection with his subject—"Stock *versus* Corn," and from Mr. William Spearing and Mr. Scott Burn in connection with the condition of the agricultural labourer. I might indeed come down to the very last meeting of this Club, when Mr. Spearing, of Moulsford, read one of the most instructive and suggestive papers which has ever been listened to in this room, and claim his favourable vote on the gronnd of the influence which steam cultivation will exert on the temperature of soils.

I know a cutting in the Gloucester and Bristol Railway, between Frocester and Stonehouse, which was made through a bank of as cold a clay as was ever cultivated—lias clay, which had been undisturbed since the days when the remains of the great fish lizards of olden time were imbedded there. The stuff was wheeled along the line barrow-load by barrow-load, and tumbled down the slope to form an embankment close by—ditch and bank being of course alternate in crossing an uneven country. This cold clay, which had lain impervious to air and rain for ages, no sooner got this "smashing up" than it heated, smoked, and actually burned. Has this fact no bearing on the theory of tillage, and on its relation to the underground climate of soils? There is a sea-side cliff of bituminous shale near Weymouth, which every now and then takes fire. It steams and smokes for awhile until the air has done all it can, and then it goes out. By and by a storm tears down the old effete surface soil, as it may be called, of the cliff, and exposes the previously covered subsoil as it may be called—a new surface—to the action of the air, and the cliff takes fire again. Have these facts no bearing, do you think, on our practice as tillage farmers? There may be no iron pyrites or bitumen in our soils and subsoils, but there are substances like these whose tendency to chemical union with the oxygen of the air equally with theirs produces heat; and that tillage agency which the most effectually lets the air in on fresh material within the soil, will the most beneficially influence the underground temperature—not only by its assisting drainage to let spring showers through the land, but also by its facilitating chemical action within the land, and so producing heat.

And if I might interpose here one or two minutes talk on the theory of tillage in relation to steam cultivation, I would call attention to the fact that these cases of heat produced within a mass of earth by stirring it and introducing air, are, after all, of less importance for their bearing on the subject of underground climate than as proving the production of general chemical action and disturbance in this way. It is by this

general chemical action and disturbance produced by the introduction of air, that fresh food for plants is prepared.

There is abundance of it down below the level to which horse tillage extends, and so it must of course be conceded there is plenty of it below even the level—though that is much deeper—to which steam tillage extends. The main difference between the two lies not in the greater depth to which so great a power as steam can work the land, though that is a most important consideration, but in the fact that horses trampling in the furrow along which the tool they draw has gone do harden a layer of earth above the storage which is in their case thus cut off, and thus make the access both of the air which would fertilise this mass of earth below it, and of the roots which would thus feed upon the material thus fitted for their food, less practicable and easy. In steam tillage, where the power stands off the ground, and is conveyed by a long rope to the tool—where the tool itself is carried on large wheels, this mischief, whether it be poaching the ground which is thus moved, or hardening a floor immediately below it over the earth which is not being moved, altogether disappears. And it is not too much to say that a clay soil deeply drained, and then deeply stirred and cultivated in dry weather by steam-power, is in altogether different circumstances from any which before all this it had ever experienced. There is unquestionably an immense storage of fertilising matter in it, of which little use has till then been possible, which has thus been made available for the growth of plants, and it is hardly possible to exaggerate the benefit which men of science, knowing the methods of plant growth, may confidently predict, and which indeed men of practice have already experienced, as the result of steam cultivation in such cases. Gentlemen, we hear now a-days a great deal about the exhaustion of English soil and English agriculture. Baron Liebig in his recent work praises the agriculturists of China and Japan at the expense of the Western Barbarians, who in these islands are disposed to wash their towns and houses clean. But we use the years and vigour of the longer life which we have thus won for ourselves in balancing the account of manure thus wasted by quarrying guano in Peruvian islands, and by exchanging in various way our labour for imported fertilising matter. And, however foolish in itself the waste of sewage no doubt is, yet the country as a whole has benefited, and agriculture has not on the whole been injured by the extension of the sewerage of towns. Those, moreover, who have been led by Liebig to fear the rapid exhaustion of our soils in this way, know but little of the enormous storage which exists in subsoils hardly yet opened for the benefit of agriculturists. And I do not ask the chemist to teach us this. There is hardly an observant agriculturist who has not many a fact within his own knowledge and experience to prove what an enormous reserve fund and "rest" exists, into which it is his business anyhow if possible to put his hand. And I do not say this with any special regard to the interest of the tenant at against that of the landowner. Both are interested in increasing the current fertility of the land—for good management can easily maintain *that* when once it is obtained, and out of it comes rent as well as tenant's profit.

There is a field of Wheat close by the Eynsham station at this moment, of stiff clay land, in the occupation of Mr. Joseph Druce. And at intervals of about 11 yards all across the field—across its ridges too, not coinciding therefore with any furrow or shallower soil of the present or any previous cultivation, there are strips varying from a foot to a yard in width of lighter colour and scantier growth, across the dark green of the vigorous Wheat plant which is just coming into ear. What is the cause of these lines of comparative infertility? They are where the Clover seed barrow missed two years ago—that land had not been robbed at all last year, whereas the rest of it had yielded a heavy crop of Clover hay—those lines had produced nothing last year, and as a consequence they produced less this year. On the remainder, where the Clover plant had come and prospered, the treasures of the subsoil had been brought up by the Clover root into the surface soil, and on these as well of course as on a similar deposit from the atmosphere the Wheat plant is feeding now to its evident advantage and to the evident benefit of the landlord as well as of the tenant, as proved by the poor growth of the Wheat where the plant had missed. It is both to fertilise and to open up for use that storehouse to whose riches the Clover root has access of its own that is the object of steam cultivation. The poor land which is growing poor Wheat in strips is not exhausted, as Liebig would assure us. It is full of food, as the Clover root proves to us: and deep and thorough tillage by steam power will lay it open for us.

The very finest bit of Wheat I have seen this year, and therefore no doubt one of the finest bits in the country, for I have travelled about a good deal this spring, stands in the very middle of Salisbury Plain, not two miles from "the Bustard." A large extent of perfectly uniform dark green with stalks standing as thick as possible, too thick indeed I should say, were it not that they retain their vigorous growth though on the point of coming into ear. And close by is the bare down with a scanty growth of Grass hardly yet showing any sign of spring growth, and near at hand are gorse and wilderness growing hardly anything of use. What is the cause of this extraordinary disparity of fertility? Of course it is mainly owing to the right plant being grown to use what food for plants may be available. It arises also I daresay from artificial aid afforded to the Wheat plant, of which the Grass and gorse had not the benefit; but mainly and especially it is owing to its having been old land, as they call it, ploughed up for the first time. The old land in this case contained no doubt a large store of vegetable matter whose rotting and destruction after tillage would yield a rich supply of various substances on which plants feed. I may quote this instance, nevertheless, as one of a multitude which prove how, whether in soil or subsoil, there is an enormous storage of food for plants, to which tillage implements properly applied will introduce us, for below our cultivated fields, as well as on the surface of fields in Grass, there is plenty of *old land*—land yet unmoved by the cultivator, which, when once it has been drained and broken up and subjected to the fertilising action of the weather, will yield stores of fertility as marvellous as that tract of poor land, now in promising Wheat, is now exhibiting in the middle of Salisbury plain.

Gentlemen, it may be thought that in these stories of embankments heating and of cliffs on fire, of Clover failures with their consequences, and of down land tillage, I am collecting illustrations which have but slight connection with our subject. I do not think so. Every illustration which can be quoted in proof of the stores of latent fertility present in our soils and subsoils tells in favour of what is the most perfect system of tillage yet known to agriculture—in favour of what is ultimately to be the key by which these stores are to be made accessible. I began by claiming the concurrence of all previous speakers on arable farming in this room in the influence which steam cultivation is to exert on agriculture—I shall now endeavour to bring forward such evidence of its superiority, economy, and efficiency, as will convince everybody else.

I may as well at once announce that I do not mean to marshal my facts as a philosopher would do, watching for the lesson to which they may lead, with no prepossession in his mind to affect his judgment. I have long since come to a conclusion on the subject, and knew well what the lesson must be long before in this instance I got my teachers together. And when Mr. Corbet proposed to me to undertake the introduction of this subject to this Club, and consulted with me as to the monthly meeting to which it might be best committed, I chose the last of the meetings before summer, knowing I should thereby have all the spring experience of a hundred farms or more to lay before the meeting, and that (convincing as it must be both of the efficiency and economy of steam cultivation), its publication now would be in time to enable those whom it must convince to give their order for steam ploughs and cultivators, and obtain them in time for autumn cultivation. The logical, and as it seems to me unavoidable conclusion of the evidence I have collected is that every arable farmer who can put down six or eight horses, and yet have a remainder enough for all the carriage work of his farm, may profitably adopt steam cultivation. That is the advice which I shall confidently give, and I believe its soundness is fairly borne out by the many cases whose details have already been published. It is the business of this paper to lay these details before you. I do not however say that I shall *merely* lay the evidence before you which has been collected, because it seems to me to be also the duty of the introducer of such a subject to state the impression it has made upon himself. The evidence by which the impression has been made will however accompany it, and correct it if necessary. I have during the past two years walked over at least 50 steam-cultivated farms in the southern counties, obtaining on them full details of the cost and fruits of steam culture from their tenants. During the same time, especially within the last few months, I have had returns sent to me from upwards of 100 steam-cultivated farms on the same subject, and having had frequent opportunities both of seeing steam ploughs and cultivators at work and of seeing the results of previous steam cultivation, I certainly have a right to an independent opinion on the subject, and it does not seem to me that there is any impropriety in my stating it. There are plenty of examples of success to be quoted of Smith's Cultivator, Howard's Cultivator, and Fowler's Plough and Cultivator. I believe there are no examples of entire and disheartened failure, unless it be one or two of the original ploughs and tackle sent out by Mr. Fowler. Cultivation or grubbing—such work as 4 and 6 horses would do less perfectly at the rate of about 3 acres a day, is better, cheaper, and more effectually done in lots of cases by steam power for 3*s*. to 4*s*. 6*d*. an acre. In the actual outgoings of labour, coals, oil, and immediate repairs cheaper work of this kind has been done by Fowler, and taking the last year and the present is being generally done by Fowler than by either Howard or Smith. I state this, not as an opinion, but as a matter of fact, which I have verified in many instances. On the other hand there is a larger proportion of instances where an unfortunate experience has followed the adoption of Fowler's apparatus than in the case of either Smith's or Howard's tackle.

And of course it is by a comparison of successes and misfortunes that one learns both the possibilities and the risks of the different methods in operation, much better than he can from the decision of judges at agricultural shows, who in a few hours, amidst the confusion of thronging spectators, have to make up their minds. Taking the decisions of the English Agricultural Society for example, I believe more good has been done by the opportunities given for the public working of steam implements, leaving spectators to form their own opinion, than by the awards of the Society's judges.

It is well-known that those awards have been consistently throughout in favour of one particular form of steam cultivating apparatus. I do not believe that in the upshot of it that constant verdict has misled the public. The public interest has in the long run and at length been served by the encouragement which has thus been given to that system of applying steam power to the cultivation of the soil. But I cannot doubt that in particular instances that verdict has been wrong. The great Chester award for example, for the best method of applying steam power to the cultivation of the land, has in my opinion been shown by events to have been a mistake. The prize tackle on that occasion is, I believe, nowhere now; no one uses it, no one makes it, while the tackle which competed with it is still being turned out weekly from the manufactory, and is in lots of instances (in larger numbers than of any other kind of steam cultivator in the country) profitably at work. It may illustrate both the particular wrong and the general good thus done if I mention the facts of two sets of tackle bought at Chester. The prize set was, I believe, bought by Mr. Redman, of Overtown, near Swindon, and did good work in that year, but at great expense for repairs, and great difficulty and labour in getting so cumbrous an apparatus about. It was exchanged for an improved set in 1860; and in 1862 it was still further improved by the adoption of the clip drum and slack gear apparatus. This original tool was made by Mr. Stephenson, and consisted, with travelling anchor on the opposite headland, of engine and windlass, travelling separately, but fastened together when at work. Smith's tackle, shown by Howard, at Chester, was sold to Mr. Pullen of Sutton Courtney—it, on the other hand, has been worked ever since unaltered, and requiring but little repair; it has grubbed about 600 acres a year ever since—it has displaced about 12 horses per annum, and thus saved 400*l*. a year by an expenditure of about 200*l*. a year ever since. I cannot doubt that the appeal by Messrs. Smith and Howard to experience for a reversal of the finding of the Court below has been here allowed—and that the four years' experience of the two competing sets of steam cultivating apparatus has upset the few hours' trial before the Society's judges.

But now comes another aspect of the affair. Mr. Fowler also, who latterly perhaps had no reason to complain of the Society's awards—but who had already earned his prize at Chelmsford if he earned it anywhere—has been making great improvements in his machinery. Confident, and rightly confident, as events have proved him to be, that the direct draught of the tillage implement is the best—confident that to take the rope all round the field which is being worked—drawing the tillage tool to and fro along one side of the quadrangle thus formed, and winding up the rope upon a windlass as the unfinished piece thus surrounded diminished in size, confident that all this involved the tear and wear of more rope as well as a consequent greater waste of power—confident in fact that he was essentially right in his original plans—he has so improved and simplified his machinery that while—in travelling engine and travelling anchor and immediate pull to and fro of the tool between the two—it is the same tackle as before, yet practically it is now an altogether different set—very greatly superior to its prototype at Chester——wasting less power, using less rope, employing less manual labour than its rival there. So that when it came the other day at my request and at Mr. Fowler's expense, to Sutton Courtney, for comparison, as I had hoped, with other rival systems there—for examination by itself, and on its own merits only as it proved—its performance during 8 or 10 days' work was sufficient to convince Mr. Pullen himself of its superiority to the plan to which he had been accustomed. And wherever, as on Mr. Pullen's farm, there is a large extent of open land where a three or four hundred yard furrow can be had as a general rule, I do not see how it is possible to avoid the conclusion to which Mr. Pullen himself then came. The engine of 12 or 14 horse-power travels along one headland in charge of the engineer, being attended by a boy and horse and cart bringing water and coal. The anchor, 400 yards off, in charge of a lad, travels along the other headland, and the rope passes round the clip drum below the engine, which lays hold of it, and grips it, and pulls it with itself, though having only a single half turn hold of it. It passes to the other *end* of the field, taken over five or six rope porters, which carry it unattended from one side of the field to the other—it passes round the drum below the anchor and at either end is tied to the plough frame, being coiled up there on two pulleys, or drums, which gear into one another, so that one-fifth of the power exerted in drawing the tool is also available for tightening the rope all round between the anchor and the drum, thus insuring that the rope is carried on the porters, and does not drag upon the ground, insuring, too, that the rope is held tightly in the clip drum, and does not slip; insuring that, when the furrow shortens, the rope winds up of itself, and when it lengthens, winds out of itself. Add to this the ploughman, and the tillage implement, and two boys to shift those porters which carry the rope in front and behind the plough, and you have a perfectly simple and efficient set of apparatus.

I shall make a reference before I conclude to the results of experiments which have been during the last fortnight made at Sutton Courtney on the draught of Fowler's apparatus, and of Smith's and Howard's tools—by Mr. Harrison, M. Inst. C. E., late Manager of the Gloucestershire Steam-plough Company, and myself. They are incomplete: I had hoped to have had a set of apparatus from Bedford, with which to compare the set from Leeds. If, however, Mr. Howard is able to let Harrison and myself to put one of his sets through its paces with the dynamometer to-morrow at Bedford, it will yet be possible to publish in the report of this meeting, with the results obtained from Fowler's tackle, the corresponding results obtainable from his own—though it would of course have been more satisfactory to have obtained them both upon the same land—and I hope that that may yet be done at the Exeter meeting. I shall not, however, speak of these experiments here in any detail. They, like all questions involving many figures, will be better understood by the eye than by the ear. The readers of the agricultural papers, and of the Club reports, will have an opportunity of learning the results.

I will therefore leave the subject of public trials and society awards, and come to agricultural experience. And let me say I have quite as much satisfaction in announcing the success of Messrs. Smith and Howard in the field as I have in relating that of Mr. Fowler. It is the advance of steam cultivation in which I am interested, not the success of one or other of the rival manufacturers. So true is this, that I was annoyed on

receiving returns to the last set of inquiries on the subject which I issued to find that I had omitted to ask whose tackle my correspondents employed. This, however, I have other means of verifying, and I will refer therefore to one or two of the results which have been obtained by

(A) ***Mr. Smith's apparatus.***

1. Messrs. Druce, of Eynsham, farm about 900 acres of arable land and 800 of pasture. They used to work 27 horses and 22 oxen; they now work the same land with 19 horses—8 horses and 22 oxen have been put down since the purchase of Smith's tackle three years ago. They got over about 700 acres of grubbing on the two farms each year. This spring, on the lighter farm of the two, Mr. Samuel Druce has got about 70 acres worked one way, and has crossed the same 70 acres 6 and 7 inches deep in 20 days, including removals, 5 in number.

Coals, 8 to 10 cwt a day, oil, 1*s*. 6*d*., wages, 15*s*. 2*d*., water nothing, being provided in every case by wells close by; the whole cost of wages and fuel is 23*s*. 6*d*. a day. The 140 acres done in 20 days were at the average rate of 7 acres a day, or about 3*s*. 6*d*. an acre.

2. Mr. Toward, on the Prince Consort's farm at Osborne, has grubbed 94 acres one way, and crossed 80 of them, 8 to 9 inches deep, in 32 days; viz.:—174 acres at the rate of $5\frac{1}{2}$ acres a day upon an average, at a cost of 8*l*. 15*s*. for coals, 1*l*. 15*s*. 9*d*. for oil, 25*l* 1*s*. 4*d*. for wages, 3*l*. 8*s*. 6*d*. for repair—39*l*. in all, or 4*s*. 6*d*. an acre on the average.

Mr. F. Sowerby, of Aylesby, Great Grimsby, who has had Smith's tackle since Sept. 1, 1859, had grubbed 1300 acres with one rope, and is now using his second rope, which had done 1000 acres up to last winter, and has done 300 acres this spring. Last year he grubbed 1075 acres 6 to 8 inches deep in 116 days, having paid 178*l*. for wages, coals, and oil, and 10*l*. a year for expenses since the beginning of his experience. This 188*l*. amounts to close on 3*s*. 6*d*. an acre over the whole. This spring 300 acres, that is 150 acres grubbed one way and crossed, have been done in 33 days, at a cost of 12*l*. 17*s*. 6*d*. for coals, and 1*l*. 10*s*. for oil, 35*l*. 5*s*. for wages, and 2*l*. for repairs; 50*l*. in all, or about 3*s*. 4*d*. an acre.

Gentlemen, I have lots of other examples, and you will read a fuller statement in the papers where my statement is published—the power in all cases where the tool is regularly at work, and has been so for years, while the details of good steady management have been habitually recorded, and I say that as to the expense of steam cultivation in these cases there is no doubt whatever that it is very much less than that of horses.

Take now an example or two of Howard's tackle. It acts, as we all know, on the same principle as Smith's, and consists like it of stationary engine and windlass, with ropes conveyed round four sides of the field and drawing a cultivator to and fro along one of the sides.

(B.) ***Mr. Howard's Apparatus.***—(1) Mr. Taylor, manager of Baron Rothschild's home-farm, at Mentmore, has ploughed 75 acres, grubbed 110 acres, and grubbed a second and third time as much as 160 acres, and worked 110 acres with heavy drags—in all done 455 acres of work in 78 days, at an average rate of about 6 acres a day, with eight removals generally effected without the help of a horse, at a cost of 23*l*. 12*s*. 6*d*. for coals, 2*l*. 10*s*. 6*d*. for oil, 81*l*. 14*s*. 4*d*. for wages, and under 10*l*. for repairs, about 118*l*. altogether, averaging about 5*s*. an acre for the whole operation (ploughing, grubbing, and harrowing). It is a heavy clay soil.

(2.) Mr. Pike, of Stevington, Bedford, also on a heavy soil, has grubbed 157 acres once, and 107 a second time, 264 acres altogether, 5 to 8 inches deep, in 42 days, or about 6 acres a day, spending about 25*l*. in coals, 1*l*. 15*s*. in oil, 30*l*. in wages, and very little on repairs—57*l*. in all, or very little more than 4*s*. an acre.

(3.) Mr. Bray, of Pyrgo farm, Romford, has grubbed 72 acres and crossed them—about 9 inches deep in 20 days—he has done it at a cost of 8*l*. 4*s*. 8*d*. in coal, 1*l*. in oil, 10*s*. in repairs, and 20*l*. 10*s*. in wages, including all horse labour, or 30*l*. in all—being at the rate of about 4*s*. 3*d*. an acre.

Of course these are not the worst examples—they are good examples both of the experience of customers and clients of Mr. Smith and of Mr. Howard. But you will see the whole of them in the published statement.

(C.) ***Mr. Fowler's apparatus*** is more costly than either Smith's or Howard's, a larger capital is invested, and it might, therefore, according to a very general rule, accomplish more and cheaper work than its rivals. So costly, they say, that it is not preferred by tenant farmers. It is nevetheless the case, that of the 46 instances of purchasers known to me, 13 are landowners, or for landowners, 3 are for letting out, and 30 are for strictly tenant farmers.

(1). Mr. S. Plummer, of Peasemore, who holds 750 acres of very stiff soil on the chalk near Newbury, bought Fowler's engine and tackle in 1860, costing 780*l*.; he has bought 800, 500 500, 200, and 500 yards of rope in all, at and since that date. The whole cost of repairs, including all the alterations and the rope since purchase, has amounted to 320*l*. He had ploughed 675 acres, and grubbed 2078 acres up to the end of 1862. The depth of the work varied from 6 to 9 inches; the tilth of the soil could not be better, and the produce is much improved. The whole of the tackle is now in good order, and the rope will last another year. Taking last year by itself, 310 acres were ploughed and 615 grubbed 6 to 9 inches deep, in 118 days, averaging nearly 8 acres a day; at a cost of 87*l*. in wages, 61*l*. in coal, 6*l*. in oil, and 98*l*., including purchase of rope and repairs, 250*l*. altogether, or 5*s*. per acre, one-third of which is ploughing; and remember this includes the cost of rope, which the other return did not do.

This spring he has ploughed 70 acres, and grubbed 270 acres, and crossed with the grubber 125 acres in 65 days; being at the rate of 5 acres a day for ploughing, and about 8 acres a day grubbing—the wages paid being 48*l*. 15*s*., the coals 34*l*., the oil 3*l* 4*s*., and the repairs 1*l*. 10*s*.—about 87*l*. in all, or less than 4*s*. an acre all round, or if 6*s*. per acre be charged for the ploughing, about 3*s*. an acre for the grubbing.

(2). Mr. Frampton, of Benson, near Wallingford, has ploughed 196 acres and grubbed 119 acres in 51 days, at a cost of 42*l*. for coals, 2*l*. 11*s*. for oil, 25*l*. 6*s*. 5*d*. for wages, and hardly any repairs—70*l*. in all, 4*s*. 6*d*. all round, or if 6*s*. is charged for ploughing, about 2*s*. 6*d*. for the grubbing.

(3). Mr. Giles Edmonds, of East Leach, near Lechlade, who farms 2050 acres of arable land, both stiff soil and light brashy soil, chiefly the latter, as well as 425 acres of pasture, has had Fowler's tackle since August last year. He occupied 56 days, and spent 42*l*. in coals, 2*l*. 16*s*. in oil, 45*l*. in wages, and 20*l*. in repairs, in ploughing 270 acres, and grubbing 240 acres, averaging in all 9 acres, and 2*l*. a day, or about 4*s*. 6*d*. an acre, more than half being ploughing. This spring he has ploughed 15 acres, grubbed one way 456 acres, and cross-grubbed 257 acres in 48 days, at a cost of 86*l*. in coal, 3*l*. 12*s*. in oil, 31*l*. for wages, besides 10*l*. for water-cart, and 15*l*. to 20*l*. in repairs—being 100*l*. in all for grubbing 713 acres once over and ploughing 15, or 2*s*. 9*d*. an acre all round. I wrote to Mr. Edmonds, saying, "Of course the 31 removals of which you speak as having taken place during this work are not included in the 48 days you put down to work?" This is his reply:—"The time lost by the 31 removals is included in the time named, namely, 48 days. You may easily suppose so when I tell you that our day's work on several of them with the scarifier, was from 20 to 25 acres a day, the removals brought back the average of the work to the 15 acres a day. Of course wet half days, of which we had two or three, I did not include. Twenty acres and move to another ground the same day, possibly from a quarter to half a mile distant, we have done more than once. *Giles Edmonds*." Gentlemen, here you have a case where the land is all laid out in *long* fields 300 to 400 yards *wide*, where the land though in places clayey is generally a light stone brash upon rock. The work done by steam-power is in this case hitherto unparalleled, but it is on a sufficiently large scale, and altogether on a farm, and from a farmer of such unquestionable standing, that I look upon this example, striking as it is, as one of very great authority. One more example and I have done. Mr. Arnot, of Carshalton, a member of this club, has ploughed 96 acres, and grubbed 196 acres, upwards of 6 inches deep, in 35 days, about 18*l*. have been paid for coals, 1*l*. 13*s*. for oil, 23*l*. 12*s*. 6*d*. for wages, and nothing but a few dozen points and shares for repairs—in all about 44*l*. for close on 300 acres, one-third being ploughing, averaging nearly 9 acres a-day, and close on 3*s*. an acre. As I said before there are good samples of the work completed, and of the cheapness with which it is done. The character of the soil affects the result, and the best examples of Fowler's and of Smith's tackle I have quoted, are from lighter soils than those which have been quoted of Howard's.

Take—from a heavier soil 125 acres, being a "very heavy clay," and 46 acres a lighter soil, the following example of Fowler's tackle, being on the farm of Mr. E. Roberts, of Berdon Hall, Bishop Stortford; 141 acres have been ploughed, and 57 acres have been grubbed after ploughing, 6 to 9 inches deep in 41 days, at a cost of 22*l*. 10*s*. for coal, 1*l*. 17*s*. 6*d*. for oil, 21*l*. 3*s*. 8*d*. for wages, and 5*l*. for repairs, or about 50*l*. altogether. Here the cost is 5*s*. an acre all round.

Take the farm of Mr. Grosvenor Hodgkinson, M.P., near Newark, of "moderately stiff clay," where 127 acres have been ploughed, 178 have been grubbed, and 39 acres cross grubbed in 48 days, at a cost of 27*l*. 10*s*. for coal, 2*l*. 15*s*. for oil, 34*l*. 12*s*. for wages including water, and 24*l*. 8*s*. for repairs—about 95*l*. altogether, or 5*s*. 6*d*. an acre all round.

Take the case of Mr. Richardson of Hibaldstow, who uses Fowler's smaller engine and tackle. He has on various soils, chiefly for hire, grubbed 650 acres one way, and 260 across it—900 acres in all in 82 days this spring, costing, so he tells us, 6*d*. per acre for coals, 2*d*. per acre for oil, 1*s*. 6*d*. an acre for wages, or about 2*s*. 2*d*. in all.

And I know of many good examples of unquestionable success which are not reported on my lists. There cannot be a doubt that steam cultivation may now be declared by the Central Farmers' Club to be an unquestionable success, so far as mere economy of work is concerned.

Of course the immediate outgoings—coals, oil, wages, and repairs, are not all the expense. The rope wears out; it costs on an average 1*s*. an acre, in addition to which I have said the engine and tackle wear out. If we charge 10 per cent. upon them to keep them good, that will amount to from 50*l*. to 80*l*. a year, equal to 1*s*. 6*d*. or less per acre upon an ordinary annual performance. The capital invested in its purchase cannot be procured under, say 5 per cent., equal to another 9*d*. or less. Altogether the charges come to from 5*s*. to 6*s*. for grubbing, and from 8*s*. to 9*s*. for ploughing per acre. These include the utmost amounts for tear and wear and capital, and certainly they are below the cost of horse work. Farmers will pay from 8*s*. to 12*s*., and even 20*s*. per acre, and supply coal and water to those who will let the steam tackle out for ploughing and grubbing land, and thus show their estimate of the worth and quality of the work.

Of course as to the quality of work I have less definite testimony. It is plain on the face of it that no definite valuation on this subject is possible, and yet it is here that the great superiority of steam cultivation exists. I can quote Mr. Plummer, of Peasemore, Mr. Newton, of Campfield, near Woodstock, Mr. Redman, of Overton, the Rev. Mr. Huxtable, of Blandford, Mr. Pocock, of Bourton, Mr. Ruck, of Cricklade, Mr. Taylor, of Mentmore, and many other authorities on the subject. It is the superior quality of the work that makes all the difference on heavy soils. The difference between ploughing in good condition and when wet is not to be measured by money on clay lands. It is all the difference between failure and success. So that while it is on light soils, and where great speed can be obtained, that the greatest and most wonderful results as to superior economy are attained, yet it is not there; it is on the stiffest soils that the greatest advantages are realised. The power of dealing rapidly and wholesale with your tillage work in autumn on the clays is the great advantage which the steam ploughman possesses. And I do not in these remarks claim more for one system than another. The ability to stir up the land to a greater depth than can be done by horses with hardly any pressure on the soil or subsoil is common to them all.

I fear my story is getting too long and wearisome to retain your attention much longer, and I have not much more to say. It is impossible to state intelligibly in a quarter of an hour the results of the experiments on draught made at Sutton Courtney by Mr. Harrison and myself—I will only, say what must indeed be plain to any one beforehand, that there is very little waste of power indeed in the direct system of traction. It took only three-quarters of a cwt. to pull the rope round with the anchor and engine 350 yards apart when tightened up with a 6 cwt. strain upon it so as to be wholly carried. Another cwt. was required to make the anchor go. It took from 3 cwt. to $3\frac{1}{2}$ cwt. when badly carried, and it took 5 cwt. when wholly dragged. These figures show the advantage of the slack gear, which always keeps the rope up with a strain of 1-5th the draught, viz. from 5 to 6 cwt., according to the work being done. As to the draught when at plough, it was as nearly as possible four times the corresponding work of Howard's horse plough worked by a team at various depths besides it.

In the case of Smith's tackle, worked as Mr. Pullen usually works it, we found that when going $5\frac{1}{2}$ to 6 inches deep it took a draught beginning at 11 cwt. and ending at 10, as it got near the end of the furrow, nearer therefore to the engine. And the dynamometer placed in the rope on the side of the quadrangle next the engine, between it and the grubber, began at 15 cwt. and as it got close to the windlass ended at 14 cwt. There were thus 4 cwt. of work more done by the engine than were taken by the plough, and that 4 cwt. were lost in the dragging of the rope and turning round the snatch block. I mention this to show how much loss of power takes place when the rope is badly carried.

When not carried at all, Fowler's rope takes 5 cwt. to drag it, when not dragged at all it takes only $\frac{3}{4}$ of a cwt. in a furrow 350 yards in length. Here in working Smith's grubber 4 cwt. were lost in a length of rope between the grubber and the engine, of about 500 yards, laid round three sides of a quadrangle. In drawing out the rope, to lay it round at starting, it took from 0 to $1\frac{1}{4}$ cwt. in drawing it 110 yards to the first snatchblock; it took 1 to $2\frac{1}{2}$ cwt. from the first to the second snatch, about another 180 yards; and it took 2 to 3 cwt. in going from the second to the third snatch-blocks. At the time it was taking 2 cwt. of draught with the brake as usual, it took 4 cwt. with the brake held so hard as to keep the rope well off the ground between the porters; and it took $2\frac{1}{2}$ cwt. with no brake at all in use.

It is, I think you will agree with me, impossible to state these figures at any length, so as to enable you to realise the state of the case from mere hearsay. I must leave a full comparison of them until the figures are in type, when you will understand their bearing on the affair. It is right to mention, however, that I understand that in Howard's new tackle the brake and draught windlass are made to gear into one another, so that the drag upon the rope as it leaves the drum is not dead weight wholly lost.

The full account of these comparative trials will however appear, and be I hope intelligible, in the published report. Meanwhile it is worth remembering that after all the agricultural value of the tool is determined in the ordinary farm use of it from week to week in the field, and there these tools stand on more even terms than dynamometrical experiments would indicate. If, as I believe, Fowler's plough and cultivator does more work per unit of power and per unit of cost than any other—yet for their adoption satisfactorily much larger alterations are needed in thecondition of our fields as they ordinarily exist. It was on this account I have no doubt that Mr. Savidge of Sarsden said, as I heard him last Wednesday—"Some think steam ploughing will one day be general. In my opinion it will never be general." This was the utterance of a man educated by his experience of Fowler's tackle, but moreover forgetful of the immense improvements and alterations which are every day making in the arrangement of our fields.

Gentlemen, I fear I have wearied you with my long story, yet the half remains untold yet. In order to state the present position of steam culture, I ought to have described the double engine system as adopted by Fowler, and with very ingenious arrangements for coiling and uncoiling the rope, which must reduce the tear and wear of rope to a minimum, as also adopted by Mr. Savory, of Gloucester. Mr. Coleman's plans with two grubbing tools, one engine, and light single anchor, bearing the strain only of dragging back the empty tool, ought to have been referred to. Mr. Smith's (of Woolston) combined drilling machine and grubber ought also to have been described. I consider it a most valuable implement, which it has indeed been proved to be by the crops now growing sown by it. The question of grubbing *versus* ploughing ought to have been discussed, and the differences of opinion on the subject referred back to their origin in difference in quality and condition of the soil.

All this must be left unsaid—and much too that might have been added, on the influence of steam cultivation in the condition of the labourer. One word may be added, however, on their part. Country lads and young men ought to be educated up to an ability to manage all farm tools; and stea mcultivators, which *will* one day be general, should be as familiar as any of them. And as the latest novelty in the present condition of the steam plough question with which to conclude, I will refer to the argument which I heard last Wednesday powerfully urged by Mr. Savidge, of Sarsden, before the Oxford Farmers' Club—that in all large national and parish schools a small steam engine ought to hold a permanent place among the educational apparatus, and all boys ought to be taught, before they leave the school, so much of its construction and management as to enable them with the less difficulty to take the place of engineer, which will soon be open on many a farm where at present no agricultural labourer exists able to undertake it.

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The tabulated reports from Mr. Morton's correspondents cannot appear until next week. The report of the dynamometrical experiments, referred to in the above paper, will also then be given.

## Calendar of Operations.

JUNE.

Berwickshire Merse Farm, *June* 1, 1863.—A month ago we wrote of the arrival of "May weather," but our joy did not last many days. Under long-continued bleak north winds Grass declined rapidly, fat hogs had to be sent to market to avoid starvation, and the consequence was a temporary fall in the price of mutton. The effect on beef was just the reverse; the cold retarding the decay of any Swedes in store for the few cattle then remaining. Since the 26th (our Whitsunday term), we have enjoyed some fine warm days; Saturday's mild rain has produced a wonderful greenness; and though dull, it continues growing. The rainfall of the month is small (1·6 inch), and has had little effect, owing to the low temperature. A sudden rise of 7° or 8° tells immediately. The business of the season is unusually forward, if drilling and Turnip sowing be the end of the matter; but, strange in so favourable a time, there is quite the usual breadth of hastily cleaned land; and there may be a tale to tell, "The more haste the worse speed." Strong land turned up raw from want of frost; but light land was everything that could be desired; and the luxury of profitable labour was enhanced by the sight of the yellow weeds among Wheat, which won't let last year soon out of mind. The seed is brairding beautifully, and the weather is not in favour of the flea, though it may appear at any moment. Potatoes are just nicely through the ground, and must be horse-hoed at once. There are fewer planted than for some years past, and Beans are regaining favour, and are likely to merit it from their appearance just now. Wheat in general is making great advances, yet the sight is marred by an occasional field irregularly planted; for much of last year's growth was deficient in vitality, and some never grew at all. There are many instances where this result cannot be attributed to mismanagement at harvest time. As usual in backward weather grub and wireworm have been very destructive, chiefly among Potato Oats; yet nowhere have we seen the crop quite destroyed. Much of the early sown Barley has got quite patchy, and a piece which was quite blue is now varying it with yellow. It is the least promising of our crops. For these ills the only remedy is such weather as we are now blessed with. Harvest cannot be earlier than an average, which, with us, is about the end of August. Our fat hoggs came out full of condition, leaving good but not heavy fleeces. Ewes have been much reduced latterly, and their lambs somewhat cramped for want of milk; but we trust things will go better now. Corn has realised but little this year, and the farmer must live (if he can) on hope. *J. T.*

## Miscellaneous.

*Baron Liebig.*—It must be obvious to every reader of the *Agricultural Gazette* for the last 20 years, that the theories and teaching of this great man have found no favour with its Editor. Fair play is a jewel. The counteracting influences of Sprengel, Lawes, &c., have been largely quoted, but I never remember to have seen the theories themselves or the bases on which they were founded introduced into your columns—we have had the bane, but not the antidote. The culprit has been tried without being allowed to produce evidence in his defence. Why not give us quotations from his last work, as if he had delivered or read his paper before some of our Farmers' Clubs? I am proud to acknowledge myself a firm believer in his great principles, and as an ardent admirer of his wonderful powers. I look upon him as the Sir Isaac Newton of agricultural progress and discovery. Every page of his book teems with enumerations of some great theory or truth, or an elucidation of some hitherto hidden working of nature. His powers of reasoning, his observance of facts, and his logical deductions, elucidate truth and expose error; the nitrogen theory fades away under the lucidity of his crucial examination. It is a pity that we cannot dissociate names in such a case, and merely consider theories. It is not a personal question. We owe to Mr. Lawes very many obligations for his varied and costly experiments, especially as regards the nutrition of animals. I, for one, express this sentiment, although I consider his nitrogen theory a failure. I know many who want to see more of the Baron in your columns. Hour after hour, and day by day, as opportunity offers, I ponder over his pages, and try to understand and appreciate fully his profound discoveries and truths. How well I can now understand the wisdom of the Rev. S. Smith's practice at Lois Weedon. Liebig shows that we cannot, in most soils, manure the subsoil through the top cultivated soil, which decomposes, arrests, and fixes the valuable elements of manure. Look at the miserable pale subsoil in a section immediately below the 6 or 7 inches of cultivated soil, and you will see that it has never benefited to any material extent by surface applications. The Rev. S. Smith throws back his surface soil, and forks his manure into the subsoil; there the roots of bulbous and deep rooted plants find their food, which, on the surface soil, would be comparatively useless to them. Well may the leaves of his crops meet at 5 feet in the rows. How beautifully Liebig exposes the absurdity of "Clover sickness," and shows that it is only want of manure in the "right place," the subsoil, that causes the plant to die in the spring. Look again how he explains the causes of the benefits arising from tillage, how water cannot remove manure from one part of the soil to another, &c. Do give us some extracts from his work; it will set many thinking and acting. I allude more particularly to his last work "On the Natural Laws of Husbandry." *J. J. Mechi, Tiptree Hall, May* 23.

## Notices to Correspondents.

Drainage: *Job.* The paper by the late Mr. Girdwood on Drainage in the Cyclopædia of Agriculture, and the pamphlet by Mr. J. B. Denton, of 52, Parliament Street, Westminster, contain all the information you require.


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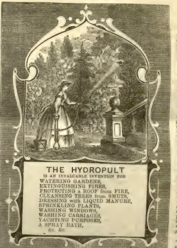


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No. 554½.

No. 579½.

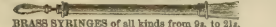
WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

| | | |
|---|---|---|
| 10 gallons .. | .. | £2 15 0 |
| 16 „ .. | .. | 3 15 0 |
| 24 „ .. | .. | 5 0 0 |

Larger sizes may be had in ither Wood or Iron.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | | |
|---|---|---|
| 35 gallons | .. | £2 10 0 |
| 20 „ | .. | 2 0 0 |



BRASS SYRINGES of all kinds from 9s. to 21s.

No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 6 feet Flexible Suction Pipe,

21s.

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

THERE ARE NO SUCTION OR DELIVERY VALVES, hence MUCH FRICTION AND LIABILITY TO CHOKE with leaves and dirt IS AVOIDED.

JOHN WARNER & SONS, 8, Crescent, Cripplegate, London, E.C.

WARNERS' IMPROVED PATENT,

NOW FITTED WITH AN AIR VESSEL,

Is the only Engine at £2 2s. that throws a constant Stream.

May be obtained of any Ironmonger or Seedsman at the above price, or of

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

WIND ENGINE,—Patent Self-Regulating, for

PUMPING, OAT-CRUSHING, THRESHING, GRINDING, CHAFF-CUTTING, SAWING, OR DRIVING OTHER MACHINES.

For FARM PURPOSES most economical.—Costing nothing to work.—Erection simple and cheap. For PUMPING PURPOSES invaluable, working day and night, requiring no watching.

Power from ½ to 12-Horses. Sketch shows a 4 Horse Power Engine as used on Farms.

The LORDS of the ADMIRALTY, the VICEROY of EGYPT, NOBLEMEN, PRACTICAL FARMERS, PUBLIC INSTITUTIONS, and COLONISTS, now use these ENGINES for all purposes.

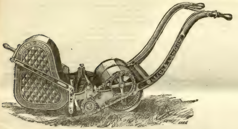
BURY AND POLLARD, SOLE MANUFACTURERS,

PARK IRON WORKS, NEW PARK STREET, SOUTHWARK, LONDON.

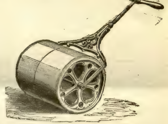
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863.



GREEN'S NEW PATENT LAWN MOWER.



GREEN'S NEW PATENT GARDEN ROLLER.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOS. GREEN FOR HIS PATENT LAWN MOWERS,

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS

DURING THE SEASON OF 1862, AND DURING THE PRESENT SEASON 1863.

GREEN'S PATENT LAWN MOWERS have carried off every Prize that has been given in all cases of competition, and were the only Machines Highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862. (No Prizes were given.) They are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

The Patentees after the long experience they have had in the MANUFACTURE of LAWN MOWERS, have come to the conclusion that three things are essential to constitute a real and efficient Implement, namely, Simplicity of Construction, Durability, and General Practicability, and they are glad to be able to state that they have combined the three, and that their Machines are unequalled not merely by giving satisfaction for one or two seasons, but by their long durability.

Upwards of 14,000 of the above Machines have been sold since the year 1856, and thousands of letters have been received by the Patentees testifying to their efficiency. They do not deem it necessary to publish more than the two following :—

TESTIMONIALS.

"Royal Horticultural Society, South Kensington, W., Feb. 28, 1863.

"Dear Sir,—Your Mowing Machines, which have been in constant use here for two seasons, have answered well. They do their work efficiently, and with a less amount of manual labour than any other Machines I have tried,

"To Mr. Green." "Yours truly, Geo. Eyles."

"Royal Gardens, Windsor, March 27, 1863.

"Dear Sir,—The Hand Mowing Machines you supplied last season for the use of the Royal Gardens, Windsor, give great satisfaction.

"To Mr. Green." "Yours very truly, Thomas Ingram."

PRICES.

| | | | | |
|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a Lady. |
| „ 12 „ | 5 | 0 | 0 | Suitable for One Person. If with internal gear, 10s. extra. |
| „ 14 „ | 5 | 10 | 0 | Do. Do. Do. Do. 10s. extra. |
| „ 16 „ | 6 | 10 | 0 | Suitable for One Man or Two Boys. |

The 16-inch and 14-inch Machine, with internal gear, are particularly recommended for use by one person.

| | | | | | If with Patent Delivery Box. | | |
|---|---|---|---|---|---|---|---|
| To Cut 18 inches ... | £7 | 10 | 0 | Suitable for One Man and Boy | £8 | 15 | 0 |
| „ 20 „ ... | 8 | 0 | 0 | Do. Do. ... | 9 | 5 | 0 |
| „ 22 „ ... | 8 | 10 | 0 | Suitable for Two Men ... | 9 | 17 | 6 |
| „ 24 „ ... | 9 | 0 | 0 | Do. Do. ... | 10 | 7 | 6 |

### DONKEY and PONY MACHINES, including Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 24 inches ... ... | £11 | 10 | 0 | £12 | 10 | 0 |
| „ 26 „ ... ... | 12 | 10 | 0 | 13 | 12 | 0 |
| „ 30 „ ... ... | 16 | 14 | 0 | 18 | 0 | 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

### PRICES of HORSE MACHINES, including Box of Requisites and Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 30 inches ... ... | £20 | 0 | 0 | £21 | 10 | 0 |
| „ 36 „ ... ... | 23 | 0 | 0 | 24 | 16 | 0 |
| „ 42 „ ... ... | 26 | 0 | 0 | 28 | 2 | 0 |
| „ 48 „ ... ... | 29 | 0 | 0 | 31 | 8 | 0 |

Leather Boots for Horse, per set, 1*l.* 4*s.*

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.

Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s. Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

PORTABLE and FIXED STEAM ENGINES; COMBINED THRESHING, SHAKING, and WINNOWING MACHINES;
REAPING and MOWING MACHINES; BONE CRUSHING MILLS; CORN CRUSHING and BEAN SPLITTING MILLS; CHAFF CUTTERS;
TURNIP SHEARS and PULPERS; IMPROVED HAY-MAKING MACHINES, and HORSE RAKES;
CLOD CRUSHERS, and WROUGHT IRON FIELD ROLLERS; PLOUGHS, HARROWS, and CULTIVATORS; VERANDAHS;
PATENT HYDROPULT, and all kinds of GARDEN ENGINES and SYRINGES; GARDEN CHAIRS and TABLES;
ORNAMENTAL FOUNTAINS and VASES; GARDEN TOOLS; PREMIUM CONTINUOUS IRON FENCING and HURDLES;
STRAINED WIRE FENCES, of all kinds; ESPALIER FENCES; GAME-PROOF WIRE NETTING and TRELLIS WORK;
ORNAMENTAL and PLAIN ENTRANCE, WICKET, and FOOTPATH GATES; WROUGHT IRON FIELD GATES; TREE GUARDS;
CATTLE and PIG TROUGHS; SHEEP RACKS; WASHING and WRINGING MACHINES; FIRE-PROOF IRON SAFES; IRON WHEELBARROWS
IMPROVED IRON STABLE FITTINGS;
and every description of HORTICULTURAL and AGRICULTURAL IMPLEMENTS;
and MANUFACTURERS of all kinds of IRONWORK for the IMPROVEMENT or EMBELLISHMENT of LANDED PROPERTY.

*Illustrated Catalogues on application.*

T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

### Skirving's Swede—Sutton's Selected Stock.

SUTTON AND SONS have a choice Stock of SKIRVING'S SWEDE SEED, growth of 1862, which they can strongly recommend. 9d. per lb., or *cheaper in large quantities.*

Also SUTTON'S CHAMPION, Hardy PURPLE-TOP, and Hardy WHITE SWEDE; but the Stock of "Champion" Swede, though saved from upwards of 50 Acres of Land, being small compared with the demand, this sort cannot be supplied under 1s. per lb., or 45s. per bush.

Royal Berkshire Seed Establishment, Reading.

### Prize Vegetables.—Plants of

JOHN CATTELL'S CABBAGES, KAILS, BROCCOLIES, &c., may be had at the following prices :—

| | p. 1000 s. d. |
|---|---|
| CABBAGE, Reliance and other kinds .. .. .. KAILS, of all the true kinds, as exhibited at the Great International Fruit, Gourd, and Vegetable Show of the Royal Horticultural Society, held at their Kensington Gardens in October, 1862, and to which the First Prize was awarded .. .. .. .. | 4 0 |
| BROCCOLIES, of all the leading kinds .. .. .. CELERY, do. do. bedded plants .. RED CABBAGE .. .. .. .. .. .. | 5 0 |
| VARIEGATED GARNISHING KAIL, 1s. per 100. | |
| DRUMHEAD CABBAGE, and the large kinds of SAVOYS .. .. .. .. .. .. .. | 3 0 |

JOHN CATTELL, Nursery and Seed Establishment, Westerham, Kent.

### New Bedding Scarlet Horse Shoe Geranium Adonis.

JOHN HALLY, NURSERYMAN, SEEDSMAN, and FLORIST, Blackheath, S.E., intends sending out the above on June 24. It is a distinct and good thing, and a great improvement on all existing Scarlets. Flowers of a bright, light, pure scarlet, with clear white eye, and of perfect shape. It was tried at Chiswick last year as a bedding plant, and is thus described by Mr. Moore in the Proceedings of the Royal Horticultural Society for March last. "ADONIS * * * (the highest mark of merit), HALLY. Moderately vigorous habit, leaves darkly zoned. Flowers scarlet, of excellent form, with white eye—considered to be a superior novelty." It received a Certificate of Merit at the Royal Botanic Society's Show in Regent's Park, on June 3. Plants, 5s. each, with the usual discount to the Trade. The following Nurserymen have already ordered it in quantities, and will be able to supply it :—

Messrs. Backhouse & Sons, York
,, Bunyard & Son, Maidstone and Ashford
,, Downie & Co., Sydenham
,, Francis & Sons, Hertford
,, A. Henderson & Co., Edgeware Road

Messrs. E. G. Henderson & Son, St. John's Wood
,, Lee, Hammersmith
,, Osborn & Sons, Fulham
,, Low & Co., Clapton
Mr. Ivery, Peckham
,, Turner, Slough
,, Williams, Holloway

### Cheap Bedding Plants.

WM. DILLISTONE will forward (Carriage free to London), upon receipt of Post Office Order for 18s. on Castle Hedingham, 100 Strong Plants in Pots; consisting of GERANIUMS, FUCHSIAS, DAHLIAS, VERBENAS, CALCEOLARIAS, &c.

N.B. The above are warranted to give satisfaction. CATALOGUES upon application.

Munro Nursery, Sible Hedingham, Essex.

JOHN KEARSLEY AND SONS, Leeds, offer as below fine Plants :—

| Per 100.— | £ | s. | d. |
|---|---|---|---|
| LOBELIA KERMESINA .. .. .. .. | 1 | 0 | 0 |
| ,, SCARLET, in 4 varieties .. | 1 | 5 | 0 |
| GERANIUM GOLDEN CHAIN .. .. | 1 | 5 | 0 |
| ,, BIJOU, PERFECTION, &c. .. | 1 | 5 | 0 |
| DOUBLE NASTURTIUM .. .. .. | 1 | 1 | 0 |
| DAHLIAS, Choice .. .. .. .. | 0 | 18 | 0 |
| PRIMULA SINENSIS, Double White, fine .. | 3 | 0 | 0 |
| HOYA VARIEGATA .. .. per doz. | 0 | 12 | 0 |
| POTHOS ARGYRÆA .. .. .. ,, | 0 | 10 | 0 |
| TRITOMA UVARIA .. .. .. ,, | 0 | 6 | 0 |
| AZALEA INDICA, by name .. .. ,, | 0 | 9 | 0 |

### CALCEOLARIA, CINERARIA, PRIMULA, &c.

CALCEOLARIA, saved from carefully hybridised flowers, possessing all the recognised floral qualifications, viz., size, form, colours, and marking. Price, 1s. and 2s. 6d. per packet.
CINERARIA, extra choice, 1s. per packet.
PRIMULA SINENSIS FIMBRIATA, extra choice, 1s. and 2s. 6d. per packet.
DRACÆNA (CORDYLINE) INDIVISA, from Mount Egmont, New Zealand.—Beautiful fine foliaged plant, 1s. and 2s. 6d. per packet.

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

### Select Stove and Greenhouse Plants, &c.

ROBERT PARKER begs to invite attention to his Collections of AMARYLLIS, AZALEA INDICA, EXOTIC ORCHIDS, FERNS, and LYCOPODS; ORNAMENTAL and VARIEGATED FOLIAGED PLANTS; MISCELLANEOUS, STOVE, GREENHOUSE, and HARDY PLANTS; all of which are healthy and clean. Purchasers of large or small quantities will be treated on the most liberal terms.

PRICED and DESCRIPTIVE CATALOGUES are published, and will be forwarded to applicants.

Exotic Nursery, Tooting, Surrey, S.

PARADISE AND VICTORIA NURSERIES, HOLLOWAY, LONDON, N.

## B. S. WILLIAMS

Invites inspection of his large and well assorted Collections of

### EXOTIC ORCHIDS, FERNS AND LYCOPODS,

MISCELLANEOUS, STOVE AND GREENHOUSE PLANTS, VARIEGATED AND ORNAMENTAL FOLIAGED PLANTS.

AMONGST WHICH ARE SOME VERY FINE SPECIMENS.

Now ready, post free to all applicants,

### A NEW GENERAL PLANT CATALOGUE,

Containing Select Lists of Choice Exotic Orchids, Ferns, Stove and Greenhouse Plants, Indian Azaleas, Variegated and Ornamental Foliaged Plants, Fuchsias, Pelargoniums, Rhododendrons, Verbenas, Petunias, Phloxes, Cinerarias, Chrysanthemums, Hardy Variegated Plants, Herbaceous and Alpine Plants, Roses, Hardy Trees and Shrubs, Fruit Trees, &c.,

WITH A DESCRIPTIVE LIST OF NEW, BEAUTIFUL, AND RARE PLANTS.

# ROYAL HORTICULTURAL SOCIETY.

## REMAINING ARRANGEMENTS for the EXHIBITIONS and MEETINGS in 1863,

TO BE HELD AT

### THE GARDEN, SOUTH KENSINGTON, W.

| | |
|---|---|
| SATURDAY, JUNE 13 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 17 .. .. | SECOND GREAT EXHIBITION, at 1. Bands at 2. Floral Sub-Committee, at 10. Fruit Sub-Committee, at 10. |
| SATURDAY, JUNE 20 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 24 .. .. | Promenade. Band at 4. |
| FRIDAY, JUNE 26 .. .. | Council, at 11. Meeting for Election of Fellows, at 2. |
| SATURDAY, JUNE 27 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 1 .. .. | THIRD GREAT EXHIBITION—ROSES, NEW PLANTS, &c., at 1. Bands at 2. Floral Sub-Committee, at 10. Fruit Sub-Committee, at 10. |
| SATURDAY, JULY 4 .. .. | Promenade. Band at 4. |
| TUESDAY, JULY 7 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| WEDNESDAY, JULY 8 .. .. | Promenade. Band at 4. |
| SATURDAY, JULY 11 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 15 .. .. | Promenade. Band at 4. |
| SATURDAY, JULY 18 .. .. | Promenade. Band at 4. |
| TUESDAY, JULY 21 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| WEDNESDAY, JULY 22 .. .. | Promenade. Band at 4. |
| FRIDAY, JULY 24 .. .. | Council, at 11. Meeting for Election of Fellows, at 2. |
| SATURDAY, JULY 25 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 29 .. .. | Promenade. Band at 4. |
| TUESDAY, AUGUST 4 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| TUESDAY, AUGUST 25 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| WEDNESDAY, SEPT. 9 .. .. | AUTUMN FLOWER SHOW, at 1. Band at 2. Floral Committee, at 10. Fruit Committee, at 10. |
| TUESDAY, SEPT. 22 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| FRIDAY, OCT. 2 .. .. .. | Council, at 11. Meeting for Election of Fellows, at 2. |
| TUESDAY, OCT. 6 .. .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| FRIDAY, NOV. 6 .. .. | Council, at 11. |
| TUESDAY, NOV. 10 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| FRIDAY, DEC. 4 .. .. | Council, at 11. |
| TUESDAY, DEC. 8 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| FRIDAY, DEC. 18 .. .. | Council, at 11. |

### ELECTION OF FELLOWS.

Gentlemen and Ladies wishing to become Fellows have to be proposed by some one already a Fellow, to whom they are personally known. The subscription is Two Guineas Entrance Fee, and Two Guineas or Four Guineas a year according to the privileges wished.

### ADMISSION OF THE PUBLIC.

Previous to April 30, packets of 25 tickets may be bought by Fellows for 5*l.* per packet. These tickets are available for any Show or Promenade during the year—admitting numbers corresponding to the prices of the day: *i.e.*, one on a 5*s.* day; two on a 2*s.* 6*d.* day; and five on a 1*s.* day.

#### 1. HORTICULTURAL EXHIBITIONS AND PROMENADES.

Sept. 9. AUTUMN FLOWER SHOW .. .. .. 2*s.* 6*d.* — Free to Fellows and the Transferable Cards, and also admission by payment at the door or by Tickets previously purchased.

#### 2. GREAT EXHIBITIONS.

June 17. SECOND GREAT EXHIBITION ..
July 1. THIRD EXHIBITION AND GREAT ROSE SHOW .. .. ..
— Free to Fellows and the Transferable Cards, and also admission by Tickets, price 5*s.* each, purchased previously to the day of the Show. If payment is made at the door, 7*s.* 6*d.* will be charged for each admission.

#### 3. PROMENADES.

WEDNESDAY, June 24; July 8, 15, 22, 29 | SATURDAYS, May 16, 23, 30; June 6, 13, 20, 27; July 4, 11, 18, 25.

Free to Fellows and the Transferable Cards, and also admission by payment at the door of 2*s.* 6*d.*

Extra Choice Cineraria Seed.

LUCOMBE, PINCE, and CO. are now sending out their very superb CINERARIA SEED, which has been carefully saved from the choicest selected Flowers, and the high character of this year's strain enables them with great confidence to recommend the seed as being vastly superior to any previously offered. Sealed packets, free by post, 2s. 6d. each.

Exeter Nursery, Exeter.

ROYAL HORTICULTURAL SOCIETY. FLORAL COMMITTEE.

The next Meeting of this Committee for the Exhibition of NEW PLANTS and SEEDLINGS will be held in conjunction with the First Great Show of the season, which will take place in the Gardens of the Society on June 17. The above subjects will form Classes 24, 25, 26, 27, and 29 of the Schedule for that day; and Sub-committees will be appointed to adjudicate upon them.

Class 24 is for New or Rare Tender Plants in flower.
Class 25 is for New or Rare Tender Plants not in flower.
Class 26 is for New Orchids in flower.
Class 27 is for New or Rare Hardy Ornamental Plants.
Class 29 is for Seedling Florists' Flowers, and Garden Hybrids of all kinds.

The subjects exhibited must be in the Gardens by half-past 8 o'clock in the morning, in accordance with the regulations; but they may be entered without previous notice. It is however required that a written statement of the subjects for exhibition in the respective classes should be handed in by 9 o'clock, to allow time for the entries to be made before 10.

All persons are at liberty to exhibit.

Thomas Moore, Secretary to the Floral Committee.

SPECIAL PRIZES for the BEST THREE GROUPS of FRUITS and FLOWERS for the DECORATION of the DINNER-TABLE are offered by Sir C. Wentworth Dilke, Bart., Vice-President of the Royal Horticultural Society, to be awarded at the Second Great Exhibition, WEDNESDAY, June 17. First Prize, Gold Knightian Medal, or 10l.; Second Prize, Gold Banksian Medal, or 7l.; Third Prize, Society's Large Silver Medal, or 3l.

Novelty of design and beautiful arrangement will be the test of merit; valuable Flowers or Fruits are therefore not demanded.

Each set must consist of three groups, and may be either one of Flowers and two of Fruit, or two of Flowers and one of Fruit, or Fruit and Flowers mixed in all three.

They may be shown either in épergnes, glass or china dishes, wicker or wire work, or in any other way, most to the taste of the exhibitor.

The Exhibition will be in the Southern Arcades.

Plants, &c., to be taken to the Society's Council Room entrance.

Ladies are invited to join in the competition.

The Prizes will be awarded by a Jury of Ladies.

The groups will be received as late as 9·30 o'clock on the morning of the Show, PROVIDED SPACE SHALL HAVE BEEN SECURED FOR THEM TWO DAYS BEFORE. Letters to be addressed to Mr. G. Eyles, Royal Horticultural Society's Garden, South Kensington, W.



# The Gardeners' Chronicle.

*SATURDAY, JUNE* 13, 1863.


MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| Wednesday, | June 17 | Royal Horticultural (Fruit & Floral Sub-Committees) at S. Kensington | 10 A.M. |
| | | Second Great Exhibition, at South Kensington .. .. | 1 P.M. |
| Thursday, | — 18 | —Linnean .. .. .. .. | 8 P.M. |

The Horticultural world is all astir this season. The other day H.R.H. Prince Alfred having looked in upon the Botanical Garden, Edinburgh, took the opportunity of planting a memorial tree there in the vicinity of one planted by the Prince of Wales in 1859, and of another by Lord Palmerston on the occasion of his recent visit to Edinburgh. The kind selected was a Californian Conifer, called by Mr. Murray *Abies Albertiana*, which has of late years been introduced. It is the Hemlock Spruce of Oregon, very nearly related to *A. Mertensiana*.

On Tuesday the Queen honoured the Royal Horticultural Society with a strictly private inspection of the Garden at South Kensington, and of Mr. Durham's very skilfully executed monument there to the memory of the most illustrious and deeply lamented Prince, who until his death was the Royal President of the Society. The Council of the latter and the Members of the "Memorial Committee" were by command the only persons present on the occasion, except the Princesses Helena and Beatrice, Prince Alfred, and some members of Her Majesty's household.

The very next day a prodigious crowd assembled in the same Garden to witness the unveiling of the magnificent statue of the late Prince. We understand that 20,000 persons were present, to do what honour they could to the memory of the beloved Consort of the Queen. In spite of a squall or two everything passed off most satisfactorily, owing to the very skilful arrangements made, on behalf of the Council, by Sir Wentworth Dilke, upon whom an enormous amount of supervision must have fallen. A full description of the scene will be found in another column.

In the House of Commons a motion has been made to open the Edinburgh Botanic Garden to the public on Sundays. Lord Palmerston opposed it with his characteristic good sense. The noble Viscount observed that if he were to vote according to his own opinion he should give his support to the motion. In the abstract he could see no harm, but rather good, in doing that in Edinburgh which has been already done in other capitals—that is to say, opening a place ever so small or large for purposes of recreation. But in the present case there was another consideration, namely, that a real, sincere, and honest feeling on the part of the people of Scotland exists with regard to this question. He held that, without some very grave and important reason, you ought not to do violence to public feeling; and that public feeling in Edinburgh and Scotland was against opening these gardens on Sunday evenings, was, he thought, an indisputable fact. The great desire expressed to enter these gardens must proceed from the same feeling which forbidden fruit excites in the minds of men. The hon. mover said the feeling of Scotland is changing, and that in the course of no distant time the opinion of the majority will be in favour of opening these gardens. Well, said Lord Palmerston, let us wait till that change takes place. He was of opinion that this strong religious feeling was honourable, and ought to be respected. Let us wait, he added, and act in accordance with public opinion and in a spirit of deference to it, and not, by hasty adoption of a principle to which Parliament in the abstract might be disposed to lend its sanction, offer violence to ancient and honourable feelings conscientiously entertained.

Bravo! Lord Palmerston. Of course the motion was lost.

A few years since some consternation was excited amongst the servants of one of the greatest establishments in Scotland, in consequence of plants of various kinds, without any distinction of order or genus, being spotted with little brown pellets which adhered very closely to the surface. This, however, was not all: not only the plants but the walls themselves, the garden pots, and even the windows were studded with the same bodies.

On a microscopical examination, it was quite clear that they belonged to the tribe of Fungi, and it struck us that almost the only Fungus which would answer the conditions was the curious *Sphærobolus*, which, like a miniature mortar, ejects its fruit to a considerable distance. We inquired therefore whether the bog Moss *Sphagnum* was used in the growth of the Orchids, and the suggestion soon detected enormous quantities of the Fungus, so that the spirit was laid, and the minds of the garden labourers were set at rest.

A very similar case has just occurred to us. Mr. Marshall, of Ely, whose eye is always attracted by anything of botanical or horticultural interest, found that the leaves of his Vines, and a variety of herbaceous plants which it is needless to enumerate, were dotted with little black specks, the origin of which he could not account for. At first it appeared that those leaves only were affected which were near the ground, but afterwards it was found that wood, and walls, and window panes, as in the former case, were equally defaced.

Specimens were kindly submitted to us, and as before it was quite clear that the spots were derived from a Fungus. It was at first suggested that they might be due to some insect. This, however, was not likely to be the case, as the spores were all perfect, whereas in those cases where insects feed on the spores of Fungi, and their dung seems to consist of scarcely anything more than a mass of spores, they are always more or less altered in passing through the body of the insect.

Now, it appeared that fresh horse-droppings had been placed among the plants, and it was probable therefore that, as in the former case the *Sphagnum* supplied the dark bodies, so the horse-droppings did in this case. The spores were surrounded by a distinct, rather thick, dull purple membrane, which adhered firmly to the surrounding bodies, but though the specks resembled greatly the vesicles of some mould, there was a difficulty in understanding how they could become detached from their threads.

Mr. Marshall has, however, now been able to solve the difficulty by personal observation, and has found that the specks are the fruit of the little mould *Pilobolus crystallinus*, which, like the *Sphærobolus*, has the power of ejecting its fruit to a considerable distance, in the present instance sometimes as far as a couple of feet.

In the case of the *Sphærobolus* the ejection takes place by the sudden eversion of the living membrane of the globose thick-walled lined sac which contains the mass of spores. In *Pilobolus* the effect is produced by the growth of the partition which separates the mass of spores from the thread which supports it. This partition gradually bulges out upwards, till at a certain stage of growth the investing membrane bursts, and the spore-mass, with or without the membrane, is forcibly ejected.

Mr. Marshall informs us that he should never have discovered the cause had he not visited the greenhouse very early in the morning, at which time the little masses are discharged. No period is in fact so fruitful to the naturalist, to whom, as to every intelligent cultivator, a habit of early rising is of immense importance. Many a valuable or interesting plant moreover is saved, by early visits, from depredators which are cunning enough to place themselves out of sight of later inquisitors.

Before closing our remarks it may be interesting to many of our readers to notice another point in connection with *Pilobolus*, which shows the need of caution in all matters relating to natural history. Müller had observed in many of the swollen transparent vesicles, as he believed, immediately below the spore-mass, "a white delicate worm, which crawled round and round and appeared to swim as it were in an ocean of its own." He accordingly believed his plant to be a zoophyte. Persoon, however, conjectured that the worm was of extraneous origin; and Mr. Currey, whose memoir on *Pilobolus* will be found in the first volume of the Journal of the Proceedings of the Linnean Society, confirmed Persoon's notions. He found that the little parasite was merely the common *Anguillula fluviatilis*, which abounded on the surface of the dung on which the *Pilobolus* grew, and from thence ascended the stem, and moved with great activity in the dew drops with which it is generally studded. The sight of these animals, he says, revolving rapidly in their crystal cases, is most curious and interesting. It is not certain that they ever get into the vesicle itself; but the tip of the threads, before the real vesicle is formed, is often crowned with a dew drop, which might very readily be confounded with it, and the little worm supposed to be situated in the interior of the plant.

The little fungus is extremely common both on horse and cow-dung in pastures in autumn, and will amply repay a close investigation. *M. J. B.*

—— The recent National Auricula Show yielded a fair display of plants, almost entirely furnished however by northern growers, so that it was "national" in name only. The leading prizes were carried off by the Halifax growers, Mr. Pohlman and Mr. Wilson, in every case except two, one of these latter going to Mr. Headly of Stapleford, the other to Mr. Wood of York. The sorts shown were:—Lancashire Hero, premier; George Lightbody, Ashworth's Regular and Colonel Taylor, each five times repeated; Heap's Smiling Beauty, Sykes' Complete, and Blackbird, each four times; Lancashire Hero and Meteor Flag, each thrice; Lee's Bright Venus, Lightbody's Sir C. Napier, Lovely Ann, Mrs. Smith, Page's Champion, and Imperator, each twice; and the following each once, namely, Prince of Wales, Hepworth's True Briton, Richard Headly, Ne plus ultra, Booth's Freedom, Glory, Fletcher's Mary Ann, Hudson's Apollo, Othello, Campbell's Admiral Napier, Royal Purple, True Blue, Mrs. Sturrock, Favourite, Queen Victoria, Blue Bonnet, General Bolivar, and Gairn's Model. Cheltenham has been selected for the show of 1864, or failing that, either Slough or Cambridge. We hope, in addition, the London Societies will not fail to do their part again, in the encouragement of these quaint and really interesting spring flowers, of which the past season has witnessed something like a revival in the metropolitan districts.

—— The National Tulip Show which was to have been held in Nottingham this year, but did not take place, was it appears abandoned partly from want of support, and partly from the influence of the season, which had brought on the flowers too rapidly, so that in the case of a majority of the intending exhibitors, they were over or past their best at the date fixed on. Such a miscalculation as to the right time for holding the show of a particular flower may be beyond control; but our contemporary, *Gossip*, suggests that the miscalculation in respect to the amount of support is to be accounted for in this way: that "the schedule offered no inducement to the small growers at a distance to come in, and seemed to have been made for the large growers alone." The framers of prize schedules generally may make a note of this, with advantage.

## FISH AND FISHING.—No. X.

### PONDS: TENCH AND CARP.

Permit me to address a few words to my brother gardeners, whether they be amateurs or professionals, upon the subject of Tench and Carp fish-ponds. Out of these in my younger days I have culled many and many an hour of innocent recreation, when, in mind and body, I was inclined for nothing more active or invigorating. I am one of those who have graduated through every branch of angling and fishing; I have even

studied the art of netting. I have fished for minnows, and know how to make them "a delicate dish." Gudgeon, roach, bleak, dace and perch, bream, tench, carp, chub, &c., &c., have been my victims in great store, and of many and many a fell tyrant of a pike have I been the executioner, revenging his inexorable murders of his weaker brethren. And now I profess myself essentially a fly-fisher, and *par excellence* a salmon fisher.

Most anglers when they arrive at this round of the ladder, from the super-excellent superiority of the latter—the highest art, salmon fishing,—despise all the lower grades, aye, even trout fishing. But, somehow or other, I do not. Perhaps this arises from the fact that I am growing old and less active, and yet I feel full well that when I reach a salmon or a trout river, I am like Gay's "feeble" fox—

"But hark! I hear a hen that clucks:
Go, but be moderate in your food—
A chicken, too, might do me good."

And I fish hard and catch as many as do me the honour of accepting my invitation to them, offered in the shape of feathers and insidiously-pointed steel.

Still, so innately am I a fisherman, that I despise none of those lower arts when better is not at hand; and I have been of late reflecting on the happy hours I have basked away by the side of carp and tench ponds. And now I ask myself why should not others similarly enjoy themselves? and why should not I show the way, and endeavour to instruct in the art of making tench and carp ponds for other's benefit?

The tench, especially, and also the carp (dependent on the mode of cooking), I esteem good eating fish, and certainly, in country districts, where sea-fish but rarely visit, an occasional change of diet of this kind is not only wholesome, but a "treat."

The amateur gardener and angler will of course have tench and carp ponds in his grounds. The amateur gardener and no angler may have friends to amuse, and to him I would recommend the creation of fish ponds, and the gardener professional will always find a pond useful for his business—pond-water being almost as good as rain, and he may make it "pay" by charging his neighbours for the right of fishing, so much per head for fish caught. I, in my neighbourhood, would be too glad to have such a neighbour, and on such terms.

But for the angler-gardener, in the heat of summer, too hot for exercise, I know no greater luxury of *otium* — sans *dignitate*, if you please — than sitting or lying under the shade of an over-spreading tree watching the motions of the float. I speak from experience. At one period of my life I fished much in this style, visiting my uncle's estates in Sussex. Small ponds, some full of tench from ½ lb. to 1½lb. and more; some of carp from that to 3 or 4 lbs., were very numerous, and I had great success, and the boiled beans and bacon and cabbages which my uncle's tenants would kindly bring me to where I sat, seem to my mind the sweetest bonne bouches in the form of luncheons I ever ate. It was in every sense true luxury. I was idle from the heat of summer, but not idle, for I caught fish—

"Hours of idleness were not idly spent."

Ay, many the happy hours I have thus passed with younger, merry, laughter-loving cousins—*sub tegmine Fagi*, whether that "Fagi" were a Beech, an Oak, an Elm, an Alder, or a faggot stack! which "not to put too fine a point upon it," must have originally been derived from the "Fagus" of Virgil! Those ponds were natural ponds, and in that part of Sussex the soil was all pure Sussex clay.

Walton says, "It is observed that in some ponds carp will not breed, especially in cold ponds; but where they will breed, they breed innumerably." "The carp, if he have water room and good feed, will grow to a very great bigness and length." And certainly, had I space of ground adapted to the purpose, and enough clay in the neighbourhood, I would try the experiment of an artificial pond or two, with perfect confidence of success.

Adaptability and the neighbourhood of clay are of course *sine quâ nons*. By the former I mean I would select a spot in a hollow, into which rain would naturally flow, or drain from the "lay of the land;" or it might be on a slope, the soil to be dug out being thrown on the lower side, so as to form the partial embankment, or raising of bank up to the future water level.

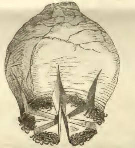
The smallest superficial water area that I should design for a tench pond would be a space equivalent to a square of 50 feet. I say "equivalent" to 50 feet: not a circular or a square, or oblong pond, which looks so formal, but of that area—50 feet square,—as much irregular in shape as a natural pond in the rough parts of Sussex can be. A carp pond I would make as a separate thing—tench do not "muddy" the water as carp do,—more extensive, at least equivalent to 60 feet square; they require, like pigs, more grubbing ground.

As to the depth of water in the pond when completely finished, I would in one part of it contrive a large space where there should be 5 feet of water, not less, to which fish might resort in a very severe winter. The rest of the pond might vary in depth from 4 feet to not less than 2½ feet, in which part I should cast my hook, and expect to catch my fish. Dependent on the soil, the bank or margin should be cut precipitously down, just as nature forms those wild Sussex ponds, which are in my mind's eye while I am writing; perhaps with one shallow entrance (as though for "horse-watering"), which would naturally be formed in that part where any rains flow or drain into the pond. I would have the wildest hawthorn and bramble grow here and there on the pond bank, and, in fact, make it as rough and inartificial as possible to the eye.

Here, however, I must break off for the present. *E. C.*

## A VISIT TO THE BULB FARMS OF HAARLEM. No. IV.

*Propagation by Offsets.*—The Hyacinth propagates itself naturally by offsets and by seeds. But both these operations are too slow to supply the great demand which exists for this flower at Haarlem, and hence art has been brought to Nature's aid. To induce the bulbs to throw out offsets, two methods are adopted, and both of these are curious and most interesting. One mode is by making three, or sometimes four deep cuts across the bottom of the bulb, in the manner shown by the accompanying sketch.

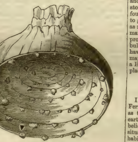


Hyacinth Bulb cut across at the base to induce the formation of offsets.

When the knife has gone deep enough, the bulb, which is plump and full of juice, emits a peculiar crackling sound, and this is a guide to the operator. The wounds inflicted in this manner destroy the germ

Part of the base of the bulb after cutting, showing how the young bulbs are produced.

of the flower stem already formed for the following year, and divide the lower portion of the bulb into six parts, or, in the case of larger bulbs, into eight parts. After this operation is performed, the bulbs are laid on the beds and covered with dry sand. They remain in this position for 10 or 12 days, and are then taken into the drying room and spread out on its shelves. Here they are kept until the autumn, when



Hyacinth Bulb scooped out, showing the mode in which offsets are then produced.

they are planted like other Hyacinths in the open ground. During the following winter and spring young bulbs are formed in considerable numbers at the edges of the cuts in the way represented in the second sketch. These young ones are taken up at the proper season, removed from the parent and planted in nursery beds, where they are treated in all respects like the older Hyacinths.

The second method practised in propagation differs from the first, both in the manner of operating on the bulb and in its results. A slice of the under part of the bulb in this case is cut or scooped out, and the circular layers of which it is formed, are exposed to the view as shown in the third sketch.

The bulbs prepared in this manner require much more careful treatment afterwards than those which are cut in the other way. They are dried in the open air before they are taken into the drying room, and they must be looked at frequently afterwards, as they are very apt to become mouldy or to rot. It is sometimes necessary to mix a little dry sand amongst them in order to preserve them. Extremes of dryness or of moisture must be carefully avoided. In August or September they are planted in the open beds, and remain there until the following summer, during which period a crop of young bulbs has been formed on the under side of the old ones in the manner shown in the sketch. These are taken off in autumn and planted out singly, in nurseries, like the others.

There are two or three curious circumstances connected with these methods of producing young Hyacinths which are worthy of notice. The bulbs treated in the way first mentioned produce young ones larger in size, but fewer in number than those which are treated in the second way. In the first instance the bulbs are formed at the edges of the cuts, while in the second they come out all over the under surface. Again, the bulbs formed by the first method send up leaves during the first spring, while those produced upon the second plan do not show any sign above ground of their existence below. Some varieties of the Hyacinth succeed best when treated in the first way, and others appear to prefer the second. For example, the well-known kind named "Waterloo" does best when propagated in the second way, and I believe it is generally multiplied in this manner by the growers at Haarlem.

The time required for these young bulbs to come to maturity, that is to be fit for the market, varies with the different varieties. Four or five years is about the average time required by those produced by the plan shown in the first woodcut, and five or six years for the smaller ones shown in the third. Every year during this period they are taken up in the summer and replanted in the autumn.

*By Seeds.*—As the time required to bring Hyacinths to maturity from seed is so long—seven or eight years, according to the variety—the propagation about Haarlem is managed by offsets as I have already described. Indeed, were the time shorter, the propagation of the existing kinds would have to be done by offsets, as seedlings would not reproduce kinds identical with their parents. Every grower, however, is anxious to obtain new and superior varieties, and these can be had only from seed. Hyacinth seeds ripen in the end of May or beginning of June, and are usually sown in October. Large pots or pans are used for the purpose, and the seedlings which spring up are allowed to remain without being moved for three or four years. At the end of that time they are taken out of the seed pans and treated like the other bulbs. Some sorts show a weak bloom about the third or fourth year, but four or five years more are required to bring the bulb to maturity. And then, after all this time, if the grower gets one out of a hundred, distinct and worth propagating, he is considered peculiarly fortunate.

Hybridising in that certain way with regard to results which is understood and practised by our florists with Pelargoniums, Petunias, &c., does not appear to be much practised with the Hyacinth at Haarlem. Indeed the long time required before the results can be even guessed at, is not encouraging, and a longer time after that is necessary to produce a stock for the market. We have seen that three or four years must elapse before a weak bloom is produced to give an indication of the nature of the seedling, and as many more must pass by before the plant arrives at maturity. Then, if it be really good, and worthy of propagation, the fortunate raiser possesses only one bulb! Years after that must pass by before he can have a sufficient quantity to offer it for sale.* It may therefore take the time of an ordinary life to raise a Hyacinth from seed, and have a stock sufficient to place it on the market. *Robert Fortune.*

## FERNS AND FERNERIES.—No. III.

(*Concluded from p. 316.*)

I RECOMMEND that in the construction of your Fernery you should adopt dimensions at least as large as those I have suggested, and arrangements of its earth contents of the character proposed—because I believe it is only thus that you can hope to provide situations of sufficient variety to satisfy the diverse habits of the tribe of plants you desire to cultivate. Still, much may be done in a glass case within your drawing-room, that will interest yourself in its care, and gratify your friends in its display. In this, as in a house of larger size, you must study to

* Some kinds are much more difficult to increase than others. It is not unusual for a variety to remain stationary for a time from some unknown cause, and then, all at once, make a fresh start. It does not follow, therefore, that two new kinds offered for sale in the same year have been raised about the same time.

supply the natural conditions to which your Ferns are subject; your field of operations being restricted your materials will be less cumbrous and their arrangement less laborious. The earth you should use in such a case must be a mixture of peat-mould and silver sand finely sifted, the latter in the proportion of one-third. A layer at the bottom of the Cocoa-nut fibre (not the refuse before mentioned) promotes drainage beneficially, and some broken up limestone about the fibres of the Ferns near the surface keeps the ground open. But you will find that you must only attempt those that are especially fond of a moist atmosphere, and in their luxuriance do not arrive at too large dimensions. Fortunately among such are many of the most delicately beautiful—the Killarney Fern, with its finely divided semi-transparent fronds, conspicuously so. Capillus-veneris and her sisters of the Adiantum family—pubescens, its pinnule protected by a hairy fringe, pedatum and cuneatum, will all flourish in such a case as we are now considering. Several foreigners, too, of small growth may be introduced with success. Those popularly known as the Gold and Silver Ferns, although delighting in a higher temperature, will yet consent without artificial heat to exhibit themselves in the lustrous coat that, resembling the colour of the two most precious metals, has suggested their respective names. Lycopodium cæsium and several others of its kind will grow freely here, quickly creeping along the surface of the ground, and upwards over the glass.

A vessel of some kind with water is most useful in a Fernery, from which you can supply a syringe, with whose occasional sprinklings our friends are much refreshed; and as a means of keeping this full and the water fresh, a fountain is a convenient, and may be made an elegant addition. In this, too, gold fish may be kept, whose playful motions, with the noise of trickling water, are pleasant to eye and ear. But who shall give counsel in a matter such as this? As Bailey's Eve, though of purest marble, may not be placed in a suburban garden, so must you exclude from your Fernery each vase-bearing nymph or belching dolphin. Criticism is severe in judging things such as this, and sometimes may be unjust. Negatively, I may advise: shun plaster,' and be jealous of terra cotta. I need hardly say, banish the shadow of a shell, accept no tradesman's help, and may your own good taste protect you. The potter's art supplies baskets of many patterns which, suspended from the roof, may in a large building usefully serve for Ferns of a drooping habit, and for the hanging of these copper wire line is to be preferred, being thinner in proportion to its strength, and much more durable than that made of hemp.

In this paper it has not been necessary to make use of those technical terms adopted by Botanists in the description of the plants whose culture has formed our subject; these however you find it pleasant to learn as you become more familiar with the various species in your collection, and to use them correctly, especially in conversation with those of your friends, who have studied these things as a science. For a rhizome is not a root, nor is a rachis a stem, nor are thecæ and spores quite the equivalents of pods and seeds, and such distinctions it is proper to know and to appreciate.

The fructification (by the varying form and distribution of which Ferns have been classified) supplies interesting objects for examination, and if you have the good fortune to possess a microscope, will furnish a source of enjoyment of which strangers to such investigations can have little conception. To view these objects to the best advantage, a fruit-bearing portion of a frond should be placed on the stage immediately after gathering, using a 1½ inch or 1 inch, with artificial light; the sudden change from a moist and comparatively cold air, to a situation illumined and heated by the rays from a lamp concentrated to a focus by the bull's-eye lens, will cause the delicate coverings to shrivel up, exposing brilliant yellow-brown masses. The elegant bands which confine the spores within their elastic embrace will rapidly one after another expand, scattering the contents in all directions over the bright green field, making a picture wonderfully beautiful. The fructification of several species may be preserved as interesting objects for examination, if mounted dry and covered with glass to protect from dust. If to be treated in this way, the specimens should be kept for a few days before mounting, slightly pressed between slips of writing paper. Among many others, Aspl. viride may be mentioned as especially to be admired in its delicate lace-like underside, and the tri-radiate arrangement of the masses of fructification; Ceterach in the complex network of scales by which they are half concealed; Capillus-veneris in their being placed at the outer edge of each pinnule, which folds back with and covers them; and Trichomanes speciosum in their being situated not at the back of the frond, as usual, but arranged around a small column, as it were, formed by the mid-vein of each pinnule. The fructification of the Davallias is also both curious in arrangement, and brilliant in colour.

The medicinal properties of Ferns have been known for many ages, and have been much extolled by ancient and mediæval writers—exaggerated sometimes no doubt by the grateful simplicity of a friend untutored in the rigorous analysis of our times. Yet even now the most common species of our woods is found to supply a very effectual remedy for one of the most distressing maladies to which mankind is subject. The use of "Fern seed" to secure the privilege of invisibility, and the presumed virtue of the examination by despairing maidens of a section of the rachis of the Brake, for the discovery of the initials of the hoped-for sweetheart, have not been justified in their reputation by modern experience.

There is one other consideration to which I cannot forbear to call your attention, although foreign to the immediate intention of this paper. Forests almost wholly composed of Ferns have in their decay provided that fire whose genial warmth has made tolerable the reading of my former papers—if, indeed, even this has been sufficient to keep your attention, attracted on either side by more lively neighbours. History assures us that about 6000 years have passed since our race first inhabited this earth, and geology has established that the centuries that must have elapsed since these "Fern forests" were buried in the waters—as the first step towards their conversion into coal—bear to the former period a proportion that no figures can adequately represent; yet at an epoch so inconceivably remote, the preparation for man's creation had begun, for we see in the actual world around us how absolutely necessary is coal to the very existence of the human family. Perhaps the thoughts thus suggested by the fossilized remains of an extensive tribe of plants, of which we are now endeavouring to cultivate a few modern representatives, are as magnificent and as solemn as any of which the mind is capable. *Z.*

## Home Correspondence.

*Renovating Old Vine Borders.*—The first I shall describe is that of a house 65 feet long, at Stoke Park, Surrey. When I undertook the management of the garden there, in May 1852, I found a range of Vineries 100 feet in length, in as bad a state as they could well be. Two of the houses I was compelled to plant with young Vines, but to those in the particular house now under notice, I was determined to give a trial. They had been planted 25 or 30 years; the leaves were much diseased, and as small as Currant leaves. Of Grapes there were only 3 bunches, shanked and mildewed. During the summer I had a quantity of soil prepared as follows:—to every 8 loads of loam I put 2 loads of dung; late in the autumn the old flues were taken out and hot-water pipes substituted; old mortar, broken bricks, and soot were mixed with the new soil. The first week in January being very mild, I took the opportunity to remove the old soil to the depth of two feet to within two feet of the front of the house. The roots were carefully pegged back and pruned. With the tiles and whole bricks obtained from the old flue I paved the bottom of the border. On this flooring the soil was laid, and the roots brought as near to the surface as they could be. When the border was completed, I covered it with a good thickness of long stable litter. The Vines were pruned to correspond in some measure with the mutilated roots. The rods were encouraged to break by the end of March, which they did pretty well. The leaves at first flagged during sunshine. The border was watered three times during the growing season, and the litter was left on to prevent the water from washing away the soil from the roots, and to retain moisture. The tops were pruned early the following year, and allowed to break with the season, and they ripened 210 bunches of Grapes. During the seven years I had the management of them, I cut 2700 bunches of fruit, good both as regards colour and appearance of berry. In 1861, my present foreman having business in that part of Surrey, inspected the house in question, and he stated that a nicer house of Grapes he never saw; there must have been he thought upwards of 400 bunches in it at that time, which was in September. In May 1861, I had occasion to do away with a house of old Vines and to plant it with young ones, but at the end of the house there was an old Vine which I was anxious to save, and in moving the border I cut close up to it. The new soil was applied and the old Vine watered. The growth that summer was wonderful. In the autumn of 1862 I cut upwards of 20 lbs. of Grapes from it. The last case I shall refer to is that of a house 36 feet long, the Vines in which have been planted about 14 years. I found 12 bunches on these Vines in the spring of 1859. Since I have had the management of these I have cut 660 bunches, some of which weighed 2½ lbs. each. As they did not colour to my satisfaction I had the border opened in October, 1862, the old soil was taken out half-way the whole length of the border, a drain was put in at the foot, and 12 inches of drainage material laid at the bottom, which was turfed over; new soil was laid on, the roots carefully spread out, and the border well mulched, and the Vines are this season everything one could wish. *C. Squires, Heywood, Westbury, Wilts.*

*Bog Firs.*—In reference to a communication from Mr. Billington, which appeared in your issue of May 25th last, I beg to enclose a specimen taken from a young tree growing at present in the grounds of Isaac Crawford, Esq., Troy Villa, Londonderry, which may be of service in clearing up this matter. Mr. Crawford had the plants from the late Sir R. A. Ferguson, M.P. for Derry, who raised it (with several others now growing at The Farm, Derry,) from a cone found in a bog at Castlederg, Co. Donegal. Mr. Crawford's plant is 6 feet high, and bore three cones last year, which are not yet ripened. Mr. C. cannot give any precise information as to the depth at which the cone was found; but possibly this may be obtained by some Correspondent in the vicinity of Derry, under whose notice this communication may come. *W. Anderson, Downpatrick, June* 8. [The species is Pinus Pinaster.]

*Rose Rubens.*—In reading Mr. William Paul's paper in your last Number I find that he makes no mention of a Rose which I believe deserves general notice and favour. It is one belonging to the lovely class on which he has written, viz., Tea-scented, and named Rubens; it is nearly the same colour as that of Devoniensis, and is (as far as my experience goes) a decided improvement on that variety, being hardier, and furnishing flowers much more handsome. We received it in a set of 1860 Roses, and it has answered every expectation. It has stood out well in our atmosphere (I need not say that Brixton is not blest with the balmy air of Hertfordshire), and has given entire satisfaction. *James Ponsford, Loughborough Park, Brixton.*

*Roses.*—Permit me to offer my best thanks to Mr. Radclyffe for his obliging reply to my last letter. I have for some time doubted equally with himself, from observations without the aid of glasses, whether the black spot were a mildew or Fungus. I can see nothing on either the upper or under surface of the leaf, though all between is brown, and will soon become dry and friable. The cause it seems is doubtful, and therefore the remedy must be equally so. I forget whether Baronne Hallez suffered with me; I lost the sort two years ago. But another favourite—Baronne Larrey—is now attacked, and is altogether looking, to my great surprise, very sickly, as it was carefully transplanted, root-pruned, and manured last winter. The case of black blotch, which particularly struck me last year, occurred in the bed in which Baronne Larrey now stands. A sucker sprung the year before from a Briar root, and I budded it with Queen of the Bourbons where it stood. In due time I separated it from the parent, and last year the bud pushed, and I believe its side buds also, and was making a nice little head and showing flower. On a sudden black blotch attacked it, and in a very few days all or most of its leaves had fallen off, and like them my hopes were blighted. I have no recollection now as to whether the flower buds expanded or not, but if they did they were not very attractive. Now here (in Cornwall) I am not on impermeable clay, for it is hard to find enough for grafting clay, but on a slaty formation, well called locally "shelf," the layers of which shoot off all drainage most readily in the direction in which they dip—to the eastward. More than this; under the bed in which stand the Roses just mentioned there runs, at about 18 inches from the surface, a stone drain, through which water flows at every shower. I may add that although we have sometimes very sudden changes of weather, yet on the whole we enjoy a more equable temperature than any other county in England, as appears from an interesting article on the "Market Gardening of Cornwall," in the last volume of the Bath and West of England Society's Journal. Permit me one word more. White mildew, we sometimes think, is partly due to moisture of the atmosphere so near the sea. Orange mildew has sometimes attacked my Briar standards, not in the leaf but in the stalk; excision has been useless, for, too often like cancer in the human subject, it has broken out again and been the death of my Rose. *C. R. S.*

*Ice Houses.*—Will any of your readers oblige by stating the best principle upon which to construct ice houses, or name any third person thoroughly competent to undertake the construction (under guarantee) of such a building. *F. Lovell, Kinchester, Lymington, Hants.* [See our Volume for 1860, p. 833.]

*Peas.*—I picked Peas from a south border on the mornings of May 12, 19, 26, 28, and 29. The variety was Sangster's No. 1. I have now a plentiful supply of Early Charlton. *T. C., Gardener, Garnons, Hereford.*

## Foreign Correspondence.

THE SPRING IN SICILY: *Messina, April* 27 (*Continued from p.* 439).—Within the last few miles of Catania, where the separation of the clinkers, cinders, and soil has not been made, rivers of lava are crossed, lying in masses, in mounds, in sheets, in plains, and producing little else but Crassulaceæ. The fertility of the lava is evidently the result of human labour combined with artificial irrigation. Indeed, the more I see of the south of Europe the more do I become convinced that its vaunted fertility is a mere myth, unless labour and capital can be brought to bear. Southern rivers left to themselves carry devastation with them, denude the mountain regions, overflow the plains, and render them pestilential marshes. It requires immense labour and great capital to keep them within bounds, to make them fertilize the regions which they would otherwise destroy or render uninhabitable. Withdraw the labour and leave them to themselves, and you very soon get marshes like the Pontine, the Tuscan, the Corsican, now all but uninhabitable from malaria, but which formerly nourished hundreds of thousands. On the other hand the mountain sides, the dry plains in the south, left alone unwatered, are parched, burnt up by the sun. They, too, require labour and capital for their inherent fertility to be developed.

Catania is at the very foot of Mount Etna. It is surrounded on all sides by a regular river or torrent of

lava. In the great eruption of 1669 the lava reached the walls of the town, collected against them, although they were pertinaciously heightened and strengthened, and at last poured over them in several places, submerging part of the city, and reaching the sea, both to the north and to the south. The aspect of the shores on both sides of Catania is very singular. It is formed entirely by these torrents of lava pouring into the sea, and suddenly cooled by it, and looks as if made by the accumulation of thousands of tons of coal.

I found two gardens at Catania worthy of notice; one on the port, sheltered and protected by the town, with a rivulet running through, which gives an abundant supply of water; the other at the convent of Benedictines. These monks have a very handsome church and monastery on the north-western limit of the city, immediately facing the Etna. The great lava current submerged the old garden and stopped within 10 feet of the church, a miracle, the monks thought, due to their prayers. The present garden is built on the lava which covers the former one, on a level with the first story of the convent. There is no protection whatever between it and the mountain, and at night a cold down draught must set in from the snow regions. As a result this garden, notwithstanding its sunny exposure and low latitude, might almost be in a sheltered spot in England. The flowers were only the earliest spring flowers, Anemones, &c., and the Geraniums were all in pots. The difference between this garden and the protected one on the port was very striking; the latter was one mass of flowers all planted out—Geraniums, Verbenas, Heliotrope, Petunia, Antirrhinum, Nasturtium, red Linum (called Inglese by the gardener), &c. Everything was growing with the wildest luxuriance and beauty. The garden was a regular carpet of flowers.

I subsequently reached Syracuse, 40 miles further south. Syracuse is a most fascinating town to visit, owing to its numerous Grecian antiquities, which revive the recollection of early studies and sympathies. Nicias, Demosthenes, the Athenian captives, Dionysius the Tyrant, reappear on the scene. At Syracuse the cooling influence of Mount Etna is diminishing. The Lemon and Orange trees are creeping out of valleys and shelter. Still the value of protection is even here fully illustrated. The two largest Orange and Lemon trees I saw in Sicily were growing in one of the Latomiæ. The Latomiæ are gigantic excavations in the solid rock, made in the days of Syracuse's prosperity by the Athenians and other captives. They rank among the wonders of the world. Under the influence of time and earthquakes the roofs have mostly fallen in, and they are now like deserted quarries, converted into gardens some 50 or 60 feet deep. It was at the bottom of one of these that I found the Lemon and Orange trees in question—regular forest trees. They there got sunshine and warmth, and escaped the wind. Thus the prison excavated in former days by Nicias, Demosthenes and the 7000 Athenian captives, has now become a kind of Sicilian conservatory.

The view from Syracuse, now a little provincial town, with one of the best natural ports in Sicily, looks over a marshy, unhealthy, ill-cultivated plain, which formerly contributed by its luxuriant fertility to maintain the 800,000 inhabitants the city then contained. The soil and sun are there, still the same, but the labour of former days, the energetic action of man, is wanting.

I intended to have examined the central and south-western parts of the island, but to my great regret was unable to do so with safety, owing to the disturbed state of the country. Still, my exploration of Sicily was sufficiently extensive to prove the fact already asserted, viz., that it requires six or seven degrees of latitude to compensate for such complete protection from the north winds as is found in the more favoured parts of the Riviera, between Genoa and Nice. That such is the case is evident from the circumstance that not only are the vegetable productions of Sicily and of that region identical, but that the progress of spring is all but the same in the two regions. We must allow an advantage, however, to Sicily, even on the north and east coast, wherever there is shelter and protection from the north, or from cold mountain blasts. No doubt on the south-western coast this advantage would be much greater. Evidently, away from mountain influences, in Sicily there can be no frosts of any importance, as the Lemon-tree everywhere appears, and flourishes under such circumstances; and two or three degrees of frost destroy the Lemon-tree, and one or two destroy its fruit. The nights, too, must be cold until May, as evidenced by the tree vegetation. This is the case also on the two Rivieras of the Gulf of Genoa, the east and the west. *J. Henry Bennet, M.D., The Ferns, Weybridge.*

## Societies.

Botanical of Edinburgh: *May* 14.—Professor Maclagan in the chair. The following communications were read:—I. *New Genera and Species of Diatoms from the S. Pacific.* By R. K. Greville, LL.D.——II. *On the Fertilisation of Orchids, in the R. Botanic Garden, Edinburgh.* By J. Scott. The author stated a few experiments on the subject. The first was performed upon Oncidium sphacelatum. On one plant of this species he impregnated with its own pollen between 100 and 200 flowers, yet in no instance did a single capsule swell. The only external indications of pollinic influence were the slightly earlier withering of the flowers and the closing of the stigmatic orifice; the latter usually taking place 24 hours after the application of the pollen. This stigmatic movement, he stated, was effected in two modes by the different species of Oncidium—viz., laterally by the closing of the sides and wings of the stigmatic orifice, and transversely by a gradual depression of the clinandrium, O. sphacelatum exhibiting the former, O. divaricatum the latter mode. He had dissected the column of a number of the flowers operated upon as they dropped off, and invariably found abundance of pollen tubes. The second experiment was with pollen of O. altissimum, applied to O. sphacelatum; in this he also failed in fertilising a single capsule. Thirdly, he applied pollen of O. sphacelatum to O. graminifolium, and succeeded in fertilising a capsule on the latter, which contained about one-fourth of embryonated seed. He did not succeed *vice versâ*. Fourthly, four flowers of O. ornithorhynchum were impregnated with pollen of O. sphacelatum, one of which produced a fine looking capsule. On dissection, however, it was found to contain few seeds, and of these the majority presented only a loose transparent testa. The attempts to fertilise the latter with the former were again unsuccessful. The author here referred to the Verbascum cases mentioned by Mr. Darwin in his "Origin of Species," in which differently coloured flowers are found to produce less seed when crossed than when fertilised with own-pollen, and contrasted them with his experiments on the species of Oncidium. Thus referring to the great predominance of yellow in the flowers of this genus, he remarked that the O. sphacelatum, with yellow-coloured flowers, fertilised O. ornithorhynchum with rose-coloured flowers, while other similarly coloured species were not thus effective—a significant indication, he holds, that the normal conjunction of the sexual elements of varieties, and of a species on an individual of different species of a genus, is dependent on some deeper relational bond than either colour differences, or any yet recognised affinities; and that we cannot, with the least degree of certainty, predicate from such affinities the results of the above conjunctions. Fifthly, six flowers of Oncidium sphacelatum were impregnated with pollen of O. divaricatum, var. cupreum. Of these, four have produced fine capsules, now nearly mature. These two species, however, as in the former cases, were not reciprocally active. "Thus," he remarked, "though I have failed in crossing reciprocally any two species, I have, nevertheless, I think, satisfactorily shown an individual self-impotence of organs capable of elimination by the action of other species; and this in apparent disregard of recognised systematic affinities." Sixthly, Maxillaria atrorubens he found perfectly insusceptible of fertilisation with its own pollen, and yet highly susceptible to that of the widely separated M. squalens, the latter being also capable of fertilisation with pollen from the former, which affords an illustration of the reciprocal action of species. He here stated that M. squalens, so far as his experience went, was perfectly productive when fertilised with its own pollen; and remarked on the singularity of the fact, that while the female element of an individual was not susceptible to its own pollinic influence, and susceptible to that from another individual of a distinct species, the latter should be alike susceptible to its own pollinic influence, and to that of the former.——III. *On New British Lichens.* By the Rev. T. Salwey, B.D. The author gave descriptions of new species, (some of which had been examined by Nylander).——IV. *Synopsis of the Canadian Species of Equisetum.* By G. Lawson, LL.D.——V. *Register of Plants in Flower in the open air at the Royal Botanic Garden (4th list).* By J. Macnab, curator. The following were in flower on the 20th day of April 1863, and not enumerated in any of the previous lists laid before the Society at the above date:—Pyrus Malus, Prunus Padus, Syringa vulgaris and persica, Cratægus præcox, Sambucus racemosa, Forsythia viridissima, Medicago arborea, Kalmia glauca, Fagus sylvatica, Alnus glutinosa and cordifolia, Viscum album mas, Lonicera Xylosteum, Cydonia japonica, Buxus sempervirens, Ilex Aquifolium, Euonymus europæus, Acer pseudo-platanus, rubrum and platanoides, Azalea pontica, Daphne pontica, Ribes aureum and speciosum, Berberis Jamesoni, Viburnum vestitum, Weigela rosea, Pittosporum Tobira, Genista elongata, Wistaria sinensis; Caragana frutescens, Ulmus montana, Fraxinus excelsior, and the Double flowered Cherry. On the table were specimens of Horse Chestnut from the open air in full flower.—Professor Balfour *read extracts from a letter from W. Jameson, Esq.* F.R.S.E., Botanical Gardens, Saharunpore, dated April 4, 1863:—"I have just returned from a tour through the Punjab, in order to examine and report as to the capability of certain districts for Tea cultivation. I have received from the Nielgherries four cases containing Cinchona succirubra, red bark; C. Condaminea, rusty brown bark; C. micrantha, grey bark; C. nitida, greenish grey bark; and C. peruviana, finest grey bark. For these I have already selected sites on the Himalaya, in Western Gurhwal. Tea cultivation in the Kohistan of the north-western provinces and Punjab is now an established fact, and can no longer be considered an experiment, seeing that the out-turn this year will be equal to 500,000 lbs.—and in a few years it will be as many millions of pounds. Already some 20 companies have been formed."——*The following extract from a letter from Mr. W. Bell,* dated Saharunpore, March 29, 1863, was also read:—"I remarked to you some time since that there was a plant of Hibiscus tricuspis here, one or two branches of which bore leaves and flowers widely different from the normal forms. In so far as I can learn, it came from Calcutta about 20 years ago, and it was some years old when the first of these abnormal branches made its appearance. I have been assured by one of the native gardeners here, that these branches were neither grafted on it nor budded. Whether it has inherited these peculiarities from any of its progenitors or not I do not know. It is not probable, as it was raised from seed and not from a cutting. I have some of the seeds taken from our abnormal plant; and, should they grow, it will be interesting to notice if the plants revert to the original normal form. I saw many plants of the same species in Calcutta, but in no case did I see anything at all analogous to that dimorphism which is so plainly observed in the Saharunpore plant. The peculiar branches have borne seeds several times, but as yet no plants have been raised from them. It is possible that the seeds may always have been abortive; but so far as I could judge from outward appearances, they seemed to be good. During the period of flowering the anthers shed abundance of pollen, and the stigmas appeared to be in a perfect condition at the same time. The abnormal leaf is much less divided than the normal one, and not acuminated; it is also downy on its under surface. The petals are considerably larger and quite entire. There is also very conspicuous, in a fresh state, a large oblong gland, full of a viscid secretion, on the back of each of the calycine segments."

## Notices of Books.

*A Practical Treatise on the Cultivation of the Grape Vine.* By William Thomson, Gardener to His Grace the Duke of Buccleuch, K.G., &c., Dalkeith Park, Scotland. (Third Edition). Blackwood and Sons. London, 1863. 8vo, pp. 74.

We recommended this little work to the attention of our readers some time ago, and are glad to find, by the appearance of a third edition, that the favourable opinion we gave of it has been confirmed by that of the public. The author has been long well known as an excellent practical gardener, and is justly considered to be one of the most successful cultivators of the Grape Vine at the present day. In proof of this we need only adduce the beautiful sample of new Grapes he exhibited to the Fruit Committee of the Royal Horticultural Society at South Kensington in January last, for the purpose of determining the relative merits of new, as compared with old Grapes at that season of the year; and of which an interesting report will be found in the present volume of the *Gardeners' Chronicle*, page 75. What our forefathers would have regarded as an impossibility, has been demonstrated by Mr. Thomson to be capable of accomplishment, and it is no longer doubtful that with the appliances which gardeners now possess, new Grapes may be had at Christmas or any other period throughout the year, provided the requisite means are employed to produce them. As only a limited number of young gardeners can hope to acquire a knowledge of their profession in the princely gardens of Dalkeith, and profit by personal instruction from Mr. Thomson, we think his brethren, and such amateurs as take an interest in the culture of the Grape-vine, are much indebted to him for the information and details of his practice that he has given them in his treatise. It is precisely what it professes to be; and, although brief, it is explicit. While all discussion of points that have been made the subject of controversy is wisely avoided, it has the still greater merit of not recommending anything to be done that has not been proved by the author's experience to be correct.

It is remarked by Mr. Thomson that "the cultivation of Grapes has at the present day assumed an importance in this country, which 50 years ago no one could have contemplated; partly owing to the increase of wealth, but chiefly in consequence of the duty being taken off glass, so that a Vinery has now become a necessary adjunct to every villa residence."

With regard to the size and form of Vineries they are as various as the taste and means of the proprietors; but where the object is the production of early Grapes, Mr. Thomson thinks there is no form so suitable as the one known as a "lean-to," with a due southern aspect. On the other hand, where the wish is to have late Grapes, that is to say Grapes ripe in the end of August to hang till January or February, he considers the span-roofed form the best and most economical. Sections of each of these kinds of Vineries are given, as well as of the border in front of the house intended for early forcing, in order to exhibit the mode of heating it beneath by hotwater pipes. This, it will be seen, is similar in principle to the plan which was so successfully carried out some years ago, at Castle Malgwyn, Llechryd, Carmarthen, the residence of A. L. Gower Esq., and of which an account will be found at page 651 of the *Gardeners' Chronicle* for 1847.

The heating of Vineries is best effected by means of the circulation of hot water in pipes, which ought not to be less than 4 inches in diameter. On this subject it is observed, "Mistaken economy is often practised of fixing too limited an extent of radiating surface to

throw off a given amount of heat. My own experience goes to prove that in a Vinery where Grapes are expected to be ripe in March or April there should not be less than one superficial foot of radiating surface, for every 16 cubic feet of air the house contains."

Ventilation is a matter of the utmost importance, especially in very early forcing, and the means by which it may be effected with safety in severe weather are fully explained.

On the drainage and covering of borders judicious advice is given. With reference to the latter we are told, "In the case of early forced Vines, where the border is heated by hot water pipes from beneath, all that is necessary is to lay some dry leaves, dry Fern, or other litter, on the surface of the border to prevent radiation, and to cover it over with such as tarpaulins or straw thatch—any material that will throw off the greater portion of the winter rains. Where Vines are not started till March, any advantage they might derive from a permanent covering would be more than counterbalanced by the loss of the sun's rays on the border during the day. In such a case, a covering of coarse cloth of some sort thrown over the border in the evening and removed in the morning would be beneficial till the warm nights of June set in. Grapes that ripen in autumn and have to be kept till spring are supposed to keep better by having the border the roots of the Vines are in kept dry during the winter. I have, however, this year kept Lady Downe's Grape hanging on the Vine till May without a covering of any sort on the border."

Almost every one who has written upon the cultivation of the Vine, appears to have a different notion respecting the kind of soil in which it attains the greatest perfection. Some have recommended a light soil about 2 feet deep resting upon a bottom of chalk or gravel—others again think that scarcely any soil or situation can be too dry for the Vine, and advise having a layer of lime rubbish and brick bats, a foot deep, underneath the soil of the border. Not a few regard the Vine as a gross feeder, and under this impression consider that the soil cannot be made too rich; but we believe the majority of our fine Grape growers will agree with Mr. Thomson in thinking there is no necessity for making the borders so deep or so rich as some advocate, especially when it is so easy to feed the roots of the Vine with liquid manure at the seasons when it is most required. According to Mr. Thomson the compost in which the Vine thrives best is a fibry calcareous loam, mixed with lime rubbish, or old plaster containing hair, wood ashes, and pieces of thoroughly charred wood, fresh horse droppings, bones broken to about an inch square, and some horn shavings if they can be obtained. The proportions of each of these, and the manner of treating them, are fully described, as well as the method of forming the Vine border, and planting the Vines. For performing the latter operation, the beginning of May is considered to be the most suitable time. Various modes of proceeding are detailed, and among them one of which the following account may prove interesting to some of our readers.

"In the case of planting young Vines struck from eyes the same year, the roots can sometimes be disentangled and laid out sufficiently without reducing the ball entirely; and where this can be done, it is best to let it be so, as by that means less of a check is given to the plant. In 1858 I planted a Vinery on the 15th of May. This house is 110 feet long. I prepared 75 Vines for it in the following manner: I had as many pieces of thin turf cut as there were Vines; the turf was in pieces 2 feet long and 18 inches broad. I laid 5 or 6 pieces of Hazel rods longitudinally under the turf, and across their ends I tied another piece with bits of wire, thus forming a sort of turf trays. On these I laid 2 inches of soil, and after shaking out the Vines and pruning, and in some instances washing their roots, I laid them out on the surface of the soil from one end of the turf, like the extended fingers of the hand, covering up with a layer of 3 inches of sharp soil. I placed them all as close as the trays would admit in the pit of an intermediate house, where they had a night temperature of 55°, and 65° to 70° during the day from sun-heat; tied each to a stake, gave the whole a good watering, and covered all the surface with Moss. This was done in March, and, when they were planted in May, the whole soil was a mass of fine healthy roots. We removed one at a time, and planted them with care. They gave no indications of having received the slightest check. Twenty-four of these were Lady Downe's and West's St. Peters. They were put one to each rafter, to form the permanent Vines for the house. The other 51 were chiefly Hamburghs, to be considered temporary, in as far as they were to bear a crop the next year and then to be removed. One set of the latter was planted, one in the centre of each light, close to the front; the other set along the centre of the house. Their progress was all that could be desired; and the following year, 1859, the house produced over 400 bunches of Grapes without taking one from the permanent Vines. The supernumeraries in the centre row were removed after the first crop, but some of these in the front row still remain. I may remark that out of this house we began cutting Black Hamburgh Grapes in August last; and at this date, April 22, we are still cutting Lady Downe's seedling Grapes perfectly plump and good."

The treatment which Vines ought to receive during the first and second year after planting, as well as in the fruiting year, is clearly pointed out, and the directions that are given on the subject will be found well deserving attention. Concerning thinning the berries, we are told, it is difficult to give precise instructions; "it must, however, be done as early as possible, after the Grapes are set, in the case of the free setters; but in the case of Muscats it is best to wait till it becomes obvious which of the berries are properly set, and taking the lead. Care must be taken not to injure the berries that are left in any way, either by touching them with the hand or scissors." The extent to which thinning should be carried can only be learnt by practice, and a knowledge of the size that the berries of the different sorts of Grapes usually attain.

We were somewhat surprised to find that Mr. Thomson prefers a pair of pruning-scissors to a knife, for the operation of pruning. "Those I use," he says, "have a sort of back action, and cut as clean as a knife. My objection to the knife is, that unless it is used with care the half inch of wood left beyond the bud is often split by its action, and the bud suffers in consequence!" Our own opinion upon this point, however, is that the person who cannot handle his knife more skilfully than is here implied, is undeserving the name of a gardener, and ought to serve another apprenticeship.

Interesting notices are given respecting the grafting and inarching of Vines, the fruiting of them in pots, and the diseases to which they are subject. Concerning the latter, much useful information will be found respecting the cause and prevention of those which are the most destructive, such as "shanking," mildew, rust, and red spider, &c. We have also practical directions for packing Grapes when they have to be sent to a distance, and for keeping Grapes after they are ripe. To show how this may be done successfully, we subjoin the following extract:—"Towards the close of February I cut about 50 bunches of the Lady Downe's, detaching the branch on which the bunch grew as when pruning the Vine. I then sharpened the ends of the branches, and run some four or five of them with a bunch on each into the side of a Mangel Wurzel laid in the shelf of the fruit room, allowing the bunches to hang over the side of the shelf. In this way the Grapes kept perfectly fresh till April."

Various experiments are described, and among them some interesting details are given relative to the mode of proceeding, and the success which followed the raising the roots of Vines; but for these we must refer our readers to the book itself, which is well deserving the study of those who are desirous of acquiring a knowledge of all that is most important to be observed in the forcing and management of the Vine.

We must not close our remarks without noticing the valuable discovery, which Mr. Thomson thinks he has made, of a composition that will effectually prevent the bleeding of Vines on the commencement of forcing, or when pruned late in the season. He says "It is so perfectly successful, that I can undertake, by its use, to prune a house of Vines in March, dress the wounds with it, and begin forcing the next day without the loss of a drop of sap. I hope soon to make such arrangements as will place this composition within the reach of all who may wish to use it." Should this statement be confirmed, Mr. Thomson will become as celebrated for his discovery, as the great Mr. Forsyth was in his day for a composition to heal the canker and wounds on fruit trees; but we have great doubt whether he will obtain such a reward as was granted to that fortunate individual.

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The fourth part of *Watt's Dictionary of Chemistry* (Longmans) contains elaborate articles on Bile, Blood, Bleaching, Bread, Caoutchouc, &c.

In *The Annals of Natural History* for this month is a paper upon what vegetable anatomists call laticiferous vessels, or *vasa propria*, by M. Lestiboudois, who is far from endorsing the well-known statements of Schultz.

The Directors of the *Crystal Palace* have re-issued their *Penny Guide*.

The new number of Simmonds's *Technologist* contains a short but very good abstract of a report to the Customs on *the Wines shown at the International Exhibition of* 1862, by Mr. J. B. Keene. This gentleman, although not so successful as he had wished in obtaining samples, nevertheless was able to examine 569 specimens, of which 18 were Australian. Among other things he ascertained that while some Roman wine contained as much as 52·7 per cent. of spirit, a Hungarian growth called Menes Essenz yielded only 7·2, and some poor sparkling red wine of Piedmont only 7·7 per cent. Bavaria sent "Wine of water, produced at twopence a bottle," a light agreeable drink, with 19·6 per cent. of spirit. The report on Australian wines is we think scarcely so cheerful as it would have been had Sir Daniel Cooper or Sir Wm. Macarthur furnished the samples.

Of *Lankester's Half-hours with the Microscope* (Hardwicke), a new edition, very nicely got up, has just appeared.

A second number of the *Alpine Journal* (Longmans) contains nine very interesting papers, among which are a stirring account by Mr. Moore of an unsuccessful *attempt to ascend the Lyskamm* after actually reaching the height of 14,000 feet, about 800 feet below the summit; and a very skilful abstract of Sir Chas. Lyell's last opinion respecting the ancient glaciers of Europe. A third number of this capital periodical will appear in September.

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Books Received, to be reported on hereafter.—*Viti; an Account of a Government Mission to the Vitian or Fijian Islands in the years* 1860-61. By B. Seemann, 8vo, Macmillan. —— *Flora Australiensis: a Description of the Plants of the Australian Territory.* By G. Bentham, F.R.S. Vol. 1, 8vo, Reeve.—— *The Naturalist on the River Amazons, &c.* By A. W. Bates. 2 Vols. 8vo. Murray.

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## Garden Memoranda.

The Grove, Roehampton, one of the Seats of Mrs. Lyne Stephens. — Few suburban residences, as would appear from a former notice (see our Vol. for 1856, p. 283), possess more charming pleasure grounds than this, or more productive fruit and kitchen gardens, while the noble park in which they are situated, decorated as it is here and there with stately Oak and other trees, is the admiration of all who see it. Connected with the mansion is a neat conservatory, now a blaze of floral beauty, consisting of Calceolarias, Roses, Pelargoniums (among which are Lady Plymouth, Prince of Orange, and other scented-leaved kinds), Hydrangeas, Cinerarias, and plants of that description, intermixed with others remarkable for the beauty of their leaves; while, associated with climbers on the back wall, the common Peruvian Heliotrope is at present loaded with flowers from bottom to top. Opposite the principal entrance to the mansion is a well kept and beautiful lawn, on which are dotted here and there young specimen Conifers, sheltered in the background by lofty forest trees, through one of the fine vistas in which the Pagoda in Kew Gardens can be distinctly seen. Divided from the frontage just alluded to, by a dwarf Yew hedge, are the flower garden and lawn properly so called; the former a sunken panel, the centre of which consists of white gravel and Box embroidery by Nesfield, surrounded by a frame-work of flowers. On the grassy banks overlooking this charming piece of garden decoration, are standard Roses now beautifully in bloom, Thuja aurea, closely clipped Cypresses, and Irish Yews, the last kept compactly tied in with copper wire. Vases of Scarlet and other Geraniums, and a fountain and basin also ornament this portion of the grounds, which is separated from the lawn by a dwarf wall or rather massive kerb of Caen stone.

From the terrace close to the house a well varied and extensive view is obtained; on the right is a small Rosery; on the left banks of Rhododendrons now in full blossom, while in front is an open lawn, at the farther extremity of which is a lake and island, at present also gay with Rhododendrons.

The Grass on the lawn is kept short by means of horse and hand mowing machines, which work most satisfactorily. The different vases are filled with Punch Geranium edged with Mangles' variegated and Ivy-leaf, and at the windows near the garden entrance to the house are fine boxfulls of plants, consisting of Tom Thumb Geranium, intermixed with Lady Plymouth and Prince of Orange, and edged with blue Lobelia, Miss Nightingale Heliotrope, and the grey-leaved Cerastium tomentosum. The boxes themselves consist of handsomely coloured china panels, set in a strong framework of iron.

In some of the larger beds on the lawn, Gladiolus gandavensis and blue Ageratum are planted in the centre, the sides being made up with Geraniums edged with Cerastium tomentosum; others consist of Verbenas Purple King, Macrantha, Defiance, and a seedling called Mrs. Stephens, Calceolaria aurea floribunda, and blue Lobelia; while in some of the little triangular corners we noticed Geranium Golden Chain. Calceolarias, we may mention, are in some places this year suffering greatly from wireworms, which eat them off close to the ground. These destructive pests, therefore, require to be carefully trapped, or they soon spoil the beauty of even the finest beds, and that just as they are coming into bloom. Petunia Inimitable, pegged down, makes a charming small bed, which when covered with large white-blotched purple blossoms, as double as those of an Oleander, and much larger, has a fine effect.

Half way down a long walk which connects the fruit and kitchen gardens with the ornamental ground is a rustic summer house overrun with Virginian Creeper, and associated with natural beauties of a wild character on a small scale, forming a striking yet agreeable contrast with the high dressed ground just described. Here native Ferns, St. John's Wort, and Periwinkle, struggle for mastery, and from many a rocky crevice and shady nook start the long purple and white spikes of the Foxglove. Berberis Aquifolium also forms suitable underwood for this delightful shady retreat.

In the glass houses in the kitchen garden are very fine crops of Grapes, Peaches, and Nectarines, just ripe. Other Grapes in a less forward state are also all that could possibly be desired: and of Strawberries it is impossible to speak in too high terms; they hang ripe and ripening in the greatest profusion. These, after fruiting, are planted in the open ground, where they again furnish a crop in autumn. Tomatos under glass are just beginning to colour.

On open walls fruit in general is unusually plentiful, especially Plums, which are much too thick. Pears on pyramids also promise well, and on some old espaliers recently root-pruned there is an abundant crop.

Vegetables, especially Cauliflowers, are plentiful and good. Walks are all well drained and freshly gravelled, and in short the whole place is in first-rate condition, indicating on the part of the gardener, Mr. Prior, both tasteful and careful management.

## Miscellaneous.

*The Millets.*—Dr. Fortes Watson, in his treatise "On the Composition and Relative Value of the Food Grains of India," states that the Millets in India occupy a position second to none in the country, and form the staple food of a larger number of the population than perhaps all the other cereals put together. At the head of the list of these stands the Millet called bajra (Penicillaria spicata), and which itself, with the usual adjuncts of a little milk, &c., forms the chief article of diet of a very large number. Compared with Rice, it is considerably more nutritious, containing about 10½ per cent. of gluten, and giving a proportion between the carbonaceous and nitrogenous compounds of from 7 to 7½ per cent. of the former to one of the latter, whereas the kind of Rice most rich in gluten contains only about 8½ per cent. of that substance, and gives the proportion of a little more than 9 of the non-nitrogenous to the nitrogenous—thus involving the addition of a large quantity of some pulse or extra nitrogenous substance to increase the proportion between the flesh-forming and heat-and-fat-yielding constituents. The great Millet, jowarree (Sorghum vulgare) stands next in order of importance, both on account of its intrinsic value as well as the numbers it chiefly supplies with food. Natcheneo or ragee (Eleusine Coracana) stands at the bottom of the list of grain plants, as far as nutritive power is concerned, and hence the necessity also for adding pulse, &c., in order to bring its important ingredients into due proportion. This grain in some districts is looked upon entirely as a famine food, and only had recourse to in seasons of drought, when other crops are very defective. In some places during ordinary seasons as much as from 130 to 140 lbs. are procurable for a couple of shillings. A third part of the inhabitants of the globe feed upon the various Millets, especially those of Africa, the greater part of Turkey, Persia, and India. Millet forms the principal sustenance of the people of Bokhara. The grain there yields so abundant a harvest that there is a large quantity for export. The seeds of Millet are excellent as food both for domestic animals and man. The grain mixed with that of Wheat gives an excellent bread, though a little heavy; but generally it is boiled with milk, like Maize flour; it swells considerably in water. Millet fattens poultry in a very short time. The stalks serve for heating ovens or for cooking food in countries where fuel is scarce. The panicles, after the separation of the grain, form excellent brooms. The sale of these brooms in Italy, in Spain, France, and North America, is so remunerative that they enter largely into the value of the profits of culture. The different kinds of Sorghum are usually called joar in India, where they form principal objects of culture, and are of much more importance than would appear in Europe, as many of the inhabitants live as much upon these small or dry grains as upon Rice. The joar is the durra of some Arab tribes, and the zurrut of others. It is extensively cultivated throughout Asia, and appears to be the "tall corn" of the Chinese. It has been introduced into the south of Europe, where it is chiefly employed in feeding cattle and poultry; but is also made into cakes. The flour is white, and a good deal resembles that of the Indian Corn in nature. The species commonly sown in India are S. vulgare and S. bicolor. Kalajoar (S. cernuum) is a distinct species, which forms the principal food of the mountaineers of the Munnipore district. S. saccharatum is also cultivated in many parts during the rainy and cold seasons, on land which is too high for Rice. The stalks and straw of all are much valued as fodder for cattle, being cut into small pieces commonly called kurbee. Of the Panicums or Loose-headed Millets the common or small Millet (P. miliaceum), is in America often known to yield 20 bushels per acre, after one quarter of a bushel sown; and the hay is so relished by cattle and horses in particular, notwithstanding its seeming coarseness, that they prefer it to that of common Timothy Grass. In Germany and other southern countries of Europe, also in America, some parts of Asia, and in most countries lying under the warmer latitudes of the temperate zone, the Millets form a very essential article in the domestic economy of the inhabitants; and when deprived of the husk, are used whole, as rice, or ground into meal, or flour, and made into bread, &c. In England, Millet is chiefly used for feeding small birds. The Setarias or close-seeded Millets yield Italian Millet (S. italica). This Millet, called raggy in Madras, is considered by the natives of India one of the most delicious of cultivated grains. The Brahmins, indeed all classes of natives, particularly esteem it, and use the seeds for cakes, and porridge, &c. It is good for pastry, scarcely inferior, says Ainslie, to Wheat, and when boiled with milk, makes a pleasant light diet for invalids. It is cultivated in many parts of India, requiring a dry light soil. The seed time for the first crop is in June and July; for the second, between September and February. German Millet (S. germanica), is the moha of the Germans, it is cultivated chiefly in Moravia, South Hungary, and Lombardy. The seed is made into bread, eaten instead of Rice, boiled in soup and milk, and used for feeding all domestic animals. *Abridged from the Technologist.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Now is the time to encourage rapid and sturdy growth in young Correas, Epacrises, Pimeleas, Chorozemas, Leschenaultias, Polygalas, Heaths, &c. A constant stopping of gross shoots will be necessary, in order to equalise the distribution of sap and encourage the lower parts of the plant to develope themselves. Let shifting, if necessary, be done early, in order that the pots may be well filled with roots before the approach of winter. A compost, consisting of three parts fibrous peat, in a lumpy state, one part free turfy loam, and a little silver sand, will suit most kinds of half-hardy plants with the exception of Heaths, which succeed best in peat without any admixture except that of a little silver sand. In potting take care to secure thorough drainage. The crocks should be carefully placed to provide various outlets for the water; these, again, should be protected by a smaller size of pounded crocks and charcoal; and finally, the rough of the compost should be selected to place the ball on. This mode of arranging the parts of the compost, as also the drainage, will be found advantageous, if not absolutely necessary, where liquid manure is constantly used. In the case of stove plants and Orchids let every endeavour be made to secure thorough freedom from insects, which about this season are unusually active, and require constant looking after. In mixed greenhouses Azaleas should be induced to make wood without delay. Cinerarias past blooming may be cut down, dipped in tobacco-water to clear off aphides, and turned out into the reserve ground; they will produce abundance of suckers by the end of August, and may then be increased.

### FORCING DEPARTMENT.

PINERIES.—In shifting let great attention be paid to having complete drainage; no after-management will compensate for the omission of this. Take care to thin growing stock in due time, giving abundance of room to plants approaching the fruiting period. Pines swelling fruit will now enjoy liberal waterings of clear liquid manure once a week, with fine syringings occasionally, more especially between their stems.

VINERIES.—Follow up former directions. Grapes just colouring should be assisted by a high temperature in fine weather, accompanied, however, with abundance of air; a moderate amount of fire heat should be provided should the weather become wet or cold.

PEACHES.—Give frequent waterings to these in their last swelling; continue to pinch luxuriant shoots, and to use the syringe liberally.

FIGS.—Give abundance of water or liquid manure, if in pots or tubs.

MELONS.—Set shy sorts, and sprinkle frequently to keep off red spider.

MUSHROOM HOUSE.—Let old beds be examined as soon as they begin to go out of bearing. If, upon removing the soil, the dung appears decayed or exhausted, the bed should be immediately renovated; but if, as often happens, the beds are found in good order, solid and full of spawn, they should be watered moderately with tepid water, if they are found to require it, and in a day or two afterwards the surface should be covered with 2 or 3 inches of loamy soil. In hot weather the house should be kept as cool as possible, without throwing it open; in order to assist in effecting this, the paths and walls should be sprinkled frequently with cold water, and the evaporation allowed to escape at the top. Continue to collect horse droppings, and let them be stored up to make new beds, or to renovate old ones.

### FLOWER GARDEN AND SHRUBBERIES.

Early bulbs now ripening, if turning yellow, should be taken up, or the greater portion of their leaves trimmed away. Verbenas, Petunias, and such things should be frequently pegged down where it is requisite to cover the surface of the beds speedily. Fine specimens of Fuchsias may be planted out on lawns; large scarlet Pelargoniums should be well staked. Ten-week Stocks may yet be sown for a display in September and October, and a little late Mignonette; also a few of the best annuals for autumn work, but for early spring display no time is so suitable for sowing annuals as September. Ranunculuses are blooming remarkably fine this year. They must, however, be shaded during bright weather, to prolong their season. Should any of the foliage wither, the roots should immediately be taken up, for it is seldom that the collection is ready for removal at one time; and should rain set in, they would certainly start into growth again, to their serious detriment.

### HARDY FRUIT AND KITCHEN GARDEN.

Give the wood of Peaches a thorough thinning; don't reserve a shoot more than is wanted for next year. This, and keeping down insects, is the way to obtain success. Disbud Figs, retaining no more wood than is required for next season. Be sure to select for bearing, the shortest-jointed shoots. Ridge Cucumbers, Gourds, and Vegetable Marrows should now be planted out; the former two in the usual way on prepared beds of rich soil, with the temporary protection of handlights; the latter in vacant places where proper stations for vigorous growth can be secured. In preparing the beds for Ridge Cucumbers, some pieces of Mushroom spawn may be laid on a layer of half rotted dung a few inches from the surface; by the time the leaves of the Cucumbers have extended themselves over the bed, the Mushrooms will appear beneath them, and thus be screened from the heat of the summer's sun. Advantage should be taken of the present showery weather to prick out young Celery and seedlings of the Cabbage tribe in nursery beds, and to transplant the strongest plants of early sowings into their proper places.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending June 10, 1863, as observed at the Horticultural Garden

| June. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth. 1 foot deep. | Of the Earth. 2 feet deep. | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 4 | 19 | 29.936 | 29.927 | 77 | 38 | 57.5 | 61 | 59 | W. | .09 |
| Friday 5 | 20 | 30.011 | 29.682 | 74 | 51 | 62.5 | 60 | 57 | S.W. | .30 |
| Satur 6 | 21 | 29.427 | 29.376 | 68 | 44 | 56.0 | 59 | 57 | S.W. | .32 |
| Sunday 7 | ☾ | 29.480 | 29.409 | 65 | 45 | 55.0 | 59 | 57 | S.W. | .16 |
| Mon. 8 | 23 | 29.526 | 29.479 | 66 | 42 | 54.0 | 59½ | 57 | S.W. | .09 |
| Tues. 9 | 24 | 29.747 | 29.704 | 66 | 45 | 55.5 | 59½ | 57 | S. | .08 |
| Wed. 10 | 25 | 29.549 | 29.309 | 71 | 47 | 59.0 | 60 | 56 | E. | .04 |
| Average. | | 29.668 | 29.555 | 69.5 | 44.5 | 57.0 | 59.7 | 57.3 | | 1.07 |

June 4—Very fine; hot and dry; cold at night.
— 5—Very fine; rain; boisterous with heavy rain at night.
— 6—Rain; fine; soft breeze; fine at night.
— 7—Cloudy and fine; cloudy; showery and rather boisterous.
— 8—Fine; masses of low white clouds; boisterous and showery; fine.
— 9—Very fine; low dusky white clouds and clear intervals; rain.
— 10—Hazy; fine; some showers; drizzling rain at night.
Mean temperature of the week 1½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending June 20, 1863.

| June. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 14.. | 72.3 | 48.5 | 60.4 | 16 | 0.48 in. | 1 | 3 | 6 | 1 | 6 | 11 | 8 | 1 |
| Mon. 15.. | 72.9 | 49.0 | 60.9 | 16 | 0.38 | 1 | 5 | 7 | 2 | 4 | 9 | 3 | 6 |
| Tues. 16.. | 72.7 | 48.9 | 60.8 | 16 | 0.46 | 3 | 3 | 8 | 1 | 9 | 7 | 3 | 3 |
| Wed. 17.. | 72.8 | 48.2 | 60.5 | 21 | 0.80 | 2 | 4 | 4 | — | 7 | 9 | 6 | 5 |
| Thurs. 18.. | 72.6 | 49.9 | 61.2 | 18 | 0.30 | 4 | 2 | 4 | 2 | 6 | 6 | 10 | 3 |
| Friday 19.. | 72.9 | 49.1 | 60.0 | 20 | 0.62 | 2 | 3 | 3 | 2 | 3 | 15 | 6 | 2 |
| Satur. 20.. | 72.0 | 49.3 | 60.7 | 18 | 0.46 | 2 | 4 | 2 | 2 | 6 | 11 | 9 | 1 |

The highest temperature during the above period occurred on the 19th, 1846—therm. 93 deg.; and the lowest on the 15th, 1850—therm. 30 deg.

## Notices to Correspondents.

AZALEAS: *J B E.* The plants are evidently starved, either at the root, through want of proper soil or moisture, or in the head, through a parched ungenial atmosphere.

CONIFERS: *Maidenhead.* We do not concur in the recognition of the groups called Tsuga and Picea, which we do not think distinct as genera from Abies. If they are, in what consists their distinction?

GARDEN STRUCTURES: *Cumbriensis.* You will find a very good

HOLLIES: *C R J.* The Camelia leaved is only one of the numerous beautiful varieties of the Common Holly.

account of the principles of constructing greenhouses and forcing houses in either Thompson's Gardener's Assistant, or the first volume of M'Intosh's Book of the Garden.

INDIAN BOTANY: *An Old Subscriber* asks for information as to the best elementary Book of Botany to afford a master key to a botanical student in the wilds of India, who possesses "Dalzell's Flora of Bombay," "Lindley's School Botany" and "Vegetable Kingdom," but wants a book which explains the characteristic difference between the species and genera of an order. There is, we regret to say, no work affording a master key to a student of Botany residing in any part of India. Wight and Arnott's Prodromus, of which the first volume only is published, contains some of the Peninsular species, and Roxburgh's Flora Indica describes a few hundreds of the commoner plants of Bengal. The Flora Indica of Drs. Hooker and Thomson was intended to contain descriptions of all the plants of British India, but perished for lack of funds with the completion of the first volume. All these works are we believe out of print, and nothing short of Government aid could effect such a Flora of India as our correspondent requires, within a reasonable time, bulk, and price.

INSECTS: *A B.* The beetle was so much crushed that it was impossible to identify it.

LABOUR: *Cumbriensis.* Much depends on circumstances. The size of the "small garden" and good "kitchen garden" is not stated, nor is there any intimation of the style of keeping required. It is therefore impossible to form a definite opinion on the question put to us.

NAMES OF PLANTS: We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. It is requested that not more than four plants may be sent us at any one time.—*Vaga.* Gromwell, or Lithospermum officinale.—*J M R.* Salvia Horminum.—*A. C.* The specimens are sadly smashed, and have not been numbered. Dendrobium chrysanthum, nobile, and apparently transparens, with Vanda insignis.—*J D.* The variegated variety of Arundo Donax.

ORCHIDS: *Mr. Bullen* complains of our having (p. 462) called his painted Orchid tubs "large, red, and ugly." He says that two newspapers praised his specimen plants, which is just what we did, and they well deserved it. But when he says that is the same thing as praising his tubs we are obliged to differ. No person with any pretensions to taste can consider scarlet tubs in a flower show any thing less than frightful. They may be useful; but nothing more can be said in their praise. Does Mr. Bullen think they would be less useful if painted brown instead of red?—*W G.* Your Orchids are not attacked by a fungus, but by a formidable disease by which many fine collections have been nearly ruined. The cause is not quite clear, but it is probable that the disease arises from the plants not having sufficient rest, and when growing being too much forced without due ventilation. *M. J. B.*

OSIERS: *W J H.* Next week.

ROSES: *W. P.* The disease on your Rose Trees is quite new to us. It is possible that in time a fungus may be developed in the black patchy spots. Your Ixias are affected by Chlorosis, the only remedy for which, as far as we know, is watering with a *weak* solution of sulphate of iron. If however the roots are decayed, which is probably the case, the remedy is not likely to be of service. *M. J. B.*

SALMON LADDERS: *Ringwood.* Next week.

REDUCTION IN PRICE.

## PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | |
|---|---|---|
| For 30 Tons and upwards ... ... ... | £10 5 0 | per Ton, net cash. |
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|---|---|
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MR. HENRY OVERMAN has a VACANCY for an AGRICULTURAL PUPIL.
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ROYAL AGRICULTURAL COLLEGE CLUB.—The ANNUAL DINNER will take place at the Crown Hotel, Worcester, on TUESDAY, July 21, at 6 o'clock.
Tickets can be had by applying to JOHN COLEMAN, R.A.C., Cirencester. Members can introduce a friend.

# The Agricultural Gazette.

*SATURDAY, JUNE* 13, 1863.

THAT inexorable "equinoctial week" has at length relaxed somewhat of the severity of its sway! The welcome rains of the past 10 days, with which, in spite of it, we have at length been blessed, though too late to save the hay crop of the country, are generally, we hope, in time to save the late-sown Barley and Oats which have latterly been suffering; they are in time for the brairding of the Turnip seed, and for the growth of the young Mangel plant; and they are in time greatly to benefit the Wheat plant and early-sown Barley, which, good as they have generally been looking, yet have latterly shown signs of suffering from the drought. It is in a period like that through which we have passed that the great advantage of deep and thorough tillage is apparent. Many examples can this spring be quoted of the superiority of steam cultivation on the score of its depth and thoroughness, as seen in the power of the Wheat plant to withstand a drought. Every summer has indeed illustrated the truth of which steam culture has hitherto afforded but an occasional example. We have seen, for example, on light and chalky soils, fields of Mangel, the one vigorous and full of growth in June, owing to an abundant store of fertilising matter under the ridges where the young plants grew; the other comparatively scanty and less promising, owing to being planted on the flat over manure spread broadcast; whose produce in the autumn exhibited a contrast quite the other way, owing to the tillage subsequently given to the poorer crop. The strong and healthy plant was thinned, and merely hand-hoed; the poorer plant was also singled out, but kept continually and deeply stirred all through the summer months with horses. "Are those your Mangels?" we asked one day last spring of Mr. ARNOT, of Carshalton, on passing a road-side heap which had been opened for sale, and showed a lot of third-rate roots all fang and fibre, showing what a struggle for food and moisture they had maintained during the season of their growth. "No," was the reply—"but they looked much more promising than mine during the first two months of their growth." And then we heard the history of the rival crops just given, which proves as perfectly as possible how much depends upon deep and thorough tilth, especially in dry weather, in order to the attainment of anything more than the natural produce of a plant.

The power of plants to feed during drought upon the stores of moisture down below—a power increased by that deep and thorough tillage of the surface soil which is at the same time the best safeguard of those stores against the effect of drying sun and wind—is the great lesson which between steam culture and "a dry equinoctial week" this spring has taught us.

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WE recall to the recollection of our readers that on Wednesday, the 24th of June, Messrs. STRAFFORD and CARTER JONAS are to dispose by auction of the last of the Babraham herd. This will be the last opportunity of sharing directly in the fruits of that wonderful natural as well as educated power as a breeder which has made the name of the late JONAS WEBB known wherever good agriculture exists.

The Catalogue just issued and to be had of the auctioneers, at 13, Euston Square, resembles its predecessor in its careful enumeration of animals of the six families descended from *Dodona*, *Celia*, *Belinda*, *Daffy Gwynne*, and *The Beauty*, whose history we gave some weeks ago. We learn from it that there are 14 cows and heifers and 2 bulls from *Dodona*, to be offered for sale on Wednesday week; 26 cows and heifers, and 4 bulls from *Celia*; 5 cows and heifers and 2 bull calves from *Belinda*, which was descended from *Sylph*, by SIR WALTER; one heifer and two bulls from *The Beauty*, which, it will be remembered, was the daughter of *Cambridge Rose 6th*, bred at Kirkleavington; and there is one young bull of the *Gwynne* family.

Besides these there are FIRST FRUITS, the gold medal bull of the Battersea Show, and there are also *Erminstade*, a 10 year old cow, bought at the Fawsley sale in 1856, the dam of the celebrated bull SIR CHARLES (16,948), which was winner of the first prize at the meeting of the Essex Agricultural Society in 1861, and SIR CHARLES 2D, her son by the YOUNG DUKE OF CAMBRIDGE (17,709). These are the only animals not of the families to which JONAS WEBB almost confined his attention—and *Erminstade* is the only animal offered for sale not bred on the farm.

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—— WE have received the prize list of the Bengal Agricultural Show to be held at Alipore, Calcutta, commencing January 18, 1864. Prizes, varying from 5 to 100 rupees, are offered to the exhibitor of bulls and cows bred in the various provinces of India, and varying from 150 to 50 rupees for bulls and cows of imported breeds. Prizes from 50 to 500 rupees are offered for various classes of horses, and from 10 to 150 rupees for sheep, both native and imported. There are also prizes for wool, for goats, and for poultry. A long list of prizes is also offered for agricultural implements, including "Prime movers," tillage implements, farm-yard implements, farm carriages, dairy implements, irrigating machinery, &c.

Mr. J. H. CRAWFORD, of 15, Theatre Road, Calcutta, acts as Hon. Secretary to the Committee of Management. The exhibition will be held in the grounds adjoining to the Lieutenant-Governor's house at Belvidere, 35 acres in extent. It will commence on the 18th, and end on Saturday, the 23d of January, 1864.

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## THE DRAUGHT OF TILLAGE IMPLEMENTS,

ASCERTAINED AT SUTTON COURTNEY, NEAR DIDCOT.

By J. THORNHILL HARRISON, M. Inst. C.E., and J. CHALMERS MORTON, May 18—26, 1863.

Mr. PULLEN, of Sutton Courtney, placed 30 or 40 acres at our disposal, chiefly of rather light soil, but very hard over gravel, which had been Wheat in 1862, and had borne a crop of Trefoil, since folded off by sheep. Mr. Fowler sent his recording dynamometers capable of reading up to 10 cwt., and 38 or 40 cwt. respectively; and with them the "tackle,"—12 horse power engine, 4-furrow balance plough, 7-tined balance

cultivator, &c., which he was to show at Exeter. Mr. Smith's windlass and grubber bought in 1858, and worked by an 8-horse power double cylinder engine by Roby, of Lincoln, had been long in use on the farm; and Mr. Howard sent his 3 or 5-tined cultivator from Bedford. The dynamometers were tested and verified immediately previous to their employment. The land was throughout in perfectly good order for work—though very hard below owing to the drought, which had penetrated further than the rains which fell on the 16th, 17th, and 19th May. The following are the readings of the dynamometers:—

I. Horse-drawn Plough.

| Common Horse Plough. | Speed. | Draught. |
|---|---|---|
| | Miles p. hour | Cwt. |
| Empty and drawn across the stubble.. | 3 | ½ |
| Ploughing 4 inches deep (10 inches wide) | 2½ | 2½ |
| " 5 " " | 7½ | 4½ |
| " 5½ " " | 1¾ | 3½ |
| " 7 " " | 1½ | 4½ |
| " 7 " " | 1½ | 4½ |
| " 9 " 10 + | 1½ | 7½ |

This last was the utmost strain of three very powerful horses.

*Draught of Plough deprived of Mould-board.*

| | Miles per hour | Draught. cwt. |
|---|---|---|
| Ploughed 5 + inches deep .. .. | 3— .. | 2½ |
| " 9 + " " .. .. | 1½ .. | 7½ |

The depth was aimed at being consecutive inches, 4, 5, 6, 7, &c.; the depths actually ploughed were ascertained by measurement. The effect of speed on the draught is noteworthy—also the large proportion of draught due to the mere cutting parts of the plough.

II. Steam Plough and Grubber drawn empty across fold and fallow, the fallow being a dry, friable, light soil, grubbed 6 inches deep.

(Over the unmoved dry sheep-fold).

| | |
|---|---|
| Howard's 3 or 5-tined cultivator .. | 1+cwt. draught |
| Smith's 3 tined " .. .. | ½ to ¾ cwt. " |
| Fowler's 7-tined " .. .. | 2 cwt. " |
| Fowler's 4 furrow plough .. .. | 2¼ cwt. " |
| (Over the fallow). | |
| Howard's cultivator .. .. .. | 2⅛ cwt. draught |
| Smith's " .. .. .. .. | 1 to 1½ cwt. " |
| Fowler's " .. .. .. .. | 2¾ cwt. " |
| Fowler's plough .. .. .. .. | 3½ cwt. " |

III. Steam Cultivators at Work.

| | Depth. | Weight of earth moved per Yard. | Draught. |
|---|---|---|---|
| A. *Howard's 3-tined Cultivator* | Inches. | lbs. | cwt. |
| .. .. .. | 4 | 386 | 12 |
| .. .. .. | 5½ | 472 | 18 |
| .. .. .. | 6¾ | 478 | 21 |

In these cases the drag of the back rope varied from ½ cwt. at starting, to 1½ cwt. at the end of the furrow of 176 yards, and from 1½ cwt. on starting on the return journey to 2 cwt. on reaching the windlass, only about 380 yards of rope being out, for the piece was close on being finished, about 6 or 8 yards in width remaining—close to the side where Fowler's tackle also was at work, finishing its side of the field, the draught being taken as near to one another in the field as possible. The weight of earth moved is given as actually ascertained, the incompatibility between measured depth of work and earth moved is unexplained. Howard's cultivator was the 3-tined tool, moving a yard width at a time, with 6-inch points.

| | Depth. | Weight of earth moved per yard. | Draught. |
|---|---|---|---|
| | | lbs. | cwt. |
| B. *Smiths 3-tined Grubber* .. | 5 | 474 | 12 |
| .. .. .. | 6 | 469 | 14½ |
| .. .. .. | 6½ | 516 | 19 |

Smith's grubber works 30 inches wide at a time—it had 4½ inch points on. The bottom of the work was in furrows, unevenly cut, so that it was difficult to estimate the depth. The weights were ascertained in places indifferently chosen, and their incompatibility with the measured depths is unexplained. The back draught was the same in this case as in Howard's. The speed was an ordinary rate in all three cases, about 2½ or 3 miles an hour.

C. *Fowler's 7-tined Cultivator*, with 6-inch tines, moving 6 feet in width:—

| Depth. | Speed. | Back Rope. | Draught Rope. | Weight moved per yard. |
|---|---|---|---|---|
| Inches. | Miles an hour. | cwt. | cwt. | lbs. |
| 5½ | 1½ | 4 | 31 | 487 |
| 5½ | 2¾ | 0 | 27 | 422 |

In the latter case horses drew the drag rope, which was detached from the plough. It took ½ cwt. at first up to 1 cwt. towards the end of the furrow. A third weighing when the speed was slowest, yielded 514 lbs. per yard. The bottom was very uneven when the speed was great, and the earth moved was proportionately less.

| Depth. | Speed. | Back Rope. | Draught Rope. | Weight moved per Yard. |
|---|---|---|---|---|
| Inches. | Miles per Hour. | cwt. | cwt. | lbs. |
| 6 | 3 | 5+ | 36 | .. |
| 6½ | 1½ | 4¾ | 31 | 562 |

On a subsequent day the tool going the same depth, when going very slowly and doing very level work was found to have moved 720 lbs. in a square yard.

D. *Fowler's 4-furrow Plough*, with digging breasts, moving 40 inches in width.

| Depth. | Speed. | Back Rope. | Draught Rope. | Weight moved per Yard. |
|---|---|---|---|---|
| Inches. | Miles per Hour. | cwt. | cwt. | lbs. |
| 5½ to 6 | 1½ | 4¾ | 25 | 432 |
| 7 to 8 | 1½ | 6+ | 32 | .. |
| 8 | 3 | 7½ | 36 | 560 |
| Another reading on the return journey when near the engine was as follows:— | | | | |
| ? | 3¾ | 4¾ | 30 | .. |
| And with anchor being moved in addition:— | | | | |
| ? | 3¾ | 6 | 31 | .. |
| 8½ | 1¾ | 0 | 24 | .. |
| In the above case the rope was detached from the plough. | | | | |
| 9 | 2+ | ? | 32 | 672 |
| 9 to 10 | 1½— | ? | 36 | .. |

E. *Fowler's Plough*, with four mould-boards turning 40 inches in width:—

| Depth. | Speed. | Back Rope. | Draught Rope. | Weight moved per Yard. |
|---|---|---|---|---|
| Inches. | Miles per Hour. | cwt. | cwt. | lbs. |
| 6½ | 2— | ? | 28 | 449 |
| 7½ | 2— | ? | 31½ | 493 |

IV. Draught of Rope.—Smith's rope drawn out around a 7 or 8 acre piece—by horse-draught from 0 to 1½ cwt. to 1st snatchblock 110 yards off; 1 to 2½ cwt. to 2d snatchblock 180 yards further; 2 to 3 cwt. to 3d snatchblock, 150 yards further.

At end of 88 yards from 2d snatchblock, *i. e.* between 2d and 3d snatchblocks, the draught was 2 cwt. with "break" as usual; 4 cwt. with "break" so hard as to keep the rope off the ground; 2¾ cwt. with no "break" at all. The porters stood at intervals of from 20 to 40 yards.

Again: Smith's cultivator going about 5 inches deep from the 1st to the 2d snatchblock along a furrow about 200 yards long, the rope dragged beginning with 75 yards up to 275 yards from windlass; and the rope pulling it beginning with 470 and down to 270 yards long—

The dynamometer immediately before the grubber stood at 10 cwt., rising to 11 cwt. at end of furrow.

The dynamometer placed 200 yards from windlass—*i. e.* 270 yards in advance of grubber, taking in the drag of 270 yards of rope round 2 snatchblocks, began at 14 and ended at 15 cwt. indicating a waste of 4 cwt. between engine and plough.

This was working the apparatus, as Mr. Pullen had been accustomed to work it, with comparatively few rope porters.

*Fowler's Drag Rope* is about one-fifth or one-sixth of the pull in all cases, as may, indeed, be read in many instances above; but this is not all additional work for the engine to overcome. It represents a tautness all round. The following readings were taken:—The rope was taken around the engine clip drum and anchor, 350 yards apart, and the heavy dynamometer was made a link in this rope. The engine then walked aside and tightened up the rope till it was tightly carried from porter to porter. The lighter dynamometer was then attached to the heavy one, and horses drew the whole affair round by means of it. The heavy dynamometer read 6 cwt., which was the tightness of the rope; the light dynamometer read 1½ cwt. which was the work the horses did. From this deduct ½ cwt., the ascertained draught of the heavy dynamometer, and ¾ of cwt. was the work of drawing the rope round when of that tightness—when the tightness is 25 or 30 cwt. as when drawing a heavy cultivator at work—the waste by the rope must be greater than this, but has not yet been ascertained. When the anchor was at work the draught by horses was 2¼ + cwt. representing 1 cwt. as the draught of the anchor.

On a subsequent occasion—when the heavy dynamometer was not in—and the strain all round was not ascertained, the draught without the anchor was ¾ cwt., and with the anchor 1¾ cwt., exactly corresponding with the above.

When the rope was imperfectly carried the dynamometer read 3 cwt., and with the anchor 3½ + cwt.—when wholly dragged the draught was 5 cwt.; ½ cwt. must be deducted in all these cases for the drag of the heavy dynamometer.

*Near Bedford, June* 2, an attempt was made with Mr. Howard's 3-tined cultivator, worked with Clayton & Shuttleworth's 10 horse-power double cylinder engine, to read the dynamometer when at various kinds of work. The land was a hard dry clay unmoved since last autumn. The dynamometer was an ordinary elliptic spring, the indication of whose oscillating index was read with difficulty. It was found quite impossible to read the instrument when the tool was working, often with only one tine at work, but throwing out masses of hard clay 8 or 10 inches thick, and weighing from 70 to 100 lbs. apiece—the index varied from 15 to 30 cwt.

Taking it afterwards along the fourth side of the square surrounded by the rope, *i.e.*, next the windlass, where the land had been previously ploughed, the draught approaching the engine increased from 13 to 14 cwt., and going from the engine increased from 10 to 11 cwt.; in the one case the pull rope was 150 yards at starting, and the drag rope 610 yards—in the other case the pull rope was 760 yards at starting, and the drag 0.

The dynamometer behind the tool when approaching the engine read 2½ cwt. at starting when the drag rope was 610 yards—dropped to 2+ cwt. in the middle of the furrow, and rose to 3 or 3+cwt. towards end of furrow, when the drag rope was its full length, 760 yards. This was when both break and the double snatch-block slack gear apparatus were worked as usual, the result being that the rope was well carried on the porters. The draught of the drag rope when the cultivator was being drawn from the engine commencing with 0 and ending 150 yards long, was barely 1 cwt. without break, and about 3 cwt. when the break was hard on.

Again, from the first snatch-block to windlass, with drag commencing with 610 yards and ending with 760, the drag was 4¾ + cwt. without the slack gear, but with break hard on—it was 2¾ only with the slack gear as usual; but the rope was hardly so well carried.

| | |
|---|---|
| Along the same furrow—another trial (rope perfectly carried by break alone), draught .. | 5 cwt. |
| With slack gear and enough of break as usually managed .. .. .. .. .. .. | 3 to 3½ " |
| Without slack gear and without break, the rope dragging the whole way (though carried on porters) | 2½ " |
| *Again*—along the same furrow—another reading with break hard on .. .. .. .. | 4½ " |
| With break and slack gear as usual .. .. | 3— " |
| With slack gear or break (rope not carried) .. | 2 " |
| With slack gear without break (rope carried better but not well) .. .. .. .. .. | 2½+" |

It is hoped that the circumstances of these trials are sufficiently well described to be understood. The lessons which they teach must be gathered by the reader.

## FOWLER'S APPARATUS.

[The following are the Returns of Work done this Spring up to May 18—referred to in Mr. Morton's paper before the London Farmers' Club.]

| No. | Soil. | Acres. Ploughed. | Acres. Grubbed. 1st time. | Acres. Grubbed. 2d time. | Depth. | Days at work. | Removals No. | Coals per ton. | Cost of Coals. | Cost of Oil. | Cost of Wages. | Cost of Repairs. | Address. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Inches. | | | s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | |
| 1 | Heavy .. .. | .. | 130 | 100 | 8 to 10 | 38 | 18 | 20 0 | 16 8 0 | 2 10 8 | 25 6 8 | .. | J. Brebner, Prince Consort's Norfolk Farm |
| 2 | Strong .. .. | 70 | 270 | 125 | 5 to 9 | 65 | 15 | 14 8 | 34 0 0 | 3 4 0 | 48 15 0 | 1 10 0 | S. M. Plummer, Newbury |
| 3 | Very stiff .. .. | 43 | 97½ | 181 | 6 to 12 | 51 | 17 | 18 0 | 21 12 0 | 2 15 3 | 37 8 0 | 5 4 6 | Lord Berners, Keythorpe |
| 4 | Moderately stiff .. | 127 | 178 | 39 | 5 to 10 | 48 | 18 | 12 6 | 27 10 0 | 2 15 0 | 29 12 0 | 24 8 0 | Grosvenor Hodgkinson, M.P., Newark |
| 5 | Clay and gravel .. | 196 | 119 | .. | 7 to 19 | 51 | 16 | 21 0 | 42 0 0 | 2 11 0 | 25 6 5 | trifling | J. Frampton, Wallingford |
| 6 | Stone brash and various | 15 | 456 | 257 | 5 to 9 | 48 | 31 | 20 0 | 36 0 0 | 3 12 0 | 41 0 0 | 17 10 0 | G. Edmonds, East Leach |
| 7 | Various .. .. | 22 | 161 | 118 | 5 to 8 | 46½ | 22 | 15 9 | 33 10 0 | 3 5 0 | 30 0 0 | 38 0 0 | F. Dodd, Henley |
| 8 | Heavy and light .. | 141 | .. | 57 | 6 to 9 | 41 | 11 | 18 0 | 22 10 0 | 1 17 6 | 21 3 8 | 5 0 0 | E. Roberts, Jun., Bishop Stortford |
| 9 | —— | 80 | 80 | 14 | 3 to 8 | 29 | 8 | 17 6 | 17 8 0 | 1 9 0 | 18 2 6 | 1 0 0 | T. H. Redman, Swindon |
| 10 | Clay .. .. .. | .. | 106 | 106 | 7 to 11 | 34 | 14 | 18 0 | 29 10 0 | 1 13 0 | 25 13 0 | 4 15 0 | W. S. Allen, Rochford |
| 11 | Light .. .. .. | 96 | 196 | .. | 6 to 11 | 35 | 10 | 17 0 | 18 0 0 | 1 13 0 | 28 12 6 | little | J. Arnot, Carshalton |
| 12 | Various .. .. | .. | 650 | 260 | 5 to 9 | 82 | 30 | 10 6 | 0 0 6* | 0 0 2* | 0 1 6* | 15 15 0 | T. M. Richardson, Hibaldstone * per acre |
| 13 | Various .. .. | 50 | 80 | 10 | 14 to 18 | ? | 6 | 10 6 | 0 7 6 | ? | 0 13 6* | ? | W. Sadler, Ferrygate * per acre |
| 14 | Various .. .. | 49 | 273 | 296* | 5 to 9 | 59 | 22 | 20 0 | 37 17 0 | 1 17 6 | 34 8 6† | ? | J. M. Read, Elkston * Dragged. † Removes not reckoned |
| 15 | Strong . .. | 41 | 53 | 23 | 6 to 12 | 17 | 8 | 25 0 | 12 0 0 | 1 17 0 | 12 17 0 | 3 15 0 | J. Wallace, Tetsworth |
| 16 | Various .. .. | .. | 76 | 115 | 8 | 20½ | 9 | 18 0 | 8 2 0 | 1 0 6 | 13 5 11 | 4 16 9 | E. Marjoribanks, Henley |
| 17 | Stiff marl .. .. | .. | 315 | 220* | 5 to 9 | 70 | 17 | 16 0 | 35 0 0 | 3 8 0 | 36 15 0 | 15 10 0 | J. Coleman, Cirencester * Dragged two times |
| 18 | Medium . .. | 21 | 78½ | 58½ | 6 to 12 | 35½ | 17 | 7 6 | 5 15 6 | 2 7 10½ | 25 14 7½* | 2 13 9 | W. Lawson, Brayton * Exclusive of water |
| 19 | Chalk .. .. .. | 20 | 132 | .. | 5 to 6 | 25 | 7 | 14 0 | 7 10 0 | 1 5 0 | 16 15 0* | .. | H. & W. Hole, Heytesbury * Including Water. |
| 20 | Clay, &c. .. .. | .. | 30 | 70 | 6 to 8 | 13 | 4 | 25 0 | 6 15 0 | 0 15 0 | 7 16 0 | 1 10 0 | Rev. A. Huxtable, Blandford |
| 21 | —— | 59 | 154 | 52 | 6 to 7 | 40 | 14 | 12 6 | 20 0 0 | 1 13 4 | 30 0 0 | 5 0 0 | C. Lyall, Old Montrose, N.B. |
| 22 | Stiff clay .. .. | 50 | 40 | 86 | 7 to 16 | 38 | 12 | 1 6 | 16 2 0 | 2 15 0 | 20 7 8 | ? | J. W. Watts, Orlingbury |
| 23 | Light .. .. .. | 24 | .. | .. | 6 to 8 | 5 | 1 | 16 0 | 2 0 0 | 0 2 6 | 1 16 8 | 0 0 6 | J. Elliot, Tarbert Mains |

## SMITH'S APPARATUS.

[THE FOLLOWING ARE THE RETURNS OF WORK DONE THIS SPRING UP TO MAY 18—REFERRED TO IN MR. MORTON'S PAPER BEFORE THE LONDON FARMERS' CLUB.]

| No. | Soils. | Acres grubbed. 1st time. | Acres grubbed. 2d time. | Depth of work. | Days at work. | No. of Removals. | Price of Coals per ton | Cost of Coals. | Cost of Oil. | Cost of Wages. | Cost of Repairs. | Address. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Inches. | | | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | |
| 1 | Various .. .. | 94 | 80 | 8 to 9 | 32 | 11 | 1 0 0 | 8 15 0 | 1 15 9 | 25 1 4 | 3 8 6 | A. Toward, Osborne, Isle of Wight |
| 2 | Mixed clay .. .. | 83½* | .. | 4 | 13 | 7 | 0 17 6 | 4 16 3 | 0 8 6 | 13 6 6 | 0 16 7 | W. Smith, Woolston * Grubbed and drilled |
| 3 | Loam and clay .. | 150 | 180 | 8 | 33 | 7 | 0 15 0 | 12 17 6 | 1 10 0 | 35 5 3 | 2 0 0 | F. Sowerby, Aylesby |
| 4 | Various .. .. | 70 | 70 | 7 to 11 | 20 | 5 | 0 14 0 | 6 10 0 | 1 12 6 | 15 3 4 | .. | S. Druce, Eynsham |
| 5 | Light .. .. | 160 | 160 | 9 | 64 | .. | 0 5 0 | 6 8 0 | 1 12 0 | 51 4 0 | 1 10 0 | C. Wotton, Teddesley Park |
| 6 | Strong on chalk .. | 17 | 34 | 4 to 7 | 6½ | 0 | 0 16 0 | 1 16 0 | 0 4 0 | 4 0 9 | 0 1 6 | J. B. Dring, Spilsby |
| 7 | Clay .. .. .. | 59 | 59 | 9 | 32 | 8 | 1 0 0 | 16 0 0 | 0 10 0 | 19 4 6 | 1 4 0 | J. S. Crawley, Luton |
| 8 | Heavy .. .. | 114 | 66 | 5 to 8 | 35 | 7 | 0 18 0 | 16 4 0 | 2 0 0 | 27 18 0 | 3 18 0 | T. Inskipp, St. Ives |
| 9 | Various .. .. | 145 | 90* | 8 to 9 | 40 | 13 | 1 0 0 | 20 0 0 | 2 10 0 | 29 10 0 | 1 10 0 | A. Futcher, Salisbury |
| | | * Also 91 acres of ploughing 5 inches deep with Fowler's plough. | | | | | | | | | | |
| 10 | Rather strong .. | 55 | 55 | 5 | 13½ | 4 | 1 7 0 | 6 0 0 | 0 15 0 | 12 2 6* | Little | ——, Chichester * Including horse labour |
| 11 | Clay .. .. .. | 64 | 64 | 6 to 9 | 17 | 8 | 0 17 0 | 10 0 0 | ? | 1s. 6d.* per acre | 0 10 0 | E. Goodman, Marlborough * Besides driver and water |
| 12 | Clay and brash | 50 / 108 acres | 15 / ploughed | 6 to 10 | 40 | 8 | 0 15 0 | 10 10 0 | 1 1 8 | 30 10 0 | 3 0 0 | W. Taylor, Bridgwater |
| 13 | Light .. .. | 130 | 130 | 8 | 31 | 4 | 0 5 10 | 4 10 0 | 1 14 3 | 18 12 0 | ? | J. Cattle, Chester |
| 14 | Very strong .. .. | 60 | 40 | 7 | 20 | 5 | 0 15 0 | 6 0 0 | 1 0 0 | 15 0 0 | Heavy | G. Hawkes, Baldock |
| 15 | Easy .. .. .. | 62 | 62 | 4 to 5 | 21 | 6 | 1 0 0 | 6 6 0 | 1 19 6 | 14 3 3 / 6 2 0* | 5 0 0 | ——, Salisbury * Water cart |
| 16 | Generally light .. | 47 | 47 | 8 to 9 | 21½ | 4 | 0 15 0 | 5 1 0 | 0 12 9 | 14 0 6 | 0 9 0 | J. Bennett, Daventry |
| 17 | Various | 121 | 72 | 5 to 8 | 29 | 10 | 0 5 0 | 2 10 6 | 0 18 0 | 11 8 0 | 1 7 0 | J. Toone, Lutterworth |
| 18 | Chalky clay .. .. | 20 | 20 | 8 | 6 | 1 | 1 2 6 | 2 14 0 | 0 6 0 | 5 0 0 | ? | J. Wallis, Kimbolton |
| 19 | Heavy .. .. | 62 | 71 | 8 to 10 | 22 | 5 | 1 0 0 | 11 0 0 | 1 2 0 | 26 8 0 | trifling | R. Moore, Bucks |
| 20 | Deep wold .. .. | 78 | 10 | 15 | 9 | 3 | 0 17 0 | 2 14 0 | 0 3 0 | 7 4 0 | 0 | J. W. Day, Alcester |
| 21 | Light .. .. | 171 | 23 | .. | 20 | 9 | 1 3 6 | 18 0 0 | 3 10 0 | 1s. 6d.* per acre. | trifling | T. T. Ruddle, Whitsbury * not including water. |
| 22 | Loam .. .. | 100 | .. | 6 to 8 | 32 | 3 | 1 1 0 | ? | ? | 10 4 0 | 0 | S. Ruddle, Wimborne |
| 23 | Clay .. .. | 101 | 77 | 6 | 21 | 6 | 0 16 0 | 8 0 0 | 1 0 0 | 13 6 6 | 0 | J. Topham, Gt. Staughton |
| 24 | Strong .. .. | .. | 42 | 5 to 6 | 4½ | 2 | 0 14 6 | 2 1 0 | 0 7 0 | 4 10 0 | 0 | G. Martin, Boston |
| 25 | — .. .. | 24 | 24 | 5 | 8 | 3 | 0 15 0 | 3 0 0 | 0 4 0 | 4 5 4 | .. | J. W. Tubb, Banbury |
| 26 | Loam .. .. | 65 | 65 | 6 to 7 | 15 | 4 | 0 16 0 | "50s. a-day covers everything." | | | | M. Hanley, Boston |
| 27 | Various .. .. | 72 | 60 | 6 to 10 | 18 | 5 | 0 14 0 | 5 12 0 | 1 16 0 | 11 14 0 | 2 15 0 | J. Long, Henlow |
| 28 | Various .. .. | 48 | 46 | 6 to 9 | 13 | 5 | 0 15 0 | 4 17 6 | 0 7 7 | 13* 2 2 | 0 8 0 | J. Whiting, Stoke Goldington * Including water |
| 29 | Heavy .. .. | 12 | 12 | 6 | 4 | 0 | 0 18 0 | 1 4 0 | 0 6 0 | 3 8 0 | .. | T. W. Dring, Long Sutton |
| 30 | Various .. . | 90 | .. | 6 to 9 | 25 | 7 | 1 0 0 | 12 10 0 | 1 5 0 | 21 17 6 | 3 15 9 | W. Simmonds, Guildford |
| 31 | Light .. .. .. | 36 | 36 | 6 | 14 | 2 | 0 15 0 | 3 3 0 | 0 5 0 | 11 5 0 | .. | G. Pollington, Dytchley |
| 32 | Heavy .. .. | 65 | .. | 9 to 10 | 15½ | 6 | 0 11 0 | 3 3 0 | 0 15 0 | 10 0 0 | 1 0 0 | P. Stevenson, Thirsk |
| 33 | Medium .. .. | 62 | 50 | 4 | 21½ | 5 | 0 17 6 | 3 15 0 | 1 2 6 | 13 14 0 | Light | ———, Burford |

## HOWARD'S APPARATUS.

[THE FOLLOWING ARE THE RETURNS OF WORK DONE THIS SPRING UP TO MAY 18—REFERRED TO IN MR. MORTON'S PAPER BEFORE THE LONDON FARMERS' CLUB.]

| No. | Soils. | Acres grubbed 1st time. | Acres grubbed 2d time. | Depth of work. | Days at work. | No of Removals | Price of Coals per ton. | Cost of Coals. | Cost of Oil. | Cost of Wages. | Cost of Repairs. | Address. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Inches. | | | £ s. d | £ s. d. | £ s. d. | £ s. d. | £ s. d | |
| 1 | Stiff clay, stoneless | 110 | 160 | 7 to 12 | 78 | 8 | 0 15 0 | 23 12 6 | 2 10 6 | 81 14 4 | 10 0 0 | G. Taylor, Mentmore |
| | | 70 acres ploughed and 110 acres dragged | | | | | | | | | | |
| 2 | Loam .. .. .. | 72 | 72 | 9 to 12 | 20 | 4 | 1 1 8 | 3 4 8 | 1 0 0 | 20 10 0* | 0 10 0 | J. Bray, Havering * Including horse labour |
| 3 | Clay .. .. . | 157 | 107 | 5 to 12 | 42 | 6 | 1 0 0 | 25 0 0 | 1 15 0 | 30 0 0 | little | W. Pike, Stevington |
| 4 | Light .. .. | 66 | 23 | 6 to 9 | 20 | 6 | 1 0 0 | 10 0 0* | 1 0 0 | 16 0 0 | ? | Blyth & Squier, Mucking * Estimated |
| 5 | Loam .. .. .. | 51 | 16 | 4 to 8 | 7¼* | 3 | 1 0 0 | ? | ? | 9 18 1 | ? | J. Henderson, Sandwich * Long days |
| 6 | Various .. . | .. | 106 | 8 | 15* | 9* | 0 16 0 | 7 0 0* | 1 0 0* | 14 10 0 | little | W. Bulstrode, Maidenhead * Estimated |
| 7 | Clay and loam . | .. | 76 | 10 to 14 | 9½ | 2* | 1 5 0 | 3 15 0 | 0 9 0 | 6 10 0 | ? | W. C. Morland, Lamberhurst * Occupying one day additional |
| 8 | Gravel .. .. | .. | 60 | 3 to 10 | 9 | 3 | 0 17 0 | 3 6 6 | 0 9 0 | 5 3 6* | .. | C. Street, Cople * 1½d. per acre extra |
| 9 | Stiff clay . .. | 50 | 50 | 6 | 13 | 3 | 0 16 0 | 5 4 0 | 0 15 4 | 12 10 0* | ? | R. Barton, St. Ives * 2s. 6d. per acre piece-work |
| 10 | Stiff clay .. .. | 30 | 51 | 7 to 8 | ? | 3 | 0 16 0 | ? | ? | 10 10 0 | 1 15 0 | E. Turney, Souldrop |
| 11 | Strong clay .. .. | 43 | 23 | 5 to 7 | 14 | 5 | 1 0 0 | 6 0 0 | 0 14 0 | 16 4 0* | 0 9 9 | W. W. Gascoigne, Sittingbourne * Hired engine and engineer |
| 12 | Stiff .. .. .. | 16* | 350* | 6* | 60* | 16 | 0 11 0 | 17 0 0* | 2 0 0* | 37 15 0* | 20 0 0* | C. Sargeant, Northampton * About |
| 13 | Strong loam .. | 60 | 120 | 6 to 12 | 30 | 6 | 0 8 4 | 7 10 0 | 5 0 0 | 24 0 0 | 5 0 0 | T. Nock, Shiffnal |
| 14 | Various .. .. | 12 | 77 | 5 to 8 | ? | 4 | ? | ? | ? | 15s. 6d. a da | ? | W. Cousens, Nore |
| 15 | Loam and clay .. | 58 | 40 | 6 to 8 | 19 | 5 | 0 10 0 | 4 15 0 | 0 19 0 | 18 1 0 | 10 0 0 | R. Pulle, Wolverhampton |
| 16 | Marl and clay .. | 21 | 21 | 7 to 11 | 8½ | 2 | 1 0 0 | 4 0 0 | 0 13 0 | 6 1 10 | 0 7 6 | J. Ford, Warwick |
| 17 | Strong clay .. .. | 35 | .. | 6½ | 6 | 1 | 0 15 6 | 2 6 6 | 0 5 0 | 4 2 6 | 2 0 0 | J. T. Coleman, Denton Lodge, Bedfordshire |
| | | 36 | .. | 6½ | 6½ | 1 | .. | 2 10 0 | 0 5 0 | 4 7 9 | | |
| | | .. | 35 | 8 | 6 | 1 | .. | 2 4 0 | 0 5 6 | 4 2 6 | | |
| | | .. | 36 | 8 | 7 | 1 | .. | 2 8 0 | 0 5 6 | 4 15 0 | | |

*Mr. A. S. Ruston*, of Chatteris, has deep ploughed 113 acres this winter, from 15 to 18 inches deep, with heavy travelling plough supplied to Mr. Howard; and grubbed 69 acres from 6 to 8 inches deep. Wages 13s. a-day; no repairs. The work is successful quite beyond expectation.

*Mr. Impey*, of Broomfield, near Chelmsford, reports that he has done 18 acres twice in about 3½ days, 8 to 10 inches deep. He has also used Howard's steam harrows over 40 acres with excellent effect.

## PHOSPHATIC MANURES FOR ROOT CROPS.

[The following is the summary at the close of Dr. Voelcker's important article on the subject in the late number of the Journal of the Royal Agricultural Society.]

1. A CROP of Turnips, weighing per acre 20 tons of roots and 6 tons of tops, removes from the soil 177½ lbs. of potash, 104½ lbs. of lime, and 40 lbs. of phosphoric acid.

2. Phosphatic manures appear to hasten on early maturity; ammoniacal salts to retard it.

3. Phosphatic manures, especially in cold or wet seasons, produce more nutritious roots than ammoniacal manures, and a finer sample of Wheat or Barley than the latter.

4. Late-sown Barley, or Barley grown on land out of condition, is much improved by superphosphate, or, better still, by a mixture of equal parts of superphosphate and guano, applied at the rate of 3 to 4 cwt. per acre.

5. In a warm climate or a good season, ammoniacal salts may be used with greater advantage than in a colder country or in an ungenial season.

6. The ash analyses of plants do not afford a sufficiently trustworthy guide to the practical farmer in selecting the kind of manure which is best applied to each crop.

7. The ash analyses of plants, however, teach the important practical lesson that certain mineral matters in certain proportions are essential to the luxuriant growth of all cultivated plants, and that our crops must remain scanty or become diseased if the soil on which they are grown is deficient in one or more of the essential ash constituents of plants.

8. Superphosphate of lime, applied to root crops, has a different practical effect on different soils.

9. Few soils contain an amount of phosphoric acid which renders the direct application of phosphatic manures superfluous.

10. On good calcareous clay soils and land that is moderately stiff and in good heart, heavy crops of Swedes and Turnips may be grown with no other manure than superphosphate rich in soluble phosphate.

11. 3 to 4 cwt. of mineral superphosphate is a sufficient dressing per acre on such land.

12. The addition of ammoniacal salts to phosphates in many instances produces no beneficial effect on Turnips grown on calcareous clay soils.

13. Phosphatic manures are inefficacious on some soils, which, like those in the greensand formation, contain a much larger proportion of phosphoric acid than is common.

14. Soluble phosphate of lime is the most valuable constituent of commercial superphosphates.

15. All arable soils have the power of absorbing or rendering soluble phosphate insoluble.

16. Chalky and marly soils possess this property in a higher degree than clay or sandy soils.

17. The absorption of soluble phosphate by soils is never instantaneous, but requires some time.

18. In practice, the large extent of absorbing surface and heavy weight of the soil through which a solution of soluble phosphate has to pass before it can escape secure its perfect absorption.

19. Plants do not take up the acid biphosphate or soluble phosphate as such.

20. Since the soluble phosphate in superphosphate of lime is rendered insoluble in all soils, and the first as well as the aftergrowth of Turnips is alike promoted by insoluble phosphate, it is erroneous to consider that soluble phosphate feeds the Turnip crop in its first stages of existence, and insoluble phosphate sustains its after growth.

21. The doctrine that, of the phosphates in a Turnip manure, one-half should be soluble and the other insoluble, is based on erroneous speculations.

22. Of two Turnip manures containing an equal amount of phosphates, that which contains the largest amount of soluble phosphate is more valuable than the other containing the largest amount of insoluble phosphates, both manures being alike in other respects.

23. In preparing superphosphate from mineral phosphates, the latter should be rendered soluble as completely as possible.

24. Superphosphate is not deteriorated by keeping for any length of time.

25. When incorporated with the soil, the fertilising properties of superphosphate are retained for any reasonable length of time, and its effects frequently seen in the Barley crop on land on which Turnips were grown in the preceding year with superphosphate.

26. The secret of the energetic action of superphosphate depends on the production of most minutely subdivided or precipitated insoluble phosphates within the soil itself, and not on the supposed, but erroneous, direct assimilation of soluble phosphate by plants.

27. Precipitated insoluble phosphate of lime is vastly more bulky and more soluble in pure water than the finest powder obtained by mechanical means.

28. The more rapidly and completely the soluble phosphate in commercial superphosphates and Turnip manures is precipitated and rendered insoluble in the soil, the more energetic will be its effect upon the Turnip crop. This advantage is best secured by applying the manure with the liquid drill.

29. The application of superphosphate by the liquid manure drill is the most economical, efficient, and rational mode of incorporating Turnip manure with the land.

30. Purely mineral superphosphats fail to produce good Turnip crops on light sandy soils.

31. Superphosphate cannot be considered as the cause of the diseases to which roots are liable.

32. Roots grown on poor sandy soils exclusively with superphosphate nevertheless are liable to become diseased or to fail altogether.

33. The deficiency of lime, organic matters, and especially potash in sandy soils, accounts for the difficulty of growing good roots on such land with purely phosphatic manures.

34. On light soils Turnips should always be grown with at least some farm-yard manure.

35. Bone-dust, partially dissolved by acid, is a better manure for Turnips on light land than a purely mineral superphosphate.

36. On light land a mixture of equal parts of guano and superphosphate is better Tuurnip manure than either manure applied alone.

37. Liquid manure is very beneficially applied to root crops on light land.

38. An excellent plan of applying bone-dust to the Turnip crop on light land is to ferment it with dung.

39. This is best done by putting alternate layers of dung and bone-dust in a heap three or four months before Turnip sowing begins, and to turn the heap about a month before it is distributed on the field.

## Home Correspondence.

*Steam Culture: Coleman's Apparatus.*—I have great pleasure in giving you an account of work performed by steam power on my farm this spring, more especially as I am using a 10-horse power set of tackle recently brought out by Messrs. Coleman & Sons, Chelmsford, Essex, with which I have executed some of the best and cheapest work I have ever seen done. The mode of working is so extremely simple, the rapidity with which it can be got to work, as well as the amount of tackle required so small, that it cannot fail on this score to give satisfaction. I will undertake to say, with steam up at the time I give orders for my men to go ploughing by horses half a mile distant, and at the same time request my steam cultivating men to take the engine and tackle into the same field, with the assistance of a trace horse for a short time, that they will be at work as soon as the horses and ploughs; this is a point not to be overrated, as I consider one great drawback to steam culture is the time and expense of removal and getting to work, requiring the assistance of several horses. The cultivator smashes up the ground 4 feet wide at one operation, and fairly and honestly moves the whole of the ground to the depth it is set. I find the harder the ground the better it holds to it. I can do from 7 to 8 acres per day, 9 to 10 inches in strong clay land, with 70 lbs. of steam, using 9 cwt. of coal, and 1*s.* 1*d.* for oil. The wages and expenses per day are as follows:—

| | | |
|---|---|---|
| Coals, 9 cwt., at 16*s.* 8*d.* per ton | .. .. .. | 7*s.* 6*d.* |
| Oil, 5*s.* 6*d.* per gallon | .. .. .. .. .. | 1 1 |
| Engine driver | .. .. .. .. .. | 3 0 |
| Windlass man | .. .. .. .. .. | 2 3 |
| Strong lad at anchor | .. .. .. .. .. | 1 8 |
| Two porter boys at 8*d.* each | .. .. .. .. | 1 4 |
| Two men on cultivators at 2*s.* 3*d.* each | .. .. | 4 6 |
| Small pony, lad, and water cart | .. .. .. | 3 0 |
| | | £1 4 4 |

3*s.* 5¾*d.* per acre, assuming 7 acres done in a day. I also clod crush by steam on Coleman's principle, where the land is cloddy, and generally go twice in a place, and can easily do 24 acres per day once over with 6 cwt. of coal and 40 lbs. of steam, with the same amount for labour. I will now give you the actual amount of work performed this spring:—10 acres Turnip ground cultivated 8 inches deep for Barley, and twice clod crushed; 20 acres Bean field for fallow, 1st time over 5 inches deep; 2d time 9 inches, twice clod crushed, made a beautiful job; 20 acres of Clover lea, very foul, cultivated 9 to 10 inches deep at one operation, took five days. I must now give you some particulars of the difficulties I had to contend with in doing this Clover lea, and how easily they were surmounted. The field was covered with rag stones cropping out to within 4 or 5 inches of the surface, and many when broken in pieces required the assistance of two men to lift in a cart. Off this field I carted 42 loads of rag stone, either pulled up or grated over by the cultivator. We had 72 breakages of coulters which cost 4*d.* each repairing, also 11 shares broken. Knowing what I had to expect in this field, I took the precaution to have six spare coulters, so that we should not be long delayed in case of breakage. We cultivated every portion of this field 9 to 10 inches deep at one operation, which I dare say had not been moved an average of 4 to 5 inches deep this last 100 years, and I expect that such obstacles will rarely be met with to this extent in steam cultivation. I think you will agree with me that I have given Coleman & Son's tackle and engine a most severe trial, and proved it thoroughly up to its work in every respect. We ran a little more than half speed, on account of the difficulties we had to face. The consumption of coal did not amount to 8 cwt. per day, owing to constant stoppages. I will now give you the total cost of cultivating this lea, which I consider will give me no further trouble, having gone so deep and got out all the rag stone.

| | | |
|---|---|---|
| Wages for men, 5 days | .. .. .. .. .. | £3 17 11 |
| Oil | .. .. .. .. .. .. .. .. | 0 4 3 |
| Coals, 2 tons (rather less) | .. .. .. .. | 1 13 4 |
| 72 broken or bent coulters repaired at 4*d.* each | .. | 1 4 0 |
| | | £6 19 6 |

which is a trifle under 7*s.* per acre, without calculating wear of rope and engine. Now I feel very confident that horse-power could not have performed the same quality of work the same depth for five times the cost. The price of eleven broken shares is not included, as I do not know the cost, having ordered them since I bought the engine and tackle of Coleman & Son; the expense must be trifling. I am not able to speak as to the wear and tear of engine, but think it only fair to charge it at the same price as other manufacturers of steam tackle do. This system requires less rope than any other I am acquainted with, and owing to this cause, the expense of renewal will not be so great, although undoubtedly the direct action causes a great strain and abrasion of the rope. I do not think the expense of renewal will exceed 7*d.* to 8*d.* per acre. I have now given you a full and faithful account of what I have performed this season with Coleman & Son's steam tackle, and you are at full liberty to make what use of this letter you may please; and I feel confident those farmers who appreciate their horse scarifier, will know how to appreciate their truly valuable steam cultivator. *F. Champney, Gatwick, Crawley.*

*Ploughing versus Grubbing.*—Doctors sometimes differ, and doctors after differing sometimes agree. So it is upon the question of steam cultivation. In the discussion on Mr. Ruck's paper, Mr. Bradshaw, after speaking in the highest terms of the Woolston smashing system, says—

> "As far as regarded smashing up he would not advise any man to smash up his land with steam tines in the autumn, unless he did it early enough to perfectly eradicate and destroy the weeds." Mr. Ruck "would never recommend smashing up in any case unless they planted in the autumn."

Now let us see what the oldest steam-power farmer in the world has got to say. My practice has been to smash up every bit of land I can in the autumn. Last autumn I smashed all my Wheat and Barley stubbles for Beans and roots. In March last you saw in one field that had been thus treated the Beans already planted and you saw the planting going on in another. Here is what you say about them in your Paper of March 14:—

> "The land, a Wheat stubble of 1862, had been manured and grubbed by steam power in the autumn, and now the combined cultivator and drill crossed the work of the previous season. It is impossible for land to be in better condition for planting, or to have been planted in better form. On the stiffer land, where the implement was employed in planting Beans, the tool was crossing the autumn cultivation of last year's Barley stubble." Now let us see what Mr. Lawrence says about this last piece of work:—"I was very much surprised and pleased at seeing Beans so satisfactorily sown on land roughly turned up in the autumn without any intermediate preparation. . . . Your land was in perfect condition."

My land for roots smashed up last autumn, and afterwards ridged with horses, has been rolled once with a one-horse roll and harrowed twice with a one-horse harrow, and drilled with Swedes. The total cost for the seed bed and drilling is 13*s.* 3*d.* per acre. The Swedes are up ready for horse hoeing, dry as the weather has been; the land is moist and dry; as it may continue the land will remain moist until after the Swedes have grown the horse hoe out of them. Be pleased to place this evidence before your readers, leaving them to choose their doctor as they please. In the steam-plough field at Warwick, my Lord Berners asked me to adopt Mr. Fowler's mode of traction. I at once gave him my opinion that it was good for nothing, and that I could not; now see what his lordship says: "When they first came in I felt that Fowler's system was the best, and that it ought to be engrafted upon Smith's, as it was then, and which is now improved by Howard's, than which nothing can be better." I thank his lordship for his frank admission. The Howards are welcome to their improvements. *William Smith, Woolston, Bletchley Station, Bucks, May 26.*

*Howard's Tackle: Steam Cultivation at Milton, near Sittingbourne.*—The size of the farm, arable, 270 acres; and pasture, 370 acres. The character of soil from loam with "brickearth" subsoil to clay with "London clay" subsoil, all pipe drained 3 feet deep. The rotation of cropping adopted, 7-course. The number of horses formerly employed, 17: employed now, 12 the winter half year, 10 the summer half. Apparatus bought August 1861, costing 200*l.* The length of rope originally bought, 1400 yards; none bought since; no alterations since purchase; cost of repairs since purchase not exceeding 20*s.* This 20*s.* does not include new points for cultivator, which would be considerable on stony land, but not much on clay. A 10-horse engine is hired at 20*s.* per diem. Wages: 4 men, 3 boys—1st man, 2*s.* 9*d.*; 2d, 2*s.* 8*d.*; 3d and 4th, 2*s.* 6*d.* each. Cost of water-cart a day 4*s.*, water being very conveniently situated. Daily consumption of coal from 8 cwt. to 10 cwt., depending on depth and nature of the soil. Cost of coal per ton on the ground, 20*s.* Acres grubbed each year since first purchase: in 1861, 102; in 1862, 191; in 1863, 69; in all, 362 acres. Acres done in 1862: grubbing in spring, 87; in autumn, 104; costing in wages, 13*s.* 6*d.* a day; in fuel, 8 cwt. a day; oil, 1*s.* a day; repairs, 5*s*; number of days worked, 38¾. 50 acres of Bean ground grubbed 6 inches deep in September, 1861, produced an excellent crop of Wheat, both corn and straw, and very clean. 50 acres of Wheat grubbed in after Beans and Peas, Oct. 1862, now look very well, in spite of the wet autumn and no furrows, where before draining there was one every 8 feet, and a crop only in dry seasons. With 30 per cent. reduced horses and the steam cultivator, I believe my clay farm will be far better cultivated than formerly. I cannot see the necessity for ploughing the fallows; then after harvest it matters little how clay land is moved, so that the operation be deep and done during hot weather, and my experience of 100 acres of Wheat during two unfavourable seasons grubbed in after Beans and Peas, will lead me to continue the system; the horses will easily get through all the other work during the year. The 200*l.* apparatus has not cost me more than 20*s.* for repairs as yet. I take all the care I can of the rope, which doubtless is wearing, but if I can get 900 acres worked by it I shall be satisfied. The other parts of the apparatus are not much the worse for the work done. *William Whitehead Gascoyne, May 16.*

*Value of Steam Cultivation in Autumn.*—I only cultivated one field this spring, as my land is all under crop, so that in fact I have no account to send, further than that one great advantage from steam cultivation is that with the aid thereof I am enabled to get my land sufficiently cultivated in the autumn to enable me to keep it all under crop in an ordinary season. I have found great advantage this spring from the use of Howard's steam harrow. *W. Bott, Broomfield, Chelmsford.*——You will note I have done but little this spring. I get a good blow after harvest, which sets me at liberty for the whole year. I keep about the same number of horses. With steam I am master of any difficulty which may arise. *J. B. Dring, Claxby, Spilsby.*——Most of my land was cultivated in autumn, and sown with corn or Tares, or balked up ready for Wurzel. The Turnip land I ploughed this spring with horses, so that we have not required the cultivator this spring. In addition to the statement in the schedule we harrowed with Howard's steam harrow this spring about 40 acres for Barley and Peas, when the land had capped down very hard, and they made excellent work. *W. Impey, Broomfield Hall, near Chelmsford.*

*Further Report of Steam Culture* (see No. 13, Howard's Table).—As I think my answers require some explanation, I must first tell you I took to a farm last Lady Day of 270 acres (as a bytake) nearly all arable, a strong heavy loam, very poor in condition, and very foul, with all kind of filth, with 75 acres of fallow upon it, ploughed 4 or 5 inches deep. I commence by smashing it up with Howard's 5 tined cultivator 6 inches deep; it is then crossed with the cultivator a little deeper without moving the engine; it is then worked with horses, and made as clean as we can make it. I have done 60 acres, so I am now going over the same fields with only 3 tines twice over (that is 4 times) 12 or 14 inches deep the last time, when the strain is so great we are compelled to use two anchors fastened together with a chain at each end of the field to prevent their drawing. *Thos. Nock, Sutton Maddock, Shiffnal.*——My farm is hilly, and rather long, so that removals are perhaps attended with more trouble and labour than a level one. Two fields adjoined each other and could have been worked without a removal, except from the position of the land. This I call one set down, and one removal. This worked off 26 acres twice over or crossed. The second set down (a field entirely distinct) worked off 7 acres which were crossed and were sown with Oats. The third set down worked off 22 acres, which were crossed, in two fields. I always charge 10*s.* a day for coal and oil, which is about an average cost of the quantities used. I am often asked "How many horses have you taken off your farm?—my answer has been that at present I have not reduced a horse, partly because I have been unusually unfortunate in having sickness in my stables, and secondly because I consider on a farm like mine that the steam apparatus is of most use as an adjunct—to be used at busy seasons, or in difficult times, when each farmer would readily hire two or three teams of horses to get his fallows in order during fine weather. This spring I have made better fallows with the steam cultivator

than any horses could possibly have done, and as I believe at half cost. I hope I have given you a correct statement of expenses, except that I charge 7*s.* per day for the wear and tear or use of the implements. This adds about 1*s.* per acre; for though I have done 8 acres a day now, I cannot consider but that 7 acres is a fair average day's work, as I have it done. The following is my expenses :—

| | £ | s. | d. |
|---|---|---|---|
| 13½ days' work, at a cost for coal and oil .. | £6 | 15*s.* | 0*d.* |
| Labour .. .. .. .. .. .. | 10 | 2 | 6 |
| Horse for water .. .. .. .. .. | 2 | 0 | 0 |
| | £18 | 17 | 6 |
| Wear and tear, 7*s.* per day .. .. .. | 4 | 14 | 6 |
| Removals .. .. .. .. .. | 1 | 0 | 0 |
| | £24 | 12 | 0 |

Fifty-five acres completely fallowed or worked at 9*s.* per acre. *W. Leyland Woods.*——(See No. 7, Mr. Howard's table). In addition to the work reported in schedule, 18 acres have been harrowed four times with the heavy drag-harrow hung on behind the cultivator, which was then used with the tines barely touching the ground, and then drilled with Hensman's drill, occupying about 6 days at an average cost of from 26*s.* to 27*s.* per day. The implements were unhooked at the end of each bout, turned by hand and then hooked on again to the return rope. The delay of this was trifling. *W. C. Morland.*——(See No. 30 in the table of Mr. Smith's apparatus). I should state that this work has been rough and hard, being in the heaviest fields. This will account for the small quantity of acres per day; consequently above average expenses. The wear of rope does not appear extensive. I have however ordered and obtained 20 additional rope porters to carry the rope off the soil, which abounds with flints. N.B. I consider this better than any system of tight rope apparatus, thus easing the strain on the slack rope and adding to the power of the engine, which never exceeds 50 lbs. of steam, and more frequently 45 lbs. pressure. *W. Simmonds, Wanborough, near Guildford, Surrey.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

AT the WEEKLY MEETING of the Council and members held on Wednesday, the 10th inst., Lord Berners in the chair, Professor COLEMAN read a lecture "On the Breeding and Feeding of Sheep, with a view to increasing the Sheep Stock per acre." Having pointed out the importance of the subject as only second to that which had recently occupied the attention of the Society, viz., Steam Cultivation, and shown that the native production of sheep had not kept pace with the increase of population, whilst according to the Board of Trade returns the foreign importations had steadily fallen off during the past three years, he observed that the British Isles were naturally adapted to the growth of meat; and the question was, how we could best make use of our advantages and adapt our system to the conditions by which we were surrounded. The point he would suggest for consideration was a more economical system of feeding sheep, especially breeding sheep, so as to increase the return, and at the same time leave the land in better condition for corn; and this, he believed, would be effected by reducing the quantity of roots and using more dry food in the form of straw, combining with this a small quantity of artificial food, which would act as a stimulus to digestion. By adopting that system the land would be left in a richer state for corn, because the sheep would take a much longer time to consume a certain weight of roots, and be healthier than when eating as many Turnips as they could consume with little or no dry food. Turnips during winter were very little above the freezing point, and it followed that much heat would be absorbed and consequently food wasted in raising the large volume of water they contained, 90 per cent., to the temperature of the animal's body. Water within, and often water without, the temperature of the body must be greatly reduced, and it was not to be wondered at, if with such an unscientific mode of feeding, the animal could not maintain its condition, and was unable to minister to the wants of the fœtus. The latter was often chilled, and dead lambs were the result, especially with young ewes in a wet season. If, then, they could by any means reduce the quantity of roots one-half and substitute an equivalent in the form of straw and condimental food, at the same time attending to the external comfort of the animals, they would have achieved a great success, the land would be doubly manured, straw would be made more of than when trodden solely into manure, and a greatly increased number of sheep could be kept upon a given weight of roots.

With regard to the feeding value of straw, there was abundant evidence to show that when cut green and carefully managed many kinds of straw were exceedingly nutritious; and from personal experience he was convinced that good straw might be economically substituted for hay in the winter feeding of breeding sheep, even without any artificial food. The reduction of one-half the usual supply of roots, and the substitution of straw, &c., would be compensated for by the healthier condition of the sheep in eating so large a proportion of dry food; less fuel would be required to maintain the heat of the body, because less water would have to be heated. Scouring, which in bad weather was common to ewes eating only Turnips, was rarely seen when straw was consumed, and with such feeding the sheep might be kept up to or near lambing time in a healthy thriving state. The addition of a very small quantity of artificial food would prove a good investment both as regarded the land and the animal, enriching the land to some extent, but acting principally as a stimulus to the digestive powers of the animal. The cost per head would be very small. Thus 100 sheep eating off 15 tons of Turnips would take 33 days, and if supplied with ¼ lb. per day each of artificial food would eat 825 lbs. The food would cost probably about 8*l.* a ton, and might be composed of equal parts of Rape cake or nutmeal, Beans, Peas, or Lentils, and Indian corn; to which might be added 9 lbs. of Fenugreek and 6 lbs. of Aniseed. The cost per head for six months would be about 3*s.* 3*d.*; of which one-third would be returned in increased wool, one-third left as manure, and one-third paid for in the improved condition of ewe lambs. As to the method of using straw, supplying it long, in racks, was preferable to giving it in the shape of chaff. Indeed, nothing could answer better, unless it could be shown that a system of pulping roots and cutting chaff could be economically carried out. The order of using straw should be as follows :—Good sweet Barley straw first. This might be commenced when the ewes were eating Mangel tops, &c., and would do till November. Then Oat or Bean straw, the latter most valuable in cold weather, and lastly Pea straw, which when well made was equal to much of the seed hay made on light land; and this might be given with a portion of hay when ewes were lambing. The practice at the College Farm was to build a good stack of freshly-thrashed Pea straw in the ewe pen, often forming a wall of division, and fodder once a week with this, and once with hay. Sheep thus fed would be most conveniently managed with nets instead of hurdles, as there was less work in setting a fold, and the Turnips should be first picked up at a cost of 1*s.* 6*d.* an acre. He was satisfied that pulping the roots and mixing with straw chaff might be economically carried out; and there was no doubt whatever that breeding sheep would readily eat food so prepared, and thrive much better upon such a mixture than upon roots alone.

For their consideration he sketched out the following plan :—The corn stacked in a convenient position, threshed, and straw carefully stacked and thatched. Roots cleaned in large heaps, and at such distances apart as would allow of the sheep lying two days on the same ground; using a combined pulper and chaff cutter on wheels and worked by 1-horse gear. A light roomy house on wheels, with canvas sides, to store mixture for use on the second day. Four days a week one horse and lad employed extra. A load of straw first carted from stack to heap of roots, then the two cut up; produce of the morning's work used for the day's food; that cut later in the day stored away in the house for the following day. This scheme however would do best on dry healthy land. Before the ewes went to the lambing pen they should be dressed with a solution to destroy lice and ticks. This prevented all the rubbing which was also so common. The best plan was to have a double line of hurdles set up 4 feet apart, suppose about 8 to 10 hurdles long; at each end more hurdles at right angles so as to form entrance and exit places. The ewes drew in and stood together so closely that they were easily handled by the attendants, three in number. One held the sheep, another attended to the liquid, and delivered it to the third, who with an old tea-pot or similar vessel with a spout poured the solution along the back from head to rump three times backwards and forwards, 1 pint of liquid to each sheep. The quieter ewes could be kept during all stages of pregnancy the better.

In breeding it was always desirable to use first-class sheep. The males should be a higher quality than the females; but more especially was it necessary to select the very best animals to put on young ewes; for the character given to the first produce would often come out again. Young vigorous rams would get the larger part of their stock males. Doubles depended very much upon the condition of the ewes. If ewes were poor and doing badly, doubles would be scarce; if in good hard condition, and rather improving, more doubles might be expected. The nature of the farm as affecting the quality of the food had also a good deal to do with this. The plan of marking the breast of the ram with ruddle was convenient, enabling them, by alteration of the mark after three weeks, to draw out the forwardest ewes from the pen; and where a convenient washpool existed on the farm, it would be found desirable to swim the ewes occasionally, though of course, unless great care was exercised, this might be attended with risk when they were in yean. In the case of fevers, especially when they resulted from hard keeping, swimming would prove most advantageous. From eight to ten days should always elapse between washing and shearing, in order that the yoke might rise. The ewes after lambing continued on Turnips or Swedes. Good crops of the former might be obtained on early Vetches. At this time the proportion of dry food must be lessened, and a few Mangels introduced. Lambs soon learn to run through lamb hurdles, and might have a fold ahead, being supplied with a small quantity of artificial food, consisting of pounded Linseed cake, bruised Oats, pot bran, and malt coombs in equal proportions. The quantity consumed would be very small, and the great object was to teach them to eat, so that when there was a change of food and better treatment was required, no time should be lost. The management of the young lamb for the first 5 or 6 months was the most difficult. They were very susceptible to unfavourable circumstances, and bad food for two or three days only would often permanently check their progress. Lambs must never "lie back," as the young shoot of Clover or Rye-grass was sure to produce scour from its unripe state.

If by the use of straw, either pulped or long, they could increase their winter keep, as he believed they could to a large extent, they would want both seeds and Vetches to carry them along through spring and summer. Early weaning would be found generally desirable, towards the middle or the third week of May. Lambs dropped in February would do best without their mothers. As soon as possible after weaning they should be carefully dipped. Brigg's dipping trough and composition were both excellent. They should dip twice or thrice during the season; and the outlay would be well repaid in improved health, freedom from irritation, &c. Change of food was desirable for lambs. Hence Vetches and Clover could be alternately fed. Rape and Vetches mixed, and then Rape, which might be got for August, Early Turnips and Rape in September, and Sainfoin was very valuable also as a change. On regular breeding farms, especially when the climate was against winter feeding, lambs should be sown in the autumn. They would often make a comparatively higher price then than if kept through winter and fattened. There would always be plenty of buyers, because so many farms were unsuitable for breeding. It was probable, also, that fatting sheep in yards would be more common when the profitable character of the system as compared with feeding cattle had been more fully demonstrated. Hence they might look for an increased demand for good stock tegs.

Lambs when first put on to roots were sometimes affected with scour of a peculiar character, and died off very suddenly. In these cases the roots were generally very fleshy and growing. The sheep had abundance, and were probably poor when put on, and appeared to be doing remarkably well. The cause of death was apoplexy, or making blood too fast. The blood became thick and unhealthy and the animal died. Corn given injudiciously would produce the same result. If the sheep were supplied with corn undiluted with chaff early in the morning, when the belly was empty, they would eat ravenously, and suffered accordingly. Chaff as a diluter of corn was so valuable that some old shepherds considered a pint of corn to a pint of chaff equal to one quart of corn alone. Chaff with roots, if the application could be economically carried out, would undoubtedly be far better food, especially during the depth of winter, than so very large a quantity of roots.

Lord BERNERS, in proposing a vote of thanks to the lecturer, observed that he had long followed the recommendation of the Professor with respect to giving dry food to both cattle and sheep. He had greatly reduced the quantity of Turnips, and substituted a certain proportion of cut straw with the best results. The cutting of hay and straw he performed entirely by steam, and he pulped the roots at the same time. Pea-straw was very valuable in preserving the health of the animals, and he himself had found it so beneficial that he invariably kept a small stock upon his farm to give the ewes when lambing. With regard to Bean-straw he had it cut and steamed, and he never found his horses, cows, and other stock do so well upon any mixture of straw and hay as upon Bean-straw so steamed.

Mr. HOLLAND, M.P., cordially joined in thanking Mr. Coleman for his admirable lecture. From his own experience he could state that he had found all the economy and advantage mentioned by Mr. Coleman from using the mixture of chaff or cut hay with roots; but he could not agree with that gentleman in the opinion that the more corn they gave sheep the better it would be. He would rather have the mixture of chaff and corn together; for he believed it was as necessary for the digestion of sheep as for that of cows that the animal should be filled, though not with nutritious food; because when the stomach was full then came the mechanical process of digestion; and if they gave more food of a nutritious character than was necessary for the nutriment of the animal, they wasted precious food, and that which cost money. On the other hand, if they gave it sufficient food for nutriment, and added the bulk which was requisite for the mechanical proces of digestion, they would act in a more economical manner and do the animal a great deal more good.

The discussion was continued by Sir W. MILES, M.P. Mr. DENT, M.P.; Mr. FRERE, and Mr. FISHER HOBBS, and a general concurrence was expressed in the views propounded by Mr. Coleman.

Mr. HOLLAND remarked that in the course of his lecture Mr. Coleman had alluded to the dressing of sheep. Now, he understood that in Lincolnshire there had been a great mortality amongst sheep, owing to the attempts which had been made to cure the scab, in particular, by means of mercurial preparations, which were ordinarily used in the form of an ointment. That ointment had the effect of shutting up the pores of the skin, but not until its mercurial properties had had an

injurious influence upon the animal's health. Scores of sheep had died from this cause, and after death it had been discovered that, where the mercury had entered into the system, the meat was bad for human food. It stood to reason if the pores of the skin were stopped over the whole surface of the animal, that that which ought to escape from the body, such as carbonic acid gas and so forth, would become mixed with the blood, and the whole system be deranged. Now this ought to be guarded against by farmers, and he was glad to hear from the Professor that the proper dressing ought to be given in a liquid form, and not as ointment. Analogous to filling up the pores of the skin of the grown up animal with ointment, was the system of covering the lamb which had lost its dam with the skin of another lamb. A diseased and unhealthy animal, if not its loss by death, was almost sure to be the result.

After a few words from Mr. BARKER, Professor Coleman briefly acknowledged the compliment conveyed to him in a vote of thanks, and the meeting separated.

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## BATH AND WEST OF ENGLAND AGRICULTURAL.

EXETER: *June* 10.—The weather is again unpropitious. It has rarely favoured the meetings of this Society, and Exeter is no exception to the general rule. Nevertheless, the old city and the old Society bear themselves bravely under difficulties. We remember the former 13 years ago, when it put on its gala dress in honour of the Royal Agricultural Society of England—and High Street and South Street look as gay amid the showers now as they did in sunshine then. The meeting of the Society is in 1863 as worthy of the welcome it is receiving as that of the national Society was in 1850. It includes much that has never formed part of the attractions offered by the Agricultural Society of England—and in those departments in which the two resemble one another, the Show of the West of England Society of this year excels that to which the larger Society attained 13 years ago. It is more especially as regards the implement show, which is here attracted without offer of prizes, to which we refer. Even setting apart the fact that all the great advance which 13 years have seen is well represented here—the show itself is a larger and completer illustration of the existing state of the manufacture.

It is no merely provincial collection. With one or two exceptions all our leading manufacturers are present in full force. Reaping machines and steam cultivators, and every class of implements in which the greatest interest is now felt, are thoroughly well illustrated, and there are trials of them open to the public, giving the fullest possible opportunity of forming an opinion of the merits of rival tools.

But in addition to the cattle yard and the implement show we have here a magnificent flower show, and a very excellent collection of paintings, and of objects illustrative both of the Fine Arts and of Art manufactures.

The Bath and West of England Society have wisely thought themselves strictly within the scope of their operations as a Society in taking any opportunity of benefiting the class to whom they address themselves, not only by the direct professional or technical teaching which their show-yards offer, but by every other wholesome and refining influence that they can bring to bear upon their visitors and members; and certainly in the departments to which we have adverted, as well as in the more usual features of an agricultural show, they do good work.

In the strictly agricultural departments of the Show, as well as in those which are accessory, the Exeter meeting is, we understand, the best which has been held by the Society since it exchanged its local for its provincial character. In point of numbers, as well as of quality, it excels. Comparing it with the Show at Wells last year, the following Table is significant:—

| | Wells. | Exeter. | Increase. |
|---|---|---|---|
| Cattle .. .. .. | 96 | 115 | 19 |
| Sheep .. .. .. | 125 | 148 | 23 |
| Horses .. .. .. | 57 | 55 | —2 |
| Pigs .. .. .. | 46 | 62 | 12 |
| Extra .. .. .. | 9 | 37 | 28 |
| | 333 | 417 | 82 |

And of exhibitors there is a larger number by 23 this year than last.

We must be this week satisfied with a short account of the Cattle classes. The *Devons* occupy the first class. They are at home with this Society, and ought to be better represented than they are. Only 41 as against 63 in the Shorthorn classes are shown, and these chiefly in the younger classes, where their beautiful form does not make amends for the excessive disparity of size in favour of their rivals. Among the old Bulls, Mr. Treffry, of Grampound, takes the 1st prize, with an animal of better quality, more even, but otherwise hardly so good, especially in the forequarters, as that shown by Mr. Farthing, of Stowey Court. In the class of younger bulls, also including only four entries, there is less doubt possible of the award, Mr. Newbery's prize bull being much deeper and better furnished than the beautiful but light and little Devon bull shown by Mr. Buller, M.P. It is a comparison such as this animal forces one to which teaches more than any other thing can do the difference in the breeds. There is a good class of yearling bulls, and a large and useful class of cows. The three 3-year old heifers shown take respectively 1st, 2d, and 3d prizes in their class. The yearling heifer class is well filled.

*Shorthorns* are a good show, every class being fairly filled, the yearling bulls and heifers being the best classes. Among old bulls, Sir Lawrence Palk, M.P., takes the 1st prize with a large and massive somewhat flat-sided white bull; the second going to Mr. R. Stratton for a roan, which to our mind better represents the qualities of the breed. The classes of yearling bulls and of yearling heifers are much the finest portion of the show. Many first-rate herds contribute to them. Mr. Langston, M.P., takes the 2d prize with a red and white bull, uniting the best blood in the breed—and himself a first-rate animal. The 1st prize goes to a ram bred and shown by Mr. John Lane, of Cirencester. Lady Pigott, Mr. Holland, M.P., Mr. Stratton, Mr. W. Hewer, and many other well known breeders, contribute to the class.

The class of Short-horn cows is adorned by Lady Pigott's wonderfully fine "*Pride of Southwicke*," which takes the 1st prize easily. Her Ladyship is also first with *Princess of Edward*, in the heifer class; where Mr. Bowley, and Mr. Lane, of Cirencester, are 2d and 3d. The yearling heifer class is a wonderfully fine show; Mr. Bowley taking the first prize with a beautiful strawberry roan heifer, *Chorus*; and Lady Pigott and Mr. Stratton being 2d and 3d respectively. A very short show of Herefords, and a very fine one of Guernsey cows and yearlings, make up the Cattle classes. The prize lists are given below.

There is a capital show of sheep and pigs—the Leicesters and Cotswolds both being in great force. 63 pens of the former, and about 30 of the latter, making more than a merely provincial show. A fair show of South Downs, a short one of other Downs, which ought to have been represented by larger numbers, though they could hardly have been of better quality—and interesting classes of Somerset and Dorset horned and mountain sheep, make up the sheep show. A remarkable pen of five 2-tooth ewes represent the Wiltshire Downs, shown by Mr. W. R. Shittler of Bishopstow.

A very large and excellent show of pigs and a good show of horses—agricultural, hunters, and ponies, make up the live stock classes. The prize list is given below. We refer to it for any further particulars than can be given this week.

The following is the Prize List:—

### JUDGES OF STOCK.

DEVONS AND HEREFORDS.—Mr. John Buckley, Mr. James Quartley.

SHORT HORNS.—Mr. Wm. Bartholomew, Mr. J. Gray.

LONG WOOLLED SHEEP.—Mr. J. J. Buckley, Mr. W. Wippell, Mr. Henry Trethewy

SHORT WOOLLED SHEEP AND PIGS.—Mr. J. Humphrey, Mr. J. Whitaker.

HORSES, HACKS, AND PONIES.—Mr. R. S. Waters, Mr. H. Tyrell.

HORSES, AGRICULTURAL.—Mr. H. Hitchcock, Mr. John Wippell.

### CATTLE.

#### DEVONS.

Class 1. Bull, above 3 years old.—12*l.*, W. Treffry, Grampound; 5*l.*, W. Farthing, Stowey Court.

Class 2. Bull, under 3 years old.—15*l.*, S. P. Newbery, Honiton; 8*l.*, J. W. Buller, Esq., M.P.

Class 3. Bull, under 2 years old.—15*l.*, J. Bodley, Stockley Pomeroy; 8*l.*, C. F. Perkins, Taunton; 5*l.*, J. A. Smith, Bradford Peverell.

Class 4. Cow in-Calf, or in Milk.—12*l.*, J. A. Smith, Bradford Peverell; 6*l.*, W. Farthing; 3*l.*, J. A. Smith.

Class 5. Heifer in-Calf, or in Milk.—12*l.*, C. Hambro. Blandford; 6*l.*, George Turner, Exeter; 3*l.*, C. F. Perkins, Taunton.

Class 6. Heifer, under 2 years old.—6*l.*, J. W. Buller, Esq., M.P.; 4*l.*, G. Turner; 2*l.*, J. Bodley.

#### SHORTHORNS.

Class 7. Bull, above 3 years old.—12*l.*, Sir Lawrence Palk, Bart., M.P.; 5*l.*, R. Stratton, Walls Court.

Class 8. Bull, under 3 years old.—15*l.*, Messrs. J. Edgcumbe, and J. Stannes, Taviton, Tavistock; 8*l.* R. Stratton.

Class 9. Bull, under 2 years old.—15*l.*, J. Lane, Barton Mills, Cirencester; 8*l.*, J. H. Langston, Esq., M.P.; 5*l.*, S. Widdicombe, Hay, Ivybridge.

Class 10. Cow in-Calf, or in-Milk.—12*l.*, Lady E. Pigot, Branches Park; 6*l.*, J. Lane; 3*l.*, R. Stratton.

Class 11. Heifer in-Calf, or in-Milk.—12*l.*, Lady E. Pigot; 5*l.*, E. Bowley, Cirencester; 3*l.*, J. Lane, Cirencester.

Class 12. Heifer, under 2 years old.—6*l.*, E. Bowley, Cirencester; 4*l.*, Lady E. Pigot, Branches Park; 2*l.* R. Stratton.

#### HEREFORDS.

Class 14. Bull, under 3 years old.—15*l.*, W. Taylor, Ledbury,

Class 15. Bull, under 2 years old.—15*l.*, J. Baldwin, Luddington, Stratford-on-Avon; 5*l.*, W. Taylor, Ledbury. Second prize not awarded.

Class 16. Cow in-Calf, or in-Milk.—12*l.*, Henry Coate, Sherborne.

Class 17. Heifer, in-Calf or in-Milk.—6*l.*, second, Messrs. J. W. and C. J. Mappowder, Blandford

Class 18. Heifer, under 2 years old.—6*l.*, Messrs. J. W. and C. J. Mappowder; 4*l.*, J. Baldwin, Stratford-on-Avon; 2*l.*, Messrs. J. W. and C. J. Mappowder.

### SHEEP.

#### LEICESTERS.

Class 19. Yearling Ram.—8*l.*, James Tremain, Grampound; 4*l.*, James B. Corner, Longforth, Wellington.

Class 20. Ram, of any other age.—5*l.*, Geo. Turner; 3*l.*, do., do.

Class 21. Pen of five two-teeth Ewes.—5*l.*, J. B. Corner, Wellington; 3*l.*, G. Turner.

#### OTHER LONG-WOOLLED SHEEP.

Class 22. Yearling Ram.—8*l.*, J. Gillett, Charlbury; 4*l.*, E. Handy, Sierford.

Class 23. Ram of any other age.—5*l.*, E. Handy: 3*l.*, T. B. Browne, Salperton Park.

Class 24. Pen of five two-teeth Ewes.—5*l.*, J. K. Tombs; 3*l.* T. B. Browne, Salperton Park.

#### SOUTHDOWNS.

Class 25. Yearling Ram.—8*l.*, J. J. Farquharson, Blandford 4*l.*, R. N. Grenville, Butleigh Court, Glastonbury.

Class 26. Ram, of any other age.—5*l.*, G. J. Wood, Dorchester; 3*l.*, J. Harding, Puddletown.

Class 27. Pen of five two-teeth Ewes.—5*l.*, J. J. Farquharson; 3*l.*, R. N. Grenville.

#### OTHER DOWN SHEEP.

Class 28. Yearling Ram.—8*l.*, J. Moore, Littlecott Farm, Pewsey, Wilts; 4*l.*, do. do.

Class. 30. Five two-teeth Ewes.—5*l.*, W. R. Shittler, Bishopstow, Salisbury.

#### SOMERSET AND DORSET HORNS.

Class 31. Yearling Ram.—8*l.*, T. Danger, Huntstile, Bridgwater; 4*l.*, do do.

Class 32. Ram, of any other age.—5*l.*, T. Danger; 3*l.*, W. Paull, Piddletown.

Class 33. Five two-teeth Ewes.—5*l.*, T. Danger: 3*l.*, F. Bond, Ilminster.

#### MOUNTAIN SHEEP.

Class 34. Ram, of any age.—4*l.*, Sir T. D. Acland, Bart.; 2*l.*, do. do.

Class 35. Pen of five Ewes, of any age.—4*l.*, Sir T. D. Acland, Bart.

#### DARTMOOR SHEEP.

Class 36. Ram of any age.—4*l.*, E. Cuming, Linscott, Moretonhampstead; 2*l.*, J. Perryman, jun., Chagford.

Class 37. Five Ewes of any age.—4*l.*, E. Cuming.

### HORSES.

#### FOR AGRICULTURAL PURPOSES.

Class 38. Stallion (not exceeding 6 years old).—30*l.*, W. King, Withleigh Inn, Tiverton, "Model;" 10*l.*, J. Horswell, North Milton, Exeter, a dark brown Clydesdale draught horse, "Stapleton."

Class 39. Mare and Foil, or in Foal.—10*l.*, H. Hitchcock, Chilterne, Allsaints, Heytesbury, Wilts, "Smart;" 5*l.*, James B. Corner, Longforth, Wellington, "Diamond."

Class 40. Colt Foiled in 1862.—8*l.*, G. Elliott, Swilley Farm, Plymouth, "Prince of Wales;" 4*l.*, G. Elliott, "Gray Prince."

Class 41. Filly foaled in 1862.—8*l.*, W. Burrington, Hooper's Farm, Exminster.

#### HACKS AND HUNTERS.

Class 42. Thorough-bred Stallion.—50*l.*, W. Barrett, Puddaven, Totnes, "Ratan."—15*l.*, R. G. Luton, Bruseford, Wembworthy, "The Baldfaced Stag."

Class 43. Mare and Foal, or in Foal.—10*l.*, G. Hutchings, Cornworthy, Totnes.—5*l.*, W. Gapper, Duddleston, Taunton.

Class 44. Colt Foaled in 1862.—8*l.*, W. Boyle, Boutport Street, Barnstaple; 4*l.*, J. Howard, Alphington, Exeter.

Class 45. Filly Foaled in 1862.—8*l.*, G. Turpin, Berry Pomeroy, Totnes; 4*l.*, F. Hodson, North Petherton, Bridgwater.

Class 46. Mare, or Gelding, 4 to 6 years old.—10*l.*, R. Passmore, East Down, Barnstaple.

Class 47. Cob or Galloway Mare or Gelding, not exceeding 14½ hands high,—5*l.*—(Not sufficient merit).

#### PONIES.

Class 48. Stallion Pony, of any breed, not exceeding 13 hands high.—5*l.*, E. Maunder, Heaselly Mills, Northmolton, a Bay Cob Pony. "Young Bobby;" 3*l.*, S. Widdicombe, Ivybridge, Brown Bay Exmoor Pony, "Favourite."

Class 49. Mare Pony, of any breed, not exceeding 13 hands high.—5*l.*, P. H. Turner, Whitlocksworthy, Kingsbridge, "Chloe"; 3*l.*, T. D. Acland, Sprydoncote, Exeter, a grey Exmoor Pony.

### PIGS.

#### LARGE BREED.

Class 50. Boar, 1 to 2 years old.—6*l.*, W. Bradley, Wainman, Carhead.

Class 51. Boar, under 1 year old.—4*l.*, W. Hewer, Sevenhampton, (Berkshire); 2*l.*, W. Yells, jun., Highworth, Wilts, (Berkshire).

Class 52. Breeding Sow in Farrow.—4*l.*, W. Yells, Jun., (Berkshire); 2*l.*, W. Bradley, Wainman.

Class 53. Pen of 2 Breeding Sows, under 9 months of age. —4*l.*, W. Hewer (Berkshire); 2*l.*, S. Widdicombe (Berkshire).

#### SMALL BREED.

Class 54. Boar, 1 to 2-years old.—5*l.*, G. F. Hodson, North Petherton, Bridgwater (Leicester); 3*l.*, W. O'Dogherty, Wotton, Landrake (Essex).

Class 55. Boar, under 1 year old.—4*l.*, J. Cardell, St. Columb; 2*l.*, R. Prout, Milton Abbot, Tavistock.

Class 56. Sow in Farrow.—4*l.*, Sir M. Lopes, Bart., M.P., (Essex); 2*l.*, R. Prout, Milton Abbot.

Class 57. Two Breeding Sows.—K. Radmore, Thorverton; W. B. Wainman, York.

### EXTRA STOCK.

#### CATTLE.

Mrs. Charlotte Isaacson, Moreton Hampstead, a yellow and white Guernsey Cow, "Blossom," and 3 Heifer Calves, bred by herself, 1*l.*; R. Rendle, Guernsey, a fawn and white Jersey Heifer, "Lady Jane."

Of the IMPLEMENT SHOW we can only say that in number and quality—in the attendance of our leading manufacturers, it is equal to the annual shows of the English Agricultural Society. Smith's, Howard's, and Fowler's tackle are all shown at work. The only novelty on the ground is Howard's plough, in which the two frames for to-and-fro work respectively are lifted by the aid of springs out of work, and kept in work by their own excess of weight as well as that of the ploughman, beyond the power of the springs, these being so arranged that their sustaining power is at its maximum when the plough they lift is *lifted*, and at a minimum when the plough they lift is in the ground. Howard's new plough did very excellent work in the trial ground. Common ploughs were also shown at work, and reapers and mowers were shown at work on green Rye, &c. Samuelson's self-rolling reaper which, lays the swathe in bunches ready for tying, did some exceedingly good work in green Rye, where its difficulties would of course be great. So did Cuthbert's & Picksley's one-horse reapers.

We have to add to the general reference to the Implement Yard, that the Seed trade is thoroughly well represented by Messrs. Sutton, of Reading, who brought down their collection which they had prepared for the Great Exhibition—along with a very large show of seeds in bags and of Grasses in sheaf.

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We have not mentioned that on Wednesday afternoon the annual competition in horse-shoeing took

place in the yard. No fewer than 26 competitors appeared. The three prizes—one, two, and three guineas respectively—were awarded by Mr. Miles of Exeter, and Mr. Tyrrel of Tavistock, as follows:—1st, G. Moore, Gresham; 2d, R. Channing, Exeter; 3d, J. Westcot, Exeter.

## Miscellaneous.

*The General Meeting of the Agricultural Society of England.*—I was sorry I had my house so full of friends that I was unable to attend the annual meeting of the Royal Agricultural Society. I wished to bring forward several propositions which I did not then expect to carry, but which I wished to ventilate and which I am sure will eventually be carried, and I cannot do better than bring them before the subscribers and agricultural public. First, I think it a monstrous thing to bring up the subscribers hundreds of miles to record their votes, and therefore, like most benevolent and social societies, I propose they shall all vote by proxy. Secondly, to ensure new blood every year, that the retiring members of council are not to be eligible for re-election for three years. Thirdly, for the satisfaction of exhibitors and of the public, to prevent the possibility of the judges knowing the owners of stock, instead of to say the least of it, the indelicacy of the owners of stock standing by and speaking to the judges while awarding the prizes. And fourthly, to have the sheep shorn down as the Bath and West of England Show demands, and thus abolish the crying scandal of the Council of a great society sanctioning a fraud at Battersea — the worst grown animal, but the best sculptured, took the prize. I more regret I could not be present at Mr. Ruck's interesting lecture on steam ploughing, he gave great encouragement to landlords and tenants; surely the steam plough is doing wonders if it enables him in two years to pay the fee simple of the farm he purchased. I like to see tenants buying land. I wanted to buy a farm as an investment, but an adjoining farmer gave thousands more than I was prepared to give, and he must let it at 50 per cent. more than he is paying to get 4 per cent. I am satisfied with what I have done farming, but Mr. Ruck beats me. I took a farm in hand 12 years ago, and have now let it in good condition at over 300 per cent. what I was then offered. I have let Hampen farm very cheap for 50 per cent. increase of rent, but that includes some good profitable machinery. I have now taken two farms of friends, besides 500 acres of my own, these farms were sadly outrun and went begging. I have given an increase of rent, and invite inspection. *T. Beale Browne, Salperton Park.*

## Calendar of Operations.

JUNE.

WESTER ROSS: *June* 2.—After a protracted season in which cold easterly winds prevailed, with frost at night, and in which vegetation made little progress, we have now as fine weather as the heart of a farmer could desire, and the crops are rapidly advancing. On dry soils autumn-sown Wheat is close, promising, and well advanced; on ill drained fields the plants have been thinned out by the long continued wet, and never can be a full crop. Spring sown Wheat is progressing rapidly, and much of it looks uncommonly well. Oats are very promising nearly everywhere, and Barley on dry friable soil is particularly good, whilst on stiff clay land it advanced slowly, and is in danger of being choked with annual weeds which are unusually abundant. The earlier planted Potatoes are above ground, and are being hoed. The fine weather has forced the Swedes uncommonly fast, and should it continue they will come early to the hoe. Grass is now becoming abundant, and for some time our stock will have as much as they can consume. There is a great lack of Clover plants in the hay crop, which will prevent much of it from being heavy, but there has been no lack of moisture, and now there is sufficient warmth to bring the plants that are to full maturity. There is now no great inducement however, to have more hay than is necessary to meet the requirements of the farm, as the railway has monopolised the conveyancing, and driven a multitude of horses from the road. The demand for stock has continued brisk as ever, and the present rapid growth of Grass bids fair for some time to increase it. We are now busy preparing the ground for common Turnips, and will be engaged throughout the month in having them sown. The market continues so well stocked with artificial manures that we have not the slightest fear of ever seeing an end of them. There has been a far greater number of sales of farm stock throughout the north than we care to see. Not a few, unable to hold on, gave up their farms, but others are seldom awanting who take their places at advanced rents. There must be good times coming, else farmers' troubles will greatly abound.

## Notices to Correspondents.

AMERICAN MILKING MACHINE: *W G* We have not had an opportunity of testing it this spring. Will any our correspondents who have them give us a report?

CLOVER: *Nemo.* Your Clover dying in patches is being killed by the Clover Dodder. The Clover close by had none of this pest among its seed.

WAGES: *J P W.* says:—I own a farm upon a stiff clay soil, and am desirous of paying my men in the harvest time a specific sum of money per day instead of furnishing them with beer at my cost. Can any of your contributors tell me what is a fair allowance to make per day to each man and woman engaged in such labour in lieu of beer? They can of course find their own with the money I shall pay them, or procure any other refreshment they may think proper. Perhaps some of your readers can inform me whether cotton cake has the effect of making the beef and mutton hard and tough from animals who eat it, or whether any difference is apparent between meat from cotton cake and linseed cake.

WEATHER IN BERKSHIRE.—Unfortunately for our readers and ourselves, Mr J. B. Spearing, of Moulsford, who has been good enough for the last two years to furnish us with a weekly meteorological report, is leaving his present residence at Moulsford, and will be unable to continue his meteorological observations in our columns. We hope however shortly to supply its place with reports from the tables of another observer in the neighbourhood, continuing the series as nearly as possible in unbroken order from the figures last published.


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

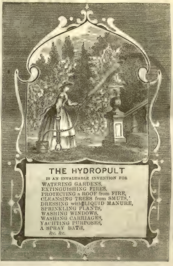
THE HYDROPULT.—"All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines."—*Gardeners' Chronicle and Agricultural Gazette.*

THE HYDROPULT.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

THE HYDROPULT.—"Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

THE HYDROPULT.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

THE HYDROPULT.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces."—*Mechanics' Magazine.*

THE HYDROPULT.—"It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation."—*Illustrated News of the World.*

THE HYDROPULT.—"Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner."—*Builders' Reporter.*

THE HYDROPULT.—"Many of the most scientific men of the age are daily inspecting and testing its uses."—*Age We Live In.*

## AN INVENTION FOR THROWING WATER BY HAND POWER

(SECURED by ROYAL LETTERS PATENT),

Price **TWO GUINEAS**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain.

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

THOMAS RIVERS, Esq., the eminent Florist, SHIRLEY HIBBARD, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.

EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.
"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "PERCY M. DOVE, Manager."
"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. HALLOWS, Secretary, Caledonian Insurance Company."

**CAUTION:** Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; GRIFFITHS & BROWETT, Manufacturers, Birmingham; CHARLES P. BUTTON, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult.

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. SPENCER, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE! FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

CHARLES P. BUTTON, PROPRIETOR,

HYDROPULT WAREHOUSE, 27, LEADENHALL STREET, LONDON, E.C.

WEST END DEPOT, 309, REGENT STREET, W.

WHY NOT PRESERVE YOUR HAY?—BENJAMIN EDGINGTON, Rick-cloth, Marquee, and Tent Manufacturer, 2, Duke Street, London Bridge, S.E. PAVILIONS and TEMPORARY ROOMS for Royal and Noble Parties.

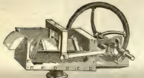
A quantity of SECOND-HAND MARQUEES, TENTS, and RICK-CLOTHS, at greatly reduced prices. An Illustrated Catalogue sent free per post.

Address, BENJAMIN EDGINGTON, 2, Duke Street, Southwark, S.E. No other Establishment.

**Norton's Patent V Shaped Pumps,**

REQUIRING NO PACKING.

CAN BE WORKED BY HORSE, STEAM, OR OTHER POWER.



THE ATTENTION of ENGINEERS, AGRICULTURISTS, and others is invited to a 6-HORSE DIRECT ACTION STEAM V SHAPED PUMP, by Messrs. GEO. FORRESTER & Co., Liverpool, which will throw upwards of 60,000 Gallons per hour. Now on view at the Warehouse, Red Bull Wharf, 93, Upper Thames Street.

G. C. WARDEN & Co., Sole Licensees, 12, London Street, London, E.C.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. TYLOR & SONS' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. | 24 gal. | 30 gal. |
|---|---|---|---|---|
| £2 13 6 | £3 5 0 | £3 15 0 | £5 0 0 | £5 18 0 |

Fig. 571.

J. TYLOR & SONS' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0 |

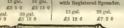


Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 ,,
Telescope Branch Pipe for ditto .. 0 10 0 ,,

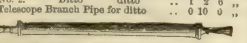


Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11s. 6d. each
,, 589. Middle Ditto ditto .. 10 3 ,,
,, 588. Small Ditto ditto .. 9 0 ,,
,, 587. LADIES' GARDEN SYRINGE, with do. 7 6 ,,

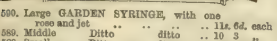


Fig. 591. READ'S SYRINGE, with two roses and one jet, 17s. 6d
READ'S SYRINGE, with one rose and jet, 15 0
,, 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. TYLOR & SONS' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

J. TYLOR & SONS, Manufacturers, Warwick Lane, Newgate Street, London, E.C.

**Bee-Hives.**

PRIZE MEDAL AND HONOURABLE MENTION AWARDED TO G. N. & SONS, for BEE-HIVES & HONEY at the VARIOUS EXHIBITIONS.

NEIGHBOUR'S IMPROVED COTTAGE BEE-HIVE, as originally introduced by GEORGE NEIGHBOUR & SONS, with all the recent improvements, three glasses, and thermometer, price 35s., securely packed for the country.

Several important novelties are introduced this season, including the WOODBURY STRAW BAR-AND-FRAME HIVE, price 18s. 6d., &c. Also, the ENGRAVED PRESSING ROLLER for the guidance of Bees in the construction of Honey-comb on the Bars, and impressed WAX SHEETS, to assist in the formation of cells.

Address GEORGE NEIGHBOUR & SONS, 127, High Holborn, W.C., or 149, Regent Street, London, W.

Their newly-arranged Catalogue of other Improved Hives, with drawings and prices, sent on receipt of two stamps.

AGENTS:—Liverpool .. JAMES CUTHBERT, 12, Clayton Square,
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,, Dublin .. J. EDMONDSON, BROTHERS, 10, Dame Street.
,, Glasgow .. AUSTIN & M'ASLAN, 166, Trongate.

FOWLER'S
STEAM PLOUGHING AND CULTIVATING PATENTS.

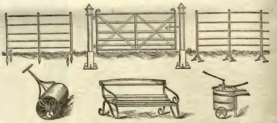
RANSOMES & SIMS, ORWELL WORKS, IPSWICH,

Have the pleasure to announce that they have arranged with JNO. FOWLER for the use of the above PATENTS, and they will answer any inquiries respecting them, and execute any Orders promptly.

COTTAM'S
CONTINUOUS IRON FENCE, HURDLES, and FIELD GATES,

MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

PARK ENTRANCE GATES, and RAILING of CAST and WROUGHT IRON COMBINED IN VARIOUS STYLES.



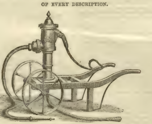
IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES, WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes. VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c. The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

Illustrated CATALOGUES and DRAWINGS free on application to
COTTAM & CO., ENGINEERS and IRON FOUNDERS,
2, WINSLEY STREET (OPPOSITE the PANTHEON), OXFORD STREET, LONDON, W.

JOHN WARNER & SONS,
BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.

No. 35.



No. 36½. IMPROVED CAST-IRON LIFT AND FORCE PUMP.

No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l*. 3*s*.) ... ... ... ... ... 3 0 0
3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l*. 15*s*.) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & SONS' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l*. 15*s*.; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s*. 5*d*. per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the
PATENTEES and MANUFACTURERS,
JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

**Under the Patronage of Her Majesty.**

CLARK AND HOPE (late CLARK), HORTICULTURAL BUILDERS, COPPER, SASH, and HOT-WATER APPARATUS MANUFACTURERS, 55, Lionel Street, Birmingham.
Established A.D. 1818.

W. J. HOLLANDS, IRON MERCHANT, 31, Bankside, London, S.E.
HOT WATER PIPES, from Stock, per yard:—2-inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS, from stock, 1s. 7d., 2s. 6d., and 3s. 3d. each. THROTTLE VALVES, 10s. 6d., 13s. 6d., and 15s. each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

**Horticultural Buildings and Heating by Hot Water.**

BURY AND POLLARD, Park Iron Works, New Park Street, Southwark, S.E., Manufacturers of every description of Buildings for Horticultural purposes, with their improved CONICAL BOILER for heating the same, undertake works of any magnitude, and refer, among others, to the works at Frognal the seat of Viscount Sydney, the Lord Chamberlain, just completed by them.
BURY & POLLARD also call attention to
THE IRON FURNACE STAND
invented by them. A most economical, durable, and efficient arrangement for warming Conservatories, &c.
Prices of Boilers and every particular on application.

**Heating.**

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.
Apply to JOSEPH MEREDITH, Vine Cottage, Garston, near Liverpool.
N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

HOT-WATER PIPES, at Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, TUBULAR, and Elliptic, from 24s. each. Improved Boilers and Iron Stands to use without brickwork, 50s. each. Valves from 11s. each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at
Mr. LYNCH WHITE's Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3d. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the
Patentee's Warehouse, 155, Cheapside, London, E.C.
Price complete from 3l. 10s.
Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

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SAMUEL N. McGERROW, GENERAL HORTICULTURAL BUILDER, Knotty Ash, near Liverpool.
Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

**Greenhouses, Orchard-houses, and Conservatories.**

H. FREEMAN'S HORTICULTURAL WORKS, Triangle, Hackney, N.E. Established 20 years.
Good substantially made GREENHOUSES, glazed, ready for fixing, 42 feet by 13 feet, 50l.; 21 feet by 13 feet, 28l.; 12½ feet by 10 feet, 15l. ORCHARD-HOUSES 10 per cent. cheaper.
A handsome CONSERVATORY, 46 feet by 19 feet, for Sale.
Estimates given.

**For Watering Gardens, Lawns, and Washing Windows, Carriages, &c. India-Rubber Hose-Pipes and Tubing.**

JAMES LYNE HANCOCK, MANUFACTURER, has a large Stock of all sizes. Also BRASS HAND-BRANCHES, with SPREADERS, STOP-COCKS, JETS, and UNION JOINTS to connect the HOSE to CISTERNS.
INDIA-RUBBER FIRE-ENGINE HOSE for Private Houses, Mansions, and Breweries, and also the necessary FIRE-BRANCHES and UNION SCREWS.
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AUSTIN, SEELEY, AND CO. beg to inform the Nobility and Gentry that they are prepared to supply, at three months' notice, TAZZE for Flowers or Fountains, as wide as 13 feet. They take this opportunity of referring to some large Flower Basins and Plain Kerbings made by them for the Royal Horticultural Society's Gardens; and also to those lately supplied to the Public Garden in the Regent's Park. They will be happy to forward a List of their Fountains to any gentleman requiring one.
369 to 375, Euston Road, Regent's Park, N.W.

GARDEN BORDER-EDGING TILES. — These Tiles, manufactured in Terra-Cotta, Terro-Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are invaluable.
To be obtained at F. & G. ROSHER'S Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.
Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.
Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.
To be obtained of F. & G. ROSHER at their Premises as above.

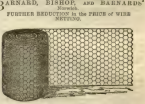
HENRY J. MORTON AND CO., 2, Basinghall Buildings, Leeds.

**Galvanised Iron Water Cistern**
for Cottage Houses, &c., to contain 50 gallons, 26s.; 80 gallons, 31s. each; and 140 gallons, 37s., and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

**Galvanised Iron Pumps**
for Liquid Manure or Domestic Use, 3 inches diameter, 30s. and 32s. 6d. each; Tail Pipe for same at from 10d. per foot.

**Galvanised Iron Swing Water Barrows**
for Garden or Farm use, containing about 20 gallons, entirely formed of iron, 35s. 0d. each.

BARNARD, BISHOP, AND BARNARDS' Norwich.
FURTHER REDUCTION in the PRICE of WIRE NETTING.



BARNARD, BISHOP, & BARNARDS beg to inform their friends and the public that they have made a further reduction in the prices of Machine-made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard. |
|---|---|---|---|
| 2-inch mesh, 24 inches wide .. | No. 19 .. | 4½d. .. | 3½d. |
| 2-inch " " " .. | " 18 .. | 5 .. | 4 |
| 2-inch " " " .. | " 17 .. | 6½ .. | 5 |
| 2-inch " " " .. | " 16 .. | 8 .. | 6½ |
| 1½-inch " " " .. | " 19 .. | 4¾ .. | 4 |
| 1½-inch " " " .. | " 18 .. | 6 .. | 4¾ |
| 1½-inch " " " .. | " 17 .. | 7 .. | 5½ |
| 1½-inch " " " .. | " 16 .. | 9 .. | 7 |

All the above kinds can be made any width (under 6 feet), at proportionate prices.
Strong Galvanised Poultry Netting, 7½d. per yard, 3 feet wide. Galvanised Sparrow-proof Netting for Pheasantries, 11d. per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.

Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies.
Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10d. per yard.
The same with Galvanised Wire Rope, 1s. per yard.
Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.
*** Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations

# HOWARD'S
## STEAM PLOUGHING and CULTIVATING APPARATUS
WILL BE AT WORK NEAR BEDFORD THROUGHOUT THE SEASON.

Price of a Complete Set with 10-Horse Engine ... ... ... £515 0 0
Price of a Complete Set without Engine ... ... ... ... 220 0 0

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JAMES AND FREDERICK HOWARD, BRITANNIA IRON WORKS, BEDFORD.

# ST. PANCRAS IRON WORKS COMPANY,
OLD ST. PANCRAS ROAD, LONDON, N.W.

BY ROYAL LETTERS PATENT.

## SCOTT'S GLASS WALLS,

Designed to meet the suggestions of JAMES SCOTT, Esq., of Hornsey, as being the desiderata of such structures. They are devoid of shadow, durable, portable, and a tenant's fixture, with the strength and durability of a permanent structure. Further particulars and prices by post or on application.

| | | | |
|---|---|---|---|
| CONSERVATORIES | PINE and MELON PITS | BALCONIES | GATES |
| GREENHOUSES | VASES | IRON SASHES | TANKS |
| HOTHOUSES | VERANDAHS | IRON HURDLES | HOT-WATER WORKS. |

PATENT WROUGHT-IRON STABLE FITTINGS AND ENAMELLED MANGERS.
Every description of IRONWORK. *Lists Free.*

ST PANCRAS IRON WORKS COMPANY, OLD ST. PANCRAS ROAD, LONDON, N.W.

# ROYAL HORTICULTURAL SOCIETY.

## THE SECOND GREAT SHOW,

### WEDNESDAY, JUNE 17, 1863.

### AWARDS OF THE JUDGES.

CLASS 1.—15 STOVE and GREENHOUSE PLANTS (Open).
1st, Mr. Whitebread, Gr. to H. Colyer, Esq., Dartford, Kent, 20l.
2d, Mr. B. Peed, Gr. to Mrs. Tredwell, Lower Norwood, 15l.
3d, Mr. J. Green, Gr. to Sir E. Antrobus, Bart., Lower Cheam, 10l.
4th, Mr. R. Baxendine, Gr. to W. H. Smallpiece, Esq., Guildford, 5l.
Extra, Mr. O. Rhodes, Nurseryman, Sydenham Park, S.E., 3l.

CLASS 2.—12 STOVE and GREENHOUSE PLANTS (Nurserymen).
1st, Mr. W. Cole, Worthington, near Manchester, 10l.
2d, Messrs. J. & J. Fraser, Lea Bridge Road, Leyton, 7l.
3d, Messrs. J. & C. Lee, Hammersmith, W., 5l.
4th, Mr. W. Cutbush, Barnet, Herts, 3l.

CLASS 3.—9 STOVE and GREENHOUSE PLANTS (Amateurs)
1st, Mr. H. Chilman, Gr. to Mrs. Smith, Epsom, 9l.
2d, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 7l.
3d, Mr. J. Wheeler, Gr. to J. Phillips, Esq., Stamford Hill, 5l.
4th, Mr. W. Kaile, Gr. to Earl of Lovelace, Ripley, Surrey, 3l.

CLASS 4.—6 STOVE and GREENHOUSE PLANTS (Amateurs).
1st, Withheld; 2d, Mr. J. Tegg, Gr. to Baron Hambro, Roehampton, 4l.

CLASS 5.—10 FINE FOLIAGED and VARIEGATED PLANTS (Open.)
1st, Mr. J. May, Gr. to T. P. Walter Butt, Esq., Cheltenham, 7l.
2d, Mr. J. Smith, Gr. to the Duke of Northumberland, Isleworth, 5l.
3d, Messrs. A. Henderson & Co., Pine Apple Nursery, Edgware Road, 4l.
Equal 3d, Messrs. J. & C. Lee, Vineyard Nursery, Hammersmith, 4l.
4th, Mr. C. Hutt, Gr. to Miss Burdett Coutts, Highgate, 3l.

CLASS 6.—20 ORCHIDS, EXOTIC SPECIES (Amateurs).
1st, Mr. Wm. Milford, Gr. to E. McMorland, Esq., Haverstock Hill, 20l.
2d, Mr. G. Baker, Gr. to A. Basset, Esq., Stamford Hill, 15l.
3d, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 10l.

CLASS 7.—12 ORCHIDS, EXOTIC SPECIES (Nurserymen).
1st, Withheld; 2d, Mr. Samuel Woolley, Cheshunt, Herts, 7l.

CLASS 8.—10 ORCHIDS, EXOTIC SPECIES (Amateurs).
1st, Mr. C. Penny, Gr. to W. H. Gibbs, Esq., Regent's Park, N.W., 10l.
2d, Mr. J. Green, Gr. to Sir E. Antrobus, Bart., Lower Cheam, 7l.
3d, Mr. B. Peed, Gr. to Mrs. Tredwell, Lower Norwood, 5l.

CLASS 9.—6 ORCHIDS, EXOTIC SPECIES (Amateurs).
1st, Mr. F. Lovell, Gr. to H. E. Gurney, Esq., Nutfield, Surrey, 6l.
2d, Mr. J. Wiggins, Gr. to W. Beck, Esq., Isleworth, 4l.
3d, Mr. T. Whitebread, Gr. to H. Colyer, Esq., Dartford, Kent, 3l.
Extra, Mr. J. Smith, Gr. to the Duke of Northumberland, Isleworth, 2l.

CLASS 10.—9 GREENHOUSE AZALEAS, distinct kinds (Amateurs)
1st, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 9l.
2d, Withheld.
3d, Mr. T. Whitebread, Gr. to H. Colyer, Esq., Dartford, Kent, 5l.

CLASS 11.—9 GREENHOUSE AZALEAS, distinct kinds (Nurserymen)
No competition.

CLASS 12.—6 AZALEAS, new kinds sent out since 1858 (Open).
1st, Messrs. J. Ivery & Son, Dorking, 4l.

CLASS 13.—6 ROSES in POTS, distinct kinds (Amateurs)
1st, Mr. Thos. Terry, Gr. to C. W. G. Puller, Esq., M.P., Youngsbury, Herts, 6l.

CLASS 14.—12 ROSES in POTS, distinct kinds (Nurserymen)
1st, Mr. W. Paul, Waltham Cross, 10l.
2d, Mr. E. P. Francis, Hertford, 7l.

CLASS 15.—6 DRACÆNAS and CORDYLINES (Open).
1st, Messrs. T. Jackson & Son, Nurserymen, Kingston, S.W., 3l.
2d, Mr. Wm. Bull, King's Road, Chelsea, S.W., 2l.

CLASS 16.—6 CAPE HEATHS, distinct kinds (Open).
1st, Mr. B. Peed, Gr. to Mrs. Tredwell, Lower Norwood, 5l.
2d, Messrs. T. Jackson & Son, Nurserymen, Kingston, 3l.
3d, Mr. H. Chilman, Gr. to Mrs. Smith, Ashtead, Epsom, 2l.
Extra, Mr. T. Page, Gr. to W. Leaf, Esq., Streatham, 1l. 10s.

CLASS 17.—9 PELARGONIUMS, distinct kinds (Amateurs).
1st, Mr. W. Nye, Gr. to E. B. Foster, Esq., Clewer Manor, Windsor, 8l.
2d, Mr. J. Shrimpton, Gr. to A. J. Doxat, Esq., Putney Heath, 6l.
3d, Mr. H. Page, Gr. to J. W. Strachan, Esq., Teddington Grove, S.W., 4l.
Extra, Mr. C. Hutt, Gr. to Miss Burdett Coutts, Highgate, 1l.

CLASS 18.—12 PELARGONIUMS, distinct kinds (Nurserymen).
1st, Mr. C. Turner, Slough, 8l.
2d, Messrs. J. & J. Fraser, Lea Bridge Road, Leyton, 6l.

CLASS 19.—6 PELARGONIUMS, Fancies, distinct kinds (Open).
1st, Messrs. J. & J. Fraser, Nurserymen, Lea Bridge Road. 5l.
2d, Mr. C. Turner, Royal Nurseries, Slough, 4l.

CLASS 20.—6 PELARGONIUMS, Spotted or French, distinct (Open).
1st, Mr. C. Turner, Royal Nurseries, Slough, 4l.
Equal 1st, Messrs. J. & J. Fraser, Nurserymen, Lea Bridge Road, 4l.

CLASS 21.—12 EXOTIC FERNS, distinct kinds (Open).
1st, Mr. W. Bull, Nurseryman, King's Road, Chelsea, 4l.
2d, Messrs. A. Henderson & Co., Pine Apple Nursery, Edgeware Road, 3l.
3d, Mr. H. Lavey, Gr. to E. A. De Grave, Esq., Fetcham, Surrey, 2l.
4th, Mr. W. Young, Gr. to R. Barclay, Esq., Highgate, 1l.

CLASS 22.—6 ANÆCTOCHILUS, or other VARIEGATED ORCHIDS (Open).
1st, Mr. W. Bull, King's Road, Chelsea, 3l.

CLASS 23.—3 TROPÆOLUMS, trained on trellises, distinct (Open). No competition.

CLASS 24.—NEW or RARE TENDER PLANTS in FLOWER (Open).
Messrs. Veitch & Son, Exeter and Chelsea, Pancratium sp. (1), S.K.
Messrs. Veitch & Son, Exeter and Chelsea, Bromelia sceptrum, S.B.
Mr. Wm. Bull, Chelsea, Centaurea argentea, B.

CLASS 25.—NEW or RARE TENDER PLANTS NOT in FLOWER (Open).
Messrs. Jackson & Son, for Ouvirandra Berneriana, S.K.
Messrs. Veitch & Son, for Marattia Cooperi, S.K.
Messrs. Veitch & Son, for Selliguea pothifolia, S.B.
Messrs. Veitch & Son, for Alsophila Tænitis v. denticulata, S.B.
Messrs. Low & Co., for Trichomanes crispum v. rufum, S.B.
Messrs. A. Henderson & Co., for Rhynchospermum jasminoides variegatum, B.
Messrs. Veitch & Son, for Pinanga sp., B.
Messrs. Veitch & Son, for Lomaria sp., B.

CLASS 26.—NEW ORCHIDS in FLOWER (Open).
Messrs. B. S. Williams, for Cypripedium Stonei, S.K.

CLASS 27.—NEW or RARE HARDY ORNAMENTAL PLANTS (Open).
Messrs. Fisher, Holmes, & Co., for Taxus fastigiata, S.K.
Mr. J. Standish, for Deutzia crenata fl.-pleno, S.K.
Mr. J. Standish, for Lychnis Senno, S.B.
Messrs. Veitch & Son, for Woodwardia japonica, S.B.
Messrs. Veitch & Son, for Lastrea erythrosora, S.B.
Messrs. Veitch & Son, for Andromeda sp. California, B.
Messrs. Veitch & Son, for Homoianthus viscosus, B.
Messrs. Fisher, Holmes, & Co., for Abies sp., B.
Messrs J. Ivery & Son, for Athyrium Felix-fœmina glomeratum, B.

CLASS 28.—NEWLY INTRODUCED PLANTS (Open).
Messrs. Low & Co., for Alocasia Lowii, 1st Certificate
Messrs. Ivery & Son, for Athyrium Filix-fœmina mucronatum, 2d Certificate
Messrs Ivery & Son, for Athyrium Filix-fœmina Iveryanum, 3d Certificate
Mr. Wm. Bull, for Cheilanthes Borsigiana, 4th Certificate

CLASS 29.—SEEDLING FLORISTS' FLOWERS and GARDEN HYBRIDS (Open).
Mr. B. S. Williams, for Amaryllis perfecta marginata, 1st Class Certificate
Mr. J. Hally, for Zonal Pelargonium Adonis, 1st Class Certificate
G. W. Hoyle, Esq., for Pelargonium Achilles, 1st Class Certificate
G. W. Hoyle, Esq., Reading, for Pelargonium Aristides, 2d Class Certificate
Mr. Watson, St. Alban's, for Calceolaria Bijou, 2d Class Certificate
W. Beck, Esq., Isleworth, for Pelargonium The Maid of Honour, Commendation
Messrs. F. & A. Smith, Dulwich, for Fuchsia Pillar of Gold, Commendation
Mr. J. Turner, for Petunia Mrs. Sherbrook, Commendation
Mr. J. Wills, Oulton Park, for Verbena Othello, Commendation
Mr. Bragg, Slough, for Fancy Pansy Bob Ridley, Commendation
Mr. Bragg, Slough, for Fancy Pansy Harlequin, Commendation
Mr. Bragg, Slough, for Fancy Pansy Dazzle, Commendation
E. J. Low, Esq., Beeston, for Fancy Pansy Pallas, Commendation
Messrs. E. G. Henderson & Son, for Mimulus Group, Commendation

CLASS 30.—WARDIAN CASE, arranged for Drawing Room (Open).
1st, Messrs. A. Henderson & Co., Pine-Apple Nursery, Edgeware Road, 4l.
2d, Messrs. Barr & Sugden, 12, King Street, Covent Garden, 3l.

CLASS 31.—COLLECTION of CUT RHODODENDRONS (Open). No competition.

CLASS 32.—COLLECTION of CUT ROSES (Open).
1st, Mr. Charles Turner, Royal Nurseries, Slough, 2l.
2d, Mr. J. Mitchell, Nurseryman, Maresfield, Sussex, 1l.
Equal 2d, Messrs. Paul & Son, Nurseries, Cheshunt, 1l.
3d, Mr. E. Hollamby, The Nurseries, Tunbridge Wells, 10s.
Extra, Mr. T. Terry, Gr. to C. W. Giles Puller, Esq., M.P., Youngsbury, 7s. 6d.

CLASS 33.—MISCELLANEOUS (Open).
1st, Messrs. J. Ivery & Son, for Collection of Hardy Ferns, 2l.
Equal 1st, Mr. Wm. Bull, for Collection of Plants, 2l.
2d, Mr. H. Lavey for Collection of 42 British Ferns, 1l. 10s.
3d, Messrs. Barr & Sugden, for Plants under Glass Shades, 1l.
Extra, Messrs. J. & J. Fraser, for Collection of Cut Pæonies, 15s.
Ditto, Mr. H. Lavey, for Lycopodiums, 10s.
Ditto, Mr. C. Turner, for Bougainvillæa glabra, 10s.
Ditto, Mr. C. Turner, for Collection of Verbenas, 10s.
Ditto, Mr. C. Turner, for Collection of Pinks, 10s.
Ditto, Mr. T. Whitebread, for Collection of 4 Ixoras, 10s.
Ditto, Messrs. Downie, Laird, and Laing, for Collection of 36 Pansies, 10s.
Ditto, Messrs. Downie, Laird, and Laing, for Collection of 36 Fancy Pansies, 10s.
Ditto, Mr. Wm. Bull, for Ouvirandra fenestralis, 10s.
Ditto, Mr. H. Hooper, for 36 British Pansies, 7s. 6d.
Ditto, Mr. H. Hooper, for 36 Belgian Pansies, 7s. 6d.
Ditto, Messrs. Paul & Son, for Collection of Cut Pæonies, 7s. 6d.
Ditto, Mr. J. Salter, for Collection of Cut Pæonies, 7s. 6d.

**Prizes offered by Sir C. Wentworth Dilke.**

The three best Groups of FRUITS and FLOWERS for Dinner Table.
1st, Lady Rokeby, Montague House, Portman Square, 10l.
2d, Mrs. J. W. Bliss, Langton, Tunbridge Wells, Kent, 7l.
3d, Mrs. Walter Fawcett, 11, Westbourne Street, Hyde Park, 3l.
Mr. Alfred Salter, William Street, Hammersmith, Highly Commended.
Lady C. Kerrison, 140, Piccadilly, Commended.
Lady Holmesdale, 22, Berkeley Square, Commended.

## FRUIT.

CLASS A.—COLLECTION of FRUIT, 6 dishes, distinct kinds.
1st, Mr. J. Masters, Gr. to the Earl of Macclesfield, Shirburn Castle, Oxon, 6l.
2d, Mr. A. Henderson, Gr. to the Duke of Sutherland, Trentham, 4l.
3d, Mr. R. Turnbull, Gr. to the Duke of Marlborough, Blenheim Palace, Woodstock, 3l.

CLASS B.—PINE APPLE, the best Cayenne.
1st, Mr. Jas. Taylor, Temple Newsham, Leeds, 3l.

CLASS C.—PINE APPLE, any variety except Cayenne.
1st, Mr. W. Hutchison, Castle Malgwyn, Llechryd, Carmarthen, 3l.
2d, Mr. J. Hall, Gr. to the Earl of Scarborough, Sandbeck Park, Rotherham, 2l.
2d, Mr. Thos. Young, Gr. to Crawshay Bailey, Esq., Aberdare, 2l.
3d, Mr. T. Speed, Gr. to Sir E. S. Walker, Bury Hill, Mansfield, 1l.

CLASS D.—GRAPES, BLACK, 3 bunches.
1st, Mr. H. Sawkins, Gr. to H. Brassey, Esq., Bramfield, Hertford, 3l.
2d, Mr. C. Turner, Royal Nurseries, Slough, 2l.
3d, Mr. G. Jackson, Gr. to J. Tyrer, Esq., Tixall Hall, Stafford, 1l.

CLASS E.—GRAPES, WHITE MUSCAT. 3 bunches.
1st, Mr. J. Embery, Gr. to — Moss, Esq., Chadwell Heath, 3l.
2d, Mr. R. Turnbull, Gr. to the Duke of Northumberland, Blenheim Place, Woodstock, 2l.
3d, Mr. C. Turner, Royal Nurseries, Slough, 1l.

CLASS F.—GRAPES, WHITE, any kind except Muscat, 3 bunches.
1st, Mr. T. Wills, Oulton Park, Tarporley, Cheshire, 3l.
2d, Mr. J. F. Mould, Gr. to J. Sladen, Esq., Bushey Heath, Watford, 2l.
3d, Mr. J. Cross, Gr. to Lord Ashburton, The Grange, Alresford, Hants, 1l.

CLASS G.—PEACHES, 6 fruits.
1st, Mr. F. Rutland, Gr. to Capt. Peploe, Garnstone Castle, Hereford, 3l.
2d, Mr. S. Snow, Gr. to Countess Cowper, Wrest Park, Beds, 2l.
3d, Mr. J. Brown, Gr. to Sir C. Knightley, Bart., Fawsley Park, Daventry, 1l.
3d, Mr. W. Allen, Gr. to E. J. G. Hopwood, Esq., Hopwood Hall, Lancashire, 1l.

CLASS H.—NECTARINES, 6 fruits.
1st, Mr. F. Rutland, Gr. to Capt. Peploe, Garnstone Castle, Hereford, 3l.
2d, Mr. J. Brown, Gr. to Sir C. Knightley, Bt., Fawsley Park, Daventry, 2l.
3d, Mr. J. Harwood, Gr. to G. H. Turnbull, Esq., Downe, near Bromley, 1l.
3d, Mr. C. Turner, Royal Nurseries, Slough, 1l.

CLASS I.—CHERRIES, 50 fruits.
1st, Mr. A. Henderson, Gr. to the Duke of Sutherland, Trentham, 1l.
2d, Mr. S. Snow, Gr. to the Countess Cowper, Wrest Park, Beds, 15s.
3d, Mr. J. Eustone, Gr. to Sir J. Duckworth, Bt., Wear House, Exeter, 10s.

CLASS J.—STRAWBERRIES, single dish.
1st, Mr. R. Smith, Richmond Road, Twickenham, 1l.
2d, Mr. J. Widdowson, Gr. to C. A. Barnes, Esq., Rickmansworth, 15s.
3d, Mr. C. Turner, Royal Nurseries, Slough, 10s.

CLASS K.—STRAWBERRIES, 3 dishes.
1st, Mr. R. Smith, Richmond Road, Twickenham, 2l.
2d, Mr. J. Widdowson, Gr. to C. A. Barnes, Esq., Rickmansworth, 1l. 10s.
3d, Mr. J. C. Dwerrihouse, Gr. to Viscount Eversley, Heckfield Place, Hants, 1l.

CLASS L.—MELONS, GREEN-FLESHED.
1st, Mr. J. Meredith, Vine Cottage, Garston, near Liverpool, 1l. 10s.
2d, Mr. H. Chilman, Gr. to Mrs. Smith, Ashtead House, Epsom, 1l.
Extra, Mr. J. Pottle, Gr. to B. D. Colvin, Esq., The Grove, Woodbridge, 15s.

CLASS M.—MELONS, SCARLET-FLESHED.
1st, Mr. G. Terry, Gr. to L. Ames, Esq., The Hyde, St. Albans, 1l. 10s.
2d, Mr. W. Kaile, Gr. to the Earl of Lovelace, Ripley, Surrey, 1l.

CLASS N.—VINES in POTS, Bearing Fruit, 4 Plants.
No competition.

CLASS O.—MISCELLANEOUS.
1st, Messrs. H. Lane & Son, Great Berkhampstead, for Collection of Fruit Trees in pots, 2l.
2d, Mr. W. Kaile, Gr. to the Earl of Lovelace, Ripley, Surrey, for Collection of Fruit Trees in pots, 1l. 10s.
3d, Mr. J. Smith, Gr. to the Duke of Northumberland, for dish of Figs, 1l.
4th, Mr. J. Cross, Gr. to Lord Ashburton, for dish of Figs, 15s.

**"Old" Cheshunt Nurseries, Cheshunt, Herts.**

PAUL AND SON have the pleasure to announce that their ROSES will be finely in bloom the last week in June and throughout July.

Their collection includes the new Roses as well as immense quantities of all the older kinds, and will (in its extent and choice they believe the largest in the kingdom) amply repay a visit.

The Old Nurseries may be reached by trains from Bishopsgate to Cheshunt Station (within one mile of the nurseries), every one or two hours.

CATALOGUES on application.

H. LANE AND SON, The Nurseries, Great Berkhampstead, have great pleasure in announcing that their extensive and well assorted COLLECTION of ROSES is NOW in BLOOM.

The Home Nurseries are within five minutes' walk of the Station of the London and North Western Railway, where a great variety of Roses may be seen; also a large assortment of Coniferæ, American Plants, Indian Azaleas, &c. Their immense stock of Roses (Standards and Dwarfs) is principally at their Nurseries, about 2 miles distant, affording the opportunity of a delightful drive across a common, where they have American Plants in great variety. The finest lot of Araucarias in England, and Roses in vast quantities.

The Grounds are well worthy of personal inspection, which is earnestly requested.

**New South Wales—Collections of Ferns.**

M. GUILFOYLE begs to announce that he has made arrangements to execute Orders for Europe of COLLECTIONS of FERNS, selected from all the Australian Colonies and New Zealand by his Correspondents there, and also from the South Sea Islands, supplied by competent Collectors in New Caledonia, the New Hebrides, &c. Due care will be taken that none but well established plants in pots are sent out from his Nursery, and for such he has fixed the price of each case, containing at least 25 species of Australasian Ferns in duplicate, at 16*l.*, (freight and case included), shipped by him for London to order. The Island Ferns, among which a constant succession of novelties may be expected for years to come, will be separately charged for, at prices extremely moderate.

M. Guilfoyle will also be happy to execute Orders for Seeds, Bulbs, and Living Plants of all kinds from the Islands of the S. W. Pacific, especially including Orchids, Pines, &c.

Orders with remittances to be addressed to M. Guilfoyle, Exotic Nursery, Double Bay, Sydney, N. S. Wales.

**The Gardeners' Chronicle.**

*SATURDAY, JUNE* 20, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| Wednesday, June | 24—Royal Botanic .. .. .. | 2 P.M. |
| Friday, — | 26 { Royal Horticultural (Election of Fellows) at South Kensington .. .. | 2 P.M. |
| Saturday, — | 27—Crystal Palace (Rose Show) .. | Noon |

Who can wonder at Conifers having taken complete possession of the Horticultural mind? Are they not the monarchs of the temperate forest, as are Palms of the tropical plain? Have we North Europeans anything comparable to the majestic trees, colossal, graceful, and clothed with perpetual verdure, which are known under the name of Cone-bearers, although so many bear no cones? No class of society includes such ardent lovers of beauty as the Horticultural; and no class of plants includes such singularly beautiful forms as Conifers. Besides which the larger part find themselves as much at home among us as in their own wild regions. Flower-pots they abhor. It is the free air, in which they can display their ever-youthful limbs, that alone is welcomed by this regal race. In short they represent the manhood of the Vegetable world, as Orchids represent the womanhood.

Hence it has doubtless arisen that wherever we turn we find them assiduously cultivated, and that all estates are proud of their "specimens," from the rich plantations of Holkham to the unique assemblage at Dropmore, and the mountain forests of Dunkeld. The consequence of this fashion has been the introduction of all manner of new species, from all manner of new places, which have received from the scientific and unscientific all manner of new names, to the disgust of many and the annoyance of all. No wonder then that the great house of Lawsons, of Edinburgh, commercially concerned very deeply in the matter, should have come to the rescue, and resolved, at their own proper charge, to put the Coniferous house in order. For this purpose they have commenced the publication of a sumptuous work in elephant folio, by the side of which the book of Lambert sinks into insignificance; under the name of *Pinetum Britannicum, a descriptive account of all hardy trees of the Pine tribe cultivated in Great Britain; with fac-similes of the original drawings made for the work.*

One number of this publication has appeared, which is entirely occupied by an account of "Picea nobilis;" the next is to contain an account of Cupressus Lawsoniana. Eight pages of superb letter-press, two coloured plates, and 22 small wood engravings worked in with the letter-press, illustrate the first of these species. The wood engravings are excellent, and the letter-press copious and interesting. The coloured plates are however scarcely worthy the rest of the publication; one of them indeed, a portrait of "Picea" nobilis, exhibits a want of knowledge of the commonest principles of drawing, which would have astounded Strutt. Is there no Strutt now in existence?

While we willingly bear testimony to the general excellence of Messrs. Lawson's publication, we are reluctantly obliged to withhold our approbation of some of its details. Dr. Lindley requests us to state on his part that he is not the author of the name Picea nobilis, as is announced in the first page. Whenever he has mentioned the plant he has given its proper designation, Abies nobilis. Like other scientific writers he has refused to acknowledge the so called genus Picea, which is a mere shop name whose place is in the limbo of trade lists. We must also express surprise at no man of science having been announced as the author of the letter-press of this grand book, which certainly ought to have some responsible paternity. In the absence of this, the narrative wants the authenticity which the name of a recognised botanist can alone confer upon it. Let us hope that so superb a work will not longer continue open to such remarks.

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Is quantity or quality to carry the day among our exhibition plants? No great effort of memory is needed to take us back to the time when we had Epacrises and other hard-wooded plants almost as big as faggot-stacks, and nearly as uninteresting, except just on the one face where the puny twigs were fixed. There was quantity indeed, almost double or treble that of many of the most effective of the "stove and greenhouse plants" shown in these more recent times; but no one could for a moment hesitate to prefer the smaller, more compact, more vigorous, yet withal more shapeable and floriferous plants now generally seen, and to reject as unworthy a place on modern exhibition stages, the bare-bones cumbrous things to which we have alluded.

Memory need not travel back beyond a short year or two to recall the same state of things as regards Fuchsias. We were fast getting into exhibitions of wretched faced-up scraggy "Methuseloid" bushes, which when they had been braced up by dint of thread and tape so as to put on a fair face, gave nothing but starveling blossoms, as the effete Epacrises and such like plants, had in their day done. It needed but the firmness which the judges very properly displayed on one or two occasions to rid our shows of these monstrosities, and to replace them by much smaller but really well-grown well-formed handsome plants, young enough to have vigour in their blood, and consequent boldness and brilliancy in their blossoms. We have not indeed gone far enough as yet with these, by insisting on having none but youthful plants, and so the handsome juvenescent specimens of last year, which attracted universal admiration, are, we are sorry to see, appearing as old beaus in the present, well dressed indeed and tasty in their getting up, but "not what they were." We hope it may be that they were only pressed into service at the early shows, while the dressing up of the younger ones was being finished off, but they have at least confirmed us in the conclusion to which the opinions we have several times expressed have tended, namely, that exhibition Fuchsias once in their prime at two years old, ought not as a rule to be seen again in public, for after that, their blossoms become minikin and meagre for want of that youthful vigour on which we lay so much stress. They might indeed, as we some time since remarked, be had in very effective condition—at the best in fact as regards quality of flower, even within a year of their birth.

The recollection of these things should act as a "warning" to the growers of Roses in pots, among which we sadly want some reformation. Even as huge hard-wooded Heaths and Epacrises, and soft-wooded Fuchsias have in their turn been "cut down" when they came to cumber the exhibition stages, and have been replaced for the most part by better sorts grown on a better model, so assuredly must Roses submit to the same fate if they continue to appear in the form of scraggy flat-faced shapeless trees, and that notwithstanding any amount of bloom that such huge unwieldy specimens can possibly produce. In all the subjects which we have named, there is far too great a tendency amongst growers to "face" the plants, that is to say, to bring all the young vigorous wood, and consequently all the best—if not indeed all—the blossoms to the front, but in Roses the practice is just now most conspicuous and offensive. Even those who grow their plants tolerably near the model, that is the pyramidal form, are not wholly free from this fault, but fashion their bushes into "three-quarter" instead of complete specimens. It ought to be borne in mind that a "three-quarter" plant is only some few degrees better than a "one-sided or half" plant, and that the latter is anything but a credit to those who produce it. And it ought to be remembered, also, that mere bulk, apart from fitness and finish both as regards cultivation and training, can never now-a-days be suffered to carry off the honours of a floral exhibition.

As to what is to be regarded as constituting fitness, we maintain that in the case of exhibition plants generally (not universally, for Orchids must be named as affording exceptions) a pyramidal outline, shorter broader and blunter, or narrower and more elongated, as may best suit the particular kind of plant, should be regarded as a *sine quâ non*. The side view of even a three-quarter plant which one often gets when the stages are at all curved, does not form a pleasing picture. "All round alike" should be the exhibitor's motto. Then as to finish, there should be perfect health, the vigour and bloom of youth, fresh-looking foliage, and bright-coloured blossoms of the full size proper to the individual, the whole so trained and disposed as to show a good front everywhere, yet without anywhere obtruding the means by which this disposition is effected.

One of the objections fairly chargeable against the old scraggy plants of which we complain, to whatever class they may belong, is that they very frequently obtrude upon us old and comparatively worthless varieties to the exclusion of the newer and better sorts which have appeared since they first came before the public. This just now applies especially to Roses, among which, though we have had many grand acquisitions of late years, we scarcely see some of the best sorts shown at all: doubtless because there has not been time to get up monster plants of them, and it is felt that monster plants (if not indeed too monstrous) have a very great chance of winning the honours, especially if the decision is referred to easy-going judges. On this ground, therefore, as well as on those of fitness and appearance, we protest against the exhibition of any more Roses which are not model plants; and we strongly hope that the Exhibiting Societies will feel it to be their *duty*, as it assuredly is, to urge upon censors the necessity of giving effect to this protest by their decisions. Then we shall see better sorts of Roses and better plants the rule and not the exception, as we may hope will continue to be the case with Fuchsias and other plants, if the rule we have referred to is but acted upon without flinching.

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—— The present week has witnessed another of those grand horticultural displays which no country but our own could furnish, and which could be drawn together nowhere but in this metropolis: the time Wednesday last, the place South Kensington. So, while providing pleasant pastime for its Fellows and their friends, and for such of the outer public as circumstances may induce to share it with them, the now Royal Horticultural Society perseveres in its proper mission of encouraging both the art of cultivation and those who practise it. Far distant be the day when it shall be found relaxing in its efforts to work out with hearty good-will this important trust.

If we may say, as we truthfully may, that the display of Wednesday furnished some examples of marvellous cultivation, as witness the noble Pelargoniums from Clewer Manor, we are compelled to add that in one feature at least there was no advance evident, but rather retrogression. We allude to the groups of flowers and fruits for the decoration of the dinner table, for which Sir Wentworth Dilke's prizes were on this occasion offered. There was no new idea of any merit evident in the groups exhibited. There were, indeed, dead humming birds! living fishes! and unwieldy cornucopiæ, but nothing approaching in elegant simplicity to Mr. March's designs of former years.

Our special object, however, is to glance over the New Plants shown, noting down a few remarks about the more important of them. Few novelties among tender plants in flower made their appearance. The most striking perhaps was the large Pine-apple-like Bromelia Sceptrum, with its long spreading strongly-toothed leaves, its scarlet bracts, and its close pyramidal panicle of white mealy purple-tipped blossoms; but this will not be a plant for everybody. More useful, and somewhat recalling to mind the lovely species of Eucharis, was a Philippine Island Pancratium from Mr. Veitch, which had broad cordate ribbed leaves, and an umbel of numerous erect white flowers on a scape a couple of feet high, the flowers contrasting remarkably in the small size of their staminal cup with another species from the same quarter, of dwarfer

habit, which had single-flowered scapes. The very pretty Centaurea argentea, with finely divided white cottony leaves, was shown in blossom by Mr. Bull, as also was Caladium Wightii, both being remarkable rather for beauty of foliage than of flower.

The most noteworthy tender plants not in flower were the Marattia Cooperi, noticed at p. 531; and the long-leaved Lattice plant, Ouvirandra Berneriana, which was shown in a thriving condition by Messrs. Jackson, of Kingston. From Messrs. Veitch was a vigorous young example of a fine Tree Fern, Alsophila Tænitis denticulata, noticeable chiefly for its large bipinnate fronds, with smooth shining oblong acuminate doubly-serrated pinnules, and its dark stipes prickly at the base; also Selliguea pothifolia, an Eastern Fern new to our gardens, in this case bearing from a creeping rhizome erect fronds of ovate outline a couple of feet high, and made up of long linear lanceolate acuminate pinnæ, decurrent at the base, and producing naked lines of spore cases. A Lomaria-like plant of rather coarse habit, introduced from the Philippines—probably Blechnum nitidum—had bold pinnate fronds with crowded linear oblong pinnæ, broad and sharply serrulate when sterile, and sometimes much sometimes little contracted when fertile. The pretty rusty-haired Trichomanes crispum rufum came from Messrs. Low & Co.; Messrs. A. Henderson & Co. showed the Rhynchospermum jasminoides variegatum noticed at p. 531; and Messrs. Veitch & Son a pinnate Pinanga, with broad mottled green pinnæ. Both Mr. Williams and Mr. May had the variegated form of Aralia Sieboldi, which is too indistinctly marked to be effective; and Mr. Bull had some of the new Caladiums—mirabile, Cannartii, and Thelemanni, all promising enough, but not in sufficient vigour to exhibit their real character; they are all white-blotched on a green ground, mirabile having a stain of pale green, and the others of red along the course of the principal ribs.

New Orchids were represented by Cypripedium Stonei, a beautiful Bornean species, remarkable for the exact slipper-like form of the lip when seen in profile.

There were a few very interesting new hardy plants shown. First a Deutzia crenata flore-pleno, one of Fortune's novelties, flowered by Mr. Standish. This looked like a fine addition to hardy shrubs; it has opposite shortly stalked ovate acuminate finely serrated leaves, and copious terminal racemes of deflexed double white flowers deeply tinged externally with rose. Another fine hardy shrub, an evergreen, was produced by Messrs. Fisher, Holmes & Co., in the form of a golden Irish Yew, which they call Taxus hibernica fastigiata; this was quite fastigiate, and the young leaves were of a golden yellow with a green rib, the colour being a well marked characteristic of the plant; it is quite hardy, and was raised from seeds of the Irish Yew. The same exhibitors had an elegant North American Fir, very near the Hemlock Spruce, remarkable chiefly for its dumpy plump blunt-ended leaves. A Californian Andromeda of Mr. Veitch's was a dwarf evergreen with ovate or elliptic oblong leaves, and bearing numerous narrow spikes of white pitcher-shaped drooping flowers in the axils of the upper leaves. Mr. Veitch had also a flowering plant of the rare and seldom seen Fremontia californica. A beautiful Japanese perennial, Lychnis Senno, came from Mr. Standish; also a variety with variegated leaves and striped flowers. In Senno itself the stems were 2½ ft. high, the leaves beneath and the calyces stained with chocolate purple, and the flowers fully a couple of inches across, and of a deep crimson. With it was a well-marked Dianthus laciniatus. Mr. Veitch contributed a hardy perennial from Valdivia called Homoianthus viscosus, a herb with oblong-cuneate sinuately-toothed root-leaves, and numerous flower-stems a foot and a-half high, each bearing about three or four heads corymbosely arranged, about as large as those of Chicory, and of a purplish violet paler at the centre. Besides these there were several Ferns: Woodwardia japonica, and Lastrea erythrosora, already referred to at p. 531; Lastrea opaca, another fine glossy-leaved hardy bipinnate Japanese species; Athyrium Filix-fœmina coronatum; and from Messrs. Ivery & Son of Dorking, A. F.-f. glomeratum, a beautiful sport from corymbiferum intermediate in character between coronatum and multiceps, having the fronds narrow below with flat crests, and forming a massive densely crispy ball-like bunch at the apex.

Of Seedling Flowers a goodly number was staged, but few were marked by the special approbation of the judicial sub-committee. Hoyle's Pelargonium Achilles, a bright-looking flower with crimson ground shaded with maroon, and very pure centre, was one of great beauty, and secured a First-class award; another called Aristides was not equal to it in merit; and Beck's Maid of Honour, a lilac-tinted-flower, was Commended as a beat upon Viola. A fine zone-leaved Perlargonium called Adonis, from Mr. Hally, approved at Chiswick last year as one of the best outdoor horse-shoe scarlets, was now thought worth a First-class Certificate shown as a pot plant; while a deep maroon crimson Calceolaria called Bijou from Mr. Watson, was approved as a bedder; and so was Verbena Othello, a dark claret, of dwarf bushy habit, from Mr. Wills. A group of the new set of hybrid spotted Mimuluses from Messrs. E. G. Henderson was Commended in the lump, there being too much sameness in these novelties to admit of separate awards being given to them. Amaryllis perfecta marginata, from Mr. Williams, gained a First-class, its colour being red with paler margin, and its shape better than usual in this pale-edged set of Hippeasters. A variegated Fuchsia, Pillar of Gold, from Messrs. F. & A. Smith, was Commended for the golden glow of its foliage. A striped Petunia from Mr. Turner, Mrs. Sherbrook by name, was Commended, though we confess it belongs to a group of reflexed angular-flowered varieties which we do not admire, showy though they be; and finally, awards were made to some Fancy Pansies: Bob Ridley, Harlequin, and Dazzle from Mr. Bragg, and Pallas from Mr. E. J. Lowe.

## New Plants.

257. Alocasia Lowii, *Hooker, Bot. Mag.*, t. 5376.

The visitors to the autumnal flower shows of last season, as well as to subsequent meetings and exhibitions, will doubtless have observed a very handsome Aroideous plant bearing the name of Caladium Lowii. It had then been just imported from Borneo, by Messrs. Low & Co. of Clapton, as Caladium Veitchii, to which it bears a certain general resemblance, but under cultivation it proves to be quite a different thing, and it has moreover the advantage of being a free grower, which the other is not. We need not attempt to decide the knotty point, which is the handsomer of the two; they both come in the front rank of ornamental-leaved stove plants, and while one has the advantage in respect to facility of cultivation and increase, the other is undoubtedly the rarer species. The plant in question is correctly referred to

Alocasia, as no doubt C. Veitchii might also be; both are indeed worthy to be associated with the noble Alocasia metallica.

Alocasia Lowii is a stout-growing stove perennial of the evergreen habit of other Alocasias, and having a short fleshy erect rhizomatous stem, to which the sheathing bases of the upright leaf stalks are attached. These leaf stalks are upwards of a foot in length, terete, tapered upwards, and inserted at their upper end into the back of the leaf-blade some distance from the base of the sinus. The blade itself is cordato-sagittate, with less acute and less divergent basal lobes than those of A. Veitchii; they are from 14 to 16 inches long, and about 5 inches in breadth at the widest part, the apex being extended into a long acuminate point, and the base divided by a deep sinus into a pair of large oblong obtuse lobes. From the point of insertion of the stalk there proceeds to the apex a stout ivory-white midrib, which diverges and is extended backwards, so that one branch passes near the inner margin of the two basal lobes; from these are given off at regular intervals towards either margin a series of vertebra-like curving secondary ribs, also white, their points coalescing with the white thickened margin. The upper surface of the leaf between these ribs is of a deep green, and the under surface is purple. The spathes, which are more than 4 inches long, on scapes as long as the leaves, are white. The sterile apex of the spadix is covered with abortive flowers.

It may be useful to point out, now that Caladiums and Alocasias are so generally cultivated, and often in gardens with interchanging names, how the two genera may be practically distinguished. When in flower, the Caladiums may be known by their spadices being covered by flowers throughout their length, the females occupying the basal part, and the males the apical, a greater or less number of neutral or abortive flowers intervening between them. In Alocasia the female flowers also occupy the basal part of the spadix, but the males are placed immediately above them, and the upper part is sterile either from the absence or abortion of flowers. When they are not in bloom the two genera may be known, Caladium by its tubercular rhizomes and radical annual leaves, and Alocasia by its distinct more or less elevated stems, and more enduring foliage. *M.*

## A VISIT TO THE BULB FARMS OF HAARLEM.
### No. V.

Having endeavoured to give a full description of the way in which Hyacinths are cultivated at Haarlem, I may now pass in review some of the more important points which appear to be necessary, and which account for the success which attends it. Some of the growers at Haarlem attribute their successful cultivation partly to the situation of the district. They think that there is a peculiar moisture in the air, owing to the place being bounded as it were by the river Spaarne, the lake of Haarlem,* and the North Sea.

It is not unlikely that a moist atmosphere thus provided may be one of the causes of the success in question. But whatever the effects may be which are produced by the air of the district, there can be no doubt as to the favourable nature of the land. The sandy soil, enriched as it is by manure, is doubtless just what these bulbs delight to grow in. This manure, it will be observed, is placed a few inches below the surface in a position where it is easily procurable by the roots. And, lastly, water is always found at a short distance below the surface of the ground, ready to supply nourishment as well as to keep the soil in a cool and moist condition. This circumstance, when taken into connection with the sandy soil, is probably the foundation on which the success of bulb cultivation at Haarlem mainly rests.

The treatment practised by the cultivators presents also several features worthy of notice. I do not now allude to the curious methods employed in propagation described in my last letter (p. 556), but to the management of the bulbs in cultivation. We have seen how carefully a system of rotation of crops is followed, and how the land is trenched and thus renewed, whenever the slightest sign of disease begins to show itself. During the growing season the leaves are carefully preserved from injury, and the flower stems are removed at a particular stage in the growth, not so much with a view to strengthen the plants as to be kept from lying upon and doing injury to the foliage. Any disease in the leaves is rapidly communicated to the bulb, and hence these precautions are necessary.

This careful mode of cultivation, viewed in connection with natural advantages of climate and soil, is, no doubt, the secret of the success which attends the Hyacinth and other bulbous plants at Haarlem. And I am inclined to think that, however, easy it might be for us to imitate our Dutch friends in the mode of cultivation, yet Nature is on their side with climate and soil, and on this account they must always have the bulb market to themselves, unless some other district can be found possessing the same advantages.

The lovers of the Hyacinth in this country, and they are many, oftentimes ask a question like the following: "Can we by any means keep our bulbs in a state of health and vigour, and induce them to bloom in future years." This may receive the following reply. Hyacinths, like all other living beings, animals as well as plants, have an appointed period of youth and age, attain maturity gradually, and go gradually to decay. The old age of the Hyacinth is indicated by the bulb becoming somewhat smaller in size and less vigorous, and by a tendency to break up into offsets—a last effort to perpetuate its kind. Now this being the case it follows, as a matter of course, that when the bulbs are fully grown, or if they are descending the hill of life, no effort, made even under the most favourable conditions, will preserve them long in health and vigour. But if young and healthy there is no reason why they may not be made to bloom well for a number of years in succession if their cultivation is understood, and if they are treated in the manner I have described as practised at Haarlem.

In concluding these papers, I may remark that the days of Tulipomania in Holland have long since passed away. There are now no such wonderful roots as the old "Admiral Leifken" and "Semper Augustus," which used to be bought and sold on 'Change at mar-

* This is no longer a lake; it has been drained, and is now one of the most fertile spots in Holland.

vellous prices; no one now thinks of giving "4600 guilders for a new Tulip, and throwing a new carriage, two grey horses, and a complete set of harness" into the bargain. *Robert Fortune.*

## ROSES.—No. IX.

BY MR. WILLIAM PAUL, F.R.H.S., PAUL'S NURSERIES, WALTHAM CROSS.

PERHAPS I cannot do better than end this series of papers on Roses by a few brief rules, which may assist those who delight in managing their own plants, but have not the leasure or inclination to study their habits and requirements.

1. The best soil for Roses is a strong loam well enriched with decayed stable manure; if the soil is not of this nature, it should be improved by the addition of such as far as possible.

2. For light soils use cow-dung and poudrette instead of stable manure, merely mulching with the latter early in May.

3. Prune at two seasons; thin out the supernumerary shoots in November, and shorten those that are left in March.

4. Remember that the summer Roses should be thinned more freely, and shortened less than the autumnals.

5. Always cut back to a bud which has a tendency to grow outwards, rubbing out those buds which are directed inwards.

6. Destroy Aphides so soon as seen: by brushing them off or washing the shoots with tobacco-water, out of doors; and by fumigating with tobacco under glass.

7. Check mildew by dusting sulphur on the leaves while moist with rain or dew.

8. Water freely during the growing season if very dry.

9. Never buy old Roses on the Manetti stock until you have proved that they will not flourish in your soil either on the Dog Rose, or on their own roots The New Roses you *must* buy on the Manetti, or wait till they are raised by the slower process of budding or by cuttings.

10. Avoid plants that have been "coddled," by raising and growing in heat during their early stages of existence. Thousands of Roses are annually sold which have the seeds of disease and early death previously sown by the forcing process. Such if they live, do not grow vigorously, and often remain stationary or feeble for a length of time.

11. At whatever season Roses on their own roots are purchased, they should be planted in the open ground in spring and summer only (May June or July); once established they may remain permanently there.

12. Roses in pots should be re-potted, removing a portion of the old soil early every autumn; they require closer pruning than the same sorts growing in the ground; they should be watered with weak liquid manure so soon as the young leaves expand, and until the flowering is over.

13. Roses intended for forcing should be brought into a state of rest in August or September, and be pruned shortly afterwards.

14. Roses under glass should be shaded when coming into bloom, but with a light shading only, such as Tiffany No. 1 or Scrim.

15. Most of the Tea-scented Roses thrive best under glass, and are worthy of this especial care. They may be grown in pots, in a cold pit or house, or be planted out in a house, standards or dwarfs, with or without heat.

16. Buy only such new Roses as are recommended from trustworthy sources. A new Rose that is not at the least equal to or different from all its predecessors is not worth growing; and to grow such is almost as disappointing as to read a new book that is not worth reading.

17. When growing for exhibition look to form and colour as well as to size; the day has gone by for mere bulk to triumph over symmetry of form, and variety and brilliancy of colour, whether in pot Roses or others.

These rules might be extended almost indefinitely; I have aimed at bringing out the cardinal points only. I believe that I have read and interpreted differently to some, certain pages in Nature's book of Roses, during the quarter of a century that I have been actively engaged in the cultivation of this popular flower. But I certainly shall not quarrel with those earnest, industrious, and true fellow-workers by whom I am surrounded, because they differ from me. On the contrary, I am not without hope that these papers, often hastily written in the limited leisure of active business life, may induce such to state their experience. He is no true student of Nature who prefers his own views to the advancement of the art or science to which he has devoted himself. Light from any and every source should not only be freely admitted, but frankly acknowledged, and honourably prized. *Vive l'Horticulture! Vive la Rose!*

## BRITISH COLUMBIA.—No. II.

(*See p.* 509.)

IN what diplomatists would call, if they knew how quickly it was written, my last "dispatch," I took occasion to glance at the noble system of roads planned out by Governor Douglas, with the able assistance of our Chief Commissioner Colonel Moody, R.E.; and the causes which had hindered its perfect success, viz. cutting down the published loan of 100,000*l*., on which the success of the scheme depended, to just half that sum, 50,000*l*.

I then touched on the "people's" petition, here christened the "six wise people's petition," and the absurd nonsense it contains about the rate of taxation current in British Columbia; said to be backed (though I for one, Mr. Editor, can't believe it) by our sick-leaved but active Treasurer, Captain Gosset, R E., and his gallant brother-in-arms Colonel Hawkins, R.E., late of the Boundary Commission, who is said to have made application for the Governorship of the Colony *vice* Douglas, not yet resigned. And by easy steps, my yearly review of the Colony was gliding insensibly into that chatty pleasant kind of "pow-wow" upon politics that one is apt to fall into with such a genial-hearted "Paper" as yourself; when "presto,"—the intimation "the post is going off," clapped a stopper over all my reflections, and hurried off my lucubrations into your awful presence, uncorrected, and unanealed.

Well, Mr. Editor, what is that sprightly young two-year-old British Columbia to get in the shape of a Government?—a Council? and with or without a Legislative Assembly? If you give us a Legislative Assembly, please send out the members too, for we cannot even make a British jury to try assize criminal cases in any town in British Columbia except New Westminster, and allow the common challenges. A pretty legislative burlesque that would be! Shall the Council be elective, or nominative, or partly one and partly the other? These are the sort of questions we ask each other, or rather the Canadians of New Westminster ask of us, the old English pioneers of the country, who have the misfortune not to be Canadians, and therefore of course not to know anything worth knowing, that is about politics—the great Juggernaut. If you give us a Council, and if it should be nominative, it will of course be a failure, like the Parisian Senate—merely a large Registration Court. If half nominative and half elective, or partially so, there will be the d—l to pay and no pitch hot with which to carry out the interesting process of political regeneration. It would be secret, yet not secret. For all its proceedings would of course be communicated, "as a matter of the strictest confidence, you know," from one to another, and truth get distorted into absolute falsehood in the process. If partially elective the tendency will be to become ere long entirely so, and when *that* happens, good bye to the old English Constitutional check of the Independent House, the Lords, upon the semi-republican House of Commons whenever we get one, and, *par consequence*, good bye to the country as a British Colony.

Whatever the shape of the free institutions which are to make British Columbia "a great, free, and independent people, sir," one thing is certain—the Canadians in New Westminster will be sure to want to control and monopolise its operation. They give out openly that they mean to have the country to themselves, and that nothing but Canadian laws—the product of 200 years experience under a totally different system of facts shall be adopted here. They are nearly all of the Wesleyan Church, and, strange to say, mix up religion and politics in a most wonderful manner. They have possession of the only newspaper published in British Columbia, and use it unscrupulously, as only Canadian politicians can use the "fourth estate," without even pretending to be other than one-sided. The result of this will be that we Presbyterians and all the Episcopalians, Roman Catholics and Americans, will be obliged to pull together to keep these ignorant would-be "politicians" in something like order. The Canadians here are the least energetic and improving race that come to us. You will open your eyes at this, knowing how well I think of Canada and Canadians generally; but the fact is undoubted. Their own chief men openly tax them with it, and they do not deny it. They hang about the towns, and "go in for" politics, as they call it, as a trade.

Well, Mr. Editor, I was all my life at home an out-and-out Liberal—something more than Radical. But 5 years' intimate experience with British Columbia and this coast has, I assure you, made me no end of Conservative—"Fossilised me, considerable some, you bet." I came with a heap of children to live and die here—and for them to do the same after me—but if this country be once handed over to the Canadian clique (as it at present is constituted, always be it said), it will be no place for an Englishman to take root in; and I shall have once more to shoulder my axe and make tracks out of the land with all my impedimenta.

People generally fancy that they can be very liberal in giving what they themselves do not value. It matters not what *party* the M P.'s at home are of—Whigs, Tories, Conservatives, Radicals—all fall into the same error in that respect, go to extremes; and now-a-days, instead of imposing a Stamp Act and armed rebellion as formerly, say—"Let's deal with this Colony in the most liberal spirit," and so forth: and under the cloak of the shadow of monarchy they put the real substance and soul of extreme republicanism as the guide for us to follow. Believe me, there is no nation which dislikes a Republican form of Government more than that which is unfortunate enough to suffer from its immediate proximity. The American troubles ought to open your eyes to this. We see the evils looming large in Australia, where there *is* the restraint of an English population, and dread a similar result ensuing here, where the bulk at present is foreign. *Sat verbum sapientibus*, and I hope our M.P.'s at home will take the hint. However, we'll shut up politics awhile, with the remark that any attempt to unite the two colonies would be fatal to each, and create as much ill blood as exists between the North and South, and work just as harmoniously. There is a very strong and influential under-current (Victorian) calling itself British Columbia, at work, to procure in some shape or other a union of the two colonies, making one town the capital, but keeping the free port of Victoria. They hope to succeed in this by representing that British Columbia is dependent upon Vancouver's Island for supplies and capital for trade, and also as the storehouse for British Columbia, less the warehousing charges, or rather the interest on the import duties of British Columbia; that British Columbia must be for ever dependent on Vancouver's Island because of its free port, and that the home Government will be very chary in killing the free port, or in other words injuring the vast and increasing mart which British Columbia through Vancouver's Island affords to the trade and manufactures of the mother country. Rather than do that they argue they will make a holocaust of British Columbia, and unite the colonies, with Victoria, or even, may be, New Westminster (a sop to Cerberus) as the common metropolis; keep up the customs duties in British Columbia, give British Columbia and Vancouver's Island common representative institutions, but with a smaller number of votes for British Columbia in the Commons House (to prevent Vancouver's Island from being outvoted), and then trust to the chances of the continent relieving itself ultimately from its insular incubus. Those who advocate this line of policy (if it may be so designated) calculate that any organic act which should create such an ill-assorted union, will, by the exercise of the same political influence at home (not forgetting the members of the House who are H. B. C. men, and clever tacticians too) procure the insertion of a clause making this strait jacket last for as long a fixed number of years as they can. They openly say that by this course the supremacy of Vancouver's Island will be so assured—trade with its millions of ramifications will have been so stereotyped into one channel, and that channel Victoria—that no power on earth will be able to place British Columbia in the position which it would, if allowed fair play, naturally now assume.

New Westminster has a splendid tidal river and harbour at all tides, open to the deepest laden ocean-going ships, room for docks 10 miles in length to accommodate them, wharves and everything necessary for the most extensive trade.

The imposition of an import duty on gold, which in Victoria, New South Wales, gives over 50,000*l*. a year, I see by the last Emigration Circular, would, if imposed here, most materially ease our import duties, and a liberal bonded system would do the rest and induce trade to come hither direct, and to save the heavy cost of trans-shipment and charges between Vancouver's Island and British Columbia, which at present eat up British Columbia but build up Victoria.

*Hinc illæ lachrymæ.* By this means a permanent population would gradually be established in the country, and the Customs duties could be gradually entirely abolished and superseded by internal taxes adequate for all internal purposes of Government. We too could then at an early date have that free trade we all so ardently long for, but if Victoria (which can now with its noble harbour of Esquimault and its Pacific coast trade run alone) is to sit as an incubus—a sort of Old Man of the Mountain—on our trade—is to be fixed on us for years by Act of Parliament, how can dear old mother England expect us to sit quiet under the burden. Nothing, I really think, can shake its loyalty, but that's an additional reason why our interests should not be sacrificed—a continent to an island. The idea started is, "Oh, you British Columbians have no political connections in England. We in Vancouver's Island have, and we mean to use them."

Forgive me, Mr. Editor, for allowing myself to be so far trotted out, but it is well known that your articles meet the eye of nearly every country gentleman in England at least once a week. I cannot resist the temptation of launching this little disquisition from this my solitude to meet their eye, and if, as I believe, its vein be good, the world (our world) will find it after many days.

I remember well poor Charles Buller aiding to grant the Charter to Vancouver (now defunct). His notion was that Vancouver was a little England—the eye, as he rightly called it, too, of England in the Pacific. British Columbia (New Caledonia then) he thought was too poor in resources (!!) to be much thought of for many a long year. Only half his prophecy was true. England has its eye over this vast and important ocean. But Columbia, instead of being poor, is, without fear of denial I say it, proved to be the richest new country in the globe Give us Governor Douglas to ourselves. Every man of us, friend or foe, knows that he is the man for Galway; knows every inch of the country, and yet has sufficient interest in Vancouver's Island, and is by no means mercenary. Give him a handle to his name if you like, but give us the Man.

## Home Correspondence.

*Table Decoration.*—Those who remember the first exhibition of Table decorations, and were present at the one just over, must, I think, be struck with the visible improvement of taste. A few years ago, and the refined and elegant design was the exception; so rare and welcome was it when met with, as to excite universal admiration. Now, on the contrary, the ungraceful and inelegant are the exception, and so fastidious are we become, as to criticize, or even pass by without comment, what before would have filled us with delight. Groups are now displayed to advantage, singly by themselves, instead of being all huddled together; and I think if anything could be devised to separate still more the different groups, that again would be a great improvement, for it must be allowed they rather kill each other. Passing along the table covered with vases, glasses, and baskets of various forms and sizes, teeming with fruit and flowers, arranged with all the taste and skill of those who have an eye for the beautiful, who can fail to be pleased with the result? Mr. March's design has once more walked off with a prize, and well did it deserve it, for the decorator had arranged his flowers and fruit with wonderful skill, so as to produce a most striking effect, conspicuously different from those around it. The stands were raised just 2 or 3 inches off the table, which was decidedly a great improvement, for the manufacturers are destroying the original beauty of the design, by making the foot of the pedestal as flat as a board. There was a group consisting of tall white ground glass vases with flowers at their bases, delightfully cool and refreshing-looking for a hot summer's day; this arrangement was effective, and the whole a very pleasing variation from the transparent glass stems; I was glad to see it had gained a prize, though I wished it had stood higher on the list. The first prize no doubt deserved its exalted position, otherwise it would not have had it granted to it; certainly the introduction of humming birds perched about and on the Fern leaves was a new idea, but beyond that it was difficult to discover great merit. Some people complain of the small glass stem in Mr. March's stand as being too slight to support the apparent weight of the bouquet on the top. To obviate this, some one had artfully contrived a charming plan of supporting the upper bouquet on a few thin gilt wires, almost entirely concealed by the mid-ribs of Fern leaves which were placed against them, so as to give the appearance of being held in its place by the leaves themselves, and nothing else. This group was very pretty, and highly commended; it had the great advantage over glass of not being liable to break. Many other cases might be singled out as worthy of notice, but I am tired; and since bad decorations were few, while the generality, if not effective, were inoffensive, I will add no more. *Fiorella.*

*Rain Water.*—What is the best method of continuing the purity of rain-water—an underground tank, exposure to the atmosphere, or occasional agitation? *N.*

*Fir Trees.*—Is there any attractive agency in Fir trees, not touching each other, so as to induce their nearer neighbours to extend their lateral branches, as there is evidently an extreme sensitiveness in the case of any obstruction even of an open fence, as I have observed among my Cedars of Lebanon especially. *N.*

*Death to Fungi.*—It is so long since I had occasion to communicate with you that I fear you will almost have forgotten me. I have made, however, a little discovery

which I think may be of some use to horticulturists, and it is this which induces me to trouble you again. Some three years ago I was consulted by a large brewing firm about the mould which in warm weather attacks the inside surfaces of their beer-barrels. When the empty barrels are returned they are washed, steamed, and dried by hot air. If kept for two or three days before they are again filled with beer, they become partially coated on the inside with a minute Fungus, and it was found that the beer put into such barrels speedily became sour. The idea occurred to me that this Fungus was the cause of the mischief, and that it acted on the saccharine matter of the beer much in the same manner as the "vinegar plant" acts on a solution of sugar—that is, it converts the sugar into acetic acid. I proved this to be the case by a carefully conducted series of experiments. The question then arose—how can the growth of this Fungus be prevented? I tried many chemicals, and several answered perfectly, but unfortunately those which succeeded best were poisonous and could not be used practically. At last, remembering that sulphur had been found to be the most useful remedy for the oïdium, and knowing that its action must be due to very slow oxidation, and consequent evolution of traces of sulphurous acid, the thought occurred to me to try the effect of a solution of bisulphite of lime; I tried this on a number of beer casks after they had been washed, and no trace of Fungus appeared. Beer put into these casks kept sound from six to 10 times as long as that which was put into casks which were coated with fungus. The firm alluded to now use it in all their casks, and the beer is found to keep sound very much longer. Starch makers are much pestered in summer with Fungi. I recommended the use of the bisulphite to the largest starch manufacturer in London, and he has found it a most effectual remedy. Last summer I advised several of my country friends to give it a trial as a remedy for Vine disease, and they have found it to be most efficacious. One friend living in Essex, and having several greenhouses, tried it on four Vines, which for several years had been much infested with oïdium, and never produced any eatable fruit. Last autumn he washed the stems with the bisulphite, and again this spring. He likewise washed the walls with it, and now keeps two or three saucers full constantly exposed in the greenhouse. It gives off a small quantity of sulphurous acid, and effectually keeps down the green vegetation which is so often seen on the walls of greenhouses. He tells me the Vines thus treated are the most healthy he has, and have a splendid show of blossom. His report, indeed, is so favourable, that I am induced to hope that a remedy for Vine disease has at last been discovered, and that you will be pleased to give it a trial. I shall be very happy to send you a few gallons should you, from the above statements, think it likely to be of value. I am having trials made on Potatoes. *Hy. Medlock, Chemical Laboratory, 20, Great Marlborough Street, W.*

*Cherokee Rose.*—What is it? In Mrs. Fanny Kemble's "Residence in Georgia," occurs the following passage:—A trellis tapestried with the most beautiful Roses I ever beheld—another of those exquisite southern flowers—the Cherokee Rose. The blossom is very large, composed of four or five white petals, as white and as large as those of the finest Camellia, with a bright golden eye for a focus; the buds and leaves are long and elegantly slender, like those of some Tea Roses, and the green of the foliage is dark, and at the same time vivid and lustrous; it grew in masses, so as to form almost a hedge, all starred with these wonderful white blossoms, which unfortunately have no perfume. *D.* [This is the Rosa lævigata, formerly known in gardens under the names of R. nivea, ternata, sinica, setifera, and scandens. It is many years since we saw it. Rose lovers in Europe don't care about it, nor indeed will it ever, in this dull damp climate, acquire the beauty it possesses in the Southern States of N. America.]

*Early Peas.*—I picked Peas on May 6, and I have gathered a good dish every day since. The sort was Sangster's No. 1. My second crop consists of Prince Albert and Early Frame, from which I am picking at the present time. I began digging good Ashleaf Potatoes in the open border on May 15. They were planted December 12, 1862. *G. Harnett, Gardener, Cadland Gardens, near Southampton.*

*Mr. Drummond of Swan River.*—I don't know whether the sad intelligence will reach you in any other way, but think I shall anticipate your usual sources, when I give you the information that by letter this morning from Perth, W. A., I learn that kind old Mr. Drummond has departed this life. He died on the 27th March, after a very short illness, and was laid to rest under one of the Hibiscus trees in his own garden. My intercourse with him has been confined to the last three years, but in that short time he has crowded favours, which are likely to be productive of signal benefit to me, and I were an ingrate indeed not to feel deep regret at the termination of our correspondence. I think he was about 79 years of age. *W. T.* [We received this news with great regret. Poor Drummond was one of those stout pioneers to whom home Botanists and all horticultural people are under the deepest obligations.]

*Salmon Ladders.*—I feel sure you will permit me in common fairness as short a reply as possible to your correspondent, who has attacked me in your impression of the 30th of May, and shouted so loudly for "facts! facts!" "E. C." shall have quite as many as he desires. Their name was "legion" who at first "condemned" my opinion, but that portion of the "legion" upon the Avon, who once deemed my sentence erroneous, have come to a far different conclusion now! I will not waste your valuable space by a wordy war. The "facts" so loudly shouted for by "E. C." are thus at once before the public. The ladder on the Avon at "Knapp Mill," which is the lowest royalty between the river and the sea, or between me and the sea, was a speculation. That is fact No. 1. I waited to see if it was a benefit to me, because if it was so to me, if I adopted a ladder at my weirs, it would have been a similar benefit to all those higher up the river. If it was no benefit to me, and if I simply for a selfish purpose accepted its use, then in that case "Knapp Mill" would have been the first speculative failure, and my weirs would have been the second still more dishonest failure; for I, with my eyes open to the effect of the first ladder, should have pillaged the public by a second obstruction, and my lower neighbour and myself would have been the only two persons benefited, which was most decidedly not the meaning of the new act of parliament. The above gives you fact No. 2. We go on to fact No. 3. It so happens that a public path gives to me and to my men a right to inspect "Knapp Mill ladder" at all hours. I took care that the ladder, the management of the gates, and the fishing of my lower neighbours should be watched. In one week from 80 to 90 salmon were taken below the ladder, and in three weeks a similar average quantity. In those three weeks I got two salmon, and my two neighbours above me about six or seven each, or it may be a few more. The salmon which we in the upper fisheries obtained, came up during the time of the "free run," forced to be given by Act of Parliament between noon on Saturday and 6 o'clock on Monday morning, and not a salmon at any other time. I observed that this ladder was stuck on one side the weirs adjoining a building, and not in a place to which the natural instincts of the salmon would direct them, and that by a dextrous management of the gates, the ladder could be made to lose even its legal use of water, while the whole course of the river could be made to run through racks put down to prevent the fish going up, in which the old free gap, which was of use, had been stopped and superseded by the ladder. Every naturalist and real fisherman knows that our salmon is lured by the chief fall of water, and it is not the nature of the fish to look for a little hole to creep through, nor can the fish be made to comprehend the ridiculous steps by which he is invited to ascend. When a salmon ascends he does so by the most even glide or shoot imaginable, and he will smoothly and apparently without any effort, go swiftly up an inclined plane of water that rushes with the force that the largest sluice with 10 feet of water on its face, can give it. To put "bars" in the salmon's way is to scare him from his natural attempt to ascend, and to pen him back, is to send him away to lie at the foot of the racked falls, in a natural expectancy that a "fresh" will come, and open up a way. The salmon, therefore, at Knapp Mill, do not attempt "the ladder," and during the time that they lie waiting for what to them is a natural probability, they are exclusively taken by the fishermen of Mr. Walker and his tenant, Mr. Cockerell, the latter of whom must have realised a harvest up to this present time of from 300 to 400 salmon, if not more; while myself and the two upper proprietors next me, Col. Fane and Mr. Mills, may have had together about 50 fish, those fish always making their first appearance on the Monday after all gates have afforded a free run. The concluding fact is this. I told Mr. Walker and his tenant, Mr. Cockerell, that their ladder was a deception on the public, and a subterfuge as regarded the intention of the Act, and that it gave them, save when the gates were open, a monopoly of the salmon, and on that account I would not have such an incubus at my weirs, but if they were really desirous of affording a free run, I commissioned Mr. F. Fane to make them this offer:—If they would let me select a gate to be always kept open at their weirs at Knapp Mill, I would let them select one at my chief weirs for the same purpose. And if they would let me select two gates at their weirs, I would give them gate for gate at mine. To this offer they returned an answer through Mr. F. Fane, "that if I would put up a ladder similar to theirs at Knapp Mill, they would then perhaps treat further." To this I replied, "that though I knew the ladder to be a subterfuge, amounting to an excuse to take salmon illegally, if Mr. Walker would covenant to open gate for gate with me, and thus confer a public benefit, I would put up a ladder, but not unless. To this offer, Mr. F. Fane up to the present time has failed to obtain any answer. Here are "facts" enough for "E. C." were he the greatest glutton for the truth ever known, and I hope that in future he will study his subject better. *Grantley F. Berkeley, Winkton House, Ringwood.* [*Peccavimus.* We were wrong in allowing this matter to be meddled with, and we shall not do so again.]

# Societies.

ROYAL HORTICULTURAL: *June* 17 (*Second Great Flower and Fruit Show*).—Of the grandeur of this admirable display it is impossible to speak in too high terms. Stove and Greenhouse plants, and those remarkable for the beauty of their leaves, were present in great abundance; Orchids and Pelargoniums never looked fresher or more charming; the want of brilliancy in Roses in pots, driven out by a midsummer's sun, was made up by that of cut blooms, of which a profusion of lovely trusses was exhibited; a crowd of new plants, of which notice is taken in another column, excited universal interest, as did also the long table filled with devices for the decoration of the dinner table; and last, but not least, there was a grand exhibition of fruit.

*Stove and Greenhouse Plants.*—If there was one plant among these that received more admiration than another it was Pleroma elegans, of which one of the finest specimens we have ever seen came from Mr. Whitbread, gr. to H. Collyer, Esq., of Dartford. It was predicted of this fine Melastomad when first introduced that it would prove one of the most beautiful greenhouse plants hitherto known to cultivators, and certainly the matchless soft rich violet purple colour of its blossoms, each as round and as large as a crown piece, produced in succession for many weeks together, fully justifies the prediction. The plant is also on the whole so easily managed that cuttings struck of it even thus late in the season might under skilful treatment be induced to make good sized plants before winter. The same excellent cultivator also had some pretty examples of Dipladenia covered with showy round rosy flowers; various Ixoras, which when in good bloom as these were are striking plants; and large bushes of the old fashioned white stove Vinca. In other collections we noticed finely flowered plants of Kalosanthes, Allamandas, Stephanotis, the Phlox-like Leptodactylon californicum, Hoya bella, and Mitraria coccinea, the last not well in bloom.

*Awards.*—15: 1st, Mr. Whitbread; 2d, Mr. Peed; 3d, Mr. Green; 4th, Mr. Baxendine: extra, Mr. Rhodes. 12: 1st, Mr. Cole; 2d, Messrs. Fraser; 3d, Messrs. Lee; 4th, Mr. Cutbush. 9: 1st, Mr. Chilman; 2d, Mr. Page; 3d, Mr. Wheeler; 4th, Mr. Kaile. 6: (1st prize withheld); 2d, Mr. Tegg.

*Fine Foliaged and Variegated Plants.*—These being generally large in size, and furnished in unusual abundance, formed by no means an unattractive feature on this occasion. Among them were many fine specimens of Caladium Chantini, one of the finest of its class; Dicksonia antarctica; the singularly cut leaved Philodendron pertusum; Cordylines, Dieffenbachias, Palms, and Dracænas. Of the last a fine collection came from Mr. Bull. Messrs. Henderson contributed a well-grown plant of Cissus porphyrophyllus.

*Awards.*—10: 1st, Mr. May; 2d, Mr. Smith; 3d, Messrs. Lee and A. Henderson & Co.; 4th, Mr. Hutt. 6: 1st, Messrs. Jackson; 2d, Mr. Bull.

*Orchids.*—Of these there was an extensive display, consisting chiefly of plants which have been exhibited before, but still in excellent condition. Large masses of Aerides, Cattleyas, Oncids, and Dendrobes, in the finest possible health, and covered with bloom; Lælia purpurata, strikingly beautiful; potfulls of the charming terrestrial Orchis foliosa, first brought prominently into notice by Mr. Williams of Holloway; Saccolabiums, Brassias, and Epidendrums continued to attract crowds of admirers during the whole afternoon. Of species not so often seen we noticed Vanda Batemanni, with only 4 flowers open, but these sufficient to show how magnificent must be the spike when all on it were expanded, for it was covered with buds; the rare Mexican Barkeria melanocaulon; Odontoglossum Phalænopsis, which has been shown before this season, still in fine flower; and Brassavola Digbyana, with a large trumpet-shaped curiously fringed lip. This last was in a fine collection from Mr. Milford, gr. to E. McMorland, Esq.

*Awards.*—20: 1st, Mr. Milford; 2d, Mr. Baker; 3d, Mr. Page. 12: (1st prize withheld); 2d, Mr. Woolley. 10: 1st, Mr. Penny; 2d, Mr. Green; 3d, Mr. Peed. 6: 1st, Mr. Lovell, 2d, Mr. Wiggins; 3d, Mr. Whitbread. Extra, Mr. Smith. Mr. Chilman and Mr. Wheeler also showed in this class.

*Azaleas.*—A few good plants of these were shown, but they were nearly out of bloom. Mr. Ivery however had two semi-double varieties still in good condition.

*Awards.*—9: 1st, Mr. Page; 2d (withheld); 3d, Mr. Whitbread. 6: 1st, Mr. Ivery.

*Roses.*—Those in pots, though somewhat deficient in brightness of colour, were nevertheless good for the season. Cut blooms were plentiful, and, as is always the case, were greatly admired, especially the collection from Mr. Turner, of Slough, which was remarkable for its freshness and beauty. Conspicuous among the different sets were Madame Charles Wood, Imperatrice Eugénie, Jean Bart, Notre Dame de Fouvières, President Lincoln, Duchesse d'Orléans, Triomphe d'Angers Sombreuil, Eugène Appert, La Reine, Baronne Larray, Peter Lawson, Madame Furtado, Jean Goujon, Bougère, Prince Leon, Evêque de Nismes, Gustave Rousseau, Madame Joseph Halphen, Chénédole, Le Baron de Rothschild, Miss Gray, Souvenir de Lady Eardley, Souvenir d'un Ami, Empereur de Maroc, La Boule d'Or, Alexandre Fontaine, Louise Darzens, Maurice Bernardin, and Julie Mansais.

*Awards.*—Cut Blooms: 1st, Mr. Turner; 2d, Mr. Mitchell and Messrs. Paul; 3d, Mr. Hollamby; Extra, Mr. Terry. Pot Plants: 12 1st, Mr. Wm. Paul; 2d, Mr. Francis. 6: 1st, Mr. Terry.

*Cape Heaths.*—Among these were good examples of the different varieties of tricolor, eximia, depressa, Massoni, ventricosas of various kinds, mutabilis, Bergiana, obbata, Aitoniana, and nobilis, the last a buff-coloured kind.

*Awards.*—6: 1st, Mr. Peed; 2d, Messrs. Jackson; 3d, Mr. Chilman; extra, Mr. Page.

*Pelargoniums* were even better than at the Society's last show, fine as they were on that occasion. In short the collection from Mr. Nye, gr. at Clewer Manor, was a marvel of its kind. Of others, the spotted kinds especially were unusually striking and brilliant, and foremost in this respect was Wm. Bull, a glowing crimson with violet-flushed white eye, and distinct black spots on all the petals. Gem, a soft Rose, is really what its name implies; Mr. Marnock is similar in appearance, but has a darker top; and Osiris, Madame Furtado, and Excelsior, are all acquisitions in the class to which they belong. Among light-coloured Fancy kinds Delicatum is a most profuse flowerer. Of Roi des Fantaisies one half of each blossom is bright rose, the other nearly white, the two colours contrasting admirably one with the other; and Evening Star and Claudianum are two good dark sorts. Among ordinary kinds one of the best light varieties shown was Ariel, white with crimson top. Among rose-coloured kinds with white eye Rose Celestial stood preeminent; among orange scarlets Lord Clyde, and among brilliant rosy scarlets Sunset. Viola is also a good old distinct-looking kind, with dark mulberry top and delicate lilac-coloured under petals. The sorts, together with the number of times each variety was shown, were as follows:—Ariel, 3; Bacchus, 2; Beatrice, 1; Beauty of Reading, 1;

Brilliant, 1; Criterion, 1; Desdemona, 2; Etna, 2; Excelsior, 1; Fairest of the Fair, 1; Festus, 1; Flora, 1; Glowworm, 1; Guillaume Severyns, 2; Lady Canning, 1; Leviathan, 1; Lightning, 1; Lillie, 1; Lord Clyde, 3; Magnificent, 1; Matilda, 1; Modesty, 1; Monarch, 2; Nestor, 1; Osiris, 1; Peacock, 2; Perdita, 1; Pizarro, 1; Prince of Prussia, 3; Rose Celestial, 3; Rowena, 1; Sanspareil, 3; Sir C. Campbell, 1; Stella, 1; Sunset, 1; Symmetry, 1; The Belle, 1; The Bride, 2. Fancies.—Bridesmaid, 1; Clara Novello, 1; Claudianum, 2; Clemanthe, 1; Cloth of Silver, 1; Delicatum, 2; Evening Star, 1; Lady Craven, 1; Roi des Fantaisies, 2. Spotted.—Bracelet, 1; Excelsior, 1; Guillaume Severyns, 1; Madame Furtado, 1; Mazeppa, 1; Mr. Marnock, 2; Osiris, 1; Rembrandt, 1; Sanspareil, 1; Spotted Gem, 1; Wm. Bull, 1.

*Awards.*—12: 1, Mr. Turner; 2, Messrs. Fraser. 9: 1, Mr. Nye; 2, Mr. Shrimpton; 3, Mr. Page; extra, Mr. Hutt. Fancies, 6: 1, Messrs. Fraser; 2, Mr. Turner. Spotted, 6; 1, Mr. Turner and Messrs. Fraser.

*Ferns.*—One or two strikingly fine collections of tender kinds were shown, the bright green leaves of which gave relief to the eye overtaxed with looking at gaudy colours; and of hardy varieties, Mr. Ivery, of Dorking, again contributed his handsome group, to which favourable allusion was made when last exhibited

*Awards.*—12: 1st, Mr. Bull; 2d, Messrs. A. Henderson; 3d, Mr. Lavey; 4th, Mr. Young.

*Wardian Cases.*—A handsome comparatively large sized one was furnished by Messrs. A. Henderson & Co., and a much smaller one by Messrs. Barr & Sugden. The last was rectangular, made of wood and glass, with movable side-panels, and had a raised glass lantern at top, removable when wanted.

*Awards.*—1st, Messrs. Henderson; 2d, Messrs. Barr & Sugden.

*Miscellaneous Subjects.*—Among these were collections of Cut Blooms of Pinks and Pansies, from Mr Turner, Mr. Bragg, and others; a fine display of Pæonies from Messrs. Fraser and others; Ixias, Sparaxis, and Spanish Iris, from Messrs. Butler & M'Culloch, Barr & Sugden, and Hooper; Larkspurs and Calceolarias from Messrs. Downie, Laird & Laing, and a cut specimen of the Chusan Palm now in flower in the open air near Kingsbridge, Devon, from J. Luscombe, Esq. Of comparatively new plants, besides those already referred to, was a noble specimen of the Alocasia Lowii described at p. 580, from the introducers Messrs. Low & Co.

*Table Decorations.*—The remarks of a correspondent published in another column, for the correctness of which we can vouch, leave little for us to add on this subject. The display was extensive, and for the prizes offered there was keen competition. In many of the designs good taste was evident, but one or two were hideous productions. We allude more particularly to one from a nobleman's gardener, in which was inserted a quantity of wax candles, and to another decorated with Capsicums, bits of Cauliflowers, Potatoes, Asparagus, &c, mixed up with fruit and flowers. This last was, however, singularly enough commended by the lady adjudicators. The set to which the first prize was awarded was light and elegant in appearance; but whether the introduction of humming birds into the design was good taste or not was a matter of general question among the visitors, the majority of whom seemed to think it would have been better without than with them. The second prize set consisted of Mr. March's design in glass, very tastefully ornamented with flowers, among which the white Calla æthiopica and Cactus blooms were conspicuous. The group which gained the third prize consisted of long ground glass vases, each of which held a beautiful bouquet, supported on a circular base decorated with glass shells, in which were placed white Iris flowers, an arrangement that seemed to receive general admiration. Another, consisting of glass tubes, bent so as to form ovals in the centre tastefully ornamented with flowers, was commended; and Miss Maling and Mr. Salter had each of them pretty exhibitions, that from the latter consisting of three slender wires concealed behind Fern leaves, supporting a tray full of flowers at top. A flower tray from Mr. Weeks of Bromley appeared to be a favourite. It consisted of a pot or holder large enough to admit of an ordinary flower pot being placed in it, thus making it easy to change a plant, in blossom or otherwise, when wanted. Around this was a circle with a perforated bottom in which Lycopods or Mosses may be grown luxuriantly. Another outer circle was for wet sand, in which cut flowers may be placed. When neatly arranged the whole forms quite a garden in miniature, which may be watered with a fine-rosed water-pot; and thus treated, both plants and flowers will, as a matter of course, retain their beauty and freshness much longer than by the usual mode of display. Finally, Mr. Earley, of Digswell, had some extremely pretty things for table ornament in the form of four flower saucers, held together by means of bent wire handles crossed at top, to be overrun if desirable with sprigs of green. These were accompanied by a centre piece, which also displayed considerable ingenuity.

*Awards.*—1st, Lady Rokeby; 2d, Mrs. J. W. Bliss; 3d, Mrs. W. Fawcett. Commended: Lady C. Kerrison, Lady Holmesdale, and Mr. Alfred Salter.

*Collections of Fruit.*—Three of these were exhibited, in which we noticed some good Black Hamburgh, Trentham Black and Muscat Grapes; Queen and Black Jamaica Pine Apples; a dish or two of Peaches and Nectarines, Melons, and Strawberries.

*Awards.*—1st, Mr. Masters; 2d, Mr. Henderson; 3d, Mr. Turnbull.

*Grapes.*—Of Black Hamburgh some fine bunches were exhibited, more especially dishes from Mr. Sawkins, gr. to J. Brassy, Esq., and from Mr. Turner, of Slough. White Grapes were not so good, and only in one or two instances were they quite ripe. Of Chasselas Musqué good bunches were however shown, without crack or other disfigurement in them. Golden Hamburgh was poorly represented, though the bunches shown of it received a first prize.

*Awards.*—Black: 1st, Mr. Sawkins; 2d, Mr. Turner; 3d Mr. Jackson. Muscats: 1st, Mr. Embry; 2d, Mr. Turnbull; 3d, Mr. Turner. Other White Grapes: 1st, Mr. Wills; 2d, Mr. Mould; 3d, Mr. Cross.

*Peaches and Nectarines.*—Of these there was a good display, consisting of excellent specimens of Noblesse, Royal George, and Bellegarde Peaches, and Violette Hâtive and Elruge Nectarines.

*Awards.*—Peaches: 1st, Mr. Rutland; 2d, Mr. Snow; 3d. Mr. Allen and Mr. Brown. Nectarines: 1st, Mr. Rutland; 2d, Mr. Brown; 3d, Mr. Horwood and Mr. Turner.

*Cherries.*—These consisted of Elton, Knight's Early Black, Mayduke, and Reine Hortense.

*Awards.*—1st, Mr. A. Henderson; 2d, Mr. Snow; 3d, Mr Enstone.

*Strawberries.*—Mr. Smith, of Twickenham, again showed magnificent fruit of British Queen, Sir C. Napier, and Empress Eugénie. Than these nothing in their way could possibly be finer. Among other sorts were President, in beautiful condition; Oscar, Sir Harry, Eleanor, Crimson Queen, and Keens' Seedling.

*Awards.*—Single dish: 1st, Mr. Smith; 2d, Mr. Widdowson; 3d, Mr. Turner. Three dishes: 1st, Mr. Smith; 2d, Mr. Widdowson; 3d, Mr. Dwerrihouse.

*Figs.*—With the exception of one dish of White Marseilles from Mr. Pottle, these were confined to Brown Turkey.

*Awards.*—1st, Mr. Smith; 2d, Mr. Henderson; 3d, Mr. Snow.

*Melons.*—These were numerous and generally good. The best, a green-fleshed sort belonging to the Persian breed, came from Mr. Meredith of Garston, near Liverpool; of this we have had occasion to speak in favourable terms in former reports. Of scarlet-fleshed varieties the best came from Mr. Terry, gr. to Lady Puller; it was a medium-sized, unnamed, prominently-ribbed kind. Mr. Dwerrihouse furnished good fruit of the Heckfield Green-fleshed.

*Awards.*—Green-fleshed: 1st, Mr Meredith; 2d, Mr. Chilman. Extra, Mr. Pottle. Scarlet-fleshed: 1st, Mr. Terry; 2d, Mr. Kaile.

*Pine Apples.*—These were not numerous, but some of them were fine specimens of good cultivation. Among them were one or two Queens which weighed over 5 lbs., and a Providence from Mr. Young, gr. to C. Bailey, Esq., Aberdare, weighed 12 lb. 8 oz. A Smooth-leaved Cayenne weighing 4 lb. 14 oz. came from Mr. Taylor, Leeds.

*Awards.*—Cayenne: 1st, Mr. Taylor. Other varieties: 1st, Mr. Hutchison; 2d. Mr. Hall and Mr. Young; 3d, Mr. Speed.

Miscellaneous fruit consisted of some Apples of last year's growth, still in a good state of preservation; a dish of fine fruit of Passiflora quadrangularis; one or two dishes of very fine Tomatos; and groups of extremely well managed fruit trees in pots, covered with fruit, from Messrs. Lee and Lane.

## Notices of Books.

*History of the Botanic Garden at Zürich.* By Prof. O. Heer.

In the monastery gardens of the middle ages, there was generally a small portion set apart, in which medicinal plants were cultivated. Thus the plan of the monastery of St. Gall, in the year 820, shows us near the hospital and the surgeon's dwelling, such a garden (Herbularius), containing 16 beds, in which were cultivated Lilies, Sage, Mint, Cumin, Rue, Rosemary, Fœnum græcum, Iris, Heartwort, Fennel, Savory, and Roses.

From this arose the botanic garden proper, which could only originate when plants first began to be scientifically examined. In the classical ages we already find the first germs of the science of Natural History, which throughout the middle ages lay buried in a few manuscripts. At the time of the Reformation the study was revived, and in Switzerland, as elsewhere, was eagerly followed by a few. Amongst those whom natural philosophy attracted, Conrad Gesner (born in 1516) must especially be named; since he undoubtedly takes the first place among the reformers of natural history. Possessed of an astonishing knowledge of Greek and Roman literature, he combined what the ancients had learnt of plants and animals, with the discoveries of his contemporaries, and devoted himself with untiring industry to the study of Nature. As a boy he tended the garden of his great uncle, and made himself acquainted with the plants contained in it; as a youth, from Lausanne (where he was nominated Greek professor in his 21st year) he travelled over the Waatland and the Valais, and collected the botanical treasures of these regions; while later, accompanied by Rauwolf, from Montpellier, where he was studying medicine, he collected those of the south of France. After his return to Zürich, he made several expeditions to the North of Italy and in the Alps, and laid out a garden in which he placed the plants which he had brought home; he further employed foreign draughtsmen and engravers, and had more than 100 drawings prepared to illustrate his intended great botanical work.

In his book on German gardens, in which he described a heterogeneous assemblage, from kitchen gardens to the parks of princes, the botanic garden was, for the first time, placed in its true light, distinguished from other gardens, and described as one in which not merely medicinal plants, but also others, and especially rare plants, are cultivated for the examination and admiration of their peculiarities. What importance Gesner attached to such a garden may be seen by his letters to the magistrates, in which he earnestly entreats to be allowed to lay out such an one. His wish, however, was not granted, and he was obliged to be satisfied with his own garden, and those of two friends. Gesner tended with especial affection the plants of those Alps which it was his highest delight to explore. He complains indeed that they are very difficult to rear, yet we find 50 species named as growing in his garden, with many remarks on their cultivation, which are the more interesting, as no one had previously attempted to rear them. As his was the first botanic garden in Switzerland, so was his Alpine garden the first in Europe.

The rich botanical treasures which Gesner had gathered together in Zürich were dispersed after his early death (1565); with the exception of his valuable collection of drawings and writings, which was preserved by the town.

Gesner was a shining star in the horizon of Zürich; and when he died, darkness returned for a long time. It is true that in the following century we find the names of three naturalists worthy of note:—Muralt, and the brothers Scheuchzer. But no attempt was made to establish such a garden as Gesner's; this was reserved for Scheuchzer's successor, J. Gesner, who founded a Natural History Society, of which the first proposal was to establish a botanic garden. By means of a lottery, and subscriptions, a sufficient sum was raised in 1748 to enable the Society to rent a piece of ground containing 24,000 square feet, which under the superintendence of the founder of the Society was converted into a botanic garden. Herbaceous plants were arranged in it according to the system of Linnæus, and trees and shrubs were planted in groups. The first seeds sown were some which the eminent naturalist, J. G. Gmelin, had brought home from his travels in Siberia; while Gleditsch, the director of the Berlin garden, enriched the young establishment with many rare plants, so that it was shortly in a flourishing condition.

*(To be continued.)*

## Garden Memoranda.

Royal Horticultural Society's Garden at Chiswick.—Although now forming as it were the workshop in which are manufactured most of the fine materials in the way of floral decoration that attract so much attention in the new conservatory and elsewhere in the Society's gardens at South Kensington, and although, consequently, high keeping out of doors is not attempted here, yet Chiswick at the present time is, on its own account, well worth inspection.

Under the skilful management of Mr. Eyles, seconded, be it remembered, by his able foremen, Mr. Barron and Mr. Beaumont, the cultivation at Chiswick has never before been equally good. Trimness and ornament, have, it is true, been in a great measure discontinued, but in what concerns the health of plants and their successful treatment there is nothing further to desire. Flower beds are rich with Pelargoniums, dwarf Dahlias, Calceolarias, Verbenas, and other florists' flowers, grown for the purpose of testing their true value. Fruit trees on walls, and in the shape of pyramids and espaliers, are pictures of perfect training, and everywhere, with few exceptions, loaded with fruit; and in the kitchen garden are large collections of Potatos and other esculents grown for trial, or for market.

The glory of the place is, however, its huge iron Vinery. This building, once, it will be remembered, a grand conservatory, is now converted into an experimental house for proving the qualities of Grapes. It is 180 feet in length, 30 feet in breadth, and 26 feet in height, and now contains more than 100 sorts of Vines in vigorous health and in full bearing. These form a vast leafy canopy, nearly covering the roof, and when loaded with ripe fruit present a sight unrivalled in the way of Grape growing. The bunches are now being thinned, and to show that the crop this year will not be behind its predecessors in excellence, we may mention that one of the clusters of Barbarossa pruned off, and that of course not the finest, measured 15 inches in length and as much across the shoulders. Some of the leaves too on young shoots of the Frankenthal, the most useful perhaps of the many varieties of Black Hamburgh, measured 16 inches one way, and as much the other. One or two kinds proved to be inferior, have been cut down and grafted with sorts known to be good, an operation which is performed just as the stock is getting into full leaf. In another Vinery, a lean-to one, the crop is nearly ripe, not large either in bunch or berry, but good; and in a low pit, in which numbers of new varieties are grown for trial, the berries of some are just changing colour. Another Vinery is filled wholly with Muscats, among

which the Tynningham and Passe Muscats have proved to be the best setters, being as free in this respect as Black Hamburghs.

The little Orchard-house itself is well worth a visit; it is quite a picture of first-class gardening. The trees, consisting of Peaches, Plums, Pears, Apricots, and Cherries, chiefly in pots, are loaded with fruit, and nothing could be more healthy or clean than the foliage, which is more vigorous, and of a better colour even, than that out of doors. These trees are managed on the close pinching system, and are fed two or three times a week with liquid manure.

A long pit is filled with Cucumbers, one half in pots and the other half planted out, all being trained on trellises. Of these the plants in the half planted out are the most vigorous and fruitful. Among them we noticed fine examples of Carter's Champion, an excellent early variety, and a good kind from Mr. Cuthill, evidently related to the Syon House breed.

A large lean-to house, formerly a plant stove, is now chiefly filled with Figs of different sorts, of which a good collection has been got together. They are little dwarf standards in pots, and when the fruit on them is ripe an inspection of it will, doubtless, form a treat to lovers of Figs.

Ewing's glass wall, which at one time occupied so much attention, but which in its original form proved an utter failure, has at length been turned to good account. It has been converted into a long span-roofed house, in which Peaches are trained along the front cordon oblique fashion, and Vines along the back, this being intended as a testing house for these fruits. Shelves placed along the back and front furnish excellent accommodation for early Strawberries, of which good crops of British Queen, Sir C. Napier, and Keens' Seedling, have been produced this spring, these being the kinds most esteemed here for forcing. Being 196 feet in length it will doubtless be found very useful in many ways.

In plant houses little alteration of any importance has taken place since our last visit. They are, we may however state, kept as dressy and neat as ever we remember to have seen them. Of new plants, they contain a considerable number from the Society's collectors, Mr. Weir and Mr. Cooper; but as yet most of them are not in a sufficiently advanced state to require special notice. Among Miscellaneous things from other quarters, are young examples of the Grecian Conifers alluded to the other day at p. 534; Streptocarpus Saundersii, a white-flowered species with a bright blue eye and very handsome; and various new Begonias. In the old Orchid house are two fine plants of Alsophila Cooperi, a New Zealand Tree Fern of great beauty presented to the Society by Sir Daniel Cooper; and last, but not least, we may mention that Mr. Beaumont, who has the care of the Plant Department, has succeeded in raising from seed ripened in this country a young plant of the charming terrestrial Cape Orchid, Disa grandiflora, panfuls of which are growing in a cool pit under his charge in the greatest possible luxuriance.

Of out-door fruit all kinds appear to be plentiful except Apples, which are a thin and partial crop. They are found to be better on dwarfs than on trees of greater height. Peaches and Nectarines on walls are all that could be desired, and Pears are everywhere good. Strawberries are also bearing abundantly. Vicomtesse Hericart de Thury is considered a useful early sort; its fruit is bright red and conical, and the variety is very hardy and a great bearer. Eclipse is said to be an excellent mid-season kind; and for general utility few beat Cuthill's Prince of Wales, which is not only a late but a plentiful cropper. La Constante, a dwarf compact sort, producing few runners, would make a good edging plant; it is a mid-season variety and a good bearer.

## Miscellaneous.

*Iron as a Tonic in the Vegetable Creation.*—A curious discovery is alleged to have just been made regarding the influence of iron on vegetation. Preparations of iron are used in the animal world as a medicine where the blood is poor in red particles. The pale cheeks of the invalid often regain their bloom under the influence of such tonics. It is much the same, it appears, with plants. On the chalky soils of France and England, where there is an absence of iron, vegetation has a sere and blanched appearance. This is entirely removed, it is said, by the application of a solution of sulphate of iron. Haricot Beans watered with this substance acquired an additional weight of 60 per cent.! [How would a few doses of cod-liver oil agree with them?] Mulberries, Peaches, Pears, Vines, and Wheat derive advantages from the same treatment. It is expected that the salts of iron will be found as beneficial in farming as in horticulture, but the experiments are as yet very incomplete. In the cultivation of Clover, however, wonderful advantages are declared to have been gained. The material is cheap, and the quantity applied is small. *The Builder.*

*The Origin of Man.*—The Committee of French and English scientific men appointed to examine on the spot the evidence of man's antiquity as indicated by the discovery of a fossil human jaw and worked flint hatchets discovered near Abbeville, have come to the following conclusion. The jaw bone is certainly of the same age as the diluvian formation in which it was found. But what is the age of the formation? Nothing is settled as to that. As to the flint hatchets, they are pronounced to be undoubtedly contemporanean. The *Athenæum* further states that M. Elie de Beaumont expressed his opinion that the gravel deposit of Moulin-Quignon did not belong to the Quaternary or diluvian age at all, but that it was a member of the *terrains meubles* of the actual or modern period, in which he would not be in the least surprised if human bones were found; adding, moreover, that he did not believe in the asserted existence of man as a contemporary of the extinct elephants, rhinoceroses, &c., of the Quaternary period! The opinion of this very eminent and veteran geologist imports a new element of doubt into the question.

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

Conservatory, &c.—Now that the conservatory is relieved of all superfluous stock, nothing remains but to carry out a cleanly system of cultivation, and to introduce fine specimens from other houses or pits. All available surfaces should be moistened morning and evening, thorough ventilation obtained, and a thin canvas screen kept on during bright sunshine. As regards Stove plants, a very free use of the syringe, with abundance of air night and day, should be persisted in, the main business being to produce sturdy plants with short-jointed wood. Liquid manure, composed of cowhouse drainage, guano, and soot-water, should be constantly in use, taking care to employ it in no other way than clear and weak. Give air liberally to Orchids, syringing them freely early in the morning, and shutting up betimes in the afternoon. With respect to mixed greenhouse plants pursue the directions given for the conservatory. Use abundance of water morning and evening, with a particularly free circulation of air. Continue to make cuttings of gay things for a late autumn display. Camellia stocks may now be grafted, choosing the young wood which has the leaves perfectly developed, and which is of a ripening brown colour at the base. A slight hotbed, with a bottom-heat from fresh fermenting material of 80°, will be found suitable for them, placing a foot deep of cinder ashes over it, to keep down worms. Amaranthus melancholicus ruber makes a first-rate edging plant under glass, and a good supply of it should be secured for that purpose.

### FORCING DEPARTMENT.

Pinery.—Use the syringe in earnest to all the stock, shutting up as much solar heat as possible, and giving abundance of air to young and growing plants. Be careful to shade slightly the fruiters, in order to insure a greater amount of atmospheric moisture, which of course is dissipated by much ventilation.

Vineries.—Early houses will now be cut, or in cutting, in many places. Do not hurry the plants into a resting state; nothing will be gained in point of earliness next year by such a course; rather endeavour to keep the leaves well fed, as long as the vital forces are at work, and to this end allow laterals to ramble awhile if so inclined. Ventilate late houses freely by 6 or 7 o'clock in the morning, and keep a little air on all night, if the thermometer can be maintained at 65° without the aid of fire heat. Keep floors and all surfaces wet, in preference to much syringing, if a fine bloom is desired.

Peach-house.—Give plenty of air day and night, and syringe heavily morning and evening, except where fruit is ripening. Persist in constant stopping.

Cucumbers.—If early Cucumbers are exhausted with much bearing, and infested with thrips or spider, prune them freely, and shut up and shade every morning by 10 o'clock, after a free circulation of air. Let them be syringed before shutting up. The thermometer, with careful shading, may be allowed to rise to 95°; this course persisted in for a little while will kill or drive away the enemy, and throw the plants into new growth.

### FLOWER GARDEN AND SHRUBBERIES.

All newly bedded out plants will, during hot weather, require daily waterings. Let young shoots on all old Fuchsia stools be thinned out to five or six. Attend diligently to Standard Roses; constant disbudding is necessary at this period; also keeping down suckers. Let every attention be paid to propagating a reserve stock to fill gaps, and let plants already rooted, or the remains of store pots, have kindly cultivation forthwith, in order to be ready for that purpose. They should be kept in a shady border entirely by themselves, and should receive free waterings. Great attention must be paid to Ranunculuses, for should they remain in the ground too long, they make fresh roots; therefore they must be taken up as they arrive at maturity, which is evidenced by the foliage becoming yellow. Semi-double seedlings of good properties as to form and smoothness of petal should be carefully preserved for the purpose of fertilisation. Pansies require regularly watering and shading, or they are liable to be attacked with mildew. The buds on Carnations and Picotees may be reduced, according to the strength of the plants, but to ensure large flowers not more than three ought to be retained on each; remove all laterals as they appear, and attend to the destruction of green fly, which is more than usually troublesome.

### HARDY FRUIT AND KITCHEN GARDEN.

Those who understand fully the importance of a thorough ripening of the wood in all wall-trees, or tender espaliers, will of course pay attention to thorough thinning and early training. Who can expect Peaches to perfect this process when the young wood is dangling from the wall until August? Pears at this period should also have as much attention as Peaches. The breast wood must be kept short, and in doing this remove it from the upper half of the tree first. Those who desire a good and constant supply of autumn and winter Endive must make a full sowing forthwith; Endive is generally sown too thickly. A good sowing should also be made in the first week of July, and a second towards the middle; after which the plant will not attain full size. As soon as the plants are a few inches high, mow the tops of the leaves off with a scythe, cutting about one-third of them away.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending June 17, 1863, as observed at the Horticultural Garden

| June. | Moon's Age. | Barometer. | | Temperature. | | | | | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Of the Air. | | | Of the Earth | | | |
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 11 | 25 | 29.543 | 29.426 | 67 | 46 | 56.5 | 60 | 57¼ | S. | .31 |
| Friday 12 | 26 | 29.474 | 29.432 | 65 | 42 | 53.5 | 59½ | 57¼ | S.E. | .33 |
| Satur. 13 | 27 | 29.914 | 29.689 | 67 | 39 | 53.0 | 60 | 57¼ | W. | .04 |
| Sunday 14 | 28 | 29.963 | 29.916 | 73 | 54 | 63.5 | 61 | 57½ | W. | .07 |
| Mon. 15 | 29 | 29.949 | 29.930 | 71 | 41 | 56.0 | 61 | 57¾ | S.W. | .00 |
| Tues. 16 | ● | 29.945 | 29.869 | 65 | 53 | 59.0 | 61 | 58 | S. | .25 |
| Wed. 17 | 1 | 29.830 | 29.775 | 76 | 40 | 58.0 | 61 | 58¼ | S.W. | .00 |
| Average. | | 29.802 | 29.721 | 69.1 | 45.0 | 57.0 | 60.5 | 47.7 | | 1.0 |

June 11—Fine, but windy; cloudy and showery; rain at night.
— 12—Cloudy; showery; heavy rain at night.
— 13—Fine; very fine; showery; cold at night.
— 14—Very fine throughout.
— 15—Very fine; cloudy; fine at night.
— 16—Hazy; rain; heavy rain at night.
— 17—Cloudy; overcast; cloudy and fine; very fine.
Mean temperature of the week 3¼ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending June 27, 1863.

| June. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 21 | 73.8 | 50.9 | 62.3 | 16 | 0.68 in. | 1 | 5 | 4 | 3 | 1 | 18 | 4 | 1 |
| Mon. 22 | 73.4 | 49.4 | 61.4 | 16 | 0.59 | — | 3 | 2 | 1 | 2 | 15 | 9 | 5 |
| Tues. 23 | 72.1 | 47.2 | 59.6 | 15 | 0.44 | 1 | 2 | 4 | 1 | 3 | 16 | 5 | 5 |
| Wed. 24 | 73.7 | 49.2 | 61.4 | 14 | 0.49 | — | 3 | 4 | 1 | 2 | 13 | 9 | 3 |
| Thurs. 25 | 72.5 | 49.8 | 61.2 | 19 | 0.73 | — | 2 | 6 | 2 | 5 | 13 | 6 | 3 |
| Friday 26 | 73.5 | 50.2 | 61.9 | 18 | 0.69 | 1 | 2 | 4 | 2 | 2 | 13 | 10 | 3 |
| Satur. 27 | 71.9 | 47.9 | 59.9 | 23 | 0.80 | 4 | 2 | 2 | 2 | 3 | 16 | 8 | — |

The highest temperature during the above period occurred on the 22d, 1846—therm. 93 deg.; and the lowest on the 23d, 1851—therm. 35 deg.

## Notices to Correspondents.

*.* As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

Apricots: *T B.* Your Apricot leaves are affected with a minute *Uredo*, which is new to us. No remedy for this genus of Fungi is known. The spawn is too deep seated to be reached by any chemical. The only counsel we can give you is to burn the affected leaves if not too numerous. *M J B.*

Berberis Aquifolium: *Diss.* Cut away the scraggy branches now, and transplant in autumn or early in spring. The same for B. Darwinii.

Books: *W T T.* Messrs. Bradbury & Evans are the publishers of Dr. Lindley's "Orchidaceæ Lindenianæ," which is still to be obtained.—*G A.* Williams on Orchids, and Cuthill on the Cucumber may possibly answer your purpose.

Bulbs: *Diss.* Bulbs of Narcissus, Snowdrop, Leucojum, Tulipa sylvestris, Fritillary, Crocus, &c., which have been taken up with a view of separating them, may be planted in the turf of the churchyard, now or at any time during the next two or three months, except in the case of Fritillary, which would be better in the ground at once.

Cucumbers: *T B.* Your Cucumbers are infested with the common *Fuligo vaporaria*, the pest of hothouses, especially where tan is used. You may try quicklime, but we are not certain that it will destroy it; if not, use common salt. *M J B.*

Golden Chain Pelargonium: *Burtonensis.* We should hardly say that Golden Chain is superseded by Cloth of Gold, as they are not quite the same in character, but the latter has the advantage of being a more free growing variety, and is besides a very well marked and ornamental plant.

Insects: *T S P., R N.*, and other correspondents will receive replies to their inquiries next week. *J O W.*

Names of Plants: *E T.* Pyrus torminalis.—*S W R.* The two unnumbered leaves belong to Helleborus argutifolius and olympicus, two capital, but rare, hardy perennials with evergreen leaves, invaluable for the decoration of the outskirts of covert in woods and plantations.—*Acer.* It looks like Cupressus Lawsoniana, but the specimen is too small for certain identification. Acer Douglasii is an Oregon plant whose leaves resemble those of rubrum, while its flowers are like circinatum. Of A. Murrayanum and colchicum rubrum we know nothing.—*Calceolus.* We do not see how your plant differs from Cypripedium Calceolus, which, like other plants, varies within certain limits. If from N. America your plant is probably what is there called C. pubescens.—*Crowood.* 1, Scilla peruviana; 2, Hemerocallis flava; 3, Sisyrinchium bermudiana.—*Jim Crow.* Cytisus sessilifolius.—*R O.* 1, Spiræa cuneifolia; 2, Specularia pentagonia; 3, Escallonia macrantha.

Rust in Grapes: *H M Wt.* There is no reason to believe that your rust is different in its origin from that which so constantly occurs, and which arises sometimes from slight contact with foreign bodies in thinning, but more frequently from sudden draughts. *M J B.*

The Edinburgh Botanic Garden: *A B.* We decline all discussion of this matter. Lord Palmerston's remarks were in our opinion such as all men of sense will endorse.

Vine Leaf Excrescences: *C D H.* Many thanks for the fresh specimens of Vine leaves which have been received. It is now quite clear that the curious excrescences are the work of an insect. They are filled with mites and eggs, and sometimes there is a coccus with them. We fear that your Vines must suffer seriously. All you can do is to treat them as if affected with red spider, but whether that will be effectual or not is very doubtful.—*W T.* We have seen many instances this year of vigorous Vines producing leaves just like what you have sent. We do not believe that they will suffer. Tobacco water and sulphur are useless. *M J B.*

REDUCTION IN PRICE.

## PHOSPHO GUANO.

The Prices for the Season 1863 are as follows, delivered Free on Board, or on the Rails at Liverpool.

| | | |
|---|---|---|
| For 30 Tons and upwards ... ... | £10 5 0 | per Ton, net cash. |
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The Price will not exceed 12s. per Ton additional if delivered at any other Port in Great Britain.

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| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
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PREPARED BONE MANURE for present use on PASTURES.
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### Advertisement.

Woolston, Bletchley Station, June 12, 1863.

MR. SMITH BEGS TO CALL THE ATTENTION OF THE FARMERS OF ENGLAND TO THE FOLLOWING LETTERS:—

Buckden, June 2, 1863.

DEAR SIR,—In the autumn of last year I cultivated and drilled with Wheat at one operation with your Combined Machine, 75 acres of heavy clay land Bean stubble, in 90 working hours, and 9 acres of Vetches. Some time back the Wheat looked as though I should have had too much, but the dry weather has put all straight, and it now promises to be a thorough good crop. The Vetches were very good, and have been eaten off. In the spring of this year I used the Machine again, cultivating and drilling with Barley, 12 acres of clay land after Turnips, fed off with sheep in the winter, and it did well. I shall be pleased and hope to see you before harvest.

I remain, yours truly, WILLIAM CRANFIELD.

To Mr. SMITH.

Hemingford, St. Ives, Hunts, June 10, 1863.

DEAR SIR,—Your kindness in allowing the Combined Drill and Cultivator to remain in this neighbourhood for the use of those who work your cultivating apparatus, induced me to take advantage of it, and with the machine I have effected that which I am satisfied could not have been done by any other means.

The field we worked is 24 acres, Swedes fed off half of it in January, which was afterwards drained, and the remaining part of the Swedes were fed late in the spring, not finished until 1st week in April.

Your implement completed the 24 acres in $2\frac{3}{4}$ days work, from 6 A.M. to 6 P.M., although the land was as hard as it possibly could be. The Oats were visible above ground in 18 days, and from present appearance I have a right to anticipate a good crop. Had the same field been cultivated with horses, I consider it would have taken 100 or more, and then I am sure the Oats would only partly have appeared above ground, the weather was and has remained so very dry.

W. SMITH, Esq. Yours very faithfully, F. BATTCOCK.

Patronised by H.R.H. the late Prince Consort.

GREENING AND CO.'S IRON WIRE FENCES for FARMS, DEER PARKS, SHEEP FOLDS, GAME PRESERVES, POULTRY COURTS, GARDENS, &c., are manufactured by Patent Machinery, and possess the following advantages:—

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4th. Have increased strength from their peculiar construction.
5th. Are but half the price of similar hand-made Fences.

G. & Co. will be happy to forward, without charge, an explanatory Circular of the principal varieties. Their enlarged Catalogue of all kinds of Fences and Gates post free on receipt of three stamps.

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PATENT GUTTA PERCHA SOLES.— IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

The GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C.

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WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all Descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.

Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rent charge on the estate created for various terms of years, so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.

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Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

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The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

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Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

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ROYAL AGRICULTURAL SOCIETY of ENGLAND.
A LECTURE by DR. VOELCKER, on the COMPARATIVE EFFECT of DIFFERENT MANURES upon GRASS LANDS, will be delivered to the Members, at the Society's House, 12, Hanover Square, London, W., at 12 o'Clock on WEDNESDAY NEXT, the 24th June. By order of the Council,
H. HALL DARE, Secretary.

ROYAL AGRICULTURAL COLLEGE CLUB.— The ANNUAL DINNER will take place at the Crown Hotel, Worcester, on TUESDAY, July 21, at 6 o'clock.

Tickets can be had by applying to JOHN COLEMAN, R.A.C., Cirencester. Members can introduce a friend.


# The Agricultural Gazette.

*SATURDAY, JUNE* 20, 1863.

A VERY large quantity of information on STEAM CULTIVATION has during the past few weeks been laid before agriculturists in the columns of agricultural papers. And yet we do not wonder at those who still fear to follow the examples of it which have now been set upon so many farms in this country. Their difficulty would vanish if it were merely the current expenditure on steam as compared with that on horses, on which an opinion had to be formed. That was the comparison instituted as regarded this year's work, in the tables which we last week published. But it is plain that in addition to expenditure of this kind there is the general cost of tear and wear, and depreciation of value in the machinery employed, which has to be borne, and is very difficult to estimate aright in the case of an agency which is but a few years old. It was this—unestimated in Mr. MORTON's paper—that made Mr. THOMAS of Bletsoe, and Mr. CHARLES HOWARD of Biddenham, question the results to which the figures of his correspondents led. Mr. EDMONDS, of East Leach, had done 713 acres of grubbing and 15 acres of ploughing from 5 to 9 inches deep for less than 100*l.* in coals, oil, wages, and repairs—for less therefore than 3*s.* an acre. Mr. SOWERBY, of Aylesby, had grubbed 330 acres of various soil, 8 inches deep, for less than 52*l.* in the same items, or not much more than 3*s.* an acre; but these facts do not relate the whole truth on the subject. How much has to be added on to this for wear of rope and general depreciation of value in the apparatus employed? The answer to this question is as yet imperfect. The cost of rope is indeed pretty well made out. It need not be more than 1*s.* an acre, and it is very often less. In some parts of the country it is very much less—elsewhere it is more. The differences of experience which are related are owing to the various care bestowed in carrying it, and the variety of soil over which it is carried.

On the stoneless soils of the Wealden formation the wear of rope is a *minimum*. On the flinty soils of the Upper Chalk—especially where the surface is clayey enough to hold the flints firm over which the rope is drawn—the wear is a maximum. In all cases, however, it will vary according to the greater or less care used in carrying it. One of the very best cases of steam cultivation we know of is on a flinty Sussex farm, where the tenant has put down 40 oxen which he used to employ—by means of a 10-horse-power engine and HOWARD's and SMITH's apparatus. Here, as we saw the operation of grubbing proceeding, porters and blocks of wood and every other available means of carrying the rope were employed—and it is an advantage of the "round about" as compared with the direct method of applying the rope that you can thus put porters or

anything to serve their purpose as thickly as you like under three-fourths of the rope in use without its entailing extra work on the labourers. On the other hand it is the advantage of the direct system, now that the slack gear apparatus is adopted on FOWLER's ploughs and grubbers, that the very pull of the implement is made to tighten the rope behind it, and thus of itself and without assistance preserve that tautness on which its due carriage off the ground depends.

But supposing the rope-cost is definitely made out, there is still the indefinite expense of general tear and wear to be met and estimated; and for this we have not years enough of experience as a guide. If you value the apparatus year by year as for sale, then the loss consequent upon its having become second-hand will fall upon the first year's experience—and that, if taken to be real, would so magnify the cost of the first year's steam cultivation as to hinder any one from following the example. It is, however, the intrinsic not the market value of the apparatus which it is worth to the man who does not mean to part with it; and there seems every reason to believe that 7½ to 10 per cent. upon cost price is amply sufficient to provide a fund which shall replace the capital invested before the tackle is altogether worn out. This, with ordinary commercial interest on the capital, and with payment of rope, repairs, wages, oil, and fuel, will represent the total cost of steam cultivation to any one who shall adopt it; and our observations lead us to the confident conclusion that the total falls considerably below the ordinary experience of horse cultivation as to the corresponding items of tear and wear and interest of capital, wages, food, and tradesmen's bills.

If, however, there is still an indefiniteness about some of the items in the cost of steam culture which deters from the adoption of it, let us not forget that there is a corresponding indefiniteness, all in its favour, as to the advantages of it. These are much greater than we can definitely estimate or describe. We have not had experience enough, and it is difficult, however long the experience may be, to attribute fairly and precisely the results we see in our crops to the several agencies which have produced them. But the testimony universally is, that the increase of fertility due to deep and thorough tillage by steam power, is all that might have been anticipated.

Mr. FOWLER was quite right, even on the score of mere expense, to point out the other day that it is an entire mistake to compare one "stroke" with the steam plough as to cost, with one stroke of the horse-drawn plough. The plough or grubber drawn by steam, produces a very much greater effect than the corresponding operation by horse power. A thorough "blow," as steam ploughmen call it, once in a dry autumn, does instead of a whole series of ordinary fallow operations, and it is not with the cost of one but of many operations that its expense should be compared. On the whole then, we can have no doubt whatever of the economy and profitableness of steam cultivation.

For those who, like ourselves, have come to this conclusion, there still remains the question:—Whose apparatus to adopt? To this the answer, we have no doubt, depends on the circumstances of the case. We believe in the superiority of the direct method as at length exhibited in operation by Mr. FOWLER. It involves less waste of power and less expenditure in wages than the other. But if any one should ask our advice in his own case, it by no means follows that we should recommend the direct traction apparatus as the best for his circumstances. It requires, and thus has the useful quality of being a premium upon, the improvement of ordinary circumstances. Where you have large open fields—the land laid out as Mr. EDMONDS' farm at East Leach is laid out, in tracts 350 yards wide, and several hundred yards long—there cannot, we think, be a doubt of the superiority of FOWLER's apparatus. But comparatively few arable farms are thus prepared for steam culture, and comparatively few landlords are willing to lend the help needed to fit them for it in this way, and there is so large an extent of land under less satisfactory management where the stationary engine is the best fitted to the circumstances of the case, that we are quite sure Messrs. FOWLER, HOWARD, and SMITH have to fight rather with the public *vis inertiæ* on this subject, than with one another for the shares they will all receive in the custom of the agricultural body when once it is fairly convinced and moved.

We had intended to comment before concluding on the dynamometrical trials at Sutton Courtney to which Mr. SMITH adverts in another column—on the liability of reporters of steam cultivation, and especially of those who direct the work of the grubber, to over estimate the depth of their work—on the difficulties which legislation puts in the way of steam cultivation—on the methods of applying steam power to tillage adopted by Mr. COLEMAN and Mr. SAVORY, and on our indebtedness to our practical leaders on this subject—but all this must be postponed for a week.

—— LET us repeat our last week's memorandum of the last Babraham sale on Wednesday next. We understand that four calves have been added to the herd since the publication of the Catalogue.

MANY years ago, when Mr. PARKES called attention to the philosophy of land drainage, a good deal of interest was excited by a publication of the readings of two adjacent rain gauges, one of which collected rain within an empty receiver, and the other received it on the surface of a similar vessel filled with earth, so as to represent a portion of an ordinary field. The difference in the quantities of water collected by the two instruments indicated the loss of water by evaporation from the surface of the latter. The empty gauge, collecting all the rain, indicated how much fell upon a given surface, the instrument which had been filled with earth indicated how much percolated through the earth or ran over the surface of it; and the difference between the two fed the Grass growing on that surface, and was lost by evaporation.

Now the area which is drained by any river may be considered as a great rain-gauge of the latter kind. The outflow of that river is the difference between the quantity of rain which falls upon that area, and the quantity which is evaporated from it. The water of percolation and the surface overflow is that which feeds the river. And the Thames for example, if we had an accurate measure of the area within the watershed which surrounds it—the area whose waters thus tend towards that river above successive points in its course, together with the quantity of outfall at those points from day to day throughout the year—would be a rain-gauge whose indications would have a vastly greater agricultural interest than any other read by the meteorologist every morning to the hundredth of an inch.

We owe to the Rev. J. C. CLUTTERBUCK, of Long Wittenham, near Abingdon, who has often laid our readers under obligations by communications on subjects of this kind, an attempt thus to give a special agricultural interest to the floods and ordinary flow of the Thames at different points in its course. A very interesting paper was read by him during the past spring before the Institution of Civil Engineers on the Perennial and Flood Waters of the Upper Thames—and to the report of this paper and of the discussion ensuing on it, which will appear in the Transactions of that body, we may direct the attention of our readers as a capital illustration of the way in which the interests of the agriculturist and those of the general public are connected.

We hope that many of the topics suggested by this paper may hereafter become the subject matter of discussion in our columns: meanwhile we make one extract from the imperfect report which is all we have seen, of the discussion which they received at the hands of the Institution.

"The plan formerly adopted, for securing the largest supply of water for navigation purposes, was to place a lock, or weir, immediately below a great outlet of land drainage, by which, when the locks or weirs were closed, there was no supply for navigation, and thousands of acres of rich land were submerged. It was asserted that, at the present time, not one boat passed down the river annually from Lechlade to Oxford, and yet the water was still impounded, in order that the unnecessary semi-weekly 'flashes' might still be sent down. If the river were made a perfect canal, and the land drainage allowed to fall into the main stream immediately below a lock, mill, or weir, instead of above it, this state of things would be remedied. Any increase in the tail water, tending to diminish the motive power, would be compensated by the head water being raised in a corresponding degree, by the admission of the land drainage into the mill dam at a higher level. The observations in the paper went to show, that the great evil in the level of the Upper Thames was occasioned by the narrow gorge at Sandford, where the coralline, or coral rag, overlapped the Oxford clay. One of the consequences above Oxford of this natural obstruction was, that the levels of the cills at Wolvercot mill, King's weir, and Wytham mill streams had been raised, by which many acres of land had been flooded nearly a foot deep. The damming up of the Shire Lake Ditch at the top of Godstow, and of Swift's Ditch at the bottom of Godstow Liberty, had also ruined Port Meadow, and swamped Oxford. All that was required for the improvement, either in an agricultural or a sanitary point of view, of navigable and water logged valleys, was a combined system of drainage; and it was believed this could only be effected by the application of Paliamentary powers, enabling each valley to be constituted into an elective drainage district, or districts."

## AGRICULTURAL NOTES.

BY MR. ALDERMAN MECHI.

*Town Sewage.*—The rapidly increasing interest taken by ratepayers and agriculturists in the utilization of town sewage induces me to trouble you with the following remarks. The real questions at issue are:—1. Whether a ton of guano (or its elements in sewage) is more or less valuable by being mixed with 1300 tons of water? 2. Whether the cost of conveying to the land these 1,300 tons of water or sewage is greater than it is worth? 3. How much does that cost of conveyance diminish the value of the guano or sewage? Now, the precise time when sewage is most valuable, especially for Grasses and other moisture-loving plants, is during the six dry and warm months, when long days and abundant sunshine cause the rapidly growing plants to require, and evaporate through their leaves, an immense quantity of water. It is also exactly during those months that town sewage has its least dilution much of the rainfall being absorbed and evaporated by the heated materials of our houses and pavements. But what says Mother Earth at this time to those questions? Have not millions of acres been supplicating for their dried up crops a supply of that highly diluted and much abused sewage which in vast streams is polluting our rivers? One can hardly have patience to argue a question so palpably obvious to the meanest capacity. Half this kingdom is in Grass, and those 28,000,000 acres would this dry season amply repay the cost of putting on a rainfall of 1 inch, or 100 tons of water alone per acre—if, as I believe, that water could be conveyed to the land for less than a penny per ton—and would cost no more to put on town sewage. Many a ton of guano,—ay, many hundreds or thousands of tons, have been inoperative as surface dressings for want of rainfall or dilution. How is it that I have had for some time, and have now, ample supplies of Italian Rye-grass two feet high, while the green crops of my neighbours are shrivelled or stinted by the dry weather?—Because I apply house and farm sewage most abundantly diluted, in fact, in the exact condition of the much abused town sewage Were this generally done, our milk, butter, cheese, and meat would be increased by millions annually, over that vast area of moisture-loving pasture that forms one-half of this kingdom. Every hydraulic engineer knows that water or sewage pumped over a stand pipe will flow over extensive districts at a small cost, probably as little as one farthing to three farthings per ton, according to circumstances. P.S.—Mr. Buckman, in his prize essay on the "Natural History of British Grasses" (Royal Agricultural Society's Journal, vol. xv., page 469), gives a table representing the changes from bad to good Grasses caused by irrigation, and says this field has trebled in value in four years. (How much more would it have gained with sewage irrigation?) Professor Way, in his paper "On the Nutritive Matter of Grasses," says (vol. xiv., p. 182)—"Both in the quantity of nitrogen and fatty matters the water meadow Grass nearly doubles the other Grasses in the table. Are we to attribute the high proportions of fat and flesh forming principles to the action of the water in irrigation? If so, we have indeed in it a most important and powerful agent."

*Pigs and Flies.*—I have always been in the habit of fattening many pigs in summer on boarded floors, as I find them pay best in hot weather—and as my residence is not a great way from the yard, I have been plagued with an immense number of flies—real biting flies. Having a strong impression that the flies dined on the pigs (especially where thin skinned and well bred), and then slept in the house, or used it as a shady retreat, I determined this summer to discontinue the pigs, and concurrently the flies (having now no dinner) have also disappeared, much to the comfort of ourselves and furniture. Observers must have noticed with what zest a black cluster of carrion flies (we anglers know the difference between liver gentles and carrion gentles) will establish "a raw" on the back of a comfortable fat hog, much to his disquietude. These are the gentlemen which pierce your white stockings and your skin, a sort of mosquito, illustrative of the miseries endured in a tropical climate. In order not to rob the land of its manure, I keep more bullocks and sheep.

*Thick or Thin Seeding.*—Twenty years have elapsed since I first closely considered this question; practice

and observation have subsequently convinced me that the quantity of seed must be regulated by climate, soil, and the state of cultivation—either separately or combined. Farmers who sow thick to smother the weeds (and they are a numerous class) seldom grow much corn, for if the land is rich, down goes the straw, and you get lean kernels and a miserably low price. Custom has too often fixed the quantity of seed per acre until accident has caused a great change. I will give an instance of this:—My old esteemed friend Mr. Richard Garrett, of Leiston, Suffolk, engaged as bailiff one who had served the late Sir John Conroy, at Arborfield Hall, Reading. Mr. Garrett said to him, "We cannot grow malting Barley on our land; we get plenty of straw, but the Barley is always thin and inferior." The new bailiff thought the land ought to grow the best malting Barley, and was going to drill his usual quantity of 6 pecks. Friend Garrett was alarmed at this rash proposal: "We always sow three bushels per acre about here." However, after much hesitation and cogitation, he, like a reasonable man, permitted the new bailiff to have his own way on a small scale. The 6 pecks were jealously watched by the adjoining farmers, who predicted a failure. Time has rolled on, and the soil which would not grow malting Barley now produced it abundantly, much to the profit of my friend Garrett, who also saves 6*s.* to 8*s.* per acre in seed; being a large per centage of the 1*l.* profit per acre which the farmer is supposed to get as an average. It would astonish thick sowers to see a crop of my White Wheat, 7 acres, as thick as it can grow, in full ear, and estimated, at least, at 6 quarters per acre. This crop is taken after Beans, no manure applied, the quantity drilled 4½ pecks per acre. I have been obliged to "flag" some parts of it to prevent its going down. In my climate and soil, and with my farming, it would be wrong to put in more, but in a district where harvest is later, and climate more severe, more seed might be advantageously used; for it is evident that thick sowing tends to early ripening, so does early sowing with thin sowing. On a deeply cultivated garden we dare not put in so much seed as on an ordinary shallow tilled clay, uncleanly and short of manure. Let every farmer try a small plot in every field with varied quantities, and thus arrive at his own conclusions, but don't let him rest satisfied that he is putting on the right quantities without comparative trials and inquiries. On certain loose light soils, much exposed to frost, early and thick sowing is very properly practised to cover the ground with blade, and so prevent freezing of the roots; for therein is the danger of loss of plant. Salt and consolidation would perhaps be a better preventative. Such soils seldom force much straw by branching—and will bear thicker sowing. My quantities of seed are: Wheat, 4 to 5 pecks; Barley, 6 pecks; Oats, 8 pecks; the latter look as thick and thriving as I can desire. In fact my farm is overflowing with plenty, and promises a grateful return for drainage, deep tillage, plenty of manure, and irrigation.

*Drilling versus Dibbling.*—It is a pity that poor Jethro Tull is not alive to see the triumph of his invention, and to reap the fruits of it. Poor fellow, with all his talent, he died in the Fleet, a prisoner for debt. He had, like many others, to struggle hard against the old enemy Prejudice, or affection for old customs. And yet, I was going to say, there is an advantage in prejudice: I ought rather to say an attachment to old practices until the new ones are subjected to trial and comparison. But will prejudice allow of such trial? I fear, as a general rule, it will not. I speak practically on this matter, after a 20 years' acquaintance with practical farmers. How many times have I in speaking of thin sowing, deeper cultivation, and other innovations, put the question to the objector: "Well, but have you tried it?"—"No, I know it won't do on our soil." This unfortunate disbelief is most unprofitable, and has lost to agriculture tens of millions. But we are living in more intelligent times; still that old gentlemen Mr. Prejudice wants a good deal of hard kicking before you can make an impression upon him. Dibbling is one of the old prejudices, and it caused me some annoyance and loss this year. Mr. Hallett and other friends sent me each a bushel of Wheat. Now, as I wanted it diffused over an acre, I could not work the drill to clear out a single bushel, and therefore foolishly dibbled it. With all my care as to the droppers, I found it very irregularly deposited, and a heavy rain falling immediately after, the dibble holes became little cisterns of water, although the land was drained; so I shall probably get a quarter less corn than on the adjoining drilled land. I presume from what I hear, that the broadcasters are not yet an extinct race, especially in the north, but Wheat at 46*s.* per quarter will certainly compel them to adopt a more economical process by drill.—P.S. Although the three different acres were all dibbled with Hallett's Wheat sent to me from three different places, I can from my window distinguish each acre, as on a parti-coloured map. I presume this must partly arise from the variety of soil on which the seed was grown. I shall have some very large ears; and I hope a fair yield.

*Farmers' Privies.*—I need not, in this age of progress and common sense, apologize for discussing a question affecting our health and nutrition. England is noted for the neatness and cleanly picturesqueness of its farm houses. The blooming flowers and the well-trimmed Box edge the serpentine walk which conveys us to a retired arbour; there the Jasmined lattice-work and the well scrubbed floor contrast strangely with putrescent and noxious odours. Is it not singular that the man who perceives that the reeking fume of his corrupt dung heap is immediately sweetened or destroyed by admixture with earth, does not apply that experience in another quarter? Let every farmer read the Rev. Mr. Moule's admirable paper in the Society's Journal, and he will wonder that he has never yet appreciated the value and properties of a barrowful of well dried and well pulverised earth, which under the circumstances would combine purity with profit.

*Diminish your Holdings and so increase your Acreable Capital.*—But where is the money to come from, Mr. Mechi? is the question put to me when I suggest higher farming. This is asked of me as often by landlords as by tenants. I will answer it by an anecdote related to me by a friend in Essex. I know not whether it is either new or true, but it conveys a moral. A certain gentleman farmed his own estate (1000 acres), and like many gentlemen farmers had a hard struggle to make it pay and to hold his position. He had three daughters, one of whom, like most young ladies, was about to be married. But where was her marriage portion? Perplexed in mind, her papa consulted a friend in these terms: "I have no money to spare, I have scarcely enough capital to work my farm. What is to be done?" His friend (evidently a sagacious man) replied, "Give her as a marriage portion 250 acres of your land." This was a most unacceptable proposition. He could hardly manage now, and certainly could not with a diminished area. His pride also rebelled against acreable diminution. But "needs must, &c." So the lady was made happy, and the 250 acres duly transferred to trustees. Time rolled on and another daughter showed an evident desire to follow her sister's example. Again the difficulty arose, and again recourse was had to the sagacious friend, who again recommended another 250 acres as a dowry. That was clearly impossible and contrary to all reason —to be reduced to 500 acres would never do. "Well," said his friend, "are you, or are you not, now in a better pecuniary condition than when you held the 1000 acres?" This was admitted, and another 250 acres followed the fate of the first, and another daughter was duly provided for. My readers will guess the sequel. The third and last daughter became marriageable, and the impossible question of parting with another 250 acres had to be settled. It was settled—for this time papa had become convinced by the state of his accounts, that we don't as a rule half farm our land, and that the inefficient and insufficient capital on a thousand acres became amply sufficient and highly remunerative when concentrated upon 250 acres. I will not pursue this question, but will repeat with the confidence of 20 years' experience that if our cultivation were doubled in depth, our stock doubled in number, and our acreable capital tripled, it would be better for the tenant, the landlord, and the country at large.

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## STEAM CULTIVATION.

I THANK you for laying Mr. Morton's paper on steam cultivation, read before the Central Farmers' Club, before us. Since I have had some few years' practice upon the question, and have considerably studied the subject, as well as being somewhat interested in the matter, I will, with your permission, after examining, explain a little of the merits of the paper to the public.

After reading at some length I read—

"Its (Fowler's tackle) performance during eight or 10 days' work was sufficient to convince Mr. Pullen himself of its superiority to the plan to which he had been accustomed. And wherever, as on Mr. Pullen's farm, there is a large extent of open land where a three or four hundred yards furrow could be had as a general rule, I do not see how it is possible to avoid the conclusion to which Mr. Pullen himself then came."

Well, thought I, is my friend Mr. Pullen, who has worked my tackle so practically and so well for five years, so thoroughly convinced of this? If so, and he and Mr. Morton are right in their conclusions, I have been wrong all along; for you know that I have invariably written and talked against the endless rope mode of traction and for the windlass mode of traction. Is Mr. Pullen right? I ask myself again and again. Methinks not, but I will go to work at once and test the best evidence I can get to know who's right and who's wrong. The pleasing appearance of the endless tackle when set out on a 350 yard furrow, with the engine on one headland and the anchor on the other, is against me. I do not see much in a boy's working the engine, for we can all set boys to work engines, if we like to be reckless enough to do so; the number of hands when at work may be a trifle on its side, but it is clear to me that it must be well manned if it is to be well tended and the work got on with by quick shifts, &c.—therefore I do not see much gain here. Engineers and some other writers have frequently been against me; there is one who signs himself "An Engineer" in a very recent number of the *Mark Lane Express*, who goes with Mr. Morton and Mr. Pullen for it and against the windlass, but they have not brought facts—it is mere opinion by which they have been guided.

After reading through some substantial practica tackle I came upon the dynamometer experiments where I find that it took a draught of 4 cwt. to drag my rope 500 yards, and Fowler's 5 cwt. to drag it out for a 350 yard furrow. The draught to Fowler's when supported was reduced to ¾ cwt., and so might mine, if it had been well rollered, 30 of which I send out with every set of tackle. They are not so showy as the tumble-down-wheeled ones of Fowler's, but they are quite as efficient and more numerous. The dynamometer trials by Mr. Morton I do not consider worth much, for they are put completely in the shade when they are tested by the substantial evidence that Mr. Morton and others through you and others of the press have laid before us. There are procured by Mr. Morton and published in your Papers of May the 9th and 16th, 21 returns from users of Mr. Fowler's tackle, and 34 returns from users of mine, and there are the returns from some of both mine and Mr. Fowler's customers embodied in Mr. Morton's paper, and published in your this week's paper. I have looked through them all, and have made choice of one as a witness on my side and of one for Mr. Fowler that will fairly represent the lot. I take Mr. Sowerby, of Aylesby, on my side, and match against Mr. Plummer, who stands in the front rank for Mr. Fowler. Mr. Sowerby is a gentleman whom I never saw, neither have I ever received from him a word in writing; therefore he is clearly a disinterested witness. All I know of him is that he had a set of my tackle in September 1859 and (through Mr. Morton's reports in the press), that he has worked it well ever since. Mr. Plummer, the reports show, is a large farmer, who provided himself with a set of Mr. Fowler's tackle in March 1860, and has worked it well down to now. We will put Mr. Sowerby in the "witness box" first. According to Mr. Morton's reports he is shown to have bought a set of my tackle, including 1400 yards of rope in Sept. 1859, bought since 1400 yards of rope May 1862. The first rope did upwards of 1300 acres, the second has done 1000, and appears as if it would do twice as much more; this brings us down to the return published May 9, and according to a more recent return embodied in Mr. Morton's paper, he appears to have done 300 acres this spring, making in all 2,600 acres. Now a set of my ropes cost 61*l.*, then if a set and a-half is charged to this work it will be quite enough, both according to the returns and other evidence; for instance, Baron Rothschild did more than 2000 acres with a set of ropes on his tough clay land at Mentmore, and Mr. Hubbard, near Horsham, did nearly if not quite 3000 acres with a set, and there are others of my customers whose practice might be cited in support. The cost of this set and a half of ropes is 91*l.* 10*s.*; divide that sum by 2600, the number of acres done, it places the wear of rope at 8½*d.* and a fraction per acre. Now let us hear Mr. Plummer. He bought his tackle, including 800 yards of rope, on the 17th March, 1860; number of yards bought since: Sept. 4, 1860, 500 yards; June 10, 1861, 500 yards; July 6, 1861, 200 yards; May 2, 1862, 500 yards—in all, 2500 yards. The work done was in 1860 788 acres; in 1861, 1040 acres; in 1862, 925 acres; in 1863, 465 acres; in all, 3218 acres. Now the first 2000 yards of rope may be said to have done about 2000 acres, for the quantity done down to the end of the year 1861 was 1828 acres; therefore since there has not been any rope bought since May, 1862, the 500 yards then bought, with all the old rope, may fairly be set down as worn out; even that must have been tougher than the rest to have done with the old rope 1200 acres. Now Mr. Fowler's Catalogue shows that his rope cost quite 10*l.* per 100 yards; at that price, the 2500 yards cost 250*l.*; now divide that sum by the work done, 3218 acres, it places the wear of rope at 1*s.* 6*d.* and a fraction per acre—more than double mine. Now, my friend Mr. Pullen, what think you—are you disposed to please your eye by more than doubling the cost of the wear of your rope? This evidence is dead against the dynamometer, for it proves that mine is the light-draught apparatus, and that Fowler's is the heavy one. This is supported by the engines generally used. Mr. Fowler's customers cry out for a want of power if they have anything less than 14-horse power, whereas mine are content with 8's or 10's, and according to the returns, which I will go more fully into, the average work done is the greatest on my side. Again: if Fowler's engines are of greater power, his consumption of coal must be greater, and we know that the cost of his tackle is the greater; therefore his wear and tear (other than the rope) must be greater. All this may be supported by Mr. Stratton, of Broad Hinton, whose wear of rope, according to reports, appears to have been quite as great as Mr. Plummer's, and in addition to which and the ordinary repairs, he has had an alteration that cost him 240*l.*; altogether, not less than 600*l.* must have been spent in repairs and alterations since he started. With such facts as these before us, and with the practice Mr. Savidge has had with Mr. Fowler's tackle, we need not wonder at his saying, "Some think steam ploughing will one day be general. In my opinion it will never be general," and now, my friend Mr. Pullen (and I use the word friend advisedly, for you are not only a friend of mine, but you are with other practical men like yourself a friend to the public by supplying them with data to guide them in this knotty question, steam cultivation)—I think I hear you say that you have had enough of the thing that pleases the eye, and I would advise Mr. Morton

engineers, and every man interested in the question, to reflect well over this fact. But let us try the question another way by taking Mr. Morton's 350 yard furrow, and test the endless rope against the windlass, to see which uses the least rope to work such a plot. For the endless rope plan to run a 350 yard furrow, the plot must be 380 yards from one side of it to the other—for there are two headlands wanted 15 yards wide each, for the tackle to be placed and the implement to shift for going back upon; then it will be quite fair to take a field 380 yards square to test the point upon. To work it the endless rope plan will require 760 yards of rope. At starting the implement must either start to or from the drum under the engine; therefore there must be a narrow slice left unworked between the implement and the hedge, and a similar slice at finishing, say the two together 6 yards in width; this, with the two 15 yard headlands, contain 13,500 yards of land, or 2 acres, 3 roods, 190 yards. The whole field contains 29 acres, 3 roods, 410 yards. Therefore the endless plan can do only 27 acres of it, unless the tackle is shifted twice to do the headlands. Now, divide the field into four equal parts and place the windlass tackle in the centre, the proper place for such a field. The sides of each of the four plots will be equal, 190 yards long each; the length of rope required to set down to such a plot is 190 yards straight out from the windlass to the hedge, 190 along the hedge to the right-hand corner of the field, 40 yards to an anchor along the hedge back towards the tackle, and 240 from the anchor to the windlass; cutting the plot into nearly a triangle, the total length required at starting will be 760 yards, the exact quantity as that required by the endless rope plan. The length required at finishing is twice 190 yards the length of furrow—total, 380 yards. Now add to this the 760 yards at starting, and divide the total 1140 yards by 2, it will give 570 yards as the average quantity required to such a plot of about 7½ acres. The ropes may then be placed to do each of the several other plots without any shift of the tackle. The quantity left unfinished at last will be two 6 yard headlands, and a bit on which the engine and windlass stood, of say 4 yards by 20 yards, in all not quite an acre; indeed if it is desired, the two headlands may be done without shifting, by doing the portion on each plot first before the regular working of the plot. This shows that in doing such a field the windlass plan uses 190 yards less rope than the endless rope plan does; this is of great importance, for it is a fourth, and it may to some extent account for the windlass plan being the lighter in cost of rope. Now, let us see how the two plans get on with the work.

Take the *Gazette* of May 9, there Mr. Morton gives us three tables, one for Fowler, another for Smith, and another for Howard's. Fowler's has 12 customers, who give us the number of their days work and the quantity of work done, which shows their average day's work to be 5¾ acres. Smith has 16 customers, who follow the example of Fowler's; their average day's work is 6¾ acres, and Howard has five customers who do likewise, and show that their average day's work is 6 acres. Then the windlass, when in the hands of either my customers or Howard's, beats the endless rope in the quantity of work done. The windlass rope requires 12 and 14-horse-power engines to work it, whereas the windlass can do very well with 8's and 10's—therefore the consumption of coal is against the endless rope plan. Then upon all points the windlass plan is the best, and I do think that Mr. Morton must by this be doubtful of his past judgment. In conclusion, I beg to thank him for his paper, which has enabled me to do something towards proving the fallacy of the endless rope plan. *William Smith, Woolston, Bletchley Station, Bucks, June* 9.

## HAYMAKING.

[Mr. Robert Smith, of Emmett's Grange, has published his Essay on Haymaking, which was commended by the Agricultural Society, in the columns of the *Mark Lane Express*. The following are extracts from it.]

To be profitable, hay must be well grown, saved, and sold—three important branches, viz., hay-growing, haymaking, and hay-selling.

*Hay-growing.*—This pursuit is by no means a popular one, especially when separated from the certainty of good and ready-money markets. As a commodity to be grown for the use of the farm—to be turned to account by the consumption of cattle, horses, or sheep—it is found to be a less paying crop than most others. It is nevertheless a useful branch under difficult circumstances. The consuming price of hay upon a farm is not more than half that usually obtained at market. In the best farming districts but little attention is paid to its growth. Oat sheaves are cut into chaff for the horses, and straw substituted amongst the cattle, with roots or artificials. Hay is still a favourite article of food in the southern and hilly sheep districts, for "haying" the sheep at Turnips—an expensive process.

It is a known fact that when Beans are worth 1¼*d.* per lb. and Oats 1*d.* per lb., hay may be purchased at ½*d.* per lb. But the former are more concentrated and valuable for the purposes of making fat, muscle, and bone, while the tendency of hay is to fill the animal to stay the watery Turnip. If the art of irrigation were more encouraged, and the marshy wastes drained, haymaking would be far more profitable than at present. Water meadows are favourable to the scythe, and quickly recover their lost crop. Not so with the dry land meadows: they ever and anon are calling out for equivalents, by subsequent manurings, viz.: bought manures from a distance!

However, it is not our present business to make calculations as to "profit and loss," or to frame a "balance sheet" of our hay crops; but this we may supply: First, learn the cost of growing your crop, the cost of saving it, and lastly the safe mode of selling it, before you venture upon the wholesale scheme of selling hay and buying manure! Clean husbandry, early manuring, well rolling, and early laying up of a meadow, have much to do with the profit, as by this means an earlier harvest may be expected, a better quality of herbage secured, and a better chance of saving the hay calculated upon. With due attention to the above, profit may ensue; but if the elements should prove unfavourable at the time of harvesting, "loss" may be expected. Hence the uncertainties of hay-making! While this nervous state of things is going on, the grazier with his sheep or cattle will be steadily plodding along to his one desired end—certain return; for with him no carts are in requisition, no labourers have to be paid, no horses fed, or manure bought, no stacks take harm, and no establishment charges arise. His selected animal walks to market with his collected produce upon his frame, and the margin beyond "cost price" is the farmer's gain, and the cycle of his season is complete.

The "text words" of our subject forbid explanatory notices of the different methods of manuring, and it is to be assumed that the draining (at least of all meadow lands) is now complete. If not, this passing remark may be made, they should be! as no operation in husbandry will pay better than this. As regards manures, we may note that a hay-maker's dependence need not rest solely upon the use of bought dung, however accessible it may be for back-carriage on delivery of the hay crop. If we want to sweeten the herbage and to make a lasting improvement upon meadow lands, we may use lime and bones; if to increase our quantity of Grass for present return, and to stimulate the meadows, guano, nitrate of soda, soot, or other ammoniacal manure. In the latter case a mixture of equal weights of best Peruvian guano, nitrate of soda, and common salt, to be used in early spring at the rate of 3 or 4 cwt. per acre, according to the condition of the land, will be found an effective dressing.

*The Grasses.*—No permanent Grass has been found equal to the Rye-grass for the purposes of convertible husbandry, but others have been selected which are considered superior for hay meadows. The principal of these are the Fescue, Foxtail, and Meadow Grasses.

Of the Fescue Grass there are three species in the highest estimation for meadow hay, viz., the meadow, tall, and spiked Fescue; these are universally found in the best meadows.

The meadow Foxtail Grass does best on water meadows. Of the meadow Grasses there are two species in esteem as hay plants—the smooth stalked and roughish. These plants compose the great part of the celebrated meadows near Salisbury, as also those near Edinburgh. As hay Grasses adapted for particular soils and situations, the Cat's-tail or Timothy, Floating Fescue, and Fiorin Grasses have been recommended. I have found Timothy to answer well on moist peaty soils. There is a number of other species of tall Grasses well adapted for meadows and hay-making—too many to enumerate to advantage. Under the term "meadow" we include all such lands as are kept under Grass chiefly for the sake of a hay crop. Where hay is in great demand, as near large towns, the most valuable meadows are such as are cool-lying or irrigated. There are three descriptions of these meadows: those on the banks of streams or rivers, on the uplands, and the low-lying meadows. Each of these may be stocked with Grasses, either naturally or artificially. River meadows are by far the most valuable. Upland meadows come next in merit.

In the cutting of Grass crops for the purpose of being converted into hay, it is necessary that they be in the utmost suitable state of growth and maturity for affording the best and most nutritious fodder. With this view they should neither be cut too early or too late, as in the one case there will be considerable loss in the drying, and in the other a large percentage of the nourishing properties will have been expended. Grass, before it becomes in full flower, while the rich saccharine juice is in part retained at the joints of the flower stems, is in the most proper condition for being cut down. Where Grass is very tall, as is often the case in moist meadows, it is liable to lodge, and therefore should be cut earlier.

The making of natural or meadow hay has been carried to greater perfection in the neighbourhood of London than elsewhere. The Grasses, after the usual examination, being pronounced fit for mowing, the practice hitherto adopted is to inform the "old hands" that their services are required, and their numbers proportioned to the acreage and necessary strength of power adopted. It has long been the practice to cut Grass by the acre, the cost of which varies materially, supply and demand regulating prices. From 3*s.* to 4*s.* 6*d.* has been given. The practice of allowing a certain quantity of beer per acre is fast wearing out. The best mowers cut from 1½ acre to 2 acres per day, but to do this they are obliged to rise at four o'clock in the morning, work on until the heat of the day, then take a rest, and resume work as the day declines. When the hay season is near at hand, a calculation is made as to the required strength to carry on every department effectually. Each person come provided with his own implements: about five boys, women and men, are considered sufficient to each mower. These are adjusted, according to their strength or merit, to suit the various occupations, and all are expected to retain their respective stations during the season. The old practices, so often recorded, viz, tedding out, hacking in, Grass cocks, hay cocks, winnowing, &c., then follow in due succession, until the "stack" is made, thatched, and marketable.

We subjoin a brief sketch of the daily routine which is usually adopted around London.

First day.—All Grass mown before 9 o'clock to be thrown out, "tedded," turned once, "hacked" into small rows, and left in "Grasscocks."

Second day.—"Tedding" as before, shaking out the "Grasscocks" into small rows, moved once or twice, the early process on the first day being carried on in succession, the forward hay gathered into winrows; then the other "hacking;" then comes the forward hay into moderate cocks, returning to the "hacks," and leaving them as before in small "Grasscocks."

Third day.—The above routine is again observed. The forward hay, now requiring nice attention, is managed according to the weather; if fine and warm, it may be brought forward for carrying, a period of much anxiety; should the weather prove cloudy it will be delayed, the principal attention being required at the other processes.

Fourth day.—Nothing fresh occurs; the weather rules the work; the hay is kept well under hand in cock; the land well raked, &c. At this stage attention is paid to the acreage under hand, no more hay being mown than can well be managed. If fine, the mowers give a hand; if wet or even doubtful, they are stopped or checked: they are good haymaking days when the final boast is made, "We never stopped the mowers!" As a general rule the Grass is protected as much as possible, both day and night, against rain and dew by cock. There is no more hay in hand than can be managed properly. The partial introduction of the haymaker, where used, supersedes manual labour to a corresponding extent, and sets free a number of hands for other operations, thus strengthening "the team" of haymakers most materially; nevertheless great care has to be taken when using the haymaker in wet or damp seasons, the hay being found to injure more rapidly after this remarkable, yet efficient implement, has been used. The cost per acre (in fine weather) would stand thus: Cost of mowing, day wages of 6 men, 12 women, 2 boys, beer for haymakers, and finishing the hay ricks, in round figures, 10*s.* per acre. This calculation is founded on the assumption that the hay is carried in four days.

(*To be continued.*)

## Home Correspondence.

*The Cow Milking Machine.*—A respectable man of business in Dublin, who was solicited to become agent for the sale of this machine, having sent one of them for trial to the Albert Institution, Glasnevin, I was requested by Mr. Kirkpatrick to test it, and am, therefore, in a position to respond to the appeal which you have made to your Correspondents. I have made several trials with the machine, and worked it with my own hands on each occasion. At first I experienced some difficulty in using it. It is not as easy as might be supposed to fit the finger-pieces on the teats air-tight: and when they are so fitted on, a restive animal is likely to throw the whole out of gear. I attempted the milking of three cows on the first trial. From one which was milking 5 to 5½ quarts at a meal, I obtained 4½ quarts; another, which has very uneven teats, I could not milk at all; and from the third, which was only milking 2½ quarts at a meal, I was only able to obtain a little more than a quart. All my subsequent trials have been attended with similar results. The conclusions at which I have arrived in reference to this machine are the following:—1st. It will not extract all the milk from cattle. If it should be found to answer in every other respect, this is no fatal objection to its use, as the strippings could be milked by hand. 2d. Cows that have good teats, well set in the udder, can be milked to within from half a quart to a quart of their full milk. 3d. Cows whose teats are uneven can with difficulty be milked. 4th. I doubt very much if any amount of experience and perseverance will overcome the difficulty of milking kicking or restive cows. 5th. In its present state the machine appears to me very loosely put together. I had not worked it two minutes when one of the handles gave way. I cannot conclude this brief note without expressing the hope that the machine may ultimately prove successful. Every extensive dairy farmer must anxiously desire that this invention would prove efficient and useful—first, because it would save the wages and keep of one or more "hands" according to the number of cows kept; and, secondly, it would go far to prevent the loss of milk that arises from garget and sore teats, caused by negligence or laziness on the part of cow-milkers. *Thomas Baldwin, Albert Institution, Glasnevin.*

***Mr. Ruston's Report of Steam Culture.***—My soil is

1, clay high land; 2, gravelly high land; 3, skirt land; 4, gravelly fen land. No. of acres ploughed: I have deep ploughed 113 acres during winter, from 15 to 18 inches deep; and grubbed a first time—(1) 28, (2) 6, (3) 6, (4) 29, in all 69; and grubbed second time the same pieces as the first, 6 to 8 or 10 inches deep. The number of days at work was about 19 or 20, parts of fields being done some three and others four times over, for special purposes that cannot be here explained. The Number of removals was five. The cost of coals is 14*s.* 3*d.* per ton without cartage, about ½ ton per day consumed. Cost of oil not known. Cost of wages: 2 men at 1*s.* 10*d.* per day each, 2 at 2*s.* 4*d.*, 1 at 2*s.* 7*d.*, 1 boy at 11*d.*, 2 at 8*d.* No repairs have been required this spring. The rope wears well, only one breakage, and that through accident. I only had my steam apparatus last November, and was deep ploughing all winter, and only cultivated a few fields this spring; thus the particulars I can give are therefore limited. I shall do much in autumn; it succeeds quite beyond expectation. *Alfred S. Ruston, Aylesby House, Chatteris, Cambridge.*

*Smith's Tackle.*—I have filled up the paper, and beg to remark that the steam cultivation this season has been most satisfactory, the land being in excellent condition for working, neither too wet nor too dry. I find by experience it does not answer on this soil to use the cultivator unless the land is moderately dry; the spring cultivation answers here much better than autumn, as in the generality of seasons the ground is so dry and hard that no implement will penetrate it until soaked with rain, and then the season is too far gone for the weeds to die. The average quantity done per day is about 5½ acres, but much depends on the size and shape of the field; the second time going over, we have done 8 acres in 10 hours; the average cost of what we have done this spring is about 4*s.* 6*d.* per acre, it is thoroughly well done. *Andrew Toward, Osborne, Isle of Wight.*——I am sorry I cannot give you all the information you require, for the simple reason that as steam cultivation is now with us one of the ordinary operations of the farm, we keep no particular account of it more than of any of the other ordinary work. It is no mere matter of experiment with us: we have fully tried it long ago, and found it answer. Although I am unable to give you a detailed account of our work, I may state that we have found after rather a lengthened experience that we can grub or cultivate once over with Smith's or Howard's implements from 5 to 9 acres a day (our ordinary working day is nine hours) at a cost of from 4*s.* to 7*s.* per acre, according to the depth of the work, the tenacity of the soil, and the sizes of the fields. In fact, we hardly find the cost on two fields alike. Our soil is very variable, as you are aware. The price of coal is 22*s.* per ton on the farm. One part of our experience is that a sixpence per day saved on a porter boy is sixpence lost on the rope, and to keep the rope running comparatively clear of the ground on our hilly land is one of our greatest difficulties. *John Kay, Lower Beeding, Horsham.*——My steam-cultivating proceedings this spring are not worth your notice—all my fallow land (except that for Mangels and which had its steaming in the autumn) being under crop, I had nothing which I could do until the Rye-grass was fed off; of this I "grubbed" the piece where you saw the ewes and lambs (25 acres), worked it to a fine tilth, and with the Ryegrass roots to the surface (and killed by the sun), by horse-power, and have since ploughed these roots in by horses. It is ready for Swedes, and likely to grow some. *C. Randell, Chadbury, Evesham.*——(See No. 3 Smith's table).—You will think my men have earned a great deal of money in a short time, but you will see they are at piece-work and worked very long days; they are good fellows, and moreover, I am no advocate for low wages. The engine-man and windlass-man I give 6*d.* per day extra, but it is also included as well as the water leading. I have not been at 1*d.* expense with my windlass, and it has done 2700 acres, and will do a great deal more before it needs repairs, as you will see. I calculate 6*d.* per acre will do for the rope, at least the one I got of Howard. *Fra. Sowerby, Aylesby.*——As the only steam work I have done since the autumn has been the breaking up of my Turnip fed land with Mr. Smith's combined machine, I have no answers to your questions. The breaking up of all my stubbles after harvest, and ridging my Turnip land during the winter, leaves me really little to do during the summer. Now that I have pretty well cleared the farm of Twitch, to get ready for and put in the Turnips is only light labour for the horses, and all they will have to do during the summer months will be to break up with a small cultivator the Vetches and Clover after being fed off with sheep. You will thus see that I have at present no room for the use of the cultivator. The great blow after harvest is all that I expect hereafter to require except in a very extraordinary season. Four horses and a couple of colts is all that I shall require to use on my 222 acres arable during the summer. The custom on this farm before I had it used to be to send a horse to the kennels after seeding time. I shall this year make something like 70*l.* of horseflesh, and there is a fair prospect, with good luck, of doing so annually. Write up the steam cultivator, my dear sir. If Wheat were 3*l.* per quarter we should soon see more smoke about our fields. *F. W. Bignall, Loughton, S. Stratford.*

*Howard's Cultivator.*—I have not had sufficient experience with my steam-cultivating tackle, to speak of its effect on the productiveness of the soil, having only used it last autumn for the first season, but the crops at present growing where it worked look quite as well as after the common plough, and stand the long dry season better. My working has been chiefly upon fallows after last year's crops. I believe the true economy of working to consist in a full length of rope, say 1000 yards on each roller (Smith's plan), by which I am enabled to work 40 acres from one position of the engine without moving it; the use of a small, *i.e.* narrow grubber first time over, viz., 22 inches wide, worked from 7 to 10 inches deep, with which we do from 5 to 6 acres a day; this is followed by a pair of horses and a double plough of Howard's make, which lays the land up for the winter in very fine condition. In the spring it is harrowed down and worked across—either by steam as in my case, or by horse power—if the land has much filth in it. Of course the work will require scarifying, and it takes longer to clean—but this is much more easily performed after the grubber than after a plough, as experience will prove to any one. My farm has about 400 acres arable land, and I regard my 10-horse engine and steam cultivating apparatus as 12 extra horses always at my command in fine weather, wanting no Oats and Beans when wet. I give you particulars of cost as near as I can come to them. *J. Long, Henlow, Biggleswade.*

*Fowler's Tackle.*—My experience of steam in the field has been so short, only since August last, and as all that time we have been working pioneer work among rocks and boulders, I think it hardly fair to quote myself as an authority; but I am quite convinced from what I have seen of Fowler's system that sooner or later the whole country, where reasonably flat and free from rock, will be under steam. I have grubbed my land this spring in a way that no horses could do, and in the Potato ground you can push a walking stick down at least a foot among the plants, which are coming up vigorously. Of course "the proof of the," &c.—and we shall anxiously await the autumn to see the crops. On my corn land I expect much trouble from wild Oats brought up with the deep culture. Our Swede ground is also beautifully prepared, and I quite grudge taking manure carts up the open drills, so I intend in future to get on as much manure in autumn as possible. Although our fields here are tolerably large, say 30 to 50 acres, yet many are badly shaped, and much will require to be done ere we get to perfection. I am quite sure that Mr. Fowler would get a great many customers if times were better, but with Wheat at 40*s.* a quarter, there is not much to spare for steel rope. One of my neighbours, Mr. Begbie, began steam at the same time as myself, and has been doing splendidly, with scarcely so many stones. Our farmers have been watching the operations, and now believe in it. At first, when we began, bets were made that it would not work for six months, but we carried through snow and wet all the winter. There is a mass of ingenuity concerning Mr. Fowler's whole system, and the more one knows it the more he admires it. The cost of getting out the stones in Scotland will be a considerable item added to the cost of the apparatus. The landlords are not inclined to be at any part of this expense. I think it hard that they should object to do so, as it is such a very permanent improvement. *W. Sadler, Ferrygate.*——(See No. 23, Fowler's table). As there is not a column for horse work I will note it as under:—Six horses, half a day, taking out and bringing in the engine, windlass, plough, and pulleys, at 2*s.* 6*d.* each horse, 15*s.*; five half days of one horse for coals and water, 2*s.* 6*d.*, 12*s.* 6*d.* The removal we do with a crab winch and men, which is much cheaper than horses, when the distance is not great. I may mention that the crop just now is looking much better from the steam ploughing than what was made with horses. *John Elliot, Tarbert Mains.*

*Cost of Working Smith's Grubber on Land Twice Over, not Steam Cultivated before:—*

| | £ | s. | d. |
|---|---|---|---|
| Engine driver and blacksmith, one day .. | 0 | 3 | 6 |
| Windlass man .. .. .. .. .. | 0 | 2 | 6 |
| Two anchormen .. .. .. .. .. | 0 | 5 | 0 |
| Three porter lads .. .. .. .. .. | 0 | 3 | 9 |
| Watercart and horse .. .. .. .. | 0 | 2 | 6 |
| Man with it .. .. .. .. .. | 0 | 2 | 0 |
| Coals, ½ a ton .. .. .. .. .. | 0 | 6 | 6 |
| Oil .. .. .. .. .. .. .. | 0 | 0 | 6 |
| | £1 | 6 | 3 |
| 5 acres per day, 5*s.* 6*d.* .. .. .. .. | 1 | 7 | 6 |
| 6½ and 7 acres daily second time, 4*s.* .. .. | £1 | 6 | 0 |
| Twice working .. .. .. .. .. | 0 | 9 | 6 |
| Wear of rope, 3*s.* per acre .. .. .. | 0 | 3 | 0 |
| Repair of windlass .. .. .. .. | 0 | 0 | 6 |
| Depreciation wear of engine .. .. .. | 0 | 0 | 6 |
| Horses and men to move .. .. .. | 0 | 0 | 6 |
| Interest on money for outlay .. .. .. | 0 | 1 | 0 |
| | 0 | 15 | 0 |

My soil is strong loam on clay subsoil. I have grubbed a first time 250 acres, and a second time 500 acres, 7 and 8 inches. No account has been kept of the number of days at work, but the rate has been about 5 acres first time on, and 6½ to 7 the second time daily. The engine and windlass has cost in repairs 10*l.*, and the rope 48*l.* Coals cost per ton 13*s.* to 15*s.*; 1400 yards of rope has done over the 500 acres, and it is worn out, making the cost on the rope near 4*s.* per acre on the 250 acres. I call it 3*s.* 3*s.* with the rope, makes it 15*s.* on the 500 acres don by me, including interest of money and all cost. *Robert Norfolk, Louth Park Farm, Lincoln.*

*Savory's double Engine, working Howard's Cultivator.*—The soil is various—clay, marl, and gravel. I have grubbed a first time this spring 90 acres, a second and third time 130 acres, from 7 to 10 inches deep, in 25 days, with about 10 removals. If at work at home the cost would be as follows:—2 men with engines, 5*s.*; ploughman, 2*s.* 2*d.*; water-cart man, 1*s.* 10*d.*; horse, 3*s.* 6*d.*; 2 porter boys, 1*s.* 8*d.*; coals, delivered, 14*s.* 6*d.*; oil, 1*s.* 4*d.*; 1*l.* 10*s.* a day. The wear of rope is scarcely any. *B. Bomfred, Pitchill, Evesham, Worcester.*

*Remarks on Wear of Rope.*—The long rope, 500 yards, has been in wear nearly two years, and is still good, only a few single wires are broken; 200 yards bought last year, nearly as good as new; 150 yards quite new, and 260 yards left of the original 800 yards which came with the tackle in 1860; this is nearly worn out. We have ploughed altogether about 1200 acres. *Edward Roberts, jun., Berdon Hall, Bishop Stortford, Essex (Fowler's).*

## Farmers' Clubs.

[The following, taken from the Journal of the London Farmers' Club, is a report of remarks by Dr. Voelcker, Mr. Dring and Mr. Fowler during the recent discussion of this subject.]

London: *Steam Cultivation.*—Professor Voelcker (Cirencester) said this was one of those practical subjects upon which all must consult their individual experience. There were, however, some points on which he wished to offer a few remarks. It appeared to him that a sufficient distinction had not been made between the very worst description of land, upon which they must put everything in order to get crops, and land from which they might take almost everything out, if that were possible, and where, according to Baron Liebig, they pursued a robbing system. Now, he maintained that the best kind of land contained the treasures, not merely of one hundred years, as Alderman Mechi said it did, but of thousands of years. The difficulty, however, was to get at those treasures; and the question was not, as Baron Liebig justly observed, what was the amount of nutriment in the soil? but, what was the amount of nutriment in that portion of the soil which was reached by the plant? They must, therefore, work the land in order to get the treasures out, and the more they worked good land like that to which he alluded the better it became. They need not be very careful, he thought, about restoring to such land everything that was taken from it. On that point he differed from Alderman Mechi. He believed that if it were possible to incorporate 8 cwt. of guano per acre uniformly with the whole soil they would see but little result, because the quantity of fertilizing matter thus added to the land was very insignificant in comparison with what existed in 6 or 8 inches of soil. But the case was very different with respect to very light lands. In that case they must put almost everything on the land. And even there deep cultivation was of great utility, for on such lands the manuring constituents were washed out. Notwithstanding Baron Liebig's opinion that the soluble manuring matters were rendered insoluble as soon as they came in contact with the soil, it was plain that they were washed out. Where did the manures go? Why did they want manures for light lands? Why did they not see any effect when they manured them in autumn? Nobody could be a stronger advocate for the manuring of light sands than he was, but it was useless to manure them in autumn. At the same time he could quite conceive that there was great benefit arising from deep cultivation, even on sandy soils. They frequently broke—this was the case in Bedfordshire—a hard caky clay covered with a crust of sand. Unless they broke through the crust it was impossible to get a proper vehicle to hold the prepared manure, and the deeper this vehicle was manured the better for the plants. He believed, in fact, that deep cultivation on sandy soils was of great utility, because it increased the pabulum for holding the prepared manure. Whether that was most effectually done by horse or by steam power was another question. On that subject he hardly liked to offer an opinion, it was one which was so much better dealt with by men who had had practical experience in the matter; but speaking from what he had seen, if they would not be too hard upon him—he was here rather expressing his feeling than an opinion—he would remark that he was inclined to believe that on light lands, where they could plough with two light horses, the work would be done as well as it would be by steam. If he could do the work with two nice little quick-stepping horses, he did not think he should use a steam engine, of the present form at least, of 10 horse-power or even of 8 horse-power.

Mr. T. B. Dring (Claxby, Spilsby) said a gentleman had asked what was the value of steam cultivation on light land? He (Mr. Dring) apprehended that such land was more liable to run to twitch than any other land, and that if a blow be made by steam power on the Wheat stubbles that came in turn for Turnips just after harvest it would be in a ready and safe state, but if this be omitted, if a wet spring happened to follow, the twitch could not be got out. The result of the twitch might be that the farmer would get a quarter of Barley per acre less, and also a quarter of Wheat after

the seed crop; and the price of these would pay for a little extra power in the form of steam. Steam power, after all, was not very expensive in the long run. He had now in constant use one engine, which he bought of Messrs. Clayton and Shuttleworth in 1855, and the expense of keeping it in repair had been quite a two-penny-halfpenny affair. He always brought that engine out after harvest, and the result of employing it was that he had but little to do all the rest of the year: he had plenty of time to go to the Central Farmers' Club or anywhere else. He certainly did think, therefore, from experience, that it was an advantage to be able to apply steam-power on light lands; and it was clear from what had been stated that evening, on good authority, that the use of steam-power was a very great advantage on heavy lands. It was remarked by Alderman Mechi, that where lands had been underdrained to a depth of three feet, you could trace the effects on the surface over the drains, even in a dry season. He could corroborate that remark from his own experience. A short time ago he was looking at a field of his, which was underdrained 12 or 14 years ago; and the consequence of underdraining was, that there was double the quantity of grain, even in this dry season. Did not that tend to show that the use of steam-power by preventing the lands from being trodden down rendered it more productive? Wherever he had broken up his stiff land the crops had been better afterwards. This year, for example, his best Wheat was on land that was steam-cultivated; finer Wheat he could never wish to grow. The cost of a new engine and tackle was no doubt considerable; but it was no greater than that of good horses, coupled with their keep, shoeing, farriering, and deterioration, which formed altogether a considerable item. Nothing connected with his engine, which, as before stated, he had had for several years, had been very expensive, unless it were the rope. The rope was, in fact, the greatest drawback. On a flinty soil the wear and tear of the rope was considerable; but on a loose loamy soil it was not much. He was quite convinced that the rope should be kept above the surface of the land at any cost, even by using a double number of rollers. He might remark, that on his own land the tar was not worn off after very long use, where the rope did not touch the ground. After listening to the reports which had been read that evening, they ought as farmers to feel very much indebted to those gentlemen who had spent their time and their money in endeavouring to bring agricultural implements as near as possible to perfection. Messrs. Howard had taken great pains, spent a great deal of money, and done a great deal of good; Mr. Fowler, a man of ten thousand, had fagged in the most unwearied manner; and great credit was also due to Mr. Williams and others, for the energy which they had brought to bear on the improvement of steam cultivation. But all the honours were not due to those men; great honour was also due to the man who started the hare. The development of steam power as applied to the land had been a very nice little game throughout; there had been a great deal of amusement as well as benefit, and some credit should certainly be given to the man who started the hare in Mr. Smith of Woolston, as well as to those who had made the running. He (Mr. Dring) was, he believed, the first tenant farmer in England who bought, in a humble way, a set of steam tackle. That tackle was provided for him by Mr. Smith, and though he had had it for some years, he was prepared to run it against the apparatus of any modern manufacturer.

Mr. J. Fowler (28, Cornhill) said there was one subject which he thought worthy of more consideration than it had yet received. Mr. Mechi remarked that he had cultivated his land deeply by horses. Now that was a view which he had often heard expressed. He had often heard persons say, "I have done the same thing by horses that you have done by steam; I have cultivated land one foot deep by horses." Now, in that lay the error—a want of perception of the true bearing and merit of steam cultivation. He believed that the worst sort of tackle ever sent out was better than horses, and for this simple reason—he had sent out some bad ones himself, and therefore he could speak authoritatively on the subject—that if they turned back a furrow that had been ploughed by horses, especially if they had the number of horses required to plough heavy land, they would find that the footmarks of the horses made the soil impervious to moisture. The consequence was that if they broke up that land in the autumn, they would have to do it over again in the spring. The wet being unable to percolate through the subsoil made the surface what they had no doubt all seen on heavy land—a very nice tilth on the top with something below like liver. That liver had to be clod-crushed and harrowed in the spring, and it never became a fine tilth. But let them put the steam plough on that land in the autumn, or let there be spade labour, which was the same thing—though he really believed that steam cultivation was very often better than spade labour—and the land would be broken up in large pieces, and the larger the better. Let it then be dry during the winter season, and the atmosphere would act on the surface, and the frost bring it down. They would then have as beautiful a tilth in the spring, newly harrowed, as they could possibly desire. He could not help remarking that when persons talked merely of the cost of the first operation in steam-cultivation, they did not hit the point; what they had to do was to consider the cost of the first operation in connection with the cost of subsequent operations. Mr. Dring was he believed quite correct in what he said with regard to the cleaning of light lands in stubble. The difficulty of cultivating land by horse-power was this, that when the horses walked a second time over the land, they put as much twitch in it as they ploughed out, so that it was impossible to clean land as thoroughly by horse as by steam-power. He believed that the more steam-cultivation was viewed in connection with subsequent operations, the higher would it stand in general estimation.

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. Slatter, Streatley, near Reading.*

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | May | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Thursday | 28 | .. | .. | .. | S.W. | .. | .. | | | | | |
| Friday | 29 | 30.22 | .. | .. | S.W. | .. | . | 73 | 42 | 86 | 53 | .. |
| Saturday | 30 | 30.26 | 69 | 63 | S.W. | 1 | 10 | | | | | |
| Sunday | 31 | 30.26 | 60 | 57 | N.E. | 2 | 10 | 70 | 57 | 83 | 55 | 0.01 |
| | June | | | | | | | | | | | |
| Monday | 1 | 30.37 | 57 | 51 | E. | 1 | 9 | 60 | 46 | 67 | 42 | .. |
| Tuesday | 2 | 30.22 | 60 | 54 | S.E. | 1 | 1 | 65 | 41 | 81 | 36 | .. |
| Wednesday | 3 | 30.07 | 71 | 62 | S.W. | 0 | 8 | 71 | 43 | 81 | 39 | .. |
| Thursday | 4 | 30.08 | 62 | 56 | S.W. | 0 | 5 | 71 | 50 | 92 | 45 | .. |
| Friday | 5 | 30.07 | 58 | 56 | S.W. | 0 | 10 | 68 | 50 | 82 | 44 | .. |
| Saturday | 6 | 29.52 | 60 | 55 | W. | 3 | 9 | 58 | 52 | 67 | 50 | .. |
| Sunday | 7 | 29.54 | 60 | 55 | S.W. | 2 | 7 | 61 | 49 | 76 | 45 | 0.84 |
| Monday | 8 | 29.56 | 60 | 55 | W. | 2 | 5 | 62 | 43 | 80 | 44 | 0.20 |
| Tuesday | 9 | 29.62 | 57 | 56 | S.W. | 0 | 8 | 62 | 46 | 71 | 42 | 0.00 |
| Wednesday | 10 | 29.62 | 59 | 58 | S.E. | 1 | 10 | 62 | 50 | 73 | 46 | 0.06 |
| Thursday | 11 | 29.62 | 57 | 52 | S.W. | 3 | 9 | 64 | 48 | 75 | 46 | 0.28 |
| Friday | 12 | 29.53 | 58 | 54 | S.E. | 2 | 6 | 64 | 47 | 68 | 46 | 0.36 |
| Saturday | 13 | 29.88 | . | .. | N.W. | 3 | 10 | 61 | 46 | 78 | 42 | 0.64 |
| Sunday | 14 | 30.08 | 64 | 57 | N.W. | 0 | 9 | 65 | 42 | 76 | 39 | 0.09 |
| Monday | 15 | 29.68 | 65 | 59 | W. | 2 | 8 | 67 | 54 | 81 | 48 | 0.06 |
| Tuesday | 16 | [illegible] | 63 | 59 | S. | 1 | 10 | 67 | 49 | 82 | 44 | 0.00 |
| Wednesday | 17 | 29.99 | 64 | 58 | W. | 0 | 9 | 63 | 53 | 78 | 51 | 0.40 |
| Thursday | 18 | 29.97 | 65 | 60 | S.E. | 0 | 8 | 67 | 46 | 84 | 43 | 0.00 |

* Streatley is about 2 miles lower down the river than Moulsford, from which observations up to May 28 were given on May 30.

## Reviews.

*Climate: an Inquiry into the Causes of its Differences, and into its Influence on Vegetable Life.* Pp. 144. By C. Daubeny, M.D., F.R.S., Professor of Botany and Rural Economy in the University of Oxford. J. H. and J. Parker, Oxford and London.

This volume contains the substance of four lectures delivered before the Natural History Society, at the Museum, Torquay, in February of this year. It discusses such subjects as the laws affecting temperature, moisture, and air pressure, our means of measuring them, and the results which have thus been obtained; the influence of climate on vegetation, and our power to modify climate as well as to modify its relations to cultivated plants.

This is the work which the agriculturist should read and study. The foolish publications of so-called weather prophets will but delude and mislead him. Here he will find all that concerns him in the observations and conclusions of meteorological observers stated by one whose life-long studies and ripe knowledge of the subject makes him a thoroughly safe guide.

We quote one or two passages:—

1. *On the Cultivation of Wheat.*—The power which this plant possesses of resisting cold in northern regions, and of enduring a high temperature in tropical ones, may perhaps be connected with the great depth to which its roots, comparatively to the size of the plant, are able to penetrate into the ground, sometimes, it is said, in light and yielding soils extending as far as 6 feet from the surface.

This circumstance enables it to draw its sap from a depth at which the earth is, comparatively speaking, little under the influence of the vicissitudes of diurnal temperature.

It is cultivated indeed, according to Humboldt, near Caraccas, at a height of 1600 feet above the sea; in Cuba at even a lower level than this; and in the Mauritius almost to the water's edge.

It is also grown in the Island of Luçon, and in many parts of India, as well as near Canton, by sowing it at that period of the year when the temperature is lowest. Thus in Bengal, Wheat, Barley, Oats, Beans, &c., are sown in October, and reaped in March or April.

"It would seem that the extreme point which admits of the cultivation of Wheat is about 71° Fah.: now the winter climate of Havanna does not exceed that point, and that of Canton and Mexico rises only to 65°.

"In Egypt, where Wheat is grown abundantly, the mean temperature of the three coldest months is as low as 58°, so that the seed is sown in December and the crop is reaped in February.

"Such are the extreme boundaries of the cultivation of Wheat in a southern direction.

"On the other hand, a summer temperature of 58° is generally set down as requisite for the ripening of this vegetable, so that it is limited in its extension northwards by this circumstance.

"Accordingly in this country, its cultivation does not succeed at a height of more than 600 feet above the level of the sea, and is limited in point of latitude to the neighbourhood of Aberdeen, situated in the 57th parallel.

"It is not long ago, indeed, namely in 1727, that a crop of Wheat in Edinburgh was noted as a curiosity; nor was its cultivation at all extensive throughout Scotland even so late as 1770.

"At present, however, abundant crops are to be seen in the Lowlands, and its culture is pushed as far as the Moray Firth. Now as the mean temperature in summer of those parts of Scotland does not exceed 57°, or even 56°, we must account for the growth of Wheat by the length of the day, which seems in some measure to compensate for the defect of solar radiation—agreeably to the statement of Boussingault, that Wheat requires 8248° of Fahr. to bring its grain to maturity, so that a longer duration of solar heat will produce the same effect as a shorter period of greater intensity.

"It appears from an interesting report on the climate of Scotland, published in 1862 by the Meteorological Society of that country, that the mean temperature of the whole island varies very little, being 47° 1′ for the east coast, 47° 2′ for the inland portions, and 47° 8′ for the west; the only places which fall below this standard being the Orkney and Shetland Islands, and the remoter Hebrides, where the mean temperature is only 45° 8′.

But though the temperature of the year may be the same throughout Scotland, its distribution throughout the different seasons differs; and hence it happens, that owing to their lower summer heat the western parts of the island scarcely admit of the successful cultivation of Wheat, and that elsewhere it is limited to a height of 500 feet above the sea in the south, and 100 in the extreme north.

"It is curious, as corroborating the views of M. Boussingault, that the ripening of Wheat in the northern part of Scotland took place at a somewhat lower temperature than in the south of that island, owing to the greater length of the days in the former.

"The following table represents the temperature required to mature crops of Wheat and Barley in Scotland:—

| | | Degs. | Days. |
|---|---|---|---|
| Colloden, N. | Wheat | 8188 | 156 |
| | Barley | 6560 | 119 |
| | Oats | 6767 | 123 |
| East Linton, S. | Wheat | 8362 | 159 |
| | Barley | 6900 | 129 |
| | Oats | 7125 | 133 |

"In Norway Wheat is cultivated as high as Drontheim, in lat. 59°; in Sweden up to the 63rd parallel; and in Russia it is met with extending to St. Petersburg, in lat. 59° 5′, where the summer heat indeed is said to average 60°.

"Now this represents very nearly the mean temperature of that season in the midland counties of England, nor does Penzance even, mild as it is in winter, exceed that point in summer. On the Hampshire coast alone the thermometer is quoted nearly as high as 63°. As the summers of this country in general so little exceed the point necessary for the successful cultivation of Wheat, we can understand why the western

side of the island, which is cooler in summer than the eastern, should be better adapted for the growth of Grass than of corn. And hence we perceive why Wheat is carried from the eastern to the western counties, whilst cattle are driven from the eastern to the western.

"On turning to a map of England it will be found, that all our principal corn districts are situated on the eastern side of the island, from the Lothians to Kent.

"In the western part of Scotland, indeed, the summer sun is so insufficient for the ripening of Wheat, that other kinds of produce take its place altogether."

2. *On our Influence over Climate.* — "It would appear, then, that man is really capable of exercising a certain control over the humidity of the climate, by thinning the forests, or by renewing them in the manner represented; nor can it be doubted, that the same effect will be brought about by drainage, which carries off the redundant waters into their appropriate channels, instead of allowing them to stagnate upon the surface.

"And in thus altering the character of a country with respect to its humidity, he may hope to bring about a corresponding change also in its temperature, for the tendency of swamps and stagnant waters is to cool down by their evaporation the surface of the earth, as well as to intercept the rays of the sun by the mists and fogs they engender.

"Nor must we forget the genial influence, upon a soil properly drained, of summer showers, possessing as they often do a temperature from 10° to 20° higher than the ground. This is lost in an undrained soil, because the water which descends from the heavens is mixed with the moisture of the ground, and thus adds very little to its warmth.

"It has been calculated by Mr. Raikes, from experiments made at Chat-Moss, that the temperature of the soil when drained averages 10° more than it does when undrained; and this is not surprising, when we find that 1 lb. of water evaporated from 1000 lb. of soil will depress the whole by 10°, owing to the latent heat which it absorbs in its conversion into steam.

"A similar influence in depressing temperature will be exerted upon a newly-peopled country by the forests which extend so generally over its surface, at least by intercepting the sun's rays, if not, as we have endeavoured to show, by increasing the rain-fall. Would not this circumstance lend probability to the idea, that countries like our own were formerly colder than they are at present; not that any secular variation of climate can be supposed to have taken place within the limits of human experience, but that the general character of the country, whilst yet unreclaimed and overspread with forests, would be naturally more humid, and consequently colder.

"It has been already remarked that Wheat was but little cultivated in Great Britain some centuries back; might not this have been owing to the climate being formerly of too low temperature to admit of its general introduction?"

We strongly recommend Dr. Daubeny's book to agricultural readers.

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*Outlines of Modern Farming.* By Robert Scott Burn Vol. II. *Notes Historical and Practical on Farming and Farming Economy.* Virtue Brothers & Co.

The work is fairly described by its title. We have in it 340 well packed pages, full of "notes historical and practical." The book gives the present condition of knowledge on its several topics, as well as the history of the steps by which it has been attained; while, however, there is thus a certain indefiniteness in the plan which has guided the Editor, yet the whole volume is the fuller of interesting and useful information; and the index with which it is provided enables the reader to obtain whatever information he may be seeking.

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## Notices to Correspondents.

CARROTS: *Chartwell.* The roots are easily affected when the land is fine—it is generally in light sandy soils that they become cankered and eaten by insects Marling the land would probably be as effectual a preventive as anything you could adopt. Your question has, however, been forwarded for an entomological report.

GRASS: *Agricola, Ruadeen.* The Grass is the Avena flavescens or Yellow Oat Grass. Your notes on the change in the meadow resulting from cultivation are very interesting. The little book on Meadow and Pasture Grasses by Professor Buckman of Cirencester will perhaps be the best for your purpose. Sowerby has published Engravings of Grasses, which are well done and therefore somewhat costly.

OIL OF VITRIOL: *A Subscriber.* If by "Spirits of Vitriol" you mean sulphuric acid, then the only instance in which we have understood it has been applied directly to the soil, was at the suggestion, if we remember aright, of Dr. Daubeny, on the chalk soil of a farm belonging to the late Mr. Davies Gilbert, with what result we do not know. The idea was that it would be efficient as a manure by the formation of gypsum.

PASTURE: *Cor.* The seeds sent belong to the genus Alopecurus; but whether it be a rough variety of A. pratensis (Meadow Foxtail), or a distinct species, it is difficult to say from the seed alone.—*A.* The usual practice with regard to the droppings on the pastures is to knock them abroad when they have arrived at a certain degree of consistency. We believe that an old man and donkey cart might be usefully employed constantly during summer in collecting them and forming a heap, wherever there is extent and herd enough to give him work.


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

THE HYDROPULT. — "The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

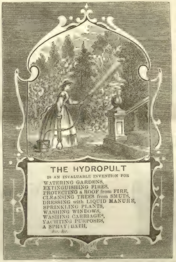
THE HYDROPULT. — "All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines." — *Gardeners' Chronicle and Agricultural Gazette.*

THE HYDROPULT. — "We strongly recommend it to our readers." —*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT. — "It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water." — *Gardeners' Weekly Magazine.*

THE HYDROPULT. — "Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

THE HYDROPULT. — "We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

THE HYDROPULT. — "We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it." — *Liverpool Daily Post.*

THE HYDROPULT. — "We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces." — *Mechanics' Magazine.*

THE HYDROPULT. — "It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation." — *Illustrated News of the World.*

THE HYDROPULT. — "Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner." — *Builders' Reporter.*

THE HYDROPULT. — "Many of the most scientific men of the age are daily inspecting and testing its uses."— *Age We Live In.*

## AN INVENTION FOR THROWING WATER BY HAND POWER

(SECURED BY ROYAL LETTERS PATENT),

Price **TWO GUINEAS**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

THOMAS RIVERS, Esq., the eminent Florist, SHIRLEY HIBBARD, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.

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EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.

"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly,

"PERCY M. DOVE, Manager."

"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service. — F. J. HALLOWS, Secretary, Caledonian Insurance Company."

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**CAUTION**: Important to the Public.—The extensive sale of the **HYDROPULT** has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; GRIFFITHS & BROWETT, Manufacturers, Birmingham; CHARLES P. BUTTON, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult.

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. SPENCER, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE! FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

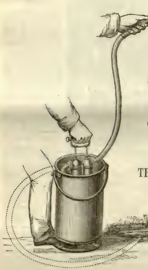
---

CHARLES P. BUTTON, PROPRIETOR,

HYDROPULT WAREHOUSE, 27, LEADENHALL STREET, LONDON, E.C.

WEST END DEPOT, 309, REGENT STREET, W.

## WARNERS' IMPROVED PATENT,



NOW FITTED WITH AN AIR VESSEL,

IS THE

**ONLY ENGINE AT £2 2s.**

THAT

THROWS A CONSTANT STREAM.

May be obtained of any Ironmonger or Seedsman at the above price, or of

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.



JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

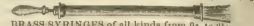
| | |
|---|---|
| 10 gallons .. .. | £2 15 0 |
| 16 „ .. .. | 3 15 0 |
| 24 „ .. .. | 5 0 0 |

Larger sizes may be had in either Wood or Iron.

No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | |
|---|---|
| 35 gallons .. | £3 10 0 |
| 20 „ .. | 2 0 0 |



BRASS SYRINGES of all kinds from 9s. to 21s.

No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 5 feet Flexible Suction Pipe,

**21s.**

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

THERE ARE NO SUCTION OR DELIVERY VALVES, hence MUCH FRICTION AND LIABILITY TO CHOKE with leaves and dirt IS AVOIDED.

JOHN WARNER & SONS, 8, Crescent, Cripplegate, London, E.C.



THE GEARING OF SAMUELSON AND CO.'S LAWN MOWING MACHINES IS NOT LIABLE TO DERANGEMENT.

## SAMUELSON AND CO.'S PATENT SELF-CLEANING LAWN MOWERS.

PRICES, including Packing Case, and Carriage paid to any Railway Station or Shipping Port in the United Kingdom:—

| | | | |
|---|---|---|---|
| MANUAL POWER | 12 inches cut, suitable for a Lady | ... | £4 12 0 |
| | 16 „ suitable for One Person | ... | 6 10 0 |
| | 19 „ suitable for One Man and Boy | ... | 7 0 0 |
| | 22 „ suitable for Two Men | ... | 8 0 0 |
| PONY POWER | 22 inches cut | ... | £8 15 0 |
| | 25 „ | ... | 11 10 0 |
| | 30 „ | ... | 14 14 0 |

If with BOYD'S PATENT BRUSH, 15s. extra.

MESSRS. SAMUELSON AND CO. are now supplying their 12-inch and 16-inch NEW PATTERN LAWN MOWERS, which they tested thoroughly last season. These Machines are handsome in appearance, lighter in draught, simpler and more durable than any Machine in the trade, and are sure to recommend themselves to the public.

*Prices as above.*

All Orders direct or through Dealers will be executed according to priority of receipt. May be obtained at the WORKS, Banbury; or at SAMUELSON & CO.'S various Depôts; also of all Ironmongers and Seedsmen, and at

SAMUELSON AND CO.'S WAREHOUSE, 76, CANNON STREET WEST, LONDON, E.C.

**Extra Strong Vines.**

LUCOMBE, PINCE, AND CO., having devoted great attention to their GRAPE VINES, can this season offer a fine healthy Stock of strong Canes 6 to 10 feet long, of all the choicest sorts, fit for immediate planting, propagated from Eyes taken from their own experimental Vinery, which enables them to warrant each kind true to name.

Their experimental Vinery is now very finely in fruit, and they invite an inspection of it, and their stock of Vines.

LISTS of Sorts and Prices may be had on application.

Exeter Nursery, Exeter.

---

**Superb New Fuchsias.**

LUCOMBE, PINCE, AND CO. have much pleasure in announcing that their two *noble* Seedling FUCHSIAS,

THE EARL OF DEVON (PINCE'S), and
EXHIBITOR (PINCE'S)

are now beautifully in flower, and are admitted by all who see them to be the finest Fuchsias ever sent out. Extra Strong Plants, 10*s.* 6*d.* each.

For descriptions see GENERAL CATALOGUE, which may be had gratis on application.

Exeter Nursery, Exeter.

---

**New Hybrid Mimulus.**

E. G. HENDERSON AND SON having raised a collection of Seedling Varieties between M. CUPREUS and M. LUTEUS in its recent forms, respectfully offer a selection for Pot Culture and Flower Garden decoration. They unite the dwarf, compact, and profuse blooming habit of M. cupreus, with the large blossoms of M. luteus and rivularis, and are thus finely adopted for early spring bloom in the Greenhouse and Conservatory from February to May. The ground colours vary from bright sulphur-yellow to a rich golden lustre with coppery tints, elegantly marmorated with crimson bands, spots, and belts; some of the forms from Seed are also beautifully tipped or blotched with buff-like marks on the inner or outer margins.

2*s.* 6*d.* each; or a selection of 6 kinds, 12*s.* Seed for early sowing, to bloom in spring, 1*s.* and 2*s.* 6*d.* per packet.

Wellington Nursery, St. John's Wood, London, N.W.

---

GOLDEN VARIEGATED BALM for RIBBON GARDENS.—Why plant the Golden Chain Geranium, when an equal or finer effect can be produced by the Golden Balm? Being a Perennial and perfectly hardy it requires no replanting from year to year, and saves the trouble and expense of housing and propagating annually. The following is extracted from THE FLORAL WORLD for June, 1863, page 130.

"One of the most valuable plants ever seen or heard of for amateurs who are not made of money, is the Golden Balm. The leaves are richly and uniformly painted a deep orange yellow, with a narrow stripe of deep green up the centre, and are considerably larger than those of the Variegated Mint. Seen in a mass it is so fine that if I were to use the word 'gorgeous' I should scarcely exaggerate. If left in the ground it comes up the next year amazingly strong, and as true as from cuttings. I would match it against Golden Chain any day for effect," &c.

JAMES BACKHOUSE & SON can supply on the 1st of next month nice plants at 6*s.* per dozen, 42*s.* per 100, or at a still lower rate per 1000.

York Nurseries.—June 27.

---

WILLIAM ROLLISSON AND SONS beg to announce that they have a large Stock of the leading sorts of GRAPE VINES in Pots, consisting of Fruiting and other sized Plants, in fine health and vigorous growth. The prices are moderate, and may be obtained on application, post free.

W. R. & SONS beg also to state that their CATALOGUE of New, Beautiful, and Rare Plants for 1863, will be forwarded, on application, post free.

The Nurseries, Tooting, near London, S.

---

**New Indian Azaleas, and Rhododendron Prince of Wales.**

WILLIAM ROLLISSON AND SONS beg respectfully to announce that they have purchased the stock of Mr. TODMAN'S three NEW INDIAN AZALEAS, viz.:—

AZALEA PRINCESS of WALES
AZALEA LORD CANNING | AZALEA RIFLEMAN

three most beautiful and distinct varieties, of fine form and good substance. Healthy young plants of the above, grafted and from cuttings, will be ready for delivery next April at 21*s.* each.

WM. R. & SONS will send out at the same time their new SEEDLING RHODODENDRON, PRINCE of WALES, a cross between Rhododendron javanicum and Rhododendron retusum, a most beautiful variety. The flowers are a brilliant scarlet orange, fine dark green foliage, and of good habit. A most valuable acquisition as a greenhouse or conservatory plant. Healthy young plants, next April, at 31*s.* 6*d.* each.

The usual discount allowed to the Trade.

The Nurseries, Tooting, London, S.

---

**Azalea indica, &c.**

ROBERT PARKER begs to offer strong healthy GRAFTED PLANTS of all the leading varieties in cultivation, in selections, from 18*s.* per dozen.

ALOCASIA METALLICA, from 10*s.* 6*d.* to 105*s.* each.
CALADIUM, of sorts, from 18*s.* per dozen.
CENTAUREA ARGENTEA, 5*s.* each.
" RAGUSINA, 24*s* per dozen.

Priced and Descriptive CATALOGUES of PLANTS, &c., forwarded on application.

Exotic Nursery, Tooting, Surrey, S.

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**New Bedding Scarlet Horse Shoe Geranium Adonis.**

JOHN HALLY, NURSERYMAN, SEEDSMAN, and FLORIST, Blackheath, S.E., is now sending out the above. It is a distinct and good thing, and a great improvement on all existing Scarlets. Flowers of a bright, light, pure scarlet, with clear white eye, and of perfect shape. It was tried at Chiswick last year as a bedding plant, and is thus described by Mr. Moore in the Proceedings of the Royal Horticultural Society for March last. "ADONIS * * * (the highest mark of merit), HALLY. Moderately vigorous habit, leaves darkly zoned. Flowers scarlet, of excellent form, with white eye—considered to be a superior novelty." It received a Certificate of Merit at the Royal Botanic Society's Show in Regent's Park, on June 3; also a 1st Class Certificate at the Royal Horticultural Society's Show on the 17th. Plants, 5*s.* each, with the usual discount to the Trade.

The above is now flowering beautifully, bedded out in J. H.'s Nursery at Lee, notwithstanding the late storms, and fully establishes its character as a first-rate bedder; the bright Scarlet flowers contrasting well with the wide metallic-looking bronze zones of the leaves.

---

TURNIP and GRASS SEEDS for PRESENT SOWING.

As some kinds of Turnips are more suitable for late sowing than others, Messrs. SUTTON beg to recommend the undermentioned as the most desirable for that purpose.

Prices for the months of July and August, 1863:—

SUTTON'S EARLY SIX WEEKS TURNIP, the earliest Turnip known, 8*d.* per lb., or cheaper by the bushel.

SUTTON'S IMPERIAL GREEN GLOBE, very fine, best for the main crop, to be sown in July and August, for autumn and winter use, 8*d.* per lb., or cheaper by the bushel.

HARDY GREEN ROUND (Old Sort), to be sown in July and August for spring feeding, 8*d.* per lb. or cheaper by the bushel.

SUTTON'S GREEN-TOP YELLOW HYBRID.—A quick-growing and nutritious Turnip, an excellent substitute for Swedes, 10*d.* per lb., or cheaper by the bushel.

PERMANENT PASTURE GRASS SEEDS may be sown with safety until the end of August or first week of September, price 30*s.* per acre. Also

SUTTON'S RENOVATING MIXTURE of fine GRASS and CLOVER SEEDS for Improving Old Pastures. Price 9*d.* per lb., or 80*s.* per cwt. Sow 8 to 12 lb. per acre to Improve Old Pastures.

CATTLE CABBAGE (the heaviest of all Agricultural Crops), should be sown in July and August, for transplanting in October and in the Spring.

GARDEN and FLOWER SEEDS for AUTUMN SOWING.

Messrs. SUTTON and SONS have a good stock of fresh Seeds of the undermentioned kinds, which should be sown during the months of July, August, and September.

| | |
|---|---|
| Cabbage, choice sorts | Radish, of sorts |
| Lettuce, do. | Spinach, do. |
| Onion, do. | Turnip, do. |
| Carrot, Early Horn | Cineraria, choice sorts |
| Cauliflower, choice sorts | Calceolaria, very fine |
| Endive, of sorts | Primula sinensis |

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

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**Prize Vegetables.—Plants of**

JOHN CATTELL'S CABBAGES, KAILS, BROCCOLIES, &c., may be had at the following prices:—

| | p. 1000 s. d. |
|---|---|
| CABBAGE, Reliance and other kinds .. .. .. | |
| KAILS, of all the true kinds, as exhibited at the Great International Fruit, Gourd, and Vegetable Show of the Royal Horticultural Society, held at their Kensington Gardens in October, 1862, and to which the First Prize was awarded .. .. .. .. | 4 0 |
| BROCCOLIES, of all the leading kinds .. .. .. ; CELERY, do. do. bedded plants .. ; RED CABBAGE .. .. .. .. .. .. | 5 0 |
| VARIEGATED GARNISHING KAIL, 1*s.* per 100. | |
| DRUMHEAD CABBAGE, and the large kinds of SAVOYS .. .. .. .. .. .. .. | 8 0 |

JOHN CATTELL, Nursery and Seed Establishment, Westerham, Kent.

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PARADISE AND VICTORIA NURSERIES, HOLLOWAY, LONDON, N.

B. S. WILLIAMS

Invites inspection of his large and well assorted Collections of

**EXOTIC ORCHIDS, FERNS AND LYCOPODS,**

MISCELLANEOUS, STOVE AND GREENHOUSE PLANTS, VARIEGATED AND ORNAMENTAL FOLIAGED PLANTS.

AMONGST WHICH ARE SOME VERY FINE SPECIMENS.

Now ready, post free to all applicants,

**A NEW GENERAL PLANT CATALOGUE,**

Containing Select Lists of Choice Exotic Orchids, Ferns, Stove and Greenhouse Plants, Indian Azaleas, Variegated and Ornamental Foliaged Plants, Fuchsias, Pelargoniums, Rhododendrons, Verbenas, Petunias, Phloxes, Cinerarias, Chrysanthemums, Hardy Variegated Plants, Herbaceous and Alpine Plants, Roses, Hardy Trees and Shrubs, Fruit Trees, &c.,

WITH A DESCRIPTIVE LIST OF NEW, BEAUTIFUL, AND RARE PLANTS.

---

**Roses.**

The ROSES at the WALTHAM CROSS NURSERIES are NOW in FULL BLOOM.

MR. WM. PAUL respectfully invites all lovers of this popular flower to visit and inspect them. THIRTEEN FIRST PRIZES and FIVE SECOND have been awarded to him for ROSES during the present year, and above 100,000 Plants are now growing in these Nurseries. Waltham Cross is 11 miles from London, and a first-class station on the Great Eastern Railway. It is also a delightful drive from the West-end of London, through Tottenham, or the Green Lanes and Enfield.

Entrance to the Nurseries from the platform, Waltham Station (for railway passengers only), and from the High Road, Waltham Cross, N.

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**"Old" Cheshunt Nurseries, Cheshunt, Herts.**

PAUL AND SON have the pleasure to announce that their ROSES are NOW finely in BLOOM, and will continue so throughout July.

Their collection includes the new Roses as well as immense quantities of all the older kinds, and will (in its extent and choice they believe the largest in the kingdom) amply repay a visit.

The OLD Nurseries may be reached by trains from Bishopsgate to Cheshunt Station (within one mile of the nurseries), every one or two hours.

CATALOGUES on application.

---

H. LANE AND SON, The Nurseries, Great Berkhampstead, have great pleasure in announcing that their extensive and well assorted COLLECTION of ROSES is NOW in BLOOM.

The Home Nurseries are within five minutes' walk of the Station of the London and North Western Railway, where a great variety of Roses may be seen; also a large assortment of Coniferæ, American Plants, Indian Azaleas, &c. Their immense stock of Roses (Standards and Dwarfs) is principally at their Nurseries, about 2 miles distant, affording the opportunity of a delightful drive across a common, where they have American Plants in great variety. The finest lot of Araucarias in England, and Roses in vast quantities.

The Grounds are well worthy of personal inspection, which is earnestly requested.

---

**Adiantum Feei.**

MR. WILLIAM BULL begs to announce that he is now sending out for the first time this beautiful New Species from Guatemala.

This remarkably handsome Fern differs very materially from any other of its family, being of semi-scandent habit and Gleichenia-like growth. 63*s.* each.

W. B. can now supply the lovely PHALÆNOPSIS SCHILLERIANA, at 105*s.* each.

Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.



# The Gardeners' Chronicle.

*SATURDAY, JUNE* 27, 1863.


MEETINGS FOR THE ENSUING WEEK.

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| WEDNESDAY, July 1 | Royal Horticultural (Fruit & Floral Sub-Committees) at S. Kensington 10 A.M. |
| | THIRD GREAT EXHIBITION—ROSES, NEW PLANTS, &c., at S. Kensington, 1 P.M. |

IN a very few days the GARDENERS' BENEVOLENT INSTITUTION enters upon its 25th year. Let us hope that its age is a sign of increasing vigour; for its career has been a worthy one, and far more really useful, we suspect, than some with greater fame. The anniversary meeting on the 3d of July of course will tell of its progress for the 12 past months. It should also record a great augmentation in its funds; for money is as much the sinews of charity as of war. We, therefore, most earnestly appeal to the good feeling of all true lovers of gardens to come forward on this occasion with such donations as they can afford, or at least with placing their names on the list of annual subscribers. It is but a guinea, a sum too small to be felt by the greater part of those who ought to be the most earnest supporters of the Charity. The Committee for 1861 said with too much truth that there were a great many men whose names ought to be on the list of subscribers, but who were not at that time to be found there. We cannot but express our extreme surprise that the same observation should still be justified. We could ourselves make out, on the instant, a long roll of gardeners and garden connections who stand aloof for no conceivable reason. For they are well to do, and can most certainly allege nothing against the management, which appears to us to be worthy of all praise. In 1861, out of the small income of 1000*l.*, something like 830*l.* was devoted to absolute charity, the difference alone being consumed in inevitable expenses, which would not have been much more had the income been ten times as great.

It is most earnestly to be desired that the gardening world should, on the approaching anniversary, join together with all its heart and all its strength, to augment the resources of the Charity,

and by "a long pull, a strong pull, and a pull all together," at once place it in such a position as will enable the Committee widely to extend the area of its benevolent exertions. A suggestion on this subject will be found in another column.

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THE following interesting letter, the author of which is well known to many of our readers, as having presented the large flag-staff to the Botanic Gardens at Kew, has been forwarded to us by Messrs. STUART & MEIN, of Kelso, who have made arrangements for a large supply of seed of the Douglas Fir, since it appears that it is likely to replace profitably the Larch, which in so many districts is subject to rot. The letter, it should be observed, has already appeared in the Kelso Chronicle.

While on the subject of Conifers, we may notice, with reference to what appeared in this Journal, May 30, 1863, that two Wellingtonias, only three years from seed, produced female cones at the Marquis of HUNTLEY'S, near Peterborough, but as there were no male catkins there was no possibility of their being fertilised. No cones have appeared on the older plants.

It will also be interesting to our readers, in connection with the subject of Pine planting, to learn that in the Aberdeenshire Pine Forests, experience shows that new plantations of Scotch Fir will not succeed till the ground has become covered with Heath. Whether this is owing to the complete decay of the old roots, or to the disappearance after a time of noxious insects, is not certain. An extensive plantation at Aboyne which contained some thousand pounds' worth of valuable timber, which was completely destroyed some years ago by a violent gale, and of which many of the old uprooted stumps are still rotting on the surface, has gradually acquired a facing of Heath, and is now considered almost in a safe condition for fresh planting. It does not appear that any particular period is suffered to pass before a new plantation is made, the proper indication being the complete establishment of the Heath. For this information we are indebted to the noble proprietor, who has paid great attention to the growth of Conifers. *M. J. B.*

"The winter of 1861-62 was an unusually severe one. In the autumn of last year I endeavoured to procure seeds, principally of the Douglas Fir; but found them apparently in such an unhealthy state (the result, I supposed, of the severe winter), I gave the matter up, and cannot now obtain them before September or October. I could get you a large supply of seed of the Douglas Fir, which is for all practical purposes the timber of the country; it attains a great size, has the lightness of Pine, with the strength and durability of the Oak; it is the most plentiful of all the trees of this country, grows on any soil, and where there is little or no soil at all, but I have found the largest timber in the valleys, where the soil is generally good.

"Douglas Fir, better known in this part of the world as Oregon Yellow Pine, is generally from 200 to 300 feet high, frequently 150 to the first branch; has a corrugated bark on a full-grown tree 6 or 7 inches thick; sap, 2 to 3 inches thick; roots spreading over a large extent of ground, but has no tap root, or root growing from the centre downwards. The largest tree that I have had cut was one measuring 9 feet at the butt, including the bark, and 306 feet from the butt to the top; it squared, clear of sap, at 45 feet from butt, 40 inches; it was cut at 180 feet, this being the proportion of length to diameter of a mast, for which purpose I sent it to England in 1858. One great advantage the Douglas Pine (so generally called in England) has over all other trees is the very little taper. I have seen trees that at first sight you could not tell the top from the butt—I mean trees cut for masts of 100 to 130 feet long. For all purposes this is an advantage, inasmuch as the tree contains more timber, but for ship masts this is an invaluable quality. I have recently built a vessel of 200 tons, and no other timber but Douglas Pine was used in her construction.

"Spruce is plentiful, but less abundant than Douglas Pine; it is closer grained, and I think better timber than the same wood of Canada; grows to about 200 feet high, and fully as great diameter as the Douglas Pine; the roots furnish knees for ship-building purposes I consider equal to Oak.

"Hemlock is not held in much repute here. I have only seen it used for wharf piles. It is plentiful and grows to a great height—150 to 200 feet.

"White Pine is very scarce here, consequently very valuable, as it is almost the only wood we have fit for joiners' fine purposes. It is about 200 feet high; 40 inches is a large tree.

"Red Cedar has generally a short trunk, with large spreading branches. When it can be found clear of knots, it is as valuable as White Pine. The Indians make their canoes from this tree—they hollow it out; many of them convey 50 to 60 men, and the most perfect models of the clipper I have seen. I consider the Cedar the most ornamental tree I have met with. It is generally found near the water, or, I should rather say, grows larger near the water, and on swampy ground; but I have found it in the interior of this island, near the lakes on the side of the rising ground. Here it grows tall like the White Pine, and seldom exceeds 30 inches in diameter; 60 to 80 feet clear of knots, and not hollow, as generally is the larger short-trunked tree of the same name.

"White Cedar, or Cypress.—It is difficult to distinguish this tree from the common Cedar by the leaf. It is not plentiful, and is, I think, the most beautiful close-grained wood I have seen.

"Maple is a very useful and ornamental wood, but not very abundant."

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THE metropolitan summer shows follow in such quick succession that it is no wonder we find many of the subjects which have been already shown at one place repeated in another. This remark applies as much to novelties as to other classes of subjects, and was fully borne out by the experience of last Wednesday at the Regent's Park Show, where, amongst the prominent plants which were "new" there, we found the following which we have already alluded to as having been shown elsewhere:—Cypripedium Stonei, Lychnis Senno, and its variety striata; Deutzia crenata flore-pleno; Dendrobium Parishii and nodatum; Pancratium amboinense, the broad-leaved sort mentioned at p. 507; Abies firma, Selliguea pothifolia, Alsophila Tænitis denticulata, Lomaria gibba, Trichomanes crispum pilosum, Athyrium Filix-fœmina glomeratum, Ouvirandra Berneriana, Rhynchospermum jasminoides variegatum, Miconia pulverulenta, which had previously borne the provisional name of argyroneura. Besides these, the most remarkable new plant in flower was one of especial interest, a further instalment of Messrs. VEITCH'S batch of hybrid Orchids, shown as Cattleya hybrida, but to which, as the name is not sufficiently distinctive from other hybrid Cattleyas raised and shown by them, we venture to apply the joint titles of its parents, thus: C. Aclandi-Loddigesii. It was a very beautiful plant, of dwarf habit, with short stems, supporting a pair of oblong fleshy leaves, and two-flowered racemes of large finely coloured flowers. The rosy-tinted sepals and petals were spotted over with crimson; the broad column buried between the erect side lobes of the lip was of a deep rose, these lateral lobes themselves being more widely separated at the front than at the back, rosy outwardly and creamy yellow at the tip; while the middle lobe was roundish heart-shaped with a sort of claw, and so much recurved at the edge as to give it a cuneately-flabellate appearance, the colour being creamy yellow at the hinder part and rosy marked with deeper rose veins in front. Another plant in flower, likely to be of much interest and utility as a hardy evergreen shrub, was a species of Escallonia from Chili, shown by Messrs. VEITCH. It was peculiar in habit, having an erect stem of some 3 feet high, from which were several branches directed perpendicularly downwards, these being thickly furnished with short pendent twigs which were loaded with flowers and flower-buds, set off by the numerous small neat elliptic serrated glossy dark green leaves. The flowers themselves were of a deep red, comparable in size with those of E. rubra, but like the foliage, having a thicker and bulkier aspect than in that species. The habit was very singular, and will make this a telling plant for rock shrubberies.

Of additional novelties not in flower some of the most interesting were also shown by Messrs. VEITCH, among whose fine exhibition of rarities we may especially mention a Pteris, an Acrophorus, a Ligularia, and a Japanese Cryptomeria. The first was Pteris serrulata cristata, which had the narrow ribbon-like divisions which make up the fronds of this common but most elegant and useful of Ferns, changed by being each tipped with a distinct and well-marked cristate tuft; this will be a gem for Fern cases. The second, Acrophorus affinis, was a large-growing and very handsome shining triangular-ovate decompound-fronded light-green Fern of paradoxical character, being light and dense at the same time—light from the multiplied division of its parts, and dense from their overlying each other. It forms a thick creeping rhizome, which habit makes it an admirable basket Fern, among those of ample size. The Ligularia Kæmpferi argentea was a variegated herbaceous perennial from Japan; it had now acquired large roundish leaves marbled with gray in the green parts, edged boldly and irregularly with cream colour, sometimes to the depth of 1 or 2 inches. The Cryptomeria was a free-growing tree of distinct aspect, evergreen, thickly clothed with spray, which plentifully bore the long needle-shaped spreading leaves. A small plant of a Japanese Gardenia florida variegata from Messrs. ARTHUR HENDERSON & Co. gave promise of being a very handsome variegated shrub, its leaves being sinuately variegated in bold patches with cream-colour. Then Mr. BULL had a couple of good-looking Palms: Latania Verschaffeltii, apparently a small grower, with smooth orange-tinted stipites distinctly edged with deeper orange, and cuneately flabellate laminæ cut into slender narrow segments; and Euterpe edulis, a freer-growing pinnated species with linear attenuate leaflets; together with Broussonetia papyrifera fol. argenteo-variegatis, a hardy deciduous tree with well-marked variegated leaves.

There were a few noteworthy seedling flowers, especially among Pelargoniums, but not in quality generally equal to the batch of last season. Firefly from the Clewer stock, which had a first class award, was a remarkably clear orange-scarlet with small dark spots, and a bluish tint in the centre; Clara, also from Clewer, and a first-class flower, was carmine slightly blotched and veined with crimson, with white centre and dark clouded top petals. HOYLE'S Achilles was very bright looking, its top petals maroon with a narrow edge of crimson, its lower crimson clouded and thickly veined with maroon, its centre remarkably clear white. A Fancy called Mrs. Dorling, from Slough, was distinct in character, a clear pale magenta rose with the extreme edge light, the lower petals veined with the same colour and slightly spotted, the centre being white. Among bright crimson quinquevulnerous varieties Mr. BULL'S Princeps, and Mr. BURLEY'S Fireball were of very showy character, but not up to the florist's standard in technical properties. They will, however, be admirable decorative plants. Finally Mimulus "Rosa," from Messrs. E. G. HENDERSON, one of the new hybrid batch, deserves mention as one of the most distinct of the set, having the two upper and two lateral lobes almost wholly of the coppery red which prevails in these flowers, but with a horse-shoe mark of yellow about the centre of the margin, cutting off a small roundish spot of the dark colour, the lowermost segment being yellow with a central and two lateral bars of the coppery-red hue.

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—— THERE are indications that our BRITISH TRICHOMANES RADICANS, once, as it appears on sufficiently good authority, found in the north of England, but in later times only holding a place in the Flora of the United Kingdom, in virtue of its occurrence in the sister isle, may again establish its claim to rank amongst genuine English plants. Some time ago we received a specimen from Mr. WALTER CROUCH, a gardener who had resided in the neighbourhood, and who had gathered it in one of the fells in the Rydal district of Westmoreland. The habitat was described as being on wet rocks, and the plant was stated to occupy a space of about a square yard, not all in one mass but scattered. Of the identity of the plant, and the fact of its discovery, there is no doubt; but we have been informed by some of our Westmoreland pteridological friends, that there exists a suspicion of its having been planted by some other hand some 10 years before. Even if this be so, it is an interesting fact that it should have survived and so far established itself as to have passed unscathed through some of our more severe winters. This fact alone is a confirmation, if any were needed, of the probability of its former occurrence in Yorkshire.

We learn further, from Mr. J. F. ROWBOTHAM, of Manchester, that he has more recently found the Trichomanes in North Wales, in a part of the Snowdon range. This is a most interesting new habitat. The precise locality it would be imprudent to indicate more exactly, lest the information should lead to the eradication of the plant. The fronds were, as we learn, abundant and remarkably fine; one of them, with which Mr. ROWBOTHAM has kindly favoured us, is quite equal to the bulk of the Irish specimens in luxuriance of development, the frond having the broad or triangular-ovate outline of the more perfect examples of this Fern, and measuring about 7 inches across the widest part, and nearly 10 inches in length, in addition to a stipes of 8 inches long. This specimen is not fertile. Another frond in Mr. ROWBOTHAM'S possession is rather larger, having a total length of about 22 inches. Mr. ROWBOTHAM describes the habitat as agreeing in all its circumstances with those referred to in Mr. MOORE'S Fern books, and the plant as only varying from the figure in the *Octavo Nature-Printed British Ferns* of that author, in being of larger growth. "I found it," he writes, "in a large hole formed by fallen rocks alongside a cascade of water; and admission to this hole, which is about 5 feet high by 4 feet wide, is obstructed after a depth of about 3 feet by this Fern falling from the rocks at the top, and growing out of the sides in the form of a beautiful curtain down which the water is constantly trickling; the whole having much the appearance of a crystal screen." What a treat to a Fern-seeker, to come on such a sight as this! So unwilling was the finder in this case to disturb the singular and beautiful effect, that he was careful to take with him only an offshoot or two from the principal network of rhizomes, "out of which the innumerable fronds were projected." To so much, as the discoverer, he was fairly entitled, but that will be a sacrilegious hand that does aught beyond this, to destroy so unexpected an habitat for so rare a plant.

—— Our Fern Flora is extending itself not only in the shape of almost endless varieties, which Fern-hunters continue to seek out and multiply, but occasionally in a more distinct form. The latest acquisition of this kind is recorded in the *Journal of Botany*, where Mr. Moore tells us that the *Asplenium Serpentini* of Tausch, a plant which is identified with the *A. obtusum* of Willdenow, and the *A. Adiantum-nigrum* var. *obtusum* of authors, has been gathered in the North of Scotland, on serpentine rocks at Cabrach,

on the borders of Banffshire and Aberdeenshire, by Mr. A. Christie. The plant appears to be plentiful in some parts of the European continent, and its addition to our island Flora is a fact of considerable interest. The north of Scotland should, one would think, if thoroughly ransacked, yield other European forms not yet known as British.

## ANCIENT FRUIT LORE.—No. III.

(Continued from p. 435.)

*¶ The order of gathering all other stone-fruite.*

Concerning Apricocks, Peaches, Peare-plums, Damsons, buliase, &c. for the knowledge of gathering of them, they are al much of a nature or qualitie. For although, in each kinde of them, some ripen sooner then other some, euen vpon one and the same tree, yet as soone as they are ready to bee gathered, some wil drop off, and the rest remaine hard: yet then are those hard ones also in their full time to be gathered. Then must you place your ladder as before is mentioned hauing a speciall care that you hurt not the tree: also obseruing that it be dry weather, and the morning deaw past. For, being gathered wet, they wil both loose their perfect colour, and become mildewed. Then take your kibsey (such as hath been shewed how to gather cherries withall) and taking also a hooke in your hand to pull those boughes that you cannot reach, haue ready by you a siue, basket or some such thing, that when your kibsey is full, you may poure them thereinto. In the bottom whereof, lay nettles newly gathered, and with the like couer them on the top: which will hasten the ripening of them, make them keepe their colour, and cause them to eate as kindly as if they had been fully ripened vpon the tree.

But if you let them hang vpon the tree vntil they be full ripe, they will drop off, for the most part: and the rest that hang, will quickly rot after that they be gathered, and doe little seruice, except they bee presently vsed.

*Three things to be considered, in gathering of Peares.*

There are diuers wayes to bee vsed in gathering of Peares: as followeth. First, it is to be noted whether they grow in a yard, garden, or backe side, being no more then will serue for a mans owne spending. Secondlie, whether there bee any such that will be solde, and so to be conueighed any farre way, eyther by land or water. Thirdly, whether they be Peares that will serue for the Apothecary to preserue, and so to be gathered accordingly.

*How to know whether Peares be ready to be gathered.*

Now, for the gathering of such as be for a mans own vse, no doubt but euery man hauing seene the naturall ripening of his owne fruite, by long experience knoweth their time of gathering: but for the better instruction of those that newly come vnto a place, being not acquainted with the naturall ripening of the Peares therein growing, I wil hereafter expresse how you shall know when their due time of gathering is.

Some, or rather most men, vse not to gather their Peares vntill they all be ready to drop off; and, hanging so long vpon the tree, assoone as they be gathered, and layed one vpon another, they will be in a great heate, and presently rot. But if you haue Peares that you make any account of, that are summer Peares, and for your owne vse, assoone as you see them turne their colour, or any part of them ripe (which wil not be al at one time, although growing vpon one tree, & of one sort) still gather the ripest, & so by degrees at your pleasure.

But, being gathered when they be almost ripe (that is, when onely some of them begin to fall) they will naturally ripen of themselues. And whereas the Peares that are gathered, beeing through ripe, doe soone rot one another, through their ouer great heat: on the other side, the temperate heate of those that bee gathered before they bee all full ripe, doth cause them to ripen one another.

But for Peares that are to be carryed any farre way, they must be gathered by another obseruation: that is, pull one off the tree, and cut it in the middle, and if you finde that it be hollow about the coare, & the kernell to haue roome, as it were loosening within the coare, although none of the Peares on that tree be so ripe as to drop off, then it hath his full growth, and (although not then ful ripe, and ready to be eaten) may be gathered. And hauing layde then vpon an heape, or one vpon an other, as they must be in the carriage, they will in a very short time ripen, & eate as kindly as if they had been gathered ripe off the tree; but being gathered before this time, that is, before the time that they begin to be hollow about the coare, they will wither, shrinke, & eate tough, more like in taste to a peece of the tree than, a Peare.

*¶ Diuers wayes vsed in gathering of Peares.*

Know also that all kinde of Peares & Apples are by diuers men, diuers waies vsed to bee handled, euen in the very manner of gathering them. As, some vse to clime vp without a ladder, hauing a basket to gather in, with a lyne tyed to it, that thereby it may be let downe when it is full, and another vpon the grownd to receiue it, he in the tree still holding the one end of the cord or lyne, that when the basket is emptied, he may draw it vp againe: which way is not to be commended.

Other some with a ladder doe get vp, hauing a basket in their hands, and euery time that it is full they bring it downe, powring the fruite into some other bigger basket, not regarding either how they handle the fruit in the powring, nor how rudely & boysterously they place their ladder, to the hurt of the tree. Other some beate them downe with poles, breaking both the tree and fruite.

These two last sort of gatherers haue little respect what fruite may grow upon the trees for the time ensuing, in regard of their rough handling of the tree, in breaking the boughes, sprigs and bruts whereupon fruite might growe. Onely for the time present is all their care: some being but tenants at will, or other carelesse and ignorant persons being put in trust to gather.

But for the setting of your ladder to the tree, the best way is, to place it easily: For, laying of it hard on, will spoile & fell a great many of the fruite, as far as the ladder toucheth. Also being firmely placed, it is both good for the gatherers owne safegard, and for the safegard of the tree. But, being carelesse and rash in placing thereof vpon the weake boughes & branches, the weight of the gatherer to the treeward, will breake the weake branches & endanger the gatherer.

## ON THE EXTERMINATION OF THE BLACK FLY,

### THRIPS HÆMORRHOIDALIS AND THRIPS DRACÆNÆ, BY FUMIGATION WITH PERSIAN INSECT POWDER.

By C. BOUCHÉ, Inspector of the Royal Botanic Garden, Berlin.

IT is well known to gardeners how troublesome these insects are, and what injury they cause to plants, as a few of them will, in a very few days, destroy a leaf; and unhappily but few gardening establishments are free from them, as they are constantly introduced with new plants from other gardens. Although these insects are not indigenous with us, and their native country is not known, yet they occur under the greatest variety of circumstances in greenhouses, hotbeds, and dwelling-houses, and even in the open air; for we find them propagating equally rapidly in the warmest and coldest, dryest and dampest places. In the warm summer of 1858-59 the one species, T. hæmorrhoidalis, which seems to be the more hardy, had spread itself in incredible numbers, even over the Horse Chesnut trees. How is it possible, therefore, under such circumstances, to protect the greenhouse plants which may be standing in the open air? The increase of the black fly is especially favoured by a dry atmosphere. If the air is constantly moist it is not so reproductive, and it is probably attributable chiefly to this cause that there is scarcely ever a trace of this blight in the new Palm-house of our Botanic Garden. At first, when the large plants were transferred from the old dark dry house, and it was impossible to destroy all the eggs and broods by washing, the fly increased enormously in number, as all the eggs were quickly hatched by the warm damp air, but the new generations appeared to be weakened by it, and after some months there was a striking diminution, assisted no doubt by active destruction, so that the plants are now nearly freed from them. No fumigation has yet been attempted in the Palm-house.

The so-called "black fly" consists of two entirely different species. Without going into an accurate description of them, I may remark that they are easily distinguished. Thrips hæmorrhoidalis is deep black, has a reddish-brown body, and the wings pointed with white; Thrips Dracænæ on the other hand is of a dull black colour, and has white striped wings. The first lives on a great variety of plants, while the latter confines itself itself chiefly to monocotyledonous plants, such as Cordyline and some Palms. The extermination of these troublesome insects is much more difficult than that of shield and other lice, as they can easily hop or fly away when the plant is touched, so that washing can only get rid of the eggs and the quite young brood. A long known method is that of fumigating with tobacco, but if this is really to be of any use it must be many times repeated, which every gardener dreads, as, if it is strong enough to kill the insects, many plants will be injured by it, as the young leaves are often singed or checked in their growth, especially the Ferns, and the older leaves or fronds are apt to drop off. For some time fumigation with Persian powder has been recommended, but I did not expect much good to result from its use, and could not, after some unsuccessful experiments, convince myself of its efficacy.

In the beginning of 1861 the increase of the black fly, especially in the Fern-house, appeared very threatening, and I found that fumigation was necessary. As there were many Ferns with immature fronds, which would certainly suffer from repeated applications of tobacco-smoke, I made another trial with the insect powder. About 4 oz. of the powder were strewed gradually on a hot tinned iron plate, and constantly stirred up that it might be thoroughly burnt. The smoke produced by it was not very perceptible, the atmosphere only appeared a little hazy. To give a notion of the quantity likely to be required, I may mention that the Fern-house contained a space of about 8100 cubic feet. In order to convince myself of the efficacy of the remedy, I had placed several of the smaller Ferns, as Pteris collina, P. geraniifolia, P. pedata, and Gymnogramma pedata, which were much loaded with the fly, on a sheet of paper, on which, after a lapse of 20 minutes, almost all the insects had fallen down. As there were still signs of life, and I wished to ascertain whether they were only stupified, and might not later recover and resume their former position, I collected them and shut them up in a large glass in which some fronds were standing in water, but not one of them was able to climb up to them. In 6 or 8 hours I examined the insects, and found them all dead. The fumigation was repeated at intervals of two days, in order to destroy any further brood which might be hatched, and I had the happiness during three or four months to see my plants entirely freed from this blight. The plants had not suffered in the least, and even the most delicate fronds of Adiantum expanded themselves without any check.

An advantage of this method of fumigation is that one is not troubled with the bad smell which tobacco leaves behind it, that the fumigation may be undertaken at any time of day, and that the house need not continue closed so long. The apparatus used by me consists of a coal pan of 1 cubic foot with a grating at the bottom, 1 foot 3 inches high, in order that the air may get to it underneath and keep the coals alight; on the grating 2 or 3 inches of wood ashes, and over these a piece of tinned iron 10 inches square, on which to strew the powder. In order that the smoke might be well distributed over the house, I caused the pan to be carried about during the burning of the powder. Although the powder is dearer than Tobacco, yet the cost of fumigation is not much greater, but the chief advantage is that the plants do not suffer. *From the Proceedings of the Royal Berlin Horticultural Society.*

[The plant producing the Persian powder, Pyrethrum carneum, has recently been cultivated both here and on the continent as a show plant, and it bids fair to rival the China Aster, as there are now upwards of 40 varieties, varying from the purest white to the deepest crimson; and the plant flowers freely all the summer.]

## STRAY NOTES ABOUT FLOWERS.—No. I.

IT is hard work to write every week about a window garden. The window space has limits, and repetition is bad; and then people grow high-minded, and want to get out of doors! So I have begged leave to write only stray notes about flower plans, such as will leave me free to pick up any pretty things that seem to be at all likely to interest other people.

Beginning at this time of year, when fires have just about vanished, what can one describe better than ways of converting suddenly bare grates into knots of flowers?

Everybody of course knows the white, and gold, and brown wicker-work, which makes such pretty ornaments for dinner-tables and drawing-rooms, and which are sold in variety at Hammond's, in Baker Street. Well, there is now a screen made of this same wicker-work, over and around which creepers entwine themselves well, and on the foot of which is a flower knot.

The chimney-piece is fitted with a board that curves out prettily, and that fits upon the marble slab by means of a slide beneath it, preventing the necessity of using nails or screws. This board is edged with basket-work, about 3 inches high, in a pretty light kind of pattern, and a tin-lining case inside prevents any damp escaping. The wide low box thus formed is charming for growing plants. The shallow depth I think is in itself a good thing, for it constrains us to use shallow pots, and a group of Begonias with red blossoms, and Ivy, and many climbers, and even Lilies and Cape bulbs, and such like, do beautifully thus. For the edges we may have too the Ferns, which are lovely everywhere, and creeping pink Geraniums drooping down from the box they grow in, and the green Lycopodium and the blue Lobelia, and the Isolepis to cover the surface, which, hanging from the edge, makes really a charming chimney-piece.

Beneath this we have a screen—a sort of folding frame, bending in the middle, so as to project more or less at will, and fitted at the foot with baskets and tins for plants. These baskets, like the upper one, will hold at least two rows placed zig-zag, the back one of course containing the climbers, which will train up the wires or wicker supports provided for them, just as the "German Ivy" does in the German rooms.

In summer plants do very well, even placed thus round the fire-place, which is naturally itself further from the window than under common circumstances we should like to place our plants. Still there are a great many that thrive well now without sunshine, and which even grow much better when shaded from its strong glare. Perhaps nearly all green things do so, and what plan could be prettier than that of a ferny fringe all along the chimney piece, reflected perhaps in the mirror, and relieved by three tall white flowers—a white Petunia here, a white Tea Rose there—even far commoner things, Stocks, Candytufts, &c. For splendour, some white Gloxinias, whose exquisite purple tubes and the tinge of pink on whose lips are reflected beautifully amidst the bright green foliage; and then once more, say three tall Arums, which will come in unavoidably into every group proposed by me, and

which are sure in themselves to make any arrangement elegant.

Now, plants such as those I have named here, are what may grow in any cottage; the Gloxinias only require to have some heat, and no amateur who has once tried them will fail to try them again; they grow so quickly, they look so fresh and velvety, if not forced on too fast, and their lovely bell shaped flowers are so perfect in form and colour. Except magnificent Orchids, I know not any flowers that vie with the Gloxinias, and to raise such seedlings, for those who can wait a year or two, would really be a delightful and most satisfactory sort of amusement.

The plants require root-heat, but this may be very mild; they are the more beautiful in the leaf the more air they get, but of course when thus cool and airy they do not flower so quickly; they like a good deal of water at the roots, but not poured over the leaves; and lastly, they grow rampantly in a mixture of sand and cocoa-fibre refuse, the pots being drained with charcoal.

The heated plant-cases seem to me to be the very best place for them; they start at the warm end, and grow on in the cooler part. And I believe they never do anywhere as they do in a north aspect—I mean in a plant case, but where the window is all day open, or where the case itself stands outside.

Larger plants such as Roses, Carnations, Fuchsias, Geraniums, Myrtles, Heliotropes, India-rubber plant, Cissus, and Japan Lilies are in their several seasons well fitted to form the flower clump, grounded with English Mosses and interspersed with pots of Mignonette or Lobelias, Lilies of the Valley, and other low-growing things.

Before the Chrysanthemums come in, our fender screens are all gone, and during the gay bulb season even the chimney-piece basket does best as a window ledge.

The baskets and screens are made in any style, some being white and gold, others brown and gold, others again all brown, which I think looks so well with flowers, and others again there are that resemble the black bog oak, so popular now in Paris. *E. A. M.*

## Home Correspondence.

*The Gardeners' Benevolent Institution.*—On behalf of this Charity, which you have already so gallantly upheld, will you add one other little kindness. At the anniversary dinner we are always short of fruit; we have in presents sufficient for the high table and part of the middle one, but to make the dessert complete, we are obliged to subscribe for extra fruit out of our own pockets. This, under the circumstances, I contend ought not to be. Our dinner is distinguished above others for the beauty of its floral decorations, which are all gifts and loans; and for its dessert, which the guests suppose to be all gifts too, as, considering whom the Charity is to benefit, it ought to be. I think if it were known throughout England, that on these occasions we are in want, the rich would not grudge us a dish of Grapes, or a Pine, or a dish of Peaches. *Experto Crede Roberto.*

*The Lily of the Valley.*—No plant exhibited at our spring meetings has attracted a greater share of admiration of late years than the Lily of the Valley. Its flowers have been produced in greater profusion, and the spikes have been much larger in size than we have been accustomed to see them in former years. On all sides we have heard questions asked like the following:—"How are such results obtained?—is it by superior cultivation, or are the larger and stronger flowering roots selected and put together just before the flowering season? or is it a different variety from our English favourite?" There is one question more which, had it been answered, would, I think, have explained the matter, and it is this: "Are the roots grown in England or are they imported ones?" When over in Holland in April last I observed the plant extensively cultivated in the gardens about Haarlem, and in appearance it resembled very closely those exhibited at our spring exhibitions. The light sandy soil about Haarlem, which suits so many kinds of bulbs and tubers so well, appears to be highly favourable to the growth of the Lily of the Valley. If those plants seen at our exhibitions were grown from imported roots, and of this I have no doubt, the circumstance will readily account for their high quality as well as for their late flowering property, which so puzzled, for a time, the talented writer of the article on Indoor Gardening, published in these columns a few weeks ago. *R. F.*

*Opening of Gardens in Ireland to the Public on Sunday.*—Allow me to offer you my grateful thanks for the sterling way in which you have treated the opening of the Edinburgh Botanic Gardens on Sundays. Sensible people are now pretty well able to judge what value to put upon the cheap way parliamentary demagogues try to benefit the so-called working classes. If Dr. Moore would favour us with his own views as to what good the opening of the Gardens at Glasnevin has done for the working classes, they would, I apprehend, moderate the demands of those who would destroy the greatest blessing that the working man can claim. A few years ago Colonel Tighe was induced to open his beautiful gardens on Sunday, but instead of that sweet recreation which they were to afford, they have become a centre of vice. Parties arrived reeling drunk when the houses used to be open, and the plants were knocked about the passages in a manner which no one would believe without having seen it; plants were pulled out of the beds (and would be now except for rigid watching), and I was abused to the extreme for not allowing dancing to take place on the lawn. On Mondays the seats have to be cleaned of porter; in short everything wears a worse aspect than that of any tea garden I ever saw. This is my unvarnished experience in a country private residence; and apart from a higher principle, which Lord Palmerston so well advanced, it is enough to show how much the opening of such gardens contributes to the elevation of the working classes. *Chas. M'Donald, Woodstock Park.*

*Fibres.*—I enclose for your inspection a specimen of the fibre and seeds of a plant which I have just received from a correspondent at Brisbane, and which it is thought there may be made use of as a substitute for cotton, for which London houses are advertising in the Brisbane papers. My friend has unfortunately neglected to send me a piece of the plant, but in appearance he compares it to a Privet. It grows there on the poorest soils, and can be cut 9 months out of the 12. It produces a small yellow flower, and if hardy enough to stand our climate would, he says, make capital game cover. After it is cut it is tied in bundles and soaked in water for about a fortnight. The fibre then easily separates from the wood; this fibre can be obtained as much as five feet long. Of the present specimen my correspondent says:—"The sample I now enclose is a very bad one, for several reasons. It is not a good colour, in consequence of my being obliged to take it out of the water six or seven days too soon to catch this mail, and there are several uneven places in it for the same reason; I can send samples 4 or 5 feet long if necessary." Would you kindly favour me with your opinion on this material, and also can you give me any idea as to the kind of plant it is produced by? *A. E. McM., Hertford.* [It is probably some Malvaceous plant.]

*Vine Pruning.*—As you seem to throw some doubt upon the ability of Mr. Thomson, in your late review of his work on the Vine, to use a pair of French nippers with greater ease and advantage in pruning than the common knife, and having myself failed to find a place where I could purchase a good and useful pair, more particularly for Roses and Gooseberries, perhaps Mr. Thomson would, if you requested it, state what sort his are, and where they may be obtained, so that the public may put them to the test. *Vine.*

*Felling Scotch Fir.*—Would any of your Arboricultural Correspondents who have practical experience in the matter have the kindness to inform me whether the timber of the Scotch Fir (an Evergreen) is deteriorated by being felled in the summer, as Elm, Ash, or any other deciduous tree. I have heard that the turpentine, which is more plentiful in the summer, tends to preserve the wood. I have several Scotch Firs which it would be more convenient for me to fell at present, but I do not wish to sacrifice their timber. *N.*

*Roses.*—Neither the old nor new Roses have as yet turned out well here this season. Many usually good have green eyes. This is owing to high culture counteracted by the checks of cold nights, cutting winds, and a long succession of hoar frosts. No doubt, as the season advances, they will do better. A tremendous hailstorm has cut the leaves of almost everything into little strips. I am ruined for a while. The lightning split a house near here in twain, and the current of air knocked the cottager off his chair, without further injury. The wind was S.W., but the upper current was N.E., so that the hail shot over my S.W. wall, and missed my noble crop of Peaches and their beautiful foliage. These are the only things intact here. My fine crops of Strawberries are much violated; the Rose plants are stripped, and little bits are cut out of the Apples by the angular stones, some of which were an inch long. Let me turn from this havoc, and "beguile me of my labours," by giving an account:—1stly, of *John Hopper.*—Mr. Ward, the raiser, kindly sent me three plants of this seedling on a briar or Manetti, and on its own roots. They were three famous specimens. I planted the two former under a north wall, and the latter under a south wall. They are equally good in appearance. The south wall one has produced two fine Roses. The finest bloom measured a trifle under 4 inches. The outline was a circle; the volume thick; the petals substantial and well disposed; the form expanded without showing an eye; the colour roseate crimson with silvery lilacy undersides to the petals; the habit is erect, the neck stem being very stiff and thick; the foliage first-rate, and set on in the right place. Every shoot on all three plants has a Rose bud. It is altogether a first-class show Rose, and will be a good traveller. The blooms under the west wall will be far finer. We have now these three first-class English seedlings, viz., Devoniensis, John Hopper, and Beauty of Waltham: the last a Rose not yet sufficiently known. 2dly, *François Lacharme.*—This has not yet bloomed here; I saw it at Mr. Gill's nurseries at Blandford. It was very beautiful and first-class, of fine form, and in colour brilliant scarlety crimson. It stood between Senateur Vaisse (the premier Rose here), and La Brillante, a true and brilliant scarlet, but not full. Close to these was the most beautiful bloom of John Hopper (tin-shaded) that I have yet seen—a most perfect show flower, quite a circle, thick in volume, and about 4½ ins. over. This bloom was in all respects better than mine. I cannot of course say what these Roses are as to continuity and full blooming; I can only endorse them as far as I have said. They are worthy, as blooms, to go with S. Vaisse and Duc de Rohan, which is globular, and the clearest and finest colour of high coloured Roses. The growth of the plants and form of the buds of the following portend good things, viz.: Professor Koch and M. Julie Daran. If their buds open well they must be good. They are strong growers, budded from their base to their tops. In due time I shall describe them. I omitted in my last to recommend Monsieur de Montigny, the Duchess of Norfolk, and Madame Boutin, the last a Rose that will be heard more of. The growth and foliage is first-rate; the colour is clear brilliant crimson; the form is compact and full to the centre. 3rdly. *Maurice Bernardin.*—This Rose is now in blossom. It is globular, most beautiful and perfect in form, disposition and colour, deep clear vermilion. Mr. W. Paul, Mr. Laing of Stanstead, and Mr. J. Keynes, are quite right about it. It is difficult to say which is the superior, this or Duc de Rohan. I have 11 plants, side by side, of Prince Camille de Rohan in bloom; it is also a most beautiful Rose, velvety scarletized maroon. The colours of these three are wonderful and distinct. 4thly. *M. Ernest Dreol.*—This is out to-day. It is a well-formed Rose, like, but very superior to Alexandrine Bachmeteff. It will, I think, show a golden eye. It is of far greater substance and volume and of better form than the sort just named. It is a strong grower, hardy, and an abundant bearer. 5thly. *Rubens.*—Is excellent in all respects. The outer petals are creamy white, the centre is "aurore." It is a strong growing hardy Rose, and continuous bloomer. Its form is globular; the petals are deep, well serrated, and smooth edged. I fancy it is in the "way" of Comte de Paris. 6. *Achievements.*—I sent 70 Roses to Kensington for the memorial opening day. Mr. Eyles placed them in two handsome vases on a dais on either side of the Prince and Princess, where they received the addresses. Having received an Oxford invite to repeat this achievement, I have sent 84 Roses to the Master of Trinity for a similar purpose. The foliage is sadly smashed by hail. The Roses are Solfaterre, La Boule d'Or, Triomphe de Rennes, Mdlle. Aristide, and Gloire de Dijon. These are yellow. The others are coloured. Senateur Vaisse, Princess Mathilde, Duc de Cazes, Duchess of Norfolk, Baronne Prevost, Anna Alexieff, Paxton, M. Laffay, Louise Carique, La Ville de Bruxelles, Prince Camille de Rohan, M. Zoutman, Frederick the Second, Evêque de Nismes, L'Elégante, Proserpine, General Jacqueminot, and two large first-class blooms of M. Masson. I sent some Roses to S. Kensington, when the lamented Prince opened the Exhibition.

"All Britons on his honoured name will dwell,
Who lived so briefly—lived and died so well."

*W. F. Radclyffe, Rushton, June* 15.

*Picea and Abies.*—In "Notices to Correspondents" of your Number of the 13th inst., the question is asked, in what consists the distinction between Picea and Abies? The difference may be briefly stated thus: Picea: Scales of the cones deciduous; nuts coriaceous, the wings adhering. Abies: Scales of the cones persistent; nuts with a thin, hard shell; wings deciduous. The cones of Picea are upright and lateral; those of Abies pendent and terminal. The seeds of Picea and Abies are distinguishable at sight; those of Picea being wedge-shaped, and those of Abies oval, *giving a little latitude* to these terms of form. I have not examined any cones of Tsuga, and therefore cannot say anything about them. *Jas. Backhouse, York.* [We asked for a distinction, and you send a difference.]

*Conifers: Picea.*—A remark in your answers to correspondents (p. 536) induces me to inquire how long the group Picea has been so unanimously condemned by scientific botanists? I know nothing of the nurseryman to whose work you allude, nor of the particulars of his transgression; but, if he has simply adopted Picea as a group, it appears to me that you have been somewhat too hasty in your remarks. For my part, I must confess that I have always been impressed with the idea that modern botanists were tolerably unanimous in recognising Picea as a group distinguishable from Abies, and that by characters, structurally, of as great if not greater importance than those which serve for the separation of the latter group from Pinus; and reference to the works of those who have written upon Coniferæ will show that this impression is correct. It is very true that some term the group a genus, while others regard both it and Abies as nothing more than sections of Pinus; but that is merely a trifling quibble about words, not things, and is of no importance, for in either case it, as well as the allied groups, can be looked upon only as an artificial group of man's contrivance. Endlicher, in his "Synopsis Coniferarum," makes it a section of Pinus, but adopts for it the name Abies, instead of Picea, which he applies to what others call Abies, following Link in this respect, and restoring to the original trees the names given them by Pliny and other ancient writers. His characters, however, are quite sufficient for the separation of the group, either as a section or as a genus, and, as he makes it of equal importance with Abies, which you yourself recognise as a genus, I think it is rather hard to find fault with a nurseryman for going just a step beyond you and adopting both groups. With respect to the value of the characters I will only remark that, in all the numerous specimens that have come under my notice, I have never found any difficulty in referring them to one or other of the groups Pinus, Abies, and Picea, by the cones alone. I shall likewise be glad if you can inform me why so many authors persist in stating the cones of Cedars to be persistent. Only a few months ago (see Proc. R. Hort. Soc. ii. 651) Mr. A. Murray, relying upon Endlicher and other systematists, took upon himself to correct (?) Mr. Fortune, who in writing about the fine tree to which Gordon has given the dreadful name, Pseudo-larix, said "it has deciduous scales like the Cedar." Had Mr. M., before penning his correction

taken a walk under any old Cedar tree bearing ripe cones, he would have at once seen that Mr. Fortune was quite correct. My own observations tell me that the cones of C. Libani, grown in this country, when quite ripe fall to pieces as readily as those of any Picea, and at certain seasons the ground beneath the trees is strewn with loose scales. The same is also the case with C. Deodara and C. atlantica; and ripe cones of those species cannot well be brought to this country without being first firmly secured with string or wire. *Kέδρος.* [No doubt the Cedar has deciduous scales. As to Pseudo-larix, the illiterate authors of such names are beneath criticism.]

*Alocasia (Caladium) Veitchii and Lowii.*—In the May number of the "Botanical Magazine" Sir W. Hooker pronounces these two plants to be Alocasias; let us therefore hope that his decision will disqualify them from being exhibited as Caladiums at the ensuing show of the Royal Horticultural Society. In the coming contest for Caladiums on the 1st inst. I hope to see these noble plants entered as Alocasias, and only fair types of the genus Caladium admitted to competition. *A Working Exhibitor.* [We entirely differ from you. Alocasia, Colocasia, Caladium, Remusatia, Gonatanthus, Peltandra, and some others, are all Caladiums in *Horticultural* exhibitions, although Botanists distinguish them. Why, there are but four Caladiums altogether. How is an exhibition to be made with such materials only? Unscientific persons should not meddle with scientific questions.]

## Societies.

Royal Botanic: *June 24 (Third Great Exhibition).*—This was in all respects equal to its predecessors. Stove and Greenhouse plants were contributed in large quantities; Orchids and Pelargoniums were in excellent condition; New Plants, of which separate notice is taken elsewhere, were plentiful; of Ferns there were some fine collections; and finally, there was, as generally happens at the last show of the season here, a great quantity of Fruit, among which some of the Grapes were magnificent.

*Stove and Greenhouse Plants.*—Conspicuous among these was a brilliant Kalosanthes from Messrs. Fraser named puniceus, a kind admired by everybody for the gaiety of its compact heads of numerous crimson-scarlet flowers. The same collection also contained a handsome red and white flowered Kalosanthes, named Angelina; and a well bloomed plant of Phœnocoma proliferum. Mr. Ingram, gr. to J. J. Blandy, Esq., of Reading, furnished a beautiful example of the old fashioned, but when well flowered, as this was, brilliant Cape Bulb, Hæmanthus puniceus, with thirteen heads of rich scarlet blossoms on it. From Mr. Baxendine came Bignonia grandiflora, in the shape of a pyramidal bush; and, judging from the size and beauty of its round orange-scarlet blooms, it appears to be a plant which under skilful management would be by no means unsuitable for purposes of exhibition. Among other plants to which it may be useful to direct attention were Relhania squarrosa, a seldom seen bright yellow-flowered hardy greenhouse plant, from Mr. Cutbush; fine specimens of Ixoras, from Mr. Whitbread and Mr. Peed; and Pleroma elegans, beautifully in blossom, from various growers.

*Awards.*—16: 1st, Mr. Whitbread; 2d, Mr. Peed; 3d, Mr. Green; 4th, Mr. Baxendine. 10: 1st, Messrs. Fraser; 2d, Mr. Cutbush; 3d, Mr. Rhodes. 10 (Amateurs): 1st, Mr. Chilman; 2d, Mr. Ingram; 3d, Mr. Wheeler. 6: 1st, Mr. Page; 2d, Mr. Kaile; 3d, Mr. Tegg.

*Fine-foliaged Plants.*—Among these were some magnificent specimens, most of which have, however, been shown before, and have already been described in our columns. Though not exactly shown under this head, Mr. Williams had a handsome group of ornamental leaved plants; and from Messrs. Veitch came charming examples of Alocasia zebrina, the Variegated Coltsfoot, Ligularia Kæmpferi argentea, and other new Japanese plants; Sphærogyne latifolia, Miconia pulverulenta and various Ferns, intermixed with flowering plants, among which must not be forgotten Mimulus cupreus, a profuse-blooming kind of very considerable beauty, and Mr. Young, R. Smith, Moore, and Speed, one of the parents of the new spotted hybrids which have appeared this season.

*Awards.*—10: 1st, Mr. May; 2d, Mr. Taylor; 3d, Mr. Smith and Mr. Hutt. (Nurserymen): 1st, Messrs. A. Henderson & Co.; 2d, Mr. Bull.

*Ferns.*—For some of the more shady nooks these formed suitable decorations, their bright green fronds serving to refresh and invigorate the eye fatigued by looking at more gaudy subjects. Some very good Lycopods were also exhibited.

*Awards.*—12: 1st, Mr. Bull; 2d, Messrs. A. Henderson; 3d, Mr. Lavey; 4th, Mr. Young. (British): 1st, Mr. Lavey; 2d, Messrs. Ivery; 3d, Miss Clarkson.

*Hanging Baskets.*—From Messrs. A. Henderson came a charming set of three of these, filled with Cyperus alternifolius, variegated-leaved Begonias, Caladiums, prominent among which was the little white marbled-leaved argyrites, intermixed with the red Amaranthus melancholicus ruber, and edged with Isolepis gracilis. Than these nothing in their way could be handsomer, and they received, as they deserved, universal admiration. From Messrs. Barr & Sugden also came one or two good baskets of this description, a Fern case, and some ornamental garden pottery.

*Orchids.*—These did not differ materially from what were shown the other day before the Royal Horticultural Society at South Kensington. In the collections from Mr. Baker and Mr. Penny were many extremely well grown plants, among which the pretty terrestrial Orchis foliosa continues to make its appearance, as do also some magnificent specimens of the better kinds of Bearded Lady's Slippers, the bright yellow Oncidium sessile, and the rare Aerides Schröderi and Lindleyanum. Of Cattleya Mossiæ, and Lælia purpurata, too, there were numerous noble examples.

*Awards.*—20: 1st, Mr. Baker; 2d, Mr. Milford; 3d, Mr. Page. 12: 1st, Mr. Penny; 2d, Mr. Peed; 3d, Mr. Chilman. 8: 1st, Mr. Woolley. 6: 1st, Mr. Green; 2d, Mr. Wheeler.

*Heaths.*—Of these, some good plants were shown, especially of obbata, and the different varieties of tricolor and ventricosa.

*Awards.*—10: 1st, Messrs. Jackson; 2d, Mr. Rhodes. (Amateurs) 8: 1st, Mr. Peed; 2d, Mr. Page; 3d, Mr. Wheeler; 4th, Mr. Baxendine. 6: 1st, Mr. Chilman; 2d, Mr. Ingram.

*Pelargoniums.*—Magnificent plants of the ordinary varieties of these were again shown by Mr. Nye, whose plant of Desdemona could not measure less than 4 feet through; and in the Fancy class Mr. Bailey, of Shardeloes, furnished equally admirable specimens. Among nurserymen Mr. Turner deservedly stood first. Of Scarlet varieties, some two collections of which were shown, we noticed Brilliant, Perfection, British Flag, Tom Thumb, Pre-eminent, Commander-in-Chief, Flower of the Day, and Christine. These being dwarf, well-grown and flowered, made a brilliant display. Other sorts differed little from those named the other day at p. 579.

*Awards.*—10: 1st, Mr. Nye; 2d, Mr. Wiggins. 12: 1st, Mr. Turner; 2d, Messrs. Fraser. 6: 1st, Mr. Nye. Fancies.—6: 1st, Mr. Bailey, Mr. Turner, and Messrs. Fraser; 2d, Mr. Shrimpton; 3d, Mr. Eason. Scarlet.—6: 1st, Mr. Windsor; 2d, Mr. Drake. 6: New.—1st, Mr. Turner; 2d, Messrs. Fraser; 3d, Mr. Wiggins.

*Fuchsias.*—Of these one or two collections were shown, which we hope to see again in better condition. They consisted wholly of old plants, on which the blooms, though plentiful, are never so large or fine as on young specimens. Those, however, to which the 1st and 2d prizes were given, were in every way good examples of skilful cultivation.

*Awards.*—6: 1st, Mr. Gardener; 2d, Mr. Cannell; 3d, Mr. Treen; 4th, Mr. Weston.

*Roses.*—With the exception of a very fine group of dwarf well-bloomed plants in pots from Mr. Francis, these were all shown in a cut state. Among the latter Mr. Turner had 50 admirable trusses, conspicuous among which were Vicomte, Vizier, Mrs. Charles Wood, Louis the Fourteenth, Baron Gonella, and Senateur Vaisse. From Mr. Mitchell came the largest and best blooms of Madame Rivers that have been seen for many a day, and scarcely less beautiful were his General Jacqueminot, Jules Margottin, and M. Hector Jacquin. In the collection from Messrs. Paul & Son were very fine examples of the golden yellow Madame Falcot; also beautiful blooms of Gloire de Dijon, Alphonse Damazin, and François Lacharme. From Mr. Hollamby were Comtesse Cecile de Chabrillant in good condition, and Louis the Fourteenth.

*Awards.*—50: 1st, Mr. Turner; 2d, Mr. Mitchell and Messrs. Paul & Son; 3d, Mr. Hollamby. 25: 1st, Mr. Morris; 2d, Mr. Terry; 3d, Mr. Hollingsworth. 24: 1st, Mr. Turner; 2d, Messrs. Paul & Son; 3d, Mr. Marcham.

*Miscellaneous Subjects.*—Among these were some nice stands of cut Verbenas from Mr. Perry and Mr. Perkins, especially those from Mr. Perry, among which Startler, crimson with circular bold white eye; Alexandra, marbled crimson and white; Mauve Queen and Purity were conspicuous. Various Fancy Pansies were furnished by Messrs. Downie Laird & Laing, who also showed their beautiful new Larkspur, with prominent white eye; and their dwarf Calceolaria named Cloth of Gold. Some beautiful Sweet Williams came from Mr. Bragg, of Slough. Pinks, large and finely laced, from Mr. Turner. Messrs. E. G. Henderson had an interesting collection of Ivies of different kinds.

*Collections of Fruit.*—These consisted of some good Pine Apples, Grapes, Peaches, and Nectarines, Cherries, Melons, and Strawberries. Among the last was a seedling from Mr. Ruffett, gr. to Lord Palmerston, which deserves notice. It is large and handsome, and seems worthy of further trial.

*Awards.*—1st, Mr. Ruffett; 2d, Mr. Henderson and Mr. Young; 3d, Mr. Masters; 4th, Mr. Turnbull.

*Pine Apples.*—Among these were some good Queens, some of which weighed nearly 5 lb., Cayennes and Providences; of the last, one, which was over ripe, weighed 11 lb. 6 oz.

*Awards.*—Collection: 1st, Mr. Young. 4: 1st, Mr. Bailey; 2d, Mr. Young. Providence: 1st, Mr. Cawkell; 2d, Mr. M. Henderson; 3d, Mr. Muggleton. Queens: 1st, Mr. Smith and Mr. Chalmers; 2d, Mr. Brown and Mr. Hall. Other Sorts: 1st, Mr. Young; 2d, Mr. Taylor; 3d, Mr. Bailey; 4th, Mr. Smith.

*Grapes.*—In the class of 12 lbs., Mr. Meredith, of The Vineyard, Garston, near Liverpool, sent a basket of magnificent Black Hamburghs, large both in bunch and berry, well coloured, and finely covered with bloom. The same excellent Grape grower had also three bunches unsurpassed for size and beauty. The lion of the day, however, as far as Grape growing was concerned, was a dish of Black Prince, consisting of three bunches, from Mr. Hill, gr. to R. Sneyd, Esq., Keele Hall, Staffordshire. Of these the centre cluster measured 18 inches in length, and weighed nearly 4 lbs. In comparison with this bunch all others of the same class were literally dwarfs. Nor were the Black Hamburghs from Mr. Hill easily matched; and of Buckland Sweetwater, a Grape which is every day gaining ground in public favour, he showed marvellously fine bunches. Mr. Henderson, of Trentham, had some good Black Hamburghs. Among white Grapes, Muscats, with the exception of a dish from Mr. Turner, were not ripe. Mr. Bailey had a very fine basket of his Muscadine; Mr. Drewitt, of The Denbies, beautiful examples of Chasselas Musqué, well set and without crack or other blemish; and of the promising new Grape called Chavoush, examples, apparently not quite ripe, were shown by Mr. Constantine. Good bunches of Grizzly Frontignan came from Mr. M. Henderson. There were also some good Vines in pots

*Awards.*—12 lb.: 1st, Mr. Meredith; 2d, Mr. Hill and Mr. Bailey; 3d, Messrs. Jackson; 4th, Mr. Henderson and Mr. Petch. 3 dishes: 1st, Mr. Hill; 2d, Mr. Henderson; 3d, Mr. Peachy; 4th, Mr. Petch. Black Hamburgh: 1st, Mr. Meredith; 2d, Mr. Sawkins; 3d, Mr. Henderson. Black Prince: 1st, Mr. Hill; 2d (withheld); 3d, Mr. Henderson. Muscat: 1st, Mr. Turner; 2d, Mr. Turnbull; 3d, Mr. Embrey. Other sorts: 1st, Mr. Hill; 2d, Mr. Henderson; 3d, Mr. Drewitt.

*Peaches and Nectarines.*—These were plentiful and generally good. In the first prize lot were beautiful examples of Violette Hâtive and Galande Peaches, and Downton and Hunt's Tawny Nectarine.

*Awards.*—4 dishes: 1st, Mr. Dawson; 2d, Mr. Turner; 3d, Mr. Knight; 4th, Mr. Petch. 2 dishes: 1st, Mr. Wills; 2d, Mr. Constantine and Mr. Ford; 3d, Mr. Allen and Mr. Snow.

*Figs.*—These were chiefly Brown Turkey.

*Awards.*—1st, Mr. Smith; 2d, Mr. Snow; 3d, Mr. Robinson; 4th, Mr. Pottle.

*Strawberries.*—These were for the most part large and fine, especially those to which the first prize was given. President and Oscar were shown in good condition.

*Awards.*—4 dishes: 1st, Mr. Widdowson; 2d, Mr. Turner; 3d, Wr. Kaile.

*Cherries.*—These consisted of Elton, Black Circassian, and May Duke.

*Awards.*—Black: 1st, Mr. Snow and Mr. Turner: 2d, Mr. Beck. White: 1st, Mr. Snow; 2d, Mr. Enstone.

*Melons.*—Among these the best was Mr. Meredith's Hybrid Persian, a pale-fleshed kind of great excellence. The best scarlet-fleshed sort came from Mr. Chilman.

Among Miscellaneous Fruit was one dish of small Apricots of the Shipley variety, and another of Magnum Bonum Plums.

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Linnean: *May 25 (Anniversary.)*—G. Bentham, Esq., President, in the chair. The special thanks of the Society were given to Lady Smith, for an annotated copy of Milton's prose works formerly in the possession of Linnæus. It was reported that since the last anniversary 11 Fellows and 2 Foreign Members had died; that 5 Fellows had withdrawn; and that 22 Fellows, 1 Foreign Member, and 1 Associate had been elected. The financial report showed a decrease of debt to the extent of 34*l.* 3*s.* 3*d.*, and an increase in the cash and invested balances of 82*l.* 19*s.* 1*d.*, making together a balance in favour of the Society on the year's account of 117*l.* 2*s.* 4*d.* A ballot was then taken for Council and Officers, when it appeared that H. Christy, Esq.; M. P. Edgeworth, Esq.; J. Lubbock, Esq.; D. Oliver, Esq., and Lovell Reeve, Esq., had been removed from the Council; and J. Bateman, Esq.; M. T. Masters, M.D., H. T. Stainton, Esq.; T. Thomson, M.D.; and G. C. Wallich, M.D., were elected in their room. G. Bentham, Esq., was re-elected President; W. Wilson Saunders, Esq., Treasurer; and G. Busk, Esq., with F. Currey, Esq., Secretaries. The usual resolutions requesting that the President's Address and the Secretary's Obituary Notices might be printed, were adopted.

*June 4.*—G. Bentham, Esq., President, in the chair. T. Bell, Esq.; J. J. Bennett, Esq.; J. D. Hooker, M.D.; and W. Wilson Saunders, Esq., were nominated Vice-Presidents for the ensuing year. The following papers were read:—1. "On a sexual Monstrosity consisting in the development of Polliniferous Ovules in two Species of Passiflora;" by S. J. A. Salter, M.B. The monstrosities consisted in a partial and persistent separation of the carpels, thus opening the cavity of the ovary; in the development of anther-like bodies along the free edges of the separated carpels; and in the conversion of certain of the ovules themselves into sacs of pollen, these ovules being for the most part malformed, but in a few cases perfect, excepting the presence of the pollen. It was remarked that monstrosities of a somewhat similar kind had been found in a few instances in other plants, but that there was no recorded example in which the ovules had become polliniferous. The monstrosities already recorded were these: the pistil had been observed converted into anthers or stamens in Euphorbia palustris, Gentiana campestris, and Salix babylonica; a supernumerary stamen had been found occupying the place of a wanting carpel in Impatiens; the placentas had been seen metamorphosed into stamens in Hyacinthus orientalis, one half of the fruit enclosing seeds, the other half anthers; anther-cells had been found on the inner walls of the ovary in Primula acaulis; the pistils had been seen surmounted by organs resembling anthers in Campanula persicifolia and rapunculoides; half the ovary had been known to be converted into a staminal mass in Cheiranthus Cheiri; part of the styles had been changed into antheriferous filaments in Colchicum autumnale; pistils had been converted, some wholly, some partially, into antheral organs in Zea Mays; and an antheral mass full of pollen and divided by a septum had been found in otherwise normal carpels of Chamærops humilis. The authorities for these statements were respectively Rœper, Agardh, Schimper, Gay, Moquin-Tandon, and Mohl. The author also quoted a curious observation

of Prof. Braun relating to the Weeping Willow, to this effect:—All Weeping Willows appear to have been derived from one individual plant, and to have been propagated by cuttings; that plant was a female, and yet many of the trees thus produced have borne polliniferous catkins. The Weeping Willow by the tomb of Napoleon at St. Helena was, in its original state, a female plant, yet many cuttings have been brought to England which have produced plants more or less male. A similar instance has also occurred in Germany. In the garden of the Grand-Ducal Palace at Schwetzingen is a Weeping Willow, which although from the very same origin as all the rest, has in a great degree changed its sex, so that it not only shows the most manifold transitional grades of female into male flowers, but also bears on many twigs purely male catkins. In the Passion-flower referred to in this paper, the form of the polliniferous bodies was very diverse: principally however that of a bilobed anther; or of pedicellate globular and oval bodies attached to the placenta within the ovarian cavity, sometimes below the free split edges of the carpels; or of ovules modified only by the presence of a very few pollen grains in their substance.——2. "On the fertilisation of Disa grandiflora, by R. Trimen, Esq., of the Colonial Office, Cape Town," drawn up from notes and drawings sent to C. Darwin, Esq. The author explained the peculiar conformation by means of which the fertilisation of the flower can be readily effected by insects, though, as he stated, without their aid the pollen masses seldom succeed in reaching the stigma. His words were: "When I examined the plants most of the flowers were partially withered, but in the greater number, even in those quite withered, both pollinia were still in their cases."——The further discussion of the propositions of the Council to dispose of certain collections belonging to the Society (see p. 591) was then taken up. The proposals were severally agreed to, with the exception that Acharius' Lichens were to be retained; and the unique and typal specimens in Caley's collection of birds and mammals were to be presented to the British Museum. The proposal to dispose of various unarranged collections of dried plants, chiefly American, including those of Cuming, Hartweg, Drummond, Schomburgk, Gardner, &c., and a fine collection of United States plants, presented by Dr. Boott, was strongly opposed, but eventually carried.

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Entomological: *May* 4.—The President in the chair. Mr. S. Stevens exhibited numerous interesting collections of insects recently arrived in this country, including a series from South Africa, collected by Mr. Trimen; from Madagascar, collected by Mr. Plant; a fine and curious series from the Feejee Islands; some spiders of gigantic size from Bogota; and a remarkably small Lucanideous insect from New Holland. Mr. MacLachlan exhibited the case made by the larva of a species of caddice fly, formed of between 200 and 300 specimens of a small shell (Planorbis), arranged with the greatest regularity. Mr. Edwin Shepherd exhibited some interesting specimens of the white and negro varieties of Biston betularius, which had been reared from eggs deposited by a dark female which had paired with a light male; and made some observations on the geographical distribution of these two varieties. Mr. Waterhouse exhibited two species of Oxypoda, and one of Trechus, supposed to be new to this country. Mr. Waring exhibited some dead pupæ of male honey bees, which had been dragged out of the comb and cast out of one of his hives; he was not able to account for such a proceeding, which was probably owing to some peculiarity in the hive. Mr. T. W. Wood made some observations on the coloration of the wings of the common orange tip butterfly, which he considered was of service in the preservation of the insect when at rest, owing to its similarity to flowers, especially those of Anthriscus sylvestris, on which it delights to settle in dull weather. A letter was read from Dr. Hagen, of Konigsberg, requesting the co-operation of the members of the Society for the completion of his great work on Entomological Bibliography.

*June* 1.—F. Smith, Esq., in the chair. This was a special meeting of the Society, called with the view of discussing the proposition made by the Library and Cabinet Committee for the disposal of the Society's collection of insects. Some time ago the Society had disposed of the major portion of the exotic insects in their collection, and it was now suggested that the British collection and the remainder of the exotic insects, including the type specimens of Kirby's bees, and of other insects described by different entomologists, should be disposed of, on the ground of the impracticability of the Society ever forming a perfect standard collection (as proved by the experience of the Society itself during the period of its existence) or of providing the means for preserving and exhibiting it satisfactorily, even if it were formed. It was suggested that the type specimens should be offered to the British Museum, and that the general collection should be sold, so that the resources of the Society should be concentrated on its library and publications. These suggestions were adopted by the Society at large. Mr. Stainton exhibited some small lepidopterous larvæ mining in the leaves of the Hazel, the same species having also been found on Ribes sanguineum and the common Birch; Mr. Waterhouse, specimens of an apparently new British species of Homalota; Mr. Bond, hermaphrodite specimens of the orange tip and swallow-tail butterflies; and Mr. Smith, drawings of two hermaphrodite specimens of the honey bee; also of Braula cæca, a small wingless insect, parasitic in bees' hives, which has been imported with the Ligurian bee into this country. Mr. M'Lachlan read descriptions of three new British species of Trichoptera. Mr. Stainton read notes on a small moth of New South Wales which is viviparous (Tinea vivipara, Scott); notes on the Proceedings of the Entomological Society of Philadelphia, by Mr. Stainton; and notes on the Entomological Captures made by Mr. F. G. Waterhouse, the naturalist attached to the South Australian exploring party under Stuart, which had succeeded in crossing the Australian continent from Adelaide to the north-west coast and back again.

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Ranunculus Show at Wallingford.—The amateur cultivators of Berkshire and Oxfordshire met the other day at the Town Hall, Wallingford, for the purpose of exhibiting their pet Ranunculuses. About 150 blooms were staged. Mr. Tyso, who was selected to be umpire, made the following awards, viz.:—1st prize to Mr. W. Littleboy, Benson, Oxon, whose stand of 12 blooms consisted of Terpander, Suzanne, Linden, Naxara, Decorator, Sophia, Napier, Rose Rival, Kilgour's Queen, Eva, Sir W. Hoste, and Wilsonia. 2d, to Mr. Hawes, Dorchester, for Bouquet, Naxara, Wilsonia, Linden, Herald, Berinus, Kilgour's Queen, Kilgour's Princess Eliza, Delectus, and a Seedling. 3d, to Mr. Woodbridge, Benson, for Pertinax, Suzanne, St. Jerome, Eva, Clarissa, Naxara, Apollo, Sir W. Hoste, Kilgour's Queen, Napier, and Melancthon. 4th, to Mr. Stevens, Oxford, for Kilgour's Queen, Bouquet, L'Elégante, Satrap, Miss Horner, Apollo, and several Seedlings. 5th, to Mr. Green, Shillingford, for Eliza, Gomer, Naxara, Delectus, Sir W. Hoste, Kilgour's Queen, Apollo, Bouquet, and others. Mr. Tyso contributed two stands, in which were many beautiful varieties. These were, however, not for competition.

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## Notices of Books.

*Viti; an Account of a Government Mission to the Vitian or Fijian Islands in the Years* 1860-61. By Berthold Seemann, Ph.D. MacMillan & Co., Cambridge. Pp. 447.

Dr. Seemann has given us a very curious account of a remarkably interesting people, known to the world principally in connection with missionary labour, and of a charming group of islands said to be capable of becoming a valuable source of cotton supply to our manufacturers, commercially important in a variety of ways, and which might have become a dependency of the British Crown, had not the recent New Zealand troubles deterred our rulers from again incurring a like responsibility.

The Vitian or Fijian group consists of above 230 islands, mostly of small size, of volcanic origin, surrounded by coral reefs, and all of them very fertile. The larger islands are Viti Leon, some 75 miles by 60; Vanua Leon, with about half that area; Taviuni and Kadavui, each near 20 miles long but narrow; the last mentioned and smallest of these four is however supposed to contain 10,000 inhabitants. Ovalau and Bau are also of importance as the residence of white men, and the latter as being the head-quarters of Thakombau, the acknowledged sovereign of the whole group, and hereditary Chief of Bau. This gentleman is a Christian, and a noble specimen of humanity; his Queen a pleasant-looking woman, though Dr. Seemann only once had the pleasure of seeing her dressed! This was at his first official interview about the cession of the islands. On that occasion she wore a neat bonnet of the latest Parisian fashion, a coloured silk dress, and a black mantilla trimmed with lace; nor let it be supposed that the use of crinoline was unknown in this remote quarter of the globe. Glad enough she must have been to get her clothes off again.

The windward side of each island enjoys an abundant supply of rain, and a glorious tropical vegetation is the result: huge trees with innumerable creepers and epiphytical plants; while the leeward side, in general, consists of splendid undulating pasture land, here and there dotted with Screw Pines, requiring no clearing, and admirably adapted for Cotton cultivation, a fact which Dr. Seemann says he put to the proof during his visit.

The Fijians are roughly estimated at 200,000; they are a fine noble race, by no means deficient in intellectual power, but it is their misfortune to have for their nearest neighbours the Tonguese, who are the very princes of the Polynesian Islands, though they scarcely deserve the flattering name which Capt. Cook bestowed upon their group, "the Friendly Islands," inasmuch as they twice plotted against his life, and only failed in their murderous purpose through some petty jealousy among themselves.

The Tongua islands are deficient in wood fit for building canoes, and when attracted to the Vitian group for the purpose of canoe building, the Tonguese establish themselves wherever they can, keep up a communication with each other, foment Vitian quarrels, espouse the weaker side, and then, after having conquered and plundered the strongest party, they make exorbitant demands from their friends of the weaker side, on the plea of getting remuneration for their services. It was to escape these and similar extortions from civilised nations, that the Fijians desired to place themselves under the protection of Great Britain.

Dr. Berthold Seemann was not a bad man to send upon such an expedition. Besides being a fair botanist, and a man of sense, he is a fine, tall, handsome fellow, fully 6 feet 2 inches, with a kind heart and a frank, winning manner. He naturally enough became a prodigious favourite among these islanders, who admire above all things tall men. The clothing of the natives is usually confined to a couple of yards of cotton cloth, tied round the waist; and before the introduction of this material bark-cloth was made simply by peeling the bark of the Mulberry tree, when the tree is scarcely thicker than the little finger, and then soaking and beating the different pieces in such a way that they expand, and all join together in one large mass. It is a curious fact that not only did the Fijians, as indeed most Polynesians, know how to make such cloth, but also printed it in many different colours and patterns, probably long before the art of printing was ever dreamt of in Europe.

When visiting Somosomo, the chief was absent on a fighting expedition, but his wife Eleanor was at home and paid the strangers a visit, accompanied by young women, also wives of Golea. Eleanor, who is the niece of Thakombau, King of Fiji and Chief of Bau, is much higher in rank than her husband, and her sons as "vasus" will enjoy peculiar privileges, transmitted through her. She was a tall, fine looking woman, of much lighter colour than the generality of her countrywomen, of a cheerful countenance, and possessed of dignity and self possession, and, considering the scantiness of her dress, this is saying very much in her praise. The stately Queen of Somosomo, in a graceful head-dress of Fern-leaves, joined a botanizing expedition with her whole Court. On this occasion the maids of honour dispensed with calico altogether, and were simply attired in portions of fresh Banana and Cocoa-nut leaves. "The dark beauties, the really artistic effect of their ornamental leaves and flowers the easy grace of their movements, made them look like so many nymphs that one reads of in classic story, but never seem to meet with now-a-days."

The men, both married and single, sleep in lofty public buildings, called "bures." "All along the sides are sleeping places, covered with fine mats, and large enough for two men to sleep; between each there is a fire-place, and stages to put the legs on. The centre of the building is covered with loose Grass, and there are no windows, only low doors, which may be, and are always, closed towards evening, by means of thick mats, in order to keep mosquitoes out. When evening is coming on the bure begins to fill, most of the fires between the sleeping places are lit, and the natives are leisurely stretched on the mats, their legs cocked up on the stages, like Yankees in a tavern, all smoking their cigarettes, made of self-grown tobacco and dry Banana leaves. Now came the kava-chewers, comely looking youngsters carrying the large wooden bowl, a cocoa-nut shell for drinking the beverage, the bamboo water-vessel, a handful of fibre for straining the kava, and the root of the South Sea Pepper, from which it is prepared. No sooner have they taken their seats and commenced chewing, taking care to throw the rope affixed to the kava-bowl towards the person highest in rank, than a leading man, perhaps a heathen priest, begins chanting a song, in which the whole assembly joins, and the lads having chewed a sufficient quantity of the root, place the masticated mass in the bowl. Now water is poured on, the whole yellowish-looking fluid is strained through fibres, and a cup filled. Whilst the cupbearer is holding it to hand to the chief or highest person present, an old man gives the toast of the evening. It is pathetic or humorous as occasion demands, &c. At length the song becomes less and less hearty, the conversation slackens, and one by one the men drop off to sleep, Their pillows are made of a thick stick with 4 legs, and are put just under the neck, so that the hair of the sleepers may not be disarranged. They have had it only recently newly done up, washed with lime to make it frizz, dyed in various colours, and arranged in many different ways. Several days must have been spent to get some of these extraordinary heads dressed. And for this reason and no other they are ready to sleep all their lives on a pillow of wood, so constructed that an European could not rest his neck for five minutes upon it without suffering dreadful pain. Talk of the ease of living in a state of nature! the inconveniences to which savages put themselves in order to gratify their vanity are quite as great, if not greater, than those forced upon us by the fashions and dictates of our own society. Think, too, of the agonies of tatooing! which fashion imperatively demands of the ladies of Viti."

With regard to cannibalism, Dr. S. has arrived at conclusions which appear somewhat novel to us. Though so late as 1856 cannibalism was a recognised institution of the state, he maintains that human flesh is extremely difficult to digest, and that the strongest and healthiest men are greatly inconvenienced from the effects of such a feast; indeed, nobody thinks of eating "bokola" without condiments

consisting of certain leaves, or a vegetable called "Taro," not unlike Tomato. Many of the heathens, he tells us, have long made a bold stand against the practice of eating human flesh, declaring it "tabu," or forbidden by the gods. The common people, as well as women of all classes, are by custom forbidden to eat it, and the great chiefs and gentry look upon it quite as a duty which they owe to society, a duty appertaining to their exalted station, to eat human flesh. When, for instance, the national honour has to be vindicated, or justice has to be executed, it is done by eating the perpetrators of the wrong. The custom has also a religious as well as a political aspect. There is a certain degree of religious awe associated with the act which puts it something on a level with a sacrifice to a superior being. All other food is eaten with the fingers, but for bokola certain sacred forks are used, made of hard wood, and handed down as heirlooms. The very sight of these forks makes a native look serious, and to see a person handling them would give a Fijian about as much pain as a Christian would feel were the sacred vessels of his religion used for drinking water.

One little fact must be mentioned connected with this subject, and also illustrating the importance of being acquainted with the native customs. An Englishman, named Pickering, once fell into the hands of a hostile tribe, long on the look out for his body. He soon became aware that they were making preparations for a cannibal feast, of which he was to be the principal dish; though these preparations would not have been noticed by any one less versed in their peculiar customs. He knew that before they proceeded to kill him a bowl of kava would have to be made, that a prayer would have to be said over the beverage when ready, and that the person saying the prayer could not be eaten. Pretending utter unconsciousness of what was going on, he eagerly watched the moment when the preparation of the kava was advanced to the stage at which the prayer had to be said, and suddenly, to the utter dismay of his enemies, he pronounced the well-known formula. No one would now have dared to take his life, and he had the keen satisfaction of partaking of the refreshments which had been provided for his own funeral.

*To be continued.)*

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*History of the Botanic Garden at Zürich.* By Prof. O. Heer.

*(Concluded from p. 583.)*

It remained in this state for 12 years, but in 1760 the Society was obliged to give up the ground; and it was not until 1766 that H. K. Hirzel persuaded the magistrates to purchase an estate at Wiedikou, the house on which was converted into a hospital and the ground into a botanic garden; the lower part of the house, such as cellars and wash-houses, being appropriated to the keeping of the seeds and the preserving of tender plants through the winter. Under the charge of Drs. Scheuchzer and Locher, the garden made rapid progress, and in 1782 it was further improved by the erection of a hothouse, after which an interval of inactivity followed, until in 1794, under the direction of Dr. Usteri, it again made a start, and in the following year was laid the foundation of a collection of Alpine plants. Political troubles now intervened; and in 1799, the Cossacks, who were encamped in Wiedikou, entirely destroyed the botanic garden. By the energy of Dr. Römer, it was again raised to its former flourishing condition, so that in 1805 it could boast of containing 4000 plants. In 1819 Römer was succeeded by L. Schulthess, under whose directions many further improvements were made, and many new and curious plants added. The poor sandy soil, and want of water, proved serious drawbacks, and in 1834 the removal of the garden was decided on. It was then formally given over to the town, and Prof. Heer nominated as director. The first step was to select a suitable locality for a new garden, but it was not until 1836 that, partly by a grant from the town, partly by contributions from private individuals, the new garden could be fairly commenced; and so much had to be done in clearing away a portion of the city wall, and in preparing the ground, that it was not ready for planting until the autumn of 1837. A portion of the ground was devoted to the botanic garden proper, and the remainder was planted with trees, bushes, and flowers, as a pleasure garden. The broad path leading through the garden had flower-beds laid out on each side of it, for the purpose of marking the strictly botanical portion, but eventually this plan was found unsuitable, and was consequently abandoned. The western and northern sides of the lower terrace are now given up to botanical purposes, the flower-beds are all placed at a distance, and a line of demarcation between the two portions is drawn by a hedge. Passing from the hothouse into this detached part, we have on our left, first a row of beds in which annuals are cultivated, and next to them perennial shrubs arranged according to the system in Endlicher's "Genera Plantarum." The entire front of the garden and the two terraces have been laid down with Grass, on which groups of trees and shrubs are planted; and this part has now become extremely beautiful, forming an attractive place of resort for visitors.

On the north the two terraces have been laid out as a rock garden for Alpine plants, and there are now cultivated here about 750 species, of which 330 are natives of the Swiss Alps, and the remainder are from the Austrian, Greek, and Asiatic mountains, or from high northern latitudes. They form altogether a collection which is unequalled in any other botanical garden.

The garden possesses about 800 species of trees and shrubs, planted in various parts, and especially clothing the centre eminence, the summit of which is surrounded by a solidly built low wall, within which are placed benches, from which the beautiful view on all sides can be seen and enjoyed. An arrangement was made with the proprietors of the water towers to supply the garden with water by a conduit communicating with two reservoirs, the one in the grass opposite the hothouse, the other near the Alpine garden. But the construction of the ponds proved to be faulty, besides which the tower, even during the summer, and frequently for a considerable time, provided no water, by which the garden suffered both in health and appearance. Recently, however, the basin on the lower terrace has been strengthened with a wall, and fully prepared with an asphalte bottom, for the reception of rare plants, and thus this eyesore at least has been remedied.

Both the garden and greenhouses have steadily continued to improve and increase. The largest house was begun in 1837, and is 78 feet long, 20 wide, and 22 high: it is divided into two portions, one for tropical, the other for more temperate plants; both divisions being heated by warm water. On each side are wings, devoted to the gardeners' dwellings, seed-houses, lecture-room, &c. Two smaller houses for raising plants were also completed in 1840, and in 1844 a very commodious one was built on the second terrace, on the south side of the hill, to which in 1850 a cool house was annexed. The garden thus possessed four houses, with seven compartments, for the cultivation of plants from different climates; yet one was still required, in which the most remarkable tropical plants, such as tree Ferns, small Palms, Bamboos, water plants, &c., might be grown and exhibited to the public. This want has now been supplied by the erection of a new house, on the south-west side of the second terrace, 44 feet long, and 20 feet high in the centre. It is true that this is not lofty enough for tall tropical trees, but we must not forget that the garden has but moderate means at its disposal.

We thus see that the new garden has steadily advanced ever since its commencement, until it has attained the first place among Swiss botanic gardens; and this is even more the case if we consider the riches of its collections. In 1842, the head gardener, Herr Regel, enumerated 7500 species as cultivated in the garden and greenhouses, besides 2600 varieties, amongst which are many rare and interesting plants.

The garden is further adorned with two busts, the one of De Candolle, the great botanist of Switzerland, the other of Gesner, the founder of the garden. That which he three centuries ago so earnestly strove for, has now been fulfilled to an extent his imagination could never have dreamt of, and as he foresaw, the garden is fulfilling its vocation. Not only does it awaken a taste for the highest and noblest pleasures of Nature, by offering the riches of the vegetable kingdom for our examination, but its influence stretches far beyond its own domain. Whoever has noticed the progress of garden cultivation in Switzerland during the last 10 years cannot fail to have perceived the immense improvement in it. Not only have a number of new gardens arisen, and new greenhouses been built, but the taste for plants has so much increased that six large nursery gardens exist in Zürich, while 15 years ago there was not one which could deserve the name. The botanic garden has undoubtedly had a great share in this, and by means of its correspondence and exchanges, both at home and abroad, has been enabled to obtain many remarkable plants which are now dispersed through the land.

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*Phosphorescence.* By Dr. Phipson. Lovell Reeve & Co. 1862.

The phenomena of Phosphorescence are among the most singular, and at the same time mysterious of the hitherto unexplained appearances in Nature; and in all ages they have excited the curiosity of philosophers, and the alarm of the ignorant. From the days of Aristotle to the present time, the light emitted by some decaying substances has been observed, while that of the glowworm is familiar to every one; yet the true origin of this harmless light remains unknown. Now, when so many of the secrets of Nature are being successfully rifled, we may hope that this too may not long remain unsolved; but we are bound to state that the present work will afford very little aid towards its solution. In fact, it leaves the question in rather more darkness than veiled it before. All that the author has done is to note every instance he has been able to find, touching the production of light without heat; the result of which is that he has brought together a most heterogeneous collection, from the phosphorescence of putrescent bodies to inflammable gases: moreover the authorities given are often too vague to be trustworthy. "We are told," "it has been asserted," "some authors state:" such sentences occur over and over again; but we need some better authority when asked to believe facts which lie beyond every-day experience, and are not therefore easily verified. Dr. Phipson gives several instances of what he considers as cases of phosphorescence in flowers; and our readers can, if they please, examine for themselves how far the recorded observations are correct. On the authority of Mrs. Loudon, the following anecdote of one of the daughters of Linnæus is given.

"Seated one sultry summer evening in a garden, the daughter of the illustrious naturalist observed with surprise certain luminous radiations emitted by the flowers of a group of Nasturtiums. This curious observation was made more than once during twilight in the months of June and July, 1762. The girl lived long to tell her wonderful tale. The same phenomenon has been witnessed by other naturalists, but almost exclusively on yellow or orange-coloured flowers. Thus, it has been seen, we are told, in the corolla of the Sunflower (Helianthus annuus), in the garden Marigolds (Calendula), in the two species of Tagetes (which the French botanists call the Rose d'Inde and the Œillet d'Inde). Phosphoric light has also been seen to be emitted from the flowers of the Tuberose, different varieties of Nasturtium, the Yellow Lily, and some other plants.

"The latest, and at the same time most authentic observation of luminous flowers that has been made is the following:—On the 18th of June, 1857, about 10 o'clock in the evening, M. Th. Fries, the well-known Swedish botanist, whilst walking alone in the Botanic garden of Upsal, remarked a group of Poppies (Papaver orientale) in which three or four flowers emitted little flashes of light. Forewarned as he was by a knowledge that such things had been observed by others, he could not help believing he was suffering from an optical illusion. However, the flashes continued showing themselves from time to time during three quarters of an hour. M. Fries was thus forced to believe that what he saw was real. The next day, observing the same phenomenon to re-occur at about the same hour, he conducted to the place a person entirely ignorant that such a manifestation of light had ever been witnessed in the vegetable world, and without relating anything concerning it, he brought his companion before the group of Poppies. The latter observer was soon in raptures of astonishment and admiration. Many other persons were then led to the same spot, some of whom immediately remarked that the flowers were throwing out flames."

While acknowledging that he does "not pretend to have snatched from Nature the entire secret of phosphorescence," Dr. Phipson nevertheless concludes his book with a chapter headed "Theory;" but it is not possible for us to transfer this to our columns, nor do we think it would repay perusal; in fact, we find it very difficult to understand our author's explanations, they are so vague and desultory. When we fancy we seize his meaning, in the next sentence we find that it has eluded our grasp. In short, the only impression left upon our mind is that Dr. Phipson knows less, if possible, than his readers, upon the subject he has presumed to meddle with.

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The *Botanical Magazine* for June gives figures of the following plants: *Zosterostylis arachnites*, a curious but not showy terrestrial Orchid from Java and Ceylon. *Coccoloba platyclada*, a singular flat branched Polygonaceous shrub, from the Solomon Isles; the branches are marked by rings at the nodes and are sometimes leafless, sometimes furnished with oblong or hastate lanceolate leaves; the flowers are small, white, succeeded by red berries, which finally become dark purple. Being throughout the year covered with innumerable blossoms, and these generally interspersed with berries, Dr. Mueller speaks of the plant as a most interesting acquisition for our gardens; but it is certainly rather of the curious than of the attractive class. *Higginsia Ghiesbreghtii*, which is the Campylobotrys Ghiesbreghtii of gardens, and is remarkable for its sharply quadrangular stems with winged angles. *Anguloa Ruckeri sanguinea*, noticed in our vol. for 1854, p. 271. *Pleurothallis Reymondi*, an inconspicuous epiphytal Orchid from Caraccas. *Aspidistra punctata albo-maculata*, a Chinese perennial rhizomatous herb, with large ribbed oblong lanceolate leaves, copiously marked between the ribs with small oblong white spots.

The *Florist and Pomologist* gives figures of three varieties of the new spotted hybrid *Mimulus maculosus;* and a portrait of the *British Queen Pear*, a variety raised at Frogmore by Mr. Ingram, and described as a very excellent dessert Pear, ripe in October. The fruit is large, pyramidal, somewhat undulating in outline; the skin smooth, shining, of a golden yellow freckled with thin cinnamon-russet, and with a flush of crimson where most exposed; the eye is small, with short narrow segments, set in a considerable hollow; the flesh is yellowish-white, very fine grained and buttery, with an abundance of rich sugary piquant juice, and a fine aroma. There are some good papers in the present number of this serial.

The *West of Scotland Horticultural Magazine* (Glasgow: Love; London: Harrison) is a new low-priced candidate for public favour. The first part now before us promises well, and the work will doubtless be useful to Scottish cultivators, for whose use of course it is especially intended. There are good practical papers

on Daphne indica and the double-flowered Rocket, and some useful notes on Dahlias, besides a variety of other interesting topics.

Books Received.—*Species Genera et Ordines Floridearum*; Agardh. Vol. II., Part III.: 2. 8vo, pp. 787—1291. Entirely occupied by Rhodomeleæ.

## Miscellaneous.

*Ward's Plant Cases.*—To go from England to Japan was easy enough; to wander among those romantic valleys and undulating hills was pleasure unalloyed; to ransack the capital itself, although attended by an armed guard, was far from disagreeable; and to get together such a noble collection as I have just been describing was the most agreeable of all. The difficulty—the great difficulty—was to transport living plants from Yedo to the Thames, over stormy seas, for a distance of some 16,000 miles. But, thanks to my old friend Mr. Ward, even this difficulty can now be overcome by means of the well-known glass cases which bear his name. Ward's cases have been the means of enriching our parks and gardens with many beautiful exotics, which, but for this admirable invention, would never have been seen beyond those countries to which they are indigenous. In a foreign country, however, even Ward's cases cannot be made without some difficulty. The carpenter who contracted to make the framework of the cases would have nothing to do with the glazing, because he did not understand it. A Dutch carpenter, residing in Yokuhama, undertook to do the glazing, but unfortunately broke his diamond and could not procure another to cut the glass! Luckily, however, these difficulties were got over at last, and a sufficient number of cases were got ready to enable me to carry the collection on to China. The steam-ship "England," Captain Dundas, being about to return to Shanghae, I availed myself of the opportunity to go over to that port with my collections, in order to ship them for England, there being as yet no means of sending them direct from Japan. Mr. Veitch had also put his plants on board the same vessel, so that the whole of the poop was lined with glass cases crammed full of the natural productions of Japan. Never before had such an interesting and valuable collection of plants occupied the deck of any vessel, and most devoutly did we hope that our beloved plants might be favoured with fair winds and smooth seas, and with as little salt water as possible—a mixture to which they are not at all partial, and which sadly disagrees with their constitutions. *Fortune's "Yedo and Peking."*

*Cornish Broccoli.*—A vague notion that Cornwall supplied Covent Garden with its earliest Broccoli and Potatoes has, no doubt, been entertained; but it has been much in the same way as the belief that Tea came from China or Rice from Carolina. How it was sent, and where it had been grown, few took the trouble to inquire; and, indeed, so long as the mode of transport was limited to coasting steamers, it was hardly worth the inquiry. Through the kindness of a friend, I have been enabled to trace the despatch of the first lot of Cornish vegetables to an inland market, which will be interesting when compared with the extent of the present traffic. It was no longer ago than 1836 that the export of Broccoli began. In that year Mr. Dupin, the steward of the Herald steamer, trading between Hayle and Bristol, took up, as a speculation, four dozen Broccoli. Having sold these freely, he ventured on his next voyage to take as many as 14 dozen, when, finding the trade likely to answer, he arranged with Mr. John Thomas, still the great grower of Gulval, for the supply of his entire crop at 6*d*. per dozen, delivered at Hayle. In the following year a small piece of land was specially devoted to the growth of Broccoli, still as a speculation; and from that time to the present the trade has continued to increase so rapidly that no less than 18,696 baskets, each containing from 15 to 20 dozen, and weighing together upwards of 2260 tons, were transferred from the West Cornwall Railway alone for delivery to the more distant markets during the last season. Since the original "speculation" of four dozen Broccoli, the trade has so much increased, that, in addition to the above, no fewer than 7900 baskets were shipped from Hayle in the year 1861, against 70 in 1842. *Rev. T. Phillpotts in Journal of Bath, &c. Society.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—By means of a tasteful arrangement and the introduction of neatly filled hanging baskets, even small conservatories should now present a gay and interesting appearance. This is however not all; attention must be paid to plants for autumn and winter display; these while in active growth, as they should be just now, require a good deal of water, and insects are more troublesome than in the case of plants at rest. Give Luculias especially plenty of water at the root, and an occasional supply of clear weak liquid manure to old plants until they have made sufficient wood to ensure a good amount of flower. Manure water must not however be given to young specimens in vigorous health, as that would only induce too gross a growth, a condition in which they seldom flower satisfactorily. In order to secure fine heads of bloom from this plant it should be allowed a few weeks of comparative rest, after, say about the middle of next month, keeping the roots rather dry, and exposing the plants as freely to air as can be done without injury to the foliage or the health of their neighbours. Brugmansia sanguinea is also a useful plant for winter and early spring flowering when managed so as to have it pruned and rested about this time. See that large specimens of Camellias are not allowed to get too dry at the root after they have set their buds, for shedding of the latter is often due to this cause. Young and vigorous plants however frequently require to be watered rather sparingly to prevent their making a second growth.

### FORCING DEPARTMENT.

Pineries.—Air should now be given liberally to young stock in dung pits, in order to secure good growth. The plants should not, however, be exposed to draughts, for these would not serve the end in view. A moderate circulation should by all means be secured at night, giving no more during the day than may be necessary to prevent the temperature getting too high. This, with careful attention to the state of the roots, keeping the bottom heat regular, the soil in a nice healthy state as to moisture, and giving a liberal supply of manure water to such as are well rooted, will be found much more conducive to growth than exposing the plants too freely, which would probably check and throw them into fruit prematurely. Use every means to afford plants swelling their fruit a thoroughly moist atmosphere, sprinkling passages, &c., frequently and shutting up early, giving a gentle dewing with the syringe, and saturating the atmosphere by sprinkling every available surface; also give plenty of clear strong manure water at the root until the fruit begins to change colour, when the soil should be kept rather dry, which will improve the flavour.

Vineries.—Attend to former directions as to thinning the fruit in houses intended to furnish a late supply, and see that the bunches are severely thinned, and also that the crop left is not too heavy in proportion to the strength of the Vines. Where fruit is swelling, be careful to maintain a moist atmosphere, and give every possible attention to the roots, keeping the border in a healthy state as to moisture, and if watering is found necessary, use manure water. Give abundance of air where the fruit is colouring, and do not allow plants in pots to remain in the house to cause damp, which notwithstanding every care that may be used in ventilating is apt to settle on the berries and spoil the bloom. Where fruit is ripe and expected to hang for some time, the atmosphere of the house should be kept as cool as possible; but a little fire-heat will probably be necessary occasionally in order to keep the atmosphere dry during very damp weather.

Peaches and Nectarines.—Expose the ripening crop as much as possible to the sun, and admit plenty of air, to give colour and flavour. Late houses, where the fruit is swelling, should have an increased day temperature, with plenty of moisture. Thin and tie in the shoots in the latest house.

Cherries.—As soon as the crop is gathered, remove the trees to a shady situation and keep them syringed and watered; the pots should be plunged, or the plants taken out and planted in a northern aspect. Those in pots intended for forcing next season should not be allowed to suffer from drought, or from the effect of Cherry fly.

Figs.—The second crop on the earliest trees will be fast advancing; as soon as the fruit begins to ripen the atmosphere should be kept dry and cool, giving air freely every fine day, and using a little fire in wet cloudy weather, to prevent damp, and allow of a gentle circulation of air. Use every care to keep the foliage clean and clear of insects, and do not crowd the young shoots.

Melons.—Plants on which the fruit is ripening should be kept dry at the root, and freely exposed to air on fine days.

### FLOWER GARDEN AND SHRUBBERIES.

It cannot be too often repeated that to be able to winter bedding stock safely with ordinary care, the cuttings should be put in sufficiently early in the autumn to allow of having them well established and fit to be exposed to the open air by the middle of September. Begin therefore in good time, and with such as are found to be the most tedious to propagate. Hollyhocks should be examined often in search of any cuttings which they may afford, as those rooted early will make strong plants for next season. Attend to the tying up of these and Dahlias, and go over the masses of Verbenas, &c., frequently for the purpose of regulating the growth, so as to keep it orderly and neat.

### HARDY FRUIT AND KITCHEN GARDEN.

During the present month every attention should be given to trained fruit trees. All wall trees especially should be gone over in time, and the shoots thinned and stopped to admit air and light among the fruit and young shoots, which will greatly assist the formation of fruit buds for the following season. Old Pear trees in particular that are unfruitful, should be subjected to this treatment. Keep Peach trees free from green fly by means previously advised, and dust sulphur on shoots affected with mildew. Use the garden engine occasionally in warm weather, to clean the trees and prevent red spider. Tomatoes must be regularly attended to, keeping the shoots thin and stopping them above a cluster of fruit. Herbs as they come into flower should be cut and dried for winter use. They can either be hung up in bags to keep them clean, or rubbed out and bottled.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending June 24, 1863, as observed at the Horticultural Garden

| June. | Moon's Age. | Barometer. | | Temperature. | | | | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Of the Air. | | | Of the Earth | | | |
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 18 | 2 | 29.852 | 29.618 | 76 | 50 | 63.0 | 62 | 58½ | S.E. | .94 |
| Friday 19 | 3 | 29.542 | 29.716 | 72 | 50 | 61.0 | 62 | 58½ | S. | .36 |
| Satur 20 | 4 | 29.523 | 29.699 | 75 | 41 | 58.0 | 61½ | 59 | N.W. | .00 |
| Sunday 21 | 5 | 29.994 | 29.932 | 76 | 54 | 65.0 | 61½ | 59 | S.W. | .09 |
| Mon. 22 | 6 | 30.019 | 29.951 | 74 | 55 | 64.5 | 62½ | 59½ | S.W. | .00 |
| Tues. 23 | 7 | 30.115 | 30.046 | 82 | 51 | 66.5 | 63½ | 60 | S.W. | .09 |
| Wed. 24 | ☽ | 30.040 | 29.965 | 78 | 55 | 66.5 | 64 | 60 | N. | .74 |
| Average. | | 29.912 | 29.818 | 76.1 | 50.9 | 63.5 | 24.3 | 69.2 | | 1.96 |

June 18—Very fine; cloudy; overcast; very heavy rain at night.
— 19—Heavy rain; fine; overcast.
— 20—Very fine; cloudy; fine; cool at night.
— 21—Very fine throughout.
— 22—Overcast; fine; overcast; fine; very mild.
— 23—Very fine throughout.
— 24—Overcast; shower; very fine, gloomy; heavy thunder-storm with much forked and sheet lightning and rain.

Mean temperature of the week 2½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,

During the last 37 years, for the ensuing Week, ending July 4, 1863.

| June and July. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 28.. | 73.3 | 49.6 | 61.5 | 15 | 0.65 in. | 3 | 2 | 6 | 1 | 3 | 11 | 5 | 6 |
| Mon. 29.. | 72.8 | 48.8 | 60.3 | 10 | 0.22 | 3 | 4 | 3 | 1 | 0 | 15 | 6 | 5 |
| Tues. 30.. | 72.7 | 48.7 | 60.2 | 12 | 0.80 | — | 6 | 4 | 1 | 4 | 11 | 5 | 6 |
| Wed. 1.. | 72.1 | 51.9 | 62.0 | 18 | 1.18 | 3 | 5 | 5 | 4 | 4 | 10 | 6 | 5 |
| Thurs. 2.. | 73.2 | 51.7 | 62.5 | 13 | 0.22 | 2 | 5 | 3 | — | 5 | 9 | 9 | 4 |
| Friday 3.. | 74.1 | 51.0 | 62.5 | 16 | 0.78 | — | 6 | 2 | 1 | 3 | 12 | 9 | 4 |
| Satur. 4.. | 75.8 | 50.7 | 63.2 | 13 | 0.33 | — | 2 | 4 | 1 | 8 | 12 | 8 | 2 |

The highest temperature during the above period occurred on the 30th, 1862—therm. 91 deg.; and the lowest on the 28th, 1862—therm. 34 deg.

## Notices to Correspondents.

Ants: *F L.* The best remedy for these pests, without injuring the plants, in a bed filled with Calceolaria aurea floribunda, Verbenas, and Amaranthus melancholicus, is to strew guano thinly on their runs. This will drive them away, and if your soil is poor benefit the plants.

Cocoa Waste: *R W.* After the most diligent search not a fragment could be found of the Fungus on Cocoa waste. *M. J. B.*

Exhibiting Roses: *An Old Subscriber*, who exhibits 36 distinct varieties, three blooms of each, singly in tubes of water on show trays, does not comply with the requirements of the schedule, which demands 36 varieties, three trusses of each, and therefore the judges rightly disqualify him, not because the "three blooms" of each variety are not tied or shown together in one cup as he puts it, but because as we understand his statement, he has himself mistaken "blooms" for "trusses."

Gloxinias, &c.: *B B B.* There is no fungus on your Gloxinias and Achimenes, but the cellular tissue is decomposed. It is clear that they have some soil which does not agree with them, and perhaps they are kept too moist. As the disease is confined to these plants, you had better make a thorough examination of the condition of the soil and roots. *M. J. B.*

Grapes: *Vitis.* Your Grapes were so crushed in travelling that little could be made out of them; it seems, however, to be a case of common spot, which indicates something wrong at the root. Every affection of the kind must be more or less local, except every bunch and every berry is attacked. Perhaps a close examination of your house, and the particular position the affected Vine occupies in it, may lead you to the true cause. *M. J. B.*

Hypertrophy in Vines: *J H.* The condition of your Vine leaf seems to indicate that you have a slight attack of a complaint which has been very prevalent this year, in which the cells of the under side of the leaf are in a state of hypertrophy. We do not believe that in so slight a form it can lead to any mischievous results. *M J B.*

Insects: *A B.* The crushed beetle proves to be the common destructive weevil, Otiorhynchus sulcatus. It should be hunted for after dark with a candle; it falls to the ground on the least alarm, and should be caught on a cloth or sheet of paper placed under the plant attacked.—*R N.* The wasps are attracted to Plum trees infested by Aphides in order to lick from the leaves the saccharine matter deposited by the plant lice.—*T S P.* The caterpillar is easily recognisable by the excellent drawing sent, as that of Zygæna filipendulæ.—*Sir W J H.* The Willow stocks are infested near their pollard ends by the orange larvæ of a small midge (Cecidomyia salicina) or a closely allied species. It would probably be advantageous to top the trees for about 8 or 10 inches, as the lower part of the stocks does not seem to be attacked.—*E R B.* Your caterpillar had eaten its way out of the wooden box in which it was confined, but we have no doubt that it was that of the wood leopard moth, the best remedy against which is to look for the very conspicuous perfect insect on the trunks of the fruit trees and destroy it. It is of considerable size, with milk-white wings dotted all over with steel-blue spots.—*C D H* (Hammersmith). The excrescences on your Vine leaf are caused by a gall aphis of which the eggs and young larvæ are now to be found in these little galls. If you can send another leaf or two direct to Prof. Westwood, Oxford, we shall be obliged. *W.*

Names of Plants: *C E.* Borago officinalis; some Rumex, possibly Acetosa; Anthyllis Vulneraria. Terribly bad fragments, without numbers.—*R. Constans.* Tremandra ericoides and Tropæolum brachyceras.—*Bury.* Cratægus odoratissima and C. orientalis.—*T H.* "Blea Cambroides" should be Pilea hernarioides.—*Rusticus.* Two forms of Lady Fern, Athyrium Filix-fœmina: 1, of the molle; 2, of the incisum type.—*J G.* Orobanche minor.—*M. R. Pel.* One of the small unnamed sports of the Lady Fern.—*R Y.* 1, Selaginella cæsia; 2, Pteris hastata macrophylla; 3, Polystichum capense; 4, Phlebodium areolatum; 5, Nephrodium molle; 6, Niphobolus Lingua.

Pelargoniums: *E S.* Your plants are in a deplorable condition. First you have had aphis, and then the black mould Cladosporium has grown where the Aphis has been. But this is not all; your Pelargoniums have got the spot. To avoid such evils in future, you must fumigate with Tobacco, your plants must not be too crowded, and your pots well drained. Some of the black specks are merely the dung of insects. *M J B.*

Strawberry: *From Battle.* Large, roundish ovate, juice pressed out in carriage; was not in condition for an opinion to be formed of it.‖

Misc.: *H H H.* Your advertisement will cost 4*s.* Post-office order to be made payable to James Matthews.—Full price will be given for No. 26, 1862.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
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Apply by letter, to 28, Clapham Road Place, London, S.

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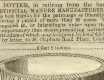

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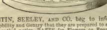

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GALVANISED IRON ROOFING
for Farm Buildings and other Roofs; the cheapest, most durable, and neatest Roofing in use: also Spouting at 10½*d*. per yard.

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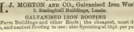

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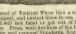

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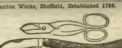

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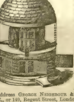

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# The Agricultural Gazette.

*SATURDAY, JUNE* 27, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| WEDNESDAY, | July 1 | —Agri. Society of England | .. Noon |
| FRIDAY, | — 3 | —Suffolk Agri. Society at Ipswich. | |

THE Agricultural Society of Essex held their annual meeting on Thursday at the pleasant little town of Witham. A bright and sunny day, and a good show attracted unusual numbers, and the meeting was in every sense a success. Besides the native breeds—the Suffolk horse and Norfolk cattle as much at home in Essex as in either of the other counties—there was a capital show of Short-horn cattle, which have their home in every county; and a fair show of sheep, including several capital specimens of the Cotswold breed, which now travel as far from home as any breed that can be named. There was also a capital exhibition of implements; and steam ploughs, which are being naturalised everywhere, were exhibited at work by Mr. CHRISTIE, who uses FOWLER's tackle, on his farm near Chelmsford; by Mr. COLEMAN, who exhibited his plan of working two cultivators in the manner described the other day in our columns by Mr. CHAMPNEY, of Crawley; and by Messrs. HOWARD, who exhibited their cultivator and their new plough. The field was a very light sandy soil—the neatest work was done by HOWARD's plough—the roughest by FOWLER's cultivator. COLEMAN's grubber did very excellent cultivation, and all three showed that steam-power is now applied with perfect success to tillage work.

Returning to the Show-yard, where Mr. SWORDER's Short-horn bull, bred by Mr. COLVIN,

received the champion prize of 15*l*., and where Lord Braybrooke, Mr. Dexter, Mr. Claydon, and others, received 3*l*. and 5*l*. prizes for sheep—one is tempted to contrast the influence of swards of this kind with that of the vastly greater prize of commercial success.

See how the latter confers reward: on the previous day the last of Mr. Jonas Webb's herd of Short-horn cattle was disposed of. Sixty-three head of all ages realised 54*l*. 17*s*. each—as nearly as possible the average of the former sale. In all, the herd of cattle, 145 head, has realised 8027*l*. 5*s*., or 55*l*. 7*s*. 2*d*. each. Add to this the flock of 1404 sheep sold in the previous years for 16,646*l*. 14*s*. 6*d*., or 11*l*. 17*s*. 3*d*. each—and we have a total of nearly 25,000*l*. worth of stock on a farm of about 800 acres!

The great feature of the day was the sale of a young bull, the Lord Chancellor, descended from *The Beauty*. He was bought by Mr. Sharp, of East Grinstead, Sussex, for 420*l*. The following are the prices realised by the herd, dividing it into the families of which it was composed:—

First Sale, April 15.

| Descended from | No. | Average Price. | Total. |
|---|---|---|---|
| | | £ s. d. | £ s. d. |
| *Celia* .. .. .. | 39 | 51 15 6 | 2019 3 0 |
| *Dodona* .. .. .. | 15 | 50 5 2 | 753 18 0 |
| *Sylph* .. .. .. | 11 | 55 7 3 | 609 0 0 |
| *Beauty* .. .. .. | 7 | 102 18 0 | 720 6 0 |
| *Bodice* .. .. .. | 7 | 44 5 0 | 309 15 0 |
| *Gwynne* .. .. .. | 3 | 53 4 0 | 159 12 0 |
| Total .. .. .. | 82 | 55 15 0 | 4571 14 0 |

Second Sale, June 24.

| Descended from | No. | Average Price. | Total. |
|---|---|---|---|
| | | £ s. d. | £ s. d. |
| *Celia* .. .. .. | 32 | 44 11 2 | 1425 18 0 |
| *Dodona* .. .. .. | 16 | 43 4 1 | 699 6 0 |
| *Sylph* .. .. .. | 7 | 44 8 0 | 310 16 0 |
| *Beauty* .. .. .. | 3 | 198 9 0 | 595 7 0 |
| *Gwynne* .. .. .. | 1 | .... | 98 14 0 |
| *Erminstade* .. .. | 3 | 52 10 0 | 157 10 0 |
| First Fruits .. .. | 1 | .... | 168 0 0 |
| | 63 | 54 17 0 | 3455 11 0 |

First Fruits, the gold-medal bull of Battersea, has become the property of Mr. Odams, of Bishop Stortford.

We presume that even those who at the time curtly denied our statements made six months ago about the Royal Agricultural College at Cirencester, will admit their accuracy now. Notwithstanding the immediate and authoritative denial which those statements then received, the "Establishment" at the College *was*, as we declared it to be, then on "the eve of breaking up." One of its members had been dismissed, and the others had either resigned or were on the point of doing so; and accordingly, last week, the whole staff of former Professors left. The public, who have yet to learn the causes which have led to this "disorganisation," entirely agree with our correspondent, a Shareholder, who protests against the silence with which all these changes are taking place. They are "not unmindful of the great and valuable services rendered by these old Professors;" and it is not fit or proper that men whose services for 15 years both to agriculture generally and through the College to agricultural education, have been of the very greatest value, should be suffered quietly to disappear.

Dr. Voelcker, the highest name we have in agricultural chemistry, who has won it by distinguished services for many years, ought not to be permitted to retire without some official or public acknowledgment of what we owe to him. Professor Buckman, who has we believe been longer at the College than any other officer—who could tell his class on taking leave the other day that he had given more than 2000 lectures besides field instructions during his 16 or 17 years of labour there—and to whom we owe industrious and fruitful labours upon the many points of contact between agriculture and botany, certainly ought not to be allowed to leave the office he has so long held without some acknowledgment of his long and honourable career; and Professors Brown and Coleman, too, ought to learn both from the Council and from the agricultural public generally that their services have been appreciated.

It is a thousand pities that the new energy which during the past few years has been at work should not have conciliated, directed, and inspired the useful agencies with which, on the contrary, it has unfortunately proved incompatible; and that in place of unworthy charges of "cabal" on one side, and recklessness upon the other, we have not had to report a continuance of that cordiality amongst a united staff which existed in former days; knit and strengthened, it may be, by a share in the greater earnestness and energy with which every department, whether of discipline or instruction, was being worked. Unfortunately the upshot of the differences which have proved irreconcileable is the departure of the Professors on the one side from the Principal and Council on the other. We can hardly suppose that this will be consummated in silence; either the latter will spontaneously offer, or the former will strenuously claim the public explanation which is required.

Meanwhile, let us repeat our former words, "giving expression to what we are persuaded is in the mind of professors, students, and the public. A great Institution like the Royal Agricultural College cannot be destroyed; however, therefore, its power for good may for a while be weakened by temporary intestine differences and commotion, the mischief is not aggravated by a frank confession of its existence." And if injustice has been done, we hope in the interest of the College, no less than in that of the officers who are leaving it, that it will yet be publicly and impartially examined and corrected.

We are anxious, nevertheless, that the two subjects should be separately entertained and treated. The fortunes of the College and the treatment of its officers are necessarily very closely united, and our references to the latter of these topics have been dictated not more by a sense of what is due to them than of what is due to the Institution they have served. They have, however, left it; and those who all these years, at great personal risk and labour, through good report and evil report, have been its maintenance and shelter, must not be left unhelped. Whether or not the conclusion be that the parting with an old and well trained staff is an error and injustice, we cannot doubt the good faith and loyalty to public interest of those who have mistakenly or otherwise permitted it. And even beyond this—an Institution more thoroughly equipped than any other in this country for the communication of a sound agricultural education, may well claim at the hands of agriculturists all the support which disinterested testimony and labour can give it. Accordingly we are glad to know that this, during the coming session, it will receive. And besides the accustomed staff of professors of science, a number of well known men, some of them in all probability anxious to prove by deeds as well as words that their criticisms have been dictated only by a sense of public interest, will lend gratuitous help to the professional agricultural lecturers who have been engaged.

We cannot doubt the policy which has accepted services of this kind. Lectures after all are rather condiment and stimulant than food. Students must gather *food* by their own independent labours. In these they are directed, and to these they should be stimulated by the teacher—and the latter portion of the office of the teacher is as important as the former. His influence of this kind is, however, reduced to a minimum when year after year the same voice repeats nearly the same set of lessons to the class. And nothing will more tend to quicken the interest of the audience than being informed, as each particular subject comes before them for discussion, that one and another well known man from the outside world of actual and successful practice, who has made that subject his own, will address them on those methods and results of field experience which he has personally realised. We are glad, therefore, to find that besides courses of lectures by Mr. Scott Burn on farm implements, and by Mr. Baldwin of Glasnevin on crop cultivation, which form part of the autumnal series—these are to be supplemented by gratuitous lectures from Mr. Bailey Denton, M. Inst. C.E., on land drainage, Mr. J. C. Morton on tillage, Mr. R. Russell on manures, Mr. Hewitt Davis on the proper seeding of corn crops; and that among the preliminary lectures on the history of our breeds of live stock, Captain Tanner Davy, the Editor of the Devon Herd Book, Mr. Duckham, the Editor of the Hereford Herd Book, and others, will lend gratuitous help. It is certain that the various thought and even the conflicting opinion which may thus be uttered in the hearing of agricultural students, will be a truer picture of the various agricultural experience they will hereafter, each for himself, realise, than could be obtained from any single tale, however complete and logically consistent it might be. A certain degree of security from extreme divergence of sentiment, and a certain preservation of the essential consistency of the instructions given, will nevertheless be secured by placing in one hand the work of examinations, by which a review of the work done is periodically ensured.

Practical agriculture, which properly heads the list of subjects taught, will be well illustrated, as indeed it has hitherto been, upon the College farms; Mr. Coleman's place being occupied by Mr. J. L. Fletcher, whose past career as an agriculturist insures the prompt and intelligent discharge of the duties attaching to his office. We cordially hope that, notwithstanding the check which recent troublous times at Cirencester have interposed, the College as a thoroughly complete establishment for agricultural education may go on and prosper. The friendly, public-spirited, and gratuitous co-operation of professional men in the work of agricultural instruction is not only an aid and furtherance—it is a capital testimony to the value of the Institution, and as such it ought to restore the confidence in the Institution which recent events may have diminished.

## STRAW AS FOOD FOR SHEEP.

[The following is a fuller report than we could give the other week of that portion of Professor Coleman's excellent lecture before the Agricultural Society relating to straw as food for sheep.]

The point, then, that I would suggest for your consideration, is a more economical system of feeding sheep, especially breeding sheep, so as to increase the return, and at the same time leave the land in better condition for corn. This would, I believe, be effected by reducing the quantity of roots, and using more dry food in the form of straw, combining with this a small quantity of artificial food, which will act as a stimulus to digestion. By adopting a system of this sort we shall have the land in a much richer condition for corn, because the sheep will take a much longer time to consume a certain weight of roots, and the animals will be in a healthier condition than when eating as many Turnips as they can consume with little or no dry food. It is calculated by Morton and others that a breeding ewe will consume one-fourth of its live weight of Turnips; this gives a quantity of from 20 to 30 lb. a-day. The per centage of water in common Turnips is over 90 per cent.; and hence it follows that a sheep eating 20 lb. of roots daily takes into its system 18 lb. and upwards of water. This food is often, during winter, very little above the freezing point, and it follows that much heat will be absorbed, and consequently much food wasted, in raising this volume of water to the temperature of the animal's body. Water within, and often water without, the temperature of the body must be greatly reduced; and we are not surprised that, with such an unscientific mode of feeding, the animal cannot maintain its condition, and is unable to minister to the wants of the fœtus. The latter is often chilled, and dead lambs are the result, especially with young ewes in a wet season. Now, if we can reduce the quantity of the roots one-half, and substitute an equivalent in the form of straw and condimental food, at the same time attending to the external comfort of the animal, we shall achieve a great success. The land will be doubly manured, straw will be made more of than when trodden solely into manure, and a greatly increased number of sheep can be kept upon a given weight of roots.

It is only of late years that the feeding value of straw has been ascertained or believed in; and even now there are many who profess to consider it only fit to be trodden into manure. That straw varies much according to the nature and condition of the soil, and more according to the mode of harvesting, no one will dispute; but there is abundance of evidence to show that when cut green and carefully managed, many kinds of straw are very nutritious. The tables that I have prepared sufficiently illustrate this; and from personal experience I am convinced that good straw may be economically substituted for hay in the winter feeding of breeding sheep, even without any artificial food, though the cost of the latter, as I trust to be able to show, is so slight that it can be economically employed.

The following calculations will show the effect of carrying out this system on the land and the animal:—An acre of Turnips, equal to 15 tons; amount of nitrogen left as manure, 74 lb.; of mineral matter, 300 lb.

The analysis of the mineral matter gives per acre:—

| | | |
|---|---|---|
| 110.94 | Potash .. .. .. .. | 36.98 |
| 20.28 | Soda .. .. .. .. | 6.76 |
| 1.77 | Chloride potassa .. .. | .59 |
| 23.55 | Common salt .. .. .. | 7.85 |
| 10.83 | Magnesia .. .. .. | 3.61 |
| 33.42 | Lime .. .. .. .. | 11.14 |
| 29.22 | Phosphoric acid .. .. | 9.74 |
| 37.29 | Sulphuric acid.. .. .. | 12.43 |
| 10.29 | Silica .. .. .. .. | 3.43 |
| 3.27 | Iron .. .. .. .. | 1.09 |
| 19.14 | Carbonic acid .. .. .. | 6.38 |
| lb. 300.00 | | 100.00 |

Such would be the manuring value of an acre of Turnips consumed by sheep eating 20 lb. of roots daily and no dry food. If we give each ewe 10 lb., and substitute 1½ lb. of straw, it follows that with every

acre of Turnips 2 tons 4 cwt. of straw will be eaten. Straw on an average yields ½ per cent. of nitrogen. The same quantity of straw will yield 221 lb. of mineral matter as manure. Of this about 48 per cent. is silica, but the remainder contains very valuable minerals which are most necessary as plant food. The addition to the soil of this large amount of silica, in round numbers about 107 lb., in a condition available for plant food, would act beneficially on the following Barley crop, which requires more silica in grain straw than any of the other cereals:—

| Analysis of Ash of Oat Straw. | | Quantity returned per Acre as Manure. |
|---|---|---|
| Potash | 19.14 | 42.29 |
| Soda | 9.69 | 21.41 |
| Magnesia | 3.78 | 8.35 |
| Lime | 8.07 | 17.83 |
| Phosphoric acid | 2.56 | 5.65 |
| Sulphuric acid | 3.26 | 7.20 |
| Silica | 48.42 | 107.00 |
| Peroxide of iron | 1.83 | 4.04 |
| Common salt | 3.25 | 7.18 |
| | 100.00 | 220.95 lb. |

We may fairly calculate that giving ewes 1½ lb. of straw per day will increase the value of the manure more than one-half. Many of the root crops grown for breeding sheep do not reach to 15 tons per acre; and, according to the common plan of feeding off, the sheep run over the ground so rapidly that a good dressing of manure cannot be left behind; and hence we comparatively fail in one of the most important objects for which we keep sheep; but by diminishing the quantity of roots one-half, and substituting dry food to the extent I have named, we keep the stock twice the time on the same land and greatly increase the dressing.

Let us next consider how far the Straw compensates the animal for the loss of half the Turnips:—

15 ton of Turnips will yield in round numbers 30.24lb. of dry matter.
2 ton 4 cwt. of straw „ „ 42.33lb. of do.

The proportion of the latter that would be digested is a point on which unfortunately we have no very precise data; a series of carefully conducted experiments would be very valuable. Much depends on the condition of the straw. You will observe by reference to the analysis of the Oat-straw that the proportion of soluble and insoluble woody fibre differs immensely, according to the condition of ripeness. The chemist concludes that what he calls digestible woody fibre (as being soluble in dilute acids and alkalies, similar re-agents, as far as he can judge, to the gastric juice and biliary secretions) would be converted by the digestive process into food, and that all that resists such tests will pass through the system, being insoluble. It is highly probable that this is so; and that the digestive system of the animal is even more powerful than the re-agents he can command. From my own experience as to the effects of using good straw, I should consider that from one half to two-thirds of the dry matter would be available as food.

Supposing, however, for the sake of argument, that only one-half the dry matter of the straw is available, whilst the whole of the dry matter in the Turnips can be made use of—which is never absolutely correct, there being in full-grown Turnips about 3 per cent. of woody fibre, and in certain conditions of growth, when the plant is over-ripe, and especially towards spring when the flower stem is shortening, there is a very considerable proportion of insoluble matter—we have the straw yielding 21.16 lb. of available food against 30·24 lb. in the Turnip; and it follows that sheep eating Turnips and straw, and thereby economising the consumption of the root crop one-half, consume per acre 51·40 lb. of dry matter against 60·48 lb. when feeding solely on Turnips. Surely this difference will be partly compensated for in the healthier condition of the sheep eating so large a proportion of dry food; less fuel will be required to maintain the heat of the body, because less water will have to be heated. Scouring, which in bad weather is common to ewes eating only Turnips, is rarely seen when straw is consumed.

I have experienced the most satisfactory results from using straw for breeding sheep on the Cotswold hills, and I am satisfied that with such feeding the sheep may be kept up to, or near, lambing time in a healthy thriving state.

The addition of a very small quantity of artificial food would doubtless prove a good investment both as regards the land and the animal, enriching the manure to some extent, but acting principally as a stimulus to the digestive powers of the animal. The cost per head would be very small. Thus, 100 sheep eating off 15 tons of Turnips as proposed would take 33 days, and if supplied with a quarter of a pound a day of artificial food would eat 825 lb. The food would cost probably about 8*l.* a ton, and might be composed of equal parts of Rape-cake or Nutmeal, Beans, Peas, or Lentils, and Indian Corn. To this we may add 9 lb. of Fenugreek and 6 lb. of Aniseed. Nutmeal is a comparatively new feeding article, and is valuable chiefly on account of the large per centage of oil it contains, varying from 16 to 25 per cent. It is the meal produced in the Palm nut kernel oil manufactory, and is principally sold by A Smith & Co., Liverpool; present price 6*l.* a ton. Beans, Peas, or Lentils, all closely analogous in composition, contain 24 to 26 nitrogenous compounds, and hence are very suitable for growing stock; and, lastly, Indian Corn contains much feeding matter, and a meal composed of these ingredients is both cheap and nourishing. The addition of the comparatively small proportion of Fenugreek and Aniseed gives a flavour to the whole, and acts as a tonic to the digestive system. The cost per acre of the artificial food is 2*l.* 19*s.*, a considerable portion of which is left as manure. The total quantity consumed by 100 sheep during six months amounts to 2 tons 2 quarters 14 lb., or 3*s.* 3*d.* per head. Of this one-third will be returned in increased wool, especially in longwoolled sheep, one third left as manure, and one-third will be paid for in the improved condition of ewe lambs. Two years since, wishing to economise the roots, our young ewes were supplied with ¼ lb. a day of nutmeal with chaff, and a very small quantity of roots, and throve wonderfully.

Having endeavoured to show that straw may be economically used with roots for sheep, the next point will be to ascertain how it can be best supplied. The present system of using straw is either long in racks, or as chaff. The latter plan does not answer, as bad and good are so mixed that the animal refuses all, and the expense of cutting is not paid for. The former plan is by far the best, when the straw can be threshed and stacked in the same field where the roots are being consumed. Nothing can answer better, unless it can be shown that a system of pulping roots and cutting chaff can be economically carried out. I have the experience of a very good flockmaster in support of this plan: 300 ewe tegs first eating hay, 600 ewes follow eating up the buds, and lying back at night on a foldyard of straw kept well littered by the refuse removed from the racks. It is surprising what a large quantity of straw may thus be consumed, and with what a very small quantity of Turnips the ewes will thrive, and what a rare manure heap results, this manure coming in for the young seeds the following autumn, with the minimum amount of labour. A system of this sort is well suited to large breeding farms, where buildings often are remote from the land, at a much lower elevation, and when consuming straw at the yards would greatly increase the labour. I may mention that the order of using straw should be as follows:—Good sweet Barley straw first; this may be commenced when ewes are eating Mangel tops, &c.; this will do till November. Then Oat or Bean straw, the latter most valuable in cold weather; and lastly, Pea straw, which, when well made, is equal to much of the seed hay made on light land. This may be given with a portion of hay when ewes are lambing. Our practice is to build a good stack of freshly-threshed Pea straw in the ewe pen, often forming a wall of division, and fodder once a day with this and once with hay. Sheep thus fed will be most conveniently managed with nets instead of hurdles, as less work is required in setting a fold, and the Turnips should be first picked up at a cost of 1*s.* 6*d.* per acre. Where ewes are allowed a full quantity of Turnips, and the crop is a fair average one, say 13 to 14 tons per acre, the common rule is to allow one hurdle to each sheep; thus 100 sheep require daily 10 hurdles square; this applies to large framed sheep.

We have now to consider whether any system can be economically arranged for pulping the roots and mixing with straw chaff. We all know what a great improvement has taken place in the feeding of horned stock by the use of the pulper; how animals that formerly consumed from 1½ to 2 cwt. of roots daily when sliced are now better fed on 70 to 80lb. with 15 to 20lb. of straw. Short-horn cows drawn off previously to calving, being in an identical condition with the breeding ewe, can be kept in a good store state upon 25 to 30lb. of roots and straw. The digestive apparatus of the sheep is very similar, and yet, though only about one-tenth the weight of the cow, we find ewes eating 20 to 30lb. of Turnips almost without dry food. Surely we have here evidence of the extravagant system. The difficulty lies in carrying out the plan economically. Many will say that the labour is too great, and that breeding sheep so treated will not pay for attendance. In reply, I would ask what proportion does the cost of consuming bear to the cost of growing? An acre of Swedes can seldom be produced under 5*l.* To clean and cut up the same according to our present system would not exceed 1*l.*; double the expense, and carry twice the sheep, and the cost, according to the result obtained, will be as 3*l.* 10*s.* to 6*l.* That breeding sheep will readily eat food so prepared I have proved by experience, and that they must thrive much better on such a mixture than on roots alone is also certain. I would sketch out for your consideration the following plan:—

The corn stacked in a convenient position, threshed, and the straw, &c., carefully stacked and thatched; roots cleaned, in large heaps, and at such distances apart as would allow of sheep lying two days on the same ground; using a combined pulper and chaff-cutter on wheels and worked by one-horse gear; a light roomy house on wheels with canvas sides to store mixture for use on second day; four days a week one horse and a lad employed extra; a load of straw first carted from stack to heap of roots, then the two cut up; produce of morning's work used for day's food; that cut later in the day stored away in house for the following day. Messrs. Samuelson & Co., of Banbury, inform me that they make machines of this sort, which, worked by two men, will turn out 100 bushels of the mixture per hour. I merely advance this idea in the hope that it may lead to some opinions from those who are so competent to judge. I think it would do best on dry heathy land; but where, as is often the case, a considerable per centage of clay exists, the land is at times so sticky and wet that a good lodging at night is of the utmost importance, and the sheep thrive when lying back on a well littered fold and supplied with straw in racks. Whatever system may be found most paying, whether pulping or gnawing, the health of the animals will be maintained, and food be economised, by providing them with dry lodgings.

## HAYMAKING.

(*Concluded from page 588.*)

*Recent Improvements.*—We have shown that haymaking, like other branches of agriculture, has been susceptible of great improvement, but some districts are yet entirely dependent upon manual labour. The hay machine and rake have been partially used, but not as a general practice; however, the cost of production is a matter of consideration, and machinery is being introduced to stay the expense, and to simplify the uncertainties of harvesting. Hay, to be really good, should be well and quickly saved. Systematic machinery over the varied operations will bring the practice of haymaking nearer to perfection, by placing the different stages under more rapid process when the weather is inviting, or closing up the hay more rapidly when the weather is doubtful. Haymaking by manual labour alone is a tedious pursuit, over which the farmer has but little control, for hand-labour can do so much and no more; but with machinery the work may be pushed to the fullest extent, and, when hindered, no daily charge is made or hands thrown out of work.

The recent introduction of the "Grass mower" has placed haymaking upon a better footing, and it may now be entered upon more cheerfully, each implement taking its allotted place. The mower, the haymaker, American rake, and hay rake have each been spoken of as field implements. The long harvest-cart conducts the hay, the hay-stage receives it when the rick is mid-way up, and, if an awning is used, the hay will be so far secure, but still more so if the rick be made in a hay-safe, the whole process being then complete. With a view to supersede the hay-stage, we have a novel invention of Mr. Moody's for elevating waggons or carts to the tops of ricks, in order to diminish the labour involved in pitching hay or corn from the ground by the ordinary method. Mechanical appliances are usually good when accompanied with reasonable outlays; but a man who would invest 42*l.* in one of these machines would seem to be a bold and speculative agriculturist.

### COMPARATIVE COST OF HORSE POWER AND MANUAL LABOUR.

*Manual Labour.*—The process of hay-making by hand labour has been shown to extend over about four days. The Grass is mown by the piece, and the price paid for average crops, without beer, about 3*s.* 6*d.* per acre near towns, and 3*s.* in the country. Each man mows from 1½ to 1¾ acre per day—in favourable seasons as much as 2 acres will be mown—and this for a succession of days. A proportionate number of haymakers is provided, five men, women, and boys, including loaders, pitchers, stackers, and others, are found equal to each mower, so that to keep pace with six mowers 30 hands are usually provided. The men and boys attend from six to six, the women from eight to six. For an extra hour or two in the evening, when the business requires despatch, they are paid for over-time. Their proportions are about 20 women to seven men and three boys. In windy weather more help is frequently required, the mowers are taken half a day to assist the former, so as to keep the balance of power about equal. The practice of cheap haymaking, by allowing the Grass to lay in swathe until half dried through, then once turned to bleach the other side, has disappeared. In this manner hay was put into the stack at a small expense, and of a moderately good colour, but it usually came out matted, and only fit for the common uses of the farm. Such is the difference in haymaking, that a man of energy and skill, such as some of the hay farmers round London, will engage from 200 to 300 hands, and thus make hay while the sun shines; while one of an opposite habit suffers his hay to be caught in the rain, and even in dry hot weather to be dried up by the sun. The familiar routine of haymaking by manual labour has already been treated upon.

*Cost per acre.*—The average rate of 10 acres per day

| | £ | s. | d. |
|---|---|---|---|
| Six mowers, cutting 10 acres, at 3*s.* 6*d.* | 1 | 16 | 9 |
| Seven men, 3 in the field and 4 at the rick, including beer, at 3*s.* | 1 | 1 | 0 |
| Twenty women, do., at 1*s.* 3*d.* | 1 | 5 | 0 |
| Three boys, do., at 1*s.* 6*d* | 0 | 4 | 6 |
| Extra man at the rick, say half his time and occasional help at difficult periods, at say 6*d.* per acre | 0 | 5 | 0 |
| | £4 | 12 | 3 |

Average cost 9*s.* 3*d.* per acre. This is exclusive of horse-labour, wear and tear of carts, &c.

*Horse Power.*—The price of the different implements for hay-making by horse power will stand thus:—

| | £ | s. | d. |
|---|---|---|---|
| Grass mower in London | 25 | 0 | 0 |
| Hay-maker, extra strong | 16 | 0 | 0 |
| Ditto of smaller size | 10 | 10 | 0 |
| American rake, full size | 2 | 2 | 0 |
| English hay rake | 8 | 8 | 0 |
| | £62 | 0 | 0 |

In round numbers 60*l.*

The above prices represent the best implements of their class, but they may be had on a smaller scale, and at a consequent reduction of price, to suit the requirements of different farms.

*The Grass Mower.*—To form an accurate opinion of its power it should be seen at work. It is so adjusted that neither wheels nor horses run on the cut Grass. The beam being on a hinge, accommodates itself to any inequalities of the surface. Both wheels assist in driving the knife, which is important, as it supplies increased power, and may be depended on to cut crops of any bulk and weight. This machine, in average situations, will cut one acre per hour, or say 10 acres per day. In active seasons, or upon large occupations, the hours of working may be increased to represent 15 acres per day. For a day of 10 hours one man and a pair of horses are required.

*The Haymaker or Tedding Machine.*—This is more familiarly known. A strong lad with an active horse will go over 20 acres per day. If two machines are used, and properly adjusted to their several stages of labour, set to work at throwing out the Grass early in the morning, and a relay of horses supplied during the day, they perform a prodigious quantity of work, and of the best possible quality; in fact, the Grass will "hay" in nearly half the time occupied by manual labour. These implements are now so perfect that no hay farmer should be without them, as there will be two days' cutting always on hand.

*The American Rake.*—This ingenious implement is worked by a boy and one horse, gathering the hay into rows from its lightened state, after being tedded and turned by the haymaker. This rake is not generally required until the actual moment of carrying: there is also much for it to do towards evening, so that a second rake will be found useful. A rake, if properly worked, will gather two acres per hour.

*The English Hay Rake.*—Its duties are uncertain, as no raking can well be done until the American rake has been set to work, and obtained a suitable start; as the rake, with a strong lad and active horse, is equal to 2 acres per hour, and only required to be used once over, it is found equal to the part allotted it. The speed and use of the above implements are so nicely balanced, and their powers of working under such perfect control, that systematic arrangements may be entered upon for their future employment. It is not possible for men to cut so low and level as the mower, to get over the work at any pace; nor can hand-power with the utmost pains spread and separate the hay so well as a machine. The horse-rake clears the land, that it would be a work of time to equal by manual labour.

*Men and Horses employed.*—With grass mower, 1 man and 2 horses; with two haymakers, 2 strong lads and 3 horses (these are periodically changed); with two rakes, 2 strong lads and 2 horses (equal to three rakes) for the shorter periods.

| Cost. | £ s. d. |
|---|---|
| One man and 4 strong lads, including beer at 2s. 3d. .. | 0 11 3 |
| Seven horses at 2s. 6d. each .. .. .. .. | 0 17 6 |
| Share of interest, wear and tear, &c., at 10 per cent. on 60l. outlay spread over 100 acres, at 1s. 9d. per acre for 10 acres .. .. .. .. .. | 0 17 6 |
| Seven men carting, stacking, &c., as above, at 3s. .. | 1 1 0 |
| One boy driving at 1s. 6d. .. .. .. .. .. | 0 1 6 |
| Extra occasional help, as per other statement, at 6d. per acre .. .. .. .. .. .. .. | 0 5 0 |
| Average cost 7s. 4d. per acre .. .. | £3 13 9 |

This is exclusive of horse labour, for carting, wear and tear of carts, &c.

The two irregularities of morning and evening work remain as in the case of manual labour. These may be met by the surplus time at early morning being employed at the rick, or some work in the hay-field, that cannot be performed by machinery; and the usual push for help in an evening, when the Grass-cocks have to be attended to, may be met by a few helpers, or by lightening the other operations.

These calculations are based upon a bold and comprehensive system of haymaking, in the best districts, where the supply and demand of manual labour is materially acted upon by an season. The balance in favour of the "recent improvements in haymaking," viz., horse-power and machinery, is shown to be 2s. per acre. The saving of money is considerable; but the increased quantity of work done, the improved quality of the hay, and the saving of time employed, are subjects of far more importance to the hay-farmer, who has his 100 acres of hay to save, in a changeable climate, in a given space of time.

*Effects of Tillage and Exposure to the Sun.*—Dr. Stockhardt has lately made some interesting experiments to ascertain the time necessary for making insoluble ingredients of the soil soluble. He took a sample of rich soil which contained per acre 870 lbs. of alkalies, 90 lbs. of phosphoric acid, 360 lbs. of silica—altogether 2550 lbs. of mineral substances in a soluble state. All these soluble substances were completely washed out by water, and the sample of soil then exposed to the alternate action of air and water. After five months, 405 lbs. of alkalies, 45 lbs. of phosphoric acid, 300 lbs. of silica—altogether 2640 lbs. of mineral substances (per acre, and 12 inches deep) had again become soluble.

## Home Correspondence.

*Steam Ploughing.*—Mr. Leyland Wood, Mr. Coleman, No. 17 in the Messrs. Howards' Table, and Mr. J. Elliot, using Stevenson's plough, No. 23 in Mr. Fowler's Table in Mr. Morton's paper, are my customers. Mr. Morton's dynamometer experiments, published last week, are of considerable importance, and I may hereafter have occasion to refer to them. *William Smith, Woolston, Bletchley Station, Bucks.* [We have received another letter from Mr. Smith; also from Mr. Long, of Henlow, a customer of Mr. Smith's, on this subject. We shall refer to them next week.]

*Drainage Legislation for Ireland.*—On the 8th of the present month an Act of Parliament was passed called "the Land Drainage Act (Ireland) 1863"! On examining it, it proves to be nearly a verbatim copy of a portion of "the Land Drainage Act 1861," *i.e.* Part III.; better known among those interested in Agricultural Drainage in England, as an abortive attempt to enable private owners to procure outfalls through a neighbour's land, and intended to remedy one of the most glaring inconsistencies of the present century, in which every encouragement has been given to underdrainage without providing for the first desideratum—a proper discharge of the water of drainage. The Irish Act just passed being no better nor worse than its English counterpart, it may be asked why an Englishman should put himself forward to point out to Irish members and Irish landowners its worthlessness. But the fact is, the passing of this Act will operate (for a time at least), as a wrong upon us in this country, inasmuch as the adoption of a portion of an English Act as a pattern implies that it is in itself perfect, whereas it is notorious that this said Part III. is and must remain a dead letter as long as common sense rules it to be inexpedient to spend 2l. to gain 1l. I should not presume to speak thus emphatically were I not in a position to know precisely our present deficiencies. We have now had nearly two years' experience of the Act of 1861, and nothing has been done under Part III., although there is hardly an extensive property in England the drainage of which is not partially dependent on the will of the neighbouring proprietor. Hundreds of thousands of pounds are spent annually in under-drainage, the efficiency of which is thus in jeopardy, but so inappropriate is the measure by which relief was to be given, that we still proceed as before. Am I not right, therefore, in fearing that the curious piece of legislation to which I have ventured to call attention will have its influence in deferring a practical remedy? *J. Bailey Denton, 52, Parliament Street, S. W.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

Wednesday, *June* 24.—The Earl of Powis in the Chair. At the Weekly Meeting of the Council and Members held this day, Professor Voelcker delivered a Lecture "On the Comparative Effects of Different Manures on Grass Lands."

The learned Professor said:—

There were few people who would deny that Grass land was as capable of improvement as arable; that some pastures were more difficult of improvement than others; and that, taking a wide view of English pastures, there was much Grass land in a very bad condition but susceptible of extensive improvement. The question then arose—how was Grass land to be improved? Now pasture was bad on account of three reasons: first, the soil might be good enough, but in too small a quantity; secondly, its physical texture might be bad—there might be plenty of materials, but the Grass might rest upon a stiff impervious clay soil of many feet deep, a subsoil not readily drained, on which the herbage would never be very abundant and often come imperfectly to maturity; and thirdly, there might be something that was necessary for the existence of the plant, its luxuriant growth and full development, wanting in the soil. If pasture was bad or indifferent on account of any mechanical or physical deficiency, it was in vain to apply manuring constituents, which, however useful on porous and well-drained, though naturally poor soils, had comparatively little or no effect on undrained wet cold clays. Whether the poverty of the land was attributable to physical or mechanical causes, this must be taken into consideration before means could be properly devised of improving Grass land. Manuring was, perhaps, the most important means of improving pastures that had been drained and otherwise deprived of superabundant moisture; but they could not hope to make the best of either artificial or natural manures if they disregarded the special effects which certain manuring constituents were capable of producing on Grass lands. And he did not know any series of experiments more calculated to bring forcibly before the observer's view the remarkable results which certain constituents produced on certain Grasses, and on the sum total of the herbage, than those most carefully conducted experiments of Messrs. Lawes and Gilbert at Rothamstead.

The most valuable manuring matters were the following: nitrogen in the shape of ammonia, nitrogen in the shape of nitrates or nitric acid, and organic matters capable of producing on decomposition either nitrate or ammonia; secondly, phosphates; and thirdly, the alkalis. These were the most important. Then they had also to consider the effects of lime and silica.

What then, in the first place, were the effects of ammonia on the land? Those effects varied according to the presence or absence of available minerals in the soil. If there was an abundance of mineral matters of the better descriptions in such combination with the soil that they could be reached by the roots of the plant, then ammoniacal manures were very valuable indeed, for they promoted a luxuriant development of herbage; but if the mineral constituents—the phosphates, the salts of lime, the alkalis, and the soluble silica—were deficient, they must not expect to produce any marked effect on the herbage, as regarded either quality or quantity, by the sole application of ammoniacal manures. Indeed, if ammoniacal manures alone were applied, the quality of the herbage would be deteriorated, and in a few seasons there would be no very large impression on the quantity. But when there was an abundance of mineral matter present, the application of salts of ammonia was attended with the most beneficial effects. The addition of ammonia even to farmyard dung had a striking effect. Farmyard manure contained comparatively little ammonia, but a large proportion of mineral matter, and of carbonaceous matter; and in order to dispose at once of the effect of carbonaceous substances—organic matters free from nitrogen, and containing chiefly carbon and hydrogen with some proportion of oxygen—he might state that in all Mr. Lawes's experiments he had found scarcely any effect on the quality or quantity of the produce. It was not so much the carbonaceous as the nitrogenous portion of the farmyard manure that tended to increase the produce; an extra quantity of ammonia increased the produce to a very remarkable extent, at the same time that it reduced the number of species of plants. It pushed forward certain Grasses to the exclusion of nearly all others.

Where large quantities of ammonia were applied the leguminous tribes disappeared, even though mineral matters might be present which were proper for the growth of such plants. For example, upon the whole acre plot at Rothamstead, which he had visited the previous day, he believed it would be difficult to get any Clover. It was also amusing to see how certain Grasses took the place of other Grasses, when an excess of ammoniacal salts had been applied to the land. Thus, when a large dose of ammoniacal matter was used in conjunction with minerals, the Cocksfoot and the Tufted-hair Grass, especially the former, would take the place of many others. So much, then, with respect to the results of nitrogenous, and particularly ammoniacal manures.

Nitrates had a somewhat different effect. Nitrate of soda did not affect so materially leguminous tribes of plants. It did not seem to injure Clover in the same manner as ammoniacal salts. These mineral matters—phosphatic and alkaline substances, might be fairly taken together; for those herbs which were promoted in their growth by phosphatic manures were also benefited by alkaline manures, and notably so by salts and potash. The action of mixed mineral manures, composed of phosphate of lime in a soluble condition and salts of potash, on the Clover tribe of plants was very remarkable in promoting a good quality of herbage, but they had not so great an effect upon the amount of the produce. Having thus alluded to the action of these different manuring constituents on the produce, and pointed out that mineral manures, more especially the alkalines, composed of potash, salts, and phosphatic materials produced a better herbage, and that ammoniacal manures in conjunction with minerals produced an abundance, greater uniformity, a more simple and a rather coarser description of herbage, he would next refer to some matters of detail with regard to the improvement of pastures.

He would suppose that the land had been well drained, was moderately porous, and had a fair depth of soil; but the produce was scanty, and the herbage not over good. The question then arose, how was this state of things to be remedied: how could they both improve the herbage and obtain a larger yield of hay. If they looked too much to the quality, perhaps the means of effecting the improvement might be considered by practical men as too expensive. On the other hand, if they looked entirely to quantity, perhaps the quality of the herbage would be so much deteriorated, that the improvement of the land with that sole object in view, might be remunerative to men who sold hay in the neighbourhood of large towns, but not to the occupier or the owner of the land. He thought however, that the two things might be combined,—judicious management with an increased produce and an improved quality of Grass. In the first place they should ascertain whether the pasture required liming or not. There was a great deal of Grass land which required liming, and as lime was a cheap mineral manure, before they went to any greater expense that point should be ascertained. Lime had done marvels on some descriptions of Grass lands; but on others it had little or no effect. The difference no doubt arose from the fact that some pastures already contained an abundance of lime, whilst others contained none at all. The geological character of the district was not always a good guide in deciding the question whether the land required liming or not; for he had met with many cases in which lime had accomplished a great deal of good, although the land was situated on the oolite formation, and abounded in limestone rock. The reason was that, in limestone regions they had often clay soils which were laid down in permanent pasture, and that these clays were deficient of lime, although deposited on limestone rocks. Hence, notwithstanding limestones came to the surface, such soils might be materially benefited by liming.

This fortunately was a question that might be readily settled. A little of the soil taken up in a cup or saucer and mixed with some spirits of salts would, if it effervesced, plainly indicate the presence of an abundance of lime, and in that case the land would of course require no liming. The absence of effervescence, however, was not always indicative of the soil being deficient in lime; for the lime might be present in a condition not easily attacked by common spirits of salts. In that case no effervescence would take place, and yet lime was present in the soil in sufficient quantity to meet all the requirements of the crop. By a simple analysis that point could be settled in a very short time.

If the land was of a light description another question arose—in what form should the lime be applied? He would recommend it to be used in the shape of marl, and especially clay marl; for then they applied not only lime, but added to the land a material which generally abounded in alkalies, potash and soda; and moreover acted as an absorbent of manuring matters from the atmosphere, and as a retainer of valuable fertilising matters which were applied to the land.

In the next place they should endeavour to encourage the growth of good herbage, and improve and increase the quantity of the produce. But this must be done by manuring—a liberal manuring on well drained land. Land that was porous, so that an excess of moisture or water in wet seasons could not remain on it for any length of time, and which by capillary attraction in dry weather could bring up the moisture from below, paid extremely well for a judicious outlay of manure. Grass land, no matter what its character, ought to receive an occasional application of farmyard manure. For this reason: that in farmyard manure alone they could supply the alkalis, more especially potash, in an economical manner. There was no difficulty in supplying the phosphates or soluble silica, should they be needed, economically in the shape of artificial manures; but they could not apply economically salts of potash with a view of increasing the produce.

If they looked at the composition of the ashes of their Grasses, taking the mixed Grasses and leguminous plants together, they would find those ashes to abound in potash. And if they constantly mowed down their Grass fields they removed a very large proportion of alkalies, the herbage became poor, and the produce failed, too, in course of time. Some of the most important mineral matters were removed; and the only way in which to restore the potash to the Grass fields was to incorporate it with them in the shape of farm-yard manure. Therefore some farm-yard manure ought always to be reserved for manuring Grass land. But in addition to farm-yard manure there were other fertilisers that might be used with good effect. Guano, judiciously used—that was to say used on land like many clay soils, which constituted perhaps most of our pastures, also had a very excellent effect, and increased the produce considerably. Better than guano, however, were bones, alone or a mixture of the two. Indeed he

should like for an average description of land the following mixture :—partially dissolved bones, by which he meant bone-dust dissolved in a sufficient quantity of sulphuric acid to render all the phosphates in it in a soluble condition, the sulphuric acid being in the proportion of one-third of the weight of the bone-dust, 4 cwt. ; Peruvian guano 2 cwt., and salt 1 cwt. This would constitute a manure for pasture which would greatly increase the produce without deteriorating the quality of the Grass to such an extent as to become doubtful whether they should not be more sparing of the application of ammoniacal manures. In this mixture of partially dissolved bones and guano, they had the mineral constituents required by their Grasses and their leguminous crops, with a fair amount of ammoniacal matter to give a good yield. He recommended the addition of salt for the purpose of keeping the land in a moist condition. Where the land of a lightish character, he believed the addition of a moderate quantity of salt might be very usefully made ; an excess of salt, however, ought to be carefully avoided. There were some pastures that were materially improved by the application of bone dust, whilst there were others that were not. The porous land of Cheshire, and similar soils on the red sandstone formation, were amongst the former, the herbage being completely changed by the application of bones ; not only did the bones bring out the white and red Clover, but the quantity of the herbage was also increased.

Whilst, however, this was quite true, he had been on pastures in the West of England, wet and cold soils resting upon an undrained subsoil, upon which bones had no visible effect whatever. Before spending much money, therefore, in the purchase of bone dust or bone manures, he would recommend a trial upon a small scale of what bones would do on the land in the first place. In those parts of the country where bones were used with advantage, care ought to be taken by the purchasers of bone-dust to get a good article ; for bone-dust, especially the smaller sort, was frequently mixed with a cheaper material. This was especially the case with the fine bone-dust which was sold as bone filings, the refuse of button manufacturers and bone turners. Of late years bone-dust had become very much deteriorated in quality by the admixture of vegetable ivory, which was now used largely in the turning of buttons, and combined so intimately, that it was difficult to distinguish the bone filings from the vegetable ivory dust. Boiled bones, the refuse of glue makers, when they could be obtained in a dry condition, were extremely valuable on Grass land in dairy districts like those of Cheshire.

In the next place, he would consider briefly the case of land which was cold and wet, and upon which farm-yard and artificial manures made no very great impression.

The question was—what ought to be done with such land? He thought it could not be doubted that they were pastures which it was extremely difficult to improve. Dairy Grass land farmers were sometimes a little wrongly blamed for not improving their pastures ; but many of them would tell you that they had tried very largely farm yard and various artificial manures, but they could not succeed in getting a remunerative produce for the outlay of their money. He believed there was Grass land of that description, land which could not be very readily improved, which rested on a wet undrained subsoil, and upon which the manure passed away without producing much effect. And the question was—what should be done with these poor wet clays? In the first place, he imagined they ought to ascertain whether the land could be materially improved by means of drainage. That was an engineering and altogether practical question ; but before the land was improved by draining and made in a drier condition they could not hope to increase the surface soil, and the application of either farmyard or artificial manures wuold lead to waste, and profit would in that case be very questionable. But he would suppose the worst case. He would suppose that experience had pointed out that the land was not grateful for drainage, and that therefore they must not hope, by using a large quantity of manure, to improve the Grass land. Ought they, then, to break up such land, or ought they to try by some means or other to improve the quality of the herbage? The question as to the merits of breaking up such Grass land or not was one far too wide to be discussed there. He would not, therefore, touch upon it. There might be good reasons for one or the other practice. But he would suppose the worst of all cases—that they had to deal with Grass land which could not be broken up, on which the manure had little or no effect, and which could not be drained with advantage. What, then, were they to do with such land? If he might be allowed to give an opinion founded upon his own experience, he would say—endeavour as much as possible to increase the surface by bulky manures. He would scrape together whatever he could find upon the farm in the shape of what was commonly considered as valueless materials. He would collect the sweepings of the yard. He would scrape the roads well, and collect the scrapings. He would have a man constantly employed with a donkey cart to gather up the droppings of the grazing stock and mix them with the road and other scrapings, adding a little lime if the land were deficient in lime, and by mixing these together prepare a bulky manure in the shape of a compost. It was astonishing what a quantity of manure might be collected in this way ; and by applying such an earth compost just at the growing season of the year, when the Grass made a start, they would often improve materially the poorest pastures. Whilst speaking of making compost for Grass land, he would observe that the compost manure ought to be kept for at least six months, and turned over once or twice before it was put on the land. When this was done the air found free access through the organic refuse matters, and converted the nitrogenous portion of them into nitric acid, which therefore became fixed by the earthy matters. In the compost heap that had been kept for six or eight months they obtained a considerable proportion of nitre, and that had an excellent effect upon the herbage, and particularly upon the Cereal tribe of plants. By this means they might make the most of the worst description of pasture.

Very briefly recapitulating the main points which he had endeavoured to bring out in this lecture, he would remind them—first, that ammoniacal manures had a special effect in producing a luxuriant development of the graminceous tribe of plants ; that they had an effect on the quantity likewise, especially if the necessary amount of mineral matters was present. They had seen also that mixed mineral manures, composed of phosphatic and alkaline salts, increased the leguminous produce. Further, that the sole application of ammoniacal salts ought to be avoided, and that it was best to have a fair mixture of both mineral and ammoniacal matters. Then, too, there were soils which were very grateful for a liberal expenditure of money, and a great deal of the grass land of England was in this condition at the present time. The fact that there were here and there some soils which were not improved had led the indolent farmer to suppose that there were no pastures which could be materially improved ; and few had any idea of the extent to which they could be improved, and of the economical advantage which a judicious outlay in manuring matters was calculated to achieve. And in conclusion they had seen that upon the poorest descriptions of Grass land, waste materials, the droppings of the cattle, earthy substances, and such like, might be conveniently made into a compost manure which on such land had very excellent effects.

In the course of the discussion which followed, Mr. Thompson described the results of his observations on a visit to Rothamstead in the company of Professor Voelcker on the previous day.

Sir G. Jenkinson inquired under what class of manure the learned Professor would place the contents of a cesspool tank into which flowed the sewage of his house, surplus rain-water, and so forth.

Prof. Voelcker : It would be chiefly ammoniacal ; but inasmuch as it combined mineral matters, it would be a mixed mineral and ammoniacal manure.

Mr. Dent, M.P., asked in what condition lime ought to be applied—whether by itself on the Grass, or by being made into a compost with a collection of rubbish and soil ; and at what time of the year? Also when was the best period for the application of artificial manures to Grass land. He could not help thinking that the dressing proposed by the Professor was rather a more expensive one than a good many tenant farmers would like to apply ; for his calculation was that 4 cwt. of dissolved bones at from 7*s.* to 8*s.* a cwt., 2 cwt. of guano, at 13*l.* a ton, and 1 cwt. of salt, would come to 55*s.* 6*d.* an acre ; and he did not fancy that tenant farmers generally would like to expend on their Grass land much more than 2*l.* an acre. He ventured to suggest therefore that 3 cwt. of superphosphate, ½ cwt. of sulphate of ammonia, and ½ cwt. of guano, which would come to about 35*s.* an acre, might be a very good manure for Grass lands.

Mr. Lee wished to know if the Professor recommended so large a quantity as 7 cwt. of artificial manure per acre to Grass land?

Professor Voelcker had no doubt that there were Grass lands upon which that quantity might be given with advantage.

Mr. Lee should have thought that, generally speaking, 2 or 3 cwt. would be sufficient. Did the Professor's experiments go up to 7 cwt. an acre?

Mr. Thompson : Mr. Lawes's did.

Sir J. Johnstone, M.P. : Mr. Lawes's went up to 8 cwt., but where that quantity had been put on the greater feeders, such as the enormous Cocksfoot, were driving out almost every other description of Grass ; even the Holcus lanatus, which itself was a very coarse feeder. That showed what was the effect of an excess of ammoniacal manure.

Professor Voelcker, in answer to the inquiries addressed to him, said that autumn was the proper time for putting on lime ; and that of all the methods of doing it he liked the Devonshire best, which was to place it on the land in small heaps, covered up with earth, or scrapings from the road sides and ditches, and leave it to get spontaneously slaked. Then in early spring, these heaps were spread over the land, and the lime was washed in by degrees. For this purpose it was not necessary to make a regular compost heap. Farm-yard manure should be used about Christmas ; and artificials, guano, superphosphate, and similar manures, perhaps at the end of January or the beginning of February. As to the quantity of artificials which might be used, that was an open question. With the view of pushing tenant farmers a little further than they were inclined to go, he had mentioned a larger dose than he might be disposed to use himself. But they had only to divide it by 2, and instead of 4 cwt. of dissolved bones, 2 of guano and 1 of salt, use one half the quantity, and they would still get a very good manure. If this was found too expensive they might even divide the dose by 3. He would here remind them that there was one other manure of which advantage might be taken in the neighbourhood of towns ; he referred to soot, which, purchased pure, at a moderate price, say 6*d.* or 8*d.* a bushel, produced very good results.

Lord Walsingham : But it was always greatly adulterated.

The meeting was subsequently addressed by Professor Buckman, Mr. Wren Hoskyns, and Mr. Frere ; and the proceedings terminated with the usual complimentary vote to Professor Voelcker for his able and interesting lecture.

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Norfolk Agricultural : *Yarmouth.* — At the annual meeting of this Society here last week, Sir W. Jones, Bart., the President of the Society, in giving the health of the Lord-Lieutenant of the county, said :—Lord Leicester in the most spirited manner undertook the greatest and perhaps the best experiment in steam cultivation that has ever been carried out—certainly in the county of Norfolk. I am sure it has been a subject of very deep regret (and I say it without the slightest hesitation) to all of us that the wind and tide should have exposed the Holkam Marsh Farm to an inundation such as has taken place this winter. That farm was a most remarkable instance of steam culture. There were 500 acres worked entirely by steam ploughs, steam cultivators, and other methods of applying steam power. It served as a specimen instance of a steam farm, for which we might seek in vain elsewhere, having been started and got up at very great expense. It is a great loss to an agricultural county that that farm should have been submerged.

After the usual loyal toast, the Chairman, in the course of some remarks upon the show, said—I am speaking in the presence of the great chief of Southdown breeders, but I must remind him that on my left is one who is running a neck and neck race with him. It a proud thing that Norfolk, so far from the county whence those sheep were taken, should achieve a preeminence so very considerable. Those of you who looked at the Short-horns, which we were told were not a Norfolk breed of stock, and could not be got to perfection in Norfolk—(I remember hearing that from a judge at one of the meetings)—I would ask those who have looked at and touched a certain white bull with a square back, a neatly put on head, and a vast number of very good points, to tell me whether a first-rate bull cannot be turned out of Norfolk? It is very true that that bull came from the same homestead whence came our Southdown sheep ; all I can say is, that Norfolk is proud of the farm whence they came, and has a right to be proud of things that come from that farm. Gentlemen, it is also satisfactory to me to have noticed a very great improvement in our indigenous stock. It has been rather the habit to look down upon our Norfolk polled beasts, though there were certain men who, through good report and through evil report, stood by the breed ; and we are greatly indebted to the noble lord on my right (Lord Sondes), and I may add Mr. Oliver, and some others, for having kept their faith in the stock, which I believe is eminently suited to the county—stock that prosper on very light herbage, and which yield abundance of milk. Gentlemen, I have a very high opinion of that stock, and I believe it can be developed to something equal to, if not beyond, a Shorthorn, and very nearly equal, if not quite, to a Devon. It will always have a superiority over the Devon in one respect, that the Devon is a helpless being for the pail, while our Norfolk polls will give a good pailful of milk. There are also other advantages connected with those animals ; their perfect tractability and quietness, their freedom from horns, and the manner in which they leave your trees and fences uninjured, are, I think, very good points in their favour. I therefore took what I thought was a desirable step to encourage this breed of stock by offering a cup for the best bull. In offering that cup I limited the animals to be animals without either slugs or horns, my object being to prevent our milk from being bred away by crossing with a Devon, or endeavouring to get a Devon back. My belief is that we may get a Devon back without impairing the purity of our breed ; therefore I set myself against anything which shows cross breeding in the stock. I shall be very glad another year—for I mean to continue the cup—to put a further limitation as to any spots of white upon the animals ; therefore, though the prize was given to a spot of white this year, I cannot say what may happen another year. I am firmly persuaded that where you see a spot of white in our red Norfolk polled beasts there is bad breeding somewhere, and a spot of white tells of stray Shorthorn blood put in many years ago, either to square the back, or for something else. I do not wish to see the breed impaired ; I wish to see kept up the very great qualifications which our breed possesses as dairy stock, and I set myself against anything which showed the smallest impurity in the pedigree of the animal that wins the cup. The Chairman then alluded to drainage, fences, and cottages. He said :—" It seems to me that one very remarkable point which is neglected in Norfolk is our arterial drainage. The old fashioned idea was that the land was to grow corn, and the water and the wind were to grind it. We have found out since a power of steam that will grind all the corn that we can grow ; therefore I think we ought not to dam up our sluggish streams to have scarcely a ripple on them until they are really like a flight of steps. I may say that thousands of acres in this county lie at the bottom of our Wensum valley, our Nar valley, and other valleys. And let me point out this to you, that where nature has given water a flow, that flow is the cause of the bottom or bed of the river in which it takes place being kept pretty nearly at a constant level. The impurities which come in our drains every year and decaying vegetation are carried down by the stream. But when the stream is dammed up, that is not the case. The result of centuries of damming up in many reaches of our Wensum river is, that the bed of the river is above the land on either side ; the river runs on a raised course. But this question may seem out of place here now ; but I am sure you will find it out somehow or other, for when our increased consumption of animal food has sent it up to prices a little higher than they are now, you will find it will never be tolerated, that the water which ought to drain the river beds, which ought to drain the land, should be made the means of grinding corn. In these days of steam power the thing is an absurdity, and must be remedied. It is as absurd as to compel a man who buys 50 acres of land to buy with it a chest full of title deeds, and to compel him to spend 300*l.* or 400*l* to have them examined to see whether the land is the property of the man who sold it to him. Both these questions—the flooded valleys and the choked-up drains in the slightly undulating ground which goes down into the valleys, and the difficulty there is of disposing or buying a small parcel of land—will have to be remedied sooner or later, and I am certain that the best cure for them is the high price of mutton. There is only one other point for me to allude to, in which I think that Norfolk agriculture might improve itself—that is, in the management of our fences. Gentlemen, our fields are beautifully tilled, and it is impossible for any one to return from touring in a distant part of England not to be struck with the cultivation of this county. I believe it is not altogether owing to any remarkable

aptitude in ourselves. I believe we are blessed with a remarkably handy, useful, active set of labourers. I believe, besides, that our friable soil allows the implements to work much better than in a soil which is at one time mortar and at another bricks. I believe the implement has a fair chance in Norfolk when it has not elsewhere. To these two things put together, and to the fact that our horses can get upon the land at all times, I believe the admirable cultivation of our fields is due. But it is impossible not to travel about England and not be struck, on coming back to Norfolk, with the superior cultivation of Norfolk fields. Those fields are beautiful pictures, and I should like to see them encased in a frame worthy of them, instead of a frame composed of a mixture of a bit of live fence and a bit of dead stuff, about four feet high, not quite perpendicular, and with a bottom taken out of the muck heap, and over-shadowed by some Ash trees worth about *5s.* each. I confess that, to my mind, the Norfolk fences are not worthy to surround the Norfolk fields. I leave it to you, who understand these things far better than I do, to say how a better hedge is to be put round the fields. I think it a consummation greatly to be desired, if that can be applied, and if our fields can be enclosed in a frame that is worthy of them. Gentlemen, I must add the one word which I always do—'Build more labourers' cottages.' That is the last word I always utter. I believe that one half of the crime and misery in the county arises from the overcrowding of what is called the home parish—that is, the parish which contains the labour of a number of fields, and a number of farms most fertile and most admirably cultivated. It is that parish which contains the labour which supplies our sessions and assizes. Gentlemen, build cottages near your farmhouses; or I would say, let cottages spring up near your farmhouses, and I believe we shall see a very great improvement in all these things.

Lord Walsingham, in returning thanks, said—Gentlemen, I find myself in a very novel position. Having won the 1st prize in Class 1, and this beautiful cup which has been presented by the borough members to the owner of the best Shorthorn bull, I feel that I cannot avoid returning thanks for the class. But while I thank you for the honour that has been done to my own animal, I must not forget the very beautiful animals there were in the various cattle classes. The toast which has been given being that of the successful candidates in the cattle classes, I am obliged to return thanks for myself and for all the winners of prizes in all the various cattle classes. Now, I am sorry to say, that I cannot altogether follow our worthy President in his unlimited admiration of the polled animals, that is, I mean the polled animals which were exhibited here to-day; but I do admit they are wonderfully improved. There was one animal, a steer, which won a prize, which I thought as fine an animal as I ever saw in all my life. I sincerely hope to see that animal in improved condition at the Smithfield Club Show, and, as President for the year, I beg to offer my invitation to Mr. Oliver to exhibit it at the next show of the Smithfield Club. With respect to an observation which was made by Mr. Badham, I think it might be very well, if the Society so thought fit, to limit their prizes for polled animals to Norfolk and Suffolk polled animals. But as it stands here, a polled Scot has as perfect a right to show as a polled animal, and you could not refuse to give it the prize if it happened to be the best, as you offer a prize to "polled animals." You say nothing of Norfolk and Suffolk. It may be true that the Norfolk and Suffolk are the best, and those which the Society intended should be represented; but if I had a polled Scot, and it was better than a polled Norfolk or Suffolk, you could not refuse it the prize. I recollect an objection was made to our meeting at Yarmouth—that it was at the very extremity of the county. It has turned out to be a very great advantage, and has added immensely to the importance of our show. We have had some of those beautiful cart horses from Suffolk come here. And while I am upon this point, I may say that I remember to have heard it said very often when I have been in Suffolk, "Your agricultural society is nothing to ours; our stock show is very much better." I should be very much pleased if Mr. Badham or any other gentleman can tell us in what respect they assume to consider their stock show as better than that of the Norfolk Society. In one respect I certainly think it is, viz., in the class for agricultural, and perhaps for other horses. I have a great regard for the county of Norfolk, and I really wish we had the best of everything, and we could produce better agricultural horses than we do. There is a very nice class of horses in Norfolk, which may be called Norfolk cart horses, but no particular pains are taken with them to improve the breed. I very seldom see them at any of our shows, though I often see them working on the farms very creditably. They are short-legged bay horses, but they require much improvement. They have all the beauties and merits of the Suffolk horses, and yet are free from some little faults that have been observed even by Suffolk people. I admire the Suffolk breed, but I need not point out to you where the Suffolk breeders have looked to improve their breed.

On the health of Mr. Rigden being drank, he said—With respect to the Southdown sheep to-day, although there was a good deal of competition, the sheep all belonged to one person. I think the noble lord's shearling was nearly the best sheep I ever saw him show. He will, however, excuse me if I say it has a fault which will stand very much in his way if he goes into company; but taking it altogether, that sheep has some extraordinary points. I fully admit, with reference to the cross-bred sheep, that some of the lambs were the best I have ever seen in Norfolk. But when gentlemen talk about getting these long-woolled sheep, they seem to me to forget how much they eat. I happened to hear a shepherd to-day say that 26 lambs had 1 cwt. of oilcake per day. I should like to ask gentlemen how much they cost. My sheep never see a bit of cake from one year's end to another. They live upon the South Downs, have the south-west winds, and have no shelter whatever. I am not going to say they are the best for Norfolk, but I can get more money for nine stone of Southdown mutton than you can get for 10 stone of any other sort. I have no wish to praise my own breed, but I am quite sure that in the county of Sussex the Southdowns will maintain their reputation.

Lord Walsingham said he was fully aware of the fault in the particular sheep that had been mentioned by Mr. Rigden. He did not wish to send it, but he had been overruled. Mr. Rigden would not see it elsewhere. He was not the only winner in that class, for Sir W. Jones had a prize with an animal that did him a great deal of credit, and he felt quite sure that if the Chairman paid attention to the matter for a number of years, he would eventually get a flock that would be of great credit to him. He (Lord Walsingham) liked competition, and wanted it; he knew that his sheep were not easily beaten in Norfolk, but they were in other places, and might be in that county. There was not the competition there ought to have been, but the competition was not always limited to the yard. There was a good deal of competition in the county, and if people who owned animals knew that other and better animals were going to be shown, they would not send their own. The competition, therefore, took place elsewhere than in the showyard. He had slowly risen to the eminent position he now held amongst them, and he was quite sure there were others who could jump over his head.

## Miscellaneous.

*Testimonial to Edward Holland, Esq., M.P.*—Arrangements are rapidly progressing for the purpose of initiating a public subscription, chiefly in the counties of Worcester and Gloucester, for the purchase of a testimonial to be given to Mr. Holland, M.P., of Dumbleton, in recognition of his unwearied services in connection with agriculture and of his private worth. Nearly the whole of the nobility and members of Parliament in the two counties have signified their hearty approbation of the proposal and willingness to co-operate, and the general committee comprises a most influential list of names, including the Secretary of the Royal Agricultural Society, Mr. Hall Dare, and a number of eminent tenant farmers. The amount of individual subscriptions is to be limited, we believe, to a guinea. Mr. Holland has laid the agricultural community under great obligations by the spirit and enterprise he has thrown into the cultivation of the soil, the earnest and constant desire that he has shown to improve the practice and advance the interests of agriculture, and his disinterested exertions for the benefit of tenant farmers in general. Mr. Holland may claim to be the great pioneer of agricultural improvement in this county. For thirty years he has devoted his energy and abilities to the promotion of agricultural science, and in practically demonstrating, by the employment of machinery, by perseveringly bringing to bear on cultivation the resources of capital, skill, and ingenuity, that a prodigious development might be imparted to the productiveness of the soil. It is rare to find a representative of the landlord class manifesting so much earnest concern for the welfare of the tenant farmers as Mr. Holland has uniformly evinced. He has been the able and stedfast advocate of leases, in order to secure that fixity of tenure which is essential to agricultural improvements of a permanent character; and mainly through his instrumentality the Evesham Agricultural Society went to work in earnest on the subject, and devised that concise and efficient form of lease, which was not long ago published in these columns, a lease which found unanimous acceptance with the farmers, and which will, we hope, gradually commend itself, by the justness and reasonableness of its provisions, for adoption by the landlords. Mr. Holland has also distinguished himself as the advocate of a corn rental, or rents calculated according to the average value of corn, a plan which could only redound to the comfort and easement of the tenant farmer. Mr. Holland was among the chief originators of the Agricultural College at Cirencester, an establishment which, by the diffusion of scientific knowledge and the practical demonstration of the best modes and courses of cultivation, has done much for the interests of agriculture. Mr. Holland has also been for many years an active member of the Council of the Royal Agricultural Society, at whose board his habits of business, clear head, and practical conversance with everything pertaining to agriculture have enabled him to render efficient service. *Worcestershire Chronicle.*

*The Rev. J. G. Davis and the Bishop of Rochester.*—We scarcely dare trust ourselves to speak on the fallen state of a clergymen who has been convicted of taking to agriculture for the benefit of a broken constitution, and who not only associates with farmers, but who absolutely boasts of having the friendship of many leading agriculturists! We may still allow this miserable sinner to say a word or two for himself, as he pleads to his old friend and good bishop in this wise:—"As your lordship has debarred your clergy from field sports and out-door amusements, there is only agriculture in which a man may seek for recreation. I have read as much as most men, but I never yet met with a passage in any writer, sacred or profane, in which agriculture is supposed to be a hindrance to the development of man's higher nature and nobler feelings. The Church, by assigning glebe, of great extent in some instances, recognizes even in her employed members the fact that farming is not unclerical. Mr. Huxtable's appointment last year to the Archdeaconry of Dorset was well received by the Church, and Mr. Huxtable is one of the giants of agriculture. Many clergy farm more thousands than I do hundreds of acres. The glebe at Danbury, which the late Bishop was fond of showing to his clergy, and which I believe your lordship keeps in your own hands, is to the extent of 300 acres. I have never associated with farmers in any other way than every Christian gentleman ought to associate with them. Your lordship will therefore excuse my protesting against my course having been unclerical. Having put the letters into a pamphlet for my own justification, I hope never to hear the subject mentioned again." The good bishop then positively holds a farm of 300 acres in his own hands! But we do hope that he has not the friendship of any leading agriculturists, and that his lordship, at least, does not associate with farmers. And we shall certainly be curious to see how this pariah race will receive the toast of "The Bishop of the Diocese," at their orgies in Witham on Thursday, and whether any clergymen in the county will dare to dine with those outcasts, the farmers of Essex! *Mark Lane Express.*

## Calendar of Operations.

### JUNE.

Northumberland Farm.—The month of May was dry and scarcely of a seasonably warm character, the wind having veered round from west to north about the middle of the month, in which quarter it remained for several days, having the unfortunate effect of stopping that rapid vegetation usually expected in this month. As a consequence of this, our feeding pastures assumed a withered appearance,—Clovers dwindled away, and Oats began to look very shy in many spots. During the last week however we had a westerly wind again, and with it came warmth, causing crops to look more healthy, though all require rain to give them an impetus to further growth. Showers having at length come, we no longer expect the natural consequence of the dry spring, stunted crops of Oats and Barley. Beans will have very short straw, inasmuch as they are already beginning to show indications of bloom. Winter Wheat alone looks thriving; in fact we seldom remember seeing it so universally promising, whilst here and there a stray ear may be recognised, in itself a sufficient guarantee of an early, and it is to be hoped, a prosperous harvest, so as in some measure to compensate for the past unprecedentedly disastrous year. And whilst touching on the subject of Wheat, it may not be uninteresting to our readers to know that of the many varieties grown in this district, the writer has seen none to equal in appearance the Giant St. Quintin up to the present period of this season. It was introduced onto this farm two years ago from Lincolnshire, and has in every way answered the expectations of the writer; it is of fine quality and strong straw, and during the memorable heavy gales of last harvest it was less injured than any other kind. At this moment its height is about 30 inches, with no indications of getting down, whilst other varieties have already shown symptoms of giving way. *Horse Labour.*—The usual preparation of fallow land for root crops, such as broad-shearing, grubbing, ploughing, harrowing, rolling, drilling, carting off Couch, and carting on manure, horse-hoeing Beans and Oats, &c., has furnished employment sufficient for this branch of labour. We commenced drilling Mangel on the 4th May, and it has since made a very satisfactory braird. Swede-sowing commenced on the 14th, since which period we have continued ever since with unabated vigour, sowing Swedes and subsequently Yellows, as the land became fit. Our manuring consisted of 20 loads of well-rotted dung spread in the drills, upon which was distributed from $2\frac{1}{2}$ to 3 cwt. of mixed guano (Peruvian, Bolivian, and Kooria Mooria). The varieties of Swede sown comprise Skirving's East Lothian, and Marshall's, all of which are now abraird; whilst under the head of Yellow Turnips we include the Border Imperial (Hybrid) and the Green-top Yellow Bullock, the former of which we find to produce the heaviest crop on strong land, and at the same time to possess rare keeping qualities. During the latter part of the month our strong loams were very difficult to reduce to that state of tilth so essential for the regular braird of Turnips, owing to the land having been wrought into so dry a state, that scarcely a moist particle was visible, and even now that it is sown, it will require a liberal soaking with rain before there can be any hope of vegetation. *Hand Labour.*—Our hands have chiefly been employed in gathering Couch, filling and spreading manure, hoeing Oats and Beans, and weeding Corn generally, with the ordinary labour dependent on Turnip culture, and a day now and then in the barn. *Stock.*—Our grazing cattle are now fairly turned out, and though there has been no superabundance of Grass, still they have made very satisfactory progress. We invariably make a rule of housing them at night for the first fortnight, which prevents any slipping of condition, which is so frequently seen in cattle turned out fresh. Sheep stock is also doing well, all having been washed and the Hoggets shorn, whilst some of the latter and also a portion of fat lambs have been sold to the butcher. Much anxiety is now afloat as to the price of wool, and as dealers seem very chary of starting the trade at the present high prices, not much is known about the rates, though *vox agricola* says that it must (?) be 2s. per lb., and in fact we have heard of one large clip of Hoggets being disposed of at that price. Since our last report, this county has been honoured in being selected by the Royal Agricultural Society for its country meeting in 1864; and although this decision was arrived at amidst the strongest opposition on the part of Darlington and Durham, we feel confident that Newcastle will furnish such facilities for the show on its splendid Town Moor, and ample accommodation to the large influx of visitors which invariably attend on such occasions—and such an opportunity for the test and exhibition of steam cultivators as has never

before been witnessed, viz., on 100 acres of old sward, within 60 yards of the show ground, so that the Council of that great Society will be able to admit that it has been well received, and at the same time feel that it has conferred an immense agricultural boon on the northern counties of England. *J. W.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. SLATTER, Streatley, near Reading.*

| Day of the Week. | Day of the Month. | Reading of — At 9 A.M., Railway Time. — Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Friday .. .. | June 19 | Inches. 29.62 | 56 | 55 | N.E. | 1 | 10 | 66 | 53 | 77 | 52 | Inches. 0.78 |
| Saturday .. .. | 20 | 29.84 | 61 | 57 | N N W | 1 | 6 | 62 | 51 | 74 | 46 | 1.65 |
| Sunday .. .. | 21 | 30.11 | 65 | 60 | S. | 0 | 8 | 67 | 40 | 82 | 45 | .. |
| Monday .. .. | 22 | .14 | 64 | 60 | S.W. | 2 | 9 | 69 | 55 | 82 | 43 | .. |
| Tuesday .. .. | 23 | .20 | 65 | 58 | W. | 1 | 2 | 66 | 52 | 74 | 47 | .. |
| Wednesday .. | 24 | .18 | 59 | 56 | S.W. | 0 | 10 | 71 | 51 | 92 | 47 | 0.09 |
| Thursday .. .. | 25 | .22 | 66 | 59 | W. | 0 | 1 | 68 | 54 | 87 | 52 | 0.07 |

* Streatley is about 2 miles lower down the river than Moulsford, from which observations up to May 28 were given on May 30.

## Notices to Correspondents.

CARROTS: *Usk.* We cannot help you; the Carrot is more liable to this disease in old Carrot ground and on sandy soil. Probably a marling would benefit the land for the future.

GRASS: *Subscriber* has sent us a specimen of a Grass, with a request couched in the following words:—"Oblige us through the medium of an early number with the name of the enclosed Grass, which grows on merse land and frequently under salt water; the merse land is purely "sleachy sand," still this plant grows well, and cattle and sheep are very fond of it." Now we gather from the nature of the inquiry that the land in question is Mere's land, that is land derived from a mere (see "Halliwell's Dictionary of Archaic Words") "or water wherunto an arme of the sea floweth" and that it is a sleech mud or sea-sand, mud with sand usually found in marine estuaries. We have been thus particular in endeavouring to make out our correspondent's meaning, because the Grass in question offers some interesting evidence connected with the species to which it belongs. We should refer the genus to the following species:—Festuca ovina var. duriuscula, and even again a variety of the latter name in F. dumetorum, Linn. The F. ovina is undoubtedly a valuable Grass, and if we view the duriuscula, dumetorum, and rubra, as varieties, we have evidence of the adaptation of a species in its varieties for different positions, and perhaps, indeed, of the varieties themselves being induced by position, as thus—1, F. ovina, dwarf, on uplands, affording a sweet and nutritious herbage because the soil may be good; 2, F. duriuscula, in lowland pastures, much taller and larger than 1., and still yielding good herbage; 3, F. dumetorum, "a variety having the corolla clothed with soft pubescence," (English Botany) adapted for poorer conditions of soil and different circumstances from the rest. It is an inferior Grass to 2, as indeed its pubescence would indicate, but even its tendency to hairiness indicates an adaptability to a poorer soil. F. rubra is still but a form of ovina, also from the sea coast, which is distinguished by a creeping habit, which, indeed, is not infrequent in F. duriuscula. This habit is again increased by the medium in which the Grass lives, for if the F. duriuscula grows on the top of a wall, or in dry sand, it will sometimes creep very much. Now Sinclair says that "the varieties of the creeping rooted Grasses are all to be rejected as unfit for cultivation," and the reason held is that they impoverish the soil. But we conclude that as these varieties have creeping roots, the specimen sent included, it is rather an evidence that they have lived and been induced by poor soil. The argument, then, that we derive from these remarks is that the species in question offers no advantage for cultivation because it grows in the poor sleechy sea sand, for if we are correct we have already in cultivation the best of the forms in F. ovina and duriuscula, which can adapt themselves to any position, but they will give but a poor yield and of poor matter in poor soils, while the form found by our correspondent in the poor soils he mentions will not do any better. *J. B.*

LIQUID DRILL: *An old Subscriber.* About 600 gallons per acre is the minimum quantity, and 3 cwt. of superphosphate may be applied on it per acre. This is at the rate of one gallon holding a half-pound in solution or suspension to every 12 yards of the row if they are 2 feet apart.


# THE HYDROPULT,

### EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

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THE HYDROPULT.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

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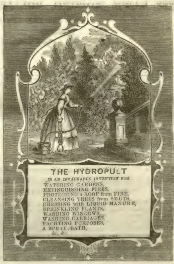


### EXTRACTS FROM THE PRESS.

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### EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.

"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "PERCY M. DOVE, Manager."

"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. HALLOWS, Secretary, Caledonian Insurance Company."

**CAUTION:** Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; GRIFFITHS & BROWETT, Manufacturers, Birmingham; CHARLES P. BUTTON, General Agent (Voss's Patent)." Unless this label be attached, the machine is not the Hydropult.

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. SPENCER, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE! FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

CHARLES P. BUTTON, PROPRIETOR,

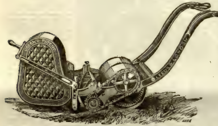
HYDROPULT WAREHOUSE, 27, LEADENHALL STREET, LONDON, E.C.

WEST-END DEPOT, 309, REGENT STREET, W.

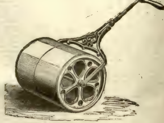
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863.



GREEN'S NEW PATENT LAWN MOWER.



GREEN'S NEW PATENT GARDEN ROLLER.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOS. GREEN FOR HIS PATENT LAWN MOWERS,

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS

DURING THE SEASON OF 1862, AND DURING THE PRESENT SEASON 1863.

GREEN'S PATENT LAWN MOWERS have carried off every Prize that has been given in all cases of competition, and were the only Machines Highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862. (No Prizes were given.) They are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

The Patentees, after the long experience they have had in the MANUFACTURE of LAWN MOWERS, have come to the conclusion that three things are essential to constitute a real and efficient Implement, namely, Simplicity of Construction, Durability, and General Practicability, and they are glad to be able to state that they have combined the three, and that their Machines are unequalled not merely by giving satisfaction for one or two seasons, but by their long durability.

Upwards of 14,000 of the above Machines have been sold since the year 1856, and thousands of letters have been received by the Patentees testifying to their efficiency. They do not deem it necessary to publish more than the two following :—

TESTIMONIALS.

"Royal Horticultural Society, South Kensington, W., Feb. 28, 1863.

"Dear Sir,—Your Mowing Machines, which have been in constant use here for two seasons, have answered well. They do their work efficiently, and with a less amount of manual labour than any other Machines I have tried,

"To Mr. Green." "Yours truly, Geo. Eyles."

"Royal Gardens, Windsor, March 27, 1863.

"Dear Sir,—The Hand Mowing Machines you supplied last season for the use of the Royal Gardens, Windsor, give great satisfaction.

"To Mr. Green." "Yours very truly, Thomas Ingram."

PRICES.

| | | | | | |
|---|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a Lady. | |
| " 12 " | 5 | 0 | 0 | Suitable for One Person. If with internal gear, 10s. extra. | |
| " 14 " | 5 | 10 | 0 | Do. Do. Do. Do. | 10s. extra. |
| " 16 " | 6 | 10 | 0 | Suitable for One Man or Two Boys. | |

The 16-inch and 14-inch Machine, with internal gear, are particularly recommended for use by one person.

| | | | | | If with Patent Delivery Box. |
|---|---|---|---|---|---|
| To Cut 18 inches ... | £7 | 10 | 0 | Suitable for One Man and Boy | £8 15 0 |
| " 20 " ... | 8 | 0 | 0 | Do. Do. | ... 9 5 0 |
| " 22 " ... | 8 | 10 | 0 | Suitable for Two Men | ... 9 17 6 |
| " 24 " ... | 9 | 0 | 0 | Do. Do. | ... 10 7 6 |

**DONKEY and PONY MACHINES, including Traces.**

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 24 inches ... ... | £11 10 0 ... | ... ... £12 10 0 |
| " 26 " ... ... | 12 10 0 ... | ... ... 13 12 0 |
| " 30 " ... ... | 16 14 0 ... | ... ... 18 0 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

**PRICES of HORSE MACHINES, including Box of Requisites and Traces.**

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 30 inches ... ... | £20 0 0 ... | ... ... £21 10 0 |
| " 36 " ... ... | 23 0 0 ... | ... ... 24 16 0 |
| " 42 " ... ... | 26 0 0 ... | ... ... 28 2 0 |
| " 48 " ... ... | 29 0 0 ... | ... ... 31 8 0 |

Leather Boots for Horse, per set, 1*l.* 4*s.*

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.

Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s. Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

PORTABLE and FIXED STEAM ENGINES; COMBINED THRESHING, SHAKING, and WINNOWING MACHINES;
REAPING and MOWING MACHINES; BONE CRUSHING MILLS; CORN CRUSHING and BEAN SPLITTING MILLS; CHAFF CUTTERS;
TURNIP SHEARS and PULPERS; IMPROVED HAY-MAKING MACHINES, and HORSE RAKES;
CLOD CRUSHERS, and WROUGHT IRON FIELD ROLLERS; PLOUGHS, HARROWS, and CULTIVATORS; VERANDAHS;
PATENT HYDROPULT, and all kinds of GARDEN ENGINES and SYRINGES; GARDEN CHAIRS and TABLES;
ORNAMENTAL FOUNTAINS and VASES; GARDEN TOOLS; PREMIUM CONTINUOUS IRON FENCING and HURDLES;
STRAINED WIRE FENCES, of all kinds; ESPALIER FENCES; GAME-PROOF WIRE NETTING and TRELLIS WORK;
ORNAMENTAL and PLAIN ENTRANCE, WICKET, and FOOTPATH GATES; WROUGHT IRON FIELD GATES; TREE GUARDS;
CATTLE and PIG TROUGHS; SHEEP RACKS; WASHING and WRINGING MACHINES; FIRE-PROOF IRON SAFES; IRON WHEELBARROWS;
IMPROVED IRON STABLE FITTINGS;
and every description of HORTICULTURAL and AGRICULTURAL IMPLEMENTS;
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*Illustrated Catalogues on application.*

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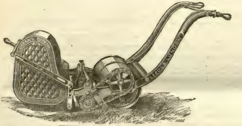
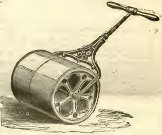


GREEN'S NEW PATENT LAWN MOWER.



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| " 20 " ... | 8 | 0 | 0 | Do. Do. ... | 9 | 5 | 0 |
| " 22 " ... | 8 | 10 | 0 | Suitable for Two Men ... | 9 | 17 | 6 |
| " 24 " ... | 9 | 0 | 0 | Do. Do. ... | 10 | 7 | 6 |

### DONKEY and PONY MACHINES, including Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 24 inches | £11 | 10 | 0 | £12 | 10 | 0 |
| " 26 " | 12 | 10 | 0 | 13 | 12 | 0 |
| " 30 " | 16 | 14 | 0 | 18 | 0 | 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

### PRICES of HORSE MACHINES, including Box of Requisites and Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 30 inches | £20 | 0 | 0 | £21 | 10 | 0 |
| " 36 " | 23 | 0 | 0 | 24 | 16 | 0 |
| " 42 " | 26 | 0 | 0 | 28 | 2 | 0 |
| " 48 " | 29 | 0 | 0 | 31 | 8 | 0 |

Leather Boots for Horse, per set, 1l. 4s.

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*Illustrated Catalogues on application.*

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# ROYAL HORTICULTURAL SOCIETY.

## THE THIRD GREAT SHOW,

### WEDNESDAY, JULY 1, 1863.

### AWARDS OF THE JUDGES.

CLASS 1.—96 Kinds of CUT ROSES, 1 truss of each (Nurserymen).

1st, Mr. B. R. Cant, St. John's Street Nursery, Colchester, 7*l.*
2d, Messrs. Paul & Son, Old Cheshunt Nurseries, Cheshunt, 5*l.*
3d, Mr. Jas. Mitchell, Piltdown, Maresfield, Sussex, 3*l.*
4th, Mr. J. Keynes, Salisbury, 2*l.*

CLASS 2.—48 Kinds of CUT ROSES, 3 trusses of each (Nurserymen).

1st, Mr. C. Turner, Royal Nurseries, Slough, 4*l.*
2d, Messrs. Paul & Son, Old Cheshunt Nurseries, Cheshunt, 3*l.*
3d, Messrs. J. & J. Fraser, Lea Bridge Road Nurseries, Leyton, N.E., 2*l.*
4th, Mr. B. R. Cant, Nurseryman, Colchester, 1*l.*

CLASS 3.—24 Kinds of CUT ROSES, 3 trusses of each (Nurserymen).

1st, Mr. J. Keynes, Salisbury, 2*l.* 10*s.*
2d, Mr. E. P. Francis, Hertford, 2*l.*
3d, Mr. R. Laing, Twickenham, 1*l.* 10*s.*
4th, Messrs. Paul & Son, Cheshunt, 1*l.*

CLASS 4.—24 Kinds of CUT ROSES, 1 truss of each (Nurserymen).

1st, Mr. C. Turner, Royal Nurseries, Slough, 2*l.*
2d, Mr. J. Keynes, Salisbury, 1*l.*
3d, Mr. W. H. Treen, Rugby, 10*s.*
Extra, Mr. J. Cranston, Hereford, 7*s.* 6*d.*

CLASS 5.—48 Kinds of CUT ROSES, 1 truss of each (Amateurs).

1st, Mr. J. T. Hedge, Reed Hall, Colchester, 6*l.*
2d, Miss Crawshay, Caversham Park, Reading, 4*l.*
3d, Mr. C. M. Worthington, Caversham Priory, Reading, 3*l.*
4th, Mr. W. Ingle, Gr. to C. G. Round, Esq., Birch Hall, Colchester, 2*l.*
Extra, T. Laxton, Esq., F.R.H.S., Stamford, 1*l.*

CLASS 6.—24 Kinds of CUT ROSES, 1 truss of each (Amateurs).

1st, Mr. S. Dobree, The Priory, Wellington, Somerset, 4*l.*
2d, Mr. J. T. Hedge, Reed Hall, Colchester, 2*l.*
3d, Mr. W. Ingle, Gr. to C. G. Round, Esq., F.R.H.S., Birch Hall, Colchester, 1*l.*
4th, Rev. S. R. Hole, Caunton Manor, Newark, Notts, 10*s.*
Extra, Mr. H. Sawkins, Gr. to G. Brassey, Esq., Bramfield, Hertford, 7*s.* 6*d.*

CLASS 7.—18 Kinds of CUT ROSES, 1 truss of each (Amateurs).

1st, Mr. J. T. Hedge, Reed Hall, Colchester, 3*l.*
2d, Mr. W. Ingle, Gr. to C. G. Round, Esq., F.R.H.S., Birch Hall, Colchester, 1*l.* 10*s.*
3d, Mr. J. Stratton, Manningford Bruce, Marlborough, 1*l.*
Extra, C. M. Worthington, Esq., Caversham Priory, near Reading, 10*s.*
Extra, Mr. A. Moffatt, Gr. to Viscount Maynard, Easton Lodge, Dunmow, 10*s.*

CLASS 8.—12 Kinds of CUT ROSES, 1 truss of each (Amateurs).

1st, Mr. J. T. Hedge, Reed Hall, Colchester, 1*l.* 10*s.*
2d, Mr. H. Helyar, Pendomer, near Yeovil, 1*l.*
3d, Mr. J. Stratton, Manningford Bruce, Marlborough, 10*s.*
Extra, Mr. S. Dobree, The Priory, Wellington, Somerset, 7*s.* 6*d.*

CLASS 9.—18 NEW ROSES of 1862–63, single trusses, distinct (Open).

1st, Mr. W. Paul, Nurseryman, Waltham Cross, 2*l.*
2d, Mr. B. R. Cant, Nurseryman, Colchester, 1*l.* 10*s.*
3d, Messrs. Paul & Son, Old Cheshunt Nurseries, Cheshunt, 1*l.*
4th, Mr. J. Keynes, Salisbury, 15*s.*

CLASS 10.—12 TRUSSES of any new kinds of ROSES of 1862 (Open).

1st, Mr. W. Paul, Nurseryman, Waltham Cross, 1*l.* 10*s.*
2d, Mr. B. R. Cant, Nurseryman, Colchester, 1*l.*
3d, Mr. J. Keynes, Nurseryman, Salisbury, 10*s.*

CLASS 11.—12 TRUSSES of ROSES (Open).

1st, Mr. J. Keynes, Nurseryman, Salisbury, 1*l.* 10*s.*
2d, Mr. W. Paul, Nurseryman, Waltham Cross, 1*l.*
3d, Mr. J. Mitchell, Nurseryman, Maresfield, Sussex, 10*s.*

CLASS 12.—12 TEA-SCENTED and NOISETTE ROSES (Open).

1st, Mr. J. T. Hedge, Reed Hall, Colchester, 2*l.*
2d, Mr. W. Paul, Nurseryman, Waltham Cross, 1*l.* 10*s.*
3d, Mr. H. Exell, Gr. to J. Hollingworth, Esq., Maidstone, 1*l.*

CLASS 13.—DECORATED BASKET or VASE of ROSES (Open).

1st, Miss Wint, 22, Cadogan Terrace, S.W., 3*l.*
2d, Miss Robinson, 2, Connaught Square, Hyde Park, 2*l.*
3d, Mr. C. Turner, Royal Nurseries, Slough, 1*l.*

CLASS 14.—6 BOUQUETS of ROSES (Open)

1st, Mr. W. Paul, Nurseryman, Waltham Cross, 3*l.*
2d, Mr. J. Keynes, Nurseryman, Salisbury, 2*l.*
3d, Mr. E. P. Francis, Nurseryman, Hertford, 1*l.*
Equal 3d, Mr. C. Turner, Royal Nurseries, Slough, 1*l.*

CLASS 15.—COLLECTION of MOSS ROSES (Open).

1st, Mr. W. Paul, Nurseryman, Waltham Cross, N., 2*l.*
2d, Messrs. Paul & Son, Old Cheshunt Nurseries, Cheshunt, 1*l.*

**Prizes offered by W. Wilson Saunders, Esq., Treasurer.**

CLASS 16.—SINGLE TRUSS of a HYBRID PERPETUAL ROSE (Open).

1st, The Rev. H. Helyar (for Comtesse Cecile de Chabrillant), 2*l.*
2d, Mr. C. Turner, Royal Nurseries, Slough, 1*l.*

CLASS 17.—24 ROSES, not less than 10 distinct kinds (Open).

1st, Mr. W. Paul, Nurseryman, Waltham Cross, 6*l.*
2d, Mr. E. P. Francis, Nurseryman, Hertford, 4*l.*
3d, Messrs. Paul & Son, Old Cheshunt Nurseries, Cheshunt, 3*l.*

CLASS 18.—20 NEW ROSES, not less than 10 distinct kinds (Open).

1st, Messrs. Paul & Son, Old Cheshunt Nurseries, Cheshunt, 6*l.*
2d, Mr. W. Paul, Nurseryman, Waltham Cross, 4*l.*

## PLANTS.

CLASS 19.—12 FINE FOLIAGED and VARIEGATED PLANTS (Nurserymen).

1st, Messrs. J. & C. Lee, Hammersmith, 7*l.*
2d, Messrs. A. Henderson & Co., Pine-Apple Place, Edgeware Road, 5*l.*
3d, Mr. W. Bull, King's Road, Chelsea, 3*l.*
4th, Messrs. T. Jackson & Son, Kingston, 2*l.*

CLASS 20.—10 FINE FOLIAGED and VARIEGATED PLANTS (Amateurs).

1st, Mr. J. Taylor, Gr. to J. Yates, Esq., Lauderdale House, Highgate, 7*l.*
2d, Mr. J. Smith, Gr. to the Duke of Northumberland, Syon House, 5*l.*
3d, Mr. Charles Ross, Gr. to C. Eyre, Esq., Welford Park, Newbury, 3*l.*

CLASS 21.—6 FUCHSIAS, distinct kinds (Nurserymen).

1st and 2d (Withheld).
3d, Mr. W. H. Treen, Rugby, 2*l.*

CLASS 22.—6 FUCHSIAS, distinct kinds (Amateurs).

1st, Mr. E. Gardiner, Gr. to J. Stutter, Esq., Oak Lodge, Clapton Park, 5*l.*
2d, Mr. H. Cannell, Gr. to G. Jennings, Esq., Oak Lodge, Clapham, 4*l.*

CLASS 23.—3 STANDARD FUCHSIAS, distinct kinds (Open).

1st, Mr. M. Higgs, Gr. to Mrs. Barchard, Putney Heath, 3*l.*

CLASS 24.—12 VARIEGATED BEGONIAS, distinct kinds (Open).

1st (Withheld)
2d, Mr. W. Young, Gr. to R. Barclay, Esq., Highgate, 2*l.*

CLASS 25.—9 CALADIUMS, distinct kinds (Open).

1st, Messrs. A. Henderson & Co., Pine-Apple Place, Edgeware Road, 5*l.*
2d, Mr. A. Ingram, Gr. to J. J. Blandy, Esq., High Grove, Reading, 4*l.*
3d, Mr. W. Young, Gr. to R. Barclay, Esq., Highgate, 3*l.*

CLASS 26.—6 TREE FERNS, duplicates admitted (Open). (No competition).

CLASS 27.—10 EXOTIC FERNS, distinct kinds (Open).

Extra, Mr. W. Bull, Nurseryman, King's Road, Chelsea, 2*l.*
Extra, Messrs. A. Henderson & Co., Nurserymen, Edgeware Road, N., 1*l.* 10*s.*
Extra, Mr. H. Lavey, Gr. to E. A. De Grave, Esq., Fetcham, Surrey, 1*l.* 5*s.*

(NOTE.—Ferns to be shown in pots not exceeding 15 inches in diameter). This Rule was not complied with. The Judges disqualified them, and awarded Extra Prizes.

CLASS 28.—12 BRITISH or other HARDY FERNS, distinct kinds (Open).

1st, Messrs. Ivery & Son, Nurserymen, Dorking and Reigate, 3*l.*
2d, Mr. H. Lavey, Gr. to E. A. De Grave, Fetcham, 2*l.*
Equal 2d, Mr. J. Salter, Nurseryman, Hammersmith, 2*l.*
3d, Messrs. Ivery & Son, Dorking and Reigate, 1*l.*

CLASS 29.—NEW or RARE TENDER PLANTS in FLOWER (Open).

Messrs. Veitch & Son, Exeter and Chelsea, for Bomaera multiflora, S.K.
Mr. Frost, Dropmore, for Statice Frostii, S.B.
Mr. Wm. Bull, Chelsea, for Ouvirandra fenestralis, B.

CLASS 30.—NEW or RARE TENDER PLANTS NOT in FLOWER (Open).

Messrs. Veitch & Son, Exeter and Chelsea, for Pteris serrulata cristata, S.K.
Messrs. Backhouse & Son, for Hymenophyllum valvatum, S.K.
Messrs. Backhouse & Son, for Trichomanes scandens, S.K.
Messrs. Veitch & Son, for Acrophorus affinis, S.B.
Messrs. Backhouse & Son, for Lindsæa stricta, S.B.
Messrs. Backhouse & Son, for Trichomanes Kaulfussii, S.B.
Mr. W. Bull, for Araucaria Rulei, S.B.
Messrs. E. & G. Henderson & Son, for Primula sinensis fol. var., B.
Messrs. Backhouse & Son, for Trichomanes floribundum, B.
Messrs. Backhouse & Son, for Trichomanes alatum, B.
Messrs. Backhouse & Son, for Lindsæa crenata, B.
Messrs. Backhouse & Son, for Adiantum Ghiesbreghtii, B.
Messrs. A. Henderson & Co., for Gardenia florida variegata, B.
Rev. J. G. C. Fussell, for Gymnogramma chrysophylla, var., B.
Rev. J. G. C. Fussell, for Ceratodactylis osmundioides, Special Certificate.
Messrs. Backhouse & Son, for Group of rare Ferns, Special Certificate.

CLASS 31.—NEW ORCHIDS in FLOWER (Open).

Messrs. Veitch & Son, for Cattleya Aclandi-Loddigesii, S.K.
Mr. Watson, Gr. to C. Leach, Esq., Clapham Park, for Disa grandiflora superba, S.B.

CLASS 32.—NEW or RARE HARDY ORNAMENTAL PLANTS (Open).

Messrs. Veitch & Son, for Gymnogramma japonica, S.K.
Mr. Standish, Ascot, for Asplenium elegantulum, S.K.
Mr. Standish, Ascot, for Quercus sp. Japan, S.B.
Mr. Standish, Ascot, for Funkia sp. Japan, S.B.
Mr. Standish, Ascot, for Woodsia polystichoides Veitchii, S.B.
Mr. Standish, Ascot, for Lycopodium sp. Japan, S.B.
Messrs. Veitch & Son, for Ligustrum sp. fol. var., B.
Mr. Standish, for Quercus sp. Japan, B.
Messrs. Veitch & Son, for Asplenium consimile, B.

CLASS 33.—NEWLY INTRODUCED PLANTS (Open).

1st Certificate, Messrs. Veitch & Son, for Alocasia macrorhiza variegata
2d, Messrs. Veitch & Son, for Alocasia zebrina
3d, Messrs. Veitch & Son, for Cryptomeria species nova, Japan
4th, Messrs. Veitch & Son, for Musa vittata
5th, Mr. W. Bull, for Areca dealbata
6th, Messrs. Veitch & Son, Alsophila Smithii

CLASS 34.—FERN CASE, for the Drawing Room (Open).

1st (Withheld).
2d, Messrs. Hooper & Co., Covent Garden, 2*l.*

CLASS 35.—WARDIAN CASES, arranged for the Drawing Room (Open).

1st, Messrs. A. Henderson & Co., Pine-Apple Place, Edgeware Road, 3*l.*
2d (Withheld).
3d, Messrs. Barr & Sugden, 12, King Street, Covent Garden, 1*l.*

CLASS 36.—WINDOW BOXES FILLED with PLANTS (Open).

1st, Mr. G. Macintosh, Hammersmith, 2*l.*
2d, Mr. C. Ross, Gr. to C. Eyre, Esq., Welford Park, Newbury, 1*l.*
3d, Messrs. Barr & Sugden, 12, King St., Covent Garden, 10*s.*

CLASS 37.—SEEDLING FLORISTS' FLOWERS and GARDEN HYBRIDS (Open).

1st Class Certificates, Messrs. E. G. Henderson & Co., for Var. Pelargonium Lucy Grieve
Ditto, Messrs. E. G. Henderson & Co., for Var. Pelargonium Italia Unita
Ditto, Mr. C. Turner, Slough, for Pink Rev. Geo. Jeans
Commendation, Mr. E. P. Francis, Hertford, for Scarlet Pelargonium Lady Cowper

CLASS 38.—PLANTS in POTS, arranged for Drawing Room (Open).

1st, Messrs. Barr & Sugden, 12, King Street, Covent Garden, 2*l.*
2d, Mr. W. Young, Gr. to R. Barclay, Esq., Highgate, 1*l.*

**Prizes offered by W. Wilson Saunders, Esq., Treasurer.**

CLASS 39.—THREE HANGING BASKETS of PENDENT PLANTS.

1st, Messrs. A. Henderson & Co., Pine-Apple Place, Edgeware Road, 5*l.*
2d, Messrs. Barr & Sugden, 12, King Street, Covent Garden, 2*l.*

CLASS 40.—24 CUT VERBENAS, 4 trusses of each (Open).

1st, Mr. C. Turner, Royal Nurseries, Slough, 1*l.* 10*s.*
2d, Mr. W. H. Treen, Nurseryman, Rugby, 1*l.*
3d, Mr. G. Grimbly, Nurseryman, Stoke Newington, 10*s.*

CLASS 41.—MISCELLANEOUS.

1st, Lady Dorothy Neville, Petersfield, for Trees with Ailanthus Worms, 2*l.*
2d, Messrs. Backhouse & Son, Nurseryman, York, for Collection of Plants, 1*l.* 10*s.*
Equal 3d, Mr. M. Higgs, Gr. to Mrs. Barchard, Putney Heath, for Lycopodiums, 1*l.*
Equal 3d, Messrs. E. G. Henderson & Son, St. John's Wood, for 43 varieties of Ivy, 1*l.*
Equal 4th, Mr. G. Batley, Nurseryman, Rugby, for Cut Verbenas, 10*s.*
Equal 4th, Mr. C. Turner, Royal Nurseries, Slough, for Cut Pinks, 10*s.*
Bronze Medal, Mr. H. Lavey, Gr. to E. A. De Grave, Esq., Fetcham, Surrey

## FRUIT.

CLASS A.—COLLECTION of FRUIT (Fruiterers only). (No competition).

CLASS B.—COLLECTION of FRUIT, 8 dishes, distinct.

1st, Mr. C. Turner, Royal Nurseries, Slough, 7*l.*
2d, Mr. C. Penny, Gr. to H. H. Gibbs, Esq., St. Dunstan's, Regent's Park, 5*l.*
3d, Mr. A. Henderson, Gr. to the Duke of Sutherland, Trentham, 3*l.*
Extra, Mr. R. Turnbull, Gr, to the Duke of Marlborough, Blenheim, 1*l.* 10*s.*

CLASS C.—PINE APPLE, PROVIDENCE.

1st, Mr. T. Young, Gr. to C. Bailey, Esq., M.P., Aberdare, 2*l.*
2d, Mr. J. Wallis, Gr. to J. Dixon, Esq., Congleton, 1*l.* 10*s.*

CLASS D.—PINE APPLE, QUEEN.

1st, Mr. A. Grant, Gr. to J. Plucknett, Esq., East End, Finchley, 2*l.*
2d, Mr. R. Smith, Gr. to J. W. Walker, Esq., Calderstone, Liverpool, 1*l.* 10*s.*
3d, Mr. W. J. Ward, Headington Hall, Oxford, 1*l.*
Extra, Mr. C. Smith, Gr. to A. Anderson, Esq., Norwood, 10*s.*
Extra, Mr. J. Carr, Gr. to P. L. Hinds, Esq., Byfleet Lodge, Surrey, 10*s.*

CLASS E.—PINE APPLE, any variety except QUEEN.

1st, Mr. J. Hall, Gr. to the Earl of Scarborough, Sandbeck Park, Rotherham, 2*l.*
2d, Mr. J. C. Dwerrihouse, Gr. to Viscount Eversley, Heckfield Place, Hants, 1*l.* 10*s.*

CLASS F.—GRAPES, COLLECTION of, distinct kinds.

1st, Mr. W. Hill, Gr. to R. Sneyd, Esq., Keele Hall, Staffordshire, 5*l.*
2d, Mr. A. Henderson, Gr. to the Duke of Sutherland, Trentham, 3*l.*
3d, Mr. J. Cross, Gr. to Lord Ashburton, The Grange, Alresford, Hants, 2*l.*

CLASS G.—GRAPES, BLACK HAMBURGH, single dish.

1st, Mr. J. Meredith, Vine Cottage, Garston, near Liverpool, 3*l.*
2d, Mr. J. Wallis, Gr. to J. Dixon, Esq., Congleton, 2*l.*
3d, Mr. C. Allen, Gr. to J. B. Glegg, Esq., Withington Hall, Cheshire, 1*l.*

CLASS H.—GRAPES, DUTCH HAMBURGH, single dish.

1st, Mr. J. Meredith, Vineyard, Garston, near Liverpool, 3*l.*
2d, Mr. J. Widdowson, Gr. to C. A. Barnes, Esq., Rickmansworth, 2*l.*
3d, Mr. C. Turner, Royal Nurseries, Slough, 1*l.*

CLASS I.—GRAPES, FRANKENTHAL, single dish.

1st, Mr. J. Meredith, Vineyard, Garston, near Liverpool, 3*l.*
2d, Mr. W. Jones, Gr. to J. C. Philips, Esq., Heath House, Cheadle, 2*l.*
3d, Mr. A. Henderson, Gr. to the Duke of Sutherland, Trentham, 1*l.*

CLASS J.—GRAPES, BLACK, any variety except FRANKENTHAL.

1st, Mr. W. Hill, Gr. to R. Sneyd, Esq., Keele Hall, Staffordshire, 3*l.*
2d, Mr. J. Cross, Gr. to Lord Ashburton, Alresford, Hants, 2*l.*

CLASS K.—GRAPES, WHITE MUSCAT of ALEXANDRIA, single dish.

1st, Mr. J. Embery, Gr. to — Moss, Esq., Chadwell Heath, 3*l.*
2d, Mr. C. Turner, Royal Nurseries, Slough, 2*l.*
3d, Mr. R. Turnbull, Gr. to the Duke of Marlborough, Blenheim, 1*l.*

CLASS L.—GRAPES, MUSCAT, any other variety.

1st, Mr. J. McPherson, Gr. to E. S. Chandos Pole, Esq., Radbourne Hall, Derby, 3*l.*
2d, Mr. J. Embery, Gr. to — Moss, Esq., Chadwell Heath, 2*l.*
3d, Mr. R. Turnbull, Gr. to the Duke of Marlborough, Blenheim, 1*l.*

CLASS M.—GRAPES, WHITE, any variety except MUSCAT, 1 dish.

1st, Mr. J. F. Mould, Gr. to J. Sladen, Esq., Hartsbourne Manor, near Watford, 3*l.*
2d, Mr. W. Hill, Gr. to R. Sneyd, Esq., Keele Hall, Staffordshire, 2*l.*
3d, Mr. A. Henderson, Gr. to the Duke of Sutherland, Trentham, 1*l.*

CLASS N.—PEACHES, 2 dishes, distinct kinds.

1st, Mr. T. Dawson, Gr. to Earl Cowper, Panshanger, Herts, 3*l.*
2d, Mr. G. Young, Gr. to W. H. Stone, Esq., Leigh Park, Havant, 2*l.*
3d, Mr. W. Tegg, Gr. to Baron Hambro, Roehampton, 1*l.*

CLASS O.—PEACHES, Single Dish.

1st, Mr. H. Sawkins, Gr. to G. Brassey, Esq., Bramfield, Hertford, 1*l.* 10*s.*
Equal 1st, Mr. J. Wills, Gr. to Sir P. Grey Egerton, Bart., M.P., Tarporley, Cheshire, 1*l.* 10*s.*
2d, Mr. T. Edwards, Kington, Herefordshire, 1*l.*
3d, Mr. G. Bannerman, Gr. to Lord Bagot, Blithfield Hall, Staffordshire, 10*s.*

## ROYAL HORTICULTURAL SOCIETY'S
LIST OF AWARDS—*Continued.*

CLASS P.—NECTARINES, 2 Dishes, Distinct Kinds.
1st, Mr. J. Cross, Gr. to Lord Ashburton, The Grange, Alresford, Hants, 3*l.*
2d, Mr. W. Tegg, Gr. to W. H. Goschen, Esq., Roehampton, 2*l.*
3d, Mr. G. Young, Gr. to W. H. Stone, Esq., Leigh Park, Havant, 1*l.*

CLASS Q.—NECTARINES, Single Dish.
1st, Mr. J. Wills, Gr. to Sir P. Grey Egerton, Bart., M.P., Tarporley, Cheshire, 1*l.* 10*s.*
2d, Mr. T. Bannerman, Gr. to Lord Bagot, Blithfield Hall, Cheshire, 1*l.*
3d, Mr. W. Tillery, Welbeck, Worksop, Notts, 10*s.*

CLASS R.—FIGS, single dish, 12 fruits.
1st, Mr. J. Smith, Gr. to the Duke of Northumberland, Syon House, 1*l.*
2d, Mr. J. Pottle, Gr. to B. D. Colvin, Esq., Bealings, Suffolk, 15*s.*
3d, Mr. E. Robinson, Gr. to E. Benyon, Esq., M.P., Englefield, Reading, 10*s.*

CLASS S.—CHERRIES, single dish, 50 fruits.
1st, Mr. C. Turner, Royal Nurseries, Slough, 1*l.*
2d, Mr. J. Widdowson, Gr. to C. A. Barnes, Esq., Rickmansworth, 15*s.*
3d, Mr. J. Beck, Tedworth Gardens, Marlborough, 10*s.*

CLASS T.—PLUMS, single dish.
1st, Mr. A. Ingram, Gr. to J. J. Blandy, Esq., Reading, 1*l.*

CLASS U.—STRAWBERRIES, 4 dishes, distinct kinds.
1st, Mr. P. Lydiard, Bath Easton, Bath, 1*l.* 5*s.*
2d, Mr. C. Turner, Nurseryman, Slough, 1*l.*
3d, Mr. W. Kaile, Gr. to Earl of Lovelace, Ripley, Surrey, 15*s.*

CLASS V.—COLLECTION of STRAWBERRIES, not less than 6 kinds.
1st, Mr. J. Widdowson, Gr. to C. A. Barnes, Esq., Rickmansworth, 2*l.*
2d, Mr. C. Turner, Nurseryman, Slough, 1*l.* 10*s.*

CLASS W.—MELONS, Green-fleshed.
1st, Mr. J. Pottle, Gr. to B. D. Colvin, Esq., Bealings, Suffolk, 1*l.* 10*s.*
2d, Mr. P. Lydiard, Batheaston, Bath, 1*l.*
Extra, Mr. W. Tegg, Gr. to W. H. Goschen, Esq., Roehampton, 10*s.*

CLASS X.—MELONS, Scarlet-fleshed.
1st, Mr. J. Tegg, Gr. to Baron Hambro, Roehampton, 1*l.* 10*s.*
2d, Mr. W. Tillery, Welbeck, Worksop, Notts, 1*l.*
Extra, Mr. W. Tegg, Gr. to W. H. Goschen Esq., Roehampton, 10*s.*

CLASS Y.—VINES in POTS, bearing fruit, 4 Plants. (No competition).

CLASS Z.—ORCHARD-HOUSE FRUIT TREES, in Pots, Bearing Fruit.
1st, Mr. J. Vickers, Woodlands, Tooting Common, S., 4*l.*
2d, Messrs. Lane & Son, Nurserymen, Berkhampstead, Herts, 3*l.*
3d, Mr. W. Kaile, Gr. to the Earl of Lovelace, Ripley, Surrey, 2*l.*

MISCELLANEOUS.—For Fruits not specially mentioned.
1st, Messrs. Lane & Son, Berkhampstead, for Collection of Fruit Trees in Pots, 2*l.*
2d, Mr. G. Terry, Gr. to L. Ames, Esq., St. Albans, for dish of Tomatoes, 1*l.* 10*s.*


# The Gardeners' Chronicle.

*SATURDAY, JULY* 4, 1863.


MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| TUESDAY, | July 7 | Royal Horticultural (Floral and Fruit Committees) at S. Kensington .. Noon |

THE beautiful blossoms of MOUTAN PEONIES exhibited by Mr. BATEMAN from the gardens at Knypersley Hall, and the very sensible suggestions which he makes with regard to their treatment in a recent number of the *Proceedings of the Royal Horticultural Society*, will, we should hope, serve as stimuli to revive the position of these really noble flowers in the estimation of the gardening public. Such an application of "orchard houses" is suggestive that there are many other subjects amongst flowering plants, to the cultivation of which structures of this kind might be very well adapted. We quote Mr. BATEMAN's remarks:—

"So many difficulties attend the cultivation of the different kinds of the Chinese Moutan or Tree Peony in England, that few persons have any idea of the magnificent effect they are capable of producing. The late Lord MOUNTNORRIS did more than any other man to render the Moutan popular, but he possessed only a few—and these not the best—varieties, as contrasted with those that have been more recently introduced; and yet, these drawbacks notwithstanding, the appearance of his bed of Tree Peonies in flower, was a sight that will never be forgotten by those who were fortunate enough to witness it.

"After Lord MOUNTNORRIS's death, little notice was taken of the Moutan, until the splendid discoveries of Mr. FORTUNE, when on a mission to China in the service of the Horticultural Society, again directed attention to its surpassing merits. Having myself received one or two varieties through the liberality of the Society, and having obtained others from the Bagshot Nursery, I prepared for their accommodation the warmest and most sheltered spot that I could find in my garden at Biddulph Grange; but although in this situation they grew freely, I was unable—after ten years' cultivation—to point to more than one season in which they flowered at all satisfactorily. For if the summer was cold and wet, their wood was imperfectly ripened; if the winter was peculiarly severe their constitution suffered; or if it was mild, the early growth that it induced was certain to lead to mischief from late spring frosts or cutting winds. Then again, unless, in addition to a suitable preceding summer and winter, the weather was fair and calm, and cloudy at the time of their flowering, they either would not display their charms, or if they did they were speedily destroyed, for rain and sun and wind are all alike injurious. Neither can they find a refuge, like other plants, in pot-culture under glass, for the space required for their roots is so great as to put this mode of growing them out of the question.

"Under all these untoward circumstances we need not wonder that these beautiful plants found little favour in the eyes of the horticultural public, or that nurserymen should have so entirely abandoned their cultivation that many of Mr. FORTUNE's finest discoveries cannot now be obtained in England.

"In my own case, while convinced of the hopelessness of attempting to grow these plants out of doors—in North Staffordshire at all events—and yet not caring to throw my plants away, I placed about a dozen of them in the central border of the orchard-house at Knypersley, where they have flourished marvellously, as a glance at the specimens now contributed will sufficiently prove. I ought to add that many of the varieties that are already over, or that are not yet in bloom, are equally beautiful."

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A RECENT article on the STRAWBERRY in the *Technologist*, in which the writer, Mr. W. R. PRINCE, asserts that "very erroneous views" on the subject have existed in both America and England, seems to deserve a passing notice. The author returns to the old statement that in such sorts as the Pine, the Scarlet, the Chili and some others, the same partial sterility naturally occurs as is characteristic of the Hautbois. So, at least, we understand the somewhat confused statement in the work alluded to. But we are told that here, in Europe, the males (or "staminate" plants) have been exterminated, and only hermaphrodites left, while what are called the "productive American female varieties" have been almost totally excluded. "Europe, at the present time, possesses no female varieties except the pistillate Hautbois, which she exterminates, and the few pistillate varieties of Virginians, mostly obtained from America 200 years ago, and two only of our estimable pistillate varieties, which have been recently introduced there; this deficiency having resulted from her *fatuity* in ignoring the rapid progress made in the Strawberry culture in America during the last 50 years."

Fatuity is a hard word; but we let it pass, considering whence it comes. Mr. PRINCE goes on to say, that "it is plainly apparent that in Europe this subject of sexuality has been almost entirely overlooked by the mass, and that investigation has been neglected by the professedly scientific, and discouraged by the prolonged assumptions of Dr. LINDLEY and others, that the 'science' of the otherwise 'cute' Americans was mere 'theory and assertion,' which simply required a little English 'practice and common sense' to regulate it. Thus they have, during the whole period of 44 years since the establishment of the London Horticultural Society's Garden, remained in the ignorance of 'intellectual exclusiveness.'"

He is further of opinion that the European method of culture will henceforth be based on those scientific principles long practised in his country, and which were announced by his father and him in various horticultural periodicals, and published in their "Treatise on Horticulture" in 1828.

So indispensable, he says, "is the sexual combination to the production of abundant crops in all the American varieties, and in the Pine and Hautbois varieties cultivated in Europe, that it may well be doubted whether any person in England *has yet realised what constitutes a full crop of Strawberries.* Attention to sexual distinctions being indispensable in a scientific view, it is equally demanded in every country and climate where Strawberries are grown that possess these characteristic distinctions."

Although, writes Mr. PRINCE, "it is a truism that the differences between the humid and cool climate of England and our dry and hot atmosphere cause the best educated English gardeners who migrate here to commit great absurdities, yet these climatic variations have no more connexion with the sexuality of Strawberries, nor with the results of that sexuality in the productiveness of the crop, than they would have on two crops grown side by side—the one on dry soil, and the other subjected to irrigation. Sexuality is Nature's own fact; the success and extent of the crop are the result of art and culture. The incontrovertible truth thus stands forth that the exercise of science in regard to the existing sexuality is not necessarily variable by climate, but is quite as important in one country as in another." We cannot say that we quite understand this. One thing however is clear—that our North American friend thinks far more highly of himself than of us Englishers. Before however we can join in adopting his views or applauding his manner of stating them, we should like to have some evidence of their accuracy; a point which such a paragraph as the following obliges us to doubt. It is admitted, he says, "on all hands that the principal Strawberries in England are *treated as tender exotics*, and Mr. WRAY asks, 'Why is it so pampered, swathed, and swaddled, and its hardy character so completely ignored?' In England the fine varieties of Strawberries *are so expensively grown* that they only reach the tables *of the wealthy classes*, whereas in America they are chiefly grown for the million. (!!!)"

What do our market gardeners say to this?

Our reason for noticing all this is not for the sake of Mr. W. R. PRINCE, or his "scientific Treatise on Horticulture, published in 1828," but to elicit truth. Is it true that some plants of the American Strawberries are absolutely female? is it true that those females are far more productive than our hermaphrodites? If so the fact is worth knowing, and we venture to ask the following question:—Can any of our readers on this side the Atlantic confirm these statements? If they can we shall be only too happy to publish their replies. We request however that their communications may be authenticated by their names.

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—— If, as we have already had occasion to remark, in reference to the exhibitions of New Plants at some of the previous metropolitan exhibitions of the present year, Ferns have carried the day over all other classes of novelties, the remark is more than ever applicable to the show of Wednesday last at South Kensington; for such a public display of living Film-Ferns and Lindsæas as that made by the Messrs. BACKHOUSE, of York, was never before witnessed. Great must have been the mortification of the judges (if not also of the exhibitors) to find that the plan in which the Society has persisted, notwithstanding the arguments we last year urged against it, of offering medals instead of certificates for the classes in which these plants are shown, prevented them from fully recognising by their awards the merits of many of the plants thus placed before them. This plan, we repeat, by very much limiting the number of awards, does the great injustice, in cases where there is a glut of really fine novelties, as there was on this occasion, of forcing third-class medals on first-class plants; and it cannot therefore be too speedily abolished.

Of tender plants in flower comparatively few were shown. The best was the Peruvian Bomarea multiflora from Messrs. VEITCH, one of the group of climbing Alströmerias, whose stems, clothed with lance-shaped leaves, were terminated by umbels of handsome drooping orange red flowers, whose more prominent yellow petaloid segments were dotted inside with crimson. Another useful plant adapted for greenhouse cultivation was the Statice Frostii produced by Lady GRENVILLE's gardener at Dropmore, a stout growing hybrid between imbricata and Holfordii, with lyrately pinnatifid downy leaves, winged stems, and rich blue purple flowers. In this class Mr. BULL showed the curious Ouvirandra fenestralis in a flowering state; and under the name of Swainsona splendens, Messrs. CARTER & Co. set up some cut specimens of what appeared to be a fine variety of S. Greyana, with greyish pinnate leaves, and remarkable for the large clear white spot on the standard of the pale magenta rose flowers.

Among the tender plants not in flower, the Ferns, as we have already intimated, bore away the palm. Our space will not permit us to dwell, as we are tempted to do, over the two dozen or thereabouts of Film Ferns, or the dozen species of Lindsæa, shown by Messrs. BACKHOUSE. We must be content to observe that they were all growing in rude health, many of them charming specimens, and all full of interest, though the majority, for the reason we have stated, found no place in the prize list. One of the most elegant among them was Trichomanes scandens with its large drooping attenuated finely cut tripinnatifid fronds of exquisite beauty. Another very handsome species was Hymenophyllum valvatum, smaller than the former, but like it of pendent habit, the fronds linear oblong, some 5 or 6 inches in length, looking as if the plane linear obtuse lobes were held together to form a bipinnatifid frond by means of the winged rachides. Scarcely less beautiful, and equally unfamiliar to all but the leading Fern growers, was Trichomanes Kaulfussii, which had erect pinnatifid fronds, the rachis of which was distinctly

winged, and the oblong lobes undulated and toothed; or Trichomanes floribundum, a somewhat bolder style of plant, with the ribbon-like pinnæ comparable with Pteris cretica as to size, but when in fructification, which this plant was not, fringed along the margin with sunken elongated cysts, and long projecting thread-like receptacles; or Trichomanes alatum, with pinnate fronds, having winged rachides and pinnatifid toothed pinnæ, emulating in beauty the T. scandens with which we set out. Specially interesting too were Trichomanes trichoideum, whose fronds were cut up into almost hair-like divisions, so fine are the multiplied segments; T. membranaceum and muscoides, both with undivided fronds; T. nanum, one of the spike-fruited set, and a very rare one too, to which the name Féea is given; T. Zollingeri, one of the javanicum set with remarkable asplenioid fronds; T. coriaceum, with short stiff ovate bipinnatifid winged fronds; and several Hymenophyllums, among which pulcherrimum and Plumieri must be named.

The Lindsæas from the same growers—plants which seem to have generally baffled the skill of cultivators, as they have hitherto appeared, here one and there one, only to disappear speedily, and on whose management we should be glad to be enlightened—formed a group only second in interest to the Film-Ferns already noticed. The handsomest, in their present state at least, were in our opinion: stricta, crenata, and trapeziformis; the others being guianensis, falcata, Leprieurii, recurvata, obtusa, dubia, reniformis, and sagittata.

Still in this class there were from Messrs. VEITCH Pteris serrulata cristata and Acrophorus affinis, noticed at p. 602; from Mr. BULL, young plants of Araucaria Rulei, one of the fine Conifers of New Caledonia; from Messrs. E. G. HENDERSON & SON, Primula sinensis fol. variegatis, a very handsomely marked variegated-leaved Chinese Primrose; from Messrs. A. HENDERSON & Co., Gardenia florida variegata, mentioned at p. 602; from Messrs. BACKHOUSE & SON, Adiantum Ghiesbreghtii, a fine deep green broad-pinnuled Maidenhair; and finally from the Rev. J. G. C. FUSSELL, of the Chantry, Frome, a magnificent specimen some 4 or 5 feet across of some large-fronded form of Gymnogramma chrysophylla, the management of which was deserving of all praise; and from the same exhibitor a particularly well managed specimen of the rarely seen Llavea cordifolia under its more usual but less correct name of Ceratodactylis osmundioides.

New Orchids were represented by the Cattleya Aclandi-Loddigesii of Messrs. VEITCH, to which we have already referred at p. 602; and by the less anovel but perhaps still more beautiful Disa grandiflor superba from Mr. WATSON, gr. to C. LEACH, Esq., ofpClapham Park. This fine variety of Disa was accom anied by three or four pans filled with differently coloured forms of this beautiful terrestrial Cape Orchid.

Of new hardy plants the chief were Gymnogramma or Dictyogramma japonica, a bright green bipinnate Fern with large lanceolate pinnæ; a variegated leaved Japanese Privet; and a coriaceous pinnate Fern called Asplenium consimile from Chili: all shown by Messrs. VEITCH. Also, a charming little Japanese Fern called Asplenium elegantulum, which looks like an enlarged fontanum; Woodsia polystichoides Veitchii, a very distinct pinnate Woodsia; a Japanese Funkia with glaucous leaves and French-white flowers; a Japanese Lycopod, probably Selaginella involvens; and two Japanese species of Quercus, one with broad obovate sinuately toothed leaves, the other with depauperately or attenuately pinnatifid leaves: all from Mr. STANDISH. Scarcely so novel as the foregoing, but not less interesting, were two plants from Messrs. BACKHOUSE and SON, which, as we learned, had stood out-doors with them unprotected and uninjured during the two last winters, namely Gleichenia alpina from Tasmania, and Richardia albo-maculata from Natal: both of them now in perfect health.

Seedling flowers had much diminished in numbers since the former exhibition, but there were some few of interest notwithstanding. We refer to a Pink called Rev. George Jeans shown by Mr. TURNER, a large clear white full flower, with heavy lacing of rosy crimson; to Lucy Grieve, the best of the red-zoned golden edged Pelargoniums, being more highly coloured than Mrs. Pollock, and to Italia Unita the best of the red-zoned silver edged sorts, both shown by Messrs. E. G. HENDERSON and SON; and to Lady Cowper, a scarlet Pelargonium from Mr. FRANCIS, a dwarf variety which from its small bright green foliage, scarlet flowers, and compact habit, promises to be a useful variety for decorative purposes.

—— At page 739 of our Volume for last year, we referred to the great strides which have latterly been made in the improvement of the FANCY PANSY. The increased interest thus given to an old favourites of our gardens, one of those pretty spring flowers which before hot weather sets in is welcomed as one of the gayest of our border decorators, has not at all abated. Indeed, the element of variety, of which till recently, the Pansy stood very much in need, has been so largely secured by the agency of this race which bears the name of Fancy Pansies, that we may expect the flower to obtain a renewed lease of public approbation.

Mr. DEAN, of Shipley, some of whose seedlings were noticed on the occasion to which we have referred, has again sent us a box of blooms of his novelties, which we have overhauled with much interest. The prevalent group amongst these Shipley Fancies is characterised by having a white ground-colour and very strongly developed deep mulberry purple blotches around the eye, the outside of the petals being more or less marked with purple or lavender stains and blotches of more or less intensity—these passing into grey blue on the one hand and deep violet on the other. Of this white-ground series, the best flower that has come under our notice, is one among those just received, called Her Majesty. This has the two larger or back petals splashed with violet on a paler grayish ground; the side petals with roundish blotches of black purple near the centre, these passing into short rays on the outer side, and being edged with a zone of lilac purple, and again by a broad margin of lighter or grayish blue; while the lower petals are three-parts covered with a dense dark purple blotch in immediate contact with a clear orange radiated eye, the blotch being even at the outer edge, and bordered with a narrow regular margin of cream colour. The shape of this flower is fine, and it is altogether a rich-looking variety, well deserving to bear so illustrious a name. Paler than this is Princess of Wales, in which the flowers have a creamy white ground with a yellow feathery eye, and deep mulberry blotches towards the base of the three lower petals, those of the two lateral ones especially passing out into pencilled lines, while the upper petals are delicately tinged with peachy lilac. Somewhat deeper-coloured, with a good deal of bluish lilac, here and there deepening into bluish violet, with the eye variously feathered, and the spots various both in form and in feathering, but of some shade of deep purple, and forming intense and prominently-marked blotches, come Imperatrice Eugénie, Brigand, Annie Brooksbank, Le Géant, and Columbine. Lottie differs somewhat in having the centre of the upper petals of a bright pucy purple, and the margin pale. Prince Napoleon is larger, with a broad lilac border, and purple spots veined with black purple. Prince Imperial is very bizarre in colour, the general tint of the lower petals being creamy white with here and there a streak or flush of yellow, and the spots dense purple and feathered, but differing in their tone of colour, some parts, apparently where the yellow of the eye has run out through the purple, having more of a maroon tinge, and the pale parts being streaked with pale purple; the upper petals are entirely of a streaked blotchy puce purple. Still darker than all these, come Bluebeard and King of Italy, both fine showy flowers, the first excellent in form, with the three lower petals bluish lilac margined with plum colour, a very large dark spot scarcely feathered on the lower petals, a golden eye, and feathered dark spots on the side petals, while the two upper are of a reddish plum. King of Italy is more generally suffused with a deep violet on the four upper petals, with dark spots right and left of the eye, the lower petal with a yellow eye, a dark almost black spot feathering out through a zone of reddish plum, succeeded by another of violet, the extreme eye being pale. Princess Louisa, formerly noticed, is one of the violet purple set, with a broad creamy white edge to the lower petal, and a similar hue a good deal breaking up the deeper colour on the side petals.

Thomas Moore is a large constant and very showy flower, somewhat varied in its marking: some of the darker flowers have the upper petals of a violet purple with a broadish edge of white, the side ones with a dense black spot feathering outwardly, bordered by a zone of creamy white, and these again by a broad margin of violet, while the lower is straw yellow on the upper edge, purple on the lower edge, with a golden eye, and a broad maroon spot, just bordered by a belting of a bronzy hue. In some flowers less of the purple appears.

Little Pet has upper petals similar to the last, but the lower are cream-colour with three distinct moderate-sized dense violet spots crossed by dark pencillings, and each with a paler spot in the centre of the edge. Hibernia, a very striking flower, is of a creamy white, with similar spots towards the centre, and a belt of bluish violet just within the edge on the three lower petals.

The yellow-ground series is perhaps on the whole hardly so varied and striking in appearance, but it contains nevertheless some remarkably handsome flowers. One of the richest-looking is Prince of Wales, which has the upper petals pale dashed with pucy plum; the side one, yellow with a broken plum-coloured margin, and a dark spot edged with bronzy red; and the lower one with a yellow margin deepest towards the eye, and a black spot surrounded by a belt of bronzy red; this is altogether very rich and bright. Talisman in the way of Noemi Demay has purplish upper petals, paler at the edge, and the lower edge of the lower petals flushed with bronze. Mrs. Dean has deep plum upper petals, creamy purple-spotted side petals, with a plum-coloured edge, and a yellower lower petal with maroon-crimson spot, plum-coloured edge, and a broken zone of yellow separating the two; very pleasing. Clara Dean is somewhat similar, with a paler plum-coloured zone and pale edge, the spot a much deeper maroon, and the upper petals bordered with cream colour. Admiration is lighter, having its upper divisions pucy violet edged with straw-colour, and its lower yellow with three intense spots. Harlequin is also light, but well marked, the upper petals pucy violet with a broad edge of straw yellow, the side ones yellower with a belt of purple within the yellow edge and a purple pencilled spot, and the lower with a broad maroon spot running out at the edge, and having a broken purplish margin. Prince Arthur, William Paul, and Clown are others of this set. Beauty of the Parterre is more like the show flowers: yellow centre, maroon spots, and belt of bluish purple. Moonshine has a yellow centre, clear intense spots, and a broken bluish-purple irregular edge. Firefly has a bright yellow centre with maroon spotting, and a somewhat irregular bronzy-red edging, the upper petals a good deal covered with this bronzy colour. Gold Cup is deep yellow with small radiate spots, the top petals mulberry with a yellow belt. Singularity repeats with a yellow ground many of the features of Princess Alice amongst the whites, having three intense maroon radiately feathered blotches on the lower petals, while the upper ones are tinged near the edge with faint purple.

We imagine that these flowers want no more intercrossing with the show varieties, which will bring sameness of character even though it should more rapidly realise improved form. What they rather want seems to be repeated and careful selection, by which means improvement in form and substance, the two chief desiderata, must be gradually brought out. These Fancy Pansies seem by the bye to have certain fancies of their own; for we learn from Mr. DEAN, that hot weather suits exactly the blotched sorts such as Harlequin, Hibernia, Thomas Moore, &c., which come as selfs until hot weather sets in; while in the case of others, such as Mrs. Turner, the latter a beautiful shaded lilac and creamy white flower, Princess of Wales, and similarly delicately coloured sorts, warm weather destroys the beautiful markings.

## FORM OF THE CELLS MADE BY WASPS AND THE HONEY BEE.

THE geometrical form affected by the cells of various kinds of wasps and bees has attracted the attention, and called forth the speculations, of naturalists and geometers from the earliest periods. By one class of writers the geometrical properties of these cells have been used as proofs, not so much of the skill and instinct of the insects as of the wisdom and intelligence of their Creator; while, by the opposite class of writers, these same geometrical properties of the cells are alleged as a sufficient cause for the production of the insects that make them, from the advantages which these forms of cells are supposed to possess over other forms—advantages said to be so important as to decide the battle of life in favour of the insects that adopt the geometrical plan of making their cells.

I have for a long time felt convinced that both parties in this controversy are in error, as men generally are when they attempt to speculate on the reasons for the existence of things; and that the properties of the cells are only the necessary consequence of their geometrical form, which form itself is the necessary consequence of mechanical conditions, totally unconnected with design, and incapable of rendering an account of the origin of the insects that make the cells.

The geometrical cells of the wasps and bees that I have had an opportunity of examining may be divided into three classes. 1st. Hexagonal cells, formed of adjoining pyramidal figures, with slightly curved axes, not terminating in a point, but in a rounded extremity. The British tree-wasp forms its pupa cells in this manner, and, in consequence of the pyramidal form of the hexagonal cells, the comb opens out on the lower side, so as to present a larger surface than on the upper side.

2d. Hexagonal cells, formed of adjoining prismatic figures, with rectilinear axes, terminated by a truncated plane, at right angles to the axes of the prisms. These cells are found in wasps' nests from St. Lucia in the West Indies, and at Graham's Town in South Africa, which were placed at my disposal for this investigation by Mr. Robert J. Montgomery.

3d. Hexagonal cells, formed of adjoining prismatic figures, with rectilinear axes, terminated by three faces of a rhombic dodecahedron, which three faces also form, each, one third of the termination of a similar set of adjoining hexagonal prismatic cells, placed end to end behind the first set of prisms. This double comb is produced by the well-known form of the cells of the honey-bee.

All these varieties of cells may be accounted for, simply by the mechanical pressure of the insects against each other during the formation of the cell. In consequence of the instinct that compels them to work with reference to a plane, and of the cylindrical form of the insects' bodies, the cells must be hexagons; and in consequence of the instinct that induces the bees to form double combs, the mutual pressure of their heads against each other compels the bottom of the cell to assume the form of the rhombic dodecahedron. If we could imagine spherical insects endowed with the instinct of working from a point and not a plane, their cells would cease to affect the forms of the hexagon and rhombic dodecahedron, and would imitate the totally different form of the pentagonal dodecahedron—instances of which may be seen in the bubbles produced in the froth of an organic solution, and in the shapes of the elementary cells of vegetables, equally restricted in their growth in every direction; and also in the pentagonal faces assumed by leaden bullets made to fill completely the inside of a hollow shell, and then discharged against a bank of earth or a wall, from a mortar.

On this subject, I cannot do better than quote the

words of Buffon, who was the first person that put forward a rational theory of the shape of the cells of bees. The passage which I quote may be found in his *Histoire Naturelle*, tom. iv. p. 99:—"Dirai-je encore un mot; ces cellules des abeilles, ces hexagones, tant vantés, tant admirés, me fournissent une preuve de plus contre l'enthousiasme et l'admiration: cette figure, toute géométrique et toute régulière qu'elle nous paroît, et qu'elle est en effet dans la speculation, n'est ici qu'un résultat mécanique et assez imparfait qui se trouve souvent dans la Nature, et que l'on remarque même dans ses productions les plus brutes; les cristaux et plusieurs autres pierres, quelques sels, &c., prennent constamment cette figure dans leur formation. Qu'on observe les petites écailles de la peau d'une roussette, on verra qu'elles sont hexagones, parce que chaque écaille croissant en même temps se fait obstacle, et tend à occuper le plus d'espace qu'il est possible dans un espace donné: on voit ces mêmes hexagones dans le second estomac des animaux ruminans, on les trouve dans les graines, dans leurs capsules, dans certaines fleurs, &c. Qu'on remplisse un vaisseau de pois, ou plutôt de quelque autre graine cylindrique, et qu'on le ferme exactement après y avoir versé autant d'eau que les intervalles qui restent entre ces graines peuvent en recevoir; qu'on fasse bouillir cette eau; tous ces cylindres deviendront de colonnes à six pans. On en voit clairement la raison, qui est purement mécanique; chaque graine, dont la figure est cylindrique, tend par son renflement à occuper le plus d'espace possible dans un espace donné, elles deviennent donc toutes nécessairement hexagones par la compression reciproque. Chaque abeille cherche à occuper de même le plus d'espace possible dans une space donné; il est donc nécessaire aussi, puisque le corps des abeilles est cylindrique, que leurs cellules soient hexagones—par la même raison des obstacles reciproques. On donne plus d'esprit aux mouches dont les ouvrages sont les plus; reguliers les abeilles sont, dit-on, plus ingénieuses que les guêpes, que les frélons, &c., qui savent aussi l'architecture, mais dont les constructions sont plus grossières et plus irrégulières que celles des abeilles: on ne veut pas voir, ou l'on ne se doute pas que cette régularité, plus ou moins grande, dépend uniquement du nombre et de la figure, et nullement de l'intelligence de ces petites bêtes; plus elles sont nombreuses, plus il y a des forces qu'agissent également et qui s'oppose de même, plus il y a par conséquent de contrainte mécanique, de regularité forcé, et de perfection apparente dans leurs productions." *Buffon.*

The opinions of the older writers, especially of mathematicians, on this subject, differ widely from those advanced by Buffon. I shall here translate some of the most important of the passages bearing on this point. The famous Pappus, of Alexandria, in the Introduction to the Fifth Book of his Mathematical Collection, says:—

"God has imparted to men, indeed, the best and most perfect knowledge of wisdom and discipline; and has assigned to some animals, devoid of reason, a certain portion. To men, therefore, as making use of reason, he has permitted that they should do all things by reason and demonstration, but to other animals without reason, he has given the possession of what is useful and conducive to life, by a certain natural providence. Any one may understand this to be so, as well in many other kinds of animals, and more especially in bees. For order, and a certain admirable deference to those who rule in their republic, ambition, moreover, and cleanliness, heap together an abundance of honey; but their foresight and economy concerning its conservation are much more admirable—for holding it for certain, as is just, that they carry back some portion of ambrosia from the gods to choice men, they pour out this, not rashly on the ground, or into wood, or any other unformed and misshapen matter; but collecting from the sweetest flowers that grow in the earth, they form from them most excellent vases as a receptacle for the honey (which the Greeks call κερία, and the Latins *favi*), all indeed equal, similar, and cohering among themselves, of the hexagon species. Now it is thus evident that they construct these by a certain geometrical foresight; for they consider it fit that all the figures should cohere together and have common sides, lest anything, falling into the intervening spaces, should spoil and corrupt their work. Hence, three rectilinear and ordinate figures can effect what is proposed—I mean ordinate figures which are equilateral and equiangular, for ordinate and dissimilar figures did not please the bees themselves. Now equilateral triangles, and squares, and hexagons (neglecting other dissimilar figures filling space), may be placed next each other, so as to have common sides—other ordinate figures cannot; for the space about the same point is filled, either by six equilateral triangles, or by four squares, or by three hexagons—but three pentagons are less than sufficient, and four are more than sufficient to fill the space round a point—neither can three heptagons be established, so as to fill the space round a point. The same reasoning will apply much more to figures having a greater number of sides. There being then, three figures, which of themselves can fill up a space round a point, viz., the triangle, the square, and the hexagon; the bees have wisely selected for their structure that which contains most angles, suspecting, indeed, that it could hold more honey than either of the others. The bees, forsooth, know only what is useful to themselves, viz., that the hexagon is greater than the square or triangle, and can hold more honey, an equal quantity of material being employed in the construction of each; but we, who profess to have more wisdom than the bees, will investigate something even more remarkable, viz., that of plane figures which are equilateral and equiangular and have equal perimeters, that is always the greatest which consists of most angles, and the circle is the greatest of all, provided it be included in a perimeter equal to theirs.

In 1712 Maraldi published in the "Mémoires de l'Academie des Sciences, Paris, 1712," page 299, a remarkable paper, in which is investigated for the first time the terminal planes of the bees' cell, which are now well known to be formed of the faces of the rhombic dodecahedron. He appears to have believed that the object of having lozenges of the same form as terminating planes was to enable the bees to carry in their mind the idea of one geometrical form only, in addition to their original idea of the hexagon. The angles of the lozenge are found by him to be 110° and 70°, by observation; and 109° 28′ and 70° 32′ by calculation. He gives also the following mean measurements of the cells:—In a foot long of comb there are from 60 to 66 cells, about two lines for each cell, and the depth of the cell is five lines.

Reaumur appears to have been the first who introduced the fantastic idea of economy of wax, as the motive cause of the peculiar shape of the terminating planes, and, not being a geometer, he obtained the assistance of König to calculate the angle of the lozenge which should give the least surface with a given volume. König determined this angle at 109° 26′, agreeing with Miraldi within two minutes.

MacLaurin published in the "Philosophical Transactions," 1743, p. 565, an elaborate geometrical paper on the subject, in which he proves that the tangent of the angle in question is the square root of 2, and that it is therefore equal to 109° 28′ 16″; and he computes the saving of wax as "almost one-fourth part of the pains and expense of wax they bestow, above what was necessary for completing the parallelogram side of the cells."

Lhuilier, in 1781, published in the "Berlin Memoirs," p. 277, an elaborate discussion of the entire problem, in which he arrived at the following results, already found by Mac Laurin's geometrical method:—*a.* That the economy of wax is less than one-fifth of what would make a flat base. *b.* That the economy of wax, referred to the total expenditure, is $\frac{1}{51}$th, so that the bees can make 51 cells, instead of 50, by the adoption of the rhombic dodecahedron. He does not share however in the enthusiasm of the naturalists, but maintains, and proves, that mathematicians could make cells of the same form as those of the bees, which, instead of using only a *minimum* of wax, would use the *minimum minimorum*, so that five cells could be made of less wax than that which now makes only four, instead of 51 out of 50.

Notwithstanding this conclusive decision in favour of the mathematicians, the advocates of final cause, and those who maintain that economy of wax can create a new species, have both persisted in using the bees' cell in illustration of their respective theories, with a pertinacity that proves the persistent vitality of an exploded theory. *Rev. Dr. Haughton, F.R.S.*

## Home Correspondence.

*Humble Bees in a Greenfinch's Nest.*—A few years ago a humble bee established a colony in the empty nest of a greenfinch, built about 4 feet from the ground, in the Hawthorn hedge of a garden near Chepstow. Wishing to preserve it I cut the nest carefully from the hedge, the bees flying round it without attempting to sting, till just as the few last twigs that supported it were being cut the queen came out, and after hovering in the air for about a minute, making a very peculiar noise, she flew away with the family, leaving the nest deserted. If any of your correspondents would be kind enough to mention whether they have seen humble bees building in similar localities I should feel obliged to them, or if they could inform me what species this probably was? As far as I can remember the bee greatly resembled the Bombus hortorum, but the dried specimens found in the nest when opened were so pale that it was almost impossible to ascertain the species with certainty; the colours were black on the back, the tail striped black and sulphur yellow, and the apical segments grey or white. The part of the nest added by the bees was entirely of moss. *E. O.*

*Hypericum Hookerianum.*—In Markham's Travels in Peru and India, I find, among other notices of plants growing on the Nielgherry Hills, an orange-coloured St. John's Wort mentioned, which must surely be a beautiful species:—is it introduced, and where can it be procured? Is the blue Justicia, which he speaks of as growing so abundantly as to give a colour to the hills, also introduced, and under what name? If not in England, they could surely be sent from Ootacamund by Mr. M'Ivor. *A Devonian.* [We are unable to interpret Mr. Markham's Botany. H. Hookerianum, which is very well figured in Wight's Spicilegium, has yellow, not orange flowers. We do not think it handsomer than H. calycinum.]

*Auricula-eyed Sweet Williams.*—Have any of your readers grown the Auricula-eyed Sweet Williams? If not, they should do so. These are the finest Sweet Williams I have ever seen, and I have been engaged in improving this flower for the last ten years. I received the seed from Mr. W. Dean, of Shipley, and I am bound to say that they have given complete satisfaction. I admit the beauty of those known as "Hunt's Strain," of which Mr. Bragg, of Slough, had a collection at the Horticultural Society's Show on June 17; but what I have now in flower of the Auricula-eyed please me better. They have large white centres, clearly defined and rounded, to flowers of large size and good form. Even in the light varieties the white centre is distinct, because bordered by some deep colour which forms a ring round it; and to many of the rich dark flowers there is a distinct edging of white. For exhibition purposes, especially, they are unequalled. I send some for your inspection. *Henry Braithwaite, Milbrook Road, Brixton.* [They are very handsome, certainly, the dark sorts chiefly shades of crimson or purple with large white eye and white fringed margin; the light ones with crimson or purple zones of varied width. As border flowers nothing can be more effective].

*Lilium giganteum.*—If any proof is wanted as to the hardiness of this Lily, we beg to say that we have in flower at the present time, five specimens of it from 8 to 10 feet in height, each carrying from 10 to 16 flowers; these have been in the open ground during the last three years. *Youell & Co., Great Yarmouth.*

*Conifers.*—If the points of dissimilitude between Abies and Picea, mentioned by Mr. Backhouse, do not amount to a "distinction," are those between Abies and Pinus of more importance? If so, in what manner? I cannot see why Picea should be put lower in the scale than Abies, and think that if the characters of the former group are only of sectional importance, those of the latter are no better, and that both must in that case be reduced to sections of Pinus. Is there not a difference or distinction of some importance in the modes of dehiscence of the anthers of Abies and Picea? Κέδρος. [Picea is not put lower in the scale than Abies; the two are *pares*. We think the junction of Abies and Pinus defensible, though objectionable; the separation of Picea from Abies is indefensible. Pinus differs from Abies by plain, positive, unvarying characters. Surely no one can say that of Abies and Picea. Even Richard, the most acute of the writers on Systematical Penkology (forgive the word), could not distinguish them. We hold to our opinion.]

*Araucaria Bleeding.*—I have a fine specimen of Araucaria standing on a lawn, which has hitherto grown luxuriantly. The growth this year is very trifling, and at about 9 inches from the ground the bark has burst, and a gummy substance oozes out. Should anything be done to stop this, and cause the bark to heal? I shall be thankful for any suggestions any of your readers may be able to offer. *An Original Subscriber.*

*Pruning Vines.*—In reply to the inquiry of your Correspondent "Vine" (see p. 604), let me say that the scissors or nippers which I have used for 10 years for pruning Vines were purchased by a lady some 30 years ago for pruning Roses, and have no maker's name on them. Saynor, of Sheffield, however, is in the habit of making nippers on the principle of those I have, though not so powerful; and "Vine" can procure them through any seedsman. With those I use, I can prune a Vinery in a third of the time, and to better purpose, than any man can with a knife, and they are a much safer weapon than a knife, especially in the hands of beginners. When the lateral has to be cut, as in the case of close spur pruning, within half an inch of the parent stem, and the wood is pithy, it often happens, where great care is not exercised, that the knife tears the bit of wood left and injures the fruit bud. I have often seen Vines much injured in this way. In using the nippers the cutting blade should always be next the parent stem, which prevents the bruising of the wood left. *W. Thomson.*

*Strawberry La Constante.*—Too much can hardly be said in favour of this comparatively new Strawberry. I have four rows of it across one of the quarters of the garden, and the crop on them is something incredible. The colour is bright vermilion, the fruit is large and regularly formed, and the flavour is excellent. This variety, I find, bears carriage better than any other sort with which I am acquainted, and instead of the runners creeping along the ground, like those of other kinds, they grow straight up among the leaves, forming supports almost sufficiently strong to carry the net with which they are covered. *J. Rust, Broom House, Fulham.*

## Societies.

ROSE SHOW AT THE CRYSTAL PALACE: *June 27.*—An excellent exhibition of cut Roses was held here on this occasion. Not only were the stands unusually numerous, but the blooms, especially in the larger collections, were in first-rate condition.

*Ninety-six varieties, one truss of each.*—In this class Mr. Mitchell, of Piltdown, Maresfield, Sussex, occupied the first rank, and deservedly so, for seldom have we seen finer blooms staged than were contributed by him on this occasion. In the different sections represented the best were:—

HYBRID PERPETUALS:—
Crimson—Senateur Vaisse
Rose—Madame C Crapelet
Blush—Madame Rivers
White—Louise Magnan

BOURBONS:—
Rose—Catherine Guillot
Blush—Souvenir de Malmaison

TEAS:—
Rose—Silene
Blush—Souvenir d'Elise
White—Sombreuil
Yellow—Gloire de Dijon

NOISETTES:—
Yellow—Triomphe de Rennes

HYBRID CHINAS:—
Crimson—Cnénédole
Rose—Blairii

From Mr. Turner, of Slough, came another excellent exhibition of 96 sorts, among which the best were—

Hybrid Perpetuals:—
Crimson—Lord Raglan
Rose—Madame C Crapelet
Blush—Madame Rivers
White—Imperatrice Eugénie
Teas:—
White—Madame Bravy
Yellow—Gloire de Dijon

Among Messrs. Paul & Son's Roses, who also showed in this class, the best were—

Hybrid Perpetuals:—
Crimson—Lord Clyde
Rose—Madame Furtado
Blush—Caroline de Sansal
White—Louise Darzins
Bourbons:—
Rose—Baronne de Noirmont
Blush—Souvenir de Malmaison
White—Acidalie
Teas:—
Rosy salmon—Duc de Magenta
Blush—President
White—Madame Bravy
Yellow—Madame Falcot
Noisettes:—
White—Lamarque
Yellow—Triomphe de Rennes
Hybrid Chinas:—
Crimson—Paul Ricaut
Rose—Charles Lawson
Blush—Blanchefleur
White—Madame Plantier

From Messrs. Cant and Cranston also came fair blooms of most of the leading kinds, the best of which did not differ from those just named.

*Awards.*—96: 1st, Mr. Mitchell; 2d, Mr. Turner; 3d, Messrs. Paul & Son; 4th, Mr. Cant; 5th, Mr. Cranston.

*Forty-eight varieties, three trusses of each.*—These were numerous, and being well selected as to colour made a fine display. The best in the different groups were:—

Hybrid Perpetuals:—
Crimson—François Lacharme, Senateur Vaisse, Lord Raglan, General Jacqueminot
Rose—Anna Alexieff, Madame C. Crapelet
Blush—Madame Rivers
White—Mdlle. Bonnaire
Bourbons:—
Crimson—Victor Emmanuel
Rose—Catherine Guillot
Blush—Comtesse de Barbantanne
Teas:—
Rose—Souvenir d'un Ami
Blush—Adam
White—Madame Villermoz, Madame Bravy
Yellow—Vicomtesse de Cazes, Narcisse, Gloire de Dijon
Noisettes:—
Yellow—Celine Forestier
Hybrid Chinas:—
Crimson—Brennus
Rose—Coupe d'Hébé
Blush—Comtesse Lacipede
White—Botzaris

*Awards.*—48: 1st, Mr. Cant; 2d, Mr. Turner; 3d, Messrs. Paul & Son; 4th, Mr. Spriggins; 5th, Mr. E. Hollamby.

*Twenty-four varieties, three trusses of each.*—The best in the different stands were:—

Hybrid Perpetuals:—
Crimson—Senateur Vaisse, Louis XIV., Eugène Appert
Rose—Colonel Rougemont, William Griffiths
Blush—Madame Rivers, Madame Vidot
White—Mdlle. Bonnaire
Bourbons:—
Rose—Catherine Guillot
Blush—Souvenir de Malmaison
Teas:—
Yellow—Gloire de Dijon
Hybrid Chinas:—
Crimson—Paul Ricaut
Rose—Paul Perras, Charles Lawson

*Awards.*—24: 1st, Mr. Francis; 2d, Messrs. Paul & Sons; 3d, Mr. Laing; 4th, Mr. Spriggins; 5th, Mr. Clarke.

*Twenty-four varieties, one truss of each.*—Among these were very fine examples of the following:—

Hybrid Perpetuals:—
Crimson—Senateur Vaisse
Rose—Baronne Prevost, Comtesse Cecile de Chabrillant
Blush—Caroline de Sansal, Madame Rivers
White—Louise Darzins
Bourbons:—
Blush—Souvenir de Malmaison
Teas:—
White—Gloire de Bordeaux
Yellow—Gloire de Dijon
Noisettes:—
White—Miss Glegg
Hybrid Chinas:—
Crimson—Paul Ricaut
Rose—Coupe d'Hébé, Chas. Lawson

*Awards.*—24: 1st, Mr. Treen; 2d, Mr. Stacey; 3d, Mr. Davis; 4th, Mr. Knight; 5th, Mr. Laing.

*Twelve varieties, one truss of each.*—In this class which was well supported, there were some fine flowers among which the following were the best:—

Hybrid Perpetuals:—
Crimson—Lord Raglan, Gen. Jacqueminot
Rose—Victor Verdier, Jules Margottin
Blush—Madame Vidot
Teas:—
White—Comte de Paris
Yellow—Gloire de Dijon
Hybrid Chinas:—
Crimson—Paul Ricaut

Awards.—12: 1st, Mr. Turner; 2d, Mr. Francis; 3d, Mr. Gosling; 4th, Mr. Stacey; 5th, Mr. Davis.

*Thirty-six varieties (Amateurs), one truss of each.*—Seldom have finer Roses been exhibited than those shown on this occasion by Mr. Hedge of Colchester, to whom first prizes were awarded in nearly all the classes in which his flowers appeared. They were large in size and beautiful in colour, and they were set up with much taste, a point of the utmost importance in exhibitions of this kind. From Mr. Ingle, Mr. Corp, and Mr. Worthington also came well-grown collections, in which as well as in others the finest blooms were.

Hybrid Perpetuals:—
Crimson—Senateur Vaisse, Duc de Cazes, Evêque de Nismes, Gloire de Santenay
Roses—Jules Margottin, Madame Furtado, Prince Leon, Madame C. Crapelet
Blush—Madame Vidot
Teas:—
Yellow—Gloire de Dijon, Madame Falcot
Noisettes:—
Yellow—Celine Forestier

*Awards.*—36: 1st, Mr Hedge; 2d, Mr. Ingle; 3d, Mr. Corp; 4th, Mr. Worthington; 5th, Mr. Moffat. Extra, Miss Crawshay.

*Twenty-four varieties (Amateurs), one truss of each.*—In this class Mr. Hedge was again victorious. In his stand, as well as in others, the best blooms were:—

Hybrid Perpetuals:—
Crimson—Senateur Vaisse, Gen. Jacqueminot, Gloire de Santenay
Rose—Jules Margottin, Prince Leon, Madame C. Crapelet, Mad. Furtado
Blush—Madame Vidot, Madame Rivers
White—Madame Sertot
Teas:—
Yellow—Gloire de Dijon, Madame Falcot
Noisettes:—
Yellow—Celine Forestier

*Awards.*—24: 1, Mr. Hedge; 2, Mr. Marlow; 3, Mr. Moffat; 4, Mr. Dennis; 5, Mr. Ingle. Extra, Mr. Dobree and Mr. Smith.

*Eighteen varieties (Amateurs), one truss of each.*—Among these were many beautiful blooms, of which the best were:—

Hybrid Perpetuals:—
Crimson—General Jacqueminot, Lord Raglan
Rose—Prince Leon, Jules Margottin
Blush—Madame Vidot
Teas:—
White—Devoniensis
Yellow—Gloire de Dijon
Noisettes:—
Yellow—Celine Forestier
Hybrid Chinas:—
Rose—Charles Lawson

*Awards.*—18: 1st, Mr. Hedge; 2d, Mr. Ingle; 3d, Mr. Brown; 4th, Mr. Plester; 5th, Miss Crawshay.

*Twelve varieties (Amateurs), one truss of each.*—Of these the best were:—

Hybrid Perpetual:—
Crimson—Senateur Vaisse
Rose—Jules Margottin
Blush—Madame Rivers
Bourbons:—
Blush—Souvenir de Malmaison
Teas:—
Yellow—Gloire de Dijon
Noisettes:—
Yellow—Triomphe de Rennes
Hybrid Chinas:—
Crimson—Paul Ricaut

*Awards.*—12: 1st, Rev. V. K. Child; 2d, Mr. Pullinger; 3d, Mr. Hedge: 4th, Miss Crawshay; 5th, Mr. Plester.

*New Roses.*—These were numerous, but many of them were not in first-rate condition. Crimsons, of which the most prominent was Lord Clyde, seemed to prevail; whilst to whites a valuable addition was made in Louise Darzins, which was very pure in colour, but as shown perhaps not sufficiently double. The best were:—

Hybrid Perpetuals:—
Crimson—Lord Clyde
Rose—Madame Caillet
Blush—Notre Dame de Fourvieres
White—Louise Darzins
Bourbons:—
Rose, light—Louise Margottin
Blush—Emotion
White—Mdlle. Emain
Teas:—
Rose—Gloire de Bordeaux
Blush—Comtesse Ouvaroff
White—Alba rosea
Yellow—l'Enfant Trouvé

*Awards.*—1st, Messrs. Paul & Son; 2d, Mr. Wm. Paul; 3d, Mr. Standish.

Of vases filled with Roses the best came from Mr. Turner; but Messrs. Hedge, Cranwell, and Francis had also tasteful exhibitions of this kind.

Roses in pots came from Mr. Wm. Paul, and collections of plants in smaller pots from Messrs. Paul & Son, Mr. Turner, and Mr. Francis.

*Miscellaneous Subjects.*—Among these was a beautiful group of Irises and other cut flowers from Messrs. Butler & M'Culloch; and a smaller collection from Messrs. Barr & Sugden.

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Royal Horticultural: *July* 1 (*Third Great Exhibition and Rose Show*).—Seldom has a finer display of fruit been staged than that which was furnished on this occasion. Roses too were all that could be desired, and new plants and others remarkable for the beauty of their leaves were numerous and striking.

*Collections of Fruit.*—In one of these was a good dish of Snow's Muscat Hamburgh, an excellent Grape when well grown as this was, from Mr. Penny; and from others came one or two handsome Queen Pine Apples, beautiful examples of Peaches and Nectarines, Grapes, Cherries, Melons, and Strawberries. Among the last we noticed fine fruit of Frogmore Late Pine, a valuable comparatively new variety, deserving of more extensive cultivation than it has as yet received.

*Awards.*—1st. Mr. Turner; 2d, Mr. Penny: 3d, Mr. Henderson; 4th, Mr. Turnbull.

*Pine Apples.*—Providences were not remarkable either for beauty of shape or weight, but there were some well-ripened Queens, especially those from Messrs. Grant, Smith, and Ward, each of whose fruit weighed nearly 5 lb. A Queen from Mr. Hall, gr. to Lord Scarborough, weighed 5 lb. 1 oz. An Enville, unripe at top, weighed 8 lb. 8 oz., and there were one or two small specimens of other varieties.

*Awards.*—Providence: 1st, Mr. Young; 2d, Mr. Wallis. Queens: 1st, Mr. Grant; 2d, Mr. Smith (Liverpool); 3d, Mr. Ward. Extras: Mr. Smith (Norwood); Mr. Carr. Other sorts: 1st, Mr. Hall; 2d, Mr. Dwerrihouse.

*Peaches.*—These were plentiful and for the most part large and fine, especially the examples of Royal Charlotte and others furnished by Mr. Dawson and Mr. Sawkins.

*Awards.*—1 dish: 1st, Mr. Sawkins and Mr. Wills; 2d, Mr. Edwards; 3d, Mr. Bannerman. 2 dishes: 1st, Mr. Dawson; 2d, Mr. Young; 3d, Mr. Tegg.

*Nectarines.*—These were also numerous, large, and generally well coloured.

*Awards.*—2 dishes: 1st, Mr. Cross; 2d, Mr. Tegg; 3d, Mr. Young. 1 dish: 1st, Mr. Wills; 2d, Mr. Bannerman; 3d, Mr. Tillery.

*Grapes.*—Mr. Meredith, of the Vineyard, Garston, near Liverpool, sent magnificent bunches of Frankenthal, Dutch, and other varieties of Black Hamburgh, whose fine colour and wonderful size astonished even the judges themselves. Scarcely less remarkable were the same eminent grower's white Grapes, among which was a very fine bunch of Golden Hamburgh, whose size gave all who were fortunate enough to see it some idea of the perfection at which this fine kind may be made to arrive under skilful culture. From Mr. McPherson came vigorous bunches of Canon Hall Muscat; and of Chasselas Musqué we noticed some good examples from Mr. Mould. Mr. Hill reproduced his surprisingly fine specimens of Black Prince which were so much admired the other day at Regent's Park, three bunches of which weighed 9 lbs. 5 oz.; and from the same cultivator, as well as from Mr. Henderson, Trentham, came good collections of different varieties, among which were the Early Summer Frontignan, Buckland and Common Sweetwater, Black Prince, Royal Muscadine, Frankenthal, Lady Downe's Seedling, West's St. Peter's, Golden Hamburgh, Victoria, Pope Mill Hill and Muscat Hamburgh, Gromier du Cantal, and Muscat Escholata. From Mr. Crawshay came very fine bunches of Black Hamburgh, not large in the berry, but well coloured.

*Awards.*—Black Hamburgh: 1st, Mr. Meredith; 2d, Mr. Wallis; 3d, Mr. Allen. Dutch Hamburgh: 1st, Mr. Meredith; 2d, Mr. Widdowson; 3d, Mr. Turner. Frankenthal: 1st, Mr. Meredith; 2d, Mr. Jones; 3d, Mr. Henderson. Other Black kinds: 1st, Mr. Hill; 2d, Mr. Cross. Muscats: 1st, Mr. Embry; 2d, Mr. Turner; 3d, Mr. Turnbull. Canon Hall: 1st, Mr. McPherson; 2d, Mr. Embry; 3d, Mr. Turner. Other White Grapes: 1st, Mr. Mould; 2d, Mr. Hill; 3d, Mr. Henderson. Collection: 1st, Mr. Hill; 2d, Mr. Henderson; 3d, Mr. Cross.

*Figs.*—These consisted wholly of Brown Turkey, of which the few dishes produced were excellent examples.

*Awards.*—1st, Mr. Smith; 2d, Mr. Pottle; 3d, Mr. Robinson.

*Cherries.*—Of these the best came from Mr. Turner. Among the sorts shown were May Duke, Elton, Black Tartarian, Late Duke, Black Eagle, and Circassian.

*Awards.*—1st, Mr. Turner; 2d, Mr. Widdowson; 3d, Mr. Beck.

*Plums.*—Of these the only specimens exhibited was a dish of Jefferson from Mr. Ingram, gr. to J. J. Blandy, Esq., of Reading.

*Strawberries.*—Of these there was a fine display. Mr. Widdowson and Mr. Turner had both excellent collections of them. From the former came Crimson Queen, Sir C. Campbell, British Queen, Oscar, Sir C. Napier, Prince of Wales, Admiral Dundas, Myatt's Surprise, Empress Eugenie, and others. Mr. Turner contributed Frogmore Late Pine, President, Newington Seedling, Marguerite, Sir C. Napier, La Constante, Rifleman, Admiral Dundas, Empress Eugénie, Prolific, Oscar, Comte de Paris, Filbert Pine, Fairy Queen, Eclipse, Blackbird, Victoria, Carolina Superba, Bicton Pine (a white sort), Sir Harry, Surprise, John Powell, Prince Arthur, Adair, Wonderful, Myatt's Eliza, Prince of Wales, and Highland Mary. From Mr. Terry, St. Alban's, came a good boxful of Keens' Seedling. Mr. Lydiard, Batheaston, had Victory of Bath, in beautiful condition, and a promising seedling named Gem of the West.

*Awards.*—Collection: 1st, Mr. Widdowson; 2d, Mr. Turner. 4 Dishes: 1st, Mr. Lydiard; 2d, Mr. Turner; 3d, Mr. Kaile.

*Melons.*—These were plentiful. The best in the green-fleshed class was Pottle's Hybrid, and in the scarlet section Gem still maintains a forward position.

*Awards.*—Green-fleshed: 1st, Mr. Pottle; 2d. Mr. Lydiard; 3d, Mr. W. Tegg. Scarlet: 1st, Mr. J. Tegg; 2d, Mr. Tillery.

*Roses.*—These were shown in large quantities, and in beautiful condition:

*Ninety-six varieties, one truss of each.*—From Mr. Cant of Colchester, came a beautiful collection, in which as well as in those of others shown in this class, the best were:—

Hybrid Perpetuals:—
Crimson—Turenne, Charles Lefebvre, Madame Boll
Rose—Prince Leon, Olivier Delhomme
Blush—Madame Vidot, Madame Rivers
White—Louise Magnan
Bourbons:—
Blush—Souvenir de Malmaison
Teas:—
White—Comte de Paris, Rubens, Mad. Bravy
Yellow—Gloire de Dijon
Noisettes:—
White—Lamarque
Yellow—Cloth of Gold

*Awards.*—96: 1st, Mr. Cant; 2d, Messrs. Paul & Son; 3d, Mr. Mitchell; 4th, Mr. Keynes.

*Forty-eight kinds, three trusses of each.*—Among these the best were—

Hybrid Perpetuals:—
Crimson—Senateur Vaisse, Gen. Jacqueminot, Lord Clyde, Chas. Lefebvre
Rose—Madame Furtado, Mad. C. Crapelet
Blush—Mad. Vidot, Comtesse Cecile de Chabrillant
Bourbons:—
Crimson—Victor Emmanuel
Rose—Modèle de Perfection
Blush—Souvenir de Malmaison
Teas:—
Blush—Souvenir d'un Ami, President
White—Madame Willermoz
Yellow—Gloire de Dijon
Noisettes:—
Yellow—Celine Forestier
Hybrid Chinas:—
Crimson—Paul Ricaut
Rose—Chas. Lawson

*Awards.*—48: 1st, Mr. Turner; 2d, Messrs. Paul & Son; 3d, Messrs. Fraser; 4th, Mr. Cant.

*Twenty-four varieties, three trusses of each.*—These were well selected and beautifully contrasted as to colour, especially Mr. Keynes's blooms, which were large and fine. The best in the different stands were:—

Hybrid Perpetuals:—
Crimson—Olivier Delhomme, Senateur Vaisse, Lord Clyde
Rose—Jules Margottin, Victor Verdier
Blush—Mad. Vidot, Mathurin Regnier
Bourbons:—
Rose—Baronne de Noirmont
Blush—Souvenir de Malmaison
Teas:—
Yellow—Gloire de Dijon
Hybrid Chinas:—
Rose—Chas. Lawson

*Awards.*—24: 1st, Mr. Keynes; 2d, Mr. Francis; 3d, Mr. Laing; 4th, Messrs. Paul & Son.

*Twenty-four kinds, one truss of each.*—Among these the best were:—

Hybrid Perpetuals:—
Crimson—Gen. Jacqueminot, Duc de Cazes
Rose—Souvenir de Leveson Gower
Blush—Madame Vidot
Bourbons:—
Blush—Souvenir de Malmaison
White—Acidalie
Teas:—
Blush—President
Yellow—Gloire de Dijon
Noisettes:—
White—Lamarque
Damask:—
White—Madame Zoutman

*Awards.*—24: 1st, Mr. Turner; 2d, Mr. Keynes; 3d, Mr Treen; extra, Mr. Cranston.

*Forty-eight varieties (Amateurs), one truss of each.*—The best among these were:—

Hybrid Perpetuals:—
Crimson—Gen. Jacqueminot
Rose—Jules Margottin
Blush—Madame Vidot, Mrs. Rivers
White—Louise Magnan
Bourbons:—
Blush—Souvenir de Malmaison
Rose—Catherine Guillot
Teas:—
Yellow—Gloire de Dijon
Noisettes:—
Yellow—Triomphe de Rennes
Hybrid Chinas:—
Crimson—Chénédole

*Awards.*—48 : 1st, Mr. Hedge; 2d, Miss Crawshay; 3d, Mr. Worthington; 4th, Mr. Ingle. Extra, Mr. Laxton.

*Twenty-four kinds (Amateurs), one truss of each.*—

HYBRID PERPETUALS :—
Crimson—Senateur Vaisse, General Jacqueminot
Rose — Jules Margottin, Madame C Crapelet
Blush—Madame Vidot

BOURBONS :—
Blush — Souvenir de Malmaison

TEAS :—
Yellow—Gloire de Dijon

NOISETTES :—
Yellow—Celine Forestier

HYBRID CHINAS :
Crimson—Paul Ricaut
Rose—Charles Lawson

*Awards.*—24 : 1st, Mr. Dobree; 2d, Mr. Hedge; 3d, Mr. Ingle; 4th, Rev. S. R. Hole. Extra, Mr. Sawkins.

*Eighteen Varieties (Amateurs), one truss of each.*—Among these the best were :—

HYBRID PERPETUALS :—
Crimson—Charles Lefebvre, General Jacqueminot, Senateur Vaisse
Rose—Jules Margottin
Blush—Madame Rivers

TEAS :—
White—Devoniensis
Yellow—Gloire de Dijon

NOISETTES :
Yellow — Triomphe de Rennes

*Awards.*—18 : 1st, Mr. J. T. Hedge; 2d, Mr. W. Ingle; 3d, Mr. J. Stratton. Extra, Mr. Moffatt and Mr. Worthington.

*Twelve Varieties (Amateurs) one Truss of each.*—Among these the best were :—

HYBRID PERPETUALS :—
Crimson—Senateur Vaisse
Rose — Jules Margottin, Madame C. Crapelet
Blush—Madame Vidot

TEAS :—
Yellow—Gloire de Dijon

NOISETTES :—
Yellow—Celine Forestier

HYBRID CHINAS :—
Crimson—Paul Ricaut
Rose—Chas. Lawson, Coupe d'Hébé

*Awards.*—12 : 1st, Mr. Hedge; 2d, Mr. Helyar; 3d, Mr. Stratton. Extra, Mr. Dobree.

*New Roses.*—Among these the best were Olivier Delhomme, Beauty of Waltham, Lord Canning, and François Lacharme, all of which are highly beautiful varieties, especially Beauty of Waltham, which is quite a gem in the class to which it belongs.

*Awards.*—18 : 1st, Mr. Wm. Paul; 2d, Mr. Cant; 3d, Messrs. Paul & Son; 4th, Mr. Keynes. 12 : 1st, Mr. Wm. Paul; 2d, Mr. Cant; 3d, Mr. Keynes.

*Teas and Noisettes.*—The first of these were scarce, a circumstance probably owing to the stock of them in many places not having sufficiently recovered the ill effects of the severe winter 1860-61, and also to their not being yet in some localities fully in bloom.

*Moss Roses.*—These seem to make slow progress compared with that of other classes. In looking over the different stands shown on Wednesday last, we saw nothing in them yet to beat the Bath White and the Crested and Common Moss.

*Vases of Roses.*—The best, in the opinion of many, came from Mr. Turner; but the judges thought otherwise, and gave the first prize to one of March's glass designs filled with Roses and surmounted with an unsightly piece of coral. Bouquets of Roses in Hyacinth glasses were numerous and pretty, and for Mr. Wilson Saunders' prizes for groups of Roses in small pots, there was considerable competition. It is, however, now too late in the year for Roses in pots to be very effective, and consequently those produced on this occasion did not seem to receive that amount of admiration which was deservedly bestowed on cut blooms.

*Fine Foliaged and Variegated Plants.*—Of these some very fine groups were contributed, and the size and striking beauty of most of the specimens rendered this part of the exhibition quite a success. With the exception of some new sorts from Messrs. Veitch, of which notice is taken in another page, we however saw little in the different groups that has not already this year received attention in our columns.

*Awards.*—12 : 1st, Messrs. Lee; 2d, Messrs. A. Henderson and Co.; 3d, Mr. Bull; 4th, Mr. Jackson. 10 : 1st, Mr. Taylor; 2d, Mr. Smith; 3d, Mr. Ross.

*Caladiums.*—Magnificent groups of these came from Messrs. Henderson and Mr. Ingram, gr. to J. J. Blandy, Esq., of Reading. The best in the different collections were argyrites, Belleymei, bicolor magnificum, Chantinii, and Troubetskoi.

*Awards.*—9 : 1st, Messrs. A. Henderson & Co.; 2d, Mr. Ingram; 3d, Mr. Young.

*Variegated Begonias.*—These were too much alike, most of the varieties differing but little in appearance from B. Rex.

*Fuchsias.*—Standards, at least 9 feet in height, with good heads of bloom on them, came from Mr. Higgs, gr. to Mrs. Barchard at Putney, and of pyramidal plants there was a fair display, though not so fine as has been seen in former years. While growers persist in bringing old plants instead of young ones, the blooms may be expected to be comparatively small and poor.

*Awards.*—6 : 1st, Mr. Gardiner; 2d, Mr. Cannell; 3d, Mr. Treen.

*Ferns.*—Charming collections of these were exhibited, but owing to their being in pots not according with the published regulations, they were all disqualified. On account of their general excellence, however, four extra prizes were given to them. Conspicuous in a group from Messrs. Backhouse was Thamnopteris australasica, of which they had a fine specimen; and of British Ferns a capital collection came from Messrs. Ivery of Dorking.

*Wardian Cases.*—A large and fine one with curvilinear glass roof was shown by Messrs. Henderson; and Messrs. Barr & Sugden reproduced the one which was shown before.

*Window Boxes.*—Three extremely handsome ones were contributed by Mr. Macintosh, nurseryman, King Street, Hammersmith. Nothing in their way could possibly be more tastefully arranged than these were; they therefore received as they deserved universal admiration. The materials with which they were filled consisted of yellow and other Calceolarias, Verbenas, Scarlet and other sorts of Pelargoniums, Stocks, &c., the whole being finished off in front with Mignonette and blue and white Campanula garganica, the two latter alternating with the Mignonette, and hanging over the sides of the boxes. Another set of boxes from Mr. Ross contained Ferns intermixed with red-leaved Dracænas.

*Awards.*—1st, Mr. Macintosh; 2d, Mr. Ross; 3d, Messrs. Barr & Sugden.

*Hanging Baskets.*—Mr. Wilson Saunders's 1st prize for these was awarded to Messrs. A. Henderson & Co. for three beautiful baskets tastefully filled. These, however, as well as others with which they were placed in competition, were shown the other day at the Regent's Park.

*Miscellaneous Subjects.*—These consisted of cut specimens of Verbenas, Iris, Pinks, and Bragg's beautiful sorts of Sweet William.

[We append, by way of conclusion to this report, the following remarks by an amateur on some of the features of the display whose details we have just recorded.

On Wednesday last I had the gratification of seeing the famous Flower Show at the Royal Horticultural Gardens. The scene was a gay one indeed. Throngs of well-dressed ladies and gentlemen, the former at least three times as numerous as the latter, crowded every part. My fair guide, warned by former experience, conducted me immediately to the Fruit department, which we saw in tolerable comfort; and here indeed I was amazed with the Pomological wonders which met my astonished eyes, and regaled my olfactories, but, alas! it was a case of "touch not, taste not, handle not." Down the centre of the table was a gorgeous array of Pines, emitting celestial odours, and looking beautifully ripe, but, to my surprise, a monster, with a cockscomb head, bore off, I think, one of the first prizes. The Melons were chiefly of the best, small, green-fleshed kinds. Grapes, I expected to find well represented, and so indeed they were, Black Hamburgh being of course the most conspicuous for size and colour. I was told that the heaviest bunch, and certainly the longest, was called Black Prince.

The Green Figs looked most tempting, the Peaches were the largest I ever saw, and the Nectarines the best coloured. The Strawberries were magnificent of course, but I smiled to see a couple of bunches of my old friend the Hautbois (rather mouldy) exhibited on a humble white plate. How is it one so seldom sees this high-flavoured fruit? I have no recollection of table decorations with one single exception, where a Marshian stand, indifferently filled, was surmounted by a piece of white coral, not ugly, but in my judgment out of place, as much as the dead humming birds your correspondent mentioned the other day. Now the combat began to thicken, and we went into the nave of the Exhibition building, noticing as we went the still remaining placard of the former whereabouts of the Ionian Islands, Channel Islands, &c.

The Exhibition Building felt hot and stuffy; and if it is not treason to say so, I thought the nave not a good place for the exhibition of flowers, but why I could not tell. Is it that the immense space seems to swallow up and dwarf everything? Is it that the plants are placed too high, or that one wants to see both sides of them, or that they want a backing of canvas—or what is it? As it is, the light comes in from the top of the building, instead of slant-wise. Would the effect be better if the plants were arranged down the centre, the outermost being placed on the floor? If it must be confessed, I felt disappointed with this, the grandest display that England or the world can produce. I didn't think it so vastly better than similar exhibitions which I have seen at Cambridge. Of course I was delighted with some of your wondrous varieties, and got a good view of the singular Ouvirandra fenestralis, seen by me for the first time in flower. First-rate Roses must attract universal admiration, and Wednesday's display was no exception. General Jacqueminot was as usual the most conspicuous; but in general the cut flowers seemed to be suffering from the heat. One thing more: I must notice, among the plants sent by the Horticultural Society, wonderful specimens of Orchard-house skill—little Cherry trees not 2 feet high, in vigorous health, and covered with plump, ripe, shining Cherries; green Figs equally healthy, growing on trees not a foot and a-half high; Plum trees loaded with fruit; and Peaches in abundance growing on trees little more than 3 feet high.

Now we were glad to get our feet clear of ladies' dresses, and emerge into the purer atmosphere of the gardens, which have greatly improved since I last saw them. There was a pleasant breeze, but the sun was pouring down with considerable power, and it was rather amusing to see how people sought even the shelter of trees with half-a-dozen leaves upon them, so greatly in request was the least particle of shade; each year, however, will see this deficiency of shade gradually amending. After looking at the Prince Consort's Memorial, too high for me to give a very decided opinion of the artist's skill; examining the flower-beds, which I thought tolerably effective; and the fountains, which were in full force, and made a cool refreshing sound, we alternately listened to the harmonious strains of a military band, or gazed at the goodly company, and then departed, well pleased with the afternoon's amusement. *Cantab.*]

# Notices of Books.

*Viti : an Account of a Mission to the Vitian or Fijian Islands.* By Dr. Seemann. MacMillan & Co.

(*Concluded from page 607.*)

Dr. Seemann thinks that "the real significance of eating man is very imperfectly understood." We trust the horrid "custom" will soon be numbered among things of the past. With regard to the unwholesomeness of this description of food, it was probably that which suggested itself to the mind of Sidney Smith, when he bade adieu to his friend the missionary bishop, and added with much emotion, "I hope you'll disagree with them!"

The great object of Dr. Seemann's mission was to obtain information for the British Government. That it was the real desire of the chiefs to cede the sovereignty of their islands to the Queen of England there can be no doubt. Of the commercial value of the islands, Dr. Seemann affords us abundant evidence, giving a systematic account of their colonial produce, properly so called, such as sugar, coffee, tamarinds, tobacco, oils and vegetable-fat producing plants, of which the most valuable seems to be, an oil extracted from the seeds of the Dilo (Calophyllum Inophyllum, Linn.), the bitter oil or woondal of Indian commerce, worth 90*l.* a tun in England. Of starch-producing plants, four are indigenous, namely a Cycas, two species of Tacca, and a Sago, to which has been added of late years the Cassava. Next come Turmeric, and other spices, Ginger, Nutmeg, Pepper, and the Boro (Solanum anthropophagorum). The Yam, Taro, Banana, Plantain, Bread-fruit and Cocoa-nut form the staple food of the natives; but here we must refer to the book itself, which gives a full account of the poisons, medicinal plants, scents and perfumes, materials for clothing, timber, Palms, ornamental plants, &c. We also find a short description of the Vitian fauna, among which the bêche-de-mer, or sea-slug, was formerly a great article of trade with China, where it is considered a luxury; and a very curious annelidan, named Balolo, a thin worm-like creature, about 3½ inches long, which is regarded quite as the whitebait of the Fijis. The most singular circumstance is the regularity of its periodical appearance, which may be predicted to a day. These creatures are of various colours—green, red, brown, and sometimes white. As the sun gains power they dissolve, and about 8 or 9 o'clock you scarcely find one; this is the description given by an English lady, who was present at the fishery, if such it may be called, and subsequently feasted on the Balolo in 1861.

The most important part of Dr. Seemann's mission was that connected with the cultivation of the Cotton plant. He thinks that in suitability of soil, in climate, in the sea air and gentle breezes ever blowing, in the excellent water carriage afforded by above 200 islands, each protected from the winds and waves by the natural breakwater of coral reefs, nothing better could be imagined or desired. He took out a supply of Sea Island and New Orleans Cotton seeds; the former had lost their germinating power, the latter grew readily. Sown on the 9th of June, the plants began to yield ripe pods within three months, and thus he was enabled to carry home a crop from the very seeds he had brought out, though his absence from England only amounted to 13 months altogether. On the 18th of October, Dr. S. found his plants from 4 to 7 feet high, full of ripe pods and flowers; and the chief, who had promised to look after the plantation, said the field had only required one weeding; after which, the Cotton-plants had grown so rapidly, that they had kept down the weeds. The rapidity of this profitable return is a very important feature. Of six kinds of naturalized cotton, Dr. S. found that four were, for practical purposes, identical, though botanically distinct. In July, he found that each plant on an average yielded 700 pods, and 20 pods of cleaned cotton weighed 1 ounce; thus each plant yielded 2 lb. 3 oz. Now there were 222 plants to an acre, so that 1 acre would produce 485 lb. 10 oz., and this at 6*d.* per lb. gives upwards of 12*l.* When it is borne in mind that Fijian Cotton brings forth ripe fruit without intermission throughout the year, but that this calculation is based solely upon the number of pods found at one time, and that the pods were gathered from plants upon which no attention whatever had been bestowed, the result will be still more striking. Double or treble may be calculated upon as the annual crop. It must further be remembered, that in the Fijian islands the plants will continue to yield for several years, if merely kept free from weeds, creepers, and periodically pruned. The value of the cotton was decided by the Executive Committee of the Manchester Cotton Supply Association in 1859, who resolved, "That these samples are of qualities most desirable for British manufacture, that such a range of excellent cotton is scarcely now received from any cotton-growing country; and that the supply obtained from the United States does not realize nearly so high an average value as this Fijian cotton."

The only difference of opinion seems to be as to the supply of labour: Dr. S. maintains, that the Christianized natives have already begun to go round the districts longest frequented by whites, asking for employment (of the whole population 67,000 are nominally Christian). Another authority, Col. Smythe, doubts whether the people will become more industrious

seeing that their wants are so few, and so easily supplied. Difficulties might in time occur, when land has become scarce, but the nature of the land-tenure is not, like that of New Zealand, hampered by ill-defined tribal claims. On the contrary, all the land is private property, the ownership resting either in families or individuals. A small portion of it only is under cultivation at one time, sufficient to supply the wants of a Fijian household, and the custom is, to break up new ground frequently, and abandon the old. In the sale of land, an agreement made with the owners, if approved by the chief, is understood to hold good. It must also be recollected, that 200,000 acres of land were offered by the terms of the cession to be given to the Queen of England, for the consideration of 45,000 dollars, the amount of a debt claimed by the American Government, from which the Fijians wished to be relieved.

In the Appendix we have a "systematic list of all the Fijian plants at present known," made up from all available sources; and we are informed that a 4to illustrated work on the same subject is in preparation. The author expresses his obligations to several men of science for the assistance they have rendered him, and on which he can further rely; but we observe that he has somehow forgotten to mention the services rendered him at Kew, which we have always understood were of the greatest importance. Indeed we do not see how, without the aid of Sir William Hooker, and the gentlemen forming the scientific staff of the vast Kew Herbarium, either the expedition itself could have been organised, or the names of the flowering plants satisfactorily determined. It is desirable that Dr. Seemann should remedy this omission.

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The student of Australasian plants is under deep obligation to Dr. Mueller, who with untiring activity continues his very valuable contributions to the knowledge of them. We have now before us a third volume of his *Fragmenta Phytographiæ Australiæ*, containing 177 pages of botanical descriptions of new or little known plants, with 8 plates so capitally drawn that Ferdinand Bauer himself might be proud of them.

The sixth Number of *Seemann's Journal of Botany* contains a plate of the Nardoo plant, of which an excellent account is given by Mr. Currey; also an interesting paper on the Classification of Willows, by Professor Babington; and a brief notice by Mr. Moore of the addition of Asplenium Serpentini to the list of British Ferns.

In June *Gossip of the Garden* we have information on matters relating to florists' flowers and their exhibition; and among other things the following excellent piece of advice to the raisers of seedlings:—"Now, Mr. Raiser, you have had much trouble with your seedlings, and have been buoyant with hope; but if you will be patient and judicious you will ultimately reap the benefit of these qualities in addition to that of all your painstaking. Don't expect too much: you can't hope to have many worth keeping from your seedling beds; one by one the blooms appear: the bad ones disappear; but there are some doubtful ones, and these cause the mischief. Now, don't be sparing, give them away, sell them for 2*s*. 6*d*. a dozen (that will pay you), and only keep the cream. Bring none of these out until you have well proved them during one season; show them to three or four competent judges who know what a flower ought to be, and who are acquainted with existing varieties: invite criticism, and again get rid of the buttermilk, and do your best with the butter itself. Then will be your reward." * * * "And, Mr. Dealer, do you scout the rubbishy novelties from your gardens; buy what you know is good, and keep nothing else; help your customers in their selection, and get and keep a trade by winning confidence."

The *Floral Magazine* for June figures the Fern-leaved Chinese Primrose; San Francisco Hyacinth, a good new yellow; Azalea Surprise, determined lately at South Kensington to be identical with Madame Ambroise Verschaffelt, and although a somewhat flimsy flower, showy and attractive from its colouring; and Princess of Wales Auricula, a blue self of brilliant colour.

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## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—This house should now be gay with Achimenes, Clerodendrons, Allamandas, Gardenias, Stephanotis, and other showy plants from the stove; for without the assistance of these it is hardly possible to produce a first-rate display at this season. If the house can be kept rather close, many of our most attractive stove plants will be more at home here while in bloom than they would be in the stove itself; and the length of time which they retain their beauty under these circumstances renders it very desirable to grow them largely for this purpose. To do these justice, however, the house should be cleared of Cape Heaths, and plants that are soon injured by a confined atmosphere, for few stove plants will succeed in a temperature that is regulated for Ericas and such like plants. If the permanent occupants of the beds and the twiners however are such as require a free circulation of air, the house must not be kept so close as to injure them; but where Passifloras, Ipomœas, Mandevilla suaveolens, Tecomas, Bignonias, &c., are grown for covering the roof—and Orange trees, and other things that enjoy a fair amount of warmth and moisture while making their wood, occupy the beds—the hardier stove plants will form the most suitable decoration for the next three months. Go over twiners frequently, and regulate the growth before the shoots get entangled; but avoid keeping them tied too closely, for they are never seen to advantage unless they are allowed to hang in a natural and graceful manner. Sickly specimens must be frequently examined for insects, and means used to get rid of them as soon as they are perceived, otherwise they will spread to adjoining plants, and be more difficult to eradicate than if taken in time. The stock in the stoves will now be growing very rapidly, and must be afforded sufficient space to allow perfect development of the foliage and the formation of compact handsome specimens. The atmosphere of this house can hardly be kept too moist, and the plants should be sprinkled over-head morning and evening, and every available surface kept constantly damp. A slight shade will be indispensable for tender plants in active growth for a few hours on the forenoons of bright days, but this should be used as sparingly as is consistent with the perfect safety of the foliage. Plants that are known to suffer from the direct action of the sun's rays should be placed in a shady part of the house, or kept together at one end, where they can be shaded without interfering with plants that require plenty of light. Mealy bug and black thrips will require to be looked after here for some time to come, and the utmost diligence must be used to keep these pests in check. As regards Orchids, if previous directions have been properly attended to there will be little to do to them, besides attending to the ordinary routine of affording the plants a thoroughly moist atmosphere, repotting any specimen that may require it, and sponging the foliage as often as may be necessary to keep it perfectly clean.

### FORCING DEPARTMENT.

Pineries.—If not already done, plants expected to show fruit next January should have their final shift at once, in order to get the pots well filled with roots, and the growth completed before winter; for if they are kept growing it will be uncertain if they will show fruit early in spring. Indeed there is no sure means of inducing Pines to show fruit at that season, but getting the growth well matured in autumn, and allowing them a short rest, giving no more water to the soil than is just sufficient to keep the roots in health, and then subjecting them to a brisk heat. Treated in this way a supply of fruit at the expected season may be calculated upon with the greatest safety, but owing to the want of convenience and necessary means, or other causes, the plants are often kept growing when they should be at rest, and the result generally is that the plants start into growth in spring instead of showing fruit. Give plenty of clear manure-water to all the stock, except such as is being kept dry with a view to getting it to show fruit soon, and endeavour to secure rapid growth, now that it can be done without etiolation. Keep the atmosphere thoroughly moist, but avoid heavy syringings. Plants growing in the open bed must be well supplied with water at the root, giving a thorough soaking of manure-water as often as may be necessary.

Vineries.—Attend to previous directions, keeping cool and moist where the fruit has been cut, in order to preserve the foliage in a healthy state as long as possible, and get the Vines well charged with organised matter, which will be of the utmost importance to next season's crop. Give plants fruiting in pots a liberal supply of manure water, as also those being prepared for the same purpose next season. Keep a sharp look-out for insects everywhere, and lose no time in destroying them.

Melons.—Young plants must have careful attention to keeping the shoots thin and regular over the bed, for there is no time to be lost after this season, if a crop is to be secured. Earth up as the roots reach the outsides of the hills, using strong loam, and making it quite firm, so as to avoid rank growth. Plants swelling their fruit should be kept moist, but avoid frequent waterings of the soil by giving good soakings; examine the stems frequently for canker, and apply quick-lime to the affected portion immediately it is perceived, first scraping off the decayed part; avoid also, as much as possible, cutting or mutilating the plants, and causing bleeding, which is the ordinary cause of this disease. Plants that have ripened their fruit and are in good health, if cut back, and the soil well soaked with tepid water, will soon start into growth, and set a second crop. They should not be allowed, however, to carry many fruit.

### FLOWER GARDEN AND SHRUBBERIES.

Late sown annuals should be thinned as soon as they are well above ground, for if left to grow too thickly they spoil one another, and never make half the display that plants do which are allowed plenty of space, and which are grown strongly from the first. Attend to staking such of the herbaceous plants as require it before they get blown about and injured, and do not huddle the stems together, as is too frequently done. Early flowering bulbs, as Tulips, Hyacinths, Turban Ranunculuses, &c., will now or very soon be ready for taking up, and should not be left in the ground after the decay of the foliage, as, if wet weather occurs, they will be making fresh roots, which weaken them for next season. On light dry soils American plants will be greatly benefited by a good soaking of water after flowering, and the finer specimens should be mulched, to assist in keeping the roots moist during the growing season. Attend to the propagation of the better varieties of Pentstemons, which are exceedingly useful plants; also see to having a good stock of border Picotees and Carnations, which are invaluable for cutting, and although now discarded from the parterre, should not be overlooked. Cuttings of these, if put in before the wood gets too hard, root as freely as pinks. Water Dahlias during dry weather; it will also be serviceable to mulch the surface of the soil with rotten manure. Trap earwigs and other destructive insects.

### HARDY FRUIT AND KITCHEN GARDEN.

Proceed with fastening in the young wood of wall trees, and see that they are perfectly clear of insects; also stop any gross shoots and endeavour to secure a fair supply of bearing wood all over the tree. Gross shoots that were stopped early in the season should be divested of all laterals except one, or, if they can be spared, removed altogether. Keep the breast-wood on Pear and other wall or espalier trees closely stopped in, and attend to thinning the fruit where the crop is too heavy for the strength of the tree. Look to preparing Strawberry runners for forcing next spring. If not already done, a good breadth of Brussels Sprouts should be planted on rich deep soil; for if not got in at once, the crop will be but poor, and it is very desirable to secure a good supply of this most useful winter green.

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STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending July 1, 1863, as observed at the Horticultural Garden

| June, and July. | Moon's Age. | Barometer. | | Temperature. | | | | | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Of the Air. | | | Of the Earth | | | |
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 25 | 9 | 30.082 | 30.040 | 79 | 40 | 59.5 | 64½ | 61 | N.W. | .00 |
| Friday 26 | 10 | 30.162 | 30.042 | 77 | 48 | 62.5 | 64½ | 61¼ | S.W. | .02 |
| Satur. 27 | 11 | 29.931 | 29.890 | 74 | 36 | 55.0 | 64 | 61 | S.W. | .02 |
| Sunday 28 | 12 | 29.916 | 29.903 | 72 | 37 | 54.5 | 63 | 61 | S.W. | .00 |
| Mon. 29 | 13 | 29.936 | 29.929 | 74 | 39 | 56.5 | 63 | 60 | S.W. | .06 |
| Tues. 30 | 14 | 30.192 | 30.126 | 73 | 34 | 53.5 | 62½ | 60 | W. | .00 |
| Wed. 1 | ○ | 30.274 | 30.081 | 81 | 46 | 63.5 | 61½ | 60 | S.W. | .00 |
| Average. | | 30.070 | 30.014 | 75.7 | 40.0 | 57.8 | 63.3 | 60.9 | | .04 |

June 25—Very fine throughout; cool at night.
— 26—Very fine; showery at night.
— 27—Rain; fine; heavy clouds; fine, but cold at night.
— 28—Very fine; fine; cool at night.
— 29—Very fine throughout.
— 30—Very fine; partially overcast; nearly freezing at night.
July 1—Very fine; exceedingly fine throughout.
Mean temperature of the week 4½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending July 11, 1863.

| July. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 5.. | 77.3 | 51.0 | 64.2 | 16 | 0.59 in. | 1 | 4 | — | 5 | 6 | 11 | 9 | 2 |
| Mon. 6.. | 76.1 | 51.2 | 63.6 | 16 | 0.45 | 1 | 1 | 3 | 2 | 5 | 15 | 7 | 3 |
| Tues. 7.. | 73.5 | 51.7 | 62.6 | 20 | 0.34 | 2 | 2 | 4 | 4 | 5 | 13 | 6 | 1 |
| Wed. 8.. | 74.1 | 50.2 | 62.1 | 19 | 0.48 | — | 2 | 5 | 2 | 2 | 12 | 8 | 6 |
| Thurs. 9.. | 73.7 | 50.1 | 61.9 | 17 | 0.82 | 4 | — | 3 | 1 | 3 | 8 | 11 | 7 |
| Friday 10.. | 74.4 | 50.7 | 62.5 | 15 | 0.48 | 2 | 2 | 2 | 1 | 4 | 12 | 6 | 8 |
| Satur. 11.. | 74.6 | 51.1 | 62.9 | 10 | 1.07 | 4 | — | 4 | 1 | 5 | 9 | 8 | 6 |

The highest temperature during the above period occurred on the 5th, 1852—therm. 97 deg.; and the lowest on the 7th, 1860—therm. 36 deg.

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## Notices to Correspondents.

*_* As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

Books: *Tribune*. The number of the Technologist to which our correspondent refers was April 1863. There are very many papers on the resources and commercial products of India, scattered through the three volumes of the Technologist; the papers by Dr. Forbes Watson on the cottons of India will be found in the Journal of the Society of Arts, vol. 7, p. 278; on the chief fibre-yielding plants of India, vol. 8, p. 448; and on the food grains of India, vol. 6, p. 14.

Caterpillars on Clematis: *P D*. If the space covered is too large to admit of hand-picking, try dusting with white Hellebore powder; or washing with a solution of Gishurst compound applied with an engine, and followed by a good rinsing with clean water; or washing with strong tobacco water, or with diluted ammoniacal liquor, in the latter case trying its strength first on some worthless plants.

Cherries: *M H W*. Your young Cherry trees which blossom most splendidly, but fail to set or fall off on stoning, are probably unable in your heavy soil to take up sufficient nourishment to supply the young growing crop. Such soils, especially if damp, are not suitable for Cherries. Fork out the roots carefully in autumn, and work in a good quantity of grit or sandy loam before replanting them.

Examinations: *Y G*. We are not aware that there are any established examinations for young gardeners. Possibly they may be included in the country examinations of the Society of Arts.

Italian Verbenas: *One Light*. According to Mr. Van Houtte these pretty striped novelties are of Italian origin, having been raised by Cavagnini Brothers, of Brescia. According to the published figures the handsomest is "Carolina Cavagnini"—a beautiful thing.

Names of Plants: *J D*. Prunella grandiflora, certainly.—*R P*. 1, Leptosiphon luteus; 2, Nepeta incana.—*A M. Wonersh*. The weed that is choking up the Arundel Canal is the Anacharis Alsinastrum, a very formidable enemy, only to be removed by continual raking up,—if then.—*W T F*. 1, Holcus mollis; 2, Lolium perenne; 3, Phleum pratense; 4, Cynosurus cristatus.—*W D B*. Thalictrum majus, as far as we can judge without leaves.—*Constant Reader*. 1. We suppose a very bad bit of Alyssum alpinum; 2. Chrysanthemum segetum; 3. Lotus corniculatus; 4. A variety of Helianthemum vulgare.

Peach Mould: *R. H.* It is the common Peach mildew. The old remedy of sulphur applied as soon as the mould appears is we believe still the most approved. *M. J. B.*

Strawberry: *B W Knight*. Your seedling Strawberry, Princess of Wales, large, ovate, or flattened ovate, with flesh pale red and solid at the core, is probably a good variety; but it was packed too loosely; the fruits had room to move, and the consequence was that the cotton was partly saturated with their juice. The variety deserves notice on account of its size, appearance, and not being hollow at the core.

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|---|---|
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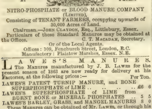


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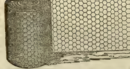

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| 2-inch ,, ,, ,, .. | ,, 16 | 8 | 6½ |
| 1⅝-inch ,, ,, ,, .. | ,, 19 | 4¾ | 4 |
| 1⅝-inch ,, ,, ,, .. | ,, 18 | 6 | 4¾ |
| 1⅝-inch ,, ,, ,, .. | ,, 17 | 7 | 5½ |
| 1⅝-inch ,, ,, ,, .. | ,, 16 | 9 | 7 |

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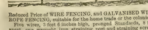

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22, Parliament Street, Westminster, S.W.

Land Drainage.

WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all Descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.

Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rent charge on the estate created for various terms of years, so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.

No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

THE LANDS IMPROVEMENT COMPANY.—
Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.
AUTUMN SESSION, 1863.
*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*
The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

*Resident Professors.*
PRACTICAL AGRICULTURE.
J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 12 Lectures on Agricultural Machines.

CHEMISTRY.
ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.
R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Soc.

VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.
W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
ROBERT RUSSELL, Editor of the Transactions of the Highland and Agricultural Society—A Course of Lectures on Manures.

AGRICULTURAL CHEMISTRY.
THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

The College will RE-OPEN AUGUST 10th. For further particulars apply to the Principal.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER, 1863.
AGRICULTURAL SHOW of the ROYAL AGRICULTURAL SOCIETY of ENGLAND.
PROGRAMME.

| | |
|---|---|
| WEDNESDAY, July 15 | The Yard for the Trial of Steam Engines (fixed and portable), Corn Dressing Machines, Corn and Seed Separators, Corn Screens, Fixed and Portable Steam Threshing and Finishing Machines, Barley Hummellers, and Miscellaneous Agricultural Articles, open from Noon till 6 P.M. Admission 5s. |
| THURSDAY .. July 16<br>FRIDAY .. ,, 17<br>SATURDAY .. ,, 18 | The Trial Yard open from 9 A.M. till 6 P.M. Admission each day 5s. |
| MONDAY .. ,, 20 | Cattle and Implement Yards open from 8 A.M., at which hour the Judges will commence inspecting the Live Stock, and making their Awards. Admission 10s. |
| *TUESDAY .. ,, 21<br>*WEDNESDAY ,, 22 | The GENERAL SHOW of Cattle, Horses, Sheep, Pigs, and Implements, open from 6 A.M. till 6 P.M. Admission 2s. 6d. |

* Public Working of Steam Cultivators on Land in the neighbourhood of the Show Yard.

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|---|---|
| THURSDAY .. July 23<br>FRIDAY .. ,, 24 | The GENERAL SHOW of Cattle, Horses, Sheep, Pigs, and Implements, open from 6 A.M. till 6 P.M. Admission 1s. |

By the Regulations of the Society, all persons admitted into the Show-yard, or other places in the temporary occupation of the Society during the Meeting, shall be subject to the Rules, Orders, and Regulations of the Council.

By Order of the Council: H. HALL DARE, Sec.
12, Hanover Square, London, W.

YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW at SOUTH STOCKTON-ON-TEES, on AUGUST 5, 6, and 7.

The ENTRY CLOSES on July 18. For Forms of Entry, apply to JOHN HANNAM, Secretary.
Kirk Deighton, Wetherby.

Agricultural Hall.

A POULTRY, PIGEON, RABBIT, FLOWER, FRUIT, and VEGETABLE SHOW will be held at the AGRICULTURAL HALL, ISLINGTON, the LAST WEEK in AUGUST.

PRIZE LISTS and further particulars will shortly be issued.
By Order, S. SIDNEY, Secretary.


# The Agricultural Gazette.

*SATURDAY, JULY 4, 1863.*

MEETINGS FOR THE NEXT TWO WEEKS.

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| TUESDAY, July 14 to SATURDAY, — 18 | Great International Show at Hamburgh. And Examination of Implements at Worcester by the Judges of the Agricultural Society of England. |

A CORRESPONDENT—"W. U."—has asked us for a reference to any published account of the best methods of breaking up Grass land and of converting it into tillage with the view of afterwards relaying it in pasture. If the object of the process be in any degree to make profitable use of the land during the interval, then the plan thus suggested of improving Grass lands may very well be adopted. But if the object simply be the im-

provement of Grass, then the arable culture of it for a year or two is unnecessary. Dr. Voelcker's lecture, given the other day before the English Agricultural Society, sufficiently illustrated the methods at our command for the improvement of pasture land. Drainage, liming, either in artificial composts with other matters, or in that natural compost we call marl—occasional dressings with farm-yard dung—the application of bone dust, folding with sheep, rolling and weeding—these are the methods which have been found effectual for Grass land improvement over whole districts, and the converse of which have tended to Grass-land deterioration over tracts of land as large. And of local and exact experiment on this subject we have no better instances than those which Dr. Voelcker also quoted, to be seen with all the curious and definite results accompanying it at Rothamsted, where dressings of ammoniacal manures have been followed by an increased growth of Grasses, and dressings of bone-dust and mineral manures have tended to the growth of Clovers; and special dressings of various kinds have resulted in an extraordinary distinctness and difference of results; showing that whatever a man wants to grow in his Grass field he may get by the mode in which he treats the land with dressings of manure—that in fact pastures are as amenable to treatment as ploughlands.

If a man mows his poor wet pasture every year, and hardly dresses it at all—and unfortunately in this we are not supposing an unusual case—he will very soon find it full of Yellow Rattle, Sedge, Hawkweeds, Purging Flax, Devil's Bit, and other weeds—Fescues, Poas, and Clovers, will dwindle and almost disappear. If he drains it and gives up mowing it, dresses it with farm-yard dung and bone-dust, if he pulls up Thistles and Docks, and the larger weeds, feeds sheep on it, folding them upon the land if necessary, and foddering them with hay in winter, giving also roots and cake, he will soon have good grazing grounds and meadows full of Clovers and Grasses. Rush and Sedge and weeds will have disappeared. Of course there is the more immediate plan of dealing with Grass land which our correspondent suggests, though it may be doubted whether the process is any shorter than the other if the time be reckoned till the pasture is perfectly natural and sound. You may drain the land and break it up, cultivate it for several years and lay it down again, and nurse the young Grass until it has regained its original establishment and maturity of produce and of growth, yielding now those plants only which you wish that it should contain.

We have had considerable experience in the conversion of Grass land into arable, and even on sandy soils have seen such prolonged superiority of produce and fertility resulting from paring and burning the sward that we can confidently recommend that way of doing it. The thing wants to be done as slowly and imperfectly as possible in order to the most permanent effect; the heaps should be small and covered with earth so as to retain the products of combustion or at least check the access of air, and thus char rather than burn the contents of the heaps; and the "ashes" will be black, and the heaps themselves, while the fibrous texture of their contents will be perfectly broken and reduced so as to enable the commixture of the whole with the soil, will at the same time exhibit no vitrification of the soil, nor even an entire dissipation of the organic matters within it.

On the Whitfield Farm near Tortworth, Gloucestershire, which is for the most part a light or loamy soil, one half of the land was pared and burned at an average cost of 28s. an acre, the work being done with the breast plough, and the other half was ploughed under with the common horse plough. On the former half green crops were grown the first season, on the latter Oats were grown. Very heavy crops of both were obtained, and straw and green food being thus obtained at once in fair and usual proportion to each other, the work of sheep and cattle feeding on which we had to depend for the maintenance of the fertility thus produced at once proceeded. Lands which had let for 10s. an acre as poor Grass land, at once with no help of guano or superphosphate, for neither of these were known a quarter of a century ago, yielded 10 to 12 quarters of Oats, 5 quarters of Wheat, 30 tons of Swedes, and 40 tons of Mangel Wurzel per acre. A year or two of such cultivation, by which the soil would have been completely fallowed, might have been followed by resowing the land with Grasses—with 40 lbs. or thereabouts per acre of such mixed seeds as are known to be adapted to the character of the soil. The produce should be eaten off imperfectly for a year or two, and the land should receive a dressing of farm-yard dung in earthy composts every other year, until it is thoroughly established. The arable land should, before being relayed, receive a good dressing of lime. And after being sown with Grasses it should be well rolled once or twice a year. In this way the usual abundance of Grass produce of the first two or three years after sowing will be followed by the permanent style and character of the permanent meadow with shorter interval of dwindling scanty years between the two than is usually witnessed.

Our correspondent should drain and if necessary marl his land, and then either depend on farm-yard dung and bonedust, and close grazing, or pare and burn and break it up, taking Turnips, Beans, Wurzels, and Oats in successive crops, and then relay the land with suitable Grass seeds, following with the management which Mr. H. S. Thompson described some years ago in the Journal of the English Agricultural Society as the result of his experience.

## THE MANGEL WURZEL GRUB.

[We receive reports from correspondents that the grub of the grey fly (Anthomyia Betæ), is already in various parts of the country attacking the leaf of the young Mangel Wurzel plant; burrowing under the skin and eating out the green substance. The following is Mr. Curtis's account of them in the English Agricultural Society's Journal.]

It is generally supposed that animals closely related to each other, and forming a natural group, would not be very unlike in their habits of life, but such is not always the case amongst insects, in their larva state especially, and the genus of flies called Anthomyia is a remarkable example of such a diversity. There are several species that annoy the farmer and gardener, which bear so striking a resemblance to each other in their fly state, that, except to the scientific observer, they would be considered as the same species, yet nothing can be more different than the economy of the larvæ. Some of these maggots live upon the seeds of the Lettuce whilst growing upon the plants; others revel in the decaying stems of Cabbages, the bulbs of Turnips and of Onions; whilst others reside between the two skins of the leaves, feeding upon the pulp—and these have received amongst naturalists the name of miners. A gentleman at Cranford, who is well known for his scientific researches, has made me acquainted with a fly whose larva mines in the leaves of the Mangel Wurzel, and I am indebted to him for the following sketch of its economy:—The maggots were brought to me from Surrey on June 26, found feeding between the plates of the leaves, the integuments of which they cut rapidly, giving the parts attacked a blistered appearance. They were of a greenish colour, a quarter of an inch long, pointed at the head, and rather abruptly cut off at the tail; they turned to pupæ *in situ*, as you may see by the fragments of the leaves, and hatched July 17 and 20: Mr. Frogley told me they had destroyed the plant where he got them from. I found my Sugar Beet attacked in the same manner, but immediately employed some boys to pinch the blisters between the finger and thumb, and by attacking them in that helpless situation their operations were effectually stopped."

I may remark, that the maggots are very similar to those of the Turnip; like them they change to an oval brown pupa, and from them issues a fly which exceedingly resembles Anthomyia Ceparum, which is bred from putrescent Onions, but, as I cannot imagine they are the same species, I must distinguish them by naming the former, and shall call it after the Beet or Mangel Wurzel.

A. Betæ. The males only are known at present: they are much smaller than the Onion fly, being only $2\frac{2}{3}$ lines long, and expanding about 5 lines: they are of an ashy-grey colour, clothed with black bristly hairs; head semi-orbicular; eyes large, brown, nearly contiguous above, with 3 minute ocelli on the crown; face satiny-white, with a bright chesnut-coloured line down the middle, in the centre of which are placed the little black drooping horns, the 3d joint being the largest, elliptical, and producing a naked bristle on the back; the protruded lip and palpi are also black: on the trunk are 3 or 5 indistinct longitudinal stripes; the 6-jointed abdomen is linear, with a dorsal black triangular spot at the base of 4 of the segments; the 2 wings are ample and transparent, a little tinted with tawny at the base; the nervures are pitchy; poisers ochreous, 6 legs, longish, bristly, and pitchy, the shanks with a tawny tinge.

These insects will seldom cause any loss to the Mangel Wurzel crops, should they ever abound to any extent; but whether they would prove injurious to cattle when the leaves are given as food I am not prepared to say, but I should think not, as the skins are very tender. I have seen the leaves of Docks and Burdocks as well as the Celery, blistered from the mining of the maggots of different species of flies to a large amount, and the only remedy is to nip them in the leaf, for they are so delicate that a very slight pinch will maim them. Parasites no doubt keep them under, and we may trust to them for assistance.

[Mr. Curtis took a very much too lenient a view of the ravages of this fly.]

## SEWAGE OF TOWNS.

I see that Dr. Thudichum, in his paper read before the Society of Arts, making allowance for daily and casual visitors, and for the rapid increase of the population of the metropolis, reckoned the human excretal matters as equal to those of about two million adult males, and takes the urine alone of these two millions as worth about 10s. per head per annum. Reckoning that the supposed two million adults represent, in round numbers, three million individuals of both sexes and all ages, this brings the value of the urine per head of the actual population, according to Dr. Thudichum's data, to two-thirds of 10s., or 6s. 8d., which is exactly the value put upon the constituents of the mixed excreta (including fæces) of each individual of a mixed population, of both sexes and all ages, by Mr. Lawes and myself. Taking this valuation, from which Dr. Thudichum would obviously not widely differ, and reckoning that there are 80 tons of sewage per annum for each head of the population (some take it at more and some at less), this would give 1d. per ton for the average sewage of London, if valued according to the constituents of the human excretal matters it contains, taking these at the price they would command in the market if in the condition of a concentrated, dry, and portable manure, such as guano. Other matters of course add more or less to the value of the sewage, but their value bears but a small proportion to that of the human excretal matters.

But, in the discussion, Mr. Alderman Mechi claimed Dr. Thudichum's data as bearing out his own estimate of 16s. per head per annum, as given by him in his evidence before the Parliamentary Committee last year. This estimate, is, however, it will be observed, in point of fact, from twice to twice and a half that of either Dr. Thudichum or Mr. Lawes and myself. But Mr. Mechi went on to complain that his estimate of 16s. "was confronted by other evidence putting the value at only 2s. per head;" and as, in his recent lecture at the Farmers' Club, he complained that "Mr. Lawes puts it at 2s. per head," I suppose he again refers to the evidence of that gentleman. Now, I find by reference to the report of the Parliamentary Committee, that what Mr. Lawes said about 2s. per head was, that, in the experiments of the Royal Commission at Rugby, the result actually yielded, reckoned according to the milk obtained, was "about 2s. or 3s. per head." But when giving the value according to the constituents, he said, "The theoretical value, as far as we have got it, of each individual, is about 6s., putting that as the value of the ingredients bought as guano." Mr. Mechi must perfectly well know that it is this estimate of "about 6s." (and not the actual result of 2s. or 3s. in a particular case, when the 6s. or 7s. worth of constituents had been mixed with some 50 to 70 tons of water) that is alone fairly comparable with his own theoretical estimate of 16s. And, as the data of Dr. Thudichum, and those of Mr. Lawes and myself, given by Mr. Lawes in his paper before the Society, on March 7, 1855, are the most comprehensive brought to bear on this subject, and the estimates founded upon them are, so far as I remember, the only ones in which the questions of the sex and age of a mixed population have been duly considered in reckoning the theoretical value of the excretal matters, I am inclined to believe, and I think if Mr. Mechi carefully looks at the evidence he will agree with me in believing, that that value is much nearer 6s. 8d. than 16s. per head per annum.

But the theoretical value of the constituents contributed by the population to the sewage is one thing, and their actual value when distributed through an enormous bulk of water, as in dilute town sewage, is quite another; and Mr. Mechi has himself very recently spoken of a case (that of Croydon) in which the increased rental from the application of sewage represented only 1s. 1d. for each individual of the population, "as a very recent accessible and successful instance and evidence of the value of town sewage." In the early part of my remarks I have shown that, according to the data of Dr. Thudichum, and of Mr. Lawes and myself, the theoretical value of a ton of the average sewage of London is about 1d., so far as its contents in human excretal matters are concerned. Now, at Rugby, where, so far as can be judged from the evidence at present at command, the average of the total sewage does not differ very widely in composition from that of London, though as used, excluding much of the rain-fall, it is probably much stronger, the tenants who have it brought to hydrants in their fields, ready for application to either Grass or arable land at pleasure, any day of the year, consider themselves very fortunate to get rid of it to others at 1d. per ton the year round. Yet it is maintained by some that farmers will be glad to pay at least 2d. per ton for sewage delivered to the boundary of their farms, with all the additional expense (by outlay of capital, or increased rental as the case may be) incident to laying down pipes over the farm, and the cost of actual distribution besides.

It certainly does seem a very great pity that any who are really anxious for the beneficial utilisation of

the excretal matters of our populations, should indulge in exaggeration in their representations to the public in this matter, as nothing, surely, can tend more to postpone or prevent a satisfactory settlement of the question, than the circulation of vague and illusory statements respecting it. Indeed, so long as the value of the excretal matters of the average individual of a mixed population of both sexes and all ages is assumed to be the same as that deduced from the results of some high authority for an adult male; so long as the value of the constituents in a ton of average sewage is estimated according to the analysis of samples making no pretensions to be average samples; so long as it is maintained that the annual excretal matter of an individual of the population is equally applicable to Grass land and to land under tillage, to succulent and to all other crops, and that it is to be valued by the same tariff, whether it be in the form of about half a cwt. of dry and portable powder, or distributed through from 50 to 100 tons of water, as the case may be; so long as the circumstances of a daily supply of enormously diluted sewage are spoken of as comparable with those of the liquid manure of a farm, which can be had and used in almost any state of concentration, and be applied at any time at pleasure; so long as the results obtained by irrigation in hotter and drier atmospheres are adduced as evidence of what may be expected under the influence of our own comparatively sunless summers, so long must it be concluded that it is thought not quite prudent to deal candidly with the public in this matter, and so long must this vexed question remain a source of contention, instead of what it should be, a subject treated exclusively according to the actual facts and merits of the case. *J. H. Gilbert, Harpenden, near St. Alban's, May 20, 1863, in Journal of Society of Arts.*

## Home Correspondence.

*Town Sewage.*—In a letter quoted in your impression of June 20, on the subject of town sewage, Mr. Alderman Mechi says:—"The real questions at issue are,—1. Whether a ton of guano (or its elements in sewage) is more or less valuable by being mixed with 1300 tons of water? 2. Whether the cost of conveying to the land these 1300 tons of water or sewage is greater than it is worth? 3. How much does that cost of conveyance diminish the value of the guano or sewage?" Now the mixed excretal matters of an average individual of a mixed population of both sexes and all ages, for a year, contain somewhat less dry substance than ½ cwt. of Peruvian guano, but are of almost exactly the same money value for manurial purposes. If this material, reckoned as ½ cwt. of guano, be mixed with only 1300 times that weight of water, this will be equal to only 32½ tons of sewage per head per annum, or scarcely 20 gallons per head per day. But the sewage of the metropolis is variously estimated at from 5 to 7 cubic feet per head per day, exclusive of rain-fall, equal to 31—43½ gallons per head per day, or 50¾—71 tons per head per annum. If we take the amount to be 60 tons per head per annum, which agrees very nearly with the more recent estimates, exclusive of rain-fall, the constituents of the voidings of each individual, reckoned as ½ cwt. of guano, would be distributed in 2400 times the weight of water, or nearly twice as much as assumed by Mr. Mechi. But the average sewage will contain a large proportion of rainfall and subsoil water. It is even said that when the low-level sewer now in progress is completed, the amount of sewage will be doubled from these sources. But let us as a very moderate computation reckon the total amount of fluid to be 80 tons per head per annum, and on the other hand, as a compensation, exclude from the calculation the comparatively small proportion of other matters valuable as manure which find their way into the sewers, and we have 3200 parts water to 1 of valuable manurial constituents reckoned as guano, or about 2½ times the dilution assumed by Mr. Mechi. I confine myself to thus indicating the obviously necessary correction of Mr. Mechi's first question, and leave it to your readers to modify the others, and the answers to all accordingly. *J. B. Lawes, Rothamsted, Harpenden, near St. Alban's, June 23.*

*Steam Cultivation.*—You have kindly laid before us another batch of tabulated returns on steam cultivation procured by Mr. Morton, as well as some data as to the draught of tillage implements procured by that same industrious and trustworthy man. Here is the summary of tabulated statement as to work done, days doing it, and average day's work:—

| | Acres ploughed. | Acres Grubbed. 1st time | Acres Grubbed. 2d time | Total acres | No. of days. | Average per day. |
|---|---|---|---|---|---|---|
| Fowler ... | 1030 | 3594 | 2127 | 6751 | 886 | =7⅝ |
| Smith .. | 199 | 2487 | 1767 | 4453 | 804 | =5½ |
| Howard .. | 70 | 698 | 1224 | 1992 | 345 | =5¾ |

A glance at these figures shows that the roll-over plough now takes but a tenth-rate place with steam cultivators, and the thing that the Messrs. Fowler and Howard are employing numerous lawyers to cavil about is fast dwindling into nothing. This reminds me of turnpike commissioners cutting down hills, and coach proprietors whirling us through the country at the rate of 10 or 12 miles per hour (a pace beyond which steam nor anything else could surpass) in opposition to the rail. Stop; I am wrong. These gentlemen are not opposed to steam culture, but they will drive the old coach through it, right or wrong. The tables show that Mr. Fowler's customers have done very much less of the old coach driving than before, and the consequence is that they have shoved his average day's work up from 5¾ to 7½ acres; and if it had not been for the dynamometer this might have given some hopes to the endless rope plan, but that weighing machine tells us that a 31 cwt. draught is required to pull Fowler's best grubber through the soil to lift 487 lb. of earth per square yard. This looks frightful—a 31 cwt. pull upon the rope and tackle. Who is it that can afford to buy ropes and throw them away when they are worked down to only such a pull? And who is it that can buy steam-engines and machinery and keep them in order to be worked at double their nominal power? A Mr. Langston may, and a Mr. Ruck may, and so may many others, but a tenant farmer can't do it and pay his rent as well. Then what is the good of over-working ropes and tackle when that same weighing machine, used by the same man (Mr. Morton), shows that Smith's No. 3 can lift 474 lbs. per yard at a draught of 12 cwt., the nominal power of an 8-horse engine. Here we have got a ton draught in the wear of rope before we throw it away. This is the grand reason why Mr. Plummer's rope cost him 1*s.* 6*d.*, and Mr. Sowerby's rope only 8*d.* per acre, and why the wear and tear of Fowler's tackle is so heavy and mine so light. Mr. Savidge might well tremble for steam cultivation after seeing ropes thrown by for scrap with more than 1½ ton pull in them. Even his master Mr. Langston, with a well-filled purse, must quake at such a sight, especially were he to reflect that his doings ought to be a pattern to a tenant farmer if he would wish steam cultivation to become general. One word more, and I have done, leaving you to reflect over your past qualified opinion—"We believe in the superiority of the direct method as at length exhibited in operation by Mr. Fowler," not doubting for one moment my ability of convincing you of the fallacy of such a plan. How is it that Mr. Howard's 3-tined implement can only lift 386 lb. of earth per yard with a 12 cwt. pull? Why, because, as I have all along told you, it is a badly constructed implement. *William Smith, Woolston, Bletchley Station, Bucks, June 23.* [In answer to Mr. Smith's question we must point out to him that the draught of Fowler's cultivator is that of a tool which is moving 6 ft. width at a time, while Mr. Smith's is only moving 30 inches to 3 feet.]

*Working Men's Clubs.*—With all that is being done to aid and promote the interests of agriculture, there is nothing connected with this important subject of greater importance than elevating the minds and improving the condition of the agricultural labourers, and I see no better channel than their clubs by which this important object can be brought about. The agricultural labourers, like every other class of men who enter into engagements, should do so with the determination to make them pay. All labour, like every other undertaking, to be carried on satisfactorily must be self supporting; there is no doubt but what the agricultural labourers will in the course of time arrive at this satisfactory position, but it will be a work of time; therefore the more they are aided and assisted in obtaining this desirable object the better. In the first place they should all of them become members of clubs. The strong should support the weak. When the parents get old and infirm, having done well for their children, a reaction should take place and the children should in return do all that they can for their parents; so that with the assistance of their children and the proceeds of their clubs, they would end their days in comfort and independence. It should be from their clubs and not from the parish that they should receive all that they require. Whether from illness, accident, or infirmity, the best assistance that can be rendered to the working classes, is to assist them in assisting themselves. Every thing that is given to them should be as much as possible through their clubs, adding to the funds in addition to their savings, that they may no longer look to the parish, but to their own independent source of wealth, and then the labouring men will consider well the best way to spend their time and money. It is not satisfactory; nor is it a sign of prosperity or right principles, to see the villages swarming with children, and to a great extent supported by the parish, nor can it be satisfactory to the agriculturists to continue to contribute so largely in rearing up children to supply every branch of industry with labourers, not only at home but also abroad, enabling the foreigner to increase the production of corn for the English market. Would it not be far better to train and encourage our labourers to provide for the maintenance of their families themselves, independent of assistance from others, by employing them at good wages, with a view to their own benefit and also to increase the production of our own soil? What may and should be done for the labourers is to assist them in procuring a good club room in every village, where they can meet if they choose every evening; where they may find both amusement and instruction. It is from the want of this that many improvident and early marriages may be traced, but it is not so much what may be done for the labourers as what they can do for themselves that will raise them to a state of comfort and independence; it is useless to expect much improvement so long as the labour market is over supplied with poor dependent labourers. *B. Ransley, Perrysfield Farm, Oxted, Surrey, June 25.*

*Steam Cultivation.*—The *Agricultural Gazette* has so repeatedly shown the decided advantage of steam power over horse labour in the cultivation of all soils, but more particularly on heavy soils or clays, that one feels somewhat perplexed to ascertain the cause why it has not become more generally adopted by the agriculturists of the country. It is true that steam cultivation has rapidly increased in public favour, and a goodly number of our more spirited and wealthy farmers have within the past two or three years supplied themselves with steam engines and apparatus for cultivation, and manifestly with great benefit, as is reported universally; but still it is far from being in general use. We naturally inquire why it is not so, if on all hands it proved to possess such great advantages? It may fairly be inferred that it is not from ignorance of its worth. The great reason undoubtedly is the large outlay required to commence the system, and the fundamental changes in rotation of crops and management it would necessitate. It must be borne in mind that one of the highest and best advantages to be derived from such effective culture, is the unlimited extension of cropping it would confer or enable the farmer to take. This would cause a possible collision with the landlord, and lead to much apprehension and uncertainty whic most tenant farmers are reluctant to incur. These minor matters would, however, soon rectify themselves. Landlords would soon perceive that both their own and their tenants interests were identical—that a more effective and higher order of culture would require an abandonment of restrictive cropping, for which privilege the landlord is entitled to an increased rental. This is fair and honourable on both sides, and must be conceded to a higher order of agriculture as comprised in steam culture. The paper lately read at the Farmers' Club by Mr. J. C. Morton fully settles the question as to the advantages, economy, and usefulness of steam cultivation. It is to all intents and purposes a settled question. That it is a great boon to agriculture no intelligent man can for a moment entertain a doubt. The various phases of its application to culture also give to it an additional commendation. It has by one system or another become adapted to every kind of soil, and every order of culture, from the ponderous steam plough to the light-land cultivator, each in its place far beyond the power of horses and horse implements to compete successfully. The great question now must be, and in fact is, this: By what means can this system be advanced or made general throughout the kingdom? Farmers as a body are too slow to adopt improvements—they dislike innovations—they arrive slowly at their convictions—they deem great changes in management very speculative. Overcoming all this, and entertaining the desire to adopt steam cultivation, then arises the queries as to what is to be done with the farm implements, horses, &c.? How the new order of culture is to be carried out? Where is the best steam plough or cultivator to be obtained? How is it to be paid for? Who is to work it when it arrives? and various other doubts and demurs have to be weighed over, and settled. These are matters for every farmer's judgment. It is no disparagement to the class of farmers as a whole that I say the majority of them would greatly hesitate before expending so large a sum of money as the purchase of a steam-cultivating apparatus would cost; and further, that to great numbers it would be highly inconvenient, if not impossible, to spare so large a sum out of their business; and I may further say that nearly all would prefer to purchase such expensive machinery and implements upon the easiest terms. How then can this be done? Manufacturers cannot afford very long or very extensive credit. The conduct of their establishments generally gives them plenty to do with their capital, rather than lend it to promote steam cultivation. Landlords might aid a little on their respective estates; farmers occupying contiguous farms might combine and purchase for their especial use; joint stock companies in various localities might purchase for letting out to hire. Still there is a void to fill up, there is a want to be supplied. How is this most commonly done? The reply is by joint stock companies, all gigantic works are carried out by joint stock companies. Steam cultivation is a gigantic work, it is a national work, a national work of the highest order, a work that will enhance the products of our cultivated soils full 20 per cent. Well then, farmers require their joint stock company, a national company, large enough to embrace our British agriculture, large enough and having capital enough to supply the reasonable and just requirements of every British farmer; the object being of course to assist the farmer to purchase on loan upon equitable terms these costly implements and machinery. The term of payment should extend over a period long enough to enable "the plant" to clear itself in the work performed before payment is fully enforced. I earnestly commend this idea to my brother farmers. *O. F.*

*Cirencester Agricultural College.*—In your Report of the Royal Agricultural College Club dinner which took place at Battersea in August last year, Mr. Holland, as chairman of the Council, in alluding to the discord existing between the Principal and professors, observed that he was at the helm of a vessel somewhat out of

order, and promised that a full and impartial inquiry should be instituted, and that in so doing he would neither look to the right or left, but would do so honestly and straightforward, and that for the advantage of the College the result should be made public without any reservation whatever. We now hear that the whole staff of the old professors are leaving the College, and must express our anxious wish to know the circumstances which have caused such old and faithful servants to leave the institution. The old shareholders are not unmindful of the great and valuable services rendered by these old professors. They have not forgotten the time when the institution was but little known and appreciated, and comparatively speaking a mere wreck; and how in those days of trial they nobly remained at their posts for such poor remuneration. They have for very many years worked in harmony and good will amongst themselves, the Principal and Council; and from their readiness at all times to render any kind office to the students, they have won the love and esteem of all who have studied under them. It cannot be denied that their long services and recognised talents have conduced to the present prosperous condition of the institution; and now that such a result has been achieved, the whole staff are to be sacrificed, because a Principal has been appointed with whom they find it impossible to act. But let it be understood that the ingratitude thus meted out by the Council to these old and faithful servants is not in accordance with the wishes of the shareholders, who protest and disclaim against such an act of injustice. *A Shareholder.*

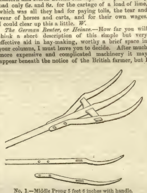
*Beer.*—In your paper of the 15th inst, J. P. W. asks what sum he ought to pay in harvest instead of giving beer. In haymaking I give 2*s.* per week extra to the men, and the women and boys less than that. I have little Grass land. If the pressure of work is great, I give rather more. In harvest those who work by the piece are paid by a bargain at per acre. I have given for the five weeks to the hired servants 1*l.*; to the lads, from 15*s.* to 10*s.* I would rather double the sum than return to beer. The first difficulty overcome, all parties like it better—we now have peace instead of perpetual quarrels. *J. C. C., June* 22.

*Steam Cultivation.*—I am sorry that it falls to my lot to have to complain of the manner in which the returns supplied to Mr. Morton have been placed before the public. Last week I wrote informing you that No. 23 in Fowler's tackle, J. Elliot, Tarbert Mains (the Duke of Sutherland's steward), was my customer. No. 17 in Howard's tackle was also mine, as well as Mr. Leyland Wood's, that appeared published with some other reports with nothing to show whose customer he is. The injustice I now complain of is that you have not only neglected to correct, but that you have again placed J. Elliot, Tarbert Mains, as a customer of Fowler's. There is also J. Long, Henlow, Biggleswade, placed as a customer of Howard's in this week's Paper, who is not, but is a customer of mine. *W. Smith, Woolston, Bletchley Station, Bucks, June* 22. [Mr. Smith's note of last week was received too late to be of any use for the correction of the inaccuracies to which he alludes. Mr. Morton expressly said that the returns came to him unendorsed with the name of the manufacturer, and that he was left to infer that from other circumstances. Mr. Elliot stated that he employed three men and a boy in working his apparatus, and the inference naturally was that he used Fowler's apparatus. We can only hope that readers of the tables will now note Mr. Smith's correction.]

*Pigs and Flies.*—Mix train oil and brimstone, and rub it round horns, nose, down the back, tail, &c., and the flies will go to your neighbours "flocks," whether pigs, sheep, or cows or horses. The farmer should always have by him elder ointment for sores, &c., at this time of the year. If you are troubled with rats, use in their haunts gas-tar and grease, and ground glass in your mortar. They will disappear altogether. Some time since I caught a large rat, after much trouble I tarred him, then let him go—he told his brethren, and they were soon far away. *N. N.*

*Comparative Cost of Cultivation by Horse and Steam Power.*—This question cannot be determined, unless Mr. John C. Morton and others of his class, view the subject as every practical farmer ought to do. Since Mr. Morton was brought up on a farm, he will be able to point out any mistaken idea of mine on the subject. I fancy this is the root of the difficulty. Mr. Morton tries to estimate the cost to farmers of horses' keep by charging market price for their food. I fancy this is a mistake. The horses' food and the seed corn are dead stock, and cannot be converted into cash. Instead of purchasing stock and implements, and appointing a hired manager for each farm, landowners let their farms for a given rental per annum. A tenant farmer has no right to expatiate about the expenses connected with keeping horses and manual labour. A tenant farmer is merely a contractor and manufacturer of animal and farinaceous food. Reckoning 3 bushels of Oats a fair allowance for a horse in a week, very few farmers will give each pair of draught horses more than 300 bushels in a twelvemonth. Presuming Mr. John C. Morton is a tenant farmer at a rental of 2*l.* per acre per annum, 5 acres of land will support one pair of Mr. Morton's horses. The horses' manure will pay for the cost of producing the hay the horses eat, say from the latter end of February till they are turned out to Grass. In short, 10*l.* per annum will produce the food of a pair of horses. The ploughman's wages, say 12*s.* per week, the 10*l.* for the rental of the land and the seed for sowing the Oats, and interest for the wear and tear of horses, harness, and implement are the cost of horses' keep. Until that view is taken of the subject no one will clear up such subjects as Thorley's food and the "Cost of Horse-power." Will Mr. Morton be so candid as tell me the cost of producing a bushel of Oats. See Mr. Morton's paper on "the Forces used in Agriculture," where he stated that the labour bill on a crack farm in East Lothian did not amount to 2*l.* per acre per annum; and to 32*s.* on a farm near Hexham. The foregoing is a practical view of the subject. I am bearing in mind that jobbing carters charge 14*s.* for a pair of horses and a man a day in some districts. Lime drivers on Tweedside could not earn above 8*s.* a day before the Kelso branches of the North-Eastern and North-British railways were opened. They had only 6*s.* and 8*s.* for the cartage of a load of lime, which was all they had for paying tolls, the tear and wear of horses and carts, and for their own wages. I could clear up this a little. *W.*

*The German Reuter, or Heinze.*—How far you will think a short description of this simple but very effective aid in hay-making, worthy a brief space in your columns, I must leave you to decide. After much more expensive and complicated machinery it may appear beneath the notice of the British farmer, but I



No. 1.—Middle Prong 5 feet 6 inches with handle. Side Prongs, 3 feet 3 inches.

have yet to learn the soundness of the doctrine which would undervalue a thing solely because of its cheapness or simplicity. My correspondent (an owner and occupier of land in Würtemberg) writes as follows:—"I must now describe to you those famous Reuters I mentioned long ago, and which we think such a blessing to haymakers. I enclose a sketch which A—— made of one of them for you. "They are composed of a stake, about 6 feet long, with cross pieces as represented in No. 2. These stakes are spiked or pointed at the end, and driven with a mallet into the ground, at about the usual distance between haycocks. When it threatens to rain the hay is piled up on the cross bars, the form becomes conical, the wet drips off, and the air, circulating between the cross pieces, prevents the hay from damping to any very injurious extent. Some of our hay was out in heavy rains three weeks last summer on these Reutern, and but little of it (merely the outside layer) was injured; none rendered useless. When the hay is carted, the Reutern are taken up, and stored during the winter, often hung up under the shelving roofs of the farmhouses; with us, stored away in our enormous vaults. No. 1. represents the fork used for turning the hay, and in practice it is found to be excellent. It is made entirely of wood, is light to handle, and turns over a mass of hay at one stroke." Before I conclude, allow me to join in thanking you for your late excellent exposition of Steam Culture. It is to my mind one of the most interesting and important agricultural questions of the day, and is destined ere long to effect a complete revolution in the management of land in general, but of clay-land in particular. *Samuel Taylor, Gloucester, June* 3, 1863.

No. 2.—Called in German Reuter or Heinze.

## Foreign Correspondence.

An Agricultural Sketch: *Stuttgart.*—On a tour through Northern Germany, which I undertook last autumn, I had the opportunity of visiting several very large and well managed farms, and as I have described to you lately the farming of Southern Germany, it will afford me much pleasure to give you now the following sketch of some farms in the North of Germany, begging at the same time your indulgence for my many deficiencies of style and composition. The farm or property I am going to describe is called "Salzmünde," and lies about 9 English miles below the old University town of Halle, close to the river Saale, and at the mouth of the Salza, a brook which unites the large ponds of Mansfeld, distant about 12 miles from there. Salzmünde, this remarkable place, with its endless buildings and ever-smoking chimneys, which give to the former more the look of a small manufacturing town than that of a farming establishment, was scarcely existing some 30 years ago, being only formed then by the cottages of a little village. There was at that time at the mouth of the Salza a decaying corn-mill with two stones, besides an old dwelling-house, surrounded by some rods of land. After the heir of this property, Mr. John Theophile Boltze, by means of the energy and activity of many years had succeeded in making it a staple-place for the corn produced in the rich district of Mansfeld, and after a successful exploration of the now far-famed clay pits round Salzmünde, and the prosperous sale of their products, such as porcelain clay, chamotte-stones, tile and bricks, &c., he then turned to agriculture in the year 1847. Besides the purchase and leasing of several surrounding peasant farms, and the erection of a Beet-root-sugar manufactory, contracts were made with many neighbouring farmers for the necessary supply of Sugar-beet-roots. Although the sugar manufactory, which like all similar establishments at that time was in a rather imperfect state, had to struggle with many adversities, Mr. Boltze, notwithstanding, over-matched them all, and by means of perseverance brought it soon to a flourishing state, making it thus a source of his many acquisitions. At the present time we find at Salzmünde, besides an extensive and well managed agriculture, a large distillery, tilery mill, dwelling and farm houses, &c., and all these have succeeded each other so uninterruptedly that people who now visit Salzmünde will not know it again in comparison to its former state. What a lively intercourse is now to be found there is best proved by the newly-established post-office and the regular mail-coach, which goes daily to and from Halle. Is there any other single farm or isolated property where the post has found direct conjunction a profitable enterprise? In the year 1857 the late King Frederick William IV. honoured Salzmünde with a visit of several days, and inspected from the pleasant villa of the Castle Hill, which Mr. Boltze had erected quickly for this purpose, the extensive manœuvres of his troops, and their passage over the river Saale.

The above may serve as an introduction, but now let us proceed to the description of Salzmünde in its present state, and begin with its agriculture.

The farming area of Salzmünde consists of 9050 Prussian "Morgen," or about 5709 English acres, (1.584 Prussian acres being equal to 1 English acre), viz., 7750 Prussian acres of arable land, 300 Prussian acres of meadow land, or permanent pastures, 1000 Prussian acres of yearly holdings for the exclusive culture of the Beet roots for the sugar manufactory. Amongst the total area, 6000 Prussian acres figure as the property of Mr. Boltze, whilst the rest is taken on lease. The quality of the soil is mostly very good, the fields being situated in the richest part of (Prussian) Saxony. It belongs mostly to the hill formations of Mansfield (a deep and fertile loam), and excepting the meadow land, which is lying at the bottom by some brooks, only about 100 acres of arable land were found in want of draining, and were drained consequently. The climate of this district is rather rough, at least not so warm and friendly as that on the middle Rhine, where the spring calls vegetation two or three weeks sooner to life. In hearing talk of an estate of about 9000 acres, we hardly suppose the half of it to be arable land, and as is the case in the provinces of the Mark, Posen, Silesia, &c., we think that there are at least some thousands of acres consisting of peat heath, sandy plains, sheep pastures, or otherwise uncultivated land. In applying this latter supposition to this property we are wrong, for excepting the 300 acres of meadow land, there is not one acre to be found which is not under the plough, and which does not enjoy very careful attention. Mr. Boltze, who bought the most of his land during the last 10 years, paid for the Prussian "morgen" on the average 140 thalers (at 3*s.*) or about 31*l.* 10*s.* per English acre; now-a-days the price of land has risen considerably in this district, and almost everywhere in Germany, so that no large estate can be bought there under 40*l.* per English acre. The prices to rent have risen accordingly, and 8 to 10 thalers per Prussian "morgen," or about 2*l.* per English acre, are not uncommonly paid. The yearly rent of some corn-stubbles for the Sugar-beet culture amounts even sometimes to from 4*l.* to 5*l.* per English acre.

The extent of the land of Salzmünde is uncommonly large, as it does not present a whole area, but is formed by the acquisition of about 25 peasant farms, and by the leases of several other farms and large pieces of ground, which divide themselves altogether over more than 10 villages. The distance of the fields and of the different farm steadings from Salzmünde amounts on the average to about 5 (English) miles, with the exception of a farm of 1100 Prussian acres, which is distant at about 12 miles from S. Although the fields are spread thus over a very large extent,

their different distances from the central point have no influence on the equal and uniform management of the whole estate; and each farm, though may it be at a distance of 3 or 12 miles has to cart its Beet-roots and Potatoes there, and to take back the different foods for men and cattle, its supply of guano, bone-dust, oilcake, draff, &c. Such a remarkable centralisation would not be practicable, of course, if the whole was not divided into several farms, each of which has its own cottages for the labourers, stables, yards, barns, &c., This close connection with the central point was only made possible by the consolidation of the land which was effected during the last ten years. Before this time the land was divided into about 800 parcels, mostly separated from each other. Now, after the consolidation, it consists only of 40 parcels, and the smallest pieces of ground are not under 20 acres in size. The principal roads between S. and its different farm steadings are in a good state, and Mr. Boltze has spent in the past decennium 9000*l.* for the construction of a new main road. Fields and roads are all bordered by young fruit-trees, which, besides their utility, give to the country there a pleasant aspect. The formerly so much despised estate has been concentrated in seven to eight farms, separated each from the other. Each of these farms has its special "inspector" or steward, and several foremen, who are, however, only the *factota* of the general director of the agricultural department, viz. Mr. Julius Zimmermann, the son-in-law of Mr. Boltze, who has his seat in Salzmünde, and has occupied this rather important position for 14 years. The stewards meet once every week at Salzmünde, where they make their "rapports" and receive new orders for the coming week. Mr. Zimmermann inspects the different farms at least once a week, and should he be prevented doing so he is substituted by his "head inspector." Besides the latter, the following persons are engaged in the agricultural department of Salzmünde:—

7 inspectors or stewards.
14 bailiffs or intendants.
22 foremen or overseers.
9 clerks in the office,

which latter have to take care also of the industrial and mercantile part of the establishment.

To these officers, who besides their free station and board, have a very good pay, we may yet add the following:—

1. The technical director or manager of the sugar manufactory.
2. Ditto ditto ditto distillery.
3. Ditto ditto ditto mill-works.
4. Ditto ditto ditto tilery.
5. Ditto ditto ditto navigation.
6. Ditto ditto ditto coal and clay-pits.
7. The veterinary doctor, first-class, exclusively engaged for Salzmünde.
8. The physician.
9. The schoolmaster for the education of the children of the labourers at S.

Commerzien-Rath (Counsellor of Commerce) Boltze, who has taken almost entirely the industrial and mercantile part of the business under his direction and command, is one of those rare men who, notwithstanding his many vocations, his frequent journeys, and his numerous visitors and introductions, is besides much engaged in political, administrative, and local affairs. So many things can of course only be cared for in a well-ordered establishment with the aid of officers or assistants who have grown up in the business and who seek their honour in its success. But now let us return again to the fields, which though I could not visit all, I shall describe to you according to their succession of crops, which is the following:—1, Clover; 2, Rape and Awehl, (another kind of oil-seed); 3, Rye and Wheat; 4, Potatoes; 5, Sugar Beets; 6, Barley, Oats, and Spring Wheat. 1, Clover is sown only under spring corn, and the following mixture is sown per Prussian acre:—35 acres of Sainfoin, 4 acres of Lucerne, 4 acres of Red Clover.

About 250 acres of seeds are sown yearly, and in their third year they are broken up after being once mown, and then fed off by sheep. The lea is ploughed down 14 inches deep and manured with good compound, just in time for the Rape, which is drilled in July.

2. Awehl 250 acres (an oil-seed similar to the Rape) is sown in the Barley stubble, which is ploughed deep immediately after harvest time, and dunged likewise with the compound refuse of the sugar manufactory.

3. Rye and Wheat (1000 acres) follow partly after the 500 acres of oil-seeds, partly after the stubble of spring-sown cereals. The latter get a large dressing of farm-dung and some guano.

Much attention is paid to the stable-dung, which is of excellent quality, being got not only by a very well-fed stock, but improved also highly by manure heaps, which are mixed regularly with earth and fresh urine. The latter being exclusively consumed for this purpose, the stable-dung is brought to a capital state of fermentation and conservation.

4. Potatoes (1000 acres) succeed mostly an Oat-crop, but always spring-sown cereals, the stubbles of which are ploughed down 14 inches deep, after a preceding dressing of about 12 tons of stable dung per English acre.

5. Sugar-beets (2000 acres), the one half after Potatoes and the other half after Wheat or Rye, get usually no direct dressing of either animal or artificial manures. With the exception of a few farms I visited in Great Britain, this is the only farm I saw where two different root crops succeed each other, and with the best effect, too, as I was told.

(*To be continued.*)

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

MONTHLY COUNCIL: *Wednesday, July* 1.—Present, Viscount Eversley, President, in the Chair; Lord Walsingham, the Hon. W. Cavendish, M.P., the Hon. Major-Gen. Hood, Sir E. Kerrison, Bart., M.P., Sir A. K. Macdonald, Sir Watkin W. Wynne, Bart., M.P., Mr. Raymond Barker, Mr. Barnett, Mr. Bowly, Mr. Bramston, M.P., Mr. Cantrell, Mr. Dent, M.P., Mr. Druce, Mr. Exall, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Holland, M.P., Mr. Hudson, Mr. Jonas, Mr. Lawrence, Mr. Pain, Mr. Pope, Mr. Randell, Mr. Rigden, Mr. Sanday, Mr. Shuttleworth, Mr. Thompson, M.P., Mr. Torr, Mr. Burch Western, Professor Wilson, Mr. Frere, and Professor Simonds.

The following New Members were elected:—

Alder, Frederick Jno., Hagworthingham, Spilsby, Lincolnshire
Airey, Geo., Sherbrooke, Linden, Malvern, Herefordshire
Akers, Henry, Black Bourton, Faringdon, Berks
Allen, J. Roscor, Oak House, Preston, Lancashire
Blinkhorn, Thomas, Spalding, Lincoln
Buckle, John, Uckington, Cheltenham, Gloucestershire
Bidwell, Chas., Muriel, Ely, Cambridgeshire
Bowen, John, Jun., Dunvall House, Bridgenorth, Salop
Brown, Robert, Wigginton House, Tamworth, Staffordshire
Blick, John, Hill Court, Droitwich, Worcestershire
Barford, William, Peterborough, Northamptonshire
Bailey, Henry, The Gerwyn, Wrexham, Denbighshire
Carrington, T. S. Townsend, Eaton Dovedale, Doveridge, Derby
Carrington, William T., Hollington, Uttoxeter, Staffordshire
Campbell, Charles Lee, Thurstaston Hall, Neston, Chester
Clarke, Charles, Ashby-de-la-Lound, Sleaford, Lincolnshire
Cartwright, Wm. George, Newport, Monmouthshire
Charley, Richard, Cleobury North, Bridgnorth, Salop
Drew, Edward, Calcot, Kingscote, Wotton-under-Edge, Gloucestershire
Driver, Robert Collin, 4, Whitehall Place, London
Davison, Richard, Driffield, Yorkshire
David, Evan William, Radzer Court, Cardiff, Glamorganshire
Dent, John Coucher, Sudely Castle, Winchcombe, Gloucestershire
Daniel, Charles R., Clayworth, Bawtry, Notts
Fletcher, Joseph, Whitehaven, Cumberland
Fisher, Charles, Prospect House, Whitehaven, Cumberland
Fuggle, T. G., Worcester
Goodwin, George, Pershore Mills, Pershore, Worcestershire
Gell, Robert, Grimston Lodge, York
Greene, John, Millbrook, Magany, Kildare, Ireland
Gardner, W. A., Hough Green, Chester
Gaunt, Thomas, Smite, Worcester
Hill, Henry, Spalding, Lincoln
Hone, Henry, Stoke Orchard, Cheltenham, Gloucestershire.
Harris, Thomas, Stonylane, Bromsgrove, Worcestershire
Hill, John, Eldersile House, London Road, Worcester
Hanson, Thos. Anderson, 162, Upper Brook Street, Manchester
Hill, Rev. Reginald Pyndar, Bromesberrow Rectory, Ledbury, Worcestershire
Heath, John, Bickley, Tenbury, Worcestershire
Hughes, John, Britannia Square, Worcester
Hughes, John, Jun., Severn Terrace, Worcester
Isaac, John Whitmore, Boughton, Worcester
Jacobsen, Christian C., Cranham Farm, Cirencester, Gloucestershire
Le Fenore, Henry John, Les Nibmes, St. Peter's, Jersey
Lloyd, Francis, Worcester
Melville, Alex. S. Leslie, Branston Rectory, Lincoln
Marris, Wm. Jno., Heppington House, Canterbury, Kent
Mayos, Thos. Lee, Hampton Bishop, Hereford
Muckle, Robert, Cresswell, Morpeth, Northumberland
Marriott, Ed. Jno. Beckett, Avon Bank, Pershore, Worcestersh.
Newton, Charles Edmund, Mickleover, Derby
Needham, Frank Haywood, Fearnall Heath House, Worcester
Parsons, Chas. William, Anstrey, Atherstone, Warwick
Porter, J. T. B., Lincoln
Prichard, Chas. Henry, Westown House, Brislington, Bristol, Somersetshire
Pike, Aaron, Milton, Tewkesbury, Gloucestershire
Parrington, John, Brancepeth, Durham
Robinson, George, Slimbridge, Stonehouse, Gloucestershire
Sadler, Robert Stebbing, The Valley House, Langham, Colchester
Savage, Saul Powell, Leys Farm, Wootton-under-Edge, Gloucestershire
St. Leger, John, Park Hill, Rotherham, Yorkshire
Smith, William J., Monkland, Leominster, Herefordshire
Swaine, John C., 3, Chester Terrace, Cirencester, Gloucestersh.
Thompson, Andrew, Berwick-on-Tweed
Turner, Frederick John, The Dean, Kilmarnock, Ayr
Taylor, Wm. Henry, High Hatton, Shawbury, Salop
Voile, John, Jun., Churchover, Rugby, Warwickshire
Waites, John Merrick, Gloucester
Weaver, Wm. Henry, Moor Farm, Bridgnorth, Salop
Wood, James, Pinwal Hall, Atherstone, Warwick.
Willetts, William, Bishampton, Pershore, Worcestershire

FINANCES.—The Hon. Major-General Hood presented the report, from which it appeared that the Secretary's receipts during the past month had been examined by the Committee and by Messrs. Quilter, Ball & Co., the Society's accountants, and found correct. The cash balance at the bankers was 2585*l.* 1*s.* 11*d.* The quarterly cash accounts to June 30, and the quarterly statement of subscriptions and arrears, were laid on the table, the amount of arrears, including those for the current year, being 862*l.*

JOURNAL.—Mr. Thompson, M.P., Chairman, reported that the prize of 25*l.* for the best Essay in Class II., on the Breeding of Hunters and Roadsters, had been awarded to Joseph Gamgee, Esq., Senior, New Veterinary College, Edinburgh. In Class IV., the prize of 25*l.* for the best Essay on Reclaiming Waste Lands, had been awarded to Mr. Charles Belcher, Little Coxwell, Faringdon, tenant of Potter's Hill Farm, Wichwood, Oxon. In Class V., "On Movable Fencing for Sheep," none of the competing essays are considered worthy of the prize.

The committee recommended that the sum of 60*l.* be placed at their disposal for the preparation of an index for the 25 vols. constituting the first series of the Journal, which was negatived, the Council resolving that the index should be prepared by the editor.

Members of Council were requested to forward to the Secretary suggestions for Prize Essays in 1864.

WORCESTER SHOW.—Mr. Fisher Hobbs reported that the Show-yard was complete, the sheds in process of being covered, and that the whole would be ready by the 10th inst. A sufficient supply of green Vetches had been secured in the neighbourhood.

On the motion of Mr. Dent, M.P, it was resolved that the Stewards of Stock shall be empowered to expend a sum not exceeding 30*l.* in payment of a Report on the Stock exhibited at Worcester.

The Common Seal of the Society was affixed to the Agreement with the Mayor and Town Clerk of Newcastle-upon-Tyne that the Country Meeting for 1864 should be held in that city.

Mr. Manning, of 251, High Holborn, contractor for the Show-yard works at Worcester, having attended the Council, was informed that the Council will give him the preference for the Newcastle contract, provided that his terms be acceptable to the Newcastle Committee.

The General Newcastle Committee consists of Viscount Eversley, chairman,

| | |
|---|---|
| Powis, Earl of. | Cantrell, Charles S. |
| Portman, Lord. | Challoner, Colonel. |
| Tredegar, Lord. | Dent, J. D., M.P. |
| Cavendish, Hon. W., M.P. | Gibbs, B. T. Brandreth. |
| Hood, Hon. Maj.-Gen. A. Nelson | Hobbs, Wm. Fisher. |
| Liddell, Hon. H. G., M.P. | Holland, E., M.P. |
| Headlam, Right Hon. T. E., M.P. | Hoskyns, C. Wren. |
| Macdonald, Sir A. K. | Kingscote, Colonel, M.P. |
| Ridley, Sir Matthew White, Bt., M.P. | Milward, Richard. |
| Wynn, Sir Watkin W., Bart., M.P. | Newcastle, Mayor of. |
| Arkwright, J. Hungerford. | Pain, Thomas. |
| Barnett, Charles. | Pope, Edward. |
| Beaumont, S. A., M.P. | Ramsey, G. H. |
| Bramston, T. W., M.P. | Randell, Charles. |
| | Shuttleworth, Joseph. |
| | Thompson, H. S., M.P. |
| | Torr, William. |
| | Wilson, Jacob. |

Colonel Kingscote, M.P., of Kingscote, Gloucestershire, was unanimously elected a member of Council in the place of Mr. Banks Stanhope, M.P., resigned, on the nomination of the Hon. W. Cavendish, M.P., seconded by the Hon. Major-Gen. Hood.

The Council then adjourned till 12 o'clock on Wednesday the 8th inst. for the election of members.

HIGHLAND AND AGRICULTURAL.—At the half-yearly general meeting of this Society 106 new members were elected.

*Kelso Show.*—Mr. HALL MAXWELL reported that the arrangements for the Kelso meeting were complete. The entries had, in some places, been more numerous as regards stock; and a comparison between the approaching meeting and the last show in the same district—that at Berwick in 1854—gave the following results:—

| | Berwick. | Kelso. |
|---|---|---|
| Cattle .. .. .. .. .. .. | 179 | 250 |
| Horses .. .. .. .. .. .. | 141 | 130 |
| Sheep .. .. .. .. .. .. | 771 | 609 |
| Swine .. .. .. .. .. .. | 86 | 71 |
| | 1177 | 1060 |
| Implements .. .. .. .. .. | 357 | 1100 |
| Poultry .. .. .. .. .. .. | .. | 300 |
| | 1534 | 2460 |

He was instructed by the directors to state that though Monday, 3d August, is the day for receiving stock, the yard will be prepared so as to admit all that may be forwarded on Saturday. As on such an occasion there was naturally an apprehension of disease, he might remind the meeting that, as a precautionary measure the Society had secured the whole enclosure of 45 acres within which the yard is to be erected, and that the stock placed in it has been subject to the careful inspection of a veterinary surgeon specially employed for the purpose.

*Chemical Department.*—Dr. Anderson stated that the work of the laboratory had been carried on without interruption during the last six months, and much work had been accomplished. The investigation of the Potato had made great progress, and the first part would appear in the Transactions for July. Other investigations had advanced so much that at the last meeting of the Chemical Committee two new subjects had been selected, viz., the examination of the cheese produced in the different districts of Scotland, and the composition of the Grasses; and he might take this opportunity of stating that he should be glad to receive any suggestion from members as to the best mode of following out these investigations. The general work of the laboratory has embraced the usual analyses made for members, and several cases of adulteration had been detected.

*Veterinary College.*—Mr. M'Lagan, of Pumpherston, begged to call the attention of the meeting to a statement which had appeared in the last report of the Royal Veterinary College in England. It was to this effect:—

"Before concluding this report, the governors would call attention to the completion and publication of a new register of the qualified members of the profession, by which agriculturists will be enabled at once to ascertain whether those who call themselves veterinary surgeons in their respective neighbourhoods are in reality scientifically educated practitioners. Many persons who can lay no claim to the title still continue thus to designate themselves. This is a subject of some

importance to the agricultural community, as it appears from a statistical return which has just been obtained by the Royal College of Veterinary Surgeons that while there are 914 members of the College settled in practice in the United Kingdom there are no less than 1244 individuals who assume the name of veterinary surgeon, besides 1189 farriers." The statement here made had, he said, a very important bearing on the diplomas of the Edinburgh Veterinary College. They were well aware that it was not necessary for the gentlemen who received the veterinary diploma of this Society to become members of the Royal College of Veterinary Surgeons of London; and the inference to be drawn from the statement he had read was that those gentlemen who were not members of that College were not duly qualified or scientifically educated practitioners, but that they were rather to be considered as quacks. Now, as nearly one-half the gentlemen who receive the diploma of the Highland and Agricultural Society of Scotland were practitioners residing in England, he thought that every possible means should be adopted to remove the impression as to their being quacks, which had been made on the English farmers. The Society was quite aware of and could properly value the qualifications of the gentlemen who had studied in the Veterinary College of Edinburgh. He (Mr. M'LAGAN) had himself experienced the benefits of that institution; and its value, not only in Scotland, but in England, would be appreciated by everyone when he mentioned that not fewer than 1700 gentlemen had been there educated, while 740 had received its diploma; and the value of that diploma was enhanced by the fact that it is received at the Horse Guards at London. The gentleman who holds the first position as a veterinary surgeon in the Indian Army was a member of the Edinburgh College, and not of the Royal Veterinary College of England. He was quite sure that when the meeting and the members of this society heard what he had stated they would take some steps in the matter in justice to those who held the diploma of the society in order to have their names published abroad and to let the public know generally how this diploma is valued by the Horse Guards and by other public bodies or heads of departments. He would not say more in presence of the Principal of the Veterinary College, but would beg to throw out the recommendation that, as the English society have made a register of the gentlemen who have received their diplomas, the Highland Society should have prepared a register of the names of those gentlemen who have received the diploma of the Edinburgh College. He would further move that these should be published in the Transactions of the Society, and that every step should be taken to circulate them as widely as possible. This, he thought, was a subject which deserved the serious consideration of the society.

Sir JOHN M'NEILL concurred in the suggestion of Mr. M'Lagan, and thought it was very desirable that they should form such a register as that proposed. He would venture to go a step farther, and suggest that the directors of the society should put themselves in communication with the society in England, with a view to obtaining a mutual recognition of the diplomas by both societies.

*Premiums for Reports.*—Mr. FORBES IRVINE then gave in as follows the report on "Premiums for Reports:"—

1. The Gold Medal, or 10*l*., to Charles Sangster, Balnabreck, Forfarshire, for Report on Reclamation of Waste Land.
2. The Gold Medal, or 10*l*., to Jacob Wilson, Manor House, Morpeth, for Report on Reaping Machines.
3. The Gold Medal, or 10*l*. for Report on the Effects of Manure made with and without Cover, to Robert Scot Skirving, Camptown, Drem.
4. 20*l*., to Archibald Sturrock, Struthers Cottage, Kilmarnock, for a Paper on Grasses.
5. The Medium Gold Medal, or 5*l*., to Robert J. Thomson, Grange, Kilmarnock, for a Report on Mangel Wurzel.

*The Chair of Agriculture—Sir J. S. Forbes' Motion.*—Sir J. S. FORBES then rose and said, that in pursuance of the notice he had given, he had to request, on the part of Professor Wilson, an explanation from Sir W. Gibson-Craig of the observations he made at last summer meeting in the proceedings on the motion which he (Sir John) brought forward with regard to the endowment of the Agricultural Chair.

These observations were to the effect that he thought the friends of Professor Wilson were injudicious in bringing up the subject of the Agricultural Chair, when the directors had made up their minds on the subject, and that if the friends of Professor Wilson insisted on having a full discussion, it would turn very disagreeable to the Professor himself. He (Sir John) had, with very great care, guarded himself in all the observations he made at that time against introducing the smallest personal matter. He took it upon the broad ground of its being a great public question, and Mr. M'Lagan was equally guarded in his remarks. It was Sir Wm. Gibson-Craig who first introduced Professor Wilson's name. Unfortunately, whether erroneous or not, Professor Wilson felt that these observations, considering that they were of so covert a nature, did give the matter a personal character; and he trusted that Sir Wm. Gibson-Craig would have no difficulty in assuring Professor Wilson and his friends that he intended nothing derogatory to his character in making these observations. He certainly felt that, in the circumstances in which they were made, they were susceptible of many interpretations, from not being distinctly enumerated; and if Sir W. Gibson-Craig thought it better, he would at once accept the alternative of having, on the part of Professor Wilson, the most searching inquiry in regard to those observations, believing as Professor Wilson did, that the more deliberately they were inquired into the more it would be for his interest. Without further remark he would now propose the motion of which he had given notice in the following terms:—

"That a committee be appointed to inquire into the present position of the Agricultural Chair, as affected by the Society's offer to obtain the co-operation of the University Commissioners for an increase of the endowment, with the view of supplementing its resources from the funds of the Society, and to reduce the curriculum appointed for it by the Society's Council of Education; and that the committee be instructed to inquire into the system of working the agricultural diplomas, with a view to make the advantages they hold out to students better appreciated."

I feel that I am entitled to state the grounds on which I have made this suggestion to the directors. The first ground is that the Society has very materially taken an interest in that Chair, and has gone a long way already to take part in its management. The other point which shows that the Society takes an interest in the Chair, or in some degree considers that it has a right to arrange matters, is that the Council of Education of this Society went so far as to establish a curriculum, and to require, as a result of the offers of its diplomas to encourage the Chair, that a certain course of teaching should be followed, and be carried over two years instead of one. But independent of these circumstances, my own private opinion is, that there is nothing to prevent this society proposing an arrangement to endow the Agricultural Chair, as is done by the Writers to the Signet in regard to the Chair of Conveyancing, to which they gave a large allowance, and which they oblige aspirants for admission into their honourable body to attend, before they are passed. I therefore hope that, even if the directors have some feeling on the subject, they will reconsider the matter.

Sir WM. GIBSON-CRAIG, who was almost inaudible, was understood to say that his remarks at the last summer meeting reflected in no degree on the character of Professor Wilson.

Sir JOHN FORBES said he regretted that he was obliged to state he thought Sir W. Gibson-Craig had misunderstood him. He had never pressed Professor Wilson's claims at any time. It was only because Professor Wilson's name had been introduced into a discussion of a public character that he had to-day requested Sir William Gibson-Craig to explain allusions which he had made to Professor Wilson's character, as he (Sir John) understood in that discussion. If Sir William Gibson-Craig insisted upon an investigation, which should bring forward the grounds upon which his allusion was made, then he (Sir John) accepted it on the part of Professor Wilson.

Sir WILLIAM GIBSON-CRAIG said he did not insist upon any discussion, on the contrary he deprecated all discussion. The matter had been settled, and now they should let it rest. The whole question was whether it would be expedient for the society to grant an endowment to the Chair of Agriculture.

Sir JOHN M'NEILL would suggest whether he ought not—acting as the guardian or friend of Professor Wilson on this occasion—to be satisfied with the statement Sir Wm. Gibson-Craig had now made—that any observations which might have excited doubt in the mind of any one—had no reference whatever to the character of Professor Wilson. This was what was stated by Sir William Gibson Craig, and it therefore ceased to be on that statement a personal matter as affecting Professor Wilson, and it became a question solely and exclusively of expediency and propriety and legality as regarded the society.

Sir JOHN FORBES expressed his satisfaction at the explanation given of Sir William Gibson-Craig's statements by Sir John M'Neill. That was precisely what he had asked at the beginning, because the allusions to which reference had been made were certainly in such terms as to lead to the inference that they had the meaning which he had put on them. As to the other question, he hoped that the meeting would still be kind enough to allow the motion to come forward, and to consider on public grounds whether it was not in the power of the society and the will of the directors to recommend to them to follow out their efforts to improve the Chair of Agriculture by some other means of increasing its emoluments.

Finally, it was resolved "That it be remitted to the directors to appoint a committee to inquire into the means of agricultural education in Scotland and into the results of the working of the Society's educational charter."

## Reviews.

*Paper on Leases* versus *Yearly Tenancy*. By J. Sanderson, Land Agent, 15, Manchester Buildings, Cannon Row, Westminster; read before the Oxford Farmers' Club. J. Plowman, *Oxford Times* Office.

We have before alluded to this paper as an exceedingly well written argument for the term of 21 years in all land letting, in contrast to the system of lease from year to year. Mr. Sanderson first considers how the different systems of letting land affect the interests of the landlord.

"Unquestionably, the interest of landowner supersedes that of all others, as it is not only the only real source of a country's wealth, but is the source of that upon which human existence depends—food and clothing. Judging from the insular position of the United Kingdom, its large population, the quantity of foreign produce it consumes, and its much lauded agriculture, it might reasonably be supposed that not only have all barriers to agricultural progress been removed, but that all available means have been brought to bear on the soil, and that the utmost limits of its productiveness have been reached. Were a foreign agriculturist under such impressions to survey English agriculture, he would naturally ask, Why it is that the English pay millions annually for foreign produce, yet do not take advantage of the capabilities of their own land? He would see abundance of unemployed capital, land unreclaimed, labourers wanting employment—everything indeed which if brought into action would make our country independent of foreign aid. In many of the naturally richest districts of England he would see extensive tracts of land almost valueless from the want of drainage. Large estates, whose chief produce is half-starved stock, and which are peopled by unskilled tenants, and half-employed labourers, and the usual associates of these dilapidated homesteads, unshapely fields, irregular and worthless fences, open and unscoured ditches, and isolated trees, which serve only to extract nourishment from the surrounding soil. He could arrive at no other conclusion but that such a state of matters must result from a defective system of land tenure, and not altogether from inferior farmers. Land in the condition described yields the owner little pleasure, and not half its value. A landlord, indeed, who adopts annual tenure, the usual cause of unimproved estates, virtually locks up his wealth, and sacrifices his legitimate income. Self-interest generally prompts a man to action, but in the case of many landlords it appears to be dormant. The truth is, a landlord has not the same inducement to improve his property when let as annual holdings as when let on lease. Apart from getting less rental he gets less assistance from his tenants in effecting permanent improvements. Indeed the condition of land held on annual tenure must remain stationary, if not retrogressive, if the landlord do not execute improvements at his own expense. Not so with a lease: improvements are either jointly undertaken by owner and occupier, or solely by the occupier. In the latter case, landlords, merely by granting a lease, get their estates improved without one shilling of outlay. Among many cases of tenants improving estates at their own expense, which have come under my own observation, I may mention the following: A farm of 700 acres was leased for 21 years to an improving tenant, who, by enclosing, draining, and liming, out of his own pocket, increased the farm during his term of lease from 6000*l*. to 20,000*l*. I may be told that the rent would be accommodated to the outlay. No such thing. The farm was let by public tender, and let to the highest bidder. The difference indeed respecting outlay between the two systems is that under yearly tenure, landlords seldom, and tenants very rarely, effect permanent improvements, while under a lease, landlord and tenant readily co-operate in undertaking whatever tends to their mutual benefit. Landlords, therefore, who adopt annual tenure pursue a course detrimental to their own interests."

He next discusses how the different systems affect tenants.

"It is all very well to sound the praises of tenants who have confidence in their landlords, but it is an illegitimate confidence which risks all and seeks no security in return. Apart from the power already referred to which a landlord may at any time exercise at the expense if not ruin of a yearly tenant, the latter is exposed to contingencies, such as the death of the owner or sale of the estate, which renders compensation for outlay uncertain. Hence it is that the annual tenant is denuded of independent action, his energies are crippled, and having no prospect of improving his position, he becomes the slave of a ruinous system. It is far otherwise with a tenant who farms under a lease; urged by every legitimate motive, the prospect of long occupation, security for the capital he expends, and the increasing yield of his farm, he can and does undertake permanent improvements. He can indeed with a lease of 21 years execute drainage and be amply rewarded; he can twice lime his farm, grub up hedge rows, straighten fences, fill in boundary ditches, &c., and be amply paid; and a tenant who makes such permanent improvements is not likely to neglect those of a temporary character. Farming, to be successful, involves a large outlay, and, as a general rule, the greater a tenant's outlay on land, the greater is his success. Such being the case, the success of the annual tenant must fall far short of that of the tenant under lease, inasmuch as the expenditure of the one falls greatly short of that of the other. It would be instructive to know the respective areas of land which have been reclaimed by tenants alone under the different systems. I am well acquainted with a district where upwards of 6000 acres of land has been recently reclaimed at the sole expense of the tenants, costing about 13*l*. per acre, and I am convinced that, but for the security the lease gave these tenants, every acre of that land would have been still in a state of nature. A lease to a tenant, indeed, means security, independence, and encouragement. It means good farming, ample employment, large returns, and a rapidly increasing yield of produce."

Mr. Sanderson then discusses the question of tenant-right, and he considers it objectionable:—

"First, because it unnecessarily absorbs a large portion of an incoming tenant's capital, and thus cripples him from carrying out permanent improvements. Secondly, because it seeks compensation for compensated outlay, and frequently for ordinary acts of husbandry, which ought to be carried out by the outgoing tenant, and the real value of which to the incoming tenant cannot be ascertained. Thirdly, because it affords scope for fraud, inasmuch as an outgoing tenant may use enormous quantities of cake the last two years of his occupancy, may imperfectly carry out drainage, or drain land which is naturally dry, and may apply lime in bad condition to land surcharged with water. Fourthly, because it virtually ignores progressive agriculture. Fifthly, because it makes the incoming tenant pay for the management, right or wrong, of his predecessor; and, sixthly, because it injuriously affects the sale of an estate or the letting of farms."

The objection to the lease as affecting the sale of property—as hindering owners from being benefited by the rise in land-value, as tending to the deterioration of land at the close of the lease, are then discussed.

The faults of the annual system are related. It is "opposed to the system of farming adapted to this country." It does not "meet the requirements of modern agriculture." His views on this subject appear to have been formed chiefly on that practice of valuations between successive tenants as it prevails in Sussex, which was denounced by our correspondent "W. S., near Guildford," the other day. Thus, Mr. Sanderson says:—

"In some of the southern counties of England what is usually termed 'tenant's outgoings' assume the form of 'tenant right;' and are even more objectionable than any of the tenant-right claims I have noticed. In Surrey and Sussex these outgoing valuations are often more than one half of the real value of the land. I know a case where the valuation of fallow last season was over 8*l*., and the Turnip crop which followed not worth 30*s*. The outgoing tenant can plough his fallows as often as he chooses—the oftener for him the better—as he makes profit by it (having no other work for his horses), although every additional ploughing, by the dissipating of moisture essential to the successful

culture of root crops—especially in an arid climate, is additional loss to the incoming tenant. Yet the latter is made to pay for it. I have carried out farm valuations in various counties, but I would rather not be engaged in another valuation than be a consenting party to an incoming tenant paying for labour which is injurious to him. Sometimes tenant right enjoins the incoming tenant to pay for clean fallows 50s. and 3*l.* per acre; but it would be difficult to ascertain upon what equitable principle this claim is founded. Ought not high conditioned and clean fallows to be considered essential to ordinary farm practice? The highest agricultural authority, Mr. Caird, has said truly, that "tenant right and many of the customs of tenant's outgoings benefited no one but the arbitrators." They, indeed, tell seriously against the landlord by preventing him from obtaining full value for his farm; they tell seriously against the tenant by involving a large amount of sunk capital, and, consequently, by restricting the necessary outlay on permanent improvements, and to the maintenance of a full supply of stock essential to successful farming; and they tell against the community by diminishing the produce of the country, for, as a general rule, where these valuations are highest, there the farming is worst. Tenant right is, therefore, injurious to agricultural improvements, and they who seek to extend it, are, unintentionally, placing barriers in the way of progress. It is, at best, only an apology for a ruinous system, and I trust that the landlords will oppose its extension."

## Miscellaneous.

*Mangel Wurzel Disease.*—I need not describe to you the particulars of the above pest, but we have visible in the field the small white dots or eggs on the leaves, the maggot in the interior of the leaf eating and destroying it, and myriads of small blackish active flies about the plants, on the ground, and in any straw or light manure that is on the surface. I cannot help thinking that a short account of the natural history of the insect would be very interesting to your numerous readers, as well as to myself, such as the name, and the different stages that it passes through. *M. H. S.* [See another column.]

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Barometer corrected to Freezing Point at Mean Sea Level. | Reading of Thermometer. Dry Bulb. | Reading of Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | | | | | | | | | | Inches. |
| Friday .. .. | June 26 | 30.26 | 66° | 68° | S.W. | 0 | 0 | 71° | 47° | 67° | 44° | .. |
| Saturday .. .. | 27 | 30.04 | 68 | 59 | S.W. | 2 | 10 | 69 | 52 | 87 | 50 | 0.05 |
| Sunday .. .. | 28 | 30.05 | 62 | 56 | S.W. | 2 | 10 | 66 | 47 | 87 | 42 | .. |
| Monday .. .. | 29 | 30.07 | 62 | 56 | N.W. | 0 | 0 | 64 | 40 | 84 | 48 | .. |
| Tuesday .. .. | 30 | 30.16 | 63 | 57 | W. | 1 | 9 | 67 | 46 | 81 | 42 | .. |
| Wednesday .. | July 1 | 30.38 | 64 | 57 | S.E. | 3 | 8 | 66 | 41 | 81 | 37 | .. |
| Thursday .. .. | 2 | 30.08 | 65 | 60 | S.W. | 3 | 10 | 69 | 54 | 79 | 48 | .. |

## Notices to Correspondents.

PARLIAMENTARY; *X.* Two events of agricultural interest occurred in the House of Commons on Wednesday evening. A Bill whose effect, if it shall pass, will be to enforce the adoption of the decimal system of weights and measures in all commercial transactions, received its second reading. And Mr. Holland's Bill for extending the powers of the Act for dealing with small-pox and other infectious disorders in cattle and sheep was withdrawn. The former, notwithstanding its second reading, is not likely to become law; the latter, notwithstanding its temporary withdrawal, will most likely ultimately pass. In the meantime the Government will introduce a Bill continuing the powers of the Act which is about to expire.


# THE HYDROPULT,

EXTRACTS
FROM THE
PRESS.

THE HYDROPULT.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

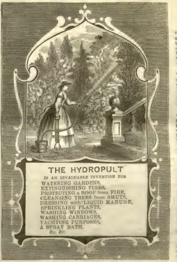
THE HYDROPULT.—"All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines."—*Gardeners' Chronicle and Agricultural Gazette.*

THE HYDROPULT.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

THE HYDROPULT.—"Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

THE HYDROPULT.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS
FROM THE
PRESS.

THE HYDROPULT.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

THE HYDROPULT.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces.'—*Mechanics' Magazine.*

THE HYDROPULT.—"It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation."—*Illustrated News of the World.*

THE HYDROPULT.—"Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner."—*Builders' Reporter.*

THE HYDROPULT.—"Many of the most scientific men of the age are daily inspecting and testing its uses."—*Age We Live In.*

## AN INVENTION FOR THROWING WATER BY HAND POWER

(SECURED BY ROYAL LETTERS PATENT),

Price **TWO GUINEAS**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain.

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

THOMAS RIVERS, Esq., the eminent Florist, SHIRLEY HIBBARD, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.

EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.

"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly,
"PERCY M. DOVE, Manager."
"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. HALLOWS, Secretary, Caledonian Insurance Company."

**CAUTION:** Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; GRIFFITHS & BROWETT, Manufacturers, Birmingham; CHARLES P. BUTTON, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult.

**THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.**

Public and private buildings have been saved from destruction by its agency. T. SPENCER, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE! FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

CHARLES P. BUTTON, PROPRIETOR,

HYDROPULT WAREHOUSE, 27, LEADENHALL STREET, LONDON, E.C.

WEST-END DEPOT, 309, REGENT STREET, W.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. TYLOR & SONS' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. |
|---|---|---|
| 2 13 6 | £3 5 0 | £3 15 0 |
| 24 gal. | 30 gal. | |
| £5 0 0 | £5 18 0 | |

Fig. 571.

J. TYLOR & SONS' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0 |

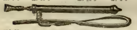


Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 ,,
Telescope Branch Pipe for ditto .. 0 10 0 ,,

g. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11s. 6d. each.
,, 589. Middle Ditto ditto .. 10 3 ,,
,, 588. Small Ditto ditto .. 9 0 ,,
,, 587. LADIES' GARDEN SYRINGE, with do. 7 6 ,,

Fig. 591. READ'S SYRINGE, with two roses and one jet, 17s. 6d
READ'S SYRINGE, with one rose and jet, 15 0
,, 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. TYLOR & SONS' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

J. TYLOR & SONS, Manufacturers, Warwick Lane, Newgate Street, London, E.C.

# CARSON'S
## ORIGINAL ANTI-CORROSION PAINT.

| | | |
|---|---|---|
| WHITE ... LIGHT STONE ... BATH Do. ... CREAM COLOR ... LIGHT PORTLAND STONE ... DEAD OF PORTLAND DO. ... | Per cwt. 30s. | |
| LIGHT and DARK OAK ... LEAD COLOR ... | 26s. | |
| BRIGHT RED ... DARK DO. (OR BRICK COLOR) ... CHOCOLATE COLOR ... BLACK ... | Per cwt. 26s. | |
| BRIGHT GREEN ... DEEP GREEN ... BLUE ... | 44s. | |

PATRONISED BY

THE BRITISH GOVERNMENT | THE RUSSIAN GOVERNMENT | THE LAMENTED PRINCE CONSORT | MOST OF THE NOBILITY & GENTRY | RAILWAY AND CANAL COMPANIES | COLLIERIES, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

and has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, PARK FENCING, GATES, &c.; also IRON ROOFING, BRIDGES, HURDLING, and every description of Iron Work, while for

PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

and every kind of BRICK, STONE, COMPO, &c., it is unrivalled, presenting the appearance of fine cut stone.

It is undoubtedly the only Paint that will stand on

CONSERVATORIES, GREENHOUSES, FRAMES, &c.

and is in consequence largely used by the Nobility and Gentry, also many eminent Horticulturists, for such purposes. The ANTI-CORROSION is LOWER IN PRICE, and LASTS TWICE AS LONG as the Best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, and will keep any length of time.

Carriage paid upon quantities of not less than 5 cwt. to any station in England and Wales, or by Water to any Port in the United Kingdom, where there is a direct communication from London, as Leith, Dublin, Belfast, Glasgow, Aberdeen, &c.

OIL, TURPENTINE, AND BRUSHES.

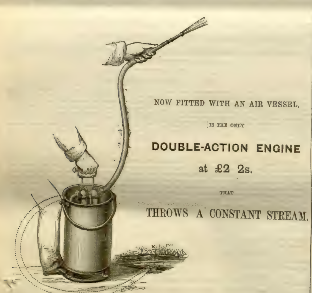
Patterns, Cards, and Testimonials sent upon application to

WALTER CARSON & SONS (SUCCESSORS TO THE INVENTORS),

9, GREAT WINCHESTER STREET (NEAR THE ROYAL EXCHANGE, LONDON, E.C.)

*No Agents throughout the United Kingdom.*

## WARNERS' IMPROVED PATENT,



NOW FITTED WITH AN AIR VESSEL,

IS THE ONLY

DOUBLE-ACTION ENGINE

at £2 2s.

THAT

THROWS A CONSTANT STREAM.

May be obtained of any Ironmonger or Seedsman at the above price, or of

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

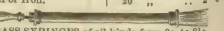
| | |
|---|---|
| 10 gallons .. | .. £2 15 0 |
| 16 ,, .. | .. 3 15 0 |
| 24 ,, .. | .. 5 0 0 |

Larger sizes may be had in either Wood or Iron.

No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | |
|---|---|
| 35 gallons | .. £2 10 0 |
| 20 ,, | .. 2 0 0 |



BRASS SYRINGES of all kinds from 9s. to 21s.

No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 5 feet Flexible Suction Pipe,

21s.

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

THERE ARE NO SUCTION OR DELIVERY VALVES, hence MUCH FRICTION AND LIABILITY TO CHOKE with leaves and dirt is AVOIDED.
JOHN WARNER & SONS, 8, Crescent, Cripplegate, London, E.C

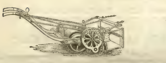
# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

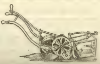
WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.

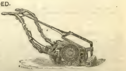
THE FIRST PRIZE INTERNATIONAL EXHIBITION MEDAL AWARDED.



NEW HORSE MACHINE.



NEW PONY MACHINE.



NEW HAND MACHINE.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved and their success established.

These Machines will Mow EQUALLY WELL on UNEVEN as on LEVEL LAWNS, and whether the GRASS be WET or DRY. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

### SHANKS' NEW PATENT HORSE MACHINE.

| Width of Cutter. | | | If with Patent Delivering Apparatus. |
|---|---|---|---|
| No. 1.—48-inch Machine | ... | £28 0 0 | ... ... ... 40s. extra. |
| No. 2.—42-inch Machine | ... | 26 0 0 | ... ... ... 40s. „ |
| No. 3.—36-inch Machine | ... | 22 0 0 | ... ... ... 30s. „ |
| No. 4.—30-inch Machine | ... | 19 0 0 | ... ... ... 30s. „ |

Silent Movement, 20s. extra; Boots for Horse's Feet, 24s. per set.

### SHANKS' NEW PATENT PONY and DONKEY MACHINE.

| Width of Cutter. | | | If with Patent Delivering Apparatus. |
|---|---|---|---|
| No. 5.—30-inch Machine | ... | £15 15 0 | ... ... ... 30s. extra. |
| No. 6.—28-inch Machine | ... | 14 10 0 | ... ... ... 30s. „ |
| No. 7.—25-inch Machine | ... | 12 10 0 | ... ... ... 25s. „ |

Silent Movement, 12s. 6d. extra; Boots for Pony, 21s. per set; ditto for Donkey, 16s. per set.

### SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.

| Width of Cutter. | | | |
|---|---|---|---|
| No. 8.—24-inch Machine | ... ... | £8 17 6 | Easily Worked by Two Men. (Nos. 8 and 9) |
| No. 9.—22-inch Machine | ... ... | 8 7 6 | |
| No. 10.—19-inch Machine | ... ... | 7 12 6 | *Ditto by a Man and Boy.* |
| No. 11.—16-inch Machine | ... ... | £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine | ... ... | 6 2 6 | *Ditto ditto by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25s. extra; Silent Movement, 7s. 6d. extra.

No. 16.—12-inch Machine, for pushing only, £5 5s. Easily worked by a Lady or a Boy; Silent Movement, 4s. extra.

*** *The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

PATENTEES AND SOLE MANUFACTURERS:

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.

LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

*A Stock of Machines kept at the London Depot, from which Orders can be at once executed.*

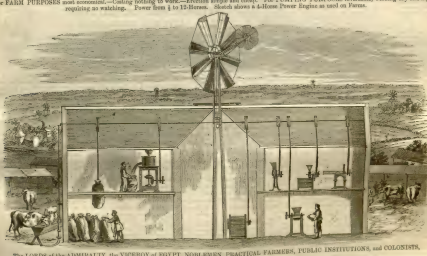


ROYAL AGRICULTURAL SHOW, WORCESTER.—STAND 310.—MACHINERY IN MOTION YARD.

## WIND ENGINE,—Patent Self-Regulating, for

PUMPING, OAT-CRUSHING, THRESHING, GRINDING, CHAFF-CUTTING, SAWING, OR DRIVING OTHER MACHINES

For FARM PURPOSES most economical.—Costing nothing to work.—Erection simple and cheap. For PUMPING PURPOSES invaluable, working day and night, requiring no watching. Power from ½ to 12-Horses. Sketch shows a 4-Horse Power Engine as used on Farms.



The LORDS of the ADMIRALTY, the VICEROY of EGYPT, NOBLEMEN, PRACTICAL FARMERS, PUBLIC INSTITUTIONS, and COLONISTS, now use these ENGINES for all purposes.

BURY AND POLLARD, SOLE MANUFACTURERS,

PARK IRON WORKS, NEW PARK STREET, SOUTHWARK, LONDON.

### Roses.

The ROSES at the WALTHAM CROSS NURSERIES are NOW in FULL BLOOM.

MR. WM. PAUL respectfully invites all lovers of this popular flower to visit and inspect them. TWENTY FIRST PRIZES and NINE SECOND have been awarded to him for ROSES during the present year, and above 100,000 Plants are now growing in these Nurseries. Waltham Cross is 11 miles from London, and a first-class station on the Great Eastern Railway. It is also a delightful drive from the West-end of London, through Tottenham, or the Green Lanes and Enfield.

Entrance to the Nurseries from the platform, Waltham Station (for railway passengers only), and from the High Road, Waltham Cross, N.

### New and Rare Plants.

B. S. WILLIAMS invites inspection of his large and well-assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, amongst which are some very fine specimens.

Now ready, post-free to all applicants.

A NEW GENERAL PLANT CATALOGUE, containing Select *Lists* of Choice Exotic Orchids, Ferns, Stove and Greenhouse Plants, Indian Azaleas, Variegated and Ornamental Foliaged Plants, Fuchsias, Pelargoniums, Rhododendrons, Verbenas, Petunias, Phloxes, Cinerarias, Chrysanthemums, Hardy Variegated Plants, Herbaceous and Alpine Plants, Roses, Hardy Trees and Shrubs, Fruit Trees, &c.

With a DESCRIPTIVE LIST of New, Beautiful, and Rare Plants.

Paradise and Victoria Nurseries, Holloway, London, N.

### New Seed, 1863.

DOBSON'S UNEQUALLED SEEDS of CALCEOLARIA, CINERARIA, and PRIMULA, for present sowing. Unequalled in the United Kingdom. A Group of Calceolarias is figured in the July Number of the *Floral Magazine.*

TESTIMONIAL (unsolicited).

*Dalny, near Forres, N.B., June* 17, 1863.

"Gentlemen,—I request of you to send me a 5s. packet of your magnificent Calceolaria Seed. My plants are now in all their glory, and the admiration of all who have seen them. The front shelf of my conservatory, 90 feet long, is in one blaze.—Yours respectfully, NORMAN MACLEOD."

"To DOBSON & SONS."

We have had the pleasure of executing orders for the following Florists and Seed Growers, among many others, within the last 12 months.

Those marked thus * are Agents for our Calceolaria Seed.

Messrs.
Anderson, Durham
Abrahams, Limerick
Allman, Horsham
Barnes, Camberwell
Brown, Brighton
Burn, Cockermouth
Bridges, Cheltenham
Brownlees, H. Hempstead
Bunyard, Maidstone
Bennett, Dulwich
Barker, Godalming
Brewer, Birmingham
Battley, Rugby
Christie, Leatherhead
Carter & Co., Holborn
Cutbush, Highgate
Catleugh, Chelsea
Clingo, St. John's Wood
Courchs, Victoria Park
Carpenter, Bath
Caldwell, Knutsford
Chater, Cambridge
Clark, Lewisham
Chater, Braintree
Cumming, Eccles
Cox, Ludlow
Caparn & Son, Newark
Crossland, Sheffield
Cant, Colchester
Cattell, Westerham
Callingford, Islington
Carstairs, Edinburgh
Dancer, Fulham
E. P. Dixon & Son, Hull
F. & A. Dickson, Chester
Drummond, Dublin
Dolton, Newbury
Dickson & Co., Perth
Dickson & Brown, Manchester
Darby, Cirencester
Debron, Ely
Dillistone, Sible Hedingham
Daly & Son, Coleraine
Dean, Shipley
*Dickson, Hogg, & Co., Dublin
Epps, Maidstone
Edwards & Son, Wells
Fennessy & Co., Dublin
*J. & J. Fraser, Lea Bridge
Fryer, Camberwell
Fells, Hitchin
*Fraser, Richardson, & Goad, 82 Bishopsgate Street Within
Fowler & Son, Glasgow
Fuller, Newton Abbot
Finney & Co., Gateshead
*Garaway & Co., Bristol
Grimbley, Stoke Newington
Gibbons, Folkestone
Godwin, Sheffield
Glendinning, Chiswick
*Glenny, Fulham
Harrison, Darlington
Holmes, Hackney
*Hurst & Son, 6, Leadenhall Street, City
Hannaford, Teignmouth
Halford, Syston
Hodge, Ulverstone
*Fisher, Holmes, & Co., Sheffield

Messrs.
Harris, Bristol
Henderson & Sons, Brechin
Hunter & Co., Bristol
Hogg, Newcastle-on-Tyne
Hinxman, Salisbury
Hewison, York
Hobson, Easingwold
Keynes, Salisbury
Knight, Hailsham
Kitley, Bath
Kinghorn, East Sheen
Laing, Twickenham
Laing, Beverley
Langston, Maidenhead
Legge, Gosport
Lawson & Son, Cheapside
Lee, Hammersmith
Morse, Dursley
Milne, Bradford
Monro, Barnet
Marsh & Co., Northampton
Martin & Son, Hull
Meikle, Folkestone
North, Lee
Osborne, Bridlington
Oswald, Birmingham
Protheroe & Co., Leytonstone
*Paul & Son, The Old Nurseries, Cheshunt
Plymouth Seed Company
Perkins & Son, Coventry
Perkins, Northampton
Poynter, Taunton
Pettit, Bury St. Edmund's
Page & Toogood, Southampton
Proffitt, Birmingham
Pettigrew, Manchester
Paul, Walthamstow
Padman, Boston Spa
Power, Waterford
Parsons, Brighton
Piper, Haverstock Hill
*Rollisson & Sons, Tooting
Rivers, Sawbridgeworth
Sutton & Sons, Reading
Sandy, Stafford
Simons, Gt. Malvern
Steel, Richmond, Surrey
Stewart, Norwich
Scott, Yeovil
Sang & Sons, Kirkcaldy
Scott, Chichester
Stuart & Mein, Kelso
Sharpe & Co., Sleaford
Surman, Wandsworth
Southby, Clapham
Sealey & Co., Bristol
Toole & Co., Dublin
Tyso, Wallingford
Thomson, Northampton
Tiley, Bath
Veitch, Chelsea
*Vilmorin & Co., Paris
Wheeler, Warminster
Walker, Thame
Whomes, Windsor
Wood, Maidstone
Wood & Son, Maresfield
Wood, Worcester
Whitham, Mottram
Willmer, Sunbury

In ordering be particular in asking for DOBSON'S SPLENDID HYBRIDIZED SEEDS, which are in sealed packets, and without which none are genuine.

CALCEOLARIA, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each.
CINERARIA, 1s., 2s. 6d., and 5s. each.
PRIMULA, 1s., 2s. 6d., and 5s. each.

J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

## LILIUM AURATUM.

# MR. JAMES VEITCH

Has the pleasure to announce that he has several specimens of this magnificent NEW LILY NOW in BLOOM, and will be happy to show them to any one who may favour him with a VISIT.

ROYAL EXOTIC NURSERY, KING'S ROAD, CHELSEA, S.W.

THE OLD ESTABLISHED

## ROYAL SOUTH HANTS SEED ESTABLISHMENT,

37 & 38, OXFORD STREET, SOUTHAMPTON.

The Five Years PARTNERSHIP between PAGE AND TOOGOOD having elapsed,

# BRIDGEWATER PAGE,

## SEED GROWER AND MERCHANT,

Has great satisfaction in explaining that, although it was specified in the Deed of Arrangement, that as the Senior Partner he should have a right to make the first selection from the OLD STOCK, he has not done so, but received an entirely new Stock from the original sources, which will enable him to guarantee a genuine article.

**True Burbage Green Round Turnip, New Seed, 6d. per lb.**
**New Dwarf Essex Rape.**
**Mustard.**
**Trifolium incarnatum.**
**Trifolium incarnatum, New Late White.**
**Trifolium incarnatum, New Late Red.**

BRIDGEWATER PAGE having had the pleasure to supply JOSEPH BLUNDELL, Esq., of Bursledon, and other leading Agriculturists with the two late varieties of TRIFOLIUM, can confidently recommend them.

### Finest Permanent Pasture and Lawn Grasses.

As sown at the Royal Farms, the Southampton Parks, &c.

In this department BRIDGEWATER PAGE has always been most particular in giving his INDIVIDUAL attention to the selection which has for so many years given such satisfaction to all who have favoured him with their commands.

*Carriage free to all parts of England. Special Contracts for large quantities.*

The name of PAGE having been established by the sale of GENUINE SEEDS for more than HALF A CENTURY among the leading Agriculturists of the United Kingdom, will be a SUFFICIENT GUARANTEE that the best article will always be supplied.

It is particularly requested that all letters be addressed

BRIDGEWATER PAGE, OXFORD STREET SEED STORES,
(FACING THE RAILWAY STATION, SOUTHAMPTON).

# W. TOOGOOD,

(LATE PAGE AND TOOGOOD),

## SEED GROWER AND MERCHANT,

58, ABOVE BAR, SOUTHAMPTON,

Has the pleasure to announce that the Partnership, heretofore existing between himself and Mr. W. B. PAGE, Jun., has been dissolved by mutual consent as per advertisement, and all the stock, debts, and effects of the late Firm, except the fixtures in the shop in Oxford Street, having by arrangement been assigned to him, he has removed the same to the old place of business, Above Bar, where he, in future, will conduct his trade in all the branches of the late Firm.

The GARDEN, AGRICULTURAL and FLOWER SEED DEPARTMENTS will still receive his "personal" attention. He will continue to attend his own Markets (he will be represented by his Agent Mr. J. W. GREEN at those usually otherwise attended by the late Firm), and from his having had the entire management of the Executive Department since 1850, the same promptitude and attention as during that period may be relied upon.

For PRESENT SOWING he begs to offer, carriage free by rail, the selected STOCKS of TURNIPS, as per List, to which so many Prizes have been awarded the Customers of the late Firm. He has also ready for immediate delivery—

**New Seed of Fielder's Hardy Green Round, 6d. per lb., 24s. per bushel.**
**New Rape, 3d. per lb., 12s. per bushel.**
**Mustard, 3d. lb. Cattle Cabbage, 2s. 6d. lb.**

If the harvest is favourable he has arranged for a large supply of

**Trifolium tardif à fleur blanche,** | **Trifolium tardif à fleur rouge,**

the two New Late Flowering TRIFOLIUMS recently introduced from France, the successional value of which has been fully proved by the practical tests of Mr. J. BLUNDELL, M. DUPLESSIS, C. PENRUDDOCK, Esq., and others.

For COMMON TRIFOLIUM, RYE, WINTER OATS, WINTER BARLEY, WINTER VETCHES, and WINTER BEANS, early orders will ensure delivery in good time, and the lowest price consistent with best quality will invariably be charged.

PERMANENT PASTURE and LAWN GRASSES, as sown at the Royal Farms, Osborne, for the past 10 years, the Southampton Parks, &c., all of which were selected and mixed by the Advertiser personally.

*The* Rev. T. BACON, *Kingsworthy, December* 10, 1860, *says:—*

"I have great pleasure in stating that the pasture which you laid down for me in the Spring has been a great success, so much so, indeed, as to attract the constant inquiries of passers by. Within four months of sowing, it bore an excellent and abundant crop of Hay, and it has been continually fed off by cows and sheep ever since, with the exception of the three weeks immediately after mowing. For variety of herbage, equality of plant, and strength of growth, it is acknowledged by some of the best judges in this neighbourhood to be *most excellent*; it already wears the aspect of a rich and well established pasture."

To prevent mistakes it is desirable that all letters referring to the business of the late Firm, or orders for any of the foregoing, should be directed

W. TOOGOOD, ROYAL SOUTH HANTS SEED ESTABLISHMENT,
ABOVE BAR, SOUTHAMPTON.

**Extra Strong Vines.**

LUCOMBE, PINCE, AND CO., having devoted great attention to their GRAPE VINES, can this season offer a fine healthy Stock of strong Canes 6 to 10 feet long, of all the choicest sorts, fit for immediate planting, propagated from Eyes taken from their own experimental Vinery, which enables them to warrant each kind true to name.

Their experimental Vinery is now very finely in fruit, and they invite an inspection of it, and their stock of Vines.

LISTS of Sorts and Prices may be had on application.

Exeter Nursery, Exeter.

OPENING of the ALEXANDRA PARK, Muswell Hill.—Alexandra Park Company (Limited).—The ALEXANDRA PARK and GROUNDS, comprising 480 acres, situate about one mile from Hornsey, and adjoining the Wood Green Station of the Great Northern Railway, will be OPENED to the public on THURSDAY, the 23d inst., on which occasion, and on FRIDAY, the 24th, there will be a Grand Horticultural Fête, when prizes for Fruit and Flowers to the amount of 700*l*. will be awarded.

There will also be a Grand Archery Meeting on those days, when Prizes amounting to 200*l*. will be offered, further particulars of which will be speedily announced.

Four Military Bands will be in attendance.

The Flower Show will be held in an enclosure on the lawn of Tottenham Wood House. There will also be an ample supply of refreshments, for which Mr. Hart, of Radley's Hotel, is the purveyor.

The beautiful grounds of the Grove Estate, communicating with the Alexandra Park, will also be opened. The Grove entrance to the park is on Muswell Hill, and the entrance to Tottenham Wood is in close proximity. They are about half-an-hour's drive from the Regent's Park, and the time of transit from the Great Northern Railway Station, at King's-cross, to the Wood Green Station, is about 15 minutes.

Tickets of admission to the flower show, on Thursday, the 23d, will half-a-crown; and on the 24th, 1*s*.

All information in reference to the Flower Show may be obtained of Mr. Alexander Mackenzie, Tottenham Wood House, Muswell Hill, Hornsey. Mr. Buchanan, archery manufacturer, 215, Piccadilly, W., will give the necessary information in reference to the Archery Fête, on and after the 6th inst.; and all further information and particulars may be obtained on application at the Company's Offices, 12, Tokenhouse Yard, London, E.C.

Accommodation for horses and carriages will be provided at Tottenham Wood House. By order, E. K. PARKINSON, Sec.

ALEXANDRA PARK COMPANY (Limited).—
OPENING of the PARK.
GRAND HORTICULTURAL and ARCHERY FETES,
THURSDAY, 23d, and FRIDAY, 24th July, 1863.
The BANDS of
The 1st LIFE GUARDS,
The 2d LIFE GUARDS,
The GRENADIER GUARDS,
The COLDSTREAM GUARDS,
Will Perform.

ALEXANDRA PARK COMPANY (Limited).—
OPENING of the PARK.
RAILWAY ARRANGEMENTS:—
Frequent SPECIAL TRAINS will run on THURSDAY, the 23rd, and FRIDAY, the 24th July, from the King's Cross Station to Wood Green and Back.

ROYAL HORTICULTURAL SOCIETY
FLORAL COMMITTEE.

LIST OF AWARDS, July 7, 1863.

FIRST-CLASS CERTIFICATES.

SELAGINELLA INVOLVENS, from Messrs. Veitch & Son, Exeter and Chelsea.

SELAGINELLA INVOLVENS VARIEGATA, from Messrs. Veitch & Son.

COMMENDATIONS.

NEMOPHILA AURICULÆFLORA, from Mr. Melville, Dalmeny Park.

VERBENA MAUVE QUEEN, from Mr. C. J. Perry, Castle Bromwich.

SPECIAL CERTIFICATES.

To Mr. Keynes, for a collection of 27 NEW ROSES.

To Mr. C. J. Perry, for a collection of 24 VERBENAS.

It was afterwards resolved:—

"That Mr. Treen having been invited to send blooms of his Verbena 'Rugby Hero,' the same have been examined in comparison with blooms of L'Avenir de Ballent sent by several members, and in the opinion of the undersigned they are identical. The First-class Certificate awarded in September last to 'Rugby Hero' is therefore hereby rescinded."

(Signed) JOSHUA DIX, Chairman.

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| JOHN KEYNES | SAM. AINSWORTH |
| CHARLES LIDGARD | WILLIAM BARNES |
| GEO. SMITH | ANDR. HENDERSON |
| CHARLES TURNER | F. R. KINGHORN |
| JOHN G. VEITCH | ARTHUR HENDERSON |
| JOHN LAING | JOHN SALTER |
| CHAS. JAS. PERRY | GEO. EYLES |

THOMAS MOORE, Secretary.

# The Gardeners' Chronicle.

*SATURDAY, JULY* 11, 1863.

Now that the Exhibition Building of 1862 is in course of removal, the time would seem to have arrived for the Fellows of the ROYAL HORTICULTURAL SOCIETY to consider how to finish their Garden. No one can suppose that however beautiful NESFIELD's floral patterns may be, it could have been in the minds of its founders to leave the place as it is. It wants shady promenades, it wants shelter for tender plants, and most especially it wants to get rid in some degree of its ugly useless tumbledown frame, now dignified by the name of Arcades: the wretched botch, we believe, of a certain Works Committee to whose incompetency their design was somehow left. If we are rightly informed the subject has already been under discussion, and report says that some such scheme as the following has been suggested by no mean authority.

It will be remembered that the Garden represents a long horse-shoe, the toe of which is to the north, adjoining the Kensington Road, the east and west sides are next Exhibition Road and Prince Albert's Road respectively, while the heel end to the south is bounded by the ground on which the International Exhibition Building is still standing. North east and west there are considerable pieces of waste land available for any public purpose, and the manner in which they are to be utilised is a very important public question. Report says that the suggestion we have referred to is of the following nature.

1. Pull down the miserable back wall of the East and West Arcades, and replace the lath and plaster which the geniuses at the Boilers have provided there by a long conservatory front, in which may flourish groves of Camellias, Tree Rhododendrons, tender Roses, and all manner of beautiful Exotics which demand little more than shelter in winter. If the arcades are closed with glass on the side next the interior of the Garden, the finest conservatory in the world would be readily formed at a moderate cost; summer exhibitions could be held in it, and there would at all seasons be a most enjoyable covered garden, to which invalids might resort without danger.

2. In the next place, between this conservatory front and the Prince Albert and Exhibition roads plant fast-growing umbrageous trees, so managed as to look as if an extension of Kensington Gardens or Hyde Park; no riders, no carriages, to be admitted within its boundary, the whole being strictly kept as a Promenade.

3. As to the North side next the Kensington Road, that might be laid out in a similar way by extending the proposed east and west sides right and left, till they met at the back of the Society's beautiful Conservatory.

Then indeed the West of London would have something more magnificent and useful than now exists to be proud of, especially if the South side where the Exhibition Building stands were made to harmonise with the other part of the plan proposed, as it easily would do if the north side of the Cromwell Road were planted with fine trees, as it ought to be.

Such is the vision seen by the gentleman to whom we have alluded, and it is much to be desired that he should give his views a substantial form. Let us hope too that the ventilation they are now likely to receive will encourage him to persevere, and that before the end of the present session something will have been determined on by men who are independent enough to brave the displeasure of the department of "Art and Science," or as some irreverently call it, "Artful Science." This at least is certain, that there is no time to lose.

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THE LOVE OF ORCHIDACEOUS EPIPHYTES bids fair to rival that of Roses. Every one who can contrive a place fit for their growth is looking out for specimens, and we should not be surprised to find them sold as cheaply. Such at least may apparently be inferred from an auction of that most noble species, *Cattleya superba*, which took place last Saturday in STEVENS' Rooms. Some collector in tropical America lately sent home no fewer than 400 plants, which were divided into 75 lots, and knocked down in some cases as low as 2*s*. 6*d*. and 3*s*. each plant, while the larger number averaged only 5*s*. or 6*s*. each. A whole box full of imported *Phalænopsis*, *Saccolabium*, *Vanda*, and *Aerides suavissimum* fetched only 7*l*. 5*s*. on the same occasion; and a second, enriched with *Cypripediums* and *Cœlogynes*, went no higher than 15*l*., or about 10*s*. each plant.

Good news this for beginners, whose apprenticeship will no longer be too costly to be pleasant.

There are however still great buyers in the field, as was shown by an *Odontoglossum nævium* having been knocked down for 14*l*. 8*s*.

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Now that the great summer EXHIBITIONS OF PLANTS AND FLOWERS have come to an end for the present season, it may be useful to look back and see if there be anything in them to imitate or avoid in the conduct of those of another year.

The first observation we would make in reference to them is this, that the art of cultivation, for which our British gardeners have so long been famous, has not retrograded in the hands of those who now practise it. Never have better examples of cultivation been seen than those which have thronged our flower halls and flower tents during the year of grace 1863; and never in any previous year have these arenas of horticultural conflict, whether hall or tent, been more copiously or more worthily filled. We leave out of view the question whether industrial palaces or monster tents are the fitter places for flower shows, or whether something better than either might not be found. Doubtless each of them has its advantages, as they both certainly have their disadvantages; but on the whole the experience of 1863 will not, we think, raise any regret, in the minds of exhibitors at least, that no more shows can be held in the great "domed" caravansary, where huge specimens were dwarfed into apparent pigmies, and cut flowers were too soon exhausted of their juices and their freshness.

Then we remark that these monster flower-shows, which come so closely on each other's heels, have become wearisomely numerous, at once a toil to those whose unremitting watchfulness is necessary to bring forward the precious materials which compose them, as well as to those who are entrusted with their organisation, and to those who have the much easier task of looking on—if we may judge of the latter class of persons by the manner in which they saunter carelessly past objects on which sometimes years of toil and care have been expended, and to which at least no ordinary skill and some months of unremitting attention must have been devoted to make them what they are. Yet for all this, we hardly dare counsel the reduction of their number, for the double reason that as a whole they are attractive still, and under favourable circumstances at least, they are financially successful. Rumour, indeed, with her many tongues, has whispered of contemplated reduction—not of exhibitions but of prizes; but we can hardly think so fatal a course can have been seriously thought of. Certainly if it were desired to adopt the readiest means by which to ruin flower shows, that is one of the first of which trial should be made. Exhibitors are assuredly not overpaid by the prizes they gain, and they deserve at least equitable treatment. Without them, it should be remembered, there could be no shows.

Then, as a third point, we venture to think the Kensington authorities were in error in blending their Rose Show with their third great summer exhibition; as they assuredly were in excluding all gay flowering plants, such as Orchids, Ixoras, Dipladenias, Pelargoniums, &c., from this same third show; the consequence being that though interesting enough in detail from the presence of the Roses, it was not effective but dull, taking a general view of its aspect. In a word, it was not a good finish to the summer campaign. The Rose as the regal flower is, we maintain, quite worthy of a show to itself, and Rose levees, moreover, are always so well attended as to be decided successes; so that taking this lowest view of gain, we must urge that no good reason has been found why Roses should be swamped in a general exhibition. What we would suggest in preference is this:—that a Rose Show should be held about the end of June or beginning of July, as may best suit the prospects of the season, and then, that the "third" great show should be pushed on as far into July as possible—for this, amongst other reasons, that a new set of plants would thereby be rendered necessary. In this way something of freshness in the plants themselves might be hoped for, and probably along with it diversity of kinds to some small degree at least, by the acquisition of later blooming subjects; and though Pelargoniums of the show classes might be past, this arrangement would just hit the season for those charming horseshoe varieties which are not scarlets—the roses, cerises, salmons, and whites, all lovely plants for pot culture, and just the thing for exhibitions, but never yet brought out because never properly invited. A late July show such as we contemplate, would be quite the season too for a grand display of Orchids, being a time of year at which the possessors of these treasures would not grudge to bring them out in public, so much as they do in the earlier and often chilly season of May. And then, this would also be the season for the beautiful and fragrant Carnations and Picotees, a thorough-going exhibition of which would we suspect be as popular as one of Roses, and certainly much less familiar to sight seers. Indeed, the institution of a late July show, to give the plant-growers breathing time, and to afford opportunities for bringing out the various-coloured zonal Pelargoniums already alluded to, together with Picotees and Carnations, and late summer Orchids and stove plants, appears to us to be one of the most desirable arrangements that could be brought about to ensure something like freshness of character: it being understood that a separate and distinct Rose show should be held previously.

So much for generalities. There are some matters of detail on which we have a word or two of comment. Hyacinths have been grand at all the spring shows; and their lively colours and cheerful green undoubtedly give them the precedence

at that season. Very fine indeed were the displays made both at Kensington and the Regent's Park. We do not advise their appearance so early as February however; indeed it is questionable whether exhibitions of any kind so early as the month of February are desirable: we incline to think not. Camellias have as yet been little better than failures, so far as forming the elements of a display, and this applies both to plants and cut flowers, in both which forms they are undoubtedly capable of being turned to good account. Indeed good stands of cut Camellias might be, in spring, as attractive as are Roses in summer. We trust, notwithstanding this partial failure, that they will not be withdrawn from the schedules, but in order to induce growers to take the necessary trouble with them it may be necessary to offer better prizes, protected perhaps by a clause withholding them from examples of inferior growth. Exhibition Camellias are not to be grown up hastily. Cinerarias, another of our gay spring flowers, have not been so good as they were sometimes formerly seen, and it appears to us that after the earliest spring show, at which they should have full and fair encouragement, they should be omitted altogether, and the prize-money offered for subjects better suited to the season. If we were schedule makers we would most assuredly invite with a liberal hand new Roses, either of the current, or of the preceding year, or both; for those who have the sorts to exhibit, always have them in active growth at this late spring season, and the offering of prizes in this way would lay the foundation for the production of newer varieties at the summer meetings, by inducing the training up of specimen plants.

Passing on to the subjects of the great shows as they are called, our first remark is that Orchids are looking up; they have been gradually recovering from the low position into which they had fallen a few years back; and we now again see some respectable collections and some magnificent specimens from time to time brought out. New exhibitors also appear in the field, which looks well. A new kind of Orchid tub has been seen on one or two occasions this year, but we cannot say that it was a success beyond the element of convenience, which it had no doubt. With this estimate of its merit our readers will probably agree, when we state that it was after the model of a butter-tub with longitudinal slits in the staves, and with jointed iron handles at the sides, and that it was painted Venetian red. Azaleas have appeared in a state of magnificence probably unprecedented both as regards size and brilliancy; and among these, in one case at least, the application of our test, "all round alike" (see p. 579), was necessary to determine which were the best. They are getting too large: too unwieldy for travelling, but we fear the monster plants could not now be done without. We should miss them assuredly. Pelargoniums have been shown this year surpassing, we believe, all that have ever gone before them—perfect marvels of growth and blossom. Of Fuchsias we can only say that they have not been so good as last year, though some collections have appeared of tolerable general merit. The growers must go back to young plants. Here, if we had a class of yearlings for new sorts, to be grown as good as they could be the first year, and then carried on the following season for large specimens, we should gain more variety and more interest; and notwithstanding the protest of the growers, we believe we should have better specimen plants. At any rate the older samples have not this year made the impression that Fuchsias were expected to make. Of pot Roses, what more shall we say? Some were good, almost perfect; some, as we have already stated (p. 579), were worn out. Here, too, we must have spring classes for the new Roses, so as to train up a set of show plants of the more novel and choicer sorts, in order that it may soon be possible to discard some of the older and inferior kinds altogether. Indeed certain of those which have appeared this year must never appear again, if they are expected to win.

One remark as to fruit. The Black Grapes have been on several occasions superlatively fine; but the White ones, we allude to Muscats chiefly of course, have been so generally and so completely unripe, that it has been held to be a crime to cut fruit in such a state, and serious proposals have been made, by the lookers-on at least, if not by the officials, to censure publicly in future those who have the bad taste to send fruit in such a condition.

In conclusion we may ask what element of variety can be imported into our future shows? If in reply we whisper, try Florists' flowers, we trust the gentle breathing may not seriously perturbate our great plant-growers. In a quiet little nook of one of the last series of spring shows at the Regent's Park and also at Kensington, we saw a respectable muster of quaint-looking Auriculas, more indeed than has of late years appeared at these general shows. Now these quaint flowers attracted a goodly proportion of admirers from among the assembled throng. Let them be tried again, and let the inducement to bring them be rather extended than curtailed. As a pleasure-giving element of the day's programme, even outside the circuit of the fancy, we venture to say they will be worth their cost.

Then why not drop in somewhere in May with a hearty good show of Pansies, pot plants, and cut blooms? These flowers have of late only been admitted on sufferance, but they are showy things, generally attractive, and, now that we have so many "fancies" amongst them, they are sufficiently removed from monotony. We advise their introduction. In June come the Pinks: let us have a good display of Pinks, and see how they take; let us have them as the "fancy" wishes, and let us have them in pots, too, not for the impossible object of trying to please everybody, but for variety's sake, and to try to please some. One does not see why a decent Pink should not be grown in a pot, judging from the samples we see produced amongst forced flowers; but of course we would stipulate here for some quality as well as some display. In July, as already intimated, we would have the zonal Pelargoniums which are not scarlet, these being especially mentioned from their being so thoroughly adapted for pot-culture and for exhibition, and much less so for bedding. Besides these we venture to affirm that a really good display of Carnations and Picotees, brought together by suitable encouragement, would create quite a sensation amongst the visitants of our floral fêtes. Here then is a fair amount of freshness and variety for one season.

We shall be ready to afford space in our columns for the discussion of these and similar matters now, before the time comes for arranging the prize schedules of another year.

## PLANT LICE.

Amongst the pests of horticulture it is impossible to pass over a multitude of small insects commonly known by the name of Aphides, or plant lice, all equally mischievous, but varying in colour, being sometimes yellow, green, black, or white, either lively and moving about, or motionless and adhering to the leaves and covering the stem. What has not been tried—what has not been invented for the destruction of these abominable plagues?

Even lately we read in the new "Journal des Connaissances utiles" (1853-54) that at the Museum of Natural History, the Apple trees had been so violently attacked by the Aphis lanigera, that the authorities had thought it necessary to cut the trees nearly all down, but M. Pilloy had at last discovered a liquid which had the property of freeing the trees from their dangerous parasites. This is indeed a fine discovery, and it only remains to know of what this valuable liquid is composed; but unfortunately the "Journal des Connaissances utiles" seems to have thought it quite unnecessary to tell us. In revenge, we find in vol. vii. (1859-60), the following receipts for getting rid of this insect:—

First Receipt.—Put 10 centimes of smoking tobacco, 10 centimes of white soap, and 10 centimes of sulphur, into six glasses of water and boil them. Wash the branches which are attacked, with a brush steeped in the composition. It can be employed against all kinds of insects.

Second Receipt.—Put equal quantities of fresh urine and stale soap suds into a well closed vessel, leave it 48 hours, taking care to shake it up occasionally. Wash the branches as before.

In another volume of the same, we find a record of the following processes. Tobacco fumigations for aphides. Washings with vinegar, followed by a white-washing of the stems with lime and potash. Liming to destroy Kermes. Later in the 9th volume, we are recommended a solution of chloride of lime, as a still more efficient receipt for the destruction of aphides.

The "Journal de la Société Impériale et Centrale" also gives us in 1862 a succession of remedies, more or less efficient no doubt, as in former years, but which we hesitate to transmit to our acquaintances, as experience ought to be the only guide in such matters. In the first place the leaves of Stramonium are mentioned as a substitute for fumigating with tobacco. Certainly the poisonous odour given off by this kind of Datura when the leaves are rubbed between the fingers, makes it appear at first sight as if it might be efficacious. Only we have ourselves already tried so many methods of fumigation, so many decoctions, &c., &c., that we have at last come to doubting the virtue of everything at first. Granting, however, that Stramonium is a good substitute for tobacco, we think it necessary to caution those who read this, that care is required in the use of the plant, for the poison contained in it is of an excessively dangerous kind.

There would be much less inconvenience attending the use of Tomato haulms, as M. Behlke tells us in the "Monatschrift für Pomologie." In fact, it was not until M. Behlke had consulted the "Magasin de Neubert" (1860), and M. Lucus' work upon Kitchen-gardens, that he thought of boiling Tomato haulms, with which decoction to wash the leaves and branches of his fruit trees that were infected with Aphides, and even of plunging them in in some cases. The German author having met with perfect success, asks what more simple means can be desired. True, the preparation of this liquid is very simple, which is the case in common with many of the others; but the great thing now is to find out if it is not less practicable than many of the others; and that is what we fear, for when it is necessary to wash the leaves and the branches of the trees, it requires a considerable time to do it in, and that it is not always possible to spare, when a large number of trees has to be operated upon. And, the efficacy of syringing with any of the liquids which have been recommended up to the present time is very doubtful.

At p. 571 M. Belhomme informs us of a new and almost infallible remedy: the water from the washing of benzine, which, according to him, can be easily procured at the chemists either in Paris or in the provinces. Mixed with an equal quantity of water, it kills mole-crickets; but since the use of it at the foot of delicate plants may hurt them, it is advisable in this case to use only the water, which may be poured off after it has stood for some days. This water, charged with the smell and soluble properties, but free from the oily and butyrose qualities of the benzine, has no corrosive effect upon the roots, though it still kills the mole-crickets. Add 5 grammes of chloride of lime par litre, and it destroys aphides upon Peaches, Apple trees, Roses and Elder, &c., and can be applied either by syringe, sponge, or a brush. All similar pests may be destroyed in the same way upon Pear trees, the Oleander, Orange trees, Bananas, and the Acacias of New Holland. The use of this wash pure will even kill ants.

For slugs and snails, the ground should be covered all round the foot of the plant with very fine sawdust which has been steeped for five or six hours in the liquid, according to the first preparation. Earwigs and woodlice cannot resist water simply impregnated with the smell. To get rid of the boring Cossus, it is necessary after having cleared its hole with a piece of iron wire, to insert into it some tow previously steeped for five hours in the liquid mixed with chloride of lime. The Scolytes which attack the Elm and Ash, perish if, after raising the pieces of bark behind which they are lodged, some washes of the same liquid are introduced. Finally M. Belhomme proposes, that since the substance is so cheap, it should be employed for syringing fruit trees infested with caterpillars. *Annales de la Société d'Horticulture de l'Hérault.*

## THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The Twentieth Anniversary Festival in connection with this Institution was held on Friday, the 3d inst., at the London Tavern, and was numerously attended.

The Chair was filled by the Right Hon. the Earl Ducie; and amongst the gentlemen present were H. Paull, Esq., M.P.; J. Clutton, Esq.; J. J. Blandy, Esq.; J. E. C. Koch, Esq.; Robert Wrench, Esq., Treasurer; Dr. Sewell, and others.

A superb array of flowers at the rear of the Chairman was generously supplied by Mr. Charles Turner, of Slough, and commanded great admiration. It consisted chiefly of magnificent Pelargoniums, and these were tastefully arranged with Caladiums, Petunias, specimens of the Delphinium formosum, Ferns, &c. Vases of beautiful flowers chiefly, we believe, from the grounds of Messrs. Lee of Hammersmith, adorned the tables. The dessert, for which the Society was indebted to the Duke of Buccleuch, Lords Stamford, Ducie, &c., was profuse in quantity and high in quality.

Mr. Harker officiated as toast master. The Rev. J. M. Bellew asked the usual blessing, and the cloth having been drawn, and the grace from the ancient *Laudi Spirituali* sung,

The Chairman briefly proposed "The Queen," drawing a happy comparison betwixt our form of Government and that of less favoured nations, and paying a warm tribute to the personal virtues of the Sovereign of these realms.

His Lordship next gave "Their Royal Highnesses the Prince and Princess of Wales," in a few words remarking that, if genial manners and popular sympathies could secure the regard of all with whom they came in contact, they would assuredly have it. The noble Chairman concluded his brief remarks by a graceful allusion to the evidently careful manner in which they had been brought up, and which, throughout their lives, was likely to beneficially influence their services to the state.

His Lordship then, in a few appropriate words, gave "The Army, the Navy, and the Volunteers," especially remarking on the efficiency of the three services, adding that it might be dangerous for any enemy to attempt to interfere with old England; if they did, they might depend on it they would suffer for it.

Major Robinson having returned thanks in suitable terms,

The noble Chairman rose to propose the toast of the evening. We understood him to say that he would endeavour to embody the sentiments he desired to utter in very few words. He sincerely wished all prosperity, as he was sure every one present did, to the "Gardeners' Royal Benevolent Society." It was said, however, that it was not sufficiently supported. He was afraid that there was a great deal of truth in the assertion. The reason seemed to him to be that the gardeners, who should be its supporters, were so much scattered over the country; they had, in consequence, but little means of intercommunication. There might be a certain amount of such intercommunication; but still there remained comparatively little opportunity of interchanging their sentiments as to the operations of the Society, or of making known the advantages and benefits to be derived from it. If every gardener were to

urge on his employer the propriety of subscribing to its funds, large sums, and a consequently large addition to its coffers, would soon be secured. All he could say for himself personally, was, that he became a supporter of the Society through the solicitation of his own gardener. All gardeners, however, ought to make provision for the future by becoming, without delay, members of the Institution. In too many instances, men who had held positions as gardeners, and in trades connected with gardening, were unfortunately compelled to become recipients of the bounties of this charity. Delicacy, however, prevented him from mentioning their names. Men who might fairly have looked forward to securing—not merely the comforts, but even the luxuries of life, at an advanced age, had been unsuccessful, and yet, luckily for them, they had taken the precaution to become subscribers to this Society, and so had secured to themselves something of comfort in their declining days. He wished, therefore, that the donations could be increased, so that the pensions granted might be increased also. It must be remembered at the same time that though these desirable increases might take place, there would be none in the expenses of the Society. His Lordship then proceeded to give the following succinct outline of the institution:—It had been established in 1838, for the relief of aged and indigent gardeners and their widows, but for some four years it had made little or no progress. In 1842 an alteration was made in the management, since which time it had steadily and gradually risen and progressed in public estimation. It now afforded relief, by means of pensions for life to 56 poor persons, all of whom had held first-class situations as gardeners, or had been nurserymen or seedsmen, or were widows of such. The amount of pension granted to males was 16*l*. each per annum; that to females, 12*l*. per annum. The expenditure in pensions was about 800*l*. per annum, and was defrayed from the annual subscriptions, from the donations at the annual dinners, and from the interest of the funded stock. Donations of upwards of 5*l*. 5*s*. were invested in the Three per Cent. Consols or other Government securities, in the names of the Trustees. The main object of the Institution was to inculcate habits of prudence, by inducing gardeners to subscribe to the funds of the Society, and thus lay by for themselves a small annuity, in the event of want or distress overtaking them in their old age. No person could be eligible for the pension who had not been a subscriber for fifteen years and upwards. After a few general remarks on the mode in which the affairs of the Society were managed, his lordship concluded by directing attention to the cause of the epidemics which had decimated nations on account of the want of vegetables—to the tearful results of such want in the North of Europe in the middle ages—and to the absolute necessity which existed for the supply of such anti-scorbutics. The noble Earl, as a last word, begged their hearty co-operation in endeavouring to increase the funds, and thereby the usefulness of so excellent an institution.

The Rev. J. M. BELLEW then rose to propose the health of "The Chairman." There were (he said) several popular subjects that were waiting, as it were, for an answer by way of definition. One of these subject-matters in the form of a question, was, "What is an English gentleman?" One had said his idea was that an English gentleman was he who had a fine country seat and a clear rental of 10,000*l*. a year. No doubt he was right. Another, however (one domiciled in Newgate), when asked what his definition of an English gentleman was—answered, "a gemman wot drives a shay." Between these degrees, however, there were many gradations, and there seemed to be actually no clear idea as to what an English gentleman really was. He thought he could not be defined as one who, as the Duke of Newcastle had said, "did what he liked with his own;" but rather one who fulfilled the duties of his position as a good steward in his day—not only in reference to his own pleasures, but to the pleasures and comforts of those around him. He would, therefore, propose to them the health of an English gentleman of whom it might be said, without using the slightest degree of flattery, or undue eulogy or sycophancy—which that gentleman would despise as much as he himself should—that he was one of those who, in his day and generation, was ever ready to promote the welfare and happiness of those around him. He alluded to their Right Hon. Chairman. He was sure that his lordship felt great interest in what he was doing that very day—in presiding over that meeting. And in reference to trees, flowers, and shrubs, his lordship was doing all he could to promote the interests of Horticulture in this country. As such a patron, then, they ought to honour him by drinking his health.

His LORDSHIP very briefly returned thanks, remarking that if he thought he would have been the means of being of any service to the Institution over whose Anniversary he had the honour of presiding, he should indeed be amply recompensed for any trouble at which he had been in coming there. He was happy in having the opportunity of proposing the health of the Treasurer, whose services had proved so valuable to the Institution, but which, in reference to the office he held, he must say he wished were vastly increased by extra funds being placed in his hands. Still, as it appeared that he had frequently to pay money out of his own pocket as well as out of theirs, he hoped his duties in future would in that respect be less arduous. His services to the Institution had been indeed valuable, and therefore it was that he (his Lordship) thought he was entitled to its thanks, and to their notice of him on the present occasion.

Mr. WRENCH, in returning thanks, said that he had heard a Reverend Bishop say that a noble ex-Chancellor had once told him that the great dread he had of a public dinner was on account of the speech he was expected to make after it. That was about his own position as their Treasurer. Still, it should not prevent him from acknowledging the compliment. He thought agriculture might take a good lesson from horticulture; for it struck him that the nearer agriculturists assimilated their fields to gardens, the better it would be for them. In his lordship, who had done them the honour to preside over them, they had the two positions of an agriculturist and a horticulturist combined; for they all knew what his lordship had done in his high connection with the Royal Horticultural Society, as well as that which he had done both in reference to the breeding of stock and to his deep interest in Agriculture generally. In these capacities he was truly entitled to their high consideration. Mr. W. then proceeded to say that he could not help alluding to the able, earnest, and eloquent manner in which one of their warmest friends, whom he had known from a child, almost, had advocated the claims of the Society to general support; and who, at the close of his career in reference to Horticulture, had subscribed 20 guineas to its funds—he alluded to Professor Lindley. He took that opportunity of paying to that gentleman the humble tribute he had done, because he thought it was eminently due to him. He (Mr. W.) regretted, as Professor Lindley had said, that out of some 10,000 parishes in England, there were, amongst the gardeners, under 300 subscribers to the funds of this Society. He believed that that could only be because it and its principles were not generally known. It was only by calling attention to it through the medium of the Press, and by other means, that they could expect it to gain more support. He would conclude by thanking them for the generous manner in which they had received the mention of his name; and begging the assistance of his lordship, of those whom he had the honour of addressing, and of the ladies in the gallery especially, in disseminating the knowledge of this Society, that so it might earn greater support.

The lists of donations, &c., were then read, from which it appeared that they amounted to some 400 guineas.

The Earl DUCIE congratulated the company on this increased amount, which, in round numbers, amounted to a pension or two added to the Society. His lordship having stated that he was sorry to be compelled to leave them, resigned the chair, which was taken by the

Rev. J. M. BELLEW, who, in proposing the next toast, said he was sure it would be acceptable, for it was almost like proposing "our own noble selves." He meant, "The Royal Horticultural and Botanic Societies of London." He presumed there was no one present but who intimately knew what that toast was, and what the meaning of it was. He need, therefore, make no laboured speech in reference to it. One thing, however, he could say—that the institutions lacked support from the gardeners and horticulturists of the provinces. He was for organisation; and therefore it was that he urged, as had been urged in the political world, "Register, register, register." That is, register the wants of the Society, so that they might be better attended to than heretofore.

Mr. BLANDY responded to the toast in a few words, remarking that there was not a more industrious class of men in England than the gardeners were generally. They were industrious in their habits, and excellent in their general conduct; and he had endeavoured to impress, not only on his own gardeners, but on the class generally, the propriety of their tendering to such Institution their pecuniary support.

Mr. KOCH having in complimentary terms proposed the healths of Mr. G. Child as a seedsman, and of Mr. Charles Turner as a nurseryman.

Mr. CHILD returned thanks, remarking that there was no question but that seedsmen were in a very great degree connected with gardeners, and therefore very naturally took great interest in their welfare. If he might venture on the comparison, they stood in the relative positions of physician and chemist. They, as seedsmen, depended much on the gardeners for the proper and successful cultivation of the seeds they sent them. They naturally, therefore, had a close alliance with them; and therefore it was that they were as anxious to promote the interests of this Society as themselves.

Mr. CHARLES TURNER curtly remarked that if every one in his individual capacity would do all he could in furtherance of the interests of the Society, it would be much more flourishing and extensive.

The Rev. J. M. BELLEW then gave "The Ladies," in graceful terms, especially alluding to those present in the gallery, and concluding by saying that, no matter what the position or business in life might be, there was not one that woman did not honour by her presence.

Mr. PAULL, M.P., then proposed "The Board of Stewards," thanking them for their services, and remarking how much they were indebted to gardeners for their help even on such a festival as this; for after the smoking viands of an Englishman's dinner had passed away, there came these attractive specimens of decorative art in the shape of flowers and fruit, which formed so gratifying a feature, more especially from the graceful manner in which they were intertwined together.

Mr. KOCH having briefly responded to the toast,

The Rev. CHAIRMAN gave "The Committee of Management," which was acknowledged by

Mr. CHILD, who, in conclusion, in a few complimentary terms, proposed the health of the present Chairman, the Rev. J. M. BELLEW.

The REV. GENTLEMAN, in responding, thanked them very cordially, and said he begged their attention whilst he adverted to a matter not exactly connected, perhaps, directly with the programme of the evening's proceedings, but which, he felt sure, they would not find fault with him for introducing. Two years ago they did him the honour not only to receive him among their literary and artistic friends, but also to make him their Chairman, and to listen kindly to him in that capacity whilst he made some few observations on Art—especially Dramatic Art. He was certain, therefore, that they would lend him their ear in reference to a forthcoming event of the highest national importance. He would ask them to remember that the 23d of April, 1864, would be the 300th Anniversary of the birth of Shakspere. He could not but feel that their Society had a great alliance with Art, and that it would deem it an especial honour to be associated with the greatest Art in the world. He felt that it would be their pride, as it would be the pride of every Englishman, to glorify the memory of the greatest Englishman that ever lived. In such a case they should all be a "band of brothers." They should feel that what their brother man was interested in, they themselves should all feel interested in; and that they should all join heartily, as one family, in doing the highest honour in their power to the illustrious event to which he had felt it a duty to direct their attention.

With this toast closed the proceedings of the Anniversary of 1863.

We understand that His Grace the Duke of Buccleuch has, at the solicitation of the Earl Ducie, kindly consented to become the Patron of this Institution in the room of H. R. H. the late Prince Consort.

## Home Correspondence.

*Trichomanes radicans.*—It is stated at p. 602, that Trichomanes radicans has been found in North Wales. I resided for some time last autumn in Snowdonia, and heard that that Fern was to be met with in the district, but it was supposed to have been recently introduced by the poor guide Williams, who lost his life while Fern gathering some two or three years since. He is said to have brought plants of this and other Ferns from Ireland and elsewhere, and to have made plantations of them in places known only to himself. I do not vouch for the truth of this statement, but it is interesting as bearing on the question whether Trichomanes radicans be indigenous to Wales or not. *John Field, Tonbridge Wells.*

*British Ink Galls.*—The reappearance of the Galls caused by Cynips Kollari on the Oaks this year reminds me that I should make another inquiry whilst the Galls are yet in their immature state, as to the best time of gathering them, and the mode of drying which is practised in Syria, whereby the insect is killed before it can escape from the Gall, and the Gall is harvested in better condition for use. I sought this information in your columns last year (p. 982), but my inquiry did not meet with a reply. *Diss.*

*Greenheart Timber.*—At a meeting of the trustees of the River Weaver Navigation, held at Northwich last week, the relative value of timber for underwater purposes was discussed, and especially that of a kind lately introduced, and so much approved at Liverpool for dock-gates, &c., where it is exposed to the salt-water, that no other kind is used. It is imported I think from Demerara, under the name of Greenheart. It is a very close-grained hard wood, heavy, and difficult to work, more so than Teak; it has an oleaginous appearance, and it is from this cause, as many people think, that the sea-worms never come near it. The question was asked, What is the botanical name of the timber? which no one could answer. It is now used by our navigation engineers, for the purposes of lock gates and all under-water work, to the exclusion of Oak and every other kind of timber. If you are acquainted with this Greenheart, could you, at your leisure, give me its botanical name? *J.* [It is a Demerara tree called Nectandra Rodiæi—a kind of Laurel.]

*Lilium giganteum.*—A plant of this, 7 feet high, and bearing a head consisting of 14 fine blooms, white, with chocolate stripes, has stood out of doors with me during these last three years, as have also the different varieties of Lilium lancifolium, which are showing flower. These latter are grown in open borders at St. John's Nurseries, Wakefield. *Wm. Barratt.*

*Stephanotis floribunda.*—Is this usually found to bear fruit in England? A plant at Fakenham Rectory has a very large and handsome dark green fruit, at present about 3 inches long, resembling in shape a long Plum. The fruit was formed after the plant had rested, and hangs down inside the circular trellis by a short stalk—the trellis being covered outside with a profusion of blossom. The gardener, Mr. Levett, describes the plant as having been kept at a rather low temperature, about 65°, and it seems to me to be rather underpotted. A top-dressing however was given not very long ago. I think it must be a rather unusual occurrence—for the fruit is so extremely handsome as to add greatly to the beauty of the plant. *E. A. M.* [It fruits occasionally. Great care should be taken not to let it be tasted, as it is an acrid poison.]

*New Strawberries.*—I mentioned the following two Strawberries last year favourably, but not as fully proven. I can now give them an excellent character. They are both early and successional to the May Queen. 1. Marguerite (Le Breton): The plant is very hardy, runs early, and quickly establishes itself. The leaves are glazed. It is a great cropper, having almost all large berries. I have measured the biggest berry that I can find. It is in girth 7 inches and a sixteenth. The form of the berry is long-coned or wedge-coned. The flesh is firm and very juicy. This and Eugenie are the two best of all very large Strawberries. Its colour is lively red. The weather has been wet, and probably this is the cause of the only fault (if fault it be), viz., a little deficiency of colouring in the tips. 2. Eclipse (Reeve): This is a very early, firm, rich, and valuable Strawberry. It is not so large as the former, but it is quite large enough. The berries are level and handsome. It is a good cropper. The plant is hardy and of quick establishment. It runs early and plentifully, two matters of the greatest importance in our climate. Comparing these two together, Marguerite is the largest and most juicy, Eclipse is the firmest and most aromatic. I beg to thank Mr. Gloede and Mr. Veitch for sending me two such admirable Strawberries. *W. F. Radclyffe, Rushton.*

*Greek Natural History.*—Having been for some time at Athens last spring, I saw a good deal of Mr. von Heldreich, the curator of the museum and superintendent of the Botanic Garden there, who must be well known to you as the associate of Boissier, and, next to him, probably the highest authority on the plants of the Levant—certainly on those of Greece. You are probably also aware that Mr. von Heldreich supplies specimens of Greek plants, at the rate of 25 francs per 100 species. The revolution in Greece has affected his position unfavourably, one of his offices, that of superintendent of the nursery attached to the Botanic Garden, having been transferred to another person. This has made it a matter of necessity to him to look out for some other scientific position, suited to his acquirements and circumstances; and in the meantime he is anxious to dispose of as many as possible of his dried plants, very few of which, I believe, have reached England. He has also a fine collection of Greek Coleoptera, and many specimens of terrestrial and fresh-water shells, all of which he would dispose of on similar terms. If you would kindly interest yourself in making these facts known in any quarter in which you think that either of Mr. von Heldreich's objects might be promoted, you would essentially serve a very meritorious brother botanist. *Viator.*

## Societies.

ROYAL HORTICULTURAL: *July 7 (Floral Committee).*—Mr. Keynes, of Salisbury, furnished on this occasion most beautiful boxfuls of new Roses, chiefly brilliant crimson kinds. Conspicuous among them were Madame Chas. Wood, Turenne, Alphonse Damazin, La Brillant, Maréchal Vaillant, Prof. Koch, Comte Cavour, Madame Julia Darzins, Madame Claudine d'Offery, François Lacharme, Beauty of Waltham, Olivier Delhomme, Madame Boutin, and Chas. Lefebvre, all high coloured varieties. Associated with these were John Standish, a violet shaded crimson, and Madame Clemence Joigneaux, a kind in the way of John Hopper; but as shown, superior to that favourite variety. From Messrs. Veitch came three plants of Lilium auratum, beautifully in flower, the new Japanese Selaginella involvens, and a variety of it variegated with white. Mr. Salter furnished two or three promising varieties of Pentstemon. From Mr. Perry, of Birmingham, came a charming exhibition of cut Verbenas, among which the most prominent were Foxhunter, brilliant scarlet with

yellow eye; Fairest of the Fair, pure white, with purple eye; Black Prince, deep violet purple, with bold round white eye; Rubens, scarlet with white eye; L'Avenir de Ballent, pink with a rosy eye, (with which Rugby Hero was declared by all present to be identical); and Mauve Queen, all first-class show flowers. Mr. Melville, Dalmeny Park, near Edinburgh, contributed Nemophila auriculæflora, a handsome variety with a well defined pure white margin. The same exhibitor showed with it another pretty dark kind called elegans, of the discoidalis class, to which both sorts belong.

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Linnean: *June* 18.—G. Bentham, Esq., President, in the chair. J. E. Howard, Esq., exhibited specimens of the first Cinchona bark sent over to this country from India, and described its chemical and microscopical characteristics; he stated that he had found the percentage of alkaloids quite equal to that which he had obtained from the bark of the same species grown in South America. J. Harley, Esq., M.D., and E. Head, Esq., M.B., were elected Fellows. The following papers were read:—1. "Note on Cassia moschata, H.B.K.", by D. Hanbury, Esq. This was one of the Cathartocarpus group, a medicinal plant, native of Central America. ——2. "Notes on British Fungi," by F. Currey, Esq. The object of this paper was to give a description of some new Fungi, and to note the occurrence in this country of certain species not hitherto recorded as British. One of the species referred to was the Xylaria tuberosa noticed at p. 364. This plant, which had been found in a Mushroom bed in Cornwall, had been sent to Mr. Currey in a sclerotioid condition by Mr. Berkeley, along with a request that he would endeavour to cultivate it. In December 1862 he accordingly planted it in damp sand, covering it with a bell-glass, and keeping it moist in a warm room in a window facing the south. The fertile branches or receptacles soon made their appearance above the surface of the sand, and by the end of March ripe fruit was produced.——3. "Account of the Botanical Collection made by David Lyall, M.D., surgeon and naturalist to the North American Boundary Commission," by Dr. Lyall. The author gave an account of the general features of the regions traversed and of their botanical aspects, and concluded by some notes on the distribution of the principal trees met with near the 49th degree of latitude, and the elevation to which they reached between the Gulf of Georgia and the Rocky Mountains. Pinus monticola was found to be a common tree in the wooded valleys lying between Colville and the Rocky Mountains. P. contorta was very common in various situations in Vancouver's Island and on the mainland; on the east side of the Cascade Mountains it formed the great bulk of the forest between the altitudes of 4500 and 6500 feet, the size of large trees being about 1½ foot in diameter, and 60 to 70 feet high; on the Rocky Mountains it was observed at 7000 feet elevation. P. flexilis was observed near the eastern summit of the Cascade Mountains, at 7000 feet elevation, where it formed the highest tree of the forest belt, and was exposed to the full force of the storms, so that it became quite stunted in habit, the trunk of the largest being about 15 feet high, bulging out a little at the base, and then tapering rapidly and spreading at top into a number of thickish branches; the seeds of this tree, which are about as large as a Pea, and are sweet and palatable, were said to be eaten by the Indians. P. ponderosa, which extends from the eastern slope of the Cascades to the base of the Rocky Mountains, was found about Colville to rival in usefulness the Douglas Fir of the coast, and to be applied to most of the same purposes. Abies Mertensiana, the Hemlock Spruce of the axe-men, was one of the most common trees on the west side of the Cascades, and was also met with but not so commonly on the eastern side. A. Menziesii was plentiful all along the line from the Pacific to the Rocky Mountains, on the Cascade Mountains as high as 5500 feet, and on the Galton and Rocky ranges up to 6000 feet. The noble A. Douglasii was usually found with it; this last, a very giant in the Lower Fraser River district, became dwarfish on exposed promontories and at great elevations, and ceased to be common at about 5,000 feet of altitude. A. amabilis was not uncommon on the Cascade Mountains up to 6000 feet, and on the Rocky and Galton ranges was found as high as 7000 feet. A. nobilis (or perhaps balsamea) was a large tree on the Cascade Mountains, the wood soft and easily cut by the axe, the bark covered with blisters containing a turpentine or balsam-like fluid. A new Larix, L. Lyallii, occurred on the Cascade Mountains at from 6500 to 7000 feet, at about 6000 feet on the Galton range and at 7000 on the Rocky Mountains. L. occidentalis, which was met with frequently between the Cascade and Rocky Mountains, was from its splitting easily applied to many of the uses fulfilled on the other side of the Cascades by the Thuja gigantea (or "Cedar"), such as making shingles, rails for fences, &c., the Thuja, which grows to a large size and is common near the coast, becoming scarce and diminished in the interior. Juniperus virginiana was found occasionally in Vancouver's Island and along the boundary up to the Rocky Mountains; at Esquimalt one was observed 46 feet high and 5 feet 4 inches in circumference at 6 feet from the ground. Quercus Garryana, the only Oak seen, was plentiful at the S. E. end of Vancouver's Island, but was not found on the mainland anywhere along the 49th parallel. In the district of the Lower Fraser River, the trees most commonly met with were: Abies Douglasii, several specimens of which in the neighbourhood of Sumas were nearly 30 feet in circumference at 5 feet from the ground; A. Menziesii, 25 to 30 feet in circumference, and at least 200 feet high; A. Mertensiana common, and growing to a height of from 150 to 200 ft.; and Thuja gigantea, of which one measured 26¾ ft. in circumference at 6 feet from the ground, and was estimated at 250 feet high. This, and the Douglas Fir, were described as the most useful trees in the coast districts. Various parts of the "Cedar" or Thuja were said to be used by the Indians; the trunk to form their canoes, and when split into slabs, which is easily done, to build their permanent huts or lodges, while the stringy bark and integuments of the root are plaited into useful and ornamental articles of clothing and household utensils.——4. "On Anisostichium, a proposed new genus of Musci;" and 5. "On the Musci and Hepaticæ from the Cameroon Mountains and from the River Niger; both by W. Mitten, Esq.——6. "On the Ink Plant of New Grenada, Coriaria thymifolia," by Dr. Jameson of Quito, in a letter to I. A. Henry, Esq.; communicated by Dr. Hooker. The ink is simply the juice expressed from the berries of the plant. When newly written the colour was said to be reddish, becoming black after a few hours. The characters in Dr. Jameson's letter, which was written with it, were clear and of a purplish black. The writer stated that he generally used it in preference to the commercial article, and found that it was not so apt to corrode the steel pen. This juice is called chanchi. It withstands salt water better than common ink, some documents of the Spanish Government which had been wetted during a tempestuous voyage, having, according to tradition, remained unaltered, while those written with common ink became nearly illegible.——7. "On the relations of Tanalia Philopotamis and Paludomus with a review of the Cingalese species of the latter genera," by H. F. Blandford, Esq.; communicated by Dr. Hooker.——8. "Notes on some new and lately known species of fresh-water Entomostraca," by John Lubbock, Esq.

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York Floral.—The Great Exhibitions at York connected with the annual gala held there have now developed themselves into a recognised institution of the city, and one in which the tradesmen of the town take a lively interest, so much so that 100 of them contributed 5*l.* each for the purpose of forming a guarantee fund towards the expenses of the Exhibition and gala, amounting in all to more than £1000. Unfortunately the weather was not favourable, and many persons were consequently kept away, still in spite of the rain nearly 900*l.* was taken at the gates. We never saw so many gardeners at a flower show as on the second day, and roughly estimate the number at a thousand, from all parts of the Midland and Northern districts, brought in by the numerous excursion trains from Manchester, Leeds, and various other distant towns. In fact, by the gardening fraternity northwards, this exhibition is looked forward to with the greatest interest as the only opportunity many of them have for seeing new things. The exhibition was the best we ever saw out of London, and not inferior to some we have seen there. This opinion was also shared by others who have had considerable experience of flower shows. The Geraniums from Mr. May, and the stove and greenhouse plants from Mr. Cole, Mr. Baines, and others were fully equal to those seen at the great London shows. The prizes throughout the entire schedule were extremely liberal, so much so that Manchester and its neighbourhood contributed four or five exhibitors, and others from a distance also lent their aid towards making a remarkably fine Exhibition. In the Class for 12 Stove and Greenhouse plants, for which four prizes of 15*l.*, 10*l.*, 7*l.*, and 5*l.* were offered, Mr. W. Cole, Nurseryman, Manchester, who was formerly gr. to H. Collyer, Esq., Dartford, and the late Mrs. Lawrence's old antagonist at the London shows, took the first prize, his collection containing an unusually well coloured example of Barnes's variety of Phenocoma prolifera, a noble Pimelea mirabilis, a very fine Aphelexis macrantha purpurea fully 6 feet through and well bloomed and coloured, some fine Azaleas, Allamandas, and Polygalas. Mr. Baines, gr. to H. Micholls, Esq., Manchester, was second, with a lot of very fine plants, amongst which were remarkably good examples of Acrophyllum venosum, and Ixora Bandhuca; 3d, Mr. W. Stewart, gr. to Miss Broadley, Brough, in whose lot were a fine Pimelea Neippergiana, and a monster Dracophyllum gracile, well bloomed; 4th, Mr. Foster, gr. to the Hon. P. Dawnay. In the class for 8 Stove and Greenhouse Plants, the 1st prize, 8*l.*, was gained by Mr. George Haughton, gr. to T. Kendall, Esq., Manchester, who had a superb Franciscea confertiflora, and a beautiful example of Ixora amboinensis; 2d, Mr. Richards, gr. to Lord Londesborough, Grimston Park, Tadcaster; 3d, Mr. Thompson, gr. to J. Hope Shaw, Esq., Leeds; 4th, Mr. Davidson, gr. to J. Yarborough, Esq. Four Stove and Greenhouse Plants: 1st, Mr. Richards; 2d, Mr. Baines; 3d, Mr. Haughton.

The Pelargoniums were both numerous and fine, and they were admirably arranged. Mr. Charles Turner has generally been an exhibitor here, but could not attend this time. Had he done so, he would have found a most formidable rival in Mr. Henry May, nurseryman, Bedale, who exhibited in three classes, and took the first prize in each with plants as fine as we usually see in London. The other exhibitors in these classes were Mr. George Edward, York; J. Richardson, Esq., York; Henry Steward, Esq., York; Hon. P. Dawnay; and B. Hemsworth, Esq.

Some very fine Fuchsias were exhibited, especially six by C. Faber, Esq., York, and three by C. Fletcher, Esq., York, each taking the first prize. The York show hitherto has not been remarkable for pot Roses, although most liberal prizes have been offered. On this occasion, however, six really good well-grown plants, exhibited by Mr. J. Douglas, York, well deserved the first prize. A finer lot of Orchids than we have ever seen at York before was staged on this occasion. In the class for 6, Mr. Remmery, gr. to T. Jones, Esq., Manchester, was first with Phalænopsis grandiflora, a very fine example of Backhouse's variety of Lælia purpurata, Saccolabium ampullaceum, Cattleya Mossiæ magnifica, and Cypripedium barbatum giganteum; 2nd, Mr. Baines, gr. to H. Micholls, Esq.; 3rd, Mr. Baines, Museum, York. Some very fine Azaleas were exhibited the 1st and 2nd prizes being taken by Mr. W. Cole and Mr. Baines, both from Manchester. Some exceedingly fine ornamental plants, which took 1st and 2d prizes respectively, came from Mr. Cole and Mr. Baines, and there was also a liberal display of fine Ferns. Some good fruit was exhibited, and amongst Grapes, Josling's St. Albans, in very fine character, exhibited by Mr. Gray, gr. to the Earl of Zetland, took the 1st prize. These were entirely free from cracks, and both bunch and berry were fine. Mr. Gray also contributed the Golden Hamburgh, which took the 1st prize in the class for new Grapes. As the merits of this Grape are so much disputed, perhaps Mr. Gray will favour the readers of the *Gardeners' Chronicle* with his experience of it. In Pines the Smooth-leaved Cayenne took the first prize: and Mr. Richards, gr. to Lord Londesborough, took the first prize for a collection of fruit; Mr. Gray, 2d, and Mr. Davidson, gr. to G. J. Narburgn, Esq, 3d.

The exertions of the Committee in their arduous struggle to establish a first-class summer show in the north of England should have the pecuniary support of the nobility and gentry, for it is impossible for their gardeners to go to these exhibitions without leaving them wiser men. This exhibition was one of remarkable excellence, all the arrangements reflecting great credit on Mr. John Wilson, the Secretary, and the executive committee. The seven spacious tents used were lofty, admitting plenty of light, and allowing plenty of room to move about. The circular tent in which the stove and greenhouse plants were grouped, and the large Geranium tent, were by far the most elegant we have ever seen at a flower show. Let us hope York will continue these floral treats, to which we wish every success.

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## Notices of Books.

*Open Air Grape Culture: a Practical Treatise on the Garden and Vineyard Culture of the Vine, and the Manufacture of Domestic Wine. Designed for the Use of Amateurs and Others in the Northern and Middle States, &c.* By John Phin. New York. C. M. Saxton, 1862. Small 8vo.

The art of War, we regret to say, has been more cultivated lately in America than any of the arts of Peace, and we should have been glad indeed if we could have hailed this work as the harbinger of a new order of things, and a proof that our brethren had learned wisdom in the camp, and were now about "to beat their swords into ploughshares, and their spears into pruning hooks." Although this, unfortunately, is not the case, we are still happy to find there are some of our transatlantic friends who take an interest in the quiet pursuits of horticulture, and are desirous of imparting to others the knowledge they have themselves acquired, not of—

"Works indeed,
That ask robust, tough sinews, bred to toil,
Servile employ; but such as may amuse,
Not tire, demanding rather skill than force."

This we consider to be the object of the present work, which is stated to have been undertaken, not so much in the hope of adding anything new to what is already known of the culture of the Vine, as with the view of collecting the scattered information which exists on the subject in periodicals and other works, and of throwing it into such a shape as may prove useful to the amateur and the Vine dresser.

As an excuse for making an attempt of this nature by one who is neither a native of the country, nor a professional gardener, the author informs us that, with a few honourable exceptions, gardening as a profession is not followed in America by the same able and intelligent class of the community which in Great Britain makes it the study of its life; he therefore trusts to be pardoned as an amateur, if in the intervals of more pressing engagements, he ventures to give the result of his experience to his fellows. While we duly appreciate the motives which appear to have animated the author in the performance of his task, and give him credit for the pains he has taken to point out and

explain all that he considered of importance to be known respecting the culture and management of the Vine, we must at the same time remark, that like every compilation made by a person who happens to have derived his knowledge from books instead of from practice, the work will be found to contain a great deal of matter, much of which is indifferent and uninteresting. "On the general subject," we are told, "Lindley's 'Theory of Horticulture' has been the guide and standard, while for chemical facts and principles, the work of Gmelin, published by the Cavendish Society of London, has been relied upon." The following are a few extracts—they may amuse if they do not instruct.

After noticing the age to which the Vine has been known to attain, and the great size in England of the Northallerton Vine, as described by Speechly; and of the one at Hampton Court, from which, our author says, "George III. once directed 100 dozen bunches of Grapes to be cut and given to the players of Drury Lane Theatre who had greatly pleased him," we are informed that—"in America very large Vines are to be found. At Monticito, four miles from Santa Barbara, there is one that is probably the largest in the world. Its dimensions and yield would be incredible were it not that my informant is a man of veracity, and he spoke from personal observation. It is a single Vine, the main stock being 10 feet in circumference. It is trained upon a trellis 60 feet in diameter. My informant with another person counted 7,000 bunches, and the estimated yield was 18,000 lb. of fruit. Can this be beaten?"!!

Various attempts have been made to establish Vineyards in America, but after several years trial it was found that the climate or soil was unfavourable to the growth of European varieties, and they have gradually ceased to be cultivated. "The earliest attempt to establish a Vineyard in the British North American colonies was made by the 'London Company' in Virginia prior to 1620. By the year 1630 the prospects were sufficiently favourable to warrant the importation of several French vignerons, who, it was alleged, ruined them by bad management."

"The great turning point of Vine culture in America was when the Catawba Grape was introduced by Major Adlum, of Georgetown, D.C., who considered that in so doing he conferred a greater benefit upon the American nation, than he would have done by paying off the national debt."

With regard to what is stated respecting the choice of soil, and its preparation for Vines, as well as with reference to the time and method of planting them, we do not find anything deserving of notice, especially as the larger portion of the directions that are given on those points and their general management have been extracted from various horticultural publications, with which every one in England worthy of the name of a gardener is expected to be familiar.

As the European varieties of the Vine would appear to be too tender to endure the rigour of an American winter without protection, the native Grapes are brought into cultivation and used for dessert, as well as for the purpose of wine making. Of these a tabular descriptive catalogue is given of nearly 300 varieties, which have originated from Vitis Labrusca, and V. vulpina or Fox Grape; and very bad they are. Those most esteemed at present are the Catawba, Concord, Delaware, Diana, and Isabella.

"*The Catawba* is the great wine Grape of the south. The berries are roundish-oval, pale red, covered with a lilac bloom—juicy, sweet, and musky.

"The *Concord* is valuable from its quality of ripening ten days or so before the Isabella. Berries globular, almost black. Flesh moderately juicy, very sweet, with considerable toughness and acidity in its pulp, becoming foxy when long kept.

"The *Delaware* has been supposed by some German Vine dressers to be the Traminer or the Riesling; but the American pomologists consider it to be a native variety. The berries are small and round, of a beautiful flesh colour, very translucent. The pulp is exceedingly sweet, but sprightly, vinous, and aromatic. This has been characterised as the highest flavoured and most delicious hardy Grape.

"The *Diana* is a seedling from the Catawba, which it resembles; but has its fruit a shade darker when ripe.

"The *Isabella* is the most reliable Grape for general cultivation, and is therefore more widely cultivated in the North than any other variety. The berries are oval, pretty large, dark purple, nearly black. Flesh tender, juicy, sweet and rich, with slight musky aroma."

As it is from these, and other varieties of native Grapes, that the wines of America are made, we cannot be surprised that they should have a very different flavour from the wines of Europe. Indeed we should think it almost impossible that a really good wine could be manufactured from fruit possessing the peculiar foxy taste for which American Grapes are so remarkable. Our author, however, is of a different opinion, and presents us with extracts from letters of President Jefferson to Mr. Adlum on the subject, in proof of the fact that wine of more than ordinary quality was made in America upwards of 50 years ago. This was a dark red wine resembling Burgundy. "Still more recently," we are told, "Mr. Longworth has succeeded in the manufacture of fine Champagne wines which are valued as high as any except the very finest brands of foreign wines."

With regard to the method of making wines, a long extract is given from Barry's History of Wines, published in London in 1775, and various recipes are added, containing such directions for the making of Currant, Elderberry, Orange, and other sorts of wine, as we usually meet with in our cookery books.

In Appendix No. 1, the Ohio system of Vine culture is explained, although it is said to be generally giving place to the trellis system, which seems better adapted to the habit of the native Vines. We must confess it is quite an original mode of training—which few would be inclined to imitate. As examples of American Vineyard practice we have the accounts which have appeared in newspapers of Dr. Underhill's Vineyard at Croton Point, Judge Conklin's on Long Island, and one or two others—all apparently very much inflated.

Appendix No. 2 contains a translation from Du Breuil's Cours d'Arboriculture, of the Thomery system of Grape Culture, which although apparently new to our author, was figured and fully described in Loudon's Gardener's Magazine in 1829.

In conclusion we will merely observe that as a specimen of American printing the work is highly creditable; but we cannot say as much for the figures with which it is said to be illustrated "from carefully executed designs, verified by direct practice." They are among the worst specimens of wood engraving we have seen for many a day.

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*Warner's Select Orchidaceous Plants.* We find that our notice of this superb work has unintentionally fallen into arrear. As usual, Fitch's admirable drawings are its glory, especially since his artistic skill is here limited to most gorgeous specimens of this unrivalled family. In the 3d number we have the well-known *Epidendrum prismatocarpum* and *Lycaste Skinneri*, with which are associated what are called *Aerides nobile*, merely a form of *A. suavissimum*, and *Lælia Turneri*, a wonderful thing even among Lælias, with huge intensely purple flowers; in some collections this is called *L. Farmeri*. The 4th number commences with such a specimen as we never saw of *Epidendrum nemorale*, with a raceme 15 inches long. To this succeeds an equally grand *Saccolabium violaceum*. Then comes such an example of *Cypripedium hirsutissimum*, an Indian species, as no one could have produced twenty years ago; and the number closes in a blaze of colour proceeding from a *Cattleya* called *Dawsoni*, which is probably (like a good many more?) a wild hybrid, and possibly between *C. labiata* and *Mossiæ*, as Mr. Warner suggests. The petals measure 7 inches from tip to tip, and, as well as the sepals, are a delicate violet tinged with rose, while the broad double-lobed lip has a face of the deepest crimson—certainly the finest species among its noble relations.

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Books Received: *The Mines of South Australia*, by J. B. Austin, 8vo, pp. 109; a very full account of the mineral resources of the colony, with a map.——*A Northern Plea for Peace*, Mackintosh (a pamphlet). This is an address to the Democratic Central Committee sitting at Philadelphia, by the Hon. W. B. Reed, of Pennsylvania, "a greater lover of truth, justice, and the Constitution than of the departed 'Union.'"——*Walpers' Annales Botanices Systematicæ*, vol. 6, part 4, entirely occupied by Orchids.——*Linnæa*, vol. 36, part 1, containing Euphorbiaceæ, from the pen of Dr. J. Mueller.——*New Materials for the History of Man*, by R. G. Haliburton, Halifax, N.S. (a pamphlet). A very curious brochure of 14 pages.——*Watts' Dictionary of Chemistry*, Part V. (Longmans). "We have here the first five parts of a work which, if completed upon the same scale and in the same style of excellence as it has been begun, will be one of the most important, in respect both of comprehensiveness and of real scientific value, that the chemical literature of our language possesses." Such is the opinion of a very judicious contemporary, with which we wholly agree.——*Popular Science Review*, No. 8 (Hardwicke), contains among other things a brief but good paper on the antiquity of man, by Mr. Leifchild. Mr. Samuelson announces his resignation of the Editorship.

## Garden Memoranda.

Battersea Park.—Few of our more recently formed public parks present a better appearance at the present time than this. With the exception of a piece of rockwork on the east side most of its more prominent features may now be said to be finished. The enclosed portion contains it is said rather more than 70 acres, of which about 20 are occupied by water in the shape of a lake, interspersed with islands of considerable size. Round the water is a well made gravel walk nearly 20 feet in width, flanked here and there with masses of Rhododendrons and other American plants, intermixed with Dahlias, which when in flower must have a very fine effect. On the north side of the lake the walk just mentioned suddenly assumes the form of an avenue, which runs in a straight line from this point towards Battersea, and is lined on each side by Elms 21 feet apart and 9 feet from the side of the walk. These are pretty well matched as to height, and when large enough will render this part of the park a cool and agreeable promenade in summer—a thing much wanted, for at present there is shelter neither from sun nor rain.

A broad drive encircles the whole park, or nearly so, immediately within the boundary fence, and in a serpentine form connects the lake with the river pier. At the latter point this drive runs nearly parallel with the avenue just named, in a straight line along the bank of the Thames, in the direction of Battersea. Sloping banks, planted with Evergreens, occupy the park side of the drive; while the centre and south-west side is devoted to sheep pasturage and to cricket grounds. Margins of walks and edges of shrubberies are everywhere beautifully ornamented with flowering plants, such as Larkspurs, Pinks, Scarlet Geraniums, double white Feverfew, and yellow Calceolarias; and here and there these and other plants of a similar character are planted so as to form beds. Of the latter, a charming series exists close to the refreshment tent, and again on the west side towards Battersea, where we noticed a large circular mass of the chocolate-coloured Coleus Verschaffelti, apparently in good health, and presenting a rich and beautiful appearance. An edging of the bright red Amaranthus melancholicus ruber is also equally handsome. Round these and elsewhere the Grass is neatly cut and otherwise kept in good order. Opposite an entrance on the east side a large bed of Moss Roses, beautifully in bloom, is just now an object of general admiration; and further on is a well kept and very dressy enclosed flower garden, the private retreat, we suppose, of one of the gatekeepers.

The treatment of the water and its islands does credit to the artist who designed them. All they now want is plenty of waterfowl to give them interest and life. The walks too are well made, but very rough, an evil, however, which the passage of a roller over them in wet weather would soon remedy.

In a crescent-shaped border blue Lobelia and a variegated Geranium are planted alternately, in short lines running across the border diagonally, an arrangement which when viewed sideways is very effective, but scarcely so much so when looked at in front or in the direction in which the lines run. This border, which forms a background to a series of flower beds, is not more than 4 feet in width, and well backed up by lines of yellow Calceolarias, pink Geraniums, and a showy single yellow Chrysanthemum. These and other floral decorations with which this park is pretty liberally supplied, are now in great beauty; and altogether the place is one sufficiently attractive to form a daily resort for hundreds of visitors.

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## Miscellaneous.

*A Strawberry in Japan.*—A nursery gardener who brought me a collection of plants to-day for sale, had amongst them a genuine English Strawberry covered with ripe fruit. I have already had occasion to notice, in an earlier chapter, several foreign plants which had been introduced from Western countries to Japan, as a proof of the enterprise of the people, but I was not aware until now that the real English Strawberry was also here. A species of Fragaria is common, in a wild state, on the banks and hill-sides, both in Japan and China; but it has nothing to do with the species we cultivate in Europe, and is perfectly tasteless. Here, however, was the real "Simon Pure;" and as many of the foreign residents had gardens round their houses, this discovery would enable them to have their Strawberry-beds, and to enjoy the old home luxury of Strawberries and cream. I gladly purchased the plant in question, and carried it in triumph to the house of my friend Mr. Ross, with whom I was to dine. How we placed it in the centre of the table, how we admired it, and what old scenes and old memories it brought before us, may be imagined by those who have been long resident in such far off lands as Cathay or Zipanga. *Fortune's "Yedo and Peking."*

*Caoutchouc.*—When we consider the vegetation in the tropical zone, it is not to be wondered at that so many plants of those climes abound with juices of a variety and richness unknown to those of the temperate latitudes. The resins and gums which our indigenous trees produce, either in smaller quantities or fit only for common use, are there endowed with higher virtues, and ennobled, as it were, by the rays of a more powerful sun. Sometimes they exude spontaneously through the rind and harden in the atmosphere; more frequently a slight incision is required to make the sap gush forth in which they are dissolved, but in every case they require but trifling labour for their collection. Many of them have medicinal qualities, others are esteemed for their aromatic odour, but none ranks higher in a commercial and technical point of view than Caoutchouc or Indian rubber, which was first brought from South America to Europe as a great curiosity at the beginning of the last century, and is now absolutely indispensable for a thousand different uses. Nothing was known even of its origin until the year 1736, when the French naturalist La Condamine, while exploring the banks of the Amazon, discovered that it was produced by a tree which the Indians called Neve, and which the learned have since introduced into the family of the Euphorbias under the name of Siphonia elastica. It grows to the height of about 60 feet, acquires a diameter of about 24 inches, and is found everywhere scattered through the primitive forests along the borders of the rivers in Guiana and North Brazil. The resin is collected by the Indians in the following

simple manner. With a small hatchet they make deep and long incisions in the rind, from which a milky sap abundantly exudes. A small wooden peg is then fixed into each aperture to prevent its closing, and a cup of moist clay fastened underneath, which in about four or five hours is filled with as many table-spoonfuls of the juice. The produce of a number of incisions having been gathered in a large earthen vessel, is then carried to the hut, where it is spread in thin coatings upon moulds made of clay, and dried, layer after layer, over a fire until the whole has acquired a certain thickness. When perfectly dry the clay form within is broken into small fragments, and the pieces are extracted through an aperture, which is always left for the purpose. In the caoutchouc the original pure white colour of the resin naturally changes into black, from the smoke to which it is exposed while drying. It is generally imported in the form of bottles, or in large flat pieces; frequently also in a liquid state, in hermetically closed vessels. The Indian caoutchouc-gatherers or seringueros could easily collect 16 pounds daily, but as they are extremely indolent, the average produce hardly amounts to one-fourth of that quantity. *Hartwig's Tropical World.*

*Xanthoxylon fraxineum.—Prickly Ash, or Toothache Shrub.*—The bark of this shrub has been employed in domestic practice in the States of North America as long as we have any authentic records. The author of 'Positive Medical Agents' says: "As a domestic medicine it is much used throughout the country, especially by the negroes, who make a kind of bitters with it, which they drink at the spring of the year. In domestic practice, it is used, either in tincture or decoction, as a purifier of the blood. We had our attention first called to its virtues by seeing it used in domestic practice. It was introduced to the profession as early as 1788, but was not used to any extent, we believe, until about 1820; since when it has gradually gained favour, and is now regarded as a reliable agent by all classes of practitioners." It has long been officinal in the United States Pharmacopœia, where it is included in the Secondary List of the Materia Medica. It is chiefly valued in North America as a remedy in chronic rheumatism, in which disease it is reputed to be highly serviceable. In its general action it is commonly regarded as resembling mezereon and guaiacum. The bark of the Prickly Ash, and the resinoid obtained from it, termed Xanthoxylin, which is employed by the eclectic practitioners, have been recently imported into this country, and introduced to the notice of the regular medical practitioners; and as we have but very few articles of the Materia Medica which possess altogether their reputed remedial virtues, they are well worthy of, and it is very desirable that they should undergo an extended trial, with a view of testing those properties that have been ascribed to them, both by the qualified medical practitioners and by the eclectics in North America. *Pharmaceutical Journal.*

*Climate and Gardening of Cornwall.*—In the Penzance district it would appear that a routine of Broccoli (or Cabbage) and Potatoes can be grown on the same land for an indefinite time. With the rare exception of Russian Wheat, or an occasional crop of Mangel Wurzel, taken after Broccoli, the succession is continued year after year without any apparent injury to land or crop. It is not, however, to be expected that two such scourging crops can be continuously taken without heavy and frequent manuring. Accordingly we find that an acre of Cabbages occasionally receives not less than ten tons of rags, at a cost of 3*l.* 10*s.* a ton, and half a ton of guano, say 6*l.* 10*s.*, or upwards of 40*l.* per acre, while the same quantity of guano and three tons of rags are given to the Potato crop. It will naturally be supposed that there must be something peculiar in the climate of Penzance and its neighbourhood to account for the success of this particular branch of husbandry. The common notion that Cornwall is a warm county will be found to be very erroneous, for the greatest heat at Penzance is far below that of London, though the amount of frost is much less. The equality of temperature and the small difference between that of night and day, coupled with the soft breath of the prevailing westerly winds, saturated with the moisture which they have gathered in their passage over the warmer waters of the Atlantic, cannot fail of being highly favourable to the rapid growth of vegetables such as Broccoli and early Potatoes, neither of which, be it observed, are brought to market in a fully ripe state; so that the climate which is actually unfavourable to the growth of first-rate Wheat, the seed of which requires the full blaze of a bright sun to bring it to perfection, contains all the elements of success for the profitable cultivation of early vegetables. *Rev. T. Phillpotts in Journal of Bath, &c. Society.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Shading should be used sparingly except on bright days, for during dull unsettled weather plants require all the light that conservatories whose roofs are partially shaded by twiners afford. The beauty of most soft-wooded plants will be considerably prolonged by the use of weak manure water, which should be given frequently wherever it can be done. Indeed, such things as Achimenes, Clerodendrons, &c., may be had in full beauty from June to October, through being liberally supplied with liquid manure, but this must not be given too strong. Keep the atmosphere as moist as can be done; but avoid damp by giving sufficient air to cause a gentle circulation, and spare no attention to keep the plants clear of insects. Stock for autumn and winter flowering will require careful attention, to get it sufficiently forward. Chinese Primulas, especially the double varieties, if at all backward, should be placed in a close frame, and shaded from the sun, where they will make rapid progress, particularly if the pots stand on a slight bottom-heat. Cinerarias for early flowering should also be potted and started at once, choosing the strongest suckers and placing them in a close shady frame till rooted. These are sometimes very subject to the attacks of thrips at this season; but if they are kept cool and moist, and fumigated occasionally, there need be no fear of their not being clean and growing vigorously. Stock in cold pits will now be growing freely, and should be frequently examined, to see that all is going right; for plants, in rapid growth, very speedily suffer through any neglect in watering, or from the attacks of insects. Examine young specimens that were potted early in the season, and shift at once such as require more pot room, so as to get the pots moderately well filled with roots before winter, in which state they are much more easily managed than when either over or under potted. Leschenaultias should be carefully examined for green-fly, and fumigated at once if at all infested, and the flowers should be regularly picked off young plants of these as they appear. Chorozemas, Bossiæas, &c., must also be frequently examined for red spider, and should be laid upon their sides on a clean mat and thoroughly washed with the syringe, repeating this as often as may be necessary to thoroughly eradicate the pest. Young specimens of valuable hard-wooded plants should be carefully trained, keeping the shoots nicely tied out or pegged down in order to secure close compact foundations, upon which future success very largely depends. Isolepis gracilis, the red-leaved Amaranthus melancholicus ruber, and variegated Pelargoniums make capital edging plants for conservatory clumps, and should be largely employed for that purpose.

### FORCING DEPARTMENT.

PINERY.—So far this has been a most favourable season for securing well-ripened high-flavoured fruit; such varieties, however, as are apt to spoil at the bottom before the upper pips are coloured should be kept as dry as possible immediately that they show the slightest signs of colouring, keeping the atmosphere also as dry as can be done without injury to the rest of the stock; slight fires may be used on cloudy days, giving a little air to dispel damp and to keep the atmosphere in motion. Look well to securing a supply of fruit for late autumn and early winter use, which is sometimes a difficult matter. Prepare the plants for showing fruit by keeping them dry at the root for a fortnight or so, after they appear to have completed their growth, and expose them fully to the sun, in order to give them a rather severe check. Those expected to show fruit in October and November should be encouraged to make free growth for the present. Be very careful in supplying young stock with water, as any neglect in this respect will probably result in its showing fruit prematurely; and attend to potting suckers in succession as regularly as they can be obtained.

VINERIES.—Grapes intended to hang through the winter should be thinned very freely, and, if necessary, they should be gone over a second time, leaving them so that the berries, when fully swelled, will scarcely touch each other. Only a moderate crop should be left on the Vines; for, to ensure success in keeping Grapes fresh and in good condition till next March, the Vines must be in first-rate health. Keep the atmosphere of houses where the fruit is colouring in active circulation, leaving a little air on at night, to prevent damp. If red spider appears inclined to be troublesome, wash the pipes, &c., with a mixture of soot and lime, and if the colour is objectionable, add a little soot.

FIGS.—Trees that have been kept dry while ripening the first crop, and are now cleared, should be well watered at the root, and if there is any appearance of red spider, the leaves should be thoroughly washed with the engine. Give manure-water to trees showing a heavy second crop, and keep the atmosphere moist by frequently sprinkling the passages and borders, &c. Keep the shoots thin and regularly tied in, so as to avoid confusion, and expose all parts of the tree equally to light. Where the fruit is ripening attend to previous directions, and keep the atmosphere and borders as dry as can conveniently be done. Assist trees in pots by giving them a liberal supply of manure water.

### FLOWER GARDEN AND SHRUBBERIES.

Go over the beds frequently, and keep the young shoots of Verbenas, &c., nicely regulated and pegged down until the ground is fairly covered, after which the shoots may be allowed to grow more at liberty. On poor dry soils two or three applications of weak manure water, given at intervals of a few days, and when the ground is moist, will greatly assist in getting the beds covered without loss of time. See that Dahlias and Hollyhocks, &c., are securely staked and kept properly tied as they advance in growth. Manure water will also be useful to these, unless the soil was properly prepared for them. Remove dead flowers from Roses, and give autumn-flowering varieties plenty of manure water, in order to keep them in vigorous health, and secure plenty of wood for blooming in autumn. Those budded on the Dog Rose and Manetti must be kept clear of suckers, which, when allowed to grow, weaken the head, and have an unsightly appearance. Give plants, infested with green-fly, a liberal washing with the engine, or syringe them with tobacco water. Mildew is sometimes very troublesome after this season, and no time should be lost in dusting infested plants, if any, with sulphur, for the enemy will soon spread and destroy the foliage, and ruin the trees for blooming in autumn. Proceed with the propagation of herbaceous plants as expeditiously as possible, in order to get this work out of hand, and the glasses, &c., at liberty. Take advantage of showery weather to give the walks and lawns a good rolling, and endeavour to keep the Grass short and neatly mown, for nothing looks worse than badly kept Grass.

### HARDY FRUIT AND KITCHEN GARDEN.

The present bright weather must be very unfavourable to the growth of Strawberry runners, nevertheless a sufficient stock for forcing next season should be potted, and placed in a close shady frame, until the plants get established, which will soon be the case. Prepare ground for fresh plantations by heavily manuring and trenching; or if ground cannot be obtained at once, select the strongest runners, and plant them on a shady border in rich soil, to be transplanted with balls early next month. Asparagus beds can hardly have too much manure water from the stable or farm-yard tank during the present month. On dry friable soils salt may be applied with advantage, but this should not be used on strong adhesive soils, as it keeps the ground wet in winter and rots the roots.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending July 8, 1863, as observed at the Horticultural Garden

| July. | | Moon's Age. | Barometer. | | Temperature. | | | | | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Of the Air. | | | Of the Earth | | | |
| | | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. | 2 | 16 | 29.999 | 29.949 | 78 | 45 | 60.5 | 62 | 60 | S.W. | .01 |
| Friday | 3 | 17 | 30.149 | 30.098 | 79 | 41 | 60.0 | 62½ | 60 | W. | .00 |
| Satur | 4 | 18 | 30.223 | 30.211 | 80 | 45 | 62.5 | 63 | 60 | W. | .00 |
| Sunday | 5 | 19 | 30.262 | 30.220 | 81 | 50 | 65.5 | 63 | 60 | N.E. | .00 |
| Mon. | 6 | 20 | 30.152 | 30.008 | 81 | 45 | 63.0 | 64 | 61 | E. | .00 |
| Tues. | 7 | 21 | 30.020 | 29.978 | 82 | 42 | 62.0 | 64 | 61½ | S.W. | .00 |
| Wed. | 8 | 22 | 30.135 | 30.105 | 76 | 43 | 59.5 | 64½ | 61½ | S.W. | .00 |
| Average. | | | 30.134 | 30.081 | 79.3 | 44.4 | 61.8 | 63.3 | 60.5 | | .01 |

July 2—Slight rain, fine; cloudy and windy; fine.
— 3—Very fine throughout.
— 4—Very fine; hot and dry; very fine.
— 5—Very fine; exceedingly fine.
— 6—Very fine throughout.
— 7—Very fine; hot and dry; exceedingly fine.
— 8—Overcast; very fine.
Mean temperature of the week ½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending July 18, 1863.

| July. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 12 | 75.4 | 50.7 | 63.0 | 12 | 1.10 in. | 1 | 2 | 5 | — | 6 | 10 | 8 | 6 |
| Mon. 13 | 75.8 | 51.8 | 63.8 | 13 | 0.92 | — | 3 | 5 | — | 2 | 22 | 4 | 1 |
| Tues. 14 | 76.1 | 51.5 | 63.8 | 14 | 0.64 | — | 3 | 3 | 1 | 6 | 13 | 10 | 1 |
| Wed. 15 | 75.8 | 50.3 | 63.1 | 20 | 1.46 | 1 | 4 | 3 | — | 4 | 18 | 6 | 1 |
| Thurs. 16 | 75.8 | 50.1 | 63.0 | 15 | 1.60 | 2 | 3 | 4 | — | 2 | 18 | 7 | 1 |
| Friday 17 | 75.8 | 52.0 | 63.9 | 13 | 0.56 | 2 | — | 2 | 2 | 4 | 17 | [illegible] | 3 |
| Satur. 18 | 74.7 | 51.0 | 62.9 | 18 | 1.22 | — | — | 1 | 1 | 5 | 19 | 8 | 4 |

The highest temperature during the above period occurred on the 14th, 1847—therm. 93½ deg.; and the lowest on the 13th, 1840—therm. 41 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

FUNGI: *R W.* Your Fungus is *Sphærobolus stellatus.* Consult our leading article, June 13, 1863. *M J B.*

INSECTS: *St. Omer.* The beetles found on your Standard Apricot are the common Midsummer beetle, Melolontha solstitialis.

NAMES OF FRUITS: *G. C. B.* Your Strawberry was out of condition from carriage; but we believe it is the Admiral Dundas, under which name you received the variety, it appears, correctly.

NAMES OF PLANTS: *F H.* The Blue variety of Anagallis arvensis.—*G. Wilson.* To name things in that way is worse than ignorance, it is stupidity. But it is contrary to etiquette for us to criticize such works.—*Liverpool.* A quite new and very pretty Lælia. Whence comes it?—*G.* Planera Richardi has not cordate leaves. This has. Therefore it cannot be Planera Richardi. It looks more like some Cratægus.—*Photos.* Calyptranthes Chytraculia.—*A Constant S.* Echium vulgare and some double Campanula—probably persicifolia—without leaves.—*Juliet.* Rosa sepium.—*Agalmyla.* Erodium maritimum, and Tillæa muscosa.—*G.* It is a cone of Abies Douglasii.—*J. D.* No one ought to be expected to name the mere leaves of Endogens. The thing is impracticable.—*W C B.* Next week.

PLANTING: *Enquirer.* In heavy wet land they will rot in winter; on light well drained land they will not. Better adhere to the usual practice. Pollard any time in winter. If the land is properly trenched you need not fear the few bits of roots that may remain. Will not Loudon's Encyclopædia of Gardening meet your wants? or his Illustrations of Landscape Gardening. Nothing is gained by such works being coloured—except expense.

TREE FERNS: *J B B.* The highest price fetched last Saturday by the Tree Ferns from Melbourne was 8*l.* 5*s.*; the lowest was 17*s.*

VINE LEAVES: *H H H.* The excrescences on your Vine leaves are not the work of insects. They are very common, especially on Vines in pots, whose roots have occasionally been allowed to get quite dry. They are not we believe injurious, though they always make one suspicious that there is some defect either in the roots, or the condition of the air, which may ultimately be hurtful in another direction. *M J B.*—*H H H.* Your Vine leaves are affected by a vegetable disease, the pustules not being produced by the attacks of insects. *W.*

MESSRS. J. CHALMERS MORTON, Streatley, near Reading, and J. THORNHILL HARRISON, M. Inst. C.E., Frocester Court, Stonehouse, Gloucestershire, AGRICULTURAL ENGINEERS, undertake reports on the Condition of Landed Property, together with the Direction of Land Drainage, Roads, Embankments, Farm Buildings, and other works necessary for its permanent improvement.

**Land Drainage, and other Agricultural Improvements.**

MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5s. per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

A BAZAAR at TIPTREE HALL, under distinguished Patronage, will be held on THURSDAY and FRIDAY, July 30 and 31, in aid of the Funds for a SCHOOL, now erecting in connection with the Church and Parsonage of St. Luke's, Tiptree Heath, both of which have been recently built and endowed, much to the comfort of a once neglected neighbourhood.

The Admission to the Bazaar will be 1s. on the First Day, and 6d. on the Second.

The Admission Ticket will permit the bearer to inspect the Farm, Irrigation, Machinery, &c.

There will be a Military Band, also Refreshments at moderate prices.

Parties intending to come from the Metropolis, or by Rail, are requested to signify their intention to Mr. ALDERMAN MECHI, Tiptree Hall, Kelvedon, Essex, in order that sufficient Public Conveyances may be provided at Kelvedon Village (4½ miles) to bring Visitors over.

Ladies desirous of patronising or contributing to the Bazaar will be kind enough to communicate with Mrs. MECHI, who will thankfully acknowledge any assistance given.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

*Resident Professors.*

PRACTICAL AGRICULTURE.

J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 12 Lectures on Agricultural Machines.

CHEMISTRY.

ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.

R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Soc.

VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.

W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services :—

AGRICULTURE.

HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
ROBERT RUSSELL, Editor of the Transactions of the Highland and Agricultural Society—A Course of Lectures on Manures.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

The College will RE-OPEN AUGUST 10th. For further particulars apply to the Principal.

ROYAL AGRICULTURAL COLLEGE.—A DINNER, as a mark of public respect to the late Professors at the Agricultural College, will take place in the CORN HALL, CIRENCESTER, on TUESDAY NEXT, the 14th July, at 6 o'clock. The Shareholders of the Institution, the late and present Students, and the Inhabitants generally of Cirencester and its neighbourhood, are hereby invited to attend.

Tickets, 4s. each, to be obtained of Mr. BINGHAM, at his Restaurant, Cirencester. Provision has been made for a large party, but in order to facilitate the arrangements and prevent disappointment, it is particularly requested that the Tickets be taken on or before Monday evening.

The following Requisition having been presented to THOMAS CROWTHER BROWN, Esq., that gentleman has consented to preside on the occasion :—

"Sir,—We, the undersigned, Shareholders in the Royal Agricultural College, and inhabitants of Cirencester, desiring to show some public mark of respect to Dr. VOELCKER, Professors BUCKMAN, COLEMAN, and BROWN, on their retirement from their long and honourable connection with the College, respectfully request you to oblige us by taking the Chair at a Public Dinner in the Corn Hall, Cirencester, to be given in honour of those gentlemen.

"To T. C. BROWN, Esq."

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|---|---|
| THOMAS WARNER | DAVID RUCK |
| GEO. FRED. NEWMARCH | JOHN RICHD. SMITH |
| JOSEPH SEWELL | ROBERT F. DARBY |
| THOMAS BOWLY | J. S. TANNER |
| THOS. C. BROWN | E. H. EDGELL |
| R. K. HABGOOD | RICHARD BUDD, Sen. |
| WILLIAM WHITE | WM. HODGES |
| R. ELLETT | E. HAMPTON |
| THO. COMMELINE | JOHN MULLINGS |
| JAS. CREESE | ERNEST BOWLY |
| CHARLES HOARE | WILFRED BOWLY |
| THOMAS SKINNER | W. L. COOKE |
| T. MAURICE | THOMAS STRONGE |
| HENRY HOWELL | CHARLES BLACKWELL |
| JOHN TAYLOR | ROBERT NEWCOMBE |
| WILLM. SLATTER | JOHN PARRY |
| JOHN HEDGES | J. W. MASON |
| JOHN LANE | H. G. KETWORTH |

**Agricultural Hall.**

A POULTRY, PIGEON, RABBIT, FLOWER, FRUIT, and VEGETABLE SHOW will be held at the AGRICULTURAL HALL, ISLINGTON, the LAST WEEK in AUGUST.

PRIZE LISTS and further particulars will shortly be issued.
By Order, S. SIDNEY, Secretary.

YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW at SOUTH STOCKTON-ON-TEES, on AUGUST 5, 6, and 7.

The ENTRY CLOSES on July 18. For Forms of Entry, apply to JOHN HANNAM, Secretary.
Kirk Deighton, Wetherby.

MANCHESTER and LIVERPOOL AGRICULTURAL SOCIETY.
GRAND SHOW at BIRKENHEAD (in the Park) on SEPTEMBER 8, 9, 10.
Prizes amounting to £1400.
ENTRIES CLOSE on August 10.

For Prize Lists, Regulations, &c., apply to Mr. WM. HENDERSON, Local Secretary, Birkenhead, or to T. B. RYDER, Secretary, 57A, Church Street, Liverpool.

**Grand Agricultural and Horticultural Show.**

THE MANCHESTER and LIVERPOOL AGRICULTURAL SOCIETY'S MEETING will be held in the Park, Birkenhead, on SEPTEMBER 8, 9, and 10. An Exhibition of HORSES, HORNED CATTLE, SHEEP, PIGS, POULTRY, BUTTER, CHEESE, IMPLEMENTS, MACHINERY, HORTICULTURAL and AGRICULTURAL PRODUCE, for which Prizes amounting to upwards of 1400*l.* are offered. The Local Committee also offer 50*l.* for a MUSICAL BAND CONTEST. Entries to Close on August 10.

Prize Lists to be had on application to Mr. T. B. RYDER, Treasurer and Secretary to the Society, 57A, Church Street, Liverpool; or to Mr. W. HENDERSON, Honorary Local Secretary, 2, Market Cross, Birkenhead.

N.B.—Subscribers of not less than 20s. to the Local Fund, or parties becoming Members of the Society, and Subscribing not less than that amount, may enter their Stock free of charge.

2, Market Cross, July 11.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.
WORCESTER, 1863.
AGRICULTURAL SHOW of the ROYAL AGRICULTURAL SOCIETY of ENGLAND.

PROGRAMME.

| | |
|---|---|
| WEDNESDAY, July 15 | The Yard for the Trial of Steam Engines (fixed and portable), Corn Dressing Machines, Corn and Seed Separators, Corn Screens, Fixed and Portable Steam Threshing and Finishing Machines, Barley Hummellers, and Miscellaneous Agricultural Articles, open from Noon till 6 P.M. Admission 5s. |
| THURSDAY .. July 16<br>FRIDAY .. " 17<br>SATURDAY .. " 18 | The Trial Yard open from 9 A.M. till 6 P.M. Admission each day 5s. |
| MONDAY .. " 20 | Cattle and Implement Yards open from 8 A.M., at which hour the Judges will commence inspecting the Live Stock, and making their Awards. Admission 10s. |
| *TUESDAY .. " 21<br>*WEDNESDAY " 22 | The GENERAL SHOW of Cattle, Horses, Sheep, Pigs, and Implements, open from 6 A.M. till 6 P.M. Admission 2s. 6d. |

* Public Working of Steam Cultivators on Land in the neighbourhood of the Show Yard.

| | |
|---|---|
| THURSDAY .. July 23<br>FRIDAY .. " 24 | The GENERAL SHOW of Cattle, Horses, Sheep, Pigs, and Implements, open from 6 A.M. till 6 P.M. Admission 1s. |

By the Regulations of the Society, all persons admitted into the Show-yard, or other places in the temporary occupation of the Society during the Meeting, shall be subject to the Rules, Orders, and Regulations of the Council.

By Order of the Council: H. HALL DARE, Sec.
12, Hanover Square, London, W.

# The Agricultural Gazette.

*SATURDAY, JULY* 11, 1863.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

| | |
|---|---|
| TUESDAY, July 14 to SATURDAY, — 18 | Great International Show at Hamburgh; and Examination of Implements at Worcester by the Judges of the Agricultural Society of England. |
| MONDAY, — 20 to FRIDAY, — 24 | Great Agricultural Meeting at Worcester. |

THERE is an interesting report in the current Number of the *Edinburgh Veterinary Review* by Professor GAMGEE, of the New Veterinary College, on the Health of Stock in the United Kingdom during the past year. It tabulates facts supplied by 250 veterinarians distributed over the British Isles; and relates a number of interesting particulars about pleuro-pneumonia and the foot and mouth disease—about small-pox in sheep, scab, sheep-rot, &c.

About this time last year Mr. PARRY's flock, at Allington, near Devizes, had become affected with sheep-pox, and very soon all the Southdown flockmasters were in a state of excitement and alarm upon the subject. Originating no doubt by infection from imported stock, though no particular history of the first beginnings of it has been obtained, it spread to farms adjoining Allington, and would, no doubt, have extended further but for the preventive powers of the Act which had been passed 14 or 15 years before, on the first occurrence of the disease in this country, which were immediately put in operation, owing chiefly to the energetic remonstrances of Mr. FISHER HOBBS. As it was, however, nine flocks became infected, two of them suffering a loss of about 30 per cent. of their number by death. In the others the losses were much less—about 5 per cent. in flocks which had been inoculated, and about 2 per cent. in flocks which had not been inoculated, but where the diseased sheep were immediately placed in quarantine. The two flocks where the disease proved so very fatal were inoculated—1700 sheep having lost 200 by the disease before inoculation—and 300 after inoculation—and 400 sheep having lost three before inoculation, and 140 altogether. The cases are hardly numerous enough to make it certain that their history will furnish the general law of experience on the subject. But it seems plain that the plan of separation and non-intercourse, which is what the law enacts as regards infected districts, is the best in the public interest as regards particular flocks. There can be no doubt that a general system of inoculation would extend the disease, which on the other hand if confined to the locality of its outbreak must naturally die out. The following is Professor GAMGEE's history of the last year's attack so far as its results are concerned :—

"The Allington flock communicated disease to the sheep on Mr. HARDING's farm at Etchilhampton. Then Mr. STEPHEN NEATE, whose lands adjoin Mr. PARRY's, discovered the malady, but only after having been to a fair at Marlborough with a lot of lambs. Fortunately Mr. NEATE was so quick in getting back the lambs he had sold that they led to no further outbreaks. I ascertained the existence of the disease at Stanton, Horton, Hillwood, Avebury, and Langley farm. There was no mystery as to the communication of the disease in any case, with the exception of Mr. CHURCH's flock at Hillwood, which, however, was folded by the roadside, where thousands of sheep are constantly passing. The extent of the loss sustained in Wiltshire is shown in the subjoined table :—

TABULAR STATEMENT AS TO SMALL-POX IN SHEEP IN WILTSHIRE.

| Name of Farmer. | Name of Farm. | Total Amount of Stock. | Losses before Inoculation. | Number of Sheep Inoculated. | Total Losses. | Date of Outbreak and Inoculations. |
|---|---|---|---|---|---|---|
| Joseph Parry .. | Allington .. .. | 1711 | 200 | 800 | 500 | July 1, 1862. Inoculated Aug. 2 and 7. |
| — Harding .. | Etchilhampton .. | 400 | 18 | 380 | 19 | August 22. Inoculated 3d week in August. |
| Stephen Neate .. | Allcannings .. | 1000 | 14 cases but no deaths. | 976 | 80 | August 23. Inoculated Aug. 26 & 27. |
| John Simpkins .. | Stanton .. .. | 100 | .. | None. | 3 | End of August. |
| Thomas Giddings. | Horton .. .. | 450 | .. | None. | 3 | August 27. |
| Thomas Church .. | Hillwood .. .. | 380 | .. | None. | 15 | August 27. |
| William Hulbert.. | Langley Farm .. | 400 | 3 | 380 | 140 | August 30. Inoculated Sept. 15 & 16. |
| Isaac Dark .. | Avebury .. .. | 400 | .. | None. | 2 | September 12. |
| Simon Hitchcock. | Allcannings .. | 300 | None. | 300 | 19 | Inoculated beginning of September. |

"Had all the flocks seized been inoculated, I am quite sure that the outbreak of small-pox would not have been brought to so quiet a termination. Had I inoculated Mr. GIDDING's, Mr. DARK's, and Mr. CHURCH's flocks, I have no doubt whatever that many more farms would have been infected by this time; and it is satisfactory to notice how very insignificant the losses were amongst the non-inoculated as contrasted with the inoculated flocks.

"The losses on 3811 sheep were 221 before inoculation had been practised, and the loss since has amounted to 537, or a total of 758 on 3811, viz., very nearly 10 (19.89) per cent., whereas on 1310 sheep not inoculated the loss amounted only to 21 sheep, or 1.6 per cent.

"On all the farms where the separation system was carried out, the cases were very severe, but removed as a rule before they could contaminate other animals. The exception to this was Mr. CHURCH's flock, in which one or two mild cases were observed late. The mortality on the cases at Hillwood was as high as 70 per cent., so that it could not be said that the disease was not virulent in character. Again, at Horton the cases were very severe: one animal recovered with difficulty,

and the second died from a confluent variety of the disease. They were both confluent cases that I examined at Avebury, and one of the sheep at Stanton was very severely affected."

The history of this outbreak sufficiently illustrates the value of those powers of confining such infectious diseases within the localities of their occurrence which the law has given. And the pages from which we have been quoting, as well as the more elaborate report from the same pen, about to be presented to Parliament, shows how valuable to agriculturists periodical reports of this kind would be.

Unfortunately it was announced last week that Mr. HOLLAND'S Bill for renewing and extending the powers of the Act which expires this summer for the more effectual prevention of contagious diseases among cattle, sheep, and horses, is for the present withdrawn. The existing law will be renewed for a year by a Bill to be introduced by Government; but the proposed clauses, which, on the one hand, placed the disposal of all diseased stock brought into any public market absolutely in the power of the Mayor or any magistrate having jurisdiction in the place—and, on the other, appointed a veterinary officer to report from time to time on the existence of cattle diseases in the country, are withdrawn.

Our contemporary the *North British Agriculturist*, in a recent article complimentary to the general style of communications to these columns, lately took exception to the remarks made at page 466 on the policy of publishing statistics of agricultural disaster. But it altogether misread our reference to the prejudice against general agricultural statistics, as if any sympathy existed with it here. And anxious to discredit our advocacy of the Bill as being at any rate an instalment of the general measure on agricultural statistics which we require, it forgot that more has been done to urge the policy of such a measure in these columns than in its own, or indeed in those of all the other weekly agricultural periodicals put together. Let us hope that when the proposed measure again comes before Parliament, it will receive from our contemporary a consideration of its merits, based not on personal or class interests, but on those of the whole body of owners of stock, which are at stake.

The opposition to it hitherto appears to have been directed by cattle salesmen and dealers on the one side, and certain members of the veterinary profession on the other. We imagine, however, that there are others who have a better claim to be heard upon the subject; and we entirely agree with Mr. COWIE, a well known Scottish agriculturist, who has every right to be their spokesman in the following remarks which we condense from a published letter:—

"The danger from contagion being admitted, as also the imputed wilfulness and recklessness of the offender, how is the case to be met? Is it to be exceptional to other cases where public rights and interest are violated, and the transgressor allowed to go free? Such is not the spirit of our constitution. Is it to be endured that this dreadful scourge of pleuro is not to be taken cognisance of by the Legislature, and a remedy sought, because, forsooth, individual hardships may occur?

"Instead of this Bill being severe and oppressive in its tendency, I believe that it is, in some respects, not sufficiently restrictive for protection against contagion. Why, for instance, should the owner of cattle in pleuro be allowed to put them out to graze in a field adjoining his neighbours', without, it may be, their knowledge, and without making any provision by proper fencing to prevent the diseased cattle from coming in contact with the sound? Let, however, the Bill once pass, and be fairly put in operation, and a few examples made of the heartless transgressors of its provisions, and we should find that in a little time the office of Inspector-General and his "subordinates"—even had these been mortal men, as they are but myths—would soon become very much a sinecure."

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ONE of the most noteworthy results of recent lectures on Steam Cultivation, and of recent reports of experience and experiment on that subject, is the succession of criticisms and communications which they have elicited from Mr. SMITH, of Woolston.

Sundry corrections of Mr. MORTON'S tables have been made at his desire, but we understand that in one instance at any rate the corrections themselves need to be corrected—and that, for example, the apparatus used by Mr. ELLIOT for the Duke of SUTHERLAND, at Tarbert Mains, is a CHANDLER & OLLIVER'S plough, not a SMITH'S cultivator, as we learned from Woolston that it was. Be this, however, and a dozen other matters of detail, as they may, we believe that the information given does in the main do justice to the rival manufacturers and patentees; and they are right to leave the facts related to work what impression they may, without any of that personal and importunate urgency in which Mr. SMITH seems resolved to persist. That gentleman has superiority and vantage ground enough in his rivalry with other patentees in the fact that his apparatus can be seen at work in its unaltered condition for the fifth and sixth years on many farms whose tenants are perfectly satisfied with its performance. He ought to be satisfied with this, and with the facts, shared with Messrs. HOWARD, that an ordinary threshing engine is available for the working of his machinery—that a stationed engine is less liable to accident and wear than one that travels—and that the whole is cheap.

What if the lecturer came to the conclusion, notwithstanding these advantages, that FOWLER'S apparatus has latterly exhibited a performance more efficient and more economical in many cases known to him—the positive success of the Woolston "tackle" for so many years in so many instances is sufficiently conclusive of great merit, and will secure an ample share of custom, without the aid of that continual criticism of the rival plans in which an interested writer ought to be careful how he indulges.

These criticisms, though hitherto unanswered, require that we should point out in the interest of truth a number of particulars as to the dynamometer trials at Sutton Courtney, leaving it to others to apply them to Mr. SMITH'S critique. (1) The weight of earth stated as moved per square yard must be taken as true only of certain plots, each 4 feet by 4 feet 6 inches, which were here and there lifted and weighed. There is enough of inconsistency in the results to make it very doubtful whether these weights can be held as true over any great extent; and they are given therefore only as true of the actual places weighed, which were indifferently chosen on the different workings. (2) These weights can in no case be fairly quoted in relation to the draught of the implements which moved them, without remembering, at the same time, that one implement moves more than two square yards, while another moves only one when travelling at the same rate of motion. FOWLER'S cultivator moves six feet in width at a time, HOWARD'S moves three feet, SMITH'S 30 inches.

3. The draught of the several tools varies considerably with the rates of motion as well as with the depth of work. And a correction for this must be applied before the labour of working any of these tools can be ascertained for comparison with that of working the others.

4. As to the waste of power under the different methods of applying it, that deserves a more lengthened examination than we can give it now, or than we imagine our readers after so much discussion of this subject as they have of late experienced, care to receive.

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—— IT will be seen in the columns of our newspaper that Mr. PAULL'S Bill for prohibiting the sale of poisoned grain was read a second time before the House of Commons on Wednesday last. The amendments to be proposed in committee will reduce it to an enactment for preventing the spreading of poisoned grain on the surface of the ground for the purpose of destroying birds.

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IN order to connect the meteorological observations which we are now, thanks to the Rev. J. SLATTER, of Streatley, near Reading, publishing from week to week—with those which Mr. J. B. SPEARING, of Moulsford, had previously been good enough to send us, we give the following particulars of the position of the two places—together with the quarterly meteorological report which Mr. SLATTER has drawn up of the weather at Streatley. Moulsford lies two miles further up the Thames, and Mr. SPEARING'S instruments were placed a hundred yards further from the river-side than those of Mr. SLATTER. Moulsford is not so immediately at the foot of the chalk hills to its west.

Streatley is situated on the banks of the Thames, just at the point where the river begins to make its way through the chalk, separating the Chiltern hills from their natural continuation in the Berkshire Downs. Its height above the sea level is estimated at not more than 100 feet, but the Downs which almost overhang the village rise 400 or 500 feet above it. Any superior amount of heat that might be due to its extremely sheltered position is probably more than compensated for by its proximity to the river and its eastern exposure.

The summary of the weather during the preceding quarter is as follows:—

| | Barometer, mean height, reduced to freezing point at sea level. | Mean Temperature. | | Mean Humidity. Saturation being represented by 100. | Rainfall in inches. |
|---|---|---|---|---|---|
| | | Of air. | Of rain. | | |
| April .. | 30.043 | 49.3 | 53.0 | 78 | 1.18 |
| May .. | 30.084 | 51.2 | 56.2 | 74 | 1.92 |
| June .. | 29.956 | 57.5 | 63.7 | 77 | 6.48 |

The temperature of April was about 3° and that of May 1½° in excess of the ordinary temperature; that of June 1½° in defect. Nevertheless the absence of rain in April, followed by a rather dry May, and cold nights even when there was no actual frost, greatly retarded vegetation. Just sufficient moisture had fallen on the 28th and 29th of April to make the severe frost on the night of the 30th particularly disastrous to the gardens. There were frosts on 9 nights in April and 11 in May.

The rain in April principally fell between the 4th and the 11th, commencing from the W., continuing further S.E., and clearing from N.W. In May the rainfall was between the 11th and 17th from the S.W., followed from the 19th to the 21st by a severe gale from the N.E., very injurious to foliage. In June the rain fell chiefly from the 5th to the 19th; on the 5th, 7th, and 12th the fall averaged above ¼ of an inch on each day, whilst on the 19th occurred the extraordinary fall of nearly 2½ inches in 10 hours. Rain has fallen on 39 days in the quarter; 11 in April, 12 in May, and 16 in June.

The proportion of easterly to westerly winds during the quarter has been about 4 to 5, and of northerly to southerly, 5 to 4.

With the exception of the last 10 days of April, and the N.E. gale above mentioned in May, there have been no very boisterous winds during the quarter.

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## THE APPEARANCE OF THE CROPS.

BERKS: *Coleshill, Highworth, July 7.*—I believe the grain crops generally in this district are looking well, the exception being the late sown Barley and Oats; there is every prospect of abundance of food, should we escape heavy thunder storms. *E. W. Moore.*——*Thatcham, Newbury, July 8.*—The appearance of the Wheat, Barley, and Oat crops in this neighbourhood is more promising than for some years past. Beans do not pod well. Peas generally good. Swedes, Turnips and Mangels are coming on satisfactorily. But little appearance of disease on the Potatoes. Much hay was spoiled at the beginning of the hay harvest, but latterly it was well got up. *John Adnams.*—*Clapton, Hungerford, July 8.* I consider the Wheat crop up to this time very promising. Barley is more variable, some very good, and some very indifferent. The Oats are not so good as last year, but bid fair for an average; Beans and Peas, though few are planted in this neighbourhood, look very promising. Reaping will commence I expect generally the first week in August. *Thos. Owen.*

BUCKS: *Boveney Court Windsor July 8.*—The grain crops, and more particularly the Wheat, in this neighbourhood are looking remarkably well. *Edward Evans.*

DEVON: *Tavistock, July 8.*—The present appearance of the Wheat crop in this neighbourhood is decidedly promising to be above an average, and on the whole I think the spring corn may be so likewise, though should the present hot weather continue, it will be short in the straw in some places. *John Benson.*

ESSEX: *Prince's Gate, Romford, July 7.*—Wheat, Oats, and Barley are very good. Clover and Grass very short. Mangel and Turnips backward, but good plants. *Collinson Hall.*

GLOUCESTERSHIRE: *Whitfield, Berkeley.*—I am happy to inform you that the Wheat crops in this neighbourhood are very promising, and with fine weather cannot fail to be a large crop. Peas and Beans are excellent, and Barley and Oats, with the exception of late sown fields, are looking first-rate. The crops of Potatoes, with the exception of early planted ones, which were cut down with the frost in May, promise to yield abundantly. We are now busy haymaking, and have secured a considerable quantity in fine condition, and the crop is quite an average one. *John Cobbon.*—*Longford Minchinhampton, July 8.*—Autumn-sown Wheat is looking very well, and promises rather over an average crop. Spring sown and April Wheats nearly a failure. Barley very patchy. I have only seen a very few good pieces, and those on the lightest land were got in pretty early. Oats not much grown, but those that are grown looking well. The same remark applies to Peas and Beans, though there is some complaint of "bad setting" for want of rain. "Plenty of stalk but no pod" is the common remark. Root crops look remarkably promising. Seed hay crops light and damaged. Meadow crops light and made well. *Henry Cox.*

HAMPSHIRE: *Basingstoke and Andover, July 8.*—I am glad to report favourably of the present appearance of the grain crops in this district; with a continuation of this fine forcing weather an abundant and moderately early harvest may be anticipated. The early hay crop on the hills is very deficient in bulk, and from the showery weather at the time of cutting is much damaged. The late crops in the woodlands and upon the water meadows are fairly good, and are now being got together in good condition. Root crops are very promising. *H. Raymbird.*

KENT: *Wingham, July 7.*—Taking all the crops of corn, Wheat, Barley, Oats, Peas, and Beans, on heavy lands, light lands, gentle loams, chalks, gravels, &c., I have never known them better; a more general crop has not been known for many years, up to the present day. A thunder storm or heavy rain would lodge much of our Wheats and Barleys. I have never known a better plant of Mangels and Swedes—I have not heard of a second sowing. Wheat harvest I expect will be general at the latter end of this month, and a vast deal of Barley, Oats, and Peas cut. The breadth of Potatoes around here is enormous, without the least appearance of disease at present. *Robert Matson.*

LINCOLN: *Long Sutton, July* 8.—I have great pleasure in saying that we have seldom had a more promising prospect for the ensuing harvest than this season presents throughout the whole of this district, comprising the marsh and fen lands of South Lincolnshire and North Cambridgeshire. There are a few fields of late sown Oats, and other plots sown on lands where the Wheat was destroyed by the late frosts of May which form some exception, but otherwise everything looks favourable. We have one of the best hay-making seasons ever known. The crops a fair average. The Wheat crop is not a very full one, but the ears are fine and good; the promise of a good average. Oats a splendid crop. Barley very good and early. Beans and Peas rather irregular; some crops have flowered exceedingly well, others have lost flower, and of course parts of the stems are bare of pods. The whole of our crops are progressing as well as we can desire them to do. Potatoes are going on most satisfactorily at present; we lost a few sets from drought, but the general crop is exceedingly good—no appearance of disease. Mangels are not a good plant, and they are backward. Swedes and common Turnips a capital plant, and now growing fast. Grass rather short, and water getting low. *John Clarke.*

NORFOLK: *Weasenham, Rougham, July* 7.—The Wheat crop is better than we have seen it for years, at present all standing. The Barley on the good lands very long; promise well on the light lands; they suffered from the want of rain. The Oats are very good generally. *Henry Overman.*——*Barton Abbey, North Walsham.*—The appearance of the crops in this district is all that can be desired. Wheats are unusually good, and with another fortnight of this brilliant weather both quantity and quality must be unsurpassed. The early Barley is good; there is some in this neighbourhood (of the winter variety) sown in December, looking remarkably well; the later sown will be a good average crop. Oats are also looking well. Peas and Beans lengthy in the haulm, but not podding well. The hay upon good land is bulky, and the greater portion now being secured in fine order. The root crop at this moment is most promising. Harvest will be general here about the first week in August. Some fields of Barley and Oats may be cut by the end of the present month. *W. Cubitt.*

OXFORD: *The Mount Farm, Chipping Norton, July* 8.—The Wheats are looking exceedingly well throughout this district; although the long dry weather at one time proved too much for the thin stone brash soils, it at the same time suited the strong land, and nearly every piece of Wheat is standing better than I ever remember; it has bloomed well, the straw is bright, and up to this date the prospect is all that can be desired for a crop of Wheat. The early sown Barleys are good; but much was planted too late for a crop, and many pieces are patchy. On our own farms the steam cultivated are far superior to the bits worked in the usual way. In one field (very strong soil) about 5 acres were ploughed 5 inches deep with three horses in the furrow, costing 12*s.* per acre, the remaining part of the ground, about 14 acres, had the steam grubber once over in September and again in October at 14 inches deep, costing 7*s.* 6*d.* per acre for the two operations; the difference in the crop is very greatly in favour of the grubber. The Oats, Beans, and Peas, as well as the Vetches, are a full crop. The meadows have cut up rather light; but secured in fine order the last ten days. *Matthew Savidge.*

SURREY: *Woodcote, Carshalton, July* 7.—The appearance of the crops in this quarter, so far as I can judge is as follows:—Wheat, very good generally, certainly the best appearance we have had for four or five years; Barley, early sown to be heavy, late sown various; Oats, to be a light crop generally, owing to the dry spring. *James Arnot.*

SUSSEX: *Brighton, July* 7.—In reply to yours of the 5th, the following is the result of my observations of the cereal crops of this neighbourhood. Wheat: Early sown, long straw; a fair average crop; will be ready to cut by the 26th July. Late sown—short in the straw; an average crop; will be ready to cut by the 2d or 3d of August. Oats: Under the average; where late sown very short in the straw. Barley: An average crop; but short in the straw. *Fred. F. Hallett.*——*Mid Lavant, July* 7.—I am very pleased to be able to give a very favourable report of the corn crops in this neighbourhood. I never saw the Wheat, Barley, and Oats looking better—thick on the ground, stiff strawed, and free from disease. We shall, in all probability, begin harvest before this month is out. The Pea crop is a very good one; of Beans I know nothing, they are not grown in this neighbourhood. The Mangel plant is patchy in places; Swedes and Turnips coming on well. *H. E. Sadler.*

WARWICKSHIRE: *Milcote, Stratford-on-Avon, July* 7.—Our Wheat crops are very good, and as it has been a satisfactory blossoming time for them, they promise to yield above the average produce of the last several years. The early Barley is a full crop, but the later sown is a deficient one, as the rain came too late to secure its regular growth: it is consequently short and uneven. Peas are a good crop. Beans, although luxuriant in appearance, will, I think, be generally found to have little corn upon them, as, either from the severe frost in April, or from some other cause, very few of their early blossoms have produced pods. Mangels are not a full plant and have hitherto grown slowly, but under the influence of the warmer weather of the last week are rapidly improving. Swedes are promising. The hay crop is deficient to the extent of one-third of an average. Pastures are fresh and green. *J. C. Adkins.*——*Kenilworth, July* 7. Wheat: promising for over average; straw not abundant. Barley: early sown, good; late sown, much under. Oats: over average—especially Canadians. Beans: over average; little blight hitherto. Peas: light lands inferior; colder land better. Grass: nearly average, and most of it well saved. Potatoes: not promising in fields. Carrots: backward. Mangels: missed plant, destroyed by maggot or late. Swedes: coming nicely. *F. Bowick.*

WILTS: *Overtown, Swindon, July* 7.—Crops in this district are progressing very favourably, and promise to be good with the exception of Beans, which I fear are not doing well, the blossom dropping prematurely. Wheat has been in blossom for 10 days. The weather has been all that could be desired, both for the Wheat and the ingathering of the hay crop. The securing of the latter has been most propitious. The young Turnips and Swedes are very healthy and good. *T. H. Redman.*——*North Wilts.*—The Wheat in this neighbourhood is very promising, being a full plant generally, and with the present fine weather, the ear is fast filling with less appearance of red gum than usual; should the present heat continue, reaping will commence by the first week in August. The early and middle planted Barley is also promising for a good crop, but some of the late planted will be middling unless we have rain soon. Oats are good. The Pulse crops are growing plenty of straw, but are scarcely forward enough to give an opinion as to their corning. *T. A., July* 8.

YORK: *Rainton, near Thirsk, July* 8.—I am happy to say the Wheat crop is looking very promising, though not a very heavy crop of Straw. Barley is fair, though generally rather light. Oats are mostly very light. Beans are looking well, but it is too soon to speak of Corn; the upper part of the stems are still in flower, and with these droughty days there is great hazard whether the pods will set. The Hay and Clover crops are exceedingly light. Swedes and Turnips are growing very fast on true Turnip soils, and the stronger soils are kept back by want of rain. *Peter Stevenson.*

## LIEBIG'S NEW WORK.

[The following is Dr. Blyth's account of Liebig's recent work on the Laws of Husbandry, given in a preface to that work.]

"IN his recent work Baron Liebig has given to the public his mature views on agriculture, after 16 years of experiments and reflection. The fundamental basis of the work is still the so-called mineral theory, which holds that the food of plants is of inorganic nature, and that every one of the elements of food must be present in a soil for the proper growth of a plant. The discovery of the remarkable power of absorption possessed by arable soils has necessarily led to a modification of the views regarding the mode in which plants take up their food from the soil. As the food of plants cannot exist for any length of time in solution in soils, it is clear that there cannot be a circulation of such solution towards the roots, but the latter must go in search of food. Hence the great importance of studying the ramification of the roots of plants, and the mode of growth of the different classes of plants cultivated by man. The first chapter is devoted to the consideration of the growth of plants, of the formation of their roots, and of their power of selecting food, and the part played by the mineral matters which are absorbed.

"If the food of plants is not in solution in the ground, we can conceive that those portions of the soil traversed by the numerous root ramifications will be more or less exhausted of food elements, whilst the immediate neighbouring portions are still rich in them. If, therefore, a succeeding crop is to grow equally well on all parts of a field, there must be a thorough mixing of the exhausted and of the unexhausted portions of soil. This is effected by mechanical means, by manures, or by certain chemical compounds. Hence the necessity of becoming acquainted with the nature and properties of the soil and subsoil. The second chapter is devoted to this subject.

"The soil consists of arable surface soil and subsoil. In the former is accumulated the nutriment of plants chiefly cultivated for the food of man. This accumulation is effected by the absorptive power of the arable soil for mineral matters, by which soluble salts are removed from solution, and even chemical decomposition of the most stable compounds is brought about, and the bases or acids are retained by the soil in a firm state of combination. It is the presence of food in the soil in this state of physical combination which is alone available for the nutrition of plants. On the abundant or scanty supply of food in this state depends the fertility or sterility of a soil. In fertile soils food is present also in another form, in which it is not immediately available for the nutrition of plants. It exists as chemical compounds which are not soluble in water, or acids until rendered so by the action of powerful chemical agents, or to a much smaller extent by the slower process of the decomposing action of the weather. When the food is eliminated by disintegration (by fallow and mechanical operations) from this inert state of chemical combination, it passes into that of physical combination with the earthy particles before it is absorbed by the plant. Each kind of soil has its own absorptive power for causing the food to pass into a state of physical combination. When manure is applied, its greater or less dispersion throughout the soil will depend on this power. In general it is absorbed and fixed by the upper few inches of the soil, a smaller quantity penetrates to the lower layers, and scarcely any at all to the deep layers and subsoil. Hence when a subsoil is exhausted, manure cannot restore its fertility. From this peculiar property of soils of arresting the circulation of solutions of the food of plants, arises the necessity of employing means for the distribution of food, and for the uniform mixture of the different layers of the soil. The manner in which this is effected by mechanical operations, by organic matter, by manures, by certain chemical salts, &c., is pointed out in chapters second, third, and twelfth.

"The quantity of food in a state of physical combination in any fertile soil is only limited. Continuous cultivation without replacement of all the mineral matters removed in the crops destroys fertility, either by causing the absolute loss of the assimilable food, or by altering the proper relative proportions between the different elements of food, to such an extent that the due growth of all parts of the plant is altered. For the successful growth of a plant in all its parts, every element of food is required. Not one substance has any superior fertilising power over another. The average crop of an unmanured field is always regulated by that element of food which is present in *minimum* quantity. The effect of a manure when beneficial is merely to increase the relative proportion of this *minimum* element. If the *minimum* matter was known in each case, its direct application would be sufficient to increase the fertility of the soil. But as in general this point is not ascertained, the application of farm-yard manure is certain in producing a fertilising effect, simply because it is a complex mixture containing all the food elements of plants, and consequently whilst supplying other matters which are not immediately wanted, it also furnishes the *minimum* substance. In chapter fourth, is discussed the question of this altered composition of the ground by cultivation.

"In chapter eleventh, the fact that not one of the elements of food by itself possesses any superior nutritive value over the others is further discussed. Nitrogenous food, like all the rest, must be present if a plant is to grow properly, but no excess of this element of food will of itself produce more abundant crops. The analyses of soil show that they abound in nitrogen. Were all other sources of this element wanting, there would still be a continued supply provided for in rain and dew, and in the many processes of oxidation going on at the surface of the earth. Probably, wherever we have a generation and circulation of carbonic acid, there is also a provision for the formation of nitrogenous compounds. When Nature thus provides for a supply of nitrogen without the aid of man, it is likely that exhaustion of all other elements of food in the soil will take place by cultivation before this occurs with nitrogen. The inefficacy of the mass of nitrogen in the soil cannot be attributed to its existing in two forms, in one only of which it is assimilable. This is proved by experiments with soils and with farm-yard manure. When the nitrogen of the soil is not available, some other cause must be sought for than its existence in a state in which it is sparingly assimilable. This cause will be found to be the absence of some other elements of food, which, upon being supplied, will at once render the seemingly inoperative nitrogen at once energetic.

"The diminution of the amount of available food elements in the arable surface soil, by the cultivation and sale of corn, necessitates the restoration of the removed mineral matters. This is effected to a limited extent by foreign manuring agents, but chiefly by the formation of manure by means of fodder plants. By the system of rotation, green crops which draw their nutriment from the subsoil are introduced between the cereals. By the deep penetrating roots of the former, the mineral matters of the subsoil are absorbed, and in the form of manure are transferred to the arable surface soil. But if this process continues, and the corn and cattle are still sold, and no replacement from without is made of the lost mineral matters, the time will arrive, sooner or later, when the subsoil becomes exhausted, and the surface soil having no longer a reservoir from which to draw supplies by means of fodder plants, is also unable to bear remunerative crops. This natural progress of the system of farm-yard manuring is fully discussed in chapter fifth. The reader must not suppose that the condemnation passed on the system of farm-yard manuring is meant to apply to farm-yard manure itself. The latter is the type of a valuable manure which cannot be replaced in every respect by any artificial mixtures in use. The remarks of the author only apply to the fallacious hopes entertained of keeping up permanently the fertility of the soil by manure obtained by the system of rotation, whilst we continue still to sell the corn raised by such manure without bringing back to the soil any portion of the mineral matter sold with the corn and cattle.

"The excrements of man contain all the minera matter not only of the corn, but also of the cattle sold from the land. Could we restore these excrements to the soil, a perfect circulation of the conditions of life for plants and animals would be established, and our fields would be retained in a permanent state of fertility. This problem has been solved by the Chinese and Japanese. Chinese rural life, as it is described by travellers, as well as the report of the Japanese system of husbandry given in Appendix G. by Dr. Maron, would scarcely lead us to wish for the improvement of agriculture upon the plan of these Orientals! The requirements of modern civilisation would not permit the purchase of manuring matter, however valuable, at the cost of all domestic comfort. The sewers must, we fear, still receive what would be offensive to our English senses. But can the contents of these sewers not be made available? The great mass of water which necessarily accompanies at present the fertilising matters, renders them of comparatively little value when compared with the expense of transport. But how to separate and concentrate these matters from the water is a problem which is at present occupying the earnest attention of scientific and practical men. The solutions hitherto proposed are far from satisfactory. The future of agriculture is, however, intimately connected with the right solution of this great sewage question."

## NOTES ON WEEDS.

BY J. BUCKMAN, PROF. OF GEOLOGY AND BOTANY.

IN following out the Weed history of some of our common plants, we would now direct attention to a few species belonging to the natural orders, Onagrariæ, Halorageæ, Cucurbitaceæ and Dioscoreæ. These include a series of plants intermediate between the Rosaceæ, described in our last, and the Umbelliferæ (with the exception of the Tamus communis) which has been introduced in the following arrangement on account of its affinity in mischief to the Bryony. The following is

a tabular list of the genera and species to be now described:—

| | |
|---|---|
| Onograriæ: | 1. Circæa lutetiana, Enchanter's Nightshade. |
| | 2. Epilobium montanum, Broad Smooth-leaved Willow Herb. |
| | 3. Epilobium angustifolium, Rose Bay Willow Herb. |
| | 4. Epilobium hirsutum, Great Hairy Do. |
| | 5. Epilobium parviflorum, Small-flowered Hairy Do. |
| Lythraceæ: | 6. Lythrum Salicaria, Purple Loosestrife. |
| Halorageæ: | 7. Hippuris vulgaris, Common Marestail. |
| | 8. Myriophyllum spicatum, Spiked Water Milfoil. |
| | 9. Callitriche verna, Water Starwort. |
| Cucurbitaceæ: | 10. Bryonia dioica, White Bryony. |
| Dioscoreæ: | 11. Tamus communis, Black Bryony. |

1. The Enchanter's Nightshade is doubtless considered by the young botanist so pretty a plant, that he may be surprised at seeing it here in a company of weeds; but let the gardener once get it in his Strawberry beds, or nestling beneath his fruit trees, and he will be fully satisfied that even were this a sweet as well as pretty flower, that it is indeed a weed like even the loveliest of flowers when out of place, or whenever it grows to the prejudice of our wished for crop. Our own garden has been greatly infested with this plant, which from the breaking off of its brittle rhizomata or creeping underground stems whenever we have attempted to pull, has left behind enough to cause the pest to continue—indeed the first year's pulling only resulted in the production of many more plants than before; still by keeping on hand-weeding whenever we saw it above ground, we have succeeded in next to eradicating it in three years. We have seen this plant in plantations become very troublesome, but the farm is but little infested by it in a general way, though arable where intermingled with wood and copse is not altogether free from it, in which case hand-picking after ploughing with a timely use of the hoe, for that which appears above ground, will in time eradicate it.

2. The Broad Smooth-leaved Willow Herb is in habit so much like the preceding (if we place stolons for rhizomata), that we can only recommend the same mode of treatment. It is however much more general; scarcely a wood or garden, especially if the latter be much overshadowed with trees, but will be infested with this common species; woods, and even corn fields will sometimes be so thick with this weed as almost to cover the ground. If we inquire into the reason for so general a spread of this Willow Herb, we shall find it in the fact that so prolific is it, that a single plant may yield from 5000 to 8000 seeds (both of these numbers having been estimated by us on some specimens from near Cirencester) and as all of these seeds are winged and belong to a plant purely Catholic in its tastes, we need not wonder that this species should be found on the highest rocks, in the deepest woods, on the borders of our meadows, and in the midst of our corn fields and gardens—in fact everywhere but in water.

3. The really handsome Rose Bay Willow Herb is so frequent an ornament in our gardens and shrubberies, as to be almost out of place here. In the wild state it seems almost confined to the wood, and those who have watched it spread, as we have done for the last 15 years, will not be surprised that a plant scarcely a native, and which only a few years ago was considered "rare in England, less so in Scotland," (Hooker), should rapidly have become in 1858 "widely spread over Britain, but not common" (Bentham); and while we write, five years later, we absolutely know of whole acres of this plant, and so tall does it grow, and in such thick masses, that we have seen an extension of old plantations, in the shape of new sets of Larch and Firs, if not quite ruined, at least very much injured by its presence. Here too we trace an extraordinary fecundity in its seed development, even doubling and trebling that of the previously described species, but fortunately it only vegetates in woods and thickets, as, if it progressed everywhere to the extent and rapidity that we have observed in some of the Cotteswold woods and plantations, it would, however handsome, be one of the direst weed pests in the world. The history of this plant points to a ready remedy when it is troublesome, (a time fast approaching exerywhere), in the facility with which it can be cut down, and so be prevented seeding; for although it increases at the base, yet without seed it would be confined in its action; for we do not exaggerate when we say that we have observed this plant increasing its stations over some 20 miles of country at the rate of 90 per cent. within a few years, whilst acres of ground are now occupied with what 20 years ago it was difficult to find in the same district; so much for what weed seeding may do!

4 & 5. The Great Hairy, and the Small Hairy Willow Herb (which latter may perhaps be a variety of the former) are mostly confined to ditches and water-courses, where, under the country name of "Codlings and Cream," they are well known; of course in such positions they are weeds, by reason of their choking up the ditches, and thus preventing the quick action of the arterial drains. These and allied species on the sides of canals, brooks, and sluggish streams, thus only render these more sluggish, and so, unless kept under, would sometimes vitiate the action of a wide drainage area. From these positions they should be removed by the scythe or a strong Bean hook while yet growing, instead of being left to rot in the ditch, and so not be removed until winter. On this point we hazard the assertion that one summer clearing of the ditch is worth seven winter ones, for which indeed this would frequently obviate the necessity. Weeds collected from hedges, ditches, and water-courses, as we would advise, form excellent subjects for smother burning, a process which we have found of the greatest service towards the end of May around the Apple orchard, and which may even be carried on later about Hops and other crops, as perhaps the greatest plague and interruption that we can offer to numerous insects which it would now take too long to describe.

6. The Purple Loosestrife has so much the character of the preceding as not to need further description.

7, 8 & 9. Are decidedly water plants, which grow at the bottom of ponds and streams, gradually making their way upwards, and floating more or less on the surface. Like the former they are impediments to good drainage, but more especially in the trunk drains, and when in sluggish streams they render them more so. They are removed by raking, mowing, &c., and in fact in a great part of the Thames and Severn canal navigation would be impracticable during a great part of the summer, without attention to the removal of weeds of the kind we have tabulated, to which may be added the pond weeds (Potamogeton species) and the newly introduced water-weed (Udora canadense or Anacharis alsinastrum, which, though a new interloper, has taken such possession of some of our canals, as to have in a great measure driven out the aboriginal water-weeds.

10 & 11. Everybody has observed our two last specimens as they climb up the hedges; of these, the Black Bryony, with its dark glossy leaves and scarlet or yellow berries, is the most common. It is remarkable for its thick root-stock, which is sold by the country druggist as a remedy for black eyes under the name of briar-root. The White Bryony has also a root-stock, but it is less seldom employed than that of the Black. They are by no means of allied families, the White Bryony being our only native representative of the Cucumber family, whilst the Black Bryony represents a family which in warmer climates is of great importance to the human race, namely, that to which belong the Yams. They are both of them striking plants, both in the thicket and in the hedgerow, but at the same time their many flexile arms and large leaves so completely smother the hedges that they are both unmitigated pests to those who would possess a perfect fence. We should then be very particular in removing the first specimens from among the young "Quicks," or it will gain such a size and strength of root-stock that even a portion left behind will soon again send up new shoots. Still if we persist in keeping even the shoots down so that they never perfect themselves, we shall at length master some plants, which, however interesting from their relationship, and handsome to the eye of the lover of plants, are after all amongst the most choking weeds to the hedge.

## Home Correspondence.

*Labourers' Cottages.*—Your Correspondent "Falcon" and others have lately advocated with praiseworthy zeal an improved system of cottage architecture, and as far as internal arrangement and convenience are concerned, some of the plans they would wish us to adopt, if carefully carried out, would certainly secure for the poor cottager and his family an amount of comfort to which they have too long been strangers. There is, however, one item in the matter, and that a most important one, which nearly all writers on cottage improvement seem either wholly to have overlooked or dealt with too cursorily, and that is a proper system of ventilation in connection with the fire place. This matter was brought forcibly under my notice the other night by Mr. Newton, of 30, Eastbourne Terrace, Hyde Park, who has paid more attention to the subject than most men. Some years ago, when a sharp controversy existed relative to the merits and demerits of the now nearly obsolete Polmaise system of heating with warm air, a thought struck Mr. Newton that that plan of warming and ventilating might be applied with advantage to dwelling houses as well as to Vineries or plant structures. He accordingly set apart a room in his house in Eastbourne Terrace for testing the value of the system in these respects, and as the result proved with admirable success. First of all he had the flooring removed and the soil dug out under it to the depth of some 18 inches or so; the boards were then laid down again; apertures were made in the wall of the house through which fresh air from the outside might enter this new chamber. The grate was taken out and a hollow space formed sufficiently extensive to admit a large amount of air being accommodated behind it after it had been reset. This second chamber was fed from that under the floor, and the air thus brought in when warmed, (which it was by coming in contact with the metal of the stove), was admitted into the room through holes in the wall by the side of the mantelpiece, and also close up to the ceiling, along which a pipe conducted it in this instance to the end of the apartment farthest from the fire, and there discharges it into the room, or upon shutting up the end of that pipe it is induced to pass up another into the hall, in which the temperature by that means was raised considerably. When I witnessed the action of the apparatus a small fire was put on, a "blower" applied, and in 10 minutes the whole air in the room was in active motion, producing an accelerating and most agreeable sensation. The smoke from the fire was led up a pipe in the chimney, allowing the latter to be devoted to the purpose of a hot-air chamber. It will therefore be seen that all this was effected merely by means of a slight alteration in the setting of an ordinary room grate; but Mr. Newton has a registered stove in every way well adapted for this kind of warming and ventilating; and it is the introduction of that into new cottagers' houses that I advocate. By the means just described, and at very little extra expense, one fire might be made to heat the sleeping apartments over head, and that with ever-changing fresh agreeable warm air most conducive to health, more especially should the apartment be, as unfortunately it generally is, over-crowded. Even houses of large dimensions might be most effectively warmed and ventilated in the way just pointed out, and in order that no misconception may exist, working models have been carefully prepared, which amply illustrate the system, and which Mr. Newton, I am sure, will have much pleasure in explaining, as he did to me, to any person who takes an interest in such matters. *Beta.*

*Steam Cultivation adapted to Ireland.*—Some who do not know the value of this improvement fancy that the pages of the *Agricultural Gazette* have been too much and too constantly occupied by steam culture. I believe this is the feeling experienced by some, though never publicly expressed by any one in Ireland, and perhaps not without some fair show of reason when the respective conditions of England and Ireland are relatively considered. In England the great expense of land culture with horse labour has been so great, so imperfectly performed, that a very great reformation was loudly called for to enable land holders to compete with foreigners in their own market. The land culture by manual labour, once and for a long time so strongly advocated by philanthropists, and in some cases so successfully carried out on a small scale by those who understood it, was by no means adapted to farms where tillage was extensively practised. Each of those difficulties, it appears, are now quite completely overcome by the use of the "iron horse," whilst the productive powers of the soil are increased by the development of those fertile resources which, in the absence of deep tillage and due aëration, if I may use the term, are left dormant in the subsoil; andEngland can now boast of having done more than any other country on the globe to make the most of her resources, so vast in so small a space as England after all is, when compared with other countries of so much greater extent of surface. When considering how far steam power is likely to be beneficial to Ireland compared with its advantages to England, it may be necessary, even though cursorily, to consider the relative condition of the two countries. We certainly want farm capital in Ireland; that we want skill and enterprise is equally certain. But we have in addition to those another want, which if supplied would bring in, as sure as cause produces effect, the free use of capital, and the exercise of skill and enterprise. The want I mean is security; yes, security to all, beginning with the poor, where with small beginnings, as rivulets form streams and rivers, and all combined form seas and oceans, so will the security to industry, by its expansion and upward growth, bring the desired security to all other around and above it. But to do away with such rough-spun metaphor, and better still, to avoid discussions which when pushed too far rather retard than advance the security just glanced at, I will confine my remarks to the other wants which Ireland is said to stand in need of, and which should be supplied before steam cultivation can be profitably employed here. We are said to want coals, iron, large farms, large fields, &c. Well, some do. But we have turf in such abundance as will supersede the necessity of using coals, especially in the interior of the country, where coals are dearest; and will it be believed in England that it can be well proved here that fuel to work a steam plough can be had to do effective work at a cheaper rate than it can be had in many parts of England, even within a few miles of the coal pit's mouth? Such is the case. Our large farms are few, and on them our large fields fewer still than are to be found in England. But still we have large farms and large fields, and the owners will not cultivate by steam power or by any other power, because they believe, whether rightly or otherwise, which this is not the place just now to discuss, that they are more profitable to the owners, quite regardless of the public advantages to have them producing a little Grass, than to have them producing large quantities of green crops. Can we not have large farms and large fields without trenching on the scruples of the Irish grazier? I would leave the majority of the small farmers on their holdings, till by their increased industry, superinduced by industrial education, they would prove themselves fit for larger farms to be procured for them—ay and for the steam plough to be worked upon. Where will those large farms be got? Just in the very places where the fuel already alluded to most abounds—the turf bogs, of which we have in Ireland about 4,000,000 acres, and more than one half of which are quite flat levels, free from stone and everything else that could either retard the progress of the steam plough or increase the cost of its maintenance in any way. Get the steam plough into full play on the bogs of

Ireland, where without disturbing the easy life of the Irish grazier, or the miserable life of the small farmer, you will create many more producers of food and raw material to be worked upon by the English artisan, consumers of his manufactured article, consumers of exciseable produce, lessening the income taxation of England by this increased consumption, and better still be increasing the quantity and improving the quality of land here liable to income-tax, with the thousands of other corresponding or correlative advantages, which it would take the Chancellor of the Exchequer himself, were he an agricultural statistician adequate to the task, to enumerate. I fancy I see some readers smile or frown at the mere mention of employing steam-power to reclaim the bogs of Ireland—yes, to effect a reclamation such as the most energetic of our Irish improvers, even when backed by the aid of the Imperial legislature, have been for so many centuries labouring at in vain. If ever those bogs are to be reclaimed, and reclaimed they will be on Ireland becoming "what she ought to be," united in industry as well as in politics and taxation with England, the steamer's whistle must take the place of the curlew's scream. *Edward Carroll*, 6, *College Street, Dublin, June* 17.

*The Late Attempt in the House of Commons to introduce a Law to Shut up Public Houses on Sundays* is very suggestive, and bears upon a question of great importance to the welfare of the working classes. No restrictive legislation will remove an evil, the existence of which does not depend so much upon the temptation proposed to be got rid of, as upon other circumstances. It is the abuse and not the use of a thing which renders it mischievous. Undoubtedly drunkenness is the bane of society, and public houses are generally selected by the working classes to congregate in, sometimes from choice, but often from necessity, to obtain the common conveniences denied a man at home, the crowded state of his inconvenient cottage compelling his family to live together in a most abominable condition, more like animals than human beings. Would it not be wise in the powerful, wealthy, and influential magnates of the land to inquire into one of the evident causes of immorality, and to attempt to remedy it, before trying to make men and women sober by law? It is easier to lead than drive the human animal. Common sense would suggest how necessary it is, when giving good advice, to be able to point out a feasible way of escaping the temptation of evil company and bad examples. To gain the confidence of men and women, there must be earnestness of manner and truthfulness; words are thrown away, and the speaker placed in an anomalous position, if his precepts cannot be carried out. The preacher may address himself to the working classes of his congregation, inveigh against drunkenness, immorality, and profligacy, exhort parents to bring up their children carefully, to check vice and encourage virtue, and yet he well knows that very many heads of families to whom he is talking have not even an opportunity of separating the sexes at night. Clergymen appoint young women as district visitors in their parishes, who have to visit overcrowded cottages, and cannot fail to observe the extraordinary arrangements of men, women, and children sleeping in the same room, a disgusting fact, yet one which should be kept from the young and inexperienced mind; indeed it is not a fair position to place them in. Churches may be built, school houses erected, tracts distributed, but until the residences of the working classes are improved, so as to give the inmates a chance of observing common decency, all efforts to raise the character, and give a proper tone to the feelings of the lower classes, will be fruitless. The labourers do not require expensive cottages, fitted up with every luxury inside, and ornamented without, but they do want wholesome roomy dwellings in which they may live respectably and have no excuse for frequenting the public house, to their own destruction and that of their families. This question cannot be much longer laid on the shelf. In a few days some startling juvenile statistics will be sent to the *Agricultural Gazette* relating to crime. *Falcon.*

*Clover Disease.*—In last week's *Gazette* you gave the following answer to your correspondent "Nemo:" "Your Clover dying in patches is being killed by the Clover Dodder." Are you right? I have seen several fields of Clover this year that have died off in patches, I suppose similar to your correspondent's, and one of my own fields is gone off in the same way; but I cannot detect the Dodder as being the cause. In a 10-acre field adjoining my farm there was a full plant last autumn, but in the spring there was scarcely a plant of the broad-leaf Clover left, only the Trefoil that was sown with it. From what I hear I believe it is a general complaint, and I have been watching the *Agricultural Gazette* in the hope of gaining some information. Does the Dodder run in the winter? *Leonard Barber.* [The patches where Clover has been killed by Dodder are circular and brown as if scorched.]

*The Bishop of Rochester and the Rev. G. Davis.*—It is with much regret that I have only just seen in your last week's Number the extract from the *Mark Lane Express*, on "The Rev. G. Davis and the Bishop of Rochester," or I should sooner have sought your permission to insert a line or two in your next impression. I do, however, sincerely hope that you will convey to your readers the honest conviction that not a tenth of the English clergy will ever indorse his lordship's strictures on this subject, any more than they will that anxiety o his that his priests should appear well "shaven and shorn." As a body we are proud of our farmers, we rejoice in every opportunity of associating with them, and although I know instances of clergymen, who sorely grieve over the absence of their leading farmers from the temple of God, and in consequence speak harshly of the bad example they show their labourers, to say nothing of their own thoughtlessness, yet, as a clergyman myself, I protest most indignantly against the Bishop of Rochester's dictum, and most fearlessly assert that there is no body of men with whom the country clergy are proud to feel one, as with the good old-fashioned farmer who is regularly seen in his place at church with his family, most probably also looking round to see if all his dependents are there also, and is as certain to be counselling with his parson from time to time for the good of their mutual interest—"the welfare of the parish." *A Monmouthshire Parson.*

## Societies.

Bath and West of England. — The monthly meeting of the Council was held at Douch's Railway Hotel, Taunton, on Saturday last; J. Silliphant, Esq., Vice President, in the chair.

Earl Fortescue, who, at the Exeter meeting, was elected President for the ensuing year, ending with the Bristol meeting, expressed, in a letter to the Council, the satisfaction with which he should perform the duties of the office so unexpectedly conferred upon him. An offer by Mr. Alexander Simpson, of Birmingham, of "a prize of ten or twenty guineas for the best calf fed on his condiment from one week old," was respectfully, but unanimously declined; several members protesting against the degradation of the prize system which the acceptance of the offer would involve. Several important resolutions having reference to the future conduct and management of the society were discussed, but their ultimate decision was deferred till the August meeting. The committees, stewards, and officers for the ensuing year were nominated; their election at the August meeting being rendered dependent on their written consent to act. On the recommendation of the stewards of poultry, it was resolved that the future exhibitions of the department be held under carefully protected shedding, with the convenience of side curtains for night service. Eleven new members were elected; after which the Council adjourned.

## Foreign Correspondence.

An Agricultural Sketch: Stuttgart.

[The following is the continuation of our correspondent's report of the Farm at Salzmünde.]

Spring-sown grain crops (Barley, Oats, and spring Wheat, altogether about 2000 acres) after Beet-roots, get partly a dressing of farm-manure, partly an additional dressing of about 1 cwt. of guano. The past seasons having shown very fair results of the dressings with guano and bone-dust, it is Mr. Zimmerman's intention to double the guano used till now, with an additional outlay for some 100 tons more of bone-dust. The plough used at Salzmünde for all cultures is rather large, and known there under the name of "Beet-root plough of Magdeburg." It is exclusively drawn by oxen, four of them for each plough, and attended to by a ploughman and a driver. Although the furrows are made no less than 14 ins. deep, 2 Prussian morgen, or about 133 English acres, are ploughed easily per day; a fact which might be explained by the circumstance that the beasts have to work only half a day, and stoppages being prevented by ploughing mostly round and round. In visiting S. last autumn, we just came on a field where 10 to 12 ploughs were going behind each other, strictly overwatched by an overseer or bailiff, who has to keep order and to have an eye on regular and uninterrupted work. They were ploughing 15 inches deep, and each plough was preceded besides by a woman or boy, who had to pick up grubs, which were very numerous last autumn. Mr. Zimmerman thinks that with four oxen, more work is done this way than with four horses, who have to work all the day. The root crops being ploughed all before winter 14 to 16 inches, they only get in spring a stirring with the cultivator. Harrows and rollers are of no great importance there, as the soil is naturally so loose that it is brought to a very fine tilth, with proportionally little trouble. The harrows used there have iron teeth and are made after a Scotch model; the rollers we saw there were all a kind of ring-rollers. A thorough deep cultivation and a timely use of the cultivator, the roller and the harrow, as it is practised here, are of course of the first consequence for the extensive culture of the root-crops there. It speeds and facilitates not only the regular sowing, brairding and hoeing of the latter, but it is also most beneficial for the succeeding grain crops, which are all drilled there. In districts, as, for example, on the Rhine, where tough and clayey soils and the old-fashioned shallow ploughings are yet predominating, the drill culture has of course found no general entrance yet. At Salzmünde the drill culture has shown so many advantages by the experience of several years, that Mr. Zimmerman has drilled all his grain crops (3000 acres) at a distance of 4½ to 6 inches. The young seeds of Wheat and Rye we saw last autumn presented indeed a beautiful aspect, by their equality and the straightness of the drills, and I do not say too much when I say, that not even in England have I ever seen better sown grain crops. Six drilling machines have been procured from England, out of Messrs. Hornsby's manufactory, and though they cost about 44*l.* apiece, everybody is convinced of their suitability here. Each machine requires three men and two horses, which latter are changed every quarter of a day, and 22 to 25 Prussian morgen, or about 16 English acres, are sown this way daily. The sugar Beet crop is likewise drilled with these machines at a width of 18 inches, so that they can easily be horse-hoed with a three-rowed machine, which makes much cheaper work that that done by hand. The first hoeing costs thus only about 7*d.* per acre, whilst the former land work amounted to fully 1*s.* 8*d.* per acre. After the singling of the Beet roots they get a second horse-hoeing, which hastens their growth, so that they are soon large enough for being bulked up. The earthing up of the Beet roots is done with a four-shared bulking plough, after Smith's system, and the work is done so properly at a depth of 3 inches, that the assistance of hand work is required only in a small scale. About 17 English acres may be bulked up daily with this machine, at half the expense of the former hand-work. Not so easy and simple is the Potato culture, and knowing that Mr. Zimmerman is very well informed on British agriculture, I wonder that he has not adopted the Scotch or English system of putting the Potatoes in ridges, and splitting them after the dung and the Potato-sets have been put in.

Here the Potatoes are laid in holes, made with the spade, at a distance of 24 inches in breadth and 16 inches in length. For finding out the equal distance of the holes, drills or marks are made with a wooden machine, called "marqueur" there. Many hands are required of course for planting in so short a time over 1000 acres of Potatoes. The latter are all stored in pits made on the spot and covered with straw, and a layer of earth, 3 feet in thickness. The pits are 15 to 20 yards long, and the Potatoes keep all the winter there, better than in any cave or cellar. The Clover-hay is all dried on wooden posts or "bees," each having six sticks put across, and being of the form shown last week. I never saw similar frames in England, and would highly recommend them, as the hay is sheltered thereupon against any inclemencies of the weather. Experiments are made with the making of "brown" or fermented hay, which is said to be an excellent food.

To give you a right comparison between the fertility of Salzmünde and that of other countries or districts of northern Germany, I am going to specify to you the average crops grown, as taken out of the harvest registers of the latter 10 years.

Crops, on the average of 10 years, considered as high but not uncommon ones.

| | | | per Engl. acre | | per Engl. acre |
|---|---|---|---|---|---|
| Sugar Beets, | washed, | yield .. .. | 9.5 tons | to | 14 tons |
| Potatoes | ,, | ,, .. .. | 5.4 ,, | | 7.2 ,, |
| Clover Hay | ,, | ,, .. .. | 1.9 ,, | | 3 ,, |
| Wheat | ,, | ,, .. .. | 3.6 qrs. | | 5.1 qrs. |
| Rye | ,, | ,, .. .. | 3.6 ,, | | 5.4 ,, |
| Oats | ,, | ,, .. .. | 5.4 ,, | | 8 ,, |
| Barley | ,, | ,, .. .. | 4.1 ,, | | 6 ,, |
| Rape | ,, | ,, .. .. | 3. ,, | | 4 8 ,, |
| "Awehl" (a harder kind of Rape) .. | | | 2.4 ,, | | 3.6 ,, |

Although the cultivation of the root crops is carried on there on a very large scale, it has not had any weakening effect on the other crops; on the contrary, the latter are increasing from year to year. If this will be the case also for the future remains a question to be solved by experience only. According to Mr. Z.'s and Dr. Growen's opinion, the theories on the exhaustion of the soils, referred to by a well-known German chemist, seem to be much exaggerated, the more so on farms as the above, where with the exception of some sugar, spirit, oil, and meat, all is consumed on the place and returned to the soil in the form of manure. On estates, however, where the exportation of grain, roots, and Clover is considerable, and where the necessary manures cannot be supplied elsewhere, an exhaustion and impoverishment of the soil is a matter of course.

In concluding this first part of my description on Salzmünde, I think it well to refer to a journal edited by Dr. Growen, the able chemist of the Experimental Station, out of which I have taken the most of the above notes, as it would not have been possible for me to gather, during my short stay at Salzmünde, so many interesting details. Should my rather long sketch on one of the most extensive and best managed farming establishments of Germany be of any further interest to you, it will give me much pleasure to give you the second part in my next. *J. R., O. Farm, near Stuttgart, June* 27.

## Reviews.

*Report on the supposed Progressive Decline of Irish Prosperity.* By Mr. Neilson Hancock, LL.D. Dublin. Printed by A. Thom, 87 and 88, Abbey Street.

In reply to some allegations which had been made as to the progressive decline of Irish prosperity, W. Neilson Hancock, LL.D., has published a clever pamphlet, lucidly compiled from statistics furnished by official authorities, and by command of his Excellency the Lord Lieutenant of Ireland, with a view to ascer-

tain the state of the country. This gentleman has executed his work with scrupulous avoidance of party politics and personalities, as might be expected from a barrister appointed for the purpose by the high-minded nobleman whose elevated rank, office, and individual worth place him above the suspicion of any unworthy motive. The pamphlet is important and interesting, and I wish to make a few remarks on some parts of it which relate to the agricultural interests of Ireland, without obtruding observations on the financial and social subjects contained in it.

It is needless to revert to imperfect sources of information respecting statistic calculations made antecedently to 1847: no satisfactory results are deducible from such unreliable authorities.

Dr. Hancock, has, however, thought it right to enter into some particulars to show the erroneous character of the allegations of progressive decline founded on the decrease of land under crops, and he has especially assigned clear arithmetical reasons for reducing Mr. M'Culloch's estimate of 2,000,000 acres under Potatoes in one year, as an overrate of 762,559 acres.

Even with the utmost care to obtain accurate returns of agricultural statistics under official management and earnest desire to arrive at truthful information, there must be a large margin left for inaccuracies, both designed and incidental. Even many British agriculturists of the tenant class will have their private reasons for withholding truthful returns of the quantity and quality of their crops; and this disinclination to disclose the circumstances inquired after, may be supposed to have much greater force among the small farmers of Ireland, who are jealously apprehensive of inquisitorial inquiries affecting the productiveness of their land. And the large tenant farmers who constitute a great majority of the Poor Law Guardians, are supposed also to underrate the estimates of produce, as appears from the following semi-official note of the Registrar-General. "In 1855, the opinion of the Poor Law Guardians was to some extent used in checking the returns of the Constabulary; in 1856, both systems were used. The tendency of taking the opinion of the Guardians has been to lower the rates of produce." No doubt the Guardians are really competent judges of this matter, but they are not always disinterested, whereas the constabulary report what they believe to be correct as to produce; and in their returns of the acreage of crops, they are absolutely so.

One of the tables presented by Dr. Hancock shows the number of acres under crops of all kinds from 1847 to 1862 inclusive; from this it appears that the number has not reached six millions, nor been less than five millions and a quarter at any point within the series. The maximum number was 5,970,199 acres in 1860, and there has been a decrease in each of the two subsequent years, the last year showing a decrease beyond that of the previous year of 138,841 acres. "Even with this decrease there were upwards of 500,000 acres more under crops in 1862 than in 1847; 200,000 acres more than in 1849, and 50,000 acres more than on an average of seven years from 1849 to 1855 inclusive."

It is interesting to observe the relative increments and decrements of Turnips and Potatoes from 1849 to 1862. In the year 1859, when the average of Potatoes was 1,200,347 (the maximum of the whole range from 1847), the acreage of Turnips was only 322 and 137, being a decrease on the four preceding years, when the acreage of Potatoes had been progressively increasing.

In the course of the three last years the quantity of land under Potatoes has been diminishing, and in the two last, that of Turnips has been increasing. The breadth of land under Potatoes in the present year will probably exceed that of the three preceding years, and the acreage of Turnips will proportionably fall off. The decline of Wheat culture is most remarkable. It has fallen from 743,871 acres in 1847 (the maximum in the tabular series of 16 years) to 357,816 acres in 1862—the lowest, excepting in the years 1852 and 1853, which were very little higher. The produce during the last two years has been very bad—less than 2 quarters to the acre in 1862—"the worst year as to produce since the statistics were first collected in 1847."

In Oats there has been also a decline in produce, though the extent of land under this cereal has been nearly the same during the last six years. In each of the last two years the deficiency has been nearly 800,000 quarters. "There can be no doubt that 1861 and 1862 were very unfavourable years for the Oat crop, which occupies one-half the entire land under crops, other than meadow and Clover, and four-fifths of the land under cereal crops in Ireland." There have been unquestionably three successive bad harvests in Ireland, attributable to the unfavourable conditions of the climate during the three last years. Dr. Hancock has taken the trouble of obtaining tables which show the annual rainfall in each year from 1841 to 1862 (inclusive) and though some of those years were very unfavourable in respect of wetness (1852 the lowest of all), there were not three consecutive years exhibiting so many inches above average as the three last; the rainfall (according to the Register of the Ordnance Survey Office) on 221 days of 1862, being 26 above the average of last year, and 210 days in 1860. In 1861—the intervening year—the greatest quantity of rain fell in July, August, and September, in the series of years from 1855 to that year. According to the foregoing details, the deficient produce of the last three years is altogether attributable to climate. And it is a rational conclusion. The frequent over moisture and deficiency of sunshine prevalent in Ireland are certainly sufficient causes of the decline in Wheat culture, which is only prudently pursued in the calcareous soils of the midland counties, and cannot compete with the more favourable climates from which supplies are drawn at prices much below the rates which formerly induced Wheat growing in Ireland—even under probability of failure. In 1847 there were nearly 800,000 acres under Wheat, and in 1862 less than half that number, with an estimated produce of only 683,048 quarters! In 1853 there were only 326,896 acres under Wheat (the lowest in the series), with an estimated produce of 1,133,585 quarters, in round numbers about twice the produce of nearly the same extent of acreage, at nearly double the price. Wheat farming therefore has been a sad failure latterly in Ireland.

In the table of Oat crop the falling off in extent of land has not been great since 1847. In the last six years it has been almost exactly the same, but in each of the last two years there has been a deficiency of produce of nearly 800,000 quarters. "There can be no doubt that 1861 and 1862 were very unfavourable years for the Oat, which occupies one-half the entire land under crops other than meadow and Clover, and four-fifths of the land under Cereal crops in Ireland. I have already adverted to the relative increase and decrease of Potatoes and Turnips. A few special remarks are however necessary regarding those crops in their respective conditions. The extent of land under Potatoes in 1849, when hope of their restoration to healthfulness had induced a considerable degree of cultivation of them, was 718,608 acres; during the succeeding six years the progressively advancing extent was less than 1,000,000 acres. During the following septennial period the acreage has been above that extent by one or two tenths, excepting the last year, which was only 1,017,317. "The table exhibits a very great decline in produce since 1859, and something quite startling in 1861, when it was far below a third of the average produce from 1851 to 1855, and below a half of the average produce from 1856 to 1860. The land under Potatoes in 1861 and 1862 was about one-fourth of the entire land under cereal and green crops in those years. Such a serious falling off in produce must have had a most disastrous effect an impoverishing the farming classes." I have heard that the pawn offices of a provincial town with which I am well acquainted, have been doing a lamentably large amount of business with the class of petty farmers and small traders connected with them—more than 50 donkey carts of the gig form used for the conveyance of farmers, wives and daughters to market, are now in the yard of one pawnbroker. This very unusual circumstance is a sure evidence of at least temporary want among the peasantry.

It is well known that the productiveness of the Potato has never since the famine equalled its produce per acre previously to 1846. This circumstance, Dr. Hancock remarks, "though often overlooked, is one of the most important to bear in mind, as no change in the laws or interference of Government, could prevent the continuous loss of the half of so valuable a crop, rendering Ireland a less desirable place than it would otherwise have been for a poor and numerous population to live in."

The acreage of Turnips in the last year was 377,149 acres, an increase on the last septennial period.

There are some interesting tables showing the number of cattle, sheep, and pigs, from 1841 to the present time. The increase of cattle has been remarkable to 1859, but subsequently there has been a decrease. In sheep there has been a decrease since 1854. The maximum number of pigs in any year since 1841, was 1,409,883 in 1858. There has been a decrease in the last two years. Besides numerical increase in all the above instances, the improved weight and consequent value of the animals is to be estimated. Still the decline within the last three years is unquestionable. Several other important subjects are treated of, ably and perspicuously, in this bulky pamphlet, but we cannot venture to occupy more space with observations respecting them. We shall barely quote, in a very succinct form, a few sentences from the six "general conclusions" which the author, to whom we feel much indebted for valuable information, has deduced from his previous statements.

The diminished average produce of all crops in the four years, 1856, '57, '58, and '59, seems to have led to a check of prosperity in some things, and on the whole to a diminished rate of progress in agricultural wealth—that the still further diminished produce of all crops in 1860, 1861 and 1862, resulting from inclement seasons, turned the diminished progress in wealth into a positive decline; and that the accumulation of the effects of three years decline has produced a very serious diminution of national wealth and well-being. The losses of farmers in Oats, Wheat, Potatoes, and cattle in the three years amounts to upwards of 26,000,000*l*., or two years' rental. *M. D.*

## Miscellaneous.

*Senseless Weights and Maddening Measures.*—A gallon isn't a gallon. It's a wine gallon, or one of three different sorts of ale gallon, or a corn gallon, or a gallon of oil; and the gallon of oil means 7½ lb. for train oil, and 8 lb. for some other oils. If you buy a pipe of wine, how much do you get? 93 gallons if the wine be Marsala, 92 if Madeira, 117 if Bucellas, 103 if Port, 100 if Teneriffe. What is a stone? 14 lb. if a living man, 8 if a slaughtered bullock, 16 of cheese, 5 of glass, 32 of hemp, 16¾ of Flax at Belfast, 24 of Flax at Downpatrick; it is 14 lb. of wool as sold by the growers, 15 lb. of wool as sold by the woolstaplers to each other. There are seven measures in use to define an acre. A hundredweight may contain 100 lb., 112 lb., or 120 lb. A hundredweight of pork is 8 lbs. heavier at Belfast than at Cork. A man might live by selling coal at a less price per ton than he paid for it at the pit mouth. A ton of coal at the pit mouth varies from 22 cwt. to 28 cwt. of 120 lb. each; a ton to the householder means 20 cwt. of 112 lb. each. Of cheese, 32 cloves (of 8 lb. each) make a wey in Essex, 42 in Suffolk. We walk in this United Kingdom by the measure of four sorts of miles, an English mile being 217 yards shorter than a Scotch mile, 480 yards shorter than an Irish mile, and the geographical mile being another measure differing from all three. Our very sailors do not mean the same thing when they talk of fathoms. On board a man-of-war it means 6 feet, on board a merchantman 5½ feet, on board a fishing vessel 5 feet. *All the Year Round.*

*Mill Dams and Drainage on the Thames above Oxford.*—Every well regulated mill dam, and every well ordered lock, with their weirs and lashers, give facilities to local drainage, which must otherwise be artificially provided. Take as an instance the Cassington and Yarnton meadows, a case in which the antiquated tenure, as lot or Lammas land, hinders united action. The occupiers have, nevertheless, shut off the water which flows by a water course from the river immediately above the Duke's cut; they have to a certain extent availed themselves of the ditch cut parallel with the railway, which carries the drainage by a double culvert under the cut, and ultimately discharges it by a circuitous course into the Woolvercott mill tail. Though the most has not been made of this outfall, it is the mill dam to which it is due. Should an attempt be made to complete the drainage of these meadows (as might be done), the obvious method is to carry the water under the mill head, either to the back water of the mill, or the tail of King's Weir. In this case, as in other cases, the water now festering in the soil, destroying both the quantity and quality of the herbage, and rendering the land unfit to carry stock during a considerable portion of the year, might be easily removed, at once increase the value of the land, and effectually improve the sanatory condition of the district. Many instances might be added; the whole or part of the meadows to the east of the river, between the Cherwell and Sandford mill tail, including Aston's eyot, the well-known habitat of the graceful Fritillaria, but otherwise a noxious flam, would be furnished with efficient drainage outfalls, above Iffley by the lock and mill tail, and below by the mill dam at Sandford, which requires improvement, by the enlargement of the water way. If it were necessary to try the experiment on a small scale, an island immediately above the latter spot might be effectually drained, and doubled in value, if a small iron culvert were passed under the river for the discharge of the drainage into the lower level. If this were done, it is obvious that the mouths of the ditches now communicating with and bringing the water from the river must be closed, whereby many gates and small bridges might be spared, to the great benefit of the towing paths, and a saving of expense to the Thames Commissioners. Looking at the future, it may be expected that, as land drainage is extended in the water-shed of the upper Thames, floods will diminish in volume, because water evaporation is promoted where land drainage is efficiently carried out. The falling rain must replace the water evaporated before it can flow from the surface or from the drains beneath the soil; even if this were not so, the removal of water which stagnates in the soil is the great point to be aimed at by those who desire to increase the value of the land, and improve the health and well-being of the inhabitants of this district. This question should be met in a spirit of mutual accommodation. The drainage of the Oxford valley has long been a vexed question; if once accomplished, the interests of all parties would be promoted, and the improvement of the sanatory condition of the city, University, and neighbourhood of Oxford would be the inevitable result. *Rev. J. C. Clutterbuck, before the Ashmolean Society.*

*Leases.*—The following are Mr. Sanderson's conditions on which he considers a lease ought to be based.

"1. No restriction as to cropping the first 17 years of a lease.

"2. No restrictions with respect to the sale of roots, straw, or hay, the first 17 years.

"3. That for the last four years of the lease one-fourth of the entire area under cultivation shall be annually allotted for root crops.

"4. That during the last four years a root crop shall intervene two white crops.

"5. That during the last four years no straw shall

be consumed off the farm, unless an equivalent in value of dung be restored to it.

"6. That all root crops during the last four years shall be consumed on the farm.

"7. That at the expiration of the tenancy one-half of the arable land shall be under straw crops, or fit for straw crops, (as the term of entry may regulate), one-fourth for roots, and one-fourth under Clover.

"Note.—None of the above conditions would need to be enforced, were a renewal of lease agreed upon at the end of the seventeenth year."

## Calendar of Operations.

### JULY.

Northumberland: *June Report.*—The weather through the greater part of June has been warm and seasonable, and the crops, especially the Wheat, have progressed in growth amazingly. A considerable fall of rain occurred about the middle of the month, which for a time banished us from the ordinary working of our Turnip breaks on the stronger soils; however this, in addition to the subsequent showers, has had the effect of keeping everything in a healthy and growing condition. The rainfall of the month registers nearly 3 inches. Turnip sowing was pursued with unabated vigour during the early part and middle of the month, and was brought to a satisfactory conclusion on the 26th. The system of working and manuring the land for this crop was given in our last report, hence we conceive it superfluous to repeat it. We yet hear, however, of considerable breadths of land to be seeded with White Turnips on the light soils of this county. Turnipsowing being finished, our attention has been of late more particularly directed to the securing of our hay crops, which have cut up lighter than was generally expected during the earlier months of spring. Nearly the whole of our Clover-hay is down, having been cut in first rate style by one of Burgess and Key's combined machines, at the rate of from 12 to 16 acres per day—the men and horses of course working in relays. *Stock.*—Cattle are feeding satisfactorily and bringing remunerative prices in the fat market, but great complaints are afloat as to the tardy manner in which lambs are becoming fit for the butcher. Grass is now plentiful, and as a consequence, lean cattle and sheep are being bought in at fabulous prices. Wool is the sole topic of conversation in agricultural circles at this moment, and though a good many sales have been effected at rates varying from 1*s.* 10*d.* to 1*s.* 11½*d.* per lb., still buyers are very cautious, and of late an attempt has been made to delude the public by a report—evidently without foundation—of a downward tendency in the trade. We ourselves have not yet sold, though we have been bid 1*s.* 10½*d.* per lb. for a first-rate sample of mixed Leicester wool, and we are now sticking out for better things in the trade, which we shall very probably obtain. *J. W.*

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. Slatter, Streatley, near Reading.

| Day of the Week. | Day of the Month. | Barometer corrected to Freezing Point at Mean Sea Level. (At 9 A.M., Railway Time) | Thermometer: Dry Bulb. | Thermometer: Wet Bulb. | Wind: Direction. | Wind: Force, 0—6 | Amount of Cloud, 0—10. | Self-Registering Thermometers, In Shade: Max. | In Shade: Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | | | | | | | | | | Inches. |
| Friday .. .. | July 3 | 30.26 | 66 | 60 | N.W. | 2 | 5 | 67 | 50 | 79 | 44 | 0.02 |
| Saturday .. .. | 4 | 30.30 | 64 | 56 | N.W. | 0 | 0 | 71 | 47 | 90 | 42 | .. |
| Sunday .. .. | 5 | 30.42 | 65 | 57 | N.W. | 0 | 7 | 70 | 51 | 91 | 45 | .. |
| Monday .. .. | 6 | 30.30 | 67 | 61 | E. | 3 | 0 | 73 | 54 | 92 | 48 | .. |
| Tuesday .. .. | 7 | 30.11 | 66 | 63 | S.W. | 3 | 6 | 74 | 56 | 82 | 51 | .. |
| Wednesday .. | 8 | 30.21 | 65 | 60 | N.W. | 0 | 5 | 75 | 63 | 91 | 45 | .. |
| Thursday .. .. | 9 | 30.32 | 72 | 63 | N. | 1 | 0 | 75 | 51 | 91 | 46 | .. |

## Notices to Correspondents.

Gas Lime. *H W C.* Put two waggon loads per acre over Grass or Clover in autumn, and plough it in some weeks before seed time. We do not, however, believe it will destroy wireworm. And remember anything that will destroy *them* will be still more likely to destroy young plants. Gas lime, however, loses its causticity by a week or two of exposure.

Grass: *A 13 years' Subscriber.*—We recommend sowing Rape and feeding off, and then putting in seeds and Barley next spring. Grass seeds are, however, as likely to succeed sown by themselves in August or September as at any other time of the year.

Salt: *P. P. Wills.* 4 cwt. per acre will not kill weeds on light land. You must get the weeds up by scarifying, harrowing, gathering, and burning. Earlier in the year you might have done a good deal to it by mere sunshine.

Seedling Potatoes: *W. Patterson & Son, Dundee.* The leaf sent is larger than any we can find in our garden.


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

The Hydropult.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

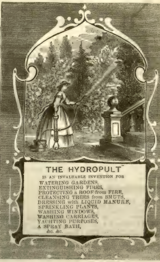
The Hydropult.—"All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines."—*Gardeners' Chronicle and Agricultural Gazette.*

The Hydropult.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

The Hydropult.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

The Hydropult.—"Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

The Hydropult.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

The Hydropult.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

The Hydropult.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces."—*Mechanics' Magazine.*

The Hydropult.—"It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation."—*Illustrated News of the World.*

The Hydropult.—"Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner."—*Builders' Reporter.*

The Hydropult.—"Many of the most scientific men of the age are daily inspecting and testing its uses."—*Age We Live In.*

## AN INVENTION FOR THROWING WATER BY HAND POWER

(Secured by Royal Letters Patent),

Price TWO GUINEAS

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain.

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

Thomas Rivers, Esq., the eminent Florist, Shirley Hibbard, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.

EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.

"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "Percy M. Dove, Manager."

"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—Swinton Boult, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—Henry Lowe, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. Hallows, Secretary, Caledonian Insurance Company."

**CAUTION:** Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; Griffiths & Browett, Manufacturers, Birmingham; Charles P. Button, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult.

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. Spencer, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

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WEST-END DEPOT, 309, REGENT STREET, W.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. Tylor & Sons' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

8 gal. 2 13 6 — 12 gal. £3 5 0 — 16 gal. £3 15 0
24 gal. £5 0 0 — 30 gal. £5 18 0

Fig. 571.

J. Tylor & Sons' OAK TUB GARDEN ENGINES, with Registered Spreader.

15 gal. £5 12 6 — 28 gal. £7 2 0

Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 ,,
Telescope Branch Pipe for ditto .. 0 10 0 ,,

Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11s. 6d. each.
,, 589. Middle Ditto ditto .. 10 3 ,,
,, 588. Small Ditto ditto .. 9 0 ,,
,, 587. LADIES' GARDEN SYRINGE, with do. 7 6 ,,

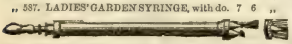

Fig. 591. READ'S SYRINGE, with two roses and one jet, 17s. 6d
READ'S SYRINGE, with one rose and jet, 15 0
,, 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. Tylor & Sons' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

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The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by T. Millington.

Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home Use and for Exportation.

☞ *For prices see Advertisement of June 6.*

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Lists per post on application. Gates from 30s. to 500l.

*The Hurdles can be seen in process of Manufacture at the Works.*

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PROFESSOR VARNELL'S ENAMELLED and WROUGHT-IRON STABLE FITTINGS.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their Horses. They can be had Plain, Galvanised, or Enamelled.

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NOW FITTED WITH AN AIR VESSEL,

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**DOUBLE-ACTION ENGINE**

at £2 2s.

THAT

THROWS A CONSTANT STREAM.

May be obtained of any Ironmonger or Seedsman at the above price, or of

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

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No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

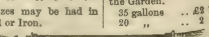
10 gallons .. .. £2 15 0
16 ,, .. .. 3 15 0
24 ,, .. .. 5 0 0

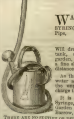
Larger sizes may be had in either Wood or Iron.

No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

35 gallons .. £2 10 0
20 ,, .. 2 0 0


BRASS SYRINGES of all kinds from 9s. to 21s.


No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 5 feet Flexible Suction Pipe,

21s.

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

There are no suction or delivery Valves, hence much friction and liability to choke with leaves and dirt is avoided.
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HAVE YOU a LAWN?—Use BELCHER'S PATENT PLANTAIN EXTRACTOR; which neatly removes Plantain and Daisies, and replaces them with fine Turf. Price 6s.: to be had of all Ironmongers.

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PATENT ELECTRICAL PLANT PROTECTOR, for the preservation of Plants, Flowers, and Shrubs from Snails, Worms, Slugs, &c.

This Protector being composed of zinc and copper, or of any two metals combined in such a manner as to form an electrical couple, constantly gives off a certain amount of electricity, rendering plants entirely secure from the attacks of Slugs, &c., as it has been discovered to be perfectly impossible for any insect or worm to crawl over a combination of these two metals.

Being formed in plain and ornamental designs for borders, beds, &c., it is applicable to all gardens, terraces, &c.; it is also made in the form of Plant Guards to encircle the stems.

Illustrated Lists of Prices post free on application to Robert B. Lee & Co., Sole Manufacturers of the Patent Plant Protector, 22, Market Place, Manchester.

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Sold in casks of about 30 gallons each, at 1s. 6d. per gallon, at the Manufactory, or 1s. 8d. per gallon paid to any Station in the kingdom.

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**Garden and Architectural Decorations in Terra Cotta**

Prize Medals of 1851 and 1862 awarded to

JAMES PULHAM, Broxbourne, Herts. Also Notice of Artistic Merit, and of Sound Durable Material in FOUNTAINS, VASES, FIGURES, FERN CASES, and BRACKETS, CONSERVATORY TUBS, with rising bottoms, &c.

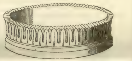
The novel FERNDELABUM.—To grow SIXTY FERNS (or Flowers) on a space 4 ft. 8 in. over, 8 ft. high, &c.

Guaranteed to stand frost an unlimited time.

Stereographs sent to inspect for 12 stamps.

Illustrations in the *Art Journal Catalogue*, the *Masterpieces*, and *Gems of the Exhibition*.

................6 feet 9 inches................



AUSTIN, SEELEY, AND CO. beg to inform the Nobility and Gentry that they are prepared to supply, at three months' notice, TAZZE for Flowers or Fountains, as wide as 13 feet. They take this opportunity of referring to some large Flower Basins and Plain Kerbings made by them for the Royal Horticultural Society's Gardens; and also to those lately supplied to the Public Garden in the Regent's Park. They will be happy to forward a List of their Fountains to any gentleman requiring one.

369 to 375, Euston Road, Regent's Park, N.W.

"The GEARING of SAMUELSON AND CO.'S LAWN MOWING MACHINES is not liable to Derangement

# SAMUELSON & CO.'S

## PATENT LAWN MOWING MACHINES.

SAMUELSON AND CO.'S 12-INCH and 16-INCH NEW PATTERN LAWN MOWERS.

SAMUELSON AND CO.'S IMPROVED GARDEN ROLLERS AND GARDEN SEATS.

Catalogues Free, on application to BRITANNIA WORKS, BANBURY; or to

SAMUELSON AND CO.'S LONDON WAREHOUSE, 76, CANNON STREET WEST, CITY,

where Samples may be seen.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. Tylor & Sons' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. |
|---|---|---|
| 2 13 6 | £3 5 0 | £3 15 0 |
| 24 gal. | 30 gal. | |
| £5 0 0 | £5 18 0 | |

Fig. 571.

J. Tylor & Sons' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0 |

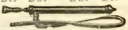


Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 ,,
Telescope Branch Pipe for ditto .. 0 10 0 ,,

Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11s. 6d. each.
,, 589. Middle Ditto ditto .. 10 3 ,,
,, 588. Small Ditto ditto .. 9 0 ,,
,, 587. LADIES' GARDEN SYRINGE, with do. 7 6 ,,

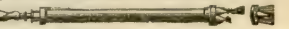


Fig. 591. READ'S SYRINGE, with two roses and one jet, 17s. 6d
READ'S SYRINGE, with one rose and jet, 15 0
,, 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. Tylor & Sons' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

J. Tylor & Sons, Manufacturers, Warwick Lane, Newgate Street, London, E.C.

## WARNERS' IMPROVED PATENT,

NOW FITTED WITH AN AIR VESSEL,

IS THE ONLY

**DOUBLE-ACTION ENGINE**

at £2 2s.

THAT

THROWS A CONSTANT STREAM.

May be obtained of any Ironmonger or Seedsman at the above price, or of

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

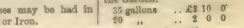
10 gallons .. .. £2 15 0
16 ,, .. .. 3 15 0
24 ,, .. .. 5 0 0

Larger sizes may be had in either Wood or Iron.

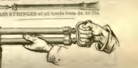
No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

35 gallons .. £2 10 0
20 ,, .. 2 0 0



BRASS SYRINGES of all kinds from 9s. to 21s.



No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 5 feet Flexible Suction Pipe,

**21s.**

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

THERE ARE NO SUCTION OR DELIVERY VALVES, hence MUCH FRICTION AND LIABILITY TO CHOKE with leaves and dirt IS AVOIDED.

John Warner & Sons, 8, Crescent, Cripplegate, London, E.C.

**SWEET WILLIAMS (HUNT'S SUPERB VARIETIES).**—The Advertisers having saved a quantity of the above splendid strain, can supply it in 6d. and 1s. packets, or 2s. 6d. per oz., post free. The Trade supplied.
E. P. DIXON & SONS, Seedsmen, Hull.

**Rhododendrons.**
CRIMSON, WHITE, PURPLE, AND SCARLET.
CHARLES NOBLE has RECEIVED the AWARD of the Royal Horticultural Society as under FOR RHODODENDRONS.
FIRST PRIZE, 1861.
FIRST PRIZE, 1862.
FIRST PRIZE, 1863.
CATALOGUES are now ready, and a stock of Plants in the most perfect health, of all sizes, and at prices to suit all purposes.
Sunningdale Nursery, S.W. Rail.

**Herbaceous Calceolaria.**
GUARANTEED FINEST QUALITY AND NEW SEED.
WM. CUTBUSH AND SON beg to offer the above, saved with the greatest care from the Stock, which invariably obtains the FIRST PRIZES wherever exhibited. Per packet, 2s. 6d., 3s. 6d., and 5s., Post-free. Liberal allowance to the Trade.
Highgate Nurseries, London, N.

**Novelties of 1863.**
SPECIAL OFFER TO THE TRADE.
HENRY WALTON has an immense stock of the following in strong healthy plants:—

| | |
|---|---|
| Fuchsias, 6s. per dozen. | Pentstemons, 6s. per doz. |
| Verbenas, 3s. per dozen. | Antirrhinums, 5s. per doz. |
| Petunias, 5s. per dozen. | Chrysanthemums, 5s. per doz. |

Private parties will be treated with on equally liberal terms.
DESCRIPTIVE LISTS on application, inclosing Stamps.
EDGEND MARSDEN, near Burnley, Lancashire.

**To Orchid Growers.**
LUCOMBE, PINCE, AND CO., having a surplus Stock of the undermentioned CHOICE ORCHIDS, are in a position to offer fine specimen and half specimen plants at extremely moderate prices. The Stock is exceedingly clean and healthy:—

| | |
|---|---|
| Angræcum eburneum | Cattleya Mossiæ |
| " apiculatum | " Skinneri |
| Aerides odoratum | " crispa |
| " " majus | Dendrobium Farmeri |
| " affine | " aggregatum majus |
| " " roseum | Lælia purpurata |
| " quinquevulnerum | " Perrinii |
| " suavissimum | Saccolabium guttatum |
| " Brooksii | " præmorsum |
| Brassavola Digbyana | " Blumei majus |
| Brassia brachiata | Vanda tricolor |
| " verrucosa | " furva |
| Cœlogyne cristata | |

Sizes and prices may be had on application.
Exeter Nursery, Exeter.

W. VIRGO AND SON have a great quantity of the undermentioned Plants to offer for Sale, at the following prices:—

| | | |
|---|---|---|
| DRUMHEAD CABBAGE .. .. .. | 3s. 0d. | per 1000 |
| DRUMHEAD SAVOY .. .. .. | 3 0 | " |
| Red and White Transplanted and strong CELERY .. .. .. | 6 8 | " |

Wonersh, near Guildford.

TURNIP SEEDS for PRESENT SOWING.
As some kinds of Turnips are more suitable for late sowing than others, Messrs. SUTTON beg to recommend the undermentioned as the most desirable for that purpose.
Prices for the months of July and August, 1863:—
SUTTON'S EARLY SIX WEEKS TURNIP, 8d. per lb., or cheaper by the bushel.
SUTTON'S IMPERIAL GREEN GLOBE, very fine, best for the main crop, to be sown in July and August, for autumn and winter use, 8d. per lb., or cheaper by the bushel.
SUTTON'S SHORT-TOP SIX WEEKS, new sort, scarce, 1s. 6d. per lb.
CATTLE CABBAGE (the heaviest of all Agricultural Crops), should be sown in July and August, for transplanting in October and in the Spring.
GARDEN and FLOWER SEEDS for AUTUMN SOWING.
Messrs. SUTTON and SONS have a good stock of fresh Seeds of the undermentioned kinds, which should be sown during the months of July, August, and September.

| | |
|---|---|
| Cabbage, choice sorts | Radish, of sorts |
| Lettuce, do. | Spinach, do. |
| Onion, do. | Turnip, do. |
| Carrot, Early Horn | Cineraria, choice sorts |
| Cauliflower, choice sorts | Calceolaria, very fine |
| Endive, of sorts | Primula sinensis |

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading

**New Strawberry, Princess of Wales.**
B. W. KNIGHT, FLORIST, &c., 67, High Street, Battle, Sussex, has much pleasure in offering this superb new early STRAWBERRY, feeling confident that it will not fail to become a general favourite, as all who have seen it growing and tasted it on the ground have pronounced it first-class. It is a remarkably early kind, having picked from it on the 22d of May, and no doubt but what it will prove a good forcing variety. The fruit is large, flesh pale red, solid at the core; flavour rich and sugary, partaking largely of the Pine flavour; a most abundant bearer.
The following notices prove its value, without further comment:—
*Gardeners' Chronicle, July 4th.*
"Your seedling Strawberry, Princess of Wales, large, ovate, or flattened ovate, with flesh pale red, and solid at the core. The variety deserves notice on account of its size, appearance, and not being hollow at the core."
*Journal of Horticulture, June 23d.*
"Seedling Strawberry (B. W. Knight). The fruit sent is very juicy, and of excellent flavour."
*Florist, July.*
"Your seedling Strawberry, Princess of Wales, is a fine regularly-shaped ovate fruit, of a pale red colour, and very firm flesh; it has all the appearance of being a good sort."
Plants will be ready to send out early in September, at 21s. per dozen. The names of the Nurserymen who have ordered and will be able to supply it will be announced in a future advertisement.

TRADE
# HALLETT'S PEDIGREE NURSERY WHEAT.
MARK.

THE PEDIGREE WHEAT WAS AWARDED THE SILVER MEDAL BY THE JURORS OF THE CLASS "CEREALS FROM ALL COUNTRIES" AT THE MEETING IN 1863 OF THE AGRICULTURAL SOCIETY OF DENMARK AT ODENSE.

**In September DRILL 4 Bushels on 10 acres.**
**None is genuine unless the Trade Mark is upon the Bag.**
FREDERIC F. HALLETT, ESQ., F.L.S., THE MANOR HOUSE, BRIGHTON, SUSSEX.
**PRICE—One Guinea a Bushel (or Seven Guineas a Quarter),**
DELIVERED AT THE BRIGHTON RAILWAY STATION, IN BAGS SEWED UP AND SEALED.
"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing six stamps.

In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately; those of each ear being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent ears must be preserved. At the following harvest (1862), the best plant forms "*the selection of 1862*," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed*. The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found*.

This family Z will, next harvest, 1863, be *for the first time* offered to the public, and those who wish to secure some of it would do well, at once, to add their names to the Subscription List formed by special request for that purpose. As the joining this list will not involve payment until the Wheat is ready for delivery (of which the earliest possible notice will be given), the advantage of doing so is entirely on the side of the subscriber.

**Roses.**
The ROSES at the WALTHAM CROSS NURSERIES are NOW in FULL BLOOM.
MR. WM. PAUL respectfully invites all lovers of this popular flower to visit and inspect them. TWENTY FIRST PRIZES and NINE SECOND have been awarded to him for ROSES during the present year, and above 100,000 Plants are now growing in these Nurseries. Waltham Cross is 11 miles from London, and a first-class station on the Great Eastern Railway. It is also a delightful drive from the West-end of London, through Tottenham, or the Green Lanes and Enfield.
Entrance to the Nurseries from the platform, Waltham Station (for railway passengers only), and from the High Road, Waltham Cross, N.

**New and Rare Plants.**
B. S. WILLIAMS invites inspection of his large and well-assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, amongst which are some very fine specimens.

Now ready, post-free to all applicants.
A NEW GENERAL PLANT CATALOGUE, containing Select Lists of Choice Exotic Orchids, Ferns, Stove and Greenhouse Plants, Indian Azaleas, Variegated and Ornamental Foliaged Plants, Fuchsias, Pelargoniums, Rhododendrons, Verbenas, Petunias, Phloxes, Cinerarias, Chrysanthemums, Hardy Variegated Plants, Herbaceous and Alpine Plants, Roses, Hardy Trees and Shrubs, Fruit Trees, &c.
With a DESCRIPTIVE LIST of New, Beautiful, and Rare Plants.
Paradise and Victoria Nurseries, Holloway, London, N.

**Azalea indica, &c.**
ROBERT PARKER begs to offer strong healthy GRAFTED PLANTS of all the leading varieties in cultivation, in selections, from 18s. per dozen.
ALOCASIA METALLICA, from 10s. 6d. to 105s. each.
CALADIUM, of sorts, from 18s. per dozen.
CENTAUREA ARGENTEA, 5s. each.
" RAGUSINA, 24s. per dozen.
Priced and Descriptive CATALOGUES of PLANTS, &c., forwarded on application.
Exotic Nursery, Tooting, Surrey, S.

CALCEOLARIA, CINERARIA, PRIMULA, &c.—CALCEOLARIA, saved from carefully hybridised flowers, possessing all the recognised floral qualifications, viz., size, form, colours, and marking. Price, 1s. and 2s. 6d. per packet. CINERARIA, extra choice, 1s. per packet. PRIMULA SINENSIS FIMBRIATA, extra choice, 1s. and 2s. 6d. per packet. DRACÆNA (CORDYLINE) INDIVISA, from Mount Egmont, New Zealand; beautiful fine foliaged plant, 1s. and 2s. 6d. per packet.
BUTLER & MCCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

**Choice Seeds.**
B. S. WILLIAMS begs to offer First-class quality of the undermentioned SEEDS:—

| | Per packet. | |
|---|---|---|
| PRIMULA SINENSIS FIMBRIATA, Red, White, or Mixed .. .. .. | 2s. 0d. | 3s. 6d. |
| CALCEOLARIA, herbaceous .. .. .. | 1 6 | 2 6 |
| CINERARIA, from choice named flowers.. | 1 6 | 2 6 |
| PANSY, very choice .. .. .. | 0 6 | 1 0 |

Paradise and Victoria Nurseries, Holloway, London, N.

**Dutch Bulbs.**
E. H. KRELAGE AND SON, FLORISTS and SEEDSMEN, of Haarlem, Holland, beg to announce to the Trade only, that their NEW WHOLESALE CATALOGUE of BULBS has been sent to their Correspondents, and will be addressed to Seedsmen and Florists on prepaid application. This Catalogue forms their Trade Circular for June, and contains principally Hyacinths, Tulips, Crocuses, Narcissus, Anemones, Ranunculus, Fritillaria, Lilium, Iris, &c., with prices per dozen, 100, 1000, or upwards.

OUVIRANDRA BERNERIANA.—Having succeeded in raising a few Seedlings of this extremely curious and beautiful plant, we beg to offer healthy young plants of six or seven leaves at 31s. 6d. each.
O. Berneriana was exhibited at the Great Show of the Royal Horticultural Society, June 17th, and awarded the First Prize; and at the Great Show of the Royal Botanic Society, June 24th, and then also awarded the First Prize.
THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

**New South Wales—Collections of Ferns.**
M. GUILFOYLE begs to announce that he has made arrangements to execute Orders for Europe of COLLECTIONS of FERNS, selected from all the Australian Colonies and New Zealand by his Correspondents there, and also from the South Sea Islands, supplied by competent Collectors in New Caledonia, the New Hebrides, &c. Due care will be taken that none but well established plants in pots are sent out from his Nursery, and for such he has fixed the price of each case, containing at least 25 species of Australasian Ferns in duplicate, at 16l., (freight and case included), shipped by him for London to order. The Island Ferns, among which a constant succession of novelties may be expected for years to come, will be separately charged for, at prices extremely moderate.
M. GUILFOYLE will also be happy to execute Orders for Seeds, Bulbs, and Living Plants of all kinds from the Islands of the S. W. Pacific, especially including Orchids, Pines, &c.
Orders with remittances to be addressed to M. GUILFOYLE, Exotic Nursery, Double Bay, Sydney, N. S. Wales.

OPENING of the ALEXANDRA PARK, MUSWELL HILL.
ALEXANDRA PARK COMPANY (LIMITED).
The Alexandra Park and Grounds, comprising 480 acres, situate about one mile from Hornsey, and adjoining the Wood Green Station of the Great Northern Railway, will be OPENED to the Public on THURSDAY NEXT, the 23d inst., on which occasion and on FRIDAY, the 24th, there will be a GRAND HORTICULTURAL FETE, when Prizes for Fruit and Flowers to the amount of 700*l.* will be awarded.
Tickets of admission to the Flower Show, on Thursday, the 23d, will be Half-a-Crown; and on Friday, 24th, One Shilling.
All information in reference to the Flower Show may be obtained of Mr. Alexander Mackenzie, Tottenham Wood House, Muswell Hill, Hornsey. Mr. Buchanan, archery manufacturer, 215, Piccadilly, W., will give the necessary information in reference to the Archery Fête; and all further information and particulars may be obtained on application at the Company's Offices, 12, Tokenhouse Yard, London, E.C.
Accommodation for horses and carriages will be provided at Tottenham Wood House. By order, F. K. PARKINSON, Sec.

OPENING of the ALEXANDRA PARK, MUSWELL HILL.
GRAND HORTICULTURAL and ARCHERY FETES, ALEXANDRA PARK COMPANY (LIMITED).
RAILWAY ARRANGEMENTS.
In addition to FOURTEEN ORDINARY TRAINS from King's Cross to the Alexandra Park (Wood Green Station), and TWELVE from the Park to King's Cross, the Great Northern Railway Company will run numerous SPECIAL TRAINS on THURSDAY and FRIDAY NEXT, July 23 and 24, in accordance with the requirements of the traffic. By order.
F. K. PARKINSON, Secretary.

ALEXANDRA PARK COMPANY (LIMITED).—OPENING of the PARK.
GRAND HORTICULTURAL and ARCHERY FETES, THURSDAY and FRIDAY NEXT, the 23d and 24th July.
The BANDS of
The 1st LIFE GUARDS,
The 2d LIFE GUARDS,
The GRENADIER GUARDS,
The COLDSTREAM GUARDS,
Will Perform.

GRAND ARCHERY MEETING.
ALEXANDRA PARK COMPANY (LIMITED).
On the Lawn of Tottenham Wood House, on THURSDAY and FRIDAY NEXT, July 23 and 24,
At the ALEXANDRA PARK, MUSWELL HILL.
PRIZES amounting to 200*l.* will be offered.
For particulars apply to Mr. BUCHANAN, Superintendent of the Archery Fete, 215, Piccadilly, W.

HORTICULTURAL FETE.
ALEXANDRA PARK COMPANY (Limited).
The FLOWER SHOW will be held in an Inclosure on the Lawn of Tottenham Wood House. There will also be an ample supply of Refreshments, for which Mr. HART, of Radley's Hotel, is the Purveyor.

THE BEAUTIFUL GROUNDS of the GROVE ESTATE, communicating with the Alexandra Park, will also be OPENED on THURSDAY and FRIDAY NEXT, July 23 and 24. The Grove entrance to the Park is on Muswell Hill, and the entrance to Tottenham Wood is in close proximity. They are about half an hour's drive from the Regent's Park, and the time of transit from the Great Northern Railway Station at King's Cross to the Wood Green Station is about 15 Minutes.
ALEXANDRA PARK COMPANY (Limited).

REFRESHMENTS.—Mr. HART, of Radley's Hotel, Bridge Street, will provide Refreshments of all kinds in various parts of the Park on THURSDAY and FRIDAY NEXT, July 23 and 24.
ALEXANDRA PARK COMPANY (Limited).

# The Gardeners' Chronicle.

## *SATURDAY, JULY* 18, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| TUESDAY, | July 21 | Royal Horticultural (Floral and Fruit Committees) at S. Kensington. |
| THURSDAY, | — 23 | —Alexandra Park (Floral Exhibition). |

ADVICES by the last mail from the Mauritius bring the intelligence that the Prussian Naturalist who had been sent to MADAGASCAR, had died there during the unhealthy season, the evils of which are now intensified by the peculiar turn of affairs in that island.

A RECENT article in our talented contemporary *The Builder*, relates the result of a FLOWER SHOW FOR THE WORKING CLASSES established in Bloomsbury. The show is said to have been an improvement on any of its predecessors, and to have included, beyond the ordinary flowers of the month, some "exhibits" with a touch of poetry in them: for example, St. John's Bread or Locust tree, from a seed; a small Cherry tree from a stone; and "Window Balm from the workhouse."

Only imagine the feelings that dictated entries like these! The exhibitors of a Locust tree *from a seed*, and of a *small* Cherry tree *from a stone*, were we doubt not as much attached to their little plants, and as proud of their success as the greatest gardener in the land. We can quite appreciate the delight with which the hard brown dead looking Locust tree seed was watched, the eager curiosity with which it was seen to chip its shell, the charm of observing how its tiny wormlike root crept into the soil, and the triumph which attended the final expansion of the young stem and leaves. "*Io! Triumphe.* Life has been extracted from death! See what a beauty it has become! Did you ever look at such wonderful green? I wonder whether it will ever bring forth such bread as St. JOHN lived on."

Such were very possibly the ejaculations (barring the Latin) of the happy exhibitor, whose tender care was rewarded with a prize. To our minds such feelings are inexpressibly touching. They show more than anything how the best feelings of our nature still remain in the breasts of those whose lives are lives of toil and suffering.

Can nothing further be effected in promoting the humanising efforts of the excellent Rector of Bloomsbury? We hope so; we believe so; we shall be only too happy to give our small aid in advancing his admirable plans.

THE following interesting letter has been forwarded to us by Mr. DARWIN. We have not been able to ascertain precisely to what plant the larger bodies belong, but we believe them to be the pollen grains of some Thistle or Centaurea. They also bear a strong resemblance to the pollen grains of some Malvaceous plant, but they are far larger than those of Malva sylvestris, the only species which could supply pollen in sufficient quantities to tinge the rain with a yellowish tint. Fir pollen is often carried by wind, and deposited by rain on leaves, and we have seen Oak pollen forming yellow spots on leaves after a shower.

A very slight shower, lasting hardly more than a minute, fell here this morning (July 2) about 10 o'clock. My wife gathering some flowers immediately afterwards noticed that the drops of water appeared yellowish, and that the white Roses were all spotted and stained. I did not hear of this circumstance till the evening; I then looked at several Roses and Syringas and found them much stained in spots. Between the petals of the double white Roses there were still drops of the dirty water: and this when put under the microscope showed numerous brown spherical bodies, $\frac{1}{1000}$ of an inch in diameter, and covered with short, conical transparent spines. There were other smaller, smooth, colourless sacs about $\frac{1}{7000}$ of an inch in diameter. I preserved a minute drop of the water beneath thin glass, cementing the edges, and next morning looked rather more carefully at it. I then observed that the water swarmed with elongated, moving atoms, only just visible with a quarter-inch object glass. Whether these inhabited the rain-drops, when they fell, I cannot of course say; but I suspect so, for the petals, now that they are nearly dry, seem stained with absolutely impalpable matter of the colour of rust of iron. This matter has chiefly collected, in the act of drying, on the edges of each spot. The Rev. M. J. Berkeley could tell us what the larger spherical bodies are which fell this day by myriads from the sky, carried up there, I presume, by some distant whirlwind.

We gathered a leaf spotted with yellow dusty patches a few days since in Mr. RUCKER's garden at Wandsworth, but though there were grains of Fir pollen in the spots, and those of some other plant which we could not ascertain, together with a few spores of Fungi, the principal part of the matter consisted of slightly ferruginous apparently siliceous dust.

The ferruginous spots on the white petals of Philadelphus forwarded by Mr. DARWIN, consisted of coloured less distinctly siliceous particles, and multitudes of irregular bodies so minute as to present the Brownian molecular motion.

It is quite astonishing what a multitude of bodies are carried about by the wind in the form of dust. EHRENBERG some years since made us acquainted with the dust of the trade winds, but interesting matters may be found at home if we can in any way arrest the bodies which traverse our atmosphere. Flakes of snow bring down various things with them, and it is probable that few showers fall without leaving some sediment, though not so thick as in general to attract notice. An examination of such sediments or deposits with the microscope will soon materially modify our notions of spontaneous generation, and at the same time show a fertile source from which unexpected hybrid forms may arise. Indeed were not Fungi so much the creatures of peculiar atmospheric conditions, there would seem to be no limit to the diffusion of their species. *M. J. B.*

THERE still remains in our gardens one of the most beautiful half-shrubby plants in the world, named by Dr. LINDLEY Platycodon sinense. In the year 1852 it was thus described in PAXTON's *Flower Garden*:—

"This is the finest herbaceous plant obtained for the Horticultural Society in China by Mr. Fortune; but it requires skilful management to gain the beauty of the specimen represented in the accompanying plate, which was prepared in the Chiswick garden. It is there cultivated in a pot, filled with peat, loam and sand, the first and last in excess, exposed freely during the summer under the slight shade of a low wall, and in winter kept dry in a cold frame. Thus managed it produces fine straight stiff branches from 2 to 3 feet high, bearing several large deep blue flowers in succession at the end, and ripening seed in some abundance.

"The first knowledge we had of the plant was from finding it among some dried specimens collected by the Rev. G. H. VACHELL, about the neighbourhood of Macao, and the islands adjacent, in December 1829. Mr. FORTUNE brought it from Chamoo. At first we took it for a mere variety of the large-flowered Platycode, originally figured by GMELIN, from Siberia, under the name of 'Campanula foliis lanceolatis glabris, inæqualiter dentatis, utroque extremo integris, ramis unifloris terminantibus;' and under that name it has become dispersed through our gardens. But a further acquaintance with the Chinese plant, and a comparison of it with a wild Dahurian specimen, has satisfied us that it is really quite distinct. The Russian plant is described as having a weak stem; unable to sustain itself erect ("caule surgit simplici pro ratione tenui, hinc inde flexuoso"—GMELIN), which is exactly what was found when it was formerly cultivated in our gardens; this, on the contrary, has stiff stems, with almost a woody texture. Then, the large-flowered Platycode has but one flower at the end of the stem ("in summitate flos insistit speciosissimus") or at the most two; on the contrary, our species always has a long raceme, and will even sometimes branch, as is apparent from Mr. VACHELL's evidence. Moreover, in the first, the capsule has the form of an inverted cone, in the last it resembles a hemisphere or half egg. We are, therefore, obliged to distinguish it by a new name.

"There is a semi-double white variety, figured in the Journal of the Horticultural Society. Both produce seed, by which they may be propagated. Some years must however elapse before plants will bear such flowers as were produced in the specimen now represented."

We are asked what has become of this Platycode, and what sort of treatment is best suited to it. As great numbers have been given away at the ballots of the Royal Horticultural Society, some instructions for managing the plant in a first-rate way would be acceptable to many, and we venture to throw upon our obliging correspondents the task of satisfying the curiosity of a great lover of flowers.

—— To have GRAPES ALL THE YEAR ROUND fit for table is certainly a very satisfactory achievement in fruit culture, depending partly on a well-made selection of sorts, but still more on the cultural skill brought to bear on the management. The subject has lately been opened in the pages of the *Florist*, wherein Mr. Hill, of Keele Hall, well known as a most successful Vine grower, tells us that for the last three years he has not been without a bunch of Grapes for his employer's table any day in the year. To obtain this supply seven Vineries are kept going, in the following order; and planted with the undernamed varieties:—

1. Frankenthal: generally breaks of its own accord towards October; fit for cutting March 25. Here, however, Mr. Hill would add Muscat Hâtive de Saumur, and Buckland Sweetwater.
2. Black Hamburgh, Buckland Sweetwater, Black Prince: started December 1st, the earliest fit for cutting by the middle of May.
3. Black Hamburgh, Black Prince: started January 1st; in cutting from the middle of June to early in August. Lady Downe's grafted on Hamburgh comes in useful after the latter is over.
4. Hamburghs principally, with a selection of other sorts: started at the end of February; ripe in August and September.
5. Hamburghs: break of their own accord; ripe generally early in September; to hang well they should be ripe by middle of September; they yield a supply from November to January, and sometimes to the end of February.
6. Muscat of Alexandria, started March 1.
7. Barbarossa, West's St. Peter's, Lady Downe's, Old Tokay, Trebbiana: *the latest house*; has but little rest, just enough to wash, paint, and top dress; the fruit hangs till middle of March. To this house Mr. Hill would add Kempsey Alicante, and Burchardt's Prince.

The best early white Grape Mr. Hill thinks may be the Muscat above mentioned, which, started on the 1st of January, was by the middle of May almost fit for table, and has moreover the true Muscat flavour. The next best he finds to be Buckland Sweetwater. As a late sort Mr. Hill thinks very highly of the true old Tokay, when allowed plenty of time to ripen; and he highly recommends it as a white companion to Lady Downe's Seedling, which is with him the best late black sort.

The subject is continued by Mr. TILLERY in the same publication. At Welbeck they have nine houses

planted for a rotation of crops, and the sorts selected are these:—

1. Black Hamburgh, Purple Constantia, Chasselas Musqué: the Constantia very early and highly perfumed; the Chasselas, from its roots being under control, not cracking.
2. Black Hamburgh principally, with Buckland Sweetwater, and Grizzly and White Frontignan.
3. Mostly Hamburghs, Purple Constantia, and Buckland Sweetwater, with two plants of Golden Hamburgh, which Mr. TILLERY finds good in early, but uncertain in late houses.
4. Muscats, Black Tripoli, Hamburghs, Frontignans a very large house; started at the beginning of February; yields a supply through July, August, September.
5—9 in one range. Muscats in the earliest divisions; Barbarossa, Trebbiana, Lady Downe's Seedling, Calabrian Raisin, West's St. Peter's, Burchardt's Prince, and Alicante in the three latest.

## New Plants.

258. CLEMATIS FORTUNI, *Moore, Gard. Chron.* 1863, 460; and in *Proc. Roy. Hort. Soc.* iii. 227.

Leaves ternate, the leaflets coriaceous cordate very obtuse, sparingly strigose beneath, the petioles with a few long weak hairs; flowers terminal, multiple (about eight rows of sepals) with an involucre of several (6—8) petiolate obtusely cordate simple leaves; sepals very numerous, costate and venose, white, the outermost greenish externally, oblong-lanceolate, apiculate, tapered into a distinct slender claw, the claw and outer surface of the lamina pubescent with soft entangled hairs; ovaries numerous, with short caudæ which are silky with fine tawny hairs.

The accompanying figure will give a better idea than any words can do of this fine and remarkably distinct species of Clematis, which has been recently introduced from Japan by Mr. Fortune, and has blossomed during the present summer with Mr. Standish, of the Royal Nursery, Ascot. The foliage a good deal resembles that of C. lanuginosa, but with this it unites flowers of a most unique character, the most remarkable feature of which is that the sepals, which are not large though very numerous, are furnished with a distinct slender claw fully half as long as the broader or laminal portion: the lamina being about 1¾ inch long, and of an oblong-lanceolate form with a small thickened point, the claw about an inch long, and both the claw and the exterior surface being clothed with fine soft loosely entangled hairs, much less developed however than in C. lanuginosa. Close beneath the flower, at the top of the pedicel, are produced several simple stalked leaves, which form a kind of involucre; these leaves are very bluntly cordate, and resemble the leaflets of the more perfect leaves; they are indeed occasionally themselves ternate, when they differ little from the true stem leaves.

The plant appears to be one of vigorous habit, and its flowers are very enduring. When fresh they emit a quite agreeable kind of neroli scent; and even on the imported plants cultivated in pots, and therefore probably somewhat restricted in development, they measure nearly 6 inches across, being made up of some seven or eight rows of the long-clawed sepals already noticed, surrounding a large central tuft of short-tailed greenish ovaries, which together with the tails are clothed with silky appressed hairs, having a light tawny colour, and becoming shorter upwards. The flowers, which in the earlier stages have the sepals closely incurved, are at first greenish white, which tint is retained at the back of the outer sepals, the inner ones becoming gradually bleached, so that by the time the flower is fully developed it is nearly white, while in age it assumes a faint tinge of magenta rose.

This Clematis must be regarded as one of the finest additions to the ranks of hardy flowering plants, which have resulted from the opening up of the Japanese empire, and deserves to be associated with the name of its enterprising and most successful introducer. *M.*

### APRICOTS UNDER GLASS.

*July* 10.—My Apricots in pots in my orchard house are ripening rapidly I commenced gathering the Early Red Masculine and Early Sardinian (A. de Sardaigne), the latter a delicious little sweetmeat not larger than an Orleans Plum, on the 28th of June, and have now cleared the trees, which were loaded with fruit. On the 4th inst. the Oulins' Early Peach, Early Moor Park, and Royal, commenced to ripen, and are now fully ripe. The Peach Apricot, Moor Park, and some others are beginning to colour. I have never in all my fruit-growing experience seen anything more beautiful than my robust Apricot bush trees studded with their large clear golden fruit. I impute this bright colour, without spot or blemish, to the disuse of the syringe (with the exception of once a week to wash the dust from the leaves) as soon as the fruit has attained the size of an acorn.

As my success in growing this most luscious of all fruits, when well ripened, is by many lookers on thought to be remarkable, and as I observe some of my friends fail in their cultivation, I feel quite certain you will allow me to say to what I impute my almost unvarying success in its culture,—the exception being in 1862, when I damaged the blossom-buds by dressing the trees with a composition too strong, and the spring being also wet and cold, so that the crop was not so abundant as usual.

Apricot trees in pots seem to prefer a tenacious loam inclining to clay rather than sand. The loam I use is brown resting on brick earth, and like all our loams and sands in this neighbourhood *highly calcareous*. Two-thirds of this, with one-third half-decomposed manure, is the compost I have found most favourable. When used for potting it should be in a friable state, not wet, and be rammed down with great force, so as to make the earth in the pot quite solid.

Apricot trees in pots are more impatient of having their roots disturbed than any other fruit trees cultivated in the same manner, so that in top-dressing them the earth should not be removed too deeply—not more than 3 inches in depth. Top-dressing should be done by the end of October or early in November. Some years since I lost a crop by top-dressing my trees early in February; they blossomed finely, but all the flowers dropped without setting a fruit. The top-dressing should be tenacious loam and rich manure, equal parts, used when in a friable state, and well rammed in. One simple fact will illustrate my idea that Apricot trees in pots prefer very solid earth. Last autumn I observed some half standard trees in pots with small heads full of blossom buds; owing to their having been in the orchard house all the summer and regularly watered, the soil in the pots was hard as a common footpath. These trees had no water from the early part of October till the middle of February, when, observing their blossom buds commencing to swell, I had them gradually saturated with water; they blossomed most vigorously, and I do not err when I say that nearly every blossom set. As soon as the young fruit were about the size of a horse bean the loose surface soil was scraped off so as not to disturb a fibrous root, and a rich surface-dressing placed on the mould, 2 to 3 inches in depth, so as to lie above the rim of the pots, and made concave, to hold water round the stem. To this surface-dressing, *formed of kiln or malt dust* (they differ slightly) and horse droppings, equal parts, mixed and saturated with strong liquid manure and the solid

soil, I owe the fine luxuriant state of my trees and their handsome full sized fruit. In the orchard-houses of some of my friends the Apricot trees are delicate in their growth, and owing to their young shoots not being pinched they are spindly and weak, whereas my trees, on which every shoot has its top pinched off as soon as it has grown to the length of 6 inches—this is practised all through the summer—have large dark green leaves, and an Oak-like robustness of habit. Solid soil, rich summer surface-dressings in May, June, and July, and pinching in of all the young shoots, are the requisites for successful Apricot culture in pots, and no kind of fruit can give a more grateful reward to the cultivator. *T. R.*

## Home Correspondence.

*Strawberries.*—I am sorry, though not surprised, to see that Mr. W. R. Prince persists in his erroneous assertions respecting Strawberry growing, and I was determined not to take any further notice of whatever he might publish on the subject until I perused your article at p. 627. Mr. P. is evidently one of those who "have ears, but do not hear," and "eyes, but do not see!" Having carefully grown and closely examined many of the American varieties, absolutely females (pistillate), I willingly communicate my experience. In order however not to become tedious, I will only mention a few of the vast number, and such as were likely to be the most valuable. Hovey's Seedling, which appears to be the great favourite in the United States, is here very prolific, early, handsome, and rather large, but like almost all American sorts, pasty. I have grown this ever since 1850. McAvoy's Superior, rather large, round-shaped, pale scarlet, pasty, and of indifferent flavour. Prince's Eclipse, very early, bright scarlet, conical shape, medium size, sweet but very soft, a great bearer. Prince's Imperial Scarlet, early; plant very robust and good cropper; fruit of medium size, pale scarlet, flat. Fillmore (Feast of Baltimore), plant of dwarf compact habit and remarkably hardy; fruit of very handsome globular shape and fair size, colour dark crimson, flesh solid, sweet, and of fair flavour; this is the best of all American kinds which I have grown. There is not a shadow of doubt that not one of the aforementioned absolutely female kinds exceed our beautiful European hermaphrodite Strawberries, as regards fertility, whilst in all other qualities they are far behind the latter. As a proof of this I beg to add that not one of my numerous friends both in England and France who grow large collections, has retained the American seedlings after two years' trial, except here and there a few "Fillmore," which possesses a certain merit on account of its remarkably solid flesh. I wonder what Mr. Prince would say of the Strawberry fields round London and Paris during the fruiting season, and of the wonderful collections possessed by many skilful amateur growers in both countries, where it is no rare occurrence to count from 250 to 300 berries on a single plant! *Ferdinand Gloede, Les Sablons, Moret-sur-Loing, France.*

*Melons.*—I have a small house of Melons, mostly Bromham Hall, heated by hot-water pipes in a hollow chamber under the bed of earth; of bottom heat there is a pretty good command; the soil is a pure soft yellowish maiden loam without a mixture of any sort. The first lot that I planted grew enormously stout and short-jointed, and made steady regular growth throughout, showing abundance of fruit, sometimes in pairs. I fertilised regularly, and the plants were in the highest state of health and vigour, with fine stiff broad leaves; but the fruit, nevertheless, did not set as it should have done, and the first that did set were small. The plants were very subject to break out in soft rotten patches on the stems. The next lot I planted are similarly situated in every respect, but they are not growing so strongly; they are now showing fruit, and going off in the same way as those just named, if not worse. I did not give them much water as they were growing so strongly; did I keep them too dry, or what is the cause of this, to me, mysterious failure? Will any of your Correspondents kindly say? *Dilemma.*

*Gooseberry Caterpillar.*—As the caterpillar with which your readers are too well acquainted, through its destruction of their Gooseberry bushes, has claimed a considerable amount of attention in your pages without any satisfactory means having been suggested for its eradication, I beg to trouble you with this communication, containing some account of the result of an experiment I made the other day which may perhaps tend to furnish some effectual means of destroying the pest. Having a small bush of the American Weeping Willow infested with a host of at least a kindred and possibly the same species as that which attacks the Gooseberries, I took a solution of "Gishurst Compound," 2 oz. to 1 gallon of water, and syringed the tree thoroughly with it. For some time I was doubtful of success, only the smaller fry seeming fatally injured. However the result was so far satisfactory that on the following morning I found very few on the tree, and these I concluded the solution had not reached. From this I think that were the trees syringed as I have described, when the first caterpillars appear in spring, before they have attained their full growth, successive broods would be much weakened, and if the application were persevered in I have little doubt that the pest might be almost entirely annihilated before the fruit was sufficiently advanced to be injured by the mixture. An outlay of 1*s.* 6*d.* would clear the bushes on one rood of ground. *William Cumming, Madingley Road, Cambridge.*

*Strawberry La Constante.*—The commendation bestowed upon this variety by your Correspondent Mr. Rust (see p. 629), is just. It is a beautiful and delicious fruit. Last year I grew it in perfection; but this year there is a sad falling off in it, which I attribute to the tenderness of the plant, and the destructive frosts we had late in spring. The same misfortune has befallen La Chalonaise another new and beautiful variety to which I had attached, and still attach, great value. Out of nearly 20 varieties which I have grown, and am still growing, none have so fully realised my expectations and wishes as Sir Harry. It is an immense bearer, hardy in its habit, has never failed me in any season since I first obtained it; the fruit is large, beautiful, and of good flavour; yet, strange to say, it is discarded by some of our best amateurs, and many of our market gardeners think nothing of it, because they confess that they can make nothing of it. *Wm. Worsley, Gainsborough.*

*Stephanotis floribunda.*—It would perhaps be too much to say that it is usual for this to bear fruit. Nevertheless, I have often known it to do so. I question, however, whether the supposition of "E. A. M." in regard to temperature being the cause is correct, as I have seen it fruit in a stove, the temperature of which was never below 70°, and in another house where circumstances over which there was no control compelled it to fall as low as 42° in the winter months. I have always attributed its fruiting to dryness at the roots, coupled with a dry atmosphere. I never knew it to set sooner than the end of autumn. *J. Bothwell, Woburn.*

*Keating's Persian Insect Powder.*—Every one who has frames or hothouses must be most desirous to become acquainted with some means of killing insects without destroying the plants. I being in that position, hastened on reading the account of the successful use of the dried flowers of Pyrethrum carneum, in the destruction of thrips in the Royal hothouses at Berlin, to experiment upon the insects which infest my own Melon frames; and having procurred a supply of Keating's Persian Insect powder, caused a frame to be well fumigated. Some shoots of Plum-trees, covered with aphides, were placed in the frame, in which was a Melon plant much infested by thrips. Great however was the disappointment of my gardener, when on opening the frame next morning he found not only the thrips but the aphides all extremely well, and apparently enjoying an early breakfast on the plants which were respectively affected, although a strong odour of the fumigation still pervaded the frame. I should therefore feel much obliged by information as to whether the success of the Prussian Horticulturist is to be ascribed to the weakly constitutions of the German thrips, or to the greater strength of the powder employed. *Sussexiensis.*

*Variegated Scolopendrium.*—I have lately found a variegated forked Scolopendrium. The fronds are pale green, rather regularly marked with stripes and spots of dark green, from the rachis to the edge, the markings being raised or relieved on the surface. The enclosed drawing will give you an idea of this curious plant. Have any of your readers found or seen a similar sport? *James Moly, Hawkchurch, near Axminster, Devon, June* 25. [This variety is distinct from all the striped forms previously recorded, and is a very interesting one, according to the sketch sent. It may be distinguished as Scolopendrium vulgare variegatum. *M.*]

*Berberis nepalensis.*—Can you favour me with any further experience relative to the hardiness and proper treatment of this plant? You write hopefully about it in 1854, p. 595 a., but your correspondent at Biddulph Grange (1862, p. 453 b.) had nearly lost his plant by attempting to grow it out of doors, and probably I should fare the same, though my garden is about 50 miles further south. Would you advise it to be planted for the coming winter out of doors, sheltered from wind and sun; or would an orchard house suit it better? The sun cannot well be shaded from it in the latter place. *Diss.* [We should be obliged by some account of the behaviour of this fine plant in different parts of the country. Fortune's admirable Japanese species are hardy near London, but cannot bear the sun. Shade is evidently indispensable.]

## Foreign Correspondence.

WOODLANDS, NORTH RHINE, SOUTH AUSTRALIA.—Mr. J. F. Wood, formerly of Nottingham, and for several years Editor of the *Midland Florist*, is now and for some years has been located in South Australia, and through his friend, Mr. J. D. Hextall, of Ashby, keeps up a regular correspondence with his old florist acquaintances. From his last letter, dated April 24, 1863, I send you the following extracts. *William Dean, Shipley.*

"My daughter is now drying about half a cwt. of Muscat of Alexandria Grapes for raisins. The Sultana, a stoneless Grape, we want, but I believe it is not yet introduced, and I do not know its proper name so as to inquire for it. I have just finished my own vintage here, and when in a proper state to send off, and it will bear the voyage, my promise shall be redeemed. I think you know from what I had previously written about my Vineyard, that I have about 4 acres this year in full bearing, 4 more will commence cropping next year, and I have 4 acres more one-year-old. I have some very large Gum trees to clear away, one of them being 34 feet in circumference at 3 feet from the ground, and then I shall plant 4 acres more this season. From the 4 acres which are planted with Hermitage, Mataro or Espagne Noir, Black Portugal or Port Wine Grape, and Muscat of Alexandria, Fred (his son) has made 1320 gallons of wine. With my seven years' experience in wine making he has been enabled to manage it in fine style, with my supervision. From the Grape last mentioned, 4-year-old plants, he has made 360 gallons from 550 plants. This will give you some idea of their productiveness, and of course as they get older they will do more. I always vintage as late as possible, allowing the Grapes to be slightly shrivelled before pressing.

"I always try the wine by Sykes's Saccharometer, and I give you from my memoranda the following results. This is of course before fermentation.

| | | |
|---|---|---|
| Hermitage .. .. .. | 47° | These quotations are very high, 30° or 35° is considered good on the Rhine and in France. |
| Mataro .. .. .. | 45 | |
| Port .. .. .. .. | 43 | |
| Muscat of Alexandria .. | 43 | |

"I have made up my mind I will not reduce the strength or mix as some growers do. Mine shall be *pur et simple*—it shall be the real thing. When I have 20 acres in bearing they will bring me in from 1500*l.* to 2000*l.* a year, and I will certainly not begin to cheat in my old age. Whether I live to see it or not, I trust the Woodlands* brand will be a favourite in England yet. I think I am not wrong in thus anticipating, for if 4 acres this year realised 360*l.* as young trees, it is only fair to suppose that 20 acres will some not very distant day realise the sum I name. This consummation, however, it must be borne in mind, will not have been arrived at without much determined and unflinching labour, both of hands and head, and much each year will require to be done. Our great want is casks. If exporters in sending out dry goods would pack in good sound hogsheads instead of packing cases, it would be to their benefit, as they would get full price for them, or even more, and they would be doing us good into the bargain. Wheat is very low, and I have only grown enough to last my family till next harvest. Labour is still dear. Several of my Nottingham friends would have me write a letter to the newspaper, as many wish to emigrate, and they tell me that if I would do so, people would believe me, as I am well known there. God help them, I wish many of them were here. I have not seen an unemployed person for months. Good farm labourers and respectable female servants are much in request; the latter generally marry soon. Many that come have such notions that they are to get high wages for little work, that the position of master and mistress is anything but agreeable with them."

## Societies.

BIRMINGHAM ROSE SHOW.—The second annual Show of Roses was held on Thursday and Friday last in the Town Hall, Birmingham, a building peculiarly well adapted for such a purpose; its massive stone walls and subdued light causing the interior of the noble hall to have the temperature of a cool autumnal afternoon, instead of that of a hot midsummer day. The Roses appeared to enjoy the situation, for at the close of the Show they still presented a fresh and vigorous appearance—a pleasing circumstance contrasted with what we have been accustomed to meet with, either under canvas or in the unsuitable large glass structures which have recently become fashionable. As regards the show itself, considering the unpropitious weather we have lately had for the proper development of the blooms, it must be looked upon as a most excellent one. Some very fine specimens were present, and nearly every grower of note in the kingdom exhibited.

In Mr. Cant's collection of 96 single trusses, François Lacharme, Madame Charles Crapelet, Souvenir d'Elise, Christian Puttner, Charles Lefebvre, Cornelia Koch, President, and Madame Boutin, were admirable specimens, brilliant in colour, and perfect in form. Mr. Keynes' Duc de Rohan, Cloth of Gold, Madame Julie Daran, Souvenir de Comte Cavour, La Brillante, L'Eblouissante, Baron Gonella, Mons. Joigneaux, and Maurice Bernardin were equally fine.

In collections of 48 bunches of three each, Mr. Keynes' collection was somewhat extraordinary. Madame Furtado, Charles Lefebvre, Comtesse Cecile de Chabrillant, Prairie de Terre Noir, Olivier Delhomme, Triomphe de Rennes, Celine Forestier, Marshal Vaillant, Joan of Arc, and Beauty of Waltham, were as perfect and large as the most enthusiastic cultivator could desire. Messrs. Paul & Son's collection of 48 were little inferior to the foregoing, and comprised examples of General Washington, Lord Clyde, Senateur Vaisse, Madame Charles Wood, La Ville de St. Denis, and Louis XIV.

In collections of 24 bunches of three, Mr. Keynes again took the lead, his collection containing among others, Maréchal Vaillant, Souvenir de Comte Cavour, Comte de Nanteuil, Louis Peyronny, Triomphe de Rennes, and Duc de Rohan. Mr. Draycott's stand had

* Woodlands, North Rhine, South Australia, Mr. Wood's residence.

good blooms of Louis XIV., Madame C. Crapelet, Madame Furtado, Duc de Cazes, and Charles Lawson.

*Awards.*—96 varieties, single trusses (Nurserymen): 1st, Mr. B. R. Cant; 2d, Mr. Jno. Keynes; equal 3d, Messrs. Paul & Son and Mr. Wm. Paul. 48 varieties, three trusses: 1st, Mr. John Keynes; 2d, Messrs. Paul & Son; 3d, Mr. B. Cant. 24 varieties, three trusses: 1st, Mr. John Keynes; 2d, Mr. W. Draycott; 3d, Mr. G. Batley, Rugby. 24 varieties, single blooms, open only to nurserymen resident in the counties of Worcester, Warwick, or Stafford: 1st, Messrs. Perkins & Son, Coventry; 2d, Mr. Treen, Rugby; 3d, Mr. Batley, Rugby.

In the Amateurs Classes many excellent collections were staged, all of which bore favourable comparison with those of the nurserymen. Mr. Hedge, of Colchester, was the most successful. In his stand of 28, beautiful blooms were shown of Boule d'Or, Reine Victoria, Gloire de Dijon, Joan of Arc, Charles Lefebvre, Louis the Fourteenth, Madame Rivers, Solfaterre, and Adam. Mr. Evans, gr. to C. Newdegate, Esq., M.P., of Arbury, also showed good specimens in this class, of Senateur Vaisse, Madame Willermoz, Madame C. Crapelet and Jean Bart. In Classes for 24, Mr. Hedge was again first—his stand containing excellent examples of Beauty of Waltham, Louise Magnan, Comtesse Cecile de Chabrillant, and Madame Furtado.

In eighteens Mr. C. J. Perry, of Castle Bromwich, took the lead, showing excellent specimens of Senateur Vaisse, Auguste Mie, Comtesse Cecile de Chabrillant, and Madame Charles Crapelet.

In twelves Mr. Stratton, of Manningford, showed good blooms of Triomphe de Rennes and Senateur Vaisse.

*Awards.*—48 varieties, single blooms (Amateurs): 1st, Mr. J. T. Hedge, Colchester; 2d, Mr. S. Evans, Arbury; 3d, Rev. S. R. Hole, Caunton Manor. 24 varieties, single trusses: 1st, Mr. J. T. Hedge, Colchester; 2d, Mr. S. Evans, Arbury; 3d, Mr. E. Sage, gr. to Earl Howe, Atherstone. 18 varieties, single trusses: 1st, Mr. C. J. Perry, Castle Bromwich; 2d, Mr. Hedge, Colchester; 3d, Mr. Hunt, Leicester. 12 varieties, single trusses: 1st, Mr. J. Stratton; 2d, Mr. E. Sage; 3d, Mr. E. Hunt.

In a class introduced for Amateurs resident within 15 miles of Birmingham, the competition was considerable, and some excellent blooms were shown.

*Awards.*—Collection of 12 single blooms: 1st, Mr. W. Brown, gr. to Mrs. Alston, Elmdon Hall; equal 2d, Mr. C. J. Perry and the Rev. P. M. Smythe, Solihull. Collection of 6 single trusses: 1st, Mr. C. J. Perry; 2d, Mr. W. Brown; equal 3d, Mr. R. Garnett, Sutton Coldfield, and Mr. T. B. Wright, Perry Barr.

New Roses formed a most interesting feature on this occasion, and were produced in considerable numbers. Mr. Keynes' collection contained very good blooms of Alphonse Damazin, Maréchal Vaillant, Olivier Delhomme, Prince Camille de Rohan, Madame Charles Wood, and Beauty of Waltham. Messrs. Paul & Son contributed very nice specimens of their new Roses Lord Canning and Lord Clyde, also of Vicomte Vigier, and Beauty of Waltham. In the class for six new Roses of one variety, the first prize was awarded to six excellent blooms of Charles Lefebvre, the second to Beauty of Waltham, and the third to Madame Charles Wood.

*Awards.*—Collection of 24: 1st, Mr. Jno. Keynes; 2d, Messrs. Paul & Son; 3d, Mr. C. Turner. Six trusses of one kind: 1st Mr. Jno. Keynes; 2d, Mr. W. Paul; 3d, Messrs. Paul & Son.

In addition to Roses, very beautiful collections of Vases in glass and Parian, together with various other subjects connected with horticulture, were exhibited.

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BOTANICAL OF EDINBURGH: *June* 11.—T. C. Archer Esq., Vice-President, in the chair. Professor Balfour read a notice from Sir Robert Montgomery, Lieutenant-Governor of the Punjaub, regarding a box of Rose cuttings which had been sent from Edinburgh, packed in wet sphagnum, and which had arrived in good order. Thirteen slips were shooting well, including Moss Roses. The following communications were read:—I. *Note on the Perigynium or Utriculus of Carex.* By M. Alf. Wesmael. Communicated by Professor Balfour. In this paper the author endeavours to show that the covering of the fruit in Carices is formed of one bract, and not of two cohering bracts, as has been maintained by some authors.——II. *Photoglyphic Engravings of Ferns, with remarks.* By H. Fox Talbot, Esq., LL.D. Dr. Talbot remarked—This plate, representing a Fern leaf, is done by the process which I have called photoglyphic engraving, and which was published a few years ago in the various photographical journals. It consists in covering a plate of steel or copper with a film of gelatine mixed with bichromate of potash, placing the object, in this instance a Fern leaf, upon the plate, and exposing it to sunlight for a minute, then removing the object, dusting the plate with finely powdered resin, to give a grain to the engraving, melting the resin, and when the plate is cold brushing it with a camel's-hair brush dipped in perchloride of iron, which speedily penetrates the parts upon which the light has not acted, and effects an etching, while the parts exposed to sunshine are thereby rendered impermeable to the etching liquid. Such a plate (steel) thus prepared is capable of yielding at least 5000 impressions. It will be remarked that the leaf exhibits no venation. This arises from its being a dried specimen from the herbarium; but recent specimens, especially of Adiantum, Trichomanes, Hymenophyllum, &c., yield engravings with a very beautiful venation. Grasses also succeed remarkably well, and one of the most curious objects when engraved is the feathery achenes of Leontodon Taraxacum (the common Dandelion), which are so well given as sometimes to be almost deceptive, except that the achenes themselves are apt to come out too black to be natural. If printed in pale brown ink, I think they would have a strong resemblance to nature. I wished to have shown a plate of this description to the Botanical Society, but the occurrence of cloudy weather for several days in succession has prevented my doing so on the present occasion. If this art had been invented a hundred years ago, it would have been very useful during the infancy of botany, when communications with distant countries were so difficult. It would have been easy for botanical travellers such as Thunberg, Aublet, Lonreiro, &c., to have taken with them a small printing press, and to have worked off a small edition of 50 copies of each engraving they made, and sent the copies home to Europe whenever an occasion presented itself. Some of the copies would doubtless have escaped shipwreck and come to the knowledge of European botanists. Supposing the engraving only represented a leaf and a flower of each plant described in the works, it would have greatly aided modern botanists in determining the plants intended by those authors, whose descriptions are frequently so incorrect that they are like so many enigmas, and have proved a hindrance and not an advantage to science. ——III. *Notice of Plants found in the vicinity of Perth.* By Mr. John Sim, A.B.S. Ed.——IV. *List of Plants found near the Rumbling Bridge.* By Mr. F. B. W. White. Professor Balfour exhibited a collection of dried plants sent by the Rev. W. C. Thomson, Old Calabar, and read a letter which he had received from him, dated 28th March, 1863, in which he says:—By this mail I send you some fire-dried specimens of our Flora, which I trust will be acceptable and prove interesting. For this simple and easy method of preparing them, such as they are, I am entirely indebted to my friend Mr. G. Mann, who has been spending some time on the coast collecting for Kew. He visited us lately and spent a few days with us; but unfortunately for us he leaves the coast by this mail, so that our Flora is not likely to figure so largely as it may deserve in the forthcoming volumes on the Botany of Western Africa. I trust the specimens being sent will enable Edinburgh friends to contribute towards filling up the gap. In the case are two parcels of Ndam. It is the epidermis of the leaf of the Membo Palm. All are dyed by boiling the black with the bruised leaves of Mucuna Balfouriana, the red with the bruised wood of a tree called Ukpa, and the yellow with the bruised bark of a tree called Auniau. The ball of cord is most likely made from the fibrous bark of another tree.

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## Notices of Books.

*South American Sketches.* By T. W. Hinchliff, M.A., 8vo., Longmans, pp. 414.

Travels in Brazil, the Argentine Provinces and the Paranà, by one of the members of our gallant Alpine Club, are certain to be read with interest, even irrespective of the places themselves. And when the narrative assumes the lively tone and graceful manner of which Mr. Hinchliff is a master, it cannot but be welcomed by all lovers of nature. The author shall introduce his work in his own words.

"As a school-boy I had wandered in imagination among the forests of Brazil; my fancy had been fired by Sir Francis Head's description of the Pampas; and I had latterly conceived an eager wish to compare the Andes with the Alps. I started from England with the intention of seeing these three regions in the course of a year's absence; and though I was unfortunately compelled by circumstances to abandon the third division of my plan, yet I derived so much pleasure from all the novel scenes of Brazil and the Republics of the River Plate, that I am anxious to call the attention of others to these comparatively unfrequented countries.

"My visit to Brazil was short, but it enabled me to wander among the exquisite scenery of the Organ Mountains, the beauty of which can hardly be surpassed in any country of the world; to make many delightful expeditions from the neighbourhood of Rio Janeiro; and to see some of the results of modern skill and energy, in a journey to Juiz da Fora, in the province of Minas Geraes. . . . The grandeur of the forests, the infinite variety of ferns and flowers and fruits, the beauty of the birds and insects, and the sublimity of the scenery, all exceeded my highest expectations; and I wish to point out for the benefit of other wanderers, that the limits of a Long Vacation are sufficient to admit of their spending five weeks in the cool season among the splendours of Brazil.

"I passed several months in Buenos Ayres and the neighbourhood, where the kindness of friends and relations introduced me to all that was most agreeable and interesting both in town and country life. The society of Buenos Ayres is remarkably hospitable and pleasant, the climate is generally delightful, and it would be difficult to find anything more healthy and invigorating than the free and independent life of the estancias, or country estates.

"Availing myself of a good offer, I made an expedition up the river Uruguay to the neighbourhood of Paysandù, about 300 miles from Buenos Ayres, where I had a very favourable opportunity of enjoying plenty of sport on the estancia of a friend, and of thoroughly examining that district of the Banda Oriental.

"Later in the year I ascended the river Paranà to Rosario, Santa Fé, and the town of Paranà, which was then the capital of the Argentine Confederation. After an agreeable visit for a week at the latter place, I started with a friend to cross the rarely-visited province of Entre Rios, and a journey which was both amusing and exciting brought us to Nogoyà and the neighbourhood of Gualeguay. Here we spent a fortnight at the estancia of another friend, riding to all parts of the surrounding country and familiarising ourselves with the life and pursuits of the estancieros, among whom we found many of our own countrymen."

This will show the reader what to expect, and we can assure him that he will not be disappointed. The narrative never flags, and Mr. Hinchliff's descriptions in no instance lose their freshness. As a fair example of them, we select what he says of Brazilian FERNS.

"One of my chief objects in going to Brazil was to see the tropical Ferns in their wild state, and I never can forget the intense enjoyment of realising my wish. I had taken with me a large stock of botanical paper, and made additions to my collection in every expedition round Petropolis and other districts of the Organ Mountains. Sometimes I came home laden with a bundle of them large enough to make me look something like Jack-in-the-Green, on the 1st of May. The natives could not understand such extraordinary conduct, and the honest Turk looked on with that placid bewilderment which prompted one of his countrymen to ask why on earth Englishmen took the trouble to play at cricket, instead of making somebody else do it for them. It was a constant source of amusement to me; but unfortunately I found that the greater part of my treasures were much too large for botanical paper, and I was obliged to confine myself to the smaller species, or look for very small specimens of the larger kinds. The Tree-Ferns, when not more than 10 or 12 feet high, are amongst the most lovely creations of the vegetable world; standing under one of them is like being covered by a huge umbrella, consisting of drooping fronds, about 6 or 8 feet in length, of the most exquisite green that can be conceived, and moulded into lace-like forms by the delicate hand of nature. Many of them appeared to be 30 feet high; but I thought that the great length of stem took something off from the beauty of their proportions. An infinite variety of smaller species ornamented the ground, and seemed to fill up every corner that was not already occupied by some more powerful vegetable brother. Great clusters of the beautiful Silver Fern were among the most common by the roadside, and nearer the streams were frequent masses of a Fern which in size and general appearance resembled our common Bracken, or Pteris aquilina, but whose fronds proved to be divided more like the Osmunda regalis. There were several Osmundaceæ of remarkably graceful form, and others grew into such tangled masses of branching fronds, that none but a Fern lover would have distinguished them from the more ordinary shrubs as he passed on his way.

"Vast bowers were formed by the festooning Bamboos; and winding about their feet, or drooping over a bank, were Creepers of various colours, chief among which were the long-petaled scarlet Passion-flower, and a magnificent Ipomœa. Now and then came a tall Fuchsia 20 or 30 feet high, contrasting its crimson blossoms against the bright green background of Bamboos; and again, a more than usually moist place was pink with hundreds of Begonias. High above rose the rustling Palms, and the hardwood monarchs of the forest spread their dark green boughs across the sky to shade the many-coloured Orchids which clustered about their stems or hung from their branches. Such were a few of the beauties upon which I feasted my eyes among the mountains of Petropolis.

"I was very glad to find that the profusion of flowers with which nature had blessed the country had not the too common effect of making the people neglect them. The better houses were for the most part ornamented with pretty gardens, the hedges of which were made of pink and white cluster Roses, so thick with blossom that it was difficult to see the leaves. The gardens of the Emperor's palace and the chateau of the Baron Mauà were in a blaze of beauty; and even in the outskirts of the town many of the poor German cottages were surrounded with Roses as well as Bananas. I have seen the pigs fattening themselves into a most desirable rotundity upon wreaths and clusters that would have been invaluable in a drawing-room. The Orchids and air-plants are brought by negroes from the forests, and some of the inhabitants have beautiful collections of them. The rarer kinds are, however, very expensive, and the chief gardener in the place did not scruple to ask from 5*l.* to 10*l.* sterling for a single plant."

Surely a run to the Organ Mountains, where these things are, is rather more enjoyable than a trip to dusty dirty worn-out Italy.

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*Mentone and the Riviera.* By J. Henry Bennet, M.D. John Churchill, London. Pp. 288.

Some three years ago, a London physician, broken down in health and suffering from over work, was forced to seek rest and a genial climate abroad, and happily his steps were directed to Mentone. In this

favoured spot he derived so much benefit that he determined to write a book, setting forth the advantages which Mentone possesses for that large class of sufferers who are forbidden to pass the winter in England.

It is no small gain, where one's medical man has himself been a patient, for the experience obtained in that capacity enables him to enter more fully into the feelings of an invalid, and gives a special value to his advice even in little matters.

Dr. Bennet explains how it is that this sheltered nook, partly owing to its being protected from the N.E. winds, and partly owing to the summer-heat, which is stored up in the amphitheatre of limestone rocks which surrounds it, enjoys a mildness of winter climate, which its latitude alone would not account for. This mildness is evidenced by the groves of healthy Lemon trees, which flower all the year through, and bear four distinct fruit crops. The Lemon tree, be it observed, is far more delicate than the Orange, the fruit not being able to withstand above 2° of frost, and 3° or 4° are sufficient to destroy the tree itself.

The Olive trees attain a great size, and are of an almost fabulous age, and are very picturesque. The beautiful Oleander, or Rose Laurel, grows to the size of a small tree. The Prickly Pear (Opuntia communis) a native of the mountains of Mexico, flourishes here; and the grand Aloe, after a long life of dignified repose, shoots up its wondrous flower-stems to a height of from 20 to 30 feet. Large Euphorbia bushes, as big as our Rhododendrons, as well as Carouba or Locust-trees, testify to the exceptional winter warmth.

Dr. B. dilates with evident delight upon the beautiful scenery, the charming rambles, the unusual vegetation, the botany and geology, the meteorology, the medical and social aspects of a place which he prefers to Nice, and indeed to every other part of the South that he has tried as a winter residence. He did, it seems, make a tour in search of something better, and describes Biarritz as an enjoyable station, having many advantages, especially in the way of sea bathing and easy railroad communication; but having no mountain protection whatever to the north, he thinks it must be liable, like Pau, to spells of cold weather when the wind blows from that quarter. It has neither the screen of the Maritime Alps at its back, nor has it the night radiation of the sun-warmed Riviera mountains.

After giving some tables of temperature, with observations founded thereupon, Dr. B. closes his book with full directions for an invalid's journey to Mentone, so contrived that it may be made a pleasure instead of a toil, the latter part of it to be accomplished in a *vetturino* carriage, the most cosy and comfortable mode of travelling, when the tourist is not pressed for time. Dr. B. does not forget to recommend "La poudre insecticide," as a protection against one set of foes, and mosquito curtains as a defence against others, for all which thoughtfulness and advice, we doubt not many an invalid will bless his memory.

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*Examination Questions in Book-keeping by Double Entry; preceded by Copious Directions for the true stating of Debtor and Creditor, with answers, &c., adapted for General Use in Schools.* By the Rev. J. Hunter, M.A. Longman & Co., 1863.

There is scarcely any branch of general education more deserving of being carefully studied and thoroughly understood than that of book-keeping, which has been defined to be the art of recording the business transactions of a merchant, in such a form as to exhibit a distinct view of his affairs; the debts due to him, and the debts he owes to others. To acquire a knowledge of the principles upon which this most useful art is based, and the manner in which mercantile and other accounts ought to be registered and kept, are matters of the highest importance, not only to those who contemplate engaging in commercial pursuits, but to young men of every grade, and particularly to such as are desirous of entering the lists for competitive examination, with the hope of obtaining employment in the Civil Service. It is chiefly for the purpose of instructing these that the present work has been prepared, and we think it is well calculated to effect its object, and be of great assistance to every student who may refer to it for information respecting the various details having reference to Book-keeping by double-entry.

We have been always under the impression that it was requisite for the student to be well acquainted with book-keeping by single entry before commencing to study the more complex system by double entry—the former being regarded as introductory to the latter. But we are here told that "a youth who expects to be engaged in any business of which the accounts are kept by single entry, should first learn the principles of the Italian method (double-entry), he will then find no difficulty whatever in applying his knowledge to the practice of the less perfect system, and will have acquired intelligence that may come to be of necessary use to him in examining the accounts of others."

It is considered a fault, that in most of the published systems of book-keeping,—however clearly they may explain the great leading principle of opposite and equal entries for every transaction,—they do not furnish examples sufficiently varied to illustrate that principle in the way in which it ought to be done. We think this remark cannot be justly applied to the present publication; in which some of the more useful papers in the 3d and 6th reports of the Civil Service Commission, and a few of those recently published by the Society of Arts, have been selected or adapted, as examples for the help of students, and answers supplied to them for consultation in case of doubt, and correction in case of error.

As the secret of good book-keeping depends on the correct stating of debtor and creditor, no less than 72 preliminary examples are given, in order to show the various modes in which mercantile transactions are converted into journal entries. The examination questions are 56 in number, and embrace every sort of account that is likely to be met with in the course of business. The answers to them are full and explicit, and occupy 160 pages. They not only describe the various books that are required to be kept in a merchant's office, but they exhibit the manner in which the different entries should be made in them, and explain all the particulars relating to book-keeping by double entry which it is essential that a merchant should know, and a book-keeper be competent to carry into practice.

In cordially recommending this work to the notice of all who feel interested in accounts, and are desirous of learning the proper system of keeping them, we would particularly direct their attention to the following instructions which candidates are required to attend to in the Civil-Service Examinations:—

"Handwriting should be free from flourishes, compact, and with every letter distinctly formed. Figures should be correctly formed, and kept properly under each other. Care should be taken to copy names, dates, and other particulars, with perfect correctness. No erasures must be made; if any correction is necessary, it should be done by drawing the pen through the part which is erroneous, and then making a fresh entry."

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*Lectures for a Village Night School.* By Rev. R. Twopeny, B.D. Wertheim & Co. Pp. 111.

This is an unassuming but very useful little book, not costing above a shilling, but supplying a want of the present day. Every village clergyman sorrows to see the boys taken from his school as soon as they can earn anything. All we can do to remedy the evil, is to assemble boys and young men in night-schools, where we strive to teach them not only reading and writing, but if possible also the habit of thinking and reflecting. This is no easy matter, and any help such as Mr. Twopeny gives us, in a lively manner, and with a healthy and religious tone, is very acceptable. There are two lectures on thinking, starting from the question, what makes the great difference between me and other living creatures? Seven lectures on speaking, that wonderful gift of God to man; four, on honesty; two, on judgment and a future state. To clergymen and others who care for the best interests of the poor, this little work will be useful.

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*The Chorale Book for England.* Longman & Co.

Of late years the importance of congregational psalmody in the service of the Church has been acknowledged, but there has been a difficulty in obtaining a good collection of hymns, and a far greater in getting such a selection of hymn-tunes as the congregation can learn and sing.

When we say that this congregational edition is issued in a neat cloth binding, and contains no less than 200 hymns, with the music, that the translations from the German bear the name of Catharine Winkworth, that the tunes are edited by Dr. Sterndale Bennett and Otto Goldschmidt, and that 25 copies are offered to clergymen at *1s. 2d.* per copy, surely we have said a great deal in praise of the Chorale Book, and of all who are connected with it.

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TRADE LISTS RECEIVED.—*A Descriptive Catalogue of Roses, cultivated for Sale by John Keynes, Nurseryman, Seedsman, and Florist, Castle Street Nursery, Salisbury.* A capital and most useful catalogue, to which are prefixed the following directions for Rose growing:—"J. K. begs to offer a few brief remarks on the best system of preparing the ground for planting Roses:—When they are to be placed out singly on lawns, a hole should be made 2 feet deep, and large enough to contain a good wheelbarrow-full of compost; two-thirds of which should be strong turfy loam from an old pasture, and one-third well decomposed animal manure. When beds are to be planted, the ground should be thoroughly trenched 18 to 24 inches deep, as the nature of the soil may admit, intermixing some of the above compost. If this be done well, the beds will last for several years with adding a dressing of manure yearly; it is difficult to give the Rose too rich a soil. If a piece of ground is set apart for the exclusive cultivation of Roses, the most open situation should be selected; if wet, it should be drained well; this done, the ground should be trenched the depth as recommended above; the beds may then be formed according to taste and circumstances. November is the best month for transplanting. It is not advisable to prune at the time of planting; if planted in November, about the first week in March for Hybrid Perpetuals, and the last week in April for Tea Roses, would be the best time to prune. In pruning, if they grow vigorous and thick some shoots should be cut out entirely, and the others left long, varying from 6 to 18 inches, in proportion to their growth; the moderate growers should be pruned back close, say from two or three buds to 6 inches." Let us add that nothing surpasses burnt clay heavily charged with well rotted dung.

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## Garden Memoranda.

MR. VEITCH'S NURSERY, KING'S ROAD, CHELSEA.—Many charming specimens of the magnificent new Japanese Lily (Lilium auratum) are now in full bloom here, and well worth inspection. As has been stated on a former occasion, if ever a flower merited the name of glorious, it is this, which stands far above all other Lilies, whether we regard its size, its sweetness, or its exquisite arrangement of colour. Examples of it are at present in bloom here from 1 foot to 4 feet in height, and when we mention that on the ends of slender single stems of some of the latter are no fewer than five flowers, each of which measures 9 and 10 inches in diameter, some idea of the grandeur of the effect produced by such a fine display may be conceived. The ground colour of the blooms as seen under a shaded glass-roof as it is here, is of the purest white, with which the golden band occupying the centre of each petal forms a striking contrast, the intervening spaces being thickly covered with rich crimson spots, altogether furnishing an amount of attractiveness and variety seldom found united in one flower of any other plant whatever. For this noble addition to the genus to which it belongs, Mr. Veitch is indebted to the enterprise of his son Mr. J. G. Veitch, who found it growing wild on hill sides in the midland provinces of Japan. There can be little or no doubt, he states, that it will prove hardy in this country, as he has himself known from 14° to 16° of frost to occur in the locality in which it was found. This is a point, however, which we trust will soon be set at rest by direct experiment, as Messrs. Veitch have now stock sufficient of it to enable them to spare a plant or two for that purpose during the forthcoming winter.

In Japanese plants, both tender and hardy, this nursery is particularly rich. To their culture a span-roofed house, 55 feet in length, has been specially devoted; on one side of this are arranged specimen plants, among which are beautiful examples of Sciadopitys verticillata or "Parasol Fir," with whorls of deep green leaves 4 inches in length; on the other side are smaller plants in rows, the variegated sorts being placed so as to form a striking and agreeable contrast with their green-coloured associates. Of the green-leaved berry-bearing Aucuba Mr. Veitch has an admirable stock, and also various handsomely variegated kinds of Aucuba, altogether different from that now common in our gardens. These when better known cannot fail to occupy a front rank among hardy shrubs.

In a house specially set apart for plants remarkable for the beauty of their foliage none were more conspicuous than Sphærogyne latifolia, a plant with leaves as large as those of Cyanophyllum magnificum itself, strongly ribbed, and possessing a fine purple colour on their under sides and a beautiful velvety gloss on the upper surface. Among others at present canopied over by Allamanda Schottii trained along the roof, and beautifully in bloom, were Caladium Veitchii, Alocasia metallica, A. macrorhiza variegata, and A. zebrina, the last a fine kind from the Philippines, with huge green arrow-shaped leaves supported on long stalks, beautifully marbled and mottled with dark green upon a yellowish-green ground.

In connection with the show house and museum near the principal entrance, three span roofed houses have been recently formed divided into compartments by means of canvas partitions. These are summer receptacles for fine foliaged and flowering plants, one compartment being devoted to Orchids, which, owing to the breadth of the passages and the cool agreable atmosphere in which they are kept, can be inspected without the inconvenience of having to visit them in the warm damp houses in which they are grown and brought into flower. At the end of the show house just named was a magnificent assemblage of Tree Ferns, with massive trunks and noble heads of spreading fronds, and in a cool house through which visitors pass on their way to the hardy Fernery, some fine plants of the beautiful terrestrial Cape Orchid, Disa grandiflora, were in bloom. With the hardy Fernery all lovers of tasteful arrangement must be charmed. It is roofed with glass, covered during summer with tiffany, but not artificially heated. The sides consist of irregular masses of vitrified brick held together with Roman cement, and so completely covered with luxuriant Moss and Fern leaves as to be wholly hidden from view, except here and there where the rock is allowed to crop out unfurnished with vegetation. A winding walk, surfaced with white gravel, surrounds a bold central mass of rockwork also covered with Moss and luxuriant Ferns, and at one end is a little waterfall trickling into a basin below, in which is Aponogeton distachyon, overshadowed by a noble specimen of Royal Fern. Among different sorts of Scolopendrium, Athyrium, Polystichum, Lastrea, and Asplenium, we noticed Todea australis, Onoclea sensibilis, Lomaria magellanica and Woodwardia orientalis,

the last a fine specimen of a highly interesting kind. Mr. Veitch is also here attempting the growth of Gleichenias, and as far as the experiment has gone the result must be pronounced to be satisfactory. A few other plants, such as Foxgloves and Farfugium grande, have also been introduced with good effect, associating as they do admirably with the peculiarly lively green of the Ferns, which seem to grow with astonishing vigour, rendering this one of the most delightful features of this establishment.

Of Orchids there is a large and magnificent collection, four long houses being wholly filled with them. Many fine kinds, consisting of Saccolabiums, Cattleyas, Lælias, Cypripediums, and others, are in bloom, ample reference to which will be found in reports of our great exhibitions which have taken place during the last two months.

In the ornamental ground on the south side of the King's Road, opposite the principal entrance, is a charming ribbon border, consisting of an edging of Cerastium tomentosum, supported by long lines of blue Lobelia and yellow Calceolaria, prettily backed up with a beautiful row of the red-leaved Japanese Amaranthus melancholicus ruber, a plant also invaluable for many purposes of conservatory decoration. Forming a framework, as it were, to the centre of this ground, which is now a blaze of floral beauty, are rows of Yucca recurva, a plant not half so well known as it should be for open garden ornamentation. It is very hardy and extremely graceful in habit, and when planted on Grass produces a fine effect, especially when associated as it is here with little pyramidal bushes of clipped Box. Among the bedding plants Pelargonium Princess of Prussia is an effective scarlet, and the same remark applies to Lord Leigh Verbena. Among other beds were four large circular ones filled with different sorts of Canna, which appeared to be growing satisfactorily.

## Miscellaneous.

*Peat.*—The peat-beds play a most important part in the domestic economy of Holland. There is no coal in Holland,—none nearer than the great carboniferous basin at Liège. By way of substitute Nature has provided peat. Enormous beds of this deposit lie in the provinces of Friesland, Groningen, Drenthe, and Overyssel. The land there quivers perpetually, and the inhabitants say *Het land leeft,*—the land is alive. Peat was burnt in Holland long before coal was burnt in England. The consumption increased 50 per cent. between the years 1834 and 1852, at which latter date it was 33,943,630 tons. The peat-beds are of two kinds: high beds, *hooge veenen*, and low beds, *lage veenen.* Assen, the chief town of Drenthe, stands in the middle of an old peat-bed. The fields and gardens by their smiling aspect would never betray their origin. In the high lands peat is supposed to have been formed by the decay of vegetable life, chiefly that of heath and moss, on the surface of the ground, which forms a mould that increases year by year until it has undermined the trees, and, having caused their fall, gradually covers them over with a yearly-increasing deposit. Ages afterwards the trunks are found whole several feet below the surface of the bed. The forests protected the growth of peat, and were destroyed by it. In the low beds peat is formed by the decay of aquatic plants under water, which, dying, fall to the bottom, and form layer upon layer. These are often floating on the surface of the water. Sometimes, after a long drought, in which the peat is left stranded on the bottom of the marsh, the plants take root and prevent the bed from rising when the marsh becomes again full of water. At other times the beds are carried away by the force of the wind, and lawsuits have arisen, in which the plaintiff sought to recover possession of an estate which had floated away, with all the owner's live stock on it, and stranded itself within the boundaries of a neighbour's property. The Romans were greatly alarmed by the floating forests in the Zuyderzee, which, more formidable than Birnam Woods to Macbeth, came sailing towards them, and threatened their galleys with destruction. The modern Dutchman, less superstitious, but not the less anxious to prevent the land from playing truant, is accustomed to fasten these fugitive estates by ropes attached to stakes fixed in the more stable earth. The working of the peat-beds gives employment to a large number of hands. The first step is to drain the bed by digging trenches some 24 feet apart, and from 3 to 4 feet deep, lined with an earth wall to prevent the peat from falling in. These trenches are gradually deepened, until some eight years from the commencement of operations the peat is fit to be dug. One great danger in working these beds is that of setting them on fire. M. Esquiros, from whose most interesting description we have borrowed some of the foregoing facts, mentions a case in which the fire lasted twelve days, and the only means by which it could be stopped was to dig a trench round the burning field. The chief of the low beds is at Wateringen, near the Hague. As the working of these beds necessarily causes the formation of a lake, the Government lays great restrictions upon this occupation. When permission is given, the proprietor skims off the ground, which consists of valuable agricultural clay land, and carefully removes it to another portion of the field. The clay is usually 2 or 3 feet thick, and beneath this lies the peat. This preliminary step is usually performed in the winter. In the spring, workmen clad in long waterproofs boots descend into the water, cut the peat beneath the water, and then, guided entirely by their eye, seize the sods, and pitch them into a barge. This barge is emptied some six times a day into a wooden trough 12 feet square and 2 feet deep, where the peat is trodden down by human feet until it is kneaded into dough,—a process which by force of contrast as well as of similarity recalls the Grape pressing of Italy. The peat is afterwards taken out, arranged in blocks, covered with planks, and allowed to harden. It is then carried to the various towns in barges, the conductors of which are forbidden to smoke. The peat of the low beds is preferred to that of the high; to put against this, the working of the low peat beds leaves a lake, which the high beds do not. Latterly, a daring speculator bought these lakes at a low price, dyked them, drained them, and obtained as a reward of his enterprise some most valuable agricultural land, on which he grew most luxuriant crops. Peat is used in manufactories, breweries, and limekilns, as well as in private houses. Being bulky, it is subject to pressure before carriage, and this compressed peat is converted into charcoal. Peat forms the basis in the manufacture of paper, ink, varnish, and animal black. In marshy countries it is used as the foundation of houses. It swells under water, and centuries after, when the house is pulled down, it is as good as ever, and is then used for fuel. *Spender in Trans. of Bath and West of England Society.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—New Holland and other greenhouse plants will now be getting out of bloom, and some care will be necessary to avoid being short of showy plants with which to supply their places. Many things in stoves, such as Achimenes, Gloxinias, &c., should now be in a forward state, but these must be carefully prepared for removal to the drier atmosphere of the conservatory, otherwise there will be some risk of injury. Where circumstances will admit, plants that have been grown in a warm moist atmosphere should be removed to an intermediate house about a fortnight previous to their being taken to the conservatory, and gradually inured to a free circulation of air. By attention to this and placing the plants in the warmest corners in the conservatory, Clerodendrons and Allamandas will continue growing slowly and blooming for some three months at a time, whereas if this is neglected, their beauty may be very short-lived. Aim at maintaining an even temperature in the conservatory after removing plants thence that have been grown in the stove, and avoid allowing the atmosphere to become very warm on bright sunny days. Also see that every plant is perfectly clean before placing it in this house, and that the creepers, &c., are not infested with insects. Young stock in pits will now be completing its growth, and must be carefully attended to as to watering. Examine Heaths frequently for mildew, and apply sulphur the moment it is perceived, some of the soft-foliaged varieties being very liable to be attacked by this pest.

### FORCING DEPARTMENT.

Pinery.—Where the quality of the fruit is of great importance, care must be observed to have the soil in a healthy rather dry state during the period of ripening. Suckers that are not very strong will be benefited by being left on the stools for a month after the fruit is cut, but this will seldom be necessary in the case of healthy vigorous plants. Any neglect in the way of watering and maintaining a moist atmosphere in the case of succession stock may lead to its fruiting prematurely, therefore let there be no lack of attention at present. Plants swelling their fruit should be encouraged with plenty of liquid manure and a moist high temperature, shutting up early in the afternoon after syringing.

Vineries.—If spider makes its appearance on the foliage after fruit has commenced colouring no time should be lost in coating the hot-water pipes with sulphur. The sulphur should be mixed in water with about equal quantities of lime and soot, and applied with a brush. The lime serves to prevent the sulphur from being washed or rubbed off, and the soot helps to prevent any disagreeable appearance. The temperature of late houses where the fruit is now showing must not be allowed to fall too low at night if good-sized bunches are expected, and where Muscats are grown for a late supply there will be but little chance of securing a good crop of these unless a temperature of 70° is maintained. Attend carefully to young Vines recently planted, keeping the borders in a healthy state, maintaining a moist atmosphere, and shading until the Vines get a fair start.

Melons.—Where fruit is swelling the soil should be kept in a properly moist state, and every means should be used to preserve the foliage in perfect health, as there is no possibility of obtaining good flavoured fruit unless the leaves are kept in health. Keep the Vines thin, and prevent their being encumbered with useless laterals, and remove any decaying leaves at once, as these when left only serve as a harbour for insects.

Peaches and Nectarines.—Go over the trees in the early house as soon as the crop is gathered, and cut away all useless shoots, such as are not required for fruiting next season or for filling up vacant places; when this is done, give a good syringing with the garden engine, and if the borders are dry, and the trees are weakly, a good soaking of manure water would greatly assist them for another season.

### FLOWER GARDEN AND SHRUBBERIES.

During the present continuance of bright weather examine shrubs transplanted this spring, especially on gravelly soils, frequently to see that they are not suffering from want of water. Give a liberal soaking where necessary. Bedding plants must also be duly attended to with water, and with the present favourable weather and proper attention they will speedily repay all the trouble that has been bestowed upon them. As open grounds and shrubberies are much more frequented by company at this season than at any other, pay the more attention in keeping the greatest neatness and order in every part where there are hands to admit of it; flowering shrubs as they go out of bloom should have the dead flowers, &c., removed, and be slightly cut back. For the same reasons remove the seed pods from Rhododendrons, Tree Peonies, &c.; these little attentions will be followed by an increased growth of the plants, and with the greater certainty of their blooming every season. The propagation of Carnations, Picotees, Cloves, &c., should not be longer delayed. Hedges should be well cut in with the shears, unless when formed of large-leaved plants, as Laurel, Turkey Oak, &c., where the knife only should be employed, as the leaves look bad when clipped with the shears. Tulips may now be taken up. Store them away either in cabinets, with the drawers properly numbered, or put them in thin paper, allowing them to dry gradually in an airy shady place.

### HARDY FRUIT AND KITCHEN GARDEN.

Previous directions should be looked over. Nailing and tying in of the current year's wood should be continued. Pinch out the point of the present year's wood of the Fig before nailing it in. Stop and nail in Vines, and still continue to watch the progress of green-fly. Asparagus and Seakale making rapid growth will be benefited by a good sprinkling of salt and frequent soakings of liquid manure. To have fine crowns next spring attention should be paid to these matters now. Plant out a good supply of Endive and make a further sowing. Continue the regular sowing of Lettuces and other salad plants.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending July 15, 1863, as observed at the Horticultural Garden.

| July. | Moon's Age. | Barometer. | | Temperature. | | | | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Of the Air. | | | Of the Earth | | | |
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 9 | 23 | 30.214 | 30.157 | 84 | 33 | 58.5 | 64¼ | 61½ | N.E. | .00 |
| Friday 10 | 24 | 30.205 | 30.278 | 86 | 41 | 63.5 | 64 | 61½ | N.E. | .00 |
| Satur 11 | 25 | 30.348 | 30.266 | 83 | 42 | 62.5 | 64¼ | 62 | N.E. | .00 |
| Sunday 12 | 26 | 30.311 | 30.256 | 85 | 49 | 67.0 | 64 | 62 | E. | .00 |
| Mon. 13 | 27 | 30.405 | 30.376 | 84 | 37 | 60.5 | 65 | 62 | N.E. | .00 |
| Tues. 14 | 28 | 30.376 | 30.252 | 87 | 36 | 61.5 | 66 | 62 | N.E. | .00 |
| Wed. 15 | ● | 30.203 | 30.059 | 88 | 50 | 69.0 | 64 | 62 | N.W. | .00 |
| Average. | | 30.309 | 30.235 | 85.3 | 41.1 | 63.2 | 64.5 | 61.8 | | .00 |

July 9—Very fine; hot and dry; fine; nearly freezing at night.
— 10—Clear and fine; hot and dry, very fine; cool.
— 11—Dry haze; fine; hot sun; cool.
— 12—Slight haze; very fine; hot sun; warm at night.
— 13—Overcast; very fine; hot; cool at night.
— 14—Very fine; very hot and dry; coldest in the night—only 4 deg. above freezing.
— 15—Very fine; as yet the hottest day of the present season; warm at night.

Mean temperature of the week 1½ deg. above the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending July 25, 1863.

| July. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 19 | 72.8 | 51.0 | 61.9 | 21 | 0.60 in. | 2 | 1 | 1 | 1 | 7 | 15 | 8 | 2 |
| Mon. 20 | 72.5 | 51.1 | 61.8 | 22 | 0.72 | 1 | 1 | 3 | — | 1 | 19 | 10 | 2 |
| Tues. 21 | 73.1 | 50.6 | 61.9 | 16 | 0.54 | 2 | 1 | 3 | 1 | 4 | 13 | 10 | 3 |
| Wed. 22 | 73.4 | 51.8 | 62.6 | 21 | 1.37 | 3 | 3 | 2 | 1 | 3 | 13 | 10 | 2 |
| Thurs. 23 | 74.0 | 52.7 | 62.3 | 19 | 0.70 | 1 | 6 | 5 | 2 | 3 | 11 | 5 | 4 |
| Friday 24 | 72.5 | 52.2 | 62.4 | 13 | 1.16 | 1 | 7 | 4 | 2 | 5 | 12 | 3 | 3 |
| Satur. 25 | 73.9 | 49.7 | 61.3 | 10 | 0.36 | 2 | 6 | 3 | — | 2 | 10 | 12 | 2 |

The highest temperature during the above period occurred on the 25th, 1844—therm. 92 deg.; and the lowest on the 21st, 1862—therm. 36 deg.

## Notices to Correspondents.

Cucumbers: *Young Gardener.* By all means let them root at the joints. The more healthy roots they have the better; because the branches will be all the better fed. We, therefore, advise you to let your plants alone.

Insects: *Henry.* We found two minute Acari very like the red spider on the small plum leaves sent from your orchard-house. They doubtless suck the fluids of the leaves, and may be destroyed by fumigating with tobacco leaves.—*I* (or *T*). Your Fern leaves are sucked by a small green field-bug (Phytocoris sp.) common on garden plants. Fumigation will kill it. *W.*

Names of Plants: *W C B.* We very much regret to say that your specimens have been accidentally mislaid, and are now unexaminable. If you will send a fresh supply with your private address you shall have an immediate private answer.—*R.* Balsamita vulgaris.—*G S T.* Primula cortusifolia and Lepachys columnaris.—*Andrew Smaith.* Polemonium pulchellum.—*A B C.* 1, We believe Oxalis repens of the Mauritius, which is probably not distinct from O. corniculata; 2, Gymnostachyum Cumingianum; 3, Lonicera involucrata; 4, An Artemisia cannot be determined without flowers.

Royal Horticultural Society: *G S.* There is neither truth nor common sense in the statement to which you refer.

Strawberries: *T B.* They appear to be suffering from drought. A mulching of straw occasionally watered would, we think, have saved them. Strawberries cannot endure summers like this without assistance.—*Llanrwst.* We are sorry to say we cannot read Welch.

Taylor's Bar Hives: *Ignoramus.* We do not know where these are to be had.

**Royal Agricultural Society of England.**
WORCESTER MEETING—STAND No. 236.
IN ADDITION TO A MUSEUM OF UNUSUAL INTEREST,

MESSRS. SUTTON AND SONS will EXHIBIT SPECIMENS of the present year's crop of about 100 kinds of GRASSES, showing the natural habit of each sort at the time of harvest. The Silver Medal of the Royal Agricultural Society of Denmark has just been awarded to SUTTON & SONS, for their Collection now exhibiting in Odense.
Royal Berks Seed Establishment, Reading.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
116, Fenchurch Street, E.C.

LAWES'S MANURES.
The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices :—

| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.
Genuine Peruvian Guano direct from Messrs. Gibbs : Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E. C. ; and 22, Eden Quay, Dublin.

MESSRS. J. CHALMERS MORTON, Streatley, near Reading, and J. THORNHILL HARRISON, M. Inst. C.E., Frocester Court, Stonehouse, Gloucestershire, AGRICULTURAL ENGINEERS, undertake reports on the Condition of Landed Property, together with the Direction of Land Drainage, Roads, Embankments, Farm Buildings, and other works necessary for its permanent improvement.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

AGRICULTURAL and CHEMICAL COLLEGE, KENNINGTON.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. NESBIT, LANSDELL & Co., 37 and 38, Lower Kennington Lane, London, S.
Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.
Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.
Full particulars of terms will be forwarded on application.

**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally ; including Embankments, and River Works ; Reclamation of Marshes and Waste Lands ; Irrigation and Warping ; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.
Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.
22, Parliament Street, Westminster, S.W.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.
AUTUMN SESSION, 1863.
*President*—THE RIGHT HON. THE EARL BATHURST.
*Council.*
The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
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ASSISTANT TO CHEMICAL PROFESSOR.
R. WARINGTON, Jun., F.C.S.
BOTANY.—JOHN BAYLDON, M.B. Lond. B. Soc.
VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.
MATHEMATICS AND SURVEYING.
W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.
DRAWING.—JAMES MILLER.
* These Gentlemen will be in temporary residence.
Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services :—
AGRICULTURE.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
ROBERT RUSSELL, Editor of the Transactions of the Highland and Agricultural Society—A Course of Lectures on Manures.
AGRICULTURAL CHEMISTRY.
THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.
The College will RE-OPEN AUGUST 10th. For further particulars apply to the Principal.

YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW at SOUTH STOCKTON-ON-TEES, on AUGUST 5, 6, and 7.
The ENTRY CLOSES on July 18. For Forms of Entry, apply to JOHN HANNAM, Secretary.
Kirk Deighton, Wetherby.

MANCHESTER and LIVERPOOL AGRICULTURAL SOCIETY.
GRAND SHOW at BIRKENHEAD (in the Park) on SEPTEMBER 8, 9, 10.
Prizes amounting to £1400.
ENTRIES CLOSE on August 10.
For Prize Lists, Regulations, &c., apply to Mr. WM. HENDERSON, Local Secretary, Birkenhead, or to T. B. RYDER, Secretary, 57A, Church Street, Liverpool.

**Grand Agricultural and Horticultural Show.**
THE MANCHESTER and LIVERPOOL AGRICULTURAL SOCIETY'S MEETING will be held in the Park, Birkenhead, on SEPTEMBER 8, 9, and 10. An Exhibition of HORSES, HORNED CATTLE, SHEEP, PIGS, POULTRY, BUTTER, CHEESE, IMPLEMENTS, MACHINERY, HORTICULTURAL and AGRICULTURAL PRODUCE, for which Prizes amounting to upwards of 1400*l.* are offered. The Local Committee also offer 50*l.* for a MUSICAL BAND CONTEST. Entries to Close on August 10.
Prize Lists to be had on application to Mr. T. B. RYDER, Treasurer and Secretary to the Society, 57A, Church Street, Liverpool ; or to Mr. W. HENDERSON, Honorary Local Secretary, 2, Market Cross, Birkenhead.
N.B.—Subscribers of not less than 20*s.* to the Local Fund, or parties becoming Members of the Society, and Subscribing not less than that amount, may enter their Stock free of charge.—2, Market Cross, July 18.

WARWICKSHIRE AGRICULTURAL SOCIETY.—The next ANNUAL EXHIBITION of the above Society will be held at ROYAL LEAMINGTON, on SEPTEMBER 16 and 17, combined with an HORTICULTURAL SHOW, on a very extensive scale, the Earl of WARWICK, President, and under the patronage of many Peeresses and Ladies of rank, a distinguished list of Vice-Presidents, the Chairman of the Local Board of Health of, and the Town of, Leamington.
PRIZES to the amount of about 860*l.*, in MONEY and SILVER CUPS, are offered for LIVE STOCK, DOGS, IMPLEMENTS, PLOUGHING, HEDGING, DRAINING, LABOURERS, SERVANTS, CHEESE, FRUITS, and FLOWERS.
A PUBLIC DINNER will take place in the Jephson Gardens, on WEDNESDAY, September 16.
The principal portion of the Stock Prizes offered are Open to Great Britain, provided the Exhibitor be a Member.
The Annual Subscription is 1*l.*, which must be paid (and Certificates sent in) before August 1.
For further information as to the General Show, apply to the Secretary, Mr. JOHN MOORE, Land Agent, Warwick ; and as to the Fruits and Flowers, to Mr. JOHN COOKES, Local Secretary, Warwick Street, Leamington.

THE BIRMINGHAM CATTLE and POULTRY SHOW, 1863.
The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held in Bingley Hall, on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3, when PRIZES (CUPS, or other Articles of Plate, and GOLD and SILVER MEDALS) to the amount of £1940, will be awarded in the following Divisions, viz. :—

| | | | |
|---|---|---|---|
| FAT CATTLE .. .. | £784 | 5 | 0 |
| FAT SHEEP .. .. | 275 | 15 | 0 |
| FAT PIGS .. .. .. | 60 | 5 | 0 |
| BREEDING PIGS .. | 76 | 10 | 0 |
| CORN and ROOTS .. | 68 | 5 | 0 |
| POULTRY and PIGEONS | 674 | 4 | 0 |

Prize Lists and every information may be obtained from the Secretary. JOHN B. LYTHALL, Secretary.
Offices : 13, Temple Street, Birmingham.

ROYAL AGRICULTURAL SOCIETY of ENGLAND
SHOW of CATTLE, HORSES, SHEEP, PIGS, and AGRICULTURAL IMPLEMENTS at WORCESTER.
MONDAY .. July 20 { Cattle and Implement Yards open from 8 A.M., at which hour the Judges will commence inspecting the Live Stock, and making their Awards. Admission 10*s.*
*TUESDAY .. „ 21 / *WEDNESDAY „ 22 { The GENERAL SHOW of Cattle, Horses, Sheep, Pigs, and Implements, open from 6 A.M. till 6 P.M. Admission 2*s.* 6*d.*
* Public Working of Steam Cultivators on Land in the neighbourhood of the Show Yard.
THURSDAY .. July 23 / FRIDAY .. „ 24 { The GENERAL SHOW of Cattle, Horses, Sheep, Pigs, and Implements, open from 6 A.M. till 6 P.M. Admission 1*s.*
By the Regulations of the Society, all persons admitted into the Show-yard, or other places in the temporary occupation of the Society during the Meeting, shall be subject to the Rules, Orders, and Regulations of the Council.
By Order of the Council : H. HALL DARE, Sec.
12, Hanover Square, London, W.

**Agricultural Hall.**
A POULTRY, PIGEON, RABBIT, FLOWER, FRUIT, and VEGETABLE SHOW will be held at the AGRICULTURAL HALL, ISLINGTON, the LAST WEEK in AUGUST.
PRIZE LISTS and further particulars will shortly be issued.
By Order, S. SIDNEY, Secretary.

# The Agricultural Gazette.

*SATURDAY, JULY* 18, 1863.

MEETING FOR THE ENSUING WEEK.

MONDAY, July 20 to FRIDAY, — 24 } Great Meeting of the Royal Agricultural Society at Worcester.

THE Royal Agricultural Society of England is now for the 25th time gathering together the elements of that striking picture of English Agriculture which it annually presents. What a contrast exists between its first exhibition at Oxford and that which is about to be opened to the public at Worcester! The implement show in the former case was without a catalogue—its one feature of merit lay in the few waggon loads of machinery drawn during the previous week from Ipswich—its "novelties" were represented by an absurd and impossible machine for rolling, raking, and burning field rubbish at one operation—its carts and waggons depended for their attractiveness on fantastic colouring—the whole occupied a scanty open yard without arrangement, through which a few hundred spectators wandered without guidance. The show yard now is 46 acres in its extent; the portion set apart for implements is about 600 yards long by nearly 200 yards wide; the implement catalogue alone occupies nearly 500 pages; 330 exhibitors contribute, and many an individual of them exhibits many times the value of all that was shown at Oxford. Not only is horse-carriage almost wholly dispensed with in the conveyance of these goods —for implements are loaded on steam-drawn trucks in the yard of the manufactory 200 miles away, and are delivered by steam within 100 yards of the shed where they are to be shown—but the new power thus brought into work is itself the main object of interest among the articles exhibited. Fifty manufacturers show fixed and portable steam engines, and steam power is shown at work, driving all kinds of barn machinery in the yard and all kinds of cultivating machinery in the field. Novelties are not so much cared for or desired; the object of the manufacturer is to meet what now are old-fashioned well-known wants in the most effective way; that of the spectators is to find the best tool for cultivation, carriage, sowing, hoeing, harvesting, and preparing produce for market or for food—all of them clearly marked out well-known classes of operations. And, after all, it is as a great mart that the show or "Fair," as Americans would call it, is visited; and our agricultural meeting is more and more acquiring the character which that word conveys to English ears. This is as true of the live-stock yard as it is of the implements. Exhibitors seek custom for their wares, and they seek the awards of the Society's Judges, because the flow of custom is thus to some extent directed.

This year the contest lies among machinery for threshing and preparing food, and amongst steam engines, fixed and portable, for driving it. And since Wednesday the judges have been putting machines for all these purposes through their paces, examining the quality of the work accomplished, and recording the power used in the operation. Details of these trials will be given when the results are known.

Besides these, however, and possessing even greater interest, there is competition among steam ploughs and cultivators for the Society's prizes.

On Wednesday COLEMAN, FOWLER, COLLINSON HALL, HOWARD, SAVORY, STEEVENS, SMITH, and HAYES set down their apparatus, all driven by 10-horse power engines, and intended for small occupations, to work a field of hard, red, clayey and gravelly sand, which had borne a crop of Wheat last year, and had, part of it, since borne a crop of Vetches fed off by sheep. The exhibitors were allowed to employ what tool they chose. COLEMAN used his two cultivators, and made very good work indeed; FOWLER used his balance plough with digging breasts, and made unquestionably the best work in the field—an advantage due, of course, to his tool, and in no respect to his system of working it. Before he had completed his 1½ acres the pump of his engine got out of order, and the fire plug fortunately burned out and he was stopped. COLLINSON HALL unfortunately met with *his* disaster before reaching the ground, and could not work his plot till the following day, when with an old plough and anchorage of FOWLER'S he set his engine with its polygonal pulley and linked chain fitting to it to cultivate the land. It made very slow work, the machinery for adapting the length of the rope to the varying length of the furrow being yet insufficient. HOWARD made capital work with his cultivator. SAVORY, with his two engines, and using FOWLER'S plough, got easily to work, rapidly completing his task; but the quality if it was not equal to that of FOWLER'S own performance—a defect due simply to the tool, and in no degree to the plan of working. STEEVENS' grubber, driven by one of GARRETT'S engines and HOWARD'S windlass, unfortunately broke down. SMITH, who was working by far the roughest and hardest bit of land in the field, went steadily and efficiently through his performance. HAYES, who did good work, used his well known windlass, which dispenses with the need of a man, the engineer being able to attend to it along with his engine.

Some delay took place before those competitors

who had finished could move to the next field, about 500 yards off. As soon as the plots, however, were allotted in it, the several exhibitors were desired to move. Messrs. HOWARD moving everything by horse-power, and employing 6 or 7 horses and a large number of men, shifted the whole of their tackle, and re-set it around their 2-acre plot in 1 hour and 50 minutes, of which a few minutes were due to a mistake on the part of the judges, or their officer. And this time is probably as short as such a thing can be when the engine is not self-driving, but when there is ample assistance. Messrs. SAVORY, with their two self-driving engines, each carrying its own drum and rope, hooked on their plough and marched off, the one engine to one end of their plot, the other with plough and rope to the other end, and they were ready to start in half an hour! There can be no doubt that on their system one great source of loss is reduced to a minimum. The shifting from place to place is done rapidly and easily, and no additional help is needed at those times.

The field in which the second trial took place was hard but less clayey than the former. FOWLER and HOWARD had the hardest side, SMITH and SAVORY had rather easier work. The lower part of the field was across high ridges and hard throughout, the upper was flat and easy enough.

The following is the report of the work done, coals burned, and time and labour used in doing 2 acres—each man using his own grubbing tool, and SAVORY using HOWARD's grubber.

No. 1 is FOWLER's 10-horse single-cylinder engine, driving and pulling itself along by his travelling clip drum, with travelling anchor at the other end of the furrow.

No. 2 is HOWARD's 10-horse power double-cylinder engine driving his windlass with double compensating snatch block, and rope laid all round the field.

No. 3 is SAVORY's two double-cylinder 10-horse power engines, pulling HOWARD's tool to and fro between them.

No. 4 is SMITH's 10-horse double-cylinder steam-engine, driving his windlass and grubber in the usual way. FOWLER's tool was a 5-tined balance cultivator, working 4 feet 2 inches in width at once. HOWARD's and SAVORY's were HOWARD's 3-tined grubber, and SMITH's was his own 3-tined grubber.

| | Labourers. | | Coals. | | Time. | |
|---|---|---|---|---|---|---|
| | Men. | Boys. | cwt. | lbs. | h. | m. |
| No. 1. Fowler's .. | 3 | 3 | 3 | 30 | 1 | 57 |
| No. 2. Howard's.. | 4 | 2 | 3 | 16 | 1 | 57¼ |
| No. 3. Savory's .. (2 engines) | 3 | 1 | 5 | 28 | 1 | 41 |
| No. 4. Smith's . | 4 | 2 | 3 | 105 | (?) | |

SMITH took a good deal longer time than the others; SAVORY lost 9 minutes through the accidental breaking of the eye off the rope; COLEMAN unfortunately broke his cultivator and could not compete. As to the quality of the work—where crossing the ridges, SMITH did much the best work; where the ground was level FOWLER did the best work. With his exception, too, there were a good many missed strips between the successive tracks of the tool, as there always will be in racing trials.

When these trials were completed, SAVORY, HOWARD, and FOWLER were set to work *ploughing* in the same field, with the following result (which we receive just as we are going to press.)

"The plots to be ploughed were 1½ acres apiece, 7 inches deep. SAVORY, with FOWLER's plough, did it in 1 hour 38 minutes. The ploughing was inferior to HOWARD's and FOWLER's, which was in great measure the fault of the plough, one coulter having bent several times. SAVORY was then ordered by the judges to shift to the gate with rope coiled, and plough and porters behind engine. The operation was performed in 3¼ minutes from the stopping of the ploughing! FOWLER took 1 hour 40 minutes to accomplish his task; his work was good. HOWARD also took 1 hour 40 minutes; his work was very good. FOWLER's and HOWARD's ploughing was nearly equally good."

To-day certain of the competitors will work at Wadborough, in some of the stiffest and hardest land in Worcestershire, and this will we believe be the concluding test to which the judges will subject them.

We shall next week give an account of the result of this and the other awards. At present we have to report that the preliminary work of the Society's officers—director, stewards, contractors, and judges—has been or is being accomplished in the best possible manner, and that everything bids fair for a most successful meeting.

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THE "impossibility" of to-day does indeed become the "truism" of to-morrow. "By what rule of arithmetic" (inquired a correspondent of an agricultural journal, in 1861), "can Mr. SMITH 'smash' an acre of land for 7*s.*, cross-cultivate ditto for 5*s.*, ridge it for 4*s.*, and subsoil between the ridges for 4*s.*, thereby moving the land to a depth of 16 or 18 inches, as described, for 20*s.*? Sir, I say the assertion is so bare-faced and absurd, that the public will take it for what it is worth. I think we have had enough of such impossible declarations." Why, a dozen employers of steam-tilling machines are ready in the present day to prove to this irate sceptic that they have done all this and more. The steam plough has far surpassed the expectations of the imaginative unprogressive practicality of two years ago.

But this said 'practicality' is distinguished for that quality of *inertia*,—which philosophers must have strangely erred in attributing to "matter" only. Establish this solid old-English order of opinion upon its favourite basis of time-honoured experience; and it will remain immoveably, undiscursive and obstinate, until some hard irresistible facts of a new order sweep it off its ancient stand-point. But "extremes meet:" for here comes in the other well-known behaviour of a body endued with this property of inertia. Once driven from its ancient platform, and actually got into progressive motion, and there is no such thing as pulling up of its own accord. To restrain its speed requires the force of powerful opposing considerations applied for no little length of time. The same 'practicality' that would not believe in the real achievements of the steam tilling-machine, when once overcome by weighty evidence has no notion of advancing reasonably and with caution, but persists in going-a-head beyond all moderation, and will be satisfied with no mechanical performance unless it be wonderful or even miraculous. Once getting a glimmer of the principle with which this article opens, the class of mind referred to refuses to admit of "impossibility" at all, and cannot see how anything can ever be "extremely unlikely."

Hence, the foolish reiteration in 1863 of the wise cry of a few years back—"Steam tilling is in its infancy." Infancy! why, what more would you have? how much do you expect is within the bounds of the possible? An infant is weak, inefficient, expensive: but a few considerations will show that the steam plough has grown beyond these helpless beginnings to the full strength and proficiency of an adult maturity. Is it true or not that some amazingly superior piece of machinery may possibly appear in the field, applying the power of the steam-engine to tillage with far greater efficiency and economy than the world has ever yet witnessed?

Obviously there are but *two* points in which improvements can be made: there may be less waste of motive power in transmission from the engine to the tilling tines, blades, shares, or cutters; and these tools themselves may be made to do more and better in proportion to the amount of moving power conveyed to them. Well, how much room is there for advancement in the first point? Take Messrs. MORTON and HARRISON's dynamometer experiments at Sutton Courtney. Further details are needed concerning Messrs. HOWARD's and Mr. SMITH's machines; but the investigation of Mr. FOWLER's was tolerably complete and clear—in spite of the numerous difficulties and sources of error attending every such trial. When ploughing four furrows at once, 8 ins. deep, at a speed of 3 miles an hour, the total strain on the rope between the engine and the implement was 36 cwt. The endless rope, 700 yards in length, was distended between the engine clip-drum and the anchor-pulley 350 yards off—the tightness or strain on that portion of the rope not engaged in hauling the implement being 7½ cwt. Deducting this strain (which is sustained equally by both sides of the clip or hauling drum), we have 28½ cwt. as the total draught occasioned by the work done. This work consists of moving the rope itself upon its porters, and round the anchor-pulley, moving the anchorage along the headland, and moving the implement to and fro between the engine and anchorage. The draught of the rope tightened up to 6 cwt. strain, was found to be ¾ths of a cwt. When the greater strain of 36 cwt. is on, the pulling portion of the rope probably takes rather less draught; and the slack portion rather more draught,—owing to the greater or smaller amount of bending over the porters by the weight of the rope hanging between porter and porter; but the average is probably about the same. To this should be added somewhat for the increased friction of the anchor pulley on its axle, when 36 cwt. draught is on, and this is felt only at alternate journeys of the implement. To make the anchorage travel, 1 cwt. more was required; this we may take as due for about two-thirds of every other journey of the plough, or one-third the whole time worked. The account stands as follows:—

| | | cwt. |
|---|---|---|
| Total draught due to the work .. .. | cwt. | 28½ |
| Draught of rope, &c. say .. .. .. | 1 | |
| Moving the anchorage .. .. .. .. | 0⅓ = | 1⅓ |
| Applied to dragging the implement .. | | 27⅙ |

Or no less than 95 per cent. of the total draught.

To find the proportion of power made effective in actual tillage, deduct the draught of the plough when dragged out of work—an average (over dry unmoved and again over deeply grubbed fallow), of 2⅔ cwt.; giving a result of 24½ cwt.; that is, 86 per cent. of the total draught is engaged in cutting and turning the furrow slices, while 14 per cent. is lost in friction and working the moving parts of the apparatus. The pace of the implement in the experiment was 3 miles per hour; and as 1 cwt. draught at 3⅓ miles per hour, represents 1 mechanical horse-power, the above cwts. may be read as so many horse-power. So that, out of 28½ horse-power exerted by the clip-drum of the engine, we have no less than 27⅙ horse-power applied to the implement (sometimes at 350 yards distance, and on an average 175 yards off) and 24½ horse-power finally employed in the severing and upturning of the soil.

Of course a somewhat higher power must have been given out at the engine crank-shaft, and consumed in the friction of bearings and gearing, and in the loss of force requisite for pinching the rope between the clipping-pieces of the drum. The proportion of motive-power needed to move the engine along the headland should hardly be taken into account, seeing that it is engaged only during the intervals when the plough is at rest.

If, then, you can take power and motion to an implement 350 yards off, losing only 5 per cent. in the transit, what room remains for much greater economy, whether you attempt to improve upon rope-traction or to take the engine itself over-land to the spot operated upon? Will you ever diminish by one-half the 9 per cent. wasted in moving the simple weight of an implement, strongly-enough built to apply a strain of 24½ horse-power to the uprooting and shattering of the ground?

The first point we named as one of the only two in which advance is possible, may be considered as disposed of: small savings of motive-power are alone possible to future improvers.

But if you cannot hope to actuate tines, blades, shares or cutter, with less waste of motive power, may you reasonably expect such improvements in these tools themselves that more and better work will be done for each horse-power expended in driving them? Very much "*better*" tillage (unless it be something more like spade-work in very deep trenching) can scarcely be looked for, after "smashing-up," "cultivating with digger-breasts," "Woolston ridging-up," and "Cotgreave trenching." Is it likely that a tilling-machine may be invented capable of a much greater *amount* of performance than any of our steam-ploughs or cultivators now accomplish for a certain amount of power expended? If traction be adhered to as the mode of working, we answer, most probably not. After the ancestral plough and grubber have been modified, lightened, and eased through the soil by every mechanical ingenuity and every suggestion of mathematical analysis, only advances comparatively small can be reasonably expected in tillage by implements travelling upon the land. A considerable proportion of the draught of a horse-plough arises from its weight sledging upon the furrow bottom: the weight of the steam plough is borne upon wheels. The chief resistance however, is in the cutting or penetration of the share. The share with other parts of the plough body, form a double-bevilled or compound wedge, continuously thrust in between the furrow slice and the furrow bottom and side; and the pressure, friction and cohesion are equal on opposite faces and sides of this wedge, excepting as they are counteracted by the direction of the line of draught. But if the thrust downward and sideward were sustained by supporting the wedge upon wheels: that is, if the under-face and land-side face of the wedge were cut away, and only the upper face and diagonal cutting-edging left, half the pressure, friction, and cohesion would be gone. In the horse-plough, the upward direction of the

draught-line takes off a portion of the pressure from the furrow bottom, diminishing to some extent the friction and cohesion of the underside of the share, &c. In the steam-plough, too, the same kind of relief arises from the line of draught being considerably higher than the line of resistance to the passage of the share. For both lines being horizontal, one over the other, the effect of hauling by the upper line and encountering resistance upon the lower line is to cause a downward pressure upon the forward part, and an upward lift upon the backward part of the implement—that is, there is a downward pressure upon the wheels, and a lifting pressure upon the plough-bodies. But this upward tendency is not so great as in the horse-plough, because the traction-rope is hung as closely as may be to the ground in order to avoid too much lifting and insure the ploughs entering into the soil. The practical worker of the steam plough finds a proof of the fact that the upward lift exists in the circumstance of his having to weight the tail of the implement (by sitting upon it), to hold the plough in work where the land is hard. If we take now the steam grubber, we see at once that no sledging whatever of the under side of the wedge-shaped shares is possible,—the tines being set pointing downwards like anchor-flukes "tearing into the land;" and the tendency of the implement to bury itself (as it would immediately do on starting were the wheels removed), is sustained by the travelling wheels. Thus, while minor improvements may be made in details, it does not seem possible to devise any new machine for horizontal tillage which could possess any very important advantage over the present steam-plough and grubber in relieving the cutting and turning parts from friction and cohesion of the soil.

It is true that the wheels of the implement might be made to sustain the whole of the downward thrust occasioned by the cleavage and upturning of the ground, and these wheels might travel upon smooth, fixed rails (as in Mr. HALKETT's invention) but it has yet to be proved in practice that the necessary travelling of the engine and a ponderous bridge-platform as well, would involve a smaller waste of motive-power than (as we have seen) the wire-rope system does. Or you may mount your tilling tines and shares upon a rotating barrel hung behind a slowly-locomotive engine, in which case the downward pressure of the shares would be sustained by the brass-bearings upon the machine, and this again carried by the engine travelling wheels. But it is certain that the journeying of a heavy engine over a soft field would waste more motive-power than is lost in a merely partial rubbing of shares and plough-soles upon furrow bottoms. Mr. ROMAINE's machine never succeeded in travelling (at its slow working pace) with less than about 15 lbs. pressure of steam, when 80 to 90 lbs. were needed for digging and travelling together: in other words, about 18 per cent. of the motive power was engaged in taking the digging cylinder about the land to its work. And, of course, the whole scheme falls to the ground, when it is once shown how a locomotive engine injures the texture of the land by pressure.

Analyse the forces and resistance at work in any species of tillage-process; separate the essential and indispensable elements from those which are merely extraneous and accessory; compare the power asserted by theory to be requisite for overcoming the force by which earth cleaves to earth, added to the power unavoidably absorbed by friction and cohesive attrition of the soil against the instrument passing through it; compare this with the power utilised or lost by the best forms of traction-implement now actuated by a steam-engine, and you will learn that no very vast and surprising discrepancy or short-coming exists between the theoretically required motive-power for a given process, and that percentage of the motive-power really made effective in practice.

Let not those individuals who could powerfully aid the extension of steam-tillage in their day and generation, linger on without sharing in its benefits, from some vague idea that incomparably superior inventions are about to eclipse all that wonderful ingenuity and patient working out of details by first-class mechanicians have ever yet achieved. *I. A. C.*

## THE APPEARANCE OF THE CROPS.

BEDFORD: *Biddenham.*—I consider the Wheat in this neighbourhood promises above an average yield, the Barley an average, Oats an average, and Beans and Peas not an average. I am afraid if the present very dry and hot weather continues it will injure the quality of both Wheat and Barley upon all dry soils. *William Lovender.*——*Stevington.*—The prospect for Wheat in my neighbourhood is good, more especially after steam cultivation. It never told so well before. The same may be said of Barley and Oats, where put in early. Beans a fine plant, but very little corn. Rain much wanted for everything. The Turnips are dying away, and the pastures more like fallows. Hay, like farmers' gold, very good but little of it. *Wm. Pike.*

BERKS: *Moulsford, Wallingford, July 9.*—The Wheat in our neighbourhood is more promising than it has been for some years; owing to the amount of dry weather we had in May there is not so much straw as we often get, but I think there will be over an average yield. The early sown Barley looks well, but the backward is again beginning to show want of rain. The same remark applies to the Oat crop. *John B. Spearing.*

BUCKS: *Claydon, Winslow.*—Wheat fine, promises to be above an average. Barley, full average. Oats moderately fair. Beans very bulky, but deficient in corn; below average. Turnips: good plant, but late; in want of rain. Hay: light; about half a crop; well got. Grass: good, but much in want of rain. Potatoes: very good. *Alex. Fraser.*——*Woolston, Bletchley Station.*—The crops in this neighbourhood are—Wheat, over an average; Barley, full average; Oats, Beans, and Peas average; Mangels, plant well, but very late; Swedes, good plant; Potatoes, good; hay, half average. *W. Smith.*

CAMBRIDGE: *Streetly Hall, West Wickham.*—The appearance of the Wheat crops is good on the different varieties of soils, more especially on the heavy lands; the Barley on the heavy land is good, but on the light land it is generally a light crop, and where sown late will doubtless be bad. Some of the winter Beans are good, but spring Beans are not so promising; the early Peas are very short; there is but little Rye grown here. *Henry Webb.*

CHESHIRE: *Tarvin, July 8.*—Excepting on the poor thin soils and badly managed land the corn crops are very promising. Wheat generally is full on the ground, stiff in the straw, and the time of flowering has been very favourable; there is a little unevenness in some of the Barley crops occasioned by the dry weather about the time of sowing, but on the whole, the appearance is good; Oats too are very generally good, and an early harvest and full average crops may be expected. Beans appear to be an excellent crop, and I have not yet heard anything of the blight; Mangel Wurzel in its early stage received a check from the effects of dry weather, and a severe attack of the maggot—producing fly which has been very prevalent; it is, however, fast recovering, and may yet be an average crop. Swedes are free from fly, and so far promising. The hay crops are greatly improved since the late rains, and harvest has commenced generally. A fine field of Barley, which has lately come under my notice, presents a very singular appearance, one half of which was sown with a fine sample of "Golden Melon Barley" fresh from the county of Norfolk, the other half with the common Barley of the country, the former part having a very large per centage of black or blighted ears, whilst the latter is entirely free. *W. P.*

NORTH DEVON: *Tawstock.*—Wheat: Occasional thin fields, but crop generally good, promising over an average yield. Barley: some bad fields, but good generally; promises of a full crop on the whole. Oats: present appearance good, with a few exceptional fields. *P. Cowan.*

DORSET: *West Bucknowle, Corfe Castle.*—Wheat, Barley, and Oats a good average. Peas, some blighted. Potatoes, Mangel, and Turnips, looking well. *W. J. Voss.*——*Langdon Manor, Beaminster.*—The present appearance of Wheat and all other grain crops in this neighbourhood is very good. *John Farmedge.*

ESSEX: *Dorwards Hall, Witham.*—Report of harvest prospects. Wheat: In the absence of adverse weather prior to harvest, promises to be an abundant crop. Barley and Oats full crops. Peas good. Beans inferior and injured by black aphis. Mangel late, will be small roots, and are defective in plant. Swedes and Common Turnips promise well. Potatoes showing disease in many places, which seems to be spreading, early sorts now being taken up defective in yield. Clovers and Grasses good, and well harvested. Some Wheat will be cut the latter end of this month. General harvest will probably be ready the first and second weeks in August. *Henry Dixon.*——*Tiptree Hall, near Kelvedon.* The crops generally in Essex are abundant and full average, especially on the heavy lands. This applies to Wheat, Oats, Barley, Peas, and Beans; the last most doubtful as to yield, although plenty of straw. Potatoes generally good; some few complaints of disease. Cottage gardens generally flourishing. Hay short, but improved of late. Clover, first crop a failure on many lands. Good plant of Turnips. Mangels good on winter-prepared soils, but late on spring-ploughed heavy land. Harvest will be general about the 27th. A good many Wheat ears have been blighted the last two days. *J. J. Mechi.*——*South Essex.*—Within the last few days the well-known collier or black insects have again appeared on Beans, and are accumulating daily, committing their usual ravages from plant to plant with remarkable destructibleness, eagerness, and rapidity. The first day only one is perceptible on each plant, which the following day is multiplied to at least 10 fold, and the next day to not less than 100 and 1000, and so they go on progressively and proportionally till at last the plants are becoming so infested with the direful plague that many have withered and died, or the pods on such plants have proved abortive. The whole is but a common occurrence, which, however, may be prevented or mitigated by watchfulness and assiduity on plants not already infested, or those recently attacked may be saved from the scourge to a great degree, at least in small compartments or gardens, without much trouble, if due care is observed in performing the following expedient. As the parent mother fly (for such it is) deposits her egg in the eye or tip-bud of the plant, the embryo is there quickly hatched, and therefrom in its birthplace it is nurtured and supplied with its natural and necessary food. In like manner, and in another very short lapse of time, those embryos also become parents. Some assert that they never leave one plant to feast upon another, which however is erroneous, as the writer has proved by his experiments in previous seasons. The expedient alluded to is either to remove the buds or tip end of the plants in a basket for pig food, they being very nutritive and adapted to their good health, for they will eat them with avidity, and moreover thrive and fatten upon them, when their palates are enured to them; but that it is sometimes necessary to stint them in other diet before they will taste the leaves. The eye or bud, if removed not more than ½ or 1 inch in length, wherein the eggs or embryos are deposited, is sufficient to prevent the whole mischief, except by too long neglect the vermin are accumulated to several inches down the stalks; then topping them below the infested parts must be resorted to to prevent their utter ruin. Early Peas are yet safe; but late varieties sown late appear to be lousy. It is hoped however that the late storms of rain and hail have at least partly destroyed them; but it may be observed the idea many entertain, that lightning often kills them, sparing none, is a fiction; whereas it is more often heavy rain, and it may be hail at such times which knocks them off the rice and drowns them, and not the lightning; this only destroys them by chance or accident, as it does other objects attacked and destroyed by it. Oats and Barley are good. Potatoes are decidedly diseased again to a great extent, the most in districts where the late thunder-storm raged; supposed to be occasioned by the drenching cold rain chilling the plants at their roots at an untimely part of the year, when the earth was warmest—and not by electricity, or the lightning. Experience has hitherto proved to the writer that a humid atmosphere and a murky sky encourages the malady, and fine sunny weather in a great measure preserves them from it; the latter scorching and starving the complaint, as it were—the former tending either directly or indirectly to destroy them, and which unhappily often causes them to linger with the complaint a certain time, proving epidermical, and consequently contagious to others surrounding them, and finally ending in their destruction. Hence the idea entertained by the writer in former seasons of "cutting off," or "pulling up" as some will have it, their infected shaws, (leaves), or stalk close to the ground, with a view of starving the virulence of the disease downright, thus making room for autumnal crops of Brassicas, &c. to be planted between the rows, and are more certain to be obtained, especially as the tubers never grow larger after the foliage becomes visibly spotted, and the whole plant contaminated. If ever the Potato is renovated or resuscitated, his idea is that it must be by growing them on the poorest soils, thinly, making choice of the very earliest and dwarfest varieties extant, and that resort must be had to grow them from the best selected, earliest, and soundest stocks, which should now, before it is too late to recognise them, be labelled, indexed, or noted. Recourse should also be had to grow them from imported earliest varieties, coming from the warmest countries where it is understood they are and have been least infected. It is a great mistake, he observes, to obtain sets from a colder climate than our own, as from the north of Scotland, &c., with a view of improving them in a warmer, here in the south. They should also be grown in frames, and in poor soils without manure, starving them as it were, that they may not grow too great an exuberance of foliage. In short every means should be devised to disinherit the malady from the constitution of the tuber or plant, wherein it is now supposed to have become so chronic and deep seated.

GLOUCESTERSHIRE: *Royal Agricultural College, Cirencester.*—The Wheat looks most promising. Straw very abundant and grain filling well; in many instances slight deficiency at the lower part of the ear, but length of ear is good. Early Barley on cool soils promising; late sown Barleys never worse. Dry weather and want of tilth in the soil may account for this. Oats variable: early sown good; late sown indifferent. Peas unusually good. Beans abundant. Straw not heavily corned, and in some low districts much injured by frost. *John Coleman.*——*Taynton, near Gloucester.*—The crops are very good; indeed all except the Peas. The hay crops are rather light, but made very well. *Job Billingham.*——*Eastleach, Lechlade.*—The Wheat crop generally I consider to be looking well, and promising for a good crop. I have however noticed red gum in some places, but not to a great extent at present. The weather is excellent for it, and for the early Barley, which also promises well; the late Barley is not looking well, and will want rain directly. I have heard many complaints of a deficiency in the Beans, but I think the late blossoms have set, and that there will be a fair crop; there is a good deal of straw to them. The early Turnips suffered much from fly, but the general crop is a good plant. They are now however wanting rain. *Giles Edmonds.*

HANTS: *Bursledon, Southampton.*—The crops of Wheat, Barley, and Oats are all above an average appearance. The Wheat, both early and late sown, is in full crop; and had the blooming time been less windy, with a higher temperature, we might have expected a very large crop; it will, however, no doubt exceed the average produce. Barley has been earlier sown than usual and evenly grown; it may, therefore, be expected to exceed an average yield of good malting quality. Oats were never more promising than at present, and are likely to prove a very full crop. Beans and Peas have been unusually promising until the attack of green and black aphis about 10 days ago; they, however, promise an average crop. Potatoes look remarkably well, with very few complaints of disease or blight. The crop of field hay is unusually light and much damaged; pasture hay light crop, but now stacking under favourable weather. Mangels, Turnips, Carrots, &c., very promising: scarcely any instances of failure in this district. *Joseph Blundell.*——*Winchester.*—We have a little laid hay, otherwise all crops promise a greater abundance than I ever before witnessed during a business recollection of 45 years. I have known each individual crop look as well as now several times, but never conjointly. I expect Wheat to prove nearly one-fourth above an average; Oats the same; Barley over average. Peas average; of Beans we grow but few. The root crops are looking well, and the after cut of Clover good. Harvest will be general the first week in August, unless the weather changes very materially. Some will be cut in July. *J. T. Twynam.*

HEREFORDSHIRE: *Baysham Court, Ross.*—I have great pleasure in informing you there is every prospect in this county that all kinds of corn crops will be above an average, excepting the late planted Barley and late planted Spring Wheat. The autumn planted Wheats are not so thick or luxuriant in the growth of straw as we have frequently had them, nor as at one time we had anticipated would be the case this year, but the brilliant weather during the blossoming, and since then, has given us the prospect of an abundant yield. The same may be said of the spring planted Wheats, of which there is a great breadth grown in this county, except the late planted, and this is a very small proportion, as the season was so very propitious that nothing was behind when the land was cleared of roots by the sheep. The Beans and Peas were never more healthy or more luxriantly in blossom. There are not many Oats grown, but where they are the crop is very good. I think the Barley crop is likely to prove the most deficient, but of this the early planted is a good crop. *T. Duckham.*——*Woodland House, Blakemore.* The Wheat crop is likely to be a full average. Barley thin. Peas and Oats average. *J. Mathews.*

HUNTS: *Godmanchester.*—Wheat, very promising for quantity and quality. Barley, a fair crop. Oats, a moderate crop. Peas, a good crop. Beans complained of for not setting well. Potatoes various. Hay a very short crop. Turnips and Mangel Wurzel generally not good. *R. Beart.*

KENT: *Dumpton, Ramsgate.*—The first paragraph in your report of the corn trade, in this week's *Agricultural Gazette*, applies most truthfully to this neighbourhood. With the exception of Beans "all is well," and they are as bad here as any you have heard of in other counties; some are ploughed up, and others I have seen will not pay the expense of harvesting. *Wm. Manser.*——*Martin, near Dover.*—I am pleased to state that the crops are all looking extremely well at present, with every prospect of an early harvest. I hear complaints of dolphin in the Peas; but have not seen any. There has been considerable damage done to the Turnips by the fly. *M. Sandford.*

LANCASHIRE: *Mosbro Hall, Rainford.*—The Wheat crop in this locality will be below an average, however favourable the weather may prove, for filling and ripening, as it is thin on the ground. Barley will be about an average; Oats good on light land, rather light on clay soils. Mangels have been much injured in the leaf by an insect, and will in consequence be poor, a small quantity only being sown; Turnips are very promising; Potatoes are likely to be very good, the tops look well, and some farmers who have been marketing the early ones that they may plant Turnips after the crop is

off, say they are doing well. The hay crop will prove an average; pastures are good, and stock doing well. *R. Bell.*

LINCOLN FEN: *Decoy Farm, Spalding.*—Our Wheats on Fen soils have recovered so much from injury by frost that I consider there is the prospect of a full average crop. On all the best soils and marsh lands between Spalding, Lynn, and Wisbeach it is promising to be above an average. *Thos. Aitken.*

LINCOLNSHIRE: *Althorpe, near Louth.*—The Wheat crop bids fair to be a good average, but the spring corn, both Oats and Barley, are light. *Croft Sharpley.*——NORTH LINCOLNSHIRE: *Aylesby.*—The crops of Wheat in this part of the country a month ago were considered to be light, but the beautiful rain we had at that time, and the splendid weather we have had since, for that grain has done wonderful things. I think we now have the prospect of an average crop. Spring corn must be light, but it has much improved with the rain. *Fra. Sowerby.*

NORFOLK: *Harpley, Rougham.*—I am very glad to inform you that all the grain crops in West Norfolk are looking remarkably well, and every prospect of a good harvest. *H. B.*——*Denver, Downham Market.*—I never saw the crops of Grain looking better or more promising in this neighbourhood than they do at present. The Wheat is nearly all standing, and seems stiff in the straw, so that it will not easily be put down unless we get a violent storm of wind and rain, and the blooming has been attended with nice weather. Barley has a fine appearance; some of it has been laid during the late rains, and I am afraid if heavy rains should take place, a great deal of it must go down, as it has grown to such an immense height, being between 4 and 5 feet high, and on the other hand if the weather continues hot and dry premature ripeness may come on, especially on the hot scalding soils, that may injure the sample materially; the next three weeks will be the most critical time—nice light showers without wind will be beneficial to it and every thing. Oats and Beans are looking well. *Thomas Brown.*

NOTTINGHAM: *Ruddington Grange.*—My impression, formed from a visit to Ruddington during the Whitsuntide holidays, and confirmed by letters from my bailiff, is that the Wheat promises to be decidedly beyond an average crop. Beans are equally good, and Oats very fair. Barley, where sown upon spring ploughed land, did not come up a level braird; but I believe that the genial weather has improved the prospect, and it may nearly reach an average. *Charles Paget.*——*Normanton Hill.*—Wheat, promising; Barley, early sown, promising; late, indifferent. Beans far from promising. *J. B.*

SHROPSHIRE: *Bawcott, Munslow, Church Stretton.*—The present appearance just in my immediate neighbourhood is as follows:—Wheat not a heavy crop, but looking healthy, an average crop; Oats looking well, full average; Barley rather light, comes out in ear very uneven, under an average; very good in general, quite an average crop; Beans very much blighted, and looking very bad, much under an average. *Richard Shirley.*

SOMERSET: *Wincanton.*—Wheat, good; Barley, good; Oats, good; Beans, blighted in some parts; Peas not much grown. *Dr. Surrage.*

SUFFOLK: *Framlingham, July 8.*—Everything is so promising here that it requires some consideration to find a peg to hang a remark upon. The Wheats are looking beautiful, standing upright with stiff strong straw, and will be ready in our heavy lands in a month. The Barleys on long fallow lands are very fine, and on the Turnip and Beet lands not so thick and heavy; the Beans stout and good; Peas very few grown. Grass rather light, Clover also; the heavy crop is the exception. We had three months drought from March 12, and began to talk with anxiety about the future produce—even the heavy land Wheats were become thirsty for rain, an unusual remark to make; the Barleys, late put in on Turnip and Beet (Mangel) lands were very slow to make even a feeble shoot. The rains came in such moderate, silent, refreshing showers, and in such liberal supplies, that all the face of nature changed, and the farmers' fears were allayed. *George Edwards.*

SUSSEX: *Lynch, Midhurst.*—The Wheat crop is looking pretty well and promises an average, Barley fair, Oats do.; Beans and Peas not good, fast failing; Clover and all plough land hay short, and much of it spoilt; sward hay below the usual quantity, being secured in excellent order. *James Eames.*——*Rose Hill, Robertsbridge.*—I think Wheat and Oats are quite an average, but Barley below; Peas are a fair crop, but Beans not many grown here this year. No blight in the Potatoes as yet, but green crops are very late; too cold at night for them. Both seeds and meadow hay below an average. *John Brotherston.*

WARWICK: *The Chase, Kenilworth.*—I think Wheat will be barely average; Barley, owing to the changeable nature of land in this district and the dry spring, is, I fear under average. Oats will be average; Peas are looking well; Beans, although they blossomed well, have very little corn upon them, and must be written below average. *J. W. Burbery.*

WORCESTERSHIRE: *Northway House, near Tewkesbury, July 9.*—The Wheat crops of this locality have a favourable appearance of productiveness; the straw is not very long or bulky on best soils; on gravels it is short; and on cold, clayey, undrained or badly drained soils it is slender, thin, and short; as a whole I consider it likely to be an average crop, should the spring-planted Wheats continue to progress favourably to maturity, and all kinds go on without mildew, red gum, maggot, &c., though not equal to crops of 1858-59. A very moderate acreage under Wheat—say 1-10th less than three past years. Some fields where artificial manures have been used have too dark an appearance, and likely to mildew. The Barley crop: Early planted is very promising on good and well-farmed soils; on clay soils, and on others where late planted it has a sickly appearance, and must be only a poor crop; upon the whole an average. An increased acreage under Barley, say 10 per cent. Oats: But few planted, those good. Beans variable; in many fields a larger proportion of straw or haulm than corn. I doubt if it will be an average yield of this corn or grain. Peas: A small breadth planted, but good crops, and a full average. Hay crop generally a light one, especially on clay and marl soils; on the whole not over 2-3ds of an average crop, if as much. Apples and Pears nearly a total failure. Potatoes a promising appearance, and at present without disease. Mangel Wurzel nearly a failure of plant. Swedes a good plant and free from fly. Of old Wheat a small quantity in farmers' hands. Beef scarce. Grazing cattle have done badly, pastures being short of Grass and nights too cold for them. Sheep, on the other hand, have done remarkably well through spring and summer. *Wm. Woodward.*——*Pershore, July 9.*—Wheat, a full average crop; Barley, a full average crop; Beans, an average crop; Oats, an average crop; Clover, half a crop; hay, half a crop; Mangels, a failure; Swedes, promising; Turnips, promising; Potatoes early, very poor crop; late, very promising. *H. Hudson.*

YORKSHIRE: *Hessle, Hull.*—I think the Wheat crop is a very handsome one and early to harvest, the first week in August. Barley sown soon a good crop and early. Oats light crop, Beans great straw, but short; of Peas an average crop; Potatoes and Turnips want rain, not having the average quantity of the rest of the country. *J. Clark.*——*Outwood Hall, near Wakefield.*—I am happy to be able to give a favourable report. The Wheat appears most luxuriant and well topped, though perhaps, in some cases, rather short in the straw. The Oats and Barley also promise well, except being likewise short in the straw. The same report, also, will apply to Beans. As to Turnips and Mangel Wurzel they want rain, and I fear may both turn out inferior crops. Owing to the continued dry weather, until about four weeks ago, Grass and Clover are short, and the crops of hay are consequently not abundant. *Henry Briggs.*——*Darrington.*—The Wheat in this neighbourhood promises to be a good crop, and farmers look forward to a better yield than has been for the last three or four years. Barley is not so even. *H. Taylor.*

## MR. PAWLETT'S EXPERIENCE AS A WHEAT GROWER.

[No one has published a more useful or more carefully recorded experience as a Wheat grower than Mr. Pawlett of Sandy, Bedfordshire. The following are extracts from his letters, first published during successive years in *Bell's Weekly Messenger.* We give them now as tending to excite observation of the differences which the present harvest will reveal in the produce of different sorts.]

(1855.)

(1). October 12.—The three following sorts of White Wheat were drilled separately, on lands which had previously borne a good crop of White Clover, at the rate of about 7 pecks of seed per acre, at 8 inch intervals.

| No. | | Quantity per Acre. | | | Value per Qr. | Value per Acre. | | |
|---|---|---|---|---|---|---|---|---|
| | | bh. | pk. | gl. | s. | £ | s. | d. |
| 1 | American White .. .. | 44 | 1 | 1 | 86 | 23 | 17 | 0 |
| 2 | Grace's White .. .. | 52 | 2 | 0 | 85 | 27 | 17 | 9 |
| 3 | Imperial White .. .. | 47 | 3 | 0 | 86 | 25 | 13 | 4 |

(2). The following sorts of Wheat were drilled at 8-inch intervals (October 17, 1854), on a different part of the farm to those named in Experiment No. 1, on land in a high state of cultivation, and only 6 pecks of seed per acre was allowed. They were all put in on lands contiguous, and produced the following result.

| No. | | Quantity per Acre. | | | Value per Qr. | Value per Acre. | | |
|---|---|---|---|---|---|---|---|---|
| | | bh. | pk. | gl. | s. | £ | s. | d. |
| 1 | Improved Browick Red .. | 50 | 1 | 0 | 79 | 24 | 15 | 10 |
| 2 | Uxbridge White .. .. | 47 | 0 | 1 | 86 | 25 | 6 | 7 |
| 3 | Grace's White .. .. | 52 | 2 | 0 | 85 | 27 | 17 | 9 |
| 4 | Imperial White .. .. | 47 | 0 | 1 | 86 | 25 | 6 | 7 |
| 5 | Grace's White, as No. 3 .. | 52 | 1 | 0 | 85 | 27 | 15 | 2 |
| 6 | American White .. .. | 45 | 3 | 1 | 86 | 24 | 13 | 8 |
| 7 | Brown Straw White .. | 43 | 2 | 0 | 85 | 23 | 2 | 3 |

(3). On the same day as the above experiment No. 2, and on the same sort of land, the following varieties of Wheat were drilled, also with 7 pecks of seed per acre, in rows at 8 inches asunder, on lands adjoining:—

RESULT.

| No. | | Quantity per Acre. | | | Value per Qr. | Value per Acre. | | |
|---|---|---|---|---|---|---|---|---|
| | | bh. | pk. | gl. | s. | £ | s. | d. |
| 1 | Spalding Red .. .. | 47 | 3 | 0 | 79 | 23 | 11 | 7 |
| 2 | Albert Red .. .. | 46 | 0 | 1 | 79 | 22 | 15 | 5 |
| 3 | Improved Browick Red .. | 56 | 2 | 0 | 79 | 24 | 18 | 4 |
| 4 | Lammas Red .. .. | 47 | 1 | 1 | 80 | 23 | 13 | 9 |
| 5 | Prima Donna Red .. | 42 | 3 | 1 | 78 | 20 | 18 | 0 |

(4). An advertisement appeared last autumn of a new variety of Wheat, called the "Ne Plus Ultra." I procured 2 bushels of it only, as the price was rather high, it having cost me, including carriage, 2*l.* 9*s.* This sort was drilled by the side of the Improved Browick in the middle of October, 1854, on a good piece of land, at 8-inch intervals as usual, and at the rate of about 7 pecks of seed per acre. Both sorts came up and planted well, but the Browick was ripe and fit to cut a fortnight before the "Ne Plus Ultra." The weather, however, having continued fine, both sorts were harvested in excellent order:—

| No. | | Quantity per Acre. | | | Value per Qr. | Value per Acre. | | |
|---|---|---|---|---|---|---|---|---|
| | | bh. | pk. | gl. | s. | £ | s. | d. |
| 1 | Ne Plus Ultra .. .. | 47 | 0 | 0 | 68 | 19 | 19 | 6 |
| 2 | Improved Browick .. | 45 | 1 | 0 | 78 | 22 | 1 | 2 |

The quality of the Ne Plus Ultra Wheat was very coarse, and I think not worth so much, at the present value of Wheat, to the miller by 10*s.* per qr. as the general runs of Red Wheat.

(1857.)

The following experiment was made on a good piece of land, after white Clover, which had been summer eaten by sheep, and drilled at intervals of 8 inches, at the rate of about 6 pecks of seed per acre, on the 13th of October:—

(1).

| | Per Acre. Bush. | Pks. | Gal. |
|---|---|---|---|
| No. 1. Hybrid Red .. .. | 35 | 3 | 1 |
| 2. Browick Red .. .. | 45 | 3 | 1 |
| 3. Grace's White .. .. | 53 | 3 | 0 |
| 4. Essex White .. .. | 45 | 3 | 0 |
| 5. Imperial White .. .. | 45 | 3 | 0 |
| 6. Grace's White as No. 3. | 52 | 0 | 0 |

A friend recommended me to try a productive sort of Wheat, the Rough Chaff White, and I accordingly tested its merits against my own "Grace's White," which had for the last two or three seasons beaten every other kind, by bushels per acre. I drilled them after a root crop late in the last season, and put on about 10 pecks of seed per acre in rows at 8 inches apart, when I found the relative value as follows:—

(2).

| | Per Acre. Bush. | Pks. | Gal. |
|---|---|---|---|
| Grace's White .. .. | 40 | 1 | 0 |
| Rough Chaff White .. | 35 | 1 | 0 |

I believe, from my own experience, that Grace's White is by far the most profitable Wheat that I can grow on my loamy soil, but it may not do so well on land of a lighter description, and that the Browick is the most productive kind of red Wheat, which answers admirably on the gravel soils of this neighbourhood.

(1858.)

The result, hitherto, has been to place Grace's White and the Browick Red as the most profitable kinds to grow. I was, however, still anxious to prove them against any new sorts that might be offered to my notice. The Langham Red and Bowles' Prolific were strongly recommended, and I tried them in the following experiment. On Oct. 16, 1857, the five following sorts were drilled, after a white Clover lea, at the rate of about 7 pecks of seed per acre, at 8-inch intervals, the produce of which is as follows:—

| | Quantity per Acre. | | Value per Qr. | Value per Acre. | | |
|---|---|---|---|---|---|---|
| | Bush. | Peck. | s. | £ | s. | d. |
| Imperial White .. .. | 39 | 3 | 52 | 12 | 18 | 6 |
| Grace's White .. .. | 43 | 0 | 50 | 13 | 8 | 6 |
| Bowles' Prolific Red .. | 39 | 3 | 47 | 11 | 13 | 6 |
| Langham Red .. .. | 40 | 0 | 47 | 11 | 15 | 0 |
| Browick Red .. .. .. | 44 | 0 | 47 | 12 | 18 | 6 |

(1859.)

I have latterly selected only the most approved sorts to confirm my opinion which are the most profitable varieties to grow. I therefore selected the following, and drilled them on the 20th October last, on an old White Clover lea, at the rate of about 2 bushels per acre of seed, in rows 8 inches asunder:—

| | Quantity per Acre. | | | Present value per Qr. | Value per Acre | | |
|---|---|---|---|---|---|---|---|
| | bush. | pk. | gal. | s. | £ | s. | d. |
| Grace's White .. .. | 39 | 1 | 1 | 43 | 10 | 11 | 6 |
| Tibbald's Wonder Red . | 36 | 3 | 1 | 41 | 9 | 6 | 6 |
| Hunter's White .. | 35 | 3 | 0 | 43 | 9 | 12 | 0 |
| Rough Chaff White .. | 33 | 3 | 1 | 45 | 9 | 10 | 0 |
| Davis Red .. .. | 29 | 0 | 1 | 40 | 7 | 5 | 6 |

P.S. The Browick Red was tried against the above sorts of Wheat, but having lost plant much through some unknown cause, I do not think it proper to give it a place with the others in the account, lest it might mislead. This kind of Wheat having for many years proved for me the most profitable sort of Red to grow, I do not intend to give it up for not having done so well for me this year.

(1860.)

During the last 20 years I have tried nearly 60 sorts of Wheat of the most productive kinds. None has answered better on my farm than Grace's White and the Browick Red. I, therefore, did not sow many sorts last season, and only one new variety, viz., the Giant Wheat, which I procured from Major Quentin, in Ireland, at a cost of upwards of two guineas per bushel, which appeared to me then a very high price, but I am amply repaid by an extra produce. I did not get this Wheat until late in the autumn, and not in time to try against my best sorts of white, nor to sow on my best land, as it was all planted before the Giant Wheat arrived here. I was, therefore, obliged to drill it after Cabbages, very late in November, on light moory land, which has grown Wheat every other year during the last 20. It was put in at 8-inch intervals by the side of the Browick Red, at the rate of only 4 pecks of seed per acre, being desirous, on account of the high price it cost, to make it go over a fair quantity of land. The result has proved as follows, the value per acre having been computed at the price the Wheat is now worth to the miller:—

| | Quantity per Acre. | | Value per Qr. | Value per Acre. | | |
|---|---|---|---|---|---|---|
| | Bush. | pks. | s. | £ | s. | d. |
| Major Quentin's Giant Red .. .. | 48 | 2 | 56 | 16 | 19 | 6 |
| Browick Red .. .. | 39 | 3 | 56 | 13 | 19 | 0 |

I was anxious to know whether the Giant Wheat required to be sown thin, or moderately thick; therefore, I drilled an adjoining plot of land at the rate of 7 pecks of seed, which produced 52 bushels per acre. This experiment shows an extra yield of 9 bushels in one case, and 12 bushels per acre in the other, with a clear profit of more than 3*l.* per acre over the Browick Red. I believe the produce would have been larger had the Wheat been sown on good land, in proper time, and after a better preparation; and would, under favourable circumstances, in a good season, readily produce 60 bushels per acre. The quality, however, of the Giant Wheat is not equal to the Lammas, nor the Golden Drop, but about the same as the Spalding and the Browick Red. It grows about the same height, but much stronger in the straw, with a very large ear, and tillers, or stools out, more than any Wheat I have met with.

I have only another small experiment worth recording, made with three kinds of Wheat, drilled on the 11th of October, at 8 inches asunder, at the rate of 7 pecks of seed per acre, after a White Clover lea, the produce of which I found to be as under:—

| | Quantity per Acre. | | Value per Qr. | Value per Acre. | | |
|---|---|---|---|---|---|---|
| | Bush. | Peck | s. | £ | s. | d. |
| Grace's White .. .. | 44 | 0 | 60 | 16 | 10 | 0 |
| Corner's White .. .. | 43 | 1 | 62 | 16 | 15 | 0 |
| Browick Red .. .. .. | 41 | 3 | 56 | 14 | 12 | 3 |

This experiment was made on some of the best land

I have, on a good preparation, and will, I think, induce me to give up growing the Browick Red; as I find white Wheats generally suit my land best. I intend to sow about an equal quantity of Grace's White and Corner's White, as I do not yet know which is the most profitable; the former yields the best, but the latter is of the best quality. I shall, however, grow a large breadth of the Giant Wheat, as it has beaten the Browick Red in profit from 3l. to 4l. per acre, and is by far the most productive kind I ever met with.

## FISH OFFAL.

[The following are extracts from a prize essay by Mr. R. Scot Skirving, of Camptown, East Lothian, in the late number of the Highland Society's Transactions.]

THE fish guano, or rather fish manure, which forms the subject of this paper is composed of the heads, bones, and skin of fish (chiefly the cod), dried in the sun, and afterwards ground into fine particles by machinery. In 1860 a sample of this manure having been sent as a specimen to Professor Anderson, that gentleman was so obliging as to forward it to me in order that it might be tested with the Turnip crop that year. This I accordingly did, contrasting its effects with those of a considerable number of other manures, and the result was so satisfactory that I was induced to procure a quantity from Norway, with which I made a further experiment on the crop of 1861.

The field on which the experiment was made is far from being naturally rich; it is, indeed, rather the reverse, being, in fact, the side of a bank or hill, the rock being not far from the surface. At the same time the soil may be said to be fair, sharp Turnip land. Plots, consisting of six long drills each, were manured with the fish bones, and with the substances with which I wished to contrast it. The Turnips were Swedes; and as no farmyard or other dung had been used during several previous years, the test was a severe one.

The various manures were sown in the drills by a machine, the quantity being to some extent regulated by the nature of the substances themselves, some of the compositions passing more quickly through the machine than others. It was therefore only after each plot was manured that the exact quantity actually placed upon it could be accurately ascertained. The weight of roots per acre being in this instance the result of calculation founded on a small portion weighed, the quantities given may not be exact, but the relative proportions are, I have no doubt, very nearly correct.

The following is a note of the experiments:—

| No. | MANURES USED. | Weight put on Plots. | Produce per Imp. Acre. | |
|---|---|---|---|---|
| | | Stones. | Tons. | Cwt. |
| 1 | Peruvian guano .. .. .. | 11 | 15 | 13 |
| 2 | Concentrated manure.. .. .. | 21 | 20 | 0 |
| 3 | Fish-offal.. .. .. .. .. | 17 | 20 | 3 |
| 4 | Phospho-Peruv. guano (Townsend's) | 19 | 13 | 10 |
| 5 | Peruvian guano, Bolivian and Super-phosphate .. .. .. .. | 18 | 18 | 11 |
| 6 | Hodson's ammoniacal manure .. | 19 | 18 | 5 |
| 7 | Phospho-Peruvian guano (Lawson's) | 19 | 10 | 10 |
| 8 | Peruvian guano .. .. .. | 20 | 26 | 10 |
| 9 | Townsend's Turnip manure.. .. | 22 | 22 | 9 |
| 10 | Peruvian guano, bone-dust, and dissolved bones .. .. .. | 18 | 19 | 4 |

It is not the purpose of this paper to enter into the merits of any of the special manures which were used in the experiment, the single object being to contrast the effect of fish offal with a number of well-known fertilisers. I shall only remark, with regard to phospho-Peruvian guano, that I am well aware that it is constantly used with a profit in many localities. It is possible the nature of the weather during the summer of 1860 may have affected it unfavourably. The plot which was manured with the larger quantity of Peruvian guano stood out above all the rest from its greater exuberance of foliage, and, stretching as it did across the centre of the field, it looked during summer like the back-bone of the crop.

The second experiment with Norwegian fish offal was made in 1861, on a crop of Purple-top Turnips. From unavoidable circumstances the seed was not sown till too late, viz., the 25th of June, and in consequence, no doubt, of this delay, the weight of the crop over the whole field was considerably less than it would otherwise have been. This is the more certain, because from the very first brairding of the seed the whole field gave a promise of being a very full crop. Nothing could exceed the healthy and vigorous appearance of the Turnips during summer, and their growth seems to have been checked by the cold nights of autumn before they had attained their full development.

The field used is a good loamy soil, and is naturally much superior to that on which the fish manure was used the previous year. As in the former case, no dung was applied to the crop, nor had the field received any for several years.

The enclosure, which extends to about 20 acres, was divided into four portions, which were respectively manured with—

1. Norwegian fish offal.
2. Peruvian guano.
3. Peruvian guano, bone-dust, and dissolved bones.
4. Townsend's Turnip manure.

All the Turnips brairded freely in a regular manner and advanced without a check till the 29th of October when sharp frosts began to be experienced at night, arresting the vigorous plants before their maturity—a penalty paid for the lateness of the date at which they were sown. On this occasion the tops of the Turnips grown by the fish-bones were equally luxuriant with those produced by the guano, and both of these lots exhibited a more redundant foliage than that of the other two divisions. It was intended to manure the ground at the rate of 7½ cwt. per Scotch acre; but the machine distributed the two guano lots at the lesser rate of 7¼ cwt., or 5.748 imperial.

Proceeding to ascertain the result of this trial, an acre of each, consisting of very equal soil, was selected, measured, and weighed on the 4th January, 1862. So apparently equal were all the four divisions of the field, that it was impossible, by judging from the eye alone, to determine which was best; but all looked a much heavier crop than the result proved to be the case:—

| No. | MANURE. | Rate per Imperial Acre. | Price per Ton. | | | Produce of Roots per Imperial Acre. | | | | Value of Manure per Imperial Acre. | | | Value of Roots per Acre at 15s. per Ton. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cwt | £ | s. | d. | tns. | cwt. | st. | lbs. | £ | s. | d. | £ | s. | d. |
| 1 | Fish offal .. .. | 6.343 | 9 | 0 | 0 | 17 | 14 | 2 | 4 | 2 | 17 | 0 | 13 | 5 | 8 |
| 2 | Peruvian guano .. | 5.748 | 12 | 10 | 0 | 16 | 12 | 6 | 12 | 3 | 11 | 9 | 12 | 9 | 8 |
| 3 | Peruvian Guano, Crushed bones, and Dissolved bones | 5.768 | 10 | 0 | 0 | 17 | 6 | 3 | 6 | 2 | 17 | 5 | 12 | 19 | 9 |
| 4 | Townsend's Turnip manure .. .. | 6.343 | 8 | 5 | 0 | 18 | 12 | 6 | 12 | 2 | 12 | 2 | 13 | 19 | 0 |

Several of the prices of the manures given above require explanation.

The cost of the fish offal is set down at 9l. per ton. This is the price, I have learned, at which the merchants in Norway offer to deliver it at Leith, or 8l. free on board. The actual cost to me was 10l. 7s. 6d. per ton, but it was imported in a comparatively small quantity for myself in a steamer, and consequently the charge for freight was high. Its value, per the analysis herewith given, is not more than 8l. 2s. according to Dr. Anderson's formula. With regard to Townsend's Turnip manure, the price marked, 8l. 5s., is what was charged in Glasgow, after deducting 5 per cent. for ready money.

In the experiment of 1860 the Peruvian guano outstripped the other manures, whilst in the present trial it ranks the last. In both cases I believe the samples to have been of the best description, having been bought from a merchant in whom I have too much confidence ever to think of analysing. To some extent the difference may be attributed to the fact that in 1860 the rate at which the guano was applied was nearly the highest in the list, whilst in 1861 it was lower than the fish offal or the Townsend's manure.

A mixture of guano with bones in some form has generally given, in my experience, more satisfactory results than when the guano was used alone; and no doubt fish offal ought also to be mixed with other manures, but it is when applied alone that the merits or demerits of a new fertiliser can be most effectually tested. It is within my own knowledge that two other agriculturists in different counties have experimented with Norwegian fish offal with satisfactory results, and my own experience of it seems to prove, that it can at least hold its own with Peruvian guano and other approved manures.

## CHEESE-MAKING.

THE judicious business man will see that to make the most of his dairy produce requires as much discretion, skill, and attention as to grow good grain and roots, and therefore will furnish his dairy room with implements and utensils of the best and most useful kind, and a sufficiency of them, so that nothing may be wanting on his part to ensure success. It is quite as unwise to be without the proper tools in the dairy as the proper plough or harrow in the field. The expense for furnishing a dairy-room for Cheddar cheese-making is very small, compared with what it was in my own recollection, and every implement is reduced to such simplicity in its character, that the cheese-maker of the smallest means can avail himself of the best and most approved article. In order to make the best cheese, the principle upon which these work should be studied, and the best, from its results, adopted. Thus, there are implements on two distinct principles employed in the first breaking up of the cheese—the small round wire, and the flat knife-like breakers, both cutting the mass; and the revolver mode of round iron rods, and the shovel, made of wood and brass rods, breaking the mass. In my own opinion the latter is far preferable to the former, as it acts, in the hands of the careful operator, as a wedge in a block of wood, cracking and breaking instead of cutting and pulping. One of the best cheeses, bearing very flattering remarks from the judges, which was exhibited at the Association's first show held at Ayr, I think numbered 19 in the catalogue, was made on this principle at White Hills, being broken up by a common hay rake, the handle of which was shortened for the purpose. I doubt, if the cutting principle had been employed, if the cheese would have been so good.

If the dairy implements and utensils can be further simplified and improved, and the labour of cheese-making reduced, it is desirable to do so. To thinking minds, as improvements suggest themselves, they will be laid hold of and carried out. One I would mention, though seemingly trivial. It is a contribution by Mr. Frederick of Dumbreddan, Wigtonshire, who milks a large dairy of cows. In order to save the labour of putting the curd into three or four small vats to be pressed the first time, he has applied a lever power to the seeper (*Scottice*, dreeper), which he formerly used for making Dunlop cheese. It is of large dimensions, and contained all the curd, which is effectually pressed in a short time, saving the wear and tear of vats, and the girl's time and labour of working. The reduction of labour in cheese-making has not been accomplished by long strides, but rather by short steps like the above. We used to keep our cheese in press a week; then we tried four days, and ultimately three. We used to salt the cheese at several times; now we salt it in the curd at once. Formerly it was half an hour's work for three or four men and boys to carry the whey every morning from the dairy to the piggery; now we lay down pipes and turn a tap, and it runs off. I might occupy a sheet in enumerating the improvements which have taken place, step by step, until the making of good cheese has become a respectable and pleasurable employment, so that I wonder that our neighbours in Wiltshire and Gloucestershire do not follow our example. I was in a dairy not long since where 70 cows were milked. Their daily produce was made up in eight cheeses; these were kept in the press and salted every day for a week; six or seven presses were employed to press them, and every morning 56 cheeses had to be turned, and as many vats and cloths to be washed.

I have been repeatedly asked for my opinion as regards the various mechanical appliances which have been of late years introduced in the making of cheese, particularly Keevil's and Cockey's. The former cannot be at all applied to the Cheddar system of making, but is valuable in making the Wiltshire cheese, as it saves labour and prevents waste. It may be applied to the Dunlop system, as the two modes have some resemblance. Cockey's is the best and only apparatus which I know to be of service in making Cheddar cheese, and is certainly valuable. Nearly all the principal cheese-makers of Somersetshire have it in use it is also rapidly spreading over the other dairy districts in England, and last year it was introduced into several of the largest dairies in Wigtonshire. It consists of a boiler and copper cheese tubs connected by pipes. The cheese tub is fitted with a double bottom forming a chamber; hot water from the boiler circulates in this chamber, heating in a few minutes the night and morning's milk to the required temperature, thus saving the waste and labour of carrying the milk to and from the furnace for that purpose; and I think it not a small advantage to have the milk heated uniformly. By this apparatus the milk of the evening may be kept sweet in the tub; no boynes or other utensils are needed for cooling. This is accomplished by cold water in the chamber, and where practicable a stream of water runs through all night. The scalding process is also performed by the heat from the water in the chamber, the breaking and scalding being performed at the same time, the temperature of the mass rising from 80° to 100° during the operation. This apparatus cannot improve the best or first-class cheese, but it probably would that of the second or third class. I have known it to be the case to the satisfaction and profit of many cheese-makers. Large dairies would do well to use it.

In my recent visit to Scotland, I saw that in a large number of dairies and cheese rooms the necessary alterations and improvements which the making of Cheddar cheese requires had not been effected. In many instances, to accomplish it the outlay would be too large for the tenant. When this is the case, the proprietor should render assistance. Although for the present the profits arising from the improvements in dairy practice seem to be all on the tenant's side, still they must ultimately and permanently settle down on the side of the landlord. The system of farm letting in Scotland will secure this. In some places which I saw the alterations could be made at a very little expense—such as closing a doorway which at present communicates with the byre, and thus excluding the smell Although the byres are regularly washed, and kept far.

cleaner than they are in England, where a number of cows are closely housed, there is always an unpleasant smell, which on no account should be allowed in the dairy. Neither should the milkers be allowed to bring the milk into the dairy, but a receiver (made of tin) should be placed outside the wall, into which the milk may be poured and conveyed to the cheese tub by a conductor attached. The best place for the cheese-room, when practicable, is immediately over the dairy. There is sometimes a difficulty in this, as the dairy should have a north aspect, while that of the cheese room should be south. The sun should be allowed to shine into the cheese room at least once a day; its light and heat keeps the room and cheese more healthy than any artificial means. The window should be furnished with a blind, to exclude the rays at pleasure. Hot water for heating the cheese room is better than a stove. This is effected by Cockey's apparatus, at a small extra expense (as is also the dairy room). The pipes are laid round the room, close to the walls; the heat, therefore, is diffused behind the cheese, which should be on shelves round the room. This is not the case when the source of heat is in the centre of the room, as with a stove. The heating the dairy room is an improvement, and is desirable during the winter months. It is absolutely necessary that good cheese be well kept; it retains its flavour and comes into the market sooner. *Joseph Harding, of Marksbury, Devizes, in the Ayr Advertiser.*

## HORSE LABOUR.

Mr. J. C. Morton has a paper on the cost of horse-power in the Journal of the Bath and West of England Agricultural Society, in which he discusses the particulars of five or six farms, and comes to the following conclusions.

The immediate object of thus examining a number of additional cases of horse labour upon farms has been to ascertain the accuracy of the estimate I had formerly published, in which 6*d.* per cwt. drawn (= lifted) 2½ miles in an hour came out as the cost of horse labour. The following table contains the result of the calculations now given, from which it appears that this is very slightly an overcharge:—

| Name. | Performance per Horse; i.e., lbs. lifted 1 foot per Minute. | Whole Annual Horse Labour. Cwts. lifted 1 mile per annum. | Cwts. lifted 2½ miles per hour. | Cost of Horse Labour. Per annum. | Per Hour. | Cost of Horse power per cwt. lifted 2½ miles per hour. |
|---|---|---|---|---|---|---|
| | | | | £ . | s. d. | d. |
| Whitfield.. .. | 22,060 | 37,608 | 6·26 | 320 0 | 2 9 | 5 |
| Nottinghamshire | 19,712 | 93,601 | 14·4 | 777 18 | 6 0 | 5 |
| Bucks .. .. | 19,361 | 25,930 | 4·7 | 240 10 | 2 2 | 5¼ |
| Northumberland | 17,488 | 69,250 | 10·7 | 787 16 | 6 0 | 6¼ |
| Essex .. .. | 21,376 | 90,180 | 18.2 | 853 0 | 8 7½ | 5½ |

He then adds the following history of a Dutch farm by Mr. Van den Bosch, of Wilhelminadorp, near Goes.

"'We have here in our Wilhelmina Polder, province of Zeeland in Holland, about 2990 acres in regular cultivation; the rest is wood, pasture, &c. Of this 2825 are of a clayey description, some heavy clay, but never so stiff as in some parts of England, and always a sandy subsoil at various depths. About 150 acres are sandy and poor altogether (old sandbanks on which no alluvial clay was deposited). There are six farms, and on each 14 work-horses, with one old one for extra use, making 90; besides about 20 young horses as we rear them ourselves. During part of the year, 18 pairs, or 36 hired horses, are also employed. There are on each farm five ploughmen, young and unmarried men; they live with the bailiff, and get besides their food and board,—the first ploughman 12*l.*, the second 9*l.* 6*s.* 8*d.*, the third 8*l.* 16*s.* 8*d.*, the fourth 6*l.* 13*s.* 4*d.*, and the fifth 5*l.* 5*s.* They are hired for nine months, from March to December. Generally the horse-work goes on till the middle of December. During winter till March or till the end of February there is nothing to do; but some carrying of straw, of corn, and such like. Besides the five ploughmen living on the farm, there are during nine months or less, two labourers for the remaining two teams (each man works here generally two horses in a team, also in carrying, for which light waggons are used). For rolling, mostly one horse is used; also one horse for light harrowing. In winter there remain two or three ploughmen on each farm, for taking care of horses and cattle. For this they get 36*s.* on each farm, besides food and board. The labourers (not hired ploughmen) get 8*s.* 4*d.* in the week and nothing else. Sometimes boys are employed, chiefly in spring, to work the horse for extra use; they receive 1*s.* per day without food. Other labourers working the horses, as in December and in the winter, get 1*s.* 3*d.* per day. Sometimes in summer in fallow work, or during November, two ploughmen will work with three horses each, for deep ploughing; then sometimes we can spare one of the two aforesaid labourers.

"'The food of our horses is as follows: during about 2½ months in winter, when they do no work, different kinds of straw, chiefly of Beans and Oats, and a little bit of hay. When they begin to work, a little more hay besides 11 bushels of Beans and 11 bushels of Oats per week, for the 14 horses on each farm. In May this food is gradually stopped, as they go to pasture.

"'In June, July, August, till mid September, they receive during the day, cut Red Clover, whilst they are always in pasture during the night. And besides this, they receive on each farm in summer 70 bushels of Beans and Oats altogether. At middle September feeding of Carrots is beginning, and the horses receive besides 25 bushels Oats or Beans per week, on each farm. In October they do not go to pasture any longer; instead they get a little hay, if possible, and the allowance of Carrots is increased to ¾ of a cwt. per horse, per day, and Oats the same as before. November the same as October. In December the feeding of Oats and Carrots is gradually stopped and again changed for different kinds of straw. The Carrots are always cut or pulped, and mixed with chaff of Wheat or cut straw, and given after Oats. Horse-work is severest in autumn, not only for ploughing, but also for carrying madder and roots.

"'Young horses get, till they are one year old, one bushel Oats per week, besides hay and Clover in summer. When they get older, they do not get Oats any more, but they go to pasture for the whole summer, and in winter they receive some cut Mangels and hay.

"'As to the cost of food, it was:—

| | |
|---|---|
| 12*l.* per horse on an average per year, from | 1831-1840 |
| 9*l.* 16*s.* ,, ,, ,, | 1841-1850 |
| 9*l.* 8*s.* 2*d.* ,, ,, ,, | 1850-1860 |

From 1831 to 1840 more Beans and Oats were given than the quantities mentioned. So during the last 20 years, the cost of food was about 10*l.* per horse. In your country it is at least twice as much. All is taken into account, except the straw, as when the horses have taken the best of it, it is partly used as litter.

"'Now as to other expenses, I can give you the following account, being the annual averages of ten years:—

| | £. s. d. | £. s. d. | £. s. d. |
|---|---|---|---|
| Wages and food of the men working the horses | | | 730 2 0 |
| Farrier and drugs .. .. .. .. .. | | | 14 19 9 |
| Shoer .. .. .. .. .. .. .. | | | 15 14 0 |
| Mending implements, purchase of implements, and harness maker, &c. .. .. | | | 370 11 10 |
| Cost of food of the horses .. .. .. .. | | | 1079 12 5 |
| | | | £2211 0 0 |
| Purchase of horses (sometimes still necessary) .. .. .. | | 33 15 9 | |
| Value of horses at the beginning of the year .. .. .. | | 1168 7 0 | |
| | | 1202 2 9 | |
| Sold old horses .. .. | 14 1 8 | | |
| Value at the end of year | 1162 18 4 | | |
| | | 1177 0 0 | |
| | | | 25 2 9 |
| Total .. .. .. .. | | | 2236 2 9 |
| Value of the work done by the horses.. .. | | | 2395 1 9 |
| Profit .. .. .. .. | | | £158 19 0 |

"'This profit is realised notwithstanding that for ploughing the horses are credited with only 4*s.* per acre; for ploughing with three horses, only 5*s.* 6*d.* per acre is placed to their account; for harrowing about 1*s.* 6*d.* per acre; light harrowing about 11*d.* per acre; rolling, 8*d.* to 11*d.* per acre; carrying crops in harvest time 4*s.* 8*d.* per acre; carrying madder, roots, and corn, &c., 6*s.* 8*d.* per day, in winter, 5*s.* per day. We hire men with horses and implements for these prices.

"'Now to the questions about the doings of the horses during the course of the year. The 2825 acres of clayey soil are cultivated according to the following rotation: 1st year, Peas; 2d, Wheat; 3d, Mangels, dunged with 10 tons farmyard manure and 2 cwts. guano and bones per acre; 4th, Beans, dunged with 16 tons of manure per acre; 5th, Wheat; 6th, Oats, with Clover and Grass; 7th, Clover; 8th, fallow, dunged on some lands with 14 tons manure per acre; 9th, winter Barley, the stubbles with 20 tons manure per acre; 10th, madder; 11th, madder; 12th madder, dug when 2½ years old; 13th, Peas; 14th, Wheat, with Clover; 15th, Clover; 16th, Oats; 17th, Mangels, Turnips, Potatoes, and Carrots, dunged as the 3d year; 18th, Beans, dunged as the 4th year; 19th, Wheat, with Clover and Grass seeds; 20th, pasture; 21st, pasture.

"'You see every year of each crop we have 135 acres, or 22 or 23 acres on each farm per annum. The 150 acres of sandy soil have the following system of cropping: 1, Turnips; 2, Chevalier Barley; 3, Clover; 4, Rye; 5, Potatoes; 6, Beans; 7, Rye; Turnips, Potatoes, and Beans are manured. The depth of ploughings (we have the improved American eagle ploughs) varies from 2½ to 6 inches with two horses, and from 8 to 12 inches with three horses.

"'Now to the number of ploughings, harrowings, and rollings each crop receives. The pasture, in the autumn of the 21st year, is broken with two ploughings, the second following the first in the same furrow, at a depth of 8 inches. 1st year: in spring, harrowing, drilling of Peas, one light harrowing, and one rolling; ploughing of stubbles, one harrowing, one ploughing or cultivating, two harrowings, one ploughing, one harrowing, drilling of Wheat, one harrowing. (Sometimes we have no opportunity for ploughing thrice, then it is done twice). 2d year: one rolling of Wheat (then worked with hand rakes, better than harrowing); stubbles ploughed, two harrowings, one ploughing with three horses, at 10 inches. 3d, Mangels: harrowings, sometimes one cultivating (Uley cultivator); one rolling, ploughing of ridges, manuring, splitting the ridges, drilling, one rolling; horse-hoeing during summer; in autumn one ploughing at 6 inches. 4th, Beans: harrowing and ploughing in Beans and manure, one or two rollings and harrowings; ploughing of stubbles, &c. for Wheat, the same as the 1st year. 5th, Wheat: in spring, the same as the 2d year; in autumn one ploughing of stubbles, two harrowings, one ploughing with two horses at 6 inches. 6th, Oats: harrowing, drilling of Oats, one harrowing; sometimes one rolling, according to circumstances; light harrowing, with one horse, after the small seeds are sown, or else hand-raking. 7th, Clover. 8th, Fallow: one ploughing of Clover in the autumn before, or if the Clover is needed for sheep in autumn, this is done in spring of the 8th year. Then two harrowings in spring; one ploughing at 6 inches; two harrowings; one ploughing with three horses at 8 inches; two harrowings; one ploughing with three horses at 10 inches; two harrowings (on light soils ploughing in of manure at 5 inches, afterwards one ploughing at 10 inches; then one harrowing and drilling), one ploughing at 6 inches; one harrowing and drilling of winter Barley; one harrowing. 9th, Winter Barley: one rolling and hand-raking, one ploughing of stubbles and manure at 5 inches, one harrowing and one ploughing at 10 or 12 inches. 10th, Madder: in spring, harrowing, cultivating, two harrowings, one rolling, ploughing of ridges, one rolling, and one light harrowing before planting the madder; horse-hoeing during summer and in autumn, covering the ridges with a plough constructed for the purpose. 11th, Madder: horse-hoeing and covering. 12th, horse-hoeing, and as in harvesting the madder in autumn the fields are dug with spades at 3 feet, no horse labour is further bestowed upon it. 13th, Peas: in spring as the 1st year; in autumn for Wheat, as the 1st and the 4th years. 14, Wheat: in spring the same as the 2d and 5th year, and hand-raking of Clover seed. 15th, Clover: in autumn breaking up of Clover as the 21st year. 16th, Oats: in spring as the 6th year, one ploughing of stubbles; two harrowings; one ploughing at 10 inches. 17th, Mangels: Turnips, and Potatoes; the same as the 3d year. 18th, Beans: the same as the 4th year. 19th, Wheat: in spring the same as the 14th year. 20th and 21st, Pasture: sometimes rolling of compost. The 150 acres sandy soil are cultivated in a similar manner, but we do not plough deep there. We also grow Flax sometimes.

"'The weight of manure carried is about 10,000 tons per annum. As to the distance, the farmeries are situated about in the midst of their 500 acres. The manure is carried from the steadings to the fields. About 300 tons of manure of the 10,000 is bought at Goes; the distance from there to the fields is various, but often four miles and more. We do not use any quantity of artificial manure. The weight of crops carried to the ricks, I am sure I could not tell exactly, it varies so very much. The weight of roots will be 12 to 25 tons per acre; of madder 7 tons per acre. Roots are carried to the steadings; madder to the village to the kilns for drying. Average distance of the farms to the village, two miles. All the corn to be sold is brought from the farms to the boat at the canal of our village; the distance two miles or more.

"Horses do not carry much hay here, but a good deal of straw to different sheep yards and cattle yards. Produce of Wheat on an average, 38 bushels per acre; of winter Barley, 70 bushels per acre; of Chevalier and summer Barley, 50 bushels per acre; of Oats, 60 bushels per acre; of Rye, 36 bushels per acre; of Beans, 36 bushels per acre; of Peas, 33 bushels per acre.

"'The horses during summer are fetched from the pastures early in the morning. They set so work at half-past three till eight o'clock. Then they are taken to the stables, where cut Clover is given to them. Some of them will do little jobs from nine to twelve o'clock, as horse-hoeing, fetching of mown Clover, &c. At half-past one they set to work again till six o'clock in the evening, when they are brought back to the pastures. In spring and autumn they begin to work at half-past five and continue till ten; or from dawn till about eleven; in the afternoon always the same, from half-past one till six o'clock, or till it is getting dark. So generally they work nine hours per day. During harvest, of course they work as long per day as is needed. In winter, when they have nothing to do, they are allowed once or twice a day to run in the yards, behind the stables. They are brushed and cleaned in the forenoon.

"'A usual day's work at ploughing will be different. Light ploughing 2 acres; ploughing at 5 or 6 inches 1½ acres. Deep ploughing, 1 acre per day. Ploughing of ridges 3 acres per day. Harrowing very different; say 4 acres per day for good harrowing, light harrowing more per day.

"'I believe I have now answered all your questions. Perhaps these particulars of a large continental farm may be interesting for English readers. You see our horses do a good deal, and they are cheap for food. You will agree with me that steam cultivation therefore could not be profitable here.'

"The reader will agree with me in thinking that the above report does possess great interest for English readers."

A detailed examination of the labour is then made, and the following result is reached.

"The whole labour of the farm thus amounts to about 410,000 cwt. drawn (= lifted) one mile in the year. If the time of labour of the horses be put at 1800 hours per annum, which is quite as much as it is, considering their long winter's holiday, this corresponds

to nearly 2,245,000 lbs. drawn (= lifted) 1 foot per minute during work hours. Now, besides the 90 horses whose labour contributes to this result, Mr. Van den Bosch tells me that his hired horse labour amounts to about 170 or 180 days of 18 teams, or 36 horses; and this is equal to the addition of at least 30 horses per annum to the power, and about 1020*l.* annually to the cost of the horse labour of the farm. If, then, this performance be divided among 120 horses instead of 90, it will amount to 18,700 lbs. per horse drawn (= lifted) 1 foot per minute during work hours—a result curiously near those which have been already reached in the case of English farms. The whole work on this farm being 410,000 cwts. drawn (= lifted) 1 mile per annum, is equal to 164,000 cwts. drawn (= lifted) 2½ miles in that time, or 91 cwts. drawn (= lifted) 2½ miles per hour during working hours per annum. Now on this farm the cost of horse labour is 2236*l.* 2*s.* 9*d.* for home management, and 1020*l.* for hired labour, in all about 3260*l.*, or 35*s.* 6*d.* per hour. The cost of horse labour on this farm thus comes to about 4*d.* per cwt. drawn (= lifted) 2½ miles in an hour.

"This is considerably less than we pay for the same thing in England, though it is by no means certain that Mr. Van den Bosch is right in supposing that steam-power would not be cheaper than horse-power even in Holland."

## Home Correspondence.

*The Speaker on Steam Cultivation.*—Major-General Peel, M.P., went down to the Huntingdon wool fair last week, and before leaving town implored the Speaker to give him some hints with which he might "pitch a yarn" to the Huntingdonshire farmers. The Speaker favoured the Right Hon. and gallant member with the following letter, dated July 6:—

"My dear General.—You ask me how matters are going on in the farming world. The event most interesting to farmers that has occurred lately, especially to farmers cultivating strong clay lands, is the proved success of steam cultivation. It is the strong clay lands that especially require help, and that help is now afforded them by the agency of steam. Ten years ago the Royal English Agricultural Society offered a prize of 500*l.* for an implement worked by steam, which should turn up and till the land, and prepare it for the reception of seed. The idea that land could be ploughed by steam was treated with ridicule by many. But the engineers and machine makers set to work, the difficulties have been overcome, one by one, and now it may be safely said that a 10-horse steam-engine placed in a field can do the work of cultivation both better and cheaper than it can possibly be done by horses. I have been for some years watching with great interest the progress of steam cultivation, but my farm was not large enough to warrant a large outlay on steam machinery. It happened this spring that a fine farm of between 600 and 700 acres of clay land came into my hands in a very bad state from a slovenly tenant. It seemed to me the time was come to call in the aid of steam. Without troubling you as to the comparative merits of the different machine makers, I decided to adept the form that seemed to me the most simple; I adopted the method of Mr. Smith, of Woolston. During the dry weather of the month of May, when the land was baked as hard as brick, and when no implement, moved by horses, could make any impression, my 10-horse power steam-engine began its work, smashing and breaking up the land in a manner which was quite surprising. The farmers of the neighbourhood came to look on, and there was not a dissentient voice; every one said—'This is what we want; this is the way to fallow clay land.' I have been able in the last two months to go over all the fallow land of the farm, and to put it in excellent condition for future cultivation. You will ask what is the cost of the machinery, and at what rate per acre can the work be done. I answer both questions. The first cost of machinery is 500*l.* (ten-horse steam-engine by Clayton and Shuttleworth, 300*l.*; two cultivators and wire rope, 200*l.*). Where the ground is very hard the cost the first time over is 6*s.* per acre; the second time over, where a broader cultivator can be worked, 3*s.* per acre. The exact detail of the expenses are these (independently of interest on outlay):—Engine man, 2*s.* 9*d.* per day; windlass man 2*s.* 4*d.*; ploughman, 2*s.* 4*d.*; two anchormen, 4*s.*; three boys, 2*s.*; watercart, man and horse, half of time, 3*s.* 4*d.*; three-quarters of a pint of oil, 6*d.*; 7 cwt. of coal at 7*d.*, 4*s.* 1*d.*; total, 1*l.* 1*s.* 4*d.* The work is so good and so superior to work done by horses that many farmers said they would gladly pay 1*l.* or even 1*l.* 10*s.* per acre to have their land so broken up. It is well worth the consideration of farmers how the first outlay may best be met, whether by neighbours combining together or whether by an arrangement with persons who would make it their business to let the machinery out to hire and to do the work at so much per acre. Farmers on strong clays should be looking out to get the aid of steam on their lands; and steam which has done such wonders in our factories—which has brought Edinburgh within 10 hours of London, and America within 10 days of England—will also perform important services to the cultivators of the soil—Believe me, yours truly, "J. Evelyn Denison."

*Small Birds and the Oak Galls.*—Professor Buckman lately published the following interesting communication through the *Wilts Standard*:—"The manly defence of our small birds by your amiable correspondent 'Rusticus' induces me to point out an instance of a very important service which is now being performed by one of our smallest birds, and which, in as far as I know, has not hitherto been noticed. Many of your readers will know that within the last few years a new kind of gall has made its appearance upon our Oak trees, in some cases so thickly as to have changed most of the leaves of the young trees into excrescences having much the appearance, and possessing many of the properties, of the Nut-gall of commerce, which latter is so much used for the making of ink and dyes. This gall is caused by a species of fly known by the name of the Cynips quercus petioli, the female of which laying an egg on the young leaf, the leaf is gradually converted into a gall, in the centre of which there grows a caterpillar; this in time changes into the fly, which eats its way out, making a little hole on the side, indicative of the vacant gall. Now the effect of this abnormal growth has been to utterly ruin some of our young Oak trees, and hence its rapid spread and great increase has naturally caused much alarm to the forester. The following dates will show that its spread, though gradual, was sufficiently rapid:—The galls were gathered in Devon in 1853, the same kind in Somerset in 1854; in Gloucester, on the west side of the river Severn, Forest of Dean, in 1855; in Gloucester, on the east side of the Severn, and as far as Oakley Park, Cirencester, in 1856; in Worcestershire in 1857; in North Wales, Beddgelert (pointed out to me by John Savory, Esq.), in 1859; in Sussex, very sparingly, in 1860; in Alice Holt Forest, far from abundant, in 1861; at Hastings, ditto, in 1862. Now I have this season observed a lot of the young galls about Cirencester, but it is certain that the crop for 1862 has been less abundant than for three or four years previously. At first I was at a loss to account for this, but careful observation of the state of the galls during last autumn showed that in some situations a rough aperture had been made in the majority of these excrescences, and from these the fat maggot or caterpillar had been abstracted. Now, having found out so much, of course I was anxious to learn who was the welcome operator, and I am happy to record that the little fellow to whom the planter is so much indebted is the common Tomtit or Bluecap (Parus cœruleus), of whom Mr. Hewitson says:—'Although he has long been outlawed, and a price set upon his guiltless head, he is of a race still sufficiently numerous to rid us of countless insects, and so heap benefits upon us, in return for all the persecution that he has met with.' Dear little birdie, like me you have been impelled to study insects in aid of your daily necessities, and as this gall is new to our country, it is not to be wondered at that you did not at first understand it; but now that you do so, if wicked people will let you alone, you may solve the enigma which to myself has been an increasing difficulty—of how to destroy the Oak galls—and may you, unlike myself, meet with kind treatment for your applied science. *James Buckman, Cirencester.*"

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

At an adjourned Monthly Council held on Wednesday, the 8th inst., the Right Hon. Viscount Eversley, President, in the chair, the following new members were elected:—

Anderson, William, Bent House, South Shields
Angus, George, The Grange, Wallsend
Arkle, Thomas, Shaftoe, Newcastle-upon-Tyne
Baker, Eliza Maria, Thorngrove, Worcester
Baker, Henry Orde Lloyd, Hardwicke Court, Gloucester
Barneby, William, Clater Park, Bromyard
Best, James, Jun., The Hill Top, Tenbury
Bridges, Joshua, London Road, Worcester
Brisco, Sir Robert, Bart., Crofton Hall, Wigton
Brown, Thomas, Townsend, Horton, Devizes
Cartwright, Geo. Kingsford, 14, Upper Seymour Street West, Connaught Square
Cattley, Richard, Worcester
Cavan, Colonel Philip Charles, Longparish, Whitchurch, Hants
Clarke, Jno. William, Cambo, Newcastle-upon-Tyne
Clay, Charles, Whitchurch, Salop
Cookes, Jno. Russell, Woodhampton House, Stourport
Cooper, Joseph, Redmarley, Newent
Cooper, Benjamin, Pattingham, Wolverhampton
Coulson, John, Killingworth, Newcastle-upon-Tyne
Croome, J. Capel, Cerney House, Cirencester
Drinkwater, Fred., Madley, Hereford
Dudfield, Benjamin, Spetchley, Worcester
Edwards, Jno. Jas., Broad Heath, Presteign
Fletcher, John, Sandway Lodge, Northwich
Foster, Richard G., Gloucester
Foster, T. Nelson, Gloucester
Freeman, Thomas, Benton Place, Newcastle-upon-Tyne
Garfit, Charles, Wincham Cottage, Knutsford
Good, Samuel C., Aston Court, Tenbury
Gow, Thomas, Cambo, Newcastle-upon-Tyne
Hare, Thomas William, Berthddu, Caesws, Montgomery
Hatherton, Lord, Teddesley, Penkridge
Haywood, Edward W., Sillins, Bromsgrove
Hemming, George, Pershore
Heslop, Isaac, Urpeth, Chester-le-Street, Durham
Hewerson, Nelson, Newport, Monmouthshire
Holl, William, Link Tower Lodge, Malvern
Holland, Francis D., Cropthorne, Pershore
Humphries, John, Kidderminster
Jobson, William, Buteland, Hexham
Johnson, John, South Pickenham, Swaffham
Leese, Charles Stewart, Divan Court, Eastling, Faversham
Marshall, James, West Hartford, Bedlington
McLaren, William, North Gosforth, Newcastle-upon-Tyne
Moseley, Henry, Westhide Court Farm, Hereford
Nock, Thomas, Sutton Maddock, Shiffnal
Pace, Edward Henry, Pershore
Parkes, Thos., Warridge Lodge, Grafton Manor, Bromsgrove
Parnell, John, Rugby
Peel, Xavier, Denant, Haverfordwest
Phillpot, Harvey, Weston Lodge, Thames Ditton, Surrey
Powell, Alfred, Avenue House, Worcester
Prosser, John, Holme Lacy, Hereford
Read, Henry, Beccles, Suffolk
Reily, George Hyde, Knight's Hill, Surrey
Robinson, Rowland, Fenny Drayton, Nuneaton
Stephens, S. H., Offoxey, Tong, Shiffnal
Tremayne, John, Heligan, St. Austle
Webb, William, Worcester
West, Thomas, Worcester
Wigham, George, Laverick Hall, Leaton, Dalivel
Wilkins, Walter, Gloucester
Wilson, William Berry, Blagdon, Cramlington
Woodward, Thomas, High House, Seven Stoke

The Council then adjourned.

Hamburgh: *July* 14.—We learn from the public papers that the great International Agricultural Meeting opened this day with great *éclat*, with a large attendance of spectators. The parcel of our reporter had not arrived on going to press.

## Reviews.

*Science and Practice in Farm Cultivation.* By Prof. James Buckman, F.L.S. (No. 1. *How to Grow good Root Crops.*) R. Hardwicke, 192, Piccadilly.

We have here the first part of a work, to be issued in numbers, in which Professor Buckman is to relate the results of his studies and experiments, and the nature of his teaching during 16 years of residence on the Royal Agricultural College farm. The science and practice of root-cultivation as taught here are given in the form of a series of chapters or essays on the origin of root-crops (from natural species); on the origin of sorts of roots (in variety of cultivation); on trueness of sort in root crops (to be maintained by care in the selection of seeding plants); on degenerate roots (illustrated by examples); on the effects of growing seed from degenerate roots; on the adulteration of seeds, more particularly of Turnips, and on the injuries caused by insects. The following are the general conclusions arrived at:—

"General Conclusions.

"To render our subject as complete as possible, we direct attention to the following practical conclusions, to which our whole argument upon the science of root-growing points:—

"First.—Cultivated roots are improved wild ones, only to be obtained by gardening on the small, or farming on the large scale; this gardening or farming being carried on by certain operations at certain seasons which we have comprehended under the term of cultivation processes.

"Second.—The difference in sort of roots is caused either by cross-breeding as the result of accident or design, or of the education of some particular propensity which has been acted upon by the intelligent seed-grower.

"Third.—The maintenance of sorts in purity depends upon careful selection of the right variety for the seeding examples.

"Fourth.—The preservation of a good outline or shape of root can only be maintained by selecting those of good form to seed from; for, as running to seed, multiform top, forkiness, 'finger-and-toe' in roots, is evidence of wild growth, so, then, cultivated plants assuming this form are considered as degenerate, and seed from such roots produces a malformed and poor crop.

"Fifth.—The difficulties of getting good seed—whether of trueness to sort, from carefully selected bulbs, or free from adulteration either of old with new seed, or a mixture of Charlock and others of the same family—are very great. Where, however, good seed can be depended upon, it is much cheaper, though at a considerable increase of first seeds cost, as not only quality but the quantity of live so considerably depends upon the truth and honesty of the seedsman.

"Sixth.—Injuries from insect attacks, though serious as affecting the yield, are yet not due to the seed; and anbury, if it be due to insects, only occurs in the Turnip-crops, and then in particular soils. The true insect attacks to be averted by simultaneous action.

"In fine.—*Good seed, of a true sort,—care in growth,—and a watchfulness of enemies, includes the* Science *and* Practice *of Root Cultivation.*"

We presume that in an ensuing number Professor Buckman will still have to speak of the science and practice of root cultivation; for it is plain that good seed, care in growth, and a watchfulness of enemies, include only part of this large subject. The details of field management, in order to the growth of a crop, are necessary, along with the care which is here insisted on in the selection of seed. Our readers will recognise much of the useful information which is here collected as having been originally communicated to our columns.

## Miscellaneous.

*Recreation of the Labourers.*—The real difficulty which besets the "recreation" question, is the employment of the spare time of the labourers after their work is done. Of all the plans proposed, we know of none at all likely to give the same benefits as the "allotment" or "small garden" system. It can be easily carried out, for the rent of a shilling a rod per annum will bring in 8*l.* per acre, so that it is no loss for any one to let out land for this purpose. Sixteen men can each have a garden 50 feet square out of each acre, and will gladly give 10*s.* a year for it. As to the benefits resulting from the scheme, the following from Mr. Glenny, who has had large practical experience of the working of the system, will be suggestive:—"It has been said, and may be truly said in some cases, that there is no good without its share of evil. Surely the allotment system is an exception. What evil can arise from it? So far as we can see—and we have seen it working in many parts of the country—good must result from it; harm cannot. We have urged its adoption many times, and sometimes with effect. We have even seen the best effects when it has been carried out on waste land that has been poor and hungry, and wanted more labour and dressing to bring a crop than the crop was worth; but the men were proud of their produce, and reckoned

their labour nothing. Many a prize have we had to award among them for productions that would not discredit a first-rate gardener. At all the shows we have attended as judge (and they have been very numerous), the cottagers' and allotment holders' produce equalled, and often surpassed, those of the gentlemen gardeners; and when men once take to gardening they appear to us to become more enthusiastic and more successful every year. Parochial officers, then, should take land on purpose to let out in small gardens, and allow men to take more or less quantity according to the extent of their families. The officers should also supply tools and seeds, to be paid for by instalments, that a man may begin his gardening with proper implements and materials. The parish would soon feel the benefit, in improved morals and diminished rates." — *R. Scott Burn's Outlines of Modern Farming.*

*Extensive sale of Short horns.*—The Babraham lot of Short-horns now disposed of, the attention of admirers of this valuable breed of cattle is being turned to the splendid herd at Shethin, which is to come under Mr. Strafford's hammer on the 29th current, the day before the show of the Royal Northern Agricultural Society at Aberdeen. The Shethin herd is the oldest short-horn stock in the North of Scotland—the late Messrs. Hay having bred from Short-horns when there were no others in that part of the country. The stock, which is to be sold without reserve, is most extensive. There are 70 cows and two year-old-heifers, 24 year old heifers, 7 bulls, and 33 of this season's calves—altogether 134 animals. The opportunity which this affords of securing pure bred animals of sound constitution of this valuable stock is too good to be lost, and we expect that the turn-out at the sale will be something extraordinary. The cows are good, and as a whole cannot be surpassed; the young stock contains some most promising animals; while the merits of the bulls, particularly Sir Charles, Cherry Duke the Third, and Chief of the Harem, are very well known. The whole stock has been carefully bred, bulls both of the Bates and Booth tribes having been in use in the herd, which combines some of the most valuable blood in the country.—*Banff Journal.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | July 10 | 30.47 | 72 | 63 | N. | 0 | 0 | 75 | 49 | 91 | 45 | .. |
| Saturday .. .. | 11 | 30.50 | 74 | 64 | E. | 0 | 0 | 77 | 51 | 94 | 47 | .. |
| Sunday .. .. | 12 | 30.45 | 74 | 64 | E. | 0 | 0 | 79 | 53 | 93 | 51 | .. |
| Monday .. .. | 13 | 30.68 | 69 | 58 | N. | 0 | 10 | 79 | 50 | 95 | 51 | .. |
| Tuesday .. .. | 14 | 30.58 | 67 | 61 | N.N.W. | 0 | 0 | 69 | 44 | 83 | 39 | .. |
| Wednesday .. | 15 | 30.35 | 67 | 61 | N.N.E. | 0 | 0 | 77 | 51 | 91 | 43 | .. |
| Thursday .. .. | 16 | 30.29 | 65 | 57 | N.N.E. | 1 | 10 | 79 | 51 | 94 | 41 | .. |

## Notices to Correspondents.

CHEMICAL ANALYSIS: *Cor.* Dr. Voelcker's writings are to be found in the Journal of the Royal Agricultural Society. Samples for analysis sent to him as chemist to the Society should, we presume, be forwarded to him at The Cranhams, Cirencester.

ARTIFICIAL MANURES: *Agricola.* For Italian Rye-grass an ammoniacal manure—sulphate of ammonia, 1 cwt. per acre, washed in once or twice a-year. For Turnips superphosphate or phospho-Peruvian guano. The latter is worth its extra price. For Potatoes, as an addition to a dressing of farmyard dung, 2 cwt. of guano sown over the drills before covering up.

ERRATUM. In Mr. Slatter's summary of the Weather for the last quarter, p. 658, col. c., Mean Temperature "of the *Rain,*" should have been printed "of the River."


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

THE HYDROPULT. — "The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

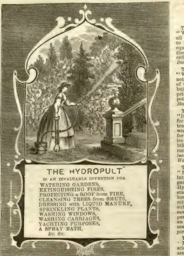
THE HYDROPULT. — "All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines." — *Gardeners' Chronicle and Agricultural Gazette.*

THE HYDROPULT. — "We strongly recommend it to our readers." —*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT. — "It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water." — *Gardeners' Weekly Magazine.*

THE HYDROPULT. — "Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

THE HYDROPULT. — "We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

THE HYDROPULT. — "We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it." — *Liverpool Daily Post.*

THE HYDROPULT. — "We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces.' — *Mechanics' Magazine.*

THE HYDROPULT. — "It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation." — *Illustrated News of the World.*

THE HYDROPULT. — "Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner." — *Builders' Reporter.*

THE HYDROPULT. — "Many of the most scientific men of the age are daily inspecting and testing its uses."—*Age We Live In.*

## AN INVENTION FOR THROWING WATER BY HAND POWER

(SECURED by ROYAL LETTERS PATENT),

Price **TWO GUINEAS**

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain.

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

THOMAS RIVERS, Esq., the eminent Florist, SHIRLEY HIBBARD, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.

EXTRACTS FROM TESTIMONIALS.

"Roya Insurance Office, Liverpool.
"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "PERCY M. DOVE, Manager."
"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary, District Fire Company."

"In a blowing or mixing room it would be of especial service. — F. J. HALLOWS, Secretary, Caledonian Insurance Company."

**CAUTION**: Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; GRIFFITHS & BROWETT, Manufacturers, Birmingham; CHARLES P. BUTTON, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult.

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. SPENCER, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE FIRE FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

CHARLES P. BUTTON, PROPRIETOR,

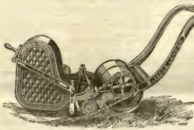
HYDROPULT WAREHOUSE, 27, LEADENHALL STREET, LONDON, E.C.

WEST-END DEPOT, 309, REGENT STREET, W.

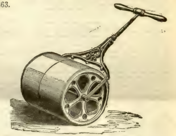
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863.



GREEN'S NEW PATENT LAWN MOWER.



GREEN'S NEW PATENT GARDEN ROLLER.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOS. GREEN FOR HIS PATENT LAWN MOWERS,
PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS
DURING THE SEASON OF 1862, AND DURING THE PRESENT SEASON 1863.

GREEN'S PATENT LAWN MOWERS have carried off every Prize that has been given in all cases of competition, and were the only Machines Highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862. (No Prizes were given.) They are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

The Patentees, after the long experience they have had in the MANUFACTURE of LAWN MOWERS, have come to the conclusion that three things are essential to constitute a real and efficient Implement, namely, Simplicity of Construction, Durability, and General Practicability, and they are glad to be able to state that they have combined the three, and that their Machines are unequalled not merely by giving satisfaction for one or two seasons, but by their long durability.

Upwards of 14,000 of the above Machines have been sold since the year 1856, and thousands of letters have been received by the Patentees testifying to their efficiency. They do not deem it necessary to publish more than the two following :—

TESTIMONIALS.

"Royal Horticultural Society, South Kensington, W., Feb. 28, 1863.

"DEAR SIR,—Your Mowing Machines, which have been in constant use here for two seasons, have answered well. They do their work efficiently, and with a less amount of manual labour than any other Machines I have tried,

"To Mr. Green." "Yours truly, GEO. EYLES."

"Royal Gardens, Windsor, March 27, 1863.

"DEAR SIR,—The Hand Mowing Machines you supplied last season for the use of the Royal Gardens, Windsor, give great satisfaction.

"To Mr. Green." "Yours very truly, THOMAS INGRAM."

PRICES.

| | | | | |
|---|---|---|---|---|
| To Cut 10 inches | £3 | 10 | 0 | Suitable for a Lady. |
| " 12 " | 5 | 0 | 0 | Suitable for One Person. If with internal gear, 10s. extra. |
| " 14 " | 5 | 10 | 0 | Do. Do. Do. Do. 10s. extra. |
| " 16 " | 6 | 10 | 0 | Suitable for One Man or Two Boys. |

The 16-inch and 14-inch Machine, with internal gear, are particularly recommended for use by one person.

| | | | | | If with Patent Delivery Box. | | |
|---|---|---|---|---|---|---|---|
| To Cut 18 inches ... | £7 | 10 | 0 | Suitable for One Man and Boy | £8 | 15 | 0 |
| " 20 " ... | 8 | 0 | 0 | Do. Do. ... | 9 | 5 | 0 |
| " 22 " ... | 8 | 10 | 0 | Suitable for Two Men ... | 9 | 17 | 6 |
| " 24 " ... | 9 | 0 | 0 | Do. Do. ... | 10 | 7 | 6 |

### DONKEY and PONY MACHINES, including Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 24 inches ... ... | £11 | 10 | 0 ... ... ... | £12 | 10 | 0 |
| " 26 " ... ... | 12 | 10 | 0 ... ... ... | 13 | 12 | 0 |
| " 30 " ... ... | 16 | 14 | 0 ... ... ... | 18 | 0 | 0 |

Leather Boots for Donkey, 16s.; for Pony, 20s.

### PRICES of HORSE MACHINES, including Box of Requisites and Traces.

| | With Collecting Box. | | | With Patent Delivery Box. | | |
|---|---|---|---|---|---|---|
| To Cut 30 inches ... ... | £20 | 0 | 0 ... ... ... | £21 | 10 | 0 |
| " 36 " ... ... | 23 | 0 | 0 ... ... ... | 24 | 16 | 0 |
| " 42 " ... ... | 26 | 0 | 0 ... ... ... | 28 | 2 | 0 |
| " 48 " ... ... | 29 | 0 | 0 ... ... ... | 31 | 8 | 0 |

Leather Boots for Horse, per set, 1*l*. 4*s*.

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.

Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s.
Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

PORTABLE and FIXED STEAM ENGINES; COMBINED THRESHING, SHAKING, and WINNOWING MACHINES;
REAPING and MOWING MACHINES; BONE CRUSHING MILLS; CORN CRUSHING and BEAN SPLITTING MILLS; CHAFF CUTTERS;
TURNIP SHEARS and PULPERS; IMPROVED HAY-MAKING MACHINES, and HORSE RAKES;
CLOD CRUSHERS, and WROUGHT IRON FIELD ROLLERS; PLOUGHS, HARROWS, and CULTIVATORS; VERANDAHS;
PATENT HYDROPULT, and all kinds of GARDEN ENGINES and SYRINGES; GARDEN CHAIRS and TABLES;
ORNAMENTAL FOUNTAINS and VASES; GARDEN TOOLS; PREMIUM CONTINUOUS IRON FENCING and HURDLES;
STRAINED WIRE FENCES, of all kinds; ESPALIER FENCES; GAME-PROOF WIRE NETTING and TRELLIS WORK;
ORNAMENTAL and PLAIN ENTRANCE, WICKET, and FOOTPATH GATES; WROUGHT IRON FIELD GATES; TREE GUARDS;
CATTLE and PIG TROUGHS; SHEEP RACKS; WASHING and WRINGING MACHINES; FIRE-PROOF IRON SAFES; IRON WHEELBARROWS;
IMPROVED IRON STABLE FITTINGS;
and every description of HORTICULTURAL and AGRICULTURAL IMPLEMENTS;
and MANUFACTURERS of all kinds of IRONWORK for the IMPROVEMENT or EMBELLISHMENT of LANDED PROPERTY.

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T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

TAN GRATIS, in the immediate neighbourhood of Covent Garden Market.
Apply at William Essex & Son, 28, Stanhope Street, Clare Market, W.C.

**The only Certain Remedy for Mildew.**

JOHN BELL'S COMPOSITION for DESTROYING MILDEW on Vines, Peaches, Nectarines, Roses, and every other Plant subject to that pest, is proved to be the most efficacious that has ever been offered. Sold in Bottles at 1s. 6d., 2s. 6d., and 5s. each. A 1s. 6d. Bottle will make 12 gallons fit for use.
Seed Warehouse, 10 & 11, Exchange Street, Norwich.

**The Gardener's Friend v. the Gardener's Enemy.**
This celebrated Trial has been decided unanimously in favour of

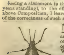
FORDHAM'S INVINCIBLE "OLD VIRGINIA SHORTS."—The Greenfly and other Greenhouse and Garden Pests speedily annihilated at one-sixth of the cost of ordinary Tobacco Paper.
Samples of 7 lb. and upwards sent free to any Railway Station at 3s. per lb. on receipt of Post-office Order, payable to John Fordham, at the W. C. Office.
Factory, 28, Little Queen Street, High Holborn, W.C.
N.B. ½ lb. of Shorts equal to 6 lb. of the Paper.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2s. per bag.
For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the Patent Cocoa Fibre Company, Kingston-upon-Thames.
Postage Stamps or Post-office Orders payable to J. Barsham & Co.
Barsham's BRUSHES and MATS are sold in every town.
Caution.—Every Brush is stamped 'J. Barsham's Patent'

**The Old Established Royal South Hants Seed Establishment.**

PAGE'S BLIGHT COMPOSITION.—None genuine except that sent from this Establishment, or sold by the accredited Agents of
Bridgewater Page, Seed Grower and Merchant, 37 and 38, Oxford Street, Southampton.

Seeing a statement in the paper from my late Partner (of five years standing), to the effect that I was unable to make the above Composition, I leave it open to public opinion to judge of the correctness of such assertion. Bridgewater Page.



Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of Geo. Glenny, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.
Both may be obtained of all principal Seedsmen.
Patentee: J. Neal, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use. This gets rid of smell, and if the Solution be decanted, prevents any staining of foliage. A strength of from one to two ounces to the gallon of water is recommended for growing Plants; one from 4 to 16 ounces for Trees at rest.
Sold Retail by Nurserymen and Seedsmen, in boxes 1s., 2s., and 10s. 6d. each.
Wholesale by
Price's Patent Candle Company (Limited).

TOOGOOD'S (late Page & Toogood's) IMPROVED BLIGHT COMPOSITION introduced in 1850 has been manufactured under W. TOOGOOD'S sole directions since that period. He has made great improvements in it, and by reducing the price 25 per cent., it is one of the cheapest and has always been the most efficacious remedy extant. To publish the Testimonials no newspaper would give space, but Messrs. Cutbush & Son, the eminent Nurserymen, writing a few days since, say:—"Please send us 10 gallons of Blight Composition, as quickly as possible. We tried 'Gishurst' last year, but it would not do like the Composition."

Mr. E. Sage, *Gardener to Lord Howe, says:*—"Will you please send us 15 gallons of your Blight Composition. I see you have reduced the price, and trust that you may some day be able to make another reduction, and I feel assured that no 'Gishurst' will be used by practical men."

"We hereby Certify that during the whole time we were Warehousemen in the Establishment of B. Page & Co., and subsequently Page & Toogood, that we Manufactured the Blight Composition under Mr. Toogood's *sole directions, and that he alone knew the proportions of the various ingredients.*
Signed John Morley.
Henry Drew.
Henry Sheerman.
"July 13, 1863." George Isaacs."

May be obtained of the principal Nurserymen and Seedsmen in the Trade, and of W. Toogood, 58, Above Bar, Southampton.

"The President announces to the country that the news from the army of the Potomac up to 10 p.m. of the 3d inst. is such as to cover that army with the highest honour, and promises a great success to the cause of the Union, and to claim the confidence of all for the many gallant fallen, and he especially desires that on this day He whose will, not ours, should ever be done, be remembered and reverenced with the profoundest gratitude."

# ALEXANDRA PARK COMPANY.

## HORTICULTURAL FETE.

### AWARD OF PRIZES FOR FLOWERS AND FRUIT.

12 STOVE and GREENHOUSE PLANTS.
1st, Mr. T. Gilbert, Gr. to E. L. M'Murdo, Esq., Castle Down House, Hastings
2d, Mr. G. Wheeler, Gr. to J. Phillpott, Esq., Stamford Hill
3d, Mr. Kaill, Gr. to Earl Lovelace, Ripley, Surrey

8 STOVE and GREENHOUSE PLANTS.
1st, Messrs. J. & J. Fraser, Lee Bridge Road
2d, O. Rhodes, Sydenham Park, Kent

6 STOVE and GREENHOUSE PLANTS.
1st, Mr. H. Chillman, Gr. to Mrs. Smith, Epsom, Surrey
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COLLECTION of STOVE and GREENHOUSE PLANTS.
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50 ROSES.
1st, Mr. G. Keynes, Salisbury
2d, Messrs. Paul & Son, Old Nursery, Cheshunt
3d, Mr. E. P. Francis, Hertford
4th, Messrs. J. & J. Fraser, Lea Bridge Road

50 ROSES (Amateurs).
1st, Mr. W. Corp, Salisbury
2d, Mr. J. P. Perry, Esq.

24 ROSES.
1st, Mr. W. Corp, Salisbury
2d, Mr. J. C. Perry, Birmingham
3d, Mr. D. Weymouth, near Bristol

24 CUT FLOWERS.
1st, Mr. G. Young, Gr. to W. H. Stone, Esq., Leyton Park
2d, Mr. B. S. Williams, Holloway
3d, Mr. W. Monk, Tottenham
4th, Mr. Bigg

36 PANSIES.
1st, Messrs. Downie, Laird, & Laing, Nurserymen, Norwood, Sydenham
2d, Mr. John Fraser, Belmont, near Edinburgh
3d, Mr. H. T. Hooper, Widcombe Hill, near Bath
4th, Mr. R. W. Bragg, Nurseryman, Slough
Extra, Mr. E. Shenton, Nurseryman, Hendon

COLLECTION OF FRUIT.
1st, Mr. Charles Turner, Nurseryman, Slough, Bucks
2d, Mr. A. Henderson, Gr. to the Duke of Sutherland, Trentham Hall, Staffordshire
2d, Mr. Geo. Young, Gr. Havant
3d, Mr. J. Case, Gr. to S. L. Hines, Esq., Byfleet Lodge, Surrey.

COLLECTION OF 4 PINE APPLES.
1st, Mr. Thos. Young, Gr. to C. Bayley, Esq., M.P., Dbryman Park, Aberdare, Glamorgan
2d, A. Henderson, Gr. Trentham
3d, Mr. C. Penny, Gr. to H. H. Gibbs, Esq., St. Dunstan's Regents' Park
4th, Mr. Thos. Dawson, Gr. to Earl Cowper, Penshanger, Herts

3 HANGING BASKETS.
1st, Messrs. W. Cutbush & Son, Highgate
2d, Mr. B. L. Williams, Holloway
3d, Messrs. A. Henderson & Son, Edgeware Road
4th, Mr. W. Young, Gr., Highgate

3 GROUPS for DINING DECORATIONS.
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3d, Mr. Wilkinson, Park Cottage, Finchley

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1st (withheld).
2d, Henry Bartholomew, Gr. to R. Marshall, Esq., Muswell Hill, Hornsey
3d, George Taylor, Gr. to C. A. Hanbury, Esq., Belmont House, East Barnet, Herts
4th, Mr. Cleall, Nurseryman, Hornsey
Extra, Mr. E. Shenton, Nurseryman, Hendon

6 STANDARDS.
3d, Mr. Mathew Cleall, Nurseryman

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1st, Thomas Duke, Gr. to T. Duckworth, Esq., Finchley
2d, Mr. Windsor, Gr. to Mrs. Crawley, Hampstead, Highgate
3d, H. Lang, Esq.
4th, Mr. W. Young, Gr., Highgate

10 GLOXINIAS.
1st, Mr. G. Taylor
2d, Messrs. Jackson & Co, Kingston
3d, Mr. W. Sutton, Gr. to Lieut.-Col. Geakes, Winchester Hall, Highgate

10 ACHIMENES.
1st, Mr. W. Monk, Gr. to John Drewett, Esq., The Cedars, Tottenham
2d, Mr. Geo. Ussell, Gr. to the Duchess of Northumberland, Twickenham
3d, Mr. Geo. Taylor, Gr.
4th, Mr. G. Fox, Gr. to R. Gibbs, Esq., Southampton Villa, Highgate

100 ROSES.
1st, John Keynes, Nurseryman, Salisbury
2d, Messrs. Paul & Son, Old Nursery, Cheshunt, Herts
3d, Mr. W. Paul, Nurseryman, Waltham Cross
4th, Mr. E. P. Francis, Nurseryman, Kent

GREEN-FLESH MELON.
1st, Mr. G. Rutland, Garston Castle, Hereford, and Gr. to Captain Peploe
2d, Mr. W. Monk
3d, Mr. C. Turner, Slough

SCARLET-FLESHED MELON.
1st, Mr. G. Stanley, Gr. to R. Munt, Esq., Page Green, Tottenham.
3d, Mr. W. Monk, Tottenham

PINES IN POTS.
1st, Messrs. J. & C. Lee, Hammersmith
2d, Messrs. H. Lane & Son, Berkhampstead

FRUIT TREES IN POTS.
1st, Messrs. H. Lane & Son, Berkhampstead
2d, Messrs. J. & J. Fraser, Leyton
3d, Mr. W. W. Kaile, Ripley, Surrey

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1st, Mr. Beach, Gr. to T. Alcock, Esq.
2d, Mr. T. Jackson & Son, Kingston

4 DISHES of PEACHES and NECTARINES.
1st, Mr. C. Turner, Slough
2d, Mr. J. Munro, Rabley, Barnett
3d, W. Hill, gr. to R. Sneyd, Esq., Keele Hall, Staffordshire

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1st, Mr. Beech, Gardener to Allcock, Esq., King's Wood, Banstead, Essex

2 DISHES of NECTARINES.
1st, Mr. C. Turner, Slough
2d, Mr. G. Munro, Rabley, Barnett

DISH of APRICOTS.
1st, Mr. W. Kaile, Ripley
2d, Mr. R. Knights, Worth, Sussex
3d, Mr. H. Jenkins, Gardener to Brassey Esq., Bromfield, Herts

DISHES of PLUMS.
1st, Messrs. H. Lane & Son, Nurserymen, Berkhampstead, Herts

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1st, Mr. C. Turner, Slough
2d, Messrs. H. Lane & Son
3d, R. Knight.

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1st, Mr. C. Turner, Slough
2d, Mr. J. Smith, Gr. to T. Hickson, Esq.
3d, Mr. W. Sutton

PROVIDENCE PINE APPLE.
1st, Mr. H. Carkell, Gr. to J. G. Riddell, Esq., Hermiston Grange, Tickhill, Rotherham

QUEEN PINE APPLE.
1st, Mr. J. Hall, Gr., to Earl of Scarbro', Sandbeck Park, Rotherham
2d, Mr. W. Kaile, Gr., Ripley
2d, Mr. J. Cave
3d, Mr. C. Smith
4th, Mr. J. Wallace, Gr. to J. Dixon, Esq., Congleton, Cheshire

ANY KIND OF PINE APPLE.
1st, Mr. W. Davies, Gr. to W. Booker, Esq., Valinda House, Cardiff
2d, Mr. T. Young

3 DISHES GRAPES.
1st, Mr. G. Meredith, Garston, near Liverpool
2d, Mr. G. Embery, Gr. to A. Moss, Esq., Chadwell Heath, Essex
3d, A. Henderson, Gr., Trentham

1 DISH BLACK HAMBURGH GRAPES.
1st, Mr. G. Meredith, Garston
2d, Mr. G. Wallace, Gr.
3d, Mr. C. Penney, Gr.

DISH of ANY OTHER GRAPE.
1st, Mr. Meredith
2d, Mr. G. Wallace
3d, Mr. J. Monro, Market Gardener, Rabley, near Barnett

10 lb. GRAPES.
1st, Mr. Meredith
2d, Mr. Wallace
3d, Mr. T. Wilkinson, Gr. to H. Moss, Esq., Bentley, near Brentwood, Essex

DISH of MUSCAT GRAPES.
1st, Mr. C. Turner, Slough
2d, Mr. C. Smith
3d, Mr. J. Embry

**Roses.**

The ROSES at the WALTHAM CROSS NURSERIES are NOW in FULL BLOOM.

MR. WM. PAUL respectfully invites all lovers of this popular flower to visit and inspect them. TWENTY FIRST PRIZES and NINE SECOND have been awarded to him for ROSES during the present year, and above 100,000 Plants are now growing in these Nurseries. Waltham Cross is 11 miles from London, and a first-class station on the Great Eastern Railway. It is also a delightful drive from the West-end of London, through Tottenham, or the Green Lanes and Enfield.

Entrance to the Nurseries from the platform, Waltham Station (for railway passengers only), and from the High Road, Waltham Cross, N.

DOBSON'S NEW SEEDS,
Quality A 1

CALCEOLARIA, unequalled in the Kingdom; 1s. 6d., 2s. 6d., 3s. 6d., and 5s.
CINERARIA, from our Prize Collection; 1s., 2s. 6d., and 5s.
PRIMULA SINENSIS FIMBRIATA, Superb Mixed; 1s., 2s. 6d., and 5s.
PELARGONIUM Show, extra fine; 2s. 6d. and 5s.
PELARGONIUM Fancy, extra fine; 2s. 6d. and 5s.
SCARLET INTERMEDIATE STOCK, fine; 1s.
MIMULUS CUPREUS; 6d. and 1s.

The above in Sealed Packets and Post Free.
J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

CALCEOLARIA, CINERARIA, PRIMULA, and PELARGONIUMS.—The most superb strains of the above are to be obtained in packets of seed of the advertisers, who are receiving hundreds of testimonials of their superior excellence.

The Trade will find it the best way of purchasing their supply, both as regards quality and price, as the packets are made of convenient sizes to suit all purchasers; and a very liberal allowance is made, as a large number of packets are always in stock; the order, however large, is invariably executed by return of post. Packets, sealed, 1s., 1s. 6d., 2s. 6d., 3s. 6d. and 5s.

J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

**New Strawberry, Princess of Wales.**

B. W. KNIGHT, FLORIST, &c., 67, High Street, Battle, Sussex, has much pleasure in offering this superb new early STRAWBERRY, feeling confident that it will not fail to become a general favourite, as all who have seen it growing and tasted it on the ground have pronounced it first-class. It is a remarkably early kind, having picked from it on the 22d of May, and no doubt but that it will prove a good forcing variety. The fruit is large, flesh pale red, solid at the core; flavour rich and sugary, partaking largely of the Pine flavour; a most abundant bearer.

The following notices prove its value, without further comment:—

*Gardeners' Chronicle, July 4th.*

"Your seedling Strawberry, Princess of Wales, large, ovate, or flattened ovate, with flesh pale red, and solid at the core. The variety deserves notice on account of its size, appearance, and not being hollow at the core."

*Journal of Horticulture, June 23d.*

"Seedling Strawberry (B. W. Knight). The fruit sent is very juicy, and of excellent flavour."

*Florist, July.*

"Your seedling Strawberry, Princess of Wales, is a fine regularly shaped ovate fruit, of a pale red colour, and very firm flesh; it has all the appearance of being a good sort."

Plants will be ready to send out early in September, at 21s. per dozen. The names of the Nurserymen who have ordered and will be able to supply it will be announced in a future advertisement.

TURNIP SEEDS for PRESENT SOWING.

As some kinds of Turnips are more suitable for late sowing than others, Messrs. SUTTON beg to recommend the undermentioned as the most desirable for that purpose.

Prices for the months of July and August, 1863:—

SUTTON'S EARLY SIX WEEKS TURNIP, 8d. per lb., or cheaper by the bushel.
SUTTON'S IMPERIAL GREEN GLOBE, very fine, best for the main crop, to be sown in July and August, for autumn and winter use, 8d. per lb., or cheaper by the bushel.
SUTTON'S SHORT-TOP SIX WEEKS, new sort, scarce, 1s. per lb.
CATTLE CABBAGE (the heaviest of all Agricultural Crops), should be sown in July and August, for transplanting in October and in the Spring.
GARDEN and FLOWER SEEDS for AUTUMN SOWING.

Messrs. SUTTON and SONS have a good stock of fresh Seeds of the undermentioned kinds, which should be sown during the months of July, August, and September.

| | |
|---|---|
| Cabbage, choice sorts | Radish, of sorts |
| Lettuce, do. | Spinach, do. |
| Onion, do. | Turnip, do. |
| Carrot, Early Horn | Cineraria, choice sorts |
| Cauliflower, choice sorts | Calceolaria, very fine |
| Endive, of sorts | Primula sinensis |

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

TRADE
HALLETT'S PEDIGREE NURSERY WHEAT.
MARK.

The PEDIGREE WHEAT was awarded the Silver Medal by the Jurors of the class "Cereals from all Countries," at the Meeting in 1863 of the Agricultural Society at Odense.

"The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the Miller, and realised 19*l.* 7*s.* per acre."

If planted as directed in September this Wheat costs less per acre for seed than common Wheat.

Price one guinea a bushel (or seven guineas a quarter), delivered, with printed directions for planting, at the Brighton Railway Station, in bags sewed up and sealed.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other Papers, forwarded on application, enclosing six stamps.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

*** See full advertisement last week, page 674.

OUVIRANDRA BERNERIANA.—Having succeeded in raising a few Seedlings of this extremely curious and beautiful plant, we beg to offer healthy young plants of six or seven leaves at 31*s.* 6*d.* each.

O. Berneriana was exhibited at the Great Show of the Royal Horticultural Society, June 17th, and awarded the First Prize; and at the Great Show of the Royal Botanic Society, June 24th, and then also awarded the First Prize.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

CALCEOLARIA, CINERARIA, PRIMULA, &c.—CALCEOLARIA, saved from carefully hybridised flowers, possessing all the recognised floral qualifications, viz., size, form, colours, and marking. Price, 1s. and 2s. 6d. per packet. CINERARIA, extra choice, 1s. per packet. PRIMULA SINENSIS FIMBRIATA, extra choice, 1s. and 2s. 6d. per packet. DRACÆNA (CORDYLINE) INDIVISA, from Mount Egmont, New Zealand; beautiful fine foliaged plant, 1s. and 2s. 6d. per packet.

BUTLER & MCCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

**Rhododendrons.**

CRIMSON, WHITE, PURPLE, AND SCARLET.

CHARLES NOBLE has RECEIVED the AWARD of the Royal Horticultural Society as under FOR RHODODENDRONS.

FIRST PRIZE, 1861.
FIRST PRIZE, 1862.
FIRST PRIZE, 1863.

CATALOGUES are now ready, and a stock of Plants in the most perfect health, of all sizes, and at prices to suit all purposes.

Sunningdale Nursery, S.W. Rail.

**Novelties of 1863.**

SPECIAL OFFER TO THE TRADE.

HENRY WALTON has an immense stock of the following in strong healthy plants:—

| | |
|---|---|
| Fuchsias, 6s. per dozen. | Pentstemons, 6s. per doz. |
| Verbenas, 3s. per dozen. | Antirrhinums, 5s. per doz. |
| Petunias, 5s. per dozen. | Chrysanthemums, 5s. per doz. |

Private parties will be treated with on equally liberal terms.
DESCRIPTIVE LISTS on application, inclosing Stamps.
EDGEND MARSDEN, near Burnley, Lancashire.

**New and Rare Plants.**

B. S. WILLIAMS invites inspection of his large and well-assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, amongst which are some very fine specimens.

Now ready, post-free to all applicants.

A NEW GENERAL PLANT CATALOGUE, containing Select Lists of Choice Exotic Orchids, Ferns, Stove and Greenhouse Plants, Indian Azaleas, Variegated and Ornamental Foliaged Plants, Fuchsias, Pelargoniums, Rhododendrons, Verbenas, Petunias, Phloxes, Cinerarias, Chrysanthemums, Hardy Variegated Plants, Herbaceous and Alpine Plants, Roses, Hardy Trees and Shrubs, Fruit Trees, &c.

With a DESCRIPTIVE LIST of New, Beautiful, and Rare Plants.

Paradise and Victoria Nurseries, Holloway, London, N.

TO ENGLISH NURSERYMEN.—A Buyer of Herbaceous Plants, Roses, Alpines, and Hardy Ferns, will be glad to receive PRICED CATALOGUES from the Trade. Address E. WALLACE, Esq., *Gardeners' Chronicle* Office, 41, Wellington Street, Covent Garden, London, W.C.

# The Gardeners' Chronicle.

*SATURDAY, JULY* 25, 1863.

FORTY-THREE years ago an English botanist published a work on ROSES, in the appendix to which appeared as complete a list of garden Roses as could then be formed. Rather more than 200 varieties were enumerated, "all referable to R. gallica, R. parvifolia, R. centifolia, R. damascena, R. alba, and their varieties." Chinese Roses had not departed sufficiently from their imported forms to enter into the author's idea of garden Roses, and nobody had thought of using them for purposes of hybridising. So, there were no Hybrid perpetuals, no Tea-scented, no Noisettes, no Bourbons; and even of Moss Roses, only three were known instead of the 30 or 40 now to be found in all good collections. The bulk consisted of mere summer Roses, most of which are forgotten.

Surely there is no branch of gardening that offers a parallel to this: for in creating a new Rose a permanent gain is easily secured, which is more than can be said of herbaceous things like Pansies, Verbenas, and the like. And what is far more important than mere number, it cannot be denied that the majority of modern Roses are much more handsome than those they have displaced. Who cares now for Belle Violette, Lisbon, Ornement de Parade, Grand Marbled, or even Queen and Shell? Do they exist? or have they not perished from deserved neglect?

In their room we have General Jacqueminot, Lord Raglan, Gloire de Dijon, Reine des fleurs, and some hundred others, from among which the difficulty is to make a selection. And, which is of the highest interest, every year brings forth some improvement upon those which had been raised before; so that it has become impossible to conjecture at what point change will stop. For ourselves we believe that the wish of a Rose-loving damsel of our acquaintance will be gratified some day, and that the time will come when she may command sweet Roses in which to bury her face! Little more can be done for form; intensity of colour can scarcely go further, and size will have to be looked to.

We are led to these remarks by a new Rose, raised by Mr. Wm. Paul of Waltham Cross, and called the "Princess of Wales," specimens of which were exhibited at the last meeting of the Floral Committee of the Royal Horticultural Society. It has a most vigorous healthy habit; the colour is of the deepest and brightest crimson; and the form of the young bud, opening bud, and half-blown bud very near perfection. In general appearance it much resembles the "Beauty of Waltham," *but is a decided improvement*; and that is the point to which we would direct attention; for it shows that improvement, even where improvement could hardly have been anticipated, is marching on slowly, steadily, and surely. Good news this for the lovers of the Rose, that is to say of the whole floral world. Let us hope that it will act as a fresh stimulus to those careful and ingenious cultivators by whom such prodigious improvement in the condition of the Queen of Flowers has been secured in the last 30 years.

So entirely are we convinced that much may still be done, that we venture to offer an annual prize for the next five years of 5*l.* for the best new Rose raised in this country that shall be exhibited to the Floral Committee of the Royal Horticultural Society.

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IT will be recollected that some time since (p. 483) we urged upon the just constituted Arboricultural Committee of the Royal Horticultural Society, as a first duty, to try its hand on the very necessary work of determining or finding out what TREES there are, not commonly planted, which are ADAPTED TO THE CLIMATE OF LONDON, and are suited also to yield the shade which is so indispensable to the full enjoyment of our public gardens and promenades. To this, which would have been a public benefit, and remains a public duty awaiting fulfilment, the Committee, in a schedule which it has circulated "widely over Great Britain and Ireland" for the purpose of "obtaining information on various points regarding trees," has made the very weak and insufficient response of propounding, for others to solve, the question whether the tree referred to in each particular schedule "thrives or not in towns," and if so seeks by the same means to learn the atmospheric conditions of the particular town. This complete shelving of so useful and possible a work, together with the suggestion to which we lately alluded (p. 651) of conservatorizing—if we may use the word—the present lath and plaster "Arcadia" of South Kensington, and of planting between the conservatory front thus formed and the Prince Albert and Exhibition Roads, "fast-growing umbrageous trees," so managed as to look like an extension of Kensington Gardens or Hyde Park, induces us to return for a moment to this London tree question.

The advantages of converting into a shady grove this space, which threatens to become a waste wilderness, are self-evident; as is also, we think, the fitness of so doing, whatever be the ultimate destination of the ground. And if, as is to be desired, the space shall be devoted in part to buildings consecrated to science and art, and in part to public offices more or less intimately connected therewith, no more appropriate surroundings or accompaniments than healthy living trees can be wished for. The presence of such accompaniments, too, would be in every way desirable. We don't want mere bald-looking masses of masonry, but we do want trees as freely introduced as the exigencies of the case may permit.

And if it be politic, as we believe it is, to plant these "fast-growing umbrageous trees" on this spot, with which the Royal Horticultural Society is so closely connected; if it be, moreover, desirable, as we are sure it is, to experimentalise and thus gain information beyond what we already possess, as to the fitness of various unused trees for London Parks—how natural is it that the Royal Horticultural Society's Arboricultural Committee should take up and prosecute this work, so entirely within its object, and so closely associated with its own parent stock. There is ample space on the ground in question to place the desired "fast-growing trees," in accordance with the highest point of our present knowledge, and also to add, besides, various experimental trees from which further knowledge might be gained. We would indeed have had the Committee carry out its operations in the public parks, the object being *pro bono publico*, and this may be desirable still; but here at least is one spot, close to its home, on which it might well make its virgin effort. We are by no means sure that the spot itself is not one of the most favourable on which to operate, for what with excavations and restorations, the soil has been thoroughly well broken up, and in the filling up which will be desirable to bring the surface to the proper level there is surely full opportunity, with the sand of the district and burnt clay from the progressing and not very distant

sewers, to lay a foundation for enduring growth—a foundation which may without much difficulty be supplemented by proper materials for the trees during the earlier stages of their growth.

As regards the point with which we set out, we maintain that the Committee in question ought to take up this matter of London trees in a thorough going and hearty manner. What it proposes to do by means of these circulated schedules just amounts to—nothing. In the first place, the filling up of such schedules at all is perfectly optional, and may never be realised. In the second place, the only proposition bearing on the London tree question is, to those whose opinion is sought, a very minor one compared with the general subject of timber and its management to which the papers are really devoted, so that it is quite likely in most cases to be passed over altogether. And in the third place it is not from gentlemen or their agents living in the country, and making their observations in the country, that much useful information on such a point as London tree culture can be expected, even if there were the utmost willingness to impart it; for very few towns indeed can at all compare with London in their influence on tree-life. On the other hand, here, on the spot, all the most important information is to be had for the looking up, and needs only to be aided by a judicious series of trials to lead to some useful results. We have all through referred to London tree-life, because a London atmosphere and London drainage are amongst the strongest possible tests of tree-endurance. Once settle the question as regards which will grow and thrive in London, and few if any towns need hesitate to follow suit.

## THE YARM STRAWBERRIES.

Few beyond the small circle of Fragarians know much about Yarm and the late Mr. Nicholson; who, leaving his ordinary calling of a slater, devoted himself to the culture of the Strawberry, and spared no pains to collect from all parts of the world as many varieties as possible. France and Belgium, through Mr. Ferdinand Gloede, Mr. De Jonghe, and other friends, furnished all the kinds introduced there, and America also supplied nearly every one of her varieties. Almost all the new kinds brought out in England—the productions of Myatt, Rivers, Cuthill, Turner, Doubleday, Radclyffe, Kitley, Stewart and Neilson, Salter, Roden, and other raisers—soon found their way to Yarm, and Mr. Nicholson contributed many seedlings of his own. The autumn of 1862 gave him a fair promise of proving many of these seedlings in the following spring; but in the meantime death called him away, and on other shoulders has his mantle fallen. Feeling desirous of seeing what advance had been made in this favourite and useful fruit, I recently paid a visit to Yarm, where I saw the vast collection of nearly 400 kinds, including seedlings grown there; Yarm is situated in the north of Yorkshire, not far from Darlington and Bedale, where Roses, Hollyhocks, and Dahlias luxuriate; while at Thirsk, a neighbouring town, Apricots are grown against the cottages and ripen their fruit. No wonder, then, Strawberries do well there. Close to Yarm is the small village of Egglescliffe, which was formerly called Eagles Cliff, and here it is that Nicholson's Strawberry garden is the great object of interest. It is really a large orchard or market garden for fruit, the soil of which is stiff and of a marly nature in many places; but not cold and wet. The catalogue of the Yarm Strawberries comprises 255 varieties; but nearly 400 kinds, including seedlings on trial, are grown.

Of Seedling Strawberries of previous years not yet sent out, the best in my opinion is one I was allowed to name after the late Mr. Nicholson's only child, Alice Nicholson, the fruit of which is conical, flesh yellowish, solid and luscious, size medium, with a very rich Pine and Hautbois flavour, and a good bearer. I regard this as one of the finest Strawberries in the world. The next is Gloria, a good-sized handsome round fruit with a rich piquant Hautbois flavour, a very heavy cropper, and altogether a first-class kind. In this variety we have a decided advance in flavour. Orb is another seedling, a good-sized handsome round fruit, moderately rich and juicy, a good bearer, and those who want a large handsome Strawberry will find it here. Yarm is another first-class kind for flavour, medium size, very dark colour, rich sugary flavcur, and bears well. One other seedling out of the large number which should be introduced is one Mr. Ewebank, the superintendent of the gardens has named Plover, a medium-sized fruit of a rich scarlet colour, with very rich luscious Hautbois flavour, and a good bearer.

The most wonderful Strawberry for a general crop, and for market gardeners and cottagers, is a Belgian kind named Comte de Zans, which is described in the Catalogue as "a most tremendous bearer." It certainly is the most extraordinary cropper I have ever seen, and I have had 25 years' experience of Strawberries. The plant is of medium growth; fruit conical, often becoming wedge-shaped, very bright colour, medium flavour; a good firm berry for travelling, and keeps up a succession. It is just the Strawberry for those who grow large quantities for sale. Myatt's Crimson Queen is another valuable kind for the market gardeners, as it is a great cropper, fruit large, dark coloured, and of moderately good flavour. The plant is of rather tender habit, and if allowed to stand long in the same ground acquires a stunted habit of growth. Frequent removal suits this kind best. La Constante was very fine, and grows freely. With me it does not grow freely, although it fruits well, but I grow it fully exposed to the sun, whilst at Yarm it seems to be more at home in a shady situation. The fruit is of a medium size, round, handsome, and bright coloured. The flavour is very rich and firm, and stands rain well. This Strawberry should be in every garden.

Reeves's Eclipse, sent out by Mr. Veitch, of Chelsea, I believe, is another first-class kind, although I am afraid the true kind is not grown at Yarm. With me it is identical with the description given at p. 653, by Mr. Radclyffe. At Yarm the fruit instead of being nearly uniform in shape and handsome, was very irregular, and in my opinion not the true kind, still a very heavy cropper. Eclipse is as hardy as Sir Harry, and an excellent dessert fruit, and will travel well. Mr. Radclyffe also speaks well of Marguerite; my observations of this Strawberry at Yarm fully bear out all he says. This is another market gardener's Strawberry, as it is a heavy cropper, of large size, and a free grower, the fruit firm, juicy, and well flavoured; it is really a fine Strawberry. So also is Knevitt's Empress Eugénie, large and handsome fruit of a very dark colour throughout, very juicy and piquant flavour, a very heavy cropper, of firm, hardy growth, and a capital sort for long journeys. This is a variety for everybody, especially growers for sale. May, of Bedale, sent out Culverwell's Sanspariel two or three years since, and it has proved at Yarm to be a fine and useful variety. It is a good-sized conical-shaped fruit, often sporting in form, of a shining deep crimson colour, and the flesh very dark throughout; medium flavour, but a very heavy cropping useful kind. Another of the greatest bearers is a seedling of Nicholson's, already sent out, named Cornucopia; this is evidently a seedling from Filbert Pine, not quite equal in flavour, but a fine handsome fruit, firm and juicy. It is a wonderful cropper, and throws its fruit out from the foliage in masses. Oscar is a moderate cropper, hardy, and of medium flavour, but a useful kind. Myatt's Emily is of the Filbert Pine habit, and Queen style of fruit; very rich flavour, and a good cropper. Mount Vesuvius is a very large handsome fruit, of medium quality, and a good cropper, certainly very fine for exhibition purposes.

British Sovereign is one of the best of Stewart & Neilson's seedlings, and is a very large fruit, rich in flavour, and a strong grower. Choix d'un Connaisseur, sent by Mr. De Jonghe, is of medium size, with a peculiar sugary flavour, very dark throughout, but the seeds are prominent. With good growth I think it will be a fair variety; it has the habit of Keens' Seedling. Bouhon is, I believe, a seedling of Mr. Gloede's, resembling Sir Charles Napier in growth, but different in shape, firm, very juicy, and sugary. Auguste van Geert is a Belgian variety of medium size, dark in colour, solid and juicy, and a heavy cropper. Beauty is one of Nicholson's seedlings, a large wedge-shaped Strawberry of good quality, and an abundant cropper. Leopold is a Belgian kind, a medium-sized dark-coloured fruit of fine sugary flavour, but only a moderate cropper. Jeyes's Wonderful is a good useful well-flavoured kind, and an enormous cropper, another market gardener's Strawberry. Garibaldi is another of Stewart & Neilson's seedlings, and one of the best; a large, handsome fruit, very juicy, and of good flavour—which is slightly acid; a good cropper and vigorous grower. Rifleman and Frogmore Late Pine, two of Turner's last new kinds, both, I think, raised at the Royal Gardens, are promising late sorts for the north; both very late, and therefore most useful; both good croppers and hardy—neither of these were ripe. Frewin's Beauty of England is a large and handsome fruit of good flavour; very juicy and productive. A seedling, marked J, sent by Mr. Gloede, is a large handsome light-coloured fruit of good flavour, and very productive, and will be a good market variety. La Chalonaise the catalogue describes as "a very large and splendid sort of the British Queen race, but much more hardy and productive." I have grown it for three years and can say the same. It is a large and handsome delicious fruit. Sultane is one of Dr. Nicaise's seedlings from France, a large good flavoured kind of medium growth and a heavy cropper, solid and juicy. Palmyre is another French variety, light coloured, flesh firm, melting, luscious, and very juicy, a fine kind. Marquise de la Tour Maubourg is a handsome large well-flavoured and strong growing free cropping kind. This is another French variety of good quality. Belle de Paris is another French kind of the British Queen race, fruit large and handsome, medium flavour, and very free bearer, hardier than the British Queen. Ruby is one of Nicholson's seedlings sent out a few years ago, a good useful late free cropping kind for market purposes. Admiral Dundas and Sir Charles Napier both maintained their good character. Ne Plus Ultra is a seedling sent by Mr. De Jonghe; fruit long and fine, good flavour, and very dark throughout; a most prolific and useful kind. Rivers's Eliza is fine in flavour and a good cropper. Cuthill's Princess Royal of England is a medium-sized cone-shaped fruit of a light colour, with lemon-coloured flesh when ripe, fine flavour, and very prolific. Cox's Hybrid is a fine, sharp-flavoured juicy handsome fruit, of good size, a good cropper, and very late.

Many kinds have been sent from America, and are grown here, but with two or three exceptions cannot be regarded as fine Strawberries, almost all being deficient in flavour. One of the best is Boston Pine, a free cropping variety of medium size, useful for preserving, and very early. Wilson's Albany, however, is the best as seen here; a good-sized handsome round fruit, of a dark red colour throughout; an excellent preserving sort.

In Hautbois, not much advance has been made. The best are Rivers's Monstrous Hautbois and the Black Hautbois, both of which are free bearers, rich-flavoured, and good sized for Hautbois. I don't know if the Hautbois makes a good parent, but the flavour of this and the old Pine is what we want in Strawberries. We have it now to a great extent in the late kinds, but we are sadly deficient of flavour in the early kinds. At present, at Yarm, and in other places northward, May Queen, a small and poor-flavoured kind, is the earliest; next Princess Frederick William, a free-cropping kind, of medium size but poor in flavour—still it is very early. Then comes Boston Pine, and plenty of others. We want fine early kinds, with the flavour of La Constante, Carolina Superba, and British Queen.

Of course British Queen was good at Yarm, as it is everywhere in suitable soil and situation; in fact it is a grand Strawberry when it can be grown well; and at Yarm, Carolina Superba was also superb in all respects. This is a most delicious Strawberry, but generally tender. Sir Harry, and a spurious Sir Harry, are both grown here and elsewhere. With me this year Sir Harry is delicious in flavour, the hot weather exactly suiting it.

I have, I fear, done but imperfect justice to many varieties I saw at Yarm; for to go through so many kinds in one day rendered it almost impossible to do justice to all. I aimed chiefly at selecting the best sorts. *William Dean, Shipley.*

## FISH AND FISHING.—No. XI.

TENCH AND CARP PONDS.—*Continued from p.* 556.

The size and situation of our pond being determined, now comes the great difficulty and expense. If my soil were all Sussex clay, I may merely have to dig and excavate—it is a trifle; but if my soil is not of a nature to retain and maintain a certain depth of water, I must make it so by carting a large quantity of clay from the nearest point, to cover thickly the whole bed and sides of my pond; and having the clay, I must "ram," or "puddle," or "make thick or close with clay, so as to render" the bed and sides of the pond "impervious to water." To produce this "imperviousness to water" may, in some land, be very difficult, if not impossible. In a sandy soil, for instance, the attempt would only end in mortifying disappointment, because a layer of clay of any reasonable thickness might be penetrated by a thrust of a stake, and, like the smallest chink or crevasse in the levee or embankment of a river, "small" would grow to "large," and all hope of establishing the pond would gradually but perceptibly sink and sink, till all the fish died, and nought but "dry land appeared." But in cases where the superstratum, and likewise the substratum, are tolerably retentive, by the use of this clay, with proper attention to manipulation, you are certain to succeed. No better proof of this can I give, than by carrying myself ideally to some parts of Jamaica—the parishes of Clarendon and Manchester.

As may be imagined, in the Tropics, water, good or bad, for man and beast, is indispensible as food. It is life itself! In the central parts of the island, rivers are not numerous, and still less are they constant in their flow. For six weeks altogether may such rivers contain water. For the rest of the year they are dry. What is to be done? On old well-established properties of former days, they built large stone tanks or reservoirs, into which the biennial rains, the "May and October seasons," were conducted; and biennially thousands and thousands of gallons of water were collected. This was used for all domestic purposes, and sometimes, though sparingly, for cattle. The tanks being deep and generally boarded over, the water was generally sweet to drink (you could not get better unless in the neighbourhood of a spring) and tolerably cool. In dry weather, horrifying was the announcement of "only 11 inches of water in the tank," but for cattle, they were in some parts of the one parish and in all parts of the other, obliged to form artificial ponds. In Manchester parish—all mountainous—and in which there is only one natural spring, the super soil is rather retentive red iron loam, but retentive naturally only for a few days after very heavy—"the seasons"—rains. The subsoil is detached boulders of limestone rocks. So, to get their ponds to hold water from one "pond rain" (as heavy rains are there called) to another, they had occasionally in the course of every 8 or 10 years to "ram" or "puddle," as I have mentioned, their artificial ponds—and these ponds held water wonderfully well. Fancy the retention of water under the open absorption of a tropical sun from six months to six months, consumed too by perhaps 50 head of cattle every day—and can any doubt exist that a pond formed

in England in manner as I have mentioned, would succeed?

Brother Gardeners, I beg you to rely on my assurance of success. Say, you who have the land to spare and the "means" to "boot," that you will follow up my idea, and I will tell you how further you are to proceed—what plants you are to place in your ponds; how you are to supply them with animal inhabitants; and, if you need that instruction, how you are to profit hereafter, by catching the fish you have a year or two previously placed in your ponds. What more can I say as to the pleasure you will by and by derive, than my brief hints at the innocent happiness afforded in former hours to myself?

Make therefore your tench and carp ponds; and when they are fairly established invite me in some future hot summer months to fish them, if I live. Promise me a cottage-cooked luncheon of beans, bacon, and cabbage, and a glass of ripe cider, and you will make me a happy guest for an hour or two, basking in shaded sunshine.

* * * *

I had thoughts of concluding this subject as it stands above, but second thoughts advise me to complete it as far as "I think on't" at present.

Weeds seem to be necessary for almost every kind of fresh-water fish, except those of the migratory salmon genus. Trout require them as hiding places, and the coarser genera, as roach and pike, &c., require them as depositories of spawn. Tench and carp require them in still waters for spawning purposes, but also for their delectation while floating lazily almost on the surface of the water in summer's hot sunshine. As far as I have been able to observe, I think that tench are content with what I take to be the pond weed, Potamogeton natans, which has very long leaf-stalks, and dark brownish ovate-lanceolate leaves floating on the surface, dancing thereon on every perturbation, like tiny cock-boats on the smallest ruffle of the sea. Carp also like this weed, but certainly affect also the broader shade of the leaves of the Nymphæa alba, or common white but exquisite Water Lily. The former plant must certainly be in the tench pond, and both may be in the carp pond. But of those water nymphs, oh, angler! beware! You must fish fine for carp, and those nymphs' leaf-stalks are very strong, and though you may easily hook your fish, you must possess a vast amount of dexterity ere you can get a carp into your basket. *E. C.*

## Home Correspondence.

*Removing Bees to the Moors.*—As the time has now arrived for removing bees to the Heather, I wish to remind your readers of the great advantage a hive taken to the Heath has over one that cannot go to the Heather; it gives the bees at least six weeks longer honey harvest, as I find my bees not taken to the moors always lose weight after July. The Heather I find is fast coming into bloom, so no time should be lost in sending them. In removing bees to the Heather, the first thing to be attended to is, to give them plenty of room, as if the weather continues favourable they will collect from the Heath a very great store of honey; therefore the day before I remove them I place another hive on the top of the stock, when I want to join the bees on their return home to another stock, and appropriate to myself the whole of their store of honey, or when I want to take the old hive from the bees and leave them in the new hive; but if I want them to remain in their own hive I place the addition underneath, as the bees always fill the top hive first, and afterwards the bottom one; and the honey in the new hives being deposited in new combs, in which there has been no brood, is very beautiful, and much more valuable than that out of old combs. Where the two hives join I tie a piece of calico with two strings securely round each hive, so that they cannot separate or any bees escape when being removed. I then raise the hives about an inch from the floor board upon pieces of wood, and early next morning I find every bee gone off the floor board into the hive. I spread a piece of net or leno on a board, and lift the hive upon it, and tie the net very securely with two strings round the hive; when so fastened I turn the hive gently upside down, and place it on a cloth, and then tie the corners together; in this way the hive is easily carried by suspending it on a pole laid across the cart; but it matters little whether it is suspended or not, as the combs will not break down. The hive being turned with the bottom upwards, the bees by that means obtain plenty of air, do not melt the combs with their heat when excited, and I do not find the honey to run out of those cells that are not sealed over to do any injury. I let the bees remain at the moors until about the middle of September, and when brought home, I put them upon the scales, and the next day I deprive them of their surplus stores (leaving in bees, combs, and honey twenty pounds weight, which ensures their preservation until next summer), which I consider only a just return for my kindness in having given them a change of air in such luxuriant pastures, where many tons of honey is annually lost to the world from want of collecting. This month has so far been a splendid one for bees, White Clover being very abundant. On several days many of my stocks have collected upwards of two pounds of honey. *Wm. Carr, Clayton Bridge Apiary, near Manchester.*

*Frost in Devonshire.*—After the sweltering weather of last week, it may be refreshing to your readers to learn that in the mild county of Devon we had frost last night, sufficiently sharp to cut the leaves of out of doors Cucumbers quite black. This place is in a deep valley, and is very subject to severe frosts late in the spring, but I never remember a frost on the 18th of July before. *J. T., Sydenham House, Lew Down, Devon.*

*Frost in Yorkshire.*—This morning, July 21st, one of Negretti & Zambra's self-registering thermometers indicates 3° of frost, a thing unknown here before at this season. Dahlias, on one plot of ground exposed to the north and east wind which accompanied the frost, are a wreck; the foliage, now that the sun is upon them, being dried up, as if exposed to frost late in autumn. The blooms, which were covered with tiffany, are brown on the upper and exposed sides. I may state that the ground and plants are quite dry, not having had water for the last five weeks. The weather, with the exception of the last few days, has been extremely hot, the thermometer of the 10th inst. registering 87° in the shade. *William Boston, Hope Nurseries, near Bedale.*

*Melons.*—Your correspondent "Dilemma" seems to have been very successful with his Melons up to a certain point. He then states, "the plants were very subject to break out in soft rotten patches on the stems." I think from this account he must have watered them with stale or bad water. Many succulent and quick-growing plants are easily injured by bad water. This year I lost some Balsams and a good many Perilla nankinensis by giving them bad water. Of the latter many went off as "Dilemma" describes a month after they were put out, while of others in another part of the garden which did not get the bad water not one was lost. *W. S. Brinkley, Knockmarvon House.*——If "Dilemma" will raise the bottom heat of his Melons to 80°, and use water of that temperature, I have no doubt that all will soon be well; it is a fact that plants produce more and better pollen if their roots are kept warm and somewhat dry, and the fruit is of course much more likely to get set. The old dung bed took care of itself in summer; but in these days of hot-water pipes, and when one is well-nigh roasted alive with heat, we are sadly apt to forget our bottom-heat. *J. Rust, Fulham.*

*Diseased Grapes.*—In my Vinery I have, among other kinds of Grapes, one Vine of West's St. Peter's, that for two years before beginning to colour has had most of the berries covered with round dark, nearly black spots, which to some extent disappear when the Grapes colour, but seem to leave the skin so tender that half the Grapes are cracked in the skin. As none of the other Vines or pots have been similarly affected, I am puzzled to find the reason, and beg to trouble you on the subject. *J. J. D., Gothenburg, Sweden.* [Can any experienced Grape-grower throw light on this matter?]

*Berberis nepalensis.*—I would not recommend your correspondent to try Berberis nepalensis out of doors, even although his place be 50 miles further south than mine. That it would succeed perfectly in an Orchard-house, provided the requisite amount of shade could be secured, I have not the slightest doubt; indeed, I have myself placed two or three allied species (*e.g.*, B. Bealii, B. japonica, &c.) against a north wall at one end of the Orchard-house at Knypersly. In this situation they grow and flower freely, but have not as yet produced fruit; neither have they a graceful effect when trained or spread out flat upon the surface of a wall. I wish my experie ce would allow me to endorse all that you say in behalf of these so-called "noble species from China." Although quite hardy with me, I find that out of doors they lose all their lower leaves, and then expose a hideous length of naked upright stems, clinging as close together as those of an Irish Yew or Lombardy Poplar. In order to make them more bushy and more sightly I have cut some of them down to within a foot of the ground, but they appear to be impatient of the knife, and reluctant to send forth fresh shoots. The great advantage of growing B. nepalensis in a cool conservatory is that when so treated it never casts a leaf; my plant, which is now about 12 feet high, is one dense pyramid of the most splendid foliage. *J. B., Biddulph Grange.*——As I live in the North Riding of Yorkshire, it may interest your Correspondent "Diss," to know that a small plant of Berberis nepalensis was planted out here early in the spring of 1861; it was then covered with a pot for protection from spring frosts. During the last two winters it has stood without any protection, and this season it has made a fine shoot, and promises to be a beautiful shrub. The soil in which it grows is a stiff heavy loam with a clayey bottom. The plant is much exposed; Berberises of different sorts grow freely in our soil, among them are B. Bealii and japonica. A fine plant of Fortune's Berberry was killed down below the level of the snow in the winter of 1860 and 1861, after a growth of 10 years, without any protection. It is now again growing freely, and likely to make a fine plant. *W. Culverwell, Thorpe Perrow.*

## Societies.

ROYAL HORTICULTURAL: *July* 21. (*Floral Committee*).—Messrs. Downie, Laird & Laing furnished on this occasion beautiful cut blooms of Hollyhocks, among which the most remarkable were Golden Fleece, Purple Prince, Mrs. J. McKenzie (a good crimson), and Empres Eugenie (white). From the same firm also came examples of a beautiful large deep crimson-coloured seedling Hollyhock, named Alexander Shearer, to which a First-class Certificate was awarded. A similar mark of distinction was also conferred on a seedling Picotee named Lucy, from Mr. Turner, who also showed good blooms of a heavy edged kind, called Col. Clerk. To Mr. Parsons, Welwyn, was awarded a Second-class Certificate for a seedling Achimenes, named Moorii, a bright salmon red sort, with comparatively large showy blossoms. Mr. Thompson, of Ipswich, received a First-class Certificate for cut blooms of Helipterum Sandfordii, a golden yellow flowered annual Everlasting from Western Australia. Various handsome-leaved Caladiums were contributed by Mr. Bull, and one or two interesting miniature Dahlias in pots by Mr. Salter, who also sent two cut blooms of his new large double-blossomed Pyrethrums. Mr. Watson, St. Albans, received a First-class Certificate for examples of Calceolaria Bijou, a bright reddish brown shrubby variety which will doubtless be useful for beds. A new seedling Hybrid Perpetual Rose named Princess of Wales, to which allusion is made in another column, came from Mr. Wm. Paul; and from Messrs. Barr & Sugden came specimens (not in good condition) of Gloxinia tubiflora, a handsome white flowered kind, received by them from Sardinia.

*July* 21: (*Fruit Committee*).—Mr. Terry, of St. Albans, furnished on this occasion beautiful dishes of Currants in every way examples of first class growth. Conspicuous among them were Red and White Dutch, Red Grape, a fine showy Currant, Raby Castle, Old Champagne and Black Naples. To these a first prize was awarded. From the garden of the Society also came specimens of Currants, and we noticed a promising seedling Strawberry, but from whom it came we could not learn. Mr. Whiting contributed fruit of the Jefferson Plum, a sort found to be very suitable for pot-culture; a specimen of Hall's Telegraph Cucumber, a very long kind, was also shown at this meeting.

ALEXANDRA PARK HORTICULTURAL EXHIBITION.—A bright sunny cool day on the 23d inst., heralded auspiciously the opening of a new place of public resort, called the Alexandra Park. This is situated on the north side of London at Muswell Hill, and is reached by railway from King's Cross to Wood Green, from which it is distant about three-quarters of a mile. The Park itself remains exactly in the same state in which it was purchased by the Company; no visible ornamentation of any kind has yet been attempted, and horticultural buildings, if it is ever to possess any, have yet to be erected. The flower show took place under tents which were pitched in a field of meadow land, surrounded here and there by trees and rising ground, from which an extensive and delightful view of as pretty a piece of well wooded and interestingly undulating country as is anywhere to be found in the neighbourhood of London is obtained. One tent 195 feet in length, and 50 feet in width, was devoted to stove and greenhouse plants; another 75 feet in length, and 50 feet in width, contained fruit and cut flowers; a third was filled with Fuchsias, Pelargoniums, Petunias, Achimenes, and Rose blooms; and in a fourth were fruit trees in pots, well furnished with fruit from Messrs. Fraser and Lane.

*Stove and Greenhouse Plants.*—These were furnished in great abundance, and among them examples of skilful cultivation were numerous. They consisted chiefly of Allamandas, Stephanotis floribunda, the beautiful Pleroma elegans, various sorts of Kalosanthes among which the most brilliant was Coccinea superba, and the old fashioned, but extremely handsome Everlasting Gnaphalium eximium, the fine heads of rich orange flowers of which attracted universal admiration.

*Awards.*—12: 1st, Mr. Gilbert; 2d, Mr. Wheeler; 3d, Mr. Kaile. 8: 1st, Messrs. Fraser; 2d, Mr. Rhodes. 6: 1st, Mr. Chilman; 2d, Mr. Baxendine; 3d, Mr. Donald.

*Fine foliaged and Variegated Plants.*—Of these some noble specimens were produced, among which the singular looking Alocasia Lowii stood conspicuous. Of A. metallica there were also various excellent examples, as well as of Palms, Cordylines, Dracænas, and other plants usually found in exhibitions of this kind.

*Awards.*—12: 1st, Messrs. Lee; 2d, Mr. Williams; 3d, Messrs. A. Henderson. 10: 1st, Mr. Taylor; 2d, Mr. Young; 3d, Mr. Donald; 4th, Mr. Wheeler.

*Effective Arrangement.*—For this three prizes were offered, the materials to consist of Stove and Greenhouse plants in and out of bloom, and we must confess that the different competitors in this class did their work extremely well. Of Tree Ferns, Orchids, and other plants in flower, charming intermixtures were made which struck all who had an opportunity of inspecting them with delight. They occupied conspicuous positions at the end of one of the tents, which they set off to advantage.

*Awards.*—1st, Messrs. A. Henderson; 2d. Mr. Williams: 3d, Messrs. Lee.

*Cape Heaths.*—Several well grown collections of these were exhibited, in which the predominant sorts consisted of varieties of tricolor. We, however, did see a beautiful specimen of Vestita coccinea from Messrs. Lee, of Hammersmith, and from Messrs. Jackson, of Kingston, came prettily grown medium-sized plants of other kinds.

*Awards*: 10: 1st, Messrs. Jackson; 2d, Mr. Rhodes; 3d, Messrs. Fraser; 4th, Mr. Wilson. 8: 1st, Mr. Gilbert; 2d, Mr. Wheeler; 3d, Mr. Chilman; 4th, Mr. Young. 6: 1st, Messrs. Lee; 2d, Mr. Rhodes; 3d, Mr. Smith; 4th, Mr. Chilman.

*Orchids.*—The display of these on this occasion was comparatively unimportant; Mr. Williams had a good specimen of a large variety of Dendrobium formosum, and of Cattleyas and Oncids there were one or two good plants in collections from private growers.

*Awards.*—8: 1st, Mr. Williams; 2d, Mr. Woolly; 3d, Messrs. Jackson. Amateurs: 1st, Mr. Chilman.

*Ferns.*—These consisted of both tree and other sorts; among the former the best came from Mr. Williams, of Holloway, who showed beautiful specimens, whose refreshing deep green heads of leaves, elevated on noble living pedestals, formed a subject of general admiration; ordinary dwarf kinds too were plentiful, and being well grown had a fine effect. We also noticed fine panfuls of Lycopods from Mr. Young, gr. to R. Barclay, Esq., of Highgate. Among these Wildenovi seemed to excite most interest, as well it might, for its leaves are quite as handsome as those of many Ferns. L. apodum is also a compact growing neat bright green coloured kind, which in small pots has a pretty appearance.

*Awards.*—12: 1st, Mr. Williams; 2d, Mr. Woolley; 3d, Messrs. A Henderson. 10: 1st, Mr. Young; 2d, Mr. Taylor; 3d, Mr. Gilbert; 4th, Mr. Lavey. 6 Tree Ferns: 1st, Mr. Williams; 2d, Messrs. Lee.

*New Plants.*—We observed nothing among these which has not been exhibited and fully reported on by us on former occasions.

*Fuchsias.*—These were by no means good or effective, which they ought to have been at this season. None of the plants were large, and all were more or less unequal in size; all kind of uniformity in the different groups was therefore destroyed. A few standards were better managed; but even these were not first-rate.

*Awards.*—6: 1st (withheld); 2d, Mr. Bartholomew; 3d, Mr. Taylor; 4th, Mr. Cheal; extra, Mr. Shenton.

*Scarlet Geraniums.*—Of these three or four collections were shown in tolerably good condition, the plants were dwarf, compact, and well bloomed; as the names of the sorts did not appear to differ from what have been given in former reports, it would be useless to repeat them.

*Awards.*—6: 1st, Mr. Duke; 2d, Mr. Windsor; 3d, Mr. Lavey; 4th, Mr. Young.

*Achimenes.*—Among these we observed nothing new or striking. Such plants as were shown were, however, well grown and flowered.

*Awards.*—10: 1st, Mr. Monk; 2d, Mr. Uzzell; 3d, Mr. Taylor; 4th, Mr. Fox.

*Variegated Begonias.*—These were plentiful; but by far too much alike. They therefore made comparatively little display.

*Awards*: 9: 1st, Mr. Begg; 2d, Mr. Shepherd; 3d, Mr. Young; 4th, Mr. Smith.

*Gloxinias.*—Such as were shown on this occasion were in no way in advance of kinds that we have been accustomed to see for years, a singular fact, considering that many of the varieties at present in cultivation are really charming things. We allude more particularly to the upright blooming or inverted bell-shaped class in which most novelty is now to be found.

*Awards.*—10: 1st, Mr. Taylor; 2d, Messrs. Jackson; 3d, Mr Sutton.

*Garden Vases.*—These, in one or two instances, appeared to be made of Ransom's patent stone, whose grey colour associated well with the brilliant flowers with which they were filled. Some in the form of huge horns of plenty surely none could admire, but of other kinds there were some tasteful exhibitions.

*Awards*: 3: 1st, Messrs. A. Henderson; 2d, Mr. Williams; 3d, Mr. Young; 4th, Messrs. Cutbush.

*Dinner Table Decorations.*—Those to which prizes were awarded consisted of Mr. March's design in glass, which when tastefully ornamented with flowers is not easily beaten. Compared with these all others shown on this occasion were, to say the least of them, second rate.

*Awards.*—1st, Mr. Cutbush; 2d, Mr. Callough; 3d, Mr. Wilkinson.

*Hanging Baskets.*—Mr. Cutbush, of Highgate, furnished some gay examples, which elicited general praise; the same exhibitor had also three nice light wire table baskets, which being well filled were very effective. From Messrs. Williams, Henderson and others were also good examples of this kind of conservatory ornament.

*Awards.*—1st, Mr. Cutbush; 2d, Mr. Williams; 3d, Messrs. A. Henderson; 4th, Mr. Young.

*Roses.*—These were confined to cut blooms, which were produced in admirable condition. Nothing indeed could possibly be finer than the magnificent display made by Mr. Keynes, of Salisbury, who stood considerably in advance of all competitors. Chas. Lefebvre, Senateur Vaisse, Prince Leon, Comtesse Cecil de Chabrillant, Madame Chas. Wood, Lord Raglan, Beauty of Waltham, Madame Furtado, and La Ville de St. Denis were wonderfully large and fine; in short one bad bloom could not be picked from his whole collections. Messrs. Paul and others had also good collections, which owing to the coolness of the day kept in good condition.

*Awards.*—100: 1st, Mr. Keynes; 2d, Messrs. Paul & Son; 3d, Mr. Wm. Paul; 4th, Mr. Francis. 50: 1st, Mr. Keynes; 2d, Messrs. Paul & Son; 3d, Mr. Francis; 4th, Messrs. Fraser. 50: Amateurs: 1st, Mr. Corp; 2d, Mr. Perry. 24: 1st, Mr. Corp; 2d, Mr. Perry; 3d, Mr. Weymouth.

*Cut Flowers.*—Among these Pansies, Carnations, and Picotees had their admirers; neatly made little bouquets of ordinary garden plants were also present in profusion.

*Fruit.*—This was plentiful, and most of it excellent both as regards look and quality.

*Pine Apples.*—Foremost among these was a noble example of the Queen variety weighing no less than 7 lbs. 2 oz. It was well ripened, beautiful in form, and in all respects a surprisingly fine specimen of skilful cultivation. It came from Mr. Hall, gr. to Lord Scarborough. Other kinds were not so remarkable.

*Awards.*—4: 1st, Mr. Young; 2d, Mr. Henderson; 3d, Mr. Penny; 4th, Mr. Dawson. Providence: 1st, Mr. Carkell. Queen: 1st, Mr. Hall; 2d, Mr. Kaile and Mr. Carr; 3d, Mr. Smith; 4th, Mr. Wallace. Other kinds: 1st, Mr. Davis; 2d, Mr. Young.

*Grapes.*—The best Black Hamburghs were again shown by Mr. Meredith, of Garston, near Liverpool. They were large, both in bunch and berry, finely coloured, and covered with a beautiful bloom. Of the Trentham Black the same excellent grower also had admirable examples. Mr. Wallis likewise showed good Black Hamburgh and Black Prince. From Mr. Henderson, of Trentham, also came various examples of good Grape growing. Muscats, with the exception of some from Mr. Turner, were unripe. Vines in pots could scarcely be said to be first rate.

*Awards.*—3 dishes: 1st, Mr. Meredith; 2d, (withheld); 3d, Mr. Embry and Mr. Henderson. 1 dish: 1st, Mr. Meredith; 2d, Mr. Wallace; 3d, Mr. Penny. Dish of any sort: 1st, Mr. Meredith; 2d, Mr. Wallace; 3d, Mr. Monro. 10 lb.: 1st, Mr. Meredith; 2d, Mr. Wallace; 3d, Mr. Wilkinson. Muscats: 1st, Mr. Turner; 2d, Mr. Smith; 3d, Mr. Embry.

*Peaches and Nectarines.*—These, as might be expected at this season, were numerous, and the fruit to which 1st prizes were awarded was large and well coloured. The sorts did not differ from kinds usually shown on such occasions.

*Awards.*—4 dishes: 1st, Mr. Turner; 2d, Mr. Monro; 3d, Mr. Hill. 2 dishes: 1st, Mr. Beech. Nectarines—2 dishes: 1st, Mr. Turner; 2d, Mr. Monro.

*Apricots.*—These were, as far as we could ascertain, wholly confined to the Moorpark variety, of which there were some fine specimens.

*Awards.*—1st, Mr. Kaile; 2d, Mr. Knight; 3d, Mr. Sawkins.

*Plums.*—Few were exhibited. Among what were shown were good fruit of Denyer's Victoria, and Jefferson.

*Awards.*—1st, Messrs. Lane & Son.

*Cherries.*—Among these were black Circassian, Bigarreau, and Morello, all of good size and quality.

*Awards.*—White: 1st, Mr. Turner; 2d, Messrs. Lane; 3d, Mr. Knight. Red: 1st, Mr. Turner; 2d, Mr. Smith; 3d, Mr. Sutton.

*Melons.*—The best green-fleshed variety came from Mr. Rutland, gr. to Capt. Peploe, Garnstone Castle, Hereford. It was oblong in shape, large, yellow-skinned, and ribbed. Flesh, cream-coloured. Among scarlet sorts, the best was Gem, a good fruit of which came from Mr. Stanley, of Page Green, Tottenham.

*Awards.*—Green-fleshed: 1st, Mr. Rutland; 2d, Mr. Monk; 3d, Mr. Turner. Scarlet: 1st, Mr. Stanley; 2d (withheld); 3d, Mr. Monk.

*Collections of Fruit.*—On the whole these were not so fine as have been seen in former years. They consisted of little else than a Pine Apple or two, bunches of Grapes in one or two instances by no means first-rate; Moor Park Apricots, a few Plums, Strawberries, and Melons—nothing in fact at all equal to the fine displays that were wont to grace the exhibition tables at Chiswick from the Royal Gardens at Frogmore and elsewhere in days gone by. Let us hope, therefore, that some steps will be taken by the Council of the Royal Horticultural Society to remedy this matter.

*Awards.*—1st, Mr. Turner; 2d, Mr. Henderson and Mr. Young; 3d, Mr. Carr.

Before concluding we feel that we cannot protest in terms too severe against the disgraceful conduct of the Great Northern Railway people, who kept visitors to and from the Park on this occasion waiting at their stations for trains for hours. It was advertised that "*numerous* special trains" would run on the day in question, and the fact of their not doing so was productive of the greatest possible inconvenience to the public, who were naturally indignant at the treatment they received. If the managers of the Alexandra Park cannot prevent this, their enterprise *must* fail.

## Notices of Books.

*Lives of the Engineers.* Vol. III. (George & Robert Stephenson). By Samuel Smiles. 8vo. Murray.

Mr. Smiles has devoted this, his third volume, to the combined biographies of George and Robert Stephenson, the reasons for which arrangement are fairly stated; and, we think, are entirely satisfactory. "Although it is unusual to embody two biographies in one narrative, it will probably be admitted that in the case of the Stephensons, such a combination is peculiarly appropriate—the life and achievements of the son having been in a great measure the complement of the life and achievements of the father. The care with which the elder Stephenson, while occupying the position of an obscure workman, devoted himself to his son's education, and the zeal with which the latter repaid the affectionate self-denial of his father, are among the most effective illustrations of the personal character of both. As regards their professional history also, it will be found that the relations which existed between them, more particularly with reference to the improvement of the locomotive and the construction of the first passenger railways, were of so intimate a kind, that it is impossible to dissociate the history of the one engineer from that of the other."

The life of George Stephenson is, in fact, to a great extent the history of the locomotive; and as such it possesses an interest apart from that of the mere biography of a gifted man. That power which has changed the aspect of our country, and which has now become so familiar to us as to be looked upon almost with indifference, was yet in its infancy when George Stephenson perceived its dormant capabilities, and devoted the energies of his life to developing and perfecting it.

Nor was he the only labourer in the field; many minds were endeavouring to solve the problem of uniting rapidity of transit with cheapness, and various experiments were made with the view of combining these objects. It was natural that the North should be the first to attain success. Even in the 17th century, tramways had been laid down to facilitate the conveyance of coal from the pits, while stationary steam-engines were employed to work the pumps and raise the coal, long before any one thought of using them as a mode of traction.

"The same circumstances which led to the rapid extension of railways in the coal districts of the north, tended to direct the attention of the mining engineers to the early development of the powers of the steam-engine as an effective instrument of motive power. The necessity which existed for a more effective method of hauling the coals from the pits to the shipping places, was constantly present to many minds; and the daily pursuits of a large class of mechanics occupied in the management of steam power, by which the coal was raised from the pits, and the mines were pumped clear of water, had the effect of directing their attention to the same agency as the most effective means of accomplishing that object."

George Stephenson was one of these workers; employed from his childhood in a colliery, he grew up, not only so familiar with every part of the engine which he daily tended as to be able to repair and even improve it, but also experimentally learning mechanics; and we read of him, now trying to solve the problem of perpetual motion, now teaching himself to clean and regulate clocks, now erecting a sun-dial, which still remains to mark the cottage he lived in. These, and many similar pursuits, were the amusements of his leisure hours, the largest part of his time being fully occupied by his duties at the collieries; but whether by his work or by his amusements, he was alike educating himself for higher things. His life at this period is thus described:—

"George Stephenson's daily life at Willington was that of a steady workman. By the manner, however, in which he continued to improve his spare hours in the evening, he was silently and surely paving the way for being something more than a manual labourer. He diligently set himself to study the principles of mechanics, and to master the laws, by which his engine worked. For a workman, he was even at that time more than ordinarily speculative,—often taking up strange theories, and trying to sift out the truth that was in them. While sitting by the side of his young wife in his cottage dwelling in the winter evenings, he was usually occupied in studying mechanical subjects, or in modelling experimental machines."

Mr. Smiles gives a sketch of the various early attempts to construct a locomotive, which however all proved failures. These were begun so early as 1763; but it was not until 1813 that any decided advance was made which gave reasonable hope of success. "An efficient and economical working locomotive engine, therefore, still remained to be invented; and to accomplish this object Mr. Stephenson now applied himself. Profiting by what his predecessors had done, warned by their failures and encouraged by their partial successes, he commenced his labours. There was still wanting the man who should accomplish for the locomotive what James Watt had done for the steam-engine, and combine in a complete form the separate plans of others, embodying with them such original inventions and adaptations of his own as to entitle him to the merit of inventing the working locomotive, in the same manner as James Watt is to be regarded as the inventor of the working condensing engine. This was the great work upon which George Stephenson now entered, though probably without any adequate idea of the ultimate importance of his labours to society and civilisation."

We cannot follow his improvements step by step; those who are interested in the subject will find them accurately, and perhaps almost too minutely described by Mr. Smiles.

From the first rude locomotive constructed at Killingworth, and which "succeeded in drawing after it eight loaded carriages of 30 tons weight at about four miles an hour," there is a vast interval to the express train, gliding across the country at the rate of half a mile in a minute, yet within the lifetime of one man this interval was spanned, and it is not too much to say that it is to him that are due all the principal improvements, not only in locomotives, but in railway engineering in general.

A detailed history of the various railways surveyed and executed under Mr. Stephenson's superintendence is given in this volume, and we have a graphic account of the various obstacles which beset him in the progress

of his work. Evil prophecies were the smallest of the annoyances. "It was declared that the railway would prevent cows grazing and hens laying. The poisoned air from the locomotives would kill birds as they flew over them, and render the preservation of pheasants and foxes no longer possible. Householders adjoining the projected line were told that their houses would be burnt up by the fire thrown from the engine-chimneys; while the air around would be polluted by clouds of smoke. There would no longer be any use for horses; and if railways extended, the species would become extinguished, and Oats and hay be rendered unsaleable commodities. Travelling by rail would be highly dangerous, and country inns would be ruined. Boilers would burst and blow passengers to atoms. But there was always this consolation to wind up with—that the weight of the locomotive would completely prevent its moving, and that railways, even if made, could never be worked by steam-power."

More formidable difficulties than these chimerical ones had, however, to be overcome, and not least of these was the carrying a line across Chat Moss, of which the following amusing description is given. "The three resident engineers selected by Mr. Stephenson to superintend the construction of the line, were Mr. Locke, Mr. Allcard, and Mr. Dixon. The last was appointed to that portion which included the proposed road across the Moss, the other two being by no means desirous of exchanging posts with him. On Mr. Dixon's arrival, about the month of July, 1826, Mr. Locke proceeded to show him over the length he was to take charge of, and to instal him in office. When they reached Chat Moss, Mr. Dixon found that the line had already been staked out and the levels taken in detail by the aid of planks laid upon the bog. The cutting of the drains along each side of the proposed road had also been commenced; but the soft pulpy stuff had up to this time flowed into the drains and filled them up as fast as they were cut. Proceeding across the Moss, on the first day's inspection, the new resident, when about half-way over slipped off the plank on which he walked, and sank to his knees in the bog. Struggling only sent him the deeper, and he might have disappeared altogether, but for the workmen, who hastened to his assistance upon planks, and rescued him from his perilous position. Much disheartened, he desired to return, and even for the moment thought of giving up the job; but Mr. Locke assured him that the worst part was now past, so the new resident plucked up heart again, and both floundered on until they reached the further edge of the Moss, wet and plastered over with bog sludge. Mr. Dixon's companions endeavoured to comfort him by the assurance that he might in future avoid similar perils, by walking upon 'pattens,' or boards fastened to the soles of his feet, as they had done when taking the levels, and as the workmen did when engaged in making drains in the softest parts of the Moss. Still the resident engineer could not help being puzzled by the problem of how to construct a road for heavy locomotives, with trains of passengers and goods, upon a bog which he had found incapable of supporting his single individual weight."

Our limited space forbids our detailing the ingenious methods by which this, and many other difficulties, were overcome. Ever ready with expedients, Stephenson never shrank from an obstacle, but persevered until he surmounted it. One short anecdote we must quote as exemplifying alike his ingenuity and his perseverance. After he had withdrawn from public life, he took great interest in horticulture and farming, being so successful in the former that his forced fruits, especially Pines, frequently obtained prizes at different exhibitions.

"He took much pride also in his growth of Cucumbers. He raised them very fine and large, but he could not make them grow straight. Place them as he would, notwithstanding all his propping of them, and humouring them by modifying the application of heat and the admission of light for the purpose of effecting his object, they would still insist on growing crooked in their own way. At last he had a number of glass cylinders made at Newcastle, for the purpose of an experiment; into these the growing Cucumbers were inserted, and then he succeeded in growing them perfectly straight. Carrying one of the new products into his house one day, and exhibiting it to a party of visitors, he told them of the expedient he had adopted, and added gleefully, 'I think I have bothered them noo!'"

We have seen it objected to Mr. Smiles that his account of the early life of George Stephenson is not always correct: we think this is very probable, seeing that he himself gives the following account of the manner in which he collected the materials for his work:—

"The information wanted existed but in the memories of individuals, from whom it could only be gathered by direct personal intercourse, and by slow degrees. Many of them were unlettered men, who, though they could communicate in conversation what they remembered, could not place it on written record." Mr. Smiles adds that, being unexpectedly obliged to reside at Newcastle, it became his recreation in the summer evenings to visit the places where George Stephenson had lived—Wylam, where he was born; Dewley, Callerton, Newburn, and Willington Quay, where he had worked as gin-driver, fireman, brakesman, and enginemen by turns; and Killingworth, where he had invented the safety-lamp and worked out the problem of the locomotive. All these places were within easy reach of Newcastle by railway; and thus, helped by the recollections of the engineer's former associates, his life was traced from boyhood to manhood, from the cradle almost to the grave."

Considering the impossibility of arriving at a correct account of anything which has not been committed to writing, it becomes obvious that close accuracy is not to be expected in a narrative confessedly drawn from the lips of illiterate and aged men. The main facts are, however, doubtless true, and well worthy of a careful record, and Mr. Smiles has bestowed much pains on their arrangement; the result of which is not only a readable, but a most interesting and instructive volume.

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Books Received.—*Rapport, &c.* [*Report on the various sorts of Sugar Cane cultivated in the Mauritius.* By Louis Bouton, Mauritius, 1863—a pamphlet.] This careful account of all the Sugar Canes known to the author will be found interesting to Tropical Colonists. ——*A First Year in Canterbury Settlement, New Zealand.* By S. Butler, 8vo, Longmans. The author went to New Zealand to seek his fortune, and in here relating his adventures has made a capital book. All things considered, his choice of Canterbury was a wise one, and we gladly learn "that the results of his undertaking have hitherto fully justified his expectations." The present disturbed state of New Zealand not affecting the Canterbury settlement, Mr. Butler's volume becomes doubly valuable, and we earnestly recommend every one intending to emigrate to provide himself with a copy. The advice and practical information contained in it are invaluable.——*Bradshaw* has published *an alphabetical handbook through London and its environs for the season,* 1863, *with a map;* very useful to strangers.

Trade List Received.—L. van Houtte, Ghent, *Prix courant, No.* 97, containing Bulbs and similar plants, with short descriptions of the sorts.

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## Garden Memoranda.

Mr. Cattell's Nursery, Westerham, Kent.—A nine miles' walk in the dog days, with the thermometer at 80°, is not in itself a pleasant undertaking; but when there is something at the end of it worth seeing, there are people who will adventure the toil for the sake of what follows. I am one of those when flowers—*the flowers*—of course I mean Roses—are the relative to the antecedent miles. And who would not undergo a little trouble to see such Roses, glorious alike in colour, form, and size. This nursery has for years past been noted for its excellent stock of Roses, which the proprietor has always cultivated with care, and has been most judicious in his selection, the best kinds only being sent out unless otherwise ordered. And here I cannot forbear entering my protest against the long, tedious, perplexing, unintelligible, "fat" lists of "select Roses" which many distinguished and respected members of the trade "forward on application" to the amateurs and lovers of this cherished flower. Is it a necessity imposed on them, is it only custom, or is it simply vain display? How infinitely better a really select list of the kinds that will grow would be both to seller and buyer, needs in my opinion no argument. Everybody who has a garden, be it large or small, likes to have Roses; they like also to have good Roses; but a very small per centage indeed of the "everybodies" grow them for public exhibition. Exhibitors, too, would learn to have more confidence, and probably become numerous. Let us hope that reformation will be made in this direction, and that growers for sale will thoroughly prove their new brood before it is turned loose upon the public to annoy and disappoint. A lasting debt of gratitude is due to the Rev. W. F. Radclyffe, whose name can never be used but with deep respect for his persevering and truthful endeavours to guide the Rosarian through the doubts that beset him every time the batch is announced.

To return to my subject: among the splendid stock of 20,000 plants, there was one variety in particular I was very desirous of seeing, viz., a new seedling originated here, having myself first publicly written of it in a former article in your columns, Aug. 9, last year, p. 742. I had then seen only the one bloom exhibited at the Bletchingley and Nutfield Show. I then described it as a rich crimson, large and full, and bearing comparison with Beauty of Waltham and others recently sent out, and proving a valuable acquisition to our English-raised Roses. An inspection of a large number of plants of it more than fully confirms the good opinion I had formed of it. It is a seedling from General Jacqueminot, and as vigorous and free blooming as its parent, and altogether of beautiful habit—it is also much fuller than the General. Owing to Roses being later here than in many places, Mr. Cattell could not exhibit it at the great shows; and hence, in justice to the raiser, its existence should be made known. Judgment has already been pronounced upon John Hopper and Beauty of Waltham. I cannot for a moment think that a different sentence awaits Beauty of Westerham, the name by which this new pet is to be known.

Of new Roses there were but few out, and these, except the above and John Hopper, indicated no particular excellence—the plants were healthy. I am inclined at present to assign the foremost place of last year's novelties to Maurice Bernardin, Prince Camille de Rohan, Beauty of Waltham, and John Hopper. The Tea-scented Triomphe de Guillot fils is superb at this nursery—a really valuable acquisition for conservatory decoration. Among other Teas in good bloom I noticed Madame Willermoz, Comte de Paris, Mad. William, and the inimitable Gloire de Dijon. Noisettes—Celine Forestier and Triomphe de Rennes, both good yellows. Mr. Radclyffe has the finest Triomphe de Rennes probably in England. Of the older Hybrid Perpetuals Madame Furtado is one of the most striking, and certainly the most fragrant—one really good bloom of Furtado is a treasure—but good blooms are few and far between. I fear it will prove a failure; the stock of it here is healthy, but, compared with others, of feeble growth. Of the same year's brood as Furtado, I noticed fine grown plants, well flowered, of Madame Pierson and Agatoide, both deserving a trial by the amateur; General Washington and Princesse Mathilde. Of still older varieties Senateur Vaisse, Cecile de Chabrillant, Madlle. Bonnaire (*they* are the flowers), were in perfection. Victor Verdier, Eugène Appert, Louis IV., which grows well here; William Griffiths, Louise Odier, Duchess of Norfolk, Gloire de Santhenay, Lafontaine, Madame Domage, Madame Boll, Triomphe de l'Exposition, Madame Knorr, Empereur de Maroc, General Jacqueminot, Géant des Batailles, Madame Vidot, Madame Charles Crapelet, Souvenir de la Reine d'Angleterre, Lord Raglan, Reynolds Hole, were all that could be desired.

Just a glance at the belt of fine Conifers down the main road through the nursery; a taste of La Constance Strawberry, a fine fruit, and of Carter's Prolific Raspberry; a run through the orchard house, and then the return home. It is to be hoped the time is not far distant when railroad accommodation will be extended to Westerham, in order that the lovers of beauty may be enabled to visit this rising establishment, which will be always worth the trouble, not only for Roses, but also Dahlias, Phloxes, Gladioli, Chrysanthemums, &c., but of these more hereafter. *Adolphus H. Kent, Bletchingley.*

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## Miscellaneous.

*Thujopsis dolabrata.*—While we sipped our tea I had time to make some observations on the surrounding scenery. A quiet and secluded Rice valley formed the foreground to the picture; hills were on each side of us and behind us, densely covered with trees of many different kinds. Pines, evergreen Oaks, Chestnuts, Bamboos, and Palms—the latter giving a somewhat tropical character to the scenery—were the most common species. On a hill-side to the right of where we sat I observed a grove of the beautiful Thujopsis dolabrata, which I had come to look for. A stillness, almost solemn, reigned amongst these woods and temples, broken at times only by the call of the cock pheasant, or the rich clear note of some songster of the woods. What a charming place for a hermit or for some one tired of the busy scenes and oppressing cares of the world! But I had not come here to meditate only; and, therefore, setting down my teacup, I intimated to the good priest that I wished to pay a closer visit to the Asnero, the Japanese name for Thujopsis dolabrata. The old man kindly led the way. On arriving at the grove of these trees we found an old cemetery amongst them; and they had, no doubt, been planted there, along with a number of Cryptomerias, at the time the cemetery was first made. The Asnero is a beautiful tree, straight, symmetrical, attaining a height of 80 to 100 feet, and having leaves of a fine dark green colour. They are imbricated, or overlap each other on the stems, and look almost as if they had been plaited. Beneath they are of a silvery hue, which gives them a somewhat remarkable appearance when blown about by the wind. We could observe some bunches of seeds on some of the higher branches. These were not very easily reached; but both Tomi and I being good climbers, we pulled off our shoes and mounted the trees, much to the astonishment of our good friend the priest, who stood quietly looking on at our proceedings. *Fortune's "Yedo and Peking."*

*Mosquitos.*—Along the low river-banks, and everywhere on hot and swampy grounds, the blood-thirsty mosquitoes appear periodically in countless multitudes, the dread of all who live in warm climates. Scarcely has the sun descended below the horizon, when these insects arise from the morass to disturb the rest of man and to render existence a torment. Not satisfied with piercing the flesh with their sharp proboscis, which at the same time forms a kind of syphon through which the blood flows, these malignant gnats, of which there are many species, inject a poison into the wound which causes inflammation, and prolongs the pain. In Angola, Dr. Livingstone found the banks of the river Senza infested by legions of the most ferocious mosquitoes he ever met with during the course of his long travels. "Not one of our party could get a snatch of sleep. I was taken into the house of a Por-

tuguese, but was soon glad to make my escape, and lie across the path on the lee-side of the fire, where the smoke blew over my body. My host wondered at my want of taste, and I at his want of feeling; for, to our astonishment, he and the other inhabitants had actually become used to what was at least equal to a nail through the heel of one's boot, or the tooth-ache." On the eastern slopes of the Andes, the mosquitoes or sancudos are so frequent that even the Indians consider many districts on the Marañon and Huallaga as absolutely uninhabitable. During his first sojourn in the Peruvian forests, Tschudi lay for several days almost motionless, with a swollen head and limbs, in consequence of the bite of these intolerable flies; and although by degrees the skin became more accustomed to the nuisance, and swelling no longer followed, yet their sting never failed to cause great pain. During three months of the year they infest the province of Maynas to such a degree, that even the stoical Indians utter loud complaints, and the dogs endeavour to escape them by burying themselves in the sand. Breeding cattle in these parts is impossible, for the sancudos would be the inevitable death of the calves. In no season of the year, at no hour of the day or night, do they desist in their attacks; but they are more peculiarly abundant in the second half of the rainy season. One of the most remarkable circumstances of their history is that they not only totally avoid certain limited districts, but even small places in the middle of a village. *Hartwig's Tropical World.*

*Darnel Grass.*—M. Filhol has recently investigated the toxical properties of the Lolium temulentum. Numerous experiments have been at different times made on animals with this plant; but they have not hitherto led to anything certain concerning the nature of the poison contained in it. M. Filhol has discovered that it contains a double poison—a poison of the strychnine class, and one of the narcotic kind. He has isolated these two poisons, and experiments on animals have shown their special actions, and explained their contradictory effects. M. Filhol adds, that the presence of Lolium in Corn may be shown by the shape of its starchy particles, which are different from that of Wheat. *Popular Science Review.*

*Climate of British Columbia.*—From very careful observations made in 1862 at New Westminster by Corporals Leech and Conroy, R.E., under the direction of Captain Parsons, R.E., we obtain the following interesting facts:—

| | | |
|---|---|---|
| Highest reading of Barometer, corrected for temperature .. | 30.517 in. | |
| Mean height of do. do., at 9.30 A.M. .. .. .. .. | 29.988 in. | |
| Lowest do. do. .. .. | 29.071 in. | |
| Maximum temperature in sun's rays (black bulb) .. .. | 104.6° | 29th Aug. |
| Maximum temperature of Air, in shade .. .. .. .. | 88.5° | do. |
| Do. .. 9.30. A.M. .. | 73.9° | 23d July. |
| Do. .. 3 30. P.M. .. | 86.0° | 28th Aug. |
| Mean temperature of Air, in shade .. .. 9.30. A.M. .. | 46.8° | |
| Minimum temperature of Air, in shade .. 9.30. A.M. .. | 2.0° | below zero, 15th Jan. |
| Greatest amount of humidity .. | 1.000° | |
| Mean do. do. 9.30. A.M. .. | .842° | |
| Least do. do. .. . | .320° | 3d Jan. |

There were slight frosts nearly every night in the month of April, and once in May (16th); they did not recommence until the 9th of October. The severe frosts of January and February have been unknown for many years. The total rainfall amounted to 47.466 inches, of which nearly 8 inches fell in December. The greatest fall of rain in 24 hours measured 2.260 inches on the 20th March. The average fall for every day of the year was 0.130 inches, and for each wet day it was 0.352. On the Fraser River at New Westminster, ice appeared on the 1st of January, 1862; the river was unnavigable on the 4th; it was completely frozen over on the 9th; and the ice attained a thickness of 13 inches in the channel opposite the R. E. Camp, on the 12th of February. Sleighs were running from Langley to several miles below New Westminster, and persons walked from Hope to the latter place, a distance of 80 miles, on the ice, at the end of January. Lake Harrison and the other Lakes were frozen. Navigation from New Westminster was open to the mouth of the river on the 11th of March, and from Yale on the 12th April. Again on the 5th December, there was ice in the river at New Westminster for one day. In January 1861, there was ice at New Westminster, but the navigation to the mouth of the river was not impeded. In 1860 there was no ice.

*Canine Hunters.*—Three dogs belonging to a rich proprietor in La Vendée went out hunting by themselves, without their master. Having started a rabbit which took refuge in its burrow, one of the dogs squeezed himself so far into the hole in pursuit of it, as to be incapable of retreating. His two companions, after scratching uselessly in order to relieve him, returned home tired and miserable; the next day and the day after they disappeared in the morning and returned at night, with their paws bloody, and their bodies covered with perspiration and earth, and refused all food. The third day the three dogs returned, and the one which had been lost was almost dying of hunger and as thin as a skeleton. That the two dogs had worked and succeeded in rescuing their companion was evident from the large hole made in the burrow. *Les Mondes.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Greenhouse plants out of doors will require canvas or tarpaulin drawn over them during heavy rains. Those still remaining in the house must have abundance of air. Whenever room occurs in the plant houses take in a few of the most forward Fuchsias, Japan Lilies, and Gladioli to assist in keeping up the floral display. Brugmansias and other vigorous growing plants should be frequently assisted with manure water; and as they are liable to get infested with insects, keep the syringe well at work before the plants get into bloom. In the Orchid house a warm moist atmosphere must be maintained to plants in active progress. Such, however, as have made their growth, which may be known by the pseudo-bulbs having attained their full size, should have less water and be gradually inured to a lower temperature and a greater degree of dryness. It should, however, be borne in mind, that this progression to a state of rest in all plants should be slow, and will take a considerable time to effect. So far as Orchids are concerned, those showing indications of matured growth may be first removed to the cool end of the house for a few weeks, and afterwards placed in quarters where the temperature and atmospheric moisture will not interfere with the slow progress of the plants towards a state of rest. Dendrobiums and others of that class should be grown on till the shoots are of sufficient length. Wash any plants infested with insects with a lather of common brown soap, using a sponge for the purpose; destroy, by every possible means beetles and other pests that infest Orchid houses. In mixed greenhouses, some of the Statices, such as imbricata, puberula, &c., exhausted with blooming, may be shaken out of their pots, and repotted. They delight in an open porous compost, with thorough drainage, and some of them are partial to a close and moist atmosphere. Stop gross shoots of greenhouse Azaleas, and see to cuttings being put in of the best Pelargoniums. The earliest sown Primula sinensis may now receive a final shift—these will blossom through October and November, when flowers will be scarce. Continue to pinch off all blossoms from pot Roses intended for flowering in November and December, and stop all luxuriant shoots. Young stock of these for winter work should now have their final shift.

### FORCING DEPARTMENT.

PINERIES.—Pines of all ages will now be making great progress; attend to shifting in due course; water with liquid manure rather frequently, except where heavy syringing is practised, which, with high temperatures and occasionally a lively circulation of air, will supersede in some degree the necessity of much watering. Be sure to give abundance of air to all rapid-growing young stock in dung pits.

VINERIES.—Continue to remove, in a progressive way, the laterals of ripening Grapes, especially where they shade the main leaves. Give abundance of air as soon as Grapes begin to colour, and do not, by any means, hurry that part of the process, more especially if heavily cropped.

PEACHES.—Where the early crop is gathered, the lights may be taken off; there is, however, no absolute necessity for this. Those intended for very early forcing may have any late rambling growths stopped, in order to stay the action of the root and induce an early rest.

FIGS.—Continue stopping young wood. Give abundance of water to those in pots or tubs; those in pots do well plunged in an old bark bed if to spare. Syringe constantly between the ripening periods.

LATE MELONS.—As soon as a crop is set and swelling, give the hills a soaking of warm weak liquid manure, depending on light syringings afterwards and shutting up early on bright days. Do not abandon linings through the circumstance of a sunny day or two occurring. Endeavour to keep the bottom heat from 5° to 10° in advance of the average top heat.

### FLOWER GARDEN AND SHRUBBERIES.

Beds recently planted will still require watching to get the plants in them fairly established. The heavy rain we have just had will however be of benefit to most things. Continue to clear away everything decaying, and to introduce good things from pots in the reserve ground. Decayed patches of bulbs, which are required to stand for early spring flowering, may have dressy Verbenas, or other things, introduced from pots between them. Cuttings of Pansies should be got out in succession, before the shoots are too much exhausted. All boundary or other hedges should be clipped forthwith. Auricula and Polyanthus seed ought now to be carefully collected; it should be retained in the seed vessels till the proper season for sowing has arrived; perhaps the best way of preserving it is to tie the stems together in small bunches, inserting the whole in thin paper bags, which should be suspended in a dry airy situation. Ranunculuses should now be out of the ground; when withered they are extremely susceptible of moisture, and if not taken up will emit fresh roots, which has a most prejudicial effect on them. They may be parted with facility, and this is better done now than when they are dry and hard. Seedlings should be carefully taken up, many of these will be very minute; in order that none may escape, it is a good plan to put the soil in which they have been grown into a fine wire sieve, then in working it about in a tub of water the soil will be washed away and the roots retained, which may be spread out to dry, and then stored in any place where they cannot contract mouldiness. Continue to put in pipings of Pinks, shading them from extreme heat. Extract decayed petals from the pods in which the seed is forming. As seedlings of Carnations and Picotees show their colour, all bad ones and selfs should be removed, unless any of the latter are of fine form and petal, in which case they might be retained as border varieties.

### HARDY FRUIT AND KITCHEN GARDEN.

Persevere in pruning back all superfluous breastwood, more especially in trained trees. Get all summer nailing completed as soon as possible, remembering that the wood of Peaches, Nectarines, and Apricots is seldom over ripe in this climate, frequently, indeed, the reverse. Disbud the gross wood from Figs, reserving the moderate wood, but, above all, that which is short-jointed. Let a plot of ground be trenched and highly manured forthwith to receive a good breadth of Cauliflowers; and the Walcheren and Grange's Broccolies, if true, are most valuable also, as they are of a self-protecting character, and if planted with the Cauliflower will form a good succession. These things done well at this period, will insure a supply of those useful vegetables all through November, December, and even January. Let late Peas have every encouragement, more especially by thorough sticking. The crops of Knight's Marrows and British Queen should be stopped when at the top of their sticks; they will branch out sideways if the ground has been thoroughly prepared. Sow a little Endive. Good breadths of brown Cos Lettuce may also soon be sown. Sow more Coleworts of the dwarf compact kinds; also a pinch of Chervil and Corn Salad. Herb-gathering must be attended to, choosing a dry day, and cutting just as they begin to blossom. Remove all bloom from the latest Alpine Strawberries; the flowers after this period will be sufficient for the latest crop.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending July 22, 1863, as observed at the Horticultural Garden.

| July. | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 16 | 1 | 30.165 | 30.152 | 71 | 34 | 52.5 | 64 | 62 | E. | .00 |
| Friday 17 | 2 | 30.100 | 30.050 | 73 | 33 | 55.5 | 62 | 61 | E. | .00 |
| Satur 18 | 3 | 29.910 | 29.737 | 68 | 27 | 47.5 | 61½ | 61 | N.W. | .00 |
| Sunday 19 | 4 | 29.968 | 29.767 | 75 | 37 | 56.0 | 61 | 59½ | S.W. | .00 |
| Mon. 20 | 5 | 29.790 | 29.722 | 74 | 33 | 53.5 | 61 | 59½ | W. | .48 |
| Tues. 21 | 6 | 29.752 | 29.605 | 73 | 52 | 62.5 | 60 | 60 | S. | .15 |
| Wed. 22 | 7 | 29.799 | 29.448 | 63 | 41 | 52.0 | 61 | 59 | S.W. | .00 |
| Average. | | 29.926 | 29.773 | 71.7 | 36.7 | 54.2 | 61.5 | 60.3 | | .63 |

July 16—Very fine; overcast; fine.
— 17—Very fine throughout, nearly freezing at night.
— 18—Overcast; fine; cloudy and fine; 5 deg. below freezing at night.
— 19—Clear; bright sun; cold at night.
— 20—Very fine throughout the day; nearly freezing at night.
— 21—Overcast; rain commenced at noon; heavy rain at night.
— 22—Rain; very heavy thunder shower at 11 A.M. overcast; fine.
Mean temperature of the week 8½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Aug. 1, 1863.

| July and Aug. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 26 .. | 73.4 | 51.0 | 62.2 | 18 | 1.22 in. | 2 | 1 | 4 | 2 | 5 | 13 | 7 | 4 |
| Mon. 27.. | 74.5 | 51.6 | 63.1 | 17 | 0.98 | 2 | 3 | 5 | 2 | 3 | 12 | 7 | 3 |
| Tues. 28.. | 76.0 | 51.7 | 63.8 | 19 | 1.39 | 2 | 2 | 3 | 3 | 1 | 11 | 11 | 4 |
| Wed. 29.. | 75.7 | 50.9 | 63.3 | 16 | 1.31 | 3 | 5 | 4 | 1 | 4 | 12 | 5 | 3 |
| Thurs. 30.. | 74.9 | 50.8 | 62.9 | 16 | 0.88 | 4 | 3 | 3 | 1 | 2 | 10 | 9 | 5 |
| Friday 31.. | 74.9 | 50.8 | 62.8 | 14 | 0.66 | 2 | 4 | 2 | — | 4 | 15 | 8 | 2 |
| Satur. 1.. | 76.1 | 50.9 | 63.5 | 17 | 1.23 | 1 | 3 | 6 | 2 | 3 | 13 | 8 | 1 |

The highest temperature during the above period occurred on the 26th, 1862—therm. 82 deg.; and the lowest on the 1st of August, 1863—therm. 36 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

ARAUCARIAS: *R.* We suspect that if you will remove the soil in which they are now growing and substitute good loam, your difficulty will vanish, unless, indeed, the ground is over drained.

BROCCOLI: *Messrs. Carter & Co.* Your Broccoli is excellent; it is good in colour, large, and compact.

CURRANTS: *Nieuwmolen.* The fruit has been very carefully compared; but it had been so long packed up in consequence of the mismanagement of some agent, that it was much injured. The Strawberries were ruined. Our reporter says that he was unable to discover any improvement on Knight's large red Currant.

EXHIBITION PLANTS: *W B.* We are of opinion that Musa Cavendishii is not a proper plant to exhibit in a collection of plants with ornamental foliage, and that the judges could rightly disqualify you for so doing.

GLOXINIAS: *W F.* Your Gloxinias are in precisely the same condition as those noticed June 27, 1863. The tissue is decomposed, but from what cause it is impossible to say. Are they kept too wet, or are the roots dead? *M. J. B.*

INSECTS: *P & Son.* Your insects came to hand quite smashed by the post, but we suppose the damage to the Willow stems is done by the weevil grubs, Cryptorhynchus Lapathi, of which you will find a long account in Loudon's Arboretum, p. 1479. Please send other specimens with portion of the stem, showing the burrows to Prof. Westwood, Oxford.—*J.* Your Fern stems were so smashed in the post, and soddened with moisture, as to destroy all trace of the insect. Can you send other specimens more carefully packed to the above address?—*W.* There were no insects on your Pear leaves, which are evidently attacked by the slimy larvæ of the Sawfly (Selandria Æthiops). Lime and gas tar water will certainly destroy them. *W.*

LILIUM AURATUM: *H. Savage.* Your letter is an advertisement.

NAMES OF PLANTS: *R W.* 1, Melia Azedarach; 2, Selliera repens; 3, some species of Lysimachia, but which the specimen sent does not enable us to determine; nor do you say from what country it comes, which might have rendered its identification practicable.

MOULDS: *T S.* The substance on your marble inkstand is complex. There are threads of some moulds, probably the common ink mould (Conferva atramenti, Dillw.) mixed with a white substance which is apparently sulphate of lime, the sulphuric acid being derived from the sulphate of iron used in making the ink. *M. J. B.*

TAYLOR'S BEEHIVES: *Ignoramus.* We understand that Messrs. Neighbour & Sons, of 127, High Holborn, sell Taylor's Beehives. They are, we believe, the only manufacturers of them.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
116, Fenchurch Street, E.C.

LAWES'S MANURES.
The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:—

| | Per Ton. |
|---|---|
| LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. | £6 6 |
| LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. | 5 5 |
| LAWES'S BARLEY, GRASS, and MANGEL MANURES | 8 0 |

These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.
Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

REIGATE SILVER SAND.—Best quality, 7s. 6d. per ton; packed, 16s. per ton; ditto 5s.; 4 cwt. put on the Rail at Reigate.
Best and second quality PEAT SOIL, LOAM, &c.
N.B. Loaded Trucks can be sent on all the principal Railways.
W. SHORT, Reigate, Surrey.

NORFOLK or SUFFOLK POLLED CATTLE are unsurpassed for Milking properties and for the quality of their Beef. Gentlemen wishing to purchase animals of this profitable and handsome breed can be supplied on application to
THOMAS FULCHER, Elmham, Thetford, Norfolk.

To Dairy Farmers.
THE GOVERNORS of EMANUEL HOSPITAL, WESTMINSTER, hereby give Notice that they will meet at Guildhall, London, E.C., on FRIDAY, the 31st July, inst., at 1 o'clock in the afternoon precisely, to receive Proposals and to CONTRACT for the supply of good pure MILK for the Children of the said Hospital for 12 months, the quantity required being about seven Gallons daily, to be delivered morning and afternoon.
Parties proposing are expected to attend. The Governors will not consider themselves bound to accept the lowest tender.
WM. BARBER, Clerk to the Governors

BURGESS AND KEY'S REAPING and MOWING MACHINES.
No. 1. McCORMICK'S NEW PATENT REAPING MACHINE delivers the Corn in Sheaves by self-acting Rake; price 34l.
No. 2. BURGESS AND KEY'S SCREW DELIVERY REAPER delivers the Corn in Swathe; price 36l.
No. 3. BURGESS AND KEY'S COMBINED REAPER and MOWER. The Corn is raked off this machine by a man; price 30l.
No. 4. BURGESS AND KEY'S MOWER for Natural and Artificial Grasses; price 25l.
All the above are STANDARD IMPLEMENTS, and as to their efficiency BURGESS & KEY refer intending purchasers to the list of Prizes received from various Agricultural Societies, and, with still more confidence, to the large number of Agriculturists who have them in use in all parts of the world.
Immediate Orders are requested to ensure timely delivery.
Full particulars and drawings forwarded on application to 95, Newgate Street, London, or Brentwood, Essex.

CLARKE'S PATENT ADJUSTIBLE SCYTHE is the strongest, lightest, most durable, and best cutting Scythe yet introduced. It is used in the Gardens of the Royal Horticultural Society at South Kensington, and has given great satisfaction to all who have tried it.
The following is from G. EYLES, Esq.
"Royal Horticultural Gardens, South Kensington, May 20, 1863.
"Sir,—I like your scythes very much.—Yours very truly,
"GEO. EYLES."
CLARKE & SON, Patentees and Manufacturers, Brackley, Northamptonshire.

Drainage, &c.
MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.
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THE BIRMINGHAM CATTLE and POULTRY SHOW, 1863.
The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held in Bingley Hall, on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3, when PRIZES (CUPS, or other Articles of Plate, and GOLD and SILVER MEDALS) to the amount of £1940, will be awarded in the following Divisions, viz.:—

| | £ | s. | d. |
|---|---|---|---|
| FAT CATTLE .. .. | 784 | 5 | 0 |
| FAT SHEEP .. .. | 275 | 15 | 0 |
| FAT PIGS .. .. .. | 60 | 5 | 0 |
| BREEDING PIGS .. | 76 | 10 | 0 |
| CORN and ROOTS .. | 68 | 5 | 0 |
| POULTRY and PIGEONS | 674 | 4 | 0 |

Prize Lists and every information may be obtained from the Secretary. JOHN B. LYTHALL, Secretary.
Offices: 13, Temple Street, Birmingham.

Grand Agricultural and Horticultural Show.
THE MANCHESTER and LIVERPOOL AGRICULTURAL SOCIETY'S MEETING will be held in the Park, Birkenhead, on SEPTEMBER 8, 9, and 10. An Exhibition of HORSES, HORNED CATTLE, SHEEP, PIGS, POULTRY, BUTTER, CHEESE, IMPLEMENTS, MACHINERY, HORTICULTURAL and AGRICULTURAL PRODUCE, for which Prizes amounting to upwards of 1400l. are offered. The Local Committee also offer 50l. for a MUSICAL BAND CONTEST. Entries to Close on August 10.
Prize Lists to be had on application to Mr. T. B. RYDER, Treasurer and Secretary to the Society, 57A, Church Street, Liverpool; or to Mr. W. HENDERSON, Honorary Local Secretary, 2, Market Cross, Birkenhead.
N.B.—Subscribers of not less than 20s. to the Local Fund, or parties becoming Members of the Society, and Subscribing not less than that amount, may enter their Stock free of charge.—2, Market Cross, July 25.

MANCHESTER and LIVERPOOL AGRICULTURAL SOCIETY.
GRAND SHOW at BIRKENHEAD (in the Park) on SEPTEMBER 8, 9, 10.
Prizes amounting to £1400.
ENTRIES CLOSE on August 10.
For Prize Lists, Regulations, &c., apply to Mr. WM. HENDERSON, Local Secretary, Birkenhead, or to T. B. RYDER, Secretary, 57A, Church Street, Liverpool.

# The Agricultural Gazette.

*SATURDAY, JULY* 25, 1863.

THE great meeting of the Royal Agricultural Society of England at Worcester has come and gone, probably with profit to the Society itself, and certainly with advantage to the large numbers who have witnessed it. Whether they have come for information or for business—whether the yard has been regarded as a museum or a mart—the purpose of the meeting has been fully served. The live stock of the country has been well represented; a better show of Short-horns and of Herefords has been rarely seen, and the sheep and Pig classes, and many of the horse classes, have been well filled. A wonderfully fine collection of farm machinery has been exhibited; several classes of machines have been subjected to a severe trial before assembled judges. The manufacturers of steam ploughing apparatus have had ample opportunity of exhibiting their machinery at work, and in no department of the business of the week has greater interest been taken. This subject was indeed sufficiently attractive to gather 500 gentlemen to the Guildhall, on Tuesday evening, for the discussion of a proposal by which it might be promoted. And the one instance in which a successful public meeting has been held about any special agricultural topic during the whole course of the annual agricultural meetings of the Society which we have attended has thus occurred in connection with steam cultivation. Nothing could be a more satisfactory proof of the great importance which is now attached to steam cultivation by agriculturists than the large meeting in the Guildhall, remaining crowded to the last, of which a short report is given elsewhere.

We understand that sufficient proof of this interest was also afforded by the numerous purchases of their apparatus, which most of the manufacturers have had to report. Certainly there is no place like a gathering of this sort for enabling a man to make up his mind on the subject. He witnesses the elaborate trials before official judges, and the unofficial but very efficient exhibition of the "tackle" at work; and he is throughout the week in an atmosphere of conversation, contributed to by manufacturers, their clients who have already many years' experience, and others who have been students of the subject for as many. He hears Mr. SAVIDGE, of Sarsden, report his Wheats, after steam cultivation by FOWLER's machinery, to be full of growth and still green, while those sown the same day after horse tillage, alongside, have ripened before their time. He learns that the valuation under the new Assessment Act has put up the Woolston farm 10s. an acre. He hears Mr. WILLIAMS, of Abingdon, speak of the effect of autumn steam tillage on his clays by

HOWARD's "tackle" in preparing land for the Bean crop, which though sown in spring under unfavourable circumstances, and at first less promising than fields close by under ordinary farm management, have outstripped them wonderfully at harvest time. He hears that Lord BROWNLOW having bought a second-hand set of SMITH's tackle for 160*l*., of which 25*l*. was for a wire rope, sold it again after two years' constant use, and obtained for it 157*l*., having spent 75*l*. in rope and repairs during the interval, so that the whole cost of wear and tear and rope and repairs was 39*l*. a year; not much more than 1*s*. an acre altogether of the work it had accomplished. He learns that a company has been formed since last November near Wakefield which has raised 1500*l*. in 1*l*. shares, purchased a set of FOWLER's double engine tackle, worked since December last, earned 310*l*. and spent 204*l*. in the spring half-year. If the autumn half should enable it to add 150*l*. to its profits that will enable it to lay by a sufficient sum for the reproduction of the apparatus, and leave enough for a handsome dividend.

Of course those interested in steam cultivation benefit at these meetings also by the warnings which they hear of breakages and disaster of various kinds which will modify and temper the tendencies of sanguine men; so that in both ways these public gatherings are a great service to agriculture and to agriculturists.

It is to be regretted that the full advantage of the meeting at Worcester in the early part of the week was not realised, owing to the weather. The previous week for official trials of the machinery was fine, and the Monday set apart for the official examination of the live stock was also beautiful. Tuesday afternoon was pouring rain. Wednesday afternoon was damp. Under these circumstances it is not to be wondered at that the attendance on those days has been less than usual. The following are the figures up till Thursday:—

| | VISITORS | AT | RECEIPTS. |
|---|---|---|---|
| Monday .. .. | 809 .. | 10*s*. 0*d*. .. | £404 19 6 |
| Tuesday .. .. | 7685 .. | 2*s*. 6*d*. .. | 960 12 6 |
| Wednesday .. .. | 9296 .. | 2*s*. 6*d*. .. | 1162 0 0 |

On Thursday the weather was delightful, and immense crowds poured into the yards; amongst whom we were glad to see a very large proportion of agricultural labourers. Nothing could be gayer or more beautiful, both by Art and Nature, than the scene of this year's gathering. The show yard, commanded by land above it, does itself command a finely wooded rolling country, with the blue range of the Malvern hills behind it. And the city is decked out in many-coloured flags for the reception of its visitors, who are welcomed by the joy-bells of the churches, and by the legends on many most effective and artistically designed and gaily decorated arches spanning the principal streets.

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THE magnificent International Agricultural Show at Hamburgh last week was a great success. The death of Baron VON MERK who first conceived the design and helped to carry it out, checked the *éclat* with which its numerous visitors would have been received, but in no degree diminished the energy with which the plans to which he had contributed were carried out. Some 500 horses, nearly 1000 cattle, and 1800 sheep together, made a collection to which, for quantity, we have hitherto in England made no approach. The highest quality, however, of course in our own estimation, but also, as evidenced by the prices reached, in that of foreign judges also, lay with the English exhibitors.

The Horse show was particularly good; that of cattle also in many of its classes was good, and in all interesting. The sheep show contained a great deal of what was useless to English farmers.

Steam cultivation excited great interest, FOWLER's apparatus taking the 1st prize, and HOWARD's the 2d. Gold medals were awarded to CLAYTON & SHUTTLEWORTH, RANSOMES, HOWARDS, HORNSBY, GARRETTS, and BARRETT & EXALL; and silver medals to a number of other English exhibitors of machinery. The traction engines shown by AVELING, RICHARDSON, BURRELL, and others, excited a good deal of interest, as also did the reaping machine. Mr. MCCORMICK takes an honorary gold medal, and silver medals are awarded to BURGESS & KEY, SAMUELSON, BAMLETT, KEMP, BRIGHAM, and WOOD.

The prizes in the Horse classes include first prizes to Messrs. CRISP, of Butleigh, and HOLMES, of Beverley, for mares breeding roadsters. Two first prizes to Sir C. PHIPPS (the Prince Consort's Shaw Farm), for Clydesdale stallions and mares; 1st prizes to Mr. CRISP for old Short-horn bulls, and to Mr. MERTENS for FIRST FRUITS, the Gold Medal yearling at Battersea.

All the prizes for Southdown sheep to Lord WALSINGHAM.

Mr. HUMFREY, of Wantage, takes prizes in the Short-woolled classes; and Mr. HANDY, of Gloucestershire, Mr. CLARKE, of Long Sutton, and Mr. GIBSON, of Woolmet, take prizes in the Long-wools.

The weather, which had been fine during the early part of the week, was extremely wet on Friday and Saturday. The meeting has been extremely successful in respect of the large sales made by exhibitors.

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OUR advertising columns have announced the bazaar which is to be held at Tiptree on Thursday and Friday of next week, in behalf of schools about to be erected there. We have received the following letter from Mr. Alderman MECHI, intimating that his farm is on those days open to public inspection:—

"I trust that such of my brother agriculturists as can come, will visit my farm on the 30th and 31st inst. While their ladies are entertained at the bazaar, they can pry into my doings and form an opinion whether the farm 'looks like paying' for drainage and deep cultivation, sewage, irrigation, and other improvement."

## STEAM CULTIVATION.

A PUBLIC meeting was called on Tuesday at Worcester to consider the best means of promoting steam cultivation. And the large room at the Guildhall was filled by a very influential and numerous body of tenant farmers. Mr. J. C. Morton was called to the Chair, and stated the purpose of the assemblage.

The first resolution—"That the cultivation of the land by steam is now proved to be an advantageous and highly economical process, and that the machinery used for this purpose is of a character sufficiently perfect to be recommended for the use of practical farmers," was proposed by Mr. J. A. Clarke, who dealt especially with the fact, that steam cultivation is now a success, that no great step in advance need now be looked for—and that therefore it is needless and foolish to delay any longer adopting one or other of the methods of cultivation for which the apparatus of the various manufacturers is provided. Mr. Clarke also referred to the undoubted success, advantage, and economy of steam cultivation on numbers of farms in the country. The resolution was seconded by Mr. Clare Sewell Read, who referred to the results of his examination as judge of steam cultivation into the subject, in proof of the cheapness and excellence of the process. Mr. Ruck, of Cricklade, also related his experience on the subject. The motion was put to the meeting and carried unanimously.

The second resolution—"That the one great obstacle to the progress of steam culture is the inability of the generality of tenant farmers to purchase the expensive machinery now used to break up and prepare the soil," was proposed by Mr. Williams, of Baydon; seconded by Mr. Dring, of Claxby; supported by Mr. Williams, of North Court, Abingdon, and by Mr. Duckham, of Baysham Court, near Ross; and put to the meeting by the chairman, who called attention to the fact that neither Mr. Williams, a client of Fowler, nor Mr. Dring, a client of Smith's, nor Mr. Williams, of Abingdon, a client of Howard's, referred to the faults of the several systems, or to the difficulties or costs or risks respectively; but to the expensiveness of the apparatus as "the one great obstacle." The resolution was adopted unanimously.

The third resolution:—"That considerable advantage would arise to tenant farmers and others by the establishment of a joint stock company, for the purpose of supplying steam apparatus to applicants, allowing them to repay the cost price by instalments extending over a certain number of years; and for the purpose of working for hire wherever suitable districts may be guaranteed"—was ably moved by Mr. Bailey Denton, who referred to his experience as a land-drainer, in illustration of the value of steam cultivation, and to his experience in connection with the advance of money for that purpose, and its repayment by instalments, as throwing light upon the plan here proposed for facilitating the promotion of steam cultivation. The difficulty would be in giving adequate security to the company, the lender of the money; and Mr. Denton suggested that the landowners might come forward to the assistance of tenants. Mr. Hatfield of Stamford seconded the motion, and it was supported by a gentleman from Yorkshire, who related the encouraging experience of the Wakefield Steam Cultivation Company, as proving both the advantage to the tenant farmer, and the profitableness of the operations to the company.

Mr. Howard Reed, the representative of the proposed Steam Plough Company then addressed a few words to the meeting on the large scope for its operations which existed not only in this country but on the continent—and Mr. Morton, before putting the resolution, which was carried unanimously, called the attention of the meeting to the resolutions *seriatim*, which had been adopted, referring to matters within his own knowledge bearing on each, and declaring that he was present merely as a promoter of steam cultivation generally, and not in any sense or degree as a promoter of the proposed company, in which he had no personal interest whatever, but which nevertheless he believed likely to be of great use to English agriculturists.

Mr. Williams, of Baydon, then referred at some length, and with considerable indignation, to an obstacle which at the instance of a noble lord had been placed in the way of steam cultivation by an order from the Secretary of State to the Petty Session district of Salisbury, forbidding the travelling of steam tackle on the high road during daylight. A vote of thanks to the chairman concluded the meeting.

## GREAT AGRICULTURAL MEETING AT WORCESTER.

OUR reference last week to the preliminary trials of implements before the judges of the English Agricultural Society, alluded almost exclusively to the work of the steam ploughs and cultivators. This Journal has been so full latterly of reports and discussions on this subject that our readers will hardly expect us to fill the small space at our command, as might easily be done, with a further argument based on the facts determined at this meeting. We understand that in all the cases examined, the cost of the operation (made up of wages, fuel, probable repairs, and interest of money), was less than horses would have incurred; coming to about 5*s*. an acre on the comparatively light land cultivation of Wednesday and Thursday, and to 9*s*. or 10*s*. on the heavy work of Friday and Saturday.

The work of these two days, near the Wadborough station on the Midland Railway was a great test both of the power and of the efficacy of the machinery employed. Friday's field, very stiff below and lighter above, was worked by Fowler's cultivator with digging breasts, by Stevens's cultivator, by Howard's in two places (one drawn by his own 10-horse power engine and windlass, and another drawn by Savory's 10 horse power engines). Smith and Coleman also did good work, but the latter ultimately gave way. All the other tools did good work. It was, however, in another field of exceedingly heavy land covered with a Grassy sward that the machines were put to the most extraordinary test of their power.

Here Fowler distanced all competition and astonished the spectators with the way in which with his apparatus, furnished as a 3-furrowed digger, he tossed about the great masses of earth 8 and 10, and even 12 inches thick, which it tore and cut from the land. Neither Howard nor Smith were equal to a task of this kind; but this, though good and useful as a test of the capabilities of the machinery, was not a process to which such land would have been subjected by a farmer wishing to break it up.

Elsewhere, however, wherever the land was fairly level it appeared to us that Fowler's apparatus has the advantage of its competitors. And this it owes not more to its mode of applying power than to the excellence of the machine which it works. There was nothing in any of the fields that we saw to equal the operation of the cultivator with digging breasts in the first field that was entered. And though Mr. Smith, of Woolston, informs us that he has commissioned five or six separate farmers to go to these fields and name the plots in the order of their merit, and that they have unanimously and invariably declared his own to be the best—yet so far as Fowler's digger is concerned, we believe its work has not been approached by any of the rival machines; while his ordinary cultivator on level ground is as good as can be desired. When it crosses ridge and furrow it does not make good work, but the operation of steam cultivation will make ridge and furrow unnecessary. Mr. Smith's grubber beat all competition on the uneven surface, and it is this which has placed him second in the estimation of the Society's judges. Mr. Howard's tool and apparatus did very good work in the first field and in the third. In the second also it did fair work wherever the land was level. The extremely heavy and uneven land of Saturday was too much for it. When shown at work on Tuesday and Wednesday its grubbing and ploughing were capitally done. Mr. Coleman's apparatus, too, was shown successfully at work on these days. Smith did some thoroughly good grubbing, as good as any that we saw of extremely foul land; and Fowler showed both his smaller set of 10-horse power tackle at work, and his double engine system of cultivating land, where each coils the rope *alternately* in a very ingenious way underneath the boiler as the plough or grubber is drawn to and fro between them.

We have to congratulate Messrs. Savory, of Gloucester, on having won so large a share of the award for the best method of cultivating land by steam. Their double engine, carrying drums revolving around their boilers, were employed to drag Fowler's, Howard's, and Williams's tools in turn, and did capital work.

Williams's large cultivator made very good work, and his enormously heavy harrow and roller followed it, and the land was then ridged up, all by steam-power.

Dr. Agur's revolving cultivator was also shown at

work in the field, but the land was neither loose enough nor clean enough for its efficient operation.

Taking the excellent trials before the Society's judges into account, and also we must say the proof which both Savory and Fowler have given of the efficiency and quickness of the double engine way of applying steam power to the process, there can be no doubt that the Worcester meeting has contributed to the confirmation of the success of steam cultivation.

The other classes of machines, steam-engines, threshing-machines, winnowers, &c., subjected to examination, are precisely those which can be most accurately tested by judges, and the results which the prize list gives are therefore the more trustworthy and useful. Great care was taken to ascertain the power given off by the competing steam engines, each being supplied with steam of a certain pressure—the result is seen in the awards. The power used in threshing and other machinery was also carefully measured; but the figures which express it are the less interesting because many other circumstances, and especially the quality of the work, guided the decisions of the judges. Those decisions are given below.

The implement yard is both enormous and full. We understand that whereas 1400 railway trucks brought the Show to Leeds, nearly 2000 have been required for its transport to Worcester. There are few novelties, and these with the rest of the machinery generally must be described next week. Grant's portable field railway, Freer's seed planter; Child's new chaff-cutter, which claims to give what is called a drawing cut to the straw, whereas all cuts are more or less *drawing*—and in this the knife is as nearly as possible parallel to itself while at work, thus acting by a chop as perfectly as a guillotine cutter does. All this must be referred to in detail hereafter.

We can only add at present that among the 380 stands, the majority of which of course are filled with agricultural implements and domestic apparatus of various kinds, the seed trade is fully represented by Messrs. Carter, Chivas, Thomas Gibbs & Co., Raynbird, Smith, Sutton, and Wheeler.

The stands of Messrs. Gibbs, Sutton, and Carter are the most striking and perfectly furnished. Mr. Smith, of Worcester, exhibits large specimens of Coniferous trees, Greenhouse plants, and Roses. Mr. Sutton has not before exhibited at the annual meetings of the Society. No prizes of any kind are awarded here, but he informs us of his success at the recent Danish agricultural meeting, when silver medals were awarded to himself, Mr. Hallett, and other exhibitors of plants.

## THE CATTLE YARD

was opened on Monday to members free, and to others on payment of 10*s.*, while the adjudication of the prizes was going on, and a considerable number of spectators soon surrounded the rings into which one class after another was introduced and ranged in the order of merit. It was a beautiful day, and there was very great enjoyment, as well as instruction, in the examination of the several well represented classes of cattle, horses, sheep, and pigs, as well as in witnessing their examination by the Society's judges. Of course the yard is not so wonderfully filled as that of last year at Battersea. We miss the fine collection of foreign cattle, as well as the extraordinary exhibition of Scottish breeds of cattle and sheep. There is, however, a remarkably fine show of Short-horns and of Herefords; and the various kinds of sheep and pigs are also well represented. To the Horse Classes reference is made below:—

### SHORT-HORNS.

13 bulls competed for three prizes in the first class, the prizes going to Mr. Jacob Wilson, of Woodhorn, Morpeth, for a very grand and massive animal, heavier and deeper however a good deal in the forequarter than behind, where he is rather light. He is descended from Farnley blood, and farther back from blood to which Booth resorted with his most successful results. Lady Pigot, Lord Feversham, Messrs. Dudding, and other well known competitors were among the exhibitors. The second prize goes to Mr. Charlesworth, of Dewsbury, for GENERAL MURAT. The third to Mr. Brawn, of Sheffield. The class contains a dozen animals. Lord Feversham is highly commended for a very fine and massive roan descended from 5th DUKE OF OXFORD, USURER, &c. It is an illustration of one main purpose of these shows, that in this and other classes, a large proportion of the animals are headed "for sale."

Class 2 is a numerous and very fine collection of younger Bulls—the prizes were taken by Viscount Hill, Mr. J. Peel, and Colonel Towneley, 1st, 2nd, and 3rd respectively; and here, too, many of the entries are for sale. Viscount Hill's bull is a straight, well-made roan of capital quality of flesh. Sir A. Rothschild who has been very successful at this meeting, shows a fine red bull, deep, and well made everywhere, perhaps hardly so wide as a first rate short-horn ought to be, but exceedingly well covered on a very symmetrical frame nevertheless—"a brick in elevation, a cylinder in section."

Class 3. The Yearling Bulls are a very numerous class, as many as the other two together, and the competition is very close. Mr. Eastwood is 1st, Colonel Towneley 2d, and Mr. Woodward, of Tewkesbury, 3d; beating animals shown by many well-known 1st class breeders, as Lady Pigot who, though unsuccessful here, has ample reason to be satisfied with the standing of her stock in the yard; also Messrs. Peel, Langston, Pawlett, Fawkes, Garne, Bradburn, Robinson, Holland, Pennant, &c. Lady Pigot's is a remarkably well made roan of pure Booth blood; Mr. Langston's, an equally fine red bull of mixed Bates and Booth. The prize bull shown by Mr. Eastwood is white, reminding one in other respects, as well as colour, of the gold medal bull at Battersea last year. Mr. Woodward's bull, 10 months older, is a much larger roan animal, of great width both fore and aft, straight and even back, and well arched rib. The second prize, going to Colonel Towneley, is won by a very recognisable BUTTERFLY, light roan, very level and even—back straight and level as a table—or rather as the flooring of a church, nave and transept both laid out as square and true, and accurately proportioned as could be desired.

Class 4, Bull Calves are another very large and capital class. About three dozen animals were brought into the ring, and a very beautiful show they formed of themselves, but puzzling and pleasing the judges and spectators for a great length of time. Sir A. de Rothschild, Mr. Garne, and Mr. Robinson, of Clifton Pastures, are respectfully 1st, 2d, and 3d, for red, white, and roan yearlings respectively. The whole class is a wonderful illustration of the precocity of the breed; animals 9 and 10 months old, larger than full-grown Devons, make one ask with astonishment what good purpose is served by offering as many and as large prizes for the small local breed as for this, the dominant and prevalent breed of the whole world where either beef or milk is desired? The prize bull is smaller than many of his competitors of the same age.

We now come to the female classes. The old class comprises four cows. Lady Pigot takes the 1st prize with *Pride of Southwicke*, shown, and successful, at Exeter; and Mr. J. Lane the 2d, with *Maid of Athens*. The 1st prize cow is a large, straight, strawberry roan, very evenly covered; the 2d prize is white, massive, heavy, more patchy.

The Heifer class is one of remarkable beauty. Lady Pigot is again successful with one of the finest animals in the yard, as true and cylindrical a barrel as was ever carried on four legs; beautifully fine head, and, indeed good everywhere. Mr. Booth is 2d, with a short-legged, sturdy, large-boned, deep-bodied, well-made roan; and the 3d prize goes to one of Colonel Towneley's Butterflies, a red and white cow. This is a very beautiful class, and gave great enjoyment to many spectators. Mr. Butler's (Badminton) roan heifer was most deservedly highly commended.

The Yearling Heifer class is another very large and important class of great beauty. The Duke of Montrose is 1st, Colonel Towneley 2d, and Lady Pigot 3d—all of them roans. Colonel Towneley is also highly commended for a roan yearling descended from the same bull as Mr. Wilson's prize animal in the old bull class.

The Heifer Calves are a very large class, including a score of very beautiful animals. The first prize goes to Mr. Mackintosh, of Romford, for a wonderfully fine specimen of the Short-born breed—bred by Mr. Mackintosh from one of the imported American bulls out of *Lady Oxford 5th*; both Booth and Bates contributing to her pedigree, the former, however, in small proportion. She is very fine in the hind quarters and flank, and thick and deep throughout; a very fine bosom, beautiful head, well arched rib, and covered with capital hair. The 2d prize goes to a red calf shown by Mr. Oliver, of Towcester; the 3d to Col. Towneley, for a red and white of the Butterfly tribe. These are the successful ones of a class in which there is unusual competition—many first-rate herds—those of Garne, Fletcher, Towneley, Pennant, and many others contributing to the class.

The following is the list of the awards:—

### SHORT-HORNED.

Class 1. To the owner of the best Bull, above 3 and not exceeding 6 years.—25*l.*, to Jacob Wilson, of Manor House, Woodhorn, Morpeth; 15*l.*, to John Charlesworth, of Headfield, Dewsbury, Yorkshire; Silver Medal, to John Brawn, of Sheffield, Walsall, Staffordshire. Highly Commended: Lord Feversham, of Duncombe Park. Commended: Joseph Bickford, of Oxley, Wolverhampton; the Earl of Zetland, of Aske, Richmond.

Class 2. To the owner of the best Bull, above 2 and not exceeding 3 years old.—25*l.*, to Viscount Hill, of Hawkstone; 15*l.*, to Jonathan Peel, of Knowlmere Manor, Clitheroe; Silver Medal, to Colonel Charles Towneley, Burnley. Highly Commended: Sir Anthony de Rothschild, Bart., of Aston Clinton, Tring. Commended: Richard Stratton, of Walls Court, Bristol; George Jones, of Whitley Court, Upton St. Leonards, Gloucester.

Class 3. To the owner of the best Bull, above 1 and not exceeding 2 years old.—25*l.*, to Richard Eastwood, of Thorney Holme, Clitheroe; 15*l.*, to Colonel Charles Townely; Silver Medal, to William Woodward, of Northway House, Ashchurch, Tewkesbury. Highly Commended: the Hon. Colonel E. G. D. Pennant, M.P., Bangor.

Class 4. To the owner of the best Bull Calf, above 6 and not exceeding 12 months old.—10*l.*, to Sir Anthony de Rothschild, Bart.; 5*l.*, to George Garne, of Churchill Heath, Chipping Norton; Silver Medal, Joseph Robinson, of Clifton Pastures, Newport Pagnell. Highly Commended: Sir Anthony de Rothschild, Bart. Commended: Robert E. Oliver, of Sholebrooke Lodge, Towcester; John R. Middlebrough, of South Milford, Yorkshire.

Class 5. To the owner of the best Cow, above 3 years old.—20*l.*, to Emily Lady Pigot, of Branches Park, Newmarket; 10*l.*, to John Lane, of Barton Mills, Cirencester. Highly Commended: Earl Spencer, of Althorpe.

Class 6. To the owner of the best Heifer, in milk or in calf, not exceeding 3 years old.—15*l.*, to Emily Lady Pigot; 10*l.*, to Richard Booth, of Warlaby; Silver Medal, to Colonel Charles Towneley. Highly Commended: Colonel Charles Towneley; William Butler, of Badminton, Chippenham; Richard Taylor, of Manor Farm, Kingham, Chipping Norton; Edward Bowly, of Siddington House, Cirencester; John Lane, of Barton Mills, Cirencester.

Class 7. To the owner of the best Yearling Heifer.—15*l.*, to the Duke of Montrose, of Buchanan Castle, Glasgow; 10*l.*, to Colonel Charles Towneley; Silver Medal, to Emily Lady Pigot. Highly Commended: Colonel Charles Towneley. Commended: Joseph Noble Beasley, of Brampton, Northampton; John Hull, of Wharton Bank, Kirkham; John R. Middlebrough, of South Milford.

Class 8. To the owner of the best Heifer-Calf, above 6 and under 12 months old.—10*l.*, to David M'Intosh, of Havering Park, Romford, Essex; 5*l.*, to Robert E. Oliver, of Sholebroke Lodge, Towcester; Silver Medal, to Colonel Charles Towneley. Highly Commended: Joseph Hegan, of Dawpool, Neston, Chester. Commended: Charles Howard, of Biddenham, Bedford; the Hon. Colonel E. G. D. Pennant, M.P.

### HEREFORDS.

These, as might be expected from the locality of the meeting, are a very good show. Herefordshire men are as enthusiastic and energetic as those of any other county; and the best animals of the best herds are of course sent in competition for the Society's prizes wherever the meeting is held—but when near their native county the breed is, as might have been expected, represented in greater force. And a very capital show of a first-rate sort of stock every spectator will allow them to be, carrying a great weight of beef at a very early age.

The Old Bull Class includes only five animals, the 1st and 2d prize going to descendants of SIR BENJAMIN, and both of them are bred by Mr. Rea, of Westonbury. The 2d prize animal is the more evenly covered, but the 1st prize is of greater length and size, and Hereford men acquiesce in the decision of the judges. Mr. Arkwright, of Hampton Court, takes the 1st prize, and Mr. Davies, of Lady Meadow, the 2d.

In the class of younger Bulls 10 animals were shown, and here again the effects of descent are seen, the 1st and 2d prizes going to descendants of Lord Bateman's bull CARLISLE. Messrs. Taylor and Morris, near Sudbury, were respectively 1st and 2d. The 3d prize goes to Mr. Evans, near Dilwyn. The whole class is excellent.

Fifteen Yearling Bulls are shown. Mr. Edwards, of Leominster, 1st; Mr. Baldwyn, of Luddington, who was 1st at Battersea with the same animal, is 2d here; and Mr. Turner, of Aston-on-Clun, 3d.

The Bull Calves are another large class. The 1st prize goes to Mr. Roberts, of Ivington Bury, a well-known breeder, for a very deep, thick, well covered animal, remarkably wide and deep in front, and possessing good rib and flank. The 2d prize is taken by Mr. Capper, of St. Weonard's, Ross, descended from the herd of Lord Berwick, whose name stands in as distinguished a relation to the breed as that of the late Earl Ducie does to the Short-horns. Among the class is a white calf shown by Mr. Knight, of Downton Park, grandson of the late Mr. Knight, who was known in Herefordshire as a breeder of good stock, as he was everywhere else for his distinguished services to horticulture.

The female class of Herefords are very numerous and good. The 1st and 2d on the list, undecorated however by prizes, are own sisters, shown by Mr. Capper and Mr. Baldwin respectively, *Agnes* and *Ada*, daughters of *Silver* by ATTINGHAM, and both bred by the late Lord Berwick. *Silver* was purchased we understand of a grazier in open market. From her have descended first class stock, now in the hands of many of the best names in the list of Herefordshire breeders. Her granddaughter, out of one of the cows shown by Major-General Hood, from the Prince Consort's Norfolk farm, was first in her class at Battersea, and is again shown here, and there are others in the yard of her family. The 1st prize in the class goes to Mr. Perry, of Cholstrey, for a cow which was first in the yearling class at Leeds two years ago. She is now a deep, round-barrelled, heavy cow, with very fine flank, too fat, and getting rather patchy on the rump. The 2d prize goes to Mr. Rea, and the 3d to Mr. Duckham, of Baysham Court, Ross, the editor of the Hereford Herd-book, for a cow which though 9 years old, is remarkably evenly covered, and shows very fine quality throughout. The heifer class is well filled; Mr. Tudge, of Adforton, takes the 1st prize; Mr. Pitt, of Dilwyn, 2d; Major Gen. Hood is highly commended, and Mr. Williams, of Leominster, is commended. Now, Mr. Williams's heifer, it is said, must have been first, but the jury declared it to be too fat. Whereas an ordinary spectator cannot see but that the animals to which the prize is awarded are as fat as the heifer which has been disqualified. *Adela*, a daughter of *Agnes*, and granddaughter of *Silver*, shown at Battersea and at Leeds, was then first in her respective classes. She does not now take a prize, owing probably to a little patchiness on the back, which was just beginning to show itself a year ago. The whole class is very fine, but many members of it are excessively fat.

We come now to Yearling Heifers almost as large, many of them as the 2-year olds. The 1st and 3d prize heifers at Battersea are shown here, but altogether passed over by the judges. Mr. Monkhouse of the Stow, Hereford, takes the 1st prize with a heifer, which was commended at Battersea, a very fine dark red heifer just beginning to show signs of patchiness, which will probably develop further. Mr. Read, of Elkston, shows a long and well-made evenly-covered heifer of fine quality; second at Battersea, not successful here. Mr. Roberts, of Ivington Bury, is

2d, with a very deep well-ribbed over-fattened heifer—but a first-rate specimen of the breed; and the 3d prize goes to Mr. Perry, of Cholstrey, for a pretty little heifer.

The Calf class is rather short. Mr. Roberts, of Leominster is 1st, and Mr. Turner, of the Leen, Pembridge, is 2d. Mr. Knight shows two pretty grey or roan Herefords, with Short-horn coats.

We hear complaints from Hereford breeders that the Journal of the English Agricultural Society does not publish the commendations of the judges, though these to those who are honoured with them are as valuable as prizes. Let us not fall into the same error by omitting to mention that Mr. Perry, of St. Oswald, is commended for a very pretty little Hereford heifer in this class. The following is the list of the awards of the judges:—

HEREFORD.

Class 9. To the owner of the best Bull, above 3 and not exceeding 6 years old.—25*l.*, to John Hungerford Arkwright, of Hampton Court, Leominster; 15*l.*, to Thomas Davies, of Lady Meadow, Leominster. Commended: Lord Bateman, of Shobden Court.

Class 10. To the owner of the best Bull, above 2 and not exceeding three years old.—25*l.*, to William Taylor, of Showle Court, Ledbury; 15*l.*, to William Cooke Morris, of Whitwick, Ledbury; Silver Medal, to Henry Rawlins Evans, junior, of Swanston Court, Dilwyn, Leominster. Highly Commended: John Albert Hollings, of How Caple, Ross. Class generally commended.

Class 11. To the owner of the best Bull, above 1 and not exceeding 2 years old.—25*l.*, to Thomas Edwards, of Wintercroft, Leominster; 15*l.*, to John Baldwin, of Luddington, Stratford-on-Avon; Silver Medal, to Edward Tanner, junior, of Hopton Castle, Aston-on-Clun, Salop. Commended: George Pitt, of Chadnor Court, Dilwyn, Leominster.

Class 12. To the owner of the best Bull-Calf, above 6 and not exceeding 12 months old.—10*l.*, to Thomas Roberts, of Ivington Bury, Leominster; 5*l.*, to R. Harcourt Capper, of the Northgate, St. Weonard's, Ross; Silver Medal, to Edmund Wright, of Halston Hall, Oswestry. Highly Commended: Edmund Wright.

Class 13. To the owner of the best Cow, above 3 years old.—20*l.*, to William Perry, of Cholstrey, Leominster; 10*l.*, to Thomas Rea, of Westonbury, Pembridge; Silver Medal, to Thomas Duckham, of Baysham Court, Ross. Highly Commended: Philip Turner, of The Leen, Pembridge. Commended: Robert Leyshon, of Island Farm, Bridgend; George Pitt, of Chadnor Court, Dilwyn, Leominster.

Class 14. To the owner of the best Heifer, in-milk or in-calf, not exceeding 3 years old.—15*l.*, to William Tudge, of Adforton, Leintwardine; 10*l.*, to George Pitt, of Chadnor Court. Highly Commended: Major-General the Hon. A. Nelson Hood. Commended: Thomas Thomas, of St. Hilary, Cowbridge; John Williams, of St. Mary's, Kingsland, Leominster.

Class 15. To the owner of the best Yearling Heifer.—15*l.*, to John Monkhouse, of the Stow, Hereford; 10*l.*, to Thomas Roberts, of Ivington Bury: Silver Medal, to William Perry, of St. Oswald, Cholstrey. Highly Commended: the Hon. Thomas Henry Noel Hill, of Berrington.

Class 16. To the owner of the best Heifer-Calf, above 6 and under 12 months old.—10*l.*, to Thomas Roberts, of Ivington Bury: 5*l.*, to A. J. Rouse Boughton Knight, of Downton Castle, Ludlow. Commended: William Perry, Leominster.

DEVONS.

The classes of Devon cattle are, as might be expected at such a distance from home, but scantily filled. One is surprised, after the massive and noble proportions of the Hereford and Short-horn stock, to come upon the dainty little breed to which as great importance is given by the prize list of the Society. The first prize old bull belongs to Mr. Newbury, of Honiton; the second to Mr. Farthing; the judges have thus distinguished the two largest animals in the class. Mr. Surman, of Cheltenham, and Mr. Merson, of North Molton, contributes the two younger bulls in this class, and stand 1st and 2d respectively.

Among Yearling Bulls, a larger class, Major-General Hood, of the Prince Consort's Norfolk and Flemish Farms, takes the 1st prize with PRINCE ALFRED, a son of COLONEL, a well-known bull in the Prince Consort's herd. Mr. Azariah Smith, of Dorchester, takes the 2d; Mr. Perkins is commended. A good yearling bull shown by Mr. Taylor, of Harptree Court, was passed over, owing to its illness. They are very symmetrical, straight-backed, well-ribbed, beautiful animals, these Devons; but their small size is against their becoming more than a merely local breed.

Half a dozen pretty little Calves stand in the fourth class, Mr. Turner, of Exeter, taking the 1st prize, and a commendation, and Mr. Farthing, the 2d prize. Mr. Buller, M.P., is commended.

In the Cow Classes Mr. Azariah Smith, already named, is 1st, Mr. Farthing 2d, and Major-General the Hon. A. N. Hood is highly commended; a cow shown with her calf, by Mr. Smith, is highly commended—a distinction which she deserves by her unusual size and quality.

The Heifer Class includes 6 very beautiful animals; the awards will be found below.

The Yearling Heifer class is a very fine one, though short, containing animals of unusual size for the breed. They are all as well fed as they can be. Mr. Buller and Mr. Turner are 1st and 2d.

The beautiful calf class contains half a dozen specimens, Major-General Hood taking the 1st, with another daughter of COLONEL'S; and the 2d prize goes to Mr. Turner.

The following is the award:—

DEVON.

Class 17. To the owner of the best Bull, above 3 and not exceeding 6 years old.—25*l.*, to Samuel P. Newbery, of Scruel Barton, Honiton, Devon; 15*l.*, to Walter Farthing, of Stowey Court, Bridgwater.

Class 18. To the owner of the best Bull, above 2 and not exceeding 3 years old.—25*l.*, to J. S. Surman, of Swindon Hall, Cheltenham; 15*l.*, to James Merson, of Brinsworthy, North Molton. (Only two exhibited.)

Class 19. To the owner of the best Bull, above one and not exceeding two years old.—25*l.*, to Major-General the Hon A. Nelson Hood, of Cumberland Lodge, Windsor; 15*l.*, to John Azariah Smith, of Bradford Peverell, Dorchester, Dorset. Commended: Charles Frederick Perkins, of the Grange, Kington.

Class 20. To the owner of the best Bull-Calf, above 6 and not exceeding 12 months old.—10*l.*, to George Turner, of Beacon Downes, Exeter; 5*l.*, to Walter Farthing, of Stowey Court. Commended: James Wentworth Buller, M.P., of Downes, Crediton; George Turner, of Beacon Downes.

Class 21. To the owner of the best Cow, above 3 years old.—20*l.*, to John Azariah Smith, of Bradford Peverell; 10*l.*, to Walter Farthing. Highly commended: Major-General the Hon. A. Nelson Hood; John Azariah Smith, of Bradford Peverell; Major-General the Hon. A. Nelson Hood; George Turner, of Beacon Downes. Commended: John Azariah Smith. (The class generally commended.)

Class 22. To the owner of the best Heifer, in milk or in calf, not exceeding 3 years old.—15*l.*, to Charles Hambro, of Milton Abbey, Blandford; 10*l.*, to Walter Farthing, of Stowey Court. Commended: Charles Frederick Perkins, of The Grange, Kingston, Taunton.

Class 23.—To the owner of the best Yearling Heifer—15*l.*, to James Wentworth Buller, M.P.; 10*l.*, to George Turner, of Beacon Downes. Commended: Edward Pope, of Great Toller, Maiden Newton; James John Farquharson, of Langton House, Blandford.

Class 24. To the owner of the best Heifer-Calf, above 6 and under 12 months old.—10*l.*, to Major-General the Hon. A. Nelson Hood; 5*l.*, to George Turner, of Beacon Downes. Highly commended: Major General the Hon. A. Nelson Hood; James John Farquharson, of Langton House.

SUSSEX.

The Sussex breed is represented in greater size, though also greater coarseness distinguish them from the Devons.

The Old Bull class contains four large and heavy animals. The Young Bull class is represented by only one. Four cows, one heifer, and three yearling heifers are exhibited.

SUSSEX.

Class 25. To the owner of the best Bull, above 2 and not exceeding 6 years old—10*l.*, to William Marshall, of Bolney Place, Cuckfield; 5*l.*, to John and Alfred Heasman, of Angmering. Commended: Edward Cane, of Berwick Court, Lewes.

Class 26. To the owner of the best Bull, above 1 and not exceeding 2 years old.—10*l.*, to John and Alfred Heasman, of Angmering. (Second prize—no entry.)

Class 27. To the owner of the best Cow, above 3 years old.—10*l.*, to Tilden Smith, of Knell, Beckley, Staplehurst; 5*l.*, to John and Alfred Heasman, of Angmering. Highly commended: Edward Cane, of Berwick Court. Commended: Tilden Smith, of Knell, Beckley.

Class 28. To the owner of the best Heifer, in-milk or in-calf, not exceeding 3 years old.—10*l.*, to John and Alfred Heasman, of Angmering, Arundel, Sussex. (Second prize, no entry.)

Class 29. To the owner of the best Yearling Heifer.—10*l.*, to John and Alfred Heasman; 5*l.*, to George Jenner, of Parsonage House, Udimore, Rye.

OTHER BREEDS.

In the remaining of the cattle classes breeds are mingled up together, and thus we have Mr. Baker's little Breton Cows, the large Welsh, the Long-horned and Norfolk cattle, and beautiful Guernsey stock alongside one another. And the judges had a somewhat difficult task before them.

In the first of these classes, for the older Bulls the 1st prize goes to Mr. Davis, of Dorchester, for a long well-made Long-horn, bred by Mr. Burbery, of Kenilworth; the 2d to Colonel Pennant, for a black Welsh bull, long, with deep forequarters, comparatively light hind-quarters, ribs not well arched, poor loin; an animal which though representing the improved breed, is yet very deficient when compared with its red brethren of the adjoining county of Hereford. A couple of small Guernsey bulls are shown in this class, the 3d prize going to Mr. Dumbrell, of Ditchling, the well-known Sussex dairy farmer, for one of them.

In the smaller class of younger Bulls, the 1st prize goes to Sir W. Jones, of Fakenham, for a very dark-coloured Norfolk bull, straight, deep, and well-made; and the 2d to Mr. Le Fenore, of St. Peter's, Jersey, for a large dun Jersey bull.

There is a great show in the Cow class, including many capital animals, meeting the wants of the dairy farmer probably more perfectly than any other class in the yard. Large hornless Norfolks, deep black, long-horned Welsh, beautiful Guernsey and Jersey cows, of all sizes and colours, and little Bretons, here compete with one another. The prizes all go to the red Norfolk stock, a distinction which they deserve by their greater size, better handling, and well-formed frames, which exhibit that preponderance of hind-quarters which one looks for in a good dairy cow. There was, however, plenty of difficulty for the judges. The Welsh and Guernsey are in many instances most worthily commended, the latter being in several cases as large as their rivals, and equal to any in dairy produce. The prizes go—1st, to Sir E. Kerrison, M.P., of Suffolk; 2d, to Sir W. Jones, M.P., of Norfolk; 3d, to Lord Sondes, of Norfolk. No fewer than 33 cattle are exhibited in this class. Sir E. Kerrison's cow is larger than the others. The Suffolk sort of the red hornless Eastern Counties breed is perhaps better as a dairy cow; and the Norfolk, a finer sort, makes beef the easier of the two when parted with for the dairy. Mr. Le Gallais, of Jersey, showed a number of very beautiful light brown or light dun cows in this class; and one of Mr. Baker's little Bretons had the honour of a Commendation.

The younger classes of females contain two dozen specimens of all breeds, and here again the 1st and 2d prizes go to the Norfolk polled sort. Sir E. Kerrison gains 1st and Lord Sondes 2d. The bulk of the class being made up of the little Bretons, shown by Mr. Baker: Mr. Le Gallais, who received a 3d prize in this class, showing a number of his beautiful light dun Jerseys.

The Yearling Heifer class contains seven, all of the Norfolk breed, and a very well made neat and pretty class they are. Lord Sondes takes both the upper prizes, and Sir W. Jones the 3d.

OTHER ESTABLISHED BREEDS.

(Not including the Short-horn, Hereford, Devon, or Sussex Breeds.)

Class 30. To the owner of the best Bull, above 2 and not exceeding 6 years old.—10*l.*, to James Davis, of Melcombe Horsey, Dorchester; 5*l.*, to the Hon. Colonel E. G. D. Pennant, M.P.; Silver Medal, to James Dumbrell, of Ditchling, Hurstpierpoint. Commended: Sir Edward Kerrison, Bart., M.P., of Brome Hall, Scole.

Class 31. To the owner of the best Bull, above 1 and not exceeding 2 years old.—10*l.*, to Sir Willoughby Jones, Bart., M.P., of Cranmer Hall, Fakenham; 5*l.*, to Henry Le Fenore, of Les Mièmes, St. Peter's, Jersey.

Class 32. To the owner of the best Cow, above 3 years old.—10*l.*, to Sir Edward Kerrison, Bart., M.P.; 5*l.*, to Sir Willoughby Jones, Bart., M.P.; Silver Medal, to Lord Sondes, of Elmham Hall. Highly Commended: Lord Sondes. Commended: The Hon. Colonel E. G. D. Pennant, M.P.; Richard Cowan, of Swissville, St Peter Port, Guernsey; the Rev. James Hunter Gandy, of Rectory, Castle Eaton, Fairford, Wiltshire; Albert de Gallais, of La Moie House, Jersey; James Dumbrell, of Ditchling.

Class 33. To the owner of the best Heifer, in-milk or in-calf, not exceeding 3 years old.—10*l.*, to Sir Edward Kerrison, Bart., M.P.; 5*l.*, to Lord Sondes; Silver Medal, Albert le Gallais, St. Aubins. Highly Commended: Sir Edward Kerrison, Bart., M.P.; Albert Le Gallais. Commended: Lord Sondes; the Earl of Powis, of Powis Castle, Weshpool.

Class 34. To the owner of the best Yearling Heifer.—10*l.*, to Lord Sondes; 5*l.*, to Lord Sondes; Silver Medal, to Sir Willoughby Jones, Bart., M.P. Highly Commended: Sir Edward Kerrison, Bart., M.P.

SPECIAL CLASSES.

The prizes offered by the Worcester local committee have not resulted in a very large competition. Three "pairs of cows in milk" are shown by Mr. Langston, M.P., Mr. Booth, and Mr. Bowley respectively—three first-class names as Short-horn breeders. And this breed alone accordingly is represented. The 1st prize goes to Mr. Booth for two very fat deep heavy cows, *Queen of the Ocean* and *Soldier's Bride*, white and red respectively; and the 2d to Mr. Langston, M.P., for *Dandelion* and *Meretrix*, also white and red, in less pampered condition. Mr. Bowley's are roans, and most of all in the natural condition of dairy cows. Messrs. Bowley, Middlebrough, and Bradburn compete with pairs of heifers in the second class, the 1st prize going to Mr. Middlebrough, for two extraordinary large and deep cows; and the 2d to Mr. Bradburn, for a very well matched pair of smaller size. The 3 year old heifers again include but two pair equal in size to the older one—the 1st prize going to Mr. Booth for two heifers of perfect form, as indicating meat-producing ability, which is also indicated by their actual meaty condition. For form, hair, and appearance of vigorous constitution, they cannot be surpassed; but they are more like meat than milk—*Graceful* and *Lady Joyful!* The 2d prize goes to Earl Beauchamp, for a good pair of roans.

The class of pairs of Yearling Heifers contains but two entries, the 1st going to Colonel Towneley, for white and roan *Butterflies* of great beauty and perfection of form.

We then come upon a very interesting and popular class in the exhibitions of our Provincial Societies, prizes being offered for bull, cow, and offspring. There are three entries. Mr. Stratton takes the 1st prize with KNIGHT OF THE LAGAN, *Lady Hinda*, and calf; Mr. Langston, M.P., the 2d, with LORD OF THE HAREM, *Sally*, and calf. The latter bull a light roan, of greater depth and better filled loin; the former wider, and perhaps better forward than the other.

The special classes for Herefords are not well filled, some of them, indeed, being not represented at all. The prize list is given below.

The Scotch breeds, so nobly shown last year at Battersea, are this year represented by a solitary Ayrshire bull and cow, shown by the Earl of Powis.

SHORT HORNED.

Class 89. To the owner of the best Pair of Cows, in milk, exceeding 4 years old.—15*l.*, to Richard Booth, of Warlaby; 5*l.*, to James Haughton Langston, M.P., of Sarsden House, Chipping Norton.

Class 90. To the owner of the best Pair of Heifers, in Milk and in Calf, not exceeding 4 years old.—15*l.*, to John R. Middlebrough, of South Milford, Yorkshire; 5*l.*, to William Bradburn, of Hilton, Wolverhampton.

Class 91. To the owner of the best Pair of Heifers, in-Calf, not exceeding 3 years old.—15*l.*, to Richard Booth, of Warlaby, Northallerton; 5*l.*, to Earl Beauchamp, of Madresfield Court, Great Malvern.

Class 92. To the owner of the best Pair of Yearling Heifers.—10*l.*, to Colonel Charles Towneley.

Class 93. To the owner of the best Bull, Cow, and their Offspring, the latter not exceeding 12 months old on the 1st of July, 1863; the cow bred by the exhibitor.—20*l.*, to Richard Stratton, of Walls Court, Bristol; 10*l.*, to James Haughton, Langston, M.P.

HEREFORD.

Class 94. To the owner of the best Pair of Cows, in-Milk, exceeding 4 years old.—15*l.*, to John Walker, of Westfield House, Hereford; 5*l.*, to Philip Turner, of The Leen, Pembridge. Commended: George Pitt, of Chadnor Court, Dilwyn.

Class 95. To the owner of the best Pair of Heifers, in-Milk or in-Calf, not exceeding 4 years old.—15*l.*, to the Executors of the late James Rea, of Monaughty, Knighton; 5*l.*, to Henry Rawlins Evans, jun., of Swanstone Court, Dilwyn, Leominster.

Class 98. To the owner of the best Bull, Cow, and their Offspring, the latter not exceeding 12 months old on the 1st July, 1863; the cow bred by the exhibitor.—20*l.*, to Thomas Roberts, of Ivington, Bury, Leominster; 10*l.*, to Henry Gibbons, of Hampton Bishop, Hereford.

Class 100. To the owner of the best Bull, and a Cow in-

Milk, of any Welsh breed.—10*l.*, to Richard Hart Harvey, of Harroldstone, Haverfordwest.

SCOTCH.

Class 101. To the owner of the best Bull, and a Cow in-Milk, of any pure Scotch breed.—10*l.*, to The Earl of Powis, of Powis Castle.

HORSES: HUNTERS.

Class 102. To the owner of the best Mare or Gelding, exceeding 4 years old, in the opinion of the judges equal to 15 stone with hounds.—20*l.*, to John B. Booth, of Killerby, Catterick; 10*l.*, to John Gregory Watkins, of Woodfield, Droitwich. Highly Commended: John Gregory Watkins; William Henry Jones, of Canon Bridge, Hereford.

Class 103. To the owner of the best Filly or Gelding, 3 years old, likely to make a hunter or carriage-horse.—10*l.*, to Henry James Sheldon, of Brailes House, Shipston-on-Stour; 5*l.*, to James White, of Lindoes, Coleford, Gloucestershire.

Class 104. To the owner of the best Filly or Gelding, 2 years old, likely to make a Hunter or Carriage Horse.—10*l.*, to Wm. Baker, of Brailes, Shipston-on-Stour, Warwickshire; 5*l.*, to Henry Allsop, of Hindlip Hall, Worcester.

Class 105. To the owner of the best Cob, not exceeding 15 hands in height, or exceeding six years old.—10*l.*, to Frederick Branwhite, of Chapel House, Long Melford, Sudbury; 5*l.*, to Frederick Branwhite, of Chapel House.

AGRICULTURAL HORSES.

CLASS 106. To the owner of the best Stallion (Suffolk breed only excluded) exceeding 3 years old and not exceeding seven years old.—40*l.*, to Joseph Miles, of Astwood Claines, Worcester; 20*l.*, to John Crump, of Grafton, Beckford, Tewkesbury.

SHEEP: RYELANDS.

Class 107. To the owner of the best Yearling Ram.—10*l.*, to John Bearcroft Downing, of Holme Lacey, Hereford.

Class 108. To the owner of the best Pen of Five Theaves, of the same Flock.—10*l.*, to John Bearcroft Downing.

WELSH, OR ANY OTHER MOUNTAIN BREED.

Class 109. To the owner of the best Two Shear Ram.—10*l.*, to Jonathan Peel, of Knowlmere Manor.

Class 110. To the owner of the best Pen of Five Theaves, of the same flock.—10*l.*, to Jonathan Peel, of Knowlemere Manor. Highly Commended: Jonathan Peel.

PIGS: LARGE BREED.

Class 111. To the owner of the best Boar, Sow, and their Litter of Pigs, not exceeding six months old.—10*l.*, to William Bradley Wainman.

SMALL BREED.

Class 112. To the owner of the best Boar, Sow, and their Litter of Pigs, not exceeding six months old.—10*l.*, to Titus Bennett Stead, of 20, Upperhead Row, Leeds; 5*l.*, to John Azariah Smith, of Bradford, Peverell.

## SHEEP.

There is a very complete illustration of most of our English breeds of sheep. One which will no doubt be exhibited in force next year at Newcastle, was indeed absent—and as our best Mountain breed Cheviots ought to have a constant class of prizes at all our shows, which are visited annually by Welchmen and others interested in the full advantage being taken of mountain pastures.

The chief breeds—Leicesters, Cotswolds, Lincolns, Southdowns, Oxfordshire downs, Hampshire downs, and Shropshires are present in large classes.

The last, though like the others bearing a local name, is fast losing its merely local position, being adopted in large numbers far from its native county. It is worth noting that the Cotswold and the Shropshire, both of them sheep of the province within which the Society this year holds its show, have advanced more in public estimation than any other breeds that can be named, the one chiefly because of its great length and weight of lustre wool, the other for its mutton as well as wool, and great hardiness.

Of LEICESTERS, 45 Shearling Rams, 18 old Rams, and 8 pens of Shearling Ewes, compete. The exhibitors show large numbers apiece, so that not so many flocks are represented here—thus Mr. Pawlett, Colonel Inge, Mr. Creswell, have no fewer than 9 entries each. Mr. Sanday and Mr. Turner have 8 entries, and others show large numbers. The class of Shearlings is not only large but excellent, varying however to some extent in size and in quality of wool, though less in these respects than any other breed that can be named. Mr. Pawlett's sheep have size and wool; Mr. Turner's are finer and smaller, and have less wool. Colonel Inge takes the 1st prize, and several commendations with very true Leicester sheep, having blue faces, great width, levelness of back, rather fine wool, and great girth. Mr. Sanday takes 2nd and 3d prizes with fine woolled sheep, not so long as some others that are shown.

Mr. Borton of Malton, is highly commended for a long wide sheep, hardly so good even for a Leicester behind, as he is over the shoulder.

The same distinction of the flocks appears in the other classes of older sheep. Mr. Turner's sheep are fine woolled, fine bred sheep. Mr. Borton also has fine wool, and his sheep are wide and short, they take 1st, 2nd, and 3rd prizes.

There is a very beautiful class of Yearling Ewes. Colonel Inge's sheep which took the 1st prize, appear to have more wool than those of Mr. Sanday, which take the 2nd.

The COTSWOLDS, though they have derived in the past so much benefit from Leicester blood, are an altogether distinct breed; much larger and longer, and covered with a very heavy fleece of longer staple, and greater lustre. There are 53 shearling rams exhibited, and as many as eight for single flocks. Mr. R. Garne, of Aldworth, Northleach, takes the 1st and 2d and 3d prizes with very long and large sheep.

There is great uniformity of character in the breed, flocks differing but little in the colour of the face and closeness of the fleece, according probably to their nearness to the Leicester blood. There are 18 older rams exhibited—the awards are given below.

Mr. Fletcher (of Shipton Sollars) takes the 1st prize with his pen of shearling ewes in the next class. He has shown two pens, and declared to win with the one which the judges passed—so various are conflicting judgments, and on so little do they hinge.

THE LINCOLN AND OTHER LONG-WOOLLED SHEEP are not well represented. They are hardly so long and noble a sheep as the Cotswold, and are covered with a closer wool. The three classes contains 33 entries—among them are one or two crosses and large Yorkshire Leicesters. Thus Mr. Beale Brown shows a remarkably fine cross bred sheep Leicester and Lincoln, and Mr. Simpson, of Spofforth Park, Wetherby, shows some close woolled large Leicester sheep in this class.

THE OXFORDSHIRE DOWN is very well represented by 35 shearling rams, 11 older rams, and 11 pen of shearling ewes. There is a good deal of difference in the wool and appearance of the breed; some of them approaching the blackfaced Hampshire downs and others more nearly representing the Cotswold element in their composition. One pen shown by H. F. Vernon, M.P., are not distinguishable from fine Sussex downs. The Oxfordshire downs with its wide, massive, stocky form, and close well matted and rather long wool, is nevertheless a perfectly recognisable sheep, and we have specimens of it here from a number of well known flocks those of Messrs. Wallis, C. Howard, J. Bryan, C. Gillett, &c. Mr. C. Hobbs, of Cricklade, sends sheep in the class more like the Hampshire or West Country downs. The awards are given below.

SOUTH DOWNS are exhibited in large numbers. Lord Walsingham's sheep, rather larger than those of the Sussex breeders, are in almost every instance successful. The decision is, we understand, perfectly acquiesced in, so far as the 1st prize sheep are concerned, though it is believed that the decision of some of the lower prizes is not so satisfactory to the Sussex men. The extraordinary success of the Merton Hall flock will be seen in the list of awards below. That it is not owing to want of competition is plain from the Catalogue, which names 34 shearling rams, bred by Messrs. Rigden, Waters, Messrs. Heasman, Sir T. B. Lennard, the Duke of Richmond, and others, and equally well-filled other classes. They are an extremely uniform breed—the only exception perhaps in the whole number being coarser woolled sheep shown by Mr. Perkins, of Royston.

SHROPSHIRES are a magnificennt breed well represented in the best filled classes in the yard. They are rapidly acquiring uniformity of wool and character, and already exhibit less discrepancies than some other older breeds; Lord Dartmonth's sheep have looser, coarser wool than most of the other flocks represented here.

It is understood that the breed originated in the little original Shropshire (Morfe) sheep, which was valuable only for its wool, being the very finest these islands produced. It had its carcase taken into consideration upon the introduction of Spanish and other fine continental wools. At that period some flockmasters must have tried a cross with short wool sheep, others with long wool, and although to cross now with either long-wools or short-wools would be injurious, yet different flocks of what are now pure bred Shropshires show their origin in their fleeces.*

The note below relates the pains and cost necessary to any degree of success. Mr. Holland's flock, thus educated to their present status, has not been successful this year at Worcester.

THE HAMPSHIRE DOWNS are not in such large force this year as usual. Mr. Humfrey, of Chaddleworth, is as usual very successful. His large sheep have extraordinary length, capital twists, and carry large quantities of mutton where it is worth most per lb.

The only remaining sheep are exhibited in two or three pens for the prizes offered by the local committee. A few pens of the neat little well-woolled Ryeland breed, which, natives of Herefordshire, ought to be in greater force—and one or two horned Exmoor, Lonk, and other mountain sheep complete the show.

The following is the list of the awards:—

LEICESTER.

Class 53. To the owner of the best Shearling Ram.—20*l.*, to Lieut.-Col. William Inge, of Thorpe Constantine, Tamworth; 10*l.*, to William Sanday, of Holme Pierrepont; Silver Medal, to William Sanday. Highly commended: William Sanday; John Borton, of Barton House, Barton-le-Street, Malton. Commended: Lieut.-Col. William Inge; William Sanday; Francis Spencer, of Alma House, Claybrooke Magna, Lutterworth.

Class 54. To the owner of the best Ram of any other age.—20*l.*, to John Borton, of Barton House; 10*l.*, to John Borton; Silver Medal, to John Borton. Highly commended: Robert Ward Creswell, of Ravenstone, Ashby-de-la-Zouch. Commended: Robert Ward Creswell.

Class 55. To the owner of the best Pen of 5 Shearling Ewes, of the same flock.—15*l.*, to Lieut.-Col. William Inge; 10*l.*, to William Sanday. Highly commended: William Sanday. Commended: Lieut.-Col. William Inge.

COTSWOLD.

Class 56. To the owner of the best Shearling Ram.—20*l.*, to Robert Garne, of Aldsworth, Northleach; 10*l.*, to Robert Garne; Silver Medal, to Robert Garne.

Class 57. To the owner of the best Ram of any other age.—20*l.*, to Robert Garne, of Aldsworth; 10*l.*, to Thomas Beale Browne, of Salperton Park, Andoversford; Silver Medal, to Edward Handy, of Sierford, Cheltenham. (Class generally highly commended.)

Class 58. To the owner of the best Pen of 5 Shearling Ewes, of the same flock.—15*l.*, to George Fletcher, of Shipton Sollars, Cheltenham; 10*l.*, to William Lane, of Broadfield Farm, Northleach; Silver Medal, to Robert Garne, of Aldsworth. Highly commended: George Fletcher, of Shipton Sollars.

LINCOLN AND OTHER LONG-WOOLLED.

(Not qualified to compete as Leicesters or Cotswold.)

Class 59. To the owner of the best Shearling Ram.—20*l.*, to John Lynn, of Church Farm, Stroxton, Grantham; 10*l.*, to Thomas Cartwright, of Dunston Pillar, Lincoln; Silver Medal, to Joseph Simpson, of Spofforth Park, Wetherby. Highly commended: Clarke Hales, of Bassingbourne, Royston, Cambridgeshire.

Class 60. To the owner of the best Ram of any other age.—20*l.*, to John Lynn, of Church Farm; 10*l.*, to John Lynn; Silver Medal, to Thomas Bumpstead Marshall, of Branston. Highly commended: Joseph Simpson, of Spofforth Park, Wetherby.

Class 61. To the owner of the best Pen of 5 Shearling Ewes, of the same flock.—15*l.*, to Robert George Frederick Howard, of Temple Bruer, Lincoln; 10*l.*, to Thomas Bumpstead Marshall, of Branston. Highly commended: Robert George Frederick Howard, of Temple Bruer.

OXFORDSHIRE DOWNS.

Class 62. To the owner of the best Shearling Ram.—20*l.*, to J. Bryan, of Southleigh, Witney, Oxon; 10*l.*, to Charles Gillett, of Cote House, Bampton, Faringdon; Silver Medal, to Joseph Druce, of Eynsham. Highly Commended: Charles Gillett, of Cote House. Commended: George Wallis, of Old Shifford, Bampton. Commended: George Henry Barnett, of Glympton Park, Woodstock.

Class 63. To the owner of the best Ram of any other age.—20*l.*, to George Wallis, of Old Shifford; 10*l.*, to George Wallis; Silver Medal, to George Wallis. Commended: George Henry Barnett, of Glympton Park.

Class 64. To the owner of the best Pen of 5 Shearling Ewes, of the same flock.—15*l.*, to Charles Gillett, of Cote House; 10*l.*, to The Duke of Marlborbugh, of Blenheim Palace. Highly Commended: Charles Gillett, of Cote House. Commended: Charles Howard, of Biddenham, Bedford: Charles Gillett, of Cote House.

SOUTHDOWN.

Class 65. To the owner of the best Shearling Ram.—20., to Lord Walsingham, of Merton Hall, Thetford; 10*l.*, to Lord Walsingham; Silver Medal, to Lord Walsingham. Highly Commended: Lord Walsingham. Commended: Lord Walsingham.

Class 66 To the owner of the best Ram of any other age.—20*l.*, to Lord Walsingham; 10*l.*, to Lord Walsingham; Silver Medal, to Lord Walsingham. Highly Commended: Lord Walsingham (again); William Rigden, of Hove, Brighton, Sussex. Commended: The Earl of Radnor, of Coleshill, Highworth.

Class 67. To the owner of the best Pen of 5 Shearling Ewes, of the same flock.—15*l.*, to Lord Walsingham; 10*l.*, to John and Alfred Heasman, of Angmering; Silver Medal, to James John Farquharson, of Langton House, Blandford. Highly Commended: The Earl of Radnor, of Coleshill, Highworth; The Duke of Richmond, of Goodwood, Chichester, Sussex.

SHROPSHIRE.

Class 68. To the owner of the best Shearling Ram.—20*l.* to John Stubbs, of Weston Hall, Stafford; 10*l.*, to Thomas Horton, of Harnage Grange, Shrewsbury, Salop; Silver Medal, to Thomas Horton. Highly Commended (specially), William Orme Foster, of Kinver Hill Farm, Stourbridge. Highly Commended: Pryce William Bowen, of Shrawardine Castle; James and Edward Crane, of Shrawardine (again; William Orme Foster, of Kinver Hill Farm; William Goodwin Preece, of Shrewsbury. Commended: Price William Bowen, of Shrawardine Castle; James and Edward Crane, of Shrawardine.

Class 69. To the owner of the best Ram of any other age.—20*l.*, to Pryce William Bowen, of Shrawardine Castle; 10*l.*, to Colonel Dyott, of Freeford Hall, Lichfield; Silver Medal, to John Coxon, of Freeford, Lichfield. Highly Commended: Robert Hanbury Masfen, of Pendeford, Wolverhampton. Commended: Lord Wenlock, of Bourton Cottage, Much Wenlock; Thomas Horley, Jun., of the Fosse, Leamington.

Class 70. To the owner of the best Pen of 5 Shearling Ewes, of the same flock.—15*l.*, to James and Edward Crane, of Shrawardine, Shrewsbury; 10*l.*, to James and Edward Crane; Silver Medal, to Henry Matthews, of Montford, Shrewsbury. Highly Commended: John Hanbury Blackburne, of Pipe-place, Lichfield; William Orme Foster, of Kinver Hill Farm, Stourbridge. Commended: Colonel Dyott, of Freeford Hall, Lichfield; the Earl of Dartmouth, of Patshull, Albrighton.

HAMPSHIRE AND OTHER SHORT-WOOLLED.

(Not qualified to compete as Southdowns or Shropshires.)

Class 71. To the owner of the best Shearling Ram.—20*l.*, to William Humfrey, of Oak Ash, Chaddleworth, Wantage; 10*l.*, to William Humfrey, of Oak Ash, Chaddleworth, Wantage; Silver Medal, to William Browne, Canning, of Elston Hill, Devizes. Commended: James Rawlence, of Bulbridge, Wilton, Salisbury.

Class 72. To the owner of the best Ram of any other age.—20*l.*, to James Rawlence, of Bulbridge, Wilton; 10*l.*, to William Humfrey, of Oak Ash. Highly Commended: William Humfrey, of Oak Ash. Commended: William Browne Canning, of Elston Hill.

Class 73. To the owner of the best Pen of 5 Shearling Ewes,

* We add here the following account, published two years ago, of the progress of a flock of these sheep, which has since attained considerable reputation, that of Mr. E. Holland, M.P. In the year 1852, Mr. Holland wished to try the effect of crossing the Shropshire ewe with the Southdown ram, but the result was not satisfactory. In the following year (1853) the Royal Agricultural Society held its meeting at Gloucester, when the Shropshires appeared in a special class. Mr. Holland gave up the idea of crossing. The Shropshire ewes that had been bought for crossing were kept, and the number made up to 250 with ewes bought at Ludlow, and which were guaranteed to be well-bred Shropshires, using on these, rams from Adney, Horton, Forster, and Williams. The following year (1854) a strong draft was made of the old ewes, the yearlings were kept, and 165 ewes were bought from Foster, Adney, Horton, and other breeders, and another ram from Adney. This brings us to 1855. A very good ram was bought from Adney for 40 guineas. He was got by Buckskin. More ewes were bought from Adney and other Shropshire breeders.

In 1856 the flock of breeding ewes was 450, selecting the sheep from the flocks of Messrs. Crane, H. Smith, and Foster (three rams from the latter), and also Lord Grey, and one of the best rams bred by Messrs. Crane.

In 1857 three rams were bought from Crane, Horton, and Bird, with 49 ewes from Horton. Again, in 1858, Mr. Holland gave Adney 80 guineas for the hire of Lord Salisbury—a sheep that took four prizes at the Royal Agricultural Society meetings. In 1859 he bought three rams from Foster, and two from Bird—both got by Adney's Patentee, and consequently half-brothers to Patentee, the winner at Canterbury, for which he gave 120 guineas (since dead); his own sheep, half-brother to him, also exhibited there and highly commended, for which he refused over and over again 120 guineas during the season This brings us to 1860, when he used the 120 guinea sheep, and some of his own rams.

This concludes the history of all the sheep bought in for this flock. He has, of course, used many of his own bred rams and ewes, but no other male or female has been introduced but those named. He has yearly drafted every inferior animal, never keeping an ewe a second year that had a bad fleece on her back, and always bearing in mind that size and wool must be kept up. The result is seen in the success he has met with. He has exhibited in every show-yard open to Shropshire sheep, and many open classes; and has rarely shown without obtaining a prize or commendation. At Birmingham two years ago, he exhibited a pen of wethers, something like 40 lb. per qr., under 22 months old, and took the 1st prize and silver medal.

of the same flock.—15l., to James Rawlence, of Bulbridge; 10l., to James Rawlence. Highly Commended (specially). James Rawlence, Wilton. Highly Commended: William Rowden Shittler, of Bishopston, Salisbury; Stephen King, of Brockhampton, Lambourne, Berks; William Browne Canning, of Elston Hill; William Humfrey, of Oak Ash.

## PIGS.

Boars of a large breed of any colour—the first on the list taking also the 1st prize in his class is an enormous 3 years and 10 months old white boar, the property of Mr. Wainman, of Carhead, who takes a great many prizes as an exhibitor of pigs. The class contains only four animals—of which one shown by Mr. Dyson, declared to be 6 months and 1 week old, is disqualified—the state of the dentition indicating over age. The 2d prize animal is shown by Mr. Dickin, of Stockport.

Small white Boars—are a much larger class, contributed, however, by comparatively few exhibitors, Mr. Wainman taking the 1st prize here also with a long straight pig, 2 years and 8 months old, exhibiting greater constitution than some of its rivals. Mr. Maugles, of Ripon, shows four in this class. Mr. Berkeley, of Spetchley Park, takes the 2d prize, with a short, thick, deep, white boar, 9 months old.

Boars of a small black breed include six animals shown by two exhibitors, Mr. Sexton and Mr. Crisp; the former takes the 2d prize, the latter the 1st. They are a very even well-made lot, and might have been all of one breed and parentage for any difference of size or form or hair that can be easily detected.

### BERKSHIRE BOARS.

There is a larger competition in Berkshires, though here too individual exhibitors show a number apiece. Mr. Hewer shows four and Mr. Joyce six. Mr. Hewer takes 1st and 2d prizes with straight, wide, well-made boars of fine hair. They are beyond doubt our most useful bacon breed, combining hardiness, precocity, and size in capital proportion. The 3d prize is taken by Mr. Joyce, of Waterford, who shows half a dozen capital stock.

### OTHER BOARS,

though nominally not adapted to the preceding classes, are for the most part large white pigs. The 1st prize indeed goes to Mr. Wainman, for an animal which he might very well have shown in the large class. Mr. Graham, of Leeds, takes the 2d prize, also with a large white boar.

### LARGE SOWS OF ANY COLOUR.

We now come to a class, which though of any colour, includes only white sows. The 1st prize goes to Mr. Wainman, the 2nd to Mr. Dickin. The latter is an extraordinary large animal, with a fine litter of pigs.

### SOWS OF A SMALL WHITE BREED

Are a very fine class. Mr. Graham's entries are disqualified, owing to the state of the dentition, indicating over age. Mr. Crisp takes the 1st prize, and Sir E. Kerrison the 2d; Mr. Stearn takes the 3d, and he is commended for a most commendable sow with nine capital pigs.

In the class of Sows of Small Black Breed, Lady E. Foley, Mr. A. Smith, Mr. Sexton, Mr. Hemming, and Mr. Crisp compete. Lady E. Foley has wonderfully fine litters. Mr. Crisp takes the 1st prize, Mr. Sexton the 2d, and Mr. Hemming the third.

Berkshire Sows are a fine class. Mr. Sadler, Dr. Hitchman, and the Royal Agricultural College take 1st, 2d, and 3d prizes respectively; there is some talk of the first being unfit, in which case the other two will advance a step. Dr. Hitchman's large sow and nine pigs are admirable. The College sow, thicker than some of them, is also a capital specimen of the herd.

Among the "other Sows" the 1st prize goes to Mr. Crisp; the 2d and 3d to Mr. Wainman, one of whose pens contains a sow and 10 large and first-rate pigs.

There are only three entries in the class of pens of three sow pigs of a large breed of any colour. Mr. Wainman takes the 1st prize, and Mr. Duckering, of Kirton-in-Lindsey, the 2d. The whole of the entries are of white pigs.

Hilts of a small white breed are exhibited in 4 pens. Mr. Waters, of Eastbourne, takes the 1st prize, and Colonel Pennant the 2d.

In the corresponding black class there are four entries, by Messrs. Sexton, Smith, and Hemming. Mr. Sexton and Mr. Hemming take both 1st and 2d prizes.

Berkshire Sow Pigs are well represented in 12 pens. Mr. Joyce, of Waterford, shows a wonderfully fine pen, taking the 1st prize. Mr. Smith, of Henley-in-Arden, takes the 2d; and Mr. Sadler, of Bentham, the 3d.

Mr. Wainman's Sow in the class of "other" Sow Pigs is 1st, and Mr. Keyworth's, 2d. Though entered in a class not eligible for other prizes, they would have been perfectly eligible in the class of small white breeds.

The following are the awards:—

Class 74. To the owner of the best Boar of a large breed, of any colour.—10l., to William Bradley Wainman, of Carhead, Crosshills, Yorkshire; 5l., to Richard Dickin, of 161, Old Road, Stockport.

Class 75. To the owner of the best Boar of a small white breed.—10l., to William Bradley Wainman; 5l., to Robert Berkeley, of Spetchley Park, Worcester; Silver Medal, to George Mangles, of Givendale, Ripon. Highly Commended: George Mangles, of Givendale. Commended: Thomas Rea, of Westonbury, Pembridge.

Class 76. To the owner of the best Boar of a small black breed.—10l., to Thomas Crisp, of Butley Abbey, Wickham Market; 5l., to George Mumford Sexton, of Wherstead Hall, Ipswich. Highly Commended: George Mumford Sexton.

Class 77. To the owner of the best Boar of the Berkshire breed.—10l., to William Hewer, of Sevenhampton, Highworth; 5l., to William Hewer; Silver Medal, to William Joyce, of Abbey Farm, Waterford. Highly Commended: William Joyce; William Hewer; (again). Commended: Joseph Smith, of Henley-in-Arden; William Joyce; (again).

Class 78. To the owner of the best Boar of a breed not eligible for the preceding classes.—10l., to William Bradley Wainman; 5l., to James Graham, of 1, Blackburn's Buildings, York Road, Leeds. Highly Commended: William Bradley Wainman.

Class 79. To the owner of the best Breeding Sow of a large breed, of any colour.—10l., to William Bradley Wainman, Yorkshire; 5l., to Richard Dickin, of 161, Old Road, Stockport.

Class 80. To the owner of the best Breeding Sow of a small white breed.—10l., to Thomas Crisp, of Butley Abbey, Wickham Market; 5l., to Sir Edward Kerrison, Bart., M.P.; Silver Medal, to Samuel Geater Stearn, of Brandeston, Wickham Market. Highly Commended: William Bradley Wainman, Michael Gavins, of Fox Inn, Leeds; the Earl of Radnor, of Coleshill, Highworth. Commended: Samuel Geater Stearn, of Brandeston.

Class 81. To the owner of the best Breeding Sow of a small black breed.—10l., to Thomas Crisp, of Butley Abbey; 5l., to George Mumford Sexton, of Wherstead Hall, Ipswich; Silver Medal, to William Himming, of Coldicott, Moreton-in-Marsh. Highly Commended: Thomas Crisp, of Butley Abbey.

Class 82. To the owner of the best Breeding Sow of the Berkshire breed.—10l., to William James Sadler, of Bentham, Calcutt, Cricklade; 5l., to John Hitchman, M.D., of Mickleover, Derby; Silver Medal, to Royal Agricultural College, Cirencester, Gloucestershire. Highly Commended: Arthur Stewart, of St. Bridge Farm, Gloucester; George Mander Allender, of Lee Grange, Winslow, Bucks. The Class Commended.

Class 83. To the owner of the best Breeding Sow of the breed not eligible for the preceeding classes.—10l., to Thomas Crisp, of Butley Abbey; 5l., to William Bradley Wainman; Silver Medal, to William Bradley Wainman.

Class 84. To the owner of the best Pen of 3 Breeding Sow Pigs of a large breed, of any colour, of the same litter, above 4 and under 8 months old.—10l., to William Bradley Wainman, 5l., to Richard Elmhurst, Duckering, of Northorpe Station, Kirton Lindsey.

Class 85. To the owner of the best Pen of 3 Breeding Sow Pigs of a small white breed, of the same litter, above 4 and under 8 months old.—10l., to John Waters, of Motcombe, Eastbourne; 5l., to the Hon. Colonel E. G. D. Pennant, M.P. Highly Commended: Major General the Hon. A. Nelson Hood.

Class 86. To the owner of the best Pen of 3 Breeding Sow Pigs of a small black breed, of the same litter, above 4 and under 8 months old.—10l., to George Mumford Sexton, of Wherstead Hall; 5l., to William Hemming, of Caldicott, Moreton-in-Marsh.

Class 87. To the owner of the best Pen of 3 Breeding Sow Pigs of the Berkshire breed, of the same litter, above 4 and under 8 months old.—10l., to William Joyce, of Abbey Farm, Waterford; 5l., to Joseph Smith, of Henley-in-Arden; Silver Medal, to William James Sadler, of Bentham, Calcutt.

Class 88. To the owner of the best Pen of 3 Breeding Sow Pigs of a breed not eligible for the preceeding classes, of the same litter, above 4 and under 8 months old.—10l., to William Bradley Wainman; 5l., to Henry Keyworth, of Woodhouse Moor, Leeds.

## HORSES.

The large inner yard, around which the horses are lodged, containing, too, a long elliptical court, within which the several classes were many times every day marshalled and put through their paces, has been always crowded with spectators. And there is no greater enjoyment offered by the whole show than that which thus attracts rows, many deep, of ladies and gentlemen, who all day long have surrounded the exercising ring.

We are not able this week to give a detailed report: 11 thorough-breds have competed for the prizes of 100l. and 25l. Neville, the property of Mr. Gulliver, of Banbury, is the winner. He is a bay horse, with remarkable action. Twenty-one stallion hunters have competed in class 36. A brown horse, belonging to Mr. Barnett, of Cheltenham, winning the prize in competition with a good class, both as regards number and merit.

The competition amongst agricultural horses has not been so great as at last year's show. There are this year no special classes for Clydesdales, and thus our best breed of farm horses is hardly represented. The classes not qualified to compete as Suffolks, which would have included Clydesdales, are however very fairly represented. Small classes of Drays and Suffolks complete the contents of the horse yard.

The only one of the classes of Suffolks in which there has been any considerable competition is for 2-year-old Stallions. Mr. Mumford, of Needham Market, takes the 1st prize, and Mr. Rist, of Ipswich, the 2d. It is a good class. Mr. Wilson, of Moore Place, Stanford-le-Hope, shows a very fine grey stallion of great bone and substance, symmetry and strength; but unfortunately they had to call in Prof. Simonds to prescribe for him on the Monday when the awards were being made, and his illness disabled him.

The following are the awards:

### THOROUGH-BREDS.

Class 35. To the owner of the best Thorough-bred Stud Horse, having served Mares during the season 1863, which, in the opinion of the judges, is best calculated to improve and perpetuate the breed of the sound and stout Thorough-bred Horse for General Stud Purposes.—100l., to William Gulliver, of Swalcliffe, Banbury, Oxfordshire; 25l., to Edward George Simpson, of Levent Bridge, Yarm; Silver Medal, Henry Richard Phillips, of Willesdon Paddocks, Kilburn. Class highly commended.

### HUNTERS AND HACKNEYS.

Class 36. To the owner of the best Stallion, suitable for getting Hunters.—25l., to William Barnett, of Bays Hill Lawn, Cheltenham, Gloucestershire; 15l., to John Batty, of Mains Farm, Ripon; Silver Medal, to William Watson, of The Beauthorns, Cheltenham.

Class 37. To the owner of the best Brood Mare, with foal at foot, or in-foal, for breeding Hunters.—15l., to John Watson, of Waresley, Kidderminster; 10l., to Edward Nicholas Heygate, of Buckland, Leominster; Silver Medal, to Andrew Rouse Boughton Knight, of Downton Castle. Commended: James Gregg, of Fencote, Docklow, Leominster.

Class 38. To the owner of the best Brood Mare, with foal at foot, or in-foal, for breeding Hackneys.—15l., to Hugh Percy, of Eskrigg, Wigton; 10l., to Samuel Walker, Urwick, of Leinthall, Ludlow.

### PONIES.

Class 39. To the owner of the best Stallion, not exceeding 14 hands.—15l., to James Moffit, of Kirklington Park, Carlisle; 5l., to Silvanus Edwards, of Middleton Priors, Bridgnorth. Commended: William Norman, of Aspatria, Carlisle.

Class 40. To the owner of the best Mare, not exceeding 14 hands.—10l., to Frederick Branwhite, of Chapel House, Long Melford, Sudbury; 5l., to Thomas Fulcher, of Elmham, Thetford, Norfolk; Silver Medal, to John Knight, of Marlborough House, Newbury.

### AGRICULTURAL.

(Not qualified to compete as Suffolk).

Class 41. To the owner of the best Stallion, foaled before the 1st of January, 1861.—25l., to Joseph Yeomans, of Pennymore Hay, Shareshill, Staffordshire; 10l., to William Raine, of Morton Tinmouth, Darlington; Silver Medal, to the Duke of Marlborough, of Blenheim Palace.

Class 42. To the owner of the best Stallion, foaled in the year 1861.—20l., to William Coney, of Battenhall, Worcester; 10l., to William Coney; Silver Medal, to Edward Holland, M.P., of Dumbleton Hall, Evesham.

Class 43. To the owner of the best Mare and Foal.—20l., to Elizabeth Bull, of Weobley, Hereford; 10l., to James Corbett, of Coventry Arms, Croome, Kempsey; Silver Medal, to Edmund Herbert, of Powick, Worcester.

Class 44. To the owner of the best 2 years old Filly.—15l., to Charles Priday, of Longford, Gloucester; 10l., to Hon. Colonel E. G. D. Pennant, M.P.

### DRAY.

Class 45. To the owner of the best Stallion, foaled before the 1st of January, 1861.—25l., to Thomas Johnson, of Hatfield, Doncaster; 10l., to William Henry Neale, of Old Eclipse Inn, Mansfield.

Class 46. To the owner of the best Stallion, foaled in the year 1861.—20l., to Charles Morrison, of Basildon Park, Reading; 10l., to James Abell, of Leopard Grange, Worcester.

Class 47. To the owner of the best Mare and Foal.—20l., to George Hasell, of Barton Hill, Bristol.

Class 48. To the owner of the best 2-years old Filly.—No entry.

### SUFFOLK.

Class 49. To the owner of the best Stallion, foaled before the 1st of January, 1861.—20l., to Walter Garrett Roofe, of East Stockwell Street, Colchester. Only one shown.

Class 50. To the owner of the best Stallion, foaled in the year 1861.—15l., to Morris Mumford, of Creeting St. Peter, Needham Market; 10l., to Isaac Rist, of Tattingstone, Ipswich. Highly Commended: William Wilson, of Baylham Hall, Ipswich.

Class 51. To the owner of the best Mare and Foal.—20l., to Sir Edward Kerrison, Bart., M.P. Only one shown.

Class 52. To the owner of the best 2-years old Filly.—15l., to John Ward, of East Mersea, Colchester; 10l., to Manfred Biddell, of Playford, Ipswich.

The following is the list of officers to whose labours the above awards are due:—

Honorary Director.—Mr. J. Brandreth Gibbs, Half-Moon Street.

Stewards of Live Stock.—Mr. Thomas Pain, of Laverstock Hall, Salisbury; Mr. Milward, of Thurgarton Priory, Southwell, Notts; Mr. Dent, M.P., of Ribston Hall, Wetherby.

Judges.—*Shorthorns.*—G. Drewry, W. H. Beauford, J. Unthank. *Herefords.*—E. L. Franklin, J. Coleman, J. E. Jones. *Devons.*—S. Umbers, R. B. Warren, H. W. Keary. *Sussex and Others.*—S. Bloxsidge, T. Harris, W. F. Hobbs. *Thorough-breds and Hunters.*—C. Barnett, H. Thurnall, Honourable Colonel Cotton. *Hackneys and Ponies.*—J. E. Welby, J. E. Bennett, J. Parrington. *Agricultural, Dray, and Suffolk.*—N. G. Barthropp, T. Brooks, R. Nisbett. *Leicesters.*—F. Jordan, J. B. Thompson, R. Woods. *Cotswolds and Lincolns.*—H. Aylmer, T. Greetham, H. Bateman. *Southdowns.*—P. Purves, H. Overman, H. Fooks. *Shropshires and all Others.*—C. Randell, F. Budd, T. H. Saunders. *Pigs.*—J. S. Turner, J. Moon, H. F. Jones.

Veterinary Inspectors.—Professor Simonds, Professor Vanell. *Assistant.*—R. L. Hunt

We are unable to find room for the full list of the prizes for implements. It will appear with our detailed account of the yard next week. Meanwhile we simply report the steam cultivation awards for large occupations as follows:—

| | |
|---|---|
| Gold Medal and 30l. .. .. .. | John Fowler |
| Gold Medal and 20l. .. .. .. | William Savory & Son |
| Silver Medal .. .. .. | William Steevens |
| Commended .. .. .. | Coleman & Sons |

And for small occupations as follows:—

| | | | |
|---|---|---|---|
| John Fowler .. .. .. .. .. | £25 | 0 | 0 |
| William Smith .. .. .. .. .. | 15 | 0 | 0 |
| J. & F. Howard .. .. .. .. .. | 10 | 0 | 0 |

The prizes for Threshing-machines and Steam-engines were as follows:—

| | | | |
|---|---|---|---|
| *Portable Combined Threshing Machine.* | | | |
| R. Hornsby & Sons .. .. .. .. | £25 | 0 | 0 |
| Clayton, Shuttleworth, & Co. .. .. | 15 | 0 | 0 |
| Wallis, Haslam, & Steevens .. .. .. | 10 | 0 | 0 |
| Portable Steam Engines: *12-horse power.* | | | |
| Hornsby & Sons .. .. .. .. .. | £10 | 0 | 0 |
| Clayton, Shuttleworth, & Co. .. .. | 7 | 0 | 0 |
| Tuxford & Sons .. .. .. .. .. | 4 | 0 | 0 |
| Barrett, Exall, and Andrewes .. .. .. | 4 | 0 | 0 |
| *8-horse power.* | | | |
| Tuxford & Sons .. .. .. .. .. | £9 | 0 | 0 |
| Barrett, Exall, and Andrewes .. .. .. | 8 | 0 | 0 |
| Clayton, Shuttleworth, & Co. .. .. .. | 7 | 0 | 0 |
| Holmes & Sons .. .. .. .. .. | 1 | 0 | 0 |

## THE DOG SHOW.

One of the attractions to Worcester during the past week has been the exhibition of dogs, held in a large wooden building near the show-yard. The foxhounds are exceedingly good, and the first and second prizes in the first, second, and third classes, are obtained by Lieut-Col. Clowes, as master of the Worcestershire hounds. Of harriers and beagles there are few entries. The show of greyhounds could not be excelled, there were 32 entries in the two classes. Another feature of the exhibition is the excellent show of pointers of all sizes. The English setters are, with a few exceptions, good. The show of black-and-tan, or Gorton setters, on the whole is inferior. There were six blood hounds, ten deer hounds, and a numerous show of retrievers. Of Clumber spaniels there were 13 entries, besides

mastiffs, Newfoundland dogs, Dalmatians, bull dogs, sheep dogs, black-and-tan terriers, terriers of any colour, Skye terriers, Scotch terriers, King Charles's spaniels, toy terriers, &c.

## Miscellaneous.

*Agricultural Societies.*—The origin of our first agricultural societies dates back to a period more than a thousand years ago. At that period, as we have elsewhere remarked, "such was the poverty of the husbandman and the wretched condition of husbandry, that it was the custom for six or eight individuals to club together their scanty means to procure a plough, and oxen wherewith to drive it, hedging themselves round in their social organisation with many quaint laws, which, in the minuteness of their details, showed how important to them was their association together, how miserably scanty their means when they had to contribute their mite to the purchase of an instrument, and this so rude, that by enactment about the same period we have alluded to, no man was allowed to guide a plough unless he could first construct it, and make, moreover, the twisted willow withes with which his wretched oxen drew it." Contrasting the farmers' clubs or societies of this period, and the objects for which they were introduced, with those of the present time: when in their grand organisation they are welcomed to the towns which they periodically visit, with arch triumphal and banners flaunting; with their thousands of members giving of their means, not to secure, like their brethren of old, assistance for their individual operations merely, but to collect information and the details of experience for the purpose of scattering them broadcast over the land, that all their brethren might participate in the benefits of their association; contrasting the societies of the two periods, we have examples of ancient and modern association.—*R. Scott Burn's Outlines of Modern Farming.*

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0–6 | Amount of Cloud, 0–10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | | | | | | | | | | Inches. |
| Friday .. .. | July 17 | 30.15 | 65 | 57 | N.W. | 2 | 8 | 68 | 48 | 82 | 42 | .. |
| Saturday .. .. | 18 | 29.89 | 59 | 51 | N.W. | 4 | 10 | 70 | 46 | 84 | 39 | .. |
| Sunday .. .. | 19 | 30.07 | 64 | 58 | S.E. | 1 | 0 | 64 | 34 | 75 | 30 | 0.05 |
| Monday .. .. | 20 | 29.91 | 61 | 53 | N.N.W. | 0 | 2 | 68 | 42 | 80 | 36 | .. |
| Tuesday .. .. | 21 | 29.87 | 55 | 53 | S.S.E. | 1 | 10 | 67 | 42 | 82 | 37 | 0.01 |
| Wednesday .. | 22 | 29.52 | 65 | 61 | S.W. | 3 | 10 | 64 | 53 | 76 | 51 | 0.94 |
| Thursday .. .. | 23 | 29.94 | 63 | 57 | W. | 2 | 4 | 66 | 41 | 77 | 37 | 0.02 |

## Notices to Correspondents.

ANBURY: *W H C D.* The specimen sent us we believe to be Anbury. Finger and Toe is another name for the same disease, but it is also applied to that form of degenerate growth which is often the result of bad seed; whereas Anbury attacks plants irrespective of the seed from which they have sprung. Liming proves a specific for the disease, and it must, therefore, be the result of something which liming removes.

HOPS: *Q Q* living in a Hop district, and being a planter, is anxious to know what amount of nutriment there is in the half-dried Hop bines. At this season it is usual to go through the process of "legging;" that is, cutting off the bines to a certain extent, 2, 3, or 4 feet up the poles. The cuttings were this year taken to *Q Q's* farm, where the cows eat it freely cut up with their other food, and he would not have it done unless some good resulted. [Will any one relate their experience?]


# THE HYDROPULT,

EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"The machine is certainly the most compact and efficacious force pump of its size that we have ever seen."—*Daily Telegraph.*

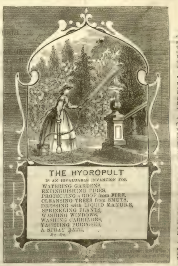
THE HYDROPULT.—"All Londoners and other town residents who care for their gardens and greenhouses should avail themselves of such engines."—*Gardeners' Chronicle and Agricultural Gazette.*

THE HYDROPULT.—"We strongly recommend it to our readers."—*Journal of Horticulture and Cottage Gardener.*

THE HYDROPULT.—"It will soon pay for its cost in a garden, besides being always at hand in case of an emergency of any kind which may require an immediate removal or discharge of water."—*Gardeners' Weekly Magazine.*

THE HYDROPULT.—"Country readers who order it on our recommendation, will not only not repent, but thank us for calling attention to a machine which, having once used, they will never care to be without."—*Floral World and Garden Guide.*

THE HYDROPULT.—"We can only say that no public establishment or private house should be without one of these useful machines."—*Commercial Daily List.*




EXTRACTS FROM THE PRESS.

THE HYDROPULT.—"We are satisfied that all housekeepers ought to have one, and we are equally satisfied that if they once see it they will order it."—*Liverpool Daily Post.*

THE HYDROPULT.—"We commend it to the notice of the proprietors of warehouses and other buildings, public and private, in the metropolis and provinces."—*Mechanics' Magazine.*

THE HYDROPULT.—"It is admirably adapted for sprinkling gardens, trees, graperies, washing windows, carriages, and for household purposes, its simplicity and portability being its strong recommendation."—*Illustrated News of the World.*

THE HYDROPULT.—"Nothing has yet been introduced for watering gardens equal to the Hydropult, as any one standing close to his house can water, in a few minutes, any ordinary suburban garden, thus saving much time, and performing the task in an easy, satisfactory manner."—*Builders' Reporter.*

THE HYDROPULT.—"Many of the most scientific men of the age are daily inspecting and testing its uses."—*Age We Live In.*

## AN INVENTION FOR THROWING WATER BY HAND POWER

(SECURED BY ROYAL LETTERS PATENT),

Price TWO GUINEAS

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanised Wire Strainer, Rose or Sprinkler, and Small Jet. Weighs but 8 lbs.

Recommended as an efficient and useful Fire Engine by the principal Fire Insurance Companies of Great Britain

ORDERED BY THE WAR DEPARTMENT AS FIRE ENGINES.

THOMAS RIVERS, Esq., the eminent Florist, SHIRLEY HIBBARD, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement.

EXTRACTS FROM TESTIMONIALS.

"Royal Insurance Office, Liverpool.
"My dear Sir,—I have much pleasure in expressing the high satisfaction, and indeed surprise, with which I witnessed the working of your Hydropult. There can be no doubt that it can be available in the earlier stages of fire in warehouses, manufactories, or private houses, in preventing large conflagrations, while its applicability to gardening and other purposes will be manifest to any one observing its operation.—I am, my dear Sir, yours truly, "PERCY M. DOVE, Manager."
"Chas. P. Button, Esq."

"The invention will prove extremely valuable for all the purposes to which such machines are applied.—SWINTON BOULT, Secretary, Liverpool and London Insurance Company."

"Its portability and facility of operation recommend it to the general notice of the public.—HENRY LOWE, Secretary District Fire Company."

"In a blowing or mixing room it would be of especial service.—F. J. HALLOWS, Secretary, Caledonian Insurance Company."

**CAUTION:** Important to the Public.—The extensive sale of the HYDROPULT has excited the cupidity of so-called respectable, but in reality unprincipled Manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition, and for sale, in many of the principal Ironmongery and Seed Establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The Proprietor therefore issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult, should examine the machine offered for sale, and see if it has attached thereto a label, with the following words:—"The Hydropult, a Portable Fire Annihilator and Garden Engine; GRIFFITHS & BROWETT, Manufacturers, Birmingham; CHARLES P. BUTTON, General Agent (Vose's Patent)." Unless this label be attached, the machine is not the Hydropult.

THE HYDROPULT is MADE of BRASS and COPPER, weighs but 8 lbs., and WILL THROW EIGHT GALLONS of WATER PER MINUTE FIFTY FEET, WHEN WORKED by the POWER of ONE MAN.

Public and private buildings have been saved from destruction by its agency. T. SPENCER, Esq., Inspector of the Royal Society for Protection of Life from Fire, certifies to its efficiency in saving valuable property at Bayswater from destruction.

FIRE! FIRE! FIRE! THE HYDROPULT IS THE MOST EFFICIENT FIRE-ENGINE IN THE WORLD, BECAUSE THE MOST AVAILABLE.

It can be used for all purposes for which a hydrant or force pump is applicable, and in situations where other contrivances are useless.

CHARLES P. BUTTON, PROPRIETOR,
HYDROPULT WAREHOUSE, 27, LEADENHALL STREET, LONDON, E.C.
WEST-END DEPOT, 309, REGENT STREET, W.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. Tylor & Sons' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. | 24 gal. | 30 gal. |
|---|---|---|---|---|
| 2 13 6 | £3 5 0 | £3 15 0 | £5 0 0 | £5 18 0 |

Fig. 571.

J. Tylor & Sons' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0 |

Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 ,,
Telescope Branch Pipe for ditto .. 0 10 0 ,,

Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11s. 6d. each.
,, 589. Middle Ditto ditto .. 10 3 ,,
,, 588. Small Ditto ditto .. 9 0 ,,
,, 587. LADIES' GARDEN SYRINGE, with do. 7 6 ,,

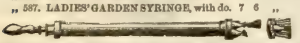


Fig. 591. READ'S SYRINGE, with two roses and one jet, 17s. 6d
READ'S SYRINGE, with one rose and jet, 15 0
,, 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. Tylor & Sons' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

J. Tylor & Sons, Manufacturers, Warwick Lane, Newgate Street, London, E.C.

# THOMAS MILLINGTON,

## GLASS MERCHANT.

Established 1750.

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED TARIFF FOR SHEET GLASS AND HORTICULTURAL GOODS.

The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by T. Millington.

Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home Use and for Exportation.

☞ *For prices see Advertisement of June 6.*

# ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, N.W.

## IRON HURDLES, FENCING, and GATES.

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Lists per post on application. Gates from 30s. to 500*l*.

*The Hurdles can be seen in process of Manufacture at the Works.*

GAME WIRE NETTING.

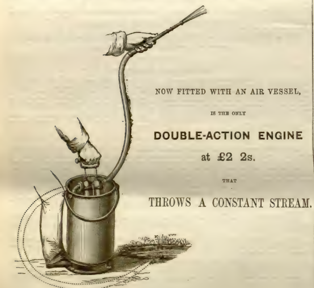
PROFESSOR VARNELL'S ENAMELLED and WROUGHT-IRON STABLE FITTINGS.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their Horses. They can be had Plain, Galvanised, or Enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized Stalls and Loose Boxes are erected for inspection at St. Pancras Iron Works.

Address—THE MANAGERS, ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON, N.W., Opposite Old St. Pancras Church.

# WARNERS' IMPROVED PATENT,



NOW FITTED WITH AN AIR VESSEL,

IS THE ONLY

**DOUBLE-ACTION ENGINE**

at £2 2s.

THAT

THROWS A CONSTANT STREAM.

May be obtained of any Ironmonger or Seedsman at the above price, or of

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

| | |
|---|---|
| 10 gallons .. .. | £2 15 0 |
| 16 ,, .. .. | 3 15 0 |
| 24 ,, .. .. | 5 0 0 |

Larger sizes may be had in either Wood or Iron.

No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | |
|---|---|
| 35 gallons .. | £2 10 0 |
| 20 ,, .. | 2 0 0 |

BRASS SYRINGES of all kinds from 9s. to 21s.

No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 5 feet Flexible Suction Pipe,

**21s.**

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to distance of 30 feet.

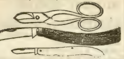
As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

There are no suction or delivery Valves, hence much friction and liability to choke with leaves and dirt is avoided.

John Warner & Sons, 8, Crescent, Cripplegate, London, E.C.

**Paxton Works, Sheffield, Established 1738.**



INTERNATIONAL EXHIBITION PRIZE MEDAL WAS AWARDED TO SAYNOR & COOKE FOR SUPERIORITY OF QUALITY IN PRUNING AND BUDDING KNIVES, &c.

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

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MORTON'S NEW IMPROVED PATENT LAWN MOWER, with Sun and Planet Motion, having all the most recent Improvements, is allowed to be the best Machine for preventing Ribbing and Clogging.

To be had, with prices and particulars, of GRIMMOND, LAIRD, & Co., 15, Cannon Street West, London, E.C.; or of the Patentee, Catherine Street Engine and Machine Works, Arbroath; and all the principal dealers throughout the country.

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**Lawn Mowers.**

BURGESS AND KEY beg to direct attention to their NEW PATENT LAWN MOWING MACHINE. It is simple, efficient, easily worked, and not liable to derangement. GARDENING and HORTICULTURAL TOOLS of every description. Illustrated Price List free. Catalogues by post on receipt of six postage stamps.

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**Garden and Architectural Decorations in Terra Cotta.**

PRIZE MEDALS OF 1851 AND 1862 AWARDED TO

JAMES PULHAM, Broxbourne, Herts. Also Notice of ARTISTIC MERIT, and of SOUND DURABLE MATERIAL in

FOUNTAINS, VASES, FIGURES, FERN CASES, and BRACKETS, CONSERVATORY TUBS, with rising bottoms, &c.

The novel FERNDELABUM.—To grow SIXTY FERNS (or Flowers) on a space 4 ft. 8 in. over, 8 ft. high, &c.

Guaranteed to stand frost an unlimited time.

Stereographs sent to inspect for 12 stamps.

Illustrations in the *Art Journal Catalogue*, the *Masterpieces*, and *Gems of the Exhibition*.

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GARDEN BORDER-EDGING TILES. — These Tiles, manufactured in Terra-Cotta, Terro-Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are invaluable.

To be obtained at F. & G. ROSHER'S Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.

Illustrated Price Lists free on application. The Trade supplied.

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ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER at their Premises as above.

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Card.

SAMUEL N. McGERROW,
GENERAL HORTICULTURAL BUILDER,
Knotty Ash, near Liverpool.

Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

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HOT-WATER PIPES, at Reduced Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, TUBULAR, and Elliptic, from 24s. each. Improved Boilers and Iron Stands to use without brickwork, 56s. each. Valves from 10s. 6d. each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at

Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S. Price List on application.

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JOSEPH SMITH, New Road, Hammersmith, W., undertakes the ERECTION of GREENHOUSES, &c., in any part of the kingdom, and begs to offer for SALE about 10,000 feet of GLAZED LIGHTS for GREENHOUSES, PITS, &c.

Those glazed with 21-oz. glass, 9d. per square foot.
" " 16-oz. " 8d. " "
21-oz.—Eight. 12 feet 3 inches by 5 feet 8 inches.
Twenty. 11 feet by 4 feet 8 inches.
Nine. 8 feet 6 inches by 4 feet 8 inches.
Ten. 7 feet by 3 feet 11 inches.
Twelve. 5 feet 2 inches by 4 feet 2 inches.
16-oz.—Forty. 7 feet by 4 feet 3 inches.
Twelve. 8 feet 10 inches by 4 feet 2 inches.
Twenty. 6 feet by 4 feet 2 inches.
Twelve. 5 feet 2 inches by 5 feet 8 inches.

Also Span-roof Greenhouse, 27 feet by 16 feet, 47l.
Lean-to, 21-oz. glass, 46 feet by 14 feet, 55l.
" " 24 feet by 11 feet, 30l.
" 16-oz. glass, 50 feet by 14 feet, 55l.
Second-hand, 12 feet by 7 feet, 14l.

Estimates given for Heating.

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**Liquid Manure Distributor.**

THE JUDGES of the Liverpool, Manchester, and Staffordshire Agricultural Shows, 1861, have each awarded the First Prize to I. JAMES, Tivoli Works, Cheltenham, for his LIQUID MANURE DISTRIBUTOR, making a total of 17 Prizes. It is also well adapted for Watering Streets, supplying the Steam Plough, Irrigating, or for a Fire Engine. Also his last great improvement in WASHING MACHINES, which have been awarded several First Prizes, and will wash 20 Shirts in 20 minutes.

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# HOWARD'S

## STEAM PLOUGHING and CULTIVATING APPARATUS

WILL BE AT WORK NEAR BEDFORD THROUGHOUT THE SEASON.

**Price of a Complete Set with 10-Horse Engine ... ... ... £515 0 0**
**Price of a Complete Set without Engine ... ... ... 220 0 0**

Catalogues, with Sixty Reports from Purchasers, may be had on application to

JAMES AND FREDERICK HOWARD, BRITANNIA IRON WORKS, BEDFORD.

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# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.

THE FIRST PRIZE INTERNATIONAL EXHIBITION MEDAL AWARDED.

NEW HORSE MACHINE.

NEW PONY MACHINE.

NEW HAND MACHINE.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved and their success established.

These Machines will Mow EQUALLY WELL on UNEVEN as on LEVEL LAWNS, and whether the GRASS be WET or DRY. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

**SHANKS' NEW PATENT HORSE MACHINE.**

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 1.—48-inch Machine ... | £28 0 0 ... ... ... | 40s. extra. |
| No. 2.—42-inch Machine ... | 26 0 0 ... ... ... | 40s. " |
| No. 3.—36-inch Machine ... | 22 0 0 ... ... ... | 30s. " |
| No. 4.—30-inch Machine ... | 19 0 0 ... ... ... | 30s. " |

Silent Movement, 20s. extra; Boots for Horse's Feet, 24s. per set.

**SHANKS' NEW PATENT PONY and DONKEY MACHINE.**

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 5.—30-inch Machine ... | £15 15 0 ... ... ... | 30s. extra. |
| No. 6.—28-inch Machine ... | 14 10 0 ... ... ... | 30s. " |
| No. 7.—25-inch Machine ... | 12 10 0 ... ... ... | 25s. " |

Silent Movement, 12s. 6d. extra; Boots for Pony, 21s. per set; ditto for Donkey, 16s. per set.

**SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.**

| Width of Cutter. | | |
|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 17 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 7 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine ... ... | 7 12 6 | *Ditto by a Man and Boy.* |
| No. 11.—16-inch Machine ... ... | £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 2 6 | *Ditto ditto by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25s. extra; Silent Movement, 7s. 6d. extra.

No. 16.—12-inch Machine, for pushing only, £5 5s. Easily worked by a Lady or a Boy; Silent Movement, 4s. extra.

*** *The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

PATENTEES AND SOLE MANUFACTURERS:

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.
LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

*A Stock of Machines kept at the London Depot, from which Orders can be at once executed.*

WILLIAM BARRATT, Landscape and Ornamental Gardener. St. John's and Newton Moor Nurseries, Wakefield.

**Landscape Gardening, Ireland.**

MR. J. W. CHAPMAN offers his services to the nobility and gentry of Ireland in the formation of Gardens and Pleasure Grounds, and the general improvement of Estates. Plans and Drawings for these purposes will be furnished, and where it is desired, experienced men will be sent to any part of the country to superintend the carrying out of the works.

Mr. C. will be happy to refer to gentlemen in this country and elsewhere, with whom he has been professionally engaged.
27, Molesworth Street, Dublin.—August 1.

**To Seed Merchants and Nurserymen.**

SAYNOR AND COOKE, Pruning and Budding Knife Manufacturers, beg respectfully to say that they will not be undersold by any House in the Trade. They also warrant one of their Knives to last two of any other make.
Paxton Works, Sheffield.

HAVE YOU a LAWN?—Use BELCHER'S PATENT PLANTAIN EXTRACTOR; which neatly removes Plantain and Daisies, and replaces them with fine Turf. Price 6s.: to be had of all Ironmongers.
Wholesale Agents, S. & E. Ransome & Co., 31, Essex Street, Strand, W.C.

SHAW'S TIFFANY.
For samples and prices apply to
J. Shaw & Co., 29, Oxford Street, Manchester.

**Netting for Fruit Trees, Seed Beds, Ripe Strawberries, &c.**

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c., 2 yards wide, 3d. per yard, or 100 yards, 20s.; 4 yards wide, 6d. per yard, or 50 yards, 20s. NEW TANNED NETTING, suited for any of the above purposes, or as a Fence for Fowls, 2 yards wide, 6d. per yard; 4 yards wide, 1s. per yard; ¾-inch mesh, 4 yards wide, 1s. 4d. per yard.

Can be had in any quantity of Eaton & Deller, 6 and 7, Crooked Lane, London Bridge, E.C.

**Gutta Percha Tubing for Watering Gardens.**

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following

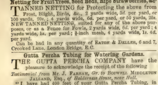
*Testimonial from* Mr. J. Farrah, *Gr. to* Boswell Middleton Jalland, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

WANTED to PURCHASE, a good Second Hand CONSERVATORY, about 30 or 40 feet long; also 30 or 40 foot run of FORCING FRAMES.
Address Mr. Read, Railway Station, Gipsy Hill, Norwood, S.

**Patronised by H.R.H. the late Prince Consort.**



GREENING AND CO.'S IRON WIRE FENCES for FARMS, DEER PARKS, SHEEP FOLDS, GAME PRESERVES, POULTRY COURTS, GARDENS, &c., are manufactured by Patent Machinery, and possess the following advantages:—

1st. Are easily fixed by unskilled labourers.
2d. Require few and inexpensive supports.
3d. Are ornamental in appearance.
4th. Have increased strength from their peculiar construction.
5th. Are but half the price of similar hand-made Fences.

G. & Co. will be happy to forward, without charge, an explanatory Circular of the principal varieties. Their enlarged Catalogue of all kinds of Fences and Gates post free on receipt of three stamps.

Address Greening & Company, Victoria Works, 81, Oxford Street, Manchester.

Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of Geo. Glenny, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.
Patentee: J. Neal, Edward Street, Birmingham.

Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest; should be dissolved 48 hours before use. This gets rid of smell, and if the Solution be decanted, prevents any staining of foliage. A strength of from one to two ounces to the gallon of water is recommended for growing Plants; one from 4 to 16 ounces for Trees at rest.

Sold Retail by Nurserymen and Seedsmen, in boxes 1s., 3s., and 10s. 6d. each.

Wholesale by
Price's Patent Candle Company (Limited).

TRADE
# HALLETT'S [PEDIGREE] NURSERY WHEAT.
MARK.

THE PEDIGREE WHEAT WAS AWARDED THE SILVER MEDAL BY THE JURORS OF THE CLASS "CEREALS FROM ALL COUNTRIES" AT THE MEETING IN 1863 OF THE AGRICULTURAL SOCIETY OF DENMARK AT ODENSE.

The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the miller, and realised £19 7s. per acre.

**In September DRILL 4 Bushels on 10 acres.**

NONE IS GENUINE UNLESS THE TRADE MARK IS UPON THE BAG.

Apply to FREDERIC F. HALLETT, ESQ., F.L.S., The Manor House, Brighton, Sussex.

**PRICE—One Guinea a Bushel (or Seven Guineas a Quarter),**

Delivered, with Printed Directions for Planting, at the Brighton Railway Station, in Bags Sewed up and Sealed.
"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on appplication, enclosing six stamps.

In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth,* such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately; those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

This family Z will, next harvest, 1863, be *for the first time* offered to the public, and those who wish to secure some of it would do well, at once, to add their names to the Subscription List formed by special request for that purpose. As the joining this list will not involve payment until the Wheat is ready for delivery (of which the earliest possible notice will be given), the advantage of doing so is entirely on the side of the subscriber.

**The Old Established Royal South Hants Seed Establishment.**

PAGE'S BLIGHT COMPOSITION.—None genuine except that sent from this Establishment, or sold by the accredited Agents of
Bridgewater Page, Seed Grower and Merchant, 37 and 38, Oxford Street, Southampton.

Seeing a statement in the paper from my late Partner (of five years standing), to the effect that I (the Inventor) was unable to make the above Composition, I leave it open to public opinion to judge of the correctness of such assertion. Bridgewater Page.

**The Gardener's Friend v. the Gardener's Enemy.**
This celebrated Trial has been decided unanimously in favour of

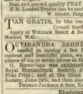
FORDHAM'S INVINCIBLE "OLD VIRGINIA SHORTS."—The Greenfly and other Greenhouse and Garden Pests speedily annihilated at one-sixth of the cost of ordinary Tobacco Paper.

Samples of 7 lb. and upwards sent free to any Railway Station at 3s. per lb. on receipt of Post-office Order, payable to John Fordham, at the W. C. Office.
Factory, 28, Little Queen Street, High Holborn, W.C.
N.B. ½ lb. of Shorts equal to 6 lb. of the Paper.

**Genuine Tobacco Paper for Fumigating.**

H. APPLEBY, (Foreman to Messrs. Ivery & Son, Dorking;) begs to inform his friends and the public, he now offers the above article in 4 lb. Packets. Price on application.

SHEET IRON POTS for Fumigating, 3s. 6d. each.
All Orders to be accompanied with a Post Office Order, payable to H. Appleby, Dorking, Surrey, S.



COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2s. per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the Patent Cocoa Fibre Company, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. Barsham & Co.

Barsham's BRUSHES and MATS are sold in every town.

Caution.—Every Brush is stamped 'J. Barsham's Patent.'

REIGATE SILVER SAND.—Best quality, 7s. 6d. per ton; packed, 16s. per ton; ditto 5s.; 4 cwt. put on the Rail at Reigate.
Best and second quality PEAT SOIL, LOAM, &c.
N.B. Loaded Trucks can be sent on all the principal Railways.
W. Short, Reigate, Surrey.

TAN GRATIS, in the immediate neighbourhood of Covent Garden Market,
Apply at William Essex & Son, 28, Stanhope Street, Clare Market, W.C.

OUVIRANDRA BERNERIANA.—Having succeeded in raising a few Seedlings of this extremely curious and beautiful plant, we beg to offer healthy young plants of six or seven leaves at 31s. 6d. each.

O. Berneriana was exhibited at the Great Show of the Royal Horticultural Society, June 17th, and awarded the First Prize; and at the Great Show of the Royal Botanic Society, June 24th, and then also awarded the First Prize.
Thomas Jackson & Son, Nurseries, Kingston, S.W.

**Rhododendrons.**
Crimson, White, Purple, and Scarlet.

CHARLES NOBLE has RECEIVED the AWARD of the Royal Horticultural Society as under FOR RHODODENDRONS.
FIRST PRIZE, 1861.
FIRST PRIZE, 1862.
FIRST PRIZE, 1863.

CATALOGUES are now ready, and a stock of Plants in the most perfect health, of all sizes, and at prices to suit all purposes.
Sunningdale Nursery, S.W. Rail.

**New Strawberry, Princess of Wales.**

B. W. KNIGHT, Florist, &c., 67, High Street, Battle, Sussex, has much pleasure in offering this superb new early STRAWBERRY, feeling confident that it will not fail to become a general favourite, as all who have seen it growing and tasted it on the ground have pronounced it first-class. It is a remarkably early kind, having picked from it on the 22d of May, and no doubt but that it will prove a good forcing variety. The fruit is large, flesh pale red, solid at the core; flavour rich and sugary, partaking largely of the Pine flavour; a most abundant bearer.

The following notices prove its value, without further comment:—

*Gardeners' Chronicle, July 4th.*
"Your seedling Strawberry, Princess of Wales, large, ovate, or flattened ovate, with flesh pale red, and solid at the core. The variety deserves notice on account of its size, appearance, and not being hollow at the core."

*Journal of Horticulture, June 23d.*
"Seedling Strawberry (B. W. Knight). The fruit sent is very juicy, and of excellent flavour."

*Florist, July.*
"Your seedling Strawberry, Princess of Wales, is a fine regularly-shaped ovate fruit, of a pale red colour, and very firm flesh; it has all the appearance of being a good sort."

Plants will be ready to send out early in September, at 21s. per dozen. Price to the Trade on application.

**New and Rare Plants.**

B. S. WILLIAMS invites inspection of his large and well-assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, amongst which are some very fine specimens.

Now ready, post-free to all applicants.

A NEW GENERAL PLANT CATALOGUE, containing Select Lists of Choice Exotic Orchids, Ferns, Stove and Greenhouse Plants, Indian Azaleas, Variegated and Ornamental Foliaged Plants, Fuchsias, Pelargoniums, Rhododendrons, Verbenas, Petunias, Phloxes, Cinerarias, Chrysanthemums, Hardy Variegated Plants, Herbaceous and Alpine Plants, Roses, Hardy Trees and Shrubs, Fruit Trees, &c.

With a DESCRIPTIVE LIST of New, Beautiful, and Rare Plants.

Paradise and Victoria Nurseries, Holloway, London, N.

DOBSON'S NEW SEEDS. Quality A 1

CALCEOLARIA, unequalled in the Kingdom; 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.*
CINERARIA, from our Prize Collection; 1*s.*, 2*s.* 6*d.*, and 5*s.*
PRIMULA SINENSIS FIMBRIATA, Superb Mixed; 1*s.*, 2*s.* 6*d.*, and 5*s.*
PELARGONIUM Show, extra fine; 2*s.* 6*d.* and 5*s.*
PELARGONIUM Fancy, extra fine; 2*s.* 6*d.* and 5*s.*
SCARLET INTERMEDIATE STOCK, fine; 1*s.*
MIMULUS CUPREUS; 6*d.* and 1*s.*

The above in Sealed Packets and Post Free.

J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

CALCEOLARIA, CINERARIA, PRIMULA, and PELARGONIUMS.—The most superb strains of the above are to be obtained in packets of seed of the advertisers, who are receiving hundreds of testimonials of their superior excellence.

The Trade will find it the best way of purchasing their supply, both as regards quality and price, as the packets are made of convenient sizes to suit all purchasers; and a very liberal allowance is made, as a large number of packets are always in stock; the order, however large, is invariably executed by return of post. Packets, sealed, 1*s.*, 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.* and 5*s.*

J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

CALCEOLARIA, CINERARIA, PRIMULA, &c.—CALCEOLARIA, saved from carefully hybridised flowers, possessing all the recognised floral qualifications, viz., size, form, colours, and marking. Price, 1*s.* and 2*s.* 6*d.* per packet. CINERARIA, extra choice, 1*s.* per packet. PRIMULA SINENSIS FIMBRIATA, extra choice, 1*s.* and 2*s.* 6*d.* per packet. DRACÆNA (CORDYLINE) INDIVISA, from Mount Egmont, New Zealand; beautiful fine foliaged plant, 1*s.* and 2*s.* 6*d.* per packet.

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

**Novelties of 1863.**

SPECIAL OFFER TO THE TRADE.

HENRY WALTON has an immense stock of the following in strong healthy plants:—

| | |
|---|---|
| Fuchsias, 6*s.* per dozen. | Pentstemons, 6*s.* per doz. |
| Verbenas, 3*s.* per dozen. | Antirrhinums, 5*s.* per doz. |
| Petunias, 5*s.* per dozen. | Chrysanthemums, 5*s.* per doz. |

Private parties will be treated with on equally liberal terms.

DESCRIPTIVE LISTS on application, inclosing Stamps.

EDGEND MARSDEN, near Burnley, Lancashire.

200,000 FOREIGN BULBS.—The Proprietors of the St. John's and Newton-Moor Nurseries, Wakefield, having made large purchases of BULBS, we shall be able to supply first-class kinds in good healthy roots.

A comparison of prices will show that they can be purchased at this Nursery 20 per cent. lower than at many others. No effort has been spared to maintain the high celebrity this establishment has long enjoyed for Bulbous Roots. CATALOGUES gratis.

WM. BARRATT, Manager.

**Dutch Bulbs, &c.**

LOUIS VAN HOUTTE'S new BULB CATALOGUE, No. 97, is to be had at Messrs. R. SILBERRAD & SON'S Office, 5, Harp Lane, Great Tower Street, London, E.C.

N.B. The LILIUM, GLADIOLUS, and other tribes now in Full Bloom are of course not ready and not included in No. 97; they will be found in No. 98, now in preparation.

Ghent, Aug. 1.

**Dutch Bulbs.**

E. H. KRELAGE AND SON, Haarlem, Holland, beg to announce to the Trade only, that their TRADE CIRCULAR for July has been sent to their Correspondents. It contains Miscellaneous Bulbs, &c., a collection as rich as ever was offered, with prices per dozen, 100,000 or upwards.

The TRADE CIRCULAR for June contains Hyacinths, Tulips, Crocuses, Narcissus, Anemones, Ranunculus, Fritillarias, Lilium, Iris, &c.

The Gladiolus, Pæonies, Cannas, and other Tribes will be published in the TRADE CIRCULAR for August.

E. H. K. & SON'S Trade Circulars will be addressed to Seedsmen, Nurserymen, or Florists on prepaid application.

**Camellias and Indian Azaleas with Buds.**

THE NURSERIES, GHENT, BELGIUM.

JEAN VERSCHAFFELT begs respectfully to announce that his Stock of CAMELLIAS and INDIAN AZALEAS with buds, including only first-rate varieties, is particularly large and fine this year, and will enable him to meet every demand. The prices are kept as low as possible, viz:

| | | | | | |
|---|---|---|---|---|---|
| CAMELLIAS with buds, fine plants .. | £6 | 0 | 0 | per 100 |
| Do. do. larger do., 8*l.* to | 20 | 0 | 0 | ,, |
| AZALEA INDICA, nice plants, at from .. | 4 | 0 | 0 | ,, |

Early orders are solicited, and are to be directed to

JEAN VERSCHAFFELT, 43, Rue de la Caverne, Ghent, Belgium.

THE NEW HARDY RHODODENDRON AUGUSTE VAN GEERT.—This extraordinary variety will be sent out on the 1st of September, it is the largest bouquet of its class, of which the flower has been seen by many of the leading nurserymen and amateurs in England and on the Continent. A drawing will be sent on application.

Price of Plants free to London, 7*s.* 6*d.* to 21*s.* each. One over for every three taken. Early orders solicited.

A. VAN GEERT, Nurseryman, Ghent, Belgium.

**Camellias and Indian Azaleas, with Flower Buds.**

A. VAN GEERT, NURSERYMAN, Ghent, Belgium, begs to remind his friends who patronise him with their confidence, that they should send this season their orders in early for CAMELLIAS, with flower buds, in order they may be well served, as the prospect of flower is now very abundant.

CAMELLIAS, with flower buds, 5*l.* to 6*l.* per hundred.
INDIAN AZALEAS, with flower buds, 4*l.* to 5*l.* per hundred.

TURNIP SEEDS for PRESENT SOWING.

As some kinds of Turnips are more suitable for late sowing than others, Messrs. SUTTON beg to recommend the undermentioned as the most desirable for that purpose.

Prices for the months of July and August, 1863:—

SUTTON'S EARLY SIX WEEKS TURNIP, 8*d.* per lb., or cheaper by the bushel.
SUTTON'S IMPERIAL GREEN GLOBE, very fine, best for the main crop, to be sown in July and August, for autumn and winter use, 8*d.* per lb., or cheaper by the bushel.
SUTTON'S SHORT-TOP SIX WEEKS, new sort, scarce, 1*s.* per lb.
CATTLE CABBAGE (the heaviest of all Agricultural Crops), should be sown in July and August, for transplanting in October and in the Spring.

GARDEN and FLOWER SEEDS for AUTUMN SOWING.

Messrs. SUTTON and SONS have a good stock of fresh Seeds of the undermentioned kinds, which should be sown during the months of July, August, and September.

| | |
|---|---|
| Cabbage, choice sorts | Radish, of sorts |
| Lettuce, do. | Spinach, do. |
| Onion, do. | Turnip, do. |
| Carrot, Early Horn | Cineraria, choice sorts |
| Cauliflower, choice sorts | Calceolaria, very fine |
| Endive, of sorts | Primula sinensis |

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

T. W. DASHWOOD has a quantity of the undermentioned PLANTS for SALE at 3*s.* per 1000.

| | |
|---|---|
| Drumhead Savoy | Green Curled Kale |
| Dark Green Colewort | Broccoli of sorts |
| Cottager's Kale | |

Red and White Celery, 6*s.* per 1000.

Queen's Road Nursery, Peckham.

W. VIRGO AND SON have a great quantity of the undermentioned Plants to offer for Sale, at the following prices:—

| | | |
|---|---|---|
| DRUMHEAD CABBAGE .. .. .. | 3*s.* 0*d.* | per 1000 |
| DRUMHEAD SAVOY .. .. .. .. | 3 0 | ,, |
| Red and White Transplanted and strong CELERY .. .. .. .. .. .. | 6 8 | ,, |

Wonersh, near Guildford.

**Roses.**

The ROSES at the WALTHAM CROSS NURSERIES are NOW in FULL BLOOM.

MR. WM. PAUL respectfully invites all lovers of this popular flower to visit and inspect them. TWENTY FIRST PRIZES and NINE SECOND have been awarded to him for ROSES during the present year, and above 100,000 Plants are now growing in these Nurseries. Waltham Cross is 11 miles from London, and a first-class station on the Great Eastern Railway. It is also a delightful drive from the West-end of London, through Tottenham, or the Green Lanes and Enfield.

Entrance to the Nurseries from the platform, Waltham Station (for railway passengers only), and from the High Road, Waltham Cross, N.

ROYAL HORTICULTURAL SOCIETY, FRUIT COMMITTEE.

A MEETING of the COMMITTEE will be held on TUESDAY, August 4, for the Examination of such Fruits and Vegetables as may be then exhibited, and on which occasion the following Prizes are offered:—

| CLASS | 1st Prize | 2d Prize |
|---|---|---|
| A.—For the best dish of any of the NEWER varieties of PEACHES .. .. .. | 20*s.* | 10*s.* |
| B.—Ditto of NECTARINES .. .. .. | 20*s.* | 10*s.* |
| C.—Ditto of APRICOTS .. .. .. .. | 20*s.* | 10*s.* |
| D.—For the best Scarlet-fleshed MELON .. | 10*s.* | 5*s.* |
| E.—Ditto Green-fleshed ditto .. .. .. | 10*s.* | 5*s.* |
| F.—Best 3 dishes of the NEWER sorts of PLUMS .. .. .. .. .. | 20*s.* | 10*s.* |
| G.—Ditto of CHERRIES .. .. .. .. | 20*s.* | 10*s.* |
| H.—Ditto of APPLES .. .. .. .. | 20*s.* | 10*s.* |
| I.—Ditto of PEARS .. .. .. .. | 20*s.* | 10*s.* |

All Fruit must be ripe and fit for table; and no Fruit will be permitted to compete except what is allowed to be tasted by the Committee.

Communications and packages must be delivered at the Garden, South Kensington, by 11 o'Clock on the day of Meeting, and address to

ROBERT HOGG, LL.D., Secretary to the Committee.

# The Gardeners' Chronicle.

*SATURDAY, AUGUST* 1, 1863.

MEETINGS FOR THE ENSUING WEEK.

TUESDAY, Aug. 4 { Royal Horticultural (Floral and Fruit Committees) at S. Kensington.

SOME enquiries that have lately reached us show that information is still wanted upon the GROWTH OF ENGLISH TIMBER TREES, notwithstanding what was done by LOUDON in his Arboretum. A more interesting subject can hardly be suggested, and we should be extremely glad to become the medium of conveying such information to the world. We trust that Mr. MENZIES will also go fully into it in his projected great work on Windsor Forest, a notice of which will be found in another column.

By way of assisting in the work, we now publish a return by Mr. ROBERT THOMPSON of the state of the more important trees in the Arboretum of the Royal Horticultural Society at Chiswick. This Arboretum, which is extremely rich in hardy trees and shrubs, was planted in the years 1824 and 1825 upon old market garden ground, by no means too favourable to the growth of timber, and closely covered with grass, either as lawn or for hay. We think it offers a fair specimen of what may be expected in the midland counties of England.

| Name. | Girth at 3 feet from the ground. | | Estimated height. | |
|---|---|---|---|---|
| | ft. | in. | ft. | in. |
| Tilia europaea, the Common Lime Tree .. .. | 3 | 5 | 41 | 0 |
| Acer macrophyllum .. .. .. .. .. | 6 | 0 | 58 | 0 |
| ,, eriocarpum .. .. .. .. .. | 3 | 3 | 35 | 6 |
| ,, Negundo .. .. .. .. .. | 5 | 0 | 35 | 0 |
| Quercus Cerris, the Turkey Oak .. .. .. | 4 | 10 | 51 | 0 |
| ,, sessiliflora .. .. .. .. .. | 6 | 0 | 45 | 0 |
| Juglans nigra, the Black American Walnut .. | 5 | 3 | 46 | 0 |
| Ailanthus glandulosus. Three stems respectively, 3 ft. 2 in., 4 ft., and 3 ft. 7 in.; in all .. .. | 6 | 2 | 43 | 0 |
| Liriodendron tulipifera, the Tulip Tree .. .. | 4 | 4 | 42 | 0 |
| Salisburia adiantifolia .. .. .. .. | 1 | 5 | 18 | 0 |
| Platanus orientalis, the Oriental Plane .. .. | 5 | 4 | 37 | 0 |
| Carpinus Betulus, the Common Hornbeam .. | 3 | 5 | 24 | 0 |
| Fagus sylvatica, the Common Beech .. .. | 3 | 10 | 54 | 0 |
| Castanea vesca, the Sweet Chestnut .. .. | 6 | 3 | 30 | 0 |
| Æsculus Hippocastanum, the Horse Chestnut .. | 5 | 6 | 48 | 0 |
| Sophora japonica .. .. .. .. .. | 6 | 10 | 48 | 0 |
| Salix vitellina, the Yellow Willow .. .. .. | 6 | 2 | 50 | 0 |
| Populus angulata, the Carolina Poplar .. .. | 7 | 6 | 75 | 0 |
| Pinus sylvestris, the Scotch Fir .. .. .. | 5 | 0 | 50 | 0 |
| ,, Sabiniana .. .. .. .. .. | 4 | 8 | 32 | 0 |
| ,, Lambertiana .. .. .. .. .. | 6 | 0 | 35 | 0 |

There is also the famous Wistaria sinensis, planted against a south wall in the year 1825, which has 10 principal arms measuring respectively about 10 inches in girth, and 190 feet in length, with a general girth at the ground of 4 feet.

THOSE of our readers who seek amusement or instruction in our advertising columns will doubtless have observed a few weeks since the announcement, by Mr. SALTER, of an Exhibition of PYRETHRUMS. The race of Pyrethrums to which this announcement referred, and which comes from the stock indifferently called Pyrethrum Carneum or Roseum, is a new garden flower, which promises to rival, if it does not excel, such subjects as the Phlox and the Pentstemon, having moreover the advantage of blooming at an earlier period.

The parent plant is tolerably well-known as a hardy herbaceous perennial, with finely cut almost fern-like leaves, and large daisy-shaped flower-heads with a broad spreading ray of pale pink or rose colour. That it should have given rise to a new race of ornamental border plants with "double" flowers no one would have dreamed a few years since; and yet as its Sisters, the Chrysanthemum and the Feverfew, have shown themselves to be sportive maidens, ever and anon putting on double faces, it is not to be much wondered at that Sister Carneum should follow in their wake.

The first change—a sport in colour—as we learn from Mr. SALTER, took place about 1853; and for following this up cultivators are indebted to the indefatigable hybridizer, the late M. THEMISTERE. In 1858 the first semi-double Anemone-flowered variety was obtained, since which the progress has been so rapid that at the present time, what with singles, semi-doubles, reflexed doubles, and Anemones, there are something like 50 or 60 named varieties, amongst which there occurs a considerable amount of diversity of colour. Here then is a new subject rapidly developing into what is called a florist's flower.

This being so, it behoves us, while the character of the flower is, as it were, being moulded to our desires, to determine what is the most perfect character that can be given to it. It seems to us that the nearly-related show Chrysanthemum will afford the requisite model. Setting aside the mere singles and semi-doubles as border flowers—and very showy border flowers too they are—we have remaining the Anemones and reflexed doubles as the highest points severally attained in two different directions. From these must be moulded more perfect Anemones and more perfect doubles, the latter being the more important class of the two. At present this latter group yields us only varieties with reflexed florets. We must go on seeding and selecting from these till we get the florets arranged with perfect regularity, and the flower heads nearly globular in form, not less than two-thirds of a ball being accepted as perfection. From these in due time we shall no doubt obtain sports with incurved florets, and then these must be seeded, selected, and perfected in the same way. So will these Pyrethrums, viewed as florist's flowers, be rapidly converted into an interesting and novel group of early summer-blooming pet plants.

But they are not flowers for florists only. They are gay, showy, ornamental subjects for the garden, flowering abundantly from the middle of May to the end of June, and again less vigorously

from side shoots in August and September. It so happens that the singles and semi-doubles, from being taller in growth are the more suitable for the least pretentious positions, as shrubbery borders and such-like places, while the choicer double sorts are better fitted for beds and the more dressy parts of the garden. The average height of the double varieties is from 12 to 18 inches, that of the single kinds a couple of feet.

This showy Pyrethrum has one especial good quality, namely, that it will flourish almost anywhere. For high cultivation, however, the most suitable treatment is to plant them in good rich loamy earth, in an open situation; and being herbaceous they can be propagated with every facility by division. This, according to Mr. Salter's experience, is best done in February or March, though it may be effected in July after the first flowering is over. Seeds may be sown either in August or in early spring, and the seedlings, if duly encouraged, generally flower the first year.

In order to give our readers some idea of the nature and extent of the materials which are at present available, we append the following list of the better sorts, which has been kindly handed to us by Mr. Salter, by whom those marked (S) have been raised:—

Double Varieties.

| | |
|---|---|
| Album plenum .. .. | white |
| Boule Rose .. .. .. | rosy blush |
| Candidum plenum .. .. | white |
| Carneum plenum .. .. | blush |
| Charles Baltet .. .. .. | bright rose |
| Comte de Montbrun .. .. | rosy lilac |
| Delicatum (S) .. .. .. | French white |
| Floribundum plenum .. | bright rose |
| Fulgens plenissimum .. | dark red |
| Galathée .. .. .. | light rose |
| Gustave Heitz .. .. | bronzy rose |
| Hendersonii .. .. .. | dark red |
| Herman Stenger .. .. | rose, ranunculus-formed |
| Iveryanum (S) .. .. | very large rosy red, ranunculus-formed |
| Lysias (S) .. .. .. | dark rosy red |
| Madame Fourcade .. .. | white |
| M. Bonamy .. .. .. | creamy white |
| Mr. Dix (S) .. .. .. | bright rose, very large |
| Mrs. Dix (S) .. .. .. | blush white |
| Pink Pet .. .. .. | rose pink |
| Princess Alexandra (S) .. | large pure white |
| Purple Prince (S) .. .. | dark red purple |
| Purpureum plenum .. | red purple |
| Roseum album (S) .. .. | rose, with white centre |
| Roseum plenum .. .. | rose lilac |
| Striatum plenum (S) .. | rose, flaked with white |
| Themis .. .. .. | rose carmine |
| Thomas Massart .. .. | rosy buff |
| Versailles Defiance (S) .. | rose, ranunculus-formed |
| Vilmorin .. .. .. | rose |
| Wilhelm Kramper .. .. | rose, ranunculus-formed |

Single Varieties.

| | |
|---|---|
| Duchesse de Brabant .. | rose |
| Gloire de Nimy .. .. | red |
| Kleinholtz .. .. .. | crimson |
| Milleri .. .. .. .. | peach |
| Prince Alfred (S) .. .. | bright red, very large |
| Princesse Charlotte .. .. | rosy red |
| Tom Pouce .. .. .. | red, very dwarf |

Even ordinary mixtures of this flower, such as may be obtained from sowing a packet of mixed seeds, produce beds of very gay looking flowers, as we have on more than one occasion witnessed during the present season. We may also mention that a group of some of the earlier varieties of these Pyrethrums will be found in the *Illustrated Bouquet* for Feb., 1860, plate xxxviii.

## STRAWBERRIES, AND ONE WORD ABOUT ROSES.

In the House of Commons one of the members is called "Tear'em," or the faithful watch-dog. I have taken upon myself a similar office in respect to Roses and Strawberries. The difference is this:—The member in question points out all the faults he can find; I limit myself chiefly to pointing out the excellencies of Roses and Strawberries; and if purchasers had attended to what has been said, they would not now be recording their disappointments. Nothing therefore but the good of the public service would have induced me to write again so soon.

I have read what has been said in your Number of July 18, page 677. I will refer first to what has been related by Mr. Gloede. I concur in all he has said, so far as I have had experience. John Bull will not try pistillates, if he is instructed (as I was by Mr. W. Prince) to plant a staminate or strong hermaphrodite by their sides in order to produce fruit—a necessity that I do not consent to. I told Mr. Prince that Hovey's Seedling was a bad setter—I might have added sour and pasty—upon which he recommended me to plant by its side a strong hermaphrodite, which I believe he named Peabody's Seedling; unless I am better instructed, I shall not believe that a pistillate requires for fruiting either staminate or hermaphrodite plants. For prolification of seeds of course it will require one or other.

The Americans that I have had are discarded. I have Fillmore on trial. Triumph, a very pretty glazed plant, is the best that I have had. It requires damp ground. It is a great cropper, with handsome red fruit of fair flavour.

As regards planting staminates there is this nuisance to be added to the unnecessary impoverishment of the ground, the immediate and constant running of male runners, which might possibly bewilder and cause confusion when you make a new plantation. Besides, in our limited English gardens, we have not room to allow of an unnecessary duplicate plant.

I will now refer to what Mr. Worsley has said, from whom I have received a kind letter.

La Constante and La Chalonaise are both most delicious and first-class Strawberries, but neither is suitable for all lands. The first has yielded me a fine crop of delicious fruit. The plants have suffered much from sun, and if the winter is severe they will do nothing next year. La Chalonaise is a Queen in leaf and flavour, and like the Queen, dislikes chalky soil. The proper land for these two and the Queen race is land abounding in alumina, of which I have not a particle. The best Queens I have ever heard of have been grown in stiff clay, requiring a pick-axe to break it up. I should think that clay mixed with sandy loam on high ground—at any rate away from our hoar-frosty valleys—would be the proper soil and site for the above Strawberries. For critical situations, and for the country generally, I am persuaded that Rivers's Eliza, Wonderful, and Eugénie—three first-class Strawberries—are the best to have. The crops of the two first, in all ages, from plants set on July 24 last year to three-year old plants, have been enormous. I have never known these sorts fail under any circumstances. Lord Portman's head gardener came here with a present of Grapes late in in the season, accompanied by Mr. Farquharson's gardener. The plants of these two sorts had been picked 4 or 5 times clear, and yet they were astonished at the remnants, and thought them a large crop and the flavour good. Eugénie, Marguerite, Eclipse, Royal Hautbois, Frogmore late Pine, Emma, Lucas, President, and Boisselot Seedling No. 1 (called now La Vineuse), are meritorious Strawberries. Lucas is a seedling from La Constante, in the same line of flavour, and more suited from its strength to go into the lands of England generally. It is not so nice as a plant as pretty tufty La Constante. The crowns are bold and wide apart, the foliage is strong and leggy. It is good, but it has not been equal to La Constante; indeed, it will take a good Strawberry to beat a well ripened La Constante.

One word as regards Sir Harry. Two kinds were distributed by some one or another. I had first the false Sir Harry; and I must say it was best here as a plant, a wonderful cropper, and of good flavour. Mr. Gloede, who detected it, sent me from Mr. Nicholson's, whose kindness and generosity I have not forgotten and whose loss I regret, the true Sir Harry. This sort here was not a success. It requires warmer and well drained land. It is a dwarfish plant, and just like Mr. Underhill's picture of it. The fruit also matched the portrait. The berries are rounder than those of the other. The leaves are almost a circle, and of a smoother appearance. The false Sir Harry's leaves are flatter at the top and more tapering towards the leaf stalk. The false Sir Harry here was a large stalwart plant as high as my knees. I have got rid of both; but I have had a legion of worse friends than the false Sir Harry. I wonder whether Mr. Worsley has got the true or the false?

One word as regards the sending out of false Strawberries. I do not think for one moment that such respectable men as Lucombe and Pince sent out Eleanor or Adair for Nimrod. It was done, I imagine, by some unprincipled intermediate buyer. He has, perhaps, a larger order than he can supply, and makes it up with such plantlings as match in leaf; and when the plants of Eleanor and Nimrod are young the leaves are much alike, but quite dissimilar when they attain age of leaf. I sent the true Nimrod to Mr. Rivers, and he says in his last Catalogue, "a distinct and good sort."

The same observations apply to Mr. Underhill and Sir Harry. This leads me to recommend your readers, and all purchasers of novelties, to go to head-quarters. Do this, or don't complain of charlatans. I am told that in another country the following ingenious fraud is practised in respect to Roses. "A seedling is shown to different people under four different names. The plant and flower then are matched as near as can be, and thus the stock and sale are quadrupled." Of course this trick is only played by unprincipled men who may be found in all countries. It is not a thing that would be done by the numerous high-charactered nurserymen of England and France. As long as the world lasts "Jeremy Diddler and the Lying Valet" will be acted. John Bull is especially fond of being "diddled."

I thank Mr. Dean for his too flattering mention of my name. The account of the Strawberries at Egglescliffe (of such as I have had) is quite correct to an iota. I must not forget also to acknowledge Mr. Kent's compliment in regard to Roses. He will be glad to hear that Prince Camille de Rohan, the darkest of H.P.'s, thick-petalled and velvety, Duc de Rohan, Maurice Bernardin, and Charles Lefebvre are still blooming most beautifully. They are all A 1. Next in merit, and very beautiful and good, are Beauty of Waltham and Madame Bontin. Add F. Lacharme and Eblouissante, Mad. C. Wood, Professor Koch, M. Julie Daran, Maréchal Vaillant, M. Ernest Dreole, and John Hopper (very good here), Archevêque de Paris and Alphonse Damaizen, and you have the largest number of good Roses that have come out in any one year. Nevertheless, except 2, 3, 4, there is nothing equal to Senateur Vaisse and Chabrillant. Turenne is not full enough, but its petals and colour are A 1. All the above Roses are good growers. *W. F. Radclyffe, Rushton.*

## FISH AND FISHING.—No. XII.

### Tench and Carp Fish Ponds.

(*Continued from* p. 701.)

As to supplying ponds with tench or carp, they being both very long lived fish, even out of water, nothing is easier, provided you can acquire them near by; and necessarily no fish is easier of conveyance from a great distance in a tub of water, provided, according to distance, you take out some of the exhausted water and pour in an equal quantity of fresh soft water every hour or so. A very simple machine was invented by Mr. Eyre, called "a fish carrier," and by it grayling, perhaps the most delicate and shortest lived of fish, were conveyed during the winter months from Derbyshire to Scotland, and 49 out of 50 (if I remember right) survived the journey. By this machine fresh air is pumped into the water, and the water becomes re-aërated. It is in common use for conveying delicate fish, trout and grayling, &c., from distances, but tench and carp for moderate distances would not need such precaution.

There are plenty of shops in London where they undertake the supply of young stocking fish of all kinds—Wright, fishing tackle maker, Strand, and many others. And again, if the talked of Piscicultural Society comes into existence, yearlings or monthlings of tench and carp will be before long procurable in any quantity. But of all things be sure you do not get those wretched useless little fish called Crucian or Prussian carp—rather stock with gold fish.

Somewhere about 43 years ago, my brother Tom and I sallied from Tunbridge Wells to, I think, Ashford in Kent, and there got permission to try for some of these little fish (Crucian carp). We were catching them at a great rate, when the alarm was given that a "Hop oast" close by was on fire! Tom, fond of fire as of water, darted off, leaving me to pack up tackle and fish in a place of safety and join him at the fire. I found him all alive in places of danger, as though in his element. The fire was soon extinguished and we returned, the fishing day having been speedily terminated. Having permission to "try again," he went with a friend, as I was not able to go. The day turned out one of the deluge days, as it poured incessantly, and although the friend had never held a rod before, they caught so many of these "sprats" that they filled a very large basket, and only ceased when the owner of the pond told them they had almost emptied the pond, and in broad terms that they had caught enough! At home they did nothing with these fish—"they were not fit for the gridiron, and were not thought worthy of the frying-pan." And though mad after fishing, and though little older than hoby-de-hoy and boy, we never felt the smallest inclination or desire to try such angling again.

But to return to tench and carp proper, I ought to say a word as to the mode of fishing for them. I believe I always chose and ground-baited one or two particular spots or sites. My ground baits were fowl garbage, grains, or bread crumbs, just as I could get them; and I always plumbed the depth before-hand over night, and I think I regulated my float so that the hook should be one or two inches above the bottom of the pond—perhaps more for tench. Always using fine but sound gut and a small hook, I would bait my hook with small red worms, or gentles, or bread paste—for carp, with the two latter only—and I don't remember being often disappointed of catching fish enough for a large family dinner. Strike at every nibble for carp. For tench or carp strike when the float lies on the surface flat, or when it glides gently away. But of all things, "study to be quiet."

But I remember another early autumnal day never to be effaced, as a picture, from my mind's eye. Tom and I were going out to catch carp in a pond on the Common at Harrow Weald early one morning. My bed room faced the east, and no curtains were drawn. I must have been slightly feverish: for the first glimpse of the rising sun broke me into a wide-awake state in an instant. There was the first smallest segment of the glorious sun, and above and all around him clouds of every tint of gold and crimson, and purple, and of pink—rare signs of coming foul weather. Never till then had I seen so glorious a sight. Since, many. Too restless to sleep again, I woke Tom to see the sight, and though long before our intended time, he rather reluctantly rose, and a short walk brought us to the pond. The carp "bit" most freely, and we had little time to wait for them. We had taken about 20, averaging from a little under 1 lb. to near 3 lbs., when heavy rolls of thunder came from the distance: then at increasing intervals we took fish one by one: then they ceased to bite altogether. We persevered, for there was still a gleam of sunshine, but caught no more. At length the clouds became leaden black, and then the heavens were opened, heavy drops fell first as signals, the lightning flashed and the thunder roared, heavy and incessant, and we beat a retreat to an outshed of our friend (the owner of the pond, who was scarcely risen), until the storm raged in all its fury, and then passed away, leaving its trace in persistent rain, which lasted for an hour or so fiercely. We communi-

cated our distressed condition to our friend in-doors, who answered by permission to fish his large tench pond in his garden, and an invitation, "breakfast ready in an hour." We fished the time for the tench, and they fed most furiously, though it rained ditto. We caught enough and to spare, to send in to our friend four brace of fine golden fellows of about 2lbs. each, and pleading our "moist" condition as an excuse as to breakfast, hurried home to an early luncheon breakfast—to be enjoyed the rather in dry garments. It was doubtless a morning of great success in tench and carp fishing; but the glory of the opening of day, contrasting with the gloom of the forenoon-return-home, has left a painful impression on my mind. *E. C.*

## EXHIBITION FLOWERS.

### The Pelargonium.—No. I.

The class of Pelargoniums which I intend to bring into notice in this paper is that of the large flowering or show varieties. If we begin with young plants received from a nursery by the beginning of November (and the earlier the better), I may say that as soon as they arrive, if the pots are tolerably well filled with roots, shift them into 6-inch or 32-sized pots, employing a mixture of sound turfy loam (dug at least 12 months before it is used) and well decomposed stable dung, three parts of the former to one of the latter, with a liberal admixture of sharp silver sand, and abundance of drainage. Keep the plants rather close for a few days after potting, in order to encourage rooting into the fresh soil, after which abundance of air should be given on every favourable opportunity—but avoid cold draughts. The temperature at night need not exceed 42°. As soon as they have grown about 5 or 6 inches they should be stopped, which will induce them to make dwarf bushy plants. Keep them as near the glass as possible; this will insure a vigorous and sturdy growth, without which you cannot hope for future success. Fumigation must be strictly attended to; and in watering at this season of the year it is better to incline rather to the side of dryness than otherwise; the operation should however invariably be done in the morning, so that the house may become dry before closing, which should be done early, so as to dispense with fire heat as much as possible.

By February, if all has gone on well, the plants will be in a thriving condition, with from 5 to 6 shoots on each. If the intention is to exhibit, and I am presuming that that is the case, they should now be shifted into 24-sized pots, (which will be large enough for the first season), and encouraged to grow as freely as possible; the object in view being to obtain a large plant in the shortest possible time.

As they progress, the process of training must be commenced; a piece of string should be passed round beneath the rim of the pot, and the shoots gradually brought down; in doing this they should be arranged so as to form a framework, on which, if I may use the expression, to build the future specimen; the shape of which should be that of a dwarf round bush. As the days lengthen, water more freely, and occasionally a little weak liquid manure may be given; that made from sheep or deer dung is the best. Give abundance of air on all occasions, as nothing spoils the Pelargonium like "codling" it.

By the middle of May a slight shade will be necessary during the heat of the day, but be careful not to have too much of this as the plants are then young and sappy. There is now little else to be done except attending carefully to the watering. Before the plants come into bloom fumigate them two or three nights in succession, and exclude all bees.

When they have done flowering set the plants out of doors in the full sun, and give them only a moderate supply of water in order that the wood may become well ripened before cutting them down, which may be done the third week in July. In performing this operation leave the shoots from 6 to 7 inches long, bearing in mind the form of the plant. They should now be protected from heavy rains, and when they have "broken," and the shoots are about half an inch in length, the soil should be shaken from the roots, which latter should be pruned in, and the plants then put back into pots a size smaller. Place them in a pit and keep them close and well shaded during the day, giving plenty of air early in the morning to dry them off, a slight sprinkling will do good in the evening. Give sufficient water to keep the soil moist. When rooted, gradually inure them to light and air. They should be housed by the beginning of September, and receive their final shift into 8-inch pots by the end of October. In training only a few small Willow sticks, will this season be necessary to support them. Attend in every respect to the routine recommended for the first season.

When the bloom is over, cut down, shake out, &c., as before, and this being the commencement of the season in which you are to exhibit, every attention will now be amply repaid.

The plants for the May Shows should receive their final shift not later than the first week in October; and they should be encouraged to make as much growth as possible before Christmas, in order that they may have a period of comparative rest in January, during which time they should be kept as cold as possible to thoroughly ripen the wood, without which neither quality nor head of flower will be obtained. Train carefully as soon as the shoots are sufficiently long, and arrange the latter so as to admit light and air to all parts of the plant. When the days begin to lengthen, the plants may be encouraged a little, by shutting up early on bright afternoons, and a little fire-heat will be occasionally required, but when used admit air at the same time. Occasional waterings with weak liquid manure will be beneficial, and fumigation should be strictly attended to.

Plants for June and later require similar treatment, but of course they will not want exciting so early as the others. Those for blooming latest may be stopped in February, and kept as cool as possible. When in flower, the blooms should be tied a few days before they are wanted for the show, and arranged so as to form as even a mass of blossom as possible. They should be carefully shaded from the sun, bees must be excluded, and the house kept as dry as possible.

The best description of house for the Pelargonium is a "lean-to," which should be made as light as possible; the stage should slope at about the same angle as that of the roof, and it should not be further than 5 feet from the glass. *Henry Bailey, jun., Shardeloes Gardens, Amersham, Bucks.*

## Home Correspondence.

*Exhibitions and Wet Weather.*—It seems to be generally admitted that flowers placed under canvas are much more effectively shown and much better seen than in any other way; but in this climate wet weather cannot be ignored, as the Horticultural and Botanic Societies know to their cost. Now, has not London an opportunity of obtaining the *ne plus ultra* of exhibition spaces at the Horticultural Society? Could not an effort be made to obtain a portion of the vacant ground to the north of the council room entrance, say 150 by 200 feet? letting it be glazed over in the cheapest way, with means for straining very light canvas from pillar to pillar. Tent effects would thus be obtained under cover. I say 150 by 200 feet, for 151 feet happens, I believe, to be the width of the spot I name. It would be amply sufficient for all ordinary exhibitions, and the adjoining arcades would afford space in any exceptional case. By taking the entire width of the space from the road to the arcade, it might be arranged so as to have three large doors in Exhibition Road, by which the plants could be lifted out of the vans, almost at the very spot at which they are to be shown, thus saving the exhibitors of large collections expense of labour. Visitors would have opportunities, the moment they entered the garden, of seeing the display from the high level of the general entrance, and also from the still higher level of the centre arcade. From being under cover the stands could be permanently fixed, which would save the Society the great cost of having to continually put up and pull down the present exhibition stands; and finally, the space being protected from wet, with means for ample ventilation being provided, the plants could, at small additional cost, be kept on view for three days, so as to give all classes outside the Society and its aristocratic supporters an opportunity of seeing the marvels of cultivation, say, as at present, Fellows and 7*s.* 6*d.* tickets on Wednesday, 2*s.* 6*d.* tickets on Thursday, and 1*s.* on Friday. *Humidus.* [We long ago recommended a glazed roof provided with a canvas screen.]

*Rubus leucodermis* (*White-stemmed bramble of the Himalaya*).—This plant deserves to be more extensively known, for it is perfectly hardy and altogether unlike any other plant in cultivation. Its stems, which are armed with most formidable spines, look as if smeared over with whitewash, indeed many who see them for the first time suppose that they have actually undergone that process (and hence of course the name). They rise 10 feet or more high, even in this comparatively rigorous climate; but I can scarcely doubt that in the sheltered and sunny nooks of Devonshire or Cornwall they would put forth a still greater luxuriance, and rival a specimen which as an experiment I planted out some 18 months ago in the orchard house at Knypersley. Here the canes, which were an inch thick, grew 7 yards in three months, and being clothed at their extremities with slender drooping spray, had a most extraordinary effect. I was led to make this trial, in the hope of obtaining fruit of better quality than that which the plant produces out of doors, and which is too acid to be pleasant; but although under glass the canes this spring flowered profusely, still very little fruit was set, and what there was proved rather insipid, owing no doubt to the temperature of the house (where hot-water pipes are freely used) being somewhat too high. The fruit is larger than that of our wild Raspberry, and of the most intensely brilliant orange colour. Birds are especially fond of it; and I cannot but think that a thicket of this Rubus, which would be almost as impervious as a jungle of Cactus Opuntia, might prove of great service to the preservers of game. I obtained my plants from Mr. Veitch. *J. B., Biddulph Grange.*

*The Royal Horticultural Society.*—I quite agree as to the benefit which would be derived from the alteration you propose on the Eastern and Western sides of the garden, but fear the value of the land is too great, hopelessly great, and that "her Majesty's Commissioners for 1851" would never listen to such an application; but I do think they might perhaps be willing to aid a little in the improvement of the property, in which they are themselves said to be so deeply interested; and I would suggest that the Society should make an application to them to widen the Eastern arcade 10 or 12 feet; this would give sufficient width for the proposed Conservatory, and as the wall is only at present lath and plaster, would cause no pulling down, and when roofed over with glass, would be indeed a delightful promenade. *Alpha.*

*Golden Hamburgh Grape.*—Your correspondent who makes a report of the York Flower and Fruit Exhibition (see p. 654), has expressed a desire that I should give your readers my experience of this Grape, and I can the more readily do so, as I have been told by several gardeners who have called at Upleatham, that it is being generally discarded in the North as worthless—a decision to which I certainly have not yet come. I consider that it is of fair average quality, and valuable where Grapes are grown to any extent, on account of its fine and very distinct colour. The principal objection that I have heard raised to it is that it is next to impossible to ripen, or to keep it even a short time without shrivelling. It certainly is a very thin-skinned variety, and except something is done to prevent it, the sun, if the season is a warm one, is sure to damage the berries, and in a way that I have never seen happen with any other Grape. They withstand the heat until approaching ripeness, and are then very apt to suddenly collapse, become much discoloured, and the pulp to be converted into a most insipid liquid. I believe there can be only one remedy for this evil, namely, to shade with a very light material. Shaw's Tiffany is what I used, which checks the evil at once; it admits the sun and light partially through it, and if removed as soon as the Grapes are cut from early houses, no damage to the Vine will follow. I have not tried the Golden Hamburgh as a late Grape, and cannot therefore speak as to its properties when so grown; its constitution does not appear to me so strong and robust as that of many other varieties; it is doubtless much benefited by a moderate amount of heat to the roots while growing and ripening, and it would be altogether useless to plant it except in a border well prepared and above all well drained. *M. Gray.*

*Crack Willow* (*Salix fragilis*).—It has always been a marvel to me why this tree has not been more generally planted than it is, for it is very useful where immediate effect is concerned. Branches of it of any length stuck into the ground are sure to grow; but it is of its money value I now wish to speak. We have a quantity of it in meadows on the banks of the Thames; almost every year we fell a lot, and replace the plantation by sticking in a few of the straightest branches, and not one in 50 fails to grow. We all know that it is seldom that a man plants a tree and lives to see it come to perfection, but the Willow in question forms an exception, for a person who lives to see three score years and ten, may if he chooses bring to market three successive plantations of this tree during that period; it has been said by some, that while an Oak tree is buying a saddle, a Willow will buy a horse: this is in some respects true, for the price which this tree fetches, and the demand for it are something incredible. I am constantly besieged by Willow merchants every autumn, who tell me that this kind of Willow is getting scarce, and yet there are many waste wet places one sees where it would be quite at home and yield a better return than any tree with which I am acquainted, at least near a good market for it, such as London is. *J. Rust, Broome House, Fulham.*

*Berberis nepalensis.*—We have two plants here which were put out in the open ground in the spring of 1859. They never have had any protection during winter, and were not in the least injured by the severe frosts of 1860 and 1861. They are sheltered from the east by the mansion, and from the north by a large shrubbery behind them. They are also shaded from the mid-day sun by a Cedar of Lebanon and a large Horse Chesnut tree. They are making strong growths this season, and have flowered for the last two years, but their fruit did not come to perfection. *A. Pettigrew, Richings Park, Conbrook, Bucks.*

## Foreign Correspondence.

Nursery of M. André Leroy.—It may be interesting to know that Wellingtonia gigantea is bearing cones in the centre of France. I had lately an opportunity of visiting this nursery, at Angers, and there, on one of M. Leroy's fine specimen trees of Wellingtonia, were several cones. M. Leroy pointed out to me also that above every cone was one or more male catkins, so that there is every reason to hope that the female flowers were fertilised, and that the cones will bear good seed. Many other Conifers were also fruiting most abundantly in the nursery in question. The soil seems to suit this tribe admirably; it is rather strong land resting on a black slate rock, whence "black Angers" gets its name. Roses and Strawberries also flourish on it. We were too early for Roses, but were conducted through the Rose quarter, and also through the Strawberry quarter, by the able cultivator Victor Trouillard. He speaks highly of some of the seedlings he sent out last year, through Mr. Standish, especially I think, M. André Leroy and Souvenir du Marquis de Colbert. The Strawberries were remarkably fine; specimens of nearly all the best varieties, both English and French, were grown, in what I may call the testing ground, and in such abundance, that it was almost a

service of danger, though very pleasant danger, to go through it. I might write a good deal more about this interesting nursery, but I will not conclude without saying what a frank and hospitable reception we met with from M. André Leroy.

## Societies.

The Botanical of Edinburgh, *July* 9.—Prof. Balfour, V.P., in the chair. The following communications were read:—I. *Description of New Genera and species of Diatoms from the South Pacific* (*No. II.*) By R. K. Greville, LL.D.——II. *Description of the Fruit and Seed of Clerodendron Thomsonæ.* By Prof. Balfour. This plant was transmitted by the Rev. W. C. Thomson from Old Calabar, and it has flowered and fruited in the Botanic Garden. The fruit is remarkable for a bright scarlet cellular covering on one side, which is well displayed when the achenes are becoming ripe. The succulent mass of cells, containing oil-like globules, seems to act in separating the achenes, so that they spread out in a cruciate manner, displaying the scarlet covering on their upper side. The plant is a very showy one both in flower and fruit, and is well worthy of cultivation in our stoves.——III. *Notice of a Botanical Excursion to Kielder and Deadwater Fell, on 4th July*, 1863. By Prof. Balfour.——IV. *Notice of Mosses found in Fifeshire.* By Mr. C. Howie. Communicated by Mr. Sadler. In this communication the author states that he has collected 248 species and varieties of Mosses in the county of Fife, some of them being of rare occurrence in Britain.——V. *Notice of some of the Woods used for Economical Purposes in New Zealand.* By Dr. Tuke. Dr. Tuke described the various economical purposes to which the wood and other parts of the following plants are applied in New Zealand:—"Kauri" or "Cowri" (Dammara australis), "Totara" (Podocarpus Totara), "Maire" (Santalum Cunninghami), "Puriri" or "Kanerce" (Vitex littoralis), "Rimu" (Dacrydium cupressinum), "Mataii" or "Mai" (Podocarpus spicatus), "Kahikatea" (Podocarpus dacrydioides), "Rata" (Metrosideros robusta), "Pukateaake" (Dodonæa viscosa), "Hinau" (Elæocarpus Hinau), "Kabikatoa" or "Manuka" (Leptospermum scoparium), "Karaka" (Corynocarpus lævigatus), "Here Kiakia" or "Kirari" (Phormium tenax), "Koran" or "Pitau" or "Manaku" (Cyathea medullaris), "Koromiko" (Veronica parviflora), "Rowhai" (Edwardsia grandiflora *var.* microphylla), "Mahoe" (Melicytus ramiflorus), "Makomako" (Aristotelia racemosa), "Ngaio" (Myoporum lætum), "Puawhananga" (Clematis indivisa), "Rahurahu" (Pteris esculenta), "Ramarama" (Myrtus bullata), "Rewarewa" (Knightia excelsa), "Tarata" (Pittosporum crassifolium), "Tawa" (Nesodaphne Tawa), Titoki (Alectryon excelsum). The paper was illustrated by growing plants of many of the species referred to from the Botanical Garden and woods from the museum.——VI. *Notice of the Cinchona Cultivation on the Neilgherry Hills.* Transmitted by Dr. Cleghorn. The cultivation of Cinchona, or the Peruvian bark plant, is likely to supply a new produce for the trade of India. Mr. Vincent, an enterprising planter, has secured 5000 Cinchona plants for the land he has purchased; and M. de Facien, an enterprising planter, has secured as many more. Altogether, the orders on record exceed the number of plants Mr. M'Ivor (the superintendent of the Ootacamund garden) will be able to supply at the close of the current official year, which we understand will be 34,000. The plants available in the course of the next year, or from May 1863 to April 1864, are estimated at 100,000. This will be out of the Government nurseries, but the settings from their own stock which planters in the meantime will have been able to rear, will be something considerable, for a single plant, some 6 feet high, in the public garden here, has given Mr. M'Ivor no less than 900 cuttings, each the nucleus of a healthy sapling now, with the promise of a gigantic forest tree hereafter. The enormous source of wealth to which the Cinchona points is actually derived from bricks. When a shoot is taken off a plant, it is immediately placed in a pot filled with brick dust. Hundreds, nay thousands of these pots may be seen in Mr. M'Ivor's conservatories, covered with what look like nothing more than diminutive leaves thrust into them. Here the shoots are allowed to remain, till they recover from the shock attending their severance from the parent stem. They are then transferred to pots charged with a mixture of decomposed felspar and garden mould, in which the process of rooting goes on. Several acres of shola land in the vicinity of the Government garden have been planted, and there can be no doubt that wherever the shade of a forest tree has fallen upon the interesting suckling below, it has pined and withered, or been stunted. The instances of this effect in a romantic glen to which Mr. M'Ivor will cheerfully lead visitors are very remarkable. At a few yards from the umbrage of a group of trees, the plants look exceedingly flourishing, but their healthfulness, size, and vigour, diminish in proportion to their approximation to shade. Some plants, which were put out in the Government garden in various positions a year ago, fully bear out this result. Those in the shade look sickly, and those subjected to drippings look worse. Mr. M'Ivor does not consider the Ootacamund plantation a complete demonstration of his principles, that at Neddiwattum being more corroborative of his views, but any one knowing the difference between a healthy and a sickly plant, must at once acknowledge that shade is not the condition for the active development of the Cinchona. There are, of course, other important particulars connected with the ultimate success of the Cinchona in India, which must be left to time and experiment to establish. We might mention the earliest period of growth at which the alkaloids begin to show themselves, the efficacy of decoctions and infusions made from dry bark and leaves compared with their virtue when prepared with fresh specimens, and the possibility of dispensing in a large measure, if not entirely, with the expensive manufactured article, quinine, in the event of bark and leaf possessing sufficient curative properties to be exhibited in most forms of fever disease. One or more of these points, accompanied with the requisite materials for arriving at correct results, will, we believe, be shortly submitted for decision in England. A very interesting feature in the habitude of the Cinchona plant is its power of reproducing its bark, when deprived of it, to a greater thickness than the original formation. This peculiarity, we learn, has been noticed by Mr. M'Ivor, after covering the denuded parts with moss for a month or two, but whether the larger volume of the bark thus produced will contain a proportionate excess of alkaloids is a subject which at present rests in obscurity.——Professor Balfour read a letter received from J. A. Broun, F.R.S., of the Trevandrum Observatory, Madras, in which he says:—"The finest Palm of these mountains is the Bentinckia Codapana. I think it is the most graceful Palm in Northern India. It grows chiefly in the clefts of precipices and among rocks not easily reached; but there are such forests of it on some slopes that we were kept from starving by cutting it down for the Cabbage (young shoot), which is delicious. Raw, it is like the finest Walnut, but we had it cooked as a vegetable, and as a curry, when we had nothing else to eat. Its effect in the foreground in groups and even in the distance of the landscape is very fine. It is found at a height of from 2500 to upwards of 5000 feet at the place where I have been, but I have no doubt it would grow at higher stations."——Dr. Richard Daunt, Comprinos, St. Paulo, Brazil, sent a specimen of the pod and seeds of "Perovinha do Campo," which are said to be used in epilepsy and other diseases in South America.——Messrs. P. Lawson & Son exhibited a specimen of Sequoia, which had been raised from seed sent from California, and which had been named Sequoia Lawsoniana. They also exhibited and presented roots of Chærophyllum bulbosum or bulbous-rooted Chervil, which are used for food. When cooked they resemble Potatoes.——Prof. Balfour exhibited specimens of Bulbs of Hyacinth and Allium ursinum, assuming a solid corm-like form after flowering.——Prof. M. Bell presented a large branch with fruit of Opuntia vulgaris or "Prickly Pear," cut in his garden at Malta, 17th June, 1863.

## Notices of Books.

*The Capital of the Tycoon: a Narrative of a Three Years' Residence in Japan.* By Sir Rutherford Alcock, K.C.B. Longman & Co.

Very few years have passed over our heads since Japan was a sealed country—a land of mystery; the only accounts of which dated from two centuries back. During those two centuries every attempt to open a less restricted intercourse than the degrading one enjoyed by the Dutch had failed, when, as if by magic, the barricades of ages seemed to be thrown down, and, headed by the Americans, the trading world rushed to take advantage of the new market thus suddenly opened to them. The West overflowed with Japanese productions, the hasty books written by admiring travellers were filled with glowing descriptions of the gentleness, amiability, and intelligence of the people, and at the World's Fair last year, the quaint costumes and singularity of the Japanese ambassadors, made them the lions of the season.

By and by, however, it began to appear that there was a reverse side to the charming picture which had been drawn of life in Japan. Ugly stories reached England of massacres of Europeans, which the government either could not or would not prevent; and the whole is now culminating in all but the certainty of a speedy war. This is no doubt disheartening, after the easy way in which the first ambassadors obtained every concession demanded; but the real fact appears to be, that the Japanese have never departed in the smallest degree from their ancient traditions. They suddenly found themselves pressed by a superior power, which they were unprepared to resist.

"Submission to the exigencies of Western Powers, which some inexorable fate seemed to have let slip upon their devoted country, or resistance with arms in their hands, seemed the only alternatives. The Japanese did, under these circumstances, what almost every Eastern race has done in presence of a superior force. They negotiated and treated, because they felt unprepared to fight. They smiled and dissimulated, employing their utmost skill to give as little as possible; and reserving to themselves the full right hereafter of nullifying all they might feel compelled for the time to surrender."

Another, an equally serious reason, is alleged by Sir Rutherford Alcock for the breaking of our treaties, namely, that they were concluded with the Tycoon only, and that, never having been ratified by the Mikado, the Daimios consider themselves at liberty to contravene them; and this the Tycoon is powerless to prevent. How this mistake is to be rectified does not appear; but the whole course of events since our first entering Japan seems to predict that peace will not be obtained without a previous war.

As might be expected from the responsible situation filled by their author, these volumes form a considerable addition to our knowledge of Japan politics; and they are well worthy of being studied by any one desirous of understanding this singular people. They would, however, have been improved, had they been considerably reduced in dimensions, since they are both diffuse and desultory, and too much extraneous matter is admitted; quotations from Catullus and extracts from De Tocqueville are out of place in a discussion upon Japanese affairs. Nevertheless, the book is both readable and interesting, and all the more so that Sir Rutherford does not confine himself to discussing politics; he gives us an account of the manners and modes of life of the Japanese, and succeeds in bringing them most graphically before us. Here is a picture of the country, and a most tempting and delightful one it is:—"Yes, all this is very true; such fertility of soil, fine growth of ornamental timber, richness and variety of foliage—or such perfection of care and neatness in the hedgerows and shady lanes, the gardens, and the numerous pleasure grounds of the temples, are not, I believe, to be found anywhere out of England. The brilliant green hues and freshness of the grass, and every kind of foliage, rather betokens a damp climate; but the mixture of tropical vegetation with endless succession of evergreen trees, and the hardier race of Pines and Conifers of great variety, gives a character to the whole scenery of the country as novel as it is perfect in effect. The tree Fern, which looks like a Palm in its tufts of top foliage and bare trunk; the Bamboo, Banana, and Palm, side by side with the Pine, the Oak, and the Beech, with a numerous race of timber trees and shrubs, some of which are probably unknown in Europe—open a wide field for the botanist, and give studies for the landscape painter of unrivalled beauty. There is an infinite variety of form, character, and colouring in the masses of foliage that everywhere meet the eye, grouped in the midst of well-kept fields and verdant slopes which any English gentleman might envy for his park."

Japan is peculiarly rich in Conifers; some of the most beautiful of which have recently been introduced into England, through the exertions of Mr. Fortune and Mr. J. Veitch; the latter of whom has supplied an appendix to Sir Rutherford's book, in which are given descriptions of these and the other principal trees of Japan, with a list of such plants as have been sent to England. He has further added some notes on the agriculture of the country, from which it appears that the land is brought to a high state of cultivation, and that great attention is paid to the crops of cereals, fruit, and vegetables; the latter, however, are complained of as insipid and flavourless, a fault attributed to the large use made of liquid manure. Strange to say, the Japanese neither use animal food nor milk! As throughout so large a portion of the East, rice forms the main portion of their food; not, as in India, largely saturated with Ghee, but, if we understand Sir Rutherford aright, simply boiled in water. It is difficult to see how they obtain what chemists assure us are the necessary constituents of the body; possibly, however, those ingredients which are wanting in the rice, may be supplied by fish, which appears to be extensively used as food by all classes.

Mr. Veitch's description of the agriculture is dry and practical, so we will skip it and take instead one of Sir Rutherford's word pictures, from which we gain a better idea of the aspect of the country than from an account, however accurate and useful, of the order of rotation of the crops, or the mode of manuring or harvesting the grain:—

"The tall well-kept hedges and fences are still thickly covered, cut and trimmed in the Dutch manner of gardening (a fashion which there is little doubt, I think, was introduced into Europe from Japan), and how admirably they are planted and trimmed! Nowhere out of England can such hedges be seen, and not in the British Isles can be found such variety. Here is a low hedge, or border rather, made of the Tea-plant, two or three bushes deep, and growing about three feet high, not unlike the ordinary flowering Camellia, of which it is a species. Now we have come to an enclosure fenced in with Nectarines, and there is a hedge of Pomegranate. Inside a tall Orange tree is laden with its golden fruit; and, stranger still, a Cherry tree in full blossom, this 25th day of November! O happy land and pleasant country! that is when no Daimios or officials intrude their presence, which mars all. But I said I would not think of politics. Let us return to the hedgerows and their inexhaustible variety. Now it is a fine tall close twisted fence of Cryptomeria, while over that porch of thatch the Wistaria (or Glycine sinensis, as it has also been called), spreads with

insatiable desire its far reaching arms, to be covered in spring with glorious clusters of purple flowers Little hamlets and farmers' homesteads are dotted about in a sort of picturesque confusion, generally nestled in the valleys and under the hill sides, amidst a clump of trees where the Cryptomeria, the Bamboo, and the Palm all tend to give an Eastern character to dwellings otherwise claiming some resemblance to Swiss châlets. What architecture there is, however, has no originality, and is in fact, only a slight modification of the Chinese style of building, with wooden frames; their temples, gateways, and larger houses are eminently Chinese, only in better style, and infinitely better kept. The country can never look wintry here, unless covered with snow (which it is sometimes after Christmas), for its trees can never be wholly stripped of foliage, there is such a preponderance of Evergreens."

The following is rather a new mode of obtaining a "rotation of crops:"—

"Whether from the force of custom or by law, the Japanese so regulates his land that each part will have time to rest and recreate itself for several years. But while this desirable object is aimed at, no part of the land is allowed to remain perfectly idle. The same principle in action with the brain and intellectual capacity seems equally applicable here—and change of occupation suffices to restore the exhausted powers, or give the needful rest. In fact, as the earth, like the human mind, can never be said to be wholly unoccupied or unproductive—the first in its idleness producing fruit too often of an undesirable kind, and the land if left to itself a plentiful crop of weeds—the true principle would seem to have been adopted by the Japanese,—in never allowing the land to be wholly fallow or unemployed. Thus when not producing edible crops the ground is planted with trees of whatever kind the owner may think best, and by the time that it is again to be brought into cultivation those trees turn out to be useful timber. When the traveller sees a large space, whether on hill or level land, covered with trees and shrubs, and apparently in a wild neglected state, he may, perhaps, infer that the Japanese agriculturist is unthrifty or negligent, and that so much land is far from being turned to its proper account. But this would be a great mistake. The careful and general cultivation of trees and shrubs by the Japanese, serves many useful as well as ornamental purposes. Within the limits of this consular district during the past year many hills might be seen, the sides and summits of which were being cleared of trees; and others which had recently been under cultivation were carefully laid down under crops of trees. The Japanese cannot in truth afford to leave any part of the land idle, because, in the first place, there is population pressing on the means of subsistence derived from the soil, whose every want has been for centuries supplied from that source and their waters. And in the next place, almost all rents and revenues are paid in kind—principally in Rice."

The volumes are embellished with many good and extremely pretty chromo-lithographs and woodcuts; several of the latter being reproductions of Japanese sketches, slight and with perfect disregard for perspective, but nevertheless extremely graphic and effective, and many very humorous.

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Dr. Carrington has published as a separate pamphlet (Pamplin) his *Gleanings among the Irish Cryptogams* reprinted from the Transactions of the Botanical Society of Edinburgh, with two good plates representing the microscopical structure of many species. Visitors to Killarney will find it a very useful botanical companion.

Messrs. Longman have circulated the prospectus of a work on Windsor Park and Forest, to be illustrated by photographs by Lord Caithness and Mr. Bainbridge, and written by Mr. Menzies, the Deputy-Surveyor of the Forest. We select the following passages from the prospectus.

"During his researches into the purely arboricultural history of Windsor, the author became acquainted with many curious and interesting facts, hitherto unknown, illustrating chiefly the history of the picturesque old Pollards of the Park and Forest, the old Forest Laws and practices regulating the rights of the Crown and the Commons. In these enquiries he was mateaially aided by Lord Macaulay. An account is given of the various changes and improvements effected by the succesive Rangers of the Great Park, commencing with the Rangership of Baptist May, who first filled this office, in the reign of Charles II., down to that of the Prince Consort. Much of this history the Author believes to be entirely new, as he has compiled it chiefly from unpublished letters in the Blenheim Library, and from the Manuscript Letter Books of the Constables of the Castle, which have been brought to light only within the last three years. From the year 1791, the Author is able to adduce the testimony of living witnesses among the Woodwards, Commoners, Swineherds, &c., of many of whom, as belonging to a class of English peasantry now almost extinct, some curious and interesting anecdotes are related. A full account is given of the establishment of Norfolk and Flemish Farms under George III., and it is shown that although not profitable at first, they gave a great impulse to the improving of farming land in the raising of green crop, draining, liming, and keeping clean. In reference to this subject, the Author notices the report made by Mr. Kent to the King on a system of grazing by a mixed stock of deer, cattle, and horses,—a system which experience has shown to be the best."

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*New work on Indian Ferns.*—The Fern-loving public will be glad to know that an able and very accurate botanist of Madras, Capt. R. H. Beddome, officiating Conservator of Forests, has commenced, at his own risk, a very interesting work, entitled "The Ferns of Southern India, being Descriptions and Plates of the Ferns of the Madras Presidency," on a large quarto size. Price 2 rupees (4s.) each Number, with 12 excellent plates, representing the species of the natural size, together with magnified figures of the fructification. It will be completed in 16 Numbers, to be published monthly, with brief characters in English, a few remarks, and the localities. It will also contain an analytical table of the genera, with their synonyms. The first Number, now before us, includes—1. Adiantum lunulatum, Burm.; 2. Adiantum caudatum, Linn.; 3. Adiantum hispidulum, Sw.; 4. Adiantum Capillus Veneris, Linn.; 5. Adiantum æthiopicum, Linn.; 6. Trichomanes neilgherrense, Bedd., new species; 7. Trichomanes Filicula, Bory; 8. Trichomanes rigidum, Sw.; 9. Hymenophyllum exsertum, Wall.; 10. Acrophorus pulcher, Moore; 11. Acrophorus immersus, Moore; 12. Humata pedata, J. Sm. The author states in a note that as a limited number of copies only will be printed, "subscribers are requested to send their names and address to the author, at the Office of Conservator of Forests (at Madras, we presume), and to pay an advance of 6 rupees for three numbers." These are conditions easy enough to be observed by residents in India. But unless some method be adopted for making the work saleable in Europe, it must be a sealed book to us, and it must be deprived of that degree of popularity which it so eminently deserves. The work is excessively cheap, and practically useful to those who can possess themselves of it. *W. J. H.*

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*Lawson's Pinetum Britannicum.* We have before us Part II. of this noble work, occupied entirely by Pinus Lambertiana. The figure of the species is excellent; but the colouring of the leaves is much too green. The description and history occupy eight pages.

## Garden Memoranda.

MR. B. S. WILLIAMS'S PARADISE NURSERY, SEVEN SISTERS ROAD, HOLLOWAY.—This establishment at present is well worth a visit, for although there is not a great amount of bloom, yet the fine collections of Ferns, Orchids, and plants remarkable for the beauty of their foliage are well worth inspection.

Among Ferns we noticed Cibotium princeps, a stronger grower and handsomer kind than Schiedei; Gymnogramma Wetenhalliana also an elegant dwarf tasselled new Fern of good habit. The fronds of the latter are about a foot in length, branched, and finely crested, arching outwards and covered with a sulphury white powder. Of Gleichenias there are many noble specimens, and associated with them is Marattia elegans, a more compact plant than Angiopteris evecta, and therefore better suited for such as have only a limited amount of house room. Of Hemidictyum marginatum and Hymenodium crinitum, two distinct-looking kinds with undivided leaves, we noticed several fine plants. Of the various kinds of variegated Ferns, as well as of all the leading sorts of other varieties at present in cultivation, there is likewise a good stock.

Of Orchids there is an excellent collection of well grown plants, more especially of Vandas, Cattleyas, Dendrobiums and Aerides, with which and others two large span-roofed houses are full. Among plants in flower are Dendrobium heterocarpum, a sweet-scented Primrose coloured kind with a yellow and brown stained lip, the true Vanda insignis, various beautiful kinds of Cypripedium, and Phalænopsis amabilis. Of the last we noticed a fine stock of young plants, and also of the handsome new P. Schilleriana. In short there is no better place near London in which to look for good Orchids.

Of Anæctochiles and other variegated Orchids, Mr. Williams has an extensive assortment. Among newer kinds are Bulleni, a fine species, attaining a height of from 6 to 9 inches, with leaves from 2 to 2½ inches in length, ground colour bronzy green, marked through the entire length with three broad distinct coppery red stripes varying at times to golden; Nevilleana, a lovely species, with leaves marked with orange blotches on a dark velvety ground. In some of the specimens the markings are of a beautiful white, in the way of Sonerila margaritacea. Ruckerii has leaves broadly ovate, ground colour bronzy green, with six rows of distinct spots running the entire length of the leaves. Of other sorts there are also many beautiful plants, in the propagation and growth of which Mr. Williams is very successful.

In a span-roofed stove are good specimens of Pitcher plants; and associated with them beautiful examples of Cyanophyllum magnificum, Cordylines, Theophrasta imperialis (a stately plant), the singular Alocasia Lowii and metallica, and Sphærostema marmoratum; the last evidently likes a considerable amount of shade and moisture, as plants grown rapidly under such circumstances have the markings on the leaves much more white and conspicuous than in specimens in drier and more exposed situations. When well managed, and the white blotches on the foliage are well brought out, this Sphærostema is very handsome.

A span-roofed house, 50 feet long and 23 feet wide, has recently been put up exclusively for Ferns and other handsome-leaved plants, which, being all wonderfully large and fine specimens, form a compact group running the whole length of the house, and being set on the floor on gravel, with merely a brick edging round them, they have a much prettier effect than when elevated on stages. Of the latter there is only one placed immediately inside the house next the glass for the accommodation of small plants. Among the large specimens are variegated Aloe-leaved Yuccas, Cycas revoluta, Dion edule, Tree Ferns *of great size and beauty*, Dracæna indivisa, and Draco, the last with a stem nearly 10 feet high and 18 inches round; Gleichenias of different sorts—immense bushes, and other plants of that description, forming a little dense forest of rich and well varied vegetation.

In a small lean-to house is a fine stage full of Amaryllids, of which Mr. Williams is an enthusiastic cultivator, and in a corresponding house elsewhere are choice Araucarias, Thujas, hardy Ferns, and Yuccas.

Hard-wooded greenhouse plants are now for the most part out of doors, in the shape of clumps interspersed with little walks and edged with variegated Coltsfoot, a plant well suited for that description of decoration.

Of hardy variegated plants Mr. Williams has an unusually fine collection, out of which has again been formed a pretty little ribbon bed; it consists of Plantago purpurea, Funkia undulata, Variegated Coltsfoot, and a dwarf-growing variety of Festuca, the green, white, and red leaves of these plants forming a charming contrast of colour. Many other hardy plants might however also be employed for this purpose, and with equally good effect. A charming ribbon, made of summer flowering plants, also meets the eye on just entering the nursery. This consists of a line of Variegated Arabis next the walk, then one of dwarf Blue Lobelia, which is succeeded by Yellow Calceolaria and Scarlet Geranium, the whole being backed up with Perilla and different varieties of Dahlias.

Along the sides of the principal walk which runs up the centre of the nursery are various Conifers, which though scarcely out of the smoke of London bear a green and healthy aspect.

Masses of rockwork, ornamented with hardy Ferns and other plants suitable for such situations, have lately been put up in different parts of the nursery as screens, and with good effect. Various other little alterations of a decorative character have also recently been made, and everywhere may be observed evidences of taste and good order.

A new place on the road to Hornsey called the Victoria Nursery has lately come into the occupation of Mr. Williams. It already contains two pretty small octagonal conservatories or show houses, besides other glass structures; and at the principal entrance is being erected a large one, (90 feet long and 40 feet wide) which when finished and furnished with plants will have a fine appearance. Here we found a houseful of thriving plants of a new Grape Vine, called Royal Vineyard, a white variety of considerable promise. In the show houses were also fine examples of Tree Ferns, (to the stock of which Mr. Williams is constantly adding imported specimens), and other plants, chiefly valuable for the beauty of their leaves.

## Miscellaneous.

*Sales by Auction.*—A sale of Orchids, Ferns, and other plants took place the other day at Messrs. Stevens'. Lælia purpurata, imported, fetched from 1*l.* to 2*l.* 4*s.* per lot of one plant each; similar lots of Cattleya Leopoldi realised 1*l.*; Cyathea dealbata and C. Smithii, both in good condition, realised from 12*s.* to 5*l.* per plant; similar lots of Dicksonia squarrosa fetched from 17*s.* to 2*l.* 15*s.* For single plants of Lomaria discolor from 12*s.* to 1*l.* 12*s.* was obtained. Todea pellucida fetched from 1*l.* 2*s.* to 1*l.* 12*s.*; Trichomanes elongatum from 9*s.* to 11*s.* and New Zealand Hymenophyllums from 14*s.* to 18*s.* per lot of three plants each; similar lots of Dracæna australis and Veitchii from 12*s.* to 2*l.* 12*s.*; and Araucaria Rulei and Dammara Moorei fetched from 5*s.* to 1*l.* 10*s.* per lot of three plants each. Some very fine imported Vandas now on view, and Aerides, which have arrived in wonderfully fine condition, are, we understand, to be sold on Tuesday next.

*Parthenogenesis of Aberia Caffra.*—Dr. Anderson, of the Calcutta Botanical Gardens, mentions that this plant, a thorny bush, had been in the gardens some years without producing flowers. It contains pistils only, being diœcious. In March, 1861, it bore a large crop of well-ripened fruit, which was sown, and gave rise to a vigorous stock of young plants. In February, 1862, it flowered again, and the most careful examination led to the detection of no trace of stamens. This tree was unfortunately destroyed a few months ago in a severe gale; but a second specimen artificially propagated from the first still exists in the gardens. It has never flowered. *Popular Science Review.*

*The Home of the Honey Bee.*—The question of the

origin of the honey bee is in a state of complete uncertainty. The occurrence of bees simultaneously in the South of Europe, Western Asia, and Egypt may not appear an improbable solution to those who are inclined to ascribe to the bee a southern origin. The comparatively slight diversity of climate in the above-mentioned countries certainly renders possible its original existence in all of them; and the opinions of authors differ essentially only on the one point, whether the bee is indigenous to northern latitudes, or has been acclimatised under them. This question cannot be historically decided with absolute certainty; but it would almost appear that the bee existed in Northern Germany, either originally or at least before any known direct intercourse of that region with Rome. * * * Amongst the reasons which might be adduced in favour of the opinion that the bee is not indigenous in Northern Europe, but introduced from the south, the first to be noticed is the great power of adaptation to external circumstances exhibited by the honey bee, where it is known to have been introduced, as in America, which renders the possibility of its southern origin and northern acclimatisation indisputable; and had the bee confined itself within the limits of the warmer parts of America, this would have been evidence in favour of that view. But, from the statements of Barton, Josselyn, and others, it appears that the parts of America which have proved most favourable to the spread of the bee, and in which it has even become wild, are those under the same isothermal lines as Northern Europe (Germany and Sweden), namely, the central and northern States, up to 47° N. lat., showing that it cannot be regarded as peculiarly a native of the south. As a second reason for the southern origin of our bees, it may be said that in our northern regions they are rarely, and in many places never met with in a wild state, whilst this is commonly the case in Southern Europe, and also in Asia and Africa. This argument would be of force if our northern countries were still in the same condition of cultivation as the more southern parts of the Continent; and we know from the Roman authors that in ancient times wild bees occurred in the forests of Germany. As late as the year 1783, according to Krünitz, the pursuit of the wild bees was still followed in Neumark, Pomerania, Prussia, Lithuania, Courland, Livonia, Poland, &c.; evidently because favourable localities still existed in those countries. If it be urged that, notwithstanding the change produced by cultivation, the bees, if really indigenous to the north, might still easily, like the humble bees and wasps, find a sufficiency of suitable localities for their hives, as well as of nourishment, it may be replied in the first place, that they *do become wild, although not frequently, under favourable* circumstances; and in the second, that they are with us far more completely domesticated than in southern regions. Hence there seems to be no evidence, either historical or from the present distribution of the varieties of bees in the temperate parts of Europe, in favour of their introduction into the latter from warmer regions. * * * It appears that our honey-bee does not occur, or, at least, has not been discovered as yet, in India and the Sunda Islands, but that over the whole of the rest of Asia, from the coast of Asia Minor to China, no other species except the Apis mellifica is found. The honey bees mentioned in books of travels in India, Ceylon, &c., belong to species differing from the European bee. In Africa, on the contrary, Apis mellifica occurs in all parts, but no other species which can be confounded with it; a few small black species of Melipona from the Guinea coast, which also collect honey, differ so much from our bee, both in size and colour, that an uninformed traveller would hardly regard them as bees at all. *Annals and Mag. of Natural History.*

*Pyrus Sorbus* (*P. domestica of Smith*).—"The cultivated Service-Tree has precisely the foliage of P. Aucuparia, of which it is believed by some to be a mere variety produced by cultivation. The flowers are rather larger, and the styles often woolly; but the only real distinction is in the fruit, which is very much larger, assuming the form of a little Pear. It has been inserted in the British Floras on the strength of a single tree in the forest of Wyre, near Bewdley, which has, however, been shown to have been in all probability planted there." *Bentham's Handbook of the British Flora.*

*The Luxembourg Garden, Paris.*—This beautiful promenade has just been enriched by three new conservatories; one temperate, the other two heated by hot water, combining all the necessary qualities of air, light, heat, and humidity. A large portion is reserved for the cultivation of tropical plants. A curious collection of Orchids occupies at present a separate compartment. *Les Mondes.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—Carefully examine the stock of pot plants, in order to see that none of them are suffering from want of pot room, or other attention necessary to assist them in making young wood for flowering next season. Also see that proper care is bestowed on late growing plants in borders, for while in active growth more water will be necessary, and insects will be more troublesome than in the case of plants that have completed their growth. Look after Lucullas and keep them clear of their great enemy black thrips, giving them plenty of water at the root, and an occasional supply of weak clear manure water to old plants that may not be growing freely, until they have made plenty of wood to ensure a good display of flower. Manure water must not, however, be given to young specimens in vigorous health, as it is apt to induce too gross a growth, a condition in which they seldom flower profusely. In order to secure fine heads of bloom from this plant it should be allowed a few weeks of comparative rest after, say about the middle of next month, keeping the roots rather dry, and exposing the plants as freely to air as can be done without injury to the foliage or the health of their neighbours. Brugmansia sanguinea is also a useful plant for winter and early spring flowering, when managed so as to have it pruned, rested, and starting into growth about this time. See that large specimens of Camellias are not allowed to get too dry at the root after they have set their buds; for shedding of the latter is often due to this cause. Young vigorous plants, however, frequently require to be watered rather sparingly at this period to prevent their making a second growth. Cinerarias for early flowering should now be growing freely and should be shifted when necessary: for if they are to form large specimens for flowering in winter they must not be permitted to sustain any check; remove suckers whenever they can be obtained and pot them for spring flowering. Calceolarias will now be beginning to demand attention; get cuttings of favourite sorts rooted as soon as possible; seed may also now be sown.

### FORCING DEPARTMENT.

Pineries.—Plants intended to furnish the winter and spring supply of fruit must be treated with considerable care and judgment, in order to insure their showing at the proper time, or rather to do all that can be done to insure this, for the most experienced growers cannot always succeed in getting plants to fruit at the desired time. Attend to previous directions on this point, and continue to select the most promising plants, keeping them dry at the root, and fully exposed to light so as to check their growth, and induce a comparative state of rest for a few weeks. And those that have well-matured their growth, if wanted to fruit at once, should be kept close and warm, affording them a brisk bottom heat, and properly moistening the soil about the roots. Those intended to supply ripe fruit late in spring, if not considered sufficiently strong, may be encouraged to grow freely for some time yet, as if these can be got to show in November, they will be sufficiently early. Attend carefully to plants swelling their fruit, giving plenty of manure water at the root, and keeping the atmosphere warm and moist. Attend to the watering of recently potted stock, as if too much is given the fresh soil is apt to become sodden, and if too little the old ball becomes so dry that it is not easy to get it properly moist again, and in either case the check which the roots sustain frequently throws the plants into fruit prematurely. Get all succession stock requiring more pot room shifted as soon as circumstances will allow, in order that they may be well established in their pots before winter.

Vineries.—Should the weather become cloudy or wet it will be unfavourable for Grapes that are ripe and expected to hang in good condition for a long time, and where the borders are of a strong adhesive nature, it will be advisable to cover with something to throw off heavy falls of rain; but where the soil is of a light nature, and such that the water will drain through it freely, this will be unnecessary. Use gentle fires where the fruit is colouring, with a moderate circulation of air, and on fine days too much air can hardly be given at this stage. In dull weather fire heat will also be necessary where fruit is swelling. The wood will probably be well ripened in the early house, and the foliage turning brown, and in this case it will be desirable here also to prevent the border getting saturated with wet. If this house requires painting or any other repairs, this should be attended to while the house can be thrown open, and such work done more conveniently and much better than at any other season.

Peaches.—The wood will probably be ripe in the early house by this time. Give therefore all the air possible. Give trees from which the fruit has just been gathered a good washing with the engine to clear the foliage of dust, &c.

Melons.—Plants in dung frames will require considerable attention. Keep the bottom-heat as regular as possible, and endeavour to secure sufficient warmth from the linings to allow of giving a little air to prevent damp. Water very cautiously, and only when a fresh supply is absolutely necessary, and then give enough to moisten the whole mass of soil.

### FLOWER GARDEN AND SHRUBBERIES.

Propagation of stock for next season must very soon be commenced and carried on with expedition, so as to secure strong well established plants before winter, and without the necessity of keeping them so close or warm as to induce weakly and watery growth. To be able to winter bedding stock safely with ordinary care, the cuttings should be put in sufficiently early in the autumn to allow of having them well established and fit to be exposed to the open air by the end of next month. Begin with such as are found to be the most tedious to propagate and prepare for winter. Hollyhocks are general favourites, but they do not afford cuttings freely. They should therefore be examined often for any cuttings which they may afford, as those rooted about this time will make strong plants for next season. Attend to the tying up of these and Dahlias, and go over the masses of Verbenas, &c., frequently for the purpose of regulating the growth, so as to keep it orderly and neat. Sow Ten-week or Intermediate Stocks for spring flowering; transplant Brompton and Queen Stocks, and if the situations in which they are to flower are not at liberty, prick them out in nursery beds, allowing them plenty of space to prevent weakly growth.

### HARDY FRUIT AND KITCHEN GARDEN.

Winter Onions may now or very soon be sown, also Cauliflowers for the early crop next season, and a small bed of Brown Cos, and some hardy sorts of Lettuce to stand the winter. The tops of the main crop of Onions had better be laid down if they are inclined to be too rank, going over the bed with a wooden-headed rake, and pressing the tops down sufficiently to check further growth. Plant out a good breadth of Endive on well enriched soil of a light dry nature; also see to providing a good supply of Lettuce, &c., for autumn use. Attend to Celery, keeping it well supplied with water in dry weather, giving it as much manure water as can be spared for it, and keep the early crop rather closely earthed up. Vacant ground or that which can be cleared of early crops may still be planted with winter Greens, first giving it a good dressing of manure and a good deep digging. Stir the surface of the soil among growing crops. Cut Box edgings, and keep every corner clean and neat.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending July 29, 1863, as observed at the Horticultural Garden.

| July. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 23 | ☽ | 29.906 | 29.832 | 70 | 32 | 51.0 | 60 | 60 | W. | .00 |
| Friday 24 | 9 | 30.076 | 29.869 | 71 | 44 | 57.5 | 60 | 60 | W. | .00 |
| Satur 25 | 10 | 30.001 | 29.911 | 71 | 36 | 53.5 | 60¼ | 60 | N.W. | .16 |
| Sunday 26 | 11 | 30.093 | 30.098 | 78 | 36 | 57.0 | 60½ | 59 | N.E. | .00 |
| Mon. 27 | 12 | 30.214 | 30.128 | 78 | 39 | 58.5 | 60½ | 59½ | S. | .00 |
| Tues. 28 | 13 | 30.070 | 29.917 | 82 | 40 | 61.0 | 60¼ | 60 | N.E. | .00 |
| Wed. 29 | 14 | 30.038 | 29.976 | 81 | 47 | 64.0 | 61¼ | 60 | N. | .00 |
| Average. | | 30.057 | 29.961 | 75.8 | 39.1 | 57.5 | 60.2 | 59.8 | | .16 |

July 23—Very fine; light clouds; at freezing point at night.
— 24—Very fine throughout.
— 25—Fine; rain; fine; rather cold at night.
— 26—Fine; very fine; exceedingly fine; cold at night.
— 27—Very fine throughout.
— 28—Very fine; hot sun; exceedingly fine.
— 29—Very fine; hot; exceedingly fine; comparatively warm at night.

Mean temperature of the week 5 deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Aug. 8, 1863.

| August. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 2.. | 75.9 | 52.1 | 64.0 | 18 | 1.03 in. | 1 | 4 | 3 | — | 8 | 12 | 5 | 3 |
| Mon. 3.. | 74.7 | 51.1 | 62.9 | 19 | 0.38 | 3 | 4 | 3 | 2 | 4 | 15 | 5 | 1 |
| Tues. 4.. | 75.6 | 51.2 | 63.4 | 16 | 0.85 | 2 | 3 | 4 | 3 | 4 | 15 | 5 | 1 |
| Wed. 5.. | 73.9 | 51.2 | 62.6 | 17 | 0.88 | 1 | 4 | 4 | 2 | 5 | 13 | 5 | 3 |
| Thurs. 6.. | 72.7 | 50.9 | 61.8 | 17 | 0.58 | — | 6 | 3 | 1 | 5 | 12 | 8 | 2 |
| Friday 7.. | 74.7 | 50.5 | 62.6 | 13 | 0.57 | 1 | 4 | 3 | — | 5 | 21 | 3 | — |
| Satur. 8.. | 74.3 | 49.7 | 62.0 | 16 | 0.50 | 2 | 5 | 2 | — | 3 | 18 | 5 | — |

The highest temperature during the above period occurred on the 2d, 1856—therm. 92 deg.; and the lowest on the 6th, 7th, and 8th, 1858—therm. 37 deg.

## Notices to Correspondents.

Allamanda: *J K.* The flower you have sent does not appear to differ at all from A. violacea.

Grapes: *Sussexensis.* Don't think of planting American Grapes. They are detestable. Imagine lumps of gum arabic half dissolved in water that has been employed to wash a fox, and you will form a sufficiently correct idea of their quality.

Icehouses: *H M W.* You will find plans of these in our Vol. of 1857, p. 6.

Insects: *Anon.* The Peach shoot is infested by the web spun by minute mites resembling Acarus telarius, which have also doubtless sucked the leaves. The latter are, moreover, attacked by aphides, probably A. Persicæ. The remedies to be applied must be those usually adopted against the red spider and plant lice. *W.*

Oak Leaves: *K K.* The spots on the back of the leaves are of the same nature as what are called Oak-spangles. They are in fact little disks produced by minute hymenopterous insects called Cynipoldeæ, of which a full account was given in the *Gardeners' Chronicle* for the year 1843, p. 52. No opinion can be expressed respecting the caterpillar without seeing it.

Orchard Houses: *Reuben.* Why not visit these buildings in the Horticultural Garden at Chiswick? You will no where find better or more beautiful examples. Now is the time.

Monstera deliciosa: *G W.* The photograph is too indistinct to be copied on wood. We ourselves never saw it in flower, but continental writers are well acquainted with it. That its specific name applies to its quality there can be no doubt; but whether or not it deserves to be called delicious we cannot tell. Perhaps you will be good enough to report upon your own case.

Names of Plants: *Constant Reader.* Lastrea dilatata. The unmarked specimens appear to be a very ordinary form of the species. The other, tied with blue, is peculiar, but we do not recognise in it any of the named varieties. It was, however, too much dried up when it reached us.—*J M.* Myoporum serratum.—*Bothy.* No doubt Quercus Libani.—*C R.* Your plants are attacked by the wild Cuscuta Epithymum. Fortunately this does not often happen. Burn immediately the plants attacked, and the soil they grow in.—*E K.* 1, Arrhenatherum avenaceum; 2, Festuca pratensis; 3, Avena flavescens; 4, Agrostis vulgaris.—*J R.* Lolium temulentum: the infelix Lolium of the Romans.—*Felthorpe.* 1, Drosera rotundifolia; 2, Parnassia palustris; 3, Epipactis palustris; 4, Triglochin palustre.—*Sunbury.* As far as we can judge from the materials sent it may be a Water Melon, Cucurbita Citrullus.

Strawberries: *J P.* Last season's plants may be transplanted successfully, and will bear a better crop than plants of this year.

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Circumstances have occurred which we think render it desirable to give notice that we are not, nor have we ever been, in any way connected with any persons now carrying on business under the style or firm of H. J. Morton & Co., of 2, Basinghall Buildings, Leeds, dealers in Wire Fencing, Galvanized Iron, &c.
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PROTECTION from the SCORCHING RAYS of the SUN.
"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

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| Two yards wide .. .. .. | 1*s*. 6*d*. per yard run. |
| Four yards wide .. .. | 3*s*. per yard. |

An improved make, 2 yards wide, 1*s*. 8*d*. per yard.
An improved make, 3 yards wide, 2*s*. 6*d*. per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1*s*. 4*d*. per yard run.
ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon Street, City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.
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ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.
AUTUMN SESSION, 1863.
*President*—THE RIGHT HON. THE EARL BATHURST.
*Council.*
The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
EDWARD HOLLAND, Esq., M.P.
*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.
*Resident Professors.*
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VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.
MATHEMATICS AND SURVEYING.
W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.
DRAWING.—JAMES MILLER.
* These Gentlemen will be in temporary residence.
Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—
AGRICULTURE.
J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.
AGRICULTURAL CHEMISTRY.
THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.
The College will RE-OPEN AUGUST 10th.
For further particulars apply to the Principal.

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Such works can be executed either under the powers of several special Acts of Parliament, with money raised by loan and paid off by instalments, or with the Landowner's own money.

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MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.
Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.
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**Land Drainage.**
WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all Descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.
Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rent charge on the estate created for various terms of years, so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.
No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.
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Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.
Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

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Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.
TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.
The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.
1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
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Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.
No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.
For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

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MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.
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AGRICULTURAL PUPIL.—Mr. JOSEPH BLUNDELL, of Bursledon, Southampton, has a VACANCY for an Agricultural Pupil, who would be treated as one of the family. References required.

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MESSRS. J. CHALMERS MORTON, Streatley, near Reading, and J. THORNHILL HARRISON, M. Inst. C.E., Frocester Court, Stonehouse, Gloucestershire, AGRICULTURAL ENGINEERS, undertake reports on the Condition of Landed Property, together with the Direction of Land Drainage, Roads, Embankments, Farm Buildings, and other works necessary for its permanent improvement.

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Full particulars of terms will be forwarded on application.

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MANCHESTER and LIVERPOOL AGRICULTURAL SOCIETY.
GRAND SHOW at BIRKENHEAD (in the Park) on SEPTEMBER 8, 9, 10.
Prizes amounting to £1400.
ENTRIES CLOSE on August 10.
For Prize Lists, Regulations, &c., apply to Mr. WM. HENDERSON, Local Secretary, Birkenhead, or to T. B. RYDER, Secretary, 57A, Church Street, Liverpool.

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YORKSHIRE AGRICULTURAL SOCIETY.—GREAT SHOW at SOUTH STOCKTON-ON-TEES.
PROGRAMME.

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| TUESDAY, August 4 | Trials of Implements, Steam Ploughs, Grass Mowers, &c. Admission 1*s*. |
| WEDNESDAY, August 5 | Show Yard open at 10 A.M. Admission 2*s*. 6*d*., Ladies, 1*s*. |
| THURSDAY, August 6 | Show Yard open at 8 A.M. Admission 1*s*. |
| FRIDAY, Aug. 7 | Show Yard open at 8 A.M. Admission 1*s*. |

For Cheap Trains see Railway Bills.
JOHN HANNAM, Secretary.
Kirk Deighton, Wetherby.

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**Agricultural Hall, Islington.**
A POULTRY, PIGEON, RABBIT, FLOWER, and FRUIT SHOW will be held at the HALL on the 26th, 27th, and 28th inst.
PRIZE LISTS and other information can be obtained from
S. SIDNEY, Esq., Secretary.
Agricultural Hall, Barford Street, Islington, N.

# The Agricultural Gazette.

*SATURDAY, AUGUST* 1, 1863.

MEETINGS FOR THE ENSUING WEEK.

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| MONDAY, Aug. 3 to THURSDAY, — 6 | Highland Society at Kelso. |
| TUESDAY, — 4 to THURSDAY, — 6 | Yorkshire Agricultural Society at Stockton on Tees. |

THE Worcester show, though not in a thickly populated district, stands quite among the foremost in the Society's experience for the number of its visitors.

The Battersea show-yard, opened for nine days, close by three millions of people, was entered by only 115,000 persons; that at Leeds in the previous year was visited by more than 135,000; and the Worcester show-yard was visited by nearly 90,000. The sum received for admission is one of the largest after Leeds and Battersea; Chester and Warwick standing nearest to it.

A large attendance in an agricultural district is a more useful and more desirable thing than when it arises from the neighbourhood of large towns. And though the railways from Birmingham and Wolverhampton no doubt brought immense numbers into Worcester on the Thursday and Friday of last week, yet the crowds who traversed the show-yard of the Society were manifestly for the most part agricultural; and a very large number of agricultural labourers thus enjoyed a most useful holiday.

It is certainly one of the most striking and best learnt lessons of late years, by which agriculturists and the labourers they employ have come to understand that machinery is their friend.

The farm where the threshing machine, and the reaping machine, and the mowing machine, and the steam plough are at work, is the farm which employs most labour. It is the sluggish unimproved district where listless men loiter on in the

oldfashioned style, and where machinery is unknown, that wages are lowest and labourers worst off. And the peripatetic society which brings the whole force of our leading manufacturers, our best breeders, and our most energetic agriculturists to bear successively on the various districts of the country—at one time itself acquiring vigour and intelligence from the locality it visits, at another imparting these where they are manifestly wanting—is a most important and valuable agency in the interests of the labourer as well as of his master.

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A week or two since, when the Oats had just burst forth from their sheath, it was almost impossible, in the northern districts of Northamptonshire to go into a field without at once observing that a considerable portion of the bells were quite effete and colourless. In many cases the defect amounted to from a sixth to a fourth, while several ears might be found in which a third or even a half of the bells were abortive. In some portions of the fields scarcely a single plant was perfect, and in consequence there was a peculiar colouring which at once attracted the eye. The disease appeared to attack the different varieties indiscriminately, black Oats suffering as much as white; nor, indeed, was it confined to the cultivated species, as the wild Oats suffered equally with the others,—a circumstance which would not be greatly regretted by the farmer.

We have no information as to the occurrence of the disease in other parts of England, but at any rate in those districts with which we are most familiar, the affection is so general that we can attribute it only to some peculiar condition of the atmosphere and temperature during some particular period of growth. The circumstance of its attacking wild as well as cultivated Oats is quite decisive on this point.

Now the disease is altogether identical with one which we described in this journal several years ago (*Agricultural Gazette*, 1855, pp. 569, 586), and which we proved to be capable of propagation year after year by sowing the seed of affected plants. As the loss must be considerable, far greater indeed than any which ever arises from smut, a malady which in some fields accompanies that before us, it is really matter of serious consideration, whether this affection which has arisen, as it appears naturally, may not be of many years' continuance. We would caution the farmer, therefore, whereon the crop has been ascertained to be seriously affected, on no account to make use of the seed derived from it. He should if possible procure his seed from some distant quarter, taking care that the appearance is perfectly healthy. It will not be easy to make a mistake about it, as far as regards his own fields, as even when the Oats are perfectly ripe, the abortive bells will still be seen scattered about indifferently over various parts of the inflorescence, white as snow, and without any trace of fruit. Sometimes they occur in masses, and are then peculiarly conspicuous.

The productive causes of these affections are altogether unknown, but though we are ignorant of the circumstances which favour their development, that is no reason why we should not guard as much as possible against their recurrence.

We have often called our readers' attention to the wisdom of making a far more careful selection of seed than is usually done. It is much to be wished that some intelligent farmers, who have had the benefit of a scientific education, and are acquainted with the chemical necessities of the various plants they cultivate, would make it their business to grow seed corn. For this purpose all over manuring should be avoided. The main point would be to keep the land from being exhausted by weeds, and by superior cultivation to secure as healthy a growth as possible. At the same time the cultivator would take care that the soil for each especial crop was not deficient in those peculiar chemical constituents which are absolutely necessary to the perfect development of the seed, though anything like rank growth or overcrowding should be carefully avoided. We feel convinced that a young and intelligent farmer of high character, would find this a most useful practical application of his college course, and one which in the end would be sure to be eminently lucrative. Even under existing circumstances the seed corn of cultivators in general repute commands some shillings a quarter more in the market than that from ordinary farms; and experience would soon show the superiority of cropping from seed produced with an especial view of preventing as much as possible all probability of disease. *M. J. B.*

## THE ROYAL AGRICULTURAL COLLEGE.

A Public Dinner was last week given to Professors Brown, Buckman, Coleman, and Voelcker, by the agriculturists in the neighbourhood of Cirencester, as an expression of the respect in which they are held, the regret felt at their departure, and the gratitude which their long service commanded. The chair was taken by T. C. Brown, Esq., who was supported by the guests of the evening. After the usual toasts, followed by one to the health of Lord Bathurst, the Chairman gave the toast of the evening, the Professors of the Royal Agricultural College. He said:—The toast was connected with double feelings. First a feeling of delight, arising from the advantages which we have all received from the long residence amongst us of those gentlemen—advantages derived not merely from their qualifications in their several departments, but what is of far more importance, their willingness and earnest desire to convey to others those truths of science which they had acquired by hard study during the earlier periods of their lives. They had so long had the advantages of these gentlemen's knowledge, so freely given, that their loss was accompanied by the greatest regret at the separation, though he trusted they would not be far separated. He trusted that in other districts to which they might remove they would still convey their peculiar knowledge to others, particularly to the agricultural community. They had all their lives been in the habit of teaching theory, and though they had not engaged in practice they had urged with the greatest force upon practical men the importance of their understanding the principles by which all sound practice is regulated. For they must know very well that though they ploughed and sowed as their ancestors did, by habit and by rote, the principles connected with agriculture were some of the highest principles of nature. The principles which these Professors had been engaged in teaching were the laws of God which had been revealed to man, but revealed especially to those men who had devoted themselves to acquire the knowledge. They had filled their offices so long, and in such a friendly, such an agreeable, and such a loving way, that it was our bounden duty—they being separated from us, or rather we from them—heartily to thank them for what they had done. There certainly could not be two opinions about that. He was sure that every individual present would heartily thank them for the liberality and kindness with which for so long a period they had not merely conveyed their peculiar instruction to the Royal Agricultural College, but had always been ready to aid individuals and societies in acquiring the same important knowledge. Having made these general remarks, it was proposed to drink the health of the Professors singly. He asked them first to drink Professor Buckman. That gentleman was first noticed because he had been the longest resident, and was the senior Professor. He had had the advantage of personal acquaintance with him during the whole of his residence in Cirencester, and he had found that he was always ready to assist others with the peculiar information he possessed—always ready and willing to point out the advantages, the beauty, and the delights of his science. He therefore proposed the health of Mr. Buckman, Professor of botany and geology in the Royal Agricultural College.

Professor Buckman said: I have been chosen as the first to return thanks to you for this great kindness because I have been at the College a longer period than the rest of the Professors—because, also, I number a few years more than they do; and gentlemen, when I come to put this and that together I find that one-third of my years, and the best of them, have been spent in Cirencester, and in the service of the College. I came to the College within about two years after its foundation. I need not tell you that we have had troubles in the College and its management before this. There was a time of trouble at the College when the students dwindled down to 10. We lectured day after day to 10 or 11 students; and Professors Brown and Voelcker and myself said, "We have faith that this College will get on well, for no institution is more wanted, and if money is at all in the way we will give our services for 12 months for nothing rather than see it fail." We worked hard, and it was found it was not necessary for us to make any sacrifice of the kind suggested, and the Principal and the Council would not accept of any such sacrifice. You know how the College went on, and at that Principal's death there were somewhere about 100 students. I can point now to students in my class who are now members of the Geological and Botanical Societies, and Fellows of the Society of Antiquaries—men who have gone on flourishing in the pursuits they delighted in. I have not wanted to leave this district, there is here everything that could give me delight. If I turned to botanical pursuits, I found a glorious flora in every direction: and by the kind permission of Lord Bathurst, I had access to the Park, and could range over it as freely as if it were my own. Again, if I went to examine the different quarries around the neighbourhood, I found glorious specimens of every fossil I could desire; and when I looked at the beautiful antiquities of this neighbourhood, I could not help being in love with them. I beg to thank you most sincerely and heartily for the kindness you have shown to me and to my brother professors to-day.

The Chairman next proposed the health of Dr. Voelcker, which was received with great cheering. They were aware that Dr. Voelcker got his early instruction from the great European chemist, Liebig—the man who to this day stood highest in the ranks of chemical science. Dr. Voelcker was eminently a practical man. This country had got him and meant to keep him. They had turned his children into English children, and almost the Professor himself. The King of Prussia tempted him to leave Cirencester, but he replied that though he loved the Fatherland, still he was attached to England, where he was taking root, and would not leave. They must heartily regret that he was separated from this Institution, for he was still the great chemist of agriculture.

Dr. Voelcker, who was received with loud applause, said The Chairman has alluded to what little fame I may have as an agricultural chemist, and certainly it is gratifying to every sensible man to know that his reputation extends beyond the borders of his own county. Even that is not to be despised, but it is more gratifying when it extends throughout the length and breadth of a country like England. I may say that without assuming too much, because I occupy the honourable position of consulting chemist to our great national society. Though this is quite true, and though it is a source of great joy and pleasure to me to say as much, yet I can assure you that what gives me more pleasure is to have a good character in my own native town—for I have made it my native town. It is a hard thing, after a man has been tossed about and is settled down, to be thrown by the force of circumstances upon the world at large. But although we shall all have to seek a new field of labour, I truly believe that we shall not be forced to break stones in any of the quarries to which my friend Professor Buckman has alluded. Wherever we go I believe we shall have the hearty good wishes of the people of this neighbourhood, and particularly of my friends the farmers of England.

The Chairman next proposed the health of Professor Brown, another of the band who had been knit together in the closest ties.

Professor Brown returned thanks. They had all worked together, as Mr. Haygarth liked to express it, as a band of brothers. He had seen three Principals at the College, and he believed that some of his colleagues had seen four or five. They had remained faithful to themselves as a body, and there was something not altogether pleasant in the reason why a staff who had worked together so long, were about to leave the institution where their services had been so long employed. With reference to the motives of the Professors, it had been said that they wished to injure the place. This was utterly absurd. What motive could they have to injure an institution which they had served so long, and which they had taken so much delight in serving. The college at the present time stood alone as an institution of the kind. Various schools of agriculture had been tried in different parts, but they had either failed, or had not been what the college was intended to be, a truly national institution. The Royal Agricultural College had attained a very important position, Professor Coleman, he believed, was of opinion that the practice of agriculture was better learnt in the farm than in the college; but it was necessary that we should have the farm as well as the college. A lad learns best the rudiments, and a man learns best from practice. Teach the one what ought to be done, and leave the other to inquire how it is to be done. The Professor then went on to speak of the relation of veterinary science to agriculture, and he referred at some length to the importation of live stock from abroad, bringing with it epidemic diseases, which caused immense havoc on English farms. He said it remained for him to express to the company his profound appreciation of their extreme kindness, but which was only what he had received at their hands ever since he came to the College.

The Chairman said he now came to the health of Professor Coleman. The Professor was the first student at this College, and if he had shown ability and fitness for his position, he had begun to learn it here. He learnt it in the College, and he had gone into the fields and practised it in various parts of England. The best days of the College farm had been under his administration.

Professor Coleman said he was far too modest to think that he had deserved the kindness that had been shown to him; he believed there had been no lack of sincerity either on the part of the Chairman or of the company. An Englishman has a proverbial attachment for his roof-tree, be it never so humble, and would feel great sorrow in leaving it. What must it be then, as in his case, when to use a scriptural expression, his lines had fallen in pleasant places. There was also great uncertainty about the future, which was another subject of regret. He therefore felt that their kindness this evening, which was but an example of the kindness he had received ever since he had been here, would be a most soothing balm for all the troubles and sorrows which he had felt and expected to feel. He saw around him a great number of his fellow-townsmen and a very large circle of his brother farmers, and he could not sit down without expressing to them his heart-felt thanks for the kind way in which, on all occasions, they had received him. Whatever progress he had been permitted to achieve in his position had been due in a great degree to the open hand that had always been extended to him, to the open heart and to the open hand, if he might use the expression. He had never found his brother farmers saying, "We won't tell him anything: he is come to teach us." That had not been the feeling, and he had not felt that he could teach them anything; but in relation to practical agriculture, he was the pupil and they the teachers in this particular district. But he endorsed all that had been said by his brother Professors in relation to the immense value of the Agricultural College. It was not true that he had been wrapt up in practice, and had not appreciated the noble sciences taught in the institution. He owed to the instruction he received there, partly under Professor Buckman, that teaching which had enabled him to occupy the position which he had for the last seven years. He maintained that the farmers of this district recognised the importance of scientific knowledge in agriculture. The recollection of this evening would be a lasting solace to his mind, and he should look back with regret upon the change he was about to go through.

The Chairman said they had now accomplished the list of toasts peculiar to their meeting, and notwithstanding that they had a very pleasant company, and were greatly enjoying themselves, he thought, considering the lateness of the hour, they should now close the proceedings, with a hearty wish for the long life, happiness, and prosperity of their guests, the Professors.

Mr. Vaisey said, before they parted, he wished to propose the health of their worthy Chairman.

The Chairman said he was very much obliged to them. The position he had held that evening had not been sought by him. He had accepted the invitation, that in his person they might remember his lamented brother, who if it had pleased God to preserve him, would have been their fitting chairman on such an occasion as the present. He accepted the post in the place of one whom they all loved.

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We may mention here that the usual annual dinner of the Royal Agricultural College Club was held at

Worcester during the past week, when great interest was expressed for the continued prosperity of the College. Professor Coleman, who presided, hoping "that the institution would rally. He believed that its intrinsic value would cause it to rise again in public estimation, especially when the necessity of a great and liberal education in agricultural matters became thoroughly understood. He believed that the College would still succeed in its work of usefulness, and that it would recover from any troubles with which it might happen to be surrounded."

## THE MANOR FARM, BRIGHTON.

A gathering of agriculturists took place on Wednes- at Mr. Hallett's Manor Farm, Brighton, for the purpose of making a critical examination of the results his principle of continued selection as exhibited in the crops growing upon his farm.

The company assembled at 1 o'clock, including Sir John Shelley, Bart., M.P.; Thomas Alcock, Esq., M.P.; William Cunningham, Esq., M.P.; James White, Esq., M.P.; W. Rigden, Esq.; James Wood, Esq.; James Dumbrell, Esq.; G. P. Tuxford, Esq.; Howard Reed, Esq.; Robert Leeds, Esq., Lexham; R. Wilson, Esq.; the Mayor of Brighton, the Rev. H. M. Wagner, the Rev. T. Cooke, — Jessie, Esq.; Cordy Burrows, Esq.; Henry Abbey, Esq.; Alfred Hughes, Esq.; Lieut.-Colonel Crofton, Captain Willoughby, R.N.; Lieut.-Colonel Penton, W. H. Hallett, Esq.; G. S. Roupell, Esq.; J. Merrifield, Esq.; F. Merrifield, Esq.; — Campion Esq., Danny Park; S. Copland, Esq.; Col. Paine; Mr. A. Hardy, of Maldon. They commenced by inspecting the selecting grounds upon which were growing many interesting specimens of varieties of Wheat from various parts of the world; against each of which affixed to a staff was its parent plant of the preceding year, so that the improvement obtained by a single generation of selection might be appreciated at a glance.

This inspection was very important, inasmuch as much discussion has arisen as to whether a variety of Wheat which in sample presents, *primâ facie*, very little in common with the ordinary Red Wheat of commerce could in fact have been derived from it. In order to prove that the apparent change could be produced by selection only, the pedigree Wheat had, as it were, been restarted from the original stock of common nursery. The parent plant grown in 1862 of red nursery, would instantly be admitted to be such by any one, while its immediate descendants in 1863, would in the largest specimens differ so materially as entirely to prevent such recognition. When such is the result of merely one generation of selection, the change that can be effected by its repetition throughout several successive years may easily be conceived.

In every case the parent plant or single ear, as the case might be, was placed side by side with its descendants, and the increase both in the number of "ranks," and grains contained in the ear was most marked; as in all cases both generations had been planted in a similar way, the results could be due to selection alone.

On arriving at the Barley plots the effects of selection were even more striking. The greatest number of grains hitherto obtained in England with a single ear of Chevalier Barley was 39, while here ears containing 44 grains might easily be found, and the smallest of the ears contained a number of grains equal to those in the best ears of the ordinary crops of this cereal. This question of pedigree is in Barley even more important than in other cereals, as when the maltster "wets" it, there are usually found from 3 to 30 per cent. of the grains which never "grow" at all, and upon which, nevertheless, he has to pay the duty of 21*s.* per quarter. In a sample of the Pedigree Chevalier Barley tried in the usual way at the largest malthouse in the country, every grain "grew," a result never before experienced by the maltster.

The value of the principle of selection as regards Barley is further illustrated by the fact that whereas in the neighbouring farms it is almost impossible to produce grain fit for malting purposes, the Barley here produced was of such a character as to excite the astonishment, not only of the maltsters, but of the occupiers of those very adjoining lands.

As to Oats, the principle has been carried out too short a time to exhibit fully the results already obtained in the other cereals; but sufficient advance has been made to convince any one that it is equally applicable to this cereal also.

After having finished with the selecting plots in the garden the company followed Mr. Hallett to an inspection of the farm, where the principles already propounded were found fully carried out on a large scale. During this interesting walk several valuable facts with regard to the produce of the Pedigree Wheat were elicited from various gentlemen. It may perhaps be appropriate to give two or three of these, confining the instances for reasons that will be readily understood, to three extreme points of the kingdom. All of the following crops were produced in 1862 —a year that will be remembered by Wheat growers as the most disastrous experienced for many years. In the South of Ireland, from half a bushel of seed per acre, a crop of 62 bushels per acre, weighing 64 lbs. per bushel, was obtained over an extended area. In the extreme north of Yorkshire, upwards of 60 bushels per acre were obtained, while in Essex the produce of three acres was 27 qrs., which was sold to a miller, and realised 19*l.* 7*s.* per acre.—The company sat down to a bountiful dinner, displayed with great taste in a marquee near Mr. Hallett's house, after which several gentlemen made statements which entirely corroborated the facts already detailed. *H. R.*

## THE APPEARANCE OF THE CROPS.

Chatteris: *Isle of Ely, July* 20.—The season continues to maintain its character for extremes. The winter was extremely mild, and the spring, especially the month of May, was extremely cold and frosty. The summer has produced extremes both of heat and cold, and winter, spring, and summer have alike been extremely dry. It is true in June we had a nice fall of rain, which gave an impetus to vegetation, but it was scarcely enough to penetrate the soil to the depth of the plough. This has been again succeeded by severe drought, accompanied by a high range of temperature and brilliant sunshine. But a few days ago the temperature underwent another great change, and after having been hot and scorching for some days suddenly became cold again. For a succession of days the thermometer stood at 86° and 82° in the shade, and on Saturday night (July 18) we had a sharp frost. There can be no mistake as to the fact, for today the Potatoes on the light soils are perfectly black and withered, as bad as they were in May. Rain is much needed, but lingers long ere it comes. Up to this time the Wheat has looked promising, and has appeared to be ripening kindly. Whether the frost of the other night will injure it or not we cannot tell; we have no experience of the effect of frost upon Wheat in its present stage. We shall anxiously watch its future progress towards maturity. Should the frost occasion premature ripening, what promised to be bold fine grain, will be only a thin shrivelled sample: upon the whole we have a good crop of Wheat. In some instances, upon the warm gravelly soils, the straw is short, but upon cooler lands it is long enough; the ear is good, and appears to be filling well, and the plant is thick upon the ground, but not much laid. The heaviest crops have been gradually falling during the fine weather, and with rain would be laid generally; with suitable weather we shall have some Wheats on the warm lands fit to cut next week, and the following week shall be in the midst of the Wheat harvest. The Oat crop varies a good deal according to the dryness or coolness of the soil. On dry lands it is a short crop of straw, whilst on the moist lands there is plenty of straw. We have commenced cutting Polands to day, and have 70 or 80 acres fit to cut this week. We have only 9 acres of Peas, and these have been cut today; the crop is about an average one. Our Barley is nearly all grown after Wheat upon steam cultivated lands, and is a good crop, and for the season much heavier than could have been expected. We have heard great complaints of the Beans, but examination has not confirmed these rumours, although we believe the top blossoms did not set, and the crop is not as promising as it would otherwise have been, still it is not so bad as we have heard it represented; we shall not be surprised to find it very nearly an average. We were fortunate with our crops of Clover hay, and have secured a very fair crop in fine condition. Since we finished we have "smashed up" one field of Clover ley with Howard's cultivator, and made a capital job of it. On the gravelly parts of the field it was very hard, and it was difficult to break it up, whilst on the clay portions of the field, although hard, it broke up admirably. It now lies exposed to the weather, and everything in it possessing vegetable life must, in a few days, be thoroughly destroyed. We have never had such bare and barren pastures as now. We were heavily stocked in the spring, and have consequently all the summer been very short of keeping. Without rain we shall scarcely be able to find sufficient food for the cattle, without resorting to the winter stores. On cool lands our Mangels are growing well, and appear less affected by the drought than most of the other crops. We have finished sowing coleseeds for sheep feed for the winter. The plant has come up well, and is generally healthy and promising, but will not grow much longer with vigour unless we have some moisture. *A. S. R.*

Devonshire: *Stancombe, July* 18.—The grain crops are looking well in this neighbourhood, and are likely to produce far above an average. *Samuel Cornish.*

Gloucestershire: *Didmarton, Chippenham, July* 15. — The general appearance of the Wheat in this neighbourhood, both of autumn and spring Wheat, is very promising; it stands stiff and thick on the ground, and presents a fine ear. With the exception of two or three slight frosts, the last month has been very favourable for the blossoming. Barley, part very good, but some patchy, with thin, white, defective spots, which appear to increase, and moderate rain would do good. Oats generally good, and standing well. Beans and Peas variable, the former appearing till quite lately very promising, but now much blighted, and cannot be expected to yield well; Peas probably will be better. With a continuance of the present fine warm weather, harvest will be early, and if fruitful will be a great blessing to the kingdom generally, and more particularly to the producer, after experiencing some defective seasons. *Stiles Rich.*

Hants: *Bling, Southampton, July* 14.—Wheat crop a little appearance of rust, but on the whole the crop is very promising indeed. Away with the foolish notion that this country is becoming more and more a stock producing and less and less a Wheat producing land—the more wool shorn, the more Wheat and corn. There is no crop which responds so much to good cultivation and high manuring as the Wheat crop, and we hazard the assertion that at the present moment there is a heavier crop of Wheat growing on an equal number of acres than in any other country on the globe. Oats and Barley good; Beans and Peas average, but the former somewhat affected with blight. Roots promising. Potatoes good, but latterly affected with disease. We have had at this place, near Southampton, scarcely any rain during the present month, but in June nearly 4½ inches, and for the six months nearly 14½ inches, more than seven of which have fallen during the last three months. *W. C. Spooner.*—*July* 28.—Wheat has been cut around Portsmouth and south of the Forest. Winter Oats are cut and "isled," crop light and weedy. Spring Oats and Barley (late sown) is blighted and the Wheat slightly so—on the sandy and gravelly soils, the Wheat crops will be light and deficient in straw; but on the strong loams the Wheats hold on and harvest will not be general till the 10th of August. Many have taken to sowing White Wheat, but this variety is not so prolific in yield by a sack, or 6 bushels per acre, and besides, during a wet harvest it soon sprouts, whilst the Red Wheats will sustain any amount of rough weather with proper attention and care. Mangel is good in a few places, but weak and patchy where drilled; the dibbled crops are the surest and most bulky. Swedes are a fair crop, and the fly has not been so busy as during some seasons. Root crops are put in roughly in places, land foul, and Thistles, Lilly and Charlock abundant. The horse hoe, the drill, steam threshing and iron ploughs by Pearce (Poole) and Howard are the favourite implements of husbandry in these days; the flail and the old huge dung-cart are all but exploded. The chief fault of farming is continuous system of cropping foul land, and, "par conséquence" deteriorating crops, and tenants losing money, combined with bad seasons. *X. Y. Z.*

Lancashire: *Holker, Newton-in-Cartmel.*—I never saw the Wheat crops look better than they do this year. The weather the last fortnight has been very favourable for them. Barley looks well. Oats thick on the ground, but rather short of straw; rain would improve them. Beans look well. The hay crop is not heavy, but I never knew it so well saved. Turnips of all descriptions look very promising. Mangels do not look so well. Farmers in this neighbourhood are beginning to tire of them. We can grow so much heavier crops of Swedes than Mangels, and the former are so much better both for cattle and sheep. I know this is contrary to your southern experience. *Geo. Drury.*

Leicestershire: *Knossington.* Wheat, very healthy and promising; Oats, good where got in early, short in straw where late sown; Barley, average early sown, late came up at two growths; Beans, look well; Mangels, bad; Turnips, much injured by the fly; Hay crops, light. *J. Spencer.*

Lincoln: *Wragby.*—Wheat: The early sown Wheats look an average crop; the late sown thin; both are very healthy; an early harvest is expected. Barley: The early Barleys will be an average crop; the late sown very short and thin. Oats: Not quite an average. Beans: Winter Beans an average, unless attacked with filth; spring sown thin. Peas: Nearly an average. Roots: Plenty of plant, but suffering much from the dry weather; the last sown much eaten with fly. *William Dudding, Panton House.*——*Aswarby, July* 21.—The Wheat crops in this neighbourhood vary considerably; generally speaking they are very thin on the ground, but as the weather has been so favourable for their ripening, we hope there will be an average yield. The early sown Barley is looking very well; the late sown has suffered very much from the long continued dry weather. On the whole we believe the Barley will be an average crop. Oats are generally speaking very short, and will scarcely be an average crop. The hay crops were very light indeed, but secured in splendid condition. Mangels are very patchy, only about half the seed having grown on account of the dryness of the soil. Turnips are suffering for want of rain; and the last sown will not come up until rain descends. Potatoes are looking well in the fields, but diseased in the gardens. Harvest will be general here on the 6th August. *Edward Darby.*

Norfolk: *Wymondham.*—According to the present appearance of the grain crops everything is very promising. Wheat is a full average of straw, and grain of first-rate quality. Barley also promises a superabundance of straw, and grain of good quality, save on a few fields of rather dry soil, where the present scorching weather is causing premature ripeness in patches. Oats are a good average crop of straw, and grain, although not so promising as the Barley crop on the cool lands. Beans and Peas about an average yield, the former rather short in stem. Mangel Wurzel and Turnips promise well, but rain would prove very acceptable to everything save the meadow hay now ready to be carted. *T. B.*

Shropshire: *Much Wenlock.*—Our prospect of the Wheat crop this year is far more promising than it has been for the last three years, and if the present glorious weather continues for another fortnight we may anticipate a good average crop; the bulk of straw is not heavy, but the ears have come well out, and are now beautifully in bloom, and the weather is all that can be desired for this critical period in this district; along the whole of the Ludlow range not only dry weather but plenty of sun is absolutely necessary. Wherever the Ludlow rock comes to the surface, anything like a humid or cloudy season is sure to be detrimental to the quality and quantity of the Wheat crop. On the strong loams of this district great difficulty was experienced in getting the land into a proper tilth, and the dry weather setting in caused the Barley to come up very uneven, and consequently the earing also; this probably will deteriorate the malting qualities, and lessen the bushels of the crop when the seed was got in early, and the land properly reduced; the crop is magnificent, and altogether we may look for a good average. Oats, Beans, and Peas very good. The above has reference chiefly to the north side of Corve Dale. On the south side, with the strong red clays of the sandstone formation, the difficulty of producing a tilth, indeed, in many instances of breaking up the land, was so great that I fear the crop of spring corn will be meagre indeed and as that district is, with the exception of a few bright spots, very thinly supplied with live stock, another year of great difficulty will have to be added to the cultivators of such land, the price of Wheat, their chief dependence, being absolutely below the expense of cultivating. And I cannot help thinking that the landlords have committed an error in adding farm to farm on this description of land; for it is very rare that a man with capital sufficient for more than 200 acres will be content to live in the mud and clay; for, as Mr. Coleman justly observes, to cultivate such land is little better than slavery. Hay and Clover crops very light, but being harvested in splendid order. Turnips very promising. Potatoes looking very healthy and well; nevertheless we occasionally hear of the tubers being much affected with disease. *E. D.*

South Wilts.—Wheat, Barley and Oats luxuriant, now rather "laid" by the late rain. *W. J. P.*

West Dorset.—The crops are unusually promising. *W. J. Pope, Bridport.*

West Sussex, *July* 20.—Harvest is at hand; indeed one or two have begun, and next week it will be general. The Wheat is good, and the Barley where sown in good time is good, but where late sown it is likely to turn off for harvest too quickly. Oats are not perhaps a heavy crop, as a dry season does not suit them so well. Peas are good and are podded well to the top, and coming on to harvest slowly. They are generally ready to carry about the time the Wheat is fit to cut, but this year they will not be ready to cut much before the Wheat. Beans are said to be very good. Potatoes perhaps never looked better, and at present there is little sign of disease, except in low lying places, and very little there. Mangel, though it came on slowly at first during the last month, which was unusually cold, is now going on well; and Swedes sown in the early part of June have come on well, and are now being hoed the second time; but the Turnips, which are not generally sown before the end of June or beginning of July, have not had moisture enough to bring them up regularly, and at present sowing is suspended on account of the drought; and some of the land intended for them, after Vetches, trifolium, &c., has got so hard and dry that it would be useless to sow before rain come, which from the movements of the barometer we may expect before a week passes by. The hay crop is mostly got in; it has been very light, but is got in in good order, and as there is a good deal of old still left there is no fear of scarcity. The pastures are getting very bare; but lean stock are still dear, while fat is a very dull sale, and prices are lower, with an unusually large supply. *G. S.*

## STEAM CULTIVATION AT WORCESTER.

### A Report by Mr. Smith, of Woolston.

The steam cultivator trials at Worcester are over Let us go quietly through them together to see whether the prizes are awarded upon the terms upon which they were offered.

The prize of 50*l.* for the best application of steam power which may be effectively and safely adopted for small occupiers was worked off first. There were eight entries, viz., Smith, Fowler, Howard, Coleman, Hayes, Savory, Steevens, and Turner, or rather C. Hall.

The first ground was half of it Wheat stubble in 1862, lying unmoved and well baked by the dry summer of 1863, the other half had been ploughed once, and planted with Vetches in the autumn of 1862, and finished clearing off on the morning of trial, consequently it was not so dry and hard as the unmoved stubble of 1862.

Hayes, Smith, Steevens, and Savory's lots were fairly drawn on the hard-baked part, Howard, C. Hall, Fowler, and Coleman were consequently placed on the cool part.

Hayes, after working a Fowler cultivator for a short time broke his drum cogs out to the extent of 15 inches. Smith went very steadily on driving from a 3-foot 10-inches pully on the fly-wheel, and working his engine under its nominal power of 45 lb. pressure per inch, doing his work in a style for quality that could not be surpassed by any one. His next door neighbour Mr. Stevens had the misfortune to pull the tines from his cultivator within a few yards of the start. Savory soon raced over his work, but too fast to leave good work behind him. Howard with a good consumption of power, got through his lighter work pretty well: but not so Mr. Fowler, for he had the mishap of over driving to the extent of blowing the plug out of his engine. Coleman got through very well; but C. Hall did not get to the scratch in time to fairly compete, but in time to show us that his link chain would take some three or four men some hours to screw it together, for a 350 yards furrow and unscrew it again ready for a shift, the cost of which will for ever be a "lame leg" to his fancy chain. Coleman, Fowler, Howard, Savory and Smith were ordered to shift half a mile by another field. According to report Savory shifted, and was ready for work in 30 minutes. Smith shifted, and was fixed ready for a start in 60 minutes: report says, &c. . . . The time actually taken is unknown.

On Thursday the five competitors started at about 10 o'clock, the greater part of the land was Clover lea with a bit of Vetch land at the N.W. corner, the flat over which all the competitors had to cross was Clover lea with the lands running from E. to W.; the furrows were not very deep, the Vetch land was quite as heavy in draught and made less equable work than the Clover lea, although quite as well done.

Coleman's implement soon broke, and put him out of court. Savory after racing away at a fearful pace and breaking his rope once (not at all to be wondered at, with going at such a fearful pace over such hard baked ground) soon finished his two acres. But how was it done? Why not half done. Then what is the good of racing?

Howard worked more steadily, yet hard, to complete his plot in 1 hour 57½ minutes; the hill or flat part of his land was done much better than Savory's, but his furrows running from east to west were left unworked 2 yards in width from end to end.

Fowler made a rough job of it, stopping frequently yet working hard to complete his plot in 1 hour and 57 minutes. The hill or flat part of his land was done very badly, numbers of pieces being jumped altogether. I have examined this the more particularly, Mr. Morton, of Streatley, near Reading, having told me that it was done well. The furrows running on from Howard's plot were jumped, and done worse than Howard's.

Smith worked very steadily, working from his 3 ft. 10 in. pulley, with a pressure on his 10-horse engine of never over 50 lbs. per inch, reducing the wear and tear of his tackle to the lowest point possible, and did his work well from end to end, not even excepting the furrows, which the rest of the competitors never did at all. Time, 2 hours and 30 minutes. Here is the opinion of some men who have since the trial inspected the work:—

> "We beg to inform you that we have examined the four plots of land worked (as we are informed) by Fowler, Howard, Smith, and Savory, in competition for the prize of 50*l.* offered for the best application for small occupiers and report that No. 1 is well done, ridge and furrow; that Nos. 2, 3, and 4 are not so well done; No. 4 is the worst. The furrows through these three plots over which the implements crossed were in the main left unworked, therefore the ridge and furrow part of them must be done over again before they can surpass No. 1. The work done on No. 1 is in our opinion of more value than that done on Nos. 2, 3, and 4, especially the latter.
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> No. 1 (Smith's) is the plot nearest the gate through which we passed into the field, and Nos. 2, 3, and 4 (Fowler's) follow regularly after it. It may be well to state that we have no knowledge whatever as to whose machine did the several plots.
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> "J. B. Dring, Claxby, Spilsby.
> "J. Whiting, Stoke, Goldington.
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> "Worcester Trial Field, July 21, 1863.
> "To Mr. Smith, Newport Pagnell."

> "Worcester, July 22.
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> "We have examined the work done on Thursday and report that No. 1 is by far the best; that No. 4 is the worst, and that Nos. 2, 3, and 4, have missed a good deal down the furrows. We number the plots from the gate going into the field. We entered the field without any knowledge by whom the work on the pieces were executed.
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> "W. Tibbitts, Wroxhall, Warwickshire.
> "John Selkirk, Manor House, Wroxhall, Warwickshire.
> "David Burnett Ashley, Stockbridge, Hants."

Mr. Dring and Mr. Whiting I know, but the three gentlemen supplying the last report are strangers to me. One and all agree that the plot nearest the gate was the best, and the one farthest from the gate the wosrt done. The judges have awarded 25*l.* to the worst done, No. 4, furthest from the gate; 15*l.* to the best, No. 1; and 10*l.* to Howard. The 25*l.* must have been awarded to Mr. Fowler because he scratched over his pieces at a few pence per acre cheaper than I did mine, disregarding quality altogether. To have given anything like the quality I did he must have done all his work over again, when his cost would have been doubled and much exceeding mine. To be sure he did some ploughing and digging, that might to some extent weigh with the judges, but to counterbalance that (although I will not turn twitch to the bottom to shelter the everlasting pest) I worked my combined machine in the same field, showing that ploughing and sowing can be done at one operation, besides ploughs can be worked by my tackle; surely then my application, taking it all in all, must have been a better application than Fowler's. It is very simple and durable, and did not break through the trials, whereas Fowler's did break nine clips out of the drum, seven altogether; in fact, the drum was completely smashed on Thursday. Then the prize of 50*l.* ought all of it to have been awarded to me. It was offered in the singular number, and ought not to have been divided; as it is the judges have made milk and water of it. I can understand why it was not awarded to Savory, although he did run the most quickly through his plot, his being two engines clearly beyond the reach of a small occupier.

Now let us go on to Wadbrough and see about the Gold Medal and 50*l.* for the best application of steam power for the cultivation of the soil.

The entries were Smith, Savory, Fowler (two sets), Howard, Coleman, and Steevens.

The first field was a good substantial job, dry and hard—a clean Clover lea; the north side was the toughest as well as the roughest; the east end was rather of a lighter character, with a good deal of sand in it; and the west end was a tough sticky clay, rather warm to work, as Mr. Smith, the tenant, called it. Coleman was fixed No. 1 on the north side, Smith next, then came Savory, Fowler, Howard; and last, on the south, Steevens.

Steevens made pretty good work by very steady working, doing but little until Savory had raced over his plot, and then went to help him.

Savory soon dashed over his, done or not done, or rather done after a fashion.

Coleman soon broke down and was out of court.

Smith having worked on in his steady plodding way, using the least power of any, was the next to come out, leaving, as practical farmers told him, the best work in the field behind him.

Fowler started late with his 14-horse power engine, worked at double its nominal power, came out next, leaving very passable work behind him.

Howard finished very soon after Fowler, leaving very middling work behind him.

Fowler then worked his double engine set, doing some digging that night, and finished his plot on Saturday morning, when Fowler with his two sets, Smith with his one, and Howard with his one, entered the tough rough stuff over the railway, called land, and known eight years ago to have been so poor, that the tenant did not think it worth cultivating, therefore left it to run down of itself, where it has been lying ever since; the dry summer of this year has well baked it, and made it a capital test of power.

Fowler was the first to dash off with his 14 horse engine, but, mind you, very slowly; more than once I heard him wish for more power. The three-tine digger was the implement he used; the rough stuff was very troublesome, rolling back after the implement, filling the furrow, so much that at one time I saw 13 men employed lifting the huge lumps out; upon my remarking it, Mr. Fowler said, "Never mind, I will get two men who can do it." He kept steadily on, and completed his work with one breakage of rope, and some bolts, &c. Altogether he got through well. But the grand question next was—What's to be done to the land? Mr. Torr, one of the stewards, asked me; my reply was, "That it would be a waste of power to touch it again until after the dry suns of this summer and a sharp frosty winter have been over it.

Smith was the next to start, and got off at a depth of from 4 to 7 inches, but could not fix; he did not go far before Mr. Fowler got a chance to laugh at him for choking. "Never mind," was the reply. "I do not care how I get through, so that I get through without a break. Laughing was the order of the day while Smith got the tines of his implement lowered and the wheels properly adjusted to let the huge tough lumps pass through the implement; and, much to the joy of the old fellow, he got through his tough job without a break, but not without a screw, by giving one of his beams a slight twist when he had about half done, which was the only mishap he had during the four days' hard work. But let me here tell you that, tough and rough as his job was, he could easily have got a seed bed on his plot for Wheat next autumn. By passing a clod crusher over it and No. 3 again, the job would have been done.

Howard started next, and got on pretty well by working two tines in the unmoved ground, and one tine in the worked ground, thus doing it over twice, as well as relieving his engine; but the day was not long enough for him to finish—his men left by the train about 8 o'clock.

Fowler after finishing his first plot, then put in his two engines set with the diggers, going straight down the lands; but the lumps fell in just as bad as when he went askew the lands in his first work; he then put on the grubber and bang went his drum before he got to the bottom of the field the first time down.

Thus ended this memorable day's testing of implements against power, for doing practical work it was not. But how goes the prize? The gold medal and 30*l.* to Fowler, and 20*l.* to Savory. What, chopped up again? Why Fowler's 14-horse engine was the master power, and, according to past understanding of the prizes, ought to have had not a shaving but all the prize, and if the judges saw merit in Savory's engine, they ought to have recommended a medal to him. It is not noble of so noble a society as the Royal Agricultural Society of England is, to stretch prizes from the singular to the plural number, and its officers should be careful how they tamper with the terms of its prizes.

In conclusion, I beg to state that the trial grounds at Worcester have been most excellent, and without the Saturday's work the Worcestershire people would not have believed that their tough stuff could have been handled at all. The field management has been quite as excellent, everything in place and in order, as well as fair play to all. I therefore beg to thank the field stewards and judges for their every attention, although I cannot agree with the judgments and awards of the latter; yet I am willing to believe that the mistakes are pardonable. Thus ends the Worcester meeting. *William Smith, Woolston, Bletchley Station, Bucks, July 29.*

## WEATHER PROGNOSTICS.

If the clouds in the west are red, with a tinge of purple, it portends fine weather, the reason being that the air when dry refracts more of the red and heat-making rays than when moist, and as dry air is not perfectly transparent, those rays are reflected in the horizon. A coppery or yellow sunset, on the other hand, foretells rain.

A very certain indication of wet weather is in the halo seen sometimes around the moon, which is produced by precipitated water. The observer, though, must not confound the halo with the corona. The former is a luminous circle seen round the moon or sun with a diameter of 20 or more degrees; whilst the corona is a number of coloured rings formed immediately about the moon's place.

When the rainbow appears in the morning, it is a sign of wet; when in the evening, of fine weather. The reason given by Sir Humphry Davy for this is, that as the rainbow can only be seen when the clouds depositing the rain are opposite to the sun, it follows that the morning rainbow must be always in the west, and the evening one in the east. Now, as most of our rain comes with a west wind, a bow in that quarter would indicate that the storm was coming towards the observer; on the other hand, a bow in the east would indicate that the storm was passing from him.

Fair weather is betokened by the swallows flying high: the insects on which these birds feed are always to be found in the warmest stratum of air, and the swallows consequently follow them there. Now as hot air is lighter than that which is colder, it will always occupy the higher position; when, therefore, the swallows are seen flying high, we know that there is no fear of descending currents of colder air; but when they fly low, the warmer air will probably be invaded by the colder stratum descending, and a deposition of water is liable to be the result.

With regard to what may be learnt from the appearances of the sky and clouds, the following general directions will be found useful. As a very good collection of these phenomena, together with the inferences to be drawn from them, they have been brought together by Rear-Admiral Fitzroy, in the publications issued by the Board of Trade, we cannot do better than by quoting the paragraph itself.

"If the first indications of daylight are seen above a bank of clouds, it foretells wind; if the first streaks of light are low, and come from or near the horizon, fair weather may be anticipated. Soft-looking and delicate clouds foretell fine weather, with moderate or light breezes; hard-edged oily-looking clouds, wind. A dark gloomy-looking blue sky foretels wind; but a bright light blue sky a continuance of fair weather. Generally, the softer clouds look, the less wind may be expected; but the harder, more ragged and rolled they look, the stronger will the wind be. Small inky clouds foretell rain; light scud driving across heavy clouds, wind and rain; but if without a background of denser clouds, wind alone. Not unfrequently clouds, at different elevations, will be observed to be going in different directions; whilst the lowest stratum of cloud is moving in the same direction with the wind, the higher and light clouds may be flying across in altogether another course; when this is observed to be the case, it is

usually a sign that the wind will shortly change to the direction in which the upper stratum of air is moving After fine clear weather, the first appearances of a change, in the sky, are small curled or spotty clouds, followed by a gradual clouding in of the sky, formed from an overcasting of vapour. The harder the murky sky appears, the more likely it is to foretell wind; if it looks watery, rain also may be expected. The more distant and higher the clouds are, the more gradual, but extensive, the coming change will prove. When misty clouds and vapours seem to hang or to be spread out over heights, it is a sign of wind and rain; if they rise and disperse themselves, the weather will improve."

The foreknowledge to be gleaned from the close and dawn of day, may be briefly stated as follows, as laid down by Käemtz:—

Since the appearances of twilight depend on the state of the sky, they may serve to foretell, to a certain extent, the weather of the following day. When the sky is blue, and, after sunset, the western region is covered with a slight purple tint, we may be sure that the weather will be fine, especially if the horizon seems obscured with a slight smoke. After rain, isolated clouds, coloured red, and well illuminated, announce the return of fine weather. A twilight of a whitish yellow, especially when it extends to a distance on the sky, is a sign of bad weather for the morrow. Generally, we must expect storms when the sun is of a brilliant white, and sets in the midst of a white light which hardly permits us to distinguish it; the probabilities of bad weather are still more increased when light cirri, that give the sky a dull appearance, appear deeper near the horizon, and when the twilight is of a greyish red, in the midst of which are seen portions of a deep red that pass into grey, and scarcely permit the sun to be distinguished; in this case, vesicular vapour is very abundant, and we may calculate on wind and approaching rain.

The signs to be drawn from daybreak are somewhat different. When it is very red we may expect rain, whilst a grey dawn announces fine weather.

With regard to the appearances of the clouds, the following inferences may be derived: in fair weather the sky is seldom quite clear of small groups of cirrus. Continued wet weather is attended with horizontal sheets of this cloud, which subside presently and pass into the cirro-stratus. Before storms they appear lower and denser, and usually in the quarter from which the storm arises. Steady high winds are also preceded and attended by streaks running quite across the sky in the direction they blow in.

We might sum up these sources of information by remarking that, generally, natural, easy, and delicate tints, with soft undefined and woolly clouds, foretell fine weather; but unusual hues, with striking contrasts of colour, and hard, sharply-marked outlines, usually precede wind and bad weather.

There are some few other sources of foreknowledge which, though not nearly so reliable as the ones we have just enumerated, yet demand some attention from the prudent farmer: we shall therefore give some of them.

Dew is an indication of fine weather, as is also fog. When smoke from chimneys does not ascend readily, but takes a crooked course, it is a sign of a change for the worse. The habits and cries of animals are also thought to be a guide; and, to a certain extent, they are so. Sheep are observed to jump and play about in an unusual degree before rough and wet weather. In winter, when they lie under a hedge, and seem unwilling to go to pasture, it is a sign of a coming storm. When peacocks cry much it is an indication of bad weather. If cocks begin to crow while it is raining, it is said to be a sign that it will soon be fine. The flight of wild geese towards the west, the early appearance of the woodcock and fieldfare, are signs of coming cold.

It has also been asserted that the habits of the spider may afford some hints as to the weather. If the weather be likely to become rainy and stormy, the spider fixes the terminating threads, by which the entire web is suspended, unusually short, and in this state awaits the impending change; on the other hand, if these threads be long, the weather will be proportionately serene. If the spider be completely inactive, rain will follow, but if during rain their wonted activity be resumed, the rain will soon cease, and fair weather will ensue.

From vegetable life we may also draw some conclusions. Most plants expand their flowers in fine bright weather, and close them on the approach of a storm. The down of the dandelion will close in bad weather; but will expand when it is fine. The pimpernel is also a well-known example of a natural weather-indicator: when the flower closes its leaves it will be wet; but when it opens them in the morning, it is a sign of a fine day.

After what we have said about the uncertainty and difficulties in the way of prognosticating the weather, in our country, many hours in advance of the change, we need hardly add that the eye should be always ready to detect the slightest indication of any change. Let not the farmer doubt but that constant and careful attention to these points will prove of infinitely more use to him than all the empirical predictions extant. *Criswick's Weather Guide.*

## Home Correspondence.

*Pedigree Wheat.*—The other week you inserted a report from a gentleman of various kinds of Wheat tried by him over a period of six years from 1855 to 1860, both years' inclusive, and the largest produce he ever once obtained was 56½ bushels per acre. Of the years 1861 and 1862 he says nothing. Now as the object of the above report is to enable agriculturists to judge which is the most profitable Wheat to grow, I may fairly claim, with the same object, to make a bare statement of the produce of the Pedigree Wheat in the almost disastrous season of 1862. In Essex 3 acres of Pedigree Wheat produced 27 quarters, or 72 bushels per acre, and this produce was sold to the miller for 19*l.* 7*s.* per acre! In Ireland it produced 62 bushels per acre, which weighed throughout 64 lbs. per bushel. I beg very confidently to submit these results to my brother agriculturists as a very satisfactory return in pounds, shillings, and pence per acre, which it has always been my object to increase to the utmost. *Frederic F. Hallett.*

*Portable Sheds.*—A long time ago I think you informed your readers that some ingenious person had invented a portable shed adapted for farming purposes, and subsequently I believe you stated that the inventor had died. Pray, sir, is there no way of resuscitating this invention? As a sheep breeder I feel the want of such an invention greatly, and long to know more about it. *A. F. S.*

*Ventilation of National Schools.*—Your correspondent "Beta," who kindly reported in your Paper of July 11, upon my success of utilising the heat of the common fire-place to convert it into a ventilating force, to circulate the fresh warmed invigorating atmosphere into the labourer's cottage, will be glad to hear that the same arrangement upon a larger building is now to be seen in operation at the Sandhurst National School, just built, at a cost of over 1000*l.*, by Mr. J. Walters, Esq., M.P. for Berks. In this case my arrangement converts the open fire-grate into a ventilating, warming, and smoke consuming apparatus, that will save one-half the fuel to warm the school room—30 feet by 20 feet; and a class room, 20 feet by 16 feet. I paid the ironmonger 12*l.* for making the stove, ventilators, and regulators, fixing, &c. I have a cold chamber near to hold 1520 feet of fresh air, that I can regulate and supply to my warming chamber, that is 66 ft. of space: it is capable of rarefying the air to supply the circulation into this school room, at ½ a degree to 60° warmer than the external air in summer. The arrangement will enable them to have a cooling circulation of air, without draught at all seasons. My object is to make the climate of external atmosphere in-doors—to improve the health of the children we hope to bring up to be men and women. My plan is to keep the rooms full of air, life-sustaining, and healthy, and this depending upon ourselves. Cold or warm good air has the property of supporting life, but bad air destroys life. Air in circulation promotes health, but in a state of stagnation disease. Ventilation signifies more air, more air, more air! It is not any use saying we require 300 feet of space for each person, or any other quantity, more or less. The most air at a proper temperature without waste of fuel is what we want in our building,—that air to support life. *Joseph Newton.*

*English Agricultural Society.*—Some time since, Mr. Beale Browne made two suggestions with respect to the Royal Agricultural Society, which well deserve to be freely ventilated. One was, that at the annual meeting in May, the members of council should be elected by the members generally, by means of voting papers, not merely by the few who can attend. The other suggestion was, that the retiring members of council should not be eligible for re-election until a certain time had elapsed. I doubt the wisdom of the latter suggestion, as it is calculated to deprive the society of some useful and active members; at any rate, their retirement should not extend beyond one year. Nothing however can be better than the other suggestion, as to election by voting papers, and I can promise Mr. Browne the support of some members whenever he may choose to bring forward his proposition. However valuable may be the services of the noble lords, gentlemen, agriculturists and amateurs who now compose the council, yet it must not be forgotten that the main strength of the Society resides in the members generally, who, scattered through the length and breadth of the land, make up by their annual subscriptions the principal part of the princely income of the Society, an income which enables it to surge over such difficulties as that caused by the lavish expenditure and insufficient return at Battersea without inconvenience. Such being the case, not only should the interests of the members generally be a foremost consideration; but the system which answers so well with most commercial institutions, that of allowing every member who pleases the power to vote for any members of the Council without the expense to himself of taking a long journey for the purpose. *W. C. S.*

*The Suffolk Show.*—Nothing could be better or better managed than the late show at Ipswich. The Suffolk cart-horses, which always form the principal attraction of the exhibition, and which we were glad to see very free from bad feet and other defects, were well supported by the goodness of the other departments. Two roped enclosures were devoted to two sets of horse judges, who had no occasion to leave the ring until their labours were completed, and who worked on without respite for some 4 or 5 hours, enabling the public to inspect closely all the remaining stock and at some little distance those animals that were undergoing the judges' examination. It would have been well if some of the stewards of the Royal had been present, as they might have learnt a few lessons, and been enabled to avoid some of the inconveniences which existed at Battersea, where the public pressed by hundreds between the judges and the animals. *W.C.S.*

*Steam Cultivation at Tarbat Mains.*—In your impression of the 4th ult., I see Mr. Smith complains that Mr. Morton has not classified the steam ploughs and cultivators right. I beg to state that our plough was patented by Messrs. Oliver & Chandler. The plough and all the other apparatus were supplied by Messrs. Howard. I believe Mr. Smith has a right to claim the windlass, anchor, and rollers. If the above had been asked by Mr. Morton I would have answered it. *John Elliot.*

*Boiler Explosions.*—The frequent boiler explosions which have recently occurred are once more drawing attention to the causes of these death-spreading events. There is one similarity of circumstances in connection with all these recently reported explosions to which I refer, and that is, they have invariably taken place when the engine was not at work; when it had been temporarily stopped (generally during meal-time), the steam being kept up with the object of renewing work as speedily as possible when the time allotted for the meal has expired. The explosions at present referred to have occurred in manufacturing districts; but like accidents, at similar periods of temporary cessation of work, have frequently occurred in agricultural districts. It may be useful therefore to call attention to the report of Mr. J. Hetherington, an engineer of Leeds, who, on occasion of the explosion of a steam boiler attached to a woollen mill at Morley, near that city, was instructed by the coroner to make an examination into the causes of the accident, and reported as follows:—"In my opinion the cause of the explosion was the feed valve not being screwed down, having got set fast with ashes getting between the lid and seat of the valve, so that when the engine was set down at half-past 8 o'clock for breakfast, the pressure of steam forced the water out of the boiler and through the check valve till it got down below the fireboxes and flues to the depth of 6 inches or 7 inches, so that the steam coming in contact with the hot flues it became superheated, and in a short space of time got so high in pressure and temperature that by the small capacity of the safety valve causing a larger amount of stress upon the overheated plates of the boiler they tore asunder, and, giving vent to the elastic power of the steam, was quite sufficient to account for the result which followed—namely, the demolition of the buildings and the projection of the boilers, flues, &c., into the position in which they were found. I cannot close this report without recommending to the millowners the necessity of having two safety valves to each boiler, and made in capacity and form to suit the size of the boilers." The question of having two safety valves to agricultural steam engines was one of the points discussed at a Royal Agricultural Society's Wednesday's meeting last year, and if I remember rightly more than one engineer then present recommended their adoption. Employers of steam power cannot be too cautious and watchful. Perhaps therefore drawing attention to safety valves—their condition and number—may be of service to some of your readers. *Ed. Holland, Dumbleton, Evesham.*

## Societies.

### ROYAL AGRICULTURAL AT WORCESTER.

The 25th meeting of the Royal Agricultural Society of England stands very high on the list for usefulness and success. Measured by the number of its visitors and by the sums received for entrance to the show-yard, it stands with Warwick, notwithstanding that the district visited is strictly agricultural, and there is no great population in its immediate neighbourhood. The following is the order of the meetings hitherto, and of the Society's experience as to attendance:—

| Date. | Place. | Town Contribution. | Paid for admission. | Implement exhibitors. | Head of Cattle exhibited. |
|---|---|---|---|---|---|
| | | £ | £ | | |
| 1839 | Oxford .. .. | .. | .. | .. | 350 |
| 1840 | Cambridge .. | .. | .. | .. | 451 |
| 1841 | Liverpool .. | .. | .. | .. | 463 |
| 1842 | Bristol .. .. | .. | .. | 84 | 497 |
| 1843 | Derby .. .. | .. | .. | 113 | 608 |
| 1844 | Southampton .. | 1000 | 2432 | 99 | 716 |
| 1845 | Shrewsbury .. | 1000 | 1682 | 98 | 587 |
| 1846 | Newcastle .. | 1000 | 2168 | 110 | 775 |
| 1847 | Northampton .. | 1200 | 2478 | 142 | 580 |
| 1848 | York .. .. | 1600 | 2514 | 146 | 846 |
| 1849 | Norwich .. | 1600 | 2360 | 145 | 799 |
| 1850 | Exeter .. .. | 1260 | 2493 | 118 | 769 |
| 1851 | Windsor .. | 600 | 3397 | .. | 1226 |
| 1852 | Lewes .. .. | 1500 | 1184 | 105 | 828 |
| 1853 | Gloucester .. | 1500 | 2734 | 128 | 931 |
| 1854 | Lincoln .. | 1500 | 3378 | 130 | 931 |
| 1855 | Carlisle .. | 1400 | 3260 | 121 | 1076 |
| 1856 | Chelmsford .. | 1200 | 2988 | 151 | 906 |
| 1857 | Salisbury .. | 1500 | 3447 | 166 | 1462 |
| 1858 | Chester .. | 1800 | 6187 | 197 | 1414 |
| 1859 | Warwick .. | 1500 | 5459 | 246 | 1601 |
| 1860 | Canterbury .. | 1500 | 2689 | 204 | 891 |
| 1861 | Leeds .. .. | 1500 | 9865 | 358 | 1027 |
| 1862 | Battersea .. | — | 9840 | 342 | 2000 |
| 1863 | Worcester .. | 4500 | 5400 | 339 | 1219 |

The class of implements to which this year the

awards of prizes had to be made included steam-engines and barn works. The award is given below. It is in its very nature more trustworthy than such awards generally are. The amount of efficient power given off by a steam engine is capable of accurate measurement by the dynamometer. The time and labour spent in threshing 500 sheaves of corn are both capable of accurate measurement, and although possible errors of judgment come in when the quality of the work is estimated, yet that is a liability of less importance in this than in any other case. The clearness of a sample of grain, or of straw, can be estimated without much difficulty.

The awards of the judges are given below. And we shall next week give the report of the performances of the several machines, examined and drawn up by Mr. Amos, along with a more detailed report of the yard and implement show generally than we have yet been able to prepare.

## AWARD OF THE JUDGES OF IMPLEMENTS.

### JUDGES.

| Steam Cultivators. | Thrashing Machines. | Steam Engines. | Dressing Machines, &c., and Miscellaneous. |
|---|---|---|---|
| Messrs. H. B. Caldwell. | Messrs. J. Hicken. | Messrs. J. V. Gooch. | Mr. G. M. Hipwell. |
| C. Sewell Read. | W. Chalcraft. | D. K. Clarke. | The Rev. A. Rigg. |
| Jacob Wilson. | G. Martin. | J. Stewart. | |
| William Owen. | | | |

### THRASHING AND FINISHING MACHINES.

| Amount of Prize. | Name. | Kind of Implement. |
|---|---|---|
| £ | | |
| 25 | R. Hornsby & Sons | Portable Combined Thrashing Machine. |
| 15 | Clayton, Shuttleworth, & Co. | Portable Combined Thrashing Machine. |
| 10 | Wallis, Haslam, & Steevens | Portable Combined Thrashing Machine. |
| 20 | R. Hornsby & Sons | Fixed Combined Steam Thrashing and Finishing Machine. |
| Silver Medal | Holmes & Son | For method of Bagging Chaff in a Portable Combined Thrashing Machine. |

Commended.

Robey & Co. .. Portable Combined Thrashing Machine. | Holmes & Son .. Portable Combined Thrashing Machine.

### STEAM ENGINES—PORTABLE.

| £ | | |
|---|---|---|
| | | 12-horse Power. |
| 10 | Hornsby & Sons | Portable Steam Engine. |
| 7 | Clayton, Shuttleworth, & Co. | Portable Steam Engine. |
| 4 | Tuxford & Sons | Portable Steam Engine. |
| 4 | Barrett, Exall, & Andrewes | Portable Steam Engine. |
| | | 8-horse Power. |
| 9 | Tuxford & Sons | Portable Steam Engine. |
| 8 | Barrett, Exall, & Andrewes | Portable Steam Engine. |
| 7 | Clayton, Shuttleworth, & Co. | Portable Steam Engine. |
| 1 | Homes & Sons | Portable Steam Engine. |

Commended.

| | | | |
|---|---|---|---|
| Brown & May | Portable Steam Engine. | Parsons | Portable Steam Engine. |
| James Haywood, Jun. | Portable Steam Engine. | Brown & May | Portable Steam Engine. |
| Ellis & Sons | Portable Steam Engine. | | |

### STEAM ENGINES—FIXED.

| £ | | |
|---|---|---|
| 15 | Barrett, Exall, & Co. | Fixed Steam Engine. |
| 15 | Crayton, Shuttleworth, & Co. | Fixed Steam Engine. |
| 10 | Hornsby & Sons | Fixed Steam Engine. |

Highly Commended.

James Ferrabee .. .. .. Fixed Steam Engine.

### STEAM CULTIVATORS.—Class 1.

| | | |
|---|---|---|
| Gold Medal and 30*l.* | John Fowler | Fourteen-horse Set of Steam Ploughing Machines, complete—1st Prize. |
| Gold Medal and 20*l.* | William Savory & Son | Two Ten-horse Self-propelling Winding Engines—2d Prize. |
| Silver Medal | William Steevens | Four-furrow Steam Plough and Cultivator combined—3d Prize. |
| Commended | Coleman & Sons | Set of Steam Cultivating Apparatus. |

### STEAM CULTIVATORS, FOR SMALL OCCUPATIONS.—Class 2.

| £ | | |
|---|---|---|
| 25 | John Fowler | Ten-horse Set of Steam Ploughing Machinery, complete—1st Prize. |
| 15 | William Smith | Ten-horse Set complete of Steam Ploughing Machinery—2d Prize. |
| 10 | J. & F. Howard | Ten-horse Set complete of Steam Ploughing Machinery—3d Prize. |

### HAND DRESSING MACHINES.

| | | |
|---|---|---|
| 15 | Joshua Cooch | Hand Dressing Machine. |
| 10 | William Sawney | Hand Dressing Machine. |
| 5 | R. Hornsby & Sons | Hand Dressing Machine. |
| 6 | John Penny & Co. | Corn Screens. |
| 4 | Robert Boby | Corn Screens. |

### BARLEY HUMMELLERS.

| | | |
|---|---|---|
| 8 | Barrett, Exall, & Andrewes | Barley Hummellers. |
| 2 | Robert Boby | Barley Hummellers. |

### MISCELLANEOUS.

| | | |
|---|---|---|
| Silver Medal | Amies & Barford | Wrought-iron Water Ballasting Roller. |
| ,, | H. Mackinder | Potato Separator. |
| ,, | E. Humphries | Portable Clover Machine. |

Commended.

| | | | |
|---|---|---|---|
| Wallis, Haslam, & Steevens | Patent Steerage attached to Drill. | W. S. Underhill | Cheese Press. |
| Clarke & Son | Adjustable Scythe. | Seaman & Tipping | "Excelsior" Steel Whippletrees. |
| A. W. Gower & Son | Combined Corn Distributor. | R. Hornsby & Sons | Root Pulper. |

Durham County: *July* 28.—At the annual exhibition here to-day Mr. J. Wilson's Duke of Tyne, Short-horn bull, won the prize in the class of old bulls, being placed as he was at Worcester. In the cow class Mr. Booth's *Soldier's Bride* beat Lady Pigott's *Pride of Southwicke.* They were respectively 1st and 2d.

## Reviews.

*An Address, on resigning his Professorship, to E. Holland, Esq., M.P., Chairman of the Agricultural College, Cirencester.* By James Buckman, F.G.S., F.L.S., F.S.A., &c., Professor of Geology and Botany. —Cheltenham and Cirencester.

This pamphlet, though nominally an address to the chairman of the Council of the Royal Agricultural College, is really an address to the public, to whom it relates the history of Professor Buckman's connection with the Agricultural College during the Principalship of the Rev. J. Constable.

There are three letters published in its pages. It appears to us that the first of these, which seems to have been given up to Professor Buckman "to be burned," ought not to have been published.

The second, which is from Mr. Holland, is of no public interest. The third, which conveys the resignation of Professor Buckman's connection with the College, is a public document which was certainly within the professor's power to publish if he chose, and to it alone we shall here refer. It is not for the purpose of discussing the recent management of the institution, which has resulted in the retirement of its professors, that we do this. The management of the College and the treatment of its professors have been discussed sufficiently often here; and one has to consider in the further discussion of this subject that which they too in the most praiseworthy and disinterested manner have declared paramount — the interests of the institution as a school of agriculture. At the recent meeting of the Royal Agricultural College Club at Worcester, nothing was more striking than the way in which those who spoke—injured as they felt themselves to be—retiring with loss of income and position from offices which formerly they had held with honour and with satisfaction to the Principal and all concerned—yet yielded the first and most important place, in the few and gentle references which were ventured, to the future prosperity of the College itself.

The injury, wherever the responsibility of it lies, and whether the College, or the professors, or both, be sufferers, has been experienced; and the chief object now is to promote the future interests of the institution. It is not, therefore, to recall the state of feeling on the subject which existed at the end of last year, when Professor Buckman's resignation was sent in, that we refer to the pamphlet at present—but to do an act of simple justice in a matter where Professor Buckman has been injured through his services in these columns. We learn from the letter conveying his resignation that he had been accused to the Principal as having "brought disgrace" upon himself "as an analyser of seeds;" and from a comparison of dates somewhat imperfectly given, as well as from direct reference to the *Agricultural Gazette,* it appears that this charge, founded on an example reported in our own columns, had been hurriedly laid against him, before the case to which reference was made was concluded, and before, therefore, it could be fairly determined whether any error had been committed. Mr. Buckman justly complains of this charge, both because he knows its groundlessness, and also because the haste with which it was urged may very fairly be assumed to imply the existence of a prejudice against him on the part of his accuser.

The case in question arose out of two reports having been published of two samples of seeds sent by two different correspondents, which were afterwards alleged to have been taken out of the same bulk. In the one report the Clover was declared to have been mixed with 24,960 weed seeds per pint, "mostly plantain;" and in the second the Clover, it was said, was mixed with plantain to the extent of 17,700 seeds per pint, "in all probability added as a desirable pasture plant." Of the one a half-pint sample was sent, and of the other an ounce. Our assertion at the time was that the opinions thus given, though alleged by the seedsman to be utterly irreconcilable, "were as nearly identical as two handfuls of seed taken out of the bag before and after a journey were likely to be." So far from disgracing himself, Mr. Buckman had given a true and accurate account of the two samples, and considering the differing circumstances under which the samples reached him, they were wonderfully alike. But two samples of Grass seeds accompanied these Clovers; and his reports here differed very materially. What reason, however, have we for supposing that less care was directed to the examination of these received at the same time? And what but prejudice or the assertion of a foregone conclusion should lead any one to accept the report of the seedsman as necessarily true, in order that the report of the analyst might be effectually condemned?

If the reports differed, so also we believe must the samples to which they referred. We are indeed assured that they belonged to the same bulk; but notwithstanding this assertion, there is no certainty on this point. Nor is there any certainty as to the samples having been taken in the same way? Besides, as we stated at the time, "it must be remembered—1st, that an opinion must, either purposely, or unconsciously, always to some extent, be given relatively to the research which may be occupying the mind of the analyst at the time; and it is quite possible that a mixture which, when discussing the proper combination of species in good Grass seed, he has pronounced 'better than usual,' might at another time, when his attention was directed to the quantity of dead and worthless admixture present, be declared 'an inferior sample.' Surely there is such a thing as an 'inferior sample' of even good Grass seeds. 2d, it must be recollected that the sample sent by 'J. S.' is not the same as that afterwards examined for 'A. M.,' though both are alleged to have been taken indiscriminately from the same bulk. And 3d, all these samples come anonymously before the reporter, whose sole object it has been to arrive at the truth regarding the seeds supplied to farmers; and there is no opportunity whatever given for the operation of any possible bias."

We agree with Mr. Buckman in his protest against both the haste and injustice of the charge which was based on these reports. And though he is himself the publisher of the charge, which has heretofore been merely the private expression of an opinion—yet, believing that this opinion has injured him, and certain that his work as an analyst of seeds has been honestly, skilfully, and usefully performed, we think he is right to let the public know how the matter stands.

We cannot but believe with him that some injury was done to him by the communication of the opinion in question; and we should be glad to see the stigma which it affixed removed by the same hand which too hastily, and as we believe, in ignorance affixed it. For we confidently believe that Professor Buckman has done honest, skilful, and useful work as a seed analyst.

## Miscellaneous.

*Pauper Agricultural Colony in Holland.*—45 years ago a public meeting was holden at the Hague, for the purpose of establishing a general pauper agricultural colony. 20,000 members enrolled themselves, and the Society received the hearty support of the King of the Netherlands. A Dutch officer, General van den Bosch, who had lived for some years in Java, and had there studied agriculture under a Chinese mandarin, had lately returned to his native country, and had succeeded so well in putting his lesson into practice, that he sold an estate for nearly eight times the sum which he gave for it. He published a tract, in which he advocated the establishment of agricultural colonies, and became the leading member of the new benevolent association. In a short time 70,000 florins (5833*l.*) was subscribed, and an estate was bought near the town of Steenwyk, on the confines of Friesland, Overyssel, and Drenthe, and on the eastern border of the Zuyder Zee. It consisted of 1300 English acres, of which a part was badly cultivated, and 200 acres were mere heath land. For the whole the Society paid 4660*l.* The river Aa, which runs through the estate, was deepened, so as to make it navigable, and houses were erected for 52 poor families. To each family was granted about seven acres of land, and, in addition to this, an outfit in clothing, two cows, and ten sheep, furniture and implements were given, and money for seed &c., was advanced, so that the total expense of each family was 141*l.* 13*s.* 4*d.* This sum the family was expected to repay to the Society in rent and labour in the course of 16 years. The whole colony was

subject to a strict discipline. The great feature of the cultivation was a most extensive manuring, amounting to 20 tons an acre. The preparation of compost thus became a most important operation, and for this purpose the cattle stalls were constructed so as to preserve every particle of manure. The good work prospered. It was found that a profit of more than 8*l.* an acre was made after paying the rent and advances. The colony found imitators, and in a very few years after the formation of this one of Frederick's Oord, the number of paupers thus converted into farmers was estimated at 20,000. *Bath and West of England Society's Journal*

## Calendar of Operations.

### JULY.

Wester Ross: *July* 13. Turnip sowing was generally completed previous to the end of June, and since that time our hands have been busily employed in singling Swedes, and the earlier sown common Turnips. All our Turnips brairded quickly, and regularly, and have come to the hoe so speedily, that in another week the first hoeing will be nearly completed. The Swedes are spreading over the ground, and are giving the fields, seen from a distance, a green tinge; but with a continuance of the dry weather we now have, this state of things cannot long continue. For about three weeks we have had no rain, whilst a brilliant sun, and scorching winds have, as speedily as they can: been extracting from the ground the latent moisture, and although little actual damage has as yet resulted, Grass on the lighter soils is beginning to fade, and the crops where there is little depth of soil are withering away. Should the drought continue, the Wheat cannot be seriously affected, as it has now nearly reached its full length, and dry sunny weather is what it most requires to bring it to maturity; but Oats might yet be greatly damaged, as the years are only beginning to appear, and as they require repeated showers to secure a full crop. Should the weather be favourable the crops in this neighbourhood would be a full average; Wheat is generally somewhat thin, but is well strawed, and will we expect be a well yielding crop. Barley is unequal, some fields being very heavy, and not a few unusually light; it is now getting well into ear. Only a short time ago Oats had a very promising appearance, on all the heavier soils they yet look well, and with early showers would still generally be an abundant crop. Potatoes are very irregular; on the lighter soils, and where early planted they never looked better; but on clayey soils from the want of the pulverising action of frost, they are stunted and unpromising. The weather is particularly suitable for hay making, and the work rapidly advances; the crop, however, is not heavy, as there is a general lack of clover. Pasture Grass until now has been unusually abundant, and the stock have been thriving satisfactorily.

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. Slatter, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer: Dry Bulb. | Thermometer: Wet Bulb. | Wind: Direction. | Wind: Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade: Max. | In Shade: Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | July 24 | 30.19 | 63 | 56 | W. | 1 | 5 | 68 | 42 | 79 | 37 | .. |
| Saturday .. .. | 25 | 30.00 | 65 | 58 | N.W. | 3 | 9 | 64 | 58 | 78 | 43 | .. |
| Sunday .. .. | 26 | 30.28 | 58 | 52 | N. | 1 | 6 | 66 | 43 | 76 | 38 | 0.28 |
| Monday .. .. | 27 | 30.29 | 70 | 60 | N.E. | 1 | 0 | 70 | 43 | 86 | 38 | .. |
| Tuesday .. .. | 28 | 30.18 | 67 | 59 | S.E. | 0 | 5 | 74 | 48 | 90 | 41 | .. |
| Wednesday .. | 29 | 30.18 | 62 | 59 | N. | 1 | 9 | 74 | 58 | 91 | 46 | .. |
| Thursday .. .. | 30 | 30.28 | 65 | 58 | W. | 0 | 5 | 75 | 50 | 92 | 42 | .. |

## Notices to Correspondents.

Alopecurus: *Waltham.* The seeds sent belong to this genus; but whether it be a rough variety of A. pratensis (Meadow Foxtail), or a distinct species, it is difficult to say from the seed alone. *X Y Z.*—The usual practice with regard to the droppings on the pastures is to knock them abroad when they have arrived at a certain degree of consistency. We believe that an old man and donkey cart might be usefully employed constantly during summer in collecting them and forming a heap, wherever there is extent and herd enough to give him work.

Tolls: *S W.* We are not learned in the law. But we may say that, if it is an ordinary turnpike on a public road to which you refer, we imagine you are exempt in all the cases put, unless it be the last.


FOWLER'S

**STEAM PLOUGHING AND CULTIVATING PATENTS.**

RANSOMES & SIMS, Orwell Works, Ipswich,

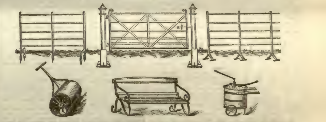
Have the pleasure to announce that they have arranged with JNO. FOWLER for the use of the above PATENTS, and they will answer any inquiries respecting them, and execute any Orders promptly.

COTTAM'S

**CONTINUOUS IRON FENCE, HURDLES, and FIELD GATES,**

MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

PARK ENTRANCE GATES, and RAILING of CAST and WROUGHT IRON COMBINED IN VARIOUS STYLES.



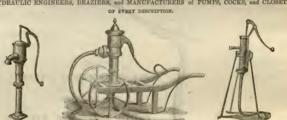
IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES, WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes. VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c. The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

Illustrated CATALOGUES and DRAWINGS free on application to COTTAM & CO., ENGINEERS and IRON FOUNDERS, 2, WINSLEY STREET (Opposite the Pantheon), OXFORD STREET, LONDON, W.

JOHN WARNER & SONS,

**BELL AND BRASS FOUNDERS TO HER MAJESTY,**

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.



No. 35. No. 36½. Improved Cast-Iron Lift and Force Pump. No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & Sons' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... ... 3 0 0
3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET. When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & Sons' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the PATENTEES and MANUFACTURERS,

JOHN WARNER and SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

**Heating.**

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

Apply to Joseph Meredith, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. Dennis, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

Latest Improvements in
**Heating by Hot Water.**
THE IMPROVED
CONICAL BOILERS,
For Heating Pineries, Conservatories, Greenhouses, Mansions, Halls, Warehouses, &c.,
SOLELY MANUFACTURED BY
BURY AND POLLARD
(Successors to John R. Peill, Late Stephenson & Peill).

Annexed Sketch shows Bury & Pollard's improved arrangement, requiring

NO BRICKWORK SETTING.

These Boilers have for their durability and economy attained a celebrity far surpassing any other Boilers ever invented. They have been for many years past in use at many Public Establishments, Royal Botanical Gardens at Kew, at the Regent's Park, the Crystal Palace, and at most of the Nobility's and Gentry's Seats throughout the United kingdom. References where they have been 20 years in constant use.

Price Lists on application to Bury & Pollard, Park Iron Works, New Park Street, Southwark, London, S.

W. J. HOLLANDS, Iron Merchant, 31, Bankside, London, S.E.

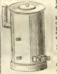
HOT WATER PIPES, from Stock, per yard:—2-inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS. from stock, 1s. 7d., 2s. 6d., and 3s. 3d. each. THROTTLE VALVES, 10s. 6d., 13s. 6d., and 15s. each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

**West of England, Ireland, and Wales.**

VINCENT SKINNER (*late Partner with* J. Weeks & Co.), Horticultural Builder and Hot-Water Apparatus Manufacturer. HEATING on the ONE-BOILER SYSTEM. Plans and Estimates on application.

Vincent Skinner, Bridewell Street, Bristol.

RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.



Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3d. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3l. 10s.

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

**Exhibition Prize Medal, 1862.**

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.—This Stove is the nearest approach to Warming by Hot Water, and an efficient aid in Ventilation.

It will burn in Churches from Saturday till Sunday evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of Warming a large Apartment for 24 hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

It is also made for Small Conservatories, with a vapour chamber, which maintains a moist atmosphere for 12 hours with once filling.

Particulars and prices post free on application to Musgrave Brothers, Ann Street Iron Works, Belfast.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. Tylor & Sons' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. |
|---|---|---|
| 2 13 6 | £3 5 0 | £3 15 0 |
| 24 gal. | 30 gal. | |
| £5 0 0 | £5 18 0 | |

Fig. 571.

J. Tylor & Sons' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0 |

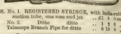


Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 "
Telescope Branch Pipe for ditto .. 0 10 0 "

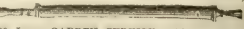


Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11s. 6d. each.
" 589. Middle Ditto ditto .. 10 3 "
" 588. Small Ditto ditto .. 9 0 "
" 587. LADIES' GARDEN SYRINGE, with do. 7 6 "

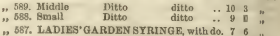


Fig. 591. READ'S SYRINGE, with two roses and one jet, 17s. 6d.
READ'S SYRINGE, with one rose and jet, 15 0
" 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. Tylor & Sons' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

J. Tylor & Sons, Manufacturers, Warwick Lane, Newgate Street, London, E.C.

## WARNERS' IMPROVED PATENT,

NOW FITTED WITH AN AIR VESSEL,

IS THE ONLY

**DOUBLE-ACTION ENGINE**

**at £2 2s.**

THAT

THROWS A CONSTANT STREAM.

May be obtained of any Ironmonger or Seedsman at the above price, or of

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

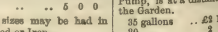
| | | |
|---|---|---|
| 10 gallons .. | .. | £2 15 0 |
| 16 " .. | .. | 3 15 0 |
| 24 " .. | .. | 5 0 0 |

Larger sizes may be had in either Wood or Iron.

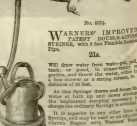
No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | |
|---|---|
| 35 gallons .. | £2 10 0 |
| 20 " .. | 2 0 0 |



BRASS SYRINGES of all kinds from 9s. to 21s.



No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 5 feet Flexible Suction Pipe,

**21s.**

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

There are no suction or delivery Valves, hence much friction and liability to choke with leaves and dirt is avoided.

John Warner & Sons, 8, Crescent, Cripplegate, London, E.C.

# CARSON'S
## ORIGINAL ANTI-CORROSION PAINT.

| | |
|---|---|
| White ... ... ... / Light Stone ... / Bath Do. ... ... ... / Cream Color ... ... / Light Portland Stone ... / Drab or Portland Do. ... | Per cwt. 30s. |
| Light and Dark Oak ... / Lead Color ... ... ... | 26s. |
| Bright Red ... ... / Dark Do. (or Brick Color) / Chocolate Color ... ... / Black ... ... ... | Per cwt. 26s. |
| Bright Green ... ... / Deep Green... ... ... / Blue ... ... ... | 44s. |

PATRONISED BY

THE BRITISH GOVERNMENT | THE LAMENTED PRINCE CONSORT | RAILWAY AND CANAL COMPANIES
THE RUSSIAN GOVERNMENT | MOST OF THE NOBILITY & GENTRY | COLLIERIES, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

**OUT-DOOR WORK,**

and has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to Wooden Houses, Farm and other Out-Buildings, Park Fencing, Gates, &c.; also Iron Roofing, Bridges, Hurdling, and every description of Iron Work, while for

PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

and every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone. It is undoubtedly the only Paint that will stand on

**CONSERVATORIES, GREENHOUSES, FRAMES, &c.**

and is in consequence largely used by the Nobility and Gentry, also many eminent Horticulturists, for such purposes. The Anti-Corrosion is Lower in Price, and lasts twice as long as the Best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, and will keep any length of time.

Carriage paid upon quantities of not less than 5 cwt. to any station in England and Wales, or by Water to any Port in the United Kingdom, where there is a direct communication from London, as Leith, Dublin, Belfast, Glasgow, Aberdeen, &c.

OIL, TURPENTINE, AND BRUSHES.

Patterns, Cards, and Testimonials sent upon application to

WALTER CARSON & SONS (Successors to the Inventors),

9, GREAT WINCHESTER STREET (Near the Royal Exchange, London, E.C.)

*No Agents throughout the United Kingdom.*

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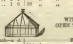
**Glass for Garden Purposes.**

JAMES PHILLIPS and CO. beg to submit their prices as follows:—

PROPAGATING GLASSES.

| Each— | s. | d. | Each— | s. | d. |
|---|---|---|---|---|---|
| 2 inches in diameter.. | 0 | 3½ | 12 inches in diameter .. | 1 | 9 |
| 3 " " .. | 0 | 4½ | 13 " " .. | 2 | 0 |
| 4 " " .. | 0 | 5½ | 14 " " .. | 2 | 6 |
| 5 " " .. | 0 | 6½ | 15 " " .. | 3 | 0 |
| 6 " " .. | 0 | 8 | 16 " " .. | 3 | 6 |
| 7 " " .. | 0 | 10 | 17 " " .. | 4 | 0 |
| 8 " " .. | 1 | 0 | 18 " " .. | 5 | 0 |
| 9 " " .. | 1 | 2 | 19 " " .. | 6 | 0 |
| 10 " " .. | 1 | 4 | 20 " " .. | 7 | 0 |
| 11 " " .. | 1 | 6 | | | |

HAND GLASSES, WITH OPEN TOPS.



| Each— | s. | d. | Each— | s. | d. |
|---|---|---|---|---|---|
| 12 inches .. .. .. | 6 | 6 | 18 inches .. .. .. | 9 | 6 |
| 14 " .. .. .. | 7 | 6 | 20 " .. .. .. | 10 | 6 |
| 16 " .. .. .. | 8 | 6 | 22 " .. .. .. | 11 | 6 |
| | | | 24 " .. .. .. | 12 | 6 |

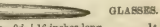
Painted and Glazed with 16 oz. Sheet Glass.

GLASS PRESERVE JARS.

| In. diam. | Without Lids. | With Lids. | In. diam. | Without Lids. | With Lids. |
|---|---|---|---|---|---|
| 3 .. | 0s. 4½d. .. | 0s. 6½d. ea. | 7 .. | 1s. 0d. .. | 1s. 4d. ea. |
| 4 .. | 0 6 .. | 0 9 " | 8 .. | 1 4 .. | 1 8 " |
| 5 .. | 0 8 .. | 0 11 " | 9 .. | 1 8 .. | 2 2 " |
| 6 .. | 0 10 .. | 1 2 " | 10 .. | 2 0 .. | 2 8 " |

Intermediate Sizes in proportion.

CUCUMBER GLASSES.



| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| 24 inches long .. | 2s. | 0d. | 16 inches long .. | 1s. | 4d |
| 22 " " .. | 1 | 10 | 14 " " .. | 1 | 2 |
| 20 " " .. | 1 | 8 | 12 " " .. | 1 | 0 |
| 18 " " .. | 1 | 6 | Made to any length. | | |

London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

180, Bishopsgate Street Without, London, E.C.

---

MORTON'S NEW IMPROVED PATENT LAWN MOWER, with Sun and Planet Motion, having all the most recent Improvements, is allowed to be the best Machine for preventing Ribbing and Clogging.

To be had, with prices and particulars, of Grimmond, Laird, & Co., 15, Cannon Street West, London, E.C.; or of the patentee, Catherine Street Engine and Machine Works, Arbroath; and all the principal dealers throughout the country.

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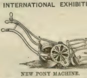
# SHANKS' NEW IMPROVED PATENT
## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.

**THE FIRST PRIZE INTERNATIONAL EXHIBITION MEDAL AWARDED.**

NEW HORSE MACHINE.



NEW PONY MACHINE.

NEW HAND MACHINE.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved and their success established.

These Machines will Mow equally well on Uneven as on Level Lawns, and whether the Grass be wet or dry. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

**SHANKS' NEW PATENT HORSE MACHINE.**

| Width of Cutter. | | | | If with Patent Delivering Apparatus. |
|---|---|---|---|---|
| No. 1.—48-inch Machine ... | £28 | 0 | 0 | ... ... ... 40s. extra. |
| No. 2.—42-inch Machine ... | 26 | 0 | 0 | ... ... ... 40s. " |
| No. 3.—36-inch Machine ... | 22 | 0 | 0 | ... ... ... 30s. " |
| No. 4.—30-inch Machine ... | 19 | 0 | 0 | ... ... ... 30s. " |

Silent Movement, 20s. extra; Boots for Horse's Feet, 24s. per set.

**SHANKS' NEW PATENT PONY and DONKEY MACHINE.**

| Width of Cutter. | | | | If with Patent Delivering Apparatus |
|---|---|---|---|---|
| No. 5.—30-inch Machine ... | £15 | 15 | 0 | ... ... ... 30s. extra. |
| No. 6.—28-inch Machine ... | 14 | 10 | 0 | ... ... ... 30s. " |
| No. 7.—25-inch Machine ... | 12 | 10 | 0 | ... ... ... 25s. " |

Silent Movement, 12s. 6d. extra; Boots for Pony, 21s. per set; ditto for Donkey, 16s. per set.

**SHANKS' NEW PATENT HAND MACHINE,** for Pushing or Drawing Separately or Together.

| Width of Cutter. | | | | |
|---|---|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 | 17 | 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 | 7 | 6 | *Easily Worked by Two Men.* |
| No. 10.—19-inch Machine ... ... | 7 | 12 | 6 | *Ditto by a Man and Boy.* |
| No. 11.—16-inch Machine ... ... | £6 | 17 | 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 | 2 | 6 | *Ditto ditto by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25s. extra; Silent Movement, 7s. 6d. extra.

No. 16.—12-inch Machine, for pushing only, £5 5s. Easily worked by a Lady or a Boy; Silent Movement, 4s. extra.

*** *The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

PATENTEES AND SOLE MANUFACTURERS:

ALEXANDER SHANKS and SON, DENS IRON WORKS, ARBROATH, N. B.

LONDON OFFICE and SHOW ROOMS: 27, LEADENHALL STREET, E.C.

*A Stock of Machines kept at the London Depot, from which Orders can be at once executed.*

### Choice Seeds.

B. S. WILLIAMS begs to offer First-class quality of the undermentioned SEEDS :—

| | Per packet. | |
|---|---|---|
| PRIMULA SINENSIS FIMBRIATA, Red, White, or Mixed | 2s. 0d. | 3s. 6d. |
| CALCEOLARIA, herbaceous | 1 6 | 2 6 |
| CINERARIA, from choice named flowers | 1 6 | 2 6 |
| PANSY, very choice | 0 6 | 1 0 |

Paradise and Victoria Nurseries, Holloway, London, N.

### New and Rare Plants.

B. S. WILLIAMS invites inspection of his large and well-assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, amongst which are some very fine specimens.

Now ready, post-free to all applicants.

A NEW GENERAL PLANT CATALOGUE, containing Select Lists of Choice Exotic Orchids, Ferns, Stove and Greenhouse Plants, Indian Azaleas, Variegated and Ornamental Foliaged Plants, Fuchsias, Pelargoniums, Rhododendrons, Verbenas, Petunias, Phloxes, Cinerarias, Chrysanthemums, Hardy Variegated Plants, Herbaceous and Alpine Plants, Roses, Hardy Trees and Shrubs, Fruit Trees, &c.

With a *DESCRIPTIVE LIST* of New, Beautiful, and Rare Plants.

Paradise and Victoria Nurseries, Holloway, London, N.

### Roses.

The ROSES at the WALTHAM CROSS NURSERIES are NOW in FULL BLOOM.

MR. WM. PAUL respectfully invites all lovers of this popular flower to visit and inspect them. TWENTY FIRST PRIZES and NINE SECOND have been awarded to him for ROSES during the present year, and above 100,000 Plants are now growing in these Nurseries. Waltham Cross is 11 miles from London, and a first-class station on the Great Eastern Railway. It is also a delightful drive from the West-end of London, through Tottenham, or the Green Lanes and Enfield.

Entrance to the Nurseries from the platform, Waltham Station (for railway passengers only), and from the High Road, Waltham Cross, N.

### Major's Half-shrubby Calceolaria Seed.

MR. HENRY MAJOR, Knosthorpe, near Leeds, begs to announce that his CALCEOLARIA SEED for this Season is now ripe, and may be had in packets at 2s. 6d. each, or Three for 5s. post free. Postage stamps received in payment.

N.B.—(*H. Major*).—"The seedling Calceolarias are very fine; the size of the flowers, and the brilliancy of the markings being alike conspicuous. 'We wonder much why the flower is not more cultivated. It deserves to be generally grown."

See No. 119 of *Journal of Horticulture*, Notices to Correspondents.

### Sow in August.

DOBSON'S PRIZE CALCEOLARIA. The most varied and beautiful strain imaginable. In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s.

### Sow in August.

DOBSON'S PRIZE CINERARIA. A splendid strain. Received 10 first prizes in 1862. In sealed packets, 1s., 2s. 6d., and 5s.

### Sow in August.

DOBSON'S PRIZE PRIMULA SINENSIS FIMBRIATA. From finely fringed Flowers. In sealed packets, 1s., 2s. 6d., and 5s.

The above Seeds are unequalled for quality.

J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

### Sow at Once.

DOBSON'S Splendid Hybridised CALCEOLARIA, in sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. May be had of the following Agents:—

Mr. Abrahams, Limerick
Messrs. F. & A. Dickson & Co., Chester
Messrs. Dickson, Hogg, & Robertson, Dublin
Messrs. J. & J. Fraser, Lea Bridge Road, Essex
Messrs. Fraser, Richardson, & Goad, 82, Bishopsgate Street Within
Messrs. Fisher, Holmes, & Co., Sheffield
,, Fowler & Sons, Glasgow
,, Garaway & Co., Bristol
Mr. G. Glenny, Fulham
Messrs. Hurst & Son, 6, Leadenhall Street, City
,, Hunter & Co., Bristol
,, Paul & Son, The Old Nurseries, Cheshunt
The Plymouth Seed Company
Messrs. Rollisson & Sons, Tooting
,, Sutton & Sons, Reading
,, Veitch, Chelsea
,, Vilmorin, Andrieux, & Co., Paris
,, Wood & Son, Maresfield, [Sussex

## NEW PLANT CATALOGUE.

## JAMES VEITCH

BEGS TO ANNOUNCE THAT HIS

### CATALOGUE OF NEW AND BEAUTIFUL PLANTS

FOR THE PRESENT SEASON IS NOW READY,

AND WILL BE FORWARDED POST FREE ON APPLICATION.

ROYAL EXOTIC NURSERY, CHELSEA, S.W.—Aug. 8.

## AMARANTHUS MELANCHOLICUS RUBER.

THIS BEAUTIFUL FINE FOLIAGE BEDDING PLANT IS NOW IN SPLENDID CONDITION IN A RIBBON BORDER

AT THE

### EXOTIC NURSERY, KING'S ROAD, CHELSEA.

MR. VEITCH WILL BE PLEASED TO SHOW IT TO ALL WHO MAY FAVOUR HIM WITH A VISIT.

CHELSEA.—Aug. 8.

## ORCHIDS FROM BRAZIL, THE PHILIPPINE ISLANDS, VENEZUELA, THE TENASSERIM PROVINCES, BORNEO, AND THE MALAYAN ARCHIPELAGO.

## HUGH LOW & CO.

Have for Sale, at very moderate prices, large quantities of ORCHIDS, received direct from their Collectors and Correspondents in the above-named countries, and they respectfully invite gentlemen interested in Orchid Cultivation to visit the Nursery and inspect the Collection, which contains many species quite new, and as yet undescribed. Orchidaceous plants at the Clapton Nursery are at present date grown in EIGHT span-roofed houses, and the collection is steadily augmented by a regular system of monthly and bi-monthly importations.

H. L. & Co. subjoin names of some of the species now on Sale, and they have only to add that Purchasers will be treated with great liberality.

AERIDES CRISPUM.
,, CRASSIFOLIUM.
,, FIELDINGI.
,, LARPENTÆ.
,, LOBBI.—Amongst our importations of this fine species, many beautiful varieties have appeared.
,, LINDLEYANA.
,, MACULOSUM.
,, SUAVISSIMUM.
,, ,, Bornean variety, very much superior to the ordinary type of the species.
,, QUINQUEVULNERUM.
,, REICHENBACHI.
,, ROSEUM.
,, VIRENS.
,, ,, SUPERBA.
,, WARNERI.
,, Species Moulmein.
BOLBOPHYLLUM PSITTACOGLOSSUM.
,, CAREYI.
BROUGHTONIA SANGUINEA.
BURLINGTONIA DECORA.
,, FRAGRANS.
,, VENUSTA.
CIRRHOPETALUM STRIATUM.
CYMBIDIUM TIGRINUM.
CALANTHE VESTITA LUTEA.
,, ,, NIVALIS.
,, ,, ROSEA.
,, MASUCHA.
,, VERATRIFOLIA.
CATTLEYA AMETHYSTINA.
,, CITRINA.
,, CRISPA.
,, ELEGANS (Lælia).—Many of the plants imported by H. L. & Co. have recently flowered. Some are the dark varieties in various shades of colour, others light in the way of Lælia Schilleriana, L. Stelzneriana, and L. Warneri.
,, IRORATA.
,, LEOPOLDI.
CATTLEYA LABIATA.
,, LOBATA.
,, MARGINATA.
,, MOSSLEA, in many varieties.
,, PINELI GRANDIFLORA.
,, SUPERBA.
CHYSIS LIMMINGHI.
CŒLOGYNE CILIATA.
,, ELEGANS.
,, LOWI.
,, PANDURATA.
,, PARISHI (papagena).
,, SCHILLERIANA.
COMPARETTIA COCCINEA.
CYPRIPEDIUM BARBATUM GRANDIFLORUM.
,, BARBATUM SUPERBUM.
,, CAUDATUM.
,, FAIRRIEANUM.
,, HOOKERÆ.
,, HIRSUTISSIMUM.
,, STONEI.
,, VILLOSUM.
DENDROBIUM AGGREGATUM MAJUS.
,, ALBO SANGUINEUM
,, BICOLOR.
,, CHRYSOTOXUM.
,, ,, SUPERBUM.
,, CRETACEUM.
,, CUCULLATUM GIGANTEUM.
,, DALHOUSEANUM.
,, DENSIFLORUM.
,, ,, ALBUM.
,, EBURNEUM.
,, FARMERI
,, FIMBRIATUM.
,, ,, OCULATUM GIGANTEUM.
,, FORMOSUM GIGANTEUM.
,, FYTCHEIANUM.—Imported by this name, may possibly prove to be the rare D. Heyneanum.
,, INFUNDIBULUM.
,, LUCENS (Reichenbach fil).
,, LOWI.
DENDROBIUM MACROPHYLLUM, Variety DAYANUM. — A very beautiful Bornean Orchid, intermediate between D. macrophyllum and D. anosmum, but more richly coloured than either of these species. H. L. & Co. have imported plants which have bloomed on 4 feet 9 inches in length of the bulbs.
,, NODATUM.
,, PARISHI.
,, PAXTONI.
,, PIERARDI.
,, PICTUM.
,, SCULPTUM (Reichenbach fil).
,, TORTILE ROSEA.
ERIA CONVALLARIOIDES.
IONOPSIS PANICULATA.
LEPTOTES BICOLOR.
,, SERRULATA.
,, Species Brazil.
LÆLIA BRYSIANA.
,, AUTUMNALIS.
,, CINNABARINA.
,, ELEGANS (See Cattleya elegans).
,, MAJALIS.
,, PERRINI MAJOR.
,, PRESTANS (Cattleya Pineli grandiflora).
,, PURPURATA.—Many varieties and plants of various sizes. Our stock of this superb Orchid exceeds 1000 plants.
LIMATODES ROSEA.
,, ,, SUPERBA.
,, ,, VESTALIS (Reichenbach fil).
MILTONIA PINELI.
,, ROSEA.
,, Two unnamed Brazilian species.
ONCIDIUM BARBATUM.
,, CRISPUM.
,, ,, GRANDIFLORUM.
,, ,, MARGINATUM.
,, LANCEANUM.
ONCIDIUM PAPILIO MAJOR.
,, PUBES.
,, VARIEGATUM.
,, Several Brazilian species.
PHALÆNOPSIS AMABILIS.
,, GRANDIFLORA. — Bornean variety. The best white-flowered Phalænopsis yet known. The blooms are produced in the greatest profusion, and on very small plants. During the winter months H. L. & Co. have rarely had fewer than from 100 to 150 plants in bloom, and at one time the number reached 300.
SACCOLABIUM CURVIFOLIUM.
,, AMPULLACEUM.
,, BLUMEI.
,, ,, MAJUS.
,, ,, ,, variety DAYI—on very small imported plants of this beautiful species the flower spikes measure 22 inches in length.
,, CRASSIFOLIUM.
,, GUTTATUM.
,, REIDI.
,, VIOLACEUM.
SARCANTHUS PARISHI.
,, GRACILIS.
SOPHRONITIS CERNUA.
,, GRANDIFLORA.—Many of our imported plants bloomed, and amongst them were fine varieties, very bright in colour and large in size.
VANDA CŒRULEA.
,, BATEMANI.
,, GIGANTEA.—Flower spikes on imported plants, clearly prove this to be a much finer species than it was supposed to be.
,, HOOKERIANA.
,, INSIGNIS.
,, SUAVIS.
,, SPECIES MOULMEIN.
,, TRICOLOR.
ZYGOPETALUM MAXILLARE.

H. L. & Co. specially invite inspection of contents of 12 Cases to hand this week ex steamer *Magdalena*. They contained probably the finest lot yet seen in Europe of BURLINGTONIAS, CATTLEYA MARGINATA and PINELI GRANDIFLORA, ONCIDIUM CRISPUM and CRISPUM GRANDIFLORUM.

A PRICED CATALOGUE can be had on application.

**THEOPHRASTA IMPERIALIS, good plants, 21s. each.**

CLAPTON NURSERY, LONDON, N.E.

ROYAL HORTICULTURAL SOCIETY.
FLORAL COMMITTEE.
LIST OF AWARDS, August 4, 1863.
First-class Certificate.
Clematis Jackmanii, from Messrs. G. Jackman & Son, Woking.
Clematis rubro-violacea, from Messrs. G. Jackman & Son.
Hymenostachys elegans, from Mr. W. Bull, Chelsea.
Hollyhock R. B. Ullet, from Messrs. Downie & Co., Sydenham.
Hollyhock Mrs. M. Binning, from Messrs. Downie & Co.
Second-class Certificate.
Scarlet Pelargonium Lady Cowper, from Mr. Francis, Hertford.
Hollyhock Cherub, from Mr. W. Chater, Saffron Walden.
Dahlia Alexandra, from Mr. C. J. Perry, Castle Bromwich.
Dahlia John Wyatt, from Mr. J. Keynes, Salisbury.
Commendation.
Nosegay Pelargonium Stella variegata, from Mr. G. Smith, Hornsey Road.
Picotee Exhibition, from Mr. R. Elkington, Buckingham.
Special Certificate.
To Messrs. Downie & Co., for a collection of 36 Hollyhocks.
To Messrs. F. & A. Smith, Dulwich, for a collection of Balsams.
The next Ordinary Meeting will be held on the 25th of August.
Thomas Moore, Secretary to the Committee.

BANBURY HORTICULTURAL SOCIETY.
OPEN PRIZES.
The Seventeenth Annual Exhibition of this Society is fixed for TUESDAY, August 25, when in addition to the usual number of Prizes to be competed for by Members, the following are offered, Open to all England, on payment of an Entrance Fee of 2s. 6d.
For the best 6 Stove or Greenhouse Plants, either in Flower or Ornamental, of at least four different Genera, but not Fuchsias or Annuals, 1st Prize, 3l.; 2d, 2l.
For the best 24 Dahlias, 24 varieties, 1st Prize, 3l.; 2d, 2l.
For the best 18 Hollyhocks, 2 Blooms of each, 1st Prize, 2l.; 2d, 1l.
For the best 12 varieties of Verbenas (5 trusses in a bunch), 1st prize, 1l.; 2d, 15s.
The Judges may withhold any prize if the production exhibited is not considered worthy.
Intended Exhibitors must give notice to the Secretary on or before Saturday, August 22.
The Society will, if requested, convey the productions from and to the Railways.
The Band of H.M. 76th Regiment, from Aldershott, and the Orpheus Glee Union will perform during the day.
For further particulars, apply to E. J. Hartley,
57, High Street, Banbury. Acting Secretary.

BISHOP AUCKLAND FLORAL and HORTICULTURAL SOCIETY.
The Annual Exhibition will be held in Auckland Park on FRIDAY, August 28, when the following Prizes, amongst others of the value of nearly 300l., will be awarded, viz.:—

| | |
|---|---|
| For the best 6 Stove and Greenhouse Plants .. | £10 0 0 |
| For the 2d best ditto .. .. .. .. .. | 7 0 0 |
| For the best 24 Dahlias, dissimilar .. .. .. | 10 0 0 |
| For the second best ditto .. .. .. .. | 7 0 0 |
| For the best 9 Hollyhocks, dissimilar .. . | 5 0 0 |

The renowned Band of the Belgian Guides, consisting of 50 performers, will give two Grand Concerts.
Wm. V. Thompson, Hon. Sec.

RUGBY HORTICULTURAL and COTTAGE GARDENERS' SOCIETY.
The Annual Show of this Society will be held at Rugby on FRIDAY, August 28.
Upwards of 120 Prizes in Class 5, open to all Growers, will be offered for Plants, Fruit, Cut Flowers, and Vegetables; also two Silver Cups, one value 5l. 5s., for 36 dissimilar Dahlias; and another, value 4l. 4s., for 36 Roses, distinct varieties, one bloom of each.
Entries to be made on or before August 22.
Schedules and particulars on application to
Rugby, Aug. 8. John S. Savage, Hon. Secretary.

# The Gardeners' Chronicle.

*SATURDAY, AUGUST* 8, 1863.

The Measures for Fruit, &c., in Covent Garden Market are so different in their names from the imperial ones, that frequent inquiries from various parts of the country are made respecting the quantities they represent. There are sieves and half sieves, bushel sieves and bushel baskets, punnets, shallows, &c. These, however, do not respectively contain uniform quantities, some are larger than others of the same denomination. Formerly the half-sieve was most in use, and was furnished with a rim, within which the fruit was heaped above the cylindrical edge of the basket. Three of these half-sieves were considered equal to a bushel. Many years have elapsed since the Imperial measures were declared to be the only ones legal; but still in Covent Garden fruit and vegetables are bought and sold in baskets suitable to the commodities. The law could not well enforce that delicate, plump, and ripe Peaches, for instance, should be squeezed into hard wooden statute measures. Yet, without compulsion, a change has gradually taken place of late years by accord of the dealers themselves. Let us see the tendency of this free change. It is not to the scheme of reducing every thing to tenths, commonly called the Decimal system, into which some of our doctrinaires are seeking to thrust us, but to that natural system of halving and doubling which generally pervades our weights and measures. The old half-sieve, containing about one-third of a bushel, is fast giving place to a basket equal to half a bushel, the half being practically more convenient than the third of any known measure. Although the decimal system of weights and measures was established by law in France more than half a century ago, it is not to this day fully carried out. On the contrary, instead of a decimal scale, a binary one was legalised, so that the decimal standards were allowed to have each their double and their half, quarter, eighth, &c. The Government had to accommodate the mass of the people, by permitting them to use that system which is universally found the most convenient for the daily transactions of the many, that is the doubling and halving, or *binary* system.

It may be asked—what are the advantages afforded by this system over others? It is the simplest, and it is the best adapted for constructing a set of weights or measures, inasmuch as a smaller number of weights, for instance, will be necessary than when any other is adopted. If there be a series of weights increasing in binary progression, 1, 2, 4, 8, 16, 32, 64, &c., they will weigh any weight not greater than their sum. If these figures represent weights of so many lbs., those seven weights will weigh any number of lbs. that can be named, provided it is not greater than their sum, 127 lbs. If it should be enacted that after three years lbs. should no longer be used, but kilogrammes and hectogrammes instead, the equivalent of the former being about 2 lbs. 3 oz. 4 drams, a person might be shown that quantity, say of tea, and told the price, perhaps 8s. In most cases that would be a larger quantity than weekly wages would afford, and a less quantity must be decided upon, and in doing this the decimal system would not readily be called in aid, but halves and quarters on the binary system. The Imperial Government legalised the half kilogramme, under the name of *Livre usuelle*, and this in retail business is divided into halves, quarters, half quarters, or eighths; and if the decimal system should ever become the law of this country, that system would in all probability share the same fate here as in France. So the people may as well be allowed to retain their pound, its double or binary progression upwards, and its half and quarter downward, till we come to ounces; and so with them till we come down to a quarter of an ounce or the 64th part of the pound unit, which is as low a division as is usually required in retailing commodities. If the unit of any quantity is generally well known, as for instance 1 lb., its double and its half will be more easily comprehended by the meanest capacity than any other ratio of increase and decrease. Half a pound is better understood than its decimal representative 0.5 lb. Artificers find the binary system more convenient than the decimal one. The carpenters' rules have the inches divided into $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, this enables them to take dimensions divisible by 2, which is often necessary. In short the binary system is not only the simplest but also the most convenient in practice.

Many scientific men are in favour of the decimal system because it has advantages on paper and in many calculations; but it should be recollected that when that system was introduced in France men of the highest scientific attainments did not approve of it. By employing a system of weights and measures which shall be in accordance with the one most convenient for the people, high and low, or rich and poor, there can be in it no difficulties which scientific men may not easily surmount. This they will doubtless readily admit. But on the other hand, will they or any person at all conversant with the affairs of ordinary life be prepared to say that the mass of the people will easily or ever get over the difficulties of a decimal system, which is proposed to be enforced. We have endeavoured to point out what we consider to be the best and simplest system, and that which it appears all others ultimately fall into more or less completely, so much so that it may be considered the most natural one, and by far the best for the trading interests of the community. These interests we conclude ought not to be disturbed by a decimal system proposed on purely theoretical grounds, which experience has already proved to be fallacious. *R. T.*

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It is needless to say that the Chinese plant called Aralia Sieboldi is one of the finest of our new shrubs in places where its noble foliage is sheltered from wind. What we want to know is its degree of hardiness. That important question seems to be answered by a recent statement from Mr. Stelzner, of Ghent. In the *Journal des Travaux de l'Académie d'Horticulture de Gand* this gentleman states that after a sharp frost at the end of last November, when the thermometer stood at 23°, and its last wood was hardly ripe, the plant did not sustain the least injury. Even a specimen whose top had been taken off for cuttings stood the same frost equally well. It is however to be noted that this most beautiful sort of Aralia must have a light soil and full exposure to the sun.

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—— We have received from Messrs. Youell & Co., of Great Yarmouth, specimens of Gladiolus Brenchleyensis, the gorgeous appearance of which cannot be spoken of in terms of exaggeration. Its tall, robust habit, and intensely bright scarlet flowers, place it at the head, not only of the class of plants to which it belongs, but also of all hardy flowers of the autumn. Of the method of cultivation adopted by Messrs. Youell a full account was given in our last year's volume, p. 957; but as many may find it inconvenient to refer to that statement, we briefly recapitulate the instructions there given. They relate chiefly to the proper management of the different varieties of Gandavensis, to which the variety now under notice belongs.

The first thing is to properly prepare the bed for bulbs, and in doing this proceed as follows:—Furnish to begin with a good layer of well rotted manure, which must be dug in at least 1 foot or 18 inches in depth, turning up the ground as roughly as possible. This operation should always be done in autumn, in order that the frost of the succeeding winter may act well upon the soil. When the ground is frozen hard it is also an excellent plan with a three-pronged fork to remove all large lumps to each side of the bed. In this way the next frost will penetrate still further, and will thus cause the mould to be well broken up. Now allow the bed to lay untouched until February, when it should receive another slight coating of manure, and be well turned in with a fork (twice at least), mixing the soil and manure well together; the bed will now be ready to receive the bulbs. The second week in March is the best time for planting, but if you wish to have an earlier bloom, plant in February in a sheltered situation, and if you wish for a later display you must of course regulate the time of planting accordingly. If a succession is desired, plant the last week in February, second week in March, and the first week in April. In this way you will have them in bloom for at least a period of three months.

In planting make the holes for the bulbs about 9 inches apart one way and a foot asunder the other; in each hole put a small portion of sand, which enables one at taking up time to get them out clean. Then insert the bulb 3 inches in depth. Cover with the soil in the bed already well prepared for the purpose, rake neatly, and the operation is finished. The ground being properly prepared and the bulbs skilfully planted, they soon begin to show above the surface and to look vigorous; and at this stage of growth a small hoe run between the rows will be found a great acquisition, especially after a shower; do this, and you will find your plants grow inch by inch until the flowering season commences, when the result will doubtless be most satisfactory, provided the season is at all favourable. You must however strictly adhere to the rules just laid down. If all goes on well the colours will be fine, the flowers large, and the spikes splendid.

Let us now imagine that we have arrived at the middle or latter end of October, when the bulbs of the earliest kinds should be taken carefully up, and put away in some airy place to get well dried; when you think they are fit for storing, put them in paper bags and hang them up in a dry situation where no frost can reach them. In this way you will find your roots in good order for the following spring, when you will willingly go through the same ordeal again, as you cannot possibly be unsuccessful if you adhere to the advice just given.

Such are Messrs. Youell's instructions, which none, we think, can fail to understand, and which all may implicitly follow with equal advantage to themselves.

—— The lovers of curious forms of British Ferns need be in no fear that their pet subjects will be soon exhausted, or that we have nearly reached the limit of the odd sports into which many of the species have been so prone to vary. Mr. Moore sends us the following memoranda respecting certain novel and highly curious forms which fully bear out the above remark:—

"A short time since I received from Mr. W. Ingram of Croydon, a remarkable variety of Lastrea Filix-mas, found by him in Worcestershire, which I propose to distinguish by the name of Ingramii. Its fronds are large, being some 3 or 4 feet in height, and at least a foot in breadth, the pinnules large, averaging an inch in length by a quarter of an inch in breadth, the lowest set on by a narrow base, and the rest becoming gradually decurrent and oblique: they are thus of a narrow linear-oblong form, somewhat acute and cut at the margin into deepish pointed teeth directed forwards. The long narrow obliquely-decurrent incised pinnules give this Fern a very distinct and remarkable appearance. The upper part of the frond only is fertile, and differs from the lower portion in little excepting that the pinnules are more acute, more deeply incised, and a trifle smaller; the long narrow outlines and obliquity of insertion being still preserved. This is one of the most striking

varieties of Filix-mas, of normal development, which has come under my notice.

"Within the last few days Mr. C. Monkman, of Malton, has sent me a most singular form of Lastrea dilatata, which it is proposed to call Howardii. In this the fronds have the basal pinnæ normal, while the remainder are abbreviated and transformed as follows: —the pinnules, excepting the basal ones, are dwarfed and irregularly palmately branched into three, four, or five short divisions, which, according to their size, resemble small pinnules or pinnulets, and are finely toothed; the fructification is copious. From this alteration there results a very curious and interesting monstrosity, quite unique amongst the varieties of this species. It was found by a labourer called Greenwood, working at Castle Howard, the seat of Lord Carlisle, in compliment to whom it is named, in acknowledgment of the interest his lordship has taken in the Ferns of the Castle Howard district. It is really a most remarkable plant, the pinnæ, with their transformed forked pinnules, having a good deal of resemblance in character to the small fronds of the oddly-shaped Athyrium Filix-fœmina Fieldiæ. It appears to belong to the elegant small pinnuled variety of L. dilatata, to which the name micromera has been given.

"Quite recently too I have been favoured with specimens of a new form of crispy Lady Fern, for which in compliment to its discoverer I have set down the name Athyrium Filix-fœmina Sinclairiæ. This seems to be quite a dwarf-growing plant, related to crispum, but broader and denser in the parts, the fronds irregularly branching in a variety of forms, and all the divisions terminating in dense crispy tufts. This sport was found growing in a stone fence, at Inver, in the county of Donegal, by Miss C. E. Sinclair, after whom it is named. It will be an interesting addition to the dwarf tufted forms of this polymorphous species.

"The black Maidenhair Spleenwort is less given to masquerading than our common Male and Female Ferns, but Mr. O'Brien has made me acquainted with a very beautiful variety, which may be called Cristatum, inasmuch as the fronds all terminate in a large multifid terminal crest. The fronds appear to be small, 4 or 5 inches long, scarcely more than pinnate below, with a few pairs of small pinnæ which are stalked, and have a pair of bluntish lobes, right and left at the base, and a dilated squarish apex. The crested apex in the specimen we have seen, is larger than the rest of the frond. It is reported to be a very constant plant, having no plain fronds. The plant was a solitary specimen found in company with the common form of the species, on rocks in the county of Waterford."

—— Of recent Botanico-horticultural appointments we may mention that Dr. Reichenbach fil. of Leipsic, who is so well known as a very learned writer on the great Orchidaceous family, has been appointed Director of the Botanic Garden at Hamburg; and that Dr. Hofmeister, who has earned a reputation by his valuable observations on the development of the Cryptogamia, has been named Professor of Botany, and Director of the Botanic Garden at Heidelberg.

## FISH AND FISHING.—No. XIII.

### Tench and Carp Fish Ponds.

*(Concluded from p. 725.)*

The tench I have already referred to were, no doubt, recently introduced by the hand of man into the garden pond last mentioned, for the pond itself looked artificial; but how came the carp in an open unguarded pond in an open common at Harrow Weald? And how came all those tench and carp in every cottage pond in Sussex? How came jack so numerous in exposed ponds, as they used to be 30 years ago on Hounslow Heath, near to Southwell? How were these several fishes introduced into their several localities?

As regards carp, we have sufficient legendary proof that they are of comparatively recent introduction. Izaac Walton says, "The carp is a fish that was not at first bred, nor hath been long in England. It is said they were brought hither by one Mr. Mascal, a gentleman that then lived at Plumstead, in Sussex, a county that abounds more with this fish than any in this nation; and, doubtless, there was a time, about 100 and a few more years ago, when there were no carps in England." He then quotes from Sir R. Baker's Chronicles (he lived between 1568 and 1645):—

"Hops and turkeys, carps and beer,
Came into England all in a year."

There is however another version of this, which seems more probable of truth, for why should "Hops" and "beer" both be mentioned?* It is:—

"Turkeys, carps, pickerel (pike), and beer
Came into England," &c.

I think we may safely infer that pike and carp first came to England about the year 1540, and were brought by "one Mr. Mascal." I do not however remember to have heard of pike in the Sussex ponds. But how did he bring them? The carp being so long lived he might have brought them in tubs, &c., alive. But how the pike? Could Mr. Mascal have known anything of our modern art of pisciculture?

The puzzle however is—Catholics and Catholic habits being banished from England about the period of the introduction of the carp, 1540—how they became so widely disseminated over the land (Sussex especially) as to be found in so many far distant natural ponds?* Some persons have supposed an answer to this difficulty by, "oh! by spawn adhering to the legs of wading birds," to which I only say "quære, quære."

I will not attempt an answer, but prefer leading the reader on to a greater difficulty. While in Jamaica I was a great land and fluviatile shell collector, and amongst many other new species, I found a fluviatile shell, since called Physa jamaicensis (Adams), which has not the least degree of amphibiousness in its nature. I shall now quote Professor C. B. Adams's words as though they were my own.

"This species was found plentifully in a tank † at Malvern, more than 1000 feet high, in the isolated group of the St. Cruz mountains in St. Elizabeth (Parish). The structure of the country for many miles in every direction is such that no water is ever seen standing on the surface; through innumerable subterranean fissures rain immediately percolates to unseen depths. Artificial tanks are therefore the only places where fresh-water shells can exist in this region. We are quite ignorant of the manner in which this species was introduced to its habitat." This tank was boarded over, and no water-fowl *could* enter it! These "puzzles" are among the mysteries of Nature, yet awaiting solution. *E. C.*

* * See note * next column.

* Since the above was put in type, an article has appeared in *Chambers's Journal*, No. 493, June 13, 1863, pp. 379—381. The subject is "The Turkey." As to the period of the introduction of the Turkey into England, it seems to militate against Izaac Walton as an authority. The article gives a still fuller version of the couplet, and carries the introduction of Carp and Pike to a much earlier period, 1422 to 1471, that is, anterior to Henry VI. This would rather favour my idea that the monks introduced them. I beg especially to refer the reader to the article in *Chambers's Journal*, if the subject interests him. *E. C.*

† I have already in this paper described the nature of tanks in Jamaica, ante, p. 341 *E. C.*

## ANCIENT FRUIT LORE.—No. IV.

*(Continued from p. 603.)*

*How to gather Apples, and how to know when they are ready to be gathered.*

And touching ye gathering of apples, beginning first with sommer fruite, as Jeniting apples, Margaret apples, so called in Kent, & others which are too tedious in this place to be nominated: yet by the rules hereafter, although the fruits not mentioned, shall you know their due seuerall times of gathering. If they haue their full growth, some of the ripest will bee dropping off the tree, and commonly the birds will be picking of them. Or els, you may pull off one of the greenest, cut it, & if you finde that it is hollow about the coare, and the kirnell beginning to be loose (as is shewed before in the tryal of Peares) then haue they their full grouth, and they are ready to be gathered. And being gathered either of these waies, they will in the house come to their perfect colour, and ripen kindly of themselues: but if they bee gathered afore, they will shrinke, wither, and eate tough, and doe no seruice.

*Winter fruite, how to be gathered.*

Winter or lasting fruite, should bee gathered in the wane of the Moone, the winde not being in the East: although indeed the Fruiterers of London by reason of their great quantity doe not obserue the same. For, when they doe once begin to gather, they giue not ouer, untill they haue gathered the last, except in foule or wet weather. For al fruite whatsoeuer being gathered in wet weather, or as long as the deaw hangs vpon the trees, be they euer so good lasting fruite, it will cause them in short time to rot. For, being wet or moyst when they bee gathered, soone after that they be housed and layed, it will bring them into a heate, causing them to rot, and be mildeawed.

*How to vse your gathering hooke.*

As concerning the better handling of your fruite in the gathering, the placing of the ladder hath been before specified: you must also bee prouided of a hooke and a gathering apron or bag. The hooke, to pul the bough that you cannot reach with your hand: The bagge or gathering apron, to put in your fruite, as you gather them.

*Of the gathering apron, and the manner how to fasten it about you.*

The gathering apron is commonly euery way an Ell: hauing, at the lower end thereof, in the middest of the hemme, a strong loope. Set this apron about your back, knitting both the vpper ends afore, then take vp the loope-end (which hung downe) putting your girdle through the loope: and so hauing fastened your girdle about you, tye the two corners of the loope end of your apron, the one of one side vnder your girdle, the other on the other side, doubling each of the corners vnder your girdle, for feare of slipping: thê your apron will be necessary for both your handes, or either of thê, to put in your fruite, as you gather it. And when your apron is full, loose but one of the ends fastened vnder your girdle: & so bowing somewhat downe your body on that side, let fall your fruite very tenderly into your prickell or basket. For, in laying them downe roughly, their owne stalkes will pricke them. And although then nothing seene or noted, yet they, that are stalke-prickt, will in time rot, beginning in the verie same place. But if you haue not such aprons ready, then take a bagge of a bushell, halfe a bushell, or thereabout, with a wollen list or some such like thing so broad, both endes sowed to the bagges mouth, in length as might serue to hang vpon your shoulder & reach your girdle.

*Fruite to be gathered, without bruts or leaues: and why.*

Gather your fruite cleane (as neere as you can) without leafe or brut: onely gather it with the stalke. For, pulling any more then the stalke, breeds two discommodities: the one to the tree, the other to the fruite. To the tree, because that the brut would, the next yeere, haue been growne to be a stalke whereupon the fruite might grow. To the fruite, because the brut being gathered, and ioyned to the fruite with the stalke, will (in the powring of them downe) breake the next vnto it, although at that time not much seene: which will cause it to rot before his time. The leaues likewise, being amongst them, will in a short time rot the fruite. And as the fruite is not to be gathered, but with the stalk onely, so is it not to bee gathered without a stalke. For, as the brut, as far as it toucheth, doth hurt the fruite: so, without the stalke, it will not last long, it will rot in the very stalke roome.

*How to vse your fallings.*

They that fall off the tree, which be not gathered with hâd, are not to be layed with the rest. For, commonly they are broken or bruised, with the fall: by reason whereof they will not last, and, being layed amongst the gathered fruite, will in time spoile them. Yet are those fallings better, that fall when the fruite hath his full grouth, then they which fall before the time of gathering, as wind-falles, & such other. For they that fall before their full grouth wil shrinke, be withered, and neuer doe seruice: but they that are taken vp in gathering time, being layed by themselues, will serue to roast or bake, &c.

*Abuses, in gathering of fruite.*

In some great fruite countries, as Worcester-shire, and Glocester-shire, they vse to beate downe their coorse fruite, whereof they make their Perry & Cider, and likewise carry them in long carts, iogging one against another, by reason of their loosenes in the cart, also in sackes: which kinde of carriage, doth batter and bruise them: yet serue they for that purpose, or to spend or vse out of the way: but the fruite; that is to bee reserued for other purposes, is not so to be vsed.

*How to carry the fruite after the gathering, in what baskets, and how they shall be shot.*

If your fruite be gathered neere the place, where they are to bee layed vp, there must bee prouided certaine baskets or prickles, (able to containe two bushels, or a bushell a peece) each of them hauing two eares or handles, that so (being full) they may be carryed: betweene two, holding each of them one of the handles, in their hands, or betwixt them to be carryed vpon a coule-staffe, and so into the place appointed: by which meanes of carriage, the fruite will be neither bruised nor battered. Also haue a care, that they be poured or shot downe very gently, laying euery sort by themselues. But if there bee want of roome, hauing so many sorts, that you cannot well lay them seuerall (for some haue diuers sorts, although very small store of fruite) yet such of summer-fruite as are neerest, in taste, & colour, & of winter fruite, such as will taste alike, may (if neede be) be layed together: and in time they may be seperated, as hereafter shall bee expressed. But if the fruite be gathered, farre from whence they are to be layed, and that they must be carryed or conueyghed by cart or wagon (hauing any good store to carry) there must be prouided great baskets, or (as some call them) Maunds, of quarters or halfe quarters. And for the carriage, especially of summer Peares, greene fearne must be vsed to lyne them withall, on the inside of the Maunds: And here bee carefull to pul the stubborne ends of the fearne, cleane through the basket, that so they may be on the out-side. By this meanes, neither shall the fearne slip to the bottome, when the fruite is poured out into the maund, neither shall those hard ends bruise the fruite. Also couer your maund close with fearne: & with a great packe-needle, bigger then ordinary packe-needles, draw a lyne or small cord closing hard the fearne, that the fruite fall not out, neither be iogged or tossed in carriage. The fearne doth not onely stand in the stead aforesaid, but it causeth the peares soone to ripen (remaining any time therein) and to eate as well as if they had been gathered ripe: but if they be once come to a heate, and not taken out of the fearne in time, they will soone rot & become blacke.

When you haue brought your peares to the place appointed, if at the loosing of them out of the maunds you finde them not ripe, if you will hasten the ripening of them, lay them thicke vpon fearne, and with fearne also couer them close: for, being kept warme, they wil soone ripen and come to their perfect colour: alwaies prouided, that when they be neer ripe, they be vncouered. For, when they begin to ripen, being kept close, they will ripen too fast: and being vncouered, at that time, the ayre wil moderate their heate. But if otherwise, you meane not to hasten the ripening of them, lay them vpon the bare boards, neither too thicke nor too thin, and they will leasurely ripen.

For winter or lasting peares, they may be carryed

and packed either in fearne or strawe: not to the intent that the fearne should hasten the ripening of them: but that in the carriage they may not be battered. Also, at their iourneys end, they must be layed vpon fine sweet straw: prouided that they bee not layed in too warme a roome, least so you bring them into a heate: neither layed in a windy colde roome, for feare of shrinking and riueling them: but in a roome indifferent, where they shall have ayre, & not too much.

*How to gather Wardens.*

Wardens are to be carried, packt, and layed, as winter Peares.

*How to gather Medlers, and how to keep them.*

Medlers are to be gathered about Michaelmas, after that a frost hath touched them: at which time they are commonly in their full grouth, & will be then dropping off the tree, but neuer ripe vpon the tree. And after they be gathered, they are to bee layed in a basket, siue, barrell, or any such like caske, and wrapt about with wollen clothes, vnder, ouer, and on the sides: also some waight layed vpon them, hauing a board betweene. For, except that they bee brought into a heate, they will neuer ripen kindely, nor eate well. And after they haue layen so long as you thinke, or finde, that any of them be ripe, (as they will not ripen all together) the ripest, still as they ripen, must be taken from the rest. Therefore poure them out into another siue, or basket, leasurely, that so you may well finde them, that bee ripest: letting the hard ones fal into this other basket, and those that be ripe layed aside, the other that be halfe ripe seuer also in a third basket or siue. For, if they that be ripe, or halfe ripe, be not seperated from the other, the one will bee mouldy before the other bee ripe, and so spoile the rest. And still after that the ripest are taken from the other, they are frô time to time to be vsed as aforesaid, vntill that they bee all ripe.

## Home Correspondence.

*Spiræa callosa.*—Whilst walking in a friend's garden the other day, I was much struck with the appearance of a plant, the tips of whose branches were brilliant with crimson leaves. Upon looking closer I found it to be my old friend Spiræa callosa, but being planted on the west side of the walk the rays of light from the setting sun caught it and produced an effect scarcely to be believed unless seen. How often do we find this same plant wasted by being unskilfully situated! No doubt when it is in blossom it is a universal favourite from producing so many sprays of beautiful little pink, chintz-like flowers, but when out of bloom, unless planted very judiciously, it looks nothing at all, no better than any other plant of a similar kind. You may pass and repass it, and never care to ask what it is. A few years ago this Spiræa was quite a rarity; but now, thanks to the improvement which has taken place in all horticultural affairs, a plant cannot long remain unknown, for when once seen by the public, if it is only hardy, it soon finds its way everywhere. It is not however every one who, when they obtain a new plant, think it necessary to ask themselves which is the best place in their garden for it to be seen to advantage, but having a gap that wants filling up, in it is popped. No wonder then that what we so much admire in our neighbour's garden looks nothing particular in our own. One thing should always be remembered in planting Spiræa callosa, namely, to place it on the west of your walk, where the evening sun will strike it. You may then walk up and down the path admiring the beautiful glowing effect of its foliage, which instead of being transient like flowers lasts months and months to enliven your garden. *Priscilla.*

*Reigate Sands.*—The sands found about Reigate have long been extensively used for gardening purposes. The different shades of colour among them have been found to number not less than 84, varying from pure white to jet black. The most prominent colours are red, yellow, white, and black, and from these all the other shades appear to proceed. It is remarkable that all these different coloured sands partake of that superior grit, which causes some of them to be of such value for many purposes. The coarse yellowish sand is best for mortar making, and it is most extensively used by builders; it is found in greater abundance in almost every part of the locality than the other kinds. The white, commonly called silver sand, is the next which is in most demand, especially for horticulture, and it is also used in the manufacture of glass, and by smiths in welding steel, iron, &c., as well as for a great number of other purposes. In selecting white sand for special use some judgment is required, as most of the coloured kinds are found in close proximity to it. It is only in separate veins that the pure white sand is found; so changeable is its course that it is sometimes difficult to find it even in the best caves; hence the many coloured sands above alluded to, most of which contain ferruginous particles, which in process of time form iron stone. The principal or original cave is called the Baron's Cave. It was used by the ancient barons in the year 1215, who assembled in it, it is said, to draw up Magna Charta; it is now only shown to visitors in memory of bygone days. It is reached by descending a long flight of steps with lighted candles. Its concave excavations have a peculiar grandeur. The other caves are numerous and most extensive, most of them having entirely ceased yielding any supply of sand. So dangerous had they become that it was considered advisable to discontinue the further working of them so near the town; but as the locality abounds with sand strata new caves have been opened a considerable distance away, which have been found to yield a sufficient supply. *William Short, Reigate.*

*Spurious Strawberries.*—In reply to Mr. Radclyffe's remarks about sending out spurious kinds of Strawberries, I beg to say that when Nimrod was advertised and very highly spoken of in your columns, I wrote to Messrs. Lucombe, Pince, & Co. for some plants, and received them from that firm in pots. These all proved to be Myatt's Eleanor, and I have the descendants of these plants now growing in my garden. I cannot say how the mistake occurred, but I am quite sure that there was no intentional deception. Two years ago the late Mr. Nicholson sent me six plants as the true Nimrod. This is a very different Strawberry from Eleanor. In his last Catalogue, dated September, 1862, Mr. Nicholson says "Nimrod is very much like Eleanor, if not the same." These remarks will not apply to the variety which he sent to me. It was exactly the same with Sir Harry. I wrote to Mr. Underhill for plants and received a number from him. About half a dozen of these were the true kind. The others, some dark-coloured Strawberry, a most abundant bearer, but so insipid that the blackbirds would not touch it, and neither in foliage nor fruits bearing the least resemblance to the true Sir Harry, which is a fine useful Strawberry. Mr. Underhill, in reply to a letter from me, said that the only fault of Sir Harry was its being liable to sport, and advised me to destroy all the spurious plants. *Henry Doubleday, Epping.*

*Measuring Heights of Trees.*—In Mr. Thompson's return of the growth of trees planted in the Royal Horticultural Society's arboretum, I observe that while the girths are given by measurement, the heights are only estimated. This induces me to inquire whether your correspondents are aware of a very simple and accurate method of ascertaining the height of trees too high for the ordinary measuring rod. It is this. A quarter-circular segment of some close-grained wood —Box, if possible—is graduated from 0° to 30° (it will be sufficient if the graduation begins at 15°). On one of the legs of the segment, and at right angles to it, are fixed two brass sights, one behind the other, and 2 or 3 inches from it; and from the apex of the segment is suspended a plumb-line; a small bullet, or brass button hanging on a piece of silk thread, will do very well. With this little instrument in the hand, the observer places himself at such a distance from the tree to be measured, that he can just see the topmost twig through the two sights, when the plumb line coincides with the 30th degree, (reckoned from the extremity of the arc furthest from him). He then marks the ground at this spot with a flower stake or anything at hand, and removes further from the tree in the same direction, till its top is again seen through the two sights, the plumb-line now coinciding with the 15th degree, where he marks the ground as before. Then, measuring the distance on the ground between the two marks, halving it and adding the height of his eye from the ground, he obtains the exact height of the tree. Of course this method requires a space extending for some little distance on one side of the tree, and if not quite level, the difference may be easily allowed for. I tried it upon a little Pinus Pinsapo, between 7 and 8 feet high, and found the result to correspond within a quarter of an inch with that given by the measuring rod. *Wm. Frederick Harrison, Bartropps, Weybridge Heath.*

*Smoky Chimneys and Town Gardening.*—I venture to suggest to you, Mr. Editor, that you should make a few remarks to induce gentlemen living in the neighbourhood of a town who have hot-houses and chimneys with a daily dense volume of smoke issuing from them, to take means to consume the smoke in consideration of neighbours equally interested in floriculture and fruit growing with themselves, who are sufferers from the deposits of smuts on their flowers and plants. Where there are many of these smoky chimneys, the result of them to poor striving gardeners is very disheartening. *Birmingham.*

*Berberids.*—The replies of several of your Correspondents to my inquiry as to the proper treatment of Berberis nepalensis, and the observation (*Gardeners' Chron.*, 1858, p. 402 *b*) that no species of the genus Epimedium like the full blaze of the sun, makes me think that I have been hitherto very wrong in planting Berberis Darwinii in a border facing due south in front of my house, and suggest the probability that it might thrive better on the north side of a thick hedge running east and west. I raise the plants without difficulty from seed, but can seldom keep them well furnished or good looking after the second year. If any of your readers has kept them in the shade with advantage, I would (fortified by his experience) plant out several plants in the shade this autumn; otherwise I shall experiment sparingly and wait the result. *Diss.* [We ourselves have no experience with a north aspect. But we find it grow, flower, and fruit magnificently, in a narrow border running north and south, away from the interference of other things, and planted in common garden soil.]

*Humble Bees in a Blackbird's Nest.*—Having read "E. O.'s" remarks respecting the humble bee, I may mention that I have at my back door a common Laurel about 10 feet high. Early in April last my little girl put into the middle of this bush, 4 feet from the ground, a blackbird's nest for amusement, at the same time putting in it a little Moss. Looking into it a few days afterwards she found to her surprise that a humble bee came flying out of it, and in looking over the Moss she found a small cell of honey. The bee has gone on working, and has established a strong colony, which does not take the least notice of people passing in or out near it. The bees are black on the back, and have sulphur yellow tails. *S. F., St. Leonard's Lodge, Horsham.*

*Platycodon sinense.*—In reference to your remarks at p. 675 on this plant, I beg to say that it flourishes with me in the open border in common soil. It has stood out unprotected these last five years. I have it single and semi-double, in all shades from white to dark blue, and some prettily veined. I have it now beautifully in bloom in a 16-inch pot; the plant is nearly a yard high, with 21 stems, in common soil. It has a fault or two. Out of doors in moist weather it does not expand well, and the flowers often come a little irregular. Again, a sufficient number of flowers does not open at once. It will strike from cuttings. *A. R.*

*Strawberries.*—I can endorse Mr. Worsley's remark (p. 677) about La Constante. It is a first-rate variety with us, but has failed completely this year. The blooms it put out never appeared above the foliage at all, and the fruit was very small. Let me recommend one of which I don't see much said, viz., Frogmore Late Pine. Sir Harry won't grow here. *A. R.*

## Societies.

Royal Horticultural: *Aug.* 4 (*Floral Committee*). Mr. Francis, of Hertford, contributed specimens of a dwarf-growing scarlet Pelargonium, with a white eye, named Lady Cowper, to which a Second-class Certificate was awarded, and another Pelargonium called Stella, from Mr. George Smith, of Hornsey, with prettily variegated foliage, was commended. This belonged to the Nosegay section. From Messrs. Downie, Laird, & Laing came a collection of Hollyhock blooms, for which a special Certificate was given: to two among them, viz. R. B. Ullett, crimson, large and full, and Mrs. M. Binning, beautiful rose, First-class Certificates were awarded. To a Hollyhock named Cherub, a medium-sized rosy salmon sort, from Mr. Chater, of Saffron Walden, a Second-class Certificate was given. Mr. Bull sent Hymenostachys elegans, to which a First-class Certificate was awarded, two Hymenophyllums, and a bad white variety of the handsome Spiræa callosa. Dahlia Alexandra, white, flushed with delicate lilac and tipped with the same colour, from Mr. Perry, of Castle Bromwich, near Birmingham, received a Second-class Certificate; and John Wyatt, a purple Dahlia, from Mr. Keynes, received a similar award; a heavy crimson-edged Picotee, named Exhibition, from Mr. Elkington, Buckingham, was commended. From Messrs. Smith, of Dulwich, came a collection of Balsams, with large and beautiful blossoms of various colours, varying from pure white to vivid crimson, and in some instances finely mottled; though past their best many of the individual blossoms of these measured fully 3 inches in diameter. The same exhibitors also sent a Common Cabbage plant, with leaves distinctly edged with white. To two pretty seedling Clematis, from Mr. Jackman, of Woking, First-class Certificates were awarded. They were stated to have been raised from venusta and Hendersoni. From Mr. Veitch came the handsome bright orange-flowered Mutisia decurrens. Mr. Toogood sent blooms of a Clove Carnation, named Princess of Wales, and plants in bloom of Disa grandiflora were furnished from the Society's garden at Chiswick.

*Aug.* 4 (*Fruit Committee*).—Mr. Rivers had on this occasion examples of Belle de Rochmont Cherry, a sort of considerable promise; Dove Bank and Early Mirabelle Plum; and his delicious Victoria Nectarines. Kaisha and Moorpark Apricots, the last fine specimens of good cultivation, came from Mr. Cox, of Redleaf. From Mr. Crawshay, Cyfarthfa Castle, came a scarlet Rock Melon, and Mr. Turner, of Slough, showed a hybrid green-fleshed Melon of good flavour.

Entomological: *July* 6.—F. Smith, Esq., President, in the Chair. The thanks of the Society were presented to W. W. Saunders, Esq., for his liberal entertainment of the members at Reigate on the 21st of the preceding month. Mr. S. Stevens exhibited a box of very interesting insects collected by Mr. G. F. Angas in South Australia; and Mr. Waterhouse specimens of Carabus auratus, a long reputed British species, captured by Mr. Brewer on the coast of Kent, between Dover and Hythe. It was, however, stated that twenty years ago Mr. Walton had turned a number of French specimens loose between Dover and Deal. Mr. Stainton exhibited specimens of Elachista apicipunctella, which had been reared from mined leaves of Holcus lanatus. Professor Westwood gave an account of a bee-hive recently observed in Switzerland, remarkable for the great number of hermaphrodite specimens which it annually produced —a fact which appeared to militate against the theory of Parthenogenesis. He also exhibited drawings of the larva and pupa states of the genus Coronis, an anomalous group of Lepidoptera, from the collection of Dr. Kaden, of

Dresden; and gave an account of the transformations of the equally curious genus Castnia. He also exhibited specimens of Gracilaria rufipennella, which he had observed in enormous quantities destroying the leaves of the Walnut in the Italian Tyrol; also of the butterfly Eucheira socialis, hitherto only known by the remarkable bag-like, family cocoon spun by the larvæ, described 29 years since by Professor Westwood. He also exhibited specimens of Papilio Castor and Pollux, and photographs of a remarkable hermaphrodite proving the two species to be distinct. Mr. Stainton stated that he had found the larvæ of Micropteryx fastuosella in mined leaves on Marlborough high chalk downs. Mr. Dunning exhibited a silk-like deposit, formed upon a quantity of Chicory, probably by the larvæ of some species of Tinea, and Mr. Burchall several specimens of the rare Dianthecia capsophila. Mr. Edwin Shepherd exhibited various rare Coleoptera, taken during the recent Reigate excursion; and the Rev. Mr. Marshall brought a number of specimens of the rare Platyrhinus latirostris for distribution. A paper was read by Mr. Pascoe containing descriptions of 60 new species of Australian Longicorn beetles; and Mr. Walker read a paper containing descriptions of New Sphingidæ and Ægeriidæ, in the British Museum collection. Mr. Stainton exhibited his remarkable collection of the drawings of the metamorphoses of British Microlepidoptera. A resolution was passed unanimously disapproving of the recent nomination, in the place of Mr. A. White, of a person quite unknown as an entomologist, to the situation in the British Museum, lately held by that gentleman. [If such a scandalous appointment has really been made, the case should be laid before Government immediately.]

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Blechingley and Nutfield Cottage Garden.—The fifth annual Show of this Society was held on July 22, in the Park of the President for the year, the Rev. Charles Fox Chawner, Rector of Blechingley. The cottagers' produce, with the plants, cut flowers, and bouquets lent for the occasion, were arranged in a tent 90 feet long by 18 wide. The vegetables exhibited by the agricultural labourers were placed on tabling extending the whole length of the tent, on the left hand side, while those sent in by the mechanics and others not allowed to compete with the agricultural labourers were similarly arranged on part of the tabling on the opposite side, the remainder being occupied by the fruit exhibited by the labourers. A stage extending the whole length down the middle, with cross benches at the bottom, was occupied by plants and flowers to be noticed presently. Of the quality of the vegetables and fruit exhibited by the cottagers of the two parishes I feel some embarrassment in endeavouring to speak; I will therefore content myself with recording the observations made by professional growers present, in whose competence to judge of such matters every confidence may be placed. Alluding to the great improvement the cottagers have effected in the quality of their vegetables since the earlier shows of the Society, two of the principal gardeners on the Committee of the Society affirmed that they could not themselves produce better than had been brought by many of the cottagers—and a gentleman connected with one of the principal nurseries in the neighbourhood was of opinion that many of the Potatoes were in as perfect a state as when dug up in the autumn of last year. The fruit, consisting of Gooseberries, Currants, red, black, and white, Raspberries, Cherries, and a few Apples, was also in fine condition. The vegetables were Potatoes, round and kidney; Turnips, Parsnips, Carrots, Onions, autumn and spring sown; Cabbage, Peas, Beans, broad and French; Rhubarb, Lettuce, Vegetable Marrows, and bunches of herbs. I give the list that it may be seen what really useful stuff the cottager can grow when he sets about it properly and under judicious encouragement. Of these various articles about 700 specimens were sent in by 107 exhibitors. It was no light work to arrange and label all these to avoid confusion and mistake, nor was the task of the judges a simple one. Acting on former precedents and the necessity such keen competition excited, there were awarded for round Potatoes to the agricultural labourers two 1st prizes of 5s. each; three 2d, of 4s. each; two 3d, of 3s. each; three 4th, of 2s., and five extras of 1s. 6d. each. To the mechanics for the same article were awarded a 1st, 2d, and 3d prize of the same amount, the class not being near so numerous as the labourers. For Kidney Potatoes to the labourers were awarded three 1st prizes of 5s. each; two 2d, of 4s. each; three 3d, of 3s. each; one 4th, of 2s. each; and three extra, of 1s. 6d. each. To the mechanics for the same article a 1st, 2d, and 3d of the same amount; in all 33 prizes, in value 5*l.* 4s. to the single item Potatoes. It was the more necessary to spread it out in this way, because nearly the whole of the exhibitors brought specimens, and the importance of the article gives it a first consideration by the Society. The other prizes therefore were not so numerous to a single kind; the principal were as follows:—Cabbage, 6 prizes, Onions (autumn), 5; Onions (spring), 9; Peas 9; Carrots, 6, Beans (broad), 8; Turnips 6, and so on; small prizes were also given for plants in pots, nosegays, and nosegays of wild flowers; in the last named a most useful step has been taken by the worthy President, Mr. Chawner, who offers every year a prize of 20*l.* for the most varied collection of wild flowers named, a preference being given to the scientific name, the English name to be also affixed where recognised English names exist; Ferns and Aquatics are allowed, but Grasses excluded. There were but four competitors for this prize last year, this year there were eight entries, but the weather happening to be wet the day before only six collections were sent in, but these exhibited a most gratifying improvement, one collection having as many as 84 kinds. The Society is indebted to the kindness of J. A. Brewer, Esq., F.L.S., of Reigate, for the duty of acting as judge of these collections. In order to make the show as attractive as possible, the Patrons kindly lent many of their beautiful specimens from their conservatories and stoves for the occasion, and the special thanks of the Committee are due to Mr. Cattell of Westerham, and Messrs. Ivery of Dorking, for the readiness with which they contributed their aid in this department. The plants, &c., sent by these gentlemen were arranged on the central stage and cross benches at the end of the tent, the latter being occupied by the fine foliaged and other plants belonging to H. E. Gurney, Esq., one of the Vice-Presidents, exhibited by Mr. Lovell, his gardener, who has frequently obtained a high position at the Royal Horticultural Society's and Crystal Palace Shows. His collection consisted of Cyanophyllum magnificum, a glorious specimen, five feet high; Maranta zebrina, Coleus Verschaffelti, Dracæna terminalis, Gesnera zebrina splendens, Caladium marmoratum, C. Belleymei, C. Chantinii, C. Wightii, C. argyrites. Ferns: Adiantum trapeziforme, Gymnogramma peruviana argyrophylla, G. chrysophylla, Lycopodium umbrosum, Blechnum corcovadense; all the above plants of beautiful foliage were remarkably well-grown. In bloom, Mr. Lovell had Erica Marnockiana, Achimenes four varieties, and one Orchis: Miltonia spectabilis, also a dish of Bellegarde Peaches and one of Violette Hâtive Nectarines. Mr. Cattell's collection consisted of cut flowers, Roses, and Verbenas, and some variegated plants, hardy and half hardy, including a pretty specimen of the new Lonicera from Japan. The Roses were chiefly those named in p. 703: among the best blooms were Chabrillant, Bonnaire, Reine d'Angleterre, Beauty of Westerham, Celine Forestier, La Ville de St. Denis, Jacqueminot, Senateur Vaisse, Belle de Bourg la Reine, Mesdames Boll and Furtado, and Washington.

The magnificent collection of hardy Ferns exhibited by Messrs. Ivery has so frequently been recognised at the great London shows as being of such singular merit that any praise I can award to them would seem superfluous. The Blechingley and Nutfield Society were only too fortunate in having so attractive an addition to their show; it is in this rough climate no small addition to their excellence their being hardy; every amateur should find a corner for some or all of them. Particularly lovely are Asplenium Adiantum nigrum acutum, Athyrium Filix fœmina apuæforme, A. F.-f. corymbiferum, A. F.-f. crispum (dwarf variety), A. F.-f. Fieldiæ, one of the most charming of the novelties, A. F.-f. Frizelliæ (also very striking), Blechnum Spicant molle incisum, B. S. imbricatum (very rare), Lastræa cristata lepidota (a pretty dwarf variety), L. Filix-mas cristata, L. F. m. pumila, Polypodium vulgare cambricum (Welsh Polypody) Scolopendrium vulgare crispum, Lomaria alpina (exotic). The main features of this village show have now been recounted; it remains to be said that the visitors to it had the privilege of inspecting and walking about the beautiful grounds and garden of the Rev. the President, of which the greater number availed themselves. As the number of exhibitors and specimens sent may seem somewhat unusually large, it will not be inappropriate to inquire a little into the causes that raised so sharp a competition within the comparatively small extent of these two country parishes, containing about 9000 acres. Last year the principles which guided the Society in their awards were fully stated in this Journal (Aug. 9, p. 741). It is not my purpose to repeat what was then stated further than is necessary. With a view of extending the benefits of profitable gardening among the working people of the two parishes as far as possible, the whole of the cottage gardens are inspected by the judges of the Society; by this means, all who show any aptitude get a chance of being noticed without any preliminary trouble of giving notice that they would like their gardens to be inspected; it is only in the case of the produce intended for exhibition that they are required to give notice. The certainty that their gardens will be seen and noticed acts as a spur to careful cultivation; good cultivation brings forth the fruit of improved produce. The profit of improved produce to their household stimulates a constant attention to its culture; hence the efforts of the Society are rewarded by the gratifying spectacle of their annual show. The editoria comments on last year's report are fully borne out; the truthfulness of the Editor's words are so striking that I cannot forbear quoting a passage. "We think all must admit that a vast improvement has taken place in the habits of the labourer since provincial associations were formed for the purpose of inciting him to exertion by offering prizes for the produce of his garden; and so popular has the taste for gardening become that there is scarcely a large town or district throughout the country without its horticultural society." This being the case, each place having its own show and bestowing its own rewards, ought it to stop there? I think not; let every society continue earnestly in the work as heretofore, and when that is done, let them compare notes; let the poor man's produce of one county be brought into competition with that of another county. Why should not the rural peasantry have a national exhibition? The artisans have had their turn; the tradesmen theirs; the florists and fruitists theirs; in fact everybody except the class that labour in sunshine, rain, storm, and wind. Their time will come, and that it is practicable I intend to prove next week by a brief outline of a scheme intended to call public attention to the subject. *Adolphus H. Kent, Blechingley, Surrey.*

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## Notices of Books.

*The Lunar World.* By the Rev. Josiah Crampton. A. & C. Black, Edinburgh. Pp. 188.

Without being, or pretending to be an astronomer, everybody wants to know something about the moon; but people in general have no mind to buy dry and costly works on the subject, nor does anybody care a straw how long a cannon ball would take to reach the moon. At the same time, a multitude of intelligent people wish very much to know what scientific and practical men really think about various matters. Whether certain appearances in the moon really are parallel roads, or canals, or walls and fortifications, or enclosures, or what? Such persons will be greatly obliged to Mr. Crampton for giving them trustworthy information, in a pretty little three-and-sixpenny book, containing about half a dozen plates, and as many other figures illustrating Selenography, as he calls it. Even good telescopic and microscopic observers in straining their eyes, sometimes fancy they see more than actually exists, and sometimes draw exaggerated or rather too definite pictures of what they see only indistinctly. Such was our feeling at the sight of a "lunar crater," in Plate 6, but it has the exact character of Trukkee, an extinct crater, in the Cutch Hills of India, represented in Plate 7. An officer from Ascension also states that some moon-sketches which he saw, were almost identical with the desolate and dismal scenery of that island. Mr. Crampton has an interesting chapter on the atmosphere and habitability of the moon, and gives, to our mind, convincing proofs against both. We must add, that he sees and points out many proofs of intelligent design and benevolent intention in the various lunar arrangements.

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*History of Feudalism.* By Andrew Bell. Longman & Co., 1863. Pp. 360.

Judging from the way in which this book is got up, we suppose it is intended for the use of young persons who are preparing for an examination, and to aid them in fixing something definite in the memory. A set of questions is introduced at the end of each chapter. The preface is written in a charmingly inflated style, for which we are indebted to Mr. Cyrus Edmonds, whoever that individual may be. The editor thinks that "Human nature is not wholly and infinitely bad. It is only systems;" and accordingly everything connected with the feudal system comes in for his vituperation.

In a state of things where might is right, it is mere folly to expect the Christian virtues, refinement, and civilisation of the 19th century. Surely if there must be thieves, it is better that there should be "honour amongst thieves," than that they should be utterly without it. The "tyranny, rapacity, cruelty, and lust," which existed under the feudal system, were not engendered by it, but in some slight degree curbed and checked by its enactments.

Let the tinsel be stripped from chivalry by all means; we have not the slightest inclination to defend the extortions of the privileged classes, nor judicial combats, nor maiden rents, but we object to the small wit which calls the Franks "freemen, free, at least, as far as making free goes," which speaks of "that often unreasoning and purblind feeling called patriotism," and the execrable taste of such passages as this, from p. 85:—

"The life of the young châtelaines and demoiselles was one of solitary insipidity, varied by sensual dissipations, well adapted to induct criminality. To have some idea of its general nature in war-time we have only to imagine what would ensue if a number of ladies and their attendants were shut up with officers and soldiers in a barrack."

Really this is "vilipending" with a vengeance, and richly deserves the penalties of "scandalum magnatum." It's a good thing for some people that the age of chivalry is past and gone, for every gentleman with a spark of gallantry must long to administer a sound "box on the ear" to such an unmistakeable *villein*. (See p. 74.)

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*The Angler-Naturalist.* By H. Cholmondeley Pennell. Van Voorst. 8vo. London, 1863. Pp. 425.

Among all the nations of the civilised world none are so really fond of fishing as the English. From the days of good old Izaak Walton downwards to the present time, from earliest boyhood to late in contemplative after-life, the "gentle sport" has peculiar fasci-

nations for an English gentleman, which even Dr. Johnson's ill-natured definition of an angler will never eradicate.

And yet how few of our most skilful sportsmen have more than the scantiest knowledge of the characteristic marks and habits of the finny tribe. Not many months ago a distinguished Cantab in simple ignorance was displaying the produce of his day's sport, and really did not know whether his friends were "chaffing" or in earnest, when they assured him he had been incurring unknown penalties for taking fish of the salmon tribe when out of season.

Intelligent people have felt the want of some general outline of Ichthyology in a compendious form, and specially adapted to the requirements of anglers in the British Islands, and this desideratum has been supplied by the excellent little work of Mr. Cholmondeley Pennell; a work which entitles him to the highest praise, and which is beautifully got up, in the first-rate style for which Mr. Van Voorst's books are so celebrated, with every scientific term carefully explained, and its derivation given, and the whole illustrated by upwards of 150 capital wood engravings, most of them from Yarrell's magnificent "History of British Fishes."

An extract from the introductory chapter will speak for itself.

"To the angler the value of even a moderate acquaintance with Ichthyology cannot be exaggerated. Not only is it of the greatest practical use by the insight which it gives him into the habits, food, spawning seasons, &c. of the several fish, and consequently into the best means of taking them, but it also doubles the pleasures of success. The most insignificant captures have to the naturalist an interest of their own, apart from their mere weight in ounces. He is able to identify the various species he meets with (many of which would otherwise pass unrecognised), to distinguish their sexes, ages, and conditions, and to read with an intelligent eye the wonders of this marvellous and beautiful page of nature. In spite of the advance of fish-science of late years, there are still many moot points and disputed theories connected with it which require elucidation, and possibly new varieties of fish yet to be discovered; and it may often be within the power of the angler-naturalist to observe, and accurately describe, characteristics and peculiarities of the highest interest to science. Notwithstanding, however, these inducements, it is astonishing how many there are, calling themselves sportsmen, who are content to remain all their lives simply killers of fish, of the habits, idiosyncracies, and even of the very names of which they are too often ignorant. Nor let it be supposed that this is a mere figure of speech; many species, particularly of the salmon and carp families, are only distinguishable by minute, though well-defined, differences imperceptible to the uneducated observer; and it is perhaps not too much to assert, that a very large proportion of the former are chronicled by their captors under names with which they have no connection whatever. This observation is even in some degree applicable to old and experienced fishermen."

The 2d chapter gives a concise but clear description of the general organisation of fish, their breathing apparatus or gills, for the oxygenation of their blood, which is performed through the medium of water. These gills do not decompose the water, but merely separate the oxygen from the common air contained in the water. Hence fish cannot exist in water which has been deprived of its atmospheric air. Some fish can bear a very high temperature, and some can bear being frozen and thawed again, and even to be transported from place to place in a frozen state, without injury to life.

It is agreed that the sight of fish is very acute in clear water, though the eye is more adapted for affording great power of vision at short or moderate distances, than for very long sight, and the fisherman who would be successful, must study to keep as far away from the water, and as much out of sight as possible. The hearing apparatus of fishes is not very thoroughly understood, but the necessity for the angler keeping perfectly quiet is proved by a multitude of anecdotes. Mr. Yarrell says the Chinese, who breed large quantities of gold-fish, call them with a whistle to receive their food. Sir Joseph Banks used to collect his fishes by sounding a bell; and Carew, the historian of Cornwall, brought his grey mullet together to be fed by making a noise with two sticks.

That fish are not so stupid as many people suppose, is proved by a little incident which was observed at the Zoological Gardens. In some plate-glass tanks were a pike and several perches.

"These fish took no notice of our entrance (says our author) and continued perfectly supine, though the keeper walked several times past their tanks, as if about to feed them, but when directed to walk away from them towards the cupboard where the net with which the baits were caught was kept, the stolid demeanour of the fish, both pike and perch, gave way to the most intense excitement. They rushed to and fro across their enclosures, straining their noses against the glass, erecting their fins, and exhibiting every token of agitation; and when the keeper, having taken the net, proceeded with it towards the bait tank, the whole shoal fastened their eyes upon him, following every movement, and constantly veering round, as if under magnetic attraction, towards whichever part of the room he turned. It was evident that these fish knew where the net was kept—that the keeper was going to fetch it—and that his doing so was a preliminary to their being fed."

The productiveness of fish is something amazing, 6000 ova have been found in a shrimp, 21,000 in a lobster, 36,000 in a herring, 60,000 in a smelt, 350,000 in a tench, 1,000,000 in a sole, 1,500,000 in a mackarel, 9,000,000 in a cod; but the impregnation of these ova is passing strange. "At the spawning time, which differs in almost every species, the fish repair, some to the gravelly shallows or weedy banks of rivers, and others to the sandy bays of the sea. The female then deposits her eggs, in portions at a time, and the male presses his milt out over them; and without this impregnation no vivification or hatching can take place; the eggs could never arrive at maturity; in other words they would be addled. The female is in some instances attended by two males, one on each side, so as to secure the impregnation of the greatest amount of spawn, the range of the milt being immensely increased by diffusion in water. After this process the eggs are left amongst the gravel, or sticking to weeds or other substances, the glutinous nature of each egg supplying the means of adhesion: in due time these are hatched." There are a very few fishes which are not oviparous.

Sharks and some rays are viviparous, and produce their young alive and complete in all respects. A few, such as the dogfish and some of the rays or skates, bring forth their young enclosed in horny cases, which are often found upon the sea shore, and called by children "Mermaid's Purses," "skate barrows," &c.

"In the salmon and herring families the openings between the gills are equal in extent to the length of the bronchial or gill-arches, but in the carps they are partially closed by a membrane, which retains moisture and thus keeps the gills longer in a condition to absorb oxygen from the air, in other words, to breathe, than in the above-named families; a bountiful provision for enabling the fish to survive the droughts of hot climates. Hence, carp may be taken a considerable journey in a basket, with no protection but a damp cloth. This peculiarity is so well known in Holland, that it is no uncommon practice with the Dutch, to fatten carp for the table, by hanging them in a cool cellar, in a net full of damp Moss, for three weeks or a month, and feeding them with bread and milk, which is passed into their mouths with a spoon. They refresh the fish now and then by sprinkling the Moss with water."

(To be continued.)

## Garden Memoranda.

CRAVEN COTTAGE, FULHAM.—Of the beauty of the summer decorations of this delightful surburban retreat we have spoken in favourable terms in former volumes (see page 559, 1858), but at no period have they been finer than they have been this season. The cottage in question belongs to Sir Ralph Howard, Bart., and every summer both it and the charming flower garden attached to it, are frequently the scene of large and brilliant meetings of the nobilty and gentry, friends of Sir R. and Lady Howard. One of these gay and cheerful gatherings took place a short time ago, and the grounds, which are under the care of Mr. Wilson, were put in beautiful order for the occasion. Gardening in a natural style is here skilfully blended and associated with what is artistical; large weeping Willows, and other trees of handsome growth may be seen rising up behind and overhanging noble masses of Evergreens, the latter fringed with brilliant flowers; old tree stumps are mantled with Ivy, from among which issue Fuchsias in full bloom. Of Deciduous Cypresses, Yews, stately forest trees, and other fine natural objects of interest, there is also abundance, through little openings among which the Thames can be seen to advantage. Materials such as these, as may be imagined, form striking contrasts with a smooth closely cut well kept lawn richly ornamented with flower beds, baskets, and vases, all bright with blossom, provided during the summer time in the greatest profusion.

Terraced floral mounds, several of which occupy the central portion of the lawn, are now, though a little past their best, extremely brilliant. They are in short literally depressed pyramids of bloom, while over the edges hang masses of richly coloured Nasturtiums. The last also, planted by the sides of clumps of evergreens, and allowed to overrun them, have a pretty effect.

On the terrace immediately in front of the cottage, which is of great age and half hid in Ivy, are several handsome beds of flowers supported by an Ivy-covered bank or ramp, tastefully lit up here and there by the introduction of variegated scarlet Pelargoniums. Under trees is a most beautiful mass of Pelargonium Brilliant, which seems to succeed better in shade than most kinds; in other beds are some charming mixtures of different coloured flowers, together with a bed of handsome-leaved plants, which of themselves have a pretty appearance. They consist of Cloth of Gold Pelargonium, intermixed with the dark-leaved Perilla Nankinensis, Coleus Verschaffelti, and the red Japanese Amaranthus melancholicus ruber, edged with blue Lobelia. Than these, nothing in the way of ordinary handsome-leaved plants could well be prettier; other beds, hooped over with Nasturtium-clad iron rods in the form of basket handles, contain Pelargoniums and other plants, edged in some cases with Duke of Cornwall Verbena, an extremely dwarf brilliant scarlet sort. A circular bed of the rose-coloured Pelargonium Christine, intermixed with Salvia patens, has a fine effect, the bright blue spikes of the Salvia being allowed to rise only a suitable height above the Pelargonium. This is managed by pruning down the main spikes of the Sage, thereby inducing offshoots which flower long and freely. We also remarked some good beds of Clove Carnations of different colours.

Of variegated Pelargoniums, Countess of Warwick is that which is the greatest favourite here for bedding purposes, and Attraction is most liked among Scarlets, being a kind which keeps better in winter than Tom Thumb, while it equals that useful kind in brilliancy.

We may mention that Pelargoniums here are taken out of the beds every autumn; the soil is shaken carefully from their roots, the leaves are removed from the stems, which are not cut in, and thus prepared they are stowed away thickly in pots for the winter under greenhouse stages, or anywhere that is dry and free from frost. In spring they are encouraged to grow, which they do satisfactorily, and make good plants by turning out time.

Standard Roses, here as elsewhere, have flowered well this season. Round their bases are numbers of dwarf-growing Verbenas, Campanulas, Nierembergias, blue Lobelia, and plants of that description; a few heads of variegated Pelargoniums that are permitted to just peep above the Lobelia have a pretty effect. These are produced by cuttings stuck into the beds in May, where they soon strike root and flower, the plants themselves being kept in subjection by the Lobelia.

For edgings under trees, Ivy, both common and Irish, is employed with excellent effect; the first is dwarfer and more compact than the last. The best of all plants, however, for this purpose is London Pride, which seems unusually well suited for such situations. All that is required is merely to prepare the ground and dibble the plants in 2 or 3 inches apart. The peculiar green of the leaves of this Saxifrage associates better with Grass than that of Ivy.

In the kitchen garden some Pear trees that have been root-pruned, are bearing good crops, and each tree having had worked upon it many different sorts, a good variety of Pears is obtained from a comparatively small number of trees. Apples, though scarce in some places, are here plentiful.

## Miscellaneous.

*Spring and Summer Flowers.*—The spring flowers have now all disappeared. The gorgeous Peach and Plum Trees, whose falling petals "strewed our path with flowers," are now covered only with leaves; Azaleas, Camellias, Violets, and Primroses, and even the glorious Glycine itself, have all passed by, and will not be seen again until the opening of another year. But although the spring beauties have gone by, another race, equally beautiful in its way, has come to take their places, to paint the woods and hedgerows and gardens with masses of gay colours, and to perfume the air with the fragrance of its blossoms. Wild Roses are now in full flower. The hedges, banks, and uncultivated land are covered with their white blooms. A new species of Weigela is growing wild everywhere, and is also in flower. In the end of May and in June Deutzia scabra and Styrax japonica are very beautiful. They abound on every hill-side, in the hedges, and on the banks of streams. Later in the year the Styrax produces galls, from which a reddish dye is prepared. Honeysuckles, too (Caprifolium japonicum), are abundant, and their flowers, with those of the wild Rose, fill the air with delicious perfume. In gardens, herbaceous Peonies are out; several beautiful kinds of Pinks, quite different from the spring sorts, are also in bloom, and there is a race of summer Chrysanthemums which come in at this time, and which render the gardens extremely gay. In addition to these, I noted two fine new Weigelas, some Clematises, Irises, Spiræa Reevesiana, and the white Banksian Rose. It is a common remark amongst foreigners that flowers are mostly scentless in Japan, and some have gone so far as to attribute this to the nature of the soil of the country. That this is not so will be apparent from the notices of the different fragrant plants above-mentioned. Honeysuckles, Roses (particularly the white Banksian), Gardenias, Peonies, Tuberoses, and a hundred other flowers, are just as fragrant in Japan as they are elsewhere. Violets are scentless, but this appears to be the fault of the species, and not of the soil. During the latter part of the month of June I discovered and added to my collections several new plants of considerable interest, which I must now notice. One day I was out in the country in search of the seeds of a Columbine, which were now ripe. In the grounds of a pretty little temple I came quite unexpectedly upon a new species of Deutzia, having double rose-coloured flowers. It was in full bloom at the time, and was very beautiful. The good priestess of the temple kindly allowed me to gather a few specimens of the flowers for my herbarium, and for a few tempos I induced her to part with some of the plants. This shrub will be hardy in England, and its double rose or pink coloured blossoms will render it very ornamental in our gardens. Curiously enough I found at this time the pretty Spiræa callosa, a shrub

which I had first seen on the Bohea mountains in China, and which I had imported thence into Europe. It grows wild on the hill-sides in Japan, and is also cultivated in gardens and much esteemed by the Japanese. Another Spiræa—a herbaceous kind, resembling our own "Queen of the Meadow," but with deep red flowers—was also met with at this time. Lychnis senno, a plant which I had known from a figure in Siebold's "Flora Japonica," was also found in bloom, and added to my collections. It is cultivated in every cottage garden, and is very showy and handsome when in bloom. Its leaves have a kind of violet hue, somewhat resembling a Tradescantia, while its flowers are of a bright fiery red colour. There are three varieties of this—a red, a white, and one with striped flowers. They are all very ornamental, particularly the striped one. Hydrangeas were also met with, and a beautiful new Honeysuckle, since named Lonicera reticulata. *Fortune's "Yedo and Peking."*

*Dogs and Cats.*—The following interesting account, which I guarantee, seems to deserve a place amongst the intelligent acts recorded of animals. In the Pyrenees I possess two large dogs of the country, male and female, Pastoureau and Pastourelle. Last year Pastourelle had a family. I was away at the time, and in accordance with an absurd custom of the country the whole litter was drowned, much to the grief of the mother, whose health suffered for some time in consequence. The house is very large, and besides the dogs, half a dozen cats I believe may be found patrolling the premises. Now a fortnight ago three of the cats kittened about the same time, and again all the young were drowned by the servant. But as he was returning from his wholesale murder he was met by Pastourelle, carrying in her large mouth one of the unfortunate kittens, alive and crying. The servant wanted to take it away from her, but she escaped, and for a time no one could make out where she had put it. However, some hours later, at night, a little mewing was heard at the far end of a large stable, and there in a dark corner were the three cats, disputing which had the right of suckling the little one; Pastourelle sat by looking on, and from time to time taking the little kitten in her large paws, and licking and warming it. . . . The dog every now and then came to see how matters progressed, but he evidently took far less interest in the proceeding than Pastourelle, who never left for a minute. My wife and daughter and all the inmates of the house witnessed this curious scene, so the truth of it cannot be doubted. I need hardly say that with us, no one lives like dog and cat; man and beast live in the most perfect harmony—it is our custom. Two years ago, when we had half a hundred bullocks and bulls in the forest, it was quite an interesting sight to see them all come bellowing with delight from different parts of the mountain, at the call of my daughter, a girl of 15, and circle round her to receive a small quantity of salt. *M. Dussard, formerly Prefect of Rouen, in Les Mondes.*

*Tropical Forests.*—In the tropical zone many loud voices celebrate the night, where, for hours after the sun has disappeared, the cicadas, toads, frogs, owls, and goatsuckers chirrup, cry, croak, howl, and wail. The quietest hours are from midnight until about 3 in the morning. Complete silence, however, occurs only during very short intervals; for there is always some cause or other that prompts some animal to break the stillness. Sometimes the din grows so loud, that one might fancy a legion of evil spirits were celebrating their orgies in the darkness of the forest. The howling of the aluates, the whine of the little sapajous, the snarl of the duruculi, the roaring of the jaguar, the grunt of the pecari, the cry of the sloth, and the shrill voices of birds, join in dreadful discord. Humboldt supposes the first cause of these tumults to be a conflict among animals, which, arising by chance, gradually swells to larger dimensions. The jaguar pursues a herd of pecaris or tapirs, which break wildly through the bushes. Terrified by the noise, the monkeys howl, awakening parrots and toucans from their slumber; and thus the din spreads through the wood. A long time passes before the forest returns to its stillness. Towards the approach of day the owls, the goatsuckers, the toads, the frogs, howl, groan, and croak for the last time; and as soon as the first beams of morning purple the sky, the shrill notes of the cicadas mix with their expiring cries. *Popular Science Review.*

*Fruit of the Pandanus odoratissimus.*—This species of Screw Pine, whose fruits, when perfectly mature, resemble large rich-coloured Pine Apples, plays an important part in the household economy of the coral-islanders of the South Sea. The inhabitants of the Mulgrave Archipelago, where the Coco-nut is rare, live almost exclusively on the juicy pulp, and the pleasant kernels of the fruit. The dried leaves serve to thatch their cottages, or are made use of as a material for mats and raiment. The wood is hard and durable. They string together the beautiful red and yellow coloured nuts for ornaments, and wear the flowers as garlands. When the tree is in full blossom, the air around is impregnated with delicious aromas. *Hartwig's Tropical World.*

*A Loving Goose.*—The "Journal de la Somme" tells us that a M. A. Plé, a proprietor at Frucourt, possessed a goose who was so attached to him that she accompanied him everywhere, and at night took up her abode as near as possible to his bedroom, and if she heard him toss about or cough, she gave a little cry. If something called him to a house in the village, the goose would follow him and remain at the door watching anxiously for him to come out. In fact it was such a loving companion that it never left him, and had he been attacked, would doubtless have defended him to the death. Alas! however, the faithful bird the other day very nearly fell a victim to her affection. Her master was cutting wood out of an Apple tree, the poor goose being underneath, when a branch fell on her and wounded her. Luckily, however, she got off with nothing worse than a broken head. *Daily Paper.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

Conservatory, &c.—All kinds of soil used in potting should now be laid in without delay before the ground gets sodden with autumn rains. Store them up neatly in narrow ridges, so as to be safe from wet and yet exposed as much as possible to the action of the air; and as success in plant growing very much depends upon having suitable soil for potting, no trouble or expense that may be necessary to procure this should be spared where well grown specimens are expected. Loam of moderately good quality may be obtained in most neighbourhoods, but good peat is not so easily got; this is absolutely necessary, however, for the growth of choice hard-wooded plants, and should be procured at the proper season, so as to have it in a fit state for use at the right time. Stove plants flowering in the conservatory will require attention, especially Achimenes, Gloxinias, and things of that sort, which should be gone over every day in cloudy weather, carefully picking off decayed flowers, &c. Any of the twiners on the roof which have done flowering may be thinned out, so as to prevent their shading the house too much, for after this season permanent shade should be avoided as much as possible. Young stock in cold pits intended to flower next season should be exposed to sunlight in order to ripen the wood, taking care, however, not to do this so rashly as to injure the foliage.

### FORCING DEPARTMENT.

Pineries.—Those who intend cultivating Pines on the open bed system cannot begin at a more favourable season than the present. The bed should be from 18 inches to 2 feet deep, and should consist principally of good rich mellow turfy loam, well broken up, and carefully intermixed with a liberal sprinkling of clean sand, and a small proportion of leaf soil or good rich fibry peat; for when rough turfy soil is used and the bed is ever, from any cause, allowed to get thoroughly dry, it is very difficult to moisten it again, as the water passes off through the lumps without penetrating them. But if the loam is well broken up and mixed with some leaf soil, or peat and sand, it will be found to take water freely enough, and the roots will be almost as much under command as when the plants are grown in pots. Persons commencing this method of growing Pines should also endeavour to avoid planting out pot-bound plants, for these, whether young or old, seldom strike freely into the fresh soil, and are very apt to fruit prematurely; but if such plants must be turned out, then care should be used to make the soil firm about the balls, so as to prevent the water passing off without moistoning the balls.

Vineries.—Every possible attention must be afforded young Vines planted this spring where strong rods are expected. Let a vigorous root action be secured, and endeavour to get the wood well ripened. Give air freely and early on fine days, so as to avoid any risk of scorching the foliage, but shut up early in the afternoon, sprinkling the floors, &c., so as to cause a genial moisture in the atmosphere, which will be of great service in strengthening the Vines. If plants are grown in the house, see that they are not infested with black thrips, and on no account be induced to regulate the temperature, &c., of the house for the plants, but remove these to other quarters, or make them succumb to the treatment most suitable for the Vines. Keep a sharp look-out for the appearance of red spider in houses where the fruit is ripening, and coat the pipes or flues with sulphur on the first appearance of this enemy. Indeed it is well to do this occasionally by way of a preventive, which, in this case as in most others, is vastly preferable to a cure. Vines in pots intended for early forcing will require attention to get the wood properly ripened, and this should be effected by exposing them freely to light and air.

### FLOWER GARDEN AND SHRUBBERIES.

In some neighbourhoods green fly has been troublesome to Verbenas, &c. Where such is the case, tobacco water and soap suds may be used with success. The strength of the mixture should be tested by dipping some of the shoots worst affected into it, and used sufficiently strong to kill the insects, but not so strong as to injure the leaves. It should be applied in the evening when there is a prospect of a dry night, using a fine syringe or fine rosed watering-pot, and giving enough to moisten the whole of the foliage. Go over the beds frequently, and remedy any defect that may be perceptible without loss of time, for the bedding out plants are enjoyed but for a comparatively short season, and now that they are in beauty every means should be used to render them as enjoyable as possible by maintaining the most perfect order and neatness. Where the stock is clean, and growing vigorously, this will involve considerable labour and it will be necessary to go over the beds frequently, pegging down where necessary, removing decayed flowers, and cutting back such of the shoots as may incline to encroach upon the edging of the beds. Keep herbaceous plants neatly tied up, and cut off the flower-stems of any that are becoming unsightly. Take advantage of leisure hours to put in cuttings, and use every possible despatch with this work until there is a good stock in a fair way for rooting of such things as are known to be difficult to winter, except in the shape of well-established plants. Keep gravel walks perfectly clean and smooth by weeding, sweeping, and rolling, as may be necessary. Keep climbers on walls within due limits.

### HARDY FRUIT AND KITCHEN GARDEN.

It may be advisable to go over such trees as are over luxuriant, and stop about half the shoots, beginning of course with the strongest, for a general stopping at this time would probably be of little farther service than to induce the production of a mass of useless spray, whereas stopping the stronger shoots or those which incline to grossness will divert the sap into the weaker ones, which will be strengthened, while the buds on the shoots that have been stopped will become full and plump without starting into growth. The only effectual method, however, of curing a gross habit of growth when this is the case in ordinary seasons is root pruning or keeping the roots within proper limits by means of shallow well drained borders. Should it be found that the shoots, after stopping, incline to start into growth, it will be advisable as soon as the fruit is gathered to open a trench at a moderate distance from the stem of the tree, cutting the stronger roots. This will be of the greatest service in checking growth, and will probably do more towards securing ripe wood than anything else that could be adopted. Get the Strawberry plantations intended to stand for next season trimmed as soon as convenient, cutting off and clearing away the runners, so as to afford the leaves plenty of room. Attend to providing plenty of Lettuce, Endive, &c., for winter salads; also see that there is a good bed of Parsley provided in some sheltered spot where it can be readily protected in severe weather.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending Aug. 5, 1863, as observed at the Horticultural Garden.

| July and August. | | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. | 30 | ○ | 30.184 | 30.151 | 80 | 35 | 57.5 | 62 | 60 | N.E. | .00 |
| Friday | 31 | 16 | 30.280 | 30.146 | 80 | 44 | 62.0 | 61½ | 60 | N.E. | .00 |
| Satur | 1 | 17 | 30.106 | 29.975 | 77 | 50 | 63.5 | 61½ | 60 | E. | .14 |
| Sunday | 2 | 18 | 29.976 | 29.972 | 81 | 47 | 64.0 | 62½ | 60 | S.W. | .00 |
| Mon. | 3 | 19 | 29.989 | 29.940 | 82 | 44 | 63.0 | 63 | 61 | S.W. | .00 |
| Tues. | 4 | 20 | 29.891 | 29.863 | 78 | 53 | 66.5 | 63½ | 61¼ | S.W. | .17 |
| Wed. | 5 | 21 | 29.885 | 29.822 | 78 | 56 | 66.0 | 63½ | 61½ | W. | .14 |
| Average. | | | 30.030 | 29.781 | 79.1 | 47.0 | 63.1 | 62.5 | 60.5 | | .36 |

July 30—Very fine; hot and dry; cold at night.
— 31—Fine throughout.
Aug. 1—Slight haze; very fine; rain.
— 2—Cloudy, fine; mild at night.
— 3—Very fine; cloudy; hot and dry; fine.
— 4—Fine; clouds in strata; very fine; rain at night.
— 5—Very fine; rather boisterous; rain at night.
Mean temperature of the week equal to the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Aug. 15, 1863.

| August. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 9 | 74.2 | 50.2 | 62.2 | 14 | 0.40 in. | 2 | 7 | 1 | — | 5 | 13 | 8 | 1 |
| Mon. 10 | 75.2 | 52.9 | 64.0 | 17 | 1.06 | 1 | 6 | 2 | 2 | 5 | 13 | 7 | 1 |
| Tues. 11 | 75.6 | 51.5 | 63.6 | 17 | 0.78 | 1 | 1 | 3 | 1 | 5 | 14 | 11 | 1 |
| Wed. 12 | 75.1 | 51.0 | 63.0 | 14 | 0.47 | 2 | 2 | 1 | 1 | 6 | 13 | 8 | 4 |
| Thurs. 13 | 74.1 | 50.2 | 62.1 | 17 | 1.14 | 1 | 3 | 2 | 3 | 5 | 15 | 3 | 5 |
| Friday 14 | 72.2 | 51.0 | 61.6 | 15 | 0.79 | — | 9 | 4 | 2 | 2 | 13 | 5 | 2 |
| Satur. 15 | 72.8 | 50.0 | 61.4 | 15 | 0.61 | 4 | 5 | 4 | 1 | 5 | 8 | 5 | 5 |

The highest temperature during the above period occurred on the 10th, 1842—therm. 93 deg.; and the lowest on the 13th, 1839—therm. 32 deg.

## Notices to Correspondents.

Fuchsias: *Old Sub.* Your double flower is inferior to kinds already in cultivation.

Ice Houses: *W M H.* The number you want is unfortunately out of print.

Names of Plants: *H H.* Certainly not either Ferula persica or Prangos pabularia. The absence of fruit except in the youngest state renders it impossible to say what it is. There are far too many rays in the umbel for Prangos fœniculacea.—*H W C.* 1, Gnaphalium germanicum, which disappears under good tillage; 2, Young and barren Equisetum arvense, which will not long exist in dry well-drained land.—*F C.* Masdevallia infracta.—*Rutland.* Francoa appendiculata.—*R. Upcher.* Leaf of a Pyrola; apparently intermedia.—*T D.* We suppose it to be Euonymus atropurpureus. Of what country is it native?—*C. Bailey.* 1, Acæna (Ancistrum) adscendens; 2, Boronia spathulata; 3, Indeterminable; possibly an Edwardsia; 4, Some Escallonia; perhaps montevidensis.

Pentstemons:—*H. H.* The following sorts will give you satisfaction:—Euclide, Adrienne Boppe, Charles Klein, Le Dante, Lord Clyde, Dr. Hogg, Laurent Lowerque, Rose of England, Purple Prince, Mrs. Steans, and Blue Beauty.

Rhodanthe maculata: *Enquirer.* We understand that this fine new Rhodanthe requires to be grown vigorously, and out of doors in order to develop its size and markings. You had better not nurse your plants too tenderly. They come very fine grown about three in a 6-inch pot, under cool pit treatment, and then transferred to an airy greenhouse when in bloom. It is a mistake to sow such things too early, and in much heat. The other sort is not yet sent out.

*** Erratum. We find that the first prize for Currants shown at South Kensington on the 21st ult., was awarded to Mr. Tivey, gardener to Lionel Ames, Esq., The Hyde, near St. Albans; and not to Mr. Terry, St. Albans, as stated in our report of the meeting in question.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

*Resident Professors.*

PRACTICAL AGRICULTURE.

J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 12 Lectures on Agricultural Machines.

CHEMISTRY.

ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.

R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Soc.
VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.

W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on South-down and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

The College will RE-OPEN AUGUST 10th.
For further particulars apply to the Principal.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.
ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

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Such works can be executed either under the powers of several special Acts of Parliament, with money raised by loan and paid off by instalments, or with the Landowner's own money.

**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &C. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
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4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E.C.

MESSRS. J. CHALMERS MORTON, Streatley, near Reading, and J. THORNHILL HARRISON, M. Inst. C.E., Frocester Court, Stonehouse, Gloucestershire, AGRICULTURAL ENGINEERS, undertake reports on the Condition of Landed Property, together with the Direction of Land Drainage, Roads, Embankments, Farm Buildings, and other works necessary for its permanent improvement.

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MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5s. per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

MANCHESTER and LIVERPOOL AGRICULTURAL SOCIETY.

GRAND SHOW at BIRKENHEAD (in the Park) on SEPTEMBER 8, 9, 10.

Prizes amounting to £1400.

ENTRIES CLOSE on August 10.

For Prize Lists, Regulations, &c., apply to Mr. WM. HENDERSON, Local Secretary, Birkenhead, or to T. B. RYDER, Secretary, 57A, Church Street, Liverpool.

**Agricultural Hall, Islington.**

A POULTRY, PIGEON, RABBIT, FLOWER, and FRUIT SHOW will be held at the HALL on the 26th, 27th, and 28th inst.

PRIZE LISTS and other information can be obtained from S. SIDNEY, Esq., Secretary.

Agricultural Hall, Barford Street, Islington, N.

# The Agricultural Gazette.

*SATURDAY, AUGUST* 8, 1863.

—— AT this time last year we announced our intention of publishing the annual statement of our correspondents on the prospects of the current harvest during the following week: adding that little doubt could be entertained that the crops were generally inferior, and that Wheat in particular must prove to be exceedingly below an average crop. This expectation was fully verified in the experience of arable farmers during the past year.

In now making a similar announcement, we are able to preface it with the opinion that the returns this year will in all probability declare the prospect of unusual productiveness. The returns from 200 correspondents in all parts of the country, which we hope to give next Saturday, have indeed been prefaced during the past few weeks by detailed reports from most of the southern and midland counties, which make it certain that if we are favoured with good harvest weather, the summer of 1863 will witness the ingathering of a glorious harvest.

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THE English Agricultural Society must be prompter with its announcements and publications or it will certainly be outrun and forgotten in the race of agricultural improvement. We do not know to whom its prize has been awarded for the best essay on steam cultivation—but that the award has been made we infer from the swarm of competing essays, whose authors having been "commended" or otherwise by the judges are submitting their productions to the public in the form of pamphlets. Nothing shows more strikingly the interest which is now being taken in the subject of these essays than this rapid publication. Mr. READ's "commended" essay had hardly reached us, and been forwarded to the printer with the descriptive notice of its pages which appears in another column, before the post brought us another, somewhat perversely entitled "Fire and Water *versus* Corn and Hay;" whereas the union of the two appears in the case described to have been greatly to the advantage of the corn and hay produce of the land. To Mr. HUTCHINSON's very explicit, exact and encouraging account of his experience as a steam cultivator, which is published under this title, we must however refer next week. Meanwhile it is plain that the essayists are a long way ahead of the Society which has called them forth, and that they have a much more lively and accurate impression of the interest which the subject is exciting in the country.

As a lesson of promptitude on this subject, which seems to be needed, we may mention here that Mr. COLLINSON HALL, witnessing SAVORY's engines at work at Worcester, one at each end of the furrow drawing the ploughing or cultivating tool to and fro between them, bethought him that his plan of a polygonal pulley fitted to a chain of linked rods would be adaptable to something similar, in which however both the engines should be always and at the same time exerting their force upon the implement. And he forthwith *telegraphed* to his patent agent in London, desiring, almost as soon as the idea was conceived, that he would at once secure his right in it. This week accordingly he has published his scheme for enabling two ordinary six-horse-power engines to put out the force of 12 horses in the draught of a to-and-fro cultivating implement. The linked rods are to be wrapped around the polygonal drums or pulleys on the engines at either end of the furrow, and both engines are to pull at it—and thus unite their power on it—of course in the same direction; the double engines working a double rope just as hitherto a single engine has worked one around an anchor: the second engine being in fact a living anchor, which not merely passes but pulls the rope round in the direction in which the other engine is also driving it. The obstacle in Mr. HALL's way consists in the need of the rope being continually tight, which his long links and the consequent difficulty of letting it out or tightening it hinders it from being. The difficulty in the way of the proposed system generally lies in the need of both engines being worked together and stopped *together*; acting in fact directly under one management, in order to manage such things as stopping, reversing, again proceeding and so on, which are of constant occurrence in the steam-ploughed field. So far as the mere idea is concerned it is plain that it could be much more satisfactorily carried out by Mr. FOWLER's clip drums with the slack rope arrangement on his plough than on any other plan. Two ordinary 7 or 8 horse power engines, each furnished with clip drum underneath, could thus work his plough to and fro between them, with as much united power thus brought to bear on the same implement as is ever likely to be needed.

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—— WE learn that Messrs. HOWARD, of Bedford, who have exhibited at the meetings of the Royal Agricultural Society ever since the first at Oxford; and who have never questioned any of the awards of the Society's judges to which they have been subjected all that time, have written to the Council to decline the prize awarded to them at Worcester for steam cultivating apparatus.

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—— IN a recent number of the *Journal d'Agriculture Pratique* Professor MALAGUTI, of Rennes, publishes a series of experiments, leading, as he says, to the conclusion that the solubility of guano is increased by maceration in water, and that the liquid form of application, on that as on other grounds, is the best. It appears to us that the fact observed by the Professor, that guano just washed in water will after prolonged maceration yield another portion of its phosphates in solution, does not prove that the solubility of the guano has been thereby increased. The observation is simply in accordance with the fact that time is required for the process of solution. Water will take up a certain quantity of gypsum in solution, and fresh waterings will take up successive quantities in the same way—but the solubility of gypsum has not been thereby increased. This is a fixed and well-known quantity, in accordance with which it submits slowly to solution, and disappears gradually by solution in water. This is all that Professor MALAGUTI proves of the relations of guano and of water. It is nevertheless certain that the liquid mode of applying it to the land is best; and that guano distributed throughout a large quantity of water as much as possible in solution in the first place, is thus mixed more intimately with the soil to which it is applied, brought more thoroughly throughout the soil in contact with the rootlets which are to feed on it, and placed more extensively, and therefore more efficiently, under the dissolving action of the rain water which trickles through the soil as the great feeder of plant roots.

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ANNOUNCEMENT is made of a Society for the Prevention of Disease amongst our Domestic Animals. The prospectus declares that Live Stock is destroyed especially by contagious disease, in the United Kingdom, to the extent of at least six millions sterling per annum. To guard against the ruinous results of the prevalence of cattle and sheep plagues, Stockowners have relied almost entirely on the ready sale of their diseased animals, alive or dead. They have thus materially

facilitated the spread of contagious affections; and it has been estimated that not less than one-fifth of the meat annually consumed in the British Isles is from diseased animals.

It is believed that the only rational method of preventing so heavy a pecuniary loss to the nation, and so much injury to the people, is to investigate and prevent the maladies which destroy our live stock: and this can only be effected by co-operation.

Hence the proposal to form a Society for the prevention of disease amongst our domestic animals.

The objects of the Society will be attained:—

By collecting information and statistics concerning the diseases of animals—by affording advice and assistance to Stockowners wherever general outbreaks of disease occur—by ascertaining periodically the health of Stock in the countries from which we derive our foreign animals—by stimulating inquiry as to the most advantageous means to dispose of diseased animals or their produce, so as to secure the largest amount of salvage for Stockowners—and by adopting all possible means to check such a traffic in diseased animals as tends to the spread of plagues, or to the sale of diseased meat to the public.

The circular is issued by Professor John Gamgee, from the New Veterinary College, Edinburgh, with whom those interested in the subject should correspond.

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The Use of Salt in Agriculture is the subject of a very well packed pamphlet recently issued by the Salt Chamber of Commerce of Northwich.* Two papers, which received the prizes respectively of *50l.* and *25l.*, offered by this body for the best Essays on this subject, are here published, and deserve to be widely read by farmers.

The use of masses of rock salt in the sheep trough, in the manger, and the feeding stall, has been long enough practised by good farmers. And the advantage of applying salt as a manure, especially to Mangel Wurzel, and along with nitrates as top dressings to young corn crops, has been sufficiently proved, to take the subject quite out of the rank of mere speculation. It is certain that even in our little island, which the wind may sweep over in time too short to suppose that it can have lost all it brought with it from the sea—where therefore both soil and plants must always contain a recognisable quantity of sea salt, the use of common salt both as food and as manure has proved of great benefit. And the Salt Chamber, from whom one would of course expect only special pleading on this subject, have nevertheless done good service by thus marshalling all the facts which agricultural experience in this country and elsewhere, and which careful scientific observation in this country and elsewhere, furnish in illustration of the agricultural value of their commodity.

The first of their prize essays discourses on the fact that all plants contain salt in their ashes, and may therefore be expected to require it as food:—"But the direct nourishment salt thus affords to plants and roots is only a very small part of the good it performs in the economy of our cereal plants and roots. By far the most important part, and the one little known of generally even now, and never dreamt of 20 years ago, is its indirect action on the chief agents of vegetable life in the soil." This is the power of salt as a solvent in the soil, and the need of it therefore not more as food than as feeder of our cultivated plants.

For we are told that "when common salt, through the medium of rain water or otherwise, comes in contact with the earthy bases of ammonia, phosphoric and silicic acids, potash, magnesia, &c., either originally in the soil, or carried into it through the rain water or manures, it sets the said ammonia, phosphoric and silicic acids, potash, &c., free, and makes them at once available for the nourishment of the growing plants." In fact weak solutions of common salt have the power of dissolving out of the soil many times the quantity of substances adapted as food for plants that pure water can do. And common salt has long been known to increase the strength of the straw of our corn crops to which it is applied as a top dressing. It is supposed to dissolve the silicic acid of the soil, thus enabling it to enter the roots of the corn plant and to find a place on the straw which it hardens and strengthens.

To this bit of explanation there follows a list of rules and maxims, largely illustrated and corroborated by quite an array of authorities.

Salt should never be applied with the seed.

In cold, heavy, wet, undrained land salt cannot act by itself, nor in sterile land, and it is only in conjunction with other manures that it may do some good in such unprofitable land.

Salt applied with lime will always assist the efficacy of the latter.

The application of salt upon the breaking up of land, and then afterwards top dressing in small quantities at different times, will be found the most beneficial and economical way, and it will also get wire worms, slugs, &c. out of the land.

Salt applied to compost and manures will always repay itself many-fold.

The mixing of all manures containing either phosphates, potash or ammonia with an equal weight of salt, can only tend to make such manures more effective.

Repeated top-dressings in Spring, in small quantities, are far more preferable to heavy ones at one time.

The last of these points is enforced by the consideration that so soluble a substance will escape by the drains if it be applied at once in large quantities. The second part of the essay relates to the use of salt as a condiment; and in an appendix to it directions are given as to the quantities (generally much too large as it seems to us) which should be applied as a manure to crops. 2 or 3 cwt. per acre, along with 1 cwt. of nitrate of soda, is a good dressing for grain crops, and 5 cwt. per acre is quite enough to apply to Mangel Wurzel. If 1 cwt. per load be added as desired to all composts—8 or 10 loads of the compost per acre are all that should be applied—unless they be marly composts for light land. Ten or 12 closely filled pages follow, in which a large mass of experience on the use of salt, gleaned from foreign as well as English journals, is given in detail.

The second essay, by Dr. T. L. Phipson, F.C.S., refers in greater fulness to the uses of salt in food, and we shall hereafter give an extract on this subject from its pages in our columns. This writer also speaks of the advantages of mixing salt with hay and other fodder—on the uses of salt in the dairy, and on the salting of bread, bacon, beef, &c., and on the more strictly agricultural uses of common salt in killing Wheat-destroying insects, and particularly as manure. The two essays together contain all that the farmer needs to know upon the subject—and that he does need to know a great deal that has been thus collected is certain from the very limited agricultural use which is yet made of what is one of our most useful home fertilisers. The following are Dr. Phipson's conclusions on the uses of salt as manure:—

1. That without a due proportion of salt plants cannot attain their proper degree of perfection; and this applies especially to Colsa, Turnips, Swedes, Beet, Spinach, Wheat, Oats, Maize, and other *grasses*.

2. That salt is an *essential* constituent of plants as well as animals.

3. That the soil is constantly losing, by cultivation, a great amount of salt, taken away by the crops.

4. That none of the manures at present used (except very few of the best superphosphates) contain any salt: even guano shows only four-tenths per cent.

5. That it is necessary to add salt at regular intervals to the soil, in some shape or other, if we wish to derive the greatest possible benefit by our crops.

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## PROFESSOR BUCKMAN AND THE CHAIRMAN OF THE COUNCIL OF THE ROYAL AGRICULTURAL COLLEGE.

*To the Editor of the Agricultural Gazette.*

Dumbleton, Evesham, Aug. 5.

Sir,—In your last Saturday's Number you review Mr. Buckman's address to the Chairman of the Royal Agricultural College Council, and referring to a private letter of mine which Mr. Buckman has thought it right to publish in this address, you thus express yourself:—

"We cannot but believe with him (Mr. Buckman) that some injury was done to him by the communication of the opinion in question; and we should be glad to see the stigma removed by the same hand which too hastily, and as we believe in ignorance affixed it."

I cannot now, after the lapse of three years, recall to memory the exact manner in which I arrived at the conclusions stated in the letter referred to, but after a perusal of your article in last Saturday's *Gazette*, I am quite ready to admit that I may have arrived at hasty conclusions, and that I may not have been in full possession of facts, when I privately expressed my opinion to the Principal, so that if a stigma (to use your words) has been affixed to Mr. Buckman by any opinion of mine expressed in a private letter, I beg hereby to be permitted to remove it.

Mr. Buckman has for years been a hard and zealous workman in the scientific field. Agriculture and agricultural education are greatly indebted to him. I have always been a friend of his, and hope to continue one. I cannot however rank myself with *those* friends under whose advice, he tells us, he published the letter in question.—I am, sir, faithfully yours,

Ed. Holland.

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## THE HOO PARK FARM, NEAR LUTON, BEDFORDSHIRE.

One of the most interesting objects in the show yard at Worcester, hanging in a stand among the sheds devoted to seedsmen, publishers, &c., was the large plan of a capital set of farm buildings, erected on the estate of John Shaw Leigh, Esq., near Luton. Of that plan we give a reduced copy below. It was erected originally from the designs of John Gerard Leigh, Esq., and afterwards altered by Mr. James Ross, the present agent on the estate, chiefly by raising in places the height of some of the sheds and other buildings: but without much alteration of the ground plan here given.

The main purpose of farm buildings is the provision of shelter; and any one looking at this plan will see what enormous provision of this kind it affords. We saw the place last February or March while it was still full of fatting beasts, and thought at the time that we had never seen so large a meat manufactory in such full operation.

Stabling for between 40 and 50 horses; loose boxes for 18 or 20 more; stalls for 60 fatting bullocks and for 18 cows; 10 open yards furnished with nearly 800 feet in length of wide shedding; a dozen pigsties; shedding over open flooring about 75 by 40 feet in extent for sheep; a covered, light, and airy yard about 90 feet by 75 feet for calves; ample room for carts and implements, for grain and food, for roots and corn in the straw:—These are the elements of what is one of the most elaborate homesteads in the country.

The large accommodation for horses shows that it is not merely an agricultural homestead, and this also appears from the separate set of buildings for work connected with the management of the estate. There are however a great many details, and there is the guiding principle of the whole, in both of which useful lessons strictly agricultural may be learned, and to these we shall call attention.

The index to the plan is given underneath it. The buildings consist of three parts. One, "A and B," includes the farmstead properly so called, and for purposes of reference it is divided into two principal blocks, A and B, between which it will be seen the only thoroughfare through the homestead lies, the only entrance to the buildings being obtained at one or other end of this thoroughfare. A and B occupy a quadrangle of about 350 feet by 420 feet.

The outlying yard and offices at C are for estate repairs almost exclusively, and D is a long covered shed for corn in the sheaf.

Perhaps the most striking feature of the whole homestead is the Corn shed D. A cheap, but strong roof supported on wooden pillars, 18 feet high, and covering a space 36 feet wide and 450 feet in length, is floored with brick, and surrounded by a dwarf brick wall, covered along its upper edge with two feet deep of zinc sheet, which frustrates all the attempts of the rats and mice outside to enter. This enormous store of Corn in the straw after harvest is a most striking sight. The space is filled piecemeal at harvest time, and is threshed out piecemeal by a movable engine and thrashing machine, the corn being at once carried to the granary, and the straw built back in the shed as it is emptied, and carried daily to yards and sheds as it is wanted for litter or for food. In addition to the shed for Corn in sheaf, there are large barns at B *a b c*, where threshing can be carried on by hand or machine, as desired. To these the yards and sheds requiring straw are close at hand; the whole of them being easily accessible by good roads throughout the farmery. The whole unoccupied space within the buildings is indeed paved with granite pitching (4 inch cubes), from Markfield, Leicestershire. The roofs, it may be mentioned, as well as these roads and working spaces, are well drained; and the stalls and yards have a separate drainage to a large tank outside under the cart shed B *p p*, whence the liquid is removed by carts to the field.

The estate, formerly the property of the Marquis of Bute, having been enlarged by the present owner, extends over more than 6000 acres on chalk and chalk gravel. It overlooks and surrounds a large and picturesque demesne—a well timbered and well watered park, with noble mansion—the whole constituting what is known as the Hoo estate. The home farm includes this park, besides some 750 acres of arable land outside, and is in all about 2000 acres in extent; the remainder of the estate lies in farms varying from 200 to 400 acres.

The home farm, together with the regular work of the estate, employs 53 horses, Suffolks and Clydesdales. The farm requires three horses per team for winter ploughing, but it is pair-horse work during summer.

They are worked on the English method from 7 A.M. till 3 P.M., with a quarter hour luncheon time in

* Simpkin & Marshall. London. Pp. 56.

the field, receiving 1½ bushels of Oats weekly all the year, along with hay chaff in winter, and Vetches and Clover cut into chaff with Wheat straw all the summer, and a few Beans in addition at periods of extra work.

The arable land is cultivated on the five years' course, viz., Wheat, Oats, fallow crops, Barley, and seeds; Wheat being taken in place of Barley after Vetches, Rape, &c., and other summer folded green crops.

The cropping may thus every year generally be—

| | |
|---|---|
| 200 acres Wheat | 100 acres Barley |
| 150 acres Oats | 150 acres seeds |

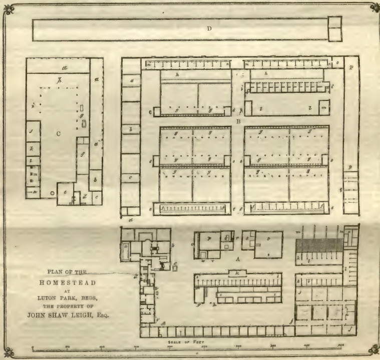
150 acres fallow crops and Vetches.

The land, though much of it on chalk and gravel, is yet generally sufficiently stiff to make winter folding unadvisable. While therefore sheep are folded on Clover, Vetches, Rape, and early Turnips, receiving corn and cake during summer and autumn, no folding takes place after Christmas. Eight to twelve hundred sheep are kept during summer, 300 or 400 only during winter—a flock of about 200 breeding Hampshire Down ewes being kept throughout the year, and a Cotswold ram being used among them. Most of the others are bought for feeding early in spring, and are sold fat all through the autumn.

The fallow crop includes 60 acres of Swedes and 25 acres of Mangels, all brought home, besides early Turnips and Coleseed, and some 20 acres of Vetches—all folded with sheep in summer and autumn.

Besides the sheep-fold and the manure resulting from the consumption of such large quantities of hay and roots and straw in stables and yards, large quantities of manure are bought. Some 30 tons per week of London dung are bought all through the spring months, costing 7*s.* 6*d.* per ton at the station close by. Fifty to 60 tons of guano are also bought; 2 cwt. per acre being applied to all Oats after Wheat, and 1 to 1½ cwts. being applied along with dung to all the land for green crops.

A great deal has been done on the home farm, and on the estate generally in throwing fields together, removing useless hedgerows, enclosing waste, and otherwise bringing the whole into a thoroughly workmanlike condition. Nothing can be more economical of labour than the state of much of the land now in hand. Ten or 12 pairs of horses carting dung on to the fields, with men spreading it broadcast and sowing artificial manure broadcast over all; ploughs at work, turning the whole under, thus covering the manure; the whole followed by harrow, roller, and seed drill putting in the Turnips,




A. *a, b*, Mr. Ross's House, including Parlours, Kitchen, Offices, &c.; *a* itself being the Dairy, and *c* the weigh-bridge with counting house close by; *d* to *e*, Offices and Cottage; *f* to *f*, Loose Boxes; *g*, Coach-house; *h*, Shed with steps to Upper Granary; *i i*, Granary; *j j*, Covered Yard for Calves, divided into separate Pens by Gangways for convenience of Feeding; *l l l*, Farm-horse Stables; *k k k*, Harness Rooms; *m m*, Covered sheep shed, the troughs pulling out into the open on the lines of railway marked on the plan to be replenished with food and pushing back again within the pens; *n*, Shepherds' Granary; *o*, Fowl-house; *p*, Coal-house; *q*, Stationary Engine, with Mill close by; *r*, Gangway. The building is lofty over *q, r, s*, carrying a large cistern which commands the whole of the homestead; *s*, Steaming-house; *t*, Chaff-house; *u*, Stores; *v*, Saddlers' shop.

B. *a*, Oat Barn; *b*, Wheat Barn; *c*, Barley Barn; *d*, Seed-rooms; *e e*, Store-rooms; *f f*, Cow-stalls and Bullock-stalls: *g g*, Yards for other Cows, Bullocks, and Young Stock; *h h*, Dung-pit; *i i*, Pigsties with Boiling-room at one end and Water-closet at the other; *k*, Slaughter-house; *l l*, Storage for 1000 or 1200 tons of Swedes and Mangel Wurzel; *m*, Store for Oil-cake; *n n*, Stalls for Fatting Beasts; *o*, Bull-house; *p p*, Coal-shed and Implement Shed; *q*, Loose Boxes.

C. *a a*, Cart-sheds; *b*, Store for Grains; *c*, Fire Engine; *d*, Carpenters' and Painters' stores; *e*, Wheel-wrights' shop (with Mess-room between them); *f*, Carpenters' shop, with Store-house and Carpenters' stores at the end of it; *g*, Engine-shed and Saw-bench; *h*, Timber-shed; *i*, Do., do.; *j*, Bricklayers' stores; *k*, Iron Stores; *l*, Do., *m*, Blacksmith's Shop; *n*, Shoeing-house.

D. Corn Shed with two loose boxes at the end of it.

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as we saw the whole proceeding a few weeks ago in a field where the furrow was more than half a mile long, presented a scene of very active and unwasted industry.

The main purpose of the homestead to which we have particularly to draw attention is the manufacture of meat. To this end the stores are filled every autumn with roots, straw, and hay; to this end steam power and machinery are provided for threshing the corn, grinding and crushing grain and cake, steaming food, and pulping roots; to this end 500 to 800 bushels of grains are brought every week from Burton (at the rate of 6*d.* per bushel, delivered), and some 15 cwt. of yeast are weekly used along with chaff as a most valuable tonic and digestive, and large quantities of cake and grain are bought and served out daily. To this end a herd of about 30 cows are kept, and some 80 to 100 calves are bought all through the autumn and sold as yearlings, excepting 8 or 10 heifers kept on to maintain this dairy herd; and to this end some 150 Galloway and Kylo bullocks are kept in the yards during winter, and in the pastures during summer; and some 100 to 150 fatting bacon hogs are kept throughout the year.

It is a very large manufactory of meat indeed. Eighty to 90 yearlings are sold out annually for 7*l.* to 8*l.* apiece; 8 or 10 cows are sold off, and 100 to 150 fat Galloways and Kyloes are sold—a very handsome lot of Beasts, averaging 26*l.* to 30*l.* apiece, and upwards of 8 cwt. Some 800 to 1000 fat sheep are sold, averaging probably 24 to 28 lbs. a quarter. The young Galloways, bought in spring, are first summered on the Grass in the park; they receive grains, hay, chaff, and Turnips during the first month on being brought into the yards in autumn; during the second month or thereabouts, they get cake and meal up to 3 lbs. of the former and ½ peck of the latter daily, and along with pulped Swedes and Mangel Wurzel, this is increased to 5 lbs. of the former and a peck of the latter. The last month or two they receive this while tied up in stalls. During the earlier stages, that is while in yards, all the cattle have yeast in their chaff; the food is so arranged that the animals shall neither scour nor sweat. Some 160 bullocks, 30 cows, 100 calves, 150 pigs, and several score of sheep in sheds—the work of preparing their food, chaffing, steaming, pulping, &c., keeps 7 men (one of them the foreman in charge of the yard) and 5 boys in constant employment during winter. The large use of yeast and grains in cattle feeding is one of the most striking features of cattle management here. But probably that which most strikes the visitor is the quiet and orderly arrangement and management of everything. Mr. Ross understands the art of command; he makes foremen responsible in their respective departments; does not himself give orders to the individual men in his employ, but looks to the head men in each department for his instructions being carried out. There is thus great neatness, cleanliness, order and quiet over the whole of this large establishment, even during the winter season, when all its parts are in full employ. And the master's influence is felt everywhere without that continual personal and even noisy interference which one often witnesses.

The whole estate and farm and homestead strike one as a remarkable example of good agriculture, both in the higher branches of estate management and in the details of farming. Mr. Ross himself is a man of great natural ability. Little over 20 years ago, hardly acquainted with the English tongue, working his way in Scotland, in England, and for several years in France, in the several grades of his profession, and throughout displaying his ability for the direction and superintendence of labour—now master of three languages, a skilful agriculturist and land agent, he has attained a position where all his previous training is brought usefully to bear, and where he is doing good service both to the owner of a large estate, and, by a most capital example of good management, to agriculture generally.

## Home Correspondence.

*Excessive Fatness of Breeding Animals.*—Many years ago the columns of the *Agricultural Gazette* contained letters objecting to the excessive fatness of the animals exhibited at the annual meeting of the Royal Society, alluding more particularly to the pigs and sheep. Over-feeding animals, regardless of expense, to excite the wonder of sight-seers, appears to be a mistake. There are cogent reasons for discontinuing the cramming system; the most prominent are waste of food and the deterioration of the quadrupeds for breeding purposes. It is not difficult, by the use of drugs and cooked mixtures, to provoke the appetite of animals, and induce them to swallow large quantities of food, till they become objects of pity rather than admiration. Many defects may also be concealed under a load of grease. No doubt farmers wish to obtain quick-feeding remunerative stock, such as will eat the produce of the land, and thrive upon it. The cost of raising a mound of fat upon the frame of an animal must be great, and out of all proportion to the price paid by the butcher, who may, as an advertisement to attract attention, hang the corpulent body of a pig or sheep in his shop window. It is no criterion of scientific farming to stuff an animal till its natural proportions are obliterated, and its locomotion confined to rising up to eat, and falling down in the same place utterly exhausted with the exertion, and unable without puffing and blowing in a painful manner to walk half a dozen yards. These remarks have been called forth by the extreme obesity of some of the quadrupeds at the late Worcester meeting. *Falcon.*

*The State of Ireland* is attracting considerable attention; and as I have had the opportunity by serving on two grand juries, and by conversing with men practically acquainted with the country, of obtaining some knowledge of its actual condition, a few remarks may not be without service. There has been considerable misconception of the real state of Ireland. Because it revived after the famine with wonderful rapidity, it was concluded that all cause of ill had disappeared, and that no impediment would henceforth prevent its progress. But it was forgotten that many of the evils which had produced the famine were now eradicated; and that while it was right to indulge sanguine hopes, it was foolish to think that no cause of anxiety remained. Three successive bad seasons brought to pass what a few practical men expected. The small farmers could not insure to themselves a decent living when the elements were against them, while the old Celtic propensity to gain by force what could not be obtained by fair means burst forth. Ireland is still an overpopulated country, not in the number but in the position of some of its inhabitants. Most of those who struggle to exist on a few acres are fit only to be labourers, and there is still many a "squireen" who should abandon the gun for the ploughshare, and the hunter for the carthorse. It is certain that until the system of small farming is destroyed, and with it the ignorance, laziness, and despondency that usually accompany an unsuccessful struggle, Ireland will never prosper. I believe that the distress which exists more or less in different districts, is principally confined to the small farmers, and to those that depend on them for their subsistence. The larger farmers who have any knowledge of their business are in no distress. Among my own tenants one has lately given his daughter 1000*l.*, another 300*l.*, as marriage portions, and they are not men who would be thought in England to have large farms and to be peculiarly skilful in the cultivation of land. The removal of the small farmers would also diminish the exorbitant power of the Roman Catholic clergy; I bear them no theological hatred, I respect their office, and I live with them, when I can, on friendly terms; but I know that their power is directed wholly to the maintenance of their own influence; that they oppose any movement, however good, which they cannot direct, and discourage any association which they think will tend to the diminution of their own authority. The bad success of the Agricultural Societies in more than one county is in great measure to be attributed to them. There is vast capacity for improvement in Ireland. Its climate, soil, and character point it out as the pasture-field of Great Britain. The ox and the sheep there thrive. The horses that it rears are peculiarly hardy, courageous, and enduring. The labourer whom it sends abroad, works with untiring energy on but little food. The soldier that it nurtures adds to his natural courage a cheerfulness of disposition invaluable on a campaign. The police that guard it are remarkable not only for good looks, but for intelligence, cleanliness, and discipline. It is even now a country where tact, good humour and firmness will insure success. But it is still in a transitory state. I have no fear of its ultimate welfare, and I look forward to the day when it will be a and flowing with milk, the abode of herdsmen, and the very paradise of fat kine. *B. M.*

*The Education of Ploughmen.*—There being very few Scotch farm servants' sons who get less scholastic training than I got, I feel annoyed at people suggesting that hinds ought to be compelled to send their children to school, instead of working to farmers during the summer months. Some hinds are very favourably circumstanced, but some have not a farthing to call their own, and this will always be the condition of a good many. The urgent demand for extra labourers during the summer months, and ploughmen's small wages, compel farmers and hinds to mutually accommodate each other. I acted in the capacity of a cowherd in the summer of my tenth year. I do not remember of being at school during the summer months. I acted as "crawherd" (scarecrow) from the Potatoes during the summer months of 1839, '40 and '41, and I worked for 4*d.* per day in the summer of 1842. I daresay I would not be more than 12 months at school after I was ten years of age. It is the injudicious interference of would-be dictators to practical agriculturists that prompts me. The most accomplished working man I am acquainted with was only six weeks at an agricultural school. Of course he attended evening classes after he had reached manhood. It is a deplorable existence residing in a purely agricultural district without a desire for reading or any intellectual pursuit. I have sat looking at the fire during the winter evenings till my eyes were tired. To break the dreary monotony of such an existence I took a lesson in the Bible, or some other book, or did a few exercises in arithmetic; but notwithstanding my father's entreaties I plodded on without any fixedness of purpose, till coming in contact with others showed me my deficiencies. I trust I know myself better than attempt to justify ignorance; nevertheless, remembering that my father could not have paid the school fees had he been compelled to send me to school during the summer months, I beg to protest against would-be reformers finding fault with farmers employing boys and girls during the summer months. The being able to read and write, and a knowledge of arithmetic are indispensable for keep farm accounts, and scholastic accomplishments are very useful for certain purposes, but theorists must allow practical men to devise schemes for promoting their own interests as rational and responsible beings and as practical agriculturists. The intellectual training at school ought to be regarded as the mere basis upon which young lads have opportunities for building a superstructure after they leave school. There not being any provision made by landowners, gentlemen farmers, and the rural clergy for inducing young men to follow up their scholastic training during the winter evenings, and the majority of schoolmasters not being able to teach the elements of botany, are the principal defects in connection with scholastic education in rural districts. Were parish schoolmasters competent to teach the elements of botany, what an interesting and useful exercise it would be for boys and girls to gather specimens of the plants, grasses, and ferns they see growing on the roads to school. I walked nearly three miles, morning and evening, to and from school. A rural parish school being a focus for the boys and girls scattered over an extensive area, were they to present their specimens at the morning class, and were requested to state the name and order of each plant, boys and girls would thus acquire "a knowledge of common things." A library and reading room in a village would be a good medium for information for those who reside in villages, but the majority of Scotch ploughmen could not avail themselves of such auxiliaries. As a general rule, English ploughmen reside in villages; but Scotch ploughmen are grouped together at a convenient nearness to the farm steadings. Scotch ploughmen's hours of labour are from 6 A.M. to 6 P.M., barring an interval of two hours from 11 to 1 P.M. It is the general rule on a good many farms to yoke at 5 A.M., when busy with the fallow, to give the horses a rest from 10 till 1. The groming the horses, the 10 hours' work, and the time occupied in returning from work on extensive farms will occupy 12 hours a day during the summer months, exclusive of the extra hours when harvesting the hay and corn crops. Men so circumstanced would require to have a fixedness of purpose to prompt them to walk to evening classes in a village after a hard day's work; and even during the winter months a good many ploughmen in Scotland are practically prohibited from attending evening classes one or two miles from the farm steadings. It is the general rule for each ploughman to attend the stable and be in it for nearly an hour, either from half-past 7 to half-past 8, or from 8 till 9; therefore a ploughman has not time to go before feeding and grooming the horses, and it is too late after 8 and 9 P.M. Therefore unless each farm-steading is treated as a village with regard to a reading room, and the requisite books and other agencies, it is a mere waste of time and war of words expatiating about the better education of ploughmen. You allowed me to suggest in 1857 the establishing of libraries at farm-steadings. I rejoice to see Lord Kinnaird taking a step in advance. *W.*

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

Monthly Council: *Wednesday, August 5.*—Present, Lord Feversham, President, in the Chair; Lord Tredegar, Lord Walsingham, Major General the Hon. A. N. Hood, Mr. Amos, Mr. Raymond Barker, Mr. Cantrell, Colonel Challoner, Mr. Clayden, Mr. Druce, Mr. Exall, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Randell, Mr. Robert Smith, Mr. Wallis, Mr. Wells, Professor Wilson, Mr. Frere, Professor Simonds, Professor Voelcker, and Mr. Geo. Wood.

Finances.—The Hon. Major General Hood presented the report, from which it appeared that the Secretary's receipts during the past month had been examined and found correct. The balance in the hands of the bankers on the 31st of July, was 7563*l.* 11*s.* 3*d.* Cheques were recommended to be drawn for the Stock and Implement prizes at the Worcester meeting, amounting to 2500*l.*, and for the expenses attendant on the Show, which would render it necessary that the 2000*l.* on deposit at the London and Westminster Bank be withdrawn. This report was adopted.

Journal.—Mr. Owen Wallis presented the list of subjects, for which the Committee recommended that premiums should be offered in 1864, which was agreed to:—

| | | |
|---|---|---|
| 1. | Hertfordshire | £50 |
| 2. | Suburban Farm (offered by Sir C. Domville). | 25 |
| 3. | Construction of Cheese Rooms (suggested by the Rev. Hon. A. Vernon). | 10 |
| 4. | Peculiar qualities which render pastures especially adapted for the production of butter and cheese respectively (suggested by Colonel Kingscote). | 10 |
| 5. | The comparative value of Linseed, Cotton, and Rape cakes for feeding purposes | 10 |
| 6. | The best mode of storing Turnips, Mangel, Potatoes, and Carrots | 10 |
| 7. | The best mode of breaking up Grass, and its subsequent management | 20 |
| 8. | Any other agricultural subject | 10 |

Implement.—Colonel Challoner, Chairman, reported that the Committee, after careful consideration of the triennial system of 1856, and the quadrennial system of 1858, recommended a triennial system according to the following classification:—

SPECIAL PRIZE FOR STEAM CULTIVATION.

1864.—I. Implements and Machinery for the Drainage, Tillage, and Cultivation of Land.—Tile and brick machines, draining implements, grubbers, ploughs, cultivators, clod crushers, rollers, harrows.

1865.—II. Implements and Machinery for the Cultivation and Harvesting of Crops.—Drills and distributors, horse hoes, mowing machines, reaping machines, haymaking machines, horse rakes, carts and waggons.

1866.—III. Implements and Machinery for the Preparation of Crops for Market and for Feeding Stock.—Steam engines, threshing machines, dressing machines, mills and crushers, chaff cutters, cake breakers, root cutters and pulpers, dairy implements.

This report was adopted.

The report of the Stewards of Stock exhibited at Worcester was read, and it was agreed that it be referred to the Veterinary Committee to draw up some more stringent rules for exhibitors in the Pig Classes.

On the motion of Mr. Robert Smith, seconded by Professor Wilson, a Committee, consisting of the Hon. Major-General Hood, Mr. Claydon, Mr. Fisher Hobbs, Mr. Holland, M.P., Mr. Randell, Mr. Torr, and Mr. Owen Wallis, with the Stewards and the mover and seconder, were appointed to frame regulations relative to the clipping and preparing sheep for show.

On the motion of Mr. Raymond Barker, seconded by Lord Tredegar, the usual leave of absence was granted to the Secretary, and the Council then adjourned over the autumn recess to Wednesday, the 4th November.

### ROYAL AGRICULTURAL IMPLEMENT SHOW AT WORCESTER.

The tabular statements drawn up by Mr. Amos, and given in next page, indicate the kind of trial to which the various implements were subjected which came into competition this year. In the case of the fixed steam-engines, steam at a certain pressure was supplied to them, and the quantity of power which they transmitted was ascertained by the dynamometer. In the case of the moveable steam-engines, a certain quantity of fuel was served out to them, and the period during which they continued to perform a certain kind of work was the measure of their efficiency. In the case of the threshing machines, a certain quantity of corn was given out, and the power taken to drive the machine when empty was ascertained. The decisions of the judges hinged upon the power taken, the time taken, and the quality of the performance in respect of cleanness of the straw and cleanness of the sample. Whether it be wise or not in the Society to encourage a class of locomotive threshing machines which clean the grain twice or even thrice and fit it for market may be doubted. It is rarely that they do in practice fit corn for market at once. The corn is generally put through a dresser afterwards. And a travelling machine which gives a single cleaning to the grain, leaving it to the next class of machines, winnowers and corn screens, to complete the task in the barn, is the more generally useful. Corn screens and winnowers were subjected to trial by

passing a given quantity of grain through them and taking the time and quality of the performance. The results are given below. Mr. Hornsby's unusual success in the competition for threshing machines is perhaps owing to the advantage which his farm adjoining his factory has given him for subjecting every proposed alteration to long practical trial before submitting it either to the judges or the public. Among

A TABLE OF TIME, POWER, CONSUMPTION, AND COST, AS PREPARED BY MR. AMOS, THE ENGINEER OF THE SOCIETY.

PORTABLE STEAM ENGINES.

| | Name of Exhibitor. | Horse-power of Engine. | Getting up Steam. Minutes taken in getting up Steam. | Getting up Steam. Fuel burnt in getting up Steam. Coal. | Getting up Steam. Fuel burnt in getting up Steam. Wood. | Coal burnt per hour in lbs. | Coal burnt per horse-power per hour | Price of Engine. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | lbs. | lbs. | | lbs. | £ | |
| Table I. | Hornsby & Sons .. .. | 12 | 48 | 62.0 | 12 | 45.5 | 3.79 | 325 | Prize of 10*l.* |
| | Clayton & Co. .. .. | 12 | 99 | 47.0 | 12 | 46.3 | 3.86 | 343 | ,, 7*l.* |
| | Tuxford & Sons .. .. | 12 | 69 | 60.5 | 12 | 55 2 | 4.60 | 355 | ,, 4*l.* |
| | Barrett, Exall, & Co. .. | 12 | 123 | 67.0 | 12 | 55.8 | 4.65 | 310 | ,, 4*l.* |
| | Brown & May .. .. | 10 | 78 | 47.3 | 10 | 54.5 | 5 45 | 265 | Commended. |
| Table II. | Tuxford & Sons .. .. | 8 | 81 | 32.5 | 8 | 28.7 | 3.59 | 250 | Prize of 9*l.* |
| | Barrett, Exall, & Co. .. | 8 | 99 | 50.2 | 8 | 30.3 | 3.79 | 230 | ,, 8*l.* |
| | Clayton & Co. .. .. | 8 | 100 | 38.3 | 8 | 32.4 | 4 05 | 258 | ,, 7*l.* |
| | Holmes & Sons .. .. | 8 | 41 | 39.0 | 8 | 46.5 | 5.81 | 240 | ,, 1*l.* |
| | Haywood, Jun. .. .. | 8 | 76 | 41 0 | 8 | 44.1 | 5.51 | 240 | Commended. |
| Table III. | Ellis & Son .. .. | 7 | 76 | 40 5 | 7 | 57.5 | 8.21 | 220 | Commended as good serviceable engine. |
| | Parsons .. .. .. | 8 | 63 | 34.0 | 8 | 70.6 | 8.82 | 225 | Ditto ditto ditto |
| | Warren (Ruston & Co.) .. | 8 | 95 | 41.5 | 8 | 75.6 | 9.45 | 230 | |
| | Gibbons .. .. .. | 7 | 49 | 30.3 | 7 | 76.5 | 10.92 | 215 | |
| | Robey & Co. .. .. | 8 | 47 | 39.5 | 8 | 95.7 | 11.96 | 230 | |
| | Childs (Riches & Watts) . | 8 | 69 | 44.0 | 8 | 96.0 | 12.00 | 200 | |
| | Ashby & Co. .. .. | 4½ | 73 | 36.5 | 4½ | 57.0 | 12.66 | 138 | |
| | Gilbert .. ... .. | 5 | 95 | 31.5 | 5 | 66.4 | 13.28 | 160 | |
| | Brown & May .. .. | 8 | 55 | 34 0 | 8 | 51.2 | 6.40 | 220 | Highly commended. |

FIXED STEAM ENGINES.

| Name of Exhibitor. | Horse-power of Engine. | Coal burnt per hour, in lbs. | Coal burnt per horse-power per hour, in lbs. | Price. | Remarks. |
|---|---|---|---|---|---|
| | | | | £ | |
| Barrett, Exall, & Co. .. .. | 10 | 48.8 | 4.88 | 230 | Prize of 15*l.* |
| Clayton & Co. .. .. .. | 10 | 50.4 | 5.04 | 240 | ,, 15*l.* |
| Hornsby & Sons .. .. | 10 | 55.1 | 5.51 | 245 | ,, 10*l.* |
| Ferrabee .. .. .. .. | 10 | 71 0 | 7.10 | 230 | Commended as a plain serviceable engine. |
| Tuxford & Sons .. .. | 8 | 56.5 | 7.06 | 200 | |
| Haywood, Jun. .. .. | 10 | 87.7 | 8.77 | 240 | |
| Johnson & Whittaker .. .. | 4 | 61.3 | 15.32 | 85 | |

Table No. 1.

PORTABLE COMBINED FINISHING THRESHING MACHINES.

100 Sheaves Threshed.

| Name of Exhibitor. | Time occupied. | | Average horse-power taken. |
|---|---|---|---|
| | Min. | Sec. | |
| Goucher .. .. .. .. | 6 | 55 | 10.11 |
| Bruckshaw .. .. .. .. | 4 | 59 | 6.56 |
| Burrow & Co. .. .. .. .. | 4 | 30 | 7.76 |
| Barrett & Co. .. .. .. .. | 5 | 25 | 6.44 |
| Tuxford & Sons .. .. .. | 8 | 55 | 8.85 |
| Turner .. .. .. .. .. | 5 | 55 | 4.52 |
| Clayton & Co. .. .. .. .. | 5 | 25 | 6.94 |
| Wallis & Co .. .. .. .. | 3 | 50 | 8.52 |
| Barrows & Co. .. .. .. .. | 4 | 25 | 6 03 |
| Hornsby .. .. .. .. | 4 | 25 | 6.88 |
| Hornsby .. .. .. .. | 4 | 0 | 7.73 |
| Clayton & Co. .. .. .. .. | 3 | 55 | 5.71 |
| Clayton & Co. .. .. .. .. | 4 | 10 | 6.0 |
| Marshall .. .. .. .. | 3 | 10 | 9.79 |
| Nalder .. .. .. .. .. | 4 | 0 | 6.95 |
| Gilbert .. .. .. .. .. | 5 | 5 | 7.7 |
| Gibbons .. .. .. .. .. | 5 | 35 | 6.83 |
| Underhill .. .. .. .. | .. | | .. |
| Underhill .. .. .. .. | 4 | 8 | 8.9 |
| Parsons .. .. .. .. .. | 4 | 30 | 8.05 |
| Tasker .. .. .. .. .. | 3 | 25 | 11.28 |
| Humphries .. .. .. .. | 4 | 40 | 8 18 |
| Robey .. .. .. .. .. | 5 | 55 | 8.87 |
| Savory .. .. .. .. .. | 4 | 5 | 8.79 |
| Holmes .. .. .. .. .. | 6 | 3 | 8.03 |

Table No. 2.

COMBINED STEAM THRESHING AND FINISHING MACHINES.

Selected and Frictional Trials. 500 Sheaves Threshed.

| Name of Exhibitor. | Time occupied in doing the work. | | Average horse-power to drive the Machine in work. | Average horse-power required to drive the Machine empty. |
|---|---|---|---|---|
| | Min. | Sec. | | |
| Tasker .. .. .. | 23 | 50 | 9 99 | 5.778 |
| Wallis & Co. .. (3) | 15 | 50 | 9.6 | 5.535 |
| Holmes .. .. .. | 22 | 0 | 10.235 | 6.817 |
| Robey .. .. .. | 18 | 35 | 8.7 | 6.1542 |
| Clayton & Co. .. (2) | 22 | 10 | 7.78 | 3.911 |
| Hornsby .. (1) | 17 | 36 | 9.66 | 4.8 |
| Barrett & Co. .. .. | 20 | 55 | 8.49 | 4.089 |

N.B. Each Machine was run empty for Five Minutes, and the result recorded as per last column.

(1) 25*l.* prize. (2) 15*l.* prize. (3) 10*l.* prize.

Table No. 3.

FIXED BARN WORKS.

250 Sheaves Threshed.

| Name of Exhibitor. | Time occupied. | | Actual horse-power consumed in driving Machine. | Actual horse power required to drive Machine empty. |
|---|---|---|---|---|
| | Min. | Sec. | | |
| Humphries .. .. | 16 | 40 | 5.59 | |
| Clayton & Co. .. .. | 12 | 55 | 5.83 | |
| Hornsby .. (1) | 9 | 30 | 8.24 | |
| Barrett & Exall .. | 10 | 35 | 8.53 | |
| RENEWED TRIAL. | | | | |
| Hornsby .. .. | 16 | 5 | 9.25 | 3.58 |
| Clayton & Co. .. .. | | | | 3 93 |

N.B. The Machines were run empty during a period of Five Minutes. (1) 20*l.* prize.

the details of alteration and improvement in his present machine, is the adoption of an improved beater in which the drum being turned when worn end for end, is again as good as new—the beaters thus taking a double turn.

We have no intention to travel round the yard and describe each of the 330 stands by itself. Several of the more striking stands, including a large quantity of machinery in motion, stood in the 'open' and were crowded by spectators. Among these, Messrs. Bury & Pollard's (Park Iron Works, New Park Street, Southwark) wind engines, and the threshing machine, chaff-cutters, wood cutting machinery, bone-crushers brick and tile machines, &c., of many different makers were shown at work.

Under the shedding there was the usual enormous collection of all kinds of farm implements—ploughs horse hoes, cultivators, sowing and reaping and mowing machines, and carts and waggons, &c.

One of the most interesting of the novelties present—and we may hereafter refer as occasion offers, in more detail, to one and another of the novelties which deserve special notice—was Grant's portable railway, which on clay lands where heavy crops of Mangel Wurzel and other roots have to be moved late in the season, will be of real practical utility.

It consists of iron rails mounted upon longitudinal sleepers of deal creosoted to preserve the wood, and made in lengths of 16½ feet or 1 rod, ½ a rod, and 4 feet, with some shorter curved lengths. They fit together by tongues and sockets, by means of which cross sleepers are superseded, and the utmost scope and despatch in shifting attained. Iron tie rods regulate the gauge, and a few iron spikes, side wedges and dogs are sometimes useful. Price of combined rails and sleepers—rod lengths 15*s.*, half rod 8*s.* 6*d.*, 4 feet 5*s.*, short curved 2*s.* 6*d.* per pair; 11 over and 5 under tie-rods, 1 spike, 1 side wedge, and 2 dogs to every 10 rods; if with 2 feet 2½-inch gauge, 1*s.* 3*d.*, 11-inch gauge 9*d.* per rod extra. The apparatus invented and patented by Mr. Grant, of Westerhill, Linton, near Staplehurst, Kent, was shown in operation on one of the fields where steam ploughing was in operation, and it appeared to be easily movable and easily worked. The different appliances for enabling the railway to adapt itself to varying circumstances, without losing its continuity, and for enabling the easy transmission of waggons from end to end of a crooked line, are ingenious, and the apparatus generally cheap enough and efficient enough to obtain adoption on high farmed fertile clays.

## GREAT MEETING OF THE HIGHLAND AND AGRICULTURAL SOCIETY'S SHOW AT KELSO.

*Aug.* 4.—The show which has opened with such elements of success is marked by many novel features of arrangement. In the first and most important place the "prize system," which in former years was a regular feature of the Society's Shows, has no longer an existence—not as some seem to think, that the practice of giving prizes to implements or machines is totally done away with, but rather that the prizes are to be given under another and a better system. In place of a multitude of implements being tried at one time, and by a system which was really as useless in its practical results as its operations were in brevity and incompleteness absurd, the implements with machines are to be subjected to trial in seasons and in such a way as to resemble as closely as possible those of the every-day work of the farm. As we have long advocated this mode of trial, we are of course greatly gratified at its being inaugurated by so important a society. The only point in the new arrangement which seems doubtful, and to which objections may be made, is that the Society reserves the right to choose the implements or machines to be subjected to trial, basing their choice on the novelty of the invention, or if not new on its exhibiting a "radical improvement." This principle of giving a machine or implement a trial only on the ground of its being a new one, is, we think, erroneous. The straining after novelty in agricultural mechanism, has, we venture to think, done much harm, as it has drawn the attention of the directors of our shows to new things from the equally and indeed more important object of thoroughly testing the old established implements and machines; and to put all those out of the field of trial will be mischievous. Doubtless it may be said that old implements are admissible for trial with a view to be honoured with a prize if they show a "radical improvement;" but pray, for what are trials instituted, or rather, for what should they be instituted, if not to ascertain truly, and upon accurate results, what really is a radical improvement? We presume that the Society means that no old established implement will be admitted to trial with the view to having a prize given to it, without it displays in its construction or arrangement a radical change. If it means this, it is equivalent to placing the chance of trial upon the novelty of the implement, the danger of which we have already adverted to.

Possibly some may think the meed of as hearty a praise is due to the Society for carrying out another arrangement for the first time at this show. Our readers are well aware, for the subject has often received discussion in our pages, that the system of arranging the implements and machines was classifying them according to the uses for which they were designed; ploughs being kept distinct from grubbers, corn crushers from chaff cutters, and so on. This was always objected to by the manufacturers, who felt it involved much labour and expense, as necessitating them to keep, where they manufactured different articles, attendants at each department. All inconveniences, such as they were, are now obviated by the simple expedient of allowing each manufacturer to take the space he requires, filling it as he likes. Another innovation in the old established practice of the Society, is the covering of the stands with shedding, which is a decided improvement, but which, like that of the Royal Agricultural Society's Show, is not quite weather proof, as the dripping roofs during the showers which fell amply showed.

The whole arrangements then of the Highland Society's Show approximate closely to those of the Royal Agricultural Society, and being so will thus in the estimate of the majority be decided improvements; all however as we know are not pleased with them, but it is difficult to please all.

This is the second visit which the Society has paid to Kelso, the first being in 1832, and nothing affords so good an evidence of the advance in agricultural practice and the interest which its followers take in shows than the statement, that while in 1832 eleven implements were entered, in this show 1101 were entered, or an increase of more than eleven-hundred-fold. Although Kelso is not so favourably situated as regards population, nor so easy of access to visitors, nevertheless, as the following table will show, the entries of stock are really high:—

| | | Cattle. | Horses. | Sheep. | Swine. |
|---|---|---|---|---|---|
| Kelso .. .. | 1832 | 88 | 18 | 243 | 19 |
| Berwick .. .. | 1841 | 175 | 96 | 658 | 33 |
| Berwick .. .. | 1854 | 179 | 141 | 771 | 86 |
| Glasgow .. .. | 1857 | 415 | 240 | 669 | 112 |
| Aberdeen .. .. | 1858 | 450 | 189 | 590 | 79 |
| Edinburgh .. | 1859 | 332 | 118 | 585 | 80 |
| Dumfries .. .. | 1860 | 298 | 166 | 558 | 54 |
| Perth .. .. | 1861 | 338 | 155 | 616 | 79 |
| Kelso .. .. | 1863 | 245 | 127 | 532 | 79 |

Such were the entries, but all the animals entered were not exhibited. Amongst the list of those which were not forthcoming was "Honeydew," entered by Lord Kinnaird, but which was sold at Hamburgh.

The show of stock was remarkably good, and although some of the classes were not numerously represented, still each class was remarkable for its specimens, not only of average goodness, but of exceedingly superior qualities. In the Short-horn class of aged bulls, the bull "Duke of Tyne," of Mr. Jacob Wilson of Woodham, which took the first prize at Worcester, was placed third; Mr. Binning Home's "Van Tromp," second, and Mr. Stirling of Keir's "Forth" first. There were not in the class of two-year-old bulls, the same marked features of excellence as in the aged bulls. In the cows the animal Lady Pigott's "Pride of Southwicke" which took the first prize at Worcester, took also the first here; Mr. Douglas, of Athelstaneford's "Queen of Athelstane," being second. The class

of Polled Aberdeen or Angus animals was well represented, both in numbers and excellence, the same remark being applicable, although in less degree, to the Polled Galloways. But by far the finest feature of the stock yard was undoubtedly the Ayrshire. We do not know when we have received so much pleasure in stock examination as we did in going over this superb collection. While considerable diversity of opinion existed as to the judgments given, there was but one opinion as to the uniform excellence of the whole. The late lamented Duke of Hamilton had paid particular attention to this class, and in his name were several entries. The Highland class was good, indeed superior, containing some remarkably fine examples. Of the class of fat stock, the same may be said, the animal which took the first prize being notable for its fine symmetry and noble size. Of the Horses, the principal feature was the Clydesdales, which were first class generally. Much gratification was afforded to the visitors by the display of horses in the ring. Of the Sheep, it may be said that never before was there such an unmistakenbly excellent display at the meetings of the Society. Some of the black-faced sheep and the Cheviots were remarkable as models. The pigs were well represented, but many of them in their obesity were painful to behold, to the non-agricultural mind especially. Of the poultry, the ducks in general excellence formed we think the main feature, but much cannot be expected at this season in this department, and was not therefore looked for.

In the implement department, in which there are 1101 entries, and the catalogue of which extends to 63 pages, we find the stands of the English manufacturers make up, as has been usual of late years, the principal feature. Bentall has perhaps the largest stand, and comes out in full force, almost if not quite as good as at Worcester, with his usual stock of machines—corn-crushers, chaff-cutters, root-pulpers, and the like. In the uncovered department, or what we would call the "machinery in motion" department, the same enterprising manufacturer exhibits combined machinery for the preparation of food at work. Richmond and Chandler are, as usual at the Highland Society's shows, distinguished by the number and the excellence of the machines—chaff-cutters being their speciality—which they exhibit. The Trustees of Crosskill do not let the honour of their old-established house suffer either through the fewness or the workmanship of their examples of reaping machines, clod crushers. A reaping machine exhibited by them proposes to do work of a most comprehensive, or shall we say, gigantic nature, cutting 8 feet wide. Messrs. Howard, of Bedford, came out as usual well; and but for their liberality and enterprise, the Kelso show visitors would have returned to their homes without any practical note of the fact that steam cultivation now formed a part of modern farming in its advanced districts. Messrs. Howard's apparatus works to-day (Wednesday) and to-morrow in a field belonging to the celebrated farmer Mr. Dudgeon, of Spylaw, not far from the railway station. We may mention in parenthesis as some evidence of the increasing hold which the system of steam cultivation introduced by the Messrs. Howard is taking upon the public mind, that since the trial at the Hamburg Show, a goodly number of "sets" have been sold. Messrs. Pickslev & Sims exhibit a complete collection of their chaff cutters and mowing and reaping machines; Messrs. Samuelson & Co., their combined reaper and mower; Aveling & Porter, their traction engine, which has travelled 6000 miles; Messrs. Clayton & Shuttleworth and Messrs. Garrett exhibit their well-known threshing machines; Hornsby & Sons are also represented; Francis Morton & Co. have an exceedingly attractive and practically suggestive collection of their galvanised iron buildings, wire fencing, &c.; Williamson Brothers, of Kendall, exhibit their centrifugal pumps and turbine, steam engine, and threshing machinery.

The Scottish manufacturers come out in fair force—Gray of Uddingstone, exhibits a comparatively small but excellent collection of plough and grubbers, of the former exemplifications of implements adapted to throw high shouldered and rectangular furrow slices. On one or two of the features of these we purpose giving a few remarks at an early date. Messrs. Kemp, Murray, and Nicholson exhibited their mowing and reaping machines, while Shireff, of Dunbar, had examples of the well-known drills, manure distributors. Perhaps the largest collection of implements and machines—the produce of various makers—was that of Mr. John Pringle, of Edinburgh and Kelso.

Of novelties, strictly so called, there were few, or perhaps, to speak more correctly, none, but in several of the machines and implements exhibited there were points exemplified which have an important bearing on economical working, and to these we purpose in an early Number making special reference.

Two special features of the Kelso meeting—the lecture by Professor Anderson on Manures on Monday evening, and the dinner or banquet, went off very well. The remarks of the Professor were full of suggestive truths. The dinner was very well attended, upwards of 400 being present. The Chair was taken by the Duke of Argyll, President of the Society, who in his speech made some excellent remarks on the improvement of agricultural stock, and drew pointed attention to the important subject of agricultural statistics, the collection of which he believed to be productive of great benefit to the interests of agriculture. The speech was remarkably good.

The following is a list of the prize-takers:—

### CATTLE.

#### SHORT-HORN BREED.

Gold Medal.—Bull "Master Annandale," W. Lambert, Haydon Bridge.

Old Bull.—20*l*., Wm. Stirling, of Keir, M.P.; 2d, 10*l*., G. H. M. Home Binning; 3d, J. Wilson, Manor House, Woodhorn. Morpeth.

Bulls, 2 years old.—20*l*., Wm. Lambert, Haydon Bridge; 2d, 10*l*., Sir T. B. Hepburn; 3d, Andrew Haddon, Hawick.

Bull, yearling.—10*l*., A. & A. Mitchell, Alloa; 2d, 5*l*., James Douglas; 3d, Lord Kinnaird.

Old Cow.—15*l*., Lady Pigot; 2d, 8*l*., James Douglas; 3d, Colonel Ferguson, of Raith.

Heifer.—10*l*., the Duke of Montrose; 2d, 5*l*., James Douglas.

Heifer, yearling.—8*l*., A. J. Balfour; 2d, 4*l*., Viscount Strathallan; 3d, Medal, G. R. Barclay, of Keavil, Dunfermline.

#### POLLED (ABERDEEN OR ANGUS).

Old Bull.—20*l*., Robert Walker, Aberdeen; 2d, 10*l*., Alex. Bowie, Arbroath; 3d, Alex. Peterson, Keith.

Bull, 2 years old.—20*l*., Alex. Bowie; 2d, 10*l*., Alex. Bowie; 3d, the Earl of Southesk.

Old Cow, of any age.—15*l*., J. H. E. Wemyss, M.P.; 2d, 8*l*., the Earl of Southesk; 3d, Alex. Ronaldson, Methlic.

Heifers.—10*l*., the Earl of Southesk; 2d, 5*l*., the Earl of Southesk; 3d, Alex. Paterson.

Heifer, yearling.—8*l*., the Earl of Southesk; 2d, 4*l*., the Earl of Southesk; 3d, Alex. Paterson.

#### POLLED (GALLOWAY).

Gold Medal Cow, "Harriet."—James Graham, Dalbeattie.

Old Bull.—20*l*., John Cunningham, Dalbeattie; 2d, 10*l*., William Keir, Tweedenside.

Two year old Bull.—20*l*., Alexander Jardine, Lockerbie; 2d, 10*l*., the Duke of Buccleuch; 3d, Robert Stobo, Auldgirth.

Bull, Yearling.—10*l*., James Graham, Dalbeattie.

Old Cow.—15*l*., James Graham; 2d, 8*l*., John Cunningham; 3d, ditto.

Heifer.—10*l*., the Duke of Buccleuch; 2d, 5*l*., ditto; 3d, ditto.

Heifer, Yearling.—8*l*., Welwood Maxwell of Glenlee; 2d, 4*l*., James Graham; 3d, Welwood Maxwell.

#### AYRSHIRE.

Gold Medal.—Bull, the Duke of Hamilton.

Gold Medal.—Cow "Collyhill," the Duke of Athole.

Gold Medal.—Cow "Premium," the Duke of Athole.

Old Bull.—20*l*., W. A. Maclachlan, Balfron; 2d, 10*l*., Robert Hewetson, Thornhill; 3d, the Duke of Hamilton.

Bull, 2 years old.—20*l*., Robert M'Kean, Bishopbriggs; 2d, 10*l*., John Stewart, Strathaven; 3d, Messrs. Rennie, Kilsyth.

Old Cow.—10*l*., Alexander Fleming, Bothwell; 2d, 5*l*., the Duke of Hamilton; 3d, ditto.

Cow in Calf.—10*l*., the Duke of Hamilton; 2d, 5*l*., David Tweedie, Abington; 3d, the Duke of Hamilton.

Heifer.—10*l*., A. H. Oswald, Ayr; 2d, 5*l*., David Tweedie; 3d, ditto.

Heifer, yearling.—8*l*., the Duke of Hamilton; 2d, 4*l*., Miss Hope Johnstone, of Annandale; 3d, the Duke of Hamilton.

#### HIGHLAND.

Old Bull.—20*l*., John Malcolm, Lochgilphead; 2d, 10*l*., the Duke of Hamilton; 3d, Allan Pollok.

Three year old Bull.—20*l*., the Duke of Athole; 2d, 10*l*., John Malcolm; 3d, ditto.

Old Cow.—10*l*., the Duke of Athole; 2d, 5*l*., the Duke of Hamilton; 3d, Allan Pollok.

Heifer.—10*l*., the Duke of Athole; 2d, 5*l*., the Duke of Hamilton; 3d, John Malcolm.

Heifer Yearling, 1861.—8*l*., John Malcolm; 2d, 5*l*., the Duke of Hamilton; 3d, John Malcolm.

Cross Heifers.—Gold Medal, Robert Logan, Birkenside.

### HORSES.

#### FOR AGRICULTURAL PURPOSES.

Gold Medal, Stallion, "Champion," William Kerr, Lochend, Kilbirnie.

Old Stallion, 30*l*., David Riddell, Duntocher; 2d, 15*l*., Andrew Logan, Crossflat; 3d, James Kerr, Kilbirnie.

Entire Colt, 3 years old.—20*l*., Peter Crawford, Strathblane; 2d, 10*l*., Hugh Vallance, Strathaven; 3d, James Lawrie, Mitchelston, Stow.

Entire Colt, 2 years old.—15*l*., William Stirling, M.P.; 2d, 8*l*., John Findlay, Easterhill, Glasgow; 3d, Samuel Clark, Kilbarchan.

Colt, yearling.—10*l*., Peter Crawford; 2d, 5*l*., David Riddell; 3d, Robert Wilson, Kilbarchan.

Old Mare (with Foal at foot).—20*l*., the Duke of Hamilton; 2d, 10*l*., Wm. Park; 3d, Alex Naismith.

Young Mare (in Foal).—15*l*., the Duke of Hamilton; 2d, 8*l*., ditto; 3d, H. D. Erskine, of Cardross, Stirling.

Filly, 3 years old.—10*l*., the Duke of Hamilton; 2d, 5*l*., William Stirling, M.P.; 3d, the Duke of Hamilton.

Filly, 2 years old.—8*l*., Welwood Maxwell; 2d, 4*l*., the Duke of Hamilton; 3d, Wm. Kerr, Balbirnie.

Filly, yearling.—6*l*., the Duke of Hamilton; 2d, 3*l*., James Lawrie, Mitchelston, Stow; 3d, ditto.

Thorough-bred Horse.—50*l*., J. H. E. Wemyss, M.P.

### SHEEP.

#### LEICESTER.

Four-shear Tup.—10*l*., Wm. Purvis, Kelso; 2d, 5*l*., H. A. Rennie, Banff.

Shearling Tup.—10*l*., George Simson, Kelso; 2d, 5*l*., A. J. Balfour; 3d, Lord Polwarth.

Five Ewes.—8*l*., Lord Polworth; 2d, 4*l*., George Simson; 3d, Thomas Stark, Mellindean.

Five Shearling Ewes.—8*l*., W. Purvis; 2d, 4*l*., George Simsen; 3d, Thomas Simson.

#### CHEVIOT.

Four-shear Tup.—10*l*., James Brydon, Langholm; 2d, 5*l*., Thomas Brydon, Moffat; 3d, Thomas Elliot, Jedburgh.

Shearling Tup.—10*l*., James Brydon; 2d, 5*l*., ditto; 3d, Thomas Elliot.

Five Ewes.—8*l*., James Brydon; 2d, 4*l*., Thomas Elliot.

Five Shearling Ewes.—8*l*., James Brydon; 2d, 4*l*., John W. J. Paterson, Langholm; 3d, Thomas Elliot.

#### BLACKFACED.

Four-shear Tup.—10*l*., Thomas Murray, Penicuik; 2d, 5*l*., James Drife, Sanquhar; 3d, ditto.

Shearling Tup.—10*l*., Thomas Murray; 2d, 5*l*., John Archibald, Stow; 3d, ditto.

Five Ewes.—8*l*., John Wilson, Roslin; 2d, 4*l*., Thomas Murray.

Five Shearling Ewes.—8*l*., John Archibald; 2d, 4*l*., the Earl of Airlie; 3d, John Inch, Liberton.

#### SOUTHDOWN.

Four-shear Tup.—10*l*., James Aitchison, Haddington; 2d, 5*l*., R. Scott Skirving, Drem.

Shearling Tup.—10*l*., James Aitchison; 2d, 5*l*., R. S. Skirving.

Five Ewes.—No Award.

Five Shearling Ewes.—8*l*., R. S. Skirving; 2d, 4*l*., ditto.

#### LONG-WOOLLED OTHER THAN LEICESTER.

Tup.—10*l*., Thomas Beale Browne, Salperton Park; 2d, 5*l*., Lord Kinnaird; 3d, T. B. Browne.

Five Ewes, not more than four shear.—8*l*., John Gibson; 2d, 4*l*., R. S. Skirving.

#### SHORT-WOOLLED OTHER THAN SOUTHDOWN.

Tup.—10*l*., Allan Thomson Douglas, Moneylaws; 2d, 5*l*., John Gibson, Woolmet; 3d, Lord Kinnaird.

### SWINE.

Boar, large breed.—8*l*., Richard Dickin, Heaton Norris; 2d, 4*l*., Thomas D. Findlay, Easterhill; 3d, W. B. Wainman, Carhead.

Boar, small breed.—8*l*., W. B. Wainmain; 2d, 4*l*., ditto; 3d, J. H. E. Wemyss, M.P.

Sow, large breed.—6*l*., W. B. Wainman; 2d, 3*l*., T. D. Findlay; 3d, R. Dickin.

Sow, small breed, 6*l*., W. B. Wainman; 2d, 3*l*., ditto; 3d, Bronze Medal, R. Thomson, Kelston, Holywell.

Three Pigs, not exceeding 8 months old, large breed.—4*l*., W. B. Wainman; 2d, 2*l*., ditto; 3d, Bronze Medal, Major G. C. Dickins, Coldstream.

Three Pigs, not exceeding 8 months old, small breed.—4*l*., W. B. Wainman; 2d, 2*l*., Nicol Milne, Melrose; 3d, the Earl of Wemyss.

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YORKSHIRE: The annual meeting of the Yorkshire Agricultural Society has been held at South Stockton during the past week. We hope next week to give a report, for which we have not room in our present Number. A grant of money—a branch line to the show yard—even an extemporised pontoon bridge across the river—in fact, all the leading features of the national agricultural meetings, characterise this of the provincial Society. A great show of Short-horns and of horses, and a good show of Leicester sheep and pigs, are always features of the Yorkshire meeting. About 100 manufacturers of agricultural implements exhibit their wares, and among them those of steam ploughs and cultivators show their tackle at work. We must give a prize list and report in our next impression.

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BATH AND WEST OF ENGLAND.—A Council meeting of this Society was held at the Railway Hotel, Taunton, on Saturday last; present, Earl Fortescue (in the Chair), Sir J. T. B. Duckworth, Bart.; Colonels Acland and Luttrell, Drs. Gillett and Brent, Rev. T. Phillpotts, Messrs. Adair, Bremridge, Bruce, R. H. Bush, R. H. Clarke, J. Daw, R. R. M. Daw, J. T. Davy, Danger, Dickinson, M. Farrant, J. Fry, R. Dymond, John Gray, Jonathan Gray, J. Gould, C. Gordon, J. Hancock, J. E. Knollys, M. King, H. G. Moysey, R. May, G. S. Poole, J. P. Pitts, P. P. Smith, J. Sillifant, J. W. Sillifant, E. U. Vidal, H. Williams, J. Widdicombe (Director), H. St. J. Maule (Secretary), Goodwin (Editor), &c., &c.

The SECRETARY announced for the information of those desiring the aid of the Chemical Professor that Dr. Voelcker was leaving Cirencester that day, and his future address would be 101, Leadenhall Street, London, E.C.

Dr. GILLETT brought up the quarterly report of the Finance Committee recommending the payment of accounts amounting to 3,060*l*. 19*s*. 6½*d*. He congratulated the Society that independently of the 1000*l*. due from the city of Bristol, the Treasurer had sufficient funds in hand to meet all requirements.

The Stewards, members of Committee, and other officers, who were nominated at the last meeting of the Council, having expressed their willingness to act, were now formally appointed, viz.:—

*Stewards of Stock.*—Messrs. G. Langdon, E. U. Vidal, and J. P. Pitts. Steward elect, Mr. J. Fry.

*Stewards of Horses.*—Mr. C. Gordon and Colonel Luttrell.

*Stewards of Implements.*—Messrs. John Gray and W. Froude (yard); and J. E. Knollys and H. P. Jones (field).

*Stewards of Poultry.*—Mr. S. Pitman and Dr. Brent.

*Stewards of Horticulture.*—Mr. Jonathan Gray and Rev. J. Phillpotts.

*Stewards of the Arts Department.*—Dr. Scott, Messrs. H. Williams, J. Daw, and J. W. Sillifant. Honorary Secretary, Mr. R. R. M. Daw.

*Stewards of the Library.*—Messrs. Cotterell, Jonathan Gray, and Thompson.

Mr. KNOLLYS reported that the authorities at Bristol were most anxious to render every assistance in their power to the Society, but owing to the great scarcity of arable land in the neighbourhood of the city, it would be necessary at the meeting next year to make a slight deviation from the ordinary arrangements, and he proposed to get up an exhibition of mowing machines, hay tedders, &c., on the Grass land; and of steam ploughs and cultivators on the arable land at their disposal. On the motion of Mr. Jonathan Gray, seconded by Mr. Acland, the matter was directed to be left to Mr. Knollys' discretion.

A long and important discussion ensued, on the motion of Mr. Pitman, relative to the Society's place of meeting in 1865; but the further consideration of the subject was deferred till the October meeting.

On the motion of Mr. Pitman, seconded by Colonel Luttrell, a committee was appointed to consider whether it would be desirable and feasible to add a dog show to the other attractions at the Bristol meeting. Mr. Pitman added that his desire was to make the dog show a pendant to the other depart-

ments, without rendering the Society responsible in event of failure. A committee was appointed, consisting of Messrs. Pitman, Luttrell, R. H. Bush, Knollys, Gordon, and Captain Adair.

Mr. Jonathan Gray, for Mr. H. Williams, moved that a sum of 100*l.* be granted for providing suitable buildings for the display of articles in the arts and manufactures department, and it was ultimately resolved, on the suggestion of Mr. Acland, (who was now occupying the chair in the place of Earl Fortescue), that a special report on the subject should be made by the Arts Committee at the October meeting.

*The Spring Horse Show.*—Mr. Gordon brought up a report on the Exeter spring meeting, and announced that the horse Ratan, to whom was awarded the prize of 50*l.*, was certified to have covered no less than 107 mares during the season. It was thereupon moved that the prize be forthwith paid, and after some discussion as to whether the 1st prize cart-horse (model) was disqualified or not on the ground of age, it was resolved that on the production of certificates that he had served the stipulated number of mares in the district, the prize of 30*l.* should be paid to his owner. Incidental to the discussion, Mr. Acland drew attention to the very interesting character of the horse show at the Worcester meeting of the Royal Agricultural Society, and he ventured to throw out the hint that if the citizens of Bristol offered any local prize, it could hardly be better applied than in encouraging an improvement in the breeding of horses in the West of England, whilst the presence of a number of good animals at the Bristol meeting would greatly tend to add interest to the proceedings.

The Council then adjourned, after sitting upwards of three and a half hours.

# Reviews.

*The Royal Agricultural Society's Commended Essay on the Results of Steam Cultivation.* By James Marsh Read, Elkstone, Cheltenham. H. Allnutt, at the Agricultural Library and *Estates Gazette* Office, 200, Fleet Street.

We have not heard as yet to whom the prize for the best essay on steam cultivation has been awarded, but here is one which ranks next best in the estimation of the Society's judges. It describes a farm, of which an account was given in our columns so long ago as December, 1861—as then one of the most successful examples of steam cultivation in the country. The year 1862 was not so favourable to the work of the steam plough as that of 1861, and the cost of the work was in that season somewhat greater. The work however was *done*; and that is exactly the point where the advantage of steam power is seen. One of the most interesting of Mr. Read's remarks relates the experience of some of his neighbours who do not apply steam power for the purpose of tillage. Their work that summer was *not* done.

"Owing to the unceasing rains during nearly the whole of the season in this district, cultvation was so interrupted as to prevent a considerable quantity of land being planted at all, and cleaning the land was of course out of the question. Frequently at the early part of the season, after steam had been raised, the rain came and stopped its working; and even when at work the state of the land was such that a much smaller quantity of work was done. However, under these circumstances, the steam plough stood well in comparison with horses. The fault of many modern implements is, that they succeed only under certain favourable circumstances. Although the work done in this, the worst of seasons, may seem small, yet that such machinery is able to accomplish its task in a very adverse season is a result worth noticing. In order to know the exact comparison of steam with cattle, we inquired the proportion left unplanted by three farmers adjoining, of roots. The information is as follows:—

"No. 1, with the usual strength of cattle, had 120 acres to plant, and 40 acres were not planted, or 33 per cent.

"No. 2, with the usual strength of cattle, had 70 acres, and 25 acres left, or 34 per cent.

"No. 3, with the usual strength of cattle, had 66 acres to plant, and 24 left, or 36 per cent.

"No. 4, with steam, and 30 working oxen dispensed with, 154 acres to plant, and 11 undone, or 7 per cent.

"These facts establish the important fact of the capabilities of the steam plough under the most difficult conditions of weather."

The case, therefore, stands thus:—Steam cultivation is cheaper than horse cultivation, it is better than horse cultivation, it is more certain than horse cultivation. The fact that full use can be made by steam power of such snatches of fine weather as may occur in a wet season, makes the work thus to be done both possible and better. The land may be too wet most of the year, and the time when it may be properly worked is too short for horses to accomplish it; they are thus driven to work when the land is not fit, and then do more harm than good. There are many other points connected with the subject, as well put by Mr. Read. His experience is one of the oldest that we have of Fowler's apparatus, and the record of it is more detailed than farmers generally keep.

The following are the conclusions to which it has led him:—

"1st, that after land has been cultivated by steam machinery, the surface water escapes to such an extent that the crops which formerly, under horse culture, commonly perished from an excess of wet, are now as commonly saved, and grow healthily and vigorously; 2d, that by reason of the absence of treading, and the escape of surface water, as well that a greater depth of cultivation is more easily obtained by steam power, a deeper and more perfect tilth is the consequence; 3d, that as a natural sequence of land being drier, and of its more thorough division and admixture, and of the avoidance of treading, and the largely increased volume of active soil obtained, greater crops follow. On all soils the effect of these improved conditions is observable, but more particularly upon the crops of heavy land.

4th, that the cost of obtaining these increased crops is much lessened by the use of the steam plough. On the farm alluded to in this essay, where unusual difficulties present themselves—where coals can only be obtained at a high rate—where rocks and hills abound so as to create a much larger average amount of breakages than other farms so cultivated would give—where detailed and accurate accounts of labour, costs, and expenses of every sort have been kept, a saving has been effected, as compared with horse culture, to a very considerable amount, by an engine and tackle of the earliest manufacture, leaving a most gratifying inference, that those now made, with their important additions and improvements, will afford to the agriculturist who will fearlessly embark in their use the satisfactory results of economised labour and expense, more perfect cultivation, and as a final and the most important consequence, larger crops, and therefore a more remunerative, employment of capital."

We recommend the many who are now considering whether or not they shall adopt steam cultivation, to procure and study Mr. Read's pamphlet on the subject.

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*The Agriculturist's Weather Guide and Manual of Meteorology.* By Henry C. Criswick. of the Royal Observatory, Greenwich. Houlston & Wright.

This is a simple and unpretending statement by an intelligent man long practised as a meteorological observer, of the prognostications of the weather which Nature offers and which scientific instruments present. The author cannot think "that we have any good grounds for connecting those sudden and irregular changes to which our climate is liable, with causes so regular and unvarying as are the phenomena of the heavenly bodies. Knowing the influence that is exerted by the sun, and by our satellite the moon, upon the particles of air and water, we do not think it improbable but that certain changes may be caused by the relative positions of these two bodies with respect to our globe, but what influence they do exert must be at stated periods, and but of short duration, leaving no grounds whatever, we think, for connecting the general changes directly with the positions of either sun or moon."

The following is his advice to the farmer:—

"No general laws can, we think, be of any use to the farmer, but what we would urge in this work is this—let every agriculturist be his own meteorologist; with a few instruments, and attention to the remarks and directions we intend to afford him in the course of the following pages, he will find himself amply repaid for the little expense in procuring, and the slight trouble in using them. The modern farmer has a great advantage over his forefathers in the many and improved instruments he has at his command—an advantage of the first importance. A bad or imperfect instrument is infinitely worse than none at all. The errors likely to arise from the observer being ignorant of the nature of the tools he works with, and also of the inferences to be drawn from them, is easily to be repaid by a little attention on his part, and care on ours that we make our explanations plain. There is an idea in the minds of many practical farmers that anything called by the name of 'science' is of necessity abstruse, and difficult to be acquired. Though we are far from saying that this is not the case with the science of meteorology in its most extended sense, yet so much has been done by scientific men of late years, that the amount of knowledge necessary to render effectual service to him may be acquired with comparative ease, and with a very little attention to the subject. When we look around and see how vast and striking have been the improvements during the past 50 years in every branch of agriculture, both as regards the mechanical construction of implements, the innovations that chemistry has wrought in the management of the ground, and other numerous improvements, for which we are indebted to the perseverance and energy of English agriculturists, we cannot be far wrong when we predict that they have but to give the subject a fair amount of their attention, and the result must be an immense benefit to themselves, and, through them, to the country at large."

We quite agree with the author, and cordially advise the purchase and perusal of his work, which will be found to convey in simple language all the information in meteorology which is likely to serve as a guide to prognostication of the weather.

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*The Farm Homesteads of England.* Parts II. and III. Edited by J. Bailey Denton, M. Inst. C.E., F.G.S., &c. Chapman and Hall.

This useful and magnificent work continues to appear in Parts. Part II. contains six plates, isometrical views and plans respectively of the Maizemore farmery, near Glo'ster, the Portland farm buildings, near Peterborough, and the Northbrook homestead at Kirtlington, near Oxford. Part III. in like manner contains illustrations of the Woodhouse, Toothill, and Dover Place homesteads, in Cambridgeshire, Hampshire, and Surrey, respectively.

The Maizemore farmery is adapted to the accommodation of a herd—the tenant, Mr. Morris, being a well-known breeder of Short-horns. Accommodation is provided for 12 horses in stalls, 30 fatting beasts in boxes, and 50 to 60 store beasts in yards and sheds. It is of the simple trident form, the central line of building being of double width, and a cross building of double height connecting the three parallel lines whose intervals are arranged as yards. The whole cost 1600*l.*

We learn that Mr. Morris has derived great benefit in the cultivation of his lias clays by the use of the steam plough.

Northbrook farm accommodates 12 oxen in stalls, 50 or 60 store beasts, and 14 horses. It is on the principle adopted at the Prince Consort's Flemish Farm and elsewhere, combining covered and open yards with ordinary stabling. It was erected for 1400*l.* from the designs of Mr. Wilkinson, of Oxford.

The work, which contains this and other designs, well deserves a place in the library of every landowner, who can thus—examining plans of all the best buildings in the country, and reading the accounts of the farms for whose circumstances they were specially designed—determine on plans and even on details adapted to the circumstances of his own estates.

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*An Address to Young Women of the Working Class, with a few words to Masters and Mistresses.* By John Strachan, M.D. Dollar. A. Elliot, Edinburgh.

In a tract of 16 pages Dr. Strachan says enough to convince the outside reader, both of the great importance of the subject on which he writes, and of the wisdom and Christian benevolence of the writer. We wish his words could be heard by every master and mistress, more especially in agricultural districts, where prejudice and custom insist more strongly than elsewhere, upon the observance of a most mischievous rule, particularly in relation to domestic servants. We make our quotation in reference to the large class of female domestic servants from that part of the tract in which the writer addresses mistresses of households:—

"These young persons are taken at a very early age from the supervision of their parents, and are committed to your care. Surely it is not too much to ask that you will interest yourselves in their preservation in the path of rectitude. Imagine any of your own well-regulated children removed from your guidance, how grateful you would be to any one who took a motherly charge of them! But, to be of use, this care must be one of indulgence, not of severe restriction. The plan of restriction and vigilance has long been tried, with the lamentable result which the Registrar-General discloses. Let us bear in mind that our Creator has implanted in human nature not only a desire, but a necessity for recreation and amusement. This is especially the case with the young; and experience constantly teaches that every attempt to restrict this only dams up a stream which will burst forth in a shape of vice. I hope you are already convinced that there is no probability of a diminution of immorality whilst the young continue to be exposed to the temptations arising from intercourse between the sexes at untimeous hours. But a little reflection will assure you that such intercourse will continue unless a more innocent kind be substituted. You cannot expect that girls will not only abandon all social enjoyment, but also all hopes of marriage, which they must do were they kept entirely from male acquaintances. You must, therefore, see the unreasonableness of the usual prohibition of 'followers.'

"No followers! God Almighty by His immutable laws of nature has declared that they shall have followers. Can we imagine that these immortal beings, with the same constitution as ourselves, with intellects as great, with affections as keen, were sent into the world merely to minister to our needs, and to submit to our caprices! It is true that they have work to do, as you and I have, but they have also souls to be trained for immortality, and, like all God's sentient creatures, they have faculties of enjoyment to be gratified. It is the greatest tyranny to attempt to deprive them of the sweetest earthly bliss, that of virtuous love. And what must be the consequence? Try it on your own daughters. Tell them they must have no followers, no friends, no acquaintances, and, within a week, they will have entered on a course of concealment and deception, the first step on the road to ruin."

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*Davy's Devon Herd Book.* Vol. IV. Arranged by John Tanner, of Rose Ash, in South Molton, Devon, &c.

This volume brings the number of registered bulls up to 768, and that of registered cows up to 2474. These are large numbers for a "local" breed only recently brought under a system of registration. It is worth while noting, too, as respects this "local" breed, that besides the home counties, where it is native, we have herd records from Berkshire, Staffordshire, Norfolk, Wilts, Warwick, Herts, and Isle of Wight, besides a great many entries from the other side of the Atlantic.

## Ram Sales.

Oxford: 42 Cotswold shearling rams, bred by Mr. Richard Lord, of Stanton Harcourt; a very fine lot of animals: the highest price realised was 18½ gs., and the average was 9*l.* 13*s.* 10*d.* This sale was followed by that of 31 lambs, from the flock of Mr. Wm. Gillett, of Southleigh, and several of these realised high figures; the prices ranged from 4*l.* to 10*l.*; the average was 4*l.* 19*s.* 4*d.* 40 Cotswold shearling rams, the property of Mr. John Gillett, of Fawler; the highest price was 12*l.* 12*s.*, and the average 7*l.* 5*s.* 2*d.* 30 prime ram lambs, bred by Mr. Mundy, of Culham; the average 55*s.*, while a few choice lots fetched 60*s.* 40 ram lambs, the property of Mr. W. Stevens, from the well-known Gatehampton flock; there was a brisk demand, and prices averaged 6*l.* 16*s.*; the highest price made was for a grand lamb, bought by Mr. Chillingworth, at 17*l.* 10*s.* 10 ram lambs, bred from the flocks of Messrs. Gillet (Cote), Roberts, of Caswell, and Druce, of Eynsham, and the property of Mr. E. Bradshaw, of Lew, who showed this year for the first time; the average price was a little under 5*l.*

## Miscellaneous.

*Hampshire Sheep and Devonshire Notts.*—When I first came to reside amongst the rich marsh lands of Somersetshire, between Bridgwater and the Mendip Hills, I was surprised to see so few black-faced sheep; and, on making inquiries, was told that the Down sheep did not pay for grazing on rich pasture lands, and that it was difficult to get them fit for the market without the aid of corn. Being rather sceptical on this point, and having a decided preference for the mutton of the short-woolled sheep, I was induced to make the following experiment on my farm, which, it should be observed, is situated above the level of the marsh, and consists principally of good pasture on a loamy soil with a clay subsoil, for the most part drained and well adapted to sheep grazing.

In the spring of 1861, I bought 300 two-toothed sheep, all in fresh condition and of good quality; of these 100 were Hampshire Downs and 200 Devon Notts. I picked out 30 of the best Downs to take the first run of the pastures with 60 of the best Devons, intending to sell them off from time to time as they became fit for the butcher. All the Devons became fit for market during the summer, and were sold; but the Downs showed but little improvement.

On October 28 I put the 30 Downs, with 30 of the next best Devons, on a piece of after-grass, which had been previously fed down. At this time I had both lots of sheep weighed, and I again weighed them on November 28, when I found that the 30 Downs had increased in weight 243 lbs., whereas the 30 Devons had increased 446 lbs.

The Devons were then sold, but the Downs still remained on hand, and were folded on a piece of bare upland Grass, with 30 Devons which had been feeding after the others during the season. I gave each sheep on an average daily 1¼ lb. of oilcake, 1½ pint of Oats, 20 lbs. of pulped Swedes, and a small quantity of hay; and the animals were weighed at irregular intervals. At each weighing the increase of weight was greatly in favour of the Devons; but on the last weighing, which took place on March 3, I found that from November 28 to March 3, the 30 Downs had only gained 424 lbs., whilst the 30 Devons had gained 600 lbs., as shown by the following schedule:—

Weighings of 30 Down Sheep.

| | October 28th. | November 28th. | January 15th. | February 8th. | March 3rd. | Total Gain. | Remarks. |
|---|---|---|---|---|---|---|---|
| | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | |
| Weight | 4321 | 4564 | 4776 | 4981 | 4988 | .. | |
| Increase | .. | 243 | 212 | 205 | 7* | 667 | After 18 weeks' grazing, when they were sold. |

Weighings of First Lot of 30 Devons.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | |
| Weight | 4819 | 5265 | .. | .. | .. | .. | |
| Increase | .. | 446 | .. | .. | .. | 446 | After 4½ weeks' grazing, when they were sold. |

Weighings of Second Lot of 30 Devons.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | |
| Weight | .. | 4195 | 4436 | 4724 | 4795 | .. | |
| Increase | .. | .. | 241 | 288 | 71 | 600 | After 13½ weeks' grazing. |

During the same period, from November 28 to March 3, I also made experiments in order to ascertain whether sheep folded gain weight as fast as those which are allowed to run; and whether the labour of cutting up roots, before they are given as food, is repaid. As already stated, in one field I folded 30 Downs and 30 Devons, giving to each sheep a daily allowance of 1¼ lb. of oilcake, 1½ pint of Oats, 20 lbs. of pulped Swedes, and a small quantity of hay; and into an adjoining field, which had been fed down quite bare, I put 20 Devon sheep, and gave them the same quantity of oil-cake, corn, and hay as to those which were folded; but instead of giving them 20 lbs. of pulped Swedes, I gave them one-third less in weight of Swedes which had not been cut. The following was the result:—The best 20 of the Downs, folded, gained on an average in three weeks, 7 lbs. each; the best 20 of the Devons, folded, gained on an average 9 lbs. each; whereas the 20 Devons, running in the adjoining field, gained on an average 11 lbs. each.

* I cannot account for the want of progress in both pens in the interval between 8th February and 3d March.

Finding that there was a material difference between the price of oilcake and that of cotton-cake, I made the following experiment to ascertain their relative feeding values. I, on December 19 last, put up the several under-mentioned lots of sheep in two folds, and fed both folds exactly alike, except that one fold had 1¼ lb. of oilcake per sheep daily, and the other 1¼ lb. of cotton-cake. The increase on the one fold from December 19 to January 19 was 241 lbs., and that on the other 223 lbs., giving oilcake an advantage of 18 lbs. only, although the oilcake cost (delivered) 12*l.* per ton, the cotton-cake (delivered) 7*l.* per ton. I purpose carrying this experiment farther.

Oil-cake.

| No. | | Weight. On Dec. 19, 1862. | On Jan. 19, 1863. | Increase. | |
|---|---|---|---|---|---|
| | | lbs. | lbs. | lbs. | |
| 1 | 5 cross-bred two-toothed whether sheep (between the Oxford Down and Devon Nott). | 591 | 657 | 66 | 1¼ lb. of oil-cake, 1 pint of Beans, 20 lbs. of Swedes, and a small quantity of hay (not weighed) per day each. |
| 2 | 1 six-toothed and 8 two-toothed Devon Notts wether sheep. | 1123 | 1267 | 144* | Same as above. |
| 3 | 3 Downs (six-toothed) | 388 | 419 | 31 | Same as above. |

* The six-toothed Devon wether in Lot 2 made an increase from 127 lbs. to 162 lbs.

Cotton-cake.

| | | | | | |
|---|---|---|---|---|---|
| | | lbs. | lbs. | lbs. | |
| 4 | 5 cross-bred two-toothed wethers, same breed as No. 1. | 581 | 639 | 58 | Same as above, except that 1¼ lb. of cotton-cake was given instead of 1¼ lb. of oil-cake. |
| 5 | 9 two-toothed Devon Notts wethers. | 1187 | 1306 | 119 | Same as No. 4. |
| 6 | 3 six-toothed Downs | 381 | 427 | 46 | Same as No. 4. |

*Mr. H. A. F. Luttrell, of Bridgworth Court, in the Bath and West of England Agricultural Society's Journal.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. Slatter, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday | 31 | 30.33 | 64 | 55 | N.E. | 2 | 2 | 70 | 46 | 88 | 39 | .. |
| Saturday | August 1 | 30.21 | 67 | 60 | S.E. | 2 | 4 | 68 | 51 | 80 | 44 | .. |
| Sunday | 2 | 30.08 | 66 | 61 | S.S.E. | 1 | 10 | 73 | 54 | 84 | 45 | 0.02 |
| Monday | 3 | 30.00 | 67 | 64 | S.S.W. | 1 | 9 | 74 | 56 | 89 | 50 | .. |
| Tuesday | 4 | 29.99 | 67 | 63 | S.W. | 3 | 10 | 71 | 55 | 83 | 51 | 0.07 |
| Wednesday | 5 | 29.96 | 62 | 58 | S.W. | 0 | 10 | 69 | 49 | 78 | 44 | 0.32 |
| Thursday | 6 | 30.00 | 64 | 61 | S.W. | 2 | 10 | 70 | 58 | 84 | 54 | 0.10 |

Total Rainfall for July: 1.32 in.

### Notices to Correspondents.

Clover Dodder. Will any one save us some ripe seeds of Clover Dodder. Let him fence off a small circle of the diseased Clover plant, and dig a trench of a foot wide, and half a foot deep to prevent its spreading—this in fact is the best way to circumscribe it in all cases.

THE FARMER'S BAROMETER, 50s., a New Instrument by Negretti & Zambra, will correctly indicate whether the Barometer falls for Rain or for Wind.
Particulars by enclosing stamp to 1, Hatton Garden, E.C.; 59, Cornhill, E.C.; and 122, Regent Street, W.

CLARKE'S PATENT ADJUSTIBLE SCYTHE is the strongest, lightest, most durable, and best cutting Scythe yet introduced. It is used in the Gardens of the Royal Horticultural Society at South Kensington, and has given great satisfaction to all who have tried it.
The following is from G. Eyles, Esq.
"Royal Horticultural Gardens, South Kensington, May 20, 1863.
"Sir,—I like your scythes very much.—Yours very truly, "Geo. Eyles."
Clarke & Son, Patentees and Manufacturers, Brackley, Northamptonshire.

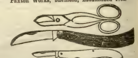
HAVE YOU a LAWN?—Use BELCHER'S PATENT PLANTAIN EXTRACTOR; which neatly removes Plantain and Daisies, and replaces them with fine Turf. Price 6s.: to be had of all Ironmongers.
Wholesale Agents, S. & E. Ransome & Co., 31, Essex Street Strand, W.C.

WASPS. — Haythorn's HEXAGON and CHISWICK GARDEN NETS are guaranteed to protect all kinds of Fruit from Wasps, Flies, Birds, &c. These Nets are used and recommended by all the principal Gardeners.
For Testimonials, Patterns, and Prices, please direct to Mr. Haythorn, Nottingham.

Exhibition Prize Medal 1862.
MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES, PATENT IRON COW HOUSE FITTINGS, and IRON PIGGERIES.

These inventions are recommended as possessing numerous advantages not to be found in anything hitherto made. At the late Meeting of the Royal Agricultural Society at Leeds, Musgrave Brothers received a Silver Medal, and two Awards of "Highly Commended," being the only Prizes conferred on any competitor in this class.
Particulars sent on application to the Inventors and Makers, Musgrave Brothers, Ann Street Iron Works, Belfast.

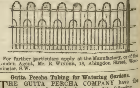
Paxton Works, Sheffield, Established 1738.



International Exhibition Prize Medal was awarded to Saynor & Cooke for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR and COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.
Caution.—None are genuine unless marked Saynor. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

W. S. UNDERHILL'S NEW PATENT IRON FENCE for GARDENS, LAWNS, &c.
Manufactory: Newport, Salop.
Warranted the strongest and most durable Fence ever offered at corresponding prices. It is easily repaired if broken from accidents; can be rolled up most compactly when not in use, is admirably adapted for exportation, and can be had of any height and mesh required, at prices from 4d. to 1s. 6d. per yard and upwards.



For further particulars apply at the Manufactory, or of the London Agent, Mr. R. Winder, 18, Abingdon Street, Westminster, S.W.

Gutta Percha Tubing for Watering Gardens.
THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following
*Testimonial from Mr. J. Farrah, Gr. to* Boswell Middleton Jalland, Esq., *of Holderness House, near Hull.*
"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."
Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

Oil Paint no longer Necessary.
HILL and SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which Hill & Smith will forward on application.
Sold in casks of about 30 gallons each, at 1s. 6d. per gallon at the Manufactory, or 1s. 8d. per gallon paid to any Station in the kingdom.
Apply to Hill & Smith, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

## THE PATENT IN-DOOR PLANT CASES

(TO WHICH A PRIZE WAS AWARDED AT THE ROYAL HORTICULTURAL SOCIETY'S EXHIBITION).

SOLE MANUFACTURER,

# JAMES GRAY, HORTICULTURAL WORKS,

DANVERS STREET, CHELSEA, LONDON, S.W.

The PATENT IN-DOOR PLANT CASE is one of the most useful of the Gardening novelties of the day. It is a handsome ornament for the Drawing Room or Sitting Room, and at all times forms a fresh, pleasant, and interesting object to the mind and eye. It is always under command, and will preserve many of the most tender Exotic Plants through the severest winter with comparatively little of the trouble and annoyance attending the use of Lamps, Gas, and Heating appliances of any other kind.

To all who have a taste for the cultivation of In-door Plants, for raising Seedlings, striking Cuttings, &c. the Plant Cases will be found an inestimable boon.

The Cases are highly approved and recommended by Professor Lindley, and by Messrs. Veitch, of The Royal Exotic Nursery, King's Road, Chelsea.

*Sizes and Prices on application.*

## PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

# T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

**Exhibition Prize Medal, 1862.**

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.—This Stove is the nearest approach to Warming by Hot Water, and an efficient aid in Ventilation.

It will burn in Churches from Saturday till Sunday evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of Warming a large Apartment for 24 hours, at a cost of 3*d.*; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

It is also made for Small Conservatories, with a vapour chamber, which maintains a moist atmosphere for 12 hours with once filling.

Particulars and prices post free on application to MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3*d.* per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3*l.* 10*s.*

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

LATEST IMPROVEMENTS IN

**Heating by Hot Water.**

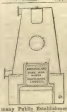
THE IMPROVED

CONICAL BOILERS,

FOR HEATING PINERIES, CONSERVATORIES, GREENHOUSES, MANSIONS, HALLS, WAREHOUSES, &c.,

SOLELY MANUFACTURED BY

BURY AND POLLARD (Successors to JOHN R. PEILL, Late STEPHENSON & PEILL).




Annexed Sketch shows BURY & POLLARD's improved arrangement, requiring

NO BRICKWORK SETTING.

These Boilers have for their durability and economy attained a celebrity far surpassing any other Boilers ever invented. They have been for many years past in use at many Public Establishments, Royal Botanical Gardens at Kew, at the Regent's Park, the Crystal Palace, and at most of the Nobility's and Gentry's Seats throughout the United kingdom. References where they have been 20 years in constant use.

Price Lists on application to BURY & POLLARD, Park Iron Works, New Park Street, Southwark, London, S.

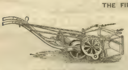
# SHANKS' NEW IMPROVED PATENT

## LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINE for 1863,

WITH SILENT MOVEMENT IF SPECIALLY DESIRED.

FURTHER AND IMPORTANT IMPROVEMENTS—PROTECTED BY LETTERS PATENT.

THE FIRST PRIZE INTERNATIONAL EXHIBITION MEDAL AWARDED.



NEW HORSE MACHINE.

NEW PONY MACHINE.

NEW HAND MACHINE.

SHANKS' PATENT LAWN MOWERS are in daily use in the ROYAL GARDENS at KEW, WINDSOR, BUCKINGHAM PALACE, HAMPTON COURT, OSBORNE, and BALMORAL; in the GARDENS of the ROYAL HORTICULTURAL SOCIETY at KENSINGTON; in the GROUNDS of the CRYSTAL PALACE COMPANY at SYDENHAM; and in many hundreds of the principal Gardens in the Kingdom, as well as Abroad, where their merits have been fully proved and their success established.

These Machines will MOW EQUALLY WELL on UNEVEN as on LEVEL LAWNS, and whether the GRASS be WET or DRY. The execution of the work is not only vastly superior to Mowing with the Scythe, but the constant action of the Rollers on the Turf in a very short time greatly improves its appearance.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom.

### SHANKS' NEW PATENT HORSE MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus. |
|---|---|---|
| No. 1.—48-inch Machine ... | £28 0 0 ... ... ... | 40*s.* extra. |
| No. 2.—42-inch Machine ... | 26 0 0 ... ... ... | 40*s.* ,, |
| No. 3.—36-inch Machine ... | 22 0 0 ... ... ... | 30*s.* ,, |
| No. 4.—30-inch Machine ... | 19 0 0 ... ... ... | 30*s.* ,, |

Silent Movement, 20*s.* extra; Boots for Horse's Feet, 24*s.* per set.

### SHANKS' NEW PATENT PONY and DONKEY MACHINE.

| Width of Cutter. | | If with Patent Delivering Apparatus |
|---|---|---|
| No. 5.—30-inch Machine ... | £15 15 0 ... ... ... | 30*s.* extra. |
| No. 6.—28-inch Machine ... | 14 10 0 ... ... ... | 30*s.* ,, |
| No. 7.—25-inch Machine ... | 12 10 0 ... ... ... | 25*s.* ,, |

Silent Movement, 12*s.* 6*d.* extra; Boots for Pony, 21*s.* per set; ditto for Donkey, 16*s.* per set.

### SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.

| Width of Cutter. | | |
|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 17 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 7 6 | |
| No. 10.—19-inch Machine ... ... | 7 12 6 | *Ditto by a Man and Boy.* |

| Width of Cutter. | | |
|---|---|---|
| No. 11.—16-inch Machine ... ... | £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 2 6 | *Ditto ditto by a Boy.* |

The Patent Delivering Apparatus, if attached to the Hand Machine, 25*s.* extra; Silent Movement, 7*s.* 6*d.* extra.

No. 16.—12-inch Machine, for pushing only, £5 5*s.* Easily worked by a Lady or a Boy; Silent Movement, 4*s.* extra.

*** *The Machines are warranted to give ample satisfaction, and if not approved of they may be at once returned.*

PATENTEES AND SOLE MANUFACTURERS:

ALEXANDER SHANKS AND SON, DENS IRON WORKS, ARBROATH, N. B.

LONDON OFFICE AND SHOW ROOMS: 27, LEADENHALL STREET, E.C.

*A Stock of Machines kept at the London Depot, from which Orders can be at once executed.*

CALCEOLARIA, CINERARIA, PRIMULA, &c.—CALCEOLARIA, saved from carefully hybridised flowers, possessing all the recognised floral qualifications, viz., size, form, colours, and marking. Price, 1s. and 2s. 6d. per packet. CINERARIA, extra choice, 1s. per packet. PRIMULA SINENSIS FIMBRIATA, extra choice, 1s. and 2s. 6d. per packet. DRACÆNA (CORDYLINE) INDIVISA, from Mount Egmont, New Zealand; beautiful fine foliaged plant, 1s. and 2s. 6d. per packet.

Butler & McCulloch, Seed Merchants, Covent Garden Market, London, W.C.

**Choice Seeds.**

B. S. WILLIAMS begs to offer First-class quality of the undermentioned SEEDS:—

| | Per packet. | |
|---|---|---|
| PRIMULA SINENSIS FIMBRIATA, Red, White, or Mixed .. .. .. .. | 2s. 0d. | 3s. 6d. |
| CALCEOLARIA, herbaceous .. .. .. | 1 6 | 2 6 |
| CINERARIA, from choice named flowers.. | 1 6 | 2 6 |
| PANSY, very choice .. .. .. .. | 0 6 | 1 0 |

Paradise and Victoria Nurseries, Holloway, London, N.

**New and Rare Plants.**

B. S. WILLIAMS invites inspection of his large and well-assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, amongst which are some very fine specimens.

Now ready, post-free to all applicants.

A NEW GENERAL PLANT CATALOGUE, containing Select Lists of Choice Exotic Orchids, Ferns, Stove and Greenhouse Plants, Indian Azaleas, Variegated and Ornamental Foliaged Plants, Fuchsias, Pelargoniums, Rhododendrons, Verbenas, Petunias, Phloxes, Cinerarias, Chrysanthemums, Hardy Variegated Plants, Herbaceous and Alpine Plants, Roses, Hardy Trees and Shrubs, Fruit Trees, &c.

With a DESCRIPTIVE LIST of New, Beautiful, and Rare Plants.

Paradise and Victoria Nurseries, Holloway, London, N.

OUVIRANDRA BERNERIANA.—Having succeeded in raising a few Seedlings of this extremely curious and beautiful plant, we beg to offer healthy young plants of six or seven leaves at 31s. 6d. each.

O. Berneriana was exhibited at the Great Show of the Royal Horticultural Society, June 17th, and awarded the First Prize; and at the Great Show of the Royal Botanic Society, June 24th, and then also awarded the First Prize.

Thomas Jackson & Son, Nurseries, Kingston, S.W.

**Sow in August.**

DOBSON'S PRIZE CALCEOLARIA. The most varied and beautiful strain imaginable. In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s.

**Sow in August.**

DOBSON'S PRIZE CINERARIA. A splendid strain. Received 10 first prizes in 1862. In sealed packets, 1s., 2s. 6d., and 5s.

**Sow in August.**

DOBSON'S PRIZE PRIMULA SINENSIS FIMBRIATA. From finely fringed Flowers.

In sealed packets, 1s., 2s. 6d., and 5s.

The above Seeds are unequalled for quality.

J. Dobson & Sons, Woodlands Nursery, Isleworth, W.

**Cabbage Seed for Present Sowing.**

SUTTON AND SONS can now supply the best sorts of CABBAGE SEED for early Table use next spring and summer.

Also the large DRUMHEAD CATTLE CABBAGE, which should be sown now for Feeding in the autumn of next year, and smaller kinds for Sheep Feeding early next summer.

Prices moderate, but various according to sorts.

Royal Berkshire Seed Establishment, Reading.

**The Quickest Turnip Known.**

SUTTON'S SHORT-TOP SIX-WEEKS TURNIP.—Good Turnips for table use may be obtained within six weeks from the date of sowing this seed. It is decidedly quicker than any other sort hitherto offered. Price 1s. per lb.

EARLY SIX-WEEKS STUBBLE TURNIP.—This is an excellent sort for Sheep-feed in winter and early spring. It will succeed well if sown before the 1st of September. Price 8d. per lb., or cheaper by the bushel.

Royal Berkshire Seed Establishment, Reading.

**For Present Sowing.**

SUTTON'S IMPROVED ITALIAN RYE-GRASS, 6s. per bushel, or cheaper in large quantities.

This is the best season for sowing Italian Rye-grass to ensure sheep feed very early in the spring.

TRIFOLIUM INCARNATUM (Early Crimson), 4d. to 5d. per lb., or cheaper in large quantities.

⁂ A mixture of the above will be found very useful for mending Clover and Grass Seed sown for mowing next spring.

MUSTARD SEED for Sheep Feed in October and November, or for green manure.

RAPE.—New Seed at reduced price.

Sutton & Sons, Royal Berkshire Seed Establishment, Reading.

**Permanent Grass Seeds for all Soils.**

SUTTON AND SONS can supply good fresh SEEDS for immediate Sowing as under:—

PERMANENT GRASS SEEDS for Laying down New Pastures (including CLOVERS in full quantities), 30s. per Acre.

PERMANENT GRASS SEEDS for mending new Pastures, which may have been injured by the Corn crop, 12s. per bushel.

Royal Berkshire Seed Establishment, Reading.

**Roses.**

The ROSES at the WALTHAM CROSS NURSERIES are NOW in FULL BLOOM.

MR. WM. PAUL respectfully invites all lovers of this popular flower to visit and inspect them. TWENTY FIRST PRIZES and NINE SECOND have been awarded to him for ROSES during the present year, and above 100,000 Plants are now growing in these Nurseries. Waltham Cross is 11 miles from London, and a first-class station on the Great Eastern Railway. It is also a delightful drive from the West-end of London, through Tottenham, or the Green Lanes and Enfield.

Entrance to the Nurseries from the platform, Waltham Station (for railway passengers only), and from the High Road, Waltham Cross, N.

**Major's Half-shrubby Calceolaria Seed.**

MR. HENRY MAJOR, Knosthorpe, near Leeds, begs to announce that his CALCEOLARIA SEED for this Season is now ripe, and may be had in packets at 2s. 6d. each, or Three for 5s. post free. Postage stamps received in payment.

N.B.—(*H. Major*).—"The seedling Calceolarias are very fine the size of the flowers, and the brilliancy of the markings being alike conspicuous. We wonder much why the flower is not more cultivated. It deserves to be generally grown."

See No. 119 of *Journal of Horticulture*, Notices to Correspondents.

CUTHILL'S STRAWBERRY PLANTS will be sent out on and after August 31. Strong fine plants, to bear next year, all at 5s. per 100; but if selected, 7s. 6d. per 100—each sort:—EARLY BLACK PRINCE, EARLY PRINCESS ROYAL, HIGHLAND MARY, RICHARD II., PRINCE of WALES, and NEWTON SEEDLING.

MUSHROOM SPAWN, 5s. per bushel. Grown here all the year round.

PRINCE ALBERT WINTER CUCUMBER, 1s. for 10 seeds.

Pamphlets always on Sale.

James Cuthill, F.R.H.S., Camberwell, London, S.

NEW SEEDLING STRAWBERRY, PRINCESS OF WALES.

Opinions of the Press.

*Gardeners' Chronicle, July 4th.*

"Your seedling Strawberry, Princess of Wales, large, ovate, or flattened ovate, with flesh pale red, and solid at the core. The variety deserves notice on account of its size, appearance, and not being hollow at the core."

*Journal of Horticulture, June 23d.*

"Seedling Strawberry (B. W. Knight). The fruit sent is very juicy, and of excellent flavour."

*Florist and Pomologist, July.*

"Your seedling Strawberry, Princess of Wales, is a fine regularly-shaped ovate fruit, of a pale red colour, and very firm flesh; it has all the appearance of being a good sort."

B. W. Knight has much pleasure in offering this superb new early STRAWBERRY, feeling confident that it will not fail to become a general favourite, as all who have seen it growing and tasted it on the ground have pronounced it first-class. It is a remarkably early kind, having picked from it on the 22d May, and no doubt but what it will prove a good forcing variety. The fruit is large, flesh pale red, solid at the core; flavour rich and sugary, partaking largely of the Pine flavour; a most abundant bearer.

Plants will be ready to send out early in September, at 12s. per dozen; 2l. 10s. per 100.

The stock of Runners has proved more abundant than was anticipated, B. W. K. has accordingly reduced the price.

B. W. Knight, Nurseryman and Florist, 67, High Street, Battle, Sussex.

# ROYAL HORTICULTURAL SOCIETY.

## REMAINING ARRANGEMENTS for the EXHIBITIONS and MEETINGS in 1863,

TO BE HELD AT

THE GARDEN, SOUTH KENSINGTON, W.

| | |
|---|---|
| Tuesday, August 25 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| Wednesday, Sept. 9 .. .. | Autumn Flower Show, at 1. Band at 2. Floral Committee, at 10. Fruit Committee, at 10. |
| Tuesday, Sept. 22 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| Friday, Oct. 2 .. .. .. | Council, at 11. Meeting for Election of Fellows, at 2. |
| Tuesday, Oct. 6.. .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| Friday, Nov. 6 .. .. | Council, at 11. |
| Tuesday, Nov. 10 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| Friday, Dec. 4 .. .. | Council, at 11. |
| Tuesday, Dec. 8 .. .. | Floral Committee, at 12. Fruit Committee, at 12. |
| Friday, Dec. 18 .. .. | Council, at 11. |

## ELECTION OF FELLOWS.

Gentlemen and Ladies wishing to become Fellows have to be proposed by some one already a Fellow, to whom they are personally known. The subscription is Two Guineas Entrance Fee, and Two Guineas or Four Guineas a year according to the privileges wished.

## SHOW OF AUTUMN FLOWERS AND OUT-DOOR FRUITS, WEDNESDAY, SEPTEMBER 9.

Free to Fellows and the Transferable Cards, and also admission by payment at the door or by Tickets previously purchased.

LIST OF PRIZES.

### AUTUMN FLOWERS.

| Class. | | 1st Prize. £ s. | 2d Prize. £ s. | 3rd Prize. £ s. |
|---|---|---|---|---|
| 1. | 12 Hollyhocks, single flowers. Distinct kinds .. (Open) | 2 0 | 1 0 | 0 15 |
| 2. | 24 German Asters. "Quilled." Distinct kinds .. .. (Open) | 2 0 | 1 0 | 0 15 |
| 3. | 24 French Asters. "Tasselled." Distinct kinds.. .. (Open) | 2 0 | 1 0 | 0 15 |
| 4. | 24 Gladiolus, cut spikes. Distinct kinds .. .. .. (Open) | 2 10 | 1 10 | 1 0 |
| 5. | 12 Gladiolus, cut spikes. Distinct kinds .. .. (Amateurs) | 2 0 | 1 10 | 1 0 |
| 6. | 24 Phloxes, single trusses. Distinct kinds.. .. . (Open) | 2 0 | 1 0 | 0 15 |
| 7. | 24 Verbenas, 5 trusses of each. Distinct kinds. .. .. (Open) | 1 10 | 1 0 | 0 15 |
| 8. | 48 Dahlia Blooms. Distinct kinds .. .. (Nurserymen) | 5 0 | 4 0 | 3 0 |
| 9. | 24 Dahlia Blooms. Distinct kinds .. .. (Nurserymen) | 3 0 | 2 0 | 1 0 |
| 10. | 18 Dahlia Blooms. Fancies. Distinct kinds (Nurserymen) | 3 0 | 2 0 | 1 0 |
| 11. | 18 Dahlia Blooms. Distinct kinds .. .. .. (Amateurs) | 4 0 | 3 0 | 2 0 |
| 12. | 12 Dahlia Blooms. Fancies. Distinct kinds .. (Amateurs) | 3 0 | 2 0 | 1 0 |
| 13. | Miscellaneous. For flowers not specified .. .. .. (Open) | 2 0 | 1 0 | 0 10 |

### OUT-DOOR FRUITS (OPEN).

Note.—A Dish of Apples, Pears, Oranges, Lemons, and such like, 6 fruits of each; Plums, 9 fruits.

| Class. | | 1st Prize. £ s. | 2d Prize. £ s. | 3d. Prize. £ s. |
|---|---|---|---|---|
| A. | Collection of Fruit, 8 dishes, 6 distinct kinds .. .. .. | 6 0 | 4 0 | 3 0 |
| B. | Peaches. 4 Dishes. Distinct kinds .. .. .. .. .. | 3 0 | 2 0 | 1 0 |
| C. | Peaches. Single dish .. .. .. .. .. .. .. | 1 10 | 1 0 | 0 10 |
| D. | Nectarines. 4 dishes. Distinct kinds .. .. .. .. | 3 0 | 2 0 | 1 0 |
| E. | Nectarines. Single dish .. .. .. .. .. .. | 1 10 | 1 0 | 0 10 |
| F. | Figs. 3 dishes. Distinct kinds. 12 fruits each.. .. .. | 2 0 | 1 10 | 1 0 |
| G. | Figs. Single dish. 12 fruits .. .. .. .. .. .. | 1 0 | 0 15 | 0 10 |
| H. | Cherries. 3 dishes. Distinct kinds .. .. .. .. .. | 2 0 | 1 10 | 1 0 |
| I. | Cherries. Single dish. 50 fruits .. .. .. .. .. | 1 0 | 0 15 | 0 10 |
| J. | Plums. 4 dishes. Distinct kinds .. .. .. .. .. | 2 10 | 2 0 | 1 10 |
| K. | Plums. Single dish .. .. .. .. .. .. .. | 1 0 | 0 15 | 0 10 |
| L. | Apples, Dessert. 3 Dishes. Distinct kinds .. .. .. | 2 0 | 1 10 | 1 0 |
| M. | Apples, Kitchen. 3 Dishes. Distinct kinds .. .. .. | 2 0 | 1 10 | 1 0 |
| N. | Pears, Dessert. 3 Dishes. Distinct kinds .. .. .. | 1 0 | 0 15 | 0 10 |
| . | Miscellaneous .. .. .. .. .. .. .. .. | 1 10 | 1 0 | 0 15 |

BANBURY HORTICULTURAL SOCIETY.
OPEN PRIZES.

The Seventeenth Annual Exhibition of this Society is fixed for TUESDAY, August 25, when in addition to the usual number of Prizes to be competed for by Members, the following are offered, Open to all England, on payment of an Entrance Fee of 2s. 6d.

For the best 6 Stove or Greenhouse Plants, either in Flower or Ornamental, of at least four different Genera, but not Fuchsias or Annuals, 1st Prize, 3l.; 2d, 2l.

For the best 24 Dahlias, 24 varieties, 1st Prize, 3l.; 2d, 2l.

For the best 18 Hollyhocks, 2 Blooms of each, 1st Prize, 2l.; 2d, 1l.

For the best 12 varieties of Verbenas (5 trusses in a bunch), 1st prize, 1l.; 2d, 15s.

The Judges may withhold any prize if the production exhibited is not considered worthy.

Intended Exhibitors must give notice to the Secretary on or before Saturday, August 22.

The Society will, if requested, convey the productions from and to the Railways.

The Band of H.M. 76th Regiment, from Aldershott, and the Orpheus Glee Union will perform during the day.

For further particulars, apply to E. J. Hartley, Acting Secretary.
57, High Street, Banbury.

BISHOP AUCKLAND FLORAL and HORTICULTURAL SOCIETY.

The Annual Exhibition will be held in Auckland Park on FRIDAY, August 28, when the following Prizes, amongst others of the value of nearly 300l., will be awarded, viz.:—

| | |
|---|---|
| For the best 6 Stove and Greenhouse Plants .. | £10 0 0 |
| For the 2d best ditto .. .. .. .. .. | 7 0 0 |
| For the best 24 Dahlias, dissimilar .. .. .. | 10 0 0 |
| For the second best ditto .. .. .. .. | 7 0 0 |
| For the best 9 Hollyhocks, dissimilar .. .. | 5 0 0 |

The renowned Band of the Belgian Guides, consisting of 50 performers, will give two Grand Concerts.

Wm. V. Thompson, Hon. Sec.

RUGBY HORTICULTURAL and COTTAGE GARDENERS' SOCIETY.

The Annual Show of this Society will be held at Rugby on FRIDAY, August 28.

Upwards of 120 Prizes in Class 5, open to all Growers, will be offered for Plants, Fruit, Cut Flowers, and Vegetables; also two Silver Cups, one value 5l. 5s., for 36 dissimilar Dahlias; and another, value 4l. 4s., for 36 Roses, distinct varieties, one bloom of each.

Entries to be made on or before August 22.

Schedules and particulars on application to
Rugby, Aug. 15. John S. Savage, Hon. Secretary.


# The Gardeners' Chronicle.

*SATURDAY, AUGUST 15, 1863.*

The account given a week or two since of the Yatm Strawberries is strongly suggestive of the interest which would attach to unlimited Exhibitions of Fruit in Season. What we mean is, the bringing together of as large and complete an assortment as can possibly be obtained, and from all parts of the country, of the different varieties of certain selected kinds of fruit, while that fruit is at the height of its season, just as we hold Rose shows at the time when that flower is supposed to be in the highest state of perfection. This fruit examination is a work worthy of our great Horticultural Society; much more so indeed, than many in which it does from time to time engage, and one moreover which would show what just now the Fellows want some convincing proof of, namely, that it is not inclining to loosen its hold on the trustworthy anchorage of solid horticulture, and to permit itself to drift unpiloted over the treacherous and shifting sands of fashion.

A work of the kind we have indicated is of course an extensive one, but need not be set about expensively, or in such a manner as to involve any greater outlay than it fairly deserves. One or two kinds of fruit — such of course as the season happens to have been particularly favourable to — should be selected annually; and the selection itself need not be made until the season is sufficiently advanced to admit of certainty as to the crop being a satisfactory one for this especial object. When the kind of fruit had been decided on, it would be comparatively easy to arrange a "mid-season" meeting, so as to suit the greater number of the growers. Thus one year might especially suit Strawberries, another Peaches and Nectarines, another Cherries, and another Grapes, while of the autumnal and winter fruits, such as Apples and Pears, certain groups of varieties of which the crop was known to be ample, might be set apart for the current year's examination. We do not see that any direct expense need be incurred in carrying out this proposition beyond the amount of a few prizes for the best samples, the cost of carriage, and the hire of dishes, &c., while the exhibitions, how many soever they might be, would form interesting additions to the annual programme, and might surely be so managed with regard to the admission of visitors as to bring back the greater part, if not the whole of their cost. If they would but do this, even without yielding any actual money profit, we must hold that they would confer a direct gain upon horticulture, just in proportion to the interest excited, and the information elicited.

It might be urged as an objection to such exhibitions of fruits, that in cases like that of the Strawberry they would be injured by carriage, and the flavour deteriorated by the time which must elapse between the gathering and the examination. We are not, however, inclined to attach much importance to this objection, inasmuch as soft fruits like the Strawberry form part of all our great summer shows; and are always brought in a presentable condition. Granted that they lose something in flavour from not being tasted directly after gathering; still they would at least all be on equal terms in this respect, and this would make the comparison a fair one. And then as to the result, it would be an immense advantage, especially to private growers, to have it authoritatively decided, say every second or third year, what is the best-flavoured and what the best looking sort we possess, whether of a Strawberry or of any other fruit. If an amount of success like this could be realised, as we believe it might, with so fragile a subject as the Strawberry, there would be still greater chances of a successful result with almost every other kind of fruit; for instance, what an absorbing amount of interest would attach to an exhibition which should include the new high-bred seedlings of Peaches and Nectarines of which we sometimes hear, and how desirable it is that some such public opportunity of testing their merits should be afforded, the arrangements at the same time being on a sufficient scale to give something like general interest to the gathering.

We trust that it will be distinctly understood that in the Exhibitions we have here suggested we have in view entirely the interests of horticulture and of horticulturists, and by no means those of mere idle people of fashion.

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Once upon a time, a pedestrian, happening to find himself, some sultry summer's day, in the neighbourhood of the Regent's Park, and desirous of pleasant exercise while inhaling the cool and freshening breezes which he might hope to find sweeping down from Primrose Hill, could have strolled the whole length of the Park from south to north—a goodly promenade—under the shade of lines of trees of, we suppose, some 40 years' growth. On either side of a gravel walk of noble proportions, he would have found Horse Chestnuts, Limes, and Elms in quadruple rank, forming three umbrageous avenues, with seats at intervals, the trees always furnishing a most refreshing shade, and at certain seasons superadding a most delicious sweetness. Nothing could possibly be more pleasant and enjoyable, as we know from experience; and nothing certainly more entirely in accordance with the proper furniture of a Park.

Now, however, the evil genius of alteration seems to be in the ascendant, as we have ourselves with sorrow observed, and as the following paragraph copied from the daily papers so unmistakeably sets forth. The description is only too correct; but we need scarcely observe, that we by no means agree in the conclusion that the promenades in our parks ought to be converted into "beautiful garden walks," certainly not at so great a sacrifice of comfort as has in this case been made:—

"During the early part of the season and up to the present time, the Regent's Park, which is undoubtedly the prettiest in the metropolis, has been undergoing one of the most effective changes which have taken place in it since it was first laid out. The change principally consists in turning the most attractive parts of the Park into beautiful garden walks; and in the 'First Park,' so called from its being the first division near the entrance to the Marylebone Road, the transition from what was previously a broad path, lined with trees on each side, is quite marvellous, though only one portion of it is at present completed. The large Chestnut trees which lined the path have been cut down, and in their stead, the ground has been very artistically laid out, and filled with the choicest shrubs and flowers. The space on the left side of the First Park is divided into about 40 circular and parallel patches, which are neatly railed round, and, in addition to the beautiful display of flowers which have been furnished regardless of expense, each patch—round which paths have been formed, terminating in a large one in the middle—is beautifully ornamented with large vases of Bath stone. These have been supplied at an outlay of several hundred pounds. The right side of the Park is undergoing a similar change, and we believe it is intended to extend the work to the Second Park. Several other improvements have been carried out, among which may be mentioned the action of two beautiful fountains, one near Gloucester Gate, and the other in the middle of the Broad Walk, the space around the latter being also beautifully laid out with exotics, &c."

Instead therefore of sauntering down the leafy avenues as of yore, the poor pedestrian, while panting for a cooling breeze as Sol darts down his fiery rays, is doomed to drag himself along the glaring expanse of hot and dusty or shingly gravel, to take his cooling, we presume, out of the "action of the beautiful fountain," if he manage to reach so far; while as a compensation for the loss of shade he is to be permitted to refresh his eyes by gazing on beds of blazing flowers and plantations of fancy shrubs, fenced in as if only a favoured few were to be permitted to approach them. Unfortunately the work of destruction is accomplished as far as the "First Park" is concerned; but we trust the authorities will pause and reconsider their determination before they set about the spoliation of the avenues in the "Second Park." A few hours, in such a case, are sufficient to destroy all the progress of many years.

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We extract the following from the *Athenæum*:— Mr. W. A. Lloyd, Curator of the Hamburg Zoological Society, writes:—"When reading in the *Athenæum*, No. 1864, a notice of Mrs. Gatty's book on 'British Seaweeds,' with some observations on mounting them in a dried state, I was struck by the very few published attempts made at *growing* them in a state of confinement in tanks. About nine years ago, Mr. P. H. Gosse put forward in one of the English scientific journals some few results he obtained in this way, and a little later Mr. Warington did the same thing; and I have myself occasionally had some success in the maintenance of these plants. These results, however, were arrived at by chance rather than by skill; and, owing to the presence or the absence of some conditions unknown (apparently not altogether dependent on light), the luck of being able to keep alive many species in good condition for prolonged periods could seldom be had twice running. In the great aquaria now being erected in Hamburg, however, where the temperature will be low and equable, and where large masses of sea-water will be kept well aërated and in constant motion, added to perfect control over the illumination, some continuous endeavours will be made, so that, if possible, some definite principles may be ascertained whereby marine Algæ may be systematically managed in a state of life and health. It may be hoped, therefore, that, as other plants are cultivated in gardens, conservatories and greenhouses, besides being preserved in herbaria, so may sea-weeds be commonly grown in aquaria, as well as being squeezed flat between sheets of paper. Few, if any, vegetable productions yield to marine Algæ in beauty of form and colouring, or in general curiosity, besides the enhancement of interest which the view of objects in clear water always obtains."

Have none of our seaside friends anything to report on this extremely interesting subject?

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A magnificent bloom of the handsome new Japanese Lilium auratum was sent to us the other day by Mr. Bullen, gr. to A. Turner, Esq., Bowbridge House, Leicester, indicating to what perfection the flowers of this fine Lily may be brought under good cultivation. The one in question measured rather more than a foot in diameter, each petal having a beautiful band of rich golden yellow down the middle, the intervening spaces being covered in the most charming manner possible with rich brownish-crimson dots, which being backed up by a pure white ground, were set off to excellent advantage. Truly this must be regarded as one of the most valuable importations we have had for years.

Mr. Bullen states that the plant from which the bloom just alluded to was cut was purchased from Mr. Veitch last autumn, and that since that time its growth has been most satisfactory. The stem, measuring from the surface of the soil, is 4 feet 10 inches in height; the leaves are $9\frac{1}{2}$ inches in length, and 51 in number, and the plant has altogether four blooms on it equal to that with which we have been furnished. Some idea, therefore, of the grandeur of the effect produced by such a fine display may be conceived.

We understand that this Lily is also flowering magnificently at Mr. Rucker's at Wandsworth, and elsewhere. Let us hope that some one may be induced to try it out of doors this winter, in order to test its hardiness. As a decorative pot plant, however, under glass it is invaluable.

## HOW TO INSURE A CROP OF FRUIT.

Some of your correspondents have inquired if it is absolutely necessary to protect Peach trees in spring in order to insure a crop; I answer without hesitation, yes. But then comes the question, how should this be accomplished, what material should be used, and last, though not least, what expense will be incurred by so doing? The question of protecting wall trees is so important that I cannot let the present opportunity pass, even thus late in the season, without adding a few remarks on the subject.

Present impressions are certainly in favour of covering walls with glass. This method is stated by some to be the only means of insuring a crop: good advice certainly, where expense is not an object; but the same parties add, to be doubly secure, it would be better to have a flow and return hot-water pipe, thus adding to the expense. Now if this is absolutely required, why not build Peach-houses at once, and turn the walls to some other account? Garden walls are not built for fruit-culture only, but for ornament, shelter, and privacy; and it is entirely doing away with the original idea, if they are to be cased with glass. That good Peaches can be produced under glass we are quite aware, and that good Peaches can be produced without it is also a fact; then why should we go to the expense of glass coverings? My late employer, Sir O. P. Wakeman, Bart., used to say that it was no difficult thing for cooks to send up a good dinner, provided they had everything they required to do it with, but the art of cooking and gardening was to produce things really good at as little expense as possible, for we all know anything can be got good for money. What is required at most establishments are things produced first-rate at little expense. Now one item (not always a little one) yearly stands against us, viz., the expense of protecting material; the question therefore is, What will secure wall fruit from frost? To this I would confidently say Frigi Domo, in preference to anything I have ever seen or tried. The improved make 3 yards wide will protect trees on a 12 or 13 feet wall from any spring frosts we may ever live to encounter. One of your correspondents has stated that although he protects his trees his crops are always scanty, and that he has been informed by competent gardeners that it is in consequence of his protecting them. I must add that much mischief is done, the blossom weakened, and crops lost through blight, in consequence of over shading, which may be the case in this particular instance. My practice is to let down the blinds in the evening, and pull them up as soon as the frost is off the trees in the morning, unless cold cutting winds prevail; in such cases the covering remains occasionally down the whole of the day. This is my method of protecting Peach trees, and my success for nine years (excepting 1861, when my trees were nearly killed, by frost) has been all I could desire. I am aware most people imagine that Frigi Domo is dear, that it will wear out, and that as glass walls are permanent, they prefer them. Now, the expense of covering 100 yards of wall with glass would come to a pretty considerable sum; 100 yards of Frigi Domo cost 12*l*. 10*s*., and it will last good with care for six years, which is little more than 2*l*. per year to insure a crop of fruit.

But suppose we have in use 500 yards, which for ready money would cost 60*l*., the expense would not be more than 10*l*. per annum to insure fruit enough for a nobleman's establishment, and in many places there would be more than would be required by the household, and 10*l*. worth, or even more, might be parted with, thus getting 500 yards of covering, I may say, for the trouble and labour of letting it up and down.

The question then is no longer one of expense; but nevertheless, will it do, some may say, to risk 60*l*. upon the purchase of Frigi Domo? This is the most important point to decide; but if any doubt exists, try 50 yards, and I feel convinced that you will soon double the quantity.

When we take into consideration the expense of erecting glass walls as they are termed, the annual expense of repairs, &c., and extra labour required, and then not always certain of a crop, for mismanagement and red spider will sometimes occur, I have come to the conclusion that it is preferable to use 500 yards of Frigi Domo at an annual cost of 10*l*., than to have 100 yards of glass walls, requiring constant attention, painting, repairs, &c., that would cost double the amount of expense annually. But then we are told the wood ripens better under glass, and the fruit is better flavoured; as regards wood ripening, the statement is no doubt true, but my practice is to disbud as early as possible, and to encourage early free growth, and never to suffer the trees to be checked by blight without immediate attention. These points properly attended to the wood will ripen, but lose your first growth through blight, and the second growth does not always get thoroughly matured. With respect to flavour, glass walls in unfavourable and wet seasons are a great help in ripening the fruit, and thus they improve the quality, and where expense is no object and labour plentiful, by all means adopt the plan of glass casing, but where expense is an object and labour scarce, I would recommend the use of Frigi Domo in preference, as I have said, to any other material for protecting. I may here state that the frost of May 1st, this year (12°) destroyed the greater portion of the most promising crop of fruit I have ever seen here. Plums, Cherries, Pears, Apples, &c., are almost a wreck, but I am happy to say all my trees covered with Frigi Domo were not in the least injured. *Edward Bennett, Gr. to G. S. Foljambe, Esq., Osberton Hall, Worksop, Notts.*

## THOUGHTS ABOUT VARIETIES.

Our learned friend M. Decaisne, the very able Professor of Cultivation in the Garden of Plants of Paris, has lately brought under the notice of the Academy of Sciences some very interesting remarks upon the varieties of cultivated plants in general, and of Pears in particular, the substance of which is as follows:—

The almost unlimited and ever increasing number of varieties in fruit trees, vegetables, and all useful plants, is a fact to which science has at present given too little attention. What is still more astonishing, this fact has been remarked by those who are almost strangers to the study of plants, whilst from time immemorial it has been an object of important consideration among cultivators. The ancient authors Pliny, Columella, Theophrastus and some others, as well as those of a more recent date, such as the Brothers Bauhin, Ch. and R. Estienne, Dalechamp, &c., have pointed out a pretty good number of such varieties, especially among fruit trees, where they are the most manifest, but it is vain to search for the origin of these varieties in their works; for though these authors leave us loosely to conclude that the varieties are, or may be, the result of cultivation, no one says positively that such a new variety proceeds from such another, nor is it any where explained how it is that they go on multiplying from century to century. These new forms, what are they? Can they be, as has been recently asserted, true species which have remained unknown up to the time when they were first subjected to cultivation, or are they merely modifications of ancient known species, gifted with the property of assuming various appearances according to climate or situation? It may appear strange that such a question should be brought before the Academy, so natural does it seem for a species to be subject to change, but we will show presently that this question is not one that ought to be passed over without examination; for if it is of importance to practical agriculture it ought to be equally so to science itself.

Botanists in the present day may be divided into two schools. The more ancient, which may be called the Linnean, admits the changeableness of species; within limits, no doubt, though it is not always easy to define them. Hence those large polymorphous species, sometimes vaguely defined, but generally easy to characterise by a short descriptive phrase. The other school, which belongs especially to our own time, and which may be designated the school of immutability, denies most positively any tendency to variation in the vegetable kingdom. According to it the forms of species never alter in the slightest degree; and when two plants of the same genus present any palpable difference, however slight it may be, these two plants form two species, radically distinct from the beginning of things. According to M. Jordan, of Lyons, a very eloquent advocate of the modern school, all the races and all the varieties admitted by the ancients become so many species. In his eyes, all our races and all our varieties of fruit trees, of Pears amongst others, are distinct, unchangeable species, always preserving their own characteristics, from generation to generation. Hence it follows, that these trees did not proceed, as is commonly believed, from a single or even from a few specific types, which cultivation has caused to vary, but from as many original types as there are perceptible varieties.

Is it not far more simple to account for this ever-increasing number of congeneric varieties by the principle of the changeableness of species, if this changeableness can be proved? Now I think, says M. Decaisne, it can. Remember those astonishing transformations which have recently been observed amongst Gourds and Melons, whose varieties may be reckoned by hundreds. The facts which I have to mention in the Pear tree are of the same order, and lead to similar conclusions, namely, on the one hand, the simultaneous appearance of new races, and the instability of their crosses, and finally the specific unity of all the races and varieties of the cultivated Pear tree.

In 1853 I raised a number of seedlings from the pips of Pears, selected from four varieties acknowledged by all pomologists as being quite distinct from each other. They were our old Poire d'Angleterre, which everybody knows; the Bosc, the form of which is like that of a longish Gourd, with the skin of a uniform cinnamon colour; the Belle-Alliance, a dumpy Pear with a yellow and red complexion; the Sauger, a wild variety, or nearly so, and which was so named from its foliage resembling in its white woolliness the common Sage. The batch of seedlings of the last were all raised from a tree which grew by itself on the road from Marcoussis to Gué. The pips of these Pears came up the same year as they were sown, whilst those of the Poire d'Angleterre did not appear till the following year, and that in two different sowings, without my being able to account for it. Very few of these trees have begun to bear fruit, which I regret, because the result with which they would have furnished me, if all had produced fruit, would have been more varied and for that reason more conclusive than what I am now able to place before the Academy. The first glance at the coloured figures now produced shows how much the fruit, in each case, has already changed from the original; thus in the Sauger, four trees which have borne fruit have given four different forms; one egg-shaped and entirely green; a second dumpy and almost Apple-shaped, red and green; a third, still more depressed; and a fourth regularly Pear-shaped, twice as large as the preceding ones, and of a uniform yellow tint.

From the Belle-Alliance have come nine new varieties, none of which resemble their mother, either in form, size, or colour, or even in the time of ripening. To two of these I wish to draw attention, one for its size, which is double that of the Belle-Alliance, the other for the dumpy form, which imitates the Apple-shaped Pears. In like manner the Bosc produced three new fruits of very different type, one resembling so much one of the forms obtained from the Sauger as to be scarcely distinguishable. The variations of the Poire d'Angleterre were not less remarkable; from six trees which have fruited we had six new kinds, all as different from each other and from their mother, as she was from the greater part of our old varieties; one of the plants even produced winter fruit similar to the Saint-Germain. It is not only in the fruit that trees raised from the same seed differ, it is also in their time of ripening, general appearance, and the form of their leaves. These differences are striking when the trees are seen growing together in the same border. So many trees, so many different appearances. Some have spines, some have none; some have slender wood, in some it is stout and coarse. Upon some of the seedlings from the old Poire d'Angleterre, the variation went so far as to produce lobed leaves, like those of the Hawthorn or Pyrus japonica. Everything varies in the Pear tree, even to its sap. As proof of this, observe the very different success of the graft, according to the stocks employed. All the varieties and races of Pear trees bear grafting upon a Pear tree, that is to say upon the wild Pear tree; but all will not take upon the Quince; as for example, the Rance, Clairgeau, Bosc, Duchesse de Mars, &c. When it is desired to keep these trees dwarf, which can only be done by employing the Quince stock, the latter must be first grafted with Belle-Angevine, Jaunissette, Crasane, Sucré-vert, or any other that will do on the Quince; and then the first grafts may be successfully regrafted with the sorts whose sap will not agree with the Quince. This operation is known and practised by all nurserymen. The relative size of flowers and the appearance of the foliage present a not less striking variation. Certain sorts, such as the Catillac, Saint-Gall, Gnoeco, Epargne, the Poire de Vallée, have petals very much rounded and waved, a corolla from 5 to 6 centimètres wide, and their wood when young as downy as that of the Sauger; later in life they lose this peculiar woolliness. Others, such as de Héric, Sylvange, Fortunée, &c., have oval or lanceolate petals, with flowers only half as large as the last. Finally, I have seen in the collection of M. Jamin-Durand, a Pear tree which by mistake bore the name of Chartreuse, whose linear-lanceolate petals were not more than 3 millimètres wide by 9 long.

It is evidently vain then to look for specific distinctions in the proportions of the flower and its organs. Can we pretend then to find them in the size and form of the fruit? It has already been seen how these two circumstances vary in the seedlings just spoken of; and nevertheless, my experience goes no further than four varieties, of which only a few trees have fruited. The modifications might have been far more numerous, could I have experimented upon all the known races of Pear trees. We can judge of the enormous difference which exists, with regard to size, when we call to mind that the wild Pear of Blidah, which botanists have named a little prematurely, Pyrus longipes et azarolifera, is only the size of a Pea, whilst our enormous Pears, d'Amour and Belle Angevine, vie in size with a Melon of middling size; that is at least 1200 or 1500 times larger than the first. But, perhaps it will be said, those are precisely the characteristics which prove the specific difference of these Pear trees. But, unfortunately it is not so; for the microscopically small Pear of Blidah passes by insensible transition to the Cent-au-godet, cultivated in our north-western provinces, and scarcely larger than the first; from that you arrive at the Sept-en-gueule, another variety, or rather a collection of sub-varieties, whose fruit varies between the size of a nut and a Walnut. Then come our medium Pears, and from these we arrive at the enormous ones by a very gradual gradation; exhibiting at the same time all the accidental differences of form and colour, from the long Cornemuse and Musette Pears, down to those so much depressed as to justify their being compared to Apples. How, I ask, can any specific characteristic be laid hold of, of however little value, amongst a multitude in which all extremes are united to each other by such insensible gradations, and to such an unlimited extent?

The advocates of plurality of species, more especially

in the case of Pear trees, may say, that if out of this multitude of intermediate forms, we are incapable of recognising distinct specific types, that is because these first species have been crossed and recrossed thousands of times with one another, that their fertile hybrids have enormously increased the number of crosses, and to that may be attributed these innumerable forms which drive classifiers wild. Far be it from me to deny such crosses or their influence; for nothing strikes me as more probable. Indeed it is scarcely possible to doubt it, when we see what takes place in an orchard of Pear trees in full blossom, where the bees, attracted from a league all round, are feeding from morning till night, and brushing about the pollen of all sorts and varieties, and shedding it on stigmas which were never intended to receive it. And these fertilisations, unnatural as they are thought to be, invariably take; all the flowers which receive pollen of any Pear tree whatever, setting their fruit, which always contains fertile seeds. I ask, then, if this constant fertility, after every conceivable cross, proves the diversity of species from their primitive types? To my mind it is precisely the contrary.

Does the graft, as some people maintain, alter the character of the variety? For my part I think not; at least I have never observed anything to make me think so. Duhamel, for example, remarked a century ago, that the Pear Imperiale with Oak leaves (another curious variation of foliage similar to what I mentioned before) never had but three cells in its ovary instead of five. Now it can be proved at the present day that all the fruit of this race or this variety have but three cells; although ever since the time of Duhamel it has never been propagated in any other way than by grafting. Many other facts of the same kind might be brought forward in support of the want of power in the graft to alter the nature of the variety, as for example the property, whatever it may be, which gives flavour to fruit, varying as it does so remarkably in different kinds.

The notion that fruit trees degenerate because they are propagated by grafting is an error which must be exposed. There is no single fact to prove it. Those which have been cited depend upon totally different causes, first and foremost among which are climate, unsuitable soil, and very often bad cultivation, or a neglect of pruning, so common now-a-days. Our ancient Pears, which a century or two ago were so justly esteemed, are now exactly the same as they ever were; they ripen at the same time and keep good just as long. If they are neglected it is no proof that they degenerate. It is only that nurserymen are interested in bringing forward new varieties. The pretended degeneracy of ancient races is in reality nothing more than one of these clever devices of the present day. On the other hand, can it be true, as Van Mons and many pomologists believe, that the pips of a good fruit produce wild austere fruit, and thence return to what they suppose to be the specific type? I do not hesitate to declare the contrary, and I defy any one to bring forward an example of a good fruit, whose flowers were fertilised by its own pollen, or by that of any of its own race, whose seed has produced wild fruit. If a good variety is fertilised by a wild or austere sort, it is only natural that the trees raised from such seed should produce new varieties, some if not all of which will prove inferior in quality; it may even happen that in the number there will be some with fruit as bad as that of the wilding which furnished the pollen; but this degeneracy, if you like to call it so, is nothing but the consequence of an unskilful cross. It may be considered certain, that all superior varieties of the Pear tree, and I may say of all fruit trees, if they are fertilised by themselves, produce good fruit; they may vary, and will probably do so, sometimes in one peculiarity and sometimes another, according to the variety, but none will become wild, any more than our seedling Cantaloupe Melons return to the form and flavour of the little wild Melons of India, or our Cabbages and Cauliflowers return to some one of the wild races or varieties that grow on the sea-shore. Whatever the advocates of immutability may say, the species of plants are really subject to great variation, and there is much truth in the theory which refers to the same specific type races and varieties, which, though very different in appearance, have the same morphological organisation, and which, like the members of the same family, are capable of crossing one with the other. Taking the whole series of possible generations, I am quite aware that there always will be doubtful cases, notwithstanding the proof of fertile crossing; but that is no reason for separating, as so many distinct primordial entities, what observation and analogy show us can proceed from a single original specific type. Take any one of our races of Pear trees, and transport it to all the regions of the globe; wherever it can exist, it will struggle to adapt itself to the situation, and you will find after a few generations it will have given birth to new and numberless varieties. This fact, which takes place under our own eyes, in the case of every cultivated plant that is much distributed over the world, gives the key to those polymorphous species which perplex botanical classifiers, and which have only become what they are, by Nature herself having spread them over an immense expanse of country."

It appears to us, says the Editor of *Les Mondes*, from which these remarks are derived, that the views of M. Decaisne are self evident; that the immutability of species is not at all at variance with the multiplicity of varieties, or of what in other cases are called races. Two Pear trees and two Pears do not differ more from one another, than two dogs or two men.

## ANCIENT FRUIT LORE.—No. V.

(*Continued from p. 749.*)

### *How to order Quinces.*

QUINCES are a fruite, which, if there be any store of them, be not to be layed in that roome, where any other fruite is, by reason of their strong sent. For, being layed in any close roome, neer other fruit, it will cause the fruite to smell of them. The riper also that they be, the stronger their sent is: especially if they be in a close roome: and they will not onely be hurtfull to the fruite neere them, but noysome also to them that come into the roome where they bee. Therefore they are to bee layed, in such a roome seuerall (vpon fine straw) where they shall haue ayre enough. Also, being to be carryed any far way, they must bee packt in straw: and so likewise Medlers. Their time of gathering also is all one with Medlers.

As the order of packing, & vsage of Peares, Medlers, & Quinces is shewed: so likewise shall bee declared the manner of packing pippins, and al other sorts of apples, beginning with the summer fruite.

### *How to packe or maunde apples.*

All kinde of summer or winter apples must be packt, layed, and carryed in wheate or rather rye straw. And although, for the most part, they are layed in some roome, neere where they growe, vntill they be all gathered & ready to be carryed away: yet the better way for those that are to conueigh their fruite, from whence they are gathered, is to haue maunds, straw, & all ready, lyning them with straw, that whẽ your baskets or prickels be ful, you may presẽtly poure them into the maunds. For, being first layed in one place, and then taken vp again, to be put into maunds or other casks, doth hurt the fruite with too much tossing: but being presently put into the maunds, well packt, and gently handled, will cause summer fruite to keep plumpe, and keep their colour the better.

If you haue not so many of one kind of fruite, or that there be a remnant (as of some sorts, there bee but a fewe, in an orchard) so that the maund cannot be filled: first poure in one sort, and when they bee all in, lay some fine sweet strawe vpon them, then poure in the other kinde of fruite, and so fill your maunde: and being filled and well packt, the two sorts will not come together in the stirring or carriage of them.

### *How to empty maunds, and how to lay the fruite.*

At the emptying of them, see that the fruite bee not rashly poured out, least that the seuerall sorts com together. And although packt and carryed in straw, yet at the emptying let the straw bee pickt out cleane: and, as neere as you can, let euery sort be layed seuerall. Now, if there bee so many sorts, that, for want of roome, some of them must be mixed, be sure that you mingle none, but those that will last alike: But if they bee neere in taste and colour, there needes no separation. But although some sortes doe last alike, and be neere of one taste, yet if they be not of a colour, they are not to be layed together. For, it is an vnseemely sight to see one heape of apples of seuerall colours. But if already they be mingled, let them be taken vp with a Trey: and looke how many sorts there be in the heape, you must haue by you so many baskets, and so part euery sort, seuerall: when they be parted, the ripest to be first spent, & the rest by degrees in their time.

And although they that be summer fruite, be called rathe fruite, yet are they not ripe all at one time. Wherefore, no sorts must be layed together, but those that ripen alike: otherwise, being laid together in a heape, the one will be rotten before the other bee ripe, and cause the hardest amongst them to rot, before they be kindely ripe.

Also Pippins and other winter fruite, are to bee carryed and packt in maunds, lyned with wheate or rye straw: and at the emptying of them, the straw to be cleane pickt out. And when your pippins, or other winter fruite, come to be layed in the house or place appointed, whether they should be conueighed or carryed, vnlace your maunds, take off the straw, at the top: when you haue done, whelme downe the maunds, emptying them gently, into small baskets, picking out the straw as cleane as you can. Haue a great care also in shooting or pouring thẽ out. For, in pouring of them hard, the one wil hurt the other: especially the stalkes of the one, will run into the other. And being once stalk-prickt, they will not last long, although not presently seene.

Also, being battered or bruised, they cannot keep. Onely the Pippin hath a qualitie by it selfe. For, if it be battered, the skinne being not broken, it will dry vp againe: so that it be when it is greene, and being layed amongst the rest: for then they will soake away the bruise, and make it plumpe againe, it it be not too much bruised.

## STRAWBERRIES AND SPORTS.

1. *Nimrod.*—I sent the true sort to Mr. Nicholson at the same time that I sent it to Mr. Rivers. It came to me from a friend at Blandford, who also grew noble Eleanor. My ground was not strong enough for it; I therefore discarded it. Its colour here was orange scarlet. It is not capable of being grown to the size of Eleanor. It is sweet, and of the Queen's flavour. Eleanor is more or less acid. No doubt Mr. Doubleday's six runners sprang from the ones that I sent to Mr. Nicholson; still I was surprised to see Mr. Nicholson's description of Nimrod, viz., "very like Eleanor, if not the same." Messrs. May, Ingram, and Baker of Blandford grew both these sorts. The last gentleman especially recommended Nimrod to me.

2. *The False Sir Harry.*—This was, I believe (and others think so too) Hooper's Seedling. I have had a letter full of groans on the subject, cheered by thanks for my last and other articles. The complainant says the true Sir Harry is slow to grow and slower to run. This I found to be the case. Ninety-five out of 100, I believe, have never had the true Nimrod or true Sir Harry, or they have had them mixed.

3. *La Constante.*—The complaints against the growth and slow running of this good Strawberry are such as I supposed would be the case. Mr. Turner wrote this week for runners, complaining of its slow growth and slow and sparse running. I have not the sign of a runner yet, though I manured and watered close after cropping. If such is the case in the fine ground of Slough and Salt Hill, what can we expect in our inferior lands? I shall make all the plantations of Frogmore Pine that I can (one is already made), and discard this sort. Still, where it will succeed it should be grown. The Frogmore Pines are worthy of the Royal gardens in which they were raised.

4. *Model and Bijou.*—These are two seedlings of M. de Jonghe's, which he rightly describes as slow growers and slow runners. I planted four this spring in front of my south wall. The sharp hoar frosts soon killed them. Bijou is alive and very small, with two diminutive runners. Had not M. de Jonghe asked in a late communication, "what will Mr. Radclyffe say?" I should not have adverted to them. I will, however, take every care of mother and daughters, which might do in the Blandford land, where they can grow good crops of Myatt's Quinquefolia, a curious, handsome, and good-flavoured Strawberry, suitable chiefly for pot culture.

SPORTS.—Roses, such as M. Campbell and White Bath, will sport. I have seen on M. Campbell a perfectly striped Rose and La Reine (its parent) at the same time. I have seen on the White Bath, white Roses, white and roseated, and also a bloom one half white and the other half rose; but I never saw a Strawberry sport. Still, the freaks of Nature are manifold, or we should not have the term *lusus naturæ.* I bought 12 Sir Harry's (not of Mr. Underhill) for 10*s.*, and Sir Harry sported, or returned to the ancient type of Hooper's Seedling. Let us hope that the raisers of seedlings will, like the calico printers, find out a recipe for fixing. These mishaps put me in mind of the vicarage of Gussage, All Saints, Dorset, to which I was presented by Archdeacon Buckle. The first Sunday that I served the church, the clerk gave out the words of the Psalm—

"One neighbour now can scarce believe
What t'other neighbour says!"

*W. F. Radclyffe, Rushton.*

## Home Correspondence.

*Appearance of a Plant in a Singular Place.*—In a hard gravel walk close to my house, my gardener and myself distinctly remember, about five or six years ago, two little rosettes of purplish leaves pushing their way up. We neither of us could imagine what they were; they were soon trampled down and apparently killed. But this spring they have re-appeared in exactly the same spot, and were protected. They have now flowered and prove to be Epipactis latifolia. This Orchid, though by no means a rare plant, I have never seen in this neighbourhood, and have heard only once of its having been found in a wood about a mile and a half distant. The gravel walk was made 20 years ago; and before that time the spot existed as a little-used carriage drive; and about 25 or 26 years ago it was a pasture field. How could this Epipactis, which is so rare a plant here, have come to this spot? The root stock seems to have lain dormant under the gravel for the last five or six years. Could a seed have been blown here from a distance and have germinated during some season when the walk was neglected? The tall stems growing up in the midst of the bare gravel surface present an odd appearance, and the case seems to me a singular one. *Charles Darwin, Down, Bromley, Kent.*

*Spurious Strawberries.*—I can fully confirm Mr. Doubleday's statement in reference to this subject in last week's Number; as regards Nimrod, I am of opinion that no other kind has ever been distributed by Messrs. Lucombe, Pince, & Co. under that name, except Myatt's Eleanor, which I got twice from that firm through Messrs. Henderson. What Mr. Doubleday had from the late Mr. Nicholson as the true Nimrod, is, I believe, the same sort which Mr. Radclyffe gave me,

but in my opinion this bears a strong resemblance to Wilmot's Prince Arthur, a splendid sort where it succeeds. As regards the spurious Sir Harry, I believe that everybody who ordered plants at the time when it was advertised got their share of it. Mr. Underhill replied to my complaint, as he did to Mr. Doubleday, that it must be a sport. Now, as far as I know, there exists no such thing among Strawberries as a sport; at least not one of my numerous Strawberry friends has ever heard of such an occurrence. Moreover, since 1855 I have never detected the least variation in Sir Harry, which is one of my favourites. I may add that Wonderful, sent out by Mr. Jeyes, of Northampton, is nothing else than Myatt's Prolific, raised many years ago, and rechristened. It is Wonderful at Northampton, Batswing in Scotland, and Perle de Rastede or Rostock in Germany! It is surprising that nobody should before this have rendered justice in this matter to the late Mr. Myatt, to whom we owe so many fine Strawberries. *Ferdinand Gloede, France.*

*New Potatoes.*—I have sent for your inspection two samples of seedling Potatoes, raised by a policeman in this neighbourhood. It is about four years since the seed of them was sown; he has carefully attended to them since that time; last year he showed them at several provincial shows and had prizes awarded them. *D. Darr, 2, Widcombe Hill, Bath.* [Both are excellent sorts, the Red one rather shorter than the White. They are even, regularly shaped, without deep eyes, and consequently without waste. When cooked they become very floury; and if they had been a little riper would certainly have been entitled to be placed A 1.]

*Exhibition of Cottage Garden Produce.*—I hope that gentlemen interested in their poorer neighbours will kindly express their views on this subject, in order that an estimate of general opinion may be obtained. Let it be taken for granted that the articles of garden culture most in request, sought for by the greatest number of persons, and hence of the highest importance, should have a paramount claim to be recognised as proper subjects of reward for successful culture. Such are the things competed for at country shows, viz.: Potatoes, Cabbage, Onions, Rhubarb, and other homely stuff, which nobody can do without, and which not a few are obliged to do almost everything with as regards the common but necessary business of supporting existence. Now, an exhibition of these articles would not in itself be a very attractive sight to sight-seers; it may be seen every morning in Covent Garden Market almost in perfection—hence, if undertaken at all, it must be for a purely benevolent and useful end. Nor would it be a self supporting one for the same reason, but assistance from nurserymen and owners of beautiful plants might be solicited to render it worth visiting to such as would not care to see it on its own merits. The main points are—By whom should it be undertaken?—how, when, and where? The first point must be resolved by some already existing responsible body—a society whose objects comprehend what is useful as well as ornamental. Let us suppose that the Council of the Royal Horticultural Society should be disposed to consider this question. The means at the disposal of any Society whatever are limited. Should this be urged as a reason for declining the charge, it should be remembered that upwards of 225*l.* or thereabouts is awarded two or three times a year by one Society (the Royal Horticultural) for Stove and Greenhouse plants and Orchids alone. I by no means wish to intimate that this sum is too much. It is only asked, can that money or part of it be assigned for once to the objects advocated in this article? An exhibition of the kind here named would not perhaps be necessary every year; let it be tried once. This point gained, it would next be necessary to make it known in time; this could be well effected by provincial societies causing themselves to be registered at the office of the chief society, each of the provincial societies taking charge of the produce sent from its own district, selecting that most worthy for competition, and bringing it to the place of exhibition, &c., at its own expense—which would not be severe—and which of course could not be borne by the exhibitor; for if left to the labourers themselves, nothing would come of it; many of them, if they heard of it at all, would probably have only a muddled notion of what was to take place, and altogether decline taking upon themselves the trouble and expense of sending their articles for competition to the place of show. All difficulties of this description might therefore be obviated by provincial societies taking upon themselves the charge of the produce of their own district—and with advantage too—as the best specimens only would be selected and brought to the test with that of other districts. As to the time when such a show should be held, it is manifest when the greatest number of the most important items of cottage garden culture are at maturity—it would be fairest to the labourer to choose that time. If deferred till late in the autumn, many useful things would necessarily have to be left out of the schedules; for example, Gooseberries and other fruit except Apples. Peas, Broad Beans, and even Cabbage would not be up to the mark. It is found I think by experience that from the middle to the end of July the greatest variety of produce could be exhibited. *Adolphus H. Kent, Blechingley, Surrey.*

# Societies.

Entomological: *August* 3.—F. Pascoe, Esq., F.L.S., V.P., in the chair. An account was given of the Entomological captures made during Mr. Waterhouse's expedition across Australia, the insects having been chiefly taken in the northern half of the Continent, and comprising a great number of species (although few in the number of individuals) which exhibited greater affinity to the species inhabiting the islands of the Eastern Archipelago, than to the fauna of South Australia. Mr. Dunning stated that the insects which had spun the tissue over Chicory exhibited at the last meeting, were Ephestia elutella. Mr. Stanton gave an account of the capture of Tinagma resplendella, a beautiful species of Microlepidoptera. Mr. Hayward alluded to the difficulty of rearing the species of Brachelytra (rove-beetles), and exhibited Ocypus ater, which he had obtained from a pupa found in a stump of wood. Mr. Douglas Timmins gave an account of the successful rearing of Lepidoptera in winter, the chrysalids having been kept in warm situations. The Chairman announced the 6th volume of Lacordaire's genera of Coleoptera, devoted to the Rhynchophora or Weevils. Mr. Wallace announced an intended expedition for Zoological pursuits to New Britain, New Ireland, &c., by Messrs. Wilson of Adelaide. The second volume of Mr. Trimen's work on the Butterflies of Caffraria was also announced as nearly ready for publication. Memoirs by Dr. Baly, containing descriptions of New Chrysomelidæ, &c., and by Dr. Stal on New Hemiptera were also read.

# Notices of Books.

*The Angler-Naturalist.* By H. C. Pennell, Van Voorst. 8vo. London, 1863. Pp. 425.

(*Concluded from p. 751.*)

The frogs are said to have remonstrated with a party of rude boys, who were pelting them for mere wanton amusement, something after this fashion—"Young gentlemen! what's sport to you is death to us." It must be confessed that the great drawback to the gentle sport, is that possibly it may be painful to the feelings of the fish. To reassure his readers on this point, Mr. Pennell gives a number of instances which go to prove the very low sensibility to pain which these cold-blooded creatures appear to possess. He mentions having hooked the same pike three times in as many minutes, and once when removing the hook from a perch the fish's eye was displaced and left adhering to the hook. The poor little perch was returned to the water, and the fisherman again threw his line with no other bait but this unfortunate eye. "The float disappeared almost instantly, and on landing the new comer it turned out to be the very fish which I had the moment before thrown in. This incident proves, I think conclusively, that the structure of cold-blooded animals enables them to endure very severe injuries and wounds without experiencing material inconvenience; a fact which may tend to remove any qualms of conscience felt by anglers on the score of the sufferings supposed to be inflicted on their captures." This certainly was not a pleasant circumstance to the fisherman, but apparently it was not so painful to the fish as might have been expected.

While on this subject we must add a single instance of the "hard-dying" qualities of a carp. "He was 'killed' in the usual manner and consigned with others to the cook, in whose care, however, after some hours, he began to show signs of revival. A kind-hearted damsel compassionately transferred him to the vivarium, where he has since thriven, showing no effects of his narrow escape, save a scar on the back of the head, which he will probably never lose."

To the sportsman there is something peculiarly attractive in the pike. Its size, its reckless courage, the dash and *élan* with which it takes the death, its very ferocity has an interest—and who has not listened with open mouth and eager eyes to wonderful tales of the pike's voracity? Here is one related by Dr. Genzik:—

"In 1829 Gouge, who afterwards became a celebrated physician, was bathing with a party of students at Vienna, when suddenly he screamed out and sank. All plunged in to his assistance, and succeeded in bringing him to the surface, and finally in getting him on the hoarding of the bath, when a pike was found sticking fast to his right heel, which would not loose its hold, but was killed and eaten by us all in company the same evening. It weighed 32 lbs. Gouge suffered for months from the bite."

Other very recent and well-authenticated accounts of the pike's voracity and ferocity are given in this book, to which we must refer, as also for instances of the travelling of pike and other fishes from one pond to another, the performance of the Perca scandens or climbing perch, and the strange vitality of fish (mentioned by Sir Emerson Tennent in his History of Ceylon, and well known to most East Indians) which can endure the parching dryness of the hot season, and are ready to be caught the moment the rains set in.

Of all the fishes known in Great Britain, those belonging to the genus Salmo are the most important, yet, strange to say, "scarcely anything certain was known of the natural history of the salmon even 30 years ago, beyond the fact that the fish ascended the rivers to spawn during the spring and summer, spawned, and descended to the sea within the following two or three months. Of late, however, and especially during the last very few years, the researches of ichthyologists and the experiments which have been conducted on a large scale by enterprising and scientific men, have thrown a flood of light upon the subject, converting doubts into certainties, theories into practice, and generally advancing our knowledge of the subject, which promises to be productive of most important reforms in the management of our exhausted salmon fisheries, and in the establishment of new ones." To show the extent of knowledge already attained, Mr. Pennell gives in a condensed form a statement of "Proved facts in the history of the salmon," followed by the "distinctive marks of salmon and trout," which are chiefly known by the differences in the form of their gill-covers, the arrangement of their teeth, the shape and size of the tail fins, which include the principal organs of (1), respiration; (2), mastication; (3), motion; which are admitted to be among the most important and unvarying in piscine structure. Into the distinctions of parr, smolt, grilse, of bull trout and salmon trout, we must not enter, but there can be little doubt that Mr. Pennell is a most trustworthy guide. It seems that the Duke of Atholl has for some years caused all kelts (spent or unclean fish), taken with the rod in his waters, to be marked with a numbered copper or gutta percha ticket, fastened to the tail, stating the time when caught, and the then weight, that the increase of weight when recaptured may be observed—a matter of great interest in a variety of ways. To what a pitch of excellence the operations of the "Thames Angling Preservation Society" has attained in the artificial impregnation and hatching of fish ova, we may judge by the fact, as stated by their able superintendent, Mr. Ponder, that the loss has amounted to only 3 per cent. on the whole number of eggs introduced into the breeding boxes. The young fry are carefully reared until they arrive at an age when they can shift for themselves, and are then turned into the river, thus escaping the thousand-and-one enemies to which they would be otherwise exposed. The appearance of the recently hatched ova in what is called the bag-stage is very curious—"The future monarch of the stream is represented by a mere ragged line, fringed at the edges and almost transparent, the head and eyes being prominent, and altogether out of proportion to the body, which measures only about ⅗ths of an inch in length, and is of a pale peach-blossom or azure tint. An examination of one of these newly-hatched creatures through a powerful microscope, exhibits in perfection the system of the double circulation, or passage and repassage of the blood-globules through the veins and arteries, a fearful and wonderful sight, which seems to bring the beholder face to face with the great mystery of life, in at least its visible aspect.

"In 35 or 40 days from the time of hatching, the yelk bag disappears, and the fry becomes a perfect little fish of about an inch long, with the fins separated and properly developed, and the tail deeply forked at the end. The general colour now also changes to a light brown; and the sides are indistinctly crossed by nine or ten transverse dusky bars, or parr marks, characteristic of all the species of the genus Salmo when in an immature state, and which, in the true salmon, remain more or less visible even in a smolt or parr 6 inches long. In rather more than 12 months from the time of hatching, about half of the last year's parr begin to assume their silver coating of scales, preparatory to making their first trip to sea as smolts. In from six to eight weeks a number of these return to the same river with an increase in weight of from 2 to 5lb., and many of the fry marked when migrating as smolts in May and June are sold in the London markets as grilse in July, August, and September. Very small grilse are sometimes caught, and these, when weighing less than 2 lbs., pass among the London fishmongers by the name of 'salmon peel.'"

Judging by the pleasure which we have had, and the information we have gained, by the perusal of this charming book, it is sure to become a favourite. The extracts given will afford our readers an opportunity of judging of its style and contents, but they can give no idea of the excellence of the woodcuts. Whether he is fortunate enough to catch trout and grilse, or confine his attention to the humbler haunts of perch and sticklebacks, the fisherman who has Mr. Pennell's book to refer to will find an interest in his sport beyond mere fish catching.

The *Botanical Magazine* for July contains figures and descriptions of the following plants:—*Rhododendron Batemani*, a fine species from Bhotan, which has been flowered by J. Bateman, Esq., at Knypersley Hall. It is allied to R. campanulatum, having its broad elliptic-oblong leaves clothed with similar ochreous tomentum on the lower surface, but altogether of a more robust character, the leaves also being larger and longer; the flowers are of a deep crimson red with the rounded segments undulated; and it essentially differs in its ten-celled ovary.—*Ornithogalum capitatum*, a bulb from the interior of the Cape Colony, introduced by W. Wilson Saunders, Esq., and having linear-oblong acuminated leaves, and heads of white starry flowers bearing a good deal of resemblance to those of an Allium.—*Meyenia Vogeliana*, a beautiful stove

shrub, introduced from Fernando Po to Kew by Mr. Gustav Mann. It is a smooth shrub, with erect branches, oblong-ovate acuminate serrated leaves, and copious large funnel-shaped flowers widened in the throat which is orange coloured, the limb being broad and of a rich violet purple. Though retaining the name Meyenia for this plant, Sir W. J. Hooker observes that Dr. Anderson, our best authority for Acanthaceous plants, considers it in no way distinct from Thunbergia. It is described as being much more beautiful than M. erecta, and no doubt is so if the figure may be trusted.—*Nephelaphyllum scapigerum*, a curious dwarf Orchid from Borneo, introduced by Messrs. Low & Co.; the leaves are cordate-ovate unspotted green, one surmounting each of the short barren stems; and the flowers, which are variegated with green white yellow and purple, are on short leafless scapes; they are large for the size of the plant, and the lip is very prettily marked.—*Eria obesa*, a dwarf white-flowered Indian Orchid, chiefly remarkable for its short oval gouty stems.

The August number contains illustrations of the following:—*Calceolaria punctata*, a curious and very distinct-looking species of the gaping equal-lipped or Jovellana group, a Chilian plant, recently introduced by Messrs. Veitch & Son. It is a tall branched herb shrubby at the base, and has largish opposite ovate deeply twice or thrice serrated rugose leaves, and loose many-flowered panicles terminating the stem; the flowers are lilac with a pair of rounded lips like a gaping mouth, the lower side blotched with yellow, and the base dotted with dark spots.—*Crassula rosularis*, a greenhouse succulent, with a tuft of large oblong-lanceolate ligulate leaves and erect stems bearing many opposite close almost capitate cymes of small greenish flowers. It comes from South Africa.—*Anchomanes Hookeri* var. *pallida*, one of a set of aroideous plants, which are very remarkable whether in leaf or flower. "The spathes open in May, reared on the summit of a slender prickly peduncle 2 to 3 feet high, and blotched with purple and green. In the following July the single leaf appears, the petiole of which is longer, more prickly and slender than the peduncle, and bears horizontally on its summit the three-parted lamina, each of which is pinnated, and has two to three pairs of leaflets; each of the lateral leaflets gradually attains a size of 6 inches, and the terminal ones even a foot and a half when the whole dies down to the ground, the tuber remaining dormant throughout the winter. It was introduced to Kew from Fernando Po by Mr. G. Mann.—*Lewisia rediviva*, a very singular N.W. American perennial, remarkable for its tenacity of life. It belongs to the Portulacaceous order, and is called Spat'lum by the Indians. The plant is a dwarf perennial, with a thick fleshy root, terete fleshy glaucous leaves, and large rose-coloured flowers on short one-flowered peduncles. The specific name "rediviva" was given by Pursh in consequence of the remarkable vitality observed in the plant. The specimen figured in the "Botanical Magazine" was taken from a plant growing at Kew, one of many gathered with the view of being preserved for the herbarium by Dr. Lyall, and for this purpose immersed in boiling water. More than a year and a half after, it showed symptoms of vitality, and produced its beautiful flowers in great perfection last May at Kew. It is a native of California.—*Senecio pyramidatus*, a sub-shrubby South African Groundsel, with terete fleshy glaucous leaves, and large radiate bright-yellow flowers, borne in elongate thyrsoid racemes. It is a plant of botanical rather than horticultural interest.—*Ophelia umbellata*, an Indian annual with erect glabrous stems, about a foot in height, bearing opposite leaves, obovate-spathulate on the lower part of the stem, and ovate above. The flowers form a kind of corymbose panicle, of which the ultimate divisions are umbellate, and are four-petaled, white slightly tinged with blue, giving them a grayish appearance.

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Books Received.—*Watts' Dictionary of Chemistry*, Part VI. (Longmans) In this part of Watts' excellent work we find capital articles on Cider, Cinchona, Clouds, Coal, Coffee, Colchicum, Combustion, &c. The first volume is now complete.——*Kitto's* very carefully compiled *Cyclopædia of Biblical Literature* (Black), has reached Part V., in which we find a beautiful fac-simile of the curious Anglo-Saxon Bible called the "Durham."

## Garden Memoranda.

Kingston Hall, Kegworth.—About half way betwixt Leicester and Derby, Kingston Hall, the seat of Lord Belper, can easily be seen from the railway, beautifully situated amongst fine scenery, ornamental waters, and extensive shrubberies and pleasure grounds. The flower garden just now presents a very attractive appearance; among other things it contains a seedling Verbena named Lord Belper, which is certainly the best scarlet we have met with. It closely resembles Robinson's Defiance in colour, has a good truss, and is very short-jointed and free blooming. Lady Victoria Scott, another Verbena, is also largely employed, and for small beds is very effective. A mass of Foxhunter Verbena is likewise extremely showy, but it is not so striking as Lord Belper, and will, we apprehend, not stand rough weather so well. Amaranthus melancholicus ruber succeeds satisfactorily, and where it does grow well it is a very desirable plant. Mr. Westland, the gardener, intends devoting attention to such plants as the variegated Periwinkle, the different kinds of variegated Ivies, and other hardy plants for flower garden decoration. That such materials might be made available we have no doubt, and where large centre beds have to be filled, Acer Negundo variegatum, Purple Beech, variegated Turkey Oak, and other plants would be highly ornamental. Bijou variegated Geranium is a favourite, as is also Tropæolum Eclipse. On the south side of the kitchen garden is a superb riband border, consisting of Lobelia speciosa, Geranium Flower of the Day, Perilla, Tom Thumb Geranium, Calceolaria Kayi, and Geranium Trentham Rose.

Close to the mansion is one of the coolest conservatories in summer we have seen; it is chiefly occupied by Tree Ferns and other ornamental plants, among which we noticed Ficus Cooperi fruiting, Achimenes suspended in wire baskets, producing a pretty effect, especially when the plants are gracefully trained over the baskets; and fine specimens of Alsophila excelsa and australis. Leading from the conservatory to the mansion, is a corridor which is kept well supplied with plants, in the midst of which are some fine specimens of Campanula pyramidalis, an excellent plant for indoor decoration. Mr. Westland sows the seed of it in March, when he puts the young plants out in the open ground, transfers them to pots in autumn, in order that they may get well established by the spring, and in this way they make fine specimens. In one of the frames in the kitchen garden were several examples of Eucharis amazonica; we were informed that it is the practice here to grow this plant in heat early, then to put it out in a cold frame, and bring it into warmth again in the winter, when it produces an abundance of flower.

The Pine Apples look well, being very sturdy, healthy plants, consisting chiefly of Queens, Montserrats, and Smooth-leaved Cayennes, all planted out. Mr. Westland speaks in high terms of the last named kind. In the succession house turners' shavings (the chips or shavings from turning lathes) are used for plunging; they are much cleaner than tan, and they will retain heat for two years at a time. The range of Vineries early in the season is well worth seeing. It comprises four divisions, each having 32 feet rafters, the two centre houses accommodating 12 rods each, and the two others 10 each. One of the centre houses is filled with Muscat of Alexandria in full bearing, and in another compartment we noticed two or three plants of the Muscat Muscadine, one of the finest White Grapes in cultivation, decidedly superior to the White Frontignan or Royal Muscadine, and as hardy as the latter.

The kitchen gardens are extensive; Rocambole, which is now seldom met with, is cultivated here and much esteemed for flavouring dishes. It closely resembles the Shallot in growth, but has a richer and milder flavour. Strawberries are grown extensively, the sorts most esteemed being the true Sir Harry, Carolina Superba, Empress Eugénie, Sir Charles Napier, and the very useful Frogmore Late Pine.

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Messrs. Downie, Laird, and Laing's Nursery, Forest Hill.—Lovers of Hollyhocks will be glad to know that a fine collection of them is now in full bloom here, and well worth inspection. Among them we noticed Lady Dacres, a salmon-coloured variety with spikes of flower measuring no less than 3 feet 9 inches in length; George Keith, a vivid crimson rose in equally beautiful condition, as was also R. B. Ullett; of glowing crimsons, the two last are certainly the best. Among yellows we saw nothing so good as Golden Fleece, a bright showy variety, and apparently an unusually free flowerer. Empress Eugénie is a fine large white, but not so pure as Reine Blanche, which has, however, the fault of being small in the flower and difficult to grow. Of purples the best is Purple Prince, a noble kind with fine spikes of flowers, in colour almost approaching claret. Among blacks, which are scarce, are some promising seedlings, especially one called Sambo, a glossy very dark kind. Among other colours were Lord Loughborough, a showy crimson scarlet; Prince of Hesse, and Walden Masterpiece, both buffs, suffused more or less with salmon and yellow, the first the paler of the two; Glory of Stanstead, a deep rose-coloured seedling shaded with violet; and Countess of Craven, the last delicate rose or rather peach, a charming free blooming variety.

The plantations of Seedling Hollyhocks are also well worth inspection, if only for the purpose of seeing how much plants raised from seeds, saved from the same flower, differ one from another in colour; whites may be seen springing from yellows, every shade of rose from crimson. Stanstead Rival, a beautiful early blooming salmon variety, furnishes every shade of that colour; and equally varied results may be found in seedlings raised from other named kinds, the good or bad properties of the female parent generally predominating over those of the male. The choosing of good kinds for seed bearers therefore becomes, it will be seen, a matter of necessity.

Dahlias are also grown here on a tolerably large scale; they are not, however, yet fully in flower. They are planted 5 feet apart each way, and, being carefully mulched with rotten dung and well attended to with water, their growth is excellent, and a fine display of bloom may be expected. Hollyhocks are also mulched with decayed manure and Cocoa-nut fibre refuse, which is found very useful for top dressings.

To Phloxes, both early and late, and Roses, considerable attention is being paid here, and especially to the culture of the last upon the Manetti stock, which seems to suit the stiff clay of this district equally well as the sands of Folkestone. Indeed, notwithstanding the drought to which it has been subjected this season, nothing could be more satisfactory than its growth in this nursery.

Glass houses consist of a series of span-roofed erections, filled at present chiefly with young Vines, among which we noticed fine rods of Lady Downe's Seedling and Black Alicante. Gloxinias, Fuchsias, and plants of that description occupied other compartments, in which were Halley's Geranium Adonis, a fine scarlet with a white eye and strongly-marked horse-shoe leaves; and Calceolaria Cloth of Gold, a very dwarf-growing variety, very bright in colour, and suitable either for pots or beds. Of Lord Craven, a beautiful rich claret-coloured variety of Verbena, we also noticed some fine examples, as well as of Italian Carnations, striped Verbenas, and other choice kinds of florists' flowers, among which fancy Pansies, though now past their best, Antirrhinums, and Pentstemons, must not be forgotten.

Of fruit trees there is a good collection, in which are some Quince stocks budded with Pears, which, although moved this spring, have made most satisfactory growth; not one of them has died, notwithstanding the unfavourableness of the season for spring transplanting.

## Miscellaneous.

*Silkworms.*—Last year the Council reported upon the experiments which Lady Dorothy Nevill had conducted as to the cultivation of the Ailanthus silkworm (Bombyx Cynthia). These experiments have been continued, and with marked success. Mr. Buckland having paid a visit to Lady Dorothy Nevill's silkworm plantation at Dangstein, near Petersfield, Hants, published an account of what he saw in the *Queen* newspaper (February 28, 1863), of which the following is an extract:—

> Her ladyship has set apart a portion of her beautiful and well-ordered garden, and has planted it with the young Ailanthus trees, covering them over with a light canvas-made building, a precaution rendered necessary by the birds, who pick off the young worms. On entering this building, I saw, for the first time, the living worms; they were in the highest state of perfection, and really beautiful things to look at; not white-faced, pale-looking things like the common silkworm, but magnificent fellows from 2½ to 3 inches long, of an intense emerald-green colour, with the tubercles tipped with a gorgeous marine-blue. Her ladyship pointed out to me how the silkworms held on to the leaves; they cared nothing for rain, less for the wind. Their feet have greater adhesive powers than the suckers of the cuttle-fish, and their bodies are covered with a fine down which turns the rain drops, like the tiny hairs on the leaf of the Cabbage. Many of them had made their cocoons—picking out snug, quiet corners—and were working away like diligent and useful weavers, as they are. Lady D. Nevill explained how readily and at what little expense they were cultivated, and that she had found a ready market for all the cocoons she could grow, a gentleman in Paris having offered to take all she could supply for French manufacture.

Lady Dorothy Nevill herself gives the following report of her experiments:—

> "Of the silkworms I have nothing at present to say, as they are not yet come out, but last summer I netted over three dozen trees, and placed 500 worms on them. They yielded 480 cocoons. A bird got under the net, and took off some before it was arrested in its mischievous career. No wind or weather seemed to hurt the worms, and we kept some of the later ones on the trees, when even the leaves were frost bitten, but the worms did not seem to suffer. I have no doubt as to their hardiness. The three dozen trees, about 5 feet high, would have fed at least 2000 worms, if we had had them, as the more the worms devour the leaves the stronger the latter shoot forth."

These facts seem to establish not only the probability of cultivating the Ailanthus silkworm in this country, but the ease with which it may be carried out. The shrub itself grows hardily and abundantly in the country already, and it may be seen flourishing in several of the gardens of the metropolitan squares, notably Belgrave and St. James's. It will, indeed, live anywhere, and delights in poor and sterile soil; and where it lives the worms will live also. The Council cannot but think that the general introduction of this new form of cultivation would be most beneficial, as it could be carried out upon any, even the smallest scale, by every cottager or small landowner who has a garden, and a ready market may be found for the smallest parcels of cocoons. To ladies especially this operation may be recommended by the fact that they may, without the slightest hyperbole, grow their own silk dresses in their own gardens. *Report of the Acclimatization Society.*

*Mummy Wheat.*—The *Presse Scientifique des Deux Mondes* contains a description of a series of experiments made in Egypt by Figari-Bey on the Wheat found in the ancient sepulchres of that country. A long dispute occurred a few yeas ago, as to what truth there might be in the popular belief, according to which this ancient Wheat will not only germinate after the lapse of 3000 years, but produce ears of extraordinary size and beauty. The question was left undecided; but Figari-Bey's paper, addressed to the Egyptian Institute of Alexandria, contains some facts which appear much in

favour of a negative solution. One kind of Wheat which Figari-Bey employed for his experiments had been found in Upper Egypt, at the bottom of a tomb at Medinet-Aboo, by M. Schnepp, Secretary to the Egyptian Institute. There were two varieties of it, both pertaining to those still cultivated in Egypt. The form of the grains had not changed; but their colour, both within and without, had become reddish, as if they had been exposed to smoke. The specific weight was also the same, viz., 25 grains to a gramme. On being ground they yield a good deal of flour; but are harder than common Wheat, and not very friable; the colour of the flour is somewhat lighter than that of the outer envelope. Its taste is bitter and bituminous; and when thrown into the fire, it emits a slight but pungent smell. On being sown in moist ground, under the usual pressure of the atmosphere, and at a temperature of 25° (Réaumur), the grains became soft, and swelled a little during the first four days; on the seventh day their tumefaction became more apparent, with an appearance of maceration and decomposition; and on the ninth day this decomposition was complete. No trace of germination could be discovered during all this time. Figari-Bey obtained similar negative results from grains of Wheat found in other sepulchres, and also on Barley proceeding from the same source; so that there is every reason to believe that the ears hitherto ostensibly obtained from Mummy Wheat proceed from grain accidentally contained in the mould into which the former was sown. *Veterinarian, May* 1863.

*Pinus Bungeana at Peking.*—Near these royal tombstones I observed a species of Pine tree, having a peculiar habit and most striking appearance. It had a thick trunk, which rose from the ground to the height of three or four feet only. At this point some eight or ten branches sprang out, not branching or bending in the usual way, but rising perpendicularly, as straight as a Larch, to the height of 80 or 100 feet. The bark of the main stem and the secondary stems was of a milky-white colour, peeling like that of the Arbutus, and the leaves, which were chiefly on the top of the tree, were of a lighter green than those of the common Pine. Altogether this tree had a very curious appearance, very symmetrical in form, and the different specimens, which evidently occupied the most honourable places in the cemetery, were as like one another as they could possibly be. In all my wanderings in India, China, or Japan, I had never seen a Pine tree like this one. What could it be?—was it new?—and had I at last found something to reward me for my journey to the far north? I went up to a spot where two of these trees were standing, like sentinels, one on each side of a grave. They were both covered with cones, and therefore were in a fit state for a critical examination of the species. But although almost unknown in Europe, the species is not new. It proved to be one already known under the name of Pinus Bungeana. I had formerly met with it in a young state in the country near Shanghae, and had already introduced it into England, although, until now, I had not the slightest idea of its extraordinary appearance when full grown. I would therefore advise those who have young plants of this curious tree in their collections to look carefully after them, as the species is doubtless perfectly hardy in our climate, and at some future day it will form a very remarkable object in our landscape. One of the trunks, which I measured at 3 feet from the ground, was 12 feet in circumference. *Fortune's "Yedo and Peking."*

*Shower of Earwigs.*—On the 4th June, at a quarter past 1 o'clock, at a place called Gor Roubou, in the province of Oran, there occurred a real shower of these insects, lasting 20 minutes. The court-yards, walls, and roofs of the houses were literally black with them. *Les Mondes.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

Conservatory, &c.—It is now time to provide and encourage an assortment of flowers adapted for blooming late in autumn and in early winter. Camellias if forced into wood will be tolerably forward. They should be kept out of doors in a cool place on cool flags or coal ashes, to prevent worms from deranging the drainage. Chrysanthemums should now receive their last shift, if possible using chiefly good fibrous loam for the purpose, with plenty of charcoal. This is the best way to keep them stiff in habit and to preserve their lower leaves. Any necessary amount of strength may be imparted to them when the flower-buds are formed by good liquid manure. Successions of Brugmansias, Clerodendrons, Euphorbias, Poincettias, &c., should receive a last shift in order that they may produce a rich display in the conservatory. Climbers on ornamental trellises should be occasionally cut back, with the view of having a succession late in the season when flowers become scarce. A batch of such things as Thunbergias, Ipomœas, Jasmines, Stephanotis, Passifloras, &c., should be got up ornamental trellises without delay. Clematis bicolor and C. azurea grandiflora force well in early spring. These latter plants, although perfectly hardy, are well adapted for conservatory trellises. Continue to top up late growing Orchids, and to keep the plants at the warmest end of the house. Give air liberally in the early part of the day, and on very fine mornings syringe occasionally the whole of the stock. A little fire heat must be kept up, if only to ensure a proper circulation of air. Take care, however, that it is very low during the night. In mixed greenhouses look well after winter flowering things of common character, such as Cinerarias, Verbenas, Scarlet Pelargoniums, Heliotropes, Roses, &c. Cinerarias must now be potted off, whether from seed or from suckers, Chinese Primulas also, remembering to give the last shift immediately to those intended to blossom in October and November. Scarlet Pelargoniums to bloom well should be somewhat pot bound.

### FORCING DEPARTMENT.

Pineries.—Plants growing in dung pits must be freely supplied with air to prevent their getting drawn, and they should also be kept near the glass and not allowed to stand too closely together, for strong robust plants need hardly be expected unless this is attended to, and weakly drawn ones seldom or never yield fine fruit. Give careful attention to such as are swelling; afford them plenty of warmth and moisture, and as much manure-water at the root as the soil will bear. Remove useless suckers and gills as soon as they are perceived, which, if left, only rob the fruit and weaken the suckers which it may be necessary to leave on the plant for keeping up the stock. Do not allow young stock in free growth in the succession pits to stand too closely together, nor to sustain any check through neglect in watering, or the want of pot room. Plants growing in beds of soil must also be carefully attended to with water, keeping the soil in a nice moist state. Where rapid growth is required keep as warm and moist as can be done without drawing the foliage, and give plenty of strong clear manure water at the root, and the plants will make rapid progress for the next two months.

Vineries.—See that Vines from which the fruit has just been cut are free from insects, giving the foliage an occasional washing with the engine if red spider is at all troublesome; and use every precaution to keep the leaves in health as long as possible. Prevent the growth of laterals, which only shade and injure the principal foliage. Late Grapes colouring should be assisted with slight fires in cloudy weather, especially Muscats, which, after this season, where they are not already all but ripe, will require gentle fires, unless the weather should prove unusually fine. Thrips are frequently very troublesome in late Vineries where plants have been grown under the Vines, and where there is any reason to expect these, the foliage should be frequently examined closely; giving the house a heavy smoking as soon as they are perceived, and repeating this for two or three times at intervals of about a week, shading the house the day after smoking where it can be done so as to be able to keep it rather close, will render the cure more effectual; and if the pest is taken before it gets quite established, it will be easily got rid of by two or three smokings, but unless taken in time it is very difficult to eradicate.

Peaches.—Give every attention to get the wood well ripened, as next year's success will very much depend upon this being properly effected. Keep the foliage clean and free from insects, and endeavour to preserve it in health as long as possible. Give air freely both day and night, but keep the roots as dry as can conveniently be done, therefore guard the inside borders from heavy falls of rain, shutting up the sashes at night when there is reason to apprehend much wet. Any gross shoots that may still incline to grow should be stopped, as if left they encourage the action of the roots, and cause a greater tendency to growth than would otherwise be the case. Loosen the surface of the border where this is at all close, in order to admit air and warmth.

### FLOWER GARDEN AND SHRUBBERIES.

Let Rose budding be closely followed up, also the pruning off at least of the dead blooms of those which flowered early. In some neighbourhoods black fly is becoming troublesome on Dahlias and Asters as well as on Cherry trees. Where such is the case tobacco-water and soap-suds may be used with advantage. The strength of the mixture should be tested by dipping some of the shoots worst affected into it and using it sufficiently strong to kill the insects, but not so much so as to injure the leaves. It should be applied in the evening when there is a prospect of a dry night, using a fine syringe or finely rosed watering pot, and giving enough to moisten the whole of the foliage. Go over beds of Verbenas frequently and remedy any defects that may be perceptible without loss of time. Where the stock is growing vigorously, pegging and training will involve considerable attention, and it will be necessary to inspect the beds frequently, removing decayed flowers, and cutting back such of the shoots as may incline to encroach upon the edging of the beds. Keep herbaceous plants neatly tied up, and cut off the flower stems of any that are becoming unsightly.

### HARDY FRUIT AND KITCHEN GARDEN.

This is the period in which to lay the foundation of a sure supply of vegetables and Salads for the ensuing winter. We will suppose that all the spring and mid-winter Broccolies have been planted some time, and that Turnips for October and November are in also, still it remains to ensure a continuous succession of Cauliflowers and autumn Broccoli, also a full supply of Salads. The Cape Broccolies, although apt to sport, are amongst the most useful for the certain supply of the house. A rich border should also be prepared for Cauliflowers, which should be planted immediately; these will supply the table until Christmas, provided they are secured from frost. Endives also must be got out with a liberal hand, also Autumn Lettuces. Attend well to fruit trees of all kinds. Little superfluous wood should if possible be formed on tender fruit trees after this time. Not only the fruit but the wood for the ensuing year must be ripened.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending Aug. 12, 1863, as observed at the Horticultural Gardens

| August. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 6 | ☾ | 29.915 | 29.845 | 79 | 59 | 69.0 | 64 | 61½ | S.W. | .04 |
| Friday 7 | 23 | 30.018 | 29.974 | 80 | 61 | 70.5 | 64 | 61½ | S. | .00 |
| Satur 8 | 24 | 30.090 | 30.036 | 80 | 50 | 65.0 | 65 | 62 | S.W. | .00 |
| Sunday 9 | 25 | 30.089 | 30.044 | 86 | 52 | 69.0 | 65 | 62 | S.W. | .00 |
| Mon. 10 | 26 | 30.048 | 30.026 | 80 | 43 | 61.5 | 66½ | 62½ | S.W. | .00 |
| Tues. 11 | 27 | 29.978 | 29.965 | 83 | 44 | 63.5 | 66 | 63 | S.W. | .00 |
| Wed. 12 | 28 | 30.056 | 29.940 | 78 | 45 | 61.5 | 64 | 64 | E. | .00 |
| Average. | | 30.027 | 29.975 | 80.8 | 50.5 | 65.7 | 64.9 | 62.5 | | .04 |

Aug. 6—Rain; cloudy; very fine.
— 7—Cloudy; very fine; hot and dry; warm at night.
— 8—Cloudy and fine; very fine throughout.
— 9—Overcast; very hot; fine throughout.
— 10—Very fine; hot and dry; exceedingly fine; overcast.
— 11—Light clouds and fine; very hot; exceedingly fine.
— 12—Light clouds; very fine throughout.
Mean temperature of the week 3 deg. above the average.

RECORD OF THE WEATHER AT CHISWICK.

During the last 37 years, for the ensuing Week, ending Aug. 22, 1863.

| August. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 16 .. | 73.1 | 51.5 | 64.3 | 17 | 0.80 in. | - | 3 | 4 | 2 | 5 | 4 | 8 | 4 |
| Mon. 17.. | 73.1 | 50.5 | 61.8 | 20 | 1.12 | 5 | 2 | 1 | 2 | 5 | 8 | 12 | 2 |
| Tues. 18.. | 73.6 | 51.8 | 62.7 | 13 | 0.38 | 3 | 6 | 5 | 3 | 4 | 8 | 7 | 1 |
| Wed. 19.. | 73.1 | 51.8 | 62.4 | 17 | 0.42 | 2 | 4 | 3 | 2 | 3 | 10 | 9 | 4 |
| Thurs. 20.. | 72.7 | 51.3 | 62.0 | 16 | 0.45 | 2 | 3 | 3 | – | 5 | 10 | 11 | 3 |
| Friday 21.. | 72.4 | 49.8 | 61.1 | 13 | 0.62 | 3 | 2 | 1 | 1 | 4 | 8 | 12 | 3 |
| Satur. 22.. | 71.4 | 49.9 | 60.3 | 14 | 0.67 | 2 | 2 | 3 | – | 4 | 10 | 11 | 2 |

The highest temperature during the above period occurred on the 18th, 1842—therm. 93 deg.; and the lowest on the 21st, 1850—therm. 32 deg.

## Notices to Correspondents.

Bedding Geraniums: *A B.* All nurserymen supply them. We cannot recommend dealers.

Chinchona: *Mexicus, N C.* It is a piece of pedantry to spell Cinchona thus. If you are a sensible man you will have nothing to say to such silly changes.

Exhibitions: *A Y.* A Pitcher plant is admissible in No. 1, *if in flower*—not otherwise. Alocasia metallica should be regarded as a Caladium, and therefore it cannot be shown when Caladiums are excluded. We think a pitcher plant may be exhibited among ornamental foliaged plants.

Foreign Journals: *Icenus.* Never forget in reading foreign reports, that their authors see with eyes unlike our own, and that the appreciation of a Frenchman or German is *not* that of an Englishman.

Gloxinias: *Anon.* We have seen some living Gloxinias lately exactly in the condition of your specimens. There is nothing in the cultivation to account for it, but apparently the spots are due to Thrips. We saw indeed no living insects, but there was an undoubted dead individual on one of the leaves, and we believe that the gardener was right in his account of the matter. *M. J. B.*

Horticultural Education: *A Regular Subscriber* should place his son for a few years in some great *private* garden establishment, where he can go through every process from the rudest to the most refined. All great gardeners always submit to this discipline, which is indispensible. A nursery garden will not answer.

Insects: *K.* The blotches on your Apple leaves are formed by the mining larvæ of a beautiful little moth, Cemiostoma scitella; we know no plan of destroying them other than hand picking and burning the infested leaves. *W.*

Iron Curvilinear Houses: *X.* When properly constructed, allowance being made for the expansion and contraction of the iron, these are just as secure as others, and are far more durable. We know nothing about the person you name, except that he is a highly respectable tradesman.

Kitchen Garden: *Dartmouth.* What's the matter is plain enough. You starve your garden. You can no more grow good crops without plenty of manure than you can make bricks without straw.

Mildewed Cucumbers: *T S.* The only way we know of preventing mildew in Cucumbers, is good cultivation, which comprises good soil, proper watering, and above all free ventilation. Should mildew appear, the affected leaves ought at once to be removed. We have seen this year wonderfully healthy crops, both of Melons and Cucumbers, where the only soil used has been the sweepings of the village street, which consist of pounded oölite and horse droppings. The result would probably be similar in any limestone district. *M. J. B.*

Names of Plants: *C W.* Armeria maritima (Garden Thrift). —*G G.* Arrhenatherum avenaceum.—*E.* The plant to which you refer, must, we think, be Gunnera scabra.—*Discipulus.* 1, Madaria elegans; 2, Linanthus dichotomus; 3, Veronica perfoliata; 4, Clarkia rhomboidea.—*C C.* It is some Calystegia, and probably the double C. sepium—but the specimen is not sufficiently good for a more exact determination.—*A J.* 1, Celsia betonicæfolia; 2, Tropæolum Lobbianum. Many questions of this sort are very difficult, and gardeners cannot be expected to answer them.—*Sherborne Lodge.* Conferva capillaris.—*J M K.* We will endeavour to reply next week if health permits. Your question is difficult.—*J M K.* 1, Eranthemum verbenaceum; 2, Ophiorhiza Mungos; 3, Selaginella Wallichii, or some allied species.—*J. B. & Son* next week.

Pear Leaves: *Daniel.* Nothing is more common than the affection on your Pear leaves. It consists in an over-development of certain groups of cells, the exact cause of which is not known. It is we believe, like the similar affection of Vine leaves, innocuous. *M. J. B.*

Strawberries: *J. P.* Last season's plants may be transplanted successfully, and will bear a better crop than plants of this year.

Erratum. In the report of the Blechingley Cottage Garden Show (see p. 750), it is stated that the prize for named wild flowers, given by the Rev. C. F. Chawner, was 20*l.*; it should have been 20*s.*

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Agricultural Hall, Islington.

A POULTRY, PIGEON, RABBIT, FLOWER, and FRUIT SHOW will be held at the HALL on the 26th, 27th, and 28th inst.
PRIZE LISTS and other information can be obtained from S. SIDNEY, Esq., Secretary.
Agricultural Hall, Barford Street, Islington, N.

# The Agricultural Gazette.

*SATURDAY, AUGUST* 15, 1863.

WE make no excuse for filling our columns with an account of one of the finest harvests we have ever known. It is needless to number up the returns in the following pages, as in past years we have done, in order to determine the proportion between those which declare the crop to be over average, and those which declare it to be under average. So far as the Wheat crop is concerned, the returns may be said to be all "over average." The Barley crop is somewhat various—all late sown spring corn having suffered from the prolonged drought of early summer. Oats, too, have thus partly suffered—but both of these crops nevertheless will prove of average productiveness. Beans and Peas, excepting the former in the southern and south-eastern counties, are good. Root crops, where planted early, have come well, and now only wait rain to yield a good return. The hay crop has been light but well got. Harvest is not earlier than usual, but is coming rapidly on in the later districts.

The Potato disease is this year in great measure in abeyance, though from Dorsetshire and Cornwall we hear that it has again suddenly appeared.

On the whole we have to be grateful for the unusual productiveness of our Corn-fields; and for glorious weather, for the safe gathering in of the produce.

—— WE have received a letter from Professor BUCKMAN, expressing the gratification which Mr. HOLLAND's letter published last week has given him. He also forwards for our perusal a note from Mr. HOLLAND to himself, dated Oct. 14, 1862, which led him to believe that he was at liberty to publish the "private letter" which has led to this correspondence. The note of Oct. 14, containing a long extract from the letter in question, is itself headed private; but we have received Mr. HOLLAND's permission to publish the following extract from it. And our readers will easily understand how a mistake on the subject may have arisen.

The extract is as follows:—

"My object in heading this note 'private,' is because I have hitherto kept the subject matter of it private, and as far as I am concerned always mean to keep it private, unless you wish it to be made public. But I had much rather send it to you for you to destroy it your own self, that you may rest assured of its ceasing to exist. However, that must be as you please."

MR. HUTCHINSON's pamphlet * ON STEAM CULTIVATION is one of the most explicit statements on the subject that have yet been published. Its appearance now, as well as rumour early in the year, lead us to the conclusion that it has competed unsuccessfully for the prize offered by the Royal Agricultural Society of England, but it is hardly possible to understand how it has failed to obtain at least a commendation by the Society's judges. The Society professes to prefer statements by the writer of his actual experience, to any other kind of essay. Under such circumstances, and in such a case as the one before us, it cannot hope to have more than one farm described by the writer. If it prefers a statement in which the experience of 20 or 30 farms is tabulated and examined, then it departs from the rule which has hitherto guided its decision of merit. We believe that in the case of steam cultivation a more general statement of the subject, and of the experience that has been realised in connection with it, is to be preferred. But if this was wished it should not have been sought by the offer of a prize, the adjudication of which is bound by rules tending to discourage general statements. It should have been directly commissioned; or the terms of the prize should have been altered so as to include exactly what was wanted. Even now there are many subjects besides steam cultivation of which we want the general experience of farmers, and it would be well to adopt the precedent of last year and issue a supplementary prize list, including such offers as 100*l.* for the best statement of experience in steam cultivation extending over at least two years and 10,000 acres of land; and 100*l.* for the best statement of experience in reaping and mowing by machinery, extending over at least two years, and at least 10,000 acres cut.

* Fire and Water, *versus* Corn and Hay. Simpkin & Marshall.

If by such means we had collected the experience of 20 farms as we here have the experience of one—fully given both as to cost and as to returns—it is not too much to say that the question of steam cultivation would be at once admitted to be settled, and to be removed from the region of conjecture, doubt, and speculation; and established as a success and certainty in English farm practice.

The farm here described is situate at Dunton Lodge, near Biggleswade, in the county of Bedford, and is the property of the Earl BROWNLOW. It consists of 546 acres of very deep clay soil, of uniform texture, extending downwards at least 4 feet. At the period of the commencement of the accounts it was completely overrun with Twitch and noxious weeds; so much so, that it was necessary to mow the Twitch before it was cultivated, and when cultivated the roots of the weeds, withering on the surface, caused it to present the appearance of a hay field. Before the accounts commence it had all been well and efficiently drained at the cost of the landlord, into whose hands it fell in the spring of 1861, when, although it was extensively advertised and viewed by some 60 or 70 persons, not one responsible tenant would accept it at the rent of 25*s.* per acre. The landlord, being thus compelled to take it into his occupation, purchased a steam cultivating apparatus (which had been worked three seasons before) at a cost of 180*l.*, and a new 10-horse power double cylinder steam engine at a cost of 320*l.* The work was commenced in earnest before Midsummer, and was continued from day to day during the two seasons, according to the following tabular statements submitted.

*Quantity of Land Cultivated by Steam, commencing 1st June and ending 22d November, 1861.*

| No. | Quantity. (A. R. P.) | Times Cultivated. | Total Cultivated (A. R. P.) | Days Employed. | Amount Paid for Day Labour. (£ s. d.) |
|---|---|---|---|---|---|
| 72 | 34 2 9 | Twice. | 69 0 18 | | |
| 71 | 20 0 22 | Twice. | 40 1 4 | | |
| 68 | 30 0 13 | Thrice. | [illegible] 0 39 | | |
| 74 | 37 0 38 | 4 Times. | 148 3 32 | | |
| 80 | 40 3 5 | 4 Times. | 163 0 20 | | |
| 85 | 51 0 23 | Twice. | 102 1 6 | | |
| 69 | 16 3 30 | Twice. | 33 3 0 | | |
| 78 | 36 0 19 | Twice. | 72 0 38 | | |
| 87 | 18 0 30 | Twice. | 36 1 20 | | |
| 88 | 25 0 2 | Once. | 25 0 2 | | |
| | 300 0 21 | | 751 1 19 | 133 | 100 2 6 |

Of these 751 acres, 657 acres were cultivated with Mr. SMITH's (of Woolston, Bletchley, Bucks,) very efficient three-tined cultivator and apparatus, clearing about 3 feet in width; and 96 acres were cultivated with a seven-tined implement, clearing about 5 feet in width.

We need not give in similar detail its performance during the following season.

The summary of performance for both years is given in the following table:—

*Statement of Performance of Steam Cultivator, each year.*

| | Amount Cultivated. (A. R. P.) | Days Employed. | Daily Average. (A. R. P.) |
|---|---|---|---|
| 1861 .. .. .. | 751 1 19 | 133 | 5 2 23 |
| 1862 .. .. .. | 773 0 29 | 127 | 6 0 14 |
| | 1524 2 8 | 260 | 5 3 18 |

Mr. HUTCHINSON gives the expense of these operations by adding together the actual wages paid to men and boys, the cost of coals and oil consumed, the expense of repairs, and other charges which are to some extent in the nature of estimate. Thus the cost of horses for water carts and for removals is put at 4*s.* per horse per day; the annual waste of rope is put at one-half the cost when new. Interest of money at 5 per cent., and insurance against fire are among the items. The cost of annual repairs and of a regular overhaul and restoration every five years is estimated. And a fund sufficient with the value of the materials when broken up to reproduce the tackle every 25 years is among the items. The annual interest, the repairs, the insurance, and the quinquennial overhaul, with the charge for the reproduction of the engine every 25 years, amount to about 16½ per cent. per annum on the value. The cost of rope, repairs, interest, and reproduction of the cultivating apparatus amount to about 30 per cent. on the value, or 50 per cent. on the rope and 25 per cent. on the rest of the tackle. Of the annual charges on the engine, three-fifths only are charged to steam ploughing, the remainder to threshing, for which purpose of course the engine is also adapted. The annual cost in all was in the past year 289*l.* 0*s.* 3*d.*, or 7*s.* 8*d.* per acre. In the second year it was

273*l.* 2*s.* 6*d.*, or 7*s.* 1*d.* per acre. On the whole 1524 acres were grubbed—588 acres once, 578 a second time, 262 a third time, and 96 a fourth time, for 562*l.* 2*s.* 9*d.*, or 7*s.* 4½*d.* per acre.

Mr. HUTCHINSON then describes the results in the fertility of the farm, and it is here that his testimony is of rare value. It is not uncommon to keep an account of expenses and of work, but it is very uncommon indeed to keep an accurate record of produce. In 1861 the harvest was after horse cultivation, in 1862 it was after steam tillage. He sold 10 bushels per acre of Barley, 30 bushels per acre of Oats, 13 bushels per acre of Beans, and 8½ bushels per acre of Wheat more in 1862 than in 1861. He estimates the increased value of produce thus obtained in 1862, at 776*l.* 2*s.* 4*d.* The rent of the farm is 678*l.* per annum, and thus the value of the extra produce of 1862 greatly exceeds the rent.

Mr. HUTCHINSON then proceeds to estimate how much horse power would have been needed to do what the steam cultivator did. There is so much 4-horse work, so much 3-horse work, so much 2-horse work—in all there are 3050 days of a horse needed. And this number divided by 133, the number of the working days, gives 23 as the number daily represented by steam power. This number of horses is then charged for 175 days, the period during which the steam work was accomplished, and the cost comes out 586*l.* 12*s.* 6*d.* in the one year, and 593*l.* 18*s.* 8*d.* in the other year—the acreage cost in like manner being 15*s.* 7*d.* per acre in the one case, and 15*s.* 4*d.* per acre in the other.

The following then is the grand result on the first year of steam cultivated crops on East Brownlow Farm :—

"CONCLUDING SUMMARY.

| | |
|---|---|
| Gain by increased produce the first year steam succeeded horse cultivation .. .. .. .. | £776 2 11 |
| Balance of expense the first year in favour of steam over horse cultivation (the former 289*l.* 0*s.* 3*d.*, the latter 586*l.* 2*s.* 6*d.*) .. .. .. .. .. | 297 12 3 |
| First year's advantage by the adoption of steam instead of horse cultivation .. .. .. | £1073 15 2 |

Besides improving the fee simple value of the farm 1500*l.* over and above what could have been accomplished at a greater cost by horse power."

We take two extracts from Mr. HUTCHINSON's last page.

1st. *As to the Tenant.*—"Depend upon it, the only sure and practical way to meet increasing supplies of foreign corn and low prices, especially on clay soils, is to drain the land effectually, to adopt steam cultivation, to grow more root crops, to breed more sheep and cattle, and to convert stables into stalls for feeding them."

2d. *As to the Landowner.*—"This brings us fairly to the autumn of 1862. We now find the proprietor, who, in the spring of 1861, could not find a responsible tenant for his land, with plenty of candidates for the occupation of this once despised farm. It was then let to a tenant of capital and enterprise, under the most severe competition that we have ever known during the course of considerable experience.

We conclude as we began by declaring that we have nowhere met with a more precise and detailed account of experience on a steam cultivated farm. And we do not understand how it is that such an essay entered for the English Agricultural Society's prize should have been altogether passed by.

Although we have extracted largely from its pages, readers will find much new and useful matter in it, not referred to here, and we hope it will be widely distributed and read.

## THE SCIENCE OF AGRICULTURE.

[The following remarks were made by His Grace the Duke of Argyll at the recent meeting of the Highland and Agricultural Society.]

THE CHAIRMAN said :—It is my duty to ask this assembly to drink to the prosperity and welfare of that important agricultural society in connection with which you are met that day. The value which you place upon the Highland and Agricultural Society of Scotland would very much depend upon the estimate you have formed of the noble industry to which they devoted their labours. I have called it industry, and so it is. It is more than either industry or art. It is in the highest sense of the word a science. By science I mean not simply knowledge, acquired, so to speak, by rule of thumb. I mean systematic knowledge—knowledge reduced to system, and endeavouring to attain this higher object, of rising to the ascertainment of great natural laws. The power which has been given to man of modifying to his own use the animal and vegetable world is one of the greatest wonders, one of the greatest mysteries of the world. To me who am not a practical agriculturist, or acquainted with the details of agriculture, one point of interest attaching to these shows is the extent to which the power of man is exhibited by them over the animal and vegetable kingdoms, in creating almost, as it were, new species for his own benefit or his own use. I do not say that this power is unlimited, but this I will say, that it is a power of which we do not know the limits, because we have never arrived at that, and probably never shall. It is not properly a creative power, yet it produces results that are very closely allied to creation, and are difficult to be separated from it. I do not know whether there are any in this room, but it is probable there may be a number who have read one of the most remarkable works of the present day—I mean Mr. Darwin on "The Origin of Species." As a book written by a purely scientific naturalist, with a purely scientific object, there is no book which I have ever read that contains more fertile principles for the progress of agriculture. If you read that book you will find that this man, on pure speculative science, gives it as his opinion that all the animals which have been created in the world have, in the course of innumerable ages, been introduced upon this scene by means of those principles of natural selection and of intercrossing and breeding by which the farmer has succeeded in establishing those peculiar breeds of cattle of which specimens had been seen at the show. If we go into one of the shows, it seems as if we are in a new creation. When we compare the West Highland with the Shorthorned and with the polled cattle, and with some of those strange varieties that had sometimes appeared from the Continent, it is almost impossible to believe that they are the same animals; but such has been the power of man in selecting particular animals, as adapted to certain climates and certain uses, that every one of these varieties we are now acquainted with, and many others which we saw in London last year, or which we may see in future shows, have been derived from at most one or two wild varieties of cattle. Not many years ago, in the country with which I am connected, there was turned up in a peat moss the head of a magnificent bull, which Professor Owen told me was one of the finest specimens he had ever seen. It was the head of one of the original cattle of the country; and there is reason to believe that it had existed contemporaneously with man. It certainly must have been a very large animal, but I doubt much whether it had been a very fine animal, and I should like to have seen the countenance of any of our judges on being put into a stall with that wild bull, I suspect the bull would have been found to be an unruly customer, coarser in point of bone, and coarser in point of beef, than our present breed; and that the cow would also be very deficient in milk. But by crossing and breeding we have now established such varieties that, both for human food and dairy produce, we have what is virtually a new species. So much is this the case, that I have been very much struck on reading a book, very different from that which I have referred to—a book written by one of the tenant farmers of this district—Mr. Wilson of Edington Mains—which for clearness of arrangement and expression, and for close adherence to great leading principles, was a perfect model of a scientific treatise. I was much struck at finding the language of this practical farmer so closely agreeing with Mr. Darwin that, in referring to one of the most valuable breeds of sheep introduced into this country—the Leicesters—he actually spoke of them as if they had been the offspring of a single pair. He says, "It is now about a century since this breed was produced by the genius and perseverance of Mr. Bakewell." We do not know, therefore, to what extent improvements may go, or what qualities may be developed by the energy and perseverance of present and future Bakewells. And so in regard to the vegetable kingdom. I would not refer to these varieties of corn sown by the practical farmers of the country, because these might be modified by cultivation —though the most of them were, in their origin, of extreme antiquity; so much so, that it was very difficult to discover much difference between the Wheat grown at the time of the Pharaohs and the Wheat grown at the present day. But going to the lowest stage of the vegetable kingdom—namely, the cultivation of Grasses —I may say with perfect truth that this is a branch of agriculture which in a very large degree remained to be developed, and on which great improvement may take place. And here also I find that the language of the practical farmer is in perfect harmony with the language of the scientific naturalist. It is, I believe, a favourite theory of Mr. Darwin—a theory which he believes he has satisfactorily established—that the distribution of plants depends on what he called the battle of life, or in other words that every plant is endeavouring to smother its neighbour, and the slightest advantage given to any one plant in this struggle enables it to overcome its neighbour, and, so to speak, to overspread the country. If this be true, then it must be the object of the scientific farmer to find out what are those plants most valuable to him, and, secondly, to find out what were the circumstances which enable him to give those plants the advantage in the struggle for life, and thus, as it were, to smother the inferior Grasses and produce better pasture over the country. That is the theory of Mr. Darwin, and it is in strict and close analogy with the language used by Mr. Wilson, who, in speaking of the cultivation of pasture lands, says that if the rank Grasses are neglected till the herbage gets dry and withered, the finer plants die out, coarser Grasses usurp the ground, and the pasturage is injured for all future years. The practical farmer is thus agreed with the scientific naturalist that the great object in this struggle of plants for life is to give the advantage to those Grasses that have the highest and most nutritious qualities, and that the ignorance and carelessness of the husbandmen may for years destroy valuable pasturages. Agriculture is therefore not merely an industry or an art, but, in the highest sense of the word, a science—and as a science it is to be promoted and cultivated just as other sciences were.

## COMPARISON OF THE CLIMATES OF ENGLAND AND SCOTLAND WITH RESPECT TO THE CROPS.

1. *Wheat and Barley.*—As Wheat and Barley require for their successful cultivation a comparatively high summer temperature and a dry climate, it follows from what has been already stated, that these conditions are best fulfilled in those extensive plains which stretch away to the east from the higher mountain ranges running north and south through the island. Hence the best Wheat growing districts are in the centre and east of the country—the Eastern Plain, the Great Central Plain, the Vale of the Severn, the Plain of York, the Merse, Strathmore, and the shores of the Moray Firth; the best adapted in the west, because screened by Ireland, are Ayrshire, the shores of the Solway, and the Cheshire Plain; to which may be added the shores of the Bristol Channel, and many places in the west of Scotland which are not immediately bounded on the south-west by hills, though their capability in this respect has only lately begun to be understood and developed. Considering the large extent of hilly ground to their south-west, and also their southern exposure, the best Wheat districts in England are the Vale of the Severn and the Plain of York, and in Scotland the Merse in Berwickshire. It is worthy of remark, that in dry seasons the crops in the west attain a bulk and a weight which are rarely reached elsewhere.

Barley requires a climate very similar to Wheat, except that its successful cultivation may be carried to higher elevations and into lighter soils. On this account, much of the land in Scotland is well suited for the growth of this grain.

Investigations into the subject of climate become of vital importance to the British farmer, when it is considered that the summer temperature of even the south of England is, on the average, only 4° higher than the minimum summer heat required for the perfect maturing of the Wheat and Barley crops; while generally, Scotland is only 2° above this critical point, and in the extreme north of the island the limit of cultivation is reached. Hence the disastrous effects of such cold summers as 1862 on the Wheat crops of Britain, and the consequent ruin to the farmer which in so many cases has been the result. As the summer temperature does not follow the usual law of the mean annual temperature in falling 1° for every 300 feet of elevation, but is, in many cases, as high as at some hundreds of feet lower down in the plains, it has been found that Wheat may be cultivated in much more elevated situations than was formerly believed possible. Thus, the best quality of Wheat has been produced on the farms of the Marquis of Tweeddale, in East-Lothian, at 750 feet above the sea. It is probable that Wheat may be grown successfully in England upwards of 1000 feet high. But in pursuing Wheat cultivation to such heights, especially in England, the additional risk ought to be well considered. We say, especially in England, for it has been already shown to be a distinguishing feature between the climates of the two countries, that in cold, wet, and cloudy seasons the summer temperature of England is lowered to a greater extent than that of Scotland,—an obvious consequence of the more southern position of England. Consequently it happens in bad seasons, owing to the greater lowering of the temperature, that the damage sustained in the higher districts of England is greater, and the loss more complete, than in Scotland. Thus, while the Scottish farmer has a lower summer temperature to contend with, the element with which he contends is less capricious and more to be relied on.

2. *Oats.*—As Oats suit a poorer soil and a wetter and colder climate than Wheat or Barley, the western and more elevated parts of the island are best adapted for the cultivation of this grain. In the higher and wetter parts of the country, it supplies the place of the finer cereals, and, considering the difference in the climate and soils of the two countries, it is more peculiarly a Scottish grain.

3. *Green Crops.*—The Scottish climate is, on the whole, better suited for the cultivation of the Turnip than England. As this root requires frequent showers in the earlier stages of its growth, and as rain falls in Scotland during July and August three days more frequently than in England, it is obvious that the advantages of the Scottish climate are very decided. On the other hand, since winter falls a month earlier in Scotland than in England, the autumn growth of the Turnip will be longer continued in England. The later autumn rains and the later approach of winter in England seem to point to a later sowing of this root as more suitable to the climate. *Quarterly Report of the Meteorological Society.*

# THE PRESENT APPEARANCE OF THE CROPS.

## FROM THE REPORTS (AUGUST 10TH) OF OUR OWN CORRESPONDENTS.

| COUNTY. | WHEAT. | BARLEY. | OATS. | BEANS. | PEAS. | POTATOES. | ROOT CROPS. | HAY. | WHEN WILL HARVEST BE GENERAL. | NAME AND ADDRESS. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SCOTLAND.** | | | | | | | | | | |
| INVERNESS | Small acreage; average | Unpromising | Not promising | Good | Few sown | Considerably damaged by frost | Unpromising | Average; secured | Aug. 25 | Alexander Simpson, Beauly |
| ABERDEEN | Average; little grown | Below average | Straw short | None | None | Partly damaged by frost | Turnips very good | Very light | Sept. 1 | Jas. Macdonald, Huntly |
| | .... | Fair crop | Average | Good | .... | Promising | Turnips good | Light, but well got | Sept. 2 | James Laing, Peterhead |
| STIRLING | Average | Average | Under average | Full average | None | Good, but blighted | Early good; late very sickly | Under average | Beginning of Sept. | ——, Stirling |
| | Nearly average | About average | Considerably below average | Full average | .... | Good, but partially frosted | Promising | About average | Sept. 1 | Alex. Buchanan, White-house Farm, Stirling |
| FORFAR | Autumn sown good; spring sown indifferent | Average | Average | Good | .... | Good, but cut by the frost of the 16th ult. | Good | A light crop; well got | First week of Sept. | Wm. Smith, W. Drems, Brechin |
| | Over average | Average | Below average | Above average | Above average | Average | Above average | Under average | About usual time | Robert Colvill, East Newton, by Chance Inn |
| ELGIN | Good | Unequal | Average | Good | .... | Unequal | Very good | Average | Aug. 29 | John Grigor, Nurseries, Forres |
| FIFE | Above average | Under average | Below average | Very good | Good | Good where they were not cut down by frost | Appearance of a good crop | Good | About Aug. 24 | John Morton, Lambie-letham, by St. Andrews |
| | Ful. average | Under average | Considerably under average | Average | None sown | Average | Rather under average | Average | Aug. 20 | John Pitcairn, Kinaird |
| MID-LOTHIAN | Full average | Average | Scarcely average | Full average | None grown | Under average | Average over all | Good and secured well | Sept. 1 | James Hislop, Mid-Calder |
| | Above average | Above average in light soils; various | Average | Above average | .... | Damaged by frost; scarcely average | Early good; late healthy | Good and well got | First week in Sept. | Peter Mc Lagan, Pum-pherston |
| HADDINGTON | Above average | Average | Under average | Average | .... | Under average | Under average | Under average | Aug. 13 | P. Shirreff, Haddington |
| | Above average | Above average | Under average | Average | .... | Rather under average | Under average | Average | Aug. 17 | George Hope, Fenton Barns, Drem |
| LANARK | Average | None grown | Under average | Average | None grown | Various | Turnip average | Full average | Beginning of Sept. | J. M. Mackenzie, Wishaw, Lanark |
| AYR | Nearly average on light lands | Light; little grown | Short; early sown an average | Generally a fair crop | None grown | Small, and a light crop | Turnips and Mangel generally backward | Not heavy | Sept. 1 | And. W. Ralston, Lagg |
| | Winter sown good; spring sown light | .... | Early soils very good; on very light or clay lands under average | Under average | .... | Good | Progressing | Good | Beginning of Sept. | W. McJannet, Bogside Farm, Irvine |
| PEEBLES | Full average | Fine crop; patches scorched | Various; scarcely average | Full average | .... | Generally excellent | A large portion good | Average in bulk, and finely got | End of Aug. | James Lyle, Innerleithen |
| PERTH | Autumn full average; spring very inferior | Fair crop | Considerably under average | Average bulk | Average bulk | Low lands much injured by frost | Turnips very backward | Light crop | Aug. 20 | David Edie, Elliothead, Bridge of Earn |
| BERWICKSHIRE | Good | Under average | Average | Good | .... | Average and sound as yet | Have suffered now growing well | Average and well got | Aug. 20 | John Wilson, Edington Mains, Chirnside |
| | .... | .... | Not so bulky; promise a good crop | .... | .... | Nipped by the frost | Not average | Light crops | Sept. 10 | John Bertram, Cran-shaws, by Dunse |
| | Above average | Average | Average | Average | .... | Under average | Average | Average | Aug. 26 | George Logan, Hume-hall, by Stitchell |
| DUMFRIES | .... | About average | Average after lea; below after fallow | .... | .... | Generally look well | Turnips promise well | Rye-grass and part of meadow | First week of Sept. | J. Little, Langholm |
| WIGTOWN | Good average | .... | Fair crop; straw short | .... | .... | Look well | Very promising | Good crop | About the end of Aug. | A. H. McClean, Auchneel |
| **ENGLAND.** | | | | | | | | | | |
| NORTHUMBER-LAND | Winter sown great; spring sown moderate | Good | Fair crop; not bulky | .... | Good | Promising | Very promising | Good | Aug. 25 | John Grey, Lipwood House, Haydonbridge |
| | Full average | Full average | Under average | Over average | .... | Very various | On Turnip soils good; on clays late and poor | Light | Next week | Thomas P. Dods, Anick Grange, Hexham |
| | Full average | Average | Scarcely average | Average | .... | Suffering from drought | Promising | Light; well got | Aug. 20 | George Laing, Cornhill, Coldstream |
| CUMBERLAND | Above average | Above average | Average | .... | .... | Below average | Various | Above average on good land | First week in Sept. | William Lawson, Bray-ton, Carlisle |
| | Average & good | Above average | Above average | None | None | Average; good | Very promising | Average, and well got | End of Aug. | Thomas Wilson, Beau-thorn, Ullswater |
| | Very good | Good | Under average | Average | None grown | Under average | Over average | Good | About Aug. 25 | Thos. Gibbons, Burnfoot, Netherby |
| DURHAM | Over average | Average | Under average | Good | Good | Average | Fair | Average | End of Aug. | Jos. Rigg, Abbey House |
| | Above average | Good average | Average | .... | Average | Under average | Early good; late not | Not average | End of Aug. | George Crofton, Kimbles-worth |
| | Very good | Average | Average | Good | Good | Very good | Generally good | Never better | End of Aug. | Robt. Bland Dixon, Land Agent, Darlington |
| | Above average | Good | Under average | Good | .... | Healthy; light | Average | Very light | Sept. 1 | G. Bell, Hallgarth Street |
| WESTMORELAND | Generally very good | Average crop | Generally very light | .... | .... | Generally good, but blighted by frost | Very promising | Good crop, well got in | About Aug. 24 | William Key, Casterton Hall, Kirkby-Lons-dale |
| | Over average | Over average | Under average | None | None | Average | Average | Average; well got | Beginning of Sept. | Jonathan Robinson, Warcop, Penrith |
| YORKSHIRE | Very good, being much improved | Light crops, and very irregular | Good crop, very promising | Much improved; but light | Very few grown | Generally well, but some blighted | Looking well, except Mangel Wurzel | Light crops, well secured | Third week in August | John Outhwaite, Bai-nesse, Catterick |
| | Good | Not average | Average | .... | .... | Average | Look well | All got in | Aug. 15 | Thos. Taylor, Darrington |
| | Very good, but rather lodged | Very good, but rather lodged | Very good | Very good; clean | Fair | Good crops | Turnips rather deficient | Deficient crops; well harvested | Second week in August | Henry Briggs, Outwood Hall, near Wakefield |
| | Of poor quality; 4 bushels over average | Early sown good | Improved; not average | Light crop; not well corned | Average | Light crop | Turnips good; Mangels bad | Light crop; well got | Aug. 10 | John Clark, Hessle, Hull |
| | Full average | Average | Average | Rather short in the stalk | Average | Promising | First-sown excellent | Light crop; well got | Aug. 18 | H. J. Turner, Richmond |
| | Good | Under average | Light | Fair | None | Fair | Promising | Light | Aug. 12 | Peter Stevenson, Rain-ton, Thirsk |
| LANCASHIRE | Very good | Good | Good, but short | Good | .... | Very good | Turnips good; Mangels poor | Not heavy, but well saved | Aug. 20 | Geo. Drury, Holker |
| | Below average | About average | Above average | Very good | None grown | Very good | Very good; Mangels injured | Well got: not a great crop | About Aug. 20 | R. Bell, Mosbro Hall, Rainford |
| | First-rate | Good | Abundant and fine | Average | Few grown | Average; some exceptions | Turnips good; Mangels various | Light, but well saved | Aug. 12 | Geo. Wm. Fowler, Liver-pool (21, Brunswick St.) |
| CHESHIRE | Generally a full crop and good in the ear; some crops are laid | Very full crops on our best land, but much laid | Very heavy crops on the best land; much laid | Good; free from blight; well podded | .... | Generally good and free from blights | Swedes very good; Mangels variable in the extreme | Hay well secured, but scarcely average | Aug. 15 or 17 | William Palin, Stapleford Hall, Tarvin |
| | Not very bulky, but promising average | About an average | Very very much | Very bulky, but yield doubtful | None grown | At present very promising | Mangels poor; Swedes very good | Light crop; well got | About Aug. 12 | William B Burnham, Spital, Sutton |
| DERBYSHIRE | .... | .... | Average | .... | .... | Excellent | Average | Average; well got | End of Aug. | Benjamin Swaffield, Hartington |
| | Average | .... | Above average | Above average | Average | Good and healthy | Looking well | Light; well got | Aug. 18 | John Parsin, Idridgehay, Wirksworth |

## THE PRESENT APPEARANCE OF THE CROPS—(*Continued*).

| COUNTY. | WHEAT. | BARLEY. | OATS. | BEANS. | PEAS. | POTATOES. | ROOT CROPS. | HAY. | WHEN WILL HARVEST BE GENERAL. | NAME AND ADDRESS. |
|---|---|---|---|---|---|---|---|---|---|---|
| ENGLAND. NOTTS ............ | One-fifth over average | Full average | Average | Good average | Good | Healthy, but light | Swedes promising; Mangels a bad plant | Two-thirds of a crop; good | Aug. 12 | C. Paget, M.P., Ruddington Grange |
| | Average | Average | Under average | Under average | Average | Partially diseased | Average | About half a crop; well got | August 10 | C. Walton, Clifton, Newark |
| | Above average | Above average | Average | Spring under average; winter good | Above an average | Under average | Various | Much under average | Aug. 10 | John Buckley, Normanton Hill |
| | Average | Above average | Under average | .... | Under average | Very small and light | Average | Under average | Aug. 15 | Henry J. Wilson, Newlands, Mansfield |
| LINCOLNSHIRE .. | Average | Average | Average | Winter good; Spring inferior | None | Good; partly diseased | Good | Half a crop; well got | Aug. 8 | E. Darby, Aswarby, Folkingham |
| | Above average | Average | Light | Very few grown here | Very few grown here | Average | Good | Light | Aug. 10 | Francis Sowerby, Aylesby |
| | Full average, excepting on light peaty soils | None | Fair crop of corn, short in straw | Few grown; barely an average | Good | Promising | Mangels late, but growing well; Rape very late and poor | Small crop; good quality | Aug. 10 | Thomas Aitken, Decoy Farm, Spalding |
| | Good | Average | Fair crop. | Not average | Good | Good | Turnips light soil, lock well | Well got, light | Aug. 8 | T. B. Dring, Claxby, Spilsby |
| | Good | Average | Light | Under average | Very good | Good | Promising | Light | Aug. 12 | Croft Sharpley, Acthorpe, near Louth |
| | Over average, quality good | Full average | Full average | Average | Average | Look well, and free from disease | Variable | Short crop, well secured | About Aug. 10 | W. Fancourt, Aslackby, Folkingham |
| | Likely to prove good | Good | Very good | Badly corned | Good crop, well podded | The best crop known for many years | All good, and progressing satisfactorily | Average crop well got | Aug. 13 | J. Clarke, Long Sutton |
| | Average, and looking very healthy | Early sown an average; late sown thin | Not quite an average | An average | Nearly an average | Looking healthy | Very good | Very light crop, well got | Aug. 10 | W. Dudding, Panton House, Wragby |
| | Early sown, good; the late not so good | Early sown a full crop; except on clay | A good average crop | Winter Beans part injured by frost | Fine in quality | Promising and looks healthy | Turnips a full crop | Very light crop | Middle of Aug. | J. G. Dixon, Caistor |
| | Very good, much laid | Early sown very good; late, short and thin | Good average | Generally good | Generally good | No disease, but small | Early sown very good; late suffering | Short crop | Aug. 12 | John Lynn, Church Farm, Stroxton, Grantham. |
| SALOP ............ | Good | Very good | Very good | Good | Good | Good | Very good | Light | About the 17th | E. Davis, Patton, Wenlock |
| | 20 per cent. above average | Full average | .... | .... | Good | Healthy | Mangels bad; Swedes small | Very light | Aug. 10 | J W. Bowen, Strawardine Castle |
| | Full average | Much improved | Full average crop | Very much blighted | Very good | Very good | Moderately good | Rather light; got well | Middle Aug. | Richard Shirley, Bawcott Munslow, C. Stratton |
| LEICESTER ...... | Rather thin, but quality unusually good | Very good, except where it came at two growths | Average; quality good | Very healthy, quite average | Good | Free from disease | Much improved; good crops generally | Splendid condition, much under average | About Aug. 10 | Joshua Spencer, Knossington |
| NORFOLK ....... | Good; over average | Good | Good | Indifferent | Good | Good, but a little diseased | Pretty good; want rain | Various | Aug. 10 | William Cubitt, Bacton Abbey |
| | Fair average | Average | Average | A little under average | .... | Pretty good, a few diseased | Mangels good; Swedes good | Light crop; well secured | Aug. 6 | Thos. Brown, Denver, Downham |
| | Good straw; ears well filled; of good quality | Bulky; rather coarse, but heavy | Full average; fine quality | Barely average; affected by the drought | About average; pulse small | Good in quality; yield diminished | Affected by the drought | Short crop, but well secured | Aug. 7 | W. H. Taylor, Wymondham |
| | Very good | Very good | Good | .... | Good | Good | Good; wanting rain | .... | Aug. 10 | ——, Rougham |
| | Good crop | Good | Good | .... | Good | .... | Want rain | Light crop | Much finished | John Hudson, Castle Acre Lodge, viâ Brandon |
| SUFFOLK ....... | Good | Good | Moderate | The worst crop of the year | Fair | Promising, but partially diseased | Mangels partial; late-sown Turnips a failure | Short crop, but excellent | Aug. 7 | Henry Edwards, Woodbridge |
| | Above average | Above average | Above average | Under average | Average | Average; but little diseased | Good average | Light, but got well | About Aug 6 | L. O. Cottingham, Rookery Cottage, Yoxford |
| | Generally good | Decidedly above an average | Few grown | Two thirds of a crop | Very good | Occasional patches diseased | Early Mangels never better; late middling; Swedes partial | Two-thirds of a crop; quality good | Aug. 3 | ——, Wickham Market |
| | Over average crop on both heavy and light soils; quality good | Over an average crop; quality various | Some Canadians good, and very heavy | Winter a good crop; Spring Beans light | Half a crop | Not much diseased; crop short | Good where put in early; "afternoon farmers" cut a sorry figure | Short crop; quality good | Aug. 6 | John Hathaway, Farm Bailiff for Rd. Garnett, Carlton Hall, Saxmundham |
| | Above average | Above average | None grown | Average, fully | Few grown | None grown as field crops | Mangels growing well, but backward | Rather light; well secured | Aug. 11 | George Edwards, Framlingham |
| | Good; above average | Very good; above average | Good | Good | Very good; above average | Not a large crop, but sound | Mangel promise well | Light crop; well secured | Aug. 6 | Thomas Crisp, Butley Abbey |
| CAMBRIDGESHIRE | Good, but more blight and mildew than expected | A good crop; but not much grown | Light on dry soils; average on cool lands | Average straw; but not well podded | Average | Very various; cut by frost | Mangels on cool lands a fair crop | A light crop where early sown | Aug. 8 | Alfred S. Ruston, Aylesby House, Chatteris |
| | On weak soils partially blighted and uneven; elsewhere very good | On gravelly soils, short and uneven; elsewhere good and ripening well | Barely an average appearance; but the quality promises to be very fine | Partially blighted; and generally under an average | Partially blighted; generally above an average | Generally under an average; the early varieties barely half crop | Mangel Wurzel planted badly, and weak growth; Turnips fair | Light upon the high lands; but a fair average upon meadows | Aug. 3 | Simon A. Daintree, Fendrayton, St. Ives |
| | Good | Good on heavy land; on white land much bad | A fair crop; late sown very inferior | Winter good; spring not so promising | A tolerable crop | Good | Late and light | Light crop | Second week in Aug. | ——, West Wickham |
| HUNTINGDON .... | Above average | Full average | Average | Under average | Above average | Short crop | Generally unpromising | One-third of a crop | Aug. 3 | Peter Purves, Brampton |
| | Good; above an average | Fair; hardly an average | Good | Inferior; not an average | Good | A light crop | Various; but light | A very light crop | About Aug. 1 | ——, St. Ives (not on the fen) |
| | Above average | A fair crop | A fair crop | A fair crop | Above an average | Very various | Fair plant; bulbs small | Short; well secured | Aug. 5 | Robert Beart, Godmanchester, Huntingdon |
| NORTHAMPTON .. | Full average | Barley average | Under average | Bad | Full average | Very good | Very bad | Very light | Aug. 10 | S. B. Smeeton, Cromwell House, Naseby |
| | Very good, and fine quality | Very good, except the late sown | An average; fine quality | Fair; but thinly podded | Good; well got | Cut by frost | Very poor | Very light; well got | Aug. 6 | Peter Love, Northampton |
| | Very good; crop considerably over average | Very good; much over an average | Average quantity; of fine quality | Nearly an average crop | Good average crop | Free from disease, but cut by the frost | A good plant, but very late | Very small in quantity, but excellent | Aug. 7 | Owen Wallis, Overstone Grange |
| WARWICK ........ | Very good | Early sown good; late deficient | Over average | Not well podded | Fair | Middling | Swedes promising; Mangels bad | One-third under in quantity; quality firstrate | Aug. 10 | T. Bowick, Stoneleigh, Kenilworth |
| | Average | Average | Average | Average | Good | Healthy | Various | Three-quarters of an average | Aug. 10 | J. W. Burbery, The Chase, Kenilworth |
| | Very full average crop | Early, a full crop, and of fine quality; late, not promising | .... | Average of straw, but badly podded | A good crop | Not a great yield but of good quality | Mangels a thin plant, and grown slowly; early Swedes good | Half a crop; of good quality | From Aug. 7 to Aug. 10 | J. C. Adkins, Milcote, Stratford-on-Avon |
| WORCESTER ...... | Very good | Good | Good | Below average | Average | Fair | Mangels late; Turnips good | Small crop; well harvested | Aug. 8 | J. R. Randell, Chadbury, near Evesham |
| | Good | Good | None | Under average | Average | Under average | Under average | Very light | Aug. 9 | B. Bomford, Pitchill, Evesham |
| | Above average | Above average | Average | Slightly below average | Indifferent | Free from blight and promising | Variable | Half a crop | Aug. 6 | H. Hudson, The Elms, near Pershore |
| MONMOUTH ...... | Very good; lodged | Very good; lodged | Very good; lodged | .... | .... | Good | Looks well | Light; well got | Aug. 10 | W. H. Little, Llanvair Grange, Abergavenny |
| | Above average crop | Early sown full average; late sown thin | 20 per cent. above an average | None grown | None grown | Promise abundance; blight shown in instances | Mangels bad, Swedes promising; common Turnips grow rapidly | 25 per cent. below an average | Aug. 10 | ——, Duffryn, Castletown, near Cardiff. |

## THE PRESENT APPEARANCE OF THE CROPS—(*Continued*).

| COUNTY. | WHEAT. | BARLEY. | OATS. | BEANS. | PEAS. | POTATOES. | ROOT CROPS. | HAY. | WHEN WILL HARVEST BE GENERAL. | NAME AND ADDRESS. |
|---|---|---|---|---|---|---|---|---|---|---|
| ENGLAND. HEREFORD ...... | Over average | Good | Good | .... | .... | Good | Very promising | Light | Middle of Aug. | Henry Pride, The Cwm, near Monmouth |
| | Good average | Thin; under average | Average | Average | Average | Good | Very late | Very light; well ended | Aug. 3. | John Mathews, Blakemore |
| | Thin but very healthy; good average | Above an average | Average | Below an average | Above average | The best crop for some years | The early planted good; want rain | Light crop, well ended | Aug. 5 | T. Duckham, Baysham Court, Ross |
| | Full average | Average | Average | Winter average | Good | Very good | Swedes good | Under average | Aug. 8 | P. Norman Edwards, Brinsop Court |
| GLOUCESTER .... | Very good with few exceptions, and a little red gum. | Patchy, but much improved | Very good; average | Various | Good when sown early | Rather light crops | Good plant but not much growth | Light crops generally | Aug. 10 | Henry Cox, Longfords, Minchinhampton |
| | About average | Early average; late inferior | Average crop | Much under average | Full average | Full crop | Swedes fair; Mangels a failure | Half a crop and pastures bare | Aug. 10 | W. Woodward, Ashchurch |
| | Fully an average | Late bad; early average | Above average | .... | Good | .... | Swedes though late are promising | Short in quantity | Aug. 10 | J. M. Read, Elkstone, Cheltenham |
| | Very good | Early sown very good; late sown indifferent | Early sown a heavy crop; late sown light | Heavy crops, but light in corn | Good crop | Good tubers; small | Good plant, rather stunted | Rather under average | Aug. 10 to Aug. 14 | John Cobban, Whitfield, Berkeley |
| | Above the average | Early sown good; rest bad | Generally good | Abundance of straw, lightly podded | Remarkably good, above average | Indifferent | Mangels irregular; Swedes good | Universally a light crop, below average | Aug. 8 | John Lynch Fletcher, Royal Agricultural College, Cirencester |
| | Very good | Chiefly good; but some light | Very good | Variable | Tolerably good | Fair crop; healthy | A regular plant, but slow growth | A fair crop, well made | About Aug. 10 | Stiles Rich, Didmarton |
| | Above an average | Early, very good; late, light | Average | Barely average | Uneven, average crop | Under average | Even plant, attacked with grub | Light crops | Aug. 4 | Giles Edmonds, Eastleach, Lechlade |
| | Excellent | Average | Good | Variable | Average | Abundant, but small | Promising | Short crop, but good | Aug. 10 | John F. Peacey, Winchcombe |
| | Average | Good, except late sown. | Above an average | Under an average | Very good | Fair crop | Inferior | Light; well harvested | Now general | R. F. & J. Witcombe, Picton Court |
| OXFORD .......... | Very good, above an average | Late planted patchy | Average | Good | Under average | Good | Mangels bad, Swedes and Turnips full plant | Light crops, well secured | Aug. 10 | Matthew Savidge, Churchill Mount Farm, Chipping Norton |
| | Very good | Fair, late planted bad | Good | Fair | Good | Good | Bad | Good quality, but under average | July 30 | Samuel Druce, Eynsham |
| BUCKS .......... | Good | Good | Good | Below average | .... | Good | Late | Light | Aug. 6 | Alex. Fraser, Clayden |
| | Very good | Very good | Very good | Good | Middling | Good; little diseased | Not generally good | Light | Now | E. Evans, Boveney Court, Windsor |
| | Over average | Full average | Average | Average | Average | Good | Want rain; not average | Half average | Aug. 10 | W. Smith, Woolston |
| | Very good | Good | Good | One-third below a crop | Good | Good | Early sown very good; on stronger land, very bad | Prime quality, but deficient in quantity | Aug. 6 | W. G. Duncan, Bradwell |
| BEDS .......... | Above average | Average | Average | Under average | Under average | Good | Plenty of plant, but stunted | About half a crop | Aug. 4 | James Ross, The Hoo Park Farm, Luton |
| | Above average | Average | Above average | Under average | Under average | Good | Bad | A light crop | At the present time | William Lavender, Biddenham |
| | Quite an average | Good, where put in early | The same may be said of Oats as Barley | Not average, but better than expected | Very short; well corned | Small | Mangels bad; Turnips very late | Well got, but little of it | Aug. 3 | W. Pike, Stevington |
| HERTS .......... | Full average crop | Extremely various | Average | Average | Fair crop | Various | Deficient and late | Light crop | Aug. 3 | ——, near St. Alban's |
| | Considerably over average | Variable; under average | About average | Generally a good crop | About an average | Free from disease | Very indifferent | Very light crop; well got | About the 3d inst. | Geo. Webb, Beaumont Hall, St. Alban's |
| | Above average | Below average | Average | Below average | Below average | Good | Backward; affected by drought | Below average; well secured | Aug. 3 | John Bennet Lawes, Rothamsted, St. Albans |
| BERKS .......... | Above average | Full average | Good, except late sown | Bulky as to straw | Average | Very good | Very promising | Good | Aug. 12 | E. W. Moore, Coleshill |
| | Good | Much in want of rain | Good | Under average | Comparative failure | Good | Average | Late cut average | Aug. 6 | ——, Wantage |
| | Above average | Average | Above average | Under average | Average | Good | Good plant; wants rain | Good, but short | Aug. 3 | J. Adnams, Thatcham |
| | Above average | Early sown good, late sown indifferent | Early sown good, late sown indifferent | Various | Indifferent | Good | Require more rain | Early, damaged; late, too old to be good | July 30 | J. B. Spearing, Moulsford |
| | Good | Early sown good; late sown middling | Good | Very few grown | Very good | Good, but small | Indifferent | Middling crop, but well secured | Aug. 1 | Richard Burniston, Henley-on-Thames |
| | Generally good as to quantity and quality | Variable; some much beaten down; a fair average | Not so much straw, but promises good yield | Not so well set as promised | Average | Promises well, but shows want of rain | Not at all promising | The early cutting much damaged, but the greatest part got up well | First week in Aug. | Thos. Owen, Clapton, Hungerford |
| | Very good | Good | Average | Average | Good | Good | Swedes promising; Mangel average | Light; good quality | First week in Aug. | James Brebner, Norfolk Farm, Windsor Gt. Park |
| | One-fifth over average | Average; quality not quite good | Average, excepting late sown | Under average | An average | Over average | Badly wanting rain | Average crop; well made | Aug. 7 | Stephen M. Plummer, Pessemore, Newbury |
| | Good | Fair | Good | Average | Good | Good | Average | Short | Aug. 12 | James Williams, North court, Abingdon |
| MIDDLESEX ...... | Above average | Above average | Above average | Above average | Above average | Good | Good | Under average | Aug. 5 | Mr. C. Webster, Uxbridge Common |
| | Over average | Early sown very fine | Average | Under | .... | Good | Wurzel promising; Swedes not so | Light crop | Aug. 3 | Thomas Hewett, Cranford, near Hounslow |
| SURREY .......... | Very good; over average | Over average | Over average | Very indifferent | Under average | Good, but partially diseased | Mangels and Swedes are good plants but late | Clover and Meadow very short | Aug. 3 | William Willis, West Moulsey |
| | Full average | Early sown good; late sown various | Generally light | None grown | None grown | Good | Mangels good; Turnips backward | Light | Aug. 8 | James Arnot, Woodcote, Carshalton |
| ESSEX .......... | Good | Average crop | Tolerably good | Average | Scarcely average | Better than of late | Planted well, but wanting moisture | Short | Aug. 4 | A. Barfield, Dunmow |
| | Wonderfully good | Very fine and abundant, but ripening too fast | Very good | Various | Various. | In general very good | Very good | .... | Aug. 7 | George Wilkins, Wix, Manningtree |
| | A very abundant crop; a considerable part above average; all good | Very promising; an average crop | A full crop, except where late | Defective; winter-sown best | Good and full average | Partially diseased in gardens; in field cultivation a fair crop | Mangels partially good; Swedes good plans | Got up well; a moderate crop | Aug. 3 | Henry Dixon, Dorwards Hall, Witham |
| | Much over average; extraordinarily heavy | Much over average, and good for malting | Over average | Partially good; Winter Beans good | Above average | Under average: partially diseased | Very good | Very good, but small | July 27 | Abraham Hardy, Maldon |
| | Very good | Good | Good | Middling | Good | Good | Good, but backward | Short, but good quality | Aug. 3 | Collinson Hall, Princes Gate, Romford |
| | A full average | Good, except the late sown | An average | Winter good; Spring deficient | Good | No appearance of disease | Mangels very deficient; Swedes not growing well | Clover very short; Grass moderate | Aug. 1 | ——, Chelmsford |
| | Very good | Good upon heavy land | Good where well farmed | Good | Good | .... | Turnips good; Mangel not good | Very short crop | First week in Aug. | E. Roberts, Jun., Berden Hall, B. Stortford |
| | Above average | Full average | Average | Full average | Full average | Full average; good quality | Fair | Short crop | July 29 | Blyth & Squier, Stanford-le-Hope, Romford |
| | Above average | Above average | Over average | Average | Average | Good | Various | Various | Aug. 10 | J. J. Mechi, Tiptree |

## THE PRESENT APPEARANCE OF THE CROPS—(*Continued*).

| COUNTY. | WHEAT. | BARLEY. | OATS. | BEANS. | PEAS. | POTATOES. | ROOT CROPS. | HAY. | WHEN WILL HARVEST BE GENERAL. | NAME AND ADDRESS. |
|---|---|---|---|---|---|---|---|---|---|---|
| ENGLAND. | | | | | | | | | | |
| KENT ............ | Over average; of good quality | Average; of various qualities | Good crop of heavy corn | Not half our usual crop | Nearly an average | A large quantity planted; tubers are small but sound | Plant well, but in want of rain | Small crop, well secured | Aug. 6; harvest about half over | Wm. Manser, Dumpton |
| | Over average | A good average | Generally good | Beans generally indifferent | In most instances very good | No disease, but short crop | Mangels looking well; Turnips suffering | .... | About Aug. 7 | M. Sandford, Martins, near Dover |
| | Good | Not much grown; average | Good | Below average | Very good | Good | Well got in; but requires rain | Short crop | Aug. 3 | P. S. Punnett, Chart Sutton, Staplehurst |
| | A great crop, and of excellent quality | A very great breadth; of various quality | A great crop | Very good; short breadth | A great crop | An unusually large breadth; good crop | Mangels good; Swedes suffering | A short crop | Aug. 1 | Robert Matson, Wingham |
| SUSSEX .......... | Average; blight mildew | Early good; late bad | Below average | Below average | Average | Good | Not good; too dry | Early hay spoilt; later hay excellent | Aug. 8 | James Eames, Linch, Midhurst |
| | Over average | Good | Early sown good; late sown suffered | .... | Very good | Very promising | Generally good plant | Light crop; the early mown damaged | Aug. 7 | H. E. Sadler, Chichester |
| | Over average | Over average | Average | Average | Over average | Very good | Backward | One-third under average; good | Aug. 3 | H. Scott Hayward, Folkington |
| EAST SUSSEX .... | Over average; somewhat blighted along the sea-coast | Average | Above average | Very good indeed | Very good indeed | Good | Under average | An average crop; seed hay injured | Aug. 1 | Frederick F. Hallett, Brighton |
| WEST SUSSEX .... | Over average | Average | Under average | Very good | Very good indeed | .... | .... | Meadow well got | | |
| | Over average | Under average | Average | Below average | Average | Require rain | Very backward | Below the average | Aug. 10 | John Brotherston, Rose Hill, Hurst Green |
| HANTS ........... | Over average | Average | Average | Indifferent | Average | Good | Weak; backward | Average | Aug. 1. | J. T. Twynam, Winchester |
| | One-fifth over average | Over average | Over average | Average | Over average | Good | Promising | Light and damaged | Aug. 3 | J. Blundell, Bursledon, Southampton |
| | Above average | Good | Good | Deficient | Good | Good | Suffering from dry weather | Early crops damaged | Aug. 10 | Hugh Raynbird, Surveyor, &c., Basingstoke |
| DORSET .......... | Good | Good | Good | Good | Good | Good | Good | Good | After Aug. 10 | J. Furmedge, Langdon Manor, Beaminster |
| | Over average | Over average | Over average | .... | Average | Good | Good | Excellent | Aug. 7 | W. J. Voss, West Bucknowle, Corfe Castle |
| | Very promising | Heavy | Good | Good | Good | A good crop and sound | Fair | Very good | Aug. 8 | W. T. Pope, Bridport |
| SOMERSET ........ | Over average | Over average | Good; late sown, rather thin | Good | Good | Good | Good | Good; but scanty | Middle of Aug. | C. P. Collyns, Dulverton |
| WILTS ........... | Very excellent | Moderately good | Very excellent | Very good | Very good | Not ascertained | Not so good as usual | Short but good | Aug. 10 | T. Pearce Brown, Barderop, Swindon |
| | Good | Inferior in quality; very much laid | Middling | Very good | Very good | Most splendid | Middling and backward | Field hay spoiled; pasture and meadow good | Aug. 10 | William Barnett, Broad Chalk, Salisbury |
| | Above average | Early good; late very bad | Average | Under average | Average | Average | Bad; wanting rain | Under average; splendid quality | Aug. 6 | Edm. Ruck, Castle Hill, near Cricklade |
| | Very good | Good | Average | Not a full crop | Good | Good | Not good; wanting rain | Very good and well secured | About 17th | Geo. Brown, Avebury |
| | Never known to be better | Good | Good | Partially good | Good | Good | Bad | A light crop; well harvested | The end of next week | Rich. Pocock, Mildenhall, Marlborough |
| | Over average | Average | Fair | Good; moderately corned | Good | Various | Injured by the grub | Moderate; well made | Aug. 8 | Thos. Arkell, Swindon |
| | Considerably above the average | Above the average | Full average | Nearly average | Good average | Very promising | Late and uncertain | Good quality, and average | Aug. 8 | Josh. Stratton, Manningford Bruce, Pewsey |
| | A full average | Above an average | Average | .... | Good | Very good | Good | Sainfoin good crop; Clover variable | Aug. 9 | T. Chandler, Aldbourne |
| DEVON ........... | Above average | Average | Average | .... | .... | Very good | Very good, except Mangel | Well saved | Aug. 12 | John Benson, Tavistock |
| | The finest crop we have had for many years | Full crop; and colouring well | Under an average crop | .... | .... | Good in crop and quality; disease on the increase | Mangels average; Swedes good | Good crop, and in general well saved | About Aug. 10 | R. W. Clark, Plymouth |
| | Good; above average | Early good; late inferior | Fair average | .... | .... | Diseased | Irregular, blanky, backward, and unpromising | Average crop, quality good | Aug. 10 | P. Cowan, Tawstock Manor, Barnstaple |
| | Full in the ear; an average crop | Barely an average | Under average | .... | Good crop | Good crop; but the disease appearing | Promising well | Short crop, well saved | Aug. 6 | George Turner, Beacon Downes, Exeter |
| | Good average | Good average | Under average | None | None | Good; no disease | Promising | Well saved | Next week | George Langdon, Ashford, Barnstaple |
| | Above average | Above an average | Above an average | None | None | Very good; slightly diseased | Very good | Good crop | Middle of Aug. | S. Cornish, Stancombe, near Kingsbridge |
| | Above average | Above average | Above average | .... | .... | Good | Good | Good | Aug. 12 | ——, Totnes |
| CORNWALL ...... | Beyond average | Very good; heavy crop | Very good | None | None | Good; slightly diseased | Very good indeed | Quantity small; quality excellent | August 10 | J. Wills, Southpetherwyn, Launceston |
| | Over average | Average | Full average | .... | .... | Diseased | Good | Good | Aug. 10 | J. Michell, Tregoose, Truro |
| | Very good | Good | Good | .... | .... | Good; much diseased | Good | Average; well saved | Aug. 10 | T. Davey Simmons, Killiganoon |
| WALES. | | | | | | | | | | |
| CARMARTHEN .. | About average | Very good | Fair | None | None | Looking well | Not good | Very good; crops light | About the middle or third week in Aug. | J. Burnell, Penyfan, Llanelly |
| CARNARVON .... | Promising | Promising | Promising | Promising | Promising | Promising | Promising | Light | Aug. 24 | J. Williams, Bodafon |
| IRELAND. | | | | | | | | | | |
| DERRY ........... | Very good | Very good | Very good | Very good | .... | Very good | Good; in want of rain | Very good | Middle of Sept. | ——, Garvagh |
| | Average | Average | Under average | None | None | Not good | Various | Good | Sept. 20 | C. Pollock, Farmhill, Magherafelt, Londonderry |
| ANTRIM .......... | Good | .... | Average | Average | Good | Average | Good | Good | Sept. 1 | J. Burniston, Randalstown |
| DOWN ........... | Good | Bad and scarce | Short of last year | Good | Good | Good | Good Turnips | Good and abundant | Sept. 1 | Wm. M'Cleery, Portaferry, Down |
| | Very good | Good | Fair average | Very good | Little grown here | Very good though disease exists | Very promising | Very light | Aug. 24 | John Andrews, Comber |
| ARMAGH ........ | Good | Good | Good | .... | .... | Good | Good | Good | 1st week in Sept. | Wm. Boyd, Armagh |
| | Very good | None | Good | Good; very little sown | None | Excellent | Very good | Good | Sept. 1 | Robert B. Hardy, Cooley Hill, Tandragee |
| TIPPERARY ...... | Very fine | .... | Particularly fine | .... | .... | No appearance of blight | Mangels and early sown Turnips are progressing | Early meadows are light | About Aug. 20 | William Ryall, Cashel |
| | .... | .... | Very good | .... | .... | Very good | Very good | Light | Aug. 26 | R. D. Bolton Massy, Ballywire |
| FERMANAGH ... | .... | .... | Very good | .... | .... | Very good | Very good | Most excellent | Sept. 1 | A. Mair, Brookeboro' |
| LEITRIM.......... | ... | .... | Good | .... | .... | Good | Good | Meadows good | Sept. 10 | James Lindsay, Bally Glass, Manor Hamilton |
| CAVAN .......... | Very good | .... | Short average | .... | .... | Remarkably fine | A bad appearance | A deficient crop | Beginning of September | J. Albert Nesbitt, Belturbet |
| | .... | .... | Short straw; grain abundant | .... | .... | Excellent | .... | Good; well saved | 2d week in September | Thomas Chambers, Bailyborough |
| | Very good | Good | Good | None | None | Very good | Fair | Excellent | Aug. 20 | Annesley L. De Renzy, Clonegal |
| LOUTH.. ........ | Very good | Very good | Very good | .... | .... | Excellent | Turnips an average | Very good | Sept. 1 | William McCulloch, Mullaharlin |

THE PRESENT APPEARANCE OF THE CROPS—(*Continued*).

| COUNTY. | WHEAT. | BARLEY. | OATS. | BEANS. | PEAS. | POTATOES. | ROOT CROPS. | HAY. | WHEN WILL HARVEST BE GENERAL. | NAME AND ADDRESS. |
|---|---|---|---|---|---|---|---|---|---|---|
| IRELAND. | | | | | | | | | | |
| LONGFORD ...... | .... | .... | About average | .... | .... | Average | Good | Light | End of Sept. | J. M. Goodriff, Granard |
| WESTMEATH .... | Good | Good | Average | .... | .... | Good | Average | Light | Sept. 1 | Walter Newburne, Gaybrook, Mullingar |
| GALWAY.......... | .... | .... | Good | .... | .... | Promising | Looking well | Light | Middle of Sept. | Gordon Lamb, Rosshill, Clonbur |
| ROSCOMMON .... | Average | Average | Under average | .... | .... | Light in upland | Light | Light | Sept. 20 | John Kelly, C.E., Brook Lodge |
| CLARE ............ | Full average | Full average | Over average | Over average | None | Sound and good | Various | Full average | Aug. 24 | Edward Bennett, New-market-on-Fergus |
| | Good | Good | Very good | .... | .... | Fine | Good | Good | Aug. 20 | W. Digan, Killaloe |
| CARLOW.......... | Good | Good | Good | .... | .... | Very well | Well | About half a crop | Aug. 15 to Aug. 20 | Thomas G. Mosse, Rutland House |
| | Good | Good | Light crop | .... | .... | Good in general | Average crop | Upland light, but good | Aug. 20 | J. W. P. P., Clonegal |
| KILKENNY ...... | Average | Under average | Good | .... | .... | Very good | Average | Under average | Aug. 15 | Patrick Grace, Freshford |
| | Good | Good | Good | .... | .... | Average | Very good | Average | Aug. 15 | D. A. Milward, Tullaghan |
| KERRY .......... | Good | Good | Very good | None | None | Best since 1846 | Good | Light, but well saved | Sept. 8 | John O'Sullivan, P. P. and V. G., Kenmare |
| | Good | Middling | Good | .... | .... | Very good | Good | Light | Aug. 20 to Sept. 1 | John Creagh, Tarbert |
| CORK ............ | Above average | None grown | Below average | .... | .... | Good; average | Good; average | Below average | Middle Aug. | James Byrne, Wallstoun Castle, Shanballymore |
| | Good | Good | Good | .... | .... | Good | Good | Good, but light | Aug. 20 | Sam. Piddell, Kilderry |
| | Very good | Good | Very good | None | None | Very good | Turnips good | A very short crop | Aug. 20 | D. Clanchy, Charleville |
| WEXFORD ........ | .... | Very good | Good | Good | Fair crop | Scarce; good; no blight | Very good | Very light | End of Aug. | G. Glascott, J.P., Ferns |

* Hops have been suffering from aphis and mould, but improve daily; and there is a prospect of a crop above the average on the hilly part of Mid-Kent.

## PROPOSALS TO UTILIZE METROPOLITAN SEWAGE.

(1) Dr. Thudichum, M.D., proposes, by a mechanical arrangement, so to separate the house drainage as to retain that which he considers most valuable, and gives a sketch of his closet and drains, and tables of analysis of the constituents of fluid sewage. He estimated the cost of the works for carrying out his process at 1,500,000*l*., and the net profit at 1,000,000*l*. per annum; of this he proposes that he should receive a percentage, and that one-half of the balance should be paid to the Board, and one-half to the shareholders of a company formed for carrying out the system.

(2) Lord Torrington, Sir C. Fox, and Mr. Thornton Hunt regret their inability to comply with the conditions of the advertisement, on the ground of the impolicy of publicly declaring the land with which they propose to deal, but express their willingness to discuss the matter with the Main Drainage Committee, and to enter into a provisional arrangement for prosecuting a Bill in Parliament during the ensuing Session.

(3) The proposals of the London Sewage Utilization Company had been previously reported on by the Main Drainage Committee, January 17, 1860. These were that the Board should grant the company as much sewage as they might require at Barking Creek for two years, at a rent of 5*l*.; that, should the experiment be successful, the Board should at the end of those two years grant a further term of 21 years at the same rent, and, at the end of such term, that the company should pay such rent for such further term as may be agreed between the parties, or as may be determined by the arbitration of the President of the Institute of Civil Engineers or by the Board of Trade.

(4) The proposals of Mr. Moore were that the Board should grant the sewage for a term of 90 years, of which the first 14 should be at a peppercorn, and at the expiration of that term one-half the profits, after deducting 10 per cent. interest on the capital invested, or on such reasonable return as the Secretary of State may award, to be paid by the grantees to the Board. In a further communication on the 9th of July, 1863, Mr. Moore offers to pay one farthing per ton for every ton of sewage raised by the Board to a height of 200 feet, which, at 80 million gallons daily, would, he estimates, amount to 136,000*l*. per annum. Mr. Moore states that he has already engagements with the occupiers of nearly 60,000 acres for the use of the sewage.

(5) Mr. Shepherd, in answer to the Board's advertisement, adheres to the proposals made in his former letters, and states that he shall shortly be in a position to lay before the Board plans for applying the whole of the sewage; that on obtaining a concession he will apply to Parliament for the necessary powers, and asks for a concession of that of the south side first. Mr. Shepherd's letters extend from January, 1860, to the present date, only two communications are of the nature of tenders. The first, dated the 21st April, 1860, asks for a concession of the whole of the sewage of London for 50 years, and offers to divide with the Board the net profits received by the company, after paying 72 per cent. on the invested capital; after 50 years the company are to deduct 5 per cent. interest on their capital. The second, dated 4th July, 1860, refers to the former tender, but requests that the concession shall be full and free, without let or hindrance, on the part of the Board.

(6) Mr. Kirkman is a patentee for obtaining manure from sewage by filtration and deposit—the water after such treatment to be discharged into the river. He purposes to erect works for the purpose at Barking, on condition that the Board shall convey to him the necessary land adjoining the reservoir, shall deliver the sewage to him from the main outfall sewer into his works, shall grant him the use of the river frontage and wharves for the term of seven years at a peppercorn, seven years at a rent of one-fifth the net profits, after deducting a dividend of 20 per cent. on the capital expended, and for a further term of seven years at a rent of one-fifth the net profits, after deducting 5*l*. per cent. on the capital, and for any further term at such rate as shall be settled by the Secretary of State. Mr. Kirkman states that he is prepared to guarantee a *minimum* rent of 10,000*l*. per annum, and he undertakes to name two or more securities for the performance of his contract. He consents also to surrender the works on two years' notice, subject to the repayment of the capital invested, and of a premium of 25*l*. per cent. thereon, and to a royalty of 1*l*. per cent. for the use of his patent.

(7) Mr. Ellis proposes to pump the sewage from the Board's reservoir to certain covered tanks, constructed at such points as the Board may approve, to flow by gravitation through pipes laid along the sides of the roads adjoining the area to be irrigated, which is also to be approved by the Board. Mr. Ellis, on behalf of the Company to be formed, undertakes to provide and use all necessary deodorising agents, and to subject himself in all things to the directions of the Board. He further offers to submit the Act of Incorporation for the Board's approval. The net profits, deducting working and management expenses and reserve fund, he proposes to divide equally between the company and the Board, and he suggests that three of the directors should be nominated by the Board. The concession of the sewage he requires should be in perpetuity, subject to the Board's power to purchase after 50 years, on giving three years' notice, the price to be fixed by valuers chosen jointly. Messrs. Payne, Eddison, and Ford undertake to pay 60,000*l*. to the credit of Mr. Ellis's local trustees, on his obtaining the concession of the sewage on satisfactory terms.

(8) Messrs. Napier and Hope propose to intercept the whole of the ordinary flow of the northern sewage, near Abbey Mills, to convey it by a culvert 44 miles in length to Maplin Sands on the one hand, and Dengie Flats on the other. Both these areas are at present submerged at high water, and their redemption is part of the project, extending to 15,000 or 20,000 acres. The capital proposed to be invested is 2,000,000*l*., the concession of the sewage to be for 50 years, subject to Parliament authority being obtained and to a grant of the land from the Crown. The net profits to be divided equally between the company and the Board, after a deduction of 10 per cent. on the outlay. The Board to have the power of resuming the grant of sewage and taking the whole of the land and works at a valuation at the end of the term of 50 years, on giving seven years' notice, or a new concession to be granted, on terms settled by the Secretary of State. The Board to be represented by two directors of the company. The company to be formed within two years after obtaining Parliamentary powers. The company within three months of its formation to pay into the hands of trustees, chosen jointly, a sum of 25,000*l*. India Five per Cent. Stock (interest to be paid to the company) until three-fourths of the works are complete; the whole to be forfeited to the Board, if the company abandon the enterprise before three-fourths are completed.

[The above particulars are extracted from a report to the Metropolitan Board of Works by the committee to whom the several replies to their advertisement asking for tenders had been remitted.]

## Home Correspondence.

*Potato Crop in Dorsetshire.*—Since I sent in my report on the appearance of the crops, we have experienced some heavy showers, and the Potato crop is now, I regret to say, considerably affected, the old disease having made sudden and extensive ravages. The harvest is now being carried on with vigour and promises to prove the best we have known for several years past. There is, however, an unusual and unpleasant quantity of wild Oats growing with the corn crops. In this neighbourhood their presence if often attributed to deep ploughing. Can you inform me if other localities are so infested, or assign a cause for their appearance in such numbers? *William T. Pope, Bridport.*

## Societies.

Yorkshire Agricultural.—We regret to say that the long tables of crop returns which fill our pages have hindered our giving a report of the meeting of this Society. We shall however refer to it next week.

## Ram Sales.

Shropshire: Mr. T. Horley, of the Fosse Farm, Radford; 31 rams averaged 12 gs. each. The first of Mr. W. G. Preece's annual sales for the present year, of Shropshire sheep, took place last week at the Flash, Shrewsbury; about 150 high-class rams were submitted for public competition, among which were to be found many prize winners; the prices ranged from about 6*l* to 52 gs.; many were unsold.

Weston-under-Penyard, Ross: 50 yearling rams were disposed of at an average of about 9 gs.

Mr. Shittler's Sale: The sale of 75 pure-bred Hampshire Down ram lambs and 5 rams, the property of Mr. Shittler, of Bishopstone, which took place in Salisbury, by Messrs. Ewer & Winstanley, on Tuesday last, attracted a very large attendance, and the whole were disposed of at good prices; some of the lambs sold singly at 27 gs., 16 gs., 21 gs., and 12 gs. each—the whole averaging over 7*l*. per head!

Norfolk: Mr. Hugh Aylmer's set, Abbey Farm, West Dereham; there were 100 ram lambs, 80 shearlings, and 10 two-shear rams offered for competition; the average price of the lambs being 6*l*., shearling 7*l*. 14*s*., and two-shear sheep 7*l*. 17*s*.; the highest bid was 18*l*., and the lowest 5*l*.; the total receipts amounted to 1291*l*. 15*s*.

Marham Hall: Mr. T. Brown's set of long-woolled sheep; 75 shearlings produced a total of 706*l*. 5*s*., being an average of 9*l*. 8*s*. 4*d*.; and 25 two and three-shear rams let for 154*l*. 15*s*., or an average of 6*l*. 3*s*. 9½*d*. each.

Middle Aston: Cotswold rams, bred by Mr. Cother; 65 shearlings averaged 8*l*. 9*s*. 11*d*.

Ratfin Farm, Amesbury: ram lambs realized 40 gs., 26 gs., 18 gs., 17 gs. each, &c.; averaging in all 8*l*. 11*s*. 9*d*. each lamb.

Minster Lovell: 50 sheep let and sold at prices giving an average of 10*l*. 3*s*. 2*d*.

## Miscellaneous.

*American Horse Works.*—At p. 278 of your issue for the current year, you kindly inserted a letter from me seeking information on several points connected with agricultural machinery and implements, and especially in regard to a horse-power machine said to be extensively employed on small farms in America.

My letter did not elicit the replies I had hoped to obtain; but shortly afterwards I tumbled accidentally on the very thing required, in an article headed "American Implements, and Methods of Economising Labour," published in the Journal of the Royal Agricultural Society, Vol. xx., 1859. There you will see depicted the very machine to which I refer. The paper is supplemented by a report from Mr. Amos, awarding this American invention a superiority of 16 per cent. in duty done over the lever horse gear ordinarily used on small farms in this country. Considering, then, that the superior advantages of the American machine must at once have been admitted both by manufacturers and the agricultural public generally, I proceeded the other week to the show at Worcester, never dreaming for a moment but that I should there see many specimens of the American horse-power actively engaged in threshing, chaff-cutting, &c. I need scarcely say that in this expectation I was grievously disappointed, but I may remark that astonishment was added to my disappointment, when on making inquiry at the stands of some of the great machinists, I was told that the invention I alluded to was unknown to them, and they could not believe that it could possibly be more effective than, or even equal to, the horse gear which they respectively manufactured, and for which they were ready then and there to take my order. *Brass Spurs.* [The weight of the draught animal occasions a considerable loss by friction in the American horse works, and that is sufficient to condemn what is otherwise a cheap and compendious arrangement. You can see it in use in some of the London livery stables. There was one for some time in Guilford Street, W.C.]

*Mr. Alderman Mechi and the Agricultural Benevolent Society.*—We learn that (with the cheerful assent of Mrs. Mechi) the Alderman is determined, if spared, upon holding a bazaar at Tiptree Hall, in July, 1864, for the benefit of the Royal Agricultural Benevolent Institution for the relief of decayed farmers, their widows and orphans. It is believed that he will thus be enabled to raise a large sum in aid of the funds of that much needed and philanthropic institution. Mr. Mechi is induced to come to this resolution in consequence of the great success attending his recent efforts to aid a local institution.

*Steam Cultivation.*—As a result of the recent meeting at Worcester of the Royal Agricultural Society, a public meeting was held in that city on Saturday last, "for the purpose of discussing the subject of steam cultivation, and, if so determined, to adopt measures for providing steam cultivation, and applying the same to land at an acreage cost." The chair was taken by Mr. E. Holland, M.P., and among those present were Lord Northwick, the Hon. F. Lygon, M.P., Sir E. A. H. Lechmere, Mr. Vernon, M.P., and Mr. Padmore, M.P. A letter was read from the Right Hon. Sir J. S. Pakington (absent on the continent), expressing himself favourable to the object of the meeting. The Chairman, in opening the proceedings, entered into the subject of steam cultivation, with which he is practically acquainted, having for some years adopted it on his own estate. He said he should no more think of returning to the old system of ploughing by horses than he would think of threshing his corn with the antiquated flail instead of the modern threshing machine. He stated that experience of the effects of steam cultivation had proved that on an average there was an increase of produce by steam cultivation over the ordinary process to the extent of six or eight bushels an acre, besides which the corn was superior in quality and the land was permanently improved in value. Lord Northwick moved the first resolution—"That as the successful application of steam power to the cultivation of the soil is now placed beyond doubt, and its value is universally admitted, means should be taken to secure its employment in this country." This was seconded by Mr. H. F. Vernon, M.P., and carried. Sir E. A. H. Lechmere next addressed the meeting, dwelling on the advantages of steam cultivation, and the necessity of doing away with small inclosures, widening the arable fields, levelling fences, and draining. He then moved, "That inasmuch as the cost of engines and tackle far exceeds the means of most farmers, it is desirable to establish a joint stock company (limited), for the purpose of providing such implements by hire or purchase." Mr. Lukin seconded this resolution, which was also carried unanimously. Mr. T. G. Curtler then moved a resolution for raising a sum of 3500*l.*, in shares of 1*l.* each, and providing two sets of steam cultivators, with engines. This also was carried. Mr. Baldwin, from Birmingham, while approving of the proposal to establish a steam plough company, made some remarks on the fact that we were sending Irish labourers to America to grow corn for English consumption, whereas he thought they could be better employed in double digging English farms. This brought a rejoinder from Mr. Curtler, who expressed an opinion that it would be all the better for Ireland if all the Irish emigrated to America and were replaced by English. After some further discussion the usual vote of thanks to the Chairman was passed, and the proceedings ended.

*Horses* v. *Steam.*—Till within the last few years, the agriculturist has skilfully made use of the inferior animals of the creation to supplement his own want of power; he has exerted his own faculty of reason to subdue the more powerful and docile animal, so as to make them subservient to aid in supplying his necessities; and thus, while he has not been able to equal human labour in skill, and in the production of the luxuries, he has surpassed it in the production of the necessaries of life. He has exercised his reason, so as to procure the greatest quantities of those things which are necessary, at the least possible cost. And he now discovers that there exists another power, which he can, to some extent at least, substitute for that of the inferior animals. This is the discovery of the last few years, and it has brought agriculture into a state of transition. For, if it is to be generally adopted, it is clear that we must establish, with regard to this new power, the same maxim which we have laid down with regard to the use of animal power—of obtaining the greatest result at the least cost. The positions, therefore, that we have to maintain are these, that the cost of our new steam power is less than that of horse power, and next, that the produce from the former is greater than that from the latter. If we can establish the truth of one of these positions, it is evident that we shall have succeeded in establishing the truth of our theory. If we can establish both, we add weight to our argument. But since the introduction of a new power must, from the nature of the thing, be attended with certain inconveniences, we are bound, before we can conclude that we have established a fair case for its adoption, to show that the balance of conveniences are so much in favour of our new power, as to render it a matter of profit, either partially or wholly, to substitute our new power for the old one. This proof, it is clear, can only be supplied by direct and careful experiment.

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. Slatter, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | August 7 | 30.12 | 71 | 66 | W. | 1 | 6 | 70 | 60 | 79 | 56 | 0.01 |
| Saturday .. .. | 8 | 30.22 | 70 | 65 | S.W. | 2 | 4 | 78 | 62 | 92 | 60 | .. |
| Sunday .. .. | 9 | 30.23 | 68 | 61 | S.W. | 2 | 10 | 72 | 57 | 82 | 53 | .. |
| Monday .. .. | 10 | 30.20 | 68 | 63 | S.W. | 1 | 9 | 77 | 58 | 93 | 52 | .. |
| Tuesday .. .. | 11 | 30.11 | 64 | 59 | W. | 2 | 10 | 74 | 56 | 87 | 48 | .. |
| Wednesday .. .. | 12 | 30.18 | 63 | 54 | W. | 1 | 4 | 74 | 51 | 87 | 45 | .. |
| Thursday .. .. | 13 | 30.11 | 69 | 54.5 | S.W. | 0 | 0 | 73 | 52 | 88 | 43 | .. |

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

Books: *George.* Morton's "Farm Calendar" (Routledge) or the "Cyclopædia of Agriculture" (Blackie), 10*s.* 6*d.* and 3*l.* 15*s.* respectively. The quarter's charge for the Paper is 6*s.* 6*d.*—*Jacobus, Newport.* Nos. 1, 2, & 5, No. 1 best.

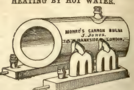
Grasses: *E K.* Your Grasses are—1, Poa (Glyceria) aquatica, the reed Poa of brooks and watercourses; 2, Bromus mollis, soft Brome, called "Lop," from its heavy seeds; 3, Alopecurus pratensis, Meadow Foxtail; 4, Aira cæspitosa, Hassock or Tussac Grass, tall Hair-grass, sometimes called "bull-pates." *J.B.*

Sheep: *C J.* Your letter is sent to Mr. W. C. Spooner, Southampton.

Subsoil Plough: *Labourer.* Read's (Circus, Piccadilly) as improved by Sleight of Edinburgh, is a good subsoil plough: Cotgreave's is a good trench plough (Ransomes, Ipswich); Parkes' of Birmingham drainage tools are as good as any (Mapplebeck & Lowe); Denton's drainage level (52, Parliament Street, S.W.)

Wheat after Beans: *Agricola.* We prefer taking Wheat after Wheat with an intervening crop of Beans, to taking the two without an intervening crop, even though the Beans be not manured.

HEATING BY HOT WATER.

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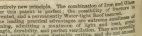

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The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

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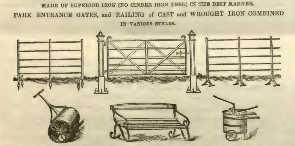
# COTTAM'S
## CONTINUOUS IRON FENCE, HURDLES, and FIELD GATES,

MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

PARK ENTRANCE GATES, and RAILING of CAST and WROUGHT IRON COMBINED

IN VARIOUS STYLES.



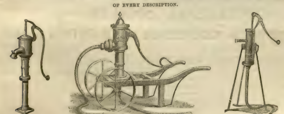
IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES, WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes. VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c. The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

Illustrated CATALOGUES and DRAWINGS free on application to
COTTAM & CO., ENGINEERS and IRON FOUNDERS,
2, WINSLEY STREET (Opposite the Pantheon), OXFORD STREET, LONDON, W.

# JOHN WARNER & SONS,
## BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS

OF EVERY DESCRIPTION.



No. 35. No. 36½. Improved Cast-Iron Lift and Force Pump. No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & Sons' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... ... 3 0 0
3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & Sons' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the
PATENTEES and MANUFACTURERS,
JOHN WARNER and SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

**To Seed Merchants and Nurserymen.**

SAYNOR and COOKE, Pruning and Budding Knife Manufacturers, beg respectfully to say that they will not be undersold by any House in the Trade. They also warrant one of their Knives to last two of any other make.
Paxton Works, Sheffield.

PULHAM'S ROCKWORK FERNERIES, WATERFALLS, CAVES, BANKS of STREAMS and PONDS, executed in the only way it should be, *i.e.*, to imitate Natural ROCKS. Worked with pockets, for plenty of plants to grow about it.

References to works executed in 10 counties, some by the recommendation of W. B. Thomas, Esq., and R. Marnock, Esq.

GARDEN or BATHING TENT, 30*s.*; Cork Mattresses (fluted), roll up, 4*s.* each; Poultry House, 50*s.*; Summer House, 50*s.*; Galvanized Poultry Wire-work, 6*d.* per square yard; Tarpaulings (8 ft. by 4 ft.), with eight eyelet holes, 2*s.* 9*d.*, for Gardens &c.; other sizes, 9*d.* per square yard; all kinds of Wire-work, &c.
R. Richardson, 99, Euston Road, London N.W.
Large MARQUEES for Flower Shows, Fêtes, &c.; also 800 Flags and Banners on Sale or Hire; 20,000 Variegated Lamps on Hire.

HOT-WATER PIPES, at Reduced Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, Tubular, and Elliptic, from 24*s.* each. Improved Boilers and Iron Stands to use without brickwork, 56*s.* each. Valves from 10*s.* 6*d.* each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at
Mr. Lynch White's Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S. Price List on application.

JAMES WATTS and CO., Hothouse Builders and Hotwater Apparatus Manufacturers, near the Green Man, Old Kent Road, London, S.E.

200 CUCUMBER and MELON BOXES and LIGHTS, and from
400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.
Glazed and Painted complete, ready for immediate use. Packed and sent to all parts of the kingdom.
10 dozen strong Zinc HAND GLASSES, Glazed and Painted complete, ready for immediate use, 18, 20, and 22, all shifting tops.
Reference to the Nobility, Gentry, and Trade in most of the counties in England.

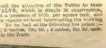
JOSEPH SMITH, New Road, Hammersmith, W., undertakes the ERECTION of GREENHOUSES, &c., in any part of the kingdom, and begs to offer for SALE about 10,000 feet of GLAZED LIGHTS for GREENHOUSES, PITS, &c.

Those glazed with 21-oz. glass, 9*d.* per square foot.
" " 16-oz. " 8*d.* " "

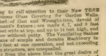
| | | |
|---|---|---|
| 21-oz.— | Eight. | 12 feet 3 inches by 5 feet 8 inches. |
| | Twenty. | 11 feet by 4 feet 8 inches. |
| | Nine. | 8 feet 6 inches by 4 feet 8 inches. |
| | Ten. | 7 feet by 3 feet 11 inches. |
| | Twelve. | 5 feet 2 inches by 4 feet 2 inches. |
| 16-oz.— | Forty. | 7 feet by 4 feet 3 inches. |
| | Twelve. | 8 feet 10 inches by 4 feet 2 inches. |
| | Twenty. | 6 feet by 4 feet 2 inches. |
| | Twelve. | 5 feet 2 inches by 5 feet 8 inches. |

Also Span-roof Greenhouse, 27 feet by 16 feet, 47*l.*
Lean-to, 21-oz. glass, 46 feet by 14 feet, 5*l.*
" " 24 feet by 11 feet, 30*l.*
" 16-oz. glass, 50 feet by 14 feet, 55*l.*
Second-hand, 12 feet by 7 feet, 14*l.*
Estimates given for Heating.

CLARK and HOPE (late Clark), 55, Lionel Street, Birmingham. Established A.D. 1818. Manufacturers of Metallic and Wood Horticultural Buildings, Copper Sashes, Verandahs, Skylights, Wrought-iron Windows, Casements, and Hot-Water Apparatus.




C. & H. beg to call the attention of the Public to their PATENT STOP VALVE, which is simple in construction, warranted to resist a pressure of 30 lb. per square inch, and can be taken out for repairs without interrupting the working of the Apparatus. To be had at the following low prices:— 2 inches, 14*s.* 6*d.*; 3 inches, 19*s.* 6*d.*; 4 inches, 25*s.* 6*d.* each. A liberal discount to the Trade.



C. & H. also beg to call attention to their New TREE COVER, or Continuous Glass Covering for Garden Walls. They are constructed of Cast and Wrought-iron, devoid of Shadow, and a Tenant's fixture; are made 6, 7, and 8 feet wide at bottom, 2 feet wide at top, and up to 14 feet high, and can be glazed with or without putty. The Ventilating Sashes are opened by means of simple and durable Machinery in lengths of about 50 feet at one operation, and not exceeding the cost of a wooden structure, are unequalled.

It will be evident from the above that the great desire of the Manufacturers is to bring the articles within the reach of a very large class of consumers, who, it is hoped, will avail themselves of the advantages thus offered.

Particulars and prices forwarded upon application, also Lithographed Designs of Horticultural Buildings, Copper Bars, &c.

**Cabbage Seed for Present Sowing.**

SUTTON AND SONS can now supply the best sorts of CABBAGE SEED for early Table use next spring and summer.

Also the large DRUMHEAD CATTLE CABBAGE, which should be sown now for Feeding in the autumn of next year, and smaller kinds for Sheep Feeding early next summer.

Prices moderate, but various according to sorts.

Royal Berkshire Seed Establishment, Reading.

**The Quickest Turnip Known.**

SUTTON'S SHORT-TOP SIX-WEEKS TURNIP.—Good Turnips for table use may be obtained within six weeks from the date of sowing this seed. It is decidedly quicker than any other sort hitherto offered. Price 1s. per lb.

EARLY SIX-WEEKS STUBBLE TURNIP.—This is an excellent sort for Sheep-feed in winter and early spring. It will succeed well if sown before the 1st of September. Price 8d. per lb., or cheaper by the bushel.

Royal Berkshire Seed Establishment, Reading.

**Permanent Grass Seeds for all Soils.**

SUTTON AND SONS can supply good fresh SEEDS for immediate Sowing as under:—

PERMANENT GRASS SEEDS for Laying down New Pastures (including CLOVERS in full quantities), 30s. per Acre.

PERMANENT GRASS SEEDS for mending new Pastures, which may have been injured by the Corn crop, 12s. per bushel.

Royal Berkshire Seed Establishment, Reading.

**For Present Sowing.**

SUTTON'S IMPROVED ITALIAN RYE-GRASS, 6s. per bushel, or cheaper in large quantities.

This is the best season for sowing Italian Rye-grass to ensure sheep feed very early in the spring.

TRIFOLIUM INCARNATUM (Early Crimson), 4d. to 5d. per lb., or cheaper in large quantities.

*** A mixture of the above will be found very useful for mending Clover and Grass Seed sown for mowing next spring.

MUSTARD SEED for Sheep Feed in October and November, or for green manure.

RAPE.—New Seed at reduced price.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**Imported Orchids.**

B. S. WILLIAMS has just received a fine importation of the following ORCHIDS:—

LYCASTE SKINNERI | CATTLEYA MOSSIÆ
CATTLEYA SUPERBA
GALEANDRA DEVONIANA, a choice and rare plant, finest of the genus.

Prices on application.

Paradise and Victoria Nurseries, Holloway, London, N.

WANTED, CUTTINGS of PELARGONIUMS, good market varieties; also STRAWBERRIES of the following varieties:—Admiral Dundas, Frogmore Late Pine, Oscar, La Constante, Mammoth, Marguérite, Richard III., Sir Harry, Trollope's Victoria.

State lowest price per 100, to the PROPRIETOR, Kew Gardens, Cradley, near Malvern.

**Pyrethrum Seeds.**

JOHN SALTER can supply new Seeds of Single and Double PYRETHRUMS, saved from his own collection. Single varieties, 1s. 6d. per pkt. | Double varieties, 3s. 6d. do. Post free.

Versailles Nursery, William Street, near Hammersmith Turnpike, W.

**Vines bearing Fruit.**

GEO. CLARKE begs to offer handsome Plants, well furnished, with good bunches of fruit now ripening, at 10s. and 15s. each; the fruit at present upon them is worth more than the price of the plants. A large stock also of younger plants of all the new and best kinds, prices upon application.

Nursery, Streatham Place, Brixton Hill, S; and 4, Windsor Terrace, near the Victoria Railway Station, Pimlico, S.W.

**DUTCH FLOWER ROOTS.**

JAMES VEITCH,

ROYAL EXOTIC NURSERY, CHELSEA, S.W.,

BEGS TO ANNOUNCE THAT HE HAS RECEIVED HIS

ANNUAL SUPPLY OF BULBOUS ROOTS FROM HOLLAND,

and is pleased to say that they are in excellent condition.

CATALOGUES are now ready, and will be forwarded post free on application.

J. V. desires to impress upon those who patronise him the great advantage of giving him their orders early, as the successful Cultivation of Bulbs depends in a great measure upon their being planted early in the season.—August 22.

**NEW PLANT CATALOGUE.**

JAMES VEITCH

BEGS TO ANNOUNCE THAT HIS

CATALOGUE OF NEW AND BEAUTIFUL PLANTS

FOR THE PRESENT SEASON IS NOW READY,

AND WILL BE FORWARDED POST FREE ON APPLICATION.

ROYAL EXOTIC NURSERY, CHELSEA, S.W.—Aug. 22.


# ROYAL HORTICULTURAL SOCIETY.

## REMAINING ARRANGEMENTS for the EXHIBITIONS and MEETINGS in 1863,

TO BE HELD AT

THE GARDEN, SOUTH KENSINGTON, W.

| | |
|---|---|
| TUESDAY, AUGUST 25 | Floral Committee, at 12. Fruit Committee, at 12. |
| WEDNESDAY, SEPT. 9 | AUTUMN FLOWER SHOW, at 1. Band at 2. Floral Committee, at 10. Fruit Committee, at 10. |
| TUESDAY, SEPT. 22 | Floral Committee, at 12. Fruit Committee, at 12. |
| FRIDAY, OCT. 2 | Council, at 11. Meeting for Election of Fellows, at 2. |
| TUESDAY, OCT. 6 | Floral Committee, at 12. Fruit Committee, at 12. |
| FRIDAY, NOV. 6 | Council, at 11. |
| TUESDAY, NOV. 10 | Floral Committee, at 12. Fruit Committee, at 12. |
| FRIDAY, DEC. 4 | Council, at 11. |
| TUESDAY, DEC. 8 | Floral Committee, at 12. Fruit Committee, at 12. |
| FRIDAY, DEC. 18 | Council, at 11. |

## ELECTION OF FELLOWS.

Gentlemen and Ladies wishing to become Fellows have to be proposed by some one already a Fellow, to whom they are personally known. The subscription is Two Guineas Entrance Fee, and Two Guineas or Four Guineas a year according to the privileges wished.

## SHOW OF AUTUMN FLOWERS AND OUT-DOOR FRUITS, WEDNESDAY, SEPTEMBER 9.

Free to Fellows and the Transferable Cards, and also admission by payment at the door or by Tickets previously purchased.

LIST OF PRIZES.

### AUTUMN FLOWERS.

| Class. | | 1st Prize. £ s. | 2d Prize. £ s. | 3rd Prize. £ s. |
|---|---|---|---|---|
| 1. 12 Hollyhocks, single flowers. Distinct kinds | (Open) | 2 0 | 1 0 | 0 15 |
| 2. 24 German Asters. "Quilled." Distinct kinds | (Open) | 2 0 | 1 0 | 0 15 |
| 3. 24 French Asters. "Tasselled." Distinct kinds | (Open) | 2 0 | 1 0 | 0 15 |
| 4. 24 Gladiolus, cut spikes. Distinct kinds | (Open) | 2 10 | 1 10 | 1 0 |
| 5. 12 Gladiolus, cut spikes. Distinct kinds | (Amateurs) | 2 0 | 1 10 | 1 0 |
| 6. 24 Phloxes, single trusses. Distinct kinds | (Open) | 2 0 | 1 0 | 0 15 |
| 7. 24 Verbenas, 5 trusses of each. Distinct kinds | (Open) | 1 10 | 1 0 | 0 15 |
| 8. 48 Dahlia Blooms. Distinct kinds | (Nurserymen) | 5 0 | 4 0 | 3 0 |
| 9. 24 Dahlia Blooms. Distinct kinds | (Nurserymen) | 3 0 | 2 0 | 1 0 |
| 10. 18 Dahlia Blooms. Fancies. Distinct kinds | (Nurserymen) | 3 0 | 2 0 | 1 0 |
| 11. 18 Dahlia Blooms. Distinct kinds | (Amateurs) | 4 0 | 3 0 | 2 0 |
| 12. 12 Dahlia Blooms. Fancies. Distinct kinds | (Amateurs) | 3 0 | 2 0 | 1 0 |
| 13. Miscellaneous. For flowers not specified | (Open) | 2 0 | 1 0 | 0 10 |

### OUT-DOOR FRUITS (OPEN).

NOTE.—A Dish of Apples, Pears, Oranges, Lemons, and such like, 6 fruits of each; Plums, 9 fruits.

| Class. | 1st Prize. £ s. | 2d Prize. £ s. | 3d Prize. £ s. |
|---|---|---|---|
| A. Collection of Fruit, 8 dishes, 6 distinct kinds | 6 0 | 4 0 | 3 0 |
| B. Peaches. 4 Dishes. Distinct kinds | 3 0 | 2 0 | 1 0 |
| C. Peaches. Single dish | 1 10 | 1 0 | 0 10 |
| D. Nectarines. 4 dishes. Distinct kinds | 3 0 | 2 0 | 1 0 |
| E. Nectarines. Single dish | 1 10 | 1 0 | 0 10 |
| F. Figs. 3 dishes. Distinct kinds. 12 fruits each | 2 0 | 1 10 | 1 0 |
| G. Figs. Single dish. 12 fruits | 1 0 | 0 15 | 0 10 |
| H. Cherries. 3 dishes. Distinct kinds | 2 0 | 1 10 | 1 0 |
| I. Cherries. Single dish. 50 fruits | 1 0 | 0 15 | 0 10 |
| J. Plums. 4 dishes. Distinct kinds | 2 10 | 2 0 | 1 10 |
| K. Plums. Single dish | 1 0 | 0 15 | 0 10 |
| L. Apples, Dessert. 3 Dishes. Distinct kinds | 2 0 | 1 10 | 1 0 |
| M. Apples, Kitchen. 3 Dishes. Distinct kinds | 2 0 | 1 10 | 1 0 |
| N. Pears, Dessert. 3 Dishes. Distinct kinds | 1 0 | 0 15 | 0 10 |
| O. Miscellaneous | 1 10 | 1 0 | 0 15 |

HYACINTHS and other DUTCH BULBS.

THE FIRST PRIZE FOR A COLLECTION OF HYACINTHS.
THE FIRST PRIZE FOR 18 HYACINTHS.
THE FIRST PRIZE FOR 6 NEW HYACINTHS.

Being all the FIRST PRIZES offered to Nurserymen at the Royal Horticultural Society's HYACINTH SHOW on March 18, were awarded to WILLIAM PAUL, Paul's Nurseries, Waltham Cross, N.

PRICED DESCRIPTIVE CATALOGUE free by post.

New Catalogue of Plants, Dutch Bulbs, &c.

ROBERT PARKER begs to announce that his New CATALOGUE, containing Select, Descriptive, and Priced Lists of Exotic Orchids, New and Rare Greenhouse, Hardy, and Stove Plants, Ornamental and Variegated foliaged Plants, Azalea Indica, Fruit Trees, Grape Vines, Rhododendrons, Roses, &c., Hyacinths, Tulips, Gladioli, Narcissus, and other Bulbs, is now published and will be forwarded to all applicants.

Exotic Nursery, Tooting, Surrey, S.

CHOICE SEEDS.—CINERARIA, 1s. per packet; CALCEOLARIA, 1s. do.; PRIMULA, 1s. do.; COVENT GARDEN INTERMEDIATE STOCK, 1s. do.; MIMULUS, 1s. do.; HUNT'S SWEET WILLIAM, 1s. do.; CARNATION, 1s. do.; PICOTEE, 1s. do.; PELARGONIUM, 1s. do.

BARR & SUGDEN, Seed Merchants, 12, King Street, Covent Garden, W.C.

Sow in August.

DOBSON'S PRIZE CALCEOLARIA.
The most varied and beautiful strain imaginable.
In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s.

Sow in August.

DOBSON'S PRIZE CINERARIA.
A splendid strain. Received 10 first prizes in 1862.
In sealed packets, 1s., 2s. 6d., and 5s.

Sow in August

DOBSON'S PRIZE PRIMULA SINENSIS FIMBRIATA. From finely fringed Flowers.
In sealed packets, 1s., 2s. 6d., and 5s.
The above Seeds are unequalled for quality.
J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

To the Trade.

LONICERA AUREO-RETICULATA.
1st size, 18s. per dozen;
2d ,, 12s. ,,
3d ,, 6s. ,,
JAMES WEIGHT & Co., Nurserymen, Edgware, N.W.
Also a large quantity of strong SEAKALE.

CALCEOLARIA, CINERARIA, PRIMULA, &c.—CALCEOLARIA, saved from carefully hybridised flowers, possessing all the recognised floral qualifications, viz., size, form, colours, and marking. Price, 1s. and 2s. 6d. per packet. CINERARIA, extra choice, 1s. per packet. PRIMULA SINENSIS FIMBRIATA, extra choice, 1s. and 2s. 6d. per packet. DRACÆNA (CORDYLINE) INDIVISA, from Mount Egmont, New Zealand; beautiful fine foliaged plant, 1s. and 2s. 6d. per packet.

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

# The Gardeners' Chronicle.

*SATURDAY, AUGUST* 22, 1863.

MEETINGS FOR THE ENSUING WEEK.

TUESDAY, Aug. 25 { Royal Horticultural (Floral and Fruit Committees) at S. Kensington.

THE present summer has hitherto been most remarkable, both in this country and in France. Here it has been characterised by warm days with a large amount of sunshine, whilst the general and occasionally extreme coldness of the nights is probably unprecedented, in our average hottest month (July) more especially. At Paris we are informed the heat has been greater than has been experienced, excepting perhaps once, for at least 158 years. In *Les Mondes*, a weekly publication conducted by M. L'ABBÉ MOIGNO, there is an article relating to this extraordinary high temperature, from data supplied by M. BARRAL, a few extracts from which may prove acceptable to our readers, many of whom are interested in the subject.

In a note to the editor of *Les Mondes*, requesting that he would have the kindness to say in his next Number what the highest temperature was on the 9th of August, Marshal VAILLANT stated that he himself had observed the thermometer for several hours at 100°.4; but it appears from the report of M. BARRAL, that the temperature of that day reached as high as 102°.2, in the shade. The heat was suffocating in all the streets; between 1 and 3 P.M. there was scarcely a breath of air. The stones were burning hot, and the asphalte of the footpaths was softened by the ardent rays of the sun to such a degree that the feet sank in it. Relief was nowhere to be found, except in streets and squares that had been abundantly watered.

The Luxembourg resembled a hot sand desert. Those who fled thither for air experienced a wind which blowed in their eyes a dry scorching sand. The leaves of the Chesnut trees in the grand avenue which leads to the Observatory are burnt up, some of the trees are even quite leafless, and scarcely any shade is afforded by this avenue, usually so fine. The trees in the inside rows are the only ones which yet retain their foliage.

In the garden of the Rue Notre-Dame-des Champs, where M. BARRAL's observations were made, the thermometer placed in the shade, and distant from any wall, indicated 39° Centigrade, or $102\frac{1}{5}$° Fahrenheit, at 2 h. 30 m. On the 9th, at 4.30 it was still nearly 97°. When the temperature was at the highest in the shade, $102\frac{1}{5}$°, it was 149° in the sun, according to the observations of MERCIER. It is very rare that at Paris the thermometer in the shade exceeds $96\frac{1}{2}$°. Since the commencement of the century it has only once reached so high as $98\frac{5}{8}$°; and this was on the 18th of August, 1842.

In the last century higher temperatures than the above have been recorded; but there is some doubts as to whether the thermometers were properly corrected previous to the last 60 years, since which time they have also been differently placed. The thermometrical observations at Paris do not date further back than 1705; and the highest temperatures recorded in the tables are 102°.2 Aug. 19, 1763; 103° Aug. 14, 1773; and 104° Aug. 26, 1765.

The first half of July of the present year was very warm at Paris. The maximum temperature on the 12th was $91\frac{1}{2}$°; and on the 11th and 13th nearly 90°. Since the commencement of August the maximum temperatures have been as follows, at Paris and London:—

| August .. .. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| Paris .. .. | 84.2° | 86° | 87.8° | 93.5° | 90° | 86° | 84.5° | 95° | 102.2° |
| London .. .. | 77 | 81 | 82 | 78 | 76 | 79 | 80 | 80 | 86 |
| Difference .. | 7.2 | 5 | 5.8 | 15.5 | 14 | 7 | 4.5 | 15 | 16.2 |

We may here observe that the thermometer has never been observed to stand so high as the above in England. The greatest heat in the shade registered at Chiswick, was 97° on the 5th July, 1852. According to HOWARD's "Climate of London," the thermometer stood at 98°.5 July 13th, 1808, and at 97° July 18th, 1805. These appear to have been the hottest days in the present century in this country.

We have not at present the means of stating the lowest temperature of each night at Paris during the above period, but it is mentioned in *Les Mondes* that the thermometer never fell below 51° or 52°. Rain fell only on four days at Paris in July, namely the 20th, 21st, 23d, and 25th, and altogether the amount was less than an inch, the average quantity being nearly 2 inches. Some fell on the 2d and 5th of August, but scarcely 1-20th of an inch. With so little rain and excessive heat we can easily imagine that vegetation must have been very much parched and scorched. That trees must have suffered in many situations we may infer from the effects produced on the healthy well established Chesnut trees above mentioned. Vines in the open air we are inclined to believe would withstand the heat, intense as it has been; for an experiment was made with a Vine exposed to the rays of the sun in a three-light frame, kept shut and locked; the thermometer enclosed with the Vine often rose under the influence of the sun's rays as high as 140°. But the Vine lived and grew incessantly for months, indeed, till there was no longer any danger from excessive heat. A thick-leaved tropical Orchid was put in for trial along with the Vine; but it was cooked, apparently parboiled, in one day. Therefore we conclude that Vines will not have been injured by the recent excessively high temperature. On the contrary, where the Vines were not cut off by the frost in spring, the vintage ought to be unusually good. But the most interesting question, as regards the people of this country, in connexion with the great heat and dryness which has prevailed in France, is the state of the grain crops. Being earlier than here it appears these crops had previously completed their maturity; for in a note from Marshal VAILLANT to the periodical to which we have been referring, he states that the Wheat crop is magnificent in Alsace and in Flanders; that the harvest is terminated in the valley of the Rhine, and that the produce is about 40 bushels per acre; that the bushel weighs 68 lbs., which has not been the case since 1834; and his conclusion is that in France the Wheat produce of 1863 is nearly equal to that of two ordinary years.

We shall now advert to the weather of the current summer in England, which we mentioned as having been remarkable. It has been as much so for the coldness of the nights as it has been in France for the heat of the days. We had in July a mean maximum temperature of fully 78°, or 3°.66 above the average; but on the other hand the mean minimum was only 40°.8, no less than $10\frac{1}{2}$° below the nightly average. On the 18th the thermometer at night indicated 27°, or 5° below freezing. On 13 nights it was below 40°, as will be seen from the following instances:—

July 9th, 33°; 13th, 37°; 14th, 36°; 16th, 34°; 17th, 33°; 18th, 27°; 19th, 37°; 20th, 33°; 23d, 32°; 25th, 36°; 26th, 36°; 27th, 39°; 30th, 35°. The lowest registered in July at Chiswick for the last 37 years, was 34°, on the 25th, 1860. The frost of the 18th ultimo injured such plants as Kidney Beans and Vegetable Marrow in low situations; but for the hardier kinds of vegetation the weather of the past month proved on the whole favourable, and highly so for the grain crops, owing to the large amount of sunshine. We had a mean temperature of 59°.53, or 3°.7 below the usual mean of July, in consequence of the coldness of the nights, which lowered the mean, notwithstanding the heat from more than usual sunshine. We have often observed that when a certain mean temperature is owing more to the heat of the days than to the warmness of the nights, as has notably been the case in the present summer, the grain crops are substantial and their nutritious properties well developed. This can only be done by the powerful agency of the sun's rays. It appears from the columns of temperature of which we have given the averages, that the sun's rays have exerted a more than usual influence, and the consequence is the finest quality of crop that has perhaps ever been produced; and this is the result of cold nights and warm very sunny days. Doubtless we could as well have dispensed with the former if at the same time we could have had the latter; but it is generally the case in our own climate, that if the nights are warm the days are dull, cloudy, and sunless. From the experience we have had in the present season more especially, we may rest assured that if the days are warmer than usual, even if the nights should be much below their average, the crop will be good and substantial. *R. T.*

—— Our readers will doubtless remember some curious remarks on the supposed discovery of ROMAN OATS, near Alnwick, to which we gave insertion some time since (p. 388); and also a letter relating to the paragraph in question, which appeared in our subsequent Number. We find in the concluding Number of the *Phytologist* (the source whence the former statement was derived) the following letter from Mr. JAMES BINKS, on the same subject, and as it contains some further information, we transcribe its substance, as follows:—

"My attention has been recently directed to a letter in the *Phytologist*, written 'for PETER LAWSON & SON,' respecting an article on the Roman Oat question, which appeared in your periodical. I must premise, in simple justice to myself, that the article in question was published in your pages in its present imperfect form entirely without my knowledge and concurrence; otherwise I might have supplied additional particulars as to the result of last year's trial of the Oats, a course which might possibly have saved your Correspondent's animadversions, by furnishing the 'further manifestations' he seems to have expected. It appears almost superfluous to remind the writer that, as the opinion of 'nearly every one' at the Battersea Park Show was communicated to me by him at the time in terms precisely synonymous to those in the said letter, it would have been a work of supererogation to have intruded any further notice of my Oats in quarters where the firm he represents has so great influence. Happily, however, another year's careful cultivation of the Oats has warranted experienced agriculturists of the north of England in still retaining opinions entirely hostile to that of 'nearly every one' at the Battersea Park Show. I may further be allowed to state, at the risk of trespassing too much on your valuable space, that it is my intention to re-cultivate the original camp-ground next season, when I have no doubt the specimens with heads resembling Onions will be brought permanently into the catalogue of mortal realities."

—— In a paper describing the effect of geological position on certain Coniferous plants, Lord DUCIE has recorded the fastidiousness of CRYPTOMERIA JAPONICA in respect to soil, as observed in and about Tortworth Park. On the limestone its leading shoot, he remarks, is always defective, and its growth generally devoted to the formation of a nest-like mass of small shoots; whilst on the old red sandstone, a formation which is deficient in lime, its growth is regular, upright and graceful; and so rapid that his lordship observes he has no hesitation in affirming that in the locality in question it would outgrow the Larch. The Deodar, on the other hand, appears to be the least discriminating and the most accommodating of all the Conifers.

—— Mr. E. S. DODWELL has given in a recent number of *Gossip* the following description of a

Plantain Extractor invented by Mr. Belcher of Faringdon. This implement, he remarks, "is so simple, yet so efficient for the purpose intended—the removal of weeds from lawns, and the replacing the parts thus denuded of verdure with fine Grasses, that I feel it cannot be too widely known. Like everything really useful, it is very simple, both in its form and mode of application. It is indeed a gun-punch on an enlarged scale—say 3 inches in diameter—fitted with a light iron handle the length of an ordinary spade handle, and a tread to give facility in forcing it into the ground. Placed upon the weed to be removed, a slight pressure drives it into the ground, and a horizontal twist brings the same completely away in the form of a large pellet. This is repeated until the weeds have been wholly removed. Then the operator proceeds to any neighbouring piece of fine Grass, every road side abounding in such, and strikes out an equal number of pellets, deposits the same in the holes made by the removal of the weeds, the fit being neatness itself, and the operation is complete. Mr. Belcher says the merits of the implement are not confined to the removal of weeds from lawns, but that for the converting of arable land into pastures, it is most efficient. On this I pass no opinion, as I have no experience, but as an extractor of weeds and a means efficiently of replacing such weeds with selected pieces of the finest Grasses, I cannot doubt Belcher's Plantain Extractor to be without a rival."

—— Here is a point for discussion amongst Rosarians! Discussing the regulations for the late Rose Show at Birmingham, our contemporary *Gossip* remarks:—"The committee still adhere to the sensible plan of 96 singles, and we should have been glad if they had avoided treble trusses in all cases. The absurdity of simply making a box of Roses so many masses of colour is not to be endured for ever. It is surely much wiser to show a truss of Roses in all its perfection and simplicity: at least all *true* florists think so." This rule of showing treble trusses came in with the early days of Rose-showing, and was, no doubt, adopted more for the purpose of securing an effective display than for any other purpose. As however we secure better sorts and better cultivation, it is quite a question whether it might not be wisely relaxed. Taking into consideration the splendid show made by boxes of single blooms exhibited in the course of the past season, we are inclined to the opinion that single trusses would give us all we want. Probably the rule would also protect us against the infliction of the stale over-blown flowers sometimes necessarily put in to make up the number. What is the general opinion on this matter?

—— Mr. Barnes, of Bicton, has recently, in the *Florist*, given some examples illustrative of the destructive effects of MILDEW ON THE ROOTS OF DEODARS, and of the injury likely to result from suffering old stumps and rotting wood to remain in the ground in which such trees are intended to be planted. In brief, the cases were as follows:—No. 1. Four large trees were, about a dozen years ago, growing at the corners of a square piece of water at Bicton. After some hot sunny weather the foliage of one of these turned suddenly from a luxuriant green to a pale yellow; next spring the plant was unable to put forth new foliage; and as the season advanced the old leaves fell off, leaving it naked. On examination the roots were found to be eaten up with Fungi, which had also run up the heart of the tree. The soil was found to contain a good many old roots and pieces of wood from a shrubbery which had formerly been grubbed. This wood was white with mildew, and was no doubt the real enemy. No. 2. Some 16 or 18 years since a clump of Deodars were planted on a piece of pasture land, and grew away vigorously. Five years ago one of them became unhealthy, and it was found on examination that an old hedge had formerly run across the spot, and that when this hedge was grubbed the roots and broken wood were left in the ground to decay. These undoubtedly were the forerunners of the mischief, to which, Mr. Barnes remarks, several other fine trees have since been sacrificed.

## ENTOMOLOGY.

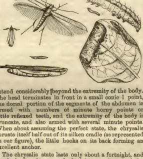
### Gracilaria rufipennella.

The common Walnut tree is remarkable for its freedom from the attacks of insects, the peculiar flavour of the leaves being the probable cause of this immunity; indeed, Loudon, in his "Arboretum Britannicum," does not enumerate a single species of insect attached to this tree, although the Black Walnut of North America nourishes the caterpillars of a large moth of the same genus as our great red under-wing moth. A small beetle, however, Lyctus Juglandis, lives under the decaying bark of the English species.

It was therefore with considerable surprise that in passing along the high road from Botzen to the Brenner Pass in the Tyrol in the third week of last May, we observed that the greater part of the Walnut trees which are planted along the road sides had the appearance of having been scorched or affected by a very severe frost, a great proportion of the leaves having a large portion brown and withered. On examining them we found this was caused by their having been rolled up and gnawed to pieces by numbers of minute caterpillars, many of which were still within the rolls, although the greater part of the mischief had already been completed, and the caterpillars left their rolls. There was nothing peculiar in the manner in which the roll was formed, of which an idea will be obtained from the accompanying figure. There had been considerable rain at the time, and a good deal of the excrement of the larvæ combined to give the leaves a decayed state.

The caterpillars are rather more than a quarter of an inch long, fleshy, with a few very fine erect hairs on the different segments of the body. They have a semi-transparent skin, and are of a dull clay colour with a dark brown streak down the body formed by the visceral canal, the jaws are brown, and on the first segment of the body is a darker-coloured horny patch or scale. When ready to assume the chrysalis state these caterpillars had become of a very pale green colour, with the head and tail slightly clay-coloured. In addition to the three ordinary pairs of legs attached to the first three segments, and the single pair at the extremity of the body, these caterpillars were only provided with three pairs of ventral feet.

When full grown they leave the old roll of the leaf, which they have greatly devoured and rendered unsightly, and curl up a small portion of the margin of the still unconsumed part of the leaf, forming it into a kind of cradle, spun round with pale greenish white silk, and within which they assume the pupa state, which is remarkable for its very slender form as well as for the great length of the pair of antennæ-cases, which



extend considerably beyond the extremity of the body. The head terminates in front in a small conical point, the dorsal portion of the segments of the abdomen is armed with numbers of minute horny points or little reflexed teeth, and the extremity of the body is truncate, and also armed with several minute points. When about assuming the perfect state, the chrysalis thrusts itself half out of its silken cradle (as represented in our figure), the little hooks on its back forming an excellent anchor.

The chrysalis state lasts only about a fortnight, and we had the pleasure of obtaining specimens of the perfect insect developed during our stay in Austria, and the fact of the species attacking the Walnut being new to our entomological friends in Vienna, we consider it may be considered interesting to our readers at home.

The perfect insect is very slender and delicate in its form, belonging to a genus thence appropriately named Gracilaria by our tutor in entomology, the late Mr. Haworth. Its specific name, rufipennella, has been determined for us by Mr. Stainton, who has performed such excellent service to the science by his unwearied observations on the transformations of the difficult family Tineidæ to which the insect belongs. The upper surface of the head and thorax and the fore wings are of a reddish brown colour, varying in some specimens to a more orange, and in some to a greyer tint. The fore edge is marked with a paler streak alternating with a great number (about 20) minute black dots; there are also two or three longitudinal rows of similar dots, but very irregular in number and distinctness, along the disk of the wing as well as on the inner margin; the long fringe of the inner margin is dark grey, which is the colour of the hind wings and their still longer fringe; the legs, especially the middle pair, are a good deal mottled with pale grey, black and reddish coloured scales. The tibiæ or shanks of the middle legs are clothed with broad flat scales, and when the insect is sitting at rest, with the extremity of the wings resting on the surface on which it is standing, and the head considerably elevated, the middle legs are thrown out nearly at right angles with the body, and the fore-legs are brought into contact with them, and completely hidden by the scales of the middle feet. The perfect insect measures two thirds of an inch in the expanse.

From the fact of the Walnut tree not having been hitherto observed to be attacked by this insect, and also from the species before us being ordinarily known to infest the Scyamore,* we presume the attack upon the former tree during the present year to be an unusual instance of divergence of habit in the insect, owing to some peculiarity which we have no means of determining, and consequently, in an economical point of view, as not likely to be continuous and therefore permanently injurious to the Walnut tree. *J. O. W.*

* Frey (in his work on the Swiss Tineæ, p. 234) says that the species is found in Alpine valleys on Acer Pseudo-platanus, sometimes in prodigious multitudes.

## CULTIVATION OF PEACHES AND NECTARINES UNDER GLASS.

My experience as an amateur gardener is only limited, and consequently my general knowledge of the subject equally so; but it happens that for several years I have, when at leisure, amused myself a good deal with the cultivation of fruit trees under glass, and therefore I have noticed with no small degree of interest the various opinions that have from time to time been expressed in your columns as to the alleged advantage of growing fruit trees in pots, on what is now very generally known as the orchard house system.

In the present instance, however, my observations will be confined entirely to what I conceive to be the simplest method of growing Peaches and Nectarines; there is little of novelty in it, but now that so much is said and written of the superior merits of orchard house cultivation, I think if a practical comparison could be drawn with that and any other method, it might be both acceptable and instructive to those of your readers who are desirous of having their tables supplied with the best fruit at the lowest cost. I will therefore state as concisely as possible the plan which I have adopted, and the results of the past year. My house is 43 feet long; 10 feet 8 inches wide; height in front, 1 foot 7 inches; height in back, 9 feet 9 inches; length of slope, 13 feet 6 inches. The trees, consisting of two Peaches and one Nectarine, are planted inside the house, and trained on galvanised wire, at a uniform distance of 14 inches from the glass, and there are moveable lights along the bottom, 4 feet long and 3 feet wide, for the convenience of pruning the trees and other purposes. The lower part of the back of the house consists of a dry stone wall plastered inside, and the upper part of half-inch-boards, the whole structure is roughly put together, and consequently a good deal of air finds access for ventilation at all times; indeed for this there is no regular provision. There is however a door at each end of the house, so that by opening these more or less when necessary a regular current of air passes through it. A flue made of fire-clay tubes, 9 inches in diameter, runs the whole length, and heats it admirably with the consumption of a very small quantity of fuel.

In January or beginning of February the trees are pruned, and all the young wood, with the exception of what is extra vigorous, shortened one-half or two-thirds. The more slender shoots are cut down to three or four bloom buds, so as to insure the fruit bearing as near as possible to the old wood, which I believe you have frequently told your readers is a most essential point to be attended to. The Cuba bast ties, with which the trees are fastened to the wire, being a sure refuge for red spider, are all removed and new ones substituted. After pruning no further notice is taken of the trees until the new shoots are sufficiently advanced to render the process of disbudding necessary, which is carefully attended to. For the prevention of green fly, Neal's pastils are I think very efficacious, although the nitrous fumes are sometimes slightly injurious to the foliage. As soon as the fruit is fairly set, and it can be done with impunity, syringing commences; this is continued throughout the summer three or four times weekly, depending of course entirely on the state of the weather; the floor of the house, however, is never allowed to be dry.

In thinning the fruit, which is done rather severely, I always of course leave those on the upper side of the tree next the glass. When it is almost fully swelled the use of the syringe is discontinued, and I am very particular in so arranging the leaves round each fruit that it shall have the full benefit of the sun. This is, I am satisfied, a most important point to be attended to, and quite essential both to good flavour and appearance.

As soon as all the fruit is gathered the application of fire heat commences, and this is continued until the wood appears to be fully ripened, another point which is I believe universally acknowledged to be of the utmost consequence. During the whole time the flues are heated they are kept well painted with sulphur mixed with a little clay; there is now little or no danger of any injury arising from sulphurous fumes, and their continued application is so disagreeable to red spider that few will remain to stock the premises the following spring. When, however, these pests fairly establish themselves, especially in a house roughly put together, I do not believe that any known remedy will thoroughly exterminate them. All the compounds recommended by their several inventors for this purpose are quite temporary in their effect, and are in reality of little use. I have tried most of them to some extent, but the application of sulphur in the autumn, and the regular use of the syringe during the summer, will I believe always keep red spider sufficiently in subjection to protect the trees from injury.

I am not certain as to the correct names of either my Peach or Nectarine trees; one Peach is however considerably earlier than the other, and is, I fancy, the Royal George; the other is a later and a larger kind, but does not set its fruit so freely.

The early Peach produced 250 fruit, the largest being from 8 to 8½ inches round. The late one produced 111, the largest being from 9½ to 10 inches round. From the Nectarine I gathered 111 fruit—the best being from 7 to 7½ inches round; there is also a Nectarine trained against the back wall of the house, always affording a good crop, and from which I gathered six or seven dozen; but being shaded by the other trees the fruit is comparatively both flavourless and colourless. This leads me to suppose that Peaches and Nectarines grown in an orchard-house in pots, where it is impossible they can ever enjoy the full rays of the sun in consequence of the fruit being partially shaded by the foliage itself, never can acquire that excellence either of flavour, size, or beauty which they invariably do under the circumstances named. This garden is upwards of 150 miles north of London, in a cold bleak country, at an elevation of 750 feet, so that as regards locality we certainly do not enjoy any advantages.

The first Peach was gathered on the 30th August, and the last on the 14th October. No means are used to ripen the fruit at an earlier time; on the contrary abundance of air is given at the commencement of the year in order to retard the expansion of the bloom, and thus render it more secure from the effect of unfavourable weather when setting. These fruits are much the most valuable when the commoner kinds are over; moreover the crop is more certain, less expensive, and of superior quality.

I find the present house too small in every respect for three trees; it ought to have been quite 60 feet long and some 3 feet wide in order to give them the elbow room they require.

My object in making this communication is to elicit from some of your Correspondents an exact account of the result of their practice, whatever it may be. I imagine that a simple statement of the number of fruit gathered from one or more trees is no criterion whatever of judicious or successful cultivation. We hear of Nectarines in orchard houses hanging in clusters on the trees like Walnuts, and of Apricot trees being loaded with fruit, but if such is the case, I conceive that it indicates the reverse of good management. The trees here would last year have yielded almost double the produce named had they been allowed to do so—but would it have been of the same quality, and would there have been the same produce this season?

The best system of gardening is doubtless that which will in a given space annually produce the most fruit of the best quality, at the least cost, and many of your readers are no doubt desirous of being informed what that system is.

The crop of fruit here of this season is decidedly superior to that of last, it being so evenly distributed over the trees. You shall have due particulars of the produce when the time arrives. *W., Sheffield, August* 15.

## THE INFLUENCE OF SCIONS ON THE STOCKS ON WHICH THEY ARE WORKED.

MANY good practical gardeners deny that stocks are in any way influenced by scions; but this opinion seems to me to be clearly erroneous, at all events in the case of Dog Roses when budded.

All persons who have attended to Rose culture may have remarked that scions of the Malton, Celina, and many others not only produce large magnificent heads of Roses, but also cause the stocks to increase rapidly and grow vigorously. On the other hand scions of some of the older varieties of Moss Roses, such as bullata, cristata, Lucie, Astaix, &c., only produce poor weak heads and prevent the stocks from increasing in size. The effects of working are not only felt by the stock, but also by its suckers; for, as a rule, the latter flourish at the expense of the scions. To this, however, there are exceptions, as in the Malton and others mentioned above; but do not these exceptions prove that with Roses at any rate scions affect both the stocks and the suckers which they send out? I have often seen these suckers grow as thick as one's finger, and a yard and a-half long in the space of four or five days. No such thing is ever seen when Moss Roses, Lettuce-leaved Roses, &c., are worked on Dog Roses. Whatever difficulty therefore there may ordinarily be in tracing the effects of scions on the stocks on which they are grafted, I think it is manifest that there are cases in which the effect cannot be denied.

Leaving Roses, there are certain fruit trees which, do what you will, do not increase in diameter below the scion at the same rate as the scion itself. The consequence of this is the formation of ugly rings where the scion joins the stock. Other scions on the same stocks produce nothing of the sort. What explanation can be given of this if scions have no influence on the stocks on which they are grafted? Is not this influence, moreover, very natural, and if there is any room for astonishment, is it not because the influence cannot be more frequently traced? Let us remember that sap rises through certain vessels and descends by certain others, and passes upwards from the stock to the scion, and downwards from the scion to the stock. We know that the sap is changed in its passage from the stock to the scion, for the taste of the fruit and the improvements produced, according as this or that scion is grafted on this or that stock, all prove this; why, then, it may be asked, should not the sap be also changed in its downward passage from the scion to the stock? If no such double change takes place, if there is only one kind of sap circulating in stock and scion, this one mixed sap must at any rate be admitted to result from two different processes, one of which is carried on in the scion and the other in the stock. As the scion is modified in its fruit, its leaves, its growth, its vitality, it is quite natural that the stock should be also modified in its constitution by the graft. On the contrary, it would be surprising if this mixed sap had no influence on the stock or its roots, or their vital force or power of assimilating those nutritive matters which pass through them into the whole substance of the plant. *M. V. in the Journal de la Société Impériale et Centrale d'Horticulture.*

## ANCIENT FRUIT LORE.—No. VI.

(*Continued from p. 773.*)

*Of the difference of fruite, growing in one ground, and on one tree.*

You must note that there be pippins and other winter fruite, although of one sort, and grow in one ground or orchard, that will last better then other some: and of some trees growe greater fruite thê of other some of the same sort, & in the very same orchard. For, where the sunne hath most power or shineth hottest, the fruite is harder grained, bigger, and of a better colour, then they that grow vpon the very same tree, vpon the lower boughes (which are called water boughes) or the inner boughes of the tree. For, the raine or moysture that lights vpon the tree, falles to the lower parts: by reason whereof they neuer haue any good colour, but are alwaies greene and soft, and eate very waterish: which causeth them, they can neuer last long, nor eat kindely. But the other (as I said) that haue the warmth of the sunne, doe grow greater and better coloured: some being red sided, other some russet: also they last long and eate kindly.

Therefore I wish them, that haue fine lasting fruite, that they make great store of, for the seruice of their owne house, to separate them at the gathering. But otherwise, if they bee such fruite, that no such account is to be made of them, they may be layed altogether: and after that they haue layen, take them vp in a trey, and separate the ripest from the other, and so spend them as occasion serues.

Also, the largenesse & goodnes of the fruite, holds proportiô with the age of the tree. For, while ye tree is in growing to perfection, the fruite groweth euery yeere bigger and bigger, better in taste, & colour, & more firme and hard: but when the tree begins to decay and ware olde, the fruite (which it beareth) doth also decay in bignes, colour, taste & firmenes: & consequently will not last so long.

*How to order fruite, in conueighing them by water.*

If there bee any occasion of sending fruite any farre way by water, especially such fine fruite, that will keep well and worth sending (for summer fruit are not farre to be sent) prouide some dry hogsheads, barrels, or some such caske, and because they may lye the closer (to auoide iogging and tossing, in remoouing or stirring of the caske) they must be layed in, by hand, one by one: not poured in. For, being poured in, they will lye hollow, & so be spoiled with battering, and bruising one against another, in the remouing of the caske: but, being layed in, one by one, and the caske filled vp, they will not stirre.

Lyne your caskes at both ends, with the finest & sweetest straw, you can get: but not the sides of your caske: for too much warmth will hurt them. You must also pearce holes in both ends, about eight or ten at an end. For, fruite (let them be euer such good lasting fruite) if they haue not ayre, they will quickly come in a great heate, and so sodainly rot. Haue also a great care that they be kept dry in the cariage. For, as the want of ayre doth cause them to rot: so, being wet will rot them likewise.

Also fruite, that are to be carryed by sea, may bee shot under hatches vpon straw, if there be not caske enough to carry them in. Alwayes prouided, that they be shot in a dry place, and with great care that they be kept dry ouer head: now and then opening the hatches to ayre them.

*Vnfit times to remoue or carry fruite, by land or water: and the reason thereof.*

The fruite that is stirred, packt, or carryed in frosty weather, or in March (if the winde blow sharp) let thê be euer so hard at the taking vp, yet before they come to their iourneys end, being carried by land or water, they wil then be so têder (in frosty weather, by reason of the colde ayre: in March, by reason of the sharpe and bitter winde: and in summer, by reason of heate) that the most part of them will change blacke, and a great many of them so shriueld as if they had been sodden: so that they wil not abide to be tossed, nor carryed at that time of the yeare, by reason of their tendernes. The hardest & the best lasting fruite, that is, after they haue layen long, or especially if they haue layen till March, or neere the Spring, and so likewise vntill July, the weather growing hotter & hotter, although in the taking vp of them they seeme very hard, yet shal you finde a great alteration in them, after their cariage.

*Small store of fruite, how to be conueighed by land.*

They that haue but small store to carry, or but now and then to carry some, of what sort soeuer, they doe commonly carry them in dossers, panniers, or prickles, &c. one, on each side of the horse: alwaies prouided, that euery or each one be full, the cherries and peares to be lyned with greene fearne, al kinde of apples to be lyned with fine sweet strawe, onely in the bottome and top (not on the sides) of the panniers and dossers. But baskets or prickles (the rods whereof are not so neere together) must be lyned, sides and all.

## Home Correspondence.

*Bees working two separate Hives.*—Allow me to record what appears to be an extraordinary occurrence in the natural history of the honey bee. On the 20th June this year I hived a very strong swarm of bees in a large straw hive. Before they had been in it many days, and consequently before the hive was replenished with combs wherein to store the honey, they discovered an empty hive about 2 feet distant from their own, half filled with good clean empty combs. It was not on the same level with their own, but 17 inches higher, and 17 inches to the right of it. They very sagaciously took possession of it, and used it as a storehouse for honey, whilst combs were being constructed in their new domicile. But what is, if possible, still more extraordinary, is the fact that they did not abandon their storehouse at night, but left a guard of about 500 bees, who remained there patiently and contentedly without any apparent concern at the absence of the queen. For, generally speaking, the absence of the queen for a single hour in summer brings a whole hive to grief and commotion. The storehouse hive happened to be made of wood with glass windows, through which I could watch the bees and examine the combs day and night, and could thus by ocular demonstration, both of myself and others, place the fact beyond the range of mere conjecture. I could see the honey in the combs, and the bees clustered between them, and coming out by hundreds to the glass when I held a light to it at night. During the day the bees at the mouth of the storehouse hive buzzed their wings with joy, and ventilated, just as if the queen had been there. At dusk some of them left the storehouse and flew down to their home; yet I cannot say that they did so more abundantly than during the day, but it became more marked in the evening, because at that time bees had ceased to arrive at both hives from their work. I was in hopes that the hive would have swarmed and taken possession of the storehouse, but it has not done so. After using it for about three weeks the bees removed the honey from it to their permanent abode, and have now abandoned their temporary storehouse, as no longer required for that harvest which was for the time too abundant for their limited accommodation at home. *John Worthy, Euxton, Chorley.*

*Orchard House Fruit.*—A few weeks ago you recommended some correspondent who doubted about orchard houses, to visit the well managed one at Chiswick. I took the advice to myself and went; no trees could look more healthy. Now as the trees are so well managed, you will, in the course of three weeks, be in the position to answer the most important of all questions connected with these structures, namely, whether the Peaches produced in them be as sweet and high-flavoured as those from the open wall. Mr. R. Thompson will perhaps favour us with his judgment also. The day is gone by for any one to maintain that a Peach tree cannot be grown successfully in a pot under glass, but the quality of the produce is another matter, and your verdict on this point will be considered a boon by many of your readers.—*S. B., Bromley.*

*Parasites.*—The plant sent herewith is quite new to me. I have some plants of Erica infested with it, and I find that all plants which come in contact with it are precisely in the same condition. What is it? *John Fraser, Bishop's Stortford.* [Your plants are infested with Dodder, a common parasite, called by Botanists Cuscuta Epithymum. Burn the plants, soil and all.]

*Sir Harry Strawberry.*—This variety has now been cultivated several years. It has been tested both by professional gardeners and amateurs, and it is singular that they have arrived at such different and opposite conclusions respecting it. By some it has been declared not worth growing; by others it is pronounced excellent, and almost without a rival. I am of the latter class, as I have never known it to fail, and have seen nothing equal to it, taking all its qualities into consideration. Upon one plant I have counted 240 blossoms and small berries, most of which came to perfection. In size and flavour it is surpassed by few of its kindred, and in productiveness by none that I have yet seen. Much, however, depends upon the manner in which it is cultivated and still more upon the protection afforded to the fruit when it is approaching maturity; for it sends forth its long fruit stalks 12 inches or more from the plant; these are borne down to the ground by the weight of the berries, comparable for beauty only with a splendid bunch of Grapes, and unless something be interposed between the fruit and the soil, especially in wet weather, the fruit rots and becomes worthless. My practice is to cover the beds with bark knobs, or spent bark, abou

half an inch thick, or rather more; and then, let the weather come as it may, I am never disappointed in Sir Harry. There may be spurious plants of that name, as some of your correspondents intimate, but I have never seen them, although I have observed that some of those under my care have been more bushy and luxuriant, and less productive than others. The best plants lie nearly flat upon the ground for the first two years; they become larger, of course, as they grow older, but at what age they will cease to bear, under judicious management, that is, allowing them plenty of room and constantly cutting off the runners, I have not yet learned. I have no interest in applauding Sir Harry, but in my opinion it is the most valuable of all Strawberries. *W. Worsley, Gainsborough, Aug.* 18.

*Manetti Rose Stock.*—It is mentioned in your Paper of last week that the Manetti stock grows on the stiff clay of Forest Hill equally well as on the sands of Folkestone. It is an admitted fact that the Manetti grows in the most satisfactory manner here. I may mention, however, that the soil in my nursery where it grows best is a good staple brick earth, 6 feet deep, and that part of it has actually been used for brick-making. In another part of my ground the soil is very light, almost sheer sand; on this the Manetti grows equally well, but not so strongly. In cold wet seasons the light soil, however, has the advantage over that which is clayey, but in dry, warm summers the clay has the best of it. I may add, in reference to the Folkestone sands, that I am now engaged in forming a small lake on a most porous subsoil, every inch of which requires very careful puddling, and that in the midst of Folkestone, within a few feet of the surface, I find clay admirably adapted for the purpose. *James Meikle, The Nurseries, Folkestone.*

*Good reason for changing a Botanical Name.*—A few days ago a scientific friend of ours directed one of the young men in his place of business to copy a few botanical names for him, and on looking over what had been written, was surprised to find the name "Largenoniaceæ." On pointing out the evident incorrectness of the name, he was informed in all sincerity, that it was not actually incorrect, it being in the original "Bignoniaceæ," and as "big" was rather a slang term, the more classical "large" had been substituted, hence "Largenoniaceæ." *B. S.* [Your young man must be an ASS.]

*Aster Grub.*—I have a very fine lot of Asters of all the best sorts just in full growth and coming into bloom, but unfortunately they are this week attacked by a brown grub, about an inch long, which eats the rind off quite round the plants, just under the surface of the ground: the plants of course immediately die. I lost nearly 100 plants in two days, and I am afraid that I shall lose all. I have tried dry lime and strong lime-water, also dry soot with effect. I shall be glad if any of your correspondents can suggest any method of saving the plants. I am now trying dry flowers of sulphur, but I do not yet see any good result. *H. J. Hardy, Bures, Essex.*

*Trichomanes radicans.*—I am happy to find that Mr. Rowbotham has not committed this beautiful and rare plant to the sacrilegious hands which visit the many favourite Fern localities of North Wales. This plant was originally brought from Ireland by poor Williams, the Snowdon guide. Often has he told me about the Fern, but never would divulge its whereabouts. Asplenium septentrionale, Hymenophyllum Wilsoni and tunbridgense, and many other plants, were planted by him in favourable spots upon the Snowdon range. *J. Daniels, Capenhurst Hall, Chester.*

## Societies.

Royal Botanic: *Aug.* 10 (*24th Anniversary.*)—J. Anderson, Esq., in the chair. The following gentlemen were added to the Council for the year 1863-64:—Dr. Neill Arnott, General Buckley, J. W. Freshfield, James Heywood, Sir R. I. Murchison, Lord Alfred Hervey, and the Duke of Buckingham and Chandos. The Earl de la Warr was re-elected President, and Mr. E. Marjoribanks Treasurer. The report from the Council stated that the affairs of the Society were in a much more flourishing condition than last year, their Royal Highnesses the Prince and Princess of Wales and 118 new Fellows having joined the Society since the last anniversary. The receipts had been 11,022*l.* 8*s.* 10*d.*, and the payments 9150*l.* 17*s.* 7*d.*, leaving a balance in hand of 1871*l.* 11*s.* 3*d.* The reports from the Secretary and Curator congratulated the Fellows on the great use the gardens had been to Professors, medical students, and artists, in the pursuit of their respective studies; 165 had availed themselves of the privilege of gratuitous admission to the gardens and museum of the society; and above 22,000 specimens had been distributed to professors at the various hospitals and medical schools in illustration of their lectures.

## Notices of Books.

*The Naturalist on the River Amazons.* By H. W. Bates. 8vo, Murray, 1863.

Fifteen years ago, two enterprising naturalists, Mr. Wallace and Mr. Bates, determined on a joint exploring and collecting expedition to South America, and they fixed on the district watered by the river Amazons. Both were hard working and intelligent men, and accordingly they reaped a rich harvest. Mr. Wallace remained in the country only four years, and then left to prosecute his researches in the Eastern Archipelago; Mr. Bates, however, lingered behind, and it was not until eleven years had elapsed, that ill-health compelled him reluctantly to abandon a country which may well be termed the Naturalist's Eldorado. During these eleven years he collected and transmitted to England the marvellous number of 14,000 species, 8000 of them being new to science. A large proportion of his collections consisted of insects, they being his peculiar speciality; and indeed this family was purposely selected by him from his "having found that this tribe was better adapted than almost any other group of animals or plants to furnish facts in illustration of the modifications which all species undergo in nature, under changed local conditions." In this pursuit he was eminently successful, and the suites of butterflies which he has brought home, together with his notes regarding their habits and habitats, form a most valuable mass of information for those desirous of working out and testing Mr. Darwin's theory of natural selection.

To all lovers of natural history, Mr. Bates's book will be of the greatest interest; his notices on the animals, insects, &c., which fell in his way, showing great powers of accurate observation, and also of shrewd reasoning from the facts observed. We have heard the objection raised, that these volumes are ill-written, and wanting in life: but we are unwilling to be too critical on a book containing so much valuable matter. Eleven years of wandering in a semi-civilised country, succeeded by two years of ill-health, are surely sufficient apology for the literary shortcomings of one who has really done so much for science. We must remember that the good collector and the elegant writer are rarely united in one individual; and we can promise the lovers of natural history that in these volumes they will find such a store of interesting information, that they will have plenty to occupy their attention, without considering the manner in which that information is conveyed. And after all, accuracy and minuteness of detail often produce on the mind the effect of a picture; and thus we think we can almost realise the appearance of a tropical forest, with its noonday silence, and the hot sleepy atmosphere brooding over all Nature, contrasted with the hum and murmur of animal life which rises as twilight comes on. Here are the two pictures.

"The trees were now taller, the underwood less dense, and we could obtain glimpses into the wilderness on all sizes. The leafy crowns of the trees, scarcely two of which could be seen together of the same kind, were now far away above us, in another world as it were. We could only see at times where there was a break above the tracery of the foliage against the clear blue sky. Sometimes the leaves were palmate, or of the shape of large outstretched hands; at others, finely cut or feathery like the leaves of Mimosæ. Below, the tree-trunks were everywhere linked together by sipós; the woody, flexible stems of climbing and creeping trees, whose foliage is far away above, mingled with that of the taller independent trees. Some were twisted in strands like cables, others had thick stems contorted in every variety of shape, entwining snake-like round the tree trunks or forming gigantic loops and coils among the larger branches; others, again, were of zig-zag shape, or indented like the steps of a staircase, sweeping from the ground to a giddy height.

"As we continued our walk the brief twilight commenced, and the sounds of multifarious life came from the vegetation around. The whirring of cicadas; the shrill stridulation of a vast number and variety of field crickets and grasshoppers, each species sounding its peculiar note; the plaintive hooting of tree frogs—all blended together in one continuous ringing sound—the audible expression of the teeming profusion of Nature. As night came on, many species of frogs and toads in the marshy places joined in the chorus; their croaking and drumming, far louder than anything I had before heard in the same line, being added to the other noises, created an almost deafening din. This uproar of life, I afterwards found, never wholly ceased, night or day; in course of time I became, like other residents, accustomed to it. It is, however, one of the peculiarities of a tropical—at least, a Brazilian—climate, which is most likely to surprise a stranger. After my return to England the death-like stillness of summer days in the country appeared to me as strange as the ringing uproar did on my first arrival at Pará."

Mr. Bates has not thrown his narrative into the form of a regular journal, which indeed would have been impossible over such a lengthened period of time; he has, however, given a map by which we can trace his progress up the country, and has in general described the different places pretty much in the order in which he visited them; passing briefly over those excursions which he made in company with Mr. Wallace, and which that gentleman has already spoken of in his book, of which these volumes may to a certain extent be considered a continuation.

Perhaps the two most interesting subjects discussed by Mr. Bates are the habits of different kinds of ants, and the mimetic insects, of which he found several examples. We will endeavour to condense his account of the Termites, or white ants, whose habits he has studied most closely.

"White ants are small, pale-coloured, soft-bodied insects, having scarcely anything in common with true ants, except their consisting, in each species and family, of several distinct orders of individuals or castes which live together in populous, organised communities. In both there are, besides the males and females, a set of individuals of no fully developed sex, immensely more numerous than their brothers and sisters, whose task is to work and care for the young brood. In true ants this class of the community consists of undeveloped females, and when it comprises, as is the case in many species, individuals of different structure, the functions of these do not seem to be rigidly defined. The contrary happens in the termites, and this perhaps shows that the organisation of their communities has reached a higher stage, the division of labour being more complete. The neuters in these wonderful insects are always divided into two classes—fighters and workers; both are blind, and each keeps to its own task; the one to build, make covered roads, nurse the young brood from the egg upwards, take care of the king and queen, who are the progenitors of the whole colony, and secure the exit of the males and females, when they acquire wings and fly out to pair and disseminate the race; the other to defend the community against all comers.

"The males and females form a class apart; they do no kind of work, but in the course of growth acquire wings to enable them to issue forth and disseminate their kind. The workers and soldiers are wingless, and differ solely in the shape and armature of the head. This member in the labourers is smooth and rounded, the mouth being adapted for the working of the materials in building the hive; in the soldiers the head is of very large size, and is provided in almost every kind with special organs of offence or defence in the form of horny processes resembling pikes, tridents, and so forth. Some species do not possess these extraordinary projections, but have, in compensation, greatly lengthened jaws, which are shaped in some kinds as sickles, in others as sabres and saws.

"A Termitarium, although of different shape, size, texture of materials, and built in different situations, according to the species, is always composed of a vast number of chambers and irregular intercommunicating galleries, built up with particles of earth or vegetable matter, cemented together by the saliva of the insects. There is no visible mode of ingress or egress, the entrances being connected with covered roads, which are the sole means of communication with the outer world. The structures are prominent objects in all tropical countries.

"A few weeks before the exodus of the winged males and females a completed Termitarium contains Termites of all castes, and in all stages of development. On close examination I found the young of each of the four orders of individuals crowded together, and apparently feeding in the same cells. The full-grown workers showed the greatest attention to the young larvæ, carrying them in their mouths along the galleries from one cell to another, but they took no notice of the full-grown ones. It was not possible to distinguish the larvæ of the four classes when extremely young, but at an advanced stage it was easy to see which were to become males and females, and which workers and soldiers. The workers have the same form throughout, the soldiers showed in their later stages of growth the large head and cephalic processes, but much less developed than in the adult state. The males and females were distinguishable by the possession of rudimentary wings and eyes, which increased in size after three successive changes of skin.

"Thus I think I made out that the soldier and worker castes are, like the males and females, distinct from the egg; they are not made so by a difference of food or treatment during their earlier stages, and they never become winged insects. The workers and soldiers feed on decayed wood and other vegetable substances: I could not clearly ascertain what the young fed upon, but they are seen of all sizes, larvæ and pupæ, huddled together in the same cells, with their heads converging towards the bottom, and I thought I sometimes detected the workers discharging a liquid from their mouths into the cells. The growth of the young family is very rapid, and seems to be completed within the year; the greatest event of Termite life then takes place, namely, the coming of age of the winged males and females, and their exit from the hive.

"It is curious to watch a Termitarium when this exodus is taking place. The workers are set in the greatest activity, as if they were aware that the very existence of their species depended on the successful emigration and marriages of their brothers and sisters. They clear the way for their bulky but fragile bodies, and bite holes through the outer walls for their escape. The exodus is not completed in one day, but continues until all the males and females have emerged from their pupa integuments, and flown away. It takes place on moist close evenings, or on cloudy mornings; they are much attracted by the lights in houses, and fly by myriads into chambers, filling the air with a loud rustling noise, and often falling in such numbers that they extinguish the lamps. Almost as soon as they touch ground they wriggle off their wings, to aid

which operation there is a special provision in the structure of the organs, a seam running across near their roots and dividing the horny nervures. To prove that this singular mutilation was voluntary on the part of the insects, I repeatedly tried to detach the wings by force, but could never succeed whilst they were fresh, for they always tore out by the roots. Few escape the innumerable enemies which are on the alert at these times to devour them; ants, spiders, lizards, toads, bats, and goatsuckers. The waste of life is astonishing. The few that do survive pair, and become the kings and queens of new colonies. I ascertained that by finding single pairs a few days after the exodus, which I always examined, and proved to be males and females, established under a leaf, a clod of earth, or wandering about under the edges of new tumuli. I once found a newly married pair in a fresh cell tended by a few workers."

We had marked for extract an interesting account of mimetic butterflies, but we find its insertion would make this notice too lengthy; we will therefore give instead the following description of the humming-bird-hawk-moth :—

"Several times I shot by mistake a humming-bird-hawk-moth instead of a bird. This moth (Macroglossa Titan) is somewhat smaller than humming-birds generally are, but its manner of flight, and the way it poises itself before a flower whilst probing it with its proboscis, are precisely like the same actions of humming-birds. It was only after many days' experience that I learnt to distinguish one from the other when on the wing. This resemblance has attracted the notice of the natives, all of whom, even educated whites, firmly believe that one is transmutable into the other. They have observed the metamorphosis of caterpillars into butterflies, and think it not at all more wonderful that a moth should change into a humming-bird. The resemblance between this hawk-moth and a humming-bird is certainly very curious, and strikes one even when both are examined in the hand. Holding them sideways, the shape of the head and position of the eyes in the moth are seen to be nearly the same as in the bird, the extended proboscis representing the long beak. At the tip of the moth's body there is a brush of long hair-scales resembling feathers, which, being expanded, looks very much like a bird's tail. But, of course, all these points of resemblance are merely superficial. The negroes and Indians tried to convince me that the two were of the same species. "Look at their feathers," they said; "their eyes are the same, and so are their tails." This belief is so deeply rooted that it was useless to reason with them on the subject."

We must add that these volumes are got up in Mr. Murray's usual excellent style, and embellished with numerous graphic and admirable woodcuts.

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*The Book of the Royal Horticultural Society*, 1862-1863. By Andrew Murray, Esq., F.L.S. 4to, pp. 225. Bradbury & Evans.

Of this book, "dedicated, *by permission* of her Majesty the Queen, to the Illustrious Memory of the Prince Consort," loyalty and courtesy alike compel us to speak in terms of the deepest respect. Critics have no place in such sacred ground, and it is only to the existence of the volume that we venture to allude.

In a superb 4to volume, upon which all the skill of bookbinder, photographer, wood engraver, colourer, and printer has been profusely lavished, Mr. Murray has given some account of the history of the Society from its foundation in 1804 to the present day, more especially during the time when it enjoyed the inestimable advantage of being presided over by HIM whose loss we all have so much reason to deplore. The Garden at South Kensington is fully described and illustrated with its conservatory, statuary, arcades, and parterres; and in an Appendix are many useful documents bearing upon the manner in which the affairs of the Society have been conducted, together with the names of the persons to whom its destinies have been annually entrusted.

It is, however, as a superb drawing-room book that Mr. Murray's volume must be chiefly regarded, and in that point of view we say without hesitation that it stands without a rival. We doubt, indeed, whether the equals of its admirable photographs of the scenery in the Garden can be found in any printed volume whatever. We especially allude to those which represent Captain Fowkes' Conservatory, probably the most beautiful and well-conceived horticultural structure in the world, and we cannot but regret our inability to give the names of the skilful artists by whom these photographs have been executed.

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The *Florist and Pomologist* in its July number gives figures of a Camellia called *Carlotta Papudoff*, and of the *Winter Hawthornden Apple*; while that for August gives representations of the fine variety of *Disa grandiflora* called *superba*, and of the *Zéphirin Grégoire Pear*. The Camellia is one of the mottled class, with moderate-sized imbricated flowers of two shades of carmine-rose, marked with tolerable regularity by conspicuous blotches of white. It has been introduced and flowered by Mr. Veitch, and though perhaps rather undersized, appears to be a free blooming constant and useful variety. The Winter Hawthornden Apple is a large, roundish oblate, smooth, pale yellow fruit, with a flush of red on the sunny side; it is a first-rate culinary Apple, in use from October to February or March, and combines, with the qualities of its parent the old Hawthornden, a firmer flesh. The tree is said to be remarkable while young for its large handsome foliage, and robust shoots; and, unlike its parent, it seldom or never cankers. The variety of Disa above alluded to is the finest of the forms so successfully cultivated by C. Leach, Esq., of Clapham Park, having the flowers larger and better proportioned in the parts than in the majority of the plants in cultivation, and being also more richly coloured, especially in the dorsal sepal, which is deeply stained with purple-rose and marked with distinct crimson-purple forking lines, which run out into dots towards the edge. The Pear Zéphirin Grégoire, proves to be one of the best in its season of the newer Belgian kinds. It was raised by M. Gregoire, and is of medium size, obtusely pyriform, somewhat truncated at the stalk, and when ripe, of a pale yellow strewed with cinnamon-coloured dots; the flesh is white, tender, buttery, and melting, with abundant sugary finely perfumed juice; it is a most delicious Pear, coming into use in December, and continuing until February; makes an excellent pyramid, is perfectly hardy, and is generally a good bearer. Of the papers in these two numbers, the most interesting are an account of the new race of fancy Pansies; remarks on Deodars by Mr. Barnes, and on Strawberries by the Rev. Mr. Radclyffe, and an account of the effects of geological position on certain Conifers by the Earl Ducie, the latter extracted from the "Transactions of the Scottish Arboricultural Society."

In July *Gossip of the Garden*, an "Old Standard" gives some of his experiences among the Roses. He speaks of Triomphe de Rennes as decidedly the best yellow Noisette for constancy; of Prince Camille de Rohan as being incomparable for richness and intensity of colour, the petals being so stout as to be suggestive of rich maroon velvet; of François Lacharme as being one of the most perfect of Roses, unequalled for petal, form, depth, and outline, for such as Paul Ricaut at its very best is an approach, but only an approach to; of John Hopper as disappointing him, as we hear it has done other cultivators; of Senateur Vaisse as exceedingly brilliant and irreproachable in form; and of summer Roses generally as being invaluable for their large masses of bloom. Then there is more Tulip gossip by Mr. Parkinson; and in the instructions for the economical management of small gardens, the Brassica tribe comes under review. In the succeeding number "Old Standard" gives more of his experience in Roses, chiefly of the newer sorts. He finds Charles Lefebvre, a gem of the first water, one of the most brilliant of the velvety scarlets, and one which ought not to be omitted from the most limited collection, as it adds the desirable quality of fragrance to vivid colour, great substance, and excellent form. Duc de Rohan is pronounced another gem; François Lacharme is described as the best Rose the writer ever grew; John Hopper is said to improve on further acquaintance; Louise Darzens, which is welcome for its colour—a white H. P.—is said to be pretty enough, but is not thought equal to Mdlle. Bonnaire; Madame Charles Wood is said to be magnificent, and one of the most lasting of Roses, large, and well-shaped, with stout petals; Mdlle. Bonnaire, aforesaid, is reported as extremely beautiful, the outer petals pure white, the centre shaded with clear flesh colour, "perhaps on the whole the best" H. P. in cultivation. Various other florists' notes and memoranda make up the remainder of this well conducted little work.

The *Floral Magazine* for July gives very indifferent figures of the two Japanese forms of *Clematis*, recently flowered by Mr. Standish; a better but too floriferous picture of *Ourisia Pearcii*; Rollisson's *Rhododendron Prince of Wales*; and a group of herbaceous *Calceolarias*. The August number of the same periodical pictures three varieties of Messrs. E. G. Henderson & Son's hybrid Mimuli crossed with M. cupreus, which are similar in character to those of Mr. Bull already noticed; the fine *Azalea Louise van Baden*, a remarkably attractive sort on account of its purity, but oddly misrepresented as having cordate limb-segments; a showy orange-scarlet *Hippeastrum* under the name of Amaryllis Regina Spectabilis; and finally two varieties of *Ranunculus* called *Fidelia* and *Linden*.

*Seemann's Journal of Botany* contains a paper on Bignoniaceæ by the Editor, with a plate of Macfadyena corymbosa; some remarks on Hypnum aduncum and its allies, by Mr. Carruthers; notes on some of Wright's Cuban Compositæ, by Dr. C. H. Schultz; a note on the recent discovery of Trichomanes in Yorkshire and Wales, by Mr. Moore; with papers on the application of the Ordeal Bean of Calabar in ophthalmic medicine, by Mr. D. Hanbury; and on the Toot poison of New Zealand, by Dr. W. L. Lindsay.

The *Phytologist* closes its career with the 99th number and 6th volume of its new series, which was issued on July 1.

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## Garden Memoranda.

MR. PEARSON'S NURSERY, CHILWELL, NOTTS.—There are few geological formations which present greater natural advantages in a horticultural point of view than the New Red, or Keuper, Sandstone; it offers light soils, loams, and variously modified clays; it is agreeably undulated, it affords good water, and contiguity to the coal measures gives additional advantages to the gardener by offering cheap fuel to extensive forcing establishments. Not only plants but men and animals thrive on this formation. Travelling from the bleak hills of the mountain limestone, or the dry and woody wolds of the Oolitic range, or from the moist depressing climate of the valleys of the Lias, we always feel especial satisfaction and elation on reaching the clean, dry, wholesome Keuper Sandstone, characteristically developed in Nottinghamshire. On our way to visit the nursery of Mr. Pearson at Chilwell we had an opportunity of noticing and contrasting the peculiarities of certain districts thus influenced by distinctive geological characters, and renewed observations confirm as opinion long entertained, that a marked influence in exercised on climate locally by the geological conformation and character of the district. Mr. Pearson's nursery and Mr. Pearson himself are both good illustrations of our theory, the high Keuper development being well and distinctly maintained in each instance, and it extends to the orchard houses, for which Chilwell has become deservedly famous; one house is literally a Peach orchard covered with glass. In the erection of orchard houses Mr. Pearson has eschewed the flimsy structures in vogue in the early days of orchard house experiment, and has built plain substantial structures, and as he has advanced in experience he has even increased the strength and durability of his houses; the first house we enter is 90 feet by 30, an elegant, well proportioned, span-roofed house. The sheets of glass with which it is glazed are 24 by 18 inches; ventilation is from the sides and roof. A certain character is given to the interior of the house by the wood-work being painted blue. This house is chiefly filled with Peach trees in pots, of which there are upwards of a hundred, averaging 6 to 7 feet in height, and each tree bearing 1½ to 3 dozen of fruit; the trees thus loaded with fruit, and circumscribed in their root action, nevertheless exhibit no signs of failing vigour, but on the contrary are uniformly robust, clean and healthy, watchful eyes and careful hands keeping every errant branch within due bounds. It is evident that the system of early repression of growth by pinching is of the utmost importance in orchard house management. Trees stimulated to luxuriant growth may be pruned back, but in doing so a preponderance of roots remain, the balance between the two, root and branch, is disturbed, an excess of sap pushes on an unnecessary lateral growth, and the fruit-bearing powers of the trees are impaired. Axiom in horticultural practice:—disproportionate root-power is inimical to fruitfulness.

It is impossible to visit a house like this, filled with compact fruitful trees, and not to be impressed with the many advantages presented by this plan of growing fruit and notably Peach trees. An unfailing supply of fruit seems the assured reward of the skilful cultivator—a delightful variety in the quality and character of the fruit can be secured. The ripening period may be extended by including in the collection the earliest and latest sorts, so that the Peach season may he prolonged for three months. The advantages given to a nurseryman anxious to test the merits of different varieties of fruit is an appreciable one, when verity of description is felt to be a conscientious obligation.

The Americans tell us that they dispense with our tedious methods of budding and grafting, and merely sow their Peach stones in their orchards, and in three years obtain a crop of fruit from the tree so raised. As orchard houses bring home to us a Peach climate, this experiment may be advantageously tried, as several Peaches, such as Grosse Mignon and Galande, reproduce their varieties from seed. Besides Peaches there are Plums and Apricots in this house, and a few Vines. The Plums were loaded with fruit, and the Apricot trees had full crops, proving the possibility of cultivating with profit this last fruit. A specimen of the fruit we tasted was most delicious.

To the left of the large orchard house we first entered is a handsome span house, especially adapted to the possible convenience of the migratory amateur, being constructed on a new principle contrived by the builder of Mr. Pearson's houses. This house is 60 feet by 24, and is provided with a heating apparatus. A portion only of this house is occupied with Peach trees the other part being devoted to Camellias and other plants. In a third house there are many hundreds of young and vigorous budded trees in 14-inch pots, a fact significant of the requirements of the lovers of Peaches, and patrons of orchard houses. In a raised pit in the centre of this house a line of standard Peach trees have been planted out. These exhibit uncommon vigour and fruitfulness, and suggest the idea of a grove of Peach trees, a thing easy to be realised by any one choosing to imitate one of Mr. Pearson's large houses.

Another large house, of which there are no less than 10, is devoted to the cultivation of young Vines. Upwards of 1000 fine young canes, 10 feet long, the development of a single season, were at the time of our visit in active and vigorous growth. Visiting other large nurseries, we have found the cultivation of young Vines receiving the same marked attention they enjoy at Chilwell, so that one might imagine that our climate had changed or was expected to do so, and that we were preparing for extensive vineyards. The Chancellor of the Exchequer might (although it is unwise perhaps to give him a hint) gather an idea of the increasing prosperity of the country by visiting our large nursery gardens. We plant fruit trees and cultivate gardens

more industriously in times of peace and prosperity; and a nurseryman's books would indicate with tolerable accuracy when the tide of prosperity was at the flow.

One of the large span houses is devoted to Cucumbers, which are exceedingly well cultivated. The favourite variety at Chilwell is the Long Gun, a veritable long Enfield, and decidedly one of the finest Cucumbers in cultivation; like other very high-bred things, there is great difficulty in obtaining seed from it. Mr. Pearson devotes two houses to Vines, that he may prove the newly introduced varieties.

One of the specialities of Chilwell is the propagation and cultivation of the Rhododendron. Large numbers are annually grafted. Mr. Pearson has devoted great attention to the selection of suitable stocks of his scions, and his large plantations of healthy young Rhododendrons attest his success. Peat is not found in the immediate neighbourhood, but is brought from a distance, nevertheless many thousands of American plants are annually prepared for sale.

On an extensive lawn near Mr. Pearson's house, specimen Rhododendrons are clumped, and the general good effect is enhanced by single specimens of the more recently introduced Coniferæ, which are distributed in suitable positions about the lawn.

The cultivation of hardy shrubs is very extensively pursued in the nurseries at Chilwell; the Golden Yew seems an especial favourite. The grand specimens at Elvaston have led many to seek for this handsome variety of Yew.

In illustration of our theory as to the capabilities of the Keuper with all other things, we find Roses flourishing almost as well as they do in Hertfordshire; indeed we believe it is no uncommon thing for growers in this locality to send Roses to that favoured county.

The famous Orchards of Chilwell would have been more interesting had the crop of fruit been greater. The size and healthy character of the trees proves the suitability of the soil for fruit trees.

Various detached nurseries are encompassed by nearly a mile of wall, 1200 yards of which are available for trained trees, and we need scarcely add that the whole space is covered with healthy thriving young trees.

We conclude our notice of these interesting nursery gardens with one expression of regret, that we could not add an opinion as to the quality of the orchard house fruit. We were a month too early for that great pleasure, but we were assured that orchard house fruit is superior to any other. Let sceptics go to Chilwell in the Peach season, and see what the climate and soil of the Keuper Sandstone can do for Peaches. *W.*

## Miscellaneous.

*A New Tuber.*—Among other things recently introduced into France is a new tuber, brought from Peru by M. Cochet, who has resided 20 years in South America. This new plant has been cultivated for two years in the Jardin d'Acclimatation of the Bois de Boulogne, and has passed two winters without requiring more attention than the Potato. Besides its nutritive and medicinal properties it is very rich in sugar of a quality superior to that of Beetroot. The yield of this plant per hectare will average 150,000 kilogs. (60 tons) per English acre. In honour of its introducer this valuable root is called the Poire de terre Cochet. *Guernsey Star.* [What may this be?]

*Japanese Agriculture.* — I cannot conclude this description of Japanese agriculture without noticing the remarkable connection which exists between the climate and the productions of the country, and how well they are suited to each other. The rainy season does not come on until the dry winter and spring crops are ripe, and ready to be harvested. When the Rice-planting begins, and when the cuttings of the sweet Potato are being put out, the air becomes loaded with moisture, and the rain comes down in torrents. Every hill stream is filled with water, and thus the means of irrigating the Rice fields are ready to the hands of the husbandman. Such excessive moisture would have been fatal to the Wheat and Barley and Rape, but it gives life and vigour to the paddy and sweet Potatoes, and is necessary for their health and luxuriance. The Tea-plant, too, which at this season has had its first leaves plucked, is revived by the moist air and frequent showers, and is enabled to push forth with renewed vigour, and to yield fresh supplies. And when excessive moisture is no longer necessary to these summer products, the rain ceases, the sky becomes clear, and the air comparatively dry. Then the process of ripening begins, and a sunny autumn enables the husbandman to gather into his barns the fruits of his anxious labours. *Fortune's "Yedo and Peking."*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—In order to maintain a certain amount of gaiety in this house a stock of succession plants must necessarily be kept up. Any plants, therefore, in pots, which it is desirable should be grown quickly, may now have a shift; it will not, however, be advisable to give them a large shift at this season, as whatever wood the plant makes after the present shift must be ripened, with perhaps the exception of such free-flowering plants as bloom on the current growing wood. As this shift will have to carry the plant through the winter months, the drainage of the pots should be ample. When established, a free open situation should be selected for the newly-potted plants, in order that any new growth made may be ripened. Where valuable tender-rooted plants are out of doors care must be taken to keep heavy rains off them, and if the weather should remain dull and wet no time should be lost in removing them under temporary shelter. The more hardy plants left out should be examined frequently, to see that water passes freely through the pots. A number of Orchids will by this time have made their growth, and may be removed gradually to a drier and cooler atmosphere. Those which still continue growing must be syringed two or three times a day, according to the state of the weather, and a humid air maintained by well watering all vacant surfaces. At the same time plants growing on blocks or suspended in baskets should be frequently soaked, to effect the complete moistening of the growing material. Some young plants which it is desirable to lose no time with may again have a shift and otherwise be put in order for the winter.

### FORCING DEPARTMENT.

Pinery.— Whenever the house for next season's fruiting is ready, succession plants had better be transferred there at once. Forward plants should be selected, and should have their final shift before being put into winter quarters. When it is desirable to have fruit early, say in April and May, the fruiting pot should not be over large, as it will be necessary to get the plants into rest early. As a rule they should have their pots well filled with roots by the middle of September, and while growing allow them all the light you can command, and a proportionate quantity of air. The best Pines for very early forcing are the Black Antigua, common Queen, and the Providence; to assist them a few Jamaicas may be started in October, as they take a couple of months longer to ripen than the above. For the summer crop the plants may remain for a week or two, unless there are reasons for potting them immediately. They may have a larger shift than recommended for the above, and should be kept longer growing in the autumn.

Vinery.—If the wood is quite ripe early forced Vines may have the lights removed; this course is, however, not imperative. But if the sashes are permitted to remain on, cleanliness must be observed and all laterals kept down.

Peaches.—It is a good plan to stop the wood of strong and healthy Peach trees about the period when the last swelling for ripening takes place, at least all the grosser portion of the shoots; give also liquid manure freely at the same time, provided the borders are dry, and that size in the fruit is a particular object.

Cucumbers. —If the weather is bright dew the plants overhead once or twice a week, observing always to use a fine rose, as a heavy stream breaks down the leaves.

### FLOWER GARDEN AND SHRUBBERIES.

Flower-gardens will be now in their greatest beauty, and every means must be taken to keep turf, gravel, and edgings of all kinds in the neatest possible order, that no drawback to the complete keeping of the whole may occur; dead flowers should be picked off daily, and stray growths reduced within proper limits. Trailing and climbing plants should be frequently gone over, to keep them neatly trained, and secure from rough winds; for the same purpose examine Hollyhocks, Dahlias, and other tall-growing plants. Remove dead flowers from Roses, and encourage the production of autumn blooms in the Perpetuals, by watering with liquid manure, and mulching the surface of the ground, where practicable. Commence the propagation of plants for next season, in which dispatch with the more delicate Pelargoniums should be urged to get them established before winter. Water Dahlias plentifully every evening when the weather is dry; take care that the laterals are well staked out, and use every means to entrap earwigs and other vermin which injure the flowers. Look over faded blooms of Pinks, extracting the petals from the pods. Should wet set in, these decayed petals will act prejudicially, by retaining moisture round the lower part, which will cause rottenness and consequent destruction. Rooted cuttings of Pansies for making up autumnal beds should now be ready. It will, therefore, be necessary to make beds for their reception. In doing this it is absolutely necessary that wireworms should be caught, therefore the compost should have repeated turnings; for these pests are as destructive to young Pansies as they are to Carnation layers. Throw out the soil from the Tulip bed on to the paths, so that it may sweeten previously to being returned.

### HARDY FRUIT AND KITCHEN GARDEN.

The summer pruning and nailing in of the current year's wood will require following up. Pear trees may now, if not already done, have the breastwood cut back to five or six eyes, beginning with the least vigorous first, as they will be least liable to start, and allowing the stronger growing kinds to remain as they are till growth is so far on the decline that all danger of their again breaking is over, which would prevent the formation of fruit buds from the remaining eyes. Where time will permit, Currants, Gooseberries, and Raspberries will be benefited by the remaining wood of the present year's growth being thinned, leaving only sufficient to furnish next season's crop. Clear away haulm, stumps and the refuse of crops directly they are over, burn them, and if the ground is not wanted dig the ashes in and let the land remain till required. At this season, however, there is seldom ground to spare; for it should be remembered, that the supply for several months of the next winter and spring will depend on the diligence now made use of, in planting out so large a supply of those kinds of vegetables most likely to be in demand as can possibly be found room for. Potatoes and other crops soon coming off may therefore be interlined with any of the different kinds of Broccoli or winter Greens; and where the above are not sufficient, a quantity may be planted at one foot apart, to wait for ground as it comes in by the removal of other crops.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending Aug. 19, 1863, as observed at the Horticultural Garden

| August. | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 13 | 29 | 29.930 | 29.878 | 81 | 52 | 66.5 | 65 | 63½ | — | .00 |
| Friday 14 | ● | 29.994 | 29.917 | 82 | 44 | 63.0 | 65¼ | 63 | — | .00 |
| Satur 15 | 1 | 29.785 | 29.768 | 81 | 54 | 67.5 | 66 | 63 | — | .00 |
| Sunday 16 | 2 | 29.855 | 39.810 | 77 | 51 | 64.0 | 65 | 63¼ | — | .01 |
| Mon. 17 | 3 | 29.699 | 29.694 | 75 | 46 | 60.5 | 65 | 63 | — | .12 |
| Tues. 18 | 4 | 29.800 | 29.758 | 60 | 44 | 52.0 | 66½ | 62¼ | — | .03 |
| Wed. 19 | 5 | 29.888 | 29.697 | 67 | 47 | 57.0 | 64 | 62 | — | .12 |
| Average. | | 29.850 | 29.774 | 74.7 | 48.3 | 61.4 | 65.3 | 62.9 | | .28 |

Aug. 13—Slight dry haze; very fine; hot; fine at night.
— 14—Cloudy; slightly overcast; fine, overcast.
— 15—Overcast, hot and very dry, fine.
— 16—Fine, cloudy, very fine; cloudy.
— 17—Overcast; cloudy, showery; squally; fine; rain at night.
— 18—Cloudy; fine, overcast; cold at night; slight rain.
— 19—Rain; overcast and cold; showery, lightning in the evening.
Mean temperature of the week 1 deg. below the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 37 years, for the ensuing Week, ending Aug. 29, 1863.

| August. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 23.. | 71.9 | 48.9 | 60.4 | 18 | 0.95 in | 2 | 3 | 3 | 1 | 3 | 16 | 11 | 4 |
| Mon. 24.. | 71.5 | 47.9 | 59.7 | 16 | 0.24 | – | 7 | 4 | — | 5 | 9 | 9 | 2 |
| Tues. 25.. | 71.5 | 50.7 | 61.1 | 15 | 0.62 | 2 | 2 | 2 | 1 | 5 | 14 | 6 | 5 |
| Wed. 26.. | 72.8 | 48.5 | 60.2 | 11 | 0.51 | 2 | 3 | 3 | — | 6 | 9 | 9 | 4 |
| Thurs. 27.. | 73.9 | 49.5 | 61.2 | 11 | 1.33 | 2 | 2 | 4 | — | 1 | 10 | 9 | 9 |
| Friday 28.. | 73.0 | 49.6 | 61.3 | 16 | 0.22 | 2 | 6 | 3 | — | 5 | 10 | 7 | 4 |
| Satur. 29.. | 71.6 | 48.0 | 59.8 | 14 | 0.58 | 4 | 5 | 4 | 1 | 2 | 1 | 7 | 3 |

The highest temperature during the above period occurred on the 25th, 1859—therm. 89 deg., and the lowest on the 29th, 1850—therm. 32 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

Books: *R.* The best book for a young gardener to read, who is desirous of studying the Latin names of plants, is some such catalogue as Loudon's Hortus Britannicus.

Cinchona: *Exul.* The usual way of sounding this word is Sinkōna. *Ch* before *o* is hard.

Delphiniums: *L E R.* We understand that the Delphiniums which are mixed with Geranium Cottage Maid, and edged with Geranium Flower of the Day, at the Crystal Palace, are seedlings raised from Delphinium formosum, which makes the best display in the end of June, and by having them tied or pegged closely down, and not allowing them to seed, a succession of flower is obtained until the autumn. They cannot, however, be recommended for summer beds alone, but mixed with scarlet Geraniums they have a good effect.

Dipladenia: *J Backhouse.* Very handsome no doubt; but by no means equal to D. illustris.

Insects: *Alpha.* The two sets of larvæ sent are those of different species of Tipulidæ, those with round heads belonging to the genus Bibio, the others to a small Tipula (T. maculosa?) The ground should be well stirred and watered with lime water or gas-tar water. *W.*

Lonicera fragrantissima: *S. S.* This seems to have been growing too fast. With ourselves it flowers freely enough without any care. This hot summer will probably make it behave better next year.

Mealy Bug on Vines: *An Old Sub.* To clean the bunches, now they have been allowed to be infested, will be a tedious process; and the attempt to do so will be in vain, unless at the same you clean the shoots and foliage by picking, syringing, and sponging. You cannot sponge the bunches without spoiling the bloom; but after picking off all the insects you can, you may use the syringe pretty strongly, if you direct its force *downwards* on the bunches.||

Names of Plants: *R B L.* The plants raised from seeds out of the crop of a sand-grouse are Medicago minima, Polygonum Convolvulus, Chenopodium album, and some Poa, the species of which is indeterminable in the present state of the plant —perhaps Poa annua.——*W B Page.* 1, Pilogyne suavis; 2, Cephalandra quinqueloba—quite right.——*Hampton Court.* Your pretty little bulb is Scilla autumnalis. We should sow the Broom seed now.——*A & J.* Lastrea spinulosa.—*X Y.* 1, Nephrolepis tuberosa; 2, Pteris serrulata; 3, Lastrea invisa, apparently; 4, Dennstædtia rubiginosa.—*W Payne.* Your leaf from Ascension belongs to Argemone mexicana, a well known African acrid, emetic, purgative weed.—*B J Williams.* Myanthus barbatus.—*J D.* Spilanthes oleracea.

Peas: *T S M* will feel obliged by any of our correspondents informing him how Peas are preserved green all the winter. He is told that it is done in Germany, and he is anxious to make himself acquainted with the process.

Pruning Forest Trees: *A very Old Subscriber, York,* may prune them any time after the middle of October

Quinquevulnerous Pelargoniums: *HC.* The extract is amusing enough; but we doubt if the learned pundit be not even more "vulnerous" than the poor "Geraniums."

Royal Horticultural Society's Garden: *Episcopus.* We quite agree that the masses of blue in the panels of South Kensington are too heavy, and would have been far more effective if contrasted with scarlet.

Timber: *N.* The best time for cutting Fir trees to be used for timber, is when the wood is dry and ripe; namely the end of October and November.

Verbenas: *A Correspondent* asks if Lord Leigh differs from Foxhunter, and if so in what respect. He adds that where the two are growing side by side, nobody in his locality (Weymouth) can tell one from the other.

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The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately; those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

This family Z *is now for the first time* offered to the public, and is ready for delivery.

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*Vice-President.*—The Mayor of BIRMINGHAM.

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Copies of the Prize Lists and Regulations, with the statement of Receipts and Expenditure for 1862, may be had on application to the Secretary. GEORGE BEECH, Secretary.

Offices: Rectory Chambers, Temple Row, Birmingham.

# The Agricultural Gazette.

*SATURDAY, AUGUST* 22, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| WEDNESDAY, Aug. | 26 | Agricultural Society of Ireland at Kilkenny. |
| THURSDAY, — | 27 | Gloucester Agricultural Society at Cirencester. |

THE late ROBERT STEPHENSON, a few years before his death, took great interest in the trials of engines and implements at the Royal Agricultural Society's Annual Show; and he is reported to have remarked that a careful inspection of this part in particular of the Exhibition would afford a very interesting and instructive lesson to a young engineer. There is no doubt that these trials are worthy of note by even unprofessional observers, from the varied interests developed in their carrying out.

Assuming, as we well may, that the Royal Agricultural Society and its officers are perfectly impartial, we believe that we can notice three distinct interests and parties involved in results of the trials. The large makers, the smaller makers of agricultural implements, and lastly, the farmers and the other ordinary buyers of this class of engineering work, have each separate and distinct interests involved in the result. The large makers have acquired a fixed and established position in the trade; their names have been before the public for years; most of them—at one time or another—have received prizes for their exhibits; and they have thus little to gain and much to lose by renewed trials. The mere expense of attending the show is of itself very great, even if the cost of preparing the exhibits for trials be not taken into account, and it is well known that the extra work on, and experiments with, a portable engine, the previous "running off of its friction," &c., often cost several hundred pounds. No wonder therefore, that many of the larger makers would gladly see the trials abolished, and the ladder kicked down which has helped them to rise to eminence. The interests of the smaller and less known makers of course lie in an opposite direction. The influence of the trials, and their levelling tendencies—while lowering the larger makers—may raise the smaller firms in the commercial scale, and the interests of the latter are thus directly opposed to a cessation of the quadrennial series of tests. The larger firms, with their greater command of capital and skill, are however at an advantage. They can afford to spend more work and capital on the implements to be exhibited, and thus accordingly manufacture special engines, carefully constructed with a view to economy of fuel, and to a development of the utmost dynamic effect. The smaller makers, who generally cannot afford this outlay, would thus gladly see the production of "racing" engines strictly forbidden by the rules of the Society. This racing system appears to be an old grievance, and in the report in the Royal Agricultural Society's Journal on the trials at Chester in 1858, the judges "suggest as a condition to be observed at future trials that steam-engines should not be considered qualified to compete for the prizes unless they are constructed precisely as intended for sale." There would however be many practical difficulties in enforcing this rule, and probably no parties would be better pleased than the makers themselves could it be strictly carried out.

Perhaps such a plan as exhibiting complete drawings and specifications of the prize engines, with a guarantee as to price, in some public place like the Crystal Palace, might meet the difficulty. It might also be required that any engine exhibited should be delivered at the catalogue price to any one; and it is not improbable that farmers would thus make a practice of buying engines at the show.

Of course the interests of the buyers of agricultural steam engines are also directly opposed to the production of special racing engines to the neglect of the more legitimate means of saving fuel, such as simple variable expansions, feed-water-heaters, &c. English farmers, however, with their cheap fuel, generally despise all these economical contrivances, as they necessarily add to first cost, and price of maintenance, while detracting from the simplicity and manageableness of the engine. The contrary is the case with continental purchasers, with whom fuel is three or four times dearer than with us. It is evident that the requirements of the buyers of portable steam engines are very varied; some only care for cheapness in first cost; others for economy of fuel; one buyer wants a light engine, easy of transport; another an engine with its parts easy of access and cheap to repair; while the attainment of most of these qualifications in a high degree, more or less involves a neglect of the others. The interests of the buyers of agricultural machinery would undoubtedly be met by a more complete expression of opinion, on the part of its judges, in the report generally issued at the termination of the trials. Not merely the relative consumption of fuel should be noticed, but also the relative simplicity, excellence of workmanship and design, and lastly the exact price of each engine. Each engine might be weighed as a test of its portability; and the exact time spent in taking the parts to pieces, and putting them together again, should be noted down in the report. Weighing the engines would not merely be a test as to facilities of transport, but also in some degree as to design; as after the engine had developed its powers at the break, a relative lightness of the structure would be an evidence that the right weight was in the right place. It would certainly be a rather onerous operation for the judges to exactly qualify the relative merits of the designs; but still, three or four of our noted engineers ought to have some

determinate opinions on the matter. There is no doubt that the steam pressure—at least for the trials—might with advantage be increased from 50 lbs. to at least 70 lbs. It is to be greatly regretted that the Journal of the Royal Agricultural Society, containing these reports, is generally only published long after the interest attending these trials has evaporated, for there is little doubt that a full and complete report would guide a purchaser in choosing the implement and engine exactly suited to his special case.

The Royal Agricultural Society has been greatly blamed for—indirectly, at least—encouraging the production of racing engines; the Society has been accused of giving prizes for live stock too fat to breed and too costly to eat; and for engines too complicated to work and too expensive to sell. It is, however, easier to blame the Society than to point out a remedy. There is no doubt some check in the racing system would exist if the number of attendants to the engines were limited —say to a single fireman, just as when the engine is under its ordinary working conditions. One man would be unable to properly manage the additional abnormal complications generally attached to a racer. At the late trials, the judges felt so strongly averse to encouraging the old racing system, that they would gladly have given the prize to the ordinary commercial engine of Messrs. BROWN & MAY, although it was considerably behind the racers with regard to consumption of fuel. The fire tubes, however, were too small for the conditions as given in the prize-sheet, being 2½ inches in diameter, outside measure, instead of inside measure. In our Number for July 27, we gave the conditions and the results of the trials, the latter according to tables furnished by Mr. AMOS. This 8-horse engine of BROWN & MAY burnt 6.4 lbs. of coal per horse-power per hour; and it would no doubt have given a better result if the steam were not actually allowed to condense in a steam jacket (!) cast round the cylinder—before entering the valve chest.

Many of the thoughts that occurred to us during our inspection of the late steam fire-engine trials at the Crystal Palace were again raised in our mind at the sight of the portable engine trials at Worcester. The dynamic effects of the water delivered by the fire engines, and the weight in the brake lifted by the portables, only imperfectly express the actual capabilities of the respective apparatuses. Just as a good jockey will often nullify the turf calculations on the "favourite," so is the amount of coal consumed per engine horse-power often as much a test of the skill of the fireman as of the power of the engine. Only a good horseman in the one case and a skilful fireman in the other, know how horse-power can be developed by judicious jockeying. In one or two cases this jockeying has been pushed rather too far, as in a curious instance which is said to have occurred at the Salisbury Show in 1857. To the astonishment of the judges, and the envy of the owners of the other engines, a rough little portable, made by a country maker of the neighbourhood, appeared to be doing an immense amount of work, and to be outlasting all the other engines. The fireman was shovelling in only old cinders and ashes, and yet the firebox was full of flame. At last the reason of the extraordinary phenomenon was apparent, and it was found out that one of the fire tubes had been previously filled with grease and plugged up with wood. The wooden plug, when consumed by the fire, let in a flood of combustible matter that kept the engine running long after its due portion of coal had been consumed. It is needless to state that this engine was *not* "honourably mentioned," after the discovery of this too-ingenious manœuvre.

The engines we saw at Worcester were in the ordinary styles of construction of the different makers. The lowest amount of coal consumed per horse power per hour at Chester trials was that of Messrs. TUXFORD's 8-horse engine—3.914 lbs. This year, although they had one pound of wood per horse power less than they received at Chester, their 8-horse engine only burnt 3.59 lbs. of coal. The most enviable position however in these trials, is evidently that Messrs. CLAYTON & SHUTTLEWORTH, who take a high position in all the three classes. It may be remarked that their fixed steam engine was tried at a disadvantage, as happening to be the first on the list, and being accidentally unprovided with fire-bricks, the fireman could not apportion the area of fire-grate of the Society's boiler to the requirement of the engine. CLAYTON & SHUTTLEWORTH were the first makers of a portable engine with one cylinder, and their example in this respect has been followed by the other makers of portable engines for ordinary purposes; but the only single cylinder engine in the 12-horse power class was one prize engine of Messrs. HORNSBY—a fact which in some degree accounts for its success. We certainly cannot see the utility of two cylinders in an ordinary portable engine. It is noticeable that the fire-boxes of Messrs. HORNSBY's racers were not logged. For several years this firm have placed the cylinders of their engines inside the fire-box; the only advantage of this plan is evidently to prevent condensation in the cylinder. The exhaust pipes of Messrs. HORNSBY's engines are carried back inside the boiler, and they state their adherence to this plan, and their rejection of the usual logging for the fire-box are the results of careful dynamometric trials, demonstrating to their satisfaction that little or no loss of thermal effect follows the adoption of these arrangements.

We did not notice any of GIFFARD's injectors on the portable engines. Agriculturists probably consider this apparatus as too delicate for farm use; and on the other hand the makers do not like to supersede their pumps by an article upon which they would have to pay a patent-right. That useful appendage in a high-pressure boiler—a blower—is getting into general use. Messrs. BARRETT, EXALL, & ANDREWS's engines had fire-boxes flush with the boiler, a mode of construction which does not find the general favour amongst agricultural engineers that it undoubtedly deserves. The objection that these fire-boxes have insufficient steam-room could be easily overcome by the use of a perforated steam-pipe, and more especially by a due attention to a good circulation of water in the boiler.

In conclusion we may remark that, if these trials are of any use at all, four years are too long a period to elapse between them; and a wealthy Society like the Royal Agricultural Society, with 10,000*l.* in the 3 per Cents., could very well diminish the duration of the cycles from four to at least two years, the entire question being merely one of expense. *P.*

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BARLEY is rarely infested with parasites, with the exception of smut, which seems to attack cereals almost indiscriminately. It suffers also occasionally from Ergot, but this it does in common with Wheat, whose spurred corn is said to be a far safer remedy in the peculiar class of disorders to which it is applicable, than that of Rye, which in addition to the Ergotine contains a highly deleterious principle. Barley has as far as we know no parasite peculiar to itself, and has little tendency to be affected by either rust or mildew.

We have however before us a very curious case in which it should seem that rust from some other plant may be productive of serious injury.

Before, however, we advert more particularly to this, we must make a few observations on these parasites in general, without which our remarks would be unintelligible to many of our readers.

It has often been explained in this Journal that the bodies which are usually called spores in rust, mildew, smut, bunt, &c., are not the bodies which immediately generate the new plant. If we take, for instance, the spores of mildew, which consist of two cells placed one above the other, we find that from the tip of either a stout thread is put forth, which becomes branched above, and at the extremity of each branchlet a secondary spore is produced, which is at first globose and then kidney-shaped. This in turn germinates and generates the true mycelium of the Fungus. The first formed body is in point of fact not the real spore, or even spore-bearer, but merely the precursor of the true spore-bearer. The same applies to such other allied genera or species as have been observed during the period of fruit-bearing and germination. Rust has not yet been observed in this state, and in consequence, as will be seen presently, some doubt may arise as to the particular Fungus to which the affection is due which we are about to describe.

We received about three weeks since information from Mr. W. GREGORY, an intelligent farmer at Apethorpe, in Northamptonshire, that certain Barley crops in Leicestershire contained a notable proportion of brown withered ears, such as he had never observed before. The land on which the Barley grew was rather exhausted, but this was not sufficient to account for the appearance, and he kindly procured a supply of ears. Some of these had made some progress towards perfection, but others were manifestly nearly abortive. The glumes, and in some cases even the awns, were mottled with brown, and on removing the short miserable grain, though it had attained something like its proper form, the surface was wrinkled and mottled like the outer integuments. The most striking circumstance about it, however, was that each grain was tipped with an elongated triangular whitish or greyish process, about half as long, of a firm texture in parts, but otherwise appearing as if composed of mould-threads, calling to mind the little cap which is so conspicuous in some stages of Ergot. On examination this body was found to be composed of the remains of the stigmas, matted together by a mass of spores in a state of germination. As the mould-threads were swollen here and there after the fashion of those of several of the parasites which have been so closely examined by TULASNE and DE BARY, and they were moreover studded with secondary spores resembling exactly in form those of the common mildew, it was at once evident that the spores of some kind of rust had fallen upon the stigmas, and though they had ultimately produced abortion, they did not in the first instance entirely prevent impregnation.

As far as we are aware, Wheat rust has not been traced through the several processes of germination. We cannot, therefore, assert that the spores in question belong to that species, but there is great probability of it, as the district is peculiarly subject to that Fungus. We should not have hesitated, however, a moment about the matter, as the colour and size of the germinating spores agreed with those of the Wheat rust, were it not for the fact that each spore presented on one side three plane triangular faces, the fourth being spherical, as though the spores in the course of growth had been subjected on one side to considerable pressure. We do not observe this appearance in ungerminated spores of Wheat-rust, but it is very possible that when the contents of the spores are exhausted by the protrusion of the mould-threads, and the formation of secondary spores, traces may be observable of the old pressure, which did not appear so long as the contents (or protoplasm) were undisturbed. The secondary spores are very like those figured by DE BARY in Æcidium, but the spores of that genus do not appear to have triangular facets.

The facts just detailed open out a new path of inquiry, and it will be worth notice whether in cases of Wheat blight, the evil may not sometimes arise from the development of rust spores on the stigma. It would be a curious circumstance should it be found that the rust of the Berberry, which belongs to the genus Æcidium, is ever guilty in this direction, a matter which is very possible, though there is no foundation for the popular notion that Wheat mildew is produced by the Berberry rust. Be this however as it may, the subject is full of interest both practically and theoretically, and well worth attention in some future season. *M. J. B.*

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THE grain crops of the country are in all probability worth 20,000,000*l.* to 30,000,000*l.* more this year than they were last year. We shall certainly arrive at the knowledge of one great class of the causes of fertility if we inquire what has occasioned this great instance of its increase. —Has it been owing to an extension of land drainage? That often repays its cost in a few years, although it is sometimes allowed 10 or 15 years for that purpose in agreements between landlord and tenant. But how many millions spent on land drainage would create an increased value of grain to the extent of 20,000,000*l.* in a single season? Rapidly as land drainage is proceeding, so great an increase of fertility cannot be set down to this as its efficient cause.—Can it then be attributed to improved tillage? Unfortunately for that idea the autumn which preceded the crop of 1862 was much better for tillage work than that which preceded 1863. There has rarely been a finer autumn than that of 1861 for tillage operations, but the crop of 1862 was generally inferior and below the average.

Can it then be set down to extra manuring? How many million pounds worth of guano put on the land in spring will produce 20,000,000*l.* of grain in autumn? It would need, we fear, almost all the contents of the guano islands spread upon the land at once to produce an effect so great.

Notwithstanding all our boasted advances and improvements in all farm operations, this great increase in the year's fertility is not a work of Art at all. It has arisen out of causes altogether independent and outside of Human effort, Will, or Science. Here, then, we have pointed out to

us one great class of facts affecting fertility which are altogether outside of Agriculture—including the whole series embraced between climate on the one side and the vitality and constitution of the plants we grow upon the other. The fitness of climate to the constitution of the plants we grow (both being entirely beyond human control, and to be simply accepted as absolute and inevitable facts) is one great cause of fertility. When the farmer has chosen the plants best adapted to the circumstances of his cultivation, the outer and maximum limits of their productiveness are fixed for him—they are independent of any power he can exercise. Up to those limits he can force his will upon the crops he grows—but beyond those limits he cannot urge them. All the subsequent causes he can bring to bear are in the nature of opportunities given to the plant—its power to use those opportunities is limited by the climate of the year, and by its own essential character and constitution.

Of course the wonderful produce of this year *is* to some extent a work of Art—if the difference upon the whole between the harvest of the present season and that of 1862 cannot be put down to deeper ploughing, more perfect drainage, more liberal manuring, or to any difference in the effort of the farmer, there are plenty of differences between particular farms and fields either of this year or of last which *can*. The reports which we have received of the current crops speak of Barley in particular as being extremely various; where early sown it has prospered, but in the hands of those whom the reporter calls "afternoon farmers," *i.e.*, where sowing has been delayed, it has failed. And in the previous year the Wheat harvest was extremely various; on undrained clay lands it was a failure, while on well drained land and well put in it yielded well. If therefore one great class of circumstances affecting fertility—including all those particulars which make up the climate of the year, and the natural character of the plant—are beyond us, there are many others, including both the adaptation of the soil to the plant and the treatment of the plant itself, according to its natural character, by which we can make or mar a crop.

In Mr. CAIRD's reports of farms, published several years ago in the columns of the *Times*, there is an instance given illustrative of the rise in the fertility of land during successive weeks of years, during which the average climate must have been nearly constant. The Wheat crop in the seven years preceding 1839 averaged 25 bushels per acre on the farm of Mr. BLYTH, near Burnham, Norfolk. In the seven years ending 1846, it was 29 bushels; in the next seven years it was 36 per acre. In like manner, during the same period, Oats had yielded 54, 57, and 68 bushels per acre respectively, and Barley had yielded 31, 33, and 45 bushels per acre. Mr. CAIRD's remark upon this history is that the great increase in the period since 1846 may be attributed to the use of artificial manures, as a direct application to every crop, which has since that time become a universal practice.

Here, then, is one great and obvious way in which fertility is in our hands; we can feed our plants up to the limit of their powers to assimilate this food; and that this is not always nor generally done is plain from the fact that some increase in productiveness almost always follows the application of additional manuring. Up to the extent which the living powers of the plant permit, and they are determined by the climate of the season, we can urge its growth by the liberal supply of all its wants.

Does fertility depend on the consistence of the soil, we can marl light lands, we can burn clays, we can harden by the sheep fold and the roller, we can lighten by the scarifier and the plough. Does it depend on full opportunity being given to rain water to traverse soil and subsoil and feed the roots of plants, we can by underground channels which carry off the water as it sinks preserve its continual circulation throughout both. Does it depend on the natural contents of the land being fitted for the food of plants, we can lime and burn and till, introduce the natural agency of air and rain and the artificial agency of lime and heat, and thus stimulate that chemical action within the soil on which the preparation of food for plants depends.

Does it hinge on the supply of additional fertilising matter, we can add these matters directly from the dung heap, the manure manufactory and the guano ship, or we can add them indirectly by feeding sheep and cattle on the land upon imported food. Unquestionably fertility is to a very great extent a work of Art. This is not less true on natural and shallow soils, where no such extraordinary change has to be effected in the original character of the land before it will yield good crops, than it is in the fens of Lincolnshire and Cambridge, now laden with rich grain crops and herds and flocks of cattle and of sheep, where the natural fertility yielded formerly but Sedge and Rush and bog and seaside plants, with only wild fowl for the live stock.

—— We understand that Mr. SMITH, of Woolston, like Messrs. HOWARD, of Bedford, has declined the inferior premium awarded to him as a competitor for the prize offered by the Agricultural Society of England for the set of steam cultivating apparatus best adapted to small occupations. He "is of opinion that the terms of the prize did not admit of a division of it," and he therefore cannot accept a part of it.

## AGRICULTURAL WAGES IN THE WEST OF ENGLAND.

[The following report on this subject appeared some time ago in the *Times* newspaper.]

IT has struck all thoughtful persons in the West of England who are familiar with the condition of the peasantry around them that the Lancashire operative hardly knows what it is to be on "short commons," and the nobles and gentlemen of that much enriched country do not seem to be aware on how very little the working men of the South and West keep themselves and their families in health and content.

I have seen the contrast between the two parts of England alluded to, but I have never seen any statement of facts to bring it out in detail. Being now much among the poor of my native parish in a western county, where I have known the state of all ranks of the inhabitants, more or less, for 40 years, I think I may convey some facts to the public, by the aid of your universally read journal, which may give a true view of the subject that is now much before the public, and is pressing and pressed on the hearts of the compassionate.

My neighbourhood contains a purely agricultural population, the heads of which are proprietors on a moderate scale, and tenant farmers, none of them wealthy. The farms and cottages lie for the most part scattered along hill and dale, on a rich moist soil, which causes great wear and tear of clothes, especially shoe leather. Stone is plentiful, which occasions good dwellings at reasonable rents, excepting where you are near a town. But ways are difficult and conveniences few, which all tends to expense.

You may put the farm labourer's wages at from 8s. to 10s. a week and his cider. The maximum is reached only by the carter and head shepherd, and then it is usually paid thus—8s. per week, with a cottage, small garden and 20 perches of potato ground, and an allowance of firewood. These allowances are valued at 2s. a week. For this large wage a man is expected to work a day and a half, the Lancashire folks would call it, as I will show you by and by.

A carter's and shepherd's wages never vary, but a good labourer has the chance of piecework, by which, if he is skilful, he will earn more than his day's wages. Reaping, mowing, hoeing, wooding, are all done by measure. A man on piecework will hardly cease his labour while the light serves him, even in summer. This is his only chance of getting a little beforehand with the world. Cottages may be had of the largest proprietors for from 1s. to 1s. 6d. a week, but the small landlord invariably asks, and gets, more. Coals may be put at 1s. per cwt.

The rate at which boys are paid is in small proportion to the men; 6d. a week is gladly taken by a poor mother with several children at home for her little boy, to scare the birds from daybreak to sunset on a cold spring day off the lately-sown field. From 6d. to 5s. would represent the earnings per week of boyhood up to 18 years of age.

But, if the condition of the labouring and vigorous man is so lowly, what is it when he is maimed, or his "work is done," often the case soon after 60, when he has probably some years of life before him, on parish "'lowance"? 2s. 6d. for a single man or woman, 4s. 6d. for a couple, is the general income of these poor people. They live and are content on it, and would rather starve than go to the workhouse, where they would be well housed and fed, and kept warm.

Living close to me there is a worthy couple, who have 4s. 6d. per week allowed by the parish, after the hard service of a lifetime has crippled the man. They give 1s. 4d. for house and garden, 1s. per week for coals, and 2d. a week is put into a club, which affords all their hope of getting clothes. This leaves them 2s. to live on. They do live, do not complain, and they have no debts.

On the other side of me I have a carter in the vigour of life. He rises with the sun, unless the sun is late, for he must be in his stable before 6 o'clock, even in winter; returns home at 7 o'clock to take his breakfast "flying," as his wife told me, for he must go at once with his horses for their eight hours' labour, which is considered a day's work for a horse. He carries his dinner in his pocket, and eats it as he goes along, and thinks himself fortunate if he gets home for a cup of tea in the evening; for, after he has cleaned and provided for his cart-horses, and groomed "master's" hack, and looked after the missing colts, he must work in the cider house or pursue some kindred employment till 8 or 9 o'clock at night during the winter months, and even to a later hour in the summer ones. In all this my neighbour is helped by his eldest boy, a lad of 17, who receives 5s. a week for 15 hours' almost incessant work.

This boy comes to my night school when he can, is most diligent about his lessons, but is often more sleepy than bright. He never touches a shilling of his earnings, but is quite happy that it goes to help in feeding, clothing, and housing his father, mother, and six younger children—there have been 11. Another couple I know have eight under 12 years old, and they live on 10s. per week earned by the father, and 2s. by the eldest boy; 1s. per week for house and garden and 1s. for coals is their reckoning; 10s. is left for all the other necessaries for 10 people.

These are the wages of skilful, vigorous men. The unhandy or weakly have wages lower, according to their deserts. I know a man, hardly middle-aged, who receives but 8d. a-day (which is the rate at which a woman is paid); he keeps himself and his wife on that, and has kept a child. I have lately found the wife nursing and washing for a sick brother and sister, all for love. I wonder how it is they live and keep strength for hard work, but I see that they do it and are satisfied, and I must say they very seldom beg, or give you any idea that they are poor to the degree that we think them.

It is not often the women go out to work regularly. We reckon it ruin to her family if wife or mother does so. A notable woman is thankful if she can earn money by work done at home, but the opportunity for that seldom offers.

All these people send their children to a school charitably provided for them at 1d. or 2d. a week. At my night school I find perfect readiness to buy pens, copybooks, and even books of a trifling cost. I can hardly take it, but I know they would not value my teaching, or their own learning, if it cost them no money. For the most part they are tidily clothed, and their houses would shame those of many persons who are earning an ample livelihood. From these families excellent domestic servants have been formed, and a very little assistance soon lifts up those who have help in themselves.

I am far from pitying the strong labourer with a good wife and healthy family; but I do pity from my heart the sick, the aged, and the worn-out. And I feel, with such a population around us, we ought not to be called on weekly (as is now done in some churches) to give to those who are by comparison well off.

If you offered our families 2s. per head a week they would think the riches of Crœsus had fallen on them. Yet these are the people from whom not only have the alms of others been diverted, but money—little enough it is true, but still money—has actually been levied, and that by personal applications of the clergy from house to house, in order that more may be given to those who are in less need. They have—poor, kind creatures!—given cheerfully, because they have been told that their fellow-countrymen are starving, which they understood to mean actually dying of hunger; little thinking that such expressions are used in a metaphorical sense, as by persons accustomed to no stint in food and clothing, and that which a Lancashire man calls "starvation" is affluence to one of themselves.

I have said nothing of the price of meat. It is 8d. per lb. The poor seldom see, never buy it. Bread, of course, bears the current price of the season, as elsewhere. It and Potatoes form the chief food, and the bit of "garden stuff." How they subsist in health, and how they make both ends meet, I cannot tell. But that is not the point. It is that we who have little to spare of our own, and have such a chronic state of poverty around us, can neither be expected to call that "famine" which sounds to us to be abundance, nor to take of our scanty means of giving from our very poor neighbours for those who are so much better off, and belong to the wealthy and the money-making.

I could draw a "picture from real life" among my neighbours of such distress as would equal—indeed far surpass, any I have read of in the manufacturing districts. But this would be from exceptional cases. My object has been to show truly the general state of this country and its inhabitants, and to acquaint the north country people, and those who are so kindly helping them in their unwonted trouble, that we are always at a lower state of poverty than that which Lancashire calls a state of starvation, and always have at hand calls for our charity to the full extent of our very limited powers. *Z. A. in the Times.*

## THE APPLICATION OF SUPERPHOSPHATE.

As regards the application of superphosphate, I have already remarked that the best farmer makes best use of superphosphate; this is chiefly because his land will be more likely to be in a good condition to receive both seed and manure, so as to allow of the capabilities of the latter being developed to the fullest extent.

The preparation of the soil, by judicious management

and good tillage, is, in fact, a most essential condition for the proper action of all artificial manures, especially superphosphate. If we examine a naturally fertile soil, we perceive that even its mechanical components, or those which compose its bulk and weight, such as clay, sand, &c., are intimately blended and intermixed; while its chemical constituents, or those which constitute its more valuable store of plant food, and the same which we supply in a crude state in artificial manures, occur in such a perfect state of division and uniform admixture, as to defy detection except by appropriate chemical processes. In this condition of the soil, moreover, these latter materials occur in a manufactured state, so to speak; or have, by the operation of natural processes in the soil, of which we at present know little, become mellowed and tempered, so as to be brought into the condition most acceptable to plants. That this is the case we may safely infer from the extraordinary fertility of rich garden mould, or the "maiden earth" of old pastures.

The salts of ammonia, of phosphoric acid, or other of the above materials, as we supply them in manures, are in too crude and concentrated a condition to become at once food for plants; they may, indeed, by injudicious application, become poisons instead of food to plants. Nothing is easier than to poison a plant with guano or superphosphate; indeed much injury to corn crops is often done in this way, by the application of guano, although its after effects in benefiting the crop generally, is in most cases sufficient to conceal and overcome such local injury, but which is nevertheless objectionable and preventible. This is because the salts of ammonia present in guano, as also the soluble phosphate of superphosphate, exercise a corrosive action on the delicate roots, or other organs of plants, with which they may be brought in actual contact; hence it is only when diluted and modified by the action of the soil, as above referred to, that these and other constituents of artificial manures, become fit to supply the roots of plants with food.

Strange as it may seem, there is every reason for believing that soluble phosphate is reconverted into insoluble before being made use of by the plant; the only object gained by the process of manufacture into superphosphate being, therefore, an extreme subdivision of the bone-earth in the soil; but this, as we may now explain, is a sufficiently important object.

Although we have stated that bone-earth is an insoluble salt, as it is compared with what are called soluble salts, such as soluble phosphate, or table salt, &c., yet it, nor scarcely anything else, is absolutely insoluble; that is, which does not dissolve to a small extent. If what we call insoluble phosphate of lime be left to soak in water, the latter takes up a minute quantity of it, but the amount thus dissolved, though always small, varies with the physical condition of the phosphate of lime, as well as upon the presence of other substances which the water may contain.

Thus coprolites treated in this way will hardly yield any phosphate of lime, which is the reason why they are of comparatively little value as manure. Again, fragments of bone will yield very little at first; although, by the slow decay of the animal matter (the gelatine), phosphate of lime will then become soluble. The finer the phosphate of lime, or the material containing it, is broken up or divided, and, consequently, the larger surface it presents, the more of it is dissolved. This holds good as applied to mechanical subdivision by grinding; the finer we grind bones, bone-ash, or even mineral phosphates, the more effective they become as manure; although, except in the first instance, the limit of such means of division fails to render these substances effective manures. It is for this reason that certain phosphatic guanos—such as the Kooria Mooria, Californian, &c.—are more effective than the above forms of phosphate of lime, although they contain little else; having, in all probability, been slowly produced from animal excrements, by the action of rain and other natural agents, by which the soluble matters have been, for the most part, removed, the phosphate of lime remains in an extremely comminuted state. I am inclined to think that even Peruvian guano owes much of its fertilising action to phosphate of lime in this condition; for, apart from the fact that it often contains as much as 4—5 per cent. of real soluble phosphate, the whole of its phosphate of lime (amounting to 20—25 per cent.) being in organic combination, is in a still more favourable condition than in the guanos above mentioned, and approaches, in fact, the soluble phosphate of a superphosphate.

The superior efficacy of the phosphate of lime in these latter examples is owing to the fact that its division has been brought about, in part at least, by chemical means. For this reason the recently precipitated phosphate of lime in a moist condition, as we obtained it in our experiment with bone-ash, is in the most favourable condition possible for being taken up in this way and conveyed to the roots of plants; and this is just the condition into which the soluble phosphate of a superphosphate gets changed after it has remained a short time in the soil. This creamy substance (the result of the experiment just mentioned) consists of a multitude of particles of phosphate of lime, infinitely smaller than could be produced by any process of grinding. The carbonate of lime, the alkalies, &c., present in the soil precipitate the phosphate of lime in this condition, just as the strong alkali soda which we used did at once in our experiment.

Again, the moisture permeating the soil dissolves such phosphate of lime more readily than pure water does; it contains carbonic acid gas, which is known to increase greatly the solubility of phosphate of lime; this, and other bodies existing in the soil, assist in preparing this important compound for assimilation by plants.

Into those properties of soils, which we before alluded to as instrumental in preparing the crude constituents of manures into food for plants, we cannot now enter; it is sufficient to remark, that their proper action depends as much or more upon the physical condition of the soil, its lightness and porosity, the presence of a due amount of air and moisture, &c., as upon its chemical constitution. As the condition of a soil in these respects is, to a great extent, dependent on tillage, it is clear that the latter materially influences the value of superphosphate and artificial manures generally. Hence, in the practical application of superphosphate all care should be taken—not only to prepare the soil for its reception, and that of the seed—but also to ensure its uniform and gradual admixture with the soil, so as to imitate, as far as practicable, the natural condition before referred to; and we may be assured that, the more completely we do this, the further our manure will go and the better result it will yield us.

The plan of mixing superphosphate with ashes before drilling is an excellent one, and much more than are commonly used might often be employed with advantage; the manure being carefully incorporated with the ashes by gentle rubbing and sifting, avoiding all rough usage, which would be calculated to bring the manure into the pasty condition we have pointed out.

It may be questioned whether the plan usually followed of drilling the manure with the seed is the most advantageous mode of applying it. By this plan the manure is put too much in one place, and too much about the plants at the earlier stages of their growth. On the other hand, the plan sometimes adopted of sowing the manure with the "broadcast distributor" before "ridging up," when this mode of cultivation is followed, disperses it too much, and places it too far out of the reach of the plants at first. The liquid manure drill, when it can be used, is superior to either of these modes; though still open to the objection of depositing the manure in one narrow line. Some plan, intermediate between the two former, would probably give the best results. *Mr. Sibson's Lecture on Superphosphates.*

## JOHN GREY OF DILSTON.

[At a meeting of the tenantry of Greenwich Hospital, held a few days ago, it was resolved to invite John Grey, Esq., Receiver of the Hospital Estates, to a public dinner, as a method of testifying "the high esteem they entertain for Mr. Grey's character, and to acknowledge the discretion and integrity with which he has, during the long space of 30 years, discharged his arduous office, to the great improvement of the district, and to the advancement of agricultural science in the country generally." Several of Mr. Grey's friends having expressed a wish to join in this testimony to his merits, it was further resolved that the dinner should be open not only to the tenantry, but to such of Mr. Grey's friends as should signify their intention in due time. The dinner was accordingly held at Hexham, on Thursday, July 23, in a spacious tent. Nearly 200 gentlemen were present. The chair was occupied by William Stephenson, Esq., of Throckley House. The Vice-Chairmen were Marshall Stephenson, Esq., Four-stones: Joseph Lee, Esq., Dilston; J. Bolam, Esq., Glororum; and W. Benson, Esq., Allerwash. After the usual loyal patriotic toasts, the Chairman rose to propose the toast of the evening. He said:—It is universally acknowledged that the highest possible compliment that can be paid to a public man is, to say that he has acted a straightforward and independent course, never having departed from the paths of truth and rectitude; and if that individual should be one who, for a continuous succession of years, has occupied a respectable and important place, requiring no ordinary talent and shrewdness, the acknowledgment is only the more deserved and obligatory. Such an individual is our honoured guest. My connection with the Greenwich Hospital, as a tenant, dates back for 40 years, and during 30 years of that time, Mr. Grey has occupied the position of Receiver of Greenwich Hospital. To say that I individually owe a great deal to Mr. Grey for the counsel and advice he has ever afforded me during the whole of this period, would only be justice; and when I bring to recollection the many acts of kindness I have received at his hand, I cannot desist from embracing this opportunity of thanking him and assuring him of my grateful appreciation. And yet I think I am speaking not only my own thoughts, but the sentiments of the tenants of the Hospital, when I say we are, individually and collectively, obliged to Mr. Grey for his uniform kindness and affability, as well as for the great interest he has ever taken in our welfare, in common with the general prosperity of the estate. When Mr. Grey entered upon the duties of the receivership, the estate was, on the whole, badly cultivated, the tenantry were chiefly in poor circumstances, and, as a necessary result, changes were continually taking place. That matters have been greatly altered for the better, is beyond all doubt and dispute. The farms were all valued, a reasonable system of husbandry introduced and enforced, and every encouragement and assistance given to deserving and industrious tenants. I may be pardoned for the egotism, when I say that the Hospital tenantry, as they now exist, are second to none, either as regards respectability and character, or scientific enterprise and persevering success. Had Mr. Grey been disposed, he might have contented himself by simply attending to his duties as Receiver. But his attention has been at all times directed to the public and general good; his connection with the Hexham Farmers' Club, as its President, and the many valuable papers and speeches which he has from time to time read and delivered, have tended very materially to bring the agriculture of the district to its present state of excellence; and his name will ever be held in the warmest veneration, and handed down to posterity as one of the best and most enlightened supporters of agriculture of his day. I hope, now that he has been relieved from his more arduous duties, we shall still be favoured with his presence and co-operation in our endeavours to further the interests of farming in this district. Mr. Grey, although in advanced years, is in the enjoyment of a green old age, his intellect is still keen and active, his faculties unimpaired, and, by the blessing of Providence, we entertain the hope that he will yet, for many years, be associated with us as our counsellor and friend. The toast was drunk with great enthusiasm.]

Mr. Grey, who was received with great cheering, said—The Chairman has told you, gentlemen, that I have on former occasions, as many of you know, had the privilege of addressing you; but then it was on subjects connected with our common interests, and with the general welfare of the country. We discussed then the improvements that had taken place in agriculture, and those things which have tended to increase the production of the land. On such occasions I had an object in speaking, and I had a subject to speak of; but on this occasion I am placed in circumstances of unusual difficulty and embarrassment, because you have called me to speak on a barren subject, that of my own very inconsiderable self. Mr. Stephenson has reminded me that it is now somewhat more than 30 years since I undertook the office which I have now resigned. That brings to my recollection a circumstance which is similar to the present, for, on the eve of my departure from the scenes of my early occupations, and from the society of my youthful friends, a great number of them were collected, as I have now the honour of seeing a number around me, to send me away with a cheer. Gentlemen, that recollection carries with it, unhappily, a very mournful feeling. It proves to me how great is the havoc which the period of 30 years makes in the numbers and society of living men. For how few are there now who were then instinct with life and vigour to be found? Yet I do recognise on this occasion some old familiar faces. There is, gentlemen, another sentiment connected with the recollection of that period and of that meeting, which bears with it a moral, and that you will allow me to mention to you; for it proves to my mind that a man may be born into the world without any of those adventitious aids of rank, or wealth, or talents, which are the pioneers of success to many others, and yet if he devotes himself with industry and perseverance to the duties of his station, and if he pursues a course of justice and of fair dealing, he will not in the end fall short of receiving something of the approbation and esteem of his fellow-men. It happened to me that I was very fortunate in the preparation which I had had for the office which I have now for 30 years filled; and all my training has been of the kind which would produce the knowledge necessary for this situation. And as you have called me here to-day to recognise, with extreme kindness, the results of my stewardship, I feel myself in some measure called upon to explain to you what you have a right to know—what were the circumstances to which I ascribe any beneficial results and advantages which may have been derived from it. Mr. Stephenson has just reminded me that I have now been in harness for 60 years. That dates from the beginning of this century. At that time you will all know that there was a great impulse given to agricultural improvement, such as had not been known before. That stimulus has been acting, and that improvement has been progressing ever since; and it has mainly been accelerated in the last years that have gone by. From my very earliest youth I was initiated into the business of agriculture. When I was a boy at Richmond school I had the privilege of passing several occasional holidays with the great agriculturists of that day—men whose names have been handed down to posterity as the benefactors of the country—I mean the Collings, Charges, and Booths of that day. When with them I heard very little of anything but agriculture; and I was also initiated into the enthusiasm which pervaded all classes of people at that time with respect to the introduction of the Short-horn breed of cattle; and then it was that I made my acquaintance with those patriarchs of the race, the names of which are familiar to you all still, the Favourites, and Comets, and Dukes of that day. Family circumstances required that I should, at the age of 18, take the management of extensive farming concerns, including amongst them that patrimonial property which very adverse circumstances in this neighbourhood have but recently deprived me of. I was then settled as an inexperienced youth, with much work on my hands; but do not allow yourselves, gentlemen, to conceive that I think it was a hardship that a young man should be put thus early in harness. On the contrary, I believe that it gives him an earnestness of character, and an aptitude for business; and, probably preserves him from many temptations to idleness which he otherwise might be subject to. Those great veterans and leaders in agricultural improvement, the Messrs. Culley, who saw me a youth, inexperienced, and yet in circumstances of great responsibility, bestowed upon me much kindness and much valuable instruction. To them I was indebted for the parental instruction which otherwise I would have been deprived of. I was then, also, associated at an early time with other agriculturists in forming agricultural societies, which were not common, as they now are. One, for instance, the Tweedside Society, which was originated at Cornhill, and afterwards amalgamated with the Border Society of Kelso, which, since that time, has stood as the Union Society, was of great importance to the Tweedside district. Of that society I was one of the earliest members, and for many years one of the most successful exhibitors. In course

of time, I became able to take a position amongst the agriculturists of the county. I then became known to that veteran agriculturist, Sir John Sinclair, whose zeal in agriculture led him to spend his entire life in obtaining information, and in diffusing it by numerous publications. Those publications have been very much set aside, and become obsolete, by the progress of improvement, and by the great numbers of works since published on agricultural subjects. However, there is one work of his—his "Statistical History of Scotland," —which will always remain a valuable record of that country. When he was engaged on his last and largest work, his "Code of Agriculture," which is a compendium of many of the others, he did me the honour to call me to his aid, and to refer to me the various sheets which that work consists of, for remark and criticism. I only advert to this, gentlemen, to show you that I have been called in former life to study agriculture in theory as well as in practice. At a later time than that I had the honour to be consulted by, and to have much intercourse with, those valuable men who are now, alas, taken from us—the late Lord Althorpe, Mr. Pusey, and Mr. Handley, in originating the Royal Agricultural Society of England. With them I had a bulky correspondence, which I preserve to this day. When that society was originated, I was invited from year to year to act as one of their judges, and to contribute to their publications, and amongst other contributions of mine, there stands to this day the first report from any county in the kingdom. That was written by myself, and is a report of the agriculture of Northumberland. It was written at the instigation of Lord Althorpe, and was suggested to him by the very superior style of farming which he witnessed at the borders of the Tweed when at two not very distant periods he did me the honour to visit me at my former abode. That report of the agriculture of Northumberland took so well when published in the *Journal of Agriculture*, that the committee of the journal offered 50*l*. premium, and have from that received reports from all the different counties in England. It was from the position which I had thus the good fortune to acquire by industry and attention that I became known to agriculturists in different parts of the kingdom. And I doubt not that it was to that position that I was indebted for the notice of the late Earl Grey, who called me and took me as a proper person—as a suitable and likely person—to occupy the situation of Receiver for the Greenwich Hospital Estates, at a time when it was considered right that a change should take place in their management. And there is no sentiment which is to me more gratifying than that which you have called upon me this day to receive—your approbation and your expression of the belief that the result of that appointment has been such as your Chairman has been pleased to describe it. Nothing can be more gratifying to me than the thought that I have been able in some measure to do credit to the recommendation of that high-minded nobleman, whom during his life I so earnestly loved and admired, and whose high principle and honour of heart I shall never cease to revere. Gentlemen, how to thank you for your extraordinary kindness bestowed upon me by this large assembly, which has now met to do me honour, I am perfectly at a loss to know. I can only assure you that I most truly appreciate this evidence of your approbation, and that I shall retain a grateful recollection of your kindness to the latest day of my life. Gentlemen, wishing you all that is good for you, and most earnestly thanking you for your kindness, I now take my leave.

## SEWAGE MANURE.

You will do good service to British agriculture by inserting the following very important letter from Baron Liebig. It settles definitively the question, hitherto much disputed, of the value of a ton of town sewage, taken at its outlet.

How much is to be deducted from that value for conveyance to the fields is another part of the question; but it is generally admitted that from one farthing to three farthings per ton, according to elevation, would be an ample deduction. It is strange that our Legislature or Government has never, by a committee or a commission, elicited engineering data on this point. At Croydon the cost is not more than one farthing per ton; at this rate there is ample scope for profit to the ratepayers as well as farmers, at Baron Liebig's estimate of 4*d*. per ton.

Hitherto nearly all our attempts at sewage irrigation by means of steam power, pipes, hose, and jet, have been imperfect, from a want of sound engineering skill; hence they have been unduly costly. A mistake of an inch in the diameter of our supply pipes may increase our expense of delivery 100 per cent.

When once we are agreed as to the value of a ton of town sewage, delivered on the land, we shall not long differ as to the propriety or profit of applying a given quantity per acre. Those who now advocate 10,000 tons per acre per annum will be brought, by the questions of cost and value, to much more reasonable conclusions. 10,000 tons per acre, at Baron Liebig's estimate of 4*d*. per ton, would amount to 166*l*. 13*s*. 4*d*.! Many farmers would be astonished at our ever proposing to expend 5*l*. per acre in manure or guano—What would they say to 166*l*. 13*s*. 4*d*. per acre?

We are all gradually coming to believe in Liebig's great theory, that in order to build up a perfect plant we must have all the necessary materials or elements in due proportion and in a fit condition. No one certainly would doubt this, if applied to a house—for, wanting either lime or water, useless would be the bricks, timber, slates, and other materials. *J. J. Mechi, Tiptree Hall, Kelvedon, Essex, Aug.* 15.

### UTILIZATION OF SEWAGE.

The agitation at present going on regarding the application of sewage to the purposes of agriculture, induces me to offer a few remarks which may perhaps assist to throw some light on the different questions belonging to this most important subject.

It seems to me that, on the whole, people have not a correct idea of the matter. In the last twenty years a new branch of industry, which did not before exist, has developed itself on a large scale, and in like manner the importation of guano and the sale of various manures have increased to such an enormous extent. The manufacturers of and dealers in manure are, on principle, inimical to the utilization of sewage, and, in the battle which is being fought, they constitute the inimical army whose forces should be by no means underrated.

The contest which this question has renewed is an old one—the contest, namely, between commercial and industrial and the agricultural interest. The manufacturers of artificial manures fancy their business would stop if it should once happen that the towns supplied the farmer with the necessary manure. If we examine the matter thoroughly we shall find that the anxiety of the manufacturers and dealers in manure is like the panic of the carriers on the eve of the introduction of the railroads. They also feared that the rail would put an end to their business. Yet we know that, owing to the greater traffic, the number of horses in use has since then everywhere increased. The sewage question is most intimately connected with the manufacturers of manure; so much so indeed that the latter may derive from it the greatest profit. It may even be said that it is in reality the manufacture of artificial manure which gives to sewerage its peculiar value and importance for the purposes of husbandry, and it is this which I shall endeavour to explain in what follows.

It is well known that the manufacture of artificial manure is based on the doctrine that the nourishment of all cultivated plants consists of inorganic or mineral substances. Manure consisting of organic substances can be produced by the agriculturist only. The farmer produces farmyard manure; the manufacturer, on the other hand, mineral manure, with which he furnishes the farmer with those efficient elements wanting in stable dung. The most important fabrication is that of superphosphate of lime. The question of immediate importance to be decided is the value to the farmer of the sewerage used, and it is easy to find this by comparing sewage matter with guano, the effect and price of which are known to the farmer, and of whose value he is able to judge. The problem to be solved is, therefore, how much of the efficient elements of guano a farmer can convey to his field in a ton of sewage; or how many gallons of sewage water are equivalent to a cwt. of guano. Regarding the component parts of the best sorts of guano, we have certain and reliable data, those relating to sewer water are less so; but we might long ago have been fully informed of its average contents if, last year, at the mouth of each sewer in London, five gallons of water had been collected morning and evening every day during the week, and at the end of the seventh day one gallon of the collected 70 gallons subjected to chemical analysis. It would be necessary, of course, to determine as nearly as possible the quantity of water discharged at each sewer. Lacking more certain data, I take Professor Way's analysis of sewer water, which this most reliable chemist made at the request of the General Board of Health.

I reckon that Peru guano contains 14 per cent. of nitrogen (=17 ammonia), 12 per cent. phosphoric acid, and 6-10ths per cent. of potash. Professor Way analysed the water of two sewers, one in Dorset-square, and the other in Barrett's-court, and found in one gallon of sewer water—

| | Barrett's-court | | Dorset-square. |
|---|---|---|---|
| Ammonia ........ | 41.18 grs. | ........ | 17.96 grs. |
| Phosphoric Acid.. | 10.44 ,, | ........ | 4.17 ,, |
| Potash .......... | 48.18 ,, | ........ | 3.32 ,, |

The difference in the contents of the two sewers is very great, for the first contains twenty-nine more ammonia and phosphoric acid, and fifteen times as much potash as the other. According to the analysis of Dr. Hoffman, Franckland, and others, I am of opinion that I may take the contents of the Dorset-square sewer water as the average standard for my calculation. From the above figures it results that 101 tons (20,200 gallons) of this sewer water contains the same amount of phosphoric acid, more than three times as much ammonia, and sixteen times as much potash, as one cwt. of the best Peruvian guano.

It will be observed that there is a great difference in the proportion of phosphoric acid to ammonia in guano and sewer water. In guano this proportion is 6 parts of phosphoric acid to $8\frac{1}{4}$ parts of ammonia. In sewer water this proportion is 6 parts of phosphoric acid to 26 parts of ammonia. The reason of this disproportion in the amount of phosphoric acid and ammonia in sewer water is at once perceived, if we remember that the bones of the slaughtered animals do not find their way into the sewers. These bones are, however, the manuring matter in which phosphoric acid abounds, and their component parts, let it be well understood, must be given back to the fields if it be intended that the soil shall retain its fertility. Potash and ammonia are, according to their prices, far more costly manures than phosphates, and in many cases quite as necessary for the field as this latter can be. Potash and ammonia are wholly inefficient and useless without the presence of phosphoric acid, but with the addition of phosphates they become efficient and valuable. The manufacturer of manure is not able to supply potash and ammonia to the farmer in sufficient quantity, and at an available price, but it is easy for him to collect the bones and make up the deficiency of phosphate by drawing it from natural sources.

It will, I think, be now perceptible what connection there is between the manufacture of superphosphate and the utilization of sewage. If the farmer add to the sewer water the phosphate which is wanting in it, the efficiency of the water will be increased. Thus, 101 tons of sewer water to which 120 lb. of superphosphate have been added are equivalent to 305 lb. of Peruvian guano, and the value of the sewer water will be 305 lb. of guano, at 13*l*. 12*s*. 6*d*. a ton, 498 pence; from this subtract the price of 120 lb. of superphosphate, at 5*l*. 5*s*., 76 pence; which gives the value of 101 tons sewer water, 422 pence, or 4*d*. for one ton. It must not be forgotten that sewerage without the addition of phosphate is of much less value, because, if the farmer were to give the soil, in sewerage, as much phosphoric acid as is in 305 lb. guano, he would have to apply 305 tons of sewer water (instead of 101 tons), which would give the value of $1\frac{1}{3}$*d*. per ton. I am of opinion that the proportion of ammonia which is brought into the soil by dressing the land with Peruvian guano is much too large and even noxious for future crops; but this does not belong to the present question.

From exact calculation of the liquid and solid voidings of London (the detail of which would be out of place here) we may conclude that 42 tons of ammonia, 10 tons of phosphoric acid, and $7\frac{1}{2}$ tons of potash find their way into the London sewers daily. These 42 tons of ammonia are contained in 247 tons of guano, the 10 tons of phosphoric acid in 83.3 tons guano; thus 163.7 tons remain in which the phosphoric acid is wanting: or, what is the same thing, if to the sewerage obtained daily from London 100 tons of superphosphate of lime (at 20 per cent. of phosphoric acid) be added, the value of the daily voidings of the metropolis, or the sewage of London, is made equivalent to 247 tons Peruvian guano; or, by the addition yearly of 36,500 tons of superphosphate, we may acquire the value of 90,155 tons guano, at 13*l*. 12*s*. 6*d*. = 1,228,364*l*. Deduct the price of 36,500 tons of superphosphate, at 5*l*. 5*s*. = 191,628*l*., and we have 1,036,736*l*. as the money value of the sewage. To this should still be added the worth of the potash in the sewer water. Potash is the manure which the farmer obtains with the most difficulty; it is that element, too, which renders his stable dung (the amount of phosphoric acid and ammonia being the same) of greater value and efficacy. In 247 tons of guano about $1\frac{1}{2}$ ton of potash are contained; but every day $7\frac{1}{2}$ tons are obtained in the sewer water, which gives a surplus of 6 tons, corresponding to 11 tons of sulphate of potash, giving yearly 4015 tons, which at 18*l*. per ton, shows a money value of 72,270*l*. Add this to the sum above given, and we have, as real annual money value of the London sewerage, 1,109,006*l*.

The surplus potash won from the sewer water daily corresponds to the amount contained in 866 tons of stable dung. Without the addition of the superphosphate, the value of the sewerage of London would only be 304,045*l*. In the calculation of the value of sewer water, there is one factor doubtful—viz., the absolute amount of phosporic acid, ammonia, and potash which a ton of said water contains. It might, probably, be found that some sewer water was richer, another more diluted or poorer in these component parts, but in the relative proportion I do not think that any very great difference would be found. Sewer water will, in the average, contain more potash than I have allowed for, inasmuch as the fluid voidings of horses are to be added, which increase the amount of potash. We may assume that one-third of the population of Great Britain, or ten millions of men, live on corn and agricultural produce imported from abroad. For this a pretty considerable number of millions of pounds sterling must be paid, besides another pretty considerable number which must be earned by the nation, in order to pay for the purchase of manures to produce the food of the remaining 20,000,000 of inhabitants. Many superficial observers appeal to statistics, which appear to show that much of the land yields one-third more than it did in the last century, and this is not, they say, a sign of decrease of fertility; but they forget at what costs their larger crops are obtained, and that they are due to an enormous expense of capital for the purchase of foreign manure. It is a sign of a poor or an exhausted soil, if, in order to get high returns, we have to add large quantities of manure from without; a rich or fertile soil does not require such an addition.

The employment of sewerage in agriculture would make it possible to bring large tracts of land into cultivation which hitherto, owing to the expense of tillage, had been laid waste and neglected; others, too, might be so improved as to make the crops remunerative, and good yields would bring in a larger revenue. The vast capital which hitherto has left the country to pay for corn and manure might be kept at home and employed for other purposes. Should the present state of trade and industry not materially change, a great part of this capital would be devoted to agriculture, and the natural consequence would be that the increasing population would find ample occupation in husbandry. Great Britain is large enough, if we take the arable surface of the land, to produce all the corn and meat necessary for its inhabitants. It is neither fantastic nor ridiculous to believe that, without purchasing foreign manure, and by a judicious utilization of the sewage of towns and villages, England would be able to dispense with the importation of food from abroad. For her it would be a blessing if the application of capital to agriculture were found sufficiently profitable to awaken speculation in this direction, so that the industrial population, manufacturers, and tradesmen, might devote themselves to the production of bread and meat. These men are quite of another stamp, and care little for tradition or the authority of custom. They know their multiplication table, however, and in competition with such men the farmers would find it impossible to persevere in their old jog-trot ways. The change thus brought about would be as great as after a revolution. *Justus von Liebig, President of the Royal Academy of Sciences, and Conservator-General of the Royal Scientific Museum.*

## SALT IN FOOD.

THE use of salt in the food of cattle must be looked upon as a direct producer of flesh, so much as a necessary element of the economy, without which animals are apt to perish from disease, but with which the body is kept in a normal and healthy state. Not many years ago a German agriculturist, Uberacker, brought forward an experiment which is in direct accordance with this opinion. Wishing to obtain some exact notion of the influence which salt exercised upon his sheep, the flocks of which lived upon a low damp pasture land, and received habitually a certain dose of salt, he fixed upon 10 sheep and struck off their usual allowance of salt. This remarkable experiment was continued for three years, with the following results:—In the first year five of the 10 died of rot and worms; in this year the remainder of the flock, 450 head, lost only four sheep. The second year a new lot of 10 sheep, deprived of salt, lost seven individuals; the remainder of the flock, 364 head, lost five only; a little later the other three died also from diarrhœa. The third year was very rainy; 16 sheep were selected, and deprived of salt. The whole of them died in the course of the year of rot and vermicular pneumonia. We have seen above that in the Brazils and Columbia, flocks may be annihilated by being deprived of salt, here we have an example of the same thing happening in our own latitudes.

M. Garriot, member of the Agricultural Society of Lyons, assures us that the milk of cows subjected to a daily allowance of salt is richer in butter and cheese than when these same cows are deprived of salt.

Sinclair, to whom agriculture owes much useful information, has observed that the habitual use of salt has a marked influence in improving the quantity and quality of the wool of sheep. This is in accordance with Boussingault's experiments on bullocks. Sinclair goes still further as concerns pigs; some of the fattest

pigs killed in Ireland, according to this observer, are those to whom a certain portion of salt is regularly given.

Many other English agriculturists have proved, by direct experiments, that a regular distribution of salt to cattle is especially useful in preventing (Hoove) meteorisation, caused by feeding cattle with leguminous and cruciferous vegetables. And there exists no doubt among those who have tried it, that when employed in proper quantity it increases the appetite, stimulates digestion, keeps up the normal supply of salt in the blood, improves the wool or hair of the cattle, prevents disease, and moreover enables the agriculturist to fatten cattle upon food which they would not enjoy without it were previously mixed with salt. Dr. Desaive, in his treatise on the use of salt for cattle (to which the Academy of Medicine of Brussels awarded a gold medal), has arrived at the conclusion that "the regular and reasonable use of salt in the alimentation of cattle may increase indefinitely every branch of agricultural produce." It is on these grounds that the practice of giving salt to cattle has become so extensive of late years.

But there is another important consideration with regard to the regular distribution of salt to cattle. I allude to its influence in preventing disease. Its daily use becomes of serious consequence when flocks and herds are menaced with those epidemic attacks which too frequently ravage a whole country at once, when a proper use of salt would either prevent them entirely, or at least reduce them to less disastrous proportions. During one of the worst of these epidemics, which sprang up, if I remember rightly, about the year 1840, in the east of Europe, the almost wild cattle of the Ukraine, Podolia, and Hungary, were struck down in much greater numbers than those of Silesia and Bohemia, where the cattle breeders habitually distribute salt to their beasts. Advancing towards the west this scourge diminished in intensity, and finally ceased to show itself in Germany, where particular care is bestowed upon cattle, and where salt has been for many years constantly employed. But whatever be the nature of the disease which threatens, animals are much less disposed to contract it when the body is in perfect health; and we have seen that this is impossible, unless the individual receive each day his proper proportion of salt. Here naturally arises the question, do not the vegetables and herbs eaten by cattle contain the necessary proportion of this substance in their natural state? If so, why do the wild cattle of the plains travel thousands of miles to find it? Wherefore the instinct which causes cows or sheep immediately to put their tongues to the lump of rock-salt lying in the manger? And why are such baneful effects observed when animals are deprived of salt? No, vegetables do not generally contain sufficient salt to supply the wants of the animal economy, though each plant contains enough to administer to its own wants. But the profusion with which nature has spread this useful mineral throughout the earth easily supplies this deficiency.

Our English agricultural journals have more than once drawn attention to the fact that a constant supply of salt, in moderate doses, hastens the development of the colt, and promotes muscular power in the horse. It has been also asserted that the custom of salting the food of horses presents the same advantages we have enumerated above, besides rendering this animal less subject to inflammation of the stomach, indigestion, broken wind, worms, periodic flux, and phymatosis (water in the legs). In the same manner it has been spoken of by authors well worthy of credit, as preserving oxen from inflammation of the intestines, meteorisation (acute indigestion), chronic indigestion, phthisis (consumption), typhus, and the formation of egagropiles (calculary formation in the intestines, having for origin a few bristles, hairs, or fragments of plants). In sheep, experiment has shown us that the habitual use of salt has an extraordinary influence in the prevention of cachexy (rot, &c.), giddiness, worms, parasites, &c.; and in swine it appears to prevent hydatides and some other disorders.

Such are the diseases from which the habitual use of salt has proved itself a preservative, and "prevention is better than cure," says the proverb. I could mention several others upon which salt is supposed to have a beneficial action, either as a preservative or a medicine, but I have preferred restricting myself to the above as being the result of direct observation, by comparing cattle fed with slightly salted food with those taking food without salt.

Of late years an excess of rain in the plains of Derry has given rise to numerous cases of rot in sheep. This disease makes frequent and disastrous ravages among the flocks of that district, principally because few of the farmers have as yet decided upon the constant use of salt. This state of things brought forth an interesting paper by M. Aumerle, an agriculturist of much experience, in which the author states that he prevented this terrible disorder in his flock of 260 sheep, by putting blocks of rock-salt within reach of the animals. "They did not fail," he observed, "to go and lick it several times in a day. The whole of the flock was remarkable for its perfect health and the fine quality of the wool." The author strongly insists upon the necessity of rendering the use of salt, in the feeding of sheep, a commoner practice than it has hitherto been in France.

When salt is given for the first time to sheep or oxen, in whatever shape it is administered, they never fail to give evidence of their delight in the taste of this substance. When it is given as a medicine, either to prevent disease or to combat an illness, it acts better when given pure; but where it is administered regularly every day, or three times a week, as part of the diet, it is preferable to mix it intimately with the food, whether the latter be raw, fermented, or cooked. I have never known a single case in which cattle habitually receiving salt could be observed to waste their fodder, or to leave quantities of it untouched in the manger.

It is now time to fix, if possible, the proper quantity of salt to be distributed regularly to cattle, in order that they may derive the greatest possible advantage from it, and above all to avoid excess. This is not an easy question, nor is it one in which I can rely exclusively upon personal experience in order to establish once and for ever the proper dose of salt for the various species of cattle and domestic animals of our farms. I shall endeavour therefore to avail myself of the experience of others, and of continental agriculturists, as well as English.

In Great Britain, in the best farmed districts, we find the allowance of salt oscillating around the subjoined figures, taken as a centre or basis:—

| | Allowance of Salt per diem. |
|---|---|
| Calf, 6 months old .. .. | 1 oz. |
| Bullock or cow, 1 year old .. | 3 ,, |
| Oxen, fattening .. .. .. | 6 ,, |
| Milch cow .. .. .. .. | 4 ,, |

In Belgium there exists a legal allowance of salt, that which is intended for agricultural purposes being exempt from the tax levied on the other; and the law fixes for oxen a dose of $2\frac{1}{10}$ oz. per head per diem. This is too much for young calves and too little for bullocks, according to English and German practice. Moreover the Belgians mix their untaxed agricultural salt with gypsum or chalk, in order to render it too impure for other purposes, before distributing it to the farmer.

HORSES.—It is generally admitted, wherever salt forms habitually a portion of the horse's diet, that this animal amply repays the slight additional expense or trouble thus incurred. To mix salt with the food of the horse, colt, ass, or mule, is a frequent practice in England and America. In these countries the usual allowance for a full-grown horse, of middle height, is about 2 oz. per diem. In Belgium the quantity of salt appropriated to a full-grown horse by the Government is little more than 1 oz. per diem.

SHEEP.—The Romans gave to their flocks of sheep, every fifth day, an allowance of salt, amounting to about half an ounce per head. And this is precisely the quantity which is still employed in England and Saxony daily for sheep full grown and of ordinary size. Numerous experiments have proved that salt is more beneficial to sheep than to any other species of cattle.

PIGS.—The best proportion to adopt as a basis appears to be about one ounce of salt to every 12 lbs. of their wash, or two-thirds of an ounce per head *per diem* for full grown pigs. In cases of anticipated disease the dose may be slightly increased.

In administering salt, unless it be used as a medicine, the more intimately it is mixed with the food, the better. This is not an easy matter with fodder, especially that which has been salted to preserve it, in which case we must endeavour to make a rough estimate of the amount of salt in a given weight of the fodder in order not to administer an injurious excess. In farms where oil or rape cake is given in powder, this being rather an indigestible food, the allowance of salt should be mixed with it in preference to any other fodder. It is easy to mix salt intimately with any cooked or semi-liquid food.

It should be borne in mind that an excess of salt is injurious to any animal, and that is why I have given the preceding figures as a kind of practical guide. An excess of salt produces irritation and inflammation of the mucous membrane, and causes several kinds of skin disease, especially in sheep. With horses, an excess of salt has been known to produce dysentery, and in oxen diseases of the blood.

Moreover, salt should never be given to cattle when a deficiency of food does not enable them to receive abundance of nourishment; in which case we excite an appetite without satisfying it, and the animals lose flesh rapidly. Salt is to be prohibited, also, wherever congestion of any important organ is observed, or where we have perceived inflammation of the bowels, of the liver, bladder, or womb. In such cases we must not be guided by the instinct of the animals themselves, which generally attracts them to salt.

In some diseases of the digestive organs salt has proved beneficial: thus, in cases of rot in the liver, accompanied by loss of appetite, paleness of the membranes, swellings under the throat, &c., Mr. Tanner recommends salt. He says:—"Avoid ground which communicates the rot, and give the sheep a free supply of rock salt, except when breeding and in milk." And for the treatment, "give iodide of iron five grains, spirits of turpentine half an ounce, twice a day, and let the sheep have free access to salt." And, again, for the disease called red-water, a species of dropsy, "liberal supplies of food, a dry resting-place, and the use of rock salt." For numerous other disorders in the treatment of which salt may be advantageously used, I must refer to some of the latest treatises on veterinar medicine.

Considered as a medicine, salt purges animals at the following doses:—

| | |
|---|---|
| Horses .. .. .. | 8 to 10 ozs. |
| Oxen .. .. .. | 10 ,, 16 ,, |
| Sheep .. .. .. | 2 ,, 3 ,, |
| Pigs .. .. .. | 2 ,, 3 ,, |
| Dogs .. .. .. | 1 ,, 2 ,, |

It becomes a poison at the following doses:—

| | |
|---|---|
| Horses .. .. .. | 2 lbs. |
| Oxen .. .. .. | 3 ,, |
| Sheep .. .. .. | 6 to 8 ozs. |
| Pigs .. .. .. | 4 ,, 6 ,, |

I have now given all the details I consider necessary with regard to the use of salt for cattle, and figures which will enable these notions to be put in practice without danger, by any who have not yet had an opportunity of judging for themselves. If I have entered into too many details, it is because I believe that we cannot too strongly call the attention of the practical farmer and the veterinary surgeon to the subject of this Essay. *Dr. Phipson's Prize Essay on Common Salt.*

## COTTAGE BUILDING.

AGRICULTURAL labourers live in villages in England and on farms in Scotland. They have a long walk of a morning to the stable or the field here—they are close by the place of their work there. It makes a great deal of difference to the workman as well as to the tenant, and, therefore, to the landowner. The wages may be more in Scotland, but the labour given for it is dearer bought in England; the money given may be less, but the labour bought by it is less in a still greater degree; and, therefore, as we say, it is dearer bought. Great part of the strength of the man is wasted before he takes his tool in hand, and it is only a remainder that he has at his command. Labour, therefore, being dearer, and produce probably being smaller too, there is a less remainder to be divided between the tenant and the landlord; and in this way, among others, the greater rents paid in Scotland may be accounted for.

In Cornwall the labourer has in some mines to go a hundred fathoms deep to the place of his labour, and he must retain the power to climb 100 fathoms high when he leaves it. He can thus afford to give but a small price per ton for the ore which is allotted to him. In Cornwall the miner represents the occupying tenant and labourer in one. When the man-engine was invented and applied, by which the labourer is lifted from his work, and taken to it, without personal exertion, the value of the ore was raised 30 per cent. at once. The Scottish farmer, with cottages upon his farm, has that man-engine in full operation, of which the English farmer, whose labourers come three miles from the nearest village to his work, feels the want.

Mr. Hewitt Davis, the well-known agricultural engineer, who not long ago paid a visit to Scotland, afterwards expressed the opinion that the greater ability of Scotch farmers to pay a high rent was connected with this very point. He mentioned also the prejudices of English land-owners against leases, against altering inclosures, against the removal of hedgerows; but he referred especially to their prejudice against cottage buildings as one of the main causes of inferior agriculture.

We believe that Capt. Dashwood, of Kirtlington, accompanied Mr. Hewitt Davis on his agricultural tour in Scotland; and it is perhaps owing to impressions acquired then and there that cottage building on the Scottish plan, *i.e.*, farm by farm, and as an attachment to the holding of the occupying tenant of the farm, is being energetically pursued on the Kirtlington estate. It is certain that no more useful improvement in the interest whether of the land-owner, his tenant, or the labourer, can possibly be undertaken. The first is interested in whatever adds to the value of the farm to his tenant—the second is interested in whatever enables the labourer to do a fair day's work—the third is interested in everything which increases the value of the labour he has to offer.

This last is interested in more than the increased value of his labour, by which he may expect gradually to obtain a better day's wages, and by which he will be able at once to increase his earnings in all instances of piece-work payment. He is also interested more than any other person can properly estimate in the substitution of a new cottage for an old one, which really generally means a good cottage for a bad one; and that is all the difference in the long run, and on the great scale between ill health, vice, and misery on the one side, and the wholesome healthfulness of a well-conditioned household on the other.

It is here that the details of cottage buildings affect the problem under consideration. And we are persuaded that not only is the example of a good leading principle to be witnessed at Kirtlington in the erection of cottages as parts of the farm homestead—or at least in connection with the several farms of the estate—but the character of the cottages themselves that are being erected well deserves the study of those who are disposed to follow the example which Sir Henry Dashwood is thus offering.

Two years ago the Yorkshire Agricultural Society offered a long list of prizes for double cottages, with three and two bed rooms each—costing 180*l*. to 220*l*. apiece—for single cottages to cost under 120*l*.—and for pairs of cottages, of irregular design, not to exceed 210*l*.

in their cost. These figures are too low; and in all probability the cottages which were admitted to competition, and even those which succeeded in winning the prizes, would in most parts of the country cost more than the figures stated. The Kirtlington cottages, built in pairs, cost at least 250*l*. But they differ from the cottages which competed at Leeds in other important particulars besides their price.

Those who may read Mr. Strickland's valuable report upon the cottage competition at Leeds, in No. 24 of the Yorkshire Agricultural Society's annual Transactions, will find that the arrangements involve in every case a living room, scullery, and pantry, on the ground floor, and three bed rooms above.

In the Kirtlington cottages one of the bed rooms is on the ground floor, and there are only two on the other floor. The scullery is in a lean-to at the back of the house. The cottage, so far as the double-storied part of the house is concerned, thus includes two rooms below and two above. The upper bed rooms ventilate into the staircase passage, which is between them, and is open to the roof. The ventilator is not placed in the roof of the room itself, where it produces a cold draught, and gets stopped up in consequence: and the landing-place at the top of the stairs is so placed at the front of the house that no through draught is possible from the windows through the rooms.

There is a great advantage in having a bed room on the ground floor—in enabling a young couple to keep the old people at home—who are thus made useful in taking care of the children, and at the same time are themselves cared for by their own family. The ground floor bed room is also especially useful in the case of an invalid, who can be tended with less labour, and with more constant watching and attention. Each block of two carriages has an out-house, comprising an oven and bake-house in common, separate ash-pits, &c.

There are many other details which deserve examination, and render the Kirtlington cottages worthy examples. But it is more especially to their influence as an example of estate management—in the interests of tenant and labourer—that we have thus taken the liberty of calling attention to what Sir Henry Dashwood is about. *Oxford Journal.*

## Home Correspondence.

*Steam Cultivation.*—I was unfortunately prevented attending the meeting at Worcester, reported in your last issue, for the purpose of establishing a Company for the promotion of steam cultivation in the county of Worcester; some reference being then made by Lord Northwick to the General Steam Cultivation Company, of Cannon Street West, London, and to myself, as Secretary to the same, you will perhaps kindly allow me space for a word or two on the subject. In the first place allow me to state the objects of the Steam Cultivation Company. They are two: first it is proposed to supply farmers with the costly machinery now used, allowing them to repay the purchase-money by annual instalments extending over a specified number of years; second, it is proposed that the Company should work for hire wherever districts of sufficient extent shall be guaranteed. The first prospectus was issued in May last, and although we have been favoured with considerable support, the Directors are not yet in a position to commence business. This is the more to be regretted, because we are now on the eve of the most important period of the year for steam cultivation, and applications for machinery, to which a negative reply has to be given, are coming in from all parts of the land. Whether that steam cultivation has not sufficiently recommended itself to capitalists, or that a company formed to promote it smacks too much or too little of speculation, I know not; the fact is that the shares are not taken up quite so readily as was expected, and we yet want 2000 additional shares (10*l*. each) to be subscribed for before it will be prudent to send out one set of tackle. Had I been at Worcester I should have proposed that instead of establishing a new local company, hearty support should be given to the "general company" already established by landowners and gentlemen anxious to stimulate the progress of agriculture in this country. The operations of the one will prove so much more extensive than those of the other, and in so far as these small companies working for hire choose the most hazardous and least profitable part of the business, and leave the part of a loan company to us, which will be the most remunerative and safe to shareholders, and in the end the most beneficial to the country, we really possess the greatest claim to public support. We propose to do all that can be done by the Worcester Company, and 10 times more. I cannot but think that when once the General Steam Cultivation Company is at work the farmers of Worcestershire will be very much better served by it than by their own little company with its tiny capital, should that ever get into operation. Although I consider it is better to concentrate rather than to diffuse our strength at the present juncture, and to organise one efficient company rather than several feeble ones, I yet regard the establishment of such associations as that just formed at Worcester, as likely to prepare the way for our own operations. They will do much to familiarise the agricultural mind with the use of steam in tillage operations. It will generally occur that those men who become acquainted with steam apparatus by hiring it, will not rest satisfied until they possess machinery of their own, simply because of the difficulty they will experience in getting the plough or cultivator when they want it; and then they will be ripe to do business with the London Company. We should only regard contracting to work per acre in the light of a disagreeable necessity. It would, in fact, be our "leading article," by which we might perhaps calculate to lose something, though in the end, if it acted as a provocative to the desire of tenant farmers to possess machinery of their own, of course we should be the gainers by employing it as a lure. It will suit our purpose exceedingly well, therefore, if the county companies will take the risky part of the business off our hands, and leave us to supply to the farmers such tackle as they may set their minds upon. I write as a practical farmer in the interest of practical farmers, and though I deny to these associations the power to perform the duties contemplated by the larger one, I freely admit that they may divert attention from a great central effort, and to some extent retard the benefits to be derived from it. *Howard Reed, Secretary, Hendon.*

*The Harvest.*—Let us one and all return humble thanks to the Giver of all good for a bountiful harvest. Let us farmers each and every one take especial care to reserve a sufficient portion of it for ourselves, and for our labourers, who are the producers, and deserve at least a share of it for our subsistence, in order that we may not be obliged, as we were last year and heretofore, to purchase flour and bread of inferior quality made from foreign rubbish principally, at a dear rate, after selling our own in our depressed markets at too unremunerative a price than supply and demand actually required. This season, be it known to all, Wheat is superlatively fine, and of full weight, as are other cereals and Pulse. Let the labourers' wives and their families, and the still poorer classes, take care to glean all they possibly can before it is spoiled, where they are permitted so to do, and it is hoped that is everywhere; it can be well disposed of by them in the winter. Even the peckling, be it observed, which the vexatious birds are too often allowed to peck up and destroy, is this year very good, the smallest ears being more productive with plump corn than the largest were last year. Let the masses and consumers at large plead against being charged an exorbitant price for their flour and bread, so unequal to the current market value of Wheat. They are all equally interested. The price of flour and bread, and "offal," is and always was so unequal (with the exception of the latter, however, which is now solely caused to be dear by the vast amount of foreign flour brought here, not being manufactured in this country, and hence no offal arising from that source for our use, that is left behind, not paying for its freight), and it has been particularly so, even unpardonably so (for it is not right, and what is not right is not excusable) for the last few years, too unequal, and especially during 1863 to the current value of Wheat, after a fair profit had been secured for the miller and baker, and assuredly it will always be so without great circumspection on our part, till legislative measures step in to the rescue. This year merchants and millers will not have the plea to urge, that our own Wheat will not make good flour and bread without much foreign produce to mix with it. It is an undeniable fact, that our bread and puddings were last year chiefly composed of foreign rubbish (although some might be good), such as our merchants and great millers would not look at in our provincial markets, or if they did, declared sarcastically to the farmers in England, Ireland, and Scotland, that theirs of home growth was only fit for pigs, and that they might take it home for that purpose. *Fairplay.*

## Societies.

Yorkshire.—The following is the Prize List of the late agricultural show at South Stockton:—

### CATTLE.

Judges—T. Barber, Sproatley, Hull; George Bland, Coleby, Lincoln; J. Unthank, Netherscales, Penrith.

#### Shorthorns.

Old Bulls.—J. Charlesworth, Hadfield, Dewsbury (General Murat); 2d, the Earl of Zetland (Saville).

Bulls of 2 years Old.—Col. Towneley (Royal Butterfly 11th); 2d, J. R. Middleborough, South Milford.

Yearling Bulls.—R. Gell, Grimston Lodge (Master Goldschmidt); 2d, Lady Pigot (Prince Victor).

Bull Calves, upwards of 5 months old.—R. Booth, Warlaby (Prince of Battersea); 2d, Colonel Towneley (Royal Butterfly 14th).

Cows of any age.—R. Booth, Warlaby (Queen of the Ocean); 2d, R. Booth (Soldier's Bride).

Three year old Cows, in calf or milk.—J. Wood, Scarcroft (Yorkshire Rose).

Two year old Heifers, in calf, Lady Pigot (Rosedale); 2d, R. Booth (Queen of the May 2d).

Yearling Heifers.—Colonel Towneley (Frederick's Farewell); 2d, Lady Pigot (Castanira).

Heifer Calves.—Colonel Towneley (Butterfly Pageant); 2d, G. S. Foljambe, Osberton Hall.

#### Cattle of any Breed.

Cows for Dairy purposes.—J. Herring, Middlesborough (Daisy); 2d, H. Morley, Melbourne. Highly commended: J. T. Robinson, Leckby, Topcliffe, Thirsk.

Extra Stock.—R. Booth, Warlaby (Queen of the Vale).

### SHEEP.

Judges.—W. Bartholomew, Waddington House, Lincoln; J. Buckley, Normanton, Rutland; G. Leighton, Osgodby, Scarborough.

#### Leicester or Long-woolled (Not Cotswold).

Shealring Rams.—R. Stamper, Highfield House, York; 2d, J. Borton, Barton House, Malton.

Rams of any age.—J. Borton; 2d, J. Borton.

Pens of 5 Ewes.—J. Simpson, Stofforth.

Pens of 5 Shearling Wethers.—George L. Fox, Bramham Park.

Pens of 5 Shearling Gimmers.—S. Wiley, Brandsby; 2d, S. Wiley.

#### Short-woolled.

Shearling Rams.—Lord Wenlock; 2d, Lord Wenlock. Commended: Lord Wenlock.

Pens of 5 Shearling Gimmers.—T. Harris, The Chase, Ulceby; 2d, T. Harris.

#### Mountain Breeds.

Black-faced Ram of any age.—C. Smith, Westerdale, Grosmont; 2d, C. Smith.

Extra Stock.—Silver Medals to S. Wiley, Brandsby (for Leicester ram), and J. Borton, Barton (for Leicester ram). Highly commended—Lord Wenlock (for Southdown ram).

### PIGS.

Judges.—W. Bartholmew, J. Buckley, G. Leighton.

Boars of a large breed.—J. Hickman, Hull; 2d, J. Dyson, Adelphi Hotel, Leeds.

Sows, large breed, in Pig or Milk.—E. Harrison, Woodhouse, Moor, Leeds; 2d, W. B. Wainman.

Boars, small breed.—W. B. Wainman; 2d, J. Dyson.

Sows, small breed, in Pig or Milk.—J. Hickman; 2d, S. Wiley.

Boars of any breed.—W. B. Wainman; 2d, J. Graham, York Road, Leeds.

Sows of any breed, in Pig or Milk.—J. Hickman; 2d, J. Hickman.

Three Store Pigs, of any breed, and of the same litter, from 4 to 9 months old.—Lord Wenlock; 2d, Sir G. O. Wombwell, Bart., Newburgh Park.

Boars, large breed, under 12 months old.—W. Parker, Bradford.

Sows, large breed, under 12 months old.—W. B. Wainman.

Boars, small breed, under 12 months old.—Lord Wenlock.

Sows, small breed, under 12 months old.—Lord Wenlock.

### HORSES.

Judges.—For Hunters and Hacks: T. Ellbery, Whitewell Malton; C. N. Nainby, Barnoldby, Grimsby; J. Smith, Humberton, Borobridge.

For Coach and Cart Horses.—N. G. Barthropp, Hacheston, Wickham Market; J. Hodgson, Bramper, Northallerton; J. Johnston, Brigham, Driffield.

Thoroughbred Stallions for Hunters.—E. G. Simpson, Leven Bridge (Cavendish); 2d, J. Stillborn, Yapham (Cawston). Commended: Mrs. Holburn, Wolviston (Motley.)

Stallions for Coach Horses.—R. Gill, Kellfield Grange (by Pottinger), 2d, H. York, High Worsall (Yorkshire Lad).

Stallions for Roadsters.—T. A. Jackson, Quarry Gap (Young Pretender); 2d, F. Cook, Thixendale (Yorkshire Phenomenon).

Stallions for Agricultural Purposes.—J. Kirkham, South Stockton (Black Robin); 2d, J. Goldsborough, Maltby Stockton (Maltby Hero).

Mares and Foals for Hunting.—J. Batty, Bishop Monkton.

Mares and Foals for Coaching.—W. & F. Coulson, Castle Howard. Highly Commended: W. Motheraill, Breckholme, and M. Robinson, Hauxwell.

Roadster Mares and Foals.—F. Rickell, Water. Commended: R. Stevenson, Rainton.

Mares and Foals for Agricultural Purposes.—W. Proude, Kirk Hammerton. Highly Commended: S. Thompson, Skipwith.

Three-year-old Hunting Geldings.—Sir G. O. Wombwell, Newburgh Park. Highly Commended: W. Brand, Salton. Commended: T. J. Smith, The Park, Northallerton.

Three-year-old Hunting Fillies.—T. B. Maynard, Marton-le Moor.

Three-year-old Coaching Geldings.—R. Jackson, Airderby.

Three-year-old Coaching Fillies.—Mrs. Skilbeck, Swainby. Highly Commended: G. Hall, Ampleforth.

Three-year-old Hackney Fillies or Gelding.—F. C. Matthews, Driffield.

Three-year-old Geldings for Agricultural Purposes.—J. W. Pease, Woodlands.

Three-year-old Fillies for Agricultural Purposes.—Sir G. O. Wombwell, Bart.

Two-year-old Hunting Geldings or Fillies.—D. Feaham, Haughton-le-Skerne.

Two-year-old Coaching Geldings or Fillies.—J. Stephenson, Wheldrade.

Two-year-old Agricultural Geldings.—T. Elcoate, Elton.

Two-year-old Agricultural Fillies.—E. Lee, Stocksfield, Newcastle-upon-Tyne.

Yearling Hunting Geldings or Fillies.—J. Walton.

Yearling Coaching Geldings or Fillies.—W. and F. Coulson.

Pairs of Horses, of either sex, for Agricultural purposes, worked during the season.—J. W. Pease.

Four-year-old Hunting Geldings or Mares.—G. Holmes, Beverley; 2d, W. H. Clark, Hook. Highly Commended: J. Hall, Scarbro'. Commended: Sir G. O. Wombwell, Bart.

Special Prizes given by Lord Wenlock, for the best 5-year old Hunter, Mare, or Gelding, warranted sound, and to possess not less than three crosses of blood.—J. Musgrave, Pocklington (Overplus, by Augur); 2d, J. B. Booth, Killerby, Catterick (Beechwood).

Special Prizes given by Lord Londesborough for the best Hunter, Gelding or Mare, 6-years old and upwards.—R. Botterill, Garton, Driffield (Enchantress); 2d, H. Jewison, Raisthorpe (First Whip).

Special prizes given by J. Dodds, Esq., of Stockton-on-Tees, for the Best Hackney Gelding or Mare of any age, not less than 14 hands high, and qualified to carry 12 stones.—A Silver Cup, P. Kirby, North Duffield; 2d, W. H. Gaunt, Old Thornville.

Special Prizes given by the Local Committee of South Stockton-on-Tees, for the best Cleveland bay Stallion.—H York, High Worsall, Yarm (Prince of Denmark); 2d, J. Smith, Harlsey Grange, Northallerton (Prime Minister).

Special Prizes for the best Cleveland bay Brood Mare in foal or with foal at her foot.—C. Scurr, Hutton Bonville, Northallerton; 2d, J. Featherstone, Stokesly. Highly commended.—T. Rickenson, Seamer, Yarm.

Special Prizes for the best 3-year old Cleveland bay Filly.—R. Benton, Busby Grange, Northallerton; 2d, R. Easby, Ormesby, Middlesbro'.

Special Prizes for the best 2-year old Cleveland bay Filly.—R. Benton; 2d, W. Pickering, Egglescliffe, Yarm.

Special Prizes for the best Cleveland bay entire Colt.—G. Robinson, Marton, Middlesbro'; 2d, R. Brockon, Norton, Stockton

### IMPLEMENTS.

Judges.—J. Almack, Beverley; R. Kaye, Forcett Valley, Darlington; B. Riley, South Dalton; J. Wells, Booth Ferry, Howden.

#### Steam Cultivation.

The best application of steam power to the cultivation of the soil, the prize of 50*l*.—J. Fowler, Leeds and Cornhill, London.

The best application of steam-power to the cultivation of the soil, suitable for small occupations, the engine not to exceed eight-horse power, and to be adapted to work the ordinary machinery on the farm, the prize of 50*l*.—J. Fowler.

The best cultivator or drag for more than two horses, 10*l*.—

Coleman & Sons, Chelmsford; 2d, for two horses, 5*l.*—Coleman & Son.

Horse rakes, with Clover drill attached, 2*l.* 10*s.*, Spencer, Doncaster.

Pulverising Plough.—2*l.* 10*s.*, Hancock, Dudley Port.

Turnip Cutters.—2*l* 10*s.*, Hornsby & Son, Grantham.

Root Pulpers.—2*l.* 10*s.*, Hornsby & Son.

Liquid Manure Carts and brass slide.—2*l.* 10*s.*, the Trustees of W. Crosskill, Beverley.

Wire Strainer.—1*l.*, J. Rider, Leeds.

Cast-iron Pumps.—1*l.*, Blinkhorn, Shuttleworth & Co., Spalding.

Ventilators.—1*l*, Fanny Chadwick, Bury.

Chain Harrows.—1*l.*, W. C. Chambers, Bristal, Leeds.

Improvement in Plough Wheels.—1*l.*, Hornsby & Son.

Plain Rollers.—5*l*, the Darlington Implement Company.

Clod-crushing Rollers.—5*l.*, the Trustees of W. Crosskill.

Grubbers for deep working between the Ridges of Green Crops.—5*l.*, the Busby Implement Company.

Scufflers for working between the rows of Green Crops.—5*l.*, the Busby Implement Company.

Grass Mowers.—10*l.*, Ramlett, Ripon: 2d, 5*l*, H. Kearsley, Ripon. The class of mowers highly commended.

Potato Sorter.—5*l.*, Mackinder & Co., of Lincoln.

Cooking Apparatus and Gas Generator.—5*l.*, Oglesby, Dickinson & Son, York.

Scarifier.—10*l.*, divided between Coleman of Chelmsford, and Clay of Wakefield.

The Best Implement for bringing Weeds to the Surface.—5*l.*, prize withheld.

---

Morchard Bishop Reaping Match, *Aug.* 12.—The trial field is a part of Roulstone Barton, in the occupation of Mr. R. Pullman. The yield of Wheat therein was about 25 bushels per acre.

We found eight or nine reapers at work; and a very large concourse of agriculturists was assembled, some of them having come from very distant parts in the South, as well as a large number from the immediate East of Devon district, and the North of Devon generally. There was also a strong muster of the local implement makers.

Mr. Cuthbert (who, through his perfecting the reaper, of his own invention, has raised himself from a mere labourer to one of the largest farmers in Yorkshire) was in the field, with his agent, Mr. T. P. Snow, of Crediton. This machine did its work in its usual good style; and we should mention that the ground was in very good condition, there being but little weed discernible. Whilst the reaping was in the field, where the match was held, Mr. Snow took one of Cuthbert's machines into a field of Wheat which had been beaten down, belonging to Mr. Ellis, of Venn Farm, Morchard. This field presented the appearance as if a roller had passed over it. Mr. Snow soon got the reaper at work; and the Wheat was cut and delivered in a clever manner. Messrs. Burrow & Page had several of their excellent machines in the field; and, as at the Bath and West of England meeting, so to-day in the trial field at Morchard, their machines were praised for their extreme lightness of draught and delivery. They were worked with ease with one horse. The reaping executed by Mr. Page, with one of these machines, was remarkable for its very good work. Mr. Page succeeded in carrying off one of the prizes—a piece of plate—open to all England. Mr. W. Bragg, of New Buildings, near Sandford, had three machines at work in the field, which also attracted much attention—two being of side delivery construction, and one of the back delivery. The sheaf could be easily bound after the corn was delivered from the machine. These machines had also a light fan, so as to gather the Wheat towards the knife. The work they executed was unexceptionable; but, unlike Burrow & Page's machines, two horses were worked with each of Mr. Bragg's machines. However, the side delivery was warmly praised. Mr. Francis Parkin, of the Bonhay Foundry, Exeter, supplied the castings for Mr. Bragg's machines. By some accident, the eminent firm of Messrs. Picksley & Sims, of Leigh, near Manchester, were not represented—their agent, Mr. Brock, of Crediton, being too late to secure an entry. Mr. Hogg, machine maker of Upton Pyne, near Exeter, had a capital machine in the field—it had a back delivery, but it performed its work very well. This machine got through its half an acre of cutting in 20 minutes. The thorough smartness manifested in the working of Mr. Hogg's reaper is to be ascertained from the fact that the Judges awarded to it the silver cup, in the first class.

There were four classes for the competitors to enter. The first class was open to all England; and the remaining three classes were open to the agricultural labourers of the county of Devon. There were 14 entries in Class A, and more competed; six entries in Class B; five entries in Class C; and several in Class D.

The competitors in Class A were as follows:—Mr. King, of Tiverton, who managed his own reaper; Mr. William Alfred, of Sandford, who used one of Mr. Bragg's machines, of New Buildings; Mr. Robert Page, of Morchard, with a machine manufactured by Messrs. Burrow & Page; Mr. William Pope, of Morchard, working his own reaper; Mr. T. P. Snow, of Crediton, one of Cuthbert's reapers, worked by himself; Mr. Kelland, of Sandford, one of Mr. William Bragg's (New Buildings) reapers, worked by himself; Mr. William Wreford, of Morchard, one of Messrs. Burrow & Page's machines; Mr. William Clarke, of Cuddiford, with one of Mr. Hogg's (Upton Pyne) reapers; Mr. Richard Bragg, one of Mr. William Bragg's reapers.

The Judges were:—Mr. Tidboald, Sithyland, Cruwys Morchard; Mr. George Ayre, Queen Dart, Witheridge; and Mr. R. Carver, of Cleaveanger, Nymet Rowland.

The following is the Prize List:—

Class A.—Open to all England—First Prize, a handsome Silver Cup. Mr. William Clarke, Cuddiford, who used Mr. Hogg's reaper. Second Prize, a handsome Piece of Plate. Mr Robert Page, Morchard. Highly Commended: Mr. W. Pope, Morchard, and Mr. W. Alford, Sandford.—*Devon Times.*

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## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. Slatter, Streatley, near Reading.

| Day of the Week. | Day of the Month. | Barometer corrected to Freezing Point at Mean Sea Level. (At 9 A.M., Railway Time) | Thermometer: Dry Bulb. | Thermometer: Wet Bulb. | Wind: Direction. | Wind: Force, 0—6 | Amount of Cloud, 0—10. | Self-Registering Thermometers, In Shade: Max. | In Shade: Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | August 14 | 30.14 | 67 | 61 | S.E. | 3 | 5 | 77 | 57 | 93 | 53 | .. |
| Saturday .. .. | 15 | 29.89 | 70 | 66 | S.W. | 3 | 9 | 74 | 55 | 85 | 51 | .. |
| Sunday .. .. | 16 | 29.93 | 69 | 64 | S.W. | 2 | 5 | 77 | 58 | 88 | 53 | 0.13 |
| Monday .. .. | 17 | 29.81 | 66 | 58 | W. | 2 | 4 | 72 | 51 | 85 | 45 | 0.26 |
| Tuesday .. .. | 18 | 29.89 | 61 | 55 | N.W. | 3 | 9 | 68 | 51 | 80 | 41 | 0.06 |
| Wednesday .. | 19 | 30.00 | 54 | 52 | S.W. | 0 | 10 | 64 | 51 | 72 | 47 | 0.21 |
| Thursday .. .. | 20 | 30.11 | 57 | .. | N.W. | 4 | 10 | 64 | 49 | 72 | 42 | 0.12 |

19. Distant thunder in S.E. at 5 P.M.

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## Notices to Correspondents.

Grub: *W., Herts.* They are very common this year almost everywhere.

Six Months' Importation of Agricultural Produce ending 30th June, 1862 and 1863.—*N.*

| Articles. | | 1862 | 1863 |
|---|---|---|---|
| Oxen, Bulls and Cows .. | No. | 11,462 | 24,108 |
| Calves .. .. .. .. | „ | 9,459 | 11,147 |
| Sheep and Lambs .. .. | „ | 49,332 | 110,636 |
| Swine and Hogs .. .. | „ | 883 | 982 |
| Bones .. .. .. .. | Tons | 33,607 | 37,081 |
| Flax, from Russia .. .. | „ | 229,065 | 206,297 |
| „ Holland .. .. | „ | 78,486 | 83,947 |
| „ Belgium .. .. | „ | 99,305 | 87,808 |
| „ Other countries | „ | 96,745 | 88,512 |
| Guano .. .. .. .. | „ | 32,466 | 127,007 |
| Oil-seed Cakes .. .. | „ | 37,654 | 38,173 |
| Potatoes .. .. .. | cwts. | 320,551 | 837,150 |
| Provisions:—Bacon & Hams | „ | 821,960 | 1,308,199 |
| „ Beef, salt .. | „ | 135,982 | 187,505 |
| „ Pork, salt .. | „ | 135,318 | 115,661 |
| „ Butter .. .. | „ | 381,785 | 366,341 |
| „ Cheese .. | „ | 251,696 | 199,116 |
| „ Eggs .. .. | No. | 115,767,840 | 143,300,640 |
| „ Lard .. .. | cwts. | 326,870 | 318,818 |
| Seeds:—Clover .. .. | „ | 126,929 | 228,506 |
| „ Flaxseed & Linseed | qrs. | 314,896 | 402,286 |
| „ Rape .. .. | „ | 27,673 | 61,159 |
| Tallow:—Australia .. .. | cwts. | 27,501 | 33,608 |
| „ South America .. | „ | 66,438 | 39,286 |
| Wool, Sheep & Lambs' from Hanse Towns & other parts of Europe .. | lbs. | 10,423,782 | 10,879,413 |
| „ British Possessions in South Africa .. .. | „ | 3,995,637 | 6,626,777 |
| „ British East Indies .. | „ | 4,266,159 | 5,912,9[illegible]3 |
| „ Australia .. .. .. | „ | 34,309,194 | 36,683,937 |
| „ Other countries .. .. | „ | 6,700,734 | 10,581,619 |
| „ Alpaca & the Llama tribe | „ | 1,058,396 | 1,192,479 |
| „ Woollen Rags, torn up to be used as Wool .. | „ | 9,222,649 | 9,411,472 |
| Corn: Wheat from Russia .. | qrs. | 397,9[illegible]2 | 356,271 |
| „ Prussia .. .. | „ | 637,552 | 565,061 |
| „ Denmark .. .. | „ | 58,998 | 66,032 |
| „ Mecklenburgh .. | „ | 24,656 | 46,471 |
| „ Hanse Towns .. | „ | 103,644 | 39,731 |
| „ France .. .. | „ | 143,170 | 12,517 |
| „ Turkey, Wal. & Mol. | „ | 129,293 | 61,351 |
| „ Egypt .. .. | „ | 437,749 | 368,487 |
| „ United States .. | „ | 1,137,181 | 867,080 |
| „ British N. America | „ | 145,045 | 55,023 |
| „ Other Countries .. | „ | 234,350 | 51,528 |
| „ Barley .. .. | „ | 745,484 | 1,139,250 |
| „ Oats .. .. .. | „ | 620,662 | 1,291,268 |
| „ Peas .. .. .. | „ | 63,135 | 141,201 |
| „ Beans .. .. | „ | 198,823 | 133,673 |
| „ Indian Corn or Maize | „ | 1,199,71[illegible] | 1,2[illegible]7,538 |
| Wheatmeal & Flour:— | | | |
| „ Hanse Towns .. | cwts. | 108,531 | 160,518 |
| „ France .. .. | „ | 142,225 | 656,903 |
| „ United States .. | „ | 2,629,540 | 1,379,8[illegible]7 |
| „ British N. America | „ | 280,280 | 133,181 |
| „ Other Countries . | „ | 402,141 | 84,836 |
| Indian Corn Meal .. .. | cwts. | 5,967 | 6,430 |


ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—The Right Hon. the Earl Bathurst.

*Council.*

The Right Hon. The Earl Bathurst.
The Right Hon. The Earl Ducie.
The Right Hon. T. H. Sotheron Estcourt, M.P.
J. H. Langston, Esq., M.P.
Edward Holland, Esq., M.P.

*Principal*—The Rev. John Constable, M.A., Trin. Co Camb.

*Resident Professors.*

Practical Agriculture.

J. L. Fletcher, Farm Manager.
*T. Baldwin, of Glasnevin—A Course of 20 Lectures on Crops.
*R. Scott Burn, Co-editor of the Book of Farm Buildings—A Course of 12 Lectures on Agricultural Machines.

Chemistry.

Arthur H. Church, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

Assistant to Chemical Professor.

R. Warington, Jun., F.C.S.

Botany.—John Bayldon, M.B. Lond. B. Soc.

Veterinary Surgery.—A. J. Murray, M.R.C.V.S.

Mathematics and Surveying.

W. Meredith Lane, B.A., Scholar of Trin. Coll. Camb.

Drawing.—James Miller.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

Agriculture.

J. Algernon Clarke, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
Hewitt Davis, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
Captain Tanner Davy, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. Bailey Denton, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
Thomas Duckham, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
Thomas Ellman, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.
J. Chalmers Morton, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
Willoughby Wood, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.
Rev. George Wilkins, Wix Parsonage—Lecture on Tillage.
N.B. Mr. Wilkins will Lecture on February 9.

Agricultural Chemistry.

Thomas Anderson, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the Principal.

**Land Drainage, and other Agricultural Improvements.**

MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5*s.* per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

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THE CONSERVATIVE LAND SOCIETY.—Share Department, 5 per cent. per annum. Deposit Department, 4 per cent. ditto. The interest warrants issued half-yearly, and withdrawals at fixed periods, according to the amounts, large or small.

No partnership liability; and the taking of land is entirely optional.

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THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853. 2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Estate Agents, Surveyors, &c. in England and Wales and in Scotland.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable William Napier, Managing Director, 2, Old Palace Yard, Westminster, S.W.

WILLIAM HASTINGS, Horticultural Builder and Hotwater Apparatus Manufacturer, 235, Old Kent Road, London, S.E. (For many years with Weeks & Co.) W. H.'s long experience in the above Business enables him to Erect and Heat Hothouses and other Buildings in the most approved style at greatly reduced prices.

REGISTRY OFFICE for GARDENERS.

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H. FREEMAN'S Horticultural Works, Triangle, Hackney, London, N.E., established 20 years.—Good substantially made GREENHOUSES, glazed, ready for fixing, 42 feet by 13 feet, 50*l.*; 21 by 13, 28*l.*; 12½ by 10, 15*l.* Orchard Houses 10 per cent. cheaper. A large assortment kept. Estimates given for Heating or any branch in Iron or Wood.

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HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

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| WHITE ... ... ... | Per cwt. 30s. | BRIGHT RED ... ... | Per cwt. 26s. |
| LIGHT STONE | | DARK DO. (or BRICK COLOR) | |
| BATH DO. ... ... ... | | CHOCOLATE COLOR ... ... | |
| CREAM COLOR ... ... | | BLACK ... ... ... | |
| LIGHT PORTLAND STONE ... | | | |
| DRAB OR PORTLAND DO. ... | 26s. | BRIGHT GREEN ... ... | 44s. |
| LIGHT and DARK OAK ... | | DEEP GREEN ... ... | |
| LEAD COLOR ... ... ... | | BLUE ... ... ... | |

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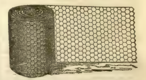

BARNARD, BISHOP, & BARNARDS beg to inform their friends and the public that they have made a further reduction in the prices of Machine-made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard. |
|---|---|---|---|
| 2-inch mesh, 24 inches wide .. | No. 19 .. | 4½d. .. | 3¼d. |
| 2-inch " " " .. | " 18 .. | 5 .. | 4 |
| 2-inch " " " .. | " 17 .. | 6½ .. | 5 |
| 2-inch " " " .. | " 16 .. | 8 .. | 6¼ |
| 1⅝-inch " " " .. | " 19 .. | 4⅞ .. | 4 |
| 1⅝-inch " " " .. | " 18 .. | 6 .. | 4½ |
| 1⅝-inch " " " .. | " 17 .. | 7 .. | 5¼ |
| 1⅝-inch " " " .. | " 16 .. | 9 .. | 7 |

All the above kinds can be made any width (under 6 feet), at proportionate prices.

Strong Galvanised Poultry Netting, 7½d. per yard, 3 feet wide, Galvanised Sparrow-proof Netting for Pheasantries, 11d. per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.

Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies.

Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10d. per yard.

The same with Galvanised Wire Rope, 1s. per yard.

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# WARNERS' IMPROVED PATENT,

NOW FITTED WITH AN AIR VESSEL,

IS THE ONLY

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**at £2 2s.**

THAT

THROWS A CONSTANT STREAM.

May be obtained of any Ironmonger or Seedsman at the above price, or of

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JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

| | |
|---|---|
| 10 gallons .. .. | £2 15 0 |
| 16 " .. .. | 3 15 0 |
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Larger sizes may be had in either Wood or Iron.

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WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | |
|---|---|
| 35 gallons .. | £2 10 0 |
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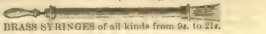

BRASS SYRINGES of all kinds from 9s. to 21s.

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WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 5 feet Flexible Suction Pipe,

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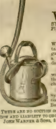

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

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LYCASTE SKINNERI | CATTLEYA MOSSIÆ
CATTLEYA SUPERBA
GALEANDRA DEVONIANA, a choice and rare plant, finest of the genus.

Prices on application.

Paradise and Victoria Nurseries, Holloway, London, N.

**Choice Seeds.**

B. S. WILLIAMS begs to offer First-class quality of the undermentioned SEEDS ;—

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| PRIMULA SINENSIS FIMBRIATA, Red, White, or Mixed .. .. .. .. | 2s. 6d. | 3s. 6d. |
| CALCEOLARIA, herbaceous .. .. .. | 1 6 | 2 6 |
| CINERARIA, from choice named flowers ,, | 1 6 | 2 6 |
| PANSY, very choice .. .. .. ,, | 0 6 | 1 0 |

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B. S. WILLIAMS invites inspection of his large and well-assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, amongst which are some very fine specimens.

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A NEW GENERAL PLANT CATALOGUE, containing Select Lists of Choice Exotic Orchids, Ferns, Stove and Greenhouse Plants, Indian Azaleas, Variegated and Ornamental Foliaged Plants, Fuchsias, Pelargoniums, Rhododendrons, Verbenas, Petunias, Phloxes, Cinerarias, Chrysanthemums, Hardy Variegated Plants, Herbaceous and Alpine Plants, Roses, Hardy Trees and Shrubs, Fruit Trees, &c.

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JOHN KEYNES, Castle Street Nursery, Salisbury, can supply some thousands of the above, well-established Plants in pots, comprising the very best varieties of the NEW ROSES of 1863, at 36s. per dozen. The usual discount to the Trade. To amateurs such plants are invaluable; they can be planted at once and will produce fine bloom next season, as time will be given them to draw fresh root.

CATALOGUES, with full description, containing all the leading flowers, both old and new, will be forwarded on application.

John Keynes' STANDARD and DWARF ROSES for the Autumn are in the finest condition.

The stock of ROSES of 1862, comprising Charles Lefebvre, François Lacharme, &c., both Standards and Dwarfs, cannot be surpassed. Salisbury.—Aug. 29.

CHEAP HARDY CLIMBERS.—The following in strong plants in pots, hamper included, and carriage paid to London, for 20s. :—

6 CHOICE HONEYSUCKLES (sorts)
6 ,, ROSES ,,
4 ,, IVIES ,,
2 ,, PASSION FLOWERS ,,
2 ,, CLEMATIS ,,
2 ,, JASMINUMS ,,
1 ,, CHIMONANTHUS FRAGRANS
1 ,, VINCA ELEGANTISSIMA

Post Office Orders on Castle Hedingham,

Wm. Dillistone, Munro Nursery, Sible Hedingham, Essex.

NEW BEDDING PLANTS, now to be seen on trial at the Wellington Nursery, St. John's Wood, N.W.

Strong plants of all the best new Bedding Plants of the season at reduced prices.

COLEUS ATROPURPUREUS, 1s. 6d. each,
NEW WHITE MULE PINK, 2s. 6d.
CARNATION-STRIPED MULE PINK, 2s. 6d.
LIGULARIA KŒMPFERI ARGENTEA VARIEGATA, 10s. 6d.
SOLANUM CAPSICASTRUM FOLIA VARIEGATA, 2s. 6d.
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FORTUNE'S seven NEW JAPAN CHRYSANTHEMUMS, strong plants to bloom, the set, 10s. 6d.
LONICERA BRACHYPODA AUREO-RETICULATA, 9s., 12s., and 18s. per dozen.
IMATOPHYLLUM MINIATUM, 5s., 12s. and 10s. 6d. each.
DEUTZIA CRENATA, double, rose-coloured flowers, 10s. 6d.
BEST BEDDING GERANIUM of the season, MADAME RUDERSDORFF, 2s. 6d, 3s. 6d.
DOUBLE CHINESE FRINGED PRIMULAS, with rich brilliant crimson flowers; also the beautiful FERN-LEAVED VARIETIES of Fringed Primulas.

See the NEW BULB CATALOGUE just published.

NEW PLANTS, CHEAP.—The Advertiser having this season purchased and proved all the New Kinds of the undermentioned Plants, which are now in bloom, he begs to offer from his extensive collection such, and only such, as are worthy of being added to the most beautiful kinds now in cultivation. Purchasers leaving the selection to W. D. may rely upon receiving real good plants of the most approved kinds :—

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| NEW ANTIRRHINUMS .. .. .. .. | per doz. | 4 | 0 |
| ,, FUCHSIAS .. .. .. .. .. | ,, | 6 | 0 |
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| ,, TROPÆOLUMS .. .. .. .. | ,, | 6 | 0 |
| ,, GERANIUMS .. .. .. . | ,, | 12 | 0 |
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| ,, LANTANAS .. .. .. .. .. | ,, | 9 | 0 |
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| ,, LONICERA AUREO-RETICULATA.. 6s., 9s., and | | 12 | 0 |
| ,, ECHIVERIA METALLICA .. .. .. | each | 1 | 6 |
| ,, SOLANUM CAPSICASTRUM, fol. var. .. | ,, | 1 | 0 |
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| ,, PANSY "GOOD GRACIOUS," .. | per doz. | 9 | 0 |
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## SORTS RECOMMENDED BY SUTTON & SONS.

The undermentioned HYACINTHS are fresh Imported Bulbs, and being all free blooming kinds, will be found most suitable either for Forcing or for Exhibition.

**Price 9s. per dozen.**

RED, of Various Shades.

GENERAL ZEITHEN, light red, dark stripe,
BOUQUET TENDRE, deep red, fine truss.
PANORAMA, red, dark eye, very double.
ACTEUR, deep rose, very double.
GROOT VOORST, fine blush, large truss.
REGINA VICTORIA, salmon rose, large bells, good truss.
L'UNIQUE, purple mauve, very distinct.
L'AMI DU CŒUR, dark red, moderate truss.
NORMA, delicate waxy pink, large bells.

BLUE, of Various Shades.

BRIDE of LAMMERMOOR, bright blue.
DUC DE NORMANDIE, fine dark blue.
LORD WELLINGTON, dark porcelain, good truss.
PRINCE of SAXE-WEIMER, dark purple, large flower.
BLOCKSBERG, light blue, striped, large bells.
MIGNONNE DE DRYFHOUT, large bells, porcelain.
BLEU MORESQUE, purple lilac, compact truss.
CHARLES DICKENS, porcelain blue, shaded with purple, large flower.

BLUE, of Various Shades (Continuation).

EMICUS, dark blue, with white eye.
GRANDE VIDETTE, clear porcelain, large bells, splendid truss.
NIMROD, fine light porcelain, close truss, dwarf.
PORCELAIN SCEPTRE, bright porcelain, fine truss.

WHITE, of Various Shades.

ANNA MARIA, purple eye, very double and compact.
MISS KITTY, blush white, dark eye.
PASSE VIRGO, rosy eye, large truss.
PENELOPE, large flower with pink eye.
LA TOUR D'AUVERGNE, fine pure white.
GRAND VAINQUEUR, pure white, very fine truss.
VOLTAIRE, creamy white, fine, large truss.

YELLOW, of Various Shades.

BOUQUET D'ORANGE, reddish orange, dwarf habit.
FLEUR D'OR, deep canary yellow, close truss.
HEROINE, bright citron tipped with green.

The NEW GARDEN SEEDS for EARLY SOWING will shortly be ready.

*All Goods Carriage Free, except very small Parcels.*

SUTTON & SONS, ROYAL BERKSHIRE SEED ESTABLISHMENT, READING.

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## JAMES VEITCH,

ROYAL EXOTIC NURSERY, CHELSEA, S.W.,

BEGS TO ANNOUNCE THAT HE HAS RECEIVED HIS

**ANNUAL SUPPLY OF BULBOUS ROOTS FROM HOLLAND,**

and is pleased to say that they are in excellent condition.

CATALOGUES are now ready, and will be forwarded post free on application.

J. V. desires to impress upon those who patronise him the great advantage of giving him their orders early, as the successful Cultivation of Bulbs depends in a great measure upon their being planted early in the season.—August 29.

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## YOUELL & CO.

Beg to offer this season strong FLOWERING BULBS of the above at 3s. per dozen, 20s. per 100.

Trade price on application, and when quantities are ordered a considerable reduction will be made.

The *Gardeners' Chronicle* speaks of it thus:—"It cannot be spoken of in terms of exaggeration; the robust habit and intensely bright scarlet flowers place it at the head of all the hardy flowers of the autumn." And again, "The spikes you have sent us are magnificent. We have as yet seen nothing of the kind so handsome near London. It is undoubtedly the most showy of the whole race of Gladioli."

CATALOGUES of their extensive Collection will be forwarded on application.

ROYAL NURSERIES, GREAT YARMOUTH.

# EXHIBITION OF CHOICE GLADIOLUS.

## YOUELL & CO.'S

COLLECTION of the above, extending over Three Acres, is NOW in BLOOM, and will continue some weeks.

The First Prize was awarded them at the Crystal Palace, Open to All England and the Continent.

The First Prize was awarded to Youell & Co. by the Royal Horticultural Society on Wednesday, Sept. 10, for best Collection of 24 Single Spikes; and the First Prize for the best 12 Spikes of Brenchleyensis colour.

We supply them at the following prices:—

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| No. 1 Collection contains 100 Bulbs, in 50 of the most choice and handsome kinds, with names ... ... ... ... ... ... ... ... ... ... | £5 | 0 | 0 |
| No. 2 Collection contains 100 Bulbs, in 30 ditto ditto ... ... | 3 | 15 | 0 |
| No. 3 Collection contains 100 Bulbs, in 25 ditto ditto ... ... | 2 | 10 | 0 |

*Fine Selections will be supplied at 6s., 9s., 12s., 18s., to 30s. per dozen.*

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ROYAL NURSERIES, GREAT YARMOUTH.

CALCEOLARIA, CINERARIA, PRIMULA, &c.— CALCEOLARIA, saved from carefully hybridised flowers, possessing all the recognised floral qualifications, viz., size, form, colours, and marking. Price, 1s. and 2s. 6d. per packet. CINERARIA, extra choice, 1s. per packet. PRIMULA SINENSIS FIMBRIATA, extra choice, 1s. and 2s. 6d. per packet. DRACÆNA (CORDYLINE) INDIVISA, from Mount Egmont, New Zealand; beautiful fine foliaged plant, 1s. and 2s. 6d. per packet.

Butler & McCulloch, Seed Merchants, Covent Garden Market, London, W.C.

Sow in August.

DOBSON'S PRIZE CALCEOLARIA. The most varied and beautiful strain imaginable. In sealed packets, 1s. 6d., 2s. 6d., 3s. 6d., and 5s.

Sow in August.

DOBSON'S PRIZE CINERARIA. A splendid strain. Received 10 first prizes in 1862. In sealed packets, 1s., 2s. 6d., and 5s.

Sow in August.

DOBSON'S PRIZE PRIMULA SINENSIS FIMBRIATA. From finely fringed Flowers. In sealed packets, 1s., 2s. 6d., and 5s. The above Seeds are unequalled for quality.

J. Dobson & Sons, Woodlands Nursery, Isleworth, W.

OUVIRANDRA BERNERIANA.— Having succeeded in raising a few Seedlings of this extremely curious and beautiful plant, we beg to offer healthy young plants of six or seven leaves at 31s. 6d. each.

O. Berneriana was exhibited at the Great Show of the Royal Horticultural Society, June 17th, and awarded the First Prize; and at the Great Show of the Royal Botanic Society, June 24th, and then also awarded the First Prize.

Thomas Jackson & Son, Nurseries, Kingston, S.W.

T. LOCKHART, Florist, North End, Fulham, S.W., begs to offer his best Collection of 100 EARLY TULIPS in 25 sorts for 25s., Carriage paid. Early DUC VAN THOLL TULIPS, per dozen, 8d.; DOUBLE TOURNESOL do., 1s.; YELLOW CROCUS, per 100, 2s. Postage Stamps taken in payment.

Rhododendrons.

Crimson, White, Purple, and Scarlet.

CHARLES NOBLE has RECEIVED the AWARD of the Royal Horticultural Society as under FOR RHODODENDRONS.

FIRST PRIZE, 1861.

FIRST PRIZE, 1862.

FIRST PRIZE, 1863.

CATALOGUES are now ready, and a stock of Plants in the most perfect health, of all sizes, and at prices to suit all purposes.

Sunningdale Nursery, S.W. Rail.

# The Gardeners' Chronicle.

*SATURDAY, AUGUST* 29, 1863.

MEETING FOR THE ENSUING WEEK.

Tuesday, Sept. 1, Wednesday, — 2 } Crystal Palace Autumn Exhibition.

If there remained any lingering doubts regarding the perfect success of the system of cool treatment as applied to Orchids, they would have been finally set at rest by the beautiful specimen of Epidendrum vitellinum exhibited by Mr. Bateman on Tuesday last at the meeting of the Floral Committee of the Horticultural Society. This specimen—which was growing in a small pot —carried four spikes, each of them bearing more flowers than either of those represented in the figure of the species published twenty years ago in the "Sertum Orchidaceum," and which, though avowedly prepared from dried specimens, was received with no small measure of incredulity by the "growers" of that day, who were unacquainted with the plant, except as it presented itself under *hot* treatment. Yet in the letterpress that accompanied the figure, the true principles for cultivating this and all other cool-country Orchids were laid down distinctly enough; and it may rank as one of the greatest marvels of horticulture that until the last few years no one has ever thought of applying them.

As Mr. Bateman, in an interesting paper that accompanied the specimen, referred to the passage in question, we may be permitted to reproduce it here, especially as what is said of Epidendrum vitellinum applies equally to hundreds of brilliant Orchids that affect the same or analogous habitats.

"Epidendrum vitellinum is undoubtedly the handsomest of its genus when it is in a state of perfect health, a condition in which no one has yet seen it in this country. Let us hope that the accompanying representation, taken from specimens gathered by Mr. Hartweg on the Cumbre of Totontepeque at 9000 feet above the sea, and in which nothing is in the smallest degree exaggerated, will rouse the possessors of it to exertion, and induce them to give it the care to which its singular merits entitle it. In what is known of its habits in its native country we possess the key to its proper management, and the explanation of any failure that has accompanied its cultivation up to the present time. It is strictly speaking an Alpine plant, rooting among Lichens, Jungermannias, and other inhabitants of a cool moist climate, and never exposed on the one hand to a higher temperature than 75°, nor on the other to one lower than 45°; but undoubtedly in its season of rest enduring so small an amount of heat as that. Indeed, the circumstance mentioned by Humboldt that at the elevation of 9000 feet on the mountains of Mexico there are found Dog Roses and Strawberries mixed with Pepperworts (Peperomia), and the Manita (Cheirostemon platanoides), indicates with some accuracy the kind of climate enjoyed by Epidendrum vitellinum." *Sertum Orchidaceum*, sub t. xlv.

Had the hint conveyed in the above passage been only taken at the time it was given, we should ere this have seen more houses dedicated to the culture of Orchids from cool countries than are now filled with such of their family as either require or endure an almost intolerable amount of heat. It is the expense and discomfort of maintaining the latter that has hitherto kept Orchid growing in comparatively few hands; but since it is at length demonstrated that some of the most beautiful of the family will flourish in an artificial climate that is easily attainable and perfectly enjoyable at all seasons of the year, Orchidomania in a new phase is certain to prevail more extensively than ever! And let nurserymen bestir themselves, and obtain for us again all the Odontoglossums, Telipogons, Masdevallias, &c., that we have hitherto lost as fast as we received them, besides a host of other glorious things from Mexico and Peru that have never been received at all.

The new report of the Acclimatisation Society is before us, and a very satisfactory report it is.

At the last Annual Meeting, the constitution of the Society was as follows:—Life Members, 24; Annual Subscribers, 48; Total, 72. At the present time, the Society consists of Life Members, 46; Annual Subscribers, 139; Total, 185. "Showing a clear increase during the year of more than 135 per cent. upon the number of subscribing Members. So considerable an addition to the ranks of the Society cannot be regarded otherwise than as a proof that its efforts are appreciated by the Public." The Report adds that the working of the Society has been carried on with due regard to economy, and that, in addition to the property in live stock now in hand, and to a sum of 150*l*. now being expended in Australia, and of an unascertained balance on account of Chinese sheep, there is a balance at the bankers of 488*l*.

What most concerns the readers of our *Chronicle* is that part of the report which relates to cultivation. Of the Chinese Yam (*Dioscorea Batatas*) little new is said. With some it succeeds, with others it fails; that is to say in suitable soil, with proper treatment, and an expert cook, it answers every expectation; in the absence of those conditions it fails, all which gardeners knew before. More interest attaches to other matters. A plant called *Brazilian Arum* (whatever that may be) is favourably spoken of.

"The Council, not having received a single unfavourable report with regard to the Arum, feels itself warranted in pronouncing this experiment to be decidedly successful. Members who have cultivated this plant should bear in mind that the mode of preparing it for use is identical with that which is used in the case of Potato Starch. They should, however, bear in mind Mr. Martin's caution as to the acridity of the juice and his directions for obviating the same."

Then we are told of a sort of Kidney Bean, called *Dolichos unguiculatus*, or Hook-podded Pea, and *Phaseolus limensis*, or Lima Bean (supplied by Governor Darling, of Jamaica), which have not been successful, "the wet and cold season of last year being obviously inimical to the success of any importation from such a climate as Jamaica."

Lastly, seeds of a sort of *North American Fescue*, called *Bunch Grass*, are ready to be distributed. Of this plant Burton (in his "City of the Saints") gives the following account:—"This invaluable provision of Nature is first found, I believe, about 50 miles westward of the meridian of Fort Laramie, and it extends to the eastern slope of the Sierra Nevada. The Festuca is a real boon to the land, which without it could hardly be traversed by cattle. It grows in clumps, as its name denotes, upon the most unlikely ground—the thirsty sand and the stony hills; in fact it thrives upon the poorest soil. In autumn, about September, when all other Grasses turn to hay, and their nutriment is washed out by the autumnal rains, the Bunch Grass, after shedding its seed, begins to put forth a green shoot within an apparently withered sheath. It remains juicy and nutritious like winter-Wheat in April under snow, and contrary to the rule of the Gramineæ, it pays the debt of Nature, drying and dying about May; yet even when in its corpse-like state, a light yellow straw, it contains abundant and highly flavoured nutriment. I brought back with me a small packet of the Bunch Grass seed, in the hope that it may be acclimatised; the sandy lands about Aldershot, for instance, would be admirably fitted for its growth. Fort Laramie is on the River Platte, North America, latitude above 42 N., longitude 105 W., and must be 4000 or 5000 feet above the sea."

—— Some reformation seems to be needed in the manner usually adopted in showing Seedling Hollyhocks, at least when the object is to secure an award which shall stamp the character of the variety as an exhibition flower. Though not an universal, it has become a very common custom to exhibit only single blooms, arranged in stands like those of the Dahlia. Now, although this plan may lead to a result approximately correct, it is evident that it does not afford a complete test of merit in the case of a flower in which the blossoms naturally grow in an aggregated manner, and must therefore be viewed as part of a compound inflorescence, not as being complete in themselves. It cannot be overlooked that while the scrutiny is confined to three or even six blossoms (these being the numbers usually required), it may be comparatively easy to find the requisite number of good samples, and yet that the rest of the spike may, either wholly or in part, be made up of more or less inferior blossoms. Even if this is not the case, and the individual flowers are of general good quality, yet as the beauty of a Hollyhock in the garden depends greatly on the nature and proportions of the flower-spike, and as the spike, or a portion of it at least, is demanded on the exhibition stage, it requires no argument to show that the character of the spike itself, in a new variety, should, before an award is made, be subject to the same scrutiny as that of the separate flowers. Now, therefore, that the varieties of Hollyhock are plentiful, and well advanced towards perfection, our floral tribunals should take care to make an imperative rule in favour of spike-showing, and at once discountenance the practice of adjudicating upon separate blooms.

It might seem an obstacle to the adoption of the plan of spike-showing, that it would occasion the destruction of a fine specimen which might be required for seeding; but the objection has not in reality the force which appears to attach to it at first sight. And for this reason. No Hollyhock ought to be put forward for honours till it has been proved, for at least one season; and of a seedling which has sufficient promise to be worth proving, the grower ought to have in a general way and barring accidents, a sufficient number of plants to be able to spare one spike without regret. But independently of all this, an exhibitor of novelties produced for the express object of winning Certificates of Merit, is laying himself out to reap an advantage, and is therefore bound to comply with any reasonable conditions that may be imposed. He has moreover no just ground of complaint if, as varieties increase and merit advances, he finds the conditions of exhibition made more and more stringent. Therefore, we say, he must not complain if required to produce his seedling Hollyhocks in their natural state: that is in the spike, instead of plucked from the stem.

The only real objection to spike-showing lies in the greater difficulty attending the removal from place to place of spikes of bloom, as compared with that of boxes of separate blooms; but as this circumstance, together with the qualm that might sometimes be felt at the sacrifice of a handsome spike, would probably have a potent influence in the direction of keeping mediocrities and inferiorities at home—which is the proper place for them—we are not inclined to attach any great weight to the objection.

## BASKET GARDENS.

There is one sort of arrangement for the flower garden which belongs, I think, quite by right to ladies; for it is so well adapted to the smallest garden, gives so much room for the display of taste, and last, not least, brings their proceedings so perfectly into hand.

When, for instance, we are the unhappy owners of gardens with bad soil, or gardens with soil precisely opposed in nature to that required by the plants that we want to grow, or when there is some empty space which we desire effectively to enliven without a great deal of labour, the invention of flower baskets or of raised beds for the plants becomes an amazing help; while the original cost of such things is very soon repaid by the saving that they effect in respect to soil and plants and labour. I have myself been always very fond of these basket beds or gigantic vases—beds, that is, edged with rustic work or with a deep stone kerbing; and now that the season is auspicious for reconsidering our plans for filling such ornaments with the various

flowers suitable, I hope to be allowed to say a few words about them.

One of the great advantages of raised beds or baskets is that they generally produce so much effect in proportion to their size. The fact of their being raised of course makes them so very much more conspicuous; and, for instance, in one of our miserable hopeless town gardens, what should there be to hinder our having a raised centre bed surrounded with stone moulding, or one even made of any tile or wood work?

I have seen banks of turf, too, produce a most charming effect of greenness and of verdure, though these are only suitable to use in country places, where turf grows really well and looks always green.

Placed upon gravel, or in a balcony, or used for the centre of a conservatory, stone or tiles are doubtless the materials that will be found most suitable on account of their cleanliness, and of their being thus so easily kept in order; but for a garden on Grass, or for a very rustic balcony, a particularly pretty kind of stand is made of sticks with the bark on, nailed to the sides of a strong board, and simply crossed—each pair being tied, nailed, or wired together in the middle. Few shapes look prettier than the plain oval, about half as wide as long, and this is well supported by two rustic posts. For all such open baskets a lining of turf, green side out, looks very nice indeed, or some people make patterns with the cones of Pines and Pinasters, which are very neat. Such things are also pretty made of slices of wood, so to say, fitted in closely and roughly polished. Paint however generally looks bad, and green paint worst of all.

My hints, then, will refer to circular or other centre beds for gardens and for conservatories, long boxes and stands for balconies or roofs, and window gardens made in boxes and supported on brackets from outside—all the following remarks applying to one just as well as to another, except that for the balconies and windows, boxes of tiles or wood are better than those of stone, and the turf, I fear, cannot be so well used in the very close parts of towns.

Two particularly charming gardens that I recollect in this style, have left on me the impression of nothing at all but Roses, Geraniums, and the scent of Heliotrope. One was in the country, and laid out on turf; the other in a town, on gravel, and with a sort of turf wall to everything. This latter occupied a sort of little terrace of a circular form, planted by the house, the windows of which opened on it; and it was near these windows that the white pillar Roses grew with such luxuriance. The centre was occupied with one immense raised bed of Tom Thumb Geranium, in most perfect keeping; and the wall which in part surrounded the charming little terrace was made of turf, filled all along the top with the most densely growing plants of the same Geranium, while smaller beds of Heliotropes gave their scent to everything. The centre bed must have been very large, quite 14 feet across; and there was not one break or inequality in the beautifully rounded surface. It had the sun all day, but in the evening, as soon as its rays were off, underwent a most thorough soaking. The other garden was on turf, and there was also a sort of bank or wall of turf, about 3 feet high, which entirely surrounded it, a most brilliant parterre being thus quite enclosed in green. The shape being square the beds here were formed in double cubes, which gave a curious air of quaintness and formality, and was a good arrangement for surrounding a square old-fashioned sun-dial, with a quantity of white Clematis trailing all about it.

Another such garden filled the site of an old pond; but there the baskets were only accessories. In all such places they are, however particularly pretty, and are very suitably formed of split posts driven into the ground close to one another, so as to form a sort of rough rustic wall.

For all these kinds of baskets or raised beds it is of immense importance to choose the freely growing and profusely flowering plants, such as will rapidly fill and overflow the baskets. Even such things as Nasturtiums, Canary-flowers, Convolvuluses, Calystegias, or Cobœas are excessively useful here. Finer plants can readily be put in, but we must have something to give graceful leafage, and all those just-named can well be brought on planted in pots in shelter, till they have grown large enough to make some display. The choice of plants for these purposes indeed is very great, for while many kinds flower much better for having their roots in some degree confined by the pots they grow in, those which do need more room can also root down readily into the bed of soil.

In the case of plants which suffer from long-continued dryness, it is a most easy and useful plan to lay at the bottom of the bed or basket, a thick layer of moss, in which most roots luxuriate, and whence they can draw much moisture. The bottom of the bed, if it is not raised, may be lined with bricks or stones, or coal ashes rammed hard, to prevent the nuisance of earth-worms getting in. This bed will require to be periodically filled and emptied, just as in the case of a basket. The soil taken out will often do to use again in another place when well aired and turned; but when the quantity is reduced to that which will simply fill even a good large bed, the expense attending an entire change is made extremely trifling. I have heard that sand and cocoa-fibre mixed is a good kind of compost for beds of this sort; but this I cannot answer for. The best soil I ever knew for all kinds of flowers was got from the bottom of a deep sort of copse or ash bed, where leaves and turf and roots must have for long accumulated. It was sought for American plants, but Roses and Geraniums throve in it also wonderfully. The soil, however, can be varied infinitely. *E. A. M.*

*(To be continued.)*

## THE CULTIVATION OF TROPICAL ORCHIDS IN THE OPEN AIR IN SUMMER.

BY M. FRANÇOIS JOSST, HEAD GARDENER AT TETSCHEN IN BOHEMIA.

THE following mode of cultivating Orchids has been attended with considerable success for several years; and as no account of any similar treatment has, so far as I know, appeared in print, I am induced to publish it.

I have been now for more than 22 years head gardener to Count Thun Hohenstein, at Tetschen. When I first entered his service I found 40 tropical Orchids cultivated in his garden. There are now 662 species or varieties in cultivation there, forming the richest collection in Austria. The success of my plan is demonstrated by the fact that from 40 to 50 species or varieties are in flower in every month of the year.

In 1852 I observed that some of the species did not flower well; and it then occurred to me to place them in the open air in the early part of July. The plants which I put out were Brasavola glauca, Cymbidium marginatum, Cypripedium insigne, Dendrobium Pringianum, D. speciosum, and Lycaste Skinneri. They grew perfectly, although in the morning the temperature was sometimes as low as 5° Reaumur, (43° Fahr.) In the daytime the heat in the shade was often as high as 30° Reaumur, (99½° Fahr.)

Tetschen is subject to frequent changes of temperature; it is surrounded by mountains, and is in a valley along which the Elbe flows after receiving all the waters of Bohemia.

I took the plants in at the end of August. After a short time flower-buds made their appearance, and a little while afterwards flowers followed in perfection.

This good result led me to try the same experiment again on a larger scale; and I have since repeated it every year, until I am now in the habit of putting 75 species or varieties out into the air for three months in the year, viz., June, July, and August.

What I do is this: I select a half-shady place, where I put some trunks of trees (Oaks), on which I place my baskets of Orchids. Between the trunks I plant Ferns, some Philodendron pertusum, Tradescantia zebrina and viridis, and Cissus marmorea, so as to produce a pretty effect. In order to protect the plants against the scorching rays of the sun and very heavy rains I cover the spot with canvas, but I endeavour to avoid too much shade, for I find that plants which are shaded too much never flower so well as others. I water in the ordinary way employed in hothouses. This year the temperature has several times fallen as low as 4° Reaumur, (41° Fahr.), but the plants have not in the least suffered; they are even more vigorous; several of them actually flowered.

These facts prove that many gardeners keep their Orchids and other exotics too hot. All plants require some period of rest in order to vegetate well.

The following is a list of the Orchids which I treated in the way above described :—

Barkeria spectabilis, Batem.
Brasavola glauca, Lindl.
Calanthe striata, R. Br.
Cattleya citrina, Lindl.
Cœlia macrostachya, Lindl.
Cypripedium insigne, Wall.
„ „ var. parviflorum, Rchb. fil.
Dendrobium calamiforme, Lodd.
„ Jenkinsii, Wall.
„ Pringianum, Bidw.
„ speciosum, Sm.
Epidendrum Candollei, Lindl.
„ cochleatum, L.
„ diffusum, Sw.
„ falcatum, Lindl.
„ radiatum, Lindl.
„ selligerum, Batem.
„ Skinneri, Batem.
„ Stamfordianum, Batem.
„ varicosum, Batem.
„ virgatum, Lindl.
„ vitellinum, Lindl.
Gongora galeata, Rchb. fil.
„ Batemani, Rchb. fil.
„ luteola, Rchb. fil.
Lælia acuminata, Lindl.
„ albida, Batem.
„ anceps, Lindl.
„ „ var. Barkeriana, Hort.
„ „ var. superba, Hort.
„ autumnalis, Lindl.
„ candida, Hort.
„ furfuracea, Lindl.
„ Galeottiana, Morren.
Lycaste majalis, Lindl.
„ rubescens, Lodd.
Lycaste superbiens, Lindl.
„ violacea, Rchb. fil.
„ aromatica, Lindl.
„ Colleyi, Lindl.
„ consobrina, Rchb. fil.
„ cruenta, Lindl.
„ Skinneri, Lindl.
„ „ var. alba, Hort.
„ „ var. latimaculata, Hort.
„ „ var. leucochila, Hort
„ „ var. picta, Hort.
Maxillaria cucullata, Lindl.
„ tenuifolia, Lindl.
Odontoglossum bictoniense, Lindl.
„ citrosmum, Lindl.
„ Cervantesii, Llave.
„ grande, Lindl.
„ Insleayii, Lindl.
„ læve, Lindl.
„ nebulosum, Lindl.
„ pulchellum, Batem.
„ „ var. grandiflorum, Hort.
Oncidium bicallosum, Lindl.
„ filipes, Lindl.
„ leucochilum, Batem.
„ microchilum, Batem.
„ sphacelatum, Lindl.
„ suave, Lindl.
Sobralia decora, Batem.
„ dichotoma, R. et Pav.
„ Liliastrum, Lindl.
„ macrantha, Lindl.
„ violacea, Lindl.
Stanhopea connata, Rchb. fil.
Trichopilia tortilis, Lindl.
„ „ var. pallida, Hort.

—*Journal de Gand.*

## GARDEN LAW.—No. VI.

### MALICIOUS INJURIES TO PROPERTY.

FORTUNATELY, malicious injuries to gardens are not very frequent; but it is not the less desirable that people should know that such injuries cannot be committed with impunity, and that those who do commit them are liable to be severely punished. The law relating to this subject is contained in the Act of Parliament of the 24th and 25th Vict. c. 97, sections 16 to 24, which we subjoin. It will be observed that the offences more particularly specified are 1, setting fire to crops, stacks, &c. (s. 16—18); 2, destroying hop-binds (s. 19); 3, destroying trees and shrubs (s. 20—22); and 4, destroying other plants (s. 23—24). It will be further observed, that in the last two cases a distinction is drawn between trees, &c., in gardens, and those in open fields; it being a more serious offence maliciously to injure plants in the former than in the latter. The punishment for these offences is sufficiently severe, being in all cases of a serious nature, penal servitude, or imprisonment with or without hard labour, and with or without solitary confinement, and with or without flogging, as the court may direct.

The enactments referred to are as follows:—They are given *verbatim*, as it is extremely difficult, not to say wholly impracticable, to abridge them satisfactorily.

§ 16. *Setting fire to crops, &c.*—Whosoever shall unlawfully and maliciously set fire to any crop of hay, Grass, corn, grain, or Pulse, or of any cultivated vegetable produce whether standing or cut down, or to any part of any wood, coppice, or plantation of trees, or to any Heath, Gorse, Furze, or Fern, wheresoever the same may be growing, shall be guilty of felony, and being convicted thereof shall be liable at the discretion of the Court to be kept in penal servitude for any term not exceeding 14 years and not less that three years, or to be imprisoned for any term not exceeding two years, with or without hard labour, and with or without solitary confinement, and if a male under the age of 16 years, with or without whipping.

§ 17. *Setting fire to stacks.*—Whosoever shall unlawfully and maliciously set fire to any stack of corn, grain, Pulse, Tares, hay, straw, haulm, stubble, or of any cultivated vegetable produce, or of Furze, Gorse, Heath, Fern, turf, peat, coals, charcoal, wood, or bark, or to any steer of wood or bark, shall be guilty of felony, and being convicted thereof, shall be liable at the discretion of the Court to be kept in penal servitude for life or for any term not less than three years, or to be imprisoned for any term not exceeding two years, with or without hard labour, and with or without solitary confinement, and if a male under the age of 16 years, with or without whipping.

§ 18. *Attempting to set fire.*—Whosoever shall unlawfully and maliciously by any overt act attempt to set fire to any such matter or thing as in either of the last two preceding sections mentioned, under such circumstances that if the same were thereby set fire to the offender would be under either of such sections guilty of felony, shall be guilty of felony, and being convicted therof shall be liable at the discretion of the Court to be kept in penal servitude for any term not exceeding seven, and not less than three years, or to be imprisoned for any term not exceeding two years, with or without hard labour, and with or without solitary confinement, and if a male under the age of 16 years, with or without whipping.

§ 19. *Destroying Hop-binds.*—Whosoever shall unlawfully and maliciously cut or otherwise destroy any Hop-binds growing on poles in any plantation of Hops shall be guilty of felony, and being convicted thereof shall be liable at the discretion of the Court to be kept in penal servitude for any term not exceeding 14, and not less than three years—or to be imprisoned for any term not exceeding two years with or without hard labour, and with or without solitary confinement, and if a male under the age of 16 years, with or without whipping.

§ 20. *Destroying trees, &c., in gardens.*—Whosoever shall unlawfully and maliciously cut, break, bark, root up, or otherwise destroy or damage the whole or any part of any tree, sapling, or shrub, or any underwood growing in any park, pleasure-ground, orchard, or avenue, or in any ground adjoining or belonging to any dwelling house (in case the amount of the injury done shall exceed the sum of 1*l.*), shall be guilty of felony, and being convicted thereof shall be liable at the discretion of the Court to be kept in penal servitude for the term of three years, or to be imprisoned for any term not exceeding two years, with or without hard labour, and with or without solitary confinement, and if a male under the age of 16 years, with or without whipping.

§ 21. *Destroying trees, &c., elsewhere.*—Whosoever shall unlawfully and maliciously cut, break, bark, root up, or otherwise destroy or damage the whole or any part of any tree, sapling, or shrub, or any underwood growing elsewhere than in any park, pleasure ground, garden, orchard, or avenue, or in any ground adjoining to or belonging to any dwelling house (in case the amount of injury done shall exceed the sum of 5*l.*), shall be guilty of felony, and being convicted thereof, shall be liable at the discretion of the Court to be kept in penal servitude for the term of three years, or to be imprisoned for any term not exceeding two years, with or without hard labour, and with or without solitary confinement, and if a male under the age of 16 years, with or without whipping.

§ 22. *Other injuries to trees, &c.*—Whosoever shall unlawfully and maliciously cut, break, bark, root up, or otherwise destroy or damage the whole or any part of any tree, sapling, or shrub, or any underwood wheresoever the same may be growing, the injury done being

to the amount of 1*s.* at the least, shall on conviction thereof before a justice of the peace at the discretion of the justice either be committed to the common gaol or house of correction, there to be imprisoned only, or to be imprisoned and kept to hard labour for any term not exceeding three months or else shall forfeit and pay, over and above the amount of the injury done, such sum of money not exceeding 5*l.*, as to the justice shall seem meet; and whosoever having been convicted of any such offence either against this or any former Act of Parliament shall afterwards commit any of the said offences in this section before mentioned, and shall be convicted thereof in like manner, shall for such second offence be committed to the common gaol or house of correction, there to be kept to hard labour for such term, not exceeding 12 months, as the convicting justice shall think fit; and whosoever, having been twice convicted of any such offence (whether both or either of such convictions shall have taken place before or after the passing of this Act), shall afterwards commit any of the said offences in this section before mentioned, shall be guilty of a misdemeanour, and being convicted thereof shall be liable at the discretion of the Court to be imprisoned for any term not exceeding two years, with or without hard labour, and with or without solitary confinement, and if a male under the age of 16 years, with or without whipping.

§ 23. *Damaging other plants in gardens, &c.*—Whosoever shall unlawfully and maliciously destroy, or damage with intent to destroy, any plant, root, fruit, or vegetable production growing in any garden, orchard, nursery ground, hothouse, greenhouse, or conservatory, shall, on conviction thereof before a justice of the peace, at the discretion of the justice, either be committed to the common gaol or house of correction, there to be imprisoned only, or to be imprisoned and kept to hard labour for any term not exceeding six months, or else shall forfeit and pay over and above the injury done such sum of money not exceeding 20*l.* as to the justice shall seem meet; and whosoever having been convicted of any such offence, either against this or any former Act of Parliament, shall afterwards commit any of the said offences in this section before mentioned, shall be guilty of felony, and being convicted thereof, shall be liable at the discretion of the Court to be imprisoned for any term not exceeding two years, with or without hard labour, and with or without solitary confinement, and if a male under the age of 16 years, with or without whipping.

§ 24. *Damaging plants grown for food, &c., not in gardens. &c.* — Whosoever shall unlawfully and maliciously destroy, or damage with intent to destroy, any cultivated root or plant used for the food of man or beast, or for medicine, or for distilling, or for dyeing, or for or in the course of any manufacture, and growing in any land, open or enclosed, not being a garden, orchard or nursery ground, shall on conviction thereof before a justice of the peace, at the discretion of the justice, either be committed to the common gaol or house of correction, there to be imprisoned only, or to be imprisoned and kept to hard labour for any term not exceeding one month, or else shall forfeit and pay, over and above the amount of the injury done, such sum of money not exceeding 20*s.*, as to the justice shall seem meet, and in default of payment, together with the costs, if ordered, shall be committed as aforesaid for any term not exceeding one month, unless payment be sooner made; and whosoever, having been convicted of any such offence, either against this or any former Act of Parliament, shall afterwards commit any of the said offences in this section before mentioned, and shall be convicted thereof in like manner, shall be committed to the common gaol or house of correction, there to be kept to hard labour for such term not exceeding six months, as the convicting justice shall think fit. *Lincoln's Inn.*

## PINUS ARISTATA, *Engelmann*:

### A NEW NORTH AMERICAN CONIFER.

[We find the following in the new number of the Transactions of the Academy of Sciences of St. Louis, for which we are indebted to our friend, Dr. Engelmann.]

During his first botanical expedition to the Pike's Peak region, Dr. Parry, in searching for James' Pinus flexilis, found, instead of one, two five-leaved Pines, which evidently had been confounded by Dr. James; thus the discrepancies of his description are fully explained. His general description of the tree and the edible seeds belong to what we now name P. flexilis, while the "erect cones" (smaller than those of P. rigida) "with unarmed scales" must be either very imperfect young ones of this, or old ones of the new species, which had lost their awns.

Pinus aristata, spec. nov.: arbor mediocris seu humilis; foliis dense congestis quinis uncialibus integris acutiusculis ex axillis perularum per plures annos persistentium, squamis vaginantibus obtusis mox patulis squarrosis demum totis deciduis; amentis masculis ovatis involucro 4-phyllo munitis in axilla bracteæ ovatæ acuminatæ persistentis stipitatis, antherarum crista ad umbonem parvulum singulum vel binos reducta; amentis femineis erectis herbaceo-echinatis atro-purpureis; strobilis ovatis horizontalibus violaceo-fuscis, squamarum elongato-cuneatarum apophysi rhombea parum tumescente transverse carinata medio in umbone parvo breviter aristata; seminibus ala ipsa oblique obovato duplo minoribus.

On alpine heights, between 9200 and 11,800 or 12,000 feet high, on Pike's Peak and the high mountains of the Snowy Range, Dr. Parry, 1861 and 1862; Messrs. Hall and Harbour, (Coll. No. 530) 1862. Also on the heights of the Coochetopa Pass, nearly S.W. of Pike's Peak, (altitude over 10,000 feet), where Captain Gunnison discovered in 1853 what seems to be this species without fruit; (see Pac. R. R. Rep. II., p. 130); the leaves which I could compare are those of our plant. Fl. end of June and beginning of July. Flourishing best in the higher elevations and never descending below 9000 feet, in its lower ranges not ripening its fruits as well as on the bleak heights, this truly alpine species—in that respect our representative of the European P. Pumilio—characterises the highest belt of timber on the peaks of Colorado. On sheltered slopes a tree 40 or 50 feet high and 1-2 feet in diameter, it becomes a straggling bush, prostrate, and almost creeping, on the bleak summits of the high ridges. The bark is thin and scaly, even in older trees not more than 3 or 4 lines thick, of a light grayish-brown colour; that of the younger branches smooth, with many large vesicles containing a clear fluid balsam, which remains between the layers of the old bark. Wood white, tough, not very resinous: of extremely slow growth, so that a small smooth-barked stem of 13 lines diameter exhibited about 50 annual rings, all between $\frac{1}{8}$ and $\frac{1}{40}$ line wide, the smaller ones consisting of 3-6, the widest ones of 15-25 layers of cells, each cell 0.007 line in diameter. A tree of 2 feet thickness would at that rate indicate an age of over 1000 years; but the annual rings of larger trees growing in favoured situations are wider, and if a specimen sent by Dr. Parry is not mislabelled, sometimes as wide as $\frac{1}{3}$ line, giving the largest trees a probable age of 500-800 years. Branches spreading, very often many of them twisted, stunted, or dead; the larger branches and the stem itself frequently covered with young branches or shoots, which seem to keep life in the old trunk. Leaves crowded from the axils of ovate, acuminate, brittle, at first light brown scales, which, persisting longer than the leaves themselves, cover the branches with their rough blackish remains; leaves light green on both sides without white dots, mostly with numerous exsudations of white resin, usually curved upwards, entire on edges and keel, abruptly acutish, stouter in fruit bearing, more slender in such trees as produce principally male flowers, in very robust specimens $1\frac{1}{4}$ and rarely even $1\frac{1}{2}$, usually about 1 inch long; on sterile branches straight and horizontal, "giving the branches the appearance of so many bottle brushes." The vaginæ consist of 7-8 oblong scales with fringed margins, adpressed and forming a sheath 3-4 lines long on the young leaf, soon spreading and squarrose, falling off in the second or third year. Many lanceolate acuminate scales, perulæ, sheathe the lower part of the young shoots; shorter and broader bracts, bearing in their axils the male aments, follow next. The aments together form a very short spike, or rather head, 6 or 8 lines long; often these heads persist on the axis for two or even three years with a few bunches of leaves above each one, giving the appearance of a leafy spike 1 or $1\frac{1}{2}$ inches long! I have seen branches with 16 spaces where male flowers once grew, proving that leaves were persistent for 16 years—a fact unheard of among Pines, whose leaves are said to endure generally only three years. The stipitate oval ament 3-4 l. long, has a proper involucrum of four oblong scales or bracts of equal length. It seems that the involucrum of the male ament and the form of the ament and of the anthers, together with the fruit and seed, offer characters of importance for the distinction and arrangement of species, hitherto neglected, probably because living nature has not been studied as diligently as the dried mummies of the herbaria, and these contain so few good flowering specimens of Pines; the number of leaves, so much relied on, is of secondary consideration, and is often calculated to mislead, separating the most natural affinities, such as our Cembroid Nut Pines with 1-5 leaves, or the Pineoid Pines (P. Pinea, P. Sabiniana, P. Torreyana) with 2-5 leaves. P. sylvestris has an oval ament 3 l. long, with an involucrum of 3 equal lance-linear acute scales in the axil of a lanceolate recurved bract, which is deciduous with the ament; anther with a short nearly entire crista. P. austriaca has a cylindric curved ament $1\frac{1}{4}$ inches long, with an involucrum of about 10 very unequal and almost distichous oval scales, in the axil of a linear-lanceolate recurved persistent bract; anther, with a semicircular entire crista, large enough to entirely hide the body of the anther in the yet closed ament, and give the latter the appearance of a young cone. Crista of the anther scarcely indicated by a knob, smaller than in any Pine examined by me. Female aments single, or two together, near the end of the young shoot, bristling with the lanceolate aristate erect scales, of a purple-black color. Cones oval, obtuse, $2\frac{1}{4}$-$2\frac{1}{2}$ inches long, about half as much in diameter, often covered with resin as if varnished; their purplish-brown or blackish color is found also in a little group of alpine Pines of the Popocatepetl with 3-5 leaves, discovered by Roezl. Bracts, as in all Pines, not obliterated ("evanidæ") as is usually stated, but much altered, and rather indistinct; more or less thickened and partly connate with the base of the scale; in our species, only the upper obtuse mucronate part membranaceous and free; scales 10-15 l. long and 4-6 l. wide at their exposed part; transverse ridge of the rhombic rather flat protuberance of the scale very conspicuous; the slender mucro or awn, from the small rhombic central knob, 2-3 l. long, curved upwards, at last tortuous and easily broken off, has suggested the name for the species. Seed nearly 3 l. long, with the obovate wing 6-7 l. long; embryo in all the seeds examined by me with 7 short cotyledons.

Systematically, this species belongs to Endlicher's section Pseudostrobus, which comprises many Mexican, some Central American, and a single West Indian species; it is its only representative in the territory of the United States.

## Home Correspondence.

*Regent's Park.*—The article at p. 771 on this park contains much good sense, though it must not be forgotten that the trees Mr. Cowper cut down were long condemned. During the time Lord John Manners was First Commissioner, these trees were examined by very competent persons, and it was concluded that the only chance of saving them was by digging the earth and renewing the soil around them. This, however, failed in restoring them to vitality. Whether Mr. Cowper would have done better in replanting the avenue is a question of taste, but I do not think that the Italian garden, as a means of immediate decoration, is ill designed or ill placed. I perfectly agree, however, that it would be very improper to fill the parks up with gardening of this description. In some spots, where trees and sward cannot conveniently grow, flower-beds well laid out are in good taste. The flower beds in Hyde Park are admirable, and those in Battersea Park still better. But the principal object should be to retain the character of a park, and to depend for effect on judicious planting, well massed, which in skilful hands may be made to give variety, distance, and apparent change of level. Kensington Gardens are beautiful, and owe their beauty to these principles. In the Regent's Park there is a large surface, presenting in hot weather so bald and bare a look that it might be mistaken by one of the neighbouring camels for its native plain. It might be made to give a very different effect by the judicious arrangement of trees and shrubs, breaking them with glades, or grouping them against the sky line, where the nature of the ground permitted it. Shady avenues might be made for those who walk; spaces, surrounded by cool trees, left for the assembling of a crowd, and perhaps a soft road made for those who ride. Another advantage of the plan I propose, would be, that distinct means of communication might be made from one part of the park to another. I do not mean for carriages, but for those on foot. Nothing can be at present more unsightly than the paths which cross the parks. Each year they assume a different form and size. The gravel struggles into the Grass, advancing like a wave on the sea shore in every variety of indentation, though all this might be avoided by a little judicious control. It would be also very desirable that the police and cleaning of the parks should be better. I am told that as evening closes in most of the parks present very disgraceful scenes, while the litter of dirty paper, besides other unsavoury relics, is little pleasing to the eye. The truth is, the park constables have both too much and too little to do. They should be replaced, with the exception of those who have lodges, by working gardeners, and the parks placed under the control of the metropolitan police. England has been long remarkable, not only for the beauty of its gardening, but for the taste which presided equally over the villa pleasure ground and the lordly demesne. We have been in the habit of expressing the greatest admiration for our parks. Let it be then a national feeling which provides for their utmost embellishment, their due care, and renders them neither the privilege of a few nor the riot of the many. *B. M.*

*Vermin and Traps.*—It is a common observation that cases of brutality to horses, asses, and other large quadrupeds, are much less frequently witnessed now than they were some time ago. This is no doubt owing to the general increase of humanity, and to these animals being now under the protection of the law. An English gentleman would not himself give a moment's unnecessary pain to any living creature, and would instinctively exert himself to put an end to any suffering before his eyes; yet it is a fact that every game preserver in this country sanctions a system which consigns thousands of animals to acute agony, probably of eight or ten hours duration, before it is ended by death. I allude to the setting of steel traps for catching vermin. The iron teeth shut together with so strong a spring, that a pencil which I inserted was cracked and deeply indented by the violence of the blow. The grip must be close enough not to allow of the escape of a small animal, such as a stoat or a magpie; and therefore when a cat or a rabbit is caught, the limb is cut to the bone and crushed. A humane game-keeper said to me, "I know what they must feel, as I have had my finger caught." The smaller animals are often so fortunate as to be killed at once. If we attempt to realise the sufferings of a cat, or other animal when caught, we must fancy what it would be to have a limb crushed during a whole long night, between the iron teeth of a trap, and with the agony increased by constant attempts to escape. Few men could endure to watch for five minutes, an animal struggling in a trap with a crushed and torn limb; yet on all the well-preserved estates throughout the kingdom, animals thus linger every night; and where game keepers are not humane,

or have grown callous to the suffering constantly passing under their eyes, they have been known by an eye-witness to leave the traps unvisited for 24 or even 36 hours. Such neglect as this is no doubt rare; but traps are often forgotten; and there are few game keepers who will leave their beds on a cold winter's morning, one hour earlier, to put an end to the pain of an animal which is safely in their power. I subjoin the account of the appearance of a rabbit caught in a trap, given by a gentleman, who, last summer witnessed the painful sight many times. "I know of no sight more sorrowful than that of these unoffending animals as they are seen in the torture grip of these traps. They sit drawn up into a little heap, as if collecting all their force of endurance to support the agony; some sit in a half torpid state induced by intense suffering. Most young ones are found dead after some hours of it, but others as you approach, start up, struggle violently to escape, and shriek pitiably, from terror and the pangs occasioned by their struggles." We naturally feel more compassion for a timid and harmless animal, such as a rabbit, than for vermin, but the actual agony must be the same in all cases. It is scarcely possible to exaggerate the suffering thus endured from fear, from acute pain, maddened by thirst, and by vain attempts to escape. Bull baiting and cock fighting have rightly been put down by law; I hope it may never be said that the members of the British Parliament will not make laws to protect animals if such laws should in any way interfere with their own sports. Some who reflect upon this subject for the first time will wonder how such cruelty can have been permitted to continue in these days of civilisation; and no doubt if men of education saw with their own eyes what takes place under their sanction, the system would have been put an end to long ago. We shall be told that setting steel traps is the only way to preserve game, but we cannot believe that Englishmen when their attention is once drawn to the case, will let even this motive weigh against so fearful an amount of cruelty. The writer of these remarks will be grateful for any suggestions, addressed to A. B., Mr. Strong, Printer, Bromley, Kent. *C. D.*

*Value of Prizes.*—In a late Number you said that "exhibitors are surely not overpaid by the prizes they gain." This is a dangerous subject to touch on, but as the amount of prizes often affects the vitality of small country associations, by making exhibitors hesitate about showing if a large amount of money is not given away, I venture to ask if you had not omitted from your mind, at the moment of writing the article, the commercial benefit derived by exhibitors even in small districts. Surely a fine display of plants to all the plant purchasers, is the very best advertisement a seller could wish for, and worth all the trouble and expense of exhibiting. *An Hon. Officer.* [Yes: but the advertisement alone would not be found to satisfy him; and besides, all exhibitors are not sellers.]

*Orchard-house Peaches.*—The question as to whether Peaches produced in Orchard-houses are as sweet and highly-flavoured as those from the open wall, is one of those which admit of various answers, depending on many combinations of circumstances. Generally speaking, Peaches ripened in Orchard-houses are decidedly not equal in quality to those from a good south wall. When the season is favourable, the fruit cannot under any circumstances attain greater excellence than against a good high south wall. Near London, and in the southern parts of England generally, so much produce and so much flavour cannot be obtained from an equal space, by any other means, as can be obtained from walls. The Peach requires for its perfection the direct light and rays of the sun in front, and the reflection of these by the wall at back. Grown over moist soil, the under side of the fruit retains a greenish hue, which becomes remarkably conspicuous when contrasted side by side with a fruit of the same sort from against a wall. Then there is the difference between the direct light of the sun's rays, and the same transmitted through glass, and consequently weakened by a large amount of reflection, and paralysed by refraction; the latter, it is well known, manifesting itself greater in proportion to the distance which the rays travel after passing through the glass; and if this be far, their energy is next to moonshine. I do not say that we may as well grow Cucumbers by moonlight only, as to give flavour to a Peach situated a long way from the glass; but the two processes are somewhat akin. At all events we may build orchard houses both wide and high, and we may fill them with trees in pots from bottom to top; but all of that space which is available for flavour is, say not more than about 2 feet from the glass. Imagine then a plane to extend parallel to that of the glass and 2 feet from it; between the two we may obtain a pretty good approximation to the flavour of wall fruit, and better than that of fruit produced against the open wall in bad seasons and unfavourable climates and situations. Under such circumstances, and likewise in the case of persons who cannot command wall space, orchard houses, and trees in pots, may be made to afford a supply of fruit of good flavour; but, I beg to repeat, only near the light. *R. Thompson.*

*Cinchona.*—With all deference, *ch* in Spanish is sounded as in church; and if Cinchona is a Spanish word it would be pronounced Sinchona in that language. If the *ch* is pronounced *k*, the word should be Italian, and in that case the initial *c* ought to be pronounced *ch*, making the word Chincona. *Exul.*

## Societies.

Royal Horticultural: *Aug.* 25 (*Floral Committee*).—A paper from J. Bateman, Esq., Biddulph Grange, near Congelton, was read. Mr. Bateman also furnished, in illustration of his paper, an extremely pretty specimen of Epidendrum vitellinum as an example of what can be done with that plant treated on what he terms the cool system of management, of which some account will be found in another column. It had four flower-spikes on it, each containing 10 or more brilliant orange blossoms, which were stated to have been in beauty for nearly three months, and yet most of the flowers were as perfectly fresh and high-coloured as when first developed. The leaves, too, indicated the most robust health, and altogether the plant well deserved the Special Certificate which was awarded it. It was grown at Knypersley by Mr. Sherratt, Mr. Bateman's gardener there. From Messrs. Backhouse of York came a potful of Cyrtanthus sanguineus, for which a First-class Certificate was awarded; and a special Certificate was given to Mr. Bull for beautiful examples of the charming variety of Vallota purpurea called eximia, which was said to be the same as that called major, a kind with a pale centre, which set off the large brilliant scarlet flowers to much advantage. From Messrs. Veitch came the beautiful Lilium neilgherrense, a kind with large sweet-scented flowers of a creamy white colour, suffused more or less with yellow, and very much in the way of Lilium longiflorum. Two other Lilies from Japan, apparently L. lancifolium album, were also shown by Messrs. Veitch. From Messrs. E. G. Henderson came plants of a pretty tricolor-leaved scarlet-flowered bedding Pelargonium named Mrs. Benyon, for which a Certificate was awarded. Among Dahlias The Bride, from Mr. Legge, received a Second-class Certificate; it is white suffused and tipped with violet. A similar award was also made to Formidable, a red-coloured kind tipped with white, from the same grower, who also sent Nonesuch, an orange and red variety, to which a Certificate was also given. Mr. Keynes had a Second-class Certificate for Anna Keynes, a white Dahlia with lilac tip, and a similar award was made to the same grower for Surety, a buff tipped with red. Earl of Pembroke, purple, from Mr. Keynes, received a First-class Certificate, as did also a fine yellow called Fanny Purchase; and finally Mr Keynes received a Second-class Certificate for Regularity, a carnation-striped white. Besides these he also showed other varieties of Dahlias well worthy of notice. Coronet and Symmetry from Mr. Wheeler were also good dark Dahlias. Among Hollyhocks The Queen, from Messrs. Downie, Laird & Laing, received a Second-class Certificate; and to Acme, a beautiful peach-coloured kind, from Mr. Chater, a First-class Certificate was given; Volunteer, a reddish brown sort, from Mr. Porter, had a Second-class Certificate, as had also Willingham Defiance, a rosy peach-coloured kind, shown by the Rev. E. Hawke.

*Aug.* 25 (*Fruit Committee*).—Mr. Melville sent from Dalmeney Park beautiful bunches of Champion Muscat Grape, a kind large both in bunch and berry, possessing a fine Muscat flavour, and in the opinion of many one of the best Grapes in the world. It was stated that it ripens perfectly along with the Black Hamburgh, which it resembles. A seedling black Grape, not so good as the Black Hamburgh, came from Mr. Mathison, Codrington. Muscat of Lunel was shown by Mr. Hadwen, Fairfield, near Manchester; and from Mr. Dick, gr. to Lord Vernon, came two Derbyshire varieties of Grape without name. The Cricket Nectarine and a yellow-fleshed Peach were contributed by Mr. Pearse, of Yeovil, and a hybrid red fleshed Melon of bad quality came from Mr. Cooling, of Derby. From Mr. Beasley, Twyford, came good examples of Green Gage Plums from a west aspect; and a yellow Apple, tinged with red on the sunny side, stated to have been raised from the Cornish Gilliflower, was shown by Mr. Gidley, of Exeter. From Mr. Chater also came Apples, the produce of last year's crop, still in a good state of preservation. Finally the "Camote," a Lima Pole Bean, was exhibited by Mr. Kendall, of East Sheen. It is said to produce tuberous roots of large size, which are used as a table vegetable in Peru. From the plant shown, however, no opinion of its value as an esculent could be formed.

Royal Horticultural of Dublin: *Aug.* 20.—The annual autumnal exhibition of the Society was held at Salthill near Dublin. His Excellency the Lord Lieutenant honoured the fête with his presence, and there was a large attendance of the nobility and gentry.

The exhibition was one of great excellence for an autumn show, nothing inferior in point of quality to any seen in England. The chief feature of the show was a superb display of fine fruit, the most noticeable of which were some exceedingly fine Smooth-leaved Cayenne Pines, sent by Mr. Davies, gr. to Sir Charles Coote, Bart., and some remarkably fine Black Hamburgh and Muscat Gaapes, exhibited by Mr. Roberts, gr. to the Hon. A. Bury, Charleville. Three bunches of Black Hamburgh, which took the 1st prize, weighed 10 lb., and a single bunch exhibited in the class for heaviest single bunch, weighed 4 lb. These had been grown on Vines four years old planted outside the house. The Muscats were also very large in bunch and berry, but not ripe enough, or they would have taken the 1st prize. As it was, Mr. Roberts was obliged to yield the honour to Mr. Walsh, gr. to John D'Arcy, Esq., whose Muscats were very fine and well ripened; and Mr. Smith, gr. to his Excellency the Lord Lieutenant, came in third with some fine fruit. Some very fine Golden Hamburghs came from the Lord Lieutenant's Garden, and the Buckland Sweetwater, from the Hon. A. Bury, were greatly admired, both bunch and berry being large and of a deep amber colour. There can be no doubt about this being a first-class Grape. Three fine bunches of Muscat Hamburgh Grapes from Mr. Burns, gr. to J. L. W. Naper, Esq., were conspicuous amongst a quantity of Black Grapes. Fleming's Trentham Hybrid took the 1st prize in the White or Green-fleshed section of Melons, and was exhibited by Herbert Mander, Esq.; the Lord Chancellor's gardener, Mr. Byers, taking the 2d prize with Seymour's Golden Perfection. Turner's Scarlet Gem took the lead in the class for Scarlet flesh kinds.

Peaches were both numerous and good, the 1st prize being awarded to Mr. Roberts, gr. to the Hon. A. Bury, for Royal George; and the 2d prize to Mr. Smith, gr. to the Lord-Lieutenant, for Bellegarde. Apricots were numerous, and Mr. Hynes, gr. to Sir Robert Shaw, Bart., was deservedly 1st. There was a great display of Plums, and amongst the dark kinds was a dish of remarkably fine Victorias exhibited by J. W. Lane, Esq.; Reine Claude de Bavay took the 2d prize, and Angelina Burdett, 3d, both fine and useful kinds.

There were Green Gages in abundance, and very fine Cherries from Thomas Thompson, Esq., and the Chief Secretary, who also sent, not for competition, some fine fruit of the Granadilla.

The display of Cut Flowers was excellent, especially of Gladiolus. These are extensively cultivated about Dublin, and on this occasion there was a remarkably fine display. Messrs. Dickson, Hogg, & Robertson, the Seedsmen, of Dublin, presented a Silver Cup, value 5*l*., for the best 24 spikes of Gladioli, which was won by J. F. Lombard, Esq., with a stand of well-coloured, stout, and fine flowers. Mr. Lombard does not shade his plants, but has them secured from injury by wind, and applies the syringe repeatedly until they are in flower. This stand of flowers were in the best possible condition, and consisted of Dr. Andry, Ninon de l'Enclos, Brenchleyensis, Le Poussin, Sulphureus, Samuel Waymouth, a most superb light scarlet, with light centre; Madame Poignant, Rebecca, Linnie, Madame Leséble, a beautiful light kind; Paddy from Cork, a very fine light seedling; Isoline; Achille, very fine; The Favorite, beautifully mottled flesh colour; John Waterer, a most superb scarlet with large light centre, lighter in colour than Samuel Waymouth; Clemence, Madame Binder; Impératrice Eugénie, a most beautiful and distinct kind; Madame Vatry, Junon, Dixie, a seedling quite new in colour and very distinctly marked; Diana, Calendulaceus; and Ensign, a first-class kind, and the finest scarlet in cultivation. The 2d prize for Gladioli was awarded to J. W. Lane, Esq., for a noble stand, the finest of which were Madame Eugène Verdier, a most brilliant and fine kind; John Leech, a beautifully mottled light kind; Joan of Arc; a superb spike of Impératrice Eugénie, a handsome variety; Madame Celeste, quite novel in colour and fine; El Dorado; Junon, very fine; Comte de Morny; Madame Rabourdin, a distinct and fine kind; John Waterer, Isoline, and Reine Victoria, a distinct and handsome light flower which should be in every collection. 3d prize to Messrs. Dickson & Sons, Newtonards Nursery, near Belfast. For 12 spikes Messrs. Dickson & Sons were 1st; J. F. Lombard, Esq., 2d; and J. W. Lane, Esq., 3d. W. E. Gumbleton, Esq., Cork, also showed some fine flowers in the class for six spikes, as did Mr. Lombard also. There was a strong competition for the Silver Cup for 36 Dahlias, seven exhibitors having entered for this class, and to the surprise of many, an amateur unknown to fame fairly carried off the prize. He is a Mr. Lachlan, gr. to J. B. Houston, Esq., Belfast, and his flowers were Lord Palmerston, Beauty of Slough, Beauty of Hilperton, Hugh Millar, Duke of Wellington, Volunteer, Chieftain, William Dodds, Imperial, Dinorah, Bob Ridley, Maid of Bath, Golden Drop, Criterion, Coralline, Warrior, John Dory, Queen Mab, Summertide, Jenny Austin, Andrew Dodds, Goldfinder, Lady Douglas Pennant, Earl of Shaftesbury, William Corp, Gen. Turr, Charles Turner, Pioneer, Gem, Delicata, Model, Elegans, Donald Beaton, Captain Harvey, Chairman, and the New Delicata, a beautiful and novel flower. 2d, Messrs. Campbell & Sons, Nurserymen, Glasnevin, whose best blooms were Madame Sherrington, Mrs. Henshaw, Baron Taunton, Norfolk Hero, and a beautiful Umpire. 3d, Messrs. Dickson & Sons.

Mr. Green, gr. to the Marquis of Londonderry, sent six noble spikes of Hollyhocks. Some good Roses were exhibited by Messrs. Dickson & Sons, Messrs Campbell & Sons, and J. F. Lombard, Esq. Some fine cut blooms of Hollyhocks were shown; the first prize lot from J. F. Lombard, Esq. were very fine, the best blooms being Purple Prince, Amandine, Rosy Gem, David Fowlis, Alice, and Homer. A few good Orchids were sent from Joseph Hone, Esq., who had well-grown examples of Saccolabium Blumei majus, Cattleya Aclandiæ, Vanda insignis, Phalænopsis grandiflora, and a very fine Lælia elegans. 2d prize to the Lord Chancellor of Ireland, in whose lot were good plants of Aerides quinquevulnerum, Odontoglossum grande, and

Saccolabium guttatum. Several exceedingly well-grown Achimenes were shown, especially those from Joseph Watkins, Esq., and M. Brooks, Esq.

The 1st prize, a silver cup, for the best collection of plants was awarded to Mr. McNeill, gr. to the Chief Secretary for Ireland; and the 2d prize to Mr. Smyth, gr. to his Excellency the Lord Lieutenant; the 3d prize to Robert Gray, Esq. Some superb Heaths came from W. Jamieson, Esq., and the Lord Lieutenant's gr.; and fine foliaged plants from the Chief Secretary's gr., and the gr. to the Lord Chancellor. Six good well grown Fuchsias from Robert Gray, Esq., took the 1st prize.

Dublin may well be proud of this exhibition, for it reflected great praise on all concerned—the exhibitors, the Council, and especially Mr. Balfe, the courteous and hard working Secretary to the Society; for it plainly demonstrated that in Ireland as elsewhere, gardening skill is every day more and more developed; and that such exhibitions tend very greatly to produce this result no one can doubt.

## Notices of Books.

*Home Walks and Holiday Rambles.* By the Rev. C. A. Johns, B.A., F.L.S. Pp. 275. Longman & Co.

On opening this attractive little volume we were arrested in the list of contents by the words—"Cherry Gatherer," "Prawning at Clovelly." Now, if there are things for which we confess a weakness, they are Prawns and Cherries. As to the Cherries we are not to imagine that featherless bipeds with all their arts, can keep them entirely to themselves, for while men are gathering them, the birds will fearlessly take their share from the upper branches of the same tree; and a flight of starlings has been known to devour or destroy, in the course of two hours, fruit which it had been computed would occupy several men a whole day to gather. We are also here informed that Prawning is attended with some risk to the inexperienced and unwary, for the dredge brings ashore, not only prawns, and the delicate kinds of seaweed that grow in shallow water, but every haul produces one or more "sting-bulls," the local name given to the "Lesser Weevor" (Trachinus Vipera), a small fish about 3 inches in length, provided with a black dorsal fin, armed with acute spines, which the animal has the power of elevating at pleasure, and which inflict an exquisitely painful wound, like the sting of a wasp, causing not only pain and swelling, but producing inflammation which extends up the arm, with an intense aching that lasts for hours.

Many young persons will thank Mr. C. A. Johns for furnishing them with examples of the way to investigate and observe those common but interesting objects by which we are surrounded, but which so many fail to see, because their attention has never been directed to them in youth. Limited space prevents our giving any long examples of the author's style, but a concluding remark of his is so important that we cannot refrain from transcribing it. "Should any one ask," he says, "'Do you consider the time profitably employed which is devoted to such pursuits by young people whose occupation it ought to be to store their minds with the knowledge which will be of use to them in after life?' my answer is, 'Decidedly yes.' The mind which has taught the eye to distinguish in a bed of Moss half a dozen specific forms, has itself during the process acquired a discriminating power which will, from that time forward, be exercised on all objects presented to it, and will never be lost."

The experiment of the Walnut, tied by a string to the branch of an Apple tree, and the efforts of the Blue Tit to secure its contents, makes an elegant and appropriate ornament for the outside of this little book of notes upon Natural History, collected during a year of Home Walks and Holiday Rambles. There are several capital wood engravings.

*Warner's Select Orchidaceous Plants* have appeared with fresh lustre in the 5th part, partly because of the extreme beauty of the species figured, and partly owing to the artistic excellence of the plates, which are occupied by *Pleione* (Cœlogyne) *lagenaria*, *Vanda cœrulea*, *Dendrobium Wardianum*, and *Lælia superbiens*. To our mind the Bauers themselves never surpassed Fitch's drawings of the three last; the *Pleione*, which is very inferior, comes from another hand. All these glorious things are well known to gardeners, except the Dendrobium;—what is that? To this we reply, without the least hesitation, *D. Falconeri*; but a variety without the violet stain at the base of the lip that has always been seen in that species, and which is itself nearly related to *D. Dalhousieanum*. We extract Mr. Warner's statements respecting his plant:—

"Dendrobium Wardianum is a plant of pendent habit, having long rod-like stems, 3 feet in length, with knotty joints, bearing light green leaves of an ovate-lanceolate attenuated form, 2 or 3 inches long. It is of deciduous habit, losing its leaves annually, previous to flowering. The flowers are produced in threes, on opposite sides of the stem, and each flower measures upwards of 4 inches across. The sepals and petals are white, tipped with rich magenta; the lip also is white, tipped with magenta, its lower part of a deep orange-yellow, marked on each side with patches of crimson. The flowers are produced in April and May, and last for several weeks."

"According to our own experience and that of the other growers who possess it, this is a free growing species. Mr. Day's plant is making its fresh growth even finer than before: and his gardener, Mr. Stone, is of opinion, as the growth is earlier, that he will be able to ripen the bulbs much better, and thus cause the plants to produce a still greater abundance of flowers. In this we have no doubt he is correct: indeed, this is the only way to secure a vigorous and abundant bloom."

"This Dendrobium Wardianum, being a species of pendent growth, will be better grown in baskets or on blocks than in pots. We cannot do better than explain the course of treatment adopted by Mr. Stone. The plant is on a block of wood, on which it seems to root freely, the roots hanging from the block some 2 feet in length. It is grown, suspended from the roof, in the Cattleya-house, where the heat is not over 60° or 65° in winter, though in summer the temperature is higher. In the growing season it has a liberal supply of water at the roots. Growing thus on a block of wood, the plant requires more water than under other treatment; indeed, a little moss over the roots would be of great advantage, as they would then be kept more regularly moist, and in summer, without some such precaution, the blocks dry very quickly. If the plants are allowed to get too dry it causes the stems to shrivel, and this injures the young growth: in fact, under such circumstances, it is arrested for a season. The plants will also do well in a basket, with sphagnum moss and broken potsherds, the basket being suspended from the roof. In this way they do not require so much water as when on blocks."

*The Arts of Writing, Reading, and Speaking: in Letters to a Law Student.* By Edward W. Cox, Recorder of Falmouth, Author of "The Advocate," &c. Crockford. Fcp. 8vo. Pp. 386.

The main feature of this book is twaddle. No doubt a few useful hints may be discovered in it, but even these are to be found in a better form elsewhere. Amongst other things insisted upon is the value of the habit of thinking; and Mr. Cox recommends persons to think whilst weeding their gardens; but whether they are then to think about what they are doing or about something else, is not very clear. So far, however, as we can make out, it is the latter.

*Civil Service Examinations: Solutions of Questions on Arithmetic and Book-keeping used in the Civil Service Examinations of* 1862. By the Rev. John Hunter, M.A. Longmans. 12mo., pp. 79.

This little work is intended for persons preparing for the Civil Service examinations, and will probably be found useful by them. It has no higher pretensions.

## Garden Memoranda.

Royal Gardens, Frogmore.—Of the high cultivation and generally excellent condition which these gardens exhibit at the present time, it is impossible to speak in terms of exaggeration. The young plantations of Conifers, and other trees and shrubs, made by Mr. Ingram some years ago outside the walls near the entrance, have now attained sufficient size, not only to furnish shelter, but to render them objects of interest in an ornamental point of view, especially the Deodars, whose growth has been all that could be desired. Inside the gates the noble terrace that confronts the visitor on entering is literally a blaze of floral beauty, consisting on the side next the glass houses of Petunias, and Scarlet and other Pelargoniums, edged with variegated Alyssum and blue Lobelia, while here and there in advance, at certain distances apart, beautiful tufts of the silvery-leaved Cineraria maritima and Centaurea candidissima come effectively into view.

On the other side of the walk, amid a throng of gay herbaceous plants, set off to much advantage by the liberal introduction of Scarlet Pelargoniums and other summer bedding things, we noticed noble masses of Tritoma Uvaria, than which when well bloomed as these were, nothing can possibly be handsomer. The fine terrace now under notice, which is 1132 feet in length, and nearly 60 feet in breadth, is moreover well supported by beds of gay flowers in front of the dwarf wall, which cuts it off from the body of the garden, and altogether the portion devoted to plants of a decorative character is as gay as it could well be even at this season of the year.

Pine Apple plants, now confined to pits, are the admiration of even Pine growers themselves, as well they might be, for nothing could possibly excel them either in robustness of health or vigour of growth. They consist chiefly of Queens and Cayennes, many of which promise to furnish fruit of great size and weight. The Pineries in the principal range of houses are not yet filled, it being necessary to afford the Vines, which occupy the back part of the houses over the path, a month or six weeks' rest. The Pines in the houses just named are grown in pots without bottoms, plunged in a bed of leaves placed over an ample drainage of flints, among which are laid hot-water pipes.

From Peaches and Nectarines in houses the sashes are all removed, an operation which is done immediately the fruit is gathered. The trees are in excellent condition, and have this season borne heavy crops.

The Vineries now of themselves well repay a visit, a statement which we think will receive credit when we mention that in two of them, each of which measures 101 feet in length and 16 feet in width, ripe Grapes hang as thickly as it would be judicious to allow them—fine bunches, black as Sloes, and covered with a beautiful bloom. The rich appearance of these, spread out as they are over so large a surface, is only equalled by that of the great Grapery at Cumberland Lodge, where from one Vine, covering a roof 138 feet in length and 16 feet in width, bunches of fruit just colouring, hang in equal profusion; and in this latter instance the only heating apparatus employed is an ordinary smoke flue.

In addition to the two Vineries in the Royal Gardens just alluded to, there is also one containing Muscats, 50 feet in length and 14 feet in width. In this there is likewise a fine crop, which will probably be ripe some time in October. The borders of these houses are manured every year, both inside and out, with a good dressing of cow-dung before the Vines are started into growth, a system which has been practised with the best results. Although now nearly 20 years of age, and with stems measuring on an average 9 inches in circumference, the spurs of these Vines are at most only 3 or 4 inches in length; the ugly snags usually found on old Vines can therefore never exist here so long as the skilful mode of pruning hitherto practised continues to be followed. Vines are also grown well in pots, and a house is now being cleared out to be ready for their reception. From early Vineries that were started in November last, and ripened their crop in March, the lights have been removed entirely, exactly as is done in the case of Peach houses. In one of the houses, among St. Peter's and Black Hamburgh, is growing what is called the Strawberry Grape, a small black variety with a smack of Strawberry flavour in it, which though liked by some cannot certainly be called good. On walls out of doors is also the Parsley-leaved Grape and Napoleon, the last a capital kind for open air culture.

In the warm and cool plant departments at the extremities of the range of forcing houses, are some interesting examples of good plant growing. Among other things Ferns are largely grown for indoor decoration at Windsor Castle, as are also Gesneras, Achimenes, Begonias, Coleus, Centradenia floribunda, and plants of that description. A Luculia in the cool department flowers beautifully every year, and Bignonia grandiflora is at present loaded with rich orange blossoms.

In pits are late Cucumbers and Melons, put in after Potatoes. Among the Melons we observed the Beechwood, a variety not now so common as it was some years ago, but when found true, as it is here, excellent. Among Cucumbers the Frogmore Prize is the kind chiefly grown, both for early and late work.

The Asparagus house is now being got ready for use next season. In order to keep up a good supply of roots for forcing, two or three new beds are made every year in the open ground, from whence after say three years growth, they are transferred to the forcing pit and inserted as thickly as the heads can well stand together. Capsicums, now ripe, occupy a back shelf.

In the Cherry house Chrysanthemums are about to be introduced for early winter flowering, the Cherries which are in pots being now plunged out of doors in a north aspect. For purposes of forcing two sets of plants are kept, one being forced one year, and the other the next. Thus an alternate season of rest and growth is given to each set of trees, and in this way heavy crops are obtained.

Out-of-doors fruit of all kinds is yielding a good crop, with perhaps the exception of Apples, which are in some cases thin. Plums on walls are very plentiful; first come Wilmot's Early Orleans, Smith's ditto, and the Fotheringham, a blue variety of good quality; then Victoria and Washington, Goliath, blue Magnum Bonum, Reine Claude Violette, Green Gage, and lastly Coe's Late Red, Golden Drop, and different kinds of Imperatrice, all forming a good and useful succession.

Peaches are excellent and in robust health in all cases except those in which smooth serrated kinds are concerned. Nothing but varieties with smooth leaves should be grown on walls out of doors; the others get so attacked by mildew and red spider that they can only be kept in health at a great expense of labour and trouble, a fact well worth the remembrance of all who are about adding fresh trees to their Peach walls, or about to raise new ones.

Figs under a movable glass case are abundant, and ripen well. They require plenty of air, and in order that they may have it when wanted the sashes are made to move on vertical pivots, a plan by which the trees can be almost as much exposed as if the lights were taken entirely away. Cherries also succeed under a case of this description.

Pears on walls are also an excellent crop, especially Knight's Monarch, which will keep good after being gathered from November until March, and it has the good property of seldom going rotten, which some Pears are apt to do. Among early sorts may be named the Lammas, Citron des Carmes, Jargonelle, and Williams's Bon Chrétien. Then came Fondante

d'Automne, one of the best Pears of its season; Marie Louise; British Queen, a melting and most excellent November Pear, a seedling raised by Mr. Ingram, and rewarded with first prizes wherever it has been shown; and last but not least, Glou Morceau, Winter Nelis, Beurré Rance, and Prince Albert, the last a handsome late variety, sound and useful after all others are gone.

Among Apples, Small's Golden Pippin and Admirable, the last a good kitchen fruit of the Hawthornden class, but a better keeper; of the old Nonpareil we observed good crops on walls, without the aid of which this useful sort does not succeed here. The Frogmore Nonpareil, Cox's Pomona, and Rosemary Russet, were also bearing plentifully, as were likewise many others.

Among Currants still in fruit on a north wall were specimens of Warner's Grape, which is certainly one of the best reds, the berries being large, and many of the clusters measuring 6 inches in length. It is also sweeter than the common red Grape Currant.

Of Seedling fruits, in addition to the valuable British Queen Pear already named, Mr. Ingram has succeeded in raising several of excellent quality, especially Plums, some of which will prove real acquisitions. In one, to the size and appearance of Victoria has been added the delicious flavour of the Green Gage; others more resemble the Jefferson. Among Peaches, too, are some useful improvements which we hope to see again.

Vegetables on the whole were good, with the exception of Carrots, which have suffered from the attacks of grub. Among Broccoli the Frogmore Protecting is that which is mostly grown; it comes in at the end of March, and will last till May. Early and late Purples are also cultivated here, as are likewise Snow's Winter and Walcheren. In the way of Cauliflowers nothing beats the Frogmore Forcing, which when planted out early, often comes in sooner than others that have been protected by glass.

Among Potatoes there is this year little or no disease. For early work Myatt's Ash-leaf is the kind used both for pits and open ground. Ash-leaved, Regents, and Dalmahoy are also found to be good and useful sorts.

Celery is chiefly confined to Turner's Incomparable, a dwarf variety, which is not liable to run. Of this and other kinds of Celery, 20,000 heads are often planted.

In conclusion it may be mentioned that the beautiful grounds attached to Frogmore House have lately come under Mr. Ingram's charge, and that the high state of keeping which they exhibit does his management in this, as in all other cases in which he is employed, the utmost credit. The walks are neatly rolled, the Grass short and smooth, and the water in the charming lake in front of the house clean and refreshing to look upon. In the grounds here we noticed a famous Wellingtonia, the growth in height of which in one year was no less than 4 feet 6 inches.

The slopes around Windsor Castle are also in excellent order, the late rains having restored to them their wonted verdure and beauty.

## Miscellaneous.

*Japanese Mode of Catching Fish.*—During the last days of April the sea-shore was lined with natives of both sexes, who were busily engaged in catching a curious species of fish, which, it seems, visits these parts for a few days at this season of the year. The mode of catching the fish was novel and interesting. Each fisherman had a pair of decoys—that is, living fish of the same kind as the intended prey. A long line was attached to each fish, being fastened to the skin on the top of its head. The slack of this line was wound up on a piece of wood, and unrolled at the pleasure of the fisherman. Then a net was fastened to, and slung between, two bamboo poles, these forming the two sides of a triangle. The third side of the triangle was open, with the mouth of the net hanging beneath it, and in this state it was pushed forward into the sea. The line was now unrolled, and the decoys were sent forth into deeper waters, to make friends with other members of the tribe who were still free. A sufficient time being allowed for these gay deceivers to get a congregation around them and to expatiate on the luxuries of the land, the fisherman hauls the line gently home until the decoys and their near friends who have followed them, get in the water above his net. The net is then lifted rapidly upwards out of the water, and decoys and decoyed are entangled in its meshes. The latter are taken out and placed in a basket on shore, while the former are sent to sea again in search of new friends. This mode of fishing lasted for a few days only; the species in question appeared to come suddenly on the coast, and as suddenly to take its departure, first, however, leaving a good supply of its number to assist in feeding the inhabitants of Yokuhama and Yedo. It was a curious-looking animal, short, flabby, and blown up, looking as if it consisted chiefly of wind and blubber. Some of the natives said it was poisonous; but, if so, this could be only in certain conditions, for it was a great favourite with the Japanese, who cut it up, dried it in the sun, and preserved it for future use. *Fortune's "Yedo and Peking."*

*Age of Trees.*—We find the following scrap (taken from a German work by Dr. Walser), by Prof. Oliver, in the "Natural History Review," Oct., 1862. Eleven Lime trees are enumerated, to which ages are assigned as under, "with more or less probability:"—

| | | |
|---|---|---|
| Lime at Leutkirch | .. .. .. | 346 years |
| " do. (Tilia parvifolia) | .. | 364 " |
| " Friburg, Switzerland | .. .. | 384 " |
| " Leutkirch (T. grandifolia) | .. | 405 " |
| " Nürnberg | .. .. .. .. | 500 " |
| " Leutkirch (T. grandifolia) | .. | 660 " |
| " Norwich | .. .. .. .. | 815 " |
| " Neustadt | .. .. .. .. | 892 " |
| " Villars en Moing | .. .. .. | 961 " |
| " Donndorf | .. .. .. .. | 1235 " |
| " Chaillé (nr. Melles) | .. .. | 1252 " |

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—Japan Lilies will now be coming into bloom, and should be neatly staked before the flowers get injured through being blown about. When removed to the conservatory they should be placed in a cool airy part of the house, shaded from bright sunshine, and liberally supplied with water, so as to preserve the beauty of the flowers as long as possible; for except they are properly cared for, their beauty is apt to be but short lived. Continue to trim and regulate the growth of twiners, cutting out any shoots that have done flowering, which will tend to strengthen those left, and cause them to bloom later than would otherwise be the case. Maintain an active war against insects, and endeavour to get these thoroughly subdued before the damp cloudy weather of autumn sets in, when it will not be safe to use the engine with the same freedom as now. Also get any repairs, painting, &c., which must be done this season, finished as soon as possible, for the period is fast advancing when the plants must be got into their winter quarters, and it is exceedingly inconvenient having workmen about the houses among the plants. See that Chrysanthemums are liberally supplied with water, and do not allow them to be injured for the want of staking. Young stock in cold pits intended to flower next season, should be exposed to the midday sun, in order to ripen the wood, taking care not to do this so rashly as to injure the foliage. This, however, will only be proper in the case of such things as have already made plenty of young wood; but it is advisable after this season to be anticipating the approach of winter, and to use every possible means to forward the growth of valuable hard-wooded plants, in order to get it somewhat firm and able to resist damp, &c., as soon as possible; and this is especially necessary where the plants have to be wintered in cool houses.

### FORCING DEPARTMENT.

Pineries.—Endeavour to afford plants swelling their fruit a high temperature with as little assistance from fire-heat as possible, which, as it tends to render the atmosphere dry, is not conducive towards obtaining large finely-formed fruit. Therefore economise the sun's influences as much as possible, shutting up early on the afternoons of bright days after syringing the plants and moistening every available surface, so as to maintain a high temperature during the day, giving air sparingly. But fruit approaching maturity will be improved in flavour by a moderate use of fire-heat, a freer circulation of air, and a dry atmosphere. Where there are no means of avoiding having plants swelling their fruit and those ripening it in the same compartment, then it will be advisable to keep the atmosphere rather dry and airy while fruit is colouring, as size is of little importance unless combined with quality; but this will be best decided by employers' tastes, &c. Give careful attention to securing a fair supply of fruit for winter and spring use. Look over stock in pots frequently to make sure that it is properly supplied with water at the root, and give a liberal supply of clear strong manure-water where free vigorous growth is desired.

Vineries.—Give abundance of air on all favourable opportunities where the fruit is ripening, using fire-heat rather freely when the weather is damp and cloudy, and be careful to secure a dry state of the atmosphere where the fruit is ripe and expected to hang for any length of time, using a little fire-heat when necessary to dispel damp. See that ripe fruit is secure from the depredations of wasps, if these are at all troublesome. Give every possible attention to Vines in pots intended for fruiting early next season, and endeavour to get the wood strong and thoroughly ripened as early in the autumn as possible so as to allow of giving the plants a fair season of rest. Keep Vines planted this season growing as freely as possible, and see that they are kept clear of insects, for as a house with the Vines in this stage is found very useful for growing plants, and is often used for this purpose, insects are apt to find their way off the plants on to the Vines, occasioning great injury. Therefore if plants are grown under the Vines see that they are not in a state to communicate to the latter black thrips or red spider, for unless the foliage is kept in health there will be no possibility of getting the wood well ripened, or the canes to break strongly next season.

### FLOWER GARDEN AND SHRUBBERIES.

The earliest put-in cuttings should be potted off as soon as they are sufficiently rooted to bear the operation, placing them in a close pit or frame until they get fairly established in their pots, when they should be freely exposed to the air, in order to induce short-jointed firm growth, which, with ordinary care, will be easily carried over the winter, whereas, plants got up late in autumn in a close moist atmosphere will, notwithstanding every care and attention, be largely thinned before spring. Push forward the putting-in of cuttings, and get the autumn propagation out of hand as speedily as possible. Where alterations involving the removal of large trees or shrubs are in view for this autumn, the necessary arrangements for commencing them cannot be made too soon; for although large plants may be removed with care successfully at almost any season of the year, it can be done more cheaply, and with less risk of failure, in September than at any other period.

### HARDY FRUIT AND KITCHEN GARDEN.

See that Strawberry plants for forcing are well cared for, as nothing but proper attention in preparing the plants will insure a good crop. Keep them regularly supplied with water, expose them fully to the sun, pinch off runners immediately they are perceived, and use every means to secure fine strong plants with bold crowns; with such there will be no risk of failure next spring. Gather Apples and Pears as they become ripe, and before the greater portion is blown down and injured. Tomatoes must be kept thin of wood, checking all shoots, and exposing the fruit to the action of the sun's rays as much as possible. Take advantage of dry days to earth up Celery, sprinkling a good dusting of quicklime or soot about the plants in the lines, and over the surface of the ground for some distance on each side, to destroy slugs, which generally do considerable damage to Celery, especially in wet seasons. The soot or lime should be applied two or three times before soiling up the plants, at intervals of a few days, and early in the morning, before the pests have retired to their hiding-places. Take up and dry Onions that have completed their growth.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending Aug. 26, 1863, as observed at the Horticultural Garden

| August. | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 20 | 6 | 29.973 | 29.919 | 66 | 34 | 50 | 62 | 62 | N.W. | .01 |
| Friday 21 | 7 | 30.131 | 30.075 | 70 | 44 | 57 | 61½ | 61½ | W. | .00 |
| Satur 22 | ☽ | 30.064 | 29.985 | 76 | 50 | 63 | 61½ | 61 | S.W. | .08 |
| Sunday 23 | 9 | 29.935 | 29.871 | 76 | 58 | 67 | 61½ | 61 | W. | .00 |
| Mon. 24 | 10 | 29.856 | 29.775 | 74 | 48 | 61 | 62½ | 61½ | W. | .06 |
| Tues. 25 | 11 | 29.680 | 29.364 | 70 | 38 | 54 | 61 | 61 | W. | .25 |
| Wed. 26 | 12 | 29.450 | 29.354 | 65 | 55 | 60 | 61½ | 61 | S. | .54 |
| Average. | | 29.871 | 29.763 | 71.0 | 46.7 | 58.8 | 61.6 | 61.3 | | .93 |

Aug. 20—Cloudy; slight showers; fine, but cold at night.
— 21—Fine; overcast; fine at night.
— 22—Uniformly overcast; densely clouded; fine.
— 23—Fine; very fine throughout.
— 24—Very fine; cloudy; fine.
— 25—Very fine; heavy masses of clouds; thunder storm; with heavy showers.
— 26—Fine; showery; very heavy rain at night.
Mean temperature of the week 1½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,

During the last 37 years, for the ensuing Week, ending Sept. 5, 1863.

| August and Sept. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 30 | 71.9 | 48.1 | 60.0 | 8 | 0.92 in. | 2 | 6 | 3 | — | 6 | 8 | 10 | 3 |
| Mon. 31 | 71.2 | 47.5 | 59.3 | 15 | 1.31 | 2 | 7 | 3 | 2 | 2 | 8 | 8 | 5 |
| Tues. 1 | 70.5 | 47.4 | 58.9 | 19 | 1.50 | 3 | 5 | 3 | 4 | 3 | 11 | 4 | 4 |
| Wed. 2 | 70.6 | 47.5 | 59.1 | 15 | 0.44 | 7 | 5 | 2 | 1 | 2 | 8 | 9 | 3 |
| Thurs. 3 | 70.3 | 47.5 | 58.9 | 15 | 0.49 | 3 | 7 | 3 | 1 | 6 | 9 | 6 | 3 |
| Friday 4 | 70.3 | 46.5 | 58.4 | 15 | 0.58 | 5 | 7 | 4 | 4 | 1 | 7 | 3 | 6 |
| Satur. 5 | 70.0 | 47.4 | 58.7 | 15 | 0.30 | 3 | 9 | 7 | — | 3 | 5 | 6 | 2 |

The highest temperature during the above period occurred on the 1st, 1843—therm. 85 deg.; and the lowest on the 3d, 1863—therm. 33 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

Advertisements: *A Garden.* We cannot interfere. If your Gardening is no better than your writing and spelling, you should not expect a place higher than a day labourer's.

Books: *J D H.* George Lindley's Guide to the Orchard and Kitchen Garden, or Hogg's Fruit Manual. We say both.—*Exmouth.* Mills on the Cucumber and Melon; practical and useful.

Diseased Leaves. *Clericus.* They are attacked by some Uredo: possibly U. intrusa, but the specimens are too young for identification. The Uredo is an internal fungus, bursting through the skin, and destroying the leaves by its spawn developed in the inside of the cellular matter of the leaves. The mischief has probably been caused by the dryness of the soil. There is no known remedy except avoiding such extreme dryness.

Grapes: *Anon.* Your berries were so much crushed as to make it difficult to say much about them. They are, however, clearly suffering from rust, which is caused by draughts of cold air, or rough usage; and apparently from spot, which depends on the roots being too deeply planted, or being placed under unfavourable conditions. *M. J. B.*

Names of Plants: *F C.* Maxillaria racemosa.—*B W.* 1, Rosa arvensis; 2, R. spinosissima; 3, R. dumetorum; 4, R. systyla.—*Coniophitus.* *a* is probably Eryngium Palmito; *b*, Dorema meifolium. N.B. We could not have undertaken to examine these dried fragments, had they been less skilfully prepared and selected.—*H W.* Coleus Verschaffelti we believe. *G.* 1, Lycium barbarum; 2, Lysimachia Ephemerum.—*W R.* 1, Arauja (or Physianthus) albens; 2, Achillea Ptarmica, with double flowers.

Potato Disease: *P B.* It has long been known that this is caused by the action of a mildew fungus. Insects have no more to do with it than fleas with Small Pox.

Potatoes: *W S Epps, Maidstone.* Your seedling is without exception the best we ever tasted, and if, as you say, it is a great cropper, you should name it Epps's Glory.

TRADE

## HALLETT'S PEDIGREE NURSERY WHEAT.

MARK.

NOW READY FOR DELIVERY.

THE PEDIGREE WHEAT WAS AWARDED THE SILVER MEDAL BY THE JURORS OF THE CLASS "CEREALS FROM ALL COUNTRIES," AT THE MEETING, IN 1863, OF THE AGRICULTURAL SOCIETY OF DENMARK AT ODENSE.

The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the miller, and realised £19 7*s*. per acre

**In September DRILL 4 Bushels on 10 acres.**

NONE IS GENUINE UNLESS THE TRADE MARK IS UPON THE BAG.

Apply to FREDERIC F. HALLETT, ESQ., F.L.S., The Manor House, Brighton, Sussex.

**PRICE—One Guinea a Bushel (or Seven Guineas a Quarter),**

Delivered, with Printed Directions for Planting, at the Brighton Railway Station, in Bags Sewed up and Sealed, upon receipt of Cheque or Post-office Order, which must in all cases accompany the Order.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing six stamps.

In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately; those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

This family Z *is now for the first time* offered to the public, and is ready for delivery.



ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

*Resident Professors.*

PRACTICAL AGRICULTURE.

J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 12 Lectures on Agricultural Machines.

CHEMISTRY.

ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.

R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Soc.

VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.

W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on South-down and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.
REV. GEORGE WILKINS, Wix Parsonage—Lecture on Tillage.
N.B. Mr. Wilkins will Lecture on February 9.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the PRINCIPAL.



**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

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LAND DRAINAGE, the ERECTION of FARM-STEADS, the CONSTRUCTION of ROADS, and other Works of Agricultural Improvements are undertaken by Mr. HUMBERT, Land Agent and Surveyor, of Watford, Herts, either by contract or on commission; and he will furnish estimates of cost free of charge, expenses out of pocket excepted.

Such works can be executed either under the powers of several special Acts of Parliament, with money raised by loan and paid off by instalments, or with the Landowner's own money.



THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.



MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

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MESSRS. J. CHALMERS MORTON, Streatley, near Reading, and J. THORNHILL HARRISON, M. Inst. C.E., Frocester Court, Stonehouse, Gloucestershire, AGRICULTURAL ENGINEERS, undertake reports on the Condition of Landed Property, together with the Direction of Land Drainage, Roads, Embankments, Farm Buildings, and other works necessary for its permanent improvement.



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ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.



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**Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.**

Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.

Full particulars of terms will be forwarded on application.



MANCHESTER and LIVERPOOL AGRICULTURAL SOCIETY.—GRAND SHOW at BIRKENHEAD (in the Park), on the 9th and 10th SEPTEMBER NEXT (preceded by a preliminary exhibition of IMPLEMENTS only, and TRIAL of STEAM CULTIVATORS, on TUESDAY, the 8th). The Prizes offered for competition on this occasion amount to 1400*l*., for Horses, Horned Cattle, Sheep, Pigs, Poultry, Dogs, Seeds, Roots, Horticultural productions, Cheese, Butter, Implements, Machinery, &c.

ENTRIES CLOSED on the 10th inst. T. B. RYDER, (Surveyor, &c.), Secretary.

57A, Church Street, Liverpool, August 29.



SMITHFIELD CLUB FAT CATTLE SHOW, 1863.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS, will be held at the AGRICULTURAL HALL, ISLINGTON, on MONDAY AFTERNOON, December 7, and four following days.

In addition to Prizes to the amount of 1825*l*., the following CUPS will be offered:—

A Silver Cup, value 40*l*., for the best Steer or Ox in any of the Classes.

A Silver Cup, value 40*l*., for the best Heifer or Cow in any of the Classes.

A Silver Cup, value 20*l*., for the best pen of Leicesters, Cotswolds, Lincolns, Kentish, or other Long-woolled breed in any of the Classes.

A Silver Cup, value 20*l*., for the best pen of 1-year-old Southdowns, Hampshire, or Wiltshire Downs.

A Silver Cup, value 20*l*., for the best pen of Shropshire, Oxfordshire, cross breed, or any other breed of Sheep (not specified above) in any of the Classes.

**A Silver Cup, value 1[illegible]*l*., to the *Butcher* who shall expend the largest amount of money in purchasing animals from the Classes in the Show Yard.**

The Prize Sheet now contains distinct Classes as under:—

CATTLE.

| | | |
|---|---|---|
| Devons | Norfolk or Suffolk Polled | Scotch Polled |
| Herefords | Long Horns | Irish |
| Short-horns | Scotch Horned | Welsh |
| Sussex | | Cross or Mixed |

SHEEP.

| | | |
|---|---|---|
| Leicesters | Southdowns | Oxfordshire |
| Cotswolds | Hampshire or Wiltshire Downs | Mountain |
| Lincolns | Shropshire | Cross Breeds (Long and Short Wool) |
| Kentish or Romney Marsh, and other Long Wools | | |

PIGS.

Four Classes, different ages, up to 18 months old.

The Entries for LIVE STOCK CLOSE on NOVEMBER 2.

The Entries for AGRICULTURAL IMPLEMENTS, &c., CLOSE on OCTOBER 1.

Prize Sheets and Printed Forms of Certificates, with full particulars, can be obtained on application to

Mr. DAVID PULLEN, Assistant Secretary,

At the Office of the Honorary Secretary,

Corner of Half Moon Street, Piccadilly, London, W.

N.B.—It is particularly requested that applications for Prize Sheets and Forms of Certificates, &c., be addressed to the ASSISTANT SECRETARY as above, and all Communications should have the words SMITHFIELD CLUB outside, to distinguish them from private letters. If this be neglected, there may be risk of delay and inconvenience.


# The Agricultural Gazette.

## SATURDAY, AUGUST 29, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| WEDNESDAY, Sept. 2 | } | Meeting of the Sparkenhoe Farmers' Club at Nuneaton. |
| THURSDAY, — 3 | } | |
| FRIDAY, — 4 | { | Sale of Mr Read's Herefords at Elkstone, near Cheltenham. |

ALTHOUGH the weather has not during the past week been favourable for harvest operations, yet no real injury has been done by the rain, and in the meantime it becomes plainer every day that we have a magnificent crop of Wheat to gather in. We have received samples of last year's Wheat and ears of the present crop from the same farm, and the contrast is very great indeed. There will be an unusual waste of shed corn both in the field and in carriage from it, as there always is when the grain is bold and large. The following is a tabular analysis of the harvest reports we have received from our correspondents. And we add those of previous years that our readers may

perceive how great a contrast the current harvest presents to those of recent years.

| Crops 1863. | Over average. | Average. | Under average. | Total Reports. |
|---|---|---|---|---|
| Wheat .. .. | 131 | 60 | 1 | 192 |
| Barley .. .. | 68 | 109 | 23 | 199 |
| Oats .. .. | 49 | 110 | 48 | 196 |
| Beans .. .. | 24 | 77 | 48 | 149 |
| Peas .. .. | 29 | 82 | 10 | 121 |

The following on the other hand is the report of 1862, and it will be seen how exactly it is the converse of that which our columns have recently published, only *one* report of the Wheat crop having been over average in 1862, only one being *under* average in 1863:—

| Crops. | Over average. | Average. | Under average. | Total Reports. |
|---|---|---|---|---|
| Wheat .. .. | 1 | 37 | 150 | 188 |
| Barley .. .. | 26 | 103 | 58 | 187 |
| Oats .. .. | 37 | 108 | 55 | 200 |
| Beans .. .. | 42 | 60 | 13 | 185 |
| Peas .. .. | 10 | 72 | 28 | 106 |

Lastly we give the returns from 1857 up to 1861:—

Reports of Crops, 1861, &c.

| Crops. | Under average. | Average. | Over Average. | Total. |
|---|---|---|---|---|
| Wheat, 1857 .. | 13 | 50 | 74 | 137 |
| „ 1858 .. | 8 | 92 | 101 | 201 |
| „ 1859 .. | 46 | 120 | 20 | 186 |
| „ 1860 .. | 93 | 46 | 1 | 140 |
| Wheat, 1861 .. | 114 | 76 | 14 | 204 |
| Barley, „ .. | 29 | 94 | 75 | 198 |
| Oats, „ .. | 28 | 80 | 102 | 210 |
| Beans, „ .. | 71 | 44 | 29 | 144 |
| Peas, „ .. | 13 | 37 | 61 | 111 |

—— The scheme of agricultural lectures during the current session at the Royal Agricultural College, Cirencester, includes, as our readers are aware, occasional addresses to the students by gentlemen known in connection with particular agricultural topics of which they have long been the exponents. We are glad to learn that on Wednesday, the 9th of September (at 9 A.M.), a lecture on Plant Cultivation and Thin Seeding is to be delivered in the theatre of the College by the Rev. G. Wilkins, of Wix. We mention this here that any of his readers and admirers, whether in the neighbourhood of the College or elsewhere, may have the opportunity thus within their reach of hearing him.

—— We understand that the prize of 25*l.* offered by the Royal Agricultural Society of England for the best essay on Steam Cultivation has been awarded to Mr. W. J. Moscrop, of Kirkleatham, near Redcar, late farm manager to R. Campbell, Esq., of Buscott, near Faringdon, the steam cultivation of whose estate has been described in these columns.

There is perhaps no problem in farming more difficult of solution than that of Clover sickness. There are few farmers but know something about it, and few but have attempted to account for it; and though various views have been expressed upon the subject, yet they all at last tend to the expression of an opinion that the land is tired of the growth of Clover; and it is hence termed Clover sick.

Have we not, however, a clue to this mystery—if we for a moment consider that our Clovers attain to the height of as much as 2 feet, whilst the plant from which they have been derived scarcely attains to 6 inches; that our crop plant is large, broad-leaved, more or less smooth, whilst its parent is small and hairy, and not remarkable for succulence; and that in its natural state it is not used to those luxuries in which the cultivated family has been brought up. If seed be brought from a rich soil to a poorer or from a warm to a colder climate, we may expect that its plants grown amid Barley, and drawn up during the summer, would have but a poor constitution to stand the winter, but can we in such a case say the land is sick of it? Of course such seed will do better in one place than in another, for example, we have traced some American seed of broad Clover grown by itself in deep rich soil of the vale of Gloucester, where the climate is so much milder as to be a fortnight before the Cotteswolds, producing an abundant crop; while when the same Clover formed part of a mixture of "seeds," with Rye-grass and Plantain on the Cotteswolds, the two latter have taken possession of the soil, and the Clover has made no way at all. The more we import seed from warmer climates—and this is rapidly on the increase—the more difficult is it found to make Clover stand, but this difficulty increases in proportion to the thinness of soil and backwardness of climate, so that the elevated districts on the stony Cotteswolds present perhaps more of the so-called Clover-sick land than any other of like extent. The seed of Clover has indeed become more pampered, more and more the offspring of large crops from deep rich alluvial soils under the tropical summer heat of the south of France and the United States, where it is grown as a self crop, and not fed merely on what the corn could not carry away. But while this source of enervation has gone on, we expect it to withstand the shock of a lower temperature with cutting winds and an impoverished soil—soil from which Barley has extracted the last ounce of food, and then we say that the land is Clover-sick, when in truth it is the seed that sickens under such conditions.

Another circumstance which has contributed to the increased difficulty of growing Clover on thin soils has been that whereas we formerly adopted the plan of paring and burning once in a rotation, now this system has been nearly discarded, and to the prejudice of the Clover crop, as follows:—

Paring and burning had the effect of converting some of the hard limestone brash into lime, in which case it is broken up, and so restores lime and alumina which are quickly lost in thin soils, so much so that not unfrequently the whole depth of soil upon a limestone will consist of sand.

Again, paring and burning decomposed the humus, which is found in quantity in what is called dead soil.

Another most salutary effect was in the destruction of insects, and more especially the wire-worm, which now makes such inroads into all our crops, showing in Clover bare patches, often of great extent.

Insects indeed are yearly becoming more destructive, not only on account of a difference in farming, but also from the determined destruction of birds.

The food of birds is in general very mixed, but at one season of the year when they are breeding they are most determined destroyers of insects, but it is just at this time that they are kept from the crops, and just too at this time that insects are working the most mischief. Thus it was that on a recent visit to Dorsetshire we saw a man employed to keep the birds from a field where several men were engaged Barley-sowing. It is quite true that unless he had been there the rooks would have most industriously followed the drill, but as we thought scarcely to pick up Barley, where there were more of the Elater—the parent of the wire-worm—than we ever saw in a day before. This bird-keeper would have done more good to the Barley and succeeding Clover by picking up 100 of these beetles than by blazing away at rooks and sparrows for a twelvemonth, and this certainly might have been done in a morning. Still that it is found difficult to grow Clover year after year cannot be doubted. Messrs. Lawes and Gilbert's experiments are conclusive upon this point, as the following remarks in their experiments on the growth of Red Clover testify.

"Experiments on the growth of Clover, with different descriptions of manure, were commenced in 1849, and, with the occasional interposition of a corn crop, or fallow, have been continued up to the present time. As with Beans, the result was that mineral constituents, applied as manure, particularly potash, and, more or less, phosphoric acid also, considerably increased the early crops; whereas ammonia salts had comparatively little effect. But after the first few years all further attempts to grow Clover year after year on this land have failed, notwithstanding that fresh seed has again and again been sown. Neither ammonia-salts, nor organic matter rich in carbon as well as other constituents, nor mineral manures, nor a mixture of all, has availed to restore the Clover-yielding capabilities of the land.

"It is, however, worthy of remark that, in 1854, Red Clover was sown in a kitchen garden only a few hundred yards distant from the experimental field, on soil which has been under ordinary garden cultivation probably for two or three centuries, and it has every year since shown very luxuriant growth; and (after once re-sowing during the period) there is, at the present time, little or no indication of failure."

But with all experiments upon the growth of Clover we have had only the derived plant to deal with. We hope therefore some day to be able to record the result of a series of trials conducted with wild seed collected for the purpose, as it appears to us that the difficulty of growing Clover is just that of a repetition of Potatoes and other garden esculents, not to say farm root crops, of any particular sorts in the same district. These fail after a time and newer sorts succeed; not that the land has got tired of the crop, but that the derived sort has got tired of the land. A newly derived strain of Clover might be useful, and if it be so thought by any one willing to try the matter, a new sort can, we are persuaded, be as readily attained as has been a new variety of any other cultivated plant.

## PEST OF THE FARM ROOT CROPS.

In the summer of 1852, I was struck with astonishment on visiting a field of Swedish Turnips which four days before had been covered with an even plant some 6 inches high, to find not a trace of vegetation of any kind, but a glaring white surface of chalk and flint. Upon crossing a broad green turf road about 60 feet wide, I found about 2 acres of a field of Rape gone in a similar manner. The destroyers evidently consumed the Rape in line, for the outside of the standing crop, which was about 24 inches high, was perfectly straight the whole way across the field. Upon examination, no trace of any kind of caterpillar could be found either among the Rape or in the ground at its foot. Upon visiting the crop at midnight, however, it was found covered with caterpillars of the common Dart Moth (Agrotis segetum), the noise of whose feeding resembled the sound caused by a heavy shower of rain. On the following morning upon search being again made in the ground, nothing for a space of 5 feet wide could be seen of them, but upon searching 6 feet from the standing crop 50 could be found upon each square foot 2 inches below the surface. I then ploughed a trench (and afterwards excavated the chalk below) all round them, and at night, as they crossed this trench on their way to the feeding ground, poured upon them sulphuric acid and water. The few that escaped I caused to be collected by hand, paying 10*d.* a pint for them. Since that year one or two may occasionally have been seen upon the farm. This year they have again appeared, and, having utterly destroyed 4 acres of a beautiful field of white Carrots, are now busily endeavouring to destroy an adjoining one of 23 acres of Mangels; but I am employing an army of boys to pick them out and boil them. In recently crossing one of the Mangel fields belonging to a neighbour, I found half his crop gone already, and of course informed him of what was going on. As they once caused nearly a famine in Germany, and necessitated the calling out of the soldiers to collect them, and as it appears that their ravages are not confined to my own crops, I have thought it right to put my brother agriculturists upon their guard. The following description is from Morton's Cyclopædia of Agriculture," under the heading Surface Grubs. "They are most of them as large as a goose quill when full grown, an inch or two long, tough, smooth, and shining. Those produced from the eggs of the common Dart Moth, sometimes commit sad devastation in Turnip and young Mangel Wurzel fields; they are also very destructive in the corn field. They are in existence all the year, and in some seasons are abundant and full grown from the beginning of June till the approach of winter. In summer they will often eat off the crowns of the Turnips, and in autumn groups of them are found eating holes in the bulbs just at the surface. In the garden they clear off the Cabbage tribes and Lettuces with astonishing rapidity by eating through the tap-root a little below the surface, and at night they come forth and draw the detached leaves into their burrows. As soon as a plant droops, if the earth be carefully removed, the surface-grub will be found 2 or 3 inches below, and about the same distance from the root; but if left for a night the culprit comes forth, travels with great speed to a neighbouring plant to accomplish the same mischief, and thus in a short period one caterpillar will destroy several plants." I may add that every Mangel here has at least one or two grubs eating it, and some have as many as 30; that their ravages first make themselves known by the under leaves turning yellow and falling off; and that these pests will eat entirely through the tap-root of a Mangel or Swede whose bulb is 6 or 7 inches in diameter. *Fred. F. Hallett, The Manor House, Brighton, August* 18.

## ON ARTIFICIAL FERTILITY.

### The Recapitulation of a Lecture.

You enter on a farm, and of course you want to raise large crops of everything you grow. Your ability to do this *profitably* depends upon your careful and economical observance and *satisfaction* of the habits and wants of the several crops as these have been ascertained by the experience of farmers. Each crop has certain habits to which its treatment by the cultivator must be adapted, as well as certain requirements in the way of climate, which you cannot materially alter, but which (when you have ascertained the circumstances of your farm) will guide you in your choice of the crops which you shall cultivate. Having concluded what crops your climate, and your soil, and your markets make it advisable for you to cultivate, then each must be treated so as to obtain the largest produce of each which you profitably can. There is a

maximum produce in the case of each, beyond which, on the one side, the natural circumstances of the climate, and on the other side the character and vital power of the plant will hinder your going. How near to this maximum you can profitably get, depends in the first place on the cheapness of manures, and the cheapness and efficiency of labour, on the state of the produce markets, and other things of a purely practical kind, of which the so-called agricultural sciences take no account.

But in the next place it depends on the skill and knowledge with which you artificially adapt your soil to the wants of the crop. In order to this you cultivate and till the land, and you manure it so as to get just that tilth, that texture, stiffness, richness of the land which suit the plant and which it can use to the best advantage during the season of its growth—and then you sow the seed of these plants at such times, in such quantity per acre, at such a depth, in such an order of succession year after year, and cultivate and attend to them during their growth, adopting in all these cases such rules as experience has shown to be advisable. Here, on the other hand, it is plain that the sciences both of botany and chemistry will throw much useful light.

There is, however, such a thing as fertility apart from the power of any particular crop to give expression to it. Soils naturally differ in their fertility, and, left to nature to clothe them, one will exhibit a luxuriant growth, and another will exhibit a stunted growth of those plants with which they were naturally covered. Take your stand on the top of Stinchcombe Hill, and look down on the vale of Gloucester spread out before you, and observe the wastes and common lands within the limits of the extremely various geological formations, and on the consequently extremely various soils of that district. One common is covered with rich and abundant Grass, another with a very scanty growth of Sedge and Rush, half hid in Thorn and Bramble; the conditions of fertility naturally existing in the one case and not in the other. Observe also how, even on the enclosed and cultivated portions of the land, whatever be the crop, there is such a thing as luxuriance of growth here and scantiness of growth there, the result of an artificially created fertility, varying in degree (altogether independently of the particular crop which is exhibiting it) according to the energy, the liberality, the skill with which the rules of good farming have been observed. Thus, if you traverse that district, you will always find on the dairy farms, whatever be the soil, the home grounds, which are constantly manured by the stock being foddered on them during winter, are the greenest and the best. And comparing one farm with another you will see (no matter what the crops—apart even in great degree from whether *they* are skilfully cultivated or not)—and apart altogether, I am sorry to say, from the question whether or not they are *profitably* cultivated—you will see the fertilising effect of drainage—of deep tillage—of dressings of farm yard dung, guano, bonedust, superphosphate, lime—of burning calcareous clays—of marling sands—of sheep folding and so on.

It is this general subject of fertility then which was my subject. I had comparatively little to do with the fitness of the operations which I recommended to the habits of growth of particular plants; not so very much with the way in which the fertility (which my rules if observed will produce) may be made profitable; but knowing that there is such a thing as a fertile soil on the one side, and a barren soil on the other, I told you what are the methods by which any particular soil may be improved and placed higher on the scale between the two.

In order that you might the more satisfactorily hold in one view all those particular qualities which a fertile soil possesses, and the corresponding operations by which a comparatively infertile soil may have these qualities conferred upon it, I told you that students of this subject had arranged all the facts under two principal divisions—the one concerning the soil itself as it may be called—the other concerning the contents of the soil; the one including the so-called physical properties of the soil, the other referring exclusively to the composition of the soil.

I told you that a soil may be considered as a store-room of food for plants, as a laboratory in which it is prepared, as a vehicle by which it is conveyed—that its fertility depends—first, on this store-house being not only full but accessible—secondly, upon this laboratory being actively at work, and supplied naturally or artificially with the material which it requires for all the processes which result in the food by which the store room of a fertile soil is well supplied; and, thirdly, upon the vehicle by which the food is conveyed to the plants being in sufficient activity—certainly not stagnant, but not more active than is necessary for the supply of food as fast as plants can use it.

I told you that among the physical properties of soils are their texture and consistence, their weight, their power of absorbing, holding, and retaining moisture, their shrinkage under drought, their relations to external warmth. I said that upon their texture especially, and the consequent relations of soils to water, hinged the cost of cultivation as well as a very great deal indeed of the fitness of the soil as a laboratory, store-room, and vehicle in which food for plants is made, placed, and conveyed. I told you that upon the fineness of the particles to which the texture is due, depends the quantity of inner surface of the soil, and that upon *this* depends the quantity of store room which the soil possesses within a given bulk, as well as the quantity of pasture ground, as it were, on which the roots of plants can feed within that bulk. As to the composition of the soil, or rather of its contents, stored away upon and between these surfaces, I referred very shortly to those ingredients of the soil which chemists have shown to us that the plants we grow contain. In conclusion, I referred to the practical methods by which these substances are supplied to a soil, and by which in all its characters as store-room, laboratory, and vehicle, the fertility of a soil is increased.

If as a storehouse it is imperfectly supplied, we can add to its ingredients directly from the dung heap, the manure factory, and the guano ship, or indirectly by feeding stock upon it on purchased or imported food—if the supplies are inaccessible within the soil, and as a vehicle it is sluggish or stagnant, we must by drainage induce a constant current of water throughout its substance, and by deeper and more thorough tillage we must lighten its texture and open those passages between its particles, by which root fibres may enter and through which water, the great feeder of their roots, may pass. But the storehouse may neither be inaccessible nor really empty—the material of which food can be prepared may lie naturally there in sufficient quantity, but the soil may be deficient as a laboratory, in which this food has to be prepared before it can be used. Additional chemicals, so to speak, for this purpose must be therefore introduced. Drainage will improve it in this respect by bringing and distributing throughout it those contents of the air which rain water has washed out of it during its formation and fall. Lime may be added, and will be a new and active element: and by burning the soil an altogether new set of combinations will be brought about.

This description of the soil as a store-room, laboratory, and vehicle of vegetable food, thus embraces all the processes by which fertility is conferred on soils. It does not include all those special adaptations to their individual wants which the several crops require, but it does include the drainage and tillage of the soil, the liming, marling, burning, and even the manuring of the soil, in order to the creation of fertility. This general aspect of fertility of soils was our subject.

No doubt a man in the occupation of a farm of which he knows the faults wants to be doing something to improve it, and he may be impatient of general truths like these. I think however that this general view of the whole of the operations he may have to superintend for its improvement is useful to him, and certainly it is useful to the agricultural student. It cannot be considered as a beating about the bush. It does lead to an intelligent acquaintance with farm practice thus to state each item, particular, and operation of it as an instance and illustration of more general truths. And I must add that whatever may be the impatience of the practical man, or possibly of those among yourselves who may want to get at the actual things that must be done in order to get, in the cheapest and best way, at the tangible proofs of artificial fertility which heavy crops of grain and roots and Grass present—I do not mean either myself to let go or to let you lose sight of those central general truths (this theory in short) by which the whole course of the experience of the tillage farmer is embraced, explained, and understood. Nor, let me add, do I mean either to forget for myself or to cease reminding you of the limits within which these central truths must be understood to operate.

To take this fertility of soil, for example, about which I have been speaking—

An intelligent observance of the rules to which these general considerations lead will create this fertility; but that is of no use whatever until it has found its expression in actual crops; and in order to these you have to observe not only the general rules of fertility but the habits and character of these crops, and these must limit the operation of the general rules of fertility.

It is a general rule of fertility that water is not a mischievous thing but a beneficial thing. Provided it be kept from stagnation in the land it tends to activity in all the processes on which growth depends. I remember, however, condemning one day before a farmers' club that definition of land drainage which declares it to be a contrivance for getting rid of water. On the contrary, I declared it was a contrivance for making use of water. "Water in motion is a useful thing; what more fertile than a water-meadow?" and so on.

I there and then got a lesson of the kind I am giving you by the exclamation of a practical farmer, who interrupted me with the declaration that he had never known a good Wheat crop except it was a dry summer. The general truth on which I was expatiating *is* a truth, but so also is that nearer, more immediate, and therefore more practical one, which in the case of the Wheat crop limited its application.

Again, on the subject of tillage. I shall point out to you the importance of making the full use of the whole depth of your soil and the need of introducing all kinds of fertilising agencies, whether air and rain or manure throughout its substance. I shall urge upon you that whether as a store-room, a laboratory, or as a vehicle of food, the soil is improved by thorough tillage—the inference being that deep ploughing and grubbing and stirring to the full depth are fertilising operations. Well, you will go out immediately to the Clover or the Bean stubble, and you will be told about the preparation of the land for Wheat sowing. Almost the first thing I have no doubt that you will hear will be—"We don't plough deep for Wheat, we do not like to stir or loosen the soil too much in such a case—all we want is to bury the surface vegetation and retain as firm and unbroken a soil and subsoil as possible."

Here then is another case in which the general truth regarding a large and well-filled store-room, with easy access to its contents, as an indication of fertility, is over-ridden by the need on behalf of the Wheat plant of a firm unbroken seed bed.

Besides the general consideration, then, of the causes of fertility in soils, to which I referred, and which, subject by subject, I shall in the course of my remaining lectures discuss, there are the special considerations regarding every plant by which you hope to give expression to that fertility which you also need to learn, and of which you will be told both in the lecture-room and field by others.

## UTILISATION OF SEWAGE.

I see that in your impression of Aug. 22 you give Baron Liebig's recent letter on the agricultural value of town sewage, and also a shorter one introducing it by Mr. Mechi, in which he says, "It settles definitively the question, hitherto much disputed, of the value of a ton of town sewage, taken at its outlet." And further on Mr. Mechi assumes that Baron Liebig's estimate establishes the value of *4d.* per ton.

Is it really the case that in Baron Liebig's letter there is to be found a definitive settlement of the important question of the value of the manurial constituents in a ton of average metropolitan sewage? Nothing of the kind. The substance of what Baron Liebig really does say may be stated in a very few words. He says that *if* the average sewage have a certain assumed composition, and *if* to every 100 tons of sewage of such composition rather more than 1 cwt. of superphosphate of lime be added, it will then (after deducting the cost of the superphosphate) be worth about *4d.* per ton, reckoned according to the constituents it contains; but that if the superphosphate of lime be not added, it will only be worth 1½*d.* per ton.

But does Baron Liebig himself claim that his estimate is founded upon sufficiently established information as to the average composition of the metropolitan sewage? Quite the contrary. We have his own opinion on this point very clearly stated. In reference to the analysis of sewage upon which he founds his calculations, he says—"Lacking more certain data, I take Professor Way's analysis of the sewer water, which this most reliable chemist made at the request of the General Board of Health." He says—"Regarding the component parts of the best sorts of guano, we have certain and reliable data; those relating to sewer water are less so; but we might long ago have been fully informed of its average contents if, last year, at the mouth of each sewer in London, five gallons of water had been collected morning and evening every day during the week, and at the end of the seventh day one gallon of the collected seventy gallons subjected to chemical analysis." Again, he says, "In the calculation of the value of sewer water there is one factor doubtful, viz., the absolute amount of phosphoric acid, ammonia, and potash, which a ton of the said water contains." What, then, I would ask, does Mr. Mechi mean by telling the public that Baron Liebig's letter "settles definitively the question, hitherto much disputed, of the value of a ton of town sewage taken at its outlet?"

But is it even probable, judging from the evidence we have at command, that the average metropolitan sewage is anything like so strong as that upon the analysis of which Baron Liebig bases his estimates? Certainly not. I quite agree with Baron Liebig that, however much individual samples of sewage may differ from one another, the relation of the ammonia to the other valuable constituents may, upon the average, be considered as pretty definite; and since the ammonia is reckoned to give three-fourths (more or less) of the money value, we may take the relative amounts of ammonia in sewage as indicating, approximately, the relative values of different samples. Now Baron Liebig adopts, as the basis of his estimates, the analysis by Professor Way of a sample of sewage from the Dorset Square sewer, which gave 17.96 grains of ammonia per gallon. In reference to that sample I have this morning received a letter from Professor Way, in which he says that I have his full authority for stating that it was "much above the average," and he adds, "I should say fully twice the average strength." Again, Messrs. Hofmann & Witt give as the average of their analyses of the undiluted sewage, that is the sewage without rainfall, 8.2 grains of ammonia per gallon. And again, taking into calculation the rate of flow, &c., Dr. Letheby's analyses, which constitute the most extensive series relating to the metropolitan sewage, give a lower average still. Lastly, from entirely independent data, I think there is very little doubt that the real average metropolitan sewage would show less amounts of ammonia, and the associated valuable matters, than even the average of Dr. Letheby's samples. In fact, I believe there is no doubt that 10,000 tons of average metropolitan sewage calculated by Baron Liebig's scale and method, but on the basis

of its real composition, would show a value of less than one-fourth of 166l. 13s. 4d., so triumphantly assumed by Mr. Mechi on the basis of 4d. per ton.

I fully agree with Mr. Mechi, however, that the area over which town sewage can be profitably utilised must very much depend on the cost of application to the land. Indeed, at a recent meeting of the committee of sanitary science at the Society of Arts I suggested that the Society should take some steps to get reliable engineering information on this point. But what Mr. Mechi can mean by referring to Croydon, as if the experience there could be any guide as to the cost of raising sewage to given elevations, or were at all in favour of applying small quantities per acre, I cannot understand. It happens that I visited the Croydon meadows only last week. I was informed that the sewage of 18,000 to 20,000 people was confined to something under 250 acres, and to succulent crops exclusively. Now, if we say 250 acres and 20.000 people we have, besides other matters, the excretal matters of about 80 people to each acre; which, at Mr. Mechi's estimate of 16s. per head would give 64l., and at 6s. 8d. per head, the estimate of Mr. Lawes and myself, 26l. 13s. 4d. for the value of the manurial constituents per acre. But what was the complaint at Croydon? Why, that notwithstanding, as Mr. Fenton told us in his evidence last year, the dry weather sewage amounts to 800,000 gallons per day, which is equal to 40 gallons per head per day, or 65 tons per head per annum without rainfall, they had been suffering during this dry season for want of a sufficient bulk of sewage for the area of land under irrigation, and that the crops of meadow and Italian Rye-grass had in consequence not answered expectations. The system at Croydon, too, is to let the sewage flow over a given area of land for several days and nights together.

I quite agree with Baron Liebig also, that there is one factor "doubtful" in the calculation of the value of sewer water, viz., its average composition. I would suggest that a mixed commission of engineers and chemists, in whom all might have confidence, be appointed to superintend the gauging, sampling, analysis, and calculation, in such manner as really to settle definitively the approximate average composition of the metropolitan sewage, as it will have to be dealt with in any plan of utilisation. From my own experience of such matters, however, I do not think it would be sufficient to take samples night and morning only, as proposed by Baron Liebig.

But besides the engineering, chemical, and agricultural factors, there is a *moral* factor still wanting, without which a satisfactory solution of the sewage question bids fair to be long postponed.

This moral factor is courage on the part of all really anxious for the profitable utilisation of town sewage to deal candidly with the public in regard to it, and not to misrepresent the real facts of the case.

This leads me to say a few words in conclusion on Baron Liebig's unworthy allegation—not only unfounded, but directly contrary to the facts—that the manufacturers of artificial manures are "inimical to the utilisation of sewage, and, in the battle which is being fought, they constitute the inimical army whose forces should be by no means underrated." Such an accusation may perhaps be naturally enough conceived of, and propagated by schemers who are directly interested in keeping the public ignorant on this question; but that it should be echoed by Baron Liebig, not only without a word of evidence in its support, but when himself putting forth estimates and calculations, which, if based upon well established facts, would most strikingly confirm the estimates and views of those he seeks to traduce, is surely highly discreditable; though it will be well understood by all acquainted with recent agricultural discussions having no reference to the sewage question. It is, however, doubly discreditable to his prompters here, who, better still knowing the facts, have sought to get the weight of Baron Liebig's authority in condemnation of those whose statements they cannot refute. They seem to forget that as the public becomes better informed on the subject, they will be apt to conclude that the allegation of mean and improper motive and bias, is perhaps less appropriate against those who fearlessly put the facts before them in spite of obloquy, than against those who are constantly reiterating erroneous statements. *J. H. Gilbert, Harpenden, St. Alban's, Aug.* 25.

## THE HOLME PIERREPONT LEICESTERS.

On Wednesday of last week the sale of the last of Mr. Sanday's Leicesters took place at Holme Pierrepont. The lots included 64 shearling rams, and 88 shearling ewes.

This famous flock, which has made Holme Pierrepont a household word with breeders of Leicesters throughout the British Islands, is now dispersed all over the world. Many have been purchased for Australia, America, and the Continent, especially to Spain; but the greater number have been kept in Great Britain and Ireland. In retiring from the labours to which he has so long and so successfully devoted himself, Mr. Sanday has the satisfaction of being assured that he has done more for the preservation in its purity of the Leicester breed of sheep than any other competitor in the same pastoral pursuit. No breeder of sheep has obtained so many prizes, and his collection of medals, awarded at the several shows in England, Ireland, and Scotland, at which he exhibited, is sufficiently numerous to furnish forth a respectable museum.

The sheep were penned up in the Home Paddock, and were attentively inspected by the visitors. Mr. H. Strafford was the auctioneer. At the luncheon which preceded the sale, Mr. Torr, Aylesby Manor, in proposing the health of Mr. Sanday, said:—

I decline to make any lengthened speech in reference to the gentleman whose health I am about to propose to you, and even if I attempted to do so I have no words of my own which would enhance his character in your estimation. If I tell you that William Sanday, of Holme Pierrepont, is an honest man, and that an honest man is the noblest work of God, I need say but little further to make you be of the same opinion as I am, and as I believe you are already He has long been connected with this, the classic ground of Leicesters. That ground has been well tilled, and it is now left in as fertile a state as when he took it; and those who borrow from him on this occasion that blood which he inherited, I trust may receive from it as much good as it has done to him, and I hope they may live to transmit it as pure as he has done. Various opinions may, and I believe do, exist throughout the length and breadth of the land on the subject of breeding; to my mind the world is wide enough for us all; but still I hold to this position, and it is one which Mr. Sanday has held throughout his career, that the greatest attention should be paid to preserving pure that strain of blood that came from one of the first philosophers in this country. I refer to Mr. Bakewell. Mr. Sanday has trod in his footsteps, and preserved the purity of the breed intact; and for so doing he has not only deserved the thanks of this company, but of the country at large. And here, perhaps, I may say that such thanks have been paid to him in one way, and that a public way, for he has won, perhaps, more prizes than any other breeder of Leicesters in the kingdom. If that be a test of public thanks, it should be satisfactory to Mr Sanday, and it must be satisfactory also to those who possess any more of his blood, that the animals have bred so well and have fared so well when offered to public competition.

The toast was drunk with enthusiasm.

Mr. Sanday, on rising to return thanks, was greeted with renewed cheers. He said:—

"I wish, Mr. Chairman and gentlemen, that I could thank you as the high compliment which you have just paid me deserves, but my feelings will not allow me to do so. At any time I am a bad speaker, but on the present occasion I feel it impossible to express my sense of your kindness. I think, gentlemen, you are all aware that it has always been my study to use my best endeavours to breed Leicesters as well as I possibly could, both for my own interest as well as for the benefit of the public at large. In all my transactions I have endeavoured to do as I would be done by. And that, gentlemen, is as much as you can expect from any man. I trust that the purchases will be satisfactory to all who buy. I could only have wished that we had a few more here, but those that are here I am delighted to see. Whatever the sheep fetch, I shall be perfectly satisfied. I shall now only thank you most sincerely and cordially, and wish you many years of happiness and prosperity."

Mr. Strafford's health was warmly drunk, and the compliment as warmly responded to.

RAMS.—SHEARLINGS.

The following is a return of the principal sales and the purchasers:—

| Lot. | | Gs. |
|---|---|---|
| 1. | Mr. Garde, Co. Cork, Ireland | 30 |
| 2. | Mr. Hall, Scorbro | 30 |
| 3. | Mr. Biddle, Warwickshire | 18 |
| 4. | Mr. Cresswell, Ashby-de la-Zouch | 62 |
| 5. | Mr. Turner, Exeter | 41 |
| 6. | Mr. R. O'Dogherty, Cornwall | 26 |
| 7. | Mr. W. Morris, Cotgrave | 20 |
| 8. | Mr. Hall, Scorbro | 40 |
| 9. | Mr. Torr, Aylesby Manor | 32 |
| 10. | Mr. Dixon, Brands Barton | 24 |
| 11. | Messrs. Ashbourne & Staples | 20 |
| 19. | Mr. Morris, Cotgrave | 20 |

The remainder of the 64 lots realised from 3l. to 16l. each.

SHEARLING EWES.

| Lot. | | Gs. |
|---|---|---|
| 1. | Mr. Torr, Aylesby Manor | 20 |
| 2. | Mr. Cresswell, Ashby-de-la-Zouch | 32½ |
| 3. | Mr. Hall | 55 |
| 4. | Mr. Turner | 40 |
| 5. | Mr. Darrell | 32½ |
| 6. | Mr. W. Morris | 27½ |
| 7. | Do. | 27½ |
| 8. | Mr. Stamper, Oswadkirk | 25 |
| 9. | Mr. Waters | 17½ |
| 10. | Do | 20 |
| 11. | Rev. M. O'Grady | 17½ |
| 12. | Mr. Pinder, Barrowby | 22½ |
| 13. | Mr. Torr, for Mr. Riall | 20 |
| 16. | Mr Nicholls, Packington | 20 |

The remainder of the lots fetched from 10½ to 17½ gs.

SUMMARIES.

| | | |
|---|---|---|
| August 19th Sale:— | | |
| 64 Rams | £794 17 0 | |
| Average, 12l. 8s. 6d. | | |
| 88 Ewes | 462 10 6 | |
| Average, 5l. 5s. | | |
| | £1257 7 6 | |

THE WHOLE OF THE SALES:—

| | | |
|---|---|---|
| July 9, 1862,—72 Rams | £1905 15 0 | |
| Average, 26l. 9s. 4½d. | | |
| Sept. 10, 1862,—37 Rams | 688 16 0 | |
| Average, 18l. 12s. 4d. | | |
| August 19, 1863,—64 Rams | 794 17 0 | |
| Average, 12l. 8s. 6d. | | |
| 173 Rams, averaged 19l. 12s. | | 3389 8 0 |
| Sept. 10, 1862.—245 Ewes | 1526 14 0 | |
| Average 6l. 4s. 8d. | | |
| August 19, 1863.—88 Ewes | 462 10 6 | |
| Average, 5l. 5s. | | |
| 333 Ewes averaged 6l. | | 1989 4 6 |
| | | £5378 12 6 |

Total 506 Sheep, averaged 10l. 12s. 6d.

At the instance of Mr. Torr, a collection was made as a parting gift to George Newton, the shepherd of Mr. Sanday's flock. Mr. Torr paid the highest encomiums to George's skill and attention; and the appreciation in which this excellent and most deserving man is held, was fully testified by the contribution of 14l., which Mr. Torr presented to George in the drawing-room, with many warm wishes for his welfare. *Abridged from the Nottingham Guardian.*

## THE APPEARANCE OF THE CROPS.

BERKSHIRE: *Sutton Courtney.*—Wheat, very good; Barley and Oats, very good; Beans and Peas average; Potatoes, good; Root crops bad, Mangels excepted; Hay, short crop. *E. Pullen.*

STAFFORD: *Penkridge.* Wheat, over average; Barley, full average; Oats, average; Beans, good crop, not heavily corned; Peas, average; Potatoes, average, free from disease; Root crops, good Turnips, Mangels indifferent; Hay, very light, well harvested.

WEXFORD: *Larchill, Kilmore.* Wheat, little sown here, but a good average crop. Barley, rather an uneven crop; about one-half thin, but a good grain; the other half very heavy, and excellent in quality. Oats, autumn-sown thin and short; spring-sown a heavy crop, but affected with blight. Beans, generally thin and short, slightly blighted, better than last year, but below an average. Potatoes, good in quantity, excellent in quality; the tubers are beginning to be diseased; uncertain how they may turn out; all root-crops promise well. Hay a very light crop. *William Boxwell.*

## Home Correspondence.

*The British Farmer.*—To use the words of a contemporary, "farmers on the whole are an eminently good sort." Taken as a class, you find less affectation, less vulgarity—in a word, less snobbishness among them, than perhaps among any other class of the community. In book knowledge, granted, they are certainly inferior, and their minds no doubt more sluggish than those of the inhabitants of towns and cities. But, after all, if we exclude a very small circle, how much of the enjoyment of life consists either of literature, or of keen intellectual contests? The farmer generally has good sense, good nature, and is always hospitable. He is to be sure not usually the kind of man one would care, or be safe to travel with to Rome or Athens. But in truth, within his own house, or in his own fields, he is often a capital companion, and moreover always an unexceptionable host!

*Crops in County Dublin.*—The crops in this district are very promising. All the Cereals sown in due time are particularly good, and now fit for reaping. Late sown Oats are light and uneven; the crop of Black Tartary Oats is remarkably good throughout the parts of the county which I have seen. Green crops have made very rapid growth since the late mild, but somewhat copious rainfalls; these rainfalls have rather benefited the corn. The yield of Grass this year has been under an average. This day fortnight I had a tour through parts of the counties of Kildare and Carlow; on the light lands there, the crops are poor enough. The large number of Scotch farmers who have settled on the Duke of Leinster's property have very fine crops. I was particularly pleased with Mr. Anderson's crops at Livitstown, which I went to see especially; there is a large breadth of late sown corn, which will yield far below an average. *T. B.*

*The Norman Rabbit.*—The autumnal tourist who is wearing out his fortnightly or monthly return ticket between London and Paris by "doing" the towns for which he has a coupon, cannot have failed to notice in the markets and shops of the Norman towns the large wicker cages of sleek high-bred looking rabbits. The increased intercourse between ourselves and the French shows each nation how much it may learn from the other, and in things of great importance and of amount sufficiently large to employ the capital of a "company limited" we are quick enough to take pattern. It is, however, in the minor details of rural and domestic life that we may learn from the French as much as they may in return gather from us of domestic comfort. "Mony a pickle maks a muckle," and a close inspection of the contents of one of those clumsy tilted carts, drawn by a white horse of the rough Rosa Bonheur stamp, would make us wonder at the many ways employed by many of the French to eke out the very scanty income on which many of them live. From the fact that at the death of the head of the family the property is divided into equal parts among the children, we may easily account for there being so many small estates in France, on the produce of which it is almost an impossibility to do more than live. They are too small to work as farms, and too large for gardens. Among the class of people above mentioned, the breeding and rearing of rabbits is carried out to a great extent; and the numbers of them sold very large. Except in the large manufacturing towns in England, and the poorer classes in London, one hardly ever sees a rabbit at table in our country, and one reason for this is, that with us the breeding and rearing of rabbits gets no attention except as regards the lop-eared variety for exhibition. The Rabbits that are with us sent to market for consumption are generally full grown ones, consequently extremely strong and nasty in flavour; or else young ones that have been half fed and badly tended, and therefore are dry and lean. From these causes an animal that on many farms might be reared and fed at a nominal cost, is in disrepute among us as an article of consumption simply, for want of development and attention. I should say that of course I mean reared in confinement. If an inspection be made of the higglers' baskets that bring the few rabbits sold in England to market, it will be found that the colours vary very much, all shades of all colours, but a great proportion are of the description called among the rabbit fanciers blood suckers, *i. e.* nearly all white, with

a few grey patches and marks on the head, ears, and over the back. If these be examined they will almost always be found to be thin, and badly furred, indeed their presence is always a sign of degeneracy. The French rabbits, on the contrary, are nearly all of a rich golden brown like the common wild rabbit, with a rich tinge on the skin. They grow larger than ours, are better shaped, and will bring at least one-third more good meat to the table at an earlier age than ours. In shape this rabbit is large and high over the haunches, very small in the bone and feet, broad over the loins and shoulders, and very full in the neck; the dewlap is very large and well developed, the eye very bright and full, the ears fine, small, upright, and pointed. It is a very free breeder, very hardy, and attains early maturity. Some excellent specimens were shown at the poultry exhibition in Paris a short time since, and from the attention they received it was evident they are well known and appreciated in their own country. It should be understood the above remarks do not apply to wild rabbits. *E. P. B.*

*Practical Education for Working Men.*—The majority of working men in rural districts not being able to keep their children long enough at school is the principal difficulty which competent teachers have to contend with. The prevalent practice of changing masters at short intervals retards the children's progress. It is difficult to anticipate what varied duties a boy will be called upon to perform in his journey through life, but it is an easy task to state what scholarship is indispensable for a man who aspires to bring himself up to the standard of qualifications for the highest appointment in a particular sphere of labour. I have been surprised at some of the most advanced agriculturists referring to the extensive use of expensive implements and machinery as demanding a better education than formerly. I should like to be shown where I am wrong in stating that the superintending of labour, and the applying a specified quantity of manure on a given extent of surface, either broadcast or in drills, are the most important duties of farm stewards. A man may be a first-class builder and thatcher of corn and hay ricks, a sower of seeds, and ploughman, without being able to read the alphabet; but without the requisite scholarship such men must labour under a disadvantage. For instance, set an illiterate man to apply 360 cubic yards of farm-yard manure and 3 tons of guano to a 30 acre field, and he would be in a fix to do so in a systematic manner; but such an operation is quite simple to a ploughman who can reduce an acre of land to inches. Although I cannot boast of my accomplishments, my experience emboldens me to state that there is nothing to hinder a young ploughman, who can read the English language, to quality himself for a steward or foreman even on a farm where there is a steam engine and the most advanced systems of agriculture carried on. Some complicated threshing machinery propelled by an engine is managed and worked by very illiterate men. A thorough practical knowledge of farm implements, being well grounded in arithmetic, possessing tact for superintending labour, and a knowledge of stock, are the most important parts of a practical agriculturist's duties. A great deal of misunderstanding is caused by confusing indispensable knowledge with what are useful but unnecessary accomplishments. Farm management and land improvement embrace so many details that very few master the whole of them. In addressing you thus, I do not pretend to be able to score many points either in indispensable knowledge or accomplishments, but my varied experience has given me opportunities of observing the education necessary for general occupations. Scholarship is a pass key to literature and science, and enables man to make scientific research; but very few men acquire "a knowledge of common things" like land drainage, the superintending of labour, our social system, the payment of wages, and a knowledge of technical and abstruse subjects. It is not creditable to farmers that they should be indebted to the late Rev. James Duncan, of Denholm, by Hawick, for his essay on Grub in Turnips. A knowledge of insects and of plants would enable farmers to solve such problems for themselves. As a general rule, well-to-do farmers give their sons an education to enable them to make scientific researches, but the Latin learned at school is soon forgotten by the majority of farmers. Mr. M'Lagan, of Pumpherston, and several farmers consider that an agricultural college is much wanted in Scotland. Farmers' sons could attend lectures on chemistry, geology, and other sciences in the towns where they are educated. I have seen men of independent means, whom the late Lord John Scot jocularly designated "mud students," as greasy as a butcher, clipping sheep, and going among the ploughmen and learning to balance a swing plough. Perhaps I may be wrong, but I fancy Cirencester College cannot give scope to all who attend it for learning to plough, sowing seeds, building and thatching ricks, and clipping sheep. It is no business of mine whether you, Sir, graduated at a university, but you would have sufficient scholarship for performing the duties of a farmer, and even of an editor, before your father would have trusted you with the management of a farm. I have seen the most highly cultivated districts in England and Scotland. Agriculture has been brought to such perfection by comparatively ignorant men, that it is now called a science. A man cannot acquire too much of experimental science, which is of practical utility; but it is positively ridiculous using technical and abtruse subjects as tests of a man's abilities. Although a knowledge of the languages is required for the duties of a clergyman, "S. G. O," in England, and Dr. Begg in Scotland, have furnished proofs that their scholarship is no better than old lumber when meddling with farming economics. Some believe that science is something else than knowledge practically applied. *W.*

*The Steam Plough Essays.*—The interesting notice you gave of the steam plough essays rejected by the Journal Committee of the Royal Agricultural Committee, created general dissatisfaction that the Journal should not give this information to its members. This Society has expended one way or the other over a thousand pounds to obtain a practical method of applying steam power to the cultivation of the soil, and the gigantic importance of the satisfactory solution of this problem is fully known and appreciated. Yet although the public are anxious for information, and notwithstanding the large amount expended by the Society, the Journal has contained next to nothing upon this subject—so that its members have to obtain any information they may require elsewhere. This is as if the Society were inclined to desert its own offspring, and leave to others the task of supplying information on this—a subject almost of its own creation. The last two Journals have been occupied to the extent of 100 pages mostly by the "Foreign Intelligence" of the editor, which I venture to say one quarter of the members do not take the slightest interest in. It was not until lately that the Journal committee showed the least wish to supply its members with any information of value upon the progress this subject was making, and then came the offer of a 25*l.* prize for an account, which according to the rules must necessarily be very restricted. This proffered prize it seems, meagre and paltry as the amount is, called forth some competitors, and what is most remarkable instead of their productions being printed in the Journal, they come out as pamphlets, price 1*s.* each. The reviews you gave of them would show that they are cheap at the money, and therefore, instead of members getting this for nothing, as they might reasonably expect to do if they would now read them, 1*s.* each has now to be paid. It is by no means common for a paper offered to the Society to be printed elsewhere. Is there any reason why Mr. Hutchison's meritorious work did not appear in the Society's Journal? If so this reason should be known. Can any of your readers supply information on this head? It would be worth knowing if they could. The Society having expended so much of the members' contributions in promoting steam cultivation, it is assuredly due to the members that they through the Journal should be supplied with a proper and satisfactory account of the progress of the enterprise. A 25*l.* prize for a thorough and adequate handling of the subject is ridiculous, and therefore I readily endorse your views that such an amount be apportioned for obtaining a complete and thorough investigation of the subject as may be equivalent to the trouble and expense of doing it; at the same time I would make one express condition—that practical and competent men be the judges. It is the misfortune now a days for "patrons" of agriculture to delude themselves into the belief that they are "authorities" in matters upon which they are scarcely novices. Another word—to repeat the question asked by a contemporary in regard to the late essays: "Who were the judges?" *A Member of the Royal Agricultural Society.*

## Societies.

### ROYAL AGRICULTURAL OF IRELAND.

The Kilkenny meeting of the Royal Irish Agricultural Society opened under most favourable auspices. The city is in a rich district, is large and populous, and is surrounded by a spirited gentry and an intelligent and well-to-do class of tenant farmers. The season, too, has buoyed up the flagging spirits of the nation, Ceres having been propitiated this year by her votaries in the sister country.

During our railway run from Dublin to Kilkenny, the surrounding objects directed our thoughts to the position and prospects of Irish agriculture and the influence exercised thereon by the Royal Irish Society, whose exhibition we have come to examine.

The first reflection that arose in our mind is one which, doubtless, will form the topic for the speechmakers at the Society's banquet this evening; we mean the prosperity of the country.

No person well informed on the state of Ireland will deny that the small farmers have had a trying time of it since 1859; sore distress prevailed too among the labouring classes, but these are temporary checks caused by natural agencies, to which every country is liable, and not surely equal in intensity to the privation produced in parts of Britain by unnatural causes. We have had and heard several extraordinary arguments(?) regarding the recent progress of Ireland. An influential member of the Royal Irish Society, who happened to travel with us, is full of the notion that Ireland is going fast to ruin, because she is not growing all her own breadstuffs. The cash payment for grain imported is in his opinion—and it is one shared by many—draining away the wealth of the country. We should like to see more corn raised in Ireland, and all her light lands under the plough; but it is preposterous to argue, as our friend does most warmly, that Ireland is on the road to ruin, because she imports corn. Why, look at the remarkable progress in her exports of live stock. We give here the numbers for four well marked periods:—

| | 1790. | 1826. | 1849. | 1859. |
|---|---|---|---|---|
| Cattle .. .. | 19,457 | 57,427 | 196,042 | 302,043 |
| Sheep .. .. | ? | 62,929 | 255,682 | 429,860 |
| Pigs .. .. | 5,665 | 73,913 | 110,787 | 368,275 |

Another subject which engages our attention in travelling through Ireland is her climate. It is said on almost all sides that the climate of that country is not at all adapted to tillage; it is even broadly stated that the weather has of late become so fickle as to render it next to impossible to grow remunerative cereal crops. For our own part we can only say, as the Duke of Argyle said lately of similar statements regarding the climate of Scotland, that much of what is said on this subject is sheer nonsense. They have in Ireland as good a climate for Wheat as we have in the south and south-east of England. But the good farmers of Ireland raise excellent crops of Wheat and splendid crops of Oats. We had lately an opportunity of examining a large farm of very indifferent land, which Mr. Anderson, a Forfar man, rents along the railway to Kilkenny, and by good tillage and judicious management, he finds no difficulty in raising remarkably fine crops of Fenton and Champion Wheat. The climate of many parts of the west of England and Scotland is worse than that of Kildare. There are thousands of acres of unprofitable Grass land in Ireland at present, which by a similar course of treatment would yield remunerative crops of Wheat and Oats; and we think the statement is worthy of the serious consideration of the Royal Agricultural Society, which by a timely discussion of the subject could direct public opinion in a healthy direction.

This year's Show is one of the most successful held in the sister country. The interest it has created in Kilkenny city and county, and the select character of the stock and implements, show signs of progress and a growing taste; and the patriotic way in which the local parties have responded to the appeal of the National Agricultural Society are convincing proofs of the advent of a new state of things in Ireland. When the Society held its last meeting in Kilkenny, Ireland was drained to the dregs, and the cultivation of disaffection was thought more about by many of the labouring classes than the tillage of fields or the caring of stock.

The time at our disposal only permits us to give a very hurried notice of the principal prizes:—

Section 1.—Bulls calved on or after January 1, 1858, and previous to January 1, 1861. The 1st prize goes to Mr. Butler of Ballycarron, Co. Tipperary, for *Soubador,* bred by Mr. Richardson, of Lisburn. *Soubador* is also awarded the Gold Medal as the best of all the prize bulls. He is a well formed animal; has Warlaby blood, and among other good points, a rarely-developed twist. The 2d prize is awarded to Mr. Cooke of New Ross, for a massive bull, *Paterfamilias,* bred by Mr. Carr, of Stackhouse, Yorkshire. This animal is well bred, has many good points, a very full brisket, but is a little plain about the tail.

Section 2.—Bulls calved in 1861. The Marquis of Waterford has carried off the two prizes in this class by two animals out of Mr. Christie's bull *Foundation.* The 1st prize was won by *Field Marshal the 2nd,* whose muzzle we do not like; and the 2nd by *Knave of Hearts,* a well furnished white bull. Both these animals are very tender in their feet; and the Knave of Hearts has a plain rump, and is quite too fat. If the unnecessary or injurious fat on this beast were removed, we rather think the points to admire would suffer very considerably.

Section 3.—Bulls calved on or after January 1, 1862. The 1st prize goes to Viscount de Vesci, for the *Crown of Lothian,* out of Lamp of Lothian, and bred by Mr. Crosbie, of whom, it is said, he was purchased for 150*l.* Crown of Lothian is a lengthy bull for his age. His fore ribs, though not bad, would scarcely satisfy Mr. Douglas. The Marquis of Waterford comes in here for a 2d prize with his white bull *Anthony,* which is over-fed and too corpulent. Allan Pollok has a very nice animal, *John o'Tuam,* out of Dr. McHale, in this section, possessing, however, some of the weak points of his sire.

Section 4.—Bull Calves, dropped on or after Jan. 1, 1863. Mr. Crosbie, of Co. Kerry, gains the two prizes in this class. The 1st prize calf, now called Gwynne of Lothian, is remarkably even, and gives much promise of future fame. We should like to see the ribs a little less flat; but he handles as a first-class Short-horn should. The 2d prize calf, *Ravenswood,* is smaller and lighter, being two months younger; and he appeared a little "drawn up" as we saw him in his stand.

Section 5.—Cows in calf or in milk, of any age. In this class the competition was very close. Over and over again the junior judges, Messrs. Wiley and Wood, were in consultation with Mr. Wetherall, their veteran. The 1st prize was indeed decided soon, for *Recherché,* the property of Captain Ball, had been taken round the ring but once, when Mr. Wetherall waved his stick and said they saw enough of her. And the hero did betake himself and her out of the way, and thus gave the spectators a better opportunity of seeing that she did deserve the first place.

The contest evidently lay among Mr. Whalley's *Manuelita,* Mr. Blomfield's *Bluebell,* and Mr. Jones's

*Vineleaf.* Ultimately the steward placed the second prize card on old Bluebell, a cow ten years old, but whose eyes, gait, and style bespeak the vigour of fewer years. The Vineleaf was highly commended, and Manuclita got a simple commendation. As it is this class was a very creditable collection.

Section 6.—Heifers in calf or in milk, and calved in 1860. In this there were four entries, but two did not put in an appearance. It must therefore be 1st or 2d with the competitors. The rivals, however, contested the 1st prize very closely, and a capital match they made. Ultimately the first place was awarded to Mr. Anderson, of Grace Dieu, Waterford, for *Lady of Avenal*, which thus placed Mr. Barcroft's Lucia 2d. The Lady is even backed, symmetrical and compact, but her tail is not so well set on as that of Lucia.

Section 7.—Heifers calved in 1861, and now in milk or calf. The *Rose of Suir* takes the 1st prize for Mr. Anderson in this section. She is too much covered with fat on the ribs; and if her hind quarters were equally well fleshed, she would present almost all the lines of beauty in a Short-horn. Mr. Barcroft comes in second with *Mysie*, whose fore end is very good indeed, but shows more "light" than her competitor.

Section 8.—Heifers calved on or after January 1, 1862. The 1st prize is taken by a rich red heifer, *Woodflower*. Mr. Barcroft's beautiful little *Maid of Rocklands* comes in second; and Mr. Jones's (Waterford) heifer *Lady Spenser*, makes a capital third.

Section 9.—Heifer calves, dropped on or after January 1, 1863. We doubt the policy of giving prizes to calves. But the half score shown form a capital lot, and so far as we can judge from calves, promise well. *Wit of Gwynne*, a remarkably well covered calf belonging to and bred by Mr. Crosbie, wins 1st prize; Captain Ball's *Pride of the South* ranks 2nd; and Messrs. Bloomfield, Allan Pollok, and Ball, are each highly commended.

Altogether this show of Short-horns is one of the best we have had for a long time at any of the Royal Irish Agricultural Shows. We miss some familiar names in the prize list; but we are glad to see a new exhibitor advancing at once to the front ranks.

The show of Sheep, usually the prominent feature at the Royal Agricultural Society's Shows in Ireland, does not present as large a number of entries as has been the case with some of the late exhibitions. Mr. Turner, who sends over a lot of very nice sheep from Exeter, fails in taking a prize. This exhibitor obtained 1st prize in the Shearling Class of Leicesters last year at Limerick. His sheep are rather small, their points are very beautiful, but the feeling in favour of size in sheep, now becoming general in Ireland, will not serve to make them general favourites. Mr. Owen, of Blessinton, takes 1st prize with a very capital shearling; his back rib and breast are very good, and the hind quarters show a rather improved development when his quality is compared with some Leicesters coming to late shows. Mr. Gregory Watkins, Droitwich, and Mr. Thos. Marris, Lincolnshire, take 2d and 3d prizes respectively. These sheep are larger than Mr. Turner's, and it would seem that the prize was awarded chiefly on this account. In the aged section for Leicesters, Mr. Owen takes 1st prize with a very fine two-shear; Mr. Longfield, Castlemary, being 2d. Mr. Owen's sheep is a fine even animal of good size; Mr. Turner, of Exeter, and Mr. Thunder, of Navan, another noted exhibitor, have a good many entries, but fail to take a prize. In the sections for ewes Mr. Turner is more fortunate, taking 1st prize with a pen of five beautiful shearlings. These sheep are small, but very neat. Mr. Owen, Blessinton, is placed 2d with five growthy sheep; but their condition is not up to his usual standard. The entries of lambs were few, and the quality scarcely average—Mr. Mowbray, of Mountrath, takes 1st prize for five nice lambs. In the class of "Other Long-woolled Sheep," we have Mr. Beale Browne successful in almost every instance, taking 1st, 2d, and 3d prizes with shearling Cotswold rams; 1st and 2d for aged Long-woolled rams, and his shearling ewes were fit to compete at any exhibition; they were deservedly placed first.

In the Sections for Southdowns, Mr. Marris, Lincolnshire, is chiefly successful; his sheep are fair, but nothing more. The entries are few in these sections.

The Shropshires are few in entries, but the quality of the sheep shown here is superb. Mr. Chas. Wm. Hamilton exhibits some capital sheep. His shearling ewes are extremely good and perfectly uniform; indeed in this department the uniformity of the breed shows that typical points have been impressed on this valuable breed.

The show of Pigs was fair as regards number, and the quality of the animals was as fine as need be desired. Mr. Joyce, of Waterford, may be said to be eminently successful; but a point in this show deserving some notice is when sows suckling ten and eleven young pigs have defeated animals with few. Mr. Malcolmson, of Portlaws, shows a Berkshire sow with 11 young pigs, for which he is awarded 2d prize. A distinction has not been made between white and coloured breeds; all compete in same sections. The Commissioners of National Education took 1st prize with a very fine Yorkshire Sow from a large section of coloured pigs.

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Gloucestershire: *Cirencester, Aug.* 26 and 27.—The charming site of this year's show, Lord Bathurst's Park—the excellence of most of the breeds and classes of stock exhibited—an illustration, which is now never wanting at any of our provincial meetings, of steam cultivation—a trial of reaping machines—a very good general show of agricultural implements (the last three items presided over by Mr. Savory of Gloster, and Mr. Coleman, late of the Royal Agricultural College, as judges)—a very considerable company of spectators, in spite of very unfortunate weather:—these make up the principal features of what, had it not been for the rain, would have been a very successful meeting. Mr. Fowler received the Society's prize for the best illustration of steam ploughing. His apparatus was indeed the only competing one on the ground.

There were very good classes of Short-horns and Herefords, including no fewer than 67 entries of the former breed. Mr. Langston's Lord of the Harem and Mr. Lane's Majesty are respectively 1st and 2d in the class of older bulls; the former the more massive and the grander animal of the two, particularly deep and good in his hind quarters, though somewhat coarse in the shoulder. Mr. Woodward takes the 3d prize in this class. Mr. Holland, M.P., is 1st, and Messrs. R. & W. Hewer 2d and 3d in the younger class of bulls. There is a capital class of bull calves. Mr. Robinson, of Slimbridge, 1st; Lord Radnor, 2d; and Mr. Stratton, commended. Three capital entries of bull, cow, and calf for the prize offered by Mr. Bengough, result in Mr. Stratton's success as first, with a second prize to Mr. Lane. There are capital classes of cows and heifers, and heifer calves. The best cow is shown by Mr. Lane, and the second by Mr. Langston. The best heifer in calf is shown by Mr. Taylor, of Chipping Norton; the second by Mr. W. Butler (commended at Worcester); and the third by Mr. John Lane.

Mr. Holland's prizes for Yearling Heifers go—1st, to Mr. Logan, of Newport; 2d, to Lord Radnor; 3d, to Mr. Stratton; and the Heifer Calves to—1st, Mr. Stratton; 2d, Mr. Garne. The majority of the stock is shown by tenant farmers, and nothing is a more striking mark of agricultural progress in this district than the superiority of the ordinary live stock in the fields which one sees as a consequence of this extension of pure bred Short-horns—now as compared with 20 years ago.

The Herefords are well shown. Mr. Read, of Elkstone, near Cheltenham, whose sale comes off next Friday, takes the first prize for yearling bulls; Mr. Morris, of Ledbury, the first prize for older bulls; and Mr. Taylor, of Ledbury, the first for bull calves; Messrs. Duckham, J. Smith, Bradstock, Wigmore, Bennett, and Hewer are among the other prize takers, Mr. John Wigmore, of Weston under Penyard, Herefordshire, being particularly successful.

Forty-two capital entries of Cotswold sheep make a magnificent display of this noble breed; Mr. Smith, of Bibury, Mr. Read, of Elkstone, Mr. Elwes, Mr. Handy, Mr. Lane, and others being successful. There are very short classes for short-woolled and Shropshire sheep, Lord Radnor and Mr. Holland being successful.

A very good show of Pigs, containing about 60 entries, Messrs. Hobbs and Yells, the Rev. J. H. Bailey, of Swindon, the Earl of Radnor, and the Royal Agricultural College being successful.

The Horse Ring was as attractive at Cirencester as it generally is elsewhere. And the classes of both agricultural and hunting horses were fairly filled. Mr. Holford, M.P., the Duke of Beaufort, Messrs. Hauks & Purday, being successful in the agricultural classes.

The Society and its visitors dined together—a large company of ladies and gentlemen—on Wednesday evening, in a tent within the park, which sheltered them from the heavy rain which fell all the afternoon.

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## Reviews.

*An Elementary Treatise on Soils.* By Thomas Baldwin, of the Agricultural Department of National Education in Ireland. Second Edition. McGlashan & Gill, Upper Sackville Street. Pp. 68.

We call attention to this useful little book, which discusses, in ten chapters, the formation, composition, properties, and characters of various soils. Mr. Baldwin is about to give a course of lectures at the Royal Agricultural College. The following is his description of the way in which the faults of clay soils may be corrected.

"There are three means by which these defects may be corrected. 1st. Drainage; 2d. Altering the texture of the clay; 3d. Efficient tillage. We shall offer a few remarks on each of these.

"Drainage is the first and most essential step to be taken in the improvement of clay land. As we discuss the subject of drainage in another chapter, it is only necessary to observe here that conflicting opinions are entertained as to the proper depth and frequency of drains in clay soils.

"In land through whose pores water finds its way to the drains, a manifest hydrostatic law can leave no room for doubting the superiority of deep drains. The advocates of shallow draining urge that clay soils and subsoils are so tenacious that water cannot percolate through 3½ or 4 feet of them, which is the usual depth of deep drains; and that it has a greater chance of finding its way into shallow than deep drains. The advocates of shallow draining on the very stiff and impervious kind of land now under consideration seem to us to forget that a thin layer will hold water on its surface as completely as one 4 feet thick, and that very little good can be produced by the drainage of such land at all unless its texture is so improved as to permit some at least of the water to percolate through it. It may be said, however, that water descends through the cracks and fissures that are formed in clay land, and that as these cracks and fissures do not generally descend to the depth to which deep drains are generally cut, shallow drains may carry off surface water better than deep ones. This appears to me the great argument in favour of the shallow draining of heavy clay soil. But I cannot admit that it is a final or conclusive one. It would possess some weight if our object were merely to get rid of the surface water as speedily as possible, and if we did not aim at improving the texture of the soil. The speediest way of removing the water off wet land is not ultimately and necessarily the best. The best system of drainage appears to me to be that in which the water percolates uniformly through the entire body of the soil, and in its descent, 'warps' itself round the particle of the clay, leaving behind it the fertilising matters it holds in solution, and diffusing moisture evenly through the soil. And though I hold that clay land cannot be improved without drainage, I maintain at the same time that the improvement of heavy clay is but half accomplished unless steps are taken to improve its texture. Regard being had, then, to the full improvement of which clay land is susceptible, I cannot refrain from expressing my opinion in favour of drains from 3½ to 4 feet deep, and about 25 feet apart.

"The other means which suggest themselves for the improvement of stiff clay land, are—(1) mixing with sand; (2) paring and burning or charring; (3) liming; (4) skilful and effective cultivation. The last may be said to include all the rest, at all events some of them. It will, however, be more convenient to consider each separately.

"The application of sand to heavy clay land would appear one of the most common sense ways of overcoming its extreme tenacity. The instances are, as we shall afterwards see, innumerable in which the contrary practice of adding clay to light land has been attended with the best results. We believe, however, there are comparatively few well authenticated examples of the improvement of clay land by applications of sand. The late Mr. Pusey has made the same remark in one of his valuable essays. We have, however, seen sand applied with marked success on clay land in the south of Ireland.* And, according to the 'Scottish Farmer,'† an application of from 200 to 300 loads of sand to heavy clay land has been found of permanent advantage in North Britain. 'The cost of the dressing will vary from 2*l.* to 5*l.* per acre; but the outlay will be repaid even with only eight or 10 years of a lease to run.' When sand can be applied at the above cost of from 3*d.* to 6*d.* per load or ton, the outlay may be expected to prove highly remunerative. In many places it will cost far more; in some cases the sand may be so remote, or so ill-adapted for the purpose, that its application should not be attempted.

"Under those circumstances torrefaction, or the agency of heat, may be resorted to for improving the character of very heavy clay land. 'Paring and burning' is a very old practice, and one on which the most contradictory opinions are entertained. Some contend that it is an injudicious, if not ruinous, practice on any land; others maintain that on clays and peats it is very beneficial. We are of the latter opinion, and shall now proceed to give a concise sketch of the theory and practice of the operation."

Then follows an account of the operation of paring and burning, which we may give hereafter. Lastly Mr. Baldwin under this head describes the operations of liming and of tillage. His remaining chapters on light soils, peaty soils, &c., are equally well done.

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## Ram Sales.

*Shropshires.*

Mr. Masfen's Sale.—Six rams were let at Pendeford, on Tuesday se'nnight, at over 10*l.* each, and 29 sold, averaging 11*l.* 17*s.* 9*d.* Mr. Preece, of Shrewsbury, was auctioneer.

Mr. May's Sale, at Elford Park, near Tamworth,

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* "It has been estimated that 800,000 tons of sea sand are annually removed from the beach of Youghal in the Co. Cork. It is carted many miles inland. It is brought up the Blackwater in boats or 'lighters.' We have paid 1*l.* per boat of 40 tons for it, on the banks of that river, to which is to be added the cost of carting it from the wharf. In that part of the country the sand, which contains some animal matter, is applied by the tenant farmers to all kinds of land. It proves beneficial even on light land. The explanation of this is, that the land having been subjected to a scourging and objectionable system of grain crop culture is very grateful for the small quantity of ammonia and phosphates which the animal matters present in the sand are capable of conveying to the soil: and also, that the sand is made into a compost with clay and the dung of the domestic animals. These substances are mixed together several months before the compost is required for use. I have seen excellent crops of Potatoes raised off very indifferent light land by this mixture. If repeated too often, however, on light land as has occurred in some instances with which I am acquainted, the quantity of silica becomes so excessive that the soil is permanently injured. A more correct and rational system, in such cases, would be the adoption of a suitable rotation of crops, the growth of green crops, and the conversion of these crops into beef, mutton, and manure. The use of sand could thus be dispensed with on all but the heavy lands.

† "Of January 15th, 1862.

was held on Wednesday se'nnight. Mr. J. B. Lythall disposed of 84 rams, including five old sheep, averaging about 9 gs. each, There were 110 ewes and theaves sold. Prices ranged from 45s. to 65s. per head, the average being as near as possible 55s, per head.

THE KINVER HILL FLOCK.—The commended, highly commended, and specially commended, or reserved shearlings at Worcester, made 42, 50, and 35 gs. respectively. The other rams realised prices which brought the average to very nearly 15*l*. per head. There was a good demand for the ram lambs and ewes, but nearly every one seemed bent on obtaining a pen of theaves, consequently high figures were the order of the day. 7*l*. 7*s*., 6*l*., and 5*l*. 5*s*. each were made, and the 60 realised nearly 5*l*. each. The sale was conducted by Mr. Nock, of Bridgnorth.

THE GRENDON FLOCK.—Mrs. Baker's annual sale of rams and ewes took place on Friday se'nnight, the disposal of the animals being intrusted to Mr. Lythall. The average for the 32 rams, including two let, would be 9*l*. 19*s*. The ewes were very true to type and colour, and sold readily at from 46*s*. to 65*s*. per head, averaging 52*s*.

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*The Oxford Sales* were held near Worcester College, A large number of very fine animals were put up to competition by Mr. Jonas Paxton, Messrs. Lyne, and Messrs. Mallam, and the attendance was very numerous, comprising all the leading agriculturists of the district, and not a few gentlemen from a distance.

Messrs. T. Mallam & Son disposed of 2 Oxfordshire Down rams and 30 ram lambs, bred by Mr. Button, of Botley. The rams fetched 15 guineas each. The price of the lambs averaged 7*l*. 14*s*. 6*d*.

Messrs. Paxton sold 200 Oxfordshire Down ewes and 2 rams, the property of Mr. Thomas Gillett, of Prior's Court Farm, Chievely. 184 ewes were sold at prices ranging between 45*s*. and 65*s*. each, the average being 58*s*. 7*d*. The 2 rams, both of which took prizes at the Battersea Show last year, realised 8½ and 9¼ guineas.

Messrs. Paxton next offered some Oxfordshire Down shearling rams from the flock of Mr. Roberts, of Caswell, near Witney. Two 3-shear sheep were first put up, and were disposed of to Mr. Bateman of Lew, and Mr. Brown, for 9½ and 6½ guineas. Thirty shearlings were offered: the highest prices were 18½, 17, and 13 guineas, the lowest 5½, and the average 8*l*. 3*s*. 6*d*.

Next came 40 Oxfordshire Down shearling rams and a few older sheep, from the flock of Mr. C. Gillett, of Cote. The average being 14*l*. 2*s*. 3*d*.

Mr. Paxton next submitted 18 Oxfordshire Down shearling rams, from the flock of the Duke of Marlborough. The average price was 7*l*. 7*s*. 7*d*.

The next sale was that of 20 Oxfordshire Down shearling rams, the property of Mr. G. H. Barnett, of Glympton Park. The average price was 7*l*. 14*s*. 6*d*.

Mr. Paxton next offered 10 Oxfordshire Down shearling rams and a few older sheep, from the well known flock of Mr. H. L. Gaskell, of Kiddington. Mr. Leaver, of Studley, bought No. 1, the twin to which won the prize at Battersea and got 70 lambs last year, at 5½ guineas, and several others were purchased by the Duke of Marlborough, Mr. Franklin, and Mr. Monk, while some of the animals were withdrawn, the agriculturists present having apparently all been supplied with rams.

Thirty Oxfordshire Down ram lambs, the property of Mr. John Hutt, of Watereaton, were then submitted, and sold at the average price of about 60*s*.

The next and last sale excited great interest, being that of 50 Cotswold ram lambs, from the flock of Messrs. T. & G. West, of Bletchingdon, who have won so large a number of silver cups and medals, besides upwards of 250*l*. in money, at Birmingham, London, and in France. The highest figure was 18*l*. 10*s*.; other superior animals were bought for 15*l*. and 13*l*. 10*s*. The average price was about 6*l*. 10*s*.

Mr. Treadwell, at Upper Winchendon, near Aylesbury: 62 draft ewes were disposed of at an average of 55*s*. per head. A few wether lambs made from 35*s*. to 39*s*. per head. Eighteen shearling rams came next. The average for those was within a fraction of 9*l*. per head, the highest price made being 13*l*. 2*s*. 6*d*. Twenty-one ram lambs found ready purchasers at an average of 4*l*. 16*s*. per head, the prices ranging from 3½ to 7 guineas.

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*Cotswold Ram Sales.*—On the 1st inst. Mr. Lyne sold for Mr. Smith, of Bibury, 44 sheep, at an average of 11*l*. 4*s*. 6*d*.

On the 3d inst, in Cirencester Market, Mr. Villar sold for Mr. T. Porter 30 sheep, at an average of 8*l*. 16*s*. 9*d*. Mr. Villar also sold in the market 20 sheep for Mr. H. Cole, of Ashbrook, which made an average of 10*l*. 10*s*. 6*d*. The other sales in the market were generally satisfactory. Mr. Beale Browne's sheep were sold by Mr. Lyne, and averaged about 6*l*., also Mr. Thomas Barton's by Mr. Acock.

On the same day, at Barton Mill, Mr. Villar sold for Mr. John Lane 50 sheep at an average of 11*l*. 18*s*. 9*d*.

On the 14th inst. Mr. Villar sold at Sierford, for Mr. Edwd. Handy, 48 sheep at an average of 9*l*. 15*s*.

On the same day, at Fyfield, by Mr. Arthur Acock, Mr. Charles Barton sold 44 sheep, at an average of 14*l*. 14*s*. 11*d*.

On the 5th inst, at Shipton, by Mr. Villar, Mr. George Fletcher sold 52 sheep, at an average of 13*l*. 10*s*. 6*d*.

On the 6th inst., at Northleach, Mr. Villar sold for Mr. W. Hewer 50 sheep, at an average of 17*l*. 5*s*.

On the 7th inst, at Kilkenny, near Bibury, Mr. Acock sold for Mr. W. Garne 48 sheep at an average of 11*l*. 6*s*. 9*d*.

On the 8th inst, Mr. Acock sold for Mr. James Walker, at Northleach, 36 sheep at an average of 11*l*. 9*s*. 9*d*.

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*Southdowns.*—The 12th sale of Mr. James Harding, of Waterson, consisted of 24 lots of 5 full-mouthed ewes, 9 one-year-old rams, 10 two-year-olds, and 7 three-year-olds; and the rams for letting comprised 20 one-year-olds, 6 two-year-olds, and 5 three-year-olds. The ewes realised 43*s*. each, whilst the rams for letting averaged 8*l*. 6*s*. 8*d*. each. The highest sum given was 30*l*. for a three-year-old ram, which had won prizes at Wells, Crewkerne, Dorchester, and most of the local shows. The rams for sale averaged about 7*l*. 3*s*. each, the highest bid being 13*l*., offered by Sir Edward Baker, Bart., for a one-year-old ram.

## Miscellaneous.

*The Agricultural Hotel.*—It will be seen from an advertisement in to-day's paper that an Agricultural Hotel is about to be erected in Salisbury Square, under the auspices of many leading men identified with the rural interest; while it is understood that special accommodation will be provided, in one wing of the building, for the Central Farmers' Club. The site is certainly one of the best in London, admirably central, but at the same time remarkably quiet, and with full scope for the laying out of suitable premises. The nominal capital is put at 100,000*l*.; but it is thought that every due purpose may be provided for at an outlay of something like half this amount. *Mark Lane Express.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | Reading of, At 9 A.M., Railway Time: Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer: Dry Bulb. | Thermometer: Wet Bulb. | Wind: Direction. | Wind: Force, 0—6. | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers: In Shade: Max. | In Shade: Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | August | Inches | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | 21 | 30.25 | 61 | 55 | N. | 1 | 6 | 68 | 44 | 75 | 37 | .. |
| Saturday .. .. | 22 | 30.18 | 60 | 58 | W. | 0 | 10 | 67 | 52 | 79 | 51 | 0.11 |
| Sunday .. .. | 23 | 30.04 | 64 | 60 | S.W. | 2 | 10 | 69 | 54 | 83 | 49 | .. |
| Monday .. .. | 24 | 29.97 | 60 | 59 | S.W. | 2 | 5 | 71 | 55 | 82 | 53 | 0.14 |
| Tuesday .. .. | 25 | 29.83 | 66 | 59 | S.W. | 3 | 6 | 69 | 51 | 83 | 45 | .. |
| Wednesday .. | 26 | 29.58 | 61 | 58 | S.W. | 0 | 10 | 65 | 50 | 72 | 45 | 1.02 |
| Thursday .. .. | 27 | 29.42 | 62 | 58 | S. | 2 | 9 | 68 | 54 | 68 | 52 | 0.67 |

25. Thunderstorm at 5 P.M.

## Notices to Correspondents.

CLOVER DODDER: We have received some Clover Dodder from *G W C*, for which we thank him; but as its seed is not ripe, could he kindly "train up" a bit to ripen and then think of us again with a liberal parcel.

DISEASE IN WETHER SHEEP: *C J.* The case is very unusual and mysterious. In the absence of any account of the *post mortem* appearances we can only suggest that the disease is doubtless connected with the food. We advise a change of food and pasturage, and a dose of Epsom salts (1½ ounce) to each sheep. *W. C. S.*

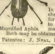
HEREFORD STOCK. We see that Mr. Read, of Elkstone, is, on Friday of next week (Sept. 4), to dispose of a portion of his first-class Hereford herd, which has achieved great success in competition at agricultural meetings.

TOLL BARS: *Inquirer.* We are not learned in the law; but it is plain that the spirit of the Act, and of decisions under it, is against the charges you name, viz., for carting the tops of trees (not timber) from one part of a farm to the other, and for the farmer riding his pony from one part of the farm to the other.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.
All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.
116, Fenchurch Street, E.C.

LAWES'S MANURES.
The Manures manufactured by J. B. LAWES for the present season of 1863 are now ready for delivery at his Factories, at the following prices:— Per Ton.
LAWES'S PATENT TURNIP MANURE, and BONE SUPERPHOSPHATE of LIME .. .. .. .. £6 6
LAWES'S SUPERPHOSPHATE of LIME from BURNT BONE or MINERAL PHOSPHATES .. 5 5
LAWES'S BARLEY, GRASS, and MANGEL MANURES 8 0
These Manures can be obtained of Mr. LAWES, or through his appointed Agents, in all parts of the United Kingdom, at prices varying according to cost of carriage.
Genuine Peruvian Guano direct from Messrs. Gibbs: Nitrate of Soda, Sulphate of Ammonia, and other Chemical Manures.
American and other Cakes at market prices.
Address JOHN BENNET LAWES, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2*s*. per bag.
For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the PATENT COCOA FIBRE COMPANY, Kingston-upon-Thames.
Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.
BARSHAM'S BRUSHES and MATS are sold in every town.
CAUTION.—Every Brush is stamped 'J. BARSHAM's Patent.



Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1*s*. and 2*s*. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.
NEAL'S PLANT SOAP,
1*s*. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.
Both may be obtained of all principal Seedsmen.
Patentee: J. NEAL, Edward Street, Birmingham.

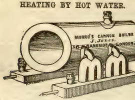
Red Spider Magnified.

GISHURST COMPOUND, whether used against Insects and Mildew, on Growing Plants, or as Winter Dressing on Trees at rest, should be dissolved 48 hours before use. This gets rid of smell, and if the Solution be decanted, prevents any staining of foliage. A strength of from one to two ounces to the gallon of water is recommended for growing Plants; one from 4 to 16 ounces for Trees at rest.
Sold Retail by Nurserymen and Seedsmen, in boxes 1*s*., 3*s*., and 10*s*. 6*d*. each.
Wholesale by PRICE'S PATENT CANDLE COMPANY (Limited).

TOOGOOD'S (late PAGE & TOOGOOD'S) IMPROVED BLIGHT COMPOSITION introduced in 1850 has been manufactured under W. TOOGOOD'S sole directions since that period. He has made great improvements in it, and by reducing the price 25 per cent., it is one of the cheapest and has always been the most efficacious remedy extant. To publish the Testimonials no newspaper would give space, but Messrs. CUTBUSH & SON, the eminent Nurserymen, writing a few days since, say:—"Please send us 10 gallons of Blight Composition, as quickly as possible. We tried 'Gishurst' last year, but it would not do like the Composition."
Mr. E. SAGE, *Gardener to* Lord HOWE, *says*:—"Will you please send us 15 gallons of your Blight Composition. I see you have reduced the price, and trust that you may some day be able to make another reduction, and I feel assured that no 'Gishurst' will be used by practical men."
"We hereby Certify that during the whole time we were Warehousemen in the Establishment of B. PAGE & Co., and subsequently PAGE & TOOGOOD, that we Manufactured the Blight Composition under Mr. TOOGOOD'S *sole directions, and that he alone knew the proportions of the various ingredients.*
Signed JOHN MORLEY. HENRY DREW. HENRY SHEERMAN. GEORGE ISAACS.'
"July 13, 1863."
May be obtained of the principal Nurserymen and Seedsmen in the Trade, and of W. TOOGOOD, 58, Above Bar, Southampton.

To the Farmers of England.
GENTLEMEN,—Smith's Combined Cultivator and Drill will smash up his Bean stubbles and drill in the Wheat at one operation.
The days on which the Machine will be worked may be known by applying for a card.
There are already EIGHT of these Machines dispersed over England ready for work this autumn.
The price of the Machine is 55*l*. to Smith's Customers, and 80*l*. to those who go astray for their tackle.
Your obedient Servant, WILLIAM SMITH.
Woolston, Bletchley Station, Bucks.—Aug. 29, 1863.

## HEATING BY HOT WATER.




MONRO'S CANNON BOILER.

## J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

PLANS, ESTIMATES, and DESCRIPTIVE CATALOGUES

SENT POST FREE ON APPLICATION TO

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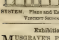
**West of England, Ireland, and Wales.**



VINCENT SKINNER (*late Partner with* J. Weeks & Co.), Horticultural Builder and Hot-Water Apparatus Manufacturer. HEATING on the ONE-BOILER SYSTEM. Plans and Estimates on application.

Vincent Skinner, Bridewell Street, Bristol.

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**Exhibition Prize Medal, 1862.**

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.—This Stove is the nearest approach to Warming by Hot Water, and an efficient aid in Ventilation.

It will burn in Churches from Saturday till Sunday evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of Warming a large Apartment for 24 hours, at a cost of 3*d.*; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

It is also made for Small Conservatories, with a vapour chamber, which maintains a moist atmosphere for 12 hours with once filling.

Particulars and prices post free on application to Musgrave Brothers, Ann Street Iron Works, Belfast.

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Latest Improvements in **Heating by Hot Water.**

THE IMPROVED

CONICAL BOILERS,

For Heating Pineries, Conservatories, Greenhouses, Mansions, Halls, Warehouses, &c.,

SOLELY MANUFACTURED BY

BURY AND POLLARD (Successors to John R. Peill, Late Stephenson & Peill).

Annexed Sketch shows Bury & Pollard's improved arrangement, requiring

NO BRICKWORK SETTING.

These Boilers have for their durability and economy attained a celebrity far surpassing any other Boilers ever invented. They have been for many years past in use at many Public Establishments, Royal Botanical Gardens at Kew, at the Regent's Park, the Crystal Palace, and at most of the Nobility's and Gentry's Seats throughout the United Kingdom. References where they have been 20 years in constant use.

Price Lists on application to Bury & Pollard, Park Iron Works, New Park Street, Southwark, London, S.

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# HOTHOUSES FOR THE MILLION.

AWARDED A PRIZE MEDAL, 1862.

ON THE PRINCIPLE INVENTED AND PATENTED BY

## SIR JOSEPH PAXTON, M.P.

COMBINING SIMPLICITY, CHEAPNESS, AND DURABILITY,

BEING CAPABLE OF FULFILLING IN THE MOST PERFECT MANNER ALL THE REQUIREMENTS OF HORTICULTURE.

"We do not know in what other way so much interesting amusement, pleasant exercise, and luxurious profit can be obtained as the 'Hothouses for the Million' are calculated to afford."—*Bell's Weekly Messenger*, August 23, 1862.

"Nothing can be more easy than to build them, nothing more simple than to remove them."—*Daily News*, May 22, 1862.

The Cash Prices of LEAN-TO HOUSES, with Water-troughs, Doors and Ends complete, are as follows:—

| Ft. In. | 8 ft. Lights | 10 ft. Lights | Ft. In. | 12ft. Lights | 14ft. Lights | 16ft. Lights |
|---|---|---|---|---|---|---|
| 20 7 in length | £12 0 0 | £16 0 0 | 20 11 in length | £21 18 0 | £28 10 0 | £34 5 0 |
| 31 3 in length | 16 10 0 | 21 2 6 | 31 9 in length | 29 6 0 | 37 12 0 | 45 16 0 |
| 41 11 in length | 20 18 0 | 26 18 6 | 42 7 in length | 36 16 0 | 46 14 0 | 57 7 0 |
| 63 3 in length | 30 6 0 | 38 10 0 | 64 3 in length | 51 14 0 | 64 18 0 | 80 10 0 |
| 84 7 in length | 39 6 0 | 49 11 6 | 85 11 in length | 66 12 0 | 83 2 0 | 103 11 0 |
| 105 11 in length | 48 17 6 | 60 12 6 | 107 7 in length | 81 10 0 | 101 10 0 | 126 13 0 |

SPAN-ROOF HOUSES at double the above prices for each length of house.

Circulars with Lists of Prices and Cards to view houses in operation in the neighbourhood of London, also Estimates for Heating and Erection complete, can be had on application to

SAMUEL HEREMAN, 7, PALL MALL EAST, LONDON, S.W.

Manufactured in London; Newton in Cartmel, Lancashire; Gloucester, Coventry, Aberdeen, and Paisley.

A HANDBOOK of VINE and FRUIT TREE CULTIVATION, as adapted to the above Patent Hothouses, may be had of Mr. Hereman, price 1*s.*; post free, 1*s.* 1*d.*

"We cannot do better than advise every reader who has a spark of gardening spirit and taste in him to write at once for a Copy."—*Bell's Weekly Messenger*, March 17, 1862.

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# PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

## T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection |
|---|---|---|---|---|---|
| 16 feet by 8 feet... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

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# THE PATENT IN-DOOR PLANT CASES

(TO WHICH A PRIZE WAS AWARDED AT THE ROYAL HORTICULTURAL SOCIETY'S EXHIBITION).

SOLE MANUFACTURER,

## JAMES GRAY, Horticultural Works,

DANVERS STREET, CHELSEA, LONDON, S.W.

The PATENT IN-DOOR PLANT CASE is one of the most useful of the Gardening novelties of the day. It is a handsome ornament for the Drawing Room or Sitting Room, and at all times forms a fresh, pleasant, and interesting object to the mind and eye. It is always under command, and will preserve many of the most tender Exotic Plants through the severest winter with comparatively little of the trouble and annoyance attending the use of Lamps, Gas, and Heating appliances of any other kind.

To all who have a taste for the cultivation of In-door Plants, for raising Seedlings, striking Cuttings, &c. the Plant Cases will be found an inestimable boon.

The Cases are highly approved and recommended by Professor Lindley, and by Messrs. Veitch, of The Royal Exotic Nursery, King's Road, Chelsea.

*Sizes and Prices on application.*

**Rhododendrons.**

CRIMSON, WHITE, PURPLE, AND SCARLET.

CHARLES NOBLE has RECEIVED the AWARD of the Royal Horticultural Society as under FOR RHODODENDRONS.

FIRST PRIZE, 1861.
FIRST PRIZE, 1862.
FIRST PRIZE, 1863.

CATALOGUES are now ready, and a stock of Plants in the most perfect health, of all sizes, and at prices to suit all purposes.

Sunningdale Nursery, S.W. Rail.

**Rhododendron Countess of Haddington.**

ROBERT PARKER begs to announce that he is now sending out this fine variety, a figure of which will appear in the "Illustrated Bouquet," and Photographs may be seen at the Nursery Habit compact and vigorous, with fine foliage flowers, rosy blush, measuring upwards of 3½ inches in length and diameter, very abundant bloomer, and may be flowered from February to June. For early spring and summer decoration and exhibition purposes this will prove the most useful and ornamental plant of modern introduction. The following Awards have been received at the undermentioned Exhibitions:—

Edinburgh Horticultural Society's Show, March 19, 1861—First Class Certificate.
Royal Horticultural Society's Show, March 10, 1862—First Class Certificate.
Royal Botanic Society's Show, April 2, 1862—First Class Certificate.
Edinburgh Horticultural Society's Show, March 18, 1863—Special Prize.
Crystal Palace Show, May 23d, 1863—First Prize 5*l*. for single specimen of newly introduced extremely rare or beautiful plant, in or out of flower, hardy or exotic.

Good plants, 21*s*. each. The usual discount to the Trade.

Exotic Nursery, Tooting, Surrey, S.

WILLIAM ROLLISSON AND SONS beg respectfully to inform the Nobility, Gentry, and Trade, that their GENERAL CATALOGUE of PLANTS, SHRUBS, FRUIT TREES, &c., for 1863 is now ready, and will be forwarded on application, prepaid.

W. R. & SONS beg also to state that their new SEEDLING RHODODENDRON PRINCE OF WALES, at 31*s*. 6*d*., and their Three new beautiful and distinct INDIAN AZALEAS, at 21*s*. each—Azaleas Princess of Wales (Todman), Lord Canning (Todman), Rifleman (Todman)—will be sent out next May. A Coloured Plate by Andrews will be sent to all purchasers of Rhododendron Prince of Wales.

The usual allowance to the Trade.

Parties requiring Fruiting and other sized plants of GRAPE VINES in pots of the best and most popular varieties, can be supplied at very moderate prices, which will be forwarded on application.

The Nurseries, Tooting, London, S.

**For Present Sowing.**

SUTTON'S IMPROVED ITALIAN RYE-GRASS, 6*s*. per bushel, or cheaper in large quantities.

This is the best season for sowing Italian Rye-grass to ensure sheep feed very early in the spring.

TRIFOLIUM INCARNATUM (Early Crimson), 4*d*. to 5*d*. per lb., or cheaper in large quantities.

*** A mixture of the above will be found very useful for mending Clover and Grass Seed sown for mowing next spring.

MUSTARD SEED for Sheep Feed in October and November, or for green manure.

RAPE.—New Seed at reduced price.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading

**Permanent Grass Seeds for all Soils.**

SUTTON AND SONS can supply good fresh SEEDS for immediate Sowing as under:—

PERMANENT GRASS SEEDS for Laying down New Pastures (including CLOVERS in full quantities), 30*s*. per Acre.

PERMANENT GRASS SEEDS for mending new Pastures, which may have been injured by the Corn crop, 12*s*. per bushel.

Royal Berkshire Seed Establishment, Reading.

**Imported Orchids.**

B. S. WILLIAMS has just received a fine importation of the following ORCHIDS:—

LYCASTE SKINNERI | CATTLEYA MOSSIÆ
CATTLEYA SUPERBA
GALEANDRA DEVONIANA, a choice and rare plant, finest of the genus.

Prices on application.

Paradise and Victoria Nurseries, Holloway, London, N.

**Choice Seeds.**

B. S. WILLIAMS begs to offer First-class quality of the undermentioned SEEDS:—

| | Per packet. | |
|---|---|---|
| PRIMULA SINENSIS FIMBRIATA, Red, White, or Mixed .. .. .. .. | 2*s*. 0*d*. | 3*s*. 6*d*. |
| CALCEOLARIA, herbaceous .. .. .. | 1 6 | 2 6 |
| CINERARIA, from choice named flowers .. | 1 6 | 2 6 |
| PANSY, very choice .. .. .. .. | 0 6 | 1 0 |

CORDYLINE INDIVISA, seed in fine condition, price 2*s*. 6*d*. per packet.

Paradise and Victoria Nurseries, Holloway, London, N.

## HYACINTHS AND OTHER CHOICE BULBS.

# B. S. WILLIAMS,

PARADISE AND VICTORIA NURSERIES, HOLLOWAY, LONDON, N.

Has just received in fine condition his first IMPORTATION of DUTCH FLOWER ROOTS, a PRICED and DESCRIPTIVE CATALOGUE of which will be forwarded Post Free on application.

B. S. W. begs to state that his BULBS have been selected with the greatest possible care, the Catalogue containing only well proved varieties. Careful attention has been paid to the arrangement of this Catalogue, in order to enable the Purchaser to select from with the least possible trouble, and Short Cultural Notes have been added, offering suggestions to the Amateur, by whom it is hoped they may be found useful.

## GLADIOLUS BRENCHLEYENSIS.

# YOUELL & CO.

Beg to offer this season strong FLOWERING BULBS of the above at 3*s*. per dozen, 20*s*. per 100.

Trade price on application, and when quantities are ordered a considerable reduction will be made.

The *Gardeners' Chronicle* speaks of it thus:—"It cannot be spoken of in terms of exaggeration; the robust habit and intensely bright scarlet flowers place it at the head of all the hardy flowers of the autumn." And again, "The spikes you have sent us are magnificent. We have as yet seen nothing of the kind so handsome near London. It is undoubtedly the most showy of the whole race of Gladioli."

CATALOGUES of their extensive Collection will be forwarded on application.

ROYAL NURSERIES, GREAT YARMOUTH.

## EXHIBITION OF CHOICE GLADIOLUS.

# YOUELL & CO.'S

COLLECTION of the above, extending over Three Acres, is NOW in BLOOM, and will continue some weeks.

The FIRST PRIZE was awarded them at the Crystal Palace, Open to All England and the Continent.

The FIRST PRIZE was awarded to YOUELL & Co. by the Royal Horticultural Society on Wednesday, Sept. 10, for best Collection of 24 Single Spikes; and the FIRST PRIZE for the best 12 Spikes of Brenchleyensis colour.

We supply them at the following prices:—

| | | | | |
|---|---|---|---|---|
| No. 1 Collection contains 100 Bulbs, in 50 of the most choice and handsome kinds, with names ... | | | | £5 0 0 |
| No. 2 Collection contains 100 Bulbs, in 30 | ditto | ditto | ... | 3 15 0 |
| No. 3 Collection contains 100 Bulbs, in 25 | ditto | ditto | ... | 2 10 0 |

*Fine Selections will be supplied at 6s., 9s., 12s., 18s., to 30s. per dozen*

CATALOGUES will be forwarded on application.

ROYAL NURSERIES, GREAT YARMOUTH.

**Adiantum radiatum (true).**

MR. WILLIAM BULL can now supply good Plants of this extremely rare and exquisite FERN, at 10*s*. 6*d*. each.

Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

HYACINTHS and other DUTCH BULBS.

THE FIRST PRIZE FOR A COLLECTION OF HYACINTHS,
THE FIRST PRIZE FOR 18 HYACINTHS,
THE FIRST PRIZE FOR 6 NEW HYACINTHS,

Being all the FIRST PRIZES offered to Nurserymen at the Royal Horticultural Society's HYACINTH SHOW on March 18, were awarded to WILLIAM PAUL, Paul's Nurseries, Waltham Cross, N.

PRICED DESCRIPTIVE CATALOGUE free by post.

**New Catalogue of Plants, Dutch Bulbs, &c.**

ROBERT PARKER begs to announce that his New CATALOGUE, containing Select, Descriptive, and Priced Lists of Exotic Orchids, New and Rare Greenhouse, Hardy, and Stove Plants, Ornamental and Variegated foliaged Plants, Azalea indica, Fruit Trees, Grape Vines, Rhododendrons, Roses, &c., Hyacinths, Tulips, Gladioli, Narcissus, and other Bulbs, is now published and will be forwarded to all applicants.

Exotic Nursery, Tooting, Surrey, S.

**Hyacinths, Tulips, &c.**

WM. CUTBUSH AND SON'S first importation of the above has arrived, and from the extraordinary heavy weight of the Bulbs they promise a fine bloom. Early orders are earnestly solicited. DESCRIPTIVE PRICED CATALOGUES free.

N.B.—17 FIRST PRIZES were awarded to WM. C. & SON last spring for HYACINTHS, TULIPS, and CROCUSES. In addition to this, EVERY FIRST PRIZE at the London Exhibitions to Amateurs was for Bulbs supplied by them.

The ONLY address is Highgate Nurseries, London, N.

CUTHILL'S STRAWBERRY PLANTS, to bear next year.—EARLY BLACK PRINCE, EARLY PRINCESS ROYAL, HIGHLAND MARY, RICHARD II., PRINCE of WALES, and NEWTON SEEDLING, 5*s*. per 100, if Selected, 7*s*. 6*d*. each Sort. Lasted in bearing 60 days this year.

STRAWBERRY PAMPHLET, 1*s*.; MUSHROOM do., 1*s*.; CUCUMBER do., 1*s*. MUSHROOMS grown here all the year round; best SPAWN, 5*s*. per bushel.

PRINCE ALBERT, Winter Cucumber, 1*s*. per Packet.

JAMES CUTHILL, F.R.H.S., Camberwell, London, S.

ROYAL HORTICULTURAL SOCIETY.
FLORAL COMMITTEE.

LIST OF AWARDS, August 25, 1863.

FIRST-CLASS CERTIFICATE.

CYRTANTHUS SANGUINEUS, from Messrs. Backhouse & Son, York
HOLLYHOCK ACME, from Mr. W. Chater, Saffron Walden
PELARGONIUM MRS. BENYON, from Messrs. E. G. Henderson & Son, St. John's Wood
DAHLIA FANCY PURCHASE, from Mr. Keynes, Salisbury
DAHLIA EARL OF PEMBROKE, from Mr. Keynes

SECOND-CLASS CERTIFICATE.

LILIUM NEILGHERRENSE, from Messrs. Veitch & Son, Chelsea
DAHLIA CORONET, from Mr. Wheeler, Warminster
DAHLIA ANNA KEYNES, from Mr. Keynes
DAHLIA SURETY, from Mr. Keynes
DAHLIA REGULARITY, from Mr. Keynes
DAHLIA THE BRIDE, from Mr. Legge, Edmonton
DAHLIA FORMIDABLE, from Mr. Legge
HOLLYHOCK WILLINGHAM DEFIANCE, from the Rev. E. Hawke, Willingham
HOLLYHOCK VOLUNTEER, from Mr. Bird Porter, Epping
HOLLYHOCK THE QUEEN, from Messrs. Downie, Laird, & Laing, Sydenham

COMMENDATION.

DAHLIA CRIMSON PERFECTION, from Mr. Legge
DAHLIA NONSUCH, from Mr. Legge
DAHLIA SYMMETRY, from Mr. Wheeler

SPECIAL CERTIFICATE.

To James Bateman, Esq., Knypersley, for EPIDENDRUM VITELLINUM
To Mr. Bull, Chelsea, for VALLOTA PURPUREA MAJOR

The NEXT MEETING will take place on September 9, the day of the Show of Autumn Flowers, when all subjects for examination must be at the Garden for entry by Half-past 8 o'clock. No previous notice is required.

THOMAS MOORE, Secretary to the Committee.

# The Gardeners' Chronicle.

*SATURDAY, SEPTEMBER* 5, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | |
|---|---|
| WEDNESDAY, Sept. 9 | Royal Horticultural (Fruit & Floral Sub-Committees) at S. Kensington 10 A.M. |
| | AUTUMN FLOWER SHOW, at South Kensington .. .. .. .. 1 P.M. |

THE appearance of the Bulb Catalogues reminds us that we have arrived at the season when it is necessary, if we desire to have a good and early display of Dutch bulbs, that we should make up our minds as to what to select, and then promptly hand our "order" to some trusty tradesman. This consideration especially refers to the HYACINTH, which occupies the most prominent and important place amongst the bulbs we here refer to, and to which we now confine our attention.

Those who have witnessed the fine display of Hyacinths which is made at the metropolitan spring shows—where in its season this flower certainly holds the foremost place—may have selected for themselves from amongst the rich profusion spread out before them; but those who may not have had this opportunity, or have failed to make use of it, may be glad of a few seasonable hints as to the present state of Hyacinthology.

Let us however first say a word or two respecting the spring exhibitions to which we have alluded.

We have had them in the month of February; but in our opinion, at that early season, the Hyacinths and other flowers which make them what they are, would be much more happy at home, and may be seen to much better effect either in the conservatory or in the in-door plant case, than in any possible exhibition room. The out-door conditions of the month of February don't quite harmonise with flower-shows, the elements of which must, we know, owe their floriferous condition to the application of a very considerable degree of artificial heat. Moreover the drooping heads which one is then apt to see at every turn, occasioned by sudden exposure to a colder atmosphere, are painful and jarring sights to a sensitive mind. No, let us decorate our conservatories, public or private, and our parlours and drawing-rooms also, to our hearts' content, as early as we please, but let us forego flower-shows till we may calculate on having them illumined by sunshine. All this applies forcibly to Hyacinths, which may be had much better in March than in February.

And now as to details. Of the larger and more imposing groups invited to these spring meetings, groups which have called forth the prowess of champions like Messrs. PAUL and CUTBUSH, we have nothing more to say than to express a hope that the combatants may each again appear heading a batallion worthy of his former fame. After having alternately won the victory, the struggle will now be for the championship. If we were to venture any remark on these collections it would be this—that for appearance sake the size of the pots made use of should be kept within the narrowest possible compass, and hereafter, if it cannot well be done now, this size should be defined.

The encouragement of the growth and exhibition of this flower by amateur cultivators, and by ladies especially, is a matter we would particularly suggest to those concerned in making the arrangements for these early meetings. No flower can be more successfully grown in a room than the Hyacinth, and probably no flower is in reality more extensively thus grown, but to ask for 12 plants is too much for our indoor gardeners. Let the dozens and the larger miscellaneous groups from the great campaigners come by all means, but let us invite along with them half-dozens and threes, grown in pots, the only conditions being in-door, *i. e.*, room culture; and let us also have half-dozens and threes grown in TYE's elegant glasses, as further examples of window gardening. We might thus spread the growth of Hyacinths, and with it all the little pleasures attending on their successful management, amongst a large proportion of the ladies of London. And if they could be induced to enter heartily into the pursuit, who can doubt that they would achieve success?

In order to bring out one of the most distinct and attractive features of the Hyacinth, and to stimulate the production of new varieties possessing this particular characteristic, we should further like to see a prize offered for half-a-dozen varieties having white eyes. Those which have this peculiarity, Argus, Lord Palmerston, and Lamplighter for example, are amongst the most attractive of their respective colours.

But to revert to the question of choice. For all purposes of decoration or exhibition, it is to be ever borne in mind that there is no comparison between those varieties with single and those with double flowers. The former class is infinitely preferable, and furnishes at least nine-tenths of those which appear prominently on our exhibition tables. During the last few years many fine new sorts have been brought into circulation; but in certain tints some of the old and familiar flowers are even yet hardly surpassed for general utility. The greatest advances have been made in respect to colour, especially amongst the reds and yellows, but to those also with extra-large bells, of which Grand Lilas may serve as an illustration, additions have been made sufficient to bring this large-flowered set into prominence in a general collection.

Commencing then with the Red varieties, there are of the cheaper series Amy and Robert Steiger amongst the deeper shades, and Sultan's Favourite, Norma, and Duchess of Richmond of the paler tints, which give not only variety but merit; while of the newer and dearer sorts Lina, Reine des Jacinthes and Howard are a good selection of deep reds, and Cavaignac and Macaulay of those of paler tints. Of the Mauves or Reddish-violets L'Unique may be recommended as a cheap purplish-mauve, and Haydn as a fine though expensive lilac mauve. Of the Blues the cheap series afford good sorts in Emicus, Bleu Mourant, and Baron Van Tuyll among the deeper tints, and Charles Dickens and Grand Lilas among the paler ones; while of more expensive sorts Argus, Marie, and Lord Palmerston among dark varieties, and Pieneman as a light sort, are some of the more distinct and desirable. Then of Black-purples none is better than the low-priced Prince Albert, though the dearer General Havelock and Lamplighter are also fine. Whites yield good low-priced pure varieties in Grand Vainqueur and Queen of the Netherlands, and blush white tints and larger bells in Elfrida, Grandeur à Merveille and Tubiflora; while of the newer sorts Madame Van der Hoop, Paix de l'Europe, Mont Blanc, and Fair Maid of Denmark, all pure in colour, deserve the highest praise. Little can be said of the cheap yellows, except that they are passable; but of the newer sorts we have San Francisco, a pure deep yellow, Ida, of a canary tint, and Duc de Malakhoff, streaked with red, all of which are beautiful and ornamental varieties.

As a last word, we advise our amateur friends to pot early, to force gently, and to air freely in order to secure good trusses of high coloured flowers.

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THERE are some plants admirably adapted for the purpose of DINNER-TABLE DECORATION which do not seem to have attracted the amount of attention that might have been expected, although such plants are no doubt here and there made use of in this way. We allude to those having the foliage covered with a felt of white hairs, which gives them an appearance resembling that of frosted silver. There is a remarkable chasteness in the effect produced by plants of this character when associated as they are on the dinner table with silver ornaments and glass; but they are chiefly available for furnishing vases, and are not adapted to supply standard specimens such as a year or two since were made the subject of a special prize at one of the shows at South Kensington.

As examples of the class of plants referred to, in every way suited for the purpose, we may mention the white-leaved Centaureas, which are now a good deal grown for the decoration of the greenhouse and flower garden, and are therefore readily accessible. Those known under the names of C. argentea and ragusina are amongst the most useful, and, to our taste, the most telling; but the common "Dusty Bob" of the flower borders, Cineraria maritima, is another which might be turned to very good account, and Centaurea candidissima is perhaps better still. The two species to which we give the preference are sufficiently distinct to make a good contrast in regard to form, C. ragusina having broadish and boldly chiselled pinnatifid leaves, while those of C. argentea are more compound, with more finely divided parts. In a general way vigorous young plants with a single crown would furnish the best-looking and most available examples for the use we have thus briefly pointed out, but larger tufts may be provided by making use of older plants.

We may also mention, in connection with this subject, that certain pale-coloured almost entirely silvered varieties of dwarf Begonias come in extremely useful for the same purpose, and for the same reason, namely that their chaste metallic colouring associates well with the ornaments and appliances of a dinner table.

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—— DECIDEDLY the best garniture for the spikes of the GLADIOLUS when presented on the exhibition table, is the foliage of the Gladiolus itself, used in just sufficient quantity to take off the baldness which is apparent in the ungarnished flower-spikes. That some dressing off is necessary or desirable, was made very evident, as it appeared to us, at the recent Crystal Palace exhibition—all the more so indeed in consequence of the undressed condition of Mr. STANDISH's noble spikes, which, as they well deserved to do, carried off the first prize; for notwithstanding the greater intrinsic merit of these flowers, which was abundantly manifest on a very cursory examination, yet the general effect of the second prize and inferior but dressed-up group, was far more pleasing than that of the other. These garnished specimens, as well as a much larger collection from the same growers, Messrs. YOUELL & Co., were set off with Gladiolus leaves, and it is to the use of these that their superior effect was due. Nothing that we have yet seen used suits the flower so well as its own proper foliage—as indeed might have been expected. It may then be assumed—(1), that some garniture is necessary in showing Gladiolus spikes; and (2), that the natural foliage is the right thing to use.

—— At p. 602 we briefly noticed the recent discovery of TRICHOMANES RADICANS in what had been fairly supposed to be wild habitats hitherto unknown in the north of England and in Wales; and though perhaps in neither of these cases was the station altogether free from suspicion of the Fern having been originally planted, yet it was interesting to know that so rare a plant was capable of holding its own (at least for many years, as it must have done in both instances) in habitats so far to the northward of what had latterly come to be regarded as its limit in the British Isles. We have, however, now to record a still more northerly station, namely, the Isle of Arran in the Firth of Clyde, where it was found during the past month, "in damp dark fissures of rocks, occurring in several patches," by Mr. G. J. COMBE, of Glasgow. The plant occurs at the north end of the island. Mr. COMBE writes thus:—"It appeared to me that the plant occupied a truly natural habitat. The position was favourable, well sheltered, and had a constant drip of water. I have not the slightest idea of its having been planted there; but even supposing this to have been the case, it must have been some years ago, as I fancy nobody would think of laying down so much of it as is now there. Its occurrence proves at least that the Trichomanes will grow and flourish even in Scotland. But although it has raised fine fronds, and looks quite at home, yet I could not discover any fruit, which shows that it is near its limit."

We have also to record the first Scotch habitat for POLYPODIUM ROBERTIANUM, which has been sent us by Mr. C. S. FORBES, of Aberdeen, from "the mound of an old limestone quarry on Scotston moor, near Aberdeen." The quarry, he supposes, has not been worked for 20 or 30 years, and the Fern is scattered, more or less, over all the north side of the mound, but is confined to that side. The specimen sent is a genuine one.

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## BASKET GARDENS.

*(Concluded from p. 820.)*

WHEN these baskets fail, it is because they have been applied to such wrong uses: bulbs perhaps planted in them, when exceedingly well drained and very dry indeed; or Pansies, and Clove Carnations, when moisture has been provided—the plants being simply put in without a second's consideration of the conditions requisite. Of course it is not likely that things would thrive in this way. Baskets look frightful unless they have the aspect of brimming-over fulness, and the beauty of the arrangement is just that it is made so easy by them to provide what each plant wants—light dry soil for some, and deep moist beds of dampest food for others, all contrived especially for especial tastes.

It seems to me indeed that drainage itself means underground husbandry rather than "removing water," and that thus in basket gardening we should consider equally how to give the water or secure the dryness, how to ensure the due entrance of fresh air, and how to save the tender roots from drying over much. Of course, when we know the flowers that we want, we must consider their special tastes in making all these arrangements.

Quantities of non-absorbent drainage, such as flints and clinkers, may go where we want to have unusual dryness; and the holes may be numerous, thus retaining no moisture. Moss and sandstone, potsherds and charcoal, may on the contrary suck up every drop, and keep it ready to supply the roots of more water-loving plants.

I do not know if the rule will be of service to other amateur gardeners, but I always reckon that any climbing plant which thrives in a balcony does well on the basket system, and by this simple test I have saved myself much trouble in re-arranging such things.

It seems to me too that the larger and more roughly made baskets should have large sweeping waves of foliage to enwrap them, but the little neatly carved stone vases, or the small delicate kinds of baskets should have little neat-made things such as would show their tracery.

I remember in the country some large rustic baskets made of great hollow trees, with great yellow waves of climbers sweeping naturally round one side; small Roses and Convolvuluses quite entwined the other, but these plants were grown in the cracks and crevices, some, too, at the top; and all were planted in such a manner that the course of the sun should draw them the way that we wished they should go. Mignonette grows beautifully, and looks extremely pretty in this kind of baskets; and Minor Convolvuluses make a most brilliant show.

The most beautiful basket bed that I ever saw was one, however, on the side of the Malvern Hills. One large basket of Tom Thumb Geranium made an unbroken surface of dark velvet green, and then the scarlet flowers lighted it up most brilliantly.

It is a great thing in planting these beds thoroughly to avoid the appearance of *lines*; the best way I know (unscientifically) for planting all such round things is to find, first, the middle, and then draw a number of concentric circles (with a stick and string), counting the distance between each row as the same as that to be between plant and plant in the rows.

It is a great thing to have nice spreading plants to put out, 14 inches each way will not then look bare; but though many people try, having a bed of annuals, to make the ground green at first, I myself never care to do this, as to those who like gardening the sight of

a nice fresh black bed of mould is by no means unpleasant.

Lines must be avoided with the greatest possible care, as was said just now. But, so that a general linear arrangement is guarded against, there is no need to worry if three plants somewhere should chance to meet each other. One great thing, I think, in planting, is not to have odd inches to "pucker in," as in sewing! The circumference should thus be divisible by the number of inches given—as for instance, where a bed is 14 feet in circumference, 12 plants, 14 inches asunder, will produce an even circle. There would, in this case, then, be only three rows at all, but each would be divisible by 14 inches.

The outer margin may be half the width that is allowed between the rows, or two thirds of it; but this should be separately reckoned for, counting the circumference as that of the outer row. Most people manage to place in the centre a very promising plant, and it is also well to raise the bed a little towards the middle. I have known, in places where the water was apt to run off very fast, a wonderfully good effect produced by a drain pipe (or hollow tile) being stuck up on end down into the soil. The water poured in through it must go down inside, and a good supply at the roots is worth 20 surface sprinklings; it does not dry up like they do, and it has a chance of really reaching the little thirsty fibres.

Scarlet Geraniums do certainly thrive well on a sunny aspect, but thorough watering is essential to keep them in the brilliant beauty that renders them so perfect for the sole contents of these large raised beds.

It may be well however to name a few more flowers that do very well. Most charming baskets may be filled with Heliotropes alone, both covering the centre and drooping down outside, and where these flowers are used, a wreath of the large white Bind-weed or Calystegia is very pretty growing up around.

White Ivy Geranium and pink ones again are good, but I have not often seen anything prettier than a basket filled with Ivy, forming a border and trained down all over it, and then small crimson China Roses tied down to the Ivy. White Roses too I am sure would be also lovely; and the common old Moss Rose, when pegged down in beds, puts out short flowering spurs, and makes the most perfect mass of beautiful pink flowers. The common Moss, and the small red China Roses are the two I have seen do best in this manner, but many other kinds would no doubt answer beautifully, and especially I have heard that the yellow Brier race has a good effect, and some of the Noisettes. A delightfully gay basket is made of Convolvulus minor, surrounded with dark Ipomœas and White Calystegias.

For a perfect gem the little blue Lobelia filling the inside, and rose and white Ipomœas twining round the outside, is however as charming as anything I can suggest. Ivy is always suitable, and when it is used in summer for the ground of a bed of Roses, it may in winter be made beautiful with Snowdrops and little pale blue Crocuses growing up amongst it.

White and scarlet or crimson Verbenas look very well, but require a moist soil and abundant water. These again are greatly benefited by the slight shade of Ivy.

Very pretty beds can be made too entirely of Ipomœas trained down throughout, the many varying colours producing a good effect; and White Petunias, Linaria Cymbalaria, and the creeping kinds of Mimulus, are often very pretty.

I am myself greatly against mixing flowers in any kind of pattern or border fashion, in baskets of this sort. They always have to me an air of unnaturalness or of smallness when this is done, as a regular plan. For a single basket however, it is impossible to say too much of the charming effect produceable by a perfect mixture. Geraniums, Heliotropes, Roses, Verbenas, Lobelias, and even Stocks, looking most bright and gay. Of course in these cases one has to go to work just as if arranging a monster bouquet. It is necessary to have some ruling colour selected, with which the rest may harmonise; and it is better to have moreover a ground colour like that of Mignonette or Heliotrope. Brilliantly coloured Geraniums, Arums, Stocks, Sweet Peas, Fuchsias, Roses—all are really lovely when mingled in such a basket, and the trailing flowers may both climb up from below, and creep out through the interstices of the basket edge.

I really do hope that these kind of things may meet with more attention. No one can tell till they try, the difference even for a balcony or for the smallest garden, between a set of plants scattered all about, and the self-same flowers—no matter how common they may be—when well put together and grouped into a bed. Such arrangements, too, give us all the pleasure of a successful small "work of art," added to the delight of seeing most naturally growing and most fresh-looking flowers. *E. A. M.*

## EXHIBITION FLOWERS.

### THE PELARGONIUM.—No. II.

IN plants for exhibition much may be done in the way of getting up, consisting of tying, and dressing the bloom; and effective arrangement is of the greatest importance. Many I know object to the practice of dressing flowers on the ground that it is a deception, inasmuch as it makes them appear to be what they are not. I do not, however, see any more harm in arranging the petals of a flower than in training the branches of a plant, the one is as artificial as the other. It will be found that many varieties will not expand properly, therefore the flowers must be opened and the petals laid back, using a small camel's hair brush for this operation. It will improve their appearance immensely; in fact, there are but few varieties that may not be improved in this way. When staging them endeavour so to arrange the colours as to form a pleasing and harmonious whole.

The improvement that has taken place in this flower during the last few years has been great indeed, and those who do not possess the new varieties should lose no time in procuring them. Many of those sent out during this last year or two possess every requisite for first-rate exhibition flowers, viz., profuseness of bloom, good form, well-defined markings, and large size. The class of spotted varieties is also making rapid strides, possessing as it does novel colours combined with good form.

Subjoined is a list of a few of the very best sorts in cultivation. Those which are best adapted for early work I have marked thus*.

*Light Varieties.*—Pericles, *Ariel, *Desdemona, *Empress Eugenie, Lady Taunton, Princess Beatrice, and Prince of Prussia.

*Roses.*—*Rose Celestial, Royal Albert, very fine, Regina formosa, Colossus, Eastern Beauty, *Lady Canning, and Simon.

*Scarlets and Crimsons.*—Lord Clyde, very fine, Illuminator, *Beacon, *Bellatrix, *Ensign, Glow-worm, Flora, Conflagration.

*Rosy Purples.*—Improvement, Lord Palmerston, *Leviathan, Merrimac, Royalty, *Couleur de Rose.

*Lilacs.*—*Lilacina and *Viola.

*Tinted Flowers.*—Perdita, Tycoon, *Beauty of Reading, Adine, Mulberry, *Sir C. Campbell, Princetta, and Rosa Bonheur (Hoyle).

*Spotted Sorts.*—*Landseer, William Bull, Feu de Joie, Diophantus, *Guillaume Severyns, *Sanspareil, Spotted Gem, *Osiris, Fair Rosamond, and John Leech.

If the hints I have given (see p. 725) on the cultivation of the Pelargonium are attended to, I do not think that any cultivator will be disappointed in the result. *Henry Bailey, Jun., Shardeloes Gardens, Amersham, Bucks.*

## PEACHES.

I HAVE given, in a previous Number, the quantity of Peaches grown here for several years, the aggregate of which, when divided by the number of years that I have protected with a sheet, amounts to rather over 500 Peaches per annum for three trees, ranging from 27 to 48 years of age, and which are now beautifully wooded and foliaged, having not had more than two dozen blistered leaves, which occurred after the removal of the sheets at night on the 1st of June. Usually they are put on about the 1st of March, and removed about the 6th of May; this year they were put up on the 13th of Feb., and removed at the above date. Within a few nights of removal, the sheets were as stiff with hoar frost as if they had been starched. The crop counted in my presence was this year 335. The first Peach was gathered on the 5th of August. They are three times the size of those that I have seen under glass. About three weeks before gathering 30 dropped from the intense heat of the wall; but after syringing no more fell. Mr. Danby Seymour, M.P. for Poole, called to see the Roses, and among other things he saw, and pronounced the crop of Peaches, wood and foliage, splendid. I regret that I was absent.

I was glad to read Mr. Bennett's article, in page 772, because it is a corroboration of what I have written. Except that his sheets move (I suppose) on rollers, there is no other difference whatever in our treatment of this "exotic," which could not be grown except on alien stocks.

I will not say a word against glass: but I will say that I have seen mismanagement. As to flavour, I have never eaten a Peach grown under glass so good as one grown in the open air on a south wall. Flavour depends upon the sort grown, sufficiency of water, sun, and air, and disfruiting. It is curious that if the sorts are good, large Peaches and Swedish Turnips are of better quality than small ones of the same kind. As regards protection and the sort of protection requisite, much depends upon circumstances and the aspect of the wall. A south wall requires more protection than any other. Much depends on whether the Peach is to be grown in Cornwall, Dorset, or Yorkshire, on a hill or in a valley. If you were to examine non-protectors, you would find the following things, viz., that they will not tell you when they fail; and that they are already greatly or sufficiently protected in a favourable season. They have Fir trees on the hills to keep off rough winds and sideway rains; they have a nice low mud wall or brick wall with a 2-feet coping of thatch, which defends the trees from descending dews and rains; their gardens are on high grounds where hoar frost—which makes me think of the frozen soldiers in the Beresina—is seldom severe; and then they tell us that they don't want protection. Well, let them descend into my valley, where the fogs will wet a man to his skin in the fore part of the night, and where the frosts at the turn of the night freeze the protecting sheet as stiff as a shirt collar, and there begin their meditations. If they don't wish themselves in "their sheets" I shall be mistaken.

There is one objection made to covering at night with sheets (I cover for days together, when the weather is bad, or likely to be bad), viz., that it stops the blossoms from setting. I find no difficulty, as the trees are never allowed during blossoming, nor till hoar frosts are over, to be bedewed or rained into. I give the trees water at the stumps according to judgment, and I have always found them set their blossoms immediately and abundantly.

It is a pity that people do not cultivate a trifle more of that rare "exotic," common sense, which would get them their Peaches and reasonings out of the last figure but one in rhetoric, called "dilemma."

I shall not make a clean breast of it unless I observe—

(1). That I think people injure their Peach trees by severe disbudding—in wood they deprive the tree of its lungs (which confer enteric and esoteric benefits), and bring on pleuro-pneumonia, or rather canker and gum. Why not skin the tree as well? I chiefly take off foreshoots: others I spur, but leave on the main of the wood till winter is over. Beware of getting the centre and base bare.

(2). That you must return to the land (unless it is inexhaustible soil) what the wood and fruit have taken out, instead of starving the tree and disbudding to meet it.

(3). That Peaches are stopped in their growth from not being disfruited as soon as they are set.

(4). That they drop from not having sufficient water at stoning time, and from unripeness of wood.

(5). That you must never let your trees get old, but cut back either the wings or centre, and let up new wood from time to time.

(6). That canker and gum are not to be attributed only to soil or roots, but to the disarrangement of health by external violations of one kind or another, from which it is our province to defend the tree.

And lastly, that if your trees are

"Bare and naked as lances,"

the sooner you cut them down, cut off their perpendicular roots, shorten their horizontals, and renew the ground with maiden earth and a little dung, the sooner you will be in a position to respect the trees and yourself too. *W. F. Radclyffe, Rushton, August* 31.

## FISH AND FISHING.—No. XIV.

### (1.) HOW GRAYLING GOT TO ENGLAND

THE shutters were closed, the curtains were drawn and, between a glowing fire on one side, and a soft shining lamp on the other, in his easy chair, sat the old angler, deeply ruminating. He had just turned down his book, and after conning over a few pages of "Salmonia" as though by way of reference, he might soon have dozed himself off in his contemplative brown study, when "Catholicus" stood beside him. "How art 'er? mine ancient Piscator?" His ancient friend started up, as though he had just hooked a 20 lb. salmon, wide awake.

"What art'er about, as the Lancastrians say, my Piscator? What's here? What? dozing over 'Baynes' Tourist's Guide to the antiquities of Conway Castle,' and what's this? 'Salmonia?' Ay, I see, still gloating over the Conway and salmon! A 'Tourist Guide,' indeed! all trash!

*Piscator:* No, my friend, you are all in the wrong. But sit down and help my thoughts. Though little the pamphlet, and though a mere "Tourist's Guide," there is so much matter for reflection in it, after my repeated visits to the town and castle of Conway and its neighbourhood, that I have read it through twice, and am proceeding to "the third reading." So, sit down, and make up a quorum, and let us pass "a Bill!" I love antiquity, though I am a "know-nothing" as to antiquarian lore. And again, you are wrong, for I had, for the time at least, wandered far from thoughts of the Conway to minor streams, and from the salmon to a minor of the family Salmonidæ. In truth, from what I read in the "Guide" about the "monks of old," I turned again to "Salmonia" where Sir Humphry Davy talks about the little fish, called the Grayling, the "Thymallus vulgaris," of Cuvier, and "Salmo thymallus," of Linnæus, having been first introduced into England by the "monks of old." You know, that though I believe there were bad "monks" and perhaps bodies of monks, I also believe that the vast majority were good and enlightened men, or at least that the majority were governed by enlightened men, wise and talented in the highest degree—the age considered,—and for the good works they did, I love and venerate those monks. Who, I would ask, raised those splendid edifices of Canterbury, York, Durham, Westminster, and a hundred others, which even in their very ruins still beautify this land, the very sight of which softens and subdues the heart towards the builders, and to bow itself before Him to whose honour and glory they were dedicated? The monks! Who civilised the world by rescuing from barbarism ancient literature, ere the art of printing was known? The monks! Who made Oxford, Oxford? The monks! Who were foremost in encouraging the sweet sounds of music, the

blessings of agriculture, the taste for horticulture, the usefulness of arboriculture, the vineyards and orchards of old; or in protecting our inland fish, or establishing our fish ponds or our sea fisheries—not to gratify their epicurianism or their gluttony, as is the vulgar idea, but because the discipline of their religion, on occasions, limited them, and all then Catholic England, to vegetable and fish diet, and debarred them at seasons from the use of animal or flesh food? Again, the monks! and yet—ye gods and little fishes!—how my blood tingles to hear those refined and refining tastes turned against them, and to perceive that even angling-authors, who should write nothing but "peace and good will towards men," must sometimes go out of the way to shoot their goosish shafts at those venerable men—"the monks of old."

*Cath.*: Stop, stop, my friend. Why! from Conway you are wandering wide at sea, beyond Great Orme's Head: and from salmon or grayling, you are falling into the abyss of growling! "Try back" to the Grayling, if introduced by the "monks of old;" and leave the defence of monachism to us Catholics.

*Pisc.*: Well, well, pardon me; I was carried a little to sea by the tide of reflection, and I thank you for "picking me up." But do let me have one more growl, one more; "Who?" Well, were not the monks the depositaries of all the arts and sciences known in their time, and are not some of those arts which are known to have been in their keeping, lost to us wise ones in the middle of the 19th century, and may not the art of pisciculture have been known to them and now only again dawning on us? There now, the wind is no longer "in the East," so let us get on with the subject and pursue it as learned antiquarians might like to do. Did or did not the monks know all about pisciculture and introduce the Grayling into Britain, is my question.

*Cath.*: Be it so; I understand very little about fish or fishing, but as far as my Catholic knowledge can help you, it shall. Upon what is the supposition founded? Why should it be an imported fish?

*Pisc.*: That the grayling is an imported fish seems now almost universally conceded.* The concession proceeds from the fact that not being known in Scotland or Ireland (I don't speak of modern introduction), but only in England and Wales, the grayling is, even in the latter countries, a very scarce fish, limited to certain rivers or parts of rivers, and becoming more and more scarce, except in places well adapted to it, or where artificially reproduced, which would not be the case, I contend, were it an indigenous fish. Whereas on the continent, and in Sweden, Lapland, and Norway, it is supposed always to have existed, and apparently ever will.

*Cath.*: But does their decrease prove them to be exotic? May they not have been originally planted here by Nature and be dying out of creation in certain English rivers, as the Dodo is supposed to have done elsewhere?

*Pisc.*: Their decrease is only a link in the chain of the supposition; and why, let me ask, are not grayling "dying out" in the other foreign localities I mention?

*Cath.*: Our rivers are not in the same natural state as when the fish were created.

*Pisc.*: Too true indeed. Still trout, which we know or believe to be indigenous, are not "dying out" save by pollution, but are still, to a certain extent, flourishing in the same rivers which the grayling are deserting; which at least tends to show that the hand of Nature, whose works are perfect, never placed the latter in those our English rivers.

*Cath.*: A fair argument; and as you say, a link in the proof. Fish are altogether a mystery; much still beyond our power of solution; come; back to the monks—and the author of the supposition.

*Pisc.*: We may have to recur to the first step again, for the questions of whether and by whom imported, are much commingled. *E. C.*

*(To be continued.)*

* See Yarrell, Brit. Fish. tits. "Grayling," "Vendace."

## ANCIENT FRUIT LORE.—No. VII.

*(Concluded from p. 797.)*

*In what kinde of roomes, winter-fruite are to be layed, and in what manner.*

For the better reseruing or keeping of winter-fruite, first there must be great heede taken, what place or roome they are layed in: for it must be neyther too hot nor too colde, neither too close nor too open. For, as the closenes of the roome brings thê in a great heate, so doth too much ayre make them shrinke, and be withered: besides, in time of yeare, the frost will sore nip them. You must also haue a great care, that they be neither layed vpon the groûd, in any low roome, or cellar: vnles it be either paued or boarded. For, although they be vnderlayed well with strawe, yet the moystnes of the bare ground wil cause the straw to be mustie, & the mustines ascend to the fruite: which wil make them both musty and mouldy.

The laying of fruite in a lowe roome or cellar (so that the roome be sweet, and eyther boorded or paued, being not very close) is good, from Christmas vntill the latter end of March: which will both keepe them from the frost, and from the sharpnes of the March winde. Betweene March and the latter end of May (being the chiefe of the spring) the cellars be hot: and, in that time, the fruite will run out, or rot, more in those roomes, then in other côuenient places. Roomes, that be very opê, are neither good for winter nor summer: and especially such as are neere the tyles where no seeling is ouer them. For, in winter, the sharp windes and frosts wil haue accesse through the chinkes or creuisses of the windowes, although shut: and, betwixt the tiles, the heate of the sunne, in hot weather will pearce likewise. As cellars be hot toward the spring, they be cold in summer: and are then good to keep fruite in.

Roomes, that be seeled ouer head, are good for fruite, hauing ayre sufficient, where the windowes may be shut and opened, as occasion serueth. For, being seeled it will keep away dust, that might haue fallen downe, and the heate of the sunne. Alwayes prouided, in what roome soeuer, that they be vnderlayed, with good, cleane, and sweet strawe, eyther wheate or rye. Take also the longest of the straw, and let it be layed to the walles, standing vp as far as the fruite reacheth: not thicke, but onely sufficient to keep the fruite from the wall. Which, if it be a stone wall, will giue, at euery change of the weather. If any other wall, it wil be ful of dust. Therfore the straw is good, both to dry vp the moystnes before it comes to the fruite, and likewise to keep away the dust.

But if the roome bee eyther wayne-scotted or boarded round, there needs no straw, betweene the walles and the fruite.

*How winter-fruites, of one sort and kinde, are to be culled, and sorted diuersly.*

As it is shewed how Summer-fruite (that is, such as be rathe fruite, and to be spent in summer) are to be ordered: so now shall be shewed, how winter or lasting fruite shall be vsed, and kept in their kinde, for their best lasting. And as there be diuers kindes of fruite that will not last, but must be vsed in summer, some at one time and some at another: so likewise there are diuers sorts, which will naturally last, some but til Alhollantide, some till Christmas, some till Candlemas, & other some till Shrouetide, &c. But especially, Pippins, John apples, or as some call them Dewzins, Pearmaynes, winter-russettings, and such other lasting seruiceable fruite, with good vsage, will last till new fruite come in.

It is the order in Kent, and in most fruite countryes in England, when they haue great heapes of fruite, lying in their houses, to take a long rod or staffe, with a nayle, or some such sharpe poynted thing, in the end thereof, and with the same to take vp those they see rotten, vpon the top or side of the heapes: not regarding how they rot vndermost, and in the heart of the heape: where, is more waste, then in the outward parts. And other some neuer stirre them, but when the haue occasion to use thê, and then taking them vp, and throwing out the rotten ones, doe let the rest rot that will.

But if you haue any fruit, that you meane to keep or reserue, as long as they can, by their seuerall naturall kindes, they must be vsed in another sort. When there is seene any perisht fruite, eyther vpon the toppe or sides of your heape, then it sheweth that some are rotten in the inner parts. Therfore, hauing a trey, with the same gently take them vp, being carefull, that you neither thrust the trey hard to the heape, nor with your nayles touch them. And heere know, that although the fruite of your heape be all of one kinde, yet at the turning or taking vp of them, they are to bee parted into three sorts: for they will not keep alike, although they grew all vpon one tree. Therefore your trey being filled set it before you, with your prickles or baskets round about you, & taking them out of the trey, peruse them well, and lay the hardest, or those that are without spots, which will last longest, in the basket next vnto you, laying them downe gently: the other sort that are broken skinned, stalke-pricked, or vnderrun (that is beginning to perish) will be as good for the present time to spend, and as sound as the other sort, so that they be taken in time. For, when they begin once to be spotted, or any way the skinne broken, if it be but the breadth of a pins head, they will not last long. This second sort you must put into the second prickle or basket. The third sort (for your third basket) are those that are already perisht, or worme eaten: which must be layed by themselues seuerall, and spent out of hand: and those that are found throughly rotten, to bee cast out, which will be but a fewe, if they be carefully looked into, shutting or pouring euery sort seuerall: and alwayes as they are turned, to bee vnderlayed with fresh and sweet straw. But if the be not taken vp, and looked to in time, you shal haue them, that be but stalk-prickt, or any way broken skind, soone rotten: and the other that be but a little perisht, whê these other begin to perish, wil be all rotten, and so spoile them that would last long.

*The times when long lasting fruite, should be stirred and turned.*

Pippins, John-apples, Peare-maines, and other such long lasting fruite, need not to bee turned, vntill the weeke before Christmas, except that there bee some riper kinde of fruite mingled with them (which must be take out) or that the fallings haue not been taken out at the gathering, or any strawe left amongst them.

The second time, that you should turne these lasting kindes of fruite, is about Shrouetide, or the latter end of March, or the beginning of Aprill. For, towards the spring all kinds of fruite will rot, more thê at other times. And so vntill Whitsontide turne them once in the month, and afterwards once in a fortnight. Still, in the turning, lay your heape lower and lower and your straw vnderneath them very thinne. Alwaies prouided, that you do not touch your fruite, in any great frost, and especially if they bee in an open roome.

In a cellar or close roome, where the frost cannot come at them, they may be touched, if there be any occasion of haste (or else not,) so that you keepe the roome very close shut too, when they be in turning.

At the thaw, the fruite is wet and moyst: and as long as they be so, they must not be touched, nor any way stirred, vntill that they be dry againe. And so likewise in rainy weather, they will be danke and moyste, and giue, according to the weather: at which times they may not be touched. For, being touched in any of those times aforesayd, they wil turn black: and hauing once changed colour, they will not last. Therefore in what roome soeuer you lay them, set open your windows, doores, or other entrances for ayre (that so the winde may come in vpon them); in winter, betwixt nine in the forenoone, and foure in the afternoone: and in summer you may open at sixe in the morning vntill eight at night. For, before and after these times, the ayre is too colde. In March open not your windowes at all: for the March winde will cause the fruite to shrinke.

*When Pippins, and other long lasting fruite, begin to be shriueled: and the reason.*

Lasting fruite, after that the middle of May is past, begin to wither: by reason that then they ware dryer. And thê, the moysture being gone, which caused them to keep plumpe, they looke withered and become smaller. Also when nature is decayed in them (doe what you can) they will rot. For, in the spring, as the tree yeelds fruit, springing and budding euery day more and more: so, doe the kirnels of the olde fruite, at that time, begin to swell & sprout within: and commonly it makes way at the stalke, and there begins for the most part to rot.

## Home Correspondence.

*The old Pollard Lime tree near Aix-la-Chapelle.*—Some two miles and a half from this charming German watering place, there stands a huge Pollard Lime tree, close to a house named Vorst. It is said to be 1000 years old, for aught that is known to the contrary; and this is no extravagant surmise, when we contemplate its present appearance, and think of the many years that must have elapsed from the period of its renovation; for, at some epoch long gone by, it must have been truncated by the hand of man, or decapitated by the ruthless tempest, about 12 or 14 feet from the ground. The bole of this old giant of the forest measures in circumference full 44 feet at the base; but where its mutilation has occurred, and where new shoots have succeeded to the enormous branches which it once possessed, its dimensions have increased considerably by the swelling of the renovated parts. These parts now bear six stately trees, nearly equidistant, one of them being a trifle smaller than its brothers. But they are all in full vigour and in excellent condition, as their last year's shoots and their present foliage amply testify. The parent stock is hollow, and at first sight you might suppose that it consists of six or seven distinct trees. But this is not the case. They are only part and parcel of one single individual plant; they appear very much dilated, and are very hollow. Still there is quite enough of sound wood remaining to support the six new trees which have sprung up at the part where their unfortunate parent has lost its head. Here youth and age combine their powers to form an interesting sight in sylvan scenery, never to be found except in vegetable nature. Were this old Pollard Lime tree mine, I could easily put it in a condition to defy "rude Boreas, blustering railer," in his every attempt to lay it low for ever. I would first clear the trunk of all decaying wood from top to bottom, and then I would build up within the hollow a solid pillar of stone, grouted well with Roman cement. Every year a new sap at the periphery, would commence to roll slowly over this artificial interior, till at last the present separated parts would reunite. All this would tend to strengthen the old trunk itself; and Nature, in the course of time, would put all to rights again, by her own inimitable process. It were to be wished that the injured timber in our noble parks were more attended to than it is at present. I have at home just now four convalescent trees, the state of which must give satisfaction to every beholder. The first is a Dutch Elm, which lost an enormous branch about 70 years ago. The second is also a Dutch Elm; it is seven years since an amazing arm fell from it in a dead calm; and as it lay on the ground, I received the sum of 2*l*. 10*s*. for it from a timber merchant. The third is a Pollard Walnut; and the fourth a Willow. These are all now in a renovated state of improvement, well worthy the attention of the curious, and showing what can be done when proper means are used. *Charles Waterton, Aix-la-Chapelle, Frank's Hotel, Bellevue.*

*Agave americana.*—A fine specimen of this noble plant is now showing flower in the gardens of T. F. Brockholes, Esq., Claughton Hall, Garstang. On June 9 the plant measured 15 feet across, *i. e.* from point to point, and 7 feet in height. The flower stem was 11 feet 6 inches in height, and 13 inches in circumference at the base; it is now 22 feet in height and is still growing, there are between 4000 and 5000 flower buds

on it not yet all developed. Through the kindness of Mr. Brockholes, all who wish to see this interesting aloe may have an order to do so on any day except Sunday, by forwarding their address on a stamped envelope to Mr. Walsh, the head gardener, who will furnish the proper admission to the grounds. Claughton Hall is situated about midway between Preston and Lancaster, and is two miles distant from Garstang and Brock stations. *D. James, Carton Park, Maynooth.*

*Rubus biflorus of the Himalayas.*—Your correspondent "J. B., Biddulph Grange," has by a communication inserted in your publication of the 1st of August, given a very interesting account of his Rubus leucodermis of the Himalayas. I have an account to give not less astounding as regards the R. biflorus, also a white-stemmed Bramble, and from the same hills, and derived, as I have reason to believe, from the same eminent nurserymen, Messrs. Veitch, of the King's Road, Chelsea, who, I observe from Loudon's Supplement, had obtained the plant from Nepal, and had for a time cultivated it under the name R. leucodermis—"a name," it is there observed, "it might justly claim (from the pure white stems of the plant), were it not that a north-west American species had been so designated by Douglas, and the name adopted by Drs. Torrey and Gray in their Flora of North America." So that the plant, which "J. B." refers to, may be safely regarded as the identical species which I possess under the name of R. biflorus. I put out my plant in the very early spring on a gable wall facing the west. It was then a bushy thing with several stems, the tallest of which would be only about 3 feet high. It was in bloom on the 15th of May last, and in due season ripened fruit of an amber tint, and of a sweetish pleasant flavour. About the early part of April I observed a young vigorous shoot starting from the collar of the plant, which very rapidly shot up, throwing off lateral branches, so as to completely cover over and nearly hide the original plant. The following are now the dimensions, as I have to-day taken them, with my gardener:—Height of leader from the ground, 12 feet 6 inches; spread of principal lateral branches, from 16 to 17 feet; longest lateral branch, 11 feet; girth of main stem, at 3 feet from the ground, 3 inches. There are above 20 lateral branches, and these again have several side-shoots, which my gardener lately thinned. The tree, for such it certainly is, is still growing vigorously, and has already covered up two young Jargonelle Pear-trees which had the misfortune of being planted on each side of the original plant. The stems are thickly coated as if with whitewash, which the rain does not remove, though it is easily rubbed off with the hand. It is truly a noble plant, and if the fruit should be as abundant as the berries are large it would be worth while to cultivate the species as a fruit-bearing plant. But though with me it was sweet it wanted aroma; yet it may be improved by cultivation. I have failed to cross it. *Isaac Anderson Henry, Hay Lodge, Trinity, Edinburgh.*

*Peach tree Protection.*—At page 772 Mr. Bennett recommends the use of Frigi Domo in preference to any other material for spring protection, even including glass itself. My experience leads me to a wholly different conclusion. I would recommend glass in preference to anything else whatever. Under moderately good management it is certain to produce satisfactory results. A 12 or 14 feet wall need not cost more than from 18*s.* to 20*s.* a foot run. The fruit from such a wall is superior to that from situations unprotected; and provided there is a flow and return pipe, which there always should be, a convenience for bedding plants, Strawberries, &c., is secured, a point of much importance in most places. In short, a Peach wall covered with glass will in four or five years repay the expense of covering it. It will cost little to keep it in repair, and in all respects it will be the most economical in the end. *S., Manchester.*

*Vermin and Traps.*—I rejoice that the attention of your readers has been directed to the cruel practice of catching rabbits with steel traps, by your correspondent "C. D." The amount of suffering thus occasioned must be very great, and it would be well worth the consideration of some of our societies for preventing cruelty to animals whether they would not be carrying out the object for which they are associated by offering a prize for the discovery of some more humane way of destroying these animals. That they must be destroyed in some way or other admits of no doubt. Not to speak of vermin, strictly so called, in which game preservers are more directly interested, the breed of rabbits in some of the southern counties, especially near the sea coast, is so rapid, that unless kept down they would soon disappoint all the hopes of the husbandmen. In such situations trappers are usually kept employed from November to the middle of February. One man is supposed able to attend to three dozen traps. These are set in the day, and are taken up as soon as it is light enough in the morning, so that rabbits, which feed early, are sometimes many hours in the traps with broken legs, and often show by the state of the ground around them what desperate efforts they have made to escape. Copses can be netted, but this mode of taking rabbits cannot be applied to all places, and with the greatest care will not clear them off sufficiently to satisfy farmers. As there are many persons interested in this subject, I trust that "C. D." will publish in your columns any useful information he may gain in answer to his inquiry, and that his letter may elicit a further discussion of the subject in behalf of the suffering race of rabbits. *J. B.*

*Vine Growing, &c.*—I took possession of my present situation in the autumn of 1862. Amongst other houses, I have two new Vineries. The Vines, two-year from eyes, were planted about the 24th of May in the same year; they made a growth of about 20 feet. In due time they were pruned some to five eyes, others to three eyes. They showed plenty of bunches. In thinning the bunches I left from three to five on a Vine. They ripened well; one Vine, a White Nice, had three bunches which weighed respectively 3 lbs. 12 oz., 3 lbs. 5½ oz., and 2 lbs. 7 oz. Lady Downe's seedling furnished some very good Grapes, which I have not yet cut. Golden Hamburgh was a very good early Grape. Muscat of Alexandria produced three splendid bunches, with which I took a 1st prize at a local provincial show, against six competitors. I cut ripe Grapes (five bunches) from a White Frontignan a fortnight under the 12 months from planting. Most of the Vines have made 30 feet of good strong wood this season. In the early house I have a pit for growing stove plants, in which I planted Cucumbers in Seakale pots, plunged in the bark, and trained them up the rafters with the Vines, and at the present time the plants are as healthy and clean as if it were May, and full of fruit. I keep them clean by washing two or three times a week with soap water; I never use Tobacco for that purpose. In the late house I planted three Peach trees in November last, from which I got from six to nine fine Peaches, and they are as full of blossom buds as can be. *J. C. Nicholson, Gardener, Osgodby Hall, Selby.*

*Epidendrum vitellinum.*—I can fully confirm Mr. Bateman's remarks respecting the culture of this lovely Orchid on the "cool house system," as I have a plant under my care which has been grown cool, and which has produced as many as 16 spikes of flowers this summer. Some of the spikes measured from 15 to 20 inches in length, and contained from 12 to 23 flowers each. The plant itself is in perfect health, and measures 2 feet through: a glorious specimen. *G. Toll, Gr. to J. A. Turner, Esq., M.P., Pendlebury House, Manchester.*

*Cinchona.*—Your Correspondent "Exul" objects to your very correct directions for pronouncing Cinchona, on the ground that the word is Spanish. To this I would reply that we are not speaking Spanish, but English, or botanical Latin which we pronounce after English rules. You have on former occasions shown that whatever may have been the derivation of the word, the alteration now of the spelling from Cinchona to Chinchona, would be a piece of gratuitous pedantry opposed to all the rules of botanical nomenclature. Linnæus may or may not have known that the plant was named after a Countess of Chinchon; he would not at any rate have adopted Chinchona, for that would have to be pronounced in German (one of the languages he was most familiar with), and in other East European languages as Hinhona or Khinkhona, and for euphony he would have altered it to Cinchona. Such alterations have been frequently made. We have made Brunonia out of Brown, Stranvæsia out of Strangways, &c. Cinchona therefore, having been fixed as the name of the genus, and adopted by all eminent botanists, is now a settled word in botanical Latin, and is pronounced by each nation as it pronounces Latin The Spaniard may say Sintshona, and the Italian Tshinkona, but the German and Russian will say Tsinhona or Tsinkhona; the Swede (if I recollect right, but I have forgotten much of my Swedish) Tshinkhona or Tshinhona, whilst we say Sinkona; the Frenchman pronounces the *c* and the *ch* as we do, but gives to the *in* that peculiar sound which it acquires in that language before a consonant, and which we cannot render in English letters. If we are to adopt the Spanish pronunciation for all words, not only Spanish but derived from the Spanish, let us begin by saying Mādrith for Madrid and Cādith for Cadiz. *G. B.*

*Seedling Grapes.*—I have been crossing several varieties of Grapes, and I wish to raise young plants from the seeds; but having several times sown Grape seeds, I find that they don't spring readily. Some come at once, some next year, some not at all. What is the surest way to insure their growing? Steeping in hot water is recommended for some seeds—would it suit those of Grapes? *A. B.* [We should sow at once, and wait patiently.]

*Tropical African Ophioglossums.*—I send a little Ophioglossum discovered on the 24th of April, near the town of Ikonito, and not far from the banks of the river at Old Calabar, by Mr. Milne, a young man who was sent out last February to Western Africa from this city to collect plants and other specimens of natural history. Having observed a statement in the "Vegetable Kingdom" to the effect that "in the tropical parts of Africa and in Barbary these seem unknown," I thought it would be interesting to record this fact. *P. Clarke, Glasgow.* [The specimen seems to belong to O. nudicaule.]

*Striking Cuttings without Soil.*—Since my communication on this subject appeared (see p. 434 of our volume for 1860), I have received many inquiries respecting this simple mode of propagation. That cuttings of almost all plants will strike and grow in the way just named is a well-known fact. In water, on a piece of old wood, or suspended in a continually moist atmosphere, plants will live and do well, so that the striking of cuttings without soil is no new idea; but I have found how to bring this simple every-day culture into home practice, and it is now within the means of every one who has a garden and can procure a few cuttings, or keep an old stock plant over winter. With my simple means, any one can grow sufficient for his wants in an incredibly small space. Not only Roses, but bedding plants can be grown and kept in good health for years without soil. I herewith send you a bundle of Roses, which you will perceive are now three year old plants. They were cuttings tied in a bundle, struck, and kept in the same state as you now see them, never having been separated or planted out in any soil, yet if they were now planted in any common garden mould they would soon be fine healthy trees. On the other hand, I could undertake to keep these selfsame plants in a healthy state for many years, without adding an atom of soil of any kind; hence follows an important question—namely, what is the use of keeping plants in this retarded state? For my own part I am inclined to think that in a few years we shall see thousands of continental Roses and other plants introduced to this country at any season of the year, in perfect health, with all the luxuriance of their native clime, without the slightest check on vegetation, by this means. *W. Prestoe, Cornwell Place, Basingstoke, Hants.* [The samples are as above described: well-rooted and healthy, but not vigorous].

## Societies.

Crystal Palace Horticultural Exhibition.—A Fruit and Dahlia show was held here on Tuesday and Wednesday last, and was well attended. The display of fruit was unusually large, and in many instances excellent, especially in the case of Black Grapes, which were all that could be desired.

*Collections of 8 dishes of Fruit.*—These were numerous, and among them were many excellent examples of skilful cultivation. In Mr. Henderson's, gr. to the Duke of Sutherland, at Trentham, were three bunches of Barbarossa Grapes, which weighed together 10 lbs. 11 oz.; a similar number of Black Hamburgh, weighing 6 lbs. 8 oz., good Barrington Peaches, Moor Park Apricots, an Enville Pine Apple, Trentham Hybrid Green-fleshed Melon, Morello Cherries, Pitmaston Nectarines, and Canon Hall Muscat Grapes. Mr. Bailey also furnished good fruit, among which were excellent Bowood Muscat Grapes, from a Vine stated to have been grown in a pot, Black Hamburgh, a Providence Pine Apple, Red Magdalen Peaches, Elruge Nectarines, Washington Plums, Bon Chrétien Pears, and Bailey's Green-fleshed Melon. In other collections we noticed a good Otaheite Pine Apple, excellent Grapes of different kinds, including three bunches of Black Prince, from Mr. Pottle, gr. to B. D. Colvin, Esq.; Pears, chiefly of the Bon Chrétien kind, Peaches, Nectarines, Plums, and Melons.

*Awards.*—8 dishes: 1st, Mr. Henderson, Trentham; 2d, Mr. Bailey, gr. to T. T. Drake, Esq., Shardeloes; 3d, Mr. Henderson. Extra, Mr. Beale, gr. to A. Smith, Esq., M.P.

*Pine Apples.*—These were not plentiful; but among them were one or two glorious examples of fine growth, especially a Queen, from Mr. Hall, gr. to Lord Scarborough, which weighed 7 lbs. 10 oz.; it was a finely formed fruit, but scarcely ripe. Mr. Young, Aberdare and Mr. Grant, Finchley, both showed good specimens, of Queens, which weighed respectively 5 lbs. 6 oz. and 4 lbs. 14 oz. Mr. Dwerrihouse furnished a fine fruit of Smooth-leaved Cayenne, and there were also some good Envilles from other growers.

*Awards.—Queens*: 1st, Mr. Hall, gr. to the Earl of Scarborough; 2d, Mr. Young, gr. to C. Bailey, Esq., M.P.; 3d, Mr. Grant, gr. to G Plucknett, Esq. *Any other Variety.*—1st, Mr. Page, gr. to W. Leaf, Esq.; 2d, Mr. Dwerrihouse, gr. to Viscount Eversley; 3d, Mr. Page.

*Grapes.*—These were, as has been stated, excellent and abundant in quantity. Mr. Meredith's were unequalled for high cultivation and fine finish. Three bunches of Black Hamburgh from him weighed together 10 lbs. 13 oz. Mr. Morris likewise contributed admirable Black Hamburghs, as did also Mr. Henderson, Mr. Richards, and Mr. Drummond. The last named grower also exhibited bunches of Muscat beautifully ripened and well coloured; and from Mr. Meredith came a bunch of Trebbiana weighing 5 lbs., which though scarcely ripe, and slightly spotted with rust, was nevertheless a magnificent cluster. Mr. Goldsmith had a bunch of Barbarossa weighing 5 lbs. 14 oz.; it was not, however, in first-class condition. Golden Hamburgh, not very good, came from Mr. Tillery; and we noticed a bunch of the large green Grape, Marchioness of Hastings, from Mr. Henderson. Vines in pots were shown in good condition by Messrs. Lane.

*Awards.*—12 lbs.: 1st, Mr. Meredith, Garston, near Liverpool, and Mr. Morris, gr. to A. Bosanquet, Esq., Southgate; 2d, Mr. Harrison, Oatlands, and Mr. Wortley, Norwood; 3d, Mr. Drummond, gr. to J. A. Smith, Esq., Tunbridge Wells. Extra, Mr. Henderson, Trentham. *Black Grapes*, 3 bunches: 1st, Mr. Richards, Grimston; 2d, Mr. Meredith; 3d, Mr. Drummond. Extra, Mr. Henderson and Mr. Omant, gr. to J. Levick, Esq., Epsom. *White Grapes*, 3 bunches: 1st, Mr. Drummond; 2d, Mr. Wills, gr. to Sir P. G. Egerton, Bart., M.P.; 3d, Mr. Simpson, gr. to Lord Wrottesley. Extra, Mr. Bailey, Shardeloes. Heaviest bunch: 1st, Mr. Meredith; 2d, Mr. Goldsmith, gr. to Sir W. Farquhar, Bart.; 3d, Mr. Henderson.

*Peaches.*—Of Barrington, Mr. Kaile sent a dish of unusually large fruit; Mr. Dawson and Mr. Cross had Violette Hâtive, and Barrington, both excellent; and Vanguard was shown by Mr. Plester. Of these and

other sorts there were also a great many dishes of good fruit.

*Awards.*—1st, Mr. Kaile, gr. to Lord Lovelace; 2d, Mr. Cross, gr. to Lord Ashburton, and Mr. Dawson, gr. to Lady Cowper; 3d, Mr. Plester, gr. to Mrs. Rush, Bishop's Stortford.

*Nectarines.*—Beautiful fruit of Pitmaston Orange came from Mr. Ferguson, of Stowe; and Mr. Henderson and Mr. Plester also had good dishes of other kinds, among which were Elruge, Red Roman, and Hunt's Tawny.

*Awards.*—1st, Mr. Ferguson; 2d, Mr. Henderson, Trentham 3d, Mr. Plester, Bishop's Stortford.

*Melons.*—These were furnished in profusion. Among the best were a hybrid Green-fleshed sort, like Bromham Hall, Orion, and Marquis of Ailsa; the last came from Mr. Turner, of Slough. Among Scarlet-fleshed sorts one of the best was Gem, and hybrids from it, most of which were unnamed.

*Awards.*—*Green-fleshed*: 1st, Mr. Scorer, gr. to G. T. Eyre, Esq., Woodlands, Havant; 2d, Mr. Varney, gr. to W. Smith. Esq., Brixton; 3d, Mr. Turner, Royal Nursery, Slough, *Scarlet-fleshed*: 1st, Mr. Gadd, Dorking; 2d, Mr. Whittaker, gr. to Lord Crewe; 3d, Mr. Kaile, gr. to Lord Lovelace.

*Figs.*—These were chiefly Brown Turkey and White Marseilles.

*Awards.*—1st, Mr. Eman, gr. to Miss Trotter; 2d, Mr. Wyatt, gr. to H. Willis, Esq.; 3d, Mr. Turner.

*Cherries.*—Besides Morello, we noticed Late Duke, Bigarreau, and Florence.

*Awards.*—1st, Mr. Bailey, Shardeloes; 2d, Mr. Dawson, Panshanger; 3d, Messrs. Lane & Son, Great Berkampstead.

*Plums.*—Of these there was a large display, consisting chiefly of Green Gage, Reine Claude de Bavay, Prince of Wales, Goliath, Washington, Jefferson, Coe's Golden Drop, Magnum Bonum, Kirke's Victoria, Sir C. Napier, and others, all large fine-looking fruit.

*Awards.*—1st, Mr. Bailey, Shardeloes; 2d, Mr. Pomfrett, gr., Eton College; 3d, Mr. Webb, Culham House, Reading.

*Apples.*—These were numerous, for the most part large, and free from speck or blemish. Among dessert kinds in the winning collections were Downton, Ribston, Fearn's, Kerry, and Cox's Orange Pippins, Summer Pearmain, Quarrenden, Cox's Pomona, and Peach Apple. Among kitchen sorts the best were Alfriston, Chancellor, Praiseworthy, French and Springrove Codlins, Tower of Glammis, Hawthornden, Lord Suffield, Lord Derby, Five-crowned Pippin, Emperor Alexander, Flower of Kent, and Wellington.

*Awards.*—*Dessert*: 1st, Mr. Pomfrett, Eton; 2d, Dr. Cooper, Slough; 3d, Mr. Holder, Maidstone. *Kitchen.*—1st, Mr. Mortimore, gr. to A. Smee, Esq., Carshalton; 2d, Mr. Vicary, Eltham; 3d, Messrs. Lane, St. Mary Cray, Kent.

*Pears.*—These were also plentiful and good. Among table sorts were splendid fruit from Mr. Harrison of Williams' Bon Chrétien, Marie Louise, and Duchesse d'Angouleme, and from others came Gansel's Bergamot, and Louise Bonne of Jersey, in fine condition. The 1st prize for fine flavour was awarded to Williams' Bon Chrétien; and to Gansel's Bergamot a third prize was given. The heaviest Pears consisted of Uvedale's St. Germain, 12 fruits of which weighed 10lb. 8 oz.

*Awards.*—6 dishes: 1, Mr. Harrison, Oatlands; 2, Mr. Nicholls, Hammersmith; 3 Mr. Donald, gr. to J. G. Barclay, Esq., Leyton. *Single dish for weight.*—1, Mr. Goldsmith, gr. to Sir W. Farquhar, Bart.; 2, Mr. Dwerrihouse gr. to Viscount Eversley; 3, Mr. Turner, Slough. *Single dish for flavour.*—1, Mr. Mortimore, gr. to W. Potts, Esq., Carshalton; 2, Mr. Gale, Hammersmith; 3, Mr. Grover, Hammersmith.

*Miscellaneous Subjects.*—These consisted of Peach and other trees in pots, well furnished with fruit, from Messrs. Fraser and Lane; various kinds of Nuts from Mr. Webb; Moorpark Apricots from Mr. Henderson; Winter Cherries, Red and White Currants, Guavas and Cucumbers from other growers. The names of the last were Emperor, Hallis's Volunteer, and Telegraph, all examples of fine growth.

*Dahlias.*—The display of these was large, and the blooms for the most part in good condition. Those from Mr. Turner and Mr. Keynes especially were very fine. Good stands were also contributed in the amateur class. In the different collections we noticed beautiful examples of Lord Palmerston, Lady Franklin, Lady Popham, Goldfinder, Earl of Shaftesbury, Heroine, Commander, Hon. Mrs. Trotter, Madge Wildfire, Criterion, Hon. Sidney Herbert, Model, Captain Harvey, Cygnet, Chieftain, Lord and Lady Elcho, Lord Cardigan, Joy, Hope, Volunteer, Pioneer, Hugh Miller, Norah, Pluto, Lord Derby, Duchess of Wellington, Perfection, Sir George Douglas, Lord Eversley, Miss Pressley, Mr. Stocken, Mrs. Pigott, Mr. Boshell, Marquis of Beaumont, Chairman, Jenny Austin, Norfolk Hero, Mrs. H. Vyse, Cherub, Warrior, Juno, Lord Dundreary, Gold Drop, Umpire, Bob Ridley, Delicata, General Jackson, Mauve Queen, Dinorah, Count Cavour, Charlotte Dorling, Beauty of Hilperton, Donald Beaton, Mrs. Henshaw, Midnight, Peri, Willie Austin, Disraeli, Lord Canning, and George Brown.

Among what are called Fancies we noticed fine blooms of Harlequin, Countess of Bective, Pauline, Starlight, Elegans, Queen Mab, Confidence, Lady Paxton, Miss Jones, Mrs. Crisp, Norah Creina, Madame Sherrington, Summertide, Fairy Queen, Mrs. C. Kean, Countess of Shelburne, Pluto, Zebra, Garibaldi, Rev. J. Dix, Triomphe de Roubaix, Mrs. Wickham, Duchess of Kent, Leopold, Oliver Twist, Flirt, and Gem.

Seedlings came chiefly from Mr. Keynes, who received First-class Certificates for Edward Purchase, dark velvety crimson; Polly Faucett, yellowish buff ground heavily tipped with pink; Samuel Bartlett, deep lilac striped and flaked with crimson; Fanny Purchase, bright yellow; Anna Keynes, white tipped with purplish lilac. The same raiser also had Second-class Certificates for John Wyatt, violet shaded purple; Fascination (Rawlings), delicate pink strongly striped and blotched with crimson; Lady Lilian Paulett, French white, delicately tipped with violet; and Regularity, carnation striped white. First-class Certificates were awarded to Mr. Legge, of Edmonton, for Nonsuch, buff suffused and shaded with red; and to Mr. Collier, of Bethnal Green, for Princess Alexandra, golden yellow, striped and flaked with red. To Mr. Legge were given Second-class Certificates for Fancy Boy, buff shaded and striped with red; and for Enchantress, lemon ground, heavily tipped with purple; Mr. Bragg, of Slough, had a similar award for Ranger, a scarlet flower of fair properties. Second-class Certificates were also given to Mr. Burgess, for Chelsea Hero, deep buff tipped with violet; and to Mr. Wheeler, of Warminster, for Mrs. Wheeler, white, heavily tipped with purplish lilac. In addition to these Mr. Perry sent a compact small sort called Nilus, yellowish buff tipped with red.

*Awards.*—48 *blooms*: 1st, Mr. Turner, Slough; 2d, Mr. Keynes, Salisbury; 3d, Mr. Cattell, Westerham; 4, Mr. Walker, Thame. 24 *blooms.*—1st, Mr. Turner; 2d, Mr. Keynes; 3d, Messrs. Saltmarsh, Chelmsford; 4th, Mr. Walker; 5th, Mr. Legge, Edmonton; 6th, Mr. Barnes, Stowmarket. 12 *Fancies.*—1st, Mr. Turner; 2d, Mr. Keynes; 3d, Mr. Legge; 4th, Mr. Cattell. 24 *blooms* (*Amateurs*).—1st, Mr. Thornycroft, Weedon; 2d, Mr. Sladden, Ash; 3d, Rev. C. Fellows, Norwich; 4th, Mr. Perry, Castle Bromwich; 5th, Mr. Moffat, gr. to Viscount Maynard, Dunmow; 6th, Mr. Avis, gr. to the Rev. C. Roe, Bury St. Edmunds. 12 *blooms.*—1st, Mr. Thornycroft; 2d, Mr. Charlton, Kibworth; 3d, Mr. Sladden, Ash; 4th, Mr. Wakeman, Eltham; 5th, Mr. Batten, Eton; 6th, Rev. C. Fellows, Norwich; extra, Mr. Steer, Eltham. 12 *Fancies* (*Amateurs*).—1st, Rev. C. Fellows; 2d, Mr. Sladden; 3d, Mr. C. Perry, Castle Bromwich.

*Asters.*—Exhibitions of these were numerous, and seemed, as well they might, to excite much interest; for when neatly set up, as they were on this occasion, few flowers have a more captivating appearance. Some admired the French sorts most; others the German; both were, however, very handsome.

*Awards.*—24 *German*: 1st, Mr. Betteridge, Milton Hill, near Steventon; 2d, Mr. Bosley, East Hendred, Berks; 3d, Mr. Jennings, Shipton-on-Stour. 24 *French.*—1st, Mr. Betteridge; 2d, Mr. Wyatt, gr. to H. Willis, Esq., Epsom; 3d, Mr. Sandford, gr. to T. Thomasset, Esq., Walthamstow; extra, Messrs. Saltmarsh.

*Roses.*—A few boxfuls were shown, all of which more or less indicated the ill effects of the stormy weather which we have lately experienced. Among them there were, however, fair examples of most of the leading varieties, foremost among which stood Senateur Vaisse, Gloire de Santanay, M. Eugène Verdier, Gloire de Dijon, and Celine Forestier. The last appears to be an excellent bright yellow late autumn Rose.

*Awards*: 36 *Varieties.*—1st, Messrs. Paul & Son; 2d and 3d prizes withheld. 24 *Sorts.*—1st, Messrs. Paul & Son; 2d, Mr. Turner, Slough; 3d, Mr. Clarke, Brixton. 18 *Varieties* (*Amateurs*)—1st, Mr. Exell, gr. to J. Hollingworth, Esq., Maidstone; 2d, Mr. Dennis, gr. to H. S. Hayward, Esq., Hurst Green; 3d, Dr. Cooper, Slough; 4th, Mr. Moffatt, gr. to Viscount Maynard, Dunmow.

*Hollyhocks.*—Various stands of cut blooms were shown, in which were excellent examples from Mr. Hawke, of David Foulis, J. Ullett, Mrs. Cochrane, Purple Prince, Premier, Prince Charlie, Lord Loughborough, Queen Victoria, and J. Clarke. Mr. Chater, and Messrs. Downie, Laird & Laing, also showed handsome blooms.

*Awards.*—12 *blooms*: 1st, Mr. Hawke, Gainsborough; 2d, Mr. Plester, Bishop's Stortford; 3d, Mr. Forrester, Beckenham; extra, Mr. Smail, Norwood. 24 *blooms* (*Nurseryman*).—1st, Mr. Chater, Saffron Walden; 2d, Messrs. Downie, Laird & Laing, Forest Hill; 3d, Mr. Chater, Cambridge.

*Gladioli.*—From Messrs. Youell, of Yarmouth, came a handsome collection in which the following were good and striking, viz., Brenchleyensis, scarlet; Achilles, red and white; Clemence, delicate pink striped with crimson; Comte de Morny, cerise with white throat; Egerie, rose striped salmon; Erato, bright rose; Isoline, delicate pink; John Bull, saffron veined white; Le Poussin, red with white throat; Linné, cerise blotched with yellowish white; Madame Binder, carmine striped white; Ophir, purple spotted yellow; Penelope, creamy white; and Vesta, carmine spotted white. In a fine group of 24 varieties from Mr. Standish the best were Imperatrie Eugénie, a charmingly marked kind; Scottish Chief, Reine Victoria, Madame Standish, Ensign, Rev. Joshua Dix, W. F. Lane, Basil (large and showy), Rosenberg, Edith Dombrain, and Miss Howell, the last a good pink. From Mr. Cattell came some good spikes; but Gladioli we understand are not flowering well this year in many places.

*Awards.*—*Best collection*: 1st, Messrs. Youell. 24 *spikes.*—1st, Mr. Standish; 2d, Messrs. Youell; 3d, Mr. Cattell.

*Miscellaneous Subjects.*—Among these were some fine Verbenas from Messrs. Perkins of Coventry and Mr. Perry of Castle Bromwich; a pan of good double Zinnias from E. Banks, Esq., Sholden Lodge, Deal; and last but not least a magnificent specimen of Lapageria rosea in a pot from Mr. Geo. Uzzell, gr. to the Duchess Dowager of Northumberland at Mount Lebanon, Twickenham. It was trained on all sides over a double trellis about 6½ feet in height and nearly as much in width, and contained about 130 fully expanded flowers, of which there were not unfrequently as many as three and four in a bunch. Mr. Uzzell, we remember, showed a fine specimen of this glorious plant at one of the Royal Horticultural Society's meetings at South Kensington in 1861, but the one now under notice is by far the best that he or we believe anybody else has yet produced under pot culture. It was, as it deserved to be, the admiration of all who saw it.

## Notices of Books.

*The Alpine Guide.* Part I. By John Ball, M.R.I.A., F.L.S., &c., late President of the Alpine Club, London. Longman & Co. Pp. 517.

Five and twenty years ago, it was a very unusual thing for travellers to deviate materially from the beaten track, as they crossed the various passes of the Alps. In those days few people cared to carry a mountain barometer to the top of some snow-clad peak, for the purpose of ascertaining its height above the sea; and fewer still were willing to encounter the inconveniences and risk the dangers of mountaineering, for the sake of the views which might be obtained from commanding elevations, or for the inexpressible delight of securing some minute but rare Alpine plant for the herbarium. A cool head and a clean pair of legs for climbing, and remarkable powers of endurance, were combined, in the person of Mr. Ball, with a bold spirit of adventure, and a keen appreciation of the beauties of nature, and a certain stimulus was added, by the natural desire which he had of extending the boundaries of science. It is more than probable that the meetings of the British Association, which brought together men of congenial pursuits, suggested also some system of combined action in the exploration of mountain phenomena. Professors Forbes and Tyndall may with justice be considered successors to Saussure in the importance of their investigations.

The delights of mountain climbing once fairly tested, the passion for adventure grew marvellously. The exhilarating effects of the pure atmosphere which was inhaled, the rarity of the air, the invigorating exercise, the dazzling snowy scenery, the sense of exaltation, the mastering of difficulties, and the satisfaction felt in striking out a new path, soon attracted a band of daring comrades, who were presently consolidated into the Alpine Club.

The late President is well known as an accomplished botanist and geologist. He is highly valued by a large circle of friends for his scientific attainments, an inexhaustible fund of information, and singularly good taste and judgment. His agreeable manners and rare social qualities render him at all times the most charming companion, while his never-failing cheerfulness, intrepid courage, and ready resources in difficulty and danger, eminently fitted him for a leader in perilous enterprises.

Among the other qualifications which Mr. Ball possesses for writing an Alpine Guide must be mentioned "a somewhat prolonged and extensive acquaintance with the greater portion of the Alps, in the course of which he has crossed the main chain 48 times, by 32 different passes, besides traversing nearly 100 of the lateral passes." With such qualifications in the Editor, with so extensive an experience of his own, and with valuable assistance, of which mention is made in the preface, we are not surprised to find that the work before us possesses merits of a very high order—merits which very possibly will not be appreciated by those who expect to find in it merely a lively and popular account of Alpine scenery and adventure, such as one meets with in "The Leisure Hour" or "Good Words," but which will be appreciated by the actual traveller, who really requires the help of a guide in his difficulties. The book is in fact intended to give valuable information to real travellers, and not to supply amusement and excitement to those who tarry at home. This object is borne steadily in view by the Editor, and there are everywhere evidences of the care and labour it has cost.

In the introduction many valuable pieces of information are given, such as only experience will suggest, *e.g.*:—"With ladies it is prudent to take a guide for each horse or mule. It is a rule of the first importance to abstain from interfering with the animal in difficult and dangerous passes. There is scarcely an instance of accident arising from a fall where the animal is left to his own sagacity, but many in cases where the rider has attempted to interfere with him. To this cause is to be attributed the unfortunate fate of a French lady dashed to pieces in 1861, when riding down the Gemmi Pass." On the subject of guides we are told—"The large majority of tourists do no more than follow a frequented path, where one native of the district is as well able to lead him as another. The increased desire to explore the less accessible parts of the Alps, and to undertake difficult and dangerous expeditions, has led to a demand for the services of a superior class of men. Guides of the ordinary class are usually found wherever a regular demand exists for their services. Their duties are defined and their pay fixed, and usually each carries a book, containing a certificate of good character and general fitness, and his employers enter their names and any remarks they think proper to add." "In places where guides do not exist as a regular class, the best plan is to apply to the innkeeper, or, in remote places, to the curé, rather than take without inquiry persons who come to offer their services. This is a precaution especially necessary, where, for an excursion

of difficulty, you have sought after the best known chamois-hunters, who are not always steady men. Guides of the highest class are usually engaged weeks or months before hand, by members of the Alpine Club. An alphabetical list of about 36 of the best known guides, with their addresses and qualifications, is given with careful discrimination in page 35 of the introduction.

In the matter of knapsack and its contents, the traveller will do well to profit by the experience of others, which is given here. As to clothing, the guides themselves are often too careless. Only the other day there was a paragraph in the *Times*, stating that several guides had been severely frost-bitten from neglecting to furnish themselves with gloves.

Mr. Ball says "surefootedness is essential to satisfactory mountaineering, and depends upon two habits, which may be easily acquired; first, that of lifting the foot well from the ground and bringing it down at once; secondly, that of observing the spot on which the foot is to rest, and accustoming the muscles instinctively to prepare for the exertion. In passing at a level along the face of a very steep slope, the beginner involuntarily shrinks from the apparent danger, and is apt to lean in the opposite direction. This is a mistake, as by causing an outward thrust of the foot, the risk of slipping is much increased. In all such places the body should be kept perfectly upright, and the alpenstock held in both hands ready to steady the balance, &c. It must be recollected that wherever the alpenstock is really wanted, it must be held in both hands. On very steep ground it is sometimes extremely difficult to avoid detaching loose fragments of rock, which may be a source of real danger to the traveller's companions; when possible, especially in a descent, it is best to take slightly different lines, so that the foremost shall not be in the way of stones sent down by the next comer; where this is not possible, the best plan is for the party to keep close together. The risk of harm is much less, when the detached stone has not acquired a dangerous velocity." Such are some of the practical hints to the young traveller.

The inconveniences he is subjected to are stated to be first—thirst, which is painfully felt by those who are not used to such expeditions. Cold tea seems to be the best remedy; a dried Prune kept in the mouth as long as possible is also recommended.

Next comes the excessive heat of the sun, which beats down upon the head with immense power, and has been known to raise the thermometer, exposed on a black felt hat, to 151° Fahr. A layer of wadding round and over the hat gives some protection. The Editor, at the risk of appearing eccentric, sometimes carried an umbrella. We fancy we can see him now.

Another annoyance is called mountain sickness, which arises from the combined effects of unusual exertion and the diminished density of the air at great heights. Difficulty of breathing is the first symptom, succeeded by headache, drowsiness, and nausea; strong drink as a restorative should be carefully avoided. Inflammation of the eyes and the surrounding membranes produced by the glare of the snow is another discomfort, to prevent which a gauze veil is recommended, or dark spectacles.

For blistering and peeling off of the skin, caused by the direct rays of the sun, or reflection from the snow, or the sharp wind which usually blows at great heights, glycerine and cold cream are used.

The dangers of Alpine expeditions, we are told, are of two kinds—the real and the imaginary.—"When a ridge or slope of rock or ice is such that it could be traversed without difficulty, if it lay but a few feet above the level of a garden, the substitution on either side, of a precipice thousands of feet in depth, or of a glacier crevasse, makes no real difference in the work to be done, though it may have a formidable effect on the traveller's imagination. Those who cannot remove this source of danger by accustoming themselves to look unmoved down vertical precipices, and, in cases of real difficulty, to fix their attention exclusively on the ledge or jutting crag to which they must cling with foot or hand, should avoid expeditions where a moment's nervousness may endanger their own lives or those of others."

*(To be continued.)*

*The Higher Rules and Operations of Arithmetic.* By Thomas Tate. London: Longmans. Pp. 137.

There can be no doubt that "the method of teaching arithmetic from first principles" is the mode universally adopted by those who desire to exercise the reasoning powers of their pupils; and the little book before us, which we have carefully looked through, seems to be everything that can be desired in that way. It begins with Rule of Three, and ends with continued fractions (by no means an easy subject), operations with circulating decimals, and properties of numbers. The "arithmetical problems," which are really simple applications of algebra, are very good, and will be relished by sharp-witted boys.

Canon Moseley says of the little book to which this is the sequel:—"Of the numerous works on education published by Mr. Tate, there are two, the influence of which on elementary teaching has been remarkable. The one is his 'Arithmetic,' in which he, first of all the authors who have attempted it in England, succeeded in making arithmetic the 'Logic of the People,' by giving for the rules of arithmetic such *reasons* as it was possible to teach to poor children." This is high praise.

## Garden Memoranda.

MR. MASTERS' NURSERY, CANTERBURY.—One of the most noticeable features in the home grounds of this well-known and well-stocked establishment is the picturesque effect which the extensive experience of Mr. Masters in laying out and planting grounds has enabled him to produce without any serious sacrifice of space. Instead of the straight lines and regular quarters which one generally finds in a nursery garden, and which doubtless furnish in ordinary cases the most convenient mode of arrangement, the ground here has been very skilfully disposed so as to form little peeps of scenery, often bringing in some of the fine and interesting architectural features of the archiepiscopal city, these peeps being now rendered all the more finished by the aid of judiciously-disposed trees, which have had time to become well established. Thus at each turn one meets with some distinct and pleasing picture, and the apparent extent of the grounds is much increased.

In one corner of the nursery there still stands an interesting relic, one of the oldest Lombardy Poplars in England. The trunk of this notable tree, which must be some 15 feet in circumference at 4 feet from the ground, and more near the base, still supports a considerable head, though it bears marks of age, and has been subjected to some serious accidents. Another interesting tree, of which there is a fine vigorous specimen, is the Naples Alder, a species which is said to retain its foliage longer than most other deciduous trees. There is also near this a well grown Drooping pubescent Lime. Negundo fraxinifolium was pointed out to us as a most useful tree in landscape scenery, its utility being well illustrated by a good example growing in the nursery. The pale-coloured foliage has the quality of, as it were, collecting light, and consequently when placed so that it has a dark background, the effect is to give increased depth to the picture in which it occurs. Such instances are suggestive of how much may be done in giving effect to scenery and plantations by studying the tints of foliage assumed by different trees, and of the importance of judiciously contrasting them. Another suggestive group was a set of hardy climbers, such as Clematis, Ampelopsis, &c., trained to stout poles, and then when the poles were well covered, allowed to take their natural style of growth. Such groups would come in admirably as screens.

Amongst the curiosities noted, recalling memories of "other days," was a living arch consisting of four Hornbeams grafted together so as to form open-work sides, and surmounted by a single-stemmed symmetrical head: an interesting memorial of the "conceits" in which our forefathers indulged.

Many of what are called "old-fashioned plants," and which one would seek in vain in most nurseries of the present day, were observed scattered through the extensive collections of all kinds of plants. In one of the greenhouses Rhynchospermum jasminoides, planted out, was growing in more robust health than one usually sees this fine plant, and flowering freely as a greenhouse climber; and Mr. Masters informed us that it had lived out-doors with him against a wall for the last 15 years, but did not under these conditions flower so well. Elsewhere, among rock, fronting a greenhouse, we noticed Polygonum complexum, an interesting trailer, quite established and hardy.

We noticed besides a very good collection of hardy and British Ferns; a large collection of herbaceous plants, unfortunately, when we saw them, in great measure past their beauty; and many interesting trees and shrubs, of which a fuller series is cultivated at a distant nursery we had not time to visit. We found, moreover, a genial spirit, imbued with a love of plants for their own sakes, presiding over all.

OXFORD BOTANIC GARDEN.—We understand that there is now flowering in one of the conservatories of the Oxford Botanic Garden an unusually fine plant of the Vera Cruz Aloe (Agave lurida). It has a flower stem upwards of 20 feet in height, bearing on its numerous lateral branches many hundreds of pale green flowers, which, although not particularly showy, are of great rarity and interest. The only recorded instance of a plant of this species producing flowers in this country appears to be that of one which flowered in the Royal Gardens, Kew, in the summer of 1811, and was figured in the *Botanical Magazine*, t. 1522. The plant now in bloom is of about 80 years' growth, thus going far, observes a local journal, "towards verifying the frequent assertion that plants of the genus Agave flower but once in a century."

## Miscellaneous.

*Herne's Oak.*—The shattered trunk of Herne's Oak was blown down on Monday morning last. A branch of the tree which fell from the trunk upwards of 20 years ago has been carefully preserved in the Royal stores at Windsor Castle. Since then this famous tree has been fenced in with park pales, and a plate has been attached to it upon which is engraved a quotation from "The Merry Wives of Windsor." The identity of Herne's Oak has been disputed by many writers, but in a plan of the Castle aad Tower of Windsor, published at Eton in 1742, the position of the Oak is clearly defined. It is marked as Falstaff's Oak. The fairies' dell has been partially filled up, but the late Prince Consort had much of the earth removed, when the remains of large Oaks in an upright position were discovered. *Times.*

*Japanese Poets.*—Leaving poor Heuskin's grave, we rode on in a westerly direction for about two hours, taking many a winding path in order to see the more remarkable portions of this beautiful suburban scenery, with which Mr. Harris was well acquainted, and of which he was one of the most enthusiastic admirers. Our destination was a place called Joo-ne-shoo, or the Temple of the Twelve Altars. This temple is situated in a wood, and has a waterfall on one side, and a lake on the other. Numerous tea-houses do a thriving trade here, as the place is much resorted to by the good citizens of Yedo. Saki, which is rather stronger than tea, is also consumed in considerable quantities. Report says that many of the visitors are particularly fond of composing and reciting poetry in one of the avenues near the temple, and that sundry draughts of the favourite beverage are taken to brighten the intellect and to excite the imagination. At the upper end of this avenue there are sundry jets of water, each having a fall of about 6 feet, which are used in a curious way that is worth mentioning. It seems that, when the poet or philosopher, or whoever he may be, has imbibed so much saki as to render him incapable of further enjoyment—in fact, when he is what is vulgarly termed drunk—he gravely proceeds and places his head under one of these jets of cold water. This has the effect of making him a more sober, if not a wiser, man, and it enables him to return once more to the enjoyment of his saki. How often this system can be repeated in an afternoon with the same results, I am not informed. It is to be hoped, however, that it is more beneficial to the literature of the country than it can be to the constitutions of those who thus enjoy themselves at the "Temple of the Twelve Altars." *Fortune's "Yedo and Peking."*

*Cactus Fruit.*—Dr. Engelmann communicated the results of his investigations on the nature of the pulp of the Cactus fruit, illustrated by many drawings. Zuccarini, than whom none better understood the morphology, as well as the systematic characters of the Cactaceæ, had already in the year 1845 (Plant. Nov., fasc. 5, pag. 34) expressed the opinion that in Cactaceæ, as well as in Cucurbitaceæ, the funiculi assisted in forming the pulp of the fruit. Schleiden (Grundzüge, ed. 3, p. 408) ascribes the pulp of Mamillaria to an arillus, dissolving into single juicy cells. Gasparrini, in his extended, but rather odd description of the Opuntiæ fruit, (Osservazioni, 1853, p. 20,) also considers the pulp as a peculiar sort of an arillus. I had long since come to the conclusion, especially after examining the somewhat dry fruits of Cereus cæspitosus and Echinocactus setispinus, that the funiculi alone constitute the pulp, and in Cact. Mex. Bound., T. 20, fig. 12, I had figured the enlarged funiculi of the latter plant. The Cactus fruit is usually succulent; only some Echinocacti and some Opuntiæ are known to bear dry fruits. The succulent fruit consists of the fleshy walls of the fruit itself, originating from the carpel and the adhering calyx (or part of the stem, as Zuccarini will have it), coalescing and forming a homogeneous mass, and of the juicy pulp, in which latter the seeds are imbedded. In some species the parenchyma of the walls, in others the mass of the pulp prevails. The pulp is always the product of the funiculus or its appendages. The funiculus, even at the flowering period, bears on its inner side a beard of transparent fibres, 0.01–0.10 line in length; the fruit maturing, these fibres are enlarged, and the whole cellular tissue of the funiculus becomes as it were hypertrophic, every cell swelling up, filling with a sweetish, mostly red-coloured juice; at last the cells in most species separate from one another, and leave the seeds floating in the pulp attached only to the slender spiral vessels. The mass of the funiculi and their proportion to the mass of the seed is very different in different species; in Lepismium Myosurus it constitutes only $\frac{1}{3}$ or $\frac{1}{8}$ of the seed; in Mamillaria Nuttallii it bears, perhaps, a still smaller proportion; while in other Mamillariæ, *e.g.* M. polythele and M. pusilla, it is 2-4 times as large as the seed. In the large edible fruits of Cerei, such as C. triangularis, C. grandiflorus, C. giganteus, &c., it constitutes by far the largest part of the fruit. The cells are globular, oval, or variously compressed; in some species I find them extremely small, 0.01–0.03 l. long, while in others they are 0.1–0.2 and 0.3 l. long. The genus Opuntia apparently differs in having the whole seed covered with juicy cells, which, in size and quantity, vastly predominate over the cells of the rather insignificant funiculus proper. But the whole bony coating of the seed being but an arillary enlargement of the funiculus (Cact. Mex. Bound., p. 76), this peculiar case entirely falls into the analogy of the other Cactaceæ. The real difference is caused by the nature of the arillus, which, getting extremely hard, leaves the cells of the epidermis only to grow out, and finally to form the pulp of the fruit. Soon after fecundation these cells gradually become elongated, cylindrical, and disconnected among one another, rising perpendicularly from the surface of the seed; they are shorter, of nearly equal length, and perfectly straight on the faces of the young seed, and

longer, hair-like, and twisting in different directions on and near the rim. In O. glaucophylla, which I take to be a mere variety of O. Ficus indica, I find them at their first appearance on a seed of less than one line in diameter only about 0.004 l. long and wide; on the rim they soon grow to twice the diameter and 10 times the length, till at maturity the larger ones are 0.3–0.5 l. long. These cells, at first simple and cylindrical, become at last jointed and clavate, the terminal cells being many times larger than the basal ones, thus properly filling the interstices between the seeds. During winter, the fruit and seeds having reached their full growth, these cells contain a colourless, viscous, insipid fluid; in the following spring, when the fruit has assumed a deep purple colour, and attained full maturity, they contain a sweetish, purple liquid, and soon separate, forming what is properly called the pulp. The single cells are mostly oval or oblong, 0.02–0.20 l. in length. I find the same structure in O. Engelmanni, which, however, ripens its fruit, with us, in autumn, and it undoubtedly obtains in all Opuntiæ with large and juicy fruit. In O. Rafinesquii, and probably in all species with less juicy fruit, the cells on the face of the seed are not developed, only those on the rim producing the pulp, which in this species as well as in O. vulgaris and O. Pes Corvi, remains, even at full maturity, insipid and viscous and of pale red colour. In this condition the fruit adheres to the plant, without any change, until it falls off in the following spring. In O. brasiliensis and O. monacantha these epidermis-cells are greatly elongated, forming, in fact, a matted, tough beard, 2-3 lines long, analogous to that of the unripe Cotton seed; each hair consists of several slender joints, 0.01–0.02 l. in diameter, the terminal one often thickly clavate or otherwise variously inflated. I have found them thus in the unripe fruit late in autumn; how they may change at maturity I have been unable to ascertain. No such development of the epidermis-cells seems to take place in the Opuntiæ with dry fruit, such as O. missouriensis, O. clavata, &c.; the seed, consequently, has a whiter, polished, ivory-like surface, while that of the juicy Opuntiæ fruits is dull and almost rough, and not so white. The cells of the parenchyma of the fruit, as well as those of the bony seed-coat, are full of aggregations of crystals; those of the funiculus proper contain fewer and smaller clusters; but in the pulp itself I have never seen them; neither could I discover any in the parenchyma, or in the pulp of the fruits of Mamillariæ. *Engelmann, in Proceedings of the Academy of Sciences of St. Louis.*

*A Curious Silkworm.*—One afternoon about this time I came upon a group of countrymen, sitting under the shade of some trees, busily engaged in taking a kind of silk or gut from a large species of caterpillar. The animal was fully four inches long, its upper side was of a lively green colour, while the under was white and covered with long white hairs. It feeds upon the leaves of a species of Chesnut very common on all the hill-sides in this part of Japan. In the baskets containing the worms were a quantity of these leaves, which, judging from the rapid manner in which they were being eaten up, must be very palatable. But the curious part of the business remains to be told. These worms are not allowed to come to maturity, and then spin cocoons like the common silkworm, but each individual is disembowelled alive, and two short thread-like substances are taken out of its body. These threads are at first about three inches in length, and are covered thickly with a glutinous fatty substance. When dipped in a solution of some kind, apparently vinegar, this fatty matter comes readily off, and the threads are drawn out to their full length. Those which I measured on the spot were fully five feet long. I believe they are largely used in the manufacture of fishing-lines, for which there is a considerable demand in Japan. The countrymen engaged in collecting them informed me they were also woven into articles of clothing, but if such be the case, which I think doubtful, such cloth must be very expensive. *Fortune's "Yedo and Peking."*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Keep Begonias for winter display thin that their foliage may be as much as possible uninjured. Plumbago capensis being almost indispensable for supplying cut flowers for autumn use must not be overlooked. Attend also to Chrysanthemums; water them freely with liquid manure. The earliest winter-flowering Heaths and Epacrises should now or soon be placed under cover, as it will forward their blooming; give air, however, freely. The potting of Hyacinths for forcing must soon occupy attention; in doing this do not forget to put in a few miniature ones, which are stated to bloom beautifully in proportion to their size; they form good outside rows to vasefuls of large flowered varieties, which should, of course, occupy the centre. About equal portions of good fibrous loam and decayed leaf-mould with silver sand will be the best soil for them if for forcing, but well-decomposed cow dung must be substituted for the leaf-mould when the bulbs are intended for late flowering. After potting place them on a dry bottom and cover the pots 2 to 3 inches deep with old tan, ashes, or better than either, Cocoa-nut refuse, preserving them at the same time as much as possible from heavy rains; under this treatment they will fill their pots with roots, and will be in readiness when wanted. Ixoras, which have bloomed and which it may be desirable to increase in size as fast as possible, should be cut back, repotted if necessary, thoroughly cleaned, tied out, and placed in the warmest end of the house. These, if properly attended to, will make a fine growth before winter. Shake out and re-pot Pelargoniums that are sufficiently advanced after having been cut back, keeping them rather close and moist until they strike into the new soil. Plants, however, that are fairly established after re-potting can hardly be too freely exposed to air or kept too cool. Let Cinerarias also be kept cool and moist, attending to re-potting such as require it, and fumigating immediately green fly appears on any of the plants. Primulas must also be carefully attended to, in order to encourage them to make rapid growth, particularly the double varieties, which are invaluable for winter work. Keep Tree Violets clear of their great enemy red spider, by a liberal use of the syringe, and give them plenty of manure water, which will help to keep them in vigorous health.

### FORCING DEPARTMENT.

PINERIES.—Let the soil about the roots and also the atmosphere be somewhat dry about fruit that is ripening; therefore be careful not to over-water, and it will be advisable to use slight fires during dull weather. Endeavour to afford growing stock a steady bottom-heat of about 70°, and keep it well supplied with manure-water at the root, but avoid getting the soil too wet. As fire-heat will soon be necessary to a considerably larger extent than has been the case during summer, care must be exercised to secure a properly moist state of the atmosphere, keeping the evaporating pans or troughs regularly supplied with water, and moistening the floors, &c., frequently, as any sudden change from a moist to a dry state of the atmosphere would be most injurious to growing stock, and also to plants swelling their fruit. Be as sparing of fire-heat, however, as circumstances will permit, and shut up early on the afternoons of bright days. Where young stock is grown in dung pits care must be exercised after this season not to get the plants weakly through keeping them too close and warm; air should be admitted freely on every favourable opportunity, and sufficient command of warmth should be secured from the linings to allow an opportunity of giving a little air at night and on warm cloudy days.

VINERY.—Remove all decayed or unhealthy berries from ripe Grapes, and keep the house well aired and free from moisture. Where the crop is cleared, the wood ripe, and the leaves beginning to decay, the sashes, if not already done, may be removed altogether.

MELONS.—Take advantage of the present comparatively bright weather to give the soil a good soaking with water where this is necessary, and also to trim the Vines, removing all useless laterals, &c., an operation which is best done in favourable weather, as then there is little danger of the occurrence of canker. Where fruit is ripening, give air as freely as the state of the weather will permit, and keep the atmosphere as dry as possible. If late plants are infested with spider, syringe morning and afternoon as freely as can be done without injuring the leaves; in short use every means to get the plants perfectly clean, while water can be employed without danger of creating too much damp.

CUCUMBERS.—Where a supply is required during winter, vigorous young plants should be secured at once, either from seed or cuttings, as plants that have been bearing through the autumn, however promising they may look, seldom answer well for winter fruiting.

### FLOWER GARDEN AND SHRUBBERIES.

Propagation of all the more important bedding-out plants must now be finished as quickly as possible; late struck cuttings, as we have often remarked, are bad to keep through the winter through having an insufficient amount of roots and ill-matured wood. Let Scarlet and other Pelargoniums struck in the open ground be taken up and potted immediately they have made roots; they will require a close frame for a week or two, when they should be placed on a dry bottom in a southern exposure to harden them for the winter. For the same purpose Verbenas, Petunias, &c., struck in pans and intended to be kept in them through the winter, should be placed in a similar situation, at the same time stopping the points of the shoots. It should in fact be a point to keep them as hardy as possible by fully exposing them, until they are placed in their winter quarters. Mignonette for winter and spring flowering may yet be sown. Phloxes and other herbaceous plants will now be making a tolerably good show. If Auriculas are not already potted for the winter it should be done without delay. Remove suckers or offsets, and place them round the sides of the pots, which should be 6 inches across. Auriculas are impatient of rich compost during winter, turfy loam, river sand, and very rotten horse-dung—a small portion of the two latter will make a suitable compost. It is far better to give them a rich top-dressing in the spring than to have it of too forcing a nature for their winter food. The layers of Carnations and Picotees may be taken off and potted without delay, using compost as before directed. Look well to composts generally, especially that for the blooming bed of Tulips, frequently turning it, picking out wire-worms, and freely exposing it to the action of the weather.

### HARDY FRUIT AND KITCHEN GARDEN.

Finish planting Broccoli and all Winter Greens as speedily as possible. Make the principal sowing of Cabbage for spring use; and plant out those sown last month for Coleworts. Sow Brown Cos and hardy Cabbage Lettuce towards the end of the month for spring use; plant out those sown last month in a warm situation; these will probably be useful in November. Earth up Celery in a forward state. Sow Turnips and make a sowing of Early Dutch at the end of the month, for use in spring; also Early Horn Carrot—these should remain in the ground for winter use. Sow Tripoli Onion, also Prickly Spinach for winter and spring supply. Any Potatoes, in which symptoms of disease have appeared, should be taken up and used first. Fortunately, however, Potato crops in general are pretty free from the malady this year. All herbs, if not gathered, should be cut immediately. Sweet Basil should be bunched and hung in a hot kitchen; also Sweet Marjoram.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Sept. 2, 1863, as observed at the Horticultural Garden

| August and Sept. | Moon's Age. | Barometer. | | Temperature. | | | | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Of the Air. | | | Of the Earth | | | |
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 27 | 13 | 29.346 | 29.331 | 71 | 40 | 55.5 | 61½ | 61 | S. | .08 |
| Friday 28 | ○ | 29.624 | 29.568 | 78 | 45 | 61.5 | 61½ | 61 | S.W. | .12 |
| Satur 29 | 15 | 29.776 | 29.667 | 73 | 47 | 60.0 | 62 | 61½ | S.W. | .09 |
| Sunday 30 | 16 | 29.824 | 29.741 | 75 | 53 | 64.0 | 62 | 61 | S.W. | .04 |
| Mon. 31 | 17 | 29.848 | 29.843 | 69 | 38 | 53.5 | 62 | 61½ | W. | .12 |
| Tues. 1 | 18 | 30.032 | 29.939 | 71 | 50 | 60.5 | 61½ | 61 | S.W. | .10 |
| Wed. 2 | 19 | 29.949 | 29.838 | 70 | 52 | 61.0 | 61½ | 60½ | S. | .16 |
| Average. | | 29.771 | 29.675 | 72.4 | 46.4 | 59.3 | 61.7 | 61.1 | | .54 |

Aug. 27—Fine; showery and boisterous; overcast.
— 28—Fine; very fine; low dusky and white clouds; showery; lightning.
— 29—Fine; cloudy and fine; very fine.
— 30—Very fine throughout; rain in the night.
— 31—Boisterous with rain; cloudy; fine; cold at night.
Sept. 1—Very fine; cloudless; very fine throughout.
— 2—Very fine; showery; rain at night.
Mean temperature of the week ½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Sept. 12, 1863

| Sept. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 6.. | 69.6 | 45.8 | 57.7 | 16 | 0.70 in. | 1 | 10 | 4 | – | 1 | 13 | 7 | 1 |
| Mon. 7.. | 69.6 | 47.2 | 58.4 | 17 | 0.55 | 1 | 6 | 6 | 1 | 6 | 11 | 4 | 2 |
| Tues. 8.. | 69.0 | 47.2 | 58.1 | 16 | 0.65 | 3 | 7 | 2 | 2 | 3 | 14 | 3 | 3 |
| Wed. 9.. | 68.8 | 48.1 | 58.4 | 16 | 1.09 | — | 6 | 2 | 3 | 5 | 5 | 8 | 2 |
| Thurs. 10.. | 69.4 | 45.7 | 57.5 | 19 | 1.27 | 2 | 4 | 4 | 1 | 7 | 8 | 9 | 2 |
| Friday 11.. | 68.4 | 47.1 | 57.8 | 10 | 0.68 | 2 | 8 | 1 | 2 | 5 | 6 | 9 | 4 |
| Satur. 12.. | 68.9 | 44.8 | 56.9 | 15 | 0.49 | 1 | 6 | 1 | 4 | 2 | 8 | 11 | 1 |

The highest temperature during the above period occurred on the 12th, 1858—therm. 86 deg.; and the lowest on the 6th, 1850—therm. 30 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

BROCCOLI: *G A.* Florentine Cape is an excellent kind either for early or late use; you should also plant Walcheren, Snow's Winter, Adams's Early White, Summer's Late White, Imperial, and Frogmore Protecting; the last is one of the best late kinds.

CAULIFLOWERS: *J S.* Frogmore Early Forcing is the earliest of all kinds of Cauliflowers for spring use.

FERNS: *T Bush.* The following Ferns are not properly admissible in a collection shown as hardy, if the class is interpreted strictly, though one or other of them may have occasionally endured our winters in the open air; they belong to the group of half-hardy or greenhouse species:—Todea pellucida, Nephrodium molle corymbiferum, Lomaria nuda and magellanica, Adiantum chilense.

GREEN ROSE: *A. Browne.* You will be able to get this curiosity doubtless, from any of the Rose growers whose names appear in our columns. It is a very interesting, though by no means handsome variety.

INSECTS: *J W.* The grubs which have attacked your Swedes are the caterpillars of the Dart Moth, of which you will find a full account in the agricultural part of our last week's *Gardeners' Chronicle. W.*

NAMES OF PLANTS: *Felix.* 1, Lastrea decomposita, not British; 2, Cystopteris fragilis; 3, Nephrodium molle.—*Birmingham.* Apparently a starved piece of Sheep's Fescue, Festuca ovina, but there are no flowers; though wiry, it is admissible in moderation in the herbage of a lawn.—*J W G.* Digitaria sanguinalis.—*R H P.* The specimen is insufficient: it may belong to Pinus densiflora.—*E F N.* 1 A, a wretched bit of Athyrium Filix-fœmina crispum—apparently; 1 E, Davallia novæ-zelandiæ, *alias* Acrophorus hispidus; 2 B, some seedling Lastrea, too young to name; 2 E, Blechnum occidentale minor.—*J M., Truro.* The inclosed plant is Drosera rotundifolia, and it does not "cause the rot in sheep."

ŒNOTHERA MACROCARPA: *S T.* To have flowering plants for next year the seed should have been sown earlier. Cuttings are now your best resource, but even these should have been rooted by this time to make good strong plants for next season. The root is perennial.

PARISIAN GARDENING: *J P.* The scarlet flower springing from a tuft of Dock-like leaves, extensively planted and forming a prominent feature in the gardens of the Champs Elysées, is no doubt a Canna.

PEAR LEAVES: *Thornton in Craven.* A very common affection in Pear trees, the cause of which is unknown. It is certainly not Fungoid, but is apparently a preternatural development of the tissue of the under side of the leaves similar to that which occurs in Vines, and perhaps arising from a similar cause. It is quite useless to apply chemicals. *M J B.*

PEAS: *Alpha.* The following will come in in succession, and all of them are good varieties, viz., Royal Dwarf, Daniel O'Rourke, Emperor, Advancer, Champion of England, Scimitar, and British Queen.

WYCH ELM: *C R S.* The spelling is unsettled, but custom is in favour of "Wych," not "Wytch." It is also sometimes written "Witch" or "Wich." The tree is not only called Wych Elm, but Witch Hazel, "probably from the similarity of its leaves to those of the Hazel, and hence, like it, the twigs were formerly employed for riding switches to ensure good luck on the journey. Forked branches of Wych Elm, as of Hazel, were once used as divining rods."

MISC.: *J C.* Packages containing Fruit, &c., for examination, MUST BE SENT CARRIAGE PAID, or they will be refused.

TRADE

# HALLETT'S [PEDIGREE] NURSERY WHEAT.

MARK.

NOW READY FOR DELIVERY.

THE PEDIGREE WHEAT WAS AWARDED THE SILVER MEDAL BY THE JURORS OF THE CLASS "CEREALS FROM ALL COUNTRIES," AT THE MEETING, IN 1863, OF THE AGRICULTURAL SOCIETY OF DENMARK AT ODENSE.

The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the miller, and realised £19 7s. per acre.

**In September DRILL 4 Bushels on 10 acres.**

NONE IS GENUINE UNLESS THE TRADE MARK IS UPON THE BAG.

**Apply to FREDERIC F. HALLETT, ESQ., F.L.S., The Manor House, Brighton, Sussex.**

**PRICE—One Guinea a Bushel (or Seven Guineas a Quarter),**

Delivered, with Printed Directions for Planting, at the Brighton Railway Station, in Bags Sewed up and Sealed, upon receipt of Cheque or Post-office Order, which must in all cases accompany the Order.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing six stamps.

In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately; those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

This family Z *is now for the first time* offered to the public, and is ready for delivery.

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E.C.

AGRICULTURAL and CHEMICAL COLLEGE, 37 and 38, Lower Kennington Lane, London, S.

ASSAYS and ANALYSES promptly attended to by J. C. NESBIT, LANSDELL & Co.

AGRICULTURAL and CHEMICAL COLLEGE, KENNINGTON.—Manufacturers and others engaged in making Artificial Manures may obtain every necessary instruction for their economical and efficient preparation by applying to J. C. NESBIT, LANSDELL & Co., 37 and 38, Lower Kennington Lane, London, S.

Analyses of Soils, Guanos, Superphosphates of Lime, Coprolites, &c., and Assays of Gold, Silver, and other Minerals, are executed with accuracy and despatch.

Gentlemen, Farmers, or others, desirous of practical knowledge in Chemical Analysis or Assaying, may receive instruction at the College, where the extensive Laboratories give ample facility for pursuing their studies, and there is accommodation for a limited number of Resident Students.

Full particulars of terms will be forwarded on application.

**Land Drainage, and other Agricultural Improvements.**

MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5s. per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

LAND DRAINAGE, the ERECTION of FARMSTEADS, the CONSTRUCTION of ROADS, and other Works of Agricultural Improvements are undertaken by Mr. HUMBERT, Land Agent and Surveyor, of Watford, Herts, either by contract or on commission; and he will furnish estimates of cost free of charge, expenses out of pocket excepted.

Such works can be executed either under the powers of several special Acts of Parliament, with money raised by loan and paid off by instalments, or with the Landowner's own money.

**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

*Resident Professors.*

PRACTICAL AGRICULTURE.

J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 12 Lectures on Agricultural Machines.

CHEMISTRY.

ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.

R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Soc.

VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.

W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.
REV. GEORGE WILKINS, Wix Parsonage—Lecture on Tillage.
N.B. Mr. Wilkins will Lecture on February 9.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the PRINCIPAL.

MESSRS. J. CHALMERS MORTON, Streatley, near Reading, and J. THORNHILL HARRISON, M. Inst. C.E., Frocester Court, Stonehouse, Gloucestershire, AGRICULTURAL ENGINEERS, undertake reports on the Condition of Landed Property, together with the Direction of Land Drainage, Roads, Embankments, Farm Buildings, and other works necessary for its permanent improvement.

MANCHESTER and LIVERPOOL AGRICULTURAL SOCIETY.—GRAND SHOW at BIRKENHEAD (in the Park), on the 9th and 10th SEPTEMBER NEXT (preceded by a preliminary exhibition of IMPLEMENTS only, and TRIAL of STEAM CULTIVATORS, on TUESDAY, the 8th) The Prizes offered for competition on this occasion amount to 1400*l*., for Horses, Horned Cattle, Sheep, Pigs, Poultry, Dogs, Seeds, Roots, Horticultural productions, Cheese, Butter, Implements, Machinery, &c.

ENTRIES CLOSED on the 10th inst. T. B. RYDER, (Surveyor, &c.), Secretary.

57A, Church Street, Liverpool, Sept. 5.

SMITHFIELD CLUB FAT CATTLE SHOW, 1863. —The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS, will be held at the AGRICULTURAL HALL, ISLINGTON, on MONDAY AFTERNOON, December 7, and four following days.

In addition to Prizes to the amount of 1825*l*., the following CUPS will be offered:—

A Silver Cup, value 40*l*., for the best Steer or Ox in any of the Classes.
A Silver Cup, value 40*l*., for the best Heifer or Cow in any of the Classes.
A Silver Cup, value 20*l*., for the best pen of Leicesters, Cotswolds, Lincolns, Kentish, or other Long-woolled breed in any of the Classes.
A Silver Cup, value 20*l*., for the best pen of 1-year-old Southdowns, Hampshire, or Wiltshire Downs.
A Silver Cup, value 20*l*., for the best pen of Shropshire, Oxfordshire, cross breed, or any other breed of Sheep (not specified above) in any of the Classes.
A Silver Cup, value 1[illegible]*l*., to the Butcher who shall expend the largest amount of money in purchasing animals from the Classes in the Show Yard.

The Prize Sheet now contains distinct Classes as under:—

CATTLE.

| | | |
|---|---|---|
| Devons | Norfolk or Suffolk Polled | Scotch Polled |
| Herefords | Long Horns | Irish |
| Short-horns | Scotch Horned | Welsh |
| Sussex | | Cross or Mixed |

SHEEP.

| | | |
|---|---|---|
| Leicesters | Southdowns | Oxfordshire |
| Cotswolds | Hampshire or Wiltshire Downs | Mountain |
| Lincolns | Shropshire | Cross Breeds (Long and Short Wool) |
| Kentish or Romney Marsh, and other Long Wools | | |

PIGS.

Four Classes, different ages, up to 18 months old.

The Entries for LIVE STOCK CLOSE on NOVEMBER 2.

The Entries for AGRICULTURAL IMPLEMENTS, &c., CLOSE on OCTOBER 1.

Prize Sheets and Printed Forms of Certificates, with full particulars, can be obtained on application to

Mr. DAVID PULLEN, Assistant Secretary,

At the Office of the Honorary Secretary, Corner of Half Moon Street, Piccadilly, London, W.

N.B.—It is particularly requested that applications for Prize Sheets and Forms of Certificates, &c., be addressed to the ASSISTANT SECRETARY as above, and all Communications should have the words SMITHFIELD CLUB outside, to distinguish them from private letters. If this be neglected, there may be risk of delay and inconvenience.

SMITHFIELD CLUB FAT CATTLE SHOW, 1863. IMPLEMENT DEPARTMENT.

The LAST DAY for receiving Entries for the Implement Department of the Show is Thursday, OCTOBER 1, 1863.

Forms of Certificates, and all information can be obtained of Mr. DAVID PULLEN, Assistant Secretary.

Corner of Half Moon Street, Piccadilly, London, W.

# The Agricultural Gazette.

*SATURDAY, SEPTEMBER 5, 1863.*

Two important sales of pure bred Short-horn stock are announced, the one by Mr. STRAFFORD, on Wednesday, Sept. 9; and the other by Mr. WETHERELL, on Tuesday, the 22d. The former, the herd of the late A. L. MAYNARD, Esq., of Marton-le-Moor, near Ripon; the latter, the herd of Lady PIGOT, of Branches Park, Cambridge. Mr. MAYNARD's herd dates from the early part of this century. Mr. MAYNARD commenced it about 50 years ago with his father's stock bred at Eryholme, from which herd Mr. CHARLES COLLING obtained the dam of Phœnix, the progenitor of Comet (155), sold in 1810 for 1000 guineas. A few judicious selections have since been added from other choice herds, including some fine specimens of the far-famed Kirklevington stock, at the sale of which Mr. MAYNARD was a spirited purchaser. Bulls of Mr. BATES's celebrated tribe of Short-horns have been used for many years with marked success. Mr. STRAFFORD has received the most positive instructions from the executors to sell the whole of this valuable herd without the slightest reserve.

Lady PIGOT's herd, though of comparatively recent date, is well known by its achievements in the competitions of the National and Provincial Agricultural Societies. It is thus described by Mr. WETHERELL:—"No less than seven females of pure BOOTH blood are offered, namely, *Spicy Almacks Belle*, *La Vallière* (dam of PRINCE TALLEYRAND), *Rose of Promise* (of the *Mantalini* tribe), for one of whom, *Victoria*, Lady PIGOT gave Mr. BARNES, in Ireland, 525*l*.; *Rose of Hope* from *Rose of Promise* by PRINCE ALFRED; *Castanet*,

of the *Farewell* tribe, and who will calve to Mr. BOOTH'S RAVENSPUR a week after the sale; and her daughter, *Castianira*, a prize heifer. Also, there are six pure BOOTH bulls offered, amongst them BRIAN BORUE (for the mother of whom Lady PIGOT offered Mr. BARNES 500 guineas before she calved); PRINCE VICTOR, from Mr. BARNES' *Victoria* by PRINCE ALFRED; METEOR, from *Belle Etoile* by BRITISH PRINCE; BRITISH HOPE, from *Isabella Hopewell*, by BRITISH PRINCE; COUNT DE VERMANDOIS (a red and white yearling from *La Vallière*), &c.

There are also in the sale several very valuable cows, breeders of prize animals, such as *Rosey*, dam of *Rosedale* (also offered for sale), *Lady Sarah*, *Victoria 35th* (of MASON'S blood), *Pride of Southwicke*, *Magnolia*, *Lady of Bonhill*, &c.

Out of the whole herd only nine animals are reserved, one of whom, *Lady Windsor*, is a hopeless breeder; and three calves, born since the announcement of this sale.

This herd, since its formation in 1856, has won up to the present time 217 prizes, including three 1sts, one 2d, and two 3ds at the Royal Agricultural Society's Show; nine cups, five gold, and twenty silver and bronze medals.

Many of these animals are sold with great reluctance, but Lady PIGOT has considered it right to offer everything except those originally named.

There have been nine deaths since last year, principally after calving, most of the cows in the herd being great milkers, which will account for many deficiencies in the list.

The whole are offered unreservedly, and the animals are in a perfectly healthy breeding condition.

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—— WE are glad to see it announced that two prizes of 25*l.* each, to which is added the Society's medal, have been placed in the hands of the Council of the Society of Arts, by Mr. BAILEY DENTON, to be offered for the most approved designs for cottages, with three bedrooms in each, to be built singly or in pairs, at a cost not exceeding 100*l.* each. The following are the particulars of the advertisement:—

"They are offered, one for competition among the members of the Architectural Association, and the other to be open to the United Kingdom.

"In order to secure a proper sanitary condition, such provisions are to be made as have the sanction of practical experience.

"It is deemed necessary that each cottage should contain, on the ground floor, a living room, of about 150 feet superficial; a scullery, or kitchen, of not less than 70 feet superficial, with a ventilated pantry; and, on the upper floor, three bedrooms, one of which must not be less than 100 feet superficial; in two of the bedrooms fire-places should be provided. The height from ground to first-floor should be 9 feet, and the bedroom, or upper floor, be 8 feet clear.

"The memorandum of the Inclosure Commissioners with respect to the substantiality of agricultural buildings (as applied by them under the several Improvement Acts) shall be adhered to.

"The drawings are to be on a uniform scale of one-eighth of an inch to a foot, and they are to be not fewer than six in number, viz., two plans, three elevations, and one section.

"Each design is to be accompanied by a detailed specification, and an estimate stating in full the quantities of all the materials required, and the cost price at which they are calculated. Brickwork at 8*l.* per rod reduced; countess slates at 23*s.*; and Baltic Pine timber at 2*s.* 3*d.* per foot cube. In regard to other materials and labour the whole are to be calculated at cost price. An allowance of 20 per cent is to be made for contingencies and builder's profit, with 5 per cent. for the cost of superintendence, so that the prime cost of each house must not exceed 80*l.*, which amount must include not only the cottage but the fixtures, water supply or well, fencing, paving, and all those necessary addenda which the cottage owner must provide, and which, costing money to provide, he requires interest for in the shape of rent.

"The judges will be an architect, a land agent, and a builder, named by the Council of the Society of Arts.

"It would be an advantage if each competitor could name a contractor who will undertake the erection of 10 pairs of cottages, according to the design and estimate.

"The plans, drawings, and specifications must be sent to the Society's House, John Street, Adelphi, W.C., not later than the 1st of January, 1864."

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AT the recent meeting of the British Medical Association in Bristol, Dr. W. BUDD, of that city, delivered the address on Medicine, with especial reference to the subject of epidemics.

In the course of his remarks he said that if they wished to obtain clear views on epidemics generally, their surest plan was to begin with the study of the contagious group, and of that group, with those which admitted of being propagated artificially, which offered in other words the incomparable advantage of being studied experimentally. He would further wish the sufferers under his own eye and their incomings and outgoings and intercourse with one another known to him, or better still, determined by him. These were conditions not to be met with in human life, and only in the case of domestic animals. The pest to which he was about to refer was new to this country. For a century at least nothing had occurred in this island more deeply instructive to the epidemologist than the remarkable outbreak of the disease popularly known by the name of "small-pox," which ravaged the Wiltshire flocks last autumn. On the 13th Sept. 1862, while the disorder was still rife, he visited the diseased flocks, and enjoyed the great privilege of studying the malady from life under the able guidance of Professor SIMONDS. As there were still at the time some 600 or 800 patients in all stages of the disorder, it was not difficult under such able teaching to become acquainted even in the short compass of a single day with its leading characteristics.

The very name which the distemper bore—small pox in sheep—attested its human interests, as the series of relations which suggested the name attested the entire applicability of any inferences drawn from it to the great and important group of which human small-pox was the type.

With a brief allusion to the history of the disease, the speaker passed on to say that it would be enough to bear in mind two salient points: first, that from time immemorial the disease had prevailed in almost every part of the whole world, but that, until 17 years ago, with perhaps one doubtful exception, it had remained entirely unknown in this country. He observed that before 1847 the whole number of foreign sheep imported amounted only to a few hundreds, and those selected with care to ensure freedom from disease. A few years after the number had grown to several hundred thousand, and the sheep, instead of being picked out, were sent wholesale to the English market by the foreign flock-masters. Quarantine had fallen into discredit, and contagion came to be looked upon as of small account. The want of acquaintance with the epidemic maladies of foreign live stock, and other concurring causes, were detailed in order to show how contagion had entered into the English from diseased foreign sheep imported, after which the characters of the disease were slightly dwelt upon, a reference being made to drawings, and a parallel given between the human and ovine eruption, a few minor discrepancies being noted. The facts connected with the outbreak, its rise and suppression, were then detailed, and after a reference to inoculation, Dr. BUDD remarked that in results free from all ambiguity and open to the eye, the great fact was revealed that it was in the body of the sheep that that strange poison was fashioned and multiplied. He observed also in passing that in the facts that had been recorded a repetition was shown in one of the lower animals, of a series of relations that had been observed in another and kindred disease in man. They had found as the result of experiment that the virus of variola ovina was bred in the body of the sheep. By the same means it had been ascertained that virus was incapable of breeding in the body of any other animal, or at least of the great group of animals familiar to them, which like sheep came in relation with them in their daily life. Yeomen and shepherds fed largely on mutton—men whose bodies might not inaccurately be described as consisting in great part of mutton built up into man, might be seen brandishing the diseased animals in all manner of ways with the most perfect impunity.

Having narrated several facts the speaker said, admitting them, it became interesting to inquire in what way the germ of the disease was transmitted from one flock to another. The virus, he said, might have been conveyed first, by flies or by starlings from the diseased to sound sheep; second, by men who had visited diseased flocks; third, by sheep themselves unaffected from the infected district; fourth, by atmospheric dispersion as it was cast off by the diseased animals. He spoke assuringly of the stringent measures that had been adopted to check the epidemic, and which had been successful, and observed that the events in Wilts were of incomparable value, as showing by data which were scarcely inferior in severity and precision to those of the exact sciences, the entire fallacy of the view that had been entertained in the case of contagions in the human family, that some new element had come into play of an entirely different order from those which were in operation when the extension of the disease was confined to a single group. Every other element was there before; it only needed the introduction of the germ of the disease, and the result followed which he had related. He showed that the variola ovina bore the same relation to human smallpox as two kinds of Thistle, as one sort of Mushroom to another, as two species of Algæ identical in all the laws of their growth, but yet specifically different. He asked however whether, although specifically different, there might not after all be some generic connection between them, and in conclusion he applied the truths his paper was intended to illustrate to the contagious fevers of our race, referring specially to typhoid and scarlet fevers, and he argued that as the poison issued from the infected bodies it was entirely within their power to destroy it, and thus bar the succession of disease from others.

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## URCHANY, NAIRNSHIRE:

### A MEAT-PRODUCING FARM.

IN your Number of August 10, you gave a very interesting and instructive account of the Hoo Park Farm, in Bedfordshire; which under the skilful management of Mr. Ross has become a very large meat manufactory. It is, unquestionably, to meat production that the agriculturists of Great Britain must in future look for profitable returns. Corn has poured in from the corn-growing regions of Europe and America, for the last two years, in quantities that a short time ago would have been considered incredible; and we may well anticipate that now when the consuming power of Britain has been ascertained (its paying power has long been proverbial), corn will be sent to it in increased quantities. And, under present circumstances, even with our present good harvest, much of it will still be needed. But it should not be. We think that the soil of our own island, cultivated up to a not very extreme point of "high farming," could produce not only all the animal food, but also all the corn required by its population; and we confess to a feeling of mingled surprise and regret, when we reflect that while the surplus capital of our country is poured in floods into every other conceivable enterprise at home and abroad, it finds its way but in driblets into the almost illimitable field offered for its profitable employment in the development of the agricultural resources of our own glorious island.

You do well to call attention to what is doing for this development at places such as Hoo Park, where capital supplied by liberal enterprise and applied by skilled experience, is so successful in producing large results. There, as everywhere, large stock keeping is not antagonistic, but necessary to large corn production. But there is a class of agriculturists, your correspondent Mr. Mechi (whose general services to the cause of agricultural progress we gladly admit) prominent among the number, by whom stock keeping is considered and pronounced to be merely a troublesome and expensive mode of manure manufacture. We do not think so. We are convinced that stock, judiciously bred or purchased and fed, pay amply for the food supplied to them, and leave besides valuable stores of rich manure, which could by no other means be procured. As bearing upon this we here reproduce remarks we had lately occasion to make in our county (Inverness-shire). Report.—"Stock has been the farmer's best money producer and promises to continue so. We are inclined to say from our personal experience that with fairly-bred cattle (we insist on a high-bred Shorthorn male, and then the female is of comparatively little consequence) well attended to, a return of 1*l.* per month from the birth to the butcher should be realised. This of course implies an addition of corn or cake to the ordinary fare of Grass and Turnips. But is this an expense? Does not the use of the one economise so much the consumption of the other that a very much larger head of stock can be maintained, and thus larger returns depended upon to meet rental and other expenses—larger heaps of richer manure produced, and hence fewer carts sent to the manure stores and a richer corn-yard in the autumn. Bearing on those questions we shall adduce the *fact* (men, particularly agriculturists, are never convinced by mere arguments) that at a public sale this spring on a farm on the confines of the county, we saw 80 animals in high condition sold off, leaving behind a large breeding and growing stock, while the Turnip acreage of the farm did not amount to 50 acres."

This statement, applying as it did to a farm in this northern district, attracted some attention. In order to satisfy the curiosity of others as well as ourselves, as to how such a large head of stock could be supported on so limited an area, we applied to the tenant of the farm for information. He has kindly explained to us, not only the system he follows, but, being a business man who keeps regular accounts of his operations, he has also placed in our hands full details of expenditure and returns from stock keeping for the past year. On examining these we found that they gave a more lucid view of the results of stock keeping on an extensive scale than we have fallen in with in our agricultural reading, in fact give decisive answers to two frequently discussed questions: "Does live stock pay?" "What is the value of a ton of Turnips?"

The farm "Urchany," Nairnshire, the stock feeding and production at which we are about to describe, is in the tenancy of Mr. N. F. McLennan, who is not a resident upon it, being engaged in commercial pursuits. It is on the property of the Earl of Cawdor, and situated at an elevation of at least 500 feet above the sea, with an exposure to the blasts from the German Ocean. Thus it affords an example, in more than one sense, of high farming. Ten years ago, one making his tedious way by 4 miles of hilly road from the little county town of Nairn to the farm would have found nothing to repay his labour. He would have found six

or eight fields or rather patches of cultivated ground scattered over an area of some 250 acres. Rocks, boulders, pits, and bramble, and whin thickets, surrounding and encroaching upon the patches under a stunted cultivation. The stock would be eight or 10 half-starved cows with their followers. Some sheep from the hill districts would be wintered on the Turnips grown. This would be the meat production of the farm. A few stacks of Oats would comprise all its contribution of corn. This was when the place was managed by that agricultural favourite, but generally great obstructive to bold enterprise, "a real practical farmer." Things were changed when it fell into the occupancy of the present tenant, who handles the place as an investment for capital and energy. The landlord co-operated with him in a spirit of liberal fairness, which we would be glad to see largely imitated. The land was let on a 19-years lease at its fair agricultural value as it then lay. The improvable ground has been brought under cultivation at a large expense, of which the landlord bore one-half share, the tenant the other. The tenant reaps the value of this improved land, during the currency of the lease, as a return for his expenditure. The landlord's return will be realised at the expiration of the present lease, when of course a large increase will take place in the rent. This is a system of co-operation, fraught with benefit alike to landlord and tenant, and to the labouring class by whom the trenching and other work is performed, and we may well add to the nation at large, for every additional acre of improved land of our island's surface is an addition to the most steadfast portion of the national capital.

We have now as the result of this co-operation a farm of nearly 250 acres arable, in fact all its extent has been brought under the plough. The old buildings have been very cheaply remodelled to suit the new plans. Walls have been built around the fields. Those fields well limed and manured, and cultivated by a full staff of efficient servants, with a full strength of active horses.

It is farmed on that 5-course shift so general throughout Scotland, viz.:—1, Turnips; 2, Barley; 3, sown Grass; 4, pasture Grass; 5, Oats.

With the corn production we do not at present purpose to deal. Where large root crops are produced, good corn crops will follow as a necessary consequence. Perhaps the usual formula of roots as preparatory to corn may now be safely changed. May we not rather say (the mineral theory of Liebig notwithstanding), that good corn crops are necessary for the production of the requisite manure for root crops?

The area producing cattle food for crop 1862, was —first year's Grass, 46 acres; second year's Grass, 43 acres; Turnips, 47 acres.

The system of stock keeping followed by Mr. McLennan is to keep a herd of fairly bred (perhaps 3-fourths of Short-horned blood) cows, using with them a bull of pure Short-horn breeding. Thus 25 to 30 calves are annually produced. They are kept in the grass fields with their mothers, whom they suck for eight months, and thus acquire a healthy, hardy, *growthy* character, which no pail-fed beasts ever have. After a winter's feeding in the courts on Turnips and Oat straw, supplemented by bruised corn and cake, they are sold off in spring in first-rate condition for grazing. Fifty to sixty head of 2-year old cattle, crosses between Short-horn bulls and country cows, are bought in in the autumn; and in October, when the Turnips have made good bulbs, are tied up in stalls for winter feeding, which, beginning with Turnips and Oat straw, is gradually supplemented by bruised corn, chiefly the light corn grown on the farm, and for the latter months by oil-cake. There is also used some 40 tons of hay, the produce of the larger portion of the breadth of first year's grass, which is, however, previously thrashed for its seed. The result of this feeding is that by the month of April some 30 head of cattle in thriving condition for the grazier, and 50 prime fat cattle for the butcher, are ready for sale. And thus provided with attraction for his brother farmers and for butchers, Mr. McLennan, instead of having before him the weary task of higgling for the sale of his stock at the local cattle markets, or being obliged to entrust them to the mercies of salesmen in southern cities, exposes them to competition by public auction; and we always find that where a lot of good cattle is to be sold, even at such an outlying farm as this, a good attendance of purchasers may be expected, and bids to the full value of each animal exposed calculated upon.

We took share with much satisfaction in the bountiful lunch provided by Mr. McLennan on the 13th April for his friends and purchasers, after which all adjourned to the sale ring, where 80 animals were briskly competed for, and satisfactorily sold. And now we come to the results.

| | £ s. d. | £ s. d. |
|---|---|---|
| The roll of sale, after making provision for discount to represent 4 months' credit, and the expenses of advertising, lunch, &c., amounted to .. .. | | 1395 19 0 |
| To which has to be added— | | |
| The value of dairy produce sold, being the milk drawn from the cows after the calves were fully done to .. .. | 45 0 0 | |
| Rye-grass seed sold .. .. .. .. | 65 6 0 | |
| | | 110 6 0 |
| Cash sales, say .. .. .. .. | | 1506 5 0 |
| The purchase-money of the feeding cattle was .. .. .. .. | 699 15 0 | |
| Linseed-cake purchased .. .. .. | 58 10 0 | |
| | £758 5 0 | |
| Brought up .. .. .. | 758 5 0 | 1506 5 0 |
| Corn purchased or valued over from the corn produce of the farm .. .. | 100 13 0 | |
| | | 858 18 0 |
| Leaving a balance to meet Turnips and Grass of .. .. .. | | 647 7 0 |
| But the 10 farm horses had been summer grazed on the Grass fields, say at 6l. each .. .. .. .. | 60 0 0 | |
| And had a Turnip feed during winter, and some hay in spring, say 3l. each . | 30 0 0 | |
| | | 90 0 0 |
| Giving thus a return of .. .. as the produce of the Grass and Turnip breaks of the farm. | | £737 7 0 |

We would apportion the return thus—

| | £ s. d. | £ s. d. |
|---|---|---|
| 47 acres Turnips, at 8l. .. .. | 376 0 0 | |
| 46 ,, first year's Grass, at 5l. .. | 230 0 0 | |
| 43 ,, second year's Grass, at 3l. . | 129 0 0 | |
| | | 735 0 0 |

The straw of the corn crop was of course also consumed, and cattle attendance required the services of three men during the winter months. But this is so much more than balanced by the very valuable store of manure produced by such a head of well-fed cattle, that we would be inclined to throw in along with it the charge that might appear due for interest on the capital invested in the cattle stock, say—

| | £ s. d. |
|---|---|
| On 600l. in breeding stock for a whole year, at 5 per cent. .. .. .. .. .. | £30 0 0 |
| 700l. feeding stock for half a year .. .. | 17 10 0 |
| | £47 10 0 |

The breeding stock of cows and their followers varies little in value from year to year. Its tendency is rather to increase.

We think the above statement of results shows—1st, that live stock does pay; and 2d, calculating the Turnip produce at 20 tons per acre, which it certainly did not exceed, that 8*s.* per ton is their feeding value. *S.*

## ON LAND DRAINAGE.

### THE RECAPITULATION OF A LECTURE.

A SHORT general review of what has been already said is the more necessary when stepping from the region of general considerations, general laws, and theory, on to the field of actual practice. You ask a man who has drained his wet clay fields what results have followed the operation. He tells you that he has better and cheaper crops of Wheat and of other grain than he ever had before, by 6 to 10 or even 20 bushels per acre in the return, by 15*s.* up to 50*s.* per acre in the expense; that he has also heavier crops of Clover, Vetches, and other forage plants; that he can now grow root crops where formerly he had to put up with bare fallow, or if he used to grow root crops, they are heavier, better, more easily dealt with now when fully grown than ever he has known them.

The next question is—how do you account for your experience? "Well!" he will tell you, "as to the harvesting of the produce, I find the grain crops all ripen together, and can be secured when all at the proper stage, whereas formerly the crop used to be so patchy that one part spoiled before the rest was ready, so that the crop, though heavier than it has ever been before, is yet got in more easily and at less expense. I find too that the root crops can be carted off without injury, and if ready early enough that they can be folded to a much later period of the year than has been possible heretofore, or perhaps folding all through winter has now become possible where formerly it would have been madness.

The cultivation too is more easily accomplished. There used to be a patch of wet and swamp in *that* field which delayed the cultivation of the whole of it, even though much of it was ready betimes. I find the young Wheat too is not in winter so liable to be thrown out by the frost; and as to the rest of my land I find that I need not now be so careful about waiting till April or even later before cross-ploughing. I find I need not be so careful about keeping the surface furrows cleaned out. I even find a great advantage in cross ploughing and tilling before winter, and I leave it so without any surface drains whatever. And in place of poaching when it is trod, or ploughing up in a paste of stiff, unkind, and unctuous clay as it used to do, I either find it unnecessary to plough it at all in spring—or if I do more than merely stir the surface, I find the land turns over so far mellowed that it is comparatively easy to secure the proper tilth of it for a seed bed. I attribute the greater fertility of my land to this deeper and more easy cultivation of the soil which drainage has enabled.

If you press him further he will tell you that manures now prove more efficient—that he can always secure the proper seed time which the plants he cultivates requires — that he no longer finds the differences between a wet season and a dry one so enormous as they used to be—that his soil does not poach so much in wet weather, nor do his crops so readily burn in dry weather. And further still, though here perhaps he has no very clear understanding of the connection between the two, he will tell you that on his now drained fields he finds that neither snow lies so long, nor is hoar frost so thickly deposited—nor do fogs collect as they used to do in winter; and all this he presumes points to a healthier and better state of things for the plants.

And we can go further than these mere outside proofs which he has read of the benefits of the land drainage which he has found so useful. We know that these differences between a drained and undrained field have been owing to the alteration which has thus followed in the whole set of relations which water sustains to the soil and to the plant. Whereas it was not only a stagnant uselessness but mischievous by its actually breeding poisons within the substance of the soil and occasioning loss of heat from its surface—now, moving from the surface downwards, finding outlets below both soil and subsoil, and impelled towards them by its weight—it acts the part not only of a preparer but of a carrier of food into the soil, and it at the same time carries not only food but warmth to the plants.

Whereas moreover it was formerly a hindrance to tillage operations—not only rendering them useless but making them really mischievous—now, though it is still unadvisable to plough and till the land when wet, yet, following such operations, it is the complement and completion of the purpose they serve. It really is the true tiller of the land, converting what as the result of artificial clod crushing would be merely fragments of clods into the state we call tilth. It is in this way—by enabling it both to till and feed the soil, and to warm and feed the plants—that drainage has produced all those effects which the practical farmer has observed.

Ask him now how the operations are carried out by which these results have been obtained. He will tell you: "I dug narrow trenches 4 feet deep, and placing a continuous pipe in 12 inch pieces end to end along the bottom of them, carefully preserving the uniformity of slope, I covered the whole up again with the stuff that was taken out. I dug such channels 6 or 8 yards apart up and down the slope, taking care that the outfall should enable the easy and ready outlet of what water trickles through them to it.

Or he may perhaps tell you: "I dug such channels 2 feet deep, a perch apart, and put a straw rope on a few thorns along the bottom of them, and filled them lightly in. *Or* he may tell you, "I yoked a long team of oxen on to a mole plough—a framework on wheels, carrying a conical horizontal plug at the end of a strong coulter, and I thus drew this cone along through the clay, some 20 or 24 inches below the surface, thus securing for the time the channel which its passage through the subsoil at that depth left behind it. *Or* he may tell you, "I dug channels 30 inches deep, and filled them up with small stones to within 15 or 18 inches of the surface." He will tell you, "I placed these channels right down the slope;" or he may say, "I put them right *across* the slope." He may even tell you, "I got all this good by a single conduit dug deep enough, or only two or three dug deep enough, which cleared all my farm of the water in excess which used to swamp and starve it." This, however, he is not likely to say, unless his farm be a light soil over gravel. Certainly a homogeneous clay was never drained in so easy and wholesale a way.

I have no doubt that a collection of real instances could be made in which results in the meantime so uniformly good have followed means so various. The difference between a soil in which water is stagnant and one where water has the chance given it anyhow to move downward through the soil is so great that however imperfect the means of outlet given it, the increase of fertility will be very great so long as they last. All these plans of drainage *have* given an outlet and consequent motion to stagnant water, and hence in various degrees they have all conferred fertility.

The quantity and the permanence of the increased fertility thus conferred depends on the quality of the soil and subsoil through which the passage has been given to the water, and on the strength, and position, and permanence of the drainage conduits thus made.

In order that *we* might not be in the position of the man who has found so much good from straw rope drainage, or from mole plough drainage, that he will listen to no other plan, I endeavoured to state the principles on which all drainage depends. The sole operating cause being the weight of the water to be moved—greatest, therefore, when the drains are deepest—and all the *difficulties*, arising from the narrowness of the passages through which the water has to find its way, the mere *friction* through these passages being one class of difficulties, greater in clays than in sands and gravels; and the rest being included in the term capillary attraction, which, where the whole mass of earth above the level of the drains may be considered as standing on a wet subsoil, has the effect of holding up the water there above the level of the drains with more or less tenacity, and to a greater or less height according to the fineness of the pores through which it has to pass.

The difficulty of traversing the pores and passages of the soil creates the need of more frequent drains in clays where these pores and passages are small, and it creates the need of larger drains in wet climates where the quantity of water seeking a passage is greater. It is a consequence of this difficulty of traversing soils and subsoils that the line of water level within the soil rises from the drain at whatever depth that may be as the distance from the drains increases—and that whenever drains are too far apart the middle part is imperfectly drained, owing to the water level thus approaching too near the surface there. Mr. Clutterbuck, of Long Wittenham, who has made this

subject his especial study, thus describes the state of things consequent upon the existence of the water level within the soil.

"In flat unbroken ground (speaking of ordinary clay soils), as the soil is saturated with the rain, the water will rise gradually on a level throughout; should there be any depression in the surface it will form pools, the level of whose surface will coincide with the subterranean level. If a drain be dug, the water level will assume an inclination to that drain, the angle at which it declines being greater or less in proportion as the soil is pervious to or retentive of water: thus the inclination will represent the amount of friction or resistance which the water encounters in its passage through the soil, and it is with reference to this angle of inclination that all draining operations must be conducted, and the width between and the depth of drains determined. The practice of ridging land is but to place a portion of the soil above the subterranean level, which shows itself above ground at every furrow in wet weather."

So much then for those difficulties in the way of draining land which arise from the *friction* which water experiences in passing through it. It is owing to this that we require to put drains so near to one another as we do. But I also referred to the difficulties due to capillary attraction, which also are greater in the case of clay soils where the pores and passages are the smallest. It is this capillary attraction on the other hand that makes us require to put drains down as deep as we do.

If you have wet land you want, like the Hampshire farmer to whom I referred, at any rate 10 inches of dry soil, and as it is plain that drains will not remove any water which may be in the subsoil *below* them, they must be at least 10 inches deep for this purpose, but this capillary attraction makes it necessary to put them deeper still. For owing to this it is that drains do not remove the water which lies even in some of the soil and subsoil *above* them. For the capillary attraction of that portion of the subject which is immediately above them will, in spite of these drains, lift that water above their level.

If the land be of very finely divided material, and very clayey, it will lift or hold the water higher than if it be sandy. The capillary attraction of a clay soil is stronger than of a sandy soil, and the inference is that a drain needs to be deeper in a homogeneous clay soil than in a homogeneous sand, in order to produce a given depth of drained land. If you push this theory arising out of the capillary action of soils on water so as to infer from it that drains deeper than 4 or 5 feet in stiff clays would be still more efficient, or so as to infer from it that the deeper the drains the better, you do not do it justice. There may be, and there are other elements affecting this problem as you increase your depth—the time required for the percolation downwards of the rain is one of them—the cost of the work is another. The useful purpose of the theory will have been attained if we gather from it confidence in the results of which we often hear of deep drainage in clays; and if when we hear of successes and when we hear of failures of 4 feet drains in clay soils, we shall be led by it to look upon the former as the result of the general rule, and upon the latter as the exceptional result, either of the circumstances of the case or of the nature of the work, and not to think, as is very often asserted, that the shallower drainage is the more reasonable of the two for clays—but that deep drains do sometimes answer on account of cracks and sandy partings, and other departures from that homogeneous structure which we have supposed.

There is one consideration worth noting in explanation of the warning which I gave you not to run away with the impression that the fair inference from these words about capillary attraction was that you must always drain deeper in clay than in sands. The consideration which qualifies such an inference is that a thinner layer of active soil above the level at which water will stand in drained land does, when that layer is clay, contain much more food for plants than a greatly thicker layer of sand contains. Taking this alone into consideration it might be supposed that a shallower drainage of clay land is all that is required. And though this is not correct, because in clays the level at which water stands above the drains is much higher than in sands, owing to the greater capillary attraction which exists in the smaller passages between the finer particles of the former, so that it needs a greater depth of drains in a clay soil than in sands in order to the provision of a given thickness of dry and permeable soil, yet it is plain that in this way may be explained how a comparatively shallow drainage of clays is often efficient, and may be all that they need.

We may moderate between the two considerations by assuming that it needs probably an equal depth of drains in clays and lighter soils in order to the provision of a given nutritive value (so to speak) of dry and permeable soil in both.

## AGRICULTURE IN LANCASHIRE.

[The following remarks were made by Lord Stanley at the late meeting of the North Lancashire Agricultural Society.]

It is only 13 years since the late Sir Robert Peel wrote to an agricultural friend a letter which has since been published, and in which this passage occurs:—"You will find immense tracts of good land in Lancashire and Cheshire, with good roads, good markets, and moist climate, which remain pretty nearly in a state of nature—undrained, badly fenced, and wretchedly farmed." Now, I ask any one to compare the Lancashire of 1850 with the Lancashire of 1863, and to say whether the difference of those 13 years is not, in all probability, greater than the difference in the 50 years preceding. We started, I say, 20 years ago, from a comparatively low level, but if we confine ourselves to the consideration of the relative progress made during the last 20 years I believe we have kept pace in point of improvement with any county in England. But, while I say that, I am bound to add that we are still in point of agricultural improvement far, very far behind those counties in England in which agriculture has been most attended to. I am not speaking now of that kind of improvement which may or may not pay—in the utilisation of sewage, in the introduction of machinery upon a great scale, in the making of enormous farms, and fields half a mile wide. I take the county as it is, a county of small farms, where capital has rather tended to go by preference into the town; and I say that, as regards the simple and elementary processes of agricultural improvement—large fields, straight fences, deep drains—there is probably at this moment not one-half of this county in a state in which it ought to be, in a state which it might be, or in a state in which the next generation will see it. Only last spring I rode and drove through a great part of the Fylde district. I saw there the most interesting country. I saw small freeholders and hard-working tenant farmers, whose families had lived upon their land from time immemorial. I saw gardens filled with flowers; I saw houses neat beyond the ordinary standard of English neatness. I saw everywhere the signs of hard work, of honest independence, of comfort, and even of a certain degree of refinement. In a social point of view, nothing could be more satisfactory; but when one came to look at it with the eye of an agricultural reformer, I cannot say the picture was so pleasing. For I saw water standing on the land after little rain; I saw crops of rushes so luxuriant that one might have thought them the staple crop of the soil; I saw fields—so small that most of them were overshadowed by the hedgerow timber; and I saw large tracts of fair, good land, going comparatively to waste because the owners and the occupiers had not been able to unite among themselves so as to secure the proper drainage outfall to carry off the water in time of flood. No doubt there are many exceptions; but perhaps it would be invidious to name any, and therefore I will not do so. But I think the description I have given does apply to a very large portion of the district. I was rather struck with this—and I mention it because it confirmed the belief I have always entertained as to the immense benefit of the master's eye upon the work, and the presence of the landlord among his tenantry—that of all the unsatisfactory estates I saw the most unsatisfactory were those of the Duchy of Lancaster, which were under the direct control of the Crown. Now, in other parts of the county undoubtedly much greater progress had been made. I do not mean to flatter you if, reverting to earlier recollections, I say that I know no part of the county in which greater progress has been made than in the immediate vicinity of Lancaster. But we have still large tracts of moss land unreclaimed; we still have uplands which only need some expenditure and care to render them valuable for posterity: we have still a very general want of deep drainage and straight fences, and above all, we have still, comparatively speaking, a very inadequate use of mechanical appliances for farming purposes. Now, what is the explanation of these deficiencies? Partially, I think it is—but in this I refer more to the southern and eastern districts of the county, because in this district the case is precisely the opposite—that many landlords, especially those who have property on the coal-fields, or in the vicinity of towns, derive their revenue from below the soil, or from the buildings which stand upon it, and not in any considerable degree from agriculture; and, therefore, I think they are not so deeply concerned in agriculture as they would be if it were otherwise. Partly, also, we must allow for this—that the unequal growth of the trading and the manufacturing interests in this county has very generally turned the attention of active and enterprising men with a little capital away from the farming districts and into the towns, or they have been tempted by the difference between the agricultural and the manufacturing profits. That is very natural, but I am afraid they forget there is a difference also between agricultural and manufacturing risks. Partly also we are, or until the last two years have been, considerably hampered with the remains of the old system of life leases. Against that system it is unnecessary to say anything now, because it has been long since exploded. We all understand how it drains the tenant of his capital—the only kind of drainage it ever does promote—how it takes away from the landlord all interest in his estate, and how it introduces a gambling spirit into the relations of landlord and tenant. It is exploded now; but I apprehend that very many of the old life leases, granted 50 or 60 years ago, still remain; and, wherever they do remain, they are undoubtedly an obstacle to improvement. Well, then, on the whole, what is our position? We have against us a climate less genial than that of the South; a soil which, though it has the immense advantages of being free from drought, is, for the most part, damp, stiff—not unproductive, but requiring a good deal of labour to work it; holdings generally smaller than is now considered convenient; and we have not perhaps, that agricultural experience, or those conditions, which prevail in some of the more purely agricultural counties. On the other hand, to set against that, we have the advantage of an abundant supply of effective, although somewhat costly, labour; we have a population increasing at a very rapid rate; we have an insatiable market and demand for all kinds of produce; and we have a class of landlords who generally have been enriched by the general prosperity of the district, and who are recruited—and I for one am glad to see that they are so recruited—by new men coming from the towns, bringing with them business experience and handy active habits which they have acquired in their former occupations. Taking all together, and setting the good against the bad, it seems to me that we have not much to complain of. It is not climate, it is not soil—it is human industry, it is human skill, it is human energy, that in the long run make the difference between the producing powers of one country and another. Naples is a wilderness; the lowlands of Scotland are a garden. Now, I have confidence in Lancashire men. I know what they have done, and I know what they can do. I believe that agricultural science is comparatively in its infancy; and I confidently look forward to the day when an undrained field shall be a rare sight, when smaller fences shall surround larger fields, when much of the work which is now done by hand or by horse labour shall be performed by mechanical means, and when no man will go into the occupation of the farmer without bringing with him some little capital, or without thinking it necessary to qualify himself by some professional knowledge. Now, gentlemen, there were other topics with which I had intended to trouble you. One of these was the utilisation of sewage, of which I will say nothing now. The other is the more general employment of machinery, which I cannot pass over without one word. Already, in every part of England the threshing machine has superseded the flail. Very rapidly the reaping machine and the mowing machine are superseding the scythe and the sickle. The next great step—and when it is taken it will amount to nothing less than a revolution in English agriculture—will be the general introduction of ploughing by steam. Now, it may be asked, "When costly implements of this kind become necessary, what are the small farmers to do? Are they to go to the wall?" It is a natural question, but I think there is a very obvious answer. The answer is—associations can do what individuals cannot. There are already societies formed for the purpose of letting out implements. How far those societies will succeed upon a large scale is a question which I do not go into: but I have no doubt about this—that if a few farmers in one locality, whether aided or not by their landlords, associate together to obtain implements of that kind, they will probably find that they are very well repaid for their outlay. Now, I do not want to suggest any rash, or any hasty, or any premature action in this matter. We may not and have not got that form of machine which will be ultimately adopted. All I say is that it is a question which cannot be avoided; sooner or later it will force itself upon you; in all times and in trades the competition between mechanism and hand labour has been too unequal to be long sustained; and I say that those will be the wisest who, observing what has happened in other branches of industry, take warning in time and take care not to be left behind in the race.

## THE DECREASE OF THE AGRICULTURAL POPULATION, 1851-61.

[The following is an abstract of a paper read by Mr. Purdy before the British Association at Newcastle.]

MR. PURDY said,—"That, notwithstanding the prosperity which had attended English farming, at the last census it was found that the only counties which had decreased in population were the agricultural ones of Cambridge, Norfolk, Suffolk, Wilts, and Rutland. To exhibit the decrease in the population ascribed to the class 'agricultural' in the census of occupiers of 1861, the writer divided the kingdom into three sections,—(1) 24 counties of highest rank, where upwards of 20 per cent. of the adult population are occupied in agriculture; (2) 16 counties of intermediate rank, where over 10 and under 20 per cent. are employed; and (3) 5 counties of lowest rank, where less than 10 per cent. are employed. Between 1831 and 1861 the first section of counties had increased 1,093,000, or 22 per cent. in the population generally; the second section, 1,651,000, or 39 per cent.; and the third section, 3,425,000, or 73 per cent. It was stated that in 1831 the population was pretty equally divided between the three sections, the respective proportions were then 5.0, 4.2, and 4.7. In 1861, however, in consequence of the unequal rate of increase, these ratios became 6.1, 5.9, and 8.1. In 1851 the number of persons in England and Wales aged 20 years and upwards occupied in agriculture was 1,576,080; in 1861 the same class had fallen to 1,531,275. This shows an actual decrease of 44,790 persons, or nearly 3 per cent. in the 10 years. The greatest decline had taken place in the south-western and the Welsh divisions. In the former, consisting of the counties of Wilts, Dorset, Devon, Cornwall, and Somerset, the decrease was 20,381, or 9 per cent.; and in the latter, which includes Monmouthshire, it was 13,285, or 8 per cent. The ratio of adults engaged in agriculture in

England and Wales on the adult population generally in 1851 was 16.1 per cent., and in 1861 it was 13.9 per cent., which was therefore a decline of 2.2 per cent.; in other words, 22 in every 1000 of the adult population had, between 1851 and 1861, ceased to belong to the agricultural class." Mr. Purdy showed "that during the last decade the falling off in certain counties was very considerable; Sussex had lost 2698, Hants 3412, Berks 1158, Herts 1095, Bucks 1048, Suffolk 3306, Wilts 2837, Dorset 1343, Devon 9475, Cornwall 3917, Somerset 2809, Gloucester 1166, Northumberland 1265, Cumberland 2099, Monmouth 1089, South Wales 4530, and North Wales 7666. The highest percentages of decrement took place, in Devon 13.3, North Wales 11.0, Cornwall 10.5, Hampshire 8.8, Cumberland 7.7, Monmouth 7.6, Wilts 7.3, Sussex 6.5, Suffolk 6.4, Dorset 5.6, South Wales 5.6, Hunts 5.4, Bucks 5,1, and Northumberland 5.1. It was observed of Wiltshire that, while the population generally had decreased by 4.904, the decrease of the adult agricultural population was 2837, and that in Suffolk the general decrease was only 147, while the agricultural decrease was 3306." Mr. Purdy stated, however, "that 11 counties had increased their agricultural population. The six most remarkable instances were these:—Salop had increased 1226 or 3.5 per cent., Worcester 1281 or 5.7, Leicester 1371 or 6.0, Lincoln 2139 or 3.3, Chester 1550 or 4.2, and Lancaster 5336 or 7.1 per cent."

The paper also directed attention to the fact—

"That the largest increase had occurred in our great manufacturing county, and further, that Lancashire in 1861 employed a larger agricultural population than any other county. The number of adults so engaged was 80,222. The West Riding of Yorkshire, which in this respect comes next, only employed 77,168, and Lincoln, a purely agricultural county, 67,357. Though the adult agricultural population of Lincoln is 11,000 less than Lancashire, the return of the farmers' profits (Schedule B) in 1859-60 in the former county exceeded those of the latter by 1,000,000*l.*, the valuation in both counties having been made upon precisely the same principle—that is, by assessing all the farms, whether their occupiers were liable to pay the income-tax or not. In 1851 there were in Lincolnshire 10,970 farms; one-fourth of the number exceeded 100 acres each; while in Lancashire, with 15,365 farms, less than one-twentieth of them exceeded 100 acres each. Excluding from each county those persons placed under the agricultural class, but who, in fact, work in woods or in gardens, it is found that in Lincolnshire there were 65,849, and in Lancashire 76,496 adults engaged in agriculture properly so called. The Schedule B valuation of the first county is 2,647,000*l.*, and of the second 1,605,000*l.* Dividing these sums among the adults respectively employed in each, gives 38*l.* per head for Lincolnshire and 21*l.* for Lancashire. The exact relation between the agricultural capacity of the two counties can only be satisfactorily shown when England adopts a system of agricultural statistics like that of Ireland. The diminution of the agricultural population was attributed to emigration and to the attraction of higher wages in other industries; though a considerable advance had taken place of late years in the money wages of the farm labourer. In Wales, where a large decrease of the agricultural class has been noted, the men's wages had risen from 7*s.* 6*d.* in 1837, to 11*s.* in 1860. Contemporaneously with the general advance of agricultural wages large tracts of waste land had been enclosed for cultivation. The Enclosure Commissioners state the total area to be 390,000 acres; this is equal in extent to the whole county of Hertford."

## Home Correspondence.

*Cottages.*—It appears from the state of the dwellings of the working classes that it is quite impossible to carry out the home education of children, so essential in teaching them to become useful and intelligent members of society, and valuable in checking the tendency to immorality so prevalent from causes now beyond the control of the parents. The police reports too clearly indicate the lamentable extent of juvenile depravity at the present time. The following statement is copied from the Judicial Statistics of 1860, published by authority:—

ENGLAND AND WALES.

NUMBER OF PERSONS COMMITTED TO PRISON in 1860.

| | Male. | Female. |
|---|---|---|
| Under 12 years of age .. .. .. | 1307 | 173 |
| 12 to 16 ditto .. .. .. .. | 5438 | 1091 |
| 16 to 20 ditto .. .. .. .. | 14,281 | 6231 |

The above extract gives a sad picture of the domestic history of the working classes; it shows the number of youthful delinquents coming within the grasp of law, whose crimes have been discovered, but says nothing of the mass of iniquity, either undetected or which cannot be punished in a court of justice. What a mass of infamy must exist to produce such vice in children of tender age! What excuse has a country of unbounded wealth for allowing the rising generation to be fearfully neglected, when it has the power of mitigating the evil? Is it not a reflection on the name of England, to be told that the working classes are exposed to debasing influences, and have no means of escape? The obstacles which nullify the exertions of the philanthropist, in his attempt to assist his poorer brethren, are numerous; but that which defeats all good intentions is the "crowded cottage," where men, women, and children live together, without the possibility of observing common decency. The fact of inadequate accommodation for labourers throughout the United Kingdom is well known, yet no strenuous efforts are made to supply the deficiency. To erect a few model houses with expensive fittings, and striking elevations, is not the way to set about the work in earnest. A plain, comfortable cottage, warm, roomy, and well ventilated, is the desideratum—rent to be within the means of the labourers of the district. *Falcon.*

*Agriculture of Northumberland.*—In the graphic account given by Mr. Grey, late of Dilston, of his agricultural career, as reported in the *Agricultural Gazette* last week, he mentions writing a report on the farming of the county for the Royal Agricultural Society, which suggests to the writer, now that the Society has decided to hold its next exhibition in the chief town of Northumberland, the desirability of its offering a prize for another "report," enumerating the alterations and improvements effected since the date of that written by Mr. Grey. Such a report would be interesting, instructive, and useful, and if it could be got out previous to the Show, and offered for sale in the yard at 1*s.* per copy, no doubt an immense sale would be the result, adding to the funds of the Society, and to the means of disseminating over a wide area a knowledge of a system of farming as simple and excellent as can be found in the British Isles. This offer would not be without precedent, as witness the 50*l.* prize offered when the Society held its second show in Yorkshire, given by the president for the year, Lord Powis; and to show the importance in which such reports are held in that county, an offer of a similar prize for a similar object has since then been offered by one of the large landed proprietors and most distinguished agriculturist of it. This second prize, although offered for the last two years, has not been awarded, owing, we understand, to an insufficiency of merit in the competing essays. But we venture to say that if such a prize were offered for Northumberland, there would here be found respondents equal to the occasion; and if the Society does not come forward with a prize, we trust, Mr. Editor, with your advocacy, that some one among the many large and wealthy landed proprietors will take the matter into consideration, and offer a prize for an essay on the farming of Northumberland—such would redound to his own and also to the credit of the country. *J. M. W.*

## Foreign Correspondence.

SCHENEFIELD, HOLSTEIN.—*Crops on the Continent, Aug.* 10.—We have now completed the harvesting of the Rye, Barley, Peas, and parts of the Wheat and Oats, all in good condition, and fair crops. The Potato is now ripe, and, excepting on the silt soils, only slightly touched with blight, which showed itself about a week ago, when the yellowing of the leaf and stem from ripeness had generally commenced. Indeed a new feature of the blight seemed to be a slightly premature yellowing and withering up—only in partial cases—in the moister and richer localities, giving out the nauseous effluvia of corruption. The bulk of tubers, from the absence of blight till near the natural completion of growth, is greater than of any previous season since the blight appeared. On the rich damp silt land of the Elbe delta and sea-bord alluvions, however, considerable numbers of the tubers show discoloured spots of disease and commencement of rot; on the *geest* or dry land the tubers are all sound. Generally in Low Germany, including the Danish peninsula and islands, the crops are fair, sufficient for the thriving increasing population, with considerable surplus for export. In High Germany, southward, and in Hungary, the drought-heat has been excessive; and latterly every green herb, what is termed burned up. The preservation of stock will, therefore, make considerable inroads upon the reaped crop, in many places defective from the drought, while in northern Low Germany, which has enjoyed timeous showers, the pastures are green and the Turnips (Swedes) and Beet covering the ground. Hence, there may be some internal demand from the north southward. In Poland, too, intestine war will have destructive effects, and contrary to the American war, which is more an affair of frontier, in all probability lessen food export.

## Societies.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY. *Trial of Combined Reaping and Mowing Machines.*—This preliminary trial was connected with the forthcoming meeting of the Manchester and Liverpool Agricultural Society, at Mr. Kerr's, Arrowbrook Farm, Arrow, Cheshire. Thirteen competitors entered for the contest, but only seven turned up, viz.:—Messrs. J. & T. Young, Ayr, one machine; Mr. Walter A. Wood, London, two machines (represented by Richmond & Chandler); Messrs. Samuelson & Co., Banbury, two machines; Mr. George M'Culloch, Pemberton, near Wigan, and Mr. James Lockhart, Burton Farm, Neston, one machine each. The machines were all what are termed combined ones. The contest commenced at about 11 o'clock in the morning. A part of a large field of grain, allowed for the purpose by Mr. Kerr, was portioned into plots of one acre and a half each, it being understood that the machines which reaped the allotted corn in the shortest time were entitled to the prizes offered by the society. Mr. M'Culloch retired soon after commencing, owing to an accidental breakage, but all the others went through the work allotted them in the corn field; after which, two machines of Messrs. Samuelson & Co., and one of Mr. Wood's, entered an adjoining Clover field for the purpose of testing their mowing capabilities. The result of the competition was announced at the conclusion of the contest by Mr. Ryder, the secretary to the association. It appeared that the two-horse machine of Messrs. Samuelson reaped the allotted quantity in 1 hour 34 minutes; the one-horse machine of the same firm in 1 hour 2 minutes. Messrs. Young & Co.'s in 1 hour 59 minutes 30 seconds, Mr. W. A. Wood's first machine in 1 hour 55 minutes, and Mr. Lockhart's in 2 hours and 11 minutes. The first and second prizes of 20*l.* and 10*l.* were therefore awarded to Messrs. Samuelson's machines respectively. The sum of 5*l.* was awarded to Mr. W. A. Wood's first machine, and his second one not being eligible for a prize in consequence of being only a reaper, was highly commended; while the machines of Messrs. Young and Lockhart, not being combined ones, were judged non-competitive. *Liverpool Journal.*

LEICESTER: *Agricultural Statistics.*—At the recent meeting here of the Agricultural Society, Mr. Heygate thus spoke on the subject. He said—

"He was not a very great agriculturist himself, but he felt very great interest in its prosperity, and nothing, he thought, would be more useful to those who were practically engaged in it than that there should be established a good system for the collection of agricultural statistics. He wished them to consider whether the time had not now arrived when the nation should be put into possession of that information in regard to the cultivation of the soil which would show the agricultural progress of the country from year to year, which would show the increase or decrease of its agricultural wealth, which should give to its population that information which was possessed and highly appreciated by the population of almost every country in Europe besides our own, and which we had remained so long without, entirely from what he conceived to be prejudice. He knew very well that as soon as the words "agricultural statistics" were pronounced there were some among them who would be disposed to fire up and to say, 'No, let us have no interference with our private affairs;' but what he wished to persuade them was, although there might be some good there could not by possibility be any harm in the collection of agricultural statistics. What harm could there be in collecting this information about the state of the cultivation and the amount of the produce of the land? Information was valuable on every subject; it was always useful to throw light upon everything. Why, then, should this subject be shrouded in darkness, especially when he could prove to them that agricultural statistics could be collected without the smallest interference with private property, or the invidious exposure of the affairs of any one? It was now eight years since a committee of the House of Lords, composed of individuals by no means unfriendly to the agricultural interest, reported that it was a matter of national importance and utility that there should be an organised system of agricultural statistics; that among the various classes who would be benefited thereby none would gain greater advantages than the agriculturists themselves, and they further reported that, inasmuch as it was a matter of national interest, the requisite expenses for the collection of agricultural statistics ought to be borne out of the national exchequer. The machinery, indeed, for their collection need not be of a very complicated character, for if they could obtain two returns only they would gain a great deal of valuable information. In the first place what they would require every year was an account of the acreage under cultivation, setting out the acreage of the different white and root crops, and in the second place they would require an account of every description of stock, which might be easily obtained in the spring. If they could obtain those returns annually, they would be able to form a sound judgment with respect to how far the country was advancing or going back in respect to its material wealth. If, then, information was all that was wanted, what objection could there be to their making attempts to obtain it? Nobody would deny that the information which would be obtained from agricultural statistics was useful; nobody would now-a-days say it was wrong to obtain it with the consent of the farmers if they could. In Ireland this information was now collected annually from something like 600,000 holdings, and it was collected throughout the whole country without a dissentient voice. Such returns were of great importance in debates in the House of Commons; and, in point of fact, the whole character of the debates on agricultural questions very much depended upon the nature of those returns. Only last year the Registrar-General of Ireland congratulated the country on the increasing popularity of agricultural statistics, and the facts he laid before the country abundantly showed that not only the manufacturers, who were a small class in Ireland, but the landowners and tenant farmers were alike anxious to press forward most earnestly the collection of those statistics; and those who now heard him might depend upon it that if such collection had been found in the smallest degree injurious to the agricultural interest, not only would it not have been persisted in, but the loudest complaints would have been heard that such an experiment should have been tried at the expense of the Irish farmers. He would only quote one fact to show how completely isolated we in this country were in this respect. Agricultural information as he might call it was possessed by France, by Belgium, by Holland, by Prussia, by part of Austria, by Saxe-Coburg and Gotha, by Spain, by Norway and Sweden, by North America, by our Australian colonies, and last, but not least in importance, by Ireland. We were, as had been stated by Mr. Wren Hoskyns on this subject, secessionists from the body corporate of nations, so thoroughly had we neglected a subject of such importance to the nation at large. At the same time he quite admitted that it was a question mainly for the consideration of the farmers themselves, for depend upon it that if the information was not wished for by a very large body among the farmers themselves the country would never have it at all; but he was himself of opinion that the agriculturists of this country were of far too great intelligence to hesitate much longer on the subject, and that the country might very soon look forward to being in possession of such information as would enable it to say how far the farmers of England were capable of providing it with food. Strange as it might sound to some in this age of statistics, it was a positive fact that it was impossible for any one to say whether the growers of grain in this country were supplying 5 per cent. or 50 per cent. of the food of the nation. It might not be a

matter of very great consequence in time of peace, but they might depend upon it that such information would become of vital importance in the event of a war, especially if what he hoped would never occur took place, and we were to a great extent to lose the mastery of the sea. Entertaining views of so strong a nature on this subject, he had thought it not out of place to attempt to impress them upon agriculturists on the present occasion, and he sincerely hoped to see an efficient organisation for the collection of agricultural statistics before long."

Isle of Man: *Relations of Clergymen and Farmers.*—At the meeting at Ramsey lately the Lord Bishop, in reply to the toast of the clergy, defended the absence of the clergy from the show ground, which had been remarked upon by one of the speakers, and said that a clergyman had been brought before the public a little too much for his too intimate connection with those engaged in agricultural pursuits. It had been said, but he did not know whether to believe it as truth, that one clergyman had been suspended—he did not mean by the neck—for associating too much with those engaged in the cultivation of land. It was possible, therefore, that the clergy of this island were a little afraid of having the same operation performed upon them. But one reference had been made by the Chairman, and he thought his words would have effect with the clergy, when he pointed out the Archdeacon as an excellent example of a clergyman taking part in agricultural matters. He thought that the Chairman's statement, and the example set by the Archdeacon, would have an excellent effect upon the clergy, especially if the Archdeacon would give them as much information as he had at a former meeting, when he communicated the new discovery he had made of fattening pigs without costing a farthing. The Archdeacon, he was glad to see, had again come forward in a spirited manner at this show, and carried off several prizes. He was not willing to "charge" his clergy upon the subject, or even to address to them a pastoral letter in reference thereto; but if any words of his would influence the clergy to follow the Archdeacon's example, he would gladly give the necessary encouragement. He might at least assure them that he did not feel inclined to suspend them, in any sense of the word, for employing themselves in a greater or less degree in the occupation of agriculture; and he was not disposed to suspend them, or find fault even if they surpassed the Archdeacon in the breeding of pigs. For his own part he had never regarded agriculture as an ecclesiastical offence; indeed, in this respect, as in others, he was content to tread humbly in the steps of the revered Bishop Wilson—than whom no man had exerted himself more for the advancement of agriculture in this island by setting an example of good farming. Since his appointment as Bishop of this diocese, he had done something as an agriculturist to improve the breed of sheep in this island; but he found that on this occasion he was, for the first time, beaten, and well beaten. He had to thank the judges for deciding against what was, at one time, the best flock of sheep on the island, by giving the palm over his head to some body else more deserving of it. His object in endeavouring to improve his stock, as well as his object in making these remarks, was to give rise to emulation and activity, and to lead them to take encouragement from his past success, and from the success of those by whom, at this show, he had been himself surpassed. He was glad that his example had been taken, and at every future exhibition he would be glad to acknowledge the man that had beaten the Bishop in sheep. For his own part, he did not feel himself in his spiritual capacity degraded, but rather elevated and encouraged, by social communication with the laity at all times and the laity of all classes in society.

The Ven. the Archdeacon, having been loudly called upon, also rose to respond. After humorously alluding to the necessity which sometimes existed for the State keeping the Church in order, he said the Chairman had referred to the absence of the clergy from this and similar meetings; but he suspected that the Chairman would have done much more towards procuring their attendance if he would have praised those who were present instead of blaming them for the negligence of those who were absent. There was another subject to which he must likewise refer—namely, his fat pigs. It seemed as if they could never be let alone. The Archdeacon and his pigs were always the subjects of comment. Even on entering the show-yard that morning, the first thing that greeted him was:—"Well, Archdeacon, prize pigs again." He felt annoyed, and in reply said:—"Well, it is very annoying. These pigs are a regular plague to me, and I suppose I must get done with them." However, there was one consolation, he supposed—they must either belong to the sheepish multitude or to the swinish multitude—and he would as soon be of the latter as of the former. To come now to something practical. He observed that it was a very short-sighted policy on the part of the Manx farmers to decline exhibiting any stock unless they were pretty sure of a prize. In his opinion, they ought to exhibit their cattle whether they would win or not; and thus, if they were beaten, they would be led to endeavour to improve the breed and condition of their animals. For his own part, he had that day sent some animals to the show which he certainly did not expect would gain prizes; and the only regret which his servant-man expressed was that they had not brought his (the Archdeacon's) year-old heifer, for, said the man—"She would have beaten everything in the place." He hoped, therefore, they would not hereafter be deterred from exhibiting stock by the fear of being beaten. As to the clergy being degraded by connection with agriculture, he looked upon agriculture as one of the noblest of employments—the first art of civilised life. The first art introduced by missionaries when they wished to civilise the heathen was to induce them to till their land. They talked greatly of the mighty commerce of England, and of her manufacturing and mining interests. Judging of the importance of these by the capitals therein invested, he believed the capital invested in agriculture exceeded them. For the promotion of agriculture in this island, he would like to see established something in the way of parochial farmers' clubs.

East Lothian.—The following are reports on experiments in growing Wheats upon the farms of Fenton Barns and Mungoswells, respectively occupied by Messrs. Hope and Shirreff, for the premium given by the Society, for the best conducted experiment with three kinds of White and Beardless Wheat, as compared with Hunter's, at two different visits, the first about the end of May, and the other upon the 1st of August.

*Fenton Barns.*—No. 2. Best at both visits, and we also considered that this lot tillered out most plants at the root, and kept closest to the ground in spring, and therefore might be sown thinner than any of the rest, say as 3 to 4 of No. 4. No. 1. Second best at both visits, and we would also recommend that it should be sown thicker than Nos. 2 and 3, at least 2 pecks per acre. No. 3. At the first visit this was inferior to No 1, and at the second it was the worst. This lot sent out plenty of plants, but was small in the straw, and is apt to lodge. No. 4. This was worst at the first visit, but at the second it was third best. We, however, advise that if this grain be sown, it should be wherever there is any danger of the crop lodging, as the straw is both thick and stiff, but should be thick sown.

*Mungoswells.*—No. 2. Best at first visit, and at the second by far the best. This lot sent out many shoots from the root; and may be sown thinner than any of the other kinds exhibited upon this farm. It indeed showed a fuller head, stronger straw, and, to all appearance, was a better crop than any of the other kinds. No. 3. Inferior to No 2, but at first visit the difference was little; at the second, however, it was more perceptible. No. 1. Third best at both visits, and should be sown one-fourth per acre thicker than Nos. 2 or 3. We also think that this Wheat should be sown on loamy land in preference to clay, as it does not suit a poor or clay soil so well as Nos. 2 or 3. No. 4. Worst at both visits, but has strong and stiff straw. N.B. We have also to mention, that at Fenton Barns, four kinds of Red Wheat were exhibited, whereas Mr. Shirreff showed none, and upon the Red Wheat we make the following report:—

*Fenton Barns.*—No. 5. This lot, called Yellow Wheat, was the best at our first visit, and at our next was much more so; indeed, it was our opinion that we had never seen so productive a looking crop. No. 6. At first visit this lot was later than No. 5, and a little inferior, but at the second it seemed early, but now much inferior to the last. No. 7. Inferior to both the other kinds already mentioned at both visits. No. 8. This lot was very healthy at first, but at our second visit it seemed broken down. We think that this kind, which is Rivet, should be only sown upon soft land, where the other kinds would not succeed.

On a field at Fenton Barns we looked at two kinds of white Wheat, the one Hunter's, the other Woolly-ear, and thought the latter at least three quarters of an acre better than Hunter's; but at Mungoswells, from seeing both kinds of Wheat, we would have drawn a quite different conclusion.

The reporters recommended both the experiments as equally deserving of the Society's prize.

Lasswade, Mid-Lothian: *Adulteration of Artificial Manures.*—Mr. Brown, of Pentland Mains, said:—I have confined myself to a few authentic remarks, gathered from the writings of some of our most eminent chemists, warning farmers to what a large extent adulteration is practised upon artificial manures previous to being exposed for sale. These remarks will more particularly apply to three varieties of artificial manures—namely, Peruvian guano, dissolved or prepared bones, and nitrate of soda.—(1) First, as to adulteration practised by fraudulent dealers or their agents upon Peruvian guano; Professor Nesbit thus gives us an example of the dexterity and peculiar manner adopted by men who make it a regular and lucrative profession in London, Newcastle—and, in fact, almost all large towns throughout Great Britain—and who in many cases realise handsome incomes at the expense of the innocent agriculturist. This example was given in the course of one of his lectures to an audience composed principally of farmers, warning them against buying any manures without a guaranteed analysis. He thus describes the process of manufacture. Having obtained two samples of Peruvian guano, the one genuine and the other adulterated, he gave the two bottles in which they were contained to the chairman of the company he was addressing, and asked which of the two he considered the genuine guano. He chose the adulterated as the one he considered the pure guano, which from analysis contained nearly half its weight of Essex marl, and had been exposed for sale as genuine guano. The mode of mixing is cleverly done. The guano and marl are not mixed together at once. The large lumps are first picked out from the pure guano; the marl is thereafter mixed with the small (sometimes being ground to a fine powder before mixing), the lumps are then carefully added so as not to break them, the whole thereafter appearing as genuine guano. It has also been ascertained, in the analysing of samples of Peruvian guano, that other materials are used in adulteration—such as sand, clay and chalk, limestone, bricks, tiles, gypsum, ground when necessary to a fine powder, and sometimes found mixed with guano to the extent of from 40 to 50 per cent. Ichaboe being a strong smelling guano, a little is sometimes added by adulterators in bringing up the odour so often taken by many farmers as a sure test that the guano must be first-class if it contains this ingredient. This adulterated guano is sometimes sold by analysis (which can quite easily be a borrowed one), and very often no analysis is asked for by the farmer. The manufacturer or his agents—who are not a scarce class in our markets—by dint of good language and persuasion in offering his guano at 1*l.* or 2*l.* per ton cheaper than the honest trader, tries, and very often succeeds, in persuading the farmer what a bargain he is getting; but little does he know how barefacedly he is robbed, perhaps paying 10*l.* or 12*l.* per ton for a guano intrinsically not worth more than 3*l.* or 4*l.* The success which attends the sale of adulterated guano and other manures is truly marvellous when we are told by an eminent chemist that he considers 100,000*l.* is annually paid by farmers for worthless materials mixed by fraudulent dealers amongst artificial manures.—(2) My remarks will now apply to the adulteration practised upon bones, likewise carried on to a large extent. Coprolites, costing from 2*l.* to 3*l.* per ton less than from bones, are largely used in the manufacture of bones. Coprolites are composed of the fossil excrements of different species of animals, found in small quantities in some of the midland counties of England, but are mostly imported. Their nominal value, according to analysis, principally consists in the phosphate of lime, magnesia, and carbonate of lime which they contain, and is estimated, when manufactured, by Professor Liebig to be worth 6*l.* per ton. I certainly admit that coprolites are a good manure, but cannot think that we should pay 7*l.* 15*s.* for coprolites sold as pure dissolved bones, varying as they do to a large extent in the bone-earth which they contain. Oyster shells, from their possessing the property of splitting up into nice fragments and incorporating so thoroughly with the bones as can scarcely be detected with a glass, also soap-boilers' waste and sand, are likewise used to a large extent in the manufacture of bones. I advocate that, to ensure ourselves against adulteration, every farmer should manufacture what bones he intends using during the year, some of our eminent chemists asserting that in every ton of pure bones we buy we are not receiving more than 10 cwt. of pure bones, the other 10 cwt. being composed of saw-dust, ashes, &c., used for drying up the moist matter occasioned by bones in the process of fermentation, and bringing them into a sufficiently dry powder state for sale. The mode given us of making bones into a prepared manure, by care and attention on the part of the farmer, may easily be accomplished. First prepare a space sufficient in size for the quantity you intend to use, having a hard bottom, and if possible under cover; enclose it with deals, so as to keep the bones together when in the process of fermentation; purchase so many tons of pure bones, which can be ground half-inch size for 5*s.* per ton; as many tons of bone-ash; also from five to ten gallons of sulphuric acid to the ton. Mix the bones and bone-ash in alternate layers, pour over them ten gallons hot water to the ton, thereafter adding the sulphuric acid, and covering the whole with three to four inches prepared compost or earth, which should be at hand, allowing them to lie fermenting in this state for six weeks or two months; and, after being turned over several times, they will be found sufficiently well pulverised and dry enough for application, having read and likewise been informed by those who have done so, when judiciously performed, that they succeeded to their entire satisfaction.—(3) In reference to nitrate of soda, it is found to be sometimes adulterated with common salt; but, as the latter occurs in crystals of a whiter colour, a closer inspection will almost lead to its detection. Nitrate of soda, when pure, should burn with a fine yellow flame, but when mixed with a rather large proportion of common salt it gives forth a greenish light. In confining my remarks upon these three classes of manures, we are led to believe, by the research which our ablest chemists have made in the art of agriculture, and also by the experience of our most scientific farmers, that in the application of any one of these manures, or in a combined state, we are giving to the soil most of the known ingredients requisite for the production of healthy and vigorous plants. I believe that adulteration in artificial manures being carried on a large extent, we cannot be too careful in the purchasing of them, that we should only buy from men of respectability and character, and that by guaranteed analyses only, which, if attended to, would be taking the surest means of rooting out these men who make it a regular and lucrative profession in adulterating artificial manures at the sole expense of the farmer. An instance of the value to be derived from analysing came under my notice lately. A large arable farmer in Berwickshire, who annually spends a considerable sum upon artificial manures, resolved to purchase by guaranteed analyses only, and from well-known manufacturers; yet upon sending samples of the bulk after delivery to be analysed, which cost him 12*l.*, found after all that he had saved nearly 40*l.* by so doing.

Kilkenny: *Irish Agriculture.*—At the annual meeting of the Agricultural Society of Ireland the Lord

LIEUTENANT thus spoke:—"Upon a later occasion of these annual meetings of the Royal Agricultural Society, and especially at the last of all, which was held in Limerick, it was my painful duty to speak in rather gloomy tones of the then subsisting agricultural condition and prospects of the country. It is true that four successive most unfavourable seasons have preceded the present year. 1859 was a year of unusual drought, which made an inroad on our live stock that has hardly yet been repaired, and with this perished a great quantity of our manure. Then three summers of almost incessant rain followed. The crops one by one felt the unhappy influence; land dropped out of cultivation, and the last year was the worst of all. So that if we were now obliged to confine ourselves wholly to retrospect, and not to indulge at all in prospect—if we only dealt with memory, and did not consider what was due to hope—this would be the very moment of the greatest depression. But you will all remember in the sacred page how, when the Prophet stood on the ridge of Carmel, he was told six times that there was no prospect of relief in the parched earth or in the burning sky; yet, on the seventh occasion he gathered from the sight of a small cloud, like a man's hand, a prestige of the coming deliverance, which then came in the form of rain. So we, I trust, may thank God that we can read in the sunbeams which have gladdened our eyes tokens of returning plenty and recovery. I observed that land, under the baneful influence of the seasons, fell from time to time out of cultivation, and naturally the last reclaimed and the least productive lands were the first to be given up, and in the same gradation the best land was the last retained in tillage, and it is of that best land that we may now hope to enjoy the fruits under the best influence of a mended climate. And it was gratifying to me to find that it has been computed by most trustworthy persons, that if the crops of this season only equal the average yield of the last 10 years, their value—supposing there should be no great disturbance in price—would exceed the value of the crops of 1862 by some ten millions of money. And if they should exceed that average of the last ten years, of course the gain would receive a proportionate increase. Amidst the general depression which affected almost every kind of agricultural produce, I find an exception in the article of Flax, and I learn that this year 60,000 more acres of Flax have been sown than the last ten years, or, probably, more than ever were yet sown in Ireland; and the activity of the linen trade, in such marked contrast with that of the Cotton trade, encourages the hope that the Flax crop, over and above its abundance, will realise satisfactory prices. With respect to other crops which cannot attain that amount which the favourable nature of the present season might otherwise have secured to them, if land had not been previously thrown out of cultivation, we may hope that, whereas the sufferings of a bad year are nearly mainly confined to the year itself, the caution and resources, which are altogether best learned and only learned in seasons of difficulty and trial, will bring with them salutary permanent results. I think it may be a matter of serious reflection whether the least favoured lands ought to be restored to a more precarious crop, as I believe that lands that have hitherto been devoted to Wheat would be much better applied to those grains that suit better with colder and moister climates. No lesson of the past has been more permanently taught than the necessity of continued attention to drainage, and I rejoice to find that two measures have been adopted in the last session of Parliament for giving facilities to proprietors for making outlets to their drains, and for enabling them to form drainage districts to effect a more complete arterial drainage. And I believe these two measures rest on the sound principle of facilitating proprietors in executing the works themselves, without any undue influence on the part of the Government. The competition of the whole world, acting now upon us through new facilities of transit and new means of access, of which the Galway line is the last, of course continually grows more intense. The great enterprise of your neighbours, the pork merchants of Waterford, has given activity to the bacon trade, of which this city may be considered in some respects the centre, and the vigorous promise of the Potato crop bids fair—for we all know the connection between pigs and Potatoes—to contribute to the further extension of the pig trade in Ireland. I believe almost the only article of food the importation of which into the United Kingdom has been diminished within the past year is butter. Now, the state of Ireland affords considerable facilities for that trade, which it has long enjoyed, and I trust that continued attention to dairy farming will carry on and advance its prosperity. I had wished almost to indulge myself in some little reflections upon certain processes of hay-making which I observe carried on in Ireland; but I have found my views so completely summed up in the old survey of the county of Kilkenny, written, I believe, by the father of my excellent and honoured host, Col. Tighe, that I cannot help quoting what he says, rather regretting that the subsequent amendment has not been as complete as we might have hoped. 'The principal faults,' he says, in 'common practice are drying the hay too much, and exposing it too long to injury in every way. The great object seems to me to be to prevent heating, to accomplish which the wind and rain often extract all the nutritious parts of the hay long before it quits the field. There can be no doubt that it is highly useful for the hay to heat moderately. If it is cut while the Grass is succulent, and permitted to heat, the saccharine process takes place, and an additional quantity of saccharine matter—one of the most nutritious substances—is formed by combination with the oxygen; it only requires that it should not be allowed to go too far. It often happens that the hay is allowed to remain too long in the fields. It loses then in the saccharine matter, and there is also the additional disadvantage that the ground is debarred from the benefits which it would otherwise receive from exposure to the light and air of heaven.' Such topics as the better selection of seeds, the questions of the steam plough, the treatment of the disease of cattle and sheep, I wish entirely to leave to those better competent to offer an opinion upon these subjects, as well as upon the particular merits of the very successful show we have witnessed this day. I am very glad to perceive that among other objects which the Society has cordially adopted is one institution, patronised, I am very gratified to see, by the ladies of Ireland, and by some of the highest, the fairest, and best amongst them. They have become associates of the Royal Agricultural Society for the special object of improving the dwellings and domestic condition of the agricultural population of Ireland. I am sincerely anxious that the tenements of the labourers should be made to keep an equal pace of improvement with the care bestowed on your flocks and on your herds. Looking for a moment, and only for a moment, to the general condition of the country, apart from the special province of agriculture, although the distress caused by the late inclement seasons has naturally told with great and distressing effect in the several districts of the country, yet it appears that the rate per head on the population on the relief of the poor in Ireland amounts at present to 2*s.* 6*d.*, whereas the rate per head in both England and Wales reaches up to 6*s.* With respect to that most important subject, the education of the people, it appears that in the year 1841 54 per cent. of the male population and 41 of the female could read. In 1851 this proportion had risen to 58 per cent. of the male population and 49 of the female; and in the last census, 1861, the proportion had further obtained the gratifying increase to 65 per cent. of the male population and 58 of the female. And in the county of Kilkenny, in our immediate neighbourhood, I am glad to find that while the attendance in the National Schools in 1851 was 1 in 10 of the population, in 1861 the attendance had risen to 1 in 6 of the population. There is a small item in statistics that I have ascertained, and which affords me some astonishment, I confess. In the last census of 1861 there were in Great Britain of persons 100 years of age and upwards, 201. How many do you think were in Ireland, in not nearly so large a population? 765. That fact speaks highly for the health of the old men and old women. The only thing further I have to add to my summary of statistics, and perhaps I should consider it the most important, is that in the last year there has been a sensible decrease of crime as compared with preceding years. Now, my lord and gentlemen, I will only add that this is not a country to despond about. There are now two sets of principles and of influences at work for mastery over its future destinies. On that mountain top which overlooks so great a portion of the country, on the majestic Slievenamon, one set of those principles and influences finds its vent in shrill and ill-omened shrieks for strife, for discord, and for the bloodshed of those who possess and those who till the soil. The other or counter set of principles breathes through such organs of peace as this and other kindred societies, of which it is the harmonising and healing purpose to spread the knowledge of useful improvement, to encourage the proprietors of the land to reside on their estates, and to take an interest in the land they live on and the men they live with, and to unite all classes and all grades, landlords and tenants, farmers and labourers in one blessed reciprocity of good will and good deeds."

## Farm Memoranda.

BROWN HALL, occupied by Mr. Brown, contains 560 imperial acres. The rent, which is regulated by the price of grain, being half money and half a corn rent, may be put down at 2600*l.*, or nearly 4*l.* 15*s.* per imperial acre, about 6*l.* per Scotch or Cunningham acre. The rotation of cropping followed is the six course shift—Potatoes, Wheat, Turnips, Barley, Grass, and Oats.

1st. Potatoes, 93 acres. The land manured with 30 tons of horse and cow manure in autumn, when the land is ploughed, which cannot be too deep. The Potatoes are planted in March and April, the land being grubbed, but seldom ploughed in spring. The seed 2 bolls or 8 cwt. per acre. Those planted in March got 4 or 5 cwt. of guano and bones, mixed in the drill, to bring them fast forward for the early market in July or August. The Dalmahoy Early is the Potato planted for that purpose. Those planted in April seldom get any manure at planting, as they are more liable to the disease, not being lifted until October. The crop should be worth 20*l.*, although some years 30*l.* have been got, and in others only 10*l.*, according to the disease.

2d. Wheat, 93 acres. Drilled in with $2\frac{1}{2}$ bushels of seed to the acre. Time of sowing, October and November. Potatoes are often lifted at one side of the field, while the land is being ploughed, and Wheat sown at the other. An average crop should be five quarters, and at 52*s.*—13*l.* per acre.

3d. Turnips, 93 acres. Manured in autumn, with 30 tons street manure, costing 4*l.* per ton. Time of sowing, May 15 to June 15. The land being generally ploughed again before sowing, and 6 to 8 cwt. of guano and bones mixed, applied in the drill. The Turnips are generally sold in the autumn to the dairymen, but lately most of them have been eaten on the land with sheep, and a few with cattle in the courts. They are eaten, one half on the lands they grow on, one fourth on the Grass lands, the other fourth going to the horses and cattle. A crop to sell on the lands is generally worth from 14*l.* to 18*l.*, or to eat with sheep, from 10*l.* to 14*l.* The difference will be made up in the condition of the land.

4th. Barley, 93 acres. Drilled in March, the land being ploughed during winter as the Turnips are consumed. Seed, $2\frac{1}{2}$ bushels, along with which Grass seeds for next year's crop—12 lbs. Italian Rye-grass seeds, and 16 lbs. Clover. An average crop of Barley worth 11*l.* 18*s.*, or 7 quarters, at 34*s.* per quarter per acre.

5th. Grass, 93 acres. The first crop cut for hay. Top-dressed with guano and nitrate, 1 cwt. of each to the acre. An average crop, $2\frac{1}{2}$ tons at 4*l.* per ton—10*l.* per acre. The after math eat with sheep, generally worth 30*s.* per acre.

6th. Oats, 93 acres. The land ploughed during winter and sown in March, with $2\frac{1}{2}$ bushels drilled, so as to have them hoed when the crop is well brairded. An average crop, $8\frac{1}{2}$ quarters at 25*s.*—10*l.* 12*s.* per acre.

The straw is all sold except what is required for the horses and cattle, from 400*l.* to 500*l.* being usually got for straw every year. The manure is all got from Portobello, Edinburgh. A man and a horse are kept doing nothing else but driving manure from Portobello, at the rate of six tons per day, the price being from 6*s.* to 7*s.* per ton. 19 horses and 18 men are kept all the year round, about 24 women from 1st March until August, and 12 the rest of the year. During harvest there are generally 100 men shearing for two or three weeks, over and above the usual hands. 400 acres of the farm are light land, the remaining 160 acres strong clay. Mr. Brown has drained 200 acres the last two years, at a cost of 5*l.* per acre, and has 50 acres still remaining to be drained.

The farm is let on a 19 years' lease. The steadings and other buildings on the farm, built by the landlord about 35 years ago, at a cost of 5000*l.* Repairs done by the tenant during his lease.

At the expiration of the lease, the usual course for the tenant (unless a new agreement be made) is to leave the farm without compensation, save for unexhausted improvements. The farm is five miles from Edinburgh, and there is a turnpike gate on the road, in going through which 1*s.* is paid for each cart, whether going or returning. *Marquis of Abercorn, at Londonderry.*

## Miscellaneous.

*Ager's Patent Digger.*—A private trial of this machine was made the other day at Longham Hall, near Dereham, the residence of John Hastings, Esq.; and the result was very satisfactory so far as substituting a better action for that of the plough and the cultivator. We hope to report upon it more particularly after a public exhibition which Mr. Hastings proposes to make of it in a few days. We must however at once express the opinion that it by no means acts as a harrow as its manufacturers assert; on the contrary one of its chief defects consists in its wanting that action. We also venture to suggest that it is better suited to steam power than to horse power. (*From an Occasional Correspondent.*)

*Deep Drains in Clay.*—It is utterly untrue that I am dissatisfied with the experiment of deep draining. I have had many prejudices to contend against; the purely stupid ones against any novelty—any innovation on the old system of agriculture: those, too, prompted by self-interested jealousy of the new machinery which innovation renders necessary. . . . I have permitted some drains to be laid at less than 4 feet, partly to humour tenants, on strong clays, who wished to avoid the expense of very close draining at the additional depth. . . . If I had a field in my own occupation, of stiff clay, I should place close drains 21 or perhaps 18 feet apart; but I should prefer 4 feet, notwithstanding the additional expense, to 3." *The late Sir R. Peel.*

*The Sheep Dog.*—To any inquiry of a Scotch shepherd as to the race of one of his faithful ministers, you would receive the answer, "Hout! he is just a collie." But this designation is far too indiscriminate, for it is applied equally to the malapert animal which, at the sound of your wheels, rushes from every black hut, and having pursued you for a few score yards with his petulant yaffle, give his tail a conceited curl and trots back to inform the family that he has driven you off the premises. Far different is the sheep dog. Whether employed in driving on the road, or herding on the hill, his grave and earnest aspect evinces his full consciousness that important interests are committed to his charge. When on duty he declines civilities, not surlily,

for he is essentially a good-tempered beast, but he puts them aside as ill-timed. At an early age the frivolity of puppyism departs from him, and he becomes a sedate character. At home he shares his master's porrich; lies on the best place before the fire; suffers with complacency the caresses of the children, who tug his ears and tail, and twist their little fingers into his long coat; and without inviting familiarity from a stranger, receives him with dignified courtesy. When accustomed to the road he will, in his master's temporary absence, convey the flock or herd steadily forward, without either overpacing them or suffering any to ramble; and in the bustle of a fair he never becomes unsteady or bewildered. But the hill or moor is his great theatre. There his rare sagacity, his perfect education, and his wonderful accomplishments, are most conspicuous. On the large sheep-farms a single shepherd has the charge of from three to six or more thousand sheep, varying according to the nature of the country and climate. In performing his arduous duties, he has in ordinary seasons no assistance except from his dogs. Those shepherds who have studied political economy introduce the principle of division of labour into their kennels. When on the hill they are usually accompanied by two dogs: of these, one is the driving-out, and the other the bringing-in dog. To the first he points out a knot of sheep, and informs him by voice and action that he wishes them to be taken to a distant hill. The intelligent animal forthwith gathers the sheep together, and acts according to his master's instructions. By similar means he informs the second that a lot of sheep on a distant hill are to be brought to the spot on which he then stands: and with equal certainty they are shortly at his feet. To either dog he indicates the individual sheep which he is to catch and hold. The eagerness and impetuosity with which the dog rushes at the neck of his captive would lead you to suppose that the poor animal was in great danger. Nothing of the sort. The dog follows Izaak Walton's precept, and handles him as if he loved him. The hold is only on the wool. The sheep stand in no habitual terror of the dog; though within a few yards of him, the elder will quietly chew the cud, and the younger shake their heads and stamp with their feet, provoking him to frolic, or mimic war. We have spoken here, simply, of the daily occurrences of the sheep walk—milk for babes—for we fear that the more staggering, but not very ill-authenticated, instances of canine shepherding, with which we might fill our pages, would prove too strong for southern stomachs. Whoever has not read the Collie stories of the great Ettrick herd and bard, has anyhow a rich amusement before him. We love the long face, sharp nose, and sincere countenance of the sheep dog:—

"His honest, sonsie, baws'nt face
Ay gat him friends in ilka place."

*Gisborne's Essays on Agriculture.*

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## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | August 28 | 29.72 | 64 | 58 | S.W. | 2 | 5 | 66 | 48 | 74 | 41 | 0.16 |
| Saturday .. .. | 29 | 29.79 | 62 | 57 | S.W. | 0 | 5 | 69 | 53 | 79 | 51 | 0.50 |
| Sunday .. .. | 30 | 29.97 | 58 | 55 | N.E. | 0 | 10 | 66 | 50 | 77 | 44 | 0.08 |
| Monday .. .. | 31 | 29.70 | 60 | 59 | S.W. | 1 | 10 | 65 | 52 | 79 | 47 | 0.55 |
| Tuesday .. .. | Sept. 1 | 30.16 | 61 | 58 | W. | 2 | 3 | 66 | 49 | 80 | 41 | .. |
| Wednesday .. | 2 | 29.93 | 58 | 55 | S.W. | 2 | 10 | 69 | 52 | 79 | 49 | 0.01 |
| Thursday .. .. | 3 | 29.78 | 61 | 56 | S.W. | 4 | 10 | 68 | 52 | 71 | 47 | 0.03 |


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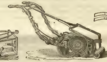

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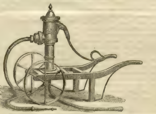

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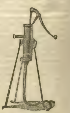

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Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET. When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

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| 2¼ in. | Hares, Dogs, Poultry .. | 0 3 | 0 4 | 0 3¾ | 0 5 | 0 4½ | 0 6 | 0 5½ | 0 7 |
| 2 in. | Game or Poultry Netting .. | 0 3½ | 0 4½ | 0 4 | 0 5 | 0 5 | 0 6½ | 0 6½ | 0 8 |
| 1⅝ in. | Small Rabbits, Hares, &c. .. | 0 4 | 0 4¾ | 0 4¾ | 0 6 | 0 5½ | 0 7 | 0 7 | 0 9 |
| 1½ in. | Smallest Rabbits | 0 5 | 0 6 | 0 5¾ | 0 7 | 0 7 | 0 9 | 0 9 | 0 11 |
| 1 in | Pheasantries, &c. | 0 9 | 0 11 | 10½ | 1 1½ | 1 3 | 1 6 | 1 9 | 2 0 |
| ¾ in. | Aviaries, &c. .. | 1 0 | 1 3 | 1 3 | 1 6 | 1 6 | 1 9 | .. | .. |

Quantities of 100 yards or upwards delivered free at nearly all the principal Railway Stations and Shipping Ports in England; and 200 yards or upwards delivered free to most parts of Scotland and Ireland.

*** Every description of Netting warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.

IRON HURDLES, CONTINUOUS BAR FENCING, IRON and WIRE FENCING, FENCING WIRE, FIELD and ENTRANCE GATES, GARDEN ENGINES, GARDEN ROLLERS, GARDEN SEATS and CHAIRS, CAST IRON VASES, and every description of HORTICULTURAL and AGRICULTURAL MACHINES, TOOLS, and appliances.

Lists Free on application. Every article guaranteed to be satisfactory.

J. B. BROWN & Co., 18, Cannon Street, City, London, E.C.

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SHAW'S TIFFANY.
For samples and prices apply to
J. SHAW & Co., 29, Oxford Street, Manchester.

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**To Seed Merchants and Nurserymen.**

SAYNOR AND COOKE, PRUNING and BUDDING KNIFE MANUFACTURERS, beg respectfully to say that they will not be undersold by any House in the Trade. They also warrant one of their Knives to last two of any other make.
Paxton Works, Sheffield.

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**To the Trade.**

HYACINTH GLASSES SUPERSEDED BY THE

NEW REGISTERED ETRUSCAN HYACINTH VASE, the most beautiful Table Ornament extant. To be obtained only of
HOOPER & Co., Seedsmen, Covent Garden Market, London, W.C.
WHOLESALE LIST of PRICES forwarded on application.

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AGRICULTURAL IMPLEMENTS.—STEAM ENGINES, THRESHING MACHINES, CARTS, WAGGONS, PLOUGHS, HARROWS, CHAFF-CUTTERS for hand and power, PRIZE CHURNS, LAWN MOWERS, WIRE NETTING, GARDEN TOOLS of all kinds.
Illustrated Catalogue on receipt of six postage stamps.
Price Lists free.
BURGESS & KEY, 95, Newgate Street, E.C.
Works, Brentwood, Essex.

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200 CUCUMBER and MELON BOXES and LIGHTS, and from 400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.

Glazed and Painted complete, ready for immediate use. Packed and sent to all parts of the kingdom.

References to the Nobility, Gentry, and Trade in most of the counties in England.

JAMES WATTS & Co., Hothouse Builders and Hot-Water Apparatus Manufacturers, near the Green Man, 353, Old Kent Road, London, S.E.

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**Greenhouses, Orchard Houses, and Conservatories.**

H. FREEMAN'S Horticultural Works, Triangle, Hackney, London, N.E., established 20 years.—Good substantially made GREENHOUSES, glazed, ready for fixing, 42 feet by 13 feet, 50l.; 21 by 13, 28l.; 12½ by 10, 15l. Orchard Houses 10 per cent. cheaper. A large assortment kept. Estimates given for Heating or any branch in Iron or Wood.

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# THOMAS MILLINGTON,

## GLASS MERCHANT. (Established 1750.)

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

## REDUCED TARIFF FOR SHEET GLASS AND HORTICULTURAL GOODS.

THE AGRICULTURAL HALL, ISLINGTON, CONTAINING AN ACRE OF GLASS, WAS SUPPLIED BY T. MILLINGTON.

Mr. Rivers and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home use and for Exportation.

PROPAGATING GLASSES.

| | | |
|---|---|---|
| 2 inches diam. | 0s. 3½d. | each. |
| 3 „ .. | 0 4½ | „ |
| 4 „ .. | 0 5½ | „ |
| 5 „ .. | 0 6½ | „ |
| 6 „ .. | 0 8 | „ |
| 7 „ .. | 0 10 | „ |
| 8 „ .. | 1 0 | „ |
| 9 „ .. | 1 2 | „ |
| 10 „ .. | 1 4 | „ |
| 11 „ .. | 1 6 | „ |
| 12 „ .. | 1 9 | „ |
| 13 „ .. | 2 0 | „ |
| 14 „ .. | 2 6 | „ |
| 15 „ .. | 3 0 | „ |
| 16 „ .. | 3 6 | „ |
| 17 „ .. | 4 0 | „ |
| 18 „ .. | 5 0 | „ |
| 19 „ .. | 6 0 | „ |
| 20 „ .. | 7 0 | „ |

FLOWER TUBES.
2d. each, or 1s. 6d. per dozen.

ZINC HAND GLASSES.
Painted and Glazed with 16-oz. Sheet Glass.

| | | |
|---|---|---|
| 12 inches .. | 5s. 6d. | each |
| 14 „ .. | 6 6 | „ |
| 16 „ .. | 7 6 | „ |
| 18 „ .. | 8 6 | „ |
| 20 „ .. | 9 6 | „ |
| 24 „ .. | 11 6 | „ |

If open top, 1s. extra.

BEE GLASSES.

| | | |
|---|---|---|
| 4 inches diameter | 0s. 6d. | each |
| 5 „ | 0 8 | „ |
| 6 „ | 0 10 | „ |
| 7 „ | 1 1 | „ |
| 8 „ | 1 4 | „ |
| 9 „ | 1 8 | „ |
| 10 „ | 2 0 | „ |
| 11 „ | 2 6 | „ |
| 12 „ | 3 0 | „ |

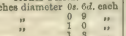
FLAT TOP BEE GLASSES.

| Height | Width | s. d. |
|---|---|---|
| 4 inches | by 7 inches | 1 6 each |
| 4½ „ | by 7½ „ | 1 9 „ |
| 5½ „ | by 7½ „ | 2 0 „ |
| 6½ „ | by 8 „ | 2 3 „ |
| 7½ „ | by 8½ „ | 2 10 „ |

FERN SHADES & STANDS.

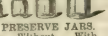
| Ins. dia. | Shades. | Stands. |
|---|---|---|
| 6 .. | 1s. 4d. each. | 1s. 0d. each |
| 7 .. | 1 8 „ | 1 3 „ |
| 8 .. | 2 0 „ | 1 6 „ |
| 9 .. | 2 6 „ | 1 9 „ |
| 10 .. | 3 3 „ | 2 0 „ |
| 11 .. | 4 0 „ | 2 6 „ |
| 12 .. | 5 6 „ | 3 0 „ |
| 13 .. | 7 6 „ | 3 6 „ |
| 14 .. | 10 0 „ | 4 0 „ |
| 15 .. | 14 0 „ | 4 6 „ |
| 16 .. | 18 6 „ | 5 0 „ |

WASP TRAP, 2s. 6d. per doz.



MILK PANS.

| | | |
|---|---|---|
| 6 inches diameter | 0s. 6d. | each |
| 8 „ | 0 9 | „ |
| 10 „ | 1 0 | „ |
| 12 „ | 1 3 | „ |
| 14 „ | 1 9 | „ |
| 16 „ | 2 3 | „ |
| 18 „ | 2 9 | „ |
| 20 „ | 3 3 | „ |
| 22 „ | 3 9 | „ |
| 24 „ | 4 6 | „ |



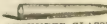
PRESERVE JARS.

| In. diam. | Without Lids. | With Lids. |
|---|---|---|
| 3 .. | 0s. 4½d. .. | 0s. 6½d. ea. |
| 4 .. | 0 6 .. | 0 9 „ |
| 5 .. | 0 8 .. | 0 11 „ |
| 6 .. | 0 10 .. | 1 2 „ |
| 7 .. | 1 0 .. | 1 4 „ |
| 8 .. | 1 4 .. | 1 8 „ |
| 9 .. | 1 8 .. | 2 2 „ |
| 10 .. | 2 0 .. | 2 8 „ |

FISH GLOBES.

| | Without feet. | With feet. |
|---|---|---|
| 8 inches diam. 9, 10, 11, 12, 13, 14, 15, 16 „ | Per lb. 7d. | 9d. |

ROLLING PINS.
From 12 inches long, 1½d. per running inch.



CUCUMBER GLASSES.
From 12 inches long and upwards, 1d. per running inch.

SHEET GLASS.

In Cases for cutting up, in Sizes as Manufactured.

| | 300 feet. 15 oz. | 200 feet. 21 oz. | 200 feet. 26 oz. | 200 feet. 32 oz. |
|---|---|---|---|---|
| Fourths quality .. .. | 33s. 6d. | 33s. 6d. | 39s. 6d. | 45s. 0d |
| Thirds do. .. .. | 42 0 | 42 0 | 49 0 | 56 0 |
| Seconds do. .. .. | 62 0 | 64 0 | 74 6 | 85 0 |
| Best do. .. .. | 88 6 | 88 6 | 103 6 | 118 0 |

CRYSTAL SHEET GLASS.

For Pictures and best Glazing purposes.

Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet .. .. .. 100s.
Second quality, in cases of 100 feet .. .. 82s.

Averaging 30 oz. to the foot.

Best quality, in cases of 100 feet .. .. .. 100s.
Second quality, in cases of 100 feet .. .. 82s.

**SQUARES, in 100 and 200 Feet Boxes.**

Small Squares not exceeding 9½ inches by 7½ inches.

| Ins. Ins. | Ins. Ins. | Ins. Ins. | Ins. Ins. |
|---|---|---|---|
| 6 by 4 | 7 by 5 | 8 by 6 | 9 by 7 |
| 6½ by 4½ | 7½ by 5½ | 8½ by 6½ | 9½ by 7½ |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 9s. 9d. | 11s. 3d. | 13s. 9d. | 16s. 9d. |

Squares not exceeding 14 inches by 11 inches.

| | | | |
|---|---|---|---|
| 10 by 8 | 12 by 9 | 12½ by 10½ | 14½ by 10½ |
| 10½ by 6½ | 12½ by 9½ | 13 by 10 | 15 by 10 |
| 11 by 9 | 13 by 9 | 13½ by 10½ | 13 by 11 |
| 11½ by 9½ | 12 by 10 | 14 by 10 | 14 by 11 |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 10s. 9d. | 12s. 3d. | 15s. | 18s. |

Squares not exceeding 20 inches by 18 inches.

| | | | |
|---|---|---|---|
| 15½ by 10½ | 14 by 12 | 17 by 13 | 24 by 16 |
| 15 by 10 | 14½ by 12½ | 18 by 13 | 20 by 17 |
| 14½ by 11½ | 15 by 12 | 18 by 14 | 22 by 17 |
| 15 by 11 | 15½ by 12½ | 22 by 14 | 24 by 17 |
| 15½ by 11½ | 16 by 12 | 24 by 14 | 20 by 18 |
| 16 by 11 | 16½ by 12½ | 22 by 15 | 22 by 18 |
| 13 by 12 | 17 by 12 | 24 by 15 | 24 by 18 |
| 13½ by 12½ | 18 by 12 | 22 by 16 | |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 11s. 6d. | 13s. 6d. | 16s. 6d. | 20s. |

Orchard House Sizes, as recommended by Mr. Rivers.

| Ins. Ins. | 15 oz. | | 21 oz. | |
|---|---|---|---|---|
| 20 by 12 | 4ths .. | 11s. 6d. | 4ths .. .. | 15s. 0d. |
| 20 by 13 | 3rds .. | 13 6 | 3rds .. .. | 19 0 |
| 20 by 14 | 2nds .. | 16 6 | 2nds .. .. | 25 0 |
| 20 by 15 | Best .. | 20 0 | Best .. .. | 30 0 |
| 20 by 16 | | | | Per 100 feet. |

Squares Cut to Sizes not on List.

| Under | 15 oz. 4ths. | 15 oz. 3rds. | 15 oz. 2nds | 15 oz. 1st | 21 oz. 4ths. | 21 oz. 3rds. | 21 oz. 2nds. | 21 oz. 1st. |
|---|---|---|---|---|---|---|---|---|
| 1 ft. super. | 1½d. | 1¾d. | 2d. | 2½d. | 2½d. | 2¾d. | 3½d. | 4½d. |
| 2 ft. super. | 1½ | 2 | 2½ | 3 | 2¾ | 3 | 4 | 5½ |
| 3 ft. super. | 2 | 2½ | 2¾ | 3½ | 3 | 3½ | 4½ | 6 |
| 4 ft. super. | 2½ | 2¾ | 3 | 4 | 3½ | 3¾ | 4½ | 6½ |

Crystal Glass Shades, Ebony and Gilt Stands, Gas and Lamp Glasses, Chimneys and Globes, &c.

GLASS TILES, in SHEET and ROUGH PLATE. PLATE GLASS, PATENT PLATE, and HARTLEY'S IMPROVED ROUGH PLATE.

**PAINTS, COLOURS, VARNISHES, &c.**

| | Per cwt.—s. d. | | Per gallon.—s. d. | | Per gallon.—s. d. |
|---|---|---|---|---|---|
| GENUINE WHITE LEAD .. | 30 0 | FINE OAK VARNISH .. | 10s. to 12 0 | LINSEED OIL .. | 3 9 |
| ANTI-CORROSION PAINT .. | 28s. to 34 0 | „ CARRIAGE .. | 12s. to 14 0 | BOILED OIL .. | 4 2 |
| LINSEED OIL PUTTY .. | 8 0 | PATENT DRYERS .. | per cwt. 28s. to 42 0 | TURPENTINE .. | 3 6 |

MILLED LEAD in Sheet and Pipe of all sizes. Old LEAD bought or taken in exchange.

LIFT PUMPS, WATER CLOSETS, and PLUMBERS' BRASS WORK of all kinds.

NETT CASH.

CUTHILL'S STRAWBERRY PLANTS, to bear next year.—EARLY BLACK PRINCE, EARLY PRINCESS ROYAL, HIGHLAND MARY, RICHARD II., PRINCE of WALES, and NEWTON SEEDLING, 5s. per 100, if Selected, 7s. 6d. each Sort. Lasted in bearing 60 days this year.

STRAWBERRY PAMPHLET, 1s.; MUSHROOM do., 1s.; CUCUMBER do., 1s. MUSHROOMS grown here all the year round; best SPAWN, 5s. per bushel.

PRINCE ALBERT, Winter Cucumber, 1s. per Packet.

James Cuthill, F.R.H.S., Camberwell, London, S.

The Kimberley Strawberry.

CHARLES KIMBERLEY has much pleasure in offering the above new SEEDLING STRAWBERRY, feeling confident it will give the greatest satisfaction. It is quite distinct from all other varieties, is of a robust, hardy constitution, a most prolific bearer, of a bright shining crimson; fruit red throughout, firm and solid, with brisk and most agreeable flavour; an excellent sort for all purposes. Strong Plants are now ready at 2l. per 100.

Stoke Nursery, near Coventry—Sept. 12.

Strawberry "The Premier," or "British Queen Seedling."

WM. PAUL has now ready good healthy plants of this superb Strawberry, price 12s. per 100, or 2s. 6d. per dozen. A few fruiting plants in pots, 9s. per dozen.

Description.—Fruit very large and handsome, colour bright crimson, combining the flavour of Keen's Seedling and Elton Pine, without the acid of the latter; the fruit carries well and retains its flavour long after gathered. It is of a very hardy and vigorous habit, thriving well in all soils and climates; a most abundant bearer, often producing from 20 to 30 trusses of fruit on a single plant; ripens three days later than Keen's Seedling, and remains in season a fortnight after that variety is over.

Large and handsome.—*Gardeners' Chronicle.*

The flavour is very good.—*Journal of Horticulture.*

A choice collection of Fruit Trees, including Grape Vines in splendid condition. PRICED CATALOGUES free by post.

Paul's Nurseries, Waltham Cross, N.

NEW SEEDLING STRAWBERRY, PRINCESS OF WALES.

Opinions of the Press.

*Gardeners' Chronicle*, July 4th.

"Your seedling Strawberry, Princess of Wales, large, ovate, or flattened ovate, with flesh pale red, and solid at the core. The variety deserves notice on account of its size, appearance, and not being hollow at the core."

*Journal of Horticulture*, June 23d.

"Seedling Strawberry (B. W. Knight). The fruit sent is very juicy, and of excellent flavour."

*Florist and Pomologist*, July.

"Your seedling Strawberry, Princess of Wales, is a fine regularly-shaped ovate fruit, of a pale red colour, and very firm flesh; it has all the appearance of being a good sort."

B. W. Knight has much pleasure in offering this superb new early STRAWBERRY, feeling confident that it will not fail to become a general favourite, as all who have seen it growing and tasted it on the ground have pronounced it first-class. It is a remarkably early kind, having picked from it on the 22d May, and no doubt but what it will prove a good forcing variety. The fruit is large, flesh pale red, solid at the core; flavour rich and sugary, partaking largely of the Pine flavour; a most abundant bearer.

Plants will be ready to send out early in September, at 12s. per dozen; 2l. 10s. per 100.

B. W. Knight, Nurseryman and Florist, 67, High Street, Battle, Sussex.

FOR SALE, some fine ORANGE, LEMON, and CITRON TREES in full bearing, a choice Selection of GERANIUMS, FUCHSIAS, and other Plants in Pots, to be disposed of at once in consequence of the death of the Proprietor.

Prices and particulars may be obtained of Mr. Barnwell, Royal Oak, Woburn, Beds.

OUVIRANDRA BERNERIANA.—Having succeeded in raising a few Seedlings of this extremely curious and beautiful plant, we beg to offer healthy young plants of six or seven leaves at 31s. 6d. each.

O. Berneriana was exhibited at the Great Show of the Royal Horticultural Society, June 17th, and awarded the First Prize; and at the Great Show of the Royal Botanic Society, June 24th, and then also awarded the First Prize.

Thomas Jackson & Son, Nurseries, Kingston, S.W.

PINUS LARICIO.—To gentlemen planting out largely for profit William Barron begs to make a special offer of his fine and well-rooted stock of the above. This fine Pine supersedes the Larch for Forest-planting, producing timber much sooner for Railway Sleepers. It is also used for Spars and Masts in the French navy.

| | | | |
|---|---|---|---|
| 2-years' Seedlings, strong plants .. | .. per 1000 | 15s. | 0d. |
| 2-years' transplanted, 9 to 18 inches | .. ,, | 30 | 0 |
| 2 to 3 feet.. .. .. .. .. | .. ,, | 70 | 0 |

Elvaston Nurseries, near Derby.

Deutzia crenata fl. pleno—Japan.

JOHN STANDISH has now the pleasure of submitting to the consideration of his friends and the public the above truly valuable and hardy ornamental plant. It has received First-class Certificates both at the Royal Horticultural and Royal Botanic Shows in June and July last (*vide* Report).

"There were a few very interesting new hardy plants shown, first a Deutzia crenata flore pleno, one of Fortune's novelties, flowered by Mr. Standish. This looked like a fine addition to hardy shrubs; it has opposite shortly stalked finely serrated leaves and copious terminal racemes of deflexed double flowers deeply tinged externally with rose."

Plants now ready, 10s. 6d. each; or 6 Plants for 42s.

Royal Nursery, Ascot, Berks.

WILLIAM ROLLISSON and SONS beg respectfully to inform the Nobility, Gentry, and Trade, that their GENERAL CATALOGUE of PLANTS, SHRUBS, FRUIT TREES, &c., for 1863 is now ready, and will be forwarded on application, prepaid.

W. R. & Sons beg also to state that their new SEEDLING RHODODENDRON PRINCE OF WALES, at 31s. 6d., and their Three new beautiful and distinct INDIAN AZALEAS, at 21s. each—Azaleas Princess of Wales (Todman), Lord Canning (Todman), Rifleman (Todman)—will be sent out next May. A Coloured Plate by Andrews will be sent to all purchasers of Rhododendron Prince of Wales.

The usual allowance to the Trade.

Parties requiring Fruiting and other sized plants of GRAPE VINES in pots of the best and most popular varieties, can be supplied at very moderate prices, which will be forwarded on application.

The Nurseries, Tooting, London, S.

# JEAN VERSCHAFFELT,

## NURSERYMAN, GHENT, BELGIUM,

Begs to offer the following fine NOVELTIES, which he is now sending out for the first time, and which he can recommend as being truly first-rate varieties, viz.:—

AZALEA INDICA PRESIDENT HUMANN (J. Versch.).—The largest flower known, fine rose shaded with salmon, extra fine form and substance, being the same shape as Azalea Roi Leopold; very compact habit, and a very free flowering variety. Strong plants with buds, 12s. each.

AZALEA INDICA SECRETAIRE CLAUS (J. Versch.).—Large flowers, beautiful light rosy lilac, edged with white, and spotted with crimson; good form and substance. Good plants, 7s. each.

AZALEA INDICA VICOMTE DE FORCEVILLE (J. Versch.).—Very large flowers, semi-double, of the deepest red yet known in Azaleas; form very good, fine habit, very abundant bloomer; altogether one of the best. Good plants, 10s.

AZALEA INDICA REINE DES DOUBLES, fol. arg. var. (J. Versch.).—The same as Azalea Reine des Doubles, but with fine silvery edged foliage. 4s.

CAMELLIA VICOMTE DE NIEUPORT (J. Versch.).—One of the finest rose-coloured Camellias yet sent out; large flat shaped flower, imbricated with the greatest regularity to the very centre; good compact habit, very free and abundant bloomer. Good plants, 12s. each; with buds, 20s. each.

RHODODENDRON NOTAIRE BEAUCARNE (J. Versch.).—A very fine hardy novelty; fine large pyramidal-shaped trusses; flowers of a beautiful rosy lilac, marked with dark brown spots on the upper petals; a first-rate variety. Good plants, 8s.; stronger plants, 12s.

One plant over to the Trade on every three taken. A carefully Coloured Plate of Azalea President Humann, Vicomte de Forceville, and Secretaire Claus will be sent to each subscriber.

All orders to be directed, Jean Verschaffelt, 43, Rue de la Caverne, Ghent, Belgium.

J. V.'s NEW DESCRIPTIVE CATALOGUE may be had on application to his *Agents*, Messrs. A. Silberrad & Son, 5, Harp Lane, Great Tower Street, London, E.C.

Jean Verschaffelt begs to announce that he has sold the English sale of his new Azalea, SOUVENIR DU PRINCE ALBERT, to Messrs. E. G. Henderson & Son, of the Wellington Nursery, St. John's Wood, London, and that consequently all orders he may receive for the same will be executed through the said Firm.

THE NURSERIES, GHENT, BELGIUM.

# ROYAL HORTICULTURAL SOCIETY.

## SHOW OF AUTUMN FLOWERS,

WEDNESDAY, SEPTEMBER 9, 1863.

AWARDS OF THE JUDGES.

Class 1.—12 HOLLYHOCKS, single flowers, distinct kinds (Open).

1st, Messrs. W. Chater, Nurseryman, Saffron Walden, 2l.
2d, Messrs. W. Minchin & Son, Nurserymen, Hook Norton, Oxon, 1l.
3d, Messrs. G. Paul & Son, Nurserymen, Cheshunt, 15s.

Class 2.—24 GERMAN ASTERS, "Quilled," distinct kinds (Open).

1st, Mr. R. H. Betteridge, Milton Hill, near Steventon, 2l.
2d, Mr. C. Wyatt, Gr. to H. Willis, Esq., Epsom, 1l.
3d, Mr. C. Sandford, Gr. to T. Thomasset, Esq., Walthamstow, 15s.

Class 3.—24 FRENCH ASTERS, "Tasselled," distinct kinds (Open).

1st, Mr. R. H. Betteridge, Milton Hill, near Steventon, 2l.
2d, Mr. C. Wyatt, Gr. to H. Willis, Esq., Epsom, 1l.
3d, Mr. C. Sandford, Gr. to T. Thomasset, Esq., 15s.

Class 4.—24 GLADIOLUS, cut spikes, distinct kinds (Open).

1st, Messrs. Youell & Co., Royal Nurseries, Great Yarmouth, 2l. 10s.
2d, Mr. J. Standish, Royal Nursery, Ascot, 1l. 10s.
3d, Mr. G. Prince, Seed Establishment, Market St., Oxford, 1l.

Class 5.—12 GLADIOLUS, cut spikes, distinct kinds (Amateurs).

1st, Mr. J. Sladden, Ash next Sandwich, Kent, 2l.
2d, Mr. C. J. Perry, The Cedars, Castle Bromwich, 1l. 10s.
3d, The Rev. H. H. Dombrain, Deal, 1l.

Class 6.—24 PHLOXES, single trusses, distinct kinds (Open).

1st, Mr. Charles Turner, Royal Nurseries, Slough, 2l.

Class 7.—24 VERBENAS, 5 trusses of each, distinct kinds (Open).

1st, Messrs. S. Perkins & Son, Park Nursery, Coventry, 1l. 10s.
2d, Mr. C. J. Perry, The Cedars, Castle Bromwich, 1l.
3d, Messrs. W. Minchin & Son, Hook Norton, Oxon, 15s.

Class 8.—48 DAHLIA BLOOMS, distinct kinds (Nurserymen).

1st, Mr. C. Turner, Slough, 5l.
2d, Mr. J. Keynes, Salisbury, 4l.
3d, Mr. J. Cattell, Westerham, 3l.

Class 9.—24 DAHLIA BLOOMS, distinct kinds (Nurserymen).

1st, Mr. C. Turner, Slough, 3l.
2d, Mr. J. Keynes, Salisbury, 2l.
3d, Mr. J. Perkins, 52, Market Square, Northampton, 1l.

Class 10.—18 DAHLIA BLOOMS, Fancies, distinct (Nurserymen).

1st, Mr. J. Keynes, Salisbury, 3l.
2d, Mr. C. Turner, Slough, 2l.
3d, Mr. H. Legge, Edmonton, 1l.

Class 11.—18 DAHLIA BLOOMS, distinct kinds (Amateurs.)

1st, Mr. H. Thorneycroft, Floove, near Weedon, 4l.
2d, Mr. T. Charlton, Kibworth, near Leicester, 3l.
3d, Mr. W. Corp, Milford, Salisbury, 2l.
Extra, The Rev. C. Fellowes, Shottesham Rectory, Norwich, 1l.

Class 12.—DAHLIA BLOOMS, Fancies, distinct kinds (Amateurs).

1st, The Rev. C. Fellowes, Norwich, 3l.
2d, Mr. W. Corp, Milford, Salisbury, 2l.
3d, Mr. J. Sladden, Ash next Sandwich, 1l.
Extra, Mr. C. J. Perry, The Cedars, Castle Bromwich, 15s.

Class 13.—MISCELLANEOUS, for Flowers not specified (Open)

1st, Mr. C. Turner, for Collection of Cut Roses, 2l.
2d, Messrs. Paul & Son, for Collection of Cut Roses, 1l.
3d, Mr. G. Clarke, for two Boxes of Cut Roses, 10s.
Extra, Messrs. W. Cutbush & Son, for Collection of 18 French Asters, 15s.
Extra, Mr. J. Standish, for Collection of Cut Gladiolus, 15s.

### FRUIT.

Class A.—COLLECTION of FRUIT, 8 dishes, 6 distinct kinds

1st, Mr. C. Turner, Royal Nurseries, Slough, 6l.
2d, Mr. A. Henderson, Gr. to the Duke of Sutherland, Trentham, 4l.
3d, Mr. W. Kaile, Gr. to the Earl of Lovelace, Ripley, Surrey, 3l.

Class B.—PEACHES, 4 dishes, distinct kinds.

1st, Mr. Thos. Dawson, Gr. to Earl Cowper, Panshanger, 3l.
2d, Mr. A. Henderson, Gr. to the Duke of Sutherland, Trentham, 2l.
3d, Mr. T. Benning, Gr. to H. Brandreth, Esq., Houghton Hall, near Dunstable, 1l.

### FRUIT.

Class C.—PEACHES, single dish.

1st, Mr. J. Rust, Gr. to the Right Hon. R. Sulivan, Fulham, 1l. 10s.
Equal 1st, Mr. W. Kaile, Gr. to the Earl of Lovelace, Ripley, Surrey, 1l. 10s.
2d, Mr. T. Dawson, Gr. to Earl Cowper, Panshanger, 1l.
3d, Mr. F. Rutland, Gr. to Capt. Peploe, Hereford, 10s.
Equal 3d, Mr. S. Snow, Gr. to Countess Cowper, Silsoe, Beds, 10s.
Extra, Mr. J. Westcott, The Gardens, Dulwich House, 7s. 6d.

Class D.—NECTARINES, 4 dishes, distinct kinds.

1st, Mr. T. Dawson, Gr. to Earl Cowper, Panshanger, 3l.
2d, Mr. A. Henderson, Gr. to the Duke of Sutherland, Trentham, 2l.
3d, Mr. F. Rutland, Gr. to Capt. Peploe, Hereford, 1l.

Class E.—NECTARINES, single dish.

1st, Mr. G. Wilson, Gishurst Cottage, Weybridge Heath, 1l. 10s.
Equal 3d, Mr. T. Bailey, Gr. to T. T. Drake, Esq., Amersham, 10s.
Equal 3d, Mr. S. Snow, Gr. to Countess Cowper, Silsoe, Beds., 10s.

Class F.—FIGS, 3 dishes, distinct kinds, 12 fruits each.

1st, Mr. A. Bousie, Gr. to Lord Taunton, Stoke Park, 2l.

Class G.—FIGS, single dish, 12 fruits.

1st, Mr. T. Bailey, Gr. to T. T. Drake, Esq., Amersham, 1l.
2d, Mr. J. Sayers, Gr. to E. Ellis, Esq., Epsom, 15s.
3d, Mr. S. Snow, Gr. to Countess Cowper, Silsoe, Beds., 10s.

Class H.—CHERRIES, 3 dishes, distinct kinds. (No competition.)

Class I.—CHERRIES, single dish, 50 fruits.

1st, Mr. S. Snow, Gr. to Countess Cowper, Silsoe, Beds, 1l.
2d, Mr. C. Turner, Slough, 15s.
3d, Mr. R. Budd, Gr. to the Earl of Darnley, Gravesend, 10s.
Extra, Mr. R. H. Betteridge, Milton Hill, near Steventon, 7s. 6d.

Class J.—PLUMS, 4 dishes, distinct kinds.

1st, Mr. S. Snow, Gr. to Countess Cowper, Silsoe, Beds, 2l. 10s.
2d, Mr. J. Cox, Gr. to W. Wells, Esq., Redleaf, Penshurst, 2l.
3d, Mr. T. Bailey, Gr. to T. T. Drake, Esq., Amersham, 1l. 10s.
Extra, Mr. R. Budd, Gr. to the Earl of Darnley, Gravesend, 7s. 6d.
Extra, Mr. J. Sayers, Gr. to E. Ellis, Esq., Epsom, 7s. 6d.

Class K.—PLUMS, single dish.

1st, Mr. S. Snow, Gr. to the Countess Cowper, Silsoe, Beds, 1l.
2d, Mr. J. Wright, Gr. to Mrs. Ramsden, Twickenham, 15s.
3d, Mr. A. Alves, Southharrow, Bromley, Kent, 10s.

Class L.—APPLES, DESSERT, 3 dishes, distinct kinds.

1st, Mr. A. Bousie, Gr. to Lord Taunton, Stoke Park, 2l.
2d, Mr. J. Martimore, Wallington, Carshalton, 1l. 10s.
3d. Mr. W. Wren, Gr. to E. Purser, Carshalton, 1l.
Extra, Mr. G. Grover, Wistaria Cottage, Hammersmith, 7s. 6d.
Extra, Mr. J. Wright, Gr. to Mrs. Ramsden, Twickenham, 7s. 6d.

Class M.—APPLES, KITCHEN, 3 dishes, distinct kinds.

1st, Mr. S. Snow, Gr. to Countess Cowper, Silsoe, Beds, 2l.
2d, Mr. H. Anstiss, Market Gardener, Chiswick, W., 1l. 10s.
3d, Messrs. G. & J. Lane, St. Mary's Cray, 1l.
Extra, Mr. J. Martimore, Wallington, Carshalton, 7s. 6d.
Extra, Mr. A. Bousie, Gr. to Lord Taunton, Stoke Park, 7s. 6d.

Class N.—PEARS, DESSERT, 3 dishes, distinct kinds.

Equal 1st, Mr. W. Wren, Gr. to E. Purser, Esq., Carshalton, 1l.
Equal 1st, Mr. G. Wilson, Gishurst Cottage, Weybridge Heath, 1l.
2d, Mr. H. Beasley, The Gardens, Twyford Abbey, Acton, 15s.
3d, Mr. J. Martimore, Wallington, Carshalton, 10s.
Extra, Mr. H. Anstiss, Market Gardener, Chiswick Mall, 7s. 6d.

Class O.—MISCELLANEOUS.

1st, Mr. A. Henderson, for a Box of 24 Apricots, 1l. 10s.
2d, Mr. G. Perry, for 6 dishes of Currants, 1l.
3d, Mr. P. Leslie, for a basket of Ridge Cucumbers, 15s.
Extra, Messrs. H. Lane & Son, for a collection of Grapes in Pots, 2l.
Extra, Messrs. H. Lane & Son, for a collection of Orchard-house Fruit Trees in Pots, 10s.

## ROYAL HORTICULTURAL SOCIETY.

FLORAL COMMITTEE.

LIST OF AWARDS, September 9, 1863.

FIRST-CLASS CERTIFICATE.

CIONIDIUM MOORII, from Mr. W. Dean, Shipley
PTERIS PELLUCIDA, from Mr. Bull, Chelsea
ADIANTUM CARDIOCHLÆNA, from Mr. Bull
CENTAUREA ARGENTEA, from Messrs. E. G. Henderson & Son, St. John's Wood
DAHLIA WHITE PERFECTION, from Mr. Legge, Edmonton
DAHLIA THE BRIDE, from Mr. Legge
DAHLIA ANNA KEYNES, from Mr. Keynes, Salisbury
DAHLIA CORONET, from Mr. Wheeler, Warminster

SECOND-CLASS CERTIFICATE.

DAHLIA WATTY, from Mr. Wheeler
DAHLIA SAM. BARTLETT, from Mr. Keynes
DAHLIA MAGPIE, from Mr. Keynes
DAHLIA BRUNETTE, from Mr. Hopkins, Brentford
DAHLIA CHELSEA HERO, from Mr. Burgess, Chelsea
DAHLIA ENCHANTRESS, from Mr. Legge
DAHLIA ROUNDHEAD, from Mr. Legge
DAHLIA MESSENGER, from Mr. Kimberley, Coventry
DAHLIA SYLPH, from Mr. C. J. Perry, Castle Bromwich
DAHLIA GARIBALDI, from Messrs. Bragg & Co., Slough
DAHLIA USEFUL, from Messrs. Bragg & Co.
DAHLIA PRINCE OF WALES, from Mr. Turner, Slough
DAHLIA ANNIE, from Mr. Collier, Bethnal Green Road
GLADIOLUS CHARLES DAVIS, from Mr. Standish, Ascot
CATTLEYA EXONIENSIS, from Messrs. Veitch & Son, Exeter & Chelsea

COMMENDATION.

DAHLIA (bedding) TOM THUMB, from Mr. Rawlings, Bethnal Green
ANEMONE JAPONICA HONORINE JOBERT, from Messrs. F. & A. Smith, Dulwich
PHYTOLACCA DECANDRA VARIEGATA, from Messrs. E. G. Henderson & Son
GLADIOLUS MRS. DIX, from Mr. Standish
GLADIOLUS ETNA, from Mr. Standish
GLADIOLUS RANDLE JACKSON, from Mr. Standish

SPECIAL CERTIFICATE.

To Messrs. Veitch & Son, for a GROUP OF ORNAMENTAL PLANTS.
To Messrs. E. G. Henderson & Son, for COLLECTIONS of BEDDING and POMPON DAHLIAS, VARIEGATED PELARGONIUMS, and TREE IVIES

At a SPECIAL MEETING held on Aug. 11, a First-class Certificate was awarded to PELARGONIUM LORD OF THE ISLES, from Mr. G. Smith, Hornsey Road.

The next ORDINARY MEETING of the Committee will take place on Sept. 22.

THOMAS MOORE, Secretary to the Committee.

# The Gardeners' Chronicle.

*SATURDAY, SEPTEMBER* 12, 1863.

AT this season of the year, when in the garden we see everywhere around us unmistakeable indications of fading beauty, there is a more than ordinary temptation to turn to those contrivances by which we may manage to preserve fresh and pleasant pictures of vegetation in our very houses. It is at this season, with dreary November looming in the not distant future, that the utility of such things as indoor PLANT-CASES, regarded as a means of continuing on something like a vibration of the pleasurable emotion afforded by the summer garden when at its zenith, becomes a fixed idea with many of us. It were well if this were so with a larger number, for even dull depressing November, and still more the months which follow, may, by a little forethought in the way of in-door gardening, be made almost as cheery if not as gay as many a day in summer. The question is, How to do it.

First, we must have a plant-case. It may be an ordinary Wardian case, or it may be that modified form of it called the Patent Indoor Plant-case, which has been so successfully arranged and introduced by Miss MALING, and to which frequent allusion has been made in our columns. This latter has indeed the advantage of being heated, and may therefore be made available for more tender plants than the other, but a very pleasant winter scene, though of a different character, may be got out of either

To secure this, however, the case must be filled with plants; and the choice and variety is almost endless. In an ordinary living room, in one of these plant-cases not too rigorously closed in, any ordinary greenhouse plant would hold its own during winter. The Wardian Case generally pre-supposes a permanent group made up and planted out, either amongst rock-work or in the free soil, according to the style of arrangement adopted; while Miss MALING's case is rather associated with the idea of grouping potted plants, either grown and flowered in the case or merely brought into it for their blooming season, the whole thus admitting of rearrangement as often as any of the inmates become exhausted, or when a new picture is desired. The latter is in truth therefore, nothing more than a modified application of the Wardian case.

Suppose then we wish to fill one of the cold plant-cases, and have had the forethought to provide small dwarf plants of early and late-flowering Chrysanthemums, large and Pompon; these alone, commencing to blossom by November, would carry on with flowers quite to the end of the year or even longer, and then red and white Chinese Primroses would furnish a succession, soon to be varied by Cinerarias and other spring bloomers. The filling out of the picture by means of evergreens, of bright-berried plants, and of plants with ornamental or variegated foliage, might be varied *ad infinitum*.

If, instead of one of the usual cases without heat, we were filling up one of the patent heated cases just now referred to, almost all the treasures of the stove and Orchid-house might be safely introduced, at least during the period the plants continued in flower, inasmuch as a temperature of from 65° to 90° may be commanded. It would only be necessary that the case should be entirely filled with heat-loving or heat-enduring plants. But, even without providing anything more than the mild temperature of an intermediate house, what a glorious association of half-tender Ferns and Begonias, and such like plants, might be accommodated. And herein, as it appears to us, consists one of the chief merits of Miss MALING's heated cases: that of enabling one to preserve, yea even to cultivate, in a parlour, tender plants that otherwise would soon perish or lose their freshness and beauty in the variable and parching or chilling atmosphere of such a situation. For it is not to be forgotten in estimating the utility of cases of this kind, that it is from the ordinary or temporary inmates of the stove, or at least of the warmer of our garden glass-houses, that during winter and early spring we must draw the chief supply of pleasant-looking flowers and foliage. And if it be a satisfaction even to preserve such delicate subjects in beauty by the aid of a contrivance of this character, how much greater satisfaction must an amateur gardener derive from the fact of being able to cultivate and bring them into flower by its aid.

Let us see for a moment what combinations might, even in foggy November, be made to yield a bright and refreshing group, the temperature being kept at the moderate or intermediate point. Of Ferns we might introduce the red variegated Pteris tricolor, the white variegated Pteris albolineata, the bright green Adiantum cuneatum, which is the gem of gems amongst decorative Ferns, and the feathery decompound-fronded Davallia dissecta; if the case were large enough the white variegated Pteris argyræa might be added, and, for filling up, any quantity of dwarf neat-growing species might be used. Dracæna terminalis, with its crimson-stained leaves, would yield a distinct form and colour, towering above the rest; and of the variegated Begonias any number, including silvery or parti-coloured or crimson-leaved sorts, might be introduced. The charmingly mottled Cissus discolor, and other climbers, might be trained about the roof, and dwarf Lycopods in variety might carpet the basement. Neat bushes of Ardisia with their scarlet berries might atone for the dearth of flowers, but even these latter need not be wanting, for such plants as Begonia insignis, and B. fuchsioides, the former with pink, the latter with coral-coloured, and B. parvifolia with snow-white blossoms, might be had in all their beauty, though necessarily limited as to size. Here alone would be ample materials, with the necessary evergreens as a set-off, to fill a moderate case, but the choice is in reality much more extended. Dwarf Palms, of which some very elegant ones have appeared at recent exhibitions, might vary the foliage of the prominent non-floriferous subjects; Caladiums, such as argyrites at least, and small plants of some others, might do good service in the same way; all the cool-house Orchids, whatever might chance to be in flower, would be quite at home; plants like Vriesia would be very effective; Torenia asiatica and pulcherrima would be charming; dwarf Poinsettias would be brilliant; while of really handsome variegated-leaved plants "unenumerated" the name is legion. What exquisite *tableaux* would not a lady of taste work up out of materials like these?

Well, to enjoy all "this sort of thing" by and by, it must, like the buying and planting of Dutch bulbs, be set about at once. The case, which we may call a Drawing-room Greenhouse, must be obtained, if it is not already possessed; the group must be designed in the mind's eye, and may require critical re-examination; and the requisite plants must be secured, and the designs perfected. By the time all this has been done in a careful and leisurely way, we shall have our outer gardens quite despoiled of their summer attractions, and shall be glad to turn to the smaller but not therefore less pleasing picture provided in the Indoor Plant-case.

So many interesting forms of the singular race of Cycads occur in cultivation, and the whole family possesses features so distinct from that of other plants, and in general so well marked, that the advent of an entirely new form, presenting features hitherto unknown, is a circumstance deserving prominent notice. Such a form occurs in a plant called BOWENIA, already incidentally mentioned in our present volume (p. 127), and which has since been received in a living state at Kew, where it is now flourishing.

This plant was first discovered, so long since as 1819, by the late ALLAN CUNNINGHAM, one of whose specimens is preserved in the British Museum, as we learn from a notice by Dr. SEEMANN, who writes:—"In a list of plants A. CUNNINGHAM collected in the tropical parts of New South Wales (as Queensland was then called) and forwarded to Sir JOSEPH BANKS, we read, under No. 289, the following:—'*Aroideæ*, a strong herbaceous plant appearing of this family, with 3-pinnate obliquely-elliptical acute leaves, without fructification. Shaded woods, Mount Cook, Endeavour River. July 2, 1819. Can this be a Fern?' [In his private herbarium CUNNINGHAM had labelled the specimen doubtfully as an Acrostichum; thus confirming the Fern-like aspect of these singular plants.] On turning to No. 289 of the collection alluded to in the British Museum, I find a single frond which is forked, and has below the forking two leaflets, but 15 leaflets on each of the branches (pinnæ). The entire length of these branches is 18 inches. The leaflets are larger than those of the living plant at Kew. There is little doubt that HILL's plant, gathered two or three degrees south of Endeavour River, is identical with that of CUNNINGHAM; but as CUNNINGHAM's specimen is without the lower part of the stipes, it is impossible to determine whether it was a clerical error or not when he stated the leaves to be 3-pinnate. In HILL's very young living plant they are bi-pinnate, but it may be different in older specimens."

The admirable figure of FITCH, published in the *Botanical Magazine* (t. 5398), will render the aspect of this rare and interesting plant, which has been named BOWENIA SPECTABILIS, familiar to those who are unable to examine the growing plant for themselves; and as embodying all that is known of its history, we subjoin Dr. HOOKER's account which accompanies this figure.

"With the exception of Stangeria paradoxa, no more remarkable Cycadeous plant has been discovered than the subject of our present plate; and like that plant it differs from every member of its order in the nature of its leaves, which present remarkable analogies with those of the Ferns. Whereas, however, the anomalous character of Stangeria is afforded by the venation of the pinnules, which so exactly simulated those of a Lomaria that two authors had (unknown to one another) referred it to that genus, the resemblance, in the case of Bowenia, is in some respects carried further, inasmuch as the leaf is not simply pinnate as in Stangeria and other Cycadeæ, but decompound like a Marattia.

"The discoverer of this singular plant was the late ALLAN CUNNINGHAM, from whom we received upwards of 40 years ago a portion of a frond collected at the Endeavour River (lat. 15° S.) in 1819, and referred by him provisionally to Aroideæ. Nothing, however, was known further of it till Mr. WALTER HILL, the zealous and able head of the Brisbane Botanic Garden, rediscovered it in Rockingham Bay, and sent a young living plant, with full grown dried leaves and a male cone, to the Royal Gardens, Kew, in 1863. From these materials the plate and description have been made; and in accordance with Mr. HILL's desire as well as our own, we have attached the name of the present enlightened Governor of Queensland (Sir GEORGE F. BOWEN, G.C.M.G., Captain-General and Governor-in-Chief) to the genus, in recognition no less of that officer's position as Governor of the district of Australia in which the plant was found, than of his liberal encouragement of botany, and of Mr. HILL's exertions in particular.

"As a genus the most prominent character of Bowenia is the compound leaf, its general characters (all but shape), texture, and venation. The leaflets do not differ from those of Macrozamia, and are so very similar to those of some West Indian Zamias that it is difficult to distinguish them generically, except that in Bowenia the leaflet is decurrent by the petiole, and not articulated with the rachis. The habit of growth, caudex, &c. entirely accord with that of the South American Zamias, as does the male amentum; the female amentum and fruit are both at present unknown, but we trust ere long they will be detected and published."

Mr. HILL's plant, which is that which has

reached our gardens in a living state, was found on the north bank of the Mackay River. It has, like other Cycads, a thick subcylindraceous stem, surmounted by one or two ample leaves, which have a long slender terete petiole, and a bipinnatisected lamina of suborbicular circumscription, the pinnules of which are decurrently petiolate, and non-jointed, obliquely falcato-lanceshaped, entire or one-toothed, caudately acuminate, bright green, flaccid, and furnished with parallel sparingly anastomosing veins.

—— We understand that Mr. Cross, who is already favourably known in his connection with the introduction of Cinchonas into India, and who was lately engaged on the eastern-side of Chimborazo in collecting ornamental plants for Messrs. Veitch, has, at the request of the India Office, started for Popayan and Bogotá to procure seeds of the Pitaya and other valuable New Grenadian bark trees for the Government plantations in India.

—— During a tour on the west coast of Ireland in July last, Prof. Harvey and Mr. N. B. Ward were fortunate enough to discover a new British Seaweed, the Fucus furcatus of Agardh. This addition to our marine flora is the more interesting, as this species of Fucus had hitherto only been found at Unalaschka, and on the Newfoundland coast.

—— At Hunstanton on the coast of Norfolk, Prof Babington states that a complete turf is formed over extensive flats by Glaux maritima or Anagallis tenella, each quite alone. Honkeneja peploides also covers very extensive sands. Statice caspica is so abundant in one place as nearly to cover the whole surface of probably a square of a 100 yards; it was coming into flower on July 13, and its presence was manifested at a considerable distance by the mass of its flowers.

—— It is very well remarked in the present number of the *Floral Magazine* that hardy Rhododendrons are amongst the most serviceable and ornamental of our flowering shrubs, enduring as they do our severest frosts, and bearing with much patience even the smoke and dust of our great metropolis. Hence it is a source of astonishment that the growth of plants which will not submit to these conditions should so pertinaciously be persisted in, to the neglect of so really attractive a subject as the Rhododendron. "The failure of many things which have been tried under the most favourable auspices at South Kensington and elsewhere, ought not to be without its lesson on those who are desirous of maintaining some recollection of the country during their sojourn in London."

## FISH AND FISHING.—No. XV.

### (2.) How Grayling got to England.

(*Continued from* p. 844.)

*Piscator*: But supposing the concession to need further arguments to support it, let us analyse the name "Grayling." "What's in a name?" says Shakspeare. But in a question like this a name is of very great importance! This same fish in former days was called by various names on the Continent—Ombrina, Umbla, Umbra, Umbrina, &c., and by the modern French, and in some parts of Great Britain, it is called the Umber; and much space is occupied about its name in Gesner, Rondeletius, Aldrovandus, and other ancient authors; and with much *nominal* confusion, because a sea-fish passed under the same synonymes. Whence comes our English name for this fish—Grayling—so unlike those names of the Continent? Gray-lines (see Yarrell) is far too modern to be satisfactory. Whether the "Gray," (originally taken from the idea of *ombre*, a shadow, or *umbra*) has been changed into the Sax. *greg*, *græg*; German, *grau*; Dutch, *graauw*; Dan., *grae*; or Sw., *gra*; all which signify the colour grey; and whether the terminal *ling* is derived from the Sax. *leng*, long, or from the Sax. termination *ling*, denoting primary state, condition, or subject, as in darling, firstling, or the young of an animal or small one, a shadowy or grey little thing, or darling, or firstling, (see Webster's Dictionary), or Grayling, is an important question, and interesting, so far as this inquiry is concerned. The latter, Grey-ling, will surely point to something new or newly imported, and a petted thing, as the grayling, if imported, must have been.

As to who is the author of the supposition of its being an introduced fish, and not indigenous, I had at one period of my life, before Sir H. Davy wrote, thought it a settled accepted fact; but all my researches do not enable me to carry the authorship of idea beyond "Salmonia." Now I beg you to observe that Sir H. D. in "Salmonia" alludes to the subject in a very singular manner. He starts by his character "Haleus," (supposed to be Sir H. D.'s self) stating that his former opinion favoured the position that it was an imported fish (he says nothing against the monks being the instrument), but now doubts it. He then makes his "Poietes" think the alteration of opinion wrong. The two characters then argue the point, and in the character of Haleus he (Sir H. Davy) sums up the matter as though he recanted his heresy. Thus in abstract stands the passage.*

* Salmonia, 2nd edition, page 200.

"*Hal.*: I formerly used to account for this by supposing it (the grayling) an imported fish, and not indigenous; but," &c., "I doubt the correctness of this my early opinion."

"*Poiet.*: Which was, I conclude, that it was introduced by the monks," &c., "and I think you have done wrong to relinquish this idea," &c.

Then Hal. proceeds to show reasons con. the proposition, and Poiet. pro, and Hal. sums up the point thus: "There may be truth in what you are now imagining, for," &c., all which dialogue seems to me to prove Sir H. D. did *not* "doubt the correctness" of his "former opinion," but had misgivings and was not satisfied, and inserted the subject in his work for the purpose of provoking further discussion upon the point, the thought originating in himself.

*Cath.*: Does old Izaak Walton say anything upon the subject?

*Pisc.*: Yes. Just enough to throw a doubt upon the matter, by omitting mention of its being an imported fish, or who were the importers. All he says, and says so beautifully, is "I shall only tell you that St. Ambrose, the glorious Bishop of Milan, who lived when the Church kept fasting days, calls him (the Grayling) "the Flower fish" or "Flower of fishes," and that he was so far in love with him, that he would not let him pass without the honour of a long discourse.

I had been for a long time quite at a loss where to discover this "long discourse" in the writings of St. Ambrose, until almost in despair, at the British Museum I called for the American edition of Walton of A.D. 1847, by Wiley & Putnam, London and New York; and at p. 121, note, I found the following:—"The burst of enthusiasm by the saintly lover of fish is so hearty that I give it at length. He has been treating very quietly of other fish, when he exclaims"—[there having been a few typographical errors, I now quote the passage as it stands in St. Ambrosii Opera, tom. i. p. 68—9 (Venice Edit. A.D. 1783) lib. v., cap. ii. tit. Hexaemeron Admonitio in Sex Libros; and in Patrologiæ Cursus Completius, tom. xiv., A.D. 1845 (Paris) Ambrose, vol. i., lib. v. De Opera quinti Diei, cap. ii., p. 208.]" Neque te inhonoratum nostra prosecutione, Thymalle, dimittam, cui à flore nomen inolevit; seu Ticina unda te fluminis, seu amœni Atesis unda nutrierit, flos es. Denique sermo testatur, quod de eo qui gratam redolet suavitatem, dictum facete sit; aut piscem olit aut florem; ita idem pronuntiatus est piscis odor esse qui floris. Quid specie tua gratius? Quid suavitate jucundius? Quid odore flagrantius? Quod mella flagrant hoc tu corpore tuo spiras!" "In justification (the American note goes on to say) of the good bishop, it may be added that the grayling of the Alpine waters is particularly good for those who 'keep fasting days.'" *Am. Ed*

The translation might read thus,—"Nor will I pass over in our discourse thee, unhonoured, Oh! Thymallus, whose name emanates from a flower!* Whether the waters of Ticinus or of the pleasant Atesis have nurtured thee: a flower thou art! Indeed, the more confirmatory is the common saying, facetiously applied to him who is delicately perfumed, "He smells of fish or of flower," so, the odour of thy body, oh! Thymallus, is declared to be that of fish or of flower. What is more graceful than thy form? What more agreeable than thy sweetness? What more fragrant than thy perfume? All that honey-stores give forth thou exhaleth from thy body!"

The translation I have attempted is a liberal one, and may be, strictly speaking, too much so. I do not vouch for it, though I have been assisted by many more competent than myself. We are not satisfied, quite. The Latin of the editor (1783) of St. Ambrose not being classical, there is great difficulty in avoiding error, especially in the second and sixth sentences. It may, however, certainly be observed that there is nothing in the edition from which I quote, which justifies the expression in Walton, "The flower fish, or the flower of fishes," though earlier editions or MS., to which I have not access, may give a totally different version. Walton wrote more than a century before the edition (1783) was published.

For the benefit of general readers I may here explain that "Hexaemeron" signifies "six days;" and that this "Hexaemeron" of St. Ambrose has reference to the six days of The Creation, and that St. Ambrose is not speaking of the grayling and other things as of the world, as good for the voluptuary or bon vivant; but he is deducing "admonitio"—moral and religious advice for man—from instances which the creation of the world in its purity affords us. The revilers of the monks of old may take a hint from this. *E. C.*

* "Thymallus" is evidently derived from "Thymum," the herb "Thyme." The fish, when first taken, certainly smells deliciously of Thyme.

## ORCHARD HOUSE PEACHES.

I have been much interested in reading the rather temperate letter of Mr. Thompson on this subject; there is perhaps no man in England that better understands the culture of wall Peach trees, and I think I may add, no one loves their culture and training more. As far as I am able to judge, his experience in Orchard-house grown Peaches, and his love for that mode of culture, are more limited. I have had reason to think that the hot weather we have had, ripened many early kinds of Peaches in orchard houses long before their usual period, and this, like too much heat in a forcing house, detracted from their flavour. I mention this because I have found the three varieties of Grosse Mignonne Peaches—the Early, the Common, and the Tardive de Lepére—all ripening together, although they generally follow each other very regularly. They were very juicy, but had not their usual piquant flavour. The heads of these trees were about 6 feet from the roof of a large span-roofed house, 12 feet high. Later kinds of Peaches, which have ripened more slowly, have been as fine in flavour as Peaches could be, yet they here stood side by side with those not quite so good as usual. I have tested the flavour of orchard house Peaches with those grown on walls in the following manner:—

Some ten years since I supplied a near neighbour with a large number of Peach trees, which were planted against high walls with a south-west aspect. When these trees came into full bearing our proceedings were as follows—I call to mind more particularly the years 1860, '61, and '62:—A table was placed in front of the wall, on which were placed my orchard house Peaches, of the same varieties as those growing on the wall; these were tasted *seriatim*, and in *no single instance* can I recollect that the wall Peaches were equal in flavour to my Peaches; they were not so melting and juicy, nor so rich. On thinking the other day of my nearly annual test I visited my neighbour's garden, and found to my regret his trees eaten up with red spider, and his fruit small and poor. I can scarcely forbear smiling when I read my old friend Thompson's theory of the energy of the sun's rays transmitted through the glass to any considerable distance being "next to moonshine." How I wish he could have visited me last week to have seen his theory made "mild as the moonbeam" in this way. A Shanghae Peach tree, the fruit of which seldom or never ripens well on a wall, stands on the floor nearly in the centre of a large Orchard house 12 feet high; this tree is in a 13-inch pot, and only 3 feet high, consequently, making due allowance for the slope in the roof, its top is 8 feet from the glass; the fruit it bore measured some 9 inches and some 10½ inches in circumference. To my surprise they were more sugary and of higher flavour than I ever found them; this was of course owing only to the excess of sun-heat transmitted through the glass to a distance of 8 feet.

I remember well the gardening axiom, which I have often employed—"the nearer the glass the finer the fruit;" but rules in gardening as well as in grammar have many many exceptions. I have within these few minutes gone into one of my large span-roofed houses 12 feet high. I gathered from a bush tree of the Noblesse Peach in a pot—the upper surface of the tree; the branch from which I gathered the fruit I found to be 7 feet from the roof. This fruit (a Malta Peach from a tree standing by its side was even more rich), was as rich and juicy as any Peach could be. I then gathered a Noblesse Peach from a standard planted in the border of the same house; this was growing about 2 feet from the glass. I found its flavour not at all equal in richness to the first-named. The cause seems to me very apparent; the roots of the standard tree are growing in a temperature some degrees lower than those of the tree in a pot.

The finest and richest Peaches I have eaten this season, or I may add the finest I have ever eaten, were taken from some young trees in 11-inch pots, standing in a small span-roofed orchard house about 5 feet from the glass. The most flat and insipid Peaches I think I have ever tasted I have gathered from a tree of the Bellegarde Peach, in a pot standing alongside the Noblesse and Malta Peach trees alluded to above!

From what I have stated, my mode of testing orchard-house Peaches with wall Peaches will, I think, seem efficient. I have only to say that I have accounted for many wall Peaches being ripe at the summit and unripe at their base from the impossibility of the heat of the sun penetrating through the Peach to the wall so as to heat it near the stalk of the fruit and ripen it at that part. I have accounted for the superiority in the ripening of orchard-house Peaches by the fact that each fruit is as it were wrapped in hot air, for during this summer my orchard houses have often shown a temperature of 90° and 95° in the shade under the leaves of the trees, and from 100° to 110° in the sun, the thermometer placed near the ground in an inverted flower pot. Now the air surrounding a Peach on a wall must be of unequal temperature, for the wall behind a large Peach, a non-conductor of heat, is always comparatively cool, and has but little ripening power.

With regard to the colouring of Peaches, as a rule wall Peaches are deeper in colour than those under glass, but, as if to ignore any rule, and to show that Peaches grown at a distance from the glass are not always of a "greenish hue," as stated by my worthy friend, my deepest coloured Peaches—their rinds of a very dark crimson—have been grown on low trees, the fruit being 9 feet from the glass. But then my glass is in very large squares, and the house span-roofed, 100 feet long and 24 feet wide, well placed in an airy open position, and also thoroughly ventilated by low side ventilation, a method not yet fully carried out, and sometimes pooh-poohed by regular builders.

Mr. Thompson has most probably not made his observations on orchard house Peaches in a light well ventilated house, which will account for his low estimate

of their appearance and flavour. The highest coloured Peaches and the most inferior in flavour I have tasted this season have been gathered from walls—the Bellegarde and Royal George—the palest in colour and the richest in flavour have been gathered from the orchard house—the Noblesse, the Malta, and one or two seedlings. This is, however, no rule, for the converse may have been experienced by many cultivators both amateur and professional.

I can say with truth that I have gathered some very inferior Peaches from orchard house trees this season (the fruit properly thinned, and the trees standing in the full glare of sunshine near the glass) of good varieties that generally produce excellent fruit, and I have been at a loss to account for it. As a rule, half standard, low standard trees, and pyramids, should occupy the greater portion of large orchard houses from 12 to 15 feet in height.

From what I have said it will be seen that in spite of what Mr. Thompson says with regard to "the sun's rays being weakened by a large amount of reflection" in passing through glass, and "paralysed by refraction," my thermometers have shown strong facts to the contrary. A temperature of 95° in the shade, and 110° in the sun, is very unlike that given by "moonshine," and an attempt to grow Peaches in it is not quite so vain as to attempt to grow Cucumbers by moonlight only, as half suggested by Mr. Thompson.

It is very agreeable to read a letter like that of Mr. T. (page 822); its philosophy seems sound and good. I have given nothing but plain facts in reply to his interesting theory. As he has not given us his usual signature of "R. T.," but seems to wish to make himself responsible for all he says by giving his name in full, I beg to be allowed to incur the same responsibility for all that I have said by omitting the usual "T. R.," and signing myself *Thos. Rivers.*

## BRITISH ASSOCIATION.

WE find little to interest our readers in the recent proceedings at Newcastle. The following matters however are suited to our columns:—

*On the Cultivation of Cinchona in India*, by Mr. C. R. Markham.—Dr. Thomson said it was those only who knew how rapidly the supply of Quinine from Chili and South America was being exhausted that could know how inestimable was the work which the paper of Mr. Markham described. The experiments which had been made, had shown, not only that the plant might be grown in other countries, but that the bark of the young tree yielded a much larger proportion of Quinine than that of the old. The good which would result from carrying the cultivation of the plant into new fields was immense; for while the application of Quinine was extending, many of the hospitals had had to restrict its use on account of the expense; and the result of the recent discoveries would be that physicians, when prescribing bark alone, would give the preference to young bark.

*On Glass.*—By Mr. R. W. Swinburne.—The art of casting plate glass by throwing the molten material on an iron or copper table, and rolling it into a sheet of equal thickness, was first adopted in England, in Lancashire, in 1771; but there is abundant proof that plate glass of smaller dimensions was made before that time at South Shields, near this town, where is situated the only manufactory of plate glass in this district. In the early part of the 17th century, an article called blown plate glass was made at that place, and the manufacture was continued by the family who originally established it until 1845, when the process was abandoned, being entirely superseded by the cast plate. In this is afforded an instance of the superiority of machinery over manual labour. Blown plate glass, which was the great original of the art in all countries, depended entirely in its manipulation on the strength of lungs and dexterity of muscle of the individual operator, whose *chef d'œuvre* was about four feet long and two and a half feet wide, whereas the cast plate is made by the co-operative efforts of 20 men who move from the furnace the crucible in which the material is melted, and by means of powerful machinery roll it into a plane of any required dimensions. The record of the daily manufacture of blown plate glass at South Shields, in 1750, is still extant, and affords a curious proof of the infancy of the art and of the difficulties of the operator. Up to the year 1845, the returns of the Excise duty show that there was more plate glass made at South Shields than at any other manufactory in the kingdom. In that year the Excise duty on glass was abrogated, and in consequence, the produce of this manufactory has been quadrupled. Previously to 1845, the quantity of unpolished plate glass blown and cast at South Shields was 312,000 feet per annum: now its capability of produce is 1,240,000 feet per annum. A new kind of plate glass, called rolled plate, has been for some time manufactured at Sunderland, by the spirited firm of Messrs. Hartley & Co. The invention is due to Mr. James Hartley, who has had the honour of establishing a new branch of manufacture of great public utility. This new article somewhat resembles unpolished plate glass, but is lighter in substance and eminently fitted for roofing and other purposes of construction where translucency only is required. Ordinary window-glass was first used in Great Britain for architectural purposes at the great monasteries at Monkwearmouth, on the River Wear, and at Jarrow, on the Tyne. The Venerable Bede, our first ecclesiastical historian, who flourished at the former place in the seventh century, relates that his contemporary, the Abbot Benedict, sent for artists beyond the seas to glaze the Monastery of Wearmouth. St. Bede and St. Benedict were, in their day, great promoters of literature and the fine arts, and they imported from all parts of Europe everything that could give splendour to their churches and inspire their disciples with a lofty enthusiasm. Such was the change made in their churches by the use of glass instead of other and more obscure substances for windows, that the unlettered people avowed a belief, which was handed down as a tradition for many generations, "that it was never dark in old Jarrow Church." The extreme rarity of window-glass in this locality prior to its being made in this borough, in 1616, is evinced by the following entry in the minutes of a survey of Alnwick Castle made in 1573:—"And because, throwe extream windes, the glasses of the windowes of this and other my lords castels and houses, here in the country, dooth decay and waste, yt were good the whole leightess of everie windowe, at the departure of his lordshippe from lyinge at anie of his sade castels and houses, and duringe the time of his lordshippes absence, or others lyinge in them, were taken down and lade up in saftie, and at sooch tyme as other his lordshippe or anie other sholde lye at any of the sade places, the same might then be set uppe of newe with small charges to his lordshippe, whereas now the decaye thereof shall be verie costlie and chargeable to be repayred." By a singular coincidence, the first manufactory of window or crown glass in Great Britain was established at Newcastle-upon-Tyne, within a few miles of these monastic establishments. In the year 1616, Admiral Sir Robert Maunsell erected glass-works at the Ouseburn, Newcastle, which were carried on without interruption till nearly the middle of the present century, when they were closed. When the British Association first held its meeting in Newcastle-upon-Tyne there were six large crown-glass manufactories in operation on the river Tyne, producing annually upwards of seven millions of feet of window-glass. These manufactories have now ceased to exist, owing chiefly to the introduction of sheet glass into this country, and the comparatively low price at which plate glass can be now had. Crown glass is made in a circular shape, which of course involves a considerable loss of surface in being reduced to the rectangular shape in which all window-glass is used, and the knob or "button" in the centre limits the size of the window panes. The public taste now demands panes of large dimensions—an object which is attained by the use of sheet glass; and although crown glass maintains the palm of greater brilliancy, yet it must be esteemed in the light of an effete manufacture, and will gradually die out in this country, as it has already done on the Continent. Flint glass, the "crystal" of the ancients, has been made in Newcastle and its neighbourhood for a very considerable period, but its early history in this locality is obscure. It is more than probable that its manufacture was first introduced here by Sir Robert Maunsell, who, as before remarked, established window-glass works in this borough in 1616.

## Home Correspondence.

*Vine Growing in Yorkshire.*—It is evident that Mr. Nicholson considers his success (see p. 845) worthy of record. Every practical gardener will however see at once that it is nothing more than it ought to be under judicious management. Such results ought to be the rule and not the exception. In the spring of 1861, I repotted and started several two-year old Vines in a heat varying from 60° to 65°. By the latter end of May they had made what is called nice shoots, but the weather proving cold, I deferred planting out till about the middle of June. I then planted them in what I considered a well prepared border outside the house. They never made a stand, but furnished canes measuring from 25 to 35 feet in length. One Vine (Pope's Black Hamburgh) grew to an unusual size. This I did not cut back to the base as I did the rest. Early in the spring of 1862 all broke vigorously, showed fruit in abundance, and by the middle of June I had some of the very best Grapes upon them I have ever seen in this locality. I allowed the Pope's Hamburgh to bear no fewer than 25 bunches; this I know is considered cutting the throat of a Vine; notwithstanding I had this year 37 bunches on the same Vine, weighing from 2 to 3 lb. each, and one was 3½ lb. The bunches were not quite so heavy the first year, but the berries were quite as large. I have exhibited Grapes at our show at York in June off the same lot. I showed two bunches of Chasselas Musqué, which came in for a prize. At another local show I exhibited two magnificent bunches of Muscat of Alexandria, 3 lb. weight, which the judges pronounced perfect. This I simply state in order to encourage those who are starting Grape growing for the first time, for I believe that no sort of fruit will better repay the outlay of doing the thing well, than the Vine will. I may add that the above results have been accomplished within a mile and a half of the smoky town of Leeds. *James Thomson, Wortley, Leeds.*

*Cinchona.*—If, as your correspondent "G. B." says, it has been already decided by competent authority how Cinchona is to be pronounced, then the matter is settled, and that is what I want to know. But it may have been settled wrongly nevertheless, and if, as I believe, Cinchona is a Spanish word, the simplest way of making it either English or English-Latin would have been to pronounce it exactly as if it were an English word, not derived from any language in which the *ch* is sounded gutturally like the Greek χ, and this would be the proper Spanish pronunciation also, for we need not adopt the Madrideñan lisp, as "G. B." suggests we must do in such a case. There can be no reason for sounding it Chinkona. *Exul.*

*Ivy.*—About five years ago, when making some repairs and additions to my house, I was compelled to cut through the stem of an Ivy plant just below the ground, removing the lower part of the stem and the roots. I did not move the upper part of the stem and the branches, from a sort of vague desire to see what would become of them. Their subsequent history has surprised me. The stem and branches, after a separation from mother earth for 4 complete summers, are not merely alive, but apparently in a vigorous condition. So powerful is their vitality that they are rapidly extending over new brickwork, and that for a considerable space. I may remark that another Ivy plant, the stem of which was not divided, is growing in the immediate vicinity of that operated upon. The branches of the two plants interlace, and it has been suggested to me that the maimed plant may derive nourishment from its more fortunate brother. It is for others to inform me whether the phenomenon may be best explained by the above supposition, or whether the atmosphere, together with the brick and mortar to which it adheres, can afford sufficient nourishment to the Ivy plant. My gardener will be ready to show what I have imperfectly described to any person who may take an interest in the matter. I may add that both these Ivy plants must be over 30 years old, and are about 9 inches in circumference near the ground. *Geo. B. Norman, Bromley, Kent.*

*Triomphe de Hollande Strawberry.*—Last winter a nurseryman in North Holland sold, by means of a beautifully coloured engraving, a new Alpine Strawberry under this name. Although I had my doubts about its being really a new and distinct kind, I nevertheless ordered 50 plants of it for trial. After having tested them carefully, I have come to the conclusion that the famous Strawberry in question is nothing more nor less than "La Mendonnaise" or Lettuce-leaved Alpine, a variety raised some 15 years ago at Meudon near Paris, by Mr. Laffay, and easily obtainable in France at about 5*s*. a hundred! No doubt the Triomphe de Hollande, accompanied by the tempting engraving just alluded to, has also found its way into England. If so, all interested in the subject may easily ascertain the truth of my assertions by procuring runners of "La Meudonnaise" either from Mr. Rivers or Mrs. Nicholson, both of whom possess it. *Ferdinand Gloede, Les Sablons, France.*

*Roses.*—Now that good Hybrid Perpetual Roses are plentiful, I think prizes should be offered in classes confined to such Roses, say for the best 12, 24, or 36; and so for Bourbons, and Teas with Noisettes; the other kinds, being less grown now, might be lumped in one class, except perhaps Mosses. Bourbons not being plentiful, the kinds might be limited to 6, 12, or 18. I object to trusses of Roses, and I do not see why single blooms should not be shown of Roses as well as of Pinks, Carnations, Chrysanthemums, and Dahlias. I am quite sure that size and refinement can be combined in single blooms, and I am equally certain that no adequate notion of what some Roses are can be obtained without liberal disbudding. I always disbud, as I prefer one good bloom to three or four indifferent ones. Probably the best Rose bloom which I have had this year was one of Souvenir de la Reine d'Angleterre, big enough for a Pæony, but smooth, high coloured, and in short, refined in the highest degree. It was like a giant Countess Chabrillant in shape. *P.*

## Societies.

ROYAL HORTICULTURAL: *Sept.* 9 (*Great Fruit and Dahlia Show*).—Hardy fruit was furnished on this occasion in great abundance; but owing to the absence of Grapes and Pine Apples from the competition classes, the display as a whole was not so effective as autumn fruit-shows usually are.

*Collections of Fruit.*—The best of these came from Mr. Turner, of the Royal Nursery, Slough, who had good examples of Washington Plum, Brown Turkey Figs, Incomparable and Walburton Admirable Peaches, Warner's Red Grape Currant, very fine Williams's Bon Chrétien Pears, Morello Cherries, and Pitmaston Orange Nectarines. Among other collections, of which there were in all six, we noticed Double Bearing Raspberries, White Dutch Currants, Warrington Gooseberries still in good condition; Victoria, Coe's Golden Drop, and Magnum Bonum Plums; Ribston and Kerry Pippin Apples; Black Hamburgh and Muscat Grapes; and Barrington and Têton de Venus Peaches.

*Awards.*—8 dishes: 1st, Mr. Turner; 2d, Mr. Henderson 3d, Mr. Kaile.

*Peaches.*—Among these were some good fruit, especially a dish from Mr. Kaile of what was called Barrington, the size of which astonished all who saw them. From Mr. Dawson came very fine Violette Hâtive, not very large but well coloured. Mr. Snow

had Bellegarde; and from Mr. Rust came beautiful examples of Walburton Admirable. Some very fine fruit also came from Mr. Bousie. Among other sorts were Vanguard, Galande, Grosse Mignonne, Noblesse, Royal Charlotte, Improved Admirable, Chancellor, Late Admirable, Royal George, and Champion.

*Awards.*—4 dishes: 1st, Mr. Dawson; 2d, Mr. Henderson; 3d, Mr. Benning. *Single dish:* 1st, Mr. Rust and Mr. Kaile; 2d, Mr. Dawson; 3d, Mr. Rutland and Mr. Snow; extra, Mr. Westcott.

*Nectarines.*—Among these were good dishes of Violette Hâtive, Newington, Pitmaston Orange, Elruge, Brugnon, Red Roman, and Balgowan.

*Awards.*—4 dishes: 1st, Mr. Dawson; 2d, Mr. Henderson; 3d, Mr. Rutland. *Single dish:* 1st, Mr. Wilson; 2d (withheld); 3d, Mr. Bailey and Mr. Snow.

*Cherries.*—These consisted of Morello, Kentish and Florence.

*Awards.*—1 dish: 1st, Mr. Snow; 2d, Mr. Turner; 3d, Mr. Budd; extra, Mr. Bettridge.

*Dessert Apples.*—Among these were examples of Cox's Orange Pippin, King of the Pippins, Downton Pippin, Old Nonpareil, Ribston Pippin, Cellini, Fearn's Pippin, Duchess of Clarence, Kerry Pippin, Nonsuch, Col. Waugh, Devonshire Quarrenden, Esher Pippin, Court of Wick, Ball's Golden Reinette, Cornish Gilliflower, Blenheim Orange, and Golden Pippin.

*Awards.*—3 dishes: 1st, Mr. Bousie; 2d, Mr. Martimore; 3d, Mr. Wren; extra, Mr. Grover and Mr. Wright.

*Kitchen Apples.*—These consisted of Baltimore, Reinette du Canada, Dumelow's Seedling, Waltham Abbey Seedling, Grenadier, Cox's Pomona, Hollambury, English Codlin, Emperor Alexander, Lewis's Incomparable, Lord Suffield, Lord Derby, Hawthornden, Scarlet Admirable, Dutch Codlin, Royal Russett, Duchess of Oldenburgh, Cellini, Blenheim Orange, Alfriston, Chancellor, Golden Noble, Kentish Fillbasket, Clifford's Golden Harvey, Lord Nelson, Cumberlean, London Pippin, and Yorkshire Greening.

*Awards.*—1, Mr. Snow; 2, Mr. Anstiss; 3, Messrs. Lane; extra, Mr. Martimore and Mr. Bousie.

*Dessert Pears.*—These were confined chiefly to Duchesse d'Angoulême, Beurré Bosc, Marie Louise, Crassane, Chaumontel, Louise Bonne of Jersey, Williams' Bon Chrétien, Napoleon, Glou Morceau, Belle et Bonne, Beurré Diel, Beurré Rance, Comte de Lamy, Van Mons Leon le Clerc, Gansel's Bergamot, Albertine, Beurré d'Amanlis, and Poire Pêche. Last, but not least, were some admirable specimens of Pears grown on trees in pots from G. Wilson, Esq., of Gishurst Cottage, Weybridge. These consisted of Maréchal de la Cour, Louise Bonne, and Beurré d'Anjou, all magnificent fruit, which well deserved a 1st prize, which was awarded them.

*Awards.*—1st, Mr. Wilson and Mr. Wren; 2d, Mr. Beasley; 3d, Mr. Martimore; extra, Mr. Anstiss.

*Currants.*—Six dishes of magnificent fruit were contributed by Mr. Tivey, gr. to Lionel Ames, Esq., The Hyde, near St. Alban's. The sorts were Raby Castle, Old Champagne, Red and Black Naples, Red Grape, and White Dutch. The two last were the best flavoured; but the handsomest was the Raby Castle, the fruit of which was wonderfully large and fine. They were grown, we believe, on espaliers, well netted up to preserve them from birds.

*Figs.*—These were chiefly confined to Brown Turkey, White Genoa, and Brunswick.

*Awards.*—3 dishes: 1, Mr. Bousie. Single dish: 1, Mr Bailey; 2, Mr. Sayers; 3, Mr. Snow.

*Plums.*—Of these some beautiful fruit was shown, consisting of Magnum Bonum, Diamond, Coe's Golden Drop, Pond's Seedling, Goliath, Jefferson, Green Gage, Washington, Kirke's, and Reine Claude de Bavay, the last an excellent variety. From Mr. Wilson, Gishurst Cottage, came fine examples of Brady's Green Gage, Waterloo, Golden Drop, and Fulton, a sort in the way of Washington, all from trees in pots grown in an orchard house not artificially heated.

*Awards.*—4 dishes: 1, Mr. Snow; 2d, Mr. Cox; 3d, Mr. Bailey; extra, Mr. Budd and Mr. Sayers. Single dish: 1st, Mr. Snow; 2d, Mr. Wright; 3d, Mr. Alves.

*Seedling Fruits.*—Among the scanty productions shown under this head, was a yellow-fleshed Peach from Mr. Rust, gr. to the Right Hon. L. Sulivan, which was said to be late and good; but which the Fruit Committee requested might be shown to them again later in the season. A Nectarine called The Shardeloes, contributed by Mr. Bailey, was considered not to be better than the Violette Hâtive. The specimens shown were however over ripe. From Messrs. Lucombe, Pince & Co., came a promising Black Grape in the way of Snow's Muscat Hamburgh, of which good examples were shown by Mr. Blackburn. From Mr. Melville came a large-berried grizzly or rather pale amber Grape not in good condition, but sweet and fleshy. Its colour was however considered objectionable. Finally a large round-fruited Chinese purple Egg-plant or Aubergine, was shown by Mr. Standish.

Of *Grapes*, a highly interesting collection was shown from the Society's Garden at Chiswick; among black kinds were the Frankenthal, one bunch of which weighed 2 lbs.; Barbarossa, 4 lbs.; Black, Mill Hill, and Dutch Hamburghs, one bunch of the last weighing 1 lb. 9 oz.; Black Monukka, 3 lbs. 4 oz.; Black Prince, Black Morocco, Esperione, Burchard's Prince, weighing 2 lbs. a bunch; Morocco Prince, Muscat Hamburgh, Muscat Noir de Jura, Oldaker's West's St. Peter's, weighing 1 lb. 8 oz. a bunch; Violet Frontignan, Strawberry, Gros Colman, Prune de l'Hérault, and Black Corinth. Of White sorts there were Muscat of Alexandria, Golden Hamburgh, one bunch of which weighed 2 lbs.; Royal Muscadine, 1 lb. 6 oz.; Raisin de Calabre, Trebbiana, Reeves's Muscadine, White Frontignan, White Nice, Ward's Early, and some Chasselas variety. Among grizzly or rose-coloured kinds were Abbee, Chasselas Rose de Falloux, De Candolle, and Tokay des Jardins. Among these the Abbee and Golden Hamburgh were beautiful bunches, especially the latter, which was well ripened and without speck or blemish. These were cut from the Vines in the great conservatory, the crop in which this year has in no way been behind its predecessors either in size, quantity, or quality.

*Miscellaneous Fruits.*—Foremost among these were three handsome bunches of Black Hamburgh Grapes from Mr. Morris, gr. to A. Bosanquet, Esq., and a boxful of Moorpark Apricots from Mr. Henderson, gr. to the Duke of Sutherland at Trentham. From Mr. Grover of Hammersmith came Morello Cherries, Warrington Gooseberries, Crab Apples, Pears, Cucumbers, and Tomatoes. Melons were furnished by various growers. Lord Clyde Cucumbers, long and straight, were shown by Mr. Halls, and various fruit trees in pots, finely grown and loaded with fruit, were contributed by Messrs. Lane of Great Berkhampstead. From Mr. Hall, gr. to Lord Scarborough, came a very fine Queen Pine Apple, which weighed $5\frac{3}{4}$ lbs.

*Dahlias.*—Great quantities of these were shown, and for the most part in excellent condition, especially the stand of 48, furnished by Mr. Turner, of the Royal Nursery, Slough, which in addition to fine quality contained blooms of unusually large size. The varieties were Norfolk Hero, Andrew Dodds, Mr. C. Waters, Donald Beaton, Hon. Mrs. Trotter, Warrior, Seedling (yellow), Sidney Herbert, Miss Pressley, Seedling (purple), Mrs. Church, Mr. Stocken, Criterion, Garibaldi, Princess of Prussia, Midnight, Madge Wildfire, Mrs. Bush, Grand Master, Triomphe de Pecq, Goldfinder, Pre-eminent, Seedling (white), Seedling (rosy lilac), Lord Cardigan, Beauty of Hilperton, Hugh Miller, Lord Derby, Delicata, Mrs. W. Piggott, Gen. Jackson, Sir Geo. Douglas, Seedling (lilac), Lady Popham, Bob Ridley, Mrs. Henshaw, Earl of Shaftesbury, Chairman, Juno, Pioneer, Charlotte Dorling, Lord Clyde, Volunteer, George Eliott, Umpire, Mauve Queen, Cygnet, and Lord Palmerston. From Mr. Keynes of Salisbury, who also showed fine blooms, were Edward Purchase, Juno, Lord Derby, Disraeli, Willie Austin, G. Eliott, John Keynes, Miss Henshaw, Goldfinder, Harlequin, King of Sweden, Model, Earl Shaftesbury, Gold Drop, John Wyatt, Anna Keynes, D. Beaton, Fanny Purchase, Garibaldi, Jennie Austin, Pauline, Criterion, Lord Clyde, Miss Herbert, Delicata, Souter Johnny, Seedling (yellow), Lady Lilian Paulett, Norfolk Hero, Leopard, Seedling (yellow ground, heavily tipped with crimson), Lilac Queen, Regularity, General Jackson, Earl Pembroke, Marquis of Beaumont, Andrew Dodds, Hon. Mrs. Trotter, British Triumph, Count Cavour, Hugh Miller, Bob Ridley, Sir G. Douglas, Seedling (crimson), Charlotte Dorling, Cherub, Baron Taunton, and Lord Palmerston. Mr. Cattell, who also showed in this class, had nearly the same varieties as those just named. And in stands of 24 the same varieties were generally shown. Exhibitions from amateurs were all that could be desired, as far as size and quality were concerned.

*Awards.*—48: 1, Mr. Turner; 2, Mr. Keynes; 3, Mr. Cattell. 24: 1, Mr. Turner; 2, Mr. Keynes; 3, Mr. Perkins. *Amateurs.*—18: 1, Mr. Thorneycroft; 2, Mr. Charlton; 3, Mr. Corp; extra, Rev. C. Fellowes.

*Fancy Dahlias.*—Among these we noticed fine blooms of Harlequin, Countess of Bective, Pauline, Starlight, Elegans, Queen Mab, Confidence, Lady Paxton, Miss Jones, Mrs. Crisp, Norah Creina, Madame Sherrington, Summertide, Fairy Queen, Mrs. C. Kean, Countess of Shelburne, Pluto, Zebra, Garibaldi, Rev. J. Dix, Triomphe de Roubaix, Mrs. Wickham, Duchess of Kent, Leopold, Oliver Twist, Flirt, The Cure, Elizabeth, Mary Lauder, Prince of Wales, Gloire de Kain, and Gem.

*Awards.*—18: 1st, Mr. Keynes; 2d, Mr. Turner; 3d, Mr. Legge. *Amateurs.*—12: 1st, Rev. C. Fellowes; 2d, Mr. Corp; 3d, Mr. Sladden; extra, Mr. Perry.

*Roses.*—Exhibitions of these were furnished in tolerably good condition, and among them were fine blooms of the following varieties, viz., Senateur Vaisse, Souvenir de Leveson Gower, Louis the Fourteenth, Madame Furtado, Lord Clyde, General Washington, Jules Margottin, Souvenir de Malmaison, Comtesse Cecile de Chabrillant, Baron Gonella, Gloire de Santenay, General Jacqueminot, Pourpre d'Orleans, Celine Forestier (clear yellow), Catherine Guillot, Maréchal Vaillant, Madame Falcot (bronzy yellow), Gloire de Dijon, François Lacharme, Madame C. Crapelet, Narcisse (yellow), Acidalie (pure white), and Victor Verdier, all excellent late autumn Roses.

*Awards.*—1st, Mr. Turner; 2d, Messrs. Paul & Son; 3d, Mr. Clarke.

*Gladioli.*—Of these there was a fine display from various growers, whose best varieties were Madame Vilmorin, pink, striped with purple; Lord Raglan, salmon, with dark blotches on the under petals; Othello, deep crimson scarlet and yellow; Oracle, rose striped with carmine; Princess Clotilde, rosy salmon, striped with purple; Napoleon III., scarlet, with a yellow throat; Le Poussin, very handsome rosy salmon, with a clear white centre; Madame Haquin, white, striped and flushed with lilac; Mazeppa, large red and yellow; Jeanne d'Arc, French white, striped with purple; Brenchleyensis, glowing crimson scarlet; Endymede, large rosy salmon; Mrs. F. Ronget, like the last, but darker; Madame de Vatry, white striped with crimson; Queen Victoria, white flushed and streaked with purplish lilac; Madame Basseville, salmon with white blotched under petals; Penelope, delicate pink striped with purple; Madame Souchet, pink stained and streaked with crimson; Mrs. Reynolds Hole, carnation striped white; Prospero, crimson scarlet; Impératrice Eugénie, a splendid kind, white, striped and suffused with rosy lilac; Etna, scarlet; Mrs. Dix, white, striped with purple; Chas. Davis, crimson streaked with purple; Brian Boru, scarlet streaked with violet; Roscius, large showy rich salmon, streaked with violet; and Comte de Morny, crimson and white.

*Awards.*—1st, Messrs. Youell; 2d, Mr. Standish; 3d, Mr. Prince. *Amateurs.*—12: 1st, Mr. Sladden; 2d, Mr. Perry; 3d, Rev. H. H. Dombrain.

*Hollyhocks.*—A few blooms of these were shown, among which the best were the Rev. J. Dix, Prince of Wales, Princess, Geo. Young, Macrantha, Decision, Minerva, Invincible, Warrior, Acme, and Carus.

*Awards.*—12: 1st, Mr. W. Chater; 2d, Messrs. Minchin & Son; 3d, Messrs. Paul & Son.

*Asters.*—The different exhibitions of these were much admired, the German sorts being beautifully quilled and otherwise in fine condition, and the French kinds large and handsome—in short equal in size and doubleness to ordinary blooms of Dahlias themselves. From Mr. Cutbush came a collection in pots, consisting of large well bloomed plants.

*Awards.*—24 *German*: 1st, Mr. Betteridge; 2d, Mr. Wyatt; 3d, Mr. Sandford. 24 *French*: 1st, Mr. Betteridge; 2d, Mr. Wyatt; 3d, Mr. Sandford.

*Phloxes.*—Of these we only noticed one collection, which came from Mr. Turner; it contained some fine rosy pink and white kinds, and others, white with crimson centres; among the last the best was Cheerfulness.

*Verbenas.*—Of these there were several interesting exhibitions, in which were fine trusses of Emperor of Morocco, plum with white eye; Ida, rose; Rosy Morning, bright rose with white eye; Count Orsini, purple with white eye; Lord Leigh, scarlet with white eye; L'Avenir de Ballant, delicate pink with rosy eye; Annihilator, crimson with white eye; Mrs. Moore, deep violet with white eye; Mauve Queen; Modesty, purplish crimson with white eye; Ruby King, salmon red; Startler, crimson with white eye; Rubens, like the last, but a shade or two darker; Countess of Bradford, lavender; and Fairest of the Fair, white with purple eye; all valuable show varieties.

*Awards.*—24: 1st, Messrs. Perkins; 2d, Mr. Perry; 3d, Messrs. Minchin & Son.

*Miscellaneous Subjects.*—Conspicuous among these was a group of Autumn-flowering Annuals from Messrs. Carter & Co., of Holborn. Among them were charming examples of miniature orange and striped Marigolds, also large showy deep orange and pale lemon-coloured varieties of the same useful flower; variously coloured bouquets of hardy Everlastings; Asters large and fine, some beautifully striped, others self-coloured; and, last but not least, some surprisingly fine blooms of Double Zinnia. From Mr. Salter, of Hammersmith, came a collection of hardy variegated plants. Mr. Barker of Godalming had a beautiful stand of Tropæolum blooms; also Cupressus Barkerii, a Weeping Cypress, which, when first shown, the Floral Committee honoured with a certificate. Finally, from Mr. Whiting, of The Deepdene, near Dorking, came an interesting collection of Potatoes, of which separate notice will be taken next week.

Besides the Seedling Dahlias, on which we shall take another opportunity of commenting, there were some interesting novelties submitted for the examination of the Floral Committee. Some of the most remarkable of these belonged to the class of Ferns. Thus, Mr. Dean, of Shipley, showed a very nicely-grown specimen of Cionidium Moorii, an Australasian species, discovered by Mr. C. Moore, after whom it is named, and particularly interesting as a netted-veined representative of Deparia, a Fern in which the fructification forms little cups set out on short stalks from the margin. The fronds of this Cionidium, which were rather broad-surfaced, and divided something after the manner of Aspidium trifoliatum, appeared fringed by the multitude of these projecting sori. Another was Pteris pellucida, from Mr. Bull, of Chelsea, a pinnate Fern with long broadish ribbon-like pinnæ, which were conspicuously wavy at the edge, the young fronds having a rich reddish-brown tint. Mr. Bull also had Adiantum cardiochlæna, one of the best of the larger growing hothouse Maidenhairs, a very handsome species, which though here and there met with in collections, was deserving of the First-class Certificate which was now awarded to it, a similar award being also made to each of the plants previously mentioned. Another First-class award was made to Centaurea argentea from Messrs. E. G. Henderson & Son; this is one of the beautiful white-leaved plants alluded to at p. 842, and is at present scarce. A Second-class Certificate was given to a very handsome hybrid Orchid called Cattleya exoniensis shown by Messrs. Veitch & Son, and which we understand was the result of a cross between C. Mossiæ and Lælia purpurata; it was dwarfish in habit, with moderate-sized blossoms of a blush white, the petals somewhat acuminated and frilled, the lip tipped with a broad definite patch of purple rose, the hinder part being yellow, with a dark patch at the base;

as it gains vigour and age it will probably prove a very fine thing in its class. A similar award was made to Gladiolus Charles Davis, from Mr. Standish, of Ascot, a smooth, bright, rosy scarlet, with purple markings. Commendations were given to the same exhibitor for other varieties of Gladiolus, named Mrs. Dix, a faintly-striped white with distinct purple flame; Mount Etna, a large bright pale scarlet; and Randle Jackson, a blush white striped with pink. Several other fine seedlings came from the same source. Some interesting variegated plants were produced, especially Phytolacca decandra variegata, a bold herbaceous perennial, with very strongly-marked leaves edged with creamy-yellow, the small green portions of which next the midrib were mottled with grayish green; when well established this must be a very effective plant; it received a Commendation, as did also Anemone japonica Honorine Jobert, from Messrs. F. & A. Smith, of Dulwich, a continental variety producing showy white flowers, and likely to be useful as an autumn-flowering perennial. A Special Certificate was awarded to Messrs. Veitch & Son for a miscellaneous group of flowering plants; in it the glorious Japanese Lilium auratum, and the interesting Anthurium Scherzerianum with its reflexed scarlet spathes were conspicuous. Similar Certificates were assigned to Messrs. E. G. Henderson & Son for a large group of cut blooms of Pompon and Bedding Dahlias, set up in Hyacinth glasses, and forming a very interesting feature of the show; for a large group of Variegated-leaved Pelargoniums, amongst which Lucy Grieve and Mrs. Beryon were conspicuous; and for a most interesting collection of 10 sorts of Tree Ivies, of which neat bushes grown in pots were shown. The names of the best Dahlias were Little Mistress, Little Dear, Pretty Polly, German Daisy, and Fairy Child. Messrs. Henderson showed cut blooms of a fine looking Verbena named Lady Palmerston, a broad-lobed white with deep rose eye and more or less flushed with rose; and Mr. Eckford, of Coleshill Gardens, sent a large deep but coarse scarlet, named Lord Radnor. Some attractive Pelargoniums were shown by Messrs. Saltmarsh & Son, Chelmsford, one of which, called Little Treasure, of dwarf bushy habit with small zonate leaves, and a profusion of scarlet flowers, promises to be useful; and another, Luna, a yearling, had handsomely marked leaves of a golden yellow with a well defined zone of brownish red. Finally, Mr. Bull showed a large number of interesting plants, including the very fine Vallota purpurea eximia, which appears to be distinct from major in having a pale centre, serving to set off the glow of the broad flame-scarlet perianth segments; Geonoma Ghiesbreghtii, a good looking broad-lobed pinnate Palm, from Mexico; the pretty Fern Cheilanthes or Adiantopsis radiata, shown under the now discarded name of Adiantum radiatum; Schizocasia Portei, a cut-leaved Caladium; some shrubby variegated Begonias, which may perhaps be useful for stove decoration; and one or two good forms of velvety-leaved richly-coloured Gesneras of the zebrina set. The list of awards made to the Seedling Dahlias will be found in our advertising columns. We ought not to omit to mention some Fuchsia blooms from the collection of E. Banks, Esq., of Deal, which were placed on the table by Messrs. E. G. Henderson & Son. There were among them several remarkably fine things, but two which attracted especial attention had the corollas spread out nearly flat, like great Melastoma flowers; one of them which we measured was 2½ inches across.

## Notices of Books.

The *Botanical Magazine* of this month contains figures of some very interesting plants. One of the most prominent is *Bowenia spectabilis*, noticed elsewhere, a fine bipinnate-fronded species, discovered originally by Allan Cunningham, and more recently by Mr. Walter Hill, by whom it has been introduced to our gardens. Another of considerable interest is *Silene Elizabethæ*, a dwarf perennial Catchfly, reminding one, in the size and form of its flowers, of accidental five-petaled blossoms of Clarkia with undivided petals. This rare and handsome species is a native of Italy, and forms a dwarf viscidly pubescent tuft of lanceolate acute spreading leaves, with stems of about a span high, terminated by a dichotomous panicle of several bright rose-coloured flowers, which measure an inch and a half in diameter; it is grown at Kew. *Musa vittata* is also figured from plants which have blossomed at Kew, and is regarded as a striped-leaved form of *M. sapientum*. "The remarkable variety of the common Banana here figured," writes Sir W. Hooker, was discovered by the late W. Ackerman in the island of St. Thomas, in the Bight of Benin, and by him sent to his employer M. Van Houtte of Ghent. At about the same time, that island was visited by Mr. G. Mann, our own energetic collector, by whom fine young plants were sent to the Royal Gardens, where they flowered in June of the present year. Though similar in all essential characters to the common Banana, this forms, especially in its young state, a very striking feature amongst the dark green foliage of a tropical house; but as the plants come to maturity the colours fade. The fruit in all our plants bears no seed, and there seems little doubt, both from this circumstance, and from the information we have received from Mr. Mann, that the variety is a cultivated one, and that the M. sapientum is nowhere indigenous to Africa. It is indeed suggested by M. Rodigas, that M. vittata is a variety of M. sinensis, which is the M. Cavendishii of Paxton, and differs chiefly in stature and habit from M. sapientum." The other figures represent *Homoianthus viscosus*, a Chilian herb, apparently perennial, introduced by Messrs. Veitch & Son, and which has radical leaves 3 or 4 inches long, lanceolate or narrowly spathulate, tapered into a long winged petiole, and crenately toothed, and bears corymbs of several large flower-heads made up of three or four rows of blue florets, the central ones two-lipped; and lastly, *Catasetum cernuum*, a green-flowered species of the Myanthus group.

*Seemann's Journal of Botany* contains a continuation of the Editor's revision of the Bignoniaceæ, with a plate of *Dolichandra cynanchoides*; a paper by Prof. Babington on the Botany of South Pembrokeshire; Sir W. J. Hooker's report on Kew Gardens; a notice by Mr. J. G. Baker of Hypericum lineolatum, which is identified with a plant found sparingly near Thirsk, but of which it is remarked that it appears to be a mere form of our common H. perforatum; a critique by the Editor on the position of Hydrocotyle, Opa, Commia, and Blastus in the Natural System, and sundry book notices and scraps of botanical news. Hydrocotyle is referred, along with some other reputed Umbellifers, to Araliaceæ, Opa is identified with Rhaphiolepis which it supersedes, Commia proves to be the same as Excœcaria Agallocha, and Blastus is an overlooked Melastomaceous genus synonymous with Bentham's Anplectrum parviflorum.

The illustrations of the *Floral Magazine* consist of a group of *Ixias*, beautiful flowers which ought never to have been otherwise than popular; *Rhododendron Countess of Devon*, a handsome hardy variety with French white finely spotted flowers, raised by Messrs. Lucombe Pince & Co.; *Bourbon Rose Rev. H. Dombrain*, a fine looking carmine rose, said to be very fragrant, and of which it is predicted that it will be a general favourite, "no flower of the same form and colour having previously appeared amongst the Bourbons;" and finally a group of the Double-flowered *Pyrethrums*, to which we have adverted on a former occasion. The present number appears without the usual "companion."

## Garden Memoranda.

MR. CHATER'S NURSERY, SAFFRON WALDEN.—To Mr. Chater chiefly belongs the merit of being the originator of the improved race of Hollyhocks that now occupy our gardens. By patient cross-breeding new varieties, better than their predecessors, yearly sprung up under his care, until now, thanks to him as well as to other raisers, little is left us to desire, at least as far as size, doubleness, and quality are concerned. New colours are, however, still a desideratum, and to that point particular attention is now being directed.

As regards cultivation, all the Hollyhock requires is good garden soil, well trenched to the depth of 2 feet or so, incorporating with it, as the operation proceeds, plenty of thoroughly decomposed manure, such as that from old Cucumber beds, or decayed night soil. If the subsoil is wet, Hollyhocks will thrive remarkably well in it in summer, but in winter wet is injurious to them, *i. e.*, in cases in which old plants are allowed to remain out of doors; to prevent that Mr. Chater removes the mould round the neck of the plant, and fills up with white sand, an operation which he states preserves them from wet and insects, from which, in winter, they are apt to suffer, if not killed. He however recommends young plants being planted every year, as one would Dahlias, if fine flowers are desired. Hollyhocks may be propagated by single eyes in July and August, also by cuttings in spring, placed on a slight bottom heat. Plants raised in summer are best preserved by repotting them in October into large pots—the larger the better, in light rich sandy earth, and placed in a cold frame or greenhouse, giving plenty of air on all favourable occasions; they will then grow during winter. In March or April turn them out into the open ground, and they will bloom as finely and as early as if planted in autumn. Plants even put out in May will flower the same year. Plant them not less than 4 feet apart from row to row, and 3 feet asunder in the row. If grouped in beds they should not stand nearer than 3 feet each way. They succeed under the shade of trees, but not too near their roots. In May or June, when the spikes have grown a foot high, thin them out according to the strength of the plant; if well established and very strong, leave four spikes; if weak two or three; when required for exhibition only one must be left. In good varieties the individual flowers on the spike should all be perfect, the edges smooth and even. The florets occupying the centre must be full and compact, closely arranged, rising in the middle in a half globular form, with a stiff guard petal extending outwards about half an inch in proportion to the size of the centre, so that the different parts of the flower may present a uniform appearance. The arrangement of the flowers on the spike should also be regular, and not crowded together into a confused mass, nor hanging loosely with open spaces between each flower; they should in short be so disposed that the shape of each may be distinctly seen, and when fully blown the uppermost should cover the top; nothing can add more to the beauty of a spike than a few small green leaves between the flowers, which give it an elegant and graceful appearance. As regards colours the brightest and most distinct stand first, a point that should be kept constantly in view with seedling raisers.

In exposed situations Hollyhocks must be staked before they get too high, or they are apt to be broken or otherwise injured by wind. The most robust do not require a stake higher than 4 feet from the ground. In dry weather they may be watered with a solution of guano, or any other liquid manure, carefully applied round the roots, not too near the stem. In order to have fine flowers, cut off the lateral shoots, thin the flower buds if crowded together, and remove the top of the spike to the height desired, paying attention to the usual size and habit of the plant. By topping, one may increase the size of the blooms, but at the same time it shortens the duration of flowering, and sometimes disfigures the appearance of the spike.

As regards varieties among the different shades of rose, the best were Crusader, Rosea magnifica, Village Maid, Amandine, Rosy Gem, David Foulis, Beauty of Walden, Queen Victoria, Lady Palmerston, Carus, Miss Barrett, and Rose Celestial.

Among Peach-blossomed kinds Countess Russell and Shortgrove Perfection were conspicuous, as were also Lizzy, Rosea pallida, Beauty of Dysart, the Hon. Mrs. Ashley, Blushing Bride, Joan of Arc, and Beauty of Mitford.

White, or nearly white sorts, consisted of Lady Paxton, Candidissima, Royal White, Queen of Whites, Mont Blanc, and Snowflake.

Of Cherry and Crimson-coloured varieties, the most striking were Beauty of Cheshunt, Lady Helen Stuart, Prince Albert, B. R. Cant, Lady Jocelyn, Warrior, Comet, Lady King, Walden Gem, Candidate, and Conqueror.

Among Scarlets, the most effective were Governor General, Royal Scarlet, Illuminator, Glory of Walden, Joshua Clarke, Garibaldi, Brilliant and Meteor.

Of Salmons, Lady Dacres, Mrs. Oakes, Imperator, Invincible, Stanstead Rival, Excelsior, Premier, and Walden Masterpiece, appeared to be the best.

Among Yellows none were better than Golden Fleece, Defiance, Gem of Yellows, and Miss Lizzy King.

Black Knight appeared to be the best dark kind.

Of Seedlings, Mr. Chater has this year several kinds which promise to be first-class flowers. Some of them indeed have already this autumn received certificates.

## Miscellaneous.

*Swiss Scientific Society.*—An English guest of this Society sends us an account of their pleasant congress in the Alps.—"Samaden, the principal village of the Upper Engadine, has this year been enlivened for three days by the presence of 150 Swiss *Naturforscher*, who there assembled to hold their 47th annual meeting, under the presidence of Herr National Rath von Planta, the worthy and highly intelligent representative of one of the oldest families of this elevated, primitive and charming valley. The general meeting on the first day, the 24th, was held in the Church of Samaden; and the well-known Prof. Vogt there gave his lecture 'On the Antiquity of Man.' On the table beneath the pulpit were casts of the renowned Neanderthal and Enghis skulls, of which the characteristic features were explained. Of course, the famous jaw of Moulin-Quignon, with its decayed teeth, proving, as the lecturer remarked, 'that Adam suffered from tooth-ache,' was amply discussed. Prof. Vogt appeared to entertain no doubt of the authenticity of this jaw, and strange to say he attributed the scepticism of English naturalists, in a great measure, to the fact that the jaw in question exhibits no ape-like characters! This astounding assertion, it is but fair to add, met with no support; at the conclusion of the lecture, in fact, Prof. Heer rose, and quietly, but firmly, expressed his opinion that the sceptics in question had fully established the existence of fraud, and had thereby rendered a great service to science. This lecture was, perhaps, the most interesting event of the meeting on the second day. The several sections assembled wherever they could find accommodation. The Physical and Chemical section, under the presidence of Prof. Clausius, assembled in the Café of the Hôtel de Bernina, and Prof. Wislicenus appropriated the chalk and black board of the billiard-marker in order to illustrate the most modern views of the composition of succinic and other acids. The most characteristic and pleasing features of the meeting, however, were the hearty hospitality of the entertainers and the hilarity of their guests. All the vehicles of the valley, from the most luxurious and elegant barouche to the most excruciating *char-à banc*, were placed gratuitously at the disposal of the visitors. Each day a procession of 30 or 40 such vehicles wended its way, under triumphal arches, to the several adjacent points of interest, the Mortiratsch glacier, the village of Capella, and the Baths of St. Moritz. The proprietors of the last establishment generously provided a dinner of sumptuous elegance, which, the altitude of 5500 feet being taken into consideration, astonished every one. On the first and third days the 150 guests found ample room to dine in one of the halls of the President's quaint mansion, at Samaden. The young ladies

of the village volunteered their services as cooks and waiters, and the jingle of knives and forks, between the several patriotic toasts, was drowned by national melodies well chanted and played by the amateur musical societies of the valley. Even to the Swiss themselves, and much more to their foreign visitors, the meeting had a peculiar charm; it was unique of its kind, and will be long remembered by both hosts and guests. The next meeting will be held in the more civilised town of Zurich." *Athenæum.*

*A New Oak.*—On the sides of these hills [west of Peking] I met with a new Oak tree (Quercus sinensis) of great interest and beauty. It grows to a goodly size—60 to 80 feet, and probably higher—has large glossy leaves, and its bark is rough, somewhat resembling the Cork tree of the south of Europe. Its acorns were just ripe, and were lying in heaps in all the temple courts. They are eagerly bought up by traders, and are used in the manufacture of some kind of dye. I secured a large quantity of these acorns [and they are now growing luxuriantly in Mr. Standish's nursery at Ascot. As this fine tree is almost certain to prove perfectly hardy in Europe, it will probably turn out to be one of the most valuable things I have brought away from Northern China. A species of Maple and an Arbor-vitæ of gigantic size were also met with on these hills, apparently distinct from the species found in the more southern provinces of the Chinese empire, and Walnut trees were observed covered with fruit in some of the temple gardens. *Fortune's "Yedo and Peking."*

*Vine Mildews.*—Dr. Engelmann exhibited specimens and numerous drawings of two species of Fungi, which infest our vineyards to such an extent as to materially diminish the crop, and influence the culture of the Grape, at least that of the Catawba in our region. The first is a species of Botrytis, and perhaps the same as Berkeley's B. viticola, (very near B. seminorum, Pers.?) It makes its appearance in the latter part of June, on the lower downy surface of the leaves of the Catawba variety of Vitis Labrusca (the only one extensively cultivated here,) forming irregular confluent spots. The horizontal fibres of the mycelium have a diameter of 0·005 line, finer and whiter than the hair of the down with which they are interwoven; the erect fructiferous stems, about 0.3–0.4 line high, and a little thicker than the horizontal fibres, bear numerous horizontal branches, upwards gradually shorter, the last divisions of which form very short pedicels, always two or three together, bearing oblong or oval, very deciduous spores, 0.008–0.011 lines in the longer diameter. About the same time the mildew appears on the pedicels, and often also on the young berries when they are of the size of small Peas or smaller; Dr. E. never saw it on full grown berries. Those attacked on their surface, or on their pedicels soon fall off; but the most material damage is done by the mildew infesting the leaves, whereupon the greater part of the berries will gradually turn yellowish-brown at their base, shrivel from that point, assume a club shape, and at last dry up entirely, usually remaining adherent to the withered racemes. This he designated as the brown rot. The second kind of rot—the black rot—is brought on by a very different fungus, which he believed was undescribed by botanists. It evidently belonged near Ehrenberg's genus Nemaspora, and ought to bear the name ampelicida. It makes its appearance only on nearly full grown berries, exhibiting in the first stage a discoloured spot on the side, but never at the base of the berry, about 2 lines in diameter, with a dark dot in the centre. This spot soon becomes light brown and remains so, while the surrounding part of the berry gets darker, and exhibits a rough or (under a magnifier) pustulous surface; gradually, now, the berry shrivels up and turns black. The individual Fungi are little spherical bodies (0.07–0.10 line in diameter), formed under the surface in large numbers, which, growing, elevate, and at last burst the epidermis, then open at their apex by a small jagged hole, and, shrivelling with the berry, eject a more or less curled or twisted thread, which, moistened, becomes gelatinous, and shows the innumerable oval sporules (0.001–0.005 line long), each imbedded in its coat of mucilage. These kinds of Fungi are found either on distinct Vines, or sometimes also on the same; they are very rarely seen on Grapes cultivated in yards and on houses, but are very common, not to say universal, in our gardens and vineyards, in some seasons more so than in others. It is said that vineyards further north, *e. g.* in Northern Illinois, are free from these pests. Whether other diseases assist in the destruction of the Grape, as wine-growers will have it, he cannot, from his own experience, determine. He has never seen the Erysiphe, which is so destructive to the Gooseberry, and to Vines in graperies, on Grapes cultivated in the open ground. *Proceedings of the Academy of Sciences of St. Louis.*

## Calendar of Operations.

(*For the ensuing week.*)

PLANT DEPARTMENT.

Conservatory, &c. — Summer flowering twiners, which usually become unsightly about this season, should be cut back rather freely, as also any others that will bear the treatment. Shade can now well be dispensed with; therefore not a spray that can be spared should be left to obstruct the light. Acacias, and other winter-flowering plants having been subjected to a period of comparatively dry treatment, to ensure their blooming profusely, should now be pretty liberally supplied with water at the root, in order to get them into flower during the dull season, when they will be much more esteemed than in spring, when flowers are plentiful. Manure water, if it can be used, should be given frequently to Chrysanthemums. Give air freely on favourable opportunities, avoiding cold draughts against plants that have been brought from a warm house, and guard against damp by using gentle fires with a little top air on wet days. Let pot specimens in bloom be frequently re-arranged, so as to make the most of them, for the finest specimens become too familiar to be interesting when allowed to remain too long in one place. Be careful not to over-water things brought from the stove, and also to use the water in a tepid state. Use weak liquid manure for Salvia splendens, so as to preserve the plants in a vigorous state, and keep them blooming as long as possible. Give attention to securing a plentiful succession of things for maintaining the gaiety of the house during winter.

FORCING DEPARTMENT.

Pineries.—As has been frequently mentioned, plants swelling their fruit should be assisted with a brisk temperature, say from 65° to 75° at night, regulating this according to the state of the external temperature, keeping the house rather close on sunny days and allowing the thermometer to rise to 90° or 95° before giving air freely. Also endeavour to proportion the moisture to the temperature, for a high dry temperature is not favourable to the swelling of the fruit, and there is no chance of getting well swelled heavy fruit without plenty of warmth and moisture. Maintain a steady bottom-heat of about 85°, and use every care to keep the soil in a healthy state as to moisture. When watering is necessary, use clear manure-water, give sufficient to moisten the whole of the soil, and avoid frequent dribblings, for when this system of watering is practised it is nearly impossible to keep the under soil in a healthy state. Use the syringe sparingly, and only to dew the plants, as heavy syringings after this season are apt to keep the surface soil so moist as to render it difficult to judge as to when water should be given. Any young plants growing in pots which may require re-potting should be seen to at once so as to allow an opportunity of getting them established in fresh pots, while they can be kept moderately warm. See that the balls are in a proper state as to moisture before repotting, as neglect of this is a frequent cause of young stock fruiting prematurely. Keep moist and rather warm for a time after shifting, so as to encourage the formation of fresh roots.

Vineries.—Before wet weather sets in we would again advise covering the borders of the early house with dry stable litter, fern, or whatever can be obtained most conveniently that will answer the purpose of keeping the border dry. Nothing answers better for this purpose than clean straw, provided the border has a proper slope from the front of the house; in that case it is easily thatched so as to throw off the wet entirely. Wooden shutters or tarpaulin also answer the same purpose. It will also be advisable to cover the borders of houses in which it is intended to keep ripe Grapes for any length of time, so as to prevent the soil getting saturated about the roots. Look over ripe Grapes frequently, particularly in damp weather, cutting out any tainted berries immediately they are perceived, and keep the atmosphere as dry as possible, using gentle fires when necessary with a free circulation of air; but a warm temperature is nearly as injurious as damp, therefore use no more fire-heat than may be absolutely necessary.

FLOWER GARDEN AND SHRUBBERIES.

The principal work in this department for the present will be mowing and clearing up; and if anything like neatness is to be maintained, sweeping up of leaves will soon require daily attention; also see to getting gravel walks thoroughly cleared of weeds and Moss; roll them frequently when wet, to keep the surface hard and smooth. Continue to afford young plants in pits and frames the most careful attention, and endeavour to get them well rooted and strong without keeping them so close or warm as to render them soft and liable to fog off on the first approach of winterly weather. Therefore admit air freely to all plants that are sufficiently rooted to bear it without flagging. Newly potted-off things should, however, be placed on a gentle bottom heat, which will impart a little warmth to the soil and encourage the formation of roots, but sufficient air should be given to prevent anything like weakly growth. Cuttings of Calceolarias, Scarlet Geraniums, &c., may still be put in where the stock is deficient. Scarlet Geraniums will root almost anywhere, but Calceolarias are not quite so accommodating, as cuttings taken from plants in the open ground are very liable to damp off in heat; these will be found to do very well, however, in a close pit or frame where there is the means of applying a little warmth when necessary to dispel damp. See to securing as many cuttings as possible of any scarce plants which it may be desirable to increase while there is a fair chance of rooting them, and also be prepared to protect Scarlet Geraniums and other things which it may be intended to take up and winter, for we may expect frost any time after this period, and if such things can be protected so as to prevent the foliage and young wood from being much injured they are much more easily wintered. Where Annuals have sown themselves on borders, let them if possible be retained; they will bloom early and strongly in spring, especially the Californian kinds, and may then be transplanted if desired to other situations.

HARDY FRUIT AND KITCHEN GARDEN.

As formerly recommended, look over fruit remaining out of doors frequently, and gather it as it becomes fit. Also examine that stored in the fruit room, as there will occasionally be found a few decaying for a few weeks after housing, and these should be removed as soon as perceived. Keep the fruit room cool and airy, in order to allow of the escape of moisture given off by the fruit, which is considerable for a few weeks at first. Where it is intended to make fresh plantations of fruit trees this season, the ground should be prepared at the earliest convenience, and any fresh soil to be used for planting should be thoroughly exposed to the action of the weather so as to have it in a mellow state when wanted for use. If not already done, clean and dress Strawberry plantations, clearing away all useless runners, giving a good dressing of manure when necessary, but be careful to select that which is thoroughly decayed, and which can be covered without the necessity of digging deep or injuring the roots. The principal crop of Celery should now be kept rather closely earthed up, using quick lime and soot freely to destroy slugs. Give every attention to autumn Broccolies; also to autumn and winter Lettuce, watering with liquid manure to make them crisp, and tying up in regular succession. Blanch Endive and cut away all superfluous shoots from Tomatoes. Brown and Bath Cos Lettuce, as well as Hammersmith Cabbage, for early spring work, should now be pricked out; more especially if getting what is technically termed proud.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON
For the Week ending Sept. 9, 1863, as observed at the Horticultural Garden.

| Sept. | | Moon's Age | Barometer Max. | Barometer Min. | Temperature of the Air Max. | of the Air Min. | of the Air Mean | of the Earth 1 foot deep | of the Earth 2 feet deep | Wind | Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. | 3 | 20 | [illegible] | [illegible] | 72 | [illegible] | [illegible] | [illegible] | [illegible] | S. | [illegible] |
| Friday | 4 | 21 | [illegible] | [illegible] | 73 | 50 | [illegible] | [illegible] | [illegible] | S. | [illegible] |
| Satur. | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | S. | [illegible] |
| Sunday | 6 | [illegible] | [illegible] | [illegible] | 67 | [illegible] | [illegible] | [illegible] | [illegible] | S.W. | [illegible] |
| Mon. | 7 | 24 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | W. | [illegible] |
| Tues. | 8 | 25 | [illegible] | [illegible] | 65 | [illegible] | [illegible] | [illegible] | [illegible] | S.W. | [illegible] |
| Wed. | 9 | 26 | [illegible] | [illegible] | [illegible] | 44 | [illegible] | [illegible] | [illegible] | S.W. | [illegible] |
| Average | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] |

Sept. 3—[illegible] heavy rain at night.
— 4—[illegible] very fine; lightning; cold at night.
— 5—Clear; [illegible] and constant rain; showery.
— 6—Clear; with high west wind; rain.
— 7—Fine; cloudy; very [illegible] at night.
— 8—Fine; cloudy; boisterous with rain.
— 9—Rain; densely overcast; showery; thunder, lightning, much [illegible] and heavy rain.

Mean temperature of the week [illegible] deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last [illegible] years, for the ensuing Week, ending Sept. 19, 1863.

| Sept. | | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday | 13 | [illegible] | [illegible] | [illegible] | 17 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Mon. | 14 | [illegible] | [illegible] | [illegible] | [illegible] | 0.64 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Tues. | 15 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Wed. | 16 | [illegible] | [illegible] | [illegible] | 13 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Thurs. | 17 | [illegible] | [illegible] | 57.3 | 14 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Friday | 18 | [illegible] | [illegible] | [illegible] | 17 | 0.64 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| Satur. | 19 | [illegible] | [illegible] | 56.1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

The highest temperature during the above period occurred on the 17th, 1853—therm. 84 deg.; and the lowest on the 19th, [illegible]—therm. 29 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is thus delayed.

Gladioluses: *W E.* We have already explained in our volume for 1861 (p. [illegible]) what the qualities are which, in our opinion, should be insisted on in seedling Gladioli. In brief they are these:—1, the habit should be vigorous; 2, the flower spike should be long, well-furnished, with the flowers inclined towards each other so as to form one face; 3, the individual flowers should represent an obtuse-angled triangle either erect or reversed, the lip marking being confined in the former case to the one and in the latter to the two lower petals, or if continued on the sepals then symmetrically disposed; 4, the colours should be clear and the marking distinct; 5, the surface and margins should be smooth, and the texture firm and stout. Now seedlings are getting numerous, we hope censors will be firm in applying these rules, for though all Gladioli are handsome flowers, yet all are not worth naming and distributing.

Hyacinth Glasses: *S B.* Tye's have greatly the advantage in appearance, and as far as our experience goes, the bulbs grow quite as well in them as in the old fashioned glasses. Vessels of the same form as Tye's glasses, are, we observe, now made of fine red earthenware, but we have had no experience of their use.

Names of Plants: *H H.* The Fern is Cheilanthes or Adiantopsis radiata; Adiantum radiatum is antiquated, and, according to our present knowledge of Fern structure, erroneous.—*W M.* Vallota purpurea, one of the finest of autumn-flowering bulbs.—*H R S.* Centaurea ragusina.—*B D.* 1 Cystopteris fragilis dentata; 2 Cystopteris fragilis.—*W C T.* Apparently Yucca aloifolia.

Variegated Pelargoniums: *H. Inddi.* Lucy Grieve is, as far as we have seen, the best of the red zoned yellow-edged, or golden tricolor leaved sorts, as they are sometimes called. It comes nearest to Mrs. Pollock. Sunset is quite different, and very pretty in its way. We hardly know enough of Mrs. Benyon, the new one certificated the other day, but it at least is a free bloomer. The Nosegays are a fine race for decorative purposes, despite their want of "properties," as a florist would say; indeed Nosegay Stella is probably unequalled for effect.

Woodlice: *Sub.* One of the best remedies for these is pouring boiling water round the sides of your frame, both inside and out. It must, however, be done carefully, so as not to injure the roots of the Cucumbers. The powder you mention has been advertised in our columns; it will not, however, we fear, be found to answer your purpose so well as the boiling water.

TRADE

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The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the miller, and realised £19 7s. per acre

**In September DRILL 4 Bushels on 10 acres.**

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In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately; those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the length of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

This family Z is *now for the first time* offered to the public, and is ready for delivery.

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AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
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W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on South-down and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.
REV. GEORGE WILKINS, Wix Parsonage—Lecture on Tillage.
N.B. Mr. Wilkins will Lecture on February 9.

AGRICULTURAL CHEMISTRY.

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For further particulars apply to the PRINCIPAL.

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HIGHLAND and AGRICULTURAL SOCIETY. AGRICULTURAL EDUCATION.

The SOCIETY'S AGRICULTURAL DIPLOMA will be conferred on Candidates who shall have passed the Examination, and fulfilled the other conditions required by the Royal Charter and relative Bye-Laws.

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**Highland and Agricultural Society.**

EDINBURGH VETERINARY COLLEGE.—The COMMITTEE of the HIGHLAND and AGRICULTURAL SOCIETY of SCOTLAND, appointed to Superintend the VETERINARY COLLEGE, hereby intimate that SESSION 1863-1864 will commence on WEDNESDAY, November 4, at 4 P.M.

THE COURSE OF STUDY EMBRACES THE FOLLOWING CLASSES:—

| | |
|---|---|
| 1. Zoiatrics, Veterinary Medicine, and Surgery .. .. .. | Professor DICK. |
| 2. Zootomy—comprising Veterinary Descriptive Anatomy, and Physiology .. .. .. | Mr. STRANGEWAYS, V.S. |
| 3. Practical Anatomy, and Anatomical Demonstrations .. | MR. STRANGEWAYS, V.S. |
| 4. Chemistry, Theoretical and Descriptive, from commencement of Session till end of January .. | Dr. A. DALZELL. |
| 5. Veterinary Materia Medica and Pharmacy, from beginning of February till end of Session .. | Dr. A. DALZELL. |
| 6. Physiology and Histology, Physiological and Pathological .. | Dr. P. YOUNG. |
| 7. Practical Pharmacy and Clinical Instruction .. .. .. | Prof. DICK, assisted by Mr. WORTHINGTON, V.S. |

Perpetual Fee for Attendance on all the Classes, 16l. 16s.

JN. HALL MAXWELL, Secretary.

SMITHFIELD CLUB FAT CATTLE SHOW, 1863.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS, will be held at the AGRICULTURAL HALL, ISLINGTON, on MONDAY AFTERNOON, December 7, and four following days.

The Prizes now offered consist of 1825l. in money; 60 Silver Medals; Two Silver Cups, value 40l. each, for Cattle; Three Silver Cups, value 20l. each, for Sheep; and a Gold Medal for Pigs; also a Butcher's Silver Cup, value 10l.

There are now separate Classes for Eleven distinct Breeds of Cattle and Ten distinct Breeds of Sheep, and Four Classes for Pigs of different ages.

The Entries for LIVE STOCK CLOSE on NOVEMBER 2.

The Entries for AGRICULTURAL IMPLEMENTS, &c., CLOSE on OCTOBER 1.

Prize Sheets and Printed Forms of Certificates, with full particulars, can be obtained on application to

Mr. DAVID PULLEN, Assistant Secretary,
At the Office of the Honorary Secretary,
Corner of Half Moon Street, Piccadilly, London, W.

N.B.—Applications for Prize Sheets and Forms of Certificates must be addressed to the ASSISTANT SECRETARY as above, and all letters must bear outside the words "SMITHFIELD CLUB."

SMITHFIELD CLUB FAT CATTLE SHOW, 1863. IMPLEMENT DEPARTMENT.

The LAST DAY for receiving Entries for the Implement Department of the Show is Thursday, OCTOBER 1, 1863.

Forms of Certificates, and all information can be obtained of

Mr. DAVID PULLEN, Assistant Secretary.
Corner of Half Moon Street, Piccadilly, London, W.

# The Agricultural Gazette.

*SATURDAY, SEPTEMBER* 12, 1863.

WE see in the columns of a contemporary Agricultural Journal that Mr. DU BOULAY claims the current weather as the fulfilment of his prediction at the time of the Vernal equinox. He says that our dogmatism in the *Agricultural Gazette* on this subject has been brought to a laughable conclusion in a recent Number, when numerous correspondents gave ample information that the harvest is gloriously fine; so that our remarks in April last are likely to turn out to have been "gloriously stupid." The following, we presume, are the remarks to which he refers. At page 322, on April 6, we said:—"Mr. DU BOULAY may be right in his prediction, certainly we do not undertake to say the early hay crop will not be as good as he foretells. We know nothing about it; the only thing indeed of which we are equally certain is that neither does he. Either of us, however, may make a lucky shot, and so contribute one as we may imagine towards that myriad which must be forthcoming before a reasonable Englishman will believe that he has got a clue to the mysteries of English weather." Mr. DU BOULAY's idea is that the weather of the equinoctial week prefigures that of the ensuing summer. There is not a particle of reason to be adduced why it should do

so, and this therefore is one of those cases of an alleged general law which need a multitude of examples before our faith in it can be fairly claimed. Certainly we are not in the least disposed to believe it yet; when the experience of half a dozen generations of men shall have proved that the alleged coincidence does generally obtain, then some degree of faith may be forthcoming. But can anything like this be quoted in its favour up till now? It is as yet unreasonable. There is no *reason* why we should expect it to be true; and in the absence of that we must repeat what with "glorious stupidity" we said last April—that "no induction of particulars, though gathered from the life time of the oldest man, will furnish any 'law' to which the details of so variable and at all times so capricious a thing as English climate will be found obedient."

Does Mr. DU BOULAY claim the weather of the current season as an instance of obedience to his so-called "law?" On the whole the weather of the equinoctial week was remarkably good—cool with slight showers at the beginning, beautiful and warm towards the end; and there was no difficulty in Mr. DU BOULAY's way such as sometimes happens when weather is not only various within the week, but various within the island during it. The weather was uniformly good over the United Kingdom. But how does his recent letter to the *Mark Lane Express* characterise the season which has followed this beautiful week? He says that heat and cold, and dryness and wet, have all been present during the season in an eminent degree. He speaks of the cold of May and June—the drought of May, the wet of June, and both the frost and heat of July.

It has been a "glorious summer," as was foretold, but the character of the crops on which its claim to this title is alone founded has been owing to the weather previous to the vernal equinox as well as to that which has succeeded it. And *that* on the other hand has not been what the equinoctial week led Mr. DU BOULAY to expect.

The Wheat produce *has* been "superlatively fine;" Mr. DU BOULAY made "a lucky shot" in that. He did not however "see why the early crop of hay should not be good"—though it was really spoiled by the rain; and though it was "just possible," according to his theory, "that the later pastures may be rather bare from dryness and heat, and that Turnips in England in the months of August and September may be inclined to mildew from the same cause." Yet both pastures in September, and Turnips in August and September, have been fed with rain sufficiently, and promise well. The crops in England, Scotland, and Ireland, are unfortunately not "likely to be housed in the best condition before the arrival of the autumn rain." In all this Mr. DU BOULAY's "shot" has not so accurately hit the mark. And how the sprouted Barley of the southern, western, and midland counties, and the difficult harvest of the north, which we owe to the weather since the date of his letter, falls in with his prediction we do not know. Let us hope that a passage of one of the "larger comets" behind which any apparent failures of his theory may at any time be sheltered, has occurred, at any rate to himself, as the sufficient explanation of a change of weather which must otherwise have tried his equanimity.

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HAVING received several complaints of the injuries being committed by Grubs to the Turnip crop, we determined to look into the matter. In doing so the first crop of Swedes entered upon afforded us the observations which we now describe.

The crop in question was very uneven as regards size; here and there were considerable gaps in the rows, on examining which more carefully we saw an occasional plant of a sickly reddish-brown colour. Some of these were taken up by the roots, and in only one instance did we fail to find one or more brownish caterpillars, the nature of whose operations was soon seen in the more or less eroded bulb by which this peculiar colour of leaf is accompanied.

The roots seem to be eaten away in separate holes, much like those that we sometimes meet with in Potato tubers, and we have no doubt in both cases by the same grub. These holes appear to be managed with a peculiar instinct, so that the bulb is not entirely eaten through until it is pretty nearly consumed.

Still, upon looking more closely along the denuded rows, we found the tops of Turnips here and there turned upside down, in some of which the root had been nearly eaten away; in others, however, they seemed to have been broken off, and we are led to conclude by the rooks.

Now the grub that is committing these ravages is about an inch and three quarters in length, grounded with a kind of drab or *cuir* colour, indistinctly marked with greyish bands, both transversely and longitudinally. His skin is thick and leathery, and thinly scattered over with short stiff hairs, and he seems a most lively and active creature. The grub is the larva of the common Dart Moth (*Noctua segetum*), and so is one of a genus the several species of which are most destructive to both field and garden crops. In 1858 our China Asters were eaten off by this same caterpillar to such an extent as to threaten their destruction, until we discovered the grubs and destroyed them.

In the same year the Turnip crops were attacked as extensively as in this season, early springs and long summers contributing to the production of more than a single brood, and hence probably we may account for the different sized grubs we meet with, and their great increase when compared with a short, wet, or cold summer season.

We have said that the grubs are very active, and some notion may be gained of their powers when we observe whole rows of Turnips being denuded by their means, after having been thinned and got to some size. They walk very fast, and at night, favoured by the dews of St. Bartholomew, they travel from one plant to another, so that even a few caterpillars may do an immense amount of mischief; how much more, then, when they are so thick on the ground that we have known good wages obtained by picking this and some of its allies at the price of a few pence per pint. This operation is readily performed by poking away the soil with a spoon-shaped bit of wood, and picking the grubs from suspected plants. CURTIS says that Lord SUFFOLK cleared a field of eight acres of Swedes by hand-picking; a boy followed each hoer, and collected upwards of 1000 daily. About 16,000 were picked up at an expense of less than 2s. per acre.

We may now offer a few remarks upon the destruction of this pest. Applications of quick lime, salt, tar-water, infusion of tobacco, and hosts of like remedies will be found to bother these grubs more or less, especially when they come forth at night, as they will do, either to attack the leaves of the plants, or to proceed to fresh individuals. These may be done to some effect in the garden, but in the field we must either pick them ourselves, or allow the rooks to do so.

Turning ducks and pigs into a freshly ploughed field when for Turnips will tend to the destruction both of unhatched chrysalids as also of the young hatched grubs, and it is for these and wireworms that the rook so industriously follows the plough. "The rooks," says CURTIS, "are often accused of doing great mischief to crops when attacked by the grub; they not only search the roots of the infested plants, it is said, but they pull up all as they go. The rook is so sagacious, that I would fain release him from this accusation; when he thus pulls the plants about, I suppose that slugs, wireworms, and grubs, are at the roots; if he did not kill them the plants must die, and without his aid the insects would remain; it is therefore clear that the farmer is a gainer by his services, inasmuch as he gets rid of the vermin which infest the soil, so that at all events his succeeding crops will be free from their attacks."

We can indorse these opinions from repeated observations. We have ever seen the rook actively at work, if let alone in affected fields, but *we never yet saw a truly healthful-looking Turnip turned up by them in their search for these grubs*. The truth is, these birds are keener observers than most farmers; they at once go to the discoloured plants, and are seldom if ever disappointed of their prey.

We well recollect in 1858 being triumphantly introduced to a field of Swedes by a most implacable enemy of the rooks, with something like the following remark—"There now! defend those rascals any longer if you can; I saw dozens of rooks doing all that mischief with my own eyes." Well, certainly the ground was strewn with upturned young Swedes, all however with the reddish purple tops indicative of a something deeper at the root of the matter than our farmer friend had detected, and so we soon proved, for on turning up some of the affected plants from which the rooks had been kept (for the farmer put a boy to keep them off) there we found from two to five of the very same kinds of caterpillars we have been describing.

We cannot conclude this notice without remarking that several species of *Noctua* have been abundant this year, such as *N. brassicæ*, the Cabbage moth; *N. pronuba*, the yellow under-wing moth; *N. exclamationis*, heart and dart moth; with perhaps allied forms. Their caterpillars are much alike in size, and approach each other in colour, so that it is not at all improbable that different districts may present different species, while in some the whole may perhaps be found about the different parts of a single district.

[On a recent visit to a farm in Dorsetshire we were told that the surface grub had then commenced its attack upon the Turnips, but that they had been found out by the Lapwing, who was so industrious as to check the evil in a short space of time. Our informant assured us that he considered the Lapwing or Peewit so valuable that he did all he could to secure it from molestation. Every gardener knows how useful these birds are in keeping slugs, insects, &c., from his crops, and it may soon be shown that they live wholly on animal food. Such large birds, then, must be invaluable as farm servants. It is however getting very scarce over a great part of England, as the greed for their eggs is so great they have but a poor chance of continuance amongst us, a circumstance much to be deplored when we look at the value of its services, the beauty of the bird, and its peculiarly interesting habits.]

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## TO AGRICULTURAL STUDENTS.

### IN CONCLUSION—ON LAND DRAINAGE.

I HAVE now gone over the subject of Land Drainage—one great branch of the purely mechanical part of agriculture—where (the laws of matter only acting) uniformity of practice and experience may be anticipated. The relations of water to the feeding ground of plants (itself food as well as feeder—and cook as well as food)—these relations have been discussed, and the practical methods by which they may be established and improved have been described. A great quantity of detailed description, and many memoranda have been given you. A skeleton of central and general truth has been clothed with the material needed to make it stand a symmetrical well furnished body of useful history and fact.

Are you now prepared, do you think, from what you have now heard, at once to undertake the direction of land drainage?—if only of your own farm? Are you prepared at once to draw up the right plan, and carry it out economically to completion? I address myself, of course, only to those who have now for the first time heard the subject discussed before them, or who have not had any practical experience in the field.

I have not the smallest hesitation in saying you are not. And yet, if anywhere, it is here that a mere description of the operations to be done should be sufficient. The subject is in many respects extremely simple. Of course you know when land is wet—any one can tell when the water gets into his shoes as he walks across his field. And the relations between the water and the earth are of the simplest kind. There are but two forces in operation—the force of gravity, and that surface force of matter to which both friction and capillary attraction are due. Such points as level, depth, dimensions, direction, material, outfalls, obstacles, are capable of easy and exact description. Warmth and rainfall can be measured exactly by instruments, and described precisely by mere words.

It is a question of mere matter, and of the material forces only. If ever words were capable of conveying all the truth, it would be here. And yet I have no hesitation in saying that you have not been enabled by having listened to my story here to reproduce in practice, and realise elsewhere with profit and economy for yourselves, the body of truth which we have been discussing together during the past fortnight. I assert this confidently in this particular instance, because it is probably an instance which more than any other that could be named might be supposed the exception to an assertion of this kind. The unquestionable fact is that you cannot be taught an art by "word of mouth." I cannot teach you agriculture here—not though I had a perfect knowledge of the subject—not though I had a perfect command of language for the purpose.

Gentlemen, there is great responsibility resting on those who profess to teach and give advice—and 20 years' experience have made me wary—and I must therefore warn you—I warn any man who thinks *to* go from this theatre and these class rooms on to his farm and start business for himself, equipped for that purpose with only what he has heard, listened to, taken note of, even well thought over here, that he will lose his money. I will have no one who may ultimately find himself in this predicament—and there *are* some of you who will—able to tell me "YOU are responsible for this." And therefore I urge it upon you that self instruction by the eye and hand is the real education of the practical man.

Of course it may be that some here are present only that they may obtain general scientific knowledge. Their purpose is served by that mathematical training which they may here undergo, by that knowledge which may be here acquired of the behaviour of matter

under the influence of the forces which the chemist studies, and (as seen in the forms and habits of plants and animals) under the influence of the vital force, and so on.

They do not propose to earn a livelihood by farming. They are interested in agriculture only as a field where these material forces operate, and where their operation may be studied. Well chosen words *can* tell them nearly all they want to know, and my protest does not apply to them; but I hope it will be listened to by others.

Whenever a man wants to do a thing, especially if in order to a profit, he must SEE it done. Words are imperfect; he can detect with the eye many a point which can never reach him through the ear. And then he must teach his hand as well as his mind. He must *do* it for himself, or try to do it, until—having *heard* if you please—but SEEING how the thing is done by others, he at length manages to accomplish it himself.

There may be some here who propose to acquire skill in chemical analysis. Are they satisfied with only being attentive listeners to the Professor of Chemistry? Knowledge of the atomic theory which they may thus acquire is of course essential to them—an acquaintance such as may be conveyed by words with the properties and tendencies and behaviour of every atom which this theory recognises is essential to them. But will all this which they can learn by listening to the Professor here make them analysts? No; they must follow him into the laboratory, and watch the process of analysis, and not only see it done before them, but do it step by step many times themselves.

Gentlemen, there is a great laboratory out of doors. This is a college not of chemistry but of agriculture. If *that* great laboratory is neglected—I say it confidently—the purpose of this institution remains unfulfilled. You cannot learn to farm unless you practise there. All the lectures on all the sciences—even all the lectures upon agriculture—will not make you farmers. Like the man who, wishing to be a practical analyst, carefully watches, superintends, and practises in the laboratory, you must carefully watch, superintend, and practise on the farm. Even there it is not the ear, it is the eye which must instruct you. Your observation can only be directed by another; you must observe for yourselves; not so much for the sake of adding this, that, or the other fact to your store of knowledge, as for the sake of acquiring a habit of observation, so that at length a glance will suffice to tell you whether things are going right or wrong. If I wanted to take a farm on leaving Cirencester College, I would be up in the morning and see the men go to their work—see how orders are given, taken, and obeyed—see how stock is cared for hour by hour and all day long—hold the plough—watch the behaviour of the soil for hours together under every implement of tillage. Especially I would observe, from early morning on till night, the operations of the working men. Yes! and their behaviour too. Even those who are new to the College know that these men have changed masters this summer. The most useful lesson of the session, as I dare say it will be found by those who know how to profit by it, will be given by the behaviour of the men towards their new master, and the behaviour of their new master towards the men. A farmer does not do everything himself—his profits come out of the direction of labour. And the patience, perseverance, temper, resolution, tact, which have to be displayed on an occasion of this kind, are the very finest and most useful laboratory experiment that you can watch.

I fear it may be thought that these remarks have run away from my subject. Land drainage is that operation to which perhaps they less apply than any other. For the behaviour of the soil in relation to water is to a large extent capable of description—while the behaviour of living things under the various influences which affect them cannot be described — and the knowledge of the student and of the farmer here (on which after all his profits directly depend) must be acquired by careful and habitual observation. But it is true even of land drainage. The principles I have urged are capital guides—the details with which you have filled your note book this morning will no doubt be useful to you. But it will not be until you have had practice in the field—until you have seen the actual performance of the operation—until you have once or twice carried it out yourselves, and got punished for your blunders, that you will acquire skill and confidence in the direction of labourers, and that after all lies at the bottom of all agricultural success.

## THE GRUB.

[MR. JAMIESON, Fordyce Lecturer on Agriculture at Aberdeen, lately delivered on this subject the last of his course of lectures during the past Session. The Grub here described is the larva of Tipula oleracea—the *Crane Fly* or *Daddy-long-legs*; it is a tough clay-coloured grub about an inch long, and exceedingly destructive in Grass and grain crops.]

"Grub" is a name applied to the larva or maggot of various insects; but the "grub" of the farmer is the larva of a kind of fly known to entomologists as the crane-fly, more familiarly called the daddy longlegs piper, or spinning maggie. (Mr. Jamieson then traced with considerable minuteness the history of the grub through its various stages—from the egg, through the larva and the pupa to the imago or perfect state.) The fly makes its appearance in greatest strength in July and August, and shortly after lays its eggs. The number of eggs laid by one insect is very numerous—in one case he counted as many as 600, but the usual quantity was probably about 300. They were deposited in Grass land in a great variety of situations—in meadows, in lea-lands, by roadsides, the skirts of plantations, in garden lawns, and even in the turf on the roofs of cottages. How long the eggs lie before the larva come out he could not tell, but probably the majority were hatched in autumn or before winter; and they would be found in the grub or larva state from January to August. The eggs being deposited in Grass land, it was accordingly in the corn crop which had been sown in land ploughed up out of Grass that the larvæ made their appearance—that was to say, in what farmers call their lea corn. It was rarely that they were found in the corn following a crop of Turnips; neither were they found in a crop of corn taken upon land that was under a grain crop the previous season. Although not complained of, there could be no doubt that the grub is as plentiful in Grass land or pasture as among lea corn; for a case is mentioned in the spring of 1813, where in Holderness, in Yorkshire, several hundred acres of pasture were destroyed by the grub. Grass plots in London were said to be attacked by them, as well as many garden plants, such as Lettuce, Dahlias, Carnations, &c. It was related, too, that in some of the midland counties of England, where they are in the habit of taking a crop of Potatoes after Clover, it has been found necessary to breast-plough the turf and burn it before planting the Potatoes, to prevent this grub from destroying the crop. In France, also, the Grass land suffers from it.

The grub remains under the turf and flat stones during the day, coming out to feed after dark, and during the night they might be found eating at the tender blades of the young braird. It is probable they attack the roots, but it seems to be the green blade they prefer. About the month of July the grub assumes the state of a pupa or chrysalis, casting its skin, and being covered by a brownish membraneous case; and after a week or two the brownish membrane covering the head or thorax splits, and the creature having wriggled up to the surface, gradually extricates its limbs from their covering, and out it comes as a daddy longlegs—certainly a most marvellous transformation.

Mr. Jamieson then proceeded to consider various remedies for the grub.

Salt has been recommended as a cure; and he could vouch that it killed those he tried it with. He put some grubs into a saucer with a little earth; in the evening he sprinkled salt over them, and in the morning they were all dead. In the field, however, they might crawl away from the salt, so that it was likely any amount of salt that could be put on without injuring the crops would not have much effect in killing them. It was a cheap remedy, however, and worth trying. It was said to have some effect if sown and harrowed in along with the seed. Mr. Jamieson continued—

I have observed that, on ground infested with this pest, the end ridges usually escape injury, even where the rest of the field may be badly grubbed; and so far as I can hear, this appears to be a fact of very general observation—the ground around the gates and corners of fields seldom suffers. This would seem to show that the treading of the animals' feet is beneficial. In the fox-hunting districts of England it has likewise been remarked that the Wheat over which the horses have galloped often turns out the best part of the crop. This suggests the propriety of adopting some means of compressing the ground. For this purpose the pressing-roller, or Croskill's clod-crusher, will probably be found the best. The ordinary rollers are too light to have much effect. Some who have used this crusher inform me that they have found it of advantage. There is another plan which has been tried against the enemy with some success, although at first it may seem to be rather a problematical one. This is making holes a few inches deep, by means of a smooth stick or piece of metal, so as to leave the sides clean and smooth. When the grubs come abroad at night to feed, they fall into these holes, and, as they have no feet, they can't get out again if the holes are properly made. A farmer near Ellon, who tried this plan during the present season, took a census of the numbers that were thus entrapped, and he found that in the course of four nights one hole alone yielded 39 prisoners. I have also been informed that some of the fisher folk along the coast of Kincardineshire keep their crofts free of grub in this way. If the holes are not carefully made, so as to be well smoothed off on the sides, the creatures get out.

I have seen it recommended to sow Italian Grass seed along with the corn, to prevent injury by grub, under the idea that the creature prefers the Grass to the corn, and leaves the latter untouched. Whether this is the case, I can't say, but as the Grass spring-slower, the corn, I should think, would be injured before the Grass came up. Plants are most apt to suffer from the attacks of insects at certain critical periods of their growth, when they are in a weakly state, and have not got their organs fully developed. It is just before the corn begins to take the second growth that it is most likely to be injured—that is to say, when the nourishment contained in the soil, and which has served to send up the first blade, is becoming exhausted, and the young plant is thrown upon its own resources; it is at this critical time, before it has got its roots well established in the ground, that the grub is likely to get the better of it. I am of opinion that you have not much chance of being able to kill the grub by any application that wouldn't injure the plant at the same time; and I think that the best plan of combating the enemy is to fortify the young plant by all the means in your power. It is generally when the braird is, from some cause or other, not very vigorous that the creature gets the better of it; for, when the plant comes up strong and healthy, and develops its roots and leaves with sufficient rapidity, it bids defiance to the grub, and grows away in spite of it. This is very well exemplified in some cases where different kinds of seed have been used in the same field. In these instances, it has been occasionally observed that the injury is confined to one kind of seed, the part of the field sown with the other being comparatively untouched. And, accordingly, we hear a change of seed recommended as a preventive of grub. This, I would explain by one of the kinds of seed employed being stronger than the other, and sending up a more vigorous braird. Again, it is found that in some seasons the injury is chiefly confined to the damp clay ground, and in another season to the dry, light soil. Here, in like manner, I should be inclined to say that the explanation lies in the fact that the weather in the one case had been more favourable for the preparation of the one soil, and in the next year more favourable to the other. In the dry spring, the moist clay land would resist the drouth better than the bare thin knolls, and much would also depend upon the kind of weather each got when it was ploughed and harrowed. The fact of the end ridges and land that has been much trodden or compressed escaping injury may be also explained according to the above view. In a dry season, the drought won't penetrate such ground so readily as the loose, open soil, and the circumstance of the cattle standing more about the gates and sides of the fields, and consequently, dropping more manure there, is also to be taken into account. Some have recommended the land to be thoroughly harrowed and prepared before sowing the seed. This, of course, can be best done when a drilling-machine is used; but it answers well enough even when the corn is sown broadcast. The ground receives some four or five turns of the harrows — enough, in short, to make the mould thoroughly — and then the seed is sown and covered by one double stroke (of the harrows) up and down the ridge. It is then immediately rolled across, which helps farther to cover the seed. In this way there will, of course, be a good deal of the seed left on the surface, and to look at it one would say it is badly covered. But then there is scarcely any lost by dropping down too deeply between the furrows, and the braird is found to be quite as thick as when covered in the usual way, if not thicker. Now, the reason of this method proving of service to prevent grub, I have no doubt lies in the fact that seed (as I explained in a former lecture), brairds most strongly when it has but a shallow covering of earth; when it is too deeply buried it either doesn't braird at all, or it comes up more slowly, and the shoot, when it is up, is weaker than that which springs from a grain with a more shallow covering. The ground, you will observe, receives much the same amount of harrowing and rolling in both cases, so that one cannot suppose that the grub itself is more affected in the one way than the other—the difference consisting almost solely in this, that under the one method you give the greater part of the harrowing before the seed is sown, whereas under the usual system you give it after. It can scarcely be supposed, then, that you kill or injure the grub; it is, as I conceive, that you promote a more vigorous braird of the young plant. By using a drill sowing machine, the ground can be thoroughly harrowed and prepared beforehand, and the seed can be regularly lodged at any depth you choose. In this way you can prevent loss from burying it too deeply or from leaving it on the surface, to be plucked up by the birds. My advice, therefore, for the prevention of grub is shortly this. Promote the vigour of the young plant as much as possible. Endeavour to work your land in right season, get the best seed you can, and get it from an earlier district; if the ground is poor, give it a liberal application of guano, or some other manure such as nitrate of soda or superphosphate. The roller should follow immediately after the sowing. Then, if the season be dry, or the soil light and powdery, and the enemy make its appearance, roll again with the heaviest roller you can get—with a Croskill if you have one. I should think it a good plan to harrow the land thoroughly before sowing, with the view of preventing the seed being too deeply buried, as I have before explained, that if after all the grub was making much way, holes might be made to reduce their numbers.

In some cases, I believe, a good deal of the injury attributed to the grub is caused by another creature altogether—viz., the slug. I examined a field near my own house this season which was a good deal thinned, and on looking at it after dark, I found the slugs much more numerous than the grub, and observed

them busily devouring the young blades of corn. Now, I believe rolling at night would kill a good deal of slug, but it would have little or no effect upon the grub; for they are very tough, and not easily killed in this way.

## FOUR VARIETIES OF WHEAT.

[The following report by Mr. Patrick Shirreff, of Haddington, was written in competition for the United East-Lothian Agricultural Society's Premium.]

1. *Soil.*—A heavy loam, the substratum retentive of moisture. The preceding crop was Beans manured in the drills, and an application followed the removal of the Beans.

2. *Extent.*—The ridges were ploughed four and four, in the manner termed casting. A Scotch acre was measured by a chain off the ends of four ridges, excluding the headland. The measurement included 16 ridges, and the open furrows formed the line of division betwixt the acres.

3. *Seed.*—The four species of Wheat were Woolly-ear, Mungoswells, Hunter's, and Howden's. The seed of each was of crop 1831. Woolly-ear and Mungoswells grew at Mungoswells, Hunter's at Tynefield, and Howden's at Chapel. The quality of each was good, perhaps that of Howden's best, Woolly-ear worst.

4. *Sowing.*—On 17th October, I myself sowed three bushels of grain on each acre. Woolly-ear occupied the most westerly position, Mungoswells, Hunter's, and Howden's followed in succession. The remainder of the field was sown with Gregorian and Mungoswells Wheat.

5. *Germinating.*—Mungoswells Wheat came first above ground, Howden's second, and Woolly-ear last; the difference betwixt the first and last four days. On 23d December, all the kinds appeared healthy, and equal in thickness, except Woolly-ear, which seemed thinner than the others.

6. *Modes and Appearances of Growth.*—On April 1, 1862, the plants of Woolly-ear presented a green of silvery hue, broad leaves, erect stems, and few tillers or offsets; since the 1st of March it has looked taller and greener than Mungoswells and Hunter's. The plants of Mungoswells exhibited a pale green tinged with yellow, narrow leaves, procumbent stems, and numerous tillers; since 1st March it has appeared greatly inferior to Woolly-ear and Howden's. The plants of Hunter's in every particular resemble those of Mungoswells, but do not seem quite so narrow in leaf and procumbent in stem. The plants of Howden's are like those of Woolly-ear, being, however, darker in green, broader in leaf, more erect in stem, and fewer tillers; since March it has greatly surpassed the others in length and vigour. The superiority of appearance possessed by Howden's and Woolly-ear is not, however, real, and arises from their broad leaves and erect stems concealing the ground more effectually from view than Hunter's and Mungoswells, the leaves of which are narrow and procumbent.

7. About 20th April the leaves of all became yellow, Woolly-ear least affected, and at this date equalled Howden's in appearance. The character of the foliage of all is unchanged. Howden's and Woolly-ear are evidently thinner on the ground than Hunter's and Mungoswells, a result of their inferior tillering powers.

8. By 1st June the Wheats varied considerably in appearance. Woolly-ear, at this date, was not so dark in colour as Hunter's and Mungoswells; flag leaves erect, and under leaves brown and decaying. Mungoswells has the flag leaf large and gracefully bending, the under leaves fresh and vigorous, the colour a glossy pleasing green, and superior to others in apparent health and strength. Hunter's still resembles Mungoswells, but the shade of green is paler, and other appearances mark them distinct species. Howden's is still like Woolly-ear, but more faded in leaf, and thinner on the ground.

9. In Woolly-ear the ears escaped from the sheath generally on the 11th, Howden's on the 13th, and Hunter's and Mungoswells on the 15th June. The ear of Woolly-ear is close set in the fertile joints; Hunter's wider than Woolly-ear, and a very little closer than Mungoswells; Howden's is wide, set with strong chaff.

10. The Wheats attained their ultimate height by 1st July; when Mungoswells surpassed Hunter's by 2, Howden's by 4, and Woolly-ear by 6 inches in length.

11. Rain fell moderately on 3d July. Woolly-ear and Howden's were not lodged by it, while Hunter's and Mungoswells were considerably so, especially Hunter's. Ultimately every stalk of Hunter's and Mungoswells became prostrate, Woollyear lodged partially, Howden's not in the slightest degree.

12. Howden's ripened first, Mungoswells second, and Hunter's last. Difference between earliest and latest about four days.

13. Reaping took place, under my superintendence, on 10th August, by 24 individuals, three on each ridge. Two kinds of Wheat were thus reaped at the same time; and when the reapers reached half the length of the ridge, those on the front ridges changed places with those on the rear ones, by which means each reaper cut an equal portion of each kind of Wheat. The crop produced by two ridges was stooked on one; and each kind consisted of two rows of stooks standing on contiguous ridges, with two cleared ones intervening.

14. *Stacking and Threshing.*— The stacking took place on August 22, followed by thatching on the succeeding day, and the threshing on October 31. The grain of Woolly-ear was least plump, most transparent, and reddest in colour. Howden's largest, plumpest, and whitest. Mungoswells smallest, and in colour half way betwixt Woolly-ear and Howden's. Hunter's was larger than Mungoswells, and of the same colour.

15. *Contingencies* were highly favourable throughout the experiment. The winter was without frost; at no time was the soil either saturated with moisture or affected seriously by drought; the Wheat fly rendered none of the florets sterile; mildew injured not the quality of the grains, and wind diminished not their number. The crops did not receive rain after being cut down, and remained a sufficient time in the stack to mature the colour and condition of the grain.

16. The following is a tabular view of the produce:—

| WHEATS. | GRAIN. | | | | SCOTCH ACRE. | | |
|---|---|---|---|---|---|---|---|
| | 1st. | 2d. | Weight. | Straw. | Grain. | Weight. | Straw. |
| | bush. | bush. | lbs. | lbs. | bush. | lbs. | 22-lb. st. |
| Woolly-ear .. | 47 | 4 4-10 | 64 | 4297 | 51 4-10 | 3268 | 195 |
| Mungoswells . | 49 | 5 3-10 | 63½ | 5799 | 54 3-10 | 3397 | 263 |
| Hunter's .. | 51 | 5 2-10 | 63¼ | 5620 | 56 2-10 | 3527 | 255 |
| Howden's .. | 44 | 2 | 64½ | 3930 | 46 | 2902 | 178 |

*Observations.*—Agriculturists being of opinion that a change of seed, that is, sowing grain on a soil differen from that which produced it, is beneficial, it will be seen by referring to paragraph 3, that the seeds of Woolly-ear and Mungoswells species only are on a parity of circumstances. If different species of corn are, in the first place, sown in the same field, their true properties will be obtained by sowing their seeds in the second year.

By paragraph 4, each species of Wheat was sown with the same quantity of seed; when this circumstance is viewed, in connection with what is stated in paragraph 15, regarding the size of grains, and in paragraph 6, regarding tillering, the different thicknesses or number of stalks of each crop is accounted for. I shall not conjecture what effect a more liberal allowance of seed would have had on Howden's, but believe the produce of Hunter's and Mungoswells to have been lessened by the crops being too thick. Experience and observation lead to this conclusion with regard to Mungoswells, and it is almost established by the fact that the portion of the field (10 acres) carrying this Wheat, not sown for experiment, and which was thinly planted from receiving imperfect seed, yielded a greater return than the experimental acre. A thickly planted Wheat crop is generally weak in straw, small in ear, and less productive than that of medium thickness.

The characters of foliage, as described in paragraphs 6th, 8th, 9th, and 10th, will obtain generally. Circumstances may affect the decaying of leaves when the plant is about to ear. The leaves of Woolly-ear decayed this season on Mungoswells, and remained vigorous on an adjoining farm.

The yellow tinge alluded to in paragraph 7th, proceeds from a fungus, and is the true rust, although the term is often applied to mildew. In a collection of 50 kinds of Wheat growing at Mungoswells, the Talavera species was least affected by rust.

The germination, earing and ripening of the different species deserve notice. Woolly-ear has sometimes escaped injury from the Wheat-fly, while other kinds suffered, which is owing to it earing early (see paragraph 9th), the fly generally depositing eggs on such ears only as are in the act of escaping from the sheath.

The size of the grains of Wheat, and perhaps of corn generally, is affected by the thickness of the crop. On this account the grains of Mungoswells Wheat, in the experiment, were smaller than usual (see paragraph 14); the grains of it, are, however, generally smaller than those of Hunter's.

An experienced eye may prefer a particular colour and shape of grain (see paragraph 14), with regard to one species of Wheat, both are, however, affected by contingent circumstances, and to judge all the species of Wheat by such appearances would be as fallacious as determining the merits of Apples and Potatoes by one standard of shape and colour.

The experiment grains were indifferently dressed, and all the kinds might have been dressed to 64½ lbs. per bushel. In this case there would have been a greater quantity of second quality of grain.

The season seems to have been favourable to Woolly-ear and Howden's, as none of the plants perished, and consequently these kinds were not affected by their want of tillering.

The bounty of Providence is manifest in the abundance of the crops; the returns of autumnal sown Wheats in this neighbourhood not having averaged for the previous five successive years more than 22 bushels per Scotch acre.

*Conclusions.*—Woolly-ear and Howden's do not tiller much, and therefore may be sown thick.

Hunter's and Mungoswells tiller plentifully, and may be sown thin.

Woolly-ear and Howden's yield little straw produce, and can only be cultivated with a chance of success on land in very high condition. In seasons favourable to the growth of Wheat, such as 1832, the different species seem to differ less in quality, than quantity of grain.

## AGRICULTURAL DIFFICULTIES.

[The following passages are extracted from an able address by Mr. Cunningham, Jun., of Shields, Ayrshire, to the Ayrshire Agricultural Association.]

1. There is first a want of a sufficient agricultural education. Notwithstanding the poverty of its soil, and the rigorous nature of its climate, Scotland has long held the first place among the agricultural countries of the world; but of late years our neighbours south of the Tweed, and even some continental countries, have made some rapid strides to overtake, and in certain departments they have already surpassed us.

Much of their success is doubtless attributable to certain causes over which we have no control, such as superiority of soil and climate: but I think the principal cause may be traced to a mighty power which at first sight is not so apparent to the unreflecting mind—viz., education; and it is a well-known fact that to a large extent in England and some other countries greater attention has been paid to educating young men, more especially in the science and art of agriculture, than has hitherto been customary with us Scotch; for whilst we have been plodding away almost exclusively at the practical part, they have been enjoying a happy combination of both it and the theoretical; and mere practice will as completely fail to make an intelligent farmer as mere theory, for the science of agriculture must be as truly learned as the art—its principles as well as its practice—the former being based on a right knowledge of certain conditions which are essential to the full development of plants. Liebig says—"There is no profession which can be compared in importance with that of agriculture, for to it belongs the production of food for man and animals—on it depends the welfare and development of the whole human species, the riches of States, and all commerce. There is no other profession in which the application of correct principle is productive of more beneficial effects, or is of greater and more decided influence." Yet, notwithstanding that farming is acknowledged to comprise a greater variety of observations, and involve a greater amount of scientific principles than almost any other art practised by man, strange to say, most people unacquainted with its theory, and ignorant of its practice, consider every other art to be more technical and complicated, and as requiring far higher abilities and a far more learned and lengthened course of study for their successful performance. But whilst these were the sentiments of those entirely ignorant of agricultural affairs, still they were not less homologated by many farmers themselves; for time was when they in the education of their families considered it unnecessary for those sons who intended following their father's calling to require or to get the same amount of education as those who were destined for some other occupation; and what was still more wonderful, whilst those latter, after receiving a superior curriculum, had to undergo a long apprenticeship before being qualified for any department of mere handicraft, the others were not apprenticed at all to manage a farm. But I am glad to observe that public opinion has improved in this respect, and made it imperative that farmers be educated comparatively with other men in something like the proportions of their avocations; for if Scotland is to maintain her vaunted superiority in farming, her farmers must receive a special agricultural education. The great obstacle to this is the want of schools with farms attached, where young men could be thoroughly trained in the practical art and science of agriculture. In this we are considerably behind other countries, for both in England and Ireland, and the Continent of Europe, there are several institutions of the kind, and the beneficial results of such a system have been proved to be incalculable. I have often been astonished, and somewhat abashed, when conversing with foreigners who had come across to examine into our mode of farming, to hear the clear and explicit answers given to any questions proposed regarding their agricultural practice, and also to hear them assign scientific reasons for the same. Surely the Highland Agricultural Society could not turn their accumulated wealth to a better purpose than in founding an agricultural school—an enterprise which would doubtless be hailed with acclamation by every intelligent farmer in the land. But why might we not have more? There are few of our large counties but could easily maintain an institution of the kind; and were such an establishment in this neighbourhood, I feel confident in saying that it would be largely patronised by the farmers' [illegible] in the county, and, moreover, would unquestionably prove a valuable incentive to agriculture in general.

And here let me notice another difficulty arising out of the want of such a school. In this free country of ours a man is at liberty to set up in whatever business he may think proper, but the question naturally arises, is he qualified to undertake such and such a business? or, again, he may be honoured by receiving an appointment from the State to fill some high and responsible situation, and does not popular opinion demand that he be capable of performing the duties thereof satisfactorily? But long and extensive preparation is needed to make him eligible for such employment. So with farmers. They, too, should possess the proper qualifications before being intrusted with a farm, for the better the position of the tenant, the more respectable and intelligent he is, the better for the landlord. And is it too much to hope that landlords would give some weight and preference to those who held certificates of ability from such a source, when choosing their tenants? This would be a mighty improvement on the present system, and would also prove a preventive of a world of evils that arise through the loose hap-hazard method which prevails at present on some estates, where the man who offers a foolish, extravagant rent (which he never pays), though he be utterly ignorant of even the rudiments of agriculture, is preferred to him who has proved himself to be an able and intelligent farmer. Now, this is not as it should be; and will, if persisted in, prove pernicious to both proprietor and tenant, as I could very easily show from numerous cases which have happened too frequently of late; but I shall forbear at present, trusting that proprietors and factors who act thus will be brought soon to see that they are playing a losing game.

2. The next difficulty with which we have to contend is the prevalence of disease both in animal and vegetable life.

No one can have perused the address delivered by Professor Gamgee, of Edinburgh, at the International Congress of Veterinary Surgeons in Hamburgh last week, without being startled at the statistics of mortality amongst stock of all kinds. He stated that there died of disease in one year, 1860, in Great Britain and Ireland, cattle to the value of nearly four millions of pounds, and more than the half of these died from pleuro-pneumonia alone. He farther stated that the value of cattle imported into this country was estimated at 836,552*l.*; but as one year could not be considered a fair estimate, he gave the calculations for the six years ending 1860. The estimated total value of cattle which died during that time amounted to nearly 26 millions of pounds; while the value of cattle imported during the same six years amounted to nearly four and a-half millions, so that the loss by disease was four times the number of cattle imported. Mr. Gamgee closes his address by adverting to the injury inflicted on the British people by the foreign trade; and although he was not desirous to stop free trade in cattle, he thought that the prevention of so much disease—the saving of so much money to the nation—was a matter of

paramount importance. Few farmers in this county but have suffered more or less from this direful malady, pleuro-pneumonia; and though there have been conflicting opinions given forth by veterinary surgeons and others regarding its contagion and incurability, still, I believe there are many cases which, when taken in the first stages and treated judiciously, have been saved. We have frequently been told by experienced persons of cures from certain modes of treatment, and would it not be just and humane to make known these publicly, so as some unfortunate brother or neighbour might reap the benefit? for there are many animal diseases which, were some simple precautionary measures adopted, if people only knew of them, might not altogether prevent, but would mitigate, many of their most fatal effects. For instance, we have considerable mortality in dairy stocks through puerperal or milk fever, the predisposing causes of which are a plethoric state of the vascular system, either constitutional or induced by unduly high feeding. Now, were all such animals treated simply with a good dose of Epsom salts a day or two previous to parturition, there would be much fewer cases of this kind. It is a good many years since we first obtained this information from a cattle-dealer, and I can testify to its verity from personal experience in many instances. Now, I just mention such things to show the beneficial results which might accrue from our meeting together for the interchange of thoughts and opinions. And as in the animal, so in the vegetable world there are certain causes as well as preventives of diseases, which, if attended to, might augment the produce of our farms very materially; but from the want of practical information through the experience of others, we are left to grope our way in the dark and suffer the consequences. For example, last year the Oat crop in this country was very much curtailed through the ravages of grup, and had our meetings being then in existence, there might have been much valuable information gathered by each one stating his observations, and the varied circumstances brought out of whether, after old or young lea, whether ploughed wet or dry, whether seed used was from another district or sown on the farm, whether sown early or late, and whether artificial or other manures were used or not, which would have proved useful in future practice, prevention being better than cure.

3. And this brings me to notice another difficulty—viz., the adulteration of manures. Next to the rent the manure account is the heaviest bill which most arable farmers have to pay now-a-days, and it is one which is surrounded with many difficulties and perplexities; for contrary to almost every other part of our business, ocular demonstration affords us very little assistance in the selection and purchase of manures, and consequently, we are liable to be victimised by unprincipled parties.

An agricultural school would have been eminently useful in assisting us with this difficulty—for all the manures manufactured or brought into the country could have been analysed and practically tested before farmers ran the risk of losing both their money and their crops. Generally speaking, an analysis by an eminent chemist, and the character of the exposer, is a good guarantee as to the genuineness of the manures they sell; but of late the discovery of mineral phosphatic substances, which can be obtained at a cheap rate, and which gives a manure that analyses well, has introduced a new element into the trade—for even parties termed respectable manufacturers do not scruple to use this cheap article, and at the same time have neither changed the name nor the price, which is scarcely fair dealing. Professor Anderson bears me out in this assertion, in an article contributed by him to the Transactions of the Highland Society on manures, wherein he says that "a large portion of manures made from mineral and other substances is still sold as dissolved bones, while a manure from genuine dissolved bones is now more the exception than the rule." If the manufacturer wishes to retain the custom and confidence of the consumer, then he must state candidly the principal ingredients of which his manure is composed, and make his price accordingly—for he may depend upon it that farmers will be driven to scrutinise more narrowly, and be more explicit in demanding a knowledge of the component parts of all substances designated as manures. Whilst farmers are in part indebted to manufacturers for their productions, I think we should not allow ourselves to be so much at their mercy, and more especially here, having the advantage of so many sea-ports, where bones could be easily imported and applied to the land in a dry crushed state, or prepared with sulphuric acid and mixed with other ingredients. There are many who would dissolve bones for their own use, but have been troubled in getting them dry enough for sowing. Now, I think this difficulty may be easily overcome by preparing them some months before they are required, and mixing the guano, gypsum, and other substances all into one mass, and keeping them under cover, so that by the time they are needed they will be as dry as a heap of lime.

4. The next and last difficulty I shall bring under your consideration is—The precarious nature of our climate.

The climate of the west coast of Scotland has always been characterised as being moist and variable, and not well suited for producing grain crops of very fine quality; but what with draining and a higher state of cultivation, we have been enabled in ordinary seasons to grow large crops of both Wheat and Oats very successfully; but, naturally speaking, Ayrshire seems better adapted for the growth of Grass than of grain, and should our seasons continue similar to those of late years, then it will be imperative for us to change our system of farming, for it is utterly impossible that clay land farmers can meet their engagements with their landlords if the system heretofore pursued is still to be adhered to. I have always had a great liking for green cropping, and looked upon it as the basis and fundamental principle of all good husbandry, yet I have no hesitation in saying that the green cropping of clay land in a wet season is the perfect ruination of it. Should any one doubt this, I would refer him to the meagre crop of Oats, both this and last year, following green crops, which is calculated to ruin the tenants likewise. But notwithstanding that we be favoured with better seasons, the question is forced upon us, whether we cannot do better with our land than cultivate cereal crops? for it does seem that in future, whether we have a good crop or a deficient one, prices will not be remunerative, from the vast resources of other countries in growing grain of superior quality and the easy means of transit into our markets. Now, looking at the price of cattle, sheep, and dairy produce, it does seem that the best course under present circumstances is to curtail the cropping and to increase the grazing; and were we to manage and manure our Grass as we do our grain roots, the results would be very favourable.

And now, gentlemen, whilst I have spoken to you of science and theory, with special reference to their usefulness and importance, I would use them only as helps, for practical experience must ever be the sheet anchor of the farmer; and with a view to the advantages of our meeting from time to time for discussion, practical experiments and the results thereof ought to be stated for our mutual benefit; for although we have the advantage of agricultural papers and writings, we ought to some extent to be self-reliant, seeing we have a soil and climate differing from others, which ought always to be borne in mind; and as I said before, ought not we Ayrshire farmers to be able to contribute our quota, however small, to the common good? And while we meet to discuss our business as cultivators of the soil, there are other matters arising out of this—viz., our political and social condition. I do not intend that we should discuss political subjects, such as whether a Whig or Tory Government is best for us, but how we are affected by the present laws. Merchants and other classes do this, and why ought farmers to neglect such a privilege in this country? We, as well as they, have, or ought to have, a voice in the laws that come to bear on us locally. Might it not be time for tenant-farmers, as well as the community at large, to ask how they are affected by the law of hypothec? Few are aware of the unfair advantages proprietors enjoy in connection with this law, and the peculiar hardship it sometimes proves to the public, as well as to the farmers. A case in point has attracted considerable attention. A respectable firm in the grain trade in this place purchased a short time ago a quantity of grain from a farmer, which was paid on delivery in the usual way. It, however, turns out that the tenant was in arrears of rent. This could not be known to the purchaser of the grain, and the proprietor brings on a sequestration, and demands re-payment from the merchant. The case is now pending in the Court of Session, and if this claim is supported by the judges of the land, then the law is certainly not in keeping with the age, and the sooner it is repealed or modified the better. This law also directly affects the interests of the skilful farmer, in so far that when land comes to be let, some proprietors seem indifferent as to whether the offerer has knowledge and capital sufficient for the undertaking, provided he offers the highest rent; and of course the tenant comes, in virtue of his position, to get the usual credit from the seed merchant, the manure merchant, and the general public; but it sometimes turns out that he has been merely an adventurer, and has neither skill nor capital, and the foolish rent promised cannot be paid out of the farm, when the proprietor brings on sequestration to protect himself, and may thus leave nothing for the unfortunate creditors. But for the law of hypothec, proprietors would be more particular as to whom they took for tenants.

Then, how are we affected by the law of the road? A large portion of the revenue from tolls is contributed by farmers, yet they have no voice in its application. How do the game-laws affect us? As they have been interpreted and applied in this county, a farmer dare not send out his son to scare the crows off his crop if a gamekeeper or police-constable says there was game disturbed, although not killed. I declare when I read the decision arrived at by the judges, I felt ashamed of my position, and almost wished I had chosen another calling.

## WEATHER HINTS FOR FARMERS.

Whether clear or cloudy, a rosy sky at sunset presages fine weather; a sickly-looking greenish hue wind and rain; a dark (or Indian) red, rain; a red sky in the morning, bad weather or much wind (perhaps rain); a grey sky in the morning, fine weather; a high dawn, wind; a low dawn, fair weather.

Soft-looking or delicate clouds foretel fine weather, with moderate or light breezes; hard-edged, oily-looking clouds, wind. A dark gloomy blue sky is windy, but a bright blue sky indicates fine weather. Generally, the softer clouds look the less wind (but perhaps more rain) may be expected; and the harder, more "greasy," rolled, tufted, or ragged, the stronger the coming wind will prove. Also, a bright yellow sky at sunset presages wind; a pale yellow, wet; therefore, by the prevalence and kind of red, yellow, or other tints, the coming weather may be foretold very nearly—indeed, if aided by instruments, almost exactly.

Small inky-looking clouds foretel rain; light scud clouds driving across heavy masses show wind and rain; but if alone, may indicate wind only.

High upper clouds crossing the sun, moon, or stars, in a different direction from that of the lower clouds, or the wind then left below, foretel a change of wind toward their direction.

After fine clear weather, the first signs in the sky of a coming change are usually light streaks, curls, wisps, or mottled patches of white distant clouds, which increase, and are followed by a murky vapour that grows into cloudiness. This appearance, more or less oily or watery, as wind or rain will prevail, is an infallible sign.

Unusually the higher and more distinct such clouds seem to be the more gradual, but general, the coming change of weather will prove.

Light delicate quiet tints or colours, with soft undefined forms of clouds, indicate and accompany fine weather; but unusual or gaudy hues, with hard, definitely outlined clouds, foretel rain, and probably strong wind.

Misty clouds forming or hanging on heights, show wind and rain coming, if they remain, increase, or descend. If they rise or disperse, the weather will improve or become fine.

When sea-birds fly out early, and fly to eastward, moderate wind and fair weather may be expected. When they hang about the land, or over it, sometimes flying inland, expect a strong wind with stormy weather. As many creatures besides birds are affected by the approach of rain or wind, such indications should not be slighted by an observer who wishes to foresee the weather, or compare its variations.

There are other signs of a coming change in the weather known less generally than may be desirable, and therefore worth notice; such as, when birds of long flight—rooks, swallows, or others—hang about home, or fly up and down or low, rain or wind may be expected. Also when animals seek sheltered places, instead of spreading over their usual ranges; when pigs carry straw to their styes; when smoke from chimneys does not ascend readily (or straight upwards during calm), an unfavourable change is probable.

Dew is an indication of fine weather, so is fog. Neither of these two formations occur under an overcast sky, or when there is much wind. One sees fog occasionally rolled away, as it were, by wind, but seldom or never formed while it is blowing.

Remarkable clearness of atmosphere near the horizon—distant objects, such as hills, unusually visible, or raised (by refraction)—and what is called a good "hearing day," may be mentioned among signs of wet, if not wind, to be expected.

More than usual twinkling in the stars, indistinctness or apparent multiplication of the moon's horns, halos, "wind dogs," and the rainbow, are more or less significant of increasing wind, if not approaching rain with or without wind.

Near land in sheltered harbours, in valleys or over low ground, there is usually a marked diminution of wind during part of the night, and a dispersion of clouds. At such times an eye on an overlooking height may see an extended body of vapour below (rendered visible by the cooling of night) which seems to check the wind.

The dryness or dampness of the air and its temperature (for the season) should always be considered with other indications of change or continuance of wind and weather. *Admiral Fitzroy's Practical Meteorology.*

## Home Correspondence.

*The Utilisation of Sewage.*—As a manufacturer of chemical manure I must protest against the assumption conveyed in Baron Liebig's letter that manufacturers are opposed to the utilisation of sewage, and are actuated in so doing by such an unworthy motive as a belief that its use will militate against their interests, and will destroy their trade. There is not one particle of evidence that can be produced to show that they are opposed to its utilization, that if used it would injure their trade, or that they were so ignorant as to suppose that any wishes or efforts of theirs could prevent the establishment of a great truth. It has been proved over and over again by the failure of every attempt of the kind that the elements of sewage cannot be converted into a solid manure with any profit whatever. The explanation of this fact is due to Professor Way, who first demonstrated that nearly all the valuable parts of sewage remained in solution; and now few rational men believe otherwise than that the only way to use it is by means of pumping or irrigation, and that the only crops that will pay for distributing apparatus are the Grasses. That the growth of Italian Rye-grass can be enormously increased by the copious application of liquid manure no one doubts, but no other kind of crop will pay for return in anything like the same proportion. If, therefore, the expense of some six or seven pounds per acre is incurred in laying down iron pipes, &c., it is necessary to utilise this expenditure and grow crops that will sufficiently respond to this expenditure, and such are the Grasses alone. Now it is very well known that nine-tenths of the concentrated manures, whether manufactured or imported, are used for roots and corn, and as these crops thus assisted are by no means greater than the demand, there is no reason to suppose that the auxiliary manures would be dispensed with, even if all the sewage in the kingdom were utilized. The effect of the latter would be principally shown in the increased production of dairy produce and the lesser necessity of importing butter and cheese from other countries, as well as an increased production of meat to supply our increasing population. I have witnessed the rich infusion pumped over the fields of Alderman Mechi, as well as various samples of ordinary sewage, and there is as much difference between the one and the other as there is between the brewers' XXX and the very smallest of small beer; and I can hardly conceive greater denial to the worthy Alderman than that for one twelvemonth or two he should have no other manure than the London sewage, and in no greater quantity than he now applies, and at no greater or lesser price than *4d.* per ton. As a national question the utilisation of sewage is of great importance, but its promoters and well wishers will not further the object by wittingly or unwittingly deceiving the public mind, and deluding municipal bodies by a fictitious representation of its actual value, but rather by regarding the teachings of nearly every eminent chemist who has applied his mind to the subject, and by impressing on municipal bodies that if they must have for sanitary purposes a large supply of water and underground sewers, and wish to keep their rivers pure, they must be prepared to go to a considerable expense in removing the sewage to a distance and supplying it

free or nearly so to any set of men who will undertake to use it as a speculation, for which purpose land must be purchased and laid down to Grass. It may be, as Baron Liebig suggests, a very good plan to combine it with superphosphate of lime before distributing it, but I do not see any justice in estimating it at more than double its former value after the process of admixture. We do not find that the ammonia or sulphate of ammonia or the nitric acid in nitrate of soda is of less value in consequence of its not being combined with the phosphates; on the contrary, in both instances the nitrogen commands a higher price than in guano. There is a very great error too frequently committed in estimating the ammonia contained in a very bulky form, such as sewage, at the same value as in a concentrated manure such as guano. It ought rather to be estimated at the same value as we can procure it in stable or scavenge dung or in vegetable matters, where it can be purchased at at least half the price it is valued at in guano. Since my remarks were written I have seen in your columns an able paper on the subject by Dr. Gilbert, in which he makes the important statement that he is authorised by Professor Way to state that although the sewage from the Dorset Square Sewer referred to by Liebig, was considerably weaker than from Barrett's Court, yet he considers that it was at least twice as rich as an average sample. It is a very great mistake indeed to suppose that all the elements of the food pass down the sewers, for even in the metropolis this is not the case, and in towns both large and small, night-soil is removed at night in very considerable quantities. But although no one doubts its fertilising qualities and its infinite superiority to sewage, the price paid for it is little or nothing beyond the labour of removal, and there is very little competition for it even then. This after all is the best test of its pecuniary value. *W. C. S.*

*American Horse Works.*—If "Brass Spurs" would like an American horse-power, I have almost a new one made by Messrs. Hughes and March, and well put up by them at Gurney's Manor, Hingham, Norfolk. But I find it not of sufficient power to do all I require for some 300 to 400 animals, and although it will work well, I shall exchange it for steam the first opportunity as more suitable to my fixed works. If "Brass Spurs" writes to Messrs. Hughes & Co., Engineers, Loughborough, Leicestershire, he will hear of my engine, and can have them take it down and send it to any part of England. *W. B. Hurnard, Gurney's Manor, Hingham, Norfolk.*

*Irish Agriculture.*—Your Kilkenny Correspondent, in his account of the Cattle Show, declares that he considers Ireland as well suited for the growth of corn as are many parts of England. Although Oats may be often a productive crop, I doubt if Ireland will ever grow Wheat with the same success that it is grown in England. But whatever skill may do in counteracting the effects of climate, I am certain that nature has adapted Ireland more for the raising of beef and mutton, than for the production of corn. It is also a question that has been much discussed, whether this be not also the case in England. In the "Quarterly Review" of July, in the article on Austria, the superiority of that country to England for the growth of cereals is very well stated; and the paper read by Mr. R. Smith before the London Farmers' Club, referred to. Cereals, it is remarked, are natives of a warm climate. They thrive best in dry places, where rain is not abundant, and where the mean summer temperature is high. Our mean January temperature varies from 54° to 64°; in Austria it ranges from 73° to 77°; while the temperature of the Irish summer is lower than that of England, and the rain-fall greater. Both England and Ireland are placed under considerable disadvantage in competing with the Wheat lands of the Continent, Ireland more so than England. In the raising of stock Ireland need fear no rival. The demand for meat is increasing, the rearing of stock requires less capital than does arable farming, and should always be produced at less cost at home than abroad. The truth is, that the growing of corn, and the growing of roots and grasses require conditions of climate antagonistic one to the other, except at that expense of labour and capital which all exotic plants require. I do not allude to political considerations, for it has ceased to be a theory of sound politicians, that any industry which is not remunerative should be maintained at the public cost. Man in his pursuits, his habits, and his food, is influenced by the conditions under which he lives, and of these the most important is climate. They who dwell surrounded by the sea, exposed to the winds and showers of a northern ocean, are fitted to excel as seamen and masters of flocks. The energy of our countrymen has enabled them to overcome many of the obstacles which are presented by natural causes. But I think that the farmers of the British Islands will see soon the necessity of gradually approaching that character of husbandry which nature points out as the best suited to their climate and to their country. *B. M., Buxton, Sept. 2.*

## Societies.

KEIGHLEY: *Sept. 4.*—The Duke of Devonshire presided at the annual dinner of this Society. His Grace said that day they had seen specimens of as good animals in the Short-horn breed as were to be found in the whole country. Of course, such animals were not to be found in the farmyards of agricultural tenants generally, but they would take a very mistaken view of the subject if they supposed that the benefit of this high breed in animals did not extend far beyond the possessors of them. It was due to those who had spent many years in the breeding of that description of stock to remark that whatever might have been the result, so far as their own pockets were concerned, the agricultural classes generally had derived benefits from their labours. In every part of the country the good effected by the infusion of that high-bred blood was now felt more or less. Great as had been the advance of this country in almost every department during the last 20 years—so great that it was thought the farmers could not keep pace with it—yet when they took a fair dispassionate view of it, he really believed that the progress that had been made in farming matters was not less remarkable and rapid than that which had taken place in every other department of English industry. Every one connected with agriculture was so familiar with the great topics to which the attention of the agricultural world had been called that it was almost unnecessary for him to refer to them; but on that occasion having been almost invited to take a retrospect of the 21 years of this society's existence, he would call their attention to the question of drainage, which was the first and greatest of all improvements, then quite in its infancy, now so familiar that it was hardly necessary to allude to it. It was the very rudiment and first element of good farming. In how few words could the stock of implements which the farmer had at his command at that period be described; but now he knew nothing so surprising as to gaze at the vast array of implements of the finest construction which they had seen that day, and which they saw at the exhibitions of the agricultural societies generally. Perhaps this might serve to display the ingenuity of the makers, but, at any rate, a very large proportion of them had done good service to the cause of agricultural improvement. He believed it was scarcely ten years since the first reaping and mowing machines were introduced into this country. Now, in many parts, no farmer thought it possible to get in his crops without the use of them. Then they saw, as the final triumph of science, the application of steam playing an important part in all departments of agriculture. Indeed, it was long since in all the purely arable districts that portable steam engines superseded both the flail and horse threshing machines. He, himself, though not very far advanced in years, could remember the time when there were great disturbances in some parts of the south of the country because of the introduction of threshing-machines, and when agricultural labourers threatened little less than an insurrection unless the use of them was discontinued; but now it was hardly possible, even if any one wished it, to get a labourer who would submit to use the flail. The district in which he was making those remarks was not perhaps one in which many of those topics attracted great attention. It was a district of small farms; but still every portion of the agricultural world must feel an interest in what concerns the general advance of agriculture. He was well aware that it would not do to talk of everything as if it were bright, and as if there were no dark side to the picture. At any rate, if there was not a dark side, there was a side of which they could not speak with anything like praise. However great the advance made in some parts, there was still much connected with land both for owners and occupiers to do. Every-one was aware that much improvement could not be made where the land from careless management had been left to produce half what it was capable of producing. They still saw there was a vast deal of niggardly and parsimonious management, assisted at the same time by wasteful management. A farmer grudged the proper outlay for superior articles; he allowed his manure to run to waste and his crops to be overrun with weeds, and that was a niggardly, a parsimonious, and wasteful management. At the same time, there was every reason to look forward with confidence to the prospect before them. The last 20 or 30 years had worked remarkable changes in the direction of agricultural improvement. They had every reason to believe that the influence of good example—that the influence of the Keighley and other agricultural societies, would tend to promote that improvement, and he looked forward with confidence to the time when no one would venture to make such remarks as those he had just offered, and which now formed the exception to the rule. Every one, however, who travelled along the railway must see that there was a great difference between the well cultivated and the badly cultivated land.

## Ram Sales.

*Leicesters.*—Mr. J. Thomson, of Mungoswells, Dunse, N.B., 38 Leicester rams, shearlings, from 3*l.* 15*s.* to 16*l.* 15*s.* Average 6*l.* 11*s.* 9*d.* Sold by auction in Dunse Fair, August 26, 1863.

*Lincolnshire Sheep.*—The season for the sale and letting of rams in Lincolnshire commenced last week, and the prices obtained have been more remunerative to the breeders than those of any previous year. With immense frames, and a ready aptitude to fatten, they are fit for market at an early age, and fleeces of 14 lb. weight are not at all uncommon; indeed, it is frequently mentioned at the ram lettings that some of the animals have clipped as much as 22 lbs. each. On Thursday the annual letting of Mr. T. Kirkham's rams took place at Biscalthorpe. In all 138 sheep were offered, and from the commencement the biddings were exceedingly brisk, 50*l.*, 60*l.*, 70*l.*, and even 80*l.* being given for the use of a single ram for the year. The aggregate amount given for the 138 sheep was 2713*l.* 10*s.*, being an average of no less than 19*l.* 13*s.* 3*d.* The average of the shearlings was 21*l.* 1*s.* each; two-shears, 17*l.* 16*s.* 6*d.*, and of the three-shears and upwards, 20*l.* 7*s.* 3*d.* All the sheep offered were taken, and there were customers for as many more. The rams of Mr. Chaplin, of Tathwell, were let by auction on the previous Tuesday; 120 realised 1500*l.*; one of the shearlings let for 55*l.*, and another for 37*l.*; a two-shear made 50*l.*, another 35*l.*, and a three-shear 40*l.* The competition for them was of a very spirited character, and the prices made were in many instances very large, while the average for the whole was 12*l.* 8*s.* per head, that for the shearlings being 12*l.* 16*s.*, and for the older sheep just 12*l.* per head. This is for letting only, for the sheep will be returned to Mr. Chaplin at the end of the season.

DUMBLETON: *Shropshires.*—A two-shear, let last year to Lord Dartmouth for 36 gs., took second honours at Birmingham last year, and on the present occasion was let to Mr. Garrard for 21 gs. Lot 2, Patentee 3d, let last year for 20 gs., was sold to Mr. Baker for 15 gs. Lot 4, a two-shear, which we had marked as the gem of the day, was bought by Mr. Cogland for 20½ gs. Lot 20, a fine shearling, Mr. W. Barber for 20 gs. Mr. Webb secured a good sheep for 15 gs., and Mr. Guilding one for 13 gs. These were the highest prices obtained. There were more sheep for sale than were required. The average for the rams was 9*l.* 4*s.* 6*d.*, and for the theaves and ewes 44*s.* 4*d.*

## Calendar of Operations.

SEPTEMBER.

BERWICKSHIRE MERSE FARM: *Aug. 29.*—For some time we have been reading glowing accounts of the weather in the south; but we have not been so favoured in this our first week of general harvest. With a steadily falling barometer, the wind got into N.N.E. on the evening of the 25th, and the proverbial three days' rain culminated last night in a perfect deluge from S.E. After 4 o'clock there fell 2 inches of rain; but the land being exceedingly dry, our streams did not overflow. A week ago, the crops were all standing in fine order for machine work, but now they are all laid and twisted. This bright and breezy afternoon, however, has helped to raise up the lightest of them. Irish reapers were numerous, and little for them to do; but next week the balance will be in their favour. In the earlier parishes much corn is in stook: but, early or late, everything has been cut very green. Unless hands be very scarce, we are not likely to see much of what used to be called ripe corn. Winter Wheat is a fine crop; spring-sown irregular, and much affected with red gum. Barley and Oats are good on rich loams; but on hard clays and gravelly land very poor indeed. However, if we have fair weather, the quality will be very superior. Beans are well grown, and fairly podded. Peas, we understand, are uncommonly good. Potatoes, hitherto but slightly discoloured, are likely to go unless we have breezy weather. The Turnip crop will be immensely benefited by this soaking. On clay soils, especially, the drills seemed as if they would never close in at all, and whole fields of Swedes were being riddled by a small green caterpillar. Pastures, too, were utterly brown and bare. But a change is already visible, and we have good hope of sufficient winter keep. *J. T.*

SOUTH HANTS: *Sept.* 4, 1863.—Since my last report, heavy thunder storms and continuous showery weather have prevailed. Carting Barley and Oats has been going on, but in a very bad and in some instances watery condition. Much spring Wheat and Barley remain out, much of the latter still standing and dead ripe; hands have been very scarce. Many farms seem to have their rick-yards crowded with ricks, whilst some do not contain such ricks in size as under former tenants. Later sown spring crops not to be attributed to "afternoon farming," but really early sowing to what the old custom in Hants was. Oats and Barley sown in March, and the latter early in April, have not turned out well. Peas have not "kidded" well, and spring-sown Beans are a bad crop. But as to fine spring crops on heavy loams and clays, they are not to be expected, and farmers are in such a hurry, that rather than see their horses in the stable, and wait till the surface water has cleared, they put in the plough—and all the drags, grubbers, iron-teethed rollers, can never make a proper tilth out of brick sods. March winds dry and harden the furrows, but Norwegian harrows and many useless implements are only applied to mend bad tillage, and still worse husbandry; but these can never restore it to its normal condition. Never plough wet clays and loamy soils, driving the water out of the end of a furrow as out of a shoot, and then say you are ploughing for Barley, or preparing it for Mangel and Swedes; an hour of tribulation—and all the afternoon—awaits this "brother mud" or "land scratcher," as some northern grouse shooters designate their calling. One great evil attending farming is, that the labourer is not educated for his calling—his reaping or "backing," hoeing, hedging, is all bad and miserably unskilful, and his ploughing is bad, and as to old leas, he cannot make much out of these. The mowing in general is very bad, and much of the crop is lost from a proper care of guiding the scythe from "heel to point;" the point comes away a foot too soon, leaving a stumpy ridge of the crops standing up every "swarth," like a ridge of ploughed land. We must next mention cottages—these are very bad and unfit for decent cohabitation, as many as six to eight of both sexes retiring to rest in the same room. Landlords ought to build good cottages for the labourer as a great religious duty—and next to that, for the good of youth, put down the number of beer houses and refuse licenses to them; three and four of these in a small village is ruin to families—destructive to labour and good conduct on the farm, and the older teach the younger, beyond the reach of a master's reclaim. Turnips are various, and Mangels also; the best we have seen were sown in drills, and all the work done by hand—no machine, *i.e.*, used, save the horse-hoe abundantly, and hardly a weed to be seen. Farming in South Hants is wonderfully better than we remember it in 1833-4—Turnips sown broadcast, no ditches cleaned out, hedges running over ditches and headlands, not a Mangel or a Carrot hardly to be seen in a field, gates broken down, harrows sticking all winter on the hedge-tops till

wanted next year, labourers sauntering about masters of all they surveyed, their masters unable to read or write like themselves, &c. But we trust a better time is coming. *X. Y. Z.*

Wester Ross, *Sept.* 7.—Exactly a fortnight ago we commenced our harvest, and for seven days it has been general throughout the district; but so unsettled has been the weather that little progress has been made in cutting, and none of the crop has been carted to the stackyard. On the 29th ult. it poured heavily all the day; to-day, again, a great deal of rain has fallen, and yet it appears heavy and lowering as ever. The weather on the whole has been calm and warm, and was ill suited, consequently, for drying stooks, or accelerating cutting with the scythe. Yesterday, however, was a fine, cool, breezy day, which greatly advantaged the stooks, but to-day they are thoroughly soaked anew, and harvest work is quite suspended. The crops, particularly the Oats, are less bulky than usual, but the ear is large and well filled, and, if well harvested, will thresh out abundantly. Our Barley, which appeared of fine quality, is in danger of being deteriorated by this continued wet, and if much longer exposed to such weather must be reduced from being of fine malting quality to be fit only for secondary purposes. We have to-day, however, a strong cool breeze, and there is little danger of sprout. Within these ten years the mode of cutting the crop in this district has undergone a thorough revolution. Then nearly the whole breadth was cut by women with the sickle, at 1*s.* per day, without food; now there is scarcely a shearer to be seen, and well nigh the whole is cut with the scythe or reaping-machine. Within the circuit of a few miles nearly a dozen reapers may now be seen at work, and when the crop is standing and the field suitable, the work is well executed—a great deal more evenly done than by the scythe; but when the crop is laid, as all our heavier ones will mostly be, the work is incomparably better done by the scythe or sickle. In a district where scythemen can be had at from 2*s* 6*d.* to 3*s.*, binders at 2*s.*, and women for gathering at 1*s.* 6*d.* per day, without rations, the saving, if any, by the reaper, is quite inconsiderable, and consequently the plan best suited to the crop should be adopted. The showers which have so much interrupted harvest work have greatly benefited Turnips and Grass. Turnips, especially, have much improved of late, and with the exception of late-sown patches, which lacked moisture sufficient to braird them in the proper season, promise to be a full crop. Potatoes, as yet, are free from disease, are abundant, and of good quality.

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. Slatter, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. | | | | | | Reading of Self-Registering Thermometers. | | | | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading of | | | | | Amount of Cloud, 0—10. | In Shade. | | Max. in Sun. | Min. on Grass. | |
| | | Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | | Max. | Min. | | | |
| | Sept. | Inches. | | | | | | | | | | Inches. |
| Friday .. .. | 4 | 29.96 | 64 | 59 | S.W. | 2 | 5 | 64 | 46 | 75 | 38 | 0.17 |
| Saturday .. .. | 5 | 29.82 | [illegible] | 55 | S.W. | 2 | 10 | 65 | 46 | 76 | 41 | 0.36 |
| Sunday .. .. | 6 | 30.01 | 59 | 53 | N.W. | 2 | 5 | 66 | 47 | 60 | 39 | 0.61 |
| Monday .. .. | 7 | 29.66 | 63 | 56 | N.W. | 5 | 2 | 62 | 53 | 73 | 40 | 0.41 |
| Tuesday .. .. | 8 | 30.07 | 58 | 54 | N.W. | 1 | 8 | 63 | 47 | 74 | 40 | .. |
| Wednesday .. | 9 | 29.95 | 59 | 56 | S.W. | 1 | 8 | 60 | 51 | 67 | 50 | 0.23 |
| Thursday.. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

## Miscellaneous.

*Oilcake.*—It is amenable to no local facilities, and is just as applicable to one situation as to another. In spite of repeated denunciations, it maintains its ground. The popular tradition respecting it is singular. For many years linseed crushers threw what they considered as the refuse of the mill to the manure heap. A cottager's lane-fed cow, having access to one of these heaps, was observed to be frequently feeding at it; and she gave evidence, by the sleekness of her coat and the increased fulness of the pail, that the food was highly beneficial. So it came into use, and was soon found to produce fat as no article had ever produced it before. Veterans of our standing will remember the denunciation of cake-fed beef. It had an unnatural taste—the shambles where it prevailed had an unnatural smell—the grain was coarse—the fat was liquid or rancid—the meat would not keep—and so forth. Now Mr. Giblett or Mr. Slater gives 6*d.* per Smithfield stone extra for a Norfolk-fed Scot (the animal of all in the market which has ate the most oil-cake), simply because they dare not send any other sort of beef to the nobility and gentry who are their customers. No other article of food (except, perhaps, bean-meal, which has the disadvantage of making the flesh hard) gives to a butcher the same full confidence that the dead weight of an animal will be fully equal to his appearance when alive. *Gisborne's Essays on Agriculture.*

*Flax: Agricultural Statistics, Ireland,* 1863.—The following return—which exhibits an increase of the area under Flax in every county except Dublin—is published, as in previous years, in anticipation of the General Abstracts, which will show the acreage under the various crops, and the number of live stock, by counties and provinces—they will, I trust, be ready for publication in the course of the ensuing month. I do not apprehend that any difference of importance will be found between the acreage under Flax here given, and that which will appear in the detailed Tables now in course of compilation.

*Return, showing, in Statute Acres, the Extent under Flax in each County in 1862 and 1863, compiled from Returns obtained by the Constabulary, who act as Enumerators:—*

| Counties and Provinces. | Extent of Land under Flax. 1862. | 1863. | Difference between 1862 and 1863. Increase. | Decrease. |
|---|---|---|---|---|
| Ulster. | Acres. | Acres. | Acres. | Acres. |
| Antrim .. .. | 13,020 | 21,548 | 8,528 | — |
| Armagh .. .. | 16,204 | 24,066 | 7,862 | — |
| Cavan .. .. .. | 6,150 | 10,279 | 4,129 | — |
| Donegal .. .. | 19,489 | 24,089 | 4,600 | — |
| Down .. .. .. | 30,532 | 44,970 | 14,438 | — |
| Fermanagh .. .. | 2,273 | 4,479 | 2,206 | — |
| Londonderry .. | 19,698 | 25,868 | 6,170 | — |
| Monaghan .. .. | 14,289 | 20,051 | 5,762 | — |
| Tyrone .. .. | 24,834 | 31,995 | 7,161 | — |
| Total of Ulster .. | 146,489 | 207,345 | Increase 60,856 Acres. | |
| Munster. | | | | |
| Clare .. .. .. | 441 | 586 | 145 | — |
| Cork .. .. .. | 291 | 662 | 371 | — |
| Kerry .. .. .. | 259 | 380 | 121 | — |
| Limerick .. .. | 73 | 190 | 117 | — |
| Tipperary .. .. | 197 | 327 | 130 | — |
| Waterford .. .. | 13 | 38 | 25 | — |
| Total of Munster .. | 1274 | 2183 | Increase, 909 Acres. | |
| Leinster. | | | | |
| Carlow .. .. | 3 | 12 | 9 | — |
| Dublin .. .. | 1 | 1 | — | — |
| Kildare .. .. | 1 | 6 | 5 | — |
| Kilkenny .. .. | 19 | 51 | 32 | — |
| King's .. .. | 162 | 337 | 175 | — |
| Longford .. .. | 192 | 406 | 214 | — |
| Louth .. .. | 181 | 704 | 523 | — |
| Meath .. .. | 139 | 324 | 185 | — |
| Queen's .. .. | 37 | 63 | 26 | — |
| Westmeath .. .. | 68 | 158 | 90 | — |
| Wexford .. .. | 18 | 33 | 15 | — |
| Wicklow .. .. | — | 4 | 4 | — |
| Total of Leinster | 821 | 2099 | Increase, 1278 Acres. | |
| Connaught. | | | | |
| Galway .. .. .. | 138 | 299 | 161 | — |
| Leitrim .. .. .. | 529 | 888 | 359 | — |
| Mayo .. .. .. | 455 | 695 | 240 | — |
| Roscommon .. .. | 173 | 327 | 154 | — |
| Sligo .. .. .. | 191 | 256 | 65 | — |
| Total of Connaught .. | 1486 | 2465 | Increase, 979 Acres. | |

| | 1862. | 1863. |
|---|---|---|
| Total Acreage under Flax in Ireland in 1862 and 1863 .. .. .. | Acres. 150,070 | Acres. 214,092 |

Total increase in 1863, 64,022 acres.

*Extent of Flax grown in Ireland in each of the following years:—*

| Years. | Acres. | Years. | Acres. |
|---|---|---|---|
| 1854. | 151,403 | 1859. | 136,282 |
| 1855. | 97,075 | 1860. | 128,595 |
| 1856. | 106,311 | 1861. | 147,957 |
| 1857. | 97,721 | 1862. | 150,070 |
| 1858. | 91,646 | 1863. | 214,092 |

*William Donnelly, Registrar-General, Agricultural and Emigration Statistics Office,* 5, *Henrietta Street, Dublin, Aug.* 14, 1863.

*The Harvest in Egypt.*—A letter from Alexandria says the corn harvest has terminated in Egypt, and it is generally satisfactory and superior in quality to that of last year. The considerable development given to the cultivation of cotton in Egypt leads to the hope that the next picking, commencing in September, will be abundant.

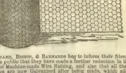
*Harvest in the Northern States.*—The Commissioner of Agriculture has published his statement of the crop of last month throughout the United States. The condition of the Wheat is very nearly but not quite up to the average, and a larger breadth of land has been sown than ever before. Corn also is slightly below the average.

## Notices to Correspondents.

Books: *Jacobus* was answered some weeks ago. We recommend 1, 2, 4, 5. We also recommend as among the best of the dear and of the cheap publications respectively Blackie's Cyclopaedia of Agriculture and Morton's Farmers' Calendar (Routledge).

Farm in Hungary: *Mr. Foitsek* informs us that a very large estate in the South of Hungary, supplied with all kinds of the newest invented agricultural implements and machines, with the best arable land, is to be let for 12 years. Mr. Foitsek, Flitzing, Schmiedgasse, near Vienna, in Austria, will give more details.


BARNARD, BISHOP, and BARNARDS, Norwich.
FURTHER REDUCTION in the PRICE of WIRE NETTING.

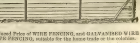


Barnard, Bishop, & Barnards beg to inform their friends and the public that they have made a further reduction in the prices of Machine-made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard. |
|---|---|---|---|
| 2-inch mesh, 24 inches wide .. | No. 19 | .. 4½d. | .. 3½d. |
| 2-inch „ „ „ .. | „ 18 | .. 5 | .. 4 |
| 2-inch „ „ „ .. | „ 17 | .. 6½ | .. 5 |
| 2-inch „ „ „ .. | „ 16 | .. 8 | .. 6½ |
| 1⅝-inch „ „ „ .. | „ 19 | .. 4½ | .. 4 |
| 1⅝-inch „ „ „ .. | „ 18 | .. 6 | .. 4½ |
| 1⅝-inch „ „ „ .. | „ 17 | .. 7 | .. 5½ |
| 1⅝-inch „ „ „ .. | „ 16 | .. 9 | .. 7 |

All the above kinds can be made any width (under 6 feet) at proportionate prices.

Strong Galvanised Poultry Netting, 7½*d.* per yard, 3 feet wide, Galvanised Sparrow-proof Netting for Pheasantries, 11*d.* per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.



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Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10*d.* per yard.

The same with Galvanised Wire Rope, 1*s.* per yard.

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RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3*d.* per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3*l.* 10*s.*

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

T. M. LOBJOIT'S PATENT HOT-WATER BOILERS are acknowledged by all who have them in use to be the most powerful Boilers now known, and are the most economical, requiring less fuel and attention than any other. They are made of various sizes, suitable for heating the smallest Greenhouse to the largest Conservatory, Churches, and Buildings of all descriptions.

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Annexed Sketch shows Bury & Pollard's improved arrangement, requiring

NO BRICKWORK SETTING.

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THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following *Testimonial from* MR. J. FARRAH, *Gr. to* BOSWELL MIDDLETON JALLAND, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

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To be obtained at F. & G. ROSHER'S Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.

Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

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| LIGHT and DARK OAK ... / LEAD COLOR ... ... ... | 26s. |
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and every kind of BRICK, STONE, COMPO, &c., it is unrivalled, presenting the appearance of fine cut stone.

It is undoubtedly the only Paint that will stand on

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and is in consequence largely used by the Nobility and Gentry, also many eminent Horticulturists, for such purposes. The ANTI-CORROSION is LOWER IN PRICE, and LASTS TWICE AS LONG as the Best White Lead; at the same time is economical in application, as

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The Anti-Corrosion is a Powder, and will keep any length of time.

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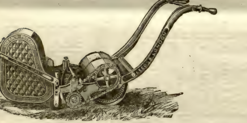
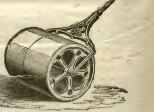
*No Agents throughout the United Kingdom.*

# GREEN'S LATEST IMPROVED PATENT
## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863.



GREEN'S NEW PATENT LAWN MOWER.



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DURING THE SEASON OF 1862, AND DURING THE PRESENT SEASON 1863.

PRICES.

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| To Cut 10 inches | £3 | 10 | 0 | Suitable for a Lady. |
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The 16-inch and 14-inch Machine, with internal gear, are particularly recommended for use by one person.

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| „ 42 „ ... ... | 26 | 0 | 0 | 28 | 2 | 0 |
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Leather Boots for Horse, per set, 1l. 4s.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

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Diameter 20 inches, length 22 inches, price £3 5s. | Diameter 16 inches, length 17 inches, price £2 10s. | Diameter 24 inches, length 26 inches, price £4 5s. Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

Every description of HORTICULTURAL and AGRICULTURAL IMPLEMENTS; and MANUFACTURERS of all kinds of IRONWORK for the IMPROVEMENT or EMBELLISHMENT of LANDED PROPERTY.

*Illustrated Catalogues on application.*

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Have much pleasure in offering their Stock of the above, which are this season in vigorous and healthy condition, as a proof of which they have had awarded them this month

FIRST PRIZE at the CRYSTAL PALACE,
FIRST and SECOND PRIZES at the ROYAL HORTICULTURAL SOCIETY, LONDON,
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CARRIAGE FREE, EXCEPTING VERY SMALL PARCELS.

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| 25 in 25 superb kinds, named | ... ... ... ... ... ... | £1 1 0 |
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MIXED HYACINTHS, for Beds.

Each colour, separate, 3*s.* per dozen; 20*s.* per 100.
Double Red, Blue, White, and Yellow;
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DOUBLE HYACINTHS, all colours in mixture, 2*s.* 6*d.* per dozen; 17*s.* 6*d.* per 100.
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CHEAP HYACINTHS, by name (our selection).

Including only distinct varieties, both double and single, the most hardy, and such as are best adapted for beds or growing in masses.

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| N. | 100 strong Bulbs in 50 varieties | .. .. | £2 10 0 |
| O. | 50 ,, ,, 25 ,, | .. .. | 1 5 0 |
| P. | 50 ,, ,, 12 ,, | .. .. | 1 1 0 |
| Q. | 25 ,, ,, 8 ,, | .. .. | 0 10 6 |

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| A. | 1000 fine roots in 50 distinct kinds | .. .. | 85*s.* 0*d.* |
| B. | 1000 ,, ,, 25 ,, | .. .. | 80 0 |
| C. | 500 ,, ,, 25 ,, | .. .. | 17 6 |
| D. | 500 ,, ,, 10 ,, | .. .. | 15 0 |
| E. | 250 ,, ,, 25 ,, | .. .. | 9 0 |
| F. | 100 ,, ,, 10 ,, | .. .. | 3 0 |

LARGE DUTCH CROCUS, in separate colours.

| | P. 1000. | P. 100 | | P. 1000. | P. 100 |
|---|---|---|---|---|---|
| | *s. d.* | *s. d.* | | *s. d.* | *s. d.* |
| BLUE .. | 14 0 — | 1 6 | VARIEGATED .. .. | 17 6 — | 2 0 |
| PURPLE | 14 0 — | 1 6 | WHITE .. .. .. | 17 6 — | 2 0 |
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Fine MIXED CROCUS, all colours, per 1000, 12*s.*; per 500, 6*s.* 6*d.*; per 100, 1*s.* 4*d.*

SNOWDROPS.

DOUBLE FLOWERING, per 100 .. .. .. .. 2*s.* 0*d.*
SINGLE ,, ,, .. .. .. 1*s.* 9*d.*

WINTER ACONITES.

Price 6*d.* per dozen; 4*s.* per 100.

TULIPS.

Fine Mixed EARLY TULIPS, per 1000, 50*s.*; per 100, 6*s.*; per dozen, 1*s.*
Extra Choice Mixed EARLY TULIPS, per 1000, 70*s.*; per 100, 8*s.*; per dozen, 1*s.* 3*d.*
EARLY TULIPS, by name (our selection), per 100, 17*s.* 6*d.*; per dozen, 3*s.*
Extra Choice EARLY TULIPS, by name, for exhibition (our selection, per dozen, 4*s.*
Fine Mixed DOUBLE TULIPS, per 1000, 50*s.*; per 100, 6*s.*; per dozen, 1*s.*
Extra Choice Mixed DOUBLE TULIPS, per 1000, 70*s.*; per 100, 8*s.*; per dozen, 1*s.* 3*d.*
DOUBLE TULIPS, by name (our selection), per 100, 17*s.* 6*d.*; per dozen, 3*s.*
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| A. 100 in 10 varieties | 15*s.* 0*d.* | C. 25 in 12 varieties .. | 4*s.* 6*d.* |
| B. 50 in 10 ,, | 8 0 | D. 12 in 6 ,, .. | 2 6 |

DOUBLE ANEMONES, by name (our selection).

*** In ordering it will be sufficient to mention the letter (only) prefixed to the assortment required.

| | | | |
|---|---|---|---|
| A. | 100 Choice DOUBLE ANEMONES, | in 50 sorts .. | 20*s.* 0*d.* |
| B. | 50 ,, ,, | in 50 sorts .. | 12 6 |
| C. | 25 ,, ,, | in 25 sorts .. | 6 6 |
| D. | 12 ,, ,, | in 12 sorts .. | 3 6 |

| | per 100. | per doz. |
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| Fine Mixed DOUBLE ANEMONES .. .. | 5*s.* 0*d.* — | 0*s.* 9*d.* |
| Mixed DOUBLE SCARLET ANEMONES | 7 6 — | 1 0 |

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| LA BRILLANTE ECLATANTE, extra fine, bright scarlet .. .. .. .. | 4 0 — | 0 8 |
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ANEMONE HORTENSIS (Star Anemone).

| | per doz. | each | | Per doz. | each |
|---|---|---|---|---|---|
| | *s. d.* | *s. d.* | | *s. d.* | *s. d.* |
| DOUBLE RED | 2 0 — | 0 3 | PURPLE .. | 2 6 — | 0 3 |
| SINGLE RED | 2 6 — | 0 3 | MIXED, very fine | 2 0 | |

In 25 fine new varieties, by name, per 100, 21*s.*; per doz., 3*s.*

BELLADONNA LILIES, CYCLAMENS, IRIS, IXIAS, SPARAXIS, and all other Bulbs.

*Catalogues will be sent gratis and post free on application.*

# JEAN VERSCHAFFELT,

## NURSERYMAN, GHENT, BELGIUM,

Begs to offer the following fine NOVELTIES, which he is now sending out for the first time, and which he can recommend as being truly first-rate varieties, viz.:—

AZALEA INDICA PRESIDENT HUMANN (J. VERSCH.).—The largest flower known, fine rose shaded with salmon, extra fine form and substance, being the same shape as Azalea Roi Leopold; very compact habit, and a very free flowering variety. Strong plants with buds, 12*s.* each.

AZALEA INDICA SECRETAIRE CLAUS (J. VERSCH.).—Large flowers, beautiful light rosy lilac, edged with white, and spotted with crimson; good form and substance. Good plants, 7*s.* each.

AZALEA INDICA VICOMTE DE FORCEVILLE (J. VERSCH.).—Very large flowers, semi-double, of the deepest red yet known in Azaleas; form very good, fine habit, very abundant bloomer; altogether one of the best. Good plants, 10*s.*

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One plant over to the Trade on every three taken. A carefully Coloured Plate of Azalea President Humann, Vicomte de Forceville, and Secretaire Claus will be sent to each subscriber.

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J. V.'s NEW DESCRIPTIVE CATALOGUE may be had on application to his Agents, Messrs. A. SILBERRAD & SON, 5, Harp Lane, Great Tower Street, London, E.C.

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THE NURSERIES, GHENT, BELGIUM.

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B. S. WILLIAMS has much pleasure in announcing that he has made arrangements for the distribution of BECK'S NEW PELARGONIUMS, and that he will be prepared to supply strong Plants about the end of October.

A DESCRIPTIVE and PRICED CATALOGUE of the above, with Select Lists of other Choice Show, French, and English Spotted and Fancy Pelargoniums, will be published shortly and forwarded post free to all Customers and applicants.

Paradise and Victoria Nurseries, Holloway, London, N.

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B. S. WILLIAMS invites inspection of his large and well assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, TREE FERNS, &c., amongst which are some very fine specimens.

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DOBSON'S CALCEOLARIA, in packets, 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.*
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J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

NEW PELARGONIUMS and CINERARIAS.—Our NEW CATALOGUE, containing many Novelties of the above, offered for the first time, is now ready, and will be forwarded post free on application. Also selections of the very best known kinds, cheap.

Our NEW BULB LIST is also just published.
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NEW FORCING GERANIUM, MRS. LEWIS LOYD.—Rich crimson with dark maroon blotch in top petals; of dwarf robust habit, and most profuse bloomer. Forces into flower at any season without drawing. It was exhibited to the Floral Committee of the Royal Horticultural Society on March 31, and then awarded their Certificate of Commendation. Good Plants now ready, 7*s.* 6*d.* each.

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### New Catalogue of Plants, Dutch Bulbs, &c.

ROBERT PARKER begs to announce that his New CATALOGUE, containing Select, Descriptive, and Priced Lists of Exotic Orchids, New and Rare Greenhouse, Hardy, and Stove Plants, Ornamental and Variegated foliaged Plants, Azalea indica, Fruit Trees, Grape Vines, Rhododendrons, Roses, &c., Hyacinths, Tulips, Gladioli, Narcissus, and other Bulbs, is now published and will be forwarded to all applicants.

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### HYACINTHS and other DUTCH BULBS.

THE FIRST PRIZE FOR A COLLECTION OF HYACINTHS,
THE FIRST PRIZE FOR 18 HYACINTHS,
THE FIRST PRIZE FOR 6 NEW HYACINTHS,

Being all the FIRST PRIZES offered to Nurserymen at the Royal Horticultural Society's HYACINTH SHOW on March 18, were awarded to WILLIAM PAUL, Paul's Nurseries, Waltham Cross, N.

PRICED DESCRIPTIVE CATALOGUE free by post.

### Hyacinths, Tulips, &c.

WM. CUTBUSH AND SON'S first importation of the above has arrived, and from the extraordinary heavy weight of the Bulbs they promise a fine bloom. Early orders are earnestly solicited. DESCRIPTIVE PRICED CATALOGUES free.

N.B.—17 FIRST PRIZES were awarded to WM. C. & SON last spring for HYACINTHS, TULIPS, and CROCUSES. In addition to this, EVERY FIRST PRIZE at the London Exhibitions to Amateurs was for Bulbs supplied by them.

The ONLY address is Highgate Nurseries, London, N.


# The Gardeners' Chronicle.

*SATURDAY, SEPTEMBER* 19, 1863.

MEETINGS FOR THE ENSUING WEEK.

TUESDAY, Sept. 22 { Royal Horticultural (Floral and Fruit Committees) at S. Kensington .. Noon

NOT many years ago a mysterious WATER-WEED, rejoicing in the name of *Anacharis Alsinastrum*, with as many aliases as a London thief, made its appearance in the river Cam, much to the injury of the navigation of that classical but very scanty river, and more to the disgust of a small board of gentlemen who are denominated Conservators of the Cam.

These gentlemen, in the discharge of their fluviatile duties, indulge in an annual excursion down the river, and after refreshing themselves with an excellent dinner, proceed, as in duty bound, to drink prosperity to river navigation in general, and that of the Cam in particular; and malicious people say (though it must be admitted upon very inadequate information) that the name of an eminent botanist was ironically coupled with the usual toast as the supposed introducer of this noxious weed from Canada or the United States, in both which regions it is native.

It is generally understood that this gentleman merely introduced a single specimen of the interesting stranger into the pond of the old Botanic Garden, which has long since been dismantled, and it is supposed that a very few plants of the same were placed by him in the bed of a fine clear water course called HOBSON'S Conduit, which with its handsome iron palisade adorns the celebrated Wrangler's Walk at the entrance to Cambridge by the old London road. Small branches of this stream run down the principal streets of Cambridge, forming a characteristic feature of the town; some of the Colleges are supplied with its

water, and their famous baths are filled by it; and then, after its little course of usefulness is completed, the whole is discharged into the river.

Alas! what great results may follow from small beginnings! A snowball set in motion on a mountain top may presently become an avalanche, destroying whole villages in its thundering career. Our little plant required only time to develop as extensive powers of mischief.

The intelligent Curator of the present Botanic Garden (not he in whose reign the plant was introduced) recollects how 20 years ago he was instructed to cherish a specimen of the then rare *Anacharis*, when he resided somewhere near the banks of the Tweed. Scientific people begged to be allowed to examine it, and in returning it safely expressed their admiration of its beauty. Some specimens there introduced into a spring-water pond had great difficulty in keeping alive. At Cambridge, however, there was no want of vitality to be complained of. The fecundity of this interesting little stranger is excessive. The piece of water in the present Botanic Garden at Cambridge has been just fied out (to use a Norfolk expression), and 50 loads of stuff have been stacked in the back premises, and are beginning to emit a thoroughly pond-weed odour, which will increase in intensity as the putrefactive process goes on.

It is said to be rich in nitrogenous elements, and to make such excellent manure, that some people think it will repay the expense of cleaning out the places it selects for its residence. We wish we could indulge in so pleasant an anticipation. Unfortunately the only circumstance that is certain is its amazing power of multiplication. Twelve years ago it had begun to impede our inland navigation; boats could not be forced through it; and sluices were choked by it. Then, however, it had not travelled further than Cambridgeshire; and had it confined its attentions to the waters of that learned county no further notice of it would have been necessary. But we regret to announce the uncomfortable fact that *Anacharis* is spreading fast in every direction. It is already at Norwich, as our own eyes have told us, and it will soon overrun the kingdom, *unless some means can be found to destroy it.*

How then is that to be done? A more important question has seldom called for an answer. Nevertheless answer there is none. Ten years ago information on the point was called for by Mr. Marshall, of Ely, who saw the mischief that was breeding "to watermen, sluice keepers, rowers, swimmers, and fishermen," to say nothing of the drainage of fen countries. But to this day, as far as we can learn, no method of destruction has been proposed, except the obvious one of removing the weed by main force.

Surely this is a subject to which scientific attention especially should be directed, and in the hope of eliciting suggestions, or the results of experimentation, we venture to revive the inquiry. It may be indeed, that Mr. Marshall's alarming declaration that "it can't be got rid of at all," is true. But such a conclusion should not be acquiesced in until much more knowledge about *Anacharis* and her doings is collected than the public as yet possesses. We therefore invite communications on this most important question, in the hope that in a multitude of counsels something practically valuable may be contained. Of this gentlemen may be sure—there is no domestic danger comparable to that which must follow the stoppage of internal water motion.

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The Bulb season brings with it other duties than those of potting Hyacinths and Tulips for the forcing house, or planting the choicer selected samples in glasses for the window. There are the beds in the spring garden to be thought of, and it is well to have the arrangements for filling these planned and settled early, so that advantage may be taken of the most congenial weather for the work. Besides, we hold that this work should not only be planned early, but that the Bulbs should be planted early in autumn, so that they may have time to have rooted freely before winter sets in. On this, and on the proper preparation of the soil with which the bulbs are to be surrounded, we believe a vigorous and early bloom mainly depend. For all flower-garden purposes the unnamed bulbs, sold in quantities at a low rate, serve admirably; but they should be bought true to one shade of colour, and planted accordingly.

Our object at present, however, is not to deal with this subject of bulb-planting so much in reference to the details of culture, as to take the opportunity of pointing once again to the desirability, we may almost say the necessity, if a good display and a continuous effect are to be obtained, of planning our flower-gardens—we of course have geometrical gardens in view at this moment—so that the design shall form at least two parts, one of which shall be a distinct design, with the members perfectly balanced, included within the other or general design, the two thus forming parts of one whole. The necessity for this, so to speak, arises from the fact that beds of bulbs, on which the glory of a spring display must in great measure depend, are necessarily bare in winter, and bare beds, no less than full ones, not symmetrically disposed, have a bad appearance in a formal garden. The advantage of such a plan of arrangement is, that one series of beds, forming one connected pattern or portion in the design, may in autumn be planted with bulbs and left bare; while the other portion of the pattern, forming the second design, may be planted with a variety of evergreens, so as to look furnished. The evergreens and the bare beds each being regularly disposed would together yield a winter picture by no means so unsightly as that which would be presented by a parterre, either all bare throughout that dreary season, or with the bulb beds scattered amidst beds of evergreens without regularity of arrangement.

Perhaps we ought to explain more fully what is meant by a design within a design, especially as we claim that the advantages of such an arrangement are by no means confined to the effect produced during the bulb season, but hold good throughout all the arrangements necessary for the summer furnishing of the beds. Suppose, then, a parterre of circular outline, to contain four elliptical beds set crosswise, one end of each pointing to the centre, and the remaining space to be filled out uniformly by beds of any other shape; there may or may not be a bed occupying the centre. In such a case, the four elliptical beds would of themselves, or including the centre, form a distinct and perfectly balanced figure, and the rest of the design would form another perfectly distinct yet completely balanced figure. Now, if the elliptic beds were planted with bulbs, and the others with evergreens, or *vice versâ*, there would be a symmetrical picture, from the first day they were filled, and even the bare beds of the bulbs, merely from the fact of the colour of their surface being equally disposed in the picture, would not be offensive to the eye, as they would be if the masses of colour they presented had not been balanced. The colour of the bulb beds, heavy and earthy no doubt while the surface remained unfurnished—unless indeed it were lightened up by an edging of such a plant as Cerastium—would be relieved and enlivened by the varied tints of foliage in the beds of evergreens, and later in the season, when the bulbs came to be in flower, they would in turn lighten up the then more sombre foliage of the shrubs. At a more advanced period the evergreens would give way to one set of summer flowers, and either before or after them, as might be most convenient, the bulbs would give way to another set. Thus the whole of the changes—and such changes are indispensable—might be made without any real disfigurement.

This illustration is on a very small scale and very simple, but the principle will be all the more evident. The principle may, of course, be also applied to include the most extensive parterre of the most complicated design. It may even be extended, so that instead of one included design there may be two or three, or more. That merely depends on fertility of invention in the mind of the designer. We hold, however, that no flower garden is perfect, or can be filled to the best advantage, the design or pattern of which does not admit of being thus resolved into at least two series of symmetrically balanced figures; one only of which should be unfurnished at any one time.

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Those who are in the habit of exhibiting at our flower-shows any of the delicate forms of vegetation which require to be shielded from the outer atmosphere, and many of those also who are in the habit of visiting the exhibitions, will be aware of the inconvenience which is generally experienced in consequence of the bedewing of the bell-glasses, which are employed to afford the necessary shelter. This, indeed, frequently occurs to such an extent as to disguise, if it does not entirely enshroud, the plants which the glasses are used to protect. The consequence is, that the exhibition is more or less marred; and this is all the more to be regretted, inasmuch as the subjects which require treatment of this kind, the group of Anœctochilus for example, generally rank amongst the most beautiful objects to be found on the tables.

One method of overcoming the evil has been happily hit upon by one of the most successful patrons of gardening in Belgium, Madame Legrelle-d'Hanis of Antwerp, whose exhibitions won most of the leading prizes competed for by amateurs at an exhibition of the Société Royale de Flore de Bruxelles, held in Brussels a few weeks since. We are indebted to a Correspondent for the following remarks upon the plan this lady had adopted. The group thus treated carried off the first prize.

"Allow me to draw attention to the method at present adopted for displaying at horticultural exhibitions certain delicate objects, such as small Ferns and plants of Anœctochilus. From their delicacy they are shown under glasses, and the evaporation is always such as to obscure them so carefully from the eye of the visitor, that beautiful as are their forms and markings, they are either passed over, or the glasses have to be taken off, which is of course an infringement of the rule not to touch, and often results in damage to the plant in the process of re-covering. Now, at the late flower show at Brussels I noticed a glass case, exhibited by a lady, containing a large number of Anœctochiles looking as bright as possible, and on examining the treatment which had produced this result, I found that over the earth she had laid a thick coat of woollen thread, which absorbing the rising moisture left the glass clear during the hours of exhibition. The exhibitor had chosen wool stained of colours best suited to show off her plants."

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We may regard the exhibition at South Kensington on the 9th inst. as the wind-up of the season of Seedling Dahlias. It may, therefore, be worth while to take a general review of the result as indicated by the awards at the principal metropolitan tribunals.

We venture to preface our catalogue with the remark that Dahlias show a want of novelty of character. The mass of the new varieties brought forward annually are, to an uncritical observer, mere repetitions of what he has seen in former seasons; and though a gradual change in the way of improvement in the florist's sense is no doubt going on, yet it is not often that the floricultural expert can point to a novelty which stands out clearly in advance of existing varieties—stands out, that is to say, so much in advance that the uncritical and non-floricultural eye can see and appreciate the progress which has been made. No flower of the present year, as far as we have seen, stands out thus like the Lord Derby which for the two past seasons carried all before it. Last year, we seemed, if not indeed to have secured a new colour in the red-laced yellows, at least to have witnessed a marked development in this class, which contained some really beautiful things, but no advance has been made in this direction during the present year, and even the varieties which last autumn delighted us with their freshness of character and brightness of colouring, have not been generally seen again in the prominent position they might have been expected to occupy. We venture to suggest to seedling raisers that it is to the improvement and variation of this red-laced yellow group, and also of the laced white-ground series, that their attention should be directed. Light brightly-margined sorts, such as we allude to, are required to give more effect to the stands of cut blooms, to say nothing of their more lively appearance in the garden. There is also abundant room for improvement in the class of striped varieties, few of which come up to the model of form; besides which as a class they are getting so much flushed and stained in the ground-colour that they have at best but a dingy look. A pure white or yellow ground wants restoring to these striped Dahlias, and we could very well dispense with at least half the markings on the florets, provided the remainder thereby became more prominent and distinct. The raisers of Seedling Dahlias, then, have work enough before them; and what has already been achieved should encourage them onwards.

The great public bodies who offer prizes for these flowers at their exhibitions have apparently not yet reached the point of appreciating the absurdity of calling a Dahlia with white tips to its florets a "fancy" flower, while those with dark tips to the florets are thrown in with selfs to make up the class of "show" flowers; this at least is the presumption, inasmuch as they continue to admit Fancies into their schedules, and allot to them distinct prizes. We can only repeat what we have before urged, that this classification is an absurdity; and if the leading associations to which we have alluded, which ought to take such a matter as this in hand, so as to rectify an admitted *lapsus linguæ*, do not set the example by giving up the "fancies," and adopting distinctions which have at least some reason as their basis, we trust that the florists will as a body no longer hesitate to take the initiative, and do it for themselves.

Of the seedlings exhibited this year in London, our note book records 10 which have gained First-class Certificates, and to two of this number, both from Mr. Keynes, namely, Anna Keynes and Fanny Purchase,

the first-class award has been duplicated. We are not disposed to question the prominence which has thus been given to the varieties represented by these fair names. Anna Keynes yields full-sized and well-made blooms, of a blush-white deeper in the outer florets, and very faintly tipped with lilac. Fanny Purchase is neat and symmetrical in form, and of a clear bright yellow colour. Perhaps—getting thus as far as possible from the heavy reds and purples and the dingy stripes—we may give the next place to LEGGE's White Perfection, which is a fair ivory white, a trifle too flat to please us quite. Then comes The Bride, from the same grower as the last, a blush-white tipped at the back with purple. COLLIER's Princess Alexandra is a full-sized compact neatly formed Indian yellow, striped with bright crimson; its chief drawback is the want of brightness in the ground colour, a quality which it shares with many, indeed most of the striped sorts. KEYNES' Edward Purchase is a well-formed compact-set ruby crimson; WHEELER's Coronet a deep and full purple violet; and KEYNES' Earl of Pembroke a deep full mulberry purple. KEYNES' Sam Bartlett, a blush striped with crimson; and Polly Fawcett, a kind of amber tipped with white and suffused at the back of the florets with rosy purple, were neither of them to our taste. Anna Keynes, The Bride, Coronet, and Sam Bartlett had already gained second-class awards before the higher Certificates were awarded to them.

We find memoranda of 23 varieties which gained Second-class Certificates, exclusive of those which afterwards were moved up into the first place. Of these LEGGE's Enchantress, BURGESS's Chelsea Hero, and KEYNES' Regularity and John Wyatt had the award twice over. Enchantress is a pale apricot tipped with rosy carmine, a pretty pleasant-looking sort; Chelsea Hero is a well made flower of a fawn-colour, tinged with peachy-lilac; Regularity is a blush-white, often heavily striped with crimson, but variable in the amount of striping; and John Wyatt is a full deep rosy purple. Before all these, however, our choice would rest on HOPKINS' Brunette, PERRY's Alexandra, and WHEELER's Mrs. Wheeler, the choice being perhaps influenced by a predilection for light distinctly-marked varieties. Thus Brunette, the most attractive flower of the season which has come under our notice, is a bright apricot colour, very heavily laced with carmine crimson, sufficiently large, and good in outline; Alexandra is a neatly built even flower, white, delicately but clearly laced with lilac; and Mrs. Wheeler is a clear white, heavily laced with bright rose purple, a most lively and telling variety. Scarcely if at all below these would come KEYNES' Magpie, a distinct-looking variety, rosy purple ground tipped with white. The remainder of this second-class batch consist of WHEELER's Watty and BRAGG's Garibaldi, orange red; BRAGG's Useful, ruby red; LEGGE's Roundhead, purple maroon; PERRY's Sylph, blush suffused with lilac; KEYNES' Lady Lilian Paulet, blush white, faintly tipped at the back with rosy lilac; BRAGG's Ranger, rosy buff; PERRY's Nilus, straw colour, faintly tipped with red; KEYNES' Fascination, peach white, striped with magenta; LEGGE's Fancy Boy, buff yellow, striped with red; KIMBERLEY's Messenger, a symmetrically built light rosy lilac, heavily striped with rosy purple; COLLIER's Annie, shaded maroon crimson, tipped with white; TURNER's Prince of Wales, pale yellow; the series winding up with LEGGE's Formidable and KEYNES' Surety. All these are varieties of respectable character, but the majority justify our previous remark, that we want something more novel and startling than such as these to give an impetus to the Dahlia Fancy.

The award of a Commendation card has been made to LEGGE's Nonsuch and Crimson Perfection, the last a neat ruby crimson, and to WHEELER's Symmetry, a dark ruby red; while the "unrewarded" form a heavy brigade, whose names it would be tedious to enrol.

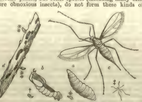
We may observe by way of conclusion that there is vast room for improvement in the arrangement of our shows of autumn cut flowers. As in the Rose shows of summer, we are required to gaze upon too much of a mere flat surface of colour, and something is wanted in both cases to break up this monotony of surface. In the Dahlia season, nothing could be easier than to press into service for this purpose the pretty class of Pompons, and even some of the large-flowered sorts, possessing decorative qualities, might be very well employed; large vases filled with branches of these tastefully arranged, might be distributed about the stages and other parts of the exhibition room with very good effect.

## ENTOMOLOGY.

### THE WILLOW STEM MIDGE.

IN the *Gardeners' Chronicle* for September 4, 1847, we published the history of a minute two-winged fly which renders useless the young twigs of Willows and Osiers employed as basket rods. The woodcut illustrating this species, to which we gave the name of Cecidomyia (Rabdophaga) viminalis, is here reproduced (the upper cut annexed) for the purpose of comparison with the figures of another species of midge belonging to the same genus, which is equally injurious to the same kind of trees, and to which our attention has been directed during the past summer.

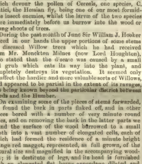
Before proceeding to narrate the history of the latter insect, it will be serviceable to give the following extract from the Baron R. Osten-Sacken's Memoir on this genus, just published by the Smithsonian Institution of Washington (Miscellaneous Collections—Monographs of Diptera of North Amemera, Part I., April, 1862). "It is a peculiarity of the family of Cecidomyidæ that its natural history has always been studied in close connection with its classification. This is owing chiefly to the fact that [in a great number of the species] the gall, the produce of the insect in its first stage of life, is generally a more striking object in nature than the insect itself. The latter, small, tiny, difficult to preserve on account of its great delicacy, still more difficult to distinguish from its congeners on account of the uniformity of their appearance and colouring, would afford a very unsatisfactory object of study, unless in connection with the varied deformations which their larvæ produce on plants. The study of this family, different in this respect from most of the other families of insects, cannot be prosecuted apart from the observation of living nature, and for this very reason will always be a monopoly of the naturalist so situated as to afford such observations." The Baron's observations were directed chiefly to the species which form galls on different plants, but other species (including many still more obnoxious insects), do not form these kinds of



excrescences; thus there are several kinds, the larvæ of which devour the pollen of Cereals, one species, C. Tritici, the Hessian fly, being one of our most formidable insect enemies, whilst the larvæ of the two species more immediately before us burrow into the wood or young shoots of trees.

During the past month of June Sir William J. Hooker placed in our hands the upper portions of some stems of diseased Willow trees which he had received from Mr. Monckton Milnes (now Lord Houghton), who stated that the disease was caused by a small red grub which eats its way into the plant, and completely destroys its vegetation. It seemed only to affect the hardier and more valuable sorts of Willows, and appeared to be partial in the extent of its ravages, not being known beyond the particular district between Leeds and the Humber.

On examining some of the pieces of stems forwarded, we found the bark in parts flaked off, and in other places bored with a number of very minute round holes, and on removing the bark in the latter parts we found the surface of the wood burrowed to a small depth into a vast number of elongated cells, each of which had formed the residence of a minute bright orange red maggot, represented, as full grown, of the natural size and magnified in the accompanying woodcut; it is destitute of legs, and its head is furnished with an elongated flat horny appendage, dilated and divided into four obtuse points at its extremity.



The pupa into which this red maggot is transformed is also represented of the natural size and magnified, as seen on its ventral surface, the limbs of the future insect in a contracted state being folded on the breast, to which they are closely applied; the head is armed at its frontal extremity with two hard horny points, in front of which are two slender hairs. When ready to assume the perfect state the pupa pushes itself half out of the circular hole, or exit from the burrow, which has been instinctively prepared for that purpose by the larva previous to assuming the pupa state. Here the white skins of the pupæ may be found when the perfect insects have escaped. Several of these empty pupa-skins are indicated in our woodcut by a small star near each of them.

The perfect insect, of which we only obtained two dead female specimens, is of a dark grey-brown colour, the abdomen having the sides and connecting membranes of a dark fleshy tint; the legs and antennæ are nearly black, and the wings of a slight smoky hue. The antennæ of the female consist of 18 joints, the first rather oblong, the second cup-shaped, and the remainder rather more necklace-shaped, but squared at their tips, and setose; the wings have the four veins distinct, the inner one being much curved; and the abdomen in the female sex has the terminal segments formed into a long telescope-like appendage or borer, which enables the insect to introduce her eggs into the crevices of the bark of the trees.

We presume our insect to be identical with the Cecedomyia saliciperda incidentally mentioned by the Nestor of entomologists, M. Léon Dufour ("Annales des Sciences Naturelles," 2d ser., xvi., p. 262), his short account of the ravages of the larva, and description of the pupa and its habits, exactly according with those of the insect now under our notice. His specimens were observed on the "tronc de saule vivant." Dr. Giraud has also observed the same, or a closely allied species, on the banks of the Danube, near Vienna, on the Salix purpurea and other species, which are attacked by the insect to such an extent that the stem "était comme lardé de ces robes de nymphes blanches." ("Verhandl. Zool. Bot. Ver. Wien," 1861, p. 479.) The same observer had also reared what he considers to be the same insect from young twigs of Populus alba, which were deformed by elongated swellings in which the larvæ resided. We are, however, inclined to believe that the latter insects specifically differed both from Cecidomyia saliciperda and from our C. viminalis. Indeed, as Dr. Giraud states that the females of his species have only 15 or 16 joints in the antennæ, and that the third vein of the wing is bifurcate, we doubt the identity of the Vienna and Yorkshire specimens.

As almost all the perfect insects had made their escape from the stems when we received them in June, we apprehend that the most beneficial plan for the destruction of the pest would be to examine the trees carefully in February or March, and cut off and burn the heads of the stems found to be infested, as we notice that it is chiefly close to the top of the stem that the insects abound. This will have the effect of checking the future production of the broods of these troublesome little creatures. It will also prevent the growth of twigs on the infested stems, which from their weak condition would only produce feeble and useless shoots. *J. O. W.*

## POTATOS.

[For the following particulars respecting the Deepdene collection of Potatos, exhibited the other day at the Royal Horticultural Society's Show at South Kensington, we are indebted to Mr. Whiting, whose instructive account of the different kinds of which it consisted, will doubtless be read with interest. He says:—]

THE Potatos exhibited by me on the 9th inst. were the following sorts:—

*Round Potatos.*—1. Daintree's Earliest; 2. Golden Prolific; 3. Early Shaw; 4. Dalmahoy; 5. Fortyfold; 6. Red Regent; 7. Ormskirk; 8. Napoleon; 9. Wellington; 10. Cheltenham; 11. Jersey Blue.

*Kidney Potatos.*—1. Ash-leaved; 2. Myatt's Prolific Ash-leaved; 3. Jackson's Ash-leaved; 4. Sutton's Early Racehorse; 5. Eugénie; 6. Webb's Imperial; 7. Brockley; 8. Fluke.

[1. ROUND POTATOS.]

No. 1 is a very early Potato, and it appears to be of good quality, but having grown it only one season, I cannot say much about it.

No. 2. This also is an early kind, coming into use some days before the Ash-leaved Kidney, and it is one of the best of its class. The name above given is, however, not the correct one. Some say it is the Handsworth Prolific.

No. 3. Although not of first-rate quality, this is a very useful variety, inasmuch as it is very productive and yields tubers of a large size early in the season. Those therefore who have to supply a large family will find the Shaw valuable.

No. 4. I am inclined to believe that "Dalmahoy" is merely a new name given to an old sort. When I first came to this place 23 years ago a Potato was grown here under the name of the Champion. I have grown that Potato side by side with the Dalmahoy without being able to find any real distinction between them, and both are nearly akin to the Regent. This is a strong-growing productive sort, very white and mealy, but requiring great care in cooking from its tendency to break on the outside before the middle is sufficiently boiled. It is one of the best of what are termed second Early Potatos, but it does not keep well after February.

No. 5. A Potato of the same class and quality as the preceding variety, differing chiefly if not entirely in the colour of the skin, which in the Fortyfold is a mixture of dark purplish red and white.

No. 6. I am not certain that the Potato I exhibited is the true Red Regent, which is a variety of recent origin, and probably differs from its prototype in nothing but the colour of its skin. One moderate sized tuber cut into single eyes was planted in the ordinary way last spring, and the produce is a heaped bushel.

No. 7. This excellent variety does not appear to be known in the south of England. A neighbour brought it from Lancashire, and I have cultivated it two or three years. It somewhat resembles the Dalmahoy in shape, but differs in colour, the Ormskirk being

tinted with purple round the eyes at the crown end of the tuber. This also is a second early sort.

No. 8. One of the handsomest Potatos grown, and I believe as good as it looks. In form it is unusually smooth and regular, with scarcely any indentation at the eyes; colour a purplish red, frequently pied with white; the flesh is white and mealy, and seems to retain its goodness till late in the season.

No. 9. Another valuable variety, which is not so well known as it deserves. The tuber is large and handsome, its only fault being large and deep eyes at one end, where it is generally stained with red. This Potato is good from autumn to Midsummer.

No. 10. An old yellow-fleshed variety, neither large nor prolific, but worthy of cultivation on account of its good keeping properties and superior flavour.

No. 11. This very much resembles an old sort which has been grown for years under various names—as Yorkshire Red, Phillips's Red, &c. It is an excellent late Potato, but, like all late varieties, subject to injury from the Potato disease.

[2. KIDNEY POTATOS.]

No. 1. An old and well-known sort, generally esteemed, its principal defect being its comparative unproductiveness.

No. 2. This is said to be an improvement upon the old variety, but I have not grown it long enough to make a fair comparison between them.

No. 3. A much heavier cropper than No. 1, but not its equal in flavour. It is a large and handsome Potato, with a particularly white flesh.

No. 4. With me this has come very small this season. I shall give it another trial under more favourable conditions.

No. 5. This I am told is a sport from Napoleon, and not having received a name with it I call it Eugénie. It is similar in colour to Napoleon, equally handsome, and equally good.

No. 6. I have seen larger Potatos of this sort than of any other Kidney, with the exception of a monstrous pig Potato, which was exhibited last autumn at the Society's show. With me the Imperial Kidney is inferior to Jackson's Ash-leaved both in appearance and quality.

No. 7. This is a very handsome Potato, and while some reckon it a very good one, others condemn it on account of its yellow flesh.

No. 8. The Fluke is well known as a late keeping kind, which resists the blight better than any other late Potato. In the light sandy soil of this garden it does not succeed so well as in some other places; nevertheless it is a very valuable variety.

## GARDEN LAW.—*No. VII.*

### WATER RIGHTS.

GARDENERS want water more than most other people, and the right to get it is therefore of more than usual importance to them. Water is supplied by nature to any particular spot in all or some of the following ways, viz.:—1, directly from above; or 2, by rivers, brooks, or other visible streams flowing in defined channels along the surface of the ground; or 3, by smaller streams which, whether visible or not, percolate over or through the ground in channels not defined, and not readily traced. For legal purposes it is necessary to consider these several modes of supply separately; for the right of a person to appropriate the water which naturally comes to his ground depends mainly on the manner in which it gets there.

As to water falling directly in the shape of rain on a person's land, little need be said. He has a right to catch and keep it all, however much his neighbours may suffer by his not allowing it to fall and run away on to their property. Every one has a right to the unobstructed enjoyment of all that is above his own land, and to have rain fall upon it; but no one has a right to insist that another shall allow his land to be rained upon. Even if rain falling on my land feeds a well on yours, I may intercept the rain and so destroy your well. It does not however follow, that because a man may collect and use the rain falling on his own land, he may, when he has done with it, turn it off as he likes on to his neighbour's land. That is quite another matter. Moreover when rain has fallen without being intercepted, the right to appropriate and use it will depend upon the form in which it continues to exist; or in other words upon whether it is or is not part of a stream with a visible defined bed.

With respect to rivers, brooks, and streams flowing in defined channels along the surface of the ground, the right of every proprietor of soil over which such a stream flows, is limited by the equal rights of the other proprietors. The consequence of this is that in the absence of special circumstances, no one proprietor is entitled to use the stream in any way detrimental to the others. With this restriction however they can all make use of it for their own purposes as they like. As a learned judge said some years ago:—"The right to the use of water rests upon clear and settled principles; *primâ facie*, the proprietor of each bank of a stream is the proprietor of half the land covered by the stream, but there is no property in the water. Every proprietor has an equal right to use the water which flows in the stream, and consequently no proprietor can have the right to use the water to the prejudice of any other proprietor. Without the consent of the other proprietors who may be affected by his operations, no proprietor can either diminish the quantity of water which would otherwise descend to the proprietors below, or throw the water back upon the proprietors above. Every proprietor who claims a right either to throw the water back or to diminish the quantity of water which is to descend below must, in order to maintain his claim, either prove an actual grant or license from the proprietor affected by his operations, or must prove an uninterrupted enjoyment of 20 years." The statement, however, that no proprietor can diminish the quantity of water which would otherwise descend to the proprietor below, must not be taken too literally. A pailful of water taken out of the Thames at Richmond no doubt diminishes the quantity which would otherwise descend to Gravesend; but even lawyers have a little common sense, and with them it is a maxim peculiarly applicable to such cases as these, *de minimis non curat lex*. The sense and law of the matter are that each owner of land bordering a stream is entitled on the one hand to have the natural accustomed flow of water left uninterfered with, and on the other to take and use the water in the stream for his own purposes, provided he does not materially interfere with the similar rights of others. As may naturally be expected, these conflicting rights give rise to frequent disputes, which are sometimes very difficult to settle; for although the legal principle applicable to them is clear, it may be far from easy to determine whether in a particular case the right to make use of water in a stream has or has not been exercised in an immoderate or improper manner.

As regards water supplied to a place naturally by percolation over or through the soil, but not collected into a visible stream with a defined bed, the owner of the soil in which such water is may treat it as his own, and intercept and use it accordingly, unless there be some special grounds precluding him from so doing. Every one has a right to drain his own land. He cannot, indeed, as already observed, interfere directly with natural streams flowing through his property; but he is at perfect liberty to intercept, collect, and apply to his own purposes all stagnant water on it. He may draw his own wells dry, and empty his own ponds; and he may drain off all water which is percolating through his own land, even although, if left alone, such water would ultimately form a stream or pass into the well or pond of a neighbour. To such an extent is the owner of the soil master of all water upon or under it, but not forming a visible stream, that he can sink wells to any depth he likes on his own land, even although he thereby lays dry the whole surrounding country. It was not long ago that the Local Board of Health at Croydon sunk a well so deep as to draw off large quantities of water that would otherwise have found its way into the Wandle. The owner of an old mill, formerly turned by that river, brought an action against the Board for damage sustained by the stoppage of his mill, which the river was no longer able to turn. The case was fought with great obstinacy and skill on both sides; but it was ultimately decided that the mill owner was not entitled to compensation. This and other cases settle that persons whose wells or ponds are drained by wells sunk in other lands have no legal remedy for the damage they sustain. They can, however, deepen their own wells and ponds to any extent they please. *Lincoln's Inn.*

## ORCHARD HOUSE PEACHES.

I HAVE read with some interest the discussion in your Paper between Mr. Thompson and Mr. Rivers upon the comparative advantages of growing Peaches under glass, and of growing them upon walls in the open air.

Had Mr. Thompson been content simply to give his opinion as a horticulturist, that in growing Peaches under glass no success could be hoped for at a greater distance than a couple of feet from the light, I should not have ventured to question his authority. But when, in addition to his opinion, he gives the reasons upon which it is founded, and travels for them into the domain of optics, every one is entitled to judge of their validity.

The objections stated by Mr. Thompson to cultivation under glass appear to me to be so unfounded, I confess I have not much faith in the soundness of his conclusions.

To quote the objections in his own words, they consist in "the difference between the direct light of the sun's rays, and the same transmitted through glass, and consequently weakened by a large amount of reflection, and paralysed by refraction; the latter manifesting itself greater in proportion to the distance the rays travel after passing through the glass; and if this be far, their energy is next to moonshine." If the above statement were true, the sooner that Peach cultivation under glass were given up, the better.

But what are the facts? The loss of light by reflection, and by passing through glass at a high angle, is not more than two or three rays in 100; while the dispersion or "paralysis," in passing through parallel glass, is absolutely nil, and it does not increase with the distance the rays have to travel.

Upon the question of the "paralysis" of the light at a distance from the glass, I have appealed to a high authority, by asking the question of the sun, whose answer I have received through the medium of a piece of common photographic paper. Having divided the paper into two parts, both pieces were exposed simultaneously, under the same conditions, parallel to the roof, in a "lean-to" house, for the space of two minutes; the only difference being that the one piece was exposed within a foot of the glass, while the other was at the distance of 10 feet from it.

I chose a cloudy day in preference to sunshine, in order to have the light coming from the whole sky, between east and west, which would be the case between the rising and setting sun.

The test papers are enclosed for your inspection, and you will perceive that the one exposed within a foot of the glass has been acted upon by the light with double, or perhaps more than double, the energy to the other. This I confess was contrary to my expectation, but the result has nothing to do with "refraction," "paralysis," or "reflection." It is simply the effect of the one paper having received about double the quantity of light to the other, the quality being the same in both cases; nearly the whole of the lateral and more oblique light having, in the latter case, been intercepted and shut out by the rafters and sash bars, as any one may see who inspects the interior of a greenhouse. The difference shown by the two papers would, I believe, be very much less in sunshine. I doubt indeed if it would be perceptible. [They are placed before Mr. Thompson.]

In a favourable season like the present, no one doubts that Peaches may be grown in perfection upon a south wall, and I must now admit that under glass they will probably ripen in greater perfection near the light than at a distance from it. At the same time, I can entirely confirm the experience of Mr. Rivers, that the advantages of temperature under glass are so considerable, as in a great degree, if not altogether, to countervail the loss of "energia" by diminished light, and that excellent Peaches may be ripened, far beyond the narrow limits allowed by Mr. Thompson. To assume, as he does, that "the Peach requires for its perfection the direct light of the sun in front, and its reflection by the wall at back," appears to me to be begging the whole question; which is, whether the Peach cannot be as well grown, and with greater certainty, under other conditions. *An Amateur, Clapham, Sept.* 15.

## NEW ROSES.

I HAVE received a list of the new Roses of 1863. There are in it 48 H. Perpetuals, 6 Bourbons, 3 Teas, and 1 Autumnal Moss. Last year I received a private recommendation of Sœur des Anges and Madame Briançon. The former, very beautiful, has not opened so well as I could wish; the last is about to bloom, and I believe it will be very good. The forms of the buds are good, and the petals are thick. Sleekness, smoothness, and thorough colouring of the under as well as the upper sides of the petals are essentials. No Rose, however beautiful it may be, can be considered perfect that is not as well coloured on the under side of the petals as on the upper side.

I call attention only to those which are described as large or very large, vigorous or very vigorous, full, of good form, or very good form. The descriptions are those of the raisers; and of their worth some opinion may be formed by the names attached.

### HYBRID PERPETUALS.

*La Duchesse de Morny* (Verdier).—Magnificent very fresh pale rose, the reverse of the petals silvery. Figured in the French Journal of Horticulture.

*Madame Victor Verdier* (Verdier).—Of a rich and fresh brilliant rose-cerise colour (extra)

*Baronne Pelletin de Knikelin* (Granger).—Beautiful vivid red, shaded with purple and very vivid poppy.

*Kate Hausburg* (Granger).—Very vivid beautiful rose de Chine.

*Eugène Verdier* (Guillot fils).—Superb dark violet.

*Paul de la Meilleray* (Guillot fils).—Beautiful purple rose-cerise.

*Senateur Reveil* (Damaisin).—Brilliant red crimson, shaded with dark purple (extra).

*Madame Maeker* (Damaisin).—White, very slightly roseated, the issue of Mère de St. Louis.

*Maréchal Suchet* (Damaisin).—Beautiful rose-carmine.

*Madame Ducamp* (Fontaine père).—Beautiful red purple.

*Docteur Vingtrinier* (Fontaine père).—Beautiful vivid red carmine, shaded with purple.

*Alphonse Belin* (Gautreau).—Vivid red cerise, reverse of the petals clear rose, very scented.

*Madlle. Gabriel de Perronny* (Lacharme).—Fiery red, shaded with purple in the centre.

*Madame Devreux Donville* (Leveque).—Beautiful pale rose, bordered with white.

### TEA.

*Lays* (Damaisin).—Brimstone yellow (*jaune souffré*), effective.

### BOURBONS.

*Madame Josephine Guyet* (Touvais).—Erect habit, brilliant vivid red in the centre, the exterior of the petals dark red.

*Madame de Stella* (Guillot).—Beautiful vivid rose.

*Rev. H. Dombrain* (Margottin).—Cupped, very brilliant carmine.

I have omitted, as I have just stated, naming any that have not attached to them the words vigorous, large, full, and of good form. For living on, we must have them vigorous; and for show, we must have them large and full, and of good form. We also want more cups and globes, the two best forms of Roses. I do not know any Roses that have so many points of excellence as Cecile Chabrillant, Senateur Vaisse, and Jules Margottin. As regards Bourbons, I wish the raisers would scent them. *W. F. Radclyffe, Rushton, Sept.* 14.

## THE FANCY PANSY.

"They are all very well," exclaimed an old-fashioned florist the other day, "but I shall never fancy them things." "Why?" I asked. "Why," replied he, "they are all sorts of colours, and are nohow." Of course I easily understood what my worthy old floricultural friend meant, because he, in common with many others I have met with, will recognise nothing in a Pansy which is not either a "white ground," "yellow ground," or a "self" flower, from which in their opinion there must be no divergence in variety of colours. Of course these Mede and Persian laws of florists keep us to such classes; and although as florists we would not tolerate any relaxation of them, we can at least recognise in the Fancy Pansy an unlimited diversity of rich and beautiful colours, and in many of the new flowers, forms scarcely inferior to that in the best florists' varieties. No flower has become more rapidly and deservedly popular, or has been so rapidly improved.

These Fancy Pansies possess one great recommendation to all classes of cultivators. They generally are free and sturdy growers, requiring more room than the florists' kinds, and not being so liable to die off suddenly. Here we use a moderately light surface soil made up with siftings from beneath the potting bench, rotten leaf, and fresh maiden pasture soil. This forms the upper surface of the bed, whilst underneath is a stiffer garden soil, with which a little rotten manure and a portion of the above-named compost has been incorporated. I find that the roots cling with remarkable tenacity to the stiffer subsoil, and the plants hold out longer in dry weather. The lighter top soil is adopted because it enables us to keep the surface readily cleaned and stirred, and as we keep the shoots pegged out close to the ground, the side pieces (*i. e.*, side shoots) root into the soil very readily. Occasional slight mulchings of fresh soil are placed about the plants, to assist them in creating stock. If the amateur adopts this plan, young plants can be obtained much better than by bothering with cuttings, for they can be readily pulled away from the parent.

In sheltered districts it is best to plant out in the autumn, always securing the plant from injury by wind by pegging it down or otherwise fixing it. The soil should never be allowed to become caked on the surface, and repeated syringings over head in hot weather keep the plants in vigorous health. Fly, which is well known to amateurs, should be kept down by washing the plants with tobacco water, or a very weak solution of Gishurst. We apply it with a small brush. In wet cold districts it is best to winter Pansies in cold dry frames, where the plants can be kept dry and hardy during the winter. The Pansy is perfectly hardy, and the most severe frosts will not injure it; but it is particularly susceptible of damp, and readily succumbs to this mortal enemy. I use brick frames or pits chiefly; these are filled above the ground level with about 15 inches of drainage, on which is placed from 3 to 4 inches of soil. In this I plant out for the winter, keeping them close to the glass and well aired, and never cover with mats or any other material even in very severe weather, but at that time I water sparingly, and only in the morning and in fine weather.

Seed can be sown at almost any time—now until December, to bloom early next summer, and if sown later of course the plants bloom later. Seedling plants are generally very robust, and should have plenty of room given to them.

Fancy Pansies were a few years ago taken in hand by Mr. Salter and Mr. Downie, but so strong was the prejudice against them on the part of our floricultural friends, that they could not make headway, until the late M. Miellez, of Lille, raised and introduced some good things, including Miracle, Princess Mathilde, Prince Imperial, Napoleon III., Ali Bey, and a few others. Messrs. E. G. Henderson & Son then took them up; but of course London smoke did not agree with them, nor, what was still worse, the confinement of a London garden. The cooler soil and climate of Yorkshire were considered more congenial, and plants were sent here. I soon saw that with some attention the Fancy Pansy could be made a popular favourite, and determined it should become so, and I have now the satisfaction of knowing that the majority of the finest in cultivation have been raised here.

As a decorative plant the Pansy is almost ignored, and yet there is nothing more valuable for garden decoration. In proof of this, I refer to what Mr. Fleming does at Cliveden in early spring decoration with the Cliveden Blue, Magpie, Yellow, Purple, and White Pansies. At Shipley at the present time, my seedling beds are masses of flower. The seed was sown in cold frames last September, and the young plants were planted out in April; they commenced blooming towards the end of June, and have continued blooming ever since. These beds are full of flowers, whilst the heavy rains we have lately had, have washed out the flowers of Verbenas and Geraniums. Magpie is a little beauty for garden decoration, and the Cliveden Blue is a gem in a flower garden. The double Pansy, an old kind, introduced by the name of "Good Gracious," is pretty, but does not last long in flower. I knew this kind many years ago, and there is an abundance of it in Ireland; a few years since it was also extensively grown at the Royal Gardens at Frogmore.

The following are some of the finest new kinds to be introduced this autumn. Those marked * have been raised by Messrs. Downie Laird and Laing. The others have been obtained here:—

| | |
|---|---|
| Her Majesty | *Earl of Rosslyn |
| Prince of Wales | *Mr. Nethercote |
| Princess of Wales | *Sulphur Queen |
| Thomas Moore | *Maccaroni |
| King of Italy | *Black Prince |
| Richard Dean | William Paul |
| Mrs. Turner | Admiration |
| Mrs. Dean | Duchess of Cambridge |
| Annie Brooksbank | Princess Beatrice |
| Clara Dean | Lord Provost |
| Alexandra | Singularity |
| Prince Alfred | Blue Beard |
| Columbine | Firefly |
| Hibernia | Moonshine |
| *Mrs. Nethercote | |

Of older sorts, some of the best are:—

| | |
|---|---|
| Mrs. Moore | Octavie Demay |
| Prince Napoleon | Princess Alice |
| Aurea marginata | Princess Mathilde |
| Imperatrice Eugénie | Prince Imperial |
| Harlequin | Tiger |
| Maid of Honour | Prince Arthur |
| Princess Louise | Carlotta Patti |
| Creole | Paul Bedford |
| Le Géant | Rainbow |
| Belle Esquermoise | Aunt Nelly |
| Belle Lilloise | Talisman |
| Brigand | Grand Vizier |
| Distinction | Louisa Angel |
| Etoile du Nord | Mont Blanc |
| Louise Meillez | Magenta |
| Michael Angelo | Sunshine |
| Massaniello | Merry Monarch |
| Miracle | Fire King |
| Napoleon III. | Louisa Pyne |
| Naomi Demay | Gladiator |

The distinctly blotched kinds, such as Thomas Moore, Aurea marginata, Donald Beaton, Merry Monarch, Hibernia, Butterfly, and Dandie Dinmont often come without blotches early in the season, but as soon as hot weather sets in they become distinctly marked. The best plan is to plant these kinds in poor sandy soil, that is, nearly all river sand, certainly not in rich earth. In the south, Pansies should be planted in as cool and shady a situation as possible, but not under trees. Avoid wet situations, as they would suffer too much in very wet weather. They should always have good drainage to avoid the possibility of stagnant water about the roots. *William Dean, Bradford Nursery, Shipley.*

## BRITISH ASSOCIATION.

An interesting paper, *On the Physical and Mental Character of the Negro*, was read by Dr. J. Hunt. This paper brought up Mr. Craft, a negro of nearly pure black skin, in defence of his race. Mr. Craft said, that as Africans were very dark, and the inhabitants of Northern Europe very fair, and as, moreover, the nations of Southern Europe were much darker than those of Northern Europe, it was perfectly fair to suppose that climate had a tendency to bleach as well as to blacken. The thickness of the skull of the negroes had been wisely arranged by Providence to defend their brains from the tropical climate in which they lived. If God had not given them thick skulls their brains would probably have become very much like those of many scientific gentlemen of the present day. The woolly hair was not considered by Africans as a mark of inferiority, though some of them shaved it off, but it also answered the purpose of defending the head from the sun. With regard to his not being a true African, his grandmother and grandfather were both of pure negro blood. His grandfather was a chief of the West Coast; but, through the treachery of some white men, who doubtless thought themselves greatly his superiors, he was kidnapped and taken to America, where he (Mr. Craft) was born. He had recently been to Africa on a visit to the King of Dahomey. He found there considerable diversities even among the Africans themselves. Those of Sierra Leone had prominent, almost Jewish features. Their heels were quite as short, generally, as those of any other race, and upon the whole they were well formed. Persons who had any knowledge of Africans knew that, when they enjoyed advantages, they were capable of making good use of them. He might refer to the instance of the little girl brought to this country by Capt. Forbes. This child was presented to the Queen, who had her carefully educated. When she grew up, she mingled in good society, and interested every one by her proficiency in music; and recently she had been married to a commercial gentleman of colour at Lagos. Another case was mentioned by Mr. Chambers in one of his works; and another case was that of Mr. Crowther, who was well known to many gentlemen in this country. One word with reference to the ancient Britons. When Julius Cæsar came to this country, he said of the natives that they were such stupid people that they were not fit to make slaves of in Rome. It had taken a long time to make Englishmen what they now were, and therefore it was not wonderful if the negroes made slow progress in intellectual development. It was, however, proved that they made very rapid progress when placed in advantageous circumstances. As to the negro not being erect, the same thing might be said of agricultural labourers in this country. He pointed to Hayti as furnishing an instance of independence of character and intellectual power on the part of the negro; and contended that in America the degraded position which he was forced to occupy gave him no chance of proving what he really was capable of doing. He was sorry that scientific and learned men should waste their time in discussing a subject that could prove of no benefit to mankind. He spoke with great deference to their opinions; but, for his own part, he firmly agreed with Cowper, that

> Fleecy locks and black complexion
> Cannot alter nature's claim;
> Skins may differ, but affection
> Dwells in white and black the same.

—*Athenæum.*

## Home Correspondence.

*Fungi.*—Having often proved gratefully your readiness to answer a question honestly asked to obtain information, I do not hesitate to ask your advice as to the best means of getting rid of a pest in the shape of a Fungus, which increases so fast it threatens to overrun our little garden. The garden was made five years ago, the flower beds being cut out of the turf. The first summer one or two of this cone-shaped Fungus appeared; the next year more than 50; and this season the crop covers an area of 20 yards square, coming through the turf and amongst the flowers in every direction. I shall be greatly indebted to you if you can suggest a remedy short of the troublesome operation of taking up the turf. I send a small specimen; it is sometimes 6 or 7 inches in height, and the root as deep in the ground. *J. M. C.* [The specimen was so squelched that nothing could be made of it. Perhaps some kind correspondent can advise J. M. C.]

*Grape Growing* (see p. 869).—Allow me to make a few observations respecting Mr. Thomson's Grape growing in Yorkshire. Mr. T. commences by noticing Mr. Nicholson's practice (see p. 845), which he considers ought to be the rule, not the exception; he then relates his own proceedings (which by the way most Grape growers, I feel convinced, will consider ought to be the exception, not the rule); he takes 25 bunches from a Vine the second year after planting, following it up by taking 37 the succeeding year, and speaks of such practice being considered by some to be cutting the throat of the Vine. The result may not be so striking at first as the operation just alluded to, but destruction will be equally certain in the end. For Vines of the age mentioned, I consider the crops which Mr. T. speaks of, to be more than double what are consistent with good practice. I can point to Vines in scores of houses that have been completely ruined in a few years by overcropping, especially whilst young; and to others that have been planted 50 years, that have never failed to produce good crops annually. The latter were however never overcropped. I have no intention to disparage anything that Mr. Thomson may accomplish, neither am I disposed to parade my own doings; I merely wish to show that I am not a mere theorist, and therefore I may state that I have exhibited Black Hamburghs at six shows within the last three weeks, and have taken first prizes at all of them, viz., at Bishop Auckland, Ripon, Manchester, Bowdon, Alderley, and Bradford; at the last place Mr. Thomson was second, with just such Grapes as might be expected from his account of their treatment; they were deficient in colour and small in the berry, although thinned enough to hang till March. *T. Baines, Gardener to H. L. Micholls, Esq., Summerfield, Bowdon, Cheshire.*

*Cinchona Planting for the West India Islands.*—Seeing the great and costly efforts that have been made to introduce Cinchona planting in the East, the question naturally arises—why should not anything similar have been attempted in the West? The proximity to the American continent offers great facilities, and it may reasonably be supposed that the mountains in Jamaica, St. Lucia, Trinidad, &c., would offer every possible advantage in point of climate. *G.*

*Ink Plant.*—I was much pleased the other day on going over the Gardens at Chiswick to see that the Society was in possession of the very interesting Coriaria thymifolia, or Ink-plant, of which an account was given a few weeks ago at the Linnean Society. We shall soon no doubt be able now to investigate its curious properties at home. *A Fellow.*

*Showing Roses.*—With all deference to those who think otherwise, I cannot agree in the opinion that Roses should be shown singly, as Dahlias, &c. The Dahlia is a formal flower, and is probably best shown on the present system, but the buds and leaves of Roses are, in my opinion, a beautiful addition to the flower; and the Rose would lose in interest and grace, as our exhibitions would lose in variety, if this and some other flowers are brought to one uniform standard. It seems to me bringing Nature's variety to "one idea," instead of giving to each its proper scope and natural development. Three trusses of each variety are desirable, because the bud, the half-blown, and the full-blown flower may be exhibited at the same time. A good number of sorts is also desirable, because where one lover of Roses grows for exhibition, 20 grow for garden decoration, and some of the freest blooming and most highly decorative Roses are least suitable for exhibition. Again, if all the buds surrounding a central flower be removed, succession or continuity of flowering is destroyed. The Rose is certainly not fully or fairly represented by small numbers or single blooms, and the tendency of exhibiting such is to narrow the range of the very first of English garden favourites. *Wm. Paul, Waltham Cross, N.*

*Hyacinth Culture.*—In Mr. Fortune's admirable papers, "A Visit to the Bulb Farms of Holland," I do not find any allusion to the temperature of the soil, which I conceive plays an important part in the cultivation of this beautiful spring flower. On a recent visit to that country, I was standing in the Hyacinth ground of Messrs. Van der Schoot & Sons of Hillegom, one of the largest and most respectable cultivators in Holland, when I was struck by a sensation of heat through the soles of my boots, and on placing my hands on the soil found it too hot to be comfortable. The nature and colour of the soil scarcely accounted to my mind for the degree of heat, and I turned to the sky. The latter was not completely overcast, but broken masses of watery clouds were floating about, between which the sun's rays poured down with a concentration that seemed at the moment to help in the solution. If such consequences result from this state of sky (which I was informed was more common than in England), here is an important condition in cultivation. *Wm. Paul, Waltham Cross, N.*

*Disa grandiflora.*—As I exhibited this handsome Orchid in bloom the other day at the Manchester Horticultural Show, perhaps the following remarks on the manner in which I treated it may not be without interest. I received the plant in a small state about this time last year, and shifted it at once into a small pot, using a compost of fibrous peat and a little silver sand. On examining the plant about the end of October I found that it required another shift. I, therefore, moved it into a pan 8 inches in diameter and 4 inches deep, using the same compost as before. I then plunged it in a larger pan filled with moss, and gave it a good watering over head with cold water once or twice a day, which kept the soil and moss saturated. I kept it in a cool airy greenhouse shaded from the mid-day sun. In the beginning of February I removed as much of the old surface soil as I could without injuring the roots, and added a good top dressing of rough peat and sand. After that the plant progressed favourably and commenced to throw up a flower stalk about the beginning of June. The latter grew very rapidly until it reached 2 ft. in height. The first flower opened on the 30th July; each of the blooms measured 4 inches one way and 3¼ inches the other. The last flower is now just expanding, and I expect that it will remain in perfection at least six weeks. *E. Mitchell, Gardener to R. F. Ainsworth, Esq., Lower Broughton, Manchester.*

*Rhus succedaneum.*—Can any of your correspondents inform me whether this species of Rhus is hardy enough for our climate. Its brilliantly-tinted autumnal foliage induced me three years ago to purchase a plant of it, which has now got too large for pot and cool house treatment, and if I was sure of its hardiness I would plant it out. *Sumach.* [We have had no experience on the point in question.]

*The Asserted Refraction of the Sun's Rays through Glass.*—I have been tempted to test this with as much accuracy as possible, and this morning, at 10 A.M. (Sept. 16), the sun shining very brightly, I took two of Negretti's thermometers—one I placed outside on the glass, the roof sloping to the south-east, the other inside, sloping at the same angle, both 5 feet from the ground surface, and the latter 9 feet from the glass. In a few minutes the thermometer outside rose to 87°, that placed inside to 103°, showing 16° of difference, thus showing glass to be conductive rather than refractive. I find on referring to a maximum thermometer placed in one of my orchard houses (and forgotten) completely in the shade, behind a bag of Moss, so that no direct sun-heat could affect it, that it has registered 105°. This was, I presume, in the hot weather in July and August; this was surely a high ripening temperature. *T. R.*

## Societies.

BRIGHTON HORTICULTURAL: *Sept.* 16, 17.—The Autumn Show of this Society was held in the Pavilion, and was in most respects an excellent one. Cut flowers were the chief features, and were exhibited in great numbers, most of the principal growers being represented.

*Roses.*—The Railway 10-guinea Cup, which was offered for the best 50 Roses, was awarded to Messrs. Paul & Son, of Cheshunt, who contributed an excellent collection, in which the most conspicuous were Empereur de Maroc, La Ville de St. Denis, Comtesse Cecile de Chabrillant, Madame Caillatt, Madame Falcot, Victor Verdier, Lord Clyde, Madame C. Crapelet, Anna de Diesbach, François Louvat, Lord Canning, Catherine Guillot, President, and Louise Peyronny. Mr. Mitchell's collection contained good blooms of Dr. Rushpler, Senateur Vaisse, Georgina Milner, Comte de Paris, Peter Lawson, Duc de Bassano, Gloire de Santenay, Comtesse Cecile de Chabrillant, Vainqueur de Goliath, and Madame Wm. Paul. Mr. Keynes had nice examples of François Lacharme, Anna de Diesbach, Monte Cristo, Madame C. Crapelet, Olivier Delhomme, Madame Boutin, Madame C. Wood, Vicomte Vigier, and Prairie de Terre Noir.

*Awards.*—1st, Messrs. Paul & Son; 2d, Mr. Mitchell; 3d, Mr. Keynes; Extra for 100 varieties, Mr. Mitchell.

Collections of 24 varieties were well shown. In the various stands were good specimens of Adam, Senateur Vaisse, Comtesse Cecile de Chabrillant, Olivier Delhomme, Gloire de Dijon, Lord Raglan, Souvenir d'Elise, and La Reine.

*Awards.*—1st, Messrs. Bragg & Co.; 2d, Mr. Gosling; 3d, Mr. Woolland.

*Dahlias* as a whole were unusually good. In Mr. Turner's stand of 48 were beautiful blooms of Cygnet, Earl of Shaftesbury, Delicata, Model, Andrew Dodds, Miss Henshaw, Hugh Miller, Charlotte Dorling, Lord Derby, and Midnight. Mr. Keynes had Delicata, Model, British Triumph, Bellona, Anna Keynes, Lord Derby, Pauline, and Juno in nice condition; and Mr. Harrison showed good blooms of Mauve Queen, Lord Derby, Hugh Miller, Earl of Shaftesbury, Mrs. Bush, and Delicata.

*Awards.*—1st, Mr. C. Turner; 2d, Mr. John Keynes; 3d, Mr. Harrison.

In collections of 24 Fancy varieties Mr. Keynes took the lead; his set contained fine blooms of Baron Alderson, Pauline, Magpie, Duchess of Kent, Samuel Bartlett, and Lady Paxton; Mr. Legge had Norah Creina, Formidable, and Prince of Wales; and Mr. Perry, Pluto and Comus.

*Awards.*—1st, Mr. Jno. Keynes; 2d, Mr. Legge; 3d, Mr. C. J. Perry.

In the Amateurs Class of 24, some good blooms of Bob Ridley, Andrew Dodds, Miss Henshaw, Delicata, Model, Lord Derby, and Criterion were shown.

*Awards.*—24: 1st, Rev. C. Roe; 2d, Mr. J. Sladden; 3d, Mr. C. J. Perry. 12: 1st, Mr. Sladden; 2d, Mr. Lock; 3d, Mr. Hopkins.

In the Amateurs collections of 12 Fancies, nice blooms of Charles Perry, Summertide, Pauline, Pluto, and Baron Alderson, were exhibited.

*Awards.*—1st, Mr. Batter; 2d, Rev. C. Roe; 3d, Mr. C. J. Perry.

*Verbenas* were good for the season. We may here observe that five trusses are always more effective than three. Excellent examples were shown by Mr. Perry of l'Avenir de Ballent, Ruby King, Colossus, and Magnificens; and Seedlings Modesty, Pink Perfection, Rubens, Mauve Queen, and Princess. A first prize was awarded.

*Hollyhocks* were shown in considerable quantity. Among the collections were fine blooms of Empress Eugénie, Lady Dacres, Lilac Perfection, Countess of Craven, Reine Blanche, Invincible, Governor-General, Lady Paxton, Mrs. Chater, Morning Star, Princess of Wales, and Lucifer.

*Awards.*—1st, Messrs. Downie & Laird; 2d, Mr. Harrison; 3d, Mr. Chater.

*Gladioli* were very showy; some fine spikes were shown of Madame Basseville, Belle of Yarmouth, Achille, Ophir, Othello, Janire, and Neptune.

*Awards*—1st, Messrs. Youell & Son; 2d, Mr. Cattell; 3d, Mr. J. Sladden.

Orchids, Stove plants, and plants with variegated foliage, were well shown. The most remarkable were Caladium Belleymei and Chantini, and Croton angustifolium from Mr. Hudson, gr. to F. Barchard, Esq.; Alocasia macrorhiza variegata, Caladium bicolor magnificum, and Alocasia metallica, from Messrs. Henderson & Co.; and Cordyline indivisa from Mr. Young, gr. to H. Stone, Esq.

Fruit was very fine, more especially the Grapes Marchioness of Hastings and Muscat of Alexandria from Mr. Parsons; the Muscats and Black Hamburghs from Mr. Russell; and the Barbarossa from Mr. Drummond. Prizes were offered for stands of fruit and flowers for table decoration, to be competed for by ladies only. Some very pretty designs were produced. The 1st prize went to Mrs. Johnson, Regency Square, Brighton; the 2d to Madame Temple, Brighton; and the 3d to Miss R. Miller, Hurstmonceaux.

## Notices of Books.

*The Alpine Guide.* By John Ball. London: Longman & Co. Pp. 517.

(*Continued from p.* 847.)

Mr. Ball assures us, "the real dangers of the high Alps may, under ordinary circumstances, be reduced to three. First, the yielding of the snow bridges that cover glacier-crevasses; second, the risk of slipping upon steep slopes of hard ice; third, the fall of ice or rocks from above. From the first and most frequent source of danger, absolute security is obtained by a precaution generally known, but often neglected. In the higher region of the glaciers, crevasses even of considerable width are often completely bridged over by a covering of snow or névé, so that no indication of their existence is seen on the surface of the glacier. These bridges, especially when formed of fresh snow, often yield under the weight of a man's footsteps; in such a case an active man, whose attention is on the alert, may sometimes extricate himself at once, but it more commonly happens that he falls into the chasm beneath, in which case his chance of life is faint indeed. But if several travellers are tied together with a stout rope, as it is in the highest degree improbable that a majority of them should fall at the same moment into the same crevasse, no appreciable danger from this cause need be incurred. Even two travellers tied together, may, with proper attention, avoid this risk, but greater security is obtained when they are three or more in number. It is necessary to see that the rope be sound and good, and it is not less important to insist that it should be fastened round the body of each member of the party, guides included, so that both hands may be free to use the alpenstock, in case of a slip. A neglect of this obvious rule led, in 1860, to the loss of three English travellers and one of their guides, in the descent from the Col du Géant to Courmayeur. This mode of reducing the coefficient of danger to an inappreciable quantity by the theory of probabilities is very ingenious, and thoroughly characteristic of the worthy Editor, but it will scarcely be considered altogether convincing by less able mathematicians. "The ascent and descent of steep ice slopes are among the most difficult operations that commonly fall in the way of the mountaineer, but when properly conducted there should be little or no danger to those concerned." After describing the proper mode of procedure he adds, "In spite of every precaution a traveller may slip on an ice-slope, where, if unchecked, a fall would lead to certain destruction. Against this danger the rope is usually an effectual preservation. Cases are said to occur where the footing is so precarious that a party cannot be tied together, as if one were to slip he would inevitably drag all his companions along with him to destruction. It is for those concerned to consider whether, in such instances, the object in view is such as to justify the inevitable peril of the ascent."

There is much good sense in this remark, as also in the next paragraph, where, after describing the danger lest even a slight disturbance of the newly fallen snow on a steep slope should produce an avalanche and bury the entire party, Mr. Ball says that practical experience is necessary to determine whether the ascent can be safely attempted, adding that the only fatal accident recorded in the numerous ascents of Mont Blanc arose from the travellers insisting on persevering, against the judgment of the guides, when the snow was in a dangerous condition. It is obviously mere folly to persevere in the face of bad weather. We next come to the geology of the Alps, and must be content with a single extract:—

"The alpine geologist has not merely to contend with the difficulties arising from upheaval and depression, the repeated folding of the strata, or the actual reversion of their original order of superposition; he has to deal with deposits which scarcely ever retain the characters which are elsewhere familiar to him. The marls and clays here appear as hard slates, the calcareous deposits as crystalline marble, as dolomite, or as cellular limestone, and even where their mineral structure is less changed, the colour is constantly altered. Thus the representative of the chalk in the Sentis is a black limestone. The most formidable difficulty of all arises from the absence or rarity of fossils. It is not surprising that the first attempts of Alpine geologists should have failed to discover a clue through this labyrinth. For a long time the opinion prevailed, that the Alps were composed of peculiar rocks altogether different from those elsewhere known to geologists; and even 30 years ago, the stratified rocks of the Alps were generally classed only in three general divisions, under the names of Calcaire Alpin, Flysch, and Verrucano." With the names of foreigners who have laboured in the field, Mr. Ball associates those of our distinguished countrymen, Sir Roderick Murchison and Professor Sedgwick.

The Editor gives 10 pages of works relating to the Alps from which information may be obtained, and then we come to what may be called the body of the "Alpine Guide," which is arranged much after the style of Murray's Handbooks, and divided into routes, A, B, C, D, &c., under the different recognised districts, such as Mont Blanc district, Sixt district, Evolena district, &c., the whole coming under the larger divisions of Maritime Alps, Cottian Alps, &c. There are also nine maps and three indices, one of peaks or mountains, one of mountain passes, and one of general matters.

As we have already stated, the "Alpine Guide" is written mainly with an eye to real mountain work. Trustworthy information is supplied with regard to every peak or pass that has been surmounted, amply sufficient for any Englishman in good condition, with or without a local guide. Where it is only supposed that a way might be found from one point to another, the Editor takes care distinctly to say that it is only a conjecture; where information is too scanty or altogether wanting, he takes care to make known the want. The whole is done in a business-like manner, and sensational writing is carefully eschewed. There is a short notice of the tunnel through the Alps. The entire distance to be pierced is stated to be about 7¾ English miles; for one-half of the way the railway will rise with an uniform slope of $\frac{23}{1000}$; it is estimated that the tunnel may be opened in 1875.

There is also a very interesting digression on the pass of the Petit Mont Cenis, which claims special attention on account of recent investigations, which make it highly probable that this was the pass by which Hannibal entered Italy. The Editor tells us he is indebted to the Rev. T. G. Bonney, of St. John's College, Cambridge, for a summary of the arguments, deduced from the writings of the Rev. Robert Ellis, of the same University, and which he puts into the concise form of "conditions which must be fulfilled by any route over the Alps, which claims to be that of Hannibal." Mr. Ball tells us where to find adverse criticisms and replies, if anybody cares to make himself master of the subject.

Our readers may form some notion of the qualities required in these Alpine expeditions, by a few lines

extracted from the ascent of the Dent Blanche (14,318 feet). "The ascent lay at first over loose rocks, and then up an ice slope to a little plateau at the lower end of the main arête. This is formed of projecting towers and pinnacles of rock, alternating with very steep slopes of ice, and the course lies sometimes round the face of the rocks, sometimes along the edge of the arête. In addition to the inevitable difficulties of the way, the weather was extremely unfavourable, violent winds and clouds sweeping round the peak of the mountain. In one place a rock covered with snow, and with a slope of 52°, was climbed on hands and knees, and at last the top of the arête was found to consist of an overhanging cornice of snow. The actual highest point, 6 or 7 feet higher than the nearly level ridge, overhung so much that it was thought too dangerous to trust a man's weight to it."

We must not omit to inform our readers that from very early days Mr. Ball was distinguished for his success in collecting rare plants. He seemed instinctively to know exactly what to look for, and where, and pounced upon the treasure the moment it came in sight. Indeed, we suspect it was the love of botany which first encouraged those scansorial powers, which his admiration of the grand and beautiful in nature subsequently developed.

He evidently revels in the Alpine Flora, for in the very first route, Route A, which occupies only two and a half pages, he introduces us to no less than 17 very rare plants; and in Route B, consisting of two pages, we count up as many as 18, and every now and then he lets us know that his favourites are not forgotten.

There can be little doubt that numbers of the young and adventurous will be charmed with this book, and find it most valuable in their Alpine rambles; and will be ready to join with those who have the pleasure of knowing the accomplished Editor in giving "Three cheers for John Ball!"

Trade Lists Received.—Barr & Sugden's *Illustrated Autumn Floral Guide*; pp. 64.——Butler & M'Culloch's *Autumn Catalogue of Dutch, Cape, and other Bulbs.*——Dickson & Sons' (Chester) *Catalogue of Dutch Flower Roots.*——Hooper & Co.'s (Covent Garden) *Autumn Catalogue of Dutch, Cape, and other Flowering Bulbs.*

## Garden Memoranda.

Fleurs Castle.—This princely residence, belonging to the Duke of Roxburgh, is situated on the north bank of the Tweed, about a mile north-west of the town of Kelso. It is a modern erection in the castellated style, built from designs furnished by Mr. Playfair, and placed upon the site formerly occupied by the old Castle. From the south front a commanding view of the surrounding country is obtained, the Cheviot hills coming in in the distance, while beautiful windings of the Tweed and Teviot rivers occupy the foreground, the latter forming a junction with the former nearly opposite the Castle. On a narrow peninsula formed by the union of the two rivers just named stand the ruins of old Roxburgh Castle, formerly a royal residence of the Scottish kings, and in the park in front of the Castle of Fleurs is a Holly tree, planted upon the spot where James II. was killed by the bursting of a cannon while besieging Roxburgh Castle.

The pleasure-grounds embrace an area of more than 30 acres, a great portion of which is devoted to plantations and shrubberies. On the south or garden front of the castle is an extensive lawn ornamented by magnificent Beech trees. A natural slope fully 20 feet deep runs parallel with the Castle, and about 150 feet in front of it. At the foot of this is a large breadth of level lawn with a gravel walk running through it, and a short distance in advance of this is a sunk fence, which separates the pleasure-ground from the park.

The lawn stretches away to a considerable distance east and west, forming a luxuriant green carpet, from which beautiful vistas have been made through the surrounding trees. The good taste which has excluded all modern planting from this part of the lawn cannot be too highly commended; nothing whatever is suffered to come into competition with the giants of the forest—in the shape of Beeches, just referred to.

On the west side, at the end of the Castle wall, is a small flower garden, gay in the season with summer blooming plants; and at the back, raised upon a terrace, is a span-roofed conservatory 62 feet long and 22 feet wide, in which is a bed in the centre edged with a stout stone kerb; a shelf is carried along the front and both ends for the accommodation of flowering plants; and at the back is a trellis covered with Oranges, Shaddocks, &c. The roof is supported upon five cast-iron columns, and between each of these and upon either side specimen Camellias are planted, fine trees in the best possible health, covered with blossom-buds. They are about 8 ft. high, and as much through at the bottom, and are trained to form pyramids. The varieties are two double whites, two double striped, one Chandleri, one imbricata, and one other kind. The columns are covered with Fuchsias, and the roof with Tacsonia mollissima.

A short walk through the plantation leads to the flower garden, at the south side of which is another conservatory and forcing houses, &c. The flower garden consists of a square piece of ground with a walk around it, and two across the centre at right angles, forming four squares; flower beds occupy the corners and centres of these squares.

On the Grass borders outside the walk are beds of Rhododendrons, and a broad belt of these plants form the outside boundary to the flower garden. Standard Rhododendrons are also introduced upon the grass between the flower beds, and some Coniferous plants on the outside margin. On the south side is the Conservatory plant and fruit houses raised upon a terrace, about 3 feet above the ordinary level of the garden; these from their arrangement have quite a novel effect. The Conservatory at the back is 250 feet in length, and 20 feet in width; it has a span roof and a serpentine walk through it; the borders are planted with the usual occupants of such houses, amongst which are remarkably good specimens of Camellias, Acacias, Oranges, and such like. From the front of this conservatory seven houses jut out; these are span roofed, and each 60 feet long by 26 feet wide, all entered from the conservatory, and placed about 20 feet distant from each other, the whole forming a very imposing range of glass, well built, well heated, and well ventilated.

The first of these houses is filled principally with good plants of Heaths and Azaleas; the shelves and centre platform are made of cast-iron. The second is a Peach-house planted with good trees, bearing fine fruit. The third, a Vinery, is planted principally with Muscats, which are a good crop. The fourth is a plant stove, in which are beautiful specimens of Allamanda cathartica and neriifolia, blooming profusely, fully 6 feet high, and nearly as much through; these are pruned close in every season. There are also fine plants of Dracænas, from 8 to 10 feet high; the variegated Duranta, and many other favourite stove plants; Musa Cavendishii was turned out in the pit growing luxuriantly, and showing a fine bunch of fruit. The fifth house is a second early Vinery, planted principally with black Hamburghs, bearing an excellent crop of Grapes, good bunches, well coloured. The sixth, a late Vinery, had one side planted with Lady Downe's Grape, and the other with the West's St. Peter's and other late keeping sorts. The seventh house is devoted to Geraniums and Cinerarias; a few large specimens of the former are still in beauty, and bear fair comparison with some of the specimens of the same kind of plants shown at our metropolitan exhibitions; we also observed many large plants that had done flowering, and were cut down. This house is now gay with Fuchsias, which are grown largely to succeed the Geraniums and Cinerarias. These houses were built five years ago from designs furnished by Mr. Thomson of Dalkeith. The Vines and Peach trees have done well, and considering the short time since they were planted, are bearing heavy crops.

The kitchen garden adjoins the flower garden. It is from 5 to 6 acres in extent (a portion of which forms a belt for rough vegetables outside the walls). Four acres are inside the walls, and are divided into four quarters by walks running across the centre from north to south and from east to west. A walk is also carried round the outside, leaving sufficient space between it and the wall for the fruit tree borders. The garden was finished only about three years ago, when all the ground was well trenched; the soil is a fine hazel loam. The fruit trees are growing luxuriantly. Pear and Apple trees planted 8 feet apart all round the sides of the walks are now nearly touching each other. The trees also against the walls are growing vigorously. The Peach trees on a portion of the south wall are growing well, but the crops, owing to the effects of spring frosts, are very precarious. To secure Peaches and Nectarines so far north the walls must be glazed.

Four forcing houses, each 50 ft. long, occupy the upper portion of the south wall. Two of these are Pineries, one an early Vinery, and one a Peach house. Some of the Pines are in pots, but a portion of them is turned out into the border; the kinds for the most part are Queens. There is a noble plant of the Granadilla (Passiflora quadrangularis) growing in the bark bed, in the tan only. This plant has borne 97 fruits this season, 27 were upon it when we saw it. It is pruned in quite closely every season, and treated similarly to a Vine.

Early Vines are now pruned ready for starting into growth; they are commenced in October, and ripe Grapes are cut in February.

In front of the glass houses just named is another range of four houses, each 47 feet long and about 18 feet wide. The first of these is devoted to the growth of Orchids, and contains some good specimens. Stanhopeas are flowering freely, and there is a goodly number of Vandas, Aerides, &c., all clean and in good health. A fine young plant of Granadilla is also here bearing fruit in great profusion. The remaining three houses are filled with stove plants and Ferns.

A third range of smaller houses is placed in front of the second; these are principally for Cucumbers and Melons, and for propagating plants for the houses and flower gardens, for which purpose they are well adapted. There is a bed on each side of a central walk; some of them have bottom-heat applied to them, the others are heated when necessary with fermenting material. These houses are mostly occupied with Achimenes, of which there is a good collection; also Fuchsias and Scarlet Geraniums, and a goodly assortment of autumn-flowering plants. Thunbergias are trained up the pillars which support the roof, and Achimenes of different sorts were suspended in baskets from the roof, the whole presenting a gay appearance. A range of cold pits, forming the fourth line, make up the remainder of the glass.

Flowers are planted in the borders on each side of the walks, and present a gay appearance. Tritoma Uvaria is extensively cultivated here, and flowers abundantly. This plant appears to thrive in a northern climate. Vegetables of all kinds appear to succeed well in this soil. Strawberries have also been very fine. Mr. Rose, the gardener, has been experimenting with Strawberries, and informed us that by planting 3 feet from row to row, and 1 foot 6 inches apart in the row, he gathered more fruit in a given space than by planting in the ordinary way. This mode of treatment also admits of a crop of Lettuces, or similar plants, being planted between the rows.

The garden is well sheltered on three sides, viz., east, west, and south, by a high wood, but it is quite open to the north. The gardener's house, a very pretty and commodious building, is situated in the south-east corner, and the houses for the young men, potting sheds, and other necessary buildings, are placed at the back of the south wall, extending its entire length. The entire garden arrangement and other works were executed under the superintendence of Mr. Rose, and the general keeping of the place bears ample testimony to his assiduous care and ability.

## Miscellaneous.

*New Public Parks.*—The whole of Hornsey Wood and the land lying between it and the Green Lanes and the Great Northern Railway, northward of the Seven Sisters Road as far as the New River, has been purchased under an agreement, the price to be settled by arbitration, for the formation of Finsbury Park. A more fortunate piece of foresight than this event shows it would be difficult to name. Having already expressed an earnest opinion on the desirability of retaining for a public park some of the space of land yet remaining open in the south-eastern district of the metropolis, we rejoice to see that Bermondsey is bestirring itself in a matter so deeply its own concern. The Metropolitan Board of Works' Street Committee has recommended that a letter received from the vestry of Bermondsey parish should be referred back to the committee, with instructions to negotiate for a suitable site, not exceeding 40 acres in extent, for the park so much needed. The recommendation has been adopted by the Board, and we hope that ere long the thing may be done. *Athenæum.*

*Scenery near Yedo.*—Never in my wanderings in any other country did I meet with such charming lanes as we passed through on this occasion. Sometimes they reminded me of what I had met with in some of the country districts of England; but I was compelled, notwithstanding early prejudices, to admit that nothing in England even could be compared to them. Large avenues and groves of Pines, particularly of Cryptomeria, were frequently met with, fringing the roads, and affording most delicious shade from the rays of the sun. Now and then magnificent hedges were observed, composed sometimes of evergreen Oak, sometimes of Cryptomeria japonica and other Evergreens. These were kept carefully clipped, and in some instances they were trained to a great height, reminding one of those high hedges of Holly or Yew which may sometimes be met with in the parks or gardens of our English nobility. Everywhere the cottages and farm-houses had a neat and clean appearance, such as I had never observed in any other part of the East. Frequently we came upon tea-houses for the refreshment of travellers; and these had little gardens and fish-ponds in their rear, of which glimpses were obtained as we rode slowly by. The scene was always changing and always beautiful—hill and valley, broad roads and shaded lanes, houses and gardens, with a people industrious, but unoppressed with toil, and apparently happy and contented. Such is the appearance of the sylvan scenery in the vicinity of Yedo. I could scarcely fancy myself on the borders of one of the largest and most populous cities in the East, with a population of two millions of human beings, and covering nearly 100 square miles of land. *Fortune's "Yedo and Peking."*

*Herne the Hunter's Oak.*—The venerable and almost classical tree, to which so many pilgrimages have been made, in Windsor Park, has been laid prostrate by the autumn winds. We hear, however, that what remains is to be preserved in Windsor Castle; but so much anxiety has been shown to appropriate portions of it as it lay in the Home Park, that it has been necessary to place a keeper to watch over it night and day, previous to its removal to a place of security. We do not like to interfere with long-cherished associations, and seldom do so; but in this instance, it is at least questionable whether the leafless trunk which has just fallen be the identical tree which was known as Herne's Oak in Shakspeare's days (about 300 years ago). The writer has often had his misgivings on this point; particularly after comparing with it the size of the far-famed Windsor Park Oak and others not far away, as

well as some of the huge Oaks at Hatfield and elsewhere, in connection with the tradition of Herne the Hunter. There was no doubt a tree called by the name of the sprite who with ragged horns was said to have circled around it; and from Shakspeare's description of the spot, it would be almost heresy to doubt that "Herne's Oak" was seen by the eyes of our great poet; but the question for consideration is, was the tree which has just fallen the Oak which Shakspeare saw? Towards the end of the last century "Herne's Oak" was marked on the plans of Windsor, about the spot where this tree stood; but we are not aware of the existence of any distinct mark of the position of this same tree at a more early date. It would be very interesting could some of our readers give information on the point. In the dell, close by, there have been found the remains of Oaks of very great antiquity, and of far more important size than that which was until lately left; and one of these, which, by its commanding size, attracted to it the story of the weird hunter, may have been the original tree. Three centuries is a long period of time, during which many changes have taken place; and it must be remembered that it was not until about the middle of last century that the knowledge of Shakspeare's plays began to be generally spread among the multitude, and when persons would be likely to search for relics associated with these marvellous works. However this may be, all will regret the fall of "Herne's Oak," if it were only on account of the care which the late Prince Consort took of this relic, which tradition certainly tells us was the identical hollow Oak in which the hunter dwelt. A portion of this celebrated tree fell from the trunk upwards of 20 years ago, and has been carefully preserved in the royal stores at Windsor Castle. Since then the tree has been fenced in with park pales, and a plate attached to it, upon which is engraved—

> There is an old tale goes, that Herne the Hunter,
> Sometime a keeper here in Windsor Forest,
> Doth all the winter time, at still midnight,
> Walk round about an Oak.—*Merry Wives of Windsor.*

Shakspeare, when he wrote the "Merry Wives of Windsor," is said to have lodged at the "Hope Inn," Frogmore, at that time known as "The Bottle on the Moor:" this inn was about 200 yards distant from the tree. Herne is said to have been one of the forest keepers in the earlier part of the reign of Queen Elizabeth; and having committed some offence that would have occasioned his dismissal from office, he formed the desperate resolution to hang himself upon this tree. Its identity as "Herne's Oak" has been disputed by many writers. In the plan of 1742, already referred to, the position of the Oak is clearly defined and marked as Falstaff's Oak. The fairies' dell has been partially filled up; but the late Prince Consort had much of the earth removed, when the Oaks, in an upright position, were discovered at the bottom of the dell, which, no doubt, will now be put into a condition to perpetuate the scene of Falstaff's distress and the pranks of the "Merry Wives of Windsor." *Builder.*

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Hyacinths and other Dutch bulbs, if not already got, should now be procured and potted without delay. Orange trees meant for forcing in winter for the decoration of this house should also be attended to. These and Daphnes are invaluable for winter blooming, and should be largely grown for that purpose. Also see to having plenty of Salvia splendens, which is useful for mixing among Chrysanthemums. It is a good practice to place the largest specimens of Salvias in a shady situation out of doors for a few weeks in autumn; plants so treated will be found to bloom more strongly, and last longer in beauty than others drawn up in a warm house. Look carefully after the watering of large specimen hard-wooded plants in pots, especially Heaths, which are soon injured by being either over or under-watered. Examine the specimens often and carefully, and where they are found to be dry water thoroughly, so as to moisten the whole of the ball; also look sharply after mildew on soft-wooded Heaths, and dust with sulphur directly the enemy is perceived. Get Azaleas tied into form as soon as can be done, in order to give them a neat appearance. Also attend to the staking and training of other things as leisure time can be found. Look carefully after red spider on Bossiæas, Chorozemas, and anything else found to be liable to that pest, and see that it is eradicated before the plants get disfigured. Red spider is easily got rid of by laying the affected plant on its side, and well washing the under sides of the leaves with the engine, applying the water with as much force as the foliage will bear. Repot strong growing Pelargoniums; plants that are fairly established after repotting can hardly be kept too cool. Also keep Cinerarias as cool and moist as is consistent with safety, and attend to repotting such as require it. Primulas must be also carefully attended to, in order to encourage them to make rapid growth, particularly double varieties. Keep Tree Violets clear of their great enemy, red spider, by a liberal use of the syringe, and give them plenty of manure water, which will assist in keeping them in vigorous health. Van Thol Tulips for forcing may be potted. Place them on coal ashes, cover them as recommended for Hyacinths, and early in November remove them into heat.

### FORCING DEPARTMENT.

PINERIES.—Any plants which may appear to require repotting should be examined and shifted at once, if this is found necessary, in order that the roots may get hold of the fresh soil before dull weather sets in, when it will not be safe to encourage free growth. And any necessary re-arrangement of plants growing in the open bed should also be effected as soon as possible. Encourage plants expected to show fruit next January to make vigorous growth, for these should be sufficiently advanced by the beginning of November to allow of keeping them rather cool and dry, so as to check and thoroughly ripen their growth, for unless this is attended to there will be considerable risk about getting them to show fruit at that season. Plants which have been prepared for fruiting, and which it is desired to get up at once, should be encouraged with a moist warm atmosphere, keeping the soil about their roots in a healthy state as to moisture. Some have a dread of applying water at the root in the case of plants that have been kept dry for a time to check growth, and withhold it until the fruit is perceptible; but this is a mistake, causing loss of time as well as injuring the plants, for unless root action is encouraged, plants cannot be expected to start freely. If artificial treatment must be resorted to in order to get the plants to fruit at the desired time, there is no method so certain or so little injurious as keeping them cool and dry for a month, and then affording them a moist warm temperature and a brisk bottom-heat, giving sufficient water at the root to properly moisten the soil. Take off and pot, or plant out suckers at short intervals as they can be obtained of sufficient strength for that purpose.

VINERIES.—Give air freely whenever the weather is dry in houses where the ripening of the wood is an object, and if a little fire-heat is used with the air, this will be much more efficacious now than later. But except in the case of young Vines with a very gross habit it will hardly be necessary to use fire-heat if the weather is dry. Before wet weather sets in we would again advise covering the borders of the early house with dry stable litter, fern, or whatever can be obtained most conveniently that will answer the purpose of keeping the border dry. Nothing answers better for this purpose than clean straw, provided the border has a proper slope from the front of the house; in that case it is easily thatched so as to throw off the wet entirely. But the straw is too valuable in most parts of the country to be used for this purpose, and wooden shutters or tarpauling would be found cheaper in the end. It will also be advisable to cover the borders of houses in which it is intended to keep ripe Grapes for any length of time, so as to prevent the soil getting saturated about the roots. Look over ripe Grapes frequently, particularly in damp weather, cutting out any tainted berries immediately they are perceived, and keep the atmosphere as dry as possible, using gentle fires when necessary with a free circulation of air; but a warm temperature is nearly as injurious as damp, therefore use no more fire-heat than may be absolutely necessary.

FIGS.—Where any are ripening keep the atmosphere as dry as can conveniently be done, and also let the trees be on the side of dryness at the root, but avoid such a degree of drought as would be likely to injure the foliage or the bearing wood for next crop. Keep the shoots thin and neatly tied in, so as to expose them fairly to light and air, but avoid stopping at this season. Keep the atmosphere moist where the fruit is swelling, giving the foliage a good washing with the syringe frequently to prevent red spider, and give plants in pots or tubs a liberal supply of manure water.

### FLOWER GARDEN AND SHRUBBERIES.

Cuttings should be carefully looked over to see that nothing has been omitted, and that a sufficient quantity of everything is in a promising state for making nice plants before winter; it should be borne in mind that things which are at all difficult to winter rooted after this season may be considerably thinned before spring, and also that they will not be sufficiently strong to furnish many cuttings for spring propagation; consequently a larger quantity than would have been necessary had the cuttings been put in earlier should be provided. But if there is a reserve stock of strong plants in pots, which is a safe practice where there is a large quantity of bedding things required, and proper convenience for growing them and propagating them in spring, these will furnish a large quantity of cuttings next March, which, as has been formerly stated, will form equally good plants by turning out time as cuttings put in now. In the case of such things as Ageratums, Heliotropes, and dwarf Lobelias, it is useless wintering young stock, as these grow so freely in heat, and are so easily propagated from soft cuttings that a few good-sized old plants which require but little room or attention in winter will furnish a very large quantity of plants by bedding-out time. Attend to the potting of cuttings sufficiently rooted, and give every after attention to these in order to get them well established. Persevere with leaf-sweeping and other routine work.

### HARDY FRUIT AND KITCHEN GARDEN.

Pay every attention to getting the wood of Peaches and Apricots well ripened, by exposure, shortening, &c. Most kinds of Apples may be gathered during this and next month. Late Pears should be left on the trees while the weather continues favourable for their ripening. Prepare for planting all kinds of fruit trees, by getting the ground in good order for the different kinds. On cold stiff soils it is advisable to plant on hillocks, 1 foot or 18 inches higher than the surrounding surface. The trees will not grow so fast in consequence, and will require more attention in summer in the way of mulching, but they will form short-jointed, well ripened, fruitful wood, which is the best preventive of canker, gum, &c., and will save the labour of resorting much to root-pruning. No opportunity should now be lost for getting Potatoes that are ripe out of the ground, and stored in a dry condition. Potatoes may either be kept in narrow pits, with a little dry earth sprinkled among them, or in airy dark sheds. Before storing, however, take care to separate the bad ones, fortunately very scarce this season, from those that are sound. Use Cauliflower before it gets too large, and prepare a shed or pit to plant a quantity on the first approach of frost. French Beans may require a slight protection at night. Plant out Lettuces and Endive for spring use. If planted on the sloping sides of wide ridges they will stand better, damp being quite as destructive as frost.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending Sept. 19, 1863, as observed at the Horticultural Garden

| Sept. | Moon's Age. | Barometer. Max. | Barometer. Min | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 10 | 27 | 29.957 | 29.815 | 71 | 38 | 54.5 | 60 | 60 | W. | .01 |
| Friday 11 | 28 | 30.149 | 30.137 | 67 | 36 | 51.5 | 60 | 59½ | W. | .00 |
| Satur. 12 | 29 | 30.196 | 30.175 | 65 | 42 | 53.5 | 59½ | 59½ | W. | .00 |
| Sunday 13 | ● | 30.205 | 30.125 | 68 | 36 | 52.0 | 59½ | 59½ | W. | .00 |
| Mon. 14 | 1 | 30.296 | 30.120 | 64 | 47 | 55.5 | 59 | 59 | W. | .00 |
| Tues. 15 | 2 | 30.179 | 29.995 | 63 | 48 | 55.5 | 59½ | 59 | S.W. | .00 |
| Wed. 16 | 3 | 30.012 | 29.992 | 71 | 33 | 52.0 | 59 | 59 | W. | .00 |
| Average. | | 30.142 | 30.051 | 67 | 40 | 53.5 | 59.5 | 59.3 | | .01 |

Sept. 10—Partially overcast; fine; dusky white clouds; fine; lightning at night.
— 11—Quite clear; very fine throughout; dry air.
— 12—Overcast; cloudy and fine; very fine.
— 13—Fine; very fine throughout; cool at night.
— 14—Overcast; fine; overcast.
— 15—Overcast and fine.
— 16—Slight drizzle; very fine; nearly freezing at night.
Mean temperature of the week 3½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,

During the last 37 years, for the ensuing Week, ending Sept. 26, 1863.

| Sept. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 20.. | 67.0 | 44.0 | 55.5 | 16 | 0.45 in | 3 | 5 | 5 | 4 | 3 | 7 | 6 | 4 |
| Mon. 21.. | 66.5 | 45.1 | 55.8 | 19 | 0.50 | 2 | 5 | 6 | 2 | 6 | 7 | 7 | 2 |
| Tues. 22.. | 66.7 | 45.7 | 56.2 | 18 | 0.80 | — | 4 | 9 | 1 | 6 | 10 | 5 | 2 |
| Wed. 23.. | 69.1 | 46.4 | 57.7 | 17 | 1.21 | — | 6 | 8 | 2 | 6 | 9 | 5 | 1 |
| Thurs. 24.. | 65.7 | 45.1 | 55.4 | 17 | 0.75 | 2 | 8 | 3 | 1 | 5 | 11 | 6 | 1 |
| Friday 25.. | 65.7 | 44.0 | 59.8 | 18 | 0.30 | 2 | 4 | 3 | 3 | 6 | 12 | 6 | 1 |
| Satur. 26.. | 65.3 | 44.7 | 55.0 | 19 | 1.68 | — | 5 | 6 | 2 | 9 | 1 | 2 | 3 |

The highest temperature during the above period occurred on the 25th, 1833—therm. 82 deg.; and the lowest on the 26th, 1835—therm. 26 deg.

## Notices to Correspondents.

AMERICAN WEED: *M H K.* See a leading article to-day.

DUTCH BULBS: *R T C.* What we have received from Messrs. Krelage & Co. cannot be excelled for quality. We believe they supply Messrs. Veitch.

DWARF CHINA ASTERS: *Emilia.* The finest we ever saw were raised from seed bought of Sutton & Co., and they were wonderful. You may look at them now at one of the stations on the Great Eastern Railway; but we forget which.

EVERGREENS: *G L B.* Let them alone until hot dry weather is fairly gone; say—the beginning of November.

GLADIOLUS: *Mary.* There is no question about the right pronunciation. All the vowels are short, and each is distinctly sounded. Turn to a Latin dictionary, and you will find the very word itself thus:—"Glădiŏlus, sword-grass, a kind of sedge."

INSECTS: *W B P.* The insects which have attacked the young Elms planted by the Corporation of Southampton are the well-known Scolytus destructor. The wound on the branch sent was not caused by that insect. You will much oblige by giving the particulars of the attack by the Scolytus. Were the young trees sound and healthy? Is there any reason to suppose that the situation where the trees were planted would render healthy trees unhealthy?—*W P.* Your pill box was of course smashed in the post, and the insect escaped. *W.*

MOSS ON LAWN: *A G.* Water it well with gas-water. The Grass may seem dead after the operation, but it will soon recover and smother the invader.

NAMES OF FRUITS: *T W R.* Peaches: 1, 2, Grosse Mignonne; 2, 4, Royal George. *W W.* Your Pear is not known; it was quite decayed at the core.

NAMES OF PLANTS: *Stettin.* An ill-grown morsel of Disa spatulata.—*Tunbridge Wells.* The huge mass of fungus found in a damp corner of the carpenter's shop is too young for identification. It is some Agaricus related to appendiculatus, and that is all we venture to say.—*J P D.* Quercus Phellos, not Ilex.—*B S.* Some Anomatheca; but we believe an undescribed species.——*Montreal.* 1, Clematis Flammulastrum; 2, Croton corylifolius; 3, Rousselia lappulacea; 4, Cassia domingensis. All Cuba things.——*Paxtonia.* Cuphea ocymoides we believe; native of some temperate region of America—but which is not stated.

PEACH-HOUSE: *James.* You may build a small Peach house that will answer very well on the following general plan:—Width inside, 12 feet; height of back wall, 12 feet. Front with brick-work carried up to 1 foot above the ground level. On this very low front wall place wall plate and front sashes so constructed that the rafter plate above them shall be 4 feet above the ground level. The pitch of the sloping portion of the roof will be about 34 degrees. If intended for early forcing better raise the back wall a foot higher, so as to make the pitch about 38 degrees. As for the length, you can determine that yourself, allowing a foot for every dozen of fine large Peaches you require. Fix training wires to the under side of the rafters.

PRIZE MONEY: *A Hunt.* It is certainly not usual for the officials to withhold half the amount of a prize awarded by the judges at a flower show, when that amount is specified in the schedule. We cannot, of course, tell what the inducing circumstances may have been in the case you mention.

ROSES AND GERANIUMS: *E H.* We are obliged to make it a rule never to recommend dealers. Undoubtedly any of the great growers will supply you if you describe your wishes to them as clearly as you have done to us.

TRADE
# HALLETT'S [PEDIGREE] NURSERY WHEAT.
MARK.

NOW READY FOR DELIVERY.

THE PEDIGREE WHEAT WAS AWARDED THE SILVER MEDAL BY THE JURORS OF THE CLASS "CEREALS FROM ALL COUNTRIES," AT THE MEETING, IN 1863, OF THE AGRICULTURAL SOCIETY OF DENMARK AT ODENSE.

The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the miller, and realised £19 7*s.* per acre.

**In September DRILL 4 Bushels on 10 acres.**

NONE IS GENUINE UNLESS THE TRADE MARK IS UPON THE BAG.

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**PRICE—One Guinea a Bushel (or Seven Guineas a Quarter),**

Delivered, with Printed Directions for Planting, at the Brighton Railway Station, in Bags Sewed up and Sealed, upon receipt of Cheque or Post-office Order, which must in all cases accompany the Order.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing six stamps.

In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately: those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

This family Z *is now for the first time* offered to the public, and is ready for delivery.

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

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Full particulars of terms will be forwarded on application.

MESSRS. J. CHALMERS MORTON, Streatley, near Reading, and J. THORNHILL HARRISON, M. Inst. C.E., Frocester Court, Stonehouse, Gloucestershire, AGRICULTURAL ENGINEERS, undertake reports on the Condition of Landed Property, together with the Direction of Land Drainage, Roads, Embankments, Farm Buildings, and other works necessary for its permanent improvement.

LAND DRAINAGE, the ERECTION of FARMSTEADS, the CONSTRUCTION of ROADS, and other Works of Agricultural Improvements are undertaken by Mr. HUMBERT, Land Agent and Surveyor, of Watford, Herts, either by contract or on commission; and he will furnish estimates of cost free of charge, expenses out of pocket excepted.

Such works can be executed either under the powers of several special Acts of Parliament, with money raised by loan and paid off by instalments, or with the Landowner's own money.

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MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

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ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
EDWARD HOLLAND, Esq., M.P.

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MATHEMATICS AND SURVEYING.

W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.
REV. GEORGE WILKINS, Wix Parsonage—Lecture on Tillage.
N.B. Mr. Wilkins will Lecture on February 9.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the PRINCIPAL.

**Land Drainage, and other Agricultural Improvements.**

MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5*s.* per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.

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TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

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Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

SMITHFIELD CLUB FAT CATTLE SHOW, 1863.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS, will be held at the AGRICULTURAL HALL, ISLINGTON, on MONDAY AFTERNOON, December 7, and four following days.

The Prizes now offered consist of 1825*l.* in money; 60 Silver Medals; Two Silver Cups, value 40*l.* each, for Cattle; Three Silver Cups, value 20*l.* each, for Sheep; and a Gold Medal for Pigs; also a Butcher's Silver Cup, value 10*l.*

There are now separate Classes for Eleven distinct Breeds of Cattle and Ten distinct Breeds of Sheep, and Four Classes for Pigs of different ages.

The Entries for LIVE STOCK CLOSE on NOVEMBER 2.

The Entries for AGRICULTURAL IMPLEMENTS, &c., CLOSE on OCTOBER 1.

Prize Sheets and Printed Forms of Certificates, with full particulars, can be obtained on application to

Mr. DAVID PULLEN, Assistant Secretary,
At the Office of the Honorary Secretary,
Corner of Half Moon Street, Piccadilly, London, W.

N.B.—Applications for Prize Sheets and Forms of Certificates must be addressed to the ASSISTANT SECRETARY as above, and all letters must bear outside the words "SMITHFIELD CLUB."

SMITHFIELD CLUB FAT CATTLE SHOW, 1863. IMPLEMENT DEPARTMENT.

The LAST DAY for receiving Entries for the Implement Department of the Show is Thursday, OCTOBER 1, 1863.

Forms of Certificates, and all information can be obtained of

Mr. DAVID PULLEN, Assistant Secretary.
Corner of Half Moon Street, Piccadilly, London, W.

# The Agricultural Gazette.

*SATURDAY, SEPTEMBER* 19, 1863.

HOW IS A MAN TO LEARN FARMING?—Just as he would acquire any other art or profession—*by serving an apprenticeship to it.* This is really the only safe answer to the question.

If agricultural education be not practical, neither is it profitable. Of course we do not call it useless—no addition to mental wealth is ever altogether useless—but it stops short of the point where, in ordinary language, it can be turned to *use.* What do young men go to Colleges of Agriculture for?—It is that they may there learn how to make a livelihood and income by farming. But if the education they receive be not practical, it will not enable them to reach this end. The student of Agriculture may have acquired a knowledge of the general principles involved in his profession; but, until he has learned the art, this knowledge cannot guide aright. And a graduate of either the Highland Society's examinations or those of the Royal Agricultural College, who has not added practical knowledge to his sciences, will only bring his diploma to contempt. These, it may be said, are mere assertions; but examples in abundance of the insufficiency of mere general and scientific knowledge can be cited in illustration of their accuracy.

No one is less likely than the present writer to contend for a regard to Agriculture exclusively as a money-making routine of operations. Let us admit it cordially and gratefully as "the art of all the Sciences,"—affording in its intelligent prosecution scope for the exercise and enjoyment of the whole nature of man. The farm is no mere field for dull routine—it is the platform on which the best minds of the day are successfully employing their highest energies. We must not, however, forget that Agriculture *is* a routine of operations; and unless a man knows how each is to be performed he is not an Agriculturist. Instruction

in the details of farm practice is thus an essential part of agricultural education; and unless our agricultural colleges take jealous and especial care of this, the agricultural degree which they confer upon their finished students will prove agriculturally worthless.

Suppose the case, which is not impossible unless this care be taken, of a farmer writing "M. R. A. C." after his name who cannot "make his rent!" That would be an awkward thing for the Institution which had passed him! *It* would of course become the laughing stock of those whose respect it especially desires to gain. And what would be the effect on *him*?—where, the pride with which his diploma was received?

"You professed," we imagine him addressing the authorities, "to have done all that your Institution could for me. I was competent in your judgment as an agriculturist. I had answered all your questions, and you made me a member of your body; and sent me out with your diploma, prepared to take a farm, and expecting, as I believed you, to prosper on it.—I found myself incompetent. Your chemistry and botany, and your agricultural lectures were insufficient. I had not learnt from you how nor when to give my orders either in the field or in the homestead, nor did I know when they had been properly and sufficiently obeyed. Your diploma has been worthless to me. My confidence in it has resulted in all this loss and waste.——My son shall seek *his* qualifications as an agriculturist at the hands of a working farmer. He shall never blame me for sending him where only the sciences are taught, where practical instruction is considered comparatively unimportant, or in any degree inferior in rank or value; where the result on every student's future farm at harvest time is not kept in view as the end and test of his instructions, by every teacher in the place."—And this is not the language of angry disappointment. It is, we firmly believe, the language of true and sober judgment.

The man whose agricultural instructions we should seek must be *first* an energetic and successful farmer; and next he must have such a knowledge of the sciences as enables him to recognise in every fact he witnesses upon his farm the illustration of a general law. What a magnificent agency for Agricultural education must that Institution be where every phase and side of this man's professional ability and character is especially exhibited by a separate professor—where every item of the qualifications he possesses is represented by a teacher who has directed his lifelong attention to just that particular point—and where over all these is the commanding harmonising influence of the Christian gentleman. In such an Institution agricultural students are sure in every way to prosper, and genuine agricultural education is certain to be given and received.

But this will never be unless here, as in the instance of our representative teacher, practical agriculture shall occupy the leading place, and successful farm management shall prove the efficiency of the practical instruction given.

If instruction in the sciences in such an Institution be regarded as the end for which it was established—if proficiency in them alone gives rank, consideration, and position—if sound practical intelligence and ability in the field (the leading qualification of our representative teacher) shall come to be regarded as conferring only second rate position and inferior rank—if the farm and farming shall ever come to occupy the second place in the estimation of the teachers and the pupils—if the place shall ever thus *degenerate*, as we should say, to be either a lounge or a gymnasium, as it may happen, for mere students of the sciences, then its agricultural influence and value will have gone; it will certainly and quickly fall. And in the interests of English agriculture, which will want something useful in its place, we confidently say—*the sooner the better*.

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The wet weather of the last few weeks gives great importance to suggested methods by which DAMP GRAIN may be HARVESTED, and we accordingly reproduce a paragraph published some years ago. Mr. GOULD, of AMBERD, near Taunton, had written on this subject as follows:—"My Wheat was reaped on Wednesday, the 9th of August. On Thursday it rained all day, the Wheat being shocked; Friday was showery; Saturday was very fine, and I made my men put the sheaves with the ears inwards in a circle, and on those to lay others, diminishing the circle until the whole formed a conical mow containing about a load; the top was surmounted by a cap of reed. This morning, Aug. 21, after a very rainy and stormy night, I pulled out one of the stalks with the ear, to show that even in this most precarious season corn may be preserved uninjured. Most of the corn in this neighbourhood is in a sad state."

This is one plan: another, which we regard as preferable, was suggested some years ago by Mr. HANNAM, of North Deighton. He recommends the placing of two parallel rows of hurdles 3 feet apart, as long as convenient, erect on some dry piece of land. He then advises to build sheaves one on the other, laid horizontally, ears inwards, to the hurdles, forming a row sheaf-long wide on each side of them. He builds these sheaves up to the height of the hurdles, and then covers the interval and stooks a row of sheaves all along over the top.

There need not be an ear that is not in contact with the air, on this plan; for the tunnel is open from end to end, and the sheaves are all placed with their heads to it, while the top sheaves and the row of stooked sheaves overhead hinder the access of rain. There is nowhere sufficient bulk of corn to heat, though it may be damp; nor is there sufficient weight to hinder the lowest sheaves from getting rapidly dry. Of course it will be advisable to lay the first sheaves not immediately on the land, but against the hurdles.

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—— We are glad to announce that on Wednesday next, September 23, the first of a short course of lectures on Land Drainage will be given at the Royal Agricultural College, Cirencester, by Mr. BAILEY DENTON, M. Inst. C.E. He thus joins a number of practical and distinguished men who have wished by their gratuitous services both to further the objects of that Institution during the coming session, and to express their confidence in its present management.

—— The entire herd of Short-horns bred by Mr. JOHN LANE, of Barton Mills, near Cirencester, will, on Thursday, September 24th, be sold by auction by Mr. STRAFFORD. Eleven Short-horns belonging to Mr. E. BOWLY, of Siddington House, will also be disposed of at the same time.

Mr. LANE's herd has obtained 33 prizes in 1862 and during the current year, at the Shows of the Royal Agricultural Society, the Bath and West of England Agricultural Society, and the provincial and local agricultural shows in Worcestershire, Warwickshire, and Gloucestershire.

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## THE ROYAL AGRICULTURAL COLLEGE.

THE REV. GEORGE WILKINS, of Wix, near Manningtree, delivered a lecture to the students of the Royal Agricultural College on Wednesday of last week. We make the following extracts from it:—

*Agricultural Education.*—"Gentlemen, I hope the time is passing away in which it has been considered, and almost universally, that the practice of agriculture was the simplest and easiest in the world, and that all that any one required to become a proficient in it was to be the son of a farmer, who was himself the son of a farmer, and he again the son of a farmer, or the nephew, or cousin, or some relative or other, either near or remote, and being such, although he could not understand the principles upon which any operation ought to be conducted, whether chemical or mechanical—yet such a man, I repeat, if he were a near or distant relative of a farmer, that is, born of a pure farming stock, he would be considered quite fit to take and manage a farm for himself, or to be engaged at a rather high salary to manage that of some other man.

"Now, I grant that farmers are by nature like other men, and I know from experience that as a body they are a very excellent race—perhaps as men and neighbours none are better, but still I cannot think that their having been born of farming parents alone, as has hitherto been generally thought, can be a sufficient qualification for them to become skilful, practical and scientific farmers, though I have read, and most likely you, gentlemen, have read and heard the same, that the seventh sons of seventh sons are all born skilful, practical and scientific doctors.

"But as the matter is of the first importance, and as a man is universally considered to have had all the preparation requisite for the making of him a farmer if his father and forefathers have been such, let us briefly examine how this reasoning applies to men whose fathers and forefathers were of other professions, or arts, or trades likewise. For example, as to barristers, because some men are deeply learned in law, or are keen and skilful special pleaders, and who become such by long and ardent and unwearied study, and who are deeply learned also in literature and mathematical knowledge, does it follow, or is there one example of the kind, that when such men beget sons, they must, as a matter of course, inherit all the acquired and natural knowledge and qualifications of their fathers? Then, again, as to physicians, because sons of physicians see their fathers take scraps of paper and write prescriptions upon them for the mitigation or cure of diseases, does it follow again that those sons, from no more preparation than this, are innately qualified to prescribe on scraps of paper also remedies for diseases in the same way? No, unless they are the seventh sons of seventh sons—a prolificness even in doctors which we may safely conclude has never in any one instance taken place, nor among any other race of men.

"But, again, the sons of skilful surgeons may witness their fathers amputating limbs, operating upon cataracts, or for the stone, or cutting out cancers from the breast; but unless those sons should do much more than merely witnessing these delicate and dangerous operations being performed, should they take their saws and bandages and knives in hand to do the same, their having been the sons of skilful surgeons would avail them nothing, for in all probability, like Doctor Sangrado's patients, every one of theirs would die under their hands. And so we might go through every other profession, art, and trade, and the conclusion would be the same—the being begotten by men of the same professions, arts, or trades, would avail the offspring but little or nothing, nor could the sons arrive at the same state of eminence as their fathers had, unless they had gone through the same kind of training that their fathers had under tutors and professors properly qualified to teach them.

"Now, farming, to understand even the little that is now known of it, requires practice in the homestead and field, properly to perform the operations which are done there, and in the laboratory a knowledge of vegetable life, and the proper kinds of pabula that each kind of crop requires, whether grain crops or roots, and the nature and composition of the soil in which the crops are to be grown, must also be obtained—but can these, the mere rudiments of the art, be acquired by merely looking at the operations of those who had never learnt them, and were as ignorant of them as themselves? Impossible.

"It is true that to a certain extent land can be cultivated and crops grown by unskilful men, or by men who know but little or nothing of the sciences upon which a uniformity of success depends; and hence, from a lack of this necessary knowledge, the continual failures of crops we hear of, and complaints against the seasons, &c; which in reality are nothing less than murmurings against Providence itself, the real faults (perhaps nine times out of ten) being in those who complain."

Mr. Wilkins then referred to the services rendered to agriculture by men not born and bred as practical farmers, in illustration of the above remarks, naming Mr. Alderman Mechi, Mr. Hewitt Davis, and Mr. Hallett.

*On Tillage Operations and Thin Seeding.*—"Of Mr. Alderman Mechi's operations in tillage, and deep draining which is a part of tillage, and more rational seeding, little or nothing can be said to add to the world-wide reputation he has justly gained, and which will doubtless continue to increase in the minds of men capable of appreciating excellences like his, coupled with the names of Tusser and Tull, wherever the English language shall be known, and as long as it shall endure. But of Mr. Davis and Mr. Hallett a little more must be said, and first as to Mr. Davis, who some years since informed me that before he became a farmer he visited the market gardens round London to see how matters were carried on there, considering that a farm, however large, ought to resemble a well cultivated garden; and there in those gardens he learned how really to cultivate, and to run counter to much of the farming operations in common practice, namely, to plough two or three times as deep, to thoroughly comminute his soils to those depths, and to put into them less than half the usual quantities of seed for every kind of crops he grew, and I myself frequently saw crops of all kinds of cereals, Pulse, and roots, on the several farms in his occupation, for luxuriance and abundance and quality, taking them for all in all, among the very best I have ever seen grow: and so free from weeds they were, or of anything for which he himself did not sow the seed, that on one occasion, on going over a farm in his cultivation near Croydon, on looking for some weeds in a magnificent crop of Wheat, as we read a Dutch Embassy did in fields of corn in China, and for the same purpose, and with the same result, I could not find a single weed; and this was the more remarkable and pleasing because practical farmers tell us that thin-seeding cannot be adopted generally, for, if it were, the corn crops would be smothered with weeds of all kinds. Of the quantity of Wheat put in per acre I think the average was almost a bushel, and of Barley a bushel and a half, and I remember this very correctly, because one of Mr. Davis's very intelligent farming bailiffs told me that the bushel and a half put the seed too thick in the rows, and that 4 or 5 pecks would have produced better and larger crops.

"But what I wish to draw particular attention to is this—Mr Davis, copying from the gardeners, put in his Peas in rows 27 and 30 inches asunder, whilst you know farmers put in theirs in rows 6 or 8 inches asunder only. On one occasion I went with several farmers to visit farms of his at Shirley, and the farm was a portion of Lord Eldon's Park; and another gentleman had the adjoining part to Mr. Davis's, and some iron railings divided them. It so happened that both gentlemen had a large plot of Peas, the iron railings alone separating them. Now, both sowed the same kind of Peas, and both put his seed in at the same time, Mr. Davis adopting the plan of gardeners, and cultivated his land and put in his seed as they did 27 inches and 2½ feet asunder in the rows; and the other gentleman cultivated his side the railing on the plan of the practical farmers, putting in four or five times the number of rows that Mr. Davis did, and three times the quantity of seed: and what were the results? Most remarkable they were, and observe scores of gentlemen saw them as well as myself; Mr. Davis's Peas were acknowledged by all to have been the finest, the pods the largest, and fullest they had ever seen, and I may add that I ever saw; whilst on the other side the iron railing, as if the iron had acted as a spell, the Peas were entirely—I repeat the word entirely—destroyed by lice; and as I find by an advertisement that Mr. Davis will have the pleasure of giving a lecture to you, I hope some gentlemen will get the account also from his own mouth in confirmation of what I state.

"I have also several other cases in which men from gardeners have become extensive farmers, and they are all among the most intelligent and best cultivators I know; they are also comparatively thin seeders, and their crops both of corn and roots are every year good. In one case, taking them for all in all, they are the best I ever saw, of Wheat 12, 13, and 14 coombs an acre, and everthing else in proportion; and the merchant who purchases this man's Wheat told me that he always gave higher prices for it than for any other farmers, because it was heavier and finer, and of course made the most and best flour. But one more word about the growing of Peas. Some years ago, like Mr. Davis, when I had an opportunity I delighted to go into the market gardens; and on one occasion, on going into a field of Peas in the spring, the rows of which were 30 inches apart, and on my remarking to the proprietor that a farmer would have five rows where he had but one—"Yes," he replied, "the farmer would, but then he himself gave 4*l.* an acre for his land, whilst the farmer gave but about 30*s.*; and therefore the farmer could afford to grow straw, whilst he himself must grow Peas or he could not pay his rent." One remark I will make, also, here, and that is, that should real science ever get into field cultivation, lice on Beans and Peas will be banished from our fields, as they are from gardens, as they never appear until disease has first attacked the crop, and this from bad cultivation and over seeding; and then in such cases, by a universal law of nature, both animal and vegetable, animalcules are bred to put what they feed upon as fast as possible out of the way, to make way for vigorous and healthy subjects to follow, whether of an animal or vegetable nature."

*Mr. Hallett.*—"With reference to the system adopted and practised by Mr. Hallett, the foundation of it being that adopted by Nature herself throughout all her operations, and practised by the ancients, as we learn from Virgil, who set Nature before them in all they did, I should hope that he will ultimately succeed, and more especially as thin-seeding and thorough cultivation

are the bases of all his operations, and as the acting upon them whether by himself or others can alone secure success. I have seen remarkably fine samples of Wheat in the ear of Mr. Hallett's growing, and such as could not be produced except by the mode of culture and seeding which he has adopted."

Mr. Wilkins then referred to the defects of English agriculture as proved by its inability to feed our population:—

*A Comparison of the National produce and our importation of Food.*—"I must trespass upon you a little further for a brief space, whilst I express my sentiments upon a subject which I consider to be of the highest importance that can engage the thoughts of Englishmen at the present day, that is the enormous importations of food of all kinds, which are now required for the support of our country; of grain alone I read from 20 to 24,000,000 of quarters annually; and of meat, live and dead, and rice, bacon, cheese, butter, eggs, poultry, and game, and I know not what besides, in proportions equally as great.

"Nor is this more than half the evil; for our farmers now acknowledge that they cannot grow the crops of grain they wish without the aid of guanos, foreign bones, and other foreign fertilisers; nor, they also inform us, and experience proves the truth of what they say, can they feed their cattle, either bullocks or sheep, without the aid of foreign-made oil-cake, Maize, Locust, Beans, and anything else of foreign produce which merchants can import for them. Surely this is an awful state of things, and it proves in my opinion that British agriculture has not made the progress it ought. Nay, there are indications that it has rather retrograded, and to an alarming extent, and what I think is a proof of this is that during our long and severe continental war, the importations of corn were as nothing compared to what they are now; and of live and dead meat, I believe there was none; and as for guanos, they were not known, nor any of the stimulants under the name of guanos. But it is now certain that with all the foreign guanos, bone dust, home-compounded guanos, &c., and the increase and improvement of machinery, and the vast strides made in chemical as well as in mechanical science, Great Britain might nearly as well be a mere rock, for I read it as stated on good authority that the whole agricultural productions of it do not annually feed the population for more than 18 or 20 weeks in a year out of the 52.

"Nor can the increase of population account for the necessity of this enormous increase in the importations of food for the support of it, unprecedentedly great as the increase of the population has been, for the importations of food during that long continental war with the first French Emperor were comparatively nothing to what they are now, for they now amount, it is said, to two thirds more in quantity than is the produce of our own country. And as much of both the home produced grain and roots is grown by the aid of imported guanos, and the dung of animals fed upon imported oil-cake, Locust Beans, Maize, &c., this one third can hardly, with propriety of language, be really called the production of our own country.

"The United Kingdom of Great Britain therefore presents such an anomaly as was never before known in the world, in any age or country; the wealthiest and most powerful nation of the earth, and yet the most dependent for the very necessaries of life of every kind, besides the luxuries or non necessaries of life, upon the will of foreigners for 30 weeks out of every year—yes, upon the will of foreigners, for were those foreigners to combine so as to shut their ports against us, or to refuse to supply us with food, this in one single year would depopulate the whole land."

The principles on which a more perfect system of agriculture must be founded were then discussed, and a comparison drawn between ancient and modern practices.

*Ancient Agriculture.*—"Egypt, China, and Japan, both in ancient and modern times, had populations in proportion to the extents of those countries greater than any of the more modern nations of Europe possess at the present time, and yet all were supported by the produce of those countries alone without importations from foreign lands; and the same, I believe, may be said of Persia, Palestine, Greece, and nearly so of Rome; and the accounts we have lately received of the modern husbandry of China and Japan show clearly, that with all our superior chemical and mechanical science, those countries are much before us in the art of tillage, seeding, and in the knowledge of what are the real pabula of plants.

"Nay, further, the extracting the volatile alkali, the food of plants, from the urine of cattle, was known to the priests of the Temple of Jupiter Ammon, according to Pliny, 3600 years back, and the alkali obtained the name of ammonia from the place at which it was made, the name it has retained to the present day.

"It is quite clear to me, that all those ancient nations understood and practised the essentials of husbandry, namely, tillage, seeding, and the pabula to be given to plants, and better than our modern husbandmen do, and the reason is clear—because studied and practised by the wisest and chiefest of the philosophers of those times. Thus, in Palestine, Elisha was ploughing in his field with 12 yoke of oxen and all before him, and himself with the 12th, when the Prophet Elijah passed by him and cast his mantle upon him.

"Xenophon, the learned and philosophical Greek, also understood agriculture so well that he taught it to Socrates, the most celebrated man of his country, and the work he wrote on agriculture and domestic affairs of all kinds has been to me the most instructive on those arts of any I have ever read.

"The Bucolics of Virgil also, which are familiar to most people, and the writings of Theocritus and Columella, all show that their countrymen were as much before us in the knowledge and practice of agriculture as others of their countrymen were in other arts.

"And all the really useful knowledge on agriculture we have has been obtained from the books of the ancients, though not directly, but through the writings of Tusser and Tull and a few others, who were fine classical scholars. The ancient monks, also being classical scholars, likewise have left indisputable evidences that they may probably be classed among the best farmers this country has possessed—that they knew more about the qualities of soils and how to cultivate them than the most skilful of our modern farmers do."

Mr. Wilkins then discussed the subject with which his name is more immediately connected, and referred at some length to the reasons on which he founds his arguments upon it.

*Thin Seeding.*—"My own doings in this way have been necessarily small, but I believe no man in England has grown finer crops than I have, and I have grown Wheat after Wheat for four years in succession on the same land, and then Barley, and yet I never used more than 2 pecks an acre of Wheat and $2\frac{1}{2}$ of Barley; I have grown nearly 8 quarters of as fine Barley as ever was grown, and have averaged 44 bushels of Wheat an acre, or 176 bushels in four years, and never put in more than 2 pecks of seed an acre, and sometimes a little with one peck an acre only.

It is not the *quantity* of seed, but the *manner* in which it is put into the ground, on which success depends. For my part were a prize offered for the largest quantity of the finest grain of either Wheat, or Barley, or Oats, and I were to contend for it, I would not use more than 2 pecks of any kind of Wheat an acre, and of very long-strawed kinds not so much; nor would I use more than $2\frac{1}{2}$ pecks an acre of either Barley or Oats.

"But before I use the seed of any grain, I ascertain, as I can do in 5 or 10 minutes, how many grains there are in a bushel. I do this because of Wheat, for example, some seeds are nearly twice as large as others, and the same of Barley and Oats; and because I stint the number of seeds to given quantities of land, putting them in one by one, as Xenophon, the learned Greek, describes they should be to his disciple Socrates. The Wheat and Barley and Oats I show you to-day were all grown from single grains put in with the drill I invented and made, the action of which I will explain to you; and I would allow you to blind-fold and lead me, and I would pull up root after root, having 2000-fold, and I have had more than 4000-fold, and all from single grains. I put the seed in with my drill, and there was no mystery about it, only I put it in as all nature, and, I think, also common sense, teaches it should be put in, seed by seed.

"If men would only reflect and exercise the brains they are supplied with, it would be impossible for them to put their $3\frac{1}{4}$ bushels an acre or 45 grains of seed Barley, and their 30 or 35 grains of Wheat on every square foot of ground, as very many do; and some even advertise their doings as if they were wonderful exploits; whereas, if it were not common, the man who should use those numbers of seeds would be considered to be insane, and probably put under the care of a keeper, or into confinement.

"And one word with reference to the beards on Barley; they are exquisitely serrated, and the object of their serratures is to enable them to travel when the ears fall to the ground, so that when they sow themselves to continue their species they travel from each other, so that no two grains should be together, and I have seen them when formed into a circle 3, 4, or 5 inches in diameter in this way, or perhaps more. The way they do it is this: when quite dry the beards extend in length like as does a string, and when wet or damp they contract, but in consequence of the serratures they can only contract one way, and that is to draw the grain from the ear, and this repeated thinly sows the grains.

"Mr. President, Messrs. Professors, Ladies and Gentlemen, and especially Students, I thank you very sincerely for the attention you have all given me during the whole time I have been delivering my very long lecture. I acknowledge my views may seem extreme, but they have been long and anxiously reflected upon by me, and I will venture to state, that should you be induced to give them a trial, if only on a small scale at a time, I shall consider that the time you have so attentively bestowed upon me has not been spent in vain. I again, Gentlemen Students, thank you, and I wish you all success through a long life in all your farming operations, and may you all feel the importance of deep and thorough draining, deep and thorough cultivation, and of seeding your lands as Nature taught all ancient civilised nations, and as, we learn, the modern Chinese and Japanese are now seeding theirs, that is, rationally."

## LABOURERS' COTTAGES.

THE following are extracts from recent correspondence in the *Times* on this subject. "S. G. O." writes as follows:—

"I am tired of that cuckoo cry, 'My dear fellow, cottages never pay; do you expect us to throw our money away?' Does the attic of the housemaid pay, the bed-room of the butler or the footman pay? Does the lodge of the keeper pay? The conservatory, the peach-houses, the stables, &c.,—do these brick-and-mortar creations pay rent, return cash, in return for cash expended in their erection?

"My dear lord or squire, you can't have your 'Mary Duster,' 'Mr. Coolwine,' 'James,' or that six-foot-two civil 'Dick Partridge,' unless you house them, brick and glaze and chimney-pot them. Your dogs must have kennels, your horses stables, your pigs styes. Your boy buys a tame squirrel for 1*s.*; you will find 3*s.* 6*d.* charged in Furnace's bill for the cage. When you gave Ned permission to buy the beast, did you expect it would contemplate quarter-day as it cracked its nuts?

"The machinery of the farm, the dead plant, requires to be housed, or it rusts, becomes so deteriorated as soon to be of little use. If labourers were subterranean dwellers, their 'earths' would occupy a good deal of soil at a loss, for I presume the ground rents would be difficult to collect. If they were dwellers on tree tops, the timber occupied would be timber scarcely saleable. I never yet could see why landlords expect to get human labour on different terms from that of horse and ox work; it must be housed because it is human, the housing ought not to be mere stabling, for human nature is our common nature; the peer or prince is, after all, only one of the labourer species, who by the certainty of inheritance, or the good chances of wealthy endowment, has obtained the difference in position.

"Forced, then, to regard labourers as of our own species, we cannot be blind to the fact that they are men of like—in degree, feelings, passions, as ourselves. We know that out of the wages they earn they could not live healthily, and pay real interest for the capital the houses in which alone they can live decently would cost. An estate must be peopled to be prosperous, as its fields must be cleared of weeds to bear corn. Those fields and farms require men of capital, men of intelligence to cultivate them; these must have the dwellings appropriate to their position. Never did England show to any foreigner anything more astonishing than the dwellings of the tenantry and their farm buildings as year by year they crop up on most landed estates. But, sir, I assert that they are not too good for the men who embark their capital in these large holdings. It may give offence to write it, but it is undeniable there is no class in this land which has more rapidly advanced in every respect during the last 50 years than the tenant farmers of England; they are fast acquiring a position which will make them most powerful for good or for evil, in spheres of national work, in which their forefathers would never have dreamt of taking a part; they are, the majority of them, as disgusted as myself at the condition of the labouring classes, on whom they are so dependent. They say, in all truth, that not only are the majority of the cottages utterly unfit for human beings, but even of these there are not enough; they will admit that where cottages are in their own hands they are forced to crowd them, or allow them to be crowded, simply because they know not how else to obtain the presence on the spot of the labour they require."

Mr. Holland, M.P., quotes a leading article from the *Times* to the following effect:—

"A cottage has all the room that is wanted for a family, but the occupier chooses to add to his weekly income by taking in lodgers. He thus deprives his family of the accommodation, &c. . . . What is the landlord to do, then? Is he to put his veto on this arrangement, and prevent the labourer from getting his extra shilling?"

He then adds:—

"The enclosed 'form of letting' is the one I have had in practice here for many years, and all concerned have found this system of letting work effectively and satisfactorily. The form is in duplicate. Both lessor and lessee sign each duplicate: one duplicate is retained by the landlord, the other is handed over to the tenant.

"I never refuse permission to take in a lodger without there being grave cause for doing so, and I believe that the labourers are grateful for an arrangement which gives them a *selected* lodger without any undue interference being exercised as regards their domestic comfort. —

"I          agree to take the cottage          from Mr. Holland, at the yearly rent of          upon the following conditions—viz., that the rent shall be paid quarterly, and that I will give up the cottage to Mr. Holland on receiving a quarter's notice to that effect. But if I take in a lodger without Mr. Holland's consent, I render myself liable to quit at any time on one month's notice being given me."

## DISEASED MEAT.

[The following is an abridgment of a report which has appeared in the Edinburgh papers, of the discussion on this subject which recently took place before the Edinburgh Town Council.]

TREASURER CURROR said:—The public of Edinburgh is entitled, by Acts of Parliament, to have a thorough inspection of all flesh-meat before it leaves the Slaughter houses, to the effect that the flesh of all diseased animals shall be condemned and destroyed on the premises, and none but sound and wholesome flesh fit for human food, be permitted to pass from the slaughter-houses to the market; and also a similar thorough inspection of all dead flesh brought into the town, to the effect that all flesh of diseased animals shall be condemned and destroyed at the sight of a competent inspector appointed by the Council. It is not unreasonable to suppose that between the two inspectors armed with these powers of statutes and by-laws, the traffic in diseased carcases would be effectually kept down. But not so. As to the shambles, a statistical table applicable to the year to July 1862, is given in the fifth report of the medical officer to the Privy Council, in which it is stated that in 88 dairies in Edinburgh the average number of cows kept were 1839. Of these 1075 were sold diseased during that year—791 to butchers, and slaughtered for human food, and 284 to feed pigs, destined themselves to become human food. If any faith is to be placed in the books kept at the shambles, and so far as the entries by the gatekeepers of apparently diseased carcases are concerned, they seem faithfully and accurately kept, and to be worthy of credit as evidence, matters are no better in 1862-63, but rather worse. In the year 1862, 1059 apparently diseased animals entered the slaughter-houses, of which 875 went out as human food, and 183 to feed the pigs; and in the month of March last, 91 apparently diseased carcases entered—52 of the number being carried in dead; and all went out as human food, except 18 to the pigs. Disease was so palpable in these 1059 carcases as to be apparent to the gatekeepers in passing in at the gates. Many less palpable cases may have passed in without the gatekeepers' observation; hence these 1059 cannot be accepted as the whole number of diseased carcases entering the shambles in 1862. 1059 is said to be a very small proportion of the animals slaughtered that year. But it gives about three diseased carcases to this city per day; and I apprehend that is a proportion high enough to call for the immediate exercise by this Council of all the powers they have for putting down traffic in diseased carcases. A complaint was recently made that diseased meat was passed freely into and out of the shambles, and an investigation was made, when the following facts were elicited:—

That animals are brought in and the carcases thereof taken out of the shambles without ever having been seen by the inspector; that animals apparently diseased—entered as such in the "apparently diseased" book—are slaughtered and the carcases removed without having been seen by the inspector; that animals apparently diseased — entered as such in the "apparently diseased" book—have been inspected by the inspector and condemned, and the sentence of condemnation recorded in the book, but the sentence erased, and sound and marketable substituted, written by the inspector on the erasure; that entries of apparently diseased animals in the book (which animals the inspector has found to be sound and marketable, and has so recorded the fact) have been erased, and sound and marketable superinduced; that an entry of an animal apparently diseased, entered as such in the books, has been erased entirely report, and all, if ever reported on; that apparently diseased carcases, entered as such in the books, have been passed by the shambles inspector, been exposed in the market, and there condemned at the instance of the inspector and at the sight of the magistrates; that there are booths in the shamble the doors of which this inspector, appointed to search for diseased flesh, does not cross for weeks; and that diseased meat—unsound and unmarketable—does get into and out of the shambles for want of inspection.

Major MAIR seconded Mr. Curror's motion, saying, it was very hard for a man who could only spend a small portion of money on meat that he should pay for unwholesome food, and pay for it nearly the same price as for wholesome.

MR. FORD said: The reckless assertions they sometimes read in the newspapers were bringing odium on a most respectable class of our fellow-citizens. He thought it their duty as a Town Council to shed a little common-sense on the subject. He was sure that the Lord Provost would say that the way to get business, to keep business, and to get money was not by searching land and sea for inferior articles to sell, but by doing the reverse, searching land and sea to get the best articles

possible to sell. If that was a principle in business it must prevail in the butcher or flesher trade as in any other trade. They all knew that diseased cattle were slaughtered in Edinburgh. He had observed a letter in the newspapers that morning from a respectable firm—Messrs. John Swan & Sons, cattle agents. They gave some statistics from the slaughter-house books, and with reference to 1862 they state that in that year 21,722 cattle were entered in the Edinburgh slaughter-house books. Of that number 920 were apparently diseased, and out of that 920, 148 were condemned. That they had diseased animals they could not deny, for these figures showed that they had 148 out of the 21,722 cattle entered in the Edinburgh slaughter-house books in 1862 diseased. He quite agreed, however, with Treasurer Curror, that if they could by supervision prevent even that 148 from entering the slaughter-houses, they should do it.

Mr. BRYSON took a considerable amount of interest last year in this subject, he went through a considerable number of dairies, where he saw cattle that were scarcely able to stand. These cattle were milked. In one instance he observed that the milk was not allowed to go in amongst the other, but in other cases he saw it mixed. He happened to ask a dairy-woman what she was to do with a cow which was likely to die next morning. She said she would sell it to a person who fed pigs. He went to the house of the party referred to, and there he saw the carcases of 20 cows in the process of being boiled down to feed the pigs. He saw, however, that they were not all boiled down, but that a great deal of beef was kept aside. He was told that these pieces were kept for another boiling. On going to the inspector, he told him that these pieces found their way into the city of Edinburgh, and instead of being supplied to the poor they were made into good salt rounds for supplying the rich.

After some further conversation, it was agreed to remit the matter back to the Market Committee.

## DAIRY MANAGEMENT.

AT a recent meeting of the Eye Farmers' Club the following paper was read by Mr. Horn :—What is the Breed of Cows best adapted for Dairy purposes?

It will be within our province this evening to review only those most especially that belong to the class of dairy cows, which we may classify as follows—the Yorkshire, Ayrshire, Alderney, and Suffolk.

The Yorkshire is the largest and most numerous, we therefore take her first. The Yorkshire cow, as we term her, is descended from the Holderness crossed with the Durham bull, but a different animal to the Teeswater or high bred Short-horn. They are held in high estimation in and around London for the quantity of milk they yield; and, if well kept, at the same time making flesh for the butcher. An average cow of this breed, for several months after calving, yields 20 quarts a day; while some have been known to yield from 30 to 40 for months together. Some cows are supposed to yield from 4000 to 5000 during the year. It must be borne in mind that the food is of the most forcing description for the production of milk, without regard to quality—brewers' grains being a *sine quâ non*. These cows form all the dairies of the midland counties; their milk is not rich in cream, yet on rich pastures or high feeding this is more than counterbalanced in quantity, and making beef at the same time, as we have the testimony of Mr. Horsfall, Burley Hall, Yorkshire, who so explicitly described his mode of management in his papers to the Royal Society's Journal.

I next advert to the Ayrshire; and I believe, taken as a breed, they are the most select as to milking properties. Ayrshire being a dairy county, the breed has been cultivated with the greatest care, and selected by distinguishing points known only to the initiated; and I hesitate not to state that we have no other class of cows, taken as a breed, that will produce the quantity of milk for food consumed. Hence the high estimation in which they are held in cheese-making districts. I shall give you one illustration. We have one small cow in our dairy (of said breed) which is called Victoria, now well up in her teens, for one season (pasture in the meadows only), for three months she averaged 26 quarts a day. We have records of much greater quantities than this, but she was a small cow, then only about 56 stones imperial live weight; so that every 27 or 28 days she produced her entire weight in milk; in short, she may be termed a milking machine. Even now, when in full profit, her bag seems as large as her body.

I now come to the Alderney or Channel Island cows, which in their own island are most valuable, both for the quantity and quality of butter they produce. They are not much in favour in the eastern counties, in consequence of the high prices which have to be paid for them when in profit, and their comparative small value to the butcher; and, moreover, our sharp east winds rather tell on their delicate constitution. When kept, it is mostly by private gentlemen for family use. They yield a fair quantity of milk, which is very rich in cream, and produces excellent butter. In their own island they are reported to yield from 10 to 12 lb. of butter a week during the summer; that result is very seldom obtained in this district, unless under very favourable circumstances. In the West of England they are greater favourites than with us. However, W. Fisher Hobbs, Esq., of Boxted Lodge, has favoured me with the following account of two cows kept by him of the same breed. He writes as follows :—"At your request I send you a correct account of the produce of two cows (Alderneys) which I kept at my own residence, Boxted Lodge, in 1861. I had no other cows there during that time. You will observe that the produce from these two cows was kept separate, from the period of their calving until the 12th of July. After that time the cream was mixed. The total produce of these cows in 34 weeks was 860 lb., besides what cream was used in my house;" this being an average of 25½ lb. for the two cows during the 34 weeks. You will observe Mr. Hobbs states that the milk was kept separate, from the period of calving until the 12th of July. For 14 weeks previous to the date one cow averaged 17½ lb., and one week 20 lb. 1 oz., a quantity (for the length of time, be it remarked) I am not aware has ever been obtained from a cow of any other breed. So much for the Alderneys.

We shall now briefly refer to the Suffolk. There are many gentlemen in this room who are better qualified to give an account of the Suffolk cow than I am, from the short period that I have been amongst them, and I shall be glad to hear them this evening. However, we have records of a polled breed of cattle in Suffolk for about 200 years, but of what shape or form we are left to surmise. In my opinion, at no distant period they have been crossed with the old Aberdeen, to which the best animals of the present day bear a striking resemblance. Blood red is now the favourite colour, with little or no white, unless the tips of the tails; but they been so indiscriminately crossed latterly, with all sorts of brutes which could be called bulls, that in consequence we have nearly lost the original stock. In short, since the dispersion of the late Sir E. Kerrison's stock, it has been difficult in this district to find pure animals to breed from; and I wish to impress upon my dairying friends that it is just as essential, in order to obtain good milkers, that the male should be descended from as good milking stock as the female. Most people are careful as to the milking properties of the cow they breed from for the dairy, but the bull is seldom taken into consideration; and it somewhat surprises me, considering the haphazard manner in which they have been bred, how the Suffolk cows have still kept the milking properties for which they are justly celebrated. We have obtained 24 quarts a day from a Suffolk cow when in full profit, and I presume my dairying friends will not term them useful unless they yield from 18 to 20 quarts a day when in full profit. They are better adapted for the arid climate, rough and badly-farmed pastures of the eastern counties, than any other breed. They yield a good quantity of milk, and when properly fed, their milk is pretty rich in butter. Taken as a breed, their skins are coarser than either the short-horn or Ayrshire; in consequence, they are not so sensitive of flies; and, moreover being without horns, they are more suitable when in yards. Likewise they are favourites with the Society for the Prevention of Cruelty to Animals, as they cannot inflict severe torture on each other; and when crossed with a proper Short-horn bull, produce a good animal for fatting purposes. And further, we have the testimony of Mrs. Rainer, Thorpe, confirmed by other eye witnesses, of her polled cow producing in one week 19 lbs. 15 oz. of butter, and for weeks in succession 18 lbs. 12 oz., and for nine months 11 lbs. 4 oz. was the average. Mrs. Rainer had only this one cow; but, to use her own words, she "treated her like a child." Again, we have the late Mr. Lingwood's cow, at Brome, which produced 16 lbs. 4 oz. in one week, and for weeks averaged 15 lbs. She was also a single cow, kept by a private gentleman.

The late Mr. Pusey truly said, "Books will not teach farming; but if they describe the practices of the best farmers, they will make men think, and show when to learn it." Acting on this motto, I shall read you a few extracts from J. C. Morton's "Hand Book on Dairy Husbandry," The yield of milk, Mr. Morton truly states, is the first point to which attention is directed on any review of dairy statistics. The first case given is that of Mr. Telfer's, near Ayr, where his dairy of 47 Ayrshire cows produced annually 650 gallons each. The next is that of Mr. Buttery's, Calder Bank, whose dairy of 30 cows, same breed, produced 632 gallons. Then, further, he gives reports of Yorkshire cows, as Messrs. Wright, of Surrey, and Crawley, of Cheshire. Mr. Wright's average is given as 810 gallons, and Crawley's as 866. Three out of the four it has been my privilege to inspect. The cows were kept on the most forcing food, soiled mostly during the summer on Italian Rye-grass, with other extras in addition.

Having now given an outline of the produce, we next proceed to the systems of converting the produce into money. The most profitable is when the milk can be sold sweet from the cow, which in most localities will sell for about 8*d.* per gallon; and if we take the general average of the Yorkshire cow, when well kept, as being about 800 gallons, then we find the produce will amount to something like 26*l.* annually. In turning to our own country cows, they, on an average, may be supposed to yield 500 gallons, being about two gallons a day for nine months. Supposing these 500 gallons to be sold at 1½*d.* per quart, we would then realise about 16*l.* 10*s.*, with calf 10*s.*, would make the result 17*l.* per cow. When the milk cannot be sold, we must then convert the 500 gallons into cheese; then we should realise something over 500 lbs. of cheese, which at 6*d.* per lb. gives 12*l.* 10*s.*; calf and whey for pigs, 30*s.*, would make 14*l.* per cow. By converting the cream into butter and the partly-skimmed milk into cheese, we would then realise 160 lbs. of good butter at 1*s.*, and 300 lbs. of part skim milk cheese at 4*d.* per lb., which, with calf and whey at 30*s.*, stands at 14*l.* 10*s.*, and, with proper management producing a good article, the price of produce may be raised, and these terms may be exceeded. We shall now find how this tallies with other districts. In Dorset and some parts of Somerset it is customary for dairymen to rent the cows from the farmer, the dairyman doing all labour, and the farmer providing cows and keep, for which the former pays for produce of cows 9*l.* 10*s.* to 10*l.* 10*s.* The produce is mostly converted into butter and skim-milk cheese in Dorset; while in Somerset, some of the best Cheddar cheese is made now worth 9*d.* per lb. A similar system prevails in the West of Scotland, but the produce is entirely converted into cheese, the cows are better kept, and the rents are higher, both to the farmer and dairyman. A late employer of mine rented a farm in the said district of 600 acres, his rent being 1200*l.* He kept a dairy of 100 cows; and I have known his dairyman pay 12*l.* for each cow, which covered the farmer's rent. The agreement was—the dairyman to do all labour attending the cows, unless some milking the farmer had to provide. Keep of cows was 1¾ acres for each cow of good Grass for summer; six tons of Swedes and two bushels of Bean meal for each cow, with straw *ad libitum*. The dairyman would realise about 4½ cwt. of cheese from each cow, and when properly manufactured would sell about 70*s.* per cwt. The produce would run from 14*l.* to 15*l.* per cow.

I have thus endeavoured to bring under your notice the different systems that are practised in other districts. I have stated results which have been and may be realised with proper management, and one naturally begins to wonder why Suffolk, once so prominent in dairy management, is now getting into the shade; the complaints are loud and long that no dairy-maids are to be found. Again, some maids maintain that there are no places for them to learn, as no one will take the trouble to teach them. But they are not easily taught who don't want to learn; and as crinolines and feathered caps are more in unison with nursery-maids, table-maids, and house-maids, the washing, scrubbing, working, rosy-cheeked dairy-maid of old is nowhere to be found. We are told that cleanliness is next to godliness; and in no case is it more applicable than in dairy management. Morning and evening, Sunday and Saturday, twice-a-day the dairy must be attended to; for, be it remembered, it is only a first-class article which commands attention in the market.

We now come to the last branch of our subject, and one on which I doubt not all of you are familiar—converting the cream into butter; a very simple, but at certain seasons, with certain feeding, a very ticklish operation. I shall give you an outline of the system we pursue. During the winter our cows are fed on roots and chaff in conjunction; the first part of the season on Scotch yellow Turnips or Swedes: after Christmas on Mangels. Those in full profit receive about 4 lbs. to 5 lbs. of cake or corn in addition. It is when fed on roots that the care and experience of the dairy-maid are put to the test to produce a good article. Our dairy people maintain that if we send the milk into the dairy free from taint, they will produce butter agreeable to the palate; therefore, when the cows are on roots we invariably use a small quantity of saltpetre put into the milk warm from the cow, in order to dispel any effluvium the roots may produce. Care must be taken not to use too much; if so the butter will taste rancid; say an ounce to every 30 gallons. We shall now go into the dairy, and, to use an Irishism, we don't allow the butter to spoil before it is made; that is, stale vessels taint the milk, or stale milk taints the cream, and tainted cream will not produce first-class butter; and as our object is quality before quantity, our customers being rather fastidious in taste, we must endeavour to produce a sweet article. The milk is first creamed at 24 hours, and again at 36; in so doing, both milk and cream keep sweeter than if only once creamed at 36. We churn thrice a week. We use no artificial colouring. Our spare butter goes to a "West-end miss," at prices varying from 14*d.* to 17*d.* per lb. There are many *ifs* and *ands* in order to make good butter when cows are fed on roots; but the dairymaid claims them as her knowledge of the art, and which would be tedious to describe. Gentlemen's dairies are in unison with "home farms." Neither are proverbial for large profits. However, while our injunctions are to produce a first-class article, we at the same time have an eye to profit. Our dairy of milk cows are 24, and they cost us for dairying and attendance 24*s.*, or 1*s.* a head per week; and on examining our dairy book for 1862, after deducting said labour, I find a credit of 10*l.* standing for each cow. Be it remembered, we wean a calf for each cow in addition. In the foregoing observations I have endeavoured to bring under your notice the breeds of cows best adapted for dairy purposes: thus we find the Yorkshire the favourite, where pastures are rich and quantity required. And again, in the western part of our island, where cheese-making prevails, we find the Ayrshire the universal favourite; and when only cream and butter are required, we find the Alderney in esteem. It is said: Ireland for the Irish, and we must say "the Suffolk cow for Suffolk," for after a trial of all the breeds I have named, it is found by experiment in our establishment that they are the cows best adapted for the district.

## Home Correspondence.

*Cottage Building.*—Dr. Begg stated at the Social Science meeting at Liverpool that "very marked peculiarities come out in connection with the rural districts of Scotland, where the most advanced farming in the kingdom and the highest rents are often coupled with the lowest state of physical comfort on the part of the working men. Through most of the Lothians the ploughmen, till lately, had only one apartment for a whole family. The poet Burns, in coming from Ayrshire to Edinburgh, remarked this as a sad result of improved Scotch farming more than half a century ago." Since the building of cottages is a duty which devolves upon landowners, I fail to perceive why "the lowest state of physical comfort on the part of the working men" can be "the sad result of improved Scotch farming." I unhesitatingly assert that it is the result of the culpable negligence of landowners and their agents. Dr. Begg identified himself at Liverpool with the remarks of Burns, and yet stated at Haddington, in October, 1861:—"Now, as a good deal of misunderstanding exists in regard to our views and objects, let me first explain what I do not hold in regard to the question before us. I do not hold that enlarged farms and improved agriculture necessarily result in evil to the working classes. This may seem an unnecessary remark, but you must be aware that the contrary is a doctrine held by some, and that it receives some apparent countenance from the fact that the greatest degradation of the ploughmen is found in some of the most highly cultivated districts. But there cannot be any necessary connection." Again, Dr. Begg stated at Liverpool in 1858:—The present shameful state of matters is spreading like a canker throughout the whole community. It is filling the town with pauperism; and, whereas in former times deterioration of cities was supplied by a pure stream of healthy and moral life from the rural districts, the rural districts are becoming more degraded and debased than the cities themselves." And yet Dr. Begg stated at Haddington:—"Neither do I hold, as some have supposed, that the rural population of Scotland is more degraded or immoral than the population in some parts of our cities. But it is startling to find that it is not uniformly much better, and that the relative immorality of our city and rural populations differ in some districts so widely from that of other lands." Such contradictory statements must of necessity stagger citizens, but they are easily dealt with by rustics. Illegitimacy is merely the unavoidable result of social lawlessness, which is fostered by the different classes of masters and mistresses not recognising courtship as a necessary preliminary to marriage. In trying to vindicate Dr. Begg, the *North British Agriculturist* stated at page 1008 for 1861, "At the present time the majority of the cottages in East Lothian are dwellings of one apartment, the floors of clay, ceiling boards provided by the occupants, and the roofs pantiles. Generally the walls are unplastered, and where plastered the work has been very imperfectly executed. There have been a considerable number of new cottages erected on general estates, but few of them contain the minimum number of apartments suggested by the Cottage Improvement Association, namely, three sleeping apartments." Such cottages—hovels—are not only residences for married ploughmen with young families, but gentlemen farmers compel hinds to provide lodgings for a field labourer in such hovels. A good many farmers have abolished the compulsory bondage system, and had recourse to bothies for those females who require to be imported. And Dr. Begg and others of his class had the presumption to find fault with the farmers in East Lothian for relieving the hinds from bondage! I showed at page 37 of the *Agricultural Gazette* for 1863, that some farmers have the services of two able-bodied labourers for a twelvemonth, for from 44*l*. 8*s*. 0½*d*. to 50*l*. 12*s*. 10*d*., and a house and garden free, and coals carted. The hind had to pay the bondager from 10*l*. to 13*l*. per annum for wages, and also give the bondager board, lodging, and washing off this gross total! I have stated in general papers that building houses with general apartments is not a remedy for the bondage system. Fancy a young woman being a domestic drudge to a ploughman's wife in the morning before 6 o'clock, midday and in the evening after a day's work of ten hours to the farmer! I should like antibothyites to show me where I am wrong in stating that a bothy is not only a necessary expedient or makeshift for the bondage system, but bothies are indispensable parts of a model farm steading. A farm of 630 acres may require 22 men and 35 lads and women regularly. Reckoning each of the 22 men to be married, and each to have a bondager, the bondage system would not provide the complement of manual labour—35 lads and women. Mr. Smith, of Whittingham, expressed my views on bothies at Haddington, in October, 1861. I lodged under the parental roof for 25 years, and have resided in six garden bothies, so I claim a knowledge of what I am writing about. *W.*

*Farmers.*—With reference to what I said the other day at Cirencester about farmers, I admit of course that they are in nature like all other men, and from experience I know that as a body they are a very excellent race, both males and females; and I go further, and am happy to state that, as far as my experience has gone, and it has been rather extensive, I have found them within the last 20, or a few more years, to have very greatly improved in many social virtues and advancements, notwithstanding the many painful drawbacks which distinguish the age in which we live. For one example among others which I can state with perfect confidence, farmers now, compared to what they were, like other men, some 30, 40, and 50 years back, and even more, are a really sober race; as now, among the higher educated society, a man the worse for liquor is seldom or never seen, such also it is gratifying to know is the improvement among farmers; and drunkenness among the agricultural population is confined almost entirely to the labourers; and even among the labourers it is further gratifying to know that it is fast wearing out; and my opinion is, that from the example set by their employers, and the improvements of the age in this as among other things, the time is not far distant when drunkenness will be altogether banished from our rural population. So much I rejoice to be able to state in praise of the race among whom it is my happiness to live. *Geo. Wilkins.*

*The Steam Cultivation Company.*—[The following letter has been addressed to Mr. Howard Reed, the Secretary].—In reading your recently published letter, I find you are of opinion that those men who become acquainted with steam cultivating apparatus by hiring it, will not long rest satisfied until they possess it for their own use entirely. Those remarks I am able thoroughly to endorse, having now had several years' experience in the use of it. It will so happen that the sets of tackle let out for hire will be in very great request immediately after harvest especially, and whenever an occupier of four or five hundred acres of land once gets hold of the tackle in dry weather, he finds it of so much service to him that he will not let it go off his farm for weeks perhaps. Not until the best weather for killing his rubbish was gone by, would he part with it. In the meantime his neighbour, who is looking over the hedge, and sees how quickly he and his horse-power are being outdone, is somewhat uneasy by the thought of the difference that will exist in the rival stack-yards next year. What is being done by the steam tackle must necessarily cause the one to be better filled than the other; and the man who has been disappointed of steam to aid in breaking up his stubbles, at once makes up his mind that as he cannot hire and run even with his neighbour, he will at once buy a set for himself. But just fancy the feelings of the man who peeps over the hedge, appreciates the value of the work being done, and yet has not the money to buy the tackle! There are hundreds of such men, and to these your Company will be a godsend, seeing that it is proposed to supply machinery to those who require it, to allow the farmers to make choice of what is best adapted to their own land, and to make the payments for it easy. The large amount of business that would be done must ensure a good return on the employment of the Company's capital. Steam cultivation is now no moonshine. Great interest is taken in it. We have plenty of facts to show its value, and I think the half is not yet told, for I think that clay lands will be prodigiously improved and increased in value by it, and that throughout the districts where these abound the Company will find the greatest encouragement. But it would be, in my opinion, very unwise for a Company to do anything but lend money and take security. I mean it would be unwise to let out tackle, because in the long run it would not pay. The Company would find a great loss in moving from farm to farm; and after the best season was over there would not be that demand, as the horse power, which the farmer is obliged to keep as the cheapest power for carting corn and manure, would be sufficient for the rest. Every one knows, too, who is possessed of engines, &c., that standing idle out of doors they rust and get out of order. The staff of men also would be difficult to keep always profitably employed, and there are several other reasons why this branch of business should not be engaged in. It is the farmer who ought to have the tackle on his own premises. It should be so simple that his ordinary men, at reasonable wages, should be able to work it. When the season is past it should be cleaned and put away until again wanted, and the men should be sent to other employment. Such are the views I entertain on this subject, and they are founded upon my practical experience. *T. B., Dring, Claxby, near Spilsby.*

*The Value of a Rain Gauge to Farmers.*—Few farmers keep rain gauges, though there are many occasions on which it is of practical importance to know the absolute quantity of rain that falls in a given time. The experience of more than 20 years has taught me that no one can judge the quantity, especially when the rain falls during a stormy night. On the night of Sunday, September 6th, judging by the sound of the wind and rain, I expected that my gauge would have registered at least .75 or $\frac{3}{4}$ of an inch; to my astonishment I found only .25 or a $\frac{1}{4}$ of an inch had fallen. As there was a drying wind I examined my corn in shock at noon; I found that it was dry, and carried it before night. A farmer who met my waggons going to the field, said "I am astonished at your master going to cart." I passed a labourer setting up the sheaves of Barley that had been blown down; he said "our master is gone to market; we want him at home to set us on carrying." Both these farmers said they were quite astonished to find the corn so dry when, too late in the evening, they examined it; they had simply over-estimated the rainfall. Fortunately the next day was fine, but rain fell again in the night, and much of the corn is still in the field. The construction of a gauge is simple. Have a tin or zinc funnel made exactly a foot square at the top; put this into any convenient vessel holding—say 3 quarts. Every pint of water represents .25, or $\frac{1}{4}$ of an inch of rain, without the fraction, which does not signify for practical purposes; .25 or $\frac{1}{4}$ of an inch is a moderate rain, .50 or $\frac{1}{2}$ an inch a soaking rain, such as penetrates the sheaves, and so on in proportion. *J. C. C.*

*A Feat of Drainage.*—About five years ago a Mr. Wallace purchased an estate in Roscommon on which was a lake called Corkip, or Keoghville, covering 137 acres, and containing several islands, with a depth of water varying from 5 feet to 16 feet. Some attempts had been made by former proprietors to drain this lake, but they were frustrated by the obstinacy of other landlords and the superstition of the peasantry. Nothing daunted, however, Mr. Wallace employed 40 or 50 men and made an arterial cut two and a half miles long connecting the lake with the river at Milltown Pass. This cut is 4 feet wide at bottom and 13 feet at top, and in some places 18 feet deep. For a mile it passes through solid rock, which had to be blasted. The result is that the lake has disappeared, and in its place is a large tract of rich alluvial soil, giving every promise of luxuriant vegetation. A correspondent of the *Western Star* thus describes the metamorphosis:—"I had the pleasure of walking across the valley which was once the bottom of the lake, and inspecting the drainage works by which such a large extent of valuable land has been successfully reclaimed. Where, six months ago, the wildfowl congregated in myriads, and where fish were captured last year, not only cattle, but sheep were grazing on excellent pasture! There are portions of the soil in rents from the drought, but in every case it is rich and friable and easily pulverised. Where the water was deepest, the soil partakes somewhat of a peaty property, and is not as yet clothed with anything like verdure, but where Rape and Grass seeds have been sown by way of experiment they have vegetated sufficiently well. What were at one time islands, and are so defined on the Ordnance map, look now like so many raths or hills dotted over the valley, and tend rather pleasingly to diversify its appearance." *M. S.*

*Labourers' Cottages.*—The *Times* of September 9, having taken up the subject of "the crowded state" of the labourers' cottages, brought before the public some weeks ago in the *Gardeners' Chronicle and Agricultural Gazette*, it is to be hoped other journals will follow so good an example, and render assistance to a deserving class of men, on whom we depend for soldiers and sailors, to whose exertions we are indebted for success in agriculture, and whose muscles and sinews enable the manufacturers of England to conquer, in an amicable struggle, all competitors in the markets of Europe, and Asia. Animals are improved in usefulness by providing them with warm sheds and stables to protect them from the severity of the weather, as well as by giving them wholesome food to eat. The additional expense and trouble are amply repaid by the greater amount of labour performed by the horses on the farm, and also by a large saving in fatting stock. The commodious buildings rising up around a substantial holding, show a beneficial change on behalf of the quadrupeds. Men and women are benefited in a greater degree, by breathing pure air, having dry and roomy lodging and nutritious food, than the lower animals; the enjoyment of these comforts influences both the mind and body, producing contentment and cheerfulness under hard labour, as well as strength to accomplish the daily toil without impairing the constitution. These facts cannot be denied, and yet those who employ men in the fields or manufactories, never seem to trouble themselves about the condition of their servants. If no high motive impressed the masters with the duty they owe to their fellow creatures, self interest might open their eyes to the desirability of having intelligent, able bodied, and respectable workmen about their premises, whose dwellings, though humble, were known to be convenient for the purposes of civilised life. People leaving tracts at the poor man's door during the days, and in the evening at home, at their own particular tea parties, lamenting over the sad immorality existing amongst the lower classes, should make themselves acquainted with one of the principal causes of mischief, over which the poor have no control—"crowded unwholesome dwellings." Those possessing money and power must no longer shut their eyes to this monstrous evil, under which the United Kingdom is groaning; increasing the number and improving small tenements will not prove a panacea for vice and wickedness, but it will go a great way towards ameliorating the social condition of the working classes, and prepare the way for those who kindly take an interest in their neighbours' welfare, and are willing to offer real help to those who are inclined to help themselves. Society, the term used when a certain mass of human beings are congregated together, wears a fair exterior, nevertheless there is something very faulty in the interior economy of our great nation, domestically speaking; family teaching and home discipline, amongst the middle and upper classes, rest on a sandy foundation. *Falcon.*

## Societies.

MANCHESTER AND LIVERPOOL: *September* 5.—The advantages enjoyed by this Society this year, in having at its command a capacious and picturesque show-ground, a liberal list of prices, a more than usually numerous entry for all classes of implements and stock, furnished all the elements for a thoroughly successful meeting, and fine weather, in spite of unfavourable symptoms early in the morning, was enjoyed. The ground had not recovered from the muddiness caused by the wet of previous days, but by a judicious laying of straw and planks visitors were able to thread their way without being very inconveniently soiled. More than 5000 persons paid for admission. The show was pronounced to be the most successful ever held in connection with the Society. The entries numbered 1513 agricultural implements and miscellaneous articles. For the prizes offered for horned cattle there were 162 entries. For the Short-horn bulls open to general competition, Sir R. Gerard, Bart., carried off the 1st prize; there were very excellent animals shown in the same class by Mr. D. R. Davies, of Mere Old Hall, Knutsford, and by Viscount Hill, of Hawkstone, Shrewsbury. Sir R. Gerard's animal was a splendid roan, bred by Mr. Nailer, of Preston. For the two-year-old bulls, in addition to the prize earned by Mr. Eastwood, the other bulls which were awarded prizes or highly commended were those of Mr. Atherton, of Speke; the Hon. Colonel Douglas Pennant, M.P.; and Viscount Hill. The prize for the best bull calf was won by Mr. Benjamin Baxter, of Skipton. Lady Pigot carried off the whole of the prizes offered for cows and heifers in the classes open to the United Kingdom. The sheep were remarkably fine, and the Shropshire breed especially were conspicuous for their quality and number. Of Leicesters there were shown 18 aged rams, 15 yearling rams, 14 ram lambs, 5 aged ewes, 8 yearling ewes, and 5 ewe lambs; total, 65. Cotswold: 2 aged rams, 1 yearling ram, 1 ram lamb, 1 aged ewe; total, 5. Shropshire: 14 aged rams, 20 yearling rams, 28 ram lambs, 15 aged ewes, 12 yearling ewes, 13 ewe lambs; total, 102. Mr. Henry Smith, of Newhouse Farm, Sutton-maddock, Shiffnal, Salop, took the prize for the best shearling Shropshire, with the same animal that won the prize at Sparkenhoe show. Mr. W. B. Wainman, of Carrhead, Crosshills, Yorkshire, won the whole of the first prizes offered for pigs in the classes open to general competition. For horses there were 212 animals entered, those of the draught and farming purposes being the most numerous. There was also a show of fowls, vegetables, fruit, and dogs. The dogs and poultry especially attracted the attention of the ladies.

At the annual dinner the Chairman, the Hon. W. Egerton, M.P., proposed "Success to the Manchester and Liverpool Agricultural Society." In no town had that Society been better received than in Birkenhead. Thirty years ago, when the Liverpool Agricultural Society was formed, Birkenhead was a village containing about 16 houses and 110 inhabitants. Through the energy and enterprise of a few individuals, among whom was their excellent member (Mr. Laird), Birkenhead had made most remarkable strides, and its great natural advantages had been availed of as a great mart for commerce and shipbuilding. About 15 years ago the Liverpool and Manchester Agricultural Societies were amalgamated, and since that period the history of the Society was one of continual successes. Its operations had encouraged scientific agriculture, the drainage of farms, and the manufacture of those implements which economised labour. The farmers had been willing to take advantage of the experiments made by a few gentlemen of capital and enterprise. Farmers were no longer satisfied with the old system of careless farming, allowing the ground to be covered with weeds, and using a few simple inefficient implements to till it. Such associations as that whose anniversary they were celebrating stood on very high ground. Associations like that which recently met at Newcastle had done much for commerce and manufactures; associations like theirs had done as much for agriculture. It might or might not matter to Birkenhead whether there would be a sufficient supply of coal 200 years hence; but it was of present importance to Birkenhead that food should be obtainable in the cheapest and best manner possible. That was the object of their Society—to increase and cheapen the supply of food; and it was no idle aim. The Government had lately brought forward the question of agricultural statistics. It was important that there should be a thorough knowledge of what was grown, and of the amount of stock in the country. An attempt to get such statistics in Ireland had been attended with considerable success. There they had been obtained through the constabulary. He believed that there would be an objection in England to the collection of such statistics by the constabulary or by the overseers. It would be better to get them in some such way as in Scotland, where they were obtained by the Highland Agricultural Society. However they might be got, it must be by the voluntary efforts of the farmers. All scientific farmers would acknowledge how very useful the compilation of such statistics would be. Such a compilation was made with respect to manufactures and commerce, and there was no reason why it should not also be made with respect to agriculture. Mr. Bass, the great brewer, found it worth while, for his own business purposes, to ascertain how much Barley was grown in the year. This reminded him that last year he accompanied a deputation of farmers to an interview with the Chancellor of the Exchequer to ask him to reduce the duty on malt. It was stated on that occasion by excellent agriculturists that the value of malted Barley for feeding purposes was very great, and that it was only the duty which prevented a number of animals being fattened on it. If that was really so, this was a subject which agricultural societies might well take up, in order to press upon the Chancellor of the Exchequer the reduction of the duty. He believed that if the case was properly put before that gentleman he would reduce the duty on the first opportunity. He (the Chairman) was glad to notice that there were between 200 and 300 more live stock exhibited that day than had ever been exhibited before by the Society. That was a very healthy sign, for nothing was more needed than meat. They could import corn, but they could not import good cattle. Doubtless, the demand was very great, for during the whole of the distress last year the price of meat in Manchester remained the same. He believed that there was no county in England better suited to raise and fatten cattle than Cheshire. Its admirable Grass and moist climate were very great advantages. Even should the Cheshire cheese, which had a world-wide reputation, be beaten out of the market by the American cheese,—of the goodness of which he did not pretend to judge,—it would be a profitable undertaking for the farmers to turn to the raising of stock for fattening. *Manchester Guardian.*

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ROYAL NORTHERN: *Competition with Reaping Machines.*—A trial was lately made of the four reaping-machines set aside for that purpose at the Royal Northern Agricultural Society's Show held at Aberdeen, in July last. The competitive trial came off on the farm of Hillside, belonging to Mr. Walker, and conveniently situated near the railway station, Portlethen. The field on which the machines were tested was one of common Oats after Turnips on a good bottom. The crop was rather a light one, and somewhat late. The field was quite level, measured about 11 acres, and, owing to the thinness of the crop, there was a good deal of Grass, which made it rather stiffer to cut than if it had been clean reed. Four patches, each measuring 1 acre and 12 poles, were marked off to be cut by the different machines, the time occupied in, and the quality of the work being, of course, taken into account in determining their merits. The judges were—Mr. Porter, Monymusk; Mr. Campbell, Blairton, and Mr. Gray, manager, Messrs. M'Kinnon & Co.'s foundry, Aberdeen.

Lot 1 was cut by Messrs. Samuelson & Co.'s "Eclipse" reaper, shown by Messrs. B. Reid & Co., Aberdeen. This machine, which was drawn by one horse, runs upon a single wheel, surmounting which is a seat for the "tilter" or deliverer of the sheaves, while the person driving the horse walks alongside. The principle upon which this reaper is wrought is very simple, the whole machinery in fact consisting of a pinion running on the outside of the driving wheel, and which gives the motion to the knives. In case of the machine encountering an obstruction, the man sitting upon it can elevate or lower the cutter by a small screw. The "Eclipse" is made to cut a width of 5 feet, and is fitted up with plain knives, the protecting finger points between them being 3 inches apart, about half an inch less than those of the other machines. When in motion, this machine has a smooth action, and the weight being only 5 cwts., it is apparently easily drawn by one horse when at work. The cutting was done in a manner which could not fail to satisfy the most fastidious. As the knives can be elevated or lowered, the length of the stubble can be determined by the party using the machine; while the sheaves can also be made any size. The mode of delivering the sheaves is also very simple, and is the same in all the machines tried. The platform is fixed, so that its lower edge rests upon the finger bar, and slopes upwards to the back. The tilter fixes his foot to the lower edge of the platform with a small belt, and whenever there is sufficient corn on the platform to make a sheaf, it is slightly raised by the foot so as to reverse the slope, and a touch from a hand rake carried by the tilter makes it slip to the ground to await the binder. The platform is again lowered in front, and the same process continued. As the crop was not very heavy, the work was easier for the tilter, having longer intervals between the delivery of the sheaves than he would have had if the crop had been heavy. We should state, however, that the horse placed in the "Eclipse" had not been at work during the summer, and getting restive, detained the work for some time, and another had ultimately to be put in his place. Notwithstanding these delays, the "Eclipse" finished the given amount of work in 64 minutes.

The "Eclipse," it should be understood, was not exhibited as the most perfect machine for reaping which the makers can produce, but as a machine well fitted in general for the work on farms in Aberdeenshire, and as particularly adapted for the requirements of farmers of limited means. One of the peculiarities is that, at the expense of a guinea extra, the reaper can be turned into a mower at pleasure—to do this only requiring the removal of the platform and the substitution of a smaller shoe. The price of the reaping machine is 16 guineas.

2. The second lot was cut by the "Buckeye," a patented machine manufactured and exhibited by Messrs. Brigham & Bickerton, Berwick-on-Tweed. This machine is a combined reaper and mower, with double gearing, and made to be drawn by a pair of horses, both the driver and tilter having a seat upon it. The mechanism of this reaper is probably more complicated than that of the others, but it has better protection. The gearing is mounted in the centre of the machine, where the power of both wheels is concentrated as drivers. The cutting bar is double jointed, and hinged independent of the framing, which obviates any inconvenience which would otherwise arise from inequalities in the ground, and enables the cutters to remain in their normal position, whatever weight may be brought to bear upon the frame. The cutting bar is portable, and on the removal of the platform can be folded across the body of the machine, and thus will go through any opening that will pass two horses abreast. The "Buckeye" is priced at 28*l.* It weighs 8½ cwts., and by the removal of the zinc platform is turned into a mower, and made a half cwt. lighter. The reaper is fitted with serrated knives, and has capacity for cutting a width of 5 feet. The "Buckeye" was managed on this occasion by one of the makers, Mr. Brigham, who, not having had time to send for a "tilter," acted in that capacity himself. The work was done steadily and uninterruptedly, the sheaves being laid down in exactly the same manner as by the other machines. The reaper wrought fair round the square, and was perfectly manageable at the corners, always driving fair out at the corner before commencing the swathe on the next side—the cutters being raised as it cleared the standing grain, and let down when the machine was wheeled in position. The "Buckeye" finished its allotted work in 46 minutes.

3. The other two lots were cut by machines made by Messrs. Brown & Young, Stirling, for whom Mr. John Farquharson, Broad Street, Aberdeen, is the agent for the North of Scotland. Lot No. 3 was cut by a double geared reaper, which weighs 9 cwt., and is sold for 24*l.* The characteristics of this machine are that the platform works on a universal joint, and suits itself to the unevenness of the land. It can also be folded up, so as to make its entrance at gateways easier. The motion is got from the wheel by a pinion, and the gearing is so set, that while turning at the corners, the knives are kept moving. The finger guards, or knife protectors, are 3½ inches apart. Several of these machines had been fitted up with the finger guards 3 inches apart, but it was found that, when cutting a very heavy crop, they were apt to get choked up, and this appears to be remedied by giving them a ½ inch more of pitch. In the last two or three swathes cut by this machine, the centre knives seemed to have got rather blunt, so that the reeds bent before them, and more straw was left at the root in the centre than on either side. The complement was cut, however, in shorter time than by any of the other machines, the time taken being 42 minutes.

4. The single-geared reaper, by Messrs. Brown & Young, is made on the same principle as the other. The only difference is that it wants one of the wheels, and having no universal joint, the platform cannot be raised, but then the cost of this reaper is only 21*l.* It is much lighter than the double-geared machine, but would not be so well adapted for cutting on hilly land. Both machines are fitted with serrated knives, and are capable of cutting a breadth of 5 feet 3 inches. The platforms are made so that, when a short crop is being cut, they can be reduced in breadth, which will facilitate the delivery of the sheaves. The fourth lot was cut by this machine in 46 minutes.

Before the reapers had done more than one-half of their allotted work, it became apparent to the judges that there would be great difficulty in deciding as to their merits. The cutting was in every case excellently done—far better than it would be possible to do it with hand labour. Not a single stalk was inverted in the sheaves as they lay after coming from the machine; and if the bandsters were particular in gathering their sheaves clean from the ground, the use of the time-honoured rake might be dispensed with. The judges expressed a desire to have the machines tested on a field bearing a heavy crop before they gave their decisions, which was of course carried into effect, Mr. Walker placing another field at their disposal.

The second field operated on was at Belquharn, a short distance to the south of the former one. There was no note taken of the quantity cut, the object being merely to test the efficiency of the machines in cutting a thick crop. The Oats was a crop after two-year-old lea. It was a very heavy crop, and a little laid in some parts. The reapers went through the work in the same satisfactory manner as on the former field, not the slightest appearance of choking being seen. The thickness of the crop allowed the tilter less time to do his work, as the sheaves were mor numerous and larger than on the lighter field. The judges were agreed as to the uniform efficiency of all the machines in the field, and from their equality in this respect more stress had to be laid upon their lightness and adaptability to the district; and their judgments were as follows:—

- A first prize to Samuelson & Co.'s one-horse power Eclipse Reaper, exhibited by Messrs. B. Reid & Co., Seedsmen, Aberdeen.
- A first prize to two-horse single-gear Reaper, exhibited by Messrs. Brown & Young, Stirling.
- A second prize to the Buckeye Reaper, exhibited by Messrs. Brigham & Bickerton.

The time occupied in cutting the above lots cannot be taken as a fair criterion of the quantity which the machines will uniformly cut. The horses were made to walk quicker than they could be expected to do at ordinary work, or than they could continue for a whole day. The breadth which the machines would cut was calculated at from 9 to 10 acres a-day, and in this respect no one of the reapers tried would differ much from the others. The number of binders required to follow a machine would of course depend very much upon the nature of the crop.

On the whole, this trial resulted most satisfactorily, and allowed many agriculturists who were present to compare for themselves the completeness of the different reapers. *Banffshire Journal.*

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## Ram Sales.

SHROPSHIRE.—The second great sale of the current year of Shropshire rams and ewes took place on Tuesday last, Mr. W. G. Preece being the auctioneer. Upwards of 150 rams and nearly 700 ewes, from the most noted flocks in the county, were included in the catalogue, and nearly all were disposed of at good prices, notwithstanding so large a number of first-clas sheep were sold at the July sale. Among the ram were many animals of great merit, but the absence of what may be considered prize sheep will account for the difference between the prices obtained at this sale and the previous one; still the result must be considered satisfactory to all concerned, and proves incontestibly that the breed of Shropshire sheep is at length not only recognised by the British farmer, but also duly appreciated. The first lot of rams introduced were those of Mr. Pembrey, and fetched 5 and 5½ guineas each. These were followed by 10 of the Rev. C. P. Peters's, which ranged from 5½ to 12 guineas. Mr. G. Adney's lot of eight averaged nearly 13*l.* each, the first, a two-shear,

fetching 21 guineas, and a yearling, 19 guineas. Of Mr. Evans's, of Uffington, 12 were sold at prices ranging from 5½ to 10 guineas. Mr. Stanier's, of Wroxeter, fetched from 5½ to 12 guineas, and Mr. Pryce Bowen's 22 sheep ranged from 6 to 14 guineas, the average being over 10*l.* 10*s.* Mr. Mansell's lot averaged about 10*l.* Mr. H. Matthews's yearlings fetched from 6 to 11½ guineas. Mr. Maddox's, of Harley, from 5 to 8½ guineas, and Mr. Thornton's from 5½ to 9½ guineas. Lord Wenlock's lot of four sold at from 5½ to 7½ guineas, and Mr. A. H. Minor's and Mr. Lee's, of Brompton, fetched similar prices. Messrs. Crane's rams, of which there were 11 sold, ranged from 5 to 15 guineas; and of Mr. Horton's, the two first, a two-shear and a yearling, were let for the season, the former for 20 and the latter for 10 guineas. Immediately after the last ram was sold, the sale of the ewes was proceeded with, and lot after lot was rapidly knocked down, until the whole were disposed of, at prices varying from 45*s.* to 80*s.* apiece. The ewes were chiefly from the flocks of the gentlemen above named, and also Mr. Evan Bowen, Mr. J. Preece, Cressage; Mr. Payne, Wilcott; Mr. Holder, Bayston; Mr. Dayus, Longnor; Mr. Meredith, Frodesley; Mr. T. Jones, Lyth; Mr. Poole, Chilton, &c.—*Shrewsbury Journal.*

Lincoln: *Mr. John Davy, Owersby, near Market Rasen.*—The 50 rams brought out on Monday last were Mr. Davy's first public attempt. The average made was upwards of 10*l.* for hire.

*Mr. Howard, Temple Bruer.*—There were 60 shearlings and 20 two-shear rams brought to the ring, the former making 780*l.* 10*s.*, or 10*s.* over 13*l.* each, the latter making 205*l.*, or 10*l.* 5*s.* each.

*Mr. Mayfield, Dogdyke.*—The number of rams for show this year was 100. The average, however, was 9*l.* 14*s.* 6*d.* each.

Lincoln Ram Fair.—*The Nocton Rise rams* by Mr. E. Howard, averaged 13*l.* 5*s.* There were 20 of these sheep.

*Mr. William Gilliat, of Martin, near Horncastle,* had 31 sheep. The 31 sold for 276*l.* 10*s.*, being an average of nearly 9*l.* each.

*The Thurlby Grange rams* were represented by 20 shearlings, and 3 two-shear rams. They made the good average of 11*l.* 2*s.* 6*d.* each.

*The Panton rams*, 30 shearlings with 8 let, making 308*l.*, or nearly 10 guineas each.

*The Nocton Heath rams* were 50 large and good sheep. The average price made on Friday was the topping one of exactly 14 guineas each.

[The above particulars regarding recent sales of Lincolnshire sheep are extracted from the full report given by *Bell's Messenger.*]

Leicesters: *Kelso, September* 11.—Throughout the forenoon the biddings were spiritedly given, and as an instance of the ready demand for sheep of established reputation, we may mention that Mr. Purves, Linton Burnfoot, was offered 1000*l.* down for his lot of fine rams, numbering 100—which offer, of course, he declined.

No. sold.
40. Mr. Thomson, Rutherford, highest price, 10*l.* 5*s.*; average, 4*l.* 15*s.* 6*d.*
100. Colonel Nisbet of Mersington, highest price, 9*l.*; average, 4*l.* 10*s.* 2*d.*
40. Mr. Wilson, Haymount, highest price, 10*l.*; average, 6*l.* 8*s.*
18. Mr. Cockburn of Menslaws, highest price 8*l.* 10*s.*; average, 5*l.* 17*s.* 6*d.*
22. Mr. Smith, Windywalls, highest price, 5*l.* 17*s.* 6*d.*; average, 4*l.* 8*s.* 6*d.*
15. Mr. Gibson, Windydoors (half-bred), highest price, 6*l.*; average, 4*l.* 5*s.* 6*d.*
30. Mr. Thomson, Little Ryle, highest price, 15*l.* 10*s.*; average 8*l.*
25. Mr. Ord, Chatto (half-bred), highest price, 8*l.* 5*s.*; average 4*l.* 1*s.*
55. Mr. Stark, Mellendean, highest price, 17*l.* 10*s.*; average 8*l.* 2*s.*
20. Mr. Brydon, Nether Barns (half-bred), selling at from 3*l.* to 6*l.*
38. Mr. Scott, High House, Alnwick, highest price, 7*l.* average, 4*l.* 17*s.* 9*d.*
8. Mr. William Yeats, highest price, 15*l.* 10*s.*; average, 6*l.* 3*s.* 4*d.*
29. Mr. Chisholm, Fenwick Steads, Belford, highest price, 22*l.*; average, 7*l.* 7*s.* 5*d.*
20. Messrs. Dinning, Nilestone Ridge, Haydon Bridge, highest price, 7*l.* 5*s.*; average, 4*l.* 6*s.* 9*d.*
36. Mr. John Dinning, Adderstone, Belford, highest price, 20*l.*; average, 8*l.* 5*s.* 1*d.*
35. Mr. Angus, Whitefield, Morpeth, highest price, 12*l.* 10*s.*; average, 7*l.* 10*s.* 8*d.*
28. Mr. Cairns, Branton, Alnwick, highest price, 9*l.* 10*s.*; average, 5*l.* 9*s.* 1*d.*
80. Rev. R. W. Bosanquet, Rock, Berwick, highest price, 28*l.*; average, 9*l.* 10*s.*
50. Mr. Davison, Brandon White House, Wooler; average, 5*l.* 2*s.*
30. Mr. Roberton, Harpertoun, highest price, 10*l.* 10*s.*; average, 5*l.* 5*s.*
65. Mr. Nisbet, Lambden, highest price, 11*l.* 10*s.*; average, 4*l.* 17*s.* 5*d.*
17. Mr. Tait, St. Cuthbert's, highest price, 9*l.*; average, 5*l.* 5*s.* 7*d.*
100. Mr. Purves, Linton Burnfoot, highest price, 24*l.*; average, 1[illegible]*l.* 12*s.* 3*d.*
70. Mr. Robeson, Springwells, highest price, 20*l.*; average, 8*l.* 8*s.* 11*d.*
55. Mr. Oliver, of Lochside, highest price, 8*l.* 5*s.*; average, 5*l.* 17*s.* 3*d.*
25. Mr. Torrance, Sisterpath, highest price, 20*l.*; average, 9*l.* 10*s.*
35. Right Hon. Lord Polwarth, highest price, 60*l.*; average, 21*l.* 7*s.* 3*d.*
30. Mr. Wotherspoon, Spotsmains, highest price, 8*l.*; average, 4*l.* 14*s.* 7*d.*
80. Mr. Simson, Courthill, highest price, 27*l.*; average, 11*l.* 16*s.* 6*d.*
15. Mr. Jameson, Nottylees, highest price, 12*l.*; average, 5*l.* 9*s.* 4*d.*
20. Mr. Bell, Lenton, highest price, 11*l.*; average, 6*l.* 1*s.* 6*d.*
25. Mr. Cunningham, Mount Robert, highest price, 4*l.* 2*s.* 6*d.*; average, 3*l.* 8*s.* 4*d.*
10. Mr. William Raw, highest price, 4*l.* 15*s.*; average, 4*l.* 0*s.* 6*d.*
66. Mr. Simson, Blainslie, highest price, 14*l.*; average, 7*l.* 2*s.* 1*d.*
6. Mr. John Greaves, highest price, 7*l.*; average, 5*l.* 15*s.* 10d.
15. Mr. Peake, Craigend (half-bred), highest price, 11*l.*; average, 6*l.* 8*s.*
12. Mr. Jackson, Fenwick Granary, highest price, 5*l.* 15*s.*; average, 4*l.* 17*s.* 1*d.*
58. Mr. William Robinson, Romanby, Northallerton, highest price, 13*l.*; average, 5*l.* 4*s.*
12. Mr. George Yeats, Studley, Ripon, highest price, 9*l.* 10*s.*; average, 5*l.* 12*s.* 3*d.*
20. Mr. Wilson, Woodhorn, Morpeth, highest price, 4*l.* 12*s.* 6*d.*; average, 4*l.* 3s. 1*d.*

Cheviots: *Beattock, Sept.* 10.—At the seventh biennial sale of Cheviot rams bred by Mr. James Brydon, Moodlaw, the rams—165 in number—and 21 lambs were shown during the forenoon. Only two five-year-old sheep were sold; these brought 8*l.* and 4*l.* respectively. 25 4-year old rams were sold at prices from 4*l.* to 63*l.*—the latter sum being realised for "Thorley," winner of four premiums; he was bought by Mr. Archibald, salesman, Duddingstone. The proceeds of the 3-year-olds were 350*l.*, and the average 14*l.*; the average of 1861 was 12*l.* 15*s.* 6*d.* The 3-year-old rams were 51 in number, and sold from 2*l.* 10s. to 45*l.*—the latter price being given by Mr. Aitchison, Linhope, for "Garwold Hornie." The proceeds of this lot were 492*l.* 15*s.*; the average 9*l.* 13*s.* 3*d.*; and the average of 1861, 8*l.* 18*s.* Of 2-year-old rams 60 were offered, and sold at prices from 2*l.* 5*s.* to 41*l.*—the highest price being given for "Ettrick," winner of three premiums; he was bought by Mr. Borthwick, Hopsrig. The proceeds amounted to 557*l.* 5*s.*, and the average to 9*l.* 5*s.* 9*d.*—the average of 1861 being 8*l.* 10*s.* 3*d.* The Dinmonts numbered only 27. The proceeds were 142*l.* 5*s.*, and the average 5*l.* 5*s.*—that of 1861 was 6*l.* 14*s.* Twenty-one lambs were sold at prices from 18*s.* to 2*l.* 12*s.* 6*d.*, the proceeds being 28*l.* 19*s.* 6*d.*

The total proceeds of the sale of 165 rams and 21 lambs are as follows:—Five-year-old rams, 12*l.*; 4-year old do., 350*l.*; 3-year-old do., 492*l.* 15*s.*; 2-year old do., 557*l.* 5*s.*; 1-year-old do., 142*l.* 5*s.*; lambs, 28*l.* 19*s.* 6*d.*—total, 1583*l.* 4*s.* 6*d.*

In Ireland: *Mr. Hamilton's Shropshire.*—The rams averaged 10*l.* 10*s.* each; the ewes, 3*l.* 2*s.* 6*d*; and 15 rams and 35 ewes still remain undisposed of. The King's Bridge Sale was unsatisfactory.

Lord Cloncurry, Leicesters. Average price, 8*l.* 2*s.* 2*d.*; highest price, 10*l.* 10*s.*; lowest, 7*l.* 7*s.*

Loftus H. Bland, Esq., Border Leicesters. Average, 9*l.*; highest, 21*l.*; lowest, 5*l.* 5*s.*

T. B. Browne, Esq., Cotswolds. Average, 11*l.* 0*s.* 9½*d.*; highest, 15*l.* 4*s.* 6*d.*; lowest, 6*l.* 6*s.*

Thomas Robertson, Esq., Border Leicesters. Average, 7*l.* 14*s.* 7*d.*; highest, 8*l.* 18*s.* 6*d*; lowest, 6*l.* 6*s.*

Ralph S. Cusack, Esq., Shropshires. All withdrawn but four.

Joseph Tuite, Esq., Shropshires. One sold and two withdrawn.

Phineas Riall Riall, Esq., good Leicesters. Withdrawn.

Wm. Owen, Esq., English Leicesters. Average, 10*l.* 14*s.*; highest, 20*l.* 9*s.* 6*d.*; lowest, 7*l.* 7*s.*

Thomas Mitchell, Esq., English Leicesters. Average, 8*l.* 6*s.* 7*d.* All sold.

George Thunder, Esq., English Leicesters. Average, 10*l.* 6*s.*; highest, 19*l.* 19*s.*; lowest, 7*l.* 17*s.* 6*d.*

Captain Wilson, first-rate Shropshires. One sold; remainder withdrawn.

Captain M. Filgate, Leicesters. One sold; remainder withdrawn.

T. Rutherford, Esq., Shropshires. Average, 7*l.* 8*s.* 4*d.*; highest, 10*l.* 10*s.*; lowest, 5*l.* 5*s.*

J. Farrell, Esq., Shropshires. Average, 6*l.* 1*s.* 1*d.*; highest, 7*l.*; lowest, 5*l.* 5*s.*

H. Cusack, Esq., Shropshire rams. One sold for 6*l.* 6*s.*; remainder withdrawn.

— Donovan, Esq., prime Shropshires. All withdrawn.

Representatives of J. H. Smith Barry, prime Shropshires. Average, 7*l.* 14*s.*; highest, 11*l.* 11*s.*; lowest, 5*l.* 15*s.* 6*d.*

Henry Purdon, Esq. One lot at 10*l.* 10*s.*; remainder withdrawn.

## Miscellaneous.

*Mr. Pawlett's Experiments with Wheat.*—Having been several times asked for a report of my Wheat crop of the present season, I will now present it, with your permission, through the columns of the *Messenger.* My experiments were on a small scale this year, as I had not any new varieties recommended to my notice, so that I again determined to test my old kinds of Wheat which have done so well with me, and found the result to agree with the account published in the *Messenger* of last season. I am not generally satisfied with one or two trials between the best kinds of Grain, and often repeat the experiments for three or four years; as the seasons vary so much, the produce of one kind may be greater one year than on the average of many. These experiments were made on a piece of sharp gravel land, which, owing to a very dry season, caused the crop to be very light in appearance; consequently, my report will show a less production per acre than may be expected from me in this prolific year. Had they been on my best land, I should have had from 10 to 12 bushels per acre more; nevertheless, the experiment may be quite as satisfactory, indeed, I am inclined to think that trials of the comparative value of different kinds of grain are best when made on secondary soils, as almost any sort of Wheat will produce well on first class. October 18, 1862.—The following three varieties of Wheat were drilled after the rate of 6 pecks of seed per acre, at 8-inch intervals on plots of land adjoining each other, a row being missed between them, on a piece of White Clover lea, the result of which trial was as follows:—

| | Produce per Acre. | | Value per Quarter. | Value per Acre. | | |
|---|---|---|---|---|---|---|
| | Bush. | Pk. | *s.* | £ | *s.* | *d.* |
| Burmah, white .. .. | 38 | 0 | 46 | 10 | 18 | 6 |
| Corner's, white .. | 43 | 1 | 48 | 12 | 19 | 6 |
| Grace's, white .. .. | 47 | 0 | 46 | 13 | 10 | 0 |

On the same day another trial was made in the same field, and under the same circumstances as the former; the result was as follows:—

| | Produce per Acre. | | Value per Quarter. | Value per Acre. | | |
|---|---|---|---|---|---|---|
| | Bush. | Pk. | *s.* | £ | *s.* | *d.* |
| Browick, red .. .. | 52 | 0 | 45 | 14 | 12 | 6 |
| Golden Drop, red .. | 50 | 1 | 45 | 14 | 1 | 0 |
| Tibbald's Wonder, red.. | 53 | 0 | 45 | 14 | 14 | 0 |
| Grace's, white .. .. | 52 | 2 | 46 | 15 | 1 | 6 |

The first experiment shows a greater difference in yield between Grace's Wheat and Corner's than I generally have found. This may be accounted for from the long continued drought, as the former grows much more straw than the latter. Grace's Wheat has produced, on the average of the last five years 46 bush. per acre, and Corner's 45. They are both very profitable sorts. I have grown the red "Tibbald's Wonder" the last four seasons, and the average produce has been 48 bush. 1 peck per acre. It has beaten this season the Browick and Golden Drop, both excellent sorts; so that it must be regarded as a first-class Wheat. The Wheat in this part of the country has been harvested in fine condition, and the yield is remarkably good. Many reports of the crops already threshed out are quite unprecedented. *T. E. Pawlett, Beeston, Sept.* 9, *in Bell's Messenger.*

*Agriculture in the Shetlands.*—A short tour to the north of Scotland has pleasantly occupied us since our last. The rain was a sad drawback during our visit to the Shetlands, and its endless vista of peat bogs, and the chances of harvest to a Southron, after such a wet July, seemed sadly remote. The sheep were a most varied and curious little race, the wool of the ewes all running to hair, while that of the lambs was nice enough. Some Scottish farmers have introduced Cheviots, and a cross with the Southdown and Cheviots as well. Short-horns have also made their way to the island of Brassey, with considerable success. From 500 to 600 of the native cattle are exported each year, and from 400 to 500 ponies, principally for the Newcastle coal pits, although it is said that they will soon be superseded there by machinery. The horse-ponies are principally used in this way. Shetlanders are rather careless about the style of sires; but still even the mare-ponies keep up their prices well; and in August, when we saw them, they were full of condition. Their power of carrying weight is only equalled by that of the Shetland women, one of whom we met scaling the hills with 56 lb. of hosiery on her back, and making nothing of it; and it is said that they can carry 70 lb. for miles in as good style as the Auvergnats in Paris. Owing to the lack of grass, the cows were very cheap, and one cotter's wife vainly pressed us to give her 2*l.* for a two-year-old bullock, and lead it the 18 miles which we had to walk back from the interior to the steamer. If the Shetlands are gradually improving (and people are not half alive yet to the value of the Shetland cow, both for park, milk, and beef purposes, and crossing with the Short-horn) the Orkneys are improving still more, and Shapinshey, under the watchful eye of its landlord proprietor, Mr. Balfour, of Balfour and Trenabie, is quite a model settlement of itself, with its cattle shows, and fairs, and volunteer artillery troop. In the Orkneys, generally, the crops are very fair—oats best—but rather behindhand, owing to the drought in June and July and the wet season which followed. Horses are singularly cheap. We bought a five-year-old mare of nearly 15 hands, which carried us 52 miles at a pinch through Caithness in one night, for 10*l.*, and fresh shoes all round for a luck penny; and a friend got an excellent Clydesdale mare, which had worked four or five seasons, for 12*l.* 10*s.*! Cattle keep up their prices well; and about 6000 are exported each year for Aberdeen, Banffshire, Edinburgh, Morayshire, &c. When the Channel Fleet was there last year the island furnished 6000 lbs. of meat per diem and supplies for 10 days more "without deranging the export by a single horn." The Turnips in Caithness are not very remarkable, as it was too wet in the spring and too dry in the summer to suit them; and the recent heavy rains will keep back a very promising harvest for at least a fortnight. Stock has been selling well, many of the top breeders getting rid of their yearlings, which are all wisely brought up at the teat and not by the pail, at about 1*l.* for each month's keep since their birth. Malachite is quite a Royal hero at Sir John Sinclair's, where he is being used as a cross for the Galloway cattle as well as the country cows. The former cross is one to which the Baronet has especially devoted his attention, and with no small success. Sir George Dunbar, on the contrary, crosses the Short-horn bull with country cows and Shetlanders. The calves of the latter cross very soon become as big as their dams, and

are thrifty good doers. Sir George has sold about 50 Leicester rams this year, reserving a first-prize shearling and a three-shear for his own use, the latter of which would, if we mistake not, have held his own well if he had gone to Kelso. *Illustrated News.*

*Land Drainage.*—"Many of those who drain extensively neglect to have a plan of the draining of each field made at the time that the work is done: a hint as to the advantage of this might be advisable." *The late Sir R. Peel to Mr. Gisborne.*

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | Reading of (At 9 A.M., Railway Time.): Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | | | | | | | | | | Inches. |
| Friday .. .. | Sept. 11 | .. | .. | .. | .. | .. | .. | .. | 48 | .. | .. | 1.98* |
| Saturday .. .. | 12 | 30.32 | 57 | 53 | N.W. | 0 | 9 | 68 | 44 | 76 | .. | .. |
| Sunday .. .. | 13 | 30.36 | 59 | 56 | N.W. | 1 | 9 | 61 | 51 | 72 | 42 | .. |
| Monday .. .. | 14 | 30.44 | 65 | 51 | N.W. | 2 | 10 | 65 | 41 | 78 | 33 | .. |
| Tuesday .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Wednesday .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Thursday .. .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

* This the result of a heavy thunderstorm on the night of the 9th, and very heavy rain on the night of the 10th.

## Notices to Correspondents.

BARLEY: *A Constant Subscriber* asks any of our correspondents to favour him with the names of any kinds of Barley fit for malting, that ripen before the Chevalier, and where they can be procured. [Any particulars of the South of Europe Barleys would be acceptable. The common or early English Barley is earlier than Chevalier. There is also a "*July* Barley" so-called.]

GROWING FLAX.—The following is the extent of Flax grown in Ireland in each of the following years:—1854, 151,403 acres; 1855, 97,075 acres; 1856, 106,311 acres; 1857, 97,721 acres; 1858, 91,646 acres; 1859, 136,282 acres; 1860, 128,595 acres; 1861, 147,957 acres; 1862, 149,889 acres. This last item has been recently published.

MEASURE: *T B.* The sack of Potatoes is in general 3 heaped bushels—in some places it is 4 bushels, in some places it is $1\frac{1}{4}$ cwt., in others 2 cwt., in others 240 lbs., in others 280 lbs. !

POTATOES: *G P.* says on digging my Potatoes I find a good crop, but many of the finest of them have the disease, now, I fear, a permanent one amongst us. To what use (if any) can I apply this refuse of the crop? [Steam them, put a little salt, and ram them hard into any tank or vessel you may have for pig food.]

PRODUCE OF WHEAT: *H V F.* It is not possible to state absolutely what is the average produce of Wheat for soils of given annual value to rent, because a soil which will not grow Wheat at all (so to speak) may yet have a considerable agricultural value for other purposes. Still less is it possible to state the farm produce of such land for any one year, because two fields of equal value to rent may be affected the one favourably and the other unfavourably, by such a summer as we had this year. Nevertheless, taking the case of land neither heavy nor light, we should be inclined to say that if worth 30*s.* an acre to rent, it ought to yield 30 to 32 bushels of Wheat; if worth 25*s.* it ought to yield 24 to 26 bushels of Wheat; if worth 20*s.* it may yield 18 to 22 bushels; if worth 15*s.* per acre only you can hardly expect to grow Wheat on it at all.

THE MORTON-LE-MOOR HERD OF SHORTHORNS: *R.* The following was the result of the sale of a portion of this herd by Mr. Strafford the other day. The highest price given was 105 guineas for *Water Maid*, by Mr. G. R. Barclay, Keavil, Fife. That portion of the herd just offered for sale comprised 56 females and 10 males. The remainder, numbering about 50 bulls, cows, and heifers, will be sold on the 15th October. The following is a summary of the late sale:—57 cows and heifers realised 2290*l.* 1*s.*, being an average of 40*l.* 3*s.* 6*d.*; 10 bulls realised 263*l.* 11*s.*, being an average of 26*l.* 7*s.* 1*d.* The total proceeds of the sale amounted to 2533*l.* 12*s.*, so that the 67 head of cattle averaged 38*l.* 2*s.* 3*d.*


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☞ *For prices see Advertisement of August* 1.

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### ENGLISH SHEET GLASS.

Packed in Crates of about 280 feet.

| | 16-ounce. | 21-ounce. |
|---|---|---|
| Best ... ... | $5\frac{1}{2}d.$ ... | $7\frac{1}{4}d.$ |
| Seconds ... ... | $3\frac{3}{4}d.$ ... | $5d.$ |
| Thirds ... ... | $2\frac{1}{2}d.$ ... | $3\frac{1}{2}d.$ |
| Fourths ... ... | $2\frac{1}{4}d.$ ... | $3\frac{1}{4}d.$ |

### HORTICULTURAL GLASS.

Stock Sizes, 16-ounce. In 100 feet Boxes.

These prices only apply to the sizes stated.

| | | | | 4ths. s. d. | 3rds. s. d. | 4ths. s. d. | 3rds s. d. |
|---|---|---|---|---|---|---|---|
| 11 by 9 | 12 by 9 | 13 by 9 | 14 by 9 | | | | |
| 12 „ 10 | 13 „ 10 | 14 „ 10 | 15 „ 10 | 10 9 | 12 3 | 12 6 | 14 |
| 13 „ 11 | 14 „ 11 | .. | .. | | | | |
| 14 „ 12 | 15 „ 12 | 15 „ 11 | 16 „ 11 | | | | |
| 18 „ 12 | 19 „ 12 | 16 „ 12 | 17 „ 12 | | | | |
| 16 „ 13 | 17 „ 13 | 20 „ 12 | 21 „ 14 | 11 6 | 13 6 | 13 6 | 16 0 |
| 19 „ 13 | 20 „ 13 | 18 „ 13 | .. | | | | |
| 16 „ 14 | 17 „ 14 | 21 „ 13 | .. | 14 to 15 ozs. | | 16 to 17 ozs. | |
| 19 „ 14 | 20 „ 14 | 18 „ 14 | .. | to the foot. | | | |

HARTLEY'S

### PATENT ROUGH PLATE GLASS.

Packed in Boxes of 50 feet each.

| | s. | d. | |
|---|---|---|---|
| 6 by 4 and $6\frac{1}{2}$ by $4\frac{1}{2}$ ... ... | 10 | 6 | per box. |
| 7 „ 5 „ $7\frac{1}{2}$ „ $5\frac{1}{2}$ ... ... | 12 | 0 | „ |
| 8 „ 6 „ $8\frac{1}{2}$ „ $6\frac{1}{2}$ ... ... | 13 | 6 | „ |
| 9 „ 7 „ $9\frac{1}{2}$ „ $7\frac{1}{2}$ and 10 by 8 ... | 15 | 0 | „ |

### GLASS for ORCHARD HOUSES.

As supplied by us to Mr. Rivers, to the Royal Horticultural Society, and to most of the Nobility, Clergy, and Gentlemen of the United Kingdom.

| | | 14 to 15 ozs. | 16 to 17 ozs. | 21 ozs. |
|---|---|---|---|---|
| 20 by 12 | Fourths ... | 11*s.* 6*d.* | 13*s.* 6*d.* | 15*s.* 0*d.* |
| 20 „ 13 | Thirds ... | 13*s.* 6*d.* | 16*s.* 0*d.* | 19*s.* 0*d.* |
| 20 „ 14 | Seconds ... | ... | English. | English. |
| 20 „ 15 | Best ... | ... | 18*s.* 0*d.* | 23*s.* 0*d.* |

The above prices include the Boxes.

We recommend 3rds quality at 16*s.*, or 21-ounce at 19*s.* (as supplied to Mr. Rivers). Best and Seconds are intended only for pictures or dwelling-houses.

### SMALL SHEET SQUARES.

In 100 feet Boxes.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | $6\frac{1}{2}$ by $4\frac{1}{2}$ | 7 by 5 | $7\frac{1}{2}$ by $5\frac{1}{2}$ | 11*s.* 6*d.* |
| 8 „ 6 | $8\frac{1}{2}$ „ $6\frac{3}{4}$ | 9 „ 7 | $9\frac{1}{2}$ „ $7\frac{1}{2}$ | |
| | | 10 „ 8 | $10\frac{1}{2}$ „ $8\frac{1}{2}$ | 12 6 |

Boxes 2*s.* each, returnable at full price.

All small squares from 6 by 4 to $10\frac{1}{2}$ by $8\frac{1}{2}$ are cut from pieces, consequently there is only one quality.

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|---|---|---|
| No. 5.—30-inch Machine .. | £15 15 0 | .. 30*s.* extra. |
| No. 6.—28-inch Machine .. | 14 10 0 | .. 30*s.* „ |
| No. 7.—25-inch Machine .. | 12 10 0 | .. 25*s.* „ |

Silent Movement, 12*s.* 6*d.* extra; Boots for Pony, 21*s.* per set; ditto for Donkey, 16*s.* per set.

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| Width of Cutter. | | |
|---|---|---|
| No. 11.—16-inch Machine | £6 17 6 | *Easily Worked by a Man.* |
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|---|---|---|---|---|
| Diameter | 30 inches, | length | 32 inches .. | .. £7 0 0 |
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"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

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E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, &c.

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No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14 0

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1½-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4
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By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

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4½-inch LIQUID MANURE PUMP, with legs, 2l. 15s.; 2-inch Flexible Rubber and Canvas Suction Pipe, 2s. 5d. per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

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**Hyacinths, Tulips, &c.**

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| 12 FINE NAMED HYACINTHS .. .. .. | | 6s. 0d. |
| 12 CHOICER Ditto .. .. .. .. .. | | 8 0 |
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| 100 DOUBLE VAN THOL Ditto .. .. .. | | 8 6 |
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| 100 LARGE BLUE CROCUS, 1s. 6d. .. .. | 1000 | 12 6 |
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All the above are the finest imported. For other BULBS see LIST, post free.

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E. G. HENDERSON AND SON'S DESCRIPTIVE LIST of BULBS as a Guide for the Amateur's selection is now published, and will be forwarded post free on application.

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HYACINTHS, choice by name, 6s., 8s. and 9s. per doz.
Do., MIXED in colours, 3s per doz.
Do., BEDDING VARIETIES, in kinds, each colour, 4s. per doz.
Do., MINIATURE FLOWERED VARIETIES, 3s. per doz.
TULIPS for Forcing, 6d. to 1s. per doz.
Do. EARLY SINGLE, and DOUBLE MIXED, 5s. and 6s. per 100.
Do., LATE, show varieties, mixed, 1s. per doz.
SNOWDROPS, single and double, 2s. per 100.
WINTER ACONITES, 2s. 6d. per 100.
CROCUS, in sorts, 1s. 6d. and 2s. per 100.
SCILLA SIBIRICA, 7s. 6d. per 100.
ANEMONES, 3s. 6d. and 5s 6d. per 100.
RANUNCULUS, 3s. to 5s. per 100.
AMARYLLIS, by name, 3s. 6d. each.
GLOXINIAS, by name, 9s. and 12s. per doz.
ACHIMENES by name, 2s. 6d. and 3s. per doz.
GLADIOLUS BRENCHLEYENSIS, 3s. per doz., 20s. per 100.
" GANDAVENSIS, the finest collection offered in England.
CYCLAMEN, a choice collection of 30 varieties by name.
OXALIS, by name, 40 varieties offered.
IXIAS, mixed, 1s. per dozen; 40 varieties in collection offered, the inferior kinds discarded.
BABIANA, SPARAXIS, and TRITONIAS each 1s. 6d. per dozen.
LILIES, 60 fine varieties offered.
TRITOMA UVARIA, 12s. per doz.
TRITONIA (CROCOSMA) AUREA, 3s. per doz.
EARLY SPRING-FLOWERING PLANTS, in various colours, as HEPATICAS, DOUBLE PRIMROSES, VIOLETS, CHRISTMAS ROSE, and 60 other early-flowering perennials.
Strong Clumps of NEAPOLITAN and other VIOLETS in pots for winter blooming.
Do. LILY of the VALLEY.

Wellington Nursery, St. John's Wood, London, N.W.

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JOHN KERNAN, SEEDSMAN, 4, Russell Street, Covent Garden, W.C., has the pleasure of announcing that the DUTCH and CAPE BULBS, just received, are in the choicest condition, especially the Hyacinths, Tulips, Crocus, Narcissus, &c. Hyacinths, particularly large and extremely fine, are now offered at 6s. per dozen, including all the varieties puffed as bargains at 9s. by provincial advertisers, who the more readily to gull the public to think them so hold out as a bait the sending of them carriage free, for which purpose 6d. or 1s. at the utmost would be required.

J. K. also offers excellent Hyacinths, in separate and distinct colours, at 2s. 6d. per dozen, quite equal if not superior to those advertised by puffing houses at 3s. 6d. per dozen; Intermediate Stock, Calceolaria, Cineraria, and Primula, from the finest collections, together with every description of Flower Seeds, including the latest novelties, which may be depended on.

J. K. recommends for immediate sowing (for winter and spring use), Winter Spinach, No Plus Ultra Cabbage, Hardy Green Cabbage Lettuce, Lisbon Onion, Green Curled Endive, Olive Radish, Snowball Turnip, Ash-leaf and Handsworth Early Potatos (for forcing), Sion House and other early Cucumbers, Mushroom Spawn, &c. Also as early food for cattle, Imported Italian Rye grass, Trifolium incarnatum, Winter Tares, St. John's Day Rye, Alsike Clover, all the finest varieties of natural Grasses, separate or mixed, for Permanent Pasture, Aira cæspitosa (most suitable for Game covers), &c.

J. K. has constantly on sale Garden Syringes, Fumigators, Aphis Brushes, Japan Flax, Cuba Bass, Knives (warranted the manufacture of GEO. HALL & SON, whose superiority over all competitors since the death of Mr Saynor, to whom the head of this firm was Foreman, is universally acknowledged by all Gardeners), and all other Garden Utensils. The Trade supplied.

CATALOGUES to be had on application.

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OUVIRANDRA BERNERIANA.—Having succeeded in raising a few Seedlings of this extremely curious and beautiful plant, we beg to offer healthy young plants of six or seven leaves at 31s. 6d. each.

O. Berneriana was exhibited at the Great Show of the Royal Horticultural Society, June 17th, and awarded the First Prize; and at the Great Show of the Royal Botanic Society, June 24th, and then also awarded the First Prize.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

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## THE VICTORIA NECTARINE (Rivers).

# MESSRS. THOS. RIVERS & SON

**now offer Trees for Sale of this new and delicious Fruit, at 10s. 6d. each,**

CARRIAGE PAID TO LONDON.

The Tree was raised from a stone of the Violette Hâtive Nectarine, the flower of which had been fertilised with the pollen of the Stanwick Nectarine. It bore fruit in 1861; was awarded a First-class Certificate by the Fruit Committee of the Royal Horticultural Society in September of that year, and was named as above.

The Tree has the small flowers of the Violette Hâtive; the fruit is of the same shape, and nearly as bright in colour; large, often measuring 9 inches in circumference, and like that of a bright crimson near the stone; in this respect totally unlike the Stanwick, which is white at stone. It has the true flavour of the Stanwick, with all its fine aroma and sugary richness. It ripens a fortnight after the Violette Hâtive, and about the same period before the Stanwick (at a season when fine Nectarines are scarce), thus proving the most perfect cross-bred fruit ever raised.

The Trees offered are—1st, MAIDEN TREES in pots, all full of blossom buds from having been grown under glass, and all capable of bearing next season; 2d, SMALL TRAINED TREES, with three branches, for walls; 3d, STANDARD and HALF STANDARD MAIDEN TREES from the open ground; 4th, a few large bearing PYRAMIDS, in pots, at 21s. each.

NURSERIES, SAWBRIDGEWORTH.

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# THE ILLUSTRATED FLORAL GUIDE

TO

## WINTER AND SPRING GARDENING,

SHOWING HOW FLOWERS MAY BE HAD IN SEASON FROM DECEMBER TO MAY.

**Bulbs for the Adornment of the Spring Garden, Conservatory, and Sitting Room.**

(For Collections, see our Advertisement, page 886 of *Gardeners' Chronicle*, Sept. 19.)

| | per dozen. | per 100. | | per dozen. | per 100. |
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| HYACINTHS .. .. .. | 2s. 6d. to 15s. | 18s. to 100s. | RANUNCULUS .. .. | 6d. to 2s. 6d. | 2s. to 10s 6d. |
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| CROCUS.. .. .. .. | 4d. to 8d. | 1s. 6d. to 4s. 6d. | SCILLAS .. .. .. | 1s. 6d. to 4s. 6d. | 10s. 6d. to 14s. 6d. |
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For PRICED and DESCRIPTIVE LISTS of BULBS necessary for Winter and Spring Gardening, with the best methods of successfully cultivating and advantageously arranging them, see

**BARR & SUGDEN'S**

## ILLUSTRATED FLORAL GUIDE TO WINTER AND SPRING GARDENING.

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ESTABLISHED UPWARDS OF A CENTURY.

# BUTLER & McCULLOCH,

COVENT GARDEN MARKET, LONDON, W.C.

*All Orders amounting to 21s. sent Carriage Paid.*

**COLLECTIONS of BULBS for GREENHOUSE or CONSERVATORY.**

Purchasers who may not require all the sorts mentioned, can have increased quantities of other kinds, or if they think proper, may select from the Catalogue to the amount. The numbers in the columns indicate the quantity of Bulbs in each Collection.

| | No. 1. £5. | No. 2. £2 10s. | No. 3. £1 5s. | No. 4. £1 1s. | No. 5. 10s. 6d. |
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| HYACINTHS, for Pots, Glasses, or Moss, named varieties .. | 60 | 30 | 15 | 15 | 12 |
| POLYANTHUS NARCISSUS, do. do., do. .. | 26 | 13 | 6 | 6 | 3 |
| TULIPS, single, do. do., do. .. | 50 | 25 | 12 | .. | .. |
| " double, do. do., do. .. | 50 | 25 | 12 | .. | .. |
| " DUC VAN THOL, single .. .. .. .. | 25 | 12 | 6 | 6 | 12 |
| " " scarlet .. .. .. .. | 12 | 6 | 3 | 3 | .. |
| " " rose .. .. .. .. .. | 12 | 6 | 3 | 3 | .. |
| " " yellow .. .. .. .. | 12 | 6 | 3 | 3 | .. |
| JONQUILS, double, sweet-scented.. .. .. .. .. | 12 | 6 | 3 | 3 | 3 |
| " single, " .. .. .. .. .. | 12 | 6 | 3 | .. | .. |
| LILIUM LANCIFOLIUM .. .. .. .. .. .. | 3 | 2 | 1 | 1 | 1 |
| IXIAS .. .. .. .. .. .. .. .. | 25 | 12 | 6 | 6 | 3 |
| SPARAXIS .. .. .. .. .. .. .. | 25 | 12 | 6 | 6 | 3 |
| BABIANA .. .. .. .. .. .. .. .. | 6 | 3 | 1 | 6 | 3 |
| CYCLAMEN .. .. .. .. .. .. .. .. | 6 | 3 | 2 | 1 | .. |
| VALLOTA PURPUREA .. .. .. .. .. .. | 1 | 1 | 1 | .. | .. |
| AMARYLLIS FORMOSISSIMA .. .. .. .. .. | 12 | 3 | 3 | 3 | .. |
| NEWEST SEEDLING CROCUS, named varieties .. .. | 200 | 100 | 50 | 50 | 50 |
| SCILLA SIBIRICA .. .. .. .. .. .. .. | 12 | 6 | 6 | 3 | 3 |
| OXALIS SPECIOSA .. .. .. .. .. .. .. | 25 | 12 | 6 | 6 | 3 |
| TROPÆOLUM JARRATTII.. .. .. .. .. .. | 1 | 1 | .. | .. | .. |
| IRIS PAVONIA .. .. .. .. .. .. .. | 6 | 3 | 3 | .. | .. |

## ROYAL HORTICULTURAL SOCIETY, FLORAL COMMITTEE.

LIST OF AWARDS, September 22, 1863.

FIRST-CLASS CERTIFICATE.

PELARGONIUM BEAUTY, from Messrs. E. G. Henderson & Son, St. John's Wood
HOLLYHOCK NEATNESS, from Messrs. Downie & Co., Sydenham
DAHLIA WILLIE AUSTIN, from Mr. W. Keynes, Salisbury
DAHLIA NONSUCH, from Mr. Legge, Edmonton
DAHLIA ENCHANTRESS, from Mr. Legge
DAHLIA FAIRY QUEEN, from Mr. Alexander, Leyton

SECOND-CLASS CERTIFICATE.

ERANTHEMUM TUBERCULATUM, from Messrs. Veitch & Son, Exeter and Chelsea
ERANTHEMUM (?), from Messrs. Veitch & Son
DIANTHUS HYBRIDUS MULTIFLORUS, from Messrs. E. G. Henderson & Son
DIANTHUS HYBRIDUS STRIATIFLORUS, from Messrs. E. G. Henderson & Son
DIANTHUS HYBRIDUS MARIE PARÉ, from Messrs. E. G. Henderson & Son
PELARGONIUM PRINCESS OF WALES, from Mr Wills, Oulton Park
HOLLYHOCK LORD CLIFDEN, from Messrs. Downie & Co.
DAHLIA COUNTESS (Fellowes), from Mr. Turner, Slough
DAHLIA FAVOURITE (Fellowes), from Mr. Turner
DAHLIA MISS HERBERT, from Mr. Keynes

COMMENDATION.

CHEIRANTHUS MARSHALLII VARIEGATUS, from Messrs. E. G. Henderson & Son
PELARGONIUM VOLCANO, from Mr. Wills
DAHLIA EREBUS, from Mr. G. Rawlings, Bethnal Green

SPECIAL CERTIFICATE.

To Messrs. Veitch & Son, for Lapageria rosea v. albiflora
To Messrs. Downie & Co., for a Collection of 36 Hollyhocks

The NEXT MEETING will take place on the 6th of October.
THOMAS MOORE, Secretary to the Committee.

# The Gardeners' Chronicle.

## SATURDAY, SEPTEMBER 26, 1863.

MEETING FOR THE ENSUING WEEK.

FRIDAY, October 3 { Royal Horticultural (Election of Fellows) at South Kensington .. .. 2 P.M.

As the schedules of next year's flower shows have not yet appeared,—though by the by it is high time that those having reference to spring shows should be in the hands of intending exhibitors—there is still an opportunity of formally objecting to the system followed by some of our great societies, of REWARDING NEW PLANTS by medals of intrinsic value. It may have been all very well in days gone by, when the number of novelties produced in the course of a season bore some proportion to the number of medals assigned as prizes for new plants; but it is far otherwise now, when introductions have so much increased, that at a single show—*e. g.* that of last July at South Kensington—we get, exclusive of seedling flowers, no fewer than 110 subjects entered, amongst which there are, when the schedule is strictly interpreted, only a dozen medals to be distributed. These medals, too, it must be remembered, include three different values, so that it is impossible in most cases to award them without doing flagrant injustice. The fact is, that out of 110 plants such as our plant-seekers now send us from the four corners of the earth, there would in all probability be more than a dozen deserving of the very highest reward. If the whole of the available medals were of the highest value and no others were given, no further injustice would be perpetrated than that of neglecting subjects of secondary interest; but it is manifest that when four medals would indicate a first prize, four a second prize, and the other four a third prize, and these are absorbed by the 12 best plants shown amongst the 110, all 12 being in such a case, beyond all doubt, first-class plants, there must be a great wrong done even to two-thirds of the rewarded subjects, to say nothing of second and third-rate unrewarded plants, whose proper medals had been thus improperly diverted from them.

Practically the difficulty is not quite so great as this, because the merit of the subjects exhibited compels the duplication to some extent of the several medals, so that, following up our selected illustration, we find that there was actually awarded on the occasion referred to, no less than seven medals of the first-class, ten of the second, and eleven of the third. But this was by no means a remedy for the injustice of which we complain. The 28 best subjects—if the censors were correct in their judgment—were no doubt rewarded; but in all probability the eleven which were thus stamped as third-class plants ought not to have been so branded; and of the surplus it is certain that many went unrewarded that deserved to have received something besides neglect.

We say that under this system, which necessarily restricts the number of the awards made, it is impossible that justice should be meted out on either hand. The position of the two or three leading subjects, no less than that of those placed beneath them, is falsified when, as we are assuming and as experience generally proves to be the case, there are more than enough of first-class plants to receive the first-class medals. The prizes must, under such circumstances, go according to the bias of the censors—the bias, we mean, not for the persons of the exhibitors but for particular classes of plants, amongst which every one naturally enough has his favourites. The position of the plants to which are assigned the inferior medals, is, as we have already shown, almost necessarily falsified. The whole thing thus becomes a sham, inasmuch as the prizes do not, as they ought to do, represent the relative importance and merit of the plants to which they are given.

But over and above all this there is a financial objection to the present system. We have seen that it necessitates the duplication of medals which are often costly, so that practically a Society thus offering medals for New Plants does not really know the amount of liabilities it is incurring. This is wrong in principle, even though the amount involved may not be ruinous, or indeed such as to occasion serious inconvenience. But then, we say, that SOCIETIES OUGHT NOT TO GIVE MONEY PRIZES FOR NEW PLANTS AT ALL. We are by no means for restricting the amount of prizes given for collections or specimens involving cultural skill in their production, inasmuch as we are convinced that the producers of such things are not overpaid for the unremitting care and the skill which must be brought into play before a successful issue can result; but the case is very different with new plants. They are shown for trade purposes in almost every case, the ultimate object being to obtain either a good price for the "stock" of a novelty, or an abundance of orders for the plant when "let out." The real reward therefore for the exhibitor of new plants, lies in the notoriety thus secured, (1) by placing the plant itself thus prominently before a crowd of admirers, some of whom it is presumed will become purchasers, and (2) by the certification of merit which the fact of its obtaining an award conveys to the whole mass of the gardening public not present to judge for itself. THE PROPER REWARD THEREFORE FOR A NEW PLANT IS A CERTIFICATE OF MERIT OF THE FIRST, SECOND, OR THIRD CLASS; AND EVERY NEW PLANT SHOWN IN PUBLIC OUGHT TO HAVE ONE OR THE OTHER, UNLESS IT IS SO INFERIOR AS TO BE UTTERLY WORTHLESS. A certificate gained at a public meeting or exhibition—for there should be no difference—would then as it ought to do convey to the remotest corners of the land, yea throughout Europe or wherever gardening is cared for, a *fair* assurance of the degree of merit possessed by the plant to which it had been assigned. This is so—barring occasional errors of judgment—in the awards of a body like the R.H.S. Floral Committee; but it is not so at the great shows even of the same society, where a third prize has no sort of parallelism with a third-rate plant, as it ought to have. Nor can this assurance be conveyed by the prize list of a great show while the medal system, or what is quite as bad, the money-prize system, is followed.

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THE appearance again at their appointed season, of the blossoms of the BELLADONNA LILY, tempts us to claim for it some consideration as a neglected flower. Surpassingly lovely as are the delicately tinted flowers, and easily as the plants are to be procured and grown, they are not by any means common in gardens, notwithstanding that they appear at a time when most out-door flowers are waning, and when consequently any that come in fresh like them should be doubly welcome.

The bulbs of these so-called Lilies, which, however, belong to the very distinct family of Amaryllids, may be had in the shops for 5*s.* the dozen; and they may be grown in any deep dry loam without the least difficulty, if one or two simple rules are observed. (1.) They should be planted at least 6 inches below the surface of the ground. (2.) A situation near the foot of a south wall or the front of a greenhouse or conservatory should be allotted to them. (3) In severe seasons a little protection in the shape of mulching may be given. This last, however, is not absolutely necessary, if the deep planting is observed, and the situation is at all sheltered.

We may here add a few of the observations of the late Dean HERBERT, who was particularly versed in all matters relating to bulbs. He writes thus: "These bulbs are natives of the Cape of Good Hope, and are naturalised in Madeira, having been probably disseminated from gardens. They are exceedingly hardy, but two things are necessary to their flowering, a strong growth of the leaves, and absolute rest from midsummer till the period of flowering in September. If the leaves sprout early, and are so much damaged by severe frosts that a vigorous growth does not ensue in spring, or if they are prevented by drought in the spring from developing themselves, or are preserved green by a wet summer after the period of rest, or if they have not moisture in September to promote the blossoming, it will fail. * * At Spofforth, the bulbs of Amaryllis Belladonna are placed at 2 feet distance from the front wall of a stove and greenhouse; and there in a favourable season near 200 stems rise in September in thick patches. I have seen 30 stems in close contact. A rich and even strong and manured soil is agreeable to them, and a south wall promotes the drying of the roots in summer. They very rarely flower with me in the middle of the garden. The proper treatment of all greenhouse bulbs that flower before the appearance of the leaf in autumn, is to promote a vigorous growth of leaf in as airy a situation as may be found suitable to their respective constitutions, to keep them hot and dry while at rest, and to water them freely when the time for vegetation arrives."

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—— THERE are some things which appear to be especially deserving of mention in the FLORAL DECORATIONS OF BATTERSEA PARK, beyond the general praise which is due for the manner in which these decorations have been carried out. First, a row of the STELLA NOSEGAY PELARGONIUM entirely eclipses all the other scarlet varieties, of which very large quantities, in considerable variety, are planted. The plants of Stella bloom profusely, the habit is moderately vigorous, and the large trusses of flowers are so effective as to make other varieties of the ordinary character appear paltry and insignificant. Whatever may be yet in store for us in this way, and report whispers something of the superiority of one called Cybister, there can be no question that Stella has proved herself to be a grand acquisition for flower-garden purposes. Second, a bed of COLEUS VERSCHAFFELTII forms a dense mass of the richest colour, and is extremely handsome as a mass of its peculiar colour, which is a rich red-brown with a dash of purple. This bed fixes the attention of all who go near it, the plant being perfectly healthy and happy in its position, short-jointed, and thickly set with leaves, which are perhaps rather smaller than in vigorous indoor pot-grown examples of the same kind. One circular bed, 6 or 8 feet across, and edged with Centaurea ragusina is the most perfect thing we have seen. It also entirely fills, excepting a very narrow edge of Cerastium or something of that kind, another bed of considerable diameter—10 or 12 feet at least—and as a mass of its own rich-looking and very striking colour, nothing can be more satisfactory on a bright cheerful day. Third, in one part of the park a few beds are edged with CLIPPED CERASTIUM, which is allowed to rise 3 or 4 inches in height, and about the breadth of an ordinary Box-edging. The plant is entirely clipped in to a smooth even surface. The effect is very good, and suggestive of the fitness of such a mode of treatment to produce the effect of neat stone edging in a formal terrace garden. Fourth, the red-leaved AMARANTHUS MELANCHOLICUS has in one part of the park, by dint of pruning and shortening, been made to form lines well furnished with leaves, and about a foot in height. These leaves being very distinct in colour from the Coleus, more of a red purple, and the colour being effective, especially in a bright light, the plant must be set down as a flower-garden acquisition. The present season has no doubt been particularly favourable both for the Coleus and Amaranthus, but under such circumstances as they have this summer enjoyed, these plants appear to be preferable to the Perilla, being of brighter and richer colours. Some other points of interest we may notice hereafter.

The modern system of park flower gardens has been carried out to a very great extent, and we must add with very great success at Battersea, under the experienced management of Mr. GIBSON, and the ground being well diversified with irregular groups of trees and shrubs, around the margins of which the flowers are disposed, the conditions generally admitting of their appearance in grand flowing curves, the result is certainly very much more satisfactory than when existing established trees are sacrificed to a mania for the setting up of formal parterres in such inappropriate places as the generality of our London parks. We cannot however resist the conviction that flower-gardening is a little overdone even at Battersea, although, from the nature of the arrangements, it is less obtrusively so than in some places that could be mentioned.

—— We have to add to our memoranda concerning SEEDLING DAHLIAS at p. 890, a few notes arising out of the awards made at the meeting of the R. H. S. Floral Committee on the 22d inst., the favourable weather having permitted a very considerable display of these flowers to be made on that occasion. The awards consisted of four First-class and three Second-class Certificates, and one Commendation. Of the four first, LEGGE'S Enchantress had already twice gained a Second class, and LEGGE'S Nonsuch had been Commended, the other two being KEYNES' Willie Austin and ALEXANDER'S Fairy Queen. The last is a model in form, and of full size, but unfortunate in its colour, which is a sort of creamy blush, deeper in the

outer florets, and tipped at their back with purple, the whole bloom becoming more strongly flushed with rose as it gets older; it is the most perfect in form of any of the novelties of this season which we have seen. Willie Austin is a flower of full size and presenting many points of excellence, the colour being a golden amber. This particular class of flowers seems on this occasion to have been in favour with the Committee, no fewer than three of the eight rewarded varieties belonging to it, though slightly varying as they were more or less flushed with some deeper hue. Nonsuch, which gained a Commendation early in the season, was now of full size and well brought out, the colour a buff yellow stained behind with rose. Enchantress was much improved in character, while size, regularity, depth, and such like technical points, were well marked; the colour was, however, a little varied by the touch of autumn, the florets being now of a straw colour, deepest at the base, and the tips well developed, of a bright rose. Oh that we could see flowers thus marked with a pure white ground colour!

Of the Second-class set, Keynes' Miss Herbert is another of the amber-coloured group; its buff yellow florets stained at the back with purple, therefore approaching nearer to those of Nonsuch than of Willie Austin; the blooms shown were rather young, but it is no doubt a flower of merit. Countess and Favourite, both shown by Mr. Turner, were raised by the Rev. C. Fellowes; the former is a large deep built creamy white, the latter a large and showy bright amaranth purple. The Commended flower was Rawlings' Erebus, a medium-sized variety of an intensely dark maroon colour, the award being made on account of this marked intensity of colouring.

One or two other striking varieties may be named. Mr. Hopkin's Brunette, which was again shown, seems to get more strongly coloured as autumn comes on, but perhaps was not on this occasion equal in quality to what it was on the 9th inst. Burgess's Chelsea Hero, too, one of the amber class with lilac backs, was shown again of good quality. Morse's Lord Clifden, a sort of improved Stafford Gem, is a very promising flower, but was not brought forward in good condition; its colour is purple, just tipped with yellow, and its size large. Perry's Proserpine, too, is a very showy flower, a deep maroon crimson, distinctly tipped with white. There was a considerable sprinkling of the dirty-looking stripes, but the more we see of them the less we are able to admire them.

## New Plants.

### 259. Larix Lyallii, *Parlatore, January*, 1863.

L. "coma pyramidali, ramis subhorizontalibus, (fuscis), ramis annotinis, lanato-arachnoideis, canescentibus, ramulis gemmiferis ovali-globosis, perulis brevissimis, imbricatis, rotundatis, (fuscescentibus), margine longe fimbriato-arachnoideis, foliis numerosissimis (40-50 in quoque fasciculo, 22-33 mill. longis, ½-⅔ mill. latis), utrinque subcarinatis, obtusiusculis, curvatis, erecto-patulis, molliusculis, amentis masculis oblongis, obtusis, (8-10 mill. longis, 4 mill. latis) primum subsessilibus, dein pedicello breviusculo munitis, basi perulis latiusculis, obtusis, fimbriatis cinctis, amentis fœmineis reflexis, oblongis, obtusiusculis, (4-5 cent. longis, 2 cent. fere latis), bracteis late ellipticis, margine apicem versus crenulatis, (castaneo-fuscis) nervo medio dilutiore in cuspidem longam, subulatam, patulam, squama multo longiorem producto, squamis subcartilagineis, suborbicularibus, apice submarginato et margine longe fimbriatis, nervis validis a basi fere ad apicem radiatim notatis, nuculis parvis, ala squamam subæquante."

A tree found on the Eastern slope of the Rocky Mountains in the Cascade and Galton Ranges, by Mr. Lyall, at about 49° N. lat., and at an elevation above the sea of between 6000 and 7000 feet. A remarkable species because of the cobweb-like wool that clothes the leaf-buds and young shoots, and the long fringe of the scales of the former. The tree grows from 36 to 45 feet high, and is therefore much dwarfer than the allied *Larix occidentalis*, which is also different in the number of leaves in a cluster, their direction and form, and in the cones. *Parlatore.*

## NATURAL PRODUCTIONS AND FLORISTS' FLOWERS.

I have long had doubts as to the soundness of those artificial rules by which florists judge the value of their favourite productions in the vegetable kingdom. By the term florists, I mean all who are engaged in the study and production of new varieties of flowers, and not merely such as trade in them. Take, for example, roundness of form as one of these standards of perfection. I can easily believe that a flower, which Nature intended—if I may use the expression—to be round, but which from some cause or other is imperfect, would be improved by passing through the hands of the florist. It may, therefore, be well to insist on this form in such flowers as the Polyanthus, the Chinese Primrose, and the Auricula; but why, let me ask, should the flowers of a Pelargonium, an Azalea, or a Heartsease be compelled to submit to the same arbitrary rule? It may be a want of taste on my part, but I confess that I enjoy more real pleasure when looking on many of Nature's own productions, pure and simple, than when these have been tortured by the hands of the florist.

A case just occurs to me. One day last summer, at the Horticultural Gardens in South Kensington, I had been looking over a blaze of bloom in the nave of the Exhibition Building, when chance led me into the arcades, in which were placed the collections as examples of greenhouse and conservatory decoration. Here I remarked a little Geranium in full bloom. I must confess its blossoms were not round, but their colour was bright and beautiful, and the spikes of flowers contrasted well with the bright green healthy foliage from which they sprung. To me this had much more real beauty than the finest creation of the modern florist, and I think a true artist would have been of the same opinion. But, as I have already said, it was possibly a want of taste on my part which enabled me to enjoy the sight of this modest little flower.

That florists have done much good in their day, and that they have derived unalloyed pleasure from their pursuits, I would be amongst the foremost to acknowledge. But I fear I must charge them at the same time with doing no small amount of harm. What, for example, have they been doing with the Fuchsia? Look at that new race of sickly looking things, with large gorged flowers and unhealthy looking leaves, which has taken the place of the earlier varieties. True, the flowers of the new comers are large enough and round enough to satisfy the most enthusiastic florist, but where are those beautiful long slender blossoms of bright and dazzling colours, and that vigorous and healthy green foliage which we were accustomed to see in the varieties common in gardens 30 years ago. I allude to such kinds as F. coccinea, gracilis, discolor and Riccartoni, which at that time used to be the glory of our gardens, both in the greenhouse and in the open air.

Although the old kinds of Fuchsias have almost disappeared from the gardens about London, I am happy to say they still exist in many parts of the country, particularly in the north of England and in Scotland. On a recent tour in some of those districts where florists have not much penetrated, I met with noble bushes of these old varieties blooming in the open air, and having foliage of the healthiest green colour. In the Lothians, about Edinburgh, and far north among the highland vallies about Dunkeld, in Perthshire, they seem to have established themselves on the walls of farm-houses and in cottage gardens. Let us hope that when our tastes in the south take a more healthy turn, these discarded favourites may come south once more. Or, upon the principle of natural selection, if not from other causes, it may be that the crop of artificial monstrosities may die out of themselves, and leave the field to these natural beauties. *Robert Fortune.*

## EXHIBITION FLOWERS.

### The Pelargonium.—No. III.

The Fancy Pelargonium, although of comparatively easy culture, is perhaps more generally mismanaged than any other. Instead of short sturdy specimens, the plants are frequently weak, drawn, and sickly, and covered with aphides, whereas with ordinary care they ought to be all that could be desired. As a decorative plant the Fancy Pelargonium stands in the first rank, producing as it does large masses of flower of the gayest and most varied colours; in fact, by slightly varying the treatment it should ordinarily receive, it may be had in bloom nearly the whole year round.

The mode of treatment which I have found most successful is as follows:—Commencing with the propagation of the plant: to insure success, the cuttings should be made of moderately firm and well-ripened shoots, which can be obtained about the end of June. The soil in which they thrive best is thoroughly decomposed loam and dung; this, with a liberal admixture of sharp silver sand, and a little good leaf-mould, is all that is necessary in order to grow them in perfection. Having secured a supply of the foregoing, next procure some clean 48-sized pots; drain them well with broken potsherds, make the soil fine, fill them, and press moderately firm; then insert the cuttings, putting in as many as the pot will hold without crowding; make them quite tight, and the operation is complete. Place them on a light warm shelf. Do not shade, as they will bear any amount of light to which they are likely to be subjected; give occasional supplies of water, and in three weeks or a month they will have struck root. When rooted sufficiently pot them off separately into small 60-sized pots, taking care to preserve as much of the root as possible. After potting, place them where they can be kept close and warm. As soon as established, give abundance of air; and should green fly make its appearance fumigate immediately. This is of the greatest importance.

Their next shift may be into 48-sized pots, in which, after pushing a few joints, they may be stopped, which will cause them to break and make dwarf bushy plants by the end of November. If they have been well attended to they will be ready for another shift into 32-sized pots, which will be large enough for the first season. Use the compost rather coarser than before; some of the fibre should be placed over the drainage, to prevent any stoppage. After this keep them somewhat close for a few days, until they become established, when, on all favourable opportunities, they should have abundance of air, but cold draughts must be avoided. The night temperature need not exceed 42°. It is a common mistake to keep Fancies too warm; by giving them heat they may be grown to a great size, but it will be at the expense of both quantity and quality of flower, and size without quality will not often be admired. In watering great care is necessary; it is better to find six dry than one too wet; there is a remedy for the one, but none for the other. In damp weather fire-heat will occasionally be required to dry the house, giving air at the same time.

Training must be commenced as soon as the shoots are sufficiently long for that purpose. I have described the method in my remarks on the large-flowering Pelargoniums (see p. 725); the same system is applicable to this class.

When the days lengthen, pay every attention to them, encourage growth with a little weak liquid manure, and occasionally the syringe may be drawn over them. When the trusses of bloom make their appearance, a slight shade will be necessary in bright weather; increasing it as the season advances. Before the flowers expand, fumigate two or three nights in succession, this will keep them clean for the rest of the season. The cultivator will now have little to do but to admire their beauties, and prolong their bloom.

After they have done flowering set them out of doors, cut them down when ripe enough, and treat them in every respect as recommended for large flowering ones, following the same routine throughout the second season, by which time they should be good-sized plants. Those for the early shows should be potted by the beginning of October into 8-inch pots; the later plants in November. They will require great care to prevent them from becoming drawn; tie the shoots as thinly as possible, and keep the plants near the glass. Attend carefully to the removal of all decayed foliage, which if allowed to remain, will cause the shoots to turn black and die.

In January, those intended for early flowering should receive a little fire heat, with a temperature of 45° at night and 50° by day. Increase the temperature as the season advances. Give occasional supplies of weak liquid manure, and attend strictly to fumigation. The latest plants should be stopped in February. When the plants are in bloom, carefully exclude all bees, and invariably water in the morning, so that the plants may become dry before night. If the house is closed when damp, the flowers decay and soon fall off. They will not require many sticks, just enough to keep them in form. If well managed they will now measure from 2 to 3 feet through, and will be loaded with flowers of fine quality, and fit for any of the metropolitan exhibitions.

The following are a few of the best varieties in cultivation:—viz., Acme, Arabella Goddard, Edith, Ellen Beck, Lady Towers, Miss-in-her-Teens, Bridesmaid, Cloth of Silver, Delicatum, Captivator, Fleur de Marie, Musjid, Formosum, Lady Craven, Madame Sainton Dolby, Madame Rougiere, Modestum, Rosabella, Reliance, Sarah Turner, Negro, and Zoë. *Henry Bailey, Jun., Shardeloes Gardens, Amersham, Bucks.*

## BRITISH ASSOCIATION.

[The following remarks "On the System of Forecasting the Weather pursued in Holland," were made by Dr. Buys Ballot. The author said:—]

"I shall not abuse your indulgence, which I earnestly implore. I shall very shortly explain (1), what are the rules about foretelling weather in Holland, given before a similar system was introduced in England; (2), how they behaved themselves; and (3), what is to be done now; and I will very abundantly answer to any question or remark if they be made, for in that case I am justified in trespassing on your time.—1. Under our plan, where observations are taken in Holland, there are four principal places; Helder indicated by H, Groningen indicated by G, Flushing indicated by V, and Maestricht indicated by M, on the indications of which I base my forecasts, and in the first place on the barometer readings. For every day of the year and for every hour of the day I have very carefully determined the height of the barometer in the place of observation at that height above the sea, where it is suspended. This is a cardinal point not sufficiently observed in England, and not at all in France. The difference of an observed pressure from that calculated on I call the departure of the pressure—positive when the pressure is greater, negative when it is less. Those departures, besides the observations of the other instruments, are communicated from post to post. The rule is now very simple. If the departures are greater (more positive) in the southern places than in the northern, greater at M or V than at G or H, the wind will have a W in its name; when the departures are greater in the northern places the wind will have an E. in its name. More accurately, you may say, the wind will be nearly at right angles with the direction of the greatest difference of pressures. When you place yourself in the direction of the wind (or in the direction of the electric current) you will have at your left the least atmospheric pressure (or the north pole of the magnet). When the difference of pressure of the southern places above the northern is not above four millimètres, there will be no wind of a force above 30 lb. on the square mètre. Moreover, the greatest amount of rain will fall when the departures are negative; and at the places where the departures are most negative, there also the force of the wind will be generally stronger. Moreover, there will be no thunder if the barometic pressure is not less than two milli-

mètres above the average height, and when at the same time the difference of the departures of temperature is considerable.

"Those rules, and especially the first two, were laid down by me, in 1857, in the 'Comptes Rendus,' and on the 1st of June, 1860, the first telegraphic warning by order of the Department of the Interior was given in Holland. It was unfortunate that those telegraphic warnings were not introduced four days sooner, for in that case the first communication would have been a first warning against the fearful storm of May 28, 1860, called the Finster-storm. All of you know how amply Admiral FitzRoy has arranged the telegraphic warnings all over England.

"2. Those rules used in Holland have behaved themselves very well, as is laid down in the translation of a paper of Mr. Klein, captain of a merchant ship, whereto I have added my observations and signals compared with the signals of Admiral FitzRoy in Table A, p. 25. My own paper dates from June 1, 1860, and is extracted by Mr. Klein as you may see, but I preferred that the less complete and precise paper of a practical man be translated, because I thought that the seamen would put more reliance on it. From the tables added to that translation it appears that I have warned from my four stations, just as Admiral FitzRoy has done from his 20. It must, however, be recorded that besides those four stations, there are also some stations—Paris, Havre, Brest, in France, and some in England—Hartlepool, Yarmouth, Portsmouth, Plymouth—that send me their observations. Generally they arrive too late, and therefore they throw but very little light on the forecasting, principally while the barometers are not so well known. So much for the strength, now for the direction. The direction is in the first 24 hours after the observations, three times of the four such as indicated, and the second 24 hours and the third 24 hours still two times of the three such as indicated (see Table B, p. 29), and moreover no storm has occurred in those six years when not before the difference of the southern departures above the northern has been 4 millimètres.

"3. What is to be done? The normal heights of barometric pressure, or better of the barometers, which are read, must be conscientiously taken. the observation must be made at more points once a day, and mutually communicated, and at days when there are greatly different departures, that is to say, of three millimètres, or when there is change of inclination, there must be sent a message at noon or in the evening of the same day. In all cases, not only the pressure in the morning, but likewise that at night should be given. A critical indication is, when the previous day the northern stations had greater departures and the following day the southern had greater departures, even when the difference in the latter case was small. There is caution to be had when the difference of the departures is 4 millimètres. But I may not trespass on your time and kindness in expressing wishes only, it may be sufficient to have communicated the general rule." *Athenæum.*

## POTATOS.

I AM glad Mr. Whiting has given you a description of the Potatos he exhibited, because it enables us to compare notes in different parts of the country, and see what progress we are making in the Potato as well as in other things.

That an early Potato should be a Kidney seems to be almost universally desired; why, I know not, unless the shape is thought preferable; but so it is, and the Ash-leaf Kidney is the favourite, although it has the great drawback of being only a moderate cropper. There is a kind grown in Yorkshire called the French Ash-leaf, but I see little or no difference betwixt this and the old kind. Mr. Rivers sent out another kind of Ash-leaf Kidney last spring, but I forget the exact name of it; I saw it growing in the Isle of Man this summer, and there it appeared identical with Myatt's Prolific Kidney. The person in whose garden I saw it, told me he got it direct from Sawbridgeworth.

What we really want is an early Kidney, as early or earlier than the Ash-leaf, a much better producer, and with as little haulm as possible. I met with a Potato in the Isle of Man, called Mona's Pride, which I think justly merits such a description. It is partially known in the North of England, but judging from what I saw and the most flattering testimonials published, it is one of the best if not the best early Kidney Potato we have. It is fully as early as the Ash-leaf (I think earlier), and produces twice as many tubers. I have also been strongly recommended to grow an early Kidney, known in Worcestershire as the Early May. I know nothing of this variety, but am assured it supersedes the Ash-leaf. Perhaps this passing remark will bring out some further information respecting it.

I some time since met with a very early and exceedingly dwarf-growing Potato, which is now known about here as Dean's Early Prolific Kidney. It is within a few days as early as the Ash-leaf, the haulm is very short, and the tubers are produced in great abundance round the neck of the plant. It is a wonderful cropper, the tubers being neither kidney nor round in shape, but intermediate, and of a medium size, just fit for a gentleman's table.

For second early Kidneys we cannot have better than Myatt's Prolific Kidney, which is a first-class kind, and a good cropper. This Potato is getting a great reputation northwards, and most deservedly so. Then there is Haigh's Seedling, a first-class Kidney, which can be in use from digging-time until April. We have no better Potato, but it is subject to disease. I am, however, inclined to think we should have very little disease if we grew the earlier kinds, and dug them as soon as the haulm began to decay and pitted them. Of course this sounds like theory, but I now dig early, believing from observation it is a safe plan. One thing is certain—here we get no diseased Potatos.

For a late crop I think we have no better kind than the Fluke, but with this, as with many other kinds, all soils do not suit it. I think a moderately dry stiff loamy soil produces the best flavoured Fluke Potatos. Mr. Turner used to grow it well at Slough in his nursery, and he has a soil of this description. Wet, cold soils do not suit Potatos, as they are deficient in starch, and light sandy soils do not always show a Potato in its best character. There is a smooth thin-skinned handsome early Kidney in Yorkshire, named Wonderful Early Red Kidney, which is a full flavoured most productive Potato for a general crop, and I never yet knew it diseased. One reason probably is that it is so soon ready for digging, or it may be that Red Potatos are not so subject to disease as the Whites. I fancy they are not, but am not prepared to prove it.

Webb's Imperial Kidney has been grown here this season, and in my opinion is not so valuable as Myatt's for a gentleman's garden. It is no earlier than Myatt's, much larger, but not better if so good in flavour. It is a good cottager's or market Potato, but grows too large for a gentleman's table.

There are some good Potatos in Lancashire which are but little known. One district in Lancashire especially, Morecambe, has a reputation for early Potatos. Morecambe is a favourite sea-bathing place, and the soil is light, and the situation mild and warm in early spring; therefore the Lemon Kidneys, a kind of Ash-leaf, grown here, are procured very early in the season; but I find if the seed got thence is grown in a heavier and colder soil, they are by no means so early. Haigh's Seedling and the Fluke are both Lancashire Potatos, and there is a very fine and handsome round Potato known there called Arrowsmith's Seedling, which I can well recommend to market gardeners. It is a wonderful producer, and is a good-sized handsome tuber of good quality. The Handsworth Prolific is our best early round. The Dalmahoy is a heavy cropper, but rather late in the north, and gets diseased. *W. Dean, Shipley.*

## Home Correspondence.

*Ensuring Fruit Crops.*—My attention has just been drawn to an article that recently appeared in your Paper (p. 772), headed "How to ensure a crop of fruit." The article in question is altogether wrongly entitled; instead of "how to ensure a crop of fruit," it ought to have been "How to protect trees from frost while in blossom;" we might then have known what to expect. I can assure you, Mr. Editor, I was rather startled at such a glorious heading; I thought that some valuable discovery had been made in the gardening world, and I soliloquised thus:—"Rivers and his orchard houses are thrown into the shade; Paxton's houses are out of date; a mighty edifice is erected; and the sum and substance of the whole is this: protect your trees in spring by Frigi Domo." Now Frigi Domo is a good serviceable article no doubt, but will it ripen the wood in autumn? It is in the presence of unripe wood combined with unhealthy roots, that the evil mainly lies. Covering in spring is indispensable—no one will deny that; but it is not the basis of insuring a crop of fruit, for we often find to our sorrow that our stone fruit falls after setting, and oftener still that even with covering we cannot get it to set at all. I do not for a moment doubt that Mr. Bennet is successful in pursuing the mode he has stated. The nature of the soil in the neighbourhood of Worksop, with the mildness of the climate, will greatly assist him; but his thoughts appear to have been confined to the plains of Notts, and not to have ranged over the hills of Yorkshire and Derbyshire, where many of his fraternity have to practise. An employer, after reading Mr. Bennet's article, will be likely to interrogate his gardener, if he should have no fruit, as to the use he has made of Frigi Domo. This question of how to insure a crop of fruit in the cheapest way is one of great importance, and ought, I think, to be left open for further discussion in your columns. *W. R. R.* [No subject could possibly be more interesting—or, let us add, more difficult. We shall eagerly accept communications.]

*Pampas Grass.*—I wrote to you last year (see p. 910) respecting this Grass. I am induced again to record its wonderful beauty and increased growth. I counted the spikes on it about a fortnight ago, and they numbered 130; they are now bursting into bloom. Have any of your correspondents a plant with more spikes on it? *John Hollingworth, Turkey Mills, Maidstone.*

*The Swift.*—For about 20 years I have been interested in observing the swallow tribe, and especially the Swift; this year after the middle of August I expected any day to notice that these birds had taken their departure, but September came, and still they were with us, in number about 30. On the 10th inst., however, the majority left us, and the remainder on the 16th or 17th. I cannot account for their departure being delayed so late. I do not believe that their nests were disturbed at the usual breeding time, as there are several colonies of them in different parts of this town, and generally in very inaccessible places. Nor has the weather from the 20th of August to the present time been remarkably fine and warm; on the contrary, I should say that it has been colder than the average of seasons. As Yarrell mentions in his History of British Birds that one Swift was seen by R. B. Hale, M.P., of Alderly, on the 9th of September, 1839, it may be worth recording the very remarkable circumstance of 30 or upwards remaining till the 10th of September, 1863. If any of your correspondents have observed any similar irregularity in the time of the migration of the Swift it would be interesting to hear of it. *Joshua Whiting, Hitchin.*

*Fungi in Pleasure Grounds.*—Your correspondent "J. M. C." (see p. 893), need not apprehend that "the pest in the shape of a Fungus" will be everlastingly in his garden. Did it appear there, before he caused the sod to be disturbed and broken up? No. So soon then, as old Dame Nature shall have recovered her wonted position in those parts which have been disordered by the displacing of the turf in his "little garden," the Fungi will cease to be prolific, and ultimately appear no more. Now, breaking the subject for a moment, I consider our large gray rat (commonly called the Hanoverian rat) is everlasting in its possession of our grounds, our granaries, and our gardens; and I fancy that these real pests cannot be started from their strongholds, but by the giant arm of some all-powerful Hercules. But to the point. These intrusive Fungi complained of by "J. M. C." are the effect of a cause. Nothing more. They may be considered as aliens, tolerated by Nature for a given time; and when the soil and sod shall have recovered their pristine temperament, the alien Fungi will disappear for ever. I venture to assert that all Fungi, be they great or be they small, on the branches and on the boles of trees, are entirely the effect of a cause. Arboreal disease alone produces them. [Undoubtedly.] Fungi are never seen upon a perfectly healthy tree. Full 70 years ago I was fond of climbing trees in quest of adventures; and I still pursue the same fascinating exercise. Long practice has enabled me to pronounce that all Fungi which appear on trees are produced by a certain state of disease in the trees themselves. I have some very curious specimens of tree-fungus, now lying on the table before me. *Charles Waterton, Walton Hall, near Wakefield.*

*Abnormal Growth in Conifers.*—When lately in Auvergne, I observed on many of the trees in the Silver Fir forests in the neighbourhood of Mont Doré, a curious abnormal condition of the branches, which at first sight had the appearance of a parasitical growth,—upright branches springing from the normal horizontal branches of the trees, and some of them evidently of several years' growth. On examining them, they appeared to rise from a spot punctured by an insect, probably depositing its ova. The foliage of these branches was always of a lighter green than that of the healthy branch from which they sprang; and the unhealthy state was also indicated by the leaves being always covered with a Fungus (Æcidium), from which the rest of the foliage was free. What insect is it which causes this curious abnormal growth? Can you refer me to any author who has written on the remarkable power that insects possess (as in this and other cases, such as the various galls, &c.) of diverting the juices of plants to serve their purposes in forming a nidus for their young? *W. C. Trevelyan, Wallington.* [We believe the abnormal condition of the branches of the Silver Fir to have been caused by the punctures of a species of Chermes when the buds were young, which retarded the growth of the twig for the time, and then, being weakened and swollen, it threw out delicate shoots. The vegetable physiology of galls requires investigation. Bremi in Switzerland, Hartig in Germany, and Baron Osten Sacken in America, have written much lately on the *makers* of these excrescences, but the question requires the attention of a vegetable physiologist. *J. O. W.*]

*American Water-weed.*—In answer to your leading article (see p. 889), inviting communications on the Anacharis, I beg to give you our experience. Several years ago the weed made its appearance in a five-acre pond on Wandsworth Common. We were told that an aquarium owner, living more than half a mile off, had put a small plant in a pond near his house, for the sake of getting a good tank specimen. With us it spread very rapidly, soon overpowering all the old weeds, and destroying all pleasure in rowing. My brother, who had lately returned from India, suggested dragging it up by means of a boat oar pushed to the bottom and then twisted round and round; this brought up a huge bunch of weeds, with their roots and some mud adhering to them. We found this by no means a bad gymnastic evening exercise, and two of us, one at each end of a punt, in little more than an hour had pulled up as great a load as it was pleasant to punt with. Finding a greater impression had been made on the enemy than we at first anticipated would be the case, a man was employed to work constantly, and in

about three weeks an immense pile on the bank was the result; this in a few months settled down into a solid black mass, cutting like cheese, which being used as manure for the garden has given such Peas and Cabbages as we never had before. Next year the weed came up again in about the same strength. Our friend the late Professor Henslow gave us some hopes that the great strength of growth was partly due to its having found, to it, a virgin soil. Next year it came up equally strong again, and was converted into another great heap of good manure. This year the growth has been stronger than ever. This is probably due not to the fine summer alone, but also to the fact that our windmill used to keep up the water supply has been out of order, and that consequently the pond popularly known as the "Black Sea" has been much shallower than for some years past. It took about five weeks to clear weed enough to make rowing pleasant, and now we have a still greater heap of the manure than usual. We calculated that for our thin soil over gravel the value of this soil-like manure about paid for the man's wages employed. In the country, where there are young men with leisure time and a boat, amateur extraction will be found by no means an unpleasant muscular exercise. *G. F. Wilson, Wandsworth Common.*

*Showing Roses.*—With all deference to Mr. Wm. Paul's remarks (see p. 893), I still think that when Roses are shown as cut flowers, they should be shown in the highest state of perfection attainable, and he will not venture to say that this can be done, in some varieties at any rate, without disbudding. Of course leaves set off a Rose, and I have not advocated their removal. I agree with Mr. Paul that it is beautiful to see the full-blown and the half-blown flower and the bud, but these should be seen on plants in pots. Mr. Paul says a "good number of sorts" is desirable; I say the more the better if the sorts are good and distinct, but I cannot admit that Roses which are simply floriferous or bright and striking in colour should be exhibited as cut flowers. Such Roses should be shown in pots, when a proper estimate of their worth could be arrived at. It would be quite as sensible to exhibit bedding Dahlias with the florist's varieties, as these Roses with others possessing the qualifications of a florist's Rose. And confining cut Roses to such as in a great measure come up to the florists' standard, and exhibiting the floriferous and bright decorative kinds in pots, would have the very effect—and it seems to me the most certain effect—of producing that variety and preventing that dreary sameness of appearance which is inseparable from long formal rows of blooms only. I think that showing trebles is undesirable, because it lessens competition, and causes many very indifferent flowers to be shown. I cannot see what succession or continuity of bloom has *to do with the question of disbudding Roses intended for exhibition. If the buds are not previously removed* they must certainly come off with the Rose when cut for exhibition, and their continuity of bloom is thus as effectually cut short as by their removal at first. Besides, continuity of bloom on the plant can be effected by leaving buds of different stages of growth, and by judicious pruning. To sum up, when Roses are exhibited as cut flowers, they should show all the points required by the florist in the highest degree attainable by the particular variety. If disbudding be necessary for this, then it should be allowed. Roses simply decorative, and not coming near the florists' standard, should be shown in pots, and not as cut flowers. *P.*——To show Roses as single blooms would, I think with Mr. W. Paul, be exhibiting them in too formal a manner. I have shown them in this way myself years ago, and have also seen others do the same; they do not, however, show their natural beauty in this way. I am an advocate for single trusses (*i.e.*, all the buds and foliage really belonging to the shoot on which the expanded flower is produced) in preference to the trebles, as trebles throw the large prizes into the hands of the large growers, who have acres to pick from. Many a small grower could show 48 or more single trusses, when three trusses of each kind would be an impossibility. It frequently happens too that one or more in the treble is very faulty. A stand of single trusses, well arranged as to colour and size, placed by the side of three blooms of a sort, in my opinion would lose nothing by the contrast. The managers of the large exhibitions have no doubt studied this well, as we usually see classes for single blooms as well as trebles. The latter may catch the eye, and be most effective at a distance, but on a close inspection I fancy the single trusses would be generally most admired. *W. H.*

*Rhus succedaneum.*—In answer to your correspondent "Sumach" (see p. 894), I beg to say that I planted some seeds of the Rhus succedaneum (the Japan Wax-tree) in small pots; they appeared to live through one winter at least, but I have not been able to discover what has become of them since. *G. W., Weybridge Heath.*

*Fruit Competitions.*—At a provincial horticultural exhibition held last week not 100 miles from London, prizes were offered for the best collection of eight dishes of fruit. There were six competitors; the collection of one contained three dishes of Grapes, two dishes of Peaches, a Pine, a Melon, and a dish of Apricots. The 1st prize was awarded it. There was no disputing the quality of the Grapes, which consisted of Lady Downes' Seedling, Muscat of Alexandria, and Black Hamburgh. The Pine was second rate, being unevenly swelled. The Melon, judging from appearance, was good. Peaches were so much alike that none but an experienced persicologist could detect any differences among them; one dish consisted of Walburton Admirable, and to the other some new name was attached, I forget now what. The Apricots (Moor Park) were inferior. A question arose between exhibitors and non-exhibitors whether that collection, if deprived of one dish of Grapes and one dish of Peaches, would have held the same position? and the reply was an emphatic no! Therefore some rule should be laid down in framing schedules respecting the number of dishes of one class of fruit that would be admissible in a collection; or another season Mr. A. may have four dishes of Grapes, two varieties of Pines, and two distinct kinds of Melons; Mr. B. may have four Pines, three Melons, and one dish of Grapes, and so make a collection of eight dishes; but no gardener would think of sending such a dessert to his employer's table—not even three dishes of Grapes in eight, or he would be considered—no matter what. Another point much discussed on the same occasion was this, that a collection of fruit was staged by a gentleman who afterwards acted as one of the judges. Now we all know something about the weakness of human nature, and it is just possible that there might have been a leaning on the part of the judges to the productions of their friend, or of those in whom they felt interested. *One who has Exhibited and seen a Collection of Fruit.*

*Cool Treatment of Orchids.*—The plants so often mentioned by you in the *Chronicle* as being under drawing-room treatment here, are in most excellent health. Lycaste Skinneri is growing vigorously, and showing three new pseudo-bulbs, which will no doubt flower as formerly in the spring. Odontoglossum grande is now in fine flower, bearing a spike 13 inches long, with four superb flowers, each measuring 5½ inches across and fully 6 inches in length; the colours I have seldom seen surpassed. Barkeria Skinneri flowered in July, and has now seven new shoots, two likely to flower in November or early in December. These plants have never received any other treatment than that originally given, only I, having left Somers Villa last June, put them under the charge of my friend Mrs. King, of Lyttleton House, and they have stood on a landing of the staircase, having a southern aspect, and well protected by a blind from the noonday sun. Perhaps the Odontoglossum (which is a very small plant) may have had rather too much moisture, which has caused the flower-stem to extend itself unnaturally, and the plant to have flowers very large for its size. Last year this plant was put out of doors to receive a genial shower, and some bird I expect cut off the young shoot, consequently it did not flower last year; but as a new pseudo-bulb has furnished the present show, that could hardly have influenced the immense production of this year. From personal acquaintance with its wild habitat my treatment has been assimilated as much as possible to its native climate. If any sceptics yet exist, I would ask them to visit Wembly Park, Sudbury, near Harrow, the residence of the Rev. J. E. Gray, F.R.H.S., and see there a Lycaste Skinneri, imported by Mr. Veitch in March last, and which has seven (originally eight) flowers in perfect beauty, and they have been in that condition for seven weeks; also Odontoglossum grande, a perfect blaze of flowers, having 17 very fine, on five flower stems, and likely to remain for a month in perfection still, under the skilful treatment of Miss Gray. Their situation is a centre window, with an eastern aspect, in the small drawing room. I have no doubt now that many other houses in England have ladies already enjoying the same luxury, and I shall be glad if others would give the results of their experience in this matter. *G. U. Skinner, Malvern Link, Sept.* 21.

*Russian Ridge Cucumber.*—I do not know if this is generally known (or grown) in England. It is a most abundant bearer, producing from three to five of its little fruit at each joint, and the plant does not spread so far about as our Ridge Cucumbers. A friend who brought the seeds from Russia assured me that they were grown very extensively there, and pickled (or packed in salt) in tubs, and sold in the markets in winter; they are sold by measure, as per peck, &c. *Charles Levett, Gardener, Fakenham Rectory, Ixworth.* [This is not cultivated here because it would be difficult to find persons to eat salted Cucumbers; and this Russian makes very indifferent Gurkins. We formerly grew it, but threw it away. It makes, however, a considerable item in the diet of Russian poor.]

*The People's Park, Sunderland.*—A few years ago various opinions were expressed in your Paper concerning the laying out of this Park. It may be remembered that one statement was to this effect, viz., that it was second to none in England. One Correspondent thought the beds or clumps were like the Willow beds by the River Trent. It may be interesting to some to know that the Park has in many respects improved. The shrubs are now beginning to furnish the place, giving relief to the eye tired with looking on the buildings. The walks are so traced as to make the most of the ground; at each turn is some object of interest, either some gay bed of flowers, or shrubs or rockwork. Among other subjects placed in the park is a fine statue (by Behnes) of the late Gen. Havelock, with the following inscription:—"Born 5th April, 1795, at Ford Hall, Bishopwearmouth. Died 24th Nov., 1857, at Dil Koosha, Lucknow." Also two Russian guns as trophies from the Crimea, and a fine Japanese bell, presented by Capt. Holmes of the ship Troas. The Park is highly appreciated. The leading gentlemen of Sunderland, wishful for the enjoyment and instruction of the people, have purchased about 11 acres to add to its extent, and it is now under consideration what will be the best way to lay it out. It is determined to have it, or part of it, made into a botanical garden. It is to be hoped that the managers may be able to accomplish this scientific project, which will make the Park little inferior, if any, to similar places of public resort in England. *R. D.*

*Vine Growing* (see p. 898).—Allow me in justice to myself to inform Mr. Baines that the Black Grapes shown by me at Bradford, which were second to his, were not from the Vines described by me at p. 869. Although he so minutely describes the defects and short-comings of my Black Grapes, he omits to say that I exhibited at the same show two bunches of Muscats, weighing 4½ lbs., which obtained a 1st prize. These were from the Vines referred to by me—I leave them to be judged by Mr. B. When I referred to Mr. Nicholson's success (see p. 815) it was not with the view of detracting from the merit of his Grape growing, but the allusion gave me an opportunity of expressing my conviction that the Vine under judicious management is capable of producing great and abundant crops, though the fruit may not be in all points what is termed first class, such as that exhibited by Mr. B., and carried from show to show. I know that the sentiments which I express are contrary to the long-established custom of allowing Vines two or three years to establish themselves, as it is called. But why should so rapid and vigorous a growing plant as the Vine, require so long a time to ramify and strengthen itself? With regard to overcropping and the evils resulting from it, I quite agree with Mr. B.; but at the same time I consider that the Vines themselves are sure indicators of their own strength. Let them start life with a strong and robust constitution, and if well fed and cared for they may be expected to reach a fruitful middle life, if not old age. *J. Thomson, Gardener to J. Cliff, Esq., Wortley, Leeds.*

## Societies.

ROYAL HORTICULTURAL: *Sept.* 22 (*Floral Committee*).—A Special Certificate was awarded on this occasion to Messrs. Veitch for the white-flowered variety of Lapageria rosea, shown in charming condition, and forming part of a collection of interesting plants, among which were the handsome Lilium auratum, and a variety of L. speciosum rubrum, with an unusual amount of colour in it; also two new Eranthemums, to both of which Second-class Certificates were awarded. Of these we shall give some account next week. One is a first-class plant. That from New Caledonia, labelled tuberculatum, formed a compact little bush, covered with small ovate leaves and pure white flowers, produced in great profusion; the other, a taller-growing plant, had long lance-shaped leaves, furnished on the edges with a few blunt teeth, and bearing conspicuous white flowers, each beautifully mottled on the undermost segment with minute purple dots. From Messrs. E. G. Henderson & Son came Anemone vitifolia, and the white A. japonica Honorine Jobert; also a Pelargonium named Beauty, to which a First class Certificate was awarded, a kind belonging to the zonate class, with finely-formed white flowers, edged at the base of the petals with salmon pink; a variegated variety of Cheiranthus Marshalli received a label of Commendation; and various semi-double flowered mule Pinks, one bright crimson, another carnation-striped, and a third pure white, to all of which Second-class Certificates were awarded, likewise came from the same growers. Messrs. Downie Laird & Laing showed a collection of Hollyhock blooms, to which a Special Certificate was given; among them were Neatness, a deep crimson kind, to which a First-class Certificate was awarded; and to Lord Clifden, a bright carmine shaded crimson, in the same collection, a Second-class Certificate was assigned. Among Dahlias contributed, one from Mr. Rawlings, named Erebus, was commended for its colour, which is nearly black. Miss Herbert, from Mr. Keynes, received a Second-class Certificate, and Willie Austin from the same raiser, a First-class; these were both rich golden yellow, shaded more or less with red. Nonsuch, from Mr. Legge, also nearly of the same colour, received a First-class Certificate, as likewise did Enchantress from the same grower, a yellowish white kind heavily tipped and shaded with cherry. To Dahlia Fairy Queen, from Mr. Alexander, Leyton, a variety with a creamy yellow ground shading off to rosy lilac, a First-class Certificate was awarded; and Second-class Certificates were given to Dahlias Favourite (Fellowes), purple, and Countess (Fellowes), large white, both from Mr. Turner, of the Royal Nursery, Slough. Three or four varieties of bedding Lobelias, the best of which were Crystal Palace Gem, Fairy Queen and Delicata, were shown from the Crystal Palace by Mr. Gordon; and two handsome Pelargoniums belonging to the Scarlet class were contributed from the gardens at Oulton Park by Mr. Wills. To one, a fine horseshoe-leaved variety named Princess of Wales, with delicate pink flowers strongly flushed in the centre with salmon-red, a Second-class Certificate was awarded; the other, a brilliant scarlet named Volcano, was Commended.

*September* 22 (*Fruit Committee*).—A magnificent Queen Pine Apple, finely ripened, and weighing 7 lb. 3 oz., was shown on this occasion by Mr. Carr, gr. to P. L. Head, Esq., Byfleet Lodge, Cobham. Beautiful specimens of Belle de Fontenay Raspberry came from Mr. Turner, and Cushing's Yellow Raspberry was shown from the Society's Garden at Chiswick. From Mr. Rivers came a most excellent Seedling Plum,

raised from Coe's Late Red, with a flavour even superior to that of Reine Claude de Bavay itself, which it somewhat resembled in colour; also a curiosity in the shape of a "Nectarine Peach," *i.e.*, a variety half Nectarine half Peach, a cross-bred between these two kinds of fruit; the Fulton Plum, an American variety, ripening a little earlier than Coe's Golden Drop; Coe's large Yellow Peach, a showy market kind; and a variety of Peach from Georgia, with yellow flesh, becoming blood red just under the skin, a singular looking fruit, but worthless to eat. Mr. Rust, gr. to the Right Hon. L. Sulivan, Broom House, Fulham, again showed his yellow-fleshed seedling Peach, which this time was considered worthy of Commendation. It is certainly greatly superior in flavour to the Salway, fine looking fruit of which were shown by Mr. Turner. Mr. Scobie, gr. at Holland House, had fruit, scarcely ripe, of the Yellow Late Admirable, in favourable seasons a good late Peach. From Messrs. Downie Laird and Laing came a fleshy Grape like Black Morocco; and a Seedling Grape of little merit came from Mr. Tillery. Other fruit consisted of some Peaches from Messrs. Veitch, and various kinds of Apples from other growers, sent chiefly for the purpose of being named.

## Notices of Books.

*The Indoor Gardener.* By Miss Maling. London: Longmans. 12 mo., pp. 274.

The authoress of this handy book of Indoor Gardening is already well and favourably known by a former brochure on the same subject, and by her contributions to our columns. She has now recorded her more matured experience, and the result is a volume which not only amateurs and lady gardeners, to whom of course it is specially addressed, but professionals themselves may use with advantage.

The intention of the writer, as we learn from her preface, has been to supply a very simple but comprehensive guide to room and greenhouse plant-growing, for the use of those who are not already gardeners, and who may therefore wish to find the minutest points explained. It is only a fellow-feeling, she observes, that can teach one to do this, and thus the experience of one such gardener is often perhaps more useful here than that of those great men who can never have tried to practise small ways of doing things. The plants which I have treated of, she continues, "may some of them seem at first sight to be too ambitious, but none are included which I have not grown or known to be grown successfully. And even although so many of the plants are most beautiful, they are not on that account at all more hard to grow than many commoner flowers."

We are told further that two chapters of the present book have already in great part appeared in the publication just alluded to, which is out of print; and part of the others have been reprinted from the series of papers on Indoor Gardening which has appeared in our columns. Mr. Radclyffe has also contributed "Ten easy rules for Rose-growing;" the Rose being a flower which is indeed always longed for, but seldom at first well grown by amateurs, without the aid of advice from some one of experience in the matter.

The management of Roses, Fuchsias, Carnations, Begonias, Plantes Vertes, Geraniums, Japan Lilies, Orchids, &c., is amply treated; other chapters give directions for forcing and retarding Lilies of the Valley, and for growing such plants as Camellias and Azaleas all the year round in windows and conservatories. There are directions about plants for boxes and screens for windows, rustic dishes and stands, baskets of Ferns and flowers, watering, seed-sowing, cuttings, &c.; together with hints for constructing and arranging the popular flower-casements common in France and Belgium for fitting up outside windows: so that the whole scope of window gardening is brought under review.

As an illustration of the way these subjects are dealt with, we will take Miss Maling's observations on Orchids as room-plants. "There is an idea," she says, "held by many people, that Orchids will not grow in rooms, or in fact in any place short of hot shaded Orchid houses, in which, if the flowers are beautiful, it is almost too damp to enjoy them. During the last few years, however, some people have been trying a variety of experiments as to the endurance of these plants. . . . For the Lycastes, for instance, has been predicted a future like the Tulip; the flowers gain so much strength by exchanging the close-shaded Orchid house for summer drier air. These are perhaps the very best of Orchids for our drawing-rooms. Then there are the Barkerias, growing on blocks of wood, air-plants, strange and beautiful, with bunches of lilac flowers."

After referring to Mr. Skinner's success with these, Miss Maling proceeds thus:—"Hearing all these things, I became ambitious also of trying Orchid-growing, and some lovely Calanthes bloomed for a good many weeks in a plant case in my drawing-room. Any one may imagine the charm of such flowers at Christmas—long curving flower-spikes, stretching out all along most waxen red-lipped flowers, several on each stem. The Lunatodes too was of a bright pale rose-colour, something the colour perhaps of the pink Almond blossom; and yet we can hardly compare the Orchid colours to those of other flowers, so much more richly do they seem to be painted. . . . These plants, from accidental causes, went out of blossom sooner than they should have done, and then I thought fit to practise the man and his donkey fable. My plants were growing quite famously, had swelled out great large pseudo-bulbs, were beginning to make fat leaf-shoots, when alas! I took advice on them, and straightway locked up my water-can. They ought to have gone on having as much water as they would imbibe, with a good deal of heat at the same time. Mr. Low assures me that I only *just missed* succeeding, and therefore I report myself as a warning to all others.

"Next came a Lycaste Skinneri; its magnificent blossoms just open, large outspreading petals, and a lip of most brilliant purple—purple or crimson, the richest and the bloomiest. On this plant the blossoms were not with me so successful, but then in return its leaves have never ceased for more than twelve months to be most green and beautiful. The whole of the last year it has been the centre-piece, its long green leaves stretching out from one end to the other of my four-foot plant case—far more precious for leaves than anything else for blossom."

Here is a seasonable hint about Hyacinths:—"For planting the bulbs in the first instance it is necessary to guard against a wet bowl to the vase; the few drops of water which are splashed upon it, and supposed not to signify, are probably the cause of half our mouldy Hyacinths. The wet would not signify perhaps, if they were exposed to air and light, but as this is quite impossible, the damp soon becomes blue mould, and if it goes no farther, at least looks unhealthy. The best plan is to try exactly how deep each bulb will go in its empty glass; then stick on the name and date by means of a slip of adhesive paper (like the edge of the postage-stamp sheets) underneath the glass, put in the charcoal, and fill up the glass with rain water, so that the bulbs may just *not* touch the water; then carefully wipe the inside of the bowl, put the bulb in its place, and carry it off forthwith to a dark dry cupboard, or better still, a cellar; the best place of all, however, is a shelf in a housemaid's closet, which generally is found placed in some dry cool corner—in all probability under the kitchen stairs!"

The book forms a neat volume, and notwithstanding a few occasional mis-spellings of the names of plants, may be recommended as a useful and reliable manual of Indoor Gardening.

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Messrs. Longmans now announce the early appearance of their illustrated folio work on *Windsor Park and Windsor Forest*, by W. Menzies, the Resident Deputy Surveyor (see p. 727). The purpose of this work is to give an account of the Park and Forest of Windsor which shall be not only interesting in itself, but also of practical utility to all persons engaged in the management of timber. The author will therefore give a description of the several plantations, and he has been enabled to trace their history from the commencement of each, with an exactness which it would probably be impossible to attain in the history of any other estate in England. The plantations have been carefully measured, and the age and size of each with their contents are to be given in a tabular form—a large map being annexed, so that any one may find them, and, by comparison, may judge of the age or condition of their own woods. An account is to be given of the Geology of the Great Park, which is interesting and important as leading to a knowledge of the water-bearing strata, and of the probable capacity of the ground for yielding a supply. The subject of the great stones, resembling those of Stonehenge, found in Bagshot Sands will also be fully entered into. The work is to be illustrated by 20 large photographs, mounted in the book, of the most interesting trees of Windsor.

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The first part of the 2nd vol. of Dr. HARVEY'S *Thesaurus Capensis* has appeared, containing some very curious terrestrial Orchids and other rare plants.

We have also before us the *Botanische Zeitung*, from July 24 to August 21; WATTS' *Dictionary of Chemistry* for September, reaches from Conhydrine to Cyanic acid.

In the third part of Vol. II. of REICHENBACH'S *Xenia Orchidacea* are 10 quarto plates of rare Orchids, carefully drawn, but very ill coloured. Where are such greens to be found? unless in a copper mine.

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TRADE LISTS RECEIVED.—PAUL & SON'S *Descriptive Catalogue of Evergreens, Deciduous Trees, Conifers, American, Climbing, and Herbaceous Plants.* Also their *Rose Catalogue for* 1863-4.——THOS. RIVERS' *Descriptive Catalogue of Roses* for the same years. ——*Descriptive List of Strawberries and Grape Vines grown for Sale by* WM. PAUL, and the same grower's *Rose Catalogue for* 1863-64.

## Garden Memoranda.

HAREWOOD HOUSE, YORKSHIRE.—This, the seat of the Right Hon. the Earl of Harewood, is celebrated for its extensive pleasure grounds and delightful terrace gardens, to which the public is liberally admitted. It is easy of access from Leeds, either by road or by railway, the nearest point being Arthington station, on the South-Eastern line.

The Lower Terrace Garden, which is close to the mansion, is on a very extensive scale, laid out in the Italian style, and liberally interspersed with Irish Yews and other suitable evergreens, planted at equal distances apart; while statuary and fountains occupy conspicuous positions. The form of each bed is indicated by Box edging upon a light-coloured sand, and here and there are raised scrolls of Portugal Laurel and Yew, so that a winter garden is secured when the beds cannot be used for bedding plants. This terrace is 450 feet long and 120 feet wide, and at each end are stone seats flanked by handsome standard Portugal Laurels and other shrubs.

The beds have this year been extremely gay, and at the period of our visit were masses of striking colours, for Mr. Fowler, the gardener, uses chiefly decided colours, relieved by masses of Cineraria maritima, Centaurea candidissima, Variegated Pelargoniums, and Cerastium tomentosum. Several beds were filled with Christine Pelargonium, and these being of bright rose colour had a most telling effect in contrast with similar groups of the Purple Zelinda Dahlia. Other beds were filled with Pelargonium Brilliant, Collisson's Superb Pelargonium, a very fine blooming scarlet; Verbenas Purple Rival, Purple King, Mars a capital scarlet variety, and Snowflake, still one of the best whites. Two kinds of Calceolarias are extensively used here: Aurea floribunda and Trentham Yellow, both excellent for bedding purposes; and for broad margins and smaller beds, Lobelia speciosa. The beds of Gazania splendens were very bright, and told well in the shape of large masses. Running parallel with the terrace immediately below the upper terrace is a mixed border of shrubs, Roses, and herbaceous plants, in which we noticed several Cannas, whose diversified foliage looked well amongst other things of a less ornamental character. A broad flight of steps from the centre leads to the Upper Terrace, from which a capital view of the lower terrace is obtained, and it is not easy to conceive a grander display of floral beauty than might here be seen this summer. At each end of the mansion, on the upper terrace, are two smaller Italian gardens, in which pyramidal Irish Yews, &c., are planted; they are also kept gay with bedding plants. Conspicuous in these two gardens were beds of Gladiolus in full beauty and in luxuriant health; and as Gladioli this year generally look unhealthy and are failing in many places, we inquired of Mr. Fowler what treatment these had had. The roots, he said, were potted in March, kept in a cool house and planted out in the middle of May, and very little water was given them during the summer; the soil is light, about 15 inches deep and good. Heliotropes and other bedding plants were planted along the edges of the beds.

Between the pleasure grounds and the kitchen garden is a long conservatory used chiefly for specimen Azaleas, Camellias, and other greenhouse plants, immediately in front of which, close to the wall, was a long line of the light variety of Amaryllis Belladonna, which is perfectly hardy here and was in full flower. This is truly a lovely hardy plant for cutting from, growing from 15 to 18 inches high with clusters of flowers nearly as large as the Vallota purpurea, but of a delicate pencilled pink colour with white centre. This charming plant is rarely met with now; it should however be in every garden. Here it is never disturbed and increases freely. Close by is the large walled-in kitchen garden, and on either side of the main walk is a good riband, 460 feet long, in which the Purple Zelinda Dahlia was a conspicuous feature, and in one part of the garden we noticed a good bed of Mimulus cupreus raised from seed; among them some were of a brighter scarlet than others. This kitchen garden has been considerably improved of late years, fresh walks having been made and a portion of the walls planted with young trees. Peaches, Apricots, Pears, Plums, and Cherries have been good, Apples only an average crop. Three kinds of Beet are grown here, viz., Nutting's Dwarf Red, an upright-growing dwarf kind with very dark foliage; a Dwarf Dark Beet, but with glossy very dark leaves; and the Pine-Apple Beet, which has the lightest coloured foliage, but is most esteemed by Mr. Fowler for culinary purposes, the root being richest in colour, of finer texture, and more juicy than that of either of the others. That grown here as the Dwarf Dark Beet would make a striking plant for a riband, and be superior to the Perilla. Strawberries in pots are extensively grown, and are in fine condition; 3000 pots are now ready for next season's demand. All are grown in 5-inch pots; the Sir Harry is grown largely for a late crop, and Oscar is also a favourite. Keens' Seedling is likewise in great demand, as is also British Queen.

One large Vinery, 64 feet long and 20 feet wide, is filled entirely by one plant of the Tokay Grape, planted in the year 1783; it occupies 17 rafters. Previous to 1856 it suffered very much from a damp worn out border, and the Grapes were unfit for use; but in that year Mr. Fowler carefully lifted the roots and renewed the border, since which the Vine has made wonderful progress, and now produces an excellent crop of Grapes, seldom having a bad berry from the time of setting until they are cut. Last spring they were kept hanging plump and good up to March. At one end of this house is a large group of Musa Cavendishii in fruit.

There are two Vineries adjoining the large one just named, each 55 feet long and 30 feet wide, in which is a quantity of strong young Vines, which promise in a year or two to furnish capital crops of fruit. Figs in pots and against the walls are extensively grown;

those in pots yield a large quantity of fine fruit. The Peach trees in the houses are furnished with abundance of plump buds. In one of the Vineries we noticed the Passiflora laurifolia, producing bright orange-coloured fruit about as large as an Apricot; it is used as a dessert fruit, and has a peculiar but decidedly pleasant flavour—it is well worth cultivating. Pines are grown well; they consist chiefly of Queens, Providence, and Smooth-leaved Cayennes. In one of the greenhouses was a fine lot of Balsams, very double, and some of them of a dwarf bushy habit for table decoration; and for the same purpose no autumn blooming plant deserves more extensive cultivation than the crimson and yellow Celosias, of which Mr. Fowler has a good batch of dwarf stocky plants in full flower. Altogether the grounds are kept in beautiful order, and reflect credit on Mr. Fowler's management.

## Miscellaneous.

*Death of Mr. Hugh Low.*—This, we regret to record, took place at Clapton Nursery on the 15th inst. Mr. Low, who was in his 70th year, died from bronchitis, a disease to which he has long been subject. The many fine plants introduced by him which bear his name connect him closely with horticulture, and are living monuments of his untiring perseverance and energy. To his home circle his loss is a severe calamity. He was a warm friend, and many now holding responsible situations in different parts of the world will remember with gratitude that to him they owe their first start in life. His son, Mr. S. Low, succeeds him in the business.

*A Poor Old Tree.*—I am a helpless and most ill-used individual, and my friends have advised me to make my grievances known. To make my tale short I belong to that class of national property which guide books call "objects of interest," of which this old historic country possesses so large a share; but I am not an old abbey nor an old tower, nor even an old cairn; I am simply an old Yew tree. My residence is in a church-yard, in a very lovely valley in Derbyshire called Darleydale. From the reverence which has been paid to me for more generations than I care to name, and from the admiration which pilgrims from all parts of the world who come to see me bestow upon me, I conceive that I am no common tree. My trunk alone girths 33 feet, but within the memory of man I have stretched my arms across one entire side of the churchyard, and 40 years ago the young urchins of the parish used to climb from the outer wall into my branches, and from my branches on to the church leads. My age is fabulous, and learned naturalists now calculate that I must have been born 300 years before the Gospel was planted in this country, in which case I was probably associated with an old pagan building, the foundations of which are still discovered in digging graves in my immediate neighbourhood. If my memory did not fail me of course I could tell all about this better than the naturalists, but age has made me somewhat hazy in this respect, so that I must leave my origin to the genealogists to settle. Well, with all these claims to reverence, is it not shameful that in this year of grace 1863 men should cut and break and mutilate my poor old person in all conceivable ways? Until tourists began to multiply and excursion trains to run I had scarce a single scar, other than time and tempest had left, on my body. But now the Snookses and Tomkinses and Joneses have begun to immortalise themselves (as is the fashion of that race) by cutting their names all over my bark, and the other day two fellows of this tribe commenced a still more cruel process. While one of them smoked his pipe and watched, the other drew out a saw, and actually set to work to cut out a great slice of my very flesh, which, but for the lucky intervention of the clerk, he would soon have accomplished. You may believe me, when I tell you that I quite dread the sight of an excursion train, and, from all that I hear, I am not alone in these apprehensions. My fellow "objects of interest" are crying out on every side of me and all over the land that the Goths are coming again. Oh, sir, can you not repel these barbarians? The foe of all abuses, will you not make your potent voice heard to put an end to this abuse? *Times.*

*False Reasoning.*—The mind ought in everything to be accustomed to form a just judgment. If it became accustomed to loose ideas of truth and falsehood, what would be the result when it had to pronounce a stern judgment on itself, to overcome temptation, and when everything depended upon that uprightness of mind which was able, from long practice and constant training, on no occasion to swerve by a hairsbreadth on one side or the other? That the training of the mind must be by the individual was self-evident. No two persons thought and felt alike. He would illustrate his meaning by referring to a well-known fact, although it might be regarded as rather commonplace. From the earliest ages poets and agriculturists had considered two trees as intimately united together—the Elm and the Vine; and those who had visited the beautiful plains and valleys of Italy must have been struck by the loving group and their verdure and fruitfulness. The Elm grew up a stately tree. The Vine crept up by its side, a miserable sapling, without vigour or strength, unable to sustain itself. The one tree lent strength, the other gave beauty. They were born together, their roots were mingled almost inseparably beneath the soil, they lived upon the same food, they sucked up nourishment from the same ground, they drank the same dew and the same rains of heaven. And yet no skill, no power could make them the same. The husbandman might trim and prune and enrich the soil as much as he pleased, but he would never bring a single Grape out of the Elm and never form a self-sustaining stock for the Vine. They received the same nourishment, but they created what was given to them into a different substance. —*Cardinal Wiseman on Self Culture, as reported in the Times.* Surely this is not "forming a just judgment." Feed a sow and a dog on the same substances as long as you like, the breeder will never have a single pup from the former, or pig from the latter. What organised beings of whatever kind produce, does not depend upon what they feed on, but on their several natures. We cannot but wonder at so acute a man as his Eminence overlooking this obvious distinction.

*Sale of Conifers.*—Our readers may be glad to be reminded that an important sale of Conifers, including some 20,000 plants of Wellingtonia, and about the same number of Cupressus Lawsoniana, is to take place at Edmonton in the course of next week. The plants are said to be in prime condition for autumn planting.

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—As has been formerly stated, summer-flowering twiners, which usually get unsightly at this season, should be cut back freely; so should also any others that will submit to that kind of treatment. In the case of cold pits, the time has now arrived for getting straw shutters or whatever else it may be intended to use as coverings for them put in readiness for use without delay. Straw shutters if well made are expensive in the first instance, but are considered by many to be the most efficient of any kind of covering in use; and taking into account the time they last, they are perhaps as cheap as any. Expose the stock in such pits freely to air on every favourable opportunity, so as to check growth and get the wood firm. Little water will be required at the root, but look over the plants every few days, withholding water until it is absolutely necessary, and then giving a soaking.

### FORCING DEPARTMENT.

PINERIES.—The trying period for those who have to winter their young stock in pits heated by fermenting materials may be expected soon to arrive, for with short days and cold nights it is a difficult matter to preserve Pines in a healthy state, where warmth must be accompanied by excessive moisture. Keep the linings sufficiently strong to maintain the temperature at about 65°, which will allow of giving air rather freely on fine days, and a little must also be given in all states of the weather, when doing so does not cause the thermometer to sink under 55°. There should be no attempt made at inducing growth, but the linings should be kept rather strong, so as to be prepared against the setting in of unfavourable weather, and also to allow of giving sufficient air to prevent excess of moisture. See that efficient coverings are prepared, and endeavour to keep the bottom-heat steady at about 75°, and the soil in a rather dry state. This system of Pine growing is now, however, but little practised.

VINERIES.—Where very early Grapes are required, the first house must soon be started; endeavour therefore to secure a little warmth for the roots in the outside border, and if fermenting materials be used, watch these narrowly, and endeavour by timely additions and frequent turnings to secure a regular gentle warmth of 60° or 65° at a foot below the surface of the soil. If fermenting materials are employed, there will be a great saving of labour, &c., by thatching them with a good coat of something to throw off wet, and preserve them from the weather.

### FLOWER GARDEN AND SHRUBBERIES.

Chrysanthemums will soon be beginning to occupy attention; let them be tied out so as to display their blossoms to the best advantage, and where too thick, thin out the buds. Protecting materials had also better be got ready for such plants as require to be covered up in winter; where dry Fern can be had it answers the purpose perfectly. If the weather sets in wet, choice sorts of Hollyhocks may be taken up, potted, and wintered in a cool house; they will be exceedingly useful for furnishing cuttings, and these if got in early in spring will make excellent plants for next season. Be careful to secure transplanted things against wind, especially large plants, which should never be left until they are properly staked or otherwise made fast, for when this is put off it frequently happens that the roots get injured through the tops being rocked about. Get spare ground intended to be planted early next season deeply trenched and ridged up so as to expose it as much as possible to the weather, putting in plenty of good rotten manure, especially where strong growing plants, such as Hollyhocks or Dahlias, are to stand, for these require a deep rich soil.

### HARDY FRUIT AND KITCHEN GARDEN.

The weather hitherto has been favourable for the ripening of late fruits. Continue therefore gathering both Apples and Pears, most varieties of which will now be fit. Nonpareils should be amongst the last gathered, and the same may be said of Glou Morceau, Beurré Rance, and Easter Beurré Pears. If Coe's Golden Drop Plums be carefully gathered, wrapped singly in thin paper after remaining some days in a dry airy room, and then packed in shallow boxes, they will keep a long time, and so will the Blue Imperatrice and the Ickworth Imperatrice, the latter being the more preferable Plum of the two. It cannot be too often repeated that all choice fruit should be gathered when perfectly dry, and in storing, wherever an extensive surface of fruit is exposed, air must be admitted freely, for at this period exhalations are most abundantly given out, and more especially by the early varieties on their becoming fit for use. These, in fact, ought not to be in the same apartment with the more valuable late keeping sorts. Look frequently over the fruit room, and remove at once any fruit that appears to be unsound. Prepare ground for planting. Take advantage of wet days for making fresh Mushroom beds, and clearing out those that are spent; also collect and prepare droppings for forming fresh beds by spreading them in a shed and turning them every day.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Sept. 23, 1863, as observed at the Horticultural Garden

| Sept. | Moon's Age. | Barometer. | | Temperature. | | | | | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Of the Air. | | | Of the Earth | | | |
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 17 | 4 | 30.075 | 30.055 | 70 | 36 | 53.0 | 59 | 59¼ | S.W. | .00 |
| Friday 18 | 5 | 30.062 | 29.922 | 73 | 39 | 56.0 | 59 | 59 | S.W. | .00 |
| Satur. 19 | 6 | 29.799 | 29.032 | 75 | 48 | 61.5 | 59 | 59 | S.W. | .46 |
| Sunday 20 | ☽ | 29.485 | 29.399 | 63 | 40 | 51.5 | 59¼ | 59 | S.W. | .00 |
| Mon. 21 | 8 | 29.181 | 29.032 | 62 | 40 | 51.0 | 58 | 58¾ | S.W. | .04 |
| Tues. 22 | 9 | 28.938 | 28.806 | 63 | 35 | 49.0 | 57½ | 58¾ | W. | .05 |
| Wed. 23 | 10 | 29.154 | 29.036 | 62 | 32 | 47.0 | 57 | 58 | N.W. | .06 |
| Average. | | 29.512 | 29.326 | 66.7 | 38.5 | 52.7 | 58.8 | 58.9 | | .79 |

Sept. 17—Clear; fine, with low white clouds; very fine.
— 18—Overcast; very fine throughout.
— 19—Densely overcast; fine; cloudy; boisterous at night; rain.
— 20—Rain; fine throughout.
— 21—Fine; low clouds; boisterous; fine; rain.
— 22—Overcast; fine; boisterous; showery and rough.
— 23—Heavy dew; clear, boisterous and showery; at freezing at night.

Mean temperature of the week 3 4-5ths deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Oct. 3, 1863.

| Sept. and October. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 27 | 65.2 | 45.3 | 55.2 | 22 | 0.57 in. | — | 2 | 4 | 3 | 7 | 11 | 8 | 2 |
| Mon. 28 | 64.6 | 44.8 | 54.7 | 20 | 1.44 | 1 | 4 | 4 | 1 | 10 | 10 | 4 | 3 |
| Tues. 29 | 65.3 | 44.9 | 55.1 | 24 | 0.46 | 2 | 3 | 3 | 4 | 7 | 13 | 3 | 2 |
| Wed. 30 | 64.9 | 43.5 | 54.2 | 22 | 0.58 | 3 | 2 | 3 | 4 | 6 | 9 | 9 | 1 |
| Thurs. 1 | 63.6 | 45.1 | 54.3 | 19 | 0.53 | 2 | 2 | 2 | 2 | 7 | 16 | 4 | 2 |
| Friday 2 | 64.6 | 44.0 | 54.3 | 18 | 0.48 | 2 | 3 | 1 | — | 9 | 11 | 7 | 4 |
| Satur. 3 | 63.9 | 44.2 | 54.1 | 16 | 1.01 | 2 | 3 | 1 | 1 | 11 | 11 | 5 | 3 |

The highest temperature during the above period occurred on the 27th of Sept., 1832—therm. 79 deg.; and the lowest on the 2d of Oct., 1853—therm. 17 deg.

## Notices to Correspondents.

ASPLENIUM VIRIDE: *Subscriber.* There is no better reason for making this a variety of A. Trichomanes, than there is for combining almost any other pair of nearly related plants. It is more a matter of fancy than of fact. Certainly, none of our special Fern authorities unite them, but they are sometimes combined by the writers of general Floras, even of the present day.

BOOKS: *W D L S.* Send him Loudon's Encyclopædia of Gardening.

FUNGI: *G H S.* Your fungus is Sparassis crispa, a highly interesting esculent species. Would you kindly write a line directed "Rev. M. J. B., King's Cliffe, Wansford," to say where you find it, and whether it occurs in any abundance. *M J B.*

GRAPES.—We have received an account of the destruction at the General Post Office of a letter containing Grapes in a highly offensive state. This will account for the correspondent who sent them not receiving any answer. *M J B.*

INSECTS: *J & J H.* We do not think that insects have had anything to do with the diseases of your Heaths, Heliotropes, and Fuchsias, as we fail to discover the slightest traces of insects or their action on your specimens. Over cultivation and Fungi seem to be the causes of the mischief. We will enquire further and report next week.—*M & Co.* The grubs sent are the caterpillars of the Dart moth. *W.*

MARIGOLDS: *J J.* They are certainly not the African, but very like what is called the New Orange French, which is a large and very showy deep orange-coloured sort, such as yours. It may be the result of a cross, but we do not know its origin.

MUSHROOMS: *S W M.* These plants are propagated by spores, not seeds. If you place an old Mushroom over a sheet of white paper in a *very still place*, the paper will, in a few hours, be covered by the finest possible dust. That dust consists of their spores. Mycelium is Mushroom "spawn."

NAMES OF FRUITS: *A Young Gardener.*—1, 2, King of the Pippins; 3, 4, Dumelow's Seedling; 5, Imperatrice Plum; 6, Jefferson ditto. Received: *W G* and *F H S*

NAMES OF PLANTS: *S E P.* Bartonia aurea.—*Moulsey.* Rhamnus catharticus; berries purgative.—*Burr & Co.* Phytolacca icosandra.—*Strawberry Leaves.* The specimen is in such a state that Œdipus himself would be unable to reply.—*Diss.* The Oak from Mannington is a form of Q. pedunculata, before unknown to us. It is most like a Neapolitan Oak distributed by Tenore, under the name of Quercus Natalena.—*Staffordshire.* It is rarely possible to name exotic plants, and least of all seedlings, unless in flower. No better protection is needed in winter than dry dead leaves.—*J R S.* We cannot undertake to name plants not in flower.—*G.* Pyrus spuria of De Candolle, a variety of Pyrus hybrida of Linnæus.—*T B Bowdon.* Oncidium barbatum.—*W H.* Blue, Nepeta ukranica; Red, some Pentstemon looking like cordifolius, but the specimen is so bad that we cannot say more.

POTATOS: *D D.* We will report next week after they have been cooked.

VINERIES: *Harpagon.* You should visit the great Iron Conservatory in the garden of the Horticultural Society at Chiswick.

MISC.: *R S P.* We assure you, that of our own personal knowledge the statement is wholly false. The source from which it is known to have come, will, we doubt not, put people on their guard.—*A Young Gardener.* Sixpence a line, consisting of 10 words to the line.—*B C D.* We cannot publish a libel, as the statement about stamps certainly is. The County Court provides a remedy. Carnations from seed will not bloom the first year, at least not satisfactorily. The other question shall be put to our Correspondents next week.—*J E, Dublin.* We do not know, but are enquiring.—*L V H.* The white substance on your Rose leaf is mildew.

TRADE

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NOW READY FOR DELIVERY.

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The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the miller, and realised £19 7*s.* per acre.

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In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately; those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

*This family Z is now for the first time offered to the public*, and is ready for delivery.

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The BURGHFIELD EARLY WHITE, a Lammas Wheat of superior quality; noted for early maturity, length and stoutness of straw, ear, and berry; raised by the Advertiser from a single grain.

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HALLETT'S PEDIGREE, very productive; present prices, 56*s.* per quarter, including new stout Sacks, and delivery to Henley Station, Great Western Railway.

The above Wheats are warranted true to their kinds, clean, and in first-rate condition, by the Grower, Mr. R. C. M. YOUNG, Flint Hall, Hambleden, Henley-on-Thames. A remittance required with order.

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AUTUMN SESSION, 1863.

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*Council.*

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The Right Hon. THE EARL DUCIE.
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ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.

R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Sc.

VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.

W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.
Mr. BAILEY DENTON, M. Inst. C.E., will lecture on Drainage on the Afternoon of Thursday, October 1.

N.B. Mr. Wilkins will Lecture on February 9.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the PRINCIPAL.

**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

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THE LANDS IMPROVEMENT COMPANY.—Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &C. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
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Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

THE BIRMINGHAM CATTLE and POULTRY SHOW, 1863.

The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held in Bingley Hall, on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3, when PRIZES (CUPS, or other Articles of Plate, and GOLD and SILVER MEDALS) to the amount of £1940, will be awarded in the following Divisions, viz.:—

| | £ | s. | d. |
|---|---|---|---|
| FAT CATTLE .. .. | £784 | 5 | 0 |
| FAT SHEEP .. .. | 275 | 15 | 0 |
| FAT PIGS .. .. .. | 60 | 5 | 0 |
| BREEDING PIGS .. | 76 | 10 | 0 |
| CORN and ROOTS .. | 68 | 5 | 0 |
| POULTRY and PIGEONS | 674 | 4 | 0 |

Prize Lists and every information may be obtained from the Secretary.

The ENTRIES CLOSE on SATURDAY, October 31.

JOHN B. LYTHALL, Secretary.

Offices: 13, Temple Street, Birmingham.

SMITHFIELD CLUB FAT CATTLE SHOW, 1863.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS, will be held at the AGRICULTURAL HALL, ISLINGTON, on MONDAY AFTERNOON, December 7, and four following days.

The Prizes now offered consist of 1825*l.* in money; 60 Silver Medals; Two Silver Cups, value 40*l* each, for Cattle; Three Silver Cups, value 20*l.* each, for Sheep; and a Gold Medal for Pigs; also a Butcher's Silver Cup, value 10*l.*

There are now separate Classes for Eleven distinct Breeds of Cattle and Ten distinct Breeds of Sheep, and Four Classes for Pigs of different ages.

The Entries for LIVE STOCK CLOSE on NOVEMBER 2.

The Entries for AGRICULTURAL IMPLEMENTS, &c., CLOSE on OCTOBER 1.

Prize Sheets and Printed Forms of Certificates, with full particulars, can be obtained on application to

Mr. DAVID PULLEN, Assistant Secretary,
At the Office of the Honorary Secretary,
Corner of Half Moon Street, Piccadilly, London, W.

N.B.—Applications for Prize Sheets and Forms of Certificates must be addressed to the ASSISTANT SECRETARY as above, and all letters must bear outside the words "SMITHFIELD CLUB."

SMITHFIELD CLUB FAT CATTLE SHOW, 1863. IMPLEMENT DEPARTMENT.

The LAST DAY for receiving Entries for the Implement Department of the Show is Thursday, OCTOBER 1, 1863.

Forms of Certificates, and all information can be obtained of

Mr. DAVID PULLEN, Assistant Secretary.
Corner of Half Moon Street, Piccadilly, London, W.

# The Agricultural Gazette.

*SATURDAY, SEPTEMBER* 26, 1863.

MEETING FOR THE ENSUING WEEK.

FRIDAY, October 2—Bedfordshire.

WE have received a proposal from our excellent correspondent "FALCON," who has for many years in these columns written on the waste of overfeeding breeding stock, and on the folly of a prize system, by which agricultural societies foster a wasteful practice. The following is his proposition:—

"My remarks relative to over-feeding animals, were intended to draw the attention of the members of the Royal Agricultural Society and of agriculturists in general to a subject of great interest—viz., the breeding and feeding of animals, and how they can be made profitable to the farmer and at the same time afford cheap food to the consumer. To what extent it is advisable to fatten animals for exhibition is a fair and open question, and well worth discussing. Would it not be better to have distinct classes, separating the

monsters from those best calculated to increase their species, and those ready for the butcher. If it is considered advisable to show mountains of fat there can be no objection, provided the ox, sheep, or pig carrying the burthen does not obtain the highest prize. Fatting beyond a certain point leaves competition in the hands of wealthy farmers; men of limited capital cannot afford to spend a ten pound note extra on a few sheep for the sake of a small sum of money or a recommendation; but if the animals exhibited, no matter of what description, were either fit for breeding or immediate slaughter, a ready sale might be found for them without loss, to the advantage of the owner, who would not have the risk of taking home animals unable to stand, which might die during a long journey by rail, as I understand many of them do. It may be worth trying the following experiment at the meeting of the Royal Agricultural Society in 1864.

"Three prizes to be offered, of 10*l.* each, for the six best oxen, 10 best sheep, and 10 best Pigs; a Dr. and Cr. account to be shown of the expense of feeding. The animals to be in good condition, ready for the market, and not too fat. If 29 members will subscribe 1*l.* each for the above purpose, the writer will make the 30th. The cash to be forwarded to the treasurer of the Royal Agricultural Society, and acknowledged in the *Agricultural Gazette*."

We add, as relating to the same subject, the list of rules to guide judges and exhibitors at shows of breeding stock, which was drawn up many years ago by Mr. FAWKES, a leading breeder of Short-horn cattle in Yorkshire, and urged by him on the Council of the Yorkshire Agricultural Society:—

1. All the cattle duly qualified for competition to wear round their necks in the show yard, labels bearing certificates from their owners of the years and months they are old.

2. No 2-years and 5, 6, 7, 8, 9, 10, or 11-months old heifer to be qualified for competition unless she bears on her label a certificate from her owner "that she is six weeks past her bulling," and her premium not to be paid till she has produced a live calf.

3. No 3-year old heifer to be qualified for competition, unless she bears on her label a certificate from her owner "that she is five months gone in calf," and her premium not to be paid till she has produced a live calf.

4. No 3 years and 6 months old heifer to be qualified for competition under any circumstances.

5. No cow, not in milk or calf, to be qualified for competition. Each cow to have on her label a certificate from her owner "of how many live born calves she is the dam," and her premium not to be paid till, if in calf and not in milk, she has produced a live one.

6. No yearling bull (if 1½ years old) to be qualified for competition, unless he bear on his label a certificate from his owner "that cows are holding to him."

7. No 2 years old or aged bull to be qualified for competition, unless he bear on his lable a certificate from his owner "that he is the sire of 12 live born calves.

These rules appear to us more likely to meet the evil of which "Falcon" and others justly complain, than any provisions, the working of which must hinge upon the award of a judge, as to what comes properly within such terms as "over fat," and "breeding condition," &c.

The office of judge, difficult and unpleasant at any time, would hardly be accepted by any one if decisions of this kind were among its duties. "Men, however," as Mr. H. S. THOMPSON, M.P., once said in a letter to Mr. FAWKES on this very point, "volunteer on other forlorn hopes, and let us, for the sage of argument, suppose that a competent person could be found to volunteer on this. What would be his chance of success? for after all the real question is, Could the thing be done? I appeal to yourself, who, as the owner of a splendid herd, are as well able to decide such a point as any one I know:—Could you have undertaken to pass in review the Short-horns exhibited last year at Wakefield, and have drawn a line between the pardonably and unpardonably fat, with sufficient distinctness to have satisfied your own mind that it would be fair and just to have sent those on the right to compete for prizes, and to turn those on the left out of the yard? I, for one, should be quite content to let the decision on this point rest on your answer after trial. I feel sure that it could not be done. It would be very easy to walk through the yard and select an animal which is atrociously fat, and which, every one would agree, might go to the door; but after dismissing one offender, you could not walk far without finding another so nearly as bad as the last that it would be a gross injustice to condemn the one and (possibly) reward the other, and it must, therefore, be sent after its fellow. Next would be found one, rather less corpulent certainly, but with so little interval between him and the preceding culprit that the line could not be drawn between them; and in this way, I am fully persuaded, you might find almost imperceptible degrees of decreasing fatness, which would carry you from the most unwieldy to the leanest animal in the yard, without a possibility of stopping anywhere and saying—thus far will I go, and no farther."

It appears to us that Mr. FAWKES's rules, by which not the tendencies but the results of over fatness in breeding animals are made the test of exclusion from competition, are the most likely to meet the evil of which our correspondent "Falcon" complains.

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WE lately called attention (p. 874) to a particular instance of the destruction of a crop of Swedish Turnips by "the grub." The crop in question was very uneven as regards size; here and there were considerable gaps in the rows, on examining which more carefully we saw an occasional plant of a sickly reddish-brown colour. Some of these were taken up by the roots, and in only one instance did we fail to find one or more brownish caterpillars, the nature of whose operations was soon seen in the more or less eroded bulb by which this peculiar colour of leaf is accompanied.

The roots seemed to be eaten away in separate holes, much like those that we sometimes meet with in Potato tubers, and we have no doubt in both cases by the same grub. These holes appear to be managed with a peculiar instinct, so that the bulb is not entirely eaten through until it is pretty nearly consumed.

The annexed represents one of the eroded roots or bulbs eaten nearly through, just below the neck of the plant.

Upon looking more closely along the denuded rows, we found the tops of Turnips here and there turned upside down, in some of which the root had been nearly eaten away; in others, however, they seemed to have been broken off by the rooks.

The grub that is committing these ravages—the larva of the common Dart Moth (*Noctua seyetum*)—may be destroyed by quick lime, salt, tar-water, infusion of tobacco, when it comes forth at night. These may be applied with some effect in the garden, but in the field we must either pick them ourselves, or allow the rooks to do so.

Turning ducks and pigs into a freshly ploughed field when for Turnips will tend to the destruction both of unhatched chrysalids as also of the young hatched grubs, and it is for these and wireworms that the rook so industriously follows the plough.

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IT ought to be made known through the columns of the Agricultural Journals as a matter of general agricultural interest, that a testimonial towards which agriculturists generally, as well as agricultural students, may fairly be asked to contribute, is about to be presented to Dr. VOELCKER, Professor BUCKMAN, and Professor COLEMAN, on their retirement from the Royal Agricultural College, "as a slight acknowledgment of the valuable services they have rendered to the Students under their instruction, as well as to the general progress of Agricultural Science."

A resolution to this effect was adopted by the Royal Agricultural College Club at Worcester last July, and we cannot doubt that the propriety of it will be generally admitted. Any person wishing to contribute to this testimonial should communicate with Mr. HY. TANNER, at 2, Claremont Place, Clifton.

We also mention that Professor BUCKMAN's friends have resolved that he shall not be permitted to leave Cirencester without some direct expression of the gratitude of the neighbourhood for his many public spirited labours in its service. "He was among the first, and perhaps the most earnest and efficient of the members of the Cotswold Naturalists' Club, of which he was for some years the secretary."—"With Mr. POOLEY and a few others he established the Cirencester Naturalists' Club, of which he was the President and principal support."—"His long continued superintendence in conjunction with Mr. C. NEWMARCH in securing our fine Roman pavement (the great expense of the works and building being generously borne by Earl BATHURST) are well known. Nearly all the Roman articles in this interesting museum, some of them unique, were collected and furnished by him, many at his own cost."—"By Mr. BUCKMAN's love of science, and his readiness to impart knowledge, he has drawn many into the same paths."

These are extracts from a circular issued by Mr. THOMAS WARNER and other gentlemen of Cirencester; and they certainly convey sufficient reasons why, "altogether apart from matters in dispute with the Royal Agricultural College," some expression should be given to the good will and gratitude to which Professor BUCKMAN's long and useful residence at Cirencester has given rise.

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—— WE are glad to announce that on Thursday, October 1st, the first of a short course of lectures on Land Drainage will be given at the Royal Agricultural College, Cirencester, by Mr. BAILEY DENTON, M. Inst. C.E. He thus joins a number of practical and distinguished men who have wished by their gratuitous services both to further the objects of that Institution during the current session, and to express their confidence in its present management.

Mr. DENTON's lecture will be given in the theatre of the College between 2 and 4 o'clock.

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## NINE VARIETIES OF WHEAT.

The following report, by Mr. George Hope, of Fenton Barns, was written in competition for the premium of the United East Lothian Agricultural Society.]

ON the 14th October, 1831, the following eight varieties of Wheat were sown after drilled Beans, the soil a heavy loam, and very similar in condition and quality over the whole field, each variety occupying a Scotch acre. Ten pecks of seed were allowed for each sort, and they succeeded each other as follows:—

No. 1. Hunter's
2. Mungoswells
3. English, or Chapel White
4. Gregorian
5. English, or Belton Red
6. Lammas Red
7. Peaston Red
8. Rivet

the field being occupied by the sorts already stated; but wishing to ascertain the value of the Woolly-eared kind as compared with Hunter's, recourse was had for that purpose to another field after Potatoes, the soil a light loam, the quantity of seed for both being the same as for the other kinds, and sown the 22d of October. Amongst the first eight varieties, there was no discernible difference in the braird, and it was hardly possible to distinguish one from another during the winter. On the other field, however, the Woolly-eared started sooner than Hunter's, and continued to look earlier during the winter.

During the month of April, the different kinds began to distinguish themselves from each other in a greater or less degree. Nos. 1 and 2 were very much alike in every particular. No. 3 was much darker in colour, and broader in leaf than the preceding two. No. 4 was a paler green than Nos. 1 and 2, but broader and more vigorous in the leaf. No. 5 was darker in the colour, broader in the leaf, and apparently more vigorous than any of the varieties in the field. No. 6 was in colour a shade lighter than Nos. 1 and 2. No. 7 was very like No. 6, the difference being merely perceptible. No. 8 had a sort of bluish green colour, stood more upright, being more off the ground than any of the other sorts.

On the other field, the difference between Hunter's and the Woolly-eared was still obvious, though rapidly lessening.

By the latter end of May, No. 2 had got taller and broader in the leaf than No. 1. No. 3 was still darker in the colour, but it had lost that broadness of leaf which previously distinguished it. The comparative luxuriance of No. 4 had also fallen off. No. 5 had still the most promising appearance of any of the varieties. No. 6 and 7 continued similar in appearance to each other, and in their thickness and vigour of plant something like No. 1. No. 8 was still very dark in colour, and the plants were smoother and softer to the hand than any of the other sorts in the field.

The Woolly-eared kind began to burst into ear on the 14th of June, which was five or six days earlier than Hunter's variety. In the other field, No. 4 began to shoot into ear about the same period, Nos. 3, 5, 6, 7, and 8, were all nearly alike, being from two to four days later than No. 4, while Nos. 1 and 2 were again 3 or 4 days later than these in getting into ear, the two being nearly on a par in point of earliness. It may be also noticed here, that Nos. 3 and 4, while in the shot blade, had more of what is termed rust on the leaf than any of the other kinds. The period of blooming, after shooting, is no doubt regulated by the nature of the weather, but in this case, the whole varieties were in their thickest stage of blossoming about ten days after the heads generally made their

appearance. No. 8, however, was an exception to this observation, as it required nearly eight days longer to complete the blooming process.

On the 11th of August, the two sorts after the Potatos were cut, the Woolly-eared appeared a little riper than Hunter's; it had likewise a richer coloured straw, and a beautiful square close set ear; Hunter's, like all the rest of the white varieties at present known in the county, being long and open-eared. The other field was cut on the 20th of the month; there was hardly any perceptible difference in the ripeness of the several kinds, though the trifling difference that did exist was in favour of Nos. 3 and 4. The straw of No. 1 was of a bright yellow; that of No. 2 was rather less so, but bulkier, arising from a greater quantity of leaf on the stem, and chaff on the ear. The colour of the straw of No. 3 was a dead white, stiff, short and thin in the ground; however, from the size of the ear it promised to be productive to its bulk. The straw of No. 4 was also a dead white, it was much smaller in the stalk than any of the others, and in length and in abundance of leaf similar to No. 2, and equally close planted in the ground with it and No. 1. The straw of No. 5 was close on the ground, remarkably thick and firm in the texture, and although rather short, was the most bulky of all the varieties; the ear also from its size, and the closeness with which it was set, was equally superior. No. 6, though like the preceding, a red variety, was, in bulk of straw and form of ear, something similar to No. 1. No. 7, another red variety, in respect to the foregoing particulars, appeared to hold something like a medium between Nos. 5 and 6. No. 8 was the only bearded variety, it was thinner on the ground, but about a foot taller in the straw than No. 1, and was remarkably long in the ear.

It may be proper to remark, that the capabilities of the different varieties to resist inclement weather, may be inferred from the appearance they presented on the 4th of July, after a heavy shower. No. 4 was laid perfectly flat, No. 2 partially so. Nos. 1, 6, and 8, were only what is called sweighed; and the others were totally unaffected.

The different kinds on both fields were stacked in separate ricks on the 28th of August, with the exception of the Rivet, the carrying in of which was delayed by rain till the 5th of September.

The subjoined table presents a condensed view of the quantity of grain per Scots acre, the weight per boll of 4 bushels, the weight of straw, and the date of threshing all the different varieties on the two fields.

But it is proper to remark that as the ricks were exposed to the heavy rain on the 29th of August, some damp sheaves were found in each of them, which, with the bottoms of the ricks, were threshed by themselves, and the small grains of each lot were mixed and dressed with their own parcel of softer grain. The quantity and weight of each are given in the table. *George Hope, Fenton Barns, November* 2.

| No. | Names of Varieties. | Dates of Thrashing. | Number of Bolls. | Weight per Boll. | Total of Bolls per acre. | Weight of Straw per acre. |
|---|---|---|---|---|---|---|
| | | | bolls. | st. lb. | bolls. | stones |
| 1 | Hunter's .. .. | Oct. 3 | 11<br>4½ | 15 12<br>15 2 | 15¼ | 340 |
| 2 | Mungoswells .. | Oct. 4 | 10½<br>4½ | 15 10<br>15 4 | 15 | 318 |
| 3 | Eng. or Chapel .. | Oct. 3 | 10<br>3 | 15 12<br>15 10 | 13 | 253 |
| 4 | Gregorian .. .. | Oct. 9 | 10<br>2¾ | 15 14<br>15 8 | 12¾ | 304 |
| 5 | Belton Red .. | Oct. 8 | 13¼<br>4½ | 16 3<br>15 8 | 17¾ | 367 |
| 6 | Lammas Red .. | Sep. 25 | 10<br>3½ | 15 14<br>14 5 | 13½ | 327 |
| 7 | Peaston Red .. | Oct. 2 | 10½<br>2½ | 15 14<br>15 6 | 13 | 270 |
| 8 | Rivet .. .. | Oct. 23 | 13<br>1½ | 15 0<br>14 14 | 14½ | 360 |
| | FIELD AFTER POTATOS. | | | | | |
| | Hunter's .. .. | Sep. 25 | 8<br>¾ | 15 1<br>14 6 | 8¾ | 216 |
| | Woolly-eared .. .. | Oct. 3 | 10<br>¾ | 15 8<br>15 0 | 11½ | 258 |

Note.—To know the produce per acre, both positively and relatively, with the weight per boll, as the test of quality of any of the varieties generally cultivated in the county, appears quite sufficient for the ordinary purposes of both growers and sellers. But as Nos. 5 and 7 are new in the district, their produce in flour has been ascertained, to enable the Society to judge, with greater accuracy, of their relative and intrinsic merits. No. 5 gave 13 stones of fine flour, and No. 7 gave 12 stones 8 lbs.: both kinds giving great satisfaction to the baker. The weights used for weighing both corn, flour, and straw, were 16 ounces to the pound, and 16 pounds to the stone. *G. H.*

## AGRICULTURAL COTTAGES.

[The following striking picture of cottage accommodation in the county of Norfolk appeared in the *Times* newspaper on Wednesday, September 9.]

During the past 12 months I have inspected very many parishes in this county, and made reports as to their sanitary condition. These reports have been officially presented to the authorities and duly recorded, and in no instance has their truthfulness been disputed.

The following extracts are fairly selected from inspections made by me in three Unions in this county, the reports of which have been subjected to the scrutiny of gentlemen residing on the spot, and well able to judge of their accuracy; the localities and names of owners and occupiers are for obvious reasons suppressed:—

"I found a cottage with one small bedroom, occupied by a man, his wife, and four children; the woman far advanced in pregnancy. In the same room were a married daughter, her husband, and child. The only ventilation was by a casement 1 foot wide and 2 feet deep.

"I found in one rickety tenement, wholly unfit for human habitation, a poor consumptive looking old woman, belonging to —— who had been bedridden for some time. large apertures in the walls near the bed, which is on the low floor; the walls are propped up, and likely, in my opinion, at any moment to fall. This place is surrounded by filthy dykes, full of stagnant drainage matter; no privy accommodation; the old woman has been in bed since last Christmas.

"In one instance I found a small bedroom occupied by a young man, aged 17 years, sleeping in the same bed on the floor with his sister, aged 18 years."

The next case to which I beg to draw your attention is truly remarkable for the gross indecency it discloses:—

"A man, his wife, and seven children occupy a small place not large enough to be called a room, being, in fact, the space between the ceiling and the roof. Here we find the man, his wife, a daughter aged 20 years; girl, 16; boy, 13; girl, 11; boy, 8; a girl, 6; and a girl, 3; the only ventilation and light being afforded by one square of glass 11 in. by 9 in."

"A dilapidated old cottage unfit for human habitation, neither wind nor water tight; two bedrooms, one occupied by a man and his housekeeper, and the other by his five children. The windows are stuffed with rags, and the floor, full of large holes, with large crack in the walls. The lower floor is pulled up; pieces of wood stretched across the rooms to support the roof; a disgraceful place used as a privy, without any door, and drainage run into an open ditch."

"A bedroom, occupied by a widower and six children—girl, 16; girl, 13; boy, 10 years of age, and two others. Ventilation bad."

"There is a small lean-to bedroom, used as a sleeping-room for seven children of the following ages:—girl, 19; boy, 17; girl, 15; girl, 11; boy, 10; boy, 5; girl, one year. Ventilation by a small casement of 2 ft. by 12 in."

"One small bedroom for a man and his wife and 6 children, all boys from 16 years to 12 months. Ventilation by a small casement of 2 ft. by 13 in. There is a large foul ditch at the rear, from want of proper drainage, and the water from the well that is near is impure."

"Overcrowded bedrooms occupied by a man and his wife, who have 13 children; 10 are now at home. I found in one room two stump bedsteads without any curtains, in which six of the children sleep, of the following ages:—daughter, 22, and bastard child, 2 years; daughter, 16; son, 20; son, 12; another illegitimate boy, 12 years; there was also an addition to this number a short time since of another daughter, aged 18 years. The drainage to this cottage is also defective, there being a foul open ditch, and the privy emptying into it."

"The sleeping rooms of a cottage adjoining are insufficient; in one room a man, his wife, and sick daughter, aged 20 years; in the other room a girl, aged 14; boy, 18; girl, 12 years."

"A dilapidated cottage, with one bedroom, which is neither wind nor water tight, occupied by a man, his wife, and four children—son, 21; daughter, 23, with an illegitimate child, and a boy of 11 years; there are four beds with no separation, there is no privy beyond a block of a tree with the middle out standing in centre of a shed, and drainage defective."

"Occupier, aged 33 years, sleeps in same room as father and mother; the woman is sick, and the ceiling full of holes."

"One bedroom occupied by a man, his mother, and three children, one a girl of 15 years; girl, 11, and a young man, aged 22 years, a bastard of his wife's."

"A block of miserable old buildings, one of them occupied by a man, his wife, and seven children; six of the children sleep in a small false ceiling sort of place, with a clay floor, and is approached by a ladder, the only ventilation being by a small casement of 1 ft. square, which is partly blocked up by the thatch of another building; the size of this place is 9ft. 6in. by 8ft 10in., and not 4ft. high all over; it is cold in winter and suffocating in summer; the lower place used as a sleeping room for the man and his wife is very damp."

"Bedroom in false ceiling unsafe, occupied by a man, his wife, and six children of the following ages:—Daughter, 22; son, 18; daughter, 17; girl, 9; boy, 8; girl, 7. There are two stump bedsteads and one bed on the floor; only one casement that opens."

"One small bedroom, occupied by a man, his wife, and six children—son, 22; son, 15; girl, 13; girl, 9; boy, 7; boy, 4 years."

"Seven children sleep in one room, with low ceiling. Complained of being very hot in summer. The size of the window, 2ft. 11in. Ages of children—Son, 17; daughter, 15; daughter, 13; boy, 11; girl, 8; boy, 6; girl, 4; boy, 2."

"A cottage, with two small sleeping rooms, occupied by a man, his wife, and 10 children. Son, 23; daughter, 21; son, 19; son, 17; son, 15; daughter, 14; son, 11; daughter, 8; son, 6; son, 4 years of age."

"A cottage, with one bedroom, occupied by a man, his wife, and four children. The four children sleep in one room upstairs, and parents in low room. Son, 16; daughter, 14; girl, 7; girl, 3. The ventilation is by a small casement of 15 in by 10 in."

"A cottage occupied by a man, his wife, and six children. Two bedrooms. The ages of children are as follows:—Daughter, 17; son, 15; girl, 14; girl, 11; girl, 6; boy, 2. A wretched upstair room, windows broken out, no doors to separate the rooms, an old partition broken away, no plaster over the reeds that form the roof, a hole cut in the wall to give ventilation, and bricks put in the hole at night. A disgraceful privy formed of old sacking."

"A cottage, with one bedroom, occupied by a man, his wife, and three children of the following ages:—Son, 18; girl, 13; boy, 11 years of age. Three beds in the room."

"A hovel, occupied by a man, his wife, and seven children of the following ages:—Son, 18; boy, 13; girl, 11; girl, 9; girl, 4; and boy, one year. Two boys sleep in a room with ground for the floor, windows broken away, and no ceiling to the room."

"A cottage occupied by a man, his wife, and four children of the following ages:—Daughter, 23; son, 26; son, 20; boy, 11. One bedroom. Size of bedroom, 12 ft. by 6 ft., and defective ventilation."

"A cottage occupied by a man, his wife, and seven children of the following ages:—Girl, 17; boy, 13; boy, 11; girl, 9; boy, 7; girl, 5; girl, 9 months. There is only one bedroom, but a partition has been built across the room, which is broken and dangerous; the rain comes through the roof, as there is no ceiling over the reeds; to one part of the room parted off there are no windows; the stairs are very dangerous."

"A miserable old tenement with one bedroom, with a rough partition to form another room. The parents sleep in one part, and the children of the following ages in the other:—Daughter, 23; son, 13; girl, 11; boy, 9; boy, 5; girl, 3 years. There is no window or ventilation to the part the children sleep in. The privy is a disgusting nuisance, being only a rail and stumps."

"A small cottage occupied by a man, his wife, and nine children; all sleep in one small, ill-ventilated bedroom. Ages of the children are as follows: Daughter, 20; boy, 14; boy, 12; boy, 12; boy, 10; girl, 8; boy, 7; girl 3; and another. The stench of this place is sickening and is calculated to promote disease; in fact, the stench was so intolerable that I was compelled to leave the room quickly. I have not experienced anything so bad in the county; there is no privy for the use of this large family, and a foul, open cesspool near the door. I was informed that during last summer 12 persons slept in the same room."

"A cottage, occupied by a man, his wife, and nine children; eight of the children sleep in a small ill-ventilated room only 12 feet square. Ages of children are as follows:—Daughter, 19; son, 17; daughter, 12; boy, 7; boy, 6; girl, 5; girl, 2."

"One bedroom, occupied by a man, his wife, and six children. Ages of children are as follows:—Girl, 18; boy, 14; boy, 12; boy, 8; girl, 5; girl, 3."

"One bedroom, occupied by a man, his wife, and two children. Daughter, 26; son, 23 years of age."

"An old tenement occupied by a man and wife and six children; only one bedroom; it is dilapidated and dangerous, and unfit for human habitation. The ages of the children are as follows:—Daughter, 18; son, 16; girl, 14; boy, 10; boy, 8; boy, 6. No privy accommodation."

"A cottage occupied by a man and his wife and 10 children, and wife's mother; one bedroom recently parted off and made into two; the ventilation bad and intermingling of sexes objectionable. Ages of children:—Daughter, 19; daughter, 16; daughter, 14; son, 13; boy, 12; girl, 9; girl, 7; boy, 6; boy, 2½ years; and a boy, 8 months."

"A cottage occupied by a man and his wife and four children; two bedrooms. Ages of the children that sleep in one room:—Son, 20; son, 17; daughter, 16; daughter, 13."

"A widow and her daughter, aged 29, and son 28, all sleep in one bedroom."

"A cottage occupied by a man, his wife, and seven children, and grandmother; two bedrooms. The father and children of the following ages sleep in one small ill-ventilated room:—Daughter, 18; son, 15; daughter, 14; girl, 10; boy, 8; boy, 6; boy, 3."

"One bedroom, occupied by a woman and her son, aged 30; daughter, 25; daughter, 21; and an illegitimate child of the daughters."

"A cottage with one bedroom. Son, 18, sleeps in a cupboard in the parent's room. No window or ventilation to it."

"Two small sleeping rooms, occupied by a man, his wife, and eight children. Five children, of the following ages, occupy one of the rooms, the ventilation to which is by a small casement of only 15 in. square:—Son, 20; daughter, 15; daughter, 14; boy, 13; boy, 9; another daughter of 19, who was married last Christmas, had recently left."

"One bedroom to a cottage, 17 ft. by 9 ft. 2 in. This place is occupied by a man, his wife, and seven children, of the following ages:—Girl, 17; boy, 16; girl, 13; boy, 10; boy, 7; boy, 3; girl, 7 weeks. There are three beds in the room. The woman was recently confined in this room, in which I found the flour for domestic use was kept."

"A bedroom occupied by a son of 20 and a sister 13 and their grandmother."

"A cottage occupied by a man, his wife, and eight children. There was formerly only one bedroom to this cottage, but the occupier, to observe a little decency, built a partition across the room, but as there was only one casement one of the places parted off is without any ventilation, there being no casement opening into it. This room I found occupied by a daughter, 24; son, 21; daughter, 15; son, 17; girl, 11; girl, 7; boy 5; the other is an infant and sleeps with its parents. There are only two stump bedsteads in the room, the room 6 ft. wide, 14 ft. 6 in. long."

"A cottage with only one bedroom, occupied by a man, his wife and four children. The parents sleep in lower room and the four children above. Daughter, 23; son, 17; son, 13; daughter's son, 6 years."

"A house occupied by a man and a woman. The roof of this house is in such a dilapidated condition that the sleeping room above (the only one there is) is rendered utterly unfit for use; the bed is therefore placed in the room below, which serves both as a sitting and sleeping apartment. The place is altogether in such a dilapidated condition that it is necessary during a heavy rain to set vessels in different parts of the room to catch the water."

"A house occupied by a man, his wife, and three children—two girls aged 10 and 6, and a boy 13 years of age. This house, like the rest, consists of but one sitting and one bedroom, in the latter of which all the family sleep; the roof is in a sad condition, there being in one part a large hole, through which the water enters in such quantities during wet weather as to render it necessary to remove the bed (or rather shake-down), which is placed on that side of the room, to another side of the apartment."

"One bedroom, occupied by four persons of the following ages:—Daughter, 21; daughter, 20; son, 22; boy, 12. Below is a room used as an infant school."

"One bedroom to a cottage occupied by a man, his wife, and four children. The parents sleep below and the children upstairs—of the following ages:—Daughter, 23; son, 22; son, 21; boy, 3 years. No separation whatever."

"One bedroom, occupied by the following persons:—Son, 19; daughter, nearly 20; boy, 16; girl, 14; girl, 10; boy, 9; a son of 23 also slept at home till last Christmas. The mother of the children in this case said her daughters dreaded going to bed and getting up."

"A place occupied by a man and woman and child; the cottage, which is built of clay, is in a most ruinous condition; there is but one small room, which answers the purpose of both kitchen and bedroom, and one end of which has been partitioned off, and is used by the man as a workshop. There are no upstairs rooms, the walls being only as high as the doorway; the roof is in a very wretched state."

"Another cottage, consisting of a lower room and one sleeping room, occupied by a man and his wife and children of the following ages:—Son, 17; daughter, 15; boy, 11; all occupying the same sleeping apartment. The lower room is in a shockingly dilapidated state, and the walls seem hardly able to bear the weight of the roof."

"A cottage with one bedroom, occupied by a man, his wife and seven children of the following ages:—Boy, 15; boy, 12; boy, 10; boy, 7; boy, 5; girl, 4; boy, 1 year. The room is very small, about 13 ft square with a slanting roof, the window is small and the room badly ventilated. The woman informed me that she was obliged, in summer, to place a pail of water in the room at night to cool it. There is no privy accommodation for this large family."

"A cottage with one bedroom, occupied by a man, his wife, and four children of the following ages:—Son, 19; daughter, 17; boy, 14; boy, 12. The ventilation is defective, and no privy accommodation."

"A cottage in an unsafe condition occupied by a man, his wife, and seven children. The children, of the following ages, sleep in one room:—Son, 14; girl, 12; girl, 10; girl, 8; boy, 5; girl, 4; girl, 1 year. The casement is loose and cannot be set open, the floor broken away and very dangerous, the ventilation defective, and no privy accommodation."

"A cottage occupied by a man, his wife, and five children. There are two very small bedrooms, one of them is scarcely fit to be described as a bedroom, and is occupied by four children of the following ages:—Daughter 19, who is a pupil teacher; son, 16; girl, 12; boy, 7. There are two stump bedsteads with no curtains or separation, the place is only 5 feet

wide, with a slanting roof, no window or ventilation whatever, and only two glass tiles to give light."

I trust that a perusal of the above will satisfy your readers that your remarks on this subject are, unhappily, more than justified by the actual condition of the dwellings of the poor, and may assist in awakening a spirit of inquiry in this land overflowing with philanthropy, which may lead owners to come to the conclusion that it is not to their interest (without appealing to higher considerations) to drive the labourer to a wretched home, in too many cases far removed from his employment, to avoid the contingency of having to contribute to his maintenance when he cannot obtain or perform the labour required to secure his humble subsistence.

It is true that in some parishes enlightened owners have thought it necessary to bestow as much care and consideration to the proper and decent accommodation of the labourer as is shown to the brute creation, whose services are also required in the cultivation of the soil.

It may be supposed by some that the cases I have given are not true types of the general state of the cottages of the labourer in this country; but so far from this being the case I regret to say that my experience of 14 years as a sanitary inspector enables me to affirm that I have simply shown the average condition of the dwellings of the poor, suppressing some cases of the intermingling of the sexes too revolting for insertion in your columns.

I am happy to say, that at the agricultural meetings held in this county an occasional voice is raised on this subject, and I hope before long that it will obtain the prominence it deserves, and lead to a searching inquiry, to be instituted by Parlament, by commission or otherwise. *Samuel Clarke, Sanitary Inspector, 24, Castle Meadow, Norwich.*

## CUMBERLAND FARMING.

At an important meeting, which took place at White Hall, near Carlisle, where between 50 and 60 practical farmers of the district had been invited by Mr. George Moore to discuss agricultural matters, Mr. MECHI, who has been Mr. Moore's guest, made the following speech ]

HE had great respect for the north country. He knew that it had its difficulties, and he always thought that everything that came from the north—whether it was the men or whether it was the cattle—was very hardy; they had been used to rough circumstances, and when north countrymen got to the south they were supposed to make money faster than those in the south, and they also took more care of it when they had got it. Be that as it may, that training prepared men's minds for difficulties, and made them persevering, patient, and resolved to succeed. Different counties varied so much in their climate, and their soil, and their practice, that, unless the people residing in them met together occasionally and made comparisons there were apt to be misunderstandings.

For instance, he knew many Scotch farmers and farmers from the north country who, when they went to Essex, thought it right to put in their Turnips early in May, as they had done at home. He could tell them, as he had done, that they would be frizzled up. They would get on very well at first, but by the 1st September, when people went out shooting, they would find they could not get near the birds because the leaves of the Turnips crackled like paper. They were dried up; the climate would not admit of early sowing, and the seed should not be put in till the 24th June. In Essex they had no great hills to stop the clouds; the sun there shone direct on the soil instead of its rays being intercepted by vapour, and it gave them capital Wheat with a stiff straw, but not early Turnips. They could grow Mangel Wurzel, which did not want so much rain, but which wanted warmth, and which farmers had no business to attempt to grow here; and could grow 30 tons of it more easily, with the same quantity of manure, than they could grow 50 tons of Swedes in this part of the country. Again, about Beans, when he came from the south, where they grew splendid Beans, as high as himself, he found that no Beans were grown here. He could easily understand the reason for it—that their climate was unsuited to them, that their Beans rotted, and if they got straw they did not get pods. They grew Grass and they grew Clover. With regard to Clover, he did not agree with their practice. He found that, instead of using pure Clover, they used Clover and Rye-grass, and kept it down two years, considering it a frugal practice. But that practice was different from their practice in Essex. There they sowed Red Clover once in eight years and White Clover once in four years. They mowed the Clover as hay, let it grow up again and fed it off with sheep eating plenty of cake. In the south they considered Rye-grass the worst possible preparation for corn. In the second year they got a great quantity of weeds, and by letting it grow two years here they lost a year before they came to their Wheat. In his practice he took Clover, got a good crop, put sheep on, giving them as much oilcake as they liked; and the land was in such good condition that he took a Wheat crop, which was rather too saucy—had rather too much straw. He put it under Red Wheat, and perhaps got 5 quarters; he then got Revet Wheat—long bearded Wheat, and got 6 quarters of Revet Wheat in addition to the 5 quarters of Red Wheat in the previous year—that made 11 quarters in the two years. Then he rested it with something else. They took a crop of Beans, and then something else. He always guanoed the second crop of Wheat, scarifying the stubble and putting on guano. They always manured well for the Beans, their manure coming from stock fed with plenty of cakes.

He saw with sorrow and regret as he came along the railway from London at 40 miles an hour that there were no oilcake troughs in the fields for the last 150 miles.

If they went into Lincolnshire they would find that, whatever the animals were feeding on, they were never allowed to feed without plenty of oilcake. What was the result? The animals were half as long again on the land: or the land was able to keep one-half as many animals per acre. And there was another question: the quality of the manure had a great deal to do with the corn they produced afterwards, and the quality of the manure much depended upon the food they gave their animals. A neighbour of his who was feeding off some Rape, on one side of the field gave a certain quantity of oilcake to the animals, and on the other side he fed them liberally on Barley of the same value. The field was afterwards sown with Barley, and he had two quarters more Barley per acre on the part where the animals had been fed with oilcake than he had on the part fed with the same money value of Barley. That was extraordinary. If they took the chemical analysis of Barley and the chemical analysis of the same amount of oilcake or cottoncake, looking at the value of each after it has been consumed, according to the rule which governs the price of guano, they would see that Barley is 1*l.* 9*s.* per ton, while oilcake, rapecake, or cottoncake is 4*l.* 12*s.* They could not wonder that his neighbour had 2 quarters per acre more value. He thought they were bound in these times to make experiments in accordance with the rules of science. Don't let them do anything rash; it was as easy to try it on 1 acre as it was upon 1000. It seemed extraordinary to him that in Cumberland there was so little oilcake used. In Norfolk, one of the celebrated counties for supplying London with beef and corn, the climate was very dry; whereas in Cumberland they had a great deal more rain, and therefore grew a great deal more Grass. In Norfolk, he knew a man who farmed 1200 acres of land, almost all arable land; perhaps 100 acres of natural Grass land, and the principal portion artificial Grasses. On 1200 acres of land, how much oilcake did they suppose he brought on the land? 3500*l.* was the amount of his bill in the year; or about 3*l.* an acre. He sometimes lost by it; but he sometimes made a great deal of money by it. The consequence was that on that poor land he grew such crops of Wheat and such crops of Turnips and Mangels as would surprise them. The consequence was that they grew enormous crops of corn, and produced enormous quantities of meat in Norfolk and Leicestershire, which might be called the butcher's shop and the baker's shop of London. Then he came to the question whether—being large Grass farmers, and having especially a Grass climate—it would pay to use plenty of oilcake here. He told them that it would pay. The whole question of any operations in farming depended upon the question whether it would pay. He had seen enough of this county to know that it would be much better for more manure. Did any one differ from him on that point? (No.) They wanted more manure, and they could not produce more manure, or produce it more cheaply than by feeding animals with Cotton, cake and Rape cake. It involved rather more capital if they had to keep so many more animals, and it was necessary that they should have oilcake to give them. That was another question; if they could not make the money fit the land, they must make the land fit the money. They saw what the result of feeding with cake would be. They would not only get more Grass, but they would produce manure and produce more corn, and they could take a liberty with their land which they could not otherwise do. He himself never consumed less than 530*l.* worth of cake on his farm of 170 acres in a year. Did any gentleman here use cake?

Mr. BOGUE: I should say there is not a gentleman here who does not use it a little.

Mr. MECHI said he believed they only used it in winter. They gave Turnips and hay in winter and Grass in summer; and he wanted to know why they did not give cake in summer as well as winter. If they believed it to be profitable, would they use it?

Mr. BOGUE: Certainly.

Mr. MECHI urged them to try it. He would give his evidence that it would succeed: he would promise that it would succeed. That was one weak point in farming in Cumberland, that summer grazing was not attended by the constant use of oilcake.

And there was another point. In the rapid growing time the Grass grows very rapidly—in the months of May and June—and he believed it would pay any man better to bring the Grass to the cattle than to bring the cattle to the Grass.

The practical farmer knew very well that if sheep wandered over a piece of a field, and if there did not come a shower of rain to sweeten it, a great deal was wasted, and they did not eat it with relish. He looked upon this as a vital point. He was sure that an animal had three or four mouths when it had to run about a field, and only one when the Grass was brought home to it. On his farm he had a little irrigation with a jet, over Italian Ryegrass. He had somewhere about 80 or 90 head of young and old bullocks, and they did not eat more than 1 acre per week; but if he were to turn them out on 4 acres of Italian Rye-grass, he should like to know what would be the cost. He had also 100 sheep They went on the Rye-grass in March. As soon as the Grass began to grow rapidly—in April and May, when it was too high even to trust them in the field—he put them in iron hurdles on wheels, and 100 heads appeared through the iron hurdles as regularly as if they were drilled. The result was that on 6 acres of Italian Rye-grass he put these 100 sheep in March, and there was plenty of food round and round to last until the end of July. That was 16½ sheep per acre, which was not very bad. Yet this was on some of the poorest land in England. He irrigated the land with sewage; and, in addition, he sowed some guano, washing it in with sewage of the farm. The result was that the land would grow anything. He had been down in Norfolk in October last year, and he asked what Mr. Hudson was feeding his bullocks on. He was told, "22 lbs. of cake, some Beanmeal, and all the Turnips and hay they like to eat." That might frighten some of them here. He was giving it to produce the corn after. Another gentleman told him at the same time that he had some good Lincolns, and he gave them nothing but straw, 28 lbs. of cake a-day, and plenty of water. The adoption of the management he had described had made Norfolk and part of Lincolnshire and the wolds of Yorkshire what they are. When they had a crop of Turnips to feed off the land they crammed the sheep full of oilcake. ["That is a long story about oilcake," said Mr. Mechi, "I will now drink your good healths in a glass of wine." The toast having been drunk, the speaker resumed.]

They now came to another point—that of a landlord's duties.

They had a capital fellow here (Mr. Moore), who had plenty of money, and was willing to lay it out where he had a chance of a fair return. The late Lord Leicester, formerly Mr. Coke, was a gentleman to whom the country owed a debt of gratitude. He had poor land, and he invited men of capital and intelligence to join with him. If a young man went to him to ask for a farm, he would say, "How much money have you got? and how much can your friends raise for you?" The young man would say, "I have got so much;" but Lord Leicester would not let him have a farm he had not got money for; he would say "You have not money enough for the farm you want, but I have a smaller farm that will suit you." If the young man went on to the farm and used a great deal of cake, he would probably go to his Lordship and say, "I use a great deal of cake and want more room." His Lordship put up the buildings, well knowing that his tenant was making the land more valuable. By such policy he had raised his rental 300 per cent. in the course of time. When the lease was out, a liberal arrangement was made, the tenant who had improved the land sharing the benefit with the landlord. He hoped next time he came down here to find his friend Moore scratching his head and considering a request of his tenants for more sheds, and consenting to put them up for 4½ per cent., or not so much. [Another glass of wine having been taken by the company, Mr. Mechi proceeded.]

There was another question. What quantity of seed per acre ought they to put in according to climate and circumstances?

They knew what was the quantity put in here. He had been looking at the sheaves, and he found a great many "schrinchlings." If they put 20 horses into a pasture where there was only plenty for two, they would be falling out, and some of them would be coming out "schrinchlings." They would fight for it; some would get the largest share, and others would be starved out. That was the way with a great quantity of corn he had seen in Cumberland. He did not advise them to go rashly and change the custom, but let them set apart half an acre and try it with rather less seed than they now used, as an experiment. If they now sowed one Carlisle bushel, which is three imperials, let them take off one-third. On his own land he had tried one bushel against two bushels on land side by side, and the one bushel had the advantage over the two bushels. He then altered it and tried one against one and a-half; but there he found not so much difference. As a rule, four or five pecks seemed to be about the quantity for his land, under his general farming. Only, the higher you farm the less seed you should put in Mr. Ellwood, of Crosscanonby, had told him at the Cockermouth show that he had some of Hallett's Pedigree Wheat; he had put in half a Carlisle bushel per acre and had a crop of six or seven quarters per acre. He had a strong impression that if a whole Carlisle bushel had been put in instead of half he would not have had that. This was a very vital question to the British public and the British farmer. Mr. Caird, who had collected statistics throughout the kingdom, said that he found that the average was that if you sow one bushel or one kernel you get nine; so that the increase is eight to one. Did they think they could put a kernel into the earth and make it produce so little as nine? Did it not tiller? Then, how was it they could only get nine? There should be 37 stems, and 50 in a head, which would produce 1850 kernels for one. How was this? He would tell them. There was a great battle going on; kernels fought with one another till they killed one another, and a great many were thus half killed, while others were killed altogether. So that they might safely diminish the quantity of seed they sowed. He begged the farmers present to oblige him, and oblige their families, by making a small experiment in putting in half the quantity of seed they now sow. He thought they were dreadfully behind in this county where they did not use the drill, but sowed broadcast. It was a sign of antiquity which ought to be done away with. Often when he talked with his men and his neighbours they spoke about what paid and what did not pay. By that means they arrived at certain conclusions; and he had arrived at this conclusion—that a half crop did not pay. They must have a whole crop, or it did not pay. There was a friend of his, a very successful farmer, who, whenever he had a crop that was not a full crop, ploughed it up, manured it, and put another crop in directly. He would not have a half crop. If that gentleman found Mangel Wurzel missing, he took boys with water, and a man with a half round trowel, and filled up the vacant places, saying, "We pay for the land, and we must have a crop everywhere."

He thought they might improve their fences in this county. To show the importance of attending to small matters of this kind, he said there were 56,000,000 of acres of land in England, and 56,000,000 pennies would be a large sum of money.

He was sure of several things. He was sure it did not pay to grow weeds—they should only have one crop at a time; if they had a crop of corn it should be left to itself; if they got a lot of ugly weeds it was like sitting down to dinner and having a lot of other chaps you don't want sitting down to dine with you. (Laughter.) He was very pleased to see such men as Mr. Foster and Mr. Moore coming to spend their money in the county. He would like to see more English money spent in England; it grieved him when he saw the Emperor of Russia when rather empty in the breeches pocket coming here. Every poor monarch who was hard up for cash came here for what he wants. It is true they generally paid the interest, although some of them did not. If they could have that money spent in this country, a great deal of labour would be employed. It rejoiced his heart to see capital flow out of town into country; and he would like to see landlords and tenants lay their heads together and see if they could not arrange to have work done for them if they paid the interest. He had often been told he had done a great deal of good by the errors he had committed. Well, he had drained his land, he had built labourers' cottages, he had put up covered yards for his stock, he did not waste his manure, he kept it under cover. If these did not pay—if these things were not right—he wanted to know what was.

Mr. MOORE proposed the health of Mr. Jefferson, of Preston Haws.

Mr. JEFFERSON said: Mr. Mechi had referred to the climate and the quantity of rain that fell in Cumberland. In his experience they could never have too dry a summer; it was the rain that bothered them. Grass and Turnips they certainly could grow, but in his opinion they ought to stick to them more than they do. He knew that Mr. Mechi's was an arable farm. He had had the pleasure of visiting it; but on coming home he found that the only thing in which they could not compete with him was the climate. He thought they manured as hard as Mr. Mechi did, and they consumed a great deal of cake. He did not believe in 28 lb. of cake for one cow, and giving them that quantity was not according to what the chemists told them; for they said only a proportion of cake or any other feeding stuff could be appropriated in the form of flesh. [Mr. Mechi—I did not say they appropriated it; I said they ate it.] If out of 28 lb. five or seven could be appropriated, 21 lb. went only as manure at 10*l.* 10*s.* or 11*l.* per ton. That was very dear manure. He certainly thought a little cake would pay very well, but to give a large quantity at the price it was now at was, he thought, the dearest feeding stuff. They could buy Indian Corn at 10*d.* per stone, whereas for cake they had to give 11*l.* per ton. If they wanted manure, let them buy it and put it on; don't waste it by putting it through a cow. He could not agree with Mr. Mechi as to Rye-grass; it was here the very worst Grass they had. It was a Grass nothing would eat off if they could get anything else. With regard to sowing, he himself sowed a peck and a-half of Barley; from two to three pecks of Wheat, according to the season; and one bushel of Oats (Cumberland measure). These were rather below Cumberland quantities; but he thought they were sufficient if they had the land in good order; but he did not believe in extremely thin sowing. In Cumberland, if you sow very thin indeed, you are never like to harvest. The thicker the sowing the earlier the harvest. If you sow very thin, it tillers out and shoots into diminutive heads which come to nothing; you have more hinder-ends, and the grain is longer in ripening. He did not approve of giving so much cake on Grass as Mr. Mechi advised; he thought it loosened the cattle too much; he would give oats in preference to cake, or something more binding. This summer stall feeding had been tried by many clever men he had known, and who had given it up again: and he had tried it himself, and given it up, because he could not get men to

attend to his stock and please him. He had no doubt you could keep more stock on the same quantity of land by feeding in the house than by turning the cattle out into the pasture. In regard to buildings, that was entirely a landlord's question. If a tenant had been farming very well, and went to the landlord to ask him to put up more sheds, the landlord would very probably say, "They served the former tenants; John, I don't see why they should not serve you." As to Beans and Wheat, he had grown them for 12 or 14 years. Beans pay very well if you can only get them in time. He had followed Beans with Wheat, and if the land was clean, sown it with seeds, and if not, given it a summer fallow; but he never yet got seeds after Beans. Why he could not tell; he had written to several agricultural papers on the subject, and could never get the point satisfactorily answered. With regard to gentlemen farmers, they were a sort of cattle they did not produce in Cumberland—although they had had some importations. But these generally went off in a galloping consumption. A man to make a living in Cumberland by farming, must live like a farmer and must work like a farmer, ay, and must screw like a farmer, or he will have the balance on the wrong side of the book. Mr. Mechi said that it would not pay to have half a crop; that was very true. In conclusion, Mr. Jefferson said that if he had never ploughed a single furrow when he took his farm 18 years ago he should have been richer. He could get more profit out of a pair of Irish cows' jaws than he could get out of an acre of Wheat

Mr. BOGUE agreed with Mr. Jefferson about not being able to grow seeds after Beans. The greatest fault he had to find with the farming in Cumberland was the fallow land which he hoped would grow less and less every year. It was hard to pay heavy rent for two years for the sake of growing a very small crop of Wheat; he was sure the fallow lands in this county last year did not pay an average of 4*l.* for two years' rent. Would it not be better if they had a good crop of Turnips? He considered that the land which would not grow Turnips could grow Beans if it was only dry enough in the spring, and they would have a good crop of Wheat after. He trusted that ere long fallows would be done away with altogether. With regard to Italian Rye-grass, he expressed an opinion that it could not generally be grown in Cumberland with much profit. He thought fattening cattle on oilcake a very paying concern, and that it ought to be gone into more. He himself used a great deal of cake. He ground a great deal of his Oats—he mixed that with oilcake 4 lb. to 4 lb., and he gave his cattle that per day. He pulped all his Turnips, he mashed all his straw, but he did not like to mash straw if he could get chaff. Last year he had fed nearly 100 fat cattle, and nothing paid him better.

Mr. GRAINGER said, with regard to thin sowing, that he had tried it. He had sowed with a drill 3½ Carlisle pecks, but to try thin sowing they had stopped up each alternate spout. The result was that they were much disappointed. The harvest was at least a week later, the ripened grain very much coarser, and unfortunately rather less in measure.

Mr. MECHI—What time was it sown?

Mr. GRAINGER—About the 10th November.

Mr. MECHI—Too late; it should have been sown in October.

Mr. GRAINGER said that he fully approved of what Mr. Jefferson said respecting Grass. Old Cobbett said when he came into Cumberland, "The climate cries 'Grass, grass,' but the people say 'Corn, corn;'" and he believed Cobbett was right. He urged the desirability of deep drainage, and said he was sorry to see that of late years all drainage was imperfect; after a dozen years or so it grew worse and worse. He would like to know the reason why drains act so imperfectly after a dozen or 15 years.

Mr. MECHI, replying to the speeches which had been made during the evening, said they could not grow Rye-grass in Essex without irrigation, it was such a thirsty soil, and fond of drink. Prof. Way found that irrigated Grasses contained 25 per cent. more nutritive matter than those not irrigated; and if he had pursued his investigations into Ryegrass irrigated with sewage he would have found it still more. His experience was that an animal could eat any quantity of it and never scour. Italian Rye-grass was of immense growth, and of so close growth that a rat could not go into it; and it not only kills its enemies, but eats them up afterwards. Not a Dock, not a Thistle, or a bit of Twitch or Couch Grass can live in the field. He had often been asked "Does it pay?" Does what pay? Does deep cultivation pay? does plenty of oilcake pay? does a covered yard pay? do good roads pay? does having the buildings in the centre of the farm instead of at the farthest end pay? But then it costs a good deal of money to do all that, they would say. If each particular item in that list paid, if they added them together would they not pay? Adverting to things he had seen in this county, Mr. Mechi said he had seen Mr. William Lawson's steam-engine at work, and he was draining a low place where it used to be a bog. Mr. Lawson was erecting on his farm the best buildings he had seen anywhere. Certain people might shake their heads, and say he was spending a great deal of money—but when those buildings were complete he knew of no farm-buildings so likely to contribute to profit as these Mr. Lawson was erecting. In cultivating his land he was moving soil which had never been moved before, and the result must be there would be a crop which people would be surprised at.

Mr. LAWSON asked if the farmers in this room believed in giving 28lb. of oilcake to one beast in a day. He thought that one of the weak points of Mr. Mechi's speech.

Mr. MECHI said he had not stated that he had given it himself. He did not say he would give more than 4 or 5 lb.; but a tail with oilcake left a mark behind which was not forgotten in the corn.

Mr. BLACKBURN said he did not quite agree with the plan of giving the enormous quantity of oilcake spoken of; he thought they should give no more than the animal system could assimilate. He thought that to give so much was most wasteful; he recommended the use of other manure instead of adopting that plan.

Mr. MECHI said that if they wanted to exhaust the soil, let them put on guano year after year; it gave a flash at first, but they would feel it by-and-by. A ton of straw, if ploughed into the land, without consumption, was worth 9*s.* 6*d.*, according to Mr. Lawes, and if passed through an animal it was worth three times as much. *Carlisle Journal.*

## Home Correspondence.

*Cottages, and Rent of Cottages.*—In Hampshire the size and condition of the farm labourer's cottage is disgraceful as to morality and honesty! As to morality the rooms are so few and small, that several of both sexes and all ages retire to rest in one room, and if a member of the family is sick, there is no quiet chamber for the invalid. Four men and five females have been seen retiring to rest in the same apartment. It is dishonest, because the land-owner demands a rent far above the value of the tenement, and the tenant seldom repairs the dwelling; and instead of waiting till harvest, will draw the rent weekly from the all but pauper labourer, leaving him and his family 7*s.* to 7*s.* 6*d.* a week to find food and clothing. *F.*

*Samples of Wheat.*—We take the liberty to enclose for your inspection and opinion, samples (just as they were threshed, without having anything removed but the chaff) of five varieties of Wheats obtained under the afternamed circumstances, viz.:—The land upon which they were grown is very light sand; up to the year 1861 it had laid from time immemorial in an uncultivated state, overgrown with Furze and Heath. In the winter of 1861 it was ploughed over, and left to decay until the summer of 1862, when it was cleaned, and a very small quantity of farm-yard dung, and some green tops of Lupins were dug in. In consequence of the extreme poverty of the land a large crop was not to be expected. On Sept. 19, 1862, 25 square yards of each variety were planted, single grains 6 ins. apart all ways.

| | lbs. |
|---|---|
| 1. Shirreff's Bearded White, straw longer than any of the others, ripe and cut August 8, produced (66½ lb. per bushel) .. .. .. .. .. .. .. | 19½ |
| 2. First Prize Victoria (Australia), straw a little shorter than No. 1, ripe, &c. August 11, produced .. .. | 12¾ |
| 3. Shirreff's Bearded Red, straw about the same as No. 2, ripe, &c. August 11, produced .. .. .. .. | 16½ |
| 4. Hallett's Pedigree, straw about same as No. 2 and 3, ripe, &c. August 17, produced .. .. .. .. | 16¼ |
| 5. Pringle's Bearded White, straw shortest of the five, ripe, &c. August 11, produced .. .. .. .. | 17 |

We have given you the facts of the trial and refrained from expressing any opinion, leaving that to you, which we shall be pleased to know at your convenience through the medium of your *Agricultural Gazette*. You will also find enclosed another sample (taken from bulk as prepared for market) of "Shirreff's Bearded White," grown on a fast hazel soil; the crop was all that could be desired. *Triticum.* [The following is the account of the samples sent:—*Shirreff's Bearded White.*—Very beautiful White Wheat, as good as can be, short berried, plump and white. *Second sample of the same.*—Very beautiful White Wheat, short berried, rather more horny in texture and appearance than No. 1. *Australian Wheat.*—Very good White Wheat, larger berried, horny in appearance. *Pringle's Bearded White.*—Very beautiful White Wheat, larger and longer berried, horny. *Shirreff's Bearded Red.*—Good large berried, fine Red Wheat. *Hallett's Pedigree.*—A sample of large and coarse Red Wheat. We shall be very glad indeed to receive your report of the larger experiment to which you refer.]

## Societies.

CUMBERLAND AND WESTMORLAND, *Sept.* 11.—*On Agricultural Progress.*—At the dinner of the members of this Society, Lord NAAS, who presided, said:—

There is a greater difficulty in the advancement of agriculture than in almost any other pursuit. Men devoted to agriculture live apart and have not the same means of meeting and talking over their affairs as the inhabitants of towns have—and perhaps for that reason agricultural enlightenment has not been so quick as it has been among other industrial pursuits. The farmer has always to contend with great difficulties which those engaged in other pursuits have not. He has not only to consider with the manufacturer the proper and most advantageous way of laying out his capital, but he has also to consider the chances of the weather, and often diseases among his animals, which render it perhaps the most uncertain and risky pursuit that a man can be engaged in. But notwithstanding all this, there is so much that is ennobling and so much in conformity with the tastes and habits of this country in the pursuit of agriculture, that, notwithstanding all its disadvantages and risks, it is the most popular employment that a man can be engaged in, and the most gratifying to the feelings of every man who wishes to live at home and do his duty to his neighbour and to his God. Since the beginning of this century thorough draining, which is the grammar of all farming, has actually been discovered and carried on. Nobody denies it now that you can't cultivate an ordinary field, that is, one field out of ten, without commencing with thorough draining. The introduction of guano and artificial manure is a thing that has taken place entirely within the last century, and therefore we may claim them as almost quite modern discoveries. But if these great essentials have been practised with success, and great improvements have taken place in them, equal improvement has taken place in the breeding of stock. This Short-horn breed is a new breed altogether, created by our grandfathers, and now taking its place as the first breed of cattle in the universe. The well known and distinct breeds of the country have been improved in proportion. You find the Herefords now looking almost like a mass of muscle and fat; the symmetry of the Devon has increased, the milking qualities of the Ayrshire and the Alderney have greatly increased; and even the West Highlander has not escaped improvement. The sheep is also being improved. Then the pigs. You remember those extraordinary animals we used to see about 40 years ago, whose principal features were snout and legs. In the modern pigs snout and legs are the only things you can't see. If in the cultivation of the land and the rearing of stock so much has been done in very few years, a most extraordinary advance has been made in agricultural machinery. Machines of every kind have been invented, and find a ready sale throughout the country. This is always the case. The labourer has nothing to fear from the introduction of machinery and the advancement of engineering skill. It has always been the case that wherever machinery has been introduced and brought fully into play, there capital has been produced, production has been augmented, and in consequence the number of hands employed has been enormously increased. The same rules that apply to the introduction of all kinds of machinery apply to agriculture, and therefore I believe that the British labourer has nothing to fear from the introduction of agricultural machinery; on the contrary, he will be the first person to benefit, and the only difference will be that his labour will not be quite so severe as it would be under the old system. Gentlemen, any one who reads what has lately been published on this subject, must come to the conclusion that the dwellings of the agricultural population of this country are very far from what they ought to be. If I put it upon the lowest possible grounds, there is much to be said in favour of some improvement of these dwellings. Your labourer is really the most valuable machine upon your farm. His weakness is your loss, and his strength your gain, and you will find that even in a money point of view you will get much more value for his wages from the labourer who is well housed, well clothed, comfortable, and happy, and if you put him in a position to render as little unpleasant as possible the very hard lot which he is obliged to bear. But when you think of the higher consideration that this man is of the same flesh and blood as yourselves, actuated by the same feelings, the same hopes and fears, and the same desires; that he is like us engaged in his way in the great struggle of life, and is wending his way I hope, also like us, to that distant land where all are free and all will be equal, we must feel that that which was a matter of economy in money becomes a matter of duty of the very highest order. I believe that those engaged in the interest of agriculture in this country only require to have this great defect pointed out to them, and that all classes, both landlord and tenant, will combine together to remedy this dreadful evil, and bring comfort, or at least decency, home to the dwellings of every person connected with the agricultural labouring class throughout the country.

The Hon. PERCY WYNDHAM, M.P., proposed "The Strangers, coupled with the health of Mr. Mechi." He had heard farmers in a small way speaking of Mr. Mechi, who was known from John O'Groat's to St. Michael's Mount, but saying, "If I were to follow his example I should be ruined in a week." Well, that was true, but they held different positions. Mr. Mechi was the advanced guard in the agricultural army. He tried experiments, and unless he had tried experiments he could not have succeeded in the way he had done. If he did not succeed he wrote over it "This is no go," but if he did succeed he said, "Follow this and you will make money."

Mr. Alderman MECHI rose to respond, amid loud and continued cheers. He said he rose with great gratitude to respond to the toast of his health coupled with "The strangers." He had made so long a speech at Wigton the other day that he would now only touch upon one or two topics that he had not then time to allude to, and state his impression on certain things he had seen here to-day and in Cumberland generally. He had exceedingly admired the graceful and well developed forms of the ladies of Cumberland, and so much had they impressed him that he felt somewhat doubtful of the gallantry of the men of Cumberland. For, when he looked upon those forms and those graces, he was astonished to find them doing men's work in the fields, and he could not understand who was at home taking care of the children and doing all those domestic duties which were of the greatest consequence to the comfort of men. But it did startle him as coming from the south, where they rarely saw a woman in the field, except when she was taking her husband's dinner at harvest, to see that they were so hard upon the ladies of Cumberland as to make them do men's work. Adverting to the exhibition, he said there were certain things that pleased him extremely in the show to-day. He saw, as he had remarked to a friend of his, six good horses to be sold for £50. His friend stared, and apparently did not believe him till he told him he had seen a little steam engine, with boiler complete, which was said to be three-horse power, which would kill any six horses, as he knew by experience, that they could be put against it for a long day's work. He saw that engine offered, and he was pleased to see it, by a manufacturer of Kendall for the small sum of 50*l.* Although he was not a judge of horses, he had had a steam engine of six horse-power for fifteen or sixteen years almost constantly at work on his farm, and therefore he was a judge of what that horse was, and able to compare its power with the more expensive animals generally used. His horse after 15 years' work was as good now as he was on the first day he had him, and likely to be good for 10 or 15 years longer, and therefore he was astonished to see so little steam power was used in practical agriculture in Cumberland, when they saw that it was one of the things which paid. Mr. Wyndham had repeated the somewhat common story that Mr. Mechi was a very good natured man, who tried experiments and lost a great deal of money by them for the benefit of agriculturists. But most of his operations had been carried out 20 years ago. He put up his steam engine 15 or 16 years ago; and took care of the liquid manure of his farm, instead of letting it go down to the brook, 15 or 20 years ago. These things all cost money, and they would ask whether they paid. He very often consulted with his excellent farmer neighbours on each particular point, and he was happy to say that they only differed from him in that they had not got the money to do all that he had done, and they wished they had. That was a very different story from what they told him 20 years ago, and it was very gratifying to his feelings. He had a veneration for prejudice, and had once intended to give a long lecture upon it; prejudice prevented them believing too suddenly that which they had not tried. He had been exceedingly pleased to-day to find that one of the practical farmers of this neighbourhood had been using Wood's reaping machine with advantage. He had been cutting a great crop of Oats, and could get it out of the field at 5*s.* an acre. That proved that the machine was one which ought to be extensively used. They did not grow so much corn here as the farmers did in the south, but there must be an immense amount of hay to be cut up and given to the cattle in the winter, and it was a well-established axiom among the best agriculturists that it was best to give the animals straw and food cut up and prepared instead of giving it in a slovenly and loose way, in which they would not thrive upon it. They could not, however, do it cheaply enough without using steam power. The fact that the London

Omnibus Company used corn and hay so prepared by steam power was a good proof that it paid. So particular were they as to the quantity that they had tried several great makers, with the view of obtaining a cutting machine that would cut two tons per hour, saying, "If you will give us the machinery we will find the power." He believed Mr. Bentall, of Malvern, had made them such a machine. Every operation of a horse's mouth and the exercise of force in the operation of mastication was essential to a certain point, but they might depend upon it that the sooner they could get the stomachs of the animals comfortably filled, the sooner would they lie down and rest, and that was a great gain. He thought horses were going out of date for the plough, and he knew enough of steam as applied to agriculture to say that the steam plough would be found extremely profitable. A gentleman went on to his farm the other day who had 700 acres of land, and said, "I have a 14 horse-power steam plough, and I give my men 2s. an acre for ploughing, and they do so much ploughing that they can earn 4s. a day." The engine walks out to do his work, and walks home, threshes the corn, cuts the chaff, grinds the Beans, and when he goes to sleep he does not want any supper, nor does he want any breakfast the next morning. That was more than they could say about a horse. If there was a sore place it was the keep of agricultural horses. They knew they were expensive articles; their health is uncertain; and it is far more profitable to keep a steam engine in repair than it is to have anything to do with horses. In this part of the country they produce a great deal of beef and mutton, and a great deal of pork. They ate it themselves, and sent it to people in towns. Now, would they not like to have it back again, if they could, after it had been consumed? They were laughing, but it was a serious subject. He believed there were ten millions of people who live in towns—probably more. If he were to put this question to farmers of England having ten millions of sheep—and there is no difference between sheep and human beings, except rather in favour of human beings—they would not like to see what came from them thrown into the river. He heard that in Cockermouth they were now constituting a Board of Health—to dispose of the dirt, and do some other things. He was not aware how they were situated locally, but he wished them to understand that the only difficulty in applying the sewage of towns to the land was the cost of pumping and laying down pipes. He had the highest authority for stating that a ton of that liquid could be lifted up as high as St. Paul's for less than a farthing per ton; and they might depend upon it if they could do that it would flow to any lower elevation provided they put down pipes to carry it. What was the cost of putting down pipes at Croydon? There was a population of 18,000 persons with water closets for 10,000. The water was supplied to them at the rate of a million gallons per day through a pipe only a foot in diameter; and it came through again in the shape of sewage which used to go into the river. The millers and gentlemen of the neighbourhood were opposed to this, and one gentleman had told him that he himself had spent 7000*l*. in Chancery suits to prevent it going there; and the result was that the Board of Health had been obliged to take a farm of 300 acres at 4*l*. rental, which only used to let for 30*s*. But they were obliged to have it, and they had let it to a friend of his, a practical farmer with a long head from Essex, at 5*l*. an acre, and he was putting a million gallons a day of that liquid upon the land. The pipes he used had a slight fall, and it was a most simple operation. A little cutting took the sewage down to a course upon the top of the field, and from that he cut a grip down every 50 feet into which he turned it when he liked. What was the result? His Italian Rye-grass in June or July had a stalk a yard long, and the Rye grew so thick that a rat could not get into it. His rent was 5*l*. an acre, he had a lease for eight years, and he had spent 4*l*. an acre to put it into condition; and he now knew that when his time was out his rent would be doubled, simply because the sewage of the town was made to flow over it. What was done in one place could be done in another; and if their rainfall could bring down their beef, and mutton, and pork, after they had done with it, Grass would grow much larger and of better quality than now. At one time he used to be called a nasty fellow because he talked about sewage, and he was pooh-poohed for introducing that into company 15 years ago. But gradually it had come to be believed. It supported the Chinese, who did not eat any meat. There, where there was a population of 450,000,000 of people, their cultivation was entirely maintained by taking care of what we wasted. He heard that in Carlisle Mr. M'Dougall had applied some portion of the sewage of that city. He had not seen it, and did not know the exact details, but he supposed it paid or else it would be given up. Well, he would leave the sewage to time, and he had no doubt it would come to be used in times to come, and then, if anybody told them they must waste their manure, they would say, "You are a most silly fellow to propose it." Mr. Mechi then alluded to the drainage of Tarn Waddling by Lord Lonsdale, and in conclusion urged farmers to associate themselves together so as to raise capital for the improvement of land.

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AYRSHIRE AGRICULTURAL: *The Quality of Manures.*—At a special meeting of the directors of this Association, Mr. BELL of Enterkine, said he was sorry to see that the crops in some districts of Ayrshire had in a great measure fallen off, and it appeared to him very desirable that they should ascertain what was the reason of this falling off. Some said it was the seed; others said perhaps it was bad seasons; others that it was over-cropping; and others again that it was the inferior quality of the artificial manures that had been applied to the land of late. They were not able to control the weather; but they could do something to ascertain whether the artificial manures they were now purchasing contained manurial qualities equal to the price put upon them. He did not mean at present to make any substantive motion; but he thought that a committee should be appointed to take the subject into consideration, and report to a future meeting. It was of great importance that they should know whether the manures they purchased were worth the price they paid for them, and also that they should be able to ascertain the constituent parts of those manures, so that they might judge what crops it would be suitable to apply them to. At present it was not uncommon for farmers to purchase manures of different qualities and apply them to all their crops without any idea as to whether they were suited for that crop. He believed a manure that would grow good Italian Rye-grass would not grow good Potatos, and *vice versâ*. Meantime, there could be no harm in having a committee to talk over the matter and ventilate it a little.

Mr. DRENNAN said there could be no doubt that it would be a convenience to have a chemist in some central part of the country to whom they could apply; but the difficulty was how to get a trustworthy chemist, thoroughly trained, who would at the same time have the confidence of the manure trade and of the farmers. He had been making some inquiry on this point, and he was informed that there were only three chemists in Scotland who made more than 100 agricultural analyses in the course of a year. Ayrshire had not in any year required nearly 100 analyses; but supposing that number could be guaranteed, and 1*l*. of fee paid for each analysis, there would not, after payment for a laboratory apparatus and other expenses, remain more than 50*l*. to the chemist, which was not good journeymen's wages. But it was possible an arrangement might be entered into by which this matter might be put on a better footing. It was very desirable there should be a larger number of analyses than had been made hitherto. The committee might correspond with Dr. Anderson, and be able to ascertain whether anything could be done to give facilities for more frequent analyses of manures.

*The Steam Plough.*—Mr. WEIR then, at the request of the Chairman, gave some details with reference to the working of the steam-plough in this county. He said he would not tax their patience so far as to read at length the daily operations of the plough, but should content himself with giving a summary of these operations from July 1862 to July 1863. On October 13, 1862, steam was got up, and things put in order, and the steam-plough was started at Clune the following day. It was out till January 10, 1863, which was 78 days. There being no employment for it, it was then laid aside, and lay unemployed till March 26, when it was again taken out, and was employed till April 17, which was 20 days—making together 98 days. During that time it worked on the farms of Clune, Kirklandholm, Crossburn, Shields, Aikenbrae, and Orangefield. He found those 98 days thus occupied:—Travelling and setting down, 11 days 8 hours; stopped by rain, 17 days 8 hours; stopped by soft ground, 4 days 6 hours; stopped by frost, 3 days 2 hours; working, 60 days. The work done, and amount realised by it, was as follows:—Grubbed 75 imperial acres, at an average of 4*s*. 4*d*.—16*l*. 7*s*. 6*d*.; ploughed 104½ acres, at 9*s*. 1*d*. an acre—37*l*. 14*s*. 6*d*.; digged 22½ acres, at 11*s*. 1*d*.—12*l*. 10*s*.—being a total sum received of 76*l*. 12*s*. The expense of working was as follows:—Wages paid, 98 days, 82*l*. 13*s*. 11*d*.; average outlay for coals, 2*s*. 6*d*. a-day, 12*l*. 5*s*.; do. for oil, tallow, &c., 1*s*. a-day, 4*l*. 18*s*.; water-cart and horse, say 20 days at 4*s*., 4*l*.; horses at shifting, say 12 days at 6*s*., 3*l*. 12*s*.—making a total of 107*l*. 8*s*. 11*d*.; showing a loss on the working during the season of 30*l*. 16*s*. 11*d*. If he added to this the amount paid to Mr. Fowler for improvements and repairs (there having been no fewer than 53 breakages), and the interest on the 560*l*. he had paid for the plough, the amount expended by him would exceed the amount received to the extent of 140*l*. 16*s*. 11*d*.; and this did not include any charge for tear and wear, or for depreciation, or for men's wages while the plough was laid aside, though the men had to be kept on, he finding other employment for them, nor for his own trouble and expenses, nor for Mr. Fowler's plough-maker coming to Ayrshire and examining the fields, &c. He need scarcely say he regretted that this effort to introduce steam cultivation into Ayrshire had not been more successful. Of its results on the land he would not speak, as there were gentlemen present whose practical knowledge would give weight to their opinion, and he hoped they would be good enough to favour the meeting with some remarks on the subject.

Mr. BELL said he was very sorry that the working of the plough had not been remunerative. There were always difficulties at first, but he hoped they would yet be got over.

Mr. WEIR said the season had been unfavourable for the plough. He had every confidence in its success if it could be fully employed in one district. Travelling was very injurious to it. A day's travelling was worse upon it than a day's working.

Mr. CUNNINGHAM said that circumstances had been unfavourable for the development of the steam-plough last season. It was late before the harvest was finished, and that was the time when he thought the plough was to be useful in cleaning the land and preparing it for an autumn crop. It was so far in the year before the crops were cleared off that the plough could not be much used in this way. Then, the weather got very wet, which was also much against it. Then, after a number of unfavourable seasons, there was less enterprise amongst farmers, and less money to be expended in trying new things. But even allowing for that, farmers were more backward than they should have been. Mr. Weir might have had more sympathy and support from them. As far as his observations had gone, his opinion was that although Fowler's plough was a good implement, it wanted a good deal to make it useful for Ayrshire. There was no doubt much required in the way of making their fields larger, laying their land flat, and in taking out stones, before the steam-plough could be a useful implement in Ayrshire. And before this county could be profitably cultivated by steam, there must be a great improvement in the steam cultivator. For instance, the account was very heavy for breakages. He did not wonder at it. There were parts of it made of cast-iron, and very easily broken, which, if made of malleable-iron by an Ayrshire blacksmith, would last long enough. He thought Fowler's plough would be more profitable to the maker or repairer of it than to the person who used it. Then as to the work—he would just compare the plough to a mechanic sawing up wood. When it was sawn into planks it was just prepared for further operations. And so with the plough. It did not finish anything as it might do. He had read a great deal of nonsense about the performance of this plough. It might do very well on dry land, but when the land was hard it would not touch it. Still he would not have been pleased if they had not had the steam plough; but all things considered, he was afraid it was not going to be profitable to Mr. Weir. There might be a good start made this season, as the crops would be early off the field. So far as he had seen, the grain crops on land ploughed by the steam plough were at least as good as on land otherwise ploughed. He had had a field dug up intending it for Turnips, but in consequence of there having been no frost, he could not use the field as he intended, but was obliged to bare fallow it. This, however, was not the fault of the plough; and he intended to use it again this season if he could get it.

Mr. GUTHRIE, Crossburn, said he had thought this plough was going to be a benefit to him. He had it on both light land and heavy land. But the light land was so soft that the engine sank in it; they could hardly get it out of the field—and on the heavy land, of which he had two or three hundred acres, there were so many stones that it could not get on without breaking. He found, therefore, that it did not answer on his land at all. He was afraid there was too little land in this county of the right kind for the plough to work. The fields were too small; and a great deal of time was wasted in shifting from one field to another. It might be suitable to a few farmers. Mr. Cunningham's farm, for instance, was well suited for it, having large fields, and free from stones. The time they required it was the winter time, and then the ground was too wet for it. That was his opinion of it.

Mr. KENNEDY said he had been disappointed that the plough was not tried in Carrick. He had arranged with Mr. Weir last year that it should be sent up as soon as the harvest was over. He had a 30-acre field that he intended to put it upon; but from difficulty of transit, or some other cause, he had not had an opportunity of judging its effects.

Mr. WEIR said they would all understand that it was very difficult to suit everybody at one time. He might explain that when Mr. Fowler's plough-maker was down, he sent him to look at several of the fields where the plough was asked for. He said the field at Kilkenzie was a very fine one, but part of it had been ploughed across the middle, and of course, the steam plough could not go upon it.

Mr. KENNEDY said he had seen Howard's plough at work at Kelso. With regard to the difficulty caused by those natural obstructions, he had a conversation with Mr. Howard, who told him, that now in England they were succeeding in overcoming these by the power the man had over the plough, which enabled him, when he met with a stone, to raise the plough over it, the same as an ordinary ploughman would do. He had seen an instance of this in the field where the plough was working. There was a place which had been carted upon, and was very hard, and when the plough came to it it was thrown out; the engine was immediately reversed and the plough was put again into the ground, and broke it. He did not wish to draw any comparison between Fowler's and Howard's apparatus; but intelligent parties in England, who had tried steam cultivation, had uniformly reported very highly of it.

Mr. HAMILTON.—There is but one opinion as to that.

Mr. BELL said he hoped some arrangement would yet be made by farmers in some locality which suited the plough to give it a fair trial during the ensuing season.

Mr. WEIR said the only way that the plough could be successfully wrought would be for a number of farmers to employ it regularly on their farms. They could then be able to dispense with a number of their horses. Unless they did this, they could not get so much benefit from it. Of course, he would stipulate his own price, for it was not intended he should lose by it. But by some arrangement of this kind, he believed it could be wrought to the advantage of the farmers, and in such a way as not to cause loss to him.

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## Reviews.

*Treatise on Mills and Mill Work.* Part II. By W. Fairbairn, Esq., C.E., LL.D., F.R.S., F.G.S., &c.

Of this elaborate work, which is only incidentally of agricultural interest, we extract the following description from the preface:—

"In the first part of this work I endeavoured to give a succinct account of nearly 50 years experienced in the profession of a mill architect, millwright, and mechanical engineer. My professional career commenced just at a time when the manufacturing industry of the country was recovering from the effects of a long and disastrous war, and I was enabled, from this circumstance, to grow up with and follow out consecutively nearly the whole of the discoveries, improvements, and changes that have since taken place in mechanical science. These discoveries have been numerous and invaluable in contributing to the development of our industrial resources, the diffusion of knowledge, and the extension of trade and commerce throughout the globe.

"It will not be necessary to repeat what steam, gas,

and electric telegraphs have effected both on sea and land in the same time, and how much we are indebted to these agencies for the abundant comforts, luxuries, and enjoyments which we now possess, as compared with the age in which our fathers lived. It will be found on inquiry that in mills, where these agencies are employed, and where the manufacture of cotton, silk, flax, and wool are carried on, are some of the elements to which we are indebted for the numerous advantages which enter into the improved state of our social existence. To mills, therefore, I have directed my attention, and in this volume I have endeavoured to follow up more in detail the principles of construction and other serviceable data to which, I trust, the intelligent student may refer with some prospect of advantage.

"On prime movers as comprised in water-wheels, turbines, steam-engines, &c., I must refer the reader to the first part of this work. The present volume is chiefly directed to what is known by the name of mill-gearing." * * *

*The Journal of the Royal Agricultural Society of England.* Vol. XXIV., Part 2.

We have received this volume too late this week to give any account of its contents. This must be left till our next impression. Meanwhile a hasty examination enables us to congratulate Mr. Frere and the Journal Committee on the production of one of the best numbers of the series which has for many years been issued. The subject of Steam Cultivation in particular is most ably and efficiently discussed.

## Miscellaneous.

*Our Imports.*—The imports of foreign and colonial goods into the United Kingdom are of four classes. The first comprises articles of food. The computed real value of these in the returns for 1862 was no less than 93,027,988*l.*, a sum equal to three-fourths of the value of the entire export of British and Irish produce and manufactures. By far the largest item is for corn and flour, the imports of which in that year reached the enormous amount of 37,755,060*l.* The import of grain, meal, and flour never reached 12,000,000 quarters until the bad harvest of 1860, in which year it was 14,494,976 quarters, but in 1861 it was 16,094,914 quarters, and in 1862 18,441,791 quarters. The average price on which the value of the Wheat imported was computed in 1862 has not yet been stated; in 1861 it was 53*s.* 9*d.* for Russian, 60*s.* 2*d.* for Prussian, 39*s.* 9*d.* for Egyptian, and 55*s.* 2*d.* for American. There were other imports of food of astonishing amount. Not to speak of strong drink, nor of tea, coffee, and sugar, we imported in 1862 cattle, sheep, and swine, and salted meat and lard, to the amount of more than 6,000,000*l.* (the oxen and bulls were put in 1861 at an average of 17*l.* 11*s.*, and the sheep at 45*s.*); butter, nearly 5,000,000*l.*; cheese, 1,500,000*l.*; rice, 2,400,000*l.*; eggs, 600,000*l.*; poultry, 85,000*l.* A second class of our imports consists of raw materials of manufacture; and the value of these arrivals in 1862 was 96,513,430*l.* In 1860 the amount was 98,984,804*l.* The import of wool in 1862 was the largest ever received. The falling off in the import of cotton is by no means expressed by a statement of the value of the imports; the rise in price must be borne in mind. The quantity fell from 12,419,096 cwt. in 1860 to 4,678,333 cwt. in 1862; the computed value from 35,756,889*l.* to 31,093,045*l.* In 1860 the computation was on American cotton at 60*s.* 4*d.* per cwt.; in 1861 at 72*s.* 5*d.* A third class of imports consists of articles used in manufacture or agriculture, not being raw materials of manufacture; and these articles reached 16,643,572*l.* in the year 1862. The chief items in this class are wood, sawn or split, planed or dressed; oils, guano, copper partly wrought, and iron in bars. The remaining class comprises manufactured articles, and the import of these in 1862 amounted to 17,196,463*l.*; a few unenumerated articles bringing the whole amount of the imports of 1862 up to 225,716,974*l.* The chief manufactured articles imported were silks, of the value of more than 6,000,000*l.*; woollens, 1,574,281*l.*; cottons, 899,738*l.*; leather goods (chiefly gloves), 851,256*l.*; clock and watches, 464,009*l.*; manufactures of hair and goat's-wool, 397,454*l.*; and glass, 408,388*l.*

*Remedy for Kicking Cows.*—Last November I bought a "kicking cow," black as a coal, as homely as Lear, and to strangers appeared a "real tiger." The owner, a farmer 40 years old, said she would make more butter in a year than any other one he ever had, and he offered her for sale solely because her heels were too light for her body, and as he depended on hired help entirely to do his milking, he wouldn't bother with her any longer. I paid him 16 dols for her, which was her value to fat for beef. I milked her three times—the fourth time she pushed the bottom of my pail out; but as I am a peaceable man I made no words with her, thinking that as she was six years old, she had probably heard as strong arguments in her youth as any I could offer. Instead of words or blows, or trying to "catch her foot," or quieting her by letting her "sit in my lap," &c., I set up firmly a strong plank close behind her, having a two inch hole in the lower end; put a ring in the post of the stable, some three feet farther back; took the hitching strap from a halter, put it through the hole in the plank, and buckled it to her right hind ankle; having first taken up one fore leg and buckled a strap around it, so that she would be obliged to allow me to put the strap to her hind leg. I then put the other end of the strap through the ring, and drawing it taut, buckled it; then let down her fore leg and bid her kick if she dared, and sat down and finished milking. After a few efforts, she saw it was useless to try, and gave up. In two or three days she learned to let me to put the strap on her ankle quietly, without raising her foreleg, and she has had it on every milking since, and proves to be a very valuable cow, worth 60-day 45 dols. It does not take a fourth part of a minute to put on and take off the strap, and I set the pail under her and milk with perfect impunity, while she actually appears to like to be milked, without being in fear of a scrape. I milked her to within three weeks of calving, when she gave two quarts per day—now gives 18 to 22 quarts, and very rich at that. To any one who has a first-rate "kicking cow," and can conveniently turn her into a stable to milk, I say go and do likewise. Don't "fret and stew," scold and maul the innocent cow, because her bag is as ticklish as some children's necks! An extra cow is worth saving at so little extra trouble as mine costs me. After a year or two, and perhaps less, I think she will forget that she ever could kick, and the strap may be left off; but if not I care but little. A staple and ring in the stable floor might be better, where several kickers are milked side by side, than the upright plank. (*Albany*) *Country Gentleman.*

METEOROLOGICAL OBSERVATIONS.—BERKSHIRE.
By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Barometer corrected to Freezing Point at Mean Sea Level. | Reading of Thermometer. Dry Bulb. | Reading of Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sept. | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. | 18 | 30.19 | 59 | 54 | W. | 1 | 10 | 63 | 47 | 76 | 39 | .. |
| Saturday .. | 19 | 29.96 | 62 | 56 | S.W. | 2 | 2 | 63 | 51 | 77 | 44 | .. |
| Sunday .. | 20 | 29.59 | 51 | 49 | S.W. | 1 | 10 | 66 | 50 | 77 | 48 | 0.42 |
| Monday .. | 21 | 29.27 | 52 | 48 | S.W. | 1 | 5 | 59 | 46 | 69 | 38 | 0.06 |
| Tuesday .. | 22 | 29.03 | 52 | 49 | S.W. | 0 | 10 | 57 | 46 | 70 | 39 | 0.27 |
| Wednesday .. | 23 | 29.16 | 52 | 48 | S.W. | 1 | 7 | 58 | 42 | 71 | 35 | 0.02 |
| Thursday .. | 24 | 29.38 | 52 | 49 | S.W. | 2 | 6 | 56 | 37 | 68 | 30 | 0.10 |

## Calendar of Operations.

SEPTEMBER.

HAMPSHIRE: *Sept.* 16.—Since my last report very severe hail storms and torrents of rain, accompanied with thunder like artillery, have occurred; much Barley uncut cannot have much of the corn remaining in the stalk. Hands very scarce this year, and thus much Wheat and other cereals were still out, and some sprouted corn has been reported in places. The seeds have not taken, and few fields show a good plant; but in part this may be attributed to the great bulk of Barley-straw. Such ricks of Barley have not been seen for many years; but the grain is not even in the later sown. Barley sown in February and early in March show the best samples. Wheat will not be more than an average crop in some places, the long frosts and want of rain did hurt to both Wheat and Barley; but where they had favourable rains the crops on the strong loams are very fine; still on the whole there is not such a bulk of Wheat straw as in some seasons. Turnips vary much, and very few fields show a good plant of Mangel. The white Turnips along the coast line of Hants are not so good as the Swedes. These last are now going ahead. Deep ploughing is much needed for the Hampshire loams, which yield more abundantly than the old-fashioned ebb-ploughing, and holding on to the virtues of having "floors" and "pans," which the old New Forester declared should never be disturbed. Many are yet in darkness, and lay down the law, who were unborn in 1830; and the old tenants back on the labourer, but a little lower in intelligence than themselves. *X. Y. Z.* [Many thanks].

## Notices to Correspondents.

PROFESSOR GAMGEE: *A G Lock.* The address is New Veterinary College, Edinburgh. The discourse to the International Congress at Hamburg was given fully, we believe, in the *Scottish Farmer* of the date.


ENTRANCE GATES, either in Wrought Iron or Cast and Wrought Iron combined, ranging from the ordinary Field Gate to those of the most elaborate design.

IRON RAILING of various designs. FENCING of every description. All kinds of HURDLES, &c.

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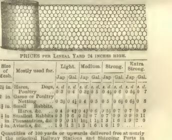
NEW IMPROVED PREMIUM WIRE NETTING.
Great Improvement with Reduced Price.



PRICES PER LINEAL YARD 24 INCHES HIGH.

| Size of Mesh. | Mostly used for. | Light. Jap | Light. Gal. | Medium. Jap | Medium. Gal. | Strong. Jap | Strong. Gal. | Extra Strong. Jap | Extra Strong. Gal. |
|---|---|---|---|---|---|---|---|---|---|
| | | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| 2½ in. | Hares, Dogs, Poultry .. | 0 3 | 0 4 | 0 3½ | 0 5 | 0 4½ | 0 6 | 0 5½ | 0 7 |
| 2 in. | Game or Poultry Netting .. | 0 3½ | 0 4½ | 0 4 | 0 5 | 0 5 | 0 6½ | 0 6½ | 0 8 |
| 1⅝ in. | Small Rabbits, Hares, &c. .. | 0 4 | 0 4½ | 0 4½ | 0 6 | 0 5½ | 0 7 | 0 7 | 0 9 |
| 1½ in | Smallest Rabbits | 0 5 | 0 6 | 0 5½ | 0 7 | 0 7 | 0 9 | 0 9 | 0 11 |
| 1 in | Pheasantries, &c. | 0 9 | 0 11 | 10½ | 1 1½ | 1 3 | 1 6 | 1 9 | 2 0 |
| ½ in. | Aviaries, &c. .. | 1 0 | 1 3 | 1 3 | 1 6 | 1 6 | 1 9 | .. | .. |

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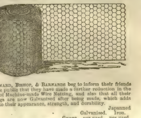

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| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard. |
|---|---|---|---|
| 2-inch mesh, 24 inches wide .. | No. 19 | 4½*d.* | 3½*d.* |
| 2-inch ,, ,, ,, .. | ,, 18 | 5 | 4 |
| 2-inch ,, ,, ,, .. | ,, 17 | 6½ | 5 |
| 2-inch ,, ,, ,, .. | ,, 16 | 8 | 6½ |
| 1⅝-inch ,, ,, ,, .. | ,, 19 | 4½ | 4 |
| 1⅝-inch ,, ,, ,, .. | ,, 18 | 6 | 4½ |
| 1⅝-inch ,, ,, ,, .. | ,, 17 | 7 | 5½ |
| 1⅝-inch ,, ,, ,, .. | ,, 16 | 9 | 7 |

All the above kinds can be made any width (under 6 feet) at proportionate prices.

Strong Galvanised Poultry Netting, 7½*d.* per yard, 3 feet wide. Galvanised Sparrow-proof Netting for Pheasantries, 11*d.* per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.

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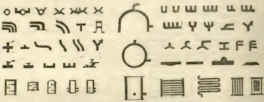


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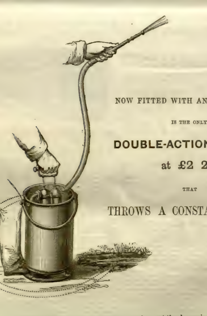

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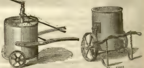

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WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

| | |
|---|---|
| 10 gallons .. .. | £2 15 0 |
| 16 „ .. .. | 3 15 0 |
| 24 „ .. .. | 5 0 0 |

Larger sizes may be had in either Wood or Iron.

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|---|---|
| 35 gallons .. | £2 10 0 |
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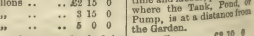

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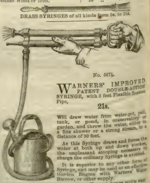

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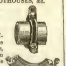

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|---|---|---|---|---|---|
| 16 feet by 8 feet... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

# GRAY'S OVAL TUBULAR BOILER.

INTERNATIONAL EXHIBITION, Class IX., No. 2119.

Mr. Gray begs to call the attention of the Nobility, Gentry, Nurserymen, Gardeners, &c., to his

## NEW OVAL TUBULAR BOILER,

acknowledged by practical judges to be a great improvement on every form of Tubular Boiler yet introduced It has proved itself superior to all other Boilers for quickness of action and economy of Fuel, doing its work with one-third less the amount required by any other.

*Extract from Report in* Gardeners' Chronicle *of International Exhibition, May 24, page 476.*

"The upright form of Boiler is usually made on a circular plan, but the oval form given to Mr. Gray's variety of it is said to be preferable in consequence of its bringing the tubes in closer contact with the fire. The usual form of a furnace being a parallelogram rather than a square, it seems feasible that the Boilers on the oval plan should bring the tubes more completely within range of the burning fuel; and this being so the change, though a slight one, is no doubt an improvement."

They are made of all sizes, which, with prices, may be had on application.

JAMES GRAY, HORTICULTURAL WORKS,
DANVERS STREET, PAULTON'S SQUARE, KING'S ROAD, CHELSEA, S.W.

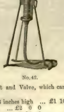
# JOHN WARNER & SONS,

## BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.

No. 35.

No. 36½. Improved Cast-Iron Lift and Force Pump.



No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & Sons' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2¼ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... £5 15 0

1½-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4

2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... ... 3 0 0

3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... ... ... 3 10 0

**Larger sizes of any of the above.**

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & Sons' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

PATENTEES and MANUFACTURERS,

JOHN WARNER and SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

**Hothouses for the Million.**—Awarded a Prize Medal at the International Exhibition, 1862.

HOTHOUSES for the MILLION.—On the principle invented and patented by Sir Joseph Paxton, M.P., combining simplicity, cheapness, excellence, and durability, being capable of fulfilling, in the most perfect manner, all the requirements of Horticulture.

Illustrated Circulars, with Lists of Prices, can be had on prepaid application to Samuel Hereman, 7, Pall Mall East, London.

Also, A HANDBOOK on VINE and FRUIT TREE CULTIVATION, price 1*s.*; post free, 1*s.* 1*d.*

**Heating.**

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

Apply to Joseph Meredith, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

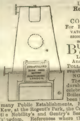
**Greenhouses, Orchard-houses, and Conservatories.**

H. FREEMAN'S Horticultural Works, Triangle, Hackney, N.E. Established 20 years.

Good substantially made GREENHOUSES, glazed, ready for fixing, 42 feet by 18 feet, 50*l.*; 21 feet by 13 feet, 28*l.*; 12½ feet by 10 feet, 15*l.* ORCHARD-HOUSES, 10 per cent. cheaper. A handsome CONSERVATORY, 46 feet by 19 feet, for Sale. Estimates given.

W. J. HOLLANDS, Iron Merchant, 31, Bankside, London, S.E.

HOT WATER PIPES, from Stock, per yard:—2-inch, 1*s.* 2*d.*; 3-inch, 1*s.* 10*d.*; and 4-inch, 2*s.* 4*d.* BENDS, from stock, 1*s.* 7*d.*, 2*s.* 6*d.*, and 3*s.* 3*d.* each. THROTTLE VALVES, 10*s.* 6*d.*, 13*s.* 6*d.*, and 15*s.* each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.




Latest Improvements in
**Heating by Hot Water.**
THE IMPROVED
CONICAL BOILERS,
For Heating Pineries, Conservatories, Greenhouses, Mansions, Halls, Warehouses, &c.,
SOLELY MANUFACTURED BY
BURY AND POLLARD
(Successors to John R. Peill, Late Stephenson & Peill).

Annexed Sketch shows Bury & Pollard's improved arrangement, requiring

NO BRICKWORK SETTING.

These Boilers have for their durability and economy attained a celebrity far surpassing any other Boilers ever invented. They have been for many years past in use at many Public Establishments, Royal Botanical Gardens at Kew, at the Regent's Park, the Crystal Palace, and at most of the Nobility's and Gentry's Seats throughout the United Kingdom. References where they have been 20 years in constant use.

Price Lists on application to Bury & Pollard, Park Iron Works, New Park Street, Southwark, London, S.

JAMES WATTS and CO., Hothouse Builders and Hotwater Apparatus Manufacturers, near the Green Man, 353, Old Kent Road, London, S.E.

200 CUCUMBER and MELON BOXES and LIGHTS, and from 400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.

Glazed and Painted complete, ready for immediate use. Packed and sent to all parts of the kingdom.

10 dozen strong Zinc HAND GLASSES, Glazed and Painted complete, ready for immediate use, 18, 20, and 22, all shifting tops.

Reference to the Nobility, Gentry, and Trade in most of the counties in England.

JOSEPH SMITH, New Road, Hammersmith, W., undertakes the ERECTION of GREENHOUSES, &c., in any part of the Kingdom, and begs to offer for Sale about 10,000 feet of GLAZED LIGHTS for GREENHOUSES, PITS, &c.

Those glazed with 21-ounce glass, 9*d.* per square foot.
" 16-ounce " 8*d* "

| | No. of Lights. | |
|---|---|---|
| 21-ounce.— | Eight. | 12 feet 3 inches by 5 feet 8 inches. |
| " | Twenty. | 11 feet by 4 feet 8 inches. |
| " | Nine. | 8 feet 6 inches by 4 feet 8 inches. |
| " | Ten. | 7 feet by 3 feet 11 inches. |
| " | Twelve. | 5 feet 2 inches by 4 feet 2 inches. |
| 16-ounce.— | Forty. | 7 feet by 4 feet 7 inches. |
| " | Twenty. | 6 feet by 4 feet 2 inches. |
| " | Twelve. | 5 feet 2 inches by 6 feet 8 inches. |

Also Span-roof Greenhouse, 27 feet by 16 feet, 47*l.*
Lean-to, 21-ounce glass, 46 feet by 14 feet, 55*l.*
" 21-ounce glass, 24 feet by 11 feet, 30*l.*
" 16-ounce glass, 50 feet by 14 feet, 35*l.*
Second-hand, 12 feet by 7 feet, 14*l.*

☛ ESTIMATES given for HEATING.

## HYACINTHS and other DUTCH BULBS.

THE FIRST PRIZE FOR A COLLECTION OF HYACINTHS,
THE FIRST PRIZE FOR 18 HYACINTHS,
THE FIRST PRIZE FOR 6 NEW HYACINTHS,

Being all the FIRST PRIZES offered to Nurserymen at the Royal Horticultural Society's HYACINTH SHOW on March 18, were awarded to WILLIAM PAUL, Paul's Nurseries, Waltham Cross, N.

PRICED DESCRIPTIVE CATALOGUE free by post.

### Hyacinths, Tulips, &c.

WM. CUTBUSH AND SON'S first importation of the above has arrived, and from the extraordinary heavy weight of the Bulbs they promise a fine bloom. Early orders are earnestly solicited. DESCRIPTIVE PRICED CATALOGUES free.

N.B.—17 FIRST PRIZES were awarded to WM. C. & SON last spring for HYACINTHS, TULIPS, and CROCUSES. In addition to this, EVERY FIRST PRIZE at the London Exhibitions to Amateurs was for Bulbs supplied by them.

The ONLY address is Highgate Nurseries, London, N.

### New Catalogue of Plants, Dutch Bulbs, &c.

ROBERT PARKER begs to announce that his New CATALOGUE, containing Select, Descriptive, and Priced Lists of Exotic Orchids, New and Rare Greenhouse, Hardy, and Stove Plants, Ornamental and Variegated foliaged Plants, Azalea indica, Fruit Trees, Grape Vines, Rhododendrons, Roses, &c., Hyacinths, Tulips, Gladioli, Narcissus, and other Bulbs, is now published and will be forwarded to all applicants.

Exotic Nursery, Tooting, Surrey, S.

### 30,000 Hyacinths, 30,000 Tulips, 10,000 Narcissus, and 100,000 Crocus in varieties.

J. H. BIRD, F.R.H.S., NURSERYMAN, Stoke Newington, the largest Grower of the above in England. J. H. B. has again purchased, for ready money, in Holland, in addition to his usual large Stock, the above surplus Stocks of some very large growers, which he now offers at unheard of low prices. The following Roots for 1*l.*:—50 Hyacinths in 25 splendid sorts; 150 Early Tulips, sorts; 200 Crocuses, mixed; 50 Snowdrops, and 12 very large noble Narcissuses. Half the above quantity for 10*s.* 6*d.*

HYACINTHS, in 10, 20, 30, 40, or 50 splendid varieties, at One Guinea per 100. Less by the 1000.

LILIUM LANCIFOLIUM RUBRUM (true); large roots, 1*s.* each, 10*s.* per dozen, 3*l.* 5*s.* per 100, or 30*l.* per 1000.

N.B. To save trouble all Orders to be prepaid.

E. G. HENDERSON AND SON'S DESCRIPTIVE LIST of BULBS as a Guide for the Amateur's selection is now published, and will be forwarded post free on application.

GUERNSEY and BELLA DONNA LILIES, 5*s.* per doz.
HYACINTHS, choice by name, 6*s.*, 8*s.* and 9*s.* per doz.
Do., MIXED in colours, 3*s.* per doz.
Do., BEDDING VARIETIES, in kinds, each colour, 4*s.* per doz.
Do., MINIATURE FLOWERED VARIETIES, 3*s.* per doz.
TULIPS for Forcing, 6*d.* to 1*s.* per doz.
Do. EARLY SINGLE, and DOUBLE MIXED, 5*s.* and 6*s.* per 100.
Do., LATE, show varieties, mixed, 1*s.* per doz.
SNOWDROPS, single and double, 2*s.* per 100.
WINTER ACONITES, 2*s.* 6*d.* per 100.
CROCUS, in sorts, 1*s.* 6*d.*, and 2*s.* per 100.
SCILLA SIBIRICA, 7*s.* 6*d.* per 100.
ANEMONES, 3*s.* 6*d.* and 5*s.* 6*d.* per 100.
RANUNCULUS, 3*s.* to 5*s.* per 100.
AMARYLLIS, by name, 3*s* 6*d.* each,
GLOXINIAS, by name, 9*s.* and 12*s.* per doz.
ACHIMENES by name, 2*s.* 6*d.* and 3*s.* per doz.
GLADIOLUS BRENCHLEYENSIS, 2*s.* per doz., 20*s.* per 100.
,, GANDAVENSIS, the finest collection offered in England.
CYCLAMEN, a choice collection of 20 varieties by name.
OXALIS, by name, 40 varieties offered.
IXIAS, mixed, 1*s.* per dozen; 40 varieties in collection offered, the inferior kinds discarded.
BABIANA, SPARAXIS, and TRITONIAS each 1*s.* 6*d.* per dozen.
LILIES, 60 fine varieties offered.
TRITOMA UVARIA, 12*s.* per doz.
TRITONIA (CROCOSMA) AUREA, 3*s.* per doz.
EARLY SPRING-FLOWERING PLANTS, in various colours, as HEPATICAS, DOUBLE PRIMROSES, VIOLETS, CHRISTMAS ROSE, and 60 other early-flowering perennials.
Strong Clumps of NEAPOLITAN and other VIOLETS in pots for winter blooming.
Do. LILY of the VALLEY.

Wellington Nursery, St. John's Wood, London, N.W.

### New Cinerarias.

J. DOBSON AND SONS' Splendid Set will be ready in October. See CATALOGUE.

### New Pelargoniums.

J. DOBSON AND SONS will send out their Superb Set in October. See CATALOGUE.
A General Collection of the above is now ready. Prices very low.
J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

TO THE TRADE.—The Trade supplied with packets (in any quantity) of DOBSON'S unequalled CALCEOLARIA, CINERARIA, and PRIMULA SEED. Price on application. Retail price, 1*s.*, 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.*

J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

PINUS LARICIO.—To gentlemen planting out largely for profit WILLIAM BARRON begs to make a special offer of his fine and well-rooted stock of the above. This fine Pine supersedes the Larch for Forest-planting, producing timber much sooner for Railway Sleepers. It is also used for Spars and Masts in the French navy.

| | | | |
|---|---|---|---|
| 2-years' Seedlings, strong plants .. | .. per 1000 | 15*s.* | 0*d.* |
| 2-years' transplanted, 9 to 18 inches | .. ,, | 30 | 0 |
| 2 to 3 feet .. .. .. .. | .. ,, | 70 | 0 |

Elvaston Nurseries, near Derby.

### Deutzia crenata fl. pleno—Japan.

JOHN STANDISH has now the pleasure of submitting to the consideration of his friends and the public the above truly valuable and hardy ornamental plant. It has received First-class Certificates both at the Royal Horticultural and Royal Botanic Shows in June and July last (*vide* Report).

"There were a few very interesting new hardy plants shown, first a Deutzia crenata flore pleno, one of Fortune's novelties, flowered by Mr. Standish. This looked like a fine addition to hardy shrubs; it has opposite shortly stalked finely serrated leaves, and copious terminal racemes of deflexed double flowers deeply tinged externally with rose."

Plants now ready, 10*s.* 6*d.* each; or 6 Plants for 42*s.*
Royal Nursery, Ascot, Berks.

## THE VICTORIA NECTARINE (Rivers).

# MESSRS. THOS. RIVERS & SON

**now offer Trees for Sale of this new and delicious Fruit, at 10s. 6d. each,**

CARRIAGE PAID TO LONDON.

The Tree was raised from a stone of the Violette Hâtive Nectarine, the flower of which had been fertilised with the pollen of the Stanwick Nectarine. It bore fruit in 1861; was awarded a First-class Certificate by the Fruit Committee of the Royal Horticultural Society in September of that year, and was named as above.

The Tree has the small flowers of the Violette Hâtive; the fruit is of the same shape, and nearly as bright in colour; large, often measuring 9 inches in circumference, and like that of a bright crimson near the stone; in this respect totally unlike the Stanwick, which is white at stone. It has the true flavour of the Stanwick, with all its fine aroma and sugary richness. It ripens a fortnight after the Violette Hâtive, and about the same period before the Stanwick (at a season when fine Nectarines are scarce), thus proving the most perfect cross-bred fruit ever raised.

The Trees offered are—1st, MAIDEN TREES in pots, all full of blossom buds from having been grown under glass, and all capable of bearing next season; 2d, SMALL TRAINED TREES, with three branches, for walls; 3d, STANDARD and HALF STANDARD MAIDEN TREES from the open ground; 4th, a few large bearing PYRAMIDS, in pots, at 21*s.* each. Trade Prices given on application.

NURSERIES, SAWBRIDGEWORTH.

ESTABLISHED UPWARDS OF A CENTURY.

# BUTLER & McCULLOCH,

COVENT GARDEN MARKET, LONDON, W.C.

*All Orders amounting to 21s. sent Carriage Paid.*

### COLLECTIONS of BULBS for GREENHOUSE or CONSERVATORY.

Purchasers who may not require all the sorts mentioned, can have increased quantities of other kinds, of if they think proper, may select from the Catalogue to the amount. The numbers in the columns indicate the quantity of Bulbs in each Collection.

| | No. 1. £5. | No. 2. £2 10s. | No. 3. £1 5s. | No. 4. £1 1s. | No. 5. 10s. 6d. |
|---|---|---|---|---|---|
| HYACINTHS, for Pots, Glasses, or Moss, named varieties .. | 60 | 30 | 15 | 15 | 12 |
| POLYANTHUS NARCISSUS, do. do., do. .. | 26 | 13 | 6 | 6 | 3 |
| TULIPS, single, do. do., do. .. | 50 | 25 | 12 | .. | .. |
| ,, double, do. do., do. .. | 50 | 25 | 12 | .. | .. |
| ,, DUC VAN THOL, single .. | 25 | 12 | 6 | 6 | 12 |
| ,, ,, scarlet .. | 12 | 6 | 3 | 3 | .. |
| ,, ,, rose .. | 12 | 6 | 3 | 3 | .. |
| ,, ,, yellow .. | 12 | 6 | 3 | 3 | .. |
| JONQUILS, double, sweet-scented .. | 12 | 6 | 3 | 3 | 3 |
| ,, single, ,, .. | 12 | 6 | 3 | .. | .. |
| LILIUM LANCIFOLIUM .. | 3 | 2 | 1 | 1 | 1 |
| IXIAS .. | 25 | 12 | 6 | 6 | 3 |
| SPARAXIS .. | 25 | 12 | 6 | 6 | 3 |
| BABIANA .. | 6 | 3 | 1 | 6 | 3 |
| CYCLAMEN .. | 6 | 3 | 2 | 1 | .. |
| VALLOTA PURPUREA .. | 1 | 1 | 1 | .. | .. |
| AMARYLLIS FORMOSISSIMA .. | 12 | 3 | 3 | 3 | .. |
| NEWEST SEEDLING CROCUS, named varieties .. | 200 | 100 | 50 | 50 | 50 |
| SCILLA SIBIRICA .. | 12 | 6 | 6 | 3 | 3 |
| OXALIS SPECIOSA .. | 25 | 12 | 6 | 6 | 3 |
| TROPÆOLUM JARRATTII .. | 1 | 1 | .. | .. | .. |
| IRIS PAVONIA .. | 6 | 3 | 3 | .. | .. |

BARR & SUGDEN, 12 KING ST., COVENT GARDEN

*Just Published, price One Shilling,*

## THE ILLUSTRATED FLORAL GUIDE

TO

## WINTER AND SPRING GARDENING,

SHOWING HOW FLOWERS MAY BE HAD IN SEASON FROM DECEMBER TO MAY.

### Bulbs for the Adornment of the Spring Garden, Conservatory, and Sitting Room.

(For Collections, see our Advertisement, page 886 of *Gardeners' Chronicle*, Sept. 19.)

| | per dozen. | per 100. | | per dozen. | per 100. |
|---|---|---|---|---|---|
| HYACINTHS .. | 2*s.* 6*d.* to 15*s.* | 18*s.* to 100*s.* | RANUNCULUS .. | 6*d.* to 2*s.* 6*d.* | 2*s.* to 10*s.* 6*d.* |
| TULIPS .. | 6*d.* to 3*s.* 6*d.* | 3*s.* 6*d.* to 18*s.* 6*d.* | ANEMONES .. | 6*d.* to 2*s.* 6*d.* | 3*s.* 6*d.* to 10*s.* 6*d.* |
| POLYANTHUS NARCISSUS | 3*s.* to 4*s.* | 21*s.* to 30*s.* | GARDEN NARCISSUS .. | 6*d.* to 2*s.* 6*d.* | 3*s.* 6*d.* to 10*s.* 6*d.* |
| CROCUS .. | 4*d.* to 8*d.* | 1*s.* 6*d.* to 4*s.* 6*d.* | SCILLAS .. | 1*s* 6*d.* to 4*s.* 6*d.* | 10*s.* 6*d.* to 14*s.* 6*d.* |
| SNOWDROPS .. | 4*d.* to 6*d.* | 2*s.* to 3*s.* 6*d.* | WINTER ACONITES .. | 6*d.* | 3*s.* 6*d.* |

For PRICED and DESCRIPTIVE LISTS of BULBS necessary for Winter and Spring Gardening, with the best methods of successfully cultivating and advantageously arranging them, see

**BARR & SUGDEN'S**

ILLUSTRATED FLORAL GUIDE TO WINTER AND SPRING GARDENING.

ROYAL HORTICULTURAL SOCIETY.
FRUIT COMMITTEE.

A MEETING of this COMMITTEE will be held on TUESDAY, October 6, for the Examination of such Fruits and Vegetables as may then be submitted for the opinion of the Committee. The following Prizes are offered :—

CLASS A.—Best Collection of any varieties of GRAPES, one Bunch of each, 42*s.*, 21*s.*

CLASS B.—Best Dish of COX'S ORANGE PIPPIN, 10*s.*, 5*s.*

CLASS C.—Ditto ditto, GOLDEN REINETTE, 10*s.*, 5*s.*

CLASS D.—Ditto ditto, of any variety of Pine Apple-flavoured DESSERT APPLE,* 10*s.*, 5*s.*

* This includes such varieties as Lucombe's Pine, Pine Apple Russet, Pine Golden Pippin, &c.

*** All Communications and Packages must be at South Kensington by 11 o'Clock on the day of Meeting. Chair to be taken at 12 o'Clock precisely.

ROBERT HOGG, LL.D., Secretary to the Committee.

AMALGAMATED METROPOLITAN CHRYSANTHEMUM SOCIETY, for Nurserymen, Gentlemen's Gardeners, and Amateurs.

FIRST GREAT EXHIBITION, Agricultural Hall, Islington, WEDNESDAY, THURSDAY, and FRIDAY, November 11, 12, and 13.

260*l.* in General Prizes, and Reserve Fund for Special Prizes, as awarded by the Judges, open to all England.

Rules, Schedules, &c., to be obtained of the Honorary Secretary by enclosing two postage stamps.

The last day for the enrolment of Members will be October 12. J. JEFFERIES, Hon. Sec.

10, Catherine Street, Barnsbury Park, Islington, N.

The Gardeners' Chronicle.
*SATURDAY, OCTOBER* 3, 1863.

MEETINGS FOR THE ENSUING WEEK.

TUESDAY, October 6 { Royal Horticultural (Floral and Fruit Committees) at S. Kensington .. Noon

IN the choice and cultivation of plants for the decoration of the greenhouse and conservatory as well as for exhibition at our floral shows, our taste has always differed in a remarkable manner from that of our friends on the Continent. Our efforts have been directed to the production of what are called "specimen plants" covered with blossoms of a large and showy kind. Our ideas of perfection in an Azalea or favourite stove plant are huge size, symmetry in form, and a large quantity of flowers. Pelargoniums also are tolerated only when in the same condition. Year after year plants have been grown in this way, the only difference observable being a gradual increase in size, showing an extraordinary example of patience and horticultural skill in the cultivator. Leaves on such plants would appear to be quite a secondary consideration, and in many instances are completely hidden, either naturally or artificially, by the flowers. When we consider how much leaves of a green and healthy kind have a tendency to enhance the beauty of flowers by the contrast, it would seem that more attention ought to be paid to their production.

It is true that the difference betwixt continental gardeners and ourselves in the cultivation of plants was more remarkable a few years ago than it is at the present time. Our tastes have changed to a certain degree, and we can now admire plants with handsome foliage, although we may rarely see their blossoms, and although such blossoms may not be very showy or attractive when they are produced. This would appear to be a move in the right direction, and it might be of some advantage to us to move onwards. We might follow the example of foreigners as well as of the directors of our Botanical Gardens, and extend our admiration of large and showy flowers to smaller ones. All the productions of nature are beautiful; even what we are accustomed to call weeds have a beauty of their own, although we would not go so far as to recommend such apparently insignificant things for exhibition purposes. That our specimen plants would be improved by allowing leaves to grow amongst the blossoms can scarcely be doubted, and perhaps a form somewhat more natural in the general outline of the plant itself might be an improvement.

A circumstance which is somewhat remarkable has suggested the above observations, and to this we venture to draw the attention of our readers. We have watched with much interest the rise and progress of floral exhibitions in this country. We have seen how the plants have year after year grown larger and larger, gradually and surely exhibiting a greater degree of horticultural skill, until the magnificent results have been attained which have been shown in our gardens during the season which has just passed by. During many years of this progress the public, as a body, seemed to derive as much pleasure from looking at these examples of horticultural skill as the gardener himself who produced them, and who was so justly proud of his handy work. A change, however, is but too visible in the tastes of the gay crowds who patronise our flower shows. Any attentive observer during the past season must have remarked this circumstance. The Orchids, it is true, appear to be as attractive as ever; Roses, new plants, and any remarkable form of vegetable structure have crowds of admirers; but why is there no longer any crowding in front of the magnificent Azaleas, stove plants, and Heaths, which one used to see in former years? Is it because the same things are presented too often in the same way, or are our tastes undergoing a change? The matter, we think, is worthy of the attention of Horticultural Societies and promoters of flower shows.

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A CORRESPONDENT has written to ask our opinion upon the following question, which appears to be daily becoming more worthy of consideration: "Should cemeteries be decorated with the gayest flowers that can be obtained; or, would it not look far more in character with the place, to substitute trees, shrubs, and plants of a sombre tint?"

Now we look upon this question as involving considerations of pure taste and feeling, upon which any person possessing those qualities is capable of giving an opinion; we therefore should be very glad to know the views of any of our correspondents who have considered the matter, while, without assuming the airs of an "*arbiter elegantiarum*," we venture to express ourselves very decidedly in favour of the shrubs of sombre hue, and against the gaudy flowers. Or perhaps we should like best of all to keep the general features of a cemetery to some extent sombre and funereal, while we should wish the tenderest emotions to be raised by the sight of individual graves thoughtfully cared for, rendered pleasing to the eye, and soothing to the mind, with a few simple wild flowers, and fragrant with Primroses, Violets, or Sweetbriar, the sacred labour of some female hand, the tribute of some loving heart. Such flowers of Nature speak for themselves; they tell their own tale. But, perhaps, to confine ourselves to such as these would be imposing too narrow a limitation. Surely there can be no objection to the presence of any flowers that do not require the continual labour of the gardener and his men, provided that they are not introduced into the walks, or ranged in elaborate parterres, which would give a notion of paid-for work, and not be suggestive, as they manifestly should be, of an offering of affection, a labour of love. Among the flowers that would seem to be most appropriate, one thinks of the modest Snowdrop, peeping above ground ere the winter is gone—the harbinger of spring, or the Crocus expanding its beauteous flowers on the first cheering sunshiny day; Anemones, bright and hopeful; Blue Bells, sweet and elegant, hanging down their heads; the true old Fuchsia coccinea, with pendent spray, but not its vulgar "improvements." All these are admissible, and our fair readers will easily think of a multitude of others, quite as appropriate.

It appears to us that the endeavour to harmonise outward objects with our inward feelings is a true mark of delicacy and refinement; and, on the contrary, the abrupt introduction of matters perfectly incongruous with our frame of mind, ever must be harsh and jarring to the sensitive. To "rejoice with them that do rejoice, and weep with them that weep," is at once a Christian maxim, and the dictate of a warm and sympathising nature. To make cemeteries into a gay promenade would be as painful to the feelings, and almost as much out of place, as dancing at a funeral.

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HAVING been asked for an opinion as to whether Peaches produced in orchard-houses are as sweet and high-flavoured as those from the open wall, Mr. THOMPSON stated, at p. 822, that, generally speaking, Peaches ripened or grown in orchard-houses are decidedly not equal in quality to those from a good south wall. He admitted at the same time that the question turned on many combinations of circumstances, and that some of these may give rise to exceptions to the general rule. On the other hand, Mr. RIVERS mentions several instances of wall Peaches being inferior to his orchard-house ones.

There is a great difference in the quality of wall fruit in different seasons, and according as the trees are well managed or the contrary. The fruit in some cases might be such as could only be termed *good*, compared with which orchard-house Peaches might be pronounced *better*, although not equal to the *best* that are produced against walls under good management. Again, in a very large collection, such as Mr. RIVERS possesses, some varieties may be better suited for orchard-house culture than others, and thus form exceptions to a general rule. The Shanghae Peach appears to be one of these; we know indeed that it often does not ripen so as to part freely from the stone against a wall; but Mr. RIVERS informs us that it succeeds better in an orchard-house. The shelter afforded by the latter proves suitable in like manner to certain varieties of Apples, Pears, &c., which are not adapted for our out-door climate, more especially in the northern districts of the kingdom.

With regard to the colouring of Peaches, Mr. RIVERS admits that "as a rule, wall Peaches are deeper in colour than those under glass." This admitted, he says, exceptionally on the other hand, "his deeper coloured Peaches—their rinds of a very dark crimson—have been grown on low trees, the fruit being 9 feet from the glass." We have seen well coloured fruit on one side under glass, and whilst in the house they appeared of a ripe yellowish hue on the shaded side, they nevertheless showed a greenish tinge when brought out to open day.

Of the different kinds of fruits grown in orchard-houses, we believe that the Peach requires more especially the direct rays of the sun to bring it to the utmost perfection as regards colour and richness of flavour, with fine aroma. If it cannot have the direct rays, as must be the case under glass, then it should be situated where it can have the nearest approach to direct rays, and that Mr. THOMPSON said was within a short distance of the glass, for he knew from experience, as all cultivators do, that the farther from the glass the more the plant suffers from the weakness of the light. The brightest glass in use for horticultural purposes is to some extent a screen, even to vegetation near it; and plants grown at too great a distance from it prove evidently that the light is weakened in some proportion to the distance it traverses after passing through the glass.

"An Amateur, Clapham," at page 892 says, "the loss of light by reflection, and by passing through the glass at a high angle, is not more than two or three rays in 1000." This agrees sufficiently with BOUGUER's Table of Rays reflected from Glass, according to which at a high angle, or when the rays fall in a perpendicular direction, or nearly so, to the surface of the glass, only 25 in 1000 are reflected; but, by the same authority, when the angle of incidence is as much as 85°, or when the rays come in a very slanting direction, as many as 543 out of 1000 are reflected, or more than one-half. LAMBERT found that when the rays of light fell at a perpendicular incidence, 62 out of 1000 were reflected; but when the glass which he used was less transparent only 811 were transmitted, and 137 were lost even when they fell not the least slanting. Now the rays of light must fall in very slanting directions on a plane like a glass roof for the greater portion of the day; and only for an instant in each day can they be strictly perpendicular. The loss by reflection in the course of the day must therefore be much greater than was asserted by "An Amateur." He next appealed to a high authority, as he says, by asking the question of the sun, whose answer it appears he received in two minutes on two pieces of photographic paper, both of which have been forwarded to us. One was placed within a foot of the glass; the other 10 feet from it. The answer he admits was contrary to his expectation. He estimates, and we think very correctly, that "the one exposed within a foot of the glass has been acted upon by the light with *double, or perhaps more than double*, the energy to the other. Probably he will favour us with the result of a similar experiment with the sun's rays. We tried these with a lens, not by any means powerful, nor was the sunshine very bright. When the rays were concentrated *outside* a window, we could bear them on the hand no longer than 12 seconds; but inside we could bear them equally concentrated for 20 seconds. We have seen a good thermometer exposed in the open air against a south wall standing at 130°; whilst another against the same wall, but under glass, with abundance of air, was only raised to 80°. The Peaches exposed to where the 130° were indicated were finer and better flavoured than those under the glass; yet, like Mr. RADCLYFFE, we will not say a word against glass; but we firmly believe that

orchard-houses or glass-houses for fruit-growing do require, and will admit of, great improvement, to which we trust that this little discussion will tend. *,*

—— The CARNATION and the PICOTEE seem to hold their own in the midland and northern counties, for it is reported of the "National" exhibition of these flowers held in the past summer at Manchester, that such an array of fine sound blooms as have been seldom if ever before witnessed were on this occasion brought together. We hope to see them yet occupying a more prominent position than they have lately taken in the exhibition arrangements of the south, for no flowers can possibly be more lovely. We have been scanning over the prize list at the "great" exhibition just referred to, in order to ascertain, by their repeated recurrence in the stands, which are the favourite sorts amongst growers in the districts referred to, and the result of our search is as follows:—

| *Carnations.* | | Blooms | *Picotees.* | | Blooms |
|---|---|---|---|---|---|
| S. F. | Sportsman .. | .. 10 | H. P. | Mrs. Bayley | .. 11 |
| S. B. | Admiral Curzon | .. 10 | H. R. | Mrs. Dodwell | .. 11 |
| R. F. | Lovely Ann .. | .. 7 | L. Ro. | Bertha .. | .. 10 |
| C. B. | Jenny Lind .. | .. 6 | L. P. | Mrs. Hanaford | .. 9 |
| P. B. | Falconbridge | .. 5 | H. Ro. | Flower of the Day | . 7 |
| S. B. | Dreadnought | .. 5 | H. Ro. | Northern Star | .. 6 |
| R. F. | Uncle Tom .. | .. 4 | L. R. | William Summers | . 6 |
| R. F. | Apollo .. | .. 4 | H. R. | Countess of Wilton | . 6 |
| R. F. | Samuel Moreton | .. 4 | H. R. | John Smith | .. 6 |
| C. B. | Lord Milton .. | .. 4 | L. R. | Ada Mary .. | .. 5 |
| C. B. | Warrior .. | .. 4 | L. R. | Rosetta .. | .. 5 |
| L. F. | Henry Steward | .. 4 | H. P. | Lord Nelson | .. 4 |

The remaining varieties consisted of: *Carnations*—Earl of Sefton, 4 blooms; Merrimac, Queen Boadicea, Ariel, Premier, Earl of Wilton, Juno, Lady Peel, John Bayley, Lord Raglan, 3 blooms; Beauty of Woodhouse, Lord Rancliff, Bianca, Ivanhoe, Mayor of Nottingham, and Nymph, 2 blooms; and King John, Companion, Magnet, Alhambra, Favourite, Black Diamond, Fancy, Sarah Payne, Cleopatra, Duke of York, Squire Meynell, Mrs. Knivett, Ruth Hannah, British Hero, Sir J. Paxton, William IV., Mrs. Chapman, Constellation, Garibaldi, 1 bloom: *Picotees*—Mrs. Norman, Rosy Circle, Finis, 3 blooms; Ann Simonite, Elise, Rev. H. Matthews, Mrs. Turner, Mrs. Barnard, Lucy Alice, Lauretta, Picco, National, Mrs. May, Mrs. Bloomfield, 2 blooms; Haidée, Aurora, Mrs. Drake, Favourite, Sarah Ann, Countess, Amy Robsart, Mrs. Simonite, Miss Riley, Mrs. Eyre, Miriam, Rebecca, Miss Wood, Sultana, Venus, Princess Alice, Princess Helena, Princess of Wales, Miss Holbeck, Mrs. Reynolds Hole, 1 bloom. The position of Premier Carnation in the whole exhibition was awarded to C. B. Jenny Lind, and that of Premier Picotee to L. P. Ann Simonite. The most conspicuously fine blooms were afforded by Mrs. Dodwell, Countess of Wilton, Mrs. Norman, John Smith, Rosetta, Ada Mary, Mrs. Bayley, Picco, Lord Nelson, Ann Simonite, Mrs. Hanaford, Flower of the Day, Princess Alice, Elise, Northern Star, Miss Meeking, Bertha, Rosy Circle, and Lucy Alice amongst Picotees; and by Admiral Curzon, Warrior, Jenny Lind, Sir J. Paxton, Falconbridge, Earl of Sefton, Henry Steward, Sportsman, John Bayley, Mrs. Chapman, Earl of Wilton, Premier, Lovely Ann, Uncle Tom, and Merrimac amongst Carnations.

We give this brief sketch of the Manchester meeting for the purpose of showing what an amount of interest gathers around these fragrant summer flowers; and to afford again the opportunity of expressing a hope that the managers of some of our metropolitan shows will break through the *ad nauseam* routine of compressing three summer shows into the space of six weeks, and will give us instead at least one show that may admit the Carnation and Picotee in all their glory.

—— Some very important public sales of JAPANESE PLANTS are announced for the early part of October. First in point of date is that of Mr. VEITCH at the Auction Mart, on the 7th instant, some of the attractions of which are to consist of Lilium auratum, Sciadopitys verticillata, Retinispora obtusa, and Thujopsis dolabrata, &c. On the 21st and 22d instant, part of Mr. FORTUNE's collections reared by Mr. STANDISH are to be disposed of at Stevens's rooms. Amongst other fine things, Osmanthus ilicifolius, the Retinisporas, Thuja falcata, the beautiful Golden-veined Honeysuckle, and the new Japanese Chrysanthemums will be offered. Catalogues of both sales are, we believe, now procurable.

## New Plants.

260. PINUS FLEXILIS, *James, in Long's Exped.* 2, p. 27 & 34; *Torrey, in Ann. Lyc. N. Y.* 2, p. 249.

Arbor mediocris seu elatior; foliis dense confertis quinis subbiuncialibus rigidis integris acutiusculis ex axillis perularum lanceolatarum deciduarum, squamis vaginantibus obtusis laxis mox evanidis; amentis masculis ovatis involucro sub-8-phyllo munitis in axillis bracteæ lanceolatæ patulæ deciduæ sessilibus, antherarum crista minore irregulariter inciso-dentata; amentis femineis subverticillatis in pedunculo brevi perulis late lanceolatis acutis dense stipato erectis squarrosis; strobilis ovato-cylindraceis squarrosis horizontalibus seu declinatis e rubello fuscis, squamis e basi breviter cuneata latissimis orbiculato-rhombeis, apophysi convexa semicirculari incrassata margine area parva subrhombea inermi notata; seminibus magnis obovatis exalatis carinatis.

On the Rocky Mountains, from New Mexico to the 49th parallel, "occupying the subalpine belt, never forming entire forests, in the lower elevation associated with P. contorta, approaching the alpine districts, scattering with P. aristata" (Parry's Notes); on the Sandia Mountains, New Mexico, 12,000 feet high, to the top, *Dr. Bigelow*; mountains of Santa Fé, *A. Fendler* (No. 832); Colorado, *James, Parry, Hall & Harbour* (No. 529); Laramie Mountains, *H. Engelmann*; mountains from the Platte to the Bear River, *Nuttall*; Wind River Mountains, *Fremont*; Big Horn Mountains and mountains at the headwaters of Snake River, *Dr. Hayden*, to the British boundary, *Dr. Lyall*. Nuttall's figure in his Sylva, pl. 112, is very poor, and even quite incorrect; nor can I learn that any specimen of his is preserved in the herbarium of Mr. Durand or of the Academy of Natural Science, in Philadelphia, but suppose that he had our species in view.—P. flexilis, the American representative of P. Cembra of the old world, is a middle-sized tree, usually 30—50 feet high, though Fendler, a good authority, saw it near Santa Fé 60—80 feet high; Dr. Bigelow's trees, of the height of 100—130 feet, on the San Francisco Mountain (Bot. Whipple, p. 20), must belong to some other 5-leaved species. In Colorado it is a fine tree, with tapering trunk and oval outline, branching almost from the base, lower branches horizontal, upper ones ascending; wood white, hard, annual rings from $\frac{1}{5}$ to $\frac{1}{2}$ line, on an average $\frac{1}{4}$ line wide; trees become in 250—300 years about 1 foot thick. Leaves crowded towards the end of the very flexible branches, persistent 5 or 6 years, usually $1\frac{1}{2}$—$2\frac{1}{2}$, very rarely 1 or 3 inches long; sheaths similar to those of P. Strobus or P. Cembra, 8 l. long, deciduous. Male aments 4—5 l. long, forming a thick spike 10—12 l. long; cones subcylindric, tapering to the end, 4—5 inches long, 2 inches in the largest diameter, on short peduncles; scales 12—14 l. long, 10—12 l. wide, squarrose; lowest sterile ones recurved; fertile ones with deep impressions for the reception of the seeds both on the upper, inner side, and on the back, the latter cavities partly formed by the large (4—6 l. long) ligneous or rather corky bract. Seeds 4—5, rarely 6 l. long, irregularly ovate or obovate; wing minute, not deciduous nor adhering to the scale, as in P. Cembra, P. edulis, &c., but reduced to a persistent keel on the upper end and outer edge of the seed; embryo with 8 or rarely 9 cotyledons. *Engelmann, in Transactions of Academy of Sciences of Philadelphia.*

## HORTICULTURAL EXHIBITION AND SCIENTIFIC MEETING AT STETTIN.

THE migratory Scientific Association which first suggested the idea of the British Association, is the German Naturalist and Physical Association, which has just held its 38th meeting at Stettin, "Versammlung Deutscher Naturforscher und Aertze." Established in 1822, it has held its meetings in different towns throughout Germany annually ever since, with the exception of three years, during which no meetings took place, owing to such accidental interruptions as the cholera in 1832, and the revolution in 1848. The honour of having the meeting held in their towns is as highly esteemed and as eagerly sought for in Germany as are those of the British Association at home, and last year Stettin obtained only by a narrow majority the preference over Dresden for this year's meeting. The preference however has been justified by the result. Upwards of 600 members have attended the meeting, which must be considered a great success, seeing that the numbers which attended last year's meeting at Karlsbad were only about 350, while the numbers at Speyer in the previous year were still fewer. Nor has the quality of the meeting been inferior to its quantity. Where such men as Virschow, Haeckel, Maedler, Dove and Koch led the van, it may be well supposed that there was no lack of first-class men of science to keep them company. The busy town of Stettin has thus been full to overflowing, and its ancient hospitality has been largely drawn upon. The visitors were billeted on the principal inhabitants, who vied with each other in lavishing kindness and attention upon their guests. They may not have displayed their hospitality quite in the same fashion as that recorded of their ancestors by Kanzow in his curious "Chronicle of the Customs of the Old Stettiners and Rugianers,"* who, he tells us, held it a shame for a host not to drink with his guest until they had consumed everything in his house, and when that was done it was their custom to sally forth to or upon his neighbour and drink him up likewise, the visit and the drinking being by some mystical fancy held equivalent to that of God himself. Their recent hospitality did not go so far, but the spirit which gave rise to the custom still survives, and if any of their visitors had wished it, there is no doubt that they would have revived it and carried it out to the letter.

What more concerns us, however, is that simultaneously with the "Versammlung" a horticultural exhibition was held, in which we take considerable interest on various grounds. It was the first effort of a new society. Twelve months ago no horticultural society existed in Pomerania. Ten years ago horticulture itself was little cared for. Within that time our science has penetrated into the district, and taken root—not, we fear, from any love of the subject, but from the more powerful influence of the pocket. Fruit trees grow in Pomerania like weeds, and the Stettiners have recently found a remunerative market for their produce both at Copenhagen and St. Petersburg. There is now a cheap, rapid, and regular steam-boat communication between Stettin and these towns, and with and from it there has sprung up a pretty extensive traffic in fruit and vegetables. Any one establishing himself as a market gardener near Stettin could scarcely fail to make money rapidly; that is, always supposing that he knew his business, and was a man of business. The trade is at present, for the most part, in the hands of cottagers and small farmers, who bring their cargo of fruit to Stettin, ship it and themselves with it to Copenhagen or St. Petersburg, where they sell it, receive the price, and return with the money to repeat the operation so long as the season or their crop lasts. The trade has to them all the charm of novelty. It is a new source of wealth—almost literally "found money."

The climate of Pomerania is admirably adapted for the growth of fruit. We have just returned from a visit to Hoekendorf, a small country village, about 8 or 10 miles beyond Stettin, on the borders of the Pomeranian Beech forests. As with "an earth-directed eye" we strolled along a foot path searching for new plants and animals, we noticed without noticing every now and then a Plum or two scattered on the ground. In the simplicity of our hearts we said to ourselves—some one eating Plums has passed this way and has dropped some or thrown away the unripe ones. Presently we came to a whole scatter of Plums, which made us look up, and then we saw that the hedge-row timber all along was composed of Plum trees, heavily laden with dark Damsons, and that the Plums which we had passed on the ground were those which had fallen from the trees by the wayside. It is not in the least an exaggeration to say that we could in our morning walk have easily filled a couple of bushels with the dropped Plums which lay beneath our feet. Nor were the other trees less fruitful; Apple trees and Pear trees growing in orchards, with fences which were no fences, were bending under a heavy crop. But the Stettiners have now discovered that it is as easy to grow good fruit as bad—a large Apple as a small one—and they are eagerly seeking to improve their stocks and increase their orchards. With the demand comes the supply. Nurseries and nurserymen are increasing in number—all, however, paying more attention to fruit and trees than flowers; and among other symptoms of progress has sprung up the "Stettiner Gartenbau Vereins," the Horticultural Society of Stettin, and the late Horticultural Exhibition there. Notwithstanding the disadvantages attendant on inexperience and haste in getting it up, for, as Professor Koch described it, it was only a seven months' child, having been resolved upon seven months ago, at the suggestion of the Berlin Horticultural Society, the exhibition would have been creditable to any old society. It was well supported by the nurserymen of the province, and also owed a good deal to M. Haage, of Erfurt. Our own Royal Horticultural Society, anxious to give encouragement to the young Society, readily responded to its invitation to contribute, and sent a collection of named Apples and Pears from Chiswick, which, as it turned out, was the very direction in which it could be most useful. The fruit grown in the neighbourhood (almost entirely upon standards) formed an interesting part of the exhibition, some of the Apples and Pears exceeding what can be grown in Britain, both in size, beauty, and flavour; however, generally speaking, the fruit of the country, although so plentiful, is susceptible of improvement in quality. Nor were the specimens confined to the sorts already known and recognised as good. Messrs Schmidt & Haffner of Radetkow (a well-known house), the chief nurserymen in the province, whose nursery is about 150 acres in extent, are turning their attention to raising new varieties, one of which was particularly striking, from its beauty and unusual colour, the red cheek—at least, what should have been the red cheek—being of a delicate pale mauve colour upon white, as if the Apples intended that they too should share in the advantages of the discovery of aniline. Their Peaches, and more especially their Plums, were as fine as could be desired. Schmidt again exhibited a collection of Hazel Nuts, of between 40 and 50 different kinds, similar to that which attracted a good deal of attention at the Exhibition at Namur last year.

The flowers exhibited, although we observed few of rarity, seemed richer and deeper in colour than in England. The Roses were as fine as with us in June, and there was a very fair display of the ordinary fine-foliaged plants. It is almost unnecessary to say that they were displayed, and that the place in which they were exhibited was decorated with great taste. Taste is the rule on the continent—want of it the exception. It may, however, be worth while now, whilst the subject of tents for exhibitions is still a vexed question among horticulturists in England, to say a word upon the place in which the exhibition was held. In England tents are preferred, not only for the subdued light which they secure, but also for its equal diffusion. On the continent they seem quite alive to the advantage of the former, but either from necessity or want of appreciation pay less attention to the latter. Most of the larger towns are fortified, and of course contain a body of troops, and equally of course almost, there is a riding school—a large oblong wooden unpaved building, with a row of small windows pretty

* A chronicle containing much curious information, written by Kanzow, a contemporary of Luther and Melancthon, in 1540, and edited and published by Bohmer in 1835.

high up, admitting a subdued light only, but somewhat unequally distributed. This riding school is the usual *locale* chosen by our neighbours for horticultural exhibitions, and it was so by the Stettin Society in the present instance. Their building was from 15 to 20 feet high, between two and three hundred feet in length, and about 40 in breadth; turf was laid down, out of which some of the plants exhibited appeared to grow naturally. One end was artificially raised, up which the walks and grass sloped, and the other end was broken into bays and alleys by hedges of the fine-foliaged plants. The effect was very good, and it may be a question whether some modification of such a building might not be contrived for our English shows. It might be erected at no great expense, and would escape the contingencies which seem inevitably sooner or later to attend the best constructed and most expensive tents.

The exhibition of vegetables was very meagre, and we did not observe any specimens of one of the most interesting kinds for which Prussia is celebrated, viz., the Telltower Turnip. Probably this is to be accounted for by that singular Turnip not being a native of the district. It is confined to a small sandy circuit at a place called Telltower not far from Berlin, and every effort to grow it elsewhere has been unsuccessful. It is small, about the size of a Radish, with a delicate aromatic flavour. It is highly prized by gastronomes; many attempts have been made to introduce it into other districts, but it has invariably degenerated into the ordinary fine large Turnip. This is the more singular that the soil of the neighbourhood of Stettin is to all appearance composed of exactly the same sandy materials as that of Telltower, and the same treatment has been tried with it, but all without success. But if we saw no specimens of this root at the show we saw plenty of them at the dinner-table. Like the real turtle of the alderman, or the duck and green peas of the citizen, the Telltower Turnip is now *par excellence* the delicacy of the season in that country where "delicatessen" are so much appreciated. Their Sanderfish is a dish to set before a king, their raw smoked eels a feast for the gods, but *Telltower Rüben mit Enten*—Telltower Turnips with duck: mark the emphasis!—not duck and Telltower Turnips, but Telltower Turnips the principal, with duck as a mere accessory, are thought by Stettiners to beat them all. We recommend the Zeesander or Sanderfish to the attention of the Acclimatisation Society—the smoked eels to the curers of our kippered herrings, and the Telltower Turnip to the care of the Royal Horticultural Society. Not for trial at Chiswick, though there is no harm in that too, but for trial by the Fellows themselves. The large number of country Fellows scattered over every variety of soil in Great Britain, gives the Society especial advantages for conducting to a successful issue any experiments upon plants which require a peculiar soil as the condition of their success. Let the Council distribute with their annual distribution of seeds in spring, packets of the seed of the Telltower Turnip, with memoranda of the information already possessed regarding it, and an analysis or a sample of the soil in which it grows, and we may next autumn have our own *Telltower Rüben mit Enten*, at our civic feasts. We expect a garland of Oak leaves from the Lord Mayor for the suggestion.*

Before turning our backs upon Stettin we must notice another subject which may interest our Arboricultural friends. We mean the Pomeranian forests, more especially the Beech forests near Stettin; these extend from about eight or ten miles north-west of Stettin, for 20 miles or more in length by five or six in breadth. A portion of them (perhaps five miles in extent) is of considerable age, 200 or 250 years; of the beauty and grandeur of these it is impossible to convey by words any adequate idea; the rest is of all ages, from one year up to 120 or more. Instead of a rotation of cropping it is subjected to a rotation of cutting. A portion is cut down every year, and the parts to be cut are so arranged that their turn to be again laid low will not come round for 120 or 130 years. When the time draws near for any portion to be cut, the forest authorities take precautions for securing a fresh crop of trees after the old ones shall have been removed. The first step taken is to warn the neighbouring cottagers and farmers, who either have, or exercise without having it, a right of pasturage in the forest, that that must cease on the portion to be cut. We may call it a right of pasturage, but pasturage there is none. Every one knows how impossible it is to get anything to grow under old Beech trees. The fallen leaves seem to poison the ground and to bring the curse of sterility with them to all but itself, but when the Beech tree sheds its mast these furnish ample food for pigs, large flocks of which are turned into the woods to feed upon them. But now that the trees are to fall, the mast must no longer be disturbed. It must lie on the ground to germinate and raise a new crop. This might seem difficult in a forest where there are no fences nor apparent boundaries—but it is easy notwithstanding. All that is done is to stick up a board bearing the magical word "Schonung," or indulgence; as much as to say that the peasants are entreated to have the indulgence to forbear from sending pigs into that part of the forest. How much better this is than "Trespassers will be prosecuted with the utmost rigour of the law." It may in practice mean the same thing, but how delicate the touch compared with our coarseness! It is like the practice of medical men in their treatment of the insane, who when a patient is more than ordinarily rude or violent confound him by ceremonious politeness, which often restores him to a calmness, which roughness or force would fail to do.

For three years the "Schonung" lasts and then the trees come down—not always all at once; sometimes a number of the best here and there are left for a few years, but soon they are cut down too. The young crop has now sprouted, and the ground is covered as close as a nurseryman's bed with young Beech trees. These are allowed to grow untouched for about 20 years; no knife or axe comes near them. At that stage they are impenetrable to aught but the squirrel and the martin or their like. Even when no higher than mid leg, it is laborious and difficult to traverse them; when twice a man's height, and with branches interlaced in every direction, it is impossible. After having been once thinned, the operation is periodically repeated—but the effect of their close growth during the early period of their life is never lost. They are drawn up into long straight trees with boles as regular and branchless as the mast of a ship. Nature has pruned them herself, and so they grow until their turn to fall again comes round. Such at least has been their fate hitherto, but there are symptoms in progress indicative of more rapid and frequent falls of timber to satisfy the pecuniary necessities of the present administration in Prussia.

Some years ago a proposal was made in the Prussian Parliament to clear away a large portion of these forests and turn the land into corn fields. This was happily defeated, chiefly, we believe, through the energetic protest and remonstrances of Herr Dohrn of Stettin, the well-known entomologist, who by the way presided over the recent meeting of the Association at Stettin. He knew better than our idiotical sparrow clubs the value of small birds to the agriculture of a country, and pointed out to the Parliament of which he was a member that insects would soon eat up the crops if there were no small birds to keep down their numbers, and that the small birds would soon be exterminated if there were no woods or forests for them to build their nests in. The argument prevailed, and the woods were saved for the time. *M.*

* This sort of Turnip well cooked is very nice, but we warn our friends that it demands the digestion of a navvy. *Ed.*

## THE BARN OWL AND CO.

LAST year, in the hollow of a huge Oak tree, I had an extraordinary ornithological family. The lower parts of this Oak serve me for a warm and sheltered seat, to watch the wild water-fowl in the lake below it, on their periodical return from the Arctic regions; the upper part serving as a retreat for jackdaws, owls, starlings, *et id genus omne.* There is only one entrance into the uppermost chamber. The tree is roofed with slates in such a manner, that, in lifting up some of them, I can see, with a nicety, what is going on amongst the tenants.

Last year, in the month of July, I made my usual visitation. Sideways from the entrance, a jackdaw was sitting on five eggs; and on a projecting ledge, within 2 feet of the jackdaw's nest, there was a redstart's nest, with six green eggs in it. The rest of the chamber was tenanted by six barn-owls, independently of the two old birds, which flew away at my intrusion. Two of the young owls were nearly feathered; but, apparently, not quite ready to fly. Two others were half-fledged; and two others (making six in all) were barely covered with white down. I then bade good night to these pretty babes of the old Oak tree (by the way, it was 10 o'clock in the morning), and I closed the slates, promising that nobody should ever molest them.

Some years ago I had two little unfeathered barn-owls, in an adjacent tower, on Christmas morning. Owls are not the only birds of mysterious incubation. Some five and forty years ago, in a field of young growing Wheat, I found and examined minutely 10 eggs of a partridge, and six of a pheasant. They had been laid promiscuously in a little hollow of the ground before me. There was scarcely a blade of Grass to serve by way of feather-bed. But the investigation ceased, as I was called away on business. Possibly, there might have been some connubial understanding betwixt these two old hen birds which had laid their eggs in the same nest. However, let me not mislead the reader. This is mere conjecture—and conjecture is not worth much. *Charles Waterton, Walton Hall*

## ROSES.

1. *A Pole Rose.*—Some people have no other idea of what constitutes a Pole Rose, than that it grows vigorously and runs up a pole. A Pole Rose is evidently intended for effect. It should therefore break well at all its eyes, which should be numerous and close to each other; its leaves and flowers, both numerous, should cover its stalks from the base to the summit; its side branches should not be long, straggling, or blind, but should be from 8 inches to 12 inches long, compact, and with a Rose at the end of each shoot. Madame Plantier is the best example of what a Pole Rose should be; properly managed it is a pillar of purity, and its branches, leaves, and flowers hide its main stems. The Boursault Amadis, crimson, is also a good specimen of a Pole Rose.

The following autumnals, though they will not fulfil all the conditions just named, may be used for such a purpose, viz., Acidalia, Anna Alexieff, Louise Carique, Caroline de Sansal, Alexandrine Bachmeteff, Jules Margottin, Baronne Prevost, General Jacqueminot, Gloire de Dijon, La Ville de St. Denis, Souvenir de la Reine d'Angleterre, Duchesse de Cambacérès, Sir J. Paxton, Mrs. Elliot, Madame Boll, Duchess of Norfolk, Prince Camille de Rohan, Duc de Cazes, and Princesse Mathilde, the three last dark Roses of great beauty, and abundant and continous bloomers.

The subjoined summer Roses are also good for the purpose, viz., Lanei, Madame Zoutman, La Ville de Bruxelles, Charles Lawson, Paul Perras, and Chénédolé. These autumnal and summer Roses are not only suitable for pole purposes, but they are also good Roses.

2. *A Perfect Rose.*—A Rose may be perfect as a flower, whether it be small, medium, or large. For show purposes large Roses are best adapted, and usually defeat the medium-sized Roses, although, perhaps, the latter may be the best. At exhibitions, from travelling and other causes, Roses are generally on the wane; then the big ones are sure to beat medium-sized kinds in the same condition. The grandeur of size still remains, and the contemplative minds of judges imagine all the rest. I do not say that 24 Roses well matched in size should beat a box of Roses where the sizes are various, without reference to variety of colours and other perfections, but I fear that that is sometimes the case.

Let me endeavour, without regard to exhibitions, to state what constitutes a first-rate Rose. The stalk should be stiff, and the leaves close in texture, and of good size and substance; the outline of the Rose should be circular, and the petals velvety, thick, deep, smooth-edged, round, well-disposed, and concealing the eye. The colour should be decided and fixed, and the reverse of the petals should be as well coloured as the surface. For lack of substance, and fixed and thorough colouring, what a sorry figure do many, otherwise nice Roses, display, both in the garden and also at exhibitions!

As regards shapes, the recognised forms are globed, cupped, upraised or vased, bomb-shaped, expanded, compact, rosetted, and peony-formed. The two first are, I think, the best shapes; but still we require variation in shapes as well as in colours, and if each is perfect in its shape it must be accepted.

There are other things besides formation which constitute a perfect Rose. The habit and hardihood of the plant, the free-blooming, the continuity and abundance of blooms, the invariability of good form, the power of the leaves to resist blights, and the endurance of blooms in good condition under torrid suns or pouring rains, form no small part of the good qualities of a first-rater.

How difficult is it to find all these qualities in a Rose plant and its flowers! I do not know any Rose that answers so well to the foregoing descriptions as Senateur Vaisse. Chabrillant will also fulfil all but the colouring of the reverse of the petals, which is different from that of the surfaces—still the silvery whiteness is very beautiful: for perfection of form there is nothing superior to her. Madame Furtado is also most perfect as a bloom, but deficient in growth and hardihood.

In the description of new Roses there are usually these most important omissions: thorough colouring, fixity of colour, and substance of petals. We also want variety in colours. People are inclined to give up the varied tintage of summer Roses to grasp at Hybrid Perpetuals, which are chiefly rose or crimson.

The readers of this will, no doubt, think that I have overlooked the excellence of Maurice Bernardin, Duc de Rohan, and Charles Lefebvre. Far from it, they are most noble additions, and they may possibly beat S. Vaisse; but, till we have seen an equal number of these four Roses side by side go through a severe winter and two summers, the one wet and cold, the other torrid, it would be wise to suspend such a judgment. *W. F. Radclyffe, Rushton, Sept. 26.*

## BIRDS *versus* GARDENS, &c.—No. I.

A SOMEWHAT lively discussion has been going on recently in the columns of the *Times*, as to the merits or demerits of birds in their relation to gardens, &c., and both sides of the question have been advocated with considerable point. The discussion has necessarily included the farm with the garden, and certain "large" birds along with the "small" ones. We propose to give a summary of the arguments and statements put forward on both sides, and begin by the statements favourable to the feathered race.

Mr. Edward Wilson opens in the *Times* of Sept. 4, by drawing attention to a collection of the stomachs of birds which was to be seen in the French department of the International Exhibition. These were the work of M. Florent-Prevost, the celebrated French naturalist, who for 30 years has been prosecuting inquiries, and endeavouring to stop the persistent and indiscriminate slaughter of these beautiful little creatures. In taking steps to impress particularly upon the younger people in Australia the mistake they commit in destroying these birds which we are taking such trouble to introduce among them, Mr. Wilson had put himself in communication with this kind-hearted and enlightened philosopher, and by his aid had prepared a tolerably complete list of what is eaten during each month of the year by

the more common of our birds. This list, he thinks, is worth study at home, when the destruction of small birds by poison and other means is attracting Parliamentary notice.

M. Florent-Prevost's experiments were made in France. His specimens, moreover, showed the important fact that many birds, living a good deal upon grain, feed their young entirely on insects, so that they are serving us admirably in this way at a season when insects are most rife, even when the examination of their own stomachs would lead us to denounce them as little better than plunderers. Mr. Wilson mentions another set of experiments recently reported as suggestive of the incredible quantity of insects destroyed by such agencies. A gentleman took some young robins and fed them himself, weighing them and their food accurately day by day, to discover what quantity a young bird required to keep it in a growing and healthy condition. He found that, taking the common earthworm as a representative of the food, the daily supply required to keep a young robin in its highest health, laid end to end would reach the almost incredible length of 14 feet. M. Prevost's list is as follows:—

*Long-eared Owl.*—Jan., Feb, March, mice; April, cockchafers; May, rats, squirrels, cockchafers; June, meal worm, beetles, shrew mice; July, mice, ground and other beetles; Aug., shrew and other mice; Sept., Oct., Nov., mice.

*Short-eared Owl.*—Jan., mice; Feb., harvest mice; March, mice: April, crickets, harvest mice; May, shrew mice, cockchafers; June, beetles; July, field mice, birds; Aug., field and shrew mice; Sept., Oct., field mice, beetles; Nov., common and field mice; Dec., mice, spiders, wood lice.

*Barn Owl.*—Jan., Feb., mice; March, April, May, June, field mice; July, Aug., mice; Sept., Oct., field and shrew mice; Nov., mice, black rat; Dec., mice.

*Rook.*—Jan, field mice, grub of cockchafer; Feb., field mice, grub of cockchafer, red worms; March, grubs, chrysalids; April, slugs, worms, chrysalids; May, beetles, grubs, wire worms; June, cockchafers, eggs of birds, woodboring beetles; July, young birds, beetles, &c.; Aug., birds, field mice, weevils, crickets, grasshoppers; Sept., grubs, worms; Oct., grasshoppers, ground beetles, young animals; Nov., young rabbits, insects, grubs; Dec., animals, decaying substances.

*Magpie.*—Jan., grubs of cockchafers, young beetles, corn, seeds; Feb., the same, with berries; March, the same; April, crickets, water rats, mice; May, cockchafers, glowworms, fruits; June, the same, and weevils; July, beetles, field mice; Aug., birds' eggs, weevils; Sept., beetles, worms, barley, grasshoppers; Oct., grasshoppers, carrion beetles, green locusts; Nov., grasshoppers, kernels of fruits; Dec., grubs of cockchafers, young rabbits, berries.

*Jay.*—Jan., grubs of cockchafers, acorns, berries; Feb., chrysalids, grains, seeds; March, grubs, insects, wheat, barley; April, grubs of beetles, snails; May, cockchafers, locusts; June, eggs of birds, cockchafers, beetles; July, young birds, flies, beetles; Aug., the same, acorns, grubs, dragon flies; Sept., the same, fruits; Oct, Nov., beetles, slugs, snails, grain; Dec., the same, haws, hips, &c.

*Starling.*—Jan., worms, grubs of cockchafers, dung of animals; Feb., grubs, snails, slugs; March, April, grubs of cockchafers, snails; May, the same, grasshoppers, fruits; June, flies, grubs of various flies, fruits; July, grubs, fresh-water shell fish, fruits; Aug., flies, glow worms, various beetles, fruits; Sept., green locusts, grubs of carrion beetles, worms; Oct., worms, beetles; Nov., snails, slugs, grubs; Dec., hips, haws, buds of trees.

*Golden Oriole.*—Jan., chrysalids; Feb., chrysalids, worms; March, grubs, beetles; April, ground beetles, weevils; May, beetles, moths, butterflies, grubs; June, grubs, grasshoppers, bees, cherries; July, cherries, beetles; Aug., weevils, chrysalids, fruits, worms; Sept., beetles, grubs, worms, fruits; Oct., grubs, herbs, chrysalids, berries, barley; Nov., ants, worms.

*Crested Hoopoe.*—Jan., worms, grubs, snails; Feb., March, April, the same, birds; May, flies, dragon flies, grubs of May-fly; June, water and land snails, flies, &c.; July, Aug., Sept., the same, wood-lice; Oct., Nov., snails, flies, spiders; Dec., the same, worms.

*Green Woodpecker.*—Jan., ants; Feb., worms, grubs of ants; March, slugs, beetles, grubs of ants; April, ants, worms, May, red ants, grubs of wasps; June, bees, ants; July, red ants; Aug, red ants, worms; Sept, ants, worms; Oct., grubs of ants; Nov., grubs of ants, bees; Dec., ants.

*Reed Thrush.*—March, grubs, insects; April, aquatic grubs; May, grubs of house and dragon flies; June, worms, grubs, flies, May-flies; July, beetles, dragon flies; Aug., worms, eggs of insects, beetles; Sept., aquatic insects.

*Great Titmouse.*—Jan., beetles, eggs of insects; Feb., grubs; March, winter snails, beetles, grubs; April, cockchafers, beetles, bees; June, cockchafers, flies, and other insects; July, the same; Aug., insects, fruits; Sept., seeds, grasshoppers, crickets; Oct., berries; Nov., seeds.

*Blackbird.*—Jan., Feb., seeds, spiders, chrysalids; March, worms, grubs, buds of trees; April, insects. worms, grubs; May, the same, cockchafers; June, the same, fruit; July, Aug, Sept., all sorts of worms and fruit; Oct., grubs of butterflies, worms; Nov., Dec., seeds, chrysalids.

*Skylark.*—Jan, seeds of wild plants; Feb., seeds, corn: March, insects, worms, seeds, corn; April, insects, beetles, corn; May, flies, various insects; June, grasshoppers, worms; corn; July, crickets, grasshoppers; Aug., insects, corn, seeds of weeds; Sept., seeds, worms, barley; Oct, Nov., seeds, corn, berries; Dec., seeds of wild plants.

*Redbreast.*—Jan., insects, worms, chrysalids; Feb., insects, worms, wood lice; March, chrysalids, worms; April, moths, eggs of insects, and cockchafers; May, grubs, beetles; June, flies, moths, spiders, worms; July, moths, butterflies, wood lice; Aug, Sept., the same, worms; Oct., eggs of insects, aquatic insects; Nov., worms, chrysalids; Dec., chrysalids, grubs, eggs of moth.

*Nightingale.*—Feb., grubs, worms; March, the same, chrysalids, ground beetles; April, flies, meal worms, beetles, red worms; May, butterflies, cockchafers, weevils, grubs; June, spiders, wood-boring beetles, worms; July, worms, grubs, eggs of locusts, grasshoppers, moths, flies; Aug., locusts, glow-worms, weevils, grubs; Sept., locusts, beetles, worms, dragon flies: Oct., grubs, worms, beetles; Nov., flies, worms.

*Linnet.*—Jan., Feb., March, April, seeds, berries; May, June, July, Aug., Sept., the same, insects; Oct., Nov., Dec., berries, seeds, buds of trees, fruit.

*Chaffinch.*—Jan., seeds, berries, kernels of fruit; Feb., the same, corn; March, the same, insects; April, moths, flies, insects of various kinds; May, cockchafers, grubs, eggs of insects; June, the same, wild fruit; July, the same, grubs of beetles; Aug., moths, butterflies; Sept., eggs of insects, worms, seeds; Oct., wood-boring beetles, insects; Nov., seeds; Dec., seeds, buds.

*Greenfinch.*—Jan., Feb., March, seeds, berries, wild fruit, worms, &c.; April, May, June, July, Aug., the same, insects, Sept., Oct., Nov., Dec., seeds, berries, worms, wild fruit, &c.;

*Sparrow.*—Lives near the habitation of man, and varies its food according to circumstances. In a wood it lives on insects and insects and seeds; in a village it feeds on seeds, grain, and larvæ of butterflies, &c.; in a city it lives on all kinds of *debris*. But it prefers cockchafers and some other insects.

The Rev. F. O. Morris tells us that the cause assigned for the destruction of small birds is the damage they do to the corn. Assuming, then, for the moment that for three weeks or a month, while the grain is in a ripe state, the produce of the cornfields is exposed to the depredations of a host of small birds to the extent that is commonly and most ignorantly supposed, there remain 11 months out of the 12 during which it is simply impossible that they can be feeding on ripe grain. How then, he asks, are they employed, for the most part, during these other 11 months? This he answers by quoting in detail a series of observations made by Mr. Weir, who with much patient watching found that a pair of thrushes between 2.30 A.M. and 9.30 P.M. fed their brood 206 times; and that in the case of the blackbird, between 2.30 A.M. and 8.40 P.M., the male fed the young 44, and the female 69 times, the former at the time the observations were discontinued being engaged in pouring forth his most charming melody. Again, a pair of the blue titmouse, between 2.15 A.M. and 8.30 P.M., when they stopped in their labour of love, fed their young 475 times; they appeared to feed them solely with caterpillars, sometimes bringing in a single large one, and at other times two or three small ones, so that it was impossible to say how many had been carried in during the day.

A "Sincere lover of birds, fruits, and flowers," who has encouraged birds to the utmost extent, in spite of the complaints of his prejudiced gardener, and had still had an abundance of fine fruit and vegetables, sufficient not only to supply a family of 14 persons, and all the birds in the garden, but also occasionally to sell and give away, accounts for this in some measure by the larger birds being very fond of the berries of the Laurel and Portugal Laurel, which were very plentiful; but he believes that he is indebted to the birds for insuring good crops by keeping the plants clear of blight and insects, and that he should have lost far more from these, without the birds, than he does with them. The depredations of different insects, especially of the gardener's worst enemy—the ant—are, he says, often laid to the charge of the comparatively innocent birds.

C. R. S. argues that naturalists know, and those who have gardens may soon perceive, that certain fruits are liable to be attacked by some species of birds, and that the sparrow will eat Wheat; but that this evil is partial. It certainly may press heavily upon the owners of fruit trees in particular districts who will not take common precautions when fruit is not very abundant. However, during 10 or 11 months in the year the birds are ceaselessly occupied in destroying the larvæ of an infinity of insects most pernicious to vegetation, which the eye of man cannot detect; and if some of these birds come to exact toll for the benefits they have conferred, it is only the short-sighted who will dispute their claims. In gardens and grounds where the birds have been poisoned and shot there is invariably a corresponding loss of fruit and vegetables from the ravages of insects.

## Home Correspondence.

*Law relating to Moving Bedding Plants.*—Do you happen to know what is customary or legal in the following case? Some property having been sold, the vendor claims a quantity of greenhouse plants, which have been turned out of their pots into beds for the summer to be replaced before winter, as removable by him. The purchaser, on the other hand, objects on the ground that being in the beds at the time of purchase they are legally his, just as much as other plants growing without pots in the garden. Under these circumstances I venture to ask information on the subject through your columns, thinking similar cases may have occurred elsewhere. *J. E., Dublin.* [We are not aware of any special custom applicable to the case; and in the absence of any particular agreement relating to the plants in question, they would belong to the purchaser. But dates may be important; and if you want exact information as to your rights, you must consult your solicitor.]

*Fruit-tree Protection.*—Your correspondent "W.R.R." (see p. 917), does not appear to approve of my having headed my paragraph (see p. 772), "How to insure a crop of fruit." It however matters little how things are headed provided the subject-matter is correct; and as I wished to direct particular attention to the best method of protecting wall trees from spring frost, I selected the heading in question as most likely to attain that end. My object in writing respecting fruit protection was three-fold; in the first place my remarks were intended to be a reply to observations made by a Maidstone correspondent; secondly, I wished to convince another correspondent, who stated a short time ago that Peaches could not be grown without glass walls, that good Peaches and full crops could be produced without the aid of glass; and last, though not least, I wished to point out to all concerned in fruit culture, the cheapest and best method of protection, an operation which can be effected without a mighty edifice being erected at grea cost, as your correspondent expected to find me advocating, but simply by means of Frigi Domo. I am a great admirer of Rivers's orchard houses, and approve of the culture of fruit trees in pots; also of the Paxton houses; and I do not object to glass coverings where expense is no object and labour plentiful, but I do maintain that good Peaches can be grown on walls with the use of Frigi Domo as a spring covering, and that with as much certainty of a crop as under glass. Such at least is my experience. With regard to ripening the wood in autumn, I find no difficulty whatever. My practice is to disbud as early as I possibly can to encourage early free growth, and never to suffer the trees to be checked by blight. These points properly attended to, the wood will ripen, but if you lose your first growth through blight, the second growth does not get thoroughly matured. In addition to keeping the trees clean I generally crop them heavily, and I find that under that system the wood ripens satisfactorily. Your Correspondent admits that covering in spring is indispensible, but says that "it is not the basis of insuring a crop of fruit, for we often find to our sorrow that our wall stone-fruit falls after setting, and oftener still, that even with covering we cannot get it to set at all." For my own part I have no cause for complaint respecting the setting of fruit, nor of its falling off; but I admit that much evil is done, and that crops are destroyed through over shading; the blossoms in such cases become weakened, the young growth gets blighted, and the blooms fall on their first full exposure to sun and air. My practice is to let down the blinds in the evening, and to pull them up again in the morning as soon as the frost is off the trees, unless cold cutting winds prevail, in which case the covering occasionally remains down the whole of the day. Let us hope, however, that we shall have the experience of competent persons made known through your columns respecting the cheapest and best method of wall-tree protection. I will therefore add nothing further on the subject at present. I have already stated that 100 yards of Frigi Domo cost 12*l.* 10*s.*, and that with care they will last for six years; thus it will be seen that 100 yards of wall trees can be protected for a trifle more than 2*l.* per year, and I have no hesitation in saying that Frigi Domo will keep out any spring frosts we may ever live to see. I shall, however, be only too happy to find a better and cheaper way of protecting fruit trees, and I for one rejoice to see you invite communications on the subject, but all of them should be accompanied by the names and addresses of their respective writers. [Yes.] *Edward Bennett, Gr. to G. S. Foljambe, Esq., Osberton Hall, Worksop, Notts.*

*Potatos.*—In your last number Mr. Dean gives us some observations on Potatos, and as it seems to me makes a statement not quite compatible with sound judgment, for he says he saw the Royal Ash-leaved Kidney growing in the Isle of Man, and that "it appeared identical with Myatt's Prolific Kidney." If he had cultivated the root in his own garden, and had made his observation without prejudice, it might have been worthy of some little attention. That the Royal Ash-leaved Kidney is a distinct variety I can with confidence assert; its history is as follows: In 1858 I happened to be on a visit to the late James Ashwin, Esq., of Bretforton Hall, near Evesham, a very clever experimental horticulturist; while looking over his kitchen garden he pointed out some rows of seedling Potatos raised from the Ash-leaved as very promising; he had distinguished them as A, B, and C, and gave me some tubers of each. In 1859 I found them to increase admirably in my soil, but in the wet summer of 1860, A proved too delicate to resist disease, so I lost the root, much to my regret now, as it was most remarkable for its dwarf habit, not growing more than 6 inches high, and would have been invaluable for pot culture in forcing houses. C was a good kind, but sported too much, many of its tubers becoming round. B proved very valuable for its earliness, productiveness, and excellent flavour, so that in 1861 I named it the Royal Ash-leaved Kidney, and I have no hesitation in saying it is, as Mr. Dean says, "what we really want, an early Kidney Potato." It is like all the race in shape and flavour, differing from them only in its robust habit and superior productiveness—Myatt's Prolific being the only sort that approaches it in this respect; but whether owing to my soil, a sandy calcareous loam, or what other cause I cannot tell, it far surpasses that excellent sort in productiveness, for whereas Myatt's has here given from 12 to 15 at a root, the Royal has given from 20 to 30, and in one piece of light friable soil, trenched and manured, the tubers planted whole and 3 feet apart, it gave this season 50 at a root. In 1862, I planted a large bed of all the early Kidney Potatos known, one row of each sort; the Royal was the earliest of all and the most productive, and Myatt's Prolific the next in productiveness. Haigh's, or the Lapstone Kidney, is a most valuable late autumn and winter sort, and although when first introduced here it was liable to be diseased, it is now always perfectly free, and so delicious in flavour that a round Potato seldom or never makes its appearance on my table—Regents and Dalmahoys being as inferior to it in flavour as a Hessel Pear is to a Gansel's Bergamot. To point out to Mr. Dean to how great an extent Potatos are influenced by soils, I may mention that the Fluke Kidney here in a clay soil is seldom or never good—often detestable; the Lapstone always excellent even till May. I have cultivated the Early Handsworth, and find it to be in every respect exactly like the Early Ten Week, a sort I received 20 years or more since from a Mr. Chatwin, then a Potato Salesman in Hungerford

Market, and like, if not the same as, a sort very popular some 40 years since, called the Early Betty. These early round Potatos are, compared with the early kidney Potatos, hard, flavourless, indigestible, and not worthy of cultivation. In raising seedling Potatos it is interesting to note with what fidelity some kinds reproduce themselves so as to partake of the nature of a species. Seedlings from the Ash-leaved Kidney always bear a strong resemblance to their parent, hence we have the Gloucestershire Kidney, Early Rose Fluke Kidney, Nonsuch Kidney, Prizetaker, and some others, all good, and all more or less like the old Ash-leaved, and, like it, not very robust in habit or very prolific. Seedlings from the Fluke Kidney are still more remarkable for their adherence to their parent stock, for on closely observing a great number for two seasons, I have not been able to observe the least difference, either in earliness, productiveness, or in the size and shape of their tubers. *T. R.*

*Pampas Grass.*—It may interest some to know that my plant, which last year had 74 spikes on it, has this year 121. *C. Wilkinson, Sandfield, Tonbridge Wells, Sept.* 29.——Allow me to inform your Maidstone Correspondent that we have a plant of this beautiful Grass now in full bloom, with 150 spikes on it. It is growing in a cold wet exposed situation. *Henry Appleby, Foreman to Messrs. Ivery & Son, Dorking.*

*Anacharis Alsinastrum.*—It seems rather hard that I should be charged in your leading article of Sept. 19, with doing what Mr. Marshall (who is therein quoted) long since showed that I did not do. I did not introduce the Water Thyme from America. It was first found in Europe by the late Dr. G. Johnston at Dunse Castle in Berwickshire in 1842; and secondly by Miss Kirby, in the canal at Foxton, near Market Harborough, in 1847. How it got to the former place no person has explained; but it is suspected to have reached Foxton in the cracks of timber brought from America. From Foxton it passed along that network of canals which covers the centre of England, and communicates with the upper waters of our chief rivers, viz., Thames, Severn, Trent, Ouse, Nene, &c., and has established itself in all of them. I beg, therefore, to protest against the charge of having introduced the plant either intentionally or accidentally into any of those rivers. [Hear, hear!] By some mode it attained the best possible position for reaching them all, and has done so in a natural manner. It came to Cambridge in this wise. I gave a piece of it, received from Foxton, to the late Mr. Murray, the Curator, for cultivation in the Botanical Garden in 1847, and he placed it in the watercourse in 1848. It spread with wonderful and unexpected rapidity from thence down the river Cam, and, singular to add, also up that river and its tributary brooks. It has likewise long since reached the Cam by natural causes from Foxton, having descended the river Ouse, with a branch of which the Cam communicates at a few miles below Cambridge. It would therefore have filled the Fen rivers even if it had never arrived there from the Cambridge Botanical Garden. Indeed very much of what is now found in the fens came from the rivers Ouse and Nene, and the canals connecting them with the original locality near Market Harborough. Certainly the quantity of it in the Cam is very much less than was the case formerly. In all probability Professor Henslow's idea was correct, and it has now consumed most of the matters congenial to it in the soil. At first it seemed to smother all the natural vegetation of the waters; now the native plants have reappeared about as abundantly as in former times. The Anacharis is associated with them, but is not strong enough to suffocate them. The pond in the Botanical Garden is of recent formation, and the Water Thyme does not seem yet to have exhausted the supplies derived from its soil. It is expected that such will soon be the case, and that the plant will then decrease in quantity. There is no probability that the Anacharis will ever vanish from our waters, but there is much reason to think that it will not long continue especially troublesome. It will run its course and then take its place amongst our aquatic plants, without attracting the particular attention of ordinary observers. Swans are very fond of it, and if those beautiful birds were encouraged and defended, they would soon increase in number upon our rivers, and the Anacharis correspondingly decrease in quantity. *C. C. Babington, Cambridge.*——We have two ponds here several acres in extent, one of which flows into the other, with a fall of several feet, and is fed by means of springs and drains from the land above, unconnected with any stream. The Anacharis made its appearance in the lower pond about 12 years ago, and speedily filled it. Six years later it was observed in the higher pond. I can only account for its appearance by the supposition that it was brought here by wild fowl, which at times are plentiful on the lower water, but as the upper pond is bounded by the flower garden, they do not often settle there. A pair of swans located on each pond, were never known to trespass on each other's water until one of the male birds died, when they travelled regularly from one pond to the other, and about that time, the weed was discovered in the upper pond, and of late years it has almost put a stop to the use of boats. In the winter of 1857 the lower pond was emptied, and a severe frost following, the weed was completely killed for a time, but in three years afterwards it again became troublesome. A curious fact connected with this matter is that previous to the weed being seen here, the swans reared their young regularly, but since that time, although they have hatched a brood yearly, the young ones have only lived a few days. *William Culverwell, Thorpe Perrow.*——I think I recollect to have heard it stated in conversation that a water weed which I would presume to be the Anacharis, entirely filled a small lock at Dunse Castle in Berwickshire, and that it was completely extirpated by swans, who throve wonderfully, as long as they had it to live on. I do not doubt that you have readers in Berwickshire who can confirm or correct my recollections. *C.*

*Asters.*—Will seeds of the French Aster, taken from the middle of a blossom-head near the eye, where the florets are bad and only partially developed, produce flowers as good as the parent, or as good as those from seeds taken from the outer part, where the florets are fully developed? In trying to save seed from a few favourites, I find that seed forms and ripens much more readily at the bad florets than the good. A practical reply will oblige. Theory would suggest that the finest florets would produce the finest seed, which appears not to be the case; and a seed from a self-coloured floret or a two-coloured one from the same head will, I imagine, in either case reproduce the parent. *B. C. D.*

*Birds.*—The following particulars respecting migrants at this East coast (Seaham, near Sunderland), may prove of interest to your correspondent "J. W." (see p. 917).

| 1862. | Arrival. | Departure. | Remarks. |
|---|---|---|---|
| Blackcap .. .. | May 11 | Aug. 10 | Common |
| Chiffchaff .. .. | April 27 | Aug. 10 | Ditto |
| Cornerake .. .. | May 10 | July | Ditto |
| Cuckoo .. .. | April 29 | Aug. 12 | Ditto |
| Swift .. .. .. | May 24 | Aug. 24 | Ditto |
| Swallow .. .. | April 27 | Oct. 30 | Ditto |
| Martin .. .. .. | April 28 | Sept. 14 | Rare |
| Whitethroat .. .. | April 27 | Aug. 12 | Common |
| Sedgewarbler .. | April | .... | Ditto |
| Willowwren .. .. | April 24 | Oct. 13 | Ditto |
| Flycatcher .. .. | May 2 | August | Ditto |

| 1863. | Arrival. | Departure. | Remarks. |
|---|---|---|---|
| Blackcap .. .. | April | .... | Rare |
| Chiffchaff .. .. | April 23 | August | Ditto |
| Cornerake .. .. | May 6 | July | Common |
| Cuckoo .. .. | May 5 | Sept. 1 | Ditto |
| Swift .. .. .. | May 13 | Sept. 3 | Rare |
| Swallow .. .. | May 1 | Sept. 27 | Common |
| Martin .. .. | May 17 | Sept. 1 | Rare |
| Whitethroat .. .. | May 10 | Sept. 10 | Common |
| Sedgewarbler .. | April 24 | July 30 | Ditto |
| Willowwren .. .. | April 18 | Sept. 10 | Ditto |
| Flycatcher .. .. | May 17 | July 30 | Ditto |

*R. D.*

*Double-blossomed Peach.*—In case it should be an unusual circumstance for the Chinese White double-blossomed Peach to mature its fruit, I send you herewith one for your examination, also the twig on which it grew. The peculiarity of the present case as it appears to me, is, that one blossom produced three distinct fruit, attached to the branch, as you will see, by one fruit stalk. One Peach dropped off when about the size of a nut, but the other two ripened. The one sent herewith would perhaps have been riper had it been left on the tree a few days longer. *X., Gateshead, September* 28.

## Societies.

ENTOMOLOGICAL: *Sept.* 7.—F. Smith, Esq., President, in the chair. Mr. Dunning exhibited portions of a bin which had been filled with chicory, which, as well as the woodwork itself, had been covered with a fine white, closely spun, silken web, the surface of the wood displaying quite a smooth surface. It was suggested that the web had been spun by Tinea granella. Mr. Stevens exhibited a small collection of insects made in the interior of Australia during the recent expedition by Mr. Waterhouse. Mr. F. Bond exhibited some beautifully preserved specimens of Caterpillars of various Lepidopterous insects by Mr. Baker of Cambridge, and Professor Westwood explained the manner in which such specimens are prepared by the German Entomologists. Mr. Sharp exhibited a specimen of the rare Coccinella labilis, from Herne Bay; and Mr. Waring specimens of Lithostega nivearia from Suffolk, and Stirrha sacraria from Banstead Downs. Mr. Stainton exhibited a large tabulated plan showing the various leading peculiarities of the transformations and habits of the different genera of Tineidæ. A paper by Mr. Walker, containing descriptions of new species of Moths of the families Castniidæ, Agaristidæ, and Glaucopidæ was read, also a descriptive catalogue of the family of the Stag-beetles (Lucanidæ) by Major Parry.

## Garden Memoranda.

MESSRS. CARTER & CO.'S ANNUAL GROUNDS AT DEDHAM AND ST. OSYTH, ESSEX.—Of the more important floral decorations of these extensive grounds, a full account was given in our last year's Volume (p. 743). The following remarks therefore apply more particularly to vegetables, on the culture of which equal care is bestowed as on that of flowers, and among which we observed some improvements on existing varieties.

As to Peas two of the best are Advancer, a dwarf green wrinkled Marrow, of fine flavour, and nearly as early as Daniel O'Rourke, and Carter's Surprise, a new and most prolific kind. Carter's Champion early forcing Potato is also worthy of notice. It is a Kidney, earlier than the Ashleaf, with scarcely any haulm, and therefore very suitable for cultivation in frames. In Celery, of which some 25 acres are said to be grown for seed, we saw nothing superior to Carter's Incomparable Dwarf Red, a new and excellent kind, fine in flavour and rich in colour, also Manchester Red, and Cole's Crystal White. Ivery's Nonsuch and Hood's Imperial Dwarf are likewise both red kinds of excellent quality; and among other white varieties the best is Incomparable Dwarf White, a Celery closely resembling the Celeri Court Hâtif of the French, grown largely in the Royal Gardens at Frogmore. Among Cauliflowers Carter's Dwarf Mammoth appears to be a variety worthy of especial notice. It is compact in habit and has a firm white head, larger than that of most other kinds. Among Lettuces, the best for autumn sowing is perhaps Dunnett's Giant Black-seeded Brown Cos, a crisp sweet sort which runs with difficulty to seed; and Wheeler's Tom Thumb, Carter's Giant White Cos, Bath Cos, Wheeler's Imperial Cos, Hammersmith, Tennisball, and Victoria Cabbage, are also excellent kinds. Of Beets, the Pine Apple, and Carter's St. Osyth, are two of the best, both being dwarf, rich in colour, and producing little top. Of Carter's Champion Cucumber, Lynch's Star of the West, and Stillwell's Matchless, whole frames full, each consisting of 120 lights, are grown; and although they get no heat beyond what the sun supplies, they grow luxuriantly and fruit abundantly. Among Broccolies, Carter's Champion stands at the head, being the latest variety in cultivation, very large, white, and unusually free from the strong taste which spoils so many Broccolies. Self-protecting, Snow's Superb, Large Spring White, Early White Malta, Late Large White, Southampton White, Adam's Early White, Chappell's Cream, Dalmeney Park, Elletsen's Mammoth, Knight's Protecting, Miller's Dwarf, Maule's Late White, as white as a Cauliflower, and Early Purple Cape are also useful kinds of Broccoli. Varieties of Cabbage are numerous, occupying as they do some 25 acres of ground; among the best were Kemp's Incomparable, which is a very early, dwarf and compact kind, as are also Carter's superfine Early Dwarf, Enfield Market, Nonpareil, and Sugarloaf. Leeks comprised the true Musselburgh, one of the best in cultivation; Ayton Castle and Henry's Prize are also good varieties. Carter's improved Garnishing Kail was very finely marked in every shade of colour. The true Custard Vegetable Marrow was growing and fruiting finely on sloping banks along the south side of a filled up watercourse, as was also a large cream-coloured sort, apparently a most productive kind. Warm and otherwise waste situations were thus turned to profitable account. Parsley consisted of 12 acres of beautifully curled kinds, consisting of Drummond's Extra Curled, Myatt's, Dunnett's Garnishing, and other fine sorts.

As regards flowers, it will be remembered that Messrs. Carter exhibited at South Kensington on the 9th ult., a very attractive collection of late flowering Annuals. They consisted of charming examples of miniature orange and striped Marigolds, also large showy deep orange and pale lemon-coloured varieties of the same useful flower; variously coloured bouquets of hardy Everlastings; Asters large and fine, some beautifully striped, others self-coloured; and, last but not least, some surprisingly fine blooms of Double Zinnia. These we saw growing at Dedham, on the Monday previous to the exhibition in question, and when seen *en masse*, as they were there, nothing in their way could possibly have a gayer or more striking appearance. It is therefore clear that by means of a judicious selection of such flowers as those just mentioned, together with the assistance of the different kinds of Calliopsis and similar late blooming plants, such as Lobelia speciosa, Chelone barbata coccinea, Dianthus Heddewigi, Sweet Alyssum, Marvel of Peru, Œnothera Lamarckiana, Œ. cinnabarina, Rhodanthe Manglesi, Ageratum mexicanum, Tagetes pumila, Verbena pulchella, and others, Phlox Drummondi, and Perilla nankinensis, a fine display may be kept up out of doors, provided the autumn is favourable, even until almost the very verge of winter.

Conspicuous among Asters, which have bloomed beautifully this year, was one named *Victoria*, a lovely variety of the dwarf French kind called Perfection, large and double, and possessing a bright rosy colour, shading off into white at the ends of the petals. Than this, not even the bright-looking miniature Dahlias could possibly make a more showy bed. Various other sorts were also in excellent bloom, such as Crown varieties, *i. e.*, kinds with beautiful white centres, surrounded with a broad margin of some dark colour; also Emperor and Bouquet Asters, both free blooming fine kinds, and others equally handsome. To have these as fine as they were here, seeds of them should be sown about the middle of March or beginning of April (according to the season) in a cold frame or in pans on a greenhouse shelf in good rich compost; after carefully hardening off they may be transplanted when of sufficient size for that purpose, say about the end of May; afterwards even under ordinary treatment they will scarcely fail to bloom beautifully and give the utmost satisfaction. Asters, especially the Chrysanthemum-flowered kinds, also make admirable window

plants; three or four of different colours pricked off into an 8-inch pot may be kept dwarf, induced to bloom freely, and to last at least three weeks or more in great beauty.

Of French Marigolds we also noticed delightful beds, especially of the miniature orange and other sorts, which are everybody's favourites; in large masses, the sulphur-coloured and deep rich orange African kinds made a grand display, as did also beds of dwarf and tall French mixed, the colours of which consisted of pure yellow, lemon, orange, and rich maroon laced with gold, while the shape, in most instances, equalled that of a Ranunculus.

Among Everlastings (Helichrysums), there is likewise now great variety of colour, some being as brilliant in that respect as even the greenhouse varieties of Aphelexis themselves. For the purpose of cutting and drying for winter bouquets alone these annual kinds are most valuable, being infinitely handsomer than the artificially coloured bouquets now so largely imported from the continent.

German Stocks in separate colours had been very gay, as had also been beds of the different kinds of Tom Thumb Nasturtiums and Tropæolum Lobbianum; but the beauty of the latter, except in one or two instances, was nearly over.

Of Gladioli we observed a large plantation, the showy colours of which, varying as they did from bright scarlet to nearly pure white, were brilliant and striking in the extreme. Gladioli have not bloomed everywhere satisfactorily this season; at St. Osyth however, in a light sandy soil in the neighbourhood of the sea, nothing in their way could be finer, the growth being strong, and the spikes individually large and showy.

In a similar situation the handsome red-leaved Amaranthus melancholicus ruber has succeeded well this year, the foliage being unusually brilliant, and the plants in excellent health.

## Miscellaneous.

*Discovery of the Tea Plant in America.*—The Tea plant has been discovered by a Chinaman, covering a large area of land in the central counties of Pennsylvania. It forms the undergrowth of the woodland generally. The soil is a fertile red shale, and the indigenous Grass is White Clover. The climate is unusually favourable. Artificial vegetation is not needed. During summer, scarce a week passes without refreshing showers. With their usual alacrity, the Americans are at once "pitching into" tea making. Samples of their first make have been sent to us, only three weeks from the green leaf; and finer tea we never saw. Great commercial changes are certain to follow this discovery; and as it is in American hands, we may look for a rapid development. We are informed that already a machine is in successful operation for curing the leaf at a merely nominal cost. *Daily Paper.* [Bosh!]

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—Plants getting past their best should be replaced at once by something of a more showy character. When the principal collection of Chrysanthemums comes into bloom a selection should be made of the best and most useful sorts, for there are many worthless varieties in cultivation, and it is better to grow duplicates of really good kinds than to retain such as are but indifferent, merely for the sake of having a long list of names. Give timely attention to providing a succession of bloom with which to keep this house gay, and avoid as far as possible the expense of forcing, which is injurious to most plants. Be careful not to let things in bloom suffer for want of water, and use every means to preserve the beauty of specimen plants as long as possible. Damp and mildew are the great enemies to be guarded against at present in conservatories and greenhouses, and these must be sharply looked after, especially in the case of plants that have not ripened their growth well, and are in a rather soft state. If damp is troublesome it must be got rid of by means of free ventilation on mild days, using a little fire-heat at the same time, and for mildew a dry airy atmosphere is the best preventive, but the plants should be frequently examined, applying sulphur on the first appearance of the evil. Very little water will be required here at present, but the plants should be carefully looked over about twice a week, so as to make sure that nothing is allowed to feel the want of it. If not already done, get plants tied into proper form with the least possible delay, for it is difficult to tie a plant so that it will not look somewhat stiff and unnatural, and the sooner all this kind of work is done the better the specimens will look when in bloom. If Mignonette to stand the winter has not yet been sown, that operation had better be seen to without delay.

### FORCING DEPARTMENT.

Pineries.—Plants in bloom will require very careful management to prevent their being injured by damp, and the atmosphere must be kept dry, with a rather brisk temperature, admitting a little fresh air on every favourable opportunity; and if there is, as there should be, a proper ventilating apparatus or the means of admitting air over the pipes, so that it may get warmed before coming in contact with the plants, a little should be admitted constantly. Plants in bloom should also be near the glass, and where they will catch every ray of sunshine. It is nearly impossible to get fruit to swell anything like properly at this season, therefore unless a succession of ripe fruit is indispensable, and cannot be secured except by driving plants that bloomed late, these had better be kept rather quiet until spring. Where an attempt must be made at present to get fruit to swell, a moist warm temperature of about 70° at night and 75° by day must be maintained, allowing it to rise to 80° with the assistance of sunshine, and the bottom-heat must be kept regular at about 85°, taking care to keep the soil in a healthy state as to moisture.

Vineries.—As soon as the early house is closed for forcing, be careful to secure a thoroughly moist state of the atmosphere by frequently sprinkling the floors and every available surface, but as observed previously, a regular moist state of the atmosphere is most effectually secured by means of a slight bed of fermenting materials in the house, which will also afford a little warmth, and the moisture from this is much more congenial to vegetation than anything that can be effected by the most careful use of the syringe or evaporating pans.

### FLOWER GARDEN AND SHRUBBERIES.

The weather is still very favourable for executing alterations; and where these are in hand they should be prosecuted with the greatest possible despatch. Planting, or the removal of large evergreens, cannot be finished too soon; for it is of the utmost importance that the plants should be afforded some chance of making fresh roots before bad weather sets in. See to even small plants being secured against wind; for these are often greatly injured by being blown about after planting, which a small stake and a few minutes' work would prevent. Get in a stock of Briars for budding upon as soon as the leaf is down. Let the roots be well trimmed, cutting back closely the strong ones; for these, if left, will be of little use except to furnish an endless supply of suckers. Sub-tropical plants and other choice things in the parterre can no longer be depended on as to display; it is therefore desirable at this period to look over the masses and see if there be anything of a tender character which it is desirable to secure for next year; such may be potted with balls and wintered in a cold pit. As the winter approaches, protection of some kind should be provided for plants and shrubs of tender character; almost any material is eligible, provided it will, in a considerable degree, throw off wet. Canopies for this purpose should be so contrived as to admit of one or two sides being opened at pleasure. If only one, it should be on the north or west side—certainly not on the south; as the excitement occasioned by fits of sunshine is apt to prove very prejudicial. The covering, or canopy, should by no means be allowed to touch the plant; and the greater the space allowed between it and the plant the better will it afford protection. It is bad practice to bundle the shoots together like a broom in order to make them occupy a more limited space; such may save trouble and material, but is a most injurious proceeding. More injury is occasioned by confined damp, in a majority of cases, than by lowness of temperature. Hoodings of straw, so formed as to overlap the protecting material beneath, are very good and simple protectors, and if rightly contrived, may be removed with as much facility, for ventilation, as the top of an ordinary handglass. Oil-cloth will make a good protection also, formed into a kind of cone, on the sides of which a small flap or two may be made to open without admitting rain. Before the application of any top-covering, we would advise an inch or two of the surface soil around the collar to be removed, and replaced with dry cinder siftings—the newer the better, or where it can be kept dry, Cocoa-nut refuse. This last should be piled as high up the stem as the plant will admit, taking care not to choke too many of the lower leaves, and if the canopy is so contrived as to overlap this mound, the covering will be complete. The only thing that remains is to give air in favourable opportunities, particularly avoiding cutting winds, which in all probability do more harm than frosts. Planting of bulbs must now occupy attention.

### HARDY FRUIT AND KITCHEN GARDEN.

If any transplanting or root pruning of fruit trees has to be done let this be attended to as soon as the leaves are off, and see that those exposed to wind are securely staked before leaving them. Also get the ground prepared for fresh plantations. Give air freely to Lettuce and Cauliflower plants under glass; indeed, the sashes should merely be used to throw off rains, for the plants will do all the better for being kept hard. A sowing of Peas on a well sheltered dry border may soon be made, and do not spare the seed, for it will be some time exposed to the depredations of mice. Take advantage of the first sunny day that may occur with the ground in a dry state to earth up Celery. Mushroom beds made early last month will now be bearing; it is a good plan to sprinkle or syringe the surface of the bed, a week or so before the Mushrooms make their appearance; more especially in Mushroom houses where a fire may have been used occasionally; this is far better than watering after the Mushrooms are through. The water, however, must not be allowed to penetrate the manure—merely to soften the soil.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Sept. 30, 1863, as observed at the Horticultural Garden

| Sept. | | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. | 24 | 11 | 29.400 | 29.303 | 60 | 30 | 45.0 | 56 | 57½ | S. | .10 |
| Friday | 25 | 12 | 29.797 | 29.613 | 67 | 29 | 45.0 | 56 | 57 | S.W. | .00 |
| Satur. | 26 | 13 | 30.123 | 30.017 | 62 | 27 | 44.5 | 55 | 56 | W. | .00 |
| Sunday | 27 | ○ | 29.989 | 29.781 | 60 | 47 | 53.5 | 55 | 56 | W. | .00 |
| Mon. | 28 | 15 | 29.866 | 29.748 | 61 | 29 | 45.0 | 51½ | 55¼ | W. | .23 |
| Tues. | 29 | 16 | 29.992 | 29.907 | 64 | 25 | 44.5 | 54 | 55¼ | S. | .40 |
| Wed. | 30 | 17 | 29.881 | 29.631 | 68 | 48 | 58.0 | 53½ | 55¼ | S. | .30 |
| Average. | | | 29.864 | 29.714 | 63.1 | 33.5 | 48.3 | 54.8 | 56.1 | | .83 |

Sept. 24—Overcast; showery; fine; frosty at night.
— 25—Clear; very fine; fine, frosty.
— 26—Fine throughout; frosty at night.
— 27—Fine; mild at night.
— 28—Heavy rain; fine; slight frost at night.
— 29—Slight fog; very fine, 7 deg. below freezing at night.
— 30—Dense fog; very fine; heavy rain at night.
Mean temperature of the week 2½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Oct. 10, 1863.

| October. | | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday | 4.. | 64.1 | 43.7 | 53.9 | 18 | 1.06 in. | — | 6 | — | 3 | 7 | 16 | 3 | 2 |
| Mon. | 5.. | 63.2 | 41.5 | 52.4 | 18 | 0.82 | 4 | 4 | 2 | 1 | 6 | 12 | 7 | 1 |
| Tues. | 6.. | 62.0 | 44.3 | 53.1 | 21 | 0.78 | 1 | 4 | 5 | 3 | 5 | 11 | 6 | 2 |
| Wed. | 7.. | 62.6 | 44.4 | 53.5 | 18 | 0.58 | 2 | 6 | 3 | 2 | 4 | 14 | 5 | 1 |
| Thurs. | 8.. | 61.4 | 42.0 | 51.7 | 19 | 0.63 | 1 | 6 | 3 | 4 | 6 | 7 | 9 | 1 |
| Friday | 9.. | 60.5 | 42.7 | 51.6 | 20 | 0.52 | — | 7 | 2 | 1 | 5 | 14 | 6 | 2 |
| Satur. | 10.. | 61.5 | 43.8 | 52.7 | 22 | 0.68 | 3 | 3 | 4 | — | 7 | 10 | 6 | 4 |

The highest temperature during the above period occurred on the 4th, 1859—therm. 80 deg.; and the lowest on the 5th, 1850; 8th, 1852; and the 9th, 1849—therm. 28 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

Books: *Mr. Ewart.* We do not know of any small publication answering to your wants. Paxton's Botanical Dictionary gives briefly part of the required information; and for more general matters we cannot point to a more trustworthy guide than Thompson's Gardener's Assistant, but it is rather a large book.

Dianthus: *A Z.* A good double muled Indian Pink, but the colour is somewhat dull. We should prefer the sort known as D. hybridus multiflorus, which is much more glowing, and as far as we can see from your specimens has a different leaf.

Diseases: *J & J H.* We have in vain hunted for any parasite to which the disease of your plants may be due. From the appearance, however, of the Heath, we suspect that a minute mould, a species of *Polyactis*, has been at work, and if so you have a troublesome enemy to contend against. Sulphur and sulphur-fumigation have proved useless or worse than useless, and nothing but a free circulation of air, which can scarcely take place if your plants are overcrowded, is likely to prove effectual. As we have not been able to detect the mould, our opinion must be taken merely for what it is worth under imperfect information. *M J B.*

Exhibitions: *W F.* The loss upon them is too great, as we are informed.

French Cultivation: *T G.* Thanks. We will endeavour to find room next week.

Fungi: *G D P.* It is the true Dry-rot Fungus, Merulius lacrymans. *M J B.*

Gladiolus: *W H.* Sandy or rather perhaps light loamy fields are its natural habitation. If any one has said that the genus has had Sedgy leaves the remark applied to habit not to habitat.

Guernsey Lilies: *S S.* We fear you are not likely to blossom them a second year; but you may do so in the third provided the second year is employed in restoring the bulbs to vigour. See p. 742 of our volume for 1852.

Lettuces: *W. Cutbush & Son.* Your White-seeded Bath Cos is crisp and sweet. With the exception of being a little "run," we do not know how a Lettuce could well be more perfect.

Names of Fruits: *W G.* 1, probably Boston Russet; 2, Newtown Spitzemberg?; 4, London Pippin.—*F H S.* 1, Vicar of Winkfield; 2, Bon Parent.—*G S., Liscard.* 6, Vicar of Winkfield; 9, Dumelow's Seedling; 11, Easter Beurré. The others are too green to be recognised. ||

Names of Plants: *J S G.* Brunfelsia americana, an old stove plant of the Scrophulariaceous order where it touches Solanaceæ.—*Annie, Monmouth.* 1, Rhamnus catharticus; 2, Euonymus europæus; 3. Pyrus Aria.—*T B.* Hippophäe conferta.—*W R W.* 1, Polygonum vacciniifolium; 2, broken to pieces and indeterminable. The R. Horticultural Society, S. Kensington. Apply to the Secretary.—*J M J.* Some kind of Hornbeam. What sort of seeds do the trees bear?

Orange Trees: *Window Gardener.* Your Orange trees appear to be suffering from a complication of disorders. Two Fungi have been at work, and some of the remaining spots are due to sunburn, and others in all probability to sudden draughts of cold air, a cause from which spotting and other disorders are known frequently to arise. *M J B.*

Plant Sales: *Anonym.* No! no! ten times no!

Potatos: *D Davis.* Both sorts are of excellent form, without deeply sunk eyes; but Scamell's Glory, which is as perfect in all respects as it is possible for a Potato to be, tender, and floury, without a fault, is much better than the Purple Prince. This is the verdict of a jury requested to consider the matter.

R. Horticultural Society: *S S-y.* Between the years 1830 and 1840 the Society gave away about 96,000 new plants, 364,000 packets of seeds, and above 54,000 parcels of cuttings. Surely this was *not* niggardly.

Soils: *W R P.* The samples Nos. 1, 2, and 3, are not suitable for Melons, Pines, &c., being of a hungry character and wanting fibre. Nos. 4, 5, and 6 seem to be much better suited to the purpose, but even they are not overgood. Your Cucumber leaves are so crushed that nothing can be made of them. If the plants bring the disease with them as soon as they germinate, which we have no doubt is often the case, the most scientific treatment will not avail, and yours is probably one of those hopeless cases. The cause of this constitutional weakness is quite unknown. *M J B.*

Trade Catalogues: *Jersey.* Consult Van Houtte's Catalogue, No. 96, than which none is better and few so good. It will give you the information you seek, and a good deal more in the same direction. His Fruit Catalogue of this year we do not remember to have seen.

Vines: *Amateur.* If the canes are not crowded and shaded by the laterals, you need not remove these entirely. Fire heat, with abundant ventilation, will assist the ripening; we cannot judge whether yours require such assistance, but as you say the ripening process is going on fairly we should think not.

West Indies: *T.* We will enquire and report.

TRADE

# HALLETT'S [PEDIGREE] NURSERY WHEAT.

MARK.

THE PEDIGREE WHEAT WAS AWARDED THE SILVER MEDAL BY THE JURORS OF THE CLASS "CEREALS FROM ALL COUNTRIES," AT THE MEETING, IN 1863, OF THE AGRICULTURAL SOCIETY OF DENMARK AT ODENSE.

The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the miller, and realised £19 7*s.* per acre.

This Wheat produced in 1863 nearly 10 quarters per acre, weighing 63 lbs. per Bushel.

First half of October } DRILL 4 Bushels on { 8 acres.
Last " " } { 6 "

NONE IS GENUINE UNLESS THE TRADE MARK IS UPON THE BAG.

Apply to FREDERIC F. HALLETT, ESQ., F.L.S., The Manor House, Brighton, Sussex.

**PRICE—One Guinea a Bushel (or Seven Guineas a Quarter),**

Delivered, with Printed Directions for Planting, at the Brighton Railway Station, in Bags Sewed up and Sealed, upon receipt of Cheque or Post-office Order, which must in all cases accompany the Order.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing six stamps.

In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately; those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

This family Z *is now for the first time* offered to the public, and is ready for delivery.

**Shirreff's New Wheats.**

SHIRREFF'S WHITE.—This fine variety is now ready for delivery. Selected parcels harvested without rain, 60*s.* per qr. Good sowing qualities, 55*s.* per qr.

PRINGLE'S WHITE, 55*s.* per qr.

SHIRREFF'S RED, 50*s.* per qr.

Bags, 1*s.* 10*d.* each. Samples forwarded, and the Wheats delivered at the railway on receiving a remittance.

PATRICK SHIRREFF, Haddington.—Oct. 3.

**Seed Wheat.**

SEED WHEAT (RED) of a superior sort, remarkable for the fineness of its berry and absence of dross, to be had of Mr. THOMAS DAVEY, Garboldisham Ling Farm, Norfolk.

Seven Acres just threshed with a yield of 100 coombs 2 bushels; being 3 coombs per Acre more than was grown from Hallett's Pedigree Wheat on the same description of Land.

Price 7*s.* per bushel; sacks, 1*s.* 6*d.* each.

SEED WHEAT.—The following Varieties have been grown by "TRITICUM." See *Agricultural Gazette* of October 4, 1862:—

PRINGLE'S BEARDED WHITE, a fine selected sample, 80*s.* per quarter.

SHIRREFF'S BEARDED WHITE, a fine selected sample, 70*s.* per quarter.

(The stock originally received from P. Shirreff, Esq.)

In a collection of all the best known Wheats these two have proved the best in all points.

FIRST PRIZE VICTORIA (AUSTRALIAN) WHEAT (stock received from the Editor of the *Agricultural Gazette*), a fine white of superior quality. A few bushels only, at 15*s.* per bushel.

If ordered in less quantities than quoted, higher rates will be charged. New sacks, 1*s.* 9*d.* each.

A remittance must accompany all orders.

Samples of ears and corn may be had on application, enclosing six postage stamps, returnable to purchasers.

Apply to RICHARD BRADLEY & SONS, Halam, near Southwell, Notts.

**Land Drainage, and other Agricultural Improvements.**

MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5*s.* per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

LAND DRAINAGE, the ERECTION of FARM-STEADS, the CONSTRUCTION of ROADS, and other Works of Agricultural Improvements are undertaken by Mr. HUMBERT, Land Agent and Surveyor, of Watford, Herts, either by contract or on commission; and he will furnish estimates of cost free of charge, expenses out of pocket excepted.

Such works can be executed either under the powers of several special Acts of Parliament, with money raised by loan and paid off by instalments, or with the Landowner's own money.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

*Resident Professors.*

PRACTICAL AGRICULTURE.

J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 12 Lectures on Agricultural Machines.

CHEMISTRY.

ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.

R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Sc.

VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.

W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on South-down and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

N.B. Mr. Wilkins will Lecture on February 9.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the PRINCIPAL.

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E.C.

**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

THE LANDS IMPROVEMENT COMPANY.

Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

To LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

THE BIRMINGHAM CATTLE and POULTRY SHOW, 1863.

The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held in Bingley Hall, on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3, when PRIZES (CUPS, or other Articles of Plate, and GOLD and SILVER MEDALS) to the amount of £1940, will be awarded in the following Divisions, viz.:—

| | | | |
|---|---|---|---|
| FAT CATTLE .. .. | £784 | 5 | 0 |
| FAT SHEEP .. .. | 275 | 15 | 0 |
| FAT PIGS .. .. .. | 60 | 5 | 0 |
| BREEDING PIGS .. | 76 | 10 | 0 |
| CORN and ROOTS .. | 68 | 5 | 0 |
| POULTRY and PIGEONS | 674 | 4 | 0 |

Prize Lists and every information may be obtained from the Secretary.

The ENTRIES CLOSE on SATURDAY, October 31.

JOHN B. LYTHALL, Secretary.

Offices: 13, Temple Street, Birmingham.

SMITHFIELD CLUB FAT CATTLE SHOW, 1863.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS, will be held at the AGRICULTURAL HALL, ISLINGTON, on MONDAY AFTERNOON, December 7, and four following days.

The Prizes consist of 1825*l.* in money; 60 Silver Medals 6 Silver Cups and a Gold Medal.

The ENTRIES CLOSE on NOVEMBER 2.

Prize Sheets and Printed Forms of Certificates, with full particulars, can be obtained on application to

Mr. DAVID PULLEN, Assistant Secretary,

At the Office of the Honorary Secretary,

Corner of Half Moon Street, Piccadilly, London, W.

N.B.—Applications for Prize Sheets and Forms of Certificates must be addressed to the ASSISTANT SECRETARY as above, and all letters must bear outside the words "SMITHFIELD CLUB."


# The Agricultural Gazette.

*SATURDAY, OCTOBER* 3, 1863.

THE IMPROVEMENT OF THE AGRICULTURAL STEAM ENGINE is of very great importance to the farmer. It is perhaps of more importance to him than an improvement in the breed of horses. At any rate progress has a wider field in the direction of the steam engine. In spite of Mr. DARWIN and his theory of the progressive development of species, we have probably long reached our uttermost tether in the improvement of the flesh and blood animal. We cannot make our thoroughbreds beat the performances of ECLIPSE and FLYING CHILDERS, the "favourites" of the last century. Not so, however, with the steam horse. He is still a very expensive creature, both to buy and to keep; his limbs too often need the services of the surgeon; he consumes an undue amount of provender; he is still a somewhat unmanageable and dangerous animal; his lifetime is much too short. To drop the metaphor, the steam engine still costs too much in first price, in repairs, and in fuel.

Now, in spite of the great competition in

the agricultural engine trade, it is to the increasing knowledge of the buyer that we must mainly look for improvement in agricultural machinery. Supply follows demand, not merely in quantity, but also in quality. As yet, from want of special knowledge in the buyer, the supply has been mainly in the direction of quantity.

Competition unfortunately seems to have a greater tendency to depreciate a manufacture, than to improve its quality. In fact the tendency of competition to lower prices and quality, can only be checked by increased knowledge in the customer—and it is almost as easy to be a good judge of an engine as of a horse.

The directions in which engines may be improved, are evidently those of a diminution of first cost, of expense of maintenance, and of consumption of fuel. We in England look mainly to the anatomy of an engine—to its working parts and simplicity of general construction. The cheapness of our coal allows us to comparatively disregard consumption of fuel—the physiology of an engine. The two hundred years' limit assigned by Sir WILLIAM ARMSTRONG for the duration of our coalbeds, is too far off to affect us personally; the unprincipled saying that "it will be all the same to us a hundred years hence," is the vulgar rejoinder to the objection of science against our present form of engine.

The evident drawback to almost all arrangements for lessening the consumption of fuel, is the necessary complication attending them. High pressure, high rates of steam expansion, superheaters, feed-water heaters, variable expansions, smoke-consuming apparatus—one and all of course increase the number of working parts. The use of high pressures of steam is perhaps an exception, but additional skill and care is undoubtedly required to drive a very high pressure engine. There is no doubt, however, that the use of high pressures of steam, and of other economical arrangements, is extending, and will still further extend, in direct proportion to the increase of intelligence in the farm labourer. The usual effect of machinery in elevating the abilities of the operative will thus soon permit us to more generally adopt the different scientific contrivances for diminishing the consumption of fuel.

To the purchaser of an engine, the universal and mysterious connection between beauty and efficiency ought to be as much a guide as in purchasing a horse. Farmers may take the word of an engineer of varied opportunities for observation, that it is but seldom that high constructive ability is unattended with a taste for simple and elegant outlines. Beauty in art is as little the result of chance as is beauty in nature; it is the evidence of thought. Of course, we do not mean the skin-deep prettinesses of bright work and of paint; nor meretricious extraneous ornamentation. Whenever we see an ill-shaped and ugly machine, we at once feel instinctively that the construction and workmanship of the apparatus are not what they ought to be; and a deeper examination has never failed to confirm our first impression. It does not cost one farthing more to give an elegant shape to the pattern of a casting; or to the template for a piece of wrought iron work. The neglect of beauty is a proof of negligence and ignorance; and the workmanship of an engine or machine is generally on a par with its shape and design.

The beauty and simplicity of the flush boiler—in which the firebox top is on a line with the boiler barrel—are equal to the strength and cheapness in first cost of that mode of construction. As yet, we regret to say, the flush boiler is only seldom made. Manufacturers do not like the expense of altering their patterns and templates. The portable engine is evidently an offshoot of the locomotive engine, and the manufacture of the latter undoubtedly demands greater scientific skill. Agricultural engineers would thus do well to carefully notice the progress of the prototype of their work. Now flush boilers are largely used for locomotives. Most of the locomotives in last year's Exhibition had flush boilers. This mode of construction does away with expensive and heavy angle iron, lessens the amount of riveting required, and thus effects a saving in weight and expense while adding to the strength of the structure. The smokebox could also be made in a line with the barrel of the boiler. Any diminution of steam-room in the firebox could be easily made up by increasing the diameter of the whole. It is really astonishing that only one firm of eminence in the agricultural engine trade has adopted the flush border—Messrs. BARRETT, EXALL, and ANDREWS, of Reading. It is not improbable that the use of heavy angle iron has a tendency to prevent an equal contraction and expansion of the boiler, thus producing dangerous strains in the intervening plates.

The material of which a boiler is made is another important consideration. There is no doubt that, sooner or later, all boilers will be made of steel. Many locomotive boilers have already been made of this material. Messrs. SHORTRIDGE, HOWELL, & Co's. homogeneous iron—in reality a "mild" steel—has been largely used for firebox plates. Several locomotives with steel firebox plates from Messrs. CAMMEL & Co. are now running on the Great Western. In Lancashire and other parts of the country, many large boilers of BESSEMER steel are now at work. We have seen a report of some experiments lately conducted by a scientific commission in Prussia, on steel boilers as compared with iron boilers. The steaming power of a steel boiler compared with an identically similar one of iron, was actually 28 per cent. higher, with a proportionate saving in fuel. With this rapid evolution of steam, only a very slight amount of incrustation was observable in the steel boiler, as compared with the one of common plate. The experiments were made after the boilers had been in use nearly two years.

Although the agricultural engine is not perhaps of such intrinsic importance as the locomotive, its numerical importance is perhaps greater. There are about 6000 locomotives in England, against nearly 10,000 portable engines. The locomotive is always under strict scientific supervision, which is not, unhappily, the case with its agricultural brother. A strong construction of boiler is thus of almost greater importance to the portable engine. Agricultural engineers ought to adopt welded joints for the longitudinal seams, and double butt joints for the transverse seams of their boilers. The strength of the boilers would be thus nearly doubled.

We were lately informed by an eminent manufacturer that his adoption of steel fire-boxes had an unsuccessful result—the tube plates gave way between the holes. Now this was evidently an accidental circumstance, or else why should steel locomotive fire-boxes answer? It is very important that steel plates should get into use for portable engines. The price of portable engines prevents the adoption of copper plates for the fire-box, and it is well known that the thicker the plate is rolled the more irregular and uncertain is it in its structure. The use of steel would also lessen, by one half, the weight of the boiler. The diminution of weight in a portable engine is too often neglected, and it was our observation of this neglect, that led us to lately propose that the Royal Agricultural Society should weigh the engines submitted to competition at the trials.

Manufacturers will ask who is to pay them for these improvements: "prices are already too low." We answer: the enlightenment of the buyers will induce them to be less penny-wise, and increased competition as to quality will do the rest.

A failing in many agricultural engines consists in no attempt being made to counterbalance their working parts. Now this is really an unpardonable omission. Any amateur turner knows the advantage of balancing his lathe, and yet men calling themselves engineers neglect such an obvious and easy improvement in their engines. There is not merely a loss of power from the rocking motion given to the engine, but these jerks also injuriously affect the durability of the working parts. It is true that it is impossible to perfectly counterbalance one engine for all speeds, but there is a normal speed at which the engine is usually driven to which the counterweight could be very easily adjusted. We would prefer not to cast a slip on the rim of the flywheel, as the centrifugal power increases with the speed; the farther the weight is from the centre, the greater the liability to variation. A lump of iron near the boss of the flywheel is also unsightly. The best plan would perhaps be to cast the boss of the flywheel of a rather larger diameter, leaving hollow spaces opposite the counterweight.

Some of the makers carry the exhaust pipe back inside the boiler. It would be extraordinary if the exhaust steam, usually at a temperature not much higher than that of the air, should not take up some heat during its passage. We have been favoured with the results of some dynamometric experiments (by an eminent maker), conducted with a view to ascertain the truth of this matter. An engine was tried, on the friction break, at first with the exhaust pipe inside, and afterwards with the exhaust pipe outside the boiler. To our great surprise, the consumption of coal was in both instances the same. In any case, however, it is not so convenient to have the exhaust pipe inside—it is not so easy to get at, and it is difficult to detect any leakage of the steam.

We have seen some outrageously and unnecessarily heavy and complicated pistons in portable engines. Now, these complicated "machines" are quite unnecessary. Look at the pistons used in locomotive engines. RAMSBOTTOM's consists of a simple cast-iron body with three narrow grooves, into which are sprung square wire rings of steel, fitting the grooves easily, and springing out to form the joint. Another excellent and simple piston, in extensive use in locomotives, consists of a simple cast iron body into which are fitted a couple of half-inch broad brass rings. Small holes are drilled on each side of the rim of the body, for the passage of the steam, which thus helps the elasticity of the rings. Two rings, sprung out by a third ring of a V shape, also form an excellent and simple piston—somewhat on the plan (but simpler) of GOODFELLOW's well-known piston—the patent of which is expired. Simplicity is of the utmost importance in all branches of engineering, but more especially so in agricultural engineering, from the way in which agricultural implements are treated by the incompetent men into whose hands they necessarily fall.

Another point in which agricultural engines should follow the example of locomotives, consists in forging the oilcups in one piece with the straps of the connecting rods, and in casting them solid on the eccentric clips. This would greatly add to the simplicity and neatness of the engine. We also prefer to see the oilcups cast on the glands of the stuffing boxes. It is a much more mechanical job, and is less likely to give trouble than a loose oilcup.

Several of the above improvements here pointed out diminish the first cost, while all add to the efficiency and durability of the *anatomy* of the engine. It is impossible to simplify and improve the working parts of an engine without diminishing its consumption of fuel—without improving its *physiology*. At the same time, there are certain contrivances more specially adapted for diminishing the consumption of fuel, and these we propose to consider on a future occasion. *P.*

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THE whole of the Branches Park herd of pure bred Short-horn cattle, with the exception of nine retained by Lady PIGOTT as the foundation of a new stock, were disposed of last week by Mr. WETHERELL at the satisfactory average price of 57*l.* 12*s.*

There were 58 cows, heifers, and heifer calves, which sold for close on 3500*l.*, or upwards of 60*l.* each. And 20 bulls and bull calves averaged close on 50*l.* Among the highest prices were 200 guineas for *Rose of Promise*, 5 years old, bought by Mr. GIBSON; 120 guineas for *Pride of Southwick*, bought by Lord FEVERSHAM; 155 guineas for *Castanet*, bought for Australia; 215 guineas for *Rosedale*, bought by the Duke of MONTROSE; 125 guineas for *Rose of Hope*, a four months heifer calf, bought by Mr. GIBSON; 230 guineas for PRINCE VICTOR, a well-known yearling bull, bought by Mr. MAXWELL.

The sale of Mr. LANE's herd of Short-horns, near Cirencester, took place on Thursday of last week by Mr. STRAFFORD; they averaged upwards of 30 guineas.

Mr. BOWLEY's selections from his herd, sold at the same time, averaged 38*l.*

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ONE of the results of the unfortunate internecine war now raging amongst our kindred across the Atlantic, has been the diverting of many of the ordinary currents of trade into fresh channels; and King Cotton is now bringing under his dominion countries that would otherwise have remained unexplored for many long years. Extensive districts, until lately untrodden by the foot of man, are being opened out in various parts of the world for the production of the cotton and grain, intended to fill up the commercial vacuum created by the American war. Before, however, civilised man can raise his bread from the vast forest wilds still scattered over the surface of the globe—before the civilising plough can trace its furrows over a virgin soil, many arduous and difficult mechanical operations have to be carried out by the intending settlers. The forest monarchs must be levelled to the ground, and their far-reaching roots have to be completely eradicated from the soil. To carry out this work by means of the axe alone, demands very great skill and exertion on the part of the emigrant, and we accordingly find that many extremely ingenious

expedients have been adopted for lightening his heavy toil. Such numbers of our countrymen are now emigrating to the Far West—encouraged by almost gratuitous grants of land from the Federal Government—that a short sketch of a few of these expedients may not be unacceptable to some of our readers; especially as it is within our own knowledge that several engineers in the country are directing their attention to supplying a demand for this class of machinery.

The most important and widely used instrument for cutting down trees in America is the backwoodsman's felling axe—that great pioneer of our materialistic civilization. This implement is in the shape of a broad wedge, being made at the back with a deep eye, into which is inserted a long curved handle of tough Hickory wood. Curiously enough the head of the Yankee felling axe is the exact pattern of the antique headsman's axe, still exhibited in the Tower of London. In the hands of a stalwart and experienced axeman this instrument does a remarkable amount of work, but at a somewhat wasteful expenditure of wood and muscular power, as a deep and broad notch has to be cut into the tree before it can be felled. In Eastern Europe, and indeed in most semi-civilised countries, almost all the operations in shaping wood are carried out by means of the axe. We have often been astonished at the quickness with which this kind of work has been carried out on the banks of the Elbe and of the Danube. Two axemen, with their peculiar narrow sharp hatchets, will often shape a log of wood as quickly as the same operation could be carried out by means of a cross-cut saw.

A saw, worked by two men, is often employed for felling trees, wedges being used as the work progresses, in order to keep the tree from jamming the tool. By means of the saw, a tree can evidently be felled more expeditiously than with an axe, and a considerable amount of timber is saved at the same time.

Several kinds of machines are used in America for felling trees, and where a machine can be applied, the usual saving of time and labour follows as a matter of course. It is, however, evident that it would be difficult to construct a machine that could be used in all situations in the thickly wooded forests of a new country. Some amount of time is lost in fixing and anchoring the machine; it is not always very easy to determine beforehand which way a tree will fall, and an oversight in this respect will often cause the complete destruction of the machine. The Highland Agricultural Society of Scotland offered in 1831 a premium for the best sawing machine for felling timber; the Society rewarded four different schemes, all more or less ingenious and impracticable—only one of which, however, seems to have been carried into practice. These plans will be found described in the Society's Journal for 1831.

The Americans employ an extremely ingenious and original method for felling and sawing up trees in a forest. A current of steam is conveyed from the boiler through an armed flexible India rubber hose pipe into an engine cylinder, at the end of whose piston is attached a common saw.

It is to be greatly regretted, as the North Americans are so famous for their ingenious labour-saving contrivances, that unfortunate circumstances prevented a complete exposition of Yankee notions in last year's Exhibition. It is probable that no country could show more ingenious contrivances for saving labour in clearing forest land; although the class of machinery of this description employed in America is more suited for working on a small scale, than for extensive enterprises conducted by large capitalists. Only one machine for sawing wood and felling trees was exhibited in the American Court. The reciprocating motion of the saw was given by a crank working in a slide; such as is sometimes used in obtaining the to-and-fro motion in small slotting or shaping machines. In these machine tools a simply straight, reciprocating motion is required, and the tool is merely made to work in guides. The handsaw, however, requires a radial motion to set itself to the work. To carry this out, the slide, fixed to the saw, can swing radially in its block, and thus, by means of a lever, it is made to follow up its work. We believe that the American inventor has patented this movement in all the countries where patents are given out. The machine can be easily adjusted to the horizontal position required for felling trees; and, driven by a strap from a portable engine, the apparatus could, no doubt, turn out a great deal of work.

It does not, however, always happen that the emigrant in the backwoods is in possession of the capital enabling him to wait till the land is completely cleared before beginning to sow. In such a case he "girdles" or cuts a ring of bark out of the large trees, and the flow of sap being stopped, they die, and leave a free passage for the sun's rays to the intervening soil. The underwood is then burnt out, the ground is sown for the next harvest, and the large trees are felled at leisure in succeeding years.

Next in order to felling the body of the tree comes the extraction of its roots and stump. The difficulty of clearing away the earth, caused by the impenetrable resistance offered by the dense mass of fibrous roots, always makes this operation one of great labour.

About eight or ten patents are or were annually taken out in the States of America for "stump extractors." They generally consist of mechanical contrivances that can be easily constructed and repaired by the means at the disposal of people living in out of the way districts.

The most generally used form of stump extractor in America consists of a compound lever of wood strengthened with iron. This lever is about 30 feet long, with a wheel at each end, and it is worked horizontally, by a team of oxen. The stump with the firmest roots is chosen for the fulcrum, from which, aided by pulleys, the lever extracts the stumps in the surrounding neighbourhood. Most of the American stump extractors are modifications of the above.

It is not improbable that a strong differential pulley and chain—like the contrivance sold under the name of Weston's pulley block—might be used to extract stumps. It would have to be mounted on a strong three-legged frame above the stump. A powerful screw could also be used in the same way.

The powers of water, fire, and gunpowder, have also been used for eradicating the roots of trees, and the two latter means would evidently be very efficient and speedy, but perhaps not unattended with danger.

Some 50 years ago the hydraulic press is said to have been used for raising the roots of trees from the ground in Hyde Park and in St. James's Park. In the American backwoods, however, such a contrivance could not be very well kept in repair by the emigrant, but no doubt a very efficient hydraulic apparatus could be constructed for clearing land on a large scale. A strong lever could be chained to the root, the other end of which might be raised by an hydraulic jack.

Some 20 years ago Sir John Jamieson—then Governor of New South Wales—was awarded a gold medal from the Society of Arts for his plan of eradicating the stumps of trees from freshly cleared forest land. A number of wooden logs were rolled close round each stump, and when this was done, the entire extent of perhaps 20 acres was set on fire. A few men attended to the fires, and in four or five days 99 per cent. of the stumps were burnt out. Sir John Jamieson considers it of much importance to the success of clearing land upon this plan that the trees should be felled at that period of the summer when the stumps are exhausted of a considerable portion of their sap. The stumps are then left to season for two or three years before being burnt out. It appears that this plan does not succeed on gravelly or moist sandy soil; it is more fitted for argillaceous or rich vegetable mould. It has been also carried out with success by some of the German emigrants in Russia.

Messrs. Kennan of Dublin exhibited in the Eastern annexe of the late Exhibition, a very simple blasting apparatus for breaking up the stumps of trees, so as to facilitate their removal. A hole is bored obliquely by means of a common auger, two-thirds across the root, and a charge of blasting powder of from 3 to 5 ounces, according to the size of the root, is inserted into the hole. A short perforated plug is then screwed in by means of a lever; a length of fuse is passed through the screw plug, and a light is applied. A space is left between the end of the screw plug and the gunpowder, in order to produce the same effect as leaving the wadding in the muzzle of a gun barrel. As is well known, a gun is almost always burst if the wadding be incautiously left in the muzzle; the explosion of the powder is so instantaneous that it has not time to drive out the wadding, and thus find an exit. A gun-barrel, unless it be of extraordinary strength, is generally burst in this manner.

Most of the above experiments are more fitted for an emigrant family of limited means, than for the profitable employment of capital on a large scale. The use of steam in felling and carrying away the trees would evidently greatly facilitate and cheapen all the operations, especially as the furnace could be fed by the waste wood.

Mr. John Fowler, who has done so much in the application of steam to agriculture generally, has also used this powerful agent for clearing forest land. Instead of sawing down the trees, and thus leaving a stump in the ground to be afterwards eradicated by the means we have alluded to above, the main root or roots are cut through with the axe. A seven horse portable engine is made to drive a powerful windlass firmly anchored to the ground. The windlass draws in a chain or steel rope tied to the tree, which is thus dragged bodily out of the ground, the tree itself thus acting as a lever to extract its own roots. Hainault Forest, in Essex, was lately cleared for Government by this plan. Only about five men are required to carry out the operation. If a traction engine were used to transport the timbers off the ground, it would probably require a set of Boydell's endless rails, in order to prevent any inconvenience from the deep holes caused by the extraction of the roots.

## DR. AGER'S DIGGER.

The Head Master of the Collegiate School at Aylsham, Dr. Ager, has invented a very ingenious machine for pulverising the soil and extirpating the weeds without breaking them. Everybody has now heard of Dr. Ager's Digger, but few people know how well it works. Had it been brought out a few years earlier, when Coleman and Bentall held the field with their cultivators and parers, it would have created more stir than it does now, when we are all attentive to the manner in which the steam problem, so far as it concerns the tillage of the land, is being wrought out before our eyes.

It is creating a good deal of excitement, however, amongst those who farm the light soils of Norfolk, to which, as yet, steam has not been applied as an economical substitute for horse-power, and being requested to witness the performance of one of these machines on the farm of Mr. Hastings, who occupies a fine farm under the Earl of Leicester at Longham, near Dereham, I availed myself of the invitation, and was much pleased with what I saw.

The occasion chosen for its exhibition was one of those ploughing matches which have effected so much for agricultural progress in this country, by establishing and recognising a community of interest between the farmer and his labourer. A good mutual understanding between these two classes of the body politic, together with an acknowledgment of the worth of the lower on the part of the higher, is at the foundation of successful farm practice. I arrived at Longham just when the ploughmen with their team had assembled upon the fields allotted to them. A strong group, with good cattle and cheery faces. A good deal of nervous twitching of the mouth and spasmodic rubbing of hands, &c.—all evidences of the anxious state of mind on the part especially of the younger competitors, who were enduring the chaff of the more experienced. In all there mustered 34; the men with iron-wheeled ploughs going into one field, those with the old Norfolk swing-plough into another. The fact is that the committee are obliged to separate the two because it goes hard with the wooden ploughs when they come in competition with the iron-wheeled ploughs. This is of course a concession of the point as to the superiority of the wheel plough; but as the prize is offered for the benefit of the men, and not to distinguish the merits of the different ploughs, but little exception can be taken to the practice.

It is well at these simple meetings when there is some novelty to excite curiosity, stimulate thought, and collect the neighbourhood. In place of steam, which is often resorted to by various Societies to increase their receipts, this Digger was brought upon the field from Lord Sondes', where it had been working, and aroused a good deal of interest, as it was sure to do.

From what I had seen of the implement at the Worcester Show, where it was put to a very severe test, beside the steam apparatus of the various competing exhibitors, and gained its designer much credit, I knew what to expect. That one was not worked by the manufacturers, Messrs. Barnard, Bishop, & Barnards, of Norwich, but by Mr. Hudson of Pershore, who purchased it at the Battersea Show, and has since worked it "to his entire satisfaction."

The Digger is intended to perform the duties of the plough, cultivator, and harrow at one operation, in fact to leave the land as it would be left after a thorough forking with a springy steel fork, the weeds being all deposited on the surface of a finely pulverised seed bed in a perfectly denuded state. The implement consists of a frame upon four wheels, containing two cylinders formed of seven discs or segments, from whose peripheries protrude a number of steel curved teeth, 6 inches in length. This cylinder, revolving in the direction of the digger's advance, enters the soil with great ease, and to the depth of the teeth lifts it in a mass to the rear. There it is met by the rowels of the other and smaller cylinder, which work between the teeth of the larger one, being actuated by toothed wheels and pitch chain from the same; then free it of its load, and, revolving in a reverse direction, catch the weeds, divest them of mould, and scatter them lightly over the surface in the wake of the implement. The breadth of land taken by the implement I saw was 27 inches; the diameter of the large cylinder 36 inches, and of the smaller one 18 inches.

The stubble on which the operation was performed stood in some need of cleansing, and therefore showed the digger to advantage. It would have done better, however, had no rain fallen during the night. There is no ploughing on this finely cultivated farm that would require more than two horses, and much that might be done with one. It is for the most part a thin staple on a gravel subsoil, much benefited by pretty frequent doses of clay. The digger was worked with six stout horses and two men. The pace at which they went would give about 3½ acres a day, which I learn is a fair day's work for it.

In the opinion of the most experienced men who witnessed the work, the one operation equalled one ploughing, 5*s.* 3*d.*; one scarifying with three horses, 1*s.* 3*d.* an acre; and one rolling and harrowing, 9*d.* an acre; total, 7*s.* 3*d.* (the three ploughs doing 4 acres). On the other hand, the 3½ acres would be cultivated by the digger for 1*l.*, so that a slight saving is effected by its employment. The great advantage, of course, lies in the expedition with which the work is done at the right time; that is to say, the six or eight weeks that follow harvest.

It has been well remarked, that the farmer's aim should be to obtain the gardener's tilth without going to the expense of the gardener. Certainly, the digger equals any tilth a garden can require, and at much less cost. Nothing could be more perfect. There will always be some disadvantages—for instance the

implement weighs nearly one ton and a half, and one of the wheels which carries this weight leaves its impress, but a tine or two fixed to the frame in its wake of course would remedy this defect. Were it to be worked with six horses, I should find some other faults with it, but since I think it is eminently adapted for steam, if it is to be of any use at all, these are not worth mentioning. I understand that Mr. Brown, of Denver, near Downham, has tried one of the diggers attached to the steel rope, and that he is having a large one of great strength purposely made for him. No implement requiring six horse-power can be advantageously worked without steam; the loss of power when six horses are linked to pull is immense. As I shall probably have an opportunity of giving a brief notice of the manner in which the digger behaves with this stronger motor, I need say no more about it now.

The little company that assembled at lunch, including Lord Sondes and Dr. Ager, and who were hospitably entertained by Mr. Hastings, seemed to think highly of the invention, especially as being adapted to deal with the stubble in autumn. I had the opportunity of hearing a good deal about the past harvest; the reports were very glowing; never so good a corn crop. I heard of many positive results reaching 6 and 7 qrs. of Wheat and as many of fine Barley. The root crop, however, is a failure. *R.*

## THE CROYDON SEWAGE IRRIGATION.

I have received so many letters respecting the irrigation fields at Beddington, that a few explanatory remarks will be interesting to your readers. Our irrigation has stood the severe test of several injunctions in Chancery; but we have for nearly two years surmounted all opposition. The water runs clear from our outfall, in which several fine trout have been caught; and the offensive matter, instead of fouling the river, is now manuring the land, and producing luxuriant crops of Grass.

In order to shorten this letter, I propose to classify my remarks under different heads.

Firstly.—In what manner can sewage water be most economically applied to land?

The Croydon method is very simple and inexpensive, being carried out by gravitation.

The water is led into a channel along the highest part of the field; it passes from this channel in streamlets on to the fields at regular distances. Another channel is formed along the lower end of the fields to receive the water after it has irrigated the land. From the lower channel, the partly purified water is conducted in open "carriers" on to the land at the lower end of the farm, where the process is repeated; and it is then carried into the river Wandle.

I need not compare this with the hose and jet system, which must cost at least ten times more than the Croydon system.

Secondly.—What quantity of water will the land and crops take?

This depends on the nature of the land and the quality of the sewage water. At Rugby, I find that they have used 9000 tons per acre; at Croydon we use 18,000 tons per acre. The Rugby sewage is, however, twice the strength of the Croydon sewage.

Thirdly.—To what land and crops can it be applied.

With regard to growing crops, it is, with few exceptions, only applicable to fields of Water-grass or Italian Rye-grass. The sewage water has so stimulated the production of the last named Grass, that from 30 tons to 35 tons per acre have been cut at Beddington during the spring, summer, and autumn months, and sold at from 18*s.* to 25*s.* per ton.

There is no doubt, if the sewage water is put on to the arable land two months before the land is prepared for sowing, that it will have the same effect as a dressing of farmyard manure.

Fourthly.—What expense is incurred by the Croydon system of irrigation?

There is the expense of levelling the land, cutting the channels, sluices, &c., which in no case need exceed 3*l.* per acre, provided the position of the water courses be well selected.

The attendance required is very trifling. One man can turn the water, keep the channels clear, &c., on 100 acres.

The contrast between this and the expense of the hose and jet system is very great. Laying water pipes, hydrants, hose and jets, pumping the water to get a head, would cost at least 30*s.* to 40*s.* per acre per annum; and the labour, if a sufficient quantity of water is put on, would be enormous.

Fifthly.—What is its value as a manure?

This of course depends on the strength of the sewage. When asked the question before the Committee on the Sewage of Towns, I declined to answer. From my experience since, I think the Croydon sewage is not worth one farthing per ton; and, according to the report of the commissioners on the Rugby fields, it is not worth there one halfpenny per ton. The exaggerated value put upon the sewage water by some, arises from not allowing for waste and evaporation.

Sixthly.—Can it be easily applied to the outfall of town sewers?

I think that there are few places where the system cannot be applied. It is especially applicable to the inland towns. In every case, by pumping a moderate height, the Croydon irrigation system might be carried out, even in cases where no profit would arise from using the hose and jet.

I will conclude by stating, confidently, that if the local Boards were to make the irrigation system a part of their drainage scheme in the first instance, they would make a great profit by it. The Croydon Board have hired their land at the great price of 4*l.* per acre, and let it for a term at 5*l.* per acre; but the land was taken and let under the pressure of legal proceedings, which circumstance I need not say was a great disadvantage. *James Fenton, Civil Engineer, in the Builder.*

## IRISH AGRICULTURE.

It is a great pity that those who write on Irish agriculture with the view of removing both Irish and English prejudices, often fail to make others understand them. Your Kilkenny Correspondent, of whom I know nothing whatever, must have failed to make himself understood by your Correspondent "B. M., Buxton," who himself falls into a somewhat similar error in what he has read regarding the report from the Kilkenny Show. The latter says: "Your Kilkenny Correspondent, in his account of the cattle show, declared that he considers Ireland as well suited for the growth of corn as many parts of England." Your Kilkenny Correspondent does not say so, though he is made to say something perhaps equally inconsistent. He says: "They have in Ireland as good a climate for Wheat as we have in the south and south-east of England. But the good farmers of Ireland raise excellent crops of Wheat, and splendid crops of Oats." If instead of giving these two short paragraphs in the manner above quoted, he had said, what I suspect he intended to say, "Although they have not in Ireland as good a climate for Wheat as we have in the south and south-east of England, the good farmers of Ireland raise excellent crops of Wheat and splendid crops of Oats"—if his meaning was such, I would as an Irishman, well acquainted with the various soils and variable climate of Ireland, subscribe to all he said, whilst I would hesitate to subscribe to some important parts of the short letter of "B. M.," notwithstanding that he truly says "In the rearing of stock Ireland stands unrivalled." I cannot agree with him when he says "the rearing requires less capital than does arable farming, and should always be produced at less cost both at home and abroad." Perhaps it should, but somehow or other it seldom if ever is the case in Ireland, though she "stands unrivalled" in stock rearing. If I understand your correspondent's meaning, he appears to think we should abandon tillage, and devote the entire country to stock rearing. That would certainly be the worst possible policy for Irish farmers to adopt, as already too many of them know to their cost, and are now striving to regain the position they have lost by such a procedure. It is true we have in Ireland, and in every one of the 32 counties, varying in extent in each, lands which, however indifferently laid down for grazing purposes, improve every year as such till broken up again. We have much more land in each county that when laid down even indifferently will improve as pasture for several years, when they will degenerate as pastures, and require to be broken up again, and when laid down again they will give good Grass, even without any very costly manuring, during a suitable course of tillage. But we have a far larger space of land that when laid down in the best possible manner will give but three, two, or perhaps not more than one year's Grass, worth the rent, taxes, and cost of production, till broken up and manured again. And if this renewed breaking and manuring be omitted for any considerable period, the produce in Grass will not be worth the taxes, to say nothing at all of rent. These are facts well known to every practical man conversant with Ireland, nor can the principles involved be questioned by the most philosophic theorist.

Ireland, as a whole, is not so good a Wheat or Barley growing country as England or parts of Scotland either; still there are certain soils in certain parts of Ireland capable of producing as heavy an acreable produce, and as weighty a sample per bushel of both Barley and Wheat as are produced in any part of either England or Scotland; and as to the growth of Oats, Ireland, as a whole, is far superior to either England or Scotland, provided suitable means be always adopted for their production. There are many other crops too for the growth of which strangers to Ireland believe the climate to be unfavourable in all situations. This would be a great mistake. The crops I mean are Beans and Peas for horticultural as well as agricultural purposes. The saving of farm and garden seeds, too, has been successfully practised, even in seasons as unfavourable for such purposes as were those of 1861 and 1862 in Ireland. The seeds I mean are those of Turnips of all kinds, Clover Red and White, Rape, Mangels, Carrots, Parsnips, Flax, Onions, Lettuce, &c. Of all these things I could give practical proofs in abundance. But supposing I could not do so, how, may I ask, can the rearing of stock, to say nothing at all of fattening them, be profitably conducted if tillage be abandoned? This course has been tried, and to a great extent within the last few years, more especially, and what were the consequences? Look to the agricultural statistics of the Registrar-General, and you will find the answer to be a loss of many millions of pounds sterling in that short time. It is by good and increased tillage, even on some of the best Grassing lands, that we can hope to be successful in rearing stock to meet the increased and increasing demand for flesh meat in England. And although during time of peace with the great corn-producing countries it may in many instances be more profitable to us to purchase Wheat for the use of the aristocratic, and Indian Corn for the use of the labouring classes, it will be always better policy to grow our cattle and other stock-feeding provender at home.

Your correspondent "B. M." concludes his letter with this paragraph:—"But I think that the farmers of the British isles will soon see the necessity of gradually approaching that character of husbandry which Nature points out as best suited to their climate and country." I will go further than your correspondent has gone in this view, and I tell him that there is not a plant noticed by me in the foregoing that does not belong to the natural orders of plants indigenous to Ireland. Many of them belong to the same genus, and not a few to the same species of our indigenous plants. What are we to do then to aid Nature in seeking to improve their qualities and extend their cultivation? To drain our lands judiciously and economically, and then to cultivate and manure them by all and every means which the arts and sciences place within our reach. Let us evade this by laying down our laws and leaving them to Nature, and what will be the result? A further decrease in our store stock and a certain return to what I once heard a naval officer describe Irish beef when out at sea—"Soldier's beef," meaning thereby that it was so far free from any kind of fat as to be incapable of soiling a soldier's knapsack. A like falling off will be seen in our mutton and wool, so desirable for English manufacturers; so with the consumers in Ireland of English manufactures, and of excisable articles. Nor need I say that as the income-tax would be diminished in Ireland, the Chancellor of the Exchequer might feel it necessary, if permitted, to increase its rate per pound in England. Abandon tillage in Ireland, and the half reclaimed mountain lands will again return to produce Heath and Ferns; the light dry uplands to produce Irish Furze, Broom, and a stunted valueless Fiorin Grass and the poisonous Fairy Flax; the half reclaimed, low and deep bog will return to the production of the moisture-holding Sphagna. Abandon tillage and you further reduce the Irish rent roll, whilst you increase the poor rate from having filled the poor houses with the aged and young impotent paupers, because you will further drive into what may sooner or later be an enemies' country the able-bodied, who, if employed at home, would increase the rent rolls and diminish the poor rates. Abandon tillage, and you destroy your nursery ground, not only for stock rearing but for the rearing of soldiers and sailors, whom you will drive away to fight in the ranks of other countries, and you cannot tell how soon against yourselves, on your colonial lands if not nearer home. But the majority of Irishmen have no such fear from the sound-thinking, and they are by far a majority, of Englishmen, whose policy, if I mistake not, is and will be the very opposite of that implied, if not fully expressed, in the letter of "B. M., Buxton." *Edward Carroll, 6, College Street, Dublin, Sept. 15.*

## PARING AND BURNING.

The operation is usually performed at that period of the rotation when the land is foulest. A paring plough, or spade, slices off and turns over about two inches of the surface, whether in Grass or stubble, in which state it remains till dry enough for burning. The slices are then made into small heaps and burnt, and the ashes afterwards spread evenly and ploughed in. In the heavy clay land districts of Essex "there are usually about 40 heaps to the acre, each containing three cubic yards of ashes. The labourer commences by forming a sort of artificial furnace with some of the larger slices, leaving it open to the windward side; on the top of this he places some dry stubble, and wood or thorns, and partially covers with some of the driest pieces; the fire is then applied, and as it progresses, more slices are put on; and care is taken not to allow the fire to burn out through the external surface without applying a fresh supply of them." We have seen this system of burning carried out at a cost of 1*l.* 10*s.* per statute acre, the quantity of ashes obtained being about 80 cubic yards, which gives 4½*d.* per cubic yard.* Instead of collecting the skinned surface as described above, the ground is sometimes ploughed and harrowed, and if necessary cross-ploughed before the harrow. The clods are then collected and burned. This operation is called "clod" burning; and if the clods are burned in small heaps throughout the field it need not, in this country, cost much more than 25*s.* per acre. When collected into

* In a prize essay on Paring and Burning, in the 8th vol. of the English Agricultural Society's Journal, Mr. Rawlinson estimates the cost of the practice, as described in the text, at from 4*d.* to 8*d.* per cubic yard.

large heaps of 200 or 300 cubic yards, it will cost more.*

The advantages of burning heavy land in the modes now described, have been supported by the clearest and strongest testimony. In Essex, says Mr. Pusey, it renders the land more easy to pulverise for several years, and improves the first grain crop 20 to 25 per cent.; and the quality of the Barley is imported to the value of 2*s.* per quarter. But, perhaps, the most striking case on record is that of a piece of poor clay in Worcestershire. In its unimproved state it was worth 7*s.* 6*d.* per acre. In May, 1840, it was skin-ploughed to the depth of about an inch and a half, and all that the plough raised was burned with faggots at a cost, including spreading, of 42*s.* per acre. It was then ploughed and scuffled, and rendered perfectly clean. In October it was planted with Vetches, upon which sheep were folded the following summer. This was followed by Wheat, which yielded 45 bushels per acre, and which sold for more than the fee simple of the land in its former state.†

Excellent results have followed the burning of a portion of the heavy soil of the School Farm, Belfast. The subsoil was turned over into large clods; which when dry were burnt into brick dust; and when once brought into this state they prevent the soil from returning again into clay. The ground is vastly improved in texture, being much more porous and easily laboured. The ploughman knows at once when he comes to a piece of ground which has been burned, the implement passing through it as if it were a stratum of light land. ‡

Sometimes, again, a system called "border" burning is adopted. This consists in burning, in large heaps, the clay of headlands, waste corners, &c., and spreading the ashes over the land. A farmer who practised this system for 17 years in two English counties, Cambridge and Bedford, thus describes the system:—"The work of burning borders, headlands, &c., is begun in May and continued throughout the summer, in heaps containing from 50 to 100 yards each, at an expense of from 6*d.* to 7*d.* per cubic yard. The quantity of the ashes applied to strong clay land varied from 40 to 50 yards per acre. And by this application the average produce of Wheat was increased 10 bushels per acre, and other crops in proportion.§

Having shown that paring and burning improves the texture of heavy clay land, it now remains for us to examine its other effects on the ground. These may be reduced to two heads—It destroys, or at least diminishes, the organic matter; and 2ndly, It produces chemical changes in the inorganic constituents of the soil.

Organic matter performs three most useful functions in the soil. By its decomposition, carbonic acid, water, and ammonia are produced, and serve as direct food for plants. 2. These compounds aid in dissolving the mineral constituents of the soil. 3. Organic matter imparts to the soil the property of absorbing moisture largely. The mere enumeration of these functions is enough to show the farmer that paring and burning would be injurious on all light land except the peaty, as it would render them still lighter and more porous; and by dissipating the small quantity of organic matter they contain, it would render them less absorbent of moisture than before. It is different with heavy clay lands. Their texture is improved by torrefaction. And, besides, as clays retain a good deal of rain water, they are not as dependent on the absorption of atmospheric moisture as light lands.

The beneficial effects produced on the inorganic constituents of the soil by torrefaction have been recently investigated by Dr. Voelcker. A heavy clay was analysed in four different states—1. In its natural state; 2. After it was exposed to a dull red heat in a closed platinum crucible, and kept at that temperature for half-an-hour, after which it had a dark grey colour; 3. After exposure to a red heat for half-an-hour in an open crucible; and 4. Another portion was analysed after it was exposed for about three hours to the action of a full red heat. The following are the most important results deducible from these analyses:—

1st. The application of heat up to a given degree increased the quantity of soluble matter in the soil. But when the temperature was very high, the clay was overburnt, and its constituents rendered less soluble than in the natural state. The per centage of soluble inorganic matter.¶

| | |
|---|---|
| 1. In the unburned state was .. .. .. | 6.74 |
| 2. Slightly burned .. .. .. .. .. | 10.51 |
| 3. Burned with a strong heat .. .. .. | 8.95 |
| 4. Over-burned .. .. .. .. .. | 5.38 |

Now, as there can be no doubt that the soil is most fertile when its inorganic constituents are in the most soluble or available condition, it is evident that a moderate degree of heat may prove very beneficial, but that excessive heat is to be avoided in paring and burning.

2d. It was found that in burning, a considerable quantity of alkaline matter, and more especially of potash, was rendered soluble and available for crops. The per centage of alkaline matter soluble in the soil in the four states was as follows:—

| | Potash. | Soda. |
|---|---|---|
| 1. In the natural state.. .. .. | .269 | .220 |
| 2. Slightly burned .. .. .. | .941 | .336 |
| 3. Burned with a stronger heat than No. 2 | .512 | .314 |
| 4. Over-burned .. .. .. .. | .544 | .104 |

Potash being one of the most valuable and essential constituents of soils, it may be assumed, from these figures, that its liberation is one of the chief chemical causes of the beneficial effects of burning heavy clay. And the more insoluble potash the soil contains, the more likely it is, *cæteris paribus,* to be benefited by torrefaction. A heavy clay, in which fragments of felspar and other minerals rich in potash exist, or in which the chemist can discover a large quantity of insoluble potash, is sure to have some of this potash made available for plants by the judicious application of heat. On the other hand, when, as in the case of the Ulster School Farm,* the soil does not contain so large a quantity of insoluble potash, the effects of paring and burning are less striking.

Paring and burning is in its nature and effects an exhausting practice. It causes the soil to yield up to plants some of its valuable mineral constituents. Some heavy clays contain such an abundance of these constituents that even after the quantity rendered soluble by the operation is used by plants, the soil will still contain an adequate supply of them. But it is not so on what may be called siliceous clay like that of the Ulster School Farm, which would be soon exhausted if paring and burning were often repeated upon it. If liberal applications of manure followed paring and burning, the exhaustion of the soil would, of course, be prevented; but it is evident that one of the objects of the practice is to dispense with manure. And this brings us to remark upon the woful effects of paring and burning when practised indiscriminately, and on land for which it is not at all suited.

Farmers are often known to resort to paring and burning on light land as the easiest and cheapest way of raising a crop; and as they are either ignorant of its effects, or prompted by cupidity, they never think of returning, in the shape of manure, any of the constituents which the heat rendered available, and which the crops removed from the ground. The consequences of such a system are manifest. If repeated too often, it would weaken and impoverish the strongest and richest land. It would soon render light land barren. When these lands are cropped with cereals, after paring and burning, symptoms of exhaustion manifest themselves immediately. If green crops were grown on the pared and burned ground, and these crops consumed on the farm, the practice would not be quite so objectionable. And if some manure were applied at the same time, or to the subsequent grain crops, the practice may be excusable in some cases. But it cannot be too often impressed on the attention of landed proprietors and farmers that the practice of burning, as a substitute for manure, is sure to end in the ruin of light land.

While reprobating the abuse of paring and burning, we contend that there are in this country thousands of acres of heavy clay land, whose productiveness could be vastly and economically increased by the judicious application of heat. *Mr. Baldwin's Elementary Treatise on Soils. McGlashan, Dublin.*

* Mr. Mechi, who adopts this practice, gives the cost at 7*d.* per cubic yard, which includes firewood.—*Jour. Roy. Ag. Soc. Eng.*, vol. vii., p. 299.

† Journal of the Royal Agricultural Society of England, vol. vii., p. 299.

‡ Mr. Smyth, the manager of this farm, writes to me to say that, after careful observation, he would strongly recommend the practice of burning for improving the defective quality of heavy clays.

§ Journal of the Roy. Agricultural Society of England, vol. iii., p. 383.

¶ The quantity of soluble matter here represented was ascertained by acting on the soil with dilute muriatic acid.

* The application of a moderate degree of heat has been found very beneficial on this farm. The subsoil was only operated on; as the surface soil was not supposed to possess all the conditions suitable for the purpose.

## Societies.

VALE OF EVESHAM.—At the recent annual meeting of this Society an admirable speech was made by H.R.H. the Duc d'Aumale, who presided as one of the landed proprietors of the district. We make the following extracts:—He said: Gentlemen, first of all, that art which is the profession of most of my hearers cannot be carried on all over the world by the same process. Climate, laws, customs, the temperament of the population, its wants and means, and the division of property, must have, and necessarily have, a great influence over the way in which man works the land and draws out of it the innumerable products which are given to us by the munificence of our Creator. From the nature of your climate and your geographical situation you have been induced to apply your energies and your skill principally to two great points, which are the growing of corn and the breeding and feeding of animals. The two great aims of English agriculturists are the production of meat and bread. These are the two great objects you have had, and you have pursued them with the tenacity that is one of the characteristics of your race. In this you have been well served by circumstances, and you have reached a degree of advancement which may be, and certainly will be, carried further, but which is not generally surpassed out of these islands. It is for this reason that your agriculture is the subject of study and attention to many foreign economists and practical men. A friend of mine, M. de Lavergne, has given a very good description of your agriculture in a work entitled "L'Agriculture Anglaise," which has been translated into English; and an account of your agricultural experiments and meetings is periodically published in French. Gentlemen, I will try to point out some of the features which seem to strike more particularly foreign visitors to this country. The first is the nature of your farm buildings, which are strictly limited to what is necessary, and are much less extensive than those that would be required abroad for the same extent of land in the same state of cultivation. I believe this practice is a wise one to pursue, for it saves a great amount of capital, which can thus be more profitably invested. However, there is an improvement which is much required, and which has recently been much discussed—I mean the dwellings of your labourers. Although the rural population in this country are upon the average better fed, better clad, and better lodged than in most other countries, it is very certain that in many places the cottages of the labourers have not been improved in proportion to the improvements made in the landlords' mansions and the farmers' houses. I am happy to say that in this neighbourhood much has been done in this direction; but much still remains to be done. To increase the welfare of the agricultural labourer is one of the purposes of this Society, and as it is an object worthy the attention of the landlord and the tenant, and as it must be in the end profitable to both of them, I believe it is an object worthy of your careful and constant consideration Another fact which rather surprises the foreign economist in this country is, that the land should have been brought to the high degree of cultivation that it has been when, in many parts of the country, it is held under tenure at will, and without any very distinct agreement between landlord and tenant; but if there is a deficiency in that respect, I think you have it supplied by that mutual trust and confidence which happily exist here between the various classes of society. However, success has not made you deaf to the calls for improvement. The question of landlord and tenant right has very often attracted your attention, and has been more especially brought under your notice by one of our friends, in whose judgment, experience, and fairness we have the greatest confidence. I hold in my hand the proposed form of agreement which has been prepared by your special committee. I am not called upon to give an opinion on the subject of the various clauses of the proposed code, but I believe that any arrangement which may be found practicable, and which may induce a larger outlay on farming and increase the safety of the investment of capital in farming, is a step in the right path. The code may introduce some more complications than the mere verbal or common written agreement; but improvements often make complications. Is not the rifle with which your soldiers are armed a more complicated thing than the old "Brown Bess?" The steam plough on your farms—the various implements now used on your farms—are certainly less simple than the *aratrum* which Virgil so beautifully describes, and which I have seen at work, just as it is pictured by the immortal author of the "Georgics," under the lofty Olive trees of Sicily, or through the plains of Algiers. The use of steam power and of artificial manure answers a double purpose. Where hands are deficient they supply the deficiency. Where hands become easily obtained, and where there is no lack of capital, I think it is admitted that the use of steam increases rather than decreases the demand for manual labour. Then with the help of man's labour and capital it gives the means of drawing out of the land an increased produce, for which in the present state of trade, industry, and commerce outlets will always be easily found. When I consider what progress has been made in the last 50 years, and since the adoption of a proper course of cultivation, I am rather induced to believe that if a large additional productive power be made use of, the result will be a more constant employment of labour, more profit for the farmer, and even in the long run, which we won't forget, higher rents for the landlord, and more prosperity for the rest of the community at large. Gentlemen, the life I have led has accustomed me to be a good deal in the open air, and I like to go through your fields, and follow a covey of birds, wild as they are, and I venture to gallop sometimes after the hare or the fox over your hedges and ditches and your heavy clay. And when I see a good piece of Turnips or Mangels I like it the better, not because I know that the birds will lie better, but because I see good husbandry. And at a time when the scent is good and the hounds will run, when I feel under the hoofs of my horse good elastic ground, I am glad, because I know that the clay has been burnt and the land drained. When I have to clear, instead of a blind fence, a good clean ditch and a well trimmed hedge, I am certainly pleased, not only in having a safer ground before me, but because I notice the improvement in agriculture. And when at luncheon time or during a check I meet with a nice cottage or a commodious farmhouse, it is not only the pint of cider or the glass of sherry which soothes my thirsty soul, but it is the sight of the happiness, the comfort, and the hospitality shown by the cottager or the yeoman which cheers my heart. Well, gentlemen, I hope that every year I may meet in this neighbourhood with straighter fences, cleaner ditches,

better drained land, finer cattle, more comfortable cottages, and happier people, and it is because I believe this Society has promoted and will promote all these improvements, that I offer you my best wishes for its prosperity and success. So, gentlemen, I fill my glass with what I may call, and what I am proud to call, the agricultural produce of my own merry and beloved land. It is a produce which Worcestershire men, with all their skill, cannot grow in their fields. I now fill my glass, then, with what I may call a genuine countryman of mine own, and I drink to the prosperity of the Evesham Agricultural Society.

His Royal Highness, who spoke with great fluency, concluded his very eloquent address amid great cheering.

Mr. Holland, M.P., responded to this toast, and in the course of his remarks briefly alluded to the topic of the dwellings of the agricultural labourers. He expressed his opinion that it was absolutely necessary, now that they had implements that required more skilled labour, that they should have a more intelligent race of labourers imbued with self-respect, which self-respect they could not attain under their present condition. He traced the history of the labourer from his boyhood, and showed how the want of home accommodation drove him to the beerhouse, and how the crowding of families of all ages into a common sleeping room must lower the tone of morals in the class. He thought landlords should not look to a large direct return in rent for their cottage property, but that they should consider the indirect advantages which these cottages afforded to an estate in having the supply of labour close at hand and under direct supervision. In conclusion he proposed the "Health of the Duc and Duchesse d'Aumale and the Prince Condé," remarking that the address of the Duc led them to forget that he was a foreigner.

Drunk with three times three.

The Duc d'Aumale replied, and said it was because he felt deeply interested in the prosperity of agriculture and the rural population that he had always been happy to promote any improvements in his own neighbourhood. It was true that his heart and thoughts were very often on the other side of the water; but, if anything could soften the regrets of the exile, it was to find in a foreign country that hospitable welcome which he and his family had found here.

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Thame: *Agricultural Statistics.*—At the annual meeting, Mr. Henley said a greater mistake was never made than that of charging farmers with opposing the collection of agricultural statistics as mere matter of information. They have no reluctance whatever to give information; they have no objection to the country knowing how much Wheat has been grown in a year. The thing was first mooted some 16 or 17 years ago, when Sir C. Wood was Chancellor of the Exchequer, and when it was first proposed in Parliament that agricultural statistics should be collected not a dissentient voice was heard. All that the members of agricultural constituencies demanded was that the farmers should not be asked to pay for their collection; they said:—"As this is a matter in which the whole country is concerned, and not the farmer alone, if you want to get at how many acres of corn are planted, get it by all means, but let the nation pay for it." That, however, did not suit the gentlemen who were clamorous for the collection of agricultural statistics; they wanted to get them without paying for them, or, in other words, they wanted the farmers to pay. Now, we in Parliament said that was unreasonable. We were not—that is, if there was any sound basis for the statements of those who were pressing the matter on the attention of the Government—the only parties interested; therefore it was not right to tax the farmer for them. But "Oh," said the Chancellor of the Exchequer, "it will never do to charge the nation; I shall have to bring in a new budget, and I don't know what," and so the matter ended at the time. Well, it has gone on, shuffle, shuffle, ever since. They have always been calling out about the farmer: "The farmer stops the way;" "We should have agricultural statistics if it were not for the objections made by the farmer." But the farmers never made any objection to my knowledge, (and I think if they had I must have heard of it) to the country knowing the number of acres of Wheat, or Barley, or Oats that are annually sown. As it is, they have gone on in this track, always raising the same cry, and nothing has been done. We are now told to look at what has been done in Ireland; it is said that in Ireland agricultural statistics are collected, with the greatest ease, from 500,000 or 600,000 tenant farmers. I will not now stop to inquire what is the extent of the holdings, but I strongly suspect that most of them are five-acre farmers. The great thing is, that the Government pay every farthing of the expense of collecting agricultural statistics in Ireland. The machinery used there for their collection is the police; the police are paid by the Government; and nobody is put to a single farthing of expense but the Government, which, you know, is paid by all of us. The Government get the statistics up, draw out the tables and publish them. With regard to this country, the last move has been as follows:—The Government wrote down to all the country magistracy, and said, "Will you collect agricultural statistics through the county police?" A circular of that kind was sent to the magistrates assembled in quarter sessions, all over the country. About half the quarter sessions objected, and said they would have nothing to do with it; but we did not. We said, "We do not object to our police carrying about papers and leaving them at different farm-houses for the farmers to fill up if they choose to do so, neither do we object to the policemen calling for them and depositing them in the proper office; but this will impose an additional amount of duty upon them, and it is only fair that for that extra duty they shall be paid; give them a moderate sum and they will do it." That was our reply to the proposition of the Government; and what was the consequence? Why, that we heard no more about it. It is plain enough, then, that those who are desirous of getting agricultural statistics wish to obtain them for nothing. But, gentlemen, it will be a very troublesome thing to be sending a parcel of papers about the country to every man who holds a farm, be it five or five hundred acres in extent. It must cause a little expense, and therefore it is only just and reasonable that those parties who are so particularly desirous for this information should pay for it. I think it is quite enough to expect the farmers to fill up the papers. As to the want of this kind of information by the farmers themselves, I do not believe that, so far at least as their own neighbourhood is concerned, they want to know how many acres Farmer So-and-so has got in Wheat or Barley. As a matter of fact, in most cases, they know it already. I never heard any one among the farmers say they cared a pin about it. It was nothing to them; every one gets as much as he can from his farm, quite irrespective of knowing how much his neighbour gets. If you want the information for general purposes, you can have it by paying for it; but it is rather hard that the farmers should be accused of a desire to withhold this information because they do not care about collecting it at their own expense for other people. That is the whole A B C of the question.

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## Reviews.

*The Journal of the Royal Agricultural Society of England.* Vol. XXIV., Part 2. J. Murray.

We have here for six shillings some 400 octavo pages as full of useful agricultural information as the English language permits. It is the cheapest book in an agricultural library, and we are persuaded that a book of this quality thus issued by the Society at a price very much below its real value, will have tenfold the influence in adding to the roll of members than if as heretofore it had been sold at an enormous price or exclusively to members. The Editor has associated with himself the ablest writers of the day in the several subjects here discussed, and the result is apparent in one of the best numbers of the serial which has been published since the death of Mr. Pusey. There are two useful papers on the breeding of horses by Mr. Dickenson and Mr. Gamgee; two papers on steam cultivation—one a prize essay by Mr. Moscrop, and the other an elaborate analysis and collation of evidence on this subject by Mr. J. A. Clarke. There is a complete and most interesting publication of the reports of the Worcester Meeting by the various judges and stewards of departments. There is a paper on the reclamation of waste lands, by Mr. C. Belcher; scientific report on milk, by Dr. Voelcker; on root development, by the Rev. M. J. Berkeley; on M. Reizet's agricultural experiments, by the Editor; on Grass-land manuring, by Messrs. Lawes & Gilbert. There are a number of capital short essays—as on clay burning, on portable fences, on annatto, on farm buildings, on dairy practice, and on homœopathic treatment of cattle, by Mr. Randell, of Evesham, Mr. T. Bowick, Dr. Voelcker, Mr. J. F. Clarke, Mr. E. Harding, and the Editor respectively. There are the usual statistical reports by Mr. Glaisher and Mr. Harding; and there is a series of abstract reports of the discussions before the Council on cottage construction, under drainage, oilcake adulteration, parasites, steam cultivation, sheep feeding, and Grass-land management. The whole together form a collection of papers of very great agricultural interest.

On steam cultivation, which is probably the subject at present of leading interest, and on which the Journal has long been silent, Mr. Moscrop with his personal experience, and Mr. J. A. Clarke with a most elaborate comparison and examination of examples, many of which have been already published in these columns, give all the information that can be desired.

The report of the Worcester trials before the Society's judges, together with the awards, without however any attempt to connect the two, is also given; accompanied by the significant recommendation that longer and more extensive trials of steam cultivators should in future be made, on which such conclusions as may be of service to the public may be based.

We extract a passage from one of the shorter contributions to this number of the Journal, in illustration of its quality—on *Clay Land Farming*, by Mr. C. Randall.

"After a field has been once moderately well burned, very little good appears to result from repeating the work; therefore my operations in this way are now almost entirely confined to burning large heaps, to be drawn into the yards and sheds wherein a large portion of the roots are consumed by sheep. They there absorb the urine, and are mixed with the dung made in the yards; the portion under cover is mixed with artificial manure, and drilled with the root-crops.

"And this leads me to the consideration of a subject affected to a considerable extent by this burning question, viz., the additional capability of carrying a flock of sheep which clay land acquires by the change of texture brought about by this process. I do not mean that clay land can by this, or by any means, be made to produce food for sheep as beneficially or as certainly as that which is by nature Turnip land; but its capabilities in this respect may be enlarged, which is a matter of some importance at a time when the price of wool and mutton is relatively much higher than that of Wheat (the more natural product of strong land) is, or is likely to be, whilst importations pour in from every quarter. Not that I would displace any portion of the Wheat crop by the substitution of fodder crops for sheep; one half of the arable portion of a clay-farm should always grow Wheat. It is the mainstay of the occupiers of such soil; and whatever may be the price, it must be grown; and it is not only for the production of mutton and wool, but as a means of increasing the Wheat crop, that the increase of the sheep stock becomes so important.

"Under any circumstances, whether recourse is had to burning or not, I hold that there is no preparation for a Wheat crop upon any land so unprofitable as a bare fallow; and that if half of the arable portion of a clay farm be, as I recommend, under Wheat, the other half, with the exception of a portion manured for Beans, must be producing food for sheep. It is in facilitating the increased growth of this food for sheep that the burning of clay soil adds so materially to the land's capability of producing wool and mutton, and consequently Wheat.

"I am strongly tempted by the result of six years' experience of the value of steam-cultivation in working out the system of cropping clay land, which is intended to be most productive of these rent-paying commodities to say a few words upon the subject; but as it has only facilitated, not changed, the system, and as those who are employing steam in the cultivation of the soil are not the men whose attention need be called to the advantages of growing green crops, I will withstand the temptation, and rather hope that my suggestions may receive consideration from those who occupy farms not of sufficient extent to justify the heavy outlay at present involved in the adoption of steam cultivation.

"The question of details as to the mode of carrying out this system of cropping when the land has been burned must still depend in some degree upon the nature of the farm. Few clay-land farms are, and none should be, without some portion of Grass land, on which to winter the breeding ewes, summer some beasts, and provide hay to assist in making the straw into manure; if they have the additional advantage of including some light land, no difficulty will exist in making the clay land share equally with this light land the production of food for sheep, and the conversion by them of the larger portion of the straw into manure.

"Assuming, then, that a farm consists of 20 acres pasture, 40 acres light or medium land, and 160 clay land, and that 100 breeding ewes are kept, and their produce reared and fattened, there will then be annually—

| | Acres. |
|---|---|
| Wheat .. .. .. .. | 100 |
| Clover—mown .. .. .. | 20 |
| Mixed seeds—grazed .. .. | 20 |
| Beans .. .. .. .. | 10 |
| Fallow crops .. .. .. | 50 |

viz., 10 acres upon light land, of which 5 acres are to be Italian Rye-grass, succeeded by Swedes; 5 acres Vetches, followed by Turnips, both having been manured after harvest, not only to force early and abundant crops of food for the ewes and lambs, but also to save time, by having the land ready manured for Swedes and Turnips. The Italian Rye-grass upon this light land, forced on by the manure applied after harvest, will be fed off by the middle of May. The roots should then be worked to the surface by Coleman's cultivator, by harrowing, rolling, and again harrowing, then buried by one deep ploughing, and the land planted with Swedes before the middle of June. The fallow crops upon 40 acres of clay-land will be,—Mangels, 12 acres; Cabbages (of two varieties, to be planted in October), 8 acres; and Vetches, 20 acres.

"The green crops will be reversed every four years. Thus, where Red Clover was grown in 1860, there would be mixed Seeds and Beans in 1864; where Rye-grass and Swedes in 1860, Vetches and Turnips in 1864; and where Mangels and Cabbages in 1860, Vetches in 1864. It should also be borne in mind that on the clay-land, Clover should be the next green crop after the Mangel and Cabbages; mixed seeds after the Vetches.

"The breeding ewes must be kept as long as possible upon the seeds; and while they are eating down those upon the clay to prepare the way for the plough, those on the lightest land—that which may be planted as soon as ploughed—must be saved. Upon this, when the clay-land seeds are finished, the ewes must be fed, with the addition of some chaff, if necessary, and so kept off the Grass until the end of November, by which time all the land after seeds should be sown with Wheat. The ewes then go into the strawyard, to be kept upon a mixture of hay and Wheat-chaff, with malt-dust. They should be turned out four or five hours every day upon a fresh portion of the Grass-land, a very small one; but the hurdles must be moved every

day, and the allowance of Grass increased, and the dry food improved, by the addition of Oats or oilcake, as the yeaning time approaches. After lambing, they go to the Italian Rye-grass, of which they must have a fresh portion every day; for be it remembered that all the green food is supposed to be hurdled off; not only because it is economised thereby, but because the sheep will do better, and the land will be more equally manured than by giving the whole field at once. If all this Italian Rye-grass is eaten before it is necessary that the land should be prepared for Swedes, it will still be useful to remove the sheep to that field at night from off the other seeds, where their feet in the frosty mornings would be destructive. I need not point out how, with the provision of food for the summer months above indicated, the flock may be maintained—this, I hope, is sufficiently obvious; they are to be kept upon the land until the Cabbages, Turnips, and Swedes are eaten, and then go into yards. The wether and draft-ewe lambs (tegs, as they are here called: hogs, in other counties) will then be fattened upon Mangels, with a liberal allowance of Clover chaff and malt-dust, and ½ lb. oilcake daily; the ewe-lambs intended to be kept for stock will have Mangels, with a mixture of Clover and Wheat-chaff. Both will do better with 10 lbs. of roots each per day, from December to the end of February, than they would do with an unlimited quantity, provided they have as much dry food as they will eat. After February the allowance of Mangel should be increased if the store will allow of this, and by the end of March the fattening tegs will be fit to go shorn, to the butcher. If they can be kept a month longer so much the better. I have thus been supposing the case of a clay-land farm which is assisted by a small portion of a lighter character. Where there is only clay there will often be greater difficulty; and it may be necessary sometimes to sell off all, or a portion of the lambs before September instead of wintering them. In that case, as the whole of the straw cannot properly be made into manure, it is better that part should be sold off, the money arising from such sale being expended, half in guano and half in oilcake; the former to be applied to the Wheat crop, the latter given to the ewes and lambs upon the seeds and Vetches. I have conclusive proof in the field I named at the commencement of this letter, that farmyard manure is not essential to the fertility of clay-land, but that after draining and burning, the poorest of it may be maintained in productive condition, and grow Wheat every other year by the aid of sheep, oilcake, and guano."

We have here an example in which drainage, clay burning, and steam cultivation, all of them agencies dealing with the texture of the land, have been brought to bear on a stiff clay farm.

It quite bears out the opinion that a new era is dawning on the clay land farmer, and that steam power applied to their cultivation, in addition to the other methods which have hitherto been employed by our best cultivators, will greatly increase the fertility and the profitableness of all the stiffer class of soils.

*Fire and Water*, versus *Corn and Hay. An Essay on the Effects of Steam Cultivation.* By Simon Hutchinson, Manthorpe Lodge, Grantham. Third Edition. Fourth Thousand. Simpkin, Marshall, & Co.

Mr. Hutchinson's Essay, not even commended by the Society's Judges of the Essays on Steam Cultivation, is likely to have as many readers as Mr. Moscrop's, to which they awarded the prize, notwithstanding that the latter has 5000 or 6000 readers in virtue of their membership of the Society.

The present is the superior of the other in definite information on its subject; but we presume that it is "undecorated" because its writer has not sufficiently observed the rules laid down for competition. Mr. Moscrop speaks in detail of all the points to which the attention of competitors was directed. Mr. Hutchinson does not; but his information is more precise, satisfactory, and conclusive. The present essay is more likely to extend steam cultivation than its rival; and we are bound to add it will do more to extend Mr. Smith's system, which its writer followed, than the experience related by Mr. Moscrop will do to extend that of Mr. Fowler, adopted by him.

## Miscellaneous.

*Agricultural Steam Engines.*—A recent fatal disaster to a portable agricultural engine at Clearsfield, Suffolk, has induced the Agricultural Society of that county to adopt a resolution under which the association recommends the appointment of a competent engineer as inspector of such motors. The inspection is proposed to be made at least half-yearly at a certain fixed payment per engine for each examination, the charge to be paid, with the exception of a small annual grant from the funds of the association, by the owners of the engines. The inspector will be required to keep a registry of all engines inspected by him from time to time, with the name of the makers, the date or age of the engine, and the limited amount of pressure in pounds to the square inch upon the boiler, all of which is to be painted in large and legible letters upon the engine. The inspector is also to examine every engine-driver as to his fitness, and if satisfied with him to give him a certificate which will enable him to wear a badge on his right arm, having a number upon it corresponding with the inspector's book. This badge or distinction the driver is to be obliged to wear when at work with his engine. The inspector is also once a year to make out a schedule of all engines examined by him, with a report upon their condition, together with any suggestion which may occur to him in the course of his inspection. A committee of the association, comprising the Earl of Stradbroke, Major Parker, M.P., Sir E. C. Kerrison, M.P., &c., has been appointed to obtain such information as may seem necessary for carrying this object into effect, and is to report the result of their inquiries in three weeks. Meanwhile a subscription list has been opened to defray incidental expenses.

## Calendar of Operations.

### SEPTEMBER.

WEST SUSSEX: *Sept.* 22.—The bulk of harvest has been finished nearly a month; there were some few late patches left out then that had to lie nearly a fortnight before they could be got in, and of course were to some extent damaged, but this will hardly affect the general crop and its condition, which may be called good. There was a good deal threshed during harvest, and the yield in some cases is said to have been as high as 15 or 16 sacks per acre; but from the owner of steam-threshing machines we learn that the yield may be put at from 9 to 11 sacks a load per acre, and the quality is good and weighs at least 2 lb. per bushel heavier than usual, but the price is low—about 3*s.* per load below last year, so that if there are 3 sacks per acre more, it will not pay much more. There is some good Barley, but there is also a good deal rather inferior. Oats turn out a good sample, but will not yield so well as last year. Our pastures were very bare at the end of harvest, and some hardly knew what to do with their cattle; but now all is right—the rains could not have been more suitable; but still the late sown Turnips do not do very well, and we can hardly expect that they will come to much now. On the whole we may put the crop down as deficient; but the Mangel is good, and so are the Swedes. The hay crop, though light, is good in quality; there is a good deal of old left, and there is, no fear of scarcity of winter food. Potatos are an extra crop, and generally free from disease, but it has appeared in some low lands rather severely. I have no doubt that the coveted 2 cwt. per rod will be got in many places. We are now preparing for Wheat sowing, and there has been rather more than the usual amount of stubble cleaning since harvest, some much requiring it, as the last two damp seasons have produced more than the average amount of weeds; but it is likely that this operation is at an end, as we have had another heavy fall of rain, the barometer being lower than it has been for a long time. Work is well forward, and unless the weather break up badly, Wheat will be got in in good time. *G. S.*

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | Reading of Barometer corrected to Freezing Point at Mean Sea Level. At 9 A.M., Railway Time. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6. | Amount of Cloud, 0—10. | Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | | | | | | | | | | Inches. |
| Friday .. .. | Sept. 25 | 29.84 | 56 | 53 | S.W. | 1 | 6 | 58 | 41 | 68 | 35 | 0.09 |
| Saturday .. .. | 26 | 30.09 | 54 | 51 | S.W. | 0 | 5 | 60 | 36 | 74 | 30 | .. |
| Sunday .. .. | 27 | 30.25 | 54 | 50 | S.W. | 0 | 9 | 59 | 37 | 73 | 29 | 0.03 |
| Monday .. .. | 28 | 29.85 | 50 | 50 | W. | 0 | 10 | 56 | 48 | 60 | 47 | 0.31 |
| Tuesday .. .. | 29 | 30.11 | 53 | 49 | N.E. | 1 | 4 | 56 | 37 | 69 | 33 | 0.10 |
| Wednesday .. | 30 | 29.97 | 52 | 48 | S. | 1 | 5 | 58 | 33 | 70 | 28 | |
| Thursday .. .. | Oct. 1 | 30.31 | 57 | 54 | S. | 2 | 8 | 59 | 50 | 66 | 46 | 0.32 |

## Notices to Correspondents.

RABBITS: *Cor.* If there is anything specially adapted to meet the difficulty you name, a Correspondent to whom we have sent your letter will inform us for you.—*A Subscriber.* If your rabbits are kept in hutches, the troughs should be broad at top, narrow at the bottom, and fastened to the front. They should not be filled: but only sufficient bran or corn put in for the one meal. If the rabbits be at liberty in a pen, the trough should be too heavy for them to overturn, and should have bars over the top to prevent them from getting into it.

GREEN'S LATEST IMPROVED PATENT NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES, which gained the First Prize Medal of the International Exhibition.

Patronized by Her Most Gracious Majesty the Queen during the seasons of 1862 and 1863.
These Machines have proved to be the best, and have carried off every prize that has been given in all cases of competition.
ILLUSTRATED PRIZE LISTS on application.
THOMAS GREEN & SON, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

SHANKS' NEW IMPROVED LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINES were awarded the First Prize Medal of the International Exhibition.

Shanks' Patent Lawn Mowers are in use in the Royal Gardens at Kew, Windsor, Buckingham Palace, Hampton Court, Osborne, and Balmoral.
These Machines are allowed to be the best and by far the most durable ever offered to the public.
ILLUSTRATED CATALOGUES on application to A. SHANKS & SON, Dens Iron Works, Arbroath; or 27, Leadenhall Street, London, E.C.

HOOPER'S NEW ETRUSCAN HYACINTH and CUT FLOWER VASES.

List of Agents
From whom these superb articles may be obtained:—

London, Boyce, Clapham Road
,, Brigden, T., King William Street
,, Clark, Brixton Hill
,, Edwards, Brixton Hill
,, Flanagan & Son, Mansion House
,, Hurst & Son, 6, Leadenhall Street
,, Potter, Farringdon Street
,, Taylor, King's Road, Chelsea
Axminster, W. Baker
Brechin, Dickson & Turnbull
Beccles, Laws, Thomas
Brough, D. Wood
Bristol, J. Nelson
Cheltenham, C. E. Brydges
Chester, F. & A. Dickson & Sons
,, James Dickson, Son, & Co.
Deal, J. Ricketts
Derby, E. Cooling
Edinburgh, P. Lawson & Sons
Henley-on-Thames, E. Jones
Hexham, R. Robson
Horsham, F. Allman
Kelso, Stuart & Mein
Leeds, Kearsley & Sons
Liverpool, R. P. Ker
Manchester, Dicksons & Brown
Montrose, P. Macdonald
Norwich, R. Elphinstone
Peterborough, C. Quincey
Preston, J. Huddart
St. Albans, Robert Josling
Sheffield, Fisher, Holmes, & Co.
,, F. G. Godwin
Slough, C. Turner
Stirling, W. Drummond & Sons
Thirsk, T. Barnes
Walton, Brecon, T. Sellers
Waterford, W. Power
Worcester, R. Smith
Yeovil, J. Scott

HOOPER & Co., Covent Garden Market, London, W.C.

Paxton Works, Sheffield, Established 1738.

INTERNATIONAL EXHIBITION PRIZE MEDAL WAS AWARDED TO SAYNOR & COOKE FOR SUPERIORITY OF QUALITY IN PRUNING AND BUDDING KNIVES, &c.

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.
CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

JAMES'S FIRST PRIZE MANURE CART has been Awarded 20 PRIZES. Is now fitted up to answer for LIQUID MANURE, for Supplying the STEAM PLOUGH, for WATERING STREETS, or for a FIRE ENGINE. Nearly 300 already sold.

Washing.
The last great improvement in Washing Machines is in JAMES's new Patent PRIZE WASHING, WRINGING, and MANGLING MACHINES, awarded several FIRST PRIZES. Will Wash 20 Shirts in 20 Minutes, with much less injury than with the hand. More than 300 Sold.
Address, I. JAMES, Tivoli Works, Cheltenham.

## WARNERS' IMPROVED PATENT,

NOW FITTED WITH AN AIR VESSEL,

IS THE ONLY

**DOUBLE-ACTION ENGINE**

at £2 2s.

THAT

THROWS A CONSTANT STREAM.

May be obtained of any Ironmonger or Seedsman at the above price, or of

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

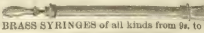
| | | | | |
|---|---|---|---|---|
| 10 gallons | .. | .. £2 | 15 | 0 |
| 16 „ | .. | .. 3 | 15 | 0 |
| 24 „ | .. | .. 5 | 0 | 0 |

Larger sizes may be had in either Wood or Iron.

No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | | | | |
|---|---|---|---|---|
| 35 gallons | .. £2 | 10 | 0 |
| 20 „ | .. 2 | 0 | 0 |



BRASS SYRINGES of all kinds from 9s. to 21s.

No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 5 feet Flexible Suction Pipe,

21s.

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

THERE ARE NO SUCTION OR DELIVERY VALVES, hence MUCH FRICTION AND LIABILITY TO CHOKE with leaves and dirt IS AVOIDED.

JOHN WARNER & SONS, 8, Crescent, Cripplegate, London, E.C.

## WIND ENGINE,—Patent Self-Regulating, for

PUMPING, OAT-CRUSHING, THRESHING, GRINDING, CHAFF-CUTTING, SAWING, OR DRIVING OTHER MACHINES.

For FARM PURPOSES most economical.—Costing nothing to work.—Erection simple and cheap. For PUMPING PURPOSES invaluable, working day and night, requiring no watching. Power from ½ to 12-Horses. Sketch shows a 4-Horse Power Engine as used on Farms.

The LORDS of the ADMIRALTY, the VICEROY of EGYPT, NOBLEMEN, PRACTICAL FARMERS, PUBLIC INSTITUTIONS, and COLONISTS, now use these ENGINES for all purposes.

BURY AND POLLARD, SOLE MANUFACTURERS,
PARK IRON WORKS, NEW PARK STREET, SOUTHWARK, LONDON.

**Violets.**

ROBERT SHACKELL begs to offer strong healthy plants at the following prices, basket and package free:—

| | Per dozen—s. | d. |
|---|---|---|
| SHACKELL'S RUSSIAN SUPERB .. .. | 12 | 0 |
| DOUBLE PURPLE TREE VIOLET .. .. | 4 | 0 |
| " " SPRING BLOOMING .. | 4 | 0 |
| NEAPOLITAN .. .. .. .. .. | 4 | 0 |
| DOUBLE WHITE .. .. .. .. .. | 4 | 0 |
| SINGLE WHITE RUSSIAN .. .. .. | 4 | 0 |
| OLD RUSSIAN, 10s. per 100 or .. .. .. | 2 | 0 |

Violet House, 5, Broad Street, Bath.

WELLINGTONIA GIGANTEA.—To noblemen and gentlemen wishing to plant an avenue or group of the above, WILLIAM BARRON begs to offer a number of splendid specimens from 6 to 14 feet high, remarkably cheap, all of which can be insured to remove with safe balls.

| | |
|---|---|
| 6, 7 and 8 feet .. .. .. | 3l. 3s. to 5l. 5s. |
| 9, 10 and 11 feet .. .. .. | 6 6 to 8 8 |
| 12, 13 and 14 feet .. .. .. | 9 9 to 10 10 |

14 × 12. Stem 4—6 in circumference.

The most handsome plant in the country, remarkably dense. Special price on application.

Elvaston Nurseries, near Derby.

**Nursery Stock.**

H. ADDISCOTT, NURSERYMAN, St. Thomas, Exeter, has to offer at very reduced prices the following:—

2000 Fine Dwarf-trained PEACHES, NECTARINES, APRICOTS, PLUMS, CHERRIES, PEARS, and APPLES.
2000 STANDARD, HALF-STANDARD, and PYRAMIDAL PEARS and APPLES.
200 GRAPE VINES from Eyes, "Strong."
1000 STANDARD ROSES.
100,000 Strong THORNS (Quick).
10,000 Strong LAURELS.
2000 LAURUSTINUS.
2000 PORTUGAL LAURELS.
20,000 other good SHRUBS, AUCUBA, ARBORVITÆ, BERBERIS, CEDARS, CYPRESS, EUONYMUS, HOLLIES, YEWS, &c., all well grown, and in excellent condition.

Also a few hundred Specimen Plants, 6 to 10 feet, very handsome, of PINUS INSIGNIS, CEMBRA, and EXCELSA; CEDRUS DEODARA, ENGLISH and IRISH YEWS, TAXODIUMS, LUCOMBE and FORD OAKS; STANDARD PORTUGAL LAURELS, 5 feet in stem, with good heads; all of which will be sold at low figures, as the Lease of a portion of the Nursery expires next Spring, and the ground must be cleared. An inspection of the stock is respectfully solicited.

CATALOGUES will be forwarded on application.

St. Thomas, Exeter.—October 10.

E. R. GREENUS, RAILWAY NURSERIES, Watford and Rickmansworth, has to offer this season a fine healthy Stock of FRUIT and FOREST TREES, FLOWERING SHRUBS and EVERGREENS, CONIFERS, STANDARD and DWARF ROSES, CLIMBERS, &c., all of which will remove with the greatest safety; and from E. R. G.'s proximity to the London and North-Western Railway he can execute orders with promptitude and despatch to any part of the kingdom, or Continent.

CATALOGUES forwarded on application.

P.S. A very large Stock of IRISH IVIES, large, in pots, and CLIMBING ROSES; also VARIEGATED and GREEN BOX, 1½ to 2 feet.

ARAUCARIA IMBRICATA (from 3 to 12 feet in height).—The finest and largest Stock in Europe, unrivalled for Parks, Avenues, Lawns, &c. Also ABIES DOUGLASII, CEDRUS DEODARA, LIBANI, and a general assortment.

P.S. The present is the best time to remove them.

H. LANE & SON, Nurseries, Berkhampsted.

**Shirreff's New Wheats.**

SHIRREFF'S WHITE.—This fine variety is now ready for delivery. Selected parcels harvested without rain, 60s. per qr. Good sowing qualities, 55s. per qr.

PRINGLE'S WHITE, 55s. per qr.

SHIRREFF'S RED, 50s. per qr.

Bags, 1s. 10d. each. Samples forwarded, and the Wheats delivered at the railway on receiving a remittance.

PATRICK SHIRREFF, Haddington.—Oct. 10.

**Manures and Feeding Stuffs.**

RAYNBIRD, CALDECOTT, AND BAWTREE. Address 89, Seed Market, Mark Lane; or Basingstoke. Samples and prices on application.

THE LONDON MANURE COMPANY have now ready

PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.

116, Fenchurch Street, E.C.

LAWES'S WHEAT MANURE for AUTUMN SOWING.

A supply of the above Manure is now ready for delivery, at J. B. LAWES' Factories, Deptford, and Barking Creeks. Price 8l. per ton.

2 to 3 cwts. per acre to be harrowed into the land before the seed is sown. It can be obtained of Mr. LAWES, or through any of his appointed Agents; also

| | |
|---|---|
| SUPERPHOSPHATE of LIME .. .. .. | £6 6 |
| MINERAL SUPERPHOSPHATE .. .. | 5 5 |

Genuine Peruvian Guano direct from the Importers, and all Chemical Manures of value.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, Offices, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

**Autumn Sowing.**

THE PATENT NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),

Consisting of Tenant Farmers occupying upwards of 30,000 Acres of Land.

*Chairman.*—JOHN CLAYDEN, Littlebury, Essex.

*Managing Director.*—JAMES ODAMS.

Offices: 109, Fenchurch Street, London, E.C.

Manufactory: Plaistow Marshes, Essex.

ODAMS'S BLOOD MANURE for WHEAT.—This Manure, specially prepared for Autumn Sowing, has been in use for upwards of 11 years, and has given great satisfaction to consumers.

Orders may be sent to the Company's Agents throughout the country, or direct to C. T. MACADAM, Secretary.

Offices: 109, Fenchurch Street, London, E.C.

Price 7l. 10s. per Ton, delivered at any Railway or Wharf in London.

REIGATE SILVER SAND.—Best quality, 7s. 6d. per ton; packed, 16s. per ton; ditto 5s.; 4 cwt. put on the Rail at Reigate.

Best and second quality PEAT SOIL, LOAM, &c.

N.B. Loaded Trucks can be sent on all the principal Railways.

W. SHORT, Reigate, Surrey.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2s. per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the PATENT COCOA FIBRE COMPANY, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are sold in every town.

CAUTION.—Every Brush is stamped 'J. BARSHAM'S Patent'

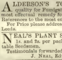
ALDERSON'S TOBACCO PAPER, of choicest quality for Fumigating purposes, warranted the best and most effectual remedy for the extirpation of the Green Fly. References to the most eminent Gardeners can be given.

For Price please address JAMES ALDERSON, 30, Nelson Street, Leeds.

NEAL'S PLANT SOAP and APHIS PASTILS.—1s. and 2s. per packet, may be obtained from all respectable Seedsmen.

Testimonials forwarded on application to the Patentee,

J. NEAL, Edward Street, Birmingham.



Magnified Aphis.

NEAL'S PATENT APHIS PASTILS, 1s. and 2s. per packet, are the only cheap and effectual way of Fumigating a Greenhouse. See opinion of GEO. GLENNY, Esq., in his Works on Gardening, &c.

NEAL'S PLANT SOAP, 1s. per packet of four cakes, is the cheapest preparation hitherto invented for washing plants. It will be found to destroy all Insects. Each cake makes one Gallon of Wash.

Both may be obtained of all principal Seedsmen.

Patentee: J. NEAL, Edward Street, Birmingham.

**Winter Dress all Fruit Trees with**

Red Spider Magnified.

GISHURST COMPOUND.

*Copy of a Letter from* MR RIVERS.

Nurseries, Sawbridgeworth, Herts.
Oct. 22, 1861.

"I must tell you what I heard to-day from a very clever gentleman farmer, Anthony Bubb, Esq., of Witcombe Court, Gloucester. He has a wall to which Peach trees are trained. Well, last autumn they were in a wretched blighted state. As a desperate remedy he unnailed them all early last February, and gave all but one a thorough painting with Gisburst Compound, 1 lb. to the gallon of water; his trees, all but the one, commenced to grow favourably in spring, and are now pictures of health. The tree not painted is in a half-dead blighted state. He used the same dressing to his Apple trees: it killed the woolly aphis entirely, and has made his trees clear and vigorous in their growth. He intends to paint his wall trees annually, and tells all his friends to do the same. I shall certainly serve all my young Peach trees against my walls in the same manner. The Compound is, I believe, more efficacious than the usual offensive mixtures of clay, soot, sulphur, &c., and it does not blacken the shoots on the walls."

For Orchard-house Trees 4 ounces to the gallon will be found a good strength; when used stronger some buds on weakly trees may be injured.

GISHURST COMPOUND is Sold Retail by Nurserymen and Seedsmen, in boxes 1s., 3s., and 10s. 6d. each.

Wholesale by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont, Vauxhall, London, S.W.

**Horticultural Agent and Valuer.**

MR. A. CHANDLER (of the late Firm of CHANDLER & SONS) continues to undertake all kinds of VALUATIONS connected with Horticulture.

1, Devonshire Terrace, Fulham Road, S.W.

**City of Manchester.**

TO ARCHITECTS AND LANDSCAPE GARDENERS.

MANCHESTER CEMETERY. EXTENSION of TIME.

NOTICE.—Persons desirous of obtaining Plans and other Particulars to enable them to compete for the Design for LAYING OUT this CEMETERY, can obtain them by applying at the City Surveyors' Office, Town Hall, Manchester, on or after October 8.

The date of furnishing Particulars having been postponed, a proportionate extension has been made in the time allowed for sending in Designs.

For particulars as to Premiums offered, &c. see former advertisements. By order. JOSEPH HERON, Town Clerk.

Town Hall, Manchester, Oct. 10.

TREE and PLANT LABELS.—10,000 CLOTH or PATENT PARCHMENT PUNCHED LABELS for 30s. Delivered free in London on receipt of a Post office Order or Stamps for the amount. Address JOHN FISHER & Co., West Road Works, Boston, Lincolnshire.

**Striking Cuttings and Keeping Plants for Years without Soil.**

W. PRESTOE begs to announce that he will continue to supply PROPAGATING BOXES for ROSES and all kinds of Greenhouse Plants, usually termed Bedding-out Plants, smallest size 2 feet by 6 inches, 10s. each, with printed cultural directions. Each box will contain a bundle of cuttings and plants and prepared moss, so that no failure can possibly take place. Grape Vines strike admirably without soil. Mushrooms, Seakale, and Rhubarb force exceedingly well in any common shed in larger sized boxes. Post office Order payable to

WILLIAM PRESTOE, Basingstoke.

HORTICULTURAL and AGRICULTURAL IMPLEMENTS and MACHINES of every description.

Illustrated Catalogues on application.

THOMAS GREEN & SON, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

AGRICULTURAL IMPLEMENTS.—STEAM ENGINES, THRESHING MACHINES, CARTS, WAGGONS, PLOUGHS, HARROWS, TURNIP CUTTERS, CHAFF CUTTERS for hand and power, LAWN MOWERS, PRIZE CHURNS, CASK STANDS, WIRE NETTING, and GARDEN TOOLS.

Illustrated Catalogues on receipt of 6 stamps. Price Lists free.

BURGESS & KEY, 95, Newgate Street, E.C.

Works, Brentwood, Essex.

MORTON'S NEW IMPROVED PATENT LAWN MOWER, with Sun and Planet Motion, having all the most recent Improvements, is allowed to be the best Machine for preventing Ribbing and Clogging.

To be had, with prices and particulars, of GRIMMOND, LAIRD, & Co., 15, Cannon Street West, London, E.C.; or of the Patentee, Catherine Street Engine and Machine Works, Arbroath; and all the principal dealers throughout the country.

**Garden and Architectural Decorations in Terra Cotta**

PRIZE MEDALS OF 1851 AND 1862 AWARDED TO

JAMES PULHAM, Broxbourne, Herts. Also Notice of ARTISTIC MERIT, and of SOUND DURABLE MATERIAL in FOUNTAINS, VASES, FIGURES, FERN CASES, and BRACKETS, CONSERVATORY TUBS, with rising bottoms, &c.

The novel FERNDELABRUM.—To grow SIXTY FERNS (or Flowers) on a space 4 ft. 8 in. over, 8 ft. high, &c.

Guaranteed to stand frost an unlimited time.

Stereographs sent to inspect for 12 stamps.

Illustrations in the *Art Journal Catalogue*, the *Masterpieces*, and *Gems of the Exhibition*.

**Fresh Fruit all the Year Round.**

JENNINGS' MODEL PRESERVING JAR affords the means to every one to lay by a store of Fruit or Vegetables for Winter use at a very small cost and little trouble.

This is effected by means of an AIR-TIGHT CAP or COVER, which can be placed or removed in a moment, and will last for years in any climate, superseding the use of Bungs, Corks, Bladder, &c., for all kinds of Preserved Meats, Fruits, or Pickles.

Descriptive Illustrations, Prices, &c., from the Wholesale Depôt, Palace Road, Lambeth, S. Retail from all China and Glass Dealers, Ironmongers, and others.

**Gutta Percha Tubing for Watering Gardens.**

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following *Testimonial from* Mr. J. FARRAH, *Gr. to* BOSWELL MIDDLETON JALLAND, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

SHAW'S TIFFANY, For samples and prices apply to J. SHAW & Co., 29, Oxford Street, Manchester.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

| | |
|---|---|
| Two yards wide .. .. .. | 1s. 8d. per yard run. |
| Four yards wide .. .. .. | 3s. 4d. per yard. |

An improved make, 2 yards wide, 1s. 9d. per yard.
An improved make, 3 yards wide, 2s. 8d. per yard run.

Also "Frigi Domo" Netting, 2 yards wide, 1s. 6d. per yard run.

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Great Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

1000 GARDEN TARPAULINGS, very thick, 8 ft. by 4 ft., with 6 brass eyelets, 32s. per doz., or 2s. 9d. each; any size made up at 9d. per square yard. GARDENERS' CAPES, 3 ft. deep, 3s. 6d. each. POLICE CAPES, from 18s. to 36s. per doz. DRIVING APRONS, 10s. HORSES' LOIN CLOTHS, lined with woollen and strapped, 7s. each. CART and WAGGON COVERS, PATENT FELT.

R. RICHARDSON, 99, Euston Road, London, N.W.

N.B. GALVANISED WIRE WORK, 18 in. gauge, 1⅝ in. mesh, 7d. per square yard, in all widths.

RICK CLOTHS.—A large quantity of SECOND-HAND CANVAS, remaining over from the season 1863, and suitable for Rick Cloths, Waggon Cloths, &c.

To be Sold at BENJAMIN EDGINGTON'S Marquee, Tent, and Rick Cloth Manufactory, 2, Duke Street, London Bridge, S.E.

Early application will secure immediate attention.

N.B. No other Establishment.

**Oil Paint no longer Necessary.**

HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.

Sold in casks of about 30 gallons each, at 1s. 6d. per gallon, at the Manufactory, or 1s. 8d. per gallon paid to any Station in the kingdom.

Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

# HUGH LOW & CO.

Have pleasure in announcing that their Stock of WINTER and SPRING FLOWERING PLANTS is this season unusually large, and the Plants are well-grown and of very fine quality. In consequence of the hot weather of the summer months the wood is particularly well matured, and a profusion of flower may be expected.

H. L. & Co. append the names of those Genera most largely in demand, and have only to add that Purchasers will on all occasions be liberally treated. An inspection of the GENERAL NURSERY STOCK is respectfully invited.

AZALEA INDICA.—A selection can be made from many thousands of plants of various [sizes.
ACACIAS in variety.
CYTISUS or GENISTAS in large numbers. | DAPHNES of sorts.
DEUTZIA CRENATA FLORE-PLENO.—Of this very beautiful double flowering Japan Deutzia, H. L. & Co. have a large stock, and they offer plants at 3s. 6d. each; by the 100 a considerable reduction will be made.
LONICERA AUREO-RETICULATA can be supplied by the 1000 at a low price.

DILLWYNIAS, CHOROZEMAS, CORRÆAS, CHIRONIAS, ERIOSTEMONS, OXYLOBIUMS, PIMELEAS, and MISCELLANEOUS GREENHOUSE PLANTS.
EPACRIS.—A selection can be made from very many thousands of plants of various sizes.
ERICAS do. do. do. do. do.
CAMELLIAS do. do. do. do. do.
ORANGES, LARGE-FRUITED and OTAHEITE, with and without fruit.
JASMINUM GRANDIFLORUM, grafted on short stems, and full of flower buds.

## AUSTRALIAN TREE FERNS.

The centre of a span-roofed House, 155 feet in length by 25 feet in width, filled with upwards of 200 specimens, on stems varying in height from 1 to 6 feet, and in circumference from 15 to 30 inches.

**KINGIA AUSTRALIS (Australian Grass Tree).**—Very fine imported specimens on large stems.

## ARAUCARIA IMBRICATA.

A consignment of fresh Seeds just to hand, *viâ* Panama, in unusually fine condition. Price per bushel or per 1000 seeds on application.

CLAPTON NURSERY, LONDON, N.E.

# ORCHIDS FROM BRAZIL, THE PHILIPPINE ISLANDS, VENEZUELA,

## THE TENASSERIM PROVINCES, BORNEO, AND THE MALAYAN ARCHIPELAGO.

# HUGH LOW & CO.

Have for Sale, at very moderate prices, large quantities of ORCHIDS, received direct from their Collectors and Correspondents in the above-named countries, and they respectfully invite gentlemen interested in Orchid Cultivation to visit the Nursery and inspect the Collection, which contains many species quite new, and as yet undescribed. Orchidaceous plants at the Clapton Nursery are at present date grown in EIGHT span-roofed houses, and the collection is steadily augmented by a regular system of monthly and bi-monthly importations.

H. L. & Co. subjoin names of some of the species now on Sale, and they have only to add that Purchasers will be treated with great liberality.

AERIDES CRISPUM.
,, CRASSIFOLIUM.
,, FIELDINGI.
,, LARPENTÆ.
,, LOBBI.—Amongst our importations of this fine species, many beautiful varieties have appeared.
,, LINDLEYANA.
,, MACULOSUM.
,, SUAVISSIMUM.
,, ,, Bornean variety, very much superior to the ordinary type of the species, and probably synonymous with Aerides nobile.
,, QUINQUEVULNERUM.
,, ROSEUM.
,, VIRENS.
,, ,, SUPERBA.
,, WARNERI.
,, Species Moulmein.
BOLBOPHYLLUM (Sarcopodium) PSITTACOGLOSSUM.
,, CAREYI.
BROUGHTONIA SANGUINEA.
BURLINGTONIA DECORA.
,, FRAGRANS.
,, VENUSTA.
CIRRHOPETALUM STRIATUM.
CYMBIDIUM TIGRINUM.
CALANTHE VESTITA LUTEA.
,, ,, NIVALIS.
,, ,, ROSEA.
,, MASUCHA.
,, VERATRIFOLIA.
CATTLEYA AMETHYSTINA.
,, BICOLOR.
,, CITRINA.
,, CRISPA.
,, ELEGANS (Lælia).—Many of the plants imported by H. L. & Co. have recently flowered. Some are the dark varieties in various shades of colour, others light in the way of Lælia Schilleriana, L. Stelzneriana, and L. Warneri.
,, IRORATA.
,, LEOPOLDI.
,, LABIATA.
,, LOBATA.
,, MARGINATA.

CATTLEYA MOSSLEA, in many varieties.
,, PINELI GRANDIFLORA.
,, Species Juaz de Fora.
,, Species Paribiba, resembling C. Harrisonii in bulbs.
,, SUPERBA.
CHYSIS LIMMINGHI.
CŒLOGYNE CILIATA.
,, ELEGANS.
,, LOWI.
,, PANDURATA.
,, PARISHI (papagena).
,, SCHILLERIANA.
COMPARETTIA COCCINEA.
CYPRIPEDIUM BARBATUM GRANDIFLORUM.
,, BARBATUM SUPERBUM.
,, CAUDATUM.
,, FAIRRIEANUM.
,, HOOKERÆ.
,, HIRSUTISSIMUM.
,, species from Mount Ophir, Malacca.
,, STONEI.
,, VILLOSUM.
DENDROBIUM AGGREGATUM MAJUS.
,, ALBO SANGUINEUM.
,, BICOLOR (palpebræ).
,, CHRYSOTOXUM.
,, ,, SUPERBUM.
,, CRETACEUM.
,, CUCULLATUM GIGANTEUM.
,, DALHOUSEANUM.
,, DENSIFLORUM.
,, ,, ALBUM.
,, EBURNEUM, a lovely new species now in bloom at the Nursery. A First-class Certificate was awarded to it by Floral Committee of Royal Horticultural Society on October 6.
,, FARMERI
,, FIMBRIATUM.
,, ,, OCULATUM GIGANTEUM.
,, FORMOSUM GIGANTEUM.
,, FYTCHEIANUM.—Imported by this name, may possibly prove to be the rare D. Heyneanum.
,, INFUNDIBULUM.
,, LUCENS (Reichenbach fil).
,, LOWI.

DENDROBIUM MACROPHYLLUM, Variety DAYANUM. — A very beautiful Bornean Orchid, intermediate between D. macrophyllum and D. anosmum, but more richly coloured than either of these species. H. L. & Co. have imported plants which have bloomed on 4 feet 9 inches in length of the bulbs.
,, NODATUM.
,, PARISHI.
,, PAXTONI.
,, PIERARDI.
,, PICTUM.
,, SCULPTUM (Reichenbach fil).
,, TORTILE ROSEA.
EPIDENDRUM, 8 species unnamed from North Brazil.
ERIA AVELLANA (convallarioides) white and very fragrant.
HOULLETIA BROCKLEHURSTIANA.
IONOPSIS PANICULATA.
LEPTOTES BICOLOR.
,, SERRULATA.
,, Species Brazil.
LÆLIA BRYSIANA.
,, CINNABARINA.
,, ELEGANS (See Cattleya elegans).
,, MAJALIS.
,, PERRINI MAJOR.
,, PRESTANS.
,, PURPURATA.—Many varieties and plants of various sizes. Our stock of this superb Orchid exceeds 1000 plants.
LIMATODES ROSEA.
,, ,, SUPERBA.
,, ,, VESTALIS (Reichenbach fil).
MILTONIA CANDIDA GRANDIFLORA.
,, PINELI.
,, ROSEA.
,, STELLATA.
,, SPECTABILIS.
,, Two unnamed Brazilian species.
ONCIDIUM ARTICULATUM.
,, BARBATUM.
,, CRISPUM.
,, ,, GRANDIFLORUM.
,, ,, MARGINATUM.

ONCIDIUM LANCEANUM.
,, PAPILIO MAJOR.
,, PUBES.
,, VARIEGATUM.
,, Several Brazilian species.
PHALÆNOPSIS AMABILIS.
,, CORNU-CERVI.
,, GRANDIFLORA. — Bornean variety. The best white-flowered Phalænopsis yet known. The blooms are produced in the greatest profusion, and on very small plants. During the winter months H. L. & Co. have rarely had fewer than from 100 to 150 plants in bloom, and at one time the number reached 300.
,, ROSEUS.
,, SCHILLERIANUS.
SACCOLABIUM CURVIFOLIUM.
,, AMPULLACEUM.
,, BLUMEI.
,, ,, MAJUS.
,, ,, ,, variety DAYI—on very small imported plants of this beautiful species the flower spikes measure 22 inches in length.
,, CRASSIFOLIUM.
,, GUTTATUM.
,, REIDI.
,, VIOLACEUM.
SARCANTHUS PARISHI.
,, GRACILIS.
SOPHRONITIS CERNUA.
,, GRANDIFLORA.—Many of our imported plants are now in bloom, and amongst them are fine varieties, very bright in colour and large in size.
VANDA CŒRULEA.
,, BATEMANI.
,, GIGANTEA.—Flower spikes on imported plants, clearly prove this to be a much finer species than it was supposed to be.
,, HOOKERIANA.
,, INSIGNIS.
,, SUAVIS.
,, SPECIES MOULMEIN.
,, TRICOLOR.
ZYGOPETALUM MAXILLARE.

*The very large Stock held by* HUGH LOW & CO. *enables them to offer unusual advantages to gentlemen commencing the Culture of Orchids.*

**Collections of 12, 25, 50, or 100 Species and Varieties (selection being left to H. L. & Co.) can be furnished on very reasonable terms.**

**ALOCASIA (CALADIUM) LOWI**, good plants, 15s.; larger, 21s. to 63s.
**THEOPHRASTA IMPERIALIS**, good plants, 10s. 6d. each.

CLAPTON NURSERY, LONDON, N.E.

**American Plants.**

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE for the present Season is now ready, and will be forwarded free to all applicants. As well as American Plants, it contains a summary of their General Nursery Stock, one of the most extensive in the kingdom.

Knap Hill Nursery, near Woking, Surrey.

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THE RED LODGE NURSERY, SOUTHAMPTON, extends over 60 acres, and contains an unrivalled stock of AMERICAN PLANTS, FRUIT, FOREST, and ORNAMENTAL TREES, EVERGREEN and FLOWERING SHRUBS, CHOICE CONIFERÆ, STANDARD and DWARF ROSES, &c., all in the best state for removal.

CATALOGUES, and every information obtainable on application to the Proprietor, Mr. W. H. ROGERS.

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**Catalogues.**

PAUL AND SON have just published their NEW DESCRIPTIVE PRICED ROSE CATALOGUE for 1863-64.

DESCRIPTIVE CATALOGUE of HYACINTHS and other DUTCH BULBS, post free.

Also their DESCRIPTIVE CATALOGUE of EVERGREENS, DECIDUOUS TREES, CONIFERS, AMERICAN CLIMBING and HERBACEOUS PLANTS, post-free for one stamp.

"Old" Cheshunt Nurseries, N.

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**Wholesale Catalogue of Nursery Stock.**

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE for 1863 and Spring 1864 can be had free on application; it comprises FRUIT TREES, ROSES, AMERICAN PLANTS, CONIFERS, EVERGREEN and DECIDUOUS TREES and SHRUBS, and TRANS PLANTED FOREST TREES, &c.

Woking Nursery, Surrey.

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GEO. BAKER begs to announce that his extensive Collection of Hardy RHODODENDRONS, GHENT AZALEAS, and KALMIA LATIFOLIA, are unusually well set with bloom, and his fine Collection of CONIFERS in the best possible condition

CATALOGUES on application at the American Nursery, Bagshot, Surrey. The Nurseries are about 1 mile from Sunningdale Station, South-Western Railway.

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**Prize Gladioli.**

YOUELL AND CO were awarded the following PRIZES for the above in September last:—
FIRST AND SECOND PRIZE, CRYSTAL PALACE,
FIRST PRIZE, ROYAL HORTICULTURAL SOCIETY,
FIRST PRIZE, BRIGHTON.

CATALOGUES of this collection will be forwarded on application.

Royal Nurseries, Great Yarmouth, Norfolk.

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**British Fern Catalogue.**

ROBERT SIM can now send, post free for six postage stamps, Part I. (British Ferns and their varieties, 36 pages, including prices of Hardy Exotic Ferns) of his New and PRICED DESCRIPTIVE CATALOGUE of BRITISH and EXOTIC FERNS, No. 7.

*** Part II. (Exotic Ferns) will be issued as early as possible.

Foot's Cray Nursery, S.E.

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**New Cinerarias.**

J. DOBSON AND SONS' Splendid Set will be ready in October. See CATALOGUE.

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**New Pelargoniums.**

J. DOBSON AND SONS will send out their Superb Set in October. See CATALOGUE.

A General Collection of the above is now ready Prices very low.

J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

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TO THE TRADE.—The Trade supplied with packets (in any quantity) of DOBSON'S unequalled CALCEOLARIA, CINERARIA, and PRIMULA SEED. Price on application. Retail price, 1s., 1s. 6d., 2s. 6d., 3s. 6d., and 5s.

J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

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NEW FORCING GERANIUM, MRS. LEWIS LOYD.—Rich crimson with dark maroon blotch in top petals; of dwarf robust habit, and most profuse bloomer. Forces into flower at any season without drawing. It was exhibited to the Floral Committee of the Royal Horticultural Society on March 31, and then awarded their Certificate of Commendation. Good Plants now ready, 7s. 6d. each.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

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**New and Choice Pelargoniums.**

B. S. WILLIAMS has much pleasure in announcing that he has made arrangements for the distribution of BECK'S NEW PELARGONIUMS, and that he will be prepared to supply strong Plants about the end of October.

A DESCRIPTIVE and PRICED CATALOGUE of the above, with Select Lists of other Choice Show, French, and English Spotted and Fancy Pelargoniums, will be published shortly and forwarded post free to all Customers and applicants.

Paradise and Victoria Nurseries, Holloway, London, N.

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**New and Choice Plants.**

B. S. WILLIAMS invites inspection of his large and well assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, TREE FERNS, &c., amongst which are some very fine specimens.

A DESCRIPTIVE and PRICED CATALOGUE post free on application.

Paradise and Victoria Nurseries, Holloway, London, N.

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OUVIRANDRA BERNERIANA.—Having succeeded in raising a few Seedlings of this extremely curious and beautiful plant, we beg to offer healthy young plants of six or seven leaves at 31s. 6d. each.

O. Berneriana was exhibited at the Great Show of the Royal Horticultural Society, June 17th, and awarded the First Prize; and at the Great Show of the Royal Botanic Society, June 24th, and then also awarded the First Prize.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

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LAURELS, COMMON, bushy and good, 2 to 3 feet, 12s. per 100; per 1000, 5l. Do., 3 to 4 feet, extra fine, 25s. per 100; Do., second quality, 20s. per 100.

PORTUGAL LAURELS, well-rooted and finely furnished, 2 to 2½ feet, 50s. per 100; Do., second quality, 30s. per 100.

The true SPEAR-LEAVED LAURELS, very ornamental and hardy, 40s per 100.

RHODODENDRON PONTICUM, full of bloom buds, 2 to 2½ feet, well furnished, 18s. per doz.; 1½ to 2 feet, fine do., 12s.; Second quality, 6s. per doz., 40s. per 100.

ORCHARD HOUSE TREES, well set with buds in 11-inch pots, 42s. to 60s. per doz.

NEW ROSE CATALOGUES for 1863 and 1864, now ready and forwarded post free upon application.

Through Trucks, without incurring any expense of package.

A. GODWIN & SON, The Nurseries, Ashbourn, Derbyshire.

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**New Azaleas.**

AZALEA (INDICA) QUEEN of BEAUTIES.—Mr. WILLIAM BULL begs to announce that he has purchased from M. Ambroise Verschaffelt the sole right of supplying this exquisite variety in the United Kingdom.

DESCRIPTION.—Salmon pink margined with white, and flaked with carmine, densely and very richly spotted with crimson; flowers large, of good shape and substance; one of the best Azaleas ever offered. Price 21s. each.

AZALEA (INDICA) WAXWORK.—Unusually thick wax-like petals; flowers immensely large and finely formed; pure white striped and flaked with purple, a most desirable variety, there being only one or two kinds of white striped with purple (and these not to be compared to the one now offered), while there are several whites striped with red. Price 21s. each.

AZALEA (INDICA) WILLIAM BULL.—This variety was raised in Belgium, and named by M. Ambroise Verschaffelt, from whom the stock for circulation in the United Kingdom was purchased. The flowers individually are of unusual size and substance, double, and well formed; colour, crimson and violet. Price 15s. each.

AZALEA (INDICA) BELLE GANTOISE, 7s. 6d.
HORTENSE VERVAENE, 7s. 6d.
MADAME AMBROISE VERSCHAFFELT, 7s. 6d.
MADAME WAGNER, 15s.
PRESIDENT HUMANN, 21s.
REINE DES DOUBLES fol. VARIEGATA, 7s. 6d.
SOUVENIR DU PRINCE ALBERT, 21s.
SECRETAIRE CLAUS, 10s.
VICOMTE DE FORCEVILLE, 15s.

Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

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THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

NOTICE is HEREBY GIVEN that an ELECTION of THREE PENSIONERS on the Funds of this Institution will take place in JANUARY NEXT. All persons desirous of becoming Candidates are requested to send in their applications to the Committee on or before the 12th November next, after which time they will not be received.

Preference will be given to those Candidates who may have been Subscribers to the Society for 15 years and upwards. Should it happen that there are not sufficient Applicants of that class, then the Claims of those who have not subscribed so long or not at all, will be considered.

Application to be made upon printed forms, which may be had upon applying to the Secretary.

By Order, EDWARD R. CUTLER, Secretary.
14, Tavistock Row, W.C.—October 10.

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# The Gardeners' Chronicle.

*SATURDAY, OCTOBER* 10, 1863.

ANIMALS and plants have been formed by an Allwise Providence for the SITUATIONS ON THE SURFACE OF THE GLOBE WHICH THEY NATURALLY INHABIT. A negro with his thick skull can bask under the rays of a tropical sun which would be fatal to the native of a more northern climate. The Banyan tree of southern India grows luxuriantly in its own hot country, and extends its branches over an incredibly large space of ground, but it sickens and dies in a country like ours. In like manner the plants of northern latitudes are with difficulty kept alive when transported to warm countries. All lovers of plants who have resided in India will bear witness to the truth of the existence of this natural law. How often have they endeavoured to introduce the loved flowers of their youth—the Primroses, Cowslips, and Daisies of their native country, to look upon and enjoy in the land of their exile. All the means at their disposal are applied to give coolness or shade, and these means are perhaps successful for a time. But the rainy season comes on, when everything is deluged with water, or the dry season comes next, when the fierce rays of the sun bake the ground from morning till night, and raise the temperature to a degree unusual in temperate climates. In these circumstances the favourite plant may exist for a time, but it gradually loses its energy and then dies.

Then, again, some plants are destined to grow in water or on marshy land, while others thrive only in dry soil. The sacred Lotus and the Papyrus of the Nile, Rice, and many other productions are examples of the former class; while Cotton, Wheat, Barley, Rape and other grains, require well drained land. Certain species appear to grow equally well on level land if it is well drained, and on the sides of hills, while others prefer undulating or hilly land. The Tea plant of China is always found to succeed best on the lower slopes of the hills, and we know that nearly the whole of the Fir tribe will flourish in like situations.

We might go on adding instances to those already brought forward, and show how some plants thrive in places where they are fully exposed to the sun's rays, while others prefer to grow under the shade of trees; or again, how others flourish under the ever-dripping rocks in the deep mountain ravine. But enough has been brought forward to prove the existence of certain natural laws which ought to be studied by all who cultivate plants or who plant trees. We dismiss, for the moment, the discussion of those laws which prevent species which have been formed for existence in warm countries from succeeding in cold ones, or *vice versâ*. To this we may return on a future occasion. At present our remarks are confined to plants which have a natural preference for hilly or undulating land. Amongst these there are many trees of great importance, of which the Fir tribe just noticed forms a very prominent example. There can be no doubt that nearly the whole of this family prefer hilly or undulating situations, and most certainly have an abhorrence of wet level land. In the Scottish Highlands, in the Himalayas, in China, and Japan, California, the Pine tribe seem always most at home amongst the hills. This fact cannot be set too prominently before all those who are engaged in planting the old well-known kinds or the new introductions of this beautiful and valuable tribe of trees. To plant a Pine in a low or marshy place, when a more suitable can be found, is an act of vegetable cruelty which cannot be too severely condemned. Even certain aspects are sometimes found more suitable than others, and the formation of the soil and rocks is frequently of considerable importance. This was clearly pointed out by Lord DUCIE the other day, when describing the effects of geological position upon certain Conifers about Tortworth Park.

It is true that almost all the species of this ornamental family may be made very effective and very enjoyable objects of garden decoration, even on flat land. Many gardens and parks of this description in the valley of the Thames, and in other places where the land is equally flat, might be pointed out as a proof of this assertion. But if valuable timber is the object of the planter he must take a lesson out of the book of Nature, and choose elevated or hilly land for his Pine trees.

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—— The SUBTROPICAL GARDEN IN BATTERSEA PARK a plot of considerable size, lying in a sheltered nook at the western extremity of the lake, has presented during the past summer one of the most interesting features in out-door gardening to be met with, at least in the neighbourhood of London. Ferdinandias have there reared their heads proudly, and Wigandias have cast their broad shadows o'er the grassy surface; while Cannas in profusion have been revelling under the judicious *régime* to which Mr. GIBSON has subjected them; and hosts of other plants which are usually seen only under the shelter of glass have made very satisfactory progress. What the general features of Mr. GIBSON'S treatment have been, we shall explain next week. In the meantime the manner in which the Subtropical Garden has been furnished deserves to be put on record.

Commencing on the eastern side, the first group consisted of an oblong bed 66 feet long by 6½ feet wide, planted with Canna Annæi in the centre, outside of which was a row of C. discolor, edged with Pteris cretica albo-lineata; the Fern has not done well. In front of this was a bed 10½ feet across, filled with Coleus Verschaffelti, plunged in pots, this being edged with the broad silvery-leaved Centaurea ragusina; this bed was the most perfect picture imaginable. Another round bed 6 feet in diameter was filled with Golden Chain Pelargonium, edged with blue Lobelia; another of the same size with Pelargonium Pink Nosegay, edged with Little David. To the right of these was an oblong bed 35 feet by 9½ feet, planted with Caladium esculentum; and another 40 feet by 7½ feet, filled with Wigandia caracasana, and edged with Farfugium grande.

The next group consisted of a bed 50 ft. by 9 ft., the centre of which was planted with Canna Annæi, C. Fintelmanni, crenulata, and lutea picta, the whole edged with the dwarf C. angustifolia. In front of this were two radiating beds planted with Stella Nosegay Pelargonium edged with Silver Chain; and as a centre to them a round bed of variegated Pelargonium Jane, edged with Lobelia Gordoni. To the left of these was a round bed 17 ft. diameter, the centre consisting of Brugmansia Knightii and suaveolens; next standard Fuchsias in variety, then Lantanas and Aralia papyrifera, edged with Cloth of Gold Pelargonium. Near the last was an irregular bed at the junction of two walks, in which the following were planted out for trial:—Uhdea pinnatifida; Nicotiana glauca, and wigandioides; Polymnia grandis; Verbesina sinuata, and verbascifolia; Senecio Ghiesbreghti; Solanum marginatum, pyracanthum, atropurpureum, sodomeum, macrophyllum, robustum, laciniatum, betaceum, and glutinosum; Hibiscus rosa sinensis; Cassia corymbosa, and schinifolia; Basella speciosa; and Plumbago capensis. The spaces between these were filled up with Lantanas, Vinca rosea and alba, &c., and the group was edged on the outer side with Amaranthus melancholicus ruber, and on the inner side with Pelargonium Dandy, and Lantana Sellowi. What these and similar plants may do in an ordinary season or in an unfavourable one, remains yet to be seen. This season they have appeared to be quite at home. They

were taken up and potted at the end of September, for further trial next year. The experience of the present year has shown that Solanum macrophyllum and robustum would be as well planted singly in sheltered sunny spots, for their leaves are furnished with such formidable spines that they are apt to be torn and to tear their neighbours if within reach; and that Solanum marginatum, if planted in a mass and edged with Amaranthus melancholicus ruber, would have an imposing effect, its leaves being so thickly clothed with white tomentum. It may be observed in passing that Cannas and Wigandias have borne the wind without any injury to their foliage, while Ferdinandia, whose leaves are very thick and brittle, has required temporary shelter from strong winds.

A round bed to the right of that last described, about 6 feet diameter, was planted with Cyperus alternifolius, the] surface between being covered with Lycopodium denticulatum and helveticum, and the whole edged with Salvia argentea, whose broad leaves, of silvery whiteness, produced a striking and singular contrast. Further on to the left, a bed 50 feet by 9 feet had Canna Annæi and limbata in the centre, next C. Warscewiczii, and an edging of C. mutabilis, a dark-leaved variety. The next bed, a round one 6 feet diameter, had a tall Dracæna congesta in the centre, the remainder being filled with Dracæna terminalis plunged in pots, and the soil covered entirely with Gnaphalium lanatum.

On the opposite side of the walk from the beds last named, were two scroll beds 3 feet wide planted with Pelargoniums and Calceolarias; in the recesses of these were circular beds thickly planted with Ivy. This not only relieves the scroll beds, but corresponds with the Ivy border on each side of the walk in this part of the garden. Behind the scrolls a bed, 31 ft. by 6½ ft., was filled with Ficus elastica, the plants being from 2 ft. to 3 ft. high. The next bed, and a very effective one, was an oval, 18 ft. by 8 ft., planted with Ferdinandia eminens, edged with the purple-leaved variety of Plantago major: the Ferdinandia, being 9 ft. high, had a noble appearance. In front of this were two round beds of Pelargoniums, one planted with Minnie in the centre and edged with Princess Royal, the other planted with Mountfordi in the centre, edged with Silver Queen. Then followed a group of foliage plants, plunged in their pots on the grass, at a point where the ground has a slight elevation, and is partly shaded with trees. In this group was Dracæna brasiliensis, congesta, ferrea, terminalis, and rubra, several plants of each; Dracæna nutans and Draco; Cordyline indivisa in several little groups; Saccharum Maddeni; Bambusa gracilis in groups, and B. japonica; Livistonia borbonica; Aralia farinifera; Rhopala corcovadensis, elegans, and organensis; Trepidanthus calyptratus; Crinum amabile; Hedychium Gardnerianum; Phœnix sylvestris; Panax excelsa; and Yucca aloifolia, and aloifolia variegata, several fine plants. Similar groups were plunged in other telling parts of the garden. In plunging these plants, care was taken to place 4 or 5 inches of coarse ashes beneath each pot for drainage, to place the pots quite level, to have them filled in close around the outside, no cavity being left, and to make the plants quite secure with stakes. Further on was a round bed of Pelargoniums, planted with Stella Nosegay, edged with Minnie; then an oval 30 feet by 9 feet, with a centre of Canna warscewiczioides, a handsome dark-leaved sort, surrounded by C. bicolor, and edged with Statice bellidifolia. This completed the arrangements on that side of the walk.

On the opposite side of the walk, between the last named bed and that of Ferdinandia, before described, was a magnificent oblong bed of Cannas 80 feet long by 8½ feet wide, planted with C. edulis in the centre, then C. zebrina, next the dwarf C. pedunculata, and outside of all an edging of Cerastium Biebersteini. This bed, from its size and the robust luxuriance of the plants, excited much admiration. Nearly opposite each end of this Canna bed and in front of it were two round ones 8½ feet diameter, planted with Caladium esculentum, some of the leaves of which measured 26 inches in length; and between them an oval of Pelargoniums 30 feet by 5½ feet, with a centre of Christine, and an edging of the Variegated Jane. Lastly, in a sheltered nook further on, was a round bed 8½ feet diameter, containing fine plants of Musa glauca, Cavendishii, and coccinea, with Dracæna ferrea and terminalis planted between them; the surface of the bed being covered with Gnaphalium lanatum, which had a very pleasing effect.

These were the principal of the beds in this Subtropical Garden. We may add that the plants enumerated bore the exposure for between three and four months without injury, and many of them made vigorous growth, and produced flowers in considerable quantity. Rhopala corcovadensis may be especially mentioned as having made shoots a foot long, and Musa Cavendishii as having unfurled several of its leaves; while Brugmansia Knightii was rendered conspicuous by the profusion of its flowers, and Cannas by the production of flowers and the ripening of their seed. That this result was owing in a great measure to the unusually fine season we cannot doubt, and probably the same success would not be realised with the same plants in a wet cold season; yet the whole arrangements and their results reflect the very highest credit on Mr. Gibson, whose experience will, we are sure, not be thrown away in regard to the future. In such a season as the present indeed it is probable that many other so-called tender plants, at least many such as are equally indifferent to slight frost, might succeed quite as well as those which have now been mentioned, and produce an equally pleasing effect. It is Mr. Gibson's opinion that such plants as the hardiest of the Cannas, Wigandia, Ferdinandia, and others, will generally succeed under proper treatment; for we understand that these plants are as fresh now at the beginning of October as they were a month back, although in some other parts of the Park the Dahlias have been killed with frost.

—— A short time since M. Lemaire gave an account of a supposed second species of Dion existing in the gardens of Belgium, to which he proposed to apply the name of Dion strobilosum. Has anything further been ascertained respecting this plant? M. Lemaire's observations were founded on a male cone (the fronds were not examined) which appeared to present some notable differences from those of the normal D. edule, as figured by himself and M. Miquel. The cone of D. edule is cylindrical-oblong about 20 centimètres in length, and five or six in breadth; while that of D. strobilosum is quite ovoid, measuring 15 centimètres in length, and eight in breadth at the thickest part.

—— The *Times* gives the following scraps of information relating to certain crops grown in France, which have no doubt in some measure been influenced by the exceptionally fine season we have experienced:— An attempt to cultivate Cotton has been made in the Jardin des Plantes at Clermont, in the department of the Puy de Dôme, and has been attended with success. Several feet of ground were sown with Cotton seed brought from America. The plant has blossomed, and should the autumn prove fine the director of the garden expects to gather a plentiful crop.——Tobacco culture seems to be on the increase in the Department of the Haut Rhin. According to a report addressed to the Council-General of the Department, it appears that 424 hectares were planted in the year 1861, and 435 hectares in 1862. The produce in the first year was worth 1439 f. the hectare, and 1757 f. in 1862. This year the number of hectares planted is 593, and the crop promises to be very productive.—— The Vintage in the South of France is this season reported to be magnificent, and the crop has been got in in splendid weather. At Cognac, however, though the crop of white wine Grapes has been abundant, yet the Vine dressers have complained of the coldness of the nights, which has retarded the maturation of the Grapes, notwithstanding the abundant sunshine.—— In the North of France, the Beetroot crop is very deficient, owing to the small size of the roots, occasioned by long-continued drought, and to the havoc committed by the white worm. The deficiency of the crop is estimated at more than one-third, without taking into account the depreciation in quality.

## New Plants.

261. Pinus albicaulis, *Engelmann; P. cembroides, Newberry, Pac. R. R. Rep.* 6, *Bot. p.* 44, *c. ic., non Zucc.*

An Alpine species from the Cascade Mountains in Oregon, may be a western form of this species, though I am inclined to consider it as different, and intermediate between P. flexilis and P. Cembra, distinguished by the pubescent branchlets, few scattered teeth on the edges of the leaves, and especially by the short oval cones with thick squarrose scales pointed with a knob. The name is suggested by the colour of the bark of the tree, which is "as white as milk." *Engelmann in Trans. of Acad. of Sc. of Philadelphia.*

## ROSES.

"All the new Roses!" When I see the advertisements thus headed I wonder if people can be found innocent enough, or as some would say, "green" enough to buy them all. New Roses, *i.e.*, Roses new in name, are becoming quite a nuisance, and, like the new Dahlias so numerous some 15 or 20 years since, when a guinea was charged for every new variety, are enough to disgust the true lover of Roses. The French gardeners for some few years past have found the English florists quite willing to buy every Rose with a new name, provided its price was 25 francs (1*l.*), consequently numerous small growers have entered into the speculation. Thousands of seedlings have been raised, among them many really worthy of notice, but too many mere repetitions of the same colour and habit, so that the most experienced eye cannot distinguish any difference. And then the new names!—I quote from a list just published:—"Gloire de Sacré Cœur," "La Reine de la Pape," "Baume Pelleton de Kinkelin," &c., besides the names of many English florists who happen to give these Rose raisers an order. Really these things put the patience of a Rose amateur to the test. I find that these new Roses are "dedicated," as they call it, to Englishmen without asking their consent, so that often a very inferior sort is foisted on the public because it happens to bear a respectable name. I have recommended one very active raiser of new Roses to give the next three he sends to us the names of Brown, Jones, and Robinson, as being names of high repute in England, and I expect to see them figuring in the catalogues another season.

There are, I observe, this autumn, about 60 new Hybrid Perpetual Roses offered; from 30 to 40 of these are different shades of crimson. Now is it possible for them to be distinct? they are priced from 15 to 25 francs each, so that to buy them all nearly 50*l.* must be expended. To those who can sell "all the new Roses," this may be a profitable speculation, but to the amateur it is simply disheartening. If I may be permitted to advise the English Rose growers, I should say buy but very few of the high-coloured sorts, for it is just impossible to find very brilliant-coloured Roses to surpass Charles Lefebvre or Senateur Vaisse. By thus, to a certain extent, ceasing to buy, this annual attempt at imposition may be checked, and the Rose amateur not troubled with such a long list of meaningless names. In your pages from No. 9 to 23, Mr. W. Paul gave us a long descriptive list of Roses, all described as they are in catalogues, and accurately enough; but I felt much regret at the time that he did not make better use of his experience, and have given us the names of a few really good and distinct kinds, with a sound and more lengthy descriptive paragraph to each. It would have been a real benefit to us lovers of the Rose, and most especially so with the new Roses, which are all named and described by him after the manner of the French catalogues. Now, if a few—and very few they are—had been pointed out as being distinct in colour and habit, we should have all pounced upon them as worthy of cultivation

In looking over these lists of Roses, I come to Mr. W. P.'s Rose dicta, p. 581, and I find that he says, "Do not buy a new Rose unless recommended from trustworthy sources." Now, this is what he should have done for us, and have mentioned in plain terms the few sorts really worthy of notice. Again, he says— "A new Rose that is not at least equal to, or different from all its predecessors, is not worth growing;" this is a good homely truth, but it ought to have been followed up by his giving the names of "all the new Roses" sent out last spring really worth growing. The majority of his dicta are sound enough, but I am posed at No. 9, "the new Roses you *must* buy on the Manetti stock." Why? There are plenty of young Dog Roses to be had, on which they could be grafted. Again, "never buy old Roses on the Manetti stock." I presume he means old varieties of Roses. Now I know that in Mr. P.'s nursery there are many, many thousands of Manetti stocks budded with Roses, not all new, which he will doubtless supply his customers with. Dictum 10: "Avoid plants that have been coddled by raising and growing in heat." All the new Roses sent out last spring—not only by Mr. P., but by all the Rose growers, were grafted in forcing houses, and then what they call hardened off. All the cuttings of Tea-scented Roses and others were taken from forced plants and struck in heat—the practice is universal, and at the Waltham Cross Nurseries as elsewhere.

Dictum 6 is out of date. The most effectual way of destroying Rose aphides is not by that offensive infusion tobacco water, but by a decoction of Quassia chips boiled 10 minutes in soft water, 4 ounces to the gallon, dissolving in it while cooling 4 ounces of soft soap. This is not offensive, and is the most certain killer of aphides ever employed. It may be applied with a brush, or to Roses against walls with a syringe, for it is very cheap. I have heard that the Messrs. Fraser used some hundreds of gallons of this mixture the past summer with deadly effect. Dicta 15 and 17 are especially worthy of notice, the former particularly so, for Tea-scented Roses grown in large pots in cold houses, or planted in the borders of orchard-houses, are always most beautiful.

We have still much to wish for in Roses. A pure white Hybrid Perpetual, equal in shape and size to Madame Vidot or Madame Rivers, is still lacking, and straw-coloured and yellow Roses of this class are not impossibilities.

There is, I fear, a sad want of science in the French Rose growers of the south, so unlike the determined quiet perseverance of the English gardener; they seem to have no idea of that careful cross-breeding which has done so much for floriculture in England. Their fine climate—I allude more particularly to the Rose growers in the south of France—ripens Rose seed thoroughly; heaps of it are sown, and out of large numbers of seedlings some are certain to be good double flowers. No matter whether distinct or not, as long as they are double and showy, they are named and sent out to the Rose world with one certain condition appended to their names—a high price, either 20 or 25 francs. To illustrate what I have advanced as to the lack of scientific perseverance in the Rose growers of the south of France, so unlike that of our English gardeners, who will, in spite of most obstacles, conquer nature, I may mention the Cloth of Gold Noisette Rose, the most perfect and beautiful yellow Rose of its class ever seen. It is now 20 years since it was raised, still it rests alone in its beauty. Now I feel assured that an English florist, with the climate of Lyons or Nimes to work under, would long ere this have created something good and new among Tea-scented Roses, probably some compact-growing free-blooming sorts, from a cross between Vicomtesse Decazes and Cloth of Gold. It is

an apt illustration of the well-known truism "where Nature is bountiful man is idle," to observe how for many years we have lacked a yellow Tea-scented Rose, a free bloomer equal in beauty to the Cloth of Gold Noisette, yet not one really good Rose has been raised. We have indeed in the French catalogues plenty described as "beau jaune" and "jaune clair," but not a fine thick-petaled grand yellow Rose like our old Noisette, which would, I feel assured, have been created under the care of an English gardener in the sunny south. To the Rose lover it is pleasing to reflect that we have still good things to hope for and expect; it is true we appear to have arrived at the end of the tether as far as regards crimson Hybrid Perpetual Roses, perhaps beyond it "*con*siderably," as a Yankee would say, but we have a right to expect some nice sweet-scented yellow Roses of that class. Rose-cultivators know well that the Tea-scented Rose hybridises freely with almost any variety; there is therefore plenty of room to hope that if a clever English cross-breeder could be induced to settle in the extreme south of France, some fine yellow Hybrid Perpetuals would in time be produced with the aid of the Cloth of Gold Noisette, Vicomtesse Decazes, and that bright but badly shaped Rose La Boule d'Or, which by the way never in the least deserved its name or the high price at which it was sold at. If we could call for restitution from the Rose growers of France for the mistakes of the last 20 years, the money to be spent in new Roses, what a glorious fund we should have!

It is rather odd that although we have made such rapid advances in brilliant coloured Roses—by the way all owing to that abundant seed-producer, General Jacqueminot, we are almost *in statu quo* with respect to bright rose-coloured Roses of the Hybrid Perpetual class. Not one of our new Roses approaches in beauty, in fragrance, in hardiness and perpetuality of flowering, to Jules Margottin. I have a bed of dwarf trees of this sort growing in a soil composed of what is called here "stiff blue clay;" they are about 10 years old, are, or were, on the Manetti stock, and planted so as to cover the junction of the bud; I believe they have struck roots from the young stems, but I know that they are the earliest and most beautiful of all my Roses, and also the latest, for they never cease to give flowers till the buds are destroyed by frost. I think of Mr. W. P.'s dictum when I see this bed of old Roses—"never buy old Roses on the Manetti."

I hope again one day to have the pleasure of reading in your columns a descriptive list of Roses written by Mr. Wm. Paul, and I trust he will then seek out only a few of the best, and tell us which we ought to cultivate, making himself responsible for all that he says, so that if called for, we Rose lovers may bring him to the County Court—of Roses, and fine him in accordance with justice. In writing about new Roses, platitudes, the bane of inexperienced authors, should be avoided—plain descriptions in as few words as possible are all we require.

With regard to the 60 new varieties of Hybrid Perpetual Roses offered to the English florists, by our loving—no, our loving-our-money—neighbours, I fully believe that not one of the 30 or 40 crimson Roses among them will be found equal to many in that beautiful collection (I do not like the word "brood," now used by some roseists, reminding one of a farm yard) sent out in the spring of 1861, among which Charles Lefebvre, Professor Koch, Maurice Bernardin, Duc de Rohan, François Lacharme, and some others are so brilliant and beautiful. *Monte-Rosa.*

## FISH AND FISHING.—No. XVI.

### (3) How Grayling got to England.

(*Continued from p. 868*)

*Piscator:* Now recurring to Izaak Walton, he wrote I think about the year 1653, and at the first blush it would seem, that had there then been any tradition as to the introduction of this grayling by the monks, he would have known and have mentioned it in his chapter about grayling.

*Cath.:* 1653 say you? Would it have been safe for Walton in those days to have said even that much in favour of the monks of old? I fear me that it would have risked his life. Ten years previously, in 1643, you are aware, an ordinance passed the Parliament, directing that "all altars and tables in churches should be utterly taken away and abolished, all communion tables removed from the east end of the church, all rails about them pulled down, all candlesticks, tapers, and basins standing on them taken away, and that all crucifixes, crosses, images, and pictures of any one or more persons of the Trinity or Virgin, and all other images and pictures of Saints and all superstitious inscriptions, whether in church or churchyard, should be obliterated or otherwise destroyed;" and in May 1644, St. Paul's Cross, Charing Cross, and that in Cheapside, London, were actually levelled. Surely it might have brought old Izaak into sore trouble, even to mention the monks in such a fevered time, especially if it amounted to our being in debt to them for the fish, and announcing them public benefactors.

*Pisc.:* There is much in what you say. Walton was undoubtedly a good and charitable man, too much so to pander to the vices of the times by saying anything against the monks; too wise, and perhaps too much devoted to the Reformed Church, to write and print anything in their favour—wise, for the reasons you have mentioned—devoted, he proves himself to have been, by the introduction into his "Complete Angler" of the lines of Herbert, commencing—

"What! Prayer by the Book? and Common?
Yes, why not?"

And other passages. I do not think he once mentions the monks of old throughout his "Complete Angler." Besides, he was the biographer and lover of one, who wrote so strenuously against the Catholics in his "Pseudo-Martyr," namely, Dr. Donne, of whom Izaak says, "He preached as an angel, *from* a cloud, but not *in* a cloud." The reasons which Sir Humphry Davy assigns for the proposition that grayling are exotic, are that "the rivers that contain it (the grayling) are near the ruins of great monasteries. The Avon, near Salisbury; the Ure, near Fountains Abbey; the Wye, near the great Abbey of Tintern. And," he continues, "if I am not mistaken, in the lower part of this valley* there are the remains of an extensive establishment of friars: and that as a favourite fish of St. Ambrose it was worth cultivating, as well as for its own sake." Sir Humphry Davy does not mistake. At Bromfield, which is in the lower part of the valley, are the remains of a Benedictine cell, built about Henry I., part of which is now the church of Bromfield, and attached to which is still the curious old romantic mill on the Teame. On the same river, or within three or four miles of it, at Wigmore, in Herefordshire, there was also a stately monastery.

*Cath.:* St. Ambrose, you are aware, was one of the most shining ornaments of the Church of the fourth century—its most zealous supporter. Elected to fill the office of Bishop of Milan, against his own persevering repugnance, and most unexpectedly, by the unanimity of the previously divided people—Catholics and Arians—when he was Governor-General of the province of Milan, and in person proceeding to compose the disorders, he had addressed the violent people assembled in large numbers upon their civil duties, on social order and public tranquillity. His eloquent harangue was followed by the unanimous acclamatory shout, "We will have Ambrose for our Bishop." "In vain," says a modern Protestant author,† "did the Bishop-elect, in order to disqualify himself in the eyes of the people for a sacred office, publicly commit some acts of judicial cruelty and flagrant immorality," (mind you, he was then merely a catechumen, undergoing a probationary claim to baptism into the Church); "the people exclaimed, 'Thy offence be upon our heads.' In vain that he escaped from the city and concealed himself at the residence of a faithful friend; he was discovered and conducted in triumph to Milan." "He enjoyed universal celebrity throughout Christendom, and deserved from succeeding generations the praise that he was the first effectual assertor of those exalted ecclesiastical pretensions so essential to the existence of the Romish system." He wrote also strenuously in favour of fasting. Being then so popular during his life and so venerated at his death, having "honoured" this particular fish, as Walton says, with "a long discourse," and being so zealous a supporter of fasting, there is a great reason to think that the monks of England and Wales might have desired to possess the favoured fish. But let me inquire, is it an ascertained fact that on all rivers where the grayling is found, there formerly stood monasteries or abbeys?

*Pisc.:* There we require the aid of history and of the antiquary. In passing, let me remark on one of the objections by Sir H. Davy to the proposition. He says: "There are rivers near the ruins of the most magnificent establishments of this kind in Europe, and those nearest the continent, where the grayling is not found; for instance, in the Stour at Canterbury. And if the grayling be an imported fish, it is wonderful that it should not be found in the rivers in Kent and along the south-west coast of England, as in Dorsetshire, Devonshire, and Cornwall, where the monastic establishments were numerous; and why it should be found in some rivers in the mountainous parts of Wales, as in that near Llanwrted" (in Brecknockshire, on the Irvon, 12 miles from Llandovery) and the Dee; not near Valle Crucis Abbey, but 15 miles higher up between Corwen and Bala," which he makes Poict. answer thus—"It may have been a fish imported from the continent and carried to a number of rivers, only a few of which may have suited its habits, and have remained there and multiplied." To which Hal. replies—"There may be truth in what you are now imagining, for the grayling requires a number of circumstances in a river to enable it to increase." *E. C.*

* Leintwardine, near Ludlow.

† "History of the Church," published by the Society for the Diffusion of Useful Knowledge.

## EGYPTIAN GARDENING.

The following extract is from a letter received from Mr. Hardie in June last; owing to circumstances I was prevented from preparing it for your columns earlier. It conveys such an idea of the wonderful productive powers of Egypt that I hope even now it will be thought worthy of insertion.

"The Gardens, Gazeera, Cairo,
May, 1863.

"I have got a fine crop of Grapes here, and have just about finished thinning—a new thing in this country. My men wondered what we were doing, and thought it a sin to cut out the berries. Some of my Vines are very large, measuring from 2 to 2½ feet in circumference. I wish you could see the bunches of some of the old fellows. I can assure you, as a general crop, I have seen nothing to equal them for size of bunches. Many of them measure from 12 to 20 inches long and as much across the shoulders. I will report their weight and quality when ripe. This seems to be one of the finest countries in the world for fruits. The climate being hot is suitable for all of a tropical character, viz., Musas, Custard Apples, or Cherimoyers, of which I ordered two from you, which was like carrying coals to Newcastle. I am raising a lot of seedlings at present. There are plenty of fruit-bearing trees about Alexandria. I have a fine Mango tree with not less than from 500 to 600 fruit set on it; the Guavas are in flower, and setting a fine crop; the Mespilus japonica does well here, also Pomegranates, Figs of sorts, and the Prickly Pear and Grapes. Peaches and Apricots we have gathered for the last two weeks from native seedlings, which are not of fine quality; the fruit is small, dry, and some of it a little acid. We have a small white Apricot from France, a great bearer, rich and delicious; Quinces are fine, but, like the Apple trees, much troubled with the borer, a large grub which eats into the stems, and goes right up through them. Do you know it?—it is white with a black head. Plums, Pears, Apples, Strawberries, all appear to fruit well here, and make enormous growths. The Apples have made shoots from 6 to 12 feet in one season, and strange to say, those shoots on being shortened back have thrown out flower-buds, and are setting fruit; but what is more strange, almost all fruit trees strike from cuttings or layers. Apples strike freely. Some Vine cuttings were put in an open border to strike during the winter; struck they have, and many of them with one and two bunches in full flower at present. I intend to see what they will produce.

"This is the place where Mr. Peter Wallace was, who wrote last year on Egyptian Gardening in the *Chronicle*. Roses do well here, also all tropical plants—it is one vast hothouse. I never saw the Banksian Roses in perfection before. The Weeping Willow grows most luxuriantly, and is here an evergreen; we have two marble fountains planted round with them, as well as a large pond, which is a nice cool retreat in the heat of the day, especially when the fountains are playing, and has a truly Oriental appearance. The Bougainvillea, described by Mr. Wallace, is one sheet of flower. I think it surpasses in beauty any plant I ever saw. The Cinnamon and Pepper tree flourishes; the Cannas and Gladiolus are beautifully in flower; Dracænas; Ficus, of sorts; Gardenias, 6 feet high, and as much through, covered with flowers; Hedychiums often 8 feet high, with beautiful spikes of waxy flowers; Jasmines in perfection; Palms, and Pandanus, Plumbago, Poinsettia, Rondeletia, Russelia juncea, Stephanotis, Vincas, Clerodendrons, &c., too numerous to mention. These plants are all clean and healthy, and do not require the sponge as they do in England. It is a great pleasure to look at them. Geraniums are splendid, and require a good deal of the knife; you might get scarlets any size you like; plenty of them 6 feet high and as much through, and very compact, covered with flowers. The Date tree has a fine picturesque effect in this country, and is a source of great income to its owner.

"I trust I have said enough to give you a slight idea of what gardening is in this old, old country." *T. R.*

## PEACHES UNDER GLASS.

In your last issue (p. 939) I have read an article which is intended, I presume, as an answer to some observations of mine which appeared at p. 892; but which article is in fact a reiteration under another form of certain doctrines which I think ought to be controverted; I hope therefore you will allow me to say a few words in that direction.

Admitting the authority of Bouguer, it must be evident to the writer of the article in question, and will I hope be equally so to the readers of this, that the quotation from his tables proves a great deal more than was intended; and shows that, in the exceptional circumstances quoted, the glass roof of an ordinary greenhouse will transmit more light than will be received by a model south wall.

According to Bouguer, as quoted by your correspondent, the loss of light by reflection, when it falls upon glass at an angle of incidence of 85°, is upwards of one half of the whole; that is, when the rays deviate as much as 85° from perpendicular to the surface of the glass.

It is not easy to conceive under what circumstances such a deviation would be possible. It could only take place, I apprehend, when the sun is nearer the north than the south, when the sun would be actually behind the south wall, which would thus turn its back upon itself, as the quotation does upon the argument.

As to the light being "weakened in some proportion to the distance it traverses after passing through the glass," that is by no means a correct statement of the fact; the light which does pass, would pass on, without being weakened (horticulturally speaking), *ad infinitum*.

It is true, as shown in my former communication, that there is less light at a distance from the glass than near it, and to any one who wishes to ascertain the

cause of the difference I would suggest the following experiment.

In an ordinary greenhouse, let him extend his arms so as to embrace a right angle, touching the glass with the points of his fingers, and let him count the number of rafters and sash bars included. Let him then retire to the distance of 10 or 12 feet, and extend his arms in the same manner.

His arms will, in both cases, include the same arc of the sky, and, but for the roof, his eye would receive the same quantity of light. In the latter case, however, the arc will include four or five times the number of rafters and sash bars; and it will be obvious that the so-called "weakening" of the light, ascribed to its traversing a few feet of air, is caused by the obstructive timber of the roof, which merely diminishes its quantity.

If changes are to be made in horticultural structures of glass, with a view to the improvement of their light, the first step is to ascertain the nature of the defect to be remedied; and I apprehend it will not be found in any change suffered by the light after it has passed through the glass.

In the different notices which have appeared in your Paper upon this subject, it has surprised me to find eminent horticulturists testing the effects of the sun's rays by thermometers, which are affected by heat alone, and take no notice of the luminous rays, nor of the chemical rays, which last, to vegetation, may be even more important than either of the others.

I may perhaps be allowed to express some doubts as to the soundness of another opinion contained in the paper under discussion, as to the absolute superiority of the direct rays of the sun in the open air, over the rays received through glass in a house enjoying a better climate, in sunshine, by 10° or 15° of temperature.

We all know how much chemical and physiological action are assisted by heat, and how much they are depressed by its absence. By the aid of a little artificial heat, we see Grapes ripening at Christmas, under the clouds of an English sky: and at Midsummer we see Mr. Glaisher in his balloon, nearly frozen to death in the brightest sunshine, which shone without effect on his photographic paper; the "energia" of the light, as well as that of the aëronaut, being paralysed by the cold.

In England, Peach trees are very grateful for 10 or 15 degrees additional heat. The energia of the light they receive through glass will thus, we may presume, be rendered more effective, as in the case of the Christmas Grapes; and I am inclined to believe that in summer, with the advantage of superior heat, we shall for the reasons given, have sufficient light to ripen Peaches under glass (shaded though they be), equal to any that are grown out of doors. *An Amateur, Clapham, October 6.*

## Home Correspondence.

*The Teltow Turnip.*—I was amused with the inflated account which your Correspondent has given, at page 941, of this curious variety of Turnip. It is by no means such a novelty to English gardeners as he seems to imagine, as its culture in this country dates from 1790; and it is recorded as a fact that the Queen of George III. had supplies of it regularly forwarded from Mecklenburg. By reference to the Transactions of the Horticultural Society, Vol. 6, it will be found to have been first brought under the notice of that body by the late Mr. John Hunneman, who exhibited roots of it in 1822, at one of the meetings of the Society in Regent Street, and communicated some particulars respecting its management in the neighbourhood of Teltauer in Brandenburg, where it is principally grown. The seed is there sown twice a year—in April for the roots to be drawn in July, and again in August, after the Rye or Potato crops have been cleared, for taking up late in autumn and preserving in cellars packed in dry sand, in which it will keep good until the following spring. The poor sandy soil of the Teltauer district seems almost necessary for the growth of this Turnip, as it degenerates when grown at a distance from it. A total absence of manure is said to be essential in order that the roots may attain perfection. That, as a vegetable, it has long been well known and much esteemed in France, Germany, and Holland, for the peculiar flavour which it gives to soups and similar dishes, I readily admit; but I doubt very much if it is entitled to the extravagant praise that your Correspondent has bestowed upon it; and from the warning you have given your friends, I am inclined to think you are of the same opinion. Year after year the Horticultural Society has distributed seeds of this variety of Turnip, and been soundly abused for doing so. [If any of "the upper ten thousand" have a desire to cultivate it for their own use, they will have no difficulty in obtaining seeds from some of our great London seedsmen; but the Council of the Royal Horticultural Society, I trust, will find some better sort of vegetable for distribution than this, and one that will be more acceptable to the Fellows. *F. H. S.*

*Royal Horticultural Society.*—Will the Secretary be kind enough to explain the reason why the exhibitions before the Fruit and Floral Committees are invariably consigned to a loft where nobody is likely to find them. I hear that the fruit last Tuesday, especially Mr. Meredith's Grapes, was superb, but that not five persons except the Committee saw it. *F.H.S., a Lover of Common Sense.*

*Home-grown Cotton Hybridised.*—I enclose you a spray and pod of cotton, the produce of a plant which produces brown wool, but whether it is the real Nankin sort I do not know. The flower was fertilised by the pollen of the kind which bear black seeds, naked except at one extremity, where the tuft of cotton is attached to them. The seeds of the brown-woolled parent are entirely clothed with the down. The flower of the male parent has purple blotches at the base of the petals, the female parent none. The cross-bred plant has the purple spots clear and distinct. The cotton, as you will see, is nearly bleached by the influence of the male parent, and the fibre is somewhat less strongly attached to the seed. The plant is extremely vigorous and prolific, and the crossing is effected with certainty. India will probably soon supply the world with quinine from plants raised by English skill in English hot-houses, and there is no reason why the Cotton plant should not be improved thus, and sent out to be grown in our new cotton fields. There exists an immense field for improvement by the intermixture of the many types of the plant and their ramifications. There are, I understand from the books, several cases where certain sorts cannot be grown but in peculiar soils and situations, while others thrive best under totally different circumstances. Again, cases occur where one sort possesses, we will say, quality A and lacks quality B, while the qualities of another are exactly reversed as respects the first named. Here a mutual interchange and equalisation of properties by the skill of the hybridist would tend to improve the plant in an extraordinary way. The specimen I enclose shows how much is done even by a first cross of sorts. I should feel obliged to any persons who may possess, or be able to procure Cotton seeds, if they would send me a few before spring. Native Indian or wild sorts from any part of the world would be most desirable. There is a wild sort named vitifolium, which I should like to experiment upon especially. The Editor will perhaps kindly assist in communicating between myself and any person who may favour me in this matter. *R. T. O.* [We most willingly offer our services. The specimen sent is, we suppose, Gossypium barbadense, which is usually white-woolled. But we have a specimen from Coimbatore, communicated by Dr. Wight, of what looks like that species, in which the wool is brown. It is, however, very difficult to make out the botanical distinctions of the species of Gossypium.]

*Ensuring Crops of Fruit.*—Mr. Bennett tells us (see p. 942) that Peaches can be procured as good and with as much certainty on open walls as they can be under glass. Does he mean in some localities, or in all parts? If the former, he should have said so; if the latter, I am compelled to doubt the truth of the assertion. I have seen tolerably good crops not 20 miles from Sheffield, but the cold weather comes on before the fruit can be ripened. To have good flavoured Peaches, equal to those obtained under glass, is a rarity in the north of England. I witnessed at one place, in the autumn of 1860, a splendid crop of Peaches, but I was afterwards informed that scarcely any of them became fit for table. By the aid of a flued wall the wood had been ripened, and much care had been bestowed on spring protection, "all adding to expense," but with no good result. In the following spring the trees were found to be almost dead from winter frost. Mr. Bennett has recorded the cheapness of Frigi Domo, but he has not told us what he lost by frost in 1861; and from his own showing I think your readers will be able to judge which would be the cheapest in the end, Frigi Domo or glass protections. If such a season as that of 1861 occurred once, it is probable that some time or other a similar one may be experienced again. The old adage, therefore, that "prevention is better than cure," holds good in this as in many other cases. Frigi Domo may be good, but glass protection is safest and cheapest. *W. R. R.*

*Scolytus destructor.*—In reply to your inquiries, I have to state that the town of Southampton is approached from the London road through an avenue of Elms, standing upon a fine loamy soil, and that many of the trees contain above a hundred feet of timber. The line of the avenue is north and south. About 30 years ago the trees in a portion of this avenue were divested of their lower branches, and young trees were planted contiguous to them. These trees have never succeeded, and lately the insects are feeding alike upon the larger trees and these younger ones, making incursions upon the joints of their branches; those upon the west side were the first to suffer. The exposure to the south-west wind washed the bark so completely that its corky rind was soaked with water, which gradually extended itself around the entire stem. Twenty-three years ago I submitted to the Corporation drawings of the trees so pruned as compared with those in their natural state, and predicted this result. It must be observed that all those upon the eastern side remained perfect until those upon the western were removed, when in gradual succession they were subjected to the same decay. The trees upon the south end of the avenue, and those upon the continuous line of the north, which have not been pruned, still remain fine timber, and a line of young trees, now from 30 to 40 feet high, are in fine healthy growth. When the outer bark first became loose, and portions were falling off, the Corporation had the stems covered with Forsyth's Composition, and cradled to protect it. *R.* [The foregoing note is a reply to inquiries made by us as to the particulars of the destruction of a plantation of young Elm trees at Southampton, as was supposed, by Scolytus destructor, numerous specimens of which were sent to us, together with portions of several young branches. The latter, however, exhibited no traces of the action of the Scolyti, but were gnarled with numerous deep cracks, extending nearly round the branches, so that the action of the sap was greatly retarded. We have no evidence as to the cause of these wounds, the Scolyti being certainly not chargeable with this part of the mischief which the trees have suffered. *J. O. W.*]

*Lilium auratum.*—In your Paper of August 15, I observe a suggestion that some of your readers should leave a bulb of Lilium auratum in the open ground to test its hardiness. Having tried the experiment last winter, I think a report of the result may have some interest. The Lily was bloomed by me early in July, 1862, and described in the August number of the "Gardeners' Monthly" of that year. I left two bulbs in the open ground, one as large as a hen's egg, the other the size of a filbert. They were protected with 4 inches of dry leaves, over which boards were laid. The winter, though mild for this part of the world, was far more severe than an ordinary English winter. Both bulbs survived, grew vigorously, and the larger one bloomed some three weeks earlier than L. lancifolium, planted beside them. *F. Parkman, Jamaica Plain, near Boston, U. S. A.*

*Sugar Canes.*—Can you inform me what is the best treatise on the cultivation of Sugar Canes in our West Indian Isles, and the best works on the islands generally. *T.* [Sloane's Jamaica is always worth consulting; so is Browne's Jamaica. Then there is Schomburgk's History of Barbados; and in Hooker's Botanical Miscellany, vol. i., p. 95, is a good report on Sugar Canes.]

*The Florists' Standard of Perfection.*—Many of your readers will, I am sure, echo Mr. Fortune's lament for the slavish obedience to fashion, and for the arbitrary standard acted on by florists, in their endeavours to beautify our parterres and greenhouses. Let all due praise be given to florists for the wonders they have effected; they have done so much that they have taught us how much more they might do were they so inclined. Can they not be persuaded, or some of them at least, to adopt a less arbitrary and unvarying, and a more rational standard of perfection? Surely plant lovers might agree upon certain general principles and lay down certain canons to be adopted with a degree of latitude, so as to allow sufficient liberty to the subject, without being tied down despotically to an unnatural uniformity, or allowed to run rampantly into anarchy. One such rule might be laid down thus:—"Consult the genius of the plant in all." Take the Pelargonium or the Pansy as illustrations. These flowers under ordinary circumstances have a form referrible to what artists call bi-lateral or linear symmetry—the right and left divisions of the flower are nearly alike, while the upper and lower divisions differ. The florist, instead of availing himself of this indication, endeavours with more or less success to counteract it, and to produce a flower with a circular outline, exemplifying the so-called "radiating symmetry." Occasionally, it is true, a Pelargonium will sport into a circular form, but what happens? Not a mere change in outline, but a change in colour, in direction, an addition to, or a suppression of some of the parts present in an ordinary flower—changes of great interest to the botanist and real flower-lover, and frequently of great beauty, but changes which are practically ignored by the florist *pur et simple.* I will not trespass on your space with other illustrations, but I would ask the florists to consider, whether in attempting to give to one flower the shape that belongs of right to another, and thus overlooking that most important element of beauty—fitness of things—they are not exposing themselves to such ridicule as that spoken of by Horace, when—

> "If a painter should design
> A human visage, and subjoin
> A horse's neck, with plumage swoll'n,
> And limbs from various creatures stol'n,
> Until the figure, in th' event,
> Which for a beauteous dame was meant,
> At length most scandalously ends
> In a black fish's tail; my friends,
> Admitted to so strange a sight,
> Would not your laughter be outright?"

*Maxwell T. Masters.*

*Swallows.*—One of your Correspondents states that the swallows in his neighbourhood have delayed their autumnal flight later than usual, and that he had observed them as late as the 10th of September. Here, in Torquay, on the 1st of October, swallows may still be seen. At this moment I see them from my window skimming over the Torre Abbey Fields, and darting in and out amongst the avenues of Lime trees that form so attractive an object to this place. A few days ago I observed a congregation of swallows evidently meditating their periodical "flitting." There are still some hundreds left. I may add that the climate here is the mildest in all England, as is shown by Mr. Vivian's well-known meteorological tables extending over 20 years. *J. T. White, 3, Western Terrace, Torquay, Devon.*

*Marigolds.*—One of your correspondents inquires in

your issue of the 26th ult. about a Marigold called the New Orange French; this we beg to say was first raised at Dedham and sent out by us about 3 years ago. *James Carter & Co., High Holborn.*

## Societies.

Royal Horticultural: *Oct.* 2.—The Duke of Buccleuch, President, in the Chair. The following candidates were elected, viz.:—

J. Brand, Esq.; Mrs. Bucknill, Mrs. Cahill, S. Gibbins, Esq.; C. Grimwade, Esq.; Major-General Hutt, Miss Otway Mayne, and F. J. Sargood, Esq., Ordinary Fellows. D. W. Beadle, Esq., St. Catharine's, Canada West, was elected a Corresponding Member; and H.I.H. The Grand Duke Nicholas of Russia an Honorary Member.

*Oct.* 6 (*Floral Committee*).—Messrs. E. G. Henderson obtained on this occasion a Second-class Certificate for the white variety (?) of Anemone japonica, called Honorine Jobert. The same firm also furnished various Tree Carnations, white, crimson, and striped; all useful kinds for winter decoration. From Mr. Bull came Pandanus candelabrum, a long narrow-leaved graceful looking plant; the handsome double-blossomed Petunia called Edith; and various zonate Pelargoniums, among which Faust, scarlet, Novelty, beautiful rose, and Favourite, white strongly flushed around the eye with rosy salmon, were the best. Dahlia Mrs. Wheeler, a white variety heavily tipped with cherry, was shown by Mr. Wheeler; a red-shaded orange Dahlia, named G. Griswold, came from Mr. Burgess, of Chelsea; and Dahlia Useful, and another kind, of good colour but faulty in shape, together with different kinds of Belgian Pansies, were furnished by Messrs. Bragg & Co., of Slough. Very fine blooms of a large-flowered variety of Vallota purpurea came from Mr. Parker, of Tooting. To Messrs. Low was awarded a First-class Certificate for a new Dendrobium called eburneum, a white kind from Moulmein, stained with orange red at the base of the lip. The same firm also contributed the charming Sophronitis grandiflora, with one large showy crimson-scarlet bloom on it, measuring nearly three inches across; and two Cattleyas, one of which was named irrorata; both appeared to be closely related to C. elegans.

*Oct.* 6 (*Fruit Committee*).—Foremost among Grapes, of which a large quantity was exhibited on this occasion, was a magnificent collection from Mr. Meredith, Garston, near Liverpool, to which a first prize was awarded. They consisted of Canon Hall Muscat, and Muscat of Alexandria, Trebbiano, a large and fine bunch of Syrian, Trentham Black, Black Hamburgh, White and Charlesworth Tokay, and the true Black Alicante in splendid condition, the bunch being unusually large, black as Sloes, and covered with a most beautiful bloom. Than this it would be difficult to find a more perfect specimen of good Grape-growing. From the same excellent grower also came a very fine bunch of a white Grape named Garston Seedling, a promising kind, which we hope to see again; also Lady Downes's Seedling, West's St. Peter's, Black Prince, Ingram's Hardy Prolific Muscat, and Snow's Muscat Hamburgh, the two last shrivelled and approaching the condition of raisins, as were likewise different kinds of Frontignan, examples of which were also in the same collection. A bunch of the Royal Vineyard, a new white Grape having some good properties, was shown by Mr. Williams, of Holloway; and from Messrs. Lane, of Great Berkhampstead, came a collection of Grapes consisting of Trentham Black, Golden Hamburgh in good condition, White Frontignan, West's St. Peter's, Muscat of Alexandria, Black, Dutch, Mill Hill, Champion, Pope's and Snow's Muscat Hamburghs, the last plump and good; White Nice, Royal Muscadine, Black Prince, Trebbiano, Muscat Romane, Esperione, large and fine; Bidwill's Seedling, Buckland Sweetwater, Précoce de Malingre, Black Alicante, and Frankenthal, all from a house to which very little artificial heat has been applied. These were considered worthy of an extra prize. Black Hamburgh Grapes from an open wall were shown, we believe, by Mr. Tivey, who again contributed dishes of red and white Currants still in a state of good preservation. A most excellent Melon called Scarlet Perfection, to which a First-class Certificate was awarded, was shown by Messrs. Downie Laird & Laing. Mr. Page, gr. to W. Leaf, Esq., Streatham, had a specimen of Hurst House Seedling Pine Apple weighing 7 lbs., an excellent summer variety, first sent out by Mr. Williams, of Holloway, and deserving to be better known than it is. Mr. Turner contributed an admirable dish of Cox's Orange Pippin Apple, to which a 1st prize was awarded, and the same variety, highly coloured but a little bruised, came from Mr. Rivers. G. Wilson, Esq., Gishurst Cottage, Weybridge, had beautiful examples of Melon and Northern Spy Apples, together with large and fine Chaumontel Pears, all grown in pots in an Orchard house; an extra prize was given to them. From Messrs. Paul & Son came two promising Seedling Apples; good specimens of Golden Reinette, and Pine Apple Russett came from Mr. Spivey; among other Apples we also noticed a handsome dish of Pitmaston Nonpareil; also Cluster Golden Pippin, a small bright yellow kind. Messrs. Pince & Co. again showed their Seedling Grape, of which some account has been given in former reports.

## Notices of Books.

*Thoughts on Population and Food.* By Agrestis. Pp. 206. Longman & Co., London, 1863.

The writer of this little work holds that the happiness and moral well-being of the community depend greatly upon an early initiation into the sanctities of married life, and the elevating influence of virtuous women, as wives and mothers. He therefore advocates moderately early marriages, both among the upper and lower orders. With regard to the former, he reminds us that the public papers have of late been constantly exposing the unhealthy state of affairs; that letters from Belgravia complain that the prospect of marriage is daily becoming less, and with numbers of refined and accomplished ladies the chance is almost desperate. This ought not to be the case, but why it is so, the *Times* has well stated: "In the upper ranks of life there exists an almost universal desire to keep up an appearance, and which, too generally, makes the marriageable of both sexes expect to begin where their parents ended;" or, as another writer has it—"We must bring up our daughters to marry upon less, and curtail all needless expenses to assist them, or take the consequence of their not marrying at all." Agrestis thinks that there is an excess of the seemingly prudential element, and far too little of the real moral element of self-restraint. This however is only by the way. It is with the lower classes of society that our author is most concerned. Here too he thinks the obstructive and anti-connubial system has been too much insisted upon, and maintains that "a well-conducted and willingly laborious healthy couple of full age and strength, who have for a while entertained a genuine fondness for each other, and have means enough between them to furnish a cottage or a decent lodging, and to buy some week's supply of food without credit from the general shop, have an unquestionable right to marry," and might marry with great advantage to the community, but for certain hindrances which he mentions, and which he proposes either to remedy or remove.

One of these is "the ignorance of our females of the lower class in all the details of housekeeping, and especially their inability to prepare invigorating and appetising meals for their hardworking husbands, out of cheap and scanty elements. Scarcely one housemaid in a hundred brought up in good families, has ever paid sufficient attention to the labours of the cook to know how to dress a small joint of meat as it should be; or by what process, and with what ingredients a cheap broth, or vegetable savoury soup can be made agreeable." Agrestis considers that any number of healthy and virtuously brought up children would be like the arrows in the hand of the giant for home defence, and of untold value in our colonies, which latter statement he makes good by several pages of statistics.

The subject on which our author treats naturally resolves itself into the question, how a more abundant supply of nourishing food can be produced? and here he enters with much gusto upon the application of sewage and the cultivation of Italian Rye-grass, which he thinks would greatly increase the supply of meat; and last of all we come to his grand hobby, an adequate supply of pure milk and vegetables. Here, nobody can deny there is room enough for vast improvement.

On the authority of Dr. Lankester, he tells us "there is no type of food so perfect as milk. It really represents all that of which we partake that is not medicinal. That it is so, is found in the fact that the young of all the mammalia are fed on it for months, and get no other food. During this period they grow most rapidly, and increase in size; consequently they must have obtained all that which constitutes their muscle, nerve, bone, and every other tissue, from the milk they take as food." And yet of milk, confessedly so indispensable for the young, the supply is utterly insufficient, the price exorbitant, the quality execrable. "Certain it is that the liquid sold under that name is often deteriorated, even before it reaches the udder of the cow, by the use of stimulating and of watery food, such as brewers' grains, &c.; and it is commonly skimmed afterwards, and more or less abundantly watered." The truth of all this is admitted on all hands, but nobody cares to provide a remedy. The victims are content to be fleeced and imposed upon, and their only practical resistance is simply to go without, to the injury of their young children, and "the deterioration of our race." Agrestis proposes various plans to meet the evil, such for instance as co-operative societies among the poor, the embarkation of capital, by philanthropic and practical men, in the combined production of milk and vegetables, which he believes, and endeavours to prove, would yield an enormous profit. We wish well to the labours of Agrestis, and are only sorry to say, that in page 2 there are some shocking arithmetical mistakes, which tend to shake the reader's faith in his somewhat extensive calculations.

Books Received.—*The Technologist,* No. XXXIX., gives a medico-physiological account of the poisonous *Coriaria ruscifolia,* or Toot plant of New Zealand.——The *Pharmaceutical Journal* for October contains an interesting paper on the destruction of noxious insects by means of a Pyrethrum, called Willemoti, which paper had previously appeared in the Technologist.——In the *Annals and Magazine of Natural History,* No. 70, is a further, and still more interesting paper by Prof. Gulliver on the raphides of Onagrads.——The *Popular Science Review,* No. 9, has some good mycological matter by Mr. M. C. Cooke, who seems to make parasitical Fungi, such as smut, bunt, and the like, his special study.——*Watts' Dictionary of Chemistry* goes as far as Electricity, a good article just begun.——The *Natural History Review* is unusually good and among the best of our periodicals. The number before us includes a capital review of Bentham's Flora Australiensis, a sharp article on Daubeny's late volume on Climate, a sharper but very just show-up of Parlatore's notions about Natural Systems in Botany, an elaborate examination of some recent German Cryptogamic speculations, and other really valuable contributions.

Trade Lists Received.—John Cranston's *Descriptive Catalogue of Selected Roses* for the forthcoming season.——S. Glendinning & Son's (of Chiswick Nursery) *Catalogue of Dutch Flowering Roots for* 1863.——Sutton & Sons' *Autumn Catalogue of Bulbous Flower Roots*; also of *Geraniums, Carnations, Fruit Trees; and a Select List of Seeds.*

## Garden Memoranda.

Ringwood Hall, Chesterfield, the Seat of R. Barrow, Esq.—Close to Staveley, and only a short distance from Chesterfield, lies Ringwood Hall, quite invisible from the railway, but in every respect worthy of a visit. Its *specialité* is Grape growing, not because this is the chief feature or done better than anything else; but the fact is, Grapes are grown so well here, that a casual observer would be more struck with them probably than with anything else. Ours was a hurried visit, or we should have taken copious notes of the beautiful grounds. In a semi-circular riband in the flower garden a capital effect was created by using Cerastium tomentosum, Lobelia speciosa, Christine and Brilliant Pelargonium, and Calceolaria Kayi. In beds close by, Flower of Spring Pelargonium completely beat Flower of the Day, and yellow Prince of Orange Calceolaria boldly put in his claim for a first place amongst gardening favourites. Scarlet Pelargonium Attraction is much used here, and was in grand condition, blooming freely, its large trusses and stout foot-stalks seeming to defy the weather. Stella Nosegay Pelargonium filled the centre of a large circular bed, and was in glorious bloom of a rich crimson colour; then came a broad band of the rose-coloured Christine with a broad edging of Cloth of Gold; this was one of the most telling beds we have seen.

Not far off was a decided novelty now-a-days, a riband border of Annuals 60 yards long, which Mr. Petch, the gardener, said cost about 5*s.*; it was undoubtedly a very telling border, and from a distance had an excellent effect. It consisted of Blue Nemophila in the first row, then Sweet Alyssum, dark purple Candytuft, with a back row of Erysimum Peroffskianum.

Mr. Petch grows a good Scarlet Pelargonium for bedding called Souvenir, which is darker than Tom Thumb, and a very free bloomer. A lot of old shouldered plants of Beaton's Imperial Crimson also made a striking bed. Variegated Pelargoniums are extensively used here, and every new sort is tried, but Bijou seems to be one of the best.

A handsome winter garden forms three sides of a square. Camellias and other things are planted out in it. Passiflora Colvilli is yielding festoons of handsome yellow-fruit-studded shoots; and our old friend, Fuchsia Dominiana (which is not grown so much as it should be) is rich in bright-coloured blossoms. In the square is a pretty architectural flower garden harmonising with the handsome conservatory or winter garden, each bed being picked out with stone edging, and the whole interspersed with vases, and Irish and Variegated Yews. Here Pelargonium Christine was indeed gay, and Madame Gassier Verbena, of a light rosy crimson colour, still seemed unrivalled as a bedding sort of this useful colour; in habit, too, it is all that can be desired. In the centre of this garden is an ornamental stone basin bordered with Lobelia Paxtoni and Golden Chain Pelargonium. Lobelia Paxtoni is extensively grown here, and makes a capital bedding plant. Mr. Petch has also this season bloomed many hundred seedlings from Paxtoni, some of which are most valuable bedders, particularly a white kind, the flowers of which are large, and the habit just what we want.

Passing down a flight of steps from the winter garden, we come to the lower flower garden. The first things here to arrest attention were two circular masses of Mrs. Pollock Pelargonium, a superb bedding kind. In this lower garden we noticed a bed of Gold Pheasant Pelargonium, which is a little inferior to Mrs. Pollock, but a fine useful bedder with a bright scarlet flower. Mrs. Milford is used here; it appears to be a sport from Goldleaf, but has tender foliage, and does not stand cold and wet weather so well as some others. Centaurea ragusina is also used, and is a superb silver foliaged plant. Another bed was filled with Silver Chain Pelargonium, a smooth-leaved clear-coloured plant of excellent habit, with rosy carmine flowers. This is a good bedder, so is also Flower of Spring, which together with Silver Chain and Bijou, Mr. Petch regards the three best Silver variegated Geraniums out.

At one end of a range of Vineries is a Strawberry

house, which will soon be filled with plants, in which a succession will be kept up. For this purpose upwards of 2000 strong plants now occupy 32-sized pots, and consist of Black Prince for the first crop in January and February; then Keens' Seedling for March, to be followed in due course by Sir Charles Napier, Carolina Superba, Wonderful, British Queen, and Adair; and for a general crop by Oscar, which is extensively grown here. In the kitchen garden is a range of seven houses —four being for Vines, two for Peaches, and the Strawberry house just alluded to. Each house is 35 feet long, with top and bottom-heat, except the Strawberry-house, which does not require bottom-heat. The trees are planted inside, but the roots go outside, into chambered borders heated with hot-water pipes, and from September until April the outside borders are protected by glass coverings. In the first Vinery are Black Hamburgh, Muscat Hamburgh, and Black Prince. In the second is a Barbarossa, which had grown 40 feet in length since February 1, although it had been stopped five times, and the base of the young wood is 2½ inches in diameter; on this were some superb bunches. Here also was Black Alicante, which Mr. Petch regards as the king of Black Grapes, resembling a Black Hamburgh, but the berry is more oval in form. This keeps a month longer than Lady Downes's. In this house the latter was in good character, and all these black Grapes were compact bunches, with fine berries, and exceedingly well coloured. In one of the Vineries were four kinds of Muscats: — Muscat of Alexandria, Bowood Muscat, Barnes's Muscat, and the Charlesworth Tokay. These were all grown well, but the Charlesworth Tokay had the finest bunch and richest flavour. These Vines have only been planted two years, but they have made fine wood, and promise to furnish a fine crop next year. The Strawberry house has during the summer been occupied by Melons, Capsicums, and Tomatos.

In another vinery, at the lowest part of the garden, are the most superb and by far the best flavoured Black Barbarossa Grapes we have met with. This is rather an old-fashioned house, with a narrow pit running through the centre of it, underneath which are four rows of 4-inch pipes, and in this bed the Black Barbarossas and some Muscats are planted. Mr. Petch considers a strong warmth at the root necessary to flavour this really fine late Grape—for it is fine in every respect as grown here. The bunches had been thinned, and the shoulders shortened so as to produce symmetrical pyramidal bunches of splendid berries. In this house is the Trebbiano, a late white Grape producing a large bunch; the Abbee and other Grapes were also here on trial. In an early Vinery were Black Alicante, which although ripe the first week in June, had fruit now hanging as plump and fresh as ever, and which will hang till Christmas; whilst the bunches of Muscat of Alexandria, ripe at the same time, had commenced shrivelling in August. These few bunches have been left to see how long the Black Alicante can be kept. There are other houses, and ranges of Cucumber and Melon pits, which need not be noticed now. In one of the greenhouses were a few of the new Horse-shoe Pelargoniums, one of the finest of all being Roi d'Italie, with very fine trusses of large superbly formed bright cerise flowers. Madame Lemoine, blush, with large pale rosy salmon centre; and Virgo Marie, a fine white, were amongst the best. The Callicarpa purpurea is grown here for winter decoration. Dwarf compact plants of it clothed with rich bluish-purple berries are very pretty, and tell well on the tables.

Ringwood Hall is easily reached from Staveley or Chesterfield. The place is now in fine order, and is highly creditable to Mr. Petch, the gardener, who has effected great improvements in it during the past eight years.

## Miscellaneous.

*Japanese Churchyards.*—The Japanese, like their neighbours in China, pay great attention to the graves of their dead. They frequently visit them, and place branches of Skimmi (Illicium anisatum), Laurels, and other evergreens, in Bamboo tubes in front of the stones. When these branches wither they remove them and replace them by others. The trade of collecting and selling these branches must be one of considerable magnitude in Japan; they are exposed, in large quantities, for sale in all the cities and villages; one is continually meeting with people carrying them in the streets; and they seem always fresh upon the graves, showing that they are frequently replaced. *Fortune's "Yedo and Peking."*

*Infusoria and Germination.*—At a recent sitting of the Academy of Sciences, M. Lemaire sent in a paper, in which he endeavoured to show that Infusoria play an important part in germination. If Beans, Lentils, Barley, or Oats be placed upon powdered porcelain, or a wet sponge, in the course of 24 hours, while the above seeds are still hard and horny, numerous Bacteria (animalcules having the shape of sticks) make their appearance; after 48 hours Vibrios and Monads (microscopic worms and specks) appear. If to the distilled water used one or two milligrammes of phenic acid be added, which prevents the development of the infusoria, germination is prevented, but recommences when the phenic acid has evaporated.

*Potato Mona's Pride.*—We learn that "Mona's Pride" has achieved a great triumph at the show of the Manchester and Liverpool Agricultural Society, held lately at Birkenhead, in Cheshire, the best Potato producing county in England. In the prize list we see that it gained the Society's silver medal. We also find that the Mona's Prides have gained the first prize at the County Kildare Horticultural Exhibition. *Country Paper.* [Sample just received.]

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

Conservatory, &c.—Climbers, at least some of the most rambling, will now want a smart dressing where they obstruct light in any material degree. Such as flower on the young wood, and which are now in a ripening condition, or approaching a state of rest, may be pruned in close. Others, such as the late-blooming Passifloras, Combretums, Echites, Ipomœas, Stephanotis, Thunbergias, Mandevillas, &c., which are still thriving, must be regulated with a more gentle hand, cutting away merely barren shoots, and drawing the remainder into somewhat closer festoons, in order to throw sunlight into the interior of the house. Chrysanthemums, though late this season, will soon be the chief feature of attraction, and where these are largely grown they will require some attention. They are very impatient of a close rather warm atmosphere, and if the house contains plants requiring this treatment, the Chrysanthemums should as far as practicable be placed in the coolest part, where air can be given freely on every favourable opportunity; for except they can be pretty fully exposed to air their foliage soon gets attacked and disfigured by mildew, especially if the plants are bushy and well grown. See also that they are kept well watered at the root. Use fire-heat only when absolutely necessary either to prevent the temperature from falling too low or to dry the atmosphere. If such things as Geraniums, Cinerarias, and Calceolarias must be wintered in the same house with Heaths and other hard-wooded plants, they should be kept as much as possible by themselves, as they will require a somewhat closer temperature than hard-wooded plants, but where circumstances admit of it these should occupy a house or pit by themselves. Cinerarias and Geraniums intended for late flowering will do very well in a cold pit if the weather should not prove unfavourable.

### FORCING DEPARTMENT.

Pineries.—Plants expected to show early next year will be benefited by being kept in a comparatively dry state for a few weeks previous to subjecting them to a warm moist temperature. The atmosphere should be kept dry, also allow the soil about the roots to become as dry as can be done with safety. Do not, however, subject the plants to a very low temperature, but keep this at from 60° to 65° by means of fire-heat, for although they will bear a considerably low temperature without any apparent injury, those not subjected to any unnecessary extremes will produce the finest fruit; and a short period of comparatively dry treatment will ripen the growth and just as effectually induce a tendency to show fruit as checking the energies of the plant by an unnaturally low temperature, and without any of the ill effects of the latter method. Little dependence can be placed on the weather after this season, therefore see to plants in pits with insufficient means of heating being well protected by means of covering at night; and maintain the command of a rather high temperature by frequently renewing the linings, &c., so as to be prepared for any sudden decrease of heat. Avoid anything approaching excess of atmospheric moisture among young stock, whether in pits, heated by linings, or in better arranged structures; it only tends to promote a too free growth for the amount of light.

Vineries.—Where early forcing is to be carried out attend to previous directions as to keeping the atmosphere moist, as there will be some difficulty in getting Vines to break freely except this is attended to. If circumstances allow of having a bed of fermenting manure inside the house, this will be found the best means of keeping the atmosphere regularly moist, but if this cannot be used the house must be sprinkled with the syringe frequently, and the evaporating troughs kept full. Also see that the roots are afforded a steady gentle warmth, until the buds are fairly swelled; keep the temperature about 50° by fire-heat at night, and 60° by day, letting it rise to 70° on sunny days.

### FLOWER GARDEN AND SHRUBBERIES.

As was stated last week, alterations of grounds and planting of Evergreens should now be carried on with dispatch, but on no account attempt planting where the soil is not in good condition; the drier mould is when placed round the roots of newly planted shrubs (provided they are judiciously watered in) the sooner they will emit fresh roots. Mulching is, however, requisite to keep out frost, and earlier in the season to prevent evaporation. Where it can be had Cocoa-nut refuse will doubtless be found useful for this purpose. As tree leaves are always in request either as a fermenting material or for leaf soil, they should be carefully collected. If they are required only as manure they may be stowed away in any bye place and left to rot; but if, as is generally the case, they are in demand as a cheap mode of furnishing bottom-heat to Pines as well as for forcing different kinds of vegetables, some pains should be taken to keep them dry. For this purpose they should be stacked up in some back place or behind the garden walls, where access can be had to them at all times, and after allowing time for them to settle, covered with a coat of thatch to effectually secure them from rain. By these means they will be found in a state fit for use for a twelvemonth to come. If not already done, soils of different kinds should also be collected and stacked in a somewhat similar manner.

### HARDY FRUIT AND KITCHEN GARDEN.

Look over fruit stores frequently to see that all is keeping well, and remove any fruit that may show symptoms of decay, so as to prevent the mischief from spreading; attend to gathering fruit as formerly directed. A good stock of Lettuce fit for use should be put into cold frames or turf pits, where they can be protected during frost by means of straw mats or some other efficient covering; also take care to secure a good supply of Endive for winter use. Cauliflowers coming in must be frequently examined; those not wanted for use should be taken up and stored till wanted. Take advantage of the present favourable weather to get manure wheeled on quarters where it will be wanted, and have all ground trenched and ridged as soon as it gets cleared of summer crops. Get Potatos out of the ground as soon as possible; they are now becoming badly diseased, and must be frequently inspected even after they are stored, in order to separate the bad from the good.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending Oct. 7, 1863, as observed at the Horticultural Garden

| Oct. | | Moon's Age. | Barometer. Max. | Barometer. Min | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. | 1 | 18 | 29.341 | 29.221 | 60 | 48 | 54.0 | 55 | 55 | S.W. | .18 |
| Friday | 2 | 19 | 29.798 | 29.673 | 58 | 51 | 54.5 | 55½ | 55½ | S.W. | .03 |
| Satur | 3 | 20 | 29 948 | 29.821 | 62 | 57 | 59.5 | 56 | 56 | S.W. | .00 |
| Sunday | 4 | ☾ | 29.951 | 29.859 | 67 | 31 | 49.0 | 57 | 56 | S.W. | .01 |
| Mon. | 5 | 22 | 29.867 | 29.821 | 62 | 27 | 49.5 | 56½ | 56½ | S.W. | .03 |
| Tues. | 6 | 23 | 29.919 | 29.831 | 61 | 32 | 46.5 | 56 | 56½ | E. | .00 |
| Wed. | 7 | 24 | 29.782 | 29.662 | 64 | 52 | 58.0 | 55 | 56 | E. | .20 |
| Average. | | | 29.801 | 29.698 | 62.0 | 42 5 | 52.3 | 55.8 | 55.9 | | .4 |

Oct. 1—Clear; heavy rain; fine.
— 2—Overcast; densely overcast; fine at night.
— 3—Densely clouded; overcast; boisterous at night.
— 4—Densely overcast; cloudy; very fine.
— 5—Slight haze; drizzly; overcast; frosty.
— 6—Earthquake early A.M.; slight fog; very fine; clear; at freezing at night.
— 7—Hazy; slight haze; fine; heavy showers at night.
Mean temperature of the week 1½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Oct. 17, 1863.

| October. | | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday | 11 | 61 9 | 42 9 | 52.4 | 20 | 0.31 in. | 2 | 5 | 2 | 2 | 4 | 12 | 5 | 5 |
| Mon. | 12 | 60.5 | 42.3 | 51.4 | 21 | 1.00 | 2 | 2 | 3 | 1 | 9 | 6 | 10 | 4 |
| Tues. | 13 | 60.4 | 42.5 | 51 5 | 19 | 0.33 | 2 | 4 | 4 | 1 | 6 | 9 | 8 | 3 |
| Wed. | 14 | 60.0 | 41.6 | 50.3 | 17 | 0.50 | 2 | 5 | 4 | 1 | 8 | 8 | 5 | 4 |
| Thurs. | 15 | 58.8 | 41.0 | 49.9 | 18 | 1.04 | 2 | 2 | 4 | 1 | 10 | 6 | 4 | 8 |
| Friday | 16 | 58.7 | 40.2 | 49.4 | 16 | 0.56 | — | 6 | 5 | 1 | 4 | 9 | 8 | 4 |
| Satur. | 17 | 58.2 | 41.2 | 49.7 | 16 | 0.31 | — | 5 | 5 | — | 2 | 11 | 9 | 5 |

The highest temperature during the above period occurred on the 15th, 1842—therm. 74 deg.; and the lowest on the 15th, 1860—therm. 24 deg.

## Notices to Correspondents.

Books: *A Country Orchid-lover.* Harvey's "Thesaurus Capensis," vol. ii., part 1, does not contain *all* the Orchids of the region. The descriptions are in English. The price of the Part is 5*s*.

China Grass and Japan Flax: *J Allison.* These materials have a very strong and fine fibre, and appear to be well suited for garden purposes, such as tying up plants, especially where fine ties are requisite. The Yellow Japan Flax would probably be the best where neatness is an object. They are much pleasanter materials to work with than either common or Cuba bast.

Insects: *W J C.* The only work on the insects of Madeira is Wollaston's "Insecta Maderensia," which is confined to the beetles. *W.*

Names of Fruits: *E W.* 1, Beurré d'Aremberg; 2, Lemon Pippin; 3, King of the Pippins.—*J F.* 2, Ne plus Meuris, nearly its usual size, "from the *open ground*;" 1, the same sort, "from an *Orchard-house*," but it is as large as a Catillac, fully 11 inches in circumference.—*W R F.* 1, Crassane; 2, Beurré Bosc; 3, Brown Beurré; 4, Beurré Diel; 5, Passe Colmar; 6, Winter Nelis; 7, St. Germain.

Names of Plants: *L G.* 1, probably Thuja compacta; 2, Cupressus macrocarpa; 3, Cupressus torulosa; 4, Juniperus macrocarpa; 5, Juniperus virginiana; 6, Thuja variegata. It must, however, be observed that all these names except 4 are in some measure conjectural, it being impossible to name such things with certainty without their cones.—*A B.* Neither a Truffle nor Yam, but a common Puffball.—*F C. Belshill.* Probably the roots of Alopecurus bulbosus.—*F C.* 1, Cattleya granulosa; 2, Epidendrum ciliare; 3, Epidendrum inversum.—*A Z.* 1, Melilotus leucantha; 2, Chelone glabra.

Oak Galls: *R D S.* They appear to be the common Oak gall that has now become such a pest in some places. Its existence in England is no doubt coeval with that of the Cynips that produces it.

Temperatures: *Halesleigh.* As you observe, although the distance between Greenwich and Chiswick is not great, yet there is often a very considerable difference of temperature between the two places; for instance, on July 18 last, the minimum at Greenwich was 44°.8; at Chiswick 27°, or 5° below freezing. The latter observation was from the indication of one of Negretti and Zambra's first-class thermometers, and as so low a degree was remarkable in July, the figures were doubly underlined at the time. The observation was moreover corroborated by a radiating thermometer by Newman, which at the same time indicated as low as 24 deg. The occasional discrepancy between the temperature of the two places is probably owing to Greenwich being on an elevation. In a long series of years the mean temperature deduced from the registered observations at Greenwich and Chiswick, agree to within a small fraction of a degree.

TRADE
## HALLETT'S [PEDIGREE] NURSERY WHEAT.
MARK.

THE PEDIGREE WHEAT WAS AWARDED THE SILVER MEDAL BY THE JURORS OF THE CLASS "CEREALS FROM ALL COUNTRIES," AT THE MEETING, IN 1863, OF THE AGRICULTURAL SOCIETY OF DENMARK AT ODENSE.

The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the miller, and realised £19 7s. per acre. This Wheat produced in 1863 nearly 10 quarters per acre, weighing 61lbs. per Bushel.

First half of October } DRILL 4 Bushels on { 8 acres.
Last " " } { 6 "

NONE IS GENUINE UNLESS THE TRADE MARK IS UPON THE BAG.

Apply to FREDERIC F. HALLETT, ESQ., F.L.S., The Manor House, Brighton, Sussex.

**PRICE—One Guinea a Bushel (or Seven Guineas a Quarter),**

Delivered, with Printed Directions for Planting, at the Brighton Railway Station, in Bags Sewed up and Sealed, upon receipt of Cheque or Post-office Order, which must in all cases accompany the Order.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing six stamps.

In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately; those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

This family Z *is now for the first time* offered to the public, and is ready for delivery.

### Drainage, &c.

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

THE LANDS IMPROVEMENT COMPANY. Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &C. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

LAND DRAINAGE, the ERECTION of FARMSTEADS, the CONSTRUCTION of ROADS, and other Works of Agricultural Improvements are undertaken by Mr. HUMBERT, Land Agent and Surveyor, of Watford, Herts, either by contract or on commission; and he will furnish estimates of cost free of charge, expenses out of pocket excepted.

Such works can be executed either under the powers of several special Acts of Parliament, with money raised by loan and paid off by instalments, or with the Landowner's own money.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.
AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*
The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
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*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

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PRACTICAL AGRICULTURE.
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*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 12 Lectures on Agricultural Machines.

CHEMISTRY.
ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.
R. WARINGTON, Jun., F.C.S.
BOTANY.—JOHN BAYLDON, M.B. Lond. B. Sc.
VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.
MATHEMATICS AND SURVEYING.
W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.
DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.
J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on South-down and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopedia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

AGRICULTURAL CHEMISTRY.
THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.
For further particulars apply to the PRINCIPAL.

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.
106, Leadenhall Street, E.C.

### Land Drainage.

WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all Descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.

Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rent charge on the estate created for various terms of years, so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.

No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

THE NATIONAL EXHIBITION of SPORTING and OTHER DOGS.

*President*—The Right Hon. the Earl of LICHFIELD.
*Vice-President*—The MAYOR of BIRMINGHAM.

The FOURTH GREAT ANNUAL EXHIBITION of SPORTING and other DOGS will be held at BIRMINGHAM, on MONDAY, TUESDAY, WEDNESDAY and THURSDAY, November 30, and December 1, 2, and 3.

Copies of the Prize Lists and Regulations, with the Statement of Receipts and Expenditure for 1862, may be had on application to the Secretary. GEORGE BEECH, Secretary.
Offices, Rectory Chambers, Temple Row, Birmingham.

THE BIRMINGHAM CATTLE and POULTRY SHOW, 1863.

The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held in Bingley Hall, on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3, when PRIZES to the amount of £1940 will be awarded in the following Divisions, viz.:

| | | | |
|---|---|---|---|
| FAT CATTLE | .. £734 | 5 | 0 |
| FAT SHEEP | .. 275 | 15 | 0 |
| FAT PIGS | .. 60 | 5 | 0 |
| BREEDING PIGS | .. 76 | 10 | 0 |
| CORN and ROOTS | .. 68 | 5 | 0 |
| POULTRY and PIGEONS | 674 | 4 | 0 |

Prize Lists and every information may be obtained from the Secretary.

The ENTRIES CLOSE on SATURDAY, October 31.
JOHN B. LYTHALL, Secretary.
Offices: 13, Temple Street, Birmingham.

SMITHFIELD CLUB FAT CATTLE SHOW, 1863. —The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS, will be held at the AGRICULTURAL HALL, ISLINGTON, on MONDAY AFTERNOON, December 7, and four following days.

The Prizes consist of 1825l. in money; 60 Silver Medals 6 Silver Cups and a Gold Medal.

The ENTRIES CLOSE on NOVEMBER 2.

Prize Sheets and Printed Forms of Certificates, with full particulars, can be obtained on application to
Mr. DAVID PULLEN, Assistant Secretary,
At the Office of the Honorary Secretary,
Corner of Half Moon Street, Piccadilly, London, W.

N.B.—Applications for Prize Sheets and Forms of Certificates must be addressed to the ASSISTANT SECRETARY as above, and all letters must bear outside the words "SMITHFIELD CLUB."

The Entries for the Implement Department Closed on Oct. 1.


# The Agricultural Gazette.

*SATURDAY, OCTOBER 10, 1863.*

THE time is approaching when the value of straw for fodder will again be determined in the experience of cattle feeders. And we call attention, therefore, to the very valuable and detailed report on this subject read by Dr. CHARLES C. CAMERON, of Dublin, some months ago before the Royal Agricultural Society of Ireland. We shall not quote from him the detailed collection of analyses by VOELCKER, ANDERSON, and himself with which his lecture was illustrated—it will suffice to enumerate the conclusions to which as a chemist these analyses have led him. He learns from them that straw is more valuable when it is cut in the just ripe state than when it is permitted to over-ripen, and that green straw contains a far greater amount of nutriment than is found in it even when just ripe. It appears also that the least nutritious kind of straw equals the best varieties of Turnips in its amount of flesh-forming principles, and greatly exceeds them in its proportion of fat-forming elements. He further gathers that in general the different kinds of straw will be found to stand in the following order, the most nutritious occupying the highest, and the least nutritious, the lowest place:—

1. Pea-haulm.
2. Oat-straw.
3. Bean-straw with the pods.
4. Barley-straw.
5. Wheat-straw.
6. Bean-stalks without the pods.

On the relative values of Irish-grown straw, it appears that when properly harvested, as the specimens had been which were subjected to analysis, properly harvested Irish Oat and Wheat-straws are far more valuable than those of

Scotland, though somewhat less nutritive than those produced in England. They also show that Irish Wheat-straw is often allowed to over-ripen, by which a very large proportion of its nutritive principles is altogether lost, and much of the remainder converted into an insoluble, and therefore less easily digestible state. There is no advantage to the grain gained by allowing it to remain uncut after the upper portion of the stem has changed from a green to a yellowish colour; on the contrary it has been clearly proved that Wheat cut when green yields a greater amount of better grain than when it is allowed to ripen fully; and thus grain, as well as straw, is injured by allowing the crop to stand after it is ripe.

Oat straw is generally more valuable as fodder than Wheat, chiefly because Oats are not so often permitted to over-ripen as Wheat is. They are cut earlier, being more liable to shed their seed; and when there is a greater breadth to be reaped this necessitates an early beginning; and, lastly, it is generally known that over-ripe Oat-straw is worth but little for feeding purposes, as compared with it when still greenish-yellow.

Dr. Cameron compares good Oat straw with common white Turnips as to the nutritious value of the crop. It appears the former is the better food: Turnips contain but little more than 1 per cent. of flesh-formers, and less than 5 per cent. of fat-formers. Good Oat straw on the other hand includes about 4 per cent. of flesh-formers, and 13 per cent. of fat-formers. In comparison with hay—taking into consideration the prices of both articles—Oat straw also stands high, as will be seen by comparing the following analyses of common meadow hay, and properly harvested straw:—

| | Meadow hay. (25 *analyses.*) | Oat straw. (4 *analyses.*) |
|---|---|---|
| Water | 14.61 | 14.0 |
| Flesh-forming constituents | 8.44 | 5.0 |
| Respiratory and fatty matters | 43.63 | 13.3 |
| Woody fibre | 27.16 | 63.1 |
| Mineral matter (ash) | 6.16 | 4.6 |
| | 100.00 | 100.00 |

As to the woody fibre of hay and straw, it appears to have been proved that it is a mistake to suppose it incapable of contributing to the nutrition of animals.

"In the summer of 1859 two German chemists, Stockhardt and Sussdorf, made a series of experiments with the view of ascertaining whether or not the cellulose* of the food of the sheep is assimilated by that animal. The results of this inquiry are of importance, seeing that they clearly prove that even the hardest kinds of cellulose—*lignine*, in fact—are capable of being assimilated by the Ruminants. The animals selected were two wethers, aged respectively five and six years. They were fed—1st, upon hay alone; 2nd, upon hay and Rye-straw; 3rd, upon hay and the sawdust of Poplar wood, which had been exhausted with lye. (To induce the sheep to eat the sawdust, it was found necessary to mix through it some Rye-bran and a little salt); 4th, hay and Pine-wood sawdust, to which was added bran and salt; 5th, Spruce sawdust, bran, and salt; 6th, hay, pulp of linen rags (from the paper maker), and bran. The experiments were carried on from July till November, excepting a short time, during which the animals were turned out on pasture land, to recover from the injurious effects of the fifth series of experiments—produced probably by the resin of the Spruce. The animals, together with their food, drink, and ejecta, were weighed daily. The amount of cellulose in the food was determined, and the proportion of that substance in the ejecta was also ascertained; and as there was a considerable discrepancy between the two amounts, it was evident that the difference represented the weight of the cellulose assimilated by the animals. In this way it was ascertained that from 60 to 70 per cent. of the cellulose of hay, 40 to 60 per cent. of the cellulose of straw, 45 to 50 per cent. of the cellulose of the Poplar wood, 30 to 40 per cent. of the cellulose of the Pine, and 80 per cent. of the cellulose of the paper pulp, was digested."

In order to render a larger portion of this cellulose and lignine digestible, Dr. Cameron recommends that straw should be cooked; and this recommendation is quite in accordance with the experience of farmers. "When straw in an unprepared state is consumed, a large proportion of its cellulose remains unappropriated, and it is certain that the hard woody fibre protects, by enveloping them, the soluble and easily digestible constituents of the straw, from the action of the gastric juice. He therefore recommends that straw should be either cooked or fermented before being used. An excellent mode of treating straw is to reduce it to chaff, subject it to the action of steam,* and mix it with roots and oil-cake or corn. A cheaper plan is to mix the straw with sliced roots, moisten the mass with water, and allow it to remain until a slight fermentation has set in. This process effectually softens and disintegrates, so to speak, woody fibre, and set free the stores of nutritious matters which it envelopes.

Dr. Cameron proceeds to quote Mr. Blundell of Southampton, and other experienced men on the actual results of the use of straw in cattle feeding. Mr. Blundell found that dairy cows, in the winter months, if fed on large quantities of roots, particularly Mangels and Carrots, will refuse to eat straw almost entirely and become very lean; but that they will always eat a full portion of sweet well harvested straw, when they get a small and moderate allowance of roots, say, for an ordinary sized cow, 15 lbs. of Mangel three times per day, the roots being given whole, just in the state they come from the store heap. Mr. Blundell gives us the tabulated results of one of his experiments, proving that, by the use of straw, there is to be obtained something more than manure by the feeding of stock:—

Cost of Feeding an Ox per Week with Straw, &c., according to Mr. Blundell.

| | s. | d. |
|---|---|---|
| 4 lbs. of oil-cake per day, or 38 lbs. per week, at 10l. per ton | 2 | 6 |
| 64 lbs. of roots ditto, or 4 cwt. ditto, at 13s. 4d. ditto | 2 | 8 |
| 20 lbs. of straw feeding, or 1¼ cwt, ditto, at 30s. ditto | 1 | 10½ |
| 20 lbs. of straw litter, or 1¼ cwt. ditto, at 15s. ditto | 0 | 11 |
| Attendance, &c., per week | 0 | 1 |
| | 8 | 0½ |
| Deduct value of manure, per week | 1 | 8½ |
| | 6 | 9 |

| | s. | d. |
|---|---|---|
| Increased value of ox per week | 10 | 0 |
| Deduct cost of feeding | 6 | 9 |
| Profit | 3 | 3 |

It is, however, chiefly from the chemical point of view that Dr. Cameron regards his subject. And assuming that 100 parts of Oat straw contain on an average—1 part of oil, 4 parts of flesh-formers, 10 parts of sugar, gum, and other fat-formers, and 30 parts of digestible fibre, he finds that the farmer buys in a ton of it for 30s. the following quantities of feeding material:—22½ lbs. of oil, 90 lbs. of flesh-forming material, 2 cwt. of starch and fat, and 6 cwt. of digestible fibre. Compare, now, this with what the farmer buys for 11l. in a ton of oilcake. He there purchases 582 lbs. of flesh-forming substances, 268 lbs. of oil, and 761 lbs. of gum, sugar, &c., and 74 lbs. of fibre. He pays 11l. for 2000 lbs. of nutriment in the cake, and 30s. for 1000 lbs. of nutriment in the straw. Straw is relatively deficient in the flesh-forming principles, and abounds in the fat-forming elements—of which, however, the most valuable, oil, is the least abundant. If, therefore, we add to it a due proportion of some substance very rich in flesh-formers and oil, the compound will possess, in nicely adjusted proportions, all the elements of nutrition. Perhaps the best kind of food which we could employ for this purpose is Linseed meal. It contains about 24 per cent. of flesh-formers, 35 per cent. of a very bland oil, and 24 per cent. of gum, sugar, and mucilage. As Linseed possesses laxative properties, it cannot be largely employed; the addition, however, of Bean meal—the binding tendency of which is well known—to a diet partly composed of Linseed, will neutralise the relaxing influence of the oily seed.

If oil-cakes be used as an adjunct to straw, Rape-cake will be found more economical than Linseed-cake. If it be free from Mustard, well steamed, and flavoured with a little treacle, or a small quantity of Locust Beans, it will be readily consumed, and even relished, by dairy and fattening stock.

This, then, is the practical conclusion to which all these theoretical considerations lead:—Along with a certain proportion of green food in Swedes or Mangel Wurzel give cooked straw chaff, with which boiled Rape-cake or Linseed-meal, to the extent of from 2 lbs. to 8 lbs. according to the advanced state of the fatting beast, is added daily per head of the herd.

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What difference would it make to the manure manufacturers, though London sewage should prove capable of profitable utilization? Is Mr. Lawes likely to lose his custom though 40,000 acres of Grass land and market gardens around London should receive the double blessing which they may then expect? The suggestion, evidently intended by its author to have a personal application, that projects for turning London sewage to account have been hindered by the interested opposition of manure manufacturers, app ars to us as weak as it is unworthy: *weak*, for the opposition of manure manufacturers must, looking at it from Liebig's point of view, be the best testimony a sewage projector can desire—and *unworthy*, for everybody knows that Mr. Lawes and Dr. Gilbert are listened to, not as manufacturers, but as scientific men.

We are not aware, indeed, that any sewage scheme has been opposed by manure manufacturers, or that an opinion on the impossibility of turning the waste of London to account has been published by manure manufacturers as a body. They know that their judgment would be regarded (however ignorantly) by the general public as biassed by their interests, and they have accordingly been silent. Mr. Lawes and Dr. Gilbert have, however, frequently written and spoken on the subject, for they on the other hand know that they stand before English agriculturists much more prominently as men of science than as manufacturers. No one is in a better position to form an independent judgment on such a subject. For 20 years experienced in the application of manures—and a student of their effects upon all farm crops for a greater length of time, on a greater scale of application, than any other man—one of a Royal Commission which has now for several years investigated the subject in the hope that some economical solution of the difficulties which surround it may appear—and lastly, without any chance either of benefiting or of suffering by the issue, whatever it might be, of the investigations which this subject has been receiving—no man we say is likely to form a sounder and more influential opinion on it than Mr. Lawes. Knowing how generally this is understood, and what weight accordingly attaches to the judgment he pronounces, the advocates of particular schemes for utilising London sewage have not failed to insinuate that the opinions on this subject of the manufacturers of artificial manures are worthless on the ground of personal bias. And even the great German chemist himself has condescended to a meanness of this kind. He does indeed attack the class generally, but it is with a sufficiently obvious personal intention; and although his attack, so far as it is personal, does not require defence, it is worth while considering its weakness as against manufacturers generally, and their alleged opposition to all schemes for utilising sewage.

There is one consideration which seems to us conclusive on the subject, namely, that water is the cheapest possible carrier of whatever it holds in solution or suspension. The sewage of towns, if ever turned to any use, must carry itself to the place of its application. It will never "pay" to extract its contents by a bulky and heavy precipitation, and send them, after proper desiccation, by railway, cart, or canal to fields a hundred miles away. It must be pumped up bodily, and carried and distributed by its own gravity. For this reason it is that the Thameside manufacturers of "superphosphate" have no personal interest whatever in the solution of the sewage question. We can imagine that if all the phosphates and all the possible ammonia traversing the sewers of London could be extracted easily and cheaply, so as to be saleable at prices below the cost of the one in bones and of the other in guano; then, however useless their opposition might be, this probability would not be regarded by the manure manufacturers with very friendly interest. Even then, however, sewage will be much more valuable for direct application close by than for this analysis and application a hundred miles away. It is near the towns which produce it that it must be applied—to Grass lands below the level at which it can be

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* Cellulose is the term applied to the chemical substance which forms woody fibre. The latter is made up of very minute spindle-shaped tubes. In young and succulent plants these tubes are often lined with layers of soft cellulose. In many plants—such as trees—in a certain stage of development, the substance lining the cells is very hard, and is termed lignine. This substance is merely a modification of cellulose; and both resemble in composition sugar and starch so closely, that, by heating them with sulphuric acid, they may be converted into sugar.

* Mr. Lawrence, of Cirencester, describes his plan of using chaff as follows:—"We find that, taking a score of bullocks together fattening, they consume, per head per diem, 3 bushels of chaff mixed with just half a hundred weight of pulped roots, exclusive of cake or corn; that is to say, rather more than 2 bushels of chaff are mixed with the roots, and given at two feeds, morning and evening, and the remainder is given with the cake, &c., at the middle day feed, thus:—We use the steaming apparatus of Stanley, of Peterborough, consisting of a boiler in the centre, in which the steam is generated, and which is connected by a pipe on the left-hand with a large galvanised iron receptacle for steaming food for pigs, and on the right with a large wooden tub lined with copper, in which the cake, mixed with water, is made into a thick soup. Adjoining this is a slate tank of sufficient size to contain one feed for the entire lot of bullocks feeding. Into this tank is laid chaff, about 1 foot deep, upon which a few ladles of soup are thrown in a boiling state; this is thoroughly mixed with the chaff with a three-grained fork, and pressed down firm; and this process is repeated until the slate tank is full, when it is covered down for an hour or two before feeding time. The soup is then found entirely absorbed by the chaff, which has become softened, and prepared for ready digestion."

easily and cheaply delivered—and it will make no difference whatever to the Thameside manufacturers of manures when London sewage has thus received the only agricultural utilisation of which it seems capable.

## NOTES ON WEEDS.

BY JAMES BUCKMAN, F.L.S., &c., PROFESSOR OF GEOLOGY AND BOTANY.

The natural order of Umbelliferæ or umbel-bearers are now to be described in reference to their characters as weed plants. They form a well defined group depending upon the umbel, which Prof. Lindley defines as "an inflorescence in which the flowers expand centripetally, and their stalks radiate from a common point." It is a large natural order very variable in quality and medicinal properties, hence the Cicuta virosa, Water Hemlock, Conium maculatum, Common Hemlock, are known as deadly poisons, and are hence avoided by any boy in search of rabbit food; while Petroselinum sativum, Common Parsley, and Anthriscus vulgaris, Hedge Parsley, are esteemed, the former as sheep food and the latter for the rabbits. Mistakes however are fatal, such as that of Petroselinum segetum, Corn Parsley, which will afterwards be reviewed in its character of a poison to sheep, and Æthusa cynapium, Fool's Parsley, equally so to any animal partaking of it in quantity. That the tribe on the whole possesses active principles is in itself a reason for concluding many of its subjects to be weeds. However, it may be remarked that though they may be very active in a green state, and probably the more so the greater the amount of heat and light to which they have been subject, yet blanching as in Celery—and it is stated in Hemlock—makes not only a delicious but wholesome vegetable. Drying, as in haymaking, again dissipates much of the active principle of even the most poisonous, and it is even possible that when ripe, much of the poison of the tribe is converted into aroma, as in the spicy seeds of Caraway and Coriander; the seeds and leaves of the latter, though smelling like crushed bugs when green, have a highly aromatic taste and smell in a state of dryness. In this condition, then, it is not improbable that many species of Umbelliferæ may be wholesome in giving apetetic or flavouring principles, and hence we conclude, as regards the plants of this order which affect the hay field, not to encourage them if constant depasturing be our main object; whilst if not too large, so as to smother Grass growth, they are little objectionable in the rick. In estimating these plants as weeds we may allocate them as follows:—

1. Pasture and agrarian }
2. Bank and hedgerow } Umbel-bearers.
3. Water weeds }

List of Pasture and Agrarian Umbelliferous Weeds.

| Botanical Names. | Trivial Names. | No. of Seeds to a Plant. |
|---|---|---|
| 1. Petroselinum segetum .. | Corn Parsley | |
| 2. Ægopodium Podagraria .. | Gout-weed | |
| 3. Carum Bulbocastanum .. | Tuberous Caraway | |
| 4. Bunium flexuosum .. .. | Earth Nut | |
| 5. Pimpinella Saxifraga.. .. | Burnet Saxifrage | |
| 6. Beupleurum rotundifolium.. | Hare's Ear | |
| 7. Œnanthe pimpinelloides, and others .. .. .. | Dropwort | |
| 8. Æthusa cynapium .. .. | Fool's Parsley .. | 2,400 |
| 9. Silaus pratensis .. .. | Pepper Saxifrage | |
| 10. Pastinaca sativa .. .. | Wild Parsnip .. | 13,400 |
| 11. Heracleum Sphondylium .. | Cow Parsnip | |
| 12. Daucus carota .. .. .. | Common Carrot .. | 10,000 |
| 13. „ maritimus .. .. | Seaside Carrot | |
| 14. Caucalis daucoides .. .. | Bur Parsley | |
| 15. Torilis Anthriscus .. .. | Hedge Parsley .. | 3,240 |
| 16. „ infesta .. .. .. | Spreading Parsley | |
| 17. „ nodosa .. .. .. | Knotted Parsley .. | 1,800 |
| 18. Scandix Pecten-veneris .. | Shepherd's Needle.. | 600 |
| 19. Coriandrum sativum .. .. | Coriander | |
| 20. Anthriscus vulgaris .. .. | Wild Hedge Parsley | |

1. Corn Parsley only a few years since was quite a rare British plant, it is now however almost coextensive with the cultivation of "seeds," in which we have little doubt it has been principally spread from the continent. The bright green pinnate smooth leaves of the first year of this plant rest quite flat upon the soil, and so prevent the young Clovers occupying that position, but it has lately acquired an importance beyond this, which ought to be described. Prof. Voelcker has more than once had plants sent to him for examination, which had been suspected of poisoning sheep which had depastured upon them. These we ascertained to be the Corn Parsley, and it has such a strong flavour as to render it highly probable that it is of a poisonous nature, though we must confess that, as a general rule, this would be likely to prevent sheep feeding upon it. It can readily be removed by the hoe either in the autumn or the following spring, which would at all events be of benefit to the young Grasses and Clovers. It is in spring that it has been observed in the fields where it has been suspected of doing the injury to sheep.

2. Gout-weed, when it takes possession of a pasture, is a great pest by reason of its large leaves, and its tendency to spread by means of creeping underground stems—rhizomata; its eradication here must proceed upon the principle that the destruction of leaves results in the death of the whole plant, and to this end the leaves should never be allowed to perfect themselves, but should be cut down or pulled as often as they appear.

In the arable field or garden, where this plant is often a pest, forking the rhizomata, or else careful hand-picking after the plough, or in digging, will be found the readiest mode of destroying it. It may however here be noted that although the arable land may produce a large number of weeds which increase by this underground method, yet it is seldom that any besides the Couch is hand-picked, so that the weed picker, while carefully extracting the wires of the Couch Grass, would mostly overlook those of the Corn Bindweed, Corn Thistle, Corn Mint, Coltsfoot, Gout-weed, and others of a like character.

3 and 4. These are so much alike as for a long time to have been confounded. They both grow an underground tuber called the Earth-nut or Pig-nut, the latter because eagerly sought after by hogs turned into the meadow in which they grow, and hence the destruction of turf to which pigs have access should be well looked into, as if these Earth-nuts be the object of search it may be well to remove the animals, as they are doing more harm than good. If however it should turn out to be the larvæ or grub of the Melolontha vulgaris, may-bug or cockchafer, these would do more mischief than the pigs, and so the latter would thus act as the farmers' friend in ridding the Grass of such a destructive pest. These plants are easily removed by pulling, but their light growth and innocuous qualities only render them diluents in pasture, and of course Grass cannot grow in the space it occupies.

5. The Burnet Saxifrage; 7, the Dropwort; and 9, Pepper Saxifrage, are weeds in pasture, in proportion to the space they occupy—they are rarely found to any extent in good meadows, but where they prevail indicate a want of cultivation; thick depasturing, by feeding sheep if necessary, will be found most successful in destroying such useless plants and supplementing them by good Grasses.

The Dropwort, of which there are two or three forms, curiously indicate either a proximity to the sea or else the prevalence of former marine conditions—thus its frequent occurrence on the marine sands of the old Severn Sea in the counties of Gloucester, Worcester, Shropshire, and Cheshire mark the position once occupied by a marine strait which formerly separated England and Wales, and so its presence becomes a pretty sure indication that the soil below will consist of those alluvial deposits of sand, mud, and sea-shells which would be expected in an upheaved and exposed sea-bottom.

6. Hare's Ear, a broad-leaved arable weed, remarkable for its structure, sometimes found in quantity in corn and Beans; but only a local plant.

8. The Fool's Parsley is a farm and garden pest, like the Shepherd's Needle, 18; and the Coriander, 19. These are all weeds tracking cultivation, and were probably originally introduced to our country in imported seeds; they are mischievous only in proportion to their quantity, and are only to be kept under by never allowing them to seed on the one hand, or sowing their seeds on the other. They are very injurious in root crops, such as the Turnips, but more especially the Carrot, by smothering the young crop plant, and in our grain crops, because they take room and appropriate food—and they are mostly good livers—and they too often leave a green mass in the bottom of the Wheat and Barley crops, which in growing not only exhale a quantity of moisture contributing to mildew, but render it necessary to wait some time before a crop can be carried to the rick, a fact which results in many a farmer having still a "bit of Barley" to carry when the rest of the harvest has been some time over.

10. Wild Parsnip is so frequent in some parts of the country as to be a pest in the hedgerows and about the borders of the arable field, where it seeds so freely, and its seeds are so prolific, that it will if allowed soon take absolute possession whenever it is once established. It is easily destroyed; the golden rule "never let it seed" is here especially applicable; the root plants of the first year may be destroyed by cutting them off below the crown; if, however, the cut be across the crown itself, it will only result in a multi-headed second year's growth, which will abundantly seed the pest if allowed. It is curious that this plant should be found so soon to become elevated to an esculent in garden cultivation. While however we know that excellent Parsnips can be produced from the wild plant, we confess to the belief that, common as is the weed, it may have sprung from an early introduction to England of the Parsnip as a vegetable.

11. The Cow Parsnip is a pasture weed, which like Hedge Parsley, 15 and 16, and the Anthriscus vulgaris, Wild Hedge Parsley, 20, has got from the thicket and the hedgerow into the meadows, in which its large growth renders it mischievous. Both it and the Wild Parsley are sometimes recommended as food for animals, but the truth is, in a meadow, Grass for the most part is the most profitable plant; and so whatever takes its place is usually inferior in quality. The best way to rid a pasture of the Cow Parsnip or any large umbelliferous plant will be to pull either by hand or with the dock lifter, but while removing the plants from the meadow, where it seldom seeds, we must take care not to let it seed in the hedges or around the borders of the field, as its seeds readily travel in a high wind, and it is thus a plant for which we are too often indebted to a badly kept road side or a careless neighbour.

12, 13. The Wild Carrots, whether inland or littoral, are often great weed pests; they, however, mostly affect the arable fields, banks, and hedge rows, in which they are most prolific in seed; we incline to consider them as varieties, though our experiments would point to the probability of our field and garden Carrots having been derived from the sea-side, a circumstance indeed which is rendered the more likely from the fact that so many of our garden esculents have descended from sea-side originals.

14. The Bur Parsley is spreading as an arable weed, no doubt introduced to our corn fields from the south of Europe or Asiatic Russia in imported seeds. It is more prevalent in the warmer counties of England than elsewhere. We have met with it on the Cotteswolds, but its spread here seems to be checked by the rigid climate not allowing it to ripen its seed.

17. The Knotted Hedge Parsley is much like the above, and indeed is included in the same genus by Mr. Bentham. It is common on the oolites, chalks, and other calcareous formations, where it is often a great pest in seeds, as from its trailing habit it takes up much room, and is not only useless, but, like the preceding, its seeds—small "burrs"—stick into the wool of the sheep, and are troublesome to remove.

Both are easily prevented by clean cultivation, but with these and all umbelliferous arable weeds we must take care and not introduce them with our seeds, and if they have established themselves they should be studied by the farmer with a view to their eradication by the hand or the hoe in the early growth of seeds, as then they will have done but little mischief by their own presence on the one hand, or the check which they offer to the growth of better matter on the other.

The Hedgerow and Water Weeds of the umbelliferous family will be considered in a future paper.

## IMPROVED REAPING MACHINE.

Mr. Gray, Brownrigg, East Lothian, has patented an improvement on the ordinary manual delivery reaping machine that is calculated to prove of much practical benefit to the agriculturist. Mr. Gray's improvement has for its object the laying down of the band under the sheaf when it is tilted over from the back of the "reaper," both band and sheaf falling on the ground at the same moment—the band in its proper position underneath the centre of the sheaf, and ready for being tied up by the bandster. This important improvement, which at once does away with all the "lifting" hands on the harvest field, is accomplished in a very simple, but at the same time ingenious manner. To the upper part of the tilting platform, which in this case must be moveable, there is attached a narrow trough-shaped box across the entire breadth of the platform, and provided with a hinged lid, which partially opens at each movement of the platform. This box is for the purpose of receiving the band, which is deposited in it by a female worker, who accompanies the machine in its onward progress, and whose duty it is to see that a fresh band is replaced after the sheaf has been laid on the ground. The band, in its narrow receptacle, cannot fall out till the sheaf is tilted over; and the platform is so adjusted that, no matter whether the grain be long or short in the straw, the band falls immediately underneath the centre of the sheaf. It can easily be seen that were the crop a short one, and the outer edge of the tilting-board set pretty high, the band might be deposited outside of the sheaf altogether, and that the reverse might happen when the straw was long and the platform set low. To provide against either of these contingencies, Mr. Gray has constructed his tilting platform on the telescopic principle, and thus is able to adjust its length to the height of any crop, so as to secure that the band fall in its proper place, ready to be seized by the binder. At the end of the machine, and so placed as to be of readiest access to the arms of the woman who deposits the bands in the groove, is placed a narrow wooden box, containing a sufficient supply of bands for the length of a rig—the supply being renewed at the end, when the horses start for a freshcut. Mr. Gray has made no alteration on the cutting power of the machines, and the one which he is at present exhibiting is an old Gardner & Lindsay's that has done good service in its day. It can thus—and this is one of the great recommendations of the invention—be adapted to any of the manual delivery machines at present in use, so that farmers, in order to avail themselves of its advantages, have only to get the telescopic platform, with grooved trough, fitted to the machines they may have on hand.

On Friday, Sept. —, Mr. Gray exhibited his improved machine at work on a field of Oats belonging to Mr. Elder, Amisfield Mains. The crop was rather short in the straw, and the platform had to be set correspondingly low, but even with this disadvantage, and the fact that the young woman who followed the machine had no previous practice in the laying in of the bands, the work was done in a very satisfactory manner. Among other gentlemen on the ground we observed Mr. Hope, Fenton Barns; Mr. Begbie, Queenstonbank; Mr. Douglas, Athelstaneford; Mr. Dale, Auldhame; Mr. Nelson, Castleton; Mr. P. Shirreff, Haddington, and others—all of whom seemed to be highly pleased with the way in which the band and the sheaf were regularly and

evenly laid down together. As no arrangement had been made for testing the economy of the invention, all that the spectators could determine for themselves was that the plan looked a very feasible one, and was likely to succeed. On Monday however we had the opportunity of seeing the machine at work on a crop of Wheat at Brownrigg, when there was a practical proof given, in the presence of several of the neighbouring farmers, that it is calculated to effect a decided and important saving in the working of the harvest field. We believe the ordinary complement of workers for a machine, independent of the boy who guides the horses and the man who rakes, is eight lifters and four binders—12 in all. In some cases there may be more, but never less. On Monday, upon a heavy crop of Wheat, part of it a good deal laid and twisted, and therefore not so favourable for the inventor, eight people proved amply sufficient to do the work—viz., three girls, one of them following the machine, the other two making bands, and five men binding. The bands were laid with so much regularity and precision that the men, in about as much time as they would have taken had the sheaf been laid down to them in the ordinary way by the lifters, gathered it together, bound it, and laid it up in stook. The invention has another advantage, which will no doubt commend itself to the farming community. As the sheaf has only to be gathered together once before being set up in stook, it is easy to see that there is much less loss than by the present system, where, by the double handling, there is an increased chance of dropping "singles." We believe the opinion of all practical men who have seen the invention is decidedly in its favour. It is simple, not expensive, thoroughly practical, and we have not the slightest doubt that, when once introduced into the market, it will become universally adopted. A saving of four hands out of every 14 in harvest time is a matter of no small consideration to agriculturists, when it is considered how busy they usually are at that season of the year. *Baddington Courier.*

## Home Correspondence.

*Taking up Potatos.*—This is one of the most general and most important of our farm operations at this season. The quantity of Potatos grown in this country and in some particular districts is very great. The crop this year is a large and full one, and thus far not much damaged by "the Potato disease." It is also yet in full growth in some localities, and danger will arise from carelessness or mismanagement in the taking up. Every experienced grower or market gardener knows that if they are taken up before they are ripe, except for immediate use, they will rot in the grave. Now as the period of ripening this year is so uncertain, it behoves every grower to be very watchful as to their state. Ripeness is chiefly denoted by the skin being so firmly set as to resist a smart rubbing of the hand. The haulm is also a criterion. If that retains its greenness, depend upon it the tubers are not fit to take up; but of this be assured, if the haulm has for some time been decaying, and is nearly all decayed, if the tubers retain a whole skin after being rather hard rubbed, then I affirm the crop is fit to take up. This being the case, the most favourable time should be chosen for harvesting them. It is very unpleasant work, and attended with some danger to their keeping, to take them up in a wet and an unseasonable time; far better to wait for weeks rather than to get them up in a wet and dirty state. Should, however, the weather be suitable, too much expedition cannot be exercised in securing them in grave and earthing them down. They will then keep till spring without loss. The mode ot taking up Potatos in the district from which I write is easy and simple. They are usually ploughed up with the common plough, but thanks to our inventive mechanicians we have a better implement now, made so by placing a heart-shaped share armed with goose-necked prongs on the nozzle or point of the share. This addition lifts up and spreads the Potatos in a way more ready for the pickers, and saves the expense of forking after the plough. As they are thus thrown out by this arrangement of the plough, it will this year take about 35 women and children to keep a good team in work. The carting and graving is of course carried on at the same time. The grave should not exceed 6 to 7 feet in width, and the slant gradual, so as to finish in a ridge at 4 feet in height. It should be thatched down every night, and be earthed up as soon as convenient after the graving. Small chimneys filled with straw should be left in the ridge or top at 8 to 12 feet intervals to prevent fermentation. The straw will keep out the rains. Care should be used in the picking not to mix the diseased tubers with the sound ones. It has been customary since the commencement of the disease, to have a division of labour amongst the pickers, some to pick the good, others the bad. This practice has been very beneficial in preventing loss in the grave. Many growers prefer cleaning and separating the seed and "chats" from the bulk before finally pitting them. In order to do this, the grave is merely cased with earth just to suffice to keep out the rain. This is very desirable certainly, but it interferes much with the progress of taking up. Several machines have been invented to effect this cleaning and preparation for market, but hitherto they have not met with much favour. They cannot equal the Potato riddle in practised hands, and at present our Potato dealers will have a true and even sample. Indeed, every housekeeper in laying in her weekly stock insists upon their all being of equal size and quality. This is all very right, but good small Potatos are not to be despised, and a moderate-sized tuber is generally much better in quality than a large one. Too much stress is laid upon evenness of sample, not by any means to account for the difference in price. If such a great difference was not made, housekeepers might have excellent Potatos at a moderate price. In the present state of the trade the best qualities make an extreme price, the second secures a price unnecessarily low. *O. F.* [The Potato disease has been extremely destructive in Gloucestershire this autumn.]

*Capillary Attraction.*—I observe in a late impression that you appear to still adhere to this theory. Mr. Donald states in his pamphlet on Land Drainage: "A certain quantity of water is retained in suspension, and no more; and when dry weather occurs the water suspended is slowly drawn upward from a considerable depth by capillary attraction, bringing with it such organic or inorganic matter as it may have dissolved." Since water is 817 times heavier than common air, the attraction of gravity must overcome capillary attraction in clay soils. According to Mr. Donald's statements, capillary attraction is a fertilising agent in dry weather, and it cannot prevent the descent of water where the land is surcharged with it. I have read somewhere in Morton's "Cyclopedia of Agriculture," that 100 lbs. of dry sand in a bag will take up and hold 25 lbs. of water before it begins to drip; that 100 lbs. of loam will in like manner take up about 40 lbs. of water, and that 100 lbs. of pure dry clay will take up 70 lbs. of water." This shows that land may be saturated to the dripping point by rainfall, and not affected by capillary attraction. *W.* [We do not see that it does.]

*Agricultural Education.*—A good many people speak and write on this subject as if there were something mysterious connected with farm management. You allowed me to state in No. 35, at page 829, that a thorough knowledge of farm implements, being well grounded in arithmetic, possessing tact for superintending labour and a knowledge of stock, are the most important parts of a practical agriculturist's duties. I may add that being able to keep memoranda that would bear the scrutiny of professional accountants and surveyors, embraces an education which would enable a practical man to meet the requirements of his position. Although my late father was brought up in the capacity of a ploughman, he kept such memoranda of permanent improvements, such as the position and number of drains in the different fields, and what they were filled with; the quantity of seed sown on each field; the date of sowing and reaping; the quantity of grain grown on each field, and when and to whom it was sold and delivered. He drew a skeleton map of the stackyard, and noted down the number of each site, and what field the corn grew upon. Where accounts are kept in a systematic manner it requires very little time each evening to note down all that is required to keep correct memoranda. The Rev. George Wilkins practically illustrated in his lecture at Cirencester, how foolish it is theorists meddling with a science and art of such simplicity as agriculture is supposed to be. Mr. Wilkins, however, appears to ridicule the indisputable fact that sons unconsciously acquire a knowledge of the details connected with their father's profession. Where sympathy exists between father and son, the son unconsciously acquires a knowledge of details. Although I never acted in the capacity of a farm steward, assisting my late father gave me as intimate a knowledge of machinery, the keeping of accounts, and other details as if I had. A great many people labour under the mistaken idea that being well grounded in one branch of science is a qualification for knowing another science and art, such as agriculture, without making it a branch of special study; but this is a mistake. Mr. Wilkins referred to several classes not brought up as farmers who have been successful. The public hear of their success, but not of the blunders in serving their apprenticeship. For instance, one distinguished amateur laid his drain-pipes only 22 inches below thesurface. That man is compelled to confine himself to shallow cultivation. Water stands 6 to 18 inches above the bottom of the drain when the subsoil is wet; hence the inferences of experienced drainers. An amateur land-steward told you in 1858 that "large farms are a great loss to the country; that small farms produce more grain, more stock, and employ more labour." This amateur land steward had also the confidence to state at p. 715, for 1859:—"The farmer (with some exceptions), how different a character to the gardener; the generality of farmers are not reading men, do not care for improvements; they will say, 'I shall not bother about new fangled ways.' * * * The sons of farmers rarely talk but of shooting, coursing, trotting, cricketing, billiards, and preaching down labourers' wages, and the poor labourers are ground down to the lowest poverty with 9*s.* and 10*s.* a week for a man to support himself and his wife, and perhaps young family, and house rent" *An Agri. Labourer*

## Societies.

BATH AND WEST OF ENGLAND.—The usual monthly meeting of the Council of this Society was held on Saturday last. In the absence of Earl Fortescue, the President, through indisposition, the chair was taken by the Earl of Portsmouth. There were also present Colonels Acland and Luttrell, Rev. T. Phillpotts, Dr. Gillett, Messrs. Archer, Andrews, Badcock, Bruce, C. Bush, R. H. Bush, Cotterell, Dickinson, T. Danger, Davy, Daw, Drewe, H. Fookes, M. Farrant, J. Fry, John Gray, Jonathan Gray, R. N. Grenville, J. Hooper, H. P. Jones, J. E. Knollys, J. Lush, H. G. Moysey, R. May, S. Pitman, G. S. Poole, W. Porter, J. Sillifant, J. W. Sillifant, W. Thompson, E. U. Vidal, J. W. Walrond, H. Williams, Robertson, Goodwin (Editor), &c.

ARTS COMMITTEE.—Mr. Drewe brought up the report of this committee, and on the motion of Mr. H. Williams, the sum of 200*l.* was voted for the erection of a second building for the exhibition of works of art manufacture, in lieu of the unsatisfactory annexe hitherto used for the purpose.

STOCK PRIZES.—Mr. Moysey, as chairman of the stock prize list committee, presented a list of prizes recommended to be offered at the Bristol meeting. He said that as the Society was about to visit a large and influential city, it had been thought advisable to add very materially to the value of the prizes for the various kinds and classes of stock. The increase suggested amounted in all to about 152*l.*; but on the other hand, considering that the spring stallion show, tried as an experiment at Exeter, had not answered the expectations of the Council—although he admitted there was a division of opinion on the subject—it was proposed to do away with it, and to endeavour by the offer of good prizes to get a respectable show of horses at the Society's ordinary annual meeting.—The Earl of Portsmouth said nothing could have been a greater failure than the exhibition of horses for riding purposes at Exeter, and he was strongly of opinion that they ought not to give prizes at all for thorough-bred stallions, but to give good prizes for results. With this view he recommended a prize for four-year-old hunting colts, an age at which it was easy to judge of a horse's character and qualities. The truth was the owners of first-class stallions would not show them at all, let them offer whatever prize they might; and he would remind them that though the stock got by a celebrated owner of the Derby (named), fetched a high figure as yearlings, they had greatly disappointed expectation.—A long discussion ensued, in the course of which Colonels Acland and Luttrell, and Messrs. N. Grenville, Pitman, Drewe, and others took part, and subject to renewed consideration at the next meeting of Council, should it be thought necessary, it was resolved that the spring horse show should be discontinued. As the Society will hold its next meeting in Gloucestershire (viz., at Bristol), it was resolved, as a compliment to local breeders, that a special class for Cotteswold sheep shall for this year be instituted; the prizes to be of the same amount as in the other sheep classes. The prizes given at Exeter for Dartmoor sheep not being thought applicable to a meeting at Bristol, were ordered to be discontinued. In accordance with suggestions by Earl Portsmouth, Colonel Acland, Colonel Luttrell, Mr. Pitman, and others, the Horse Classes were entirely remodelled, and in the hope of getting better animals shown, a number of small prizes were done away with, classes were amalgamated, and considerably better prizes were substituted in the old classes retained and the new ones created. The prize list was eventually referred back to the committee to be remodelled in accordance with the suggestions of Council; but it may be stated that, subject to future modification, it is recommended that at the Bristol meeting, the following increased scale of prizes shall be given: Cattle prizes—3-year-old bulls, 20*l.* and 10*l.*, instead of 15*l.* and 8*l.*; young bulls, 20*l.*, 10*l.*, and 5*l.*, instead of 15*l.*, 8*l.*, and 5*l.*; cows in calf, 12*l.*, 8*l.*, and 4*l.*, instead of 12*l.*, 6*l.*, and 3*l.*; heifers in calf, 12*l.*, 8*l.*, 4*l.*, instead of 12*l.* 6*l.*, and 3*l.*; 2-year-old-heifers, 10*l.*, 5*l.*, and 3*l.*, instead of 6*l.*, 4*l.*, and 2*l.* In the sheep classes the prizes for yearling rams are to be raised from 8*l.* and 4*l.* to 10*l.* and 5*l.*, with probably a third prize not as yet settled. In the horse classes there are prizes of 30*l.* and 15*l.* for agricultural stallions; 30*l.* and 10*l.* for the best hunting mare or gelding 4 years old; 20*l.* and 10*l.* for carriage horses; and 10*l.* and 5*l.* for Galloways not over 14½ hands. In reference to the prize list generally, Mr. Fookes said he had had considerable experience in judging, and he considered the prize list as now recommended would give very general satisfaction, and prove creditable to the Society. Owing to the lateness of the hour, the other notices of motion on the Agenda paper were directed to stand over till next meeting.

New Members: Mr. Troyte, Huntsham Court, Bampton; Mr. A. Stewart, Barton House, Gloster; Mr. C. A. Williams.

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EAST BERKS: *Oct.* 1.—At the annual meeting of this Society, held at Maidenhead, Mr. WALTER, M.P., spoke of the past harvest:—

They had literally seen, in the language of the Psalmist, "the valleys covered over with corn." Of course, in the first place, they were indebted for this to the almost unexampled season; but with all the

influence of the skies they could not have reaped such a harvest if they had not made the best use of the means and appliances within their own power. It pleased Providence to work by human means; and while it did not diminish their feelings of gratitude that they had enjoyed so signally a prolific harvest, they might at the same time congratulate themselves on the skill and industry which had contributed in a large measure to that happy result. He could only speak from his own observation, that since he had introduced steam cultivation on his own farm, the result had been most striking; and in a field which some of them would remember to have seen under the steam plough about this time last year, he had one of the finest crops of Swedes that could be seen in the county. Certainly none of his neighbours could show anything like it. This might be some encouragement to others to introduce the steam plough, which he had no doubt would be employed in cultivation more and more every year, and its results would amply repay the farmer's outlay. But the season had not only been most prolific in its produce, it had also been remarkable for the sensible and pertinent remarks which had been made by many of the speakers at these agricultural meetings. One of the most striking speeches, perhaps, was that delivered at Evesham by the Duke D Aumale, who was a master of our language and well acquainted with our institutions. He pointed to these institutions as an example of the good results derived from free institutions unassisted by Government interference. That noble personage, however, had made one remark, which if he had been better acquainted with this part of the country he would have been led to qualify. He spoke a good deal of the small size of the farm buildings in England as compared with France. Now, in Herefordshire, which was a grazing county, no doubt there was some foundation for the remark; but if he had travelled into Berks or Oxfordshire and other corn-growing counties he would have seen no reason to complain of the want of size in the farm buildings. Certainly his own knowledge of the farm buildings in France led him to a very different conclusion. There was one subject referred to at most of these meetings which had struck him most forcibly, indeed from the great prominence which had been given to it, they must all anticipate to what he alluded—the importance of providing good cottages for the agricultural class. Not a single meeting had been held, and scarcely a speaker had risen, without commenting on that subject. And he confessed he regarded this fact with the more satisfaction, because some years ago he had drawn the attention of his neighbours to it, and only last year he went so far as to propose a prize, which was accepted by that Society, but not competed for. There were some features connected with the system of prizes given by that and other societies on which they had agreed to differ. Prizes were assigned for good conduct to encourage labourers and females for long continuance in one situation. These were matters in which he maintained, and should maintain, that society was not competent to judge; they were private and personal questions that ought to be settled between master and labourer. His own belief was that the great want of cottages in the country had arisen from the unfortunate state of the law of settlement. That law of settlement was intended to give a man a right to relief in a particular parish in consequence of his residing there a certain length of time. The foundation of a man's title to relief was not supposed to be the fact of his residing, but of his working in a particular place. A man's place of residence and work was generally one and the same, and therefore it was supposed as the ground of relief that he must reside a certain length of time in the parish. What was the consequence? By degrees large proprietors of close parishes belonging to one or two persons found it convenient to draw their supply of labour from outlying parishes, and the law of settlement clearly operated as a discouragement to build cottages. Every one must know that cottages were systematically prevented being built in particular parishes in order that landlords living in those parishes might draw their labour from parishes which might be saddled with the relief of the labourers when they came to require it. Every one must see the injustice of such a state of things. What the remedy might be was a different question. His own opinion was inasmuch as they had got a union rate, they should make the area of settlement and rating coincide. He had a very strong feeling that the law of settlement required a remedy, and was one of the main obstacles to the building of cottages. Another evil was that, after all, cottages did not pay. Now, he should be extremely sorry to mislead the company by holding out any expectation that cottages should be made to pay. The Society of Arts had published a circular inviting some clever inventors to send in designs for cottages that should cost only 100*l.* Now, he had had some experience in building cottages, and knew very well what they ought to cost, and he held it an entire delusion to suppose that cottages could be built for such a sum. Mr. Walter then read and commented at some length on the circular of the Society of Arts, showing that the calculation was totally inadmissible, and that the scheme was most likely only to meet the views of some speculative builder, who would run up the cheapest and most unsubstantial fabrics, and who was generally one of the greatest pests of a neighbourhood. He also adverted to the opinion of Lord Walsingham, delivered at the Wayland Agricultural Society, in Norfolk, as to the difficulty of filling cottages after they were built with the sort of men he wished to have. He strongly condemned such an opinion. He did not believe that men in general were so degraded that they would not take pride and pleasure in keeping their cottages in good condition.

Staffordshire.—At the annual meeting of this Society, the Earl of Lichfield thus referred to a prize of 50*l.* offered by himself for the best form of agreement between landlord and tenant, giving security to the tenant for unexhausted improvements, and protecting at the same time the rights of the landlord. He said:—"When he offered the prize, he was quite aware that the security which many tenants preferred was a lease which would ensure their land to them for a great number of years, so that they should have sufficient time to recover the capital laid out. But he knew that although a lease was, in the minds of many, preferable to an agreement, it was objected to by many landlords, and not only by many landlords, but by many tenants also; and as the lease was objected to, he felt that it was of very great importance to the country that an agreement should be generally adopted. Sanguine as he was when he first broached this subject that it would lead to good, his expectations had been much more than realised by the very attentive and patient consideration given to the subject by the committee who sat to adjudicate upon the forms of agreement submitted to them. Their having met and discussed the subject upon so many occasions had, independently of the agreement which had been the result of it, produced a great deal of good, by informing both landlords and tenants more accurately upon various subjects of interest to both classes. He had derived a great deal of information by attending the meetings of the committee, and had been glad to hear discussed subjects which he had not hitherto thoroughly understood. The agreement which had been fixed upon to obtain the prize would not perhaps be found to be perfect; but he thought it would be acceptable to a great number if not all of the landlords and all the tenants in the county. The agreement was wanted in that county especially to encourage the sinking of capital in land—capital which ought to be laid out on the land, but which was not laid out upon it, because there was neither law nor custom which would ensure to the tenant fair compensation for his loss in case his tenancy should expire whilst his improvements were unexhausted. In Lincolnshire there was a custom which secured the tenant against loss in such cases; and from all that he could learn, the custom had a beneficial effect upon the farming of the county. Lincolnshire was, he believed, the only county in which such a custom existed; and, as he had said, its working there was such as to encourage both the landlords and tenants of Staffordshire to endeavour to obtain the same results by adopting a form of agreement, securing the tenant compensation. There were altogether 47 agreements sent in to the committee, including almost every description of agreement that could well be drawn up. The one that was selected for the prize was drawn up by an agriculturist who was well known in Staffordshire, Mr. May, of Helford Park. In a large meeting of the committee there was no difference of opinion whatever; but it was unanimously considered that Mr. May's form of agreement was the best. He feared he might cause some disappointment by adding, it was not the intention of the committee to publish that form of agreement for the present, because they felt that before committing themselves to it they ought to take the advice of some of the agents upon it. He thought it would require very little alteration indeed. The committee had agreed to keep together until they should have arrived at a final decision on the subject. The agreement contained a clause giving the tenant security for unexhausted improvements remaining at the expiration of his tenancy, and provided also for a certain system of cultivation, which, although it presented no difficulties in the shape of restrictions, might be safely said to give encouragement for better farming. It provided that the tenant on quitting should leave his land in proper condition, and no one who was at all likely to be placed in the position of an in-coming tenant would for a moment dispute the propriety of that provision.

Huntingdonshire: *Sept. 30.—Lord R. Montagu on Agricultural Topics.*—At the annual dinner of this Society, Lord R. Montagu observed that he did not see why a man should in these days be afraid or ashamed of taking a holiday. One of the greatest statesmen of our times, a man whose head was silvered by the snow of years, recently went down to the north on a great occasion and chose to speak on a subject befitting the dignity of the occasion, and that subject was the advantage of holidays. The noble lord showed that it was the duty of every constituency to see that its members kept proper holidays (laughter). Now, that advice would have come with a much better grace from a member of the House of Commons than from a peer. Hon. members in that House sat night after night expecting some motion to be called on. Hour after hour were they waiting on uneasy seats,—11 o'clock came, 12 o'clock struck, and the motion did not come on at all, and then they went home, sometimes without their dinners. He agreed with the noble earl who had spoken on the virtue of holidays. To use language somewhat metaphorical, he might say that by not taking holidays—by engaging too much in particular pursuits, the mind—the mental Wheat—became blighted, the intellectual Potatos got smaller, the moral Turnips got the finger-and-toe disease. (Loud laughter.) But there was another great peer who also went down to the north, who delivered a great speech on a great subject which more nearly touched the agriculturists. The Duke of Argyle said, with a good deal of levity, that all good agriculture was derived from Darwin's work on the "Origin of Species." Perhaps it might be necessary to explain what that theory was. Darwin held that no one species was ever created, but that every one grew out of some one below it. But he did not say how the first came into existence. Take an example of Darwin's mode of treating the subject. Men were not created; monkeys were first made. One little luckless monkey sat down on a chair, and continued using the chair until his tail was worn off, and he became a man. That was the origin of man. And that was a subject chosen by a noble duke on which to enlighten the people of Scotland. (Loud laughter.) His noble friend had alluded to the malt tax. He happened to be one of a deputation who waited on the Chancellor of the Exchequer, who received that deputation very graciously. One Suffolk farmer stated that according to the present law a man might buy sheep in Hertfordshire or Cambridgeshire and export them to Boulogne or any other part of France; he might then come to this country and purchase his malt and export that, having a drawback allowed, and fatten his sheep on that malt and bring the sheep to England to compete with the British farmer in Huntingdonshire or Cambridgeshire. There was one thing at the present show which had struck him with great admiration, and that was the steam plough, which did twice as much work as horses, at a much less cost. Hard soils could be ploughed by steam at 8*s.* or 9*s.* per acre, and softer soils at 5*s.* per acre. As the process became cheaper a man could afford to take in worse soils, and there was many a bog and bad piece of ground which might be turned to advantage and add immensely to our arable land. If there was one feeling in the British heart stronger than another, it was that of independence. Now, by the use of the steam plough we might grow more Wheat, and not be dependent on foreigners. It might be said that although large farmers could invest their money in a steam plough, small farmers were unable to do so. But why should not an agricultural society invest its capital in that manner, and let out the engine to its members at as low a rate as possible? A steam plough or a steam threshing machine might be let out to the farmers in rotation with the greatest possible advantage. But it might be asked, what is to become of those who now use the plough? Now, machines which lightened labour did not injure the labourer at all. On the contrary, it increased the amount of labour, and merely altered its quality. Instead of doing manual labour a man would have to perform more intellectual labour, and therefore he would be a gainer. Although the character of the work might be altered, the labourer would not get less work, and would be altogether placed in a better position than that which he now occupied.

## Farmers' Clubs.

Newmarket: *Oct. 6.—Lord George Manners, M.P., on Agricultural Affairs.*—At the annual meeting of this Club on Tuesday last, the Chairman (Lord Geo. Manners, in the absence of the Duke of Rutland), in proposing "Prosperity to the Newmarket Farmers' Club," said—

It was a toast of so much importance that he regretted deeply his inability to do justice to it; and he felt that inability the more because, in consequence of a combination of circumstances, he was unable to be present in the town at as early an hour as he could have wished, and, therefore, it was not in his power to devote that time to the inspection of the ploughing field and the show yard as he could have desired; but he was enabled to take counsel with some practical friends whom he had had the pleasure of meeting, and relying, as he was justified in doing, upon their judgment, he was in a position to say that, as far as the ploughing went, there was a decided improvement upon the work that had been done in former years, and, therefore, he was justified in asserting that the chief objects for which the Club was originally instituted were in course of realisation, and that, excellent as was the practice of farming in the locality previously, it was still year by year becoming better and better. This was as it should be, and they would agree with him, that if they were to combat successfully with unrestricted competition and low prices it would not do to stand still. They must strain every nerve to be getting forward. He thought when agriculturists assembled together it was only fitting they should, in some form, express their thankfulness to an allwise Providence for the bountiful harvest which had this year crowned their labours. It was of primary importance that they should have a good harvest this year, because there was still a large class of their countrymen, the operatives in Lancashire, who were wholly unemployed, or at least but partially employed, and therefore to that large body it was of essential importance that during the coming winter prices should rule low; but though low prices were very excellent things for the poor consumer, they were not so good for the producer, be he rich or poor. It was therefore a matter of some gratification to be able to reflect that the present low prices were not owing to increased

importations of foreign Corn, so much as from the state of their own stack yards. He thought he could show by reference to a very few figures that that was the case. On referring to the last returns issued by the Board of Trade, he found that in the eight months ending the 31st of August, 1861, the importations of Wheat amounted to 4,908,000 qrs.; in 1862, to 5,510,000 qrs.; and in 1863 to only 3,496,000 qrs. The imports of Wheat meal in the same period were in 1861, 5,030,000 qrs; in 1862, 5,007,000 qrs.; and in 1863, 3,499,000 qrs. Testing it by the money value of the importations, he found that the value in 1861 was 15,657,000*l.*; in 1862, 14,578*l.*; and in 1853, 8,308,000*l.* He further found that the value of the Wheat and Wheat meal imported from the United States of America amounted in 1861 to 6,340,000*l.*, in 1862 to 6,376,000*l.*, and in 1863 to 3,271,000*l.*, showing, therefore, that there was not only a very material decrease from all countries, but especially—as they might have expected—from the United States of America. He thought this led them to reflect what their position might be as a nation another year, should the unhappy contest in the United States of America continue—and he thought he would be a very sanguine man who fancied he could see the end of it—when the importations must naturally decline more and more, till, after a time, they would become small indeed; and in addition to that—what was far from improbable—if there should be a war on the Continent of Europe, shutting up to a considerable extent the sources of importation; and if, in addition to all that, they should have the misfortune to have a bad harvest, he thought their position would not be altogether satisfactory. Therefore it seemed to him, considering all these matters, that it was wise for them to ponder the deep importance of striving in every way to increase the production of their own soil, and if possible, to diminish the cost of it. He believed that steam cultivation alone would materially assist them in so doing. He must ask permission to express his conviction that they must look to steam cultivation to perform for them the double purpose of diminishing the cost of production, and increasing the amount of produce. In attempting to prove this, he should not offer them any silly theories of his own, but refer for a moment to a pamphlet which had been published by Mr. Hutchinson, Lord Brownlow's agent, in which the subject was fully treated. He dare say that many gentlemen in that room might have seen the pamphlet, and he thought those who had would consider that it deserved attentive consideration. He found from Mr. Hutchinson's statement (these were facts which were the ascertained results of two years continuous working upon a farm cultivated mainly by steam), that the cost of cultivating a farm of 546 acres for two years—by which he meant the cost of preparing the soil for the reception of seed—amounted to 562*l.* 2*s.* 9*d.*, the cost per acre being 7*s.* 4½*d.* The estimated cost upon the same farm of cultivation by horse-power would have been 1180*l.* 11*s.* 2*d.*, and the average 15*s.* 5½*d.*, leaving a balance in favour of steam cultivation of 618*l.* 8*s.* 5*d.*, and a balance upon the acreage of 8*s.* 1½*d.* In addition to this, the money value in the second year of the increased produce was stated to have been 776*l.* 2*s.* 11*d.*, or 98*l.* 2*s.* 11*d.* more than the rent of the farm. He imagined that the correctness of this conclusion must depend mainly upon the number of horses which the steam cultivation would enable the farmer to dispense with. Mr. Hutchinson said that one-third of the ordinary number would be amply sufficient. But, even if it were admitted that they could dispense with half, surely there was a great element of cost withdrawn, and a number of acres which had been employed in growing food for those useless horses would be free to grow food for men, or crops for the purpose of feeding beef and mutton. No doubt the answer to that would be that the maintenance of those horses was necessary for the sake of their manure; but he believed that the increased fertility which would be obtained by the exposure of ten inches of soil to the action of the sun and air would more than counterbalance the fertility obtained by the manure of the horses. Then, again, in catching seasons, especially on clayey soils, when every hour was of importance, and they had a difficulty in getting upon the soil, they would obtain an advantage in steam cultivation. He believed, too, there was no reason why this cultivation by steam should not go on in an emergency by night as well as by day, for the steam horse was never tired, and no amount of work ever put him out of condition. Hitherto the extreme cost of the apparatus had been an effectual bar to its general application; but a public company (the General Steam-Cultivation Company) had been formed under high auspices, by means of which it would be put in the power of every solvent farmer to possess himself of the requisite apparatus; and, further, it would be in his power within four years to become the proprietor of the machinery in question, and to pay for it out of the profits arising from its use. He (Lord G. Manners) would be the last man to introduce any controversial question into that room, or to allude to anything bordering upon politics, least of all should he desire to galvanise the defunct corpse of Protection, but there was one branch of free trade which appeared to him to have worked so exceedingly ill that he really thought a case might be made out for some alteration. He alluded to the free trade in live stock, the effect of which had been to cause a large trade in duty-free vaccine disease, for he believed it was capable of proof that the amount of good British meat lost year by year to the consumer was very far in advance of the amount which had been imported. Therefore the producer was in a materially worse position, and the consumer was materially injured as well. He did not know that it would be necessary positively to prohibit the importation of foreign stock, because it was very well known in London that a great deal of the bad beef was slaughtered in Aberdeen. He could see no reason why, if they chose to slaughter beef in Belgium or Holland, it should not be introduced: but experience had shown that the importation of foreign live stock was a blunder. The only other question which he thought it necessary to allude to was of a more social and domestic nature, viz., the employment of boys and girls in field husbandry. He was not so Utopian as to think that that was to be dispensed with, but he would take that opportunity of suggesting that the employers of labour would do well to take every precaution that a certain amount of judicious surveillance was exercised over them, and that some well qualified person should superintend, as far as possible, the work they were called upon to perform. He knew that was done in many places, and he believed with very happy results. With those few remarks he begged to propose "Prosperity to the Newmarket Farmers' Club."

The remainder of the toasts were of the usual constitutional and local character, but we should not omit to mention that in proposing the health of his Royal Highness the Prince of Wales, the Chairman made the gratifying announcement that her Royal Highness the Princess is in the interesting condition which promises an heir to the throne of these kingdoms, an announcement received with most jubilant applause.

## Farm Memoranda.

Dartry.—The demesne includes some 1500 Irish acres; but besides this extensive tract, Lord Cremorne has from time to time taken some land into his own hands, outside the demesne—lands which had been reduced by mis-cropping, but which are now being put into a regular course of tillage. The close, retentive bottom of the soil common to Dartry and its neighbourhood renders thorough draining absolutely necessary, and although the greater part of the demesne has been drained at some time or other, it has been found necessary to go over some of it a second time, particularly where the drains had been cut rather shallow at first. The draining latterly has been chiefly 4 feet in depth, 1½ inch pipes being the description of tile used for the minor drains. But even thorough draining does not altogether correct the tendency of the Grass lands at Dartry to run to Moss and Rushes, especially when the land is allowed to lie out for some years as pasture. The only preventive is occasional tillage, combining deep cultivation with liberal applications of lime and dung. There are some parts of the demesne which cannot be treated in this manner, and considerable improvement has been effected in such cases by the application of lime in the form of compost with earth, applied after harrowing the surface, which has had the effect of banishing the moss and of rendering the pasture finer. Folding fatting sheep during winter and spring on part of the grounds has also done much good to the Grass, and repeatedly mowing any Rushes which appear on drained land has served to weaken their growth, and thus renders them less troublesome and unsightly.

In several parts of the demesne nasty bottoms of a boggy nature have existed, but these have been for the most part reclaimed, a considerable portion having been improved within the last two years. These bottoms were formerly full of deep holes and sloughs, dangerous to cattle, while the other parts of the surface were of extremely little value for any purpose. The portion which was reclaimed last year was planted with Potatos on the rough surface, in ridges, or "lazy beds," which Mr. Stoddart, his lordship's manager, was obliged to adopt from the nature of the ground, although preferring the drill system. These ridges were manured, and the varieties grown were Skerry Blues and White Rocks. The crop far exceeded every expectation which had been formed regarding it, proving not only large in quantity but also of good quality, and free from disease. It was mostly sown for seed, and was sent to all parts of the country. After the Potatos were dug out, the land was ploughed where this could be done, and dug in those places where horses could not walk. It lay in that state all winter, and was sown last spring with black Tartary Oats, which have yielded a heavy well filled crop. Another portion of land of the same kind lay in its original state until the second week in April of this year, when Mr. Stoddart set about its reclamation, and had it ploughed and grubbed, and afterwards broken with the Norwegian harrow. By the third week in June it was ready for Turnips. Any rough sods left after the Norwegian harrow were gathered and put in the bottom of the drills. Pomeranian Globe Turnip seed was then sown on farm-yard dung, and the result is a capital crop. Other parts were planted with Cabbages, which have done well, and another part of the bog, which had been prepared earlier in the year, was planted in March with the same varieties of Potatos as those which were grown last year, and which promise to turn out fully as good a crop in all respects. In this manner a tract of land which was formerly not only an unprofitable eyesore, but positively dangerous, has been changed into useful land, and this has been done at a cost which was never felt; for it was a sort of bye job, done with the regular labourers about the place, when other work permitted. We should mention that the land had been drained a year or two before it was broken up, but notwithstanding the draining, some spots remained too soft to allow horses to pass over them without sinking.

We consider the state of the green crops on a farm the best index of the management in other respects, and we were much gratified when going over the large green crop break at Dartry to find good crops, bearing every token of good cultivation. The land is not only deeply cultivated during the preparatory working, but the summer culture is also of the most effective nature, the spaces between the drills being thoroughly stirred up by means of a proper drill grubber, and not merely scratched over with a light scuffler. Lime was also applied previous to drilling the land, and as there is a large command of farm-yard dung at Dartry, that alone has been used in growing both Mangels and Swedes. The corn crops are all reaped with the scythe, costing between cutting and stooking 6*s.* an Irish acre. Mr. Stoddart uses the rough, triangular ventilators, which we have so often recommended as most beneficial, especially in an unfavourable harvest, for the use of these ventilators enables one to carry the crop much sooner than it could possibly be done when the corn stacks are built solid in the usual way. The upright triangles are not, however, the only means of ventilation adopted in the case of the large oblong hay ricks at Dartry, for another, framed of the same material—rough poles—runs along the entire length, just about the top of the body of the rick, so that there is a constant current of air passing through the stack.

A few pure bred Short-horns are kept at Dartry, chiefly for the purpose of having some young bulls on the estate for the use of the tenantry. A herd of Ayrshire cows had been kept for the dairy, and these were crossed with Short-horn bulls, chiefly Easter Gift, a capital bull, bred at Glenmore, and a winner when a yearling at a Royal Dublin Spring show. These crosses proved not only useful dairy cattle, but were easily fattened, especially those got by Easter Gift, and the bullocks of that cross, although very moderately kept during the first part of their lives, have brought easily about Christmas, when rising three years old, from 18*l.* to 20*l.* each. Of late a considerable number of the cross-bred cows have been cleared away in order to make room for a lot of cows of the Suffolk breed which Lord Cremorne imported from Sir Edward Kerrison, M.P., whose Suffolks were winners at the Worcester Royal, as well as elsewhere. The Suffolk cattle are much liked in the east of England, being excellent milkers, and very docile. They are all polled, and generally of a yellowish red colour, some of those at Dartry having a few white spots about the flank. They have good skins, clean necks, with a very fair make of carcase, set on short legs. Dartry is the only place in Ireland, so far as we know, where the breed is to be found, and although the Grass in that demesne is not the best, perhaps, for developing the milking properties of any breed of cattle, the results, so far, have been very much in their favour. At the same time, we must remark that their superiority as dairy cows rests more on the quality of the milk they yield than on the quantity; but they also milk steadily throughout the season, and keep long to it. A correct account is kept by the steward of the milk given by the cows daily, as well as the number of pounds of butter produced; and on referring to this record we found that during spring, when the cows were getting some steamed roots with a little bran, the cream of 24 quarts of milk from the Suffolk cows yielded 3 lbs. of butter. At a later period, when the cows were out constantly on the Grass, it took the cream of 9 quarts of their milk to make 1 lb. of butter. These were special trials: for the milk of the Suffolks and of the half-bred Ayrshires is usually put together, and the cream churned without any distinction; but on referring to the milk and butter accounts of the previous year, when Ayrshires or cross-breds alone were kept, Mr. Stoddart finds the amount of butter produced this year considerably increased from the same quantity of milk. Thus, in former seasons it required the cream of 12 quarts of milk to produce 1 lb. of butter;* while this year, with a mixed herd of half-breds and Suffolks, it only requires the cream of a little over 10 quarts of milk to produce a pound of butter. It is probable from the success which has attended the trial of the Suffolks made this year that Lord Cremorne will increase their number—there are at present a dozen of Suffolks at Dartry—and get over a pure bred bull of the same description, so as to keep the herd pure, and ultimately disseminate it through the country, a step which will likely do much good, as the Suffolks are an excellent description of cattle for crossing with short-horn bulls, and are very likely to take with graziers as well as dairymen.

## Reviews.

*Registration of Title to Land; what it is, why it is needed, and how it may be effected.* By Robert Wilson. With Maps and Forms. Longmans.

The title of this book is a sufficient index to the nature and contents of the work, to which a fuller reference must hereafter be made. Meanwhile, as illustrating the history of its subject, and the experience of its author, we quote the following note from one of its pages:—

"My first proposition on the subject of this volume—'Outlines of a plan for adapting the machinery of the Public Funds to the Transfer of Real Property,' 1844, p. 66—was to the best of my belief the first specific and detailed proposition ever made in this country for the registration of title to land. While preparing it, I procured a copy of the report of the Real Property Commissioners on Registration (1830), with its appendix; and learned, for the first time, from a perusal of the appendix, that the general notion of imitating the machinery of the funds had been suggested by Mr. Fonnereau and Mr. Hogg to the Commissioners, though not alluded to in their report.—(Appendix, pp. 11, 52, and 96.)

"My plan was again published in 1846, in an article 'On the Registration of Landed Property,' in the 'Westminster Review,' Vol. 45, p. 107 (in which I dated the forms 20 years forwards, as an estimate of their chance of progress); and again in the same year, in a report of a committee of the Law Amendment Society, recommending 'A Register under which Landed Property would be transferable like Stock in the Public Funds' (which report, with others of the Society's papers, was presented to Parliament in 1851,

* This is about an average yield. Thus, Mr. Horsfall found that in the average composition of milk 16 quarts per day yield 1¼ lb. butter. In the case of Mr. Young's cows, reported upon by the late Mr. Haxton, in "Morton's Cyclopædia," it was stated that "the average proportion of milk, cream, and butter to each other is one gallon of cream to nine of milk, and three lb. of butter to one gallon of cream, or 1 lb. of butter to 3 gallons of milk as it comes from the cow." In another case reported by Mr. Haxton it required 14½ quarts of milk to produce 1 lb. of butter. See "Meat Manufacture." [In Morton's "Manual of Dairy Husbandry" it appears that it takes 21 pints of milk on an average to make 1 lb. of butter.]

and is printed in the Parliamentary papers of that year); and again in 1850, with an approving mention, and a full set of forms, in the report and appendix of the Registration and Conveyancing Commissioners.

"Since 1850, Registration of Title has been almost constantly before the public. It has been discussed in papers read before the Law Amendment Society, and in reports upon them, and in pamphlets and other publications. In 1853, it was recommended by the report of a Committee of the House of Commons; and in 1857, by the report of the Registration of Title Commission. In 1860, 1861, and 1862, it became law in South Australia, New Zealand, and Victoria. (See copies of Acts presented to Parliament, and Mr. Duffy's 'Land Law of Victoria.') And, in 1862, its introduction into England was commenced by the Chancellor's Land-transfer Act."

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | Barometer corrected to Freezing Point at Mean Sea Level. (At 9 A.M., Railway Time) | Thermometer: Dry Bulb. | Thermometer: Wet Bulb. | Wind: Direction. | Wind: Force, 0–6 | Amount of Cloud, 0–10. | Self-Registering Thermometers, In Shade: Max. | In Shade: Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct. | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | 2 | 29.82 | 51 | 49 | S.W. | 0 | 10 | 58 | 46 | 67 | 44 | 0.40 |
| Saturday .. .. | 3 | 29.98 | 50 | 57 | S.W. | 2 | 10 | 58 | 40 | 59 | 40 | 0.01 |
| Sunday .. .. | 4 | 29.97 | 62 | 60 | S.W. | 2 | 10 | 62 | 57 | 66 | 55 | 0.68 |
| Monday .. .. | 5 | 30.00 | 47 | 45 | S.W. | 0 | 6 | 60 | 36 | 76 | 38 | .. |
| Tuesday .. .. | 6 | 30.05 | 45 | 42 | N.W. | 0 | 0 | 54 | 34 | 58 | 30 | .. |
| Wednesday .. | 7 | 29.75 | 55 | 52 | S.E. | 3 | 10 | 53 | 39 | 63 | 34 | 0.30 |
| Thursday .. .. | 8 | 29.64 | 59 | 57 | S.E. | 4 | 7 | 59 | 50 | 63 | 47 | 2.40 |

8. Severe thunderstorm at 2 A.M.: about 2 inches fell within half an hour.

## Calendar of Operations.

### OCTOBER.

NORTHUMBERLAND FARM: *Oct. 6.*—Since our last report (July) the most important period of the year—Harvest—has come and gone. The weather throughout this anxious time has been of an unsettled character, especially during the beginning of September, when we had a long continuance of rain, at the same time having a large breadth of Wheat and Barley standing in stook, and not a single stack in the yard; whilst to make matters worse we were visited by a violent shake-wind on the morning of the 7th, which did sad injury to the ripe Oats and Barley that remained uncut,—knocking down stooks and spreading the sheaves in wild disorder throughout the field. Fortunately, however, it was unaccompanied by much rain, so that it had the effect of putting the Wheat in first rate condition for carting, which was at once proceeded with by all the available force. Subsequent to this we have had a fine time for cutting the remainder of the Oats and Beans, though it has been somewhat unfavourable for carting. However all our White Corn is now in stack, and nothing remains but Beans to be carried. On the whole it has been a long wearying harvest, although we commenced about a fortnight earlier than usual. As usual we have cut our entire crop with a Burgess & Key's Swathe-delivering Reaper, which up to this period has cut about 1700 acres, and seems quite fit to cut as much more. I still hold to the opinion that this is the best machine for the general purposes of reaping on a large farm, for it can cut any kind of crop by judicious application and management, whilst the swathe is evidently the best form in which corn can be delivered. Stackyards have assumed an imposing appearance and are better filled than we have seen them for many seasons, whilst the yield in Wheat is enormous as compared with recent years. Oats and Barley are not an average on the stronger description of soils. We hear of much that has been damaged by the late rains, but we have not experienced anything of the kind here; the small quantity of Wheat that we have already threshed is of first-rate quality, weighing 63½ lbs. per bushel. *J. W.*

## Notices to Correspondents.

STEAM ENGINES: *W. A. Wooler.* Thanks for your letter. Your former letter on the subject has been lying a long time before us. This one has now been put into the hands of a competent reporter.

WEIGHT OF JOINTS: *Subscriber for many years.* We will inquire.


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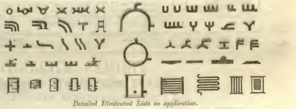


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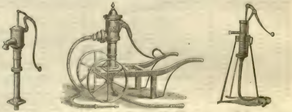

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2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0

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1½-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4

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By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET. When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

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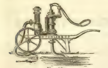

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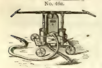

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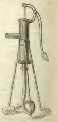

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| 11 ,, | 1 6 | ,, |
| 12 ,, | 1 9 | ,, |
| 13 ,, | 2 0 | ,, |
| 14 ,, | 2 6 | ,, |
| 15 ,, | 3 0 | ,, |
| 16 ,, | 3 6 | ,, |
| 17 ,, | 4 0 | ,, |
| 18 ,, | 5 0 | ,, |
| 19 ,, | 6 0 | ,, |
| 20 ,, | 7 0 | ,, |

FLOWER TUBES.
2*d*. each, or 1*s*. 6*d*. per dozen.

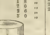
ZINC HAND GLASSES.
Painted and Glazed with 16-oz. Sheet Glass.

| | | |
|---|---|---|
| 12 inches | 5*s*. 6*d*. | each |
| 14 ,, | 6 6 | ,, |
| 16 ,, | 7 6 | ,, |
| 18 ,, | 8 6 | ,, |
| 20 ,, | 9 6 | ,, |
| 24 ,, | 11 6 | ,, |

If open top, 1*s*. extra.

BEE GLASSES.

| | | |
|---|---|---|
| 4 inches diameter | 0*s*. 6*d*. | each |
| 5 ,, | 0 8 | ,, |
| 6 ,, | 0 10 | ,, |
| 7 ,, | 1 1 | ,, |
| 8 ,, | 1 4 | ,, |
| 9 ,, | 1 8 | ,, |
| 10 ,, | 2 0 | ,, |
| 11 ,, | 2 6 | ,, |
| 12 ,, | 3 0 | ,, |



FLAT TOP BEE GLASSES.

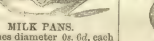
| Height | Width | *s*. *d*. | |
|---|---|---|---|
| 4 inches | by 7 inches | 1 6 | each |
| 4½ ,, | by 7½ ,, | 1 9 | ,, |
| 5½ ,, | by 7½ ,, | 2 0 | ,, |
| 6½ ,, | by 8 ,, | 2 3 | ,, |
| 7½ ,, | by 8½ ,, | 2 10 | ,, |

FERN SHADES & STANDS.

| Ins. dia. | Shades. | Stands. |
|---|---|---|
| 6 .. | 1*s*. 4*d*. each. | 1*s*. 0*d*. each |
| 7 .. | 1 8 ,, | 1 3 ,, |
| 8 .. | 2 0 ,, | 1 6 ,, |
| 9 .. | 2 6 ,, | 1 9 ,, |
| 10 .. | 3 3 ,, | 2 0 ,, |
| 11 .. | 4 0 ,, | 2 6 ,, |
| 12 .. | 5 6 ,, | 3 0 ,, |
| 13 .. | 7 6 ,, | 3 6 ,, |
| 14 .. | 10 0 ,, | 4 0 ,, |
| 15 .. | 14 0 ,, | 4 6 ,, |
| 16 .. | 18 6 ,, | 5 0 ,, |

WASP TRAP, 2*s*. 6*d*. per doz.

Crystal Glass Shades, Ebony and Gilt Stands, Gas and Lamp Glasses, Chimneys and Globes, &c.



MILK PANS.

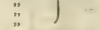
| | | |
|---|---|---|
| 6 inches diameter | 0*s*. 6*d*. | each |
| 8 ,, | 0 9 | ,, |
| 10 ,, | 1 0 | ,, |
| 12 ,, | 1 3 | ,, |
| 14 ,, | 1 9 | ,, |
| 16 ,, | 2 3 | ,, |
| 18 ,, | 2 9 | ,, |
| 20 ,, | 3 3 | ,, |
| 22 ,, | 3 9 | ,, |
| 24 ,, | 4 6 | ,, |

PRESERVE JARS.

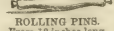
| In. diam. | Without Lids. | With Lids. |
|---|---|---|
| 3 .. | 0*s*. 4½*d*. .. | 0*s*. 6½*d*. ca. |
| 4 .. | 0 6 .. | 0 9 ,, |
| 5 .. | 0 8 .. | 0 11 ,, |
| 6 .. | 0 10 .. | 1 2 ,, |
| 7 .. | 1 0 .. | 1 4 ,, |
| 8 .. | 1 4 .. | 1 8 ,, |
| 9 .. | 1 8 .. | 2 2 ,, |
| 10 .. | 2 0 .. | 2 8 ,, |

FISH GLOBES.

| | Without feet. | With feet. |
|---|---|---|
| 8 inches diam. | | |
| 9 ,, | | |
| 10 ,, | | |
| 11 ,, | Per lb. | |
| 12 ,, | 7*d*. | 9*d*. |
| 13 ,, | | |
| 14 ,, | | |
| 15 ,, | | |
| 16 ,, | | |



ROLLING PINS.
From 12 inches long, 1½*d*. per running inch.



CUCUMBER GLASSES.
From 12 inches long and upwards, 1*d*. per running inch.

SHEET GLASS.
In Cases for cutting up, in Sizes as Manufactured.

| | 300 feet. | 200 feet. | | |
|---|---|---|---|---|
| | 15 oz. | 21 oz. | 26 oz. | 32 oz |
| Fourths quality .. .. | 33*s*. 6*d*. | 33*s*. 6*d*. | 39*s*. 6*d*. | 45*s*. 0*d* |
| Thirds do. .. .. | 42 0 | 42 0 | 49 0 | 56 0 |
| Seconds do. .. .. | 62 0 | 64 0 | 74 6 | 85 0 |
| Best do. .. .. | 88 6 | 88 6 | 103 6 | 118 0 |

CRYSTAL SHEET GLASS.
For Pictures and best Glazing purposes.

Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet .. .. .. 100*s*.
Second quality, in cases of 100 feet .. .. 82*s*.

Averaging 30 oz. to the foot.

Best quality, in cases of 100 feet .. .. .. 100*s*.
Second quality, in cases of 100 feet .. .. 82*s*.

### SQUARES, in 100 and 200 Feet Boxes.

Small Squares not exceeding 9½ inches by 7½ inches.

| Ins. Ins. | Ins. Ins. | Ins. Ins. | Ins. Ins. |
|---|---|---|---|
| 6 by 4 | 7 by 5 | 8 by 6 | 9 by 7 |
| 6½ by 4½ | 7½ by 5½ | 8½ by 6½ | 9½ by 7½ |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 9*s*. 9*d*. | 11*s*. 3*d*. | 13*s*. 9*d*. | 16*s*. 9*d*. |

Squares not exceeding 14 inches by 11 inches.

| | | | |
|---|---|---|---|
| 10 by 8 | 12 by 9 | 12½ by 10½ | 14½ by 10½ |
| 10½ by 6½ | 12½ by 9½ | 13 by 10 | 15 by 10 |
| 11 by 9 | 13 by 9 | 13½ by 10½ | 13 by 11 |
| 11½ by 9½ | 12 by 10 | 14 by 10 | 14 by 11 |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 10*s*. 9*d*. | 12*s*. 3*d*. | 15*s*. | 18*s*. |

Squares not exceeding 20 inches by 18 inches.

| | | | |
|---|---|---|---|
| 15½ by 10½ | 14 by 12 | 17 by 13 | 24 by 16 |
| 16 by 10 | 14½ by 12½ | 18 by 13 | 20 by 17 |
| 14½ by 11½ | 15 by 12 | 18 by 14 | 22 by 17 |
| 15 by 11 | 15½ by 12½ | 22 by 14 | 24 by 17 |
| 15½ by 11½ | 16 by 12 | 24 by 14 | 20 by 18 |
| 16 by 11 | 16½ by 12½ | 22 by 15 | 22 by 18 |
| 13 by 12 | 17 by 12 | 24 by 15 | 24 by 18 |
| 13½ by 12½ | 18 by 12 | 22 by 16 | |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 11*s*. 6*d*. | 13*s*. 6*d*. | 16*s*. 6*d*. | 20*s*. |

Orchard House Sizes, as recommended by Mr. Rivers.

| Ins. Ins. | 15 oz. | | 21 oz. | |
|---|---|---|---|---|
| 20 by 12 | 4ths .. | 11*s*. 6*d*. | 4ths .. .. | 15*s*. 0*d*. |
| 20 by 13 | 3rds .. | 13 6 | 3rds .. .. | 19 0 |
| 20 by 14 | 2nds .. | 16 6 | 2nds .. .. | 25 0 |
| 20 by 15 | Best .. | 20 0 | Best .. .. | 30 0 |
| 20 by 16 | | | | Per 100 feet. |

Squares Cut to Sizes not on List.

| | 15 oz. | | | | 21 oz. | | | |
|---|---|---|---|---|---|---|---|---|
| Under | 4ths. | 3rds. | 2nds. | 1st | 4ths. | 3rds. | 2nds. | 1st |
| 1 ft. super. | 1½*d*. | 1¾*d*. | 2*d*. | 2½*d*. | 2½*d*. | 2¾*d*. | 3¼*d*. | 4½*d* |
| 2 ft. super. | 1¾ | 2 | 2¼ | 3 | 2¾ | 3 | 4 | 5¼ |
| 3 ft. super. | 2 | 2¼ | 2¾ | 3¼ | 3 | 3¼ | 4¼ | 6 |
| 4 ft. super. | 2¼ | 2½ | 3 | 4 | 3¼ | 3¾ | 4½ | 6½ |

GLASS TILES, in SHEET and ROUGH PLATE. PLATE GLASS, PATENT PLATE, and HARTLEY'S IMPROVED ROUGH PLATE.

### PAINTS, COLOURS, VARNISHES, &c.

| | Per cwt.—*s*. *d*. | | Per gallon.—*s*. *d*. | | Per gallon.—*s*. *d*. |
|---|---|---|---|---|---|
| GENUINE WHITE LEAD .. .. | 30 0 | FINE OAK VARNISH .. .. | 10*s*. to 12 0 | LINSEED OIL .. .. | 3 9 |
| ANTI-CORROSION PAINT .. | 28*s*. to 34 0 | ,, CARRIAGE .. .. | 12*s*. to 14 0 | BOILED OIL .. .. | 4 2 |
| LINSEED OIL PUTTY .. .. | 8 0 | PATENT DRYERS .. per cwt. | 28*s*. to 42 0 | TURPENTINE .. .. | 3 6 |

MILLED LEAD in Sheet and Pipe of all sizes. Old LEAD bought or taken in exchange.

LIFT PUMPS, WATER CLOSETS, and PLUMBERS' BRASS WORK of all kinds.

**NETT CASH.**

ESTABLISHED UPWARDS OF A CENTURY.

# BUTLER & McCULLOCH,

COVENT GARDEN MARKET, LONDON, W.C.

*All Orders amounting to 21s. sent Carriage Paid.*

**COLLECTIONS of BULBS for GREENHOUSE or CONSERVATORY.**

Purchasers who may not require all the sorts mentioned, can have increased quantities of other kinds, or if they think proper, may select from the Catalogue to the amount. The numbers in the columns indicate the quantity of Bulbs in each Collection.

| | No. 1. £5. | No. 2. £2 10s. | No. 3. £1 5s. | No. 4. £1 1s. | No. 5. 1 0 6d. |
|---|---|---|---|---|---|
| HYACINTHS, for Pots, Glasses, or Moss, named varieties .. | 60 | 30 | 15 | 15 | 12 |
| POLYANTHUS NARCISSUS, do. do., do. .. | 26 | 13 | 6 | 6 | 8 |
| TULIPS, single, do. do., do. .. | 50 | 25 | 12 | .. | .. |
| " double, do. do., do. .. | 50 | 25 | 12 | .. | .. |
| " DUC VAN THOL, single .. .. .. .. | 25 | 12 | 6 | 6 | 12 |
| " " scarlet .. .. .. .. | 12 | 6 | 3 | 3 | .. |
| " " rose .. .. .. .. .. | 12 | 6 | 3 | 3 | .. |
| " " yellow .. .. .. .. | 12 | 6 | 3 | 3 | .. |
| JONQUILS, double, sweet-scented.. .. .. .. .. | 12 | 6 | 3 | 3 | 3 |
| " single, " .. .. .. .. .. | 12 | 6 | 3 | .. | .. |
| LILIUM LANCIFOLIUM .. .. .. .. .. .. | 3 | 2 | 1 | 1 | 1 |
| IXIAS .. .. .. .. .. .. .. .. .. | 25 | 12 | 6 | 6 | 3 |
| SPARAXIS .. .. .. .. .. .. .. .. | 25 | 12 | 6 | 6 | 3 |
| BABIANA .. .. .. .. .. .. .. .. | 6 | 3 | 1 | 6 | 3 |
| CYCLAMEN .. .. .. .. .. .. .. .. | 6 | 3 | 2 | 1 | .. |
| VALLOTA PURPUREA .. .. .. .. .. .. | 1 | 1 | 1 | .. | .. |
| AMARYLLIS FORMOSISSIMA .. .. .. .. .. | 12 | 3 | 3 | 3 | .. |
| NEWEST SEEDLING CROCUS, named varieties .. .. | 200 | 100 | 50 | 50 | 50 |
| SCILLA SIBIRICA .. .. .. .. .. .. .. | 12 | 6 | 6 | 3 | 3 |
| OXALIS SPECIOSA .. .. .. .. .. .. .. | 25 | 12 | 6 | 6 | 3 |
| TROPÆOLUM JARRATTII .. .. .. .. .. .. | 1 | 1 | .. | .. | .. |
| IRIS PAVONIA .. .. .. .. .. .. .. .. | 6 | 3 | 3 | .. | .. |

BARR & SUGDEN, 12 KING ST, COVENT GARDEN

*Orders amounting to 21s. sent Carriage Paid.*

**£34 10s. Prizes for Hyacinths, Tulips, and Crocus.**

The Royal Horticultural Society in MARCH, 1864, offer PRIZES to the above amount for HYACINTHS, TULIPS, and CROCUS.

For DESCRIPTIVE LIST of NEW and EXHIBITION HYACINTHS, TULIPS, and CROCUS, see BARR & SUGDEN'S "ILLUSTRATED FLORAL GUIDE," price 1s.

**HYACINTHS.**

| | | | | | |
|---|---|---|---|---|---|
| 100 in 100 exhibition varieties | 105s. | 100 in 100 extra fine varieties | 84s. | 100 very fine varieties | 63s. |
| 50 in 50 " " | 50s. | 50 in 50 " " " | 42s. | 50 " " " | 30s. |
| 24 in 25 " " | 25s. | 25 in 25 " " " | 21s. | 25 " " " | 15s. |
| 12 in 12 " " | 15s. | 12 in 12 " " " | 12s. | 12 " " " | 6s. to 9s. |

**TULIPS.**

| | | | | | |
|---|---|---|---|---|---|
| 100 in 50 exhibition varieties | 25s. | 100 in 30 exhibition varieties | 17s. 6d. | 25 in 25 exhibition varieties | 5s. 6d. |
| 100 in 40 " " | 21s. | 50 in 25 " " | 10s. 6d. | 12 in 12 " " | 3s. 0d. |

**CROCUS.**

| | | | | | |
|---|---|---|---|---|---|
| 500 in 20 exhibition varieties | 21s. | 250 in 20 exhibition varieties | 10s. 6d. | 100 in 20 exhibition varieties | 4s. 6d. |

COLLECTIONS of BULBS (see our Advertisement, page 886, *Gardeners' Chronicle*, Sept. 19), for the adornment of the SPRING FLOWER GARDEN, CONSERVATORY and SITTING-ROOM.

For PRICES of BULBS generally, see our Advertisement, page 958, *Gardeners' Chronicle*, Oct. 10.

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BARR & SUGDEN'S

ILLUSTRATED FLORAL GUIDE TO WINTER AND SPRING GARDENING.

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# MESSRS. JAMES SCLATER & CO.,

DEVON NURSERIES, near EXETER,

As the largest Fruit Growers in the West, can with every confidence recommend this most productive and superior Fruit. The canes from 10 to 12 feet in height, and the fruit proportionately large, of fine flavour, pleasing red colour, and very solid. The canes are of that strength and the wood of that peculiar hardness that they require no support. The most certain cropper, producing fruit in corymbs from 18 inches to 2 feet in length, from the bottom of cane to the top, fruiting in clusters from every eye, producing fruit from July to October. They have been seen by numerous first-class Horticulturists, whose testimonials can be had on application.

**All Orders supplied in strict rotation at 100s. per 100 Canes, or 18s. per dozen.**

*Carriage paid to London, Bristol, or Plymouth.*

MESSRS. HURST AND SON, SEED MERCHANTS, 6, LEADENHALL STREET, SOLE LONDON AGENTS.

**Sutton's Unrivalled Collections of Bulbs.**

SUTTON'S GUINEA COLLECTION of BULBS for BLOOMING in POTS and GLASSES.

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For particulars see SUTTON'S AUTUMN CATALOGUE, which may be had Gratis and Post free.

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

SEEDSMEN BY APPOINTMENT. Sutton and Sons

HYACINTHS for EXHIBITION. FRESH IMPORTED BULBS. SUTTON'S SELECTION.

| | | Per 100. | Dozen. |
|---|---|---|---|
| Finest sorts by name | .. | £4 4s. | 12s. |
| Very fine ditto | .. | 3 10 | 9 |
| Good ditto | .. | 2 10 | 6 |

Good Hyacinths for Beds, Ribands, &c. in separate colours (fresh imported), 21s. per 100.

Anemones, Crocuses, Tulips, Gladioli, &c., also very low in prices, as per CATALOGUE, which may be had gratis and post free.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

**New Azaleas.**

AZALEA (INDICA) QUEEN of BEAUTIES.—Mr. WILLIAM BULL begs to announce that he has purchased from M. Ambroise Verschaffelt the sole right of supplying this exquisite variety in the United Kingdom.

DESCRIPTION.—Salmon pink margined with white, and flaked with carmine, densely and very richly spotted with crimson; flowers large, of good shape and substance; one of the best Azaleas ever offered. Price 21s. each.

AZALEA (INDICA) WAXWORK.—Unusually thick wax-like petals; flowers immensely large and finely formed; pure white striped and flaked with purple, a most desirable variety, there being only one or two kinds of white striped with purple (and these not to be compared to the one now offered), while there are several whites striped with red. Price 21s. each

AZALEA (INDICA) WILLIAM BULL.—This variety was raised in Belgium, and named by M. Ambroise Verschaffelt, from whom the stock for circulation in the United Kingdom was purchased. The flowers individually are of unusual size and substance, double, and well formed; colour, crimson and violet. Price 15s. each.

AZALEA (INDICA) BELLE GANTOISE, 7s. 6d.
HORTENSE VERVAENE, 7s. 6d.
MADAME AMBROISE VERSCHAFFELT, 7s. 6d.
MADAME WAGNER, 15s.
PRESIDENT HUMANN, 21s.
REINE DES DOUBLES fol. VARIEGATA, 7s. 6d.
SOUVENIR DU PRINCE ALBERT, 21s.
SECRETAIRE CLAUS, 10s.
VICOMTE DE FORCEVILLE, 15s.

Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

NOTICE is HEREBY GIVEN that an ELECTION of THREE PENSIONERS on the Funds of this Institution will take place in JANUARY NEXT. All persons desirous of becoming Candidates are requested to send in their applications to the Committee on or before the 12th November next, after which time they will not be received.

Preference will be given to those Candidates who may have been Subscribers to the Society for 15 years and upwards. Should it happen that there are not sufficient Applicants of that class, then the Claims of those who have not subscribed so long or not at all, will be considered.

Application to be made upon printed forms, which may be had upon applying to the Secretary.

By Order, EDWARD R. CUTLER, Secretary.
14, Tavistock Row, W.C.—October 17.


# The Gardeners' Chronicle.

*SATURDAY, OCTOBER* 17, 1863.

ONE of our Correspondents, in the course of some observations on a recent horticultural exhibition at Stettin, has remarked that on the continent the public riding schools are very frequently selected as the *locale* of the flower shows; and hence, he hints at the possibility of a simple wooden building being after all the most economical and useful structure, if not also the most appropriate, that can be contrived for such a purpose. As the question of shelter is one of the most important considerations in respect to the very existence of flower shows in our climate, and is, just now, a pressing consideration with one of our great exhibition-holding Societies, we venture to offer a few remarks on the different ways in which it may be afforded.

The practical difficulty lies in the choice of materials to be employed, and the alternatives would seem to be these:—1, masonry; 2, wood; 3, iron and glass; 4, canvas. To these may be added a combination of any two or more of them.

The employment of masonry may at once be put out of the question, for a building sufficiently removed from baldness and vulgarity in respect to its style and decorations to be in harmony with the locality in which it was placed, and with the uses to which it was to be applied, would certainly be of far too expensive a character; and after all would be one of the least fit for the purpose, so far as regards an advantageous setting of the horticultural subjects for whose display it was

reared. The flower halls of masonry which have been erected with a special reference to flower shows do not offer any temptations in this direction; neither does the effect of the exhibitions we may occasionally have seen held in some public building of this character—St. James's Hall, for example.

As to wood, the objections seem to us to be pretty much the same as those to be urged against masonry, except as regards the sum total of cost. A wooden building would not display plants better than one of brick or stone, but then it would cost less, and *per contra*, would, of course, be less durable. Neither a building of masonry or wood, by any contrivance that could be adopted for lighting it, would give us the proper kind of light for the most effective display of plants and flowers, and that is argument enough against them both.

A building of glass and iron of appropriate size, and effectually shaded in bright sunny weather, would be all that could be desired in one point of view. The shelter would be perfect, and the light could be regulated so as to be exactly what was wanted either in dull or bright weather. It would have the advantage over tents in this respect; for though in bright weather tents are all that can be wished, yet in dull weather, and especially in the spring months, they are too dark. The glass building however must be of moderate size—not a Crystal Palace nor an Exhibition building, both of which afford about the worst possible conditions for the effective display of plants, and are tolerable only on the ground of providing comfortable accommodation for the visitors. But then after all, a building of glass and iron is a costly toy; and in hot weather there is the strong objection to it that the temperature cannot very readily be kept down without draughts, or the employment of a good deal of ventilating apparatus, which latter would make it all the more costly.

The canvas tent, of ample size, is without doubt the *beau ideal* of an exhibition place—provided only the external requisites of sunshine and fair weather can be secured. But there's the rub. We suppose that on an average, half the number of days on which our great metropolitan shows are held turn out to be either drenchers or drizzlers, and on these wet days the best of tents is simply wretched. A large tent, too, is a very costly plaything, so that it has no recommendation on the financial score.

Putting this and that together, we have long made up our minds as to what any contrivance for the shelter of an exhibition in the climate of London and on the metropolitan scale ought to realise. It ought to secure at least these three conditions:—First, that the subdued, but equably diffused light of a tent—such a light as is produced under canvas on a bright day—may be imitated. Secondly, that there may be absolute immunity from the discomforts attendant upon a pluvial day. And, thirdly, that the exhibited subjects may not be depreciated by the size or accessories of the arena whereon their merits are to be contested. Where a Crystal Palace or an International Exhibition building exists, the second point being assured, a very little contrivance may fairly realise the rest, but decidedly Crystal Palaces would not be our models for any buildings to be contrived for the purposes of plant showing; they are too large, with too confined an atmosphere. Neither should we be inclined to brave all chances of tempestuous weather, and pitch our tents for the reception of the plants and company; they are too often too dewy and too breezy to be enjoyable. Our model would rather be constructed thus:—A simple glazed roof, made up of a sufficient number of small spans, all on the same level or of different heights (as for example with a raised centre, or raised ends, or both), as might be preferred; supported on hollow iron columns to carry off the water; festooned with drapery on the inside to moderate the light, the drapery being readily removable in dull weather, or in spring time; and closed in at the sides with canvas walls, so far as might be desirable during the time of the exhibition. Such a structure would be comparatively cheap; it would also be permanent, and it would secure all the desiderata of a floral exhibition, so far as its surroundings were concerned, namely, subdued light, abundant and controllable ventilation, dryness, and ample but not overpowering space.

If we may venture to apply these opinions to the circumstances of the Royal Horticultural Society, which, now that it is certainly to lose its monster neighbour, *must* provide some other accommodation for its exhibitions, we should say at once—as converting a present eyesore into something useful and enjoyable— put a simple glazed roof to the arcades, close up the front openings with glass in such a way that sufficient ventilation may be obtained in hot weather, and here and there throw across a glazed partition to prevent draughts. This would make a useable if not a model place for exhibitions, and would convert what is now for nine-tenths of the year utterly unenjoyable into a pleasant promenade, which might be still further improved by having its walls covered with Camellias, Roses, &c., and by being furnished with removable evergreens when not required for exhibition purposes. A more perfect exhibition building, according to the model we have slightly sketched, might of course be put up on the spot where the monster tent once stood; and as that luckless canvas might in this way be turned to good account, no better course could be adopted, so far as the exhibitions themselves are concerned.

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A CONTINENTAL newspaper reports the result of an unexpected visit made by the EMPEROR of the FRENCH to see some experiments in cultivation by M. DANIEL HOOIBRENCK, upon M. JACQUESSON'S estate at Epernay. The statement is by no means clear, but we believe the following to be its meaning. The system has not been applied to fruit trees more than eighteen months. We are assured that it is founded upon a grand law of nature, "observed and discovered" by M. HOOIBRENCK, according to which law, when a branch has a certain inclination below the horizontal, all the nutritive gases absorbed by the leaves combine with the sap to mount upwards, nourishing the fruit in its way, and at last rejoin the trunk or principal stem, giving it additional strength, and forming a depôt of nutritive matter, to supply any deficiency which may occur through the destruction of a branch. After numerous minute observations, M. HOOIBRENCK was of opinion that the inclination which answered best was $112\frac{1}{2}$°, reckoning from the vertical, and dividing the circumference into 400°. This system of cultivation has been applied to all fruit trees, vegetables, and even to the flowers of M. JACQUESSON'S kitchen garden. All the Vines belonging to M. JACQUESSON'S son, that is to say a space of 190 acres, partly at the chateau of Sillery and partly at Châlons, have been cultivated in this manner, and the results obtained surpass all expectation. His Excellency the Minister of Agriculture has already sent a commission composed of MM. PAYEN, DECAISNE, and PEPIN, to investigate the question, and we expect their report with no little curiosity.

The attention of the EMPEROR was afterwards drawn to a new method of artificially fertilising Corn crops, also the invention of M. HOOIBRENCK. The method is very simple, being merely a rope 20 or 30 yards long, covered with a fringe of wool of 25 or 30 centimetres deep, resembling a long woollen comb, which is drawn across the field two or three times whilst the corn is in flower. The pollen sticks to the woollen threads and is then deposited upon the female organs of the ear; fertilization thus takes place, we are told, with a regularity and a completeness which the finest season cannot ensure. This experiment, we are assured, has again been made at M. JACQUESSON'S Chateau de Sillery upon 200 acres of Wheat, Rye, Barley, and Oats. A commission has also been appointed by the Minister to examine into the results thus obtained, the members being MM. PAYEN, DAILLY, and SIMON. Without anticipating the report of the Commissioners, says the French Journal, we are happy to state that from each area of the different corn crops experimented upon, the following results have been obtained—

| | Litres. | | Kilos. |
|---|---|---|---|
| Rye not fertilised .. .. | 22.6 | weighing | 16 |
| Rye fertilised .. .. .. | 31.6 | ,, | 25 5 |
| Wheat not fertilised .. .. | 30.5 | ,, | 21 |
| Wheat fertilised .. .. | 41.5 | ,, | 31 |
| Barley not fertilised .. .. | 28 | ,, | 16 |
| Barley fertilised .. .. | 40 | ,, | 24 |
| Oats not fertilised .. .. | 30 | ,, | 12 |
| Oats fertilised .. .. .. | 42 | ,, | 17 |

This discovery would seem to be capable of immense results, since M. HOOIBRENCK has increased the quantity of his crop by about 50 per cent. without sensibly increasing labour. It is also to be observed, that this year's harvest being abundant is rather against the experiment, the difference being much more evident in a worse season.

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WE have given at p. 963 a short descriptive sketch of the extremely interesting SUB-TROPICAL GARDEN IN BATTERSEA PARK, and we have now the pleasure of explaining, in his own words, the mode of cultivation which Mr. GIBSON has practised with so much success upon these so-called tender plants, this very result being suggestive that more remains to be accomplished in the same direction. It will be seen that the foundation of success lies in an ingenious and novel way of providing bottom-heat, which Mr. GIBSON thus describes:—

"In reference to the treatment of Cannas and other foliage plants in the sub-tropical garden in this park, I would in the first place advert to one point in their cultivation heretofore practised in England, which has been most probably suggested by the treatment said to prevail on the Continent, viz., the use of hot manure, which has been considered necessary as a means of warming the soil in which such plants were intended to be grown, in order to ensure their successful cultivation in the open air. That plan was adopted here last season upon a limited scale, but it was found both expensive and troublesome, though the result was more or less satisfactory. The difficulty of obtaining hot manure in sufficient quantity, and the expense of preparing the beds in this way, would thus have rendered it necessary to confine the cultivation of foliage plants within narrow limits. Attention was therefore directed to the subject, and the idea was formed that sufficient warmth could be obtained for the growth of such plants, without the aid of hot manure, by forming the beds upon a mass of brick rubbish above the ordinary level of the ground, placing them in such form as to admit of solar action upon their sides during the whole day, in order that more or less warmth might be absorbed from the sun's rays. It was thought that if this could be done, the brick rubbish would retain the warmth for some time, and the result has justified the expectations which had been formed.

"The raised beds in this sub-tropical garden were consequently formed upon heaps of brick-bats, 18 inches to 2 feet thick, according to the width of the bed, the latter being first excavated 9 inches below the ground line; the brick-bats were so placed as to form at the edge an angle of about 25°, extending 2 feet or more beyond the outside of the bed all round; and upon the marginal slope thus formed,, only about 3 inches of mould was placed for the Grass to grow in. Turf was then placed over the brick-bats, the grassy side downward, and the prepared compost was filled in to the depth of from 9 to 12 inches. This compost consisted of leaf-mould, loam, and river (Thames) sand, forming a rich soil, of which the slopes of the beds were also formed. This arrangement, which secured the most perfect drainage, rendered it necessary that water should be applied copiously in dry weather; but in wet weather the soil did not become saturated, and to prevent this is of as much importance to these plants as copious artificial waterings are in dry weather. The beds were made quite level on the surface, in order that water might pass *equally* through the whole mass of soil. The Grass on the slopes of the beds being so near the brick rubbish, has required frequent waterings in dry weather to prevent its becoming brown and unsightly.

"The shape of the beds was confined to the circular, oval, or oblong. The *ends* of the ovals and oblongs were placed as nearly north and south as circumstances would allow, in order that one or other of their *sides* might receive the sun's rays nearly the whole of the day, which of course resulted in an increased amount of warmth being imparted to the roots of the plants. The soil, thus placed upon brick rubbish soon becoming dry in hot weather, much artificial watering has this season been required. It was moreover found necessary about the middle of August to apply a thorough mulching of rotten manure, which considerably increased the vigour and luxuriance of the plants.

"These beds were planted about the middle of June, and for some time the plants made but little progress. Many of them had been started and grown in heat, and although hardened before being turned out, the Cannas felt the check considerably, and all the foliage they had made under glass appeared to suffer and die off. This would be prevented by adopting the plan of planting out the dry roots of the Cannas at once in the beds, as practised on the continent; and having planted two beds in that way this season, I am satisfied it is the best plan, and intend to adopt it in future, planting them out in May. The Cannas, however, that were started in heat, after having recovered the check, commenced growing most vigorously, each succeeding shoot being stronger than before, and they have

nearly filled the beds with their underground roots. Canna Annæi has attained the height of 8 feet, and C. robusta, discolor, and zebrina, from 5 to 6 feet, while the dwarfer growing kinds have shown equal luxuriance; Ferdinandia eminens from spring-struck cuttings has grown 9 feet high, and similar plants of Wigandia caracasana have reached from 6 to 7 feet high."

Success such as this is certainly enough to fortify Mr. GIBSON in his opinion, that much may yet be done in the way of preparing or hardening tropical plants for a summer's exposure in the open air of our English climate. Upon this matter of extension, some experience has been gained in the sub-tropical garden in question during the present year. Thus it was found that of several plants of the same kind turned out at the same time, some stood perfectly well, while others that had not fully made their growth and ripened their shoots, and whose leaves had not become sufficiently hard, suffered more or less. The inexperienced need therefore to be cautioned against turning out tender plants while in a state of growth from being kept in heat under glass, or before their shoots and leaves have become perfected and hardened; for although plants of the same kinds would probably make shoots out of doors if put out in a proper state of rest, yet they would not bear even the first chill of exposure to the open air if they had begun to grow in heat under glass, and were not matured so as to be in a kind of resting state. This has been especially remarked with Cannas, Musas, &c.

Mr. GIBSON has also observed in reference to shelter, that the protection afforded by large trees only is insufficient for these tender plants, which are known to suffer more or quite as much from the under-current below the "browsing-line" such as that formed by cattle, or by pruning artificially for head-room, as when fully exposed. Yet large trees with belts of shrubberies underneath, so placed as to intercept the under-current, are capable of forming the most perfect shelter. This latter is the kind of shelter afforded by the arrangements in the formation of the Battersea Park sub-tropical garden.

In reference to the extension of this idea of growing plants usually thought to be tender in the open air during summer, Mr. GIBSON, remarking on the common practice of placing Cape and New Holland plants in some back enclosure out of sight during the summer months, and also that of overcrowding the splendid collections of stove plants to be found in many English gardens, points out, that "if the plan adopted in the sub-tropical garden at Battersea Park should eventually succeed in the average of seasons, and should be adopted by the possessors of such collections, so that the plants may be tastefully arranged in a suitable spot in the open garden, much more real enjoyment would be secured than is now the case. The principle is capable of further extension, and I would venture to apply it to the Orchid house with as much confidence as to the stove. Here, indeed, one must be influenced in some measure by the known value of many of the kinds, and there are others that one would not think of so exposing. It would, however, be a pleasing task to try many of our old favourite Orchids in the open air, under such shelter and shade as before described; and amongst those for trial would be found Cœlogyne Wallichii, maculata, and others; Phajus and Cypripedium, several species of each; Dendrobium nobile, moniliforme, cœrulescens, heterocarpum, formosum, Cambridgeanum, Devonianum, chrysanthum, and others. As an inducement to institute these trials, the success which has attended similar attempts on the Continent may be fairly quoted."

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WE have just had the satisfaction to receive some remarks on COTTON CULTIVATION and HYBRIDIZATION from the pen of Dr. WIGHT, perhaps the most experienced of our scientific friends in this great question. They unfortunately arrived too late for insertion this week, but they will be certainly found in our next issue. The subject is second to nothing in importance, and we cannot but feel that English horticulturists, skilful as they are beyond all men in what relates to such management, if assisted by observers practically familiar with the details of Indian husbandry, will throw a new light upon the whole question.

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—— The Rev. Mr. RADCLYFFE gives in the September *Florist* his out-door experience of the Roses of 1862—a season of which he remarks, in reference to these flowers: "I never knew so many good ones come out in one year." He places them thus:—1. *Extra Choice, and A 1*: Maurice Bernardin, Duc de Rohan, Charles Lefebvre, Prince Camille de Rohan. 2. *Choice and A 1*: Beauty of Waltham, Madame Boutin, Maréchal Vaillant, François Lacharme. 3. *Fine, fit for show, good but not choice in colour*: John Hopper, L'Eblouissante, Madame Charles Wood, Madame Clemence Joigneaux, all good constitutioned varieties, strong growers and good bloomers. 4. *Good*: Professor Koch, Mademoiselle Julie Daran, Mademoiselle Ernest Dréol, Turenne, Vicomte Vigier, Alphonse Damazin, Archevêque de Paris. 5. *First-rate full-sized show Roses of doubtful constitution*: Emile Dulac, Gloire de Chatillon; only fit for first-class lands and favourable situations. In the number for October, he adds:—1. *Roses since proven*: Olivier Delhomme. 2. *Roses previously mentioned that have bloomed lately and beautifully*: Beauty of Waltham, Maréchal Vaillant, Le Rhone, Turenne, Professor Koch, Madame Boutin. 3. *Roses of* 1863: Mrs. William Paul, a beautiful first-class Rose, which lives and dies well; Madame Brianson, has the appearance of a very superior Rose; 3. Madame Alfred de Rougemont, French white, valuable for its colour and continuous blooming. Most of these have been recommended in other quarters, and may be pretty safely recognised as acquisitions.

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## ON THE CHANGE OF PLUMAGE IN SOME BIRDS.

WE have here, the year throughout, from 14 to 40 Canada geese, which are not sufficiently domesticated to be considered private property, nor wild enough to be under the denomination of *feræ naturæ*. They come and go we know not whither, and this is all that we can say of their frequent flights across the heavens when they suddenly take wing.

At the summer solstice the long feathers in the wings of these birds drop off, but their places are supplied by new ones with wonderful rapidity; so that, in the course of about one month, they are enabled to fly again. Although the young birds of this year do not lose the long feathers in the wings, still their entire plumage undergoes a marvellous change of colour. After passing through the gosling state, we see the succeeding feathers throughout the whole body gradually acquiring the tints of an adult bird; and by the end of summer the young geese can scarcely be distinguished from the old ones, except by size. During the privation of the powers of flight, these old birds, cunning as the Hanoverian rat, keep close to the water's edge, ready for a plunge in case of danger. But we never take advantage of Dame Nature's mysterious arrangements in these affairs, and thus the disabled geese are allowed to live free from slaughter, to the evident disappointment of the longing cook-maid.

Whilst treating of geese I would fain add a word or two of their eccentricities. In the flock of our Canadian geese there may be seen at present an individual of snow-white plumage. It is an intruder, having formerly belonged to a flock of common domestic geese, which were purchased lean in the autumn, and fattened for the use of the table after winter had set in. I saved its life when all its companions had fallen under the knife of the merciless larder-butcher. This solitary goose, finding that the last of its own companions had disappeared, went and joined the Canadian flock; and it has kept company with its new friends ever since. It is now of great service to us, by pointing out at the close of day the exact locality of its dark associates through the impending gloom.

In the spring of each year it singles out to itself a companion from the Canadians. Still their union is a mere farce, and their loves platonic, but nothing more. They dissolve partnership at the return of summer. This year we hatched a Canadian gosling under a common dunghill hen, which has brought it up with great care. It lives and eats with her, and with her it retires to her own hen-house, without paying the smallest attention to its congeners, which are feeding on the grass in every direction around it. It is tame, almost to a nuisance; and it has already afforded a daily opportunity of examining minutely the gradual change in the colour of its plumage, which has not fallen off, but has even now assumed the appearance of birds in the adult state.

Why these two geese of different species have changed society I cannot tell. "De gustibus disputare nequeo." Perhaps some of our seers, deeply versed in zoological economy, may be able to unravel the mystery. Should they make the attempt, from my heart I wish them better success than when they strove to enlighten the world on the nature and habits of the gorilla, one of the most shy and harmless of its tribe on the whole coast of distant western Africa. *Charles Waterton, Walton Hall, near Wakefield.*

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## POTATOS.

WE owe much to Mr. Whiting, Mr. Rivers, and Mr. Dean for Potato information. I consider Potatos and Apples to be the two most indispensable things in horticulture, as they can be cooked in more ways, or turned to more account, than any other vegetable or fruit; moreover they can be eaten more prolongedly than any other vegetable or fruit without cloying. A good Potato is essential to the rich as well as to the poor. This, therefore, must be my apology for saying a few words.

Of KIDNEYS I recommend the following:

1. *The Red and also the White Ash leaf.*—The Red is larger and hardier than the White, the quality and flavour being nearly the same.

2. *Mona's Pride.*—This is far stronger as a plant than either of the foregoing, and earlier by some days. The tubers are as large, or nearly so, as those of the Fluke. It is an immense cropper, and the quality is excellent. It is a seedling raised from the White Ash-leaf, and kindly sent to me by Mr. Rutledge, of Hague House, Douglas, Isle of Man. I see by a Northern paper that it won a 2*l.* prize and silver medal, at a great Agricultural and Horticultural meeting at Birkenhead, a few days ago. He sent me three white Ashleafs to test that kind, they produced 60 Potatos, but they were nothing like the Monas for size and weight, their average crop being about 14 tubers per plant. He also sent seven small Early Handsworths, which were cut into 13 sets, and produced 218 tubers, chiefly large, but too deep-eyed.

3. *Flukes.*—These are admirable for mid-season and late use, and generally gain the prize for Kidneys at our shows; I have, however, known them to throw out a small excrescence or tubercle.

4. *Prize-takers.*—These are excellent for quality and appearance. They require very good ground.

5. *Silver-skins.*—My servant grows these. They are the best in skin of all Potatos, good croppers, and of excellent quality. He sent some to the Blandford Exhibition, which I fancy did not meet the judges' eyes. The Flukes were larger, but none were equal to them in skin.

6. *Red, and also Salmon Kidneys.*—These are first-rate, and are good till new Potatos are fit to dig.

Kidney Potatos require richer ground and more care than Rounds. Ash-leafs, and those derived from them, should not be much cut. Walnut-leaved Potatos should not be planted till the eye has started. The earth, when placed over them, should be fine. Very early sorts should have an inverted trough like the roof of a house placed over them at night, and the ends, resting on bricks, should be raised as the plants grow. My Monas were so served, and escaped the severe spring frosts, which blackened and cut to the ground (May 7) unprotected sorts, some of which were a foot high. As the roots come out of the eye, I think the eyes should be planted downwards. In my locality people usually plant the eye uppermost.

Secondly, ROUNDS.—The best in quality I have ever had, are 1, Flourballs; 2, Fortyfolds; 3, Breadfruits; and 4, Early Manns. These are delicious, and fit especially for a gentleman's table. 5, Dalmahoys are good and much like the Fortyfolds. 6, Jersey Blues are good, but too late for blighting seasons. 7. Welsh Whites are good croppers, and of fine flavour. 8. Early Dugdales are excellent for field purposes. Mr. H. Simmonds, Yeoman, of Milborne, sent me a tuber of this sort this year, which weighed at digging time $1\frac{1}{2}$ lb. It is now in my house. The variety is a heavy cropper; and its short and stout greens resist blight well. It is not first-rate in quality.

Finally, POTATO BLIGHT.—From the simultaneity of this malady over the world, I am inclined to think that it arose from electricity. The tubers then became injured in their cellular tissue by injury to their lungs; and being debilitated, they afterwards became more liable to fungoid disease—fungus being the "prince of the power of the air" in the natural world. Potato blight may have arisen from fungus only, but I confess that with my glasses I never could detect a spore.

All nostrums here have failed. There has not been a theory "set up" that has not been "set down."

Probably change of seed, change of ground, spare manuring, early ripening sorts, and early planting, afford the best chances of escape; but I have known all these fail. "In Deo fiducia!" *W. F. Radclyffe, Rushton, Oct.* 7.

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## BIRDS *versus* GARDENS, &c.—No. II.

*(Continued from p. 942.)*

LET us now see what are the statements on the other side. First, a "Country Parson," who thinks the birds ought to be grateful to their advocates, tells us that he, too, has his hobby, which is gardening. I have a weakness for fruit, he says; I am also fond of birds—I like to hear them sing, and to see them about me, and to watch their habits; but I find it impossible to have birds and fruit together. And then he relates his experience of the present year. "In the early spring I had a passing visit from a family of bullfinches, who stayed with me about a week, and were busily engaged in searching the blossom-buds (I am charitable enough to suppose) for grubs; but in prosecuting this laudable design they entirely destroyed the prospect of a crop of Plums. A pair of blackbirds made their nest in a Laurel bush close to the house, and not only did the cock bird sing most beautifully, but it was very pleasant to see him "worming" for the support of his family; but directly the Strawberries began to ripen I found my friends a nuisance. The parent birds and their five young ones

were eating Strawberries from morning till night. I could have put up with this, in consideration of the old birds' song; but in a few days other blackbirds came dropping in, and thrushes innumerable—birds from a distance, whose song I had never enjoyed; they cared nothing for the nets with which the beds were covered; they "stocked" the fruit through them; they perched on a new mawkin which I had obtained of a pattern warranted to terrify; they ate a good portion of the fruit. When we had finished the Strawberries among us, they turned their attention to the Raspberries. The weather was now hot, the soil hard, and consequently little could to be done in the way of worming. The result was that out of a considerable plantation of Raspberries we, the proprietors, did not get more than a couple of quarts, and these had to be gathered in a half-ripened condition in order to save them. In this work the blackbirds and thrushes were assisted by robins. Next, the Gooseberries came in. The crop was abundant, but the only portion we were able to secure was the fruit of a few trees which were covered with nets. The rest of the plantation was completely stripped in the course of a few days. Then came a little cessation from fruit. My friends from a distance went away to other gardens, while my own family of blackbirds finished the handsome berries of the Berberries, which happened to be the only edible things left in my garden; to these they are always welcome. I have a particular weakness for Pears, and am very choice in my sorts, but later the blackbirds returned and were pecking at them all day long, assisted by a family of the titmouse, who perhaps do more harm than their larger companions, inasmuch as they "stock" a small hole in one Pear, thus spoiling it, and then go on to another. The rascals will not touch perry Pears, but confine themselves to Mr. Rivers's choicest varieties. Now, what am I to do? It seems that I must give up either birds or fruit. It comes to this. The small birds must be destroyed, or fruit can only be had in orchard-houses."

Then "Cantab" asks for an explanation how it is that because thrushes, blackbirds, wagtails, and titmice feed their young very frequently, therefore sparrows, yellow-hammers, &c., do little or no harm; and he reminds Mr. Morris that sparrows do not wait for corn to be ripe, but eat it as soon as it begins to swell, so that the month during which it is confessed that they live on grain, may be pretty nearly doubled. He believes the mischief done by sparrows, finches, &c., far outbalances any good they may do. They have, he says, a very easy time of it with me, and the result is that the sparrows stop up the waterpipes with their nests, plunder the Peas, and play havoc with small fruits, in spite of nets and watchfulness, while they leave grubs to eat the Gooseberry bushes, caterpillars of the buff-tip to form colonies on the Rose bushes, and those of the Cabbage butterfly to make their appearance at table in the Cauliflowers; and let weeds seed unchecked, except by man or boy. One day's labour in picking or hoeing will destroy more grubs than all the sparrows in the garden in a twelvemonth. With blackbirds and thrushes it may be an open question whether you prefer your Cherries or their song, but you cannot have plenty of both. Yellowhammers and buntings live much as do sparrows. Titmice do little harm and little good.

At this point a "London Incumbent" gives his experience of several years, which is, that you cannot protect the vested interests of rooks, magpies, jays, wood-pigeons, missel-thrushes, blackbirds, song-thrushes, robins, sparrows, finches, and tomtits, and at the same time retain any vested interest whatever in your own fruit garden.

A writer who signs himself "Sense," and who lives among the Cotswold Hills, in a wooded district, has long since given up in despair any attempt to preserve any kind of fruit (including Peas under this name), unless carefully matted up as soon as it exhibits any indication of ripeness. Unprotected Currants and Gooseberries disappear as fast as they ripen; Apples and Pears are all tapped one by one long before maturity; and in average winters the fruit trees, especially the Gooseberries, are stripped of every bud. Here, he asks, in a garden where the birds are practically unmolested, might we not expect that, however much fruit we lose, we might find some compensation in being rid of slugs and grubs? But he says, the very opposite is the case; the plague of these vermin and of the birds is co-extensive.

"Guy Fawkes" suggests firing a pistol or gun loaded with powder only, some half-dozen times a day, for a few days successively, which will very materially, if not entirely, rid a garden of the intruders.

To these heavy charges Mr. "Blackbird" makes the following pathetic rejoinder:—

"I am one of a community of little birds living very happily upon a small estate, the proprietor of which will not let us be shot. The gardeners all want to do this, but master won't hear of it. Now, please hear our side, Sir, and judge who takes the fruit. Worms and insects we acknowledge we do, and the gardener won't blame us for this, though he always lays the blame of short fruit crops on us 'little birds.' The estate was taken two years ago by a family who looked very sharp after, not us, but the gardener. They would have their Peas and Asparagus for the gentleman, who was an invalid; so the lady was daily in the kitchen garden, and so were her children, and they watched the growth of all the vegetables and the fruit, and had an abundant supply for themselves, and we were never blamed. They left the next year, and master, who only comes down to the estate in August to stay, though mistress goes there for a day once or twice every month, was told that the short supply which ensued was all our doing. Mistress saw with her own eyes a good crop of Strawberries, Currants, Gooseberries, and Cherries, and appointed an early day for preserving. She did not quite keep to the day, but, going a few days after, every kind of fruit, Sir, was gone, and we the little birds had eaten them in four days. So no preserves were to be had that year. The gardener shot a jay, and tied his carcase to the remainder of the Pea plot, because he quoted Latin, and said '*Credat judæus Apella,*' when the little birds were accused by him. Shortly after a fine crop of large Cabbages were taken by the gipsies, who appeared to have crossed a neighbour's garden, well stocked with these, to take ours. Pray, Sir, do tell the 'Country Parson' to try a change of gardener, instead of recommending extermination of us little birds, every two of which Parson Rook says were worth a farthing 1863 years ago, and so must be worth much more now. Stick up for us, Sir, and we will engage to cleanse your trees and crops, and will sing you a morning and evening song, which is all we can do for those whom we love, and who love us."

## EXHIBITION FLOWERS.

### The Tulip.

Many will no doubt shake their heads in firm belief that the Tulip is not a popular flower, and that because fabulous sums are not now given for a single root, as in days of yore, that few trouble their heads about them. With the Tulip, as with the Fancy Pansy, the English florists have completely taken the wind out of the foreign florists' sails, and the Dutch growers would certainly now find a great difficulty in sending us over a new kind which would beat or even equal kinds now known to us as of home produce. A few days since I was looking over a catalogue of one of the finest collections in Holland, and find our Dutch friends are a very long way behind us in first-class sorts, and that we should refuse to grow a great many which they call first-rate. The truth is that English florists mark out for themselves a high standard of excellence, and leave no stone unturned to gain it. This has been particularly the case with the Tulip, and Mr. Headly, Mr. Willison, the late Mr. Groom, and several other keen Tulip growers have raised a large number of first-class seedlings, some already distributed, and others shortly to be so, many of them more or less valuable additions to our existing collections.

Tulips, however, do still fetch high prices, for new kinds are generally let out at from one guinea to five guineas a bulb. A list of new kinds just issued by Mr. Wm. Willison, of Whitby, describes 17 new kinds ranging from 2*l.* to 7*l.* 10*s.* a bulb. Mr. Turner publishes one of the best catalogues, and the prices will be found to range from 2*s.* 6*d.* to 4*l.* 4*s.* Although there is not so much talk about Tulips as formerly, I believe they are quite as much grown. Years back it was the fashion to grow them, just as people have since rushed into the Cochin China fowl business; then it ceased to be a mania, and became a pleasurable pursuit to those who are now the acknowledged cultivators of this really beautiful flower. There are still a great many growers in the south, especially about Stratford and other parts of London, whilst Mr. Turner's fine collection at Slough must be worth several hundred pounds, for he added largely from the late Mr. Groom's stock, and more recently from the fine collections of the late Mr. Lawrence and Dr. Sandars.

Every Tulip grower knows of Mr. Headly's fine seedlings, but those outside of the charmed circle will not be aware that Mr. Richard Headly, of Stapleford, near Cambridge, has an extraordinary collection of seedlings, many of which will, in all probability, be brought to the hammer next summer. Then there are several other growers about London, such as Mr. Norman, Mr. Brown, Mr. Williams, and a host of others who are enthusiastic cultivators, and also raisers of seedlings.

I know no class of florists so truly fond of a flower as Tulip growers are of the Tulip. There is a wonderful enthusiasm amongst them, and it is of no use for any anti-Tulip individual to hope to get much conversation out of them during the blooming season, unless about Tulips. This floral brotherhood is even more strongly developed northwards, especially in Lancashire, Cheshire, and Yorkshire, great strongholds of the Tulip, and where there are numerous exhibitions held purposely for this flower. Should any person doubt what I am saying, let him during the month of June next take a run to Manchester, Stockport, Ashton, and other towns, and judge for himself. I know one enthusiastic cultivator who often will stay up nearly all night watching his Tulips, and waiting upon them with more care than he would give his babies; and have heard him declare that his wife would fetch out the blankets from the bed when a storm was imminent rather than the Tulips should incur risk. I strongly advise all those who contemplate becoming exhibitors, to novitiate in Lancashire and get into all the secrets of "collaring" the flowers, both inside and out, and packing them with cotton wadding and mastering all the other little intricacies peculiar to this beautiful but short-lived flower.

None but those who move amongst Tulip growers can have any idea of the great amount of money invested in this flower, and what great interest many working men, even in the manufacturing districts, take in the Tulip. Still, despite the beauty and popularity of the flower, no other is so uncertain as the Tulip, for unlike the Rose, Pansy, Auricula, Ranunculus, and other flowers which are the same in character every year, a very fine Tulip bought for say two or three guineas may the following year prove what is called a "heavy" flower: which means that the colour has gone back to the breeder state.

The breeder state is the early stage of the Tulip's career, for after the seed is sown it is about five or six years before it flowers, and then as a self flower, from which state it will at some time or other break into character, that is, become either a Bizarre, Byblœmen, or Rose, the three classes into which broken, or as they are called, rectified flowers are divided. A Bizarre flower has a yellow ground colour, and is either flaked with some shade graduating between brown and maroon, in which state it is a flamed flower, or it has a margin of colour round the upper portion of each petal, in which case it is a feathered flower. Byblœmens have a white ground colour, and are either flamed or feathered with some shade of rosy purple or violet. A Rose flower has a white ground colour, and is either flamed or feathered with rosy carmine or some shade in which this colour is apparent. Stern laws are laid down regarding form, which should be nearly two-thirds of a ball, and purity is held to be indispensable. This means purity of the white or yellow ground colour of the flower, and in which no stain should be perceptible. There are certain points about the marking which would sadly puzzle a novice, but strict rules in judging Tulips are absolutely necessary, and perfection of marking is one of them.

The breaking of Breeder (self) Tulips into flamed or feathered flowers is an enigma which I have never yet heard solved, and I believe it is beyond the power of a florist to state what is the actual cause of this transmission of colour, or positively to state a time within which it can be accomplished. The past summer has given us some extraordinary results with respect to the breaking of Tulips. In the neighbourhood of Derby, Nottingham, and other midland towns, there has been an unusually large quantity of seedlings broken into fine rectified flowers; whilst at Stapleford, near Cambridge, where Mr. Headly bloomed thousands of seedlings, not two in a thousand came other than self flowers. I saw there in May last a large number of roots of Adonis breeder (*i.e.* seedlings saved from Adonis, a feathered Byblœmen flower), every one of which was self-coloured, as in previous years, and about a dozen roots from the same lot given me by Mr. Headly, and planted here in November last, also maintained their original character, and not one broke from it. I also planted several seedling or self flowers of other kinds obtained from growers in the midland districts, and broke six out of each 10 I grew. I am unable to account for this singular fact, and although I have asked many growers to account for it, I have failed in getting information. [Can some philosophical florist throw any light on this curious subject.]

A decided difference of opinion exists on the culture the Tulip should have. I am glad to find that the old fashioned plan of growing a Tulip in poor soil, fearing it would cause the flower to run (*i.e.*, become a self-coloured flower), has less adherents than formerly. Thoroughly rotten manure well dug into the bed some weeks before planting in November, I have found decidedly advantageous. I have now before me a letter from a well known cultivator, Mr. Battersby of Mansfield, Nottinghamshire, in which he replies to a question from me by saying, "I believe growers have generally been over cautious in not allowing a particle of manure to enter into the composition of their soil. I find that a few inches of old frame dung, or pure cow dung, is beneficial when it can be used, and buried some inches below the bulbs; it conduces materially to their strength, and especially when they most require a stimulant, namely, when they are approaching the blooming point. It not only does not prove injurious to the marking of the flower, but will add such vividness to the tints as those only who are bold enough to adopt this method can believe." Of course the Tulip requires shading when in its beauty, but a heavy or dark shade is most objectionable. A very light and almost transparent material should be used, sufficient to deaden the sun's rays, but not to exclude light, if intensity of colour and strength of petal is wanted.

Any amateur wishing to commence Tulip growing, and not having much experience of Tulips, had better consult some respectable cultivator as to the sorts he should start with, but I would caution him to begin with really good kinds, if only a few. He will soon gain experience in growing—indeed not much is wanted, for the Tulip is very easily cultivated; and a knowledge of properties and defects peculiar to the different kinds, will soon be ascertained.

I can speak from experience of my own, and from what I have seen in many others, that the Tulip soon becomes a favourite flower with any person who has a love for florists' pursuits. Not only is there a great variety of rich and beautiful shades of colour, but there is a considerable degree of pleasurable excitement about the uncertainty of the flower: watching for its

opening, and joyously admiring its perfections, or wofully lamenting some defect, it may be a break in the feathering, an impure base, a dirty stamen, or a split petal. It is only in the florist's estimation, however, that either of these flaws is a flaw. To the uninitiated, the flower is still as beautiful as ever. *William Dean, Shipley.*

## FUCHSIA DEFORMITIES.

AMONG the many beautiful varieties of Fuchsia now in cultivation are some, the names of which I have unfortunately not noted, wherein the petals show some interesting gradations in form, between that which is proper to them and that which pertains to the stamens. A florist will readily supply the names of the varieties presenting these appearances, while the botanical interest of the specimens is not lessened by my negligence in having omitted to observe the garden names belonging to them.

It will be remembered that in Fuchsias as we commonly see them the petals have no stalk or claw, and are curved somewhat like the bowl of a spoon. The simplest and most frequent deviation from the usual state consists in the presence of long stalks to the petals, the stalks bearing purple blades of the ordinary form, but having their margins rather more than usually rolled inwards. In the next stage the inturned margins cohere, and thus a more or less perfect cup is formed at the end of the stalk. Projecting from the hinder portion of the cup into its cavity may be seen one or two anther lobes.

The next gradation shows that the organ has assumed more of the characters of the anther than of the petal, the only trace of the latter being manifest in a petal-like wing, projecting from the side of the anther and occupying the position of one of its lobes.

Hence then, these deviations only tend to confirm, what indeed now-a-days needs no further confirmation, the notion that the filament of the stamen or the claw of the petal are the representatives of the leaf-stalk, while the anther and the blade of the petal are but modifications of the blade of the leaf. Were these the only inferences to be drawn from these specimens, it would have been an impertinence to have taken up your space with such oft-repeated and well-established facts. But the true nature of the sutures of the anther, those chinks through which the pollen makes its escape, is not so thoroughly understood.

Originally, most anthers have four cavities or compartments, an upper and a lower one (or outer and inner, according to the direction in which the stamen is placed) on each side of the midrib or connective. Do the chinks or sutures, as one might at first sight readily suppose, correspond to the margins of the antheral leaf, or do they answer to the lines that separate the two pollen cavities on each half of the anther, the one from the other? For the reply to this question, I must refer to Prof. Oliver's paper in the Linnean Transactions, vol. xxiii, 1862. The Professor therein sums up in favour of the latter of the two alternatives just mentioned. The specimens above described appear to me to add confirmation to this opinion: that the sutures of the anther correspond to the divisions between its thickened pollen-bearing quarters, because the imperfect anther projecting into the petal-like cup, does emit its pollen along a line which separates the pollen-bearing portion of the anther from the petaloid portion, or that part which under ordinary circumstances would also be filled with pollen. The true margins of the leaf are here infolded, and, as we have seen, become fused together to form the cup.

The double-flowered Arbutus Unedo, amid very many other instances that have come under my own observation, is especially noticeable as affording further support to the notion originally brought forward by Bischoff, and now supplemented by the observations of Prof. Oliver.

The presence of ovules on the margins of a structure combining the form and attributes of anther and carpel, such as may often be met with in the flowers of the common Houseleek, forms no valid objection to this view, as Mohl long ago remarked; but it is a noteworthy circumstance that in all, or almost all, the cases where we find various intermediate forms between petals and anthers, or between anthers and carpels, that it is the upper or inner surface of the leaf which bears the pollen cavities, and the lower or outermost surface which is petaloid or carpellary. Prof. Oliver's drawings show this clearly, and in the monstrous flowers of the common Houseleek it is still more remarkable, as the outer half of the leaf bears the ovules, the inner half of the same leaf, or that portion nearest to the centre of the flower, contains the pollen. *Maxwell T. Masters.*

## MR. BROWN'S BOTANICAL EXPEDITION TO BRITISH COLUMBIA.

MUCH ABRIDGED FROM THE "SCOTTISH FARMER."

WHEN I last wrote I was about to sail for Alberni. After being delayed both in Victoria and Barclay Sound, I arrived there on the 28th of May. On the 3d of June I started in a little schooner bound on a trading expedition with the Indians along the coast. I was particularly anxious to visit Nootka, as this was the locality visited by Cook, La Perouse, Meares, Vancouver, and also Menzies, who collected here the few plants he had from this part. Though it is not my intention to particularly describe the botany of the localities I visited, I may mention that I obtained Pinus ponderosa, Rubus nutkanus, Cupressus nutkaënsis, &c., all species interesting from the locality, and worthy of the seed being sent home. We returned on the 20th of June with all the *éclat* of a successful expedition. The weather, however, during the whole of our trip was very wet, the rain pouring from morning to night, for sometimes a week at a stretch. I landed, however, on every opportunity, going as far as the dense bush would allow me, and returning regularly every afternoon drenched to the skin (for the Indians had stolen my waterproof coat), with no place to dry my clothes, for a temporary fire was only lit in a grate on deck to cook our food (twice a day), and the rain soon extinguished it. In the little "pigeon house" of our small schooner, called a cabin, we had barely room to squat about, surrounded by trading articles—blankets, beads, tobacco, brass-wire, paint, calico, &c.; and often when turning into our "bunks" at night we found that the rain had penetrated and soaked our beds. As you may well suppose, our paper got but an imperfect drying. On one occasion, in despair I had to take it under my blanket at night. Of course, all these inconveniences were counterbalanced by many other pleasant occurrences—such as seeing strange scenes, wild men, new places. I now understand the method of treating Indians, their customs, and the Chinook jargon—the ordinary language of communication with the whites—tolerably well. I can now strike bargains, engage men, and travel alone without any assistance from the whites. I need scarcely tell you how valuable this proves to me in such a very rough roadless country, only peopled by a civilised population in a few places in the vicinity of the mines, &c., and where nothing can be procured except at enormous prices.

On the 24th June, I started on another excursion, to explore the botany of the interior lakes, hitherto almost unknown. As the sawmills at Alberni were stopped at that time to undergo some repairs, four men accompanied me in my excursion. We proceeded up the Som-ass River to a lake, on the lower arm of which Anderson & Co. have established a "logging camp." After exploring a small arm six miles long, and sleeping for a night among the Moss, and having the dubious pleasure of hearing the "wolf's long howl from Unalaska's shore" (by the way, we were only a few days' sail from Unalaska), owing to a storm arising on the lake we were prevented from returning, as we had expected, to the back-woods camp. We returned at daybreak perfectly ravenous. That same morning we started in a canoe, with an Indian guide (Quasson, 3d chief of the Opis-chesats), up a long arm of the lake, which no one knew the termination of. We paddled along all day, landing here and there along the wooded banks to cook our dinner, or to "prospect" on an island. I found a Thuja allied to Thuja gigantea (Craigana, Balf.), but I think, distinct; and once I picked the cones of Abies grandis, and one very like Pinus contorta, Dougl. I "blazed" the tree, and will return in the autumn to it, if I do not find it elsewhere. Just as the sun was setting, we came to the termination of the lake, which I have named "Sproat's Lake," after the resident partner in the firm of Messrs. Anderson & Co., my friend and countryman—Gilbert Malcolm Sproat. It is about 23 miles in length in its longest axis. Here we found a river flowing in. We ascended this in our canoe for a mile, when, the navigation becoming difficult, we camped, and enjoyed a sound sleep by a blazing fire, notwithstanding the mosquito and various other pests, of which, to those who have camped *"sub frigido Jove"* in North-West America, there requires no explanation. Next morning, after pork and biscuit, we took to the woods, ascending the banks of the river through a fine open valley, comparatively thinly covered with fine timber, and free of undergrowth—a great rarity for Vancouver's woods. If the wood was clear of undergrowth, we found a pest which incommoded us considerably—Panax horridum, well deserving its name, with its long waving stem, crowned with a Pecten like head of leaves, and a raceme of white flowers. In many places the ground was covered with snow a foot and a half deep, through which some Auchias (?) and bulbous plants were pushing flowers. In the course of the day, I made a very agreeable discovery in the examination of what I thought the Abies canadensis of the Atlantic slope; but which I found represented by a species which may be little known in England. It has only been recently described by my friend Dr. Albert Kellogg, secretary of the Californian Academy, in their Transactions, vol. ii., p. 8, under the name of Abies Bridgei. I will send you plenty of it later in the season. It is a tree 80 to 100 feet in height, of dark verdure and graceful appearance. The branchlets are very villous, slender, and drooping. The timber is said to be firmer, finer, and straighter grained than the Canadian Hemlock Spruce, which it represents on the Pacific coast. It is certainly closely allied to A. canadensis, but I believe, with Kellogg, that it is distinct. Even the Canadian woodsmen, who are very apt to forget that similarity is not identity, and apply "old country" names to anything at all resembling what they are familiar with in Canada or Maine, recognise this.

We returned to our camp just before dark, very tired and very hungry, and sweetly did we that night enjoy our bed of Pine branches, prefaced by a substantial supper of salt pork, hard biscuit, and tea—our provisions on all such journeys in this country. While cutting the branches for my bed, I found Taxus brevifolia (? Lindleyana, Murr.), but without fruit. Our fire was of Pinus Douglasii. Abies Menziesii was not uncommon, but the commonest was the former—Abies Bridgei and Pinus Strobus, with Rubus spectabilis, R. nutkanus and R. leucodermis, and Ribes (two species)—I did not see Ribes sanguineum, so common in our English shrubberies; but it is excessively common on the southern part of the island, particularly the Indian Reserve at Victoria—Vaccinium ovatum, and occasionally the Indian Sal-ul (Gaultheria Shallon). Next morning, looking about the neighbourhood, we re-entered our canoe (hollowed out of Cupressus nutkaënsis, the mats we sat upon being made of the liber of the same tree; ropes of the same material, and occasionally of Thuja plicata.) The river mentioned above I named after one of our party, Mr. Taylor, an Edinburgh man, who had formerly accompanied me on my first journey on the island, when we were lost in the Nanaimo Mountains, wet and half starved, for two days. Some of the mountains round I dedicated to others of our Edinburgh friends, as will afterwards appear, when I send home to the Geographical Society the chart of my journey. The Indians told us that it flowed out of a lake near Clay-o-quot Sound, and that the Clay-o-quots sometimes descend it. We reached the camp (logging) for supper, and slept among some hay that night sorely harassed by aphaniptera. Next day we started again in our canoe down the south arm of "Sproat's Lake," and landed three miles off in the wood. We now started off, each man with his blankets on his back, over an Indian trail. After travelling for about two miles through dark shady woods, over a tolerably good trail marked by knotted twigs, we were startled by the appearance of a man. It was Kan-ash, second chief of the Opis-chesats.

About 2 o'clock, the Great Central Lake, 45 miles long, burst upon our view, the landing places scattered round with bones of bears and deer, remains left by Indians who had formerly camped here. We stayed that night near the lake, and returned next day to the mouth of the Somass River, where, after a good deal of trouble at the Opis-chesat village, I obtained a canoe, and swept down the river, and thence into the Alberni Canal. Such is a short account of one out of many similar journeys. Of course, on such excursions a botanist can only collect one or, at most, two specimens of each plant he meets with; and frequently, so limited are his means of conveyance in an almost trackless country, he can only take such as he has not seen in other places, noting, however, the occurrence of all others, in addition to all such observations as ordinary travellers make. So many mishaps come over one's precious load before it gets to a place of safety, that sometimes I have been mortified to find, after a laborious excursion, the tangible results, notwithstanding all my care, consisted only of a few blackened, indifferently dried specimens. I was preparing to cross the island by the Indian trail to Qualicom, and thence by Nanaimo and the valley of Cowitchen to Victoria, a distance of about a hundred miles, when the rain began to fall in torrents, and so fell for 10 days in a continuous pour, until, losing all hope of being able to effect this journey for the present, I came down to Victoria in the Thames, where I arrived after 20 hours' steaming.

I here take the opportunity of recording my thanks to Messrs. Anderson & Co. for the great kindness and assistance they rendered me through Mr. Gilbert M. Sproat, the resident partner, and without which it would have been utterly impossible to have undertaken anything at all approaching to such a lengthened exploration. On my arrival in Victoria, I found that my visit to the Nootkas had got noised abroad, and all the newspapers were anxious to have the first account. By request of his Excellency the Governor, I called upon him next day, when he was pleased to express great satisfaction at my safe return, and at the mode in which I had conducted the exploration. Among other favours, he offered me letters to the Magistrates and district officers in British Columbia. Governor Douglas, some people say, is about to resign; and if so, his loss, I am sure, will be a deep blow to the success of the colony, for, notwithstanding many differences of opinion from interested or disappointed people, no man will ever be found with such a thorough knowledge of the wants of the country and all that concerns it. *Victoria, Vancouver, July 24, 1863.*

The following copy of a letter from Governor Douglas to the late Edward Ellice, Esq., M.P., shows how earnestly his Excellency desires to promote the objects of this expedition.

Victoria, August 9, 1863.

MY DEAR SIR,—I have received your note by Mr. Robert Brown, Collector for the Botanical Association of Scotland, and I may assure you that it will afford me great pleasure to forward the objects which the Association has in view in this country. It offers a wide field to the lovers of natural science, and I feel deeply solicitous that it should be better known to the world through some work of respectable character systematically describing its climate and native productions. The results of Mr. Brown's researches are likely to be highly interesting to the public, as there is a wide range of unexplored country, with much that is new and peculiar. Mr. Brown appears to be a most zealous and energetic person, highly worthy of the confidence of the Association. I remain, my dear sir, very truly yours, (signed) JAMES DOUGLAS.

Edward Ellice, Esq., M.P., &c.

## ROSES.

REPLY OF MONT BLANC TO MONTE-ROSA.

MY DEAR MONTE-ROSA.—I have read your epistle on Roses, for I always see the *Gardeners' Chronicle*, and while I heartily subscribe to much that you have indited (p. 954), I cannot but take exception to some trifling matters on which, with all brotherly affection, I would seriously invite your further reflection.

The same snows which have whitened alike your head and mine have, I fear, made you somewhat cold and censorious. Believe me you would find more happiness in becoming the Horticultural Nestor than the Horticultural Hector of the age. If I am correctly informed, Roses do not now grow so near your summit as of yore. Whether this arises from the change of atmosphere (political), or from some slip of earth, matters but little. I fear their greater distance from your mountain top has placed them below the mists which gather and roll adown your glorious sides, and that thus they are kept out of sight. You seem to have singled out Roses and Dahlias, because your remotest dependants, as the special objects of your censure. From my higher point of view (602 feet higher), I find that there are more things in heaven and earth than seem dreamt of in your philosophy. All that you have said of new Roses and new Dahlias, and something more, might be said of other new flowers, and especially of new fruits. Do you not think, dear Monte Rosa, that the new Pears, the new Grapes, the new Strawberries, are becoming almost as numerous as the new Roses, and even more questionable as objects of value, because the palate has a less varied standard of excellence than the eye. To have been consistent you should at least have included in your censure the new fruits. Who has told us all that we desire to know of them? From the brief but honeyed descriptions sometimes met with, the uninitiated would almost expect to gather "Grapes of Thorns" and "Figs of Thistles!"

It strikes me that your censure on the describers and descriptions of new Roses is rather severe and invidious. More reliable and precise information is no doubt desirable in reference to all novelties in horticulture, but is it attainable? Can even your own superior knowledge of the subject supply the desiderata? Reflect and tell me whether you are not obliged to prove all new productions before you can give a lengthened and reliable description of them, and by the time they are proved they are no longer new.

I cannot agree with you that it is "just impossible" to find very brilliant coloured Roses to surpass Charles Lefebvre and Senateur Vaisse. I have seen such dogmas advanced over and over again during the last 20 years, and refuted by some new freak of Nature almost before the penman's ink was dry. In this doctrine of "finality" I have no faith; Nature's stores are inexhaustible; and while man has the mind to conceive and the hand to apply, the resources of nature will never fail.

With regard to Mr. Wm. Paul's Rose dicta, as you term them, you take exception to 3 out of 17—Nos. 6, 9, and 10. Dictum 6 is, you say, out of date. That, I apprehend, is a mere matter of opinion. Do you not know that the substitute you recommend for tobacco-water was recommended by Mr. W. Paul in the "Rose Garden," nearly 20 years since? I know you too well to accuse you of the machiavelism of borrowing a neighbour's thought and kicking him to conceal the act. Nevertheless I would seriously advise you to acknowledge the obligation. You tell us you are "posed" at No. 9—"the new Roses you must buy on the Manetti stock." You deny this by implication, further telling us "there are plenty of young Dog-Roses to be had on which they could be grafted." Could be! but are they? And know you not that there is a wide difference between the possible and the actual?

It seems to me that you have too implicit a faith in our countrymen, the Ms.—Manetti and Machiavelli. Now both are very well in their way, but can either be implicitly trusted? I must frankly tell you that I have about as much faith in the one as in the other. You are a good citizen of the Alps, Monte-Rosa, but I should like to see you become a citizen of the world. For the present, farewell. Should these sentiments need fuller explanation, send me a note by way of St. Bernard, and I will step over some morning and breakfast with you; nay, I will dine with you; nay, if necessary, stop and sup with you rather than my meaning should be mistaken, or remain doubtful or obscure. You know I have a cool and hard head, but this is not incompatible with a sound heart. In all sincerity, therefore, I subscribe myself, my dear Monte-Rosa, your affectionate brother, *Mont Blanc.*

## Home Correspondence.

*New Plant Prizes.*—Should prizes be awarded to New Plants? By prizes I mean awards of intrinsic value. The writer of your leading article of the 26th ult. thinks not. Would as many novelties find their way to the exhibitions then, as if prizes were awarded?—this seems to me to be the primary question. New plants are the principal attraction at our metropolitan Horticultural shows: why then withhold prizes from them? Now that flower shows are on the increase, would not their founders and the framers of their schedules best consult their own interests by offering the most awards for what is of the most interest to the public? There certainly needs some reformation and alteration in respect to the awarding of prizes to new plants, but to assume that because there are now so many exhibited, therefore no prizes ought to be given, because all that are deserving cannot have awards, does not seem to me to be meeting the point in the best possible way. Surely the fact of so large a number being exhibited proves the greater need of stamping the character of a certain number with something more than an honorary award, as well to encourage their exhibition as to show their unexceptionable character. What I would suggest then is that a certain number of first prizes of a given value should be awarded, and that the number and their value should be distinctly inserted in the schedules in the same explicit manner as the prizes are inserted for specimens and collections generally, instead of in the vague form now generally adopted; that no second or third prizes should be given, but instead of these, honorary certificates of merit of the first, second or third class, unless the subject is so inferior as to be utterly worthless; and that any of the plants so certified should be allowed to compete once again for a higher award, in which case, if it were really good, and had been exhibited in company with so many first-rate things that it could only at first be awarded an honorary first-class certificate, it would at some subsequent show be almost certain to get its proper first prize. If prizes were entirely withheld from new plants at our great horticultural shows, it would appear like discouraging those things in which the public take a great interest. That new plants will always be exhibited for "trade purposes," "to obtain either a good price for the stock of a novelty, or an abundance of orders for the plant when let out," is doubtful. With few exceptions, and these generally in florist flowers, those that buy the stocks of new things rely on their own judgment, and are not influenced in the least by any award or awards the proffered object may have received; and as for the abundance of orders being the real reward, and a sufficient compensation for the exhibitor, I can only say that if it is a plant that would merit a first prize or even a first-class certificate, it needs no exhibiting to secure orders for it. Any one who has paid the least attention to the subject must have observed that New Plants, including seedling florist's flowers (and foremost among these Pelargoniums), Orchids, and Roses, are the most attractive features at our great exhibitions; to withhold prizes from the first of these seems therefore scarcely consistent. Not that I would give them an undue prominence, for large specimens of Azaleas, Stove and Greenhouse plants, Pelargoniums, Ferns, as also ornamental and variegated-leaved plants, &c., are as essential to make a grand show as the plants I have named. To make a telling Horticultural show, two elements appear to be necessary, viz., large specimen plants in collections, to produce an effect; and new and rare or miscellaneous plants to create an interest. Unfortunately honorary awards are not sufficiently appreciated by the public generally. One great objection attendant on the honorary system is, that under it persons in the country having new things, will not be at the trouble and expense of bringing them to the London shows. This feeling is to be regretted, but it is strong in the country. I have yet to learn that exhibiting new plants with all the notoriety to be attained either directly or indirectly, added to money prizes, quite compensates for the direct loss sustained in various ways by exhibiting; and if prizes are to be altogether withheld it will become a financial question whether it will not be more desirable to exhibit new plants at home, announcing the fact publicly, than to send them to the exhibitions. Under the prize system the advantages are none too great, but the tax of always exhibiting at a positive loss would scarcely be encouraging. *W. B.* [We are glad of this expression of opinion, but it does not touch our argument, nor convince us to the contrary; "W. B." merely proposes four grades of prizes instead of three, and we think three quite enough. To admit a limited number of "first" money prizes would be to let in all the evils of which we, as part of the public and not exhibitors, have complained. Thus, suppose six equal prizes of money value to be offered as awards higher than certificates, it would be ten chances to one if there were just six plants so unmistakeably superior to the rest as to raise no question when these prizes were awarded to them. If there were more than six plants worthy of them, the position would be just as it often is now. If there were less than six, either some prizes must be withheld (which rule exhibitors would question, as they would hold that the six best—good or bad—were entitled), or some must go to plants obviously not equal to the rest. Either way the award would not be a correct index of merit. We should rather prefer (if the pockets of the exhibitors *must* be considered in dealing with such a question) to place two or three optional medals at the disposal of the judges, to be awarded in case of any remarkable exhibitions, such as Lilium auratum, or Lapageria rosea albiflora, but not to be given if no such prominent plant were shown. Further, in order to meet the outgoings which "W. B." deplores, we see no great objection to allowing a moderate rateable sum for expenses to the exhibitors of all certificated plants, that is, supposing no prizes of money-value are given. We must confess that we do not quite see the logic of introducing a "first" prize, as a higher award than a First-class Certificate.]

*The Garden at Rushton.*—Having read with pleasure and profit the Rev. Mr. Radclyffe's articles on various subjects, and having lately (Sept. 29) seen the beautiful Roses he exhibited at Weymouth (not for competition), I was induced to visit a place from which so much intelligence of a profitable nature has issued. The fruit trees of which we have read, were beautifully wooded and foliaged, and the wood appeared to be ripening fast. Though the trees range from 27 to 43 years of age, they are wooded thoroughly from base to centre, and from thence to the tops of the trees. I can easily believe the statements of such large crops of Peaches having been raised year after year by the aid of protecting sheets. As to the Strawberry plants, they were admirable; the spring-planted Elizas, Wonderfuls, and Trollope's Victorias were grand. The three-year old and two-year old plants of Eliza, Wonderful, and other sorts were beyond conception. I also examined the Home or Western Rosery, and was astonished at the vigour of the plants on the Manetti stock, which had all suffered much from the recent wind and hailstorms. Still more admirable were the four stately specimens of the Duchess of Norfolk on the Celina stock, whose shoots of one year averaged from 12 feet to 12 feet 9 inches high. The shoots towered over the wall, which is 9 feet in height. The splendid Solfaterre, Mdlle. Alice Aristide, the grand plants of Triomphe de Rennes, Celine Forestier, and some others in full bearing, would surprise the most experienced Rose grower. *W. K., Oct.* 5.

*Potatos.*—I purchased from Mr. Rivers this spring a quantity of his Royal Ash-leaved Kidney, which I planted on April 20, in sandy peat. We took them up on August 2, and they were the largest crop of really good-flavoured early Potatos I ever saw. From one of the outside roots we counted 54 good sized tubers. The whole crop would average from 10 to 30 fine tubers at a root. At planting time, being unaware of their very robust habit, I only allowed them 2 feet apart; had they been 3 feet apart, the crop would doubtless have been larger. All the tubers were perfectly free from disease. The earliness of this kind, together with its very robust habit, productiveness and fine flavour, cannot fail to make it a general favourite. I may also state that I have grown Myatt's Prolific Kidney for some years, and found it to be a very prolific and useful kind; it is, however, some 10 days or a fortnight later than the Royal Ash-leaved. *George T. Fox, The Nurseries, Wetley Rocks, near Leek, Staffordshire.*

*Swallows.*—These useful insect-eating migrants appear to honour us with their presence later than usual this autumn. During the past week, whilst on a tour in Wiltshire, I saw from two to three hundred of them on the ridge of a house in Warminster on the 10th of October, evidently preparing their little ones for a long and arduous flight to a milder climate than ours. Perhaps some of them had come from Devonshire, as they were nearly in a direct line with their shortest passage across the channel to France, Spain, and finally to Africa. *W. H. Hyne, M.R.C.A., Clifton, Bristol, Oct.* 12.

*Hybridising.*—I have always noticed in hybridising that if two species are bred from, one mule or type is generally the result; and if one species and a variety, there is a slight difference in the progeny, yet one type is strongly visible; whereas by hybridising one variety upon another, that is, both parents being varieties, great distinction in the kinds is obtained, some of the flowers being totally different in colour one from the other. *W. B.*

*Teltow Turnip.*—If seeds of this root have been distributed to the Fellows of the Royal Horticultural Society, it must have been a long time ago. If unsuccessfully and to the dissatisfaction of the Fellows, no record remains either of their experiments or of the way in which they were conducted. Nothing of the sort has been distributed for many years past, and more especially nothing since the progress of agricultural chemistry has given facilities formerly unknown for conducting experiments upon plants requiring peculiar soil or treatment. The exhibition of its roots by Mr. Hunneman was in 1822, and considerable strides have been made in agricultural and horticultural skill since that time. More than that, it should be no objection to making the attempt now that it has been already tried and failed. If that principle had been acted upon in other things we should be now living in a very different world. It would not be an uninteresting inquiry to see how many of the comforts, enjoyments, and necessaries of our present life have been brought to success after original failure. The real point for consideration is, whether the root in question is worth introducing. If it is, it seems a very proper subject for the Fellows of the Horticultural Society to try their hands upon. The Society would take care to get genuine seed, and *en passant* the best way to do so does not seem to be to go to any nurseryman or seedsman for it. It is not likely that they keep a stock of seed for the purpose of always making fruitless experiments with; and its having always failed hitherto renders it unlikely that they should have a stock for any other purpose. Something more would be expected from the Society in such a case than merely to issue problematical seed. Not only should special care be taken to procure the real seed from the spot, but more full information both as to the soil and the mode of treatment should be acquired. Mr. Hunneman says that a total absence of manure is necessary for its perfection. We have heard, on what seemed to us good authority, the very reverse of this statement, viz. that it receives a very plentiful supply of manure. It is an experiment legitimately within the scope of a Horticultural Society, and I should like very well to see it tried. *S. K. G.*

*Cemeteries.*—The remarks in your article of the 3d inst., on the planting of cemeteries, are distinguished by the usual good taste of the *Gardeners' Chronicle.* It is to my mind as improper to make them like a flaunting parterre as to turn a pleasure-ground into the likeness of a Turkish burying place. But there are many flowers and shrubs which seem peculiarly fit to plant among tombs, and have long had attached to them a sacred significance. The Cedar in the East, the Oak in the West, and the Ash in the North, were held as the representative of supernatural power. The Cedar, Cypress, and Pine were symbolical of the Holy Trinity; which was also illustrated by the triple leaf of the Wood Sorrel. The Lily and the Rose are associated with Holy Scripture; but it is uncertain whether the latter is the Oleander, the Rhododendron, or the large yellow Narcissus. The "St. John's Wort" is said to have owed its red spots to the blood of the Saint, sprinkling it as it fell; and of the White Thorn, so beautiful in spring, it was the fashion to believe the Crown of Thorns was made. In the books of the middle ages, with what tenderness and grace do flowers—the Pansy, the Strawberry, and the Violet—surround the page of prayer. Who cannot admire the skill with which the flower and the leaf nestle in the capital or cluster round the doorway of our early churches? I recollect once being shown a grave, covered with flowers, where four little children, brothers and sisters, lay buried, and it struck me how true was the resemblance between flowers, fashioned into beauty from the coarse earth, and the heavenly beings—of earth too, springing from corruption into immortality. *B. M.*

*Peaches under Glass.*—At p. 965, "An Amateur, Clapham," admits the authority of Bouguer, as regards the loss of light by reflection. He says, "According to Bouguer, as quoted by your Correspondent [p. 939], the loss of light by reflection when it falls upon glass at an angle of incidence of 85°, is upwards of one half of the whole; that is, when the rays deviate as much as 85° from perpendicular to the surface of the glass." He then goes on to remark:—"It is not easy to conceive under what circumstances such a deviation would be possible. It could only take place, I apprehend, when the sun is nearer the north than the south, when the sun would be actually behind the south wall, which would thus turn its back upon itself, as the quotation does upon the argument." I have no hesitation in stating that it is quite possible for the sun's rays to fall on the sloping roof of a glass house facing the south at an angle of 85°, or indeed at any other angle between 1° and 90°. The sun's rays can only fall in a perpendicular direction at noon, and the slope must be such that its angle and that of the sun's elevation shall together equal 90° under the ordinary pitch of roofs. This will occur twice in the year; but the disputed angle of as much as 85° of incidence may be obtained with any slope, and on any day between the spring and autumn equinoxes. This can readily be proven by any one, provided the observer is not dazzled to temporary blindness by the process. If your Correspondent likes to try it, let him watch in a fine summer morning before 6 A.M., the sloping roof of a glass structure facing the south. Let him place his eye near the glass, look at the slope of the latter, and he will, by-and-by, see the sun peeping over the top, his rays slanting along the surface of the glass. Very soon he will observe a bright spot on the glass. That brightness is the sun's image; and if he looks at it for a short time he will be half blind, unless he uses a sun glass. This is not owing to his looking at the sun and receiving his rays direct; but only at his image and receiving a large portion of rays by reflection. The rays that thus exert their force on a susceptible object outside, cannot at the same time affect anything inside. On the same principle of reflection, your Correspondent will also find it possible that with certain slopes of a roof the rays of light can fall at a high angle of incidence on the glass even in winter, and consequently a large portion of the light which is then so much wanted is dispersed in the external air, or on any object that may happen to be in the direction of its radiation. *** [Satis superque.]

*Scolytus destructor.*—Your Correspondent "J. O. W." (p. 966) is mistaken as to the injury accruing to the young Elm trees not being the work of insects; for upon every sunny day they have been working by

hundreds, and many persons have observed the progress they have made in the work of destruction. *W. B. Page, Southampton.*

*Pelargonium Mrs. Milford.*—This is a seedling, and not a sport from Goldleaf, as is suggested in the account given at p. 967 of Ringwood Hall; both are in fact seedlings from Cloth of Gold, raised by me when at the Bishop of Winchester's at Farnham Castle. *J. Goode, Bank Grove, Kingston-upon-Thames.*

## Notices of Books.

The *Botanical Magazine* for October contains figures of the following subjects:—*Microstylis discolor*, a terrestrial Cinghalese Orchid with short stems, each bearing about four ovate oblong leaves of a rich purple, sometimes edged with green, plaited longitudinally, and much crisped at the margin; the minute flowers in a narrow spike, yellow, changing in age to deep orange. Sir W. Hooker observes that it may be reckoned among the most lovely of terrestrial Orchids, ranking with Anæctochilus setaceus, but though having handsome leaves and contrasting well with the Anæctochili, it can hardly be considered as equalling them in beauty. *Sphæralcea acerifolia*, a subshrubby Malvaceous plant apparently of moderate stature, having cordate five or seven-lobed leaves, and numerous flowers of a delicate rose-colour crowded along the upper part of the stems; it is a rather showy plant, and probably hardy, being found in British Columbia, and the north-western regions of America. *Eranthemum tuberculatum*, a "very floribund" slender branched shrub of dwarf bushy habit, having small opposite broadly elliptic or obovate obtuse leaves, tuberculated branches, and very copious white flowers with a long slender tube, and a five-lobed spreading somewhat two-lipped limb; it is an Australasian plant introduced by Sir Daniel Cooper, and recently flowered by Mr. Veitch. *Hibiscus Huegelii quinquevulnera*, a handsome Swan River shrub of erect habit, with deeply five-lobed leaves, having the segments also deeply sinuato-lobate, and large rosy flowers, like those of an Althea frutex, each petal being marked at its base by a deep blood-red spot. H. Wrayæ and H. grossulariæfolius are now considered mere forms of H. Huegelii. *Ceropegia Bowkeri*, a very singular Caffrarian Asclepiadaceous plant, with a depressed globose tuber, and a few erect simple stems with narrow linear leaves, bearing in the upper axils solitary flowers, of remarkable form and colour, the corolla tube being cylindrical, dilated and globose at the base and summit, and its segments linear-oblong, narrow at the base, fringed at the margin, yellow with green blotches, and remarkably reflexed so as almost to hide the greater part of the tube, but exposing its brown-stained bluntly five-spurred orifice. *Sarcopodium psittacoglossum*, a Moulmein epiphyte introduced by Messrs. Low & Co; it is a dwarf creeping Orchid, with broad elliptic leaves and greenish-yellow flowers streaked with red, the lip mottled and blotched with deep red.

*Seemann's Journal of Botany* for October contains a figure and description of *Mammillaria Scheerii*, a dwarf Mexican Cactus with white flowers; and among other papers, a note by Mr. Baker on a Yorkshire Galium allied to G. erectum, and which Prof. Babington suggests may be the G. album of Villars; a note by Prof. Babington on the discovery of Trichomanes in Arran, as recorded at p. 842 of our present volume; a description of the leaf-cells of the British Hymenophyllums by Prof. Gulliver, who finds the structure of the tissue of the two plants to be totally different, the cells of H. tunbridgense forming a "sphærenchyma," while those of H. Wilsoni are larger, and form an "ovenchyma;" some remarks on the origin of Herbaria, by Prof. Meyer; and an account of the Owala, an oil-producing seed of the Gaboon, by Mr. Arnaudon; descriptions of new British Cryptogamia, by Dr. Carrington, &c.

Of the *Florist and Pomologist*, the September Number contains figures of the remarkably fine *Rose Mrs. William Paul*, and of the *De Maraise* and *Belle Julie Pears*; and that for October has figures of *Standish's Perfection Rhododendron*, and of the *Belle de Septembre Plum*. The Rose, which was raised by M. Verdier, is one of the finest of the present year, a thick-petaled cupped flower of an intensely deep shaded crimson, with fiery scarlet in the centre: radiant and beautiful as Mr. Radclyffe puts it. The Pear De Maraise is a first-rate autumn sort, in season at the end of October and throughout November; a moderate sized pyriform fruit, yellow with a reddish glow, and dotted with russet freckles; the flesh tender, with abundant rich honied juice, and a fine aroma. Belle Julie is a most delicious Pear, ripe at the end of October, a long obovate regularly shaped fruit, of a dull brown colour with russety specks, and having a reddish-brown glow on the sunny side, "like a gipsy's blush," the flesh melting and very juicy, with a rich sugary vinous perfumed flavour. The Rhododendron is "one of the finest acquisitions" yet obtained among the hardy varieties, from the perfect form and delicately clear colouring of its ample blossoms, this colour being a lilac-rose, melting away into a white centre. The Plum is first-rate for cooking or preserving, and furnishes a fine crimson juice; it is a large oval fruit, of a bright red with violet bloom, an abundant bearer, and ripe about the end of September or the beginning of October. There are some excellent papers in these two Numbers.

The *Floral Magazine* has figures of *Pillar of Gold Fuchsia*, a sort with variegated leaves; two fine *Pinks: Rev. George Jeans and Lord Herbert*, the drawings of which are apologetically explained to have been made from "dressed" flowers, such as are not to be expected under ordinary culture; two fine *Pelargoniums: Achilles* and *Artist*, from Mr. Hoyle's collection; and *Greenovia aurea*, a handsome yellow-flowered succulent of the Houseleek family, formerly grown as Sempervivum aureum.

In the September and October Numbers of the *Gossip of the Garden*, we find interesting articles on Roses, Dahlias, Onions, &c.; and quite a fund of information on exhibition matters.

## Garden Memoranda.

Theobald's Park, near Cheshunt, the Seat of Sir Henry Meux, Bart.—The mansion, a red brick building, is beautifully situated on rising ground, overlooking an extensive and beautiful valley on the one side, and well backed up by woods, in which are embosomed the kitchen garden and forcing grounds, on the other. In connection with the mansion is a conservatory well furnished with gay flowering plants, intermixed with others grown for the beauty of their leaves, and in front of this is a pretty flower garden, in which the beds on Grass are arranged in a sunken panel in concentric circles, relieved here and there by handsome vases set on appropriate pedestals, and charmingly filled with plants of striking colours. A fountain occupies the centre, and along the sides of the terrace walks are set standard Portugal Laurels in tubs. A ribbon border and evergreen hedge divide the flower garden from the principal approach, which near the house crosses a deep ravine, on the sides of which are fine masses of Rhododendrons and other shrubs. These form the boundary to a smooth and well kept lawn.

The kitchen garden, whose walls are well covered with fruit trees in the best possible condition, is skilfully cropped and otherwise kept in excellent order. Here Pears and Apples have this year been abundant; Morello Cherries, of unusually large size, have been a wonderful crop, and the same may with truth be said in reference to Plums.

Under glass, Pines are grown with great success by Mr. Sanders the gardener, as are also Vines, both in pots and planted out. Here we had an opportunity of seeing Mr. Williams's new Royal Vineyard Grape growing side by side with Muscat of Alexandria, which it somewhat resembles in appearance, but not in taste, being altogether devoid of Muscat flavour. So highly, however, did it stand in favour with the Fruit Committee, when it was first shown at South Kensington, that they awarded it a First-class Certificate, and we must add that in general appearance it is one of the handsomest Grapes in cultivation; a bunch of it reproduced at South Kensington the other day for further inspection measured no less than 14 inches in length, and was well spoken of by all who tasted it. It may therefore be regarded as one of the most valuable of the new Grapes about to be brought under public notice. In the same house were eight remarkably fine bunches of Buckland Sweetwater, one of the showiest and most useful of Grapes of comparatively recent introduction. They were produced by a graft inserted on a Black Hamburgh, in March, 1862.

The last named variety of Grape, and Lady Downes's Seedling, are also grown well here. The borders in which they are planted consist of good turfy loam (the top spit), half spent horse droppings, burned earth, and wood ashes. The Vines were planted in March, 1861, and pushed strong canes quite to the top of the house the first season. In December of the same year they were cut back to within 4 feet of the ground. About the end of January, 1862, they were started into growth, and made fine rods, which again reached the top of the house. In December following they were shortened a second time; but in this instance only about 4 feet were removed from the top of each Vine. Forcing was recommenced in February, 1863, and the result was an admirable crop of large finely coloured Grapes.

It may be added that the Vines are planted inside the house on a well made border, 2 feet in width, and that the roots reach the outside border through arches in the front wall. The outside border is not all made at once: on the contrary it is increased in width by the addition of new material year after year as the Vines seem to require it, a plan now followed by many of our best gardeners.

Of Pine Apples good fruit is ripening on suckers planted out in April, 1862, in loam on a bed of leaves. Additional heat is, however, provided by means of hot-water pipes.

Melons, Cucumbers, Strawberries, and similar fruits, are also forced here in abundance.

In the neighbourhood of a Tennis Court is a small Arboretum, in which are some handsome Conifers, especially an avenue of Deodars, thriving trees of tolerable size. The Park, which contains some fine timber, is watered by the New River, which passes through it, and altogether the place must be considered one of the most interesting in that part of Hertfordshire.

East Lodge, Enfield Chace, the Residence of G. F. Graham, Esq.—This place is celebrated for its Apples, of which there is this season a very fine crop. Two large trees of Ribston Pippin have produced about 7 bushels each. In addition to these, Cockle and Kerry Pippins, Pearson's Plate, Old, Flat, and Scarlet Nonpareils, Margil, and King of the Pippins are also loaded with fruit. Cornish Gilliflower, one of the best flavoured Apples in existence, is not so good this year as it usually is; but to make up, as it were, for this deficiency, there is a fair sprinkling of fruit on the old Golden Pippin, which shows no signs of wearing out. Among other dessert Apples we noticed Golden Reinette, Hick's Fancy, Yellow Ingestre, Screveton Golden Pippin, Devonshire Quarrenden, Scarlet Pearmain, Pomme de Neige, Golden Russet, Sam Young, Beechamwell, and Fearn's Pippin. Some of the best kitchen Apples grown here are Dumelow's Seedling, Hollandbury, Hall Door, Kentish Fillbasket, Round Winter Nonsuch, Norfolk Beaufin, Gravenstein, Brabant Belle Fleur, English Codlin, Yorkshire Greening, Hawthornden and Beauty of Kent. The orchard in which these grow consists of about 2 acres of ground, and is laid down in Grass. In pruning, Mr. Newton, the gardener, only thins out cross branches when required; and as regards top-dressing, farm-yard manure is applied every three or four years. Under this treatment the average annual produce is from 300 to 400 bushels. A tree of Herefordshire Pearmain, the trunk of which was broken nearly through five years ago, still lives and bears fruit, although all the support the top receives is through 2 inches in thickness of wood and bark, 6 inches wide; the head and branches lay flat on the ground. Standard Pears, which are a good crop, consist of Marie Louise, Beurré de Capiaumont, Williams's Bon Chrétien, and others. On walls we observed very good Marie Louise, Beurré Sterckmans, Passe Colmar, Glou Morceau, Beurré d'Aremberg, and Gansel's Bergamot. Of Plums, Jefferson's and Kirke's have been very fine, as has also been Coe's Golden Drop, a valuable Plum for a late crop.

## Miscellaneous.

*Sale of Messrs. Veitch's Japanese Plants.* — On Wednesday, the 7th inst., took place at the Auction Mart the earliest of the great sales of Japanese plants that have been so long announced. As the amount realised is generally interesting, we are glad to be able, by the courtesy of Messrs. Protheroe & Morris, the auctioneers, to inform our readers that it was between 400*l.* and 500*l.* for some 295 lots. The specimens sold on this occasion were the result of Mr. J. G. Veitch's Japan expedition.

*Mr. Fortune's Japanese Plants.*—Let us remind our readers that all Mr. Fortune's valuable Japanese plants are to be sold, without reserve, at Stevens' Auction Rooms, on Wednesday and Thursday next; 628 lots are announced, among which are a great many original specimens, just as imported, except that they are re-established, 100 of which are stated in the Catalogue to be from 2 to 3 feet high.

*Death from eating Laburnum Seeds.*—A little girl, nine years of age, named Mary Watkins, living at Worcester, died a few days ago from eating the seeds of the Laburnum. It appeared that on the previous day the deceased, with some other children, was eating Indian Corn, and it is supposed that some of the Laburnum seeds were among it. The little sufferer died at 5 o'clock on Saturday morning. *Worcester Chronicle.*

*Wanted—Pure Water.*—Our sanitary authorities have unanimously accepted pure water as a main feature in the requirements of man. Their effort to secure to the public the necessary element, bears testimony to the difficulties that ever arise in a civilised and highly populated country, in obtaining water in its state of purity. Pure water has been the cry that has lowered the water company's dividends to an alarming extent to the shareholders. Albeit, the public weal might receive considerable addition therefrom. Still, when we realise the fact, so well established as to be beyond all doubt, that the purer the water that enters our leaden conduits, the more poisonous it may be made before it reaches the consumer, we have to ask most seriously whether or not that great depreciation of stock is not lost, so far as the public advantage that might accrue from it, by the want of a proper knowledge of the medium through which the water is conveyed. A circular was issued, or a general notice promulgated, by the several water companies, when the reservoirs were covered in and the various additions and improvements made in compliance with the new Act of Parliament relating thereto, requesting the consumers to clear out their cisterns, that they might receive the full benefit of the purer supply. Still it left an equally important requirement untouched and almost unknown. In some districts, public attention has been aroused to the knowledge of the requirement of which we speak, through the sudden death by poisoning of several members of a family, with the narrow escape of the remainder. The cause has been traced to the leaden pipes through which the water used by the family has been conveyed. We are not about to frighten our readers with a prognostication of sudden death to the consumers of water that has passed through leaden pipes, but ask their attention to a few facts relative to the characteristics of the medium through which they receive this universal element.

Firstly, we are informed by the highest chemical authorities, that pure water so rapidly acts upon lead, that in a very short space of time it becomes impregnated with this metal in a soluble form. Nor are we to escape by the comforting assurance that the water is impure. Water that contains carbonic acid (and what water does not in a greater or less degree?) equally appropriates to itself a portion of the metallic medium through which it passes; these are facts from which we have no appeal. It is true that water may contain certain constituents that will act on the lead in a manner more favourable to a hygienic state of things; but do we take the trouble to ascertain if such a quality exists in our water? We think not. The result is, therefore, that in the case of all new lead pipes, colic, next to poisoning, is the result upon all who use it; and in all cases, unless specially protected, poison, in the form of salts of lead, is administered, whether in homœopathic doses or after the more liberal allopathic system, and a deleterious effect is produced on the system and health of all who partake of the liquid. The effect of sulphuric acid as a corrective, in the exceptional cases of which we have already spoken, is caused by the internal surface of the lead being changed from the metallic state into a sulphide of the metal which is insoluble in water. This reaction may be artificially produced by a simple yet highly scientific process, the discovery of Dr. Schwarz, of Breslau. This *savant* proposes the passing through lead pipes of a solution of sulphide of potassium, at a temperature of 212°, which changes the metallic lead into a sulphide of lead, and, thus transmuted, the water passing through it is perfectly free from the risk of contamination by any poisonous salt from the lead. It remains for the public themselves to decide from our statement of facts whether or not they will continue to tolerate even the skeleton of an evil that may be so easily exorcised. *Building News, Sept.* 25, 1863.

*What are Genera among Conifers, and what their distinctions.*—While studying the Coniferæ of the Rocky Mountains, I was led to investigate the characters of the different types which Linnæus had comprised in his genus Pinus. The great master himself had at one time thought proper to divide that rather incongruous mass, considering Abies as distinct from Pinus, reuniting them, however, afterwards. Since then many botanists have investigated this interesting subject, and while some of the highest standing—I mention only the names of Endlicher and Hooker—have adhered to the Linnean circumscription of the genus, others of no less authority have thought it more natural to recognise the distinctions already made by popular language, and some of them adopted by the older botanists. The first who more thoroughly examined the question was Link, who (Linnæa, Vol. 15, 1841) characterised five genera, Abies, Picea, Larix, Cedrus, and Pinus. Endlicher, in Synops. Conif., 1847, further separated Link's Piceæ desciscentes under the name of Tsuga, considering all these as subdivisions of the genus Pinus. Carrière (Traité des Conifères) adopted Link's genera, with Endlicher's addition, without further developing their distinctive characters. My investigations lead me to adopt Carrière's views, more firmly establishing those six genera—not without some misgivings, however, as it will appear from the following, that, besides the characters derived from the organs of fructification, in one instance at least the characters of vegetation have also to be brought in to distinguish two apparently not very nearly allied genera, Larix and Tsuga; while others, thought to be closely connected, such as Picea and Tsuga, or Larix and Cedrus, recede far from each other in their essential organs. Otherwise the characters of fructification and vegetation go so well together as materially to confirm one another and to establish the generic differences. An interesting fact is, that the pollen grains of Abies, Tsuga, and Picea are largest (in four species 0.053—0.060 l. in the longest diameter), those of Larix and Cedrus smaller (in two species 0.042—0.043 l.), and those of Pinus the smallest (in four species 0.034—0.038 l.) Will the characters of vegetation, after all, outweigh those of fructification, and will we have to fall back to old Tournefort's views and recognise his three genera—Abies, with single leaves and large pollen; Larix, with crowded leaves and middle-sized pollen; and Pinus, with fasciculated, sheathed leaves and small pollen? *Engelmann, in the Transactions of the Academy of Sciences of Philadelphia.*

*Microscopic Fungi.*—If we take a stroll away from the busy haunts of men, though only for a short distance—say, for example (if from London), down to New Cross, and along the slopes of the railway cutting—we shall be sure to find the plant called the Goats-beard in profusion. In May or June the leaves and unopened involucres of this plant will present a singular appearance, as if sprinkled with gold-dust, or rather, being deficient in lustre, seeming as though some fairy folk had scattered over them a shower of orange-coloured chrome or turmeric powder. Examine this singular phenomenon more closely, and the poetry about the pixies all vanishes; for the orange powder will be seen to have issued from the plant itself. A pocket lens or a Codrington reveals the secret of the mysterious dust. Hundreds of small orifices like little yellow cups, with a fringe of white teeth around their margins, will be seen thickly scattered over the under surface of the leaves. These cups (called peridia) will appear to have burst through the epidermis of the leaf and elevated themselves above its surface, with the lower portion attached to the substratum beneath. In the interior of these cup-like excrescences or peridia, a quantity of the orange-coloured, spherical dust remains, whilst much of it has been shed and dispersed over the unoccupied portions of the leaves, the stems, and probably on the leaves of the Grass or other plants growing in its immediate vicinity. These little cups are Fungi, the yellow dust the spores (protospores, they should be called, because in fact they germinate, and on the threads thus produced the true spores, or fruit, are borne), or ultimate representatives of seed, and the epiphytal plants we have here found we will accept as the type of the group or order to which we wish to direct attention. *Popular Science Review, October.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

Conservatory, &c.—Dutch Bulbs should be largely cultivated where a fine display is required; and where hardy shrubs are forced for the decoration of this house, they should now be got ready for the purpose. Next to Camellias, Azaleas are perhaps the most showy plants that can be had in bloom early in the season, and where there is a good stock to select from, some of the most forward plants should be placed in heat early, moistening them over head two or three times a day. Unless, however, plants can be had which have made their growth and set their buds perfectly, they need hardly be expected to flower so finely as under more natural circumstances in spring, and unless the buds are plump there will be some danger of the plants starting into growth instead of into flower.

### FORCING DEPARTMENT.

Pineries.—If circumstances should render it necessary to subject a portion of the stock intended for fruiting to a brisk temperature at once to induce it to start, the most promising plants should be very carefully selected, and placed in a small house or pit by themselves; and, where anything like a regular supply of ripe fruit is required, several houses, or separately heated compartments, should be at command. Indeed without this convenience no gardener can reasonably be blamed for having too many ripe at one time and none at others. It is not by any means desirable to start more plants into fruit at this early season than may be absolutely necessary, for they will produce finer fruit later in the season than can possibly be obtained from them now; and where a separate house cannot be commanded for those which must be subjected to a high temperature, we would advise that the plants selected for fruiting should be placed in the warmest part of the house at command, filling the rest of the compartment with young stock.

Vineries.—Where early forcing is contemplated, until the buds are fairly broken the points of the shoots should be kept nearly on a level with the lowest part of the Vine; and if this should not be found sufficient to induce the buds to start equally throughout the length of the Vine, the rods should be bent so as to bring the most forward buds to the lowest level, elevating those that are backward. Maintain a thoroughly moist atmosphere by frequently sprinkling the floor and passages, &c.; and syringe the Vines lightly at least twice a day until the leaves begin to appear, when the amount of moisture must be moderated.

Peaches.—Let the house which it is proposed to force early, be got ready at the first convenient opportunity. The surface of the borders, if exhausted by repeated waterings, should be carefully taken off with a fork, and replaced with fresh soil. Worn out trees if any may also now be replaced by bearing trees from open walls.

Cucumbers.—These must not be permitted to overbear themselves, especially while the plants are young. It is much better to insure a constant moderate supply by judicious management, than to obtain over-abundance at one time and nothing at another. Maintain a temperature of about 70°, and keep the atmosphere moist and agreeable for the growth of the plants.

### FLOWER GARDEN AND SHRUBBERIES.

For some of the very tenderest kinds of Roses some protection will soon be necessary. Also get in, as previously recommended, the stock of Briars for budding upon next year, for unless these are planted soon they seldom furnish strong shoots. With weather like the present all new work should be pushed forward with vigour, and if the soil has been properly prepared by draining, where necessary, as should always be done before planting, there will be much fewer failures from planting evergreens now than if the work is delayed until March. Roll walks and lawns occasionally, so as to keep them firm and smooth. There will be comparatively little to be done in the flower garden at present, except sweeping and cleaning, and any spare time will be well spent in going over the stock of plants in pits for next season's use, removing every decaying leaf, and where the surface soil has got green, removing this and top-dressing with sandy loam. There is nothing so unfavourable to these plants at this season as damp; therefore take every possible opportunity of admitting fresh air.

### HARDY FRUIT AND KITCHEN GARDEN.

Look over fruit and other stores frequently in order to see that all is safe and sound. Standard trees which have been root-pruned must be firmly secured against injury from winds; also get any root-pruning to be done this season executed as soon as possible. Endeavour as far as circumstances will permit to have a good supply of Parsley under safe protection; for there is generally a large demand for this, and in the event of a severe winter it is difficult to save it by the ordinary protection of hoops and mats.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.

For the Week ending Oct. 14, 1863, as observed at the Horticultural Garden

| Oct. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 8 | 25 | 29.599 | 29.495 | 67 | 45 | 56.0 | 56 | 56 | E. | .01 |
| Friday 9 | 26 | 29.550 | 29.412 | 65 | 38 | 51.5 | 56¼ | 56¼ | S.E. | .06 |
| Satur. 10 | 27 | 29.641 | 29.545 | 65 | 50 | 57.5 | 57 | 57 | S. | .03 |
| Sunday 11 | 28 | 29.540 | 29.500 | 66 | 39 | 52.5 | 56½ | 57 | S.W. | .00 |
| Mon. 12 | ● | 29.445 | 29.282 | 66 | 45 | 55.5 | 56¼ | 56¼ | S. | .04 |
| Tues. 13 | 1 | 29.374 | 29.263 | 67 | 45 | 56.0 | 56 | 56¼ | S. | .07 |
| Wed. 14 | 2 | 29.599 | 29.511 | 68 | 39 | 53.5 | 56¼ | 56¼ | S. | .02 |
| Average | | 29.535 | 29.453 | 66.3 | 43.0 | 54.8 | 56.5 | 56.5 | | .46 |

Oct. 8—Slight haze; lightly overcast; hazy; slight showers.
— 9—Uniformly overcast; hazy; lightning at night; rain.
— 10—Fine; cloudy, boisterous at night.
— 11—Cloudy and boisterous; fine; overcast.
— 12—Exceedingly fine, overcast at night; rain.
— 13—Showers; showers with sunshine at same time 3 P.M., splendidly coloured rainbow.
— 14—Fine; exceedingly fine; sultry; fine at night.
Mean temperature of the week 3 deg. above the average.

### RECORD OF THE WEATHER AT CHISWICK,

During the last 37 years, for the ensuing Week, ending Oct. 24, 1863.

| October. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 18 | 57.9 | 41.3 | 49.6 | 18 | 0.85 In. | 3 | 3 | 4 | 1 | 3 | 7 | 13 | 3 |
| Mon. 19 | 59.5 | 39.9 | 49.7 | 18 | 0.61 | 2 | 3 | 6 | 3 | 2 | 8 | 9 | 4 |
| Tues. 20 | 59.1 | 40.0 | 49.6 | 15 | 0.34 | — | 6 | 1 | 3 | 6 | 8 | 10 | 2 |
| Wed. 21 | 58.3 | 39.6 | 48.9 | 16 | 0.64 | 3 | 6 | 3 | 4 | 5 | 9 | 5 | 2 |
| Thurs. 22 | 58.7 | 43.1 | 50.4 | 21 | 0.96 | 2 | 1 | 4 | 1 | 10 | 10 | 5 | 4 |
| Friday 23 | 58.0 | 40.4 | 49.2 | 20 | 0.56 | 3 | 2 | 1 | 3 | 4 | 14 | 8 | [illegible] |
| Satur. 24 | 56.2 | 39.5 | 47.9 | 17 | 0.88 | 1 | 3 | 4 | — | 10 | 11 | 6 | 2 |

The highest temperature during the above period occurred on the 21st, 1831—therm. 73 deg.; and the lowest on the 23d, 1859—therm. 17 deg.

## Notices to Correspondents.

Hyacinth Jars.—We have received from Messrs. Hooper & Co., of Covent Garden, a pair of what they call "New Etruscan Vases," which are certainly by far the most elegant contrivance for Hyacinth growing that we have seen. The artist who designed them has a genuine feeling for true beauty, and knows how to avoid tawdry vulgarity.

Books: *W E M.* Hamilton or Glendinning on the Pine Apple. The other works you mention may be procured through any bookseller. We make it a rule never to recommend tradesmen or give prices.—*Iceberg.* The number you want (January 3, 1857) is out of print.—*Inceptor.* Both Mr. Rivers's and Mr. Pearson's little *brochures* on orchard-house management are worth consulting.—*Jane.* The Field Botanist's Companion will just suit you.—*Advertiser.* Paxton's Botanical Dictionary can be had through any bookseller.

Dry Rot: *B M.* Your fungus is Merulius lacrymans, the dry-rot fungus. It probably spread from some wood to the pillar, but we have known it penetrate and injure a brick wall. *M. J. B.*

Expenses: *A Foreman* should consult a lawyer. No newspaper in its senses would advise him. For ourselves we positively refuse to have anything to do with disputes about wages, or anything of the kind.

Grapes: *Alpha.* Mrs. Pince's Black Muscat was exhibited on October 6 to the Fruit Committee of the Royal Horticultural Society, and was awarded a First-class Certificate.

Hotwater: *J. J——s.* We cannot in any fairness recommend tradesmen. This, however, we may say, that no firm is better able to execute your work honourably than the one you have mentioned.

Hybrid Mimuli: *W. Bull.* The Mimulus flowers from your second cross are showy and interesting, the flowers, about 1¾ inch across, being larger than those of the first cross: the markings however in many cases more nearly approach those of the ordinary five spotted large-flowered Mimuli. One of those sent has a rich yellow ground, and the segments nearly covered with bright coppery brown-red, breaking up more or less into spots inwardly, and irregular with a narrow yellow edge outwardly. This, as carrying the peculiar style of marking most prominent in the hybrids of last year, into flowers of larger size, is, we think, the most desirable among them.

Insects: *S B.* The grubs which have injured your Cabbages, Cauliflowers, and Turnips, are the caterpillars of the Dart Moth, Noctua (Agrotis) segetum, concerning which you will find ample details in several of our recent numbers.—*J D.* The insects which have attacked the Spruce Firs are the large black Aphis Pinicola of Ratzeburg. They must be treated as Aphides ordinarily are. They are very uncommon. *W.*

Names of Fruit: *J Carr.* The Musa is probably M. moschata. The Red Raspberry is Belle de Fontenay; the yellow is Cushing's Yellow. When you send your superb spike of Musa to the R. H. S. Fruit Committee *pray* let us know.

Names of Plants: *X Y Z.* We have repeatedly stated that we cannot name more than 4 plants at a time. That is our rule to which we must adhere. We take your first four, viz., 1, Quercus Ballota; 2, Rhamnus latifolius; 3, Quercus tinctoria, apparently; 4, Quercus—some variety of the Lucombe Oak.—*Fern.* Athyrium Filix-fœmina.—*E D.* 1, Platyloma falcatum; 2, Some Davallia not in fruit, perhaps pyxidata or solida; 3, Blechnum occidentale minor; 4, Campyloneurum (Polypodium) angustifolium.—*G W.* 1, Viburnum Lantana; 2, Staphylea pinnata.—*Juvenis.* Allosorus crispus.—*Vandyke.* Monnina resedoides, a Brazilian weed.—*L Vr.* Cratægus orientalis, not odoratissima, and Cr. mexicana no doubt.—*G I.* Epidendrum cochleatum.

Poplars: *H A W.* If there is a difficulty in obtaining the Abele, nurserymen confounding with it the White Poplar, your best way would be to visit some of the great nurseries, while leaves are still on the plants in the quarters.

Transplanting: *Planter.* Your gardener is quite right. Lose no time and have nothing to do with May.

Van Houtte's Nursery: *G.* By all means visit it when you are at Ghent. It is one of the largest, of the best managed, and of the richest in Europe. As far as we have seen, his names may be depended upon. A new Catalogue of his hardy plants is just out.

Vineries: *H C.* Very sorry. Much too late for this week.

TRADE

# HALLETT'S [PEDIGREE] NURSERY WHEAT.

MARK.

THE PEDIGREE WHEAT WAS AWARDED THE SILVER MEDAL BY THE JURORS OF THE CLASS "CEREALS FROM ALL COUNTRIES," AT THE MEETING, IN 1863, OF THE AGRICULTURAL SOCIETY OF DENMARK AT ODENSE.

The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the miller, and realised £19 7s. per acre. This Wheat produced in 1863 nearly 10 quarters per acre, weighing 63 lbs. per Bushel.

**First half of October** } **DRILL 4 Bushels on** { **8 acres.**
**Last " " 6 "**

NONE IS GENUINE UNLESS THE TRADE MARK IS UPON THE BAG.

**Apply to FREDERIC F. HALLETT, ESQ., F.L.S., The Manor House, Brighton, Sussex.**

**PRICE—One Guinea a Bushel (or Seven Guineas a Quarter),**

Delivered, with Printed Directions for Planting, at the Brighton Railway Station, in Bags Sewed up and Sealed, upon receipt of Cheque or Post-office Order, which must in all cases accompany the Order.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing six stamps.

In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately: those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

This family Z *is now for the first time* offered to the public, and is ready for delivery.

## Drainage, &c.

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

## THE LANDS IMPROVEMENT COMPANY.

Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

LAND DRAINAGE, the ERECTION of FARMSTEADS, the CONSTRUCTION of ROADS, and other Works of Agricultural Improvements are undertaken by Mr. HUMBERT, Land Agent and Surveyor, of Watford, Herts, either by contract or on commission; and he will furnish estimates of cost free of charge, expenses out of pocket excepted.

Such works can be executed either under the powers of several special Acts of Parliament, with money raised by loan and paid off by instalments, or with the Landowner's own money.

## ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

*Resident Professors.*

PRACTICAL AGRICULTURE.

J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 12 Lectures on Agricultural Machines.

CHEMISTRY.

ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.
R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Sc.
VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.
W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.
DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS BUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopedia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the PRINCIPAL.

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E.C.

## Land Drainage, and other Agricultural Improvements.

MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5s. per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

## THE NATIONAL EXHIBITION of SPORTING and OTHER DOGS.

*President*—The Right Hon. the Earl of LICHFIELD.
*Vice-President*—The MAYOR of BIRMINGHAM.

The FOURTH GREAT ANNUAL EXHIBITION of SPORTING and other DOGS will be held at BIRMINGHAM, on MONDAY, TUESDAY, WEDNESDAY and THURSDAY, November 30, and December 1, 2, and 3, when Prizes exceeding 530l. will be awarded.

The ENTRIES CLOSE on NOVEMBER 2.

Copies of the Prize Lists and Regulations may be had on application to the Secretary. GEORGE BEECH, Secretary.

Offices, Rectory Chambers, Temple Row, Birmingham.

## THE BIRMINGHAM CATTLE and POULTRY SHOW, NOVEMBER 30, and DECEMBER 1, 2, and 3.

EXTENSIVE GALLERIES having been erected in BINGLEY HALL, the Council have a considerable Quantity of both GROUND FLOOR and GALLERY SPACE to LET, suitable for the EXHIBITION of IMPLEMENTS and MACHINERY, SEEDSMEN'S STALLS, &c.

At the General Annual Meeting of Subscribers held at the Hen and Chickens Hotel, Birmingham, on Thursday, Dec. 4, 1862.

IT WAS RESOLVED,

"That it be a recommendation to the Council in future to restrict the Articles admitted for Exhibition, in addition to the Cattle and Poultry, to Agricultural and Horticultural Implements, Tools, and Machinery, Roots, Grain, and other Farm produce, and other Articles to be used in connection with Agricultural and Horticultural Pursuits."

Plans of the Hall, showing situation of space, Terms, and Forms of Entry, may be obtained from the Secretary.

The ENTRIES CLOSE on NOVEMBER 7.

JOHN B. LYTHALL, Secretary.

Offices—13, Temple Street, Birmingham.

## THE BIRMINGHAM CATTLE and POULTRY SHOW, 1863.

The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held in Bingley Hall, on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3, when PRIZES to the amount of £1940 will be awarded in the following Divisions, viz.:

| | £ | s. | d. |
|---|---|---|---|
| FAT CATTLE | 734 | 5 | 0 |
| FAT SHEEP | 275 | 15 | 0 |
| FAT PIGS | 60 | 5 | 0 |
| BREEDING PIGS | 76 | 10 | 0 |
| CORN and ROOTS | 68 | 5 | 0 |
| POULTRY and PIGEONS | 674 | 4 | 0 |

Prize Lists and every information may be obtained from the Secretary.

The ENTRIES CLOSE on SATURDAY, October 31.

JOHN B. LYTHALL, Secretary.

Offices: 13, Temple Street, Birmingham.

## SMITHFIELD CLUB FAT CATTLE SHOW, 1863.

—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS, will be held at the AGRICULTURAL HALL, ISLINGTON, on MONDAY AFTERNOON, December 7, and four following days.

The Prizes consist of 1825l. in money; 60 Silver Medals 6 Silver Cups and a Gold Medal.

The ENTRIES CLOSE on NOVEMBER 2.

Prize Sheets and Printed Forms of Certificates, with full particulars, can be obtained on application to

MR. DAVID PULLEN, Assistant Secretary,
At the Office of the Honorary Secretary,
Corner of Half Moon Street, Piccadilly, London, W.

N.B.—Applications for Prize Sheets and Forms of Certificates must be addressed to the ASSISTANT SECRETARY as above, and all letters must bear outside the words "SMITHFIELD CLUB."

The Entries for the Implement Department Closed on Oct. 1.


# The Agricultural Gazette.

## *SATURDAY, OCTOBER 17, 1863.*

SOME years ago, the attention of cattle feeders was called to the importance of Wheat as fattening food; and it really seems as if prices were likely once more to bring what is properly the food for man into use in feeding beasts. Meanwhile, Mr. WILLOUGHBY WOOD, who formerly called attention to the value of Wheat, has been recently, in the columns of our contemporary, *Bell's Weekly Messenger*, directing the attention of agriculturists to the injury done them by the restrictions placed on malting Barley. Whether or not malt contains less food than the Barley out of which it is made, it is pointed out that value as food depends on palatableness as well as on nutritiveness. "Beef uncooked is more nutritious than when it is either roasted or boiled, but that would be considered a poor apology for placing it before a gentleman on his return from shooting. Nor would his good temper be much improved if the primitive repast were flanked by a plate of Barley instead of by a foaming tankard, although the superior nutritiousness of the former were vouched for by no less an authority than that of Baron LIEBIG."

Mr. WOOD proceeds to declare that many eminent practical agriculturists have found malt

to be a feeding material of no ordinary value. But precluded by law as are the bulk of farmers from using it, unless at an exorbitant and unremunerating price, there are not a sufficient number of experiments to enable us to assign it a definite rank among feeding materials. "When, however, we find that it has been habitually used by the feeders of prize stock, we may be certain that its good effects have not been overrated by general opinion. Whether it is somewhat more nutritious, or somewhat less nutritious, than Barley, does not affect the argument. The injury which is done to the farmer, is, that practically he is not allowed to use Barley for feeding, except as food for pigs. Being too heating in a raw state for cattle unless for a very limited time, or largely diluted with other substances, it may be considered as practically excluded from the list of cattle-feeding materials. The duty on malt being seldom less than 70 per cent., and sometimes approaching 100 per cent. on the lower qualities of Barley, these are sold at an unremunerative rate; when, if allowed to be malted duty free for home use, they might yield a profitable return in beef and mutton, besides contributing to the improvement of the farm. The magnitude of this loss may be estimated by the consideration that, in unfavourable seasons, one-third or more of the crop is considered by public brewers to be unfit for their use.

"It is therefore of primary importance to urge on Government the expediency of permitting farmers to malt their own corn for feeding purposes. In seasons in which the prices of corn rule low, and in those when a large proportion of the crop is inferior, it is difficult to overrate the importance to the agricultural interest of this privilege. When the inferior qualities of Wheat and Barley were cheaper than Linseed cake, they would be largely substituted for it, were the malting process allowed. The experienced feeder and the veterinary surgeon both well know the importance of varying the food of stock. In this neighbourhood, malt-dust from the brewers is in much request, while the very grains which have had as much nutriment extracted from them as the brewer's art is able to effect, are regularly purchased during the winter months by farmers in the district, who cart them to a distance even of 20 miles. So heavy an expense would not be introduced year after year unless it were found to confer a corresponding benefit. I can myself speak to the eagerness with which cattle eat chaff when mixed with grains. Thus does a material, apparently insignificant, add to the amount of stock which a farm is able to maintain; and if so much benefit arises from Grain after brewing that a single farm will sometimes consume weekly several hundred bushels, what might not be expected from the use of malt previously to the beer being extracted from it? The farmer ought, therefore, no longer to be prohibited from malting his own Grain for feeding purposes. Complete liberty in dealing with the produce of his own land is no less essential to him than is the free import of raw material to the manufacturer."

—— The Royal Agricultural Benevolent Institution has received a gratifying letter and donation from Mr. C. T. Tower, of Weald Hall, near Brentwood, Essex—who is well known as "the father of the Smithfield Club." The suggestion which the letter contains will, we believe, commend itself to many benevolent minds, and bear good fruit in aid of the Institution in whose interest it has been conceived. Mr. Tower writes as follows to the Secretary*:—

"You will find my name as a donor of five guineas to the Royal Agricultural Benevolent Institution of last year, and I now inclose my cheque for 25 guineas more, to be added to that Donation List from me. I avail myself of the active exertions now going on to bear testimony, by every expression of thankfulness, to the Gracious Giver of all Good, for the abundant and well secured Harvest with which we have been blessed, and among the various schemes adopted it has occurred to me, as I hope it has to many others, that to promote subscription to the above Society, of which you are the Secretary, has a fair claim to some consideration from its immediate connection with success or failure in that occupation of human industry. I shall be obliged to you to send me by book post a few copies of the rules and regulations and list of subscribers for circulation in this parish and neighbourhood.

"I am, Sir, your obedient servant,
(Signed) "C. T. Tower."

"To Charles Shaw, Esq."

The above note was read at the Council meeting of the Institution on Tuesday last, and it having been thought that its publication would do good, Mr. Tower's permission to publish it has been obtained.

—— An inquiry into the average annual agricultural produce of this country resolves itself into the question—What is the consumption of food by its inhabitants? We do not know the produce of our fields, and can only guess at it by inference in this way. It is nevertheless of importance that speculations on this subject be checked by comparison with any facts related to them that can be obtained. If we could learn the average consumption of various families in different circumstances, it might be possible to obtain a tolerably trustworthy idea of the food consumption of the country, which it would be exceedingly important to know. A correspondent of this Journal is in search of such information, and has placed in our hands a form to fill up with any facts of this kind that we can obtain. He asks for the ordinary weekly consumption of bread, meat, bacon, lard, butter, cheese, tea, coffee, sugar, rice, Oatmeal, flour, Potatos, vegetables, tobacco, soap, milk, beer, malt, firing, clothes, shoes, rent. The questions he puts in four distinct cases—that of an artisan, as mason, smith, or carpenter; an agricultural labourer with large family; an agricultural labourer with small family; and a single person or aged couple on parish allowance; and in every case he asks for the amount of the weekly earnings or receipts, the number of pairs of hands at work, and the number of mouths to be fed.

It is very rarely that labouring men are so communicative as to be willing to give information on these points—or even so observant as to be able to give this information. There may, however, be among our readers some who are interested in this subject, and who may know trustworthy people who can answer the questions here given. If so, we should be very much obliged if they would put the questions and send us the answers.

* C. Shaw, Esq., 55, Charing Cross, S.W.

The following important testimony to the character of the past harvest has just appeared in the *Times*:—

So much has been said of late respecting the Wheat crop of the harvest just passed that perhaps a statement of some of the results of my own experience on the subject may not be without interest to your readers. On a field of 14 acres I have grown Wheat every year for the last 20 years. During the whole of this period one portion of the land has been left entirely unmanured, another has received 14 tons of farmyard manure annually, and the remainder has been divided into numerous plots, which have respectively been manured with different artificial combinations, some calculated to yield moderate crops and others the heaviest produce which the characters of the soil and seasons will admit of. With some exceptions the same description of manure is applied year after year on the same plot, so that the variation in the produce from one year to another is mainly due to the characters of the seasons; and experience has shown that the produce of this field affords a tolerably correct indication of the general character of the Wheat crop over a pretty wide area.

The following is a statement of the amounts of produce obtained without manure and by farmyard manure in 1863, compared with the average of the preceding 10 years under the same conditions:—

| | Bushels of corn per acre. | |
|---|---|---|
| | Harvest, 1863. | Average of 10 Years. 1853-1862. |
| Unmanured every year .. | 17¼ .. .. | 15½ |
| Farmyard manure every year | 44 .. .. | 35¼ |

Thus, even the unmanured land has given rather more produce in the favourable season of the twentieth year than the average of the preceding ten years; but the increase due to season was far greater where the farmyard manure was employed. It was even greater still in many of the cases where artificial manures were applied, as the following results (which include those of all the plots where the yield of the present season exceeded 50 bushels per acre) will show:—

| Bushels of Corn per Acre. | | Bushels of Corn per Acre. | |
|---|---|---|---|
| Harvest, 1863. | Average of 10 Years, 1853-1862. | Harvest, 1863. | Average of 10 Years, 1853-1862. |
| 53½ | 35½ | 53½ | 33½ |
| 54 | 35¾ | 53½ | 34 |
| 56½ | 37 | 54 | 33¾ |
| 55 | 37½ | 53½ | 34¼ |
| 55¼ | 33½ | 56½ | 37½ |
| 54¾ | 34½ | 55 | 38 |
| 58½ | 34½ | | |

It is seen that in almost every one of these cases the produce of 1863 was one-half more than the average of the preceding ten years, with the same description of manure. The quality, as indicated by the weight per bushel, was also considerably above the average. It should be observed, too, that on only one of these plots has there ever before, during the whole course of the experiments, been obtained as much as 50 bushels per acre, and on it only twice—namely, in 1854 and 1857.

I may add that in an adjoining field, not treated experimentally, but under the ordinary management of the farm, the yield of Wheat this year (after Clover) is more than 63 bushels per acre.

These results may, I think, be taken as fully confirmatory of the generally expressed opinion that the Wheat crop of 1863 is one of the largest that has been grown for many years, and also of superior quality. Those who fear that our soils are becoming rapidly exhausted may, perhaps, derive some comfort from the fact that a field of ordinary Wheat-land has grown 20 crops in succession, the 20th crop, even without manure, being heavier than the average of the 10 preceding years, and that obtained by various artificial manures being considerably heavier than in any preceding season of the series.

Rothamsted, Herts, Oct. 10. J. B. Lawes.

## DISEASES OF LIVE STOCK.

[The following passages are taken from Dr. Simon's report to Government.]

Disease prevails very extensively in the United Kingdom among horned cattle, sheep, and swine: the diseased state of an animal not only does not commonly lead the owner to withhold it from being slaughtered for consumption as human food, but, on the contrary, in large classes of cases (especially where the disease is of an acute kind) leads him to take immediate measures with a view to this application of the diseased animal; and, consequently, a very large proportion of the common meat of the country—beef, veal, mutton, lamb, and pork—comes from animals which are considerably diseased.

The diseases which figure behind the scenes of our dead meat market are of course various. And, although for the purposes of this report it is not necessary to enter upon much detail concerning them, yet, in order to discuss their probable effect on the quality of meat, the more important kinds of disease must be separately spoken of. And they are three—viz., first, contagious fevers; secondly, the so-called anthracic and anthracoid diseases; thirdly, parasitic diseases.

Of the contagious fevers of stock, two are now widely prevalent in the United Kingdom—namely, the pleuro-pneumonia or lung-fever, which is peculiar to horned cattle, and the aphthous fever, or foot-and-mouth disease, which affects indifferently and in common horned cattle, sheep, and swine. A third disease of the same class—the small-pox of sheep, perhaps of all murrains the most dreaded in this country—is not known to be now prevailing among our flocks; but a few months ago, an outbreak of it in Wiltshire excited the greatest alarm; and it is a disease which may at any moment be spreading here. A fourth most important contagious fever of stock—the very fatal typhoid fever, or steppe murrain of Russian horned cattle, has happily been kept away from us for more than a century.

Of the so-called anthracic and anthracoid disease of stock, many prevail to a great extent in the United Kingdom. It is said to be an essential character of these diseases that the blood of the diseased animal undergoes peculiar, in some respects putrefactive, changes; but commonly the disease involves an occurrence of local infiltrations and effusions of putrescent blood-ingredients or blood. Diseases of this class are further characterised by the fact that during their course the diseased body develops in itself a specific morbid poison, which, by inoculation, can be made to spread too ther animals, including man. The diseases counted under the present head are as follows:—The splenic apoplexy of horned cattle and sheep, the braxy of sheep, the black-quarter of horned cattle and sheep, the glossanthrax or tongue-carbuncle of (almost exclusively) horned cattle, the forms of anthrax which affect the mouth, pharynx and neck in swine, the apoplexy of swine, and their so-called blue-sickness or hog-cholera, the parturition fever of cows, the corresponding heaving-pains of ewes, the navel-ill of lambs, and the red-water of sheep.

Thirdly, there are the parasitic diseases of stock—diseases which consist in the colonisation of the living animal's body by lower animal forms, larval or mature, subsisting at its expense. Such are the following diseases:—The so-called "measles" of the pig, in which disease the Cysticercus cellulosæ (larva of the Solium tapeworm) is found more or less abundantly diffused through the muscular system, and perhaps in other parts of the animal; the analogous disease of horned cattle, due to the larva of the T. mediocanellata; the various, chiefly visceral, diseases of stock which depend on larvæ of the Tænia marginata and T. echinococcus; the brain disease, "gid," or "sturdy," which is due to a larva, mostly of the T. cœnurus; the rot of sheep due to swarms of adult and oviparous fluke-worms (distoma) in the liver; the lung disease, which, especially in calves and lambs, is produced by different kinds of Strongylus; the easily-overlooked, but highly-important disease of swine, which consists in an infestation of their muscular system by the minute immature forms of the Trichina.

The above is Dr. Simon's analysis of Professor Gamgee's report on this subject. Dr. Simon's further remarks on the existence of these diseases in connection with the public supplies of meat and milk are as follows:—

"From Mr. Gamgee's report, I gather that horned cattle affected with pleuro-pneumonia are, much oftener than not, slaughtered on account of the disease, and, when slaughtered, are commonly (except their lungs) eaten; and this, even though the lung disease have made such progress as notably to taint the carcass; that animals affected with foot-and-mouth disease are not often slaughtered on account of it, but, if slaughtered, are uniformly eaten; that animals affected with anthracic and anthracoid diseases, especially swine and horned cattle thus affected, are (except their gangrenous parts) very extensively eaten: that the presence of parasites in the flesh of an animal never influences the owner against selling it for food; that carcases, too obviously ill-conditioned for exposure in the butcher's shop, are abundantly sent to the sausage-makers, or sometimes pickled and dried; that specially diseased organs will often, perhaps commonly, be thrown aside, but that some sausage-makers will utilise even the most diseased organs which can be furnished them; that the principal alternative, on a large scale, to the above described human consumption of diseased carcases is, that in connection with some slaughtering establishments, swine (destined themselves presently to become human food) are habitually fed on the offal and scavenage of the shambles, and devour, often raw

and with other abominable filth, such diseased organs as are below the sausage-maker's standard of usefulness.

"This, in general terms, is Mr. Gamgee's report on the subject. Disgusting as are the reflections which it suggests, there is not in it, I think, anything intrinsically improbable.

"One doubt, however, may well be raised on the subject. A first popular impression would be, that if things are as described, pestilences must be bearing witness to the fact. Doubtless, the impunity, such as it is—results from the operation of well known chemical and physiological laws. Our animal food before we take it has for the most part been exposed to so high a temperature that any parasites which had their home in it are killed, and whatever albuminous morbid contagium it contained has been coagulated and made inert. Probably, too, against small quantities of animal poisons—and against such as communicate smallpox and glanders, just as against the venom of the cobra and rattlesnake—the stomach has resources of its own; for any such organic product entering the stomach is at once (as regards that mobile chemical constitution on which its efficiency depends) exposed to the strong disinfectant chemistry of digestion, and thus, within narrow limits of quantity, is likely to be rendered inert before it can soak into living texture. Both these influences may count for something, and the first-mentioned of them for almost everything, in explaining the fact (so far as it is a fact) that many sorts of diseased meat are eaten with impunity. On the other hand, it must be remembered, that, in this theoretical explanation, the two protective influences do not cover the whole field of danger; for, in the first place, not all meat which is eaten has been exposed throughout (nor in every instance even at all exposed) to a temperature sufficient to kill parasites, and coagulate albumen; in the second place, even complete coagulation of albumen may, for aught which we know to the contrary, leave some morbid poisons in operation; in the third place, it may very well be, that, even where cooking can divest a meat of some original specific infectiveness, the meat may still not be susceptible of quite the same digestional changes as healthy meat, when eaten, undergoes. It may be convenient to notice, under separate heads, the evidence which now exists as to the injuriousness of each chief kind of diseased meat.

"(a) First, as regards meat which is infested with parasites—we know with absolute certainty that this may become a source of human disease. Every tapeworm found existing in human bowels was once a hydatid, nested either in the living muscle or in some other living texture of an animal which is used for food. Tapeworm, unfortunately, is not a very rare human affection; though how it comes to pass that we not very rarely get to swallow alive those cystic brute-parasites, which are larvæ of the intestinal tapeworm, is somewhat difficult to explain. A mouthful of fresh "measly" pork, eaten raw, would of course explain such an occurrence, and it seems probable that cysticerci may outlive some or all of the processes by which meat is commonly cured, and may thus get swallowed alive by persons who eat uncooked sausage, ham, or bacon. And the danger to man is even greater than I have yet said. For pork, in order to be capable of carrying live trichina-larvæ into the stomach, needs not to be absolutely raw. Professor Leuckart, a distinguished experimenter on this subject, has found trichina-meat retaining much of its dangerous qualities even when it had to some considerable extent undergone both pickling and smoking.

"(b) As regards possible ill-effects from consuming in a well-cooked state, the flesh of animals with anthracic or anthracoid disease, evidence is still imperfect—partly, no doubt, because extreme ill-effects do not generally result from such eating, but partly also because, till public attention is drawn to the subject, it must be difficult to trace to their true cause any ill effects which are thus occasioned. Mr. Gamgee tells me that he has experimented on this subject, and that dogs and ferrets, to which he has given (cooked) various parts of animals slaughtered during splenic apoplexy or parturition fever, have died in consequence of the meal; but, on the other hand, M. Renault—formerly Director of the Imperial Veterinary College at Alfort—is quoted, as believing that meat from carbuncular animals is harmless. It seems to me that in this question, which concerns so many diseases and so many different stages of disease, somewhat extensive investigations are wanted to fix accurately the limits between safe and unsafe consumption. But that human life may, under some circumstances, be endangered through the use of cooked meat derived from animals with anthrax, seems to be conclusively shown by the following case, with which Mr. Keith, senior surgeon of the Aberdeen Royal Infirmary, has favoured me:—

[Then follows a history of illness and death consequent on partaking of the flesh of a heifer which was slaughtered on the first appearance of an illness.]

"In a letter of further information which Mr. Keith has been good enough to write to me, answering various questions I had asked him, he says:—'I learn that the meat cooked was quite fresh and healthy to look at, and that the fatal dinner was cooked on the very day the animal was killed, so that putrescency had nothing to do with the matter. I further learn that one of the females—the servant—had some suspicion that it might not be safe to eat of the meat, and therefore it was that she abstained, and was safe, as already stated. The father habitually abstained from animal food, and did so that day, and escaped. One other of the females only took of the broth, and no beef, and escaped more easily than any of the others.'"

"(c) As regards possible ill-effects from consuming, in a well-cooked state, the flesh of animals which have been suffering an infectious fever—small-pox, typhoid fever, pleuro-pneumonia, or aphtha—I have no inculpatory evidence worth quoting. And as regards the last two diseases, common as they are in this country, I am of opinion that the absence of evidence is enough to show that immediate ill effects of any considerable importance do not ordinarily follow the consumption of the meat. Indeed, it is certain that on various occasions meat of this description has been consumed on so large a scale, that if the meat had been immediately hurtful, the consequent mischief could not have escaped observation. On the other hand, I must repeat that, till public attention is drawn to such subjects as these, it is difficult to prove connections, which afterwards become evident, between evils and their latent causes. And particularly in this point of view I must advert again to the unexamined part of this question—the doubt whether chronic ill-effects (which of course would be singularly difficult to trace) may perhaps result when febrile meat—meat which necessarily is of modified chemical constitution—becomes a considerable element in diet. An opinion is sometimes expressed that boils (perhaps with other like affections) are caused in the human subject by the consumption of such meat as I refer to. And, though I have not yet found any fact which I can deem conclusive in support of this opinion, I must admit that the alleged connection is not *primâ facie* impossible.

"(d) Before leaving the subject of cattle diseases in their relation to the supply of meat, I must mention, as a danger incidental to the consumption of meat from diseased animals, that in some cases the meat may be injurious in consequence of the animal having been excessively drugged during life. Mr. Gamgee mentions cases where animals recently drugged with arsenic and strychnia have been used for human food. He quotes a very striking case, reported nine years ago in Germany, to the effect that signs of poisoning arose almost as an epidemic among 321 persons who had eaten of the flesh of an ox which during life had been dosed with tartar emetic, and had had perhaps two ounces of that drug; that, of the 321 persons who ate of the ox, 107 suffered, and one of them fatally, from violent gastro-intestinal disturbance; that antimony was chemically found both in the flesh of the ox and in the interior of the person who died; and that doses of the flesh given experimentally to other animals produced signs of poisoning. Generally it might be expected that no drugging of an animal, in doses not sufficient to poison it, could render its flesh capable of acting as a poison on man.

"In conclusion, lest I should seem to have ignored any important existing evidence on the subject of the dangers which are attributable to the consumption of diseased meat, I think it right to observe that, in popular discussions of this subject, and even in some of the medical writings which relate to it, sufficient care has not, in my opinion, been taken to separate two important questions—the question of meat being rendered unwholesome by decomposition, and the question of meat being rendered unwholesome by disease.

"With regard to that minor branch of the inquiry which relates to the milk of diseased animals, it appears that in this country the most important question is as to the wholesomeness of milk from animals with aphtha. Mr. Gamgee points out that on some occasions when aphtha has been prevailing among the cattle of a country, the human population in the same places has suffered from the same, or from some similar disorder. And experiment seems to have established as certain that, at least under some circumstances, the human affection may be caused by the consumption of milk drawn from a diseased animal. It may be that the frequency of such communications of the disease, as compared with the number of persons who (more or less) are consumers of milk, is not great. But the danger is one of which the public ought to be aware."

## DAIRY STATISTICS.

Mr. Egerton Harding, of Old Springs, Market Drayton, has furnished the following statistical account of the produce from a stock of milking cows kept upon a dairy farm, of which he was both landlord and tenant for 11 years. The farm contains 133 acres, of which 67 are pasture and meadow. The rent, tithe free, was 200*l*. The cows were cross-bred, but of a Short-horn character.

Produce of Milking Cows.

| | Amounts received for Cheese. | Amounts received for Butter. | Amounts received for Milk. | Amounts received for Calves. | Balances from Sales and Valuation of Stock. | Amounts received for Cheese, Butter, Milk, Calves, and Beef. |
|---|---|---|---|---|---|---|
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| 1852 .. .. .. | 261 14 1½ | 68 6 8½ | 14 5 7 | 14 11 0 | + 45 11 6 | 404 8 11 |
| 1853 .. .. .. | 334 11 9½ | 94 3 10 | 13 11 7½ | 12 1 6 | — 8 18 0 | 445 11 9½ |
| 1854 .. .. .. | 272 8 8½ | 89 18 10½ | 13 14 4½ | 30 15 6 | + 6 5 6 | 412 12 11½ |
| 1855 .. .. .. | 329 19 4½ | 92 6 6 | 12 14 4 | 14 12 0 | + 16 17 0 | 466 9 2½ |
| 1856 .. .. .. | 330 15 6½ | 92 6 8¼ | 12 16 4 | 33 11 0 | + 26 8 0 | 495 17 7 |
| 1857 .. .. .. | 205 2 0 | 81 11 4½ | 17 19 10½ | 30 10 6 | + 4 4 6 | 338 18 3 |
| 1858 .. .. .. | 286 10 0 | 91 0 3½ | 19 11 11 | 27 5 6 | + 28 0 9 | 452 8 5½ |
| 1859 .. .. .. | 279 18 10 | 91 1 1 | 20 12 2 | 26 13 4 | + 57 9 5 | 475 14 10 |
| 1860 .. .. .. | 239 5 8 | 77 13 4 | 22 12 1 | 26 5 2 | — 5 3 2 | 414 5 1 |
| 1861 .. .. .. | 160 4 7 | 68 11 5 | 19 5 3 | 15 6 0 | + 54 13 0 | 318 0 3 |
| 1862 .. .. .. | 173 13 0 | 64 7 6 | 19 15 1 | 6 6 6 | + 100 16 8 | 364 18 9 |
| Average of 11 years .. | 265 16 8¼ | 82 17 0½ | 16 10 10½ | 21 12 6½ | 29 13 2¼ | 417 4 3 |

| | Amounts received for Cheese, Butter, Milk, and Calves. | Average No of Cattle on the Farm. | Average No. of Milking Cows. | Amounts received per head of Cattle. | Amounts received per Milking Cow. | Price of Best Cheese per lb. | Price of Skim Cheese per lb. | Price of Butter per lb. | Price of Beef per lb. |
|---|---|---|---|---|---|---|---|---|---|
| | £ s. d. | | | £ s. d. | £ s. d. | d. | d. | d. | d. |
| 1852 .. .. .. | 358 17 5 | 26 | 24 | 16 3 6 | 14 14 10 | 5¼ | 3 | 10 | 6 |
| 1853 .. .. .. | 454 8 9½ | 27 | 26 | 16 10 0 | 17 9 6⅓ | 6¼ | 3¼ | 10 | 6½ |
| 1854 .. .. .. | 406 7 5½ | 27 | 27 | 15 5 8 | 15 1 0 | 6¼ | 3 | 10½ | 6¼ |
| 1855 .. .. .. | 449 12 2½ | 26½ | 25 | 17 12 0 | 17 19 8 | 6¼ | 3 | 11 | 6½ |
| 1856 .. .. .. | 469 9 7 | 27 | 26 | 18 7 3 | 18 1 1 | 6½ | 3½ | 12 | 6½ |
| 1857 .. .. .. | 334 13 9 | 28 | 26 | 11 14 11 | 12 15 11 | 4½ | 3¾ | 12 | 5¾ |
| 1858 .. .. .. | 424 7 8½ | 29½ | 26 | 15 6 8 | 16 6 5 | 5⅓ | 3½ | 12 | 6⅛ |
| 1859 .. .. .. | 418 5 8 | 30 | 27 | 15 17 1 | 15 9 9½ | 5¾ | 3½ | 14 | 6¼ |
| 1860 .. .. .. | 419 6 3 | 27 | 26 | 15 4 0 | 16 2 6½ | 6¼ | 3 | 14 | 6½ |
| 1861 .. .. .. | 263 7 3 | 28 | 27 | 11 5 1 | 9 15 0½ | 4 | 3 | 14 | 6 |
| 1862 .. .. .. | 264 2 1 | 28 | 25 | 13 0 8 | 10 11 8½ | 4½ | 3 | 14 | 6½ |
| Average of 11 years .. | 387 10 9 | 27 7/11 | 25 10/11 | 15 2 5½ | 14 19 3 | 5⅛ | 3¼ | 12 | 6¼ |

| | No. of Best Cheeses. | Weight per Cheese. | Total Weights. | No. of Skim Cheeses. | Weight per Cheese. | Total Weights. | No. of Stiltons. | Weight per Cheese. | Total Weight. | Total Weights of all Cheeses. | | Weight per Cow. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | lbs. | lbs. | | lbs. | lbs. | | lbs. | | lbs. | tn. ct. qr. lb. | lbs. |
| 1852 .. .. | 238 | 47½ | 11,336 | 62 | 14½ | 900 | 0 | 0 | 0 | 12,230 | 5 9 1 0 | 509 |
| 1853 .. .. | 229 | 55½ | 12,305 | 64 | 16⅛ | 1035 | 0 | 0 | 0 | 13,400 | 5 19 2 16 | 515 |
| 1854 .. .. | 224 | 44 | 9,893 | 54 | 14 | 798 | 0 | 0 | 0 | 10,061 | 4 15 3 21 | 395 |
| 1855 .. .. | 240 | 50½ | 12,135 | 50 | 13¾ | 695 | 4 | 11 | 44 | 12,875 | 5 13 3 9 | 515 |
| 1856 .. .. | 247 | 49 | 12,110 | 38 | 13 | 497 | 8 | 10¾ | 86 | 12,693 | 5 13 1 9 | 488 |
| 1857 .. .. | 242 | 41¼ | 10,006 | 30 | 12¼ | 370 | 4 | 11 | 44 | 10,420 | 4 13 0 4 | 400 |
| 1858 .. .. | 273 | 40 | 11,965 | 17 | 25 | 425 | 4 | 10¼ | 41 | 12,431 | 5 10 3 27 | 488 |
| 1859 .. .. | 243 | 45½ | 11,170 | 26 | 13¼ | 349 | 4 | 12 | 48 | 11,567 | 5 3 1 3 | 465 |
| 1860 .. .. | 227 | 46¼ | 10,541 | 18 | 10 | 184 | 4 | 11¾ | 47 | 10,771 | 4 16 0 19 | 414 |
| 1861 .. .. | 213 | 41½ | 8,883 | 9 | 13¼ | 120 | 4 | 10¾ | 43 | 9,046 | 4 0 3 2 | 335 |
| 1862 .. .. | 194 | 42¾ | 8,296 | 0 | 0 | 0 | 4 | 10¾ | 43 | 8,339 | 3 14 1 23 | 333 |
| Average of 11 years | 233 | 45 9/11 | 10,785 6/11 | 33 5/11 | 14½ | 488 5/11 | 3 3/11 | 11 | 36 | 11,312 9/11 | 5 1 0 1 | 441 6/11 |

In addition to Grass, straw, hay, and roots, the produce of the farm, each cow had, night and morning, a small feed of purchased corn, which cost about 4*l*. per head per annum. *Journal of English Agricultural Society.*

## Home Correspondence.

*Improvements in Machinery for Purifying Casks.*—It is worthy of note that the first successful introduction of machinery for this purpose was in the year 1843; previous to this period, the only known method of cleansing was by the introduction of steam or hot water, or both, assisted by a chain placed inside, and a rolling motion given to the cask by hand. By such means it will not be difficult to see how uncertain would be the internal state of the cask. The machine invented in 1843 consisted of a double frame, suited to the form and size of each cask, the frames revolving one within the other, and at right angles to each other, in such a manner as to cause a chain of peculiar construction, assisted by hot water, to traverse completely over every portion of the cask, and so effectually remove all adhering matter. These machines still continue to be held in high repute at many first-rate establishments, and so far as cleansing is concerned, they are nearly, if not quite, equal to anything which has since been attempted in this way. There is, however, one objection to them, namely, they are only calculated to cleanse one cask at a time, which, in such establishments as the two leading Burton houses (whose demand for casks each day amounts to thousands), has been a complete bar to their introduction and use. The new machine not only gets over the difficulty in respect to the number of casks cleansed at one time, but is superior to the old machine in point of speed generally. This machine consists mainly of two circular discs with an upright shaft or spindle in the centre, which has a screw at each end (the threads being cut right and left-handed). The two discs have likewise each a corresponding female screw, which, when turned round on the upright spindle (the same being temporarily fixed), it will be easy to see, will cause the discs to advance or recede from each other, according as they are turned to the right or left hand. Such is the mode by which the casks are either secured or released from the machine, that is, by turning in one direction, the casks are effectually secured between the two discs; by turning the reverse way they are released. Any number of casks which the bottom disc will contain, and even a second tier (if desired) can be fixed and afterwards cleansed at one operation—say two sets of 5 or 10 casks. A compound motion is given to this machine not dissimilar (so far as the outer action is concerned) to the old machine, but, from the fact of the cask being placed in an upright position in the machine, and likewise surrounding the middle shaft or spindle, the casks themselves, when the machine is set in motion, are twirled about in a manner altogether peculiar and effective. The best cleansing medium is found to be a small quantity of sharp shinge

along with two or three gallons of hot water. The time occupied in cleansing ordinary dirty casks is about 5 minutes, and very bad mouldy casks about 12 minutes. Thus it will be seen that one of these machines is calculated to cleanse easily 100 ordinary dirty casks, or 60 mouldy ones per hour, at the mere expense of two or three labourers and an insignificant amount of engine power. In large establishments where unheading is still resorted to, the saving to be effected by this new machine must of necessity be great. With regard to purifying both new and old casks, there can be no doubt that the wisest course for new casks is to divest the wood as much as possible of the coloured juices before it is made up into casks, which is easily done by hot water or steam, and it is afterwards dried by currents of hot air. Old and tainted casks are found to be cured (within 1 in 200) by partial steaming, and afterwards by exposure to currents of hot air at 450° Fahr. Experience having sufficiently proved the soundness of this mode of preparing casks for a most important branch of trade, it may seem almost needless to suggest any other method of performing the same work, but the author being the first to discover the importance of applying heated currents to such a purpose, he feels it incumbent on him to state that there is still another element which he is not sure but must ere long supersede to a considerable extent the one before referred to. It is that of superheated steam, the use of which was discovered lately by the author in rather a singular manner, namely, while engaged in some experiments with superheated steam, it occurred to him, seeing that there was an indicated temperature at the time of between 600° and 700° Fahr., that it would be well to try its effect upon a very bad stinking cask, which, being obtained was subjected to the heat only ten minutes, when it was pronounced perfectly sweet. It is only necessary to add that the same result has attended many repetitions of the system, and although they have not all been attended with the same successful results, the author feels that it has not arisen from any fault in the principle, but from a want of sufficient practical data as to the exact temperature and also the amount of time which the casks can be safely exposed to this powerful agent. *R. Davison, C.E., at the British Association.*

*Corn Averages—Michaelmas Rents.*—The fluctuation in the prices of grain during the farmer's year ending Michaelmas, 1863, has not been important, but it may be remarked that the highest price of Wheat was at the commencement of the year, and the lowest at the end. The averages deduced from the *London Gazette* for the 52 weeks ending Michaelmas, 1863, were :—

| | | |
|---|---|---|
| Wheat .. .. .. | 46s. 8d. | per Imperial quarter. |
| Barley .. .. .. | 34 3 | do. do. |
| Oats .. .. .. | 21 9 | do. do. |

During the same period the following abstract shows the dates of the highest and lowest prices, with the difference :—

| | Highest Prices. s. d. | | Lowest Prices. s. d. | Difference. s. d. |
|---|---|---|---|---|
| Wheat, Oct. 10, 1862 | 51 1 | ..Oct. 2, 1863 .. | 43 9 | ..7 4 |
| Barley, March 13,'63 | 36 10 | ..July 24, 1863 .. | 28 10 | ..8 0 |
| Oats, July 10, 1863 | 24 0 | ..Jan. 23, Oct. 2, '63 | 20 2 | ..3 10 |

*Charles M. Willich, Actuary, University Life Assurance Society,* 25, *Suffolk Street, Pall Mall East, S.W., Oct.* 10.

## Societies.

Edinburgh : *Address by Lord Brougham to the Working Men.*—The following remarkable address was spoken by Lord Brougham on Friday evening of last week, at an enormous assemblage held in connection with the Social Science Association.

Lord Brougham said : Fellow workmen,—I have been a workman like you all my life, and even when old age has come upon me, the habit is so strong that I cannot give over working now ; and really it must be admitted that there is not only great profit and great usefulness, but great pleasure and comfort in work. All well regulated minds must feel what has been very well said on several occasions, that the worst of all is to have no work to do. I don't want to detain you by making a long preachment on the present occasion, but I have one or two things that I would first call your attention to ; they are of the greatest importance to all classes of the community, but to no class more than the immense body of the working classes, whom I am happy to see before me. The most important class in the country are the working men ; on them all depends, and he who does good to them and provides them the means for their improvement and their best welfare, does good to the whole community—to the non-working classes, to the idle as well as to the workman. Our Association, which is assembled for the seventh time on the present occasion, pays more attention to what concerns the working part of the community than to all the rest of the community together. Now, I cannot help feeling that one of the most important things for the people of this country, and above all for the industrious people, is the improvement of their minds by education, and I am most happy to find that a great improvement of late has been made, not only in the mode of instructing, but also in the course of instruction in respect of time. There has of late years prevailed, and now is becoming universal, the opinion that a great deal of time is wasted and thrown away often in elementary instruction. For instance, instead of 12 hours' work for boys and girls at school, it has been found that six hours is not only enough, but that it is better than the 12 ; it is better for their bodies and better for their minds. They learn more, and their minds are more on the stretch, and they actually profit more in learning, independent of the great benefit which this shortening of the time is to their health. This has been a doctrine which of late has been adopted and introduced into the army by general orders from the Horse Guards. I reckon education to be highly important in every sense. I lately read a book which I would strongly recommend to your attention. It is an excellent book on every part of the working man's fortune and labour ; it is by a rev. gentleman of this city, the Rev. W. G. Blackie, and is called "Better Days for Working People." In this small volume I find the best rules on everything relating to the working men ; on everything which relates to the improvement of the mind. I was much pleased with the passage which I read this morning, because it contains this quotation from an old author which gives a very accurate account of the merit of books. The quotation is to this effect, "books are masters, who instruct without rods or rules or wrath." If you go to consult them they are never asleep ; if we ask them questions they don't run off ; if you make blunders they don't scold you, or if ignorant don't daunt you. I think that is fully as good as all that my learned friend, who calls himself an ex-Radical, Mr. Roebuck, lately said, at Swanage, on the subject. I prefer this old gentleman's statement, which is 600 or 700 years old, to Mr. Roebuck's. It is very short, very clear, and I think it is very aptly introduced. This being the case, it will not, I hope, fail to call your attention ; and if at any future time you look back on this night, and consider that to the hint I have given, or the suggestion I have made—for I am like the book, and I don't wish to scold you on the subject—if you find that from this has arisen a habit of reading—a preference of reading to other leisure employments, it will be well. And I would say, gain information as well as entertainment by reading. I greatly prefer that reading which leads to useful and profitable instruction to that which merely possesses the power of giving amusement.—The noble lord also urged his hearers to establish club-rooms for social intercourse, so that those who spend their mornings in labour, might devote their evenings to conversation and improvement. He concluded by again expressing great delight at seeing this immense assemblage, and at knowing that so many thousands of the working people of this country take an interest in the proceedings of the National Association.

Rugeley : *Tenant Right.*—At the annual meeting of this Society last week, the following reference was made to the prize form of agreement, on which Lord Lichfield made a speech before the Staffordshire Agricultural Society the other day (see p. 973). R. C. Chawner, Esq., presided, supported by the Earl of Lichfield and others. The Earl of Lichfield said :—I ask you to allow me to offer a few remarks upon a subject which is more intimately connected with the occasion of our meeting here to-day. I wish to do so more especially in consequence of some misapprehensions which have taken hold of the minds of some persons with regard to what has taken place in connection with the award of the prize to the best agreement. It is supposed that I stated that it was the intention of the committee to publish the agreement which had got the prize in the shape which they intended to put upon it. I can scarcely believe it is necessary to assure any gentleman here present that the idea of mutilating the agreement, or changing it in any way, could never have crossed the mind of any member of the committee, those who were present bear me out in asserting that what I said was, that the committee, although they were perfectly unanimous that the agreement selected was the best of the agreements sent in, found the subject required so much more consideration than they had expected, that they intended before publishing that agreement to see in what way it could be improved upon, and to draw out an agreement of their own, and to publish that agreement with the agreement which had won the prize ; and I really do not think the committee can in any way be blamed for such a proceeding, because it must be remembered that if that agreement had been published upon that day, the committee would in point of fact have committed themselves to that agreement, without the opportunity, which they were naturally anxious to have, of pointing out wherein they thought it might have been improved. I think the committee to a very great extent would have defeated the objects they had in view if they had acted otherwise than they have done. I quite allow that the question is one of so much importance that more delay in coming to a decision than is absolutely necessary would be undesirable ; but because it is a question of that importance, I am quite sure the public would be sorry to see the committee come to a decision without very careful and very mature consideration. I hope they will be in a position at any rate in the course of the next two months—and I mention that time because it is just as well to be on the safe side—to publish both agreements—that is to say, the agreement of Mr. May as it was sent in to us, and also our agreement as we may think fit to draw it out. It is not to be expected, and much less is it to be desired, that we should all agree upon everything, because this world would be scarcely worth living in if we did, and it was not very likely we should all agree on this subject ; but one thing is very satisfactory, and that is, that you have got together 12 of the leading and most intelligent tenant farmers in the county, together with an equal number of landlords, and that they have had no question brought before them on which they were disinclined to come to a reasonable, a fair, and a practical understanding. This is a very satisfactory feature in itself, and will, I think, be a sufficient reward to anybody who has taken part in the proceedings of the committee which awarded the prize. I am happy to say that since the meeting at which the successful competitor was announced I have seen remarks made by more than one large landed proprietor, and especially by our friend the Earl of Shrewsbury, expressing approval of the object of the committee. At the same time Lord Shrewsbury did this, he expressed what I hope and believe to be the feeling of most of the large landed proprietors in this county, namely, that they are upon the whole satisfied with the existing understanding between themselves and their tenantry. He evidently meant by the remarks which he made upon a late occasion, that if he sees anything in the agreement which he believes will have the effect of promoting the interests of agriculture throughout the county, he will be one of the last to refuse to adopt it ; but that certainly, unless some very decided improvement is set forth, or shadowed forth, in this agreement, he naturally would be satisfied to leave things as they are. I must say it is a very great satisfaction to know that he is a member of the committee, and that so many large landed proprietors as we have upon the committee are anxious to adopt a form of agreement which will set at rest a question which has undoubtedly created a vast deal of misunderstanding, say what you will about it—put it in what words you like—between the owners and occupiers of land.

The Chairman said :—I shall only make two remarks as regards, not Mr. May's agreement—for I shall not be so presumptuous as to allude to that—but as regards that agreement which is to supplement his agreement ; and I will say that if it does not provide for two points, it is not worth the paper upon which it is written. Those two points are these :—First, unless it abrogates, root and branch, every restriction upon the cultivation of land, it is not worth a halfpenny. Look at the seasons we have to contend with in this country, and look at the markets of the world which are open against as well as for us, and then to tell me that any man or any committee of men are so eminent in agricultural matters that they can lay down a course of husbandry which shall suit all climates or please all markets, is an absurdity. Now, gentlemen, I met with an instance the other day, in Lancashire, where a large occupier was not confined by any engagement whatever as to a course of husbandry. He, in common with other people, knew that the price of Wheat in the event of a good harvest would be very low, and he took more than 80 acres out of his course, which he would otherwise have sown with Wheat, and planted them with Vetches and Tares. He put sheep upon them in the spring, and kept them there until the second week in May, much to his advantage, for he was a stock-keeper. He then took the sheep out, and allowed the Vetches to go to seed, and the consequence was that he had 30 bushels an acre, which he sold at 50*s*. a quarter. Surely he was better off than if he had been compelled to sow Wheat over the whole breadth. This shows that the man who is free compared with the man who is bound under any system, must meet with success, while the other meets with failure. Take another question which if this agreement does not tackle it is of no use—that of in-coming and out-going tenants. The Lord Lieutenant's words were true enough with respect to the difficulties as to the custom of the district. It so happens that I am at the present moment an example of the stupidity and dishonesty of the custom of in-coming and out-going tenancy, and a victim of the same. Take one instance :—I gave up more than 600 acres of land last Lady Day, and of course there was a portion of it sown with Wheat. I am told by my own valuer, as well as by the valuer against me, that Wheat planted in the autumn of 1862 will be accounted for in the spring of 1864. That is a pretty business, I should think. I spend my capital in 1862 in cultivating the land and planting Wheat, and I am to receive my portion of it back again in 1864, and in the meantime the in-coming tenant takes the corn to market and makes use of my capital instead of my making use of it myself. That is one case, and there are others equally unjust, with which I will not trouble you. If the model agreement does not satisfactorily dispose of these two difficulties it will not be adopted generally, and will scarcely be adopted partially, throughout the county.

Mr. May said—In drawing up my agreement, my simple wish was to do justice between landlord and tenant. I do not think it will be liberal enough for Mr. Chawner. Though I think Mr. Chawner has very sound views on a great many things, I do not think if I were a landlord I should allow a tenant to crop just as he pleased. There is no course of cropping in the agreement, but the tenant is not allowed to take all the white straw crop. He is limited in every year of

his tenancy to take a portion of green. If a man had to leave a farm suddenly, either by his own wish or his landlord's, and had cropped in an extraordinary way, how would the land be fit for anybody to enter upon it? (The Chairman: Dilapidation.) I think all farms ought to be cultivated well. I would give every tenant the greatest latitude I could, but, at the same time, I would not lose sight of the right of the landlord over his property, but keep it in a state in which he would be able to pass it into other hands. To say you would have dilapidation, is only to say that you would have law, which, if I were not in the presence of lawyers, I should say you had better keep out of. My wish was, in giving in that agreement, to give one which could be adopted. I do not think a one-sided agreement would have been fair, and I can assure you, as far as regards myself, and as far as regards my position as a tenant-farmer, I wrote the agreement as one which I should be willing to farm under. There were several questions which were very puzzling, and there were several clauses which, I candidly confess, I scarcely knew how to draw up. I did not go to old forms. I simply sat down in my own house to write out the skeleton of what I thought a fair agreement, and when I came to such a question as game, I said to myself, "How is this to be dealt with?" I thought it over in various ways, and I came to the conclusion it was no use having a clause that would compel a landlord to pay for damage done by game. I think such a clause would be a source of continued unpleasantness. I fancied within my own mind there was an inclination on the part of landlords to be more honourable and more just as respected game than was formerly the case. I knew that sport was inherent in the English character, and that it ought to be fostered. We are all fond of sport, and every Englishman who is is a better Englishman than if he was not; but I would not have that at the expense of the tenant. I hold that every tenant who takes a farm is bound to reap the benefit of that farm. If he take it as a game farm at a lower rent, he is a fool, because you never know the amount of damage which may be done; but there is a clause to the effect that if a landlord lets his game to a third party, and that third party injures the tenant, the landlord shall make compensation, because it would be simply absurd as well as unjust that a man should receive money from a third party at the expense of his tenant, and not reimburse him for any loss. As regards cropping, as I said before, a large margin is given to the tenant. He is allowed to crop as he pleases, but two-fifths of the land must be in green crops. The agreement gives a large margin for white straw cropping. There was another point in it which rather troubled me, and that was the privilege of selling off, not only stock, but straw, hay, and roots. I consulted some of my friends on that point, and they all agreed that it was a bad rule to allow it—that there might be occasions, and that there were many such in the neighbourhood of large towns, where it might be possible to allow the privilege, and where men could bring back manure. But generally, if a man keeps a sufficient quantity of stock upon his farm, and winters them well, he will require nearly the whole of his straw. There was also the important question of remuneration, which I think will be found ample. For all those improvements which are permanent, such as the investment of money in manures or in artificial food, I have allowed a very considerable sum. I quite agree with Mr. Chawner that permanent improvements, such as draining, ought to be done by the landlord. It is better he should do them; but provided he does not, and the tenant does, then he is allowed a very large compensation. I forget exactly what it is, but it is very considerable. It is taken on a per centage of his farm, and supposing he used 10 per cent. he would have a higher return in proportion than a tenant who used less; and the man who uses 20 per cent. more than the man who uses 10. There are other important points; but they slip my memory. However, they have been treated in the same liberal and practical spirit. I forgot to mention that the notice is a 12 months' notice—and if the competition leads to no other change than that, I think the trouble will not have been thrown away.

The Chairman: If you have an annual agreement that will make it a two years' lease. *Abridged from the Staffordshire Advertiser.*

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Cheshire.—At the recent meeting of the County Agricultural Society, Sir Harry Mainwaring, Bart., proposed "Success to the Cheshire Agricultural Society." He said: there were three matters to which he wished to allude, and which he would like to hear discussed. First, the Society was not so successful as it ought to be. Secondly, farmers as a body were not as successful as persons in other trades, and did not receive such a percentage on their capital as they ought to have, and deserved to have. The third matter was the restoration of cheese, by which farmers might return to the real produce of the county, and get such a percentage on their outlay as they ought to have. With respect to the first subject, he thought there were too many small local shows. Unfortunately, Cheshire was divided, and the north supported the Manchester and Liverpool Agricultural Society, which went about from one large town to another, not so much for the benefit of the farmer as for the benefit of the funds of the Society. He saw no reason why Cheshire should not have one general meeting for the whole county, as was the case in Staffordshire. Again, dairy farmers did not like to send their cattle to shows, nor did they like to let their Grass-fed beasts compete with beasts fed upon oil-cake. He did not know what the judges would say, but he thought there was not a bull on the ground that day that was worthy of a prize. The second point was that farmers were not so successful as they ought to be. An article appeared in the *Saturday Review* in May, in which the writer said that every other branch of trade and manufacture supplied a better investment for a man's capital and labour than farming. About 6 per cent. was the extent of a farmer's profit on his capital, and he (the Chairman) did not think that a fair remuneration. He once met a member of the House of Commons, who, in the course of conversation, said he knew a little of trade, of merchandise, of manufacture, of railroads, of farming. He (the Chairman) stopped him there, and said if he would go to the meeting of the Royal Agricultural Society, or to the meetings of the Manchester and Liverpool Society, he would find that farmers were the wisest men in the world, and that they had nothing more to learn. During the last few years he has inspected many farms. At one he asked to see the cheese-room, and was taken up a dark staircase which would have been better for the introduction of a skylight. One stormy night he was passing a cow house where a cow was ill. The cow doctor was there and a boy, and a tallow candle was stuck against the wall. At the moment the cow wanted assistance, the candle fell and went out. He learned afterwards that the cow died, and on inquiry he found that the cow doctor was a man who practised because his uncle had left him a few receipts. He charged 2*s.* for his visit, whereas a veterinary surgeon would charge 10*s.*; so the farmer saved 8*s.*, and lost his cow. He (the Chairman) thought that farmer wanted a skylight as badly as the staircase. Once he went to a model farm, where the buildings were twice as large as they needed to be. When he saw the cheese he said, "2½ cwt. [per cow] not more." The farmer began a torrent of excuses—the cows had come in badly, the pastures had not yielded as much milk as usual. He went to see the cows, and found that 30 of the 50 had had above six calves each. Everybody knew that a cow was worth nothing after her fifth calf. He went to see the bull, and was not surprised that the cows were all barren. He was broad where he ought to have been narrow, and *vice versâ.* He had a broad breast, which was perfectly useless in a bull, and a bad sign. In the milk-house all the milk was sour. The night had been hot and damp, and all the ventilators were on the ground. He told the farmer it was the damp that made the milk sour, advised him to put the ventilators 4 feet from the ground, and to light a fire in the milk-house, and went away thinking there was a skylight wanted upon the farm. On another farm he found the farmer in November carting his Turnips. Two fine horses were able to draw a load of a ton through the mud, whereas if a few rails had been laid down they could have drawn 20 tons. In another case a farmer had had a bad year, but he could not tell how it was; he only knew that he had not so much money in his pocket as he had the year before. When he (the Chairman) asked for the account book, after some search, a dilapidated memorandum book, which was all the account book the farmer had, was found in a corner cupboard. Why was it that manufacturers, with a new occupation, had beaten agriculturists who had been tilling the soil for 4000 years? It was because manufacturers had adopted every new discovery, and agriculturists had not. There were few farmers in Cheshire who had on their farms any one of the three great inventions of the age—gas, steam, and railroads. If they were to make a greater percentage on their capital, it must be by continuous improvement—improving the pasture land by means of lime and soil, improving the meadows by the best farmyard manure, improving the tillage land by drainage and guano, improving the bulls, and improving everything connected with the agricultural societies. The three great curses of a dairy farm were draining tiles, bones, and broad-breasted bulls. One farmer whom the Chairman once visited said his cows had been unwell. His Grass land had not yet yielded as it ought to have done, because he had drained and boned it, and killed all the succulent juicy Grasses which produce cheese. Not long ago, a farmer in Essex, by draining, had destroyed all the succulent Grasses which fed his beeves, and had established hard Grass which would not feed them, and he had been obliged to irrigate all this summer. With respect to the restoration of cheese, he wished that some gentleman would give the Society next year a good simple plan of restoring the production of Cheshire cheese. He concluded by proposing the toast, which was duly honoured.

Mr. Martin, of Henbull, in responding, said there had been a great revival within the last 10 years in the make of Cheshire cheese, and he did not know that any further revival was necessary. He had no hesitation in saying that during the last 30 years the amount of the agricultural produce of Cheshire had increased in a greater ratio than that of any other county in England.

The Chairman gave "The Judges," joining with the toast the names of Mr. Dutton and Mr. Dobell. He made some ironical remarks respecting the Over Agricultural Society, the members of which he said were so enlightened that they had nothing to learn.

Mr. Dutton responded. He thought a broad breast in a bull was by no means a bad thing, as it was a sign of healthy lungs and a good constitution. The reason why Cheshire farming had not been more productive was that the delicate character of their animals had caused much disease and great mortality. In answer to the Chairman's remarks, he said that the Over Agricultural Society would feel obliged if Sir Harry would read them a paper on agriculture at one of their meetings, as the members were not quite so wise as he would wish the company to believe. The members would give him their best attention, and would feel obliged if he (the Chairman) in his magisterial wisdom would undertake to enlighten their dark minds. He alluded to the advantages of local shows, and said they were established to benefit the small farmer, who would have no chance if he competed with the "great guns" at the county meeting. *Chester Chronicle.*

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Berkeley and Thornbury: *Oct.* 14.—The annual show of this flourishing local Society was this day held at the spacious homestead of Marlwood Grange, the seat of J. Thatcher, Esq., near Thornbury. A beautiful day in the midst of a long period of wet weather, and a very excellent show of cattle, horses, and pigs, attracted a large number of spectators.

The magnificent landscape stretching northwards which is commanded by Marlwood Grange includes almost the whole of the district of the Society. Mr. Thatcher is himself known as a successful competitor at the shows of the Midland Counties and Smithfield Club—and on every account, therefore, his kind offer of a site for the exhibition was most acceptable.

Prizes were offered in no fewer than 38 classes, and first, second, and third prizes in most of them. Thirteen cattle classes, including 75 entries; four horse classes, including 25 entries (a very good show); five sheep classes and 24 entries; four classes of pigs, very capital competition in some of them; three classes of cheese, two of roots, and five of poultry made a very interesting exhibition.

There were also several classes in which servants were rewarded for skill in shoeing, and for length of period in which they have remained in the same service.

The cattle shown were for the most part of the Short-horn breed. The class of pairs of Dairy Cows was a very fine illustration of the quality of the breed for this purpose—and in itself a remarkable collection of good dairy stock.

The show of pigs was in like manner a capital illustration of the Berkshire breed. The competition extends over the whole of South Gloucestershire, from Slimbridge to Bristol, and certainly does good on the large number of farms where cattle have during the past year been preparing for it. The herds of Mr. Langstone, Colonel Kingscote, Mr. Styles Rich, of Didmaston, Mr. Woodward, of Northway, Mr. Morris, of Maisemore, Mr. Stratton, Mr. Abbot, Mr. Niblett, the Earl of Ducie and others, contributed either directly or indirectly to the show. The prizes have gone to landlords and tenants indiscriminately, the Earl of Ducie, Lord Fitzhardinge, and Sir G. Jenkinson, among the former—Messrs. Cornock, Till, Savage, Robinson, Pearce, and many others, among the latter.

Mr. Robinson, of Slimbridge, who took the prize for his yearling bull at Cirencester the other day, was placed second here by the judges, though not, we think, generally by the spectators.

A remarkably well-fed Hereford ox, shown by Mr. Hatcher, was first in its class, and will no doubt appear at Birmingham and Smithfield. Remarkably good forward, he is somewhat defective behind.

The Society which has thus held its fourth annual show dined together in the evening under the presidency of Mr. P. S. Miles, M.P., of Kingswinton.

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Bath: *The Functions of the Roots of Plants*—At the recent meeting of the Archæological Society, Professor Daubeny read a short paper on this subject. He began by alluding to the opening meeting of this Society at Taunton, which was attended by himself and his lamented friend and colleague, Dr. Buckland, who, in his usual racy manner, amused the assembly by some sportive remarks upon the agriculture of Somersetshire, and the character of its rural population. Following this as a precedent, he now proposed to make some remarks on the theory of agriculture, as likely to interest a county mainly dependent upon the land for its prosperity, and would point out certain prevalent errors which seem calculated to exert a prejudicial influence upon the practice of husbandry. Amongst these he instanced the persistence in the old and exploded Humus Theory, which imagines plants to be fed directly by the matters they imbibe from the soil, just as animals are by the aliment which they take into their stomachs. This notion, since its fallacy was pointed out by Liebig, has been abandoned by every sound physiologist, and yet not long ago it was advocated by a correspondent of the *Times* newspaper,

and also countenanced in a leading article of that journal, in both which communications the speedy ruin of this and of other thickly-peopled countries was foreboded from the exhaustion of their vegetable mould. The Professor showed on the contrary, that although many countries formerly noted for their fertility are now sterile, the chief cause is to be traced to the reckless destruction of their timber, which has exposed the surface to the alternate action of scorching heat and of blighting cold, and at the same time has diminished the natural rain fall of the country. Thus, as one of many instances, may be cited the Island of Ascension, which lost the only spring it possessed when the aboriginal timber was cut down, but recovered it again when the fresh trees that were planted had grown up so as to supply its place. Although, therefore, it be true that Humus gradually consumes away under tillage, from being exposed to the oxygen of the atmosphere, and thus yielding carbonic acid for plants to feed upon, still there is no reason to doubt that it will be renewed by the very crops that grow in it, wherever vegetation is proceeding in a vigorous manner, and the elements of fertility are restored by a judicious system of cultivation. The danger to be apprehended arises, according to Baron Liebig, not from the exhaustion of Humus, but from the reckless waste of the nutritious matters, arising from the method of disposing of the sewage adopted in all our great cities, against which he has on many occasions entered a strong and indignant protest. It may indeed be objected that the most impoverished soil is found by analysis to contain more phosphoric acid, potass, and other nutritive ingredients than would be required for many successive crops, but these ingredients are not always in a condition in which they can be assimilated, being united to the soil by too close an affinity to be soluble in water. For a complete discussion of this question, however, he must refer to the important work of Baron Liebig recently published, entitled "The Natural Laws of Husbandry," or to that lucid exposition of its contents which one of the first of our living chemists, Professor Hofmann, is about to bring out. All he had time, on the present occasion, to remark on that subject was, that in every case an active force seems to be exerted by the roots, enabling them, in conjunction with the moisture of the ground, to dissolve as much of the solid ingredients present as are required, so as to absorb and transmit them to the other parts of the plant. But this applies only to such ingredients as are held by a loose affinity to the soil, and does not hold good with respect to a large proportion of its contents. Hence exhaustion will follow, if we draw too freely upon the available portion of the constituents present in the soil, unless they be returned, as fast as they are taken away, by careful manuring. This function of the roots is indeed a very wonderful one, and not explicable by known physical causes, but not less so is that power of selection which seems to belong to them, by which they are enabled to abstract from the soil those ingredients which the plant requires just in the proportions in which each one is needed. In this way a dozen different species will absorb from the same soil what each requires without taking in an excess of any one, and thus it is that a seaweed will derive from sea water as much iodine and potass as it does of chlorine and of soda, although the proportion in which the two former elements exist in the ocean is infinitely small as compared to that of the two latter. It seems also probable from the experiments made by the author of this paper, that the roots have the power of refusing access to poisonous or abnormal substances, provided they are presented to them in quantities so small as not to destroy the vitality of the roots. Neither arsenic, barytes or strontites could be detected in the crop after it had been treated with solutions of these bodies in such a state of dilution as not to interfere with the health of the plant, and in other cases, when such substances were absorbed, the roots appear to have been first deadened by the action of the poison. Thus we seem only to have the alternative of supposing the poison not to be taken up by the roots or to be afterwards excreted by them, which latter phenomenon it would seem equally difficult to account for, except by the operation of living forces. Now if living forces contribute towards enabling the roots to fulfil their functions, so that the latter are not merely passive instruments for the transmission of any juices which may exist from the soil, we can more readily understand the advantages derived in horticulture from the bottom heat, which, by its stimulating influence caused, in a recent instance, the fine Brazilian creeper, Bougainvillea spectabilis, which had never before flowered in our stoves, to put forth a profusion of splendid blossoms. The lecturer concluded by suggesting a mode in which bottom heat might be economically applied to the rearing of tender exotics at Bath, namely, by causing the waters from the medicinal springs, after they had supplied the various baths, to circulate in pipes let into the ground, until they had imparted the whole of their redundant heat to the soil around a given area. If the latter were covered with glass, a winter garden might be obtained without any expenditure of food, and even without this addition many vegetables might be stimulated into early and vigorous growth by the heat thus imparted to their roots. It is to be hoped, that as the meeting of the British Association for the Advancement of Science is to be held next September at Bath, the attention of its citizens will be thereby directed to their medicinal springs, so that the great problem of their temperature may be thoroughly investigated, and the uses to which they are applicable may be more widely extended.

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Isle of Man: *Cottages.*—At the late annual meeting of this Society, on Thursday, Sept. 30, His Honour Deemster Drinkwater said:—

This agricultural Society had now been in existence for six years. During that time the number of entries had increased, and the stock had been improved. There was also a corresponding improvement in the manner in which the stock had been housed; but they had not, in a corresponding degree, improved the condition of their farm servants by whose labour they existed. If the man servants were married, they had to live in wretched hovels; and if, as was frequently the case, large families of eight or ten had to live in a miserably small house of one or two rooms, they need not be surprised at the moral tone of the family being very low. The state of the unmarried servant man was much worse even than that of the married one. They were treated very badly. No doubt they got abundance to eat; but when they went out to sleep they had, during the winter nights, to turn into wretched hovels for 14 or 16 hours, where they had not proper comfort. If they had money, therefore, it was no wonder that they took refuge in the public house. If they went into their master's house, the "cold shoulder" was turned upon them, and they had no comfort there. If they had no money the men took to rambling about the roads at night, and became involved in all sorts of immorality—which was in some degree evidenced by the number of illegitimate children given birth to in the country parishes. To remedy this last named evil, as regarded the unmarried men, the best thing would be to open the parish schools, country chapels, or other similar buildings, two or three evenings, or perhaps every evening, during the week—supplying them with fire, light, and books—and he was sure that such places would soon be supplied by liberal persons with plenty of books. To these places, if so opened, he believed the young men would resort in preference to rambling through the roads. He was confident this plan, if carried out, would result in much good; and if the Society would make a beginning in the matter they would thereby confer a benefit on a body of men by whose labour they lived, and thus put a crowning point to the benefits effected by the Society, by doing something which would tend not only towards the benefit of their bodies, but to the salvation of their souls.

Mr. Lamôthe said as to the remarks of his Honour Deemster Drinkwater with respect to the condition of the farm labourers, he entirely disagreed with his Honour on that subject. He believed the labourer here was as much cared for as in any country in her Majesty's dominions. It was true they had occasionally to sleep in out-houses, but then these houses were comfortable places, and a cow house was not a bad place to sleep in. He was willing to admit, however, that whilst the men thus slept from under their master's roof, the master had no control over them, and could not prevent them from going rambling at night. However, he would again assert that the labourer here was as much cared for and as comfortably housed as in any other country, and there was no question about it.

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## Farmers' Clubs.

Winfrith: *On Corn Averages.*—Mr. R. Damen, of Dorchester, introduced this subject. Corn-factors, millers, and maltsters, in commencing business, were required by law to make a declaration, which was tantamount to an oath, that they would make a full and fair return of all the corn they purchased: but nine-tenths of those entering into the business never made the declaration at all, and nobody asked them. They were bound to give in a return, showing the names of the purchaser and seller, with the quantity of corn bought, and the amount paid for it, in separate columns. That appeared all very straightforward; and if they failed to make proper returns they were subject to a penalty of 10*l.*; but during an experience of about a quarter of a century he only knew of one instance in which any one was fined for not making returns. They all knew that proper returns were absolutely necessary, for rents were in many parts of the country influenced by them, and tithes generally; consequently, it was highly essential that they should be correctly obtained in fairness to all classes of the community. He did not advocate anything that was unjust to any one; and all the producer wanted was that which was fair, and what the law required. The old proverb said, "What is everybody's business is nobody's business;" and this matter being regarded as everybody's business, everybody neglected it. In order to show what a deficiency there was in the returns, it was necessary that he should go a little into figures, to illustrate what was the supposed growth of corn in England, what was imported, and what was consumed. The population of this country was about 30 millions in round numbers. It was variously estimated what these 30 millions consumed. He believed M'Culloch set it down at one quarter per head per year. This he considered was an over-estimate, and that six bushels a-year were nearer the mark than anything else. Six bushels of Wheat would produce about a sack of flour, and a sack of flour would make about 91 loaves, which, at 4 lbs. the loaf, would give just 1 lb. a-day to each individual. If they looked at the consumption in their own families they would find this a tolerably correct estimate. Some people thought a greater consumption took place among the rich; but he believed it was greater amongst the poor than in either the higher or middle classes, because they lived principally upon bread. But in taking the population at thirty millions, there must be some deduction made on behalf of Scotland and Ireland, where a considerable quantity of oatmeal, Potatos, and Indian Corn was consumed. Deducting two and a-half million quarters on this consideration, would leave about twenty million quarters of Wheat and flour as the consumption of the United Kingdom. Now, he would show what was the quantity of Wheat returned in England to meet this consumption. The figures he was quoting were quite authentic. His theory might be wrong, but his figures were right. In six years the returns from 290 towns were as follow: In 1856, 4,046,000 qrs.; in 1857, 5,243,000 qrs.; in 1858, 5,203,000 qrs.; in 1859, 5,498,000 qrs., which was the highest return in the period; in 1860, 4,623,000 qrs.; and in 1861, 3,576,000 qrs. Now, as they had to make up twenty million quarters to meet the consumption, there was a vast difference somewhere; but, of course, they had to take into account the importations that had taken place from abroad. These had ranged from five million up to ten million quarters of Wheat and flour a-year. In the first three years, five millions, in round numbers, were annually imported; but in the latter three years, about ten millions—showing the great deficiency there was in the yield of this country for the last three bad seasons. They must also add the Wheat grown in Scotland and Ireland, which did not come into these returns. It was difficult to get a correct estimate for Scotland during the last few years, because the able statistics which were obtained by the Highland Society, through Mr. Maxwell, were taken out of his hands in 1857, and no returns had been made since. Up to that time, the annual growth was about 750,000 qrs. In Ireland the growth was about 1,600,000 qrs. a year, or considerably less for the last two or three years, as they had had bad seasons in that country as well as in England. Say Scotland and Ireland produced 2,300,000 qrs.; this must be added to the quantity imported, which was five millions for the first three years of the period named, and ten millions since. Now, even taking ten millions (the most imported), with 2,300,000 for Scotland and Ireland, and three and a-half millions returned in England and Wales, there were over four million quarters not accounted for, so that it was right to assume that not one-half of the Wheat grown in this country was returned at all. In passing, he would say a few words about Barley. Now, he believed that the quantity grown in this country was nearly equal to Wheat, being greater in proportion than any other country in the world. In France they grew five times more Wheat than Barley, but we a much greater proportion of Barley to Wheat. But, notwithstanding this, only a very small portion was returned, and that the very best; so that they paid their tithes on the best Barley, the bad not being returned at all. Such men as Mr. Bass and other great brewers did no doubt make returns; but the large quantities consumed on their own farms, and by the small millers and maltsters in the rural districts, were scarcely ever returned. Now, they knew that about five million quarters of English Barley were malted annually; and he believed the quantity grown besides was from four to five millions more. And what was the only criterion of the price which this Barley fetched in the market? It was these corn returns. The quantity, however, returned as sold in England and Wales in 1856 was 2,600,000 quarters, instead of eight or nine millions; 1857, 2,200,000; in 1858, 2,400,000; in 1859, 2,400,000; in 1860, 1,778,000; and in 1861, 1,851,000, or about a quarter of what was actually grown in the country. He himself intended to have spoken upon this point when the malt tax deputation waited upon the Chancellor of the Exchequer, for Mr. Gladstone stated that, notwithstanding the duty, Barley had maintained a high price in this country, and he should have shown him, if there had been an opportunity, that the figures he quoted were very erroneous, because they were taken from these returns, which did not include one-fourth of what was grown in the country, and that, as a rule, the best. He did not think it was fair of the Chancellor of the Exchequer to draw his conclusions from such erroneous data. He did not pretend to say that false returns were made (and he wished to mark this distinction), because there was no object for doing so, although there might have been when there was a fluctuating scale of duties. He believed the errors arose more from carelessness in carrying out the law than anything else, and from the omission of the inferior qualities of corn from the returns. In the first place, all that was consumed at home on the farm was never returned. Even under a new law he did not see how this could be remedied, except, as had been suggested at a previous meeting, they sold it all; but this was more a question for the producer than the Legislature. He would also observe that respectable men were generally appointed in the towns to receive the returns; but no one had any authority or control over them. They made the returns as they liked, and, however well-intentioned, they knew that men were liable to err under such circumstances. In a neighbouring town he knew an instance in which an

inspector made a mistake of 10s. per quarter on all the Wheat sold on a particular market day; and when they considered that the three market towns in this neighbourhood ruled various transactions, not only tithes and sometimes rent, but also the valuation of crops between an incoming and an out-going tenant, they would perceive that the 10s. would have materially affected the whole average of the district. He therefore thought it was highly necessary that some less loose method should be adopted in such an important matter as this. In order to remedy the evil, it had been suggested by this Club that the corn inspectors should receive the returns as now, but that they should be subject to some supervision; that there should be a small board in each town, composed of two, three, or four disinterested persons, to examine the returns with the inspectors once a week; that they should look after all parties in the habit of buying corn in the different market towns; and if they did not make returns, call upon them to do so, or enforce the penalty if necessary, which would be an improvement, for it was only from carelessness that they were neglected. In many towns, however, where large markets had grown up, no returns at all were made, while they were required in such places as Poole, where scarcely a bushel of Wheat was sold during the year. A gentleman had told him that in Essex there were only four market towns which made any returns at all. The last time they considered this question they merely suggested that this board should be formed, and that those composing it should be moderately paid for their labour. But this appeared no longer sufficient to meet the case. The evil had grown so great that some other remedy was necessary; and he could not help thinking that the sellers should make the returns as well as the buyers. He knew the sellers might object, on the ground that it would give them considerable trouble; but they knew that the fear of a little trouble was the bugbear to any improvement. He thought it was worth their while to take upon themselves this little extra trouble, and endeavour to instil into the minds of their representatives the enormity of the present returns. He believed any gentleman willing to serve the agricultural body would gladly take up a question of this kind. It was not a question in which party politics was concerned. It was a question in which all concurred. It was a question in which landowner, occupier, and the general public were interested. All they wanted was to get fair returns, which would show what was the true state of the market, what they did actually grow, and what progress they made.

## Reviews.

*The Journal of Agriculture and the Transactions of the Highland and Agricultural Society of Scotland.* No. 82. Oct. 1863. W. Blackwood & Son.

The Journal contains essays on the improvement of pastures; on atmospheric influence on fertility; on crops and cropping; on the three great shows at Worcester, Hamburg, and Kelso respectively; on mycophagy, or Fungus eating; and on Irish prosperity. The Transactions contain essays on plantations; on braxy in sheep; and on waste land reclamation, together with reports of Kelso, of the Veterinary College, and of the proceedings in the laboratory. The whole makes up a number hardly equal to the average quality of the serial. We extract a passage from Dr. Anderson's report of the relative feeding values of Tares and "Peas Brock."

"'Peas Brock' is the name applied to the outer skin of the Pea, which is removed by a particular process of grinding in making split peas, and is used pretty extensively for feeding stock, being sold for this purpose at about 6l. to 6l. 10s. per ton. A member of the Society, who uses it extensively, being doubtful as to its value, submitted a sample for analysis, with the view of ascertaining whether it would not be more economical to use Tares, though costing more, their present price being about 7l. per ton. To determine this point, comparative analyses were made in the ordinary manner, and the results obtained were as follows:—

| | Tares. | Peas Brock. |
|---|---|---|
| Water | 15.86 | 9.86 |
| Oil | 1.87 | 2.82 |
| Albuminous compounds | 20.06 | 9.00 |
| Starch, sugar, &c. | 53.93 | 41.51 |
| Fibre | 5.34 | 33.38 |
| Ash | 3.44 | 3.75 |
| | 100.00 | 100.00 |
| Nitrogen | 3.21 | 1.44 |
| An ash contained— | | |
| Phosphates | 0.71 | 0.68 |
| Sand | 0.02 | 0.06 |

"The difference between these substances is very considerable, and much in favour of the Tares, which contain more than twice as much albuminous compounds and considerably more starch and sugar than the Peas brock. The latter, moreover, contains a very large quantity of fibre, which may be said to be valueless as far as feeding is concerned. It is difficult to give a perfectly definite estimate of the relative values of these two substances; but if we calculate from the relative quantities of albuminous compounds and starch in the two, and if Tares be assumed to cost 7l., the Peas Brock should not be sold at more than about 5l. per ton, or a considerably lower price than that at which it at presents sells.

"I may observe here that the result of a good deal of experience has led me to the conclusion that most kinds of refuse matters produced in manufacturing operations are sold at prices considerably higher than their quality justifies. This is perhaps less applicable to such substances as can be applied to the feeding of stock than to those which are sold as manures. Refuse lime, for example, often in a very moist state, is frequently sold at a price higher than that at which quicklime can be got direct from the kiln, and the refuse of the combmakers and bone turners is often overrated in value. This is not because they are not possessed of a definite value, but because, being refuse in the manufactories in which they are produced, they are not preserved with any care, but become mixed with rubbish of all kinds, and in large quantity, and hence a purchaser, who pays a price which might be moderate if the substance were pure, is made to give a full price for a mixture of inferior value. Of course this does not occur to the same extent in the case of mill refuse, which, having a definite and considerable value, is kept clean and pure; but nevertheless, the price asked is generally too high, and its value is fixed more in reference to the substance for which it is produced, than in relation to its intrinsic worth."

## Farm Memoranda.

ASTON PARK, NORTHWICH.—Mr. Hornby's farm received the prize of the Cheshire Agricultural Society, as the best dry-land farm. It contains 188 acres, held on a 14 years' lease. The soil is chiefly a light loam on a subsoil of clay, marl, and sand. This year there are 82 acres in pasture; 18 acres of old meadow, manured with tank water; 8 acres of old meadow not irrigated; 16¾ acres of Wheat, after Potatos and other green crops; 18 acres of Oats, after Wheat; 12 acres of Barley, 4 acres of Vetches, consumed green by the live stock; 20¼ acres of Potatos, and 4¼ acres of Swedes. The customary rotation is roots or Oats, roots, Wheat, Barley, or Oats seeded down for a few years. The live stock consists of five horses, three colts, one pony, one bull, 54 dairy cows, 10 heifers, 10 rearing calves, and 36 pigs. In winter a number of sheep are fed. The total of live stock this summer is 120. The stock are fed in summer on pasture and Vetches, and in winter on straw, hay, roots, crushed corn, bran, and oil-cake. All the home-made manure is chiefly applied to root crops, and all the liquid manure is made available. During his occupation, Mr. Hornby has purchased 730l. worth of bones, which have been applied to Grass lands, seeds, and Turnips. The landlord has paid 250l. of this sum. Mr. Hornby purchases annually about 3 tons of guano, 20 to 30 tons of horse dung, and about the same of night soil, which are applied to root crops and top-dressing. He has drained 71 acres, chiefly with horse-shoe tiles and slate soles. The drains are from 8 to 10 yards apart, and 3 or 4 feet deep, and the landlord provided the tiles. Mr. Hornby has marled 50 acres, at a cost of from 5l. to 6l. per acre, and carted the marl a mile and a-quarter for one field. He had filled all the pits except those required for watering cattle, and made these of easy approach for cattle. He has made two new large watering ponds, one at the farm-yard, and the other in a large field. He has eradicated 3230 yards of old fences, and planted new ones when required. All these improvements have been effected at the tenant's expense. He has erected an extra pigcot, made alterations in the old ones, and constructed a urine tank 90 ft. long, 5 ft. wide, and 5 ft. deep, the landlord finding the materials. Mr. Hornby has occupied the farm for 11 years under Mr. R. E. E. Warburton, of Arley Hall. The judge, in his remarks upon this farm, notices that 'the old meadow appeared in a productive state, and was producing good Lerbage. A pipe from the large urine tank conveys the liquid manure into this meadow. A water carriage can also be loaded from the tap, and filled in a few minutes.'

TATTENHALL HALL, NEAR CHESTER.—Mr. G. Jackson's farm has received the prize of the Chester Agricultural Society as the best clay land farm in the district. The farm contains 321½ acres, and is held on a yearly tenancy under Mr. R. Barbour of Bolesworth Castle. The cultivation this year is as follows:—194 acres in pasture, 14½ acres of irrigated meadow, 14 acres covered with dung water, 2½ acres of Wheat after Oats, 26½ acres of Oats, 10 acres of Barley, 5 acres of Beans, 2 acres of Potatos, 14 acres of Swedes, 2 acres of Mangel Wurzels, 1 acre of garden and orchard, and 3½ acres of homestead, reservoir, plantations, and occupation roads. The intended rotation is Oats, Wheat, green crop, Barley, and Clover; the same repeated, and then allowed to lie for 10 years. The live stock consists of 7 farm-horses, 2 nags, 4 colts, 86 dairy cows, 3 bulls, 18 feeders, 21 heifers and stirks, 168 sheep and lambs, 54 pigs, and 11 rearing calves—total live stock, 368. Previous to 1858, Mr. Jackson had boned most of the old Grass land; and since then he has spent annually on an average 164l. on bone manure, which has been mostly applied to seeds, and above 11l. per annum on superphosphates and other fertilisers, which have been applied to green crops. Many years ago he sod-drained 16 acres, and 25 acres with horse shoe tiles, at his own cost. Within the last few years the landlord has drained 215 acres, the tenant filling up the drains. The landlord has also filled up seven pits, erected an entirely new farm-building on a new site, and repaired and improved the house and dairy, spending on the whole, including drainage, nearly 4000l., a part of the interest upon which is to be charged in rent. The tenant has also filled 31 old pits, supplied the boulders for nearly a quarter of a mile of paved road in connection with the homestead and the high road. He has made 700 yards of new occupation road through the farm, covering it with sandstone, brickbats, and other hard materials. He has pulled up the foundations of the old homestead, and excavated for the new, carting all the old material from the one site to the other. He has carted the sand and coals for making the new bricks, pulled up the old pavement, carted the stones and sand for the new farm-yard, and formed the ground for paving; a meadow of about 4 acres has been made out of waste land and the site of the old homestead. Mr. Jackson has levelled and prepared for irrigation 1½ acre of land which was previously a bog, and laid it down for a meadow, which will be irrigated by the wash from the house and farm buildings. The judge, remarking upon this farm, adds, that about 11 miles of old fences have been eradicated, and about six miles of new fences planted, which are well grown, very clean, and cut in a proper form. The Clover crop was the heaviest the judge had seen this season, and he was told that it had been pastured till the middle of June. The new farm buildings were the best arranged of any new ones he had seen for health and convenience of feeding, watering, and all the operations of cooking cattle food, threshing, storing fodder, corn, and roots; and they were fitted with proper machinery. The arrangements for cheese-making were excellent. Two large cheeses are made every day, except on Sundays. A model cottage is built on the farm, with a well cultivated garden around it. The cottage is substantial, has three bed-rooms, and every convenience necessary for a farm labourer's family.

DALGIG, AYRSHIRE: The introduction of Cheddar Cheese-making on this farm is made the subject of the following interesting report to the *Ayrshire Advertiser*:—

We had the pleasure of attending at Dalgig, the farm of Mr. Campbell, and were much pleased with the instructions there delivered by Mr. Norton, from Somersetshire, who appears a sensible, judicious man, and well acquainted with cheese-making. The different operations were clearly and distinctly pointed out, and we were much struck with the simple, intelligible language in which he explained every step in making a good Cheddar cheese.

Mr. Norton heated part of the evening's milk to about 98°, to bring the whole morning's and evening's milk put together to 82°, the temperature at which he recommends that the rennet should be added.

The curd should in an hour be firm enough to cut into three inch squares. He lets it stand till the whey shows itself between the cuts of the curd; then breaks up the curd very gently and slowly with any instrument that will not start the white whey, for if the white whey be started or moved about too violently, the cheese will not be so rich and well flavoured. Mr. Norton thinks it is a bad plan to use the iron revolving breaker within the cheese tub, as its motion breaks the curd too violently. He considers great injury is done to the curd by this violent stirring and breaking. The butter is forced out of the curd, and floats off on the whey; and of course the flavour and richness of the cheese depends much upon retaining the butter. When the curd is broken to the size of Walnuts he lets it settle. He next draws off part of the whey to scald the curd, and heats it to about 120°. As much of this whey is thrown over the curd as will raise it to 85°. Before the heated whey is added the curd is broken gently and slowly to about the size of large Peas. After the curd is again settled, a quantity of whey is drawn a second time, and heated to 130°, so as to enable the temperature of the mass to be raised to from 92° to 96°, according to the quality of the pasture on which the cows are feeding, and the season of the year. Where the pasture land is light, Mr. Norton heats the whey to 92°; but on heavier and richer land to 96°. This application of heated whey is believed to make the curd tougher, and to cause more curd to be formed. No doubt a large quantity of curd is held in solution in the whey, and it is most desirable to have it extracted. We all know how rapidly pigs fatten on whey. It is said that at least 20 per cent. of curd remains in solution in the whey.

If the curd and whey in the cheese tub exhibit no signs of sourness, a quantity of sour whey (kept from the previous day) should be stirred gently into the cheese tub after the last heated whey has been poured over the curd. The mass must be slowly and gently stirred until the curd has arrived at a certain firmness, which can be known only by practice. On some days the firmness will be attained in ten minutes, and on other days not under 40 minutes. After the stirring in of the sour whey, the curd is allowed to stand for 30 minutes, and the whey is then drawn off. Mr. Norton does not think that sour whey ever improves the quality of the cheese. But it is difficult to arrive at the sourness of the curd and consequent pureness of flavour without adding it.

After the whey is drawn away, the curd is

allowed to remain in the cheese tub, to become rather sour and tough. It is difficult to fix on the time the curd must lie to become sour and tough. It depends on the weather. Sometimes it will be ready in half-an-hour; but it may often require several hours. All this time the curd in the cheese tub must be covered to retain the heat. For this part of the process great judgment is required; no rules can direct in ascertaining the proper sourness and toughness of the curd. If, however, a mistake be made, the cheese will not be of the first-class. Before the curd is taken out of the cheese tub it must be cooled to a temperature of from 68 to 72 degrees (in warm weather it is difficult to reduce it to 68) and then well pressed for five or ten minutes. Afterwards it is taken out of the tub and broken in the curd mill, and is then ready to be salted.

Every 48 lb. of curd should receive 1 lb. of salt, and be well mixed with it. After this the curd remains some time to cool to 66 degrees or thereby before it is put into the cheese vat.

In the cheese vat or chessel it is now to be pressed. After it has been under the press for three days, it is fit to go into the cheese-room.

The cheese-rooms throughout Ayrshire, Mr. Norton considers are of a bad construction. They are unfit for ripening cheese. Much depends on the proper ripening of cheese to bring out its rich flavour, and fit it for the market. Though every step of the making be well attended to, yet if if there be no suitable room for keeping the cheese warm, and ventilating it by the admission of sunshine into the room, it will not ripen properly. In many of the Ayrshire dairies the damp, cold, ill-ventilated cheese-room is destructive of all fine flavour in the cheese. And hence the reason why so much of Ayrshire cheese is spoiled.

Mr. Norton recommends the landlords of Ayrshire to give their dairy tenants cheese rooms, placed over the rooms in which the cheese is made, and to supply means for keeping them at a temperature of about 65°. A great improvement in heating the room for ripening the cheese, and far superior to having a fire-place or stove in it, is to put up a small steam boiler in a separate chamber. This boiler is fitted with two pipes, which are introduced into the cheese room, and made to circulate round the walls. A small iron cistern filled with water is placed in a corner of the cheese room. The two pipes enter into this cistern. Thus a circulation of warm water is kept up between the boiler and cistern, the pipes throwing out heat into every part of the cheese-room. With those appliance the cheese ripens rapidly, and is fit for market in three or four months. Besides heating the cheese-room, this steam boiler may be used to heat the cheese tub. An ingenious patent cheese-making apparatus has been invented by Mr. Cockey. It was recommended by Mr. Harding in one of his letters. The cheese-tub is fitted with a double bottom, forming a chamber underneath the tub. Hot water from the boiler circulates in this chamber, heating in a few minutes the night and morning's milk to the required temperature. The heating or scalding process of the whey is also done by the heat from the hot water in the chamber; the breaking and scalding of the curd being performed at the same time, the heat of the mass of curd and whey rising from 80° to 100°, if required, during the operation.

We have detailed as briefly as we could the several steps in making Cheddar cheese, so ably explained by Mr. Norton at Dalgig, and which we had great pleasure in witnessing; but we are well aware that cheese making is not to be learned by written instructions. Practice, united with intelligence, observation, and a determination to excel, are necessary to insure success. Hand and head must unite to arrive at it. Both Mr. Norton and Mr. Harding are of opinion that the Scotch cheese-makers follow rules too closely, and exercise too little of their own judgment, without which they can very rarely make a rich-flavoured cheese.

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct. | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | 9 | 29.65 | 53 | 51 | S.E. | 0 | 10 | 63 | 47 | 68 | 43 | 0.16 |
| Saturday .. .. | 10 | 29.69 | 59 | 55 | S.W. | 3 | 8 | 58 | 44 | 64 | 36 | 0.29 |
| Sunday .. .. | 11 | 29.60 | 54 | 51 | S.W. | 4 | 10 | 60 | 50 | 68 | 45 | 0.45 |
| Monday .. .. | 12 | 29.51 | 54 | 52 | S. | 3 | 10 | 58 | 48 | 67 | 41 | .. |
| Tuesday .. .. | 13 | 29.35 | 55 | 53 | S. | 2 | 8 | 58 | 49 | 67 | 45 | 0.80 |
| Wednesday .. | 14 | 29.51 | 57 | 54 | S.W. | 3 | 5 | 58 | 47 | 62 | 42 | 0.47 |
| Thursday.. .. | 15 | 29.69 | 56 | 55 | S.W. | 0 | 9 | 60 | 49 | 68 | 42 | 0.08 |

## Miscellaneous.

*The West Highland Cattle.*—Some years back we saw annually at Falkirk a lot of West Highland bullocks bred by Mr. Stuart, of Harris, and brought by him to that market. They were the best lot of one man's breeding which we ever saw; Mr. Stuart kindly gave us their history. From the day of their birth they had never been under cover; neither they nor their mothers had ever received a scrap of food from the hand of man. In the summer they roamed through the mountain glens. The Atlantic storms throw up on the west of Harris long ranges of sand hillocks, which become fixed by the roots of a coarse Grass, to which, if we remember right, Mr. Stuart gave the name of Bent. We believe it is the same Grass which such of our readers as visit Paris may see extensively planted on the railway sides between Boulogne and Abbeville for the purpose of fixing the drifting sands. Mr. Stuart's herd, when driven from the hills by storm and snow, retreated to these sand-hills, and found from them all that they ever received of shelter and food. Both summer and winter they were almost independent of man. The bullocks began their southern travel by a sailing voyage of 60 miles over a very uncertain sea; they then walked about 220 miles to Falkirk, mostly over open moors, on which they bivouacked at night, picking up a living by the wayside as they journeyed. At Falkirk they appeared healthy and lively, fresh as from their native glen, firm in their flesh, and with the bloom of high condition on their long and silky coats. Nor, indeed, were their health, strength, and condition superfluous; for, through the intervention of Mr. Carmichael, or some other eminent Scotch dealer, we believe that their general destination was the Vale of Aylesbury (another walk of nearly 400 miles, for it was before railways were in general use for cattle), where they revelled in the, to them, unwonted luxury of such pastures as are found on the farms of Mr. Senior or Mr. Rowland, and before the day twelvemonth on which they had stood on Falkirk Moor, they had probably all appeared in the shop of Mr. Giblett, or some other West-end butcher. *Gisborne's Essays on Agriculture.*

## Notices to Correspondents.

DESTRUCTION OF MICE: *A Constant Reader* asks for the best dressing for the destruction of mice in corn stacks. Many years since, he says, there was a Wiltshire man that travelled the country and charged 1s. per stack for the dressing which was very effectual, but he ceased to come round as usual after harvest, and the consequence is that they are very much pestered with mice. Perhaps some of our readers will, *pro bono publico*, give their experience.

DOGS: *H N.* "Stonehenge" on the Dog (Longmans) is one of the best works on the subject.

GAS LIME: *Agricola.* You will find all about gas lime in Johnston's "Agricultural Chemistry," or in Morton's "Cyclopædia of Agriculture." Lime takes up sulphur, &c., from the gas, and after long process of oxidation by exposure to the air, it becomes to that extent an inferior gypsum. You should lay it up in heaps, and turning it frequently in composts it will improve by exposure, and may be used with safety and benefit to the land. Or it may be spread broadcast (3 or 4 tons per acre) over the stubbles.

SLAUGHTER HOUSE MANURE: *J H.* We should be disposed to make a compost with plenty of earth, and turn it repeatedly during several months before use.

SALE OF POLLED ANGUS CATTLE AT BALWYLLO.—The late Mr. Scott's herd was sold on October 1. 23 cows averaged 28½ guineas, the highest price being 63 guineas. 11 yearling heifers averaged 26 guineas, the highest price being 49 guineas. Eight heifer calves fetched 16 guineas a-piece. Four bulls averaged 30 guineas, and 13 bull calves averaged 15 guineas.

MUSTARD SEED: *R. Dunn.* Your seed is that of the Sinapis alba, White Mustard, mixed with a few seeds of the Radish Mustard or Jointed Charlock, Raphanus Raphanistrum. Both are weeds of cultivation, the White Mustard being frequently employed as a sheep feed, from which in Wilts it has become the "Charlock" of the arable parts of the Downs. The Jointed Charlock is often found with the Mustard, but not so abundant.

NATAL. *E D.* We can but repeat the advice already given. In a long-established colony the wants of colonists have long since been considered by tradesmen on the spot. You had better take out nothing with you but things of personal or domestic need, about which there can be no doubt. Money will buy on the spot whatever agricultural implements and seeds are necessary.


### Fruit Trees.

JOHN CRANSTON offers superior, healthy grown plants of all the best varieties of FRUIT TREES, DESCRIPTIVE CATALOGUES of which will be forwarded on application.

| | Each.—s. d. |
|---|---|
| APPLES.—Very fine Dwarf-trained .. .. .. .. | 2 6 |
| ,, Pyramids .. .. .. .. .. | 2 6 |
| ,, Standards .. .. .. .. .. | 2 6 |
| APRICOTS.—Dwarf-trained .. .. .. | 2s. to 2 6 |
| ,, Standard-trained .. .. .. | 3s. 6d. to 5 0 |
| CHERRIES.—Dwarf-trained .. .. .. | 5s. to 7 6 |
| ,, Pyramids .. .. .. .. | 3s. 6d. to 4 6 |
| GRAPE VINES.—Standards .. .. .. | 2s. 6d. to 3 6 |
| ,, Very fine and well-ripened .. .. | 2 6 |
| NECTARINES.—Dwarf-trained .. .. | 3s. 6d. to 5 0 |
| ,, Standard trained .. .. .. | 3s. 6d. to 5 0 |
| PEACHES.—Dwarf-trained .. .. .. | 5s. to 7 6 |
| ,, Standard-trained .. .. .. | 3s. 6d. to 5 0 |
| PEARS.—Dwarf-trained .. .. .. .. | 5s. to 7 6 |
| ,, Pyramids .. .. .. .. | 3 6 |
| ,, Standards .. .. .. .. | 2s. 6d. to 3 6 |
| PLUMS.—Dwarf-trained .. .. .. .. | 2 6 |
| ,, Standards .. .. .. .. | 3s. 6d. to 4 6 |
| WALNUTS.—Standards .. .. .. .. | 2 6 |
| ,, Extra strong .. .. .. .. | 2 6 |
| | 3s. 6d. to 5 0 |

GOOSEBERRIES, CURRANTS, FIGS, RASPBERRIES, STRAWBERRIES, &c.

PEACHES, NECTARINES, and APRICOTS, established in Pots for Orchard House Culture, 5s. each.

ASPARAGUS, two years .. .. .. 2s. 6d. per 100
SEA KALE, ,, .. .. .. .. .. 8s. per 100

Nurseries, King's Acre, near Hereford.

### Planting Season.

To NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND PUBLIC COMPANIES ENGAGED IN PLANTING.

PROTHEROE AND MORRIS most respectfully invite the Public to inspect their VALUABLE NURSERY STOCK, extending over 30 Acres, and in the finest state of cultivation, consisting of FRUIT, FOREST, and ORNAMENTAL TREES of every description and in considerable quantities; also a large and rich assortment of AMERICAN PLANTS, FINE EVERGREENS, all sizes, including many Magnificent Specimens which will give immediate effect, and from the adhesive nature of the soil, and being continually transplanted, incur no risk from removal.

The following include a portion of their Stock:—

These are fine bushy Plants, & well set with Bloom Buds.
30,000 Rhododendrons, Scarlet, Catawbiense, Ponticum, and others.
20,000 Ghent & other Azaleas.
4,000 Kalmia latifolia.
8,000 Andromeda floribunda.

EXTRA FINE FRUIT TREES.
3,000 Peaches, Nectarines, & Apricots, Dwarf-trained, and very handsome.
6,000 Standard Apples of the best sorts, many of which have large fruiting heads, and will come into bearing at once.

A LARGE VARIETY OF ORNAMENTAL and FOREST TREES, including
7,000 Limes, 5 to 12 feet, Laburnums, Chesnuts, Birch, Maples, Poplars, Mountain Ash, Acacias, Thorns, &c.

30,000 Fine Standard Roses, including the newest and most approved varieties, with clean straight stems, fibrous roots, and full bushy heads.
2,000 Fine Double Camellias,
3,000 Azalea indica, best kinds, beautifully set with bloom buds.
50,000 Laurels, 1 to 10 feet.
,000 Handsome Fan Yews, 3 to 12 feet high, and 6 feet wide (Magnificent Plants.)
12,000 Busby Aucubas, 1 to 5 feet.
Green and Variegated Hollies, Box Trees, Cedrus Deodara, Cedar of Lebanon, Pinus excelsa, Hemlock Spruce, Araucaria imbricata, Picea Pinsapo, Nordmanniana and nobilis, Cupressus Lawsoniana, Thujopsis borealis, Laurustinus, Sweet Bays, Phillyreas, Irish Yews, Privet, Arbor-vitæ, Berberis, Chinese Privet, &c.

List and Prices forwarded on application.

The Nurseries are accessible by Railway in 20 minutes from Fenchurch and Bishopsgate Street Stations, whence Trains leave twelve times daily to Leytonstone Station, which adjoins the Nurseries.

American Nurseries, Leytonstone, Essex.

ARAUCARIA IMBRICATA (from 3 to 12 feet in height).—The finest and largest Stock in Europe unrivalled for Parks, Avenues, Lawns, &c. Also ABIES DOUGLASII, CEDRUS DEODARA, LIBANI, and a general assortment.

P S. The present is the best time to remove them.
H. LANE & SON, Nurseries, Berkhampstead.

SPECIAL OFFER of SHRUBS and TREES.—The Subscriber having an abundant Stock of the following, he is prepared to offer some much below the usual rates. The undernoted is well worthy the attention of the Trade and parties about to plant, the Subscriber's Nursery having been for the past 50 years famed for producing particularly fine rooted plants. Prices per 100 and 1000 on application.

AUCUBA JAPONICA, 12 inch; APPLE STOCKS, 1-year 3/4, 2 feet, Transplanted; ARBORVITÆ, AMERICAN, 1-year lud, 6 to 12-inch; AZALEA PONTICA, 12-inch; BARBERRY, COMMON, 12-inch; BIRD CHERRY, 2 to 3 feet; BIRCH, Transplanted, very scarce, 1½ feet; RED CEDARS, 9 inch; CUPRESSUS MACNABIANA, 2 feet; CUPRESSUS THUJOIDES, 6-inch; EUGENIA UGNI; 3 year SEEDLING SILVER FIR; 1-year SEEDLING HAZEL; GREEN HOLLIES; 1-foot LAUREL, COMMON; 1 to 3-feet PEAR STOCKS; 1-year SEEDLING, and 2½-feet Transplanted PINUS CEMBRA, 3-feet, very fine specimens; PINUS AUSTRIACA, 1 to 2-feet; QUINCE STOCKS, 2 feet, very fine stems

ROBERT T. MACKINTOSH, Nurseryman and Seedsman, 12, Melbourne Place, George IVth Bridge, Edinburgh.
Nursery, Leith Walk.

TO BE SOLD, by PRIVATE TREATY, 16 fine SPECIMEN AZALEAS of the following varieties:—

Ardens, 4 ft. by 2 ft. 9 in.
Beauty of Europe, 3 ft. 6 in. by 3 ft.
Criterion, 3 ft. 6 in. by 2 ft. 6 in.
Delicata, 5 ft. by 3 ft. 6 in.
Eulalie Van Geert, 5 ft. by 3 ft. 6 in.
Eulalie Van Geert, 4 ft. 6 in. by 3 ft.
Empress Eugenie, 4 ft. by 3 ft.
Gledstanesii, 3 ft. 6 in. by 3 ft.
Iveryana, 4 ft. 6 in. by 3 ft.
Ditto 3 ft. 6 in. by 3 ft.
Optima, 4 ft. by 3 ft.
Perryana, 5 ft. by 3 ft.
Variegata, 5 ft. by 3 ft.
Ditto 4 ft. by 3 ft.
Vesta, 3 ft. 6 in. by 3 ft.
Union, Gledstanesii, Lateritia, and Variegata, 5 ft. by 4 ft.

The property of an Amateur, who has not sufficient room to continue their further cultivation. They have been exhibited, and gained First Prizes at one of the best Provincial Shows in this country. The plants are all young and vigorous, and finely furnished.

May be seen, and prices obtained, on application to Mr. D. DAVIS, Nurseryman, The Kensington Nurseries, London Road, Bath.

**Deutzia crenata fl. pleno—Japan.**

JOHN STANDISH has now the pleasure of submitting to the consideration of his friends and the public the above truly valuable and hardy ornamental plant. It has received First-class Certificates both at the Royal Horticultural and Royal Botanic Shows in June and July last (*vide* Report).

"There were a few very interesting new hardy plants shown, first a Deutzia crenata flore pleno, one of Fortune's novelties, flowered by Mr. Standish. This looked like a fine addition to hardy shrubs; it has opposite shortly stalked finely serrated leaves, and copious terminal racemes of deflexed double flowers deeply tinged externally with rose."

Plants now ready, 10*s.* 6*d.* each; or 6 Plants for 42*s.*

Royal Nursery, Ascot, Berks.

**To Landowners, &c., Planting.**

600,000 EXTRA STRONG LARCH.—Smaller sizes in abundance, all from native Seed. Hardy and well grown General FOREST STOCK. Our various Nurseries in Cumberland and Westmoreland supply extensive Planters annually. Prices and every information on application.

JOSEPH TREMBLE & SONS, Penrith.

E. R. GREENUS, RAILWAY NURSERIES, Watford and Rickmansworth, has to offer this season a fine healthy Stock of FRUIT and FOREST TREES, FLOWERING SHRUBS and EVERGREENS, CONIFERS, STANDARD and DWARF ROSES, CLIMBERS, &c., all of which will remove with the greatest safety; and from E. R. G.'s proximity to the London and North-Western Railway he can execute orders with promptitude and despatch to any part of the kingdom, or Continent.

CATALOGUES forwarded on application.

P.S. A very large Stock of IRISH IVIES, large, in pots, and CLIMBING ROSES; also VARIEGATED and GREEN BOX ½ to 2 feet.

PINUS LARICIO.—To gentlemen planting out largely for profit, WILLIAM BARRON begs to make a special offer of his fine and well-rooted stock of the above. This fine Pine supersedes the Larch for Forest-planting, producing timber much sooner for Railway Sleepers. It is also used for Spars and Masts in the French Navy.

| | | | |
|---|---|---|---|
| 2-years' Seedlings, strong plants .. | .. per 1000 | 15s. | 0d. |
| 2-years' transplanted, 9 to 18 inches .. | ,, | 30 | 0 |
| 2 to 3 feet .. .. .. .. .. | ,, | 70 | 0 |

Elvaston Nurseries, near Derby.

DAINTREE'S SEEDLING POTATO.—This fine flavoured early round white variety is certified in the "Journal of Horticulture," page 269, to have yielded at the rate of 22 TONS per Acre. Present price 6*l.* per Ton, or 8*s.* per cwt.; and to prevent disappointment orders for present or spring delivery should now be sent to Mr. SIMON A. DAINTREE, of Fendrayton, St. Ives, Hunts. Sacks, 2*s.* each.

CHRISTMAS QUINCEY, SEEDSMAN, &c., Peterborough, has to offer to the Trade or others, DAINTREE'S SEEDLING POTATO by the cwt. or ton, MYATT'S PROLIFIC do., ASH-TOP KIDNEY, do., WEBB'S IMPERIAL do., DALMAHOYS, FORTY-FOLDS, YELLOW GLOBE MANGEL WURZEL, RED GLOBE do., ENGLEFIELD YELLOW do., ALTRINGHAM CARROT, HALLETT'S PEDIGREE WHEAT, 7*s* per bushel (63 lbs.), 50*s.* per quarter, 5 quarters, 48*s.* New sacks, 1*s.* 10*d.* each.

Remittances to accompany orders.

**Seed Potatoes.**

H. AND F. SHARPE are now prepared to make special offers to the Trade of the following varieties of SEED POTATOES, which have been harvested in fine condition, and free from disease. They comprise all the sorts worthy of cultivation, and have been grown with much care from the finest selected stocks. As the yield this season is very fine, the prices will be moderately low, and may be had on application.

| | |
|---|---|
| Improved Ash-leaved Kidney | Early Fox's Seedling |
| Jackson's do. do. | Early Round Frame |
| Walnut-leaved do. | Early Martin's Globe |
| MYATT'S PROLIFIC do. (very productive) | Early Golden Globe |
| | Early King (for forcing) |
| Fluke Kidney | Early British Queen |
| Lapstone do. | Early Cockney |
| EARLY DALMAHOY | Early Forty-fold |
| Early Oxford | Early Snowball |

Seed Growing Establishment, Wisbech.

**Mona's Prides.**

MR. R. W. O. RUTLEDGE, of Hague House, Isle of Man, begs to say he is prepared to dispose of a quantity of the above, Extra Seed, in the finest possible condition. MONA'S PRIDE is now universally admitted to stand alone as First Early Kidney, as well as one of the most prolific and best flavoured Potatos in culture, having been already tested in the north as well as the south of England; in fact it is said by one of the first Amateur Judges to be 'a "Riser in the Potato line," already obtaining prizes in Dublin, Warrington, Silver Medal in Birkenhead, and First Prize at Kildare shows. A peculiar merit in this fine Potato is that it crops abundantly in the field, and insures its valuable production by being ripe before disease sets in. Should references be required, the very highest shall be given. A note addressed to Mr. R. will meet with strict attention.

N.B. There are already many varieties selling for this peculiar seed.

THE EARLIEST PEA KNOWN is CARPENTER'S EXPRESS (pods larger than any other early Pea).

Among numerous Testimonials the following has been received:—

*From* Mr. JONES, *Gardener to Lord Leconfield, Petworth, Sussex. June 3, 1863.*

"I beg to say I have found Carpenter's Express Pea to answer well as an early one; it was sown on the 20th of November, on a south border, and I gathered the first dish on the 7th of May. I had Daniel O'Rourke and your Pea side by side in November, 1861, and gathered First from Carpenter's Express in May, 1862, which led me to grow it as my earliest this year."

New Seed to be had only of EDWARD CARPENTER, Seed Merchant, Brighton and Sussex Seed Establishment, 96, St. James's Street, Brighton. Price 2*s.* 6d. per quart.

Early Orders are solicited, which will be executed strictly in priority.

SEED WHEATS from the Chiltern Hills.—Essex Rough Chaff, 56*s.*; Trump, 56*s.*; Shirreff's Red, 54*s.*; and Hallett's Pedigree, 52*s.* per quarter; including new Stout Sacks and delivery to Henley Station. On quantities of 4 quarters and upwards a reduction of 4*s.* per quarter will be made. A remittance or reference required.

Mr. R. C. M. YOUNG has disposed of his Stock of the Burghfield Early White Wheat.

Hambleden, Henley-on-Thames. Oct. 24.

SPECIAL OFFER of SHRUBS and TREES.—The Subscriber having an abundant Stock of the following, he is prepared to offer same much below the usual rates. The undernoted is well worthy the attention of the Trade and parties about to plant, the Subscriber's Nursery having been for the past 50 years famed for producing particularly fine rooted plants. Prices per 100 and 1000 on application.

AUCUBA JAPONICA, 12-inch; APPLE STOCKS, 1-year do. 2 feet, Transplanted; ARBORVITÆ, AMERICAN, 1-year laid, 6 to 12-inch; AZALEA PONTICA, 12-inch; BARBERRY, COMMON, 12-inch; BIRD CHERRY, 2 to 3 feet; BIRCH, Transplanted, very scarce, 1½ feet; RED CEDARS, 9-inch; CUPRESSUS MACNABIANA, 2 feet; CUPRESSUS THUJOIDES, 6-inch; EUGENIA UGNI; 3-year SEEDLING SILVER FIR; 2-year SEEDLING HAZEL; GREEN HOLLIES; 1-foot LAUREL, COMMON; 1 to 3-feet PEAR STOCKS; 1-year SEEDLING, and 2½-feet Transplanted PINUS CEMBRA, 3-feet, very fine specimens; PINUS AUSTRIACA, 1 to 2-feet; QUINCE STOCKS, 2 feet, very fine stems.

ROBERT T. MACKINTOSH, Nurseryman and Seedsman, 12, Melbourne Place, George IVth Bridge, Edinburgh.

Nursery, Leith Walk.

**Wellingtonia gigantea, and Cupressus Lawsoniana.**

TO BE SOLD, Cheap, a quantity of WELLINGTONIAS, 1—2 feet, and splendid Specimen CUPRESSUS LAWSONIANA, 6 feet, will remove with large balls; and well worth attention where immediate effect is required, having been well grown.

Apply to F. G. GODWIN, Seedsman, &c., 3, Norfolk Market Hall, Sheffield.

REIGATE SILVER SAND.—Best quality, 7*s.* 6*d.* per ton; packed, 16*s.* per ton; ditto 5*s.*; 4 cwt. put on the Rail at Reigate.

Best and second quality PEAT SOIL, LOAM, &c.

N.B. Loaded Trucks can be sent on all the principal Railways.

W. SHORT, Reigate, Surrey.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2*s.* per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the PATENT COCOA FIBRE COMPANY, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.

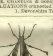
BARSHAM'S BRUSHES and MATS are sold in every town.

CAUTION.—Every Brush is stamped 'J. BARSHAM'S Patent'

**Horticultural Agent and Valuer.**

MR. A. CHANDLER (of the late Firm of CHANDLER & SONS) continues to undertake all kinds of VALUATIONS connected with Horticulture.

1, Devonshire Terrace, Fulham Road, S.W.



Magnified Aphis.

NEAL'S PLANT SOAP and APHIS PASTILS,

1*s.* and 2*s.* per packet,

may be obtained from all respectable Seedsmen.

Testimonials forwarded on application to the Patentee,

J. NEAL,

Edward Street, Birmingham.

**Winter Dress all Fruit Trees with**

GISHURST COMPOUND.

Red Spider Magnified.

*Copy of a Letter from* Mr. RIVERS.

"Nurseries, Sawbridgeworth, Herts, Oct. 22, 1861.

"I must tell you what I heard to-day from a very clever gentleman farmer, Anthony Bubb, Esq., of Witcombe Court, Gloucester. He has a wall to which Peach trees are trained. Well, last autumn they were in a wretched blighted state. As a desperate remedy he unnailed them all early last February, and gave all but one a thorough painting with Gishurst Compound, 1 lb. to the gallon of water; his trees, all but the one, commenced to grow favourably in spring, and are now pictures of health. The tree not painted is in a half-dead blighted state. He used the same dressing to his Apple trees; it killed the woolly aphis entirely, and has made his trees clear and vigorous in their growth. He intends to paint his wall trees annually, and tells all his friends to do the same. I shall certainly serve all my young Peach trees against my walls in the same manner. The Compound is, I believe, more efficacious than the usual offensive mixtures of clay, soot, sulphur, &c., and it does not blacken the shoots on the walls."

For Orchard-house Trees 4 ounces to the gallon will be found a good strength; when used stronger some buds on weakly trees may be injured.

GISHURST COMPOUND is Sold Retail by Nurserymen and Seedsmen, in boxes 1*s.*, 3*s.*, and 10*s.* 6*d.* each.

Wholesale by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont Vauxhall, London, S.

**All good Cooks and careful Housewives use**

SYMINGTON'S PATENT PREPARED PEA FLOUR, which is easy of digestion, perfectly wholesome, requires no boiling, rapidly makes a Tureen of rich Soup, and never causes unpleasant feelings after eating.

In Packets, 1*d.*, 2*d.*, and 4*d.*; and Tins, 1*s.*, 1*s.* 6*d.*, and 3*s.* each.

GROATS and BARLEY prepared by the same process, in Tins 6*d.* and 1*s.* each.

SCOTCH OATMEAL for Porridge and Oat Cake, in Packets, 1*d.*, 2*d.*, 4*d.*; 28 lb. Tins and Barrels.

Patentees and Manufacturers: W. SYMINGTON & Co., Bowden Steam Mills, Market Harborough. Sold everywhere.

**Manures and Feeding Stuffs.**

RAYNBIRD, CALDECOTT, AND BAWTREE. Address 89, Seed Market, Mark Lane; or Basingstoke. Samples and prices on application.

THE LONDON MANURE COMPANY have now ready

PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.

116, Fenchurch Street, E.C.

LAWES'S WHEAT MANURE for AUTUMN SOWING.

A supply of the above Manure is now ready for delivery, at J. B. LAWES' Factories, Deptford, and Barking Creeks. Price 8*l.* per ton.

2 to 3 cwt. per acre to be harrowed into the land before the seed is sown. It can be obtained of Mr. LAWES, or through any of his appointed Agents; also

| | | |
|---|---|---|
| SUPERPHOSPHATE of LIME .. .. .. | £6 | 6 |
| MINERAL SUPERPHOSPHATE .. .. | 5 | 5 |

Genuine Peruvian Guano direct from the Importers, and all Chemical Manures of value.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, Offices, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

**Autumn Sowing.**

THE PATENT NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),

Consisting of Tenant Farmers occupying upwards of 30,000 Acres of Land.

*Chairman.*—JOHN CLAYDEN, Littlebury, Essex.
*Managing Director.*—JAMES ODAMS.

Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex.

ODAMS'S BLOOD MANURE for WHEAT.—This Manure, specially prepared for Autumn Sowing, has been in use for upwards of 11 years, and has given great satisfaction to consumers.

Orders may be sent to the Company's Agents throughout the country, or direct to C. T. MACADAM, Secretary.

Offices: 109, Fenchurch Street, London, E.C.

Price 7*l.* 10*s.* per Ton, delivered at any Railway or Wharf in London.

**Utility and Ornament Combined.**

HYACINTH GLASSES SUPERSEDED BY

HOOPER'S NEW REGISTERED ETRUSCAN HYACINTH and CUT FLOWER VASE.

Perfectly novel and beautiful Table Ornaments; superior to Glasses for the growth of Bulbs, and equally adapted for holding Cut Flowers in summer.

Of refined and highly classical beauty, they recommend themselves at once to all persons of taste, being in short all that could be desired in an expensive ornament, brought to an inexpensive price. Price 2*s.* and 3*s.* each; Triples, 9*s.* each; to be obtained of the principal Seedsmen and Nurserymen in the Kingdom; and Wholesale and Retail of

HOOPER & Co., Covent Garden Market, London, W.C.

TREE and PLANT LABELS.—10,000 CLOTH or PATENT PARCHMENT PUNCHED LABELS for 30*s.* Delivered free in London on receipt of a Post office Order or Stamps for the amount. Address JOHN FISHER & Co., West Road Works, Boston, Lincolnshire.

HORTICULTURAL and AGRICULTURAL IMPLEMENTS and MACHINES of every description.

Illustrated Catalogues on application.

THOMAS GREEN & SON, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

AGRICULTURAL IMPLEMENTS.—STEAM ENGINES, THRESHING MACHINES, CARTS, WAGGONS, PLOUGHS, HARROWS, TURNIP CUTTERS, CHAFF CUTTERS for hand and power, LAWN MOWERS, PRIZE CHURNS, CASK STANDS, WIRE NETTING, and GARDEN TOOLS.

Illustrated Catalogues on receipt of 6 stamps. Price Lists free.

BURGESS & KEY, 95, Newgate Street, E.C.
Works, Brentwood, Essex.

**Gutta Percha Tubing for Watering Gardens.**

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following

*Testimonial from* Mr. J. FARRAH, *Gr. to* BOSWELL MIDDLETON JALLAND, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

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**30,000 Hyacinths, 30,000 Tulips, 10,000 Narcissus, and 100,000 Crocus in varieties.**

J. H. BIRD, F.R.H.S., Nurseryman, Stoke Newington, the largest Grower of the above in England. J. H. B. has again purchased, for ready money, in Holland, in addition to his usual large Stock, the above surplus Stocks of some very large growers, which he now offers at unheard of low prices. The following Roots for 1*l.*:—50 Hyacinths in 25 splendid sorts; 150 Early Tulips, sorts; 200 Crocuses, mixed; 50 Snowdrops, and 12 very large noble Narcissuses. Half the above quantity for 10s. 6d.

HYACINTHS, in 10, 20, 30, 40, or 50 splendid varieties, at One Guinea per 100. Less by the 1000.

LILIUM LANCIFOLIUM RUBRUM (true), large roots, 1s. each, 10s. per dozen, 3*l.* 5s. per 100, or 30*l.* per 1000.

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WINTER ACONITES, 2s. 6d. per 100.
CROCUS, in sorts, 1s. 6d. and 2s. per 100.
SCILLA SIBIRICA, 7s. 6d. per 100.
ANEMONES, 3s. 6d. and 5s. 6d. per 100.
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GLADIOLUS BRENCHLEYENSIS, 2s. per doz., 20s. per 100.
" GANDAVENSIS, the finest collection offered in England.
CYCLAMEN, a choice collection of 20 varieties by name.
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IXIAS, mixed, 1s. per dozen; 40 varieties in collection offered, the inferior kinds discarded.
BABIANA, SPARAXIS, and TRITONIAS, each 1s. 6d. per dozen.
LILIES, 60 fine varieties offered.
TRITOMA UVARIA, 12s. per doz.
TRITONIA (CROCOSMA) AUREA, 3s. per doz.
EARLY SPRING-FLOWERING PLANTS, in various colours, as HEPATICAS, DOUBLE PRIMROSES, VIOLETS, CHRISTMAS ROSE, and 60 other early-flowering perennials.
Strong Clumps of NEAPOLITAN and other VIOLETS in pots for winter blooming.
Do. LILY of the VALLEY.

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OFFERED TO NURSERYMEN FOR HYACINTHS

BY THE ROYAL HORTICULTURAL SOCIETY IN MARCH LAST,

WERE AWARDED TO WILLIAM PAUL.

# WILLIAM PAUL

Has now much pleasure in offering the following, of first-rate quality:—

HYACINTHS, the finest SINGLE and DOUBLE, for Show or Decorative purposes, 9s. to 15s. per doz.; 60s. to 100s. per 100.

HYACINTHS, SINGLE and DOUBLE, good sorts for early Forcing, 6s. to 8s. per doz.; 50s. per 100.

HYACINTHS, SINGLE or DOUBLE, in separate distinct colours for Beds or Borders, 3s. per doz.; 21s. per 100.

POLYANTHUS NARCISSUS, best sorts, 3s. to 4s. per doz.

TULIPS, EARLY SINGLE and DOUBLE, for Pots or Massing, the finest and most distinct sorts, 9d. to 3s. per doz.; 5s. to 12s. per 100.

CROCUS, in 20 best selected sorts, 2s. to 5s. per 100.

JONQUILS, LARGEST DOUBLE, sweet-scented, 2s. 6d. per doz.

ANEMONES, RANUNCULUS, GLADIOLI, &c.

PRICED DESCRIPTIVE CATALOGUE, Free by Post.

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## LILIUM AURATUM.

# MR. JAMES VEITCH

Has much pleasure in again directing public notice to this truly magnificent NEW JAPANESE LILY, which is undoubtedly one of the very finest Plants of recent introduction.

Having been already so often described, further remarks are unnecessary.

Plants continue to BLOOM, and J. V. will be happy to show them to any one who may favour him with a visit.

Good Bulbs, varying in size, can be supplied at the undermentioned prices:—

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| **Small sized Bulbs** ... ... ... | **21s. each.** | |
| **Second size** " ... ... ... | **42s.** " | All these, with ordinary treatment, will certainly bloom next season. |
| **Strong** " ... ... ... | **63s.** " | |
| **A few extra strong Bulbs** ... | **105s.** " | |

ROYAL EXOTIC NURSERY, KING'S ROAD, CHELSEA, S.W.

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## NEW AZALEA INDICA.

# MR. JAMES VEITCH

Begs to call attention to the Three undermentioned splendid NEW AZALEAS, which he can confidently recommend as being distinct and valuable acquisitions.

They were selected from among many others as being the three best varieties exhibited at the Great Quinquennial Exhibition of Belgium, held at Ghent in 1862, and the two first named were there awarded the First and Second Prizes respectively.

### AZALEA INDICA IMPERIALIS.

A bright rosy scarlet flower, of immense size, superior texture, and perfect form. It is very vigorous in habit, and possesses the double advantage of being a free and very late bloomer. Whether regarded as a variety suitable for exhibition purposes, or for general decoration, this is undoubtedly one of the finest Azaleas ever offered. This had the FIRST PRIZE at Ghent. Price 31s. 6d. each.

### AZALEA INDICA LE LION DE FLANDRES.

A large finely-formed flower, of salmon-red colour, distinctly marked with dark spots on the upper petals. It is a most abundant bloomer, of a very robust and compact habit, and a fine variety for exhibition. This had the SECOND PRIZE at Ghent. Price 21s. each.

### AZALEA INDICA VIRGINALIS.

A pure crystal white flower, of excellent form and substance, and most effectively crisped round the edge. It is of free and robust habit, and can be recommended as being a desirable acquisition to the class of White Azaleas. Price 21s. each.

**Or the Set of Three Plants for 63s.**

Fine Plants of the above are now ready for Sale.

THE ROYAL EXOTIC NURSERY, KING'S ROAD, CHELSEA, S.W.

**New Azaleas.**

AZALEA (INDICA) QUEEN OF BEAUTIES.—Mr. WILLIAM BULL begs to announce that he has purchased from M. Ambroise Verschaffelt the sole right of supplying this exquisite variety in the United Kingdom.

DESCRIPTION.—Salmon pink margined with white, and flaked with carmine, densely and very richly spotted with crimson; flowers large, of good shape and substance; one of the best Azaleas ever offered. Price 21*s.* each.

AZALEA (INDICA) WAXWORK.—Unusually thick wax-like petals; flowers immensely large and finely formed; pure white striped and flaked with purple, a most desirable variety, there being only one or two kinds of white striped with purple (and these not to be compared to the one now offered), while there are several whites striped with red. Price 21*s.* each

AZALEA (INDICA) WILLIAM BULL.—This variety was raised in Belgium, and named by M. Ambroise Verschaffelt, from whom the stock for circulation in the United Kingdom was purchased. The flowers individually are of unusual size and substance, double, and well formed; colour, crimson and violet. Price 15*s.* each.

AZALEA (INDICA) BELLE GANTOISE, 7*s.* 6*d.*
HORTENSE VERVAENE, 7*s.* 6*d.*
MADAME AMBROISE VERSCHAFFELT, 7*s.* 6*d.*
MADAME WAGNER, 15*s.*
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REINE DES DOUBLES fol. VARIEGATA, 7*s.* 6*d.*
SOUVENIR DU PRINCE ALBERT, 21*s.*
SECRETAIRE CLAUS, 10*s.*
VICOMTE DE FORCEVILLE, 15*s.*

Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

NOTICE is HEREBY GIVEN that an ELECTION of THREE PENSIONERS on the Funds of this Institution will take place in JANUARY NEXT. All persons desirous of becoming Candidates are requested to send in their applications to the Committee on or before the 12th November next, after which time they will not be received.

Preference will be given to those Candidates who may have been Subscribers to the Society for 15 years and upwards. Should it happen that there are not sufficient Applicants of that class, then the Claims of those who have not subscribed so long or not at all, will be considered.

Application to be made upon printed forms, which may be had upon applying to the Secretary.

By Order, EDWARD R. CUTLER, Secretary.
14, Tavistock Row, W.C.

# The Gardeners' Chronicle.

***SATURDAY, OCTOBER 24, 1863.***

WE have already (p. 699) intimated our intention to offer annually, for the next five years, a prize of 5*l.* for the best SEEDLING ROSE of English birth. The productions of the last two or three years show that the development of a breed of English Roses of high quality is a task which may be accomplished; though the results already obtained can be regarded only as an earnest of the success which a well-directed and sustained effort may be expected to realise. It gives us no small pleasure, therefore, to have an opportunity to apply the gentle stimulant just referred to in order to bring out, if it be possible, some of the grand floral creations in the shape of Roses which as yet lie hidden in the future.

Before finally determining the conditions to be attached to the prizes in question, we have endeavoured to ascertain the views of our leading Rosarians as to the qualities most to be desired in a new English Rose, that is to say, what kind of Rose is most wanted; and we have in this way profited by many judicious suggestions. We confess however that we hardly share with one of our correspondents his scarcely suppressed doubts as to the 'vitality' of English-raised varieties, by which we understand him to mean their capability of endurance. We should indeed speculate in the opposite direction were we to speculate at all, for it is only reasonable to infer that its native air would prove more congenial to a Rose of English origin than would the same atmospheric conditions to a child of the sunny south; but setting speculation aside, there is nothing in the bold and vigorous character of such Roses as Beauty of Waltham and Princess of Wales, at all suggestive of their soon becoming used up, but on the contrary they appear to have as thoroughly robust and sturdy a constitution as could be desired. This vigour of constitution is no doubt an essential in a good Rose, for, as another correspondent observes, unless the habit be robust and an abundance of flowers be produced, both qualities being combined, a Rose is comparatively worthless.

It was at first intended to confine the prizes to Hybrid Perpetuals and Bourbons, but it is suggested by correspondents whose opinion is entitled to very much weight, that Teas and Noisettes should be included; others would leave the prizes open to all classes, while others again would prefer to confine them to Hybrid Perpetuals. One objection taken to the Bourbons is that they are a scentless race; indeed it is urged that if the latter are allowed to compete at all, scent should be insisted on. As a medium course between these conflicting opinions, we propose to leave the prizes open to be competed for by all comers, of whatever class of Rose, the preference. however, to be given to the Hybrid Perpetual and Tea-scented varieties.

That the Rose which receives any one of these prizes should be absolutely an English Rose, is of the very essence of our intention, and of the terms upon which the prize is offered; but the question of what is to constitute an English Rose has been raised, and it has been asked, (1.) Is the importation of foreign seed to be allowed? (2.) Would a Rose produced from seed saved abroad and sown here be considered an English Rose? To both these questions the answer is an emphatic "No." The Rose is to be one raised from home produced, *i. e.*, English seeds: it is to be essentially and absolutely British in its origin.

The majority of our advisers say that a pure white H. P., or a very dark H. P. of full size, and of perfect form, would either of them be valuable acquisitions, and more desirable in fact than the paler rosy tints, or the highly-coloured crimsons. What is meant by perfect form is either the globular or the cupped outline, that is to say, depth of flower, which must be combined with smooth thick petals; for without these no flower can be considered perfect.

As to the time and manner of exhibition it has been generally urged that the seedlings should be shown in the natural truss, buds, leaves, and all, as cut from the plant. It is indeed in one case insisted that they should be cut low to show a good sample of the foliage; and in another that six of such trusses should be produced, but this latter is, we think, too heavy a demand on the raiser. Three trusses such as are demanded at our Rose shows, would not however be too many to require. Virtually it may be assumed that the competition will rest amongst Hybrid Perpetuals, and this being so, it will become necessary to have some means of testing the perpetual character of the varieties. We think they *must* be shown twice, *i.e.*, in summer and again in autumn, the award being made on a fixed day in autumn; this would, we suppose, be a simple and efficient test of their perpetual blooming character. A proposition that the flower should be shown two seasons before the prize is awarded, would we fear be tedious, though we have no better objection to urge against it.

Recapitulating, then, the several suggestions which have been offered for our guidance, we find that the conditions of the competition will stand thus:—

1. The Rose may belong to any class, but preference will be given to Hybrid Perpetuals and Teas. It must be scented.
2. The full double globular or cupped form will be required, and form will take precedence of every other quality.
3. Free vigorous growth and abundant bloom will be insisted on.
4. Where merit is otherwise nearly equal, preference will be given to a pure white or yellow, or an intensely dark colour. Purity or intensity of colour will be held essential.
5. The Rose must be absolutely of English origin, and not let out.
6. Three trusses of each seedling cut with buds and leaves will be required at least once in the season.
7. The summer trusses may be shown at any of the meetings of the Floral Committee; but others will be required in autumn as evidence of the perpetual character. The award will be made at the last meeting of the Committee in the month of August.
8. If in any one year no prize can be awarded, the amount will go in augmentation of that of the succeeding year.
9. The decision of the Floral Committee is to be final.

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REPORTS often appear of the VEGETATION OF SEEDS which have been kept for many years from the influence of air, but very frequently, when the matter is inquired into, the evidence is insufficient to satisfy a close and accurate inquirer into the real conditions of the case. What we have to offer at present does not extend over any fabulous number of decades, much less of centuries, but it is instructive, and has at least the merit of authenticity.

A statement was made to us a few days since that a thin layer of peat had occurred on gravel in the course of making an excavation for the conveyance of water from the Nene to a brewery about a quarter of a mile distant, and that this peat was covered with myriads of young plants of some species which was not recognised. We have since had an opportunity of seeing a specimen of the black peaty earth covered with seedlings, of which one only had put out the first pair of leaves, and we were unable at once to recognise the species in so early a stage of growth.

There seemed every reason to believe that the seedlings actually grew from the soil, and had not been introduced from a distance, but it was absolutely necessary to visit the spot from which the black mould was taken before giving too positive an opinion. A few seconds' inspection showed that the deposit was very limited, at about 3 feet below the surface, and it was clear on further inspection that the soil above was a mere mass of rubbish, consisting of fragments of bricks, and other miscellaneous matter. Immediately on the surface of the black soil was a piece of decayed Elm, *still* covered with the bark. The soil itself was clothed with a mass of young seedlings, which now were clearly ascertained to be those of the common Watercress, with a slight admixture of Ranunculus aquaticus, and some Grass. The seeds had evidently vegetated from the soil itself, and had not been conveyed from a distance, as the seedlings burst out from the edge of the soil where it had been cut through with the spade, taking their origin beneath the superincumbent rubbish, and were entirely confined to the spot.

The next point, then, was to ascertain exactly when the pond had been filled up, for it was clear that a pond had existed on the spot. On inquiry of the very intelligent head of the brewery, it appeared that the fact of a pond having existed in that part of the field was well known, and that in making the excavation it was hoped that the pond might be hit upon, and a spring found which would make it unnecessary to go down to the river itself. The pond was filled up in 1830, and the field had been at once ploughed up and laid down in Grass, and had never been disturbed since. The seeds therefore of three plants of different natural orders had been dormant at a depth of a yard for 33 years, and their vegetative power was clearly as great as if they had sprouted the very first season. Seeds which could thus be stored up for so many years, without losing their powers of growth, might, as far as we can see, have retained those powers for an indefinite period, unless altered circumstances should occur which should induce decomposition. The period is not indeed very great, but it is sufficiently so to make the matter worth recording. *M. J. B.*

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—— HYACINTHS are not only indispensable elements in exhibitions of spring flowers, but invaluable as materials for home decoration at that season. Without them our drawing room *jardiniers*, our conservatories, and our exhibition tables would each, in early spring, lose half its charms. Now, when a flower has thus interwoven itself, as it were, with our every-day life, a great feeling of excitement attends the introduction of novel and what ought to be at the same time superior varieties; and so we come to find that an amount of interest, all their own, circles around New Hyacinths, even as it does about New Roses, and other floral favourites

All this being admitted, it cannot be questioned for a moment that NEW HYACINTHS are very proper subjects to be invited to appear at our spring flower shows. There we hope, indeed, always to meet them, in as great force as the tactics of the schedule-makers will permit them to muster. But the group is one which, though always welcome, and apparently simple and comprehensible enough, nevertheless needs to be much more clearly defined before appearing at a flower show. It should not be left for private interpretation, as has hitherto been the case, for in this form it can scarcely fail to be, as it was indeed last spring, a source of misunderstanding and ill-will between exhibitors and judges, to say nothing of managers.

It must be conceded, and the admirable sketches given by Mr. FORTUNE at p. 556 confirm the fact, that Hyacinths, as a rule, are slow breeders; so much so, indeed, that a variety may often be many years old before a full market stock of it is obtained, and before it can be let out. Hence the same rule cannot be adopted to determine the novelty of a Hyacinth, which would apply to a plant quickly propagated and dispersed, as, for example, a Pelargonium or Dahlia, or even a Rose. A greater latitude must be given to the slowly increasing subject. We do not see, indeed, how to do otherwise than make it a question of dates; but it would appear from an interesting paper in the October *Florist*, that very great ignorance or uncertainty, on the part of home growers, [illegible] is even this question of dates. A variety which, though many years old, yet is not let out, is, in our opinion, absolutely new for all purposes of our argument: it is absolutely new, moreover, so far as the public is concerned, in the current season in which it may have been first sold out, but after that it becomes less and

less new every year. We desire to speak of it as less and less new, rather than old, because new Hyacinths are not so numerous as to be likely to supply our exhibitions with collections of actual and absolute novelties, and therefore we should be inclined to allow the novelties of a certain number of seasons—perhaps about four years—to compete together on equal terms for the prizes offered for new sorts. That is to say, in providing for a group of new Hyacinths in the coming spring of 1864, rather than limit the competition to those which may have been first sold out in the autumn of 1863, which would not probably be sufficient to make a group, or at least would not furnish sufficient choice, we should allow all those new sorts which had been first sold out in the respective seasons of 1860, 1861, 1862, and 1863, to be considered new for the purposes of exhibition; but no others should be admitted. We hardly think a range of four years would let in too wide a choice of varieties, considering the limited number of new sorts annually brought forward, or worth bringing forward, but this point would naturally soon adjust itself. According to the rule proposed, in 1865 those sorts which had been sent out between 1861 and 1864 inclusive would be admissible; in 1866 those sent out between 1862 and 1865; and so on. We might hope in time by the influence of this rule to see our bulb lists drawn up so that the novelties and the older kinds might appear separate, as they do in the case of most other florists' flowers. This would be a manifest improvement, because the information would be really useful. At present the uninitiated have no guide beyond price, and this is fallacious, because it rather represents the stock than the age or merit of the variety.

On the occasion to which reference has been made, the exhibitors of new Hyacinths and the sorts shown were these:—1. Mr. William Paul: Florence Nightingale, Lord Macaulay, Koh-i-noor, Duc de Malakoff, Haydn, Snowball; 2. Messrs. Cutbush & Son: Rouge Eclatante, Feruk Khan, Maria Theresa, Fair Maid of Denmark, San Francisco, Prince of Orange; 3. Mr. Young: Lord Macaulay, Victoria Alexandrina, Reine des Jacinthes, Von Schiller, Paix de l'Europe, Regulus. To show the different view taken by different persons as to the newness or otherwise of these varieties, and at the same time to show how desirable it is that we should have better information, and a better defined class in future, we have drawn up the annexed tabular list of the varieties forming the three collections, the statements in full being printed in the article of "Quo," already mentioned as having appeared in the last number of the *Florist*. The first three columns contain the name of the variety and of the raiser, and the year in which each was first offered for sale, according to the information supplied to "Quo" by one of the great Dutch houses, whose name is not mentioned. The other columns give the date of first importation assigned by Mr. Paul and Mr. Cutbush:—

| Hyacinths. | Raised by | First catalogued for sale. | Paul's date. | Cutbush's date. |
|---|---|---|---|---|
| Duc de Malakoff .. | Kramer | 1858 | 1862 | 1862 |
| Fair Maid of Denmark | Byvoet | ?1863 | 1863 | 1863 |
| Feruk Khan .. .. | Kramer | 1858 | 1863 | 1863 |
| Florence Nightingale.. | Byvoet | 1857 | 1861 | 1857 |
| Haydn .. .. .. | Kramer | 1858 | 1862 | 1860 |
| Koh-i-noor .. .. | Veen Bros. | 1855 | 1861 | 1859 |
| Lord Macaulay .. | Veen Bros. | 1855 | 1860 | 1862 |
| Maria Theresa .. .. | Van der Vinne | 1847 | 1863 | Very old |
| Paix de l'Europe .. | Krelage | 1856 | 1862 | 1862 |
| Prince of Orange .. | Krelage | 1856 | 1862 | 1863 |
| Reine des Jacinthes .. | Schertzer | 1861 | 1862 | 1860 |
| Regulus .. .. .. | Rosenkertz | 1847 | 1860 | Old |
| Rouge Eclatante .. | Veen Bros. | 1833 | 1863 | 1863 |
| San Francisco .. .. | Byvoet | ?1863 | 1863 | 1863 |
| Snowball .. .. | Prinser | 1852 | 1862 | 1860 |
| Victoria Alexandrina.. | Van Pallandt | 1839 | 1862 | 1862 |
| Von Schiller .. .. | Veen Bros. | 1853 | 1860 | 1857 |

It would thus appear that very few indeed of these sorts were strictly new, although they were little known generally. In Mr. Paul's collection was one sort of 10 years, two of 7 years, one of 5 years, and two of 4 years old; in Mr. Cutbush's set was one of 19 years, one of 15 years, one of 6 years, one of 4 years old, and two of the current year; in Mr. Young's set was one of 23 years, one of 15 years, one of 9, one of 7, one of 6, and one of 2 years old. These, be it remembered, were all staged—in good faith as we cannot but believe—as new sorts. But how could they have been so regarded? Mainly, as it appears to us, from the slowness with which new Hyacinths drift into general cultivation here in England, and consequently from the sorts in question being, in a general way, unfamiliar both to exhibitors and visitors; though of course well known to the few who might happen to be well posted up in the Hyacinth fancy.

These exhibitions of New Hyacinths, then, will have a beneficial influence, we cannot doubt, on our home gardening, for they will render us familiar with novel sorts awaiting our demand, with which, though a nation of gardeners, we seem hitherto to have made acquaintance very slowly, notwithstanding that they are, some of them at least, far superior to many of the old sorts we pertinaciously cultivate. They will have—these exhibitions—the same good effect as the letting in of light upon obscurity always has, namely, we shall be thereby enabled to see our cobwebs and dust, and to set about clearing them away. By continuing to encourage New Hyacinths at our shows we shall get other and better varieties yet, for the demand will create a supply. We shall get better form and richer colours amongst the cheaper sorts which supply the masses. We shall get a much further development of the attractive white-eyed group. We shall get more of those with immense bells. We shall even get new colours, as we have within the last few years. Only, keep the new sorts prominent, by giving them a good position in the schedules. But for the sake of exhibitors and judges, let us say exactly what we mean when we ask the one to cultivate and the other to adjudicate upon a group of new varieties.

—— Dr. J. E. Gray mentions in the *Journal of Botany* that in Pembrokeshire, especially near Broadhaven, the prevailing colour of the Primrose is pale lilac, and specimens of this and of the "primrose" coloured varieties may be found growing on the same stone wall (stone walls in this district taking the place of hedges), sometimes so close together that they appear to grow from the same root. The flowers of some plants are nearly white. As other examples of two forms of one plant growing under the same conditions, he further mentions a purple Wood Anemone, which he has found intermingled with the white one in the same tuft; a beautiful pink variety of Wood Sorrel growing amidst the usual white form; and a rose-coloured form of Lamium album, in the midst of beds of the usual colour.

## New Plants.

### 262. Androsace lanuginosa, *Wallich, Herb. Ind.* 615.

Among the innumerable gems collected by Mr. Veitch in his noble nursery at Combe Wood, we had the good fortune to find in flower this exquisite rarity. It formed a trailing herbaceous stem, covered with silvery hairs, and producing leafy branchlets terminated by small umbels of lilac blossoms, just like miniature Primroses, hanging over the side of the pot in which it was growing. It was first discovered in the North of India, in the provinces of Sirmore and Kumaon. At a later period Dr. Thos. Thomson met with it in the temperate districts of the North-western Himalaya at a height of from 7000 to 10,000 feet above the sea.

We presume that it will require the usual treatment of our European alpines. With Mr. Veitch it has been kept in a cold pit, which it evidently finds very suitable to its constitution.

## COTTON CULTIVATION.

I have read with much interest the communication of "R. T. C." on "Home-grown Hybridised Cotton," giving an account of a hybrid he had produced between what I take to be the long-stapled Sea Island and the very short but strong-stapled Nankin Cotton plants (Goss. religiosum, Roxb.). The former has an egg-shaped smooth black seed with the cotton fibre confined to the upper or small end; while the other has a somewhat oblong seed more or less flattened at the ends, and clothed with a short woolly tawny-coloured nap, and the true similarly coloured cotton fibre attached all over. His parent plants agree with these characters, and are I presume truly referable to the kinds here named. The hybrid differs from both, but seems to take most after the male parent, and I think it probable will yield a very valuable staple. I may here mention, that, notwithstanding the parents differ so widely in the characters of their seed and staples, I yet consider them both to be varieties of the same species, namely, Gossypium barbadense, which may, perhaps, in some measure account for the ease and certainty with which the crossing was effected.

I was first led to consider the smooth black-seeded long-stapled Bourbon Cotton plant—the original of the celebrated Sea Island Cotton, and the woolly-seeded short-stapled Nankin and New Orleans plants, as simply cultivated varieties of the same species, from seeing them all three rather largely cultivated in adjoining fields, and under exactly similar circumstances. Thus situated I have repeatedly walked through fields of them, all so alike that they were scarcely distinguishable until the pods began to open. Between the Bourbon and Nankin plants there was no difference; the New Orleans was distinguishable, but not without some care. The opinion, that they were all varieties of one species, was subsequently strengthened by finding the smooth seed of the Bourbon plant becoming woolly, apparently owing to careless culture. There is another variety known as the Upland Georgian Green Seed, the seed of which is covered with green, just as the Nankin is with brown or tawny, and the New Orleans with dirty white or ashy-coloured nap. The cause of these differences we have still to learn. With reference to the sought-for "vitifolium," I believe the vitifolium of Roxburgh, and perhaps also his hirsutum, is the Georgian Green Seed, while the vitifolium of Lamarck is the same as Roxburgh's G. acuminatum, of which more by and by.

Having thus been led to view these supposed species as varieties only, owing their peculiarities mainly to culture, I was encouraged to go a step further in the same direction, and induced to view the several Indian forms of G. arboreum, herbaceum, obtusifolium, and probably several others, as so many variations of another species (quite distinct from G. barbadense): all agreeing in an unmistakeable family likeness; all having moderate sized blunt-pointed pods about the size of large Hazel nuts; the seed nearly round, clothed with a short white nap, and with the cotton attached all over. This group I consider of Asiatic, and the barbadense of African origin; while a third group, represented by the plant which produces the Pernambuco Cotton, and by Roxburgh's G. acuminatum, I look upon as referable to South America. The plant described by Roxburgh is apparently the same as the one figured by Rumph. 4, 13, and by Rheede, Hort. Mal. 1, 13, which certainly militates against my theory; but still, I think I am right. The plants of this third group are large strong growing shrubs or even small trees, preferring low, moist, sandy soils near the coast, and therefore admirably adapted for culture on the extensive sandy flats along the shores of India, where water is usually to be found within a foot or two of the surface. The essential character of this group is found in the pod and seed. The pod is large, three-celled, ending in a long tapering point—hence, I presume, Roxburgh's name; while the seeds are smooth, flattened, kidney-shaped, adhering together by their inner surface, and bearing their long, strong staple on the outer. On removing the cotton the still adhering seeds present the appearance of a flattened cone. How many of the species named in botanical works are referable to this group I am unable to say, the seed so rarely forming part of the botanical specific character.

I have thrown together these few reminiscences of former thoughts on the genus Gossypium and its possible subdivision, in the hope of their proving useful to such an ingenious and skilful experimentalist as your Correspondent, by suggesting various modifications of his first experiment.

Before quitting the subject, I think it desirable to make known the circumstances which led me to infer that the Cottons now so largely cultivated in the American States are of African descent. A good many years ago, while studying the subject, I met with a statement in a book, the name of which I have now forgotten, to the effect that the original Bourbon Cotton was brought from the shores of the Red Sea, probably Abyssinia, and spread thence to the West Indian Islands; and thence again, after several failures, to continental America. More recently I met with another statement, to the effect that the plant now so largely cultivated in Egypt was not brought from America, but is a native of Africa, and found indigenous in Abyssinia, whence it was brought to Egypt. The probability of these statements is strengthened by a circumstance which occurred to myself many years ago in Madras.

I received at the same time three small packets of seed, marked respectively Sea Island, New Orleans, and Egyptian. They were all sown at the same time in my garden, and all duly attained maturity about the same time. The Americans came up true to sort, but the Egyptians presented both forms mixed in nearly equal proportions.

The deduction since arrived at did not then occur to me, indeed could not, for want of the historical data, which I did not discover till long after; and I was prevented following up the inquiry at the time. I mention the circumstance now, on the supposition that the easy success of the first trials may be partly owing to varieties only of the same species having been crossed, and might not be the case if truly distinct species were employed. But, if more difficult to attain, the result would be likely to be more valuable. The delicate silky Sea Island, crossed with the equally long but much stronger "Pernam's," would be likely to yield a staple greatly superior to that of either parent. Crosses again between the Indian and American short staples (*i. e.* Surats and New Orleans), may provide us with a variety superior to either as regards staple, and at the same time improved in constitution and productiveness. On the other hand, crosses between the long and short staples are likely to supply us with staples possessing both length and strength, suited to a variety of fabrics unattainable from either of the parents.

An application for seed to the Cotton Supply Association will, I am sure, meet an immediate and liberal response; and I would also recommend applications being made to Dr. Forbes Watson at the Indian Museum, and to Mr. Clements Markham at the India Office for some of the Peruvian seed recently received by him, which he supposes to be a new and valuable species. *Robt. Wight, Grazeley Lodge, Reading, Oct. 14.*

## FOLIAGE PLANTS.

There is nothing in Mr. Gibson's treatment of foliage plants (see p. 986) sufficiently new or surprising to lead him to jump to the conclusion he arrives at respecting them so hastily. For bottom-heat, if autumn display alone is desired, they do not require even brick rubbish, for they grow luxuriantly after midsummer in the common beds of the garden, without any assistance whatever in the way advocated. Indeed there can be no reason why they should not when it is considered that they are all more hardy than a common Heliotrope. Many of the Canna roots were uninjured out of doors here last winter. The only advantage of furnishing them with bottom-heat is to give the plants a start as early as possible in spring,

because in instances such as ours, they would not be useful later than the end of July.

It is also for the purpose of lengthening their season that bottom heat is applied to them abroad. From Mr. Gibson's account, however, the operation of watering must at first be a more serious item even than the dung. Our plants have not been watered more than half-a-dozen times, and we have the Canna Annæi more than 10 feet in height, Ferdinandia 25 feet, Ficus 8 ft., and all our other plants in proportion. As soon as these are removed, the beds are filled with Rhododendrons and Azaleas, which could not be so conveniently done in brick-rubbish as in rotten dung and leaves, the material I employ.

We also find, and so will many others similarly circumstanced, that the little assistance by bottom heat which we give, is not at all a difficult matter. We mow our Grass twice or thrice before planting time, and lay the Grass in heaps, mixed with leaves and sweepings, close to the spot where it will be wanted, and with the addition of perhaps one load of manure, nothing more is required; this material, trenched into the bottom, will give sufficient heat for the first start.

Mr. Gibson says that his Cannas planted out in the middle of June lost their leaves; some planted out here in the first week of that month have full grown reeds and foliage which received no check. Caladium esculentum has leaves that measure upwards of 2 feet across.

A question of much more importance than that of bottom heat, and one requiring discussion, is the appropriateness of such plants for some of the places in which I have seen them this season. They cannot be placed with advantage in the centre of a flower bed, or as a row in a ribbon border. Nor is there much beauty in a good oval bed of Wigandia, the leaves round the outsides of which are only seen; but place a plant by itself on the Grass, or in a single irregular line, where its handsome leaves can properly develope their outline, keeping the specimen about 7 feet in height, so that the eye does not get under it, and something to be admired will be secured. A bed with an irregular outline, in the form of a long narrow miniature lake, is that most suitable for Cannas and Caladiums. *J. F.*

## ORCHARD HOUSE EXPERIENCES.

LAST year I gave you my experience of an orchard house. Perhaps a report of the third year's trial therefore, may not be uninteresting. I report that my house is 110 feet long, span-roofed, 20 feet wide, 12 feet high, with shutters opening on all sides throughout, on a hill and exposed to the air, and it runs N.E. to S.W. There is a bed in the centre in which the trees are planted out, and on the side borders they stand in pots. The trees consist of Peaches, Nectarines, Apricots, Plums, Cherries, Figs, Pears, Apples, and the Eugenia Ugni. It will be most convenient to state my experience as to each.

PEACHES.—All in pots, and on the south side of the house; crop moderate, size fair, colour bad; decidedly wanting in flavour and juice, having the leafy taste so perceptible in hothouse Peaches. They ripened late; indeed many are still (Oct. 14) upon the trees; they were a month behind those on the garden walls.

NECTARINES.—All in pots; crop large, size fair, colour good, flavour excellent; they were about a fortnight behind the crop on the open walls. But again the Stanwick Nectarine has proved entirely successful. This crop was good, the splitting the fruit was gradual, and where it occurred it injured only the appearance; they were the best fruit in quality. The flavour was fully equal to report; it is beyond comparison the finest Nectarine I have ever tasted; indeed, it is almost *sui generis*—so good, that it would be almost worth while to put up an orchard house for that fruit alone. It has never failed for three years in giving me an excellent crop, and it seems to be peculiarly adapted to the orchard house. It is very hardy, sets its fruit well, and never throws it.

APRICOTS.—Crop immense, size very small, flavour excellent. I found no perceptible difference, either in size or quality, between those in pots and in the bed; if anything the pots produced the greater quantity. They ripened in due course with the fruit out of doors. By planting half the trees in the north border that crop was delayed a month, and I had a daily dish from the middle of July till Sept. 6. There are 14 trees.

PLUMS.—Crop abundant, flavour indifferent, size large, colour good. Several of the sorts sent me by Mr. Rivers proved worthless. The only good ones were the Jefferson, the Green Gage, and Coe's Golden Drop. The rest were not worth house room. They ripened three weeks after those in the garden.

FIGS.—Crop small; but a few out of hundreds that were set advanced to ripeness. Flavour good.

PEARS.—Crop abundant, size large, flavour excellent. Ripened in due course with the out-door crops. Some in pots, some in beds, and equally good. The experience of three years has proved that the orchard house is peculiarly adapted to the Pear. It brings to perfection the fruit that will not ripen or attain its flavour out of doors. All proved to be quite equal to the best of Jersey or France. Gansel's Bergamot was superb in size and flavour. The best of them beyond measure was the Beurré Superfin; and I would recommend every reader who has it not to procure it. It is to Pears what the Stanwick is to Nectarines.

CHERRIES.—Crop abundant; colour and flavour good; not better than those in the garden, but they can be protected from the birds, and allowed to attain the proper stage of ripeness. This, by the by, is no small part of the advantage of the orchard house—you save your entire crops from human as well as winged plunderers.

APPLES.—Crop abundant, colour and flavour fine. There is little use in growing Apples thus, unless it may be to secure a crop when frost sweeps away the out-of door blossoms. They are not better nor worse than Apples in the open garden. The space would be more profitably devoted to growing the choice Pears that will not come to perfection in the garden.

Against all the supports I grow Currants, which are thus protected from birds, hang late, and occupy a place otherwise useless.

Lastly, the Eugenia Ugni comes to great perfection here; it will not endure the winter in the open ground, and I cover it up with straw when frost threatens. The fruit is very abundant—as plentiful as Black Currants, large, and of very fine flavour. The bush is extremely ornamental as a conservatory plant, the flowers being of an exquisite waxy form, a cream white, and scented. To my taste it is one of the most agreeable of our fruits. It is just now ripe, and I look upon it as a great luxury, coming when the others are gone.

I may add that the Tangerine Orange succeeds with me perfectly. The fruit is in all respects as good as the best procurable in Covent Garden, and it is a most abundant bearer. There are 20 on a little bush 2 feet high, and hundreds have set upon a tree 5 feet in height. *E. W. Cox, Inglewood, Hendon.*

## MR. PATERSON'S SEEDLING POTATOS.

[The following is extracted from a report on this subject in the *Dundee Advertiser*. It appears that Mr. Paterson, of Union Street, Dundee, has for many years been engaged in raising new varieties of the Potato from seed, with the view of obtaining varieties not liable to the disease. The following is an account of some of his sorts:—]

"WITHIN the last few days, we have seen Mr. Paterson's seedlings growing on the home farm of Fothringham, belonging to Captain Fothringham; in the garden of Linlathen, belonging to Thomas Erskine, Esq., and also in Mr. Urquhart's Nursery, at Broughty Ferry, so that we are in a condition to speak of them with greater confidence than we should have done if our observations had been confined wholly to one plot of ground or to one description of culture.

"For the purpose of comparison, the different varieties have been planted side by side, no one variety having thus the slightest advantage over another, but all sharing alike in each case the same soil, the same climate, the same manure, and the same amount of culture and attention. The field on the Home Farm of Fothringham, in which Mr. Paterson's seedlings are growing, contains about 30 acres of good fertile soil, apparently well adapted for Potato culture. The portion of it rented by Mr. Paterson extends to 25 acres, most of which is occupied by his seedlings. Beginning at one side of the field, and passing right across it, the different varieties were taken in their order, and just as they came to hand, no attempt being made to select other than fair average specimens. Four yards of each kind were dug and the produce weighed, when the results were found to be as follows:—

| | |
|---|---|
| Paterson's Seedling Regent. No. 1 .. .. .. | 39 lbs. |
| Paterson's Reds .. .. .. .. .. .. | 33 ,, |
| Paterson's White Seedling (Regent kind) .. .. | 30 ,, |
| New Perthshire Red .. .. .. .. .. | 44 ,, |
| Paterson's Seedling Rock .. .. .. .. | 40 ,, |
| Irish Blue .. .. .. .. .. .. .. | 50 ,, |
| Forfarshire Red .. .. .. .. .. .. | 36 ,, |

"Such being the weights produced in four lineal yards, it follows that the yield per imperial acre will be—for the Seedling Regent (No. 1), 25 tons 1 cwt.; for the Seedling Rock, over 25 tons 14 cwt.; and for the New Perthshire Red, 28 tons 6 cwt. The above varieties, the names of which have not yet been definitely fixed, were all grown with common farm manure. Part of the field, however, had been fertilised by artificial manure, and hence it is more difficult to estimate the comparative productiveness of the kinds grown on that portion. Among these was the White Kidney variety, which produced 24 lbs. of Potatos to the four yards.

"Intermingled with Mr. Paterson's seedlings were a few of the common sorts, which were tested by the scales for the sake of comparison. The Old Rock, with common manure, produced 20 lbs. of tubers to the four yards, or exactly one-half the weight yielded by Paterson's Seedling Rock. The Old Perthshire Red (a favourite Potato 20 years ago) gave 5½ (?) lbs., while Paterson's New Perthshire Red gave as much as 44 lbs. Walker's Regents yielded 18 lbs. to 30 lbs. yielded by Paterson's white seedling Regents. Arrowsmith's English seedling and Walker's Early (the latter with artificial manure) yielded respectively 20 lbs. and 16 lbs. to the four yards—both very abundant crops, but neither of them equal to any of Paterson's new varieties. The seedling English Emperor—a great favourite south of the Tweed—produced only 11 lbs. to the four yards, or little more than one-third of the weight produced by the least productive of Mr. Paterson's seedlings. It is necessary to notice the fact that most of the plants were growing vigorously when we examined them, and that, with a continuance of genial weather, there was every likelihood that the roots will attain a still greater bulk and weight. There was one kind, called the Blue-ended Regent, the stalks of which were as strong as the branches of young trees, and upwards of three feet in height, which it will require several weeks to bring to maturity. At one stem were found 30 tubers, most of them being arranged on the fibres like beads on a string. This plant is a very Goliah amongst Potatos, and promises, with careful management, to become marvellously productive. Of the Irish Blues, Perthshire Reds, and other varieties, Mr. Paterson has grown very large quantities, so that the varieties may be considered as well tested. As an evidence of the perfect healthiness of these seedlings, it may also be stated that the whole of them produce Apples in abundance—many of the stalks being literally weighed down to the ground by their load of fruit.

"So much for field culture, and now for that of the garden. In Linlathen garden we found five sorts growing in drills, which were 30 inches wide, with 15 inches between each plant in the case of the three first kinds, and 12 inches in the other two cases. One stem of each variety was dug up and weighed, and the following was the result:—

| | |
|---|---|
| Paterson's Seedling Regent (No. 1) .. .. | 4½ lb. |
| Paterson's Reds .. .. .. .. .. | 8 ,, |
| Blue Kidney .. .. .. .. .. .. | 4½ ,, |
| White Seedling Kidney .. .. .. .. | 4 ,, |
| Goliah Regent .. .. .. .. .. | 7½ ,, |

These were nearly a month too late in being planted, and consequently they are not nearly arrived at maturity. Besides, being rather too thickly planted, they had not had proper room to grow. Notwithstanding these drawbacks, however, the crop must be pronounced a most remarkable one. The new seedlings eclipsed a drill of excellent Dalmahoys which were growing alongside of them.

"In Mr. Urquhart's Nursery at Broughty Ferry, six varieties of Mr. Paterson's seedlings are to be seen growing together. Though growing in a nursery, the culture had been strictly that of the field. The following were the weights produced from three stems of each kind:—

| | |
|---|---|
| Buff Kidney .. .. .. .. .. .. | 3¾ lb. |
| Red-nosed Kidney .. .. .. .. .. | 12¾ ,, |
| Blue-ended Regent .. .. .. .. .. | 15¾ ,, |
| Early Red Kidney .. .. .. .. .. | 6 ,, |
| Seedling Rock .. .. .. .. .. | 9¾ ,, |
| Paterson's Seedling Regent (No. 1) .. .. | 9 ,, |

The above figures require no comment—they speak for themselves, and they indicate a great amount of productiveness. Had we not seen the stems turned out and weighed, we should have had some difficulty in crediting the above figures, but we can testify that they are strictly true.

"As to the quality of most of the above varieties we are also in a position to speak from experience, and we can only say that we have never tasted any Potato equal to them since that valuable esculent was tainted by the fatal blight of 1845. They contain an extraordinary amount of farinaceous matter, are pure white inside, and almost as solid as bread. When boiled they 'cast their jackets,' just as most Potatos did before the disease seized upon them, and rendered them wet and clammy."

## FISH AND FISHING.—No. XVII.
### (4) HOW GRAYLING GOT TO ENGLAND.

(*Continued from p. 965*).

*Pisc.:* In confirmation of Sir H. Davy's admission already quoted (see p. 965), I add that it is known that when in modern times the grayling has been transported from one river to another, apparently as favourable, it gradually descends the latter, if really unsuitable to it, and at last quits it altogether. Now, the grayling of the Test in Hampshire are said to have been imported from the Avon in Wiltshire.

When on a fishing excursion many years ago (1840) at Stockbridge with the late Sir F. Chantrey, I think it was he who told me that these fish were every year found lower and lower in the river Test; that formerly they were plentiful above Stockbridge, but were at that time scarce, and he anticipated that the Stockbridge Club would not long have the delight of their company, unless the members resorted to artificial means to preserve them in their waters. Then again, as regards the grayling not being found within 15 miles of Valle Crucis Abbey, I am inclined to think Sir H. Davy is under a mistake, and that there is a horse-shoe fall close to the old mail coach road rather below Llangollen where grayling are taken, and that they are taken in other parts of the Dee between Llangollen and Corwen, though by no means so commonly as between the latter place and Bala. But supposing he is right, for I forget the geography of the country after so many years absence, if you examine the map you will see Valle Crucis Abbey stands on a small tributary of the Dee; and the number of manufactories, and the Ellesmere Canal from Llandrillo through Llangollen, may have almost driven the grayling, formerly existing there, higher up the river into the more congenial part between Corwen and Bala, though contrary to our pre-conceived notions as to their habits. But here comes something approaching to legal

evidence in support of the whole "supposition," namely a tradition. My authority was fishing in the neighbourhood of Llangollen; and, first of all, he did take a grayling in the Dee close to the town; secondly, he tells me, that in the course of his peregrinations, he went up the Dee on the left bank beyond Llandrillo and above where the Ellesmere Canal receives its first mouthful of water, he came to a wood on the banks, called "Grayling Wood," and the very spot was shown him where "tradition" says the monks first turned the grayling into the river!

*Cath.:* To say the least of it, it is a tradition interesting in relation to the question, and worthy of much further inquiry. And as far as I know, there are no Catholics in that neighbourhood at the present day who could have invented that tradition. There is also another view to take of it. It is considered that monastic establishments were very numerous in the early existence of Christianity in Britain. When Christianity was first introduced is not ascertained, but there is reason to believe it was somewhere about the middle of the first century. Between that and the end of the second, the Venerable Bede tells us, there were three archbishops and 28 bishops established for the government of the British Church. Christianity flourished, and grew till the invasion of Hengist and Horsa in A.D. 449. Many abbeys were endowed, many monasteries established, earlier perhaps than the days of St. Ambrose. Especially do we find this to have been the case in Wales, as at Bangor, Bethkelert or Bethgelert, and Bardsley. At Holyhead, a monastery was built A.D. 380. Then we find that the Bishops of Britain were in the habit of joining the ecclesiastical Councils on the continent, which would give them opportunity of procuring this fish, and that, at the Council of Remini in the year 359, although they were forced for a time to subscribe in favour of Arianism, they immediately on their return to Britain recanted, showing how unpopular was that doctrine. St. Ambrose being about that time the mighty assailant of Arianism, they could not have failed to admire him, and with him to have admired and perhaps to have adopted his tastes, and, with his tastes, his love for and admiration of this fish, the grayling. Thus then we show both the opportunity to obtain, and the probable inclination of the monks of old to possess this fish in the streams of Britain. Then, to deal with the objection about their non-existence at Valle Crucis Abbey, but higher up, in another way. On the Saxon invasion Christianity declined and Druidism revived in England. But in Wales Christianity still flourished. The monks of England being driven out, some resorted to Wales, and settled in many parts and places in monasteries of which time has now left no trace, they themselves, or, rather, their representatives, returning to England about A.D. 597, when, in the reign of Ethelbert, St. Augustin restored Christianity to England. That many monastic establishments had existed besides those which were kept up at the time of the Reformation, there is no doubt. Thus, to name one in Merionethshire, the only one at that period existing to glut the appetite of the tyrant was that at Kinner: while we find still standing the ruins of an abbey at Llanelltydd: and that the monks did not always remain in their first abodes appears by this one chronicle, that at Wigmore in Herefordshire "an Augustine monastery was established in 1100; but for want of water and convenience shifted up and down and finally settled into a stately monastery a mile beyond that town." Thus I would argue in favour of the probability of the existence of a Monastic establishment between Corwen and Bala, and near other streams containing grayling, though all traces of Ruins may now be lost. *E. C.*

## Home Correspondence.

*Heating and Ventilating.*—I have seen it stated somewhere in reference to Sir William Armstrong's observations upon coal, made at the last meeting of the British Association, that "the extent of our coal fields is pretty accurately estimated at 80,000 millions of tons, and that if our annual consumption advances at its present rate, we should run through this in about 200 years." At that distance of time none of us now living will be warming ourselves at terrestrial fires. Nevertheless it becomes a question whether we should, regardless of the future, be wasteful of that which is of so much benefit to us as a nation. I say we should not; on the contrary, we should be as careful of this description of subterranean wealth as we would be of gold itself did it exist among us under similar circumstances. With the necessity of using it with economy I have long been impressed, and in furtherance of that desideratum, I have adopted a plan in connection with my fire-grate, the employment of which not only effects a great saving of fuel, but at the same time the apartment in which it is in operation is efficiently warmed and thoroughly ventilated. The plan in question is nothing more nor less than the much abused Polmaise system of heating, not applied to plant structures, but to my dwelling house, briefly as follows:—In the first place I had my floor taken up, and a hollow cold air chamber made below it 18 inches deep, with openings into it from the outside of the house, and outlets from it into a warming chamber formed around my fire-grate (the latter a patent contrivance of my own). The cold air after being heated is admitted into my room through suitable apertures in the breast of the chimney, capable of being regulated as desired, and also at the further end of the room near the ceiling. When the fire is fairly lit I can burn the waste from my other fires, consume the smoke, and produce a most agreeable healthy circulation of air without wasting heat; and what happens in one room can easily be obtained in every apartment in the house, the chimney during its whole length being in my case converted into a warming chamber, and the smoke carried up it in a pipe. In this way I have not only an open fireplace, with the cheerful appearance of which, on a cold winter night, few Englishmen would care to dispense, but I have also perfect and thorough ventilation, with warm air, freed from all vitiating influences. In fact, I can secure the climate of Italy without having the trouble of going there, the atmosphere of my rooms being at all times invigorating and healthy. In the apartment in which my stove is in operation, fogs never exist, although in foggy weather other rooms in the house not thus heated are full, a point of much importance to persons affected with pulmonary diseases; and under such a system, in connection with improved drainage, I am sure no blood-poisoning from breathing impure air, which has proved so fatal of late, could possibly take place. The sooner therefore so inexpensive an alteration of even our open fireplace is adopted, the better for the health of our now over-crowded towns. I have devoted much of my time to the study of heating and ventilating, and I am convinced that the plan just described is the best that could be put in operation either in the houses of rich or poor. The saving of fuel it effects alone ought to render its adaptation desirable. But what is good for man, as far as free circulation of air is concerned, is also good for plants. And therefore I think that the Polmaise system of warming should be once more tried in our hothouses. We failed before in not making our warm air chambers large enough; with plenty of room I would have no fear of satisfactory results. If these remarks should induce any gentleman to try the experiment, I have not only good plans but models in my possession, the working of which I should be happy to explain. *J. Newton*, 30, *Eastbourne Terrace, Hyde Park.*

*The Crow a Pine Planter.*—You pointed out the other day the beautiful adaptation of animals and plants to the countries and localities best suited for their growth. In the accomplishment of this, the crow is sometimes made a propagator of Scotch Fir. In one of the Pine-clad straths of the Highlands of Scotland I have frequently seen great numbers of crows pass over my head, carrying in their bills to a neighbouring hill something resembling a Potato. I first thought that they actually did carry Potatos there for convenience of eating them, but on closer observation I saw them dig a hole in the ground with their beaks and then deposit what appeared to be a Potato, but which upon examination proved to be cones from Fir trees. For what purpose they placed them there I am unable to say, but the result was that in a few years young Firs began to spring up in all directions. A beginning thus being made the hill was planted and enclosed, and it is now covered with a beautiful and thriving plantation of Firs. The natural forests of this district are fast disappearing, to be replaced by the hand of man. Nothing, however, can be more instructive to a thoughtful and inquiring mind than the study of the ways and means by which an ever-watchful Providence sometimes carries on Nature's work. The mountain torrent spreads ruin and devastation in its onward course, but the hand of Nature soon repairs the unsightly spectacle. The winds, the rains, and the birds, all unconscious, do their allotted appointments, and clothe the disfigured landscape with beauties which it never possessed before. *J. Thomson, Leeds.*

*Diseased Grapes.*—In a house of late Grapes in which cutting has just commenced, the crop was good and apparently in perfect health. A few evenings since, when the gardener left the house, nothing appeared wrong about them, but about ten hours afterwards he found every bunch covered with mould, so thick that it was hopeless to attempt to wipe it off, and we were obliged to sacrifice the whole crop by cutting it. A great part of the Vine border is covered, almost matted, with self-sown Mignonette; there have been also some Gourds and some Sweet Peas grown on it during the summer. Can these by keeping the surface constantly damp have occasioned the damage, or can it be attributed to any other cause? In former years we had mould show itself in a slight degree, but we have always been able to check it by the application of brimstone. *An Original Subscriber, Tonbridge Wells.*

*Vine Borders.*—I shall feel greatly obliged if some of your very able correspondents will favour me with their advice on the following point. Early this last spring I erected a range of new Vineries. The Vines have grown well, having been planted early in the spring; they are strong and vigorous, and have run up to the top of the houses. The Vine borders are 18 feet wide, soil 3 feet deep at the parapet of the houses, sloping down to 15 inches deep at the bottom of the wall. The border is made of decayed turf, bones, soot, and the best and driest soil we could find; under it are placed a good layer of broken stones and brick ends and a good drain also. My gardener wishes to continue the Vine border under the gravel walk at the foot of the Vine border of 18 feet wide. I am of opinion the roots of the Vines will be better confined to the border, so carefully prepared and drained, but I am distrustful of my own opinion, and shall be very grateful for any advice that will kindly be afforded me. *An Old Subscriber.*

*Scolytus destructor.*—In reply to "W. B. Page" (p. 990) I have to observe that I thought I had been sufficiently careful in my note about the Southampton Elm trees (p. 966) in stating that the small branches submitted to my examination showed no traces of the attacks of Scolyti, and that the gnarled wounds were attributable to some other cause. That the trunks of the trees are infested with Scolyti was, indeed, only too probable from the numerous specimens sent to me, but the precise mischief submitted for opinion was not their work. And in the state of the question respecting the attacks of these insects on healthy trees, or only on already diseased trees, it was absolutely necessary not to widen the discussion by charging the Scolyti with mischief which they had not committed. *J. O. W.*

*Rooks.*—On Sept. 27 I was passing the grounds of the Rev. W. Molyneux, Elmsett Rectory, 4 miles distant from this town, when I observed a rook carrying sticks for building a nest. I saw the gardener and called his attention to the fact, when he said that he had noticed it the day before. I asked him to watch progress, and on Oct. 13 I was informed that the rook had completed her nest, and that she had then been sitting two days. The nest in question is built upon the top of a Scotch Fir. As this must be regarded as a somewhat uncommon occurrence, should she be successful in hatching, I will inform you when it takes place. *John Stopher, Hadleigh, Suffolk.*

*Potatos.*—We have seen the following note concerning the Mona's Pride, addressed to Mr. Rutledge, of Douglas, by one of our most distinguished cultivators:—"Your Mona's Prides are a signal success; the crop has been wonderful, the size of the Potatos large, and the quality excellent. You may safely recommend them to every lover of the most indispensable of all vegetables."

*Orchard Houses.*—The discussion which has taken place in your Paper as to fruits coming to their full flavour when grown under glass induces me to send you a specimen of Northern Spy Apple grown in a pot which was never removed from the Orchard house. There were three Apples in the cluster; the third having a decaying spot in it, we ate it yesterday, when it was considered full flavoured. *George J. Wilson, Gishurst Cottage, Weybridge.* [Finer flavoured specimens we never tasted of this, the most delicious of United States Apples, as well as one of the very finest of table varieties. We prefer it to the best Newtown Pippin.]

*Japanese Grass.*—Of the different materials used for tying plants this is by far the best. It is incredibly strong, very lasting, and it may without waste be split up into such fine threads that when used it is scarcely visible. It is cheap, and may now be had of all London nurserymen. *J. Rust, Broome House, Fulham.*

*Swallows.*—In your Paper of the 10th inst. I notice some observations from correspondents on the unusual lateness of the swallows in taking their autumnal departure from our shores this year; one having observed them as late as September 10, and another as late as October 1. I beg to say that I saw swallows here in great numbers, flying about as at midsummer, on October 12; I have not seen one since. I remember making a memorandum last year on the boards of my garden cot, that I had seen swallows on October 12. I have often seen them here in the last week of September, but never so late as the 2d week in October before this and the year 1862. *T. Lightfoot, Bank House, Accrington, Lancashire.*

## Societies.

Entomological: *October* 5.—Francis Pascoe, Esq., F.L.S., Vice-President, in the chair. W. W. Saunders, Esq., F.R.S., exhibited specimens of the larvæ of Agrotis segetum, which he had found extremely injurious in his Turnip fields, near Reigate, at first gnawing the roots just below the surface of the ground, so that it was not possible, without disturbing the soil, to detect their presence until they had committed a certain amount of injury, evidenced by the yellow state of the leaves. He had not been able to discover any satisfactory remedy to stop their ravages. Mr. Stainton gave an account of the transformations of the rare Anesychia bipunctella. He also exhibited specimens of a gigantic species of Tortricidæ (T. grandævana), the larvæ of which when about to assume the pupa state form cylindrical cases of sand (on the coasts of the Baltic), which, after gales of wind, are exposed and left standing upright to the height of 2 or 3 inches. Professor Westwood exhibited cases formed by the larvæ of Psyche helicina of Siebold, composed of silk spun into spiral tubes, and externally coated with fine particles of mould; also specimens and drawings of the small stingless honey bee of Australia and its waxen nest: together with the larvæ and perfect insects of a new species of Nitidulidæ which feed on the wax, communicated by Mr. Woodbury; and the cases of a small species of Trichoptera (Silo pallipes) together with its parasite, the rare Agriotypus armatus, one of the most

remarkable species of Ichneumonidæ, of which he described the economy. Mr. F. Smith also forwarded a note respecting the Australian honey bee and its parasitic Nitidulidan. Mr. Bates and Mr. Cutler gave an account of the ravages of several large species of Bruchidæ (Caryoborus, sp.) on the seeds of different kinds of Palms collected in South America, and sent to England, some of the nuts containing as many as five of these larvæ, which are at times so numerous that entire cargoes have been destroyed by them. A paper was read upon the small ant found infesting a house in Guildford Street, in great numbers, by Mr. J. Young. Mr. Baly read a paper containing descriptions of new species of Phytophagous beetles, chiefly from India, Australia, and the islands of the Eastern Archipelago. And Mr. Stainton gave a condensed account of the Entomological proceedings of the recent meeting of the German naturalists at Stettin, under the presidency of Herr Dohrn.

## Notices of Books.

*Subtle Brains and Lissom Fingers.* By Andrew Wynter, M.D. Pp. 446. Hardwicke, Piccadilly. 1863.

Under this title we have a capital book by Dr. Wynter, containing about 40 papers on a variety of subjects. Dining Rooms for the Working Classes—Railways and City Population—Vivisection—A Day with the Coroner—Half Hours at the Kensington Museum—Air Traction—Doctor's Stuff—The Bread we Eat, &c. These papers are full of information, and are written in a lively style; most of them have appeared in the pages of "Once a Week" and the "London Review." The publisher has done well in obtaining Dr. Wynter's permission to collect them for the general reader, in a good well-printed volume.

In the article on "The Restoration of our Soil" we are reminded how the leading journal most absurdly startled us, a few months ago, by stating, on the authority of some great names in the domain of Chemistry, that the vegetable mould of Europe was gradually becoming exhausted; that our system of farming was, in fact, drying up the source of our daily bread; and that our over-stimulated fields required to revert to their primal condition of wood, and forest, and bog, to bring them back to a wholesome state of fertility. Dr. Wynter remarks:—"It must have struck every thinking mind with wonder, that while our farmers are depending upon the refuse of flocks of birds in the islands of the South Pacific, and upon the bleaching bones gathered from distant battle-fields, the refuse of man himself lay decomposing beneath his feet in great cities, and giving forth exhalations which poisoned him in his own household," and proceeds to give his own views on the question, founded upon the evidence contained in what he designates one of the most important Blue Books ever published, "The Second Report of the Select Committee on Sewage of Towns."

A short paper on "The Working Men's Flower Show," is likely to interest our readers.

"A few individuals a year or two since, at the suggestion of the clergy of St. George's, Bloomsbury, formed themselves into a society for giving prizes to the working classes, for the best flowers grown in pots and windows. To insure their being really tended by the proprietors and not bought for the occasion, a rule was instituted that the plants should be entered at least six weeks before the adjudication of the prizes, between which times they were visited and watched by the gentlemen interested in the movement. By this means a genuine exhibition was insured, and the show took place in July last, in the garden of Russell Square. The plants were ranged in a gay tent, and certainly did credit to their growers. Decidedly the best show was made by the persons living in Little Coram Street. If the reader happens to know that dingy neighbourhood, he will be able to appreciate the merit of rearing fine Geraniums and Fuchsias in its dark and noisome courts. . . . But still more touching was it to see, attached to some well-grown plant, such a label as this: "Grown in the Workhouse by ——." We all know what consolation the little Picciola plant was to the prisoner in the grim Austrian fortress; and doubtless the "Balm Geraniums" which flourished so kindly in the workhouse, gave new heart to some poor inmate.

"The plants exhibited by the children of the different schools were generally grown from seeds. The stone of a Cherry, or the pip of a Lemon or an Orange dropped into the flower pot, has engaged the care of little urchins for months, and the result is a series of little seedling trees. This may be a small matter horticulturally, but morally it is a large one. With the dropping of this little vegetable seed in the earth, there is also a dropping of good seed into the heart, which one day will bear good fruit. Side by side with the flower-show movement for the working classes, is another, called the 'Clean and Tidy Room' movement, and it will not surprise the reader to hear, that many of those who carried off the prize for the best plant, also gained the prize for the clean room."

Dr. Wynter's profession leads him to the study of mental disease, and he treats his readers to a "bit of the shop" in his last paper, entitled "Early Mornings," wherein we are informed that in this busy toiling money-making world, "there is an immense amount of latent brain-disease in the community, only awaiting a sufficient exciting cause to make itself patent to the world."

Starting with this notion, the Doctor would have us watch narrowly the relative who should offer to help us to pudding when there is only pie upon the table, or who should bid us take a glass of sherry, and immediately correct himself and say "I mean port." This we think absurd. It may, however, be true that most persons are more or less afflicted with incipient brain disease, and the worthy Doctor will excuse us for having looked with a little suspicion at certain morbid symptoms in himself, induced apparently by the oppressive sight of anything uniform; thus a row of similar houses with knockers of the same pattern, must he opines be highly dangerous to the sanity of the unfortunate policeman in his monotonous beat. A series of houses papered with the same pattern is also manifestly an exciting cause to the Doctor; but enough of this, everybody will have his idiosyncracies, and the old saying is still true—"*Nemo mortalium omnibus horis sapit.*"

Books Received.—Three Prize Essays on *Physical Education*, written for the Athletic Society by Luke Owen Pike, M.A., Lord William Lennox, and Rowland Evans. The first takes the high classical ground "that sound bodily health is a virtue, and that athletic exercise is one of the modes of practising it. Health, in its true sense, includes all the virtues." This is the production of the M.A. The noble lord describes for us the "Ludi Circenses." The unadorned commoner describes "the exercises best calculated to develop the muscular system."——*Handbook to the Calculator and Letter Box*, by J. S. Laurie (Longmans), is a small pamphlet to explain an ingenious method of giving children a clear and definite conception of number. Sad to relate, it even talks of teaching fractions to infants. What a mistake!

## Garden Memoranda.

Chillingham Castle.—This, the seat of the Right Hon. the Earl Tankerville, is situated in the northern division of the county of Northumberland, about four miles distant from the town of Wooler. The Castle stands on the sloping side of a hill facing the north-west. On the north-east is a deep valley, containing very large trees, principally Wych Elms, among which are great numbers of serpentine walks, which form pleasant retreats in summer.

The Castle itself is a very ancient building, to which some later additions in the Elizabethan style of architecture have been made. The parapets are all castellated, and a castellated wall carried some 400 or 500 yards west of the mansion forms the retaining boundary of the flower garden. The approach from the Wooler Road runs through a fine avenue of Lime trees planted 30 years ago, and now in vigorous health; they are 40 feet high, and are placed rather close to the road, with the view of their ultimately forming a leafy arch over the carriage way.

The flower garden on the north-west side is entered through a door in the retaining wall just mentioned. This garden, which is about 450 feet long and 360 feet wide, is laid out in geometric shaped beds, and the mixed style of decoration is that here adopted. A rough stone wall at the end of the flower garden is covered with the beautiful Fern Asplenium Trichomanes. Another wall is partially covered with creepers, among which Wistaria sinensis is a prominent feature. A ribbon border carried along under the wall is planted with Lobelias, Golden Chain Pelargoniums, Calceolarias, Scarlet Pelargoniums, Dahlias, and Hollyhocks. The beautiful Lonicera aureo-reticulata is introduced as an edging plant, and if found to produce sufficient leaves, it will be a most desirable plant for that purpose. There are four large squares of Grass in the centre of the garden, and outside of these are beds containing herbaceous plants in the centre, and ordinary bedding plants round the outside. Dahlias, Hollyhocks, and Phloxes, are largely used amongst herbaceous plants, and altogether the effect produced is good. Amaranthus melancholicus ruber succeeds well here, but Coleus Verschaffeltii fails entirely; let us hope that the former at least may continue to withstand our ordinary summers as well as it has done this season. If so, it will doubtless prove one of the handsomest of foliage plants employed for the lasting decoration of our flower-gardens.

A broad flight of steps, 28 in number, connects the flower garden with the pleasure ground on the south side of the Castle. Half way up the steps is a broad landing, on a level with which is a grassy terrace overlooking the flower garden. The south front of the Castle is partially covered with climbing plants, among which are Jasmines and Roses, 20 feet high; and some portions of the wall are covered with Ivy to the very top. A flower border made close to the house is edged with a stout stone kerb, and filled with gay flowering plants; this is the only border for flowers on this side. The lawn, which is about 4 or 5 acres in extent, contains some fine Hollies, also some very large trees of the Wych Elm. On the north front an inclosure of about 2 acres contains some specimen Conifers, also Limes, Oaks, and Maples, &c. All the Deodars and Araucarias were killed during the severe winter of 1861.

The kitchen garden lies a short distance N.E. of the Castle; it is 3½ acres in extent, and has a good wall on three sides and across the centre; there is also a low wall on the north-west side. A Vinery 100 feet long, divided in the centre, contains in the first division, Muscats, Chasselas Musqué, and Black Hamburgh Grapes. Mr. Bowie, who has been gardener here for upwards of 20 years, is trying the effect of cutting the stems of the bunches of Chasselas Musqué nearly through, to prevent the berries from cracking, but apparently with little or no effect, the bunches so treated being cracked as badly as those not operated on. The back wall is covered with Figs. The second compartment is planted principally with Black Hamburghs, which were, when we saw them, bearing a good crop. At the end of this Vinery is a Fig house, 45 feet long and 17 feet wide; the Figs are all grown in pots and bear abundantly; the kinds that answer best are White Ischia, Brown Turkey, Angelina, and Figue d'Or. These trees are kept in the house all the year round, and bear two or three crops during the season. They are root-pruned every second year. In front of these houses are long borders for flowers. Stocks and Asters are grown here in fine condition; also many other plants. Against the wall are some very large Apricot trees, bearing good crops. The Moor Park is the variety generally grown; there is, however, another variety called Walton Seedling, but it is inferior to the Moor Park.

Pear trees on walls are bearing fine crops, and many kinds of Pears also ripen well on standard trees. Peach trees were all killed during the severe winter of 1856, and this description of crop is so very precarious in this northern latitude that the trees have not been replaced.

Many walks run through the park in various directions; and near the Castle a great many Wellingtonias and other rare Conifers are planted. The park contains from 1500 to 1600 acres within the boundary line, and in some places is very diversified, part being high hills, the rest flat table land; it contains a great quantity of timber, but none of large size. Mr. Hardié, the steward who has the charge of the estate, has thoroughly drained a great portion of the park, and the improvement made in the land is plainly visible, for good herbage is taking the place of Rushes and similar plants. This park contains the only herd of wild cattle in England. They are of medium size, white, with dark ears and very long horns, and are highly prized by Lord Tankerville.

Mr. McKenzie's Nursery, Kemp Town, Brighton.—It will be recollected that when new and old Black Hamburgh Grapes competed for the mastery at South Kensington last January, the best bunches of new ones were furnished from this Nursery by Mr. McKenzie. These were produced by Vines which, when they came into Mr. McKenzie's possession, were in a very bad state, so bad indeed, that in 1859 the crop was cut at pruning time, and not one bunch was saleable. Next year the Vines were started early, the season after that still earlier, and so on until the year in question, when the first crop was cut in February. The Vines were then rested until August, when the house in which they were growing was shut up, and even with very little fire when setting, and none when colouring, perfectly ripe and good fruit was obtained on the 1st of January. Had the Vines been in more vigorous health, the result would doubtless have been even more remarkable; but as it was the produce brought 30*s.* a pound in the market, a price which Mr. McKenzie states paid him very well for his labour. He is, however, of opinion that more credit is due to the cultivator who can ripen first-rate new Grapes on the 1st of March than to one who can provide them in January; but he adds that the prices obtained at the latter season are generally the highest. Grapes are grown largely here for sale, occupying as they do from 300 to 400 feet in length of glass. Among other varieties we noticed the original plant of the Marchioness of Hastings, a Grape raised in this nursery by the late Mr. Mitchell; also the stoneless Sultana Grape of the shops, and a fine crop of West's St. Peter's, which will keep very well until Christmas. Large ranges of glass are also occupied by Peach trees in a good bearing state, and by plants for sale. The nursery altogether consists of about 4 acres of ground, well cropped, and in excellent condition.

## Miscellaneous.

*Earthquakes in Japan.*—In this part of Yedo there is a celebrated Buddhist temple named Eco-ying, which was erected to the memory of 180,000 human beings who lost their lives in one night about 150 years ago. As the story runs, on that night occurred one of those fearful earthquakes which so heavily afflict this beautiful country. Houses were thrown down in all directions, and hundreds were buried alive in the ruins; conflagrations naturally followed, and this city of wooden houses was almost destroyed. The natives of the country seem to dread these earthquakes even more than the

foreigners who are now located amongst them. An intelligent Japanese, who spoke English well, expressed his fears that his country would one day disappear from the surface of the globe, and sink down under the waves of the ocean. He had been told that an island out at sea, once fair and verdant, covered with people and houses and trees, was now nowhere visible, and that ships sailed over the spot where it once was. Earthquakes are so common in Japan that meteorologists have a division in their tables in order to mark their occurrence. Dr. Hepburn, to whom I am indebted for a table showing the temperature of Kanagawa, has one of these columns in his table. By a reference to it it will be found that from the 1st of November, 1859, to the 31st of October, 1860, no less than 28 shocks had been felt. In November, 1861, four are marked, and in February, 1861, there are the same number. This will give some idea of the frequency of the shocks, and of the volcanic nature of the country. When we consider how often these earthquakes happen, and how awfully violent they sometimes are, it is scarcely to be wondered at if the natives of the country view them with feelings of awe and dread, and express their fears that some day their fair and beautiful land may disappear in the waters of the sea. *Fortune's "Yedo and Peking."*

*How to Grow Disa grandiflora.*—Many attempts have been made to cultivate this Disa since its first introduction in 1832, but most of them have failed in consequence of inattention to the peculiarities of the constitution of the plant. About two years ago, when a fine specimen, which I had had under my care for two years, flowered splendidly, I gave an account in the *Flore des Serres* of my mode of cultivation. I return to the subject now, because winter is approaching, and it is then that the plant requires the greatest care, a fact which is not even yet sufficiently known. Unlike the generality of plants, which require rest in winter, Disa grandiflora ought then to be in full growth. To give it rest between November and March is to destroy it; and this explains why all efforts to keep the plant in health used formerly to fail. In its native country Disa grandiflora grows on the banks of still waters; its roots being submerged in winter, and dry throughout the summer. It is in October that with us the plant ought to begin to vegetate. Young plants may be advantageously put into pans about 6 inches wide and 3 inches deep, for as the roots spread laterally rather than strike deeply, and as the Disa propagates itself by suckers, such pans are most convenient. The drainage, whether by stones or Moss, must be good, and the earth should be a good healthy soil or rather a rich fibrous peat. In such a soil I have succeeded in getting three flowers on each stem instead of two, which is the common number; and in the same soil a young plant which had not, in December, a healthy root, began to grow well before the middle of January. In order to favour the production of roots, the Disa should be placed in a greenhouse near the glass, and be syringed once or twice a day; and the syringings (as the roots grow) and the season advances, should become more frequent, until they reach three a day. The plants do not grow well until the roots are fully developed, which they usually are, according to my experience, in January; then it is time to shift the plants which are strong enough to flower, to a place near the sashes of a hot-house, for they can bear a great deal of heat at this time. Syringing should be kept up three times a day: this does instead of other watering, and keeps off the insects, which might otherwise do mischief. If the plants are strong, flower buds will appear in March or April, and will expand in April or May. The flowers last six weeks or two months, and in this respect Disa surpasses Sobralia. Weak plants indeed very often flower, but they only produce one flower, and for this reason it is better to let them remain in the greenhouse. After the flowers have appeared, less water should be given, and the plants should be removed to a cool shady place in a greenhouse or in the garden; by this means the beautiful blossoms may be kept fresh much longer. The same should be done with those plants which have not flowered; they should be placed in a shady place in the garden, and be syringed less and more lightly; for summer is their time for rest, and the object is to keep them dormant until October, when they should be treated as described. The trouble will be more than repaid by the appearance of numerous flowers, unsurpassed for their exquisite beauty. *Stelzner in the Journal d' Horticulture.*

*Mr. Fortune's Japanese Plants.*—The two days' sale terminated on Thursday with a total result of some 600*l.* or 700*l.* Among the more remarkable lots the following fetched the prices here annexed:—Aucuba japonica vera, from 5*l.* 10*s.* to 9*l.* per plant, varying from 2 to 3 feet in height; Euonymus radicans variegatus, from 18*s.* to 4*l.* 4*s.*, ditto; Lilium auratum, from 2*l.* 4*s.* to 5*l.* 10*s.* per plant; similar lots of Sciadopitys verticillata, from 2*l.* 15*s.* to 3*l.* 10*s.*; Double-flowered Deutzia crenata, from 1*l.* 5*s.* to 2*l.* per lot of one plant each; Eurya latifolia variegata, from 1*l.* to 2*l.* 12*s.* 6*d.*; Retinispora pisifera, and others, from 1*l.* to 4*l.* 8*s.* per plant; similar lots of Ilex Fortuni, from 17*s.* to 1*l.* 7*s.*; Osmanthus ilicifolius and its variegated variety, from 15*s.* to 1*l.* 12*s.* per plant; Thujopsis dolabrata variegata, from 5*l.* to 13*l.* per plant. These were the original imported specimens. Other lots, of which there were in all 628, fetched from 5*s.* to 30*s.* per lot.

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

Conservatory, &c.—In cool conservatories and greenhouses damp or insects soon do irreparable injury to soft-wooded plants at this season, and these must be attended to if the plants are to be wintered in first-rate condition. Pelargoniums should be kept rather cool and dry, giving whatever water may be necessary on the mornings of fine days, so that the superfluous moisture may be dried up before the evening, avoiding the use of fire heat except when necessary to prevent the temperature falling below 40°, or to dispel damp when this cannot safely be done by giving air. Calceolarias require very similar treatment, except that they are subject to the attacks of thrips, unless afforded a moist atmosphere; they must therefore be narrowly watched, and fumigated lightly two or three evenings successively if this pest makes its appearance, keeping the atmosphere moist and giving air on every favourable opportunity to prevent the foliage from flagging. Cinerarias for late blooming must also be kept cool and airy, and should not be allowed to suffer from want of pot room. These must not be trusted in cold pits after this season, for they cannot endure frost without injury. Plants intended to flower early should be encouraged with a gentle heat, keeping them near the glass and admitting air whenever it can be done. Attend to Hyacinths and other bulbs, and introduce them into heat as required.

### FORCING DEPARTMENT.

Pinery.—Water plants in pots as little as possible at this season. Where the general stock is grown in this manner it is a good plan to cover the pots over 2 or 3 inches with the plunging material; where the bottom-heat will permit that to be done it obviates the necessity of watering so frequently.

Vineries.—Where forcing is commenced be careful to maintain a properly moist state of the atmosphere, and this must be especially attended to in the event of severe weather, particularly when the buds are bursting. The evaporating troughs must be kept constantly supplied with water, and the paths, bed, &c., should be frequently syringed. If fermenting material is used for warming the border, this must be well covered with dry litter, and turned occasionally, adding some fresh material as may be necessary to keep the heat in the border regular.

Peach-houses.—Take advantage of rainy weather, should it occur, to prune, wash, and tie such trees as have not already undergone these operations.

Cucumbers.—Look sharply after woodlice, which sometimes do much mischief in little time to young plants. A cooked Potato put into a flower pot and covered with dry hay or Moss is a good trap. The best of all remedies however is Mr. Cutbill's plan of pouring boiling water round the insides of the pit or house close to the walls, care being taken not to injure the roots. Bearing plants in pots or boxes will now be benefited by being top-dressed with rich soil.

### FLOWER GARDEN AND SHRUBBERIES.

Examine pillar and trellis Roses, and if the weather continues favourable see if the soil wants renewing or the kinds changing. For choice sorts roomy holes should be made capable of containing three or four barrow-loads of well prepared soil. Turfy loam of good quality is the chief thing; to this add a portion of rich rotten manure, and, if at hand, a little sandy peat or leaf-mould. Crocuses may be planted whenever the weather is favourable; they like a deep, light, rich sandy soil; but will thrive in any ordinary soil or situation. In planting, the bulbs should be covered from 2 to 3 inches with fine mould; and if an effective display during the first season is desired, plant thickly—not more than 2 inches apart. For edging borders and beds the Crocus is also exceedingly useful; and, where planted in lines along the margin of walks, or in clumps of 3, 6, 12, or more bulbs each, and allowed to remain in the ground for several years, the effect of the masses of flower which they produce is all that can be desired. We have seen a very effective display in a flower garden in March, produced by each bed having a broad edging of Crocus, the colours being nicely arranged and contrasted. This may be secured without interfering with either the spring or summer occupants; for the bulbs may be planted close to the outside of the bed, where they will scarcely be in the way, either in digging or in planting. Unless the bulbs become too numerous, and the leaves spread over more space than it may be desirable to have covered with them, they should not be disturbed, as they bloom more profusely when well established. Care must be exercised, however, to protect them from mice, which are exceedingly partial to Crocuses, especially in winter. For blooming in-doors, either in pots or in any of the various contrivances that are used instead of pots, strong bulbs should be selected, planting them in succession, and keeping the crowns slightly under the surface of the soil; place them in any dark cool situation, for three or four weeks, to allow of their making roots, before exciting them into growth. If pots are used—and these are doubtless the best, if not the most ornamental—use good rich, sandy soil, and secure perfect drainage; for a liberal supply of water is required during the blooming period, and if the drainage is defective, the soil is very apt to become soddened in consequence.

### HARDY FRUIT AND KITCHEN GARDEN.

Trench, dig, and ridge every spare inch of ground while the weather will permit these operations to be advantageously performed. This is particularly to be observed in gardens the soil of which is of a clayey nature. Prepare a plot of ground directly for the earliest Peas by thorough digging and manuring; they may be sown now while the weather is favourable. A few Mazagan Beans may also be planted at the same time. Let all Carrots be taken up and stored away, likewise Beet; a few Parsnips for present use may be taken up; they will, however, keep well in the ground, and thus circumstanced they may have a coat of manure spread over them for the next crop and trenched out as wanted. Some recommend to cut the head of the Carrots completely off below the neck, thus checking their tendency to grow. They may then be put in pits like Potatos, raising a sharp ridge over them to keep out wet. Proceed with pruning fruit trees as soon as the leaves are fallen; let nothing of this sort remain till spring, which will bring its own labours. Get all superfluous nails and shreds drawn soon, in order to furnish in-doors work in bad weather.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Oct. 21, 1863, as observed at the Horticultural Garden

| Oct. | Moon's Age. | Barometer. | | Temperature. | | | | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Of the Air. | | | Of the Earth | | | |
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 15 | 3 | 29.595 | 29.515 | 62 | 44 | 53.0 | 56 | 56½ | S. | .14 |
| Friday 16 | 4 | 29.845 | 29.750 | 65 | 39 | 52.0 | 55½ | 56 | S. | .04 |
| Satur. 17 | 5 | 29.965 | 29.880 | 66 | 35 | 50.5 | 56 | 56 | W. | .00 |
| Sunday 18 | 6 | 30.106 | 30.026 | 65 | 40 | 52.5 | 56 | 56½ | S.W. | .00 |
| Mon. 19 | ☽ | 30.036 | 30.007 | 65 | 51 | 58.0 | 57 | 57 | S.W. | .01 |
| Tues. 20 | 8 | 30.030 | 30.002 | 63 | 47 | 55.0 | 57 | 57 | N.E. | .01 |
| Wed. 21 | 9 | 30.100 | 30.064 | 64 | 45 | 54.5 | 57 | 56½ | N.E. | .00 |
| Average. | | 29.953 | 29.892 | 64.3 | 43.0 | 53.6 | 56.3 | 56.5 | | — |

Oct. 15—Rain; foggy, fine at night.
— 16—Fine, with clouds; slight rain; fine.
— 17—Slight drizzle; clear and fine; cool at night.
— 18—Partially overcast; fine throughout.
— 19—Overcast; cloudy and rather windy; slight rain; fine and mild.
— 20—Overcast; shower; fine at night.
— 21—Foggy; hazy and mild; very fine.
Mean temperature of the week 4 deg. above the average.

STATE OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Oct. 31, 1863.

| October. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 25.. | 55.9 | 38.9 | 47.4 | 18 | 0.80 in. | 4 | 6 | 5 | 3 | 4 | 7 | 5 | 3 |
| Mon. 26.. | 55.4 | 36.7 | 46.0 | 15 | 0.52 | 5 | 5 | 3 | 2 | 7 | 7 | 5 | 3 |
| Tues. 27.. | 54.8 | 39.1 | 46.9 | 23 | 0.92 | 2 | 6 | 3 | 1 | 7 | 6 | 7 | 5 |
| Wed. 28.. | 54.5 | 36.7 | 45.6 | 22 | 1.06 | 2 | 6 | 3 | — | 7 | 12 | 3 | 4 |
| Thurs. 29.. | 53.5 | 34.8 | 44.2 | 17 | 0.63 | 4 | 7 | 4 | 1 | 5 | 13 | 1 | 2 |
| Friday 30.. | 55.1 | 38.4 | 46.7 | 18 | 0.98 | 3 | 8 | 3 | 3 | 4 | 13 | 2 | 1 |
| Satur. 31.. | 53.9 | 38.3 | 46.1 | 20 | 0.88 | 1 | 4 | 4 | 2 | 2 | 13 | 7 | 4 |

The highest temperature during the above period occurred on the 29th, and 30th, 1833, 31st, 1854, and 28th, 1860—therm. 67 deg.; and the lowest on the 29th, 1843, and 26th, 1859—therm. 23 deg.

## Notices to Correspondents.

Books: Received with thanks, as a loan, Goll's Handbook, which shall be returned when fully considered. We must consult Indian botanists.—*A Subscriber* probably means Paxton's "Botanical Dictionary." Keep your Oleander in a good-sized pot, away from frost. In summer give it plenty of water and heat; in winter withhold the former.—*L T D.* Gordon's "Pinetum," to be had of all booksellers.—*Practical Botanist.* There is nothing exactly replaces the publication you mention. Seemann's Journal of Botany is the nearest, but it is dearer and more general; it has a plate however. We should advise you to get a specimen number of that; of the Popular Science Review, and of the Natural History Review, and make your own selection.

Insects: *J B C.* The grubs injuring the Grass of your lawn are the larvæ of the common cockchaffer. We are afraid that nothing but removing the turf and digging up the soil will stop them.—*S T P.* We believe the larger drawing represents the larva of Orthosa stabilis or mimosa; and the smaller one that of Mamestra Pisi. We should think the "Zoologist" might answer your purpose, or the "Weekly Entomologist." *W.*

Names of Fruits: *A Subscriber.* 1, Yorkshire Greening; 2, Beachamwell; 3, Blenheim Pippin; 4, Reinette du Canada; 5, Pomme Royale; 9, Swan's Egg.—*J T.* Comte de Lamy.—*J B.* 1, Gansel's Bergamot; 2, Easter Beurré; 3, Louise Bonne; 4, Norfolk Beaufin; 5, Boston Russet.—*G.* Louise Bonne.—*J L.* Crimson Queening.—*W H.* 2, Beurré Bosc; 3, Knight's Monarch; 1, Blenheim Pippin; 3, Gravenstein.—*P & M.* 2, Beurré Rance; 1, Winter Crassane; 4, Crimson Queening.—*W G.* 2, Wormsley Pippin.—*A Correspondent.* 2, St. Julian; 4, The large long Pear is Vicar of Winkfield, better grown than it usually is in our climate; 5, Doyenné Gris.

Names of Plants: *W C.* Possibly Staphylea pinnata; but no one can name with certainty wretched shrivelled leaves without flowers.—*A C.* 1, Rubus pauciflorus; 2, Catasetum integerrimum.—*G T.* Gossypium herbaceum.

Ribbon Border: *Eliza.* That at Theobald's Park alluded to last week consists of Lobelia speciosa, Pelargonium Bijou, Calceolaria Prince of Orange, Perilla nankinensis, and Pelargonium Lady Middleton. The Portugal Laurels in the flower garden, which is well furnished with Standard Roses of all the leading kinds, are not in tubs as stated at p. 991, but planted out in the open ground. Magnificent specimens of Portugal Laurels also line the sides of a walk leading to the Tennis Court.

Seedling Dahlia: *R Josling.* You should send it for trial next year at Chiswick, along with others of the same race. If it is only 2 feet in height it is likely to be just the thing wanted, the colour being a very cheerful rose, and the character quite that of a pompon.

The Egg Plant: *G A.* The common sort is not very wholesome. But if you have the large sorts called Aubergines or Brinjalls, then they make a capital side dish cooked in the following manner:—Split the fruit lengthwise, and take out the interior; throw the halves into strong salt water to extract the acrid matter from them; dry them in a cloth, dust a little fine pepper over them, put pieces of butter in and about them, and bake in a Dutch or any other oven, basting occasionally with the butter. Serve up hot. There are other ways, but none better than this.

TRADE

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MARK.

THE PEDIGREE WHEAT WAS AWARDED THE SILVER MEDAL BY THE JURORS OF THE CLASS "CEREALS FROM ALL COUNTRIES," AT THE MEETING, IN 1863, OF THE AGRICULTURAL SOCIETY OF DENMARK AT ODENSE.

The produce of 3 acres of this Wheat, grown 1862, in Essex, was sold to the miller, and realised £19 7s. per acre.

This Wheat produced in 1863 nearly 10 quarters per acre, weighing 63 lbs. per Bushel.

First half of October } DRILL 4 Bushels on { 8 acres.
Last „ „ } DRILL 4 Bushels on { 6 „

NONE IS GENUINE UNLESS THE TRADE MARK IS UPON THE BAG.

Apply to FREDERIC F. HALLETT, ESQ., F.L.S., The Manor House, Brighton, Sussex.

**PRICE—One Guinea a Bushel (or Seven Guineas a Quarter),**

Delivered, with Printed Directions for Planting, at the Brighton Railway Station, in Bags Sewed up and Sealed, upon receipt of Cheque or Post-office Order, which must in all cases accompany the Order.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing six stamps.

In every plant of Wheat, Barley, or Oats there is always ONE BEST EAR, and in every ear there is always ONE BEST GRAIN, which is that one found at the following harvest to produce the best plant, *all* the grains having been planted in competition with each other.

The best of all the competing plants of any "family" of a cereal is ascertained by the most studious comparison of the good qualities they visibly present, *and of the notes of the peculiarities exhibited by each during the whole course of its growth*, such as:—the rapidity with which the parent seed germinates; the manner, time, and extent of the "tillering" of the plant; the periods of its earing, blooming, and ripening; its power of withstanding disease, frost, wet, &c.; the *toughness* of its straw, and any other characteristics which are essential to forming a correct decision, and which cannot be determined by even the most careful inspection of the perfect plant.

This best plant is called "*the selection*" of the year (say 1861) in which it is thus obtained, and consists of numerous ears, containing many hundreds, and even thousands, of grains which are planted separately; those of each *ear* being kept quite distinct, as although the best grain of any plant is nearly always found to lie in its best ear, it may be otherwise, and the successive parent *ears* must be preserved. At the following harvest (1862), the best plant forms "*the selection of* 1862," and its produce is continued on the experimental ground, while that of the remaining plants furnishes the annual seed for the farm in the Autumn of 1862, and the crops are in 1863 offered to the public. Thus, the selection sold is that of 1861, or in any year that of two years before; *the latest selection, that of the year immediately preceding, is not sold, being solely employed as the home seed.* The separate ears of a plant are designated by different letters, numbers, or names—as A, Z, &c., and each, with its descendants, forms a "*family*" which may develope some valuable peculiarity.

Thus, all the "Pedigree Nursery Wheat" hitherto sold has been of a family called "A," while another family of the same Wheat known as Z having been observed to exhibit marked superiority has been continued separately, and has given a greater progress during 1862 than has been before obtained in any single year.

The original ear of the large published engraving contained up one of its sides 16 "ranks" (spikelets) of grains, while the "Z family" has produced ears of 18 "ranks," and this, without any increase in the *length* of the ear, the "notches" of the axis on which the spikelets grow being placed more closely together. In a small field of this Z family, ears with 17 "ranks" were quite common, while in other fields of the family "A," *not one such ear could be found.*

This family Z *is now for the first time* offered to the public, and is ready for delivery.

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ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.
AUTUMN SESSION, 1863.

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*Council.*
The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
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ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.
R. WARINGTON, Jun., F.C.S.
BOTANY.—JOHN BAYLDON, M.B. Lond. B. Sc.
VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.
MATHEMATICS AND SURVEYING.
W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.
DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.
J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

AGRICULTURAL CHEMISTRY.
THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.
For further particulars apply to the PRINCIPAL.

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E.C.

THE NATIONAL EXHIBITION of SPORTING and OTHER DOGS.

*President*—The Right Hon. the Earl of LICHFIELD.
*Vice-President*—The MAYOR of BIRMINGHAM.

The FOURTH GREAT ANNUAL EXHIBITION of SPORTING and other DOGS will be held at BIRMINGHAM, on MONDAY, TUESDAY, WEDNESDAY and THURSDAY, November 30, and December 1, 2, and 3, when Prizes exceeding 530*l*. will be awarded.

The ENTRIES CLOSE on NOVEMBER 2.

Copies of the Prize Lists and Regulations may be had on application to the Secretary. GEORGE BEECH, Secretary.

Offices: Rectory Chambers, Temple Row, Birmingham.

THE BIRMINGHAM CATTLE and POULTRY SHOW, NOVEMBER 30, and DECEMBER 1, 2, and 3.

EXTENSIVE GALLERIES having been erected in BINGLEY HALL, the Council have a considerable Quantity of both GROUND FLOOR and GALLERY SPACE to LET, suitable for the EXHIBITION of IMPLEMENTS and MACHINERY, SEEDSMEN'S STALLS, &c.

At the General Annual Meeting of Subscribers held at the Hen and Chickens Hotel, Birmingham, on Thursday, Dec, 4, 1862.

IT WAS RESOLVED,

"That it be a recommendation to the Council in future to restrict the Articles admitted for Exhibition, in addition to the Cattle and Poultry, to Agricultural and Horticultural Implements, Tools, and Machinery, Roots, Grain, and other Farm produce, and other Articles to be used in connection with Agricultural and Horticultural Pursuits."

Plans of the Hall, showing situation of space, Terms, and Forms of Entry, may be obtained from the Secretary.

The ENTRIES CLOSE on NOVEMBER 7.

JOHN B. LYTHALL, Secretary.

Offices: 13, Temple Street, Birmingham.

THE BIRMINGHAM CATTLE and POULTRY SHOW, 1863.

The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held in Bingley Hall, on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3, when PRIZES to the amount of £1940 will be awarded in the following Divisions, viz.:

| | | | |
|---|---|---|---|
| FAT CATTLE .. .. | £784 | 5 | 0 |
| FAT SHEEP .. .. | 275 | 15 | 0 |
| FAT PIGS .. .. .. | 60 | 5 | 0 |
| BREEDING PIGS .. | 76 | 10 | 0 |
| CORN and ROOTS .. | 68 | 5 | 0 |
| POULTRY and PIGEONS | 674 | 4 | 0 |

Prize Lists and every information may be obtained from the Secretary.

The ENTRIES CLOSE on SATURDAY, October 31.

JOHN B. LYTHALL, Secretary.

Offices: 13, Temple Street, Birmingham.

SMITHFIELD CLUB FAT CATTLE SHOW, 1863.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS, will be held at the AGRICULTURAL HALL, ISLINGTON, on MONDAY AFTERNOON, December 7, and four following days.

The Prizes consist of 1825*l*. in money; 60 Silver Medals; 6 Silver Cups, and a Gold Medal.

The ENTRIES for LIVE STOCK CLOSE on NOVEMBER 2.

Prize Sheets and Printed Forms of Certificates, with full particulars, can be obtained on application to

Mr. DAVID PULLEN, Assistant Secretary,
At the Office of the Honorary Secretary,
Corner of Half Moon Street, Piccadilly, London, W.

N.B.—Applications for Prize Sheets and Forms of Certificates must be addressed to the ASSISTANT SECRETARY as above, and all letters must bear outside the words "SMITHFIELD CLUB."

The ENTRIES for the IMPLEMENT DEPARTMENT CLOSED on OCTOBER 1.

# The Agricultural Gazette.

*SATURDAY, OCTOBER* 24, 1863.

ECONOMY OF FUEL in the use of steam is pressing itself every day more and more upon the attention of the agriculturist. The progress of this question is indeed literally of a daily kind. A man buying or employing an engine for the first time, does not even think of economising fuel—of using two or three pounds of coal instead of six or eight per horse-power per hour. The farmer says—with much truth—that he only occasionally uses his engine, and does not care to save a little coal. After some time, however, the constant drain upon his pocket for fuel, and a heavy coal bill staring him in the face at the end of the year, cause him to think rather differently. But the engine is bought and sold, and matters cannot be changed without great expense.

Again, of late years a new element is coming into play—the mobility of the farm engine. As a rule, steam-engines that are self-propelling, moveable in fact—such as marine engines and locomotives—are, upon the whole, the most economical in fuel. The distance from sources of supply—the necessity for providing power to carry the fuel about, thus paying doubly for it—the necessity for finding stowage room for the coal; all these necessities, among others, have had the usual effect upon invention. These necessities are now being felt to a great extent in agricultural steam-engineering. Economy of fuel means also economy of water, and a reduction of these two items of expense would be of the greatest advantage to steam-ploughing. If traction engines were less hungry beasts, if they consumed less coal and water, they would at once be bought by people who would now almost as soon think of buying a white elephant. At present, it looks

like carrying a chimney sweep in a Bath chair, or a cart-horse in a cart, to their work:—it looks like alternately blowing hot and cold—it is, in fact, an insult to engineering science—to see four horses tugging a "portable" (?) steam-engine to its work.

The difficulties, however, of inducing portable engines to work with a less voracious appetite for coal are very great. Not that these difficulties are of a scientific character. The resources of engineering are ample. They are fully equal to make an engine work with at the most 2 lbs. of coal per horse-power per hour. This saving need not be effected by means of the complicated "dodges"—they deserve no politer term—that help to win the quadrennial engine races of the Royal Agricultural Society; that help to emblazon certain "trade circulars" with delusive assertions in large type. The fire-tubes need not be brought to a high polish by rubbing them up in a scrap-cleaner with emery and oil—the fire-bars need not have a covering of fire-bricks with two equivocally-looking round holes—absurd, unmechanical, and perpetually-leaking "mid-feathers" need not be placed in the fire-box. There is no necessity for breaking up the coal into pieces the size of a hazel-nut—there is no need to make the fire-box plates so thin that there are great chances of blowing up the trial judges, and of thus putting an end to the system. There is no need of having a first-class practical engineer to tend the engine, a gentleman who has perhaps been engaged for the last six months "in running off the friction" of the engine that has to perform in public—he need not administer sly drops of oil to the coal he has to feed into the firebox—the firebars, firebox, and firetubes do not require to be furnished, before sending off the engine, with an imperceptible but useful film of oil.———

If manufacturers would but apply the money, ingenuity, and enterprise they lay out in preparations for these races, to sound improvements of the portable engine, common engines would now be consuming much less fuel. The question lies entirely in the hands of the large manufacturers. An inventor, however able, has not the power to recommend his engine to customers. Farmers, on the other hand, do not know that engines ought to work with much less fuel—the eloquent travelling special pleaders of the larger firms joke them out of economical ideas. Makers do not like the expense of altering their designs, patterns, and templets.

Our limits do not at present allow us to enter into the scientific principles of a sound system for economising fuel in agricultural steam engines. It is an extensive subject. We may state, however, that the main directions towards which the portable engine may be improved, are those of higher pressures; higher rates of expansion of the steam; and lastly, of superheating the steam. What is termed superheating is simply heating the steam itself—again heating the product of the water when it has assumed the form of a vapour or gas. The description of engine in which the expansion of the steam can be carried to its fullest extent is the "compound" engine, in which the steam, after being worked in a small cylinder is conducted into a second and larger cylinder, and therein allowed to expand.

Messrs. ALLCHIN & SON superheat the steam of their portable engines, and CLAYTON & SHUTTLEWORTH, by placing the cylinder entirely in the smoke-box, also virtually superheat the steam. In both these plans, however, the superheated steam is in contact with the water, which it absorbs, and the advantage of superheating is thus to a great extent lost. We noticed an engine in the Great Exhibition of last year, in which the economical expedients — viz., a high pressure, a high rate of expansion, working compound, and superheating — were combined with much ingenuity and science; and about a week ago a Correspondent further directed our attention to the plan. The exhibit (*United Kingdom* — 2019), was sent by the inventor, Mr. F. H. WENHAM.

The engine—in appearance like a common double cylinder portable engine—was stated to be of 10-horse power, but was evidently only a fraction of the weight of an ordinary engine of this kind. The steam, first fed direct from the boiler to the small cylinder, was then allowed to exhaust into a heating chamber in the smoke box at the end of the boiler. The steam thus expanded by superheating enters the second and larger cylinder, and is finally exhausted into the chimney. A great advantage for ploughing is that the cranks work at right angles. It is stated that with a boiler pressure of 100 lbs. these engines consume only 2 lbs. per horse-power per hour. What a saving of fuel, water, and carriage, this would effect in ploughing!

The plan has already been successfully applied to the yacht of a gentleman well known in the north of England. His yacht can now make much longer voyages, as her engines consume less than half the quantity of fuel used by her former motors. That the plan will be applied to portables before Mr. WENHAM'S patent is expired, we very much doubt. The inventor can evidently barely make his engines at the price charged by others, and farmers will prefer to go to any established maker that can undersell the inventor's form of engine. *P.*

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SOME very singular changes in the occupations of the agricultural population are revealed by a comparison of the census of 1861 with that of 1851. It appears that the number of "Farmers and Graziers" has diminished very considerably—the present return being more than 50,000 less than that of 10 years ago. We can hardly believe that there has been actually a diminution of 20 per cent., which this would amount to, on the number of the class—or that the number of farms has been diminished by a corresponding increase of their size to that extent. In all probability, a good deal of the change is owing to a considerable number preferring some other designation. In 1851, 137,426 were returned as farmers' sons, while the number in 1861 who are so designated, is only 92,321. How are we to account for that, except on some such ground. In 1851, there were close on 20,000 male proprietors of land; in 1861, there are only 15,131!

The changes in the numbers of agricultural labourers are also considerable; and in some classes even more astonishing. In 1851 the number of male out-of-door agricultural labourers was 1,006,728; in 1861 it was 914,301. The number returned as shepherds was 19,075 in 1851; 25,559 in 1861. The difference on adding these two sets of figures together is not very great. The number of in-door male servants, however, which was 235,943 in 1851, is only 158,401 ten years later. The practice of boarding labourers in the farm-house is probably dying out; and hence the diminished return; but the men and boys thus lodged elsewhere do not appear in the lists of agricultural labourers at all; the whole class, indoor and out-of-door together, being less by 80,000, or more than 6 per cent. of the whole number than it was. In like manner, or rather in an even greater degree, are female agricultural labourers less in number than they were. In place of 70,899 out-of-door female labourers we have 43,964; in place of 128,251 in-door female labourers we have 46,561! The following are the numbers:—

EMPLOYMENTS OF THE AGRICULTURAL CLASS.

| | Males. | | Females. | |
|---|---|---|---|---|
| *a.* IN FIELDS AND PASTURES. | 1861. | 1851. | 1861. | 1851. |
| Proprietors .. .. .. | 15,131 | 19,989 | 15,635 | 14,638 |
| Farmers .. .. .. | 226,957 | 275,676 | 22,778 | 28,044 |
| Graziers .. .. .. | .. | 3,036 | | 11 |
| Farmers' and Graziers' Wives | .. | .. | 163,765 | 201,736 |
| Farmers' Sons, Daughters, &c. | 92,321 | 137,446 | 83,830 | 137,724 |
| Farm Bailiffs .. .. | 15,698 | 12,805 | | |
| Agricultural Labourers (out-door) | 914,306 | 1,006,728 | 43,964 | 70,899 |
| Shepherds .. .. .. | 25,559 | 19,075 | | |
| Farm servants (in-door) .. | 158,401 | 235,913 | 46,561 | 128,251 |
| Land surveyors . .. | 4,702 | 1,373 | | |
| Land agents .. .. | .. | 2,353 | | |
| Agricultural students .. | 490 | 164 | | |
| Hop growers .. .. | 33 | 30 | | |
| Willow ,, .. .. | 55 | 48 | | |
| Teazle ,, .. .. | 81 | 85 | | |
| Agricultural Implement Proprietors | 236 | 50 | | |
| Agricultural Implement Workers | 1,205 | | | |
| Drainage service .. .. | 1,761 | 11 | | |
| Colonial farmers .. .. | 91 | 27 | | |
| Others .. .. .. | 73 | 12 | 44 | |
| *b.* IN WOODS. | | | | |
| Woodmen .. .. .. | 8,907 | 9,832 | | |
| Others .. .. .. | 10 | .. | 9 | |
| *c.* IN GARDENS. | | | | |
| Gardeners .. .. .. | 76,760 | 78,462 | 1,773 | 2,484 |
| Nurserymen .. .. | 2,838 | 2,636 | 79 | 39 |
| Water Cress growers .. | 55 | 39 | | |
| Others .. .. .. | 22 | .. | 5 | |

The leading numbers here are those of in-door and out-door farm servants and shepherds, and we repeat them, dividing them into columns, determining their ages—

| Labourers. | Total. | | Under 20 Years Old. | | | | Over 20 Years Old. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Males. | | Females. | | Males. | | Females. | |
| | 1861. | 1851. | 1861. | 1851. | 1861. | 1851. | 1861. | 1851. | 1861. | 1851. |
| Out-door .. | 958,265 | 1,077,627 | 188,983 | 198,226 | 10,202 | 14,826 | 725,318 | 808,502 | 33,762 | 56,072 |
| In-door .. | 161,902 | 304,194 | 94,959 | 126,491 | 20,718 | 64,713 | 63,442 | 109,452 | 25,843 | 63,538 |
| Shepherds.. | 25,559 | 19,075 | 4,900 | 2,900 | .. | .. | 20,659 | 16,085 | .. | .. |
| Total .. | 1,145,786 | 1,460,896 | 328,842 | 327,767 | 31,020 | 79,539 | 809,419 | 934,030 | 59,605 | 119,610 |

A loss of 5 per cent. of out-door male labourers under 20 years of age, and of 25 per cent. of in-door male labourers of that age is a very serious thing. The loss of 8 per cent. and of 40 per cent. respectively of these classes over 20 years of age, is also an extraordinary thing. But that nearly two-thirds of in-door female agricultural labourers of all ages have disappeared from the list in 10 years is perfectly unaccountable.

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THE PREVENTION OF AGRICULTURAL STEAM-BOILER EXPLOSIONS—or at least a diminution in number of these disasters—is one of the necessities of the day. The great extension in the use of steam on the farm—the resulting demand for engines, cheap in name, but dear in reality—the employment of old engines, the boilers of which ought to have been long ago sold for old iron—the ignorance of employers of the dreadful latent powers of steam, and of the no less hidden weaknesses to which iron is subject—the two-fold ignorance of the men to whom engines are confided—the constantly increasing pressures at which the engines are worked—the impure water often used:—these causes, among others, are in such continued action that we can seldom take up a daily newspaper without seeing one more of these shameful disasters on record. We say shameful, for it is as much in human power to prevent these occurrences, as it was in human power to construct the instrument itself of these occurrences.

Although some difference of opinion still exists as to the ultimate phenomena attendant on a boiler explosion, the primary causes are very simple. They may be classed under the heads of defective construction, bad material, and slovenly workmanship of the apparatus before it is in use, and bad tending and impure and corrosive water after the apparatus is in use. The three first causes are evidently only to some extent within the control of the farmer. He can choose the maker of his boiler, but it is difficult for an unprofessional man to properly estimate its mode of construction, and it would be impossible for even an engineer to judge of the quality of the plate and workmanship after the usual coating of paint has been daubed over the whole. It would be invidious to specify the defects of some of our makers' boilers; it may be sufficient to say, that we should not always be tempted by a person's name in our purchases. As to the tending of the boiler, it is evidently quite under the control of the farmer. If acidulous water be used, the plates often get honeycombed, sometimes in spots, at others over the whole plate. The sulphur, arsenic, and other substances in the coal, often corrode the plates. The seams and rivets are sometimes allowed to "blow," and the water, condensing on the outside surface, rusts and eats away the plates—often to the thickness of a shilling piece. The incrustation or fur—similar in substance to that deposited on a common tea-kettle—if allowed to go too far, and to get too thick, prevents the heat arriving to the water; the plates get red-hot, are thus weakened, and an explosion

ensues; perhaps the disaster does not then occur, but is staved off to a later period—as the plates are permanently weakened from being "burnt." Or the boiler is worked at a pressure above its strength; the plates are thus extended beyond the "limit of elasticity" of the iron—iron elongates but $\frac{1}{800}$ to $\frac{1}{2000}$ of its length before its limit of elasticity is reached—and the whole boiler is permanently injured. Sometimes the man in charge does not even know the pressure at which his boiler is working; he has screwed down the safety valve, or the lever is irregularly weighted by a piece of chain or a lump of iron. Perhaps the glass gauge has been neglected, and does not tell the true height of the water in the boiler; or the feed valve is perhaps out of order, and the water gets too low, and the plates are "burnt." One or even all of these causes are at work for years. At last, the inevitable day of reckoning comes, and what was a minute ago an instrument of peace and wealth, is now an enormous bombshell. A plate—generally below the water-line—gives way. According to the Astronomer Royal "the destructive energy of 1 cubic foot of water at 60 lb. pressure per square inch is equal to the destructive energy of 2 English pounds of gunpowder." The fragments of the boiler—the scalding commingled steam and water—the parts of the engine—are projected like a gunpowder mine all around—and what was a peaceful English homestead, is now a scene of devastation. Perhaps the bread-winners of some three or four poor families are sent to their last account, or, maimed and helpless, they and their families have to be tenants of the workhouse. The employer of small means is often utterly ruined by such an explosion; a rich man is put to an expense in pounds that might have been prevented by a timely outlay of as many shillings. Even when the accident does not ensue from the carelessness—that cross-bred progeny of accident and design—with which the boiler is tended, there is always a great loss of money in heavy bills for repairs; and sometimes of reputation and peace of mind by a verdict of manslaughter against the proprietor.

All these evils were long felt in Lancashire, the part of the kingdom where perhaps the largest amount of steam power is employed. The shrewd Manchester men, however, devised a complete remedy. With the help and advice of Mr. William Fairbairn, the well-known engineer, an "Association for the Prevention of Steam Boiler explosions" was formed in that city some eight years ago. A numerous staff of inspectors and sub-inspectors, composed of practical and experienced engineers, are continually engaged in visiting the numerous boilers,—amounting to more than 1500, under the care of the Association. For a small annual sum, two visits are made every year to each boiler.

The working condition of each boiler is ascertained as correctly as possible—whether it be in a fit state to stand the working pressure—whether the boiler be provided with the proper fittings, such as safety valves, steam gauges, glass gauges, and the other details required to a working boiler, and whether such details be in proper working order. The exact causes of any explosion that may happen in the neighbourhood are carefully investigated, in order to prevent a recurrence of such accidents. The most advantageous construction of a boiler is ascertained by comparison with regard to safety, economy of fuel, and durability. It appears that on an average, nearly 10 per cent. of the boilers examined for the first time were in a dangerous condition. This Boiler Association, dating from only 1855, has not merely been a public benefit, but has been a tolerably paying concern. Another similar Association was formed in Manchester about three or four years ago upon the principle of insuring boilers by means of an annual rate. Another prosperous Boiler Association has been formed at Huddersfield, near Manchester. It is remarkable that on those railway lines that adopt the means used by the Manchester Association for ascertaining the state of a boiler—the hydraulic test—an explosion has been unknown for years.

The three main necessities for the safety of boilers may be shortly stated to consist in, firstly, a periodical professional examination of the boiler, occasionally accompanied with the hydraulic test; secondly, a *vivâ voce* examination of the engine-driver by a qualified scientific engineer.

The following extract from the last monthly (September) report of the Manchester Boiler Association, may point a moral to some of our readers. The account refers to an explosion of a portable engine (not under the inspection of the Association) while driving a threshing machine:—

"The boiler, which was about 12 years old, was a portable one, of the multitubular locomotive type, and was worked at a pressure of about 40 lbs. per square inch. It was stated at the inquest that the safety valve worked freely, and that there was a due supply of water, the explosion being attributed entirely to a defective plate in the fire-box, which had been eaten away by corrosion, until reduced to one-sixteenth of an inch in thickness. This plate had been previously repaired, and at the time of the explosion was cracked through, and though it had for some days been leaking in consequence, had yet been worked on in that state.

"The owner of the boiler was brought in guilty of manslaughter, the jury adding that they thought the appointment of a Government inspector to be highly necessary."

We understand that Mr. C. F. T. Young, C.E., is getting up a boiler association for London and the neighbourhood. These most beneficial institutions are, in fact, spreading, and we hope that some day every boiler in England will be liable to a careful examination at intervals as to its working state. The operations of the Manchester parent Association already extend from Chester on the south-west, to Darlington on the north-east; from Sheffield and Rotherham on the south-east, to Preston and Longridge on the north-west.

We thus had lately the pleasure of recording a movement set on foot by the Suffolk Agricultural Society, for founding a system by which agricultural steam boilers will be subjected to a systematic scientific inspection. This alone would be sufficient to make that society worthy of the thanks of the country, as having incorporated the first Agricultural Boiler Association. Their path is, however, plain and clear before the Society. Guided by the experience of the Manchester Association they cannot go far wrong in such a well-beaten track. Indeed we do not see why the Suffolk Boiler Association should not be an *offshoot* from the Manchester stem.

The advantages of such a society will not be confined to the prevention of explosions. The skilled engineers of the staff of inspectors will teach the engine-owner to take proper care of the engine. Instead of leaving the piston in a cylinder half-full of water for months, the cylinder lid will be taken off, the piston taken to pieces, its rings packed away, and the whole inside of the cylinder itself carefully painted with hot tallow. The fire-box will be cleaned out, and the mud-plugs taken off, to clear the bottom of mud. The working details will be—at the least—carefully greased, and covered up. As with the Manchester Association, the engines will be indicated in order to ascertain the consumption of fuel of each engine per horse-power; to thus remedy any waste of fuel through a disarrangement or bad proportioning—by the maker—of the slide valve. Many other defects leading to waste of fuel will be shown by a new and excellent indicator lately invented in the Federal States, and imported last year into England. Nothing more than an engine exemplifies the necessity of an early attention to seemingly slight defects. The nail dropped from the horseshoe that led to the death of the rider, has its counterpart in the loss of a small split pin that may lead to the cylinder-cover being knocked out; the stitch that saves nine is as applicable to a boiler seam as to the seam of a lady's dress.

It is a trite observation, that one of the chief features of English life is the absence of Government control and supervision. We have no *préfet* system, and but little of the centralised organisation observable on the Continent. Our present system of administration, or rather of no-administration, undoubtedly lies at the root of much that is strong, of much that is good in England and the English. But it is not an unalloyed blessing. Apart from such general questions as those of the public health, of general education, and similar national objects, if we regard the questions more within our own scope, we find that a timely Government interference might have prevented much evil; that partial Government interference is doing much good. There is no doubt that if Government had put itself at the head of the railway movement, we should soon have better and cheaper railways, with fewer accidents and higher dividends. The present limited Governmental inspection of mines has done much good, a more extended inspection might do yet more. The various Factory Acts have been immense benefits to both operatives and employers. There is no doubt that next year Mr. Laird will carry his Chain Cable and Anchor Bill, rendering compulsory the initiatory and periodical testing of chain cables and anchors. In exactly the same way as with iron steam boilers, iron cables lead to lamentable loss of life, if used without a due certainty as to their trustworthiness. It is within our own knowledge that a similar compulsory Act has been proposed to the Administration of the country with regard to boilers. There is little doubt that the owners of steam boilers have now to choose between private inspection, or an eventual interference by Government.

We wish the Suffolk Agricultural Society good speed in their undertaking. Their success will lead to an annual saving of life and property, and agriculturists will be taught to work their engines with much less expense both in fuel and repairs. *P.*

## THINGS THAT LANDLORDS SHOULD KNOW.

Everything that tends to increase the profit of farming, must directly or indirectly benefit the landlord, either by increasing his rental or raising the value of his land, probably both. Every effect has its cause, and there are unfortunately so many preventible losses in agriculture, that I propose one by one to enumerate some of them.

*Shelter.*—Animals differ in no degree from ourselves in the appreciation of a dry bed and a dry skin, a warm corner in winter, and a cool one in summer. How imploringly will cattle and sheep stand at the field gate in bad weather, when they know there is shelter for them elsewhere. How quickly sheep will avail themselves of a wooden hurdle, a hard road, or even a wheelbarrow or piece of board to lay upon, so as to avoid contact with the wet ground (damp sheets). It is a well known and admitted fact that a saving of one-third in food results from providing shelter when required. Add this gain, or deduct the 33 per cent. of loss over our 56 millions of acres, with their tens of millions of animals, and you are astounded at the enormous sum total.

Exposure, even in dry weather, to a sharp wind, abstracts an immense amount of caloric from the body, which must be made good by the fuel or fat of the food. Even with well-woolled sheep this takes place in degree, and it must interfere with their repose, for we cannot rest well when cold.

It is surprising how easily one may extemporise effective shelter. I find it undesirable to house animals at night, and turn them out in the day; the extreme variation gives them cold. I therefore, after threshing my first Wheat, stack the straw, thatch it ready for next harvest, place it on a pasture, surround it at some distance with hurdles, throw down a little straw close to the stack, and make this the night fold yard for my cattle. Here they get their cake, bran, or dry food. Bullocks soon establish, by rubbing and grooming themselves, a comfortable arcade of straw on either side, or at each end, according to the wind. Under this they lie comfortably ensconced, free from driving rains or strong cold winds, and in the day time, weather permitting, go to their feeding ground.

The act of grooming themselves gives cleanliness, and stimulates circulation in the skin, and pays well in the health and condition of the animals. They know, if their owners do not, that Wheat straw is a non-conductor of heat or damp, and they choose it for their bed with unerring sagacity.

There is no currycomb or horse brush so effective as good strong reedy Wheat straw, free from weeds, especially if you have trimmed or shaved the stack. Where reaping by hand is still the practice, a good haulm stack answers well. If landlords knew how cheaply a close shed or covered yard could be erected, and how much it influences and preserves the condition and quality of animals and manure, they would erect them, charging their tenants 5 per cent. for the outlay.

I have such a shed, 57 feet long, 35 feet wide, the walls 8 feet high, a single span and space slated roof. This will accommodate 30 2-year old bullocks. This shed is envied by many a farmer of 150 acres, who say "this is just what I want, I wish my landlord would put me up such a one, I would cheerfully pay him 6 per cent." I have at present in this shed 27 2-years-old Short-horns. They appear closely packed, but have ample ventilation. It may be called the box system on a large scale.

The straw under them is invariably cut up by steam into 2-inch lengths, and readily forms a homogeneous mass. It need not surprise us that strong reedy straw, so cut, readily absorbs urine, for in cutting it gets split and broken; thus the spongy inside of the straw at once absorbs, while the glassy exterior of uncut straw will not absorb. The cost of cutting by steam power is insignificant.

Your dung-heap is thus quickly formed under the animal, free from destructive heating, which would take place with long uncut straw. Many an animal becomes lung diseased and destroyed by the fermenting masses in open farm-yards, or even in covered yards, when the early spring sun and an increasing temperature cause heating and decomposition in the long strawed and less condensed mass, more accessible to aëration than the homogeneous hodge-podge of chopped straw manure. Assuming that the animals are fed, as they ought to be, with cake, roots, meal, bran, malt combs, and chaff, the dung from this shed, taken direct to the land, will give results that will put to shame the ordinary dung-heap, or even guano. It is always ready for use, and spares the cost and waste of a manure heap. After a heavy crop of Tares I have now a fine crop of Cabbage. As soon as the Tares were removed, acre by acre, the

shed manure was at once carted on, spread, and ploughed in, and the Cabbages planted in June. The Trench ploughing was very deep, by two horses in the top plough, 4 horses following in the same track with a second plough—making a thorough rough job of it—in a stiff clay. This is the way to grow abundant food for your animals at small cost.

I annex the utmost cost of such a shed as mine.

CATTLE SHED.

Length from out to out 57 ft. 6 in. by 35 ft. Height of brickwork from floor 8 ft.

| | £ | s. | d. |
|---|---|---|---|
| **BRICKLAYER.** | | | |
| 3 rods of brickwork, at 11*l*. | 33 | 0 | 0 |
| Digging foundation, all materials | 4 | 17 | 0 |
| Slating, 24½ square, at 1*l*. 8*s*. | 33 | 19 | 0 |
| 7000 bricks for paving floor, at 1*l*. 5*s*. | 8 | 15 | 0 |
| 116 yards paving, at 4*d*. | 1 | 18 | 8 |
| 8 loads sand, and carting do., at 3*s*. 6*d*. | 1 | 8 | 0 |
| 100 feet patent roll ridge, at 9*d*. | 3 | 15 | 0 |
| Screws, putting and setting | 0 | 12 | 10 |
| **CARPENTER.** | | | |
| Roof, 24¾ square, at 1*l*. 8*s*. | 33 | 19 | 0 |
| Iron rods, plates, nuts, &c. | 5 | 0 | 0 |
| Sliding doors, irons, &c., complete | 2 | 10 | 0 |
| Pair folding doors end of shed | 1 | 10 | 0 |
| 2 doors and frames to side of do. | 1 | 0 | 0 |
| 30 feet of plate glass, at 1*s*. | 1 | 10 | 0 |
| | £133 | 14 | 6 |

In my opinion it is of the first importance to have on every heavy land farm such sheds, and most particularly the means of cooking and mixing the cut straw, cakes, bran, malt combs, &c.; a few cast-iron coppers of ample size could be cheaply and advantageously fixed.

I have observed that fattening sheep will do well in my barn in spite of draught or variation of temperature, while under the same circumstances cattle almost certainly get cold and lung disease.

Probably the dry woollen jacket is a better non-conductor than the hairy coat.

Most people know that boarded or thatched hurdles, haulm walls, &c., greatly protect sheep when folded. Animals intended for breeding or turning out get hardier constitutions when not housed too closely. *J. J. Mechi, Oct.* 12.

## HINTS ABOUT HOUSES.

We have now before us a re-issue of tracts by the Manchester and Salford Sanitary Association, from which we condense the following notes, which may be usefully read by the working people and others in all parts of the kingdom; for the value of health to the workman and his family will be best understood by those who have seen the misery, suffering, and poverty which are caused when a workman, the head of a family, is stricken with sickness. Attending to the following rules would be the means of saving many valuable lives.

Wherever a working man and his family may live, whether in a neat cottage or a wretched cellar, everything in and about his dwelling should be neat and clean.

Nothing in the way of cleansing tends more to keep away fever, cholera, and infectious diseases than the frequent and proper use of lime in the washing of ceilings and walls of houses. Working men should, therefore, lime-wash in the spring of every year, and oftener if necessary, all walls not papered or painted, and every ceiling of their dwellings, and every privy and ash-pit outside their dwelling. It is suggested that lime-washing may be done by a man or his wife at a very trifling cost. And the best plan for doing this is to brush away the dust, and wash the walls with clean water; the lime-washing brush may be used for this purpose. To make the lime-wash, slake the lime in clean water only. Let the lime be as fresh as possible, as it is spoiled by lying very long in the open air. The lime-wash, when made, should be about the thickness of cream. Lay on the first coat as quickly as you can, because lime-wash does most good when it is hot. Lay on a second coat as soon as the first is so dry that it does not rub away when the brush is used.

One pennyworth of lime ought to be enough for each cottage room; and a brush may be hired at many shops for a trifle, on leaving a small sum until it is returned. There is, therefore, little excuse for dirty walls.

In re-papering rooms, let the old paper be carefully cleaned off, and the walls washed, before the new paper is put on; because when dirty paper and old paste are covered up, they are liable to mould and rot, and the vapour from anything rotting is a fruitful cause of disease.

It is almost impossible to keep fever and disease out of a house where there are bad smells from drains; and therefore, any man who cares for the health of his family ought to quit the place he occupies, if his landlord do not use proper means to remove such smells without delay.

A family cannot be kept in health unless due regard be had to the size of the rooms in which they are to live or sleep.

It is seldom possible for working men to hire houses or rooms in which anything like the space allowed for prisoners can be obtained for themselves and families, but when the space is reduced, the opportunities for good ventilation become the more necessary; and if working men would measure their sleeping and living rooms, and see how little space they allow for each member of their family, and how badly their small rooms are ventilated, they would cease to wonder at the fevers and sickness from which they so often suffer. When they are living in rooms too small, over-crowded, or ill-ventilated, their wisest course is to look about their neighbourhood, or elsewhere, and see if they cannot find more healthful accommodation. They had better pay a little more rent, if need be, than get themselves or their families laid on a sick bed.

Persons who live in confined courts and entries, or in damp cellars, have no reason to be surprised if they suffer more than other people from fever, cholera, rheumatism, and infectious diseases.

Let working men consider whether, in the present day, they need want good cottage-houses, neatly furnished, and a little ready money in the saving bank, if they will keep from the beer shop, vicious companions, &c. And if a wife wants to have a neat house and a good husband, she should keep at home, instead of gossiping with her neighbours, employ herself diligently in mending and making for her husband and children; always ready to welcome him at meal time, or after his work, with good temper, with an appearance of tidiness about her house, with a clean person, clean children, clean floor, clean furniture, clean hearth, clean fireplace, bright grate, bright tins, and avoid the pawn shop and the hawking pedlar or tally man, and she will seldom want the means not only of keeping her family out of debt, but also going with ready money to the best markets, and buying everything she wants to the best advantage.

Such is the excellent and most valuable teaching of one of these tracts; and the whole of them are so useful and so plain that they can be readily understood by any person. *Builder.*

## Farmers' Clubs.

CENTRAL.—In consequence of the indisposition of Mr. Fisher Hobbs, the discussion on Monday week, November 2, will be opened by Professor Brown, V.S., late of the Cirencester College, and a gentleman well qualified to speak on such a subject as the Veterinary Art in relation to Agriculture.

## Home Correspondence.

*Labourers' Cottages.*—I see in a recent number of the *Building News* some sensible remarks on Mr. Bailey Denton's invitation to furnish plans for prize cottages. I have looked carefully into the terms of the specification, and I am quite certain that no builder can build cottages of the description indicated, and with materials such as are specified, and sizes, at 80*l*. prime cost. If Mr. Denton happens to get any one to compete, it will end, as the *Building News* says, in disappointment. For example, let us take the cost price of a rod of brickwork, and I am afraid it will come to 5*s*. more than the price I am going to set it down at, viz.:—

| | £ | s. | d. |
|---|---|---|---|
| 4300 Stock Bricks at 25*s*. | 5 | 7 | 6 |
| 3½ yards Sand at 1*s*. | 0 | 3 | 6 |
| 18 bushels Lime at 5*d*. | 0 | 7 | 6 |
| Labour | 2 | 2 | 0 |
| Carting | 1 | 10 | 0 |
| | £9 | 10 | 6 |

I have not put anything for water or for scaffolding. Mr. Denton talks of brickwork at 8*l*. per rod—a great many builders, I imagine, would like to have a leaf out of his book if he can get it for that price. Again, the size of timber specified is considerably stronger than would be necessary. Moreover, there is water supply, well digging, fencing, &c. People might fancy that a pair of cottages of the description wanted could be built for 160*l*., but imagining that they might, and finding a person to build them, are two very different things. For myself I should not think of competing on the terms offered, but if, as the *Building News* says, no sum was fixed, but prizes offered to the designs that combine the greatest economy with the greatest accommodation, then I would be the first in the field. I think it is quite possible to build a pair of cottages for 200*l*. *J. Newton*, 30, *Eastbourne Terrace, Hyde Park.*

*Weeds—Tame Rabbits.*—The article in your last week's *Gazette*, by Professor Buckman, on Umbelliferous Weeds, suggests to me to submit to the able Professor's consideration what the natural position of the tame rabbit is on a farm, inasmuch as these animals will not only eat most of our weeds, but will thrive upon them, and that, too, on some of the poisonous Umbelliferæ. I kept the silver grey rabbits for some years whilst I was working out a conviction that the Himalaya rabbit was only an albino of this variety (which I proved). I also amused myself by seeing if they would eat the usual weeds. My conclusions were that it would pay for juveniles and old folks to gather our farm weeds and feed rabbits with them; and for winter provender Coltsfoot, the Yellow Kale, the seed-pods of Turnip and Rape-seed, &c., when dried as hay, made most excellent food. Most of the Umbelliferæ are liked, and act very beneficially upon the rabbit. But there is a very important consideration touched upon by the Professor—that it is not improbable that many species of Umbelliferæ may be wholesome in giving appetite or flavour. There is great probability that several of our plants might be given with good effect to our farm animals when suffering from a continued illness. Two years last May I bought a Shorthorn cow about four years old, and she was and always had been in so good a condition that I felt some anxiety as her calving time arrived, and prior to it had her turned upon a poor pasture. After calving she, however, soon lost flesh, and for the 20 months she was kept in this situation, although the pasture was good she positively became lean, and this I attribute to the land not growing Dandelion. This plant is well known to have a strong effect upon the liver, and I, from a little experience, am much inclined to conclude that if given to sick cattle or horses it is one of the best of green food, and soon produces favourable appearances. After this 20 months unthriving state, although she had sometimes Turnips and mashes, I brought her down here the end of last January, where there is an abundance of Dandelion in the pasture, the result of which was that by the latter end of May she became so fat that it was deemed prudent to keep her for about a month mostly upon the fallow land, to earn her living from the hedge backs, as her time was up in the first week of July. On one occasion last summer I found a fatting cow, ill with the joint yellow, eat the Dandelion leaves and roots with some avidity, when it was very much off all other food which had been placed before her—she had had the usual drinks given for this illness, but I believe the Dandelion did her much good. One of my doe rabbits for nearly two days after the birth of her young family moped and scarcely ate anything. On inspecting her hutch it struck me there was a want of appearance of urine. I therefore collected a small handful of Clivers or Goose-grass—a diuretic—and gave her them, and in a few hours she was well. *W. A. Wooler, Sodberge Hall, Oct.* 12.

*Cattle Profits.*—The following correspondence has appeared in the *Banffshire Journal* in consequence of the paper on Urchany Farm and its tenant's experience on Cattle feeding in a recent number of the *Agricultural Gazette*:—

[No. 1.] I observed in your Journal of Tuesday week, and have since seen the same report in other publications, a statement of profits from cattle feeding on the farm of Urchany, Nairnshire, and I assure you I have no wish to detract from the merits of the enterprising tenant there, but as such statements, if exaggerated, are apt to mislead, I would take the liberty to ask for an explanation in reference to some of the figures. The statement gives out the sum total of roup roll,

| | £ | s. | d. |
|---|---|---|---|
| statement gives out the sum total of roup roll, | £1395 | 19 | 0 |
| adding Rye-grass sold, and dairy produce | 110 | 6 | 0 |
| Nett amount | £1506 | 5 | 0 |

but in debiting the account, there is a sum of 699*l*. 15*s*. at "purchase money of the feeding cattle." Now, the information I want is this—Was there no stock bred on the farm and sold along with the animals purchased? If there were, then the statement of profits is all fudge. On the other hand, if the 699*l*. 15*s*. was full amount paid for all the cattle sold, then surely Mr. M'Lennan deserves all the credit he is getting for his success as a feeder. I am unacquainted either with the gentleman referred to, or his farm, and have no other object in writing this than to elicit facts as to the above statement, as I think the sum total of profits far exceeds the usual return for cattle feeding, and trusting to your giving this a place in your first *Journal*, it may then draw forth the information wanted. *A Farmer in Aberdeenshire.*——[No. 2.] Having found at Urchany good and successful management of a cattle stock on a system out of the common routine, I contributed a description of it to the *Agricultural Gazette*. Mr. M'Lennan furnished me with the details necessary to enable me to judge how the system works pecuniarily, or rather how it worked for the year 1862-63, and the statement of results I drew up is founded strictly on those details. I think it is a satisfactory, but not very unusually profitable, result shown from the cattle breeding and feeding—for it must be observed that both are combined at Urchany. It shows a return of 8*l*. per acre for the Turnip crop. Is that excessive? Why, Mr. M'Combie, Tillyfour, has stated his returns to average 10*l*. per acre, and it must be well known that 6*l*. is freely paid this season by feeders of cattle to Turnip growers, freeing them from investment of capital, and from risk from disease or bad markets. Then the hay crop is estimated to produce 5*l*. per acre through cattle eating; 150 stones is no peculiarly large crop; the seed is worth 2*l*. to 3*l*. per acre at the least, and the threshed hay would surely sell, even last season, at 6*d*. per stone—making together more than it figures for in the report; but how much better is it to consume it on the spot than to send it off the farm! Your correspondent, "A Farmer in Aberdeenshire," wishes to know whether cattle bred on the farm were included in the roup roll. The yearling cattle sold of course were. Mr. M'Lennan, in spring '62, had 30 cows and their calves; in spring '63 he had the same, having sold the yearlings for a round sum, included in the roup roll. Surely they were raised on the "Turnips and Grass of the farm" (the return from which is what I have stated in my sketch), and therefore formed a portion of its good, but not extravagant, returns from stock. *S., The Writer of the Article in the Agricultural Gazette.*

*Seed Wheat and Thin Seeding.*—The chief consideration with the majority of farmers at the present time is the getting in the Wheat seeding. Every intelligent farmer will not fail to pay requisite attention to secure suitable varieties of Wheat adapted to his peculiar occupation. Much of his success will depend upon a correct choice of seed; one variety would yield no rent, another would yield both rent and profit, according to the kind of soil and its precise condition. Good well-grown pure seed should be sown. A breeder may as well select a faulty ram to his ewe flock, or an inferior bull to his herd of cows, as an inferior sample of grain even from a good stock; good animals will propagate good animals, as good seed will produce good crops of good grain. It is true the varieties and subvarieties of Wheat now grown are so numerous that it is next to impossible to select with certainty; but with great care many true and suitable varieties may be obtained. To keep a variety true,

armers ought to interchange with each other according to the suitability of soil and climate. The farmer on a chalk soil and cold climate should exchange with the farmer of a loamy soil and mild climate. Wheat will degenerate on rich soils, and improve on clays or mild clayey loams. It will degenerate in a cold climate, and improve in a mild one. Extremes of heat and cold are injurious to this grain; hence a frequent change of seed is necessary to insure complete success. This change, as a general rule, should be from a cold to a more genial climate, from a chalky to a loamy soil—from a peaty soil to clays and clayey loams —from clays to sands, and what is better than this, these should be fully reversed, *i.e., vice versâ*, indeed some of the Australian Wheats have in this country produced some beautiful samples and good crops. Every farmer ought to know the adaptation of his farm to produce in perfection the two fundamental varieties—Red Wheat and White Wheat. Inferior white Wheat is of less value than ordinary red. Farms subject to mildew or late ripening are not well qualified to produce white Wheat. Those ought to select the hardiest reds, *i.e.*, Old Lammas, Golden Drop, White-chaffed Red, Giant Red, Burwell Red, Browick Red, &c.; whereas good Wheat lands may be seeded with any of our best sorts, *i.e.*, Velvet-chaffed White, Chidham White, Essex White, Hunter's White, Red-chaffed White, or any good Reds, indeed varieties are endless, at least in name. Colonel Quintin's Giant Wheat, and Hallett's Pedigree have immense ears, but they are not of general adaptation. Under peculiar management and a suitable locality and soil, large yields have been got, but general growers cannot be too cautious of crack varieties. A short-strawed variety should be chosen for rich soils, a prolific strawy kind for inferior soils. Red Wheats are more hardy than Whites, and more to be depended upon for safe planting. The time of sowing is of great importance. White Wheat should not be sown late, or on very rich soils, if quality is to be a great consideration. Hardy red Wheats are best, and may on mild soils be sown with impunity in open weather during the winter, but it is by no means desirable—verily "there is a time to sow." In the best Wheat-growing districts the most suitable period for sowing is between old Michaelmas and old Martinmas, *i.e.*, October 11 and November 22; but where the land is rich, or is made highly fertile, it is better to get it in earlier, otherwise the rapid growth in the spring causes it to produce too much straw and a deteriorated grain. The quantity of seed per acre is another matter for serious consideration. Good well grown seed, on good soils, and well got in, need not exceed six or seven pecks per acre. Inferior soils which cannot force a tillering must have a thicker seeding. The late Lord Western advocated four bushels per acre, on the ground that every grain should have but one stem, *i. e.*, leaving no room for tillering. Modern practice has set this aside, indeed artificial manuring has become so general that farmers can regulate to a nicety the proper fertility necessary to produce a first-class crop on these soils. In this they have a decided advantage as Wheat growers over the occupiers of richer lands. These rich lands where they are farmed upon the best modern practice, actually require their fertile qualities reducing before they are adapted to the growth of Wheat; hence crops of Potatos, brown Mustard, and agricultural seeds, are previously taken, if not the amount of straw and grain are greatly out of proportion. The best general practice in seeding is to regulate the quantity in accordance with the time of seeding, the fertile state of the soil, and the manner or condition in which it is got in. The better the soil, and the easier it works, the less seed is required, and *vice versâ*. The preparation of the seed to prevent smut is another subject worthy of close attention. If the preceding crop has been affected with blacks, "bunt" may be expected, and no dressing of seed will prevent that. "Bunt" or "smut" is mainly propagated by the adherence of the smutty particles to the grain. It is the destruction of these smutty particles that must be effected to ensure safety, and this should be done without injury to the grain. Therefore the more simple the remedy the better. Arsenic, sulphate of copper, *i. e.*, white and blue vitriol respectively, these ought to be discarded. Many crops have been destroyed by over-dressing with these poisons. There are many safe and effectual means adopted. The washing the grain in clean running water is one, swimming it in a brine made of salt and water another. This mode has the double advantage of destroying the smut and floating off seeds of weeds, &c. The innumerable specifics put forth for dressing seed Wheat should be received with great caution. One of the most simple and efficacious known is the use of quicklime. On the day previous to sowing, the quantity of seed required should be put into a heap and be well wetted with water, say a gallon of water to five bushels of Wheat; after remaining a few minutes nicely rounded up, it should be well dusted with hot lime, such dusting to be continued as it is repeatedly turned over; a peck of well sifted lime would suffice for four or five sacks, according to its quality. The heap should be well rounded up and left till morning, when it is put into sacks ready for drilling. If not used it should be spread thinly over the floor, in which state it will keep for a long time, as the lime soon dries up the moisture in the grain. It is of course superfluous to add that all seed corn should be clean. *O. F.*

*Autumn Crops in South Essex.*—The summer crops of cereals, especially of Wheat, are unusually good—almost unprecedented during 50 years past, both as to quantity and quality, and they have been secured in excellent condition. It is remarkable that, notwithstanding the unquestionably large produce this year of cereals and Pulse, many years in the course of the last half century are recollected to have been as productive in ear and pod, under similar circumstances and weather, and that Wheat ears have more frequently than otherwise been set with a much greater number of grains (though very many of them have proved defective and worthless) than any which could be found in ordinary crops this year. Five and six set have been very common, even in seasons when on a whole there has been the least yield, while in the present season, two, three, and four set have been invariably the rule, yet nearly all good from the bottom to the top. Five and six set are the exception. This is a proof that such apparent enormous casual productions are only chance freaks of nature, of but little worth, arising either from various climatic causes beyond our weak comprehension to solve, or more probably the result of over-stimulating doses of manure, often injudiciously applied to the Wheat plant. As a real good Wheat year like the present has seldom or never happened, we may reasonably infer the good results of the better cultivation of the land by deep ploughing, &c. No doubt many such seasons, and even greater abundant crops, will be experienced as steam cultivation progresses, and other improvements in agricultural science, not yet acknowledged, are squeezed out and brought to light. While, however, we thus rejoice, a general complaint prevails, at least in this district, that autumnal root crops present a very sickly appearance. The many repeated cold nights, bordering on frosts, since the last severe thunder-storm about a month ago, accompanied by night hail (which often proves fatal to many crops in summer), with continued downfalls of cold rain at intervals since, appear to have chilled the then growing crops, especially those of Mangels and earliest sown Turnips, also of Potatos. The former have now at Martimas a very blighted appearance in the foliage, when Mangels and Turnips are expected to grow most. A pair of callipers applied daily to many bulbs of Mangels during the last fortnight to test their growth, have proved that they have made but little progress in their size, and it may be doubted if they have done so in their weight. The earliest sown Turnips are fast rotting, consequently, as frosts are now expected, the sooner they are pulled and heaped, if not carted, the better. Notwithstanding that Potatos escaped the prevailing disease tolerably well in summer, those, it is to be lamented, now ripening with green tops, are taking much harm, being diseased to a very alarming extent, to the no small disappointment and loss of the producers. It is cheering, however, to agriculturists, though not to horticulturists, who have no alternative, that the abundance of feed in the Grass departments will make up to them in a great measure for the supposed losses sustained by their blighted and infected roots. *M.*

*Harvest Report for Invernesshire.*—The harvest has been a tedious and perplexing one, as the weather was very rainy and variable, but apart from the delay and uncertainty, and consequent expense, there has been no damage done further than a loss of colour and condition in the grain exposed to the weather after it broke on the 19th September. Previous to that date considerable progress had been made in cutting, and some in securing the corn in stack; but on that day a most unexpected and unusual downpour of rain took place, flattening the uncut grain, soaking the stooks, and penetrating into stacks gathered together during the week; and the next week gave also a continuance of heavy rains, which caused harvest prospects to look gloomy in the extreme. Since the weather has continued showery and uncertain, but there has been a good deal of sharp drying wind which prevented sprouting, and advantage being taken of the intervals of fairness, nearly the whole of the corn in the eastern and lower districts has been stacked in fair condition. In the western and upper districts there is much still to be done, and much that can never be done satisfactorily, for a great deal of the corn has, in the straths, been seriously injured by the frost of July 15 and 16 (in some cases even in the lower districts, in damp and foggy situations, this has been the case also), while some cases of total destruction of growing corn and Potatos from that sad night have come to our knowledge. Altogether to arable farmers the season has all through, from excessive damp in spring, unusual drought in summer, and broken weather in harvest, been one of perplexity and anxiety. The results in regard to quantity are, on the whole favourable. Wheat, for its acreage, has given a fair bulk, and trials of threshing promise a large return of grain. Barley has not bulked largely, but will yield well for its bulk in grain. Oats are exceedingly variable; in some places a miserable, in others an unexampled return. Altogether the grain is in excess of last year's quantity, and its quality much superior. As to prices, they promise to rule very low; and this prospect, succeeding as it does to years of wretched grain returns such as the last two, causes perplexity and alarm not groundless, with, in some quarters, a resurrection of the old and well nigh forgotten whinings about the effects of free trade. Why not point rather to excessive rental payments as the cause of farmers' difficulties? Considering the relative prices of grain and meat, it appears that the most feasible mode of making fair returns—in fact, of making both ends meet, will be to turn much of the corn into meat by feeding animals. This, however, involves a change of system, and a dislocation of farming and financial arrangements, which it is difficult, if not impossible, for a large number of corn land occupiers to adapt themselves to. Potatos are very various. Where untouched by the July frost they are abundant, and of good quality; where affected by it the return will be poor and the quality indifferent. Turnips did well in August and September, but now they have set, and we believe will be found a very disappointing crop, both as regards bulk and feeding properties. In concluding our harvest report, we have to state that this is the fourth season of our experience of reaping by machinery, and that our satisfaction with it increases from year to year. We would now as soon think of comparing threshing with the flail with threshing by a mill, as we would of comparing cutting corn, or hay, or Beans, by sickle or scythe, with cutting them by a reaping machine. Using one of the Stirling machines with back delivery, we cut 139 acres in 162 hours, the larger portion of the cutting from the state of the corn being made one way by cutting against the lay. The people employed averaged 14 (when cutting all round we required 18 people; when cutting one way but 12) say

| | |
|---|---|
| 7 Men, at 2s. 6d. .. .. .. | £0 17 6 |
| 7 Women, at 1s. 4d. .. .. .. | 0 9 4 |
| | £1 6 10 |

per day, which, multiplied by 16 2-10 days, gives 21*l.* 14*s.* 3*d.*, showing 3*s.* 2*d.* as the expense in labour of cutting, binding, and stooking per acre. The horses of the farm, which would otherwise have been idle, did the work as useful and wholesome exercise. *Near Beauly, Oct. 12.*

*Irish Agriculture.* — I of course misinterpreted your Kilkenny correspondent, if he intended to say the opposite of what his language expressed. I must, however, hesitate before I conclude so sensible a writer omitted a negative by chance; but the point is not of much importance, as Mr. Carroll admits that Ireland "as a whole is not so good a Wheat and Barley growing country as England, or parts of Scotland either." As to the statement in my letter, that farmers should approach the character of husbandry which nature points out as best suited to their climate and country, I cannot perceive that this means either "leaving our lands to nature," to Heath, to Furze, and to fairy Flax; or that I imply Ireland should be exclusively devoted to stock rearing. If I ventured to state what I considered the proper climate for Wheat, I did but quote an opinion held by others more competent than myself; and concluded that an uncertain crop in England was still more uncertain in Ireland, where the character of the climate is more maritime than in other parts of the British Isles. I shall be very much surprised if the rearing of stock in Ireland does not pay well, and can only say that my experience points in an opposite direction; and that I am now having a farm of 300 acres laid down in Grass. The impolicy of abandoning any tillage, because population will be thus diminished, is a question that it is not my wish to discuss. The success of the recruiting sergeant is seldom the sign of the prosperity of a country. I desire, like your other Correspondent, to see Ireland thriving fertile, and happy. I do not pretend to lay down his "policy" for effecting this object, though he has been so good as to find such for me; all I pretend to state is that where competition is open, that agriculture will succeed best, which adapts itself to natural circumstances without allowing social or political considerations to impede its progress. The agricultural statistics which the Irish Registrar-General has just published are remarkable. It appears from them that the "total decrease in acreage under crops of all kinds" in Ireland is 92,431, and of this that the decrease in Wheat alone is 91,555. Of the land under green crops there is a decrease of 19,358, while in meadow and Clover there has been an increase of 7724. In cattle there has been a decrease of 116,615, in sheep of 152,201, in pigs of 89,522; but Mr. Donnelly observes, that this diminution is the result of the pressure last spring upon the small farmers, who sold to meet their liabilities, while young cattle under two years old have increased since last year to the amount of 32,000. It is also agreeable to perceive that the increase in the extent of the Flax crop is 60,000 acres. From these figures it appears that there has been a larger decrease in Wheat than in any other crop, and that there is a tendency in cattle to increase. I think that this result is satisfactory. I do not desire to see the cultivation of any crop which will grow wholly given up. I know that in some parts Wheat can be well grown; so can Roses. But I humbly submit that the weeping skies and warm rains of Ireland mark it as intended for the plants which demand abundant moisture for their development, rather than for those which require a hot sun to ripen their grain. *B. N., Oct. 6.*

*Irish Agricultural Statistics.*—At page 950 Mr. Henley is represented as speaking on Agricultural

Statistics. He is evidently ignorant of the manner they are collected in Ireland. Ireland has been surveyed, and the Poor-law books show the quantity of land each occupier holds; from which books the police are furnished with the names and number of acres held by each person in their district; they also have books, each column with a printed heading. The most intelligent of the police calls on the farmer and asks for information on different headings, viz., number of cows, heifers, calves, horses, donkeys, mules, sheep, pigs, fowls, and the number of acres under each crop; and by knowing the number of acres in the holding he can very nearly make out a correct account. A farmer does not know from the returns what his neighbour's stock is; I believe the police would not tell. Although the Irish are naturally suspicious, they do not appear to dislike giving the information required. *A Subscriber and Small Farmer.*

*Steam Cultivation.*—I beg to forward to you a copy of a letter which I have sent to the President of the Royal Agricultural Society in reference to a series of errors which I have discovered in the recently published number of the Society's Journal. *William Smith, Woolston, Bletchley Station, Bucks, Oct.* 15.

"To the President, &c.

My Lord,—Since my last communication with you, returning the 15*l.* which the judges of the Royal Agricultural Society had awarded to me, I presume by mistake, I have procured a copy of the recently published number of the Society's Journal. I have read the report on Steam Cultivation at Worcester, the Prize Essay on Steam Cultivation by Mr. W. J. Moscrop. I have read also a pamphlet on Steam Cultivation, by Simon Hutchinson, which I have been led to understand was sent in for competition, but did not get the prize. As I read through these three documents, I was struck with the remarkable disagreement there exists between Mr. Moscrop's actual work per day, and the daily work of Mr. Fowler's implement, as inferred from the Worcester trials, contrasted with the singular agreement which exists between Mr. Hutchinson's actual work and the daily work of my implement as derived from the same trials. Mr. Moscrop represents Mr. Fowler's implement as doing only rather over 4 acres per day, while the Worcester trials make his daily average 9½ and 10¼ acres per day, while both Mr. Hutchinson's actual work and the Worcester trials agree in representing my implement as doing about 6 acres per day. If this were all that I had to say on this subject I certainly should not have troubled your lordship with this; but judge my surprise (I pray your lordship to pardon my abruptness), when I inform you that after a little closer examination of these documents I discovered that every one of the daily averages of work as exhibited in the Society's report on pages 482 and 485 was wrong, that the judges, or whoever had worked out the daily averages for them, had actually done it all incorrectly. The cost of the coal per acre is also in some instances wrong; but I did not very far investigate this column of figures. The incorrectness of the column, "Number of acres per day of 10 hours," absolutely vitiates the Table altogether, since the "Total cost per acre" is dependent upon the correctness of this. I have felt it a duty I owe, both to your lordship and the public, to apprise you of this unfortunate error; the more unfortunate, as the error seems to exhibit so singular a want of care as to throw discredit on everything connected with these trials. I subjoin the erroneous column, and a corrected one with another column, showing the difference.—I am, my Lord, your obedient Servant, *William Smith, Woolston, Bletchley Station, Oct.* 15.

Page 482—Table I.

| | Number of Acres per Day of 10 Hours | | |
|---|---|---|---|
| | Column in Journal. | Corrected Column. | Difference. |
| Fowler .. .. .. | 9.56 | 10.06 | .5 |
| Howard .. .. | 9.08 | 10.02 | .94 |
| Savory .. .. .. | 11.48 | 11.65 | .17 |
| Smith .. .. .. | 6.12 | 6 5 | .38 |

Table 2.

| | | | |
|---|---|---|---|
| Fowler .. .. .. | 7.5 | 7.89 | .39 |
| Howard .. .. | .7 | 7.73 | .73 |
| Savory .. .. .. | 7.95 | 8.02 | .07 |

Page 485—Table 3.

| | Number of Acres per day of 10 hours. | | |
|---|---|---|---|
| | Column in Journal. | Corrected Column. | Difference. |
| Fowler .. .. .. | 6.64 | 7.54 | .9 |
| Howard .. .. | 5.58 | 6.96 | 1.38 |
| Fowler .. .. .. | 10.43 | 10.7 | .27 |
| Savory .. .. .. | 9 79 | 9.87 | .08 |
| Smith .. .. .. | 5 87 | 6 23 | .36 |

Table 4.

| | | | |
|---|---|---|---|
| Fowler .. .. . | 4.65 | 4.89 | .22 |
| Smith .. .. .. | 4.01 | 4.26 | .25 |
| Howard .. .. | 3 25 | 3.59 | .34 |
| Fowler .. .. .. | 3 42 | 3.48 | .06 |

## Reviews.

*The Agriculturist's Assistant: A Note Book of Principles, Rules, and Tables adapted to the Use of all Engaged in Agriculture or the Management of Landed Property.* By John Ewart, Land Surveyor, &c. Blackie & Son, Glasgow, Edinburgh, and London.

We need not go to the lists of recent publications for what appears to us as really the most generally useful book a farmer can have upon his table. Ewart's Farmers' Assistant has been published several years, and was, we believe, referred to in our columns at the time. Having had occasion lately to consult its pages, we have been astonished at the quantity of information it contains, and at the close packing of its valuable contents.

It includes first of all a treatise on arithmetic—so far as explanation of the calculations in the course of the work is needed—a treatise on mensuration of both surfaces and solids, and a treatise on weights and measures. These occupy the first part of the work. The second part contains 20 chapters on all kinds of agricultural operations. And the third relates to farm buildings, land draining, embankments, fences, roads, Grass lands, and plantations; including examples of all kinds of calculations required under every head. The whole, as we have said, is a remarkable example of well packed useful knowledge.

We take the following passage as likely to be of service at this season of the year, and as illustrating the thoroughness with which every subject is treated in these pages.

### On the Measurement of Stacks.

In a matter such as finding the contents of stacks of either hay or corn, mathematical exactness is unnecessary, and all that is required in practice is a near approximation by a concise mode of calculation.

Hay stacks most usually approach in form either to a parallelopiped with a semi-cylindrical roof, or to a cylinder with a hemispherical roof; and corn stacks are most generally made cylindrical, with a conical roof, or in the form of a parallelopiped, with a roof in the form of a triangular prism. Although it is seldom that the solid figures mentioned above are found to be exactly true in the form of either hay or corn stacks, a concise mode of calculating a tolerably close approximation of the contents of these figures is all that is required in practice.

The dimensions necessary to be taken for finding the contents of the forms of stacks above mentioned, with sufficient accuracy for practical purposes, are as follows, viz.:—

*For round stacks with either a hemispherical or a conical roof.*—Since the figure of these stacks is composed of a nearly cylindrical body or trunk, with the roof approaching to a hemisphere—*i. e.*, the dome being in height equal to the radius of its base, or to a right cone, *i. e.*, having its height also equal to the radius of its base—it will be unnecessary to actually measure the height of the roof in such cases, as the height in either case may be ascertained from the circumference of the stack at the eaves, and be found by dividing the circumference by 3·1416, and the quotient again by 2, for the radius or semi-diameter, which is supposed to be also the height; or the same result may be obtained by one operation of dividing the circumference by 6·2832; and still more concisely by multiplying the circumference by ·159, the reciprocal or equivalent multiplier of the divisor 6·2832. And since it rarely occurs that the trunk or roof of a round stack are either of them strictly the figures named—and in such cases, any small discrepancy will not appreciably affect accuracy—it will, therefore, be necessary only to take the perpendicular height of the stack from the ground or stand to the eaves, and the circumference at half the height, as dimensions; the latter of which, when multiplied by ·16, will give the height of the roof, sufficiently near for any practical purpose.

*For an oblong stack, either with a roof in the form of a semi-cylinder, or of a triangular prism.*—Take the height as directed for a round stack, the length and breadth at half the height, and lastly, half the mean breadth for the height of the roof.

*To find the solid contents of a round stack with a hemispherical roof.*—1. Multiply the square of the circumference by ·08, and that product again by the perpendicular height from the ground to the eaves for the contents of the body or trunk. 2. Multiply the cube of the circumference by ·0085 for the contents of the hemispherical roof. 3. Add the two former results together, and their sum will be the contents of the whole stack.

*To find the solid contents of a round stack with a conical roof.*—Multiply the circumference by ·0533, and add the product to the perpendicular height of the body or trunk of the stack for the height for computation; then multiply the square of the circumference by 0·8, and again by the height for computation, and the product will be the solid contents of the stack.

*To find the solid contents of an oblong stack with a semi-cylindrical roof.*—Multiply the perpendicular height of the stack from the ground or its stand to the eaves by the mean breadth, to the product of which add the product of the square of the breadth multiplied by ·4; and the product of that sum, when multiplied by the length, will be the solid contents of the stack.

*To find the solid contents of an oblong stack with the roof in the form of a triangular prism.*—To the perpendicular height of the stack from the ground or its stand, add one-fourth of its mean breadth for the height for computation; then multiply the height for computation by the mean breadth, and again by the mean length, and the product will be the solid contents of the stack.

#### Examples.

A round hay stack having a hemispherical roof is 60 feet in mean circumference, and is 15 feet from the ground to the eaves; required its solid contents.

The square of 60 is 3600, the product of which, when multiplied by ·08, is 288, and which when multiplied by 15, the product is 4320, the contents of the body of the stack; then the cube of 60 is 216,000, the product of which, when multiplied by ·0085, is 1836, the contents of the roof of the stack; and lastly, the sum of 4320 and 1836 is 6156—the contents of the whole stack in cubic feet.

A round corn stack with a conical roof is 52 feet in mean circumference, and its perpendicular height from its stand to its eaves is 12 feet; required its solid contents.

The product of 52, multiplied by ·0533, is 2·7716, the sum of which, when added to 12, is 14·7716, the height for computation; then the square of 52 is 2704, the product of which, when multiplied by ·08, is 216·32, and the product of which, when multiplied by 14·7716, is 3195·392512—the contents of the stack in cubic feet.

Required the solid contents of an oblong hay stack with a semi-cylindrical roof, the length being 45 feet, the breadth 15 feet, and the perpendicular height from the ground to the eaves 12 feet.

The product of 12, when multiplied by 15, is 180, the product of the square of 15, when multiplied by .4, is 90, and the sum of 180 and 90 is 270, the product of which, when multiplied by 45, is 12150—the contents of the stack in cubic feet.

An eke 12 feet long of an oblong corn stock with the roof in the form of a triangular prism, the mean breadth of the stack being 15 feet, and its perpendicular height from its stand to the eaves 12 feet; required the solid contents of the eke.

One-fourth of 15 is 3·75, the sum of which, added to 12, is 15·75, the height for computation; then the product of 15·75, when multipled by 15, is 236·25, and the product of which, when multiplied by 12, is 2835—the contents of the eke in cubic feet.

Having ascertained the solid contents of stacks in cubic feet from measurement, the next process to determine the quantity of hay or corn is to assign some weight or measure to some determinate bulk of the stack, under the circumstances which influence the density of hay, or yield of grain from the sheaf.

The circumstances which influence the density of hay are the size, particularly the height, of the stack in which it is put together, the state of maturity of the Grass from which the hay is made, and the kind of Grass, *i. e.*, whether permanent or old herbage, or seedling Grass, such as Clover and what are called artificial herbage. The yield in measure of grain of corn stacks depends upon the length of straw, and the size and fulness of the ears. The following tables of divisors of the contents of stacks in cubic feet for ascertaining the tons of hay or bushels of corn, have been formed from the observation of the writer, during many years' experience, and attentive consideration of the subject:—

| HAY. | Divisors for Reducing Cubic Feet in Stacks to Tons Weight. | |
|---|---|---|
| Large stacks of the best meadow hay, after standing over year, according to the size of the stack .. .. .. | 162 | 189 to 216 |
| Smaller stacks of good, or large stacks of inferior meadow hay .. .. | 243 | 270 to 297 |
| Smaller stacks of inferior meadow hay | 297 | .. to 324 |
| Hay of the best quality made from Clover, or other seedling Grass, according to the size of the stack .. | 270 | 297 to 324 |
| Inferior hay made from Clover, or other seedling Grass, according to the size of the stack.. .. .. .. | 324 | 351 to 378 |

| CORN. | Divisors for Reducing Cubic Feet in Stacks to Imperial Bushels. |
|---|---|
| Wheat.—When the straw is very long, or the heads small .. .. | 36 |
| " When moderate in both, or in either respects in a great degree .. .. .. .. | 27 |
| " When the straw is very fine or short, or the heads very large | 21·6 |
| Rye.—Indifferent yield .. .. .. | 27 |
| " Medium yield .. .. .. | 21·6 |
| " Very large yield .. .. .. | 18 |
| Barley.—Similar to Rye .. .. .. | .. |
| Oats.—Indifferent yield .. .. .. | 18 |
| " Medium yield .. .. .. | 13·5 |
| " Very large yield .. .. .. | 10·8 |
| Beans and Peas are very uncertain in yield, but it seldom exceeds the quotient from .. .. .. .. | 36 |

Straw.—It is very usual in estimating the quantity of straw in stacks to assume the weight to be twice that of the grain; but the author has found, taking the average of all kinds of cereal corn, that allowing 1 cwt. for each cubic yard of the bulk of the stack, is a sufficiently correct estimate for practical purposes.

*To find the quantity of hay or corn in a stack from the solid contents in cubic feet being given.*—Divide the contents in cubic feet by the divisor in the foregoing tables which the case and circumstances may require, and the quotient will be the quantity in tons or bushels, as the case may be—hay or corn.

#### Examples.

Required the quantity of meadow hay of the best quality, and also of hay made from seedling Clover and Rye-grass, in a stack containing 6156 cubic feet.

The tabular divisors applicable to the cases and circumstances proposed in the example are 270 for meadow hay, and 324 for hay made from seedling Grass; then the quotient of 6156, divided by 270, is 22·8—the quantity of meadow hay, and 6156, divided by 324, is 19—the quantity of hay made from seedling Clover and Rye-grass, in tons.

Required the quantity of Wheat of medium yield, and also of Oats of medium yield, in a round stack containing 3195 cubic feet.

The tabular divisors required in the case and circumstances proposed in the example are 27 for Wheat, and 13·5 for Oats; then the quotient arising from 3195, divided by 27, is 118·33—the quantity of Wheat, and

3195, divided by 13·5, is 236·66—the quantity of Oats, in imperial bushels.

Required the quantity of meadow hay of the best quality, and also of hay of the best quality made from Clover and Rye-grass, in an oblong stack containing 12150 cubic feet.

The tabular divisors required in the circumstances of the cases are 216 for meadow hay, and 324 for hay made from Clover and Rye-grass; then the quotient of 12150, divided by 216, is 56·25—the quantity of meadow hay, and 12150, divided by 324, is 37·5—the quantity of hay made from Clover and Rye-grass, in tons.

Required the quantity of Barley of large yield, and also of Oats of large yield, in an oblong stack containing 2835 cubic feet.

The tabular divisors applicable to the cases in question are 21·6 for Barley, and 10·8 for Oats; then the quotient of 2835, divided by 21·6, is 131·25—the quantity of Barley, and 2835, divided by 10·8, is 262·5—the quantity of Oats, in imperial bushels.

## Miscellaneous.

*The Cattle Trade.*—The Great Eastern Railway Steam Packet Service, although open only a week, has been very successful, the Blenheim paddle steamer in one single trip bringing over no less than 775 head of live cattle from Rotterdam to Harwich.

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | Barometer corrected to Freezing Point at Mean Sea Level. (At 9 A.M., Railway Time) | Thermometer: Dry Bulb. | Thermometer: Wet Bulb. | Wind: Direction. | Wind: Force, 0—6 | Amount of Cloud, 0—10. | Self-Registering Thermometers, In Shade: Max. | In Shade: Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | Oct. 16 | 29.88 | 51 | 51 | S.W. | 1 | 7 | 58 | 43 | 68 | 44 | 0.07 |
| Saturday .. .. | 17 | 30.05 | 55 | 52 | N.W. | 8 | 8 | 59 | 48 | 60 | 42 | 0.03 |
| Sunday .. .. | 18 | 30.12 | 57 | 54 | S.W. | 2 | 10 | 59 | 44 | 71 | 39 | .. |
| Monday .. .. | 19 | 30.15 | [illegible] | 56 | S.W. | 2 | 10 | 59 | 54 | 66 | 52 | .. |
| Tuesday .. .. | 20 | 30.16 | [illegible] | 56 | S.W. | 0 | 9 | 60 | 54 | 63 | 50 | .. |
| Wednesday .. .. | 21 | 30.17 | 55 | 54 | S.W. | 0 | 10 | 60 | 50 | 65 | 44 | .. |
| Thursday .. .. | 22 | 30.11 | 57 | 55 | N.W. | 2 | 10 | 60 | 49 | 62 | 40 | .. |

## Notices to Correspondents.

BOOKS: *A B.* Spooner on Sheep; Blacklock on Sheep. They are both good books. Mr. Spooner's address is Eling, Southampton.

DISEASED WHEAT: *Mark Lane.* If you crush one of the grains and moisten it, and let it lie for a few hours and then examine it through a microscope, you will find it a mass of moving eel-like animalcules.

GORSE: *B A* asks for the experience of our readers who use Gorse as fodder, as to times of cutting, mode of crushing, condition in which the food is offered to cattle, and quantities consumed, and as to its fitness for sheep, cattle, and horses, respectively.

POTATO PLOUGH: *George Fenn.* "O. F." probably referred to Howard's Potato Plough, but he will doubtless be kind enough to say.

POTATOS AND PEAS: *Agricola.* There is no identifying Potatos by their names, and the Lemon Kidney and Early Top are both unknown to us. The Potatos we should recommend would be the Soden's Early Oxford, so known in the neighbourhood of Reading, a good early sort—and the Axbridge Kidney, a late Kidney of excellent quality till late in the season.

SUBSOIL: *S Broome.* It is impossible to give advice founded upon a mere examination by the eye of a handful of the soil.

WHEAT: *Postans, Brentwood, Essex,* should apply to T. E Pawlett, Esq., Beeston, Sandy, Beds.—*Subscriber.* One year old Wheat will be as good for sowing as new just threshed.

ERRATUM.—Mr. Hatcher's name was erroneously printed 'Thatcher' in our account last week of the meeting of the Berkeley Society, at his seat, Marlwood Grange.


# PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

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Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

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| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet... | £8 10 0 | £2 0 0 | 30 feet by 12 feet ... | £11 15 0 | £2 10 0 |
| 20 feet by 10 feet... | 8 17 6 | 2 0 0 | 40 feet by 15 feet ... | 15 0 0 | 2 15 0 |
| 25 feet by 12 feet... | 10 5 0 | 2 5 0 | 50 feet by 15 feet ... | 18 0 0 | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints

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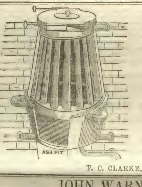


BY HER MAJESTY'S ROYAL LETTERS PATENT.

A PUBLIC BOON.

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SHOWING THE PRINCIPLE OF THE PATENT DEFLECTING FLUE-PLATE OR HEAT PRESERVER.

It will be observed from the annexed diagram, that the deflecting flue-plate is placed on the top of the brickwork just level with the top of the Boiler, leaving a clear space for draught all round, consequently, the great pressure of heat from the furnace is concentrated at the top of the Boiler, and kept in close contact with it by means of the two slides which are regulated in front.

These Boilers are now fully acknowledged by a vast number of practical and experienced Gardeners to be the most Powerful and Economical Boilers extant, requiring less attention and fuel by one-half than any other Boiler they have had to manage, and state that the great improvement consists in the Water Jacket Furnace, and the deflecting flue-plate.

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## BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.

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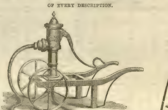
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No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Sprender, and Suction Rose ... ... £5 15 0

1½-INCH 2-PLY RUBBER and CANVAS HOSE ... at per foot 0 1 4

2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... 3 0 0

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Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

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| 3 " .. | 0 4½ | " |
| 4 " .. | 0 5½ | " |
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| 6 " .. | 0 8 | " |
| 7 " .. | 0 10 | " |
| 8 " .. | 1 0 | " |
| 9 " .. | 1 2 | " |
| 10 " .. | 1 4 | " |
| 11 " .. | 1 6 | " |
| 12 " .. | 1 9 | " |
| 13 " .. | 2 0 | " |
| 14 " .. | 2 6 | " |
| 15 " .. | 3 0 | " |
| 16 " .. | 3 6 | " |
| 17 " .. | 4 0 | " |
| 18 " .. | 5 0 | " |
| 19 " .. | 6 0 | " |
| 20 " .. | 7 0 | " |

FLOWER TUBES.

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ZINC HAND GLASSES.

Painted and Glazed with 16-oz. Sheet Glass.

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| 12 inches .. | 5s. 6d. | each |
| 14 " .. | 6 6 | " |
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| 18 " .. | 8 6 | " |
| 20 " .. | 9 6 | " |
| 24 " .. | 11 6 | " |

If open top, 1s. extra.

BEE GLASSES.

| | | |
|---|---|---|
| 4 inches diameter | 0s. 6d. | each |
| 5 " | 0 8 | " |
| 6 " | 0 10 | " |
| 7 " | 1 1 | " |
| 8 " | 1 4 | " |
| 9 " | 1 8 | " |
| 10 " | 2 0 | " |
| 11 " | 2 6 | " |
| 12 " | 3 0 | " |

FLAT TOP BEE GLASSES.

| Height | Width | s. d. | |
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| 4 inches | by 7 inches | 1 6 | each |
| 4½ " | by 7½ " | 1 9 | " |
| 5½ " | by 7½ " | 2 0 | " |
| 6½ " | by 8 " | 2 3 | " |
| 7½ " | by 8½ " | 2 10 | " |

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| Ins. dia. | Shades. | | Stands. | |
|---|---|---|---|---|
| 6 .. | 1s. 4d. | each. | 1s. 0d. | each |
| 7 .. | 1 8 | " | 1 3 | " |
| 8 .. | 2 0 | " | 1 6 | " |
| 9 .. | 2 6 | " | 1 9 | " |
| 10 .. | 3 3 | " | 2 0 | " |
| 11 .. | 4 0 | " | 2 6 | " |
| 12 .. | 5 6 | " | 3 0 | " |
| 13 .. | 7 6 | " | 3 6 | " |
| 14 .. | 10 0 | " | 4 0 | " |
| 15 .. | 14 0 | " | 4 6 | " |
| 16 .. | 18 6 | " | 5 0 | " |

WASP TRAP, 2s. 6d. per doz.

Crystal Glass Shades, Ebony and Gilt Stands, Gas and Lamp Glasses, Chimneys and Globes, &c.

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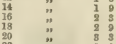
|---|---|---|
| 6 inches diameter | 0s. 6d. | each |
| 8 " | 0 9 | " |
| 10 " | 1 0 | " |
| 12 " | 1 3 | " |
| 14 " | 1 9 | " |
| 16 " | 2 3 | " |
| 18 " | 2 9 | " |
| 20 " | 3 3 | " |
| 22 " | 3 9 | " |
| 24 " | 4 6 | " |



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| 3 .. | 0s. 4½d. .. | 0s. 6½d. | ea. |
| 4 .. | 0 6 .. | 0 9 | " |
| 5 .. | 0 8 .. | 0 11 | " |
| 6 .. | 0 10 .. | 1 2 | " |
| 7 .. | 1 0 .. | 1 4 | " |
| 8 .. | 1 4 .. | 1 8 | " |
| 9 .. | 1 8 .. | 2 2 | " |
| 10 .. | 2 0 .. | 2 8 | " |

FISH GLOBES.

| | Without feet. | With feet. |
|---|---|---|
| 8 inches diam. | | |
| 9 " | | |
| 10 " | | |
| 11 " | Per lb. | |
| 12 " | 7d. | 9d. |
| 13 " | | |
| 14 " | | |
| 15 " | | |
| 16 " | | |

ROLLING PINS.

From 12 inches long, 1½d. per running inch.

CUCUMBER GLASSES.

From 12 inches long and upwards, 1d. per running inch.

SHEET GLASS.

In Cases for cutting up, in Sizes as Manufactured.

| | 300 feet | 200 feet. | | |
|---|---|---|---|---|
| | 15 oz. | 21 oz. | 26 oz. | 32 oz. |
| Fourths quality .. .. | 33s. 6d. | 33s. 6d. | 39s. 6d. | 45s. 9d |
| Thirds do. .. .. | 42 0 | 42 0 | 49 0 | 56 0 |
| Seconds do. .. .. | 62 0 | 64 0 | 74 6 | 85 0 |
| Best do. .. .. | 88 6 | 85 6 | 105 6 | 115 0 |

CRYSTAL SHEET GLASS.

For Pictures and best Glazing purposes.

Averaging 16 oz. to the foot.

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| Best quality, in cases of 200 feet .. .. .. | 100s. |
| Second quality, in cases of 100 feet .. .. | 82s. |

Averaging 30 oz. to the foot.

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| Best quality, in cases of 100 feet .. ... .. | 100s. |
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### SQUARES, in 100 and 200 Feet Boxes.

Small Squares not exceeding 9½ inches by 7½ inches.

| Ins. Ins. | Ins. Ins. | Ins. Ins. | Ins. Ins. |
|---|---|---|---|
| 6 by 4 | 7 by 5 | 8 by 6 | 9 by 7 |
| 6½ by 4½ | 7½ by 5½ | 8½ by 6½ | 9½ by 7½ |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 9s. 9d. | 11s. 3d. | 13s. 9d. | 16s. 9d. |

Squares not exceeding 14 inches by 11 inches.

| | | | |
|---|---|---|---|
| 10 by 8 | 12 by 9 | 12½ by 10½ | 14½ by 10½ |
| 10½ by 6½ | 12½ by 9½ | 13 by 10 | 15 by 10 |
| 11 by 9 | 13 by 9 | 13½ by 10½ | 13 by 11 |
| 11½ by 9½ | 12 by 10 | 14 by 10 | 14 by 11 |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 10s. 9d. | 12s. 3d. | 15s. | 18s. |

Squares not exceeding 20 inches by 18 inches.

| | | | |
|---|---|---|---|
| 15½ by 10½ | 14 by 12 | 17 by 13 | 24 by 16 |
| 16 by 10 | 14½ by 12½ | 18 by 13 | 20 by 17 |
| 14½ by 11½ | 15 by 12 | 18 by 14 | 22 by 17 |
| 15 by 11 | 15½ by 12½ | 22 by 14 | 24 by 17 |
| 15½ by 11½ | 16 by 12 | 24 by 14 | 20 by 18 |
| 16 by 11 | 16½ by 12½ | 22 by 15 | 22 by 18 |
| 13 by 12 | 17 by 12 | 24 by 15 | 24 by 18 |
| 13½ by 12½ | 18 by 12 | 22 by 16 | |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 11s. 6d. | 13s. 6d. | 16s. 6d. | 20s. |

Orchard House Sizes, as recommended by Mr. Rivers.

| Ins. Ins. | 15 oz. | | 21 oz. | | |
|---|---|---|---|---|---|
| 20 by 12 | 4ths .. | 11s. 6d. | 4ths .. .. | 15s. 0d. | Per 100 feet. |
| 20 by 13 | 3rds .. | 13 6 | 3rds .. .. | 19 0 | |
| 20 by 14 | 2nds .. | 16 6 | 2nds .. .. | 25 0 | |
| 20 by 15 | Best .. | 20 0 | Best .. .. | 30 0 | |
| 20 by 16 | | | | | |

Squares Cut to Sizes not on List.

| | 15 oz. | | | | 21 oz. | | | |
|---|---|---|---|---|---|---|---|---|
| Under | 4ths. | 3rds. | 2nds. | 1st | 4ths. | 3rds. | 2nds. | 1st |
| 1 ft. super. | 1½d. | 1¾d. | 2d. | 2½d. | 2½d. | 2¾d. | 3¼d. | 4½d. |
| 2 ft. super. | 1¾ | 2 | 2½ | 3 | 2¾ | 3 | 4 | 5½ |
| 3 ft. super. | 2 | 2¼ | 2¾ | 3½ | 3 | 3½ | 4½ | 6 |
| 4 ft. super. | 2¼ | 2½ | 3 | 4 | 3½ | 3¾ | 4½ | 6½ |

GLASS TILES, in SHEET and ROUGH PLATE. PLATE GLASS, PATENT PLATE, and HARTLEY'S IMPROVED ROUGH PLATE.

### PAINTS, COLOURS, VARNISHES, &c.

| | Per cwt.—s. d. | | Per gallon.—s. d. | | |
|---|---|---|---|---|---|
| GENUINE WHITE LEAD .. .. .. .. | 30 0 | FINE OAK VARNISH .. .. .. .. | 10s. to 12 0 | LINSEED OIL | Subject to fluctuation of the market. |
| ANTI-CORROSION PAINT .. .. .. | 28s. to 34 0 | " CARRIAGE .. .. .. .. | 12s. to 14 0 | BOILED OIL | |
| LINSEED OIL PUTTY .. .. .. .. | 8 0 | PATENT DRYERS .. .. .. | per cwt. 28s. to 42 0 | TURPENTINE | |

MILLED LEAD in Sheet and Pipe of all sizes. Old LEAD bought or taken in exchange.

LIFT PUMPS, WATER CLOSETS, and PLUMBERS' BRASS WORK of all kinds.

**NETT CASH.**

**Now Ready,**

DOBSON'S ONE GUINEA HAMPER of PELARGONIUMS.

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|---|---|---|
| Attraction | Lord Clyde | Queen of England |
| Celeste | Distinction | The Comet |
| Psyche | Souvenir | Bacchus |
| Rosalind | Victory | Lord Chancellor |

**Now Ready,**

DOBSON'S TWO GUINEA HAMPER of PELARGONIUMS.

| | | |
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| Queen of Whites | Startler | Stella |
| Landseer | Monitor | Elector |
| Commandant | Mdlle. Patti | Kettledrum |
| Review | Diadem | Sanspareil Improved |

If wished, other varieties may be substituted.

Hamper and packing included in the above prices.

CATALOGUES now ready, post free, containing all the best varieties, at very moderate prices.

J. Dobson & Sons, Woodlands Nursery, Isleworth, W.

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Woking Nursery, Surrey.

E. R. GREENUS, Railway Nurseries, Watford and Rickmansworth, has to offer this season a fine healthy Stock of FRUIT and FOREST TREES, FLOWERING SHRUBS and EVERGREENS, CONIFERS, STANDARD and DWARF ROSES, CLIMBERS, &c., all of which will remove with the greatest safety; and from E. R. G.'s proximity to the London and North-Western Railway he can execute orders with promptitude and despatch to any part of the kingdom, or Continent.

CATALOGUES forwarded on application.

P.S. A very large Stock of IRISH IVIES, large, in pots, and CLIMBING ROSES; also VARIEGATED and GREEN BOX, 1½ to 2 feet.

**Beck's New Pelargoniums,**

OFFERED FOR THE FIRST TIME.

B. S. WILLIAMS begs to announce that he is now prepared to supply strong plants of the above, which have received certificates of the highest merit during the past and previous seasons. They have been selected with great care, and are far in advance of any yet offered

For descriptions and prices, see *Gardeners' Chronicle*, Oct. 24; also in Catalogue, which can be had on application.

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B. S. WILLIAMS invites inspection of his large and well assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, TREE FERNS, &c., amongst which are some very fine specimens.

A DESCRIPTIVE and PRICED CATALOGUE post free on application.

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THE RED LODGE NURSERY, SOUTHAMPTON extends over 60 acres, and contains an unrivalled stock of AMERICAN PLANTS, FRUIT, FOREST, and ORNAMENTAL TREES, EVERGREEN and FLOWERING SHRUBS, CHOICE CONIFERÆ, STANDARD and DWARF ROSES, &c., all in the best state for removal.

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YOUELL and CO. have much pleasure in offering the above GLADIOLUS, unequalled by any other variety for the brilliancy of its colour. The Bulbs are unusually fine. Price 3*s.* per doz.; 20*s.* per 100.

Trade price on application.

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GREAT FRUIT and CHRYSANTHEMUM SHOW at BIRMINGHAM.—The ANNUAL GREAT FRUIT, GOURD, and CHRYSANTHEMUM SHOW, open to all the World, will take place at the Town Hall, Birmingham, in connection with the Handsworth Horticultural Society (simultaneously with the Cattle, Poultry, and Dog Shows), on TUESDAY, WEDNESDAY, and THURSDAY, December the 1st, 2d, and 3d.

Schedules of Prizes (which include a Ten Guinea Cup for a Collection of Fruit), are now ready, and may be had on application.

Entries close on THURSDAY, November 26.

Chas. Jas. Perry, Castle Bromwich.
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ESTABLISHED UPWARDS OF A CENTURY.

# BUTLER & McCULLOCH,

COVENT GARDEN MARKET, LONDON, W.C.

*All Orders amounting to 21s. sent Carriage Paid.*

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Purchasers who may not require all the sorts mentioned, can have increased quantities of other kinds, or if they think proper, may select from the Catalogue to the amount. The numbers in the columns indicate the quantity of Bulbs in each Collection.

| (B.) | No. 6. £5. | No. 7. £2 10s. | No. 8. £1 5s. | No. 9. £1 1s. | No. 10. 10s. 6d. |
|---|---|---|---|---|---|
| HYACINTHS, finest mixed, colours separate | 100 | 50 | 25 | 25 | 12 |
| NARCISSUS POLYANTHUS, mixed | 50 | 25 | 12 | 12 | 6 |
| TULIPS, splendid mixed | 200 | 100 | 50 | 50 | 20 |
| „ DUC VAN THOL | 100 | 50 | 25 | .. | .. |
| CROCUS in separate colours | 500 | 250 | 125 | 100 | 100 |
| ANEMONES, double, extra fine mixed | 150 | 75 | 36 | 25 | .. |
| „ single, „ „ „ | 150 | 75 | 36 | 25 | 20 |
| RANUNCULUS, Turban, in separate colours | 300 | 150 | 75 | 50 | 20 |
| CROWN IMPERIALS, mixed | 12 | 6 | 3 | .. | .. |
| LILIUMS, separate colours | 25 | 12 | 6 | 6 | 3 |
| IRIS, English, splendid mixed | 100 | 50 | 25 | 25 | 12 |
| „ Spanish „ | 100 | 50 | 25 | 25 | 12 |
| NARCISSUS, GARDEN | 100 | 50 | 25 | 25 | 12 |
| SNOWDROPS | 300 | 150 | 75 | 75 | 50 |
| DOG'S TOOTH VIOLETS | 100 | 50 | 25 | .. | .. |

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The Royal Horticultural Society in March, 1864, offer PRIZES to the above amount for HYACINTHS, TULIPS, and CROCUS.

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| 100 in 100 exhibition varieties | 105*s.* | 100 in 100 extra fine varieties | 84*s.* | 100 very fine varieties | 63*s.* |
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| 100 in 50 exhibition varieties | 25*s.* | 100 in 30 exhibition varieties | 17*s.* 6*d.* | 25 in 25 exhibition varieties | 5*s.* 6*d.* |
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| 500 in 20 exhibition varieties | 21*s.* | 250 in 20 exhibition varieties | 10*s.* 6*d.* | 100 in 20 exhibition varieties | 4*s.* 6*d.* |

COLLECTIONS of BULBS (see our Advertisement, page 886, *Gardeners' Chronicle*, Sept. 19), for the adornment of the SPRING FLOWER GARDEN, CONSERVATORY and SITTING-ROOM.

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## THE SEMPER FIDELIS RASPBERRY.

# MESSRS. JAMES SCLATER & CO.,

DEVON NURSERIES, near EXETER,

As the largest Fruit Growers in the West, can with every confidence recommend this most productive and superior Fruit. The canes from 10 to 12 feet in height, and the fruit proportionately large, of fine flavour, pleasing red colour, and very solid. The canes are of that strength and the wood of that peculiar hardness that they require no support. The most certain cropper, producing fruit in corymbs from 18 inches to 2 feet in length, from the bottom of cane to the top, fruiting in clusters from every eye, producing fruit from July to October. They have been seen by numerous first-class Horticulturists, whose testimonials can be had on application.

**All Orders supplied in strict rotation at 100s. per 100 Canes, or 18s. per dozen.**

*Carriage paid to London, Bristol, or Plymouth.*

MESSRS. HURST and SON, SEED MERCHANTS, 6, LEADENHALL STREET, SOLE LONDON AGENTS.

# The Gardeners' Chronicle.

*SATURDAY, OCTOBER* 31, 1863.

Our readers will be pleased to know that two very fine collections of Apples and Pears from Nova Scotia have just reached the Royal Horticultural Society, and are now on view at South Kensington. They have been sent from Halifax by the Horticultural *Association* of Nova Scotia, and the Horticultural *Society* of the same Colony, and we shall report fully upon them in our next.

About 200 years ago the following entry was made by Mr. Pepys in his "Diary:"—"Sept. 26, 1661. I sent for a cup of tea (a China drink), of which I had never drunk before." The East India Company in 1664 bought 2 lb. 2 oz. of tea as a present to His Majesty, and in 1667 they gave their first order to their agent at Bantam to import it—he was to "send home 100 lb. of the best tea he could get." What a change has taken place in our habits and tastes during these 200 years, and what an important part does that "China drink" now play in our domestic affairs. The leaves of the Tea plant have become one of the necessaries of life amongst most of the civilised nations of the world.

Although chemists may tell us that the decoction from these leaves has no other nutritive quality about it than what is given by the milk and sugar with which we mix it, whole nations have given a different opinion as to its value by the way in which they use it and enjoy it. In England the consumption of tea has increased yearly in a most remarkable manner. The importations have been nearly doubled in the short space of 18 years. In 1844 they were, in round numbers, 51 millions of pounds, while in 1862 they had increased to 109 millions.

There can be little doubt as to the Tea plant being indigenous to China, but its early history

is shrouded in much mystery. The Chinese have a curious legend concerning its origin, which we may repeat without asking our readers to believe it. "Darma—a high priest who lived about a thousand years before the Christian era, came from India to China to teach the way of happiness. He lived a most austere life, passing his days in continual mortification, and retiring by night to solitudes, in which he fed upon the leaves of trees and other vegetable productions only. After several years passed in this manner, in fasting and watching, it happened that, contrary to his vows, the pious Darma fell asleep. When he awoke he was so much enraged at himself that, to prevent the like for the future, he cut off both his eyelids and threw them on the ground. On the following day, returning to his accustomed devotions, he beheld with amazement springing up from his two eyelids, two small shrubs of an unusual appearance, such as he had never before seen, and of whose qualities he was entirely ignorant. Being unusually hungry he was prompted to eat of the leaves, and immediately felt within him a wonderful elevation of mind and a vehement desire for divine contemplation. He communicated all these things to his disciples, who eagerly followed the example of their instructor, and in this way the noble plant which has been the theme of so many pens in succeeding ages came first into notice."

Although the use of the Tea plant as a medicine may date from a very remote period, it does not appear to have been used as a beverage in China until the fifth or sixth century. From that period, however, it has risen rapidly in general estimation, and is now consumed in large quantities all over the Empire. A Chinaman as a rule abhors cold water, and when he is thirsty or weary he always drinks tea. It, no doubt, conduces to the health of the people, and probably has a tendency to ward off those fevers and other diseases common to the country.

Of late years Tea planting has been carried on extensively in our Indian possessions, and it has also been attempted in the United States of America, but the lamentable civil war in that country will probably put a stop to it for the present. A species of Tea was discovered, many years ago, growing wild in Assam (*Thea assamica*), and later a variety very like the Chinese one has been met with in the province of Cachar. The Assam Company, which was formed for the cultivation and manufacture of Tea, was at first a failure, owing principally to bad management, but it is now progressing in a satisfactory manner; large quantities of the leaf are annually produced, and the tea commands a high price in the English market. Many other companies have also been formed in these districts with fair prospects of success.

In the north-western Himalayas (a country pointed out many years ago by Dr. Royle and Dr. Falconer) Dr. Jameson, on behalf of the Government, has been engaged in introducing and cultivating the Tea plant, and his labours would appear to have been crowned with the most complete success. In the provinces of Gurhwal, Kumaon, and in the Punjab, near Kangra, the lower slopes of many of the hills are now clothed with healthy thriving plantations.

The Government having thus shown in a satisfactory manner that Tea can be cultivated with success and profitably in these districts, is about to leave its further development to private hands. Already companies and individuals are settling down on the slopes of these Indian mountains, and if they only bring a fair share of intelligence and skill to their aid, the results can scarcely be of a doubtful kind.

The *Bombay Gazette*, received a few days ago, informs us that the Viceroy's first visit after leaving his summer quarters in Simla would be paid to one of these plantations:—"His Excellency will first visit the Kangra Valley to see the progress of Tea planting there." The Kangra Valley, which Lord Elgin proposed to visit on leaving Simla, is perhaps the best of all the sites chosen by the Government, and it is certainly the most healthy for the English planter. It lies on the south side of the Chumba range of mountains, in latitude 32° north and longitude 76° 30' east. Snow falls annually during the months of November and December, and the winters are sufficiently cold to set vegetation completely at rest, a circumstance of much importance in Tea cultivation. In short, this district would seem to be well adapted to the purposes the Government has in view, and to be almost equal to the best districts in China. Even if China and Japan are somewhat better adapted, owing to climate, &c., to the cultivation of our national beverage than any other country in the world, yet we would not wish to be entirely dependent on these countries for our annual supplies. Our cotton trade with the Southern States of America has taught us this lesson, if we have not learned it before, and it is one which we are not likely to forget. The nations of the earth will have to grow wiser and better before they are likely to convert their "swords into plough-shares, and their spears into pruning-hooks," and until that peaceful time arrives, we must be content to draw the supplies of our necessaries and luxuries from any part of the world in which they can be produced. May all success then attend Tea-planting in our Indian dominions.

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Should we cut off the runners of Strawberries, or should we not? This question was proposed at one of the recent meetings of the Société Impériale et Centrale d'Horticulture, Paris; and as it was not solved, M. Ferdinand Gloede gives, in the Journal of the above Society, his opinion, founded on 14 years' experience, the results of which, he says, leave no doubt in his mind on the subject. He considers that it would be as absurd to allow the runners of Strawberries to proceed unchecked, if we have in view an abundant crop, as it would be to permit the over-luxuriant branches of a fruit tree to grow at full liberty. "I boldly affirm," says M. Gloede, "that it is essential to give the strictest attention to cutting off the runners of Strawberries immediately they make their appearance, if we wish to obtain the maximum quantity of fruit which each variety is capable of producing." In proof of his assertion, besides his own experience, he refers to Strawberry plantations at Chalons-sur-Marne, and especially to those of Dr. Nicaise, who keeps continually cutting off the runners; and although there are equally good cultivators in other respects at the same place, yet, from their not paying due attention to trimming off the runners as practised by Dr. Nicaise, his plantations exhibit at a glance a decided superiority not only as regards the vigour of the plants, but likewise the beauty, goodness, and abundance of the fruit.

It is the general opinion of Strawberry growers in this country that Strawberry runners should be taken off, but the operation is not uniformly practised. It is done, however, by the best growers for the London market. Mr. Keens, who was an extensive grower, and the raiser of the well-known sort which bears his name, kept the plants distinct, and divested them of runners three times in the course of the season. He planted in rows two feet apart, with an interval of three feet between every two rows. Mr. Myatt, the noted grower, and who has raised some of our best sorts, plants in rows 18 inches apart, but leaves a space of 2½ feet between every three rows; Mr. Lydiard, one of the best growers at Bath, plants in rows 2½ feet apart and 2 feet from each other in the row. It thus appears that all these first-rate cultivators allow a large space for each plant, notwithstanding the high value of the ground occupied by the plantations. Instead of wide planting, had it been more profitable to allow the runners to take possession of the whole surface of the intervals, these men would have suffered their plants to do so.

Unquestionably Strawberry runners tend to exhaust the parent plant in two ways, directly and indirectly. In the first instance the runner must draw its nourishment directly and wholly from the plant from which it proceeds until such time as it can emit roots and become, at least to a considerable extent, self-supporting. The runner then commences to push forward again, and at a greater or less distance another joint is formed, and usually the rudiment of a third plant is developed. This second, as well as the subsequent similar efforts, are probably made with assistance from the parent stool, but to a less extent than in the first production. Thus plant after plant from the runners is rapidly established, and if the weather proves moist and favourable, and the runners are not checked, the ground is soon thickly beset with young plants. These grow vigorously, and indirectly tend to weaken the bearing plants by robbing them of much of the available nourishment which the soil contains. In this way the plants emitted from runners act as injuriously as weeds: perhaps indeed more so than some kinds of weeds, for the runner plants draw from the soil and appropriate exactly that kind of nourishment which the mother plant requires.

From what has now been stated, nobody can doubt that runners should be cleared away, unless wanted for propagation. In doing this, however, there is one point which deserves consideration. Mr. Knight states (*Horticultural Transactions*, v. 6, p. 104) that "every runner is, in its incipient state of formation, capable of becoming a fruit-stalk, and if too great a number of runners be taken off in the summer, others will be emitted by the plants, which would under other circumstances have been transmuted into fruit stalks." Runners should not, we think, in all cases be cut off on their first appearance, when the fruiting plants are inclined to grow too much to leaf; but when the runner has formed a second joint it may then be cut off nearly close to the plant from which it proceeds.

Much as has been written respecting the cultivation of Strawberries, experiments with reference to the above points might even now be made with advantageous results.

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A paragraph to the following effect has been going the round of the Daily Papers:—"The American Tea Company, an association chartered by the Legislature of Pennsylvania, have employed Dr. Bonsall, 'a man of experience and character,' to examine the American Tea plant, and he speaks most confidently and encouragingly as to the success of their undertaking. He declares that the Tea plant exists in Pennsylvania and Western Maryland beyond all doubt. It grows indigenously, he states, in the greatest luxuriance and abundance; limited, however, to those localities which afford the peculiar soil indispensable to it, as is the case in China, Assam, and Japan. The character of the plant differs somewhat from the Chinese variety, but the difference is not greater than might be expected from the difference of climate and soil of the two countries. The leaf is almost identical with some of the varieties from which the best tea is made in Assam; and Dr. Bonsall expresses his belief that tea equal to any that is brought from China could be made from this plant."

Can any of the intelligent readers of the *Gardeners' Chronicle* say what this means? Of course the statement as it stands is preposterous. There are plenty of wild shrubs in the United States bearing locally the name of Tea, but nothing that has any real relation to the Asiatic genus Thea, which alone produces our domestic leaf.

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—— A correspondent asks for further information on the insect-destroying Pyrethrum Willemoti, briefly alluded to at p. 967. We therefore append some particulars respecting the plant and its application, condensed from the paper of M. Willemot, to which reference has been made.

According to M. Willemot, the greater number of the plants which furnish the most satisfactory means for the destruction of insects belong to Pyrethrum. The inhabitants of the Caucasian regions seem to have been the first to discover the properties of the Pyrethrums, and to have tried on a large scale the powders obtained from them. The species employed differ in different localities. Thus the inhabitants of the Caucasus chose that kind which is most abundant in their own country; in Armenia they prefer the Pyrethrum roseum of Bieberstein, commonly called Lowizachek or Flea-plant; while the Persian powder which appears to be most extensively used, is almost wholly composed of the Pyrethrum carneum of Bieberstein. It was about 1850 when the first powder of Pyrethrum was introduced into France for the destruction of insects in houses. The powder came exclusively from the provinces of the Caucasus, of Persia, and Dalmatia, that from the Caucasus being the best.

For a long period a preparation for the destruction of injurious insects had been used throughout the Russian Caucasus, and had been regarded as a secret by the rest of the world, until its properties became known to Mr. Jumtikoff, a merchant, while travelling through that country some 40 years ago. He communicated his discovery to his son, who manufactured the article in 1828. This powder, or the plant from which it was obtained, was soon after introduced into Alexandropol; and subsequently the powder got into use in Germany and France, where its popularity is rapidly increasing. At present there are more than 20 villages in the district of Alexandropol engaged in cultivating this plant, and collecting its flowers. The plant grows on the mountains of the Caucasus, at an elevation of 5650 feet above the sea, and is of easy cultivation. The parts from which the powder is made, are the dried flower-heads, gathered when ripe on fine days, usually dried in the sun, but better in the shade, being occasionally turned during the process. When dried, they are first comminuted with the hand, and then reduced to powder in a small mill. The powder is best preserved in sealed glass vessels. It may b

applied either in the powder state, or as an infusion, the latter form being thought the more convenient. when intended for the destruction of insects on plants. The powder may also be applied directly to the insects themselves or to the places they frequent. They are attracted by its smell, become stupified, and immediately die. It is estimated that the amount of the powder consumed annually in Russia alone is about 500 tons.

It was not till 1856 that, after many efforts, good seeds of this Caucasian Pyrethrum were obtained by M. WILLEMOT; and even when plants were raised from them, it was some time before its true name was ascertained. At first it was regarded as Pyrethrum roseum; then, with better materials, Professor DECAISNE referred it to the Pyrethrum pedunculare of the same region, and subsequently to the Pyrethrum elongatum of FISCHER and MEYER; and finally M. DUCHARTRE, who made it an object of especial study, considering that it had not been yet described, published it as Pyrethrum Willemoti. It is a herbaceous perennial, whitish from its vestiture of cottony hairs, and forming roundish tufts, above which the heads of flowers are elevated on long stalks. The lower leaves are 6 or 8 inches long and a couple of inches broad, pinnatifid with the segments again lobed and toothed; those of the upper part of the stem are less divided. The flower heads resemble those of the Ox-eye Daisy, having a yellow disk and from 12 to 15 white rays. The herbage has a very bitter taste.

Though inhabiting the Caucasus, at but a slight elevation above the sea, under a latitude warmer than that of Paris, this Pyrethrum is found to succeed very well on good soil in France, being very hardy and capable of sustaining without injury the severity of the winters. A few years' experience has taught M. WILLEMOT that it needs no winter shelter. The soil best adapted for it is a fine earth, somewhat siliceous and dry. Moisture in considerable quantity and manure are both said to be injurious. A southern aspect is most favourable. The best season for planting the seeds is during March and April, or even in February if the weather permit. They are sown in prepared beds, and when large enough transplanted, and again at a later period at wider distances according to their strength. The plants commence blooming in the second year towards the end of May, and continue blooming till the end of September. It is within this period that the heads from which the powder is to be made must be gathered. The best time for gathering is when the heads are about to open, that is when the florets of the ray are yet erect, for in this state the essential oil contained in the heads has reached its highest state of development. The stalks and leaves, though having the properties in a less degree, may be used also for making the powder, but they must be mixed with the flower-heads only in the proportion of one-third of their weight. The powder thus obtained will answer perfectly for the destruction of insects. As the flower-heads are cut, they are dried in a granary or shed, care being taken not to expose them to moisture or to the sun. When completely dried they are hermetically closed up, so as to prevent the dissipation of their active properties. In pulverising them it is better not to take a larger quantity than the wants of the moment may require. The volatilisation, which is of course more rapid in the powdered form, will thus be avoided. It has been suggested that the drying of the flowers for making the powder might be effected on sheet-iron plates, as tea-leaves are dried in China, but this is a most injurious plan, from its dissipating the essential oil. The best mode of pulverisation is to pound the flowers in a covered mortar such as is used for drugs. Small quantities only should be pulverised at one time, that the mass may not become heated. The pulverised substance is sifted through a silk sieve, and the residue returned to the mortar, with an addition of fresh flower-heads. The best receptacles for holding the powder are well corked or stoppered bottles. Towards the end of September, when the flowering is past, the stems of the plants are cut off at about 4 inches from the ground.

In regard to the insecticide uses of this Pyrethrum powder, M. WILLEMOT states that of the numerous insects injurious to agriculture and horticulture, the following are known to be destroyed by its agency:— Weevils, bark beetles, Wheat-flies, cocci, aphides, earwigs, spiders, ants, and the various species which annoy our domestic animals. Not only are the perfectly-developed insects destroyed, but also the larvæ, which are often the most injurious. The powder is equally efficacious in destroying insects which are obnoxious to man, and his habitation; gnats and musquitoes are banished, bugs, fleas, and flies disappear; and weevils, midges, crickets, cockroaches, &c., the great plagues of depots of stores of whatever kind, are destroyed. Again, if applied in time, this powder will effectually preserve woollen articles and furs and feathers, as well as natural history collections and herbaria, from their respective insect pests. Finally, it is perfectly innocuous to man.

M. WILLEMOT gives the following directions as to the mode of applying the powder. A careful and sufficient application is insisted on, and the powder itself must have been kept close, and unexposed to air and moisture. It is also rendered less efficient by a cold, damp or rainy day. Of all methods of applying the powder to plants attacked by insects, he considers the bellows will best accomplish the object, for on account of the small quantity which is thrown at once, the loss is in this way smaller. In whatever form it should be applied directly to the affected parts, so as to be brought in contact with the insects. In all cases the operation should take place on a warm day, the morning being preferable. A slight moisture arising from morning dew will cause the powder to adhere the more readily, and it will maintain its properties long enough to cause the death of the insects. The insufflation should be renewed several times according to the nature and number of insects to be destroyed. The first operation generally stupifies them; while at the second or third they lose their strength, fall to the ground, and die sooner or later.

## New Plants.

263. ABIES (PICEA) ENGELMANNI, *Parry, St. Louis Trans. 2, p. 122; Abies nigra, Engelm. in Sill. Jour. 33, p. 330, non Poir.*

Arbor elatior, pyramidata; cortice tenui squamato rubello; ramulis pubescentibus; perulis ovatis obtusis squarrosis; foliis confertis robustis compresso-tetragonis abrupte acutiusculis plerumque curvatis; amentis ovato-cylindricis perulis late ovatis involucratis, feminearum bracteis squamas ovatas obtusas crenulatas squarrosas longitudine subæquantibus; strobilis ovato-cylindricis obtusis terminalibus lateralibusve cum ramulis suis horizontalibus seu declinatis, squamis tenuibus obovato-rhombeis apice plus minus truncatis emarginatis crenulato-erosis; seminum ala oblique obovata.

Higher parts of the Rocky Mountains, from New Mexico to the headwaters of the Columbia and Missouri Rivers, and probably further; from the subalpine to the alpine districts, and with Pinus aristata reaching the highest limits of timber; occupying in Colorado a belt between the limits of 8000 and 12,000 feet, it reaches its fullest development between 9000 and 10,000 feet, near the headwaters of the streams on both slopes of the Snowy Range, constituting magnificent forests about the head of Middle Park, at Tarryall, etc., often mixed with Abies grandis; not found lower down, e. g. at Fontaine-qui-bouit, where Picea [Abies] Menziesii, with Tsuga [Abies] Douglasii, reign as monarchs of the forest. Fl. end of June.

In its most favourable localities this species makes a stately tree, 60—100 ft. high, forming a narrow, sharply-tapering spire, of a rather darkish hue; trunk perfectly straight, columnar, tapering very gradually, $1\frac{1}{2}$—$2\frac{1}{2}$ feet in diameter; branches mostly small, lower ones horizontal, upper ones ascending; on higher altitudes it is a smaller, nearly round-topped tree, very much branched, bearing more perfect fruit than in either lower or higher elevations; on the highest summits a prostrate and almost creeping, sterile shrub, just as Picea nigra is found on Mt. Washington, N. H. Bark only 1—$1\frac{1}{2}$ line thick, scaly, reddish grayish purple or light purplish-brown, containing much tannin; wood soft, white, not knotty nor resinous, therefore much esteemed for inside and cabinet work; annual rings $\frac{1}{4}$—$1\frac{1}{4}$ line, on an average $\frac{2}{3}$—1 line, wide. Leaves stouter than they usually are in P. alba or nigra, but less so than in P. Menziesii; in the higher localities 6—9 lines long and not quite 1 line wide; strongly carinate below, less so above, with a few lines of white stomata above and below, abruptly but not sharply acute; in lower localities the leaves are more slender and 8—12 l. long, and, if I am correct in referring here some doubtful forms, it occurs also with whiter, more slender and longer leaves, (10—15 l.; Fendler, No. 833, from a young tree without cones, mountain valley above Santa Fé,) and with almost glabrous branches and still more slender and very acute leaves (5—10 l.; Dr. Hayden, from the Big Horn Mountains; detached cones from that locality certainly belong here). I find the leaves in this genus extremely variable; P. nigra at least, of which I have been able to compare a large number of specimens, varies so much, that any attempt to base specific characters on the form of the leaves seems nugatory; the leaves in that species are straight or curved, slender or stout, quadrangular or compressed, —acute, subacute or very obtuse,—whitish, pale or dark green,—usually only 4—6, but also 10—15 lines long; the fruit, however, differs in its position from that of all other Piceæ known to me, being borne on short, recurved, scaly peduncles; it is 10—20 lines long, oval, acutish; scales thick at base, very thin at the crenulate edges. P. alba is also best characterised by the slender cylindric cones, 1—3 inches long, with thin scales, entire but not thickened, as I inadvertently stated in Sill. Jour. l. c. The true characters and the limits of variation of these species are now being investigated by Prof. O. Brunet, of Quebec, who, living in the midst of them, will be able to solve many doubts heretofore existing, and to give us their correct history. —Male aments of P. Engelmanni 6—9 l. long, on short stipes; anthers $1\frac{1}{2}$ l. long; female aments 9—10 l. long, with ovate lanceolate scales almost equalling in length the dark purple fleshy scales. Cones scattered on the tree, never very abundant, $1\frac{1}{2}$—$2\frac{1}{2}$ (usually less than 2) inches long, $\frac{3}{4}$ inch or less in diameter when closed; light yellowish-brown with the lower part of the scales dark when fresh, all reddish-brown when old; scales 6 l. wide and 6—8 l. long in well-grown specimens, rhombic with truncated end; in poorer ones, such as grow in lower elevations, shorter, more rounded, with the truncation indistinct. I observe the same difference in cones of P. excelsa, grown on bushy trees near their *upper* limit in Switzerland; there also cones, scales, and seeds are smaller, and the truncation of the scales is almost impeiceptible. Seeds about 1 l. long without and $4\frac{1}{2}$ l. long with the wing, which here, as in all Piceæ, overlaps the inner edge of the seed, dropping it at maturity; cotyledons, as in most species, 6, rarely 5; in P. excelsa I find 8, or rarely 9, (not 2—3, as Endlicher inadvertently stated,) and in the alpine specimens, mentioned above, only 6 cotyledons.

Picea Menziesii, the only other species of Colorado, is entirely subalpine, occurring between the limits of 7000 and 9000 feet, in low, moist or marshy soil, especially on the borders of streams; it is, as Dr. Parry informs me, a tree of a more oval outline, pointed upwards, with a more rapidly tapering trunk; thicker ($\frac{1}{2}$ in.), grayish, moderately rough bark; rapidly-growing (annual rings $1\frac{1}{2}$—2 l. on an average), harsh-grained, brittle, knotty, resinous wood; stout, light-coloured, smooth, glossy branchlets; stout, broad, sharply-pointed leaves; longer (9—12 l.) male and female aments, the latter composed of pale, glistening, orbicular scales, which are many times longer than the minute bract; cylindric cones, 3—$4\frac{1}{2}$ inches long, drooping perpendicularly with the branch or usually at an angle with it, abundant even on young (12—15 feet high) trees, crowded especially towards the top of the tree and very conspicuous, whitish at maturity but turning light brown and persisting on the tree for another year until the new crop matures; scales elongated rhombic, 9—11 l. long, truncate, more than twice as long as the seed with its triangular obovate wing. The alpine P. Williamsonii, Newb., from the Cascade Mountains, Oregon, which I have not been able to compare, seems to be well distinguished by its peculiarly reflexed scales. *Engelmann, in Transactions of Academy of Sciences of Philadelphia.*

## A FEW THINGS RELATING TO ROSES.

1. *Moss.* — On full consideration, I think that showing Roses on Moss is the best way. It is difficult in this life to make things quite equal. Those who can get tree Moss have a great advantage over those who can only get ground Moss. The quality of this differs according to the richness or poorness of the ground. Here the soil is mainly poor, and I, for one, can only procure something that bears the name of Moss. Sometimes it is as brown as a door mat.

2. *The Show Box.*—This should be 6 inches high at the back and 4 inches in front. The width should be 18 inches, including the wood. The proper length is 3 feet, but, if notice is given of the length of the box, the length is not material. To meet the upraised tendency of the back and centre, strips of wood should be nailed or screwed to the bottom of the box at the top and centre. This will make the cups level. Supposing the box to be for 24 Roses, in three lines of 8 Roses, the base of the cups may be fixed with tin tacks in their places; and being fixed, hay-bands or chips will suffice to stuff up the box, the surface being covered with Moss; where Moss is scarce, as it is here, this will be found economical. The cover of the show box should not be painted, as paint draws the heat. A wet cloth, in very hot weather, should be put over the box. The heat and shaking of a train does much mischief.

3. *The Bud Rule.*—Much diversity of opinion on this subject prevails, even among those perfectly able to form an opinion. Those who have large stocks of Roses and good land are generally for enforcing the bud rule—a rule which never is enforced, and which therefore is a very unwise rule. Were the rule enforced, there would be scarcely a box without the "disqualification." The judges at the National have no time to examine bud removals; they have barely time to count the good Roses. The bud rule is rather hard upon those who have small stocks of Roses and inferior land. Were they allowed to disbud, they might get a bloom larger and forward enough for the show day, which else would be left behind, and an inferior one would be taken in its place. The difficulties of getting good blooms and conveying them in condition long distances are sufficient already. None but those who exhibit know what a toil it is. The best way is to have no rule at all. Those who have a good Rose with clean buds will be sure to take it. A good Rose with bad buds is spoiled. The best 24 Roses that I ever saw were exhibited by Mr. J. Keynes at the Floral Hall, Covent Garden, some years back. Such of them as were not natively single had been disbudded: I give him credit for his good sense; he won the 1st prize rightly. Mr. Cranston won the 2d; these had their buds on, and were, though not quite so large, very fine Roses. They were the best 24 that I ever saw with their buds on. What we want at exhibitions is good specimens. I can assure your readers that, having acted as censor twice at the National Rose Show, with Mr. Wood—a fair and most pains-taking censor—together with others not less so, the proportion of bad, indifferent, and out-of-condition Roses quite astonished me. In the year 1862 this was especially the case. In that year the Roses from Reed Hall were as good as if they had been turned in a lathe. Mr. Hedge must be crowned king!

As regards trebles, I agree with Mr. W. Paul, that they afford an opportunity of seeing a Rose in different

stages of development; but if they are not all three in good condition, the bad one and the indifferent one make my eyes ache so, that I cannot enjoy the one which is good. I for one do not care for effective Roses or effective bushes. I look for good specimens in both cases. I was in a neighbouring county at a Rose Show some years back, where effectiveness was the order of the day. The boxes were, with one exception, more or less dressed with leaves. I observed to a gardener whose box was a "wiggery of false hair,"—"I don't like your system of dressing up." He looked at me seriously and full in the face, and said, "Why, Mr. Radclyffe, I am ''stonished' at you—a gentleman as knows a Rose so well as you—why, you would entirely 'disappint' the public and 'spile' the show!" I laughed heartily; won during the year three 2d prizes, and an extra prize for a collection of 106 Roses in September; paid my subscription for another year, like a man; and withdrew from further "effectiveness."

Nothing should be added to a truss; but I would allow disbudding. Some Roses, such as Duchesse d'Orleans and Sœur des Anges, often cast five buds of the same age and size, four of which should be removed, or they would spoil each other. In some cases the buds are so close to the centre one that it could not expand without the removal of the surrounding ones.

4. *Rose Judges.*—It is not every judge of florists' flowers that is fit for a Rose judge. None but extensive growers are really fit for it; and for this reason: Roses alter so much in travel, that three Roses usually quite distinct may look like each other. I have seen Auguste Mie, Duchesse d'Orleans, and the H. P. Queen of Denmark, look so like each other, that a non-rosarian would have disqualified the box. On one occasion I saved a gentleman from this disgrace, and he got a prize, I think a fourth prize. The Roses were rightly named.

5. *Pot Roses—Novelties.*—These generally arrive tied to a currant twig, which roots faster than the stock. The ties should be cut with a pair of scissors, and the twig should be removed and replaced with a dead twig. Scissors are better than a knife, as you are less likely to bruise the unhardened wood, which looks like seedling Asparagus three weeks old. If the novelty arrives in the autumn take it out of the pot, and plant it in the Cucumber frame. Don't water it, but put dry leaves over the surface. I lost none so treated last year. If a pot plant arrives in summer in clayey mould baked as hard as a brick, before you plant it out, soak it in a bucket of water till the ball is wet through, or you will never wet it. White fungus will then ensue, and the plant will make no growth. A 12 hours' rain alone would wet this hard ball.

After you have wintered your novelties in the frame, in May plant them in two rows with their balls on, on raised banks, such as Thorn hedges are planted on. I planted out this spring 66 frame-wintered pot plants, and no Roses, even established Roses, could have grown and bloomed better. The banks are about 3 feet wide, with ditches between them. The banks run north and south, so that the rising sun heats one side, and the setting sun the other. The top is heated by the sun in the ascendant. After planting, I put on a heavy mulching of black dung battered down, and covered the manure with 2 inches of burnt field ashes, to protect the mulching; these were also battered down. Water, during the torrid weather, was poured on the centre copiously. Thirty-three plants, in equal shares of 11, were Prince Camille de Rohan, Duc de Cazes, Princesse Mathilde, and one Vulcain, all dark Roses. I saw, on one occasion, besides continuity of blooming, 80 good blooms at one time—a very fine sight. Many of these plants are now 4 feet high, and strong.

I am induced to send this article from the great number of flattering encouragements which I have received from all grades in society, and from all parts of this kingdom. The following grateful letter from a gentleman at Middleton, in Teesdale, will gratify the Editor, no less than it has gratified me:—"Having last autumn purchased a number of Roses of the right stamp, recommended by you in the *Gardeners' Chronicle*, I beg to ask you to mark the undermentioned kinds that you consider good and vigorous growing. I am so charmed with the Roses that you recommended that I am induced to ask this favour. Our soil is stiff and strong, and none but vigorous growers are of any use to us. Sénateur Vaisse, recommended by you, has bloomed splendidly, and is the most magnificent Rose that I ever saw." *W. F. Radclyffe, Rushton, Oct.* 13.

## BIRDS *versus* GARDENS, &c.—No. III.

(*Concluded from p.* 988.)

The *Times* sums up the arguments *pro* and *con.* in this question in a leading article, of which the following is the substance.

The fruits of the earth are exposed to the depredations of birds and insects, but birds, besides preying upon fruit, prey upon insects too. It was obvious, therefore, to argue that the extermination of birds would but leave the insects in greater multitudes and with greater powers of destruction than before, and that more than was gained on one side would consequently be lost on the other. This argument was corroborated by the researches and observations of naturalists, who described the habits of birds in seeking food for themselves and their young, analysed the actual contents of their stomachs, and proved to demonstration that, instead of living mainly on fruit and grain, these little creatures lived chiefly on the grubs and insects by which fruit and grain are destroyed. The reasoning on the other side was by no means so conclusive. Gardens had been known full of birds, and yet full of caterpillars too, so that while it was quite certain that birds ate fruit, it was less so that they ate grubs in any profitable proportion. But this evidence at best could only prove that in some seasons the plague of caterpillars could not be materially mitigated by any activity on the part of the birds. It showed not that they did nothing, but that all they could do was insufficient. The true question of course is, what would have been the state of things if the birds had not been there, and the caterpillars had been left to multiply undisturbed.

No person with any knowledge of the subject would expect under any circumstances to secure a full crop of fruit every year. What with frost, blight, storms, grubs, caterpillars, wasps, flies, and thieves, it is certain that his crops would be incessantly exposed to constant detriment, and that detriment would be greater rather than less if birds could be put entirely out of the way. In favour of the birds there is at least presumption, if not proof. It is only during a portion, and not a large portion, of the year that the birds can find any fruit to destroy; but they must live all the year round, and therefore of necessity eat fruit at a less rate than grubs. But the strongest evidence in the case is to be drawn from the actual experience of our French neighbours. In France the exterminators have really had their way. Partly for the sake of protecting their crops, and partly for the pleasure of eating their victims, the small farmers on the other side of the Channel have long waged war against small birds, and the minute subdivision of property has probably aided them in doing so with effect. The result is that you may travel for leagues in France without hearing a chirp or seeing the flutter of a feather along the hedge. But that result has been attended with an incident by no means satisfactory. What our naturalists have predicted as a possible contingency in England has actually occurred in France. Relieved from their feathered enemies, the grubs and insects have multiplied to such a degree as to be alarmingly numerous and destructive. A commission has been appointed to sit upon the subject, and its report was decidedly against the extermination of birds. An eminent French historian has taken up the question as bearing vitally on the interests of his country, and has framed his conclusion with striking sententiousness. "The bird," says M. Michelet, "can live without man, but man cannot live without the bird."

We will not go all those lengths in our decision, but it certainly appears to be demonstrated, with as much clearness as such a case admits, that "Bird Murder" does not conduce to that end for the sake of which alone it is perpetrated. The wholesale massacre of these little creatures brings no gain either to the farmer or the gardener. If the fruit which they might otherwise eat is saved, that fruit is exposed in consequence to worse attacks than before. It is not to be denied that they take toll of our crops, but they repay us in kind by aiding in the preservation of the remainder. The case against them is not established by showing that they eat a good deal of fruit, or that they fail to eat up every caterpillar. It is not pretended that they do more than preserve a certain balance, and prevent other creatures from acquiring formidable power. This much, however, there is reason to believe that they do really accomplish, and it necessarily follows that they earn their living, and should not be held to have forfeited their lives as evil-doers exclusively. The old proverb of "Live and let live" contains the essence of the whol case.

The utilitarian argument is supplemented by the gratification which the feathered tribes may be said to afford us by their songs, their plumage, and their company. We see from the example of our fellow-countrymen in Australia how the company of birds, like other things, is valued when it is lost. They, at any rate, do not put grubs and goldfinches on the same footing. They have expended considerable sums and no slight efforts in endeavouring to procure small birds from England; but they have not sent over for caterpillars or slugs. The interest which may be taken in ornithology is inexhaustible. The late Bishop Stanley has remarked that whereas fishes are only occasionally visible, and beasts in these islands but few in kind, birds are always accessible in comparatively infinite variety. It would probably surprise the reader to reckon up the several kinds of beasts known in Britain, and to find how very quickly he got to the end of the catalogue. But there are birds of fresh kinds, fresh plumage, and different habits to be found along every hedge, insomuch that even an experienced naturalist may sometimes be puzzled by a specimen. We think little of these things now, because we possess them, but if they were lost our farmers would be as ill off as French farmers for the want of them, and our people generally as anxious as Australians to see them once more.

The controversy has not established the absolu innocence of birds in gardens, but it has proved their claim to toleration and their title to life by showing that they do more good than harm.

## MANAGEMENT OF APRICOT TREES IN POTS.

It is perhaps not generally known that Apricot trees in pots require the soil to be very firm. As this is the season when they should be top-dressed, that is, have the surface soil removed and replaced with fresh, a word or two of advice may be useful. A tenacious brownish or yellowish loam, if slightly calcareous all the better, and rich half decomposed manure, equal parts, form the best compost. Instead of removing the soil from the pots to a depth of 4 or 5 inches as usual, the better mode is to remove but a small portion, not more than 2 inches in depth, and replace it with the above compost, allowing it to remain in the pots in the orchard house for a week, so that it is partially dry, then ramming it down as firmly as possible till the surface is as hard as the well-trodden path often seen in front of an Apricot tree trained to a cottage.

So well do these trees flourish in a firm soil that in districts where tenacious loam cannot be procured, it is good practice not to disturb the roots in autumn by giving them a top-dressing, but to allow the pots to remain in the orchard house from the end of October till mild weather in February, their roots undisturbed and without water; then when the blossom-buds begin to swell to give them water; and when the fruit has set and is about the size of a small horse-bean, not till then, to scrape off the loose surface soil and give them a rich surface dressing of manure, saturated with strong liquid manure, and mixed with a liberal portion of superphosphate of lime; this compost should be formed into a basin and lie above the rim of the pot.

Those who saw the row of standard and half-standard Apricot trees standing in the centre of the large orchard house at Sawbridgeworth last July will not soon forget the sight. Every tree had large dark green luxuriant leaves, among which shone out the bright golden fruit, not small like those mentioned by Mr. Cox, but full sized, and of the most exquisite flavour. The proper management of Apricot trees in pots is the most simple of all orchard-house culture, and has yet been the most fertile in error. What culture can be more simple than to be able to grow a fine description of fruit—in my opinion the most rich and delicious of all stone fruits—without the trouble of repotting or top-dressing, but merely in May and June, for two months only, to give, say once a fortnight, a rich surface dressing as soon as the roots have devoured that previously given? Allow me to suggest to those of your readers who have failed in Apricot culture in pots under glass to try again, adhering to the following short and simple rules.

Soil in pots to be kept undisturbed throughout the year; to be perfectly dry from the end of October till mild weather in February. As soon as the fruit is set to commence rich surface dressings. Not to syringe the trees daily, but only once a week. To pinch off the end of every young shoot as soon as it has grown to the length of 5 inches. If Apricots can be grown at Sawbridgeworth after this simple method in high perfection, why should not every amateur be able to grow them? *Moor Park.*

## FISH AND FISHING.—No. XVIII.

### (5) How Grayling got to England.

(*Continued from p.* 1014).

*Piscator:* But is it necessary, in support of the proposition, to prove that near every stream in which grayling are found monks formerly dwelt? Might not the fish have been transported into that part of the Dee from some other river, as the Teme, or the Clun in Shropshire, for instance, by some lords of the soil, in imitation of the monks elsewhere.

*Cath.:* That never struck me; yet I am so much interested by, and in love with the idea, that I would fain carry it even higher, and give the monks all the credit. You know their extraordinary taste in all matters of refinement, which the age and circumstances in which they lived permitted. Tradition does not in any instance hand down to us the suggestion that any man or body of men in those early days, except the monks, cultivated such tastes, or were likely to trouble themselves about importing fish; and you know the necessities for fish among monks and Catholics in general. The days of abstinence and fasting among the Catholics were then far more numerous than our Church at present prescribes, formerly being about 200 out of the 365 days of the year, and now being about 105 only, whilst some religious orders were prohibited from the use of flesh meat altogether throughout the year. Of course you are aware that such things are merely rules of discipline, not of doctrine or of faith. Then, too, all Christians in England were Catholics, and thence the extreme necessity for encouraging the preservation of fish of every denomination. Then, again, viewing the grayling as a mere delicacy, be it remembered that when kings and grandees travelled in those days, they were invariably entertained with splendour by the Lord Abbots at the

monasteries; and surely the grayling was, as it is, "the dainty dish to set before the king."

*Pisc.:* But what say you to Sir H. Davy's first portion of objection?

*Cath.:* What? that about the grayling not being in the Stour* near Canterbury, or in any part of Kent, or on the south-west coast, in Dorsetshire, Devonshire, and Cornwall? Why this: that the sea provided them with constant succession of fish of every salt-water denomination, and they had trout and salmon, which have been called Forditch trout, in the Stour. At the time of the survey of William the Conqueror, Sandwich yielded, annually, 40,000 herrings to the monks of Christ Church, Canterbury. And to show how fisheries in those days were appreciated, in Cheshire and Devonshire, there were, besides the sea fisheries, those for salmon, one in Cheshire paying a rent of 1000 salmon. Stews and fishponds were also mentioned—one at Tudworth, Yorkshire, yielding 20,000 eels annually; all this through the industry of the monks. But tell me, as far as you can, where the grayling are found in Great Britain.

*Pisc.:* Within the last few years grayling have been introduced in many rivers; but as to the ancient depositories long prior to the modern rage for pisciculture, taking Salmonia, Yarrell, and Hansard in Wales, and Walton as our authorities, they are found in the Test, and in both the Avons in Hampshire and Wiltshire; in the Dove, the Lug, the Wye, and the Irvon in Herefordshire; in the Teme and Clun in Shropshire; the Trent and the Derwent in Derbyshire; in the Hodder, the Trent, the Dove, and the Wye in Staffordshire; in the Dee in Merionethshire; in the Ribble in Lancashire; in the Derwent, the Ure, the Wharfe, and the Wiske in Yorkshire; in the Eden and the Esk in Cumberland. Hansard adds the Dihoner at Llanddewi'r Cwm in Brecknockshire; the Ithon, and the Dulais in Radnorshire; the Vyrnwy and the Clywedog in Montgomeryshire; and in the Clwyd, at Cyfeiliog, five miles from Ruthin, in Denbighshire, where there stood formerly a monastic college founded in the year 1310.

*Cath.:* These are for the most part in inland counties or localities removed from the sea coast and sea fish; and most of them we know had monastic establishments near them, which, certes, favours the proposition.

*Pisc.:* And there is another thing which is suggested but passed over so slightingly by the work of Shipley and Fitzgibbon. It is this: that the grayling is in season in the winter months, when all other decent sized fresh-water fish, except the pike, are completely out of season. Forming so singular an exception, I conceive that this alone would have been a sufficient reason for its introduction by those who needed fish all the year round so much as the Catholics of old did.

*Cath.:* That is certainly a very important circumstance. At all events it is a point worthy the inquiring spirit of antiquaries. Seeing that the monks from their travels to the Continent had the opportunities of meeting with the grayling; that as the favoured fish of a favourite saint, St. Ambrose, they might have the liking for the fish; that for every kind of fish they had the great general necessity; and that for this particular fish, because in season at a time of year when all other fresh water fish except the pike, as you say, are out of season, they had the especial necessity; and not forgetting your proposed derivation of the name "Grayling;"—if antiquaries can show us as a fact, that on a very great majority of the rivers you have named, there were formerly monastic establishments—then, I think we may safely infer that grayling were originally introduced by the monks. Having already intimated that some of the religious orders confined themselves all the year round to fish as substantial food, if antiquaries also find these orders to have been established on these rivers, that will afford a still stronger support to the proposition. There is one objection, however, which must not be passed over in silence—the difficulty alluded to by Sir H. Davy, of bringing this fish *alive* from the Continent to this country.

*Pisc.:* I have no hesitation in admitting that it might be very difficult, even in these days of steam and railways, to bring the grayling *alive* from its natural habitats, for it is a very delicate fish; and still more difficult in olden times, when these appliances were not, and crossing the Channel might have occupied days instead of hours. But what difficulties might not the perseverance of such men as the monks have overcome, even so as to bring the fish over *alive*. Sir H. Davy asserts they will live in still water, and so the grayling might even have been brought over *alive* in still water; and they might have known an equivalent to Mr. Eyre's "fish carrier machine," which has safely conveyed at the ratio of 49 out of 50 alive from Derbyshire to Scotland. But sure I am that had those authors lived and written in the present year, in which the art of pisciculture is exhibited in the very streets of London, Sir H. Davy would not have started, and Yarrell would not have echoed, this difficulty as an objection. Through the writings of Jacobi, a century ago, the science and practice of pisciculture and artificial impregnation only faintly glimmered in the minds of modern men, and little or nothing was done in it until the last 30 or 40 years. And, for all that, it would seem that the Greeks and Romans knew something about it in their time, and that the Chinese might have practised it from an even earlier period.* But, at the present day, such have been the rapid strides in Europe in this simple science that no reasonable mind doubts the feasibility of transporting salmon in the ova state to Australia and New Zealand, the only doubt being whether they would prosper there, and whether they would reproduce—the climate, and more especially the seasons, in the South, being so diametrically opposed to ours in the North. Yet the monks of old might have known the principle of "how to do it" had they possessed the necessity and the appliances of steam, &c. They might have known "how!" We have the maxims: "Fashions change," "Keep a thing seven years and it comes into use again," "Necessity the mother of invention," "Nothing new under the sun." How many arts known formerly to have existed, which leave standing living monuments of their former existence, are lost to us! Look at the ruins of Baalbec, and the massive blocks of Druidical erection at Stonehenge, and many other Cyclopean remains elsewhere, which we know *were* raised, but by what power or art or contrivance we can only conjecture. Look at the bronze implements of war, of what origin we know *not*, and which no ingenuity of the present day can definitely settle how tempered. Look even at the "Indian stone hatchets," of which we can scarcely conceive how they were made! Of such arts "the monks of old" were doubtless as ignorant as ourselves: so some things die out of human knowledge perhaps for ever. Look again at the arts of staining glass, of "illumination" on vellum, and the science of music. Music! oh, England—once "Merrie England," where are now thy thousands of voices of man, woman, and child which could harmonise thy glees and glorious madrigals, and thy ancient church music, as it were, spontaneously: which it now requires thy Costas to organise among hundreds? Where is the modern fountain of Gregorian melody, which in its very simplicity would raise the human heart to tears of sorrow or bursts of grateful gratitudinal devotion? and which Handels, Haydns, and Mozarts, and their followers, great as they are, can only enlarge upon and gladden us with, through the aid of, comparatively speaking, "musical verbiage" and "vocal gymnastics?" Look even at the colouring materials of Corregio and Titian and their times, A.D. 1494-1576! Have we not at the present day failed to discover the secret of their durability? We may think ourselves of the present day more wise than our immediate ancestors, because by means of our marine aquarium, we know more than they of marine zoology, our actinias, asterias, and the like—but, "nothing new under the sun!"

And I verily believe, that save what our improved microscopes show, as much was known two centuries ago as at the present day, and perhaps more. For how sings "the divine" Du Bartas on the subject?

> "God quickened—in the sea, and in the rivers—
> So many fishes of so many features,
> That in the waters we may see all creatures—
> Even all that on the Earth are to be found,
> As if the world were in deep waters drown'd.
> For seas, as well as skies, have sun, moon, stars;
> As well as air—swallows, rooks and stares;
> As well as earth—Vines, Roses, Nettles, Melons,
> Mushrooms, Pinks, Gilliflowers; many millions
> Of other plants, more rare, more strange than those;
> As very fishes, living in the seas."

Oh! we are "wondrous wise;" but undoubtedly the "monks of old" knew many of these things which have since their time so far died away out of knowledge, or slumbered, that in the present day we are only, at the most, reviving them. Some of these were arts, the necessity for which has gone altogether, because better substitutes have been found; and as regards others, the knowledge has slumbered only. Catholics preferred gorgeous painted windows in their cathedrals, and they illuminated their works of hand for taste sake, and to impress religious subjects more readily on their minds, as pictures ever do; and they had their disciplinarian need of fish of all kinds and at all times. The Reformation came and annihilated all such necessities; and so the arts slumbered. And as regards the importation or even the increase of fish, long before the Reformation the necessity was gone, because we had long had them established, and increasing, and continuing to increase. The mere artificial production of fish is now known to be so simple, that it can scarce be called "an art." The transport of impregnated ova in wet sand or Moss perhaps, and perhaps with fresh water dripping on it, or in ice, is so easy that it might have suggested itself to even a child's mind a thousand years ago as well as now, simply on his seeing fish on its spawning ground. *E. C.*

* The Stour of the present day does not look likely to suit grayling.

* See Ashworth's Pamphlet on Propagation of Salmon. Simpkins & Marshall, 1853, p. 39; and Piscarius (pseudo) on Artificial Production. Reeve & Co., 1852, p. 7.

## GERMINATING POWER

### DEPENDENT ON MICROSCOPICAL ANIMALCULES!

Some curious experiments have been lately described by Dr. Lemaire (see p. 968), which in his opinion prove that infusorial animalcules are indispensable to germination. The statement of the learned gentleman is as follows:—

"I have proved that soil containing 2 per cent. of coal tar impedes Germination. I can also prove that this substance does not kill the embryo; for seeds which have lain 40 days in such soil, after having got rid of that substance, will grow and vegetate. I have compared this fact with those which I have obtained from a good many experiments made by me on fermentation, which would not take place in the presence of small doses of coal tar, benzine, or phenic acid, but was produced as soon as those matters were removed. I have proved, that in these cases fermentation was stopped by the powerful poisonous action that these substances exert upon Infusoria. Finding that the presence of these little living creatures is indispensable to the commencement of fermentation or germination, I have come to the conclusion that wherever organic matter is about to assume fresh forms, microphytes or microzoaires appear. But I have not yet proved in an unquestionable manner that Infusoria are indispensable to germination. I now intend settling that point.

"First let us examine germination under ordinary circumstances. When Kidney Beans, Peas, Lentils, Barley, or Oats are placed upon pieces of earthenware or damp sponge, and we observe through a microscope what takes place each day, it is this: at the expiration of 20 hours, at a temperature of 30° Centigrade, numbers of Bacterium termo and punctum are perceptible in the liquid, and upon the earthenware or sponge. At that time the seed and its embryo are still hard and horny; life has not yet shown itself. At the end of 48 hours we find, independently of Bacterium, the Vibrio lineola and rugula, with Monas Lens. The seed begins to soften.

"At this moment, if we open it carefully, we shall find upon its endosperm and upon its kernel a great number of those infusoria which I have already named. Then the embryo begins to show signs of life; the radicle swells, and soon everything connected with its development follows in its usual course. I have watched the experiment during a fortnight, keeping up the dampness of the ground; other infusoria have appeared I have found numbers of Monadiens and Amibs. When I left off the experiment, the stem of the Kidney Bean was 30 centimetres high. At no time of vegetation have I found Infusoria in the vegetable tissue. These facts having been well proved by many experiments, I asked myself, was it possible that the Infusoria could be introduced by the pieces of earthenware, or the sponge, or the water from the Seine. To satisfy myself on this point, I made the earthenware red hot for two hours, and then when it was cold, I placed the seeds upon it, and watered them with distilled water prepared in M. Chevreuil's laboratory. I found the same Infusoria at the same time, and in the same quantity, in the liquid and in the seeds, as in the preceding experiments. So it was not in the sponge, nor in the earthenware, or in the water which was used; the seed alone could have given birth in so short a time to such numbers of Bacteria, Vibrios and Monads as I found.

"To remove all doubts, I tried to prove by another means that infusoria are indispensable to germination. I repeated with phenic acid the experiments which I had previously made with coal tar. I proved that a thousandth part of this acid added to water—which is indispensable to vegetation, was sufficient, in closed vessels, at a temperature of 12° to 15° Centigrade, to stop germination. But at 35° or 36° it required double the quantity. At the last named temperature, a 1000th part of the acid merely retarded the action. In the presence of phenic acid, if germination does not take place, no Infusoria are to be found. It might be thought at first that the seeds were killed, but we know by experience that that is not so. In fact, if the seeds are plunged in water containing a 2000th part of phenic acid, for 3 days, and then for 5, in water containing 1000th part, afterwards washed in cold running water, and then placed in a favourable situation for germination to take place, they will grow and vegetate in the ordinary manner. Here again we find Infusoria preceding the first growth of the embryo. These facts confirm the statement which I made now three years ago.

"Seeds will not bear the action of these liquids for a longer space of time, or of a greater strength than that above named, otherwise they die altogether.

"I have made no experiments upon Cryptogamic plants, because it has been already proved that spermatozoids exist in large numbers in their reproductive organs.

"To reply to an objection which has been made to my statement, and which may be made again, I beg leave to say that it is not merely by hindering the action of oxygen that coal tar assists in stopping germination as it does in fermentation. I have shown that phosphorus, potassium, and sodium oxidize themselves as usual in an atmosphere charged with phenic acid; it is their poisonous effect which puts a stop to signs of life, and so, to the action of the oxygen. This remarkable property may nevertheless serve to distinguish the combinations formed under the influence of life, from those which obey the laws of affinity or some other force." *Les Mondes.*

No doubt these experiments are interesting; but do they indisputably prove the statement made by Dr. Lemaire, that infusorial animalcules are indispensable to germination? We think not. Surely they

prove nothing more than that infusoria often accompany germination, acting, as for example in the skeletonising of leaves, by assisting in the disintegration of the decaying tissues.

## ROSE SHOWING.

During the discussion to which this interesting question has been subjected, a new idea has been brought out, which I think deserves the attention of Rose Show Committees, viz., the division of Roses into their several classes on the exhibition tables; and there can, I think, be no doubt as to the desirability of its adoption, especially at our great Shows. Its recommendations seem to be,—

1st. That it would place exhibitors upon a more equal footing, and ensure fairer competition; for it cannot be doubted that in some instances prizes have been awarded to general collections whose only claim to that distinction, as compared with others, was the presence of a larger number of Tea-scented varieties.

2d. That it would simplify and lighten the duties of the judges, by rendering comparison more easy and just.

3d. That it would materially assist amateurs in their work of notemaking, by bringing the leading varieties in each class under the eye at once.

4th. That it would give a character and an air of order to our shows as a whole, which at present they do not possess.

I am aware that there may be some difficulty in carrying out this plan in the amateur classes, but there can, I think, be no reason why it may not be adopted in the nurserymen's division, and possibly in the more extensive amateur collections. Again, reduction in the number of varieties would be a decided improvement, as it would tend to exclude flowers whose claims to our admiration have long been set aside by the influx of improved varieties.

With regard to trussing, I am in favour of single trusses, because the individual flowers stand out more distinctly, and afford a better opportunity for forming a true estimate of their merits.

Disbudding is a matter respecting which some definite rule should be made, and rigidly enforced. It should be allowed or disallowed, and means should be taken to protect those who comply with, and to expose those who violate that rule. *Gulielmus, Nurseries, King's Acre.*

## CINCHONAS IN INDIA.

In the Supplement to the *Calcutta Gazette* of Aug. 15 last, we find some highly important statements concerning this interesting subject. Dr. Anderson, the very able and scientific Superintendent of the Botanic Garden, Calcutta, reports officially to the Indian Government to the following effect:—

"The progress of the cultivation of the Cinchona at Darjeeling under my direction was fully reported to the Lieutenant-Governor of Bengal on the 6th August, 1862, and the Report was published in the Supplement to the *Calcutta Gazette*.

"That Report contained the history of the experiment from the dispatch of the plants from Calcutta on the 24th March, 1862, until the 1st August. In that Report I stated that the experiment might be considered as having commenced on the 1st of June, as, from unavoidable delays in a district where carriage of all kinds was most difficult to procure, where skilled labour was scarce and extravagantly expensive, and where even the ordinary processes of gardening were quite unknown, I was obliged to keep the Cinchona plants confined for two months in Wardian cases, some of them having been already subjected to five months of this confinement. The total number of plants with which the experiment was commenced on the 1st June, was 211. On the 1st of August, the number had increased to 1611 of all kinds, of which, however, it is deserving of note that 1300 were newly raised seedlings of Cinchona Pahudiana.

"I again submitted a Report on the 12th November, in which it was shown that the total number of plants in the nursery was 2286, of which, however, 1921 belonged to the doubtfully Quiniferous species, C. Pahudiana, so largely cultivated by the Dutch in Java, leaving only 365 plants as the stock of the undoubtedly valuable species of Cinchona.

"After I left Darjeeling, I procured the occupation for one year of a garden and dwelling house at Lebong, a warm, well-sheltered spur below Darjeeling, at an elevation of 6000 feet above the sea. The plants and all the stores were removed from the temporary buildings at Sinchul to this site in the first week of April. Although the distance was seven miles, the arrangements were so carefully made by Mr. Jaffrey, who personally superintended the removal of the plants, that only one plant of Cinchona succirubra was slightly damaged. The number of plants brought from Sinchul to Lebong on the 1st April was 2189.

"I am glad to be able to report that on my visiting the Cinchona Nursery at Lebong in the end of May, I found all the plants in the highest health, and that the propagation of all the species, except Cinchona Pahudiana, was advancing rapidly.

APPENDIX.

From T. Anderson, Esq., M.D., Superintendent of the Botanic Gardens, Calcutta, and in charge of Cinchona cultivation, to the Secretary to the Government of Bengal,—(No. 48, dated the 25th July, 1863.)

"1. I have the honour to report, for the information of the Lieutenant-Governor of Bengal, that the condition of the Cinchona plants at Darjeeling on the 15th June was most satisfactory.

"2. In accordance with the orders of the Right Hon. the Secretary of State for India, no attention has been given since the 1st April to the increase of the stock of Cinchona Pahudiana. The increase of the other species has been great, and the plants are in excellent condition, so much so indeed, that a plant of Cinchona succirubra had grown nine inches in 30 days. The number of all species on the 15th June was 4620 (the corresponding number on the 1st June 1862 was 211), and these plants were so covered with vigorous shoots that I calculated that 6000 plants could be added to the number of all the species, exclusive of C. Pahudiana, by 15th August, making a total number of 10,000 plants on that date. The most marked increase has been in the number of plants of Cinchona officinalis, of which I possessed only 93 plants received from Ceylon and Ootacamund on the 1st May; these have been increased to 573 on the 15th June. Seven hundred of the large plants of Cinchona Pahudiana have been planted in the open air at an elevation of 6000 feet, and though they have been fully exposed to all weathers from bright sunshine to heavy rain, they are growing much more luxuriantly than when they were under shelter. I have for some time been unable to distinguish botanically between the species supplied from the Ootacamund Nursery under the names C. micrantha, C. nitida, C. peruviana. These seem to me in their present state to be one and the same species, probably C. micrantha. I have therefore adopted that name provisionally, in hopes that some of the plants, with increase of age, will take on the specific characters of C. nitida and C. peruviana. Mr. Thwaites, the Director of the Botanic Gardens, Ceylon, and who has given much attention to the experimental cultivation of Cinchonas in Ceylon, finds also that from seeds supplied to him as C. micrantha, C. nitida, and C. peruviana only one species was procured, or, at least as yet he had been unable to distinguish more than one species.

"3. In the commencement of June, 1863, I supplied Dr. Simpson, Civil Surgeon of Darjeeling, with about 2 lbs. of fresh leaves of each of the following species:—C. succirubra, C. officinalis, and C. micrantha. Decoctions, prepared with water slightly acidulated with sulphuric acid, were very bitter, and three patients suffering from well-marked intermittent fever were cured by the administration of these preparations alone. Towards the end of June, Dr. Simpson and I endeavoured to examine chemically the nature of the leaves of Cinchona succirubra. We experimented on 1 lb. of fresh leaves. Our mode of procedure was as follows:—The fresh leaves were boiled in water in which a certain quantity of carbonate of soda had been dissolved, and the dark-coloured liquor resulting was thrown away. The mass of leaves after having all the alkaline water pressed out of them was boiled in water with a small quantity of sulphuric acid. This was repeated three times, and the leaves were carefully squeezed at the end of each boiling. These acid liquors were then mixed and concentrated by boiling. The bitter acid, concentrated liquor, was then treated with carbonate of soda. The precipitate was collected, then mixed with distilled water and sulphuric acid added carefully. A perfectly neutral condition was obtained by adding carbonate of soda. The fluid was filtered hot, and the neutral bitter liquid was afterwards set aside to cool, in the hopes that crystals might be obtained. Crystallisation did take place on glasses under the microscope. The crystals are long and needle-shaped, and were so abundant as to appear to the naked eye as a whitish spot in the glass. A thin film of crystals (sulphate of quinine?) also formed on the surface of the fluid and could easily be skimmed off. These, dissolved in water slightly acidulated with sulphuric acid tasted very bitter. At this stage, however, the process was arrested, notwithstanding the removal of colouring matter by animal charcoal. The detection of crystals at all, with the means at our disposal, was unexpected. As it is, the undoubted presence of little needle-shaped crystals in a fluid obtained from the leaves of Cinchona is worthy of record.

"4. The cultivation of Cinchona in British Sikhim is certain to be commenced soon by private individuals. Five hundred plants have been procured by private individuals from Mr. McIvor at Ootacamund, but they nearly all died on the route, one plant having reached Darjeeling alive. However, I have applications for more than 15 lacs of plants, and I shall soon be able to supply a few."

# Home Correspondence.

*Battersea Park Tropical Garden.*—Will your Correspondent "J. F." be kind enough to tell us what plants besides Canna, Ferdinanda, Ficus (elastica?), Wigandia, and Colocasia esculenta, have been found by him to grow luxuriantly in the common garden after midsummer, having been merely started with warm manure at planting time? Will he describe more explicitly the behaviour of the Caladiums he mentions? Will he state his experience in working with bottom heat at all seasons out of doors, and how he came to the conclusion that foliage plants (rather a large family) do not require a continued bottom-heat treatment? In a word, will he give his readers an opportunity of judging for themselves whether he knows anything about the matter at all? All this your scientific gardening readers will require to know before they can allow him to throw discredit upon a zealous, pains-taking, and ingenious man in his first attempt to carry out a very original idea. Plants of the degree of hardiness mentioned by him may be, and have been, often grown in the manner alluded to, and in hot summers like the past will succeed well. Cannas will generally survive a very mild dry winter, and in this case thrive unusually well in the succeeding summer. The omission of the writer's latitude too is a serious drawback to his information—I mean his climatic latitude. When semi-tropical plants are glowing with blossom, and rioting in foliage, in a Cornish November; when the trellised front of a South Devon house is blue with Ipomœa Learii, and the Lemon and Orange are gleaming on the garden wall, there's many a "Cornish man" can "tell the reason why." So when in less favoured latitudes, plants that languish or die in the common garden thrive in the earth-heated border, we may also infer a "reason why." The very few experimenters on the subject with whom I am acquainted, feel themselves on the threshold of a long and patient course of inquiry, and will hail with pleasure the accession of a brother worker to their thin ranks. Cheer him on, kind brother gardeners; for there is enough cold water in this weary world. *Fumarola.*

*Foliage Plants.*—Like your correspondent "J. F.," I do not see that any advantage is gained by Mr. Gibson's mode of treatment of these plants, viz., that of supplying brick-rubbish for bottom-heat. The extra labour it would incur in the shape of watering would be far too great to allow of its being generally practised, even if the plan were admitted to be good. If bottom heat is required at all, leaves and dung are the materials I should use for that purpose. I have Cannas here 4 and 5 feet high, without the bed in which they grow having had any preparation whatever beyond that of digging in some rotten manure just before planting. I treat my Cannas as I do other bedding plants, viz., start them in spring, and harden them off previously to planting out in the beginning of June. In clear weather I sprinkle them over head with water, after the sun is off them, till such time as they have taken hold of the soil, which they soon do without losing their leaves or turning brown. I have Cannas now as fresh and green as in August. I may add that I do not like Cannas for the centre of flower beds; in fact, they do not look well associated with flowers at all. I therefore plant them in a large bed on the lawn away from the flower garden. Their appearance is improved by mixing a little Perilla with them, and adding a carpet as it were of Lycopodium denticulatum for them to stand upon. Towards the edge of the bed I plant Farfugium grande, and Centaurea candidissima and gymnocarpa, together with a few plants of Perilla, and edge with Variegated Alyssum, altogether producing a nice effect. I have tried Begonias, Dracænas, Marantas, and some of the Caladiums, but they all failed. Dwarf Cannas mixed with Gladioli I think would look well. I tried some this year, but the Gladioli did not flower well. *J. R. B., Wakefield, Yorkshire.*

*Tulips.*—In your Paper of the 27th inst. I noticed an article on the Tulip by Mr. Dean, in which occur some ideas hard to understand, and as I cannot coincide with them, with your permission I will just make a few remarks on such passages as appear to me to be incorrect. Respecting the breeder Tulip Mr. D. says: "After the seed is sown it is about five or six years before it flowers, and then we have only a self flower, from which state it some time or other breaks into character, that is, it becomes either a Bizarre, Byblœmen, or Rose." To me this appears to be an anomaly, for my own experience in these matters tells me that the character referred to is decided in the breeder Tulip, the distinctions being that the Bizarre has a yellow base and stamens, the Byblœmen and Rose white bases and stamens, the difference between the two latter being the absence of a purple tint in the breeder colour of the Rose. The only feature of a definite description given to the character of the flower on breaking into colour, is that it breaks into a feather, or a feather and flame. Again, Mr. D. states that "the Bizarre Tulip has a yellow ground, and is flaked with some shade graduating between brown and maroon; the Byblœmen with some shade of rosy purple or violet; the Rose with some shade of rosy carmine." Mr. D. should however state things as they really exist. A flaked flower is not admitted to exhibitions, the feather and the feather and flamed Tulip being the two distinctions of marking recognised by the fancy. The colour of the markings in the Bizarre graduate between black, brown, and red; in the Byblœmen between black, purple, and lilac; in the Rose between crimson, red, and scarlet. Again, Mr. D. says, "Stern laws are laid down regarding form, which should be nearly two-thirds of a ball." The half ball has been allowed by growers of high repute to be the *ne plus ultra* of form; certainly there are great objections to two-thirds of a ball. Again, in speaking of Adonis breeder, Mr. D. says, "I saw at Mr. Headley's in May last a large number of roots of Adonis breeder, that is, seedlings saved from Adonis, a feathered Byblœmen flower." What can Mr. D. mean by this definition of Adonis breeder, and if he saw seedlings saved from Adonis feathered Byblœmens they are simply breeders. By Adonis breeders I understand bulbs emanating from the original bulb of Adonis breeder, and not seedlings raised from the seed of Adonis. In a former part of Mr. D.'s paper he says, "Although there is not so much talk about Tulips as formerly, I believe that they are quite as much grown as ever." If I may indicate a cause for the silence in question, I should say that the floricultural press rejects papers of persons well qualified by long experience to write on the Tulip, and admits long yarns of no utility to the grower, and only calculated to mislead the novice. Let good men be admitted into the field, and Tulip discussion will be as popular as ever it was. *Dera, Market Rasen.*

*Birds v. Crocuses.*—I see (p. 1016) that you recommend edgings of Crocuses. Can any of your correspondents tell me how to defend them against their principal enemy in this neighbourhood, viz., house sparrows? I had some beds this spring which were picked to pieces by these little rascals, who might be seen from the windows in the act. The boxes at the drawing-room windows were never touched, and bloomed beautifully. It is scarcely possible to protect Crocus edgings by means of nets, and I should be very glad to know of some remedy for the evil. *D. B., Hampstead.*

*Morphology.*—I enclose a blossom from a Fuchsia, which, though it may not be a novelty, serves to illustrate a fact which we are much indebted to you for so clearly explaining,—that the various parts of a flower "are but arrangements of altered leaves."—"Elements of Botany," page 63. The stigma of the flower I send you is the most striking development of what is clearly a leaf. *J. E.* [A very curious case. Pray try to preserve the plant, and if it again behaves in the same strange way, which is not improbable, we venture to petition for another blossom, as the one now sent was smashed in the post office.]

*Vine Exostose.*—The enclosed substance grew on the main rod of a Muscat of Alexandria Vine, at the joint, on the side opposite to the leaf. The Vine has been in its present locality 20 years, and neither on it or on any of the Black Hamburgh Vines which fill the other parts of the house, has a similar growth ever been previously noticed. There have been three other similar nodules on the same Vine this autumn. You would

much oblige by saying whether this growth is a sign of unhealthiness, or merely another form of the rootlets so common when the Vinery is too damp. The crop of Grapes has been unusually good in all respects this past summer. *S. M. O.* [The tumour, or Exostose, is an abortive branch, incapable of lengthening, or forming leaves, but consisting of mere cellular matter. The very medullary processes are observable in a transverse section. The cause of such malformations is wholly unknown.]

*Potatos.*—It may be useful if I make mention of a remarkable crop of Potatos which I have grown this year, and the mode of culture which led to so desirable a result. The soil is a good deep loam, well drained naturally, and deeply cultivated with the spade. The manure was from pig-sties covered all over to exclude rain; all the sweepings of the stable and poultry houses are conveyed to these sties, and allowed to accumulate there, and trodden under foot by the pigs, with sufficient dry material to absorb all the liquid, and keep the sties healthy. The compression of course prevents all fermentation, which takes place in the ground laid out for the crop, the dung when removed being at once conveyed there and spread, so that all the products of the fermentation are absorbed by the soil itself, and the rain washes the soluble part into the soil for the benefit of the crop. I mention this part of the preparation for the crop particularly, as I think it has much to do with the result I have to speak of. Mixtures of different sorts of manure I think desirable, but of the value of the liquid portion for this crop I am quite certain, excellence of quality having invariably followed the use of it, and this result has been attended with all but entire freedom from disease. The Potatos were of the sort called White Rocks, the seed a selection of the finest tubers cut into sets, many of which had not more than one eye. This plan combines economy in the quantity of seed, with good results to the crop, upon which point I will if you please speak more another time. The sets were planted in February before any sprouting had taken place. When the plants came up they were well hoed, and in June the spaces between the rows (which were 8 feet apart) were deeply dug. Soon after this the plants covered the ground, and I may here state that the intervals between the rows were so very wide because this kind of Potato throws up very large stems and abundant foliage, and because the abundance and quality of the manure tended to increase this habit of rank growth I have found this kind of culture highly profitable before, but this year the result far exceeded anything I have ever witnessed. From 9 perches of ground or 270 square yards were dug 1 ton 2 cwt. 100 lbs. of tubers. Scarcely any small ones or diseased ones were found, and the quality on the table is excellent. The average produce of each root was over $8\frac{1}{2}$ lbs. One root yielded 9 lbs., and seven of the tubers from this root weighed $\frac{3}{4}$ lb. each. The first four plants dug filled the basket, which holds 20 lbs. of Potatos. Hundreds of tubers could be found weighing $\frac{3}{4}$ lb. and upwards. Many weighed $1\frac{1}{2}$ lb., and some few came up to 2 lbs. or nearly. The produce was at the rate of 20 imperial tons to the statute acre. I am far from supposing that so enormous a crop must certainly, or even probably be looked for by following my plan of cultivation; but my success last year (15 tons to the acre) convinces me that we may look for something like it, under similar circumstances and treatment. There is no exaggeration in any of the above statements. *Rev. J. M. Taylor, Cannington.*

*Gishurst Compound.*—As the season approaches when gardeners begin to think of winter dressing their fruit trees, and as Mr. Rivers and other authorities have recommended the use of Gishurst Compound for this purpose. I now ask permission to give the result of some trials with Gishurst on my trees last winter and spring. For several years past, all the orchard house trees, when fully at rest, say in December, have been drenched with a solution of Gishurst, eight ounces to the gallon of soft water, without any after washing with water; this occasionally made a few buds from weakly trees to fall, but left more than sufficient for any crop, and made the trees look very healthy. However, last year, I heard several accounts from thoroughly good authorities of many buds having been destroyed, in some cases owing to too strong applications of Gishurst. Wishing to test whether this had been caused by the dressing having been applied too late when the trees were no longer at rest, when giving most of my trees their usual 8 ounce solution, I left a few for experiment later, when the buds should have begun to swell. Some of them were washed with 8 ounces strength of solution, and a few minutes afterwards the trees were washed with water, others with 4 ounces strength with no after water washing; the result was that some buds were injured by the strong solution, notwithstanding the after washing, which was not the case (except as to some half dozen buds) with the weaker solution without water washing. The conclusion I came to was that 8 ounces solution to fairly strong trees, thoroughly at rest, is the best strength and safe for buds, except possibly early Pears; that if this strength be applied after the wood begins to grow, some buds may be injured; that 4 ounces to the gallon is safe, even where buds have begun to swell, and is perhaps the best strength for not strong trees and Pears, especially early ones. These remarks apply only to pot trees in orchard houses, of which only I have any considerable experience. For fruit trees on walls, I believe a pound to the gallon drenched over the tree and wall by means of a plasterer's brush to be the best strength; last year I was allowed to experiment on some trees on an old wall, which year after year had been so eaten up with blight that the fruit came to nothing; I operated on three of the trees, Plums, with strong solutions of Gishurst, with the result that the treated trees were much improved in appearance, and bore some fine fruit, (the good summer may have helped), but they looked healthier than their unwashed neighbours, and now the whole wall has been abandoned to me to have a strong Gishurst treatment, the result of which I may communicate on a future occasion. *George Wilson, Gishurst Cottage, Weybridge,*

*Anacharis Alsinastrum.*—This weed is a great pest in our beautiful river—the Wandle. About 12 months ago I threw in here and there a few shovelsfull of coarse gravel for the fish to spawn in; and I have noticed that these places are wholly free from the weed. Does it thrive anywhere on a shingly bottom? or is it found only on mud? A solution of this question may lead to a ready means of extirpating it. *Wallington.*

*Swallows.*—Permit me to add to my note (p. 966) that swallows were last observed in Torquay on Wednesday the 21st of October. *J. T. White, 3, Western Terrace, Torquay, Devon.*

*Larix Griffithiana.*—I enclose a part of a branch of Larix Griffithiana having two cones, the first it has borne here. My plant is about five years old, and 9 or 10 feet in height. It was transplanted last winter, which perhaps threw it into fruit; there were upwards of 30 cones. *R., Carwinion, near Falmouth.* [Very nice specimens with many good seeds].

## Notices of Books.

*The Home Nurse, and Manual for the Sick Room.* By Esther Le Hardy. Churchill & Sons. Pp. 434.

This Manual is not written for the hired nurse, but, as its name implies, for the friend of the patient, whether connected by the ties of relationship or acquaintance, or by those of long and attached domestic service. It contains much useful information for persons unaccustomed to the duties of a sick chamber. Air, exercise, resting, cleanliness, dress, baths, diet, &c., have each their due share of attention. The advantages of cleanliness and order cannot be too much insisted on; indeed, the life of a patient often depends upon the calmness of mind, induced by seeing everything around comfortable and in its place, instead of in confusion and disorder. Presence of mind is also necessary; an agitated or uncertain manner conveys impressions to the mind of the patient, which are highly injurious. In protracted illness or in recovery, air and light, cheerfulness without noise, and quietness without monotony, are essential. In great weakness of body, the nerves are, as it were, on edge, and those who have known, during such seasons, the misery of having the fire replenished and the grate cleaned amid an atmosphere of dust, and seemingly interminable scrapings, will be grateful for the directions given on page 53. "In cases of serious illness, the fire is always kept burning, the housemaid comes, and most enegetically 'rakes out,' as she calls it, all the dust, sending it in suffocating clouds all over the room. But the real home-nurse will attend to this duty herself, which need not be dirty work. You must first simply remove, with the tongs, all the larger pieces of lighted coal to the side of the hob, and placing a small board, or damp newspaper, in front of the underneath part of the grate, hold it there with one hand; you gently rake the dust out through the bottom with a stout stick, pointed at the end, and which should always be used in a sick room, as a poker, to prevent undue noise. Give the dust time to settle, and then your servant can remove the ashes and replace the coals."

Very valuable are the following observations. "Avoid as much as possible crossing before the eyes of the patient." "The sick seldom like to remark on the flickering and sudden change of light, or complain of the passing to and fro, lest they should incur the charge of being fidgety. They often endeavour to persuade themselves that their disquietude can be nothing more than a mere imaginary evil, while it is, in fact, a real one; for when this constant uneasiness to the nerves of the eye is kept up, sleep is often entirely banished, and though the closed eye betokens need of rest, it by no means indicates that such rest is taken, for it is still perfectly sensible of the varying changes of light and shade." "Never allow a whispered message to be brought to the sick-room door. Invalids have a kind of nervous apprehension that they are the subjects of constant observation and animadversion, and that whatever is passing has reference to them, and they are consequently very suspicious of anything that bears the least appearance of concealment from them; and as they rarely like to admit that they feel curious, they lie and brood over the mystery, to their great and needless injury. Servants should, therefore, be enjoined to communicate what they have to say in a clear and distinct manner." With regard to the serving up of an invalid's dinner, we read, "the addition of a little nosegay on the tray will give the whole a loving and cheerful appearance." This is a very pleasing idea.

Our authoress knows the value of religion, and the deep need of its comfort in serious illnesses. She therefore regards that home nurse as deficient in a most important matter, who has not herself experienced the consolations which she is called upon to set forth to the weak and often troubled mind of the patient.

The chapters entitled "Home Ailments," "Sundries," and "Cookery," contain recipes for the mitigation of various diseases, for drinks, and for the delicate preparation of the limited range of articles admitted into the patient's dietary. These are excellent.

## Miscellaneous.

*Harvest in Japan.*—Another portion of the crop was harvested in a most curious way, which I think must be peculiar to Japan, for I have neither seen it nor heard of it in any other country. On the 10th of June—so says my journal—fires were observed blazing all over the country, and dense masses of smoke were seen rising from every corn field. This time it was not the burning of Rape stalks, for they had all disappeared, having been converted into their elements of earth and air, the former of which was already entering into another form and was supplying food for the summer crops. It was the bearded Barley which was now going through the crucible, the object being to separate the heads of corn from the straw and awns. This was done in the following way:—The corn, having been tied up in small bundles or sheaves, is removed to a convenient spot on the edge of the field. When the burning is to begin the workman takes a sheaf in one hand, and with the other applies fire to the upper or corn end of the sheaf. It immediately ignites, the awns go off in a blaze, the heads of corn snap from the stalk and fall to the ground. Lighting another sheaf, the workman throws the first away in a blaze, regardless apparently of the value of the straw, and so the operation goes on. As the beardless heads fall to the ground the fire goes out, leaving them slightly browned by the operation, but with the grain unharmed. *Fortune's "Yedo and Peking."*

*Nurserymen's Assessments.*—I disagree with the remarks of a writer on the subject of rating commercial gardeners' lands, and the various buildings erected thereon for the purpose of trade, made in the *Gardeners' Chronicle* of the 30th of May last, on a most important point, viz., that nurserymen's glazed compartments are mere chattels, implements in trade, and not hereditaments, which the overseers are directed by the Act to rate. The question of the right of tenants to remove such erections had long been undisputed, until a case was brought before the Court of Sessions in Scotland, Harvey v. Symes, on the 14th of December, 1861. The Court held that the tenant being a nurseryman, the erections, consisting of conservatories, hot-houses, propagating pits, and the like, were indispensable in enabling him to carry on his business. Had the tenant not been in trade, or had the fixtures not been necessary for carrying on his trade, he would have had no right to remove them. Sir W. Page Wood, in giving judgment in Chancery in a case in which the tenant was not a nurseryman, held that the landlord had a right to restrain the tenant from removing the vineries, pits, &c.; but as respects the hot water pipes, he said it was a matter of small consideration, but upon the whole, he must hold the pipes to be removable by the occupier. Being a member of a rating committee in the parish of High Wycombe, in 1818, consisting of seven farmers, and five mill occupiers, a strong controversy arose as to what deductions should be allowed from the annual rent paid for mills. One-third was claimed for machinery by one party, and resisted by the other; at last it was agreed that a case should be laid before counsel, which was done, and the opinion of Mr. Nolan, at that time the great Poor Law writer, was taken. His opinion was, that all the machinery except the first power, was tenants' property, and not liable to be rated. I am not aware of any alteration in the laws of rating since that period. Upon this decision one-third was allowed from the gross rent of mills. It was agreed by representatives from every union in the county, at a meeting at the Star Hotel, Oxford, that 35 per cent. deduction be allowed on all mills in this county; 25 per cent. on garden land, and 40 on brick kilns and yards. Mr. Lane, of Great Berkhampstead, says, "In the Act of Elizabeth everything visible is liable to be rated, even a cobbler's lapstone, and a tailor's needle. The law, however, finding the matter so difficult, has abandoned rating such things. Now, if you rate a nurseryman's greenhouse, you must rate a draper's shop fixtures, and those of every other trade. Also private houses, where the grates, coppers, gas-fittings, &c., are the tenant's, or you will have inequality of rating. Let us say a farmer puts up machinery to grind his roots, cut his chaff, and thrash his corn, at a cost of 600*l.*, and that he loses 1000*l.* per annum. His next-door neighbour has a farm at the same rent, on which he keeps removable dwelling houses for herdsmen, and pens to keep his stock, altogether worth 3000*l.*, and he realises 1000*l.* per annum. How would you rate these two farms?" My reply to this question is, that rent is *prima facie* evidence of value, and will form the gross amount of each farm equally. A takes a farm at 30*s.* per acre, exclusive of tithe rent-charge, and commences breeding

tups, selling his ram lambs at from 3 to 5 guineas each, and his shearhogs at from 5 to 10 guineas each. B, his next door neighbour, takes his farm at the same rent per acre, and rears sheep for the butcher, selling lambs from 25*s.* to 30*s.* each, and his tegs and shearhogs at from 55*s.* to 63*s.* each. Although A realises more money than B, you cannot tax his judgment, care, and capital, consequently the rates must be equal. C, a florist nurseryman, takes a piece of land, in a conspicuous position on a lease for 14 years, at 8*l.* per acre; he erects greenhouses, propagating pits, together with other pits, &c., necessary for carrying on his trade, and is rated at double the amount arable land adjoining is rated at. These erections do not increase the actual value of the land. The object for which greenhouses are erected in the hands of a florist is of a two-fold character; first, for the protection of plants, and then for attraction. Why does a draper or a chymist, with his coloured bottles, take out small windows of crown glass and put in large windows of plate glass, except for the better exposure of heir goods to the public; but these are measures which do not increase the rateable value of the fabric. The overseers, assuming the power of rating nurserymen's greenhouses, &c., must rate farmers' ricks, staddles, steam ploughs, and threshing machines, which are all occasionally fixed to the freehold, like a greenhouse, but not removed with the same facility. A house 100 feet long, 12 feet wide, containing 1600 feet of glass, could be removed by two men in two hours, and I wish to know who is bold enough to say that such structures are hereditaments and rateable under the 25th and 26th of Victoria, cap. 103. I beg to suggest to such officials a consultation of Johnson, or any other dictionary, for a definition of the terms—hereditaments and chattels. The reason for rating nursery gardens at so great a price is, that a higher rent is paid for them; not that land stocked with trees can be rated higher than arable land adjoining, although the crop is tenfold the value of that of the farmer. *J. Bates, Parks Nursery, Oxford, in the Oxford Journal.*

*"Breaking" of Tulips.*—In Darwin's "Loves of the Plants," in a footnote to Canto 4, line 285, he says:—"When the petals of the Tulip become striped with many colours, the plant loses almost half of its height; and the method of making them thus break into colours is by transplanting them into a meagre or sandy soil, after they have previously enjoyed a richer soil: hence it appears that the plant is weakened when the flower becomes variegated."

*Gardeners' Royal Benevolent Institution.*—We learn that the Right Hon. Charles Lawson, Lord Provost of Edinburgh, has kindly consented to preside at the next Anniversary Dinner in the summer of 1864.

*Mr. Fortune's Chinese Plants.*—A portion of these was sold the other day by Mr. Stevens, and realised the following prices, viz.: Torreya grandis, from 5*s.* to 19*s.* per lot of six plants each; Abies Kæmpferi, from 10*s.* to 1*l.* 10*s.* per lot of one plant each; Pinus Bungeana, from 11*s.* to 17*s.* per lot of six plants each; a Thuja and a Pinus, from the neighbourhood of Pekin, from 10*s.* to 1*l.* per lot of 25 plants each; similar lots of Chamærops Fortuni fetched from 9*s.* to 1*l.* per lot; Bambusa variegata realised from 19*s.* to 1*l.* per lot of six plants each; Lonicera aureo-reticulata, from 5*s.* to 7*s.* per lot of 12 plants each; similar lots of Lastrea atrata and opaca, fetched from 10*s.* to 11*s.* per lot; a Sterculia from Northern China realised 7*s.* per lot of six plants each; a species of Acorus from 6*s.* to 7*s.* per lot of eight plants each; Iris lævigata, from 5*s.* to 9*s.* per lot of 10 plants each; Woodwardia japonica, 11*s.* per lot of five plants each; W. orientalis (a specimen plant fetched 15*s.*; a variegated variety of Reineckia carnea went for 7*s.* per lot of two plants each; and the double-flowered Deutzia crenata fetched from 6*s.* to 9*s.* per lot of 10 plants each.

*The Glycine at Home.*—Leaving the Tokaido behind us, we took a bridle-path which led us more inland, and soon afterwards we struck a broad country road, by which we journeyed onwards in the direction of the capital. On our way we called at a place called Nanka-nobu to see a large specimen of Glycine sinensis, which was one of the lions in this part of the country. It was evidently a tree of great age. It measured, at 3 feet from the ground, 7 feet in circumference, and covered a space of trellis-work 60 feet by 102 feet. The trellis was about 8 feet in height, and many thousands of the long racemes of the Glycine hung down nearly half-way to the ground. One of them, which I measured, was 3 feet 6 inches in length. The thousands of long, drooping, lilac racemes had a most extraordinary and beautiful appearance. People came from far and near to see the tree during the time it remained in bloom; and as it was in the garden of a public tea-house, it brought an extensive custom to the proprietor. Tables and benches were arranged under its shade, which at the time of our visit were well occupied with travellers and visitors, all sipping and apparently enjoying the grateful and invigorating beverage. As the day was cloudless, and the sun's rays powerful, we were not slow to imitate the example they set before us, so we sipped our tea, smoked a cigar, and admired this beautiful specimen of the vegetable kingdom. *Fortune's "Yedo and Peking."*

*The Wellingtonia gigantea.*—A tree, it is said, has recently been cut down in California, the circumference of which was 90 feet, and its height 325 feet. The bark was in some places 4 feet thick. The tree contained 250,000 feet of timber. Its age is estimated to have been not less than 3100 years. The wood was sound and solid. *The Builder.* [Credat Judæus.]

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

Conservatory, &c.—At this season every effort should be employed to keep up a good display of bloom, for this house will now be used much more than when the weather is favourable for out-door exercise; its inmates, if attractive, will therefore be much more valued now than they would be at any other period. Azaleas which set their buds early will readily push into flower, if placed in a warm moist temperature, and some of the early-blooming Rhododendrons require very little forcing to bring them into blossom at any time after this season; therefore where there is a good stock of these, and Ghent and other hardy Azaleas, well set for bloom, a portion of the plants should be placed in heat during the winter months at intervals of about three weeks, and as they are very showy and last long in beauty they will be invaluable for purposes of decoration. These, together with Camellias, Heaths, Epacrises, Acacias, Daphnes, Gesneras, Cyclamens, Cytisuses, Chinese Primulas, Cinerarias, Mignonette, Tree Violets, and other things which bloom naturally in winter, will afford a good display. Monochætum ensiferum is also an invaluable plant for winter decoration.

### ORCING DEPARTMENT.

Pineries.—The supply of ripe fruit from May until August being usually obtained from plants that start without making growth in spring, a fair proportion of the stock, as has previously been recommended, should therefore be in a well matured state by or shortly after this season, and any sudden changes of temperature which might induce too many of them to show fruit at once should be carefully avoided. Portions of the stock expected to furnish the autumn supply should not be too much checked at present, indeed these may be kept growing slowly all the winter, which is perhaps the most certain method of preventing their starting too early in spring. Where the plants likely to fruit without making farther growth are considered insufficient to meet the demand until next autumn the stronger plants of those for late fruiting should be encouraged to make growth as early as can be done without weakening the foliage, with the view of preparing them for starting in April.

Vineries.—Where early forcing is carried on, as soon as the buds are fairly started the temperature should be increased to 60° at night and 65° by day, allowing it to rise 10° on bright days. Take every opportunity of admitting a little fresh air, but recollect that the foliage will not bear exposure to cold winds, therefore air should be admitted in contact with the heating apparatus. Where the border cannot be warmed, see that it is well protected from wet, &c., by a thick covering of dry litter. If fermenting material is used it will be advisable, however, to have some dung aud leaves thrown up to heat, as there would be some danger of chilling the bed by turning it in the event of frosty weather, and mixing it with the dung or leaves which had not commenced fermenting. Houses which it is intended to commence forcing the beginning of next month should also have some fermenting materials placed on the borders so as to encourage the roots a little before the Vines are excited, which will be of great service towards getting the buds to push strongly and without loss of time.

Peaches and Nectarines.—Prune and otherwise prepare the trees in the earlier houses for forcing, which, however, except under particular circumstances, should not be commenced for several weeks yet; but let it be remembered that these fruits will not admit of rapid forcing in the early stages of the process, therefore fire-heat should be applied with caution, so that the night temperature does not exceed 50°, otherwise the blossoms will be weak and liable to drop; during the day the temperature may rise to 60°, with plenty of air on every favourable opportunity. Cover the outside border with leaves or litter, for the purpose of excluding frost and heavy rains. Tie in the trees in the later houses, and get all ready for starting when required.

Cucumbers.—These must be well attended to to ensure success. A temperature of about 70° should be maintained artificially, which will allow of a little air being given on comparatively cool and dull days. Stop progressing shoots at every second joint, and pinch off all tendrils and young fruit that are not wanted to swell as soon as they appear.

### FLOWER GARDEN AND SHRUBBERIES.

Valuable plants, as Variegated Hollies, some of the higher coloured finer varieties of Rhododendron, &c., if not growing as freely as it is desirable that they should do, would be benefited by a liberal allowance of well-decayed leaf-mould being applied as a top-dressing, covering it with a little fine soil and working it into the ground around the ball towards the extremities of the roots. Rose borders should be well dressed with manure, which should be forked in lightly so as not to injure the roots. Keep Grass free from dead spray from trees, well rolled, neat, and trim. Get bulb planting finished as speedily as possible. With respect to Crocuses in pots, while the bulbs are kept in a dark place, very little water need be given, merely sufficient to keep the soil, moss, or sand from becoming too dry. When the roots have made some progress, the crowns will soon make their appearance; and as soon as these are observed, remove to the greenhouse; or where this is not convenient, a cold frame or pit will answer perfectly; they will also do exceedingly well in a sitting-room window. All that is requisite is to allow them all the light and air possible on mild days, giving water as may be necessary, to keep the mould, &c., in a moist state.

### HARDY FRUIT AND KITCHEN GARDEN.

Apple stores should now be often examined, picking out all that show symptoms of rotting. Any of the more choice varieties of Pears that do not ripen properly should be removed to a warm dry room for a few days, which will be found to greatly improve them. Keep all fruit as cool and dry as possible. If frost is excluded from the house it can scarcely be too cool, where the object is to preserve fruit plump and sound as long as possible.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Oct. 28, 1863, as observed at the Horticultural Garden

| Oct. | | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. | 22 | 11 | 30.113 | 30.064 | 69 | 35 | 52.0 | 57 | 56½ | S.W. | .00 |
| Friday | 23 | 12 | 30.207 | 30.166 | 64 | 29 | 46.5 | 56 | 56½ | N.W. | .00 |
| Satur | 24 | 13 | 30.222 | 29.989 | 52 | 36 | 44.0 | 54½ | 55½ | N.E. | .00 |
| Sunday | 25 | ○ | 30.025 | 29.916 | 59 | 29 | 44.0 | 54½ | 55 | E. | .00 |
| Mon. | 26 | 15 | 29.990 | 29.957 | 58 | 29 | 43.5 | 52 | 54 | N.E. | .00 |
| Tues. | 27 | 16 | 29.944 | 29.764 | 57 | 40 | 48.5 | 52 | 54 | N.E. | .00 |
| Wed. | 28 | 17 | 29.633 | 29.578 | 55 | 34 | 44.5 | 52½ | 55 | S.W. | .14 |
| Average. | | | 30.019 | 29.917 | 59.1 | 33.1 | 46.1 | 54.1 | 55.2 | | .14 |

Oct. 22—Fine; exceedingly fine throughout.
— 23—Slight fog; very fine; slight frost at night.
— 24—Dense fog; foggy; fine at night.
— 25—Clear; fine throughout; slight frost.
— 26—Fine; foggy; fine; slight frost at night.
— 27—Foggy; fine; slight fog; foggy at night.
— 28—Overcast; rain; foggy at night.
Mean temperature of the week 4½ deg. above the average.

STATE OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Nov. 7, 1863.

| November. | | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday | 1.. | 51.4 | 38.3 | 46.3 | 21 | 0.38 in. | 3 | 2 | 5 | 3 | 4 | 8 | 3 | 2 |
| Mon. | 2.. | 54.4 | 37.9 | 46.2 | 16 | 0.61 | 1 | 3 | 6 | 3 | 2 | 13 | 3 | 6 |
| Tues. | 3.. | 53.3 | 36.3 | 44.8 | 18 | 0.82 | 2 | 3 | 10 | — | 7 | 7 | 8 | 1 |
| Wed. | 4.. | 51.5 | 36.7 | 44.1 | 19 | 0.44 | 2 | 4 | 8 | 1 | 7 | 8 | 5 | 3 |
| Thurs. | 5.. | 53.6 | 38.2 | 45.9 | 18 | 0.89 | 4 | 2 | 4 | 4 | 5 | 11 | 3 | 6 |
| Friday | 6.. | 53.0 | 38.2 | 45.6 | 19 | 0.76 | 2 | 5 | 2 | 3 | 5 | 14 | 4 | 2 |
| Satur. | 7.. | 52.4 | 37.3 | 44.8 | 17 | 1.02 | 2 | 6 | 2 | 3 | 4 | 11 | [illegible] | [illegible] |

The highest temperature during the above period occurred on the 2d, 1857—therm. 64 deg.; and the lowest on the 3d, 1861—therm. 19 deg.

## Notices to Correspondents.

Books: *J J C.* Works on fruit with plates are very expensive, and necessarily incomplete: 50*l.* will go very little way in their purchase. First, procure the late Mr. George Lindley's Guide to the Orchard, and after you have studied that we will advise you further.

Cemeteries: *Eltham.* We are glad to hear that you agree with us, like all other sensible people.

Eupomatia laurina: *R W——n.*—This is a New Holland shrub, more curious than beautiful. It has flowered in this country.

Hybrid Nemophila: *T M L.* Your hybrid of N. insignis crossed with discoidalis, appears to be exactly the same as the N. atomaria oculata, sent out by Mr. W. Thompson some three or four years ago; a very pretty thing of its kind, if it can be permanently fixed.

Names of Fruits: *W S.* 1, Beurré de Capiaumont; 2, Verte Longue. The Apple is perhaps the Newtown Pippin, which can scarcely be recognised when grown in a bad climate.—*J R H.* Grosse Calebasse, specimen 6 inches long.—*W S.* 3, Napoleon; 4, Gansel's Bargamot; 14, Easter Pippin or French Crab.—*J S.* 1, Doyenné Blanc; 2, Doyenné Gris.—*A D B.* 1, Beurré de Capiaumont; 2, Marie Louise; 3, Chaumontel; 4, Beurré Diel. The Cider Apples are not known.

Names of Plants: *S S P.* Phytolacca decandra.—*X Y Z.* 1, Salix herbacea; 2, We suppose some Pomaderris, and possibly elliptica; 3, possibly Pyrus arbutifolia; 4, Cratægus pyrifolia; all without flowers or fruit, and therefore not in a proper state for examination. We really cannot again take in hand this sort of task.—*Georgiana.* Caragana Chamlagu, and Cephalanthus occidentalis. The cone belongs to Larix Griffithii.—*Canterbury.* Visnea Mocanera.—*R P.* 2. Potamogeton densus, and 1. perhaps Basilla alba. Such articles have no market value. Try to find a purchaser among your acquaintances. It is your only chance.—*Haverfordwest.* The weed that has overgrown a field of Swedes by the road side, a short distance from this town, and which at a distance is the admiration of every person, it being a mass of the brightest yellow, is Chrysanthemum segetum.

New Plants.—*A Correspondent* reminds us that the Androsace lanuginosa, mentioned as a new plant, at p. 1012, has been grown by him for upwards of fourteen years on his rockwork with other Alpines, and he has found it perfectly hardy. It is now in beautiful flower at Painswick.

Pyrethrum Willemoti: *An Earnest Reader* will find his wishes met in our present issue.

Silk Worms: *Kangaroo.* We will inquire and report.

Timber: *L T D.* The Royal Forest in which Cedrus Deodara was planted a few years ago, was, we believe, the New Forest, and it is impossible to know for half a century to come whether it is likely to prove as valuable a tree for timber in this country as on its native mountains. The common Pine timber is the produce of Pinus Strobus; Memel of Pinus sylvestris; Spruce timber is the common white Deal.

Misc.: *H H W.* The charge is 6*d.* a line. Your Paper was duly forwarded.—The paper from Blandford Street is not suited to our columns, nor are any *such* communications admissible.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing SIX STAMPS.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

"Z" Family, now offered for the First Time.

HALLETT'S PEDIGREE (TRADE MARK) NURSERY WHEAT.

PRICE.—One Guinea a Bushel (for Seven Guineas a Quarter), delivered, with printed directions for planting, at the Brighton Railway Station, in bags sewed up and sealed, upon receipt of Cheque or Post Office Order, which must in all cases accompany the order.

*In November Drill One Bushel per acre.*

THE PRODUCE OF THREE ACRES OF THIS WHEAT, GROWN 1862 IN ESSEX, WAS SOLD TO THE MILLER, AND REALIZED £19 7s. PER ACRE.

"THIS WHEAT PRODUCED IN 1863 NEARLY 10 QUARTERS PER ACRE, WEIGHING 63 lbs. PER BUSHEL."

*For full description of "Z family," see Advertisements in our Numbers for September and October 1863.*

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E.C.

Drainage of Land.

MR. C. F. HUMBERT, F.G.S., of Watford, Herts, and formerly Senior Surveyor to the Tithe Commission, a Land Surveyor and Land Agent, more than 20 years established in practice, undertakes works of Drainage either at a contract price, or to lay out and overlook the same at a commission of 5s. per acre; and he has at his command a staff of experienced workmen. His custom is to charge merely the expenses out of pocket in making the preliminary Survey and Estimate where the works are not carried out.

Drainage, &c.

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

THE LANDS IMPROVEMENT COMPANY. Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &C. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

LAND DRAINAGE, the ERECTION of FARMSTEADS, the CONSTRUCTION of ROADS, and other Works of Agricultural Improvements are undertaken by Mr. HUMBERT, Land Agent and Surveyor, of Watford, Herts, either by contract or on commission; and he will furnish estimates of cost free of charge, expenses out of pocket excepted.

Such works can be executed either under the powers of several special Acts of Parliament, with money raised by loan and paid off by instalments, or with the Landowner's own money.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER. AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
J. H. LANGSTON, Esq., M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

*Resident Professors.*

PRACTICAL AGRICULTURE.

J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 12 Lectures on Agricultural Machines.

CHEMISTRY.

ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.
R. WARINGTON, Jun., F.C.S.
BOTANY.—JOHN BAYLDON, M.B. Lond. B. Sc.
VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.
MATHEMATICS AND SURVEYING.
W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.
DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the PRINCIPAL.

THE BIRMINGHAM CATTLE and POULTRY SHOW, NOVEMBER 30, and DECEMBER 1, 2, and 3.

EXTENSIVE GALLERIES having been erected in BINGLEY HALL, the Council have a considerable Quantity of both GROUND FLOOR and GALLERY SPACE to LET, suitable for the EXHIBITION of IMPLEMENTS and MACHINERY, SEEDSMEN'S STALLS, &c.

At the General Annual Meeting of Subscribers held at the Hen and Chickens Hotel, Birmingham, on Thursday, Dec. 4, 1862.

IT WAS RESOLVED,

"That it be a recommendation to the Council in future to restrict the Articles admitted for Exhibition, in addition to the Cattle and Poultry, to Agricultural and Horticultural Implements, Tools, and Machinery, Roots, Grain, and other Farm produce, and other Articles to be used in connection with Agricultural and Horticultural Pursuits."

Plans of the Hall, showing situation of space, Terms, and Forms of Entry, may be obtained from the Secretary.

The ENTRIES CLOSE on NOVEMBER 7.

JOHN B. LYTHALL, Secretary.

Offices: 13, Temple Street, Birmingham.

THE BIRMINGHAM CATTLE and POULTRY SHOW, 1863.

The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held in Bingley Hall, on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3, when PRIZES to the amount of £1940 will be awarded in the following Divisions, viz.:

| | | | | |
|---|---|---|---|---|
| FAT CATTLE | .. | £784 | 5 | 0 |
| FAT SHEEP | .. | 275 | 15 | 0 |
| FAT PIGS | .. | 60 | 5 | 0 |
| BREEDING PIGS | .. | 76 | 10 | 0 |
| CORN and ROOTS | .. | 68 | 5 | 0 |
| POULTRY and PIGEONS | | 674 | 4 | 0 |

Prize Lists and every information may be obtained from the Secretary.

The ENTRIES CLOSE on SATURDAY, October 31.

JOHN B. LYTHALL, Secretary.

Offices: 13, Temple Street, Birmingham.

SMITHFIELD CLUB FAT CATTLE SHOW, 1863.—The ANNUAL SHOW of FAT CATTLE, SHEEP, and PIGS, will be held at the AGRICULTURAL HALL, ISLINGTON, on MONDAY AFTERNOON, December 7, and four following days.

The Prizes consist of 1825*l.* in money; 60 Silver Medals; 6 Silver Cups, and a Gold Medal.

The ENTRIES for LIVE STOCK CLOSE on NOVEMBER 2. Prize Sheets and Printed Forms of Certificates, with full particulars, can be obtained on application to

MR. DAVID PULLEN, Assistant Secretary,

At the Office of the Honorary Secretary, Corner of Half Moon Street, Piccadilly, London, W.

N.B.—Applications for Prize Sheets and Forms of Certificates must be addressed to the ASSISTANT SECRETARY as above, and all letters must bear outside the words "SMITHFIELD CLUB."

The ENTRIES for the IMPLEMENT DEPARTMENT CLOSED on OCTOBER 1.


# The Agricultural Gazette.

## *SATURDAY, OCTOBER 31, 1863.*

MEETING FOR THE ENSUING WEEK.

MONDAY, Nov. 2 { Central Farmers' Club (Professor G. Brown, V.S., on Health and Disease in Live Stock).

THERE is no teaching more efficient than that which comes in the guise of fellow-learning. Example is better than precept, and nowhere therefore is the virtue of teachableness more useful or appropriate than when the teacher himself exhibits it.

Certainly we have never known an instance in which a maxim of this kind has been more recklessly outraged than it was the other day by the Chairman of a Cheshire Agricultural Meeting.* Sir H. MAINWARING had to lament that the county society is not so successful as it ought to be; he had to regret that farmers in Cheshire do not receive such a percentage on their capital as they ought to have; and he had to urge what he called "the restoration of Cheshire cheese." But all this was done in the tone least likely to enlist the friendly co-operation of those whom he addressed. Cheshire farmers are the wisest men in the world, and have nothing more to learn—so he gathered from their demeanour. They are groping in the dark without a skylight—so he gathered from their practice. Neither gas, nor steam, nor railroads—not one of these three great inventions of the age—exists upon their farms. And as to what they can do when they try their best—there was not a bull upon the ground that day that was worthy of a prize.

Nor was the matter of the discussion any better than the manner:—"The three great curses of a dairy farm are drain tiles, bones, and broad-breasted bulls." There never has been greater nonsense uttered with such arrogance. Bones and land drainage have, as everybody knows, been the salvation of poor Grass lands. Thanks to them, Cheshire has well kept its place in the march of agricultural improvement. And, as one of the company immediately pointed out, the reason why Cheshire farming has proved less profitable than it might have been, exists in the delicacy and consequent losses of the dairy stock, which "broad-breasted bulls" are the most likely to correct.

As to "the restoration of Cheshire cheese," which Sir H. MAINWARING professes to think necessary, we quite agree with him that it would be promoted by the recovered energy and prosperity of the County Agricultural Society; and the

* See page 997.

"good and simple plan" for that purpose which he calls on agricultural Societies to propound, may, we therefore think, be found in taking care to choose as the chairmen of all future gatherings men who will not offend their hearers, nor insult their common sense, by the manner and the matter of their addresses.

No county has better examples than Cheshire can exhibit of what may be done for agricultural improvement by a well directed local agricultural society; nor can any other county, it appears, better illustrate the fact that Agricultural Societies will fall to pieces in the hands of incompetent leaders.

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Though it is true that a farmer may be less busy at one time than at another, yet his labours are never ended, for no sooner has he gathered in one harvest than he begins to put in the seed for another.

At this time, then, the question how much seed to employ will with many be a matter of great importance to settle, though it must be confessed that farmers in general seem to be perfectly satisfied with the custom that prevails in their different districts. Still it must be observed, on a comparison with twenty years since, that the general rule is to sow little more than half the quantity of seed per acre now that was done then. At present the prevailing quantity is 2 bushels per acre before November, and 2 bushels and a peck afterwards.

But however men may consider that they are not thick seeding in sowing these quantities, we are constantly being made aware that there are advocates for the use of pecks only of seed where these "moderate men" use bushels; and while one party points to the best results from one method, the other still claims even better for theirs.

Seeing, then, that there are such wide differences upon this subject, it will hardly be wondered at that it should be a matter upon which much thought and argument, with no little writing and discussion, should have been expended. The advocates on either side can point to experiments and results in support of their opinions, from which we are expected to believe that the thick sower of two bushels and upwards can only succeed with this quantity, while the man of two pecks is willing to challenge him as to results; and we would further add for ourselves that we have witnessed the best results from both systems.

This very important matter could thus hardly fail to elicit such inquiries as the following:—

1. Is the seed sown always uniform as regards its power of germination or coming up?
2. What influence has the soil and climate?
3. What may be due to differences in cultivation?

Now, in making these three points subjects for inquiry, we had to institute a series of experiments. The results of these, with observations upon them, coupled with inquiries in the field, are now to be tabulated and discussed. Before transcribing the following table it may be well to point out the plans adopted in arriving at the results tabulated.

Having got a quantity of samples of Wheat from as many different sources as we conveniently could, we sowed a hundred grains of each in a mixture of mould and sand in marked pots; these were plunged in sand in a hot house, and subjected to a temperature of about 60°F. In from 10 to 15 days the numbers of seeds that had germinated were duly counted, and to prevent error the non-germinating grains were carefully looked over, and in most cases they were found to contain a decomposing milky kind of fluid.

Our object in experimenting in this way was to place the grain under the most favourable circumstances for germination, free from that exposure which might have resulted in loss from birds or insects.

In counting the germinated grains, most of which soon sent up leaves a few inches high, all that formed leaves at all were included, though some of them were so distorted that under the natural circumstances of sowing they could never be expected to arrive at maturity; indeed there is reason to think that these proceeded from diseased grains whose powers of germination would have been totally destroyed by the process of pickling adopted before ordinary Wheat sowing. With respect to the headings of the columns, we would remark—

1. That the names are strictly copied from the samples.

2. The weights per bushel being estimated from samples of at most but a few ounces, have been arrived at by multiplying a small measure, so that as a rule they will be in excess, but relatively they will be found to be tolerably correct.

3. The price has been quoted for the seed Wheats of 1862, and, as many of them were for seedsmen's picked and true samples, they may be a little above the market price.

4. The other columns speak for themselves.

Table of the Germination of Wheat, &c.

| No. | Label. | Weight per bush. | Price per bushel. s. d. | Came up, per cent. | Failed, per cent. | Remarks. |
|---|---|---|---|---|---|---|
| | Wheats of 1862. | | | | | |
| 1 | Tasmania .. .. | 66 | .. | 46 | 54 | These are six samples from the International Exhibition of 1862, to which they were forwarded by different colonists. |
| 2 | Ditto .. .. | 60.5 | .. | 8 | 92 | |
| 3 | Tuscan, from Victoria .. .. | 68 | .. | 94 | 6 | |
| 4 | Ditto ditto .. | 63 | .. | 78 | 22 | |
| 5 | Ditto ditto .. | 67 | .. | 90 | 10 | |
| 6 | Tasmania .. .. | 60 | .. | 30 | 70 | |
| 7 | Ditto .. .. | 59.5 | .. | 28 | 72 | Taken by us; probably the same as 6. |
| 8 | Talavera .. .. | 66 | .. | 98 | 2 | Four samples from Hainault farm; amongst the best that have come before us. |
| 9 | Spalding .. .. | 63.8 | .. | 94 | 6 | |
| 10 | Thick-set Rough Chaff .. .. | 65 | .. | 100 | None | |
| 11 | Morton's Blood Straw .. .. | 62.6 | .. | 94 | 6 | |
| 12 | Hallett's Pedigree | 62.9 | .. | 78 | 22 | Communicated |
| 13 | Creeping Wheat.. | 66.5 | .. | 98 | 2 | Ditto |
| 14 | Bland's Giant Prolific .. .. | 59 | | 96 | 4 | Ditto |
| 15 | Fuller's Red .. | 56.8 | | 98 | 2 | A poor grain; from the Cotteswold. |
| 16 | Red Straw, Lammas .. .. | 56.8 | 7 0 | 82 | 18 | Samples taken by us from Cirencester market. No. 21 not a seed Wheat. It contains 76,800 seeds of Corn Cockle, and 64,000 seeds of Rye in the bushel. |
| 17 | Hallett's Pedigree | 64.6 | 10 6 | 88 | 12 | |
| 18 | Browick .. .. | 58.5 | 6 6 | 88 | 12 | |
| 19 | Red Chaff, White | 59 | 6 6 | 78 | 22 | |
| 20 | Free Trade .. | 59.5 | 6 3 | 88 | 12 | |
| 21 | Russian .. .. | 55 | 5 7½ | 32 | 68 | |
| 22 | Burwell .. .. | 58.5 | 8 0 | 18 | 82 | Communicated from a well-known seedsman. These formed a most interesting series of several sorts of Wheat, most of which looked remarkably well as hand samples. |
| 23 | Rough Chaff, Talavera .. .. | 60.5 | 9 0 | 90 | 10 | |
| 24 | Talavera .. .. | 63 | 10 0 | 38 | 62 | |
| 25 | Corner's Rough Chaff .. .. | 62 | 10 0 | 52 | 48 | |
| 26 | Red Browick .. | 65 | 8 0 | 70 | 30 | |
| 27 | Chidham .. .. | 66.5 | 10 0 | 70 | 30 | |
| 28 | Lammas .. .. | 63.3 | 8 0 | 58 | 42 | |
| 29 | Britannia, or Red Thick-set .. | 66 | 8 0 | 54 | 46 | |
| 30 | Red Nursery .. | 67 | 9 0 | 92 | 8 | |
| 31 | Col. Quentin's Giant .. .. | 68 | 9 0 | 38 | 62 | |
| 32 | Kessingland .. | 63.3 | 8 0 | 86 | 14 | |
| 33 | April .. .. | 60.3 | 12 0 | 84 | 16 | |
| 34 | Golden Drop .. | 63.3 | 8 0 | 92 | 8 | |
| 35 | Shirreff's Bearded Red .. .. | 63.5 | 9 0 | 74 | 26 | |
| 36 | Essex Rough Chaff | 66.8 | 9 0 | 96 | 4 | |
| 37 | Hunter's White (out of condition) | 60 | 8 0 | 60 | 40 | |
| 38 | Shirreff's Bearded White .. .. | 63.2 | 10 0 | 96 | 4 | |
| 39 | White Trump .. | 63.3 | 9 0 | 96 | 4 | |
| 40 | Grace's White .. | 65 | 10 0 | 38 | 62 | |
| 41 | Hertfordshire White .. .. | 66.2 | 8 0 | 94 | 6 | |
| 42 | Hallett's Pedigree | 66 | 10 0 | 92 | 8 | |
| | Oats of 1862. | | | | | |
| 1 | Tasmanian .. | 46 | .. | 92 | 8 | From the International Exhibition. |
| 2 | Victoria Tartars .. | 48 | .. | 96 | 4 | |
| 3 | Ditto ditto .. | 47.2 | .. | 94 | 6 | Communicated. |
| | Barley of 1862. | | | | | |
| | Victoria .. .. | 58.2 | .. | 98 | 2 | |
| | Wheats of 1863. | | | | | |
| 1 | Red Lammas .. | .. | .. | 94 | 6 | Samples of seed Wheat obtained from Cirencester market. |
| 2 | Bristol Red .. | .. | .. | 76 | 24 | |
| 3 | Hallett's Pedigree | .. | .. | 96 | 4 | |
| 4 | Rostock .. .. | .. | .. | 94 | 6 | |
| 5 | Golden Drop .. | .. | .. | 92 | 8 | |
| | Average of 50 specimens .. .. | .. | .. | 75 | 25 | |

Now on looking over this Table the most striking point is the immense differences presented by different samples in their power of germination, for while of some samples—and we may add those by no means the best looking—all or nearly all may come up, of others scarcely any can do so, even under the most favourable circumstances, and a glance at the bottom of the table shows as an average of 50 samples, that 25 per cent., or one quarter, did not germinate.

It must here be noted that the Wheat of 1862 was not of the best, whilst that of the present year is better than usual, so that if we put one year against another, and consider the accidents to which seed is liable in the natural soil, we may perhaps conclude that as a rule not more than three-fourths of the seed sown does germinate.

The bearing of this then upon the subject of thick or thin seeding must be obvious to all; for unless the quality of the seed be ascertained, the nominally thick seeder may be the thinner one after all; whilst the thin seeder, by which we mean he who advocates about a quarter of the usual quantity, may find himself without a plant, a position, however, which we find to be usually taken very philosophically; the birds or the wireworms or both get the credit of the disaster, and so when the thin seeding is successful another season it is held to be proof positive that this explanation is the only correct one. Another point of interest with regard to seed Wheat is that it is not always the brightest looking, plumpest, or heaviest sample that germinates best. All who saw the colonial Wheats in the Exhibition of 1862 must have been struck with the fineness of the grain. In these samples a few ounces more per bushel was almost sure to command a prize or high commendation. In the cases of the first seven samples of our Table we find that they failed in germinating to the extent of, in round numbers, 46 per cent., or nearly half.

This, we are inclined to think, is partly due to a process of drying to which some of them were probably subjected to augment the weight, and partly to their age and lengthened voyage, for probably these samples were of the year 1861. Still the heaviest sample (3) came up best, so that neither age nor other accident sensibly affected its germinating powers. With the facts before us, then, we have an element of great importance to consider in estimating the causes of failure in trials that have been made to grow Australian and other colonial Wheat in England; it is not only that they have been brought from a better to a worse climate, but there are the time and the voyage, putting aside any preparation for the market, which, affecting the germinating power to the extent of 46 per cent., more or less, would be likely to cause their failure.

Whether, then, it be deemed advisable to sow little or much, it is well to know what it is that we are sowing, and how much we may expect from our seed.

That both soil and climate will affect the quantity of Wheat to be sown few will doubt; if the effect of sowing Wheat from a warmer in a colder climate is to prevent much of it germinating, surely that fact should be known, and its possibility should be provided for.

Farmers practically admit the influence of climate when, as is a general custom in the midland counties, an additional peck of seed is added in all cases of Wheat sowing after October. What is termed cold land usually requires more than any other. Land again with the property of "throwing out" after frost will hardly do for thin seeding.

Thin brashes, say with 4 inches of soil on the hard rock, will not admit of thin seeding, for with a thin soil there is but little disposition to tiller to the extent to make up for extra thin seeding.

In estimating the effects of cultivation on the growing of Wheat, we would start with the assertion that good farming greatly ameliorates climate. We know of districts where in our youth only the hardy old Cone Wheat would succeed; this was in the days when it was not unfrequently sown on the fallow and ploughed over. Seed so sown to the extent of 4 bushels, was, perhaps, thin seeding after all. Next followed a little drainage and red beardless Wheats, and now deep drainage and deep cultivation, and white Wheats.

We are convinced that deep and thorough cultivation and thin sowing must go together, for a deep soil can accommodate a quantity of roots, and it should not be forgotten that every bud in tillering coincident with the pushing of the bud upwards sends out from 2 to 5 roots downwards, so that unless the roots can be thus accommodated buds cannot and will not form. Deep cultivation lets in air and light into the soil, so that plant food is disengaged, but this very air and light is prejudicial to the wire worm, which does best where the soil is least disturbed, to wit in old "seeds," which are perhaps only ploughed 3 or 4 inches to put in Wheat, while the worms have gone a foot into the pan away from frost.

These are some of the thoughts which arise from a consideration of our experiments and observations, and they lead us to conclude that the "thick-and-thin" advocate for any one method, regardless of all the circumstances, may sometimes err as egregiously in thin as in thick seeding.

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—— Monday next, November 2, is the last day on which entries of live stock for the forthcoming Cattle Show of the Smithfield Club can be received. The office of Mr. B. T. Brandreth Gibbs, the Hon. Secretary, is at the corner of Half Moon Street, Piccadilly.—The entries for the Cattle Show at Bingley Hall, Birmingham, close this day, October 31.

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## LAND COMPANIES.

The *Times* newspaper published on the 8th and on the 10th instant two letters from landowners on a subject that demands, I think, further notice.

The writer of the first letter complains that in attempting to improve his estate by the loans sanctioned by Parliament he is called upon by the

Land Companies to pay a sum he thinks unreasonable, whilst the writer of the second letter merely corrects the figures of the first.

It seems to me that a more reasonable complaint would be that landowners are compelled to pay these charges at all to Land Companies. As the matter now stands, the Land Companies, having private Acts empowering them exclusively to make rent charges on land for money expended by tenants for life and others in erecting buildings, &c., trade with these Acts and charge all those landowners for the use of them, who find it expedient to expend money for this purpose, and repay it by annual rent charges; and they enjoy a monopoly of this right which must, I think, be considered extremely unfair. The companies can only make the rent charges in question with the sanction of the Enclosure Commissioners. Then why should not the landowner be enabled himself to apply direct to the Enclosure Commissioners, and save the fee charged by the Companies for the use of their Act? leaving it to the landowner to make his application, or to obtain the money through one of the companies if he thinks it expedient. A landowner may now create a rent charge for money expended in draining with the sanction of the Enclosure Commissioners, without being put to expense by any company; but in the precisely parallel case of farm buildings, &c., he may not do so, but must work through a company and pay that company's fee.

All that is required is a short general Act of Parliament, which could meet with no opposition except from interested parties, and which was some time ago already, I believe, prepared. *C. F. Humbert, Land Agent, Watford, Herts.*

## AGRICULTURAL STATISTICS, IRELAND, 1863.

THE enumeration—which extends over about 606,000 distinct holdings—commenced, this year on June 2, and terminated in the middle of July.

The following summary shows the extent under cereal crops in 1862 and 1863:—

ABSTRACT OF CEREAL CROPS.

| | 1862. | 1863. | Decrease. |
|---|---|---|---|
| | Acres. | Acres. | Acres. |
| Wheat .. .. .. .. | 356,321 | 264,766 | 91,555 |
| Oats .. .. .. .. | 1,977,528 | 1,948,986 | 28,542 |
| Barley .. .. .. .. | 192,302 | 171,238 | 21,064 |
| Bere and Rye .. .. .. | 12,128 | 8,624 | 3,504 |
| Beans and Peas .. .. | 15,202 | 15,148 | 54 |
| Total .. .. .. | 2,553,481 | 2,408,762 | 144,719 |

Decrease in Cereal Crops in 1863, 144,719 acres.

According to this abstract there would appear to be a decrease of 91,555 acres in the extent under Wheat this year, compared with 1862; of 28,542 in that under Oats; 21,064 in Barley; 3504 in Bere and Rye; and of 54 acres in Beans and Peas; making a total decrease in the acreage under cereals of 144,719 acres, or 5.7 acres in every 100.

The area occupied by the different green crops, in the years 1862 and 1863, is given in the following Table:—

ABSTRACT OF GREEN CROPS.

| | 1862. | 1863. | Increase. | Decrease. |
|---|---|---|---|---|
| | Acres. | Acres. | Acres. | Acres. |
| Potatos .. .. | 1,018,112 | 1,023,626 | 5,514 | .. |
| Turnips .. .. | 376,715 | 351,360 | .. | 25,355 |
| Mangel Wurzel and Beet Root .. | 23,222 | 16,462 | .. | 6,760 |
| Cabbage .. .. | 30,543 | 33,998 | 3,455 | .. |
| Carrots, Parsnips, and other green crops .. .. | 17,713 | 22,653 | 4,940 | .. |
| Vetches and Rape | 30,830 | 29,678 | .. | 1,152 |
| Total .. | 1,497,135 | 1,477,777 | .. | 19,358 |

Net Decrease in Green Crops in 1863, 19,359 acres.

It appears from the foregoing abstract that the extent under Potatos has increased by 5514 acres; Cabbage by 3455 acres; and Carrots, Parsnips, and other green crops by 4940 acres; while Turnips show a decrease of 25,355 acres; Mangel Wurzel and Beet Root of 6760, and Vetches and Rape of 1152 acres,—making a net decrease of 19,358 acres under green crops in 1863, compared with the previous year.

The following is a summary of the variations in the acreage under cereals, green crops, meadow, and Flax, between 1862 and 1863, as given in the subsequent Tables:—

GENERAL SUMMARY.

| | Acres. | Acres. |
|---|---|---|
| Decrease in cereal crops .. .. .. | 144,719 | 164,077 |
| Do. green crops .. .. .. | 19,358 | |
| Increase in meadow and Clover .. .. | 7,724 | 71,646 |
| Do. Flax .. .. .. .. | 63,922 | |
| Total Decrease in the extent of Land under Crops in 1863 .. .. .. .. .. .. | | 92,431 |

The decrease in the extent of land under crops this year compared with 1862, as shown in the above summary, is 92,431 acres:—cereal and green crops having diminished by 164,077 acres;—and meadow and Flax increased by 71,646—Flax alone to the extent of 63,922 acres. The total area under Flax this year amounts to 213,992 acres, which exceeds by 39,413 acres the greatest extent sown in any year since these statistics commenced in 1847.

The total extent under each crop for the last five years—1859—1863—is given in the succeeding Table:—

| Crops. | 1859. | 1860. | 1861. | 1862. | 1863. |
|---|---|---|---|---|---|
| | Acres. | Acres. | Acres. | Acres. | Acres. |
| Wheat .. .. .. .. .. .. | 464,175 | 466,415 | 401,243 | 356,321 | 264,766 |
| Oats .. .. .. .. .. .. | 1,982,662 | 1,966,304 | 1,999,160 | 1,977,528 | 1,948,986 |
| Barley .. .. .. .. .. .. | 177,894 | 181,099 | 198,956 | 192,302 | 171,238 |
| Bere and Rye .. .. .. .. .. | 13,198 | 12,734 | 11,582 | 12,128 | 8,624 |
| Beans and Peas .. .. .. .. | 14,851 | 12,832 | 14,017 | 15,202 | 15,148 |
| Potatos .. .. .. .. .. .. | 1,200,347 | 1,172,079 | 1,133,504 | 1,018,112 | 1,023,626 |
| Turnips .. .. .. .. .. .. | 322,137 | 318,540 | 334,104 | 376,715 | 351,360 |
| Mangel and Beet Root .. .. .. | 27,054 | 32,124 | 22,949 | 23,222 | 16,462 |
| Cabbage .. .. .. .. .. .. | 31,680 | 22,785 | 30,020 | 30,543 | 33,998 |
| Carrots, Parsnips, and other green crops | 21,971 | 21,633 | 19,559 | 17,713 | 22,653 |
| Vetches and Rape .. .. .. .. | 38,243 | 40,481 | 31,280 | 30,830 | 29,678 |
| Flax .. .. .. .. .. .. | 136,282 | 128,595 | 147,957 | 150,070 | 213,992 |
| Meadow and Clover .. .. .. .. | 1,487,111 | 1,594,512 | 1,546,206 | 1,552,924 | 1,560,648 |

The number and value of the various descriptions of live stock from 1855 to 1863, and the difference in their number and value between these years and between 1862 and 1863, are shown in the following summaries:—

TOTAL NUMBER OF LIVE STOCK in IRELAND, in each Year, from 1855 to 1863, inclusive.

| Years. | Number of Horses. | Number of Cattle. | Number of Sheep. | Number of Pigs. |
|---|---|---|---|---|
| 1855 .. .. | 556,287 | 3,564,400 | 3,602,342 | 1,177,605 |
| 1856 .. .. | 573,408 | 3,587,858 | 3,694,294 | 918,525 |
| 1857 .. .. | 599,782 | 3,620,954 | 3,452,252 | 1,255,186 |
| 1858 .. .. | 611,321 | 3,667,304 | 3,494,993 | 1,409,883 |
| 1859 .. .. | 629,075 | 3,815,598 | 3,592,804 | 1,265,751 |
| 1860 .. .. | 619,811 | 3,606,374 | 3,542,080 | 1,271,072 |
| 1861 .. .. | 614,232 | 3,471,688 | 3,556,050 | 1,102,042 |
| 1862 .. .. | 602,894 | 3,254,890 | 3,456,132 | 1,154,324 |
| 1863 .. .. | 579,179 | 3,138,275 | 3,308,931 | 1,064,302 |
| Difference in Numbers between 1855 and 1863 .. | Increase. 22,892 | Decrease. 426,125 | Decrease. 298,411 | Decrease. 112,803 |
| Do., Do., between 1862 and 1863 .. | Decrease 23,715 | Decrease. 116,615 | Decrease. 152,201 | Decrease. 89,522 |

It is satisfactory to notice in the detail Tables an increase in Ireland of 12,771 cattle, under the head "one year old and under two years," and of 19,148 "under one year."

TOTAL VALUE of LIVE STOCK in IRELAND in each Year, from 1855 to 1863, calculated according to the rates assumed by the Census Commissioners of 1841, viz.:—For horses, 8*l.* each; Cattle, 6*l.* 10*s.*; sheep, 22*s.*; and pigs, 25*s.* each.

| Years. | Horses. | Cattle. | Sheep. | Pigs. | Total Value. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| 1855 .. .. .. .. .. .. | 4,450,296 | 23,168,600 | 3,962,576 | 1,472,006 | 33,053,478 |
| 1856 .. .. .. .. .. .. | 4,587,264 | 23,321,077 | 4,063,723 | 1,148,156 | 33,120,220 |
| 1857 .. .. .. .. .. .. | 4,798,256 | 23,536,201 | 3,797,477 | 1,568,982 | 33,700,916 |
| 1858 .. .. .. .. .. .. | 4,890,568 | 23,837,476 | 3,844,492 | 1,762,354 | 34,334,890 |
| 1859 .. .. .. .. .. .. | 5,032,600 | 24,801,387 | 3,952,084 | 1,582,188 | 35,368,259 |
| 1860 .. .. .. .. .. .. | 4,958,488 | 23,441,431 | 3,896,288 | 1,588,840 | 33,885,047 |
| 1861 .. .. .. .. .. .. | 4,913,856 | 22,565,972 | 3,911,655 | 1,377,552 | 32,769,035 |
| 1862 .. .. .. .. .. .. | 4,823,152 | 21,156,785 | 3,801,745 | 1,442,905 | 31,224,587 |
| 1863 .. .. .. .. .. .. | 4,633,432 | 20,398,788 | 3,634,324 | 1,331,002 | 29,997,546 |
| Difference in value between 1855 and 1863 | Increase. £183,136 | Decrease £2,769,812 | Decrease. £328,252 | Decrease. £141,004 | Decrease. £3,055,932 |
| Difference in value between 1862 and 1863 | Decrease. £189,720 | Decrease. £757,997 | Decrease. £167,421 | Decrease. £111,903 | Decrease. £1,227,041 |

The returns of tillage and live stock from which the general abstracts have been compiled, are derived from information given voluntarily to the enumerators by the owners and occupiers of land throughout the country. It is gratifying to learn that this year the names of only four persons were reported to me by the enumerators as having declined to furnish them with the requisite particulars respecting the tillage and stock on their farms.

The increase in the column headed "Bog and Waste unoccupied," is owing to the withdrawal of live stock from the mountain and boggy pasture, consequent upon the decrease in stock, caused by the four last unfavourable years; but it may be reasonably assumed that with a continuance of genial seasons, the tracts of mountain and boggy pasture which, from the causes mentioned, are not this year occupied by cattle, will ere long resume their former position, and contribute to the agricultural wealth of the country.

The average produce of the crops cannot be so satisfactorily ascertained until after the general harvest has been gathered in; but from inquiries which I have made in many well-informed quarters, as well as from the very favourable accounts given by the provincial press in all parts of the country, it may be fairly estimated that the yield of the cereal crops in particular this year will prove above the average which has been known for many seasons in Ireland; and although there is a falling off in the total acreage, yet it is confidently expected that it will be compensated by the abundant produce of almost all crops—the total value of which, it has been computed, will in 1863 exceed that of the crops of last year by several millions sterling, and approximate to that of some of our best years—in Flax alone the increase in value over 1862, caused by the larger acreage of 63,922 acres, combined with the abundant yield and superior quality, will, it is expected, amount to 1,000,000*l.*

*Emigration.*—The number of persons who emigrated during the first seven months of the years 1862 and 1863 is given at page 20. The total amounted to 80,506, being an increase of 34,607 persons over the number who left the country during the corresponding period in 1862. The entire number of emigrants from Ireland since the 1st May, 1851, when their enumeration commenced, amounts to 1,378,333.

[The above is extracted from the report of W. Donnelly, C. B., Registrar-General to his Excellency the Lord Lieutenant.]

## THE PRIZE FARM AGREEMENT.

THE Earl of Lichfield recently offered a prize of 50*l.* for the best form of agreement between landlord and tenant. At the annual dinner of the Staffordshire Agricultural Society, at Stafford, on the 25th Sept., Lord Lichfield stated, as reported in our columns, that the Agreement Committee had received 47 agreements, and that they had unanimously selected as the best the one sent by Mr. G. A. May, of Elford Park, Tamworth. The committee, however, desired to obtain the advice of some agents, and further to amend the agreement before publishing it. Since the dinner Mr. May has been urged by many correspondents to publish the agreement, and accordingly, with the consent of the Earl of Lichfield, it has appeared in the *Staffordshire Advertiser.* The following is a copy of the agreement:—

Copy of Agreement made the day of 186 between A B, of Esq., of the one part, and C D, of farmer, of the other part.

The said A B (hereafter called landlord) agrees to let, and the said C D (hereafter called tenant) agrees to take, the farm called with its appurtenances, described in the schedule hereto appended, containing by admeasurement statute acres or thereabouts, situate in the parish of for one year, commencing on the 25th March next, and thenceforth from year to year, until the tenancy shall be determined by twelve months' notice, subject to the following terms and conditions:—

1. The rent shall be *l.* a year, payable half yearly.

2. The landlord or his agents shall have power at all times to enter upon the premises for the purpose of getting, working, felling, and carrying away any coal, ironstone, mineral, stone, sand, gravel, marl, clay, timber, and other trees, the tenant being paid a reasonable compensation for any surface damage.

3. The tenant shall not underlet any portion of the farm, nor fell or lop any trees, or grub up any fences, or plough or break up any old turf, unless by permission of landlord.

4. The landlord or his agents shall have the exclusive right at all times to enter upon the land for the purpose of shooting and fishing; but if the game be let, and damage be done to the tenant's crops exceeding in any one year five per cent. on the rent, the landlord shall make compensation to the tenant to the amount of the injury done.

5. The tenant shall have the liberty of killing rabbits in the fields from 1st November to 1st April.

6. The tenant shall not have more than two-fifths of the arable land in Wheat, nor more than three-fifths in white straw crops, in any one year.

7. All grass land mown for hay, except water-meadows, shall be properly manured after each mowing.

8. No hay, straw, Mangels, Turnips, or manure shall be sold off the farm unless by permission of landlord.

9. All buildings, fences, gates, drains, &c., shall be kept and left in as good repair as they were in on entry (allowance being made for unavoidable decay), materials in the rough and paint being found by landlord.

10. All wet ditches and water courses shall be cleaned out yearly. If they have not been cleaned out in the year preceding the expiration of the tenancy, the cost of cleaning them shall be allowed by the tenant, and all weeds growing on the

headlands and in the ditches surrounding the arable land shall be cut down in June yearly, and all Thistles and Nettles shall be mown, spudded, or thrashed before going to seed.

11. All buildings and fixed machinery erected at the tenant's expense shall, on leaving the farm, be offered to the landlord or incoming tenant at a fair valuation; if not accepted by either party, the tenant shall have the liberty of removing them, but he shall leave the premises as they were before the erection.

12. That not later than one month before the expiration of the tenancy the landlord or incoming tenant (if the farm be let) and the tenant shall each appoint an arbitrator, and give notice of the same to the other party. These arbitrators shall meet not later than 10 days before the expiration of the tenancy, and having appointed an umpire, shall proceed to consider the claims made by either party. In case either neglect to appoint an arbitrator as aforesaid, the arbitrator appointed by the other party shall have the same power as if he were appointed jointly by the parties.

13. The tenant, on leaving the farm, shall plough the stubbles in a good and workmanlike manner by the 1st of February. If he fail to do so, the incoming tenant shall have liberty to enter on any day after default, and to plough and sow the land. In any case, the incoming tenant may enter by the 1st of March to do his spring work, and in this, as in the preceding case, a suitable stable or shed shall be provided for the incoming tenant's horses. If the outgoing tenant do not plough the stubbles in a good and workmanlike manner he shall not be paid for doing it.

14. At the expiration of the tenancy, not more than one fourth part of the arable land shall be in Wheat, nor less than 1-fifth in seeds sown in the preceding year. If such seeds be not properly put in on clean fallows, or if they be eaten after the 30th September, the tenant shall not receive anything for them; otherwise he shall be paid for seed and labour.

15. Half the value of the Wheat crop, if a Michaelmas crop, and not sown after a white straw or root crop, shall be the tenant's portion; but if the average quantity of all the Wheat crop exceed 30 bushels per acre, the tenant shall take all in excess of 15 bushels, leaving that for the incoming tenant's share; but if any portion of the Wheat crop be sown on foul land, the tenant shall receive only the value of seed and labour for such portion.

16. Not more than one-fourth, or less than one-fifth, of the arable land shall require to be fallowed in the year after the expiration of the tenancy. If this arable land be clean and in good condition the tenants shall receive 20s. an acre from, and if foul he shall pay 20s. an acre to, the incoming tenant.

17. The out-going tenant shall leave as battens for the use of the farm one eighth part of the Wheat straw grown during the preceding year, for which he shall be paid consuming price; he shall also be paid such price for any Oat or Barley straw, the produce of the preceding year, not exceeding one eighth part of the crop. All the other portion of the straw shall be properly trodden down in the yards for manure. If any be left in the fields, causing damage, the tenant shall pay for such damage. Any hay or Clover left on the farm, not exceeding one half of the annual average crop grown, shall be paid for at a consuming price.

18. At the expiration of the tenancy, all manure made on the farm shall be the property of the landlord, except as hereafter mentioned:—The tenant shall be paid one half of the cost of all purchased manures applied to root crops (except Potatos) during the last year of the tenancy, and one fourth of that applied during the previous year, providing the cost do not exceed the average of the two preceding years. The tenant shall also be paid for all unprepared bones and lime used on the farm during the last four years of the tenancy, and for all burnt soil or marl, where the dressing of such soil or marl has not been less than 80 cubic yards to the acre; one-fourth of the cost in each case being deducted for each year's use. For every other fertiliser of a permanent character the tenant shall be paid such amount as the arbitrator may determine.

19. The tenant shall also be paid according to the following scale for all corn, cake, or Linseed consumed by stock (except horses). If during the last two years the amount used exceed in value 10 per cent. of the rent, he shall be paid one-third of the amount consumed during the last year but one. If the value consumed be under 10 per cent. and above 5 per cent., he shall be paid one-fourth of the value consumed during the last year. If the value consumed be 5 per cent., or under, he shall not be paid anything. Vouchers in all cases shall be produced by tenant.

20. If the tenant has laid down during the last ten years any drains, or taken up and re-planted any old fences, with the consent of the landlord in writing, he shall at the expiration of the tenancy be repaid the amount so expended, subject to a deduction of one-tenth for each year's use. All other permanent improvements made by the tenant, with the landlord's consent in writing, shall be paid for as the arbitrators may determine.

Lastly, The terms clean, good condition, and foul, shall be interpreted in a reasonable and practical sense, and in estimating the quantities of cropping, &c., allowance shall be made over and under for the sizes of the fields falling in the usual rotation of cropping.

## STOCK KEEPING.

"But, Mr. Mechi, how do you manage to keep so much stock on 170 acres? I see that you have 70 head of bullock and cow stock, young and old, and 100 sheep, besides pigs, all in a growing and fattening condition. You have 100 acres in corn every year, you have very little Grass land, and yet I see a good hay and Clover stack. Tell us how you manage this?"

These remarks are so often made to my bailiff or to myself by practical farmers who visit my farm, that I purpose giving the explanation in your columns, hoping it may prove useful. My first object is always to have a very full crop, by deep cultivation and plenty of manure.

I have generally—

Twelve to fourteen acres of Mangel.

Six to eight acres of Swedes.

Six acres of winter Tares, mowed and brought home to be cut up for cattle and horses. The land is then heavily manured, deeply trench-ploughed, and 3 acres planted the end of June with Cattle Cabbage which are now a heavy crop. The other 3 acres have White Turnips.

Eight acres of Rape taken after White Peas picked for the London market; the land trench ploughed after Peas.

Twelve acres of Italian Rye-grass, half 1st year, half 2d year's growth.

Seven acres of Grass land, fed to 12th May, then irrigated, cut in June for hay, producing 2 tons per acre; guanoed and irrigated after the hay is removed, and grazed subsequently with calves and cows. In winter sheep folded upon it, eating Cabbage, Mangel, cake, malt combs, bran, &c.

I have now 100 lambs in fold eating green Rape, and they receive every evening in their fold 4 bushels of Wheat chaff, 2 bushels of Red Clover chaff, 2 bushels of cotton cake, 1 bushel of Oats, 1 bushel of bran.

In this mixture there is the proper material for building the animal frame—they manure the ground heavily—there is no loss by scouring, and they grow rapidly. When water or hoar frost stands on the Rape it is brushed off with a long pole before the lambs go on it. Our calves feeding out of doors on old Italian Rye-grass, Clover, or pasture, receive at night, Rape or Cotton cake, bran, malt combs, hay and straw chaff. In the summer the bullocks, all under cover, get Tares, or Italian Rye-grass cut by the chaff cutter, Cotton cake, bran, and malt combs; or in September, October, and November, Turnips or Mangel (with the tops) pulped, Cabbage ditto mixed with straw, chaff, cotton cake, malt combs, and bran.

In fact the main principle is to give mixed food and to cut up or pulp every kind of green crop, root crop, or Grass, and never to let any animal tread down or spoil food that is long enough to cut into chaff.

I expend every year in food for my animals, either purchased of others or of myself, at least 500*l*. on 170 acres. This consumed by my animal leaves manure enough to compensate for the Wheat and Barley sold off the farm—thus preserving or increasing the fertility of my soil, and the bulk of my crops. There is nothing pays better in the manure than Cotton or Rape cake, Beans, malt combs, bran, Clover hay.

It should never be forgotten that fattening animals appropriate only a very small portion of the food given to them, and that the bulk of what they eat returns to the land. It is thus easy to understand why we derive so much benefit from their manure. Cows are an exception to this rule; they take much of the goodness out of their food, which we get as milk, therefore their manure is very inferior to that from either fattening or growing animals.

Cake is the preferred of all food, because it contains the elements of lean, bone, and fat in greater proportion than any other food. Malt-combs, bran, and Beans come next.

Straw (according to Mr. Horsfall) gives us materials for fattening cheaper than any other food.

I am indebted to my sewage irrigation for a very heavy crop of Italian Rye-grass, 1 acre of which during summer will keep all my bullock stock and farm-horses for a week; 6 acres keep 100 sheep, from March until Sept. Italian Rye-grass cannot be grown in summer without plenty of good fluid. I find irrigating with farm sewage greatly increases my Grass and hay crop.

It is surprising how fast and perfectly you may build up young animals, provided you give them the proper materials in proper proportions. No one has explained this more clearly than Mr. Horsfall, in his two able papers on Dairy Farming and Meat Making, in the Royal Agricultural Society's Journal, Vol. 17 and 18.

In fact, building up an animal is like building a house; you may have no end of bricks, timber, and slate, but these are all useless without water, lime, sand, and nails.

Immense sums are wasted in food, agriculturally, for want of a proper knowledge in this matter of suiting the mixture of foods to the requirements of the animals, whether for growth, fattening, or milk making. When practical farmers have acquired this knowledge they will no longer laugh at me for attaching much value to Bean, Wheat, and Oat straw, as important feeding stuffs when properly prepared.

To sum up, it is by the extensive use of most of my straw as food, aided by imported foods, and especially by consuming rather than treading down my green crops, also by giving each animal a limited and comparatively small quantity of roots or green crops, that I am enabled to keep much stock, make much manure, and grow much corn. *J. J. Mechi, Oct.* 19.

## LABOUR-COST OF CROPS.

[The following passages are taken from Mr. J. C. Morton's "Handbook of Farm Labour," of which a second edition has just been published.*

We have now to apply the particulars and data to which calculations have led us, to ascertain the labour cost of different farm crops. For some of the crops named it will be necessary to add information on particulars not yet mentioned. I shall not pretend to specify all the crops known to English agriculture; the following estimates relate only to the commonly cultivated crops and only to the labour employed on them, leaving questions of rent, manure, interest of capital, &c., to be discussed elsewhere. The crops enumerated are Wheat, Barley, Oats, Peas, Beans, Rye, Turnips, Wurzel, Carrots, Cabbage, Vetches, Rape, Flax, Clover, pasture land.

It is assumed that reaping and mowing are done by machine, that horse hoes are used in place of hand hoes where possible, and that horse, not steam cultivation is the rule. But the alternatives of hand hoeing and hand reaping on the one hand, and of steam cultivation on the other, are suggested and worked out to their results.

1. *Wheat.*—The following are estimates of the labour-cost per acre of this crop under various modes of cultivation.

(*a*.) After Clover:—

| | | £ | s. | d. |
|---|---|---|---|---|
| Ploughing | | 0 | 6 | 0 |
| Two double harrowings | | 0 | 2 | 2 |
| Drilling seed | | 0 | 1 | 6 |
| Harrowing | | 0 | 1 | 1 |
| Water furrowing, probably | | 0 | 1 | 0 |
| Bird scaring | | 0 | 1 | 6 |
| Rolling | | 0 | 0 | 6 |
| Horse hoeing | | 0 | 1 | 6 |
| Hand weeding, probably | | 0 | 2 | 0 |
| Bird scaring | | 0 | 1 | 0 |
| Cutting Corn by machine | | 0 | 6 | 0 |
| Pitching, carrying, building and thatching | | 0 | 4 | 0 |
| Threshing by steam power (5 qrs.) | | 0 | 10 | 0 |
| Carriage to market (5 qrs.), probably | | 0 | 5 | 0 |
| Cost per acre of labour | | £2 | 3 | 6 |
| If weed patches need forking out of Clover | 2s. 0d. | | | |
| If reaping be done by hand | 4 0 | | | |
| If hoeing be done by hand | 3 0 | | | |
| | | 0 | 9 | 0 |
| If a dressing of 15 tons of manure be carried on the Clover before ploughing:— | | | | |
| Making dung | 2 6 | | | |
| Filling | 1 6 | | | |
| Carrying | 5 0 | | | |
| Spreading | 2 0 | | | |
| | | 0 | 11 | 0 |
| Total labour-cost per acre | | £3 | 3 | 6 |

(*b*.) After bare fallow:—

| | £ | s. | d. |
|---|---|---|---|
| Cultivation of fallow—3 ploughings and 6 double harrowings | 1 | 7 | 0 |
| Gathering and removing weeds (perhaps) | 0 | 5 | 0 |
| Seed furrow (ploughing) | 0 | 6 | 0 |
| One harrowing | 0 | 1 | 1 |
| Drilling seed, &c., as in (*a*.) | 1 | 15 | 4 |
| | 3 | 14 | 5 |
| Add, if reaping and hoeing be done by hand | 0 | 7 | 0 |
| Labour-cost per acre | £4 | 1 | 5 |

(*c*.) After root crop:—

| | £ | s. | d. |
|---|---|---|---|
| The same items as in (*a*.) | 2 | 3 | 6 |
| Or if one grubbing be given in place of the ploughing (2*s*. 6*d*. in place of 6*s*.) deduct | 0 | 3 | 6 |
| | 2 | 0 | 0 |
| Add, if reaping and hoeing be done by hand | 0 | 7 | 0 |
| Labour-cost per acre | £2 | 7 | 0 |

2. *Barley*:—

| | | £ | s. | d. |
|---|---|---|---|---|
| Ploughing after the sheep fold | | 0 | 6 | 0 |
| Two double harrowings | | 0 | 2 | 2 |
| Drilling seed | | 0 | 1 | 6 |
| Harrowing | | 0 | 1 | 1 |
| Bird scaring | | 0 | 1 | 0 |
| Rolling | | 0 | 0 | 8 |
| Bird scaring | | 0 | 1 | 6 |
| Cutting by machine, turning, loading, building, thatching | | 0 | 8 | 0 |
| Threshing (7 qrs.) | | 0 | 10 | 0 |
| Carriage to market | | 0 | 5 | 0 |
| | | £1 | 16 | 11 |
| Add, if cutting by hook, tying in sheaves, and stooking be adopted | 1s. 0d. | 0 | 3 | 0 |
| Total labour-cost per acre of the Barley crop | | £1 | 19 | 11 |

3. *Oats.*

(*a*.) After Clover:—

| | £ | s. | d. |
|---|---|---|---|
| A good crop will involve an expenditure as nearly as possible like (both in items and in total cost) that of Wheat after Clover (*a*.), viz. | 2 | 3 | 6 |
| Or if the weed forking, hand reaping and hand hoeing be required, add | 0 | 9 | 0 |
| Labour-cost per acre | £2 | 12 | 6 |

(*b*.) After root crop:—

| | £ | s. | d. |
|---|---|---|---|
| A good crop will involve an expenditure as nearly as possible like (both in items and in total cost) that of Barley after roots | 1 | 16 | 11 |
| Or with additions | 0 | 3 | 0 |
| Total labour-cost of Oats per acre | £1 | 19 | 11 |

4. *Peas.*

(*a*.) After Corn crop:—

| | | £ | s. | d. |
|---|---|---|---|---|
| Shallow grubbing stubble | | 0 | 2 | 6 |
| Harrowing | | 0 | 1 | 1 |
| Gathering and burning weeds (probably) | | 0 | 3 | 0 |
| A dressing of 12 tons manure:— | | | | |
| Making | 2s. 0d. | | | |
| Filling | 1 6 | | | |
| Carrying | 4 0 | | | |
| Spreading | 2 0 | | | |
| | | 0 | 9 | 6 |
| Ploughing | | 0 | 6 | 0 |
| Harrowing | | 0 | 1 | 1 |
| Sowing by Suffolk drill | | 0 | 1 | 6 |
| Harrowing | | 0 | 1 | 1 |
| Bird scaring | | 0 | 1 | 3 |
| Horse hoeing | | 0 | 1 | 6 |
| Hand weeding | | 0 | 3 | 0 |
| Bird scaring | | 0 | 1 | 6 |
| Cutting by scythe and harvesting, carrying, building and thatching | | 0 | 8 | 0 |
| Threshing (5 qrs.) | | 0 | 7 | 6 |
| Carrying to market | | 0 | 5 | 0 |
| Labour-cost per acre | | £2 | 13 | 6 |

* Longmans.

(b.) Grown for green Peas :—

| | | | |
|---|---|---|---|
| Cultivation by grubber and hand weeding, as before .. | £0 | 6 | 7 |
| Manuring and ploughing, and harrowing, as before .. | 0 | 16 | 7 |
| Ribbing, ½ ploughing .. .. .. .. .. | 0 | 3 | 0 |
| Sowing in the drills .. .. .. .. .. .. | 0 | 1 | 6 |
| Covering by hand hoe .. .. .. .. .. | 0 | 2 | 6 |
| Earthing up by light plough .. .. .. .. | 0 | 2 | 0 |
| Horse hoeing .. .. .. .. .. .. .. | 0 | 1 | 6 |
| Hand hoeing .. .. .. .. .. .. .. | 0 | 3 | 0 |
| Earthing up by plough .. .. .. .. .. | 0 | 3 | 0 |
| | £1 | 19 | 8 |

The crop is sold on the ground, and followed by Turnip or Rape.

(c.) After root crop :—

Items and cost as in (a.) after the dressing of manure 1 17 5

5. *Beans.*

(a.) On corn stubble manured :—

The same as for Peas (a.) excepting that the cost of harvesting will be at least 2s. more, for tying in sheaves, &c. .. .. .. .. .. .. .. 2 15 6

It may be sown by Bean-barrow in the wake of every second plough, but this will not affect the labour-cost.

(b.) After root crop :—

The same as for Peas (c.) excepting that the harvesting will be at least 2s. more for tying in sheaves, &c. 1 19 5

(c.) After Clover or Grass :—

| | | | | |
|---|---|---|---|---|
| The same as (b.), except for digging weeds, add probably .. .. .. .. .. .. | 2s. 0d. | | | |
| Extra harrowings required .. .. .. | 1 1 | | | |
| If dibbled instead of being sown .. .. | 5 6 | | | |
| | | 0 | 8 | 7 |
| Labour-cost of Beans per acre .. .. .. | | £2 | 8 | 0 |

(d.) After grain crop, and ridged as in Turnip culture :—

The same as (a.), excepting that the manure being spread in drills there is the cost of ribbing the land, spreading the dung in drills, sowing the seed by barrow and splitting the intervals to cover it, in place of broad-casting the manure and ploughing it under, and harrowing and sowing by Suffolk drill. Also there is an opportunity of an extra horse hoeing and moulding up; the labour cost will be probably 4s. greater, or .. .. .. . .. £2 17 6

In all cases of manuring the expense of making and applying the manure will vary from 6s. to 10s. and even 15s. per acre, according to quantity, being about 9d. per ton.

6. *Rye.*

(a.) May be sown on a manured Corn stubble :—

Costing, if thoroughly well cultivated, nearly the same as Peas (a.), or .. .. .. .. .. £2 13 6

Deducting for diminished labour, owing to the lighter soil on which it is cultivated, probably .. .. 2 10 0

(b.) But in general it is grown as a forage crop :—

| | | | |
|---|---|---|---|
| Costing as Peas (a.), up till the brairding of the seed, or | 1 | 7 | 0 |
| And then after mowing (2s 6d ), carried to the feeding stalls, say, 8d. per mile, 3s. 6d. .. .. .. | 0 | 6 | 0 |
| Labour cost per acre of Rye forage .. .. | £1 | 13 | 0 |

7. *Turnips.*

(a.) After Corn crop :—

| | | | | |
|---|---|---|---|---|
| Grubbing .. .. .. .. .. .. .. | | 0 | 2 | 6 |
| Harrowing .. .. .. .. .. .. .. | | 0 | 2 | 2 |
| Gathering and burning weeds .. .. .. | | 0 | 3 | 0 |
| Deep ploughing .. .. .. .. .. .. | | 0 | 8 | 0 |
| Harrowing .. .. .. .. .. .. .. | | 0 | 1 | 1 |
| Grubbing .. .. .. .. .. .. .. | | 0 | 3 | 6 |
| Harrowing .. .. .. .. .. .. .. | | 0 | 2 | 2 |
| Rolling .. .. .. .. .. .. .. | | 0 | 1 | 0 |
| Gathering and burning weeds .. .. .. | | 0 | 2 | 0 |
| Ploughing .. .. .. .. .. .. .. | | 0 | 6 | 0 |
| Harrowing .. .. .. .. .. .. .. | | 0 | 1 | 1 |
| Rolling .. .. .. .. .. .. .. | | 0 | 1 | 0 |
| Ribbing .. .. .. .. .. .. .. | | 0 | 2 | 6 |
| Dressing with 18 to 20 tons manure :— | | | | |
| Making .. .. .. .. .. .. .. | 3s. 6d. | | | |
| Filling .. .. .. .. .. .. .. | 2 6 | | | |
| Carriage .. .. .. .. .. .. .. | 3 6 | | | |
| Spreading .. .. .. .. .. .. .. | 2 0 | | | |
| | | 0 | 11 | 6 |
| Covering dung .. .. .. .. .. .. | | 0 | 2 | 6 |
| Sowing .. .. .. .. .. .. .. | | 0 | 0 | 9 |
| Two horse hoeings .. .. .. .. .. | | 0 | 3 | 0 |
| Hand hoeing .. .. .. .. .. .. | | 0 | 4 | 0 |
| Two horse hoeings .. .. .. .. .. | | 0 | 3 | 0 |
| Hand hoeing .. .. .. .. .. .. | | 0 | 2 | 0 |
| Harvesting and pitting .. .. .. .. .. | | 0 | 12 | 0 |
| | | £3 | 14 | 9 |

(b.) Or in place of grubbing and autumnal cultivation, it may suffice to fork out patches of root weeds, haul on the dung and plough it under in autumn, and be satisfied with grubbing, rolling, harrowing and sowing on the flat in spring in which case at least 15s. worth of ploughing, grubbing, harrowing are saved, and the cost will be about .. .. .. 3 0 0

(c.) Or the roots may be consumed on the ground, and the expense of harvesting will be saved, reducing cost to .. .. .. .. .. .. 2 8 0

(d.) If the autumnal ploughing be done by steam it will be done more efficiently, at a saving of 3s. or 4s., reducing cost to .. .. .. .. .. .. 2 5 0

8. *Mangel Wurzel :—*

Its labour-cost will be as nearly as possible identical with that of Turnips, adding perhaps 2s. 6d. per acre to the expense of harvesting what will generally be a heavier crop.

| | | | |
|---|---|---|---|
| (a.) .. .. .. .. .. .. .. .. | £3 | 18 | 0 |
| (b.) .. .. .. .. .. .. .. .. | 3 | 0 | 0 |
| (c.) Where roots are at once consumed on the land, which is coming to be the practice to some extent .. | 2 | 8 | 0 |
| (d.) .. .. .. .. .. .. .. .. | 2 | 5 | 0 |

If seed is dibbled instead of drilled, the cost will be in every case at least 2s. more than this. The cost of singling will not be altered, but the total cost will then stand thus :—(a.) 4l., (b.) 3l. 2s., (c.) 2l. 10s., (d.) 2l. 7s.

9. *Carrots and Parsnips :—*

These crops may be named together, as costing nearly the same.

| | | | |
|---|---|---|---|
| The expense before winter, as in the case of the Turnips (a) .. .. .. .. .. .. | £0 | 15 | 8 |
| Only the manure should have been carted on before the autumn ploughing .. .. .. .. .. | 0 | 11 | 6 |
| Harrowing .. .. .. .. .. .. .. | 0 | 2 | 2 |
| Gathering weeds .. .. .. .. .. .. | 0 | 2 | 0 |
| Sowing .. .. .. .. .. .. .. | 0 | 1 | 6 |
| Horse hoeing .. .. .. .. .. .. | 0 | 1 | 6 |
| Singling .. .. .. .. .. .. .. | 0 | 5 | 4 |
| Horse and hand hoeing .. .. .. .. .. | 0 | 5 | 0 |
| Harvesting .. .. .. .. .. .. .. | 1 | 5 | 0 |
| In all .. .. .. .. .. .. .. | £3 | 9 | 4 |

10. *Cabbages :—*

| | | | |
|---|---|---|---|
| The labour-cost may be the same as for Turnips in ridges, up till sowing the seed, viz. (a.) .. .. | 2 | 10 | 0 |
| Afterwards there is the planting 10,000 plants, probably 1½ or 2 days' work for a man .. .. | 0 | 4 | 0 |
| Two horse hoeings and one hand hoeing .. .. | 0 | 6 | 0 |
| Harvesting, probably .. .. .. .. .. | 0 | 10 | 0 |
| In all .. .. .. .. .. .. .. | £3 | 10 | 0 |

11. *Potatos :—*

| | | | |
|---|---|---|---|
| (a.) By horse culture, labour up to setting the tubers, as in Turnips (a.) up to covering in the dung .. | 2 | 7 | 6 |
| Setting tubers (carted to the field) .. .. .. | 0 | 3 | 6 |
| Covering .. .. .. .. .. .. .. | 0 | 3 | 6 |
| Harrowing down .. .. .. .. .. .. | 0 | 1 | 1 |
| Two horse hoeings .. .. .. .. .. | 0 | 3 | 0 |
| Hand hoeing .. .. .. .. .. .. | 0 | 5 | 0 |
| Earthing up .. .. .. .. .. .. | 0 | 2 | 6 |
| Digging and harvesting .. .. .. .. .. | 1 | 10 | 0 |
| | £4 | 16 | 1 |
| (b.) By hand culture, labour up to ribbing for receiving the dung, the same as Turnips (a.) .. | 1 | 13 | 6 |
| Carrying manure and spreading .. .. .. .. | 0 | 11 | 6 |
| Digging and planting Potatos .. .. .. .. | 0 | 14 | 0 |
| Hacking .. .. .. .. .. .. .. | 0 | 8 | 0 |
| Earthing up .. .. .. .. .. .. | 0 | 4 | 0 |
| Digging and harvesting .. .. .. .. .. | 1 | 10 | 0 |
| Labour-cost of Potatos per acre .. .. .. | £5 | 1 | 0 |

12. *Vetches :—*

| | | | |
|---|---|---|---|
| Sown after a corn crop and manured, will cost in labour, including the drilling of the seed, the same as Rye as a forage crop .. .. .. .. .. | 1 | 7 | 0 |
| And carried home to the feeding stalls .. .. .. | 0 | 8 | 0 |
| | £1 | 15 | 0 |

13. *Rape.*

(a.) Sown on a corn stubble :—

| | | | |
|---|---|---|---|
| Autumn cultivation—manuring and sowing the seed on the flat—will involve nearly the same items of labour as Turnips sown on the flat, and consumed on the ground, viz. (c.) .. .. .. .. .. | 2 | 8 | 0 |
| Deduct, however, for three horse hoeings and one hand hoeing not needed .. .. .. .. .. | 0 | 8 | 0 |
| Leaving the cost, including one horse hoeing and a partial hand hoeing .. .. .. | £2 | 0 | 0 |

(b.) Sown after an early crop of Rye and Vetches :—

| | | | |
|---|---|---|---|
| Two grubbings and harrowings .. .. .. .. | £0 | 8 | 2 |
| Dressing of manure (12 tons) .. .. .. .. | 0 | 9 | 6 |
| Ploughing and harrowing .. .. .. .. .. | 0 | 8 | 2 |
| Sowing .. .. .. .. .. .. .. .. | 0 | 1 | 6 |
| Horse and hand hoeing .. .. .. .. .. | 0 | 3 | 6 |
| | £1 | 10 | 10 |

14. *Flax.*

After root crop :—

| | | | |
|---|---|---|---|
| Ploughing .. .. .. .. .. .. .. | 0 | 6 | 0 |
| Harrowings .. .. .. .. .. .. .. | 0 | 2 | 2 |
| Weeding .. .. .. .. .. .. .. | 0 | 3 | 0 |
| Ploughing .. .. .. .. .. .. .. | 0 | 6 | 0 |
| Harrowing .. .. .. .. .. .. .. | 0 | 1 | 1 |
| Scarifying and harrowing .. .. .. .. .. | 0 | 4 | 3 |
| Rolling .. .. .. .. .. .. .. | 0 | 0 | 9 |
| Sowing broadcast, by machine .. .. .. .. | 0 | 0 | 3 |
| *Weeding, pulling, rippling, and steeping .. .. | 1 | 2 | 0 |
| Taking from steep, spreading, turning and lifting .. | 1 | 12 | 6 |
| Scutching 30 stones .. .. .. .. .. .. | 2 | 0 | 0 |
| Cleaning seed .. .. .. .. .. .. .. | 0 | 6 | 0 |
| Labour-cost of Flax .. .. .. .. .. | £6 | 4 | 0 |

If less seed be sown, and a coarser fibre, with larger quantity of seed be obtained, the two last items will be somewhat larger.

15. *Clover :—*

| | | | | |
|---|---|---|---|---|
| (a.) Sowing broadcast on young Barley .. .. | | 0 | 0 | 3 |
| Rolling and picking stones .. .. .. .. | | 0 | 2 | 0 |
| Mowing .. .. .. .. .. .. .. | | 0 | 4 | 0 |
| Making and building .. .. .. .. .. | | 0 | 6 | 0 |
| Carrying .. .. .. .. .. .. .. | | 0 | 2 | 6 |
| | | £0 | 15 | 6 |

(b.) When the Clover is fed down, the last three items are saved and the cost per acre is only 3s.

| | | | | |
|---|---|---|---|---|
| (c.) When mown green and carried as forage, it may cost for mowing twice .. .. .. | 8s. 0d. | | | |
| And carrying green twice .. .. .. .. | 8 0 | | | |
| Or with sowing, &c. probably .. .. .. | | 1 | 0 | 0 |

16. *Rye Grass :—*

Will cost in labour the same as Clover (a). The labour of sowing it is somewhat greater. That of mowing it is also somewhat greater. The cost of haymaking will probably be as much= .. .. 0 18 0

17. *Pasture Land :—*

Mown every other year, and the stones gathered off it, and rolled; fence mending at intervals, &c., charge per acre per annum= .. .. .. .. 0 5 0

18. *Attendance on Sheep :—*

Per head per week—less all the year round than .. 0 0 0½

19. *Attendance on Cattle :—*

| | | | | |
|---|---|---|---|---|
| On an average per head, winter feeding per week .. .. .. .. .. .. | 7d. to 9d. | | | |
| Summer, barely .. .. .. .. .. .. | 1 | | | |
| Average throughout the year per week .. | | 0 | 0 | 4 |

*Recapitulation :*—The following, then, in tabulated form, are the results arrived at. The first money column states the labour-cost per acre; the second, third, and fourth state the labour-cost per bushel and per ton on various estimates of crop.

* These items are stated on the authority of Mr. M'Adam, in his Prize Essay, in vol. viii. Agricultural Society's Journal.

LABOUR-COST OF GRAIN CROPS.

| | Per Acre. | | | Per Bushel. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 30 bush. | | 40 bush. | | 50 bush. | | 60 bush. | |
| | £ | s. | d. | s. | d. | s. | d. | s. | d. | s. | d. |
| Wheat (a.) after Clover .. | 2 | 3 | 6 | 1 | 5½ | 1 | 1 | 0 | 10½ | 0 | 9½ |
| „ do. manured .. | 3 | 3 | 6 | 2 | 1½ | 1 | 7 | 1 | 3½ | 1 | 0½ |
| „ (b.) after fallow .. | 3 | 14 | 5 | 2 | 6 | 1 | 10 | 1 | 6 | 1 | 3 |
| „ (c.) after roots .. | 2 | 0 | 0 | 1 | 4 | 1 | 0 | 0 | 9½ | 0 | 8 |
| Barley .. .. .. | 1 | 19 | 11 | 1 | 4 | 1 | 0 | 0 | 9½ | 0 | 8 |
| Oats (a.) after Clover .. | 2 | 3 | 6 | 1 | 5½ | 1 | 1 | 0 | 10½ | 0 | 9 |
| „ (b.) after roots .. | 1 | 16 | 11 | 1 | 2½ | 0 | 11 | 0 | 8½ | 0 | 7½ |
| Peas (a.) after corn .. | 2 | 13 | 6 | 1 | 9½ | 1 | 4 | 1 | 1 | 0 | 10½ |
| „ (b.) green Peas .. | 1 | 19 | 8 | 1 | 3½ | 0 | 11½ | 0 | 9½ | 0 | 7½ |
| „ (c.) after roots .. | 1 | 17 | 5 | 1 | 2 | 0 | 11½ | 0 | 9 | 0 | 7½ |
| Beans (a.) after corn .. | 2 | 15 | 6 | 1 | 10 | 1 | 4½ | 1 | 1½ | 0 | 11 |
| „ (b.) after roots .. | 1 | 19 | 5 | 1 | 4 | 1 | 0 | 0 | 9½ | 0 | 8 |
| „ (c.) after Clover .. | 2 | 8 | 0 | 1 | 7 | 1 | 2½ | 0 | 11½ | 0 | 9½ |
| „ (d.) ridged .. .. | 2 | 17 | 6 | 1 | 11 | 1 | 5 | 1 | 2 | 0 | 11½ |
| Rye .. .. .. .. | 2 | 10 | 0 | 1 | 8 | 1 | 3 | 1 | 0 | 0 | 10 |

LABOUR-COST OF GREEN CROPS.

| | Per Acre. | | | Per Ton. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 8 tons. | | 12 tons. | | 20 tons. | | 30 tons. | |
| | £ | s. | d. | s. | d. | s. | d. | s. | d. | s. | d. |
| Rye, forage .. .. | 1 | 13 | 0 | 4 | 1½ | 2 | 9 | 1 | 7½ | | |
| Turnips (a.), carried .. | 3 | 14 | 9 | .. | | 6 | 3 | 3 | 9 | 2 | 6 |
| „ (b.) „ .. | 3 | 0 | 0 | .. | | 5 | 0 | 3 | 0 | 2 | 0 |
| „ (c.), fed .. | 2 | 8 | 0 | .. | | 4 | 0 | 2 | 5 | 1 | 7 |
| Mangel Wurzel (a.), carried | 3 | 18 | 0 | .. | | .. | | 3 | 10 | 2 | 7 |
| „ „ (b.) „ | 3 | 0 | 0 | .. | | 5 | 0 | 3 | 0 | 2 | 0 |
| Carrots .. .. | 3 | 9 | 4 | .. | | 5 | 9 | 3 | 5 | 2 | 3 |
| Cabbages .. .. .. | 3 | 10 | 0 | .. | | 5 | 10 | 3 | 6 | 2 | 4 |
| Potatos (a.), horse culture | 4 | 16 | 1 | 12 | 0* | .. | | .. | | | |
| „ (b.), hand culture | 5 | 1 | 0 | 12 | 8* | .. | | .. | | | |
| Vetches .. .. .. | 1 | 15 | 0 | 4 | 9 | 3 | 0 | 1 | 9 | | |
| Rape (a.) .. .. .. | 2 | 0 | 0 | 5 | 0 | 3 | 4 | 2 | 0 | 1 | 4 |
| „ (b.) .. .. .. | 1 | 10 | 10 | 8 | 0 | 2 | 7 | 1 | 7 | | |
| Clover (a.), hay .. .. | 0 | 15 | 6 | .. | | .. | | .. | | | |
| „ (b.), green .. .. | 1 | 0 | 0 | 2 | 6 | 1 | 8 | 1 | 1 | | |
| Rye Grass, hay .. .. | 0 | 18 | 0 | .. | | .. | | .. | | | |

Before leaving this section of the book, let us just test the applicability of these figures to the case of a farm or two.

(a.) Take that of No. 17, in Table 3, p. 54, where 200 acres are cultivated on the 4-field course, and where 100 acres are pasture, and where the stock kept may be supposed equal, on an average, to 240 sheep and 30 beasts all round the year. The land is cultivated on the 4-field course.

| Crops. | Labour-Cost per Acre. | | | Total Labour-Cost. | | |
|---|---|---|---|---|---|---|
| | £ | s. | d. | £ | s. | d. |
| 50 acres Wheat or 20 at .. .. (a.) | 2 | 3 | 6 | 43 | 10 | 0 |
| and 30 manured (b.) | 3 | 3 | 6 | 95 | 5 | 0 |
| 50 „ Turnips 30 .. .. (a.) | 3 | 15 | 0 | 112 | 10 | 0 |
| 20 .. .. (c.) | 2 | 8 | 0 | 48 | 0 | 0 |
| 50 „ Barley .. .. .. .. | 2 | 0 | 0 | 100 | 0 | 0 |
| 50 „ Clover 30, hay .. .. (a.) | 0 | 15 | 6 | 23 | 5 | 0 |
| „ „ 20 cut twice .. (c.) | 1 | 0 | 0 | 20 | 0 | 0 |
| *Sundry labour on carriage of materials, fencing, roads, &c. on 300 acres, viz. .. .. .. | .. | | | 50 | 0 | 0 |
| *Attendance on Stock.* | | | | | | |
| 240 sheep at ½d weekly each .. .. | .. | | | 26 | 0 | 9 |
| 30 beasts at 4d. do. do. .. .. | .. | | | 26 | 0 | 0 |
| 100 acres of pasture at 5s. an acre .. | .. | | | 25 | 0 | 0 |
| | | | | £569 | 10 | 0 |

This sum pays for horse labour as well as wages. Deduct the cost of the horse labour, except wages paid to team men=184l. (see No. 17, p. 54), and you have for wages 410l., which is equal to 38s. an acre on the arable land, and 6s. an acre on the pasture, and this is probably near what is actually paid.

(b.) Take the case of a Nottinghamshire light land farm, No. 1, on p. 2. The cropping, according to the accounts received, must be nearly as follows on 930 acres :—

| | Labour-Cost. Per annum. | | | Total. | | |
|---|---|---|---|---|---|---|
| | £ | s. | d. | £ | s. | d. |
| 100 acres in Wheat at .. .. (a.) | 3 | 3 | 6 | 317 | 10 | 0 |
| 100 acres in Oats at .. .. .. (a.) | 2 | 3 | 6 | 217 | 10 | 0 |
| 150 acres in Barley at .. .. .. | 2 | 0 | 0 | 300 | 0 | 0 |
| 20 in Peas at .. .. .. (a.) | 2 | 13 | 6 | 53 | 10 | 0 |
| 210 acres in Wurzel and Turnips { 110 (a.) | 3 | 18 | 0 | 420 | 0 | 0 |
| { 000 (c.) | 2 | 8 | 0 | 240 | 0 | 0 |
| 350 acres in Clover { 100 mown .. .. | 0 | 15 | 6 | 77 | 10 | 0 |
| { 100 do. twice .. | 1 | 0 | 0 | 100 | 0 | 0 |
| { 150 fed .. .. | 0 | 5 | 0 | 37 | 10 | 0 |
| Sundry labour, as carriage of material, mending roads, fences, &c. (900 acres)† .. .. .. | .. | | | 120 | 0 | 0 |
| Attendance on live stock, probably 1200 sheep, ½d. each per week .. | .. | | | 130 | 0 | 0 |
| Total labour-cost .. .. | | | | £2022 | 10 | 0 |

This includes cost of horse labour (see No. 30, p. 54), and deducting 608l., viz. 956l. except wages of team men 348l., you have a total paid in wages of about 1400l. Now the wages actually paid on that farm are 1383l., which is a sufficient confirmation of the justice of our valuation.

* More likely to be half the weight and double the labour-cost per ton.

† This item may be fairly put as high, seeing that it includes a number of items hardly capable of enumeration, such as carrying corn and coal and manure from market for consumption on the farm; also lime for application at intervals of years; also every unusual expense owing to weather; also repairs of roads and fences, &c.

## Home Correspondence.

*Potatos.*—I have found for the last two or three years that the Potatos, on digging them, have been so scabby and covered with a roughness and rust that have rendered them quite unsaleable. I have three different pieces of ground or gardens, but it is only in one that they are as I have described. What remedy would you suggest to prevent them being so another season? *Enquirer.* [In what does the plot which produces the disease differ from those which exhibit it? It may be owing to excessive richness of the soil, which might be corrected by the addition to it of burnt earth, ashes, or lime.]

*Labourers' Houses.*—Having been brought up in one-room houses, I read with interest anything that bears on the subject. The paper read by Mr. Robb, at the Social Science Meeting in Edinburgh, will surprise a good many as well as myself. Mr. Robb states:—"There were differences of opinion as to the proportion of houses required on a farm for the accommodation of workers, and as to the style and extent of the houses. His own opinion on the latter point, arrived at after much conversation with farmers and ploughmen in all parts of Scotland, was, that ploughmen's houses north of the Tweed should never be more than one story in height, and the door should be placed, if at all possible, so as to face the south, and there should be a recess for a bed in the kitchen. This latter provision, so opposed to English notions and our ideas of refinement, is one of which the Scotch rustic is very tenacious, as he is fond of the heat which the kitchen fire—the only one he can afford to keep—throws out. Besides the kitchen there should be a parlour and a middling-sized and airy bedroom, with perhaps a lesser one, and a small scullery. This, as a general rule, would be ample accommodation for a ploughman and his family; and such houses could be erected at from 70*l.* to 100*l.* and 120*l.* each, according to district. It was a great mistake to build too large a house for a ploughman. He did not like it for two reasons: first, because he was not able to furnish it; and next, because its emptiness made it colder than a smaller house would be." I thought it was taken for granted that every able-bodied labourer ought to occupy a house which would enable him and his wife to act like rational and sensitive beings, and be able to teach their family habits of decency and self-respect. There are innate ideas common to every man, whatever be his position in life; but their being developed depends upon circumstances. What is necessary for the Prince of Wales is necessary for a ploughman, let him be a labourer in England, a hind in Northumberland, and in the counties of Roxburgh, Berwick, and in the Lothians, or a ploughman or farmservant in the bothy districts of Scotland. It was shown in your Paper at p. 39 for 1863, that "in Roxburgh and Berwick the bondage system is universal—therefore a hind requires a house two stories in height." But let us lay aside the peculiarities connected with the relationship of master and servant in Northumberland from the Tyne northward to Dunbar, and from Berwick-on-Tweed westward to Selkirk, say over an area of 5000 square miles of arable land, and hear what Lord Palmerston stated at Romsey in 1859:—"The cottages which Mr. Dutton and myself have built contain really no more accommodation than a decent family ought to have. They have simply one room to live in, a back kitchen, and what is of the utmost importance, three sleeping places. No cottage ought to be without three sleeping places—one for the man and his wife, another for the girls, and another for the boys. * * * The effect of improving these dwellings is almost marvellous. In the first place, you know that the comfort of a man's house depends upon the tidiness of his wife and the mode in which she tries to make him comfortable; but there is a temper of the human mind which is denominated recklessness. When a thing seems impossible it is given up in despair. When a cottage is in such a ramshackle state that it is impossible for the wife to keep it clean, she becomes a slattern, everything goes to ruin, the man is disgusted, and flies to the beershop. If, on the contrary, the wife feels that she can by a little exertion makes the cottage decent and respectable, she does so, and then the man enjoys the comfort and happiness of his home, stays away from the beershop, and the sum of money he would spend in liquor goes to the benefit of his wife and children. I had an example of that in a double cottage of my own. It was in a dreadful state; the walls were not air tight, it had a brick floor, a bad roof, and everything uncomfortable. The people who occupied it were slovens and slatterns, and quarrelsome neighbours. At a small expense it was made tidy; boarded floors were put down; a little porch erected, with a woodhouse, and other conveniences." Lord Palmerston adds:—"And from that moment these people altered entirely their character, altered entirely their conduct, became well-conditioned people and good neighbours, which they had never been before." This practically illustrates the truth of Adam Smith's maxim: "As the houses, so the people." Lord Palmerston shows that English labourers are affected by bad houses and also by good ones. Scotch farm labourers are not an exception to the general rule. I have good grounds for holding strong views on the subject. My father died in 1855 in a house only one story high, with only one apartment on the ground floor. The attic floor is on a level with the top of the walls. The man who succeeded my late father as steward has a wife and a family of five, the eldest of whom acted as a hind, all of whom resided in that house till last Whitsunday; but several two-story houses were built last year with four apartments and other conveniences in each. The Duke of Buccleuch and several extensive landowners in the border counties have built hinds' houses two stories high, with four apartments in each. I referred to the Duke of Buccleuch in this respect, in my first attempt at making an appeal in behalf of hinds at page 810 of the *Agricultural Gazette* for 1857. Those who have correct ideas of social propriety ought to try and teach hinds and bondagers the same blessing. Decency demands that a husband and wife should have a bedroom for their exclusive use. I thought my letter at page 511 of the *Agricultural Gazette* for 1860, would put a stop to men of influence trying to make out that the Duke of Buccleuch has squandered his money lavishly for the building of hinds' houses. Having stated in several provincial papers that building houses with four apartments in each is not a remedy for the compulsory bondager-contract system, I take notice of this local custom. Working men sometimes require an extra room for accommodating a relative or friend with a bed when on a visit. Besides, provision ought to be made in every house for births, marriages, and deaths. Owing to hinds being paid the greater part of their wages in grain and Potatos, they are compelled to store the meal, Potatos, and coals in any spare corner. Hence the objections of casual observers to hinds being provided with four apartments. They are not prepared for such a radical change. Were you, Mr. Editor, a married hind with a wife and young family, you may fancy what your position would be by supposing your bedroom all the accommodation for you and your wife, a young family of five or six, and your kitchen maid all herding together in one room. You would consider that bad enough in good health, but in the event of a death in the family it would be harrowing to your feelings having to sit, eat, and sleep in the room beside the corpse till the funeral day. I am describing what I was brought up amongst, and I have just read that hinds should not have an idle room for cases of sickness and death. *A Canny Scotch Rustic.*

*Harvest Homes.*—The extraordinary abundance of the late harvest has caused harvest-home festivities to be more general than usual. Those who have ever been present at well-conducted festivities of this sort, cannot but regret that they are not much more common; yet we find many benevolent masters strongly opposed to them, some of them saying that after a fair trial they have had to discontinue them, as productive of more evil than good. We think that in these cases it will often be found that the trial made has not been a fair one. Let the rejoicing begin with a public thanksgiving in the church; let the master, and if possible, the clergyman, or at any rate, one or two of the neighbouring gentry be present during the whole of the dinner; let the supply of beer be so limited as not to permit excess; let manly sports be arranged for beforehand, or if the men prefer pipes and a song or talk at the table, let the farmer give notice before hand, at what hour he wishes to close the proceedings, and see that this limit is not much exceeded. It is here that so many fail: feeling a natural dislike to tell those who for the time are their guests to go, they themselves leave, hoping the men will soon follow their example; then, when all are enjoying themselves and there is no recognised head, each man feels that it would be invidious to be the first to move, and the sitting is continued so long that the effects of late hours are seen in next day's work; while if the beer is plentiful there is danger of drunkenness. By this time too the best songs or tales will be exhausted, and others may follow in a mixed company of men, women, and boys, which would not have been heard in the master's presence; and thus that which should be a day of grateful thanksgiving and innocent festivity, ends in intemperance and sinful revelry. All this will be prevented if the farmer is only firm enough to see that an end is made in good time, and this, by a little tact, may be done without any discourtesy, or by asking all to rise and join before they go in singing "God save the Queen," or by any friend proposing three parting cheers for the farmer himself. Hoping these few remarks, which are prompted by personal experience, may tend to make harvest homes more common and less open to objection. *Strebor.*

*The Colonies.*—With respect to your Notices to Correspondents, "Natal, E D.," no doubt in most well established Colonies your advice is the best, but having been for some time a resident in Natal, I am forced to confess that in the matter of seeds for agricultural purposes, "E. D." would do well to take them out with him, as those in the colony which he might purchase would be very apt to be unproductive; he would also save considerably by taking agricultural implements with him, although, as you say, they may be purchased in the colony. *Correspondent.*

*A Cottager's Food.*—In reference to the article in the *Agricultural Gazette* of the 17th inst., p. 994, as to the ordinary consumption by a cottager with a family, I beg to say that about the year 1840 I offered a premium of 5*l.* to any labouring man with a family who had maintained himself and his wife and children, and brought up the latter without parochial relief, who would give me an account of his weekly receipts and expenditure for a whole year. The offer remained unnoticed, though often repeated for several years. One or two made an attempt to furnish the account required, but could not keep on for more than about six months, and to whom I gave such reward as I thought they deserved for their trouble. At last, however, in 1845, I was applied to by a respectable looking labourer, quite a stranger to me, though living only a few miles off, to know if I would give him the reward if he furnished the account required, as he had not long heard of it. I agreed to do this, and at the end of the following year, 1846, the same individual called on me with the account, and seeing it looked tolerably fair I paid him half the money down, and took time to look further into the account, and to make inquiries. I did so, and not only found the account correct, but I found also that all the inquiries I made respecting him of the churchwardens of his parish, his master, and his neighbours, and the shopkeeper with whom he dealt, were in every respect satisfactory. I had great pleasure in paying the man the remainder of his money, and of course claimed and kept the account as a memento of the man and his family, and did not lose sight of him. He has since left this neighbourhood, but is living in a confidential situation as a farm bailiff, and bears the same character for honesty, industry, and frugality which he bore 10 years ago; I do not mention his name here, but I shall be happy to afford your correspondent any particulars and information he may desire, and will lend him the account itself if he will undertake to return it again after perusal. The man in question lived in an ordinary cottage at a rent of 2*s.* per week, which he paid regularly, and maintained himself, and his wife, and five children, without any parochial relief; this wages were 12*s.* per week, increased of course at haytime and harvest, and the account also contains the earnings of his wife and one boy, the only one who could work, and various small trifles of income derived from occasional extra labour, and is in itself an interesting account. *George Wood, Rochford, Essex.* [Will Mr. Wood allow us to publish the substance of the account to which he refers?]

*Cottages.*—The satisfactory manner in which the cottage question is spreading throughout the United Kingdom, newspapers and agricultural meetings taking up the subject in a kindly spirit, promises well for the future comfort of the labourer. During the discussion various opinions have been expressed, the great majority in favour of providing a better and more commodious description of dwelling. Some erroneous notions have however crept into the public prints, which may tend to mislead persons who have not thought much about the real state of the domestic economy of the working classes. First it has been hinted that the crowded condition of the poor man's dwelling does not injure the health or morality of the family. It appears almost unnecessary to say a word upon the bad effects, physically and morally, of condemning human beings to sleep in small, badly ventilated rooms, breathing foetid air, which debilitates the constitutions of men and women at a period when natural rest is required to revive the system, exhausted by daily labour. This is a severe trial to the parents themselves; what becomes of the grown-up boys and girls under such circumstances? They are too often compelled, not only to occupy the same apartment at night, but the same bed! Has this nothing demoralising in it? No plan could possibly be devised more destructive to common decency and so entirely opposed to all social obligations. The second statement put forth, that cottage property does not remunerate the land-owner, is also a mistake. By paying attention to the comforts of the labourer, he is contented in his situation, attaches himself to his employer, his health and strength are preserved, and he becomes a more efficient servant in every respect. Having his home near his work, he would be saved the hardship of walking, morning and evening, two or three miles to a wretched hovel. It is a trial to a man's temper and constitution, having to plod a considerable distance on a wet winter's night, after many hours' labour, to a cheerless over-crowded cottage. Masters are aware of the advantage of warm clean stables, cow-sheds, and pig-styes—how they increase the value of all stock and economise food—yet they allow their men to be unnecessarily exposed in all weather, and worse lodged than the brutes on their farms and premises, and this after severe manual exertion. Looking upon men and women, for argument sake, as animals, on a selfish principle, it is the interest of those who use, not to abuse them. But when labourers are placed in their true position—equal in the sight of God to the greatest men in the land, though appointed to an inferior class—humanly speaking—it is the imperative duty of those who are better educated, and richer, and who require the strength of their poorer neighbours to carry out schemes to enrich themselves, to take care that justice is done to the most ignorant workman, no matter in what capacity he may be employed. Advice is of small value, indeed, becomes a dead letter when it cannot be followed, and those who give it must know the insuperable difficulty of even preserving a semblance of morality when the sexes cannot be separated at night. It is a mockery to talk to men and women of the impropriety of allowing young people to sleep together when there is but one room in the house for them, and one mattress. *Falcon.*

*Impure Seed Wheat.*—There is a general, and perhaps well-founded complaint, that genuine seed Wheat is seldom to be obtained in our corn markets of the present time. This state of matters admits of explana

·ion. Although genuine seed Wheat is often asked for by intending purchasers, and still more often offered by solicitous sellers, measures are seldom taken to obtain pure seed of any variety. Agricultural societies by their proceedings ignore improved cereals, and private individuals are not sufficiently encouraged to render varieties genuine. Almost every operation connected with the growing of corn tends to intermingle varieties, and it is not practicable to maintain genuineness for a length of time, when more than one variety is grown upon a farm. In the first place, varieties may be mixed in sowing, reaping, carrying to the stack, and more especially in threshing. Besides these self-evident hazards of mixing, there is the risk of interchanging bags of grain during transit, and in preparing seed for sowing. The people engaged in manipulating the cereals, from the sowing to the marketing of the grain, are generally very unobservant of and unacquainted with the characteristics of different varieties. With so many obstacles to contend with, it is wonderful to find that the Wheat is not more intermixed than it really is. In some instances, two or more varieties are intentionally mixed for sowing; and when the produce is sold for seed as a mixture, and properly described, no fault can be found with the transaction. It is, however, different with a recent mixture, which merits particular notice. In the autumn of 1861, I circulated two new varieties of Bearded White Wheat—Pringle's and Shirreff's. The external appearances of the Wheats when growing are so much alike that the one cannot be distinguished from the other, but the grains are perfectly dissimilar, the seeds of Shirreff's being somewhat short, round, white, and pearly in appearance, while the seeds of Pringle's are oval, medium-sized, and of a creamy tinge. But the appearance of the seeds of Wheat is affected by so many circumstances that no general description can apply to all samples. The beautiful summer just passed has brought out the peculiarities of varieties in the most striking manner when harvested without rain. The seeds of Shirreff's have perhaps been rendered less pearly, and the whiteness of colour intensified. On the other hand, the grains of Pringle's have become very transparent, and so highly coloured that they may be mistaken for Red Wheat. These varieties, mingled together in about equal proportions, have recently been sold for sowing in different market-places of the Lothians, and by different growers, under the name of Shirreff's Bearded White. This mixture is very attractive, from weighing well and having a fine mottled appearance. From the novelty and unexpectedness of the mixture, purchasers may perhaps be excused for not discovering the hodge-podge, but the persons who prepared the mixture are differently situated. There is a remedy for all such irregularities; and unless they are at once checked, genuine seed-corn will disappear from the markets of the Lothians, and the names of varieties become a mockery. *Patrick Shirreff, Haddington, Oct.* 19, 1863.

## Societies.

WEST CAMBRIDGESHIRE.—The Earl of HARDWICKE lately made the following remarks on the subject of feeding animals for "competitive examination:"—

"The association had awarded him a prize for an animal that day. Now, no doubt, there was some reason which induced the judges to give him that prize, but he said at once that there was no credit due to himself. He was not going to reflect upon the judges, because they were the agents of a system; but he objected to the system altogether—to the system of competitive examination of animals, as at present carried on—from beginning to end. The examination was meant to decide which animal would give the best food at the least cost in its creation. The animal he had shown had been brought up on the best fatting food, without regard to cost, and its success in the prize list was no credit either to him or to the animal. That animal was a sham. For many years past he had shown animals, and had won prizes at Smithfield and elsewhere by showing shams. But he never had, and never would have, any other opinion than this—that at a show of fat animals nobody ever thoroughly knew how they became so fat, and the consequence was, that the prizes being adjudged for fatness the prize animals did not always produce the best meat. The most really profitable matter was in making food fit to eat. He might be asked how he would have the competition carried on? He replied, that they must show animals fed in a reasonable way, and that the competition should be carried on something in this wise: Suppose that Mr. Samuel Jonas and others, eminent members of that society, whom he saw around him, agreed to compete for the prize. They should agree what the age of the exhibited animal was to be, and that should be the whole question so far as the proprietors of the competing animals were concerned. The animals should then be fed, stalled, and stabled in the same manner, and at a fixed period should be brought before the judges for them to say which was the best frame for them to put fat and meat upon, and which frame would be most productive altogether of eligible and profitable food for the public. He saw no difficulty in carrying that out. There should be a shed or building in which all the animals should be placed, in the hands of a competent and trustworthy man; each should have the same amount and weight of food, water, straw, and other comforts—all should be treated alike—and at the end of a fixed period, should be produced to the judges to say which was the best. That would be competition. But his animals that day got a prize, being shown against animals which probably had not been so fed; and therefore he said that the present system was utterly useless as a test of real merit. He spoke of that animal as a winner, he dared not have spoken of him as a loser."

PENRITH.—Lieutenant-Colonel HASELL pointed out how much better adapted this moist climate is for the production of green crops and the rearing of stock than for growing Wheat. Let them have their land in good heart, and lay it down in Grass, and take care to have a good breed of stock, feed them and bring them into the market; or, if their ground was not suitable for fattening them out, at all events they could bring up young stock. His impression was that wherever that could be done it was the most profitable course for the farmer to pursue. Alluding to the abolition of the corn laws, as a measure which the legislature could not have done otherwise than adopt, he said that if they looked at the *Mark Lane Express* for the returns now, they would see that for every quarter of English Wheat there were two or three quarters of foreign came in, and this kept the price of Wheat so low that Wheat growing in this country would not be a very profitable concern. In this moist climate he urged that the most profitable plan for the farmers to adopt was to pay attention to root crops, to Barley and Oats, and especially to Turnips and Potatos. This would enable them to keep their cattle in winter, and the foreigner could not compete with them in meat, nor could he depress the price of meat so long as the population of this country remained what it is. His advice was, "Don't plough too much; don't plough more than you can lay down well." Adverting to the statements of Mr. Mechi, at Whitehall, respecting the consumption of oilcake, he expressed doubt whether if they gave their cattle so much oilcake they could eat much Grass.

Mr. GREY, of Dilston, said another important matter had been before them, viz., "draining." They were not situated as the agriculturists of the Canadas or Australia, who when they have exhausted one portion of soil can turn to another. Here in their blessed seagirt isle, though they could not increase the number of their acres, he was satisfied there were many districts in England where, though they could not extend the area, they could double the produce. By taking off the superfluous and obnoxious water, by using such manures as will bring forward the finer and more nutritious qualities of Grass, they could make land carry double the quantity of stock it had hitherto done; and upon arable land if they brought into operation twelve inches of soil instead of six, and if by the judicious application of manure they could raise a greater produce, they were not only increasing the quantity of grain, but increasing the facility for getting heavy root crops, and in this way increasing the quantity of live stock they could keep; and that, they might depend upon it, was the ground of all profitable farming in this country. Speaking of the growth of Wheat, he said there were many countries in Europe where Wheat could be produced in larger quantities and of much finer quality, and also at a much cheaper rate than in their own, but there was no country that could compete with them in the production of stock. In the south of England they had a climate much more suitable for the growth of corn crops, yet in the north they had the advantage of the moist climate, and could produce much heavier and more nutritious crops of Turnips. In the south, sheep would not fatten on Turnips without they also had oilcake and Beans. But in the north they could be fattened ready for market with Turnips alone. He had known, in some places, of acres of Turnips being given away on condition that the sheep eating them should have a certain quantity of oilcake per diem. Referring to steam ploughing, he said he was satisfied that it was not so applicable to this as to many other counties, tillage was too restricted, and the fields were too small. He was of opinion that the introduction of steam would increase, and probably the cost of the machinery might in a few years be so reduced as to be brought within the reach of small occupiers. A friend of his had purchased a steam plough after being at a large outlay in draining his farm, and after he had it in use a year he asked him if he was satisfied with the expenditure of 800*l*. on such machinery. He said he was quite satisfied with the work, it covered a large space at once and left the land very clean, but the implement had been much injured by the stones, but he would take care the next time he had to plough there should be no such obstructions. He had been able to part with 14 of his horses, and the food which they consumed he could now take to market; altogether he was satisfied that he had done wisely. He thought great advantages were to accrue from the introduction of machinery upon farms. Where he lived the corn was all cut by machine, threshed on the ground, and at once secured. This was a great advantage to cutting it with a few reapers, and in a season like this, it was gratifying to find that most of the corn had been secured, whereas under the old system it would still have been lying upon the ground.

## Calendar of Operations.

### OCTOBER.

CHATTERIS, ISLE OF ELY: *Oct.* 26—The autumn is all that the farmer could desire. Occasional showers with a good average temperature have made the Wheat sowing an agreeable operation. We commenced on the 5th, and up to the 24th had put in 260 acres, with as good a seed-bed as could well be desired. The first sown are up and look strong and healthy. We are now busily engaged in taking up and carting off Mangels, and shall put in a little more Wheat on some of these lands during the week. On cool lands where the plant was good we have a satisfactory crop of Mangels, but on one field where the drought prevented the seed germinating until several weeks after it was sown, the bulbs are small. Immediately after harvest we commenced "smashing up" our high lands, and did 125 acres with one of Howard's cultivators; some of these had had the advantage of steam cultivation in the spring for Barley, and are now ready to be manured and ploughed for Beans. The Bean stubbles that we cultivated were last week sown with Wheat without ploughing. The Wheat stubbles that we "smashed up" will be recultivated in the spring and then sown with Barley. We conceive the advantages of steam cultivation on these lands will be very great. We are now threshing our Barleys grown on this system, and find we had not only a fine bulky crop of straw, but from 7 to 8 qrs. of Barley per acre also. Our land only produces an inferior malting quality, and we are selling at 32*s*. 6*d*. per quarter. Our Cole seeds are not good this year. The "smother fly" injured them a good deal in some places, and the drought made them small, although we had generally a good plant. We have now 350 lambs and 200 shearling wethers upon them. The former will, towards the end of the year, or early in January, when the Coleseeds are done, be put into yards, and have our usual feed of Mangels and corn. The latter are getting fat, and will go away during the next two months. We reserve all our Mangels for sheep in yards, and what we require beyond these for treading the straw into manure we make up with bullocks. We use Scots principally, and shall winter between 70 and 80 of these, giving them a mixture of cake and Oats, besides the straw, and then giving them Grass in the spring till June, when they will be sold. We find our Wheat crops yield well, but we have not the extraordinary yields we have heard of in some districts. Very little will exceed 6 quarters per acre, and a good deal will be between 5 and 6 quarters. Oats on the hot lands cannot be a good crop. There was a deficiency of straw. The price of Wheat is low, and the consumer appears likely to derive more benefit than the producer from the good crop. *A. S. R.*

WESTER ROSS: *October* 20.—Our harvest this year was commenced on August 24, and because of the unsettled state of the weather, and the unequal ripening of the crops, it was not completed until October 2, thus extending over a period of not less than six weeks. Although an unusually large quantity of rain fell, there was little damage done, as we were favoured with strong gales of wind, which speedily dried up the stooks, and admitted of the whole crop being ingathered in at least a safe condition. In 12 days and 8 hours, 8 men cut 170 acres of Wheat, Barley, and Oats, being somewhat more than 1½ acres per day to each scytheman, and the whole expense of cutting, gathering, binding, stooking, stacking, and thatching, was 36*l*., or nearly 4*s*. 3*d*. per acre. Deducting the cost of stacking and thatching, the outlay per acre was 3*s*. 3*d*.; scythemen had 3*s*., binders 2*s*. 6*d*., gatherers 1*s*. 9*d*., and rakers had 1*s*. 2*d*. per day. The cost of cutting by a reaper cannot be materially less than this, but where the crop is standing the work is incomparably better done by the reaper. I may add, however, that in the above statement, the wages of the usual half-year servants are not included. The stackyards are considerably smaller than last year, and perhaps the bulk is somewhat under an average, but the stacks thresh out satisfactorily, and all the grain that was secured in early harvest is in fine condition and of good weight. Barley that was stacked before the rain is of excellent quality, and well suited for malting purposes. The price of Wheat and Oats is unusually and alarmingly low. Wheat fetches 40*s*., and Oats 20*s*. per quarter. Well-coloured Barley fetches 28*s*. for 54 lbs., and the weight being above the standard some 30*s*. per quarter may be realised. Cattle suitable for wintering are scarce, and bring unusually long prices. Turnips have greatly improved of late, but they will have quite enough to do to reach an average crop. Both Turnips and straw will be sufficiently scarce ere the season of Grass again returns. We are now busy manuring and breaking up the leas for Wheat, and in a few days we expect to have about 30 acres laid down.

## Miscellaneous.

*The Wheat Crop of* 1863.—I send you the estimated average produce of our Wheat crop, arrived at by the mode detailed in your journal this time last year. 120 acres average 50 (fifty) bushels per acre.

| | | |
|---|---|---|
| The estimated quantity as given just after last harvest was for the crop of 1862 .. .. .. .. .. | | 33 bushels per acre. |
| 155 acres at 33 bushels per acre | 5115 | |
| Quantity threshed .. .. | 5135 | |

20 bushels in excess of the estimate, or less than ½ a peck per acre above the actual produce.

I give this year the yield of the various fields, with their soils, and the sort of Wheat grown:—

| Field. | Acres. | Sort of Wheat. | Yield per acre. | Description of Soil. |
|---|---|---|---|---|
| No. | | | bush. | |
| 1 | 15 | Red Chaff White | 54 | Sandy loam. |
| 2 | 14½ | Ditto .. | 53 | Ditto. |
| 3 | 11 | Browick Red | 65 | Clay and good loam.* |
| 4 | 30 | Ditto .. | 54 | Sand and light loam. |
| 5 | 49½ | Ditto .. | 43 | 30 acres wild sand, very poor; 20 acres good sand.† |
| | 120 | | | |

The White Wheat weighs 64 lb., and the Red 63 lb. per bushel. The average yield of Wheat upon this farm for the last 14 years is as under:—

| Year. | Per acre. | |
|---|---|---|
| 1850 .. .. | 32 bushels | Mean of the 13 years since 1850, 32¼ bushels per acre. |
| 1851 .. .. | 36 ,, | |
| 1852 .. .. | 31 ,, | |
| 1853 .. .. | 21 ,, | |
| 1854 .. .. | 41½ ,, | |
| 1855 .. .. | 36 ,, | |
| 1856 .. .. | 35½ ,, | |
| 1857 .. .. | 34½ ,, | |
| 1858 .. .. | 26 ,, | |
| 1859 .. .. | 24 ,, | |
| 1860 .. .. | 30½ ,, | |
| 1861 .. .. | 34¼ ,, | |
| 1862 .. .. | 33 ,, | |
| 1863 .. .. | 50 ,, | (estimated) |

This makes the crop of this year to be 17½ bushels above the average of the 13 previous years, and I am quite inclined to think that in this estimate I am under the actual quantity rather than over. I will make no remarks, but let these figures speak for themselves; all I say is that where the land has been well farmed the crop this year is enormous, the clay land being in some instances double the produce of the past three seasons. The marking the shocks in the fields, the threshing, and dressing up of the quantities in each

* Very heavy straw.
† This Wheat was hurt by dry weather.

field, were all superintended by myself, and I am therefore quite satisfied this statement will be found correct. *John Coleman, Woburn Park Farm, Sept. 4, 1863, in Mark Lane Express.*

*Messrs. Clayton & Shuttleworth, Stamp End Works, Lincoln.*—To those interested in agricultural statistics, the following table we compiled from the books, with the dates and numbers of the engines delivered each year, may be valuable.

| Date. | Number. | Horse-power. |
|---|---|---|
| 1845 | 1 | 8 |
| 1846 | 2 | 16 |
| 1847 | 8 | 73 |
| 1848 | 15 | 87 |
| 1849 | 55 | 316 |
| 1850 | 74 | 420 |
| 1851 | 126 | 611 |
| 1852 | 209 | 1153 |
| 1853 | 282 | 1608 |
| 1854 | 339 | 2117 |
| 1855 | 445 | 3074 |
| 1856 | 507 | 2611 |
| 1857 | 423 | 3174 |
| 1858 | 378 | 2837 |
| 1859 | 514 | 3941 |
| 1860 | 533 | 4075 |
| 1861 | 566 | 4469 |
| 1862 | 543 | 4276 |

Up to the end of last month (July, 1863), 395 engines were made in the year 1863. Last week—the week ending August 29, 1863—16 new and 2 old engines were turned out of the works. Of threshing machines, 13 new and 3 old ones were delivered. Four straw elevators (Hayes), 3 flour-dressing machines, and 5 corn-mills were also completed. From 60 to 70 engines, and as many threshing machines, are generally in the store-shop waiting for delivery. It is noticeable that the average size of portable engine now sold is 8-horse power; in 1855, 6-horse-power, and in 1851, 5-horse power engines were most in demand. The call for 10-horse power engines is evidently due to the general adoption of steam cultivation, to which these engines can be easily applied.

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. Slatter, Streatley, near Reading.

| Day of the Week. | Day of the Month. | Reading of (At 9 A.M., Railway Time.) Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | Oct. 23 | 30.27 | 52 | 49 | N. | 0 | 0 | 62 | 41 | 74 | 35 | .. |
| Saturday .. .. | 24 | 30.25 | 41 | 40 | S.E. | 0 | 10 | 55 | 38 | 66 | 31 | .. |
| Sunday .. .. | 25 | 30.03 | 50 | 46 | E. | 2 | 8 | 53 | 40 | 58 | 42 | .. |
| Monday .. .. | 26 | 30.05 | 38 | 38 | N.N.E. | 0 | 10 | 54 | 33 | 61 | 28 | .. |
| Tuesday .. .. | 27 | 29.93 | 39 | 39 | N.N.W. | 0 | 10 | 44 | 35 | 48 | 20 | .. |
| Wednesday .. | 28 | 29.83 | 47 | 26 | W.S.W. | 2 | 9 | 48 | 34 | 57 | 28 | .. |
| Thursday .. .. | 29 | 29.30 | 47 | 47 | S.E. | 3 | 10 | 54 | 37 | 64 | 32 | 0.02 |

## Notices to Correspondents.

Agricultural Education: *An Oxford B.A.* wishes to become a thoroughly good scientific and practical farmer, and has for the last few years paid great attention to agriculture, by practising it on a small scale, and by reading largely the books and periodicals which treat of it, and asks—"Would the Agricultural College sufficiently meet my wants to make it worth my while to devote a year to attending the courses of lectures delivered there, and witnessing the daily routine work on the College farm?" We believe it would.

Joints of Mutton: *Subscriber of many years.* In a Southdown carcase of 11 stones, the leg will weigh 11 lbs. The loin will weigh 11 to 9 lbs., according as the kidney and fat is or is not left in. The shoulder and neck will weigh about 9 lbs. each, and the breast 4½ lbs., or thereabouts.

The Fruitful Season and the Earthquake: *Bognor.* Variations in the warmth of the subsoil, comparing one season with another, are due to meteorological causes. "The bottom heat which caused the earthquake" is too deep for its variations to influence the roots of plants.


THE EARLIEST PEA KNOWN is CARPENTER'S EXPRESS (pods larger than any other early Pea).

Among *numerous* Testimonials the following has been received:—

*From* Mr. Jones, *Gardener to Lord Leconfield, Petworth, Sussex. June 3, 1863.*

"I beg to say I have found Carpenter's Express Pea to answer well as an early one; it was sown on the 20th of November, on a south border, and I gathered the first dish on the 7th of May. I had Daniel O'Rourke and your Pea side by side in November, 1861, and gathered First from Carpenter's Express in May, 1862, which led me to grow it as my earliest this year."

New Seed to be had only of Edward Carpenter, Seed Merchant, Brighton and Sussex Seed Establishment, 96, St. James's Street, Brighton. Price 2s. 6d. per quart.

Early Orders are solicited, which will be executed strictly in priority.

EARLY PEAS, warranted true to name and fine samples:—

| | Per bush.—s. | d. |
|---|---|---|
| DANIEL O'ROURKE | 10 | 0 |
| SANGSTER'S No. 1 | 11 | 0 |
| SECOND EARLY CLIMAX | 15 | 0 |
| BLUE IMPERIAL | 8 | 0 |
| BRITISH HERO | 10 | 0 |

LARCH, to offer, a few thousands, 3 feet, very fine, 25s. per 1000.

ROSES, STANDARDS, extra fine, 2 feet 6 inches, 5*l.* per 100; per dozen, 15s. and 18s. DWARFS, worked, and on their own roots, 9s. and 12s. per dozen; per 100, 3*l.*

CATALOGUES sent on application.

N. Lawrence, Nurseryman, Chatteris.

DAINTREE'S SEEDLING POTATO.—This fine flavoured early round white variety is certified in the "Journal of Horticulture," page 269, to have yielded at the rate of 22 tons per Acre. Present price 6*l.* per Ton, or 8s. per cwt.; and to prevent disappointment orders for present or spring delivery should now be sent to Mr. Simon A. Daintree, of Fendrayton, St. Ives, Hunts. Sacks, 2s. each.

**Seed Potatoes.**

H. and F. SHARPE are now prepared to make special offers to the Trade of the following varieties of SEED POTATOES, which have been harvested in fine condition, and free from disease. They comprise all the sorts worthy of cultivation, and have been grown with much care from the finest selected stocks. As the yield this season is very fine, the prices will be moderately low, and may be had on application.

| | |
|---|---|
| Improved Ash-leaved Kidney | Early Fox's Seedling |
| Jackson's do. do. | Early Round Frame |
| Walnut-leaved do. | Early Martin's Globe |
| MYATT'S PROLIFIC do. | Early Golden Globe |
| (very productive) | Early King (for forcing) |
| Fluke Kidney | Early British Queen |
| Lapstone do. | Early Cockney |
| EARLY DALMAHOY | Early Forty-fold |
| Early Oxford | Early Snowball |

Seed Growing Establishment, Wisbech.

REIGATE SILVER SAND.—Best quality, 7s. 6d. per ton; packed, 16s. per ton; ditto 5s. 4 cwt.; ditto Clarified fine or sharp, 2s. 6d. cwt., put on the Rail at Reigate.

Best and second quality PEAT SOIL, LOAM, &c.

N.B. Loaded Trucks can be sent on all the principal Railways.

W. Short, Reigate, Surrey.

REIGATE SILVER SAND, 12s. per ton at Swan Place, delivered five miles, or to any London wharf, or Railway, 16s. per ton, or 1s. 6d. per bushel (Sacks at cost price or on hire). KENTISH and HAMPSHIRE PEATS, LOAM, LEAF MOULD, SPHAGNUM, and COCOA FIBRE REFUSE.

J. Kennard, Swan Place, Old Kent Road, London, S.E.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2s. per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the Patent Cocoa Fibre Company, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. Barsham & Co.

Barsham's BRUSHES and MATS are sold in every town.

Caution.—Every Brush is stamped 'J. Barsham's Patent'

**Winter Dress all Fruit Trees with**

GISHURST COMPOUND.

Red Spider Magnified.

*Copy of a Letter from* Mr. Rivers.

"Nurseries, Sawbridgeworth, Herts, Oct. 22, 1861.

"I must tell you what I heard to-day from a very clever gentleman farmer, Anthony Bubb, Esq., of Witcombe Court, Gloucester. He has a wall to which Peach trees are trained. Well, last autumn they were in a wretched blighted state. As a desperate remedy he unnailed them all early last February, and gave all but one a thorough painting with Gishurst Compound, 1 lb. to the gallon of water; his trees, all but the one, commenced to grow favourably in spring, and are now pictures of health. The tree not painted is in a half-dead blighted state. He used the same dressing to his Apple trees: it killed the woolly aphis entirely, and has made his trees clear and vigorous in their growth. He intends to paint his wall trees annually, and tells all his friends to do the same. I shall certainly serve all my young Peach trees against my walls in the same manner. The Compound is, I believe, more efficacious than the usual offensive mixtures of clay, soot, sulphur, &c., and it does not blacken the shoots on the walls."

For Orchard-house Trees 4 ounces to the gallon will be found a good strength; when used stronger some buds on weakly trees may be injured.

Gishurst Compound is Sold Retail by Nurserymen and Seedsmen, in boxes 1s., 3s., and 10s. 6d. each.

Wholesale by Price's Patent Candle Company (Limited), Belmont Vauxhall, London, S.

Magnified Aphis.

NEAL'S PLANT SOAP and APHIS PASTILS, 1s. and 2s. per packet, may be obtained from all respectable Seedsmen.

Testimonials forwarded on application to the Patentee,

J. Neal,

Edward Street, Birmingham.

**Manures and Feeding Stuffs.**

RAYNBIRD, CALDECOTT, and BAWTREE. Address 89, Seed Market, Mark Lane; or Basingstoke. Samples and prices on application.

THE LONDON MANURE COMPANY have now ready

PREPARED BONE MANURE for present use on PASTURES.

WHEAT MANURE for AUTUMN SOWING.

BLOOD MANURE for ditto.

SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. Purser, Secretary.

116, Fenchurch Street, E.C.

LAWES'S WHEAT MANURE for AUTUMN SOWING.

A supply of the above Manure is now ready for delivery, at J. B. Lawes' Factories, Deptford, and Barking Creeks. Price 8*l.* per ton.

2 to 3 cwt. per acre to be harrowed into the land before the seed is sown. It can be obtained of Mr. Lawes, or through any of his appointed Agents; also

| | | |
|---|---|---|
| SUPERPHOSPHATE of LIME | £6 | 6 |
| MINERAL SUPERPHOSPHATE | 5 | 5 |

Genuine Peruvian Guano direct from the Importers, and all Chemical Manures of value.

American and other Cakes at market prices.

Address John Bennet Lawes, Offices, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

**Autumn Sowing.**

THE PATENT NITRO-PHOSPHATE or BLOOD MANURE COMPANY (Limited),

Consisting of Tenant Farmers occupying upwards of 30,000 Acres of Land.

*Chairman.*—John Clayden, Littlebury, Essex.

*Managing Director.*—James Odams.

Offices: 109, Fenchurch Street, London, E.C.

Manufactory: Plaistow Marshes, Essex.

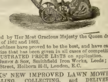
ODAMS'S BLOOD MANURE for WHEAT.—This Manure, specially prepared for Autumn Sowing, has been in use for upwards of 11 years, and has given great satisfaction to consumers.

Orders may be sent to the Company's Agents throughout the country, or direct to C. T. Macadam, Secretary.

Offices: 109, Fenchurch Street, London, E.C.

Price 7*l.* 10s. per Ton, delivered at any Railway or Wharf in London.

GREEN'S LATEST IMPROVED PATENT NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES, which gained the First Prize Medal of the International Exhibition.



Patronized by Her Most Gracious Majesty the Queen during the seasons of 1862 and 1863.

These Machines have proved to be the best, and have carried off every prize that has been given in all cases of competition.

ILLUSTRATED PRICE LISTS on application.

Thomas Green & Son, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

SHANKS' NEW IMPROVED LAWN MOWING, ROLLING, COLLECTING, and DELIVERING MACHINES were awarded the First Prize Medal of the International Exhibition.

Shanks' Patent Lawn Mowers are in use in the Royal Gardens at Kew, Windsor, Buckingham Palace, Hampton Court, Osborne, and Balmoral.

These Machines are allowed to be the best and by far the most durable ever offered to the public.

ILLUSTRATED CATALOGUES on application to A. Shanks & Son, Dens Iron Works, Arbroath; or 27, Leadenhall Street, London, E.C.

PORTABLE FARM RAILWAYS.—Full particulars of a System that works well and profitably may be had on application to the Manufacturer and Patentee, Mr. J. Grant, of Linton, Kent.

Farmers, especially those who cultivate by steam, are respectfully requested to notice the amount of damage done to the soil by the carting in the autumn and winter seasons, and how far the natural inclination of the fields might be made available as a motive power for railway trucks, and how far cultivation has prepared the surface for the rapid laying of flat-bottomed rails unencumbered by cross sleepers or tedious fastenings of any kind; and also to notice what proportion of the cornfields are favourable for running the crops to the stacks of their own weight without horses.

**Paul's Nurseries, Waltham Cross, N.**

ROSES.—Superior STANDARDS, 18s. per dozen, and upwards.

Superior DWARFS, 9s. per dozen, and upwards.

All the NEW ROSES including BEAUTY of WALTHAM, Mrs. WM. PAUL, and LORD MACAULAY (three of the best), at lowest advertised prices.

The New PRICED CATALOGUE is now ready, free by post.

FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, APRICOTS, PEACHES, NECTARINES, FIGS, GRAPE VINES, GOOSEBERRIES, CURRANTS, RASPBERRIES, STRAWBERRIES, &c., all the really desirable sorts, in perfect condition for transplanting, at lowest advertised prices. Fruit-bearing trees of the first seven fruits may be had, suitable for potting for Orchard-house culture, from 18s. to 30s. per dozen. PRICED CATALOGUE, free by post.

PLANTING.—Planting to any extent, with or without the supervision of the Trees, &c., till established, undertaken in any part of the United Kingdom. The rich and varied collection of Trees and Shrubs growing in one Nursery of 30 Acres has been removed within three years, which is almost a guarantee of success in Transplantation.

Wm. Paul (Son and Successor to the late A. Paul), Nurseries and Seed Warehouse, Waltham Cross, N.

**Great Reduction in the Price of Roses.**

Not to be Undersold by any Respectable House in the Trade. Woodlands Nursery, Maresfield, near Uckfield, Sussex.

Since issuing their NEW ROSE CATALOGUE for the Autumn of 1863 and the Spring of 1864,

WILLIAM WOOD and SON have ascertained that other Houses in the Trade are offering some kinds of Roses at a lower rate than themselves, and as they are fully determined not to be undersold by any respectable House, they have prepared a REVISED LIST of ROSES at reduced prices, and will have much pleasure in forwarding copies of the same, Gratis and post-free, to all applicants.

**Mitchell's Renowned Roses.**

Patronised by the Royal Family.

JAMES MITCHELL has the honour of informing the nobility and gentry, that he has to offer this season the most magnificent stock in England. All Roses at these Nurseries are propagated and grown in the open ground, possessing a hardy constitution suitable for all climates.

(No grafted plants or any drawn up under glass, which cause the great number to fail every season).

Piltdown Nurseries, Maresfield, near Uckfield, Sussex.

## ROSES.

TWENTY-SEVEN FIRST PRIZES DURING THE PAST SEASON.

# PAUL & SON,

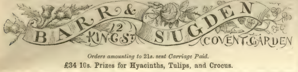
OLD CHESHUNT NURSERIES, HERTS, N.,

Beg to announce that they are now sending out the above. Their Stock of both STANDARD and DWARF ROSES was never finer.

CATALOGUES will be forwarded free on application.

Paul & Son would solicit early orders, as the stock of certain kinds, as H.P. LORD CL YDE d CHARLES LEFEBVRE, &c., is but limited.

To gentlemen planting Rosaries they would be happy to submit Plans, or to furnish Roses by the 100 or 1000 at special prices.




*Orders amounting to 21s. sent Carriage Paid.*

**£34 10s. Prizes for Hyacinths, Tulips, and Crocus.**

The Royal Horticultural Society in March, 1864, offer PRIZES to the above amount for HYACINTHS, TULIPS, and CROCUS.

For DESCRIPTIVE LIST of NEW and EXHIBITION HYACINTHS, TULIPS, and CROCUS, see Barr & Sugden's "ILLUSTRATED FLORAL GUIDE," price 1s.

### HYACINTHS.

| | | | | | |
|---|---|---|---|---|---|
| 100 in 100 exhibition varieties | 105s. | 100 in 100 extra fine varieties | 84s. | 100 very fine varieties | 63s. |
| 50 in 50 ,, ,, | 50s. | 50 in 50 ,, ,, ,, | 42s. | 50 ,, ,, ,, | 30s. |
| 25 in 25 ,, ,, | 25s. | 25 in 25 ,, ,, ,, | 21s. | 25 ,, ,, ,, | 15s. |
| 12 in 12 ,, ,, | 15s. | 12 in 12 ,, ,, ,, | 12s. | 12 ,, ,, ,, | 6s. to 9s. |

### TULIPS.

| | | | | | |
|---|---|---|---|---|---|
| 100 in 50 exhibition varieties | 25s. | 100 in 30 exhibition varieties | 17s. 6d. | 25 in 25 exhibition varieties | 5s. 6d. |
| 100 in 40 ,, ,, | 21s. | 50 in 25 ,, ,, | 10s. 6d. | 12 in 12 ,, ,, | 3s. 0d. |

### CROCUS.

| | | | | | |
|---|---|---|---|---|---|
| 500 in 20 exhibition varieties | 21s. | 250 in 20 exhibition varieties | 10s. 6d. | 100 in 20 exhibition varieties | 4s. 6d. |

COLLECTIONS of BULBS (see our Advertisement, page 886, *Gardeners' Chronicle*, Sept. 19), for the adornment of the SPRING FLOWER GARDEN, CONSERVATORY and SITTING-ROOM.

For PRICES of BULBS generally, see our Advertisement, page 958, *Gardeners' Chronicle*, Oct. 10.

For PRICED and DESCRIPTIVE LISTS of BULBS necessary for WINTER and SPRING GARDENING, with the best methods of successfully cultivating and advantageously arranging them, see BARR and SUGDEN'S "ILLUSTRATED FLORAL GUIDE to WINTER and SPRING GARDENING."

NEW HARDY LATE FLOWERING RHODODENDRONS.

## PRINCE OF WALES.

Brilliant rose shaded with purple, divided black marking on the upper petals, compact truss, good substance, a profuse bloomer, very hardy, and flowers end of June.

**Strong young plants, 21s. each. | A few larger ones, 42s. each.**

## PRINCESS OF WALES.

Deep magenta edge, pure white centre, primrose flake on the upper petals, slightly spotted with brown, compact truss and good substance. Totally distinct from any known Rhododendron. Hardy and late. A really beautiful variety.

**Strong plants, 21s. each. | Larger, 42s. each. | A few extra size, 63s. each.**

One Plant over in three to the Trade.

Maurice Young has much pleasure in now offering for the first time the above distinct and beautiful RHODODENDRONS, which he can confidently recommend as most desirable additions to this noble class of hardy evergreens. They have both been proved for several years in the open ground to be very hardy, free bloomers, compact truss, and very late—possessing every qualification which can be desired in a first-class Rhododendron.

COLOURED PLATES by Andrews are now ready, and will be forwarded on receipt of 25 postage stamps.

MAURICE YOUNG (Son and Successor to the late William Young), MILFORD NURSERIES, near GODALMING.

ROSES, NEW and OLD CATALOGUES NOW READY.

A SELECTION, believed to be second to none in the Kingdom, is offered, VERY STRONG, in POTS. Those who wish for a fine display of bloom during the autumn and ensuing summer should now give their orders.

Charles Noble, Sunningdale Nursery, S.W. Rail.

**Roses.**

EDWIN HOLLAMBY has the pleasure of informing the Nobility and Gentry that his extensive Stock of STANDARD and DWARF ROSES of all the leading kinds in cultivation is in the finest possible condition; fine straight stems, fine heads, and beautifully rooted. Purchasers of large quantities will be liberally dealt with.

DESCRIPTIVE PRICED CATALOGUES for the present season will be forwarded gratis and post paid on application.

Nursery and Seed Establishment, Tunbridge Wells; and Goldsmith's Park, Groomsbridge, Kent.

**Roses.**

JOHN CRANSTON offers selections of STANDARD and DWARF ROSES of very superior quality.

The robust growth and hardy constitution of the plants grown in this Nursery has long been acknowledged, and the Stock to offer this season is perhaps superior to any previous growth.

He also begs to direct attention especially to DWARF ROSES on the Manetti stock, of which he has an enormous stock.

The plants upon their own roots are also very strong and well grown

| | Per dozen—s. | d. |
|---|---|---|
| STANDARD ROSES of all the leading varieties in cultivation | 18 | 0 |
| Do. Newer varieties, introduced in 1861 and 1862 | 24 | 0 |
| DWARF ROSES, extra fine plants upon the Manetti stock .. 9s. to | 12 | 0 |
| Do., do., upon Dog-rose stock | 9 | 0 |
| Do. Newer Varieties, introduced in 1861 and 1862 15s. to | 18 | 0 |
| Do., do., of 1862 and 1863 .. 24s. to | 30 | 0 |
| STANDARD and HALF-STANDARD TEA-SCENTED ROSES, all the best varieties | 24 | 0 |
| DWARF ROSES upon their own roots, Hybrid Perpetuals, and Bourbons .. 9s. to | 12 | 0 |
| Do., do. Tea-scented .. 12s. to | 15 | 0 |
| CLIMBING ROSES | 9 | 0 |
| PILLAR ROSES, extra strong plants, 4 to 5 feet 12s. to | 15 | 0 |
| STANDARD WEEPING ROSES .. each 2s. to | 2 | 6 |
| ROSES in 8 and 9-inch pots grown especially for Forcing or Greenhouse culture, the best Hybrid Perpetuals, China, and Tea-scented varieties .. 24s. to | 30 | 0 |

DESCRIPTIVE CATALOGUES forwarded free on application.

Nurseries, King's Acre, near Hereford.

**General Nursery Stock.**

S. PONSFORD begs to announce that his Stock of the above is this season unusually fine. It consists of everything in demand for general planting. The most conspicuous are STANDARD and DWARF ROSES; FRUIT TREES of every description, including WALL TREES (very fine); PYRAMIDAL, BUSH and STANDARD APPLES, PEARS, &c.; STANDARD MULBERRIES, extra fine; EVERGREEN and DECIDUOUS SHRUBS, frequently removed; CHINESE ARBOR-VITÆ, all sizes; ANDROMEDA FLORIBUNDA, &c. CONIFERÆ of the known hardy kinds. LIMES, POPLARS, MOUNTAIN ASH, &c.

PRICED CATALOGUES gratis.

Loughborough Park Nurseries, Brixton, Surrey, S.

CHARLES VERDIER, Nurseryman, 32, Rue du Marché aux Chevaux, Paris (Successor to the late firm of Victor Verdier, Père & Charles Verdier, fils), has the honour to inform Amateurs and the Trade that he has just published his NEW CATALOGUE for this season, containing all the latest novelties in ROSES, GLADIOLUS, HERBACEOUS and TREE PEONIES, &c., which may be had on application to his London Agents, Messrs. R. Silberrad & Son, 5, Harp Lane, Great Tower Street, E.C.

WELLINGTONIA GIGANTEA.—The undersigned has to offer a fine stock of SEEDLING PLANTS in Pots at the following low prices:—

| | Per 100. | | |
|---|---|---|---|
| 1-year SEEDLINGS in single pots | £2 | 0 | 0 |
| 2-year ,, 8 inches | 3 | 0 | 0 |
| Ditto, in 48-pots, 1 foot | 5 | 0 | 0 |
| ARAUCARIA IMBRICATA, in pots 2 years | 2 | 10 | 0 |
| CUPRESSUS LAWSONIANA, in pots, 8 inches | 0 | 10 | 0 |
| PICEA NORDMANNIANA, 2 years .. per doz. | 0 | 9 | 0 |

J. Henchman, Edmonton, London, N.

**Wellingtonia gigantea, and Cupressus Lawsoniana.**

TO BE SOLD, Cheap, a quantity of WELLINGTONIAS, 1—2 feet, and splendid Specimen CUPRESSUS LAWSONIANA, 6 feet, will remove with large balls; and well worth attention where immediate effect is required, having been well grown.—Apply to F. G. Godwin, Seedsman, &c., 3, Norfolk Market Hall, Sheffield.

**Forest Trees, Shrubs, &c.**

PETER LAWSON and SON, The Queen's Seedsmen, Edinburgh and London, have to announce that their PRICED CATALOGUE for the present season is now ready, and will be forwarded Free on application.

Their stock of SEEDLING and TRANSPLANTED FOREST TREES, ORNAMENTAL SHRUBS, &c., is at present very large, and of superior quality. If requested, special offers will be made to those intending to plant largely.

Edinburgh.—Nov. 7.

**Forest Trees and Shrubs.**

THOMAS KENNEDY and CO., Nurserymen and Seedsmen, Dumfries, N.B., beg respectfully to call the attention of the nobility and gentry of Great Britain and Ireland to their extensive stock of FOREST TREES and SHRUBS, which they are selling at very moderate prices.

CATALOGUES furnished on application.

*** Dumfries from its central position and railway accommodation is most favourably situated for the speedy transmission of goods to all parts of the kingdom.

**Hardy Trees, Shrubs, and Plants.**

W. SHORT begs to acquaint noblemen, gentlemen, and planters that he has direct transactions with numerous eminent nurserymen in various parts of the United Kingdom, and with his knowledge and through them he feels confident of being enabled to execute their orders to any extent on very liberal terms, for which he solicits their commands, which shall receive his best attention.

Reigate, Surrey—November 7.

**Araucaria Ruiei, from the New Hebrides.**

F. SMITH, late of Smith & Adamson, Melbourne, begs to announce that he has a few 2 year old Plants of this valuable New CONIFER to offer at 10l. each.

A report with full particulars of this invaluable, extremely rare, and perfectly unique Conifer can be seen in the Proceedings of the Royal Horticultural Society, who are also in possession of a living plant and dried specimens.

Address William Smith & Son, Nurserymen and Seedsmen, Aberdeen.

### Gladiolus Brenchleyensis.

YOUELL AND CO. have much pleasure in offering the above GLADIOLUS, unequalled by any other variety for the brilliancy of its colour. The Bulbs are unusually fine. Price 3s. per doz.; 20s. per 100.

Trade price on application,

Royal Nurseries, Great Yarmouth, Norfolk.

### Prize Gladioli.

YOUELL AND CO. were awarded the following PRIZES for the above in September last:—
FIRST AND SECOND PRIZE, CRYSTAL PALACE,
FIRST PRIZE, ROYAL HORTICULTURAL SOCIETY,
FIRST PRIZE, BRIGHTON.

CATALOGUES of this collection will be forwarded on application.

Royal Nurseries, Great Yarmouth, Norfolk.

### Wholesale Catalogue of Nursery Stock.

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE for 1863 and Spring 1864 can be had free on application; it comprises FRUIT TREES, ROSES, AMERICAN PLANTS, CONIFERS, EVERGREEN and DECIDUOUS TREES and SHRUBS, and TRANSPLANTED FOREST TREES, &c.

Woking Nursery, Surrey.

JAPAN LILIES, Extra strong Flowering Bulbs.

| | Each—s. d. |
|---|---|
| LILIUM LANCIFOLIUM ALBUM .. .. .. | 1 0 |
| " " ROSEUM .. .. .. | 1 3 |
| " " RUBRUM .. .. .. | 1 3 |

Three each of the above, 10s.

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

NEW FORCING GERANIUM, MRS. LEWIS LOYD.—Rich crimson with dark maroon blotch in top petals; of dwarf robust habit, and most profuse bloomer. Forces into flower at any season without drawing. It was exhibited to the Floral Committee of the Royal Horticultural Society on March 31, and then awarded their Certificate of Commendation. Good Plants now ready, 7s. 6d. each.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W.

### British Fern Catalogue.

ROBERT SIM can now send, post free for six postage stamps, Part I. (British Ferns and their varieties, 36 pages, including prices of Hardy Exotic Ferns) of his New and PRICED DESCRIPTIVE CATALOGUE of BRITISH and EXOTIC FERNS, No. 7.

*** Part II. (Exotic Ferns) will be issued as early as possible.

Foot's Cray Nursery, S.E.

THE RED LODGE NURSERY, SOUTHAMPTON, extends over 60 acres, and contains an unrivalled stock of AMERICAN PLANTS, FRUIT, FOREST, and ORNAMENTAL TREES, EVERGREEN and FLOWERING SHRUBS, CHOICE CONIFERÆ, STANDARD and DWARF ROSES, &c., all in the best state for removal.

CATALOGUES, and every information obtainable on application to the Proprietor, Mr. W. H. ROGERS.

### Peach Trees for Forcing.

MESSRS. THOS. RIVERS AND SON beg to offer very fine PEACH TREES in pots for forcing; they are from three to four years old, and full of blossom buds. The varieties cultivated are Noblesse, Royal George, Grosse Mignonne, Early York, Early Grosse Mignonne, and others.

Largest sized trees, 7s. 6d. each; fine trees, 5s. each; carriage paid to London.

Nurseries, Sawbridgeworth.

### Very Strong Standard and Pyramid Pears and Plums.

JAMES GARAWAY AND CO., Durdham Down Nurseries, Bristol, offer the above, of the best varieties, 24s. to 30s. per dozen. Prices to the Trade on application.

AUTUMN CATALOGUE and FOREST TREE LIST free by post.

JAS. GARAWAY & CO., Durdham Down Nurseries, Bristol.

### The Royal Hautbois Strawberry.

MESSRS. THOMAS RIVERS AND SON now offer Plants of the above. The variety was selected by them in 1861 from many hundreds of Seedlings raised from La Belle Bordelaise Strawberry, a variety of the Hautbois received from France, and has proved to be by far the largest and most prolific of the race, with the true Hautbois flavour.

Plants, 4s. per dozen, 30s. per 100. A few extra sized bearing plants, 9s. per dozen; carriage paid to London.

Nurseries, Sawbridgeworth.

### Vines.

JAMES CARTER AND CO. beg leave to call attention to their splendid collection of the above, consisting of several thousand CANES of the most approved varieties in cultivation. Extra strong, short-jointed, well-ripened Canes for fruiting in Pots next year; fine strong, well-ripened Canes for planting in Vineries, and strong hardy Canes for open walls.

For prices and full descriptive list of more than 40 finest selected varieties most suitable for above purposes, see AUTUMN SUPPLEMENT to their VADE MECUM, forwarded post free on application.

Seed Merchants and Nurserymen, 237 and 238, High Holborn, London, W.C.

GRAPE VINES.—Strong well ripened Canes of the following, at 3s. 6d. to 5s. each:—Black Hamburgh, Grizzly Frontignan, Black Prince, Chasselas Musqué, Black St. Peter's, Black Frontignan, Cannon Hall Muscat, Précoce Malingre, White Frontignan, White Sweetwater, Muscat of Alexandria, Tokay, Golden Hamburgh, Syrian Muscat Hamburgh, Mill Hill Hamburgh, Lady Downes, Black Cluster, Esperion, Muscat Troveron, Royal Muscadine, Trentham Black, Blanc de Kentsheim, Black July, Ingram's Prolific, Buckland Sweetwater, Cavoush.

JOHN CRANSTON, Nurseries, King's Acre, near Hereford.

DILLISTONE AND CO., Sturmer and Woodlands Nurseries, one mile from the Haverhill Station, Colne Valley Railway, beg to offer a few thousand of the finest kinds of mixed LANCASHIRE GOOSEBERRIES, four years old; they consist of Crown Bobs, Companion, Troubler, Whitesmiths, Wellington Glory, and other large and good bearers. Price upon application.

All the popular kinds of ROSES on MANETTI, 2½ to 6 feet in height, price 6s. to 18s per dozen, cheaper by the hundred.

A few hundreds of choice HOLLYHOCKS, same of best PANSIES, cheap and good plants, and will give satisfaction to the purchaser.

DILLISTONE'S 1st EARLY PEA, originated here, by the quart, peck, or bushel, with everything connected with the Nursery and Seed Business. Cash or reference is requested.

Sturmer, Nov. 7.

### Rhododendron Countess of Haddington.

Good plants, 21s. each.

### Vine Tynninghame Muscat.

Good plants, 3s. 6d., 5s., and 7s. 6d. each.

ROBERT PARKER begs to announce that he is now offering for sale the above first-class Plants. Full descriptions with List of Awards received are published in his NEW CATALOGUE of PLANTS and BULBS, which will be forwarded on application.

Exotic Nursery, Tooting, Surrey, S.

### Hardy Scarlet Rhododendrons.

JOHN WATERER'S CATALOGUE of HARDY SCARLET and other CHOICE RHODODENDRONS as annually displayed in the Royal Botanic Gardens, Regent's Park, can now be had on application.

It contains faithful descriptions of all the varieties really worthy of cultivation, as well as a selection of HARDY CONIFERS, with heights and prices, with ORNAMENTAL EVERGREENS, FOREST TREES, &c.

The American Nursery, Bagshot, Surrey.

### Rhododendrons.

CRIMSON, WHITE, PURPLE, AND SCARLET.

CHARLES NOBLE has RECEIVED the AWARD of the Royal Horticultural Society as under FOR RHODODENDRONS.

FIRST PRIZE, 1861.
FIRST PRIZE, 1862.
FIRST PRIZE, 1863.

CATALOGUES are now ready, and a stock of Plants in the most perfect health, of all sizes, and at prices to suit all purposes. Sunningdale Nursery, S.W. Rail.

RHODODENDRON PRÆCOX.
" " SUPERBUM.
" " RUBRUM.

ISAAC DAVIES can now supply the above in nice bushy Plants, with from 10 to 100 Flower Buds at from 3s. 6d. to 7s. 6d. each. Superbum and Rubrum are the best varieties.

Larkfield Nursery, Wavertree, near Liverpool.

### New Hardy Continental Rhododendrons.

AMBROISE VERSCHAFFELT, NURSERYMAN, Ghent (Belgium), begs to offer the following New Hardy RHODODENDRONS:—

| | s. d. | | s. d. |
|---|---|---|---|
| Rhododendron Comte de Gomer .. .. | 4 0 | Rhodo. Dr. Moore .. | 6 0 |
| " Comtesse Salvi .. | 6 0 | " Mrs. Barton .. .. | 5 0 |
| " Dieudonné Spae .. | 5 0 | " Mr. Stuart Low .. | 6 0 |
| " Director Thelemann | 5 0 | " Princess Alice .. | 5 0 |
| " Duc Adolphe de Nassau .. .. | 12 0 | " rubrum spectabile .. | 4 0 |
| | | " Verschaffeltii .. . | 8 0 |

The above varieties, raised by AMBROISE VERSCHAFFELT, are certainly of the finest and best varieties in trade.

The Set of the Eleven Varieties can be supplied for 3l.

GEO. BAKER begs to announce that his extensive Collections of Hardy RHODODENDRONS, GHENT AZALEAS, and KALMIA LATIFOLIA, are unusually well set with bloom, and his fine Collection of CONIFERS in the best possible condition.

CATALOGUES on application at the American Nursery, Bagshot, Surrey. The Nurseries are about 1 mile from Sunningdale Station, South-Western Railway.

### Beck's New Pelargoniums,

OFFERED FOR THE FIRST TIME.

B. S. WILLIAMS begs to announce that he is now prepared to supply strong plants of the above, which have received certificates of the highest merit during the past and previous seasons. They have been selected with great care, and are far in advance of any yet offered.

For descriptions and prices, see *Gardeners' Chronicle*, Oct. 24; also in Catalogue, which can be had on application.

Paradise and Victoria Nurseries, Holloway, London, N.

### New and Choice Plants.

B. S. WILLIAMS invites inspection of his large and well assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, TREE FERNS, &c., amongst which are some very fine specimens.

A DESCRIPTIVE and PRICED CATALOGUE post free on application.

Paradise and Victoria Nurseries, Holloway, London, N.

JAS. GARAWAY AND CO.'S AUTUMN CATALOGUE for 1863, containing Priced Lists of Shrubs, Ornamental Trees, Conifers, Roses, and Fruit Trees of all descriptions, is now ready, and will be forwarded Post-free on application.

Orders exceeding 5l. Carriage Paid to the Irish ports in direct communication with Bristol.

JAS. GARAWAY & CO., Durdham Down Nurseries, Bristol.

CARTER'S NOVELTIES for 1864:

MIMULUS TIGRIDIOIDES.

LUPINUS ALBO COCCINEUS.

GODETIA ROSEO-ALBA, TOM THUMB.

TROPÆOLUM MAJUS PURPUREUS.

SWAINSONIA SPLENDENS.

CLARKIA PULCHERRIMA INTEGRIPETALA.

GILIA LACINIATA.

KAULFUSSIA ATROVIOLACEA.

LOBELIA PAXTONIANA.

Coloured Plates will be ready next week.

Price to the Trade on application to JAMES CARTER & CO., 237 and 238, High Holborn, W.C.

### New Catalogue of Plants, Dutch Bulbs, &c.

ROBERT PARKER begs to announce that his New CATALOGUE, containing Select, Descriptive, and Priced Lists of Exotic Orchids, New and Rare Greenhouse, Hardy, and Stove Plants, Ornamental and Variegated foliaged Plants, Azalea indica, Fruit Trees, Grape Vines, Rhododendrons, Roses, &c., Hyacinths, Tulips, Gladioli, Narcissus, and other Bulbs, is now published and will be forwarded to all applicants.

Exotic Nursery, Tooting, Surrey, S.

### Hyacinths, Tulips, &c.

WM. CUTBUSH AND SON'S first importation of the above has arrived, and from the extraordinary heavy weight of the Bulbs they promise a fine bloom. Early orders are earnestly solicited. DESCRIPTIVE PRICED CATALOGUES free.

N.B.—17 FIRST PRIZES were awarded to WM. C. & SON last spring for HYACINTHS, TULIPS, and CROCUSES. In addition to this, EVERY FIRST PRIZE at the London Exhibitions to Amateurs was for Bulbs supplied by them.

The ONLY address is Highgate Nurseries, London, N.

HYACINTHS for EXHIBITION.

FRESH IMPORTED BULBS.

SUTTON'S SELECTION.

| | | Per 100. | Dozen. |
|---|---|---|---|
| Finest sorts by name | .. | £1 4s. | 12s. |
| Very fine ditto | .. | 3 10 | 9 |
| Good ditto | .. | 2 10 | 6 |

Good Hyacinths for Beds, Ribands, &c. in separate colours (fresh imported), 21s. per 100.

Anemones, Crocuses, Tulips, Gladioli, &c., also very low in prices, as per CATALOGUE, which may be had gratis and post free.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

E. G. HENDERSON AND SON'S DESCRIPTIVE LIST of BULBS as a Guide for the Amateur's selection is now published, and will be forwarded post free on application.

HYACINTHS, choice by name, 6s., 8s. and 9s. per doz.
Do., MIXED in colours, 3s. per doz.
Do., colours separate, 4s. per doz.
Do., MINIATURE FLOWERED VARIETIES, 3s. per doz.
TULIPS for Forcing, 6d. to 1s. per doz.
Do. EARLY SINGLE, and DOUBLE MIXED, 5s. and 6s. per 100.
Do., LATE, show varieties, mixed, 1s. per doz.
SNOWDROPS, single and double, 2s. per 100.
WINTER ACONITES, 2s. 6d. per 100.
CROCUS, in sorts, 1s. 6d. and 2s. per 100.
SCILLA SIBIRICA, 7s. 6d. per 100.
ANEMONES, 3s. 6d. and 5s. 6d. per 100.
RANUNCULUS, 3s. to 5s. per 100.
GLOXINIAS, by name, 9s. and 12s. per doz.
ACHIMENES by name, 2s. 6d. and 3s. per doz.
GLADIOLUS BRENCHLEYENSIS, 3s. per doz., 20s. per 100.
" GANDAVENSIS, the finest collection offered.
CYCLAMEN, a choice collection of 30 varieties by name.
LILIES, 60 fine varieties. TRITOMA UVARIA, 12s. per doz.
TRITONIA (CROCOSMA) AUREA, 3s. per doz.
EARLY SPRING-FLOWERING PLANTS, in various colours, as HEPATICAS, DOUBLE PRIMROSES, VIOLETS, CHRISTMAS ROSE, and 60 other early-flowering perennials.
Strong Clumps of NEAPOLITAN and other VIOLETS in pots for winter blooming, and LILY of the VALLEY.

Wellington Nursery, St. John's Wood, London, N.W.

### American Plants.

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE for the present Season is now ready, and will be forwarded free to all applicants. As well as American Plants, it contains a summary of their General Nursery Stock, one of the most extensive in the kingdom.

Knap Hill Nursery, near Woking, Surrey.

IMPROVEMENTS.—Gentlemen wishing to make alterations or improvements in PLEASURE GARDEN, KITCHEN GARDEN, LAWN, or PARK, would do well to consult H. LANE & SON'S

ROSE CATALOGUE,
FRUIT CATALOGUE, and
TREE and SHRUB CATALOGUE, &c.

which may be had on application at the Nurseries, Berkhamstead, Herts.

An inspection of the stock is earnestly requested.

The finest and largest quantity of ARAUCARIA IMBRICATA in Europe.

### Catalogues.

PAUL AND SON have now ready their NEW DESCRIPTIVE PRICED ROSE CATALOGUE for 1863-64.

DESCRIPTIVE CATALOGUE of HYACINTHS and other DUTCH BULBS, post free.

Also their DESCRIPTIVE CATALOGUE of EVERGREENS, DECIDUOUS TREES, CONIFERS, AMERICAN CLIMBING and HERBACEOUS PLANTS, post-free for one stamp.

"Old" Cheshunt Nurseries, N.

### To the Trade.

WM. PAUL respectfully informs his friends and the Trade generally, that he has a large and superior Stock of the following. Prices very moderate, and will be given on application.

STANDARD, DWARF, and CLIMBING ROSES.
Large DECIDUOUS TREES and SHRUBS, including Planes, Elms, Poplars, Acacias, Laburnums, Thorns, &c.
WEEPING TREES, of sorts.
CLIMBING PLANTS, in pots.
EVERGREENS, of all sorts.
FRUIT TREES, of sorts: Pyramidal and Dwarf Apples and Pears, very fine.
GRAPE VINES, for Fruiting or Planting, also very fine.

PAUL'S Nurseries, Waltham Cross, N.

### Deutzia crenata fl. pleno—Japan.

JOHN STANDISH has now the pleasure of submitting to the consideration of his friends and the public the above truly valuable and hardy ornamental plant. It has received First-class Certificates both at the Royal Horticultural and Royal Botanic Shows in June and July last (*vide* Report).

"There were a few very interesting new hardy plants shown, first a Deutzia crenata flore pleno, one of Fortune's novelties, flowered by Mr. Standish. This looked like a fine addition to hardy shrubs; it has opposite shortly stalked finely serrated leaves, and copious terminal racemes of deflexed double flowers deeply tinged externally with rose."

Plants now ready, 10s. 6d. each; or 6 Plants for 42s.

Royal Nursery, Ascot, Berks.

**Sutton's Unrivalled Collections of Bulbs.**

SUTTON'S GUINEA COLLECTION of BULBS for BLOOMING in POTS and GLASSES.

SUTTON'S GUINEA COLLECTION for BEDS and BORDERS.

For particulars see SUTTON'S AUTUMN CATALOGUE, which may be had Gratis and Post free.

SUTTON & SONS, Royal Berks Seed Establishment, Reading.

**For £1 1s., Carriage Paid.**

BARR AND SUGDEN'S No. 3 COLLECTION of BULBS for the SITTING-ROOM or CONSERVATORY. —12 splendid Hyacinths, 6 Pompone Hyacinths, 6 Polyanthus Narcissus, 6 Double Sweet-scented Jonquils, 24 splendid Tulips, 50 New Crocus, 3 Japan Lilies, 6 Achimenes, 3 Lachinalias. Half the above, 10s. 6d.

BARR & SUGDEN, Seed Merchants, 12, King Street, Covent Garden, W.C.

**£34 10s. Prizes.**

BARR AND SUGDEN, SEED MERCHANTS, 12, King Street, Covent Garden, W.C.

The Royal Horticultural Society in March, 1864, offer Prizes to the amount of 34l. 10s. for HYACINTHS, TULIPS, and CROCUS.

See BARR & SUGDEN'S enumerated varieties of Exhibition HYACINTHS, TULIPS, and CROCUS; also their Advertisement, page 985.

GREAT FRUIT and CHRYSANTHEMUM SHOW at BIRMINGHAM.—The ANNUAL GREAT FRUIT, GOURD, and CHRYSANTHEMUM SHOW, open to all the World, will take place at the Town Hall, Birmingham, in connection with the Handsworth Horticultural Society (simultaneously with the Cattle, Poultry, and Dog Shows), on TUESDAY, WEDNESDAY, and THURSDAY, December the 1st, 2d, and 3d.

Schedules of Prizes (which include a Ten Guinea Cup for a Collection of Fruit), are now ready, and may be had on application.

Entries close on THURSDAY, November 26.

CHAS. JAS. PERRY, Castle Bromwich.
GEORGE P. TYE, Handsworth.

ROYAL HORTICULTURAL SOCIETY. FRUIT COMMITTEE.

A MEETING of this Committee will be held at the Garden, South Kensington, W., on TUESDAY, November 10, for the Examination of such FRUITS and VEGETABLES as may then be submitted for the judgment of the Committee, and for awarding the following prizes:—

CLASS A.—The best Three Dishes of any variety of DESSERT APPLES, distinct kinds, 15s., 10s.

CLASS B.—Ditto ditto PEARS, 15s., 10s.

CLASS C.—Best Three Bunches of any of the newer varieties of GRAPES without Muscat flavour, 20s., 10s.

CLASS D.—Ditto with Muscat flavour, 20s., 10s.

☞ All Packages must be at the place of Meeting by 11 o'clock on the morning of the day of Meeting, and together with Communications are to be addressed to

ROBERT HOGG, LL.D., Secretary to the Committee.

The Gardeners' Chronicle.

*SATURDAY, NOVEMBER* 7, 1863.

MEETINGS FOR THE ENSUING WEEK.

| | | | |
|---|---|---|---|
| MONDAY, | Nov. | 9 | Chrysanthemum Exhibition at Stoke Newington. |
| TUESDAY, | — | 10 | |
| TUESDAY, | — | 10 | Royal Horticultural (Floral and Fruit Committees) at S. Kensington .. Noon |
| WEDNESDAY, | — | 11 | Chrysanthemum Exhibition at the Agricultural Hall, Islington. |
| THURSDAY, | — | 12 | |
| FRIDAY, | — | 13 | |

JAPAN, "THE LAND OF THE RISING SUN," as it is somewhat poetically called by its inhabitants, has been lately opened to the rest of the world; having been all but closed for upwards of 200 years. Partial glimpses of the country which had been obtained from time to time showed that it was very rich in vegetable productions of an ornamental and useful kind, which would be highly valued in Europe. The writings of KÆMPFER and THUNBERG, and of late years of SIEBOLD and ZUCCARINI, had made us acquainted with many plants of great beauty, some of which had been introduced to this country, but the greater number were still unknown to our parks and gardens. When, by our late treaties with Japan, that country was partially opened to foreign nations, an opportunity presented itself of introducing these desirable novelties to Europe. Such an opportunity was too valuable to be lost, and it was most promptly used.

The botanical expeditions to "the Land of the Rising Sun" appear to have met with a rare amount of success, if we may judge from the number of new shrubs and trees which have lately appeared at our Exhibitions. The first results were exhibited by Mr. STANDISH on the 5th of June, 1861, at the opening of the Royal Horticultural Society's Garden at South Kensington, a fit occasion for the new vegetable foreigners to present themselves. It was stated at the time, in our report of that exhibition, that "these plants, though they had been but a few days in England, were as fresh and healthy-looking as though they had all their lives been revelling in the pure air of Bagshot, and had never known the discomfort of a long sea voyage." In 1862 and during the past summer both Mr. VEITCH and Mr. STANDISH have exhibited long lines of new Japanese plants at all our principal exhibitions, and have carried off many prizes.

As many of these interesting novelties have it may be worth while to draw the attention it may be worth our while to draw the attention of our readers to some of the most valuable amongst them, as well as to the effect which they are likely to produce in our gardens and landscapes. With this end in view we shall divide them into four classes, namely, bulbs and herbaceous plants, climbers, shrubs, and trees.

In the first class by far the most beautiful plant is Lilium auratum; indeed, we have had nothing to rank with this since SIEBOLD introduced Lilium speciosum from the same country. Lychnis Senno and its variety with striped blossoms, are likely to prove very ornamental plants; we are informed the specimens exhibited last summer gave a very faint idea of the beauty of this species. The dragon and striped Chrysanthemums, although not particularly handsome in their present state, may produce a new race of fine things in the hands of our florists. Tricyrtis hirta, a plant with mottled blossoms, is particularly handsome; and so is Saxifraga Fortunei, lately figured and described by Sir WILLIAM HOOKER in the "Botanical Magazine." Nor must we omit from this list a beautiful little Saxifraga in the way of S. sarmentosa, having its green leaves beautifully mottled and tinted with various colours of white, pink, and rose.

Of CLIMBING PLANTS there are only three which we can notice at present, but they are all very great acquisitions to our gardens. There is a charming Honeysuckle (Lonicera aureo-reticulata) whose leaves are veined and mottled like an Anœctochilus, and two species of Clematis, one having flowers of a deep violet blue, and the other large double white ones, deliciously scented like the Orange blossom.

The SHRUBS which have been introduced are of very great value. In the first rank amongst them we place the new evergreen, Aucuba japonica vera. It has bright glossy leaves of the deepest green colour, and, in our opinion, is a far more beautiful object than the variegated variety common in our gardens. By the side of this, and as an object of equal importance, we must place the *male* of Aucuba japonica, which has now been introduced, and which was exhibited by Mr. STANDISH, in flower last summer. We understand Mr. STANDISH has a female plant covered with berries which will soon show the value of this introduction. Osmanthus ilicifolius, a shrub nearly allied to the Olive, and somewhat like a Holly in appearance, is another decided acquisition. Two new species of Skimmia also look very promising; they are larger and more vigorous in their growth than the Chinese Skimmia japonica, and if their fruit is produced as profusely and is as ornamental, they will be very useful plants. The double Deutzia crenata is another valuable addition to the things already in our gardens; it produces, in great abundance, fine racemes of double flowers, which are white and tinged on the outer surface with deep rose. Ilex crenata (Thunb.) incorrectly named I. Fortuni in the nurseries, is another valuable introduction. It is of a neat habit, has bright green glossy leaves, and as an evergreen hedge plant will be most useful.

Pines and their allies are the principal TREES which have been introduced. Amongst these perhaps the most remarkable is the "Umbrella Pine" (Sciadopitys verticillata). This tree is quite distinct in its habit and general appearance from any of the family of Conifers hitherto introduced to Europe; we have already given a figure of it, for which we were indebted to Mr. J. G. VEITCH. Abies firma, Alcoquiana, Veitchii, and Pinus densiflora, are likely to prove very ornamental and useful trees, if they prove themselves hardy in our climate. Retinospora obtusa and R. pisifera are trees which resemble Cupressus Lawsoniana in their appearance, and if they grow as well with us as they do on the hill sides of Japan, they will be highly prized. Retinospora obtusa nana and its variegated varieties, are handsome dwarf garden plants, and these, with R. pisifera aurea and R. pisifera variegata, will be invaluable as dwarf trees for our lawns or suburban gardens. Thujopsis dolabrata is one of the handsomest trees in Japan, and we have the satisfaction to know that it is as hardy as a Scotch Fir. To this we have now added a variegated variety, and another named Thujopsis Standishii.

The Oaks and Maples of Japan appear to be interesting and beautiful, and we are glad to find that many of these have been brought to Europe. Travellers write in glowing terms of noble hedges of evergreen Oaks which fringe the roads near Yedo, and afford a pleasant shade from the sun; even in the depth of winter the country has an unusually green appearance, owing to the abundance of these fine trees. The foliage of the different kinds of Maples as it ripens in the autumn, takes on many bright hues of colour—yellow red, and purple—and has a very remarkable effect upon the landscape.

A curious feature in these Japanese introductions is the number of variegated plants which have been discovered. Almost every species of plant indigenous to Japan, whether herbaceous, shrub, or tree, would appear to have a variegated variety. There are variegated Camellias, the Tea plant is met with in like condition, and even Pines, Palms, and Orchids, have their variegated representatives. The favourite Aucuba of our gardens is doubtless a sport from the plain leaved kind lately introduced. Many of these natural sports are very handsome. As examples, we may point to several varieties of the Osmanthus, Retinospora, Elæagnus, Euonymus, Eurya, &c.

Some plants have also been introduced which are probably natives of the southern parts of the Japanese islands. These will not thrive in the open air in this country, but they are well worth notice on account of their beautiful foliage. Amongst them we may mention Eurya latifolia variegata, a charming plant with Camellia-like leaves blotched with white, and when young tinged with pink and orange. Illicium variegatum, Gardenia radicans variegata, and several kinds of Podocarpus and Nageia have their leaves striped with different colours as if painted by the hands of an artist. These are far more beautiful in Japan than they have yet been seen in England, and evidently want more summer-heat than we have in the open air in this country to bring them to perfection. For conservatories and for winter gardens, which are now coming so much into use, these plants will be found admirably adapted. They will well repay a little extra care.

These then are a few of the more important results of the opening of Japan in as far as horticulture and arboriculture are concerned. We could add a number of other plants to the list we have given, such, for example, as several pretty Ferns, Primroses, and other things of interest. The introduction of such a large number of valuable plants in so short a space of time is a very unusual occurrence, and we are not likely to see such a number of important novelties at one time again. It is not every day that an old country, with a high civilisation of its kind, is all at once thrown open to other nations after a seclusion of 200 years—a country too with a people passionately fond of flowers and trees.

Our travellers would seem to have visited Japan at the right time. We are now at war with that country—at least with some of its Daimios or feudal Princes; Yedo the capital, whose gardens furnished many of the fine things we have been describing, is again all but closed to foreigners, and it may be long before it is safe to visit it again and ramble about amongst its well-stocked gardens. The curtain which had been drawn up for a brief space has fallen once more; meanwhile we have been able to add to our collections many plants of great importance, which are likely, as they acquire age and size, to make an impression on our gardens and landscapes.

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SUCH of our readers as are looking forward to the opening up of a new field of enjoyment in the cultivation of cool-country Orchids, will be glad to hear that Mr. LINDEN—the well known introducer of a host of valuable plants—has received information from his collector in New Grenada, of the despatch of a very large assemblage of the most brilliant species of Odontoglossum, Masdevallia, &c. As the arrival of these exquisite treasures may be immediately expected, we hope that our friends will lose no time in making preparations for their suitable accommodation, and—grown wiser by experience—will not repeat the suicidal folly of attempting to cultivate in a hot stove plants that ask only for a cool greenhouse.

Lest, however, there should be any misunderstanding in regard to the conditions under which these plants may be properly grown, we would again remind our readers that they come from localities that are not merely *cool*, but which are also — in most instances—*humid* and *gloomy*. To ensure success then, they should have a low damp house facing the north, such a one for example as that in which Mr. BATEMAN has succeeded so well with Epidendrum vitellinum and various Odontoglots. In such a house as this four-fifths of the Peruvian, and two-thirds of the Mexican Orchids might be grown with the greatest ease and economy; but an ordinary greenhouse,

with the usual accompaniments of plenty of light, and air, and dryness, would be as little congenial to them as the temperature of the East India house, to which they were formerly consigned.

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IT appears from a short notice in a recent number of the *Botanische Zeitung*, that the ANACHARIS ALSINASTRUM, which has already become established in Belgium and Holland, is also making itself known in Germany. From a pond in the Leipsic Botanic Garden, in which it had been grown as an interesting botanical object, it has spread to the environs of the city; and Herr MORSCH had in July last sent it to a horticultural gathering at Sanssouci, near Potsdam, as a plant which had escaped from the Berlin Garden, and was already filling up all the canals and ditches in that neighbourhood. Thus it is behaving exactly as it did with us.

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—— IN another column will be found some remarks on the subject of NEW HYACINTHS, by a correspondent who is one of the most constant exhibitors of these flowers. It will be seen that he urges the adoption of an old rule of the Royal Horticultural Society respecting New Plants as the best means of settling this disturbed question of New Hyacinths. That rule was, that any plant which had previously been exhibited before the members could not be considered new. On this point we do not agree with him. The rule in question applied properly enough, and might still properly enough be made to apply to what are understood by the term New Plants, that is to say imported species of plants; but it does not apply well to the case of florists' flowers, amongst which the Hyacinth must be included. Seedlings of florists' flowers appear and disappear at a much more rapid rate than imported species, and some more active rule than this is necessary in their case. The rule which has been referred to does not, it will be seen, define what a new plant is, but simply has this negative result, that any plant not already shown must be taken as new. This, indeed, is the only possible rule with respect to imported plants, such as those to which we refer, because in their case no limit of time can safely be fixed: one grows freely, so as to be increased, flowered, and exhibited in the course of a year; another progresses so slowly that it may be five, 10, or 20 years before it can be flowered or increased, and probably at least several before it can be got into a fit state even to exhibit. It is not so with florists' flowers; they are raised and flowered in succession year after year, so that there is annually a set of varieties to be "let out," and these make their appearance in the florists' catalogues. Such flowers must always be regarded as novelties of that year in which they are first catalogued for sale. This defines clearly the date assignable to each, except in the infinitesimal number which are not sold, but distributed as gifts by their raisers. Now, all florists' flowers ought, it is clear, to come under the same rule, for notwithstanding that Hyacinths are of somewhat slower increase than such things as Dahlias and Verbenas, we do not see any necessity to apply to them any different arrangement.

We do not raise new Hyacinths in England, so that it is clear we ought to consult not our own lists, but those of the growers themselves, in order to determine this question of novelty. We should, therefore, hold to the Dutch catalogues as being the best produceable evidence of novelty. It is true our correspondent says his search amongst them does not yield results which agree with those we quoted from a contemporary at p. 1012; but there is at least little doubt that now the question has been opened, we shall have novelties distinctly announced in future. In fact, if the Dutch growers will collectively communicate a descriptive list of the novelties to be annually let out, before the bulb season comes on, we will undertake that it shall be put on record in our columns. If they will do this even now, commencing from 1860, and giving the name of the raiser or distributor as well as the year when first sold out, a good starting point will have been gained.

After all, however, the great point for the exhibitor at our own shows is a definition in the schedules of the classes of New Hyacinths—an explanation, that is to say, of what they are intended to include. The exhibitor need then have no difficulty. We do not think the best definition to be one which would admit all varieties not exhibited previously, first because this would be a mere negative rule, and would not shut out old sorts; and secondly, because it would always be open to dispute. If new Hyacinths were produced thick enough, we should certainly prefer those which had been "let out" in the current year; but as this does not appear to be the case, and as mere novelty is of less interest than merit and novelty combined, we should, in the interests of the visitors, adopt such a definition as would let in the new introductions of say three or four years, by which a group of good sorts might be ensured. There is another advantage in this plan, for the public would thus become familiarised with the BEST of the new sorts, as they came to bear a reasonable price in the market.

## FRUIT FROM NOVA SCOTIA.

WE announced last week that two fine collections of fruits had been received by the Royal Horticultural Society from Halifax, Nova Scotia; one of these was from the Horticultural Association, and the other from the Horticultural Society of that colony. Both collections may still be seen at South Kensington. With fine exhibitions of fruits grown in England our readers are familiar; but with regard to the fruit productions of our colonies no very correct ideas are entertained. From former representations of the climate of Nova Scotia it could not have been imagined that fruits of such size and beauty as those now brought under our notice at South Kensington could have been grown in that country under any circumstances, whereas we are informed that "the whole were grown upon standards with ordinary orchard culture."

Halifax, N.S., it may be observed, is farther south by 6½° of latitude than London, and ought consequently to have a more genial climate, or one equal to that of Italy; but whilst Britain lies in the course of the equatorial current, which keeps it warmer than perhaps any other country situated in an equally high latitude, Nova Scotia has masses of ice from the polar regions floating along the Atlantic in proximity to its eastern coast. This extends 300 miles, and is characterised as bold, rocky, and barren, and for a considerable portion of the year subject to cold fogs, occasioned by the melting ice. The Atlantic coast of this colony presenting to the earlier explorers a forbidding appearance, and the climate being reported to be particularly dismal and dreary, gave rise to the supposition that the country was almost uninhabitable, and by many it was long considered as such. The present exhibition forms, however, a pleasing contrast to the impressions derived from partial experience; and it may be safely laid down as a rule that wherever the Apple will succeed as it does in Nova Scotia, according to the examples before us, British settlers will find a salubrious climate, good soil, and the means of existence.

The Apple, of varieties of which the exhibition chiefly consists, is subject to peculiar circumstances as regards climate in Nova Scotia. In Mr. Knight's prize Essay "On the Colony and its Resources," it is stated that, "the most important points in which the climate of Nova Scotia differs from that of Great Britain, are its higher summer temperature, and the shortness of this season (which, however, is compensated to some extent by a remarkable rapidity in the process of vegetation), and the lower temperature of its winter. The severity and the length of its winter are also compensated by the unexampled mildness and beauty of its autumn, which is frequently protracted to the early part of December." The mean temperature of April in Nova Scotia is only 30°, and that of May 40°; that being the case the Apple cannot be in blossom much before the beginning of June. After that period vegetation is very rapid, the mean temperature of July being 63°, and that of August 70°, or equal to the heat of the south of Europe. This short but very hot summer appears to suit the Apple better than the Pear, for the specimens of the latter are not remarkably fine. This is doubtless owing to the circumstance of the Apple naturally requiring a shorter period from its blossoming till it acquires its full size, than the Pear does.

Among the more remarkable varieties of Apples, both as regards size and colour, a few are known and cultivated in English gardens; but in making comparisons it should be recollected, as already mentioned, that the Nova Scotian productions are from open standards, receiving only ordinary orchard culture. What they would have been in highly cultivated gardens we leave our readers to judge.

*Gloria Mundi.*—Circumference 12½ inches; height 3¼ inches; weight 15 oz.; pale yellow with a tinge of brownish red next the sun, in which tinge large whitish specks are rendered conspicuous.

*Gravenstein.*—Very fine specimens, 11 inches in circumference, weight 8½ oz., beautifully coloured. This variety, a native of the North of Germany, where it is much cultivated, evidently succeeds well in Nova Scotia, indeed fully as well if not better than in its native country.

*Alexander.*—Circumference 12¾ inches, 3⅛ inches high. Smooth, shining, finely coloured and streaked.

*York and Lancaster, or Nova Scotia Seedling.*—An Apple bearing the latter name, proves to be the same as the York and Lancaster. It is beautifully striped with red and white like a Carnation.

*Rhode Island Greening.*—Circumference 10¾ inches, height 2½ inches, greenish, with a tinge of brown next the sun (grown in England this sort is entirely green). A good Apple for kitchen and table; at Halifax it proves hardy, a good keeper, and great bearer.

*Baldwin.*—About the same size as the preceding, smooth, reddish next the sun, obscurely streaked. Succeeds in England, but not so well as the Rhode Island Greening. At Halifax it is stated to be a prodigious bearer, good keeper, and hardy.

*Blenheim Pippin.*—Fair sized specimens.

*Blue Pearmain.*—Rather large, oval, streaked with deep purplish red.

*Calkin Pippin.*—11½ inches in circumference, weight 10 oz.; roundish ovate, smooth greenish yellow; flesh briskly acid, probably a good kitchen Apple.

*Pound Sweet.*—Circumference 12 inches, weight 11 oz.; form of Gloria Mundi; red, streaked with darker red.

*Northern Spy.*—Weight 8½ oz., roundish, glossy, red streaked with somewhat darker red; the colouring however not so brilliant as in specimens grown in the States of North America.

*Twenty Ounce Pippin* or *Cayuga Redstreak.*—Circumference 13 inches, height 2¾ inches, weight 11½ oz. Dull red intermixed with lighter.

*Yellow Newtown Pippin.*—Of average size and very good quality.

*New Large Yellow Golden Pippin.*—Circumference 12½ inches, height 3½, weight 13½ oz. Smooth and of a fine yellow colour. Resembles very much the Golden Noble.

The above are some of the largest; the following are some good dessert sorts:—Ribston Pippin, of fair size, clear skinned; Roxburgh Russet; English Pearmain, which proves to be our Winter Pearmain; Herefordshire Pearmain, doubtful, it being more glossy than with us; Fameuse, or Pomme de Neige, beautiful glossy red with snow-white flesh; Pomme Grise, said to be in Nova Scotia a great bearer, very hardy, and of fine quality and handsome form; Nonpareil, or English Russet, appears to be the Boston Russet, which has long been suspected to be of English origin.

As has been already observed, Pears do not succeed so well in Nova Scotia as Apples. Specimens of Duchesse d'Angoulême are scarcely ripe; Onondaga, a medium-sized turbinate Pear, is buttery and very good, and deserves to be introduced into this country; Paradise d'Automne is not that variety, but as far as could be judged from its decayed state it seems to be Hacon's Incomparable; Frederick de Wurtemburg is of the nature of Napoléon, but with bright red next the sun; the Vicar of Winkfield seems to want a longer summer; Winter Nelis is a fair specimen; one marked unknown appears to be the same as the preceding; that named Bergamot is the Gansel's Bergamot.

Some black Hamburgh Grapes, grown under glass without fire-heat, are well coloured, but have suffered from carriage. With the assistance of only a little fire-heat previous to the hot season, doubtless splendid Grapes could be produced in Nova Scotia. If assisted till June, the warm months of July and August would naturally complete the process of maturation. There are also several bunches of the Isabella, reputed as one of the best of the American native Fox Grapes; but bad it is as usual, possessing, like all those of its class, a nauseous slimy pulp.

Together with various cereals are also exhibited some good sames of Maize, which are as well ripened as if they had been grown in southern Europe.

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## FOLIAGE PLANTS.

YOUR Correspondent "J. R. B." has, I think, given a sufficient reply to "Fumarola" respecting the growth of these plants after midsummer, and also regarding latitude, as I am much nearer London. I am, however, anxious to remove what appears to be a misunderstanding. It is stated that I throw discredit upon a painstaking man. Few, I hope, have taken my remarks in that light; on the contrary, permit me to say, that no park around London has done more credit to its manager during the past season than Battersea. Nevertheless, I hope we are at liberty to discuss the merits or demerits of the system of culture carried on there, as compared with our requirements elsewhere, without committing any breach of the peace.

I will therefore endeavour to explain my experience in a small way, which dates back from that period when the Champs Elysées, the present head-quarters of foliage plants, was a quagmire, and French cultivators, as well as ourselves, had to borrow the practice of growing them properly from Germany. And let me start with the question mooted at page 1013, viz., where is the proper place for such plants in our flower gardens? To put this more pointedly, in what does their beauty consist, and beyond a dell, or pond side, or similar place, are they appropriate ornaments according to our present flower garden arrangements? In Germany their growth was a matter of necessity from want of other plants, but of late years the Germans are giving place to the English system of growing flowers, while we are now encouraging foliage plants. The latter are used in the Champs Elysées as blinds to Cafés Chantants, or other places of public amusement. With every season, however, their quantity is reduced in favour of our English Geraniums and Fuchsias, as extended means can be acquired to keep the latter over the winter months.

My knowledge of bottom heat, in reference to these and other plants, leads me to the conclusion that it answers the purpose of establishing early growth. Let us take, for example, a Tomato, in the first week in June; we plant this out on bottom heat, which forces it into early growth, and fruit soon sets and swells. By July it is of little importance whether the bottom heat is spent or not. It must be bad weather indeed if these early set fruit do not ripen in the proportion of 12 to 1 compared with that on plants put out in the ordinary way, so with the Chili, Aubergine, French Beans, &c. These plants are useful and necessary in most establishments. But before applying bottom heat to tender plants in

general out of doors, I should, upon renewing any trials, consider what object was to be attained by its use. Suppose I succeeded in getting an Ipomœa Leari to spread all over a large house front, by the addition of bottom heat, in the hot months of July and August; it would doubtless be very beautiful in the early part of bright mornings, when comparatively few for whom it was pushed on could see it; half an hour's hot sun would take every bloom off it, and afterwards there would be only the curled up pink remains of what in the morning was a gorgeous blue flower. By this experiment therefore what have we gained? Instead of the Ipomœa, if we had bestowed as much care upon some of our beautiful hardy summer flowering climbers, that could hold their own under all circumstances, and keep their beauty to be enjoyed and admired for the whole day, a result worthy of our attention would be secured.

Leaving Ipomœas therefore for the conservatory, where there are means of shading and protecting their blooms, so that they may be enjoyed. Let me add that there are numerous stove plants which come into beauty at certain seasons, and are so nearly half hardy as to be most successfully used for out-door display. For example, the most effective plant up to October 25, in and around Paris, is Cassia corymbosa, particularly a long border of it in the Luxembourg, where its beautiful clusters of rich golden yellow flowers are a loadstone to the eye the moment a visitor enters the garden. It did M. Rivière infinite credit, and where autumn beds are an object, it would be worth a trial in this country, in various ways, to forward its growth early, which is doubtless the secret of success in the case of this plant. *J. F.*

## BIRDS.

THE renewal of the discussion as to whether small birds are more useful or destructive in cultivated districts, seems to indicate a still unsettled conviction on the part of many persons interested in the subject. While bird defenders are so satisfied as to their general usefulness, and bird detractors are so certain as to their mischievous tendencies, little hope remains (between two parties whose convictions are so opposite) of a satisfactory solution of the question. The accumulation of facts bearing on the subject, by impartial observers, really and practically interested, will help more than anything else to determine the real facts of the case. Living in a large garden, and in a country abounding in birds, my experience may be of some little value in the vexed question. I may premise that I am fond of the study of natural history, and that I look with never failing interest on the habits and peculiarities of the birds constantly about me. I have to grow fruit and vegetables and flowers, and it is important and essential to my interest that I secure good crops and good examples of each of the above mentioned products of the garden.

Let me instance the birds common to the locality: I am visited by the bullfinch, greenfinch, goldfinch, and chaffinch, and sometimes by the hawfinch. The starling calls upon me occasionally; the too clever jackdaw is at one season an unwelcome visitor; the jay makes his unmusical voice in my orchards; the missel thrush is never long absent; the song thrush and the blackbird never leave me; and the sparrow is equally constant in his attentions. The linnet is a summer visitor; the wagtail and the swallow come regularly every spring. The wren and the hedge sparrow are my unfailing friends; titmouse major and all the minor minims of that busy and inquisitive family call upon me regularly. I wish I could number the rook amongst my familiar visitors; he rarely trusts himself within the confines of a garden, though sufficiently discriminating to know friends from enemies. With all these hungry little fellows about me, and with so much to tempt them to satisfy their unfailing appetites, it may excite the surprise of many persons that anything is left to the cultivator.

We must if we wish to manage any living creature study its habits and peculiarities. A knowledge of the ways of birds leads us to an acquaintance with one fact amongst others which has an important bearing on the subject we are discussing. It is the instinctive power which leads birds to distribute themselves in due proportion according to the probable supplies of food over a space of country, and not like locusts to sweep over and devastate a whole district in a few weeks. I believe I owe a partial immunity to a knowledge of this fact, and to the prompt application of remedies suggested by it, which I shall refer to as I speak of the various feathered frequenters of the garden. I must mention a few instances which will illustrate my assertion as to the equality in the distribution of birds over the country.

I believe each rookery has its allotted acres, and that tenant-right is strictly observed by the rooks of different localities; certain sparrows inherit certain districts; starlings are constant to their own (no our) county boundaries. We see swallows returning year after year to the same houses, and twittering their satisfaction as they take their rest on familiar ledges. I am so well aware of this peculiarity in the habits of birds that I am never afraid of being overwhelmed by numbers—their commissariat arrangements are too well made. I have my proportion of friends and enemies in the allotment which the bird parliament has awarded me; and if I choose to appeal in a very practical way, which I regret to be obliged sometimes to do, if I feel I am overtaxed, why I believe it is remembered in future arrangements, and amended.

Let me enumerate my feathered friends and describe as I go on their merits and their faults, and the way I meet and control them. I will begin with one I regard as a benefit and a blessing to man; I rejoice to see the active, glossy, bright-eyed starling at work on lawn and fallow. I know the small snails, the wire-worm, and grub will suffer where he searches, and I wish I could engage him to work for me, but he has higher duties in the fields. He is the cleverest, handsomest, and best of our birds; hear him after his morning's work, whistling as he sits on the topmost branch of his favourite tree, mimicking the owl and other night birds, and you learn that he has faculties beyond a search for grubs; watch him in the breeding season, and note his busy happiness and ceaseless anxiety, and the more you know of the starling the more you will learn to love and admire him.

I must digress for a moment to remark on the degree of intelligence possessed by various orders of birds, as the success of our corrective measures depends on the power of appreciating the intention of its application. The starling is a clever fellow, and soon takes a hint; the bullfinch is a capable and intelligent bird; the greenfinch is self-reliant, bold, and clever; the goldfinch and chaffinch are less clever and capable than the foregoing, and perhaps amongst birds a little silly; the jackdaw is a wise bird, and understands the terrors of death; the jay is cunning, timid, and dishonest, as many little birds know; the sparrow is crafty, bold, greedy, and clever; the blackbird is silly, heedless, and indiscreet in its indulgence of appetite.

I have taken the starling as an example of excellence and utility in birds. I will next speak of the bird whose habits have led to his condemnation in some cases, and praise in others—the sparrow. I have said before that he is a capable fellow; he is an adaptable bird, and must be regarded in various aspects—the city sparrow, the country town sparrow, the farmyard sparrow, and the garden sparrow, are the same in plumage, but differ very much in habit and intelligence. I will treat first of the country sparrow, as I am more intimately acquainted with him; but having claimed already so much space, I must defer my remarks on this subject until another week. *W. I.*

## STRAY NOTES ON FLOWERS.

A SHORT time ago in Worcestershire I saw some such charming flower stands that I am sure some of the readers of the *Gardeners' Chronicle* would find them great acquisitions for grouping their flowers in. The stands to which I refer were made in various shapes; some were low branchy things, looking like rustic candlesticks, containing several sockets, in which glasses fitted; others were more in basket shapes, supported on pretty pedestals; and others and more ambitious ones were quite pieces of handsome furniture, a beautiful table for instance, and chairs to place in conservatories. The art is not at all difficult for any one who can carpenter. The grand thing is to be sure of having an eye for straightness—at least for balance—and not to be inclined to crowd in too much ornament.

The material is old Apple tree, and the wood is varnished thoroughly. Now, I have not a doubt that people are already beginning to think of great branches and of huge and much twisted garden seats. They cannot at all imagine the graceful but rough little stems and branchlets which seem to be only wrought into a picturesque state of knobbiness. No wood, however, is used for the smaller things, of more than about 2 inches diameter in the thickest knobs; and besides this, for each stand, the whole of the wood is chosen of as nearly as possible the same size.

These stands are expensive to buy, considering their material; but any one seeing one of them would easily make others like them, and it perhaps would be a pleasant amusement for the long winter evenings.

Though I cannot recommend the maker, thinking him extortionate, I shall be happy to give the address to any one really wanting a pattern, if they will forward a note to me at the office of the *Gardeners' Chronicle*, and inclose a directed envelope. The effect when filled with flowers is quite equal to any Oak carving, the little sparkling flower knots lighting them up so charmingly.

One of the prettiest things too, is the flower table; it is made in the same style exactly, only on a larger scale, and this would be really perfect for a display of spring flowers and bulbs.

To those who have planted bulbs, indeed, I must give a hint, there are such pretty carved tables at Hammond's shop in Baker Street; they are not at all expensive, and would hold a downright flower bed. One of these little tables filled with the dwarf Hyacinth and with small red Tulips, and crammed in every corner with Snowdrops and blue Scillas, would make such a winter ornament as any one might delight in. Flowers are such a safe investment; they can't grow aught else but lovely, and then when they turn out beautiful we take all the credit of it. *E. A. M., South Kensington.*

## THE ACCLIMATISATION SOCIETY.

WE observe with much satisfaction that the Admiralty has determined to forward in earnest the objects contemplated by this important Association, as is shown by the following official announcement:—

ADMIRALTY, October 10, 1863.—My Lords Commissioners of the Admiralty, having had under their consideration the important question of Acclimatisation, are pleased to direct that so far as is consistent with the requirements of the public service, and upon the distinct understanding that no expense whatever is incurred, every facility is to be given by the commanding officers of Her Majesty's ships and vessels to any accredited agent of the Acclimatisation Society, who may apply to them through any of Her Majesty's foreign ministers or consuls, or through the governor of any of Her Majesty's colonies, for the transport of specimens. The annexed copy of a circular addressed by permission of the Secretaries of State for Foreign Affairs and for the Colonies to Her Majesty's foreign ministers and consuls and colonial governors, in various parts of the world, will explain the objects which the Society has in view.—By command of their Lordships, C. PAGET.

*Enquiries addressed to Her Majesty's Minister, Governor, or Consul at ——.*

The gentlemen to whom these questions are addressed are earnestly requested to consider the high importance which will be attached to the answers which they may return, and the service which they will render to the cause of Acclimatisation by endeavouring to the utmost of their knowledge to make those answers as full and otherwise as satisfactory as possible. The main purposes of acclimatisation are to introduce, acclimatise, and propagate in the United Kingdom and its dependencies such animals, birds, fishes, insects, and vegetables as are likely to be of use or ornament, whether for domestication or for varying the common food of the people, or for manufacturing, or for any other useful purpose; and whose constitution and habits offer a reasonable prospect of successful cultivation. It is obvious that in India, Australia, Canada, the Cape, and other important dependencies, unlimited scope is afforded for almost any variety of experiment. It is confidently expected that the answers returned to these questions by Her Majesty's ministers, governors, and consuls in different parts of the world, will bring together a mass of information on this interesting and highly important branch of knowledge, such as never has been collected before, and the benefit which these gentlemen will thus confer upon their fellow-countrymen will be in proportion to the fulness and exactness with which those answers are drawn up. In replying to Questions 1, 2, 3, and 8, it is particularly requested that those special qualities which recommend the quadrupeds, birds, fishes, and vegetables, as fit for food or domestic utility may be described. As regards quadrupeds, birds, and fishes, it will be very desirable to collect all the information which can be got as to the best modes of feeding, keeping, and rearing the same, and, as regards vegetables, any information as to the best mode of cultivation.

*Questions.*

1. Is there any quadruped, indigenous or introduced to the country in which you reside, which (having regard to the above definition of the objects in view) merits attention with a view to acclimatisation in Great Britain or any of its dependencies? If there be any such, state whether it is attainable at a reasonable rate, and whether it is likely to bear the risk of transport.
2. Is there any such bird?
3. Is there any such fish?
4. Is there any such insect?
5. Is there any such timber tree?
6. Is there any such medicinal plant?
7. Is there any fibrous plant likely to be useful for manufacturing purposes?
8. Is there any vegetable suitable for the food of man, or for forage, or for any other useful purpose?
9. Do you know any quadruped, bird, fish, insect, tree, or plant existing elsewhere, the introduction of which to the country in which you reside would be likely to be beneficial: one of the objects of the Acclimatisation Society being to reciprocate the benefits which it receives from other countries.
10. Does any organisation exist, or could it be easily called into existence, capable of undertaking the task of introduction?

Any remarks founded upon special knowledge or local information, capable of being made useful to the progress of acclimatisation, will be desirable.

## Home Correspondence.

*New Hyacinths.*—What should constitute a New Hyacinth? On this question I wish to give my own, and what I take to be the general opinion. First, then, what constitutes a new plant? I believe no better definition can be given than that afforded by the Royal Horticultural Society's old established rule, which says, "Any plant that has been previously exhibited before the members cannot be considered new;" or in other words, any plant that has been introduced to, or if a seedling raised in, this country, and exhibited or offered for sale beyond the current year, cannot be considered new. I certainly cannot perceive why the Hyacinth should be any exception to this rule. It matters little about the time it occupies between the raising of the seedling and its introduction. It is well known that the Hyacinth is many years in reaching us; it must be known to the raiser 8 or 10 years before he can get a sufficient number to export, say two or three bulbs; and before it becomes a commercial sort another 10 years must elapse. When I visited Haarlem in the spring of 1862, and was examining the seedlings, I inquired how long it would be before I could have those I had selected as the most suitable for English growers? The answer was—"possibly in 10 years, but more probably 20." This leads me to a question in your article (p. 1011) which may seriously affect ourselves as exhibitors. You have given a tabular list of the *quasi* new sorts exhibited at the R.H.S. on the 18th of March last. Of the column headed—"First catalogued for sale" I can only say that the dates given are no guide whatever as to their introduction here. I have searched the Dutch lists of the years quoted, and cannot find any of the sorts in them; and even if they had been, that is no reason why they should have been imported. My own conviction is that the Dutch have taken the dates from their lists as used amongst themselves. They dispose of their seedlings and choice varieties by a sort of

auction, though of course we know nothing of them for years after. It is with them a private matter, just as it is here between the raiser of a seedling Pelargonium and the person who may send it out. [This does not affect the date of letting out.] I consider that to ascertain the time at which a Hyacinth was introduced into England would be the only satisfactory way of settling the question of what is new. All that it would be necessary to ascertain would be, when was it first introduced [Yes] and publicly exhibited [No]. I do not agree with you that the class for new sorts should be extended to those introduced in previous years (I mean so as to include sorts that have been known or publicly shown), because it gives the least amount of encouragement to the most enterprising exhibitor of novelties. Mr. Paul's varieties exhibited last spring in the new class were such as had been shown before, and could not be strictly termed new: they were Florence Nightingale (Fabiola), shown by ourselves in 1857; Lord Macaulay in 1862; Kohi-noor in 1860; Duc de Malakoff in 1862; Snowball in 1860; and Haydn by Mr. Turner in 1860. This leads me to remark that judges who are doubtless well versed in such flowers as Roses, Dahlias, &c., may be little practically versed in Hyacinths, from the very slight opportunities afforded of inspecting their respective qualities. There are men who make the Hyacinth a complete study by growing and comparing them sort by sort, over a period of years. As regards your last column, headed "Mr. Cutbush's date," every sort you name has the date attached when it was first imported or exhibited, having come direct from the Dutch growers as "never sent to England before." There is a mistake as to the six sorts: you enter Maria Theresa and omit Estella. Estella had never been publicly shown, although two years previous we had it in bloom here. Our standing rule from the first introduction of this new class has been to stage none that have ever appeared before, in accordance with the general rule which I quoted above. I cannot but think that the Hyacinth is destined to fill a much more prominent position than it now occupies. The question of various classes, such as white-eyed, large belled, and large spiked varieties, ought to be well considered and speedily adopted. *James Cutbush, Highgate Nurseries, Oct. 29.*

*Cage Birds.*—In summer weather there is amongst us a class of forgotten sufferers. Many of the readers of the *Gardeners' Chronicle* must see continually in London and elsewhere little scraps of cages, some few inches square, hung up on some bare wall on which the sun strikes strongly. The birds (they are often larks! or poor little sweet-voiced goldfinches) are panting upon the floor. One feels that they are in misery, and would almost wish they might die. The water, too, dries up in the heat of the burning sun, and when one sees in the country how the little birds revel in shade, and hears their sweet songs coming from the green trees all the day, it does go quite to one's heart to think of the wretched fate of those who, deprived of liberty, at least demand some care. It is not only in the poorer streets, where one would be less surprised at ignorance, though the wish to make things happy would be likely enough to be strong; but in some of the most frequented places—near the Park and in Piccadilly, it is perfectly horrible to see how the birds are tortured. They sing, sure enough; but it is enough to make one hate birds' songs to know how often those sweet notes are only a cry for relief. The sweetest notes of some birds are when they are crying out in the hope of obtaining help. *E. A. M.*

*Open Spaces and Squares.*—The waste condition of many of our public spaces, and the want of Horticulture in the better squares, now that a recent Act empowers parochial authorities to take them in charge, ought to receive attention in the districts in which such are situated. The season is now opportune for improvements, such as planting, trenching, turfing, and cutting away all decayed trees or superfluous growth of scrub. On an inspection of our squares, it may be remarked that the outside borders are generally screened off by a hedge placed close within the iron railing or fence; thereby shutting out all view of what ought to offer a pleasing prospect to the opposite houses as well as to passers by. This should not be so; on the contrary, the outer margin should be always bordered with turf, so as to form an agreeable and refreshing outline, whatever the style of planting adopted may be. The condition of trees in the oldest and most central squares, and of the shrubs, plants, and turf, where any care is manifested in their culture, proves how easily a reform in such matters might be carried out; and it would increase the value of all neighbouring property, and at the same time diffuse general satisfaction among all classes. As to the style of planting and embellishing, a very fair example has already been set in the new borders of our great parks. As regards forest trees in some inclosures, such as Golden Square, two of the worst grown out of every three ought to be removed; and this thinning process is equally needed in the Groves of Kensington, where dead and decaying trees much disfigure the otherwise pleasing effect of the survivors. The most conspicuous neglect, however, in the way of planting may be seen in a space of an acre, or thereabouts, railed round in a really good neighbourhood, formerly called Paddington Green; a foot-path crosses this inclosure, on all sides of which there are ranges of goodly houses, together with a fine church. In this area a few trees of mature growth may be found; but several are dead, decaying, and stripped of bark. This open space, properly managed, would be of the greatest benefit to residents and children. It should, therefore be reclaimed and planted, turfing round the outer border, while fixed seats or forms might be placed at suitable intervals apart for the accommodation of visitors. By such an arrangement this now uninviting inclosure might be rendered an ornament to the neighbourhood. By placing a wire-cord fence round the flower-beds in our more important squares too, such as Lincoln's-inn Fields, there is no reason to suppose that these gardens (as yet locked against the whole community) would not be as secure from damage or wanton mischief as are the Park borders, or the more central Temple Gardens, which have always been so liberally and gratuitously thrown open for the enjoyment of all classes. Formerly, when comparatively rural suburbs were within walking distance of central London, the embargo imposed by locked up gates was as important as the screening off the view by close bordering hedges. Now, however, all squares and trees, and every patch of verdure, have attained a value which only people living in crowded districts can properly appreciate. To cite all the gardens and railed inclosures which need improvement and care would fill many columns, but allusion to the waste condition of Oxford and Cambridge Terraces, at least as far as the greater portion of the range is concerned, may for the present suffice to show the want of taste in horticultural matters in London. Should the advice to rail in and plant closed churchyards, given in the *Times* last week, be acted on, and improvement take place in our squares, I think London might yet stand comparison with other cities. Let us hope, therefore, that some movement in the direction just indicated may speedily be made. *Jos. Newton, F.R.H.S.*, 30, *Eastbourne Terrace.*

*Roses.*—I am glad to see that your correspondent "Gulielmus" (p. 1037), agrees with me in thinking it desirable to have separate classes for some of the varieties. Hybrid Perpetuals are certainly sufficiently numerous now to be shown by themselves, and so I think are Teas. Summer Roses, such as Gallicas, Damasks, &c., could be shown together, but Mosses should have a distinct class. I should be glad to hear what Mr. Radclyffe has to say about this. Why should not Rosarians form a club, frame a set of rules, and make a schedule which should serve as a model for the Rose world in general. I should be glad to subscribe my guinea or two (if necessary), per annum for such a purpose. One object of such a club should be by the offer of liberal prizes to encourage the raising of English seedlings. *P.*

*Cemeteries.*—In ornamenting graves I have often noticed with regret a want of taste, not only in the gardening department, but also in the statuary work. A walk in any churchyard will at once illustrate what I allude to, viz., an ill-proportioned huge head-stone without the slightest regard to beauty, together with railings and stone kerb quite out of character with the stone. The fault in a great measure lies with masons not attempting to furnish ornamental work in anything like artistic style. Nothing looks more beautiful than a grave neatly and properly planted, so as to harmonise with the statuary. I consider that polished red and grey granite is the most beautiful of all materials employed in the way of head-stones, except marble monuments, which are generally designed by qualified architects. If cemetery companies were to fix a specimen of statuary for a grave, and select a plan of planting to associate with it, the public would soon, I think, relinquish the present system of choking a grave space with every conceivable kind of plant as it does at present. On the Continent Gothic crosses and iron chains and posts surrounding what would be termed in this country several grave spaces, but what are there named family allotments, are really very pleasing features of a cemetery. The small patches of bulbs employed, springing up and surrounding the plants, add considerably to the beauty of foreign burial places, which are in that way made very attractive. Surely with such beautiful seasons as we generally experience in England, we ought to make our cemeteries and churchyards something more than a receptacle for ill-fashioned masonry and queer gardening. I imagine that rustic wood-stands, placed so as to be removed when necessary in the centre of graves, and filled with bulbs, would look characteristic and pretty. *J. M., Woking.*

*Birds versus Crocuses.*—Your Hampstead Correspondent (p. 1038) may keep sparrows off his Crocuses by hanging lines of cotton or worsted with a few feathers tied in them over his Crocuses. In this way I defend my autumn sown Peas with perfect success. *W. F. Radclyffe, Rushton.*

*Fuchsia Deformities.*—I am indebted to the kindness of Mr. Crocker, of Chichester, for other flowers of Fuchsia similar to those mentioned by me at p. 906. Mr. Crocker's specimens were produced on a variety named Rose of Castille in the early part of the season, but as the year advanced, there was a gradual transition from the exceptional form of the flowers to the customary one, till at length all the flowers that were developed were of the usual shape. My original examples were procured from two varieties in my father's nursery at Canterbury (neither of them answering to the name of Rose of Castille). The gradation in form observed by Mr. Crocker, did not occur in the flowers grown at Canterbury. I had concluded that there was a "a race" of such Fuchsias in cultivation—if not, there soon will be, if cultivators consider it desirable. *Maxwell T. Masters.*

*Railway Horticulture.*—The pleasure of railway travellers is much enhanced in Scotland by the very pretty and tasteful manner in which the gardens scattered along the various lines are cultivated. This applies more particularly to those upon the Scottish North-Eastern line. Almost every station between Aberdeen and Edinburgh possesses a plot of ground, of greater or less extent, carefully cultivated, and the very model of cleanliness. In general we find flower-beds full of the beautiful and varied herbaceous plants, while in others we find the more gaudy, but not more interesting, bedding-plants, introduced; very often there is a bit of rock-work with Ferns and Alpine plants, and almost every station possesses a plot of lawn, well kept and in good condition. The walks are in every case clean and well made, and the edgings of the beds carefully attended to. I was told that this most desirable result has been brought about by the Company offering prizes for the best kept gardens along their line. It seems to me that this example might with advantage be followed by the Directors upon some of our English lines. Few persons travel by rail simply for pleasure—we most of us use the railway only as the means to an end, and the more quickly we arrive at our destination the better we are satisfied. At the same time no one can doubt but that it would be more agreeable to look from the carriage windows upon a series of model gardens than to have nothing but bare, broken, uncultivated banks to engage one's attention. Some of the railway banks, even within 20 miles of the metropolis, are still left in the same rough condition they were in when the line was first opened, now some years ago. Nature has, it is true, carpeted them with wild flowers, draped them with festoons of Ivy, and done her part towards beautifying them; Nature has done all and man nothing, and in many places these banks look like long slices of wilderness on either side of the line. It may be said that, however carefully the banks were cultivated, not a score of extra travellers would pass along the line in the course of a year, but that is hardly the question. The same principle which leads the directors to build commodious stations, with tastefully-decorated waiting-rooms, should induce them to encourage gardening, more especially in the neighbourhood of the stations. During the summer time one would hardly regret having to wait ten minutes at a country station if the time could be spent in a flower-garden perfumed with the odour of Roses and Mignonette. Horticulture has a refining, humanising influence upon those who practise it; and doubtless, the encouragement of it would have a good effect. The gate-keepers along the lines have a good deal of leisure time upon their hands, and many of them show that they know how to turn it to account in cultivating the ground allotted to them. At some of the country stations too, the porters often have an hour or two at a time without any duty to perform, and yet they must be near the station in case they should be required. Might not their time be employed in gardening, with pleasure to themselves and advantage to all? The cheapness with which much might be done, is, in itself, one of the recommendations of this plan; it would only be necessary to give the men the use of the ground a little more freely than before, and to distribute a few pounds annually in the way of prizes. It seems to me that this is worthy of consideration, if the Directors can spare time from weightier matters to consider a trifle. *C. W. C.*

*Anacharis Alsinastrum.*—I have got rid of this by introducing a couple of swans into our pond, which is between 3 and 4 acres in extent. The weed first made its appearance about seven years ago, and spread rapidly up to last November, when the swans were procured. Being young birds they were fed for a time, and did not seem to notice the plant, but after a few weeks they began tearing it up in all directions, and at the present time not a vestige of it is to be seen, with the exception of a portion in one corner, which is fenced off for fish that are being used. There the swans may be seen swimming backwards and forwards, stretching their long necks over the wire work, and destroying all the weed within their reach. *H. T., Elsham Hall, Brigg.*

*Cephalotaxus Fortuni.*—We have a fine female plant of this bearing several ripe seeds, making the second time that it has fruited, namely this year and last. It stands about five yards from the male plant, on which, though we carefully examined it when the female plant was in bloom in the spring, we could not discover a single head of flower. We therefore conclude that the flowers must have been fertilised by the pollen of either the Golden or Common Yew, by a collection of which the plant in question is surrounded. If this be correct, the seeds may produce some interesting hybrids. The fruit is brown, longish, about the size of a linnet's egg, with a thick tough skin and gummy pulp surrounding the seed. We mention this, not knowing if the plant has fruited before in this country. We heard a year or two ago that it had seeded abundantly at Orleans. *Paul & Son, Old Cheshunt Nurseries, N.*

*The late Storm in Suffolk.*—We experienced a severe storm of wind and rain on the 30th ult., about half-past

4 p.m., which has done a considerable amount of damage to the flower garden and pleasure ground. Happily it only lasted about 10 minutes, or the consequences might have been much worse; the force of the storm did not seem to extend beyond 200 or 300 yards in breadth, but in its course several trees were torn up by the roots, and almost every one within its range is more or less injured. The fine old Chestnuts along the Diana Walk, which have braved the blast of several centuries, have had some of their large spreading limbs twisted and torn from their trunks. Numbers of vases, statues, &c., were blown down, and some of the most valuable have been smashed to pieces. *Thos. Blair, Shrubland Park, Ipswich, Nov. 2.*

*Swallows.*—It may be interesting to know that there are still both swallows and martins flying about here. I counted 11 martins near the mansion this morning. Five years ago I saw two on the 20th of November. *Thos. Woodford, Eastwell Park, Ashford, Nov. 3.*

## Societies.

Royal Horticultural:—The third annual meeting of the northern committee of the pomological section of the Royal Horticultural Society was held at Malton on October 29. There was a remarkably fine display of fruit, by far the largest and best yet held, of which 149 contributions were Apples and 150 Pears, two-thirds of the whole being distinct varieties. The object is to learn what varieties of fruit are of most value in various localities, and to remedy the confusion at present existing in nomenclature. The exhibitors were from widely distant parts, including Mr. C. W. Strickland (Chairman), Hildenley Hall, Yorkshire; Mrs. Norcliffe, Langton Hall, Yorkshire; Mr. Robert Bower, Welham Hall, Yorkshire; Sir Edward Lechmere, Worcester; Mr. Hornsey, Snainton, Scarborough; Rev. C. P. Cleaver, Holme Pierrepoint, Notts, and Appleton Rectory, Yorkshire; Mr. F. Bell, Thirsk; Mr. H. Hawke Spink, Norton; Mr. Robert Wise, Manor House, Norton; Mr. Monkman, Malton; Mr. English, Raithwaite, Whitby; Mr. J. Muckle, Norton; Mr. W. H. T. Colby, Wentworth House, Malton; Captain Copperthwaite, the Lodge, Malton; Mr. Agar Wrelton, Pickering; Messrs. Slater and Sons, Malton; Mr. Henry Baines, Yorkshire Philosophical Society, York; Mr. Trennam, Sinnington, Yorkshire; Mr. R. Stabler, Malton; Mr. Hornsey, Wydale, Scarborough; Mr. James Horsley, Norton; Mr. Daglish, Aldborough, Boroughbridge; Mr. Teesdale, Welburn; Mr. John Taylor, Scagglethorpe; and Mr. Sotherington, Mennithorpe, Yorkshire. After the examination had been made, and the unknown sorts selected for sending to the parent society in London, the public were admitted. It is in contemplation to offer prizes in future years.

## Notices of Books.

*The Rose Amateur's Guide, &c.* By Thomas Rivers. Eighth Edition, enlarged, corrected and improved. 12mo. Longmans.

The Eighth Edition!! Bravo. A parallel case is not (?) to be found in the history of Horticulture, except in the culture of fruit trees. Two things are thus proved; the one that there is a universal and increasing love for Roses, and the other that the author of the book before us stands among the princes of garden guides. That he merits the rank must be admitted, for we do not see how instructions can be more practical, more full, or more skilfully presented to the eye of the reader. On the present occasion Mr. Rivers announces a new idea which he thinks will lead to the extinction of Standard Roses; a consummation earnestly to be wished for, provided they are succeeded by something much better. He proposes to form what he calls Pyramidal Hybrid Perpetuals, of which he gives the following account:—

"Standard Roses, inartistic and picturesque as they are, have 'held their own' for some years. It is time that some new Rose idea was originated, and I hope, ere long, to hear standard Roses spoken of as things of the past—like stage coaches and road waggons. The culture of pyramidal Roses will require more care and time than the culture of standards, which we all know is very simple; but the Rose gardener will be amply compensated by such glorious effects as have never yet been seen in our Roseries.

"Like all really good gardening ideas, the culture of Rose pyramids, although requiring more time and care than the culture of standard and dwarf Roses, is still very simple, and may be carried out as follows:—

"Some strong two years old stocks of the Manetti Rose should be planted in November, in a piece of ground well exposed to sun and air. The soil should have dressings of manure, and be stirred to nearly 2 feet in depth. In the months of July and August of the following year they will be in a fit state to bud. They should have one bud inserted in each stock close to the ground. The sort to be chosen for this preliminary budding is a very old Hybrid China Rose, called Madame Pisaroni, a Rose with a most vigorous and robust habit, which, budded on strong Manetti stocks, will often make shoots from 6 to 7 feet in length, and stout and robust in proportion. In the month of February following, the stocks in which are live buds should be all cut down to within 6 inches of the bud. In May the buds will begin to shoot vigorously; if there are more shoots than one from each bud they must be removed, leaving only one, which in June should be supported with a slight stake, or the wind may displace it. By the end of August this shoot ought to be from 5 to 6 feet in height, and is then in a proper state for budding to form a pyramid. Some of the most free-growing and beautiful of the Hybrid Perpetual Roses should be selected and budded on these stems in the following manner:—Commence about 9 inches from the ground, inserting one bud: then on the opposite side of the stock and at the same distance from the lower bud, insert another; and then at the same distance another and another, so that buds are on all sides of the tree up to about 5 feet in height, which, in the aggregate, may amount to nine buds. You will thus have formed the foundation of a pyramid, which should be like the annexed figure, which is assumed to be a pyramid just pushing forth its flowers in June.

I need scarcely add that the shoots from the stock must be carefully removed during the growing season, so as to throw all its strength into the buds. It will also be advisable to pinch in the three topmost buds rather severely the first season, or they will, to use a common expression, draw up the sap too rapidly, and thus weaken the lower buds. In the course of a year or two magnificent pyramids may thus be formed, their stems completely covered with foliage, and far surpassing anything yet seen in Rose culture. I have, as yet, found no Rose equal in vigour to Madame Pisaroni, although, when attention is turned to the subject, other varieties may perhaps be found. If extra strong growth be desired, the stem may be suffered to grow two seasons before it is budded.

"To those who think the trouble of budding and re-budding too much, I may point out a more simple method, which I extract from the Gardener's Annual for 1863.'—(Longmans.)

"'Have some Dog-rose stocks gathered from the woods and hedges in November, December, or January. Every stock selected should be of only one year's growth, a young shoot of the preceding season's growth. They should be planted in a deep rich soil, and some manure placed on the surface round their stems. In spring and early summer the young shoots should be removed from the lower part of their stems within, say, a foot of the ground, and all the remaining shoots suffered to grow as they list. In the months of July and August they may be budded after the following mode:—Take some free-growing beautiful Hybrid Perpetual, and place one bud *in the stem*, mind, of your stock about 9 inches from the ground, and then on the opposite side of the stem place another bud and so on, shifting sides to about 3, or 4, or 5 feet in height. When these buds break out in the following May, be sure and pinch in closely the three or four buds at the top of the stock, or they will greedily drink too much of the precious sap. A Rose-lover must imagine the great beauty of such a pillar of Empereur de Maroc or Sénateur Vaise; if his constitution be not strong, the sight might make him die of a Rose in aromatic pain.'

"The most free-growing kinds, such as Jules Margottin, General Jacqueminot, Colonel de Rougemont, Triomphe des Beaux Arts, Lord Raglan, Souvenir de la Reine d'Angleterre, Triomphe de l'Exposition, and other kinds of vigorous habit, these will form grand pyramids from 6 to 7 feet in height. For smaller pyramids those of more moderate growth may be selected. It will scarcely be advisable to bud more than one sort on a stem, as no two kinds will be found equal in growth, but as a matter of fancy, varieties of different colours may be inserted so as to make a variegated pyramid. Vigorous growing Bourbon Roses may be employed for pyramids, and Tea-scented and Noisette Roses, as the stock is highly favourable to their growth, but they should be protected in winter by Fern or branches of evergreens tied round them."

*Proceedings of the Natural History Society of British Guiana at the Exhibition of the Collection of Specimens Illustrative of the Natural History of the Colony, in the Assembly Rooms, Georgetown, Saturday, August* 1, 1863.

A very interesting and instructive account of the results attending the late International display of produce by one of our greatest colonies. Rich as Demerara was known to be, the details of the objects exhibited in 1862 surpassed all expectation. Sir Wm. Holmes, in his able report upon those objects, has placed permanently on record the actual capabilities of the colony in 1862, and has thus furnished a standard by which its progress may be safely measured in future years. It is impossible not to assent to the sound practical remarks of the Hon. Wm. Walker, President of the Natural History Society of British Guiana, in his address to the meeting whose proceedings are recorded in the pamphlet before us.

"There are some truths," he observed, "so obvious, and to the assumption of which the mind becomes, as it were unconsciously, so habituated, that it seems almost impertinent to dwell upon them, and yet when adverted to, we are constrained to recognise them as being more readily received theoretically, than practically exemplified. Thus, if I suggest that such pursuits as embrace the study of external nature are calculated, far more than the gratification of those passions which stimulate men's eager pursuit of wealth, or rank, or political influence, to elevate and purify—to raise our affections, our hopes and our desires, towards that higher and more perfect state of being wherein we shall no longer see 'as through a glass, darkly,' but our perceptions, our capacities for the acquisition and the enjoyment of knowledge shall be alike expanded, developed, and matured, I shall doubtless meet the spontaneous assent of all who hear me. Yet let us look around, each on the circle with which he is most familiar, and how little will he see of any illustration of this truth? How many indeed pass through life's ever-varying aspects without one intelligent glance at the wonders by which they are encompassed, or one thought as to how they originated or are maintained? And if this impression be, as I believe it to be, correct, even as regards those who dwell in climes more favourable than this to the energetic exercise of the mental as well as of the physical faculties, are we not undertaking a useful work if we endeavour to provide for ourselves such wholesome occupation, and to quicken the intellectual appetite to the appreciation of such attractive fare."*

## Garden Memoranda.

Mr. Salter's Nursery, William Street, Hammersmith.—This establishment furnishes many specialities not often found elsewhere, such as Double Pyrethrums, Peonies of different kinds, Fancy Pansies, and hardy variegated plants. Among the latter are many useful things for edgings, ribbons, and the decoration of the flower garden in general, not only in summer, but also in winter. At present a sample bed may be seen bordered with Cerastium, inside of which is Trifolium rubrum, the dark leaves of which contrast well with the grey foliage of the Cerastium, and in the middle is Pulmonaria sibirica.

The grand feature at this season is however Chrysanthemums, of which there are fine collections, both in the open air and under glass. The sides of a walk 500 feet long are lined with all the leading varieties, the earliest of which are now in flower, and, should the weather remain mild, the collection will be well worth visiting during the next week or two. Two large houses, converted into a winter garden, are also full of Chrysanthemums beautifully arranged, and tastefully associated with other plants in picturesque groups. These improve the effect and relieve the eye, tired with a minute inspection of gay colours. By the side of a winding gravel path which runs through the houses in question, are small circular beds of Pompones and plants remarkable for the beauty of their leaves. Among the latter, Centaurea gymnocarpa in the form of a standard has a very ornamental appearance. Another clump consists of the Variegated Ivy called Hedera latifolia maculata, and other varieties of Ivy, while from the centre of a third bed rises a standard of Myoporum punctatum, bearing a fine head of interesting foliage. Ferns are employed for edgings as well as for other purposes, particularly the Maiden-hair, and different varieties of Scolopendrium.

In the principal bank of Chrysanthemums we observed the following new sorts of last spring, viz.:—Her Majesty, delicate peach; Beverley, large white; Abbé Passaglia, amber; Duchess of Buckingham, white; Cardinal Wiseman, bright crimson; Princess Alexandra, blush; Lord Palmerston, crimson and blush; Golden Eagle, red and orange; Mulberry, dark maroon; Athlète, large rose; Princess Louis of Hesse, rose pink; Jane, pink blush; and Cleopatra, lilac blush.

Among fine blooms of the best varieties of former years were striking illustrations of Queen of England, a flower raised by Mr. Salter fifteen years ago, and one which still keeps a prominent place in most collections; Lady Harding, General Slade, Novelty, White Queen, Golden Queen, Dr. Rozas, Alfred Salter, Seraph, Little Harry, Lord Ranelagh, Golden Trilby, Vesta, Ion, Beauty, Prince Albert, Jardin des Plantes,

* We find that we inadvertently made an error in the *Gardeners' Chronicle* of November 1, 1862, in which a long and very excellent address delivered by Mr. Walker, at the opening of the local Exhibition of British Guiana at Georgetown, August 28, 1861, was ascribed to Mr. Hincks, the present Governor. Mr. Walker, at that time, was Lieutenant Governor of the Colony, and Mr. Hincks Governor of Barbados.

one of the best yellows; Cherub, Sparkler, Yellow Perfection, Dido, Boadicea, Dupont de l'Eure, and Nil Desperandum.

Large numbers of seedlings are just coming into bloom. Among those fully expanded we observed several which promise to be fine distinct kinds. General Bainbrigge, red and gold; Shakspeare, bright red; Lord Clyde, bright crimson; Prince Alfred, large rose; Princess of Wales, ivory blush; St. Margaret, orange Anemone; Jupiter, carmine; Pelagia, amber; Lord Brougham, rose purple; Stonewall Jackson, red; Venus, delicate lilac; Margaret Vatcher, bright chesnut; and Florence Nightingale, rosy blush, will all be regarded with interest by lovers of Chrysanthemums.

In a span-roofed house adjoining the winter garden are some very dwarf specimen Chrysanthemums, both of seedlings and named flowers, from which a fine display is expected.

Among miscellaneous plants, Gazania splendens, with variegated foliage, and Oxalis corniculata rubra, with rose-coloured variegation, seem both likely to be pretty things for flower garden decoration. The true Ribston Pippin Apple tree here, one of the oldest in the country, has this season borne some fine fruit, superior even in size and flavour to the fine specimens of the same kind in the collections from Nova Scotia, noticed in another column.

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TEMPLE GARDEN CHRYSANTHEMUMS.—Notwithstanding the storm of wind and rain which we experienced on the 30th ult., and the unfavourableness of the weather generally for fine out-door displays of flowers, these Chrysanthemums are, we think, in quite as good condition as we ever remember to have seen them in former years, and viewed as a whole they have a gay and cheerful aspect, quite astonishing to Londoners during this dark and dreary month. Mr. Broome's principal border, which is about 75 yards in length, though not yet perhaps at its best, is well worth inspection. Of fine individual blooms we noticed beautiful examples of the following, viz., Queen of England, Novelty, Alfred Salter, Seraph, a pale sulphur-colour sort; General Slade, a variety in the way of Dupont de l'Eure, but an improvement upon that fine old kind; Chevalier Domage, a useful yellow sort for out door work; Formosum and Cassandra, both good whites; Progne, dark red; Cherub, bronzy yellow, as well formed as Little Harry, and altogether a fine kind; Rifleman, Hermione, Cassy, Arigena, Plutus, still a useful yellow; Waverley, white; and last but not least Lady Harding. Among Pompons, a line of which is run along in front of the large-flowered sorts, one named Ellen Lindsay, a blush kind, is remarkable for fine form, and Mr. Broome has also a charming sport from the well-known Cedo Nulli, which for purposes of bedding promises to be an acquisition; for in-door work it will doubtless likewise be a favourite, the crimson centre setting off the rosy lilac-coloured blossoms to excellent advantage. Open beds along the upper portion of the lawn are also as gay as the season will permit, and tasteful in form, the plants being skilfully arranged as to size, and held in their places by means of a stout stake in the centre, and cross-bands of strong twine passed from that to outside supports, the whole of this frame-work being kept as much out of sight as possible. This is the fourth crop which these beds have produced this year; the first was bulbs, the next annuals, then bedding plants, and lastly Chrysanthemums.

In the Middle Temple Mr. Dale has also a good display, especially of large kinds on a wall under protection. Here some of the blooms are very perfect and of large size. Among the best are Queen and its Golden variety, Novelty, Lord Palmerston, Cherub, Little Harry, Favourite, Oliver Cromwell, Madame Poggi, Formosum, Yellow Perfection, Campestroni, and the Anemone-flowered sort called Fleur de Marie. Among other kinds were some charming blooms of Vesta, a well-known but still most useful variety. Pompons bedded out are not yet in perfection, the weather at present being very unfavourable to the free development of bloom. Even in their present state, however, they are worth inspection, if only for the purpose of seeing how well the small kinds are suited for ordinary London gardens. A few of the best for out-door purposes seem to be General Canrobert, Cedo Nulli, Hélène, Surprise, Duruflet, Mr. Murray, and Florence. With these in beds, and some of the large-flowered kinds in borders, suburban squares and gardens might be made to present a much more attractive appearance than they now do. An inspection of Mr. Dale's and Mr. Broome's collections may therefore furnish a useful lesson.

## Miscellaneous.

*Burning Fern brings Rain.*—In a volume containing a miscellaneous collection by Dr. Richard Pococke, in the British Museum (Add. 15.801, at fol. 33), is the copy of a letter written by Philip Herbert, third Earl of Pembroke, Lord Chamberlain, to the Sheriff of Staffordshire, which illustrates a curious popular belief of the period, from which even the king was not free. It is as follows:—Sir:—His Majesty taking notice of an opinion entertained in Staffordshire that the burning of Ferne doth draw downe rain, and being desirous that the country and himself may enjoy fair weather as long as he remains in these parts, his Majesty hath commanded me to write to you to cause all burning of Ferne to be forborne until his Majesty be passed the country. Wherein not doubting but the consideration of their own interest as well as of his Majesty's, will invite the country to a ready observance of this his Majesty's command, I rest, your very loving friend, PEMBROKE & MONTGOMERY. *Notes and Queries.*

*Royal Forests.*—The Commissioners of Woods and Forests have made the following report of the receipts and expenditure in respect of the Royal forests and woodlands in the year ending March, 1863:—1. Windsor parks and woods—receipt 7260*l.*, expenditure 18,602*l.* 2. New Forest—receipt 19,408*l.*, expenditure 13,982*l.* 3. Dean Forest (exclusive of mines)—receipt 12,286*l.*, expenditure 9932*l.* 4. High Meadow Woods, Gloucestershire—receipt 9103*l.*, expenditure 2745*l.* 5. Alice Holt Woods, Hants—receipt 663*l.*, expenditure 896*l.* 6. Woolmer Estate, Hants—receipt 1293*l.*, expenditure 276*l.* 7. Bere Woods, Hants—receipt 2484*l.*, expenditure 884*l.* 8. Parkhurst Woods—receipt 305*l.*, expenditure 500*l.* 9. Hazleborough Wood, Northamptonshire—receipt 922*l.*, expenditure 382*l.* Salcey Wood, Northamptonshire—receipt 1777*l.*, expenditure 969*l.* 11. Delamere Woods, Cheshire—receipt 974*l.*, expenditure 1018*l.* 12. Epping Forest—receipt *nil*, expenditure 50*l.* 13. Chopwell Woods, Durham (exclusive of mines, which produced 50*l.*)—receipt 27*l.*, expenditure 454*l.* This is but a sorry account—receipts 56,497*l.*, expenditure 50,090*l.* Of the expenditure 8613*l.* went in planting, new works, and improvements; all the rest was for maintenance and general management. *Times.*

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—Some of the earlier Chrysanthemums and other plants being now in bloom, care must be taken to prevent all drip from the roof. To accomplish this, very little water must be applied in any shape, except what is absolutely necessary at the root. Under these circumstances, a very moderate amount of atmospheric heat must be allowed; for, wherever heat is given there must be atmospheric moisture, and the plants will soon show marks of debility; therefore the proper conservatory management from the end of November until the early part of February, is to keep as low a temperature as possible, consistently with the main object in view, viz., enabling plants with duly organised buds to develop their blossoms in a proper way. This is the principal object; their continuance in bloom, and the preservation of their tints, follow in close connection. The ventilation must be moderate as to heat; about 45° or 55° by day, and 40° or 45° by night, will be quite sufficient for the present. Orchids and stove plants must be kept quiet. Maintain a similar atmosphere to that recommended for the conservatory, but about 10° higher. A little more atmospheric moisture must, however, be allowed. If the forcing pit for supplying the Conservatory is heated merely by means of fermenting matter, a very free ventilation must occasionally be permitted, or the moisture will be overpowering. A bottom-heat of 75° ought to be secured; this is indispensable. The pots should be about half plunged in the old tan. Keep the atmospheric heat very low at first, about 55° or 60° in the day, with as much air as can be managed, and 50° to 55° by night, still leaving air more or less.

### FORCING DEPARTMENT.

PINERY.—Late-swelling fruiters, which have had little water, may receive a slight increase of tepid manure-water. There is, however, room for doubts as to whether it is absolutely necessary after this period. Plants managed in the old style (in houses or pits with flues), no doubt would require it. By modern plans, however, a much greater amount of atmospheric moisture is indulged in; and this should be duly considered. When sunshine occurs, instead of giving air, let the thermometer rise to 80° or even 90°, after which give air.

VINERIES.—If former directions have been attended to, little can yet be added. As before observed, commence gradually. If there is fermenting matter within the house, let it be turned or stirred once a week, in order to promote fermentation; taking care to keep it moist.

CUCUMBERS.—Those who have winter plants in pits or frames must be sure to keep the glass perfectly clean. If much atmospheric moisture be applied, so as to lodge on the leaves in a general way, ventilate, or by other means dry the dew off the leaves for an hour or two every day. Secure a day heat of 70°, allowing 85° during sunshine, and from 60° to 65° by night.

MUSHROOM HOUSE.—Keep the floor constantly wet. Be moderate in the use of fire-heat—55° to 60° will be sufficient.

### FLOWER GARDEN AND SHRUBBERIES.

Where Dahlias are taken up, let them be temporarily placed heels upwards under cover to dry. See that coarse-growing plants which may be encroaching upon their weaker neighbours are reduced so as to occupy their proper places. Gladioli may still be planted, but most kinds of bulbs are better now in the ground than out of it. For Gladioli choose a warm thoroughly-drained situation; work the soil well by deep digging, and add plenty of rotted manure; elevate the bed or patch a few inches above the general level; plant the bulbs 5 or 6 inches deep, and 6 inches apart, surrounding them with 1 inch of sand before covering with mould; and protect during the winter against excessive wet and frost, with a thick layer of sawdust, old tan, dry litter, and old carpet, thatched frame, or tarpaulin; the three latter coverings must be removed during favourable weather, and the former coverings entirely cleared off when the plants appear. Ranunculuses may also still be planted. The situation of the beds should be cool and somewhat moist; at the same time there should be good drainage. The most suitable soil is a hazelly loam. If therefore the natural soil be unsuitable, remove it to the depth of about 2 feet, and 4 feet in width, replacing it with rich loam from an old pasture; this ought to be rather firmly trodden in, and should form the foundation and principal portion of the bed. On this should be laid a liberal dressing of well decayed manure, mixing it a little with the under soil; and over this, for the top of the bed, should be placed a layer of soil 6 inches deep for planting the tubers in; this latter should be stiffish fibry loam, mixed with well-decayed cow-dung and leaf-soil. Draw drills, 6 inches apart and 2 inches deep, with a small hoe, and plant the roots 4 inches apart, with the claws downwards, gently pressing them into the soil; the crown of the tubers should be at least 1½ inch under the surface of the bed.

### HARDY FRUIT AND KITCHEN GARDEN.

Do not let Pears get over-ripe before being used; also look over the whole stock as often as time can be spared, removing any fruit that exhibit symptoms of decay, and putting them aside for immediate use. Any of the choicer varieties of Pears that do not ripen properly in the fruit room should be removed to a warm dry room for a few days, which will be found to greatly improve them. Keep all fruit as cool and dry as possible, as has been previously stated; if frost is excluded from the house, it can scarcely be too cool where the object is to preserve fruit plump and sound as long as possible. Get manure wheeled upon vacant ground when the weather is suitable, and this can be done without injuring the walks; and as soon as the leaves are down get all spare ground turned up, so as to expose it to the action of the weather.

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STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending Nov. 4, 1863, as observed at the Horticultural Garden

| Oct. and Nov. | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 29 | 17 | 29.149 | 29.265 | 53 | 37 | 45.0 | 52 | 54 | S.W. | .10 |
| Friday 30 | [illegible] | [illegible] | [illegible] | 55 | 35 | [illegible] | 52 | 53 | S. | .46 |
| Satur 31 | [illegible] | 29.472 | 29.419 | 54 | 33 | 43.5 | 51½ | 52½ | S.W. | .06 |
| Sunday 1 | 20 | 29.563 | 29.509 | 53 | 35 | 44.0 | 50 | 52 | W. | .53 |
| Mon. 2 | 21 | 28.877 | 28.857 | 53 | 34 | 43.5 | 50 | 51½ | S.W. | .03 |
| Tues. 3 | ☾ | 29.624 | 29.269 | 58 | 46 | 52.0 | 50 | 51 | S.W. | .00 |
| Wed. 4 | 23 | 29.982 | 29.929 | 63 | 51 | 57.0 | 53½ | 53 | S.W. | .27 |
| Average. | | 29.475 | 29.323 | 55.3 | 37.4 | 46.9 | 51.3 | 52.1 | | 1.49 |

Oct. 29—Rain; heavy clouds and showers; fine at night.
— 30—Fine; becoming overcast; very heavy rain; fine.
— 31—Clear; quite cloudless; very boisterous, with heavy rain.
Nov. 1—Clear; fine; boisterous with heavy rain at night.
— 2—Rain; boisterous; showery; barometer exceedingly low; boisterous.
— 3—Lightly overcast; boisterous.
— 4—Overcast; boisterous, with rain at night.
Mean temperature of the week 1½ deg. above the average.

STATE OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Nov. 14, 1863

| November. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 8.. | 51.1 | 34.9 | 43.0 | 17 | 0.58 in. | 2 | 5 | 1 | 2 | 2 | 15 | 6 | 4 |
| Mon. 9.. | 50.7 | 34.8 | 42.7 | 15 | 0.40 | 3 | 4 | 3 | 3 | 5 | 10 | 3 | 6 |
| Tues. 10.. | 50.6 | 35.2 | 42.9 | 21 | 0.67 | 3 | 8 | 3 | 2 | 8 | 10 | 2 | 3 |
| Wed. 11.. | 50.9 | 35.1 | 43.0 | 15 | 1.02 | 3 | 5 | 6 | 1 | 7 | 8 | 5 | 3 |
| Thurs. 12.. | 50.4 | 34.1 | 42.3 | 16 | 0.50 | 4 | 4 | [illegible] | 3 | [illegible] | [illegible] | [illegible] | 2 |
| Friday 13.. | 49.5 | 35.4 | 42.5 | 20 | 1.16 | 2 | 3 | 4 | 2 | [illegible] | 4 | 5 | 4 |
| Satur. 14.. | 48.0 | 33.9 | 40.4 | 19 | 1.24 | 6 | 5 | 4 | 5 | 2 | 6 | 4 | 5 |

The highest temperature during the above period occurred on the 12th, 1811—therm. 63 deg., and the lowest on the 9th, 1851—therm. 18 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

FUCHSIA: *G Fry.* Your seedling, Lord of the Manor, is a very large double variety, and no doubt very showy, which is all we can say of it, in the absence of the plant. The foliage indeed looks coarse, and the corolla is not so compactly double as in some older varieties.

NAMES OF FRUITS: *Alpha.* 1, Marie Louise; 2, Glou Morceau; 3, Easter Beurré.—*G H L.* 1, 2, Marie Louise; 3, Fearn's Pippin.—*P M.* 2, King of the Pippins; 3 (decayed), probably Althorp Crassane; 4, Beurré Diel.—*J S.* The Apple is like a small specimen of the Gravenstein.—*J F.* 1, Beurré d'Aremberg; 2, Comte de Lamy; 3, Passe Colmar; 4, Beurré Rance.—*T C.* 1, Orange Pippin; 3, Pomme Royale; 5, Golden Reinette; 6, Reinette du Canada; 9, appears to be Beauty of Kent; 11, Winter Pearmain; 13, Pomme de Neige; 16, Kirke's Lord Nelson.

NAMES OF PLANTS: *Hossack.* Asplenium Ruta-muraria, not uncommon in some places.—*Guy T—n.* Orchis spectabilis.

SILKWORMS: *Kangaroo.* In the April number of the Technologist there is an article "On the cultivation of silk in Tasmania," and there is a good French periodical with the following title:—"Revue de Sériciculture comparée: journal agricole formant les Annales du Laboratoire Central de Sériciculture—correspondance entre les agriculteurs qui s'occupent de l'élevage des vers à soie du murier, de l'Ailante, du Chêne, et de l'emploie de leurs divers produits, par M. Guérin Méneville."

THE FEEJEE ISLANDS: *E A M. (Dublin)* will thank any of our correspondents for information respecting the climate, horticulture or agriculture of the Feejee and Tonga Islands, or the name of any work having reference to these states will be gratefully received.

TRUFFLES: *Cantab* shall have a full answer next week.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing six stamps.

"Z" Family, now offered for the First Time.

Apply to Frederic F. Hallett, Esq., F.L.S., The Manor House, Brighton, Sussex.

HALLETT'S [TRADE PEDIGREE MARK.] NURSERY WHEAT.

PRICE—One Guinea a Bushel (or Seven Guineas a Quarter), delivered, with printed directions for planting, at the Brighton Railway Station, in bags sewed up and sealed, upon receipt of Cheque or Post Office Order, which must in all cases accompany the order.

*In November Drill One Bushel per acre.*

THE PRODUCE OF THREE ACRES OF THIS WHEAT, GROWN 1862 IN ESSEX, WAS SOLD TO THE MILLER, AND REALIZED £19 7s. PER ACRE.

THIS WHEAT PRODUCED IN 1863 NEARLY 10 QUARTERS PER ACRE, WEIGHING 63 lbs. PER BUSHEL.

*For full description of "Z family," see Advertisements in our Numbers for September and October 1863.*

MESSRS. WAY AND EVANS, Analytical and Consulting Chemists, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E.C.

Drainage, &c.

MR. JOSEPH BEAUMONT, Land Agent, Surveyor, and Drainage Engineer (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

Land Drainage.

WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all Descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.

Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rent charge on the estate created for various terms of years, so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.

No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.

Works of Irrigation, Enclosing, Wood Grubbing, Road Making, and Farm Buildings are executed in a similar manner.

Landowners desirous to execute any of the Improvements by their own Agents, and charge the outlay and expenses on the Estate, may obtain Loans for the purpose.

Applications to be made to William Clifford, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

THE LANDS IMPROVEMENT COMPANY. Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Estate Agents, Surveyors, &c. in England and Wales and in Scotland.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plan and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable William Napier, Managing Director, 2, Old Palace Yard, Westminster S.W.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—The Right Hon. the Earl Bathurst.

*Council.*

The Right Hon. The Earl Bathurst.
The Right Hon. The Earl Ducie.
The Right Hon. William Bathurst.
The Right Hon. T. H. Sotheron Estcourt, M.P.
Edward Holland, Esq., M.P.

*Principal*—The Rev. John Constable, M.A., Trin. Coll. Camb.

*Resident Professors.*

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J. L. Fletcher, Farm Manager.
*T. Baldwin, of Glasnevin—A Course of 20 Lectures on Crops.
*R. Scott Burn, Co-editor of the Book of Farm Buildings—A Course of 15 Lectures on Agricultural Machines and Farm Buildings.

Chemistry.

Arthur H. Church, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

Assistant to Chemical Professor.
R. Warington, Jun., F.C.S.
Botany.—John Bayldon, M.B. Lond. B. Sc.
Veterinary Surgery.—A. J. Murray, M.R.C.V.S.
Mathematics and Surveying.
W. Meredith Lane, B.A., Scholar of Trin. Coll. Camb.
Drawing.—James Miller.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

Agriculture.

J. Algernon Clarke, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
Hewitt Davis, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
Captain Tanner Davy, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. Bailey Denton, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
Thomas Duckham, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
Thomas Ellman, of Beddingham, Lewes—Lecture on South-down and Short-woolled Sheep.
J. Chalmers Morton, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
Willoughby Wood, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

Agricultural Chemistry.

Thomas Anderson, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

Mr. Hewitt Davis will Lecture on Thursday next, the 12th inst., at 1.45 p.m., on "The Injury and Waste of Corn from too Thickly Seeding."

For further particulars apply to the Principal.

Drainage of Land.

MR. C. F. HUMBERT, F.G.S., of Watford, Herts, and formerly Senior Surveyor to the Tithe Commission, a Land Surveyor and Land Agent, more than 20 years established in practice, undertakes works of Drainage either at a contract price, or to lay out and overlook the same at a commission of 5s. per acre; and he has at his command a staff of experienced workmen. His custom is to charge merely the expenses out of pocket in making the preliminary Survey and Estimate where the works are not carried out.

THE LANDOWNERS' WEST of ENGLAND and SOUTH WALES LAND DRAINAGE and INCLOSURE COMPANY. Established in the year 1844, and Incorporated by Special Act of Parliament, 11 & 12 Vict., Cap. cxiii.

*Chairman*—The Right Hon. the Earl of Devon, Powderham Castle.

*Deputy Chairman*—William Porter, Esq., Hembury Fort, near Honiton.

Landowners having limited interests, such as Tenants for Life, Tenants in Tail, Mortgagors, and others, can Drain and improve their Lands without any expense to themselves personally,—as the Company's Act does not require Proprietors to liquidate the cost, the amount may remain permanently charged on the property, at interest, or be paid off when convenient, or be made redeemable over any term of years.

The works are undertaken by the Company, who keep in constant employ a very extensive and experienced staff of Engineers, Surveyors, and workmen; or Proprietors may avail themselves of the powers of the Act only, and get the works executed under their own superintendence, or by Agents appointed by themselves.

Outfalls through adjoining lands are obtainable under the Company's Act.

Works are also executed by the Company for Parties advancing their own capital, or not wishing to borrow the money.

Every information may be obtained on application to Frederick Brodie, Secretary, Castle Street, Exeter.

Offices: Castle Street, Exeter; and 30, Parliament Street, Westminster.

LAWES'S WHEAT MANURE for AUTUMN SOWING.

A supply of the above Manure is now ready for delivery, at J. B. Lawes' Factories, Deptford, and Barking Creeks. Price 8l. per ton.

2 to 3 cwt. per acre to be harrowed into the land before the seed is sown. It can be obtained of Mr. Lawes, or through any of his appointed Agents; also

| | |
|---|---|
| SUPERPHOSPHATE OF LIME .. .. | £6 6 |
| MINERAL SUPERPHOSPHATE .. .. | 5 5 |

Genuine Peruvian Guano direct from the Importers, and all Chemical Manures of value.

American and other Cakes at market prices.

Address John Bennet Lawes, Offices, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

Autumn Sowing.

THE PATENT NITRO-PHOSPHATE or BLOOD MANURE COMPANY (Limited), Consisting of Tenant Farmers occupying upwards of 30,000 Acres of Land.

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Offices: 109, Fenchurch Street, London, E.C.
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ODAMS'S BLOOD MANURE for WHEAT.—This Manure, specially prepared for Autumn Sowing, has been in use for upwards of 11 years, and has given great satisfaction to consumers.

Orders may be sent to the Company's Agents throughout the country, or direct to C. T. Macadam, Secretary.

Offices: 109, Fenchurch Street, London, E.C.

Price 7l. 10s. per Ton, delivered at any Railway or Wharf in London.

THE LONDON MANURE COMPANY have now ready

PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value.

E. Purser, Secretary.

116, Fenchurch Street, E.C.

Manures and Feeding Stuffs.

RAYNBIRD, CALDECOTT, and BAWTREE. Address 89, Seed Market, Mark Lane; or Basingstoke. Samples and prices on application.

# The Agricultural Gazette.

*SATURDAY, NOVEMBER 7, 1863.*

Our advertising columns announce that two farms on the Sarsden estate of the late Mr. Langston, M.P., are to be let. They were formerly in his own occupation under the immediate management of his agent, Mr. Savidge. The larger of the two is chiefly arable; the smaller, half plough land and half pasture.

They are on the oolite formation, chiefly a good calcareous loam. Both have been for some time under steam cultivation, both are in the highest possible condition; and both are in that thorough state of equipment with good buildings, which characterises all the farms on Mr. Langston's well managed estate. It is rarely that two such excellent farms are thus offered publicly.

We have also to announce the sale next March of the Sarsden Short-horn herd; of which a detailed account will hereafter be given.

The Papers on Veterinary subjects read by Mr. Holland, M.P., and Prof. Gamgee, at the Social Science Congress at Edinburgh, have been worthily

followed by a debate on the relations between Agriculture and the Veterinary Art, before the London Farmers' Club. On Monday last, Prof. BROWN, V.S., late of the Royal Agricultural College, gave a very able lecture on this subject, and led a very interesting discussion on the actual and possible uses of well-qualified veterinary practitioners. There was of course no relation between Prof. GAMGEE'S recent agitation of the Health-of-Stock question and Prof. BROWN'S lecture on last Monday. The subject had been placed on the card of the London Farmers' Club by Mr. FISHER HOBBS, twelve months ago; and had he not been disabled, we very much regret to say, by serious illness, he would himself have read the leading paper of the evening. In his absence, Prof. BROWN, at short notice, undertook the duty; and although no reference whatever was made to the recent lectures and publications of Mr. HOLLAND and Mr. GAMGEE, yet we doubt not that the meeting will be of service to the cause which these gentlemen have undertaken.

Prof. BROWN commenced by an allusion to the connection between cultivation and stock-keeping, in the need of the dungheap for the maintenance of fertility. The farmer was in the beginning not only the breeder and the feeder, but the doctor of his stock, which he kept both for the maintenance of fertility and for the sake of a separate profit on their own account.

The veterinary art is now at length in charge of a separate profession. He was, however, bound to confess, that the stock of the country is not much the better for its being so. An enormous per centage of cattle and sheep yearly no doubt die from diseases which veterinary art is powerless to cure. But a great deal of our yearly losses are due to agriculturists not having availed themselves generally or sufficiently of the veterinary art which exists in the midst of them.

The stock of the country is not in the hands of the educated practitioner. The number of uncertified, and, so to speak, unlicensed practitioners, is at least double that of the properly educated men.

Independently however of the influence of a fact like this, it is right to confess that there are epizootic diseases to which great losses are due, which are utterly beyond the reach of art to cure. The proper and efficient way of meeting them is by properly organised systems of prevention. And this is where periodical inspections by properly qualified veterinary surgeons will be most useful. Pleuro-pneumonia, which is already a far advanced disease when its first external symptoms show themselves, is then incurable. And all alleged examples to the contrary are fallacious. An instance was related, where Professor BROWN had been called in to inspect the stock of one who had he believed driven pleuro-pneumonia off his premises by fumigation with burnt tar; "there had been but one fatal case." But no pleuro-pneumonia had existed; and the one loss by death had been due to suffocation!

The lecturer then referred to the means of preventing disease, which veterinary surgeons if systematically consulted, could employ. First, as regards care in breeding:—In the breeding of the horses of the farm little care is taken. The consequence is that the good old hack is nowhere, and the good hunter is getting rare. When care is taken, as is the case in certain other kinds of live stock, the improvement is wonderful. Early maturity is year by year becoming earlier. The old veterinary writers speak of the dentition of the ox being perfected at five years old. Full-mouthed Short-horns are now to be seen at three years old, and the same precocity is witnessed in sheep and pigs. On the other hand the law (for so it seems to be), that what is quickly produced shall not long continue, tells severely upon these quickly growing animals. Disease is more frequent than it used to be. There is greater lack of tone and less strength of constitution than there used to be. It is a rare thing to find the lungs of a fat sheep at two years old free from disease. The sheep is indeed so much the seat and victim of all sorts of parasites whose presence indicates this lack of tone that the propriety of killing them at 12 and 15 months is indicated not only by their fitness for the butcher then, but by the enormous losses which a second year, if they were kept, would certainly witness.

The proper management of breeding stock has a good deal to do with this liability to disease in their offspring, but the proper feeding of them, on which a veterinary inspector could give useful advice, would also diminish this risk. More especially is this true as regards the feeding of breeding stock. The object of agricultural societies seems by their practice to be, not the development of the most perfect form, but the development of excessive fat. "It is not fat enough to show"—a remark one constantly hears made by the farmer of his well-bred Short-horn cow or bull—is a remark that ought never to be encouraged as it is by the practice of adjudging prizes at our agricultural shows. The prevalence to an extraordinary degree of fatty degeneration of the liver has been recently observed in sheep and oxen, whereas hitherto it has been supposed a disease exclusively human. It is unquestionably owing to the adoption of a too fattening diet.

One reason why the veterinary surgeon is rarely called in, except to horses and valuable breeding stock, is that a cure of fat stock is necessarily accompanied with loss of condition. The proper way of dealing with the first symptoms of disease in fat stock is to slaughter the animal. And there cannot be a doubt that while the disease is merely local or merely incipient the flesh of such an animal is perfectly good food. The use of the veterinary surgeon in such a case is to certify the fitness or unfitness of the carcase. It is absurd to say that an animal just attacked with disease is unfit for food. But there is a stage of disease when this fitness is lost. Sheep are often put in the last stage of the fattening process on rotting meadows, and go to market good mutton with diseased livers. But if the disease affects the general constitution it is no longer good mutton, and it is the office of a veterinary inspector to pass it or condemn it. An instance was named in which a single butcher had sent up 750 rotten sheep—bad mutton—during a single quarter—and the coincidence and probable connection was suggested between the common use of diseased flesh, and the unusual prevalence of fever during the past summer.

What then is the proper connection between Agriculture and the Veterinary art—shall agriculturists pay the surgeon on the Chinese principle, only while his stock are healthy, making the inspector pay him as soon as they are diseased? At any rate prevention is better than cure, and the history of the recent attack of small-pox in sheep is a splendid illustration of what can thus be done by union and organisation. On the first certainty that the disease was among them, farmers met, formed mutual insurance associations, appointed inspectors, isolated the disease, allowed no infected animal to enter the market—buried those which died—and the disease itself died out in a month or two. So might it be with other epizootic attacks were similar means employed. Agriculture allying itself with the veterinary art for purposes of prevention can do much, but for purposes of cure it can do little or nothing.

Professor BROWN concluded his very able address by insisting on the need of the importance of the veterinary art being taught from the very beginning in agricultural schools and colleges, of which agriculture needs not one for the whole country, but one for every considerable district within the country.

Dr. VOELCKER followed Professor BROWN. He did not believe that disease was attributable to an excessive quantity of fat, or of matters related to fat, in food. Rather he attributed disease to excessive quantity of the flesh-producing material in food. He had been surprised to hear it stated by one who was an authority in the agricultural world—Mr. ALDERMAN MECHI—that 28 lbs. of oil-cake might be given to a fatting beast daily. An animal was undoubtedly a manure-producing *machine*; but even a threshing-machine would break down under excessive *feeding*; and a surplus of food could not be administered to an animal without injury to its constitution. But Linseed-cake is less open to a change of this kind than other kinds of cake. It is accompanied with a large quantity of oil, which so far from being considered in excess, ought to be considered as the antidote and remedy for the mischief likely to be done by the excessive dose of the nitrogenous or flesh-forming part of the food. In the case of Cotton-seed cake, where less oil is present, great injury has been done by the excessive quantity of the flesh-forming food, unaccompanied by the only antidote which is given in Linseed. Speaking as a chemist, Dr. VOELCKER condemned the giving so much as even 10 lbs. of cake a day to a fatting beast; he believed 5 lbs. of good cake daily was a maximum.

Mr. COUSSMAKER defined the relations of agriculture with the veterinary art to consist in the employment of the educated practitioner in hunting countries and in districts where valuable breeding stock existed—and elsewhere in the use of a few simples by the farrier and the cow-leech for stock in a store condition, with that of the knife for whatever is fit for the butcher.

Mr. VIVIAN explained, with reference to the story of 28 lb. of cake given daily to a beast, that this was a story not related by Mr. MECHI as of his own practice, but a story related to him by another.

Mr. THOMAS, of Bedfordshire, disputed the assertion that good hunters are not now to be had—on the contrary, good hunters were never better than they are. The old-fashioned Hack no doubt has gone, and probably owing to that carelessness and mismanagement which had been condemned. As to the quantity of food proper to be given to fatting stock, he believed 5 lbs. of cake might very well be pronounced enough. He was now giving mixed Linseed and Wheat flour, which he believed to be as cheap a cattle food as could be provided.

Mr. CORBET, the Secretary of the Club, in a very energetic speech recalled the meeting to the subject of discussion. He believed that the relations between agriculture and the veterinary art ought especially to be taken charge of by the local agricultural societies. Whenever he acted as judge at any of these local shows he always insisted on the preliminary examination of stock by the veterinary surgeon. It is with reference to breeding stock, not with reference to fatting stock, that his services are required. The effect of the prize system is to spread the stock to which the award is made. Let us take heed then by careful veterinary examination that we are not disseminating stock with any hereditary taint. One chief use of a local agricultural society should be to introduce a well educated and efficient veterinary practitioner into its district.

Professor COLEMAN combatted the idea that stock bred so as to exhibit early maturity is therefore necessarily short lived or more liable to disease. That liability was owing to their treatment as much as to their breeding. He contended for the need of frequent examinations by competent inspectors in order to the preservation of health.

Mr. FRERE said that the veterinary art, like that of medicine in general, consisted of two separate branches; the one consisting in the recognition of diseases by their symptoms, the other in the exhibition of the proper remedies. The advance hitherto had been chiefly in the former division of the subject. Excepting the discarding of severe purgatives, little progress had been made in the latter division of the subject. He suggested, however, the propriety of Homœopathic treatment as a step in the right direction. He asked for an explanation of the incurableness of pleuro-pneumonia, seeing that inflammation of the lungs was a perfectly manageable complaint in man.

Mr. WOOD had been startled by the statement that any connection existed between rot in sheep and typhus fever in man. Sheep were systematically put on rotting meadows before being sent to the butcher, and he believed mutton in the incipient state of rot to be perfectly wholesome. The effect of the discussion to which he had listened would, he hoped, be to prepare farmers for the adoption of periodical veterinary inspection with a view to the prevention of disease.

Mr. TRETHEWY, the Chairman, after summing up the discussion, asked Prof. BROWN how it was if the full dentition of the pig, the sheep, and the ox had been so much earlier by attention to their breeding and management, that no such greater earliness was observable in the case of the horse. Five years had always been and is now the age of the full-mouthed horse; and certainly there had been no lack of attention to the breeding of certain classes of horses.

Professor BROWN replied to the several speeches. To Mr. FRERE he said: Pleuro-pneumonia in the ox, and inflammation of the lungs in man, have nothing whatever in common. Pleuro-pneumonia is not an inflammatory disease at all, but one in which the constitution of the blood is greatly altered by the presence of fibrine in enormous excess. Its incurableness arises from our being unable to detect its first occurrence. To Mr. TRETHEWY he replied that the horse had in great measure attained an increased precocity long ago—it had been longer in the hands of the careful breeder—nevertheless it is not now true, as it used to be, that horses are necessarily five years old before their dentition is perfect. There are numbers of full-mouthed four-year-old horses, and every year the number is increasing.

The discussion was closed by votes of thanks to the lecturer and the Chairman.

## THE PRIZE FARM AGREEMENT.

This agreement has been given to the public in your Journal of Saturday last, I presume, for their criticism, and I venture therefore to make the following remarks upon it, hoping that the author of the agreement, Mr. G. A. May, will not feel that I do so in any other than a fair spirit of inquiry. Out of consideration for your space I have condensed my remarks as much as possible at the sacrifice of the formality of style that should be observed in such a communication.

Clause 1. Provides for the payment of rent half-yearly. Nothing is said about the payment of rates, tithes, land tax, or quit rents, &c.

Clause 3. Prohibits the tenant from underletting any portion of the farm. He is allowed to underlet the farm house. Is he expected to reside at the house with his family?

In the same clause he is prohibited from breaking up old turf. He is not prohibited from selling off stones, sand, &c.

Clause 4. The exclusive right of shooting is reserved to the landlord. He should also have power to trap game, and hunt or course, or ferret the banks.

Clause 5. Power is given to the tenant to kill rabbits in the field. Is it intended to reserve the banks, particularly the banks round woods, if there be any?

Clause 8. No hay, &c., is to be sold off the farm; this, looking to Clause 17, where Clover and meadow-hay are spoken of distinctly and separately, only applies to meadow-hay, and therefore the tenant may sell off his Clover-hay without bringing back manure.

Clause 9. The buildings, fences, &c., are to be repaid by the tenant, materials in the rough being found by the landlord. The tenant is not bound to repair the roads, and the expression "materials in the rough," might be understood to comprise rough foreign, as well as English timber, rough iron, glass, &c. The word rough, I apprehend, generally implies unconverted, and in agricultural agreements refers almost exclusively to timber grown on or near the farm. Nothing is said about the cartage of materials.

Clause 10. The tenant is to undertake to clean wet ditches yearly, but ditches that do not come under the denomination of wet he is exempted from cleaning.

Clause 11. All buildings and fixed machinery erected by the tenant my be taken away by him at the end of the term unless purchased by the landlord. The law gives the tenant the power to move all fixed machinery and trade fixtures at the end of his term, but this clause seems rather to militate against him, as it might be argued that cisterns and some other things, being neither buildings nor machinery, may under it be required to be left without payment.

Clause 12. Provides for the appointment of an arbitrator by each party at the end of the tenancy, and it gives these arbitrators the power "to proceed to consider the claims made by either party," and here I suppose their powers end. They seem to have no power to make an award, nor is any provision made for delivering the claims which they are to consider.

Clause 13. The outgoing tenant is to provide the horses of the incoming tenant with a "suitable stable or shed;" possibly the best shed he might have to offer might prove unbefitting the incoming tenant's horses.

Clause 17. "Any hay or Clover left on the farm, not exceeding one-half the annual average crop grown, shall be paid for at consuming price." If more than that quantity is left, is it not to be paid for, or may the tenant sell it off? Assuredly the tenant will leave as much as he can, for he is not to be paid for the manure—see clause 18.

Clause 20. The tenant is to be paid for drains laid down during the last ten years; that is, for drains laid down without the landlord's consent or approbation, and although he may disapprove of them, and of the system on which they are laid, and may even know them to be unscientifically and inefficiently laid. And the price to be paid for them is fixed without appeal to the arbitrators!!

Should the points to which I have drawn attention prove to be defects, they will admit of easy remedy. But are the difficulties in the way of substituting a Michaelmas for a Lady Day entry so insurmountable, I would venture to inquire, that the change cannot be attempted? Surely it will not be doubted that the Michaelmas entry upon an arable farm is the most simple and most satisfactory. *Charles P. Humbert, Land Agent, Walford, Herts, Nov.* 2, 1863.

## STEAM CULTIVATION.

Little Stambridge Hall, near Rochford, Essex.—In a letter published in last Wednesday's *Times*, Mr. Wray, of Tunbridge Wells, thus spoke of "the steam plough and the modern agricultural implements." "All practical men admit that the steam plough is not far enough advanced to be brought into use by the large and wealthy occupiers of land; and as to its use for the general farmers, most of them holding farms under 300 acres, it is out of the question altogether." It is with the former part of this sentence we have now to do: let us examine it by the light of the following example.

In farms around and at various distances from Little Stambridge Hall, the fine old farm house where he resides, Mr. William Allen occupies 3000 acres of land—2000 acres arable and 1000 acres pasture. It is for the most part held on lease; some of the marsh land is his own property. We presume that he fairly comes within the class who, according to Mr. Wray and "all practical men," have found steam cultivation unprofitable. The land is of all qualities, from a comparatively light and occasionally somewhat gravelly soil, which however is not common, to deep sandy, deep clayey, and deep alluvial loam. It lies in fields of all sizes, from 10 acres to 50. It is cultivated on the universal practice of the district, with especial regard to surface drainage. Most of it is not under-drained; a great deal of it in the marsh, where there is a very large proportion of the land under arable culture, is below high-water mark, and thus not easily capable of satisfactory drainage, hence the need of narrow lands and frequent water-furrows across them.

It is cultivated generally in a six-field rotation of crops. On the lighter land—fallow (generally bare fallow), Oats or Barley, Clover, Wheat, Root crop as Mangel Wurzel, Swedes or Potatos, and Wheat. On the marsh land—bare fallow, Oats or Barley, Beans, Wheat, Clover, Wheat. Some 70 or 80 horses are employed in the cultivation of this land—in three-horse teams on the marsh, and as often three as pair-horse teams elsewhere. The whole district is a country of large farms. There are several holders of 2000 and 3000 acres in the neighbourhood—one of at least 5000 acres in the county. This, then, is a district of large and wealthy occupiers, to whom, according to Mr. Wray, steam-ploughing is unprofitable. This is not the opinion of Mr. Allen, the only one of the number who has yet tried it here. He purchased Fowler's 14 horse-power engine with four-furrow plough and cultivator in June, 1862.

The rope has already cultivated 1200 acres, and has never been broken. It seems perfectly equal to another year's work. There has been only one considerable accident—the breaking of two or three cogs out of the wheel by which the clip drum is driven, which delayed them a week. The whole of the repairs, added to the estimated wear of rope, does not exceed 100*l*. for the two years, during which 2000 acres have been worked. Repairs and rope together thus have not exceeded 1*s*. an acre. The whole is evidently under careful management, and the tools and engine are kept in good working order. This is proved by the small consumption of coal, which has not exceeded 3 tons a week!

The weekly wages paid are as follows:—driver, 30*s*.; ploughman, 18*s*.; anchorman, 15*s*.; engine boy, 9*s*.; three boys at 6*s*., water fetcher, 18*s*. There is thus an unusual quantity of well paid labour employed, and no doubt a good deal of the economy of the working has been owing to this. To this add the cost of the horse and water-cart, which we may put at 1*l*. a week, and there is a weekly cost of 6*l*., or a daily expenditure of 1*l*. The coals at 24*s*. a ton on the ground cost 12*s*. a day, the oil costs under 1*s*. a day, a gallon lasting a week; and the whole daily outgoings thus amount to 33*s*.

The following is the work done, taken from the books of the farm. During 1862—after June, when the apparatus commenced work, 562 acres were cultivated. Nothing was ploughed, but 26 acres were worked with the digging breasts. In all 588 acres were cultivated, and the second cultivation is declared to have been 10 to 12 inches deep. The whole work was done in 103 days. During the current year, and up till last week, 165 acres had been twice cultivated, 170 acres had been once cultivated, 79 acres had been ploughed, and 43 acres had been "dug." This amounts in all to 630 acres of work since April 6. It has been done in 105 days of work, including the labour of removal, or 6 acres a day exactly. The total cost may be put thus:

| | £ | s. | d. |
|---|---|---|---|
| Labour, fuel, and oil, 105 days, at 33*s*. .. | 172 | 7 | 0 |
| Repairs and rope for one year .. .. | 50 | 0 | 0 |
| 10 per cent. on value for tear and wear, and 5 per cent for interest of money .. .. | 120 | 0 | 0 |
| Total .. .. | £342 | 7 | 0 |

This, divided over 630 acres of work done, amounts to about 10*s*. 8*d*. an acre.

This, it may be said, is a fair price for ploughing. The valuers in that district will charge from 9*s*. to 12*s*. an acre for horse ploughing, and it seems steam ploughing is no cheaper. It must, however, be remarked as reducing the actual cost below our figures, that a full year's charge is made for interest and tear and wear, which is the great burden of the cost, though the year's work is not yet completed. We saw it making capital work—ploughing across the narrow 7¼ ft. ridges of a Clover lea for Wheat last Wednesday, and it will do a good deal of work yet this year. Besides this, the whole year's interest is never chargeable on the ploughing. The engine has threshed 1200 quarters of corn this year already, and its value for this purpose should be deducted from the charges which we have put upon the cultivation.

The true answer, however, to any assertion of expensiveness is to compare the cost with the quality of the work. "The value of a thing is not what it costs, but what it is worth." The usual payment which Mr. Allen's neighbours make him for steam cultivation (and he has done a good deal for hire) is 10*s*. to 15*s*. an acre with coals and water. And, speaking of one example of such work, we heard of a case of stiff and foul land which had been cultivated and crossed, that the 30*s*. which the two operations cost was not half the good they did. It must have cost more than 3*l*. an acre to get the land by horses into the condition in which this steam cultivation had left it.

It is here that Mr. Jephson Rowley—who has been comparing horse and steam cultivation before a Staffordshire meeting lately, to the disparagement of the latter—and others, like Mr. Wray, are wrong. They compare the mere expenditure on steam cultivation (even so they cannot prove their point) with that of horse-ploughing; and because no such great advantage thus appears, they say, "let well alone." But ploughing is not necessarily cultivation, and cost as little as it may, it sometimes even does harm instead of good. It is the quality of the work that must be the test of its worth.

A barefallow on the marsh land means seven ploughings besides other tillage. A double steam "cultivation," besides the other tillage, does away with the need of five of these.

But besides this it in many cases enables a crop in place of a fallow. And more of this will now be done than has hitherto been done. We saw a large field just sown with Wheat, and in capital order, which had borne a Wheat crop in 1862; it was cultivated and cross cultivated by steam, and cleaned in the autumn of that year—then sown with Trifolium incarnatum—it bore a crop this summer of three loads per acre; was immediately steam cultivated once, harrowed and cleaned, and sown with 3 cwt. of guano per acre to Swedes (they got the length of being hoed, but were eaten off by the grub); the land was then steam ploughed and harrowed, and horse ploughed in the 7 ft. 3 ridges of the district, and sown to Wheat.

A very fine piece of Mangel Wurzel, just in process of being harvested, had been steam grubbed in autumn, and left flat all winter—a most daring experiment—again steam grubbed in spring, and then bouted up with horses for manure; thus about halving the usual preparation by horse power.

A Pea stubble had been fallowed by steam power, grubbed, cleaned, cross-ploughed this autumn, then marked out by deep horse-drawn furrows at 7 feet 3 inch intervals, with the double mould-board plough. The earth was raked both ways from the furrows, and the land was then ready for the harrow and the drill. The great pains and care of the arable farmer, especially on the marsh land, is to provide for the surface drainage. To this end the land, after four or five ploughings, is ploughed in breaks or beds, more or less across the fall, 4 perch wide, leaving deep furrows, and it is then ploughed in lands 7 ft. 3 in. wide up and down the fall. The cross furrows are cleaned out thoroughly as water furrows, and the furrows between the ridges are also cleaned out. These frequent ridges are great difficulties in the way of efficient steam culture; but they are perfectly overcome by care in crossing the furrows, slowly and without any jerk. And a combination of horse work for the preservation of the proper surface configuration and surface drainage of the land with steam work for efficient tillage, is what distinguishes Mr. Allen's management.

He has not yet done much towards diminishing his horse stock. The only step hitherto taken has been to breed from all his mares; their idle spring and summer being more than made up by the steam cultivator, which is, he believes, equal in its efficiency to seven 3-horse teams. The work of actual reduction of horse power will proceed, now that sufficient experience has been obtained. But it is to the superiority of the work and the power of the tackle to do that at once or twice which horses can less perfectly accomplish at four or five ploughings, on which Mr. Allen especially depends. And he said, "You cannot speak too confidently of the unquestionable value and success of steam cultivation in my experience as a marsh land farmer." The enormous scale on which farming is in many instances carried on in this part of Essex, and the large size of the fields, mark it out as especially adapted to steam cultivation, and we cannot doubt that Mr. Allen's example will be followed. His farms are interesting on other grounds as well as for their steam cultivation. That it is not only on thorough tillage that their fertility depends appears from the large use on these farms of London dung and artificial manure, the keeping of 1500 to 2000 sheep, and the wintering and fattening of several hundred beasts.

But it is nevertheless unquestionable, both from the general experience, and from many examples which were quoted of it, that the fertility of the land is wonderfully dependent on thorough tillage, and that a crossing with the steam-cultivator is more than equivalent to the three or four ploughings which it displaces.

Before Mr. Wray again takes it upon him to deny the profitableness of steam cultivation, we recommend to him a visit to Little Stambridge Hall.

## AGRICULTURAL DRAINAGE.

### DISTRICT DRAINAGE AND OUTFALLS.

[The following is the substance of a lecture lately given by Mr. Bailey Denton, the first of a short course on this subject which that gentleman is kindly giving to the Royal Agricultural College, Cirencester.]

It is necessary that I should make a few introductory remarks before I proceed with those practical

details in which I hope to interest you; and let me begin by saying that although my interest in this Institution and my confidence in its management are great, I should not have ventured before you in my present capacity had I not entertained a very strong opinion that the best instruction that can be given in the Applied Sciences is that which combines Theory with Practice, by illustrating the teachings of acknowledged professors with instances of actual experience. To afford such illustrations has brought me here, and I must ask you to bear in mind that the information I am about to tender has not been gathered from a study of words, but from an active professional career in which works have taken their place.

Agricultural Drainage is a new art, if we regard it as it is regarded by practical men, whose views extend beyond the moment. There are no books which will give the student the data required for a sound foundation. In speaking of "practical men," I do not mean those who deem a knowledge of their own property the best and only necessary qualification in draining, but I refer to those who have made Agricultural Drainage a special object of attention, and regard it as a branch of education which can only be reached by scientific investigations, and by careful study and observation of Nature's laws, and those principles which rule in Hydraulic questions of all kinds. The practical man in the matter of Drainage, need not necessarily devote himself to it, but to comprehend it thoroughly he must have a love and knowledge of science, and must widen his observations beyond the area of his own estate or farm. The majority of those present have probably been led to think, and the greater proportion of those who have wet lands to drain are doubtless of opinion, that Agricultural Drainage is nothing more nor less than under drainage by set rules—drains so far apart and so deep—and that no other consideration is due to the subject beyond that which will apply to the draining of a farm or a single field; that, in fact, any person who can by prescribed method remove the injurious water immediately affecting his farming operations, accomplishes all that is required. To study and ascertain the real source and cause of the wetness, and the most appropriate mode of removing it without deranging the water economy of the country, and the best way of discharging the water of drainage without injury to lower lands, are objects of supererogation, and altogether beyond his duty. My introductory remarks, however, will be directed to the removal of this impression,—to show you that these neglected considerations are the Alpha and Omega of the art, that the prevailing practice of draining all soils on a parallel, 4 feet deep system, is a very narrow one, and that, although considerable improvement has resulted from what has been done, that improvement has resulted rather from the fact that all drains do some good, than from the control of scientific judgment.

So limited has been the consideration given by agriculturists to the natural laws by which water enters and travels through the soil,—which should be the first study of the drainer when designing his work,—that although they talk of the great variety of soils they meet with, they acknowledge but two descriptions of excessive wetness, viz., that caused by the retention of the rain falling directly on the surface, and that which is caused by springs. By a very convenient simplification these waters are called "top" and "bottom" waters respectively, and in a certain sense the terms are right, but as I proceed you will see how prejudicial to an economical and scientific treatment of the matter, and how injurious to the country at large, such generalisms are.

And with respect to outfalls for the discharge of injurious waters,—which is the very key of all under-drainage works,—so completely has the attainment of this desideratum been disregarded, that though we have been spending millions in subordinate work, we are at a loss even for a word to express the operation when a combination of interests is involved, and it extends to the improvement of rivers and watercourses. Some people christened the improvement of the river system "Arterial Drainage," but the late Mr. Pusey ridiculed the term, saying, "that it was an absurd name, importing the reverse of its object, since arteries convey their fluid into small channels, whereas these main cuts carry theirs off," and substituted the term "Trunk Drainage." Under this title, Mr. Algernon Clarke wrote an admirable Prize Essay, which appeared in the Journal of the Royal Agricultural Society of England, though, when afterwards advocating the general improvement of outfalls, he adopted the more commonly understood term of "River Reform." This, again, has been considered too large a phrase to mean the ordinary watercourses and ditches of tributary valleys, the improvement of which is as essential to the full development of under drainage as that of the rivers themselves; we have, therefore, settled down into the acceptance of "District (combined) drainage and private (simple) outfalls" as proper terms to express all that comes within the agricultural view of the question, and these are the terms adopted by the Legislature in "The Land Drainage Act, 1861."

Mr. Pusey's idea, in designating the river "the trunk" of the drainage system, is perfectly consistent with that comprehensive view which ought to prevail; for, if we accept the term figuratively, and take a tree as the type of the so-called Arterial System, and regard the relative duties of the several parts, we shall find that the sea represents the root—the river, the trunk—the tributary watercourses, the branches—and the under-drainage of the fields, the fibrous structure of the leaves. Each part has its functions; but the whole are connected and dependent on each other.

It is my intention to limit this lecture to the subject of "District Drainage and Outfalls," because, although there are consideration with respect to the source of injurious waters which should pre-eminently influence the drainer when making his design, the starting point of the workman is the lowest point, and his first actual work should be to provide an outfall for the water his under-drains will collect; and it is clearly the duty of any one aiming at the instruction of others, not only to point out the evil of beginning at the wrong end, but to avoid the practice himself.

The feeling of our country is naturally so opposed to compulsion, and agriculture itself has, until lately, been so sluggish in its progress, that combined works, by which the majority of a district suffering from want of outfall might compel the minority to join in and contribute to the cost of its improvement, have been delayed until now, and it is only within the last year that a general Act giving this power has come into actual operation. Fifty years hence, when you are succeeded by your children, this country will look back with surprise at our present want of foresight in having commenced a great work without a base of operations, a work which must go forward, let the obstacles be what they may. But so jealous has the landed interest been of everything in the shape of interference in the control of land improvements, and so general has been the opinion that the less scientific education a man had gained, the better he was qualified to act as the medium for their execution, that agriculture has itself only to blame for the extraordinary fact that the Government up to this moment, has, in its administration of the several Acts of Parliament for the drainage of land, practically ignored the necessity of legal outfall powers, and excluded the engineering element from the organisation of the works carried out under Government control.

In the Act of 1861 the engineer is only to be recognised by his foreshadow. Though the Government authority is made necessary on points upon which an engineer must be consulted, the Act does not render it necessary that the works themselves should be approved! It requires that the Inclosure Commissioners shall determine the area of the districts formed under the Act, but it does not allow of their controlling the nature of the outfall works, which every drainer knows practically decides the limit of the area. This, however, will be remedied by amending Acts.

You, as students, must not be misled by the frequent outcry we hear of the costly consequences of superior knowledge in the execution of agricultural improvements, but remember that it is much easier for a practical man, of scientific education, to descend to the capabilities of a labourer, than for a labourer to ascend to his. Nor must you be misled by the frequent observations of certain Members of the Legislature, who, in post-prandial speeches at agricultural meetings, flatter their hearers by telling them that their knowledge of their farms render them better drainers than those who have made drainage a special study; but you must bear in mind that flattering men's prejudices is one way of gaining their sympathies and their votes.

Under the belief that agricultural drainage was a simple thing which every one with ordinary intelligence could do, and of which the results must be purely and wholly beneficial, several millions of money have been expended within the last 20 years, without regard to those physical conditions which regulate the supply and passage of water through the soil, or to the mode in which those waters are ultimately discharged to the sea.

We have been content to remove the evil in the best way expediency might suggest, without reference to the water economy of the country, or the injury done to valleys below. It cannot be necessary to tell you that any practice giving individual profit, which is attended with national disadvantage and injury to others, is at best an imperfect system; but it is very desirable to impress upon every future drainer, that agricultural drainage, as an art, goes, beyond the mere expulsion of water, to the most judicious way of removing it with reference to the cause of wetness, and to the discharge and utilisation of the surplus water, so that it shall not only reach its ultimate destination without injury to interposing properties, but that it shall be turned to good account in its passage to that point. We must always look upon water as an element given us for good purposes, and that the excess that troubles us in the soil is capable of many uses in its transit from the clay hills and free-soil valleys to the sea.

The mode of under-draining an individual estate may be determined arbitrarily by its owner, whether that mode leads to disorganisation or not, and the only way of bringing about an uniform action, based upon correct principles, is by the dissemination of information of a sound character; but the discharge and distribution of the drainage water being dependent on systematic arrangement, and requiring the combined action of adjoining proprietors, cannot be subject to the same caprices. It is, therefore, probable that a comprehensive treatment of the whole matter will only be deferred until the outfall consideration has taken its proper position in drainage control, and this time is fast approaching.

Large estates, comprising hill and valley, clay lands and free soils, possess within themselves the capability of a comprehensive system of drainage and distribution, in which all the elements of economy may be regarded; and as many of you will probably become land agents, and have the management of extensive properties, let me remind you that the *ne plus ultra* of under draining is not the rapid ejection of water which is in troublesome excess, for you may eject water too quickly, as well as too slowly, but the subduction of that excess beyond the power of doing injury, by the least outlay; and that there are many uses to which collected water—that which a good system of works will allow of being concentrated at any given points—may be usefully and profitably applied. Have we not just passed through a very dry summer in the Eastern Counties, in which the poor of our villages and the cattle of our farms have been crying out for water; and could we not have stored much of the water of drainage which was discharged last winter for its use in these dry months? Then, consider the numberless instances in which the water of drainage may be collected and applied as a motive power. Sir Wm. Armstrong, in his recent address to the British Association, called the attention of the country to the comparatively rapid exhaustion of accessible coal. It would be alien to the present object to give the figures by which he showed that in two hundred years we should be without this valuable source of motive power, particularly as it has been asserted that Sir William has much underrated the quantity accessible. You can readily realise the prognostication, however, by remembering that two hundred years only takes you back to the time of the second Charles, which is but as yesterday in the world's history; and without debating the duration of the coal beds, you cannot fail to acknowledge that with the warning given us, it is a national sin to continue to discharge as heedlessly as we are doing that element of power which will endure for ever, and, if rightly placed, is the cheapest of all appliances.

Again, how often can the water of Drainage be turned to account in irrigation, or as a vehicle for the distribution of sewage, and the liquid manure of the farmyard?

These objects may appear to your ears as refinements—beyond the duties of the draining engineer and farmer—but I can assure you they come naturally to my mind as the result, in a great degree, of my own experience, and, in a still greater degree, as the result of what I have seen might be done, were the application of water appreciated as it ought to be; and, moreover, I hope to show you that they are essentially connected with the outfall question, and that a clear understanding of those geographical facts and physical conditions upon which the supply and utilization of drainage waters depend, the better fits the drainer for the main object, underdrainage itself. When I deal with that object in detail, I shall show you, in order that you may yourselves supply the deficiency, that the absence of a knowledge of geology, a disregard of meteorological circumstances, and an omission to give to height and varying inclinations of surface, the influence due to each, is bringing about a change in our water economy, which is pernicious to individual and national interests alike; and that underdraining, which should have the effect of reducing floods, is, by the want of discrimination, tending to augment them.

If underdraining was to be limited to a few millions of acres in isolated patches, we should not have to fear any great derangement of our river system, but, as there are ten times as much to do as has been done—all of which will be done sooner or later—it becomes you, as the rising generation, to remember that there exists no reason why agricultural drainage should be exempt from the rules and formulæ which govern all hydraulic works in which the discharge or application of surface water is the object. In a few short years it will be regarded as one of the paradoxes of the present truly scientific age, that local and physical data should have been overridden by official forms and tabulated returns, and that for the sake of uniform treatment, lands of every texture, form, and position, and subject to rainfall of various quantities, should have been drained alike. You should travel through the several counties of the north-west of England—Shropshire and Staffordshire for instance—in which much the larger proportion of the land is wet and still remains to be drained, and, having seen that the saturated subsoil is comparatively free and open, contemplate the aggregate effect of indiscriminate stereotyped drainage on the valleys of the Severn and the Trent. To appreciate effect and consequences you should remember that, in hydraulic operations, the maximum quantity of water to be discharged, is the datum of the engineer when determining the capacity of an outfall; and that, all other things being equal, the greater the number of drains put into the ground, the more rapid and irregular the discharge, particularly in free and mixed soils, which have little retentive property to retard the passage of water. Having realised all these facts in your mind, you will have a problem before you worthy of your special study. In a subsequent lecture it is my intention to trace the effect of land drainage on our rivers more particularly.

(*To be continued.*)

## Home Correspondence.

*Gorse.*—Your correspondent "R. A." asks for information respecting the use of Gorse as fodder. As food for horses, cattle, and sheep, it is of the highest value, combining well marked sanative with fattening properties. When cut with a chaff-cutter it is readily consumed by horses, not so well by horned cattle unless it is subsequently crushed or pounded. I make use of a machine of my own invention, which dispenses with the chaff-cutter altogether; by means of it the Furze is reduced to such a state that I use it regularly in stall-feeding to the extent of 40 lb. a day per beast, and with such advantage that it is become almost indispensable. When cattle in the stalls will eat it, as they do, ravenously, it is a sufficient assurance that young and store animals will do the same. I find it of the utmost benefit to calves and yearlings during the winter months, from October to May. Of its results with sheep I have not sufficient experience myself, but I am informed that they are equally satisfactory. It has also been used with success in feeding swine. A fat pig obtained a prize at the Dublin Society's Show last April, which had been fed largely with Furze so prepared and steamed. Not to take up too much of your space I shall conclude by saying that I will with pleasure give any information in my power either as to the machine or the use of Gorse to any person applying to me. *John Walsh, Stedalt, Balbriggan, Ireland, Oct.* 28. [Thanks.]

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

Monthly Council: *Wednesday, November* 4.—Present: Lord Feversham, President, in the chair; the Earl of Powis, Lord Berners, Lord Tredegar, Lord Walsingham, the Hon. W. Cavendish, M.P.; Sir E. Kerrison, Bart, M.P.; Sir A. K. Macdonald, Bart; Sir M. White Ridley, Bart, M.P.; Mr. Acland, Mr. Amos, Mr J. H. Arkwright, Mr. Raymond Barker, Mr. E. Bowly, Mr. Branston, M.P.; Mr. Cantrell, Colonel Challoner, Mr. Clayden, Mr. Dent, M.P.; Mr. Druce, Mr. Exall, Mr. Brandreth Gibbs, Mr. Holland, M.P.; Mr. Wren Hoskyns, Mr Humberston, M.P.; Mr. Jonas, Mr. Lawes, Mr. Lawrence, Mr. Milward, Mr. Pain, Mr. Randall, Mr. Rigden, Mr. Robert Smith, Mr. Shuttleworth, Mr. Torr, Mr. Wallis, Mr. Wells, Mr. Burch Western, Mr. Henry Wilson, Professor Wilson, Mr. Frere, Professor Simonds, and Dr. Voelcker.

The following New Members were elected:—

Aveling, Thomas, Rochester.
Bangham, Geo. A., Bridgnorth, Salop.
Batchelor, T. B., Maindee, Newport, Monmouthshire.
Beckwith, Thomas Percival, 52, Eaton Place, London, S.W.
Birch, Thomas, Grafton Farm, Hereford.
Blenkinsop, John, Simonside House, South Shields.
Brandon, Benjamin, Ross, Herefordshire.
Brett, Wilford George, The Lodge, Esher.
Bright, John, Longford, Market Drayton, Shropshire.
Buchanan, David, The Lodge, Clifton, Rugby.
Burdett, Edward, The Manor Farm, Lyveden, Thrapstone.
Burton, Robert Henry Lingen, Chilton Grove, Shrewsbury.
Burrows, Thomas Ash, Normanton-on-Trent, Newark, Notts.
Clive, the Hon. Captain Geo. W. Windsor, M.P., 53, Grosvenor Street, London, W.
Colby, S. E., Havod Grove, Cardigan, South Wales.
Coultas, James, jun., Spittlegate, Grantham.
Dees, Robert Richardson, Wallsend Hall, Newcastle-on-Tyne.
Donkin, Robert, Felton, Acklington, Northumberland.
Draper, Charles, Kenilworth.
Ealand, John Robert, Aisthorpe, Lincoln.
Evans, Robert, Tolladine, Worcester.
Evans, Thomas Astwood, Worcester.
Fenton, Joseph, Bamford Hall, Rochdale
Gape, George Thomas, Elm House, Winkfield, Windsor.
Goodwin, Frederick, Droitwich.
Gotch, Wm. Hepburn, Bratton, Westbury.
Green, Andrew Whyte, Craig House, Girvan, Ayrshire.
Gulliver, William, Swarcliffe, Banbury.
Hall, William, Seven Springs, Cubberley, Cheltenham.
Haines, John, Rotherby, Leicester.
Hammond, Dr., 11, Charlotte Street, Bedford Square, London, W.C.
Hamond, Charles Frederick, Newcastle-upon-Tyne.
Hamond, Philip, East Grinstead, Sussex.
Hart, George, Wakefield.
Harwood, Thomas, Belstead Hall, Ipswich.
Hatton, William, Kingston, Tetsworth, Oxon.
Hodgson, James, Liverpool.
Kingsnorth, Edward, Brookland, New Romney, Kent.
Lancaster, Thomas, Bownham House, Stroud, Gloucestershire.
Lloyd, George Woodall, Whitchurch, Monmouth
Margesson, Rev. Wm., 4, Green's Row, Chelsea, London, S.W.
Nickisson, John, Stone, Staffordshire.
Painter, Thomas, Bodlondeb, Wrexham.
Pitt, Walter William, Whitchurch, Monmouth.
Raglan, Lord, Cefntilla House, Usk, Monmouthshire.
Ramsay, John Taylor, Walbottle Hall, Newcastle-upon Tyne.

Ridley, Andrew, Newcastle-upon-Tyne.
Rix, John, sen., Lusley Court, Worcester.
Roberts, Hugh, Eastgate Row, Chester.
Royds, Henry, Elm House, Wavertree, Liverpool.
Smith, John P., Leominster.
Smith, Tysoe, Hinchwick Farm, Stow-on-the-Wold.
Splatt, William Francis, Abbotsford, Torquay, Devon.
Stephenson, William, Throckley House, Newcastle-upon Tyne.
Timbrell, Robert, Beckford, Tewkesbury.
Toder, John, South Muskham, Newark-on-Trent.
Vaizey, John Robert, Attwoods, Halstead.
Wakefield, W. H., Prizet, Kendal.
Walker, G. H., Oakleigh, East Grinstead.
Watham, Joseph Street, Coalbrook, Ross.
Wilkinson, Edwin, Isle of Cinder, Leeds.
Willyams, E. Brydges, Nanskeval, St. Columb, Cornwall.
Wilson, William, Oubas Hill, Ulverston.
Woodall, Thomas, Dinham, Chepstow.

FINANCES.—Mr. Bramston, M.P., presented the Report, from which it appeared that the Secretary's receipts during the past three months had been examined by the Committee and by Messrs. Quilter, Ball & Co., the Society's accountants, and were found correct. The balance in the hands of the bankers on October 31 was 2146*l.* 7*s.* 7*d.* The balance sheet for the quarter ended September 30, and the statement of subscriptions and arrears, were laid upon the table; the amount of arrears then due being 821*l.*

GENERAL NEWCASTLE COMMITTEE.—The Earl of Powis reported that the Committee had carefully investigated the general plan and appropriation of the ground, and recommended that there be two entrances to the Show-yard, in order to accommodate an influx of visitors from either railway station.

CLIPPING SHEEP FOR SHOW.—Mr. Holland, M.P., reported the recommendation of the Committee—1. That Sheep exhibited for any of the prizes must have been really and fairly shorn bare after the 1st of April in the year of the exhibition; and that the date of such shearing form part of the certificate of entry. 2. The Committee further recommend that two Inspectors be appointed by the Council to examine the Sheep on their admission to the Show-yard, with instructions to report to the Stewards any cases in which the Sheep have not been really and fairly shorn bare.

The Council having received Memorials from breeders of Channel Islands cattle, praying that a class be granted for this breed in the Prize Sheet, directed them to be referred to the Stock Prizes Committee.

A letter on the production of Beet-root sugar, from Monsieur de Lirac, of Algiers, was referred to the Journal Committee.

The following works having been presented to the Society's Library, the Council ordered their thanks to be returned to the donors:—Proceedings of the Boston Society of Natural History; New York State Agricultural Society's Transactions, 1860-61; Ohio Agricultural Report, 1861; Patent Office Report, 1861; Institution of Civil Engineers' Minutes of Proceedings, Vols. 19 and 20; The Farmers' Almanack for 1864.

## Farmers' Clubs.

HALBERTON: *Farm Capital.*—At the late annua meeting of this Society the Rev. Canon GIRDLESTONE thus spoke on this subject. We have greatly abridged his address:—He would take for his text one single word. He liked short texts, because they were more easily remembered, and for this reason he frequently gave them from the pulpit. His text, then, that evening should be the word "Capital," and, when he asserted that capital was indispensable to the success of agriculture, he did not think he should find any one to deny that assertion. Many things besides money were capital. Education was capital. For himself he might say that he never had any other capital than education. He was the youngest son of a youngest son, and he had no fortune left him. But his father gave him the best education that could be obtained when he was a young man, and that was the capital on which he had traded ever since. He did not know what they thought, but he would tell them that a canonry at Bristol and the snug little village of Halberton, were not, in his opinion, very bad profit on his capital. He was all in favour of education being capital. Education was the most valuable kind of capital a farmer could have, and he would attempt to show them in what way it was so valuable. First, then, the educated farmer understood and appreciated better than the uneducated farmer, what he might call the science of agriculture. They might depend upon it, that if agriculture was to be carried on successfully, and if the farmers of Devonshire would compete with those in other counties and on the Continent, they must treat agriculture as a science; and, the more the farmer was educated, the more would he appreciate those improvements of stock, the value of which no one was better acquainted with than their vice-chairman. Education would also enable the farmer to understand the value of that sewage, which, until recently, had always been wasted, and in what way it could be profitably applied to the soil; moreover, it would teach him to more liberally employ artificial manures: he would see the great importance of a good system of drainage; and he would be alive to the necessity of getting his landlord to increase the size of his enclosures, by taking down the hedges and hedgerows, so that God's sun and air might have free access to come in and cultivate the soil. In all these things would the educated farmer possess capital which the uneducated farmer did not. Again, the educated farmer would be able more thoroughly to appreciate the use of improved agricultural implements. When the threshing machine was introduced into the country it nearly bred a riot, just as the introduction of the loom into the manufacturing districts. But now there was scarcely any part in England where the old flail was used, except for special purposes. The threshing machine had superseded the flail, and, in many places, the scythe and the sickle had been superseded by the mowing and reaping machines. In more advanced districts they saw the steam-plough taking the place of those implements which they had seen so skilfully handled in the field that day. The more educated the farmer, the more ready was he to adopt all the improved agricultural implements which were invented. Another way in which education was capital to a farmer, was this—it would let him see the fallacy of supposing there was anything antagonistic between the agricultural and manufacturing districts. There never was a greater fallacy than to suppose there was anything like antagonism existing between the two; for the manufacturing districts were nothing but a great mouth—a wide, broad lane down which the farmers could pour their oxen and sheep and their sacks of corn. No antagonism ever existed; but the agricultural population might well take example from the enterprise which the manufacturers up to the present time had evinced. There was another point on which he thought education was capital to the farmer, and that was, that the educated farmer would have more sympathy with the skilled labourer, and would seek to improve the habits and character of those he employed. And this would produce one inevitable result. He was not referring to the subject in a religious or moral sense, but in a political and social sense; and he need scarcely tell them that very much of the prosperity of a farmer depended on his servants. An educated farmer, then, would find his interest to be in employing those servants who were honest, sober, industrious, and intelligent. There was another point in which education might be regarded as capital to the farmer, and perhaps they would smile when he mentioned it, but it was not the first time he had been laughed at. An educated farmer, then, he believed, was able to choose a better wife than an uneducated one. He did not know what their experience had been in the matter of a wife, but he had a very good one, and his little farm had prospered with such a help-mate—and they may depend upon it that a good wife was no small amount of capital on a farm. The Scripture said a good wife was above rubies, and he believed it. There was one further way in which education was capital—and that was of more serious import. Education would lead a man to pray for God's blessing on all his agricultural operations. He would know that, however, great his skill or his industry, what he did would be of no avail unless God prospered it.

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TORKSEY: *Steam Cultivation.*—At the late annual meeting of this Club, Mr. S. HUTCHINSON spoke on this subject:—It had frequently been said that it was all very well for men just entering upon farms to introduce cultivation by steam, but those who had horses, implements, and everything necessary for horse cultivation were placed in a very different position. All men had entered upon their farms at some time or other, and could start afresh if they chose; they were not bound hand and foot to the present system of horse cultivation—a system by means of which less crops were obtained at a greater expense than by means of steam cultivation. It had also frequently been remarked that steam cultivation could only be introduced on large farms, and undoubtedly its introduction would be attended with greater advantage on large than on small farms and fields. But it was not an insuperable difficulty to cultivate small fields by steam if the apparatus provided was suitable. Those farmers who said their holdings were too small, and that they could not afford the cost of the apparatus, ought to encourage the manufacture and introduction of machinery appropriate to small farms, rather than machinery and tackle appropriate to large farms only. It behoved small farmers—men with small capital—to seek out the mode of applying steam cultivation, for it was a system which would go on; by its means the saving of expense was so great, and the increased production so large, that they could not do without it with Wheat at 40*s.* per quarter. Some might ask for figures showing the cost of steam cultivation, and an estimate of the expense of horse cultivation. In 1861 and 1862 he adopted steam cultivation on a farm in Bedfordshire, consisting of 546 acres of very strong land, and from a summary in his pamphlet it would be seen that the gain by increased produce the first year steam succeeded horse cultivation was 776*l.* 2*s.* 11*d.*, added to which was a balance of expense the first year in favour of steam over horse cultivation of, (the former 289*l.* 0*s.* 3*d.*, the latter 586*l.* 2*s.* 6*d.*) 297*l.* 12*s.* 2*d.*, thus showing an increased advantage by the adoption of steam of 1073*l.* 15*s.* 2*d.*, twice the value of the engine and apparatus employed. Besides this, the fee simple value of the farm was improved 1500*l.* over and above what could have been accomplished at a greater cost by horse power. That was a startling fact, but in his pamphlet they would find all the details, if they chose to look for themselves. There was a deal of difficulty in effecting the introduction of reaping machines in this county. He was agent of a property in Durham and Yorkshire which was divided into small farms of from 200 to 300 acres, and of the 12 tenants no less than 8 had reaping machines of their own. Now he did not give these tenants credit for increased sagacity over their Lincolnshire brethren; to some extent the machines were forced on them by the fact that all the excessive labour was absorbed in the coal-fields and iron-works, and, as a consequence, agricultural labourers were difficult to obtain. Still there could be no doubt these machines were of immense advantage, and that they were not more generally adopted was owing to cheap labour. So, low prices for produce would do more than any other thing to force on the introduction of steam cultivation. He thought that if landlords, tenants, and agents were to put their heads together there would be very little difficulty about it. The surplus horses on the farm could be disposed of, and the fodder which was formerly required for them would keep cattle and sheep instead, so that it must be more advantageous. The thing was so palpable that if it were well laid before landlords by their tenants all difficulty whatever would vanish. Perhaps it would ill become him to say which system was the best—Fowler's, Smith's, or Howard's,—because he had only the experience of Smith's, which he highly approved of, and one thing very much in its favour was that it was not at all expensive, for all the machinery required could be set up at an expense of 500*l.* He had really, however, no interest in the matter. If the tenantry in one parish could unite, and purchase the apparatus he had named, he could not see any great difficulty as to expense. A Steam Cultivation Company was in course of formation in London, under very high auspices, and a capital of 50,000*l.* was required before commencing operations, and when this company was fairly started, any difficulty as to capital would no longer continue. It was a very trite observation that a friend of his overheard the other day at a railway station. Two farmers were engaged in conversation about steam cultivation, when one said to the other he scarcely knew what to think of it, to which the other replied, "If we can get cultivation by steam at half the cost of horse-power, we shall have a great deal more money to spend in muck." This showed that the man had a desire not simply to have his increased returns, but to turn them to compound interest. He had made two attempts at farming, the first time being 12 years ago, and he might as well give them an outline of the results. In his first attempt he could not show a good balance sheet. He was obliged to take in hand a strong clay land farm of 900 acres, 800 of which were arable, and started with the intent of employing 46 horses. Not an acre of the land was drained, there was no road upon it and no gates, and no buildings except stables, so they might be sure he started under a disadvantage. He first purchased 30 horses at an expense of 43*l.* each, one of them being a French horse which he obtained in London. The latter was a really splendid animal, but unfortunately it introduced the glanders into his stables, and he lost no less than 15 of the horses in a very short time, nine having to be shot one morning. This, they would agree with him, was a very serious matter, and as he dare not buy new horses, the land was badly managed. He purchased a number of bullocks, but they were very slow, and altogether he employed 7000*l.* on the farm, and he left it little better than when he entered upon it, after losing 5000*l.*, sinking some permanent improvements. The next farm he had to take in hand contained 546 acres, and he asked for a capital of 4500*l.* to work it, but after he had had 3500*l.* the owner would not let him have more, for fear the results should be no better than in the first case. He had, however, this advantage: he had the privilege of keeping the rent until he found it convenient to pay it. What was the result? He paid the rent and the capital in two years. This was by the aid of steam cultivation, and when he left the farm it was worth 2000*l.* more than when he entered. When he took it every field was a perfect bed of twitch, but he left it, with the exception of one field, as clean as any garden in the country, and he could not have done this if he had had 50 horses. It must be admitted that the result was highly favourable, and showed that steam cultivation had great advantages over horse cultivation. He would have them, by all means, to use every effort and endeavour, by combining together or otherwise, to introduce steam cultivation on their farms, whether large or small.

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DOCKING: *Condition of Labourers.*—At a meeting of this association, Lord LEICESTER spoke of the state of the cottages in the rural districts. The great difficulty was the large outlay and the inadequacy of the pecuniary return. But he did not recognise this question as one of mere profit and loss: he looked upon it as a matter of duty. The owners of landed property in England have acknowledged that it is a duty entailed upon them, and he believed that many have done, and were doing, as much as their means will admit. Having provided education for the boy, and a proper habitation for the man, much, very much, of the welfare and condition of the labouring man depends upon the employer. He, perhaps, had been

an employer of more labour than most men; he had personally superintended much of that labour, and with the assistance of the able men he had had as managers of the different works, a marked improvement had taken place in the men that had been under his employ. By rewarding and encouraging the industrious, by punishing the idle and shifty, by giving the men an interest in the work they were doing, and by allowing them, when possible, to earn by piece-work more than they would by day wages—under this system they got a different stamp of men to do their work than they would otherwise have. Not many years ago drunkenness was not an uncommon vice in this neighbourhood. During the last few years he could not bring to his recollection having seen more than one of his labourers the worse for drink, and during the last harvest, when he was very much amongst his men, he never heard an oath or a coarse expression used. The encouragement to skilled labour offered by societies like this is of great advantage to employers and employed. It has been stated that the labourer is degraded by receiving a premium for long service; he did not think so: at least he was satisfied that he does not feel any degradation in accepting that premium. He thought he looked upon it in the light in which it is intended to be given, as a public acknowledgment of his merit. He had a doubt whether the reward for long service should come out of the funds of the society, not on account of the recipient, but whether it is not a matter which should rest solely with the employer. Great exertions are being made to improve the condition of the labourer, and he was grateful to many of his tenants for the interest they had shown in his behalf. Schools and benefit clubs have been established by them undirected by him. Though hardly any of his tenants are connected with this union, yet he saw around him many whom he knew had made like exertions for the improvement of the labourer in their respective parishes. In conclusion, he might fairly state that the agricultural labourer was never so well cared for or so well off as he is at present.

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BAKEWELL.—At a recent meeting of this Club, Sir JOSEPH PAXTON said:—I maintain that we have very good land in this part of the country, and can feed beasts as well as any part of her Majesty's dominions. I believe I may say that one of the greatest difficulties we have to contend with in this county is the great variety of land which has to be dealt with. It is quite a different thing in Norfolk and Leicester, where they have nothing to do but plough the land, sow and till according to a fixed rotation, and depend upon the seasons. Here we are dependent upon a variety of circumstances requiring great ingenuity on the part of the man who means to make a livelihood out of farming, in adopting the best system of carrying out his operations. I have been connected with the county nearly forty years, and have taken a great interest in everything connected with the rearing of animals and plants; and, as the results of my long experience, I have come to the conclusion that one of the most important things for a Derbyshire farmer to attend to is to take care that he keeps his animals warm, particularly in the winter. I concur in the advice given at a meeting here, in the early existence of this Club, by a much respected member of Parliament, who was not only a politician but a farmer, and the author of some good articles on draining. He said he got it into his head that Short-horns would do in the High Peak, and he put some out to pasture on the high lands. It was so cold in the winter that they set their backs up, and they could never be got to straighten them again. Whether a farmer in the Peak district pastures, in the high or the low lands, it is a great point to attend to the warmth of his stock. Another point is, never to break up any good Grass land if he can avoid it. I know some land in this district (I won't mention the name of person or place) which was broken up so long ago as the great revolutionary war in France, when corn was selling at fabulous prices, and it has never got round. It was broken up to get corn; but the growth of corn is quite a speculation. It cannot be grown here more than once in two years; and it is not worth cultivation in such districts as this. I know you must plough a little land in order to get straw for your farmyards; but I strongly advise you as a farmer myself, and as a man who has had the management of a very large property, and taken great interest in this matter for a long period, to break up as little land as possible in this district.

## Farm Memoranda.

EAST CRAIGIE is situated about ten minutes' walk from Cramond Bridge, the farm—consisting of about 200 Scotch acres—lying on the left or western bank of the river Almond, and on its northern extremity separated from the Firth of Forth only by a belt of trees. It is naturally a remarkably attractive place, and Mr. Rintoul, the tenant, has spared no pains to add to its attractiveness by art. The pillars to the entrance gate are tastefully covered with sea-shells, while inside on the lawn we have grottos and summerhouses formed of the same material. A bee-house takes the form of a miniature fort, and is also completely decorated with shells, and bristling with imitation cannon; while the inside garden wall, which is also shelled over, resembles the outer defences of a citadel. Rockeries, composed chiefly of very interesting geological specimens, are also scattered over the lawn, and the effect of the whole, comparatively small though the scale be, is very good. Mr. Rintoul makes his own gas with a small portable apparatus manufactured by Mr. Porter, of Lincoln, the price of which was 65*l*., and he does so at a cost much below that charged at Edinburgh.

It is now some years since the low price of corn and the high rent of land set Mr. Rintoul thinking as to how the British farmer could best hold his own against foreign competitors, whose produce was raised under much more favourable conditions—viz., in a better climate, on cheaper land, and by smaller-waged labourers. There was, he considered, very little chance of farm produce rising—it was more likely to fall—as year by year the foreigner improved, as he was sure to do, his means of communication. There was also but little probability that land would lower so long as people who had made a little money in other trades continued so enamoured of the country and of a profession of which they are wholly ignorant, and so long as landlords are protected from the consequences of that ignorance—failure—by the law of the land. What remained for the British agriculturist to do, therefore, was to cultivate the land to the highest possible state of perfection, in order that he might obtain from it the greatest amount of produce it was capable of yielding. This was the plan Mr. Rintoul adopted, and his land, a light sandy one, suited, on the whole, his practice well.

Mr. Rintoul commenced his system of double cropping by taking Turnips after early Potatos. The Potatos sown about the end of February were manured with 40 tons of farmyard dung and 5 cwts. of Peruvian guano to the Scotch acre. About the last week of June these Potatos were raised, and the land as speedily as possible got into condition for the Turnip crop, which was sown about the beginning of July, 5 cwts. of Peruvian guano per Scotch acre being given. Year after year Mr. Rintoul has continued this plan with success, eating the Turnips off with sheep, and the white crops following have generally been excellent. Several neighbours, though some were disposed to laugh at first, have wisely taken a leaf out of Mr. Rintoul's book in this matter. As an example of how little this practice exhausts the land under the liberal treatment it receives at East Craigie, we may mention that this year Mr. Rintoul took 12 qrs. of Barley per Scotch acre from a field which in the previous year had been cropped with Potatos, and Turnips fed off with sheep. All that it received, in addition to the manuring for the two preceding crops, was a top-dressing of 1 cwt. of nitrate per acre when the braird was hoed. The field was seeded at the rate of 2 bushels per Scotch acre.

This year, Mr. Rintoul determined to carry his system of double cropping a step further, to take a crop of Potatos after Potatos—that is, a second crop from the same land in one year. Like a cautious experimenter, Mr. Rintoul did not risk too much at first, and set aside only an acre or so for the trial. The first crop of Potatos, a good one, was lifted on the 22d June. The land was immediately got into order, and the second crop was planted on the 26th, four days after the first was taken off the ground, 5 cwt. of Peruvian guano being given them. The weather became excessively dry after the tubers were planted, and remained so for about six weeks. Mr. Rintoul trembled for the result of his experiment; but notwithstanding the untoward circumstances under which it was conducted, it has turned out most successful. He calculates that the yield will reach at least 25 bolls per acre, and the Potatos are of very fair size, and excellent to eat. At present they resemble new Potatos in flavour. Next year Mr. Rintoul contemplates raising at least as many Potatos as a second crop as will seed his farm. The Turnips which were this year sown after Potatos are now looking remarkably healthy, with a profusion of shaws and capital bulbs. Indeed, we have seen fields this year where the Turnips as a first and only crop did not equal in appearance those now to be seen at East Craigie.

When Mr. Rintoul entered the farm he was much annoyed with Finger-and-Toe in his Turnips, and liming heavily had no effect in preventing the disease. One year he ran somewhat short of dung, and applied instead on his Turnip field about 14 cwt. of bone and 3 cwt. of Patagonian guano to the Scotch acre, and he noticed that on this portion of the field there was no finger-and-toe. From that time forth he gave over applying farm-yard dung to the Turnip crop in the drill (whatever of that substance he gives is put on the stubble and ploughed in), and since then he has not been troubled with this provoking disease. Mr. Rintoul's opinion is that stable-yard applied in the drill is detrimental to Turnips, and that it is desirable in all cases to have the drills as low as possible. *Scottish Farmer.*

## Miscellaneous.

*Artificial Fertilisation of Crops.*—A singular discovery has lately been announced in France. The discovery however is that of a Dutchman, M. Hooibrenk, and the results of his researches have been so well marked and valuable that he has been awarded the Cross of the Legion of Honour by the Emperor, who has directed that a scientific commission be appointed to investigate and report upon the matter. M. Hooibrenk supposes that the number of grains in an ear of corn can be increased by bringing a larger quantity of pollen into contact with the stigmata than they usually receive. He conducts his experiments as follows:—He takes a cord of from 25 to 30 yards long, and fastens to it a stiff woollen fringe of about 10 inches long; he steeps it for a short time in honey, and drags it over the fields of corn two or three times after flowering. It catches the pollen from the anthers, and applies it to the stigmata (it is, in fact, Mr. Darwin's bee process on a gigantic scale), and the result is a greatly increased crop. This method has been tried in conjunction with the old one, on a farm near Epernay, in Champagne, the property of the celebrated wine dealers, Messrs. Jaquesson. The results beneath show the relative advantages of both systems:—

| | Hooibrenk's System. Kilogrammes. | Old System. Kilogrammes. |
|---|---|---|
| Wheat | 31 | 21 |
| Rye | 25.5 | 16 |
| Barley | 24 | 16 |
| Oats | 17 | 12 |

It has been conjectured that the results would have been still more striking had not this season been such a favourable one. Fruit and garden vegetables have been similarly treated, and with a like success. It has been found also that an inclination of 112° of the branches of the Vine produces some effect upon the flow of the sap, and increases the fruit crop. M. Hooibrenk maintains that by his process, and without any material additional outlay, crops of fruit, vegetables, and corn can be increased in value 50 per cent.

*Cattle Disease.*—The statistics which irrefutably indicate that Ireland is not prospering include a statement as to the decrease in the amount of live stock. Attention has been repeatedly drawn to this subject, and Lord Carlisle spoke not long ago in Dublin of the importance of attending more to the health of Irish stock, which his Yorkshire tenantry declared to be more subject to the prevailing epizootics than British cattle. Last year I had occasion to study very carefully the subject of disease among animals in Ireland, and arrived at the conclusion that whereas the soil and climate of Ireland are the most favourable in the three kingdoms for the rearing of healthy stock, there is a constant higher mortality there among cattle, sheep, and pigs, than either in England or Scotland. The losses in Britain are enormous, and urgently call for a more careful consideration of the question of prevention of disease among stock; but we have not so constantly as in Ireland the destruction of our cattle to the extent of 8 and 10 per cent., of our sheep up to 10 and 15, and among pigs up to 10, 12, and sometimes 20 per cent. How is it possible in the face of such losses that an essentially stock-producing country should thrive? Of late years the difficulties have been enormous in the way of getting calves in Ireland for the purpose of rearing and fattening. They have been bought up in Lancashire, Yorkshire, and adjacent counties, where, born in the cowsheds of large cities, they have contracted diseases which they have transmitted down the Irish Channel, and losses on them have been sustained amounting very frequently to 50 and 60 per cent. I was most careful in tracing the spread of contagious diseases; and the best informed persons in Dublin, several of whom were engaged in the trade of calves, assured me that owing to losses by disease there had been a great demand for English calves, and these had constantly carried over to Ireland the diseases which, in Britain, are due to the importation of foreign stock and to the ever increasing traffic in diseased animals. Many of your readers will doubtless remember how the Earl of Cork visited his tenantry last year, and granted reductions in rent in consequence of the heavy losses by disease. Mr. Herbert, of Muckcross, assured me that the demands on Irish landlords were great and universal from this same cause. Among sheep and pigs the losses by disease were very heavy last year. Indeed, the rot has destroyed thousands of sheep annually, and during 1862 the parasitic lung disease appeared with great virulence. The pigs have been carried off of late years by the so-called hog cholera, and the measles have continued to reduce the value of a very heavy per centage, though not so great as formerly. It is a very easy task to calculate losses to the amount of many hundred thousand pounds sterling per annum even in a poor country like Ireland, and all this by preventible disease among stock. Surely the subject should be inquired into, and unremittingly worked out. It is important to remember that when animals are destroyed by disease, there is not only the direct loss on their money value, but they are carried off the land they should fatten. When we consider how land improves by feeding sheep in it we can easily understand that last year Irish farmers lost enormous sums of money from the sheep dying off as they did. The losses cannot be calculated, as they are not confined to the single year. Land which is imperfectly manured one year requires more another, and to obtain this money must be spent. If the difficulties in the way of prevention of disease were insuperable, and if attention to the subject necessitated enormous expenditure, there might be some excuse for the absence of all effort in that direction; but as the immediate return for any trouble or expenditure would be very large, and ever increasing, it is truly surprising that

some steps are not taken by Government with a view somewhat to check the ravages by cattle, sheep, and swine plagues of home and of foreign origin in a country so poor as Ireland. If attention be paid to the health of stock, Mr. Donnelly's returns will soon change their aspect. If, on the other hand, we continue as for the past, Ireland's decline can only be accelerated. *John Gamgee, Principal of the New Veterinary College, Edinburgh. London, Oct. 23.* (*Times.*)

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | Oct. 30 | 29.36 | 50 | 50 | S. | 4 | 6 | 54 | 40 | 55 | 35 | 0.11 |
| Saturday .. .. | 31 | 29.49 | 50 | 44 | W. | 5 | 0 | 52 | 39 | 57 | 32 | 1.04 |
| Sunday .. .. | Nov. 1 | 29.55 | 44 | 41 | S. | 2 | 0 | 50 | 37 | 58 | 30 | .. |
| Monday .. .. | 2 | 28.89 | 45 | 43 | S.W. | 0 | 10 | 48 | 38 | 55 | 35 | 0.67 |
| Tuesday .. .. | 3 | 29.78 | 46 | 44 | S.W. | 2 | 10 | 48 | 39 | 57 | 34 | 0.10 |
| Wednesday .. | 4 | 29.92 | 57 | 55 | S.W. | 3 | 10 | 58 | 41 | 57 | 45 | 0.16 |
| Thursday .. .. | 5 | 30.17 | 55 | 54 | W. | 1 | 10 | 58 | 52 | 62 | 49 | .. |

## Notices to Correspondents.

BUTTER FROM CREAM: *Violet* has seen a statement in the report of the late Thornbury Agricultural meeting that Mr. P. W. S. Miles has obtained 26 oz. of butter from one quart of cream. She would be glad to know the common experience of dairywomen on this point. The late Mr. Horsfall obtained 25 oz. per quart by the use of Rape-cake in cow-feeding and by other management, resulting in an extremely dense cream. In general 21 or 22 pints of milk will yield 2 to 2 and 1-5th pints of cream, and for that 1 lb. of butter, which is quite in accordance with "Violet's" own experience of 15 oz. of butter from one quart of cream. Morton's "Hand-book of Dairy Husbandry" (Longmans) contains a lot of statistics on this subject.

GRASS LANDS: *Cross.* If the land is as it ought to be ploughed and cleaned, then you had better fold sheep over it, and in the spring break it up with the scarifier, and sow with the Barley seed the following mixture, which is adapted to a good loamy soil:—

| | |
|---|---|
| Aira cæspitosa lutescens .. .. .. | 1 lb. |
| Alopecurus pratensis .. .. .. | 2 |
| Arrhenatherum avenaceum .. .. | 1½ |
| Avena flavescens .. .. .. .. | 1 |
| Dactylis glomerata .. .. .. .. | 2 |
| Festuca duriuscula .. .. .. .. | 3 |
| F. heterophylla .. .. .. .. | 1 |
| F. loliacea .. .. .. .. .. | 1 |
| F. pratensis .. .. .. .. .. | 2 |
| Lolium italicum .. .. .. .. | 3 |
| L. perenne .. .. .. .. .. | 5 |
| Phleum pratense .. .. .. .. | 1½ |
| Poa nemoralis .. .. .. .. .. | 4 |
| P. trivialis .. .. .. .. .. | 1½ |
| Trifolium pratense .. .. .. .. | 4 |
| T. repens .. .. .. .. .. | 5 |

In all nearly 40 lb. per acre.

PLOT OF LAND: *Freehold.* Your field is "out of condition, a sandy soil now in Oats, and one-half next year to be green crop;" the other half might be put to some pulse crop. If you can get it clean before winter, you might apply guano as manure, and sow Peas in March next. It would then easily be brought under alternate husbandry.

SALT AND LIME: *T. D.* We would not put on more than 30 bushels per acre of a mixture of 1 to 3 of this substance. It might very well be mixed with the damp sawdust you allude to.

SMALL HOMESTEADS: *Architect.* You will find some plans in some of the earlier volumes of the "Edinburgh Quarterly Journal of Agriculture."

SOW: *Woodford.* The destruction of her young, which the sow will sometimes eat, is a phenomenon connected with temper rather than with food. She has been excited or disturbed; it is not owing to any deficiency of food.

WORMS IN HORSES: *Agricola.* Give the following, every evening for six days, in a mash:—Tartarised antimony, 2 scruples; submuriate of mercury, 1½ do.; sulphate of iron, 2 do.; after which, 2 pints of Linseed oil, or apply to your veterinary surgeon.


DAINTREE'S SEEDLING POTATO.—This fine flavoured early round white variety is certified in the "Journal of Horticulture," page 269, to have yielded at the rate of 22 TONS per Acre. Present price 6*l.* per Ton, or 8*s.* per cwt.; and to prevent disappointment orders (enclosing remittance) should now be sent to Mr. SIMON A. DAINTREE, of Fendrayton, St. Ives, Hunts. Sacks, 2*s.* each.

**Seed Potatoes.**

H. AND F. SHARPE are now prepared to make special offers to the Trade of the following varieties of SEED POTATOES, which have been harvested in fine condition, and free from disease. They comprise all the sorts worthy of cultivation, and have been grown with much care from the finest selected stocks. As the yield this season is very fine, the prices will be moderately low, and may be had on application.

| | |
|---|---|
| Improved Ash-leaved Kidney | Early Fox's Seedling |
| Jackson's do. do. | Early Round Frame |
| Walnut-leaved do. | Early Martin's Globe |
| MYATT'S PROLIFIC do. | Early Golden Globe |
| (very productive) | Early King (for forcing) |
| Fluke Kidney | Early British Queen |
| Lapstone do. | Early Cockney |
| EARLY DALMAHOY | Early Forty-fold |
| Early Oxford | Early Snowball |

Seed Growing Establishment, Wisbech.

THE EARLIEST PEA KNOWN is CARPENTER'S EXPRESS (pods larger than any other early Pea).

Among *numerous* Testimonials the following has been received:—

*From* Mr. JONES, *Gardener to Lord Leconfield, Petworth, Sussex. June 3*, 1863.

"I beg to say I have found Carpenter's Express Pea to answer well as an early one; it was sown on the 20th of November, on a south border, and I gathered the first dish on the 7th of May. I had Daniel O'Rourke and your Pea side by side in November, 1861, and gathered First from Carpenter's Express in May, 1862, which led me to grow it as my earliest this year."

New Seed to be had only of EDWARD CARPENTER, Seed Merchant, Brighton and Sussex Seed Establishment, 96, St. James's Street, Brighton. Price 2*s.* 6*d.* per quart.

Early Orders are solicited, which will be executed strictly in priority.

FOR SALE, 200 Large Roots of EARLY RHUBARB, fit for forcing, at 5*l.* Several thousand 4-year old ASPARAGUS ROOTS, at 5*s.* per 100, or 2*l.* per 1000. Some hundred SEAKALE, at 5*s.* per 100.

Also TREES and SHRUBS, including Planes, Chesnuts, Birch, Oaks, Walnuts, Poplars, Acacias, Laburnums, and several small Limes; some fine Aucubas, Laurels, Privets, &c., to be disposed of a bargain, the ground to be cleared by Christmas

Apply to A. LAIDLAW, 17, Church Street, Stoke Newington.

ORCHARD-HOUSE TREES.

| Each.—*s. d.* | | Each.—*s. d.* | |
|---|---|---|---|
| Apricots, fine pyramids and bushes 3*s.* 6*d.* to | 5 0 | Peaches, pyramids and bushes 3*s.* 6*d.*, 5*s.*, & | 7 6 |
| ,, standards .. .. | 7 6 | ,, half standards 5*s.* to | 7 6 |
| Apples, pyramids .. | 2 6 | ,, standards .. .. | 7 6 |
| Cherries, pyramids and bushes .. .. | 3 6 | Pears, pyramids and bushes .. .. | 3 6 |
| Figs .. 3*s.* 6*d.* to | 5 0 | Plums, pyramids and bushes .. .. | 3 6 |
| Mulberries, bushes .. | 5 6 | Vines from eyes, fine 3*s.* 6*d.* to | 7 6 |
| Nectarines, pyramids and bushes 3*s.* 6*d.* to | 5 0 | | |

The above are in pots and all full of blossom buds. The stock consists of many thousands of trees, and is the largest known. To facilitate package and lessen the cost of carriage, the trees are taken from their pots and packed with their balls of earth intact in crates and baskets. Carriage paid to London.

THOS. RIVERS & SON, Nurseries, Sawbridgeworth.

**Fruit Trees.**

JOHN CRANSTON offers superior, healthy grown plants of all the best varieties of FRUIT TREES, DESCRIPTIVE CATALOGUES of which will be forwarded on application.

| | Each.—*s. d.* |
|---|---|
| APPLES.—Very fine Dwarf-trained .. .. | 2 6 |
| ,, Pyramids .. .. .. | 2 6 |
| ,, Standards .. .. 2*s.* to | 2 6 |
| APRICOTS.—Dwarf-trained .. 3*s.* 6*d.* to | 5 0 |
| ,, Standard-trained .. 5*s.* to | 7 6 |
| CHERRIES.—Dwarf-trained .. 3*s.* 6*d.* to | 4 6 |
| ,, Pyramids .. 2*s.* 6*d.* to | 3 6 |
| GRAPE VINES.—Standards .. .. | 2 6 |
| ,, Very fine and well-ripened .. 2*s.* 6*d.* to | 5 0 |
| NECTARINES.—Dwarf-trained .. 3*s.* 6*d.* to | 5 0 |
| ,, Standard-trained .. 5*s.* to | 7 6 |
| PEACHES.—Dwarf-trained .. 3*s.* 6*d.* to | 5 0 |
| ,, Standard-trained .. 5*s.* to | 7 6 |
| PEARS.—Dwarf-trained .. .. | 3 6 |
| ,, Pyramids .. 2*s.* 6*d.* to | 3 6 |
| ,, Standards .. .. | 2 6 |
| PLUMS.—Dwarf-trained .. 3*s.* 6*d.* to | 4 6 |
| ,, Standards .. .. | 2 6 |
| WALNUTS.—Standards .. .. | 2 6 |
| ,, Extra strong .. 3*s.* 6*d.* to | 5 0 |

GOOSEBERRIES, CURRANTS, FIGS, RASPBERRIES, STRAWBERRIES, &c.

PEACHES, NECTARINES, and APRICOTS, established in Pots for Orchard House Culture, 5*s.* each.

ASPARAGUS, two years .. .. .. 2*s.* 6*d.* per 100
SEA KALE, ,, .. .. .. 8*s.* per 100

Nurseries, King's Acre, near Hereford.

DICKSONS AND CO., NURSERYMEN, SEEDSMEN, and FLORISTS, Waterloo Place, Edinburgh, respectfully invite the attention of gentlemen who are about to be engaged in planting, to their extensive stock of FOREST and ORNAMENTAL TREES and SHRUBS, FRUIT TREES, ROSES, &c., all of which are in fine condition for removing at present, the wood having been thoroughly matured by the unusually favourable summer.

PRICED CATALOGUES and samples can be had free on application.

SEPARATE CATALOGUES can also be had of Rhododendrons and Conifers, Stove and Greenhouse Plants, and Ferns, Herbaceous and Alpine Plants, New Pansies, Florists' Flowers, Dutch Flower Roots, Gladiolus, Vegetable and Flower Seeds, Agricultural Seeds, &c.

WHOLESALE NURSERY LIST to the Trade on application.

**Transplanted Larch and Quicks.**

CHIVAS AND WEAVER, (late GEO. CHIVAS) Chester, offer SEVEN MILLIONS of TRANSPLANTED LARCH from 1½ to 4½ feet, the quality is unexceptionable; and FOUR MILLIONS of TRANSPLANTED THORNS, a very large proportion of which are four years old, and of extra strength; together with corresponding proportions of SPRUCE, SCOTCH OAK, &c.; and a most extensive general Nursery Stock.

For Prices and Conditions of Free Delivery see Catalogue, which will be forwarded on application.

**New Pear, British Queen (Ingram).**

CHARLES TURNER has much pleasure in offering this beautiful Pear to the Public, the merits of which are known to many, but the following testimony to its excellence will be conclusive. The following description is supplied by Mr. Powell, of the Royal Gardens, Frogmore:—

"This Queen of Pears was raised by Mr. Ingram, Gardener to Her Majesty at Frogmore, and considered by all who have had the opportunity of testing its merits, to be the best Pear ever raised. The late Prince Consort was so pleased with the fruit, that he characterised it as the best Pear he had ever tasted. It received a First-class Certificate from the Fruit Committee of the Royal Horticultural Society in 1861, and since maintained its character by taking the First Prize at the great Autumn Show of the above Society in 1862. The fruit is large, pyramidal in form, skin smooth and glossy, of a fine golden yellow, partly spread with cinnamon russet, and often a tinge of lively crimson on the sunny side; flesh yellowish white, very fine grained, with an abundance of juice, which is saccharine and rich, with a fine aromatic flavour; in beauty and excellence it has no equal; ripe in October and November."

Extracts from the *Gardeners' Chronicle* report of the Royal Horticultural Society's Great Autumn Fruit Show, October 8, 9, and 10, 1862 —

"Of Pears shown in a ripe state the best came from Mr. Ingram, Frogmore, who showed a beautiful dish of British Queen, a variety of which we have already spoken in favourable terms."—*Gardeners' Chronicle*, Oct. 11, 1862.

"Of novelties among the Pears of this class (Dessert) we noted very handsome fruit of the British Queen, from Mr. Ingram, Royal Gardens, Frogmore."—*Gardeners' Chronicle*, October 18, 1862.

"Hogg's Gardeners' Year Book for 1863" has a drawing with the following description:—

"BRITISH QUEEN.—This beautiful fruit is well worthy of the name it bears; the fruit is large and of a pyramidal shape, frequently having the stalk inserted obliquely; but this is not its constant character, and the outline is undulating and bossed. The skin is smooth, and almost entirely covered with a thin coat of cinnamon-coloured russet, but on the side next the sun it has a blush of bright rosy crimson; flesh yellowish white, very fine grained, buttery and melting, rich, sugary, and having the flavour of Marie Louise, coupled with that peculiar briskness which is found in the Windsor. It ripens the beginning of October."

"The Journal of Horticulture," October 15, 1861, says:—

"A seedling Pear was received from Mr. Ingram, Gardener to Her Majesty at Frogmore. We believe it was raised from seed of the Seckel, crossed with Marie Louise; it is called British Queen, and is most appropriately and worthily named. The fruit is large and pyramidal, of a fine golden yellow colour on the shaded side, and covered with a crust of fine cinnamon-coloured russet next the sun, and with a blush of rosy crimson. The flesh is firm and not crisp, very juicy and melting, and with a rich brisk flavour and a fine aroma. This was awarded a First-class Certificate."

The same authority, writing of the Great Fruit Exhibition at Kensington, October 14, 1862, adds:—

"The Flemish Pears, on the whole, were more sleek-looking than ours, but it is a question if any of them were superior to an English Seedling from Mr. Ingram, of Frogmore, named British Queen, which was one of the best looking Pears in the whole Exhibition for a first-class dessert. It is all very well to have Algerian Goliath looking Pears and Apples at a Lord Mayor's dinner, but for an aristocratic dinner that is not the fashion; but the moderate in size and the best looking, with the proper names sent up with them, and the British Queen Pear is a model for such a dinner."

Lastly, it is figured in "The Florist" for June, 1863, with the following remarks:—

"It always affords us infinite pleasure to be able to announce the appearance of a new British fruit of real merit. We have been so far behind our Continental neighbours in raising new varieties to any extent, that it is gratifying when we hear of any new success in this branch of horticulture. Mr. Ingram, Gardener to Her Majesty at Frogmore, is one of the few professional gardeners who have directed their attention to the hybridising and raising of Seedling fruits; the subject which we will bring under the notice of our readers is one of his raising. The fruit is large and pyramidal, somewhat undulating in its outline, and very handsome in its appearance; the skin is smooth and shining, of a fine golden yellow colour, freckled with patches of thin delicate cinnamon-coloured russet, and with sometimes a blush of lively crimson on the side which has been much exposed to the sun; the eye is small, with short narrow segments, and set in a considerable hollow; stalk about an inch long, stout and sometimes obliquely inserted, but generally straight with the axis of the fruit, and inserted in a round narrow cavity; flesh yellowish white, very fine grained and buttery, with an abundance of juice, which is rich, sugary, and piquant, and with a fine aroma. A very excellent dessert Pear, ripe in October. It received a First-class Certificate from the Fruit Committee of the Royal Horticultural Society, and the stock is, we believe, in the possession of Mr. Turner, of Slough."

Plants, 10*s.* 6*d.* and 15*s.* Dwarf-trained, 20*s.*
A few Fruiting Pyramids, 42*s.*
A Coloured Drawing may be had post free for 12 postage stamps.

A CATALOGUE of ROSES, CONIFERÆ, FRUIT TREES, &c., is now ready.

GEO. DAVIES begs to offer to the Trade the undernamed:—

ARAUCARIA IMBRICATA, from pans, 2 to 4 inches, 20*s.* per 100; 4 to 5 inches, 25*s.* per 100.
ACROPHYLLUM VENOSUM, 3 to 6 inches, 36*s.* per dozen.
GENETYLLIS TULIPIFERA, 6 to 12 inches, 36*s.* per dozen.
,, HOOKERII, 6 to 12 inches, 36*s.* per dozen.
RHODODENDRON RETUSUM, 6 to 12 inches, 30*s.* per doz.
,, ,, 12 to 15 inches, bushy, 36*s.* per dozen.

Reference or Remittance from unknown Correspondents.

Green Lane Nurseries, Old Swan, Liverpool.

SPRING EXHIBITIONS.—The following will be found worth the attention of cultivators, as the finest kinds for competition, also for winter and spring display in the Conservatory. The quality of all is first class.

PRIMULA SINENSIS, with fimbriated flowers.—ALBA, pure white, 6*d.* and 9*d.*; RUBRA, rich crimson, 6*d.* and 9*d.*; PICTA, mauve on white, 1*s.* CARMINATA RUBRA, most distinct and beautiful new colour, 1*s.* 6*d.* and 2*s.* 6*d.* FILICIFOLIA ALBA, 2*s.* 6*d.*, and FILICIFOLIA CRIMSON, 2*s.* 6*d.* to 3*s.* 6*d.*, the beautiful white and crimson Fern leaved.

PRIMULA SINENSIS, with double flowers.—NIVEA PLENA, 2*s.* 6*d.*; ALBA PLENA, 1*s.* and 1*s.* 6*d.*; ROSEA PLENA, 2*s.* 6*d.*; RUBELLA PLENA, 2*s.* 6*d.*; ALBA PLENA FIMBRIATA, blush white, 1*s.* 6*d.*; ATROROSEA FIMBRIATA PLENA, rich crimson, 7*s.* 6*d.* to 15*s.*

CALCEOLARIA.—This stock is carefully hybridised, 6*d.* and 9*d.* each.

CINERARIA.—Best sorts, by name, 6*d.*, 9*d.*, and 1*s.* each.

E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

MESSRS. BROWN AND CO. offer the following Selection of CHOICE PLANTS, which they will forward to any part of the kingdom :—

| | s. | d. |
|---|---|---|
| 25 AZALEAS, new hardy Belgian varieties, one of a sort, on their own roots, by name .. .. .. | 20 | 0 |
| 25 AZALEAS, hardy American varieties, do. do. .. | 15 | 0 |
| 12 Hardy RHODODENDRONS, one of a sort, including Scarlet, White, and Rose colour .. .. .. | 12 | 0 |
| Hardy HEATHS, LEDUMS, and KALMIAS, per doz. | 6 | 0 |
| ROSES, best sorts, Standards and Half Standards, per dozen, 12s. to | 15 | 0 |
| CLIMBING ROSES, of best sorts .. .. per dozen | 6 | 0 |
| PILLAR and TRELLIS ROSES .. .. ,, | 9 | 0 |
| DWARF ROSES for beds or forcing, including Bourbons, Teas, and Perpetuals .. per dozen | 12 | 0 |
| Choice Hardy PINUS and other CONIFERÆ. Cheap. Price List by post. | | |
| Greenhouse AZALEAS, fine varieties, per dozen, 10s. to | 15 | 0 |
| CAMELLIAS, best double varieties .. per dozen | 28 | 0 |

CHOICE FRUIT TREES.

Fine Standard and Dwarf-trained Peaches, Nectarines, Apricots, Cherries, Apples, Plums, and Pears, 2s. 6d. each, or 24s. per dozen.

Dwarf Plants of all the above kinds, grown especially for pot culture in Orchard Houses, &c., 18s. per dozen.

Filberts, Gooseberries, Currants, and Raspberries, p. doz., 3s.

American Nurseries, near Farnham, Surrey.—Nov. 7.

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LOUIS VAN HOUTTE, Nurseryman and Seedsman, Ghent, Belgium, begs to call attention to his three new PRICE LISTS, No. 97, 98, and 99, containing the Stove, Greenhouse, and Hardy Plants (212 pages 12mo).

Agents in London: Messrs. R. Silberrad & Son, 5, Harp Lane, Great Tower Street, E.C.

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W. VIRGO and SON have a large Stock of the following to offer for Sale at very moderate prices :—

| | |
|---|---|
| Apples, standard | Holly, Green, 9 to 12 in. |
| Ditto, espalier | Laburnum, 6 to 8 ft. |
| Beech (Common), 3, 4, to 6 ft. | Laurel, Common, 2 to 3 ft. |
| | Ditto, Portugal, 1 to 2 ft. |
| Berberis aquifolia, 12 to 18 in. | Mountain Ash, 6 to 9 ft. |
| Ditto dulcis, 1, 2, to 3 ft. | Oak, English, 3, 4, to 5 ft. |
| Briar (Sweet), 2 to 3 ft. | Ditto, 2 years seedling |
| Cherries, espalier | Ditto, Turkey, 3 to 4 ft. |
| Ditto, standard | Poplars of various kinds, 4 to 6 ft. |
| Cotoneaster mycrophylla, 9 to 12 in. | Privet, 2 to 3 ft. |
| Hazel, 1 year seedling | Sycamore, 3, 4, 5, to 6 ft. |

All the above are strong, healthy, and well rooted.

Samples with prices can be had on application at the Nursery, Wonersh, near Guildford, Surrey.

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WILLIAM DILLISTONE begs to offer the following in Strong PLANTS for stock. He has bloomed nearly every variety that has been sent out this year, and has reserved only such in stock that are superior to older varieties, and having an immense stock, he begs to offer them at the undermentioned low prices :—

| | Per doz.—s. d. | | Per doz.—s. d. |
|---|---|---|---|
| New Fuchsias, choice selections .. .. | 6 0 | New Ageratum, Prince Alfred .. .. | 6 0 |
| ,, Verbenas, ditto .. | 4 0 | ,, Pampas Grass, Gynerium argenteum roseum .. .. | 9 0 |
| ,, Antirrhinums, ditto . | 4 0 | ,, Geraniums, choice selection, from .. | 9 0 |
| ,, Petunias, ditto .. | 4 0 | ,, Roses, ditto 24s. to | 36 0 |
| ,, Pentstemons .. .. | 6 0 | ,, Lonicera aureo-reticulata .. 6s., 9s., and | 12 0 |
| ,, Lobelias, including Paxtoniana, and five others, ditto .. | 3 0 | ,, Echeveria metallica each | 2 6 |
| ,, Tropæolums, including Ball of Fire, ditto .. .. .. | 6 0 | ,, Solanum capsicastrum fol. variegatum each 1s. | 9 0 |
| ,, Veronicas, ditto .. | 9 0 | ,, Perpetual Flowering Pink per pair, 1s 6d. | 12 0 |
| ,, Gazanias, ditto .. | 9 0 | ,, Phlox, Mrs. Mitchell each | 1 0 |
| ,, Lantanas, ditto .. | 9 0 | ,, Strawberry, the Tietjen | 4 0 |
| ,, Chrysanthemums, do. | 6 0 | ,, Strawberry, Princess of Wales .. .. | 12 0 |
| ,, Heliotropes, ditto .. | 6 0 | | |
| ,, Hollyhocks, ditto .. | 18 0 | | |
| ,, Mimulus (maculosus), Bull's, ditto .. | 4 0 | | |
| ,, Do., Henderson's, do. | 4 0 | | |
| ,, Pansy, Good Gracious | 9 0 | | |

Also the following, in Strong Plants :—

| | Per doz.—s. d. | | Per doz.—s. d. |
|---|---|---|---|
| Hepaticas, sorts .. 3s. to | 4 0 | Œnothera splendens .. | 4 0 |
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| Polyanthus, choice mixed | 3 0 | Phlox, fine named .. | 4 0 |
| Auriculas, border var. .. | 3 0 | Rock Cistus, in 20 vars., named, the collection | 6 0 |
| Lilies of the Valley .. | 2 0 | Hollyhocks, fine named | 6 0 |
| Lavender .. .. .. | 3 0 | ,, seedlings, from .. | 3 0 |
| Pinks, finest named .. | 3 6 | Centaurea candidissima | 9 0 |
| Rockets, Double White and Yellow .. .. | 4 0 | Gnaphalium lanatum .. | 4 0 |
| Violets, Double White, Purple and Russian .. | 3 0 | Pansies, fine named .. | 3 0 |
| Œnothera missouriensis | 4 0 | Roses, fine named 9s. to | 12 0 |
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100 CHOICE HARDY HERBACEOUS PLANTS, in 50 varieties, carefully named and packed for 20s. Carriage paid.

A DESCRIPTIVE CATALOGUE of the New Plants free for one stamp.

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SPECIAL OFFER of SHRUBS and TREES.—The Subscriber having an abundant Stock of the following, he is prepared to offer same much below the usual rates. The undernoted is well worthy the attention of the Trade and parties about to plant, the Subscriber's Nursery having been for the past 50 years famed for producing particularly fine rooted plants Prices per 100 and 1000 on application.

AUCUBA JAPONICA, 12-inch ; APPLE STOCKS, 1-yeardo. 2 feet, Transplanted ; ARBORVITÆ, AMERICAN, 1-year laid, 6 to 12-inch ; AZALEA PONTICA, 12-inch ; BARBERRY, COMMON, 12-inch ; BIRD CHERRY, 2 to 3 feet ; BIRCH, Transplanted, very scarce, 1½ feet ; RED CEDARS, 9-inch ; CUPRESSUS MACNABIANA, 2 feet ; CUPRESSUS THUJOIDES, 6-inch ; EUGENIA UGNI ; 3-year SEEDLING SILVER FIR ; 2-year SEEDLING HAZEL ; GREEN HOLLIES ; 1-foot LAUREL, COMMON ; 1 to 3-feet PEAR STOCKS ; 1-year SEEDLING, and 2½-feet Transplanted PINUS CEMBRA, 3-feet, very fine specimens ; PINUS AUSTRIACA, 1 to 2-feet ; QUINCE STOCKS, 2 feet, very fine stems. SPURGE LAUREL, 1 to 2 feet.

Robert T. Mackintosh, Nurseryman and Seedsman, 12, Melbourne Place, George IVth Bridge, Edinburgh.
Nursery, Leith Walk.

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REIGATE SILVER SAND.—Best quality, 7s. 6d. per ton ; packed, 16s. per ton ; ditto 5s. 4 cwt. ; ditto Clarified fine or sharp, 2s. 6d. cwt., put on the Rail at Reigate.

Best and second quality PEAT SOIL, LOAM, &c.

N.B. Loaded Trucks can be sent on all the principal Railways.

W. Short, Reigate, Surrey.

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ENGAGED IN PLANTING.

# JOHN WATERER

Respectfully invites the attention of Gentlemen engaged in Planting to the under-named SELECTIONS of PLANTS, which he has no hesitation in saying are not to be surpassed by any Establishment in the Trade. They are all handsome, symmetrical Plants ; have never been injured by pot-culture, and from frequency of removal are in an excellent state for transplanting without any risk of failure. J. Waterer being in possession of such an immense Stock is determined to treat on the most liberal terms, and is fully convinced that Purchasers, by paying a visit and selecting their own specimens, would find themselves amply repaid by the journey, which is easily accomplished by the South-Western Railway (Reading Branch) to Sunningdale Station, which is near the Nursery.

RHODODENDRONS, STANDARDS, of all the leading choice Scarlet, Crimson, Rose, and other varieties, handsomely grown, straight stems, 3 to 4 and 5 feet, consisting of such kinds as Concessum, Congestum roseum, Lady Eleanor Cathcart, Blandyanum, John Waterer, Alfrida, Lefevreanum, and such others as are annually displayed by us at the Exhibition of Rhododendrons in the Royal Botanic Gardens, Regent's Park. Price 31s. 6d. to 63s. and 105s. each.

RHODODENDRONS, HALF STANDARD, of the most approved kinds, 2 to 3½ feet in stems, and symmetrical heads, 21s. to 42s. each.

RHODODENDRONS.—Hardy Scarlet, Crimson, Rose, White, and other choice kinds for superior clumps or borders, fine well grown plants, 1½ to 2 and 3 feet, 42s. per dozen, or 12l. 10s. to 15l. per 100. Large bushy plants, 3 to 4 and 5 feet, at a corresponding increase in price.

RHODODENDRONS.—Immense quantities of fine Seedling varieties, in large bushy plants, 1½ to 2 or 3 feet, 30s. to 42s. per dozen. These varieties would be found very serviceable if introduced into clumps of the more choice kinds. They are of all colours, from bright rose to pink and white, and carry handsome hardy foliage.

RHODODENDRONS, Dwarf-growing kinds.—We cultivate about eight varieties, some of which are delightfully scented in their foliage and flowers. From their close-growing habits they make very excellent clumps for the decoration of winter beds, or as edging to masses of the stronger growing kinds. Strong plants, 1 to 1½ foot, 15s. per dozen, or 4l. 10s. per 100

RHODODENDRON CATAWBIENSE and HYBRID CATAWBIENSE, 9 to 12 to 15 inches. Good bushy plants, 21s. per 100, or 8l. 8s. per 1000. These are recommended to plant with Ponticum. Many very fine varieties would be flowered amongst them Their colours are of various shades, from lilac to rose and white, and carry excellent foliage.

RHODODENDRON PONTICUM.—A large quantity, 1 to 1½ foot, 25s. to 30s. per 100 ; 1½ to 2 feet, 42s. to 63s. per 100. This kind is recommended to the attention of planters of game covers, as it will thrive in any soil or situation, and is never injured in the most severe weather by hares or rabbits.

HARDY AZALEAS, for extensive planting, 50s. to 75s. per 100. Colours : Scarlet, Orange, Pink, Yellow, &c.

HARDY AZALEAS, of the most superior Belgian and other varieties, 24s per dozen, or 7l. 10s. per 100.

KALMIA LATIFOLIA.—Fine bushy plants, 1½ to 2 feet, 7l. 10s. per 100.

ANDROMEDA FLORIBUNDA, fine bushy plants :—
1 to 1½ foot, 24s. per dozen
1½ to 2 feet, 42s. to 63s. per dozen

Collection of HARDY HEATHS, in good plants, 30s. per 100.

PINUS NORDMANNIANA.—Of this justly admired Fir we hold by far the largest stock of really handsome Seedling plants to be found in the Trade, and can offer them strong and well shaped, as follows :—
1 foot, 7s. 6d. each, 72s. per dozen
1 to 1½ foot, 10s. 6d. each, 5l. 5s. per dozen
1½ to 2 feet, 21s. to 31s. 6d. each
2 to 3 feet, 42s. each
3 to 4 feet, 63s. to 84s. each
4 to 5 feet, 105s. each
The three last mentioned sizes are magnificent plants.

PINUS NOBILIS, all Seedlings—
1-year's Seedlings, strong, 12s. per dozen, or 84s. per 100
About 1 foot, 10s. 6d. each, 84s. per dozen
1 to 1½ foot, 21s. each
2 to 3 feet, very fine, 42s. to 63s. each

PINUS LASIOCARPA, Seedlings—
1 to 1½ foot, 10s. 6d. each
1½ to 2 feet, 21s. to 31s. 6d. each
2 to 3 and 4 feet, 42s. to 105s. each

PINUS AMABILIS, Seedlings—
1 foot, 7s. 6d. each ; 70s. per dozen
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PINUS GRANDIS (true of Douglas)—
1 foot, 7s. 6d. each
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1½ to 2 feet, 24s. per dozen, 7l. 10s. per 100
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Larger, 4 to 5, 6, and 8 feet

PINUS PINSAPO—
1½ feet, 42s. per dozen
1½ to 2 feet, 7s. 6d. to 10s. 6d. each
2 to 3 and 4 to 5 feet, 21s. to 63s. each.

PINUS INSIGNIS—
2 to 3 feet, 10l. per 100
3 to 4 feet, 3s. 6d. each, 30s. per dozen
4 to 5 feet, 5s. each, 42s. per dozen
5 to 7 feet, 7s. 6d. to 10s. 6d. each

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2 to 3 feet, 5s. each, 42s. per dozen
3 to 4 feet, 7s. 6d. each, 60s. per dozen
4 to 5 and 6 feet, 10s 6d. to 21s. each

PINUS EXCELSA—
3 to 4 feet, 30s. per dozen | 4 to 5 feet, 3s. 6d. each

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2 to 3 feet, 5s. to 10s. 6d. each | 3 to 4 feet, 10s. 6d. to 21s. each

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2 to 3 feet, 5s. to 7s. 6d. each | 4 to 5 feet, 31s. 6d. to 42s. each
3 to 4 feet, 10s. 6d. to 21s. each | 5 to 6 to 10 feet, 63s. to 210s. ,,

THUJOPSIS BOREALIS—
1½ to 2 feet, 18s. per dozen, 6l. 10s. per 100
2 to 3 feet, 30s. per dozen, 11l. 10s. per 100
3 to 4 feet, 42s. to 60s. per dozen
4 to 5 feet, 7s. 6d. to 10s. 6d. each
Of this most hardy and desirable plant we possess a stock far greater than can be met with elsewhere, and not a grafted plant amongst them.

THUJA AUREA—
2 feet, 5s. each, 42s. per dozen, or 15l. per 100
2 to 3 feet, 7s. 6d. each, 60s. per dozen, 20l. per 100
3 to 4 and 5 feet, 10s. 6d. to 21s. to 63s. each

THUJA GIGANTEA—
2 to 3 feet, 5s. each, 42s. per dozen, 15l. per 100
3 to 4 feet, 7s. 6d. each, 70s. per dozen
4 to 5 feet, 10s. 6d. to 21s. each
5 to 6 feet, 31s. 6d. to 42s. each
This is a plant to which we beg to direct especial attention, and from its extreme hardiness and bright green foliage must ultimately become very generally planted. It is admirably adapted to form Avenues. Intending planters would find our stock of this fine plant exceeding by far that of any establishment in England. None are grafted.

THUJA OCCIDENTALIS—
3 to 4 and 5 feet, 30s. to 50s. per 100
This forms a highly ornamental hedge, far preferable to Yew, from its faster growth. The hedges in our grounds, 8 to 10 feet high and 2 feet thick, are formed of it.

CUPRESSUS THUJOIDES VARIEGATA—
2½ to 3 feet, 42s. per dozen, 15l. per 100
3 to 4 feet, 5s. to 7s. 6d. each

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3 to 4 feet, 3s. 6d. each | 4 to 5 feet, 5s. each

CUPRESSUS LAWSONIANA VARIEGATA, 21s. each
A beautifully variegated form of Lawsoniana, of which we hold the entire stock of saleable plants.

CEDRUS DEODARA—
3 to 4 feet, 3s. 6d. each, 15l. per 100
4 to 5 and 6 to 7 feet, 5s. to 10s. 6d. to 21s. each
We hold a large stock of this Cedar, and would recommend such 4 to 5 and 6 feet as the most preferable size to plant. Large handsome specimens could also be furnished from 10 to 15 feet, and which would be sold at a very cheap rate.

CEDARS of LEBANON—
4 to 5 feet, 5s. each, 42s. per dozen

CEDRUS AFRICANA—
4 to 5 feet, 5s. each, 42s. per dozen

JUNIPERUS HIBERNICA—
3 to 4 feet, 24s. per dozen, 8l. 8s. per 100
4 to 5 feet, 30s per dozen, 10l. per 100
5 to 6 feet, 3s. 6d. to 7s 6d each
6 to 10 feet, 10s. 6d. to 42s. each

WELLINGTONIA GIGANTEA—
1 to 1½ feet, 18s. to 30s. per dozen
1½ to 2 feet, 3s. 6d. to 5s. each, 50s. per dozen
2 to 3 feet, 7s. 6d. to 21s. each
3 to 4 feet, 21s. to 42s. each
4 to 5 feet, 63s. to 105s. each

IRISH YEW—
4 to 5 feet, 3s. 6d. each — 5 to 6 feet, 5s. to 7s. 6d. each
6 to 7 and 8 to 10 feet, 10s. 6d. to 42s. each
Our stock of this Yew have all been trimmed to one single leader, and are very close in their form.

GOLD and SILVER YEWS, grafted on the stems of Irish Yews, about 4 feet from the ground, the variegated portion being from 1 to 1½ feet in length, 10s. 6d. to 21s. to 42s. each

STANDARD PORTUGAL LAURELS, 3 to 4 and 5 feet stems, very straight stems and handsome close-grown heads, 10s. 6d. to 21s. each

STANDARD WEEPING HOLLIES, 6 to 8 and 10 feet stems, 21s. to 105s. each

HOLLIES, GREEN, 1½ to 2 and 3 to 4 feet, 30s. to 50s. per 100. 3 to 4 and 5 to 6 feet, large quantities in fine condition, 9d. to 5s. each

HOLLIES, GOLD and SILVER, in all the approved varieties, by the hundred or thousand, 2 to 3 and 4 to 5 and 6 feet

PORTUGAL LAURELS—
Very fine, 2 to 3 and 4 to 5 feet, 3l. to 7l. 10s. per 100

We have likewise immense quantities of the leading kinds of EVERGREENS of all sizes, such as Yews, Box, Bays, Aucubas, Arbutus, Phillyreas, Common and Portugal Laurels, &c., as well as fine strong transplanted FOREST TREES, 2 to 3 and 4 feet, consisting of Ash, Beech, Alder; Spanish Chestnut, Hazel, Withy, Larch, Spruce, Pinus austriaca, &c.

CATALOGUES describing the colours of all the RHODODENDRONS worthy of cultivation, with a list of CONIFEROUS PLANTS, with heights and prices, forwarded to all applicants.

☞ Purchasers of large quantities of Goods are informed that the great expense incurred by Package is now greatly diminished, as we can forward from Sunningdale, in through trucks without change, to all Stations on the Great Northern, North-Western, Eastern Counties, and Great Western (narrow gauge) Railways ; also by South-Eastern and Brighton Lines by way of Blackwater.

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THE AMERICAN NURSERY, BAGSHOT, SURREY.

Near Sunningdale Station, South-Western Railway, and Blackwater Station, South-Eastern Railway, where excellent Conveyances await all Trains.

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TWENTY-SEVEN FIRST PRIZES DURING THE PAST SEASON.

# PAUL & SON,

OLD CHESHUNT NURSERIES, HERTS, N.,

Beg to announce that they are now sending out the above. Their Stock of both STANDARD and DWARF ROSES was never finer.

CATALOGUES will be forwarded free on application.

PAUL & SON would solicit early orders, as the stock of certain kinds, as H.P. LORD CLYDE and CHARLES LEFEBVRE, &c., is but limited.

To gentlemen planting Rosaries they would be happy to submit Plans, or to furnish Roses by the 100 or 1000 at special prices.

## ROSES.

TWENTY-ONE FIRST PRIZES FOR ROSES WERE AWARDED TO

# WILLIAM PAUL

at the principal London Flower Shows.

SUPERIOR STANDARDS, 18*s*. per doz. and upwards. | SUPERIOR DWARFS, 9*s*. per dozen and upwards.

All the NEW ROSES, including BEAUTY of WALTHAM, MRS. WM. PAUL, and LORD MACAULAY (three of the best), in almost unlimited quantities.

The NEW PRICED CATALOGUE is now ready Free by Post.

## FRUIT TREES.

APPLES, PEARS, PLUMS, CHERRIES, APRICOTS, PEACHES, NECTARINES, FIGS, GRAPE VINES, GOOSEBERRIES, CURRANTS, RASPBERRIES, STRAWBERRIES, &c. All the really desirable sorts in perfect condition for transplanting at lowest advertised prices. Fruit-bearing trees of the first seven fruits may be had suitable for potting, for orchard-house culture, from 18*s*. to 30*s*. per dozen.

PRICED CATALOGUE Free by Post.

## PLANTING.

Planting to any extent, with or without the supervision of the Trees, &c., till established, undertaken in any part of the United Kingdom. The rich and varied collection of Trees and Shrubs growing in one Nursery of 30 acres has been removed within three years, which is almost a guarantee of success in Transplantation.

PAUL'S NURSERIES and SEED WAREHOUSE, WALTHAM CROSS, N.



NEW HARDY LATE FLOWERING RHODODENDRONS.

## PRINCE OF WALES.

Brilliant rose shaded with purple, divided black marking on the upper petals, compact truss, good substance, a profuse bloomer, very hardy, and flowers end of June.

**Strong young plants, 21s. each. | A few larger ones, 42s. each.**

## PRINCESS OF WALES.

Deep magenta edge, pure white centre, primrose flake on the upper petals, slightly spotted with brown, compact truss and good substance. TOTALLY DISTINCT FROM ANY KNOWN RHODODENDRON. Hardy and late. A really beautiful variety.

**Strong plants, 21s. each. | Larger, 42s. each. | A few extra size, 63s. each.**

One Plant over in three to the Trade.

MAURICE YOUNG has much pleasure in now offering for the first time the above distinct and beautiful RHODODENDRONS, which he can confidently recommend as most desirable additions to this noble class of hardy evergreens. They have both been proved for several years in the open ground to be very hardy, free bloomers, compact truss, and very late—possessing every qualification which can be desired in a first-class Rhododendron.

COLOURED PLATES by ANDREWS are now ready, and will be forwarded on receipt of 25 postage stamps.

MAURICE YOUNG (SON and SUCCESSOR to the late WILLIAM YOUNG), MILFORD NURSERIES, NEAR GODALMING.



## NEW PEAR, BRITISH QUEEN (Ingram).

# CHARLES TURNER

Has much pleasure in offering this beautiful PEAR. The following description is supplied by Mr. Powell, of the Royal Gardens, Frogmore :—

"This Queen of Pears was raised by Mr. Ingram, Gardener to her Majesty at Frogmore, and considered by all who have had the opportunity of testing its merits, to be the best Pear ever raised. The late Prince Consort was so pleased with the Fruit, that he characterized it as the best Pear he had ever tasted. It received a First-class Certificate from the Fruit Committee of the Royal Horticultural Society, in 1861, and since maintained its character by taking the First Prize at the great Autumn Show of the above Society, in 1862. The Fruit is large, pyramidal in form, skin smooth and glossy, of a fine golden yellow, partly spread with cinnamon russet, and often a tinge of lively crimson on the sunny side; flesh yellowish white, very fine grained, with an abundance of juice, which is saccharine and rich, with a fine aromatic flavour; in beauty and excellence it has no equal; ripe in October and November."

**Plants, 10s. 6d. & 15s. | Dwarf-trained, 20s. | A few Fruiting Pyramids, 42s.**

*A Coloured Drawing may be had, post free, for 12 Postage Stamps.*

A CATALOGUE of ROSES is now ready.



**New Plants.**

MR. WILLIAM BULL begs to announce that his NEW PLANTS from Brazil, Central America, Australia, Bombay, Java, New Caledonia, and Guatemala, are now ready for delivery. For particulars *vide* Advertisement in last week's *Gardeners' Chronicle*.

A DESCRIPTIVE PRICED LIST of Novelties can be had on application.

Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

**Notice.**

JOHN WATERER, of The American Nursery, Bagshot, Surrey, is the EXHIBITOR of RHODODENDRONS at the Royal Botanic Gardens, Regent's Park.

His CATALOGUE, describing colours, prices, &c., can be obtained by letter addressed to the Nursery as above.

☞ For detailed Advertisement of CONIFERS, ORNAMENTAL SHRUBS, &c., refer to page 1072.

**To the Seed Trade.**

W. THOMPSON, SEEDSMAN, Tavern Street, Ipswich, begs to announce that the Stock of the following beautiful and distinct NEW ANNUALS—

RHODANTHE ATROSANGUINEA,
RHODANTHE MACULATA ALBA,
HELIPTERUM SANFORDII,

for which Silver Banksian Medal and First-class Certificates have been awarded him, is now ready for distribution.

Prices may be had on application either to his London Agents, Messrs. HENDERSON & Co., Pine Apple Place, Edgware Road, W., or to himself.

NEW FUCHSIAS (post free). NORTHERN LIGHT and RIFLEMAN, now sending out; Blue and Mauve-coloured Corollas. 5*s*. each.

EMPEROR of the FUCHSIAS, the most beautiful and elegant white corolla'd variety.

E. G. HENDERSON & SON, Wellington Road, London, N.W.

**Superb Double Hollyhocks.**

WILLIAM CHATER'S NEW LIST is now ready, and may be had on application by enclosing one Postage Stamp.

P.S. A large stock of FINE PLANTS now ready.

Nurseries, Saffron Walden.

ANDROMEDA FORMOSA (TRUE).—Fine strong Plants, averaging 1 foot, 60*s*. per 100. Selected specimens, very fine, averaging 2 feet, 12*s*. per doz.

The above beautiful hardy evergreen shrub is strongly recommended.

W. H. ROGERS, Red Lodge Nursery, Southampton, has the only large stock in the Trade.

JAPAN LILIES, Extra strong Flowering Bulbs.

| | | | Each—*s*. | *d*. |
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| LILIUM LANCIFOLIUM | ALBUM | .. .. .. | 1 | 0 |
| „ | „ ROSEUM | .. .. .. | 1 | 3 |
| „ | „ RUBRUM | .. .. .. | 1 | 3 |

Three each of the above, 10*s*.

BUTLER & MCCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

**New Chrysanthemums.**

JOHN SALTER'S COLLECTION of these beautiful Flowers is NOW in FULL BLOOM. The Winter Garden contains all the finest varieties in cultivation, together with the NEW CHRYSANTHEMUMS for 1864. The Gardens are open every day except Sunday.

Versailles Nursery, William Street, near Hammersmith Turnpike and the Kensington Railway Station.

GREAT FRUIT and CHRYSANTHEMUM SHOW at BIRMINGHAM.—The ANNUAL GREAT FRUIT, GOURD, and CHRYSANTHEMUM SHOW, open to all the World, will take place at the Town Hall, Birmingham, in connection with the Handsworth Horticultural Society (simultaneously with the Cattle, Poultry, and Dog Shows), on TUESDAY, WEDNESDAY, and THURSDAY, December the 1st, 2d, and 3d.

Schedules of Prizes (which include a Ten Guinea Cup for a Collection of Fruit), are now ready, and may be had on application.

Entries close on THURSDAY, November 26.

CHAS. JAS. PERRY, Castle Bromwich.
GEORGE P. TYE, Handsworth.



# The Gardeners' Chronicle.

*SATURDAY, NOVEMBER* 14, 1863.


MEETING FOR THE ENSUING WEEK.

THURSDAY, November 19—Linnean .. .. .. .. 8 P.M.

OF late years the desire to avail ourselves of the advantages of CHEAP GLASS for the cultivation and protection of plants has been apparent in every part of the kingdom, and hothouse builders have been doing a thriving trade. Every house in our towns which has any pretensions to comfort or luxuries of the most moderate kind, has a little greenhouse or conservatory attached to it, in which plants can be grown all the year round, and particularly where they can be protected during the winter. Orchard houses too, have come much into fashion, and these are not only useful in insuring an abundant crop of fruit in this uncertain climate of ours, but are also capable of affording a very great amount of enjoyment in many other ways.

What Mr. RIVERS has done with cheap glass structures for fruit trees may, we think, be done on a larger scale for plants of an ornamental kind. There are a large number of plants remarkable for the beauty of their foliage or blossoms, which are all but hardy in this country, and which require only a little higher temperature in summer, or a very slight protection in winter to make them very enjoyable objects. The Eucalypti of New Holland, with their curious glaucous leaves; the Acacias of the same country; the Camellias of China, and the Euryas and other fine

foliaged plants of Japan to which we have lately alluded (p. 1059) are some of the things of this description which would succeed admirably in such structures, and which would well repay a little extra outlay in their cultivation. They might be planted out in the borders of such houses, and being strong and vigorous in their habits, they would require but little care or attention afterwards.

There is another class of very beautiful plants, which are natives of very cold countries with early springs, but with springs not so treacherous as ours. In those countries, when the frost is once gone in spring it rarely returns until the following autumn, The productions to which we allude are aware of this, and hasten to put forth their leaves and blossoms in the end of March or April, with the certainty that no rude frost will nip them in the bud at a later period. When such plants are introduced to a country like England their nature is unchanged; their confidence in climate is the same as when they were at home, and when the bright and sunny days of spring come round they boldly push out their buds and blossoms. Soon, however, they find out that their confidence has been misplaced; the frost returns again, sometimes as late as the middle of May, and their leaves and blossoms are destroyed. The Moutan, or Tree Peony, is an example of the plants to which we allude. All who had an opportunity of seeing the gorgeous flowers exhibited by Mr. BATEMAN at South Kensington last summer, will regret that such things are not more frequently met with. In a paper which Mr. BATEMAN sent with these flowers, and which was afterwards published in the "Proceedings of the Royal Horticultural Society," he describes his method of cultivation which produced such successful results. In his attempts to grow them out of doors in his garden at Biddulph Grange he was unsuccessful. "If the summer was cold and wet their wood was imperfectly ripened; if the winter was peculiarly severe their constitution suffered; or if it was mild, the early growth that it induced was certain to lead to mischief from late spring frosts or cutting winds. . . . In my own case, while convinced of the hopelessness of attempting to grow these plants out of doors—in North Staffordshire at all events—and yet not caring to throw my plants away, I placed about a dozen of them in the central border of the Orchard-house at Knypersley, where they have flourished marvellously, as a glance at the specimens now contributed will sufficiently prove."

The Moutan is a fair example of a class of beautiful plants, which, although perfectly hardy in England, yet require some slight protection from our spring frosts and perhaps a little higher temperature in summer to enable the wood to become well ripened. No art or horticultural skill which we can employ can change their nature, in so far as the individual is concerned, and if we wish to see such things in all their beauty we must give them the shelter which glass can afford. But such protection from the changes of our variable climate need be but slight and inexpensive, and for such we shall find ourselves most amply repaid.

With cheap glass, and a selection from the class of plants to which we have just alluded, builders and owners of building land in and about our large towns might contrive to make our streets and squares much more attractive than they are at present; more enjoyable to the inhabitants; and in a commercial point of view more remunerative to themselves. As it is, they do not find it advisable to cover the whole of their building land with houses; on the contrary, open spaces are included in the building plans, and these "squares" are laid out as gardens and planted with shrubs and trees. Why not carry the matter a little further, and have a WINTER GARDEN of glass in such squares, which should be common to all the inhabitants in the neighbourhood who have the right of entrance. In wealthy localities the Winter Garden would be in keeping with the surrounding mansions, it would be erected and maintained in a handsome manner; but smaller and less expensive structures would be equally enjoyable in districts where economy is of more importance. In this way a delightful place of resort might be enjoyed by many persons at a cheap rate, and we think, even as a speculation, it would pay for the extra outlay of capital.

Winter, with its leafless trees, cold winds, and cloudy skies, has come round once more. Swallows have already left us to pass their winter in a milder climate; and many amongst us, more particularly those who are invalids, would like to follow their example. That many do so, the crowds that flock south annually to pass the winter in the south of Europe and even in Egypt, abundantly prove. But many more must stay at home, and for their benefit we recommend the erection of Glass houses or WINTER GARDENS in the squares and open places of our English Towns.

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WE have very recently had an application made to us for directions as to the best place for procuring Truffle spawn, and the most approved mode of treating it. Unfortunately one of the great desiderata of horticulture is the preparation of saleable Truffle spawn and a certain method of cultivation. As information on this point still seems requisite, and recurrence to the subject may lead to fresh researches, we offer to-day a few observations, though we have really nothing new to bring forward.

The BRITISH TRUFFLES, which belong to several well defined genera of extremely different structure, are confined principally to the midland and southern counties. We know little or nothing of Irish species, while those which have been ascertained to grow in Scotland are few in number. Glasgow has produced at least one species, and that not found hitherto in any other part of Great Britain, and we have lately received the fœtid *Melanogaster ambiguus* from the neighbourhood of Jedburgh. One or two more common kinds complete the list of Scottish species as far as they are at present known.

Though a few species are not confined to limestone formations, it may as a general matter be assumed that Truffles require a calcareous soil for their growth, and that they increase in number of species and individuals as we approach the southern limits of our island. And if this is true of Truffles in general, it is more especially so as regards the esculent kinds, which are alone likely to be objects of cultivation. Lime, and a certain degree of temperature, must therefore be assumed as necessities in their culture.

As regards their spawn, it is almost as various as the genera to which Truffles belong. Earlier authorities believed that they formed an exception to the general rule, and that they were produced at once from the fruit, without any previous development of germinating threads. Later observations, and especially those of Messrs. TULASNE, have shown not only that extremely abundant spawn is developed in several genera, but that even in the common Truffle of our markets, the soil in which they grow is during the month of September traversed by many white cylindrical strings much more slender than a common sewing thread, which themselves consist of multitudes of extremely delicate articulated filaments, which communicate with a fine byssoid mass, some lines in thickness, surrounding the young Truffles, with the outer coat of which they are in direct union. This envelope soon disappears, and the young Fungus seems completely isolated in the soil, though very careful examination will often detect some remains of the adherent byssus. The spawn is said occasionally to be luminous, but this is possibly not a constant character, and the notion may have arisen from some luminosity in the surrounding leaves independent of the spawn.

As regards other kinds of Truffles we have a cottony spawn in *Hymenogaster*; and a thick abundant villous matter of various colour, which connects the particles of soil, and often forms a sort of permanent outer shell in *Elaphomyces*, which is still more conspicuous in one or two Australian species, where rough particles of sand are concreted into a case resembling that of some pupæ or sea-worm. In *Hysterangium* the white spawn is peculiarly abundant, and is here and there spread out into little films which are extremely conspicuous, quite as much or more so in fact than the spawn of the common Mushroom. In *Melanogaster*, to which genus belongs the red Truffle of BATH, the spawn forms thick brown strings, some of which adhere to the surface of the fungus, anastomosing with each other; and very similar spawn occurs in *Rhizopogon*, which also contains more than one esculent species; while in *Genea* and some others we have abundant black or brown loose bundles of threads enveloping the whole or attached only to the base. Other instances might be given, but these are enough to show that Truffles do not form any exception to the general rules, that Fungi spring from spawn or mycelium developed from their reproductive cells, known under the names of spores or sporidia.

Though the spawn of the common esculent Truffle then, is neither so permanent nor so conspicuous as that of the Mushroom, its existence is a matter of fact. The next point is to ascertain if possible in what sort of soil it will run best, and as it is fugacious, what is the exact season at which it should be used. Experience alone can show whether, like Mushroom spawn, it will preserve its vegetative power when made up into cakes and dried.

In general the soil in which the common Truffle grows, for it is that about which we are at present interested, is tolerably compact, though sufficiently loose to allow the threads of which it is composed to traverse it with ease. A very loose leaf-mould, with a large addition of sand, would not therefore be likely to promote its growth, though a loose covering of leaves is often present in Truffle beds; nor is it probable that manure could enter largely into the compost with advantage, as Truffles certainly do not seem to love a richly manured soil. It might possibly conduce to success if the sporidia were induced to germinate on slips of glass by the addition of a solution of saltpetre, as in the case of Mushrooms, the young plant being carefully removed to proper soil, with a view to make it run.

Attempts have been made from time to time, with more or less judgment, and with a greater or less knowledge of their habits, to propagate these Fungi, or to produce a saleable spawn, but at present with very small results. In the south of France, the late Vicomte NOË succeeded in raising Truffles in his woods by sprinkling the soil with water in which the parings of Truffles had been rubbed down, protecting the ground from the ravages of swine and other animals, by a coat of Thorns. Here, however, the soil was simply natural, the only effort towards cultivation consisting in the supply of abundant sporidia. Still less can the practice in Poitou of inclosing a portion of the downs and sowing it with acorns, be considered cultivation, though the practice seems uniformly attended with success, as with the exception of a protecting fence, and the introduction of the mast, all is left to nature. A work was published some years since in Germany under the name of BORNHOLZ, which professed to give directions for cultivation, accompanied by the assurance that they had been employed successfully, but this was afterwards believed to be a mere catch-penny pamphlet, and led to no result.

About 15 years ago serious attempts were made to produce a marketable spawn, and the parties who conducted the experiments were sanguine of success, and hoped in a few months to be able to offer Truffle spawn for sale. Specimens were actually forwarded to us, but whether there was some fallacy about the running of the spawn, or the after-treatment of it was injudicious, no Truffles were produced, and the problem was left for future solution.

At a subsequent period the late Mr. DISNEY of The Hyde, near Ingatestone, took up the matter warmly, and we were invited to be present at the opening of his Truffle beds. Unhappily, however, instead of experimenting with fresh Truffles, he contented himself with the sweepings of the drawers of one of our principal oilmen, consisting mostly of slices of Truffles which had evidently been submitted to heat, and, as might be expected, the experiments failed. We fancied, indeed, that in one or two spots the spawn had really run, but we could not quite satisfy ourselves as to the point; and as the worthy experimentalist had already passed fourscore years, and experienced at the time a severe domestic calamity, the trial was not renewed. We have heard of no later attempts, but ultimate success is not without hope. We would, however, strongly recommend any one who is desirous of renewing them, to study Truffles closely in their place of growth, not only as regards the texture and constitution of the soil, aspect, and climate, but also the time, mode, and duration of the spawn, together with its powers of conservation and capability of enduring drought. Success can scarcely be expected without some previous discipline of this nature.

One matter is certain—that Truffles do not like the subsoil to be much disturbed. A most productive Truffle ground was completely destroyed under our eyes, and not without remonstrance, by digging it over for the sake of obtaining a large temporary supply. Beech trees are by no means a "sine quâ non." Oak groves are sometimes as productive, especially in France, and an admixture of young Fir trees is not inadmissible. The most productive plot we ever saw was a grove in which there was a predominance of Beech over Oak, with an undergrowth of Spruce Fir. Neither do Truffles always grow in naked

ground, or ground covered with fallen leaves. We have seen them in abundance on a close-shaven lawn, where they cropped out, and were frequently cut off by the scythe. *M. J. B.*

## New Plants.

264. Polychilus cornu-cervi, *Kuhl & Hasselt.* Stags-horn Polychilus, *Lindley, Gen. et Sp. Orchid.* 1854.

Among a host of other new Orchids from Moulmein, Messrs. Hugh Low & Co. have been fortunate enough to introduce a few individuals of this remarkable plant, which appears to be of free growth, and will no doubt speedily produce flowers. In habit it resembles a Phalænopsis, to which indeed Prof. Reichenbach refers it; but the lip is differently formed, and the flowers are attached to a broad branching toothed rachis, unlike anything that has yet been seen in the genus in question. Another plant with a similar rachis, but otherwise abundantly distinct, exists under the name of Phalænopsis zebrina in Messrs. Low's collection. It comes from the Eastern Archipelago, and may probably prove a second species of Polychilus. The flowers of P. cornu-cervi are described as of a reddish yellow, about 2 inches across, and speckled in lines with a deeper red.

265. Dendrobium infundibulum.

(See *Gardeners' Chronicle*, p. 1194, 1862.)

A single flower of this glorious Moulmein Dendrobium has just been produced on a small plant in Mr. Rucker's collection. It is inimitably beautiful, the sepals and petals being of a dazzling white, with a lip to correspond, marked at the base with clear lines of deep Roman red. This, too, is one of Messrs. Low's introductions, and appears to be of the easiest cultivation. Probably there are many varieties.

## STRAWBERRY RUNNERS.

I have read with interest the remarks at page 1084 concerning the Runners of Strawberries, and as they conclude by recommending further experiments to be made, I beg leave to make some suggestions as to the manner in which some of these experiments should, I think, be conducted.

I must premise that I consider it very important to keep in mind while making these experiments Mr. Knight's sensible observation quoted by you, viz, "that every runner is, in its incipient state of formation, capable of becoming a fruit stalk, and if too great a number of runners be taken off in the summer, others will be emitted by the plants, which would under other circumstances, have been transmuted into fruit stalks." The Strawberry plant being naturally inclined to produce runners, this natural tendency cannot be much opposed without doing injury to the fruitfulness of the plant. Several years ago, I tried an experiment on some Strawberries by planting them about 3 feet apart every way, and cutting off during the summer every runner soon after it made its appearance. The consequence was that as soon almost as each runner had been taken off another or more appeared in its stead, the leaves at the same time becoming very luxuriant, and the plants seeming determined to have their own way; and in order to carry on the war with their unnatural antagonist, before the end of the summer, all the resources of the plants that ought naturally to have gone towards producing blossom buds, were exhausted in the unexpected strife, and what would otherwise have been dormant blossom buds were compelled to become runners in order that the strong natural propensity of the plants to propagate their kind by runners might not be overcome. Of course there was no fruit next year.

After reading your remarks this question suggested itself to me:—Why should not the summer pruning (so to speak) of the Strawberry be conducted in a similar manner to that of our fruit trees, seeing that the object and the principles involved are much the same in both cases. Fruit trees if too much stimulated by excessive pruning would, like Strawberries, produce plenty of fine leaves, but no fruit. The most generally approved plan of treating fruit trees is to follow a middle course between allowing them to grow without control, and pruning them excessively. The practice is, more especially in the case of those trees intended to be kept of a moderate size, to pinch off the ends of the young shoots as soon as they have grown 4, 5, or 6 inches in length, according to circumstances, reserving a sufficient number of buds on the lower part of each shoot to form fruit buds, besides one or two buds at the top of the shoot, on which latter buds to allow the tree to exhaust its superfluous energy, and thereby save those buds reserved for fruit from breaking out into wood shoots. If these upper buds produce wood shoots, these secondary shoots are pinched in to one or two buds; and so on during the summer with other shoots that may be produced, always taking care that the lower buds reserved for fruit buds be not stimulated to become wood buds by pruning too close to them. If these buds are not too much stimulated, this mode of pruning is the means of more strongly developing them as fruit buds.

Now the practice which I have endeavoured shortly to describe, having been found so successful in the case of fruit trees, I would suggest that experiments be made in a similar direction with Strawberries. When the Strawberry runners have made two or three joints, let them be stopped at the first or second joint, and if these stopped runners should produce other runners, let these latter be stopped at the first joint, and so on during the summer. The propagating energy of the plants would thus probably find sufficient exercise in feeding the stopped runners without breaking into runners those dormant buds which ought to produce blossom the following year. On the contrary, these dormant buds would probably (as in the analogous case of fruit trees) be by this practice only so far stimulated as to be strengthened to produce fruit the following year. Another advantage would probably attend this practice; the rooted joints of the stopped runners would make fine plants for transplanting in the autumn, when the runners ought all to be cut off close to the mother plants. This mode would probably on the one hand avoid the too great excitement of the plants by excessive excisions, and on the other the impoverishment of the plants and soil by a wilderness of runners. *A. T., Nov. 3.*

## EMIGRATION TO NEW ZEALAND.—No. I.

It seems that there are some legends we carry through all our lives. Who has not some El Dorado? Who has not dreamt sometimes of streets that are paved with gold? Who has not sought some Tom Tiddler's ground to gather gold and silver?

Men tried it in California, and gold digging was all the rage. Perhaps those who went however would scarcely have called that play. The privations and the hardships, the want and the risk incurred, bought the golden store very dearly. Often when that was bought the power was past to use it, except indeed in such ways as made the gain but a curse.

Still people are always dreaming of some good time coming, and of some land far off, where the law of labour reaches not, and the poor have ceased from the land. These wild hopes cannot be realised—well for us, indeed, they cannot be. People who shrink from work here are not likely to find ease elsewhere. We all have our own tasks, the rich and the poor together, and truly an idle paradise would seem a sort of anomaly.

But in these days of emigration what are the things folks run after? Some, they may say, have heard of gold that is gathered by bushels—lumps that make men's fortunes, and perhaps some one man in a thousand has got and not lost such a fortune, almost as some one gambler has made what he calls a "lucky throw." Men who leave work and duty to hunt thus for gold are gamblers. Another, we hear, has been told that in foreign parts things grow without any labour at all. You have just to throw down your seed, and in a short time there is a crop. Nay, after the first time even the crop comes up unsown!

Young women have their strong ideas of places where servants are mistresses; they are so very valuable—high wages, unlimited holidays, no stint as to finery, and then to marry doubtless some rich colonial gentleman! Work is the very last thing that enters their calculations. The light of their countenance is sufficient gain to any place. They forget that such things don't stand. They may have for a few months high wages, but without such conduct as deserves to make good friends, and entitles them to respect, what wretched lives they must lead; and if in a few cases, far more rarely than they may suppose, they attain their first aim, and get married, it is perhaps to some worthless fellow, cast off by his own friends, and with scarce one restraint, such as the old country gives her men.

But others, both men and women, there are, who go out to work, and not to be idle. They accept that Providence which calls on us all to labour. Idleness is no luxury. What they ask is a field to work in.

In England the land is already filled, the labour markets are crowded. The worker has no field to work in; to build up a home seems hopeless—not for the want of will, but just because there is no room. A man waits for an opening; he looks for a chance in life, but perhaps that never comes to him, or his best years have flown while waiting. It is to such men that the colonies open new fields. In them they have a real prospect of building up a home, and a name that may root itself and grow as in the old home. To those then who are wanting to go out and work in the colonies, I offer these hints and details which are given by those who have lived and mixed in Colonial life. First, there is the outfit and voyage to be thought of. The voyage lasts often four months, as in the case of some friends of mine, who, sailing in December, set foot on shore next in April. Clothing is most frequently a source of great suffering. People sail in April, and think summer is before them, or in December and reckon on wintry cold. Now, go at what time you will, you have at least some very hot weather, and one severe spell of winter—such winter very likely as you never felt before. Flannels and blankets, warm wrappings, and warm gloves are then an immense advantage, and these are things that are always useful too on arriving. Secondly—this is feminine—people must mind the sea-air, for if they take light merinos and silks, and pretty things, and occupy the long voyage in now and then looking them over, the colours will mostly have fled, and they will be little use on arriving. All gilt things, too, will tarnish. The plain ingrained colours are best for the sea outfit.

As to the packing, too: things should be divided from the very outset into those for use in the voyage, and those that can be packed up and not opened again till you land. The latter should be packed in boxes lined with zinc or tin, and with a tin or zinc cover soldered carefully down. In this case it is most essential that everything be well aired before it is laid in the box, otherwise you are worse off than if your goods were in unlined boxes, as in the different temperatures through which the ship has to pass, the damp from one thing, becomes vapour and penetrates all the boxfull.

Seeds are sometimes taken out, and they form too a most profitable collection often to bring home, especially from those parts which are as yet but little known. The hardy New Zealand and many Australian plants are wanted over here very much, and many of the islands in the Eastern seas are crowded with plants and shrubs that would make quite a fortune here. The seeds, going out or returning, should be gathered when perfectly ripe, and seen to be perfectly dry. The best way then of conveying them is folded in several folds of paper, and hung up in a cabin in common stout canvas bags.

On the voyage too the water is often very bad, and the heat during much of the time renders the thirst of the passengers very great. Some bags of Lemons, if possible, should be included therefore in the outfit of every person.

But now we must proceed to the fate of our friends after landing.

If they are bound for Christchurch, the ship will cast her anchor in the beautiful bay of Lyttleton, a smooth and glassy bay, reminding one of a Swiss lake, while round about the snow-capped mountains tower. This place is some miles from Christchurch, and railways as yet are not. Some friends of mine felt happy in obtaining a sort of tax cart, in which some of the party travelled, while the others walked over the hills. But it is no small difficulty to convey your goods up from the port. The cost of so doing is said to equal that of their passage the whole way out besides. If a common labourer's wages are a shilling an hour, we easily shall imagine that a cart and horse for the day cost a high sum.

So soon as this we begin then to find out the advantages of those who go unencumbered, and who, if they have wives and children, have such as will work too.

Everything you want, house-room, conveyance, food, labour, is an immense expense; but then on the other hand everything you can do is an equal gain.

The Government agents help much in the emigration of those who are skilled mechanics or artisans; carpenters, gardeners, shoemakers, are all extremely wanted; but the likeliest man of all to do really well in a colony is one who, while knowing one trade, can turn his hand to anything, and who is not above so doing. Here is an extract from the letter of a clergyman now at Christchurch:—

"I strongly recommend this colony for labouring men, mechanics, female servants, and gentlemen with small capital. A good ploughman would be surprised to find how valuable he is out here."

All information about emigrating is to be obtained from John Marshman, Esq., 16, Charing Cross, London. Government pays as much again as each emigrant can pay in cash, and for the remainder the emigrant must give a bill to pay it off by degrees in the colony; *5l.* is quite enough for an emigrant to pay down for a passage to Canterbury. Wages are so high there that they are very soon able to pay the rest. Nine pounds down indeed clear him altogether; or I believe an emigrant can go without paying down for anything, only then he will have *18l.* to pay off by degrees in the colony.

"This is, I think, (says another letter) a capital place for working men; wages are so high, and food is not worse than in England, though fuel and house-rent are certainly very high. I have heard of the coal being up to *5l.* a ton in Christchurch, but that was during, certainly, an exceptional time of scarcity; and no doubt when the railway is opened its cost will be much lessened by the then so much cheaper conveyance.

"But then for the wages—a common labourer gets *100l.* a year; and to get a little work done a shilling an hour is paid. No one will work more than eight hours a day, and this leaves a good margin for those men who are anxious to work on their own account, and to get up a cottage and perhaps a bit of garden near the fast-growing town.

"Female servants have *30l.* a year and everything found; and you must be very civil or they will go away. People are obliged to live very plainly because they cannot get servants." *E. A. M.*

## ROSE SHOWING.

The first things that I look for on opening the *Gardeners' Chronicle*, are Roses and Strawberries. In the Number of October 31. I soon espied the observations of "Gulielmus," page 1038, and read them with great interest. In the Number of November 7, I see a request for an opinion, and also some similar observations. I am happy to give the requested opinion; but I hope that other Rosarians will also express their

ideas. "In the multitude of counsellors there is wisdom."

1. "Gulielmus," page 1038 :—

Clause 1. No doubt those who can grow the delicate coloured Tea Roses first-rate have an immense advantage over those who have given up the delicate-coloured summer Roses, and cannot grow Tea Roses; but if this mixture of Teas enables the H. P.'s to win, does not that show the value of the mixture? It is against my interests to admit Teas into boxes with H. P.'s; still, I would by no means exclude them. The H. P.'s are unfortunately at present short of delicate colours. They have no full-sized pure white Rose; they have not one yellow Rose; they are well up in rose, crimson, and dark Roses. These are their forte. They have only four first-rate light-coloured Roses—the last being uncertain and not over hardy, viz., Caroline de Sansal, Duchesse d'Orleans, Madame Knorr, and the Queen of Denmark. Queen Victoria (does well on Manetti here) is fine, but a bad wet weather Rose. Louise Darzens I have not got. M. Vidot—the most perfect and beautiful of all light Roses—and M. Rivers cannot be grown in all lands. The other delicate-coloured Roses are either tender, as Virginale and Dr. Henon; bad openers, as Louise Magnan; or bad growers, as M. Bonnaire, a very beautiful Rose. Is it wise then to shut out from H. P. boxes the five yellow Roses, Solfaterre, Gloire de Dijon, Triomphe de Rennes, Célestine Forestier, and Lamarque, which are perfectly growable on a south wall? or the four best white hardy Roses, M. Zoutman—the finest of all whites—Acidalie, Devoniensis and Sombreuil? I think that such Roses are not only beautiful, and fit to go with H. P.'s, but a great relief to the monotony of their colours.

Clauses 2, 3, 4, I quite agree to; but in the next unclaused paragraph comes the difficulty, which, if "G." had not pointed out, I should have noticed in due time in the *Gardeners' Chronicle*. Such an arrangement would not, I think, be acceptable to amateurs with small stocks of Roses, or to amateurs whose stocks are made up of all families. Competition among amateurs is short enough already, and the difficulty of procuring really good blooms, and the expenses of travel seem to cry out "do not put any more bars in the way of competitors."

As regards nurserymen, no doubt the suggested arrangements could be carried out (always, as regards H. P.'s, subject to the defects pointed out); but this is a matter for them to express their opinion upon.

In the last paragraph but one "G." favours "single trusses." I am not against trebles, provided they are good. If trebles are shown, properly speaking, they should be separated a little, but not mixed all over the box. This separation, however, entails three or four boxes instead of one, where 24 Roses are shown. We do not want more boxes to travel with than we can possibly help.

In the last paragraph "G." refers to disbudding. I have already expressed my opinion on that point. I so far agree with him, that if a bad rule exists it should be rigidly enforced. This will require more censors. Rules should be few, simple, and rigidly carried out, or the most obedient exhibitors will be the greatest sufferers.

Here, however, we are met by another difficulty—Will exhibitors like all their Roses taken out of their cups and put back again, as it may please the examiners? I say, have no rule at all; but if you have a rule, the society who imposes it is bound to see it enforced.

2. "P.," page 1062 :—

The Summer Roses could certainly be shown together; but, from the rage of late for H.P.'s, I fear that some nurserymen and many amateurs have mainly and unwisely given them up. I am well up in them, and they grow and bloom most beautifully here; but I am against such a rule, as believing that it will inconvenience smaller holders. I want to see a burly shopkeeper of Edmonton or Tooting (everybody obliged to consume his own smoke) with his few Roses win a Rose prize. What a ringing of bells at Edmonton, responded to by the bells of Islington and Tooting! What an impulse to the Rose trade!

Moss Roses certainly should be a separate class, without interdiction from other classes except Tea classes. They should be shown not quite expanded, as, when fully expanded, their peculiar character is gone. If trebles are shown, one expanded bloom out of the three trusses would add to the effect.

Tea Roses, without interdiction from other classes, save the Moss Rose class, should be shown by themselves; but here again lies a difficulty; there are no high coloured Teas worth a "stump." I do not think there is one dark one. Still they are so lovely in the monotony of their beauty, that this default may be forgiven.

Instead of a Rose club to form rules for the Rose world—a world that will never abide by the rules, nor even see existing rules enforced (in England we frame rules, and then follow customs)—instead of this, the best way would be for the National Society to consult the wishes of nurserymen and amateurs severally, as regards their classes. A paper to be filled up might be sent to a dozen nurserymen, and also to a dozen amateurs. The N. should have nothing to do with A. classes, and *vice versâ*.

One thing I think will be agreed to by most amateurs, that at present H. P.'s, Bourbons and Noisettes (and I think Teas), should be allowed to go together. The Bourbons are not worth a separate class; they are scentless, usually under size, and, with a few exceptions, best for autumnal blooming. The two most valuable are Malmaison and Acidalie. We must have these among H. P.'s.

The only Noisettes worth keeping for show are Solfaterre, Triomphe de Rennes, Lamarque, Célestine Forestier, and Gloire de Dijon, which, like the others, is evidently a Tea-Noisette. America is a hard opener, but extra fine, when it succeeds. The Cloth of Gold and Isabella Gray are only fit for orchard houses. You cannot, therefore, make up a Noisette class unless you confine it to the above. This I should like—the best box of yellow Roses, Tea-Noisettes, numbers unlimited! From May till frost set in, I can do this well nearly every day.

There is, however, another consideration, viz. funds. In provincial places they could not stand "Sam," for so many classes. The R. H. Society could, and, no doubt, would do so, if it was the generally expressed wish of nurserymen and amateurs.

As regard summer Roses: whilst the shows are held so late as July 1, it is scarcely worth while to make them a separate class; as, unless they are moved every year, or planted against a north wall, or cut back a month later than they ought to be, they will be mainly bloomed out, except in cold lands, or in wet cold summers, before the time of show. On the whole review of the case, I cannot but think, as regards amateurs, that, at present, it is not advisable to restrict them as to families of Roses. I would merely have open classes both for Tea Roses and Moss Roses.

In conclusion, though I have no doubt that the writers in question are both nurserymen, yet I am sure that their observations have flowed from a zeal for the Rose cause, and not from any selfish motives. I can truly say the same of my own observations. I have also no doubt that in process of time we shall be able to show Roses according to the notions of "Gulielmus" and "P." *W. F. Radclyffe, Rushton, Nov. 9.*

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## STRAY NOTES ABOUT FLOWERS.—No. II.

DURING last summer I saw a great many hanging baskets—some so remarkably pretty, and so green and flowery—others so very leaf-bare, so dried up and so miserable, that perhaps a few words on their contrasts may be of use to the owners of such as the latter ones are.

The galvanised or green-painted wire baskets seem to be so popular, and they are so light and so easily suspended, that perhaps they may be regarded as the best and most usual basket type. Those of rough wood interlaced, and those made of earthenware, resembling closely-set Pine sticks, though they are exceedingly pretty, are less easy to suspend, and perhaps it is for that reason that we see them more rarely.

But for the wire baskets! How long are we to meet with them with neat tin linings inside, seemingly made to hinder all the pretty and graceful ways in which the bright flowers creep out?

The three most exquisite flower baskets I ever saw in my life were three that were in the Gloxinia house at Mr. Veitch's nursery. To see the Gloxinias was itself well worth a visit, but really those hanging baskets were something complete and perfect. They were a thorough lesson on what hanging baskets should be.

And of course they were very simple—just a green sphere of Moss, the common Lycopodium, that matted itself on the frame, and amidst the bright green, twining in and out, clinging and wreathing round, went in one basket white Thunbergia, in another red Achimenes, and in another most lovely one the beautiful blue Torenia asiatica. The exquisite contrast or harmony of the colours, the deep rich velvet purple of the open flowers, resting on the dark green that seemed of the self-same depth, although of a different hue, the pretty elegant twinings and the tiny sprays and tendrils, so close and yet so natural—all these things seemed to mark that basket as a real gem.

And the next day I saw some "well-assorted baskets"—a Fern and a Lobelia, and I think a red Verbena! They grew up straight and proper, and hung over just where they should do; and of all hideous things they were just about the most hideous.

The beautiful ones, however, are no harder to manage than these. Every one knows how beautifully one Moss roots on another. The loveliest green Lycopodiums that I have ever had, were those that grew self-planted on mats of brown English Hypnum—that common Moss of our woods. This Moss then may be well dried and made into a ball, placed in the wire basket, and thoroughly well soaked through. Some scraps of Lycopodium are then just dotted over it, and a little plant of some creeper, in a little pot, is buried in the centre of the ball of Moss. The more light and the less sunshine the basket has the better, and a dip in a bucket of water or a greenhouse tank, is its happiest mode of watering. *E. A. M.*

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## Home Correspondence.

*New Hyacinths.*—I cannot coincide in Mr. Cutbush's statement that he "cannot perceive why the Hyacinth should be any exception to the rule" he quotes from the Royal Horticultural Society's regulations in regard to new plants. Were it to be made to apply to the Hyacinth at the shows of the Royal Horticultural Society, it would not hold good as applicable to the exhibitions of any other Society except as to very questionable value as a precedent. It is a general and comprehensive rule that is required, not a partial and exceptional regulation. A flower that has never before appeared at any meeting of the Royal Horticultural Society, might have been shown at the Hyacinth exhibitions of Edinburgh, or elsewhere, so that it would require unexceptionable guarantees to convince one that it was the first appearance of the flower at any meeting in the United Kingdom. It is therefore probable that a flower that would be considered old at Edinburgh, might claim to be a new variety at South Kensington, or *vice versâ*. Again, however indifferent the collection of new flowers might be in point of quality, if this newness must determine the judgment, no other consideration could be permitted to influence the judges, if a stand, professedly of new varieties, were of the highest merit, and yet had partially appeared before. If the Hyacinth were raised in England in common with the majority of other florists' flowers, or when raised on the continent was so offered to exhibitors in England, that any one of these might become a possessor of the variety or varieties at the same time as his fellow competitors, and thereby be placed on the same level of competitive resources, it would very much mitigate, though not altogether remove, the objections to the rule proposed by Mr. Cutbush. I have looked through as many of the Dutch lists as I could lay hands on, to ascertain in how many of them the six varieties staged by Mr. Cutbush in March last were catalogued in the present year. I exclude Maria Theresa, S.R., and take in Estella, D.R., without conceding the point to Mr. Cutbush that Estella was one of the six varieties named I find Rouge Eclatante, D.R., to be quoted in sixteen lists at prices averaging from 1*s.* to 2*s.* 6*d.* It has always been acknowledged to be a scarce variety, which will account for its maintaining a high price, though having been in cultivation for so long a period. Estella, D.R., I find in three lists at such low prices that it must have been something older than "new of 1863," and may perhaps have reached England before. Prince of Orange, S.R., or D.R., appears in fifteen lists, and being priced at a moderate figure, must be plentiful. This variety is so generally grown for exportation to England, that it too cannot be regarded as "new of 1863," even if new to Mr. Cutbush. I find Feruk Khan, S.B., to be offered in three lists, in one at 10*d.*, in another at 3*s.*, in another at 5*s.* The vendors who quote it so low were not the raisers of the flower, but may perhaps have purchased the stock. Fair Maid of Denmark, S.W., and San Francisco, S.Y., I cannot find in any of the Dutch lists. I infer from this that Mr. Cutbush obtains Seedling Hyacinths from the continent, which he names, and can therefore exhibit them in England before they appear in the catalogues of the Continental growers. If this be so, it gives him a great advantage over those other exhibitors who have not the same privilege, even under present usage, when there is no restriction as to the age of the flowers; while, were the rule he suggests acted upon, during the time he can avail himself of this privilege it would give him an almost entire monopoly of the exhibition of new Hyacinths. *Quo.*

*Literary Curiosity.*—For several years past I have published a catalogue of Roses. This season it contained some 200 kinds, more or less, all of which at the commencement of the season I could supply. Very little curiosity in this, say your readers. True; but the curiosity is, that a Mr. Walker, of Leicester, finds himself in possession of the exact number of kinds enumerated, and that he describes them in precisely the order in which they appear in my catalogue. My surprise may be conceived when a friend handed me a fac simile of my catalogue, bearing its exact outward appearance, and I believe word for word the same all through. The only difference discoverable is that the prices of all the older kinds are not marked in figures. I confess that I am not a true believer in spirit rapping, but I am sadly bothered to know what medium exists between myself and Mr. Walker, whom to my knowledge I have never seen. Can our friends the Spirit Rappers clear up this mystery, or must I go back to the transmigration of spirits, and believe that myself and Mr. Walker have roamed on the sunny wings of butterflies over gardens of Roses, and that the self-same beauties have alike charmed Mr. Walker and myself? Moreover, that that being so, after our change to this prosaic life the same ideas were common to both. In order to show you the resemblance just alluded to, I beg to enclose both catalogues, but I must ask the favour of their return, as I value them as curiosities in literature. *Charles Noble, Sunningdale Nursery, Bagshot.*

*Vitality of a Fulham Oak.*—In making alterations about this time three years ago we had reluctantly to grub up a good specimen of this Oak. The tree had a straight stem 6 feet in height, and a uniform girth of nearly 5 feet. After grubbing up it was carted into a wood-yard and thrown upon a pile of timber-root; in this state it lay for nearly two years, when it was ordered to be cut up; but young shoots had pushed around the cut end, and indicated such remarkable vigour that it was resolved once more to plant it root downwards. It was therefore re-planted

where its progress could be observed. In the operation a few barrowfuls of pond mud were put well in amongst the old roots. Up to the end of July last, six months after planting, no active signs of growth showed themselves; since that time, however, a considerable amount of new healthy growth has taken place, giving promise of the tree again becoming established. When removed from the pile of old timber, it was found that the cut end had sunk a few inches in the ground; this may have in some degree prevented its losing sap. Has any such vitality been observed in Oaks elsewhere? *Chas. McDonald, Woodstock Park, Innistiogue.*

*Primroses.*—I beg to corroborate Dr. Gray's statement (see p. 1012) respecting various shades of colour existing in the common Primrose. In the woods at this place are acres of it, which, looked at in the distance, when in bloom, resemble a field of ripe Wheat. Amongst them are several shades of colour; one kind, a nearly pure white, attracted my attention more than any other. I have likewise observed a purple-flowered Wood Anemone, which I found invariably to grow in large patches distinct from the white blooming one. The moist climate of the north of Ireland evidently suits the Primrose, which grows here in great luxuriance. *John Edlington, Crom Castle.*

*The Rook's Nest at Elmsett Rectory* (see p. 1014).—I was at Elmsett on the 4th inst., and upon inquiry found that three fine young rooks have been hatched, and that they are now large enough to be seen from the road when the old birds are feeding them. Another nest is also built on a large Ash, and the old bird is sitting. This is surely a very unusual circumstance, but the church clerk of Elmsett, now an old man, asserts that 52 years ago something similar occurred at the same place. *John Stopher, Hadleigh.*

*Pampas Grass.*—I have at this time on my lawn a plant of this Grass with 147 spikes of silvery white blossom on it, three having been broken off during the late gale—making in all 150 spikes. It was well watered during the dry weather. *H., Compton Basset, Calne, Wilts.*

*Morphology.*—Seeing a notice of a case of "Morphology" at p. 1038, I send you the enclosed, which I should think permanently fixed, the specimen being from one of a number of cuttings from the parent plant, certainly the third, if not the fourth generation. All that I have seen or flowered retain the character distinct and perfect as the inclosed. I have thought these two years of sending it to the Horticultural Society, but have not had a nice plant at a convenient season. *Robert H. Poynter, Taunton.* [Mr. Poynter's Fuchsias afford an excellent illustration of the deviation already alluded to (p. 989), and amply confirm the inferences therein drawn. The two flowers forwarded have each eight or more petals of the ordinary form, and in addition four stalked petals, partaking more or less of the character of anthers; within these are eight stamens, which, as well as the sepals and pistils, are of the usual form. *M. T. M.*]——A few weeks ago I met with a singular specimen of the fruit of Cucumis ovifera. It was about $1\frac{1}{4}$ inch in length, and appeared like two joined together, and coalescing at the base and apex. It had three styles, two joined and one free. Between two of the divisions of the corolla there appeared an extra one partially developed. I also met with two curious bodies in a flower of Antirrhinum majus in a position similar to that occupied by the abortive stamen which is sometimes found in them. I regret not having been able to preserve the specimens themselves, but I send you a sketch of them, and should like to know if you are aware of any similar cases. *J. C.* [The peculiarity in the fruit of Cucumi ovifera, mentioned by "J. C.," is, as he rightly surmises, due to a blending of two fruits. This is almost as common an occurrence in Gourds as it is in Apples. It is most probable that both these fruits originate in part at least from dilatation of the end of the flower stalk; hence, in the case before us, there would simply be a fusion of two branches—a sufficiently common condition. The exact nature of the unusual formation noticed in the flower of Antirrhinum is not to be ascertained without seeing the specimen, but most probably the organ in question was a modified stamen, presenting some of the characters of a petal. *M. T. M.*]

*Wistaria sinensis.*—Should it be any further inducement (after what is written by Mr. Fortune) to planters, I could send you a description of a standard Glycine sinensis growing near here, and which is one of the most beautiful objects I ever saw, and such as I should be glad to meet with more frequently. *R. H. Poynter, Taunton.* [We shall be glad to have it.]

*Cool treatment of Orchids.*—I can from some years' experience indorse the remarks made last week (p. 1162) on this subject. There is, however, no necessity to consign our favourites to such a house as Mr. Bateman has grown them in. I send you herewith an average leaf of Lycaste Deppei and Skinneri for your inspection. My Odontoglots are in proportion equally robust. All have been grown under the shade of Grape Vines. All have bloomed or are coming into bloom in a style not often seen. Such leaves as those now sent are an ornament to any house, and I think you will agree with me that they need not be put out of sight. As I get a good crop of Grapes, and a beautiful display of flowers under them, the plan must be more economical than any other yet devised. *Robert Warner, Broomfield.* [The leaves in question are wonderful examples of robust health, deep green in colour, and perfectly free from speck or blemish of any kind. They measured respectively 31 inches in length, and one 5 inches, the other 8 inches in width.]

*Foliage Plants.*—I am glad that your correspondent "J. F." has taken my remarks in good part, for I fear I expressed myself, though in good faith, a little testily. I do not, however, consider myself answered by "J. R. B." or anybody else. Neither of your correspondents appear to have understood that most important thing, the question. I, it would seem, misunderstood "J. F." and Co., and they misunderstand myself and, I think, Mr. Gibson; and so the real question, to wit the raising of the temperature of the soil while that of the atmosphere remains (necessarily) unchanged, has leaked out and run away. Your two correspondents and myself have all three in the course of our little discussion made the same assertion—that certain plants, tenderer in constitution than such as are ordinarily cultivated in England, if started with a little bottom-heat when first planted out, will shift for themselves afterwards, and that in France and other parts of the continent of Europe, where they are warmer both above ground and below it, they succeed better still. I interpreted the Battersea experiment thus—that it was an ingenious attempt to get a slight but continuous exaltation of ground heat during the whole season of growth. That such an effect will tell on vegetation is evidenced by the now manifest effect of drainage on large tracts of country. The farmers of England are actually bottom-heating the British islands—with what result no one can be ignorant, while gardeners are hesitating to work out the problem of growing the plants and fruits of warmer climates than their own in a ground heat more suitable to their nature and habits. Again, to shift the scene, plants truly tropical that were never planted by the hand of man, are found growing over the fumarole or natural hotbeds of the Ætnæan district in Sicily. Hoping to hear of your two correspondents next season in the ranks of the hotbed volunteers, I remain, yours, *Fumarola.*

*Swallows.*—To the remarks as to the lateness of swallows, I beg to add that I saw a great many swallows and martins flying in all directions on Sunday, November 8, in these gardens. The morning was very mild, the afternoon rather cold. *G. Harnett, Cadland Gardens, Southampton.*——On Sunday, the 8th inst., I saw a swallow flying near the church here, though the day was very windy and wet. On Monday, the 9th inst., I saw two flying near a large pond. I have lived in Suffolk several years, but I do not remember having seen them so late in the season before. *A Subscriber, Stoke, Nov.* 11.

*Damaging Ornamental Trees and Shrubs.*—The time is approaching when depredations are made on Hollies and other trees and shrubs for the ornamentation of London. Have there not been recently some legislative enactments for the punishment of these offences? if so it would be well to direct attention to them, as one means of deterring the commission of damage so frequently done around the suburbs of London. *Conservator.* [Refer to 26 & 27 Vict. c. 13. An Act for the protection of certain garden or ornamental grounds in cities and boroughs.]

## Societies.

ROYAL HORTICULTURAL: *Nov.* 10.—(*Floral Committee.*)—Five plants of Mr. Fortune's Late Yellow Dragon-flowered Chrysanthemum were shown on this occasion from the Society's Garden at Chiswick, and received a label of Commendation. The plants, which were small, were each surmounted by a single bloom, which was large, showy, and of so rich a colour as to leave no doubt that this description of Chrysanthemum when better known will be a favourite. A First-class Certificate was awarded to Messrs. Veitch for Pleopeltis albido-squamatum, a useful looking Fern, with pretty deep green leaves, thickly covered with minute white spots; from the same firm also came the beautiful white-blossomed Eranthemum tuberculatum, and six varieties of Lycaste Skinneri. A Lindsæa from Trinidad, in robust health, and evidently a more easily cultivated species than most of those of which the genus consists to which it belongs, came from Mr. Bull, and received a First-class Certificate. Mr. Cattell, of Westerham, furnished an example of Picea pectinata pendula, a useful kind of weeping Conifer; and from Mr. Bull came a variety of Pteris argyræa, called sublobata, and a good form of Alocasia Lowii.

*November* 10 (*Fruit Committee*).—At this meeting considerable numbers of Apples were exhibited, some of which almost equalled in size and beauty those from Nova Scotia itself. From Messrs. Paul & Son came examples of a fine looking seedling called Cheshunt Pippin, which was stated to be useful for culinary purposes until Christmas, and after that to be a good sort for dessert. Mr. Whiting, of The Deepdene, received a 1st prize for handsome fruit of Cox's Orange Pippin, Mickleham Pearmain, and Eldon Pippin. To the second prize lot no exhibitor's name was attached, we therefore could not learn from whom it came. It consisted of Cockle and Fearn's Pippins, and apparently some kind of Pearmain. A collection in which were beautiful specimens of Margil, was disqualified because on cutting open some Ribstons which it contained, they were found to be decayed in the centre. From Mr. Hall, gr. to Captain Tyrrell, came handsome specimen of Blenheim and Ribston Pippins, and good Chaumontel Pears. Of other Pears a first prize lot came from Mr. Cox of Redleaf. It consisted of Chaumontel, Glou Morceau, and Winter Nelis. The second exhibition of Pears in point of merit was furnished by Mr. Whiting, and contained Eyewood, Beurré Superfin and Marie Louise. Various sets of Pears and Apples also came from Messrs. Beasley, Gilbert, Earley, Curd, and others. Among these were Ribston and Fearn's Pippins, also King of the Pippins, Wyken Pippin, and other well-known varieties of Apples. Of Grapes, a very good collection was contributed by Messrs. Lane, in which were bunches of Snow's Muscat Hamburgh, weighing nearly 4 lbs. each; their only fault was want of colour; they, however, did not appear to be quite ripe. Along with these were also fine examples of West's St. Peter's (?); White Nice, and Trebbiano, by some considered "one and the same" Grape, but as shown evidently different sorts; Golden Hamburgh, Buckland Sweetwater, Dutch and Black Hamburghs, and Black Prince, all excellent specimens of skilful cultivation. From Mr. Williams, of Holloway, came a handsome bunch of new Royal Vineyard, a white Grape of which we have spoken in favourable terms on former occasions. A bunch of Grapes sent from Scotland, under the name of Muscat of Alexandria, proved not to be that sort; though in general appearance it bore considerable resemblance to that variety, no trace of Muscat flavour could be detected in any of its berries. Finally, Mr. Thomson, of Archerfield, sent a Cayenne Pine Apple, in order to show that, contrary to the generally received opinion, it will keep good for a considerable length of time after being cut.

LINNEAN: *Nov.* 5.—G. Bentham, Esq., President, in the chair. This was the first meeting of the session 1863-4. Several candidates were proposed for the Fellowship. The following papers were read:—1. "On the Genus Euptelea of Siebold and Zuccarini;" by Drs. Hooker and Thomson.——2. "On the Plants of the Temperate Regions of the Cameroons Mountains, and Islands in the Bight of Benin, collected by Mr. Gustav Mann, Government Botanist;" by Dr. J. D. Hooker. The author observed that the last few years had been fruitful in contributions to our knowledge of the botany of the least known, and, in the present state of science, most interesting portion of the globe, namely, the interior and the mountains of tropical Africa. The collections of Welwitsch in Loanda, of Kirk and Mellor in Livingstone's expeditions, of Vogel and Petherick in the White Nile and Nubia, of Baikie and Barter in the Niger Valley, of Speke and Grant in their arduous journey through eastern tropical Africa, and lastly of Gustav Mann on the shores, islands, and mountains of the Bight of Benin, were referred to as of great extent, and abounding in novelty and interest. It is with the highest satisfaction, continued Dr. Hooker, that we have lately welcomed amongst us the first-named of these adventurous explorers, Dr. Welwitsch, who is charged by the King of Portugal with a mission to this country for the purpose of preparing his collections for publication; and it only remains for us to hope that the exertions now being made by Sir W. Hooker to induce the British Government to follow the example of his Majesty in securing the publication of our own collections will be successful, and that the botanical results of so many expeditions brought together at such great cost, and at so great a sacrifice of life, may not be doomed to lie unpublished in our museums for want of the trifling sum requisite for rendering them available to science. It was to a small portion of Mr. Mann's collection that this paper was devoted, for the general collection it was stated, would take many months of continuous labour to investigate and fully report upon it. The portion of which an account was now laid before the Society, consisted of the temperate plants of the mountain regions explored. The Peak of Fernando Po (9469) feet), was ascended seven times, and its summit reached five times. The summit of the peak of St. Thomas Island (7500 feet), was also gained, a species of Podocarpus being the most remarkable discovery. Here also the magnificent Musa sapientum var. vittata was discovered in a cultivated state, and sent in a living state to Kew; it is, according to Mr. Mann, a native of the Gaboon. Prince's Island was also visited. The noble group of the Cameroons Mountains (13,100 feet), consisting of many volcanic peaks, was well explored, the summit of one of the peaks, Mount Helen (9290 feet), having been visited by Mr. Mann in December 1861, and that named Mount Albert, (13,100 feet), in January 1862, in company with Consul Barton; subsequently a visit was made to the summit of Mount Victoria, (12,861 feet), and to Mount Hooker and Mount Etindet; and besides these other expeditions were made to the different peaks. The Cameroons present a dense forest region up to about 7000 feet, when open grassy fields succeed, with bushes of Hypericum, Pittosporum, Adenocarpus, Pygeum, Leucothöe, Ericinella, and Myrica, and many herbaceous plants. The many peaks which rise above this elevation are either stony and barren, being all formed of lava or scoria or basalt, or are dotted with tufts of Grass and a few other herbaceous plants. The most interesting plants from the highest summits were Cotyledon Umbilicus, Silene, Trifolium, Galium Aparine and rotundifolium, Scabiosa succisa, Helichrysa, Veronica, Bartsia, Stachys, Trichonema Bulbo-

codium, Deschampsia cæspitosa, Poa nemoralis, Kœleria cristata, and various other European and even British plants. The Sierra del Crystal was found to be a low range of hills nowhere exceeding 2000 ft. elevation, and much overrated by M. du Chaillu. From Corisco Bay, the summit of Mount Mavega (1668 feet), erroneously supposed to be 5000 feet high, and the summit of the chain, was reached; the true summit however, is Mount Shomba (1767 feet.). The number of plants collected by Mr. Mann was stated to amount probably to 3000 species of flowering plants, of which 237, found at elevations above 5000 feet, formed the subject of this paper. No less than 112 of these were described as new, and upwards of half were from the Cameroons. Excluding the few peculiar to St. Thomas and Prince's Islands, there occur on the Cameroons, at elevations above 5000 feet, 203 species, and on Fernando Po Peak, 102, of which 68 are common to both localities. The monocotyledons bear a larger proportion to the dicotyledons on the Cameroons (1 : 2.3) than on Fernando Po Peak (1 : 3.2). Several interesting tables of distribution were given; and it was remarked that the most remarkable features of the temperate vegetation of these mountains were: the poverty of the Flora, probably dependent to a certain extent on the arid voicanic nature of the soil, and the limited area of the temperate region; the preponderance of Abyssinian forms, almost all the genera and half the species being natives of Abyssinia; the remarkable proportion of European plants, by far the greater part of which were British, and a few, as Radiola Millegrana, had not been found previously on the African continent; the paucity of S. African types; the great rarity of new genera, only one, Ardisiandra, a well-marked new form of Primulaceæ, allied to Androsace, having been found; and the absence of St. Helena types. The remainder of the paper was devoted to an enumeration of the species, with technical descriptions of such as were considered new.——3. "Contributions to the Cryptogamic Flora of the Atlantic Islands," by W. Mitten, Esq. An account of some Mosses and Jungermanniæ of Madeira and the adjacent islands.

Stoke Newington Chrysanthemum: *Nov.* 9 *and* 10.—The display both of plants and cut blooms was all that could be desired. The plants were ranged all round the room, the central portion being occupied by the cut blooms and a row of pyramidal Pompons.

For Six Plants a prize was awarded to Mr. Forsyth, who had Prince Albert, Defiance, Alma, Annie Salter, Arigena, and Lady St. Clair. Mr. Howe furnished excellent plants of Lord Ranelagh, Lady Hardinge, Orange Perfection, Draco, Hélène, and White Christine.

For Six Pompons, Mr. Forsyth was 1st with excellent examples of Cedo Nulli, Duruflet, Golden Cedo Nulli, General Canrobert, Hélène, and Rose Trevenna. Mr. Howe was 2d. Excellent plants of Mr. Astie and Annie Salter were also shown as single specimens, and well deserved the prizes which were awarded them.

Three pyramidal Pompons, from Mr. Howe, consisting of General Canrobert, Cedo Nulli, and Hélène, were beautiful examples of that description of training, and those from Mr. George, Stamford Hill, who was 2d, were also good.

Of Cut Blooms there were several stands. In Twenty-four, Mr. Cattell, of Westerham, had the 1st prize, having amongst yellows Plutus and Jardin des Plantes; Cassy, orange; Beauty, peach blush; Queen of England, Mrs. W. Holborn, and Lucidum, white; Her Majesty, silvery blush; Alfred Salter, Rifleman, Raymond, Madame Andry, Hermione, Arigena, and Fabius. Mr. Slade was 2d, having amongst others, Beverley, a fine cream white; and Aimée Ferrière, a white variety delicately tipped with pink.

In Twelves, Mr. Cattell was again 1st, and Mr. Moxham was 2d; and in Sixes, Mr. Cornwall, Kingsland, had very fine blooms of White Globe and Jardin des Plantes.

Of Anemone-flowered varieties there were several good stands. Among large kinds were George Hock, Gluck, Lady Margaret, and Louis Bonamy. Among small varieties were fine examples of Madame Sentır and M. Montels, white; and Antonius and Marguerite de Wildemar, yellow.

Amalgamated Chrysanthemum.—This show took place on the 11th, 12th, and 13th inst., in the Agricultural Hall, Islington, where a considerable number of plants were brought together, and arranged on parallel stages in the body of the building, supported on two sides by banks of Evergreens. The Chrysanthemums themselves, though somewhat unequal in point of merit, were nevertheless, as a whole, in tolerably good condition.

In Section A we noticed some fine plants of Annie Salter, Alma, Vesta, General Havelock, Golden Christine, Trilby, Dr. Maclean, Chevalier Domage, Hermione, Golden Trilby, Aimée Ferrière, Alarm, Arigena, Defiance, Lady Hardinge, Nil Desperandum, Progne, Rifleman, and other well known sorts.

*Awards.*—Class I.: 1st, Mr. Glover, gr. to R. C. Lepage, Esq.; 2d, Mr. George, gr. to Miss Nicholson. Class II.: 1st, Mr. Monk, gr. to J. Leschallis, Esq; 2d, Mr. Weston, gr. to D. Martineau, Esq.; 3d, Mr. Glover; 4th, Mr. George; Extra, Mr. Whitbread, gr. to C. B. Warner, Esq. Class III.: 1st, Mr. Beecher, gr. to T. Chandler, Esq; 2d, Mr. Weston; 3d, Mr Ward, gr. to W. Fowler, Esq.; 4th, Mr. Monk; Extra, Mr. Butcher, gr. to R. Charles, Esq. Class IV.: 1st, Mr. Whitbread; 2d, Mr. Beecher; 3d, Mr. Ward; 4th, Mr. Monk. Class V.: 1st, Mr. Whitbread; 2d, Mr. George; 3d, Mr. Ward.

In Section B the following were well grown and finely bloomed, viz, Alma, Rifleman, Annie Salter, Arigena, Defiance, Christine and its Golden variety, Pilot, Prince Albert, and Insigne.

*Awards.*—Class I.: 1st, Mr. Forsyth, Stoke Newington; 2d, Mr. Oubridge, ditto. Class II.: 1st, Mr. Forsyth; 2d, Mr. Oubridge. Class III. (Pompons): 1st, Mr. Forsyth; 2d, Mr. Oubridge. Class IV.: 1st, Mr. Forsyth; 2d, Mr. Oubridge. Class V. (Group of plants): 1st, Mr. Forsyth; 2d, Mr. Oubridge.

In Section C some handsome Pompons were exhibited, among the best of which were La Sultana, General Canrobert, Duruflet, Cedo Nulli and its Golden variety, Hélène, Trophée, Drin Drin, Florence, Fairest of the Fair, Esmeralda, La Vogue, Salamon, Rose Trevenna, President Decaisne, Modèle, Mrs. Dix, and Orange Boven.

*Awards.*—Class I. (Large varieties): 1st, Mr. Howe, Shacklewell. Class II.: 1st, Mr. Howe; 2d, Mr. Parker, Stratford Class III. (Pompons): 1st, Mr. Parker; 2d, Mr. Bolton, Hackney; 3d, Mr. Howe; 4, Mr. Gardiner, Clapton. Class IV.: 1st, Mr. Bolton; 2d, Mr. Parker; 3d, Mr. Howe. Class V. (group of plants), 1st, Mr. Howe; 2d, Mr. Cox, Kentish Town.

Section D consisted for the most part of Specimen plants, which were, with few exceptions, well grown and flowered. From Mr. Monk came a very large bush of Golden Christine, and Mr. Howe had a very fine specimen of Lady Hardinge; others consisted of Vesta and Alma, both of which were in good condition. The best Pompons were Saint Thais and Golden Cedo Nulli.

*Awards.*—Class I. (specimen plants): 1st, Mr. Monk; 2d, Mr. Howe; 3d, Mr. Forsyth; 4th, Mr. Glover. Class II. (specimen Pompon): 1st, Mr. Forsyth; 2d, Mr. Bolton; 3d, Mr. Oubridge. Class III. (Anemone Pompons): 1st, Mr. Ward; 2, Mr. George.

The Anemone-flowered Pompons were grown in the form of pyramids, and, being well bloomed, had a good effect. Among the varieties were Madame Carnac, Mr. Astie, Reine des Anemones, Antonius, Astrea, and Marguerite de Wildemar.

Of Cut Blooms numerous stands occupied the galleries; we, however, did not remark among them anything different from what has been frequently recorded by us on former occasions. They were generally large and fine, especially Queen of England, Jardin des Plantes, and others from Mr. Cattell.

In the way of training little novelty was perceptible. Pyramids, standards, and ordinary round-headed bushes seemed to be the order of the day. Of the two first, the Pyramids, however, were the prettiest, and the Standards being in many instances badly managed rendered the contrast all the more striking. Flat table-headed Pompons are evidently disappearing, a circumstance not to be regretted, for though well calculated to show off a large surface of bloom, their appearance is by no means handsome.

Of new varieties, especially among Pompons, a few made their appearance, which we hope to be able to describe on a future occasion.

We must in conclusion mention an excellent stall filled to repletion with artificial paper flowers, exhibited by Miss A. Brunies. To the taste displayed in arrangement it is needless to refer, but it may truthfully be stated that the artificial productions in this instance might well have challenged comparison with many natural specimens which received prizes.

## Notices of Books.

*Flora Australiensis; a Description of the Plants of the Australian Territory.* By George Bentham, F.R.S., P.L.S., assisted by Ferdinand Mueller, M.D., F.R.S., and L.S., Government Botanist, Melbourne, Victoria. Vol. I. Ranunculaceæ to Anacardiaceæ. Published under the authority of the several Governments of the Australian Colonies. London: Lovell Reeve & Co.

If asked of what continent we should most desire to have a Flora published, we should certainly answer "Australia," and if offered our choice of an author we should as certainly select Mr. Bentham. Situated at the antipodes of Europe, swarming with curious, interesting, and beautiful plants, so many of which furnish the winter decoration of our conservatories, supplying the strongest timber for ship-building, and the most durable and beautiful woods for cabinet and upholstery work, and lastly, peopled by our own countrymen, Australia is of all countries in the globe the most interesting in a practical and scientific point of view to the English botanist and gardener; and that no one has during the last half century essayed to give a systematic account of its vegetation, is at first sight an unaccountable thing. But for this there are many good reasons. In the first place the undertaking is no trifling one: it will take at least seven or eight years of continuous and laborious work; secondly, the result must be a book of as many volumes, and consequently of some expense, and comparatively little sale; and lastly, it was hoped that a most distinguished botanist, who in the half-century preceding the present had begun to publish a general Flora of Australia, would have completed it at some period of his long life, during which it was deemed both uncourteous and impolitic to attempt another Flora of the same regions. That Flora, however, never has and never will be completed, and the "Prodromus Floræ Novæ Hollandiæ" of Robert Brown, published in 1810, though a monument of the genius, sagacity, and extraordinary attainments of its author, is but a fragment without beginning or end, and cannot be regarded as either a popular or scientific Flora of Australia.

With the death of Robert Brown all hopes of a Flora of Australia vanished, till the Director of our Royal Gardens, Sir W. Hooker, originated the scheme of publishing under Government auspices inexpensive Floras of all the British colonies; and having indefatigably urged the importance of such undertakings, first on the Home and then on the Colonial Legislatures, had been at last rewarded with that signal success which has attended so many of his disinterested efforts in the cause of science, and of which the volume before us is one of the fruits. From a paper headed "Colonial Floras" in the volume of the Natural History Review for 1861 (p. 255), we learn that the idea of Colonial Floras had long engaged Sir W. Hooker's thoughts, that after consultation with several eminent botanists he had matured a plan for publishing them at very trifling expense to the Government, in a uniform series of independent and cheap works which should be written in English, be of the same size (8vo), and plan; and that having secured a grant for two (of the British West Indies and of Hong Kong), from the Secretary of State for the Colonies, the Lords of the Treasury refused the rest, and (probably having the fear of Professor Goldwin Smith before them) pronounced the Colonies to be rich enough to pay for their own Floras if they should want such superfluities. Acting on this suggestion, Sir W. Hooker applied personally and through Her Majesty's Secretary of State for the Colonies, to the Colonial Governors and Parliaments, and may well be proud of the results, for, mainly through his personal exertions, there are now finished or in preparation in this country, no less than six of these Floras, viz.:—the British West Indies, by Dr. Grisebach; the South African Colonies, by Drs. Harvey and Sonder; Hong Kong, by G. Bentham; New Zealand, by Dr. Hooker; Australia, by G. Bentham; British India, by Drs. Hooker and Thomson; and there is every reason to hope that the Floras of Ceylon by Mr. Thwaites, and of British North America, will soon be sanctioned. It may be well to add here for the use of our readers, that the price of these works is guaranteed not to exceed 20*s.* per volume, of about 500 to 600 pages, containing descriptions of twice or more that number of species, that the liability of the Government is limited to the purchase of 100 copies on the day of sale from the publisher, and a gratuity of 150*l.* per volume to the author on the publication of each volume; and that the profits of sale, which in the case of some of the Floras will not be remunerative for some years, belong wholly to the publisher. According to this wise arrangement the author and publisher are entirely independent of one another, and all those complications of interests which have resulted in the premature abandonment of so many scientific undertakings are avoided. On the other hand the authors' remuneration seems to us to be niggardly, considering the great labour of such descriptive works, the national character of the undertaking, and that the authors are pledged to the completion of their tasks, which in some cases will certainly occupy 10 years of their lives. Sir W. Hooker, however, who is well known to be a wise man in his generation, doubtless found that by asking too much he would lose all; and if there is illiberality anywhere, his is the last door at which such a charge can be laid.

The first volume of Mr. Bentham's Flora contains descriptions of about 40 Natural Orders, from Ranunculaceæ to Anacardiaceæ, 240 genera and 1070 species; these are arranged according to the Candollean sequence, and after each generic character there are admirable synoptical keys to the species, which again are followed by the detailed descriptions of the latter. The volume is preceded by a brief Introduction to Botany, the same as was published in the Hong Kong Flora, and which it is proposed should be given with all the Floras, thus ensuring uniformity in phraseology in the use of terms, &c., throughout the series.

In the Preface a brief enumeration is given of the principal sources from which the plants described are drawn; these are for the most part contained in the Hookerian Herbarium at Kew; the only two important collections which have had to be consulted elsewhere, are the Banksian Herbarium at the British Museum, and R. Brown's in the possession of J. J. Bennett, Esq. The West Australian plants described (for the most part so badly) in the two volumes of "Plantæ Preissianæ," have been liberally lent by Dr. Sonder, of Hamburgh, to Mr. Bentham; the Cunninghamian collection, thanks to the liberality of R. Heward, Esq., its former possessor, has been presented to Kew; and the magnificent collection of Dr. Mueller, of Victoria, which alone approaches the Hookerian for its richness in Australian plants, is being transmitted by instalments to Kew by Dr. Mueller himself for the purpose of assisting in the work.

Dr. Mueller's labours and essential services to the Australian Flora are indeed ranked so high by Mr. Bentham, that he has devoted upwards of three closely printed pages of the short preface to an enumeration of that Botanist's journeys and writings, and to the contents of his herbarium, and has further placed Dr. Mueller's name on the title-page as assistant in the authorship of the whole work.

For the purposes of defining the limits to which the species, &c., are confined, the whole of Australia is

divided by Mr. Bentham into regions which to a great extent accord with the political divisions of the continent; these are 1, North Australia, which includes the intertropical regions west of Cape York, extending on the west coast as far south as Shark's Bay; 2, Queensland, which includes the country north of New South Wales as far north as Cape York; 3, New South Wales; 4, Victoria; and 5, South Australia—all as defined in the maps; 6, Western Australia, extending from the west limits of South Australia to Shark's Bay; and, lastly, the Island of Tasmania. From the contents of the present volume it is not easy to say which of these districts will prove the most rich botanically, but we are inclined to suppose that New South Wales contains the greatest number of species, and Western Australia the most peculiar forms. In the latter district, indeed, there seems to be quite a manufactory of peculiar species, for even of so mundane a genus as Frankenia, of the seven Australian species all are from Western Australia, and one only is found in the other regions. Tasmania seems to contain very few peculiar species, and most of the New South Wales plants extend either into Queensland, or into Victoria, or both. South Australia, as its size, position, and proximity to the great desert would indicate, seems to be by far the poorest of the Floras.

With regard to the limitation of species, Mr. Bentham often finds himself hampered by contradictory opinions; as a rule he takes pretty broad views himself, but Dr. Mueller takes far broader, driving him to the adoption of an uncertain policy in many cases of dispute, to which he thus refers in the following judicious manner:—

"Many of the varieties which I have indicated will be considered as distinct species by a large number of general botanists; on the other hand, there are many forms which I have adopted as species which Dr. Mueller is disposed to reduce. In some cases I have yielded to his opinion, rather against the conclusion I should have come to from the examination of dried specimens, because, for Victorian plants especially, he has the great advantage of observing them living in their native stations. Having had myself much experience in describing plants, both with and without this aid, I can fully appreciate the great use which can be made of it, provided due caution be observed: for it often acts as a snare. It rarely occurs that many species of a genus are found together, so as to admit of comparison in a growing state, and we are too apt in regard to them to trust to recollections of general impressions. I do not consider it safe, therefore, to unite forms usually regarded as distinct, and appearing so in a large number of specimens from a great variety of stations, on account of generally observed variations unconfirmed by specimens; nor even on account of single apparently intermediate specimens, unless the history of such abnormal specimens is ascertained. Little as we know, for instance, of the influence of natural hybridising in Europe, it has been still less, if ever, observed in Australia; and many other causes may have produced passages between species really distinct. I have, therefore, wherever there is a difference of opinion between Dr. Mueller and myself, adopted the conclusion which has appeared to me the most probable, and mentioned the objection to it, for the consideration, and, if possible, the decision of future botanists."

To the horticulturalist the volume before us has an especial value, for it teems with descriptions of plants which have for the whole of this century contributed in yearly increasing numbers to ornament our greenhouses and drawing-rooms. Some of these are very large, as Hibbertia, containing 67 species, almost all of which are large flowered and worth cultivation; the same may be said of Candollea with 15 species; of the 16 species of Marianthus, the 18 of Tetratheca; the 25 of Thomasia, 21 of Comesperma, and 20 of Lasiopetalum; of the 57 Boronias, 26 Hibiscus, and 7 Fugosias; whilst of other orders, as Rhamneæ, Cruciferæ, Portulaceæ, which in other countries yield so many garden favourites, and which are all well represented in Australia, scarcely one presents anything worth conservatory accommodation or the gardener's skill and time.

It is interesting, amongst so many strange and unfamiliar forms of vegetation as Australia contains, to observe the number of European orders, genera, and even species that are found intermixed with them; thus out of the 30 orders described in this volume, 25 are European and 15 British. Of the 243 genera 50 are European, whilst of our common British plants the following are found to be truly indigenous in Australia:—

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|---|---|
| Ranunculus aquatilis | Capsella procumbens |
| " parviflorus | Senebiera didyma |
| Myosurus minimus | Lepidium ruderale |
| Nasturtium palustre | Stellaria glauca |
| Barbarea vulgaris | Sagina procumbens |
| Turritis glabra | Spergularia rubra |
| Cardamine hirsuta | Montia fontana |
| Draba muralis | Geranium dissectum |

And we further find the genera Anemone, Caltha, Papaver, Thlaspi, Gypsophila, Viola, Polygala, Frankenia, Elatine, Hypericum, Erodium, and Oxalis, all containing either European species, or species closely allied to the European.

In conclusion, it remains to express our entire satisfaction with the way Mr. Bentham has conducted his labours hitherto, and to wish him health and energy to complete this great national undertaking. The number of species he will have to deal with, is, we hear, computed at about 7000; a most formidable figure to place before one even so gifted as Mr. Bentham is with unflagging industry, rare facility of working with both skill and accuracy, and with, we hope we may add, not a few years of undiminished powers of active exertion:—"Work on, work ever!" must be his motto; "Hope on, hope ever!" ours.

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The *Botanical Magazine* for the present month, contains figures of the following plants, namely:—*Stauranthera grandiflora*, a fine Indian Cyrtandraceous plant, with branching stems, large oblong somewhat fleshy singularly one-sided leaves, and a bi-tri-chotomous panicle of large purplish-lilac wide-tubed flowers with a white throat marked with a broad heart-shaped orange spot on the lower side. The leaves have one large rounded auricle, the opposite half being cut off obliquely. It was found on limestone rocks in Moulmein, by the Rev. C. S. P. Parish, by whom it was sent to Kew. *Gardenia octomera*, a stove shrub with apparently horizontal branches, ternately whorled ovate-oblong shortly acuminate sessile leaves, and erect sessile solitary flowers in the axils, the corolla having a slender cylindrical tube six inches long, and a limb of eight white spreading segments. It is a native of Fernando Po, whence it was sent by Mr. Gustav Mann. It flowers freely when only two to three feet high. *Miconia pulverulenta*, a Peruvian Melastomad, introduced by Messrs. Veitch, and shown by him during the past summer. It is a much branched shrubby plant, with large elliptic rugosely veined leaves of a deep velvety green, marked by a broad white midrib, and is very ornamental in respect to its foliage, but insignificant in regard to its flowers, which form a thyrsoid panicle, and are enveloped in dense ferruginous tomentum. *Webbia pinifolia*, a composite herbaceous plant of South Africa, having the erect stems sub-shrubby at the base, the leaves linear smooth above and hoary beneath, and the stems terminating in a corymbose head of flowers, each capitule of which consists of a tubular disk and ligulate ray florets, both of an intense blood-purple colour. *Fugosia cuneiformis*, a rare and little known West Australian shrub, with smooth cuneate oblong or broadly linear leaves, and large white flowers marked at the base of the petals with a rich crimson stain. It forms a much branched and very woody shrub.

The *Florist and Pomologist* figures the *Deutzia crenata flore-pleno*, introduced by Mr. Fortune, a very elegant dwarf hardy shrub, bearing racemes of drooping double flowers, which are white tinged exteriorly with red. There is also a representation of the *Victoria Nectarine*, a valuable new variety bred from the Stanwick by Mr. Rivers, and described as having all the merits of the Stanwick and none of its defects. It was raised from the Violette Hâtive impregnated by the Stanwick; and the fruit has all the appearance and richness of flavour of the male parent, but with the deep red stain around the stone as in the female, than which it is a fortnight later, and a month earlier than the Stanwick. This is likely to originate a new race of Nectarines more rich and saccharine in flavour than our present favourite varieties. Amongst the articles is one of some interest, entitled Hints on the cultivation of the Grape Vine, by Mr. Meredith, of Garston.

The plates in the *Floral Magazine* represent:—*Tea Rose Madame Falcot*, a golden yellow, described as an excellent Rose for pot culture; *Petunia Mrs. Smith*, one of varieties with white bars on a magenta ground; *Gladiolus Charles Davis*, one of Mr. Standish's novelties, of a bright crimson colour, and a first-class flower; and the old *Astelma eximium*.

In *Gossip of the Garden* are some very good remarks on Roses, in which it is stated that varieties of delicate habit require to be worked every year to ensure a good bloom. Such fine sorts as Madame Furtado and Louise Magnan are said to dwindle and die after the first year from the bud, and the writer strongly recommends the annual working of all delicate Roses. Some remarks on Gladioli we must take another opportunity of referring to. There is also a paper on Storer's Seedling Tulips, which are highly spoken of, though it is feared that as many breeder bulbs have been let out without name or number, and are being "named everywhere and by everybody," endless confusion will ensue.

The *Botanist's Chronicle* is a new penny serial, intended to supply in some measure the place of the defunct 'Phytologist,' and for the present issued at 28 Manor Street, Chelsea. The editor's address informs us that it is intended to supply the less affluent friends of science with a serial suited to their means, that is to say, a cheap magazine, the intention being to give the current doctrines of political economy a fair trial in the scientific book market. The most productive labourers in the field of science, it is remarked, are such as are not rich, but such as need both help and encouragement. This it is proposed to give them, or rather it is intended to give them, what is far more pleasant and effectual, the means of helping themselves and each other. The pages of the "Botanist's Chronicle" will afford a medium for that kind of friendly intercourse, the giving and receiving help, mutual civilities, &c., which will be beneficial to both the writer and the reader, the querist and the respondent. There is no doubt a field for such a publication, and we hope the one before us may succeed in successfully and usefully occupying it.

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## Miscellaneous.

*Sale of Natural History objects by order of the Linnean Society.*—Mr. Stevens brought these to the hammer last Tuesday. The following prices were obtained for some of the more interesting lots. Pultney's shells in 47 lots, 13*l.* 2*s.* 6*d.*——Skull of an Alligator, 2*l.* 4*s.*; of a Crocodile, 3*l.* 15*s.*; of a Hippopotamus, 3*l.* 4*s.*——Dried plants, viz.: Australian Alps, &c., from Müller, 5 bundles, 5*l.*; S. European, 12 bundles, 1*l.* 14*s.*; Portuguese, named by R. Brown, 3 bundles, 1*l.* 1*s.*; Cape of Good Hope, 21 bundles, 7*l.* 16*s.*; N. India, Hooker & Thomson, 12 bundles, 2*l.* 5*s.*; Ceylon, Thwaites, about 1700 named specimens, 4 bundles, 1*l.* 1*s.*; Gardens, from Borrer, 14 bundles, 1*l.*; Cuming's Philippine Plants, 5 bundles, 1*l.* 18*s.* Upon the whole these things may be said to have been given away. Was Botany *in extremis?* or what was the matter?

*The Vinegar Plant.*—The "Micrographic Dictionary" observes that, from various observations, the Vinegar plant may be regarded as the mycelium of Penicillium glaucum vegetating actively, and increasing also by crops of gonidia or gemmæ. It adds that "the moniliform growth is at the same time scarcely distinguishable from the Yeast plant by any satisfactory character, and repeated observations strongly impress us with the idea that these objects are all referable to one species—the Vinegar plant being the form of vegetative growth taking place at low or ordinary temperatures in highly saccharine liquids; while the true Yeast plant, or Torula, is formed in the more rapid fermentation, taking place at more elevated temperatures."* The Vinegar plant, commonly so-called, is a tough, leathery mass, often used by private families to make vinegar out of a solution of sugar and treacle; but the same plant exists in a more delicate and diffused form when other modes of vinegar making are employed; and M. Pasteur shows that it coats the shavings or twigs over which some manufacturers cause a suitable liquid to flow when they desire to promote its acetification. If a thin piece of the large tough Vinegar plant is examined microscopically, a moderate power suffices to show what the "Micrographic Dictionary" describes, namely, an unorganised jelly and cellular structures of many shapes, often resembling coherent cells of yeast, others being like Oïdium, &c. It is also, in those I have examined, easy to see something like an entangled mass of minute threads; but, when this structure is carefully treated, myriads of bacterium bodies appear, and are found to constitute the chief bulk of the plant itself. I am not aware that these bacterium bodies have been described before, and I will therefore explain the process by which I became acquainted with their existence. First a small thin strip of the Vinegar plant should be torn off from any part on or below the surface. This should be placed upon a glass slide, moistened with a drop of water, and stretched out by means of a camel-hair pencil-holder, and the back of a penknife. When reduced by stretching and squeezing to a film not exceeding a 250th or a 300th of an inch thick, cover with thin glass, press steadily, and view with a high power, using the achromatic condenser and a small stop. An immense quantity of little thread-like bodies will then be seen; and, if the power be sufficient and the illumination carefully adjusted, a beaded form will appear sufficiently often to indicate the class of object to which they belong. That the little bacterium bodies have not been obtained by tearing big ones to pieces in the stretching process will be plain upon examination of the plant in different conditions of extension and thickness. I have employed in this investigation Smith & Beck's one-twentieth and second eye-piece, giving a magnification of 1750 linear. A minute drop of solution of iodine, followed by another minute drop of dilute sulphuric acid, facilitates the view of the beaded structure. The bacterium bodies probably give rise to the tough mucus in which they are involved, and the unorganised mass in which they are embedded in the Vinegar plant may only differ in density from the more delicate material in which the same kind of bodies are enveloped when they form a pellicle on the surface of infusions, or adhere in a more or less globular shape. The Yeast plant is shown to be intimately connected, if not identical with, several vegetable forms to which distinct names have been assigned; but both upon botanical and chemico-physiological grounds, it would be very interesting to ascertain to what extent that form of it known as the Vinegar plant is associated with bacterium bodies. It is not enough that in one or two cases we find quantities of these bodies present when alcohol or saccharine matter is converted into vinegar; the question is, are they always present, and do they seem to be the particular agents by which the vinegar-making is carried on? When vinegar is obtained from a saccharine solution, the cane sugar is converted into grape sugar, the grape sugar into alcohol, and the alcohol into vinegar. Thus the Vinegar plant appears to perform the double function of first alcoholising and then acetifying the solution.

* This theory is doubtful, as the alcoholic fermentation goes on slowly and at low temperatures with the German sediment yeast.

Do the yeast-like cells accomplish one portion of this task, and the bacterium bodies the other? The mycoderm of wine does not in its ordinary state give rise to vinegar. Its own vital processes merely supply the means by which the changes incidental to vinous fermentation take place, but it occasionally happens that brewers are greatly teased by the acetous fermentation of their beer occurring after the alcoholic change has finished. I have heard of several instances this summer in which great annoyance has been experienced from this cause, and it would seem either that spores of the Vinegar plant were diffused to a greater extent than usual, or that portions of yeast remaining in the beer had developed into the Vinegar plant form. M. Pasteur's view of fermentation does not coincide with the common statement that the Yeast plant merely separates sugar into carbonic acid and alcohol—at any rate he does not represent that as the entire process, because he tells us that when experiments were performed in close vessels containing besides the fermenting liquid, a known quantity of air, it was found that the Vinegar plant took oxygen from the air, and therewith converted the alcohol into acetic acid; and that the mycoderm of wine converted the alcohol into water and carbonic acid. Thus both act as oxydisers; and it is well known that if the Vinegar plant be left in a fluid after it has transformed the sugar or alcohol into vinegar, it then burns up the vinegar, and leaves the housewife, or other manufacturer, who has neglected to remove it at the right period, only dirty water for her pains. *H. J. Slack, in Intellectual Observer.*

*Fruit and Chrysanthemum Show in Birmingham.*—The Handsworth Floral and Horticultural Society proposes to establish a fruit show upon a great scale. "A contemporary," say the Secretaries, "has remarked that setting aside Herefordshire and other parts of the West of England, the scarcity of such homely and desirable fruits as Apples, Pears, and Plums, all of which can be grown cheaply and well throughout the United Kingdom, is somewhat surprising; and in a recent publication Mr. Roach Smith states his opinion that the plantations of fruit trees in this country do not exceed those of the time of Charles the Second, a state of things, be it remembered, which competent authorities assure us exercises an appreciable effect of an unfavourable kind upon the health of the community. It is a mistake to suppose, as many persons probably do, that fruit is merely a luxury relished by every palate with more or less avidity, for we are quite certain that its consumption in a sound condition and in moderate quantities, has a wholesome effect upon the human system, and that a deficiency of it and of other descriptions of vegetable food is often productive of disease. We are, indeed, confidently assured that man is essentially, or by nature, 'a frugivorous animal;' and that those who conclude, from the formation of his teeth, that he was designed to be carnivorous, are altogether wrong, his dental conformation closely resembling that of the monkey tribes, which are not carnivorous but frugivorous. He has, nevertheless, made good his claim to be regarded as omnivorous, but he often eats more flesh than is good for him, and as a penalty is afflicted with cutaneous and other maladies, for which fruit is a specific, and a plea has been urged for its more systematic cultivation. Heavy crops, it is contended, might be obtained from ground on which at the same time vegetable products might be brought to maturity. A suggestion has, moreover, been made that thousands of acres of land, on the sides of our railways, which now lie waste, might be planted with Apple, Pear, and other trees, and thus turned to profitable account." In the forthcoming Exhibition, we learn that the committee have received encouraging promises of support. One of the classes is open to all the world, growers, fruiterers, and dealers being admissible, but for each entry a fee of 5*s.* will be payable. A silver cup, of the value of 10 guineas, is offered for the best collection of 24 varieties of fruit; besides 3*l.* and 1*l.* 10*s.* for the second and third best respectively; while persons of limited resources may now enter the lists with collections of only 12 varieties, for which prizes of 2*l.* 10*s.*, 1*l.* 10*l.*, and 15*s.* will be given. A division is again appropriated to ornamental, edible, or other Gourds, with three prizes of 3*l.*, 2*l.*, and 1*l.* each; but no collection is to include more than 100 specimens. This regulation has been introduced because many varieties are worthless. Prizes of 3*l.*, 2*l.*, and 1*l.* are offered for the first, second, and third best collections of 12 varieties of dessert Apples, consisting of eight of each; and sums of equal amount for similar collections of kitchen Apples, dessert Pears, and stewing or baking Pears. For the best six dishes of dessert Pears (eight in a dish), Mr. Gidings will give two guineas, to be contested by all comers. In the other classes, which are open only to members of the Society, prizes are offered for six varieties (eight of each) of dessert and kitchen Apples and Pears; and also for the three best collections of fruit, not exceeding 12 dishes each. For the benefit of visitors all specimens of whatever kind in the open class are required to be as correctly named as possible; and the judges will be instructed to take this into consideration when making their awards. So much for the Pomological department. For encouraging the floriculture of the winter season arrangements have also been made. The increasing attention paid to the Chrysanthemum is recognised, and an opportunity will be afforded to growers in the southern districts to manifest their skill by the admission of cut blooms. Liberal premiums "open to all the world" are placed at the disposal of the judges for the best three collections of 24, 18, and 12, competitors being charged 5*s.* for each entry. Entries in the open class must be made not later than November 26. Schedules may be obtained on application to the Honorary Secretaries, Mr. G. P. Tye and Mr. C. J. Perry.

## Calendar of Operations.

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—If the weather should suddenly dry up and become frosty, conservatories will require great nicety of management. Atmospheric humidity cannot by any means be entirely dispensed with, yet this if unskilfully applied will produce drip, which we need scarcely say is most prejudicial to the delicate texture of Camellia blooms and other gay plants. The best plan is to keep as low a temperature as can possibly be allowed, say from 40° to 45° at night, and to leave a little back and front air all night if the weather is at all favourable. The front air must be very moderate, or the atmospheric moisture, instead of passing quietly away by the back apertures, will be condensed as it arises. With a good roof covering in the case of small conservatories 40° would be sufficient, and then there would be atmospheric moisture enough at all times, without the special application of water. See that young stock in mixed greenhouses, such as Heliotropes, scarlet Pelargoniums, Cyclamens, and other flowers, grown especially for winter, have nice light situations, and regular attention as regards watering. Let Cape Heaths have close attention as to watering; if they stand unfortunately near hotwater pipes, they may become suddenly very dry. Keep up a quiet ventilation day and night if possible; let the air steal in moderately, and dispense with strong fires. Do not water Pelargoniums until they are tolerably dry, and take care to fumigate frequently and slightly. The compost yards, if not already filled, must now have immediate attention. This most important adjunct of good gardening is doubtless, in many cases, still behind the improved practices of the present day, in point of good management. Such is not always the fault of the gardener, but frequently arises from an inadequate supply of labour at certain periods. One of the most important points in this department is to see that the drenching autumn rains have every facility for escape. The best of soils, be they ever so well harvested, will become soured in a very short period by the lodgment of stagnant waters. A good compost yard on this account should be a steadily inclined plane, and the soils or composts should invariably run the way of the descent in parallel ridges. Now, although the special mixing of soils a long time beforehand is by no means to be recommended, yet it so happens that in general gardening much surplus soil or vegetable matter comes to hand in the course of the year. Such in all cases cannot and need not remain separate; for in a mixed state there will soon arise a demand for it—if only in repairing the beds of the flower garden. Those who have not harvested their loam should lose no time; for assuredly a little should be obtained annually if possible. To the storing of this and of peat we have alluded on former occasions; it only remains, therefore, to repeat, that not only should such soils be kept clear of standing water, but that provision should be made to prevent the rain from entering. Those who are procuring loam now may let it remain on the ground where dug until hard frozen; it may then be carted away without destroying its texture.

### FORCING DEPARTMENT.

PINERY.—Winter watering of Pines in pots is rather a doubtful proceeding; a better way with general stock is to cover over the pots with Cocoa-nut refuse or some such material 2 or 3 inches thick, provided the bottom-heat is in proper condition.

VINERY.—If any portions of the stems of Vines now in forcing are near the influence of hotwater pipes, they should be bound with Moss, old mat, or any other material, to ward off the dry heat. Keep the temperature at present down to 60° in the case of sunshine in the day time, sinking to 50° at night. Do not give air unless to depress the thermometer, or to avoid a superabundance of rank steam from fermenting matter. Let the syringe be applied two or three times a day, suffering the wood to become dry between the applications.

### FLOWER GARDEN AND SHRUBBERIES.

Hitherto little has been said about the protection of tender Roses. No time should now however be lost in regard to this matter. The tops of standards, worked on ordinary stocks, may be protected by straw bands bound amongst and over their branches, or by tight canopies firmly fixed. Beds or masses of certain kinds of Teas, or other tender kinds, should have some porous material strewed amongst them, to afford a little protection, especially during very severe weather. Cocoa-nut refuse or even a coating of half-decayed leaves would answer the purpose of protecting their stems about the "collar." Four or five inches of such materials may keep them safe in the event of a severe winter. If it is desirable to protect the tops efficiently, mats thrown lightly on them will suffice, taking care on the breaking up of frost, to expose cautiously, and not until after they have become thawed.

### HARDY FRUIT AND KITCHEN GARDEN.

Trench, dig, and ridge every spare inch of ground when frost permits; this is particularly to be observed in gardens inclining to a clayey texture. During frost let the manure necessary be wheeled out for the whole of the spring cropping, laying it in heaps, either on the spot where it will be wanted, or as near as possible to it. That portion not required for immediate digging in should be piled in small mounds and soiled over, to prevent loss by evaporation. The principal operations in the fruit department will now relate to pruning. Planting ought now to be pushed forward with vigour. With regard to bush fruit, if dressings with hot lime and soot when the trees are wet were more attended to, we should not hear so much of the ravages of birds upon the buds, and we would recommend their application also to standard Plum trees wherever practicable, as they not only keep them free from Moss and Lichen, but assist in the extirpation of those insects, in the search for which birds commit such ravages. Dressing with fresh-slacked lime is still more imperative on Apple trees which are situated in damp localities, where Mosses and Lichens spread with great rapidity, and if not checked are very injurious to the well-being of the trees, besides affording a secure harbour for numberless insects to lay up during winter. The effectual remedy, however, for all such evils is thorough drainage. Prune and train wall fruit trees in open weather, also prune and dress pyramid and espalier Apples and Pears; after which apply a top-dressing of compost, and prick it in slightly so as not to interfere with the roots. This operation is a very necessary one where a regular system of root-pruning is persevered in.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Nov. 11, 1863, as observed at the Horticultural Garden

| Nov. | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 5 | 24 | 30.459 | 30.098 | 58 | 30 | 44.0 | 53½ | 53 | S.W. | .04 |
| Friday 6 | 25 | 30.440 | 30.328 | 51 | 29 | 40.0 | 53 | 53 | N.E. | .00 |
| Satur. 7 | 26 | 30.205 | 29.943 | 54 | 47 | 50.5 | 51½ | 52 | S.W. | .09 |
| Sunday 8 | 27 | 29.800 | 29.776 | 52 | 38 | 45.0 | 52 | 52 | N.W. | .20 |
| Mon. 9 | 28 | 30.172 | 30.102 | 52 | 20 | 36.0 | 51½ | 52 | N.E. | .00 |
| Tues. 10 | 29 | 29.834 | 29.593 | 49 | 24 | 36.5 | 51 | 51 | S.W. | .08 |
| Wed. 11 | ● | 29.412 | 29.312 | 43 | 21 | 32.0 | 49½ | 50½ | N.E. | .00 |
| Average. | | 30.046 | 29.865 | 51.3 | 29.8 | 40.5 | 51.4 | 51.9 | | .41 |

Nov. 5—Rain; densely clouded and boisterous; rain at night.
— 6—Fine; thinly clouded; hazy; foggy at night.
— 7—Uniformly overcast; constant rain; boisterous.
— 8—Rain; boisterous with rain, yet the barometer rather high.
— 9—Clear and fine; very clear at night, with sharp frost.
— 10—Frosty with fog; rain; clear at night; frosty.
— 11—Foggy; uniformly overcast; clear, sharp frost.
Mean temperature of the week 3½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Nov. 21, 1863.

| November. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 15 | 48.4 | 34.4 | 41.4 | 16 | 0.34 in. | 3 | 5 | 5 | 3 | 4 | 10 | 5 | 2 |
| Mon. 16 | 48.5 | 32.7 | 40.6 | 13 | 0.34 | 6 | 3 | 4 | 3 | 5 | 8 | 6 | 2 |
| Tues. 17 | 47.5 | 33.8 | 40.1 | 17 | 0.38 | 9 | 5 | 3 | 1 | 7 | 7 | 2 | 3 |
| Wed. 18 | 47.6 | 33.3 | 40.4 | 19 | 0.56 | 3 | 7 | 3 | 2 | 3 | 11 | 3 | 5 |
| Thurs. 19 | 48.3 | 33.7 | 41.0 | 16 | 0.87 | 1 | 5 | 4 | 4 | 3 | 12 | 2 | 6 |
| Friday 20 | 48.5 | 35.0 | 41.7 | 13 | 0.35 | 1 | 7 | 3 | — | 6 | 8 | 6 | 4 |
| Satur. 21 | 49.2 | 36.4 | 42.8 | 22 | 0.41 | 4 | 5 | 4 | 3 | 4 | 11 | 4 | 2 |

The highest temperature during the above period occurred on the 16th, 1840—therm. 63 deg.; and the lowest on the 15th, 1848—therm. 18 deg.

## Notices to Correspondents.

CAMELLIAS INFESTED WITH SCALE: *C J P* asks if any correspondent has found a ready way of extirpating these pests. There is, we fear, no remedy for him but careful and, if need be, repeated washings, which may very well be done at this season. The plants, stems and leaves, may be sponged with a strong Gishurst solution, taking care to wash it off completely before it dries on the leaves. To avoid injury to the wood buds, this must be done before they push; and, as the bushes are planted out, care must be taken not to get the soil soddened by the water applied to cleanse the leaves. Camellias do not, however, object to liberal and even abundant waterings while swelling their flower buds, so long as they are not drowned.

FEEJEE ISLANDS: *B A M. (Dublin)* will find (says a correspondent) several chapters on the Feejee group of Islands in the second Volume of Wilkes's "Narrative of the United States Exploring Expedition during the years 1838, 1839, 1840, 1841, 1842," (London, 1852).—*T C.* refers "E. A. M." for information regarding the climate, &c. of the Feejee Islands, to Dr. Seemann's "Viti, an Account of the Government Mission to the Vitian or Fiji Islands." He also suggests a reference to "Cook's Voyages" to those Islands; and to the "Life of John Hunt, a Missionary to the Cannibals," published in 1860, which contains much information regarding the people of these Islands.

FUNGI: *A M.* Your Fungus is Agaricus æruginosus, a very common, but when perfect, a very pretty species. *M J B.*

MESEMBRYANTHEMUM: *Anon.* The Editor hopes to be well enough to reply next week.

NAMES OF FRUITS: *J P.* 1, King of the Pippins; 2, Not known; 3, Margil; 4, Ord Apple; 5, Redstreak.

NAMES OF PLANTS.—(We never name more than four at a time).—*P D.* 1, Triodia decumbens; 2, Avena pratensis; 3, Milium effusum; 4, Aira caryophyllea.—*H J Cope.* The botanical name of the Bamboo is Bambusa. There are many sorts.

ORCHIDS: *B.* Yes, but better not in the form of We.

STEPHANOTIS FLORIBUNDA: *O. Morris.* It is not uncommon for this plant to fruit, but the fruits are not wholesome; whatever you do, don't bite them.

TRITOMA UVARIA: *C W.* This old inhabitant of gardens, although it comes from the Cape of Good Hope, is perfectly hardy in the county of Norfolk. It is the finest of autumnal flowers of its class.

ERRATUM.—In our leading article, p. 1059, bottom of first column, read, As many of these interesting novelties have "been distributed all over the country," it may be worth while, &c.

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THOMAS ELLMAN, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the PRINCIPAL.

THE LANDOWNERS' WEST of ENGLAND and SOUTH WALES LAND DRAINAGE and INCLOSURE COMPANY. Established in the year 1844, and Incorporated by Special Act of Parliament, 11 & 12 Vict., Cap. cxlii.

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Every information may be obtained on application to
FREDERICK BRODIE, Secretary, Castle Street, Exeter.

Offices: Castle Street, Exeter; and
30, Parliament Street, Westminster.

THE NATIONAL EXHIBITION of DOGS.—The FOURTH GREAT ANNUAL EXHIBITION of SPORTING and other DOGS will be held in Paradise Street (near Bingley Hall), BIRMINGHAM, on MONDAY, TUESDAY, WEDNESDAY and THURSDAY, November 30, and December 1, 2, and 3 (the week of the CATTLE and POULTRY SHOW). For SPECIAL RAILWAY ARRANGEMENTS, see the Advertisements and Bills of the Companies.

BINGLEY HALL, BIRMINGHAM.—The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3.

For Special Railway Arrangements, see the advertisements and bills of the Companies.

SMITHFIELD CLUB CATTLE SHOW, at the AGRICULTURAL HALL.
PRIVATE VIEW, MONDAY, December 7, after 2 P.M.


# The Agricultural Gazette.

*SATURDAY, NOVEMBER 14, 1863.*

PROFESSOR GAMGEE is continuing his agitation of the Health of Stock question very effectively by letters, lectures, and discussions. His statement on opening the Winter Session at the New Veterinary College, is given in another page. Reference has already been made in our columns to his Government Report, and to the papers read by him and by Mr. HOLLAND, M.P., at the Social Science Congress on this subject. He has now seized the occasion of a reported successful transportation of stock to Harwich during the recent storms, which were fatal to so many cargoes for the Thames, to ask "what additional precautions are being taken to prevent the introduction of diseased animals from abroad, seeing there is a prospect of the largest portion of the cattle trade from the North of Europe never coming under the notice of the Inspectors at the port of London."

A competent authority on veterinary subjects—he declares that our foreign importations have *led* to a steady rise in prices for years past, and must still favour that rise if we do not check their plague-disseminating tendencies.

"The extraordinary prevalence of the foot-and-mouth complaint at the present time, which exceeds the formerly unexampled frequency of the malady 12 months since, depends," he says, "entirely on the condition of foreign stock. This is at the root of the evil. We could not have the disease without its introduction. We never had it before free trade in live stock, and we have it not at present where cattle are only sold and exported from breeding districts. It is perfectly true that many Scotch, Irish, or English cattle leaving their original homes in perfect health prove diseased in the fairs and in the farms they are taken to; but why? The answer to this question has been frequently given this year by practical men who have spoken at various meetings when the subject of cattle disease has been discussed. They unanimously say, 'Look at the cattle trucks! They are never cleaned out from year's end to year's end, and after conveying one lot of diseased cattle the mass of filth bespattered on the sides and lying thick at the bottom of the trucks is charged with poison, which readily infects any animals coming in contact with it.'"

These considerations cannot be too strongly or frequently urged on public attention; the conviction to which they must lead—that not only stock-owners but meat consumers are sufferers to a very great and needless extent in this country—must result in greater care and circumspection being used by individual purchasers, whether it ends in Government inter-

ference or not. It is hardly likely that this Government interference will amount to more than the collection and publication of information, except with reference to foreign stock received at the ports. The inspection which, according to Prof. GAMGEE and all the authorities, is especially needed as a safeguard there, seems to indicate that the condition of live stock is worse in the countries where Government takes care of the health of the cattle of the country than it is at home, where every man does the best he can for himself.

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ANOTHER writer has come forward to dispute the assertion of Mr. WRAY, of Tonbridge Wells, that all practical men are agreed that steam cultivation is not yet sufficiently advanced for use even by the large and wealthy occupiers of land, while for the general farmer it is altogether out of the question. Our Correspondent last week described the experience of one of the former class; and now Mr. SMITH of Woolstone, than whom there is no better authority, speaks on behalf of the latter. He describes his own experience as one of them in the *Times*, and adds:—

"Perhaps Mr. WRAY would like to know a little about others who use my tackle. I will tell him. I have a neighbour who has had six years at it. It is Mr. WHITING, of Stoke Goldington, Newport Pagnell. He occupies 160 acres of poor clay land under Lord CARRINGTON, a small farm at Newport Pagnell 80 acres, and 20 acres at Horton; about 200 acres of it are arable. Within that period he has well drained and cleaned them, and they give him good crops, but he will not tell you what the produce is. He is a tenant. Besides this he has done 2000 acres of contract work for his neighbours. Since doing 170 acres for himself this autumn first (you see self stands first) he has done nearly 300 acres for his neighbours. His tackle is always to be found in good working order. The wear and tear has been but a trifle during the six years. He has just put on his second steel rope, and that is about all, besides trifles. His windlass appears and works as well as ever. Surely this will rub Mr. WRAY'S eyes open a little, and with them, I hope, some of our unbelieving, over-knowing, horse farmers, 'all practical men.'"

Mr. SMITH writes in the *Times* of Nov. 11 a very excellent letter, well deserving the attention of the many who are now hesitating about the adoption of steam cultivation, and who may be frightened by the assertion of a confident writer like Mr. WRAY. He says:—

"There are between 200 and 300 sets of my tackle in general use, to say nothing of those sent out by other makers, and they have given general satisfaction. They have not only been used by 'large and wealthy occupiers of land,' but also by 'the general farmers,' many of them not occupying so many as 300 acres of arable land. I myself am one of their number, for my acreage of arable land is 112. Mr. WRAY will tell me that I am an interested man—true, and especially so for the wellbeing of my country, for I have spent every shilling my inventions have earned me in experimenting, &c., and knocking the prejudice out of the heads of high-learned 'practical men;' but I have never spent the whole of my private income, and when I go the way of all flesh I shall leave an empty house behind me, no chick. So the words 'interested man' will not avail him much. Now, let us see what evidence there is to show that the steam plough is advanced enough to be brought into general use."

Mr. SMITH then states his own experience, and proves that whereas the horse-labour of ordinary tillage costs at least 15s. 5d. per acre per annum, that of steam tillage on his farm has not averaged above 10s. per acre annually. But the greater economy is a very small part of the advantage which he claims.

Hear him on the subject of increased fertility:—

"We have a clean gain of 33s. in the six years, 30 per cent., and what is worth more we have no weeds to burn, but we have an increased produce. 'How is that?' Mr. WRAY will say. 'You can't beat our tip-top horse farmers.' Never mind, I farm as deep again as they do, and get a greater produce from a poor clay soil than it was ever known to grow under good horse farming. My father farmed these soils 40 years ago, and he farmed well according to his day. He gave a good dead fallow every four years, well folded for Wheat or Barley; he put all the manure he could make for his second crop, Beans, and he well worked his land for his third crop. Besides this he well drained it with good tiles; but he never did but once get 40 bushels of Barley per acre; neither did I, or even that, until I applied a steam plough. My first crop of Barley under steam in 1857 gave me a produce of 56 bushels per acre; that same field gave me a produce this year of 61 bushels per acre, and my average for the seven years has been $2\frac{1}{2}$ quarters per acre more than it was ever known to be before. Yes, and my seven years' average of Wheat has been full 8 bushels more than it had ever been before, and my land is always in crop and clean."

Well down, Woolstone! The little Buckinghamshire farm and its energetic tenant continue with the leaders of the van, and are likely to remain so, whatever the amount of incredulity and repulse which they receive, whether from Societies or individuals.

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—— We should be glad if any of our readers could furnish us with any examples of the kind given in another page, where the year's income and year's expenditure of a labouring man is analysed and stated. This example, which Mr. WOOD, of Rochford, has been good enough to send us, is remarkable for the complete exactness of the account which has been kept. Nominally receiving 12s. or 12s. 6d. a week, the labourer in question was actually in receipt of nearly 20s. weekly, owing to lodgers, occasional employment for his boy, and some other incomings of less importance.

One would like to know how far this case is generally true. And we should be glad to publish examples if they were supplied to us, illustrating the expenditure and receipts in cases which must be frequent enough where a much harder family is fed on lower wages.

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—— PRIZES are to be awarded at the Bingley Hall Show of the Midland Counties Association at Birmingham next month for the "best trimmed" sheep. A great deal of discussion has lately arisen on this subject, owing to a recent disqualification on the score of improper trimming at the Staffordshire Agricultural meeting; and now some gentlemen, adopting the obnoxious term, have secured the services of two excellent judges, who will, on the Monday of the meeting, examine the classes of Shropshire sheep shown in Bingley Hall, and award to shepherds prizes of 2l. and 1l. respectively for the "best trimmed" pens of Shropshire sheep of any age. They are to exclude any sheep that they consider has not been "fairly and barely shorn," as well as any whose wool has been made "filthy and untouchable by grease, ochre, &c., so as to spoil the trousers of a gentleman, or ruin the kid gloves of a lady." Those who offer this prize feel "assured that rules may as well be enacted against grooming horses, shaving men, painting implements, or varnishing pictures, as against trimming sheep; but are anxious to know what a well-trimmed sheep is," and hence these prizes.

It appears to us that, notwithstanding the formal acceptance of the rules laid down for exhibitors by Agricultural Societies with which the announcement of it is prefaced, this prize will tend rather to stimulate the tendency which already sufficiently exists to "sail as near the wind" as possible in the sort of obedience which is given to these rules.

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MALT AS FOOD FOR CATTLE AND SHEEP.—The following letter has been addressed to the Chairman of the Central Farmers' Club by Sir FITZROY KELLY, one of the Members for East Suffolk:—

"Sir,—I am instructed by the Committee appointed to inquire into the effect of the Malt-Tax upon the quantity produced, and the price of Barley and malt, and upon the feeding of cattle and sheep with malt, to say that they will feel exceedingly obliged by any information that your Association may have the means of communicating to me between the present time and the re-assembling of Parliament concerning the application of malt to the feeding of cattle, sheep, and pigs, and especially the relative value and effect of Barley, oilcake, or other description of food, as compared with malt in the fattening and feeding of cattle, and in the production of milk. Should it be within the province or power of the Society, or of any of its members to whom the wish of the Committee may be made known, to make any experiments upon this important subject, and so to put to the test the comparative advantages and cost of the one mode of feeding and the other, the results of such experiments, especially if made with great care and minuteness, and reported upon with the most accurate precision, will be extremely acceptable to the Committee, and of great benefit and service to the public.

"I have the honour to be, Sir, your very obedient servant,
"FITZROY KELLY."

The Committee are about to call the especial attention of the Members of the Club to the subject of this communication, with the view to obtaining some practical information on the points raised by Sir FITZROY KELLY. It will be necessary that any such data on the relative value of malt and Barley for feeding purposes should be supplied early in the new year, as the Committee purpose dealing with such matter as may be forwarded at the Monthly Meeting, on the first Monday in February, 1864.

## ON A NEW KIND OF RAPE-MEAL.

By ARTHUR H. CHURCH, M.A. Oxon, F.C.S., Professor of Chemistry at the Royal Agricultural College, Cirencester.

A NEW process for extracting oil from seeds by means of bisulphide of carbon is now attracting some attention. The advantages said to be obtained by the use of this solvent for the removal of the oil, in lieu of extracting it by means of pressure, are given at length in a prospectus. The chief points are these:—

1. An increase in yield of oil amounting to from 8 to 10 per cent.
2. A purer product; the oil being free from mucilage. It can be used at once.
3. Less costly machinery.
4. Greater economy of time, space, and labour.
5. More highly nutritive residues.

The prospectus states that where 1,500,000 litres of oil can be made by the old process, 1,680,000 litres or more can be made by the new in the same space and time. It is indeed certain that if the new process be managed with due care the yield of oil will be much larger than before, at the same time that the cost of production will be materially lessened. And it is quite intelligible how the oil prepared by treatment of the crushed seed with vapour of bisulphide of carbon should be freer from suspended impurities than that obtained by pressure, but it is a matter of great doubt whether the nutritive properties and feeding value of the residues of the new process are greater than that of the old. Where, however, it is not contemplated to employ the seed-residues as feeding material, but to make use of them as manurial agents, the case assumes a different aspect. If by lessening the percentage of oil in the residue we have reduced its fattening qualities, we have on the other hand increased the proportion of its nitrogenous constituents and its ash. Thus its value as a manure will be raised in two ways. Firstly, by the removal of a larger proportion of oil, the presence of which tends so materially to retard decomposition; and secondly, by the increased amount of nitrogen, of phosphates and of potash which a given weight of the residue can supply. A comparison of the composition of the residues furnished respectively by the old and new process will place these considerations in a clearer light. Samples I. *a* and I *b* were of German manufacture; they were analysed in the condition in which they would be brought to market.

| | I. Rape Residue or Refuse, after extraction of the oil by the new process with bisulphide of carbon. | | II. Rape Cake, after extraction of the oil by old pressure process. |
|---|---|---|---|
| | *a* | *b* | |
| Nitrogenous Compounds.. | 32.20 | 33.95 | 29.63 |
| Oil .. .. .. .. | 4.70 | 2 21 | 11 10* |
| Mucilage, Sugar, &c .. | 35.63 | 35.52 | 33.60 |
| Fibre .. .. .. .. | 9.45 | 11.06 | 7.80 |
| Ash .. .. .. .. | 8 04 | 8 95 | 7.79 |
| Water.. .. .. .. | 9.98 | 8.31 | 10.68 |
| | 100.00 | 100.00 | 100.00 |

Owing to the great demand for Colza or Rape oil, the new process has been scarcely tried upon any other seed at present. But there is no doubt that the plan will receive an extended application, and that residues from Linseed, Poppy-seed, and other oily seeds will find their way into commerce before long. The question of the feeding value of these products will then become a matter of considerable importance. For it will be desirable to ascertain not only their chemical composition, but also whether the natural value of the seed has been injuriously affected by the use of bisulphide of carbon. The nitrogenous matters of Rape seed, so far as my experiments go, are not altered by the process, while the small quantity of residual oil left in the Rape refuse of the new process is not resinified, an undesirable change which occurs when cakes have been pressed at too high a temperature. But I cannot say that the residues of various crushed seeds which have been tried, after their oil has been for the most part removed by bisulphide of carbon, have at all a palatable flavour. When the whole of the adherent bisulphide has been completely evaporated, a flavour and odour by no means pleasant can still be detected. This smell and taste is indeed quite different from the peculiar and powerful odour of the bisulphide itself, and it would seem to be due, not to that liquid directly, but to some impurity contained in it, or to some compound produced by its action on the constituents of the seed. Anyhow the residues smack too much of a certain nauseous and sulphurous taste, which I cannot think would be highly esteemed by cattle.

We know how important in the successful fattening of stock is a wholesome sweetness in their food. But the most carefully purified bisulphide of carbon appears to impart to the seed a sickly and disagreeable taste and odour which no subsequent treatment is capable of removing. In the commercial samples, however, which I have examined, this offensive odour and taste are not perceptible to a superficial observer, but they become very marked when the Rape-refuse is moistened and warmed. Should the residues of the new process be offered as cattle food, either alone or mixed with other materials, it will be necessary to submit the new

* Dr. Anderson found 8.63 and 12.50 per cent. of oil in two Rape cakes which he analysed. (Journal of Agriculture, January, 1860.

products to a very careful examination. The peculiar odour to which I refer as characteristic of the Rape residues examined is best observed when the remaining oil is extracted by means of ether and the etherial solution evaporated. Actual experiments with stock will of course be necessary before the exact value of these new materials can be determined. In the meantime it is evident that the almost entire removal of their oil must depreciate their value considerably to purchasers who may buy these materials as fatteners.

Some idea of the complete manner in which the oil may be extracted from seeds and even from oil-cakes by means of the new process with bisulphide of carbon may be gathered from the following experiments. The amount of oil in a Linseed-cake was determined (1) by the usual process of repeated extraction with ether; (2) by repeated extraction with bisulphide of carbon. In each experiment the same amount of material was employed, and in each case the solvent was distilled through the powdered oil-cake the same number of times. By these two processes the oilcake analysed gave the following per centage of oil:—

| Ether Process. | Bisulphide Process. |
|---|---|
| 16.57. | 16.79. |

The new process is as easy of execution and infinitely less costly than the old. *Royal Agricultural College, Cirencester.*

## AGRICULTURAL DRAINAGE.

### DISTRICT DRAINAGE AND OUTFALLS.

[The following is the conclusion of Mr. Bailey Denton's lecture to the Royal Agricultural College, Cirencester.]

(*Continued from p.* 1068).

I will now endeavour to explain to you the bearing of these remarks on the country.

Take a geological map of England and Wales and study the position of the out-cropping strata; you will find a distinct though a somewhat tortuous line running from Whitby, in Yorkshire, to Lyme Regis, in Dorset. This marks the outcrop of the lias formation, and forms a line of demarcation which may be well considered by the draining student.

On the west and north of this line you have the older formations, viz., the new red sandstone, the Permian rocks, the coal measures and carboniferous limestone, and the Devonian, Cambrian, and Silurian ranges, with their igneous interstratifications.

With the exception of the new red sandstone, which covers a very wide though undulating plain at their base, these formations are much elevated, having been excessively disturbed and extensively denuded.

The effect of denudation upon them has been to cover the valleys beneath with a mixed debris of boulders of sandstone marls, shales, and limestones, among which alluvial matter has taken its place.

The proportion of clay in this mixture is comparatively small. The rainfall, on the contrary, is very considerable, and with an annual fall, varying from 26 to 36 inches, on the lower grounds of the new red sandstone, it rises in annual amount, according to position, elevation and aspect, from 32 to 140 inches among the Devonian, Cambrian, and Silurian Hills, and the frequency of rain is manifested by the fact that the number of wet days in the year will often exceed 250. The inclination of the slopes and sides of these high broken regions is often very steep, and the clouds from the Atlantic being broken by their superior height, the rain is precipitated into the valleys of free soil below, there to keep them saturated until drainage, percolation, and evaporation effect a reduction. In some sluggish valleys, and in numerous land-locked hollows amongst the hills, we find marshes of peat and bog which suffer in a greater degree than the drifted soils of the more rapid valleys, which possess natural though slow drainage by percolation down their longitudinal courses.

While these conditions and features of the older formations place at our disposal a very large quantity of water, its quality is far superior to the supply to be gained from the more recent formations outcropping to the eastern side of the country, which is generally impregnated with lime.

The value of the water of the older formations is well shown by its appropriation at Glasgow, Greenock,* Manchester, Stockport, and numerous other places by means of drainage and collection in valleys and basins more or less distant from the places in which it is used, and the drainer cannot fail to see when he is operating in these districts, that he has at his disposal in the water of drainage, an object of value which will be appreciated, as manufactures and population extend and its application for motive power and for domestic and trading purposes becomes more profitable. You will observe that the manufacturing districts are nearly wholly confined to that portion of the country lying to the west and north of the lias line, to which I have drawn your attention. This arises chiefly from the fact that the coal measures exist on that side, but the plenitude of water has much to do with it, and it is on all grounds desirable that in our drainage operations we should do nothing to lower our national pre-eminence as a manufacturing people.

I will not detain you now to show to what extent these districts with free soils, great rainfall, steep slopes, and great heights are affected by wetness—not that which is due to the quantity of rain falling directly on the surface of the saturated land, nor that which results from the outflowing of springs,—but that which descends rapidly and without loss of quantity down the hill sides into the valleys of detritus below to rise by gravity to the surface: I leave that for my next lecture. I am content to tell you that the rules rightly applicable to clays and homogeneous soils with regular surfaces, are altogether inapplicable here, and one drain beyond what is sufficient operates injuriously. This water is "the water of pressure," named so by me in contradistinction to that which falls directly on the surface, or that which we understand as "springs."† That you may not undervalue the importance of this character of water in its bearing upon the enlarged view of drainage which I wish you to consider, I may here cursorily state that in several drainage works in my hands, as much water is being discharged from the drains in one month as falls in the drained surface in a whole year, without touching a single "spring." The extent of land in Great Britain affected by the "water of pressure," extends to several millions of acres.

Let us now pass to the east of the lias line, and examine the physical structure of that part of the country.

The dip of the strata outcropping, in England, is from the north-west to the south-east—that is, the most recent are found in the south-east, and the oldest in the north-west.

Succeeding the lias, which is the lowest bed of the oolites, we have the strata comprising the oolitic series—then the greensand and chalk—then the tertiaries and the post-tertiaries. If you examine the stratification closely, with the desire of turning the facts to account in the practice of draining, you will find that the porous and retentive strata alternate with remarkable regularity. For instance, you will find the corn-brash and inferior oolitic beds lying between the lias and Oxford clays; then the coral rag and calcareous grit between the Oxford and Kimmeridge clays; then the sand beds and gault of the greensand, and upon that the chalk, succeeded by the plastic and London clay. These several clays are much stiffer and more retentive than those of the older formations on the western side of the lias. But mark how greatly the counteracting circumstances qualify these facts. In the western districts the maximum height exceeds 4000 feet, the rainfall 140 inches, and the number of wet days 250, whereas the greatest height to the east of the lias does not reach 1300 feet, nor the greatest amount of annual rainfall 32 inches, nor the number of wet days in the year 175. Hence we see that as tenacity of soil increases, and elevation is reduced, the fall of rain becomes less in quantity and frequency. This is very interestingly shown by the records of the manager of the canals department of the Manchester, Sheffield, and Lincolnshire Railway, which I will tabulate according to place, geological formation, height, and rainfall:—

| County. | Place. | Geological Formation. | Height over Sea Level. | Rainfall. 1860. | 1861. | 1862. |
|---|---|---|---|---|---|---|
| | | | | Ins. | Ins. | Ins. |
| Cheshire … | Bollington | Coal Measures | 1279 | 48.61 | 37.99 | 43.61 |
| | Whaley .. | | 602 | 46.84 | 37.00 | 44.08 |
| Lancashire . | Oldham .. | | 345 | 42.43 | 32.79 | 39.71 |
| Yorkshire .. | Sheffield .. | | 188 | 27.58 | 25.55 | 28.93 |
| Lincoln …. | Lincoln .. | Lias .. | 26 | 27.15 | 16.97 | 20.31 |
| | New Holland | Posttertiary | 18 | 28.48 | 20.73 | 21.62 |

But this is not all. The alternation of the porous or water-bearing strata, with the retentive clays, serve as natural drains, and exhibit a marvellous system of arrangement which should excite our gratitude as well as our wonder. We occasionally find the drainer penetrating the clays by wells, called Swallow Holes, and dropping the water of drainage down by them into the porous stratum beneath. This is done in the open oolitic beds, and in the chalk, and thus drainage adds, in a very small degree, to the subterranean supply. You may smile at this statement, and I should not have made any reference to the practice—which has its drawbacks—were it not that it has a very pertinent bearing on the water-economy of the country, and will grow in importance as under drainage extends.

I would recommend you to read "Ramsay's Physical Geology and Geography of Great Britain," and to study Beardmore's "Manual of Hydrology." These works should be in the hands of every draining student.

On the east of the lias line we have comparatively but little of the water of pressure to contend with; on the west its existence is the rule, on the east it is the exception, though it gives a special and important character to the river valleys of the chalk.

But this line of demarcation does not apply to soil, height, and rainfall only, it influences the regime of our rivers

If you look closely to the river courses you will see that whereas all the rivers to the east of the lias run at right angles to the line of outcrop, those that traverse the neighbouring new red sandstone—the Severn and the Trent—flow in a direction parallel with the out-crop, and thus separate distinctly the higher, and broken ranges of the west and north, from the lower and regular surfaces of the east and the south.

Putting all these circumstances together, you cannot fail to see, that to be treating alike—as is the case at the present moment—the two sides of the country, which are so unlike in their distinguishing features, that they might truly be the antipodes of each other, is wrong—that although you may in individual cases drain effectually a single field or a single farm without reference to any circumstances beyond it, the best and most economical treatment is that which is based on those phenomena and physical conditions which characterise the locality, as well as the field in which you operate, and that it is altogether unworthy of a country like ours to be proceeding with underdraining without reference to fundamental data—in fact, to be putting the cart before the horse.

Having said so much by way of introduction, I will only add, before proceeding to details, that what I have felt myself compelled to say is the result of 25 years active work and earnest consideration, and I should not perform the duty I have taken upon myself did I not impress upon you the advantage of a more comprehensive view of the subject than has hitherto been given to it. I have become more and more convinced, as my experience has been enlarged, that the drainage of a single estate, to be rightly conducted, should have reference to exterior influences, and that under-drainage and arterial drainage are allied works which constitute, in their connected form, one of the most important objects to which the national mind can apply itself.

At this time the only control vested in the Government is exerted by a commission, of which the members are eminent as lawyers, and it must often be a matter of regret to them in their earnest desire to do their utmost for the benefit of the nation, that they have not a colleague equally eminent as themselves, versed in the very difficult matter of water-economy, and capable of applying those principles of action which are only to be understood by men who have studied and are conversant with the physical structure and geology of the country in conjunction with hydraulic science.

The exclusion of the engineer would prove that the legislature esteemed such an authority uncalled for, and that legal knowledge was all that was necessary to dispense the various Acts of Parliament. But the time has gone by when this could be said. From under-drainage the Commissioners have already entered upon duties connected with district drainage under the Act of 1861, and are gradually merging from their legal character into that of engineers. It is true that the commission exercises its functions through the medium of inspectors, who are qualified for their duties, but this semi-responsible system is manifestly opposed to a sound and comprehensive treatment of one of the most difficult questions which can possibly affect the social condition of any country.

Though still earnest in my profession, my life is on the wane; you are entering upon yours with all the vigour of youth, and I cannot do better than leave the reflections with which I have introduced my Lecture, for your careful consideration, reminding you that though you cannot compel the co-operation of others, it is the duty of every good citizen to consider, as he follows his vocation, that he is but a member of one large constituency, and that his individual acts should all conduce to the general benefit.

* The Greenock works stand alone in the ingenuity displayed; in the first instance, in getting water to supply the inhabitants of the town, who were, before the construction, destitute of it in dry summers; and in the next, in making the best use of the surplus quantity.

The land from Ducal Moss to Shaw's Hills, to the extent of very nearly 5000 acres, has been drained, and the water collected in reservoirs, covering a space of nearly 400 acres, and the available quantity derived from this source is 700,000,000 of cubic feet annually. The town takes 18,250,000 cubic feet annually for domestic purposes, and the remainder is at the disposal of two lines of mills, one stretching to the east, and the other to the west. The company contracted to supply the two lines with 1200 cubic feet each per minute for 310 days, 12 hours each day, and this amounts to 535,680,000 cubic feet annually. The two applications amount to 553,930,000, leaving a very considerable surplus to provide against drought.

† See "Land Drainage and Drainage Systems," by the Author.

## FOOD AT TWELVE SHILLINGS A WEEK.

I HAVE sent you the labourer's account to which my letter of the 20th October refers (see p. 1046), from which you are at liberty to make any extracts you please, and to publish all or any portion of it.

My letter contains an account of all the circumstances relating to it, and I will not trouble you further about it. It is singular what may be effected if energy be rightly applied, as will be seen by the following account, which occurred under my own notice.

A young lad who now lives in this place was left destitute by his father absconding when the youth was only 13 years of age (I believe he had not attained that age), with a mother, three brothers, and a sister, without any resources whatever, except a barber's shop and a small quantity of household furniture. With these, and having been instructed by his father in the trade of a barber, he commenced business, and, quite unassisted, maintained himself and his mother and brothers and sister, brought them all up, placed out the two brothers in good situations; the sister remained at home with the mother, and is lately dead. The young man and his mother are now living together at Rochford, and he bears an extremely good character, and, as you would expect from his conduct, deserves and receives the support of the neighbourhood. *George Wood, Rochford, Essex.*

The following is an analysis of the expenditure and receipts—in fact an analysis of the account book which we have received. It relates to the year Nov. 14, 1845 to Nov. 14, 1846. The average price of Wheat in that year was 54*s*. per quarter. The family consisted of man, wife, and five children.

PAYMENTS.

| | £ | s. | d. | Number of Payments | Average amount of Payment at once. |
|---|---|---|---|---|---|
| Rent .. .. .. | 5 | 4 | 0 | 47 | 2*s*. |
| Bread .. .. .. | 8 | 15 | 10½ | 32 | 2*s*. to 8*s*. |
| Flour .. .. .. | 15 | 5 | 1 | 52 | 3*s*. to 12*s*. |
| Pork .. .. .. | 3 | 7 | 5½ | 46 | 1*s*. to 4*s*. |
| Beef .. .. .. | 0 | 14 | 9 | 6 | 1*s*. to 4*s*. |
| Mutton .. .. .. | 0 | 1 | 1½ | 2 | 1*s*. to 2*s*. |
| Bacon .. .. .. | 0 | 13 | 2 | .. | 1*s*. to 2*s*. |
| Tobacco .. .. .. | 0 | 19 | 8 | 51 | 3*d*. to 6*d*. |
| Soap .. .. .. | 0 | 13 | 6 | 38 | 5*d*. |
| Coffee .. .. .. | 0 | 7 | 10¾ | 47 | 1½*d*. to 2½*d*. |
| Candles .. .. .. | 0 | 11 | 7½ | 41 | 2*d*. to 6*d*. |
| Butter .. .. .. | 1 | 11 | 7½ | 46 | 5*d*. to 10*d*. |
| Sugar .. .. .. | 0 | 18 | 3½ | 50 | 2½*d*. to 5*d*. |
| Cheese .. .. .. | 1 | 6 | 2½ | 47 | 6*d*. to 1*s*. |
| Tea .. .. .. | 0 | 11 | 5 | 29 | 3*d*. to 7*d*. |
| Coals .. .. .. | 1 | 14 | 2½ | 42 | 7*d*. to 1*s*. 3*d*. |
| Wood .. .. .. | 0 | 2 | 0 | 1 | 2*s*. |
| Herrings .. .. .. | 0 | 3 | 7 | 8 | 2*d*. to 6*d*. |
| Salt .. .. .. | 0 | 1 | 5½ | 16 | 1*d*. |
| Pepper .. .. .. | 0 | 1 | 5½ | 12 | 1½*d*. |
| Mustard .. .. .. | 0 | 0 | 4 | 2 | 1*d*. to 3*d*. |
| Vinegar .. .. .. | 0 | 0 | 8¾ | 3 | 1½*d* to 5*d*. |
| Ink .. .. .. | 0 | 0 | 0½ | 1 | ½*d* |
| Carrots and Turnips .. | 0 | 2 | 0 | 3 | 3*d*. to 1*s*. |
| Potatos .. .. .. | 0 | 18 | 0½ | 6 | 2*s*. to 12*s*. |
| Garden seeds .. .. | 0 | 1 | 3½ | 4 | |
| Rice .. .. .. | 0 | 0 | 10 | 3 | |
| Cucumber .. .. | 0 | 0 | 1 | 1 | |
| Mending kettle and umbrella .. | 0 | 0 | 10 | 2 | |
| Mugs and pail .. .. | 0 | 2 | 1 | 3 | |
| Milk .. .. .. | 0 | 6 | 2 | 30 | |
| Matches .. .. .. | 0 | 1 | 5 | 16 | Shoes, 9*s*. 6*d*. to 3*s*. 6*d*. no article of dress. Payments to club. |
| Cleaning watch and clock .. .. | 0 | 6 | 6 | 2 | |
| Clothing .. .. .. | 2 | 17 | 8 | 53 .. | |
| Starch, &c. .. .. | 0 | 3 | 3 | 25 | |
| Lard .. .. .. | 0 | 5 | 1 | 15 | |
| Eggs .. .. .. | 0 | 0 | 5 | 2 | |
| Currants, &c. .. .. | 0 | 3 | 9 | 6 | |
| Oil .. .. .. | 0 | 3 | 2 | 13 | 3*d*. |
| Medicine .. .. .. | 0 | 7 | 2 | 11 | |
| Beer .. .. .. | 0 | 5 | 7½ | 14 | 2½*d*. to 5*d*. |
| Yeast .. .. .. | 0 | 2 | 8 | 14 | 2*d*. |
| Gatherings (probably collections at church) | 0 | 3 | 1½ | 6 | |
| Book .. .. .. | 0 | 0 | 8 | 1 | |
| Club .. .. .. | 0 | 16 | 0 | 3 | |
| | £50 | 14 | 11½ | | |

RECEIPTS.

| | £ | s. | d. | |
|---|---|---|---|---|
| Wages:— | | | | |
| Self .. .. .. | 84 | 7 | 2 | One week ill—Wages 12*s*., 12*s*. 6*d*.; 15*s*. in Harvest. |
| Boys .. .. .. | 10 | 6 | 3 | Three weeks ill—sometimes one boy, sometimes two boys,—2*s*. to 3*s*. |
| Washing .. .. | 2 | 2 | 3 | |
| Gifts .. .. .. | 0 | 14 | 6 | |
| Lodgings .. .. | 2 | 18 | 6 | Sometimes one lodger, sometimes two lodgers, 6*d*. to 1*s*. |
| Fowls .. .. .. | 0 | 7 | 10 | Rearing. |
| Apples and Pears .. | 0 | 15 | 5 | |
| Beeswax .. .. | 0 | 3 | 9 | |
| Rags .. .. .. | 0 | 3 | 6 | |
| Laying-out a Corpse .. | 0 | 2 | 6 | |
| Mending chair .. | 0 | 0 | 6 | |
| | £[illegible] | 2 | 1 | |

*Consumption of Bread.*—The accounts I send with this letter will show you that I paid a baker 3*l*. 0*s*. 9½*d*. for 93¼ quarter (4 lb.) loaves; I consumed from February 11, till September 4, 1861, when employed in

the capacity of journeyman in a nobleman's garden, where five single men are employed, all of whom resided in a bothy.

Our food consisted of oatmeal-porridge and milk for breakfast, loaf-bread and milk for dinner, and bread and butter and coffee or tea for supper on week days.

Although employed in a nobleman's garden, I applied myself more energetically to work during that period than I ever did in any capacity to farmers or contractors. Each of a good many men will consume three quarters of a pound of meal made into porridge, but when several men's porridge are made together, half a pound of oatmeal will make one man's breakfast of porridge. I pay 6½*d.* at present for six breakfasts of porridge. I was employed several years in a garden where I had a breakfast of porridge for 1*d.*, when 2*s.* 8*d.* was the selling price of an imperial stone of oatmeal. Six breakfasts for 6*d.* Of course we had the milk gratis as a perquisite. Twenty-one pounds of oatmeal made eight men's breakfasts six mornings.

Reckoning ½ lb. of oatmeal to make a breakfast, the accounts will show you that I consumed 12 lb. of loaf-bread in the seven days, exclusive of six breakfasts of porridge each week.

The man on duty on Sabbath was allowed to take a few vegetables to cook a dinner of Scotch Kail for the five men on Sabbath, but I do not remember having Potatos or any other vegetable for dinner on week days from February 11 till September 4, which accounts for the consumption of such a large quantity of bread.

One of the men ate two loaves a week, and supped the same quantity of porridge that I did, two ate the same quantity of bread as myself, and one man ate one loaf more in the week than I did.

The head gardener's domestic servant made the breakfast, and made the beds and cleaned the bothy; but each of the five men acted as housekeeper and cook for a week in rotation. I have resided in bothies where I did not eat such a large quantity of bread, owing to my having a mixed diet consisting of bread, meat, and vegetables, which is much better for the system than living solely on farinaceous food. Residing in hired lodgings at present, where I get home to all my meals, I sometimes make use of bread only once a day; but where a woman is employed by gardeners and farmers for keeping the bothies in order and cooking the men's food, single men can get a mixed diet as well in bothies as in private lodgings. *W.* [Can our Correspondent procure for us any such detailed account of the expenditure of a Scotch family as is given above of an English one?]

## TENANCY AT WILL.

In the business affairs of this world we are not saved by faith, but rather by the want of it. A hundred instances in corroboration of this saying might be easily adduced in every walk of trade, commerce, or manufacture. Take the daily transactions of our good old city as instances. One agrees to sell and another to buy certain cargoes or parcels of oil, tallow, timber, tea, coffee, cotton, or any other commodity; the broker is witness to that agreement, and binds it by a written contract, delivered to each party. Mark those numerous scaffoldings in almost every street. Old houses pulled down, and replaced by costly modern structures, raised on ground leased probably for 80 years from another. I have taken premises, and expended on them during a long period 20,000*l.* in improvements or alterations suitable to my trade. Without a long and certain tenure I should have been considered a fool or a lunatic to trust my capital to the mercy or caprice of any individual. The very basis of change and progress rests commercially upon certainty of tenure and independence of action. Without this you have unalterability and the poverty of servility and insecurity. The same remarks apply to farming, which ought to be a business, and regulated by business principles. Both landlord and tenant must of course look after their own interest; but capital can be attracted only by a reasonable prospect of securing a profitable return. We can no more expect improvement from the yearly tenant of a farm than from the yearly tenant of a house. Our good old City Corporation wins the confidence of its tenants by never removing them, provided they take care of the property, and are content to pay, as the leases fall in, such an increase of rental as circumstances justify. They are never rack-rented on the investments they themselves have made. It is thus that capital flows freely into the corporation property, giving it, in various ways, aggregated wealth and profit. Although the Corporation retains the right, it never refuses to allow the sale or transfer of a lease if the tenant desires it, and if the new tenant is a desirable person. Why should not this be done in agriculture? Capital and independence refuse to be encumbered by restrictive trammels inconsistent with a free and progressive action. Wise landlords know all this, and act upon it, very much to the benefit of their estates; witness the case of the Duke of Bedford, and many other of our great landlords. *J. J. Mechi, Nov. 4.*

## PREVENTION OF DISEASE BY LAW.

At the opening last week of the New Veterinary College, Edinburgh, Professor Gamgee thus spoke on the importance of legislation for the prevention of disease amongst our domestic animals:—No sooner had I been intrusted, in 1862, with a general inquiry into the diseases of animals in the United Kingdom in relation to the supply of animal food for our people, than the outbreak of small-pox in sheep afforded me an excellent opportunity of demonstrating what serious losses were sustained in this country through the importation of infected stock from abroad. We can now point to the Wiltshire outbreak as an excellent illustration of the value of preventive measures in arresting the progress of the most fatal and contagious epizootics. We can adduce instances of great destruction due to negligence and mismanagement, and of great saving of life and money as a reward for a little care and intelligent interference. If the few gentlemen north of the Tweed who wish to stir up opposition to any proposal having for its object specially the prevention of contagious diseases, are at all disposed to consider in a becoming spirit how I wish wide-spreading plagues to be dealt with, let them read the history of the Wiltshire outbreak. We soon put an end to the spread of the disease—we locked it up on the farms where it broke out. We prevented the sale of diseased sheep; and whereas the losses on the farms which suffered prior to my visit to Devizes amounted to 20 per cent., the total deaths on the flocks I had to deal with only amounted to 1.6 per cent. These facts were brought under the special attention of Parliament during the past session by the Vice-President of the Privy Council; and in the face of such statistics, it cannot be said that we are powerless in dealing with malignant epizootics.

The first outbreak of small-pox in this country, in 1848, led to the passing of an Act which refers more or less vaguely to contagious diseases in general. That Act has been found deficient; and in consequence of the difficulties experienced at Worcester in controlling the traffic in diseased animals, in the vicinity of a site selected for the last show of the Royal Agricultural Society, Mr. Holland, one of the Members of Parliament for the county of Worcester, and a Member of Council of the Royal Agricultural Society, introduced a measure into Parliament last session, "which it was thought might, if it became law, save the breeder and grazier from the enormous losses to which they are now liable through death from contagious and infectious diseases amongst their stock." Mr. Holland's efforts have led to the exacting a pledge from Government that, in the course of the ensuing session, a more stringent measure than the one in force will be framed.

It is to me a source of special satisfaction, that this important question is now receiving so large a share of public attention.

We have 1018 qualified veterinarians to attend to the health of nearly three million horses, upwards of seven and a half million head of cattle, forty million sheep, and four million pigs. The thing is quite preposterous. Ireland is writhing under misfortune, and she has 36 veterinarians to attend to the health of an aggregate amount of stock valued at 29,997,546*l.*! Is it to be wondered at if we are told that there are five or six unqualified practitioners for every qualified veterinarian in the United Kingdom? How to remedy the evil? If young men will not enter the veterinary profession, law cannot compel them to. Quite true. But the strong incentive to induce men to work at any subject is to make it worth their while. Provide livings for them, and then the number cannot long remain short of the requirements of the age. At the present time veterinary surgeons throng to the large towns to treat horses. They are well paid for that work; and the result is that the county of Middlesex has within it 103 qualified veterinarians and 112 unqualified; whereas the whole of Scotland numbers only 164 qualified veterinarians and 84 unqualified ones. There is another startling fact worthy of special consideration. In large towns cattle are dying off at the rate of 30, 40, and 50 per cent. It is there that there are most veterinarians, but they are rarely if ever seen in a cow-house. Why? In the first place, because the butcher is said to be the best doctor; and, in the second place, because the prevention of disease has not been attended to by those who should long since have exerted themselves for this purpose. Individual practitioners cannot battle against plagues which sweep off cattle almost as rapidly as they might be cut down with cannon shot. It is essential in such cases to organise measures adequate to great emergencies; and it is ludicrous to think that physic is to save the lives of hundreds upon hundreds of cattle, which we should and could preserve from any attack of the kind so common at the present day.

One of the first steps in legislation, with a view to the prevention of disease, is to favour the progress of veterinary science and art, by securing to its students and practitioners privileges which they are justly entitled to, and without which our profession exists only in name. Improve the status of the veterinarian, and we shall soon see well-educated men devoting their best attention to the study of the diseases of animals—a study of engrossing interest and surpassing difficulty.

But the next step, and the most important of all, is, that the British Government and the British people should encourage the appointment of veterinarians over the whole country, with a view to check the spread, and report on the existence of, diseases of all kinds amongst our domestic quadrupeds. Sooner or later this must come to pass, inasmuch as the veterinary profession is perfectly useless in its present divided and scattered condition, in dealing with the questions of real importance to the farmer and the public generally.

In order to show up in clear light how veterinarians should be made to work, let me turn your attention to those vast flocks which enable us to clothe and to feed our people, when the produce of Cotton fields is kept from us by a disastrous war. What should we do in this country without our sheep? What would Scotland be but for its five or six million sheep? What would that food and wool-producing county of Lincolnshire be without its hundreds and hundreds of thousands of sheep? Ponder over any statistics you like, commercial or agricultural, and you must plainly see that our precious soil would lie waste, and the British Isles would cut a sorry figure in the world, but for our flocks—but for our hardy Blackfaced and our magnificent Cheviots, our long-woolled Lincolns and flesh-making Downs. Look at the wretched sheep imported. A few are respectable offsprings of British sheep, exported to Germany; but when will you ever produce in the frost-bitten fields of the European continent sheep such as those which tread the grassy hills and luxuriant plains of England and Scotland? I say never. We do not need to box our sheep in filthy and disease-generating stables for half a year. Our sea-girt islands are in a warming-pan which can never transmit its heat to the piercingly cold sheep-rearing districts of Hanover and Prussia, of Austria, and the dominions of the Czar. We are apt to speak of Britain as richly endowed from the perseverance of its people rather than from the natural gifts of Providence. No greater fallacy. What do we owe our magnificent horses to?—soil and climate. What do we owe our Short-horns to?—soil and climate. What do we owe our superb sheep to?—soil and climate. People Italy or France with Englishmen—with enthusiastic stock-breeding farmers—and you will fail to obtain there what you have here—viz., the finest stock that the world can produce. Knowing this, is it not painful to reflect on the fact that we care not how speedily our animals are destroyed by disease. Is it not disgraceful to neglect the investigation of diseases which are annually curtailing the capabilities of these islands for the production of food for their people. If our labourers are not well fed, what can we expect from them? I am a firm believer in some of the views entertained by Professor Christison as to the dependence of malignant epidemics in man on the want of food. We have the typhus of famine-stricken lands, and hundreds of thousands of people in this country are prematurely lost to us in consequence of the extraordinary price of provisions, and especially of the price of the real blood and bone-making aliment—viz., meat.

I believe it is impossible to bring out the real facts of our position in relation to the prevalence of disease amongst animals better than by devoting a short time to the consideration of sheep diseases. In my Government Report, I estimate in round numbers the annual loss in money from disease amongst our sheep at 1,600,000*l.* This is far below the mark. However alarming my statistics have been, they have all been framed so that, with a closer investigation of the subject, it may be found that I have erred on the safe side, and never used sensation figures. I can easily show you how much within the mark I am as to the losses amongst sheep. The information I have received from all the farmers in Scotland who are acquainted with this subject tends to prove that on a flock of sheep the loss is very rarely less than one per score, but often up to two, three, and even five per score. A short time since I was favoured by the secretary to the Hungerford Farmers' Club with statistics referring to 12 farms for the six months ending June 1, 1863. The gentlemen who supplied the returns had instructions to keep a record for six months of the numbers in each flock; the loss in sheep and lambs; the date and the cause of death to the best of the reporters' judgment.

The losses in six months were as follows:—

| | | | | | |
|---|---|---|---|---|---|
| 1. | On 555 | 14, | or at the rate of | 5 | per cent. per annum. |
| 2. | „ 210 | 31, | or „ | 29.5 | „ |
| 3. | „ 386 | 21, | or „ | 10.8 | „ |
| 4. | „ 615 | 18, | or „ | 5.8 | „ |
| 5. | „ 832 | 25, | or „ | 6 | „ |
| 6. | „ 568 | 63, | or „ | 22.2 | „ |
| 7. | „ 614 | 45, | or „ | 14.6 | „ |
| 8. | „ 250 | 21, | or „ | 16.8 | „ |
| 9. | „ 420 | 37, | or „ | 17.6 | „ |
| 10. | „ 220 | 4, | or „ | 3.6 | „ |
| 11. | „ 837 | 31, | or „ | 7.4 | „ |
| 12. | „ 287 | 9, | or „ | 4 6 | „ |
| Totals, | 5894 | 319, | or „ | 10.8 | „ |

Here we have the statement of twelve farmers whose names and farms I know not; but as members of the Hungerford Farmers' Club, they depute their secretary to send me the above item of information, in reply to an expressed desire of mine to get some statistics. There are those who might suppose that on the above twelve farms there must have been some plague. Not at all. The sheep and lambs died of ordinary diseases, and such decimation, nay, more, is going on throughout the length and breadth of the United Kingdom.

I will give you a few more statistics, such as the

above, before stating the causes of death amongst these flocks:—

One farmer in Lincolnshire reports his loss in twelve months—

On 465 lambs to be 62, or 13·3 per cent.
On 620 sheep „ 29, or 4.6 per cent.

Another farmer in Cambridgeshire reports a loss of 6.4 per cent.

A third farmer in Buckinghamshire reports having fortunately escaped without usual losses, and on an average amount of stock of about 350 ewes and lambs, he lost 11, or 3.11 per cent. This is looked upon as absolutely no loss at all.

Lastly, a Caithness farmer, who speaks of the unusual very low mortality, reports a loss of only 16 animals on 1095 in a whole year.

These are the numbers I can give you just now, to demonstrate the truth of what I have before stated, and it transpires that on 8924 sheep on 16 different farms, and in at least five different counties in England and Scotland, we have a loss of about 8.5 per cent. On one farm, as a great exception, there is a mortality of only 1·5 per cent., whereas on others the losses amount to nearly 30 per cent.

It is worthy of very special remark, that the farmers who have reported their stock to have been healthy state that it has been quite unusually so; therefore, health is the exception and disease the rule. Does this not show, when I estimated the loss amongst sheep in the United Kingdom at 5 per cent., that I was far within the mark? I have no hesitation in saying that the average loss is usually above double that.

In none of the reports above referred to is there any mention of the disorders that commonly tend to destroy heavy percentages of sheep. There is no smallpox, no scab, no rot, no parasitic lung disease.

It is quite evident that the losses in this country by preventible disease are enormous; that the veterinary profession has not been employed to prevent disease, but the few veterinarians we have, have attended to their own interests by studying the diseases of animals for the treatment of which they were likely to be remunerated; that without any special effort the important diseases of cattle, sheep, and pigs, which are ruining stockowners, keeping up the price of meat, and generally deteriorating our food supply, must continue unstudied and uncared for.

How are we to correct the grand anomaly, as it has been called, of the four-pound loaf at 5*d.*, and that of meat at 9*d.*? I say by the prevention of diseases. Let the landowners and farmers in their respective counties combine to pay for scientific investigation and for the constant devotion of enlightened labour to the study and prevention of epizootics. If they expect a class of philanthropic veterinarians to start up and practise in the hills where sheep maladies abound, just for the sake of benefiting mankind, they must wait in vain; or if they think a busy practitioner in the heart of Devonshire or Berkshire is going to spend a couple of years in researches on the livers of lambs, or the bearing pains of ewes, merely for the love of science, they are woefully mistaken; but what would it be for any county to provide funds for the constant employment of the best men in the land to keep disease at bay.

To secure, however, the services of such men, we should have fixed Government appointments, and salaries supplied in part by the public treasury, and principally by the local authorities, wherever the services of the professional men are required. In Prussia and elsewhere, for example, there are veterinary surgeons holding such appointments in every district; and the result is that the diseases of animals can never be neglected.

## ON THE DECORTICATION OF CEREALS.

WHAT is understood by the decortication of grain? It is a system by which the exterior envelope is taken off, so that there remains only the kernel of flour; in other words, decortication does to the grain what most persons do to fine fruit before eating, namely, they peel it, in order that the bitterness or coarseness of the skin may not diminish the flavour and goodness of that which is within.

Thus, decorticated grain is without the bitterness which the skin communicates, whether it be for making bread or for distillation; in fact, any one who has not tasted bread made from decorticated corn does not know the natural taste of Wheat flour.

Corn is the most valuable of the farinaceous food of man, and it is important to know if the flour of old corn can be improved by decortication. Look, then, to the structure of a grain of corn, beginning from the outside. We find a gummy and resinous pellicle in order to protect the grain, at the same time not stopping the power of absorption, and it is easy to understand that this pellicule easily gets discoloured and charged with dust that must impart a bad taste; after this pellicule there is a thinner skin distilling the air and nourishing the kernel as through a thin veil. There is a third envelope, formed of impalpable dust, which acts as a sponge, absorbing the damp and stopping putrefaction, and giving a longer life to the kernel. These three envelopes form the brans, and are called in science, Epiderme, Epicarpe, and Ludicarpe. Under these three there is a thin skin, called in science "Testa." This skin sticks to the floury kernel, and surrounds it like a cuirass, and the object of the decorticator is to take off this cuirass, and strip it completely without injuring it.

After the testa we come to the germ of the grain, which surrounds the kernel like a crown, enlarging it towards the embryo. This is the flour *par excellence.* Then come the particles the most glutinous, then the centre.

One can understand that in completely taking off the three brans of old Wheat, or of Egyptian Wheat, before grinding, the flour will necessarily be better. If the three brans be preserved separately, the inner one will be found in the form of a fine, black, bitter, bad smelling dust.

What advantages, then, are to be obtained by decortication?— The answer is 10 per cent. increase in quantity of flour (at least upon Wheat), and from 12 to 15 per cent. in Barley and Oats, and at the same time a finer colour and a better taste. The next question which arises is, "Ought the grinding of decorticated grain to be done in the same manner as undecorticated grain?" The answer is, "No." Having shown that the finest flour for taste and nourishment adheres to the skin, the grain must be pulverised to detach this flour from its envelope. You must then grind as fine as possible, so as not to heat the flour, then dress through a dressing machine, of which the coarsest silk will not let through more than the third or fourth degree of fineness—thus you will obtain 80 per cent. of the weight of corn; then you will either regrind or redress the remainder, so as to have 90 parts of flour from 100 parts of the corn decorticated. The 90 parts of flour will make a delicious and nourishing bread.

As to decortication in a hygienic point of view, the flour of decorticated corn at 90 per cent. is more nutritious than ordinarily ground corn at 78 or 80. All the chemists (in France) who have analysed and compared flour from decorticated and undecorticated corn find 5 and 6 per cent. more gluten in the former than in the latter. The formation of the grain shows us that it must be so. In grinding undecorticated grain, to prevent the third bran from spoiling the colour of the flour, the stones are put so far apart that a large portion of the flour is suffered to escape in the brans, and we have seen that the exterior flour is richest in gluten and in phosphoric principles.

As in the ordinary millering, the greater part of this excellent flour is left in the bran, so flour from undecorticated corn extracting 78 to 80 per cent. of the weight of the corn, is inferior in nourishment and in flavour to the flour of decorticated corn extracting 90 per cent. of the natural weight of the corn.

As regards the several qualities of bread, the decortication does not affect the different qualities that exist in the flour; the compartments of the dressing machine divide it, and one can always have bread more or less white according as the 1st, 2d, or 3d flours are more or less mixed. The quality of the 1st will be incomparable —but what is gained in whiteness is lost in taste and nourishment. Thus we say, the first flour will only be used for pastry and very fine bread—it will be excluded from the table where bread is the principal food—and will be only used at the table of the luxurious.

It is better to make a quality with all flours united, making a wholesome and well flavoured bread, and experience has proved that young people, more especially, fed with this bread will have a strong and vigorous constitution instead of the lymphatic blood produced by the white and tasteless bread in common use.

In order to obtain this complete decortication, the principle adopted by M. Poissant (the pioneer of this system) is that of causing a continuous rubbing of grain against grain by means of a well devised machine—the result of many years' toil—but which it is hardly possible to describe here. Suffice it to say that it consists of two sets of revolving blades, driven at 300 or 400 revolutions per minute, which causes the grains to come into contact with each other in such a manner as to create a speedy expansion and separation of the skin, and as each skin is loosened, so is it driven off at stated and fixed periods by an arrangement of fanning.

It is necessary to observe that the grain, previous to decorticating, is immersed for a second or two in cold water, and allowed to drain for four or five minutes before it is put into the hopper of the machine. The next step before grinding is to take care that the grain is thoroughly dried, which is easily accomplished by rapid currents of heated air meeting the grain as it passes from the machine, it being observed that the moisture, through its immersion, is exceedingly slight, and altogether superficial.

It is a matter of singular yet great importance to know that corn and other cereals decorticated are not likely to be attacked by that destructive insect the weevil, that is, if the decorticated corn is carefully excluded from sunshine. Thus, to preserve decorticated corn, after it is properly dried, it should be put into barrels, or stored in close and air-tight granaries, where it will be found to keep for an indefinite period.

By way of recapitulation it may be stated,

1st. That decorticated grain will always be profitable to the world, as it incontestibly yields 10 to 12 per cent. more flour than ordinary millering.

2nd. It can be done in either small or large quantities, and not only produces from 10 to 12 per cent. more flour, but at the same time from 5 to 6 per cent. more glutinous nourishment.

3d. Its non-susceptibility of attack from the weevil, and therefore its fitness for storing against periodical seasons of scarcity.

Lastly. The machines are simple, cheap, lasting, and capable of being worked either by hand or motive power at small cost, and have, in fact, no known drawbacks, except that pollard bran, &c., which is produced by the present method of millering, will no longer be an article of commerce. But as a set off, the pellicle which is produced by the new system is found to make an excellent vellum-like paper, which is largely sought after in France by bookbinders.

The above is based partly on personal observation and examination, and partly from written communications from M. Poissant, whose whole life nearly has been devoted to this subject. *C. Davison, C.E., at the British Association.*

## Home Correspondence.

*Labourers' Houses.*—Farm operatives are regarded as being unable to keep more than one room at a high enough temperature by fire-heat, which Mr. Robb considers a plausible pretext for objecting to hinds' houses being built two stories high. If it could be proved that hinds cannot afford to have more than one fire, I would consider it, on the contrary, a pretext for building two-story houses, because bedrooms in the second story do not require fire-heat; but bedrooms on the ground-floor require it during the winter months. I am lodging with a mason who, after reading Mr. Robb's paper, said to me that the labour on the foundations of cottages would do a good deal towards constructing the second story. Since it is taken for granted that Lord Palmerston's labourers' houses are not too large for working men in a district where serfdom does not prevail, two-story houses are indispensable on farms in Northumberland and northwards where the bondage system prevails, and where ploughmen's wages are paid in kind, which consists of a cow's keep, meal, potatos, and coals. I have stated several times in the *Agricultural Gazette* that Scotch hinds have the cartage of six and seven cartloads of coals, say five to five and a-half tons in a twelvemonth. Can you, Mr. Editor, inform me how many tons of coals each of your ploughmen will burn in a twelvemonth? Although my scribbling may be too local for general application, a lesson may be learned from it. For instance, when employed in the counties of Worcester, Buckingham, and Kent, I often contrasted the comparative condition of the ploughmen residing in cottages on farms, on Tweedside, with those grouped together in villages several miles from the farms where they were and still are employed. Scotch hinds have their coals at cost price at the coal pits. I don't know their price at present, but I have seen hinds have six loads for 27*s.* to 35*s.* Either sum will purchase a very small quantity of coals in the majority of the English counties south of Yorkshire. To return to my subject—the comparative merits of one and two-story houses: the former would suit English labourers better than Northumbrian and Scotch hinds, because the former are paid with cash weekly or fortnightly; whereas the latter receives very little cash. A hind's house requires to contain not only the ordinary living apartments, but also a dairy, coal hole, Potato bin, and a storeroom for the oatmeal, Barley and Peas. There is a fireplace in each of three apartments in each of the new two-story houses recently built on the farm where my father was steward for the 11 years preceding his death. One of the rooms in the second story would be a very good bedroom in an emergency, but it without the fire place is intended for a storeroom. I have often felt amazed at seeing landowners making such small apartments in the houses recently built, so small that there is not sufficient space for people sitting in chairs at each side of a very small square table. Either the kitchen or parlour ought to be 12½ feet to admit of two 6 feet beds being set either on the side or across the end of the apartment. The gentry do not sleep with their children, but nurses generally sleep in the same room in which the children sleep. A good many of the new houses are not large enough for two beds in one room. Hence the prevalent practice, notwithstanding that there are other rooms, of two children sleeping with their father and mother. Mr. Robb suggests that "there should be a recess for a bed in the kitchen." Recess beds are justly condemned by the Board of Health. The editor states in the note he appended to my letter at page 1146 of the *Scottish Farmer* (Oct. 21):—"The accommodation mentioned in Mr. Robb's paper will be acknowledged by most people who know anything of the subject to be sufficient." The majority of "people who know anything of the subject" cannot be regarded as competent judges. It cannot be denied that gentlemen and practical farmers in the neighbourhood of both sides of the Tweed, 40 miles north and 60 miles south of it, have violated public decency. As a proof of it, see a letter by Mr. Hope, of Fenton Barns, in the *Morning Post* in 1858, at p. 631 of the *Agricultural Gazette* for 1860, where Mr. Hope stated—"The bondage system, I confess, still prevails on many farms, though it has been given up on the larger proportion. The compelling the hind to furnish a stout boy or girl during the summer months is undoubtedly a hardship, when he has not a member of his own family suitable for the purpose. It breaks up the domesticity of the family

circle, but I cannot see that there is anything leading to immorality in it." Here is a distinguished practical farmer, with the accomplishments of the scholar and the gentleman, who "cannot see that there is anything leading to immorality" in a husband and wife and a young woman, sitting, eating, and sleeping in one room! Such a statement justifies me in stating that distinguished practical farmers are not competent to give an opinion on the merits and demerits of Mr. Robb's statements about married hinds' houses. *W.*

——In the consideration of this question a very important point seems to be lost sight of by most of the persons who have written or spoken upon it. Lord Palmerston stated the other day at Romsey that no cottage ought to be without three sleeping rooms, and this and similar opinions have been promulgated with much laudation. Now to all men practically acquainted with the subject it seems very unreasonable as well as very unjust to lay down a positive rule of this sort; persons forget that with farm labourers, as with all other classes, the accommodation required varies very greatly. Surely all farm labourers have not large families?—say that the man marries when he is 25, and his wife is 22 years of age, is it reasonable to expect that those young people, who in a majority of cases have nothing but their own savings to help them, can have money to furnish a house with three bedrooms? But supposing that by some extraordinary piece of good fortune they have the money to buy so much furniture, is it possible to devise a more unproductive method of using it? It may be urged that although the young couple have no children at first, these little care-producers generally follow in quick succession. True, in many, but not in all cases—some couples never have children. If, however, their family does so increase, then the man who at first took a house suited to his wants and means, will naturally look out for one with more accommodation. If he has been a good servant, his master will no doubt help him to what he wants either on his own or on some friend's farm. If I am right in this description—and I do not expect that it will be disputed—cottages should be built of two sizes, one suitable for a married couple with no children; these would afford ample provision for health and decency if they contain a good living room, a pantry, and one bed room. For those who have several children, two and occasionally three bed rooms, should be provided. In this, as in most cases, it is mischievous to lay down positive rules, because it is impossible to make them justly suit all. If proprietors would agree to pull down all old dilapidated one-room cottages, and would erect well ventilated dwellings with a good living room, and one, two, or three sleeping rooms as likely to be wanted, the real evil would be sapped at the root; to accomplish this a great outlay of money would not be required. I am of course supposing that the health and comfort of the occupiers are made the first consideration, which is quite compatible with neatness in the exterior of the buildings, but all fancy gables, and indeed fancies of all sorts, are totally out of place in the dwelling of a farm labourer. If the building is well adapted for the healthy occupation of human beings, and, if in addition to this, it has a useful, but not a large garden; and if the master, or better still, if the mistress is a frequent visitor to those cottages, with a word of kind advice when needed, and of commendation on seeing any extra neatness in the house, or of unusual beauty in the plants in the window, or in the cropping of the garden, depend upon it the greatest ornament about a labourer's cottage will soon be found there, viz., the happy faces of a healthy and contented family. *Roaldus.*

*The Winter Management of Young Sheep.*—This is a subject which cannot be too forcibly impressed upon every flock-master at this season of the year, and more particularly, as upon the successful wintering of the young flock depends its healthy condition and future prosperity. The young flock, *i. e.*, the weaned lambs or hoggets, should be put upon their winter food early in the season, certainly not later than old Michaelmas. The great point is to get them well habituated or settled down to this great change of keeping before the commencement of cold or frosty weather. Otherwise the cold and watery Turnips or ranker green Coleseed will prove injurious to them. Their stomachs cannot properly digest such strong food, and colic and scouring most frequently take place. The correct practice is to get them up as well as possible during the time of suckling; to wean them about the last week in July or first week in August; to put them at first upon the sweetest but not richest pasture for two or three weeks, then change them to a field of Clover eddish or Grass eddish till Michaelmas, when they should be transferred to their winter keeping. If the suckling season be unpropitious, and Grass not nutritive, Oats or cake should be given to them in troughs, so fenced in, that their dams cannot get to them. This allowance of Corn or cake should be continued during the time they are on eddishes and through the winter. "A lamb well reared is half wintered." When they are first put on their winter keeping it is desirable to take them off for a day or two and return them to their eddish, so that the change be less direct, and thus prevent the possibility of danger to some of the weaker lambs. They thus fill their stomachs with their old digestible food, and return to their winter rations with renewed zest and vigour The best winter food for these young lambs when first put on is healthy green Cole-seed, *i. e.*, Cole-seed free from mildew or yellow leaves, and not too strong. From this they should go to the common or white-fleshed Turnips, and, lastly, to the Swedes. The Turnips and Swedes should all be cut for them. It is true they will do very well upon common Turnips if not cut, but as one man and one boy could supply above 300 sheep, the expense of cutting is more than saved, both in the condition of the flock and the economical consumption of the crop. On turning them on Cole-seed they should at first have a considerable breadth to roam over—say at least 2 or 3 acres for every hundred lambs, according to the strength of the crop. When they have eaten or injured much of this plot, then a sufficient piece for daily consumption should be given. In this way if the lairage is good a very large saving will be made. In feeding off the Turnip crop the same order should be observed, and it is essential. If they are not wholly confined on the crop in the first instance many will continue to hanker after the crop, and if provided with a "fall-back" of stubble or otherwise they should every day be compelled to feed fully upon the winter food before they are allowed to browse over the stubble field. When once they have truly taken to their winter food then they may be left at liberty. As the winter advances they will abide rather close folding, which in some districts is so necessary for the benefit of the land, although not of the flock. Mangels must be altogether avoided till about the middle of March, when, if Swedes are scarce, they may be partially resorted to, but generally they are too laxative for young sheep. As dry lairage is of great importance to healthiness, much attention should be paid to secure it. The means for this end is not to crowd too many in one fold. Another is to provide plenty of straw for both provender and lairage. A small cob of straw is good for both shelter and food. Bean, Pea, or Oat-straw is best, but both Wheat and Barley-straw are highly useful for the lambs to pick at. Should the lairage become very bad, so as to endanger their well-being, they must without hesitation be removed for a short time to some dry locality, even though it be the fold-yard. Young sheep cannot abide a lengthened season of wet lairage. Inflammatory affections soon commence. The flock-master should be soon aware of the quality of the food upon which his flock are feeding. It is very surely proved that green crops raised exclusively from artificial manures do not possess such really nutritive qualities as those produced from fold yard manure. Hence he must by artificial foods endeavour to compensate for the difference. To promote their growth he must give food containing phosphates, chalk, starch, lime, &c., *i. e.*, Oats or Barley, Bean or Pea-meal, or Wheaten flour (in their cheap times), with plenty of chaff cut from Oat, Wheat, or Pea straw. To promote their better thriving condition he must give Linseed cake, Clover hay, meadow hay, and all the straw they will consume. Of course good judgment must be exercised in administering these foods. A young sheep in fair health would readily appropriate with benefit to himself daily half a pint of Oats, or half a pound of Cake, or half a pint of Bean or Pea-meal, but of Wheat flour somewhat less, and of Barley a gill will suffice. As the spring advances and they grow and thrive, any of these rations may be increased some 25 to 50 per cent. Chemistry tells us that to make a young animal grow fat he would require food containing a surplus of phosphates, starch, chalk, lime. To supply this lack of these ingredients in any crop, the above are recommended to promote growth. But they again tell us that these will not greatly promote fatting or condition, but such food as contains gluten, sugar, starch, albumen; hence the latter foods are recommended to promote thriving and condition. *O. F.*

## Foreign Correspondence.

GONDINIE, WORCESTER DISTRICT, WESTERN PROVINCE, SOUTH AFRICA, *August* 10, 1863: *The Management of Stock and Farming in South Africa.*—Though some 7000 miles away, I read your paper upon stock management, in the *Derby Mercury* of May 20, with very great pleasure. My object in writing you a few lines is to corroborate that part of it where you lay great stress upon the injury done to cows by the hand of man during the period of bringing their calves into the world. In this parish the farmers hold somewhere about 500 calving cows, and each of these brings forth its calf year after year, (for they are very rarely barren) and the hand of man is never placed upon them to assist them in this process. They bring forth their calves in the field with no other covering than the sky, and the death of either cow or calf from calving is of so rare an occurrence that after reading your paper, upon asking two of the largest breeders in the parish if they ever lost any from this cause, the reply was, that in 16 years one of them had not lost one, and the other only two. It might be inferred that the animals are wild and unmanageable, but it is not so, as they are as docile as lambs, and stand perfectly quiet to be milked in the open kraal or yard. Perhaps it may not be uninteresting to you to know the process of rearing. When the calf is born it is allowed to stay with its mother, and sucks what milk it chooses, and for the first eight months, that is from August until the end of March, it does well, and would be a credit to an English dairyman, but after that time there is a great falling off in its condition from the following causes—first, the Grass has been going off for three months, for you must understand January is our hottest summer month, and from that time until April, the first winter month, there is seldom much, and more frequently no rain at all. The cow gives at that period very little milk, and the calf from always being with its mother during the fresh grassy time will not now eat the dry old herbage, and from this time until September it grows little or none. The farmers provide no winter food for their cattle, and they never taste one mouthful except what they pick up from the ground from the day of their birth until the day they die. After having said thus much I need not tell you what miserable managers of stock they are. There is not one covered shed in the whole of this parish (which contains about 25,000 acres, and about 50 farmers); the consequence is, that if the weather becomes unusually wet and cold in winter (as in 1862, when it rained to my knowledge for 16 days, with not five hours fair weather), the cattle die by hundreds, and the country is white over with bones. The present value of stock here is about half that of the value in England; a yearling is worth 2*l.*, a two-year old about 4*l.*, and a good milk cow about 8*l.*; the bull calves are worth more than the cow, and a farmer will always be pleased with his cows bringing a good proportion of bulls; the reason is plain enough. All farm work is done with oxen in this district, and most of the produce until last year, when the railway was opened 40 miles, had to be taken 35 miles to market, over tremendously heavy roads. The ox is much more enduring than the horse, and no expense to the farmer on the way, inasmuch as he eats Grass or bush at the outstanding places. They travel in this way about 20 miles a day for eight or ten days, and if there is plenty of Grass by the way, after a couple of days' rest at home, are not much the worse. Vast numbers of oxen are used to convey goods to the frontier of this colony, and it is a distance of 600 or 700 miles, in many parts very dry and herbage scarce; consequently many die on these journeys, which tends to keep up the demand for draught oxen; therefore, they are more valuable than cows. Butter is the only profit the farmer gets from his cows for some time, and of this they make very little. I do not think after the calf has sucked the cow they average more than one pound each weekly, the value of this article is from 3*s.* to 1*s.* 6*d.* per lb. The diseases in cattle are very few. The pleura takes off immense numbers from the districts where it sets in. Such a thing as a veterinary surgeon is unknown, and since residing here (now for 18 months) I have never seen but one sick beast, and the only medicine this one had was composed of a mixture of the manure from the (Das) badger (found amongst the mountains) and grease, but, however, he got well, but in all probability he would if he had not had the somewhat primitive potion. You will not derive much useful information from this communication, but at all events it will show you that things here are left pretty much in a state of nature, and their natural habits are very little interfered with, perhaps too little. On the other hand, it is equally certain the English farmer interferes too much. This colony, against which so much is said that is untrue, has some very extraordinary advantages, and no doubt some great drawbacks, but what country has not? The climate is perhaps the most healthy in the world. The heat of summer, which has been greatly exaggerated, is not so intolerable as the closeness of an English atmosphere in what is called sultry weather. Vegetation is most rapid, and where you have a good stream you can grow two crops of many kinds of vegetables in one year, such as Potatos, Cabbages, Turnips, Onions, Beetroot, Carrots, &c. Cattle will get quite fat enough in ordinary seasons, and the quality is excellent. Any industrious man would find this country by no means an objectionable one to farm in, but he would require some little experience before he commenced. There are thousands of acres that have never felt the plough, now growing nothing but bush, about two feet high, and unless a more enterprising class of farmers come into the country, will continue to do so for many years. *John Hassall, to Dr. Hitchman, in the Derby Reporter.*

## Societies.

BATH AND WEST OF ENGLAND.—The usual monthly meeting of the Council of this Society was held at Taunton on Saturday last. Present: Earl Fortescue, (President) in the Chair; the Earl of Portsmouth, Sir M. Lopes, Bart., M.P., Sir J. Duckworth, Bart., Sir J. Duntze, Bart., Colonels Acland and Luttrell, Drs. Brent, Gillett, and Scott, Messrs. Adair, Andrews, Archer, C. and R. H. Bush, G. Braginton, R. G. Badcock, Cotterell, Danger, J. T. Davy, J. Daw, E. S. Drewe, R. Dymond, H. Fookes, M. Farrant, J. Fry, John and Jonathan Gray, C. Gordon, T. Hussey, J. E. Knollys, G. Langdon, J. Lush, H. G. Moysey, S. Pitman, G. S. Poole, J. P. Pitts, W. Porter, J. and J. W. Sillifant, E. U. Vidal, J. W. Walrond, H. Williams, W. Wippell, J. Widdicombe, H. Maule and J. Goodwin.

THE BRISTOL MEETING.—Mr. Moysey, as Chairman of the Stock Prize List Committee, brought up the amended prize list, and remarked that after very anxiously considering the resolutions of the Council at their October meeting, the committee, having regard to

the fact that one of the fundamental objects of the Society was to encourage the improvement of breeding stock in the West of England, had felt it their duty to recommend that the prizes for stallions should not be discontinued, but that at the Bristol meeting in June next, prizes of the same amount as at the Exeter Spring Meeting should be given for thorough-bred stallions best calculated to get weight-carrying produce, to serve not less than 30 mares, in the counties of Cornwall, Devon, Somerset, Dorset, Wilts, and Gloucester, and in South Wales.

A long and earnest discussion followed, in the course of which the following principles were affirmed:—1st. That as the encouragement of breeding stock is a fundamental principle of the Society, it is desirable in the case of horses to offer prizes for good sires and dams in preference to good produce; and 2dly. That the prizes should be so offered as to encourage improvement in the breeding of horses in the West of England. At the Bristol meeting there will therefore be prizes for thorough-bred and agricultural stallions (as there were at Exeter), but the competing animals will have to be shown for the first three days of the June meeting (instead of in the spring). Subject to these modifications, the prize list as approved at the October meeting was confirmed, and ordered to be issued as soon as practicable. In order to keep clear of the Ascot, Bath, and Epsom races, the Bristol meeting was fixed to begin on Monday, June 13th.

## Farmers' Clubs.

WIGTON: *The Condition of our Farm Labourers.*—The Rev. CANON HODGSON read a paper on this subject at a recent meeting of this Club, from which we make the following extracts:—

No man can deny that the soil is better cultivated now than it was in the time of our ancestors, and it must be evident to every one that we are much superior to them in all the material appliances of civilisation. But among the classes which have on the whole grown worse, I fear we must include that of farm servants. The wages of farm servants depend neither upon the price of corn nor the ability of the employer to pay them, but upon supply and demand. When there are many servants wanting to be hired, and few people who require their services, wages are low. Within the last quarter century, two causes have been in operation tending to raise the price of labour. One has been, increased employment in draining, making railways and other works tending to material prosperity. The other cause is the immensely increased facility for emigration. These two forces acting jointly upon the condition of the labourer have produced two effects. They have, as every farmer knows, raised his wages, and also improved his position. He is of more importance than he was, and in any dispute with his master, does not care about being turned off, because he is tolerably certain of meeting with another engagement. Here, then, is a double reason which powerfully tends to diminish the influence of a farmer over his servant.

There is a third circumstance which has, I think, a very detrimental effect upon the character of the farm servants of this county. We all know that in every country the character of man depends upon that of woman. And Arthur Young, a very high authority, tells us that it is always a mark of low civilisation in a country where the agricultural work which properly belongs to men is performed by women. If the civilisation of this county be measured by this test, I fear it must be pronounced to be in a very low condition. We see women driving carts along the roads, harrowing in the fields, loading dung carts in farm yards, and performing other offices which must have a tendency to root out of their minds all purity, delicacy, and modesty. I have heard that women who have been thus employed on a farm, cannot bear the confinement of household work, and prefer to the proper occupations of women, those employments which in other counties, and even in the neighbouring county of Westmoreland, are almost universally performed by men. If this be the case, a more positive condemnation of the system cannot be pronounced. It unfits women for their proper avocations, and disables them from exercising over men those softening influences which tend so much to improve and civilise us all. I cannot but think that every one of us ought to do his utmost to free Cumberland from the reproach of being remarkable among the counties of England for its barbarous treatment of women. Here I may mention the custom of engaging a married man to live as a servant in a farm house, while his wife and family are living by themselves at a distance, it may be of several miles. I have lived in several parts of England and have never known this custom to prevail in any other county than this, and it is scarcely necessary to say, that in almost every point of view it is an exceedingly bad one. The man is totally prevented from looking after the education of his children, and is himself deprived of the ameliorating influence of intercourse with his wife and family. The children are brought up without the guidance of a father, and we cannot be surprised if they take to evil courses. The wife is deprived of the protection of her husband, and has often to throw herself upon the kindness of neighbours for those offices which she has the best right to expect from the man who has promised to love and to cherish her. The custom, therefore, I think, ought to be abolished, and on every farm cottages provided, in which the married men who are employed upon it may live with their families. And these cottages ought to have three bedrooms each, with proper convenience for cooking and cleaning. They ought also to be well lighted, and to be free from those clay floors which the poor woman cannot keep free from defilement by washing. If male and female servants are boarded in the house it is essentially necessary that provision be made for the effective separation of the sexes. That this is not done in every farm house is a scandal to our common Christianity and civilisation.

I come now to the question of hiring servants. Some, indeed, hold that the mere fact of a man's standing in a market place, with a straw in his mouth for the purpose of showing that he wishes to be hired, is a degradation to him, and that the custom ought to be abolished. I cannot but think this is a sentimental refinement. When a clerk is out of place he advertises in the *Times* for a situation; and when a farm servant is out of place he stands with a straw in his mouth, on a particular day, in a particular place, and thus shows that he wishes to be hired. It appears to me that this may be regarded as an advertisement, and is no more degrading than publishing your wish to be engaged in a newspaper. In some places an effort has been made to abolish hiring days altogether, and to substitute for them Register-offices, to which masters who want servants, and servants who want places may both apply. For my own part I should wish to see this substitution effected, and I am only prevented from recommending it by a fear that there is little hope of my recommendation being attended to. But if I hired a man in a market-place, I would see that he had a character in his pocket as well as a straw in his mouth.

Formerly they were not wanted, but now common prudence tells us they are now positively necessary, and I hope that at all events, the members of this club will forthwith resolve never to hire a servant who cannot produce a satisfactory character. Having engaged a servant, we have to consider the best way of managing him, which circumstances already enumerated make a more difficult task than it used to be. It must be evident to all that it is the master's place to command. He not only has a right to point out to a servant the work which he expects him to perform, but also to see that his household is conducted in a decent and orderly manner. He not only can forbid all drunkenness and other disorderly practices, but also fix the hours at which his house is closed, and before which each member of his family must be at home. And he will do this much more effectually, as well as more pleasantly to himself, if he lets each servant know and feel that he does not regard him as a mere machine, out of which he wishes to get as much work as possible, but as a reasonable creature, about whose comfort and moral and mental welfare he is anxious. I regard this as a point of very great importance. Every servant soon discovers in what light he is regarded by his master, and if he thinks that his master is only anxious to get out of him as much work as possible, he determines to do as little as he can, and looks upon his master as an enemy to whom he is to give just as much as the law compels him. If, on the other hand, he finds that he is treated as a friend, he works with energy and good will, and is as anxious to forward the cultivation of the farm as if it were his own.

Perhaps you will think that the remarks with which I shall conclude, partake of a professional character; but sometimes much instruction may be obtained by attending to the derivation of words, and some of you may be surprised to hear that the name "religion" is derived from a Latin word which signifies binding, and doubtless it is so called, because it is the great binding principle. It binds man to God, and through God it binds man to man and class to class. It would therefore be a great omission in a discussion like the present to leave religion out of consideration. In the house of God the rich and poor meet together, and recognise the Lord as the maker and supporter of them all. In the work of common praise and common prayer human distinctions disappear; each learns to respect the other's rights. Every man looks not on his own things, but on the things of others also. I hope, therefore, you will excuse me if at the close of this paper I take leave to press upon you the great duty of a uniform attendance on public worship by every Christian family. And I should be sorry if I led you for a moment to suppose that our religious duties are discharged by a constant attendance at church each Lord's Day. Religion ought to penetrate and pervade the whole of a man's life and conversation, and that it will never do unless each master has family worship night and morning. It is difficult to tell the effects which this practice would have upon society if it were universally followed. Master and servant would then alike take God in all their ways, would uniformly feel His presence. Masters would give to their servants that which is just and equal, knowing that they also have a Master in heaven. Servants would obey their masters, not with eye-service as men-pleasers, but in singleness of heart, fearing God.

CHERTSEY: *Agricultural Statistics.*—Mr. W. S. LINDSEY, M.P., said: Upon another subject connected with agriculture he could speak from his knowledge as a commercial man, and that was as to the necessity of having agricultural statistics. In 1846 or 1847 he, as a broker engaged tonnage to bring to this country no less than 1,200,000 quarters of corn. Other brokers of course did the same, but he then felt it to be uncertain whether that quantity of grain was actually required. At that time France was buying corn largely in our markets at from 46*s.* to 50*s.*, and the farmers and holders of corn were selling at those prices. Nine months afterwards the people of this country were paying 102*s.* per quarter for corn. France, by reason of the statistics taken in that country, knew the quantity of corn likely to be required from abroad, while we were in utter ignorance as to the quantity we had actually grown. In consequence, France had a great advantage over us, and for three or four months the people of England were paying 1,500,000*l.* per month for grain from abroad. In 1846-47 we had to send abroad large amounts of gold to pay for grain. A panic followed, and a fearful crisis occurred; some of the largest houses failed, and very many farmers lost large sums of money, because, in our ignorance of our real stock, we had sold to France for 46*s.* to 50*s.* the corn we had afterwards to replace at 100*s.* to 102*s.* The people suffered and the farmers suffered, because no one class could suffer without all other classes in some degree also suffering. As it was with individuals, so it was with nations, when one suffered so did the other. America was now passing through a fearful ordeal, and England was suffering, too, to a great extent from the calamities of the American people. It was the interest certainly of England to see all other nations prosperous and happy. Twenty million quarters of corn required 3,000,000 of registered tonnage or 4,000,000 tons burden of shipping to import it. They could easily perceive how that would affect the price of other articles of import by creating a scarcity of tonnage, and enhancing the price of cotton and other raw materials upon which our manufacturers and artisans depended. The price of these manufactured articles advanced, and thus all classes were affected. He would therefore suggest to his agricultural friends to consider calmly whether the collection of agricultural statistics would not be an advantage to them as well as to other classes of the community.

Mr. CAIRD, M.P., said he had long been acquainted with the character of the English farmers, and always found them ready to give a friendly reception, even when he made inquiries which they considered would be as well omitted. The subject of agricultural statistics was one to which he had devoted much attention, and it could not be put in a fairer way than it had been put by the Chairman, as a commercial man. He would speak to those present as a farmer to farmers. It had been said that the question was a corn merchant's or corn dealer's question, and not a farmer's question; but he would ask them, were not the far greater number of corn dealers also farmers? There were about 500,000 farmers in Great Britain, and only about 5000 or 6000 corn merchants; and, therefore, surely if anybody was interested in obtaining correct information it was the farmer. The only advantage they could hope to have over the foreign grower was their proximity to the market; and if they had early information of the state of the market they would have the benefit of that advantage. He was glad to believe, from the friendly manner in which the Chairman's remarks had been received, that in that part of the country no insuperable objection existed to a system of statistics that would not be inquisitorial. The right hon. member for Oxfordshire, Mr. Henley, who justly enjoyed the confidence of the agriculturists, had put it that the farmers would not object to answer certain inquiries, but would object that the cost of making such inquiries should be exclusively borne by them. That was a reasonable objection, and no man could say that the farmer should be exclusively taxed for a proceeding that was intended to be for the equal benefit of all classes. He knew of no other country where agriculture had improved more than in this country. Our agricultural shows, our stock shows, our display of implements and machinery, proved that. He would just make a few remarks upon the late abundant harvest, that they might realise what was the meaning of those words. Taking one quarter per acre as the average excess of the crops of this year, which he believed was a moderate estimate, and adding for the additional weight and better quality of the grain 2 bushels per acre, there would be 10 bushels per acre above the average. They had certain facts, although but partial information, upon which they could calculate the breadth of land under grain cultivation. He found that something like 12 million acres of land in the United Kingdom were used for the growth of corn; 10 bushels excess per acre upon the breadth of land gave a total excess of quantity above an average crop of 15 millions of quarters. From those facts his hearers could realise the meaning of an abundant harvest, which gave them an excess, valued at present rates, at 21,000,000*l.* He had referred to all kinds of grain; but, confining himself to Wheat, how did the case stand? He had been surprised to see in a usually well-informed newspaper, the *Spectator*, so low an estimate of the annual produce of Wheat as 6½ million quarters a year. He believed it was nearly 12 million quarters. The excess of crop this year would be about 5,500,000 quarters,

and as the average consumption in this country was 20 million quarters, it followed that we should have to import not more than 2½ million quarters in the present year. Not having the figures before him, he could not speak precisely, but he believed that last year we bought abroad about 10 million quarters, at a cost of 25,000,000*l.*, while this year we should only have to buy 2,000,000 quarters, at a cost of 5,000,000*l.*, thus effecting a saving to the country in the single article of Wheat of 20 millions sterling. They knew also as farmers that it was not their business to depend exclusively upon the produce of their cornfields, but rather to increase their green crops, with which the foreigner could not so well or so cheaply supply them. Referring to Arthur Young's account of prices in 1770, he found that bread was then 1½*d.* per lb., the same as it is now. Meat was then 3*d.* per lb., now from 7*d.* to 8*d.*; butter which was 6*d.* is now 1*s.* 3*d.*; and wool has risen in value 6*d.* to 1*s.* 6*d.* per lb. Therefore the conclusion was that the land yielded the same in bread as in Arthur Young's time; but it now yielded more than twice as much in meat and three times as much in wool. It was therefore not doubtful that the farmers would devote their energies to those branches of their trade which were likely to be the most remunerative.

## Miscellaneous.

*Steam Cultivation in Egypt.*—We are glad to find that the importance of securing the best agricultural appliances is becoming recognised in connection with cotton cultivation. A considerable number of steam ploughs and other implements have been sent to Egypt, with a view of preparing the land for the growth of cotton. A Manchester house has just forwarded to Messrs. Howard, of Bedford, an order for eight complete sets of steam cultivating apparatus for the same country. *Cotton Supply Reporter.*

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. Slatter, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | | | | | | | | | | Inches. |
| Friday .. .. | Nov. 6 | 30.48 | 41 | 39 | N.W. | 0 | 5 | 57 | 36 | 59 | 39 | 0.83 |
| Saturday .. .. | 7 | 30.21 | 49 | 48 | S.W. | 1 | 10 | 48 | 34 | 60 | 28 | .. |
| Sunday .. .. | 8 | 29.78 | 52 | 51 | W. | 0 | 10 | 54 | 46 | 55 | 45 | 0.10 |
| Monday .. .. | 9 | 30.21 | 45 | 43 | N. | 2 | 0 | 52 | 40 | 53 | 35 | 0.27 |
| Tuesday .. .. | 10 | 29.81 | 36 | 36 | N.W. | 0 | 10 | 40 | 27 | 62 | 23 | 0.06 |
| Wednesday .. | 11 | 29.82 | 40 | 38 | N.E. | 0 | 10 | 49 | 32 | 57 | 29 | 0.02 |
| Thursday .. .. | 12 | 29.85 | 41 | 39 | N.W. | 3 | 0 | 44 | 33 | 45 | 27 | .. |

## Notices to Correspondents.

Harvesting Grain: *A B.* The two rows of hurdles placed parallel, and a yard apart, are for the purpose of maintaining an empty channel through which air may circulate. The hurdles are not covered with anything. The space between them may be covered by the sheaves gradually approaching one another.

Heifers: *Subscriber from the Beginning.* You cannot do much while the heifer is in milk. When nearly dry the fistulous opening in the upper part of the teat may be laid open with a knife and afterwards healed. Sometimes a little camphor ointment rubbed into the quarter, and perhaps an India-rubber false teat may be useful, so as to cover the fistulous opening. *W C S.*

Village Schools: *Subscriber from the Beginning.* We do not know to what publication you refer. The best exponent and advocate of what is called the half-time system in schools is Mr. E. Chadwick, C.B., Richmond.

### Menures and Feeding Stuffs.

RAYNBIRD, CALDECOTT, and BAWTREE. Address 89, Seed Market, Mark Lane; or Basingstoke. Samples and prices on application.

THE LONDON MANURE COMPANY have now ready
PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply
GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. Purser, Secretary.
116, Fenchurch Street, E.C.

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THE PATENT NITRO-PHOSPHATE or BLOOD MANURE COMPANY (Limited),
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*Chairman*.—John Clayden, Littlebury, Essex.
*Managing Director*.—James Odams.
Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex.

ODAMS'S BLOOD MANURE for WHEAT.—This Manure, specially prepared for Autumn Sowing, has been in use for upwards of 11 years, and has given great satisfaction to consumers.

Orders may be sent to the Company's Agents throughout the country, or direct to C. T. Macadam, Secretary.
Offices: 109, Fenchurch Street, London, E.C.
Price 7*l.* 10*s.* per Ton, delivered at any Railway or Wharf in London.

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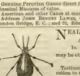
2 to 3 cwt. per acre to be harrowed into the land before the seed is sown. It can be obtained of Mr. Lawes, or through any of his appointed Agents; also

SUPERPHOSPHATE of LIME .. .. .. £6 6
MINERAL SUPERPHOSPHATE .. .. 5 5

Genuine Peruvian Guano direct from the Importers, and all Chemical Manures of value.

American and other Cakes at market prices.

Address John Bennet Lawes, Offices, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.



Magnified Aphis.

NEAL'S PLANT SOAP and APHIS PASTILS,
1*s.* and 2*s.* per packet,
may be obtained from all respectable Seedsmen.
Testimonials forwarded on application to the Patentee,
J. Neal,
Edward Street, Birmingham.

### Winter Dress all Fruit Trees with GISHURST COMPOUND.

Red Spider Magnified.

*Copy of a Letter from* Mr. Rivers.
"Nurseries, Sawbridgeworth, Herts, Oct. 22, 1861.

"I must tell you what I heard to-day from a very clever gentleman farmer, Anthony Bubb, Esq., of Witcombe Court, Gloucester. He has a wall to which Peach trees are trained. Well, last autumn they were in a wretched blighted state. As a desperate remedy he unnailed them all early last February, and gave all but one a thorough painting with Gishurst Compound, 1 lb. to the gallon of water; his trees, all but the one, commenced to grow favourably in spring, and are now pictures of health. The tree not painted is in a half-dead blighted state. He used the same dressing to his Apple trees; it killed the woolly aphis entirely, and has made his trees clear and vigorous in their growth. He intends to paint his wall trees annually, and tells all his friends to do the same. I shall certainly serve all my young Peach trees against my walls in the same manner. The Compound is, I believe, more efficacious than the usual offensive mixtures of clay, soot, sulphur, &c., and it does not blacken the shoots on the walls."

For Orchard-house Trees 4 ounces to the gallon will be found a good strength; when used stronger some buds on weakly trees may be injured.

Gishurst Compound is Sold Retail by Nurserymen and Seedsmen, in boxes 1*s.*, 3*s.*, and 10*s.* 6*d.* each.

Wholesale by Price's Patent Candle Company (Limited), Belmont Vauxhall, London, S.

TO COWKEEPERS.—Double your quantity of Milk and improve its quality by using two penny packets of THORLEY'S delicious CONDIMENT daily mixed with damped chaff, grains, pulped Turnips, or Wurzel.—145, Fleet Street, City, E.C., and may be had of all Grocers, Druggists, and Corn Chandlers in town or country. Read the Discussions on this Condiment before the Members of the Royal Agricultural Society held in Hanover Square Rooms. Sent free on application.

### Gutta Percha Tubing for Watering Gardens.

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following *Testimonial from* Mr. J. Farrah, *Gr. to* Boswell Middleton Jalland, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

AGRICULTURAL IMPLEMENTS.—Steam Engines, Threshing Machines, Carts, Waggons, Ploughs, Harrows, Turnip Cutters, Chaff Cutters for hand and power, Lawn Mowers, Prize Churns, Cask Stands, Wire Netting, Garden Tools of all kinds.

Illustrated Catalogues on receipt of 6 stamps. Price Lists free.
Burgess & Key, 95, Newgate Street, E.C.
Works: Brentwood, Essex.

ROCKWORK FERNERIES, WATERFALLS, CAVES, BANKS of STREAMS and PONDS, executed in the only way it should be, *i.e.*, to imitate Natural ROCKS. Worked with pockets, for plenty of plants, by James Pulham, Broxbourne, Herts.

References to works executed in 10 counties, some by the recommendation of W. B Thomas, Esq., R. Marnock, Esq., and E. Milner, Esq.

GARDEN BORDER-EDGING TILES, in great variety of patterns and material.
GARDEN VASES, FOUNTAINS, &c., in Artificial Stone, of great durability.

May be obtained at F. & G. Rosher's Premises, Upper Ground Street, Blackfriars, S.; Queen's Road West, Chelsea, S.W.; and Kingsland Road, Kingsland, N.E.

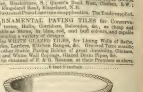
Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

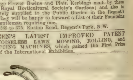
To be obtained of F. & G. Rosher at their Premises as above.

..............6 feet 9 inches..............



AUSTIN, SEELEY, and CO. beg to inform the Nobility and Gentry that they are prepared to supply, at three months' notice, TAZZE for Flowers or Fountains, as wide as 13 feet. They take this opportunity of referring to some large Flower Basins and Plain Kerbings made by them for the Royal Horticultural Society's Gardens; and also to those lately supplied to the Public Garden in the Regent's Park. They will be happy to forward a List of their Fountains to any gentleman requiring one.
369 to 375, Euston Road, Regent's Park, N.W.

GREEN'S LATEST IMPROVED PATENT NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES, which gained the First Prize Medal of the International Exhibition.



Patronized by Her Most Gracious Majesty the Queen during the seasons of 1862 and 1863.

These Machines have proved to be the best, and have carried off every prize that has been given in all cases of competition.

ILLUSTRATED PRICE LISTS on application.

Thomas Green & Son, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

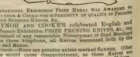
### Paxton Works, Sheffield, Established 1738.

International Exhibition Prize Medal was Awarded to Saynor & Cooke for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR and COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

Caution.—None are genuine unless marked Saynor. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

DENNIS'S PATENT METALLIC HORTICULTURAL BUILDINGS are made from the



best Wrought Iron, upon an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. Dennis, Horticultural Builder, Hot Water Engineer, &c., High St. Chelmsford, Essex.

DAINTREE'S SEEDLING POTATO.—This fine flavoured early round white variety is certified in the "Journal of Horticulture," page 269, to have yielded at the rate of 22 TONS per Acre. Present price 6*l.* per Ton, or 8*s.* per cwt.; and to prevent disappointment orders (enclosing remittance) should now be sent to Mr. SIMON A. DAINTREE, of Fendrayton, St. Ives, Hunts. Sacks, 2*s.* each.

### Seed Potatoes.

H. AND F. SHARPE are now taking orders for all the principal varieties of Seed Potatoes, including MYATT'S EARLY PROLIFIC KIDNEY, and EARLY DALMAHOY (round), the earliest and most productive varieties in cultivation. The quality is very fine and prices low.

Seed Growing Establishment, Wisbech.

### To the Trade.—Continental Flower Seeds, &c.

F. W. WENDEL, SEED MERCHANT, &c., Erfurt, Prussia, begs to announce that his WHOLESALE CATALOGUE of the above is now ready, and will be forwarded free on application to his Agent, GEO. MACINTOSH, Nurseryman, High Road, Hammersmith, W., to whom all communications should be addressed.

FOR SALE, 200 Large Roots of EARLY RHUBARB, fit for forcing, at 5*l.* Several thousand 4-year old ASPARAGUS ROOTS, at 5*s.* per 100, or 2*l.* per 1000. Some hundred SEAKALE, at 5*s.* per 100.

Also TREES and SHRUBS, including Planes, Chesnuts, Birch, Oaks, Walnuts, Poplars, Acacias, Laburnums, and several small Limes; some fine Aucubas, Laurels, Privets, &c., to be disposed of a bargain, the ground to be cleared by Christmas. Apply to

A. LAIDLAW 17, Church Street, Stoke Newington, London, N.E.

WANTED, about 16,000 each HAZEL and ENGLISH OAK; must be strong, healthy plants, 3 to 3½ feet high, and have been regularly transplanted. Parties offering the same may apply, with prices, &c., to Mr. LEWES or T. W. BOOTH, Gardener, Arley Hall, Northwich, Cheshire.

### Nursery and Seed Establishment, Hastings.

WILLIAM EPPS, JUN., begs to inform his numerous patrons that he has REMOVED from Ashford, and opened a new Establishment as above; and trusts to merit a continuance of their favours.

W. E., JUN., has had the honour of being patronised by the Royal Family of Hesse, the Grand Duchess Constantine, and the Japanese Ambassadors.

FERN STANDS, filled complete, suitable for presents, 4*s.* 6*d.* each; BRITISH and FOREIGN FERNS, immense quantity; HYACINTHS, best named, 6*s.* per dozen; Ditto MIXED, 20*s.* per 100; CROCUS, 8*s.* per 1000, &c GOLD and SILVER FISH; FOREIGN BIRDS and CAGES of every description.

R. GREEN, Bedford Conservatories, Covent Garden Market, W.C.; and 154, Kingsland Road, N.E.

REIGATE SILVER SAND.—Best quality, 7*s.* 6*d.* per ton; packed, 16*s.* per ton; ditto 5*s.* 4 cwt.; ditto Clarified fine or sharp, 2*s.* 6*d.* cwt., put on the Rail at Reigate.

Best and second quality PEAT SOIL, LOAM, &c.

N B. Loaded Trucks can be sent on all the principal Railways.

W. SHORT, Reigate, Surrey.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2*s.* per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the PATENT COCOA FIBRE COMPANY, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are sold in every town.

CAUTION.—Every Brush is stamped 'J. BARSHAM's Patent'

Magnified Aphis.

NEAL'S PLANT SOAP and APHIS PASTILS,

1*s.* and 2*s.* per packet,

may be obtained from all respectable Seedsmen.

Testimonials forwarded on application to the Patentee,

J. NEAL,

Edward Street, Birmingham.

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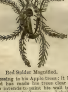

Red Spider Magnified.

*Copy of a Letter from* MR. RIVERS.

"Nurseries, Sawbridgeworth, Herts, Oct. 22, 1861.

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Wholesale by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont Vauxhall, London, S.

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PREPARED BONE MANURE for present use on PASTURES.
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116, Fenchurch Street, E.C.

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*Chairman.*—JOHN CLAYDEN, Littlebury, Essex.
*Managing Director.*—JAMES ODAMS.

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Manufactory: Plaistow Marshes, Essex.

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2 to 3 cwt. per acre to be harrowed into the land before the seed is sown. It can be obtained of Mr. LAWES, or through any of his appointed Agents; also

| | |
|---|---|
| SUPERPHOSPHATE of LIME .. .. .. | £6 6 |
| MINERAL SUPERPHOSPHATE .. .. | 5 5 |

Genuine Peruvian Guano direct from the Importers, and all Chemical Manures of value.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, Offices, 1, Adelaide Place, London Bridge, E. C.; and 22, Eden Quay, Dublin.

SHAW'S TIFFANY,

For samples and prices apply to
J. SHAW & Co., 29, Oxford Street, Manchester.

### The Original Seed Bag Manufactory.

ALEXANDER NICOL AND CO.,
MANUFACTURERS of
SEED BAGS, CORN SACKS, &c.
Chalmers Street Works,
Arbroath, N.B.

### Russian Mats.

FOR SALE, a large STOCK of the above, of various descriptions.
Apply to CHAMBERS & FARGUS,
Importers, &c.,
6, High Street, Hull.

ANDERSON'S ARCHANGEL MATS are the best for all Garden purposes. PETERSBURG and PRUSSIAN DUNNAGE MATS. SACKS and BAGS of every description. ROPES, LINES, and TWINES.

Prices sent free on application.

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GARDEN BORDER-EDGING TILES, in great variety of patterns and material.

GARDEN VASES, FOUNTAINS, &c., in Artificial Stone, of great durability.

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ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

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### Garden and Architectural Decorations in Terra Cotta.

PRIZE MEDALS OF 1851 AND 1862 AWARDED TO

JAMES PULHAM, Broxbourne, Herts. Also Notice of ARTISTIC MERIT, and of SOUND DURABLE MATERIAL in FOUNTAINS, VASES, FIGURES, FERN CASES, and BRACKETS, CONSERVATORY TUBS, with rising bottoms, &c.

The novel FERNDELABRUM.—To grow SIXTY FERNS (or Flowers) on a space 4 ft. 8 in. over, 3 ft. high, &c.

Guaranteed to stand frost an unlimited time.

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E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

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| Two yards wide .. .. .. | 1*s.* 8*d.* per yard run. |
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Also "Frigi Domo" Netting, 2 yards wide, 1*s.* 6*d.* per yard run.

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"It is much cheaper than Mats as a covering."

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MR. GEO. H. STOKES, ARCHITECT, engages to prepare DESIGNS for Laying Out ESTATES and ORNAMENTAL GARDENS, having been for upwards of 17 years Principal under Sir Joseph Paxton, M.P., in the preparation of similar Designs, including those for the Crystal Palace at Sydenham.

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HORTICULTURAL and AGRICULTURAL IMPLEMENTS and MACHINES of every description.

Illustrated Catalogues on application.

THOMAS GREEN & SON, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

AGRICULTURAL IMPLEMENTS.—Steam Engines, Threshing Machines, Carts, Waggons, Ploughs, Harrows, Turnip Cutters, Chaff Cutters for hand and power, Lawn Mowers, Prize Churns, Cask Stands, Wire Netting, Garden Tools of all kinds.

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These Rollers possess many advantages over all others; they are made in two parts, and are free to revolve on the axis, affording greater facility for turning, and the outer edges are rounded off or turned inwards, thus avoiding the unsightly marks left by other Rollers. They are manufactured of the very best materials, and are got up in a manner surpassing any ever yet brought out.

PRICES:—

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| Diameter 30 inches, | length 32 inches | .. .. | £7 0 0 |
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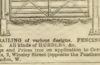
ENTRANCE GATES, either in Wrought Iron or Cast and Wrought Iron combined, ranging from the ordinary Field Gate to those of the most elaborate design.



IRON RAILING of various designs. FENCING of every description. All kinds of HURDLES, &c.

Drawings and Prices free on application to COTTAM & Co., Iron Works, 2, Winsley Street (opposite the Pantheon), Oxford Street, London, W.

1000 GARDEN TARPAULINGS, very thick, 8 feet by 4 feet, with 6 brass eyelet holes, 32*s.* per dozen, made up any size at 9*d.* per square yard. GARDENERS' WATERPROOF CAPES, 3 feet deep, 3*s.* 6*d.* each. POLICE CAPES, 18*s.* to 30*s.* per dozen. HORSES' NOSE BAGS, Cocoa Nut Fibre, full size, with Straps, 18*s.* per dozen, or 1*s.* 9*d.* each HORSES' LOIN CLOTHS, lined with Woollen and Strapped, 7*s.* each. WOOLLEN HORSE CLOTHS for Stable, Cart and Waggon Covers.

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### Gutta Percha Tubing for Watering Gardens.

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following

*Testimonial from* MR. J. FARRAH, *Gr. to* BOSWELL MIDDLETON JALLAND, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

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HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.

Sold in casks of about 30 gallons each, at 1*s.* 6*d.* per gallon, at the Manufactory, or 1*s.* 8*d.* per gallon paid to any Station in the kingdom.

Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

**Superb Double Hollyhocks.**

WILLIAM CHATER'S NEW LIST is now ready, and may be had on application by enclosing one Postage Stamp.

P.S. A large stock of FINE PLANTS now ready.

Nurseries, Saffron Walden.

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**American Plants.**

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE for the present Season is now ready, and will be forwarded free to all applicants. As well as American Plants, it contains a summary of their General Nursery Stock, one of the most extensive in the kingdom.

Knap Hill Nursery, near Woking, Surrey.

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JAPAN LILIES, Extra strong Flowering Bulbs.

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| LILIUM LANCIFOLIUM ALBUM .. .. .. | 1 0 |
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Three each of the above, 10s.

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

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**British Fern Catalogue.**

ROBERT SIM can now send, post free for six postage stamps, Part I. (British Ferns and their varieties, 36 pages, including prices of Hardy Exotic Ferns) of his New and PRICED DESCRIPTIVE CATALOGUE of BRITISH and EXOTIC FERNS, No. 7.

*** Part II. (Exotic Ferns) will be issued as early as possible.

Foot's Cray Nursery, S.E.

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**New and Choice Plants.**

B. S. WILLIAMS invites inspection of his large and well assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, TREE FERNS, &c., amongst which are some very fine specimens.

A DESCRIPTIVE and PRICED CATALOGUE post free on application.

Paradise and Victoria Nurseries, Holloway, London, N.

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GLADIOLUS.—Flowering Bulbs of Seedlings, from all the best brilliant Red, Yellow, and White varieties, at 15s. per 100, or 6l. per 1000. Also a few hundred named Bulbs, including most of the best and high priced varieties, in one lot, at 1l. 5s. per 100.

Apply to C. CLARK, Stamford.

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**Gladiolus Brenchleyensis.**

YOUELL AND CO. have much pleasure in offering the above GLADIOLUS, unequalled by any other variety for the brilliancy of its colour. The Bulbs are unusually fine. Price 3s. per doz.; 20s. per 100.

Trade price on application.

Royal Nurseries, Great Yarmouth, Norfolk.

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**Prize Gladioli.**

YOUELL AND CO. were awarded the following PRIZES for the above in September last:—

FIRST AND SECOND PRIZE, CRYSTAL PALACE,

FIRST PRIZE, ROYAL HORTICULTURAL SOCIETY,

FIRST PRIZE, BRIGHTON.

CATALOGUES of this collection will be forwarded on application.

Royal Nurseries, Great Yarmouth, Norfolk.

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**Choice Gladioli.**

B. S. WILLIAMS has great pleasure in announcing that he has a Choice Collection of each class of these popular Bulbs. Also a Select List of the New Varieties raised this year. The Bulbs are very fine, and early orders are respectfully solicited.

Collection of 24 Choice Varieties, one root of each, for 21s.

Choice named Varieties, 6s., 8s., and 10s. per dozen.

A PRICED and DESCRIPTIVE LIST on application.

Paradise and Victoria Nurseries, Holloway, London, N.

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LOUIS VAN HOUTTE, NURSERYMAN and SEEDSMAN, Ghent, Belgium, begs to call attention to his three new PRICE LISTS, No. 97, 98, and 99, containing the Stove, Greenhouse, and Hardy Plants (212 pages 12mo).

Agents in London: Messrs. R. SILBERRAD & SON, 5, Harp Lane, Great Tower Street, E.C.

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NEW FUCHSIAS (post free). NORTHERN LIGHT and RIFLEMAN, now sending out; Blue and Mauve-coloured Corollas. 5s. each.

EMPEROR of the FUCHSIAS, the most beautiful and elegant white corolla'd variety.

E. G. HENDERSON & SON, Wellington Road, London, N.W.

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**To the Trade.**

AZALEAS, ERICAS, and EPACRIS, fine bushy plants, well set with flower buds at moderate prices, an inspection solicited.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W., adjoining the Kingston New Station, South Western Railway.

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ANDROMEDA FORMOSA (TRUE).—Fine strong Plants, averaging 1 foot, 60s. per 100. Selected specimens, very fine, averaging 2 feet, 12s per doz.

The above beautiful hardy evergreen shrub is strongly recommended.

W. H. ROGERS, Red Lodge Nursery, Southampton, has the only large stock in the Trade.

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# ROSES.

THE FINEST ROOTED PLANTS IN THE COUNTRY.

THIRTY-SEVEN PRIZES FOR ROSES ALONE WERE WON DURING THE PRESENT YEAR BY

## WILLIAM PAUL

(SON and SUCCESSOR to the late A. PAUL).

Twenty-one of which were FIRST PRIZES won at the PRINCIPAL LONDON FLOWER SHOWS.

*Entrance from the Platform, Waltham Station (Great Eastern Railway). Half an hour's ride from London.*

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BARR & SUGDEN 12 KING ST. COVENT GARDEN

*Orders amounting to 21s. sent Carriage Paid.*

## BULBS FOR PRESENT PLANTING.

POMPON HYACINTHS, for Flowering in Masses, 3s., 4s., and 5s. per dozen.

CROCUS, fine mixed, 12s. 6d. per 1000.

**The No. 4, £2 2s., Collection of Bulbs; Half, £1 1s.; Quarter, 10s. 6d.**

Part for the Conservatory or Sitting Room, and part for the Flower Garden.

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|---|---|---|
| 25 NAMED HYACINTHS | 24 TULIPS for Indoor Culture | 100 ANEMONES |
| 25 BORDER ditto | 100 Ditto for Out ditto ditto | 60 IRIS |
| 12 POLYANTHUS NARCISSUS | 200 CROCUS | 4 JAPAN LILIES |
| 100 GARDEN ditto | 100 RANUNCULUS | 12 WHITE LILIES |

**The No. 5, £2 2s., Collection of Bulbs; Half, £1 1s.; Quarter, 10s. 6d.**

For the Decoration of Sitting Room and Conservatory.

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| 30 NAMED HYACINTHS, in 30 vars. | 12 Dbl. SWEET-SCENTED JONQUILS | 18 IXIAS, in 6 vars. |
| 12 POMPON ditto in 12 vars. | 100 NEW CROCUS in 10 vars. | 18 SPARAXIS, in 6 vars. |
| 12 POLYANTHUS NARCISSUS, in 12 vars. | 4 JAPAN LILIES, in 3 vars. | 12 ANOMATHECA CRUENTA |
| 50 TULIPS, in 16 vars. | 12 ACHIMENES, in 6 vars. | 4 WATSONIAS |
| | 12 LACHENALIAS, in 4 vars. | 4 DIELYTRA SPECTABILIS |

**The No. 6, £2 2s., Collection of Bulbs; Half, £1 1s.; Quarter, 10s. 6d.**

For Ornamenting the Flower Garden.

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| 60 HYACINTHS | 150 RANUNCULUS | 4 JAPAN LILIES | 3 ARUMS |
| 100 NARCISSUS | 150 ANEMONES | 12 WHITE ditto | 3 ANTHOLYZAS |
| 200 CROCUS | 124 GLADIOLI | 50 ENGLISH IRIS | 3 WATSONIAS |
| 150 TULIPS | | | |

BARR AND SUGDEN, SEED MERCHANTS, 12, KING STREET, COVENT GARDEN.

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NEW HARDY LATE FLOWERING RHODODENDRONS.

## PRINCE OF WALES.

Brilliant rose shaded with purple, divided black marking on the upper petals, compact truss, good substance, a profuse bloomer, very hardy, and flowers end of June.

**Strong young plants, 21s. each. | A few larger ones, 42s. each.**

## PRINCESS OF WALES.

Deep magenta edge, pure white centre, primrose flake on the upper petals, slightly spotted with brown, compact truss and good substance. TOTALLY DISTINCT FROM ANY KNOWN RHODODENDRON. Hardy and late. A really beautiful variety.

**Strong plants, 21s. each. | Larger, 42s. each. | A few extra size, 63s. each.**

One Plant over in three to the Trade.

MAURICE YOUNG has much pleasure in now offering for the first time the above distinct and beautiful RHODODENDRONS, which he can confidently recommend as most desirable additions to this noble class of hardy evergreens. They have both been proved for several years in the open ground to be very hardy, free bloomers, compact truss, and very late—possessing every qualification which can be desired in a first-class Rhododendron.

COLOURED PLATES by ANDREWS are now ready, and will be forwarded on receipt of 25 postage stamps.

MAURICE YOUNG (SON and SUCCESSOR to the late WILLIAM YOUNG), MILFORD NURSERIES, NEAR GODALMING.

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## CHOICE ORCHIDS. SACCOLABIUM HARRISONIANUM.

# HUGH LOW & CO.

Have pleasure in announcing that they have received from Pulo Copang, in the China Sea, a SACCOLABIUM with WHITE and FRAGRANT FLOWERS. The habit of the Plant is very fine; leaves thick and broad, very much resembling those of Saccolabium violaceum. The flowers are very large, and the species is evidently a most abundant flowering one, as on an imported stem, 6 inches in height, 7 flower spikes can be counted, those which are unbroken measuring 13 inches in length. The odour emitted by the flowers very closely resembles that of Aerides odoratum.

The stock held by H. L. & Co. being large, they are enabled to offer this fine Orchid in really good Plants at an unusually low price, singly or by the dozen.

The Plant is now in flower at the Nursery, and H. L. & Co. will have pleasure in showing it to gentlemen who may favour them with a visit.

**PHALÆNOPSIS SCHILLERIANA and PHALÆNOPSIS ROSEA, in quantity.**

CLAPTON NURSERY, LONDON, N.E.

**New Plants.**

MR. WILLIAM BULL begs to announce that his NEW PLANTS from Brazil, Central America, Australia, Bombay, Java, New Caledonia, and Guatemala, are now ready for delivery. For particulars *vide* Advertisement in *Gardeners' Chronicle*, Nov. 7.

A DESCRIPTIVE PRICED LIST of Novelties can be had on application.

*Establishment for New and Rare Plants, King's Road*, Chelsea, London, S.W.

SUTTON'S
**Unrivalled Collections of Bulbs.**

SUTTON'S GUINEA COLLECTION of BULBS for BLOOMING in POTS and GLASSES.

SUTTON'S GUINEA COLLECTION for BEDS and BORDERS.

For particulars see SUTTON'S AUTUMN CATALOGUE, which may be had Gratis and Post free.

SUTTON & SONS,
Royal Berks Seed Establishment,
Reading.

THE PLYMOUTH SEED COMPANY LIMITED is AMALGAMATED with the LONDON SEED COMPANY LIMITED.
Registered Offices: 68, Welbeck Street, Cavendish Square, London, W.

£20 REWARD.—WHEREAS for several months past a series of ROBBERIES have been committed in the FULHAM NURSERY, and on Wednesday Night or Thursday Morning last, the 12th inst., many valuable Plants stolen, comprising among others the following:—CORDYLINE INDIVISA, SCIADOPITYS VERTICILLATA, YUCCA FILAMENTOSA VARIEGATA, RETINOSPORA LEPTOCLADA, THUJOPSIS DOLABRATA VARIEGATA, AUCUBA HIMALAICA, GERANIUM MRS. POLLOCK, whoever will give information that will lead to the Conviction of the Offender or Offenders, shall receive the above Reward.
Fulham Nursery, Nov. 21. OSBORN & SONS.

GREAT FRUIT and CHRYSANTHEMUM SHOW at BIRMINGHAM.—The ANNUAL GREAT FRUIT, GOURD, and CHRYSANTHEMUM SHOW, open to all the World, will take place at the Town Hall, Birmingham, in connection with the Handsworth Horticultural Society (simultaneously with the Cattle, Poultry, and Dog Shows), on TUESDAY, WEDNESDAY, and THURSDAY, December the 1st, 2d, and 3d.

Schedules of Prizes (which include a Ten Guinea Cup for a Collection of Fruit), are now ready, and may be had on application.

Entries close on THURSDAY, November 26.
CHAS. JAS. PERRY, Castle Bromwich.
GEORGE P. TYE, Handsworth.

# The Gardeners' Chronicle.

*SATURDAY, NOVEMBER* 21, 1863.

THE CHRYSANTHEMUM is one of the gayest and most useful of our garden flowers. It produces its blossoms to cheer us at a season when our summer favourites, such as Geraniums, Verbenas, and Roses, have all passed away, and thus forms, as it were, a link in the chain which unites the autumn with the coming spring. It is very hardy in its constitution, easily cultivated, produces its flowers in great profusion, and is useful to all classes of the people, whether they dwell in palaces or in cottages, or even amidst the smoke of large towns. As a window flower too, at this dull season of the year, nothing can surpass it.

Upwards of 30 years ago 49 varieties were introduced to England by the Horticultural Society of London and cultivated in the Chiswick Garden. They attracted a good deal of attention at the time, and were largely distributed amongst the Fellows of the Society. It would appear that they had been finer and more attractive kinds than any that had been previously introduced. As the Chrysanthemum at that time did not produce perfect seeds in England, no new varieties were added to our collections for several years after this date.*

The next period of new introductions of the Chrysanthemum occurred in 1837 or 1838, when Messrs. CHANDLER, of Vauxhall Nursery, brought forward a number of beautiful seedlings which had been raised in the island of Jersey. These were considered decided improvements upon those formerly in cultivation. Varieties amongst them named "Formosum," "Lucidum," &c., were long great favourites with the public, and may still be met with in some collections.

Mr. SALTER'S productions mark the third period of progress. By means of seed saved annually for him in the South of France, he has been enabled to raise many new kinds of great beauty both in form and in colour, and he goes on adding to them year by year. Indeed, now that seed can be procured annually, both at home and abroad, there seems no limit to the number of new varieties which may be obtained. The little "Chusan Daisy," introduced from China in 1846, has played a very important part in the race of improvement which we have been running so rapidly. Its long journey of some 16,000 miles has been attended with the most important results to floriculture. To it we are indebted for all those daisy-like flowers called "Pompons," which are now so common in our gardens.

Some of the varieties of the Chrysanthemum "sport" in a very remarkable way. Owing to some cause, which we are unable to explain, a plant will sometimes send out a side-shoot or branch with flowers of a different colour from its own, and if this shoot is taken off and propagated a new variety will be secured. The well-known and favourite kind with blush-coloured blossoms raised by Mr. SALTER, of Hammersmith, and named "Queen of England," has thrown out several distinct kinds in this way. Its first sport was of a rosy-pink colour, and shortly afterwards another branch produced yellow flowers, and is now known in collections as the "Golden Queen of England." This prolific kind has produced several other varieties in the same curious manner, one of which has flowers of a pure white colour, while in another instance they are a pencilled rose. These changes have not been confined to the flowers alone, for varieties with variegated leaves have also been produced by the plant we have just named. The sorts named "Christine" and "Julie Grisi," are remarkable for producing sports in the same way. "Cedo Nulli," one of the most beautiful amongst the Pompons, may also be named as another example which has the same habit as the others already mentioned. It has thrown off, in one instance, a kind with yellow flowers, and in another a lilac sort has been produced. Many other examples might be brought forward, all showing the results of some curious chemical action which is continually going on in the stems and leaves of these plants.

The varieties of the Chrysanthemum in cultivation, which 30 years ago amounted in the Chiswick Garden to 49 in number, have now increased to more than a thousand. A greater variety of colour in the flowers has also been obtained—all shades of white, red, orange, yellow and lilac are now common, although no blue has yet made its appearance. A blue Chrysanthemum, like a blue Dahlia, is still one of the things of the future. Then there are some new kinds with striped flowers; and Dragon-flowered kinds have been also lately introduced. These may give some variety in colour and in form, which our florists may yet turn to good account.

Having visited the great exhibitions of the Chrysanthemum lately held in the Agricultural Hall, and at Stoke Newington, we may now make a few remarks on the cultivation of this favourite autumnal flower. The barbarous system of producing large blooms by allowing only one or two flowers to be formed on the top of a tall, and, in many instances, bare stem can only, we think, be tolerated in private. It may be well enough to practise it in order to secure large blooms to be cut and shown in stands like Dahlias, but the long leafless stems ought to be kept at home. If large flowers can only be produced in this manner they are scarcely worth the care expended upon them. Our idea of perfection in cultivation would be a bushy plant covered with bloom, and at the same time exhibiting a green and healthy foliage all over it. The small-flowered Pompons which we met with at these exhibitions were, for the most part, remarkable examples of good cultivation, but the taste displayed in training them is still capable of some improvement. The table-training system seems almost too elaborate to be pleasing. The pyramid is a more natural form, especially when the flower stems stand out more loosely and irregularly than they are generally allowed to do. In all cases a green and healthy foliage—we again repeat, adds greatly to the beauty of the specimen.

While we thus give great praise to our Chrysanthemum growers for the skill which they evince in the management of their favourite flower, we must still urge them onwards to greater perfection. We are informed by good authority that our gardeners are still far behind the Chinese and Japanese in the cultivation of the larger-flowered kinds. In those countries, and especially in the last-named, it is no uncommon thing to meet with bushes which measure 30 feet in circumference, covered with hundreds of blooms, each of which is as large as those produced on the standards above noticed, and at the same time feathered with leaves from the top to the bottom.

Our varieties of the Chrysanthemum in Europe are now much more numerous than they are in those countries to which the plant is indigenous. As regards the form of the flower and different shades of colour, we have completely outstripped the Orientals. We could now send them many new kinds which would astonish them, and which they would no doubt highly prize. In the Pompon class in particular we have left them far behind. Like the Irish emigrant, the little "Chusan Daisy" would seem to have been much more useful and productive abroad than at home.

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THE annals of Horticulture bear witness to the success which has attended at least many of the efforts made by cultivators in the HYBRIDISATION of the ornamental plants of other climes after they have been introduced amongst us. In short, many of the finest plants we cultivate owe their origin to this source. Some have been crossed and intercrossed until they have been thoroughly broken up, and now yield us seminal varieties to an unlimited extent, while in others, as it were, the first sod only has been turned, and rich diggings remain behind to reward the persevering operator. Considering what has been already done in this direction, the rich store of originals as yet untouched, which is from year to year accumulating in our gardens, should set some of our busy and intelligent cultivators to work at creating new forms of floral beauty, which we cannot doubt await only the *fiat* of a clever experimentalist to usher them into being. Orchids have indeed been broken into of late, and that with remarkable success, as witness some of the fine productions of Mr. DOMINY; but much more, no doubt, remains to be accomplished even with them, and they are not the only plants which invite experiment with a fair prospect of something like a successful result. And then there is the great and important class of useful plants open to experiment—our fruits and vegetables and field crops; and not only these, but the economical plants, such as Cotton, which latter happens to be just now one of the most important of all crops, and which some observations at p. 966, and further particulars which will appear next week, prove to be not beyond the influence of the cross-breeder.

We have been led, however, to call attention at this moment, to the wide field which lies before the hybridiser, not so much from an economical as from a decorative point of view, that is to say, as bearing on the production of new forms of plants suitable for garden ornamentation. The recollection of some hardy hybrid forms of CLEMATIS, shown at South Kensington during the past summer, has served us as a reminder. Amongst hardy climbers the Clematis already occupies a very high position, especially since the introduction of the large-flowered Chinese and Japanese kinds, which we owe to the successive journeyings of Mr. FORTUNE. Both C. cœrulea (patens) and C. lanuginosa, now well known, are plants of the foremost rank in the class to which they belong, and they have already yielded—cœrulea at least has—some fine garden varieties of greater beauty if possible than that possessed by the originals. But it occurred to Mr. JACKMAN, of the firm of G. JACKMAN & SON, of Woking, to hybridise C. lanuginosa, which yields pale blue flowers, with C. Viticella atrorubens and Hendersoni, which have very dark red-purple flowers. The result has been the production of a batch of seedlings yielding flowers of great beauty, some of which will be most valuable acquisitions to the class of hardy climbing shrubs. Cut flowers of two of them exhibited on the occasion referred to (Aug. 4, 1863) obtained each an unanimous award of a First-class Certificate; and well they deserved it, for certainly nothing in their way could be more beautiful.

We transcribe from our notes some particulars of these two varieties, which were named respectively C. JACKMANI and C. RUBRO-VIOLACEA, and which will be found well worth introducing wherever hardy flowering climbers are cared for. C. Jackmani had the leaves ovate, of moderate size, that is rather over 2 inches long, and, as well as their stalks, slightly hairy. The flowers were spread open, 4 or sometimes 5 inches across, with from four to six sepals of a roundish-obovate form terminating in a little point; these sepals were downy on the lower surface, and of an intense violet purple on the upper, the colour being remarkable for its rich velvet-like appearance; at the back near the centre of each sepal were three ribs extending from the base to the apex, these being represented by three channels on the upper surface, which was also rugose and veiny. C. rubro-violacea differed in having its leaves smooth, and its flowers a trifle smaller and of a

* By an artificial mode of treatment the seeds of the plant can now be ripened, and hence varieties from English seed are not uncommon.

rich reddish-tinted violet, indeed almost a maroon when fresh opened, but assuming the violet tint as they became older, though always retaining a reddish hue as compared with the former. The sepals were here, if possible, even more remarkable for their lustrous velvety surface. A third seedling which we have seen, had the flowers of a distinct shade of pale violet; and in a fourth, affording distinct evidence of the cross, the bell-shaped character of the flowers of Viticella was reproduced. These seedlings were bred from lanuginosa, the female plant, crossed with the two very distinct sorts already mentioned. We have seldom seen anything more beautiful, the lustrous richness of the colours very much enhancing their beauty.

Here, then, is a fresh incitement to hybridists to set about the origination of new forms of plants. It was no doubt with some such object in view, that the schedules of the Horticultural Society in former days embraced prizes for new Hybrid Garden Shrubs. Such a class, from its direct bearing on experimental horticulture, ought, one would think, to be stereotyped in the prize lists of a body expressly incorporated for the advancement of horticulture, so as to be open to receive any stray novelty that might from time to time spring up, (and none the less open because not often used), as well as to act as an ever-operative incentive; but somehow or other it has been allowed to lapse. Whether encouragement of this kind be again forthcoming or not, we would at least strongly urge upon plant growers the advantage and profit of setting themselves some such task as that which Mr. JACKMAN has so successfully worked out. We have new and distinct species in many familiar genera even of hardy plants, which might be turned to good account in this way. And if tender plants be also taken into account, the field is almost boundless.

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THE writer of an article in a contemporary, on the manner of EXHIBITING GLADIOLI, noticed in p. 1087, has somewhat mistaken some remarks of ours at p. 842 on the same subject, in which we have recommended Gladiolus leaves as the proper garniture of Gladiolus flowers. He asks, very properly, why it should come to pass that this charming flower is not deemed fit for the exhibition table except in the disguise of Jack-in-the-Green, and goes on to express his regret at finding the leading weekly authority in horticultural matters, whose opinions, he is pleased to say, are for the most part sound and trustworthy, advocating the practice which he condemns. Now, though we confess to having recommended the plan of using Gladiolus leaves, we certainly did not mean to recommend its abuse; and we are very willing to join "J. S." in his protest against the Jack-in-the-Green style of setting up these flowers as embodied in the following remarks:—

"If any one will examine a spike of Gladiolus growing in the open garden, he will observe that it stands considerably above any foliage, challenging admiration, as it were, solely by the force of its own inherent beauty, altogether independent of adventitious ornament. The florist has taken it in hand, and by means of cross-breeding and high cultivation has added immensely to its brilliancy of colouring, the length of its spike, the size, form, and substance of its individual flowers, and its robustness of growth, but he cannot, or at all events as yet has not, enclosed it in a bower of foliage. Almost without exception the flowers shown this year have been 'improved' by the addition of extraneous foliage; on one occasion the fronds of Ferns were used, but more frequently the foliage of the Gladiolus itself was employed to form the 'embellishment.' When I first witnessed this 'new style,' I was rather struck with astonishment at seeing—say a dozen—fine spikes liberally supplied with foliage, arranged most symmetrically at the back and sides; and towering majestically above them, but not intruding themselves in front of the blooms. A little closer examination soon informed me of the *modus operandi* of the Gladiolus shower in his 'improvement' on nature. He first cuts the spike he intends to exhibit, with or without a leaf as the case may be, generally without, as the foliage is supplied from plants that have not yet thrown up their flower-spikes; of these, three are cut nearly close to the bulb, and placed one behind and the others on each side of the spike to be exhibited. Thus the produce of four bulbs is required for every spike shown; and to make up a stand of twelve, a dozen spikes *in esse* and three dozen *in posse* must be sacrificed. To those who grow them for sale and count their bulbs by hundreds of thousands, this wholesale destruction is of no consequence; but how a small grower, if he have any real love for the flower, can make up his mind to such an act is quite beyond my comprehension. . . . My protest may not count for much, still, my mind will be easier for having raised my voice, however feeble, in opposition to a system so artificial, so unnatural, and above all so destructive."

The tendency of the modifications brought about in this flower through the agency of the florists, has been, as "J. S." remarks, among other things to impart vigour to the plants, and with it length to the spike of flowers. Nor can we desire that this should be otherwise. But it should be remembered that as seen growing on the plant, these noble spikes, though above the leaves, are not dissociated from leaves, however they may excel them in attractions; and it must also be remembered that when cut without leaves and set up singly in a stand they have a bare and gawky appearance, altogether different from the aspect they bear when viewed on the plant. Hence some accompaniment is necessary; and though on every ground we should favour, as little as "J. S." himself does, the Jack-in-the-Green style of setting up, we certainly think that whatever is used should be the natural leaves of the plant, used as we have said "in just sufficient quantity to take off the baldness which is apparent in the ungarnished flower spikes." Our former remarks were chiefly intended to show that some garnishing was desirable: they may even be interpreted to mean that too much is better than none; but now that the question is raised we are glad to join our contemporary in protesting against carrying this garnishing to excess. For our own part, we do not think the appearance of these cut spikes is nearly so pleasing when they are set up on a flat board as when placed in vases, such as TYE's Hyacinth glasses. And in respect to embellishment, what we should recommend would be to cut the stem low enough to retain a couple of its own leaves, which would be ample for the purpose of preventing baldness, at least in most cases.

—— THE example set last year by the Royal Horticultural Society in holding an international show of Hardy Fruits, induced the Handsworth Horticultural Society to hold a similar exhibition in the Town Hall, Birmingham, on the days of the Cattle and Dog Shows. The experiment was so far a success that the Society has announced its intention of holding a Fruit Show annually in the first week of December. Many prizes are offered to members only for collections of home-grown fruits, but unquestionably the open class, in which fruiterers, dealers, &c., both from the Channel Islands and the continent, are admitted to equal competition, is the most interesting. We know of nothing at this season of the year more instructive than displays of this character; and we heartily wish the Society every success in its endeavour to carry out so laudable an undertaking. The show takes place on the 1st, 2d. and 3d of December; and we observe among the prizes open to all the world a ten-guinea silver cup for the best collection of fruit. Entries must be made before the 26th of the present month.

—— It has been from time to time whispered about that the EXHIBITORS OF FLORISTS' FLOWERS do not appear to understand the rule which most societies impose, that the exhibited articles should be of their own growth. It used, indeed, to be said that they begged or bought a greater or less proportion of the flowers they exhibited. Of course the plant exhibitors of those days—long long ago, never did such things! and so somehow or other the odium seemed to rest mainly with the florists, though it was well known that no such suspicions could fairly attach to the respectable members of the fraternity. Doubtless, as with other legends, the whispered story had some foundation in fact, but to whatever extent the practice may have been adopted, it was carried on in secret, as though the practitioners knew that it was not fit to bear exposure to the light of day. We have no doubt, moreover, that the extent to which it was carried, was very much exaggerated by disappointed competitors. But what shall we say now about Chrysanthemums. An advertisement has lately appeared more than once in our pages, in which the advertiser, although he has given up, as he says, exhibiting for competition himself, tells us that he "still SUPPLIES OTHER EXHIBITORS WITH SPECIMEN BLOOMS for that purpose in large and small quantities, and *on the same liberal terms* AS IN PREVIOUS YEARS." There is no secresy here, but the most bare-faced shamelessness. The advertisement, indeed, while exhibiting "in large quantity" the moral qualities of its framer, stands as a disgraceful charge against exhibitors of cut blooms "in previous years," and a direct insult to conscientious exhibitors of the present season. Such an advertiser should be tabooed by every honest man.

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## NEW GARDEN FERNS.

ASPLENIUM FERULACEUM, *Moore, Hb. Hook.; Hooker, 2nd Century of Ferns*, t. 38; *Id. Species Filicum*, iii. 216.

Fronds bright green membranaceous, deltoid-ovate, acuminate, supradecompound; primary pinnæ numerous horizontal, broad ovate acuminate, 6-8 inches long; secondary pinnæ about 3 inches long; ultimate pinnules short linear-spathulate, simple or two or three cleft, the segments usually monosorous; sori small with a greenish submembranous indusium; caudex short erect; stipes stout elongated, pallid, furrowed in front; primary and secondary rachides terete glossy, the ultimate very narrow linear compressed.

A very distinct and most beautiful tropical Fern, with something the aspect of *A. scandens*, but more compound, and differing entirely in its short erect, not creeping caudex. The fronds stand up around this short upright stem, and have stout stalks or stipes a foot or more in length, and a very much divided lamina, four or five times pinnate, a foot and a half long, and about a foot in breadth at the base. The whole frond is smooth, and of a clear green colour. The secondary pinnæ are somewhat deflexed from the plane of the frond; and the ultimate segments are all narrow linear with blunt rounded ends, the uppermost on the ultimate pinnules simple, the lower two or three cleft. The species belongs to the Darea group, and is a most charming addition to the other handsome species of this section already in cultivation. It is found in New Granada, where it was gathered by Hartweg (no. 1519); and in Quito, where it was found by Jameson. The cultivated plants, which we have seen in the nursery of Mr. Bull, of Chelsea, are stated to have been obtained from Cortago, in Central America. Its finely cut Ferula-like fronds, will, we have no doubt, render it quite a favourite amongst cultivators.

DICTYOPTERIS VARIANS, *T. M.*

Fronds subcoriaceous, smooth, ovate, pinnate, (the lamina about a foot, the stipes about ¾ of a foot long); pinnæ (6–12, with a terminal one) obliquely oblong, abruptly caudate, irregularly crenate, and somewhat undulated at the margin, (6 inches long exclusive of the caudate extremity of 1 inch, and 2 inches broad), the upper somewhat smaller, the terminal one about equalling the lower, which has the posterior base shorter than the anterior, and broad and truncately rounded, or sometimes producing a large posterior lobe: the lower pinnæ shortly stalked, the upper sessile; veins subpinnate from a central costa, anastomosing in about two series of irregular areoles without appendages; sori very numerous, scattered thickly over the whole under surface, very various in form, round oblong linear or irregularly confluent; caudex creeping; stipes slightly scaly at the base; rachis proliferous in the axils of the pinnæ.

This bold habited and very distinct Fern was introduced some two or three years since to the Edinburgh Botanic Garden from Calabar. It is remarkable amongst the polypodioid net-veined species for its very copious and very irregularly disposed and variously formed sori. Its fronds produce from six to twelve bold looking oblong pinnæ, which are of thickish texture and somewhat irregular at the edge, terminating abruptly in a narrow tail-like point fully an inch long. The caudex is thick, and covered with lanceolate acuminate appressed brown scales. The fronds are of a dull deep green colour, and grow from a foot and a half to two feet high, and from 14 to 20 inches broad. The plant is well adapted for pot-culture, on account of the freely branching character of its creeping caudices. At the under surface of the anterior base of the pinnæ tubercular processes are formed, which ultimately assume the rhizomatic character, giving off fronds and rootlets. For some of these observations on the habit of the plant, I am indebted to Mr. Scott, of the Edinburgh Botanic Garden. *T. M.*

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## EMIGRATION TO NEW ZEALAND.—No. II.

(*Concluded from p.* 1083.)

THE great source of New Zealand fortunes is doubtless in the sheep farms. People rent great "runs," and have many immense flocks on them. Often men of small capital join stock with a larger capitalist, and thus they seem to go on till very large fortunes are raised. A flock of 4000 sheep is considered small for Canterbury, and the owners find quite enough to do in riding about their stations and inspecting affairs in general. At one place some friends record 200 head of cattle—and at that place it was they saw a ton of cheese in the dairy.

"It is quite marvellous," one writes, "to see how rapidly this place increases. You can buy here anything that you would in a good English county town, and some things are not dearer. We have shops of all kinds, and capital roads for some way out of Christchurch; though many of the streets are still grass."

The houses are built very often of only a single story, often too of wood, and as the ceilings are done in some strictly colonial fashion, with a sort of linen and paper batten, the flapping up and down in a gale is said to be very remarkable! Soda water corks too have been known to shoot through the ceiling! The slightness of the buildings causes sometimes a little amusement. Two friends of mine who had just landed were holding a brisk conversation through what they supposed to be the thin wall between their apartments. Some other weary traveller was however ensconced between them, and they talked through his room.

The gardening in the colony is wonderfully profitable. At present the commonest flowers are very rare and scarce; plants that you see in England in every cottage garden cost perhaps 5*s.*—that is, when they can be bought. A friend of mine bought a Heliotrope so small you could scarcely see it, but the only one he could get, at a price which he would not name—I fear it was so exorbitant.

Common workmen, as has been already said, are paid a shilling an hour here for garden work, and it is said that English gardening has quite to be unlearnt. The climate is of course so very different there. Still for people who mean to work and are willing to learn new ways, there is an amazing opening.

The worst and commonest flowers sell from 2*s.* to 2*s.* 6*d.*, and though there are many things to be watched against, still the growth is exceedingly rapid. I heard a report of a gardener landing with 10*l.*, whose fortune has grown to 50,000*l.*! But for the truth of this, in its full extent, I do not like to

vouch, though I myself believe it to have been quite possible.

The climate of New Zealand, unpleasant though it is, seems wonderfully healthy. It makes up by this one good point for a perfect host of discomforts. Winds, that seem quite eternal, blowing from all quarters, cold and hot and rainy—the coldest of all their breezes being what we call "balmy south winds." Blowing from the South Pole they come up in bitter blasts. The wind gets up daily about 10 o'clock, and goes down at sunset, leaving the early morning and again the evening pleasant. But the twilight is not long and pleasant as in England, although for those few hours the days are mostly enjoyable. The heat and the dust at Christmas comes out in the strongest contrast with our green Holly branches and the church paths sprinkled with snow. Last Christmas more than four months had passed without any rain, and the dust and the flies were becoming a great torment.

New comers find that it takes some time to get acclimatised. The extreme dryness of the air during part of the year is especially one of those things that appear so uncomfortable, though it is most likely that this very dryness tends much to the general healthiness. At first, however, the colonists have often to endure much discomfort in the shape of gathered fingers, headaches, and so on.

The nor' westerly winds are described as by far the most unpleasant. Their dryness is quite indescribable—you feel quite baked up by them and utterly good for nothing, and then from this great heat the day will change to cold, and going out in the morning lightly clad, and quite oppressed with heat, at night you will find yourself shivering in a cold wind, requiring a great fire, and piling the bed with blankets. The nights are indeed in New Zealand always more or less cold. The heat is at times exceedingly great. In Australia the very hot seasons are said to recur generally about every twelve years, the heat afterwards gradually decreasing, and again increasing till the next hot year. This seems to have been the case also in Canterbury, for the letters written there last Christmas report the heat as exceptional, such a season not having been known since the first settlers landed, just 12 years before.

Letters written at Christchurch (February 12, 1863) speak of the thermometer having reached 130° in the sun. No rain had fallen for very long, and the very dust was becoming alive with insects. Fires were raging up the country, which nothing but heavy rains would quench. The loss of wood and grass, it was feared, would be very great, the whole sky being lit up at night with the wide-spread flames, while by day the great clouds of smoke often hung in the air so densely as to a great extent to obscure the light, and diminish the heat of the sun.

In spite of the summer dryness the winter's wet is very great. Streets even in Christchurch become filled with pools; horses are up to the girths in heavy sticky mud, in which it is hard to obtain a footing, and with many parts of the country, communications are quite cut off.

The great sheep farms of course and some of the mission stations of the Church of England lie many miles up the country.

The scenery is some of it exceedingly beautiful, and here I quote again from letters descriptive of it:—

"The mountains surrounding Christchurch (which during some months are covered with snow), resemble very much in appearance the Pyrenees. Close by we have the Port Hills, and in the distance the snow-capped western range, and within these again what are called the Malvern Hills."

"There is very little timber here, and though a great many people have planted trees and made very pretty places, they have not yet had time to grow to any size. There is, however, some natural wood called the Riccarton Bush, close to Christchurch, which is a great relief to the landscape."

Another letter gives an account of a visit to a lovely place called Akaroa, on Banks's Peninsula. "The woods come down to the water's edge, and the scenery is lovely beyond anything I ever saw. It is a great place for gardens and fruit trees, and you cannot imagine the delight of seeing the lovely woods and trees, and hearing the birds sing, and having good water to drink." (This came, it must be remembered, as a break in unwonted town life.)

"All Banks's Peninsula is beautiful, except Lyttleton. The Akaroa roads are not passable in winter, so it is rather cut off from the world—it is in fact in the bush. Just at sunrise here the birds make a sort of concert, and it seems as if each was trying to sing the other down. It woke me up the first morning and surprised me; some of the birds have very pretty notes, too." *E. A. M.*

## ROSES.

Why do not Roses more generally succeed in England? Various reasons may be given.

1. Climate.—Ours is the most variable and consumptive climate in the world. England is the hyphen between a frying pan and a well—*i. e.*, between France and Ireland. One would have thought that the temperature would be at all times equable; but such is not the case. We are liable to quick transitions, and also to winter-summers and summer-winters! The Roses being imported, with rare exception, from the warm and more equable climate of France cannot but suffer from the change: more especially glass-raised, unhardened novelties.

2. Sorts.—People fail, because they do not get right sorts; or they do not get right sorts on stocks suitable to the Rose itself, or they do not get right stocks, by which I mean stocks which, being suitable to the Rose in some lands, are also suitable to their land. In this climate, robust, hardy, vigorous growers will alone last any length of time: even these will, on own roots, and on all stocks occasionally die, though they be well looked after, which is far from being generally the case.

3. Stocks.—Briars, Manetti, Celine, are all good Stocks. Of the Celine stock I know but little: such as I have upon it grow and bloom well. Briars are best for moderate growers, and good also for strong growers in strong land. Manetti is good chiefly for strong growers, and indispensable for inferior lands. In very strong lands it would drive the Rose into a pole Rose, which might not be convenient. This stock, with suitable Roses on it, is suitable to all lands. Its triumph, however, is seen in highly manured, shallow and worthless lands, where Briars would do but little. I have many Manetti Roses planted in what was a duck pond, bottomed with chalk; also many in land close upon solid gravel. Between the chalk in one case, and the gravel in the other, I put a bed of black dung and half-inch bones, and plant the Manetti Roses on the top of it, and then fill in, tread hard, and tie the plants to sticks; and nothing can succeed better. I have in the same ground Briars, homebudded, but they bear no relation whatever to purchased Roses on the Manetti stock. In either of my lands, both different in their natures, you might as well put a hen against a horse as put a Briar Rose against a Manetti Rose. In my north-east garden this can be seen any day.

4. Winds.—Roses cannot have too much air and too little wind. Those who are exposed as I am to the violent assaults of the W. and S.W. winds, which, by their violence and prevalence bend the heads of Elms and other trees here towards the S.E. as if they were bowing to the Eastern Magi, know how injurious wind is in early spring and early summer. The sap then rises, but the lungs are destroyed; and the effect on the new wood is much the same as that of garotting. The sap is pent back upon the wood, and it becomes bad. Of course good wood and good flowers cannot come out of bad wood. Whatever suddenly destroys the leaves, or impedes their action, whether wind, hail, or fungi, at the early part of the year before the wood is matured, will do great present and future damage. My home Rosery is as exposed to the W. and S.W. wind as Portland or Stonehenge. My house ought to be a windmill. Still I bear the demolitions of wind and hail, year after year,

> "With that untaught innate philosophy,
> Which, be it wisdom, coldness, or deep pride,
> Is gall and wormwood to an enemy!"

5. Drainage.—No matter what the stock is, or the Rose upon it, free drainage is absolutely necessary. A rivulet, at the base of my home Rosery, stops the water back upon me. The Manetti Roses bear it respectably. The Briar Roses were annihilated in the well-known severe winter.

6. Planting, Staking, and Tying.—These are important things. Ground plants in highly protected situations may not require staking and tying, as they do here; but standards always, in all places, require it. As regards planting, the Briar Roses should never be planted deeply—not more than 4 inches; Manetti Roses must be planted sufficiently deep to cover the collar of the bud an inch or two: hence it follows that they should be budded low, or the radius of the roots will be too far from the action of the sun. A Briar Rose deeply planted will have weak wood and bad flowers, then weak wood and no flowers, and then neither wood nor flowers.

7. Aphides and Fungi.—If Roses were kept constantly syringed from the time the trees put forth their spring leaves, little or no damage would be done by them. Clean water would cleanse the leaves and rid them of millions of helpless aphides and of the invisible spores of Fungi. Orange Fungus must be destroyed by hand at once. This can be only effectually done by taking off the leaf with the orange nucleus, which usually adheres to the lower side of the leaf, before it bursts and spreads its spores over both sides of the leaves. In spring you will discover it by a small discoloration of the upper side of the leaf; just beneath that is the orange nucleus. Sometimes it is on the stems. After heavy thunderstorms, I have observed that aphides and Fungi greatly disappear.

These, then, are some of the main reasons why Roses do not more generally succeed in England. There are other reasons, which need only be summed up, viz., improper pruning, pruning at an improper time, cutting the wood of H. P.'s before they have dropped their flowers, insufficient manure, lack of mulching and water in torrid summers, and insufficient root protection (straw is good for it) in severe winters.

Finally, a good grower of Roses does not necessarily imply a first rate Rosarian; nor does the winning of prizes necessarily imply such a thing. The lands of some are so adapted to Roses that they have little to do but plant and cut off the flowers. Were they stuck in the eye of the wind on my dense chalky hill—chalk all the way to New Zealand, I believe they would be confounded. That man is a true Rosarian, who, surrounded by great natural difficulties, fights, and fights successfully against them; who studies the various likes and dislikes of Roses, and treats them accordingly. "Necessity is the mother of invention," and nothing but difficulties and experience can make a man a first-rate Rosarian. August, September, and October test a Rosarian better than June and July. *W. F. Radclyffe.*

## FISH AND FISHING.—No. XIX.

### (6.) How Grayling got to England.

(*Concluded from p. 1037.*)

*Pisc.:* Certain it is, from the Hexaemeron of St. Ambrose alone, that, in his day (the 4th century), they could not have failed to observe the difference of male and female fish, when produced at their tables; and that the fecundation of ova by the milt was the natural process. The roe in one, and milt in another, was enough; and "continuo enim tactu parentis animatum ovum cecidit—et piscis exivit," says St. Ambrose. Therefore, I would urge, why should not Pisciculture by artificial impregnation have suggested itself, where the inducements and necessity we have pointed out existed, as regarded the grayling, to such learned and practically learned minds as those in the days of the "monks of old?" Considering how many are the discoveries claimed by moderns which are really traceable to the ancients;* coupling on, the assumed fact of the introduction of pike into England upwards of three or more centuries ago (ante, p. 748); and firmly believing that I am correct in attributing the introduction of grayling to the monks of old upwards of 1000 years ago, I cannot but think that the art of pisciculture is far less modern than we of the present day assume it to be. Under all the circumstances, I cannot resist the conclusion that the monks of old did import this fish.

*Cath.:* Nor can I. But, my dear Piscator, what a subject for reflection, what a moral does all this contain! Our overweening vanity in the present day, puffs us up to the belief that we in Europe are the greatest people that ever lived; and like the men of old time in Scripture History, we conceive ideas and build "Towers of Babel." We sink our Thames Tunnel at enormous cost of money, labour, and some loss of human life, and it remains as scarce more than a London "sight." We continue to erect bridges of enormous span which can never "pay." We build a "Leviathan," which we can scarcely launch, and which when launched we at first cannot afford to fit up, and which, when ultimately fitted up, makes a voyage or two. Ask shareholders as to the rest. We cross the Atlantic with our electric wires, they fail, and at this moment we can only pray God that, for the peace of the world, they may be workable ultimately! Unquestionably during the last half century we have made lightning "progress." Our electrical discoveries and submerged telegraphs, our steam ships and engines, our railways, our tubular bridges, our chemistry, our geology, whether limited to its strict meaning, or extended to our "knowledge of the world;" our gold; in fact our many hundred matters—all these we may boast of within the last half century, but take heed, oh man! for

> "When he thinks, good easy man, full surely
> "His greatness is a ripening,"

he may find a "Hitherto thou shalt go and no further!" He may find that the flood of his greatness is at its height, and that the ebb is on; he may be made to feel that there is a "Tree of Knowledge," of which he ought not to have eaten so much; and that the builders of a "Tower of Babel" may be confounded! Look, my friend, at what history teaches us. First, that Solomon knew the principle of hydrostatics in his supply of water to Jerusalem, viz., that water would find its own level; while the Romans, who followed long after, could only conceive the idea that water could be conveyed by aqueducts on a simple inclined plane. Again, Solomon prayed to God for "an understanding heart" to judge God's people; "and the Lord said to Solomon: Because thou hast asked this thing, and hast not asked for thyself long life and riches," "behold I have done for thee according to thy words, and have given thee a wise and understanding heart, insomuch that there hath been no one like thee before thee, nor shall arise after thee." And Solomon "treated about trees, from the Cedar that is in Libanus, unto the Hyssop that cometh out of the wall, and he discoursed of beasts and of fowls, and of creeping things, and of fishes:" so he understood botany and zoology. And Solomon built the first Temple; gold was in superabundance, and brass was molten: so he understood metallurgy. And then that magnificent Temple was destroyed, and on its foundations another was built, so far inferior to the first, that the old men, who had seen the former, wept on beholding the inferiority of the second. Yet, at the second overthrow which ensued, the Romans, though

* See Translation of Dutens' Origine des Découvertes attribuées aux Modernes, &c., 8vo, London, 1769 (An Inquiry into the Origin of Discoveries attributed to the Moderns, &c.) This work is in the British Museum.

conversant with their own beautiful architecture, as well as with that of Greece, neither of which we of the present day can, or presume to think we can, equal, or even approach—the Romans wondered at the magnificence of the inferior second Temple! And thus human knowledge flows and ebbs, and flows and ebbs again, from generation to generation. Even now we wonderful Europeans must further humble ourselves by discovering that among those whom we have regarded as only semi-civilised, there is the town of Jeddo, or Yedo.*

*Pisc.*: But after all, except for the moral you have drawn from this subject, *cui bono* our discussion? Who cares whether the monks did or did not do this good deed?

*Cath.*: Unless we can tickle the fancy of the "utilitarian,"—can propose, out of our discourse, something which will "make money," I agree with you we have lost much time and labour, though pleasantly spent to ourselves. Yet if we can call the attention of people at large to the subject of Pisciculture—to the increase of our salmon and our other sea and river fishes, so that the poor man's table can be supplied more abundantly and more cheaply with even salmon, not as a luxury, but as food and sustenance; if we can by "pressure from without" so force the subject upon the Legislature as to drive the Government of Great Britain or any public society or body of persons to take pisciculture into its own august or influential hands, as our neighbour France has wisely done—then who will deny the *cui bono*? And, failing that achievement, if we can wipe off some of the obloquy attached to any people, be they "the monks of old," or any sect or class of men, by the reminiscence of their good *versus* their (supposed) bad deeds,—if we, by showing that the monks had other reasons for the culture of this or that, far superior to their animal appetites; that they were far above the appellations "Sybarites," "Gluttons," "well-capon-lined," &c., &c., at least, I say, we shall have placed truth in antagonism with prejudice! And that is something. Magna est veritas, et prævalebit! *E. C.*

## Home Correspondence.

*Potatos.*—As so many of your readers have recorded the results of their Potato culture, perhaps you will allow me the like privilege. Last year a friend furnished me with a few for trial, of a red and also a white kind. I had no name with them, but was told the red ones came from Madeira. For the present we can call them Jasper's Pride, unless you can give us a name of longer standing. Unfortunately, my friend did not give a recipe for cooking them. Our cook tried to get a couple done for dinner, but, failing in the attempt, kept on till supper time, but it was evident they could not be done in one day. I suppose therefore we must cut and shape them into ordinary sized Potatos, if you cannot tell us a better way. It was rather amusing to dig them up, as it was something like turning up little black and white pigs. We had about 4 bushels, scarcely any small ones, and a few diseased. I send you one of each colour as a specimen; the two only weigh 4½ lbs. now, having been exposed in a very dry situation since they were taken up, as I did not think of sending them at the time. We fancy they are larger than common, and as no one hereabouts has seen larger, we are a little lifted up in consequence. Perhaps some of your correspondents will take us down by sending finer ones. *Jasper Standstill.* [Very large tubers certainly; the white sort weighed 2 lbs. 2½ oz., and measured 17 inches in circumference in the longer, and 13½ inches in the shorter axis; while the red weighed 2 lbs. 1 oz., and measured 18 inches and 13 inches in circumference in the longer and shorter axes respectively. They were, however, deep eyed, the greatest possible fault, the eyes being sunk from ½ to ¾ of an inch. Such Potatos are only fit for cattle-feeding.]——In the remarks upon these recently made by your Correspondents I observe that one variety, the Old Rock, which is most extensively grown in Ireland, proved inferior to several others, both as regards quantity and quality. Here it withstands the ravages of the disease better than any other kind; it is also the most prolific and best-flavoured sort in use all the season through. A kind called Skerry Blues was planted to a considerable extent last spring under the impression that it was a better cropper than the Rock, but the opinions of small farmers who have grown it differ considerably on this point; with me it produced a fair crop, small, but quite free from disease, while Rocks growing side by side with it were more or less tainted. For early digging our small farmers plant a large-growing kind called the Flounder; in reclaimed bogs this produces enormous tubers, but they are somewhat soapy, and under every circumstance inclined to be diseased. Without doubt the Old White Rock is the hardiest and on the whole the best Potato for general purposes which Ireland ever possessed—nothing but the hardiest of varieties would be suitable for this sunless wet locality. The lazy bed system is much condemned in England; but those who there object to it would, if here, either have to practise it or lose their principal crop. *John Edlington, Crom Castle.*

* See the splendidly written Leader of *The Times*, Nov. 3, 1858. Those who would form a just idea of the wisdom and knowledge of the ancients as compared with moderns, would do well to read the translation of Dutens already referred to.

*The Brothers Cunningham, the Botanists.*—In the article "Australia" in the last edition of the "Encyclopædia Britannica," an incorrect account is given relative to Allan Cunningham. It is stated in the portion devoted to the discoveries of Sir T. L. Mitchell on the Bogan River, New South Wales (1835), that—"The botanist, Allan Cunningham, was lost from the main body of the party in his rambling for plants through the interminable wilderness, and from subsequent facts which came to light there is every reason to believe that he was murdered by the natives. In memory of his sad fate and invaluable services to the colony, the Government have erected an obelisk in the Botanic Garden at Sydney." It was not Allan Cunningham that accompanied Sir T. L. Mitchell as botanist, for at that period he was in England. It was his younger brother, Richard Cunningham, who met the sad fate above alluded to. A monument to his memory was placed by his brother Allan in the Scotch Church in Sydney. The obelisk that is erected in the Botanic Garden is to the memory of Allan Cunningham, who died on the 27th June, 1839. It was subscribed for by his personal friends, the Government having nothing to do with its erection. An inscription on their father's grave-stone in Kensington Churchyard, also records the labours of these scientific and enterprising botanists. A curious error has also just appeared in the last number of the Edinburgh Review, in an article on "Queensland." The writer, after giving great praise to Allan Cunningham's discoveries in botany and geography, states that in gratitude for his invaluable services, the community of Sydney erected a marble statue to his memory in the Botanic Garden, which said statue is nothing more than the obelisk just mentioned. *R. H.*

*Orchids.*—Recently much has been written in reference to the cool treatment of certain Orchids, and as an illustration of what can be done under this mode of management, allow me to request your acceptance of a photograph of a plant of Odontoglossum grande, which I flowered this autumn in a 10-inch pot, with nine bloom spikes bearing 36 flowers (those expanded measuring fully 6 inches across, and three of the bulbs producing two spikes of bloom each). This is the result of three and a half years' greenhouse treatment and a liberal use of very weak liquid manure in the growing season, allowing from three to four months rest in the winter, water at the root being then altogether withheld, except when much fire heat was required to keep the house at a temperature suitable for Pelargoniums, and then only sparingly administered, the foliage being kept clean by repeated spongings, and an occasional syringing on very fine sunny days. *Joshua Saunders, Clifton, Bristol.* [By far the finest specimen we ever saw of this fine species.]

*Feejee Islands.*—One of your correspondents, I observe, requires information respecting these islands. The accompanying observations, sent to me by Mr. Binner, are so conclusive as to this delightful climate, that you may probably wish to publish them. Mr. Binner, I regret to state, died in May last, having resided more than 20 years in Ovalau, one of the most extensive islands in the group. *R. J. Graham, Combe Down, Bath*:—

Abstract from Meteorological Register kept at Leonha, Ovalau, Feejee Islands, for the British Government, by Jno. Binner:—

| Year and Month. | Self-registering Thermometer. | | Height of Barometer. | | Rainfall in Inches. |
|---|---|---|---|---|---|
| | Max. | Min. | Max. | Min. | |
| 1861. | Deg. | Deg. | Deg. | Deg. | |
| January .. .. | 91.9 | 72.4 | 30.000 | 29.730 | 11.650 |
| February .. .. | 87.8 | 72.8 | 30.008 | 29.608 | 22.880 |
| March .. .. | 89.0 | 70.9 | 30.064 | 29.700 | 23.930 |
| April .. .. | 87.2 | 72.3 | 30.678 | 29.808 | 10.730 |
| May .. .. | 85.0 | 70.9 | 30.070 | 29.846 | 11.320 |
| June .. .. | 85.0 | 70.0 | 30.816 | 29.440 | 6.190 |
| July .. .. | 83.2 | 68.0 | 30.556 | 29.540 | 1.865 |
| August .. .. | 84.6 | 68.0 | 30.936 | 29.566 | 4.660 |
| September .. | 85.0 | 68.0 | 30.834 | 29.920 | 9.050 |
| October .. .. | 86.0 | 65.0 | 30.216 | 29.806 | 6.560 |
| November.. .. | 89.0 | 71.0 | 30.066 | 29.726 | 5.170 |
| December .. .. | 87.0 | 71.5 | 30.066 | 29.726 | 4.560 |

N.B. The cistern of barometer stood from 1st January to 30th April at 110.8 feet, and from 1st May to 31st December at 152.2 feet above mean level of the sea. Thermometers at same height in shelter and shade with a south aspect.

The above observations were taken with standard instruments supplied by the Board of Ordnance, and corrected for index error. Total rainfall for 1861, 118.065 inches. *Leonha, Feb.* 10, 1862.——Your Dublin Correspondent may obtain much of the information she requires on the subject of the climate and productions, &c., of these islands in "Figi and the Figians,"* by Thomas Williams, missionary for many years there. Being so near the line, the temperature is of course high, but it is tempered by the sea breezes; the mean temperature he gives as 80°. There is much rain, and occasionally he has known a succession of 45 days with more or less of rain; sometimes, also, there are two or three months without rain. In the culture of food plants, Mr. W. says the Feejeans are far ahead of any of the islanders of the Western Pacific. Yams of the enormous length of 9 feet, and weighing 80 lbs., are cultivated in mounds; and the Sweet Yam and Sweet Potato are also highly prized and productive. But the Feejean's staff of life is the Dalo (Arum esculentum); it is cultivated on irrigated land, and is exceedingly productive. Bananas, with bunches containing 180 fruits, Plantains, Bread-fruit, Cocoa-nuts, Arrowroot, Nutmegs, Sugar-cane, Shaddock, &c., grow spontaneously, and are also cultivated. *E. M.*

* Haylin, Paternoster Row, 1858.

*Orchard House Culture.*—I beg to send for your inspection three varieties of Pears, gathered from trees grown in 11-inch pots; 16 Pears were produced by the tree whose fruit is numbered 1; 28 were gathered from No. 2; and 32 from No. 3. Should you think them worthy of notice, I shall feel obliged by any remark upon them you may be pleased to make; and as I have some doubts about their names, your setting me right in that matter will be considered a favour. I have under my charge a lean-to Orchard house, 48 feet long, 12 feet wide; 3 feet high in front and 8 feet high at the back. This has been built four years, and as I have been every year successful in having an abundance of good ripe fruit, I am partial to the orchard house mode of fruit growing, not only because by that system a greater amount of fruit can be obtained than by any other method, but because of its excellence and certainty. I am well acquainted both with indoor and outdoor fruit growing, my experience being spread over some 22 years; and I must say that never have I tasted better flavoured fruit, under any circumstances, than those gathered from an orchard house. We have two rows of trees running the whole length of the house, and most of the Peach and Nectarine trees were allowed to carry 3 and 3½ dozen fruit each, and some even 4 dozen. Our Plum trees this season have been a perfect picture: Coe's Golden Drop bore 7½ dozen, which for colour and flavour were all one could wish; Denyer's Victoria had 7 dozen; Columbia Plum, 6 dozen; Jefferson's, 7½ dozen; and Washington and others, 7 and 8 dozen each; Cherries, Figs, and Pears, have been equally good. Many have visited this house this season, and all have not only been pleased with what they saw, but several have made up their minds to have an orchard house built for themselves. *Charles Squire, Heywood, Westbury, Wilts.* [The varieties of Pears sent were:—1, Easter Beurré, very large, considerably above its usual size; 2, Thompson's; 3, Beurré Bosc; these were fully the average size and of good quality. In the case in question, the lean-to form of house has certainly answered well, much better we presume than a span roof would have done.]

*Swallows.*—Permit me to say that swallows were seen here in large numbers hawking for flies over my Rose nursery at Torquay on the 16th Nov. *Henry Curtis.* [They had also been observed at St. Leonard's on the 13th and 14th inst.]

*New Hyacinths.*—I was about to reply to Mr. Cutbush's remarks on New Hyacinths when my eye caught the reply of "Quo" (p. 1084), who is evidently well versed in the subject, and whose views, as far as expressed, coincide with my own. But more remains to be said. Mr. C. would apply an old rule of the Royal Horticultural Society, originally framed for a purpose altogether different: "Any plant that has been previously exhibited before the members cannot be considered new." Now, if I mistake not, this rule has never been applied to new Roses, new Pelargoniums, new Hyacinths, or any other collection of new florists' flowers, nor can it be so applied with any advantage to horticulture. It is an exceptional rule, framed for and hitherto applied to single plants only, and not to collections. Mr. C. says, "Mr. Paul's varieties could not be strictly termed new." Certainly not, if his reading of the word be admitted. But he is the sole authority for such an interpretation, and custom is against him. Moreover his special signification is put after the show. With regard to the number of years my new Hyacinths had been before the public, they were in the aggregate newer than Mr. C.'s; the age of four of the latter amounted to 44 years, whereas my six amounted to 37 years only! Novelty therefore was in my favour, and quality far more so. Mr. C. says he did not intend showing Maria Theresa. Well! but judges cannot act on exhibitors' intentions. According to the reports of the "Journal of Horticulture," the "Florist," and my note-book, he did show it. It is strange if three separate and independent reports should contain the same error. So far from the judges being "little practically versed in Hyacinths," it would appear that they were better versed in the matter than Mr. C. himself. *Wm. Paul, Waltham Cross, N.*

## Notices of Books.

*Addresses and Charges of Bishop Stanley, with a Memoir.* By Arthur Penrhyn Stanley, D.D. Murray, Albemarle Street. Pp. 206.

This is by no means a recent publication, yet, somehow attention has at last been drawn to the late Bishop of Norwich. Possibly some conversation respecting the late Archbishop of Dublin, who, like the subject of this memoir, was at one time greatly misrepresented, but died regretted by all; or perhaps the sight of a simple black marble slab in the nave of the Cathedral; or, suffice it to say, something has suggested the re-reading of Canon Stanley's memoir of his revered parent, who was always an encourager of natural science, was well-known as an ornithologist, and was some time President of the Linnean Society.

It seems that young Edward Stanley acquired in

early years a passion for the sea, which he cherished up to the time of his entrance at College, and which never left him through life. As to his early education for that profession for which he was actually destined, it was utterly neglected, till he entered at St. John's College, Cambridge, in 1798.

"This deficiency, now that he was for the first time become his own master, he remedied to a great extent by unremitting exertions. He acquainted himself with the classical languages sufficiently for common purposes, and in mathematics he made such proficiency as to appear as a wrangler in the mathematical tripos of 1802. To Cambridge, in this respect, he always looked back with gratitude as the source to which he owed all the real education that he had enjoyed; and many years afterwards he sent a brief but spirited statement of his own experience of its benefits to a provincial journal, in reply to the well-known attack on that University by Mr. Beverley in 1834.

"'I can never,' he said on that occasion, 'be sufficiently grateful for the benefits I received within those college walls; and to the last hour of my life I shall feel a deep sense of thankfulness to those tutors and authorities for the effects of that discipline and invaluable course of study which rescued me from ignorance, and infused an abiding thirst for knowledge, the means of intellectual enjoyment and those habits and principles which have not only been an enduring source of personal gratification, but tended much to qualify me from the period of my taking orders to the present day for performing the duties of an extensive parish.'"

After serving for three years as a curate, he became rector of Alderley, in Cheshire, a family living, with an agricultural population of 1300 souls, which had been shamefully neglected, according to the general practice of those days. "The clerk used to go to the churchyard-stile to see whether there were any more coming to church, for there were seldom enough to make a congregation."

From the first moment of his entrance on his work, the young clergyman devoted himself to it, with an energy and exactitude which drew upon him at that time the reproach of singularity, and even of "Methodism," for the discharge of duties which would now be deemed too common to deserve notice. One who well knew the diocese of Chester thus describes the interest which he took in schools, an interest at that time shared by so few of his profession.

"He was the first who distinctly saw and boldly advocated the advantages of general education for the lower classes. Schools had been founded, he had borne his part—and a most active part—in the first movement, but I think that he first set the example of the extent to which general knowledge might be communicated—and beneficially communicated—in a parochial school. I well remember the appearance of the school at Alderley, where, in addition to the usual range of desks and books, the apparatus for gymnastic exercises was seen suspended from the roof. I remember the admiration excited at a lecture which he delivered in Chester, when he exhibited a "hortus siccus" of the plants found in the parish, made by one of the girls in the school; and though few or none did more than wonder at what was accomplished at Alderley, an impression was created that a large amount of useful secular knowledge might be added without any deduction from what would be considered the proper objects of a parochial school."

He instituted examinations for the children twice every year, published a little book of "scriptural questions," and gave medals or prize-books according to the proficiency and general good conduct of the scholars. The children did their best, knowing that if their lessons were well learned they were sure to be rewarded with the rector's well known smile, and expressions of approbation, and his gentle tap on the head of each. Sometimes to their great delight he allowed them to accompany him in his boat on Alderley Mere, and spent the afternoon on the water with them himself.

He visited the poor thoroughly, and established weekly cottage lectures at different points in the parish for the old and infirm, who were unable to walk to church. He issued printed or lithographed addresses on various subjects, and tried to stem the torrent of intemperance. The people saw that he was working for their good, were won by his gentleness, and always yielded to his good sense and firmness, with the happiest results.

Mr. Stanley hated religious controversy, but ever saw in the natural world an exhibition of Divine power and goodness, which he always regarded as one of the purest sources of intellectual and religious instruction.

"'The perversions of men,' he used to say, 'would have made an infidel of me, but for the counteracting impressions of Divine Providence in the works of nature.' Of all the branches of science, natural history was that to which he was most inclined. His quick eye enabled him readily to observe, and his methodical habits accurately to register, the phenomena of the animal creation; and thus to acquire, without interfering with any graver pursuits, a very considerable knowledge of ornithology, entomology, and mineralogy. Ornithology in particular became his favourite study, and it was a constant source of amusement and interest to him in his parish walks and rides to notice the flight and habits of birds, to collect remarkable specimens of their organisation, and to gather from his parishioners stories of any peculiarities which they had themselves noticed. The result of these observations he embodied, in 1836, in two small volumes, published by the Society for Promoting Christian Knowledge, and entitled 'A Familiar History of Birds; their Nature, Habits, and Instincts.'"

In 1829, during the excitement and panic which immediately preceded the passing of the Roman Catholic Relief Bill, he wrote "A Few Words in behalf of our Roman Catholic Brethren," in the form of a short address to his parishioners, with the view of allaying the alarm which, under the influence of the opponents of the measure, had penetrated even to the lowest classes, and the most rustic populations.

In 1831 he was the chief promoter of a meeting of the clergy of the county, "to consider the expediency of taking into consideration such timely remedies for ecclesiastical abuses as might avert the danger of too extensive changes."

In 1836, having made a short tour in the West of Ireland, he published a pamphlet entitled—"A few Observations on Religion and Education in Ireland."

Hearty reformer of abuses as he was, Mr. Stanley was ready to defend existing institutions. His answer to the attack on the University of Cambridge by Mr. Beverley was peculiarly telling, coming as it did from one who had always been a persevering reformer of abuses in every department, civil and religious. He published also under the title of "A Country Rector's Address to his Parishioners," originally for his own people, but afterwards circulated for general use, a short address against those agitators who in the troubles of 1831 and 1832 endeavoured to excite the lower orders against property and law. With the same feelings he offered his services as Chairman of the Board of Guardians, to stem the odium under which the New Poor Law laboured at the time of its first appearance.

In the spring of 1857, the thirty-second year of his residence at Alderley, Mr. Stanley received from Lord Melbourne the offer of the bishopric of Norwich, and the grief of his parishioners at parting with their beloved rector was excessive. He kept his promise of paying them a visit once every year. His predecessor in the see had lived to the advanced age of 93, and was of a remarkably easy and indulgent temperament, so that an abundant crop of abuses had grown up, and had got confirmed, which the new Bishop found it as difficult as it was necessary to remedy.

Several times an outcry was raised against the latitudinarian Bishop of Norwich, as many persons regarded him. Pure, upright in his motives, and utterly devoid of guile, he confesses, upon one occasion, "I certainly ought to have been more cautious; but what a life of wretchedness, to be for ever watching over and repressing the spontaneous acts of kindness which opportunities call forth."

A bishop of such a disposition was sure to live down all the opposition and calumnies that could possibly be raised against him.

Those who differed from him on material points, after a few interviews invariably felt that, differ as they might, their affections were enlisted on the side of a heart so true; their full confidence was won by his frankness, by his fatherly and most Christian sympathy. Many confessed that they had never known the true meaning of the word liberality before. While stirring up his clergy to the same keen sense of professional duty which had ever actuated his conduct as a parochial minister, he was often grieved to hear the cry raised "The Church in danger," by those very persons who seemed never to do anything to keep it from danger.

In Norwich itself he did everything that lay in his power to promote the interests of the city, more especially devoting himself to such institutions as were connected with its moral and religious welfare. On week day afternoons it was his practice to visit the schools, both those belonging to the Establishment, and those of Dissenters, examining the children himself, and noting their excellencies or defects. The children of the workhouse schools always engaged his especial attention.

To a clergyman in a deplorably ignorant part of the city he suggested the possibility of getting up an evening school and inducing members of his congregation to teach the neglected children. The Bishop went with that clergyman to open the evening school, knelt down, and offered up a prayer for the Divine blessing upon the undertaking, and then sat down and instructed a class of boys. On walking back to the palace with this clergyman, he remarked, "what a blessing it will be if we can but be made the instruments of saving the soul of one of these poor children."

The good Bishop was blamed for expressing his admiration of Dr. Arnold's character, but his opinion has been ratified by the whole world.

Much controversy was excited by his invitation to the famous Swedish singer Jenny Lind; and here again the people of Norwich now acknowledge that he was right.

In 1843, the famous Father Mathew, who had been the means of converting vast bodies of the Irish people to a state of comparative, if not of absolute temperance, proposed a visit to Norwich, which caused much excitement, from the circumstance that he was an Irish Roman Catholic priest. The Bishop entertained the simple-minded priest at the episcopal palace, and seconded his efforts in behalf of temperance on the platform.

In some other matters the kind-hearted Bishop was misunderstood and at the time blamed; but when his conscience told him he was doing right, he was not likely to be deterred by the thought of what people might say. Like the rest of mankind he was fallible, a truth which he was quite aware of, but for purity of motive and fearless honesty of purpose, for kindness of heart and genuine liberality of feeling, he was most remarkable.

It must be no small satisfaction to the Bishop's admirers that his memoirs have been written so graphically, and with so much loving filial reverence by his highly gifted son Canon Stanley, Regius Professor of Ecclesiastical History at Oxford.

As we read this very interesting memoir, we seem to have the venerable Bishop's very picture before our eyes. The frank open countenance, the quick bright eye, the elastic step, the hearty feeling, and the profusion of white hair which imparted to his appearance a solemnity beyond his years, are all portrayed most vividly, and to our eyes the portrait is most pleasing. The good Bishop died universally regretted, Sept. 1, 1849, aged 70, having completed 12 years of his Episcopate.

The above was scarcely committed to print when it was announced to the world that the Rev. Arthur Penrhyn Stanley, D.D., was promoted to the high post of Dean of Westminster; a post which has almost invariably been held, for many years past, by men of distinction and literary ability, and for which the present occupant is on all hands confessed to be eminently qualified. It is also a position which has this special advantage in the present case, that it will afford its possessor abundance of literary leisure.

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*Supplement to English Botany*, Nos. 77 and 78; being the 1st and 2d Numbers of the 5th Volume.

Fourteen years have elapsed since the completion of the 4th Volume of this valuable work. About 100 or 120 plants, mostly phænogamous, excluding the Brambles and Hawkweeds, which it is proposed some day to publish separately, and which one may be glad fairly to dispense with, still remain to be figured, and we hail with great satisfaction the appearance of two numbers of the new volume. Differing as we do from Professor Babington, who supplies the greater part of the descriptive matter, as to the limits of species, we are still glad to possess such good figures of the several forms of Ranunculus aquatilis, recognised as species indeed by various continental botanists, but regarded by most of our best British authorities from a very different point of view. To say the least, they are at any rate well-marked varieties, which can scarcely be asserted of most of the Rubi and Hieracia.

The volume just commenced, the 41st of the whole work, presents no new features, except the exclusion of the lower Cryptogams, and one principal object in noticing it is to apprise possessors of the former volumes of the commencement of the present, a fact which is certainly not generally known. Had the encouragement of the Supplement been at all equal to that of the original volumes, we should long since have had a very complete Flora, and we are anxious that no needless delay should occur from the backwardness of the supporters of the Supplement to declare themselves as subscribers.

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## Garden Memoranda.

Abbotsford.—This, once the favourite residence of Scotia's great poet, and now of Mr. Hope Scott, who is married to Sir Walter's granddaughter, is situated on an eminence on the south bank of the Tweed, about two miles west of Melrose.

The house is approached from the Melrose and Selkirk road by a carriage way about 200 yards long. On the south side is a sloping bank, which rises considerably higher than the house, and is planted with Oak, Beech, and Conifers, and so arranged as to leave space for planting underneath, where we found good shapely specimens of Portugal and common Laurels, Rhododendrons, and similar plants. The trees on this bank, it is said, were planted by Sir Walter's own hands. The Grass which covers the bank being kept neat and clean, serves to heighten the good effect produced by the trees and shrubs.

That portion of the mansion which forms the entrance has been added by the present proprietor. The approach formerly used by Sir Walter is now closed to vehicles; it is a square court yard with a wall on two sides, the house forming the third, and an iron fence of beautiful design—the pattern of which was taken from the cloisters of Melrose Abbey—completes the square. A number of curiously carved heads from the old Tolbooth of Edinburgh is inserted in the wall at intervals; these were scarcely visible a few years ago from their colour so much resembling that of the stone wall. To obviate this Mr. Dalgleish, the gardener, has covered the wall to the top with common Yew, and cut out circles round all the relics, setting them as it were in a green frame; the Yew is kept nicely trimmed, and although not more than 2 or 3 inches thick, clothes the wall perfectly with rich dark foliage. This is well worthy of imitation where blank walls have to be covered; the Yew looks neater than Ivy.

A large portion of this square is now converted into a flower garden. A round bed opposite the entrance to the house has for its centre the fountain of the Old Cross at Edinburgh; this was filled with Saponaria ocymoides, and the outside was partly covered with Tropæolum, so arranged that the curious old relic was prettily draped with wreaths of flowers. Here on the Grass is the grave of Sir Walter's favourite dog Maida, whose effigy is placed upon it, carved in stone. A large octagonal border on the right was filled with Humea elegans in the centre, and Calceolarias and Geraniums round the outside. A heart-shaped border on the left was filled with the pink Saponaria. These borders occupied about half the square, the remaining portion, an oblong square, is arranged in the following manner: a large circle occupies the centre, in which are cut out several geometric shaped beds on

the Grass. A gravel walk is taken round the circle and across the centre, leaving four corners of Grass, which are also covered with geometric-shaped flower-borders, the principal ones forming part of the circular arrangement, with corner beds to fill up the square. These have all been well filled this season with the usual summer flowering plants, and looked very neat and gay in contrast with the dark Yew which covered the wall. Beyond this is another small square enclosure, which once formed part of Sir Walter's kitchen garden, and is now converted into a lawn. On the south side of this garden is a Vinery containing the Vines planted by the poet, and consisting of Black Hamburgh, Grizzly Frontignan, and White Muscadine. A plant house attached to this was well filled with Fuchsias, Geraniums, &c.; the wall on the east side is covered with Cotoneaster microphylla, Ceanothus rigidus and papillosus, and the Russian Pyracantha. The wall on the north side is covered with Ivy; on the west is a series of flat arches filled in with iron work, similar to that before mentioned, with which it is in close proximity. At the corners of the walks are several large Irish Yews, which were also planted by Sir Walter, and are now 14 or 15 feet high; and in the centre of the Grass, in front of the Vinery, is a kneeling figure of old Morris, the gauger, praying for his life (as mentioned in Rob Roy), cut in stone by Greenshield. Close to the Vinery is a flower border filled with alternate bands of White and Red Candytuft and Mignonette, which at the time of our visit were in full beauty.

The kitchen garden is placed at the east side of this, and is a square about an acre in extent. It is well stocked with vegetables, and contains a number of pyramidal fruit trees, principally Pears. The walls are covered with Pears and Plums, and with Currants on the north side. The Peach trees were killed some years ago, and have not since been replanted. It seems pretty certain, from all we observed, that Peaches cannot be grown successfully upon open walls, even in the south of Scotland. This garden is on the side of the hill, inclining to the west, and at the top of the central walk is a very pretty Gothic conservatory, which can be seen from the front of the mansion, and is a pretty object at the end of the vista formed by the arches of the several enclosures; it is filled with flowering plants, and the roof is covered with creepers. This was built by Sir Walter, and was one of his favourite places of resort. Being placed on an eminence, it commands a beautiful view of the surrounding country. To the north-west is the valley of the Gala, and the small river which gives it the name, winds its circuitous route through it, and supplies Galashiels, a very flourishing manufacturing town, with water. So serpentine is its course, that the railway crosses it 21 times in three or four miles. Many of the tall chimneys can be seen from this spot. On the south-west all is covered with rich foliage, completely shutting out the distant view.

The north side of the house facing the river Tweed has been much altered since Sir Walter's time. The house was then embosomed in tall trees, these have been all cleared away, and a succession of terrace walks and grassy slopes substituted. On the upper terrace is a castellated round tower, peeping up through the gravel. This is called Sir Walter's Larder, and on the top, seats are arranged for the convenience of visitors. This larder is approached from the house by a subterranean passage. The level part of this terrace is 50 or 60 feet wide, followed by a sloping bank, 20 feet deep, which stands at about 1 to 1; it is thus steep from the rocky nature of the substratum. At the foot of this slope is a gravel walk running its whole length and ascending to the upper terrace in the eastern angle. This is succeeded by another grassy slope, about 15 feet deep, with a walk at the foot, running away amongst the large trees and gaining the upper terrace by a circuitous route at some little distance from the house.

A fine plant of Garrya elliptica covers the wall near the house to the height of 8 or 9 feet, with its dark green shining leaves, and numerous catkins, showing how suitable it is for such a place.

Taking away the large trees from this point is a great improvement, as it opens up a beautiful view of the country to the north, with the Tweed in the foreground, and moderately high hills clothed with trees in the distance; and it must have contributed not a little to the sanitary condition of the place.

The garden is everywhere extremely neat and clean, and reflects much credit on Mr. Dalgleish, the manager of this highly interesting place.

## Miscellaneous.

*New Perfumes.*—Azulene is the name given by Mr. Septimus Piesse to a new body discovered by him to exist in several essential oils. In a paper describing azulene, read before the Chemical Society, Nov. 5, the author stated that though this substance was first observed by him as a product derived from the fractional distillation of Otto of Patchouly, he has since found it to exist generally in essential oils, as an integral part of their proximate constitution, giving in fact the colour by which each oil is distinguished. Pure azulene has a beautiful blue colour, and it is owing to the presence of a small quantity of azulene that blue oil of Chamomile owes its azure tint, and hence the name given to the new body. It is now ascertained that brown green, yellow green, and green oils owe their colour to a portion of azulene, and a yellow resin varying in proportion as optically indicated. We believe, however, that Mr. Piesse does not view the general presence of azulene in essential oils, merely as a colouring matter; he thinks it must play some other part in connexion with odorous bodies which Mr. Piesse will doubtless endeavour to ascertain in his future experiments.

## Calendar of Operations.

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—See that flowering Chrysanthemums have the lightest place in the house. Let plants of Eranthemum pulchellum coming into blossom have abundance of water and a warm situation. Take care that pots in the conservatory forcing pit are not plunged deep, if there is a lively bottom-heat; in the neighbourhood of the roots it should by no means exceed 75°. Indeed, if atmospheric heat of 60° or 65° can be secured by other means, a bottom-heat of 70° would suffice.

### FORCING DEPARTMENT.

PINERY.—Atmospheric moisture must not be withheld from Pines in a swelling state, although we have arrived at the dark days. Nothing has a greater tendency to premature ripening. Give little or no air at this season, except under the pipes. There should, however, be slight ventilation of this kind all day, and sometimes all night if the weather is mild.

VINERY.—Where the roots of Vines started are inside, either wholly or partially, they should be thoroughly watered, if rather dry, with liquid manure, at a temperature of 75° or 80°; this will impart nutrition and warmth. An ounce of best guano to a gallon of warm water (allowed to settle), will be found serviceable. If the soil is exceedingly dry, the application of clear water should precede that of the liquid manure, or the latter will be wasted by running off in the fissures. As previously observed, proceed moderately; the first three weeks in such matters should hardly be considered forcing—merely softening the scales of the bud.

MUSHROOM HOUSE.—Be moderate in the use of fire-heat. If the beds have been made in due time, and on substantial principles, little fire-heat will be wanted.

PEACH HOUSE.—While the weather is open and favourable, continue to expose the trees as much as possible; the sashes need not be drawn up at night unless it is frosty or windy.

FIG HOUSE.—Give air constantly during mild weather, but should frost occur, do not let the trees be exposed to it.

CUCUMBERS.—Follow strictly the directions previously given as to water, stopping, temperature, &c. Plants in pots will, of course, require water oftener than those growing in large masses of mould, such as those contained in the inside of pits filled with soil in the usual way. As to varieties, none are better for winter work than Cuthill's Black and White-spined kinds, both of which are very hardy and abundant bearers.

### FLOWER GARDEN AND SHRUBBERIES.

Once more look over tender stock, and add any protection necessary according to principles heretofore laid down. Remember that fresh sawdust, ashes, dry Fern, or Cocoa-nut fibre refuse are excellent protectors to the crown and collar of tender plants. The last named material should however, be kept dry if possible. It will be advisable to keep all Carnations or Pinks which may have been potted during the past month from the action of frost should it occur, as they are unable to withstand it so well as those which have established themselves by being potted earlier in the season; they should not, however, be shut down when damp, for though extremely hardy, no flower suffers more from want of a circulation of air, than the Carnation. Examine the plants often, and fasten the soil if loose carefully round the stems. They want very little water at this season of the year. Tulip beds will now be ready for covering. It is a good plan to lay young shoots of Gorse between the rows of Pinks where rabbits are apt to come, and it will prevent cats from taking liberties with the beds, independent of protecting the plants from the cutting winds of the winter months. Look well to the turning of compost heaps, &c. Modes of storing half hardy plants away differ in different situations; some can afford pits, some even can spare house-room, and some are driven to the cellar. Whatever mode be adopted, let it be borne in mind, that confined damp is nearly as prejudicial as frost.

### HARDY FRUIT AND KITCHEN GARDEN.

Winterly weather may now every day be expected. Lettuces therefore intended for the supply next spring must have attention. Some do not object to their being subjected to a little frost. A very light screen of straw, they say, should be shaken over them at first, and when this is frozen, add a little more; the object being to keep them frozen as long as possible. Above all, do not uncover them when a thaw arrives, but let them remain until completely thawed. An opportunity will now occur of covering the roots of Asparagus with a good coat of the best rotten manure. Hard frosts frequently do serious injury to this root, for want of such a procedure. Celery ground will answer well for a new plantation; it should be ridged to mellow as the roots are taken up. At this period, those who are desirous of laying the foundation for a good garden in the ensuing year should closely review the routine of cropping for the past summer, and even cast their eye back on that of the preceding year. Various are the schemes or rotations practised by different gardeners, many of them being based on no better foundation than the convenience of the present hour; where, however, the kitchen garden is sufficiently extensive, and where much produce is required, the rotation of crops should be carefully studied. The great difficulty is to procure fresh ground for the Cabbage tribes, so numerous are the kinds, as well as successions in cultivation. Broken up plantations of Strawberries, Raspberries, and bush-fruit, with Celery ground, should at all times, as a leading principle, be set apart for some of the Brassica family. Potatos prepare well for almost any crop. Deep or tap-rooted crops should be succeeded by shallow or fibrous ones. When the course of cropping has been decided on for the ensuing year, and duly entered with numbers in the garden book, the usual practice is to set up laths opposite to the space appropriated to each crop, with a number corresponding with that in the book, and the name of the crop on one side; and on the other the manure (if any), and mode of cultivation. This done, a labourer who can read the label can set out or proceed with the work at any spare time. This, therefore, is a matter which should receive attention.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Nov. 18, 1863, as observed at the Horticultural Garden

| Nov. | Moon's Age. | Barometer. | | Temperature. | | | | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Of the Air. | | | Of the Earth | | | |
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 12 | 1 | 30.074 | 29.718 | 49 | 20 | 34.5 | | | N.E. | .00 |
| Friday 13 | 2 | 30.220 | 30.187 | 54 | 40 | 47.0 | 46 | 49 | S.W. | .00 |
| Satur. 14 | 3 | 30.225 | 30.181 | 52 | 39 | 46.0 | 47 | 48½ | W. | .00 |
| Sunday 15 | 4 | 30.204 | 30.153 | 56 | 44 | 50.0 | 49 | 49 | W. | .00 |
| Mon. 16 | 5 | 30.154 | 30.121 | 56 | 47 | 51.5 | 49 | 49½ | S.W. | .01 |
| Tues. 17 | 6 | 30.100 | 30.081 | 57 | 45 | 51.0 | 50 | 50 | S.W. | .00 |
| Wed. 18 | ☽ | 30.200 | 30.181 | 55 | 38 | 46.5 | 50 | 50 | S. | .00 |
| Average. | | 30.182 | 30.051 | 54.1 | 39 | 46.6 | 47.3 | 42.1 | | .01 |

Nov. 12—Clear and frosty; very fine; clear; sharp frost.
— 13—Light clouds; overcast; mild at night.
— 14—Overcast; cloudy; fine; overcast.
— 15—Overcast; fine; cloudy; fine at night.
— 16—Overcast; densely overcast; slight rain; fine.
— 17—Overcast throughout.
— 18—Fine; overcast; cloudy; fine at night.
Mean temperature of the week 5¼ deg. above the average.

STATE OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Nov. 28, 1863.

| November. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 22.. | 48.8 | 34.1 | 41.4 | 20 | 0.80 in. | 3 | 1 | 6 | 3 | 4 | 7 | 8 | 2 |
| Mon. 23.. | 47.0 | 34.0 | 40.0 | 15 | 0.36 | 1 | 6 | 3 | 2 | 5 | 11 | 6 | 3 |
| Tues. 24.. | 47.1 | 32.1 | 39.6 | 11 | 0.61 | 5 | 8 | 3 | 2 | 4 | 8 | 2 | 5 |
| Wed. 25.. | 45.9 | 33.4 | 39.6 | 19 | 0.34 | 3 | 4 | 6 | 3 | 7 | 8 | 3 | 3 |
| Thurs. 26.. | 47.0 | 33.0 | 40.0 | 19 | 0.70 | 2 | 6 | 6 | 1 | 4 | 13 | 1 | 4 |
| Friday 27.. | 46.8 | 34.3 | 40.1 | 17 | 0.88 | 1 | 5 | 5 | 1 | 6 | 9 | 6 | 4 |
| Satur. 28.. | 48.0 | 35.3 | 41.7 | 18 | 1.21 | 2 | 4 | 3 | 2 | 8 | 7 | 7 | 4 |

The highest temperature during the above period occurred on the 28th, 1828—therm. 60 deg.; and the lowest on the 23d, 1858—therm. 9 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

BOOKS: *B S.* Consult the article "Sea-side Planting," in Morton's Cyclopædia of Agriculture.—*Rusticus.* Loudon's Encyclopædia of Gardening, and M'Intosh's Book of the Garden are full of plans of gardens.

CAPER PLANT: *X* asks if any correspondent can tell him how to manage this so as to get it to grow freely. He has had plants for some years, but cannot coax them to make anything like satisfactory progress.

FOLIAGE PLANTS: *E S.* The plants with large leaves which you saw so extensively grown about Paris, were no doubt the Ferdinandas, Wigandias, Cannas, Caladiums, &c., which were to have been seen last summer in the sub-tropical garden in Battersea Park.

FUCHSIA: *Devonian.* Of no value whatever as a florists' flower. As it seems very free it may prove a showy decorative sort, but of this we cannot judge from such materials.

GYNERIUM: *G H.* The red Gynerium is probably the male of G. argenteum. At any rate it is antheriferous.

HOPS.—Would some practical friend be good enough to give us the name of the BEST recent work on the literature of Hops? He would much oblige us, and others.

NAMES OF FRUITS: *T F.* 2, Easter Beurré; 3, 4, Crassane; 6, 10, 16, Winter Nelis; 9, Louise Bonne; 12, Beurré Rance. ||

NAMES OF PLANTS: *Jim Crow.* A flesh-coloured Tea Rose, but that is all we can say from a solitary bud.—*Bromus.* 1, Panicum colonum; 2, Melica ciliata; 3, Triticum venulosum; 4, Erianthus Ravennæ.—*Manchester.* 1, Medicago tornata; 2, M. intertexta; 3, M. tentaculata; 4, M. scutellata.—*Cantab.* No doubt Bupleurum canescens as you suppose, and Nyssa capitata.—*E H, Norwich.* The bodies taken from the crop of a pheasant are not seeds, but are the lenticular cases of some fungus belonging to the genus Nidularia (*alias* Cyathus). These cases contain the microscopical sporules. There is a figure of one species in *Greville's Cryptogamic Flora*, t. 34. Possibly they are to a pheasant what Truffles are to an epicure. We also found a solitary seed of some Strawberry.—*F C.* Some Bolbophyllum, very near reptans, possibly new. Whence comes it?—*Biddenham.* Tagetes tenuifolia.

OBITUARIES. *R P.* The maxim "de mortuis *nil* nisi bonum" is excellent; and as we have nothing "bonum" to record respecting the deceased we are silent.

TRUFFLES: *Barr & Sugden.* We know not how the notion has arisen that Truffles have of late been cultivated successfully. We should be rejoiced ourselves to have information on this point. *M J B.*

MISC.: *S W H.* Pray forgive us. Your note has been lost or mislaid during our late illness. Would you have the kindness to repeat the question, which we have quite forgotten.—*Anon.* The statement in Lady's Botany is correct. The Rose of Jericho is a cruciferous plant.

"HOW OUR WHEAT CROPS MAY BE DOUBLED," and other papers, forwarded on application, enclosing six stamps.

"Z" Family, now offered for the First Time.

HALLETT'S PEDIGREE (TRADE MARK.) NURSERY WHEAT.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

PRICE—One Guinea a Bushel (or Seven Guineas a Quarter), delivered, with printed directions for planting, at the Brighton Railway Station, in bags sewed up and sealed, upon receipt of Cheque or Post Office Order, which must in all cases accompany the order.

*In November Drill One Bushel per acre.*

THE PRODUCE OF THREE ACRES OF THIS WHEAT, GROWN 1862 IN ESSEX, WAS SOLD TO THE MILLER, AND REALIZED £19 7s. PER ACRE.

THIS WHEAT PRODUCED IN 1863 NEARLY 10 QUARTERS PER ACRE, WEIGHING 63 lbs. PER BUSHEL.

*For full description of "Z family," see Advertisements in our Numbers for September and October 1863.*

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**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

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WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY on all Descriptions of Property, whether Freehold, Entailed, Mortgaged, Trust, Ecclesiastical, Corporate, or Collegiate.

Repayment may be made by the Landowner as successive portions of the works are completed; or the actual expenditure, with a commission thereon, may be charged on the property improved, by way of rent charge on the estate created for various terms of years, so as to adapt the rate per cent. of annual charge to the circumstances of the tenants.

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Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S.W.

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THE LANDS IMPROVEMENT COMPANY.
Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
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3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

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**Lincolnshire Farming.**

MR. JOHN ALGERNON CLARKE, of Long Sutton, Lincolnshire, has a VACANCY for an AGRICULTURAL PUPIL. The business includes Arable Husbandry and Grazing, with the Breeding of Short-horns and Long-wool Rams.

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ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.
AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Hon. WILLIAM BATHURST.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

*Resident Professors.*

PRACTICAL AGRICULTURE.

J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 15 Lectures on Agricultural Machines and Farm Buildings.

CHEMISTRY.

ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.
R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Sc.

VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.
W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on South-down and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.
Mr. ELLMAN will Lecture on "Southdown and Short-woolled Sheep," on Friday, Nov. 27, at 10 A.M.

For further particulars apply to the PRINCIPAL.

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MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E.C.

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**Drainage of Land.**

MR. C. F. HUMBERT, F.G.S., of Watford, Herts, and formerly Senior Surveyor to the Tithe Commission, a Land Surveyor and Land Agent, more than 20 years established in practice, undertakes works of Drainage either at a contract price, or to lay out and overlook the same at a commission of 5s. per acre; and he has at his command a staff of experienced workmen. His custom is to charge merely the expenses out of pocket in making the preliminary Survey and Estimate where the works are not carried out.

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THE LANDOWNERS' WEST of ENGLAND and SOUTH WALES LAND DRAINAGE and INCLOSURE COMPANY. Established in the year 1844, and Incorporated by Special Act of Parliament, 11 & 12 Vict., Cap. cxlii.

*Chairman*—The Right Hon. the EARL of DEVON, Powderham Castle.

*Deputy Chairman*—WILLIAM PORTER, Esq., Hembury Fort, near Honiton.

Landowners having limited interests, such as Tenants for Life, Tenants in Tail, Mortgagors, and others, can Drain and improve their Lands without any expense to themselves personally,—as the Company's Act does not require Proprietors to liquidate the cost, the amount may remain permanently charged on the property, at interest, or be paid off when convenient, or be made redeemable over any term of years.

The works are undertaken by the Company, who keep in constant employ a very extensive and experienced staff of Engineers, Surveyors, and workmen; or Proprietors may avail themselves of the powers of the Act only, and get the works executed under their own superintendence, or by Agents appointed by themselves.

Outfalls through adjoining lands are obtainable under the Company's Act.

Works are also executed by the Company for Parties advancing their own capital, or not wishing to borrow the money.

Every information may be obtained on application to

FREDERICK BRODIE, Secretary,
Castle Street, Exeter.

Offices: Castle Street, Exeter; and
30, Parliament Street, Westminster.

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THE NATIONAL EXHIBITION of DOGS.—The FOURTH GREAT ANNUAL EXHIBITION of SPORTING and other DOGS will be held in Paradise Street (near Bingley Hall), BIRMINGHAM, on MONDAY, TUESDAY, WEDNESDAY and THURSDAY, November 30, and December 1, 2, and 3 (the week of the CATTLE and POULTRY SHOW). For SPECIAL RAILWAY ARRANGEMENTS, see the Advertisements and Bills of the Companies.

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BINGLEY HALL, BIRMINGHAM.—The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3.

For Special Railway Arrangements, see the advertisements and bills of the Companies.

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BIRMINGHAM CATTLE SHOW. — Exhibitors and the Public will be ADMITTED to Bingley Hall to Witness the JUDGING of the CATTLE, SHEEP, PIGS, ROOTS, and CORN (but not the Poultry), on SATURDAY NEXT, November 28, at 9 o'clock, A.M., upon payment of 10s. each.

J. B. LYTHALL, Secretary.

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SMITHFIELD CLUB CATTLE SHOW, at the AGRICULTURAL HALL.

PRIVATE VIEW, MONDAY, December 7, after 2 P.M. Admission 5s.; December 8, 9, 10, and 11, Admission 1s.

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# The Agricultural Gazette.

*SATURDAY, NOVEMBER* 21, 1863.

MEETING FOR THE ENSUING WEEK.

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| SATURDAY, Nov. 28 | Exhibition of Poultry and Fat Stock at Bingley Hall, Birmingham—opens this day for the award of prizes. Admittance, 10s. |

A RECENT discussion on the profitableness of pig feeding is reported in another column. No very definite conclusion on the point seems to have been arrived at. The question—Does pig feeding pay?—is however answered definitely enough by the permanence and magnitude of the bacon manufacture. Establishments which have for many years each sent several millions of pounds of bacon annually into the market would long ago have failed if pig feeding did not answer. The 300 to 500 fat hogs weekly which such establishments convert would not be forthcoming week after week, and year after year, if their feeding did not pay.

In one instance known to us some 15,000 hogs per annum, averaging 10 score lbs. apiece (carcase weight), are killed, and upwards of 2,000,000 lbs. of bacon are annually sold. The greater number come from Ireland, but the Gloucestershire dairy districts yield a constant and considerable share of the annual supply; and whether in Ireland or in Gloucestershire, the feeding if unprofitable would undoubtedly have ceased.

Leaving, however, this preliminary question settled in this way, let us describe one of these great bacon manufactories, whose continuance gives the answer which the Croydon Farmers' Club could not with any confidence pronounce from their own experience. The management of a great market is often of as much agricultural interest as the process which supplies it, and such an establishment offers a market of this kind.

At Newmarket, near Nailsworth, Gloucestershire, Messrs. HILLIER & SON have for many years killed and converted into bacon some 16,000 fat pigs annually. These are curiously near 10 score pounds apiece as the average carcase weight.

Two-thirds of them are from Ireland—the great majority are more or less of the ordinary Berkshire type. The great scale of the manufacture is indicated by such figures as 120 tons of salt and 8 tons of saltpetre purchased annually, 30 cwt. of sausages sold weekly, and 300 to 350 hogs purchased every week. A ten-score pig makes about 144 lbs. of bacon, the remainder of the weight goes under various designations, either fresh or manufactured, to agents in almost every English town within 12 hours of a railway journey. Thus, as hocks, faces, "eyes," tongues, fry, backs, blades, bits, "meat," "leaf," chitts, sausages, saveloys, and BACON—the whole of the weight paid for to the feeder is sold to the consumer. Besides, however, these sales there is a considerable quantity of refuse material which, till lately, has been wasted. Blood is indeed sold for manure at about 24*s.* per ton, and various other refuse matters have found their way into the dung-pit. But an attempt likely to be successful has been lately made to turn them to account in the feeding of ducks. Several hundreds of young birds, fully grown however, and purchased at 15*d.* to 16*d.* apiece, have been imported from Ireland, and they are fed on "smut dust," as it is called, grains, and this refuse meat. It is found that 500 ducks will eat about 30 cwt. a week, consisting of 1 ton of grains, 8 or 9 cwt. of the mill dust, and about 2 cwt. of the offal meat. The chief produce hitherto has been the birds' dung. The weekly produce of this kind from 500 birds weighs about 20 cwt., and this is worth from 40*s.* to 50*s.* Farmers in the neighbourhood have contracted to purchase at this price, and manure manufacturers offer an even higher price.

The actual work of the bacon manufactory may be very easily and shortly described. The pigs are driven into pens close by the slaughter-house for a day before being killed. A chain, running over a pulley in the ceiling, is worked rapidly by a windlass, and, being furnished with a hook at the end, is used to lay hold of them individually by the hind leg as they press against the door separating the two houses. The animal is thus dragged quickly backwards and hangs suspended by one leg.

In that position it is stuck, and the hook, an S, which holds it, is detached from the chain, and is suspended on a bar—a sort of suspended single railway line which traverses the ceiling. It is pushed a yard or two forwards on this line while another pig is drawn out, "stuck," and also pushed along. There is very little noise. In this way four or five may be hanging close together before the first is dead. It has by this time been pushed 6 or 7 yards along the line. There, a jacket of flame is ready to receive it and scorch the hair and outer cuticle in preparation for the scraping and cleaning which it immediately receives.

An iron jacket or saddle, some 3 feet square, furnished on its inner surface with some dozens of large gas burners, through which atmospheric air is also driven by the steam engine outside, is accurately counterpoised, so as to be easily under the management of one man, and is made to play with all its flame on the back, legs, and belly of the hanging pig which is under the management of another man. When the two have scorched sufficiently the surface of the carcase, it is slid along the line a yard or two, and the second is taken in hand. The first falls into the hands of another man armed with a much smaller handful of flame, which he directs upon all the ends and corners which have not yet been scorched. The hoofs are torn off, and the carcase is then slid along the line and shunted—for this hanging railway of a single line is provided with arrangements enabling this—on to one or other of a series of parallel lines hanging from the ceiling of a wider and more open house, where the cutting open is performed. The killing goes on until some 150 perhaps are slaughtered and scorched and hanging on these ceiling lines. The men then scrape them and wash them, water being provided from hose under pressure for the purpose; and the opening proceeds. We need not describe this in detail, nor the cutting up which takes place on the following day. It must suffice to say that every part of the animal is turned to account. The lard is sold in bladders and casks, the sausages prepared on the premises are sold by the cwt. to dealers, the pork is despatched to the nearest railway station for long journeys, and to all the villages around. The hams, and hocks, and faces, are pickled and dried upon the premises. The sides are wheeled into a long cellar, and there laid on the stone floor and sprinkled with saltpetre, and covered with salt, which is rubbed into them. They lie there for a few days, salted every morning, and are then piled five or ten together, to make room for others.

After a fortnight or thereabouts they are packed and sold in London and elsewhere to those whose trade it is to dry and cure them further. Those intended for home consumption are hung in a smoke kiln, and dried before sale. But much the greater proportion is sold "green" as it is termed.

Besides being great manufacturers, Messrs. HILLIER have been great feeders of bacon, and whenever prices suggest it they buy large numbers of swine in an "unripe" state, to finish before slaughter. It is found that pigs weighing 5 or 6 score apiece will fatten up to 10 score, the ordinary weight, on 56 lbs. of meal a week. During the process Peas and Barley mixed are the best food; Indian Corn with Barley tends to make the bacon soft; Bean-meal makes it strong; Lentils are the most forcing food, but they tend to make the bacon oily. It is the experience here that pig feeding pays only on certain occasions when prices suit, but Messrs. HILLIER are not in the position of the farmer, who has a quantity of offal food for which he can find no market, except such as pig feeding offers—the dairy farmer for example, who thus makes 30*s.* per cow of his whey—or the ordinary arable farmer, whose tailing corn and much green food in addition, thus finds the most profitable conversion.

The large experience on wholly purchased food—meal alone—in which Messrs. HILLIER occasionally indulge, is after all the most interesting part of their business to the farmer, who however shares to some extent in every improvement and economy in the subsequent manufacture of the bacon after he has sold it. Probably the largest experience of this kind of which any one man can boast, has been witnessed during the past year at Buscott near Faringdon, where pigs have been bought by the hundred, and their food by the ship-load. We should be very glad to state for the benefit of our readers, the profit or loss account of the 800 fatting pigs which we there saw feeding on Mangels and meal in the spring of this year.

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THE subject of foul and infected cattle trucks, to which we referred last week, receives a striking illustration in the following communication just received:—

In taking possession of my farm in Dorsetshire I was particularly desirous to start with a good flock of breeding ewes, and finding it impossible to personally attend different fairs, I sought the assistance of a friend upon whose judgment I could rely. In a few days, and within a short time of each other, I received two lots of promising ewes—Hampshire Downs—one from Dinton and the other from Devizes. These animals arrived all well (certainly they were not lame). In two or three days, however, there were symptoms of lameness in a few, which seemed rapidly to spread until *many* became involved in the attack, and the few became worse.

Further, a ram which I borrowed from a neighbour whose flock is not at all affected, and two rams sent afterwards by my friend, immediately took the "foot rot."

These facts show that my flock is affected by a malady, the contagion of which spreads in the most rapid manner. It therefore becomes a matter not only of interest to myself but of importance to the public to inquire into the circumstances by which so contagious a disease may have reached me, and may indeed be at this moment in the process of dissemination throughout the land. Having written to my friend respecting the sheep, I do not hesitate to copy the following remarks from his letter, as they may tend to aid us in the solution of the case.

"I am exceedingly vexed to find that the sheep have fallen lame, but every inquiry I have made respecting the health and condition of the flocks I had them from has been answered satisfactorily, and I know their breeders to be good men, and the neighbourhood to be free from epidemic, which is not the case, I am sorry to say, in some other breeding districts, as you may see from the following account of Winchester fair:—

"WINCHESTER SHEEP FAIR.—An unusually short supply. An average is computed to be 30,000; but on this occasion there were barely 20,000—a full third deficient—in a great measure to be attributed to the sudden outbreak of epidemic lameness, which during the last fortnight has presented itself in an alarming form throughout the southern and south-western parts of the county. Many pens taken a few days since found no occupants, the sheep being unable to hobble off the farm they are feeding on. Notwithstanding the very short supply, the trade was dull and dragging during the early part of the day, but ultimately the business became quicker, and the whole were disposed of in about two hours, at prices varying but little from the late Weyhill Fair. The following were the general prices—Ewes 35*s.* to 45*s.*; extra lots, 48*s.* to 50*s.*; lambs, 25*s.* to 39*s.*; extra, 40*s.* to 44*s.*; wethers, 40*s.* to 52*s.* each."

"They tell me it made its appearance at once, without the least previous indication; but I find that with care it is soon got over, and trust it may be your case.

"Could they have caught it from standing in the railway truck? I was so anxious to get the 180 ewes to you on the day I bought them that I left the fair, being unable to hire a man so early, and helped drive them to the station, and found every ewe upright; the trucks we found in a filthy state, but I had them cleaned out before we filled them, but the sheep were in as soon as the muck was out, as the train was just ready to take them."

Now the inquiry of my friend—"Could they have caught it in the railway truck?" is of a very serious nature, and as it would seem that on the farm this disease is communicable to sound animals from treading on the same ground as the infected ones, it is, to say the least, presumptive evidence that it may be disseminated far and wide by means of dirty trucks.

It follows, then, that as every precaution to check so sad a malady should not be overlooked, that of a constant cleaning of railway trucks used in the conveyance of cattle should not be overlooked. Indeed, not only should trucks be constantly washed, but the employment of some such disinfectants as chloride of lime might easily and inexpensively be had recourse to; and the interests of the public, no less than of the farmer himself, demand that something of the kind should be done.

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## INJURY AND WASTE OF CORN FROM THICK SEEDING.

[The following lecture was given last week by Mr. Hewitt Davis at the Royal Agricultural College.]

THE subject selected for my lecture is the Injury and Waste of Corn from the present practice of too thickly sowing; and I hope to gain your attention by showing you that in seeding we should be careful not to create more plants at first than the space allowed will leave room at last to grow to maturity, and that the right proportioning of corn seed must ever form part of good husbandry.

As I shall propose to farmers a very considerable reduction in the quantities of their seed corn from what they have been accustomed to sow, and as they, very wisely, are more ready to follow an example attended with success than to take lessons on trust, I will premise by saying, that I was for many years a large farmer, and have long and successfully practised the thinner seeding that I am about to recommend to you. You will observe that I speak of the injury and waste of corn from too thickly sowing as of two distinct evils arising from sowing too much seed, namely, the injury and the waste.

Although my advice to sow less comes strongly recommended by the saving of seed which is obtainable, if I show that the sowing of 1 bushel answers the purpose of the two hitherto sown, I will at once tell you that this is not the gain that I ever had in view in recommending thinner seeding, and were the advantage from sowing thinner confined to the economy of seed, I should have little to say on the subject, although the loss in this respect is considerable, and should not be neglected. It is to the injury to the growth of the plants by sowing too much seed that I wish particularly to call your attention, and all I need say to you on the subject of waste of seed is that I have found by my practice above a bushel an acre, taking all grain sown, is used more than is advantageous, and as something like 8 millions of acres are yearly sown with corn in the United Kingdom, it follows that above a million quarters of corn are thus annually wasted, and British farmers sustain a loss of something like a million and a half pounds per annum in their waste of seed.

The small returns the farmers gain for the seed they sow, and the large proportion of their grain that is wanted back for seed, is very remarkable, when we take the natural fecundity of corn into account.

Let us take Wheat for example, and I will confine my observations to this grain in all I have to say to-day, seeing that my doing so will simplify my subject, although all I say on the excess of seed in Wheat will be seen to equally apply to all other grain. The ordinary practice in sowing Wheat is to put on from 1½ to 3 bushels an acre (and I recollect the time when the late Lords Leicester, Western, and other high agricultural authorities of their day, recommended as much as 4 bushels and more, on the grounds that to reap a full crop you must sow enough, never considering the evil from sowing too much), and the return reaped certainly never averaged 32 bushels, so that we do not gain 16 fold for all we sow, and much less was gained in days of thicker seeding; and of all we grow a 16th is wanted back for seed, and yet this small return is made from grain which will return thousands fold when space is given to it to develope its extraordinary natural fecundity. Many instances have been given of a grain of Wheat planted singly having given 3000 grains and upwards at harvest, and every farmer knows the wonderful power of branching and tillering out that all corn possesses, where room is afforded for making its natural growth—a single plant of Wheat where room is given it, under favourable circumstances will throw up 40 or 50 stems, on each of which at harvest will be found an ear yielding 50 to 70 grains, and surely this should be enough to prove that it cannot be right to sow so much even as one bushel an acre with a view to grow the largest crop that possibly can be grown. I may prove this further by saying that an ordinary ear from ordinary sowing yields on an average 36 grains, and allowing each grain sown to produce only one ear, and that one ear only to give 36 grains, it would follow that the yield from 1 bushel of seed sown on one acre, should at least be 4½ quarters—that is to say, 36 fold of the seed sown. I may be told that no allowance is here made for loss

from bad seed, destruction by birds, insects, and the many ills that the seed and young plants are exposed to; but surely this is to be found in the bountiful provision there is in store from the tillering of what is left, and the larger size which fully-developed ears attain wherever the plant has room given it to grow out, and when we see this it follows that sowing more than a bushel of Wheat an acre must at first generate more plants than can possibly find space to grow to harvest, and, this being so, let me ask you to reflect on what must be the state of the growing crop when the time arrives that the young swelling plants press upon each other, and find no room to grow larger—a period in the age of the young crop usually reached in April, when observation will show you a sickly stage in thickly sown corn arises from the over-crowding that thinner seeding is free from. It was the change I saw come over very thick sown corn in spring, and the unhealthy hue plants always take where seed had been spilt, that first attracted my attention to the mischief from over-seeding, and I saw the same mischief in the corn that I had seen in plantations, where over-crowding in planting, unless afterwards mended by sufficient thinnings, is sure to bring a stage of disease destructive to many of the young trees and injurious to all; and a period comes when from want of room part die and part dwindle on, so that at last no more trees will remain than the space afforded ample room to grow, and these will be seen to have suffered in the fight for existence they have gone through, and never to have attained the growth they would have attained had they had room given them to grow out from the first.

Among the many lessons I have had of the advantage from reducing my amount of seed, and apportioning it to the space left for it in its after-growth, I may mention the following, which was well-known at the time:—

In the autumn of 1840 I had an 8-acre field to sow with Wheat, and 7 bushels of seed were prepared and given to the drill-man to sow it, but owing to his putting on the wrong wheel, he found that when he had gone half over the field he had not sown half the ground, and to correct this error and get rid of the remainder of the seed, he then altered the drill and sowed the rest of the seed upon the remaining portion of the land, and in this way one half of the field was sown with 2 pecks to the acre, and the other half with 5 pecks. I was not informed of what had been done, and therefore was ignorant of the example I was preparing to show the results of the thick and thin sowing, but in the winter I soon found part of the field looking very thin, so much so that at one time I thought of ploughing it up—but in the spring it rapidly mended, and when the crop was reaped at harvest, I found the crop of the thin sown side was the better half of the field; and then was first told of the mistake made in drilling it.

A frequent visitor to my farm, and a convert to thin seeding, for he had watched my practice for many years, sent me Arthur Young's Tour, drawing my attention to the fact that when that great agricultural observer inspected the farming of England, for the purpose of writing his reports, 92 years ago, he much to his surprise found that the largest crops he met with were the produce of the smallest quantities of seed; and in his summary he thus speaks, alluding to the crops raised from different proportions of seed:—

(Extract from "The Farmer's Tour through the East of England." By Arthur Young, 1771, vol. iv., p. 247.)

| | | Crop. |
|---|---|---|
| "From | 2 bushels .. .. .. .. | 24 bush. |
| " | 2¼ and 2½ ditto .. .. .. | 23 " |
| " | 2¾ and 3 ditto .. .. .. | 22 " |
| " | 3¼ and 3½ ditto .. .. .. | 21 " |

"A more unbroken degradation could not have happened; and though there is not a proof that the cause is the quantity of seed, yet there is much reason to suppose small portions a part of good husbandry, and attendant on rich soils. When the land is rich and the husbandry good, it is evidently proved that 2 bushels of Wheat seed are preferable to any larger quantity, and of course that there is a great waste when more is used." This being so, is it not a pity that Arthur Young met with no instances where less than 2 bushels of seed were used; he wrote this in the days of broadcast sowing, when 2 bushels were thin sowing, comparatively as much so as one appears to be at the present day. But the subject of sowing less seed is not by any means a new one for discussion—it has always been seen to be deserving of attention, as the following extracts from a book of farming written in the year 1732, or 131 years ago, will show you; it shows that so long ago, and by reference to a still older work, written a hundred years before, that the waste of seed had been felt, but the want of good drills and horse hoes kept back the progress of thin seeding.

(From the "Practical Husbandman.")

"B——, Essex, July 12, 1732.

"Mr. Switzer,—In answer to yours concerning the planting or setting of corn with proper instruments, and for the reducing a kind of vineyard culture into our fields, I acquaint you that I have made diligent search amongst ancient authors, but cannot find anything that seems to point that way, although it must be acknowledged to be a very pleasant, useful, advantageous method in all well cultivated soils, and in those years especially when corn and Grass seeds of all kinds are dear, provided there could be such instruments found out which would be regular and punctual in their delivery of the seed at equal distances, being fully convinced that the sowing of grain at random and so thick, as it used to be (whatever it is in Grass), is yet in bread and other corn a very bad practice. But however unsuccessful my endeavours have been in finding out this practice amongst the ancients, I have had better luck in the perusal of some modern tracts in agriculture, an account of which I shall give you in the detail of this letter. Gabriel Platt (an honest well-meaning writer, about the time that anarchy took place in England) seems to be one of the first who fell into this way of thinking, and the calculations which he made thereon he communicated to Mr. Hartlibb, the ingenious author of the 'Brabant Husbandry,' near one hundred years ago, and which were since printed in one of the parts of Hartlibb's works, now out of print: the substance of which is as follows:—400 grains of Wheat (says Platt) weigh three quarters of an ounce, which is about 533 grains to an ounce; and so 160 perches, which is an acre, must have 480 ounces, that is 30 lbs., which is in measure half a bushel and two pints of it to an acre. If this half bushel (continues Platt) be set upon an acre of good ground, though it increase but as a hundred to one, which is often allowed, then there will be 11 quarters on that acre on which that half bushel was sowed; it appeareth clear that there is 80 lbs. in 200 lbs. saved in seed Corn by setting with instruments more than there is by the common way, *i. e.*, random or broadcast. The said Gabriel Platt also offers to make it appear that this way shall yield a full third-part of increase more than by the common way, which said third part will (as he thinks) pay all charges whatsoever, both as to rent and other incidents."

Again I quote from the same book. "Seedsmen generally allow 2 bushels, or 2½ bushels of Wheat on an acre, according to the rankness or poverty of the ground. This, we say, is the general method of sowing, and the allowance of seed Wheat to an acre of ground, if sown by broadcast, and allowance is made for what lies above ground and is picked up by pigeons and birds; but if the farmer would drill in his Wheat by a plough made for that purpose, 1 bushel will be sufficient, it being a truth (even beyond peradventure) that Wheat is generally, especially on good land sown too thick, of which there was a remarkable instance happened some years ago at Farringdon, in Berkshire, where a farmer's corn had the misfortune (as he thought) to miss, on which he had ploughed it up, had not a neighbouring gentleman dissuaded him from it, and though it appeared to him as if half his corn was lost, yet at harvest he found a much finer crop than he had ever had on that spot before. And this thin sowing would be especially useful when seed Wheat is dear, which it often is, a bushel and a half of Wheat in dear times amounting to 10*s.* or 12*s.*"

I had long taken credit for having originated the practice of such very thin seeding as I had adopted when the work of Jethro Tull came into my hands, and I found thin sowing had been recommended, and was successfully practised by an agriculturist who died ere my grandfather was born.

That "there is nothing new under the sun" has come home to me, by my finding that my thin seeding, wide drilling, horse-hoeings, and minor estimation of manure against good cultivation, are recommended in the strongest manner in a work written 150 years ago, and those who have read Jethro Tull's work will hardly believe that I can have trod so directly in his path without being conscious I was doing so; and it is with a view to encourage others in what I, by experience, have found to be a right and profitable course, that I bring Jethro Tull's work again into notice. That extraordinary man, William Cobbett, accidentally fell in with his writings just as they were passing into obscurity. His good sense was struck with the truth of them; he saw their value, adopted the practice, and gave the public a new edition of them. In Cobbett's preface, at p. 10, he gives an account of an experiment of his in 1813, where he sowed 13 rods of land with Wheat on Tull's system, namely—in three ridges, a single row on a ridge, and the ridges 3 feet apart, against other 13 rods sown broadcast, and this is the result. The Tullian grown yielded 2 bushels 5¾ gallons, the broadcast 2 bushels 7½ gallons; the first being at the rate of 33 bushels 6 gallons to the acre, the latter at the rate of 36 bushels ½ a gallon to the acre. Whilst the broadcast was sown at the rate of 3 bushels per acre, the Tullian had only 5 gallons; and deducting the seed sown, the account shows the returns to be as follows—the Tullian 33 bushels 1 gallon per acre, the broadcast 33 bushels ½ a gallon per acre. After this experiment he (Cobbett) made another. Taking 10 feet of one of the rows, and thinning out the plants so as to leave only 12 plants in a foot, the produce of these 10 feet gave a wine glass more Wheat than the row not thinned out. Wheat so thin would require no more than 1¼ gallon of seed to the acre, and it produced at the rate of 31½ bushels per acre. In chapter vii., p. 108, Tull thus speaks, and I quote it because my experience fully bears out its truth—"The too great number of plants placed all over the ground in common sowings, have, whilst it is open, an opportunity of wasting, when they are very young, that stock of provision for want of which the greatest part of them are afterwards starved. Hence it is that the old method, exhausting the soil to no purpose, produces a less crop, and yet leaves less pabulum behind for a succeeding one." Again, "in a large ground of Wheat it was proved that the widest hoed intervals brought the greatest crop of all." "Dung without hoeing did not equal hoeing without dung." At chapter xi., page 186, he recommends "6 gallons of Wheat, and only 4 gallons on rich land, for the seed of an acre;" at page 199, he says, "If a square yard of sown Wheat (that is, broadcast—and 3 bushels to the acre) be marked out, and the stalks thereon numbered in the spring, it will be found that nine parts in 10 are missing at harvest." Again, at page 201, "The greatest difference of having an equal crop, from a small number of strong plants and from a great number of weak ones is, that the soil is vastly less exhausted by the former than by the latter, not only from the latter's exhausting more in proportion to their number when young, while each of them consumes as much nourishment as each of the small number, but also from the different increase that a strong plant makes, by receiving the same proportion of food with a weak one." "It appears from Dr. Woodward's experiments, that the plant which receives the least increase carries off the greatest quantity of nourishment in proportion to that increase. It is the same with animals; all who are acquainted with fatting swine know that they eat less when they thrive most, the fatter they grow the less they eat." Space is wanting for me to quote more from this valuable old book. I trust I have introduced enough to recommend it to general attention and to show that as scientific principles began to be applied to farming, thin seeding was seen to be part of a better practice. I, too, have discovered the very important fact which Tull has so strongly urged, namely, that the exhaustion of the soil for the next crop is much less from thin seeding, notwithstanding that the produce of grain is more, and the benefit from thinner seeding extends to the crops that follow after, for the land is left less exhausted.

The luxuriance of my Wheat sown on poor land the fifth year since the application of manure can only be accounted for by supposing that it arises from the ground having been saved the early exhaustion which results from the early occupation of all space by thick sowing. Two bushels of Wheat per acre (broadcast or in narrow drills) will early occupy the whole of the ground almost without any tillering, and will have proportionately exhausted the land in the spring of the year; whereas 3 pecks per acre, in rows 12 inches apart, leave much space unoccupied and unexhausted until late in the season, when tillering and summer growth fill up the intervals.

Certain I am that thinner seeding has given me larger crops, with less occasion for manure, than ever I had from sowing double the quantity of seed.

My lecture should here be closed, seeing that my subject, the injury and waste of corn from too thickly sowing, may be said to be now ended.

I trust I have said enough to lead you when sowing of corn to reflect that you may sow too much. You cannot make two plants grow where there is space only for one: but I cannot close without saying a few words on the further gain which Mr. Hallett is showing is to be made from thin seeding, namely the improvement of the corn, for I, too, had entered into this field when I ceased to be a farmer. I had seen that thinner seeding produced a bolder grain, and acting on this and the example of gardeners, I after harvest put two women into a Wheat barn, and had sheaves of Wheat thrown to them to draw the largest ears. The ears so selected I had threshed and carefully made up, so as to have only the largest and finest grains left; and these I carefully dibbled in a corner of a Wheat field, 2 pecks per acre, two grains in a hole, 12 inches apart each way. The young crop was several times carefully hoed and weeded in the spring, and at harvest I had it reaped by itself. The produce was again carefully hand picked in the same way, and enough carefully selected to sow a field the following season, when I saw a result at harvest fully equal to my expectations—it was superior to any other field I had; but here ended my experiment, for I then ceased to farm.

I have often thought how much in gardening the desirable qualities of fruit and vegetables have been developed by selection, thin seeding and hoeing, and yet how little has been done in this way in farming. I have seen in my own practice that great improvement in the quality of our grain is to be gained in this way, and I wish others would follow up the experiment that I began with so much success. The practice of sowing thick is a bar to the improvement of grain, as it would have been to the improvement of fruit. To what is it we owe the delicious and productive Strawberries we have had introduced in the last 50 years but to the care that a Myatt has given to the selection, and to the development he has made of his plants? without very thin planting the wild Strawberry would never have grown into the British Queen. *Hewitt Davis, Nov. 12.*

## STEAM CULTIVATION.

Pyrgo Park Farm, near Romford.—Mr. Howard's steam cultivator, worked by Clayton & Shuttleworth's 10-horse power engine, has been employed on this farm during the past two years. Employed on 77 days, including the time lost in removals in 1862, and on 34 days during 1863, it, with eight horses, has done the work of the farm, which includes 204 acres of arable land and 229 acres of pasture. This is a full allowance of force for the usual work to be done; but the land is a heavy loam, and there has been a great deal of extra work owing to the progress of estate improvement, and the condition in which the land came into the occupation and possession of the present owner.

Some four or five years ago, before its purchase by Mr. Bray, one of the farms of which it consisted, including nearly all the present arable land, was managed by five pairs of horses. This sufficiently illustrates the character of the soil, which is a stiff loam containing flints. The use of the steam cultivator has enabled Mr. Bray to secure the thorough fallowing of the arable land, which came to him very foul and out of condition, and at the same time to do the other work of the estate, including now upwards of 200 acres of Grass land in addition, with four pairs of horses. This therefore is hardly a case in which a direct comparison between horses and steam power can be instituted, but the actual expense of the steam cultivator is exhibited in the following table:—

Work done by Howard's Cultivator.

| | In 1862. | In 1863. |
|---|---|---|
| Acres grubbed at depths varying from 6 to 12 inches .. .. | 508 | 286 |
| Harrowed .. .. .. .. | 50 | |
| Numbers of days, including removals .. .. .. .. | 77 | 34 |
| Number of removals .. .. | 7 | 5 |
| Wages .. .. .. .. .. | £78 18 6 | £34 17 0 |
| Fuel .. .. .. .. .. | 25 9 0 | 15 9 0 |
| Oil .. .. .. .. .. | 4 7 0 | 1 14 0 |
| Repairs .. .. .. .. .. | 12 18 0 | 10 0 0 |

The original purchase included engine, price 420*l.*; cultivator and rope, 1600 yards long, and snatchblocks, rope-porters, &c., costing 210*l.* On these in all a sum of 22*l.* 18*s.* has been spent in repairs during two years' work. The original rope is still in use, but will need replacing by a new one after another season's work. Charging 10 per cent. for tear and wear on engine and tackle, and 5 per cent. for interest of capital, these with portion of the cost of new rope and cost of fuel, wages, and repairs, amount to 288*l.* 2*s.* 6*d.* for which sum 880 acres have been grubbed over one way at depths varying from 6 to 12 inches, and 50 acres have been heavily dragged at a cost of between 7*s.* and 8*s.* for the grubbing per acre. The engine when not used on the land is employed in threshing and sowing, so that the whole cost of it ought not to fall on the cultivation.

The estate lies in the midst of the high undulating country some 4 miles to the north of Romford; and presents a pleasantly diversified scene of pasture, plough-land and plantation. A vigorous growth of Oak and some large Elm trees indicate a considerable natural fertility, and when drained the Grass land is very good, and the arable land is productive.

The crops of the past year have been sufficiently illustrative of the value of thorough tillage on a stiff adhesive soil. In particular, the Swedes and Mangel Wurzel are this year remarkably good. A foul Wheat stubble in 1862 was steam grubbed some 6 inches deep, and then drained 3 feet 6 inches to 4 feet deep, and 20 feet apart, 2 inch pipes being used for the minor drains, and 4 inch pipes for the leaders. In spring it was cross scarified by steam power, harrowed and cleaned, the rubbish being carted off. It was then scarified a third time and again harrowed and cleaned. A further scarifying was followed by ribbing with the plough, manuring with 12 to 15 cubic yards of farmyard dung in the drills, and 2½ cwt. of guano per acre strewed along the dung by hand. The drills were then covered by splitting the intervening ridgelets, and the seed (4 lbs. of Skirving's Swedes per acre) was sown early in June. The horse hoe was kept continually between the drills during summer, and the result is a crop of probably 25 tons of Swedes per acre, which are being partly carted off the land and partly left for feeding on the land.

A capital crop of Mangels which have just been pitted was in like manner obtained after a crop of summer Vetches in 1862 by the help of two steam scarifyings and other horse tillage.

The usual rotation of the arable land is the four-field course of crops—Wheat, root crops, Barley, Clover or Beans, and occasionally a snatch crop of Vetches is taken between the Wheat and the roots; a plan which

steam cultivation certainly enables—while on the stiffest land a crop of summer Vetches has occasionally been taken in place of the root crop. A great deal is being done by drainage and liming, by the removal of fences and the making of roads, to bring an estate formerly exceedingly out of condition, and ill equipped, into good order. A good deal has also been done in the way of laying down land to grass in places where pasture land was needed, and in improving Grass land by breaking up old worthless pastures and relaying them. There are already several fields with a capital coating of Grasses and Clovers, which have been treated in this way; and it is evident that the importance at once of a deep tillage and of a consolidated surface of Grass lands, is well understood by Mr. Burgess the farm manager.

Fields now lying deeply stirred by the steam cultivator, and subsequently ploughed by horses, are to be folded over with sheep, and then lightly cultivated and sown with Barley and Grass seeds next spring, as the best possible preparation for the permanent Grass land into which they are to be converted.

The fertility of the land depends not only on the drainage and deep and thorough tillage to which it has been subjected as well as on the considerable purchase of artificial manure which is annually made, but also on the purchase as well as growth and consumption of cattle food.

Some 200 ewes with their lambs are sold off fat yearly; also about 100 store sheep, which are usually bought in in autumn; and 10 cows with their produce and 40 beasts are kept, the cattle and sheep being fattened —receiving to some extent cake on the pasture towards the end of summer if that be necessary to fatten them before winter; and when both together have failed, whether owing to the season or to the condition of the cattle when put on the pastures in spring, then receiving cake and Bean-meal and crushed Oats along with roots partly cut and partly pulped mixed with cut hay chaff.

About 100 acres of Grass land are annually mown by Wood's machine—the hay being made at the cost on an average of 15*s.* an acre, which is a small sum for the neighbourhood of London.

These constitute the principal points in the management of a clay-land estate, which is only gradually getting into condition—where steam-power has been employed both for the sake of the deep and thorough tillage which it alone on clay land can accomplish, and for the sake of displacing horse-power enough for the carriage of road material and building material, and for the other work inevitably attendant on estate improvement.

## THIN SEEDING.

THE elaborately composed article inserted in the *Agricultural Gazette* of the 31st ult., and at page 1042, is such a heavy blow and great discouragement aimed at agricultural improvement, that as no one else has commented upon it or noticed it, I will ask you to be kind enough to endeavour to find a few corners in the *Agricultural Gazette* for me, for I must write two, three, or four papers, for so many criticisms upon it, since no one else has.

The author of the article, I am fully aware, is a scientific and highly respectable gentleman, and I lament much that I am compelled to dissent from him so completely as I do; but I frankly state that I do so, and *is toto* nearly. But in this paper I shall skim over the surface of the article, or confine myself to two or three statements only; but dig deeper into the subsoil of it, so to write, hereafter. But first, I will remark that the writer of the article would have the readers of it believe that he is entirely disinterested; that he holds the balance impartially equal between the thick and the thin seeders, and that it is quite indifferent to him which way the beam turns; but it requires no extraordinary acuteness of observation to discover on which side his prejudices lie, and into which scale he slips the weight of his arguments in support of them.

But first he compliments the farmers by stating that they "seem perfectly satisfied with the custom as to how much seed to employ," of course in the sowing of given quantities of land.

Now, were my profession that of a tiller of the ground, instead of a compliment I should regard this to be as keen a satire upon me as the ingenuity of man could invent; as the progress towards the perfection to which any art or science can be carried, is caused by wise men not being perfectly satisfied; and this is what has raised our manufacturers to be what they are, and to gain the power and influence they now possess in the state, and enabled them to supply nearly or quite all the rest of the world besides their own country, with nearly every kind of article, either for use or ornament, which the world may require. But had those manufacturers, as we are informed by the writer of this article the farmers are, been "perfectly satisfied" before they made the advance they have, in what condition would our country have been at the present day? Why, nearly in the same that it was 500 or 1000 years back. No; good and wise men are never "perfectly satisfied" with anything they do or can do, but are always pushing forward to higher and higher states of improvement, and on this the real happiness of civilised and educated men depends; ignorance alone can produce perfect satisfaction, and hence we learn from travellers among them that the Esquimaux are the happiest people on earth, in fact, they are, as we are now informed farmers are, "who can eat, and drink, and sleep, kill a pig, or a goose, or a turkey, or a couple of ducks or fowls when they are hungry, and roast or boil them, or both, and thus be perfectly satisfied; brew themselves a few hogsheads of nut-brown October also; and thus again drink at their leisure, fall asleep and be happy and satisfied with the custom that prevails in their different districts,"—or so writes their eulogist; but we hope, and are inclined to believe that he is under a mistake; and we further hope that, if he be correct, some means will be adopted to infuse a spirit of inquiry among farmers, and arouse them from their lethargy and mental slumber.

But to proceed, we are next informed in reference to the quantities of seed sown on given quantities of land, that at present the prevailing quantity is 2 bushels per acre before November, and 2 bushels and a peck afterwards; and that these quantities, "as a general rule," are only little more than half the quantity of seed per acre "that was sown 20 years since;" and so, as "a general rule," 20 years back little less than 4 bushels of seed were sown per acre before November, and $4\frac{1}{2}$ afterwards. Now, gentlemen of the same school as this writer are continually informing us, that for the last 40 or 50 years the quantities of seed per acre have diminished in nearly equal ratios; and thus, if, as our author writes, it diminished 2 and $2\frac{1}{4}$ bushels, or about those quantities, in the first 20 years, it also diminished 2 and $2\frac{1}{4}$ bushels the previous 20 years, or from about 1820 to 1840, as well as from 1840 to 1860, and thus, again adhering to our author's "facts and figures," in 1820 about 6 bushels and 3 pecks were sown—to produce what? Why, 20 bushels, for I have read that Mr. Caird, M.P., considered to be the best authority, has published that even now the average yield is but about 20 bushels an acre throughout the whole country.

But were $6\frac{3}{4}$ bushels sown generally in 1820? No. Were $4\frac{1}{2}$ bushels sown generally or anywhere in 1840? No.

But has the quantity of seed Wheat diminished at all since 1840? Yes, about half a bushel and no more. *Geo. Wilkins, Parsonage, Wix, Nov. 12, 1863.*

## AGRICULTURE AS A COMMERCIAL PURSUIT.

BY PETER M'LAGAN, ESQ., OF PUMPHERSTON, N.B.

Paper read in the Sixth Department of the Social Science Congress, on Tuesday, Oct. 13, 1863. (*Abridged*).

THE letting of a farm is generally considered a purely commercial transaction by which both landlord and tenant are presumed to act on the fundamental principle that "one should sell in the dearest and buy in the cheapest market."

But in the matter of rent, the highest offered at the time the farm is let is not always the best for the landlord, even in a commercial view. That which yields the largest sum to him throughout the lease, and at the end of it enables the tenant to leave the farm in improved condition and of increased value, is the most profitable for the landlord. We thus see that something more than mere money is involved in the first commercial step taken by the farmer. Again, a landlord in the selection of a tenant should look to his skill, his capital, and his fitness for that particular farm for which he offers. The personal element also often enters into the preliminary measures in the taking of a farm; a landlord may have a liking for one man as a tenant more than for another, quite irrespective of the rent offered and the capital and skill of either. And he cannot be blamed for giving due weight to this element in the choice of a tenant when we consider that for 19 years he will be continually brought into contact with him, not only in business but also in social intercourse. A good neighbour is one of the great blessings and sources of enjoyment in a country life. And if the very first transaction which a farmer makes towards the prosecution of his business contains elements which divest it somewhat of a commercial character, there is still stronger reason why the relation between the landlord and him, which will exist for about 20 years, should be modified in its commercial aspect. By all means let the lease be as strictly drawn out as any business paper can be made. But in its duration there are sure to be many vicissitudes which no one could foresee, which constitute a difference between the letting of a farm and an ordinary commercial transaction the term of which is but short. There is no trade of which the followers are more powerless to help themselves, when brought under adversity, than those of farming. During the lease there may be a succession of bad seasons, such as we have experienced for the last two or three years, during which many a farmer's capital, at first ample for his farm, has been swept away, and he unable to meet the engagements with his landlord. There may be an unforeseen depression of prices which no ordinary capital of a tenant could stand against. There may be much loss from disease in stock. Would such occurrences as these not be a sufficient reason for relaxing the strict commercial rules in favour of an industrious tenant? Let the conditions of the lease be interpreted in as liberal a spirit as possible, and let there be a mutual forbearance on the part of both landlord and tenant, and the tenant will farm none the worse—the landlord will be as sure of his rent, both will be none the less happy, and the country none the less prosperous.

The first thing required in any commercial transaction is security for the capital invested. As there cannot be security for the tenant's capital, laid out more particularly in improving the farm, without his being insured of the occupation of the farm for a certain time, a lease is absolutely necessary if agriculture is to be conducted as a commercial pursuit, and the lease should be of sufficient duration, and with clauses just and equitable for both landlord and tenant.

I shall allude to only one clause in the lease, that which refers to game. Landlords generally reserve the game to themselves, and tenants come under an obligation not to destroy it. Both parties are bound to act up to the conditions which they sign; but this obligation, to which many farmers give an unwilling assent, is objectionable in a commercial transaction, as where game is strictly preserved there is often an undue increase in the numbers, and it is difficult for the tenant to prove whether the landlord has trangressed his part of the agreement, though there were no doubts of the fact itself. It would perhaps be better to let the tenant have the liberty of keeping within reasonable bounds only for the use of himself and family the game fed on his crops. A landlord will find that the best and cheapest way of preserving the game on his property is to give a tenant who likes a shot liberty to shoot over his farm. Such a tenant is not the man to extirpate game; and the laird would always be sure of a good bag on his farm. While I thus express myself on a subject which is often a cause of heartburning between landlord and tenant, I would not have it supposed that I join in that sympathy which is felt by some for poachers, whom I have always found to be the least respectable members of the community, whose families are generally reduced to beggary, and their own end too often the hulks or the gallows.

When treating of the commercial relation between landlord and tenant, I cannot pass over without remark the law of hypothec by which the rent is secured to the landlord, and which gives him a preferable claim to a certain extent before any other creditor of the tenant.

He can, for instance, exercise his right of hypothec by sequestrating the crop for the rent due for that crop, but only for that crop, and also by sequestrating the farm stock for one year's rent—his preferable right to do so existing only for three months after the last conventional term of payment of the year's rent. Neither crop nor stock can be sequestrated for the arrears of previous years' rents.

One objection to this law is, that in consequence of the preferable claim it gives the landlord a tenant cannot afford the same security to others, and hence he has not the same facilities for borrowing money as he otherwise would have; in short, his credit is impaired, and he is so far hampered in his pecuniary transactions. Another and stronger objection is, that after a *boná fide* sale of the produce of the farm has been made by the tenant, and the goods delivered, the landlord in the exercise of his right of hypothec can compel the purchaser to re-deliver the article or pay a second time for it. This is so repugnant to everything that is fair and just in commercial dealing as to make the law most obnoxious. Fortunately the cases in which the landlord has carried this right to such an extent are rare, but even the power to do so in any case should not be possessed by him.

The existing relations between landlord and tenant, and the circumstances connected with terms of entry, tenants' capital, &c., being induced by the law of hypothec, its abolition would be attended with much greater changes than we would suppose at first sight. If the security which the landlord possesses from this law were withdrawn by its abolition, the simplest and readiest remedy for the landlord would be to make the rents payable before the crop is reaped and disposed of, and not after as is generally the case at present. This change would demand a larger capital from the tenant on entry, in as far as he would have to provide a sum equivalent to one year's rent in addition to the money required for stocking and cultivating the farm as well as for performing such improvements as usually fall to be done by a tenant at the commencement of a new lease. A tenant, for instance, at present entering upon a lease at Martinmas is not generally called on to pay any rent till the Candlemas or Whitsunday after the crop is reaped—that is, about 15 or 18 months after his entry. He has thus the use of this money in the management of his farm for this period. If, however, the law of hypothec were to be abolished, and the rent made payable before any crop were reaped—say at the Whitsunday immediately after the entry at Martinmas, the tenant would be deprived of the use of a sum equivalent to his rent in assisting him to raise his first crop. I believe that were the law of hypothec abolished and prepayments of rents substituted, as the present leases expired many tenants now considered unexceptionable would find their means inadequate for their present farms, and would have to give them up and content themselves with smaller holdings. But by the abolition of the preferable right which the law of hypothec conferred on the landlord, the tenant would be enabled to give better security to the capitalists, and his credit with the public would be improved; and this would at least be some compensation for the disadvantage he would be at in paying his rent before his crop was reaped were the law of hypothec abolished.

Before we can estimate the amount of capital necessary to be invested in the farm by a tenant, we should decide as to what improvements are expected to be performed by him.

The negotiations between the landlord and tenant regarding the improvements to be performed on the farm should be based on the principle that permanent improvements should be executed by him who has a permanent interest in the land—viz., the proprietor, and temporary improvements by him who has but a temporary interest—viz., the tenant, according to the duration of his tenancy. The execution of improvements is generally the subject of agreement between the parties; for instance it may not be convenient for a landlord to lay out the necessary funds in improvements, and the tenant may agree to do them at his own expense on condition of getting the farm at a lower rent; or the tenant may offer a certain sum as rent, and promise to pay interest on the money laid out in improvements. This latter plan has crept very much into use of late, and tenants are now unconsciously executing permanent improvements on their farms by paying the whole interest on the money borrowed from Lands Improvement Companies. It is now quite customary for tenants to pay $6\frac{1}{4}$ per cent. of interest on the money obtained in this way. Part of this interest is charged to redeem in 25 years the capital sum laid out, so that in fact this capital is paid by the tenant. Entailed proprietors, who on account of their entails cannot obtain money on the same terms as other proprietors, are the principal borrowers from these Companies. It is questionable whether the measures sanctioned by the legislature for allowing entailed estates to be improved by money borrowed from Lands Improvement Companies are the wisest that could have been devised under the circumstances. There can be no doubt that much good has resulted from them; for on many estates no improvements could have been executed without them. But why should particular Companies have such privileges invested in them? They simply borrow the money from capitalists, and charge a commission to proprietors of land for advancing this money to them, thus imposing an additional burden on land. It would be much better were entailed proprietors allowed to go directly to the money market and borrow without the intervention of such Companies. Why should there not be land debentures in every respect the same as railway debentures? At present there is a large amount of money unemployed because the owners cannot get what they consider sufficiently safe investments for it. Let entailed proprietors be allowed to issue debentures on their estates under certain conditions, and a new field for the employment of capital will be opened up which would be attended with the greatest advantages to the owners of both land and money, to

the tenant, to the labourer, and to the country by the improvement of a large extent of land.

The amount of capital necessary for the proper cultivation of an arable farm depends upon the situation of the farm, the system of management to be pursued on it, its condition at the time of entry, the term at which the first rent is to be paid, and some other circumstances. As might be expected the capital considered necessary varied at different periods. In a pamphlet published by Mr. Wedderburn in 1770, it was stated that the capital considered requisite for a farm was 1*l.* 7*s.* 9*d.* per statute acre. Mr. Robertson, farmer at Granton, in his "Report of the Agriculture of Mid-Lothian," drawn up for the consideration of the Board of Agriculture in 1795, estimated the capital at 5*l.* per statute acre. Sir John Sinclair in 1812 calculated from the returns given in to him by a large number of farmers in Scotland that 6*l.* 12*s.* 9*d.* per acre was sufficient. Professor Low in 1844 estimated the requisite capital at 6*l.* 17*s.* 4*d.* per acre. And in "Morton's Encyclopædia of Agriculture," published in 1851, it is estimated at 9*l.* for a farm managed on the four-course system, and 11*l.* 7*s.* for one managed so as to have the half in Wheat, and the other in Beans, Clover, Turnips, and Mangel Wurzel, provided the farms are in good order, and it is not necessary to purchase lime or other costly manure. It will be observed how the capital considered necessary for a farm is gradually increased by the different writers as they approach the present times. But when we consider the difference between the value of money now and what it was even a quarter of a century ago, the actual difference in the requisite amount of capital is not so great as the figures above indicate. I do not believe that the capital invested by tenants in the arable farms throughout Scotland exceeds if it even amounts to 5*l.* per acre on an average. And though agriculture has made great progress of late years, and rents have risen much, there has not been a corresponding increase in the profits of the farmer. This has been owing very much in many instances to the want of the necessary capital to develop the full resources of the soil. The great desideratum in Scotch agriculture at present is capital; there are intelligence, skill, enterprise, and industry, but capital is awanting. Many tenants are too fond of having larger holdings than their means warrant, and hence full justice is not done to the farms, and the profits are necessarily less. It is unfortunate for the agriculture of Scotland that many both of the landlords and the tenants are ambitious of possessing and occupying a greater extent of land than they can do full justice to with their capital. I consider that the capital requisite for an arable farm under ordinary circumstances, and on which the landlord is to execute all permanent improvements, should not be less than from 10*l.* to 12*l.* per acre according to the condition of the farm at the time of entry.

Some shrewd farmer's wife is reported to have compared farming as a remunerative business to "cooking a feast and getting the smell of it for the trouble, or putting money into one's pocket with one hand and taking it out with the other." Most farmers will agree with her that the profits of farming are not great, and these vary much, as in all occupations, with the followers themselves.

A farmer must not only have a knowledge of his business—know in fact the most profitable way of manufacturing Wheat, beef, and the other produce of the farm—he must not only have sufficient capital, but he should endeavour to rent a farm suited to his qualifications. If he have a taste for and is a good judge of live stock, let him select a farm or adopt such a system on his farm as to apply this talent to the most profitable account. Farming differs from the purely mercantile profession in this and other respects. The merchant having learned his business begins to practise it at once by buying and selling. The farmer on the other hand has to choose first from among the different branches into which his business is divided which he is to practise. He becomes a manufacturer before he engages in the proper mercantile part of farming, viz., that of buying and selling. And the same qualities requisite for a merchant are also essential to a farmer in a greater degree. That attention to details which is a qualification all men of business should possess is particularly necessary for the farmer; for success in farming is due as much to constant attention in working out the details of a system, as to any superiority in the system—as much to small savings as to large profits. It has been well said that "the master's eye fattens the ox," and that "the best manure you can put on the land is the foot of the farmer." In his commercial capacity the farmer should know the value of the articles he deals in, and how to purchase and dispose of them to the greatest advantage. Too often have farmers skilled in the art of raising good crops and in the general management of their farms been disappointed in the remuneration obtained for the trouble and expense they bestowed on their farms—the main if not the sole cause of this disappointment being their want of the important qualification of buying and selling to the best advantage. When we consider the great labour, anxiety, and risk which a farmer undergoes in the prosecution of his business, he is fully entitled to 15 per cent. on his capital; but generally speaking the return is much below this—10 per cent. being, I believe, a high average in Scotland. To enable him to determine what he is really making from his business, accurate accounts should be kept, which should be balanced at least once a year. And on comparing returns from farming with those from other pursuits should not forget in their calculations to credit the farm with house rent and with the value of a great part of the food consumed by their family.

A farmer in prosecuting his business commercially should be able to accommodate his system to the times; and hence the advantage, I would say the necessity, of his not being fettered by vexatious and obstructive clauses in his lease which prescribe a particular plan of management, which might be quite proper at the beginning of his lease, but would be quite unsuitable before the half of its term was past.

However profitable, for instance, it was to cultivate Wheat and the other cereals during the Crimean war, their cultivation is now almost unremunerative, and therefore commercially wrong. And the high prices of cattle, sheep, and wool, as contrasted with the low prices of the cereals, point to the advantage of a change in the system, viz.—in reducing the extent of land under the plough and in increasing our pastures. I believe that it would be for the benefit of the farmer and of the nation at large were Grass to form a larger proportion of the rotations at present in use in Scotland; for while the competition from abroad has forced down and is likely to keep down the price of the cereals, those of cattle, sheep, and wool have on the contrary risen. It is worthy of remark here that while the price of Wheat, as representing the Cereals, is about the same price now as it was 90 years ago, that of butcher meat has increased about 100 per cent., wool about 150 per cent., and rents upwards of 100 per cent. Mr. Caird mentions, in his "English Agriculture," "that the great corn-growing counties of the east coast yielded an average rent of 23*s.* 8*d.* per acre; while the more mixed husbandry of the midland counties, and the grazing, green crop, and dairy districts of the west yielded 31*s.* 5*d.* per acre."

These striking facts clearly point to the most remunerative system to be pursued in most districts in Scotland, and the farmer would do well to study them. The objection made to the adoption of this system of pasturing is that the pasture on medium and inferior soils becomes deteriorated in a few years. True, but the deterioration can be prevented by a generous treatment of the pastures by liberal manuring, and the consumption of cake or other food on them by cattle and sheep, by which means double the number of stock can be kept on the farm. Farmers often act most unwisely by giving high rents for Grass parks often at a distance from their own farms, while by using the above means they could keep the same number of stock on their farms as on the rented pasture and their own farms without such means, while they would greatly enrich their fields by the cake and manure used on the pastures.

A farmer who has once got his land into condition commits a commercial blunder by allowing it to lose any of that condition.

Too often as the end of a lease approaches, and the tenant is uncertain as to having his lease renewed, the liberal treatment of the soil previously pursued is changed for one of mistaken economy. Little or no manure is purchased, and all is taken out of the soil that can be got without restoring anything to it. The use of a manure when applied to the soil is not merely to supply the elements necessary for the growth of the plant, and restore to the soil those that have been removed from it by the plant, but also to call into action some of the constituents of the soil which otherwise would have lain dormant. The farmer therefore who, trusting to the high condition of his soil, purchases no manure towards the end of his lease, has not the advantage of the profit to be derived from the manure itself, and from the elements of the soil called into action from the application of such manure, while the soil is exhausted of its more available elements. He is thus the first sufferer himself, and through him both the landlord and the nation also suffer loss—the former by his land being exhausted, the latter firstly by the reduced profit of the tenant, and secondly by the reduced fertility of the soil. No manufacturer of sense would allow his machinery to get out of order because he expects to leave his premises in a few years. He knows the better the order his machinery is in the more work he will get out of it, and therefore he does not grudge the small annual expense in keeping it in proper order. What the machinery is to the manufacturer the farm is to the farmer; and what is true of the one is also true of the other.

Some people contend that the remedy for this system of exhausting the soil towards the end of a lease is to allow compensation for "unexhausted improvements," or, in other words, "tenant-right." "The recognition of any such claim," said the late Mr. M'Culloch, "would be most mischievous, and is indeed quite at variance with the principle of occupancy for specified terms." "We have seen in the counties where it exists," says Mr. Caird, "that the agriculture is on the whole inferior to that of other districts, and in no case, even under the most favourable circumstances, superior to other well conditioned counties which do not possess this tenant-right. In every county it has led to fraud in greater or less degree. It perpetuates bad husbandry by stereotyping costly practices which modern improvements have rendered obsolete. It absorbs the capital of the entering tenant, thus limiting his means for future improvement. Let the lease be framed on pure mercantile principles, and its stipulations be explicit and based on equity, and there will be no need at the end of the lease of such unbusinesslike proceedings as those required by tenant right, or compensation for unexhausted improvements, which encourage dishonest trickery and bad farming. It is not by such means as these that Scotch farmers are to expect to contest successfully with that world-wide competition to which they are now exposed. The state of transition consequent upon the introduction of Free Trade measures may now be said to be past, though the full effect of them was not felt by the farmer till last year with a deficient crop, an immense importation of breadstuffs, and the low prices which necessarily followed. But even if these low prices are to continue, as there is every likelihood of their doing during a time of peace, the energy, skill, and capital of the farmer may yet be successfully employed in raising stock instead of grain.

## Home Correspondence.

*The Wild Breed of Cattle.*—A correspondent in one of your recent Papers is wrong when stating that Chillingham, in Northumberland, is the only place in England where the original breed of wild cattle is to be found, as a fine herd of these interesting animals exists, and has done for centuries, at Chartley, near Stafford, an estate of Lord Ferrers. The cattle are white, and a curious family superstition is associated with the herd—should a black or spotted calf be born, it is considered a sure sign that a death will shortly occur among the noble family to whom the estate and herd belong. *R. D. S., Cheshunt, Nov.* 11.

*Arthur Young's Farmers' Calendar, 21st Edition.*—Why my friend Morton should call this "Arthur Young's Farmers' Calendar," I know not. It has nothing of that excellent writer, but execrable farmer, about it, but the name. Did the subject admit of a pun, I should say it was too young for Young. It is the play of Hamlet with the part of Hamlet omitted. The plan is Young's, the superstructure is Morton's, and a good substantial building it is; materials of first-rate quality, and such as were not come-at-able in Young's time; for, of the host of authorities to be found in the pages of the modern work, not one will be found in the original. Bailey Denton was a babe unborn; Mechi was not; Voelcker and guano and other "chemical mucks" were alike unknown. Even John Chalmers Morton himself had not then lisped in "Numbers." In sober sadness I fear we were great noodles in those days, content to jog on as our fathers had jogged on before us. Practice and Science were then hardly on speaking terms, or were at best but beginning to join hands; and sulphates and phosphates, queer things to swallow, and by no means easy of digestion. In short, a broad line was drawn between the practical and the theoretical, to the great disparagement of the latter, or book-farmer, as he was called in derision; nor am I disposed to contend that there might not be instances where practice and science could never be brought properly to harmonise. Arthur Young was one; for, as I have already said, he was a most miserable farmer; and yet who would infer this from the plain, practical good sense of his writings? One of the best farmers I ever knew, used to advise me when a young man to read, and if possible get by heart the Farmers' Calendar, as the best guide to good management he ever knew, yet I have heard my father say, that when in the neighbourhood of Bradfield, he could always tell to a field where Arthur Young's farm began, from the badness of the farming! What a strange contradiction between preaching and performing! To go back to the "Calendar." Others have followed in Arthur Young's track; for Young had his followers, as Shakespeare and Milton had theirs—John Lawrence was one, but at what a distance! His "New Farmer's Calendar" is become old—at all events it never will be Young. Mr. Morton's is better, and a great deal too, inasmuch as his materials are all of modern date—"the latest authorities," as very old maps never failed to specify. I, for one, rejoice to have found the work in such hands, but why not call it by its right name? It is not Arthur Young's, but J. C. Morton's "Farmers' Calendar." *S. T.*

## Farmers' Clubs.

East-Lothian: *Nov.* 6, *Steam Cultivation.*—Mr. Scot Skirving, who presided, introduced the discussion by a long reference to the history and literature of the subject.

Mr. Sadler, of Ferrygate, then said:—You are aware that last year I purchased an improved set of Fowler's steam ploughing apparatus, and I have come here to-day at the request of the Club to give you some account of my progress and experience with it. You will get a full account and an unbiassed opinion, for I have no interests whatever to serve, and I do not mean to extol any one of the two great competing systems of steam culture over the other—viz., the turn-over furrow, or the smashing up without inversion; and I will just observe in starting that both the systems of direct and of round-about action have each their advantages and disadvantages. If Fowler cannot send a light implement over the land in moist weather and prepare a seed-bed in the excellent manner in which I saw Howard doing the other day at Fenton Barns, in Potato land in preparation for Wheat, he can, on the other hand, drive a grubber, two yards wide, through the ground in dry weather at the rate of ten and 15 acres a-day or more at 1*s.* 6*d.* an acre, employing only six people, part of whom are boys, and he can dig 10 or 12 inches deep in solid clay, as I have been doing this autumn. Fowler, however, requires more favourable circumstances; he does not adapt himself so much to the tenant; he will not work in angles; he must have the fences 400 yards apart; and he must have the stones taken out of his way. Last winter I spent a very considerable sum in blasting and removing stones, and I had also breakages in some places to the extent of 1*l.* per acre. I am sorry to say we are still meeting stones in this our second year, and I fear on the heavy land the cost for breakages will not be less than 5*s.* an acre still; all time lost in replacing breakages must be added to this. I may mention that when using the grubber we never had any breakages, but I prefer using the plough when pioneering for stones, with its cast-iron skifes, although they do break now and then. I say I prefer this to straining the tackle, as I believe nothing can be worse, both for rope and engine, than doing so. In regard to the great controversy as to whether ploughing or cultivating is the best system, I can tell you what Mr. Fowler says:—"Dig all your land in the autumn, and put the steam harrow 12 feet wide, with slack gear, as exhibited by him at Worcester, over it in spring, and never use the cultivator at all." He is so convinced that this is the right work for his strong tackle that he intends abandoning the manufacture of cultivators. After he hears of the effect of this implement upon our Potato crop, however, I have a notion that he will change his mind. That he is right so far with regard to the reduction of the dug land in spring I feel certain, as it is no easy business to get such gigantic clods reduced with the horses. It requires more than the agricultural pace. We have not yet had enough experience, but my belief is that the cultivator or grubber, for they are synonymous terms, must be adhered to in working Potato and Bean land in autumn for Wheat, as I could not fancy any work superior to that I am at present doing at Ferrygate on Potato land, the drill following the engine close up, and the tilth is as beautiful as could be desired. I should be pleased to show it to any member of the Club. In the south they advocate ploughing nothing except Clover lea. I consider the digging which I have been doing this autumn worth 20*s.* an acre where Potatos are to be grown, as from experiments we tried this year we find that we can increase that crop about a fourth by the use of steam power. Any one who saw the sets put into the drills after the cultivator had moved the land to a depth of 16 or 18 inches, could well look forward to such results as we have obtained. I thrust a walking-cane easily down into the subsoil between the sets, and as the manure was put in in autumn, there was no pressure of carts in spring.

| | | | |
|---|---|---|---|
| 21 drills, | horse-worked, | produced 12 | carts Potatos. |
| 38 " | steam worked, | " 29 | " |

Or about 25 per cent. in favour of steam.

Some of you may say that four horses could have ploughed and grubbed the land equally well, but allow me to tell you it is quite impossible; 20 could not have done it, even if you could have got them to draw.

It is the swift shaky pace that renders steam grubbing so beneficial. My opinion is that, barring stones, it will pay any man to use steam who grows 40 acres of Potatos, and I believe it will turn out that this crop will bring in the best return from steam cultivation; and I think we may also look for our horses living longer and costing us less. I have used nine horses upon my farm for the last 12 months, instead of 14 as formerly, and I have not found any loss thereby. It is true we stacked part of the distant corn out in the fields. I ploughed too deep last year for Wheat, and lost money by doing so. Mr. Fowler warned me, but I persisted in my search for boulders. It is considered a great mistake to go too deep with steam at first, especially for a seed furrow. My Oats grown after the steam ploughing were a very good crop indeed. So also was the Barley; and I have exhibited my first samples of steam-grown Barley in our market to-day weighing 59 lb. per bushel, sold at 36*s.* 6*d.* per qr. The effects upon the Turnip crop were also good, but not so apparent as on some of the others. Still the first sown Swedes weighed 36¼ per ton. We have many points yet to learn regarding steam culture, and once we become masters of them I expect to see work kept well forward; and you know, gentlemen, that is a very desirable matter in our climate. I believe it to be nearly the whole secret of success. With steam, and the use of portable manures, I see no reason why we may not yet be able to take a free-trade price for our produce; and in Scotland we have the advantage of cheap coals, as my engine does not cost me more than 4*s.* a-day for coals at present, say if doing very heavy work 5*s.* per day. I now use the Wallyford coal, double-screened, at 6*s.* per ton, laid down. This is a very important fact for you to know. My opinion is that steam will increase the value of clay land immediately, and that all light thin soils upon the rock will fall in value, unless it be left in Grass for sheep; and if it be true what I see told in that European organ, the *Times*, which has ever taken the part against the British farmer, that Wheat will never be dear and that mutton will never be cheap, perhaps the more in Grass the better. Steam in the field seems, to use a hackneyed phrase, to be a "great fact," and one too, which few people think of abandoning. We have not heard of any steam farmer going back to be a horse farmer. It would be like pulling down your steam threshing machine and putting up a horse work. On the contrary, we have one of the greatest steam men in England declaring that he would rather pay rent and farm with steam than be rent-free if compelled to revert to horses. I look in course of time to finding no fields less than one mile long and 400 yards wide; hedges on one side of each field removed, and in its place a sunk fence on each side of a road for the engine. There is one question not yet alluded to—viz., the minimum of land upon which steam may be profitable. My farm being partly light soil, and not very extensive—only 409 acres arable imperial—it may be questionable as to where much profit is to come from, unless it be the Potatos. Yet look at Mr. Smith's, of Woolston, success on only 112 acres, with a portable engine of eight-horse power; he has only three horses on his farm, which is a poor cold clay. I feel certain that when any of you occupy 400 to 500 acres of stiff land (some say light pays best, as it can be ploughed for 5*s.* an acre—my idea is with a stiff land farm), the question is not will it pay, but rather what am I losing by not having it? I cannot see that the present rents on stiff land can be paid with present prices unless with the aid of steam. I regret that I have not kept an exact statement of the work done last year. It was commenced; but from interruption, breakages, and stoppages, by wet weather, discontinued. This season we have got about 100 acres of stubble and Potato land ploughed, dug, and scarified; and I expect next autumn, if certain animals could be got rid of, much of the stubbles would be by this time under winter Tares for sheep feed in spring, instead of growing up an idle mass of weeds. I should like our Turnip break to bear something else—still eaten off in good time for a crop of the latter root. I wish to call your attention to the company now forming in London—viz., the Steam Cultivation Company. This company is formed for the purpose of enabling farmers to purchase steam ploughs, by advancing the money, and taking re-payment by instalments. I strongly recommend it to your notice. I am sure I should have dealt with this Company had they been in existence when I started. As affecting steam, I do not see why our landlords should not give us a right to destroy the hares. In some places of England I find neither hares, crows, nor wood-pigeons. "What a paradise" some of you will say, "Why can we not have the same here?" I am certain that, in general, landlords do not value the ground game. As to hares and rabbits, by the use of steam we are now enabled to break up our stubbles in good time for winter Vetches and other sheep keeping crops, to be succeeded in summer by common Tares, Rape, and White Mustard, by which a larger flock of sheep may be maintained upon an arable farm. Now upon the generality of our farms here we cannot grow winter Tares, for the hares eat them totally up. Let us have free trade in hares, which eat our sheep-feed as well as our sheep-nets to such a woeful extent, so that we may grow those crops which steam now enables us to do, and which are necessary to pay the rents of the present day. I see no greater barrier to the introduction of steam here than the land-fast stones, and I would call upon the owners of the soil seriously and respectfully to the subject. It will be a pity if they cannot go hand in hand with the tenantry in helping them to increase their crop by the introduction of steam upon their farms. The use of steam I believe to be our only chance in this crisis of low prices which has come upon us. I look upon it as equal to the discovery of guano, and something more. By it alone can we fight the battle of a cheap production with foreign nations, who are sending us now 40,000 quarters of corn weekly into London and Liverpool alone. Foreigners, too, will adopt it shortly; let us, then, have the start. It matters not, I think, what system you adopt; any system of steam is better than none, and the worst is incomparably superior to horses. The entire daily cost with me of working is under 1*l.* per day, and if we can do only four acres of digging worth 80*s.*, I think there is some hope for profit. It is not only the quantity of work done, it is the quality. There are (at least there was) both difficulty and anxiety at first, but I am happy to say these have now vanished, and I feel sure that in the generality of cases both masters and men will yet be benefited by steam tillage.

Mr. HOPE, of Fenton Barns, said:—My experience of steam cultivation is small, but, as far as it has gone, it has been most satisfactory. We began with Howard's apparatus on September 25 last, and since then we have grubbed or cultivated 32 acres after Beans, and about 45 acres (both imperial measure) after Potatos, the whole of which has been sown with Wheat. We have also done 50 acres of stubble land—or in all say 127 imperial acres. We might have got done another 25 or 30 acres of stubble, but in our anxiety to get Wheat sown, we placed it beside a Potato field before the crop was removed, and thus lost more than eight days. In regard to the depth the soil has been moved, there were a few acres full of stones that we only did about five inches deep; the greater part has been done from 7 to 8 inches, and the last 10 or 15 acres we have gone over has been moved fully 10 inches. The shares being 13 inches broad, the soil is cut quite level, and effectually thrown up and stirred. The Couch Grass and other weeds are left on the top, and when harrowed, may be taken off. In fact I was rather astonished at the quantity of Couch taken off both my Bean and Potato land, and which would have been all left in the soil had it been ploughed in the ordinary way. This cultivation is a very different operation from any grubbing with horses that I ever saw; after it the rain goes through the land like a sieve, and it dries very quickly. I have begun to think it may prove the best way of treating all kinds of land, except perhaps lea, which had better be turned over. I intend in spring to go over the stubble land a second time, and then drill it up for Potatos and Turnips, but perhaps the drills could be made up at once. It takes five men and two boys to work the apparatus, besides a lad with a horse about half-time to supply the engine with water, when none can be got where it is placed. The consumption of coal is from 8 to 9 cwt. daily. We use what are called chows; they cost on the farm about 9*s.* 6*d.* per ton. The expense for oil daily is another 1*s.* I calculate the daily cost for wages, coal, oil, &c., to be from 21*s.* to 22*s.* If the apparatus has to be moved once a week, it will add another 2*s.* 6*d.* to this, as it takes about half a-day to complete the removal from one field to another at a moderate distance, besides the use of three horses for a couple of hours. We, however, got over about 62 imperial acres without moving the engine at all. As the cultivator goes over fully six imperial acres daily, the expenses may be reckoned nearly 4*s.* per acre, exclusive of interest on capital invested, and the tear and wear. This is greater or less per acre according to the number of acres it is spread over. The apparatus I have got cost 550*l.* Say I count for interest and depreciation 70*l* per annum, and spread this over betwixt 400 and 450 imperial acres, which I fully expect to accomplish, this will add nearly another 3*s.* 6*d.* per acre, and make the total expense 7*s.* 6*d*, per imperial acre. From the quality of the work performed, I consider it fully worth this sum; besides, I anticipate other incidental advantages, such as keeping the land more easily clean, and getting the various crops sown in better time.

Mr. SCOT SKIRVING said he would have bought a steam plough long ago if anybody had told him how he was to do without horses. He wished to know how Scotch farmers could, in the event of a wet summer, bring all the corn home to the threshing mills, drive out all the dung made in the farm steadings, and lead home the Turnips in the event of a frosty night coming on suddenly, without having a full complement of horses. He himself could not have done this without proper horse-power although he were to get every inch of his land ploughed for him. He was persuaded that he could employ every horse on his farm in the operations he had referred to, although his whole farm were ploughed by steam.

Mr. SADLER said this, along with some other difficulties, was yet to be got over by experience, but in the meantime one great advantage of the steam plough was, that he believed the crops would be got in 14 days earlier.

Mr. TOD, Castlemains, said that Mr. Sadler's horses were often employed in the carting of manure, Potatos, &c., when those of other farmers were yoked to the plough. It was thus apparent that the farmer who possessed a steam plough could carry on his ploughing and other operations simultaneously, which was a very great advantage.

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CROYDON: *Are Pigs Profitable?*—This subject was discussed at a recent meeting of this Club. Mr. WILSON read the introductory paper. He said:—

No doubt the profit of pig keeping depends in a great measure upon having a good breed, and on the management of them.

In an article on high farming read by the late Mr. Baker before the London Farmers' Club, some years since, that gentleman says:—"A bushel of Barley or Peas has always been considered as equivalent to the production of 8 lb. of meat. Therefore, if the price of meat is less per stone than the grain per bushel, the difference is a loss, and *vice versâ.*" Now, if I can show from others and my own experience that pigs do pay for the food they consume, and leave a small balance besides, I think it will be admitted that they are a profitable stock to keep. In some experiments tried at Mr. Lawes' farm, Rothamstead, with 16 pigs,

| | £ | s. | d. |
|---|---|---|---|
| Four pigs were bought in at 41*s.* 6*d.* each .. | 8 | 6 | 0 |
| Consumed 2650 lb. of Barley, at 37*s.* 6*d.* per qr. of 416 lb., including grinding .. .. .. | 11 | 18 | 10½ |
| | £20 | 4 | 10½ |
| 99 stone 3 lb. of pork sold at 4*s.* 4*d.* per stone, sinking the offal .. .. .. .. .. | 21 | 10 | 7½ |
| Profit .. .. .. | £1 | 5 | 9 |

This experiment shows that the farmer obtained a good price for his Barley, though the pork was sold at a low price. When I commenced farming, in December, 1857, I had one pig, valued to me at 1*l.* 10*s.* In May, 1859, by purchases and breeding, the number had increased to 77, at a cost of 35*l.* 2*s.* 6*d.* At the latter date I had sold out for 138*l.* 4*s.* 5*d.*, thus leaving a balance of 104*l.* 1*s.* 11*d.* for their keep. I then commenced again with two sows, and in 12 months I bred from them 39 pigs, and purchased 14, making together 55. In the succeeding 12 months I lost four by death, and sold the remaining 51 for 100*l.* 5*s.* 11*d.*, thus leaving 85*l.* 17*s.* 11*d.* for their keep. Now, this appeared to be very satisfactory; but, as I had not kept an account of the cost of the food consumed, I could place no reliance on the result; therefore, after that time, I entered against the pigs the cost of all they consumed, and I will now state to you my profit and loss account:—

| | £ | s. | d. |
|---|---|---|---|
| May, 1860. two sows in pig (produced 16 pigs) .. | 8 | 0 | 0 |
| Cost of food and grinding .. .. .. .. | 24 | 6 | 7 |
| Profit .. .. .. | 7 | 17 | 9 |
| | £40 | 4 | 4 |
| November, 1860, sold 16 fat pigs .. .. .. | 28 | 4 | 4 |
| Two sows and their second farrow (19) .. .. | 12 | 0 | 0 |
| | £40 | 4 | 4 |
| November, 1860, to April, 1862. | | | |
| Bred and purchased 99 pigs at a cost of .. .. | 36 | 18 | 0 |
| Cost of food with grinding .. .. .. .. | 104 | 4 | 9 |
| Profit .. .. .. | 10 | 13 | 0 |
| | £151 | 15 | 9 |
| April, 1862. | | | |
| By sale of 89 pigs to date .. .. .. | £151 | 15 | 9 |
| Died 10 | | | |

Now I admit that this profit of 10*l.* 13*s.*, extending over a period of nearly 18 months, is not large; but you will bear in mind that the Oats, Barley, and Peas consumed were my own growth, and charged to the pigs as follows—viz., Oats, 27*s.*; Barley, 36*s.*; and Peas, 42*s.* per quarter. Pollard and middlings at the miller's charge.

| | £ | s. | d. |
|---|---|---|---|
| From April 25 to Dec. 31, 1862, I had and purchased 30 pigs, at a cost of .. .. .. | 11 | 6 | 6 |
| Cost of food and grinding .. .. .. .. | 15 | 13 | 11 |
| | £27 | 0 | 5 |
| 30 pigs sold as stores and fat for .. .. .. | 29 | 3 | 0 |
| Profit .. .. .. | £2 | 2 | 7 |

Since which time I have not struck a balance. I have made no charge for attendance, as I consider the manure made a sufficient set-off against it. To my thinking, pigs possess an advantage over other animals kept on a farm, in this respect—that you sooner get a return of the capital originally invested in them. For instance, suppose you commence with a sow and eight pigs, and that you give 6*l.* for them, you will not have to keep them long before you can sell the pigs for the same amount, and have the sow left to fatten or breed from, as you please. Out of 24 farrows that I have had, I find the average number reared has been eight and a-half.

Dr. POWELL said a friend of his had three pigs, and he weighed all their food, and every week he weighed the pigs regularly, and he found that for every half-hundred weight of food he gave them that they gained 14 lb. of flesh. He mostly fed them upon Rice, but whether upon Rice or Barley meal he found that for every half-hundred he gave they gained 14 lb. of flesh.

Mr. ASHBY said pigs were cleanly, and would thrive best by being kept in a clean state. He would tell them they must not put a pig to feed a pig. If they wanted a pig to pay, they must be well looked after, for pigs wanted as much looking after as a Christian in regard to cleanliness. Mr. Streeter once kept an accurate account for two consecutive years for his own satisfaction, and he had found the balance in favour of

the pig. He pulped Swedes and Mangels in spring and summer, and mixed ground corn with it, which kept them in a growing and thriving condition, and reduced the expense of keeping them; but if the pulped food was continued during the whole time of fatting, the fat would boil out in cooking; but if the fattening was finished with corn alone, the pork would be fine and good. His opinion was that it was a cheaper mode of making good yard manure, than making it by fattening bullocks; but to be profitable, independent of the manure, it was indispensable that the young pig be kept on good food, and never be let go back in condition.

Mr. HUMPIDGE thought it was better to sell pigs as stores than to keep them to fatten. Mr. Wilson had said he had allowed the attendance for the dung. He (Mr. Humpidge) thought if they put the straw and attendance against the manure, they would find that it would come to a pretty high price. He did not know whether Mr. Wilson had charged all the food the pigs had consumed.

Mr. WILSON said he had entered all that had come from the barn. He could not say that he had charged for every Cabbage that had been given to them.

Mr. HUMPIDGE at one time kept an account of the cost of his pigs, and he found that all he got was their manure. A person he knew had kept an account what the pigs had cost him, and he never found that they cost him less than 6*d.* a pound, and sometimes they cost him a shilling. The principal argument in favour of fattening pigs was the large amount of manure that would be available to the farmer.

## Miscellaneous.

*The New Mayor of Bedford.*—It will gratify many of our readers to learn that Mr. James Howard has been unanimously elected Mayor of Bedford for the ensuing year, a post which his worthy and venerated father filled for four years in succession, a circumstance without a parallel in the history of the borough. The same office was filled by the ancestors of the present Mayor in 1757, 1758, 1766, 1767, 1781, and 1782.

### METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nov. | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | 13 | 30.20 | 37 | 36 | S.W. | 1 | 1 | 45 | 27 | 52 | [illegible] | .. |
| Saturday .. .. | 14 | 30.27 | 49 | 47 | W. | 1 | 10 | 49 | 37 | 53 | 30 | .. |
| Sunday .. .. | 15 | 30.26 | 49 | 47 | W. | 0 | 10 | 52 | 47 | 56 | 42 | .. |
| Monday .. .. | 16 | 30.15 | 52 | 51 | S.E. | 1 | 10 | 52 | 44 | 61 | 38 | 0.00* |
| Tuesday .. .. | 17 | 30.13 | 53 | 49 | S.W. | 1 | 10 | 56 | 48 | 60 | 43 | .. |
| Wednesday .. | 18 | 30.21 | 50 | 47 | S.W. | 3 | 5 | 54 | 46 | 66 | 43 | .. |
| Thursday.. .. | 19 | 30.20 | 49 | 46 | S.W. | 0 | 10 | 51 | 44 | 56 | 38 | .. |

*(sic.)

## Notices to Correspondents.

POTATO CULTURE: *Enquirer* says "I have a field of light land exceedingly well adapted for the growth of Potatos; it has been thoroughly cleared of Couch and root weeds, but it is very poor. I have no farm-yard dung nor can I procure any except at a great cost. [We would have grown Rye with the aid of guano, and ploughed it under early in April. In May apply 2 qrs. of bone-dust and in June sow Turnips with 3 cwt. of superphosphate. Feed them off on the land, and then in 1865 grow Potatos. If you must have a crop of Potatos in 1864 put in 16 or 20 bushels of rotten bone-dust now, and sow 5 cwt. of guano per acre at intervals during the setting and hoeing of the Potato crop.]

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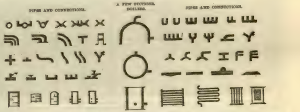


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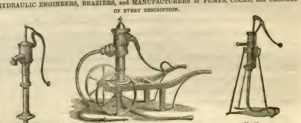

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Fulham Nursery, Nov. 21. Osborn & Sons.



# The Gardeners' Chronicle.

*SATURDAY, NOVEMBER* 28, 1863.


MEETING FOR THE ENSUING WEEK.

Thursday, December 3—Linnean .. .. .. .. 8 p.m.

We have to record a very considerable Horticultural achievement. The Cocoa-nut tree, which has hitherto been universally barren in Europe as far as we can discover, has at length been enabled to yield its fruit. In the Conservatory of the Duke of Northumberland's Palatial Garden at Syon there is now a most beautiful specimen of this graceful Palm, with a nut securely "set," and advancing steadily to maturity. It has been obtained from a flower which opened last July, and it already measures 10½ inches in circumference.

The history of the event is too instructive to be passed over in silence, for it teaches the really intelligent gardener that anything, not in itself absolutely impossible, may be accomplished with plants by means of patience and skill. It is fully 12 months since that the Syon Cocoa-nut first produced female flowers; they even arrived at the size of pigeons' eggs, but then fell off. The belief was that the tree was not strong enough to bear them, and considering that many trees are unwilling to set fruit until they acquire age such belief was not unnatural. Mr. Smith, however, the very able manager of the Duke's Garden at Syon, was not quite satisfied with such a reason. It occurred to him that it might arise from the absence of pollen to fertilise the females. There was this difficulty indeed in the supposition, viz., that the male flowers were numerous, vigorous, and abundantly polliniferous; and according to the figure in Loudon's Encyclopædia of Plants, the female flower was so fully exposed to their influence that contact between pollen and stigma was unavoidable. For according to this figure the flowers some time or other spread completely open, leaving the tender fruit entirely exposed. At Syon the last flowering branch bore seven females, but although stronger than any of its predecessors, the young nuts began to drop off just as before.

Now Mr. Smith is, as all gardeners ought to be, a man of observation, and he had remarked that none of the female flowers at all resembled the figure given in Loudon. On the contrary, instead of the calyx and corolla spreading completely apart, he found that the flowers only formed at the point a wee-wee triangular opening, perhaps a sixteenth of an inch deep and as much wide, so that Loudon's figure, when brought face to face with the best of all witnesses, was a mere pictorial lie*. He therefore determined to see what would happen if pollen were really introduced into this opening. It so happened that his decision was taken so late that only one female, and that a weak one, remained in a state for trial. To it the pollen was administered, and *presto!* immediate action ensued. The stigmas shrivelled, the ovary swelled, and the result is now shown in the rapid growth of a fine plump nut. Oh ye gardeners, take this as a gentle warning, *never again to put your faith in pictures*. For ourselves we fully anticipate quite a crop of Cocoa-nuts at Syon in some future year, for the tree is in magnificent health, with 15 exquisitely beautiful leaves, each about 16 feet long, growing from the top of a sturdy stem 2 feet in circumference.

No one who has enjoyed the opportunity of seeing Syon lately will be surprised at Mr. Smith's success, for in other directions also good gardening

* [illegible] states, and we are assured by [illegible] who have lived in Cocoa-nut [illegible], that in fact the females never do expand, and the necessary effect can then be produced naturally by the agency of either insects or storms.

is carried to the highest possible perfection. There is in one house the great Bamboo of Chittagong, with a stem as thick as a man's arm, that is lengthening at the rate of 10 feet a week. In other houses are beautiful specimens of the Mangosteen, the Cinnamon, the Allspice, the Bread-fruit, the Date Palm, Dwarf Bananas nearly ripe, and Vanilla plants loading the rafters with pods. Nor are tropical fruits the only examples of first-rate Gardening. We doubt whether there was ever elsewhere such a superb specimen of *Eucharis amazonica*, by far the handsomest of white-flowered Amaryllids. As for *Chrysanthemums* in the greenhouses, they are just what such flowers should be, most graceful, branching, leafy, and abundant, not like the big South Kensington things, which are about as handsome as so many coloured mops with their handles downwards. Moreover, on the open walls of the Kitchen Garden may be seen such Peach training as even the late Andrew Knight would have pointed to with pride had it been his.

We must all be glad that such an example of general Horticultural skill is to be found at home without the need of travelling in search of it to some unknown country abroad.

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At p. 1039 will be found, extracted from the *Oxford Journal*, some observations contributed to that Paper by Mr. Bates, of Parks Nursery, near Oxford. The writer takes exception to our exposition of the Law as it affects the Assessment of Nurserymen's Premises, which appeared in the *Gardeners' Chronicle* of the 30th May last. Mr. Bates's objections, although in our opinion unfounded in law, and proceeding on a misunderstanding of what we then said, are yet so ably stated, as to make it expedient to add a word or two of explanation and reply.

Now Mr. Bates appears to assume that we expressed an opinion that greenhouses, &c., were to be rated as hereditaments under the Act; and that we denied that they were to be deemed in law, when erected by a nurseryman leaseholder during his term, for the purposes of his business, as what are technically called "trade fixtures." Upon these two assumptions his criticism is based. They are both of them wide of the truth, as he will discover on a closer examination of our language. Now, although the question as to whether a nurseryman can remove greenhouses, &c. erected under the circumstances indicated, is by no means so clear a matter as Mr. Bates assumes it to be, yet we gave the nurseryman the benefit of the doubt, and stated what in our opinion is the true state of the law, namely, that, apart from the provisions of 14 & 15 Vict. c. 25, § 3, the nurseryman *can* remove such erections under the same restrictions as any other trader can remove his trade fixtures. And further we also stated that such erections were not rateable, *per se*, as houses or hereditaments, under the Parochial Assessment Act. But our argument was directed to this: although, in favour of the nurseryman, the soundness of these two propositions may be granted, yet, that in rating the nurseryman's premises, the overseers would be bound to take into consideration the improvement of their lettable value, (say) arising from the occupation of the land rated, by the greenhouses and similar erections placed upon it. This argument Mr. Bates has either overlooked or misunderstood, and has altogether failed to meet. We propose now to add to what we then said a few remarks by way of further illustration.

Now Mr. Nolan, the authority vouched by Mr. Bates (and who, if we may judge from that work and the principles there laid down, would certainly as the law stood in his day have decided the present controversy in our favour), in the first volume of his work on the Poor Laws, thus states the principle:—"A real subject has been held rateable according to its annual value, although that value may be derived from the annexation of a personal chattel." Clearly this statement of the law, which is deducible from several authorities which might be cited, were this the place to do so, entirely supports our view of the matter in dispute. If, we say, the nurseryman's garden derives additional value from the annexation of these greenhouses, even though they be considered as personal chattels, then that additional value is to be taken into account in rating them. The question proposed is, what will these premises let for, in their present condition, to be occupied in the most profitable way, with all the privileges and opportunities which enhance the value of the occupation? It is for this reason that a gas or a water company is held rateable—not for its gas or water pipes, which are personal chattels merely resting by their own weight in the soil—but for the land occupied by the pipes, and thus deriving an enhanced value by being capable of being used for the purposes of the company. The land in both these cases is not rateable at its mere value as land, for that would be in most cases "nil;" but it is assumed that the tenant would enjoy all the privileges of the water company or the gas company by which they are able profitably to occupy the premises, such as connection with other parts of the apparatus, the reservoirs, service pipes, &c., and the nature of the occupation of the soil, *i. e.*, by water or gas pipes so connected, is properly taken into account in assessing the land so occupied to the poor rate. So also the wires of the telegraph company and the barges of which the floating piers in the river are constructed, are personal chattels; yet they are rated—and why—because by the posts, and the anchor, for the purposes of rating, the land is considered as occupied; and although the value of the occupation exclusively arises from the annexation of the personal chattel, yet the telegraph companies and the pier proprietors are held rateable, and the increased value from the peculiar occupation of the land in each case is taken into account.

Again it is quite obvious that it would be utterly impossible for an overseer to take into consideration all those nice questions of law and fact upon which depend the right of a tenant to remove pictures. It matters not who built the house rated, or who improved the property—the present occupation is the thing to be regarded. Mr. Bates, who really seems to have studied the subject and to have the legal authorities at his fingers' ends, need not be told that the right to remove fixtures depends not only on their nature or their use, but, first and foremost, upon the fact whether the tenant put them up himself. Of course if the fixtures, whether trade fixtures or not, were on the property when the tenant entered on his tenancy, he can have no right to remove one of them. The mere fact therefore that a tenant, in a particular case, may remove fixtures, cannot affect the question of the rateability of the land to which they are affixed. The truth is that the right to remove fixtures at all, whether tenant or trade fixtures, is an exception introduced in favour of tenants and tradesmen, by judges and their decisions, into the rigid ancient code, which, conceived entirely in favour of the land, made everything annexed, as a greenhouse is ordinarily annexed, at the very moment of annexation, the property of the owner of the soil.

But the real questions are: first, is the land occupied?—second, how is it occupied?—and third, of what is the value of the occupation? Now the mere fixing of a screw to a floor to steady a machine, it might be argued, and perhaps successfully in some cases, would not be an occupation of a sufficiently permanent character to be called an occupation at all. On some such principle was decided the case of the floating dock at Hull, which was moveable, and constantly moved from one place to another. But in all cases it is a question of degree; and, in our opinion, beyond all doubt, in the case of a greenhouse as ordinarily annexed to the land, it would be held that the land *was* occupied by the greenhouse, and was assessable at an improved value, if by reason of the existence of the greenhouse upon it, the value were improved.

The case of greenhouses erected under the circumstances now discussed, is, as may be gathered from the explanation of the principles of rating above attempted, of less difficulty than that of machines and so forth, set up in a manufactory, but here also it is a question of degree. Is the machinery so fixed to the building as to form as it were part of it? There can be no doubt that if this be the case, the additional value which such annexation gives to the building, must be taken into consideration. Fixed machinery is, as a matter of fact, constantly and properly taken into account, and it matters not whether such machinery, by reason of custom or positive agreement, can be removed by the tenant for the time being in occupation of the premises. And so, to take Mr. Bates's other illustrations, the tenant who by putting in plate glass windows under circumstances which would give him a right to remove them during his term, or who, repairing and decorating a dilapidated building, and by fitting it up with valuable trade fixtures, increases its lettable value as a shop, would thenceforth be properly rated at its increased value. "If a house," it is said in one of the cases on the subject, "is let for 30*l*. per annum, and to-morrow if turned into a shop would let for 50*l*., when it is turned into a shop it shall be rated at 50*l*." So also, if the principles above laid down be properly applied, the farmer's case put by Mr. Bates as an *argumentum ad absurdum*, will turn out to be one which, so far from being absurd, is perfectly consistent with the law as at present interpreted. Suppose one farm with dilapidated buildings, and another with modern improvements, fixed steam-engines, and with threshing machine also fixed to the soil—will he say that the one ought to be rated as high as the other, the rateable value of the mere land being assumed to be equal. In our opinion it is clear, as a proposition of law, that the engine house and threshing machine, if fixed into the soil so as to occupy it with such a degree of permanence as above indicated, ought, if their existence renders the occupation of that farm more valuable in experienced hands and under ordinary circumstances, to be taken into consideration in assessing the farm to the poor-rate. It can, in our opinion, make no difference that the tenant may have the privilege of removing them under the Act of Parliament before cited (14 & 15 Vict. c. 25), which, in the interests of agriculture, extended the privileges of tenants in this particular.

We had intended to close this article without citing a single authority, but we are tempted to make one exception, as it seems to us very exactly to bear out the propositions for which we have been contending. In the celebrated case in which the rating of the Southampton Docks was considered, the Company claimed an allowance, which was thus stated and disposed of by the late Lord Campbell in delivering the considered judgment of the Court of Queen's Bench:—

"The fourth question arose upon a deduction claimed by the appellants, which was disallowed. They contended that their cranes, steam engines, and other like ponderous machinery, although attached to the freehold, ought to be treated as stock in trade, and part of the capital which a tenant would have to invest in the business, so as to diminish instead of increasing the rateable value of the property of the Company. The Sessions did find as a fact, that these fixtures, worth 6450*l*. to an incoming tenant, although attached to the freehold are capable of being detached from the freehold as easily and with as little injury to it as other fixtures put up for the purposes of the trade of the tenant, and usually valued as between incoming and outgoing tenants. But this is a rate upon buildings to which machinery is attached for the purposes of trade; and it has been solemnly decided that such real property ought to be assessed according to the existing value as combined with the machinery, without considering whether the machinery be real or personal property, or whether it be liable or not to distress or seizure under a *fieri facias*; or whether it would go to the heir or executor; or, at the expiration of a lease, to the landlord or tenant. *Rex* v. *the Birmingham and Staffordshire Gas Light Company*, 6 A. & E. 634; *Rex* v. *Guest*, 7 A. & E. 951. In this last case all the arguments pressed upon us to show that such fixtures are stock in trade, and not to be taken into account in a rate on the realty, were urged, but urged in vain. It is of the greatest importance that a rule upon such a subject, which has been laid down and acted upon, should be adhered to; and we see no reason why this rule should be now disturbed."

And this case, it is to be observed, was decided in 1851, long after the passing of what is called the Stock in Trade Exemption Act (3 & 4 Vict. c. 89), in 1840; an Act which has since been yearly re-enacted, and which is relied upon both by Mr. Lane and by Mr. Bates as establishing their contention, that the value, added to the occupation of the soil by the existence of greenhouses annexed thereto, ought to be disregarded in assessing the premises of nurserymen to the poor rate.

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It is not alone amongst ornamental plants, as was remarked in our observations on hybridising at p. 1107, that the vegetable cross-breeder may turn his skill to good account. That in this department he may be successful, the instance mentioned in our previous remarks sufficiently proves, but our own pages have recently recorded also a very interesting and successful first step in cross-breeding (see p. 966), viewed in its bearing on Economical Botany: we refer to the improvement of Cotton—that is to say, of Cotton viewed in its commercial aspect—through the agency of hybridisation. The same kind of experiment has, it appears, been made in India, as we learn from a pamphlet by Dr. Bonavia now before us,* bearing the very appropriate motto: "Perseverance is the Mother of Success."

Dr. Bonavia seems to have grown and distributed in Oudh seed of the New Orleans Cotton, and to have introduced its cultivation in that district with fair success. But though the New Orleans and Nankin are favourite varieties, he hopes to supplant them both by the hybrid which he has been successful in raising.

The following is a brief account of the

* Notes on Foreign Cotton Cultivation in Oudh. By Dr. E. Bonavia, Secretary to the Agri-Horticultural Society of Oudh. Lucknow, 1863. Pp. 12.

attempts at hybridising the Cotton plant, made by this gentleman, with their results:—

"In 1861 I successfully hybridised two pistils of the Egyptian Cotton with the pollen of the New Orleans Cotton. I had two bolls, from which, in 1862, I had fourteen plants. Six of them were much larger than the rest, the latter having been shaded by some Castor plants. About the end of the rains of 1862 the leaves turned yellow and dropped off, and after the rains they began to bud again. At this season one boll was produced by one of the plants, which was well formed. On ripening, I found it full of large seeds, but entirely free from fibre. This appeared like the prelude of a disappointment, but having observed that the first flower of Geraniums, especially of those raised from seeds, is generally a monster, I was not much disheartened by this first cottonless boll. I took care of the plants, and when the winter was over I pruned and watered them. They threw out a number of branches and flowers, and became covered with bolls, which, on ripening, produced a very superior kind of cotton.

"The general aspect of the plant was that of the Egyptian Cotton. The flowers were buff-coloured, and opened widely like those of the New Orleans Cotton, but were much larger; the crimson spot near the claw of the petals being pale, and in some flowers almost wanting, as is the case in the flower of the New Orleans Cotton; while the flowers of the Egyptian kind are sulphur-coloured, large, and the petals are twisted into a tube when full blown, the crimson stain near the claw being dark and well marked. So that the characters of the hybrid plants showed a perfect mixture of the two parents.

"In May, 1862, they produced a large crop of bolls, the majority being four-valved. In this particular they resembled the New Orleans, the Egyptian as a rule producing only three-valved bolls. The fibre was long and silky. The seeds of some of the hybrid plants were green-fuzzed, of some brown-fuzzed, and of others black with partial green-fuzz."

The cotton from this small group of hybrid plants was collected and sent to Calcutta for the opinion of the Cotton Committee of the Agri-Horticultural Society of India. The experiment was pronounced a great success, the cotton being considered in every respect a perfect article of its kind; and under present exceptional circumstances it was valued at 2*s.* 6*d.* per lb. in Liverpool. Dr. Bonavia was also invited to favour the Society with a detailed account of his experiment.

"Here is a field," he writes in the pamphlet from which these particulars are gleaned, "on which any one may immortalise himself! We are in the habit of hearing of hybrid Roses, hybrid Turnips, and other hybrids of comparatively trifling value; and Cotton is a most important plant to man, and it required no less than a tremendous American war to thrust the subject of its hybridisation on the minds of scientific men. I have given up," he continues, "further attempts at hybridising the foreign with the indigenous Cotton. I felt that the species were so divergent as to exclude the possibility of their fertilising each other. But some good results may yet be obtained from trials to cross the indigenous Berar Cotton with the indigenous common Cotton."

Dr. Bonavia thinks there is little doubt that by judicious selection and crossing it is possible to produce a Cotton not only adapted to the various soils and climates of India, but of high commercial value in regard to quantity and quality. One of the great drawbacks of native Cotton, he remarks, is its small amount of produce, which is suspected to be owing to interbreeding. The Egyptian Cotton, too, is almost as bad, and goes from bad to worse every year, so that, as a crop, in Oudh, it is considered worthless, though it is most valuable for the "natural hybridisation" presently to be mentioned. The New Orleans variety produces a sufficiently good crop, but in many plants even of this a large number of flowers are not fertilised, which is again attributed to interbreeding, in accordance with Darwin's observations that "a cross between different varieties, or between individuals of the same variety but of another strain, gives vigour and fertility to the offspring; and on the other hand, close interbreeding diminishes vigour and fertility."; Thus Dr. Bonavia's variety, which resulted from crossing the New Orleans and the Egyptian, themselves varieties of the same stock, is not only a more vigorous and finer kind, but more fertile than either of its parents: and being the child of Indian soil and climate is regarded as more likely to be suited for cultivation in India than they are. It is Dr. Bonavia's opinion, too, that this cross can occur naturally, and he records in proof of this, the existence of plants more vigorous than the rest, and agreeing with some of his hybrids, in plots of either parent when growing contiguously.

Natural hybridisation is regarded as the best course to be pursued. "I strongly recommend," writes our authority, "that the two kinds of Cotton should be sown on the same piece of ground in alternate rows, so that a large number of the pistils of both may be hybridised through the agency of insects and of wind. The seeds of these two kinds gathered separately, and sown again on separate plots, will produce among the usual kinds a number of plants which will be more vigorous, the pods more numerous, and the fibre longer and more silky; and if I am correct in my deductions, the seed will be green. All such seeds are to be carefully selected for further multiplication. This is a method of producing hybrid seed in large quantities. The success I have obtained in creating, so to speak, a new and useful kind of Cotton is so encouraging that I shall make further and more extensive experiments. Some very important results may in course of time be obtained. With this end in view I have procured some indigenous Cotton seed from Dharwar to cross with the Berar, and some Mexican from Goruckpore to cross with the New Orleans. And some Pernambuco Cotton seed may, if not very prolific in itself, be very useful to cross with other kinds."

We cannot do otherwise than wish Dr. Bonavia every success in his well-meant and important operations.

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In fulfilment of a promise made to our readers last spring, we are happy to be enabled to lay before them in our present Number the plan which, at the recommendation of the Delegates, has been prepared by Mr. Bateman for laying out the estate adjoining the Oxford University Museum. Mr Bateman's hands were a good deal tied by the large demands for space made upon him by the cricket interest, and by the indisposition of the authorities to incur a large expenditure in works with which a considerable portion of the academic body did but imperfectly sympathise, however important they might appear in the eyes of the world at large. We can only say that the plan seems to us to be admirably adapted to the circumstances of the case, and we sincerely trust that Convocation may speedily be led to assent to its adoption.

Although the plan is the production of an amateur, it would be difficult to name any professional man who has had much more experience in laying out grounds, or who is more thoroughly acquainted with the habits and capabilities of hardy trees and plants than its author, Mr. Bateman.

Mr. Bateman's Plan for Laying out the Parks Estate, belonging to the University of Oxford, and attached to the New Museum.

REFERENCE.

A. Principal lodge and entrance.
B. Grand avenue, proposed to be planted with Wellingtonias.
C. Road and footpath.
D. Reserve garden, with pits, frames, &c.
E. Yard for compost, &c.
F. Site for some handsome architectural object (*e.g.*, fountain, group of sculpture, cross, &c.)
G. Sheet of water obtained by widening the river Cherwell.
H. Site for Bridge over the Cherwell.
I. Entrance for carts, sheep, &c.
K. Cricket house, with dressing rooms, dining room, kitchen, &c., having one face towards the match and the other towards the practising ground.
L. Details of this locality left for future consideration.
M. Fence between plantation and practising ground.
N. Cricketers' practising ground.
O. Cricketers' match ground, 10*a.* 2*r.* 10*p.*, surrounded by gravel walk.
P. Yew hedges, recesses for seats, &c.
Q. Curator's house.

N.B. The ground slopes gently towards the river, its average height above the latter being about 20 feet. The substratum is gravel, and the soil is poor, but from the meadows adjoining the river a sufficient quantity of rich loam may be obtained to insure the success of the groups of trees to which of course it would be devoted. As it is indispensable that mounds should be formed of sufficient height (when planted), to shut out unseemly buildings and secure the requisite privacy, it is proposed to obtain the necessary material for them by enlarging a portion of the river Cherwell, which would thus present a broad expanse of water and have all the effect of a lake. It is not proposed to adopt any botanical arrangement of trees or shrubs—for the University has already its Botanic garden, but merely to arrange in suitable masses, and with due regard to picturesque effect, a series of such Conifers and other evergreen or deciduous trees as may be thoroughly relied upon to succeed in the climate of Oxford. It might have been desirable to treat more architecturally the immediate vicinity of the Museum building, but anything of this kind would be quite impracticable unless a very much larger sum were voted than that which the

University seems at present willing to devote to the Parks.

We have to make the very important announcement that Major Trevor Clarke's Hybrid Cotton has been pronounced by Dr. F. Watson to be of *three times* the market value of the Nankin parent.

—— The Society of Arts has just announced the Subjects for which it offers Premiums for the Sessions 1863-64 and 1864-65. The following may interest some of our readers:—

Cottages for the Labouring Classes.—Two prizes, of 25*l.* each, are placed in the hands of the Council by J. Bailey Denton, Esq., to which are added the Society's medals, to be offered for the most approved designs for cottages, to be built singly or in pairs, at a cost not exceeding 100*l.* each. One prize is to be competed for by members of the Architectural Association, and the other is open to general competition.

Detailed particulars have been issued and may be had on application to the Secretary.

The plans, drawings, and specifications, must be sent to the Society's House, not later than the 1st January, 1864.

Tobacco.—For an account of the cultivation, preparation, and manufacture of the various kinds of Tobacco and the commerce therein.

Uses of Seaweed.—For the extraction from Seaweed of any substance, or preparation, capable of extensive application as a dye, drug, thickening, tanning agent, or other generally useful product.

Flax in Australia.—For the production in any of the Australian Colonies of Flax of a good marketable quality. A sample of not less than one bale to be forwarded to the Society.

African Spice Plants.—For an account of the spice plants and condiments of Africa, wild or cultivated, with samples and cost.

Essential Oils from Australia.—For the introduction into commercial use at a moderate price of the essential oils shown at the late International Exhibition from Australia, or of any other new essential oil likely to be useful in medicine or the arts.

Substitute for Wool.—For any fibrous material available in large quantity and at a low price, capable of being used advantageously in textile fabrics, as a substitute for wool. The fibre should be from 1 to 6 or 8 inches in length, and suitable for being spun on the ordinary woollen or worsted machinery.

Substitute for Cotton or Flax.—For any new fibrous plant or substance which may be used wholly or in part as a substitute for Cotton, Flax, Hemp, &c., or any new processes whereby useful fibres may be extracted from plants.

New Gums.—For any new substance or compound which may be employed as a substitute for India-rubber or gutta-percha in the arts and manufactures.

New Gums or Oils.—For any new gum or oil the produce of Africa, calculated to be useful in the arts and manufactures, and obtainable in quantity. Samples of not less than 25 lbs. of gum, and 50 lbs. of oil to be transmitted to the Society.

New Edible Roots.—For the discovery and introduction into this country of any new edible root useful as food for man or cattle, and capable of extensive and improved cultivation.

Edible Seaweeds.—For a means of rendering seaweeds generally available as a wholesome vegetable food on board ship.

Australian Sugar.—For the production and manufacture of not less than 1 ton of cane sugar, the produce of any of the Australian colonies. Details of the extent of land under cultivation, the yield of sugar per acre, and the cost of production per ton, to be furnished.

Australian Coffee.—For the successful introduction of Coffee cultivation into any of the Australian colonies, and the production of 1 cwt. of merchantable Coffee. Samples of 10 lbs. to be sent to the Society.

Spice Culture in Australia.—For the introduction of the Nutmeg, Clove, Pepper, or any other useful commercial plant into the Australian colonies, and the production of not less than 1 cwt. of produce therefrom. Samples of at least 1 lb. of each to be sent to the Society.

—— We have received from Mr. Moore the accompanying additional memoranda (see p. 747), concerning certain ornamental novelties amongst the Varieties of British Ferns, which will no doubt be interesting to our Fern-loving readers.

"First on the list is Polystichum angulare Holeanæ, found near Stickwick, in the parish of Bovey Tracey, by the gardener to Mrs. Hole, of Parke, and communicated by Mr. R. J. Gray, of Alphington. This is a variety of the proliferum series, and one of the handsomest yet discovered, the fronds being broad and leafy, and yet very much divided upon the same plan as proliferum itself. Mr. Gray's specimen without the stipes, is about 2 feet long, and nearly 9 inches across towards the base. The pinnæ are thickly set, so that the pinnules overlap each other, those on one pinna reaching as far as the midrib of the next pinna, and yet from their divided character leaving numerous openings between their parts. The more perfectly developed pinnules are an inch long, almost linear in form, and divided into 10 or 12 small but distant pinnulets which are irregularly obovate in form, with two or three small sharp teeth ending in an awn. As in all this series, the rachides are densely scaly.

"The next is a Hart's Tongue found at Mainforth in Cornwall, by Miss Marian Drummond, of Denham, Uxbridge, in compliment to whom it is named Scolopendrium vulgare Drummondiæ. The fronds of this Fern are about a foot and a half long exclusive of the stipes; below they are undulated in a very decided manner in the way of crispum, the base of the frond having the usual cordate outline, while in the upper part they become multifidly divided into a tuft of about 6 inches across, the divisions of which are repeatedly forked, and the ultimate lobes not simply pointed, but becoming dilated and breaking out into several coarse tooth-like projections, which are somewhat cristate. The fronds are sparingly soriferous. It is one of the handsomer forms of Hart's Tongue, combining the ornamental features of crispum with those of the subcristate forms of multifidum.

"Another ornamental form of Hart's Tongue is the Scolopendrium vulgare Weaveri, found by Mr. J. Weaver on an old wall, near the Menai Bridge in Carnarvonshire. This is also undulated and multifid, but is very different from the last, the margin being crisped moderately, after the model of undulatum rather than of crispum, and the apex being simply multifid, that is divided into segments, each of which terminates in a simple point. The fronds are abundantly soriferous, and have a slight tendency to become crenato-lobate on the edge.

"Mr. R. J. Gray has sent a beautiful Polystichum found by himself near Exmouth, which it is proposed should bear the name of P. angulare Grayi. It is a variety having a good deal of the character of brachiatum, that is to say, from the lower part of the frond is produced a pair of arms, which rather represent branches than pinnæ. These branches are not equally developed on all the fronds, but there is always a pair of sensibly larger divisions thrown off at the base of the rachis. In the most marked examples, the fronds of which are about a foot in length, including the stipes, the two branches are each about 7 inches, the centre portion being 8 inches in length, the whole having the appearance of a nearly equally three-branched frond. Other fronds are about a foot long, excluding the stipes, and almost of a pyramidal outline, the two lower pinnæ being so developed as to appear considerably larger than the rest. The central branch is sometimes distinctly multifid, and the apices of the fronds and branches, and frequently of the pinnæ and pinnules form little crests or dilatations. The pinnules are small linear oblong or obcuneate, frequently semihastate from the slightly increased development of both anterior and posterior basal lobes; the larger ones are lobed and toothed, the smaller only toothed, all the teeth having long awn-like or setiform points. It is a very elegant and well marked variety, abundantly distinguished from brachiatum, which has the same manner of branching, by its little cristules and the form and toothing of the pinnules.

"Among Lastreas a very pretty form was given me last summer by Mr. F. Scheer, of Northfleet, which as it proves to be a distinct variety, I propose to distinguish as Lastrea dilatata Scheerii. It is related to erosa and to some of the smaller forms referred to interrupta, but is distinct from them, and especially remarkable for the exaggerated development of its marginal teeth. It is rather a small form, the entire frond including the stipes being under a foot in length. It is not quite normal in outline, the parts (more frequently the pinnules than the pinnæ) being here and there dwarfed or even wanting. The general outline of the frond is ovate, that of the pinnæ more elongate, and that of the pinnules obliquely ovate; these latter are divided into several oblong lobes, which are rather distant, and slashed at the margin into several unequal but rather long often incurved and frequently spiny-pointed teeth. The stipes bears a few lanceolate dark-centred scales at its base.

"Finally of Aspleniums, two very interesting ones have to be recorded. The first is A. Trichomanes Harovii, a well-known European form figured by Schkuhr so long ago as the beginning of the present century, but not hitherto recorded as British. It has been found near Chepstow by Mr. G. S. Streatfield, and Mr. A. G. More has communicated specimens from Barmouth. It may be described as a form intermediate between subæquale, which has the costa central and the base of the pinnæ inclining to hastate, and incisum in which the pinnæ are deeply incised; in other words it is a variety with subhastate or semi-hastate lobed pinnæ tending towards incisum. The pinnæ are bluntly ovate, with usually a longish ear-like lobe at the posterior base, and more or less of a smaller lobe frequently developed at the anterior base, the margin being more or less notched and slightly toothed. The second has been called A. Adiantum-nigrum flabellatum, and bears some analogy to the var. cristatum noticed at p. 748. It is, however, quite distinct, the fronds being scarcely more than pinnate, with an ovate-lanceolate outline; the pinnæ divided into a few not very distinct lobes at the base, and merely dilated and toothed at the apex, while the tip of the frond, beyond where it narrows almost to a point, is branched out into a multifid fan-shaped tuft of linear acute segments. This was found at Bishop's Teignton, near Teignmouth, by the Rev. G. W. Thornton, and is stated to be quite constant."

## NOVEMBER BLOOMING ROSES.

One great charm attached to the Rose, is the length of time in which it may be had in bloom in the open garden, without protection of any kind. I have this day (Nov. 18.) gathered a bouquet of these charming flowers sufficiently numerous to fill a large vase, and of a quality good enough to grace a drawing-room, or I might almost say fit for setting up in an exhibition stand. Although we have lately experienced violent gales of wind and heavy storms, many of the blooms have not a damaged petal, while the glowing colour of some varieties is exquisite. The few last warm days have contributed to this result.

It is my intention to give a short, but, I trust, a useful list of varieties which can be depended upon for late autumn or winter blooming, and I shall place them in their order of merit, viz.:—

*General Jacqueminot.* This brilliant variety decidedly claims the foremost place; not only are blooms and buds on every plant, but the flowers not being so full as in many kinds, open much more freely, and have all the high colouring we expect to find early on a summer's morning.

*Louise Odier* is another charming Rose, the colour soft pink, the form good; the plants are now covered with flowers.

*Senateur Vaisse* is an excellent late bloomer; the colour deeper than in the summer, but the buds being fuller of petals do not expand so freely as the General.

*Madame Charles Wood* is another acquisition; the plants with me have more blooms and buds on than they can well support. Colour deeper than earlier in the season; the blooms open freely.

*Madame Knorr* is a pleasing Rose now, being small and pretty, but the colour rather washy.

*Madame Louise Carique* is a variety which is much more beautiful now than in the summer; the blooms open freely, and are distinct in colour from any other Rose, the petals being crimson dashed and shaded with deep violet. This Rose is by no means a favourite with me, either for exhibition or decorative purposes in the summer, but it is well worth growing, if only for its beauty at this season.

*Madame Clemence Joigneaux* is a fine bold rose-coloured variety, but too full to open freely unless the weather be dry.

*Gloire de Dijon* must not be forgotten, as its fine blooming qualities and its chaste colour render it a decided acquisition; although some scores of blooms are now on the plants, very few have opened nicely; the winds and rains at this period of the year are apt to destroy its beauty.

*La Reine* is not so free as some others, yet here and there a grand bloom can be found.

*Monsieur de Montigny* is another of the La Reine class, but deeper in colour and very showy.

*Victor Verdier* is a pleasing bright pink, and opens very freely if the weather is not wet.

*Maria Portemer* is a neat dark Rose, and very free; the outer petals are apt to decay before the flower opens; it was very fine in October.

*Noëmi* is very free, the flowers light pink, but small; it has the same fault as Maria Portemer.

*La Fontaine* is a showy Rose; opens well, and keeps its colour.

*Triomphe des Beaux Arts* is a free blooming kind, very dark, semi-double, but pretty, chiefly on account of its colour.

*Madame Schmidt* is a fine chaste rose-coloured flower, not very free, but distinct and beautiful.

*Souvenir de la Reine d'Angleterre* is another large showy Rose, and opens well; colour pale pink.

*Duchesse d'Orleans* produces occasionally fine blooms of a pale flesh colour, which are exceedingly delicate at this season.

*Souvenir de la Malmaison* is also of a beautiful colour now, but the outer petals often decay before the blooms expand.

*Blanche de Solverille* is distinct from all others; the blooms are small, of a creamy white; opens well; not very double.

*Salet (Moss)* is the only Moss that opens freely, and is therefore desirable, although of a poor colour.

*Bouquet de Flore* is a pretty cupped Rose, deep pink, small.

*Jules Margottin* is a free bloomer of a pleasing colour, but the wind appears to damage the blooms much, giving them a very ragged appearance.

It will be borne in mind that the colours here given are as produced now, and that the varieties enumerated are those that are in bloom this 18th day of November.

Many other kinds could be mentioned that are beautiful in the months of September and October, but which will not come into the list of November Roses. *Chas. Jas. Perry, The Cedars, Castle Bromwich.*

## NOTES ON GARDENS.—No. I.

### Hull Botanic Garden.

One fine August morning I started from King's Cross on a botanical tour, full of "great expectations," which were more than realised. After sweeping by the hills of Barnet, through the then golden prairies of Lincolnshire, and across the Humber, I safely landed in Hull; and, though late, I had heard too much of Mr. Niven's Alpines to rest until I had made for the Botanic Garden and introduced myself to him, which I accordingly did, in the vicinity of his Saxifrages. Preliminaries were soon cut short by the sight of a bed of diminutive Alpines, and so I commenced an examination of the finest collection of these most interesting plants I have ever seen.

To begin with the Saxifrages: there are upwards of 120 species, not presenting, as is too often the case with collections of plants difficult to name, characters totally opposite to those indicated by the specific names attached, but well named and distinct. Here I had the pleasure of making the acquaintance of species

from the mountains of Killarney, the highlands of Scotland, the Alps, the Pyrenees, and from almost every northern peak, all near neighbours now, in the most perfect health, and as easily studied as if one possessed the mountaineering capabilities of the "Witch of the Alps." Never have I seen anything prettier than the little frosted silvery masses of the encrusted-leaved section—S. cæsia, diapensoides, caryophyllata, and others of that type. Surely it is remarkable that these lovely things are not more appreciated and cultivated—always neat and pleasing to the eye, retaining their foliage throughout the year, and yet giving forth their numerous flowers as gaily as many plants which are now ragged and decaying. Even in London at this dreary season, the varieties and numerous allies of S. hypnoides are assuming their loveliest tint of green. When it is considered that the "scarlets" and their few select companions have banished variety from most private gardens; that Alpine plants have been almost expunged in the general clear out; and that the rarer and more delicate kinds are now only to be met with in botanic gardens, and in here and there a private collection, it will be seen how difficult it is now-a-days to collect and preserve such a magnificent collection as that in the garden at Hull. Among the rarest species I noticed S. gibraltarica, aretioides, mutata, thysanodes, and the true irrigua.

Next in interest and numbers came the Sedums, there being about 60 species, including fine specimens of the rosy-tinted brevifolium, farinosum, glanduliferum, and cyaneum. Sempervivums were equally well done. Of the beautiful spring-flowering Drabas, there were healthy tufts of bœtica, tridentata, and ciliaris, with nine other commoner species. Amongst Geraniaceæ, Monsonia speciosa deserves especial notice. By the by, there are several other Monsonias which would be well worth reintroducing. Pyrolas looked admirably under pot culture. Amongst composites the old Arctotheca grandiflora was very fine; also Antennaria tomentosa, a very white-leaved neat species; and the small variety of A. dioica, which covers the pans during the spring months with a mass of its rosy flowers, 2 inches high. Dolomisea lucida was in bloom, but is decidedly more curious than beautiful. Primulas were in great force; there were strong plants of P. verticillata, purpurea, and mollis, with many more generally grown species. The Androsaceas included the too-little known lanuginosa; would not this make an admirable basket-plant for the cool greenhouse? Statice Thouinii, a small species, looked very distinct amidst 20 more of that genus. The sweet little Houstonia cœrulea was also here, but it is grown much better near the glass in one of the cool greenhouses. Gunnera perpensa and magellanica, and the northern Willows—Salix polaris, arctica, and reticulata, were quite at home. Of Epimediums there were 18 species, but Mr. Niven thinks the genus is much in want of revision and reduction. Violaceæ was very strongly represented, and conspicuously so by well flowered specimens of the charming little Erpetion reniforme. And what has been said of the Saxifrages may with equal justice be applied to Iberis, Arabis, Dianthus, and many other families in this unique collection.

The Alpines cultivated in pots number at present 1600 species, and are arranged along a border about 4 feet wide, raised 2 feet high at the back, with 1 foot slope towards the north. Here they remain exposed to all weathers, the pots merely plunged in ashes, the only protection given being that which nature affords in the form of snow, this being heaped above the plants and allowed gradually to melt away. Though this mode of culture applies to the general collection, there are of course exceptions made, a few of the tenderer things being removed to cold frames. I observed moreover several thousand duplicates in small pots, which are all removed to frames in winter; and in many instances it is found that plants which damp off in the larger pots maintain perfect health in the small ones, from their being somewhat stunted. It is owing to the number of duplicates thus kept, that a species is very rarely lost when introduced to this collection.

Twilight fell just as I had finished the minims, and obliged me to leave the rest till the morrow, which proved wretchedly wet; but having to explore many other places widely separated, there was no alternative but to complete my notes in a downpour.

The Hull Botanic Gardens is one of the oldest of our provincial ones, having been established in the year 1811, under the most favourable auspices, as a purely scientific garden, and having amongst its promoters Spence the entomologist, and Watson the dendrologist. For many years it continued a prosperous institution; but through party feeling a rival sprung up in the form of a Zoological Garden, which, from its novelty, absorbed a good deal of support from the older institution, and its popularity declining gradually, some dozen years ago there were serious intentions of doing away with it altogether. About 10 years since, however, the British Association having arranged to honour the ancient borough of Kingston-upon-Hull with a visit, it behoved the town to put its scientific house in order, and to Mr. J. C. Niven, then superintendent of the herbaceous department at Kew, was consigned the task of rendering the garden in some degree worthy of its by-gone fame. This was the turning point of the prosperity of these gardens. Slowly at first, but within the past few years very rapidly, it has emerged from poverty to financial success; and at the present time its income is nearly three times what it was in 1853—a case which is probably unparalleled in the history of botanic gardens. Any remark of mine on the management which has produced such a result would be superfluous.

The garden is the property of a number of shareholders, who subscribe one guinea annually, which subscription also admits to the garden persons who are not shareholders. It covers about 6 acres, the surface being almost a dead level. The natural soil is a very shallow stiff clayey loam on a subsoil of stony clay. The principal range of glass is about 100 feet long, and having been erected more than 50 years is of course somewhat antiquated, but hopes are entertained of superseding it ere long by something more characteristic of the crystal age. The more popular classes of plants chiefly occupy the glass houses; though in the warmer division such interesting medicinal and other plants as the Camphor, Cinnamons, Gamboge, Matico, Cocculus indicus, Turmeric, Myrospermum, Cubebs, &c. were to be seen. There are several houses in the rear devoted to Ferns, propagating purposes, &c.

The collection of herbaceous plants is arranged in symmetrical beds, according to the natural system, and in this manner about 2000 species are cultivated. The space appropriated to these being limited, the plan adopted is to retain only those which are really distinct, and such as illustrate the various sections of a genus. Here I found many interesting plants, and among them Dorema ammoniacum, to the flowering of which Mr. Niven was looking anxiously forward; also the true Asa dulcis of Crete, the Thapsia garganica, which had such a miraculous reputation amongst the ancients as to have been struck by them on the reverse of their coins. Asters, usually in botanic gardens a most heterogeneous mass, were here very distinct; among them I noted A. sikkimensis, cabulicus, bessarabicus, grandiflorus, and the very rare, even in its natural habitat, A. pyrenaicus. On inquiring whether any great interest was taken in this department by the supporters of the garden, I learnt that such was not the case, or at any rate was exceptional, but its value was fully appreciated by the medical students. In nicely sheltered squares were long beds, some of them filled with bog soil, where each choice thing had a few square feet of the bed to itself. Here was a fine collection of the smaller Heaths, and of the American Cowslips, the latter attaining a height in the flower scapes of 2 feet, and doubtless presenting a beautiful sight in spring. Each of a dozen kinds of Scilla had 5 feet of bed devoted to it, Stocks, Asters, &c., flourishing over the dormant bulbs in summer time. The curious Megacarpæa polyandra, which is so remarkable a divergence from the hexandrous character of Cruciferæ, was here; also Ranunculus parnassifolius, uniflorus, and cortusifolius; Trillium grandiflorum, Trientalis europæa; Salix reticulata, so vigorous as to successfully dispute with the Box edging the limit assigned to it; while Andromeda tetragona was growing in fine style, as was Menziesia cœrulea and empetrifolia, and Bryanthus erectus. Berberis empetrifolia looked as much at home as if in its antarctic habitat. Silphium laciniatum, the celebrated Compass-plant of the North American prairies; Lilium colchicum, dauricum, and tenuifolium; Helleborus olympicus, argutifolius, and atrorubens; Asclepias tuberosa, and many other fine perennials of more frequent occurrence, were beautifully and abundantly grown in those carefully prepared beds. Close by was a very strikingly pretty looking shrub with golden leaves and stem, evidently a close ally of Eurybia, and provisionally named E. chrysoclada; it had stood for the past two winters, but was killed to the ground in 1860.

Numerous as were the "botanical" plants and rarities, the garden is not at all given up to these objects, but a very happy attempt is made, while cultivating as varied a number of distinct plants as possible, to cater for the more popular taste for showy flowers, proving that the two objects are not so antagonistic as is sometimes supposed.

Amongst the flower beds, those which most attracted my attention were raised by rustic Larch stalks driven into the ground so as to leave about 15 inches above the surface, the inside being filled with prepared compost, and planted with a mixture of Fuchsias, Humeas, Geraniums, Verbenas, Calceolarias, Heliotropes, &c., &c., many of which, such as Fancy Geraniums, were in bloom when planted out, the whole being so arranged as to give, if I may so say, a regular irregularity, or good bouquet-like aspect. This appeared an admirable plan for isolated beds. Centaurea ragusina is used as an edging plant with excellent effect, and, by the way, proved perfectly hardy last winter, resisting the spring frosts, though planted in a very damp locality. I was informed that all the bedding plants, except Dahlias, were planted out the first week in May, and though nipped a little by frost, and discoloured in foliage, the result was so satisfactory as to induce a repetition of the plan. The Verbenas so treated were good masses of bloom long before those in the neighbourhood, which were turned out at the end of the month.

The place was in excellent keeping. Trees and all hardy plants seemed to thoroughly enjoy the situation; but being obliged to catch the train for York, I bid good-bye to this remarkably interesting garden with one regret—that it was not on some early summer day I had found myself there, to fully enjoy the alpine gems in their gayest beauty. *William Robinson.*

## Home Correspondence.

*Showing Roses.*—With the exception of 12 Tea-scented Roses and collection of Moss Roses, no classification was required in the schedules of last year's show. The idea of introducing a more distinct classification is well worthy of some consideration, and might in a spirit of fairness be adopted. Hitherto the schedules have consisted of three main divisions:—1st, nurserymen; 2d, amateurs; 3d, open. A recognition of the different sections of Roses would not interfere with those divisions, but would materially alter the effect of the display, and bring in much uniformity—if insisted upon entirely, that is, if no box whatever is to contain only one section, H.P.'s for example. To appoint a Rose show on this principle would act injuriously to amateurs willing to exhibit, but whose stock is limited. None would like to see Gloire de Dijon shut out from his collection—for nearly every amateur's box contains it; or Triomphe de Rennes, which is generally the "great horse" for yellow; or Charles Lawson or Coupe d'Hébé, also deservedly favourites, and being vigorous growers and free bloomers, are depended upon to "help out." To insist upon the classification system with amateurs must tend to exclude very many of them. In the case of the large growers the distinction might with some propriety be adopted; but if so, the number of blooms should be reduced in proportion. Ninety-six single H.P.'s of dissimilar kinds would at the present time be too many, although there are many more than 96 kinds in cultivation. It may also be remarked that the number of varieties of Gallicas, Hybrid Chinas, &c., in the trade lists have of late been greatly diminished, so that many would not possess a sufficient number to form a good collection. It is to be regretted that this is so; and a judicious arrangement of the schedules would do much to restore to them some degree of popularity. As regards Tea-scented and Noisette varieties, it is already acknowledged that our climate is unfavourable to them out of doors. Unless, then, an amateur possesses means of adequate shelter, he will do but little with them. In exhibiting them with other varieties a restriction should be placed upon the number, say out of 24, not more than four or six to be Teas and Noisettes. This will be fair to those who cannot grow them. Considering the whole subject of classification, I am of opinion—1st. That a more distinct recognition of the different families of Roses at our great shows is desirable. 2. That such recognition should be effected in separate classes described as open, or included in the nurserymen's 96, each class exhibited in separate boxes, and labelled to that effect. 3. That the classification should not be too minute; for example: Hybrid Perpetuals should stand as a class; Bourbons for one, and Moss for one; Teas and Noisettes should also form one; and Gallicas, Hybrid Chinas, and Hybrid Bourbons should together form only one. If trebles are shown they should only be in the smaller numbers, such as the 24 of nurserymen. When a higher number of trebles has been brought to the show, there has almost invariably been many bad and indifferent blooms among them. And lastly, if it be one of the objects of Rose shows to encourage the culture of that superb flower among amateurs, the classes relating to them should be so arranged that the prizes can be won by as many different exhibitors as possible. *Adolphus H. Kent, Blechingley, Surrey.*

*Woollen Refuse.*—I forward for your inspection a small quantity of this material. When I entered the service of my present employer, about 10 years ago, I found many hundreds of tons of it at my disposal. Mr. Cliff patented a press for the extraction of the oil from it, and although not a woollen manufacturer himself, he finds it very remunerative to purchase the refuse for the sake of the oil it contains alone. I began to use the refuse in the garden with extreme caution, as I had an idea that it would generate Fungi, which might be destructive to the roots of plants. After seven years trial of it, however, in various ways, I am now able to speak of it with confidence, and I find it to be extremely useful, not only as a manure, but also for other purposes. I shall be glad to send you a short description of the different uses to which I put it, if you think it worth laying before your readers. *J. T., Wortley, near Leeds.* [Pray favour us with the description alluded to; we shall be glad to publish it.]

*Wistaria sinensis.*—Reading in your columns an account of a standard Wistaria, reminded me of the fine effect of one in my nursery in conjunction with two other trees. After growing above a boarded fence on which it was trained, I led a shoot of it to a branch of a large standard Plum tree about 20 feet in height, having a huge round head, and in two or three years the Wistaria intwined itself amongst the branches, which it surmounted, and seemed to seek further support. It also sent out another shoot over a doorway, and attached itself to another similar tree, which it soon overtopped, coiling round and mingling with the branches, the sombre green leaves of the trees contrasting agreeably with the paler hue of those of the Wistaria; its long racemes of lilac blossoms, too, produced a beautiful effect and

were much admired, the whole having the appearance of noble standards of the Wistaria itself. On seeing these trees at a distance. I very well remember the astonishment and admiration expressed by an eminent nurseryman friend, who exclaimed "Ah, what have you got yonder?" hurrying towards the spot with rapid inquiries and strides, which I found it difficult to reply to or keep pace with. Those who possess strong plants of the Wistaria, with the other facilities just named, may, I apprehend, do likewise, and obtain a similar treat. *Wm. Godsall, Hereford.*

*Cephalotaxus Fortunei.*—I observe by a letter written by Messrs. Paul & Son, of the Old Cheshunt Nurseries, and published at p. 1062, that a plant of, what is called, the female of this species, is now producing its fruit in their nursery. Permit me to give your readers some information about this "female." When I discovered Cephalotaxus Fortunei (Hooker) in North China, it was the only species of the genus I had met with in that country. As it appeared to be a very handsome shrub or small tree, particularly when grown in a shaded situation, I determined to introduce it to Europe; but as it was rather rare in the locality where it was first met with, I despatched some of my Chinese friends to another district in search of its seeds. A large quantity was eventually got together and sent home. When the seeds vegetated in the Bagshot Nursery it was observed that two very distinct-looking species made their appearance, although I had sent home a notice of one only; a dried specimen had been sent at the same time and forwarded to Sir William Hooker, who named it and described it in the Botanical Magazine. Sir William's plant and the one I had discovered were of course identical; but what was the other species which had vegetated in company with it, and of which no notice or dried specimen had been sent to England? No one knew, and for some reason which I cannot explain it was sent out as the female in question, the other I suppose for the same reason being considered the male. The first time I had an opportunity of seeing the second species was therefore in England, although I had sent its seeds from China. I remember the circumstance puzzled me considerably at the time, for although I was well aware that curious changes do frequently take place in the reproduction of plants from seed, yet I felt somehow convinced that the so-called "female" had not been produced by the seeds of the true Cephalotaxus Fortunei. When I returned to China some time afterwards on another expedition, I determined to solve this curious problem, and having the same persons in my service as on the former occasion, I had little difficulty in doing so. On visiting the localities pointed out to me by my guides I soon found the trees from which they had collected the seeds. The species proved to be quite distinct from that which had been named and described by Sir Wm. Hooker, and appeared to me to be new to science. It had shorter leaves than the other, and grew to a much greater size, although the fruit of the two was very much alike. I may mention that in this genus the male flowers are always produced on one plant and the female ones on another, and consequently there were male and female plants of both the species which I had discovered. In order to clear the matter up I dried specimens of the two sexes of each species, and I believe specimens of these were afterwards presented both to Sir Wm. Hooker and to Dr. Lindley. Another mistake appears to have been made with reference to the plant in question. Many persons considered it to be identical with C. drupacea (Siebold), and those who gave up the bad habit of calling it the "female" named it C. drupacea. Siebold's plant, however, is apparently quite distinct from mine, a circumstance which has already been pointed out by Dr. Lindley in the *Gardeners' Chronicle*. My friend Mr. Gorrie, the manager of Messrs. Lawson's extensive nurseries in Edinburgh, and a good authority in such matters, regards the two species as quite distinct, and drew my attention to the fact a few weeks ago when I was in Scotland. It appears, therefore, that the plants I have noticed form three distinct species, namely C. Fortunei (Hooker), C. drupacea (Siebold), and the said "female," which up to this time has neither been named or described. *Robert Fortune.*

*Can bad smells arising from Coal Tar be got rid of?*—May I venture to ask if you or any of your readers can advise me in the following serious difficulty:—About three years ago, I built three small houses in a damp situation; there was no story below the ground floor rooms, and the usual precautions were taken to have slates in cement in the walls, and a good height below joists, and three air bricks back and front in each house. The ground under the floor joists was covered with some inches deep of concrete; and as this did not set so hard as I hoped (owing to the gravel being rather loamy), I, in an evil hour, payed it (the concrete) over with coal tar from the gas works. The smell of this tar has been a source of constant complaint from the tenants since they entered the houses. I hoped at first that the smell would by degrees pass off, as it would do out of doors, but, notwithstanding the current of air through the air bricks, it is now as bad as ever. In one house I tried caulking the joints of the floor boards with twine (larger than the joints), passed through hot glue and driven in while hot, but the smell remains the same as in the other two houses. Can you suggest any plan for destroying the smell, or the tar itself, without tearing up the whole floors, which would be difficult, as the joists are Oak, and the operation would seriously impair the carefully finished work of the rooms. I fancy that some liquid might be poured through a hole cut in the floors, which would spread itself over the level surface of the concrete. Chloride of lime would be I think but a temporary remedy, as it would act merely by deodorising the exhalations of the tar—and besides its soon losing its power, it would be objectionable from its own strong scent in the houses. I am at my wits' end to provide an efficient remedy—and if any of your readers can tell me of an effectual plan, I shall indeed be most grateful. *A Subscriber from* 1841. [This is a builders' question. We are unable to answer it.]

*The Russian Violet.*—To those who have to furnish a boudoir or drawing-room with scented flowers during the dull months of November and December, this kind of Violet is invaluable. Managed in the way I describe, it flowers here more or less the whole year round. In May I prepare a piece of ground for it at the foot of a south wall; I take off all the strongest runners and plant them in rows 15 inches apart and about 10 inches asunder in the row; I prepare a compost consisting of equal parts of sand, loam, and well rotted leaf-mould, and in this I plant the runners. No more attention is required except shading them for a few days until they become rooted; should the summer prove dry they will be benefited by copious waterings, and if the weather should be boisterous and wet in October, an old spare light may be put over them, tilting it on bricks at the corners. This will prevent the blooms from being damaged. *John Edlington, Crom Castle, Ireland.*

*Advertisement Sharpers.*—Being about to leave my situation, I had an advertisement inserted in a country paper last Saturday. On Sunday I received a letter from a Mr. * * * *, which I enclose for your perusal. He says, "My terms are, no fee until after a situation is obtained; then only 3*s.* 6*d.*; all I require for the present is 18 stamps." Any one may in a moment see why he is so interested in writing; it is his desire to obtain the 18 stamps. I trust, therefore, that none of the gardeners and others who advertise for situations in your columns have been duped by him. I replied to his letter, but took good care not to send the stamps, and I expect he will be careful about writing to me again. *Gentian.*

*Locomotive Seeds.*—Can you tell me anything of seeds from Mexico of a tree called *Yerba de flecha*, which are reported when placed on paper to move about slowly, then move rapidly, till at last they jump about like so many large Peas on a hot iron. Is it true? *J. W.* [Yes. The motion arises from the presence of a living active maggot in the inside of the seeds.]

*Orchard Houses.*—Much has been written about the quantity and quality of fruit grown in Orchard houses and on walls. Having tried both ways and given them a great deal of consideration, I must say that my opinion is decidedly in favour of open walls. Among other reasons for arriving at this conclusion, I may state in the first place that I find the flavour of out-of-door Peaches far superior to that of fruit grown in orchard houses, and the colour is also far better. Our orchard house is built and ventilated according to the most correct principles, and yet, notwithstanding that the ventilators are open day and night for months, the Royal George is as pale as a Noblesse, and the latter about as poor in colour as a Dutch Turnip. In proof of what I state relative to want of colour, I have only to advert to the wonderfully large Barrington Peaches exhibited by Mr. Kaile at the Royal Horticultural Society's late show at South Kensington. Never perhaps before were such large Peaches seen, but there was nothing inviting about their appearance; they were positively straw-coloured, with not one streak of red about them, and all on account of their having been grown under glass. Another serious charge I might urge against these houses is the labour they require, incurring as they do an immense amount of extra work. The syringe must be kept going to keep down red spider, and the watering-pot must be constantly in hand, while few, very few, have any surplus labour at command. All of us know that for days, nay weeks, trees on the open wall will take care of themselves; night dews take the place of the syringe, and rains that of hand-watering, and this is as it should be, for

> "Nature will be Nature still,
> Let orchard-house folks say what they will."

But then comes the question—what about spring frosts? I answer that the blossom is as safe under Frigi Domo as under glass; and that, notwithstanding its advanced price, that material can still be put up for 2*s.* per yard, so as to let up and down. We employ the Snelston Hall plan here for protection, and it costs 2*s.* per yard, and will last 10 years, but I prefer Frigi Domo, because it keeps the blossom dry—a very essential point. Again, orchard houses have been recommended as nice places for invalids, but a greater mistake could not be made, for they are so drafty that a delicate person any time in them is sure to catch cold. It is all moonshine to tell us that in some localities in England Peaches cannot be grown, for as handsome a Nectarine tree, and as fine a crop of fruit too as ever I saw in my life, was at Banchory, a place close to the Grampian Mountains, and 500 miles north of London. The only advantage the tree in question had was, shelter, suitable soil, and good drainage. What say the opponents of open wall Peach and Nectarine culture to this? *J. Rust, Broom House, Fulham.*

## Notices of Books.

*A Practical Guide to Training, Gymnastics, and Riding.* By a Subaltern. Longmans. 18mo.

The young officer who wrote this capital little book deserves public thanks, for in less than 70 pages he has shown how a beginner or an ill-trained veteran should behave in every department of physical training, about which the young in this country know far too little. Walking, Running, Riding, Fencing, Backstick, Clubs, and other kinds of exercise are all treated of with full knowledge of the points that demand especial attention. To young Volunteers the Subaltern's advice is most especially welcome. We quote a passage from his Introduction:—

"In this age and country we have come, by degrees, into an unnatural mode of living. The hurry and anxiety of business, late hours, sedentary habits, excessive use of stimulants, and the increasing tendency to centralise in large towns, have produced their legion of pale faces, bent figures, unequal shoulders, shaky limbs, and ruined constitutions. We live in such a way as to derange our systems, and when derangement takes place we have recourse to medicines, which, while they relieve our sufferings, reduce our stamina and power of throwing off disease.

"It is when people become luxurious and inactive that they most readily fall into vice; and when a nation becomes luxurious, inactive, and vicious in its members, it falls into degradation—its glory departs. Of this we have ample proof in history, ancient and modern. Patriots, therefore, have a duty to perform in promoting that culture and those sports which check the deterioration of a people and develop muscularity and manliness. It becomes Christians also to practise and advance a proper physical training, by which the maximum of calmness and self-command is attained. And we would earnestly remind men of study, and those who have to appear before the public, that our intellects depend for their clearness and force, and our nerves for their firmness, on a health of body which cannot be kept up to the right point without this systematic attention. Nor is it useless to those who do manual work, as it brings into action unused muscles, and fits for the better enduring and accomplishing of hard labour. In a word, it is incumbent upon every one to use his health and strength as a talent which is to be improved, with which the greatest possible amount of good is to be done, and of which he must give an account."

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*The Orchard in the Flower Garden*, by James Ponsford (162, Fleet Street), is a pamphlet of some 40 pages, devoted to brief practical instructions for the management of the more useful hardy fruit trees in small town gardens. Supposing, for example, a garden to be laid out with a small lawn and surrounding walks, and a moderate width of flower-border outside dotted over with shrubs, there being no space for a kitchen garden in which fruit trees might be grown, the author proposes here and there in this border, to replace an Aucuba, a Box tree, an unsightly Lilac, or such like, by a nicely-formed pyramidal Pear, Apple, or Plum, &c.; and he argues that the space would be filled by a tree equally ornamental, perhaps more so, while it would be one that might be expected to yield a profitable return. He, however, particularly impresses on the reader, and it is well he does so, that the tree must not be crowded in between evergreens or other shrubs, but must stand so that air and light may circulate freely about it. And then on the lawn, it is proposed to plant the best-shaped pyramidal trees on each side at convenient distances. Where there is a small separate piece of ground devoted to vegetables, instead of surrounding it by a belt of Gooseberries and Currant bushes, he proposes to run these in rows across the centre, and devote the sides to choicer fruits, grown in the shape of pyramids or bushes. Even the cottager might do something of this kind without wasting his ground. About 30 pp. are devoted to brief, plain, and reliable instructions for the planting, pruning, and training of Pears, Apples, Apricots, Cherries, Plums, Medlars, and Quinces, with a descriptive list of a few of the best varieties of each. The remarks are addressed to amateurs with small gardens, by whom they will be found useful, and are mainly intended to show that our ordinary but most useful fruits may be successfully grown even in town-gardens.

*Seemann's Journal of Botany* contains papers on the Geographical distribution of the Equisetaceæ, by Dr. Milde; on Viola arenaria as a British plant, by Prof. Babington; a translation with notes of Goethe's Essay on the Metamorphosis of Plants, by Dr. Masters; and various shorter notices on curious botanical matters. Among other things we find the following interesting remarks on the luminosity of the Fraxinella, by Dr. Hahn:—"When the daughter of Linnæus one evening approached the flowers of Dictamnus albus with a light, a little flame was kindled without in any way injuring them. The experiment was afterwards frequently repeated, but it never succeeded; and whilst some scientific men regarded the whole as

a faulty observation or simply a delusion, others endeavoured to explain it by various hypotheses. One of them especially, which tried to account for the phenomenon by assuming that the plant developed hydrogen, found much favour. At present, when this hypothesis has become untenable, the inflammability of the plant is mentioned more as a *curiosum*, and accounted for by the presence of etheric oil in the flowers. Being in the habit of visiting a garden in which strong healthy plants of Dictamnus albus were cultivated, I often repeated the experiment, but always without success, and I already began to doubt the correctness of the observation made by the daughter of Linnæus, when, during the dry and hot summer of 1857, I repeated the experiment once more, fancying that the warm weather might possibly have exercised a more than ordinary effect upon the plant. I held a lighted match close to an open flower, but again without result; in bringing, however, the match close to some other blossoms it approached a nearly faded one, and suddenly was seen a reddish, crackling, strongly shooting flame, which left a powerful aromatic smell, and did not injure the peduncle. Since then I have repeated the experiment during several seasons, and, even during wet, cold summers, it has always succeeded, thus clearly proving that it is not influenced by the state of the weather. In doing so I observed the following results, which fully explain the phenomenon. On the pedicels and peduncles are a number of minute reddish-brown glands, secreting etheric oil. These glands are but little developed when the flowers begin to open, and they are fully grown shortly after the blossoms begin to fade, shrivelling up when the fruit begins to form. For this reason the experiment can succeed only at that limited period when the flowers are fading. Best adapted for the purpose are those panicles which have done flowering at the base, and still have a few blossoms at the top. The same panicle cannot be lighted twice. The rachis is uninjured by the experiment, being too green to take fire, and because the flame runs along almost as quick as lightning, becoming extinguished at the top and diffusing a powerful incense-like smell."

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In the *Journal of the Proceedings of the Linnean Society*, No. 27, which has lately appeared, will be found the address of Mr. Bentham (the President) at the last Anniversary—an address which we venture to denominate a model for such compositions. We can only find space for one extract—a rather long one, but not longer than the interest of its subject will justify.

"The extinction of ancient races is comparatively easy of comprehension. We all see how species gradually disappear from particular districts, and how many are becomingly exceedingly rare in any country; and we have at least the Dodo amongst animals, and the St. Helena Trochetias amongst plants, which are now believed to be totally extinct, although we have specimens prepared from the life during the short time which has elapsed since natural history collections were first formed. The discussion as to whether the majority of ancient species have disappeared by a similar gradual extinction, or by sudden convulsions, belongs more to geologists than to ourselves. But of the commencement of any one species we have no human record, and, as far as naturalists are concerned, we must rely entirely on circumstantial evidence.

"Three different hypotheses are now more or less under discussion.

"1. That the individuals now living have descended from as many common stocks as there are distinguishable varieties or geographical races or areas of dispersion, these common stocks being the result of special creations, either simultaneous or consecutive.

"2. That the whole of the individuals belonging to each species (including often several more or less permanent races) are descended from one specially created common stock, from which they have gradually spread to the different parts of the world they now inhabit.

"3. That the races now occupying the globe are lineally descended from those ancient and very different races which preceded them, by a gradual process of variation and extinction, according to pre-established laws still more or less actively in operation.

"The first hypothesis, that of several centres of creation or origin for each species, was a favourite one among several Continental naturalists, especially botanists, a quarter or half a century since. It is, I believe, still maintained, either directly or disguised under the form of admitting distance of geographical area as a specific distinction, by Agassiz, by Carl Müller and others in Germany, as well as by some French botanists of the school of Lecoq, whose voluminous writings on geographical botany I do not find in any of our libraries, and am therefore unable to refer to. My recollection of them is, however, that the speculations they contain are founded chiefly on the geology and botany of a very limited district, and therefore of little weight with the general naturalist. And when Lyell, Forbes, and others broke down the limits previously assigned to the possibility of dispersion by the prevalent ideas of impassable geographical obstacles, the theory of separate creations became no longer necessary to account for observed phenomena: it was tacitly given up by many, and openly renounced by A. De Candolle in his 'Géographie Botanique.' It has, however, been recently revived by some ethnologists, and especially by the President of the Ethnological Society, Mr. J. Crawfurd, in a series of papers read before that Society. His arguments however relate exclusively to Man, and they are therefore based not so much on difficulties of dispersion as upon the supposed immutability of races when not modified by hybridism, on the presumed distinctness of type in languages, and other questions of fact upon which ethnologists are by no means unanimous.

"The second hypothesis, that of the independent creation of one common stock for each species now existing on the globe, has been at all times the one most generally received, acknowledged, and taught by authority. It has been supported by observations so numerous in every branch of natural history, that, when assailed, it has only been thought necessary summarily to refute any theories that may have been raised in opposition to it. This was an easy task so long as those theories were confined to mere speculations; and even now that the plausible application of undeniable facts to the establishment of serious objections, or at any rate of important exceptions, has caused a revolution in the views of many eminent naturalists, there are others who still more or less maintain the unity and original independence of existing species.

"The third hypothesis, that the present species are lineally descended from preexisting ones by a process of gradual variation, was generally treated as an idle speculation, and, whenever brought forward, only broached to be almost unanimously rejected, until the publication of Mr. Darwin's 'Origin of Species.' This remarkable work has carried more or less of conviction into such minds as those of Lyell, Hooker, A. Gray, A. DeCandolle, and others whose previous arguments pointed towards a contrary direction; it has met with the most cordial adoption on the part of many eminent men who had not so committed themselves, and has excited in a large proportion of other naturalists doubts as to their previous firmest convictions. This has been effected rather by the extreme simplicity of the new principle applied to phenomena previously observed, but little attended to, and now first placed in juxtaposition, than by the discovery of any remarkable hitherto hidden phenomenon. By connecting the hereditary diversities in constitution as well as in form in the offspring of a species, with the premature destruction from external causes of the immense majority of the offspring produced, and by supposing that permanence would be given to those varieties alone whose hereditary constitution is the best suited to resist or survive these causes of destruction, Mr. Darwin has shown how specific changes *may* take place; and by the accumulation of a vast number of carefully observed or well authenticated facts, aided by great lucidity of exposition and powers of argument, he has endeavoured to show how they do take place. His is not therefore a theory capable of proof, but 'an unimpeachable example of a legitimate hypothesis' requiring verification, as defined by J. S. Mill in his excellent chapter on Hypothesis, commencing the second volume of his Logic. Mr. Darwin has proceeded with this verification so far as the present state of our knowledge permits; and we must, I think, cordially agree with the same distinguished logician, that he has 'opened a path of inquiry full of promise, the results of which no one can foresee,' and that it is 'a wonderful feat of scientific knowledge and ingenuity to have rendered so bold a suggestion, which the first impulse of every one was to reject at once, admissible and discussible even as a conjecture.'

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## Miscellaneous.

*Fish Breeding.*—If we wish to take lessons in the ingenuities of fish culture, we must visit China. The ingenious people of the Celestial Empire have carried the art of fish-breeding to such an extent as to be able to keep up a constant supply of those particular fishes which inhabit their seas and rivers, so that any quantity of this kind of food can be obtained all over the kingdom, at the rate of about 3*d.* a stone weight! Would not London be delighted to obtain fish at such a price? Nothing so much astonished a Chinese fisherman as the price he was charged for a fish breakfast at Toulon. This person had arrived with 4000 or 5000 young fishes of the best kinds produced in his country, for the purpose of being placed in the great marine aquarium in the Bois de Boulogne. This intelligent youth, amazed at the comparative scarcity of fish in France, wrote a brief memoir, showing that, with the command of a small pond, any quantity of fish might be "raised" at a trifling expense. All that is necessary is to watch the time of spawning, and throw yolks of eggs into the water from time to time, by which means an incredible quantity of the young fry are saved from destruction. An ingenious method of artificial hatching has been resorted to by the people of China, which is worth noting as a piscicultural novelty. These ingenious celestials carry on a business in selling and hatching fish spawn, collecting the impregnated eggs from various rivers and lakes, in order to sell to the proprietors of canals and private ponds. When the proper season for hatching arrives, they empty a hen's egg by means of a small opening, sucking out the natural contents, and then, after substituting fish spawn, close up the opening. The egg thus manipulated is placed for a few days under a hen! Being removed, the shell is broken, and the contents are placed in a vessel of water warmed by the heat of the sun only: the eggs speedily burst, and in a short time the young fish are able to be transported to a river or lake of ordinary temperature. Heat expedites the birth of the fish. The eggs of a minnow have been sensibly advanced towards maturity by being held on the palm of the hand. The spawn of the lobster has the advantage of being nursed on the tail of the animal till it is just on the point of ripening into life. Salmon eggs deposited early in the season, when the temperature is high, come sooner to life than those spawned in mid-winter: indeed there is a difference of as much as 50 days between those deposited in September and those spawned in December, the one requiring 90 days, the other 140 days to ripen into life. Salmon have been brought to life in 60 days at Huninque; but the quickest hatching ever accomplished at the Stormontfield breeding-ponds took 120 days. The ancient Romans, taking a leaf out of the Chinese book of pisciculture, achieved great wonders in the way of fish-breeding, and were able to perform curious experiments with the piscine inhabitants of their aquariums. A classic friend, who is well read in ancient fish-lore, tells us that the great Roman epicures could run their fish from icy cold water into boiling caldrons without handling them. Lucullus at one time sold his stock of fish for the sum of 35,000*l.*; but that would most likely be a fancy price, because he would be in possession of unique varieties, derived from curious crosses, &c. These ancient lovers of good things had pet breeds of fish, in the same sense as gentlemen in the present day have pet breeds of sheep or horned cattle. Red mullet or fat carp, which sold for large prices, were not at all unusual. One noble Roman went to a fabulous expense in boring a tunnel through a mountain, in order that he might obtain a plentiful supply of salt water for his fish ponds. Sergius Orata invented artificial oyster-beds. He caused to be constructed at Baiæ, on the Lucrine Sea, great reservoirs, where he grew the dainty mollusk in thousands; and, in order that he and his friends might have this renowned shell-fish in its very highest perfection, he built a palace on the coast, in order to be near his oyster-ponds; and thither he resorted when he wanted to have a fish dinner free from the care and turmoil of state and business. The French are now repeopling their oyster-beds, which a few years ago became exhausted from over fishing, much in the same way as these ancient Italian gentlemen stocked their artificial ponds. The cardinal point in oyster-breeding, as we have already said, is to provide a holding-on place for the spat; because when the spat or spawn of the oyster cannot obtain a coigne of vantage to grow from it is lost, and never can become of use to mankind. Oyster culture is carried on with great industry at Whitstable; but in detail our English dredgers are surpassed by the French, who begin at the beginning of the process, that is, they grow their own spat, and breed countless quantities of oysters, having recreated all their old beds, and erected besides a great number of new ones. The French also cultivate their mussels in the same way; and, as these shell-fish are largely used as bait by our fishermen, they ought to take a lesson in mussel cultivation out of the French book; and our neighbours across the Channel, it is certain, contrive to make their mussel-beds very remunerative. Similar beds could easily be constructed in our English and Scottish bays, and, with the demand for bait and the facilities of sale afforded by constant railway communication, there can be little doubt of their being profitable. The oyster-beds in Kent and Essex are cultivated like these mussel-beds, and they prove very remunerative. We have often wondered why none of our enterprising fisher class have commenced the breeding of lobsters. We require, it is stated, 40,000 lobsters every day, and could use double the number if we had them—thus affording a fine chance for enterprise. No lobsters have been bred in the ponds at Hamble, near Southampton; they are simply used as a storing place. But could not lobsters be bred on the artificial system? *Frazer's Magazine.*

*Herne's Oak.*—Public attention has been very recently directed towards this celebrated tree, the old trunk of which has lately been blown down. The first thing is to prove that the tree in question was the real Herne's Oak of Shakespeare. In my "Gleanings in Natural History," (1834) I endeavoured to do this; but in consequence of what I had alleged as to the identity of the tree, I was attacked in various publications. The attack on me in the "Quarterly" was as follows: "Among his anecdotes of celebrated English Oaks, we were surprised to find Mr. Loudon adopting an apocryphal story about Herne's Oak, given in the lively pages of Mr. Jesse's 'Gleanings.' That gentleman, if he had taken any trouble, might have ascertained that the tree in question was cut down one morning, by order of King George III., when in a state of great, but transient excitement. The circumstance caused much regret and astonishment at the time, and was commented on in the newspapers. The Oak which Mr. Jesse would decorate with Shakespearian honours, stands at a considerable distance from the real Simon Pure. Every old woman in Windsor knows all about the facts." That a tree was cut down near the Castle in consequence of a dispute the King had with his son, afterwards George IV., cannot be doubted. Sir

Herbert Taylor informed me that he heard the order given, but he assured me that the tree so felled was an Elm. Indeed, the whole character of George III. would of itself be a sufficient guarantee that Herne's Oak was not cut down by his order. He always took a pride and pleasure in pointing it out to his attendants whenever he passed near it, and that tree was the one whose identity I am now advocating. To set the matter at rest, however, I will repeat the substance of some nformation given to me relative to Herne's Oak by the late Mr. Ingall, the highly respected bailiff and manager of Windsor Home Park. He stated that he was appointed to that situation in the year 1798. On receiving his appointment, he was directed to attend upon the King at the Castle, and on arriving there he found his Majesty, as he said, with "the old Lord Winchelsea." After a little delay, the King set off to walk in the Park, attended by Lord Winchelsea, and Mr. Ingall was desired to follow them. Nothing was said to him until the King stopped opposite an Oak tree. He then turned to Mr. Ingall, and said: "I brought you here to point out this tree to you. I commit it to your especial charge, and take care that no damage is ever done to it. I had rather that every tree in the park should be cut down than that this tree should be hurt. This is Herne's Oak." Mr. Ingall added that this was the tree still standing near Queen Elizabeth's Walk; and it is the same tree I have referred to and given a sketch of in my "Gleanings." I have also the authority of H.R.H. the late Duke of Cambridge for stating that George III. always mentioned the tree lately blown down as Herne's Oak. Mr. Charles Davis, the present well-known and much-respected huntsman of her Majesty's hounds, assured me that he had heard the King assert that he had not cut down Herne's Oak, and that he repeated the assertion when his mind was in a perfectly healthy state. When the Emperors of Russia and Austria, and the King of Prussia, assembled at Windsor Castle to celebrate the christening of our Prince of Wales, the Queen invited these potentates to walk in her grounds, but some of their attendants remained at the Castle. Instead of viewing the objects in it, the celebrated Baron Humboldt inquired his way to Herne's Oak. This was the first object of his attention and curiosity, and probably of his veneration. The splendour of the Castle, its pictures, the noble scenery which is to be seen from it, and the many historical facts connected with it, were objects of inferior interest compared with the shattered trunk of an Oak, "dry and dead," yet rich with recollections of the genius of our immortal Shakespeare. On arriving at the interesting relic, the Baron gazed upon it in silence; and at last gathered a leaf from the Ivy which clung to the decaying trunk, and deposited it in his pocket-book as a relic to carry back to his own country. This ancient tree, alas! no longer stands on the spot which Shakespeare has immortalised; it was but lately—

> a huge Oak, dry and dead,
> But clad with reliques of its trophies old,
> Lifting to heaven its aged, hoary head—
> With wreathed roots, and naked arms,
> And trunk all rotten and unsound.—*Spenser.*

At present portions of it will be eagerly sought after, like the Mulberry tree of Stratford, to turn into snuff-boxes and tobacco-stoppers—such will be its "reliques!"

"Arbore dejectâ qui vult ligna colligit."

*Edward Jesse, in Once a Week.*

*The Cotton Plant.*—A Report from Royal Commissioners has lately been presented to the Italian Government on the cultivation of the Cotton plant in Southern Italy. About 80,000 bales of cotton have been grown during the past season in the latter district, including Sicily. This quantity would, it is said, have been trebled, had it not been for the excessive drought that prevailed. The attempts hitherto made to grow the celebrated Sea Island Cotton have failed; the quality produced is however very good, returning a profit to the cultivator, at the present price of cotton, of 20*l.* an acre. A very satisfactory feature of the Report is the favourable nature of a vast area of Central and Southern Italy for the growth of cotton. There is very little doubt that Southern Italy alone could easily furnish 550.000 bales of excellent cotton annually, which exceeds by 50,000 bales the quantity produced by South Carolina. The insignificant quantity of cotton now grown in Italy is the more remarkable, when it is remembered that during the last century it was cultivated as far north as Tuscany, and was so abundant that during the wars of Napoleon the First, and the continental blockade, Italy supplied almost the whole of Europe with cotton. The plant was especially grown around Naples, and was known in commerce as Castellamare cotton. [This important information, which has appeared in the *Athenæum*, cannot be too widely circulated. There is no doubt that many countries can produce as good cotton as North America, and we should think at far less expense.]

## Calendar of Operations

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—As the introduction of Chrysanthemums must have in one house or other caused a disarrangement of part of the stock, it becomes a matter of importance, after the beauty of the Chrysanthemums is over, to get such plants as have been moved, back into their former situations, or so to re-arrange matters that the whole may have a good effect. Valuable plants must not be set where they will not thrive, and this is a point to which careful attention must be paid. Chrysanthemums, decaying, if not already done, should be cut down, suffered to become somewhat dry, and removed to cold frames. Those who cannot afford frame room may secure them in some shed or out-house for a few weeks, covering them over head with clean straw should frost occur. If they should get slightly frozen even it will not signify; only take care that they do not thaw too suddenly. Little can be said with respect to stove plants at present. Use moderation in heat and atmospheric moisture. Beware of exciting the buds of Orchids before their time.

### FORCING DEPARTMENT.

PINERY.—As previously stated late swelling fruiters, which have had little water, may receive a slight increase of tepid manure-water. There is, however, room for doubt as to whether it is absolutely necessary after this period. Plants managed in the old style (in houses or pits with flues), no doubt would require it. By modern plans, however, a much greater amount of atmospheric moisture is indulged in; and this should be duly considered. When sunshine occurs, instead of giving air, let the thermometer rise to 80° or even 90°, after which give air.

VINERY.—Where forcing has commenced, and the roots are outside, every attention should be given to the borders. A proper degree of heat must be maintained in the fermenting material. Any kind of protection, such as tarpaulin, to throw off rain would be invaluable, and would improve the warming powers of the covering.

MUSHROOM HOUSE.—This, when sufficiently roomy, is one of the most useful structures about a garden. Seakale may be forced here in constant succession with as little trouble as raising a crop of small salad. The old plan of raising a bed of fermenting materials, over the crowns out of doors, is an uncertain process compared with this. It is equally well adapted for Rhubarb forcing. Nothing is needed but a long, narrow pit along the bottom of the house, on one or both sides, the top of the pit to be level with the floor. It should be 4 feet deep, and filled in portions as wanted, with any hot, fermenting material, to within half a yard of the top, which would be very perfect if covered with a lid. The Kale and Rhubarb should be placed on the surface of the fermenting matter as thick as it can stand, and then filled in lightly with soil or fine old tan. Chicory roots may be placed in a circle round roomy pots, and set on the flues of this house. Lily of the Valley, too, may be plunged overhead in a fermenting bed of 70° here, until the blossom-spikes appear, when it must be inured to light, but in the most gradual and cautious way imaginable. Early potted Hyacinths and Narcissi may also be treated precisely the same as the Lilies, taking care not to withdraw them until the pots are nearly full of roots, and many other uses may likewise be found for this house.

### FLOWER GARDEN AND SHRUBBERIES.

Although the weather is still favourable, continue to have an eye to the protection of tender things; and in mild weather like the present, especially when dry, open the canopies or coverings a little for a few hours, as often as time can be spared for that purpose. If frost sets in, a plan of the masses or beds might be decided on, and the soil renewed according to the character of the flowers to be planted. As regards florists' flowers, little can be done now except in the way of preparation, and should frosty weather set in it will afford every opportunity of having all the compost heaps thoroughly frozen; by repeatedly removing the encrusted surface, and piling it up every morning, many insect pests will be destroyed, a point of no small importance to the cultivator. We need scarcely say, too, that hard weather is a good time to cart turf, peat, &c., and to lay in a good stock of soils, which, however, should have been done before this time. If leaden pegs are used for layering Carnations, a fresh stock may be cast, and the old ones cleaned and straightened. If the florist can mend his own hand-glasses and shades, these ought now to be done, and the metallic wire which has been used for attaching the stems of Carnations or Tulips to their support, should be made ready for use, and stored away in its place till the returning season renders it available.

### HARDY FRUIT AND KITCHEN GARDEN.

It may appear much too early to offer remarks on spring work, but such is the pressure of business soon after Christmas has passed, that no amount of precaution can be considered too great where general gardening has to be carried out through the ensuing year according to the improved practice of the present day. When things that might be done now are delayed until spring, there is sure to be a sacrifice of some importance. All the pruning, except that of Figs and Apricots, and most of the nailing of wall trees, as well as the training of espaliers, should be finished if possible by New Year's day; and the same may be said of bush fruit. The making of borders or stations for fruit trees, too, should be autumn business; indeed, where new soil has to be introduced, September or October is the most fitting time, as the best of soils may be seriously injured by moving them in a wet state. No time should be lost, when the weather is bad, in getting on with in-door work. All matting or bast required for the ensuing year should be cut, sorted, and hung up ready for use. Besoms and baskets should also be prepared. The tool-house should be examined, and put in an efficient state; and in fact, everything of this kind done that is possible. Should frost set in, the best Celery beds should be immediately covered with clean straw 6 inches thick. Let all other vegetables have due attention. Also let all manure be wheeled out whenever the weather is favourable for such operations.

### STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,

For the Week ending Nov. 25, 1863, as observed at the Horticultural Garden

| Nov. | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 19 | 8 | 30.100 | 30.143 | 55 | 37 | 46.0 | 50 | 50½ | S. | .00 |
| Friday 20 | 9 | 30.116 | 30.110 | 61 | 30 | 45.5 | 50½ | 50¼ | S. | .00 |
| Satur 21 | 10 | 29.812 | 29.628 | 57 | 37 | 47.0 | 50 | 50 | S. | .16 |
| Sunday 22 | 11 | 29.759 | 29.712 | 57 | 36 | 46.5 | 50 | 50 | S.W. | .04 |
| Mon. 23 | 12 | 29.816 | 29.780 | 55 | 48 | 52.0 | 49¼ | 50 | S.W. | .06 |
| Tues. 24 | 13 | 29.808 | 29.706 | 57 | 45 | 51.0 | 49¼ | 50 | S. | .08 |
| Wed. 25 | ○ | 30.103 | 30.050 | 62 | 35 | 48.5 | 51 | 50¼ | E. | .00 |
| Average. | | 29.930 | 29.871 | 57.8 | 38.3 | 48.1 | 50.1 | 50.2 | | .24 |

Nov. 19—Very fine; overcast, cloudy; fine.
— 20—Uniformly overcast; cloudy, hazy.
— 21—Cloudy; windy; flying clouds in strata; rain.
— 22—Clear; fine; overcast, rain.
— 23—Fine; overcast; rain; very mild.
— 24—Constant rain; overcast; drizzly.
— 25—Cloudy and fine; very fine; mild for the season; fine at night.

Mean temperature of the week 7½ deg. above the average.

### STATE OF THE WEATHER AT CHISWICK,

During the last 37 years, for the ensuing Week, ending Dec. 5, 1863.

| November, and Dec. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 29.. | 47.8 | 34.7 | 41.2 | 19 | 0.56 in. | 4 | 1 | 7 | 3 | 5 | 11 | 4 | 2 |
| Mon. 30.. | 48.0 | 35.0 | 41.1 | 20 | 0.30 | 4 | 4 | 3 | 3 | 3 | 10 | 8 | 2 |
| Tues. 1.. | 48.4 | 35.2 | 41.8 | 17 | 0.25 | 2 | 2 | 3 | 4 | 4 | 7 | 11 | 4 |
| Wed. 2.. | 47.4 | 34.2 | 40.3 | 16 | 0.51 | 2 | 4 | 4 | 1 | 5 | 11 | 3 | 7 |
| Thurs. 3.. | 47.0 | 35.3 | 41.1 | 20 | 0.26 | 1 | 6 | 5 | 2 | 4 | 11 | 7 | 1 |
| Friday 4.. | 47.6 | 35.7 | 41.6 | 17 | 0.39 | 4 | 2 | 2 | 3 | 6 | 14 | 5 | 1 |
| Satur. 5.. | 48.4 | 34.7 | 41.5 | 22 | 0.25 | — | 3 | 2 | 1 | 4 | 12 | 11 | 4 |

The highest temperature during the above period occurred on the 1st, 1857—therm. 62 deg.; and the lowest on the 30th, 1856, and 5th, 1844—therm. 14 deg.

## Notices to Correspondents.

⁂ As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

BOOKS: *W R S.* We are not aware of any separate treatises on the subjects you name, but we will endeavour to supply the information shortly.

COTTON: *Mancastriensis* Seemann's Mission to Viti or Feejee contains valuable information from a clear-headed practical man. *E. g.* he says:—"Cotton requires a gently undulated surface, slopes of hills rather than flat land. The whole country, the deltas of the great rivers excepted, is a succession of hills and dales, covered on the weather-side with a luxuriant herbage or dense forest; on the lee-side with Grass and isolated screw-pines, more immediately available for planting. Cotton wants sea-air. What country would answer this requirement better than a group of more than 200 islands surrounded by the ocean as a convenient high way to even small boats and canoes, since the unchecked force of the winds and waves is broken by the natural breakwater presented by the reefs which nearly encircle the whole? Cotton requires, further, to be fanned by gentle breezes when growing, and a comparatively low temperature; there is scarcely ever a calm, either the north-east or the south-east trade wind blowing over the island keeps up a constant current, and the thermometer for months vacillates between 62° and 80° Fahrenheit, and never rises to the height attained in some parts of tropical Asia, Africa, or America. In fine, every condition required to favour the growth of this important production seems to be provided, and it is hardly possible to add anything more in order to impress those best qualified to judge with a better idea of Fiji as a first-rate Cotton-growing country." Men like Hooker, Fortune, and Seemann are the persons to consult in this emergency. Why Government does not use them we cannot tell.

GOLD FISH: *J R E R* says he has a pond in which there are several gold fish, and that those which have been bred in it, though three or four years old, are still of a dark brown colour. He will, therefore, be obliged by any of our correspondents accounting for their not changing to the usual gold colour.

HEATING: *Winchester.* The heating apparatus in the vast conservatories at Syon, which you truly call admirable, was, we learn, constructed by Messrs. Ormson & Co.

NAMES OF PLANTS: *T K & Co.* Populus angulata, as far as we can judge from an inspection of only three leaves without any wood. Very slender evidence in a genus whose leaves are variable.—*Thomas Leslie.* Wistaria sinensis is right, so is Glycine sinensis. Have nothing to do with such a piece of affectation as Wistaria Consequana.—*W Mortimore.* It is one of the many forms of Polystichum proliferum, and is sometimes called tripinnatum in gardens.—*G B.* Lastrea spinescens, certainly distinct, as we think, from L. decomposita. *B C.* Selaginella pubescens, generally but falsely called S. Willdenovii in gardens.—*S W T.* Basella nigra.

PEACH HOUSE, SHEFFIELD: *G W G* will be obliged by our correspondent "C W." kindly stating what the thickness is of the fire-clay pipes he uses; what provision he has made for cleaning out the soot deposited in them; and whether he has used them for the chimney to his house, or erected one of ordinary brickwork.

POLYCHILOS CORNU-CERVI: *A Correspondent* in the Isle of Man reminds us that more than 3 years ago he sent it to us (vide *Gardeners' Chronicle,* Sept. 8, 1860). It is therefore not so great a novelty as we supposed. See *New Plants,* No. 264, p. 1083.

SCARLET RHODODENDRONS: *G C.* Layers, if really good ones, and we see they are offered by good people, are all that you need.

VINERIES: *A B.* Your house *ought* to be well managed with such assistance as you propose. Black Hamburgh and the old Sweetwater are what we advise you to trust to. Study Thomson on the Vine.

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E C.

Drainage, &c.

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

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MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5s. per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

Drainage of Land.

MR. C. F. HUMBERT, F.G.S., of Watford, Herts, and formerly Senior Surveyor to the Tithe Commission, a Land Surveyor and Land Agent, more than 20 years established in practice, undertakes works of Drainage either at a contract price, or to lay out and overlook the same at a commission of 5s. per acre; and he has at his command a staff of experienced workmen. His custom is to charge merely the expenses out of pocket in making the preliminary Survey and Estimate where the works are not carried out.

THE LANDOWNERS' WEST of ENGLAND and SOUTH WALES LAND DRAINAGE and INCLOSURE COMPANY. Established in the year 1844, and Incorporated by Special Act of Parliament, 11 & 12 Vict., Cap. cxlii.

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Landowners having limited interests, such as Tenants for Life, Tenants in Tail, Mortgagors, and others, can Drain and improve their Lands without any expense to themselves personally,—as the Company's Act does not require Proprietors to liquidate the cost, the amount may remain permanently charged on the property, at interest, or be paid off when convenient, or be made redeemable over any term of years.

The works are undertaken by the Company, who keep in constant employ a very extensive and experienced staff of Engineers, Surveyors, and workmen; or Proprietors may avail themselves of the powers of the Act only, and get the works executed under their own superintendence, or by Agents appointed by themselves.

Outfalls through adjoining lands are obtainable under the Company's Act.

Works are also executed by the Company for Parties advancing their own capital, or not wishing to borrow the money.

Every information may be obtained on application to

FREDERICK BRODIE, Secretary,
Castle Street, Exeter.

Offices: Castle Street, Exeter; and
30, Parliament Street, Westminster.

Lincolnshire Farming.

MR. JOHN ALGERNON CLARKE, of Long Sutton, Lincolnshire, has a VACANCY for an AGRICULTURAL PUPIL. The business includes Arable Husbandry and Grazing, with the Breeding of Short-horns and Long-wool Rams.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

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*Council.*

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The Right Hon. THE EARL DUCIE.
The Hon. WILLIAM BATHURST.
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PRACTICAL AGRICULTURE.

J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 15 Lectures on Agricultural Machines and Farm Buildings.

CHEMISTRY.

ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.
R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Sc.
VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.
W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

Mr. ALGERNON CLARKE will lecture on Tuesday, December 1, at 1.45 P.M. Capt. TANNER DAVY will lecture on Thursday, December 3, at 9 A.M. Mr DUCKHAM will lecture on Friday, December 4, at 10 A.M.

For further particulars apply to the PRINCIPAL.

Bingley Hall, Birmingham.

SUTTON AND SONS respectfully invite the attention of their Customers and the Public generally to their STAND of ROOTS and other AGRICULTURAL SPECIMENS in the Central Gallery of the forthcoming Show, including 150 specimens of GRASSES grown by SUTTON & SONS, samples of the principal kinds of Seeds used in Agriculture, and some very fine specimens of their selected YELLOW GLOBE MANGEL, CHAMPION SWEDE, IMPERIAL GREEN GLOBE, GREEN-TOP YELLOW HYBRID, LINCOLNSHIRE RED PARAGON, POMERANIAN WHITE GLOBE, and GREYSTONE TURNIPS, for new Seeds of which they will be prepared to receive orders at very moderate prices.

Royal Berkshire Seed Establishment, Reading.

THE LONDON SEED COMPANY, LIMITED, with which is AMALGAMATED the PLYMOUTH SEED COMPANY LIMITED.

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STEAM CULTIVATION.—A PUBLIC MEETING will be held in ST. JAMES'S HALL, PICCADILLY, on WEDNESDAY, December 9, at 2 o'Clock precisely, for the purpose of considering the best mode of EXTENDING the APPLICATION of STEAM POWER to the CULTIVATION of the SOIL.

All interested in this desirable object are invited to attend.

THE NATIONAL EXHIBITION of DOGS.—The FOURTH GREAT ANNUAL EXHIBITION of SPORTING and other DOGS will be held in Paradise Street (near Bingley Hall), BIRMINGHAM, on MONDAY, TUESDAY, WEDNESDAY and THURSDAY, November 30, and December 1, 2, and 3 (the week of the CATTLE and POULTRY SHOW). For SPECIAL RAILWAY ARRANGEMENTS, see the Advertisements and Bills of the Companies.

BINGLEY HALL, BIRMINGHAM.—The FIFTEENTH GREAT ANNUAL EXHIBITION of FAT CATTLE, SHEEP, PIGS, DOMESTIC POULTRY, CORN, ROOTS, and IMPLEMENTS, will be held on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY, November 30, and December 1, 2, and 3.

For Special Railway Arrangements, see the Advertisements and Bills of the Companies.

SMITHFIELD CLUB CATTLE SHOW, 1863.—The SIXTY-FIFTH ANNUAL EXHIBITION of CATTLE, SHEEP, PIGS, IMPLEMENTS, SEEDS, and ROOTS, will be HELD in the AGRICULTURAL HALL, Islington.

PRIVATE VIEW on MONDAY, December 7, after 2 P.M. Admission 5s.; TUESDAY, WEDNESDAY, THURSDAY, and FRIDAY, Admission 1s.

Carriage entrance, Liverpool Road only.

# The Agricultural Gazette.

*SATURDAY, NOVEMBER* 28, 1863.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

| | | |
|---|---|---|
| MONDAY, to FRIDAY, | Nov. 30 to Dec. 4 | Exhibition of Fat Cattle and Sheep and Pigs, and of Poultry, at Bingley Hall, Birmingham. |
| MONDAY, | — 7 | London Farmers' Club .. .. 6 P.M. (Meat Producing Capabilities of Arable Land—Mr COLEMAN.) |
| MONDAY, to FRIDAY, | — 7 to — 11 | Smithfield Club Cattle Show at the Agricultural Hall, Islington. |
| WEDNESDAY, | — 9 | Society of Arts . .. .. 8 P.M. (Agricultural Progress, its Helps and Hindrances—Mr. J. C. MORTON.) |

AN important trial at the late Cavan Quarter Sessions, in which a seedsman was sued by several farmers for selling bad Turnip seed, is reported in the Irish papers. It seems that Swedish Turnip seed had been asked for, and the crop that came was Rape, or something like it. The plants produced are described sometimes as resembling Rape and sometimes as being "very like what is known as Kohl Rabi in England." The plaintiffs proved that they purchased the seed from the defendant, and their solicitor contended that they ought to have got the article they asked for. The judge directed that if Turnip seed was asked for, the seedsman was bound to supply an article that was "commercially known as Turnip seed." The defence proved that the seed had been bought from wholesale dealers as Turnip seed, and the jury found for the defendant.

They were no doubt impressed not only by the ruling of the judge but by evidence which alleged the extreme liability of Turnip seed to sport.

One witness declared that in one field you might have a spurious plant, and in another a good Turnip from the same seed.

Mr. D. DRUMMOND, whose authority weighed much with both judge and jury, gave the following evidence:—

Is extensively engaged in the seed trade, both in Dublin and Scotland; is familiar with the growth and cultivation of the Turnip; went, accompanied by the defendant, to view BENNETT's crop; saw what he complains of as Rape. In one portion of the field found altogether Rape-like plants, most of which had purple stalks, which common Rape has not; these were from defendant's seed, which was the purple-topped Swede; next to these found a portion of the field, partly Swede Turnips, and partly Rape-like plants, growing together about half and half; the Turnips were of the green-top variety and the Rape-like plants had green stalks, showing they must have been grown from the same seed as the bulbs: was informed by defendant that the green-topped seed was supplied by another seedsman. The Swede Turnip is originally derived from the common Rape, as the Carrot and Parsnip are originally derived from weeds of these names; is of opinion that under certain circumstances of soil, weather, or the like, this "sport" in the Swede is the plant going back to its original or normal state, and he is borne out in this opinion by some eminent botanists; but like the mystery of the Potato blight, the real cause is quite unknown: for, notwithstanding many experiments made to ascertain it, we are as much in the dark as ever. Has seen seed which he knew to have been grown from large selected bulbs produce chiefly Rape-like plants, when sown on one day, while the remainder of the seed, out of the same bag, and in the same field, two days after, gave as fine a crop of Swedes as could grow, and entirely free from sporting plants. Saw in the county of Wicklow—on one of the best cultivated farms—a field of 12 acres, where the ends of about 20 drills gave only Rape-like plants, extending to about 20 yards in the field, while the remainder of the field was an excellent crop of bulbs; and again in Tipperary, where there were two fields separated by a ditch, the ditch was thrown down, and the field sown with Swedes; on each side of the levelled ditch was a crop of excellent bulbs, while over the ditch almost every seed grew to Rape-like plants. Saw a field in the county of Carlow last week where there were a considerable number of Rape-like plants, although the seed was grown by the gentleman himself from large selected bulbs; and another grower of his own seed—who sows extensively in Ireland—had almost a lost crop a few years ago, from the non-bulbing of the plants; it is well known that Carrot and Mangel sown on one farm will produce a large proportion of plants which do not bulb, while seeds sown from the same bag on another farm will yield crops entirely free from such "starters," but the cause cannot be accounted for any more than we can account for the Swede going wrong. Grows the most of his Swedes in Scotland, in the most careful manner, from the purest stocks; still has had complaints similar to plaintiff's; could not be hybridised with Rape when in flower, as Rape is not grown in Scotland; his seed could not have been accidentally mixed with Rape, for to avoid such an accident keeps his Rape and Turnip seed in separate warehouses, and each bag has the name plainly printed on it. Has taken alarm at the frequency of late years of the "sporting" of the Swede, so much so, that to protect himself from liability he two or three years ago consulted counsel on the subject, and following counsel's advice, got a non-guarantee notice printed on all his bills. In fact so annoying and troublesome has it become, from the uncertainty of the Swede producing bulbs, he has been seriously thinking of giving up that branch of the trade.

It is plain that if Mr. DRUMMOND's view of the extreme liability of well grown Swede seed to sport is to be adopted, there is an end of all "Seed Cases" for the future. No man need hereafter attempt to make his seedsman pay for the injury he has suffered because the article commercially known as Turnip seed with which he has been supplied, has produced stalk and leaf instead of bulb. We shall however be very much surprised if this Cavan trial is ever quoted as a leading case.

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THE subject of autumn cultivation has been lately discussed with some spirit in the columns of the *Times* newspaper. It is not likely to want variety of opinion as long as soils vary in their mineral composition, and in their relations to water. We can bring forward good witnesses to prove that a fallow is better made if the stubbles are not disturbed till late in spring—and equally good witnesses shall prove that not only should it be commenced, but it should be all but finished in the previous autumn. Differences shall arise, however, even among these when the alternative of ploughing and grubbing is considered. Mr. SMITH is clear for grubbing—other men contend for turning over a furrow slice. At Woolston the preparation for the next year's root crop consists simply in manuring the stubble, and at once mixing it up by a grubbing which throws the land into ridges.

"It is the fact," says Mr. SMITH, "that this one steam ridging in the autumn, with one harrowing and sowing in the spring, is all the operations for roots upon the true Woolston system. Additional cleaning operations by horses are not required; indeed, they would be out of place—waste labour. Some time in the winter I let a man examine every ridge from end to end and with a fork take out every Dock or objectionable weed; he can easily do 2 or 3 acres per day; and that's all beyond the ordinary horse and hand hoeings. The manure is spread upon the stubble before the ridging is done. In 1859 my roots grown in this way weighed—Mangels, 55 tons; Swedes, 31 tons per acre."

To this Messrs. HOWARD reply:—

"The system Mr. SMITH recommends has been practised by him on his own farm for about seven years, but few, if any, of the numerous farmers who have adopted his cultivator have followed his plan in the use of the steam ridging plough. On this point we can speak with some certainty, as we were for some years the manufacturers of Mr. SMITH's apparatus, and we have uniformly obtained reports of the practice of most of the 300 agriculturists to whom we have supplied steam cultivating machinery. Having ourselves had extensive experience in steam cultivation we recommend the following plan, which we adopt upon our own farms, and which has been most generally and successfully adopted by others:—In preparing land intended for root crops, and as soon as possible after the corn is harvested, break up the stubbles with the steam cultivator or grubber. The land is then left exposed to the action of the sun and air until November, or even later. Then, with the steam plough, or, as the horses are at that time not very busy, with the ordinary double mould-board plough, ridge up the land for the winter. The plan pursued and advocated by Mr. SMITH has these great drawbacks; the benefits of the action of the autumn sun and air in destroying weeds, and the still greater benefits arising from the thorough aëration of the soil, are entirely lost; and, further, on large farms it would be most unwise to postpone the work to so late a period as Mr. SMITH recommends."

Mr. MILWARD, of Thurgarton Priory, Notts, also replies to Mr. SMITH, of Woolston. He says:—

I do not wish to detract from the merits of steam

cultivation, but I must say a word or two, if you will allow me, in favour of the old plan. Mr. Smith, of Woolston, says that his roots are grown by one steam ridging in the autumn, with one harrowing and sowing in the spring, and that he has grown 55 tons of Mangels and 31 tons of Swedes per acre. Some of your readers may imagine that this is entirely owing to steam; in fact, it would be a legitimate conclusion in the absence of any other statement. It is well known in this county that for the last 12 years I have grown large crops of roots—as much as 35 tons of Swedes per acre, and seldom less than 30 tons—with one autumn ploughing and one harrowing and drilling in the spring. As soon as the Wheat sowing is finished, the land intended for roots is manured and ploughed 8 or 10 inches deep. In April it is harrowed and drilled on the flat, 30 inches apart. I have followed this plan on very strong clay land, as well as on mixed gravelly loam, with equally good results. I have no prejudice against steam cultivation; on the contrary, I am well convinced of its value on large occupations and in suitable localities, and I have daily opportunity of seeing its beneficial effects, as one of my tenants has used a Howard's cultivator for the last 18 months."

Mr. Milward's land must be unusually predisposed to the condition of good tilth,—it is very rarely that a single deep autumnal ploughing, followed by a single harrowing in spring, will ensure a decent crop of Turnips. Indeed if ever there were an exceptional experience without a right to any place in the argument for a general rule, it must be this. A grubbing done by steam, deep enough to stir the drained subsoil, will perfectly aërate the land whether it be left ridged or level; and such an operation followed by a harrowing, with a winter frost between, will generally, and especially in calcareous clays, produce good tilth. A ploughing must generally be crossed either by plough or grubber in order to produce the same condition, and where it has been done by horses it is certainly inferior in effect to a ploughing or a grubbing done by steam power.

On some soils, and the close fine sands of the Wealden district are among them, a grubbing seems of little use; the land runs together as firm as ever, and the only effect seems to be to give a temporary stimulus to the growth of weeds. On such soils, and wherever the drainage is doubtful or imperfect, ploughing before winter is a better thing than grubbing.

It is rarely that a discussion of this subject in the winter season is of any use; but the remarkably fine and dry November we have had this year has enabled tillage operations much later in the year than usual; and so this contest of opinion among the authorities on this subject may have been of some service. We see Mr. Milward tells a doubting correspondent that a four-horse plough will enable an 8 or 10-inch furrow. Compare this with a steam-grubbing which does not trample and harden the subsoil, and which is so much deeper than an 8 and 10-inch furrow, that Mr. Sadler reports his breakages on landfast stones have been 20s. an acre in a district where 8 and 10-inch ploughing has been long the rule.

## TENANCY AT WILL.

If in the business affairs of this world we are not saved by faith, as your gifted correspondent affirms, yet I venture to submit that faith is an ingredient in most of our business transactions. Admitted we buy or sell certain goods and take the precaution to secure a witness to the transaction; yet it must not be forgotten that the goods are bought or sold by sample. In agricultural transactions still stronger evidences of faith may be found. I have before me instances of two tenants having a few years since laid out large sums of money on their farms under the promises of leases for terms of years, and both have elected to farm on as yearly tenants without any kind of agreement. I could also tell of a farmer who farms under one landlord 800 acres of poor stiff land, 560 of which have been handed down to him by his ancestors, who have held it probably two centuries without written agreement of any kind; none has even been proposed. Capital alone without great skill and industry could not have brought this farm into the high state of cultivation in which it now is; it might be readily let at a much advanced rent, and the tenant could be ejected by six months notice with no claim to compensation. Here are strong evidences of faith, and such cases are, I believe, more numerous than is generally supposed.

I have been led to consider the subject from this point of view, from the belief that a conviction is gaining ground that no small part of the bad farming of this kingdom is due to the want of greater security to farm tenants; due in fact to the unwillingness of landlords to grant tenants leases for terms of years. I do not believe that our landlords refuse trustworthy tenants this security when there is sufficient reason for asking for it. But I believe that as a rule perfect confidence and good faith exists between our landed proprietors and their tenantry. Any legislative enactment on the subject of unexhausted improvements may tend to disturb this feeling, nothing that is compulsory can encourage it. I believe there are no grounds for complaining that agriculture does not advance as rapidly as might be expected. Let any one for a moment reckon the vast visible improvement that has taken place during the last 20 years. True, it is easy to point to glaring instances of retrogression, arising almost invariably from a want of capital or of energy and skill to expend it. But it is better to bear for a time with such cases than deal hastily or too summarily with them. All changes that occur tend to the general improvements and I really believe that, rightly viewed, the present aspect of agricultural improvement is satisfactory. *Chas. F. Humbert, Watford, Herts, Nov.* 16, 1863.

## THE ROYAL AGRICULTURAL COLLEGE.

IN CONCLUSION OF A COURSE OF LECTURES.

By T. Baldwin, of the Albert Institution, Glasnevin.

Gentlemen, having now concluded my lectures, perhaps you will allow me to make a few general observations before I depart. The introduction to a book is usually written after the book itself; and so my introduction to these lectures had better be spoken after they have been delivered. It will be a short and simple one. Standing here with the result of many years' personal experience at a kindred institution before me, I ought to be able to form a tolerably correct notion of the merits of the Royal Agricultural College. I have, during my six weeks' residence at the College, studied every feature of it with interest and care. I have had daily opportunity of witnessing your round of occupations. I have watched what you do on the farm, and how you spend your time in this theatre and in class rooms, and above all I have had the pleasure and advantage of that insight into the real life of this College, which personal intercourse with its working men—Principal, professors, and students—alone can give.

Before we can fully appreciate the system of instruction adopted here we must have a conception of its objects. To my own mind they appear to be:—

First of all to afford a sound knowledge of the principles of improved farming; in other words, to give the young farmer an opportunity of acquiring such a knowledge of chemistry, botany, physics, &c., as would enable him to see the bearing of those sciences in his daily avocations. I should be offending your good sense, and the good sense and experience of any of the intelligent farmers of this country who may read these remarks, if I were to waste your time or my own in proving the value of this kind of knowledge. I may, however, be permitted to say that the mere communication of the facts of science, without any regard to the mode of doing so, appears to me to be but a part, and for some students but a small part, of the real work of education. The highest end of education of all kinds is, in my opinion, to discipline the mind. Depend upon it if you and your successors here are, as I fully believe you are, to exercise an influence for good on British farming, it will be because the principles and facts of agriculture are taught here not in a desultory way, but by a regular and systematic course of study. This is not an opinion formed by me this morning or while here, but it is a conviction forced upon me by 12 years' pretty hard work in the education of farmers. Every body knows the difference between desultory and systematic physical labour; and the difference between desultory and disciplined mental labour is infinitely greater, though the difference is not so apparent on the surface of every-day life. You can acquire knowledge in this theatre in a way which must influence the career of each of you more or less in after life; and it is this feature of the life of this College more than any other that would at present induce me to recommend any young friend who wishes to occupy a good position among the advanced farmers of his day to go through your course of study.

The details of practical farming may be acquired elsewhere; but the principles which should form the groundwork of a man's knowledge of farming, can best be learned at an institution like this, where men devote their lives to the work of mastering the difficulties of their respective subjects, and the mode of communicating knowledge to others. You may see as varied and instructive a system of farm management on many a private farm as on the College farm, but no private farmer would or could undertake to give you the scientific knowledge of farming which is imparted in this College.

And this brings me to the second object sought to be accomplished here, namely, to exemplify on the College farm as many of the principles expounded in this theatre as can be exemplified on such a farm. Without a farm this College could have neither a long nor healthy existence. A farm well stocked with cattle, crops, and implements, is just as necessary in the education of a farmer as a dissecting-room and hospital are in the education of a medical man. The prosperity of this College will depend largely upon the success achieved upon the farm, and the way in which many of you attend to its cultivation and general management.

The College will rise or fall in public estimation just in proportion as these two great objects—the scientific and the practical—are harmonised and made subservient the one to the other. Some of you would perhaps wish to be permitted to give more attention to science and less to practice. Some, again, would not perhaps object if you were allowed to throw off some of the scientific trappings in which you are harnessed. This is the old conflict between theory and practice. I advert to it now because I have found a little of it among you, and it is met with everywhere; and also because it is desirable to combat it. There ought to be no conflict between practice and science in agriculture, and certainly there ought to be none in your education. In the science of farming there can be little or no progress without practice. Any of you who wishes to succeed in the profession he has selected, must carefully collect all the practical facts that crop up day after day and season after season on the College farm. But do not neglect science, do not miss the chance which will never again occur of storing your mind with first principles. Science makes every man who possesses it more useful to himself and the community; science dignifies and exalts a profession; science dignifies and exalts a man; science dignifies a farmer and exalts him in the estimation of his brother farmers. Mark my words, therefore, when I say to you respectfully, but confidently, that you will in after life find too much cause to look back with deep regret on your College course if you neglect to store your minds with the scientific knowledge so zealously communicated within these walls by your accomplished professors.

## ON THE SUPPOSED DETERIORATION OF THE SOIL OF GREAT BRITAIN, THROUGH THE EXHAUSTION OF ITS VEGETABLE MOULD.

A LECTURE DELIVERED BEFORE THE OXFORDSHIRE FARMERS' CLUB, NOV. 11, 1863.

By Charles Daubeny, M.D., F.R.S., Professor of Rural Economy, Oxford.

When an University Professor presumes to lecture before an assembly of such men as I see around me on a subject, with the details of which they must be much more familiar than himself, the only way in which he can hope to be worth listening to, is by selecting for the subject of his remarks some point of Theory, involving errors in practice which admit of being corrected by an appeal to the general principles of Science. For it must not be taken for granted that a farmer, however ignorant he may profess to be on scientific matters, is, therefore, never guided in practice by theoretical considerations, for so difficult is it for the mind to abstain from speculation of some description or other, that I have known the wildest and most baseless hypotheses embraced by men who prided themselves on being guided solely by the light of experience, and who would have been the first to treat any suggestion founded upon philosophical principles with sovereign contempt.

I recollect, for instance, not many years ago, one of the best practical farmers in this neighbourhood soliciting me to superintend the erection of a series of wires, to be stretched at a certain elevation over his growing crops, by which he imagined that the electricity of the atmosphere might either be brought down or carried off (I forget which of the two was the theory he favoured) so as to increase the amount of his produce.

How often, too, do we hear from the lips of agriculturists the term of *Clover-sick* applied to land which, for some unexplained reason, becomes, after a certain time, even after the most liberal application of manure, incapable of yielding this kind of crop, and the word employed, not as the mere expression of a fact, but, in a certain sense, as a mode of accounting for it.

How often are we told that the reason why certain manures lose their efficacy after frequent repetition is that they operate as *stimuli*, and therefore, as happens in the case of the animal system, must of course gradually become inert. As if there could be any analogy between the effects of alcohol or of opium upon an animal, and that of a manure upon the ground or upon the seed planted in it; the former, an inanimate body, and therefore incapable of being affected by stimuli at all; the latter renewed at each successive period of sowing, and therefore no more liable to be deadened to its influence by the constitution of the plant that had preceded it, than a man would be to that of brandy, because the former occupant of the dwelling in which he resided had, from long indulgence in alcoholic drinks, become insensible to their operation.

These perhaps are harmless bits of speculation on the part of those who indulge in them, as they may not affect the practice of farming, but the same cannot be said of the theory which, from a mistaken analogy between the animal and vegetable organisation, imagines plants to depend for their nutrition upon the matter imbibed from the mould present in the soil.

For it seems plain, that if vegetable mould supplies plants directly with nourishment, the main efforts of the farmer ought to be directed towards its increase; whereas if it affect plants indirectly, as the best physiologists suppose, by the carbonic acid, &c., given out during its decomposition, other means of supplying

the growing vegetable with those necessary aliments might be afforded, by manuring, or even by tillage.

Now, this theory, after having been shown in the clearest manner to be opposed to the first principles of vegetable physiology, appears to have been revived of late, and still to hold its ground in many quarters.

So true is the remark, that nothing is so tenacious of life as error, and that like a noxious weed, which the cultivator flatters himself he has eradicated by long and repeated hoeing, it springs up again after a time in places where it is least expected, and requires a reiteration of the same treatment as before for its removal.

This train of thought was suggested to me some time ago by the perusal of an article in the *Times* newspaper, which from its appearance in that journal, no less than from its own character, which bespoke the hand of a practised writer, naturally arrested one's attention.

In this article the impoverishment of the land and the consequent decline and ultimate ruin of the country were predicted from the gradual diminution and final exhaustion of its vegetable mould.

"The means of increasing or preserving the vegetable mould," remarks the writer, "is the greatest question that concerns man, and yet one which is scarcely thought of. In the poorer soils, which include a great proportion of the more level cultivable portion of the globe, the vegetable mould is fast suffering exhaustion under the present system, and man does not seem to be aware of what he is about.

"In the Eastern States of North America, from the State of Maine to Florida, in Lower Germany west of the Vistula, and in many parts of Spain and France, the vegetable mould is much exhausted, and no means are taken to prevent ultimate sterility.

"The loss has been so great as almost to be irremediable by man, and perhaps must be left to the repairing agency of Nature; first to cover up the wasted land by a dense Pine forest for a number of ages, and when, by this means, a sufficiency of mould and moisture of climate is attained for the growth of broad-leaved trees, to remain for ages more under these; or if the exhaustion is too far advanced, or the climate too dry for forest growth, the country to be again dipped for a geological period under the ocean.

"In most places of the American Eastern States, except the Pine barrens of sheer sand, the vegetable mould upon the clearance of the forest cover, amounts to from a foot to 18 inches of rich, black, vegetable mould, and this under 12 or 18 years aeration is completely dissipated, nothing remaining but light-coloured poor mineral earth, such as would delight the heart of Liebig or Professor Voelcker.

"Germany, from the Vistula to the German Ocean, with the exception of the rich river deltas, is almost equally exhausted, not only the vegetable mould lost, but even the marl and clay once existing in the soil wasted away, forming the alluviums of the Rhine, Weser, Elbe, and Vistula. In the greater part of this country nothing remains on the surface within reach of the plough but sterile siliceous sand, termed 'geest land,' perhaps a corruption of 'giest land.'

"Liebig," continues the writer, "has written in ignorance, at least ignoring the importance of vegetable mould, the garnered food supply of the higher vegetables, prepared by Nature in a manner perhaps more than anything else showing a provision of a means to an end. Liebig seems so much captivated with what he calls absurdly 'inorganics,' (as if one constituent of an organism was more or less organic than another), as almost to recognise nothing else necessary, when the fact is, that it is the carbonic acid given out by the vegetable mould that, increasing with water supply, renders the water able to dissolve, and convey these minerals to the root mouths of the plant. In the case of a heavy crop being produced by the artificial small manures so much vaunted by Liebig and his followers, there results a great exhaustion of the other components of the soil not easily to be recovered."

This communication, as proceeding from an anonymous writer, would not have called for so much remark, if it had not been countenanced by the Editor of the influential paper which had admitted it into its columns, so far as that in the next number a leading article was devoted to the subject, in which, without precisely adopting the views of his correspondent, the journalist seemed to adopt the idea that the earth was becoming effete, and that the gradual decrease of vegetable mould was the chief cause of the apprehended ruin. Now this erroneous conception of the causes of the sterility of soils arises from a revival of the exploded notion that vegetable mould serves the same office to plants which vegetable food does to animals, and consequently that when that store-house which had been filled by the *débris* of former generations of plants is once consumed, the crops must infallibly fall off, owing to the deficiency of the necessary provender. This opinion was adopted in his later publications, to a certain degree at least, by the celebrated Saussure, although in his earlier works he had entertained sounder views on the subject; and notwithstanding its being in direct opposition to the received principles of science, it held its ground amongst many agricultural theorists, until Liebig exposed its fallacy.

Humus, or vegetable mould, it was shown, dissolves in too minute quantities in water to be taken up to any amount by plants. Indeed, if it were otherwise, it would be carried off by the rain that fell from the heavens, and consequently speedily disappear. It is only through its gradual and slow conversion into carbonic acid by the oxygen of the air under the influence of moisture that it consumes away, to be again renewed by the living plants which are cultivated in the soil. There exists, indeed, an acid, called the humic, produced by the action of oxygen upon it, and this acid combining with calcareous matter, forms a compound called humate of lime; but that this cannot, as has been sometimes crudely imagined, be the medium through which plants obtain their nutriment, is evident from the fact, that no such ingredient is found in the water of springs that percolate through vegetable mould, as in those of the stalactitic caverns of Franconia, where the water, although it has trickled through humus, is nevertheless perfectly pure and limpid; whereas a very small admixture of humic acid imparts to it a yellow or brown colour.

Such is the case with the water of peaty soils; but this, so far from favouring vegetation, is peculiarly prejudicial to it; nor can a particle of humus be detected in any portion of the vegetable tissue. Indeed, from the late researches of the present Master of the Mint, it would appear, that a solution of vegetable mould is incapable of gaining admission at all into the tissue of a plant, for the thin membrane which incases the extremities of the roots, although easily penetrable by saline solutions, is almost impermeable to bodies of a gummy or viscid nature, like vegetable extractive matter.

A late Memoir by Messrs. Lawes and Gilbert, on the Cause of the Failure of the Clover crop, might perhaps be cited by some as affording an indirect support to the old theory, which supposes manures to act directly by providing nourishment to certain plants.

Finding that soils which yielded abundant crops of Cereals were incapable, even though richly manured, to grow Clover, these gentlemen arrived at the conclusion, that the latter is one of a class of plants which depend for their support upon a supply within the soil of complex organic compounds, bearing, as it would seem, the same relation to others, which the carnivorous species of animals do to graminivorous ones.

Now this explanation seems, in my humble judgment, so contrary to analogy, that I am glad to escape the necessity of adopting it, by availing myself of another view of the subject which Baron Liebig has suggested, and by supposing that the cause of the failure of the Clover may have been, that the manure had not penetrated to the inferior strata of the soil, down to which the Clover pushes its roots. Hence, in spite of the superfluity of nutritious matter introduced into the soil, the Clover languished from want of food in the parts to which its roots resorted for subsistence.

At any rate we should be disposed to wait for further experiments, before we took refuge in an hypothesis which seems to be at variance with our preconceived notions with regard to the functions of vegetable life. For it seems evident that humus can form vegetation only in the two following ways: 1st by absorbing oxygen and thereby evolving carbonic acid, and 2dly by its porous nature, which enables it to absorb from air and water the ammoniacal salts present in both.

In a virgin soil therefore, exposed for the first time to the action of the air, much carbon and much nitrogen will be supplied to the growing plant through the rapid decomposition of humus, and the processes of the living organism will thus proceed with proportionate activity.

But as the very humus which possesses these elements of fertility is itself originally derived from plants, there seems no reason to doubt that it will be reproduced in sufficient quantity wherever vegetation is proceeding in a vigorous manner. Hence the fears that are entertained as to the exhaustion of the soil by drawing too freely upon the vegetable matter accumulated during the lapse of ages, seem chimerical, and founded upon a mistaken analogy between plants and animals.

Accordingly the letter which appeared in the *Times* elicited from Baron Liebig a reply, in which, under a lively sense of the injury done to society by the dissemination of such errors, he seems to treat almost as a moral delinquency the revival of an hypothesis which he considers to have been so long consigned to oblivion. This, however, I shall forbear to quote, as it appears to me, that in the article in question upon which he so severely comments, there is a certain admixture of truth with error; of truth, when the writer attributes the fertilising effect of humus to its yielding carbonic acid; of error, when under the influence of the old theory which regarded vegetable mould as itself furnishing aliment to the growing plant, he anticipates the ruin of the country from its gradual exhaustion.

For in admitting the former to be the mode in which humus favours vegetation, he dispels the fears which its anticipated exhaustion might inspire, since the very crops grown upon the land would leave behind them a residuum of carbonaceous matter calculated to supply by its *eremacausis* the same necessary pabulum.

With reference to the support which this theory appears to derive from experience, it cannot indeed be disputed that many of the most fertile districts in the ancient world, and some of those in the modern, have sunk into absolute sterility.

No one can visit the shores of Asia Minor, the Islands of the Archipelago, or certain parts of Virginia, without being struck with the contrast between their present condition, and that which they possessed formerly.

Nor can this be wholly attributed to the neglect and ignorance of the present generation, for the same remark applies to certain parts of Italy in which the people are probably in no worse condition than formerly, and even to Virginia and other parts of North America, where at least the energy of the population has nowise degenerated.

But two causes may be pointed out capable of accounting for this deterioration, without supposing that the exhaustion of humus can have had anything to do with the matter.

The first of these is the reckless destruction of timber, which has taken place to so large an extent, that whole districts in these countries present a naked surface, exposed to the scorching heat of summer, and to the biting cold produced by the free radiation of heat from their surfaces into space, as soon as ever the sunbeams are withdrawn.

Nor is this arid condition of the soil the sole cause of the absence of plants in the deserts of Africa and Arabia, for the sudden transition from extreme heat to extreme cold, which takes place in these regions, is in itself highly prejudicial to the health of most species of vegetables.

It is well known, from the accounts of travellers, that after a day of scorching heat, a night supervenes of almost extreme coldness, one severe enough even to cause water to freeze in porous vessels, in which manner ice is commonly obtained in Bengal; a cold rendered more penetrating from the dryness of the air, which causes the heat of the body to be carried off with greater rapidity, than would happen if the atmosphere contained a large amount of aqueous vapour in an aeriform or transparent condition.

This cold arises from the free radiation of heat into space from the ground during the cloudless nights that prevail in these dry and tropical regions. But independently of this, the cutting down of timber exerts a very remarkable influence upon the rainfall of a country. Trees arrest in their progress the clouds and mists which sweep over the surface of the ground, and cause them to deposit their moisture; whilst at the same time evaporation from the ground itself will go on more rapidly when the wind has free access than when the ground is protected by wood.

In proof of the extent to which these causes have operated, I must refer you to the accounts which Boussingault has given with respect to the change produced in the climate of Venezuela by the cutting down of its forests, and likewise to the case of the Island of Ascension, where the removal of the timber was followed by the drying up of the only spring which the island possessed, and where the subsequent restoration of the trees brought with it the recovery of the lost water.

These and other instances, which I have adduced in my late publication entitled "Lectures on Climate," * prove, that man has in many instances modified in a very striking manner for good or for evil the condition of the countries in which he has established himself. Neither do I mean to deny, that virgin soil, when first turned up by the plough, is capable of yielding, without manure, an amount of produce, which no skill or labour can extract from it after it has been long in cultivation, and which therefore makes the latter appear by the side of it wanting in productive power.

(*To be continued.*)

## AN AUTOBIOGRAPHY.

MR. EDITOR,—As I have from time to time sent you a few papers on Husbandry Operations, which you have kindly caused to be inserted in the increasingly valuable and largely circulated *Agricultural Gazette*, and as it is my intention to send you a few more, and as my views run counter to most of those of agriculturists in general, and those also who write on agricultural subjects—counter to those in general I write, but not to all—and as many people ask, and perhaps not without some show of reason, how I, a mere country parson, cultivating a few acres of glebe only, can understand the art of husbandry sufficiently to enable me to write upon it so confidently as I do—I have thought that were I to give a brief statement of matters upon which my pretensions are founded, it would be read with interest by my friends, of whom I rejoice to know I have many, and may put to silence also some of those fierce opponents who consider me to be a mere stripling youth, without experience or practice, and so become vainly confident of easy victories over me. That I am no youth, the white locks which for many years have flown over my shoulders, and a beard of the same colour sweeping over nearly half my waistcoat, and even resting (and, I will add, in my opinion not ungracefully) on my table as I pen this article, sufficiently show; and more particularly if I add that more summers and winters have passed over my head than the Royal Psalmist informs us are allotted to the race of men; and I think, further, that all who may read this paper will acknowledge when they shall have gone through it that my experience and practice have been commensurate with the number of years I have been exercised on them, and especially as they amount to nearly 60; and I add further, and I rejoice that I am enabled to do so, that there is not an operation in agricultural practice but I am able to perform. For examples, I can plough; yes, my readers, I can, and I have often ploughed my own glebe, and well too; and I can scarify, and drill in my seed with my drill, and I every year do drill it in; and I horse-hoe my growing crops also myself; and I can reap, and I can mow; and I once reaped against a practical farmer, who cultivated his hundreds of acres, and beat him completely; and I have but little doubt but I could even now, when more than three score years and ten have passed since I first saw the light of the sun, beat nine-tenths of those self-confident gentlemen who wage their literary wars against me, and think to annihilate me with a few strokes of their pens, or with hard words.

Know, then, my respected readers all, that I was bred upon an estate of nearly 2000 acres of land, and all of

* Four Lectures on Climate, delivered at Torquay in 1863.

which was chiefly under tillage, and from 90 to 100 horses were constantly employed to cultivate them; the system of tillage also, was that for which from my convictions of its being the best yet discovered, I contend, and in defending of which, as I had truth, nature, theory, and practice on my side, I have so easily floored, with no other weapon than a feather from the wing of a goose so many opponents; but "then thrice is he armed who has his quarrel just." But the system was this: every acre seeded on the estate was cultivated, disintegrated, and comminuted, never fewer than 9 and generally 12 and more inches deep, by the plough and the scarifier, and each seeded field, and every year, was ploughed and reploughed and scarified and re-scarified until it was brought into the condition I here state, and then, and not before, the seed, on the system practised and recommended by Tull, was put in with the drill, then only coming into use, and in rows for Wheat and Barley and Oats 12 inches asunder, and for Pulse about double that width, or for Peas never less than 2 feet. The seed for Wheat never exceeded one bushel an acre, and for Barley and Oats but half a bushel more, and for Beans and Peas according to their kinds, but never half the quantities per acre that are now generally used. After the crops were up they were all horse-hoed, and some of them several times over, but not with the destructive machines under the name of horse-hoes now in general use, and which are such a disgrace to our age, and which cut off the soft sponge-like fibres of the roots, the mouths indeed through which the plants ought to be fed with the organic and mineral pabula they require, and thus yearly tens of thousands of acres of cereals are either greatly injured or ruined entirely by them; but the horse hoes used on that estate were not cutters at all, but made something like a double-tom iron plough going equi-distances between the wide rows, throwing out the greater number of the weeds and letting in the genial influences of the air and the sun, and moulding up the rows of growing corn at the same time. Oh! how often have I seen those modern abominable implements called horse-hoes, those satire, upon our age, at work on the large farms of the modern practical farmers, going between the rows of growing corn only six inches asunder, and trimming and pruning off the roots as they were dragged along as completely as those roots could be, if cut and trimmed with so many knives! But so! the world moves on, showing the marvellous progress that is being made in mechanical wonders! and most especially in some of the implements connected with practical agriculture. But to proceed; on the same estate in the year 1803, an acre of land in the centre of a large field of 40 acres was measured accurately and hurdled off from the rest of the field, and dibbled with exactly 1 peck of seed Wheat, and at harvest it was reaped, threshed, winnowed and measured by itself, and the produce was 210 fold or 210 pecks; and this I inform my readers I myself was a witness of, indeed I may say with the poet:—

> "Quæque ipse * * * vidi
> "Et quorum pars magna fui."

But after that date, namely 1803, I removed to a school near London, then in very high repute—indeed, second to no private school in England, and there I remained upwards of nine years. The master was a worthy clergyman, and he so much indulged my taste for land cultivation, that he assigned to me a portion of his large garden, which I cultivated with my own hands, digging the whole full 2 feet deep, completely comminuting the soil also to that depth, and sowing my seeds on the true Tullian system in rows, 1, 2, and 3 feet asunder, and I had patches of cereals of all kinds, and of Pulse, as well as of roots and vegetables; and if the worthy master of the establishment were now alive it would, I know, be a great pleasure to him to bear witness to the extraordinary perfection and size to which my system of thorough cultivation and thin seeding caused everything to reach in my garden. There were also several nursery gardens in the neighbourhood in which I spent much spare time, and in all of them I was always welcome, and especially in one belonging to a very worthy and industrious Scotsman, with whom I spent no little time, and by him I saw the system of land cultivation I have adopted carried out to a still higher degree of perfection than I had known it to be even on the farm, for whatever crops were grown, or for shrub and tree-planting, the land was well broken up to the depth of 3 feet or more; and thus when I saw the rapidity with which everything that was sown grew, and the perfection to which all, whether vegetables, flowers, trees or shrubs, so rapidly arrived in that garden over that of general farm cultivation, my young mind was set "a thinking," and I said that the farm I was connected with was the only one I had to that time seen rationally cultivated; and, I now add, it is painful to reflect that since, after between 40 and 50 years of experience, scientific and rationally cultivated farms are the exceptions I have seen, whilst irrationally cultivated ones are the general rule.

I know against this statement a thousand tongues will at once rise up and exclaim—nor had I a hundred mouths, a hundred tongues, a hundred pair of brazen lungs, would it be possible for me to silence even half-a-dozen of them. But still, even among farmers, there are many very excellent men, and there must also be wise ones; but as a general rule they despise experiments, and will not quarter the ruts or remove out of the old roads made by their forefathers, though far better, and shorter, and nearer roads, invite them to travel over them; but education is everywhere making rather rapid though unseen progress, and this will ultimately accomplish what arguments, without it, labour for in vain.

But again to proceed; notwithstanding my being at that most respectable school, the nearly three months of holidays which were given every year were spent by me chiefly on the farm, and hence I knew nearly as well what was being done and had been done on it, as if my time had been wholly spent upon it, and, as I have said before, after a lapse of between 40 and 50 years, I have never since seen so much land together so thoroughly cultivated, and so little seed sown on given quantities of it, and yearly such large and fine crops grown as were on that farm; and I have *viva voce* and documentary evidence of all I state. I am aware that in making these statements I am bringing upon my devoted head no little contumely, and probably some little of what?—it may be of abuse; but all this I am inured to, and so, as use is a kind of second nature, I can from custom easily bear it. But, my readers of the old school of farming, let us reason a little together. How do you plough your lands? "How?—why as much as three inches deep and sometimes nearly four." And how many times? "Very often twice, and sometimes even three times, and Clover leys once; and this is quite enough—indeed, better than more."

That is, you cut the surface of your land into slices 3 and 3½ inches deep, and turn the slices first this way and then that, twice, and some chance times three times, and some once only; and then with a machine you make furrows in the slices, and with cups like tea-spoons throw into them your seed; or you make holes in the slices, and drop handfuls of Wheat, Barley, or Oats, or Pulse into them?

"Certainly we do; and this is the proper way of ploughing and sowing, and there is no better; and, besides, our fathers and grandfathers and great grandfathers always did the same, and we never have altered—and why should we?"

And in this way 2 and 2½ bushels of Wheat, and a learned authority in the *Agricultural Gazette* of the 31st ult., and at page 1042, informs us that 20 years back 4 and 4½ bushels were generally thrown on an acre of ground; but whether by shovels out of carts, or what other instruments were used he does not enlighten us, but ungratefully leaves us in the dark; but from the 2 and 2½, and 4 and 4½ bushels of seed, we further learn from the best authority, namely, Mr. Caird, M.P., as I have been told, that from 20 to 24 bushels alone of produce an acre on an average are produced. But on the nearly 2000 acres I refer to, from 1 bushel only, the Wheat crops averaged nearer 40 bushels, and the quality was always as fine as the quantity was large. And, besides, there are a few gentlemen and farmers even now, like oases in a desert, who are known to me, and who drill but 1 bushel, or but a fraction more, and their yields are still as great or greater; and there was one highly respectable individual in this county—now, alas! departed to that bourne whence no traveller returns—who never dibbled more than 1 peck an acre, and his yields were still larger, and he published his balance-sheet every year, and I myself frequently saw his crops; and several other gentlemen, clergymen, and others I could instance drill, or rather seed their lands, with 3 pecks an acre only.

And I myself have since my ordination, with a very few years of intervals, cultivated land and grown corn, and I have done so in my present parish for nearly 27 years, and my maximum quantities of seed have never exceeded 2 pecks an acre, and often not one, and I never had but one failing crop of Wheat, though I have cultivated Wheat after Wheat for four years in succession, and that failing crop was 4½ quarters an acre; and of Barley, from 2 pecks, I have had 7½ quarters an acre, and Oats from as small quantities equally as good. And I further add, that for most of those crops the land was generally ploughed by myself, and always drilled and horse-hoed by myself, my parishioners and many others continually seeing me in my fields behind a pair of horses performing all kinds of farming work that could be done by them; and thus they will all bear witness that I have not eaten the bread of idleness, and will perhaps long remember, after I shall be removed to another sphere of existence, how I was to be seen early in the morning and late in the evening, and in noon-day, whether hot or cold, cultivating my fields, and thus, I trust, setting my parishioners examples of industry, frugality, and contentment.

Nor must I forget to state that during the time I was at that excellent school, many of the very best books on husbandry and the arts connected with it were purchased by me, namely, Xenophon's Economics, Theocritus, Columella, and, of course, the Georgics of Virgil from the ancients; and Tusser, and Tull, and the Essays of Bishop Watson, and the Agricultural Chemistry and Elements of Chemical Philosophy of Sir H. Davy, Parkes' Chemical Catechism, and several other works of the moderns, from which I hope I obtained instruction; and from time to time I have added more to them, and especially those of Baron Liebig, which ought to be in every man's possession who cultivates land, whether he calls it a farm or garden. I also attended many lectures which bore on my favourite study, namely those of Chemistry by Dr. Birkbeck, then a lecturer held in reputation; and the sublime lectures on Vegetable Poisons, by the then Mr., but afterwards Sir B. Brodie, and I had the pleasure of witnessing the experiments of Sir Benjamin of those poisons as preparations for his lectures, showing their effects on the inferior animals, and above all, to gain the friendship of that profound philosopher and most excellent man, and which friendship, I have the additional pleasure of being able to record, remained to the day he was summoned from a world which he had so many years adorned with his wisdom and benevolence, and, I may add, every Christian virtue, to one of permanent rest and happiness in a far better world, and in the enjoyment of the presence of the unseen Creator of it—his God.

And in conclusion, I must be permitted to repeat what I have said and published very many times, namely, that what is over thin-seeding in one man's hands is over thick-seeding in those of others; and that one kind of Wheat should be seeded nearly doubly as thick as some other kinds; but the man who requires more than a bushel of seed an acre of any kind of Wheat ought not to be intrusted with the seeding and cultivating of land for Wheat at all; for I write from nearly 60 years of practical experience, that in the hands of a wise man all the seed above a bushel, of whatever kind of Wheat, diminishes both the quantity and quality of the crop, as in such hands the land will be sure to be in good heart, full of vegetable and mineral pabula, be really cultivated, and the seed properly put in. *Geo. Wilkins, The Parsonage, Wix, Nov.* 14.

## STEAM CULTIVATING COMPANIES.

IT is well worthy of note how the country is awakening to the wonderful advantages to be derived from steam cultivation generally, and in clay-land districts more particularly. This is as it should be. If British agriculturists are to keep pace with the improvements of the age, and to make themselves competent to meet profitably in their own markets the competition of the whole world, it must be by bringing into full exercise every acknowledged improvement of the day. It is only in this way that they can excel in management, and create a produce unknown to other nations for extent and value. The British climate is fickle—farm operations of culture cannot at all times proceed—a favourable time must be waited for and seized; but then, with farm-horses only, the season is gone before the work can be satisfactorily accomplished, and of course loss of time and crop ensues. It is unquestionably of great moment to introduce into our agriculture a power capable of overcoming in a great measure these hindrances, so that our farmers shall for the most part be independent of climate, and be able to effect their proper culture at the right time. This undoubtedly is the province of "steam cultivation," and to bring this astonishing power down to the capabilities of every ordinary farmer is the object of many projected companies. The design is well conceived, but the difficulties in carrying out the operations of so many companies are insurmountable. Consider the various organisations, the cost of getting up such companies, the payments to directors, secretaries, engineers, and minor officials. Then their objects. One company designs to purchase apparatus for letting out, another for advancing capital to farmers to purchase for themselves, another professes to combine the two. Others contemplate taking contracts for steam culture; others profess to take in all the requirements of the farmer, and aim to aid him in all his expensive purchases of machinery, &c. (one or two of these companies have already succumbed.) Now all these companies have to be worked by an expensive staff of officials, and to pay these and carry out effectually the objects of such companies cannot leave much margin of profit to shareholders; hence it does seem desirable and right to repudiate these minor companies, and to establish a central company, possessing a powerful and comprehensive character capable of accomplishing all that in the present state of our agriculture is required. Farmers, it is proverbially said, never can combine for any useful purpose and effect it. There arise so many causes of difference, so much conflict of opinion, that minds cool upon the question even before it gets thoroughly before the world. It will be so in the present case if more interest and energy is not forthcoming. In London a Central Steam Cultivation Company has been incorporated under high and influential auspices, for the purpose of supplying needy farmers with the means to purchase steam cultivating apparatus on repayment at intervals extending over a course of years, and sufficiently long to enable the borrower to reimburse the outlay from his profits derived from such culture. Beyond the few noblemen and gentlemen who so laudably took the initiative, but few farmers have become shareholders, although the amount of shares is small, and the Company is under the Limited Liability Act. This is decidedly wrong, a company formed to promote the farmers' successful progress, ought to meet with their universal support. It ought to be the farmers' company, and every farmer ought to be a shareholder for mutual aid and benefit. No farmer can be liable for more than his 10 pounds share. This company purposes holding a general meeting in the Christmas Show week in London, (of which no doubt notices by advertisement will appear in all the agricultural papers), to ascertain the feeling of the farming public and the friends of steam cultivation upon

the broad question, and their determination relative to the countenance to be accorded to this Company. If competent support is withheld, and landlords and tenants manifest great supineness, it is more than probable that this chance of promoting steam cultivation will be thrown away, and every needy farmer be again driven to contend with his difficulties as heretofore. *O. F.*

## SHEEP FARMING ON 200 ACRES OF ARABLE LAND IN MORAYSHIRE.

THE farm is of 200 acres, farmed on the usual five-course rotation, a breeding stock of 10 cows is kept for the purpose of supplying the establishment with milk, and rearing calves to be sold as yearlings, and a larger stock of cattle can be kept during winter, these cattle to be fed on the Turnips which can be spared from the sheep, assisted by a few tons of oil-cake, or other feeding stuffs.

For the last twenty-five years I have practised sheep farming in this county, and during that time have made repeated trials of various breeds of sheep, but have come to the conclusion that the most profitable for this district are what is called the half and three-parts-bred sheep—that is, the first cross between the Cheviot ewe and the Leicester tup for the half-bred, and this ewe crossed again by the Leicester tup for the three-parts-bred sheep. I have tried the pure Leicester, the pure Cheviot, and pure Southdown, a cross between the Leicester and Southdown, likewise a Cotswold cross; but I have ever found that, for all practical purposes, the half-bred ewes and the pure Leicester tup paid the most money—producing more weight of mutton and wool as they do, and at the same time a comparatively hardy and docile animal. In keeping up the stock of half-bred ewes, I have been in the habit of buying either half-bred gimmers or lambs from breeders in this county, who breed from the Cheviot ewe and Leicester tup, or have got first-class half-bred gimmers from the county of Caithness, where, I think, they will be found better adapted for this county than those bred here. The Caithness sheep are lengthier and stronger, and altogether serve to counteract that tendency to diminish the length of body, size of animal, and closeness of wool which the light land of this county produces after a few years. The Caithness breeders, from their proximity to the best stocks of Cheviot ewes, and from the stronger nature of their soil, and larger farms, have it more in their power to produce a bigger half-bred sheep than we have. These Caithness gimmers may be bought at an average of from 30*s.* to 35*s.*, when sixteen months old, or once clipped.

In the note of my calculations given at the end of this paper, I have not taken any notice of the yearly purchase-price of these gimmers, because the money realised for our draughts will equal that paid for our gimmers; and as we generally take three crops of lambs from the ewes, it will be seen that one-third of them go off annually, and of course one-third forms the new entry. As stated formerly, I have taken a 200 acre farm as my basis, and upon this I shall place a stock of 120 ewes, and propose to follow up their probable produce to market, not, however, estimating the value of that produce at the present high rates for wool and mutton, but what may looked for over a series of years. I may here state that there generally runs to well-managed flocks in this district about thirty pairs of twins to the 100 ewes, and which would give of lambs a produce of 156 or thereby; and I shall now proceed to give what may be termed a very limited account of the treatment of the ewes and produce, for time will not permit of my going more into detail. I will therefore propose that the stock is laid out early in the autumn, consisting of the following numbers, and rated at the following prices, viz.:—

| | |
|---|---|
| 120 ewes at 33*s.* .. .. .. .. | £198 |
| 156 lambs at 20*s.* .. .. .. .. | 156 |
| Two Leicester tups at 5*l.* .. .. .. | 10 |
| | £364 |

Having now got the flock on, the first expense necessarily attending them will be the dipping or bathing, and which may be taken at 1½*d.* each. The dips I have used are Randen's and Biggs', and I have found the one equally efficacious as the other in clearing them of all sorts of vermin and preventing scab; but if scab really exists, more stringent and expensive measures must be used, and the spirit of tar and tobacco juice applied with unsparing and unremitting attention till it be eradicated.

As a rule, lambs should never be short of meat, and should always be on Turnips about the first days of October, and if upon Rapes and early Globes even sooner so much the better; but this is a matter for the farmer to judge of, although under any circumstances I should never recommend them being later than the time named. And here I would mention that the kind of Turnips I prefer laying them on to are, first—any of the variety of Globes, being kept on them till the end of November, then yellows till the end of January, followed by Swedes. I have found it desirable to change the kind of Turnips. At first they do not consume many Turnips, but after a time they gain condition fast, and get well up to stand bad weather in November, and more particularly in December, while if severe weather should happen to come on during the transition state from Grass to Turnips, and before they are really well accustomed to the latter, damage may be done to them which they will never recover. A little expense, therefore, for Turnips at that time is well bestowed.

In putting them on to Turnips in the field, I consider it better to do so by degrees than to force them upon them all at once—that is to say, laying them on for three or four hours daily at first, and then lifting them off to a Grass field, lengthening the time each day for a fortnight or three weeks till they get fairly bit with them, and then allowing them to remain on altogether, although with the choice of a Grass field to run back upon, if they wish it, and if convenient. I think this more judicious than keeping them in close till they learn to eat Turnips from sheer hunger; but, indeed, if lambs have been on Turnips with their mothers, it is little learning they require, as they take to them at once—the effect of early tuition. The lambs should get a fresh bit daily, but in giving them this it should never be done unless the morning be very dry, till the sun is well up, and the frost or wet off the leaves, otherwise much loss may ensue from inflammation—the effect of this food in this state on an empty stomach. And in times of severe frost there ought to be a stack of stored Turnips on the field put up in fresh weather. I do not mean that the lambs should be confined to this bit of Turnips, but with power to fall back upon their former leavings when they have a mind, and if dry weather they will pick up the last morsel.

Lambs, or rather I ought to say hoggs, will do very well in this way till about the middle of January, when, if they are forward in condition, you must begin to slice, and keep slicing till they go to grass about the end of April. This has been my general practice, but I have varied it according to circumstances, and have given them ¼ lb. of rapecake and ¼ lb. of Locust Beans, bruised and mixed, or ½ lb. of oilcake and bruised Oats daily, either in the field or in house-feeding, or in sheds with open yards, and have sold them, after this treatment, quite fat before they were twelve months old, at from 38*s.* 6*d.* to 45*s.* I have used them instead of cattle for making manure in yards, and you cannot do a more profitable thing in sheep feeding, but they require in this case a good deal more attention, and in particular fresh litter daily. If the Turnips are a good crop, about 15 acres will do the 156 hoggs.

On a farm of 200 acres farmed on a five-course shift, there will be 80 acres first and second year's Grass, and 40 acres Turnips, and therefore it is necessary, with this limited quantity of keep, to consider how it may be most profitably used. My impression is that it is better to sell 100 of the best of these hoggs off Turnips, and to graze the remainder so as to bring them to an equality before disposal. The Grass, therefore, required, would be for the ewes (120), with their lambs, at the rate of three to the acre, 40 acres, and for the 56 hoggs at 5½ per acre, say 10 acres—leaving 30 acres to cut for hay—keep the cows and calves and the six or seven farm horses.

Having now generally stated the management of the hoggs, I shall shortly treat of the ewes. I have said that it would be necessary to draught about a third of them each year; and having done so and replaced them with gimmers, or 16 months' old ewes, being the age at which they are generally entered to the ewe flock, you will give them a run over a bare Grass field after weaning time, and keep them sparingly by cleaning up your stubbles, &c., till near tupping time, when the keep ought to be increased, and if a bit of second foggage, or good seeds, can be had about the time the tup is put to, you are pretty certain of a good sprinkling of twins. Ewes are proverbially persevering in obtaining their livelihood, and they will pick the last out of everything either in your stubble fields or Grass fields about to be broken up, and therefore, instead of costing anything for keep, are really benefiting the land than otherwise; my impression is that there will be sufficient Grass on the farm to carry them on till about the end of January, before they get Turnips, but then it will be necessary to give them a few daily till they come near lambing-time, when their feed may be increased. After lambing, I find I can make the best lambs by putting the ewes into a new Grass field, and give Turnips along with the Grass for the first fortnight, and then return them to Turnips entirely during the day, and into a new or second year's Grass field at night. To keep lambs, and have 120 ewes, about 6 acres of good Turnips will be necessary, thus leaving from the sheep, 19 acres for the cattle. I may here mention that during a long and protracted, and perhaps unexpected snowstorm, I have known a little oilcake bring the ewes through in capital condition, and with no loss either to ewe or lamb, and this may be necessary if your stock of stored Turnips gets exhausted. At one time, I dared not give my ewes Swedish Turnips from the dread of inflammation after lambing, but now I find, from some cause which I cannot account for, unless it be the uniformly higher condition of the ewe, that the Swede is about as safe as any other Turnip. After the Turnips are done, you must not stint the ewes in Grass, and new Grass if possible, trying to produce the largest flow of milk possible from them, for that is what really makes the lamb. The best time for bringing the lambs to this county seems in most seasons to be from about the 20th March till the middle of April, but if you have plenty of house-room you may bring them sooner, and always with the chance of making them better; but in this case it will be well to see that you have a large stock of stored Turnips or Mangel. The ewes, if in good condition, may be clipped about the first weeks of June, and the hoggs during the latter part of May, or sooner, according to weather and condition. The lambs may be weaned about the end of July, and when weaned must be put on good Grass or Clover foggage, and in either case it is better that no sheep have grazed it for at least ten days beforehand.

Having given this necessarily short outline of merely one branch of sheep farming on arable land in this county, I shall now proceed to do, or suppose—which is much easier than to do in reality—namely, sum up the probable money proceeds out of the 120 ewes treated as I have very generally and imperfectly detailed, but premising that even this result may not be looked for without considerable care, much attention and judgment, and besides that the 200 acres of land must be really fair land, and in very good condition, giving good crops of Turnips and Grass; and without all these, and ordinary good pasture besides, the result may not be looked for, although, on the other hand, it is quite possible, by extreme good management, to exceed it. I shall therefore say that from the 120 ewes there ought to be sold:—

| | | |
|---|---|---|
| 100 hoggs in April at 35*s.* .. .. .. .. | | £175 0 0 |
| 56 do. in July, clipped at 32*s.* .. .. .. | | 89 12 0 |
| Wool of 120 ewes, 56 hoggs, and 2 tups, at 6*s.* 6*d.* | | 57 17 0 |
| | | £322 9 0 |
| But from which deduct— | | |
| 5 per cent. on original capital for deaths and casualties .. .. | £18 4 0 | |
| Expense of bathing 278 sheep, 1½*d.* | 1 14 9 | |
| Expense of shepherd .. .. .. | 28 0 0 | |
| | | 47 18 9 |
| | | £274 10 3 |

Mr. PETRIE, Miltonduff, asked what would be the value of that land.

Mr. GEDDES said 40*s.* an acre at current rates—though he wished he could get it at 30*s.*

Mr. FERGUSON, East Grange, corroborated what Mr. Geddes had said, but would go further. Assuming a stock of 120 ewes, he saw his way to profit much earlier than Mr. Geddes showed, by putting the tup to the ewes a fortnight or three weeks earlier than the general habit is. He assumed, of course, that the soil and shelter were suitable. Then you could send your lambs to the fat market earlier by the present facilities you have for railway communication. You could have all your fat lambs sent away by the end of June. You could have your ewes clipped and sell them fat by the month of August, thereby profiting by lamb, wool, and ewe within a space of eight and a-half or nine months.

[The above paper was read by Mr. GEDDES, of Orbliston, at a recent meeting of the Morayshire Farmers' Club, presided over by the Duke of Richmond.]

## Home Correspondence.

*Dirty Cattle Trucks.*—With reference to the filthy and dangerous condition of railway cattle, sheep and pig trucks, let me suggest an easy and uncostly way of cleansing them. A gutta percha hose and jet attached to a 6-inch force pump driven by steam power, would effectually cleanse a truck in two or three minutes. I speak practically in this matter, for my own jet worked by steam is of a thousand scrubbing-brush power. Every crack and cranny is almost instantaneously cleansed. Merely drawing it hastily across a hard gravel walk will cut a furrow in it, and I could when I fed 350 pigs or beasts, wash them all clean in 10 minutes within a range of 40 or 50 feet. One of our steam fire engines gives an exact illustration of the operation I describe. Railway Companies have generally plenty of water and steam power to propel it. The health of our stock is of vast importance, and it becomes a duty due to the public. In fact, legally, I apprehend that if it could be shown that our animals became diseased by railway neglect, we could not fail to recover damages. The jet would answer equally for steam vessels used in conveying stock. *J. J. Mechi, Tiptree, Kelvedon, Nov. 23.*

*Condition of Farm Labourers.*—In these days of so much talking and writing about farming and its details, I often admire the edifying but unassuming style of address of "M. J. B." in the *Gardeners' Chronicle and Agricultural Gazette*, who just tells his scientific story, and leaves topics which require a practical knowledge of details to practical men. Were men of science and of letters, as distinct or separate classes, to imitate "M. J. B." in this respect, many of your correspondents would not lay themselves so open to attack. Let me refer for example to the Rev. Canon Hodgson's remarks on women doing the greater part of the manual labour connected with the threshing and dressing of grain by machinery, the filling the carts when cleaning out the cattle pens, the turning manure heaps, spreading the manure on the land broadcast and in drills, and the singling, hoeing, and pulling of Turnips. My paternal grandfather served one tenant farmer in the capacity of steward for 32 years, and during that period had the management for 19 years of Sir E. Antrobus's estate of 1300 acres when rented by a non-resident tenant. My father acted in the capacity of a tenant farmer's foreman or steward from 1821 till 1855,

barring a few intervening years. I worked for 10*d*. a day in the capacity of a bondager in the summer of my 18th year. I was employed for three years in the capacity of a general labourer on a 1300-acre farm, where I cut drains and scoured ditches in the winter months, and filled up my time in the spring, summer, and autumn months in assisting the shepherd, mending fences, filling manure, and harvest work, and had the current rate of men's wages when employed occasionally with the bondagers. I make the foregoing statements to show my opportunities of being conversant with details, and I say that I entirely agree with my sister, who has the practical experience of a bondager, house-maid, and a dressmaker, and who, after reading the Rev. Canon Hodgson's address, remarked that a good many of the field labourers in Northumberland, and in the counties of Roxburgh and Berwick, are much more cleanly in their habits than a great many domestic servants are after they get married. A woman working only 10 hours a day as a field and barn labourer has more leisure time for reading and intellectual culture than the majority of the different classes of domestic servants. Dr. Strachan, of Dollar, denounces the long hours of domestic servants. It is strange that the long hours of the different classes of domestics should be neglected by our public speakers and writers. Mr. Hodgson states that women brought up as field labourers do not settle at housework. It is the first time I heard of it. I could name several housekeepers in large families who were bondagers in early womanhood. They changed their position by commencing as scullery-maids, and got up by degrees till they reached their present positions. *W.*

*Cottage Building.*—There is a point of view from which, as it seems to me, the important subject of cottage improvement, especially in its relation to the agricultural labourer, has not yet been regarded, namely, that from which the labourer is seen to bear a share in defraying the cost of that improvement from which he is to derive so great benefit. That the solution of the difficulty attending cottage property lay in this direction I was long ago convinced. But the actual discovery is of recent date. The great hindrance to the improvement of that property has been in adhering to the old standard of rent, and expecting that for this same sum a cottage shall be provided of double or treble value; for even supposing that a cottage possessing all the requirements for a due attention to morality, and decency, and to comfort, can be erected for 100*l*. (another fixed standard most unwisely set up), it is only under the influence of high principles and feelings of benevolence that large investments in such property can be expected; and the investments which throughout our land are loudly and justly demanded are large indeed. Then on the side of the labourer it may justly be said that if his earnings from all sources be insufficient to admit of his paying a higher rent than 2*l*. or 2*l*. 12*s*. a year, he will be unable to provide bedding and furniture and sufficient warmth for an increased number of rooms of perhaps larger dimensions, in which case a large cottage will prove to him that which a large mansion has often proved to those in the upper classes, a great evil, or at best a great source of discomfort. If, however, the cottage can be made not only more healthy and more consistent with morality and decency, but also more economical, and, together with a right use and a better cultivation of the garden, much more profitable to him, then, with great advantage to himself, the labourer would readily give double the rent, or even more, for it than for his present cottage; and the landowner instead of 2*l*. or 2*l*. 10*s*. per cent. might get 4*l*. or 5*l*. per cent. on his outlay. At the same time, with a slight and easy supervision, and a little kindly interest in the cottager and his family, he might do far more in this than in any other way to raise the character and improve the general condition of the agricultural labourer. It is in bringing to bear on cottage building and cottage economy, my several discoveries as to sewage and heat (see as to the former the Journal of the Royal Agricultural Society for 1863, article, Earth *versus* Water), that my solution of the difficulty of cottage improvement has been found. By economising heat, and by a novel application of it so economised; by an improved system of ventilation of all the rooms in the cottage; by a perfectly inoffensive removal and utilisation of all the house sewage, the several objects above mentioned can be effected. At present I will state only what may be done in a first-class cottage consisting of two living rooms, three bedrooms, and a scullery or pantry. One living room will be 15 feet by 10 feet, the other and the three bedrooms each 10 feet square. The height of all will be 8 or 9 feet. They will be thoroughly ventilated without injurious draught. One close kitchen range, with the consumption of not more than 1 cwt. of coal and coke a week, will be sufficient for cooking, baking bread, washing, and ironing, and for sufficiently warming at will the second living room and the three bedrooms, so as in the latter to save probably half the expense of bed-clothes. The rainfall on the roof will afford an ample supply of the best water. By the adoption of the earth sewage system all the manure of the family will be saved, by the right use of which an industrious family, acting on the suggestion in my tracts, "Manure for the Million," and "Self-supporting Schools for Children of the Working Classes," might from a quarter of an acre of ground raise such produce as would enable them easily and gladly to pay for such a cottage 6*l*. or 7*l*. a year, and in the neighbourhood of a town even more. I have plans and specifications for this and for a second and third-class cottage. The cost of this one, with kitchen range, earth-closet, and water tank complete, is estimated at not more than 130*l*. *Henry Moule.* [P.S. Let me add that my system of heating frames and hothouses, and of warming large rooms, is now so perfected in my mind, and by sufficient experiment, that for a fair remuneration which will enable me to give the time and expend the money for the purpose, I am prepared to show to the public: (1). That at a first cost of not more than 15*l*. or 20*l*., and with an expenditure at first of not more than 2*d*. or 3*d*. a day, a hothouse of 60 feet by 20 feet can be sufficiently heated, partially with moist bottom heat, and throughout with heat above; (2), that consequently a room of that size or larger, may with less fuel than this be sufficiently warmed; (3), that steaming food for cattle can thus be effected at far less cost than at present; (4), that sheds for drying, in uncertain and bad weather, either Grass or corn, can be profitably erected with my mode of heating them; and (5), that a way is thus opened, especially where peat can be had for fuel, for a profitable establishment of glass culture on some of our wildest heaths and most barren moors.

*Foul and Infected Cattle Trucks.*—I am glad that this question has been noticed in the *Agricultural Gazette*, as it is of much more importance than is generally thought, and I am inclined to think railway companies are liable to damages, as it is surely gross neglect and not reasonable to supply infected trucks for customers' cattle. I am not now going to study the legal points of the question, but as this is a very serious loss to the buyer of cattle as well as the seller, consequently to the public in general, I beg to add a little to the discussion in aid of getting the matter more ventilated. It seems a settled thing at Darlington to expect Irish lean cattle fresh brought to this country to be either suffering or infected with the mouth and foot disease, and hence the danger of bringing it on to any farm if these are bought, or even sometimes, and that too often, if cattle are bought at a market or fair. One neighbour thus introduced it to his farm last year, and lost two of his fatting beasts; another, through one beast bought at Darlington last year, and although he was a very cautious and careful man, got this disease amongst the stock of milch cows, resulting in the death of 15 or more pigs and a very great reduction in the condition of most of the large stock of cattle then upon the farm. Some years ago two German *savans* experimentally drank milk taken from cows suffering under this complaint, and themselves became affected in the mouth, similarly to the cows. My wife last March had four Persian cats infected, although the proportion of milk from the affected cows could not be above one-fifth of the sound milk with which it was mixed, and yet one of these cats died under the disease. Another farmer took some young cattle to Darlington market late in the autumn of 1862, and not selling them returned home with them, when soon afterwards the disease broke out and "ran through" all his cattle. As a coincident of the conviction of your Correspondent that the trucks are infected, I may instance a buyer of a Short-horned cow at Mr. Maynard's sale, and which cow my man brought here along with two I purchased, and then sent off to Carlisle, its destination. He was instructed by its owner's steward not to send it by truck as the trucks were so infections, but in a horse box. Mr. Currie, a large cattle dealer, tells me he strongly recommends to have spent tanner's bark strewed thickish on the bottom of the trucks before having the cattle put in. But there is also the question of foul and infectious steamboats. Trucks and steamboats could be easily whitewashed with lime and water, by having the vessel containing the wash at a good height with a flexible pipe, at the end of which should be fixed a suitable rose to distribute the dashing mixture over the sides and bottom of these cattle trucks, &c. *W. A. Wooler.*

*Over-feeding Animals.*—It requires a certain amount of moral courage to attempt to change a custom, no matter how objectionable, which has become part and parcel of a great institution. It is not proposed to do away entirely with the exhibition of over-fed animals at the annual meetings of the Royal Agricultural Society; the desire is to introduce a new description of prize or prizes for general competition, which would enable the small farmer to enter the field against his more wealthy neighbour, in a friendly contest, on equitable terms; a Dr. and Cr. account of the expense of preparing the animals for market being the criterion of the value and usefulness of the stock brought under the notice of the judges. The advantage of forming a new prize class as suggested would soon be apparent. A farmer of limited means might then show his sheep, pigs, or oxen, with a fair prospect of obtaining favourable notice, his success depending upon his own knowledge and judgment, more than upon a long purse, and doctoring for an appetite. Individual exertion would thus receive a wholesome stimulus, and small land holders would cease to complain of being excluded from exhibiting. Any plan to increase the energy, and develop the skill and economy of the farmer, would prove a great boon to the agricultural interest, on which so much of the welfare of the country depends. To mix up the fat, fatter, and fattest, and request men who undertake the onerous duty of judges, to select from the lot of animals those coming under the denomination of marketable, or fit for the butcher's immediate use, would only embarrass the judges without satisfying exhibitors. But if a distinct class was established, with a thorough understanding relative to condition, age, quality, &c., accompanied with a strict Dr. and Cr. account of the food of every description consumed—for on this latter stipulation hinges the benefit to be derived from the experiment—success would be almost certain. An extra prize class might be introduced at the gathering of the Royal Agricultural Society in 1864 without much expense, with every chance of its becoming a popular movement with the annual subscribers, and ultimately increasing the funds of the institution. *Falcon.*

## Societies.

Manchester and Liverpool: At the annual meeting of this Society last week the report of the committee was read and confirmed. We give an extract:—The late meeting at Birkenhead was fixed upon two years ago, and up to the time of its taking place was looked forward to with much interest. In the minds of some the suitableness of Birkenhead as a place for show meeting was regarded with much doubt, owing to its somewhat isolated and unfavourable situation. But thanks to the zeal and liberality of the inhabitants, and the activity of the local committee, the show proved to be a very great success. A sum amounting to about 1000*l*. was subscribed by the town and neighbourhood, out of which amount 842*l*. 7*s*. was offered as special prizes in addition to those given by the society. This brought into the field a considerable number of new competitors, and raised the number of entries to 3141, irrespective of 23 extra stock entries. By the appendix annexed hereto it will be seen that number comprised 1000 more than had ever been entered before; and it may be further noted as showing the growing state of these exhibitions that whereas about 12 or 13 acres of land was this year required for the purposes of the show as in 1860 and 1861, and the catalogue comprised 175 pages of closely-printed matter, about half an acre sufficed in 1848 and the catalogue was then a mere pamphlet of a few pages, the total number of entries then being 310. In short our statistics now show that the annual exhibition has in every respect gradually prospered until it is now about 10 times greater than it was the first two years after the amalgamation of the two societies. The society's income during the past 12 months from the actual guaranteed source of members' subscriptions has been 570*l*., which is fully the general average of receipts from annual subscribers. It is clear therefore that nearly three times the amount so received was offered in prizes to members and the public, and it is not too much to say that for several years past the society has paid in prizes, fully twice the amount it has had to depend upon from members' subscriptions. The committee, therefore, feel that they may reasonably ask for much more support from that source. The next year's meeting is appointed for Sept. 8th and 9th at Knutsford. *Warrington Guardian.*

## Farmers' Clubs.

Brancote: *Wheel or Swing Ploughs* v. *Steam.*—At a recent meeting of this Farmers' Club Mr. T. B. Charlton said: Much as I feel the excellence and the importance of farming in the county of Nottingham, and much as I esteem the spirited character of the farmers, at the same time I do think that the farmers of Notts should not think themselves disgraced if they were put on an equality with the farmers of East Lothian. Nor should the farmers of Nottinghamshire feel themselves disgraced or degraded if they were put on a level with or even second to the arable farmers of that, the best cultivated part of Scotland. I have seen as good ploughing with the swing plough on strong land there—land which very nearly resembles the red marl of the valley of the Trent, as could possibly be. I have seen as good ploughing in Scotland as in any part of the country. Now, in the observation made on what I said last year, it was assumed that the use of the swing plough was a retrograding in the work. All I can say is that it is perfectly amazing to me that if that be the case the practice in East Lothian should be what it is, and not only in East Lothian, but throughout the whole of the south of Scotland, a part of the country where farming is carried on to the highest degree of excellence; it is perfectly amazing to me, and I cannot believe that anything like backwardness in farming is going on there, or that the farmers there would use an instrument that would be going backward. Is is well known, and if there be any gentleman present connected with the manufacture of farming implements he will bear me out in saying, that whenever any new instrument is introduced it comes first into use in Scotland. When the Government grant for drainage was made some years ago the greatest demand for it was in Scotland, and to this day the greatest purchasers of guano we have are the agriculturists of the southern parts of Scotland. And it may be assumed that where there are men of great intelligence, as the Scotch farmers are, who have steam buildings in every part of the country, and who are always ready to use newest inventions before their

neighbours in other parts of the country—this fact, I say, may be assumed as a fair argument for the excellence of their instruments. If the object is to bring out the greatest skill in the man who uses the plough, then I maintain that the man who ploughs equally well with a swing-plough as another man with a wheel-plough is the better ploughman of the two. If that, however, be but a secondary object, then perhaps it may be admitted that the wheel-plough is the better implement. I admit at once that the use of two wheels with a plough simplifies the operation, and makes it easier to do better and smoother work. Take the case of painters, for instance. An artist paints a picture, and he does it without lines or rules of any kind. It arises from his own idea of drawing, and if he happens to make a beautiful picture it is an affair of great value. But if that picture is put into the hands of a man to engrave it, he uses squares and lines and other appliances, and he produces it may be a noble work; but it will not be of the same value as the original. So it is also with sculpture. The statue which the sculptor has chiselled out can be reproduced in plaster of Paris, but the excellences of the artist remain with him who formed the original statue. And I may, I think, fairly argue that the use of the swing-plough as contra-distinguished from the wheel-plough has this effect, that if we obtain excellent work from them it must be due in some degree to the efficiency and skill of the men who perform the work.

Mr. J. C. NIXON said he thought that the time had arrived when the simple fact of being enabled to plough well with a pair of horses, whether with swing ploughs or with wheel ploughs, which latter were now more generally adopted, would soon be a matter of minor consideration; since the progress of education and instruction seemed likely to lead them to use the same agency which had aided in the growth of towns, and which could not fail to be of equal advantage to the country. It would be probable that the use of swing ploughs or wheel ploughs would be a matter of history, for the agency of steam would take the place of the horse, and a great portion of the land would be cultivated by that cheap and rapid process. He knew that he would be met by the argument that their fields are not adapted for steam cultivation; but he begged to draw their attention to the state of facts twenty years back, and begged to ask them whether the factories of Nottingham were then adapted for the present system of manufactures, or whether the proprietors were then capable of producing in such quantity and such quality as they are now? Certainly not. He might ask them if the fleets of ships which carried their merchandise abroad would have been enabled to export the vast quantities they now did, if it had not been for the adaptation of modern science? Their shipowners and their manufacturers had applied this modern agency, and in doing so they benefited the country to an incalculable extent. He was convinced that the same agency if applied to agriculture would be beneficial to the landlords and to the cultivators of the soil, increasing their annual income to the same or a proportionate extent. It might be a matter of very considerable doubt to the minds of some men who had cultivated the land whether these results would arise; but, if they looked at the matter in a practical way, they would be convinced that there were advantages in adopting the new system rather than keeping on with the present limited system.

## Farm Memoranda.

BLANDSFORT, QUEEN'S COUNTY.—For months past we have heard very glowing reports of the excellence of the green crops at Blandsfort, the seat of Loftus H. Bland, Esq., Q.C., and on the 6th inst. a very close inspection of Mr. Bland's crops exceeded the expectations which we had formed from information received. The field to which we devoted our chief attention contains about 7 Irish acres. When we last saw it, nearly three years ago, it presented the most sterile aspect, and was a favourite haunt of the snipe and wild duck, and exhibited a serious blot and eyesore amid a fertile and sweetly undulating surface. The field was thoroughly drained in the year '61; properly levelled by spade and plough; got a heavy dressing of lime to manufacture the inert vegetable mass, and stimulate the dormant capabilities of the soil into fruitful action, and was sown with Oats in the spring of '62; got a bold stubble ploughing last autumn, and was put under Turnips, Mangel, and Cabbage last spring. The earthy ingredients of the soil and subsoil have been so intimately mixed by superior tillage, that it is now a rich friable loam of the weightier class, and well adapted for the production of any of our cultivated plants.

The present crop is worth more money than the ground in its original state would have returned in at least 50 years to come; and this only exemplifies what might be effected by drainage and reclamation in almost every local spot in Ireland. Mr. Bland has also drained pretty extensively on the outside of the demesne. When we saw the ground three years ago, it was a wet, sour, swampy tract of land, stamped with an extreme poverty in the production of the most worthless Grasses, sub-aquatic plants, &c., and is now under a crop of the cultivated Grasses, and its value for either tillage or Grass is enhanced fully cent. per cent.; and the hired labour which has been called into requisition in effecting these improvements has been a blessing of no mean magnitude. In the reclaimed field, which is under green crops, Mr. Davidson (the energetic land steward at Blandsfort) has made some interesting and valuable experiments, and which may be of high practical importance upon a large scale.

In the last week in May Mr. Davidson sowed 17 different kinds of Turnip seed—a drill of each kind side by side—the circumstances being the same in every respect. When inspecting these experimental drills (accompanied by two influential farmers) the eye was able to discern such a wide difference in the produce, that we took a lineal perch of each drill directly across, and as near an average as we could select, and got a perch of each pulled, topped, tailed, and weighed; and the following is the result. We also tested the quality as far as could be ascertained by the sappy, sweet, and mellow taste:—

| | | tn. | cwt. | qr. |
|---|---|---|---|---|
| No. 1. | Pomeranian White Globe, at the rate of .. | 102 | 4 | 0 |
| No. 2 | Red Globe .. .. .. .. .. | 61 | 1 | 2 |
| No. 3. | Green Globe .. .. .. .. .. | 59 | 2 | 0 |
| No. 4. | Grey Stone, a mellow Turnip .. .. | 90 | 0 | 0 |
| No. 5. | Drummond's Early Field .. .. .. | 67 | 10 | 0 |
| No. 6. | Dale's Hybrid .. .. .. .. .. | 64 | 12 | 0 |
| No. 7. | Aberdeen Yellow Improved Green Top .. | 66 | 17 | 0 |
| No. 8. | " " " Purple Top .. | 55 | 8 | 0 |
| No. 9. | Bronze Top Swede, a hard solid Turnip, of a high specific gravity .. .. .. | 57 | 18 | 0 |
| No. 10. | Laing's Improved Swede, very mellow .. | 42 | 9 | 0 |
| No. 11. | Leinster Swede, a good sound Turnip .. | 46 | 14 | 0 |
| No. 12. | Giant Tankard, quality middling .. .. | 46 | 14 | 0 |
| No. 13. | Hardies' Green Top, a hard sapless, fibrous, fingery, unshapely article .. .. .. | 36 | 0 | 0 |
| No. 14. | Sutton's Champion, middling quality .. | 40 | 0 | 0 |
| No. 15. | East Lothian, a mellow solid Swede .. | 46 | 14 | 0 |
| No. 16. | Drummond's Improved Swede, the best type, the best bred, the finest skin, and the sweetest mellowest Turnip .. .. | 60 | 0 | 0 |
| No. 17. | Skirving's Improved Swede, quality middling .. .. .. .. .. .. | 54 | 1 | 0 |
| No. 18. | Cabbage Drumhead, very good .. .. | 58 | 18 | 0 |

The general crop on the farm we inspected very closely (Drummond's improved Swede), and weighed a perch of a drill which gave at the rate of 68 tons 17 cwt., but although the perch was not picked, and by no means the best, we are inclined to think that if the whole crop was weighed, it would not yield more than about 60 tons per Irish acre.* The general crop was sown between the 15th and 20th of May.

The manure applied to the experimental drills and general crop per acre was:—

$1\frac{1}{2}$ cwt. bone meal, at 12*s.* per cwt.; $1\frac{1}{2}$ ditto superphosphate, 11*s.* 3*d.* per cwt.; 1 ditto Peruvian guano, 14*s.*—1*l.* 17*s.* 8*d.*; 25 tons good farm-yard manure, at 4*s.* per ton, 5*l.*; total cost of manure per acre, 6*l.* 17*s.* 3*d.*

The manures were supplied by P. & J. Gillie, Ballykilcavan, Mills, and the Turnip seed from Drummond & Sons, 58, Dawson Street, Dublin. The difference in the weight of the experimental drills is of such a telling character, and of such practical importance, the circumstances being exactly the same, that no Turnip grower should lose sight of it, but test the virtue of the different kinds of Turnips not only in quantity but also in quality. We found as much difference in the taste and mellowness of the respective lots as there is between a green Apple and a ripe one.

Seeing that the acreable produce may be so very importantly affected by the kind of Turnip cultivated (the seeds being saved from selected bulbs) it is of primary importance to the farmer to make choice of the most productive and nutrimental kinds. In the class of soft Turnips the Grey Stone appears to occupy a prominent position. It is a very robust, free grower, and from the closeness and solidity of its texture we think it probable that the extra produce of the Pomeranian White Globe is more than counterbalanced by the extra nutriment of the Grey Stone. The Bronze Top Swede is of high specific gravity, and a free grower, but is not such a rich mellow Turnip as Drummond's Improved Swede, and Laing's and the Leinster and East Lothian Swedes, but in quantity it stands high in the scale.

The Mangel at Blandsfort is a fine crop, but we had not time to test their acreable weight. The herd of Durham Short-horns and border Leicester sheep at Blandsfort are an acquisition to the county, and they require only to be known to be appreciated. *James Clapperton, Dysart Enos, Nov. 12, 1863 (in the Leinster Express).*

## Reviews.

*The Poultry Yard, comprising the Management of Fowls for Use and Exhibition.* Edited by E. Watts. Routledge, Warne, & Routledge.

THIS is a remarkably cheap shillingsworth. The Spanish, Game, Dorking, Brahma Pootra, Poland, Bantam fowls and ducks, are well illustrated in page engravings. There is a great deal of useful and sound information given in the text; enough of practical detail and enough of scientific interest.

*Prize Essay on the Rearing of Calves.* By Thomas Bowick, Stoneleigh Abbey Farm, Kenilworth. Day, Son, and Hewitt, 22, Dorset Street, Baker Street, London.

This is a cheap tract, well written, on a matter of great practical importance. The essay has appeared in the English Agricultural Society's Journal, having received the Society's prize. It is now issued by Messrs. Day and Hewitt, price twopence, free by post for three postage stamps, and is certain to receive a wide independent circulation in this way. No doubt it is because the essay recommends "Day's Gaseous Fluid" for attacks of diarrhœa in the calf, that Messrs. Day have found it to be their interest to publish an edition of it in this way. But Mr. Bowick's experience, not only in this particular, but in the other details of calf management, is worth knowing; and we doubt not that the readers as well as the publishers will profit by the publication.

## Miscellaneous.

*Ague, Diphtheria, Drainage, Irrigation.*—Ague is not accountable for a single death in Scotland. There are 107 heads in the register, and that for ague is the only one which stands blank. But ague was at one time very common indeed in many parts of Scotland. My father, a Berwickshire man, often told me that in his young days, probably about 1775, ague was so common among the farm labourers of that famous agricultural county, that a prudent farmer always set off on account of it a certain proportion of no-work days for his men in spring and autumn. The same was the state about the same time of the neighbouring county of Roxburgh. To Dr. Mackenzie, of Kelso, I am indebted for information, unique and satisfactory, as to the dates of the prevalence and disappearance of ague in that part of Roxburghshire. There are dispensary records extant there for one of the oldest dispensaries in Scotland, beginning, in fact, with 1777. From a table which has been extracted from these records, showing the agues for every year from 1777 till its disappearance in the dispensary books, it appears that the number of agues rose in 1780 to 161; by which time the total applicants for all diseases was nearly 700. Then it sank gradually to 18 in 715 applicants in the year 1790. And afterwards it went on fluctuating, but still on the whole diminishing, till in 1800 there were only 4 agues in 665 patients, none in 1805, and one in 1806; since which year no case of ague appears on the dispensary books. What then has been the cause of this striking improvement in the public health of Scotland? In what change of circumstances did it take place? We owe it to incidental causes ruled to their end by another power.

Dr. Christison then proceeded to refer to continued fevers from which, he said, Scotland had been far from attaining the same happy deliverance as from those of the intermittent type. But there were some very remarkable facts in their recent history which pointed to the possibility of such an event, and, at any rate, to the fruitfulness of further inquiry on the subject. With regard to typhus, he quoted from statistics to show that a marked decrease in the number of cases had of late years taken place in Edinburgh. The cause had certainly not yet been found out; but his own strong impression was, that the secret would be found to be connected with the theory which had been much canvassed in the present day—the successive changes of type or constitution of epidemic diseases. He combatted the idea that thorough drainage was the remedy for all fevers. The best drainage left untouched the real foundation of the disease—viz., penury pent up in airless dwellings. But provide work for the unemployed, teach them in return due ventilation and cleanliness, and the epidemic would soon vanish. After noticing several other types of fever, the speaker next alluded to diphtheria, which, he said, appeared to be connected with a sanitary question of strong local interest in Edinburgh.

"This terrible disease is far from common in Edinburgh. I am glad to say I have seen but one instance of it originating in town; and that was many years ago, before it had begun to be much talked of in any part of Britain. No epidemic disease has been by many late writers in England more confidently referred to foul exhalations as its cause, and even its only cause. I shall not take up the question here, however. My own observation gives me little help in forming my opinion. Let me merely say, that, as I in the single case I have seen in Edinburgh, so likewise many of my professional brethren in the course of their observation, have failed to trace diphtheria to any source of foul air. But it is remarkable that it seems to have shown a slight attachment to our irrigated meadows to the east of the city. An intelligent practitioner in Leith, Dr. Paterson, informs me he saw last year five cases at a place on the borders of the district. I scarcely think, however, that, taken along with the negative evidence I have received from others who practise among the natives of these marshes, these cases, which may have had a more local cause still, can be held to convict the irrigated meadows. For I wish to add the information, that I have recently been making careful inquiry respecting this famous and somewhat unsavoury institution. That many years ago my own prejudices were all against the meadows; that I have been compelled to surrender them; that I am satisfied neither typhus, nor enteric fever, nor dysentery, nor cholera, is to be encountered in or around them, whether in epidemic or non-epidemic seasons, more than in any other agricultural district of the neighbourhood. About 25 years ago it was stated that the cavalry soldiers at Piershill Barracks, which are situated very near them, were unusually liable to the zymotic diseases caused or promoted by foul emanations; and also that meat could not be kept in the officers' larder on account of the absorption of foulness, and quickly following decay. Either, however, there was some mistake committed through prepossession, or the meadows are now worked

* An Irish acre is 7840 square yards, about $1\frac{5}{8}$ Imperial.

on a better system. But, at all events, I have the assurance of Mr. Lockwood, surgeon of the Scots Greys, that, during their late occupation of Piershill Barracks for two years the messman of the regiment never observed the meat to be injured, nor did he himself observe among the men anything but remarkable freedom from diseases at large. I think it right, in reference to the late introduction of the Craigentinny system of irrigation into the vicinity of other large towns, that these precise facts should be known." *Dr. Christison, at the Social Science Congress, Edinburgh.*

*To Destroy Rats.*—1 quart of the best oatmeal; 2 ounces of finely powdered loaf sugar; 6 drops oil of rhodium; 6 drops oil of carraway; 6 drops oil of aniseed; musk, ¼ of a grain. Mix well together on a sheet of clean paper with a knife, taking every possible care to break the small lumps formed by the drops of oil in the oatmeal; also not to touch the mixture with the hands. Keep in a closely covered pot for use. Choose a very quiet, retired place, much frequented by rats; place on six or eight pieces of clean board about two tablespoonful of the feed for at least four nights successively, taking care to remove all that the rats have not consumed every morning; in so doing, disturb the rats as little as possible, and on no account whatever attempt to strike or kill them, even should they be found tame enough to be caught by the hand. In the course of four or five days they will become tame, and will scarcely leave the feed on the approach of any person. They will scent each other, and will probably congregate from all parts of the neighbourhood. Continue to feed them nightly until they are found to eat freely; then, about the sixth night, mix a small teaspoonful of arsenic with the powder; and after leaving it all night, remove what may remain, and burn it. They will retreat to their haunts, where, feeling an intolerable thirst, most of them will drink water and die. Care must be taken not to use too much arsenic, on account of its extreme acidity, or their natural instinct will be sure to deter them from swallowing any part of the poison. *Morton's New Farmer's Almanac.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | Reading of Barometer corrected to Freezing Point at Mean Sea Level. (At 9 A.M., Railway Time.) | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nov. | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | 20 | 30.14 | 46 | 45 | S. | 1 | 10 | 50 | 44 | 52 | 31 | .. |
| Saturday .. .. | 21 | 29.76 | 50 | 49 | S. | 2 | 10 | 51 | 44 | 54 | 40 | .. |
| Sunday .. .. | 22 | 29.79 | 46 | 43 | S.E. | 1 | 2 | 51 | 41 | 59 | 34 | 0.34 |
| Monday .. .. | 23 | 29.84 | 45 | 44 | S.W. | 1 | 9 | 50 | 41 | 58 | 35 | 0.08 |
| Tuesday .. .. | 24 | 29.82 | 52 | 51 | S.E. | 0 | 10 | 52 | 40 | 58 | 42 | 0.06 |
| Wednesday .. | 25 | 29.98 | 54 | 52 | S. | 3 | 10 | 56 | 50 | 59 | 48 | 0.02 |
| Thursday .. .. | 26 | 30.81 | 52 | 51 | S.W. | 2 | 10 | 52 | 47 | 63 | 42 | .. |

## Notices to Correspondents.

BARREN FIELD: *Agricola Secundus.* If not poisoned you should be able to fertilise it by adding vegetable and mineral manures, and probably the best plan will be to try Buckwheat and plough it in. If you can get a compost made of lime and any vegetable refuse as a dressing, apply it liberally. We don't suppose the land will be fit for Sainfoin for a year or two.

MANURE: *T L G.* Ammoniacal manures are of great service to Grasses, but not to Sainfoin or Clover. The bones and superphosphates will do them good. For the Narbonne Vetch you must apply to one of our leading seedsmen.

SALT: *G H P.* 4 cwt. per acre will not kill weeds on light land. You must get the weeds up by scarifying, harrowing, gathering, and burning. Earlier in the year you might have done a good deal to it by mere sunshine.


## PAXTON GARDEN ENGINE.

IS PORTABLE, EASILY WORKED, NOT LIABLE TO GET OUT OF ORDER; WILL THROW WITH JET 40 FEET, AND WITH "ROSE" WILL COVER 40 FEET ACROSS.

**Price 30s. and 40s. each.**

CROGGON AND CO., 2, DOWGATE HILL, LONDON, E.C.

## PATENT ASPHALTE ROOFING FELT.

*Rail Carriage Paid.*

**One Penny per Square Foot.**

ALSO INODOROUS FELT, AND DRY HAIR FELT FOR COVERING BOILERS AND STEAM PIPES.

CROGGON AND CO., 2, DOWGATE HILL, LONDON, E.C.; and
2, GOREE PIAZZAS, LIVERPOOL.

CATTLE SHOW, AGRICULTURAL HALL, ISLINGTON.—STAND No. 18.

## E. R. & F. TURNER, IPSWICH,

AWARDED THE 1862 EXHIBITION MEDAL FOR

## PORTABLE STEAM ENGINE, THRESHING MACHINE,

AND CORN CRUSHING MILLS.

Their 4-HORSE POWER FINISHING MACHINE, at the recent R. A. S. E. WORCESTER TRIALS, THRESHED 100 SHEAVES of WHEAT in 5 min. 55 secs., this time being less than was occupied by several other Machines requiring double the power. The Straw was threshed clean, the Corn unbroken, and the finished Sample unsurpassed.

PORTABLE STEAM ENGINES, from 2 to 10 Horse Power, and THRESHING MACHINES adapted for the same.

E. R. & F. T. hold the highest Testimonials to the superiority of their Portable Engines and Threshing Machines, both finishing and single blast. Copies sent Post Free on application.

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## BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.

No. 35. No. 36½. IMPROVED CAST-IRON LIFT AND FORCE PUMP. No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4

2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... ... 3 0 0

3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... ... ... 3 10 0

**Larger sizes of any of the above.**

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & SONS' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

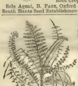
PATENTEES and MANUFACTURERS,
JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

**Smithfield Show, Stand No. 35.**

DECEMBER 7, 8, 9, 10, and 11.

B. PAGE will Exhibit, as usual, Specimen ROOTS and SEEDS from his Superior Stock; also BLUNDELL'S CATTLE MELON. This valuable Cattle Food is admirably adapted to fill the vacuum during the months of August, September, and October, before the ordinary Root Crops, such as Mangel, Swedes, Carrots, &c., are ripe for feeding, and by previous selection and cultivation in the open air, is now offered to the Public as a fruit capable of producing a very weighty crop cultivated in the field, under the same circumstances as Mangels and other Root Crops.

Sole Agent, B. PAGE, Oxford Street and West End Royal South Hants Seed Establishment, Southampton.



COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2s. per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the PATENT COCOA FIBRE COMPANY, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are sold in every town.

CAUTION.—Every Brush is stamped 'J. BARSHAM'S Patent'

**All good Cooks and careful Housewives use**

SYMINGTON'S PATENT PREPARED PEA FLOUR, which is easy of digestion, perfectly wholesome, requires no boiling, rapidly makes a Tureen of rich Soup, and never causes unpleasant feelings after eating. In Packets, 1*d.* 2*d.*, and 4*d.*; and Tins, 1*s.*, 1*s.* 6*d.*, and 3*s.* each.

GROATS and BARLEY prepared by the same process, in Tins, 6*d.* and 1*s.* each.

SCOTCH OATMEAL for Porridge and Oat Cake, in Packets, 1*d.*, 2*d.*, 4*d.*; 28 lb. Tins and Barrels.

Patentees and Manufacturers: W. SYMINGTON & Co., Bowden Steam Mills, Market Harborough. Sold everywhere.

Magnified Aphis.

NEAL'S PLANT SOAP and APHIS PASTILS,

1*s.* and 2*s.* per packet,

may be obtained from all respectable Seedsmen.

Testimonials forwarded on application to the Patentee,

J. NEAL,

Edward Street, Birmingham.

**Winter Dress all Fruit Trees with**

GISHURST COMPOUND

*Copy of a Letter from* Mr. RIVERS.

"Nurseries, Sawbridgeworth, Herts, Oct. 22, 1861.

Red Spider Magnified.

"I must tell you what I heard to-day from a very clever gentleman farmer, Anthony Bubb, Esq., of Witcombe Court, Gloucester. He has a wall to which Peach trees are trained. Well, last autumn they were in a wretched blighted state. As a desperate remedy he unnailed them all early last February, and gave all but one a thorough painting with Gishurst Compound, 1 lb. to the gallon of water; his trees, all but the one, commenced to grow favourably in spring, and are now pictures of health. The tree not painted is in a half-dead blighted state. He used the same dressing to his Apple trees; it killed the woolly aphis entirely, and has made his trees clear and vigorous in their growth. He intends to paint his wall trees annually, and tells all his friends to do the same. I shall certainly serve all my young Peach trees against my walls in the same manner. The Compound is, I believe, more efficacious than the usual offensive mixtures of clay, soot, sulphur, &c., and it does not blacken the shoots on the walls."

For Orchard-house Trees 4 ounces to the gallon will be found a good strength; when used stronger some buds on weakly trees may be injured.

GISHURST COMPOUND is Sold Retail by Nurserymen and Seedsmen, in boxes 1*s.*, 3*s.*, and 10*s.* 6*d.* each.

Wholesale by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont Vauxhall, London, S.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1*s.* 8*d.* per yard run.
Four yards wide .. .. .. 3*s.* 4*d.* per yard.
An improved make, 2 yards wide, 1*s.* 9*d.* per yard.
An improved make, 3 yards wide, 2*s.* 8*d.* per yard run.

Also "Frigi Domo" Netting, 2 yards wide, 1*s.* 6*d.* per yard run.

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Great Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

**Manures and Feeding Stuffs.**

RAYNBIRD, CALDECOTT, AND BAWTREE, Address 89, Seed Market, Mark Lane; or Basingstoke. Samples and prices on application.

THE LONDON MANURE COMPANY have now ready

PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.

116, Fenchurch Street, E.C.

**Autumn Sowing.**

THE PATENT NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),

Consisting of Tenant Farmers occupying upwards of 30,000 Acres of Land.

*Chairman.*—JOHN CLAYDEN, Littlebury, Essex.
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Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex.

ODAMS'S BLOOD MANURE for WHEAT.—This Manure, specially prepared for Autumn Sowing, has been in use for upwards of 11 years, and has given great satisfaction to consumers.

Orders may be sent to the Company's Agents throughout the country, or direct to C. T. MACADAM, Secretary.

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Price 7*l.* 10*s.* per Ton, delivered at any Railway or Wharf in London.

LAWES'S WHEAT MANURE for AUTUMN SOWING.

A supply of the above Manure is now ready for delivery, at J. B. LAWES' Factories, Deptford, and Barking Creeks. Price 8*l.* per ton.

2 to 3 cwt. per acre to be harrowed into the land before the seed is sown. It can be obtained of Mr. LAWES, or through any of his appointed Agents; also

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|---|---|---|
| SUPERPHOSPHATE of LIME .. .. .. | £6 | 6 |
| MINERAL SUPERPHOSPHATE .. .. | 5 | 5 |

Genuine Peruvian Guano direct from the Importers, and all Chemical Manures of value.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, Offices, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

TREE and PLANT LABELS.—10,000 CLOTH or PATENT PARCHMENT PUNCHED LABELS for 30*s.* Delivered free in London on receipt of a Post-office Order or Stamps for the amount.—Address, JOHN FISHER & Co., West Road Works, Boston, Lincolnshire.

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These Rollers possess many advantages over all others; they are made in two parts, and are free to revolve on the axis, affording greater facility for turning, and the outer edges are rounded off or turned inwards, thus avoiding the unsightly marks left by other Rollers. They are manufactured of the very best materials, and are got up in a manner surpassing any ever yet brought out.

PRICES:—

| | | | | | |
|---|---|---|---|---|---|
| Diameter 30 inches, | length | 32 inches .. .. | £7 | 0 | 0 |
| " 24 inches, | " | 26 inches .. .. | 4 | 5 | 0 |
| " 20 inches, | " | 22 inches .. .. | 3 | 5 | 0 |
| " 16 inches, | " | 17 inches .. .. | 2 | 10 | 0 |

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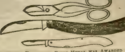
VERANDAHS, COVERED WAYS, AWNINGS, CONSERVATORIES, and every description of Roofing and Sashes in Wrought and Cast Iron, made to order.

Apply to COTTAM & Co., Manufacturers, (Iron Works) 2, Winsley Street (opposite the Pantheon), Oxford Street, London, W.

**Paxton Works, Sheffield, Established 1738.**



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SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

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MR. GEO. H. STOKES, ARCHITECT, engages to prepare DESIGNS for Laying Out ESTATES and ORNAMENTAL GARDENS, having been for upwards of 17 years Principal, under Sir Joseph Paxton, M.P., in the preparation of similar Designs, including those for the Crystal Palace at Sydenham.

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ROCKWORK FERNERIES, WATERFALLS, CAVES, BANKS of STREAMS and PONDS, executed in the only way it should be, *i.e.*, to imitate Natural ROCKS, Worked with pockets, for plenty of plants, by JAMES PULHAM, Broxbourne, Herts.

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GARDEN BORDER-EDGING TILES, in great variety of patterns and material.

GARDEN VASES, FOUNTAINS, &c., in Artificial Stone, of great durability.

May be obtained at F. & G. ROSHER'S Premises, Upper Ground Street, Blackfriars, S.; Queen's Road West, Chelsea, S.W.; and Kingsland Road, Kingsland, N.E.

Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

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The last great improvement in Washing Machines is in JAMES'S new Patent PRIZE WASHING, WRINGING, and MANGLING MACHINES, awarded several FIRST PRIZES. Will Wash 20 Shirts in 20 Minutes, with much less injury than with the hand. More than 300 Sold.

Address, I. JAMES, Tivoli Works, Cheltenham.

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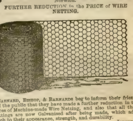
FURTHER REDUCTION in the PRICE of WIRE NETTING.

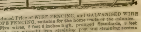


BARNARD, BISHOP, & BARNARDS beg to inform their friends and the public that they have made a further reduction in the prices of Machine-made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard. |
|---|---|---|---|
| 2-inch mesh, 24 inches wide .. | No. 19 | .. 4½*d.* | .. 3½*d.* |
| 2-inch " " " .. | " 18 | .. 5 | .. 4 |
| 2-inch " " " .. | " 17 | .. 6½ | .. 5 |
| 2-inch " " " .. | " 16 | .. 8 | .. 6½ |
| 1½-inch " " " .. | " 19 | .. 4½ | .. 4 |
| 1½-inch " " " .. | " 18 | .. 6 | .. 4½ |
| 1½-inch " " " .. | " 17 | .. 7 | .. 5½ |
| 1½-inch " " " .. | " 16 | .. 9 | .. 7 |

All the above kinds can be made any width (under 6 feet) at proportionate prices.

Strong Galvanised Poultry Netting, 7½*d.* per yard, 3 feet Wide. Galvanised Sparrow-proof Netting for Pheasantries, 11*d.* per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.



Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies.

Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 11*d.* per yard.

The same with Galvanised Wire Rope, 1*s.* 1*d.* per yard.

Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.

*** Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations.

**Roses.**

JOHN CRANSTON offers selections of STANDARD and DWARF ROSES of very superior quality.

The robust growth and hardy constitution of the plants grown in this Nursery has long been acknowledged, and the Stock to offer this season is perhaps superior to any previous growth.

He also begs to direct attention especially to DWARF ROSES on the Manetti stock, of which he has an enormous stock.

The plants upon their own roots are also very strong and well grown.

| | Per dozen—s. | d. |
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| STANDARD ROSES of all the leading varieties in cultivation .. .. .. .. .. .. .. | 18 | 0 |
| Do. Newer varieties, introduced in 1861 and 1862 .. | 24 | 0 |
| DWARF ROSES, extra fine plants upon the Manetti stock .. .. .. .. .. .. .. 9s. to | 12 | 0 |
| Do., do., upon Dog-rose stock .. .. .. .. | 9 | 0 |
| Do. Newer Varieties, introduced in 1861 and 1862 15s. to | 18 | 0 |
| Do., do., of 1862 and 1863 .. .. .. ..24s. to | 30 | 0 |
| STANDARD and HALF-STANDARD TEA-SCENTED ROSES, all the best varieties .. .. .. .. | 24 | 0 |
| DWARF ROSES upon their own roots, Hybrid Perpetuals, and Bourbons .. .. .. .. 9s. to | 12 | 0 |
| Do., do, Tea-scented .. .. .. .. ..12s. to | 15 | 0 |
| CLIMBING ROSES .. .. .. .. .. .. | 9 | 0 |
| PILLAR ROSES, extra strong plants, 4 to 5 feet 12s. to | 15 | 0 |
| STANDARD WEEPING ROSES .. . each 2s. to | 2 | 6 |
| ROSES in 8 and 9-inch pots grown especially for Forcing or Greenhouse culture, the best Hybrid Perpetuals, China, and Tea-scented varieties . .. ..24s. to | 30 | 0 |

DESCRIPTIVE CATALOGUES forwarded free on application.

Nurseries, King's Acre, near Hereford.

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TO THE TRADE.—We beg to draw the attention of the Trade to the reasonable Prices at which we offer really fine STANDARD and DWARF ROSES this season. PRICED WHOLESALE LIST free (on receipt of business card from unknown Correspondents.)

Paul & Son, Old Cheshunt Nurseries, N.

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**Roses.**

GEO. PARSONS, Nurseryman and Seedsman, by Special Appointment, to her Majesty, begs to offer fine STANDARD ROSES, from 2½ to 4 feet stems, at 15s. per doz., or 5l. per 100; DWARFS (none better in England), 9s. per doz., or 65s. per 100. The new varieties of 1862 and '63 at proportionate prices. CATALOGUES free on application.

Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

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**Mitchell's Renowned Roses.**

Patronised by the Royal Family.

JAMES MITCHELL has the honour of informing the nobility and gentry, that he has to offer this season the most magnificent stock in England. All Roses at these Nurseries are propagated and grown in the open ground, possessing a hardy constitution suitable for all climates.

(No grafted plants or any drawn up under glass, which cause the great number to fail every season).

Piltdown Nurseries, Maresfield, near Uckfield, Sussex.

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**Roses.**

EDWIN HOLLAMBY has the pleasure of informing the Nobility and Gentry that his extensive Stock of STANDARD and DWARF ROSES of all the leading kinds in cultivation is in the finest possible condition; fine straight stems, fine heads, and beautifully rooted. Purchasers of large quantities will be liberally dealt with.

DESCRIPTIVE PRICED CATALOGUES for the present season will be forwarded gratis and post paid on application.

Nursery and Seed Establishment, Tunbridge Wells; and Goldsmith's Park, Groomsbridge, Kent.

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**Great Reduction in the Price of Roses.**

Not to be Undersold by any Respectable House in the Trade.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

Since issuing their NEW ROSE CATALOGUE for the Autumn of 1863 and the Spring of 1864,

WILLIAM WOOD and SON have ascertained that other Houses in the Trade are offering some kinds of Roses at a lower rate than themselves, and as they are fully determined not to be undersold by any respectable House, they have prepared a REVISED LIST of ROSES at reduced prices, and will have much pleasure in forwarding copies of the same, Gratis and post-free, to all applicants.

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**Paul's Nurseries, Waltham Cross, N.**

ROSES.—Superior STANDARDS, 18s. per dozen and upwards; Do. DWARFS, 9s. per doz. and upwards.

All the NEW ROSES, including BEAUTY of WALTHAM, Mrs. Wm. PAUL, and LORD MACAULAY (three of the best), at the lowest advertised Prices. The new PRICED CATALOGUE is now ready, free by Post.

FRUIT TREES.—Apples, Pears, Plums, Cherries, Apricots, Peaches, Nectarines, Figs, Grape Vines, Gooseberries, Currants, Raspberries, Strawberries, &c. All the really desirable sorts in perfect condition for transplanting at lowest advertised prices. Fruit-bearing trees of the first seven fruits may be had suitable for potting for orchard house culture, from 18s. to 30s. per dozen. PRICED CATALOGUE free by post.

PLANTING.—Planting to any extent, with or without the supervision of the trees, &c., till established, undertaken in any part of the United Kingdom. The rich and varied collection of Trees and Shrubs growing in one Nursery of 30 Acres, have been removed within three years, which is almost a guarantee of success in transplantation.

Wm. Paul (Son and Successor to the late A. Paul), Nurseries and Seed Warehouse, Waltham Cross, N. Entrance from the platform, Waltham Station (Great Eastern Railway), half-an-hour's ride from London.

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HYACINTHS for BEDS or RIBBONS,

In all the distinct shades of Blue, Purple, Lavender, Rose, Violet, Crimson, Scarlet, and White, at 4s. per dozen, 30s. per 100.

James Carter & Co.,

237 & 238, High Holborn, W.C.

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JOSEPH SMITH, Sen., Tansley Nursery, Matlock, Derbyshire, begs to intimate that his CATALOGUE of GENERAL NURSERY STOCK is now ready, which he will be happy to forward on application. It contains a large stock of Forest Trees, Hardy Evergreens, Ornamental Trees and Shrubs, American Plants, &c.

The Nursery is in a very exposed situation, the soil of a fibrous nature, and the plants take up with excellent roots, such as to ensure the best success in their removal.

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# ROSES.

THE FINEST ROOTED PLANTS IN THE COUNTRY.

THIRTY-SEVEN PRIZES FOR ROSES ALONE WERE WON DURING THE PRESENT YEAR BY

# WILLIAM PAUL

(Son and Successor to the late A. Paul).

Twenty-one of which were FIRST PRIZES won at the PRINCIPAL LONDON FLOWER SHOWS.

*Entrance from the Platform, Waltham Station (Great Eastern Railway). Half an hour's ride from London.*

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## GOOD SEEDS, CARRIAGE FREE,

*(Except Small Parcels.)*

AT MARKET PRICES.

SUTTON'S PRICED CATALOGUES POST FREE.

KITCHEN GARDEN SEEDS of all the Newest and most approved sorts. NEW GERMAN, ITALIAN, FRENCH, and ENGLISH FLOWER SEEDS. TURNIP and MANGEL SEEDS of best Pedigree. SUTTON'S GRASS SEEDS for all Soils.

*Five per Cent. Discount for Cash.*

SUTTON & SONS, ROYAL BERKSHIRE SEED ESTABLISHMENT, READING.

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ESTABLISHED UPWARDS OF A CENTURY.

EXHIBITION PRIZE MEDALS 1851 and 1862.

# BUTLER & McCULLOCH,

SEED MERCHANTS,

COVENT GARDEN MARKET, LONDON, W.C.

## COLLECTIONS of VEGETABLE SEEDS for 1864,

OF THIS YEAR'S GROWTH.

*Carriage Free. Five per Cent. allowed for Cash.*

A London reference or remittance requested from unknown correspondents.

| | | | | | | |
|---|---|---|---|---|---|---|
| No. 1. | Containing 28 quarts Peas and Beans, and all other Seeds requisite for the Kitchen Garden in proportion ... ... ... ... ... | | | ... £3 | 3 | 0 |
| No. 2. | Containing 16 quarts Peas and Beans | ditto | ditto | ditto ... | 2 | 2 0 |
| No. 3. | ,, 12 ,, ,, ,, | ,, | ,, | ,, ... | 1 | 10 0 |
| No. 4. | ,, 8 ,, ,, ,, | ,, | ,, | ,, ... | 1 | 1 0 |

A DETAILED LIST of these COLLECTIONS may be had on application.

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BARR & SUGDEN 12 KING ST. COVENT GARDEN

*Orders amounting to 21s. sent Carriage Paid.*

## BULBS FOR PRESENT PLANTING.

POMPON HYACINTHS, for Flowering in Masses, 3s., 4s., and 5s. per dozen.

CROCUS, fine mixed, 12s. 6d. per 1000.

### The No. 4, £2 2s., Collection of Bulbs; Half, £1 1s.; Quarter, 10s. 6d.

Part for the Conservatory or Sitting Room, and part for the Flower Garden.

| | | |
|---|---|---|
| 25 NAMED HYACINTHS | 24 TULIPS for Indoor Culture | 100 ANEMONES |
| 25 BORDER ditto | 100 Ditto for Out ditto ditto | 50 IRIS |
| 12 POLYANTHUS NARCISSUS | 200 CROCUS | 4 JAPAN LILIES |
| 100 GARDEN ditto | 100 RANUNCULUS | 12 WHITE LILIES |

### The No. 5, £2 2s., Collection of Bulbs; Half, £1 1s.; Quarter, 10s. 6d.

For the Decoration of Sitting Room and Conservatory.

| | | |
|---|---|---|
| 30 NAMED HYACINTHS, in 30 vars. | 12 Dbl. SWEET-SCENTED JONQUILS | 18 IXIAS, in 6 vars. |
| 12 POMPON ditto in 12 vars. | 100 NEW CROCUS in 10 vars. | 18 SPARAXIS, in 6 vars. |
| 12 POLYANTHUS NARCISSUS, in 12 vars. | 4 JAPAN LILIES, in 3 vars. | 12 ANOMATHECA CRUENTA |
| 50 TULIPS, in 16 vars. | 12 ACHIMENES, in 6 vars. | 4 WATSONIAS |
| | 12 LACHENALIAS, in 4 vars. | 4 DIELYTRA SPECTABILIS |

### The No. 6, £2 2s., Collection of Bulbs; Half, £1 1s.; Quarter, 10s. 6d.

For Ornamenting the Flower Garden.

| | | | |
|---|---|---|---|
| 50 HYACINTHS | 150 RANUNCULUS | 4 JAPAN LILIES | 3 ARUMS |
| 100 NARCISSUS | 150 ANEMONES | 12 WHITE ditto | 3 ANTHOLYZAS |
| 200 CROCUS | 24 GLADIOLI | 50 ENGLISH IRIS | 3 WATSONIAS |
| 150 TULIPS | | | |

BARR and SUGDEN, SEED MERCHANTS, 12, KING STREET, COVENT GARDEN.

**Beck's New Pelargoniums,**
OFFERED FOR THE FIRST TIME.

B. S. WILLIAMS begs to announce that he is now prepared to supply strong plants of the above, which have received certificates of the highest merit during the past and previous seasons. They have been selected with great care, and are far in advance of any yet offered.

For descriptions and prices see *Gardeners' Chronicle*, Oct. 24; also in CATALOGUE, which can be had on application.

Paradise and Victoria Nurseries, Holloway, London, W.

**New and Choice Plants.**

B. S. WILLIAMS invites inspection of his large and well assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, TREE FERNS, &c., amongst which are some very fine specimens.

A DESCRIPTIVE and PRICED CATALOGUE post free on application.

Paradise and Victoria Nurseries, Holloway, London, N.

**American Plants.**

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE for the present Season is now ready, and will be forwarded free to all applicants. As well as American Plants, it contains a summary of their General Nursery Stock, one of the most extensive in the kingdom.

Knap Hill Nursery, near Woking, Surrey.

NEW CHRYSANTHEMUMS of 1863.—Strong Plants of the above, including the Japanese varieties, are now ready at 5s. per dozen.

W. Holmes, Frampton Park Nursery, Hackney.

J. IVERY AND SON beg to announce that their new PRICED DESCRIPTIVE CATALOGUES of AZALEA INDICA and HARDY BRITISH FERNS are now ready, and will be forwarded on application.

Dorking Nursery.

**British Fern Catalogue.**

ROBERT SIM can now send, post free for six postage stamps, Part I. (British Ferns and their varieties, 36 pages, including prices of Hardy Exotic Ferns) of his New and PRICED DESCRIPTIVE CATALOGUE of BRITISH and EXOTIC FERNS, No. 7.

*** Part II. (Exotic Ferns) will be issued as early as possible.

Foot's Cray Nursery, S.E.

**Superb Double Hollyhocks.**

WILLIAM CHATER'S NEW LIST is now ready, and may be had on application by enclosing one Postage Stamp.

P.S. A large stock of FINE PLANTS now ready.

Nurseries, Saffron Walden.

**To the Seed Trade—Tritoma Uvaria.**

WM. THOMPSON, Seedsman, Tavern Street, Ipswich, has a few Ounces of SEED to spare of the best variety of the above highly ornamental Perennial at a very moderate price, which he will be happy to furnish on application.

**To the Trade.**

AZALEAS, ERICAS, and EPACRIS, fine bushy plants, well set with flower buds, at moderate prices. An inspection solicited.

Thomas Jackson & Son, Nurseries, Kingston, S.W., adjoining the Kingston New Station, South Western Railway.

**Hyacinths, Tulips, &c.**

WM. CUTBUSH AND SON'S first importation of the above has arrived, and from the extraordinary heavy weight of the Bulbs they promise a fine bloom. Early orders are earnestly solicited. DESCRIPTIVE PRICED CATALOGUES free.

N.B.—17 First Prizes were awarded to Wm. C. & Son last spring for HYACINTHS, TULIPS, and CROCUSES. In addition to this, every First Prize at the London Exhibitions to Amateurs was for Bulbs supplied by them.

The only address is Highgate Nurseries, London, N.

LOUIS VAN HOUTTE, Nurseryman and Seedsman, Ghent, Belgium, begs to call attention to his Four New PRICE LISTS, No. 97, 98, 99, and 100, containing the Stove, Greenhouse, Hardy Plants, Seeds (262 pages 12mo).

Agents in London: Messrs. R. Silberrad & Son, 5, Harp Lane, Great Tower Street, E.C.

**To the Trade.—Continental Flower Seeds, &c.**

F. W. WENDEL, Seed Merchant, &c., Erfurt, Prussia, begs to announce that his WHOLESALE CATALOGUE of the above is now ready, and will be forwarded free on application to his Agent, Geo. Macintosh, Nurseryman, High Road, Hammersmith, W., to whom all communications should be addressed

**Gladiolus Brenchleyensis.**

YOUELL AND CO. have much pleasure in offering the above GLADIOLUS, unequalled by any other variety for the brilliancy of its colour. The Bulbs are unusually fine. Price 3s. per doz.; 20s. per 100.

Trade price on application,

Royal Nurseries, Great Yarmouth, Norfolk.

**Prize Gladioli.**

YOUELL AND CO. were awarded the following PRIZES for the above in September last:—
First and Second Prize, Crystal Palace,
First Prize, Royal Horticultural Society,
First Prize, Brighton.

CATALOGUES of this collection will be forwarded on application.

Royal Nurseries, Great Yarmouth, Norfolk.

**Choice Gladioli.**

B. S. WILLIAMS has great pleasure in announcing that he has a Choice Collection of each class of these popular Bulbs. Also a Select List of the New Varieties raised this year. The Bulbs are very fine, and early orders are respectfully solicited.

Collection of 24 Choice Varieties, one root of each, for 21s.
Choice named Varieties, 6s., 8s., and 10s. per dozen.
A PRICED and DESCRIPTIVE LIST on application.

Paradise and Victoria Nurseries, Holloway, London, N.

**Gladiolus Bowiensis, brightest and best of its class.**

THOMAS BARNES offers fine Bulbs of the above at following prices, according to size:
Per 100: 8s., 10s., 12s., & 16s. Per 1000: 70s., 80s., 100s., & 140s.

When 5000 and more are taken at once, a great reduction will be made on either price.

Dane Croft Nurseries, Stowmarket.

**Notice.**

JOHN WATERER, of The American Nursery, Bagshot, Surrey, is the EXHIBITOR of RHODODENDRONS at the Royal Botanic Gardens, Regent's Park.

His CATALOGUE, describing colours, prices, &c., can be obtained by letter addressed to the Nursery as above.

☞ For detailed Advertisement of CONIFERS, ORNAMENTAL SHRUBS, &c., refer to page 1151.

**Rhododendrons.**
Crimson, White, Purple, and Scarlet.

CHARLES NOBLE has RECEIVED the AWARD of the Royal Horticultural Society as under FOR RHODODENDRONS.

FIRST PRIZE, 1861.
FIRST PRIZE, 1862.
FIRST PRIZE, 1863.

CATALOGUES are now ready, and a stock of Plants in the most perfect health, of all sizes, and at prices to suit all purposes. Sunningdale Nursery, S.W. Rail.

GEO. BAKER begs to announce that his extensive Collections of Hardy RHODODENDRONS, GHENT AZALEAS, and KALMIA LATIFOLIA, are unusually well set with bloom, and his fine Collection of CONIFERS in the best possible condition.

CATALOGUES on application at the American Nursery, Bagshot, Surrey. The Nurseries are about 1 mile from Sunningdale Station, South-Western Railway.

JAPAN LILIES, Extra strong Flowering Bulbs.

| | | | Each—s. | d. |
|---|---|---|---|---|
| LILIUM LANCIFOLIUM | ALBUM | .. .. .. | 1 | 0 |
| " " | ROSEUM | .. .. .. | 1 | 3 |
| " " | RUBRUM | .. .. .. | 1 | 3 |

Three each of the above, 10s.

Butler & McCulloch, Seed Merchants, Covent Garden Market, London, W.C.

THE PLYMOUTH SEED COMPANY, LIMITED, is amalgamated with the LONDON SEED COMPANY, LIMITED.

Registered Offices: 68, Welbeck Street, Cavendish Square, London, W.

ROYAL HORTICULTURAL SOCIETY.
FRUIT COMMITTEE.

A Meeting of this Committee will be held on TUESDAY, December 8, at the Rooms of the Society at South Kensington, for the Examination of such FRUITS and VEGETABLES as may then be submitted, and for awarding the following Prizes:

Class A.—Best Three Dishes DESSERT APPLES, distinct kinds. 15s., 10s.
Class B.—Best dish Huyshe's BERGAMOT PEAR. 10s., 5s.
Class C.—Ditto ditto Huyshe's VICTORIA. 10s., 5s.
Class D.—Ditto ditto JOSEPHINE DE MALINES. 10s., 5s.

All Fruit must be ripe, sound, and fit for table. A Dish is to consist of Six Fruits. Subjects for Exhibition must be at the rooms by 11 o'clock on the day of Meeting. As the awards are made by flavour, those Exhibitors who require their Fruit to be returned must not expect to receive it entire.

Communications and Packages to be addressed to
Robert Hogg, LL.D., Secretary to the Committee.

# The Gardeners' Chronicle.

*SATURDAY, DECEMBER 5, 1863.*

MEETING FOR THE ENSUING WEEK.

Tuesday, Dec. 8 { Royal Horticultural (Floral and Fruit Committees) at S. Kensington .. Noon

The award to the Rev. M. J. Berkeley of one of the Gold Medals annually placed by Her Majesty at the disposal of the Royal Society, wherewith the Council of that eminent body may reward distinguished scientific services, is an event which we hail with the utmost satisfaction. Surely such a distinction was never more honourably won, whether we regard the length of service, the range of investigation, or the interest and importance of the scientific labours of our illustrious contemporary and constant correspondent; and if to these considerations we add the obscurity and comparative unpopularity of that branch of botany he especially cultivates, the Fungi, and his own singularly unobtrusive character, we cannot fail to recognise the fact that the Council has not only honoured the Royal trust confided to it by this award, in giving honour where honour is pre-eminently due, but has exercised a higher and rarer wisdom in bringing forward for public recognition, the services and the person of one, whose modesty and retiring disposition are as genuine as his love of science is disinterested.

The special grounds upon which the Medal is awarded, are, as we gather from the President's address delivered on Monday last at the room of the Society in Burlington House, "for Mr. Berkeley's researches in Cryptogamic Botany, especially Mycology;" but in the course of that address an *éloge* was pronounced, in which his various labours were dwelt upon with considerable skill, discrimination and judgment. Amongst other claims to the award, there were mentioned: the length and unbroken continuity of Mr. Berkeley's studies, extending over 35 years; the excellence of his published works on British and Foreign Fungi; the value and significance of his discoveries on the reproductive organs of the same class of plants; the wide range and philosophical character of his "Introduction to Cryptogamic Botany;" and, lastly, his researches in Vegetable Pathology.

This last fact we have a pardonable pride in recording, as it was in the columns of the *Gardeners' Chronicle* that these researches were, we believe, without exception published, and, as yet, are there, and in Morton's "Encyclopædia of Agriculture," only to be found. They attracted much attention at the time, as most valuable contributions to general knowledge; but their true and high scientific interest and importance, though all along known to a few, are now for the first time publicly recognised, and this by the highest tribunal in the country.

Ought we to graft the more tender or less vigorous varieties of the Grape Vine upon stocks of the stronger-habited sorts, or is there any advantage resulting from the practice? What says theory? The effect of grafting a plant upon an older stock, that is upon one which has attained to something like the full vigour of growth, is in a general way to render the graft more vigorous than it otherwise would have been; but there are some collateral considerations. There must be a fitness in all the circumstances of the case. The stock must be such as to suit the conditions of soil in which it is to grow; and there must be a sort of constitutional affinity between the stock and the graft. These points bring this question entirely within the range of experimental cultivation. In the case of the Vine the fitness would depend upon the hardihood of the stock in respect to its roots, and upon its degree of vigour being such as to suit the constitution of the scion. In other words, the advantage to be derived from grafting a Vine would be, that a tender delicate-rooted sort, liable to suffer from even the unavoidable coldness of the soil, might draw up its nourishment through a stem, the roots of which, belonging to a variety of hardier nature, would be less influenced by the amount of cold to which they might happen to be subjected; while, if the graft were of a sort deficient in natural vigour, a stock of moderately increased vigour would serve to impart to it the very strength it needed. We say, of moderately increased vigour, because there ought not to be too great a disparity of constitution between stock and graft, though this is perhaps of less importance in the case of the Vine than in that of many other fruit trees.

Besides this influence, which it is well-known to exert over the vigour of the graft, the stock also, in some cases at least, exercises an influence upon its productiveness, as well as upon the quality of the fruit. This latter result would lead us to prefer to use as a stock some sort which was known to produce fruit of good quality, as well as to possess the requisite degree of vigour in its constitution.

Such considerations as these indicate at least that grafting may be advantageous; and that beyond the benefit which it may confer by rendering possible the substitution of good for indifferent varieties with comparatively little loss of crop—and that it will do this, by reason of the rapidity with which a graft united to a healthy established stock will replace the bearing rods which may have been cut away to make room for it, is evident. They also seem to be suggestive, that a healthy moderately strong variety producing fruit itself of superior quality—such a variety, in short, as the Black Hamburgh, is one of the best that can be selected as a stock where choice is possible; and this mainly because of the comparative root-hardiness, as well as vigour, which this most estimable Grape possesses. This is very well expressed in the following passage from *Thompson's Gardeners' Assistant*:—"The hardiness of the stock is of great importance in the cultivation of trees and shrubs indigenous to southern climates, for many of such plants either perish or thrive badly on their own roots when planted in the comparatively cold soil of Britain. They are, of course, affected somewhat injuriously by the coldness of our atmosphere, but they are more than doubly so when the roots, upon which their supply of nourishment depends, are also in a colder medium than they are adapted to endure. But when grafted on a stock, the roots of which are not likely to be injured, in a properly drained soil, by the lowest ground temperature which occurs in this country, tender plants that can be properly grafted on such thrive tolerably, in consequence of being fed by roots uninjured by cold." The question of root-hardiness alone will probably explain the

frequent failure of such tender-rooted sorts as the Golden Hamburgh appears to be, and on the other hand the success of such varieties when grafted on a less tender-rooted stock. This may indeed suffice to account for the different estimates which are formed of the merit of this variety.

But what says practice in answer to the question with which we set out? No doubt we can find a few illustrative cases on record. The Vineries at Dalkeith furnish one such case. In *Gossip of the Garden* (Nov. 1863, p. 372) we read of the Muscat Hamburgh, with rods not quite ripe, bearing clusters of fruit of not less than 4 or 5 lbs. weight, far more like Barbarossa than the Muscat Hamburgh as usually seen. These Vines are planted inside the house, and are grafted on the Black Hamburgh. The difference between the bunches on grafted plants, and those on plants on their own roots, repeatedly seen elsewhere, is so marked, that the writer does not hesitate to recommend Mr. Thomson's plan to all gardeners. In the *Florist and Pomologist* (Nov. 1862, p. 168), it is stated of the valuable late black variety known as Lady Downes' Seedling, that the fruit is greatly improved by the Vine being grafted on the Black Hamburgh, as Mr. Hill grows it. And not to multiply quotations, our own columns have recently recorded (October 17, p. 991), some remarkably fine examples of the Buckland Sweetwater produced on rods which had been grafted on the Black Hamburgh. Some of the advantages which, it would thus appear, certainly do result from the practice of grafting, may be attributable to the mere vigour imparted by the older and well established stock; but it would also appear that there are in the cases of delicate-rooted and weak-growing, or perhaps even small-berried varieties, decided advantages to be derived from grafting on a comparatively hardy-rooted vigorous stock, and among these the Black Hamburgh appears to hold a prominent position.

The case is analogous to that of tender constitutioned varieties of Indian Azaleas, for example, which are well known to be improved by grafting on a more hardy and free-growing stock. We shall be glad, however, to hear further what is the practical experience of cultivators on this interesting question.

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— The display of Chrysanthemums at the Versailles Nursery, Hammersmith, to which attention was invited in our Garden Memoranda (p. 1063), has been a very gay one, and well it might be, since Mr. Salter cultivates something approaching to two thousand varieties of this fine autumnal flower. Even now, though the brightness of the earlier sorts is somewhat passing off, the winter garden in which the pot-grown plants are displayed, affords a many-coloured picture well worth examining, for the later plants and the later sorts are scarcely past their best.

Our object however is not to refer further to the general collection, but to notice briefly some of the many fine Seedling varieties, amongst which there is this year more than an average number of novelties that may be regarded as acquisitions. We understand that Mr. Salter has flowered about three hundred seedlings; no wonder then that some extremely choice varieties should have made their appearance, when it is considered that it is only the choicer of the old sorts, or such as present some special desirable property, which are bred from.

We could not but notice with satisfaction the general advance which is being made in the flower-heads of the Chrysanthemum from a floral point of view, as evidenced by the breadth which the florets have in most instances acquired; "broad-petaled" flowers as they are called, were in fact found to be the rule rather than the exception amongst the recent seedlings which Mr. Salter has bloomed. Another fact was patent, and furnished its own reflections. We sometimes hear it said of Chrysanthemums, as it was not long since with more point, of Fuchsias, "Oh! these creations of the florist are as nothing compared with the familiar forms of earlier days!" Well, Mr. Salter has busied himself in getting together all the old familiar sorts he can find, and here they are scattered through his collection: but with what result? They are mean, ragged, wretched-looking things beside the modern florists' varieties, and excite none of the poetic admiration the critics have supposed them to inspire. And so it must be. The experience of cultivators is, that under cultivation it is the very nature of plants to improve—to develope in fact; and although one is not bound to admire alike all the varieties the florist may originate, or all the points on which he may insist when regarding any particular flower as a specialty, we cannot deny that his efforts have a general progresive result. He is least happy perhaps when he attempts to intermix very distinct species, as in the case of the Fuchsia, and then would reduce the progeny to one common model. In the case of the Fuchsia, for instance, it may be a question whether we should not now have stood better if, instead of introducing the blood of fulgens, which has given coarse foliage and succulent racemose-flowering branches, such as most of the light sorts possess, we had gone on merely selecting and improving from such a type as gracilis. Certainly the more fulgens is now obliterated in the progeny the better the result. Some of the creeping abundant-flowered species would perhaps have yielded better materials for intermixture, and might have saved our garden Fuchsias from the 'plethoric' charge now brought against them.

But to return to the New Chrysanthemums. They appear this year at Hammersmith, as already remarked, in greater force and in greater excellence than we remember to have previously seen in any one year. At their head, outshining all the rest, and with all the sterling qualities of the Queen of England, stands the Princess of Wales, a truly regal flower, the blooms of which, in the unceremonious way in which Mr. Salter always grows his flowers, could not be less than 5 inches in diameter, and which therefore, when highly cultivated, will come up to the highest standard in respect to size*; this variety is also remarkable for the breadth of its florets, which turn inwards quite naturally to form a full incurved flower-head; the colour is a pearly white, delicately tinged at the margin with peach colour, which at length deepens into a soft rose. To the same class of flower belongs Prince Alfred, a large-sized variety, well deserving from its excellence to be associated with a royal name; it has broad florets and fully incurved flower-heads, and the colour is a rosy purple, paler and silvery at the backs of the florets. Lady Slade is another of the same type, large, fully incurved, and having broad well disposed florets; this is of a clear pale rosy lilac, very distinct in colour, very chaste looking, and in every way commendable. General Bainbrigge and Jupiter are further additions to the same set as the preceding; the first a very fine amber-coloured sort, the second a dark red-chestnut with golden tips. Robert James, a full-sized variety, with yellow centre passing off to a coppery tinge at the outside; and Venus, a delicate pearly lilac, are still others amongst the desirable novelties of this incurved group.

To the Dupont de l'Eure type, that is to say those with shorter, stiffer, and less incurved florets than the preceding, often with a tendency to quarter like the pentagonal Camellias, but having in these novelties an increase of breadth in the florets equally with the more strictly incurved group, belongs the Rev. Joshua Dix a well-filled flower of medium size, having the characteristic short, somewhat incurving half-cupped florets, and being of a composite colour, yellow in the centre, the outer florets shaded with pale purplish-red. Saumarez, of medium size, is of a brown red in front, golden at the back, and is remarkable again for the breadth of its florets; so also is Sir G. Bowyer, whose florets are rosy purple in front, paler behind. Pelagia, a flower above the average size, and rather flatter in form than the foregoing, is of a bright chestnut orange with golden tips. Mrs. Edward Miles, on the other hand, though not above medium size, is of great depth, very full, moderately incurved, and of a remarkably bright clear yellow, paler in tint than Jardin des Plantes, and altogether a most desirable novelty. Something of this form, but without incurving and about medium size, is one called Lord Clyde, a remarkably handsome variety for decorative purposes; this is of a deep crimson, richer in colour probably than any variety yet obtained, but having as usual the backs of the florets paler, though, as they scarcely at all incurve, this pale tint is very little seen.

Some large varieties of the Anemone-flowered group seem to be marked improvements on those previously known. Empress, one of them, has extra large flowers, the guard being of a beautiful peach colour, at length passing into rose, while the centre is of a delicate lemon tint. St. Margaret is a large yellow Anemone-flowered sort, remarkable for the broad florets which form the guard, as well as for its full centre. Mrs. Pethers is another, of a pale lilac peach, with a full centre of the same colour. These Anemone-flowered sorts are all provided with several series of guard "petals," and hence have a much more finished appearance than the sorts formerly grown, which had only a single row of outer florets. A very curious novelty of this series, called Painted Lady, has been obtained; in this, which has three or four series of outer or guard florets, the points are tightly rolled in, while in the centre, replacing the disk, is a small close tuft of the quilled florets; this centre is creamy, and the outer florets whitish with a bar of rosy pink on the outside. Mr. Salter has also obtained one thoroughly good, indeed first-rate Pompon, which is named Lizzy Holmes; it is Ranunculus-formed, very full and deep, and also a very free bloomer, the colour yellow slightly tinted with purplish-red at the sides.

One variety, not perhaps to be recommended for exhibition purposes, but one which Mr. Salter will no doubt prize as a breeder, and one which will also be sought after for decorative purposes on account of its colour, is called Prometheus; this, though rather flat, is remarkably showy, the colour being a peculiarly bright fiery coppery red, quite new, so far as we have observed amongst these flowers. Another high-coloured variety, having perhaps little else to recommend it, though of fair average quality amongst the smaller-sized flowers, is to be called Sanguineum; it is of a ruby-red, brighter than the shades of this colour usually appear. Another small-flowered sort with compact Ranunculus-formed flower-heads, and of a rosy-amaranth with bronzy yellow tips, after the style of Stafford's Gem Dahlia, bears the name of Sam Slick, and like the two preceding may be useful where large flowers are not required.

* It may be interesting here to record the result of growing some specimen blooms at Chiswick, with the view of showing the Fellows of the Royal Horticultural Society how large flowers are produced. The finest blooms were those of Queen of England and its sports and allies; thus Golden Queen of England measured nearly 6½ inches. White Queen of England 6 inches, Alfred Salter 5½ inches, Lady St. Clair, a fine white, 5½ inches, and Mrs. W. Holborn, another fine white, 5½ inches in diameter. Jardin des Plantes, a very charming flower, measured 5 inches across.

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## DIES ORCHIDIANÆ.—No. VIII.

(*Continued from p. 889*).

Messrs. Rollisson's, Tooting.—The well-stored Orchid houses of the Messrs. Rollisson possess peculiar interest to the amateur, not merely on account of the many varieties they contain, but because they may serve to carry him back in imagination to what may be termed the *eocene* period of Orchid growing. The establishments of Mr. Colville and the Messrs. Loddiges having been long since broken up, it is only in the Tooting Nursery that one can still find the plants that were popular in the infancy of our science, but which from the caprice of fashion, inattention to the proper mode of treatment, or other causes, have now all but disappeared from collections. We have all heard of the difficulty with which a Catasetum was procured for Mr. Darwin's experiments; nor has the writer forgotten the labour and importunity that it cost him to obtain a morsel of the old Bletia Tankervilliæ (Phaius grandifolius), or how at one of Mr. Stevens's recent sales a little plant of Rodriguezia secunda—once a weed in collections—was knocked down for the extravagant price of five guineas! Such instances must have been largely multiplied had not the Messrs. Rollisson kept up a reserve of the old favourites, which are now happily again surrounded by a numerous train of admirers. Amongst these the Pleiones and Cœlogynes, of which Messrs. Rollisson have a large assortment, deserve especial mention, not simply on account of their beauty, but because their culture is generally neglected or misunderstood.

The charms of Cœlogyne cristata when well grown will scarcely yield to those of any other white-flowered Orchid with which we are acquainted, but among us it is seldom seen in perfection, because its flowers, under the ordinary mode of treatment, are rarely produced with the same prodigality that distinguishes the species on its native hills. And yet nothing can be more simple than its cultivation, for all that it asks is a moderate supply of heat and moisture during its short season of growth in the summer months, with a cool regime at other times. Persons sceptical on these points should see the magnificent specimens, loaded with blossoms during the winter months, that are grown by the Messrs. Yates of Manchester. Phalænopsis itself cannot produce a finer mass of pure white combined with gold! And as with C. cristata, so with all its congeners from the Neilgherry hills, and from the mountainous districts of upper India. C. corrugata and C. odoratissima, two charming species from the former locality, are never found—as a distinguished officer and close observer of Nature recently told me—on the eastern slopes of the Ghauts, but if you cross the ridge to the western side you find them growing, almost close to the summit, in the richest profusion, on cushions of Moss among masses of rock. In such situations they are sheltered from cutting winds, and are secure of moisture to their roots even during the driest season. C. elata is another fine species, as the figure in Wallich's great work shows at a glance, but it is perhaps inferior in stateliness of habit to C. Gardneriana, of which a splendid specimen was blooming with Messrs. Rollisson at the time of my visit to their nursery. Altogether a dozen species of this attractive genus might perhaps be selected from amongst Messrs. Rollisson's stock, without counting such species as C. pandurata and C. Lowii, which, as denizens of Borneo, are accustomed to a very high temperature, and cannot therefore be expected to thrive under the same artificial conditions as the species of continental India. I would add that the Pleiones, if justice be done to them, require even a still less degree of heat than their kinsmen and neighbours, the Indian Cœlogynes.

The Huntleyas, like the Cœlogynes, are a compact and beautiful family, at present very imperfectly known in consequence of the difficulty that, through their having no pseudo-bulbs to retain moisture during a long voyage, is apt to attend their importation. This difficulty has, however, not availed to prevent the introduction of a goodly number of species, of which Messrs. Rollisson possess a larger proportion than any other nurserymen; but as they are as slow to increase as they are difficult to introduce, Huntleyas will always be rare plants, and this notwithstanding that they are among the easiest of Orchids to grow and the freest to flower. Huntleya violacea, H. cerina (Pescatorea cerina), H. meleagris, H. candida (Warscewiczella candida), H. marginata (Warscewiczella marginata), and H. Wailesii are among the best of

what we now have; but we may hope in the course of 1864 to receive far finer kinds, such *e. g.* as H. triumphans (Pescatorea triumphans, *Reichenbach*), H. amazonica, &c.

In the warmer department of the Tooting Orchid houses there is a remarkably fine collection of East Indian Air-plants, with which some choice Angræcums and rare Cymbidiums are associated. Here may be had the very finest "strain" of Vanda tricolor and V. suavis, each of which was extensively imported by Messrs. Rollisson. Fine Dendrobiums also abound. And I could not but remark a handsome specimen of the Scorpion plant (Renanthera Arachnitis), which, though it always grows freely, has never during 20 years of cultivation in more than as many collections, been induced to produce one single specimen of its marvellous flowers! So far as I am aware, this is the only Orchid that has hitherto entirely baffled the skill of the cultivator. Can no one be found to take the stubborn plant in hand, and master it, as Mr. Leach has done the once equally intractable Disa grandiflora? *Serapias.*

## CUTTING OFF STRAWBERRY RUNNERS.

I agree with your observations (see p. 1034) on this subject. I have practised for 11 years the cutting off of the umbilical cord, as soon as it makes its appearance, before the berries are formed, during fruiting, and afterwards when runners are not wanted: moreover, I have practised it on the same plants three years following, and I have grown great crops of Strawberries. I have just broken up nine ranks of Rivers' Eliza, cropped for three years heavily, and full of fruit crowns for next year, which have always been deprived of runners. I broke them up, simply because I have five other strong plantations of that variety, and also because my other plantations are so many-crowned that I should not be able to get rid of the Strawberries. Usually three crops off the same plants are sufficient. Some sorts indeed will only crop heavily once or twice.

I have read Mr. Knight's opinion, twice quoted in your Paper, and I will not go against such high authority. Still, facts are stubborn things. I have two new spring-planted plantations of Eliza (Rivers'), one of Wonderful, and one of Trollope's Victoria. All these were deflowered and kept free from runners all through the summer and autumn; yet they are full of fruit crowns; and they are the most beautiful that I ever saw. Many of the readers of the *Gardeners' Chronicle* live around here, and they are welcome to come and see. I practise the same plan with novelties sent here for trial. If they are planted late in the fall, or in the spring, I deflower them and keep off the runners; and then the next season I fruit them. I find that by deflowering them they run at once, and that, by constantly depriving them of their strings, they make many and fine fruit crowns.

Perhaps we may apply to Strawberry plants and also to soils the saying, that "what is one man's meat is another man's poison." It may possibly be good for some sorts, in some soils, to be allowed to have a few runners. Their constitutions and habits are not all the same. Some absolutely require rich clay or rich deep loam; also some lands are best without any manure, or with a much smaller quantity of manure than I am obliged to put on. I suppose that, if Mr. Tiley or Mr. J. Keynes were to anoint their fine lands as I do mine, they would never have a Rose or a Strawberry.

I have made this observation many times in my life, that people who let their plants have a wilderness of runners, have either no Strawberries or very poor crops. Those who have rich strong land abounding in potash may be able to do it successfully. If persons find in their soil that plants deprived wholly of runners do not fruit well, then it would be wise to follow the suggestions of "A. T." given at page 1083.

"Medio tutissimus ibis."

It would also be well to plant two beds each of approved sorts—say six sorts, and to deprive of runners for three years one bed of each sort, and to let one bed of each sort have their runners after fruiting. Of course they must be planted at the same time, in the same quality of land, and be treated in every respect in the same way, or the trial will be worthless.

The worst of a theorist is this, that he strives to make his theory come true, and as earnestly strives to upset theories that are true. As to experimentalists, their conclusions are drawn from unequal circumstances, and sometimes from incorrect data.

At present, from what I have seen here and elsewhere, I cannot think that a Strawberry plant will bear huge crops of Strawberries for three years following if it is allowed to have runners *ad libitum.* All nature, I know, makes an effort to reproduce. A Strawberry plant makes an effort to do so by seed, and also by plant. It is seminiferous and viviparous; I should think, therefore, that the two would cause exhaustion.

It might not be a bad plan in some soils to cut off the runners, and leave the cord on: I merely suggest this. In fine natural soils, or in soils in high condition, a runner on each side of a strong plant may be pegged into a pot during fruiting without detriment, if the runner is wanted for early planting. Indeed, the best Queen grower that I ever saw, always got his runners by this plan. As soon as the runner had got hold it was cut off, and the pots were put aside till ground was ready. The success of a Queen plant depends, more than any other Strawberry, on an early runner well established before winter sets in.

I find here that cutting off runners at all times conduces to heavy crops, and to continued and increased vigour. In other soils, and under other circumstances, it may not be the case. It seems not to be the case with "A. T." He says: "Of course there was no fruit next year." This arose I fancy from high cultivation, and from a very fine soil. A few runners no doubt would do great good under such circumstances. Roses in strong land, if cut hard, will sometimes give strong blind wood. Indeed, if you cut hybrid Chinas, hybrid Bourbons, and strong-growing Noisettes hard, you will get strong wood and no flowers!

Strawberry plants that flower a second time, such as the Hautbois race and the Black Prince, should be allowed to run, and should not be manured till the spring. *W. F. Radclyffe, Rushton.*

## Home Correspondence.

*Cotton Growing.*—Government being now perplexed as to what to do with, and where to send our convicts, why not make the Feejees a penal colony and employ the men upon growing Cotton. Dr. Seemann, who has visited the Islands and knows all about them, speaks from experience as to their capability to produce the plant, which grows there in a remarkably luxuriant manner; and with an almost unlimited supply of labour, could certainly be made most profitable. *B. L.*

*Tangierine Oranges.*—With this I send you a few fruit of these, which are now beginning to ripen freely. The trees were placed in a forcing house with Vines about the end of February. They blossomed towards the end of March; were kept in the house and had gentle fire-heat all the summer. The crop is very good, and the little trees, some of them more than 2 feet high, have a charming appearance. Properly they should be now dead ripe and their skins cracking with the abundance of juice, but I did not begin forcing till a little too late. If the trees are placed in a vinery, where Grapes are forced, early in January, they will give ripe fruit early in October, and supply the dessert till Christmas. There is, perhaps, no fruit of its quality so easily cultivated as the Tangierine Orange; gentle artificial heat all the summer—if the pots are plunged in some warm material all the better—and sponging the leaves occasionally, to keep them clean, is all they require. For the dessert they should either be introduced to the table on the trees—they are then very ornamental—or gathered with some of their leaves attached to the fruit, after the manner of those I now submit to your notice. *Thomas Rivers.*

*Mr. Rust on Orchard Houses.*—I have been much interested and amused in reading Mr. Rust's article in your last Number: amused, because it is so rare to find a man publishing to the world his incapacity, for he acknowledges to having a house built "according to the most correct principles," and yet he cannot grow good fruit—admirable candour! Again he tells us that "orchard houses are so drafty" (I presume he means when all the doors and ventilators are open) "that a delicate person any time in them is sure to catch cold"—wonderful logic! When we wish our rooms to be warm in autumn, winter, and early spring, do we not close our doors and windows to keep out drafts, and would not a man with ordinary ingenuity treat his orchard house in the same way, when making his promenade, knowing that his trees in the cool and cold months in their leafless state require but little or no fresh air? My house has been closed ever since the first week in October, and at all times forms a dry and delightful promenade; the temperature, when the sun shines, at 60°. From his advocating Frigi Domo as a covering to walls instead of bright clear sheet glass, I fear Mr. Rust is going backwards instead of forwards; to a certainty he has not calculated the time taken every morning and evening in letting down and drawing up those ugly brown opaque coverings, useful enough under some circumstances, but not to be compared with glass, for with the latter there is no fear of the under-gardener having forgotten to let down the curtains, and of the chief awakening in the middle of some cold frosty night in April with the terrible feeling that they may have been forgotten. The time taken up in covering and uncovering wall trees from the commencement of April to the end of May, may be calculated at the same ratio as that consumed in syringing orchard-house trees during the months of June and July. My Royal George, Galande, and Barrington Peaches were last August of the deepest crimson, as were those in many orchard houses that came under my observation, managed by experienced gardeners; but my Noblesse, Malta, and some other kinds of Peaches, which were of a pale straw colour, without the least shade of crimson, were far more rich in flavour—in fact perfect. Watering with water-pots is a bad practice. A cistern a little elevated so as to give pressure, and gutta percha tubing, will enable a man to do an hour's work of the watering-pot in ten minutes. Mr. Rust tells us that because he saw one Nectarine tree at Banchory bearing a good crop of fruit, "it is all moonshine to tell us that in some localities in England Peaches cannot be grown"—powerful reason! I have, I believe, noticed the prominent parts of Mr. Rust's communication, and beg to tell him in all kindness that if he will come to our establishment we will do for him all that his professional character requires. *John Polish, Galvanising Gardens, Pimlico.*

*Callirhöe verticillata* alias *involucrata.*—The nuisance of double names is so great that I venture to ask your aid in preventing, if possible, a fresh infliction of this nature. It seems that continental seedsmen are about to offer, as a novelty, a so-called Callirhöe verticillata, a desirable Malvaceous plant with handsome crimson flowers. Having received seeds under this name two or three years since, I believe myself in a condition to affirm that the plant in question is simply the C. involucrata, A. Gray, one form of which was figured at Tab. 4681 of "Botanical Magazine." I enclose you dried specimens, which will enable you to judge of the correctness of this opinion. As for the singularly inappropriate cognomen verticillata, Dr. Asa Gray, who has made of this genus a special study, himself informed me that he knew no species bearing this designation. *W. Thompson, Ipswich.* [What the *Revue Horticole* says is this:—"The Callirhöe verticillata is a plant almost entirely unknown at present, and very probably has not yet been figured anywhere, nor even described. We have not even been able to find a description of it amongst the numerous publications on the Flora of North America in M. F. Delessert's library. Be that as it may, this species, the meaning of whose specific name we try in vain to explain, belongs to the section Malvoideæ of the genus Callirhöe, known by having a three-leaved involucre very close to the calyx. It appears very near to Callirhöe involucrata of Asa Gray, of which species we find a beautiful figure with its analysis in Dr. Asa Gray's "Genera Floræ Americæ Boreali-orientalis Illustrata." The only differences that we remark are that the flowers are much larger, and the leaves broader and rather less deeply cut. Perhaps this Callirhöe verticillata may be only a very vigorous variety of the species alluded to, said by Dr. Asa Gray to be from Texas and the Arkansas." There is no doubt that Mr. Thompson's specimens belong to the plant of the *Revue Horticole*, the figure of which is excellent. Let us add that these Callirhöes are marvellously like each other, that the Malva Papaver of Texas is one of them, and that they are, we fear, all too "weedy" to become favourites.]

*Muscat Grapes.*—Understanding that during this season the four following kinds of Vines, viz., Alexandrian, Bowood, Passe, and Tynningham Muscats, have fruited in a house side by side at Chiswick, I should, along with many brother gardeners, be much obliged by Mr. Thompson's candid opinion whether he considers them the same; if not, wherein the difference consists, and which is the best. *J. W.* [The Fruit Committee examined the Grapes referred to; and it would be contrary to the regulations to give an individual opinion. Nor do we think that the differences could be clearly made out from one-year-old plants like these. To give a doubtful opinion would certainly tend to do harm.]

*The Caper Plant.*—About 18 months ago I was in the same plight as "X." about the Caper plant. Having considered that it grows freely on old walls, and in such places in Italy and the South of Europe, I tried to imitate to some extent such a situation, by filling a 15-inch pot with old bricks and lime rubbish, with a third-part of loam intermixed, planting the old stump in it, and placing the pot in a sunny corner of a dry warm greenhouse, where it has since remained. During the summer of 1862 the plant grew nicely, and it has this season made numerous shoots 3 feet long, producing also a couple of dozen of strikingly beautiful flowers. A seedling plant put in last spring by the side of the old one, has since made a single shoot 2 feet long. *W. R.*

*Potatos.*—The following is a short account of the produce of two Potatos of the Regent kind. The weight of each respectively was $1\frac{1}{4}$ lb. and $\frac{1}{2}$ lb., in all $1\frac{3}{4}$ lb. The produce of the first was 93 lb., and that of the other 30 lb., in all 123 lb. Had it not been for a few accidents that befel them, the yield would have been considerably more. In size they were above the common run, and, what is important, they were free from disease, although other Potatos in their immediate vicinity were more or less affected. Now this freedom from disease deserves attention. Whether or not the method of cultivation adopted had anything to do with the cleanness of the tubers I cannot say. The method consisted in merely planting out the shoots as they were produced by the tubers, after the manner of Dahlia cuttings. They were planted in a not very rich soil, consisting of sandy loam, without a particle of manure of any kind. Under this description of treatment I had a very fine crop, even as far back as 1826; and now that disease has spread its devastations throughout the land the method may be worth revival. Be that as it may, I think that the plan is a very good one for the increase of any particular sort. *Thomas White, Pomona Cottage, Kew Green.*

*Pears out of Season.*—Have any of your correspondents noticed the unusual time at which the different kinds of Pears are coming into use? Marie Louise was fit for table at the end of September; Winter Nelis, of fine flavour, we have just finished; and Passe Colmar is now fit for use; but the most remarkable fact is that Beurré Rance and Easter Beurré will be fit for eating

in a few days, although the same kinds last year were kept on till April. They however did not prove satisfactory, and were in the end thrown to the rubbish heap. I may add that those now turning into use were kept in the room occupied by last year's fruit, and that their treatment has been in every respect the same. *E. Welch, The Palace. Armagh, Ireland.*

*The Brugmansia.*—This tender shrub is not employed for out-door summer decoration to that extent which it deserves. For a centre ornament for a large bed or for a specimen plant on Grass it is admirably adapted, and it is very manageable, requiring only to be kept free from frost, and to have a slight pruning in every season. Strong baskets are the best contrivances to grow the Brugmansia in; they can readily be plunged in the ground with 6 inches of good rich compost put round them; into this the plant roots, and grows and flowers most profusely. At housing time these outside roots are cut off; this checks the plant, which is apt to grow with too great vigour when planted out. We have some good sized plants of it at this place, which have been subjected to this treatment year after year, and they are now objects of attraction. What can be more graceful than a plant 5 feet high, well feathered to the ground, with drooping trumpet-shaped flowers? In-doors it is much subject to red spider; out-doors in this dripping climate it escapes this pest; the yellow and red blooming kinds are best suited for out-door work. *John Edlington, Crom Castle, Ireland.* [But how about high wind?]

*Town Gardening.*—Chrysanthemums are amongst the few plants which attain to any degree of perfection in gardens situated in the midst of smoke, fog, and the innumerable disadvantages of a city. With respect to these it cannot be asserted that it is impossible to produce good flowers and healthy plants; for any one who has visited the Temple Gardens this season must admit that such is practicable. However, all town gardeners are not Broomes or Dales; they cannot, therefore, sweep before them the many obstacles which serve to prevent Chrysanthemums from attaining that acme of perfection to which the skilful gardeners just named have brought those under their management. Nevertheless, being myself for once successful, I am desirous of recording the fact, and of stating how I contrived to be so, for there are doubtless many who like myself are limited in space, and whose so-called gardens are surrounded on all sides by lofty mansions. I have often wished to grow Chrysanthemums, but unfortunately seldom succeeded. This I mainly attribute to the fact of my being in the country at the time when the plants require attention and training. Having happily obtained a collection of Chrysanthemums last spring, I determined not to lose sight of them. I potted them in 7-inch pots, and placed them in a cool frame. In May they had made some good shoots, and in June so strong were they that I "headed" them, making cuttings of the wood removed. Early in July I commenced to stake the large plants, attending constantly to the syringing and watering of them in a garden at the north side of the street, and consequently seldom benefited by the sun's rays. I have the advantage of a small greenhouse, which, being heated by a stove of the old fashioned style, affords me a supply of early-flowering plants in winter; it is about 30 feet from the house on the west side, and between it and the rear of the dwelling house is a border containing Lily of the Valley. Against the wall which separates ours from our neighbour's premises I planted several of the Chrysanthemum plants, and the others in pots in the centre of the garden; but in July, when all promised well, I had to leave town for the sea-side. I was determined, however, to do justice as far as I could to the plants, and therefore left them in the care of a man known to me more for his honesty than his horticultural skill. I impressed upon "James" the necessity of syringing every evening, and watering evening and morning. I observed that some of the plants had been attacked by snails, which together with slugs are a great annoyance in town as well as in country gardens. I instructed my man to procure lime and place it along the wall and round each pot; this served the purpose, and at last I have been victorious. I may therefore state, and I have the opinion of Mr. A. Balfe, Secretary of the Royal Horticultural Society of Ireland, who visited me yesterday, in my favour, that better blooms or more healthy foliage have seldom been seen on town-grown plants. *E. A. M., Dublin.*

*Thermometers, &c.*—I shall be much obliged to any of your correspondents (not interested in the sale) who will give an account of their experience of Casella's self-registering thermometer, to ascertain whether it can be trusted for accuracy. I have one hung, according to the directions, at the height of about three feet from the ground, in the open air, which has lately shown a degree of frost scarcely warranted by the effect on Calceolarias and other half-hardy plants in the garden. On the night of the 21st–22nd inst. 14° of frost were shown, the pin having stood at 18° Fahr. On the 28th–29th it stood at 20°. The thermometer, without sun, is generally in the day-time about 3° lower than one (by Troughton) in the shade. *A Subscriber.* [The instrument to which you refer must have been wrong on the night of the 21st–22nd ult., but it appears to have been about right on that of the 28th–29th. We have experienced that all complicated thermometers are the most liable to get out of order, and therefore we prefer registering thermometers on Rutherford's construction. Their principle is very simple, and when well made, the indications of these thermometers are perhaps, of all others, the most reliable. If properly placed, the minimum ones are not liable to get out of order. Their bulb end should be kept a little lower than the tube, which will consequently incline slightly upwards from the horizontal. The late Mr. Newman made a great improvement in Rutherford's maximum thermometer, by introducing a graphite index instead of steel, the mercury being apt to adhere to the latter. This improvement should not be lost sight of by present makers; they have indeed sought out many inventions, but by so doing have they at greater expense been able to give more truthful indications than Rutherford's thermometers give?]

*Chrysanthemums in the Crystal Palace.*—As our local shows are now over, and as out-of-door border flowers are looking shabby, I took a stroll to the Crystal Palace on Friday last to see what remained there, and to my astonishment I found the centre avenue a blaze of fresh blooms, in beds round, oval, and diamond-shaped. Mr. Williams, who had the care of them, informed me that he grew the large varieties all on the "second bud," with which he commenced disbudding the latter end of August, watered with weak guano, and housed them the beginning of October. The Pompons are all well-bloomed. Mr. Williams trains many of them so as to have from a foot to 18 inches clear stem; they then branch out pyramidally, and look exceedingly pretty without the support of sticks. As some of your readers may wish to have a collection to bloom in conservatories up to Christmas, commencing in November, I will give the names of the most showy varieties, which are as follows:—LARGE VARIETIES: *Yellow.*—Little Harry, Jardin des Plantes, Chevalier Domage, Annie Salter, Cherub (golden amber). *Red and Orange.*—Sparkler, Mr. Jay, Abbé Passaglia, Dupont de l'Eure, Fabius. *Red.*—Julie Lagravère, Madame Poggi, Auguste Mie, Oliver Cromwell, Victor Hugo (chestnut and red). *White.*—Novelty, Beverley, Vesta, Mrs. W. Holborn, Lucidum. *Rose.*—Pilot, Alma, Mr. Murray, Grand Sultan, Lord Palmerston. *Blush and Pink.*—Julia Grisi, Alfred Salter, Queen of England, Ariadne, Orpheus, Cassandra, Christine. *Indian Red.*—General Slade. *Red and Orange.*—Boadicea, Fair Rosamond. *Amaranth.*—Arigena, Progne, Beauté du Nord. POMPONS: *Yellow.*—General Canrobert, Solfaterre, Golden Cedo Nulli, Mr. Astie (anemone), Priscilla, Golden Drop. *Red and Chestnut.*—Bob, Fanny, Saint Thäis, Mustapha, Calliope (anemone), Madame Pepin. *White and Sulphur.*—Argentine, Cedo Nulli, Tactonia, Bijou de l'Horticulture, Andromeda, Modèle. *Rose and Lilac.*—Hélène, Fairest of the Fair, Salamon, Duruflet, Galatea. *Shaded.*—Adèle Priselle (fringed lilac), Madame Rousselon (white and rose), Madame Montels (white and yellow anemone), Madame Carnac (rose and yellow anemone), Perle (rose anemone), President Morel (red and crimson anemone), Aurore Boréale (orange). *Samuel Broome, Temple Gardens.*

*Mildness of the Season.*—At the desire of Lord Stamford, I send you a flower of Rhododendron ponticum, which his lordship gathered in the woods here the other day. It is not a solitary adventitious flower, but one of many fully expanded. Common wood spring flowers, too, are much in advance of ordinary seasons, and Roses in the gardens continue in flower—altogether proving the extraordinary mildness of the season. *W. Craw, Enville.*

*Apricots and Peaches.*—It is intended to erect in the kitchen garden a fruit house against the wall. There are walls facing south and east of equal height; on the south wall there are Apricot trees which bear, but not particularly well; on the east, Peach trees that generally blight, and so do not bear. Would it be advisable to take up the Apricot trees and plant Peaches and Nectarines, and enclose them with glass—or would it be better to let the Apricot trees stay as they are, and enclose the wall facing east, where the Peach trees are already that get so blighted? Or, if both the walls were treeless, on which should a lean-to glass house be built, so as to get the most fruit of various kinds? *Novice.* [Apricots should do very well on an east aspect; and if you move them carefully now, they will most likely do better than they have done on the south aspect. On the other hand, the Peaches will acquire their proper flavour by being placed against the south aspect, especially if you cover them with glass. This glass will be most advantageously bestowed on the southern aspect.]

## Foreign Correspondence.

*Cool Treatment of Orchids.—Lyons, Nov.* 28, 1863.—Much has of late been published in your columns on this subject, and from what I have been able to learn from different quarters, the question must now be considered settled in favour of growing certain species in greenhouse temperature, instead of roasting and boiling them as hitherto practised. Nevertheless, as many are still incredulous, and as some cannot make up their minds to deviate from old habits, you will, I am sure, consider it useful to publish everything that pleads in favour of the more rational treatment. I therefore send you herewith an extract from a letter which I have received a few days ago bearing on the subject. *John Sisley, Rue St. Maurice, Monplaisir.*

"Bahia, Oct. 30, 1863.

"I have read with great interest your article on Orchids in the *Salut Public* (of Lyons), of the 10th Sept. last. My own observations induce me to be completely of your opinion respecting a great many species of that interesting class of plants. In general I have met with very few Orchids in the low and hot plains under the line; but I have found a great many in the higher regions, principally at the summits of the highest mountains, and particularly Cattleya Mossiæ, which I have not found anywhere but on the highest mountains, in the provinces of Pernambuco and Parahyba, where the thermometer marked 13° Centigrade (55° Fahr.) at sunrise, during the hottest months of summer. To what degree it falls during the rainy season I have not been able to ascertain. I have found at the same altitude many Oncidiums and Epidendrums. *L. I. Brunet, Directeur de l'Institut Agricole de Bahia, Brésil.*"

## Societies.

LINNEAN: *Nov.* 19.—G. Bentham, Esq., President, in the Chair. F. DuCane Godman, Esq., and G. C. St. Brody, Esq., were elected Fellows. The following papers were read:—1. "Note on the Structure and Mode of Dehiscence of the Legumes of Pentaclethra macrophylla, Benth.," by Professor Oliver. The late Mr. Barter, while attached to Dr. Baikie's Niger Expedition, sent home from Fernando Po some remarkable legumes, which under the native name Opochala remained undetermined in the Kew Museum until the recent return of Mr. G. Mann from Tropical Africa. By Mr. Mann they were recognised as belonging to a tree called Pentaclethra macrophylla, and as being so abundant in the island of St. Thomas that the natives collect them for fuel. The seeds are edible and afford a useful oil. These legumes contract in drying, so that the valves become very strongly revolute in the direction of their length. The object of the paper was to explain the results of an examination of the tissues of the pods, undertaken with the object of ascertaining the cause of their remarkable contractility. The structure of these tissues was very minutely described, and illustrated by a series of excellent microscopical drawings. The rolling up of the separated valves was found to be dependent on the unusual contractility of the prosenchymatous bundles. The legumes are chiefly remarkable for their large size, measuring from 22 to 24 inches in length, and from $3\frac{1}{2}$ to $3\frac{3}{4}$ inches in breadth near the centre, the valves being a quarter of an inch thick along the middle part, and half an inch at the edge.——2. "A Letter to Sir W. J. Hooker, giving an account of some very remarkable Tasmanian Fern Trees with many Crowns," by Mr. W. Archer. The remarkable Tree Ferns described in this paper were examples of Dicksonia antarctica. They were said to grow on the northern side of the mountain called Cummings's Head, in the midst of a damp forest of Gum-trees of various species, intermixed with other trees. Many of the Ferns have more than one crown; but one in particular was mentioned, on which Mr. Archer had counted round the circumference of its top 19 crowns, while within it was calculated there must have been half as many more, making 28 or 29 in all. Mr. Archer remarked that when he first saw this Fern, and roughly estimated the number of crowns at 15 or 16, he thought it the most wonderful Fern-tree in the world; but now he is satisfied that it is one of the wonders of the world! Another tree near this, had 17 crowns round its top, giving an estimated total of about 25. There were also two others within 20 or 30 yards of the latter, the one with seven, the other with six crowns. The tree with 25 crowns was described as a very singular one; it seemed to have been originally about 16 feet high, and to have fallen and broken at a height of 9 feet from the ground, and to have shot up again straight from the fracture.——3. "Memorandum on a presumed case of Parthenogenesis, in Xanthoxylum alatum," by D. Hanbury, Esq. This diœcious plant flowered in the garden of Mr. Hanbury's father at Clapham in 1862. It was examined, but no stamens could be detected, and as no other plant of the genus was growing near, Mr. Hanbury was surprised to find the ovaries swell, and the berries attain their full development; but still more so, when having carelessly placed three or four of the seeds in a pot of earth, a seedling Xanthoxylum appeared. The plant again flowered in 1863; it was still more carefully scrutinised without finding on it any other than pistilliferous flowers; nevertheless the ovaries enlarged, and mature berries have been again produced.——The President read letters of thanks from Mr. Panizzi on the part of the Trustees of the British Museum, in return for the Banksian collection of insects and shells, the typical specimens of Australian Mammals, &c., which at the meeting of June 4, were directed to be presented to that institution; and from Mr. Brady, on the part of the Natural History Society of Northumberland, &c., for the donation of the late Mr. Winch's herbarium.

A Special Meeting was afterwards held, at which R. Heward, Esq., was elected a member of the Council, in the room of Beriah Botfield, Esq., deceased.

THE ROYAL.—The anniversary meeting of this Society was held at Burlington House on Nov. 30, when the officers and Council for the ensuing year were elected as follows:—President, Major-General Edward Sabine, R.A., D.C.L., LL.D.; Treasurer, William Allen Miller,

M.D., LL.D.; Secretaries, William Sharpey, M.D., LL.D., and George Gabriel Stokes, M.A., D.C.L.; Foreign Secretary, Professor William Hallows Miller, M.A. Other members of the Council, James Alderson, M.D.; George Busk, Sec. L.S.; Colonel Sir George Everest, C.B.; Hugh Falconer, M.A., M.D.; John Hall Gladstone, Ph.D.; Joseph Dalton Hooker, M.D.; Henry Bence Jones, M.A., M.D.; Professor James Clerk Maxwell, M.A.; Professor William Pole, C.E.; Archibald Smith, M.A.; Professor Henry J. Stephen Smith, M.A.; the Earl Stanhope, P.S.A., D.C.L.; Professor James Joseph Sylvester, M.A.; Thomas Watson, M.D., D.C.L.; Professor Charles Wheatstone, D.C.L., and the Rev. Professor Robert Willis, M.A. At the same time medals were presented to Professor Sedgwick for his observations and discoveries in geology; to the Rev. M. J. Berkeley, for his studies in botany; and to Mr. J. P. Gassiot, for his researches in electricity.

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BIRMINGHAM FRUIT AND CHRYSANTHEMUM SHOW.—This exhibition opened to the public on Tuesday last, and must as a whole be looked upon as a success. The fine hall had a beautiful appearance, the fruit being displayed on long side tables; while a large raised centre table was filled with well-grown Chrysanthemums, surmounted by specimen Camellias.

The collections of Fruits in 24 varieties contained some finely grown specimens of Queen and Cayenne Pines; Muscat and Black Hamburgh Grapes; Chaumontel, Uvedale's St. Germain, and Glou Morceau Pears; Reinette du Canada, Blanche Colville, Belle du Bois, and Blenheim Apples.

*Awards.*—1st, Mr. J. Bent, Edgbaston, Birmingham; 2d, Mr. R. Gidings, Birmingham; 3d, Mr. W. Ingram, Belvoir Castle, Grantham.

Collections of Dessert Apples were numerous. Among them some nice examples of Ribston Pippin, Fearn's Pippin, Lemon Pippin, Cornish Gilliflower, Court of Wick, Newtown Pippin, Wyken Pippin, and Powell's Russet, were conspicuous.

*Awards.*—1st, Mr. A. Lumsden, Bloxholm Hall, Sleaford; 2d, Mr. R. Gidings, Birmingham; 3d, Mr. J. Bent, Edgbaston.

Culinary Apples in sets of 24 varieties were largely shown. Among them were some beautiful specimens of Celine Pippin, Blenheim Orange, Royal Russet, Beauty of Kent, Reinette du Canada, Walton Pippin, Hollandbury Pippin, Flower of Kent, Dumelow's Seedling, Northern Greening, Yorkshire Greening, Alfriston, and Bridgewater Pippin.

*Awards.*—1st, Mr. C. J. Perry, Castle Bromwich, Birmingham; 2d, Mr. R. Gidings, Birmingham; 3d, Messrs. Pluck & Wood, Jersey.

Dessert Pears (24 varieties) were likewise well shown; fine examples of Chaumontel, Glou Morceau, Bon Cure, Crassane, Beurré Clairgeau, Josephine de Malines, Winter Nelis, Marie Louise, Passe Colmar, Beurré Diel, and Easter Beurré, were numerous.

*Awards.*—1st, Mr J. Bent, Edgbaston; 2d, Mr. A. Lumsden, Bloxholm Hall; 3d, Mr. R. Gidings, Birmingham.

The Collections of Culinary Pears (24 varieties), were however by far the most conspicuous—the great size of some of the specimens appeared somewhat marvellous, more especially Belle de Jersey, Catillac, and Gilogil.

*Awards.*—1st, Mr. R. Gidings; 2d, Mr. C. J. Perry; 3d, Messrs. Pluck & Wood.

The show of Large-flowered and Pompon Chrysanthemums was good, and a great improvement on that of previous years. Primulas were also remarkably fine. Among the Chrysanthemums were well-grown plants of Chevalier Domage, Julie Lagravère, Lady Hardinge, Antigone and Rifleman; and among Pompons, Cedo Nulli, Yellow Cedo Nulli, Priscilla, Ninon, Bob, Attila, Andromeda, and Drin Drin.

*Awards.*—CHRYSANTHEMUMS—Collection of 9: 1st, Mr. J. Bent: 2d, Mr. W. Middlemore. Collection of 6: 1st, Mr. C. J. Perry; 2d, Mr. J. Bent. Single specimens: 1st, Mr. C. J. Perry; 2d, Mr. Bent; 3d, Mr. Middlemore. Cut Blooms: Collection of 12: 1st, Mr. Fewkes; 2d, Mr. John Lowe. POMPONS—Collection of 9: 1st, Mr. C. J. Perry; 2d, Mr. J. Bent; 3d, Mr. W. Middlemore. Collection of 6: 1st, Mr. C. J. Perry; 2d, Mr. J. Bent. Single specimen: 1st, Mr. W. Middlemore; 2d, Mr. C. J. Perry; 3d, Mr. J. Bent.

Cut blooms were also shown well by Mr. J. George, of Stamford Hill, who took the three first prizes, for 24, 18, and 12 blooms in the open class.

Interesting Collections of Gourds were shown by Messrs. Sutton & Sons, and by Mr. C. J. Perry; also a highly instructive Collection of 130 varieties of Apples and Pears from Messrs. Rivers & Son, of Sawbridgeworth, which added materially to the display.

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## Notices of Books.

*Explorations in the Interior of Labrador.* By Henry Youle Hind, M.A., F.R.G.S. 2 vols. 1863. Longman & Co. Pp. 618 (351 + 267).

The great peninsula of Labrador (though the name is often confined to the north-eastern portion), is bounded on three sides by the Gulf of St. Lawrence, the North Atlantic, and Hudson's Straits and Bay, while Rupert's River, the Mistassini, and the Bersamit's River are its approximate limits on the south-west. The area of this vast country is about 420,000 square miles, the greater part being pretty much in the latitude of Great Britain, but with a very different climate. The fisheries on its Atlantic coast alone yield a yearly return of at least one million sterling. It was once rich in fur-bearing animals, and in caribou or reindeer, and in those days supported powerful tribes of Montagnais and Nasquapee Indians, the former of which could muster 1000 warriors to repel the incursions of the Esquimaux.

Disastrous fires, however, have turned their extensive tracts of hunting ground in the interior into a desert, and the ancient inhabitants have been literally starved out, leaving behind them mere nomadic bands of the two tribes above named, which, with the Mistassini and Swampy Creek Indians, and the wandering Esquimaux, on the northern coasts, are all that remain of the former lords of the soil. Those Indians who come to the settlements on the coast soon lose their bodily strength and active habits: they live on seals and fish, become very susceptible of changes in the weather, suffer from the fogs and damp, are liable to severe attacks of influenza in the spring, the young become consumptive, the middle-aged rheumatic, and death is fast sweeping them away.

Mr. Hind, accompanied by his brother, who acted as draughtsman to the expedition, two gentlemen appointed by the Canadian Government as surveyors, five French Canadian voyageurs, and two natives of the country, commenced this voyage of exploration up the river Moisie, in the beginning of June, 1861, stowed away with instruments of various kinds, and a supply of bacon, flour, biscuit, tea, tobacco, and pressed vegetables, in three Birch-bark canoes, knowing well that all these things, canoes and all, would have to be carried with infinite labour at the numerous "portages" which occur on that rapid river.

A better selection than Mr. Hind could scarcely have been been made as manager of the expedition, for he had already explored the Canadian Red River in 1857, and the Assiniboine and Saskatchewan in 1858, and took a peculiar interest in the character, condition, customs, and traditions of the aborigines.

The natives advised that they should wait a fortnight at least "to give the river time to fall." They said "no canoe can pass the gorges while the water is high; perpendicular rocks, smooth as glass, flank the river on each side, and it rushes between them like a rapid. You can't put out a line to tow, there is no ground to walk on, nothing but high rocks, high, high (for so they emphasise a word by repeating it); you must wait till the river falls." Mr. Hind judged rightly that time was too precious to be wasted, and that ultimately the falling of the water was the very thing that would stop his progress, and pushed onward while he could.

The falls were magnificent; the portages very numerous, often very steep and rugged, sometimes miles in length, and passing over mountains, once over a terrific landslip; once the dry Moss was set on fire, and almost overtook the men as they ran along, carrying the boats in haste to escape the threatening element. At times the torrent was so swift that paddles were useless; then they used poles, or, landing, tracked the canoes along with ropes. In the gorges the rocks often came down too perpendicularly to the edge to admit of tracking, but the Indians were fertile in resources, sometimes tying the boats together, sometimes landing and creeping round a boulder or point of rock, and thence casting a cord with a stick attached into the stream, which, floating down, was seized by the boatmen, and the boats dragged past the difficult and otherwise impassable point. Often the frail Birch-bark canoes got damaged, and then they set to work sewing up the gaping seams, patching and gumming them to keep them watertight.

In some parts the scenery was exquisitely beautiful, "stupendous sheets of ice hanging from the edge of a perpendicular rock, at least 150 feet above the river. Blue and white masses of pure ice, in fact an icicle on a gigantic scale, glistened in the light of the evening sun. Clumps of Birch in full leaf, growing out of crevices in the rock, hung tenderly over the cold white ice below. On each side of this beautiful sheet of white, fringed with delicate green, the red rocks rose stern and unchangeable. White, green, and red, in trees and rocks blending in exquisite harmony, created a picture at which even the Indians gazed with silent admiration."

At first trees of large growth were met with. The most imposing were the Spruce, some of which approached 2 feet in diameter, with tall and clean trunks. The Birch trees were also large in the neighbourhood of the Grand Portage, and in the present condition of the country they are of the greatest importance; for from them the Montagnais and Nasquapees procure the Birch bark for their canoes. Higher up the trees are too small for the purpose.

Sometimes the waters were teeming with fish, which rose at anything, and seemed most anxious to be caught, freely taking a little silver spoon by way of bait. Generally the absence of living things was a striking peculiarity of the country; once or twice this total silence seemed to weigh upon the spirits of the party to a degree that they found very difficult to shake off. "All were more or less under its influence. The day was hot, the purple mountains casting their deep shadows on the lake; the trees, where they could grow on the sloping rocks, wearing their summer dress, but the Indians are silent as the grave; the French voyageurs neither laugh nor talk nor sing, but move their paddles mechanically, dipping them carefully into the water so as to make as little noise as possible. What is it that weighs upon the spirits of us all? It is the absence of life, the consciousness of being in a desolate wilderness. Rocks, and trees, and water, are as beautiful as they can be imagined, yet there is no bird, or beast, or fish, to give animation to this lovely scene."

The tents which our travellers used were made of light sail-cloth, or "American Cotton," which turned the rain well enough so long as the cloth was stretched tight and touched no object inside. If, however, it chanced to touch a bag or gun or anything, at that point the water would penetrate and begin to drip. An excellent half tent of Birch or Spruce bark is made in the following way:—A stout pole about 7 feet long, with a crotch at one end, is driven into the earth by repeatedly plunging it into the same hole, and then made firm by driving two or three short stakes into the ground close to it. Six or eight other poles about 12 feet long are laid in the crotch at an angle of 45°, and about two feet apart at the base. Large slabs of Spruce bark are then cut from neighbouring trees, and arranged on the poles like tiles, and kept from falling by other poles resting upon them on the outside. This makes a tent that is not to be despised. Hunting is of course the great occupation of the Indians, both for the sake of food, and for the skins which are sold to the Hudson's Bay Company, or rather exchanged for goods.

The caribou or reindeer used to be the mainstay of the Montagnais and Nasquapee races, but very few comparatively visit their country now. Its pilage or fur, for it is almost such, is the loosest and largest-haired of any deer, being particularly shaggy about the head and neck. The flesh is delicious, and the leather excellent for leggings and moccasins. As to its habits, while the Lapland and Siberian reindeer is the tamest and most docile of its genus, the American caribou is the fiercest, fleetest, wildest, shyest, and most untameable, so much so that they are rarely pursued by white hunters or shot by them, except through casual good fortune; Indians alone having the patience and instinctive craft which enables them to crawl on them unseen, unsmelt; for the nose of this animal can detect the smallest taint upon the air of anything human at least two miles up wind of him, and unsuspected. If he takes alarm and starts off on the run, no one dreams of pursuing. Bears also form no despicable article of food. Rabbits and beavers, when they can be found, and even musk-rats, are eaten; while skins of every kind are valuable, from that of the little marten, which fetches a high price (5 dollars a-piece), to those of lynx and carcajou wolf, fox, bear, caribou, and seal.

The marten-trap is a sort of triangular box, constructed on the flat stump of a small tree, at about the height of the snow-line, *i. e.*, 3 feet from the ground. The *fall* is formed by a neighbouring tree almost cut through, and kept hanging by a few fibres. This is supported by a small piece of wood resting on a cross piece. This fall acts the part of a brick in the common sparrow trap. The wolverine (Gulo Luscus), or carcajou, as the French Canadians call it, will often go along a line of traps extending for miles, and take all the baits out of them, and the only remedy is to watch for the depredator and shoot him.

The lynx too is not uncommon, and, at times, a formidable animal. Mr. Mackenzie, of Mingan, landed on a small island opposite the Post, more for exercise than any special object, taking with him a Montagnais bow and arrow, a knife, and snow shoes. He soon saw the fresh tracks of a lynx, adjusted his shoes, and went in pursuit, chasing it round and round the island at a steady pace. Towards evening the animal was evidently getting tired, and he got two opportunities of striking it with the heavy Montagnais arrow used for killing the smaller game. At last he got within 20 yards: the cat (as the Indians call it) turned round, rose on its hind legs, snarled, and began to paw the air. Mr. M. discharged another arrow, but at the same moment his snow-shoes tripped him up, and he fell headlong with his face in the snow. The cat instantly sprang upon him, tearing with one stroke the coat from his back. Mr. M. turned round at once, and caught the cat by the throat with one hand, and with the other drew his knife; but as he made a lunge they both rolled over together, and he received some very severe scratches. Still holding on firmly by the throat, he was not bitten, although in danger of having his bowels torn out by the hind legs of the beast, which was making a vigorous resistance. A second lunge with the knife was successful, passing through the animal's heart; but it left the victor exhausted and bleeding on the snow. He soon recovered, and carried his booty in triumph to the Post.

When caribou, partridge, and fish fail, there is little left till the geese come. Their arrival is hailed with rapturous joy, for the Indians are sadly improvident, and are often driven to fearful straits by want of food. Tripe de Roche (Sticta pulmonaria), and broth of Birch buds, is poor fare in that cold climate, and it is said that sometimes they have been driven to eat human flesh. Our travellers got as far as the summit of the dividing ridge which separates the watershed into north and south. The burnt country extended miles and miles, a picture of utter desolation. So they com-

menced their homeward journey on the 2d of July, and came rapidly down the stream, to ascend which had been so severe a toil.

(*To be continued.*)

*The School Manual of Geology.* By J. Beete Jukes, F.R.S. 12mo., pp. 362. Edinburgh: Black.

The title of this useful little book sufficiently explains its object. It is intended for beginners, and is, so far as we can judge, exactly what they want. The work is divided into three parts, of which the first relates to "geological operations now in action;" the second to "some of the facts observable in the crust of the earth;" and the third to the "history of the earth's crust, deduced from the facts observable in it as interpreted by the operations now going on." Each of these parts is well and clearly written, and is illustrated by good and useful woodcuts.

We have before us a *Provisional List of Medicinal Plants, &c., proposed to be cultivated in the Botanic Garden of the Society of Apothecaries, Queen's Road West, Chelsea, London.* Compiled from Lindley's Vegetable Kingdom, Flora Medica, and Medical Botany, Pereira's Materia Medica, Royle's Manual of Materia Medica, the Pharmacopée Universelle, and other sources. It is extremely well done, and we shall congratulate the Society when they shall have succeeded in getting together such a collection.

## Miscellaneous.

*Death of Mr. Wood.*—We regret to have to announce the decease, on the 3d inst., of Mr. William Wood, the very respectable Nurseryman and Rose-grower, at Maresfield, in his 82d year.

*The Coming Winter.*—Severe winters invariably follow the class of weather which has characterised the present autumn. High winds have prevailed, with excess of rain, and the temperature above the average. Parallel seasons to the present occurred in 1837-8, 1844-5, 1854-5, and 1860-1. In 1838 a great frost set in on the 1st of January; this continued two months. On the 20th of January the thermometer was at 3° below zero. In February the Thames and Severn were partially frozen over. In 1845 hard weather began on the 28th of February, and lasted four weeks. March was the coldest on record, even exceeding the memorable cold March of 1837. On the 13th of that month the thermometer stood 11° Fahrenheit. In 1855 severe frost commenced on the 16th of January, and February was the coldest ever known in England. February 18th registered 26° below freezing point. This frost continued six weeks. February 19th, Thames and Severn again partially frozen over. In 1860 intensely cold weather set in on the 17th of December, and continued with great severity until the third week in January. Christmas Day, 1860, found the thermometer 2° below zero. The prevailing weather throughout the autumn periods of the above years partook of similar description to the present autumn—warm, rainy, and boisterous. I am of opinion, therefore, that we shall have a winter of most intense frost. Whether its advent will be in December or deferred till after Christmas cannot now be stated, but the longer the inclement season which I anticipate is delayed, the greater will be, I apprehend, its severity. *T. L. Plant, M.B.M.S., in Times.*

*The Trees of the Lower Frazer River.*—The trees most commonly met with are the Abies Douglasii, Lindl. (the Douglas Spruce or Fir), several specimens of which, measured in the neighbourhood of Sumass, were found to be nearly 30 feet in circumference at 5 feet from the ground. 250 feet was the measured length of one that had been blown down; but some which we saw must have been considerably higher than this. The Abies Menziesii (Menzies' Spruce or Fir), a large tree 25 to 30 feet in circumference, and at least 200 feet high. The Abies Mertensiana (Hemlock Spruce of our axemen) is a common tree, growing to the height of 150 or 200 feet. Some trees were observed with a perfectly straight trunk of 60 or 70 feet high before giving off a branch. The Pinus contorta is not uncommon here. The Thuja gigantea, Nutt., known as the 'Cedar,' also attains a very large size in this neighbourhood. The circumference of one measured was 26 feet 9 inches at 6 feet from the ground, and the estimated height 250 feet. This and the Douglas Fir are the most useful trees on this part of the coast. There is a large and increasing export of the Douglas Fir, both as spars and lumber, from Puget's Sound as well as from Vancouver Island. Various parts of the 'Cedar' are applied to different purposes by the Indians. The trunk is used to form their canoes, and when split into slabs (which it is very easily), to build their permanent huts or lodges. The stringy bark and the integuments of the root are plaited into useful and ornamental articles of clothing and household utensils. At intervals, interspersed amongst the trees already mentioned, we find small clumps or solitary specimens of the Acer macrophyllum, Pursh (large-leaved Maple). This tree chooses the more open parts of the forest, where it sometimes attains a height estimated at 150 feet. The circumference of one measured was 20 feet. Along with this tree, as well as in other places, we meet with the Acer circinatum, Pursh, Cornus Nuttallii, And. (which grows to the height of 60 to 80 feet in all, with a straight trunk of 14 or 15 feet before branching, and a diameter of about a foot and a half), the Alnus viridis, D.C., the Alnus rubra, Big. (a common tree most plentiful in wet places), and the Betula occidentalis, Hook. (a tree growing to the height of 60 or 70 feet, and most common about the borders of the forest). Along the immediate banks of the Lower Fraser, on islands and on low grounds subject to annual overflow, narrow belts of Poplar (Populus balsamifera, L.) of large size frequently occur. *Dr. Lyall in the Journal of the Linnean Society.*

## Calendar of Operations

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—Owing to the mildness of the weather some of the very earliest Camellias may now be coming into bloom; and where that is the case take care to keep as low a temperature as possible, in order to prolong their beauty. All drip must also be avoided. Early Hyacinths will also soon be in flower, and with care, a succession of them may be kept up till spring. For late flowering bulbs the best pots are 5-inch (forty-eights) for one bulb, and 6 or 7 inch (thirty-twos and twenty-fours) for three bulbs; and where fine display is sought for, three grown together in one pot, secure that object much better than single bulbs. For potting, the soil should be as rich as possible; such as one-half fresh loam, cut from a pasture with the turf decayed in it, and well-decomposed cow or horse manure, and a small quantity of clean sand well intermixed. If, however, this kind of compost cannot be obtained, then the lightest and richest at command must be employed instead. Drain efficiently, and, after filling the pots lightly with the soil, place the bulbs upon the surface, slightly pressing them into the soil. After watering, if the soil is not sufficiently moist, set the pots out of doors, on a dry bottom, and cover them with old tan, ashes, saw-dust, leaf-soil, Cocoa-nut refuse, or any other light material. After remaining thus for a month, the bulbs will be sufficiently rooted to render it safe to remove them to a gentle bottom heat of about 55°, introducing the pots in numbers proportionate to the demand, at intervals of about a fortnight; in this manner, a succession of flowers will be secured. In forcing, endeavour to prevent the roots from penetrating the fermenting material.

### FORCING DEPARTMENT.

Pinery.—Atmospheric moisture must not be withheld from Pines in a swelling state, although we have arrived at the dark days. Nothing has a greater tendency to premature ripening. Give little or no air at this season, except under the pipes. There should, however, be slight ventilation of this kind all day, and sometimes all night while the weather is mild.

Vinery.—Where the buds are beginning to swell, or are starting a little, increase of temperature must be allowed—say 60° by day and 55° by night. Take care that plenty of atmospheric moisture is maintained by syringing or otherwise. Do not, however, keep them constantly wet. Allow the stems to become comparatively dry at intervals. The oftener the fermenting materials are turned the better. Let newly introduced Vines be bent down where practicable, to equalise the sap. As soon as the Grapes are all cut in late Vineries, let the Vines be pruned immediately. Whether taken out to rest or not depends, of course, on other arrangements. If they are taken out, be sure to cover them well with old mats and litter.

Peach-house.—Begin to force very gradually here. Give air on every opportunity, leaving a circulation day and night, if possible.

Cucumbers.—Bearing plants in pots and boxes should be fed once or twice a week with manure water, but take care that it is not too strong or cooler than the air of the house. If young plants have already been raised on a dung bed, they must be carefully guarded against damp and steam from the hot dung. A layer of sand over the surface will check the ascent of vapour through the light material with which seed beds are usually covered.

### FLOWER GARDEN AND SHRUBBERIES.

In most gardens leaves can be collected, and when properly managed they form perhaps the most useful source of bottom heat with which we are acquainted, except, of course, hot water. If not already done, all the leaves necessary for carrying on the business of the ensuing year should therefore be collected as early as possible, and laid close together to heat. After fermenting for three weeks or a month, they will be in excellent order for use; in this state they will both heat with more certainty and tread more closely. In order to be ready to make up propagating beds of all kinds, or to form linings, it is necessary to have a mixture at hand, composed of hot dung and leaves, during the course of next month; therefore, before wanted to be put up into a bed, a quantity of hot dung should be drawn from the stable-yard to the leaf yard, thrown together, and well watered, in order to dispel the fiery heat. When fermented thus for a week or so, it may be mixed with leaves. About four parts of leaves to one of hot-manure will make an enduring mixture. This provided, a good frame or pit can be made up at any time; for if the dung has had one heating previous to its mixture with the leaves, little danger need be apprehended from impure vapours, provided the most ordinary precautions are observed. As regards other matters, take the first opportunity of carefully looking over Carnation layer that are in frames; it is possible that dirt may have settled in the axils of the leaves; as this retains moisture in a very inconvenient degree, it is highly necessary for the health of the plants that it should be removed.

### HARDY FRUIT AND KITCHEN GARDEN.

In all cases in which the leaves are down proceed with pruning and nailing. Should the weather set in frosty, wheel out manure as has been before recommended to all vacant plots of ground, where heaps may be made, and covered with soil till wanted. In many cases, however, it may be trenched in at once, especially where Carrots, Parsnips, Beet, or Onions are to be grown. All these require to have the soil turned up some months previous to sowing time. Great attention must be paid to Cauliflowers in frames, and under handlights; stir the surface round them in mild weather, and give frequent dressings of dry soot, lime, and ashes, taking care also to give air whenever practicable. Continue to store up any of the late tied Endive and Lettuces, and see that those formerly stored have as free a circulation of air as the weather will permit. All late Cabbages and Winter Greens should be earthed up if not already done, and if dry leaves are plentiful they may be laid very thickly between rows of choice Broccoli, and confined there by sticking Birch boughs round the outside of the beds. Snow's Winter Broccoli, if coming in, should be taken up and protected whenever the heads are large enough for use. Sow small salading under cover, and protect Turnip Radishes and other things in frames.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Dec. 2, 1863, as observed at the Horticultural Gardens

| Nov. and Dec. | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth 1 foot deep. | Of the Earth 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. 26 | 15 | 30.305 | 30.302 | 54 | 45 | 49.5 | 51½ | 51½ | S.E. | .00 |
| Friday 27 | 16 | 30.300 | 30.205 | 52 | 37 | 44.5 | 51 | 51 | S. | .00 |
| Satur. 28 | 17 | 30.238 | 30.179 | 54 | 21 | 37.5 | 49 | 51 | S. | .00 |
| Sunday 29 | 18 | 30.251 | 30.119 | 46 | 22 | 34.0 | 49 | 50½ | E. | .00 |
| Mon. 30 | 19 | 30.105 | 29.915 | 46 | 24 | 35.0 | 48½ | 49 | E. | .00 |
| Tues. 1 | 20 | 29.797 | 29.492 | 49 | 43 | 46.0 | 48 | 48 | S. | .25 |
| Wed. 2 | 21 | 29.409 | 28.945 | 58 | 34 | 46.0 | 48½ | 49 | S.W. | .33 |
| Average. | | 30.056 | 29.593 | 51.3 | 32.3 | 41.8 | 49.3 | 50.1 | | .58 |

Nov. 26—Uniformly overcast; very fine; overcast; fine.
— 27—Overcast; fine; overcast.
— 28—Fine; very fine; frosty at night.
— 29—Frosty, with dense fog; fine; overcast; frosty.
— 30—Hazy; fine; overcast; cloudy.
Dec. 1—Uniformly overcast; densely clouded; rain.
— 2—Rain; very boisterous, with heavy rain at night.
Mean temperature of the week 9-10th deg. above the average.

STATE OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Dec. 12, 1863.

| Dec. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 6.. | 47.7 | 36.1 | 41.4 | 19 | 0.76 in. | 2 | 4 | 2 | 3 | 6 | 14 | 4 | 2 |
| Mon. 7.. | 48.1 | 36.0 | 42.1 | 18 | 1.02 | 1 | 6 | 2 | 3 | 4 | 12 | 6 | 3 |
| Tues. 8.. | 43.8 | 34.0 | 38.9 | 16 | 0.58 | 2 | 5 | 1 | 2 | 2 | 14 | 6 | 5 |
| Wed. 9.. | 46.5 | 35.7 | 41.1 | 15 | 0.40 | 3 | 4 | 3 | 3 | 5 | 8 | 3 | 7 |
| Thurs. 10.. | 46.7 | 33.3 | 40.0 | 24 | 0.67 | 2 | 6 | 3 | 2 | 8 | 10 | 3 | 3 |
| Friday 11.. | 45.5 | 34.4 | 39.9 | 16 | 1.02 | 3 | 5 | 6 | 1 | 7 | 9 | 5 | 2 |
| Satur. 12.. | 45.6 | 33.7 | 39.5 | 16 | 0.56 | 3 | 4 | 7 | 3 | 3 | 7 | 8 | 2 |

The highest temperature during the above period occurred on the 12th, 1841—therm. 63 deg.; and the lowest on the 9th, 1851—therm. 16 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

Books: *W T.* Read Hamilton on the Pine Apple.

Broccoli: *J. Backhouse & Son.* Your Broccoli is excellent; it is large in size, beautifully white, and thoroughly self-protecting.

Dyed Flowers: *R E G.* Excuse us for saying that your question is not in any way, directly or indirectly, horticultural. Therefore, we regret to say, we cannot answer it.

Eucharis amazonica: *Clifton.* We have mislaid our memoranda, but will reply next week.

Heating: *Watford.* It is a puzzling case. Heat you must have. Have nothing to do with patent fuel, if you are wise. The best thing you can use is good wood-charcoal. But even then your stove should have a pipe communicating with the roof to carry off the products of combustion.

Insects: *B W A.* Your insect on Bark is the Mussel scale. You may remove it by scrubbing the bark with soft soap and water at 160°, not lower. As for the other grub, don't you know that all wood-boring maggots throw out what they destroy in the form of sawdust? Attack American Blight by violent syringing with soft soap and water.

Names of Fruits: *J A F.* 2, Dumelow's Seedling; 3, Rymer; 4, Forelle.—*D B L.* 2, 5, Alfriston; 4, Dutch Mignonne; 6, London Pippin.—*H S.* 1, 2, Dumelow's Seedling; 3, London Pippin; 4, Dutch Mignonne; 5, 7, Hollandbury; 6, Easter Beurré.—*J S.* The Apple appears to be the King of the Pippins.—*X X.* Cluster Pippin.—*G G.* 2, Pomme Poire; 3, Beurré Rance; 4, Bishop's Thumb; 7, St Germain.

Names of Plants: *A Thomson.* Gazania splendens. Ageratum mexicanum is blue.—*W Thomas.* It is a very formidable parasite called Clover Dodder, or by the learned *Cuscuta Trifolii*. We much regret that severe illness should have rendered us incapable of answering you before.—*Philander.* No Cryptogamic plants are objects of cultivation—at present—except Ferns; and we name no others. When such plants as Mosses and Lichens become objects of horticulture we shall be happy to name them also, if sent in a recognisable state, which we venture to remark yours are not.—*M J B.* The Cupressus known as Cupressus fragrans has always appeared to us to be some variety of C. sempervirens. We never saw the cones.

Passiflora quadrangularis or the Granadilla: Our good Correspondent, Mr. W. Thompson, of Ipswich, wants a few seeds of this and Musa Cavendishii to transmit to Swan River. They are not in "the trade." Can any kind amateur assist him?

Tangierine Oranges: *** They are most delicious, and only second to Peaches, Nectarines, and Grapes. They are evidently of the Mandarin race. Everybody who has an Orchard House, or who can manage a common Greenhouse, should certainly set about growing them.

**Drainage of Land.**

MR. C. F. HUMBERT, F.G.S., of Watford, Herts, and formerly Senior Surveyor to the Tithe Commission, a Land Surveyor and Land Agent, more than 20 years established in practice, undertakes works of Drainage either at a contract price, or to lay out and overlook the same at a commission of 5 per cent.; and he has at his command a staff of experienced workmen. His custom is to charge merely the expenses out of pocket in making the preliminary Survey and Estimate where the works are not carried out.

DRAINAGE LOANS are made by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY to the Owners of Freehold Estates, Life Tenants, Trustees, Incumbents, Bodies Corporate, &c., for all works of Agricultural Drainage, as well as Irrigation, Enclosing, Road Making, Wood Grubbing, and Farm Buildings, sanctioned by the Inclosure Commissioners.

The advances are repaid by way of Rent Charge on the Estate created for such a term of years as the Landowner shall determine will best adapt the annual charge to the circumstances of the Tenants.

No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.

The Company either supply the money expended by landowners in works designed and executed by their own Agents, or they undertake the entire improvement by their experienced staff, supply the weekly advances required, and charge on the estate the actual outlay in the works, and their commission thereon.

Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London, S.W.

THE LANDS IMPROVEMENT COMPANY.
Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &C. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster, S.W.

**Lincolnshire Farming.**

MR. JOHN ALGERNON CLARKE, of Long Sutton, Lincolnshire, has a VACANCY for an AGRICULTURAL PUPIL. The business includes Arable Husbandry and Grazing, with the Breeding of Short-horns and Long-wool Rams.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.
AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*
The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Hon. WILLIAM BATHURST.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

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PRACTICAL AGRICULTURE.
J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 15 Lectures on Agricultural Machines and Farm Buildings.

CHEMISTRY.
ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.
ASSISTANT TO CHEMICAL PROFESSOR.
R. WARINGTON, Jun., F.C.S.
BOTANY.—JOHN BAYLDON, M.B. Lond. B. Sc.
VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.
MATHEMATICS AND SURVEYING.
W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.
DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.
J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.
HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.
CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.
J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.
THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.
THOMAS ELLMAN, of Beddingham, Lewes—Lecture on South-down and Short-woolled Sheep.
J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.
WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

AGRICULTURAL CHEMISTRY.
THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.
For further particulars apply to the PRINCIPAL.

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.
106, Leadenhall Street, E.C.

**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.
22, Parliament Street, Westminster, S.W.

**Twenty Guineas Premium.**

A PREMIUM of FIFTEEN GUINEAS for the Best, and FIVE GUINEAS for the Second Best PRACTICAL INVENTION for DROP DRILLING, TURNIP, and MANGEL WURZEL SEED, at intervals of 12 inches and 18 inches apart, will be given by Messrs. JEKYLL, GLASIER, & PRATT, Artificial Manure Manufacturers, Lincoln, which shall be applicable to any ordinary Turnip and Manure or Water Drill delivering its Manure in continuous rows. The Apparatus to be completed and delivered at Lincoln for Competition Trial by April 1, 1864, free of all charges.—Lincoln, Dec. 5.

THE LONDON SEED COMPANY, LIMITED.—The Directors have much pleasure in stating that they have completed the harvesting of all kinds of Seeds, and are now in a position to execute orders for every requisite for the FARM and the GARDEN.

The GENERAL PRICE CURRENT will be ready in December, and will be forwarded Gratis and Post-free on application. Seeds carriage free.
Offices: 68, Welbeck Street, Cavendish Square, London, W.

**"Z" Family, now offered for the First Time.**

TRADE
HALLETT'S [PEDIGREE] NURSERY WHEAT.
MARK.

For full description of "Z family" see Advertisements in our Numbers for September and October, 1863.

PRICE—One Guinea a Bushel (or Seven Guineas a Quarter), delivered with printed directions for planting, at the Brighton Railway Station, in bags sewed up and sealed, upon receipt of Cheque or Post Office Order, which must in all cases accompany the order. *In December drill 8 bushels on 5 acres.*

HOW OUR WHEAT CROPS MAY BE DOUBLED, and other papers, forwarded on application, enclosing six stamps.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

**Smithfield Club Cattle Show.**

MESSRS. SUTTON AND SONS beg to call the attention of their Customers and the Public to their STAND of ROOTS and other AGRICULTURAL PRODUCE in the Gallery of the Agricultural Hall, Islington; which will include upwards of 150 sorts of GRASSES, all grown by SUTTON & SONS; nearly 50 distinct kinds of POTATOS; and some fine specimens of their improved varieties of MANGEL WURZEL, SWEDES, and TURNIPS.

Orders will be received for new Seeds at very low prices.
Royal Berkshire Seed Establishment, Reading.

SMITHFIELD CLUB CATTLE SHOW, 1863.—The SIXTY-FIFTH ANNUAL EXHIBITION of CATTLE, SHEEP, PIGS, IMPLEMENTS, SEEDS, and ROOTS, will be HELD in the AGRICULTURAL HALL, Islington.

PRIVATE VIEW on MONDAY, December 7, after 2 P.M. Admission 5s.; TUESDAY, WEDNESDAY, THURSDAY, and FRIDAY, Admission 1s.

Carriage entrance, Liverpool Road only.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.

The GENERAL MEETING of MEMBERS will be held at the Society's House, 12, Hanover Square, W., on WEDNESDAY, December 9, at 11 o'Clock.
By Order of the Council.
London, Dec. 5. H. HALL DARE, Secretary.

# The Agricultural Gazette.

## *SATURDAY, DECEMBER 5, 1863.*

MEETINGS FOR THE ENSUING WEEK.

| | | |
|---|---|---|
| MONDAY, | Dec. 7 | Smithfield Fat Cattle Show open at the Agricultural Hall, Islington, at 2 P.M., continuing open till Friday evening. Central Farmers' Club .. .. 6 P.M. (Mr COLEMAN, of Woburn, on Meat Making on Plough Land.) |
| TUESDAY, | — 8 | Smithfield Club (General Meeting). Farmers' Club (Annual Dinner) .. 5 P.M. |
| WEDNESDAY, | — 9 | Agricultural Society of England .. 11 A.M. Public Meeting at St. James's Hall (Steam Cultivation) .. .. .. .. 2 P.M. Society of Arts, Adelphi .. .. 8 P.M. (Mr. J. C. MORTON on Agricultural Progress, its Helps and Hindrances.) |

—— IN connection with the above announcements we are informed that in consequence of the premises of the York Hotel being at once required by the Dover and Chatham Railway, the rooms of the Central Farmers' Club there will be no longer available. Very good accommodation, however, has been obtained at 10, Chatham Place, Blackfriars Bridge. This house is part of DE KEYSER's Royal Hotel, where a dining-room, a reading-room, and an ample number of bed-rooms will be in readiness for the members of the Club during the ensuing Smithfield Show week. The Discussion Meeting on Monday evening, December 7th, and also the General Meeting on December 8th, will be held at 10, Chatham Place; but the Club dinner will take place as usual at Radley's Hotel, New Bridge Street, at 5 o'clock.

THE circumstances of English agriculture present a series of extraordinary contrasts, though it is but a little island which holds them all. Mr. MECHI in another column explains his Cumberland account of the Castle Acre cake bill; and from a still directer source we know that on Mr. HUDSON's farm the purchased manure has not been less than 1000*l.* annually for many years. The purchased cake and feeding stuffs have varied from 2000*l.* to 3000*l.* a year; and they are now consuming on that farm 15 tons of cake and a considerable quantity of Wheat meal weekly. At the other side of the island, on soil naturally richer, the land is now covered with a greyish coat of sedge and moss with frequent plots of Devils-bit and Hawkweed, and here and there a thorny spray of Rest Harrow, very little Grass being visible in the so-called Grass field.

Mr. HUDSON tells us that in West Norfolk they are now in the same "rut" that they were in some 20 years ago, growing about the same crops, and keeping about the same quantity of stock—but then they had been farming highly for 20 years before. Mr. MECHI was mistaken in speaking of 25 years as the period of Mr. HUDSON's farming; it was in 1822, more than 48 years ago, that he made the first purchases of cake at Castle Acre, which have since amounted to so large a sum. The only novelty of late on these light soils, where the fertility is so largely artificial, is the employment of HOWARD's one-horse plough in spring, with which they plough the land for Barley, preparing it without treading on the land, so that it needs little after harrowing. The liberal treatment, and easy cultivation, and great crops of these light soils, present indeed a wonderful contrast to the poor produce and miserable rent of land naturally much richer which we saw near Purton, Wilts, last week.

But, standing in one of these poor fields, paying probably 10*s.* to 15*s.* an acre to the landlord, and yielding half-a-load per acre of green stuff of all sorts for hay, one does not need to look across to Norfolk for a contrast. There is one close by. On the other side of the fence the Grass is green and plentiful. What is the difference owing to?

It seems, strangely enough, that it is hard to give an answer which shall not give offence. Early in the present year an attempt was made to describe the operations of a vigorous improver on an estate not very far from the field we are now referring to. Two reports were given, one of which described the operations that had been commenced and the results that appeared to the reporter to have been already achieved. The other, *per contra*, referred to the evils of haste, and the importance of carrying labourers and tenants with you in your schemes of improvement. The writer of these reports had been invited to act as judge of green crops for the local agricultural society, but he was afterwards informed that such was the angry feeling excited in the neighbourhood by his account of this improved estate, that had he acted as requested not a single entry would have been submitted for his award!

If this be true, how shall we avoid a similar unfortunate result at present? It is, we believe, of use to give reports of cultivation and improvements, and point out places where striking agricultural lessons are being given; but we have no wish to excite any angry feeling in connexion with them. The best plan, however, that can be adopted is to disregard the risk we run, and do as always hitherto—describe as honestly as possible whatever has been seen and heard.

Mr. RUCK, of Castle Hill near Cricklade, well known as a leader in steam cultivation, purchased two years ago a farm of 300 acres of clay land near Purton, about one half under Grass and one half arable, which had been let at the yearly rent of 186*l.* The estate was bought for less than 15*l.* an acre. There are two or three good Elm trees close by the farm house; but excepting these there was little evidence of fertility. The "Grass" was chiefly sedge and moss, the hedgerows were straggling into the fields, the timber was small and stunted, the land was water-logged, the tenant was dissatisfied.

By removing some fences and confining others to a reasonable width—by deepening the outfalls and the ditches, and bringing steam power to bear in drainage—by liberal dressings of manure to the Grass lands, and feeding sheep upon the fields with cake and corn, and by steam cultivation on the arable land, a great and obvious increase of fertility has been already conferred upon the estate.

The Grass fields now are green, and where stock enough is on them they are grazed well down. The arable land, which has all borne a crop of Wheat, and is now all in Italian Rye-grass, has been laid open by the removal of fences for the systematic drainage, burning, and steam cultivation which it is to receive. Most of the estate had been drained with Government money many years ago—inch-pipe tiles being used, but placed not nearly deep enough; while imperfect horse tillage, and utter regardlessness of the outfalls, had afterwards rendered the work useless. Mr. Ruck has "mole" ploughed most of the land by steam power, placing the channels about 3 yards apart and 3 feet deep, and furnishing each with a pipe tile exit to the open ditch. The land after this treads sound, and where dressings of artificial manure have been applied is evidently improving and improved. A dressing to the pastures of 2 cwt. of superphosphate and 1¼ cwt. of guano per acre applied in April in 600 gallons of water, and repeated in July—the rapid growth of Grass being fed off by sheep receiving also cake and corn—has soon put a different appearance on the Grass lands. Dressings of compost earth and dung and lime have also been applied with good effect. The influence of the artificial dressing is, however, seen where there is a mere line of division between the two; the immediate effect of the soluble manure being visible in the greater greenness of the Grass and the considerable destruction of weeds already produced in it.

We saw feeding on this grass 100 Cotswold Chilver tegs, eight and nine months old, which were already taking the ram. Of course this is to a great extent an experiment, but they are the largest, finest lambs we have ever seen, and seemed forward enough to save a year by having their lambs at 12 months old. Mr. Ruck is also bringing forward a lot of young cattle, for feeding while in shelter. A space of 50 feet by 80 is being covered with a double roof of faggots and thatch; the space beneath being divided out by gangways and into boxes, so as to enable the proper division of the lot into small companies, with easy access to each.

The arable land has yet to be properly drained and fallowed, and steam power has been and will yet be brought successfully to bear in that deep, in a certain sense *bottomless*, and thorough tillage, which is not only a great help to land drainage generally, but a necessary condition of it in stiff clays.

It is impossible to doubt that the purchase and improvements have been profitable; and it is to be hoped that the large extent of clay land, yielding little either to landlord or to tenant in that neighbourhood, will by the example of the Manor Farm at Purton be made more productive to the benefit of all the classes dependent on it than it has been hitherto.

Examples of the kind thus described must ultimately exert an influence on the relative value of clay lands. The contrast between the enterprise and liberality of management on clay lands and lighter soils is still very great. We have the following report from Sussex, bearing on this point:—

"I called upon a nobleman's agent on Monday, who within the last few years has expended 10,000*l.* in draining the stiffest clay soils of the county, and asked him the straightforward question, 'Have your rents increased in consequence?' and I could not get him to say that they had. His reply was (what every one very well knows), 'that all wet land must be improved by draining.' I cannot find a case in my neighbourhood of an increase of rent from draining on heavy clay soils beyond a fair per centage on the outlay. It may however, to some extent, be accounted for by heavy land farms being much more difficult to let than they were 10 or 20 years ago. But for the improvement of draining, they would not bring the rent now that they then did. I know one case of a farm of this description coming into the market at Michaelmas, 1862, and remaining unlet until two or three weeks before last Michaelmas, and then at a reduced rent, with an agreement that the landlord should allow the 'inventory' about 3*l.* an acre upon a large portion of the worst of the land, that the tenant might without loss to himself lay it down to permanent Grass. Another proof that clay farms have latterly decreased in value, is that there are 10 applicants for a hill to one for a vale farm. Much of the clay land of Sussex I have no doubt would now be laid down to Grass but for the heavy 'inventory,' which the tenant when leaving would lose, to the amount of from 3*l.* to 5*l.* an acre. Quite the reverse is the case with hill farms. The disposition to break up down land is increasing every year, and a very large extent has been brought under cultivation in the last 20 years; the use of artificial manures has increased to an immense extent with the breaking up of this description of land, and also the consumption of purchased artificial food (chiefly oilcake), the result of which is a larger quantity of sheep kept, and, much better kept than formerly, and no doubt gradually increasing in size—a much larger produce in corn, and a much larger employment of labour. The use of bought cattle-food has also greatly increased upon the poor and second-class lowland pasture farms, cattle and sheep being now fattened upon this description of land by this means that formerly only kept them in fair growing condition. Oilcake is also now used very generally in keeping store cattle in the winter in yards upon straw or hay. Formerly this description of stock was merely kept alive through the winter, and frequently to be seen going down to the marshes in the spring, very little more than skin and bone. Latterly, by the use of oilcake with the coarse fodder, poor stock is seldom to be seen. The great and gradual increase in the use of artificial manures, and the consumption of bought cattle food, is the most important feature in the recent history of Sussex farming. Oxen are as generally worked upon the hill farms as they were 20, 50, or 100 years ago. You cannot find a hill farm in a 20 miles ride that does not work oxen; and considering that these farms are mostly large and occupied by well educated and intelligent farmers, we may conclude that they cannot be done away with to advantage. In the heavy land farms, where oxen were worked 20 years ago, they are now seldom to be seen, and no doubt such land can be tilled cheaper with horses or steam power. The latter has however only been introduced into this county in a very few places, and I fear cannot be generally brought into use until the timber and hedges are to a great extent removed to enlarge the fields."

The writer of this interesting report refers to steam-power as probably more economical than draught oxen for working clay soils. That it will prove more efficient is unquestionable; and probably drainage will become a more profitable because a more successful operation when the soil shall have been worked in a manner which does not lay an impervious bed between it and the subsoil.

## INSURANCE AGAINST FIRE.

As careful insurance against fire is one of the first duties of a prudent farmer, I think it may be useful to call the attention of the public to the great importance of coming to a clear understanding with the Insurance Companies upon every introduction of a new fireplace upon the insurer's premises—and particularly with respect to fixed and moveable steam threshing machines. I need not say that the use of these engines is almost universal in Scotland and England, and rapidly spreading over Ireland; in my own immediate neighbourhood there are six or seven travelling machines kept for hire. Now the public may not be aware that a policy in the Royal Exchange Insurance Company would be vitiated by the adoption of this, one of the most important of improvements in modern husbandry—I of course refer to the only company with whose regulations on this subject I have been made officially cognisant, but I do think that it becomes every one using steam power to look carefully into the terms of their policies. The facts regarding my own case are simply these:—I have lately put up a small steam engine for the purpose of threshing, &c.; I at once gave notice to the Royal Exchange Company that I had done so, and I received a letter enclosing a plan of the premises insured, with a request that I would mark the place of the engine upon it, and give a description of it, which I did to this effect: That it was in a stone and slated building, with brick floor and brick chimney, and communicating with the barn only by means of a shaft passing through a thick wall; the furnace opening to the outside of the building which contains the engine, and at a distance from either hay or straw—in fact, there could not possibly be a position more carefully selected with a view to safety. I was therefore surprised at receiving from Messrs. Corbett and Armstrong the following letter:—

"Having transmitted to the Royal Exchange Assurance Company your notification of having put up a steam-engine in connection with your out-offices at Hamwood, we are directed in reply to inform you that the Directors invariably decline proposals upon farm buildings and farming stock where steam power is used, and decline granting permission for the use thereof on property already insured," &c.

The remainder of this letter referred to their offer to refund that part of the unexpired policy which affected the offices, and to cancel the policy on farm stock.

I was surprised at this, as the rule seemed to me to strike at the foundation of one of the most important of agricultural improvements; and knowing that almost every farm in Fifeshire or East Lothian had its steam-engine, I walked down to the office of the North British Insurance Company, and found that not only did that Company not refuse to insure, but actually made no addition to the usual premium where either fixed or moveable engines were used. I need not say that I insured my premises at once in that office, and as I look back with not very comfortable feelings to the fact that my having used a hired portable machine would have given the Royal Exchange Company an excuse for depriving me of the advantage they had been for half a century paid to secure, I think it my duty to warn others to make similar inquiries in the offices in which they are insured. *Charles Wm. Hamilton, Hamwood, Nov. 29.*

## ON THE SUPPOSED DETERIORATION OF THE SOIL OF GREAT BRITAIN, THROUGH THE EXHAUSTION OF ITS VEGETABLE MOULD.

A LECTURE DELIVERED BEFORE THE OXFORDSHIRE FARMERS' CLUB, NOV. 11, 1863.

By Charles Daubeny, M.D., F.R.S., Professor of Rural Economy, Oxford.

*Concluded from p.* 1139).

The vegetable matter accumulated by the decay of plants during centuries, and now for the first time exposed to the influence of the oxygen of the air, will of course become so rapidly decomposed, as to promote in an extraordinary manner the growth and development of any crops, which may be brought into contact with the gases so copiously evolved from it, and with the inorganic constituents so plentifully stored up within its substance.

It is in this manner that we may explain the overflowing population existing in many ancient countries, which, in spite of wars, famines, and bad government, are recorded to have sent forth armies so numerous, as to tax the faith of those who contemplate their desolate state and deficient capabilities at the present time. Look, for instance, at modern Palestine, a country not bigger than Wales, and almost equally mountainous, and yet maintaining in ancient times a number of fenced cities, inhabited by the seven different Canaanitish nations which the Israelites exterminated, and afterwards occupied by the ten tribes, who, we are told, at the period of their greatest prosperity under David, numbered 800,000 men fit to bear arms in Israel, and 500,000 in Judah. Surely such a teeming population implies a richer soil than at present exists in this region.

But leaving out of the account these exceptional cases, which can only occur generally in a country at an early stage of its occupation, or in a few peculiarly favoured localities in one long inhabited, I see no reason to suppose that the general average of the produce need, if properly and judiciously cultivated, fall short of that which was obtained from the land in former ages. Liebig, indeed, who, though utterly opposed to the humus theory, takes as gloomy a view of the prospects of agriculture as the advocates of that hypothesis have done, brings forward the case of the Rhine district of Hesse, as showing that the produce has there declined more than one-fifth within the last 15 years; and some expressions in his book respecting England might lead us to infer that he extends the same remark to this country.

This however, as he assures me in a letter, is a misunderstanding of his meaning; what he really asserted being, not that Great Britain had diminished in its produce, but only in its natural fertility, that is, the quantity which it would produce if unaided by foreign auxiliaries. Indeed it must be admitted that the idea of an actual falling off of our produce is opposed both to fact and probability—to fact, inasmuch as we have evidence from several quarters of a real increase in the produce of land under tillage during the last half century; by probability, as the increase of rents and of wages which has taken place within the same period, evidently points in the same direction.

Professor Voelcker has given a few statements in support of the former proposition in a lecture delivered before the Royal Institution in May last. Thus in the parish of Oxnead, western part of Norfolk, the Wheat crop amounted in 1773 to 15 bushels per acre; 1784, 23 do.; 1798, 28 do.; average, 26 bushels. Whereas it now produces from 32 to 36 bushels.

Holkham, Norfolk: in 1800, 24 bushels; average at present, 36 do.

Waterden, near Wells, Norfolk: 1800, average crop 24 bushels per acre; at present, 36 do.

Wymondham, near Norwich: 1800, average crop, 20 bushels; 1860, average crop, 32 do.

Mr. Hudson, of Castle Acre, states that the average Wheat crop round Lynn in 1800 was 20 bushels, whereas it is now from 32 to 36.

Nor is it necessary for Liebig's argument to be able to show that a general deterioration in the produce of the country has as yet actually taken place.

Indeed it would be wonderful if with our extended commerce and unbounded capital the evil tendency of an erroneous system were not often counteracted, and in some degree neutralised.

It is sufficient for our purpose, if we are able to show that where there has been an augmentation of produce, the improvement is attributable to expedients which, from their very nature, are temporary and precarious, and where there has been a falling off, the deterioration has arisen from causes which are capable of removal.

For, in the first place, it must be evident that the only sound and rational system of husbandry, the only one destined for perpetuity, and capable of maintaining itself under all the vicissitudes to which a country is exposed, is one which draws its resources from itself, and not from without.

Such is that which the Chinese and the Japanese appear to have adopted, and which has preserved their vast territory in a state of exuberant fertility, from a period long antecedent to that which witnessed the prosperity of those classical regions, now reduced to

barrenness, as some will have it, through the exhaustion of their vegetable mould.

In the case of the above two nations the processes of farming are simplified by the very sparing use which is made of animal food, so that little or no stock is kept, and human excrement is almost the only kind which is available as a top-dressing to their land.

Now as these must consist of the very materials which had been removed from the land by the preceding crops, it is evident that by taking advantage of every particle of dung which the town populations afford, in addition to the contents of their own privies, the farmers may be enabled to keep up the land for an indefinite period to the same high standard of fertility as that which it enjoyed when first cultivated. It is a significant fact, that with them the volatile or azotised portion of the manure is little thought of, for the dung-heap is left exposed to the sun and air, until it becomes desiccated, and all its animal matter is destroyed. It is a part of their system to add manure every year, but fallow crops are never intercalated with cereals, as with us.

A recent writer on Japanese Agriculture remarks, that the Empire of Japan covers an area about equal to Great Britain and Ireland, and that owing to the hilly nature of the ground, not more than one-half is fitted for tillage. Nevertheless its population, which is greater than that of the British Islands, is maintained exclusively by the produce of their own land, whereas Great Britain annually imports corn from other countries to the extent of many millions. Now this fact alone is sufficient to falsify those theories which attribute the falling off of our crops to the exhaustion of the natural humus.

Were there any truth in such a notion, the long continued tillage which the ground has undergone in these countries, and the reduction of the whole region, so many centuries ago, to an artificial condition, by the removal of the primeval forests, and by bringing the whole land under the dominion of man, must have afforded warnings significant enough, that the earth was approaching its dissolution.

Nor is it at all surprising, if this decline of fertility should have been perceived in other regions.

In many indeed far more pains have been bestowed in getting rid of these excrementitious matters than in preserving them, and the fable of Hercules cleansing the Augean stable by forcing the waters of a river through it, is a type of what is often done in the backwoods of America, and in certain of the more fertile portions of Russia, even at the present day.

In such cases there is no need to attribute the decay of fertility to the exhaustion of vegetable mould by culture, since the removal from the soil of the inorganic matters taken up by a number of successive crops, sufficiently explains the impoverishment which it has experienced.

But in countries somewhat more advanced, various expedients are resorted to with greater or less success, in order to bring back the land to its original state of productiveness.

In thinly peopled regions indeed, where an abundance of unclaimed territory exists, upon which to fall back, it has been found most easy to abandon the old and exhausted land, and to resort to new, so that the system of fallowing, which has held its ground in most nations till a recent period, is in fact an expedient borrowed from the practice which the early settlers in every country have been accustomed to adopt, of abandoning the land which did not of its own accord yield them sufficient returns.

The injurious consequences of this system of draining the natural resources of the soil, without attempting to restore them, are shown in the gradual diminution of produce which has taken place in the six Southern States of the American Confederacy, where the number of bushels of Wheat grown in 1840 was 2,014,111, whereas in 1850 it had sunk to 1,053,192 bushels; and when that of Potatos, of which in 1840 35,207,500 bushels had been grown, not more than 19,418,100 were obtained from the same tract in 1850. Indeed, we in Europe are obliged to look for our supply of corn, not to the surplus produce of the Eastern States, but to the vast prairie lands of Illinois and Michigan, where the original fertility of the soil has not yet been sensibly reduced by continued cropping. This has been the cause of the wonderfully rapid rise of the Port of Chicago on Lake Erie, the great emporium of the Corn trade of the Western States of America.

But there can be no doubt, that here also the same effects will ensue, and that in a few years the land will sink to the same condition as that in the older settlements, not indeed reduced to sterility, through the exhaustion of its vegetable mould, but requiring that aid from tillage and manure which is found in other cases indispensable.

In more thickly peopled regions, two methods are resorted to for the purpose of restoring to the land a portion at least of its original fertility.

The first of these is carried on by the operations of ploughing, harrowing, &c., by which we set free a portion of these ingredients which exist so locked up in the soil, as not to be available for the uses of the plant.

For it must be recollected, that there are few soils so sterile, and few rocks so destitute in themselves of fertilising ingredients, as not to contain enough for almost any number of successive crops, so that the only reason why they require to be stirred up and pulverised by the labour of the husbandman is, that only a very small portion, derived chiefly from the surface, is naturally in a condition to be absorbed by the roots of plants.

Accordingly in some cases, as in the well-known one at Lois Weedon, in Northamptonshire, a long series of abundant Wheat crops has been obtained without any manure at all, simply by allowing one half of the ground under cultivation to remain fallow every alternate year, after having been broken and stirred up effectually by the spade.

But experience appears to have shown, that on lands in general no expenditure of labour, that can be regarded remunerative, will avail to bring into an available condition for the purposes of the plant a sufficient quantity of the dormant ingredients of the soil, to supply materials for an abundant harvest.

Hence, under the operation of mere tillage, land would become gradually less and less productive until it failed at length altogether to yield a profitable return.

The elements of fertility indeed exist, and will by slow degrees be brought into an available condition, but not rapidly enough to meet the wants of the husbandman, who, although informed by the chemist, that he has a store of wealth under his feet which is, practically speaking, inexhaustible, soon finds by experience, that the greater part of it lies beyond his reach, and is therefore to him as though it did not exist. Were he therefore to rely upon this dormant capital, he would find himself in the condition of a landholder, who should have inherited a mine of some precious material, but one which could only be extracted by a slow, laborious, and expensive process.

His frugal ancestors indeed, having laid by the profits of the ore, which during a long succession of years they had dug out, and having handed down from father to son their joint acquisitions, would have secured to the present proprietor the enjoyment of wealth, had he only put out to interest the capital that had descended to him, and been content to live upon its proceeds.

But if, presuming upon the fact that a vast and unlimited amount of ore not yet worked out still lay dormant in the rock, he chose to squander away the accumulation of ages, he would be sure to find to his cost, that what he could extract by dint of labour from the earth, left him after all but a scanty subsistence, and perhaps even one, which, as we are told by Sir W. Armstrong, will one day be the case with our coal, may have become, in consequence of the increasing depth from which it could alone be obtained, virtually inaccessible.

And such would be the case with the British landholder, were it not, that our extended commerce and vast capital enable us for a time to replace in a great degree by artificial substitutes the valuable materials which are so recklessly squandered.

### RESTORATION OF FERTILITY.

And this leads me to the second branch of the subject, namely the means of restoring the materials consumed by preceding crops through the aid of manures.

The soundest and most efficacious method of effecting this object is the one already alluded to as in use from time immemorial in China and Japan, where human excrements are employed almost exclusively for the purpose of replacing what had been removed by the crops which afford subsistence to man.

In most other countries, in lieu of this, the most unfailing recipe, various artificial substitutes have been resorted to, and especially some form of phosphate of lime, that being the mineral substance which enters most largely into the constitution of our crops in general.

As I am lecturing to practical farmers, I will not dwell upon the various sources from which this important article is derived, whether from the bones of animals or from the recesses of the earth; suffice it to say, that although oxen and other cattle are slaughtered in vast numbers on the Pampas of Peru, often for no other purposes than for the sake of their bones and tallow, the demand for the former has of late years so greatly exceeded the supply, that various mineral substitutes have been proposed for furnishing the same ingredient.

One of these, a mineral deposit in Spanish Estremadura, of considerable extent, and consisting mainly of phosphate of lime in a state of great purity, I explored myself in 1843, at the request of the Royal Agricultural Society, and I am happy now to find, that the impediment to its introduction, namely the difficulty of transport to the nearest sea-port, which precluded its use at the time of my visit, has been now removed, by the construction of a railroad intended to connect Lisbon and Madrid, which passes near the spot where the bed occurs.

You will see on the table specimens of all the various mineral phosphates that I have been able to collect, many of which are doubtless familiar to you, as they are derived from rocks in this country, especially those near Ipswich, near Cambridge, and about Farnham in Hampshire.

But as phosphate of lime alone is insufficient to maintain the fertility of land unimpaired for any length of time, resort has lately been had to guano, which, besides phosphoric acid, contains other fertilising ingredients.

Of this 2,837,365 tons have been exported into Europe within seven years,* and as one example of the advantage derived from its use it may be stated that experiments made in six places of the kingdom of Saxony showed, that each cwt. put upon the ground produced 150 lbs. of Wheat, 400 lbs. of Potatos, and 200 lbs. of Clover more than the same sized farm yielded without it.

Now the superior efficacy of guano can hardly be explained from its analysis alone, for by referring to the following table, which is given on the authority of Liebig, it will be seen, that in addition to phosphoric acid it contains only from $1\frac{1}{2}$ to 2 per cent. of potass, and from 2 to $2\frac{1}{2}$ of magnesia.

Constituents of 100 Parts of the Ash.

| | Guano. | Wheat. | Peas and Beans. | Rape. |
|---|---|---|---|---|
| Potass .. .. | 1.5 to 2 | 30 | 40 | 24 |
| Lime .. .. | 34 to 37 | 4 | 6 | 10 |
| Magnesia .. .. | 2.5 to 2.0 | 12 | 6 | 10 |
| Phosphoric acid .. | 41 to 40 | 45 | 36 | 36 |

Now these quantities are so small, that Liebig is inclined to attribute the superiority of guano over simple phosphate of lime to the ammoniacal salts it contains. Yet it is found that the addition of ammonia to bones does not render it equally efficacious, and hence Liebig looks to the oxalic acid present in guano as contributing to its beneficial action; for this acid, if assisted with moisture, unites with the lime, and sets free the phosphoric acid, which, combining with the ammonia, forms a salt, affording from its easy solubility a ready supply of nutriment to plants.

But even guano after a time loses its efficacy, and this may be explained by comparing its composition with that usually given of the inorganic constituents of the seeds cultivated for food, for whilst, for example, Wheat yields an ash containing 30 per cent. of potass and 12 of magnesia to 45 of phosphoric acid; Peas and Beans, 40, and Rape, 24 of potass to 36 of phosphoric acid; guano, as we have seen, furnishes only $1\frac{1}{2}$ to 2 per cent. of potass, and 2 of magnesia, to about an equal amount of this same acid.

So soon therefore, as the available potass or magnesia present in the soil becomes expended, the phosphoric element of the guano will cease to contribute to the growth of the plants submitted to its influence.

Even guano therefore is, after all, an imperfect substitute for those excrementitious matters, which experience led the farmer to apply to his land, long before the reason of their efficacy was discovered.

The excrements of his cattle, mixed with the straw and other refuse of the crops he cultivates, are used under the name of farmyard manures, and are regarded in all countries amongst the most valuable as well as the most accessible kinds of manure which can be applied to land.

But they are inadequate to fulfil their appointed office, both in quantity and in quality; in quantity, because they represent merely the inorganic constituents of the food which the cattle have consumed, and consequently do not replace the loss occasioned by the sale of corn, legumes, and live stock off the property; in quality, because as the dung of cattle is derived from the hay, Clover, Turnips, &c., which they feed upon; and as these contain a larger proportion of the ingredients required for the straw of the cereals than for their grain, it follows that whilst the former is augmented, the latter will suffer both relatively and absolutely; relatively, because the straw will be developed more than the grain; absolutely, because the increase in the straw draws off a larger quantity of those ingredients, which the grain afterwards produced requires for coming to maturity.

The system of intercalating fallow crops serves indeed for a time to prevent our perceiving the deterioration which the land has undergone, because these draw their supply of nourishment from a deeper stratum, and thereby bring up to the surface a fresh supply of nutritive matter, which, after passing through the system of the cattle which feed upon them, is distributed over the surface soil in the form of stable or farmyard manure. But this resource will at length come to an end by the exhaustion of the subsoil from which the new supply is drawn, as the failure of the Clover and other crops alone is sufficient to evince.

We arrive then at length at the conclusion, which the oldest nations on the globe, namely the Chinese and Japanese, have recognised practically from time immemorial, namely, that the only method of maintaining our land for an indefinite period in a condition of undiminished fertility, is by availing ourselves of the excrementitious matters not only of cattle but also of man, and in taking advantage of the latter by not allowing that derived either from the country or the town population to run to waste. In a perfect system of farming, it is evident that care would be taken to restore to the land all that had been withdrawn from it, except that small proportion which had been appropriated by the increasing population of

* Mr. Markham, in his "Travels in Peru," states that the Chincha Islands in the Bay of Peru contained, in 1853, 12,376,100 tons of guano, of which 2,837,365 tons had been exported up to the year 1861. In that year as many as 433 vessels, with a tonnage of 348,554 tons, had loaded in the Chincha Islands; so that at that rate the store of guano in those Islands will not last more than 23 years, or beyond the year 1883.

the country, or was contained in the solid portions of those individuals who had been interred in their cemeteries; and even the latter would no doubt after a certain lapse of years be rendered back to the soil from which they were derived.

In the state of things thus supposed we might even anticipate an increase of fertility the longer the ground remained under cultivation, because every arable soil contains a large amount of phosphoric acid, of alkalies, and of earths in a condition not available at one time to the plant, which however by degrees, through the action of air and water, is rendered soluble; so that in a field under constant tillage more and more of its inorganic ingredients will be rendered fitted for agricultural purposes. Nor under these circumstances will it so much matter, whether the manures have retained their ammonia, as every soil absorbs from the rainwater or from the atmosphere more of this ingredient than is required for any ordinary crop.

We perceive, therefore, the theoretical correctness of the principle upon which Liebig proceeded in proposing a set of mineral manures adapted to each particular crop, as being calculated to supply the waste of nutritive matters occasioned, by restoring them in a proportion as nearly as possible corresponding with that in which they had been withdrawn. Their failure, which is not now disputed even by their inventor, arose from the reduction of the ingredients of which they were composed into a condition in which the roots of plants were incapable of absorbing them. Fearing lest the alkaline matters should be washed away by the rain before they could be assimilated, Liebig directed that the materials should be fused together in a reverberating furnace, supposing that in that state they would, when spread over the soil, become gradually dissolved in water, and thus in a liquid state be applied to the absorbing surfaces of the plant.

But it has since been rendered extremely probable by the important researches of Professor Way, that roots chiefly derive their nutritive matters from what is held by the soil in a solid condition. Way observed, that soils possess the power of absorbing from aqueous solutions of saline matters, sometimes the whole, sometimes the base only of the dissolved salt, and that in the latter case the acid of the salt from which the soil had withdrawn the base, passed through it in combination with lime. This power of arresting either the whole or a portion of the saline ingredients circulating through the soil in a state of solution in water, Liebig ascribes to the attraction exerted by the surfaces of the earthy matter for these ingredients, and he is of opinion, that whilst this attraction is powerful enough to prevent in great measure the nutritive matters from being carried off by the water which percolates the soil, it does not hinder the roots from absorbing what they are brought into contact with, and thus is no obstacle to their becoming subservient to the nutrition of the plant.

It is therefore only by the combined action of the moisture present, and of the absorbing surfaces of the roots, that the minute quantities of potass, phosphate of lime, and other fertilising materials, which are attached to the surfaces of the soil, can be rendered soluble, so as to find access to the growing plant.

But where, as in Liebig's manures, the ingredients were all fused into a mass, it became impossible for these combined agencies to overcome the attraction which bound them together, with sufficient readiness at least to render them available for the uses of the plant.

The above considerations may perhaps furnish an answer to an objection, which I dare say many of you may be disposed to make to my position, that even guano, if applied year after year to the same soil, will in the end bring about its impoverishment.

If, it may be said, this arises from the deficiency of potass and of magnesia, why not supply these ingredients in the proportions in which they will be required, and thus prevent the soil from being exhausted of any one of the elements of its fertility.

Now without entering upon the question, whether the requisite quantity of pearl-ash, or of a soluble salt of magnesia could be obtained at a price for which the farmer would be indemnified by the increase occasioned in his crop, I may remind you, that in order that these ingredients should be serviceable, they must be applied in such a form and in such quantities, as to be present everywhere throughout the substance of the soil, and to be there fixed in a state of chemical or physical adhesion so intimate, as to resist, to a certain extent at least, the action of the weather.

The farmer, therefore, who should add only that quantity of potash or of magnesia which would be required by the crop that he hoped to raise, would be grossly disappointed in his calculations; first, because in the state in which these ingredients were administered, a large porportion of each would be dissolved and carried into the subsoil by the rain; secondly, because what remained for the plant to take up must be so distributed, as that the spongioles of each root should find in contact with them that amount which the plant itself requires for its healthy development.

This of course implies, that a much larger proportion of them should be introduced than would be required by the crop grown.

One difficulty moreover in the administration of such substances as manures, arises from their too ready olubility, which requires to be counteracted by combining them with some substance which should render it more difficult for water to take them up, and in the attempt to do this, we are apt to fall into the opposite extreme, and, as Liebig had done in his original mineral manure, to render the material unfitted for the roots to act upon, or rather brought into a condition, which incapacitates them for their ready diffusion through the soil in those minute quantities which allow the roots to absorb them.

The failure of Liebig's mineral composts, whilst it reads us an useful lesson as to the danger of calculating upon the apparently soundest *à priori* conclusions in their application to practice, may also suggest a caution to those, who, presuming upon their present ability to obtain artificial manures at prices low enough to be remunerative, carry on a system of high farming without considering its ultimate consequences upon the fertility of the soil.

A large proportion of the ingredients which analysis shows to be present in the earth, are, as has been already pointed out, in the condition of those existing in Liebig's manures, namely, locked up by so close an affinity as to require a long period of time to render them soluble.

Hence if by the application of phosphates, guano, &c., or still more by the addition of nitrogenous substances, we succeed in extracting from the soil for a series of years an abundant return, we are exhausting in the same proportion the supply of those ingredients which the manures employed do not contain, and thereby bringing on a period of sterility.

And although a single district or nation may avert this catastrophe, by procuring from foreign lands the ingredients wanting to make good the deficiency, and to restore the balance, yet if the general system of European culture proceed, as appears to be the case at present, on this mistaken principle, it is much to be feared that the supply will not equal the demand, and consequently the prices of the article required run too high to be remunerative.

With reference to this and other allied subjects, I would strongly recommend to my audience the perusal of the latter part of the Report of the Jury on Chemical Products and Processes exhibited at the late International Exhibition, which has been drawn up by that distinguished chemist Professor Hofmann.

In this report they will see the rival claims of Baron Liebig, and of our own experimental agriculturists, Messrs. Lawes and Gilbert, fairly and clearly discussed; and whilst the services rendered to practical farming by the laborious researches of the latter are candidly stated, due credit is paid to the philosophical views contained in the new work of Baron Liebig, entitled "The Natural Laws of Husbandry," which cannot fail in the long run to exert a wide-spreading influence over the principles of farming.

And I am much mistaken, if the censures which the author has passed upon the system now so prevalent in this country in disposing of our sewage, although perhaps couched in too vehement terms of invective, will not eventually be acquiesced in as in the main correct. Whatever opinion may prevail as to the power of a great commercial and wealthy nation to replace by artificial substitutes the loss sustained by the waste of its town sewage (and it must be recollected, that the question is not whether the loss can be replaced, but whether the substitutes can long continue to be obtained at prices which will be remunerative), no doubt can be entertained as to the value of the material itself, which in consequence of the existing arrangements is so recklessly squandered.

In a few cities indeed, as is notoriously the case in that in which this Lecture is delivered, the very end for the sake of which the loss of our sewage is in other cases submitted to, namely, the prevention of epidemics, and the preservation of the health of the community, is altogether overlooked.

In most other towns, the accumulated filth is carried off from the vicinity, and if lost to the community, is at least rendered innocuous.

But in Oxford a large portion of the sewage is made to empty itself into the bed of a river, often nearly destitute of water, under the most public of its thoroughfares, and in close contiguity to many of its dwelling houses and some of its collegiate buildings.

I do not know that any so flagrant a case of mismanagement as this can elsewhere be cited, but in very many of our large towns the sanitary object is consulted without regard to the economical one, and the only aim appears to be that of the getting rid of the nuisance with the least danger to the health of the community.

For this purpose a system of dilution has been adopted, which, though it facilitates the removal of the excrementitious matters from the vicinity of the town, limits their application as a manure to those crops which admit of irrigation throughout the year, and precludes their employment as a top-dressing generally to cereals.

Dr. Hofmann, indeed, in his Report, is sanguine enough to anticipate the period when a system of pipes will be carried along the whole length and breadth of cultivable land in the country, co-extensive with those which now convey the sewerage away from the town population.

But if this scheme should, from its gigantic proportions, be regarded as inapplicable to the generality of the estates in this country, it may still be found feasible to devise some method of deodorising and rendering inoffensive the sewage matter itself, so as to render possible a return to the old plan of cesspools now in use in most continental cities; although I fear it must be admitted to be one, which under its existing arrangements is not sufficiently free from those objections of annoyance to the senses, and of injury to the health, which have caused it to be superseded in this country. Nevertheless, I have lately seen at Coventry a plan adopted, which seems to fulfil those conditions both of health and of economy, which ought to be jointly aimed at; the sewage being removed in pipes to a proper distance from the town, where it becomes deodorised by admixture with the road sweepings, &c., and then retained in tanks for a time long enough to admit of the deposition of the greater part of its solid matter, after which the liquid portion, deprived of all smell, and nearly in a limpid condition, is allowed to discharge itself into an adjoining river.

So useful is this semi-solid matter found to be in agriculture, so large is the demand for it amongst the neighbouring farmers, that the expense of the management is stated to be repaid by the profits obtained from the sale of the proceeds.

I fear that some portion of the preceding remarks will appear to my audience scarcely to have a practical bearing, for so long as artificial substitutes for the sewerage can be obtained in this country at prices which admit of their being employed with profit, it is hardly to be expected that individuals, from considerations of public utility, will take the trouble of reverting to other expedients, which may have been shown in theory to be better calculated to perpetuate that fertility of which they are reaping the present benefit.

Nevertheless, whilst it may not be amiss to suggest to the present generation of farmers, that even at the present time, and with reference to their own personal advantage, it might be expedient to make some use of the means for restoring fertility to our land which Nature herself seems to have provided, it cannot but be important, that with a view to influence public opinion, every person interested in the well-being of the country should be made aware of the fact, that a time is likely to arrive, when the present system of manures, so far as it is dependent on artificial substitutes, will require to be abandoned; in order that arrangements may be made in anticipation of that period for utilising the treasures now allowed to run to waste, and thus for preparing ourselves to meet the exigencies that are likely to arise; just as at a period of profound peace it is found prudent to prepare the fortifications, and provide the armaments, which would be necessary for maintaining our maritime ascendancy in the event of a future war.

## OILCAKE FEEDING.

I HAVE been a great deal amused and somewhat astonished at the hubbub created by my remarks in Cumberland about oilcake feeding. As I am particular in my facts, I will repeat clearly my statement, and then endeavour to convince my brother agriculturists that they ought not to be astonished at those statements, because if they are, it proves to me that they do not understand so well as the Norfolk and Lincolnshire farmers the cheapest and most effective mode of maintaining or increasing the fertility of their soils. I can easily imagine that the thousands of farmers whose animals seldom or ever see cake must regard with astonishment the facts I shall lay before them; but I trust that they will derive from these facts a determination, so far as their capital will permit, to go and do likewise—to hold less land and put more into it. But let us look at it as a manuring question, and we need no longer doubt the wisdom of our Norfolk and Lincoln friends. Are my brother farmers aware that many good practical men manure their land with cake (Rape and other sorts), ploughing in 10 to 12 cwt. per acre? Now, there is a great maxim that every farmer should remember, that every vegetable production pays better to feed than to plough in. This holds good from a field of green Rape or roots to a sack of Barley or a ton of cake. The reason is obvious. The fattening animals take very little from the food, and that little, when converted into meat, sells at 7*d.* per lb., or about 65*l.* per ton, although its elements are really not intrinsically more valuable than the cake at 10*l.* per ton (see chemical analysis: flesh contains 77 per cent. of water—cake only 7 per cent.) When I hear a man complaining of loss by farming, I ask him, "How much is your gross produce per acre?" and if I find it small, I at once understand the cause of his complaining. I except, of course, adverse seasons, of which we have lately had three, during which much capital has been lost by farmers. Speaking however of the average of seasons, a small gross return in produce indicates unprofitable farming. The gross produce of the kingdom is stated by Lavergne and other authorities to be only 3*l.* 12*s.* per acre, or about 3½ rents; and I have now before me a balance sheet of a large farm, which last year (1862) did not produce 3*l.* per acre, and which showed a considerable loss. However poor the farm may be naturally, the gross produce ought to be made 7*l.* per acre, and if much purchased food is used, even up to 11*l.* to 12*l.* per acre. It is easy to understand that the fixed per centage of charges for rent, tithe, labour and horse labour is considerably diminished by a large return. The Norfolk, Lincoln,

and other good farmers understand this well, and "go in" for large meat-making and manure-making, by purchasing and consuming food brought on the farm, to restore the fertility taken away in the Wheat and Barley crops sold. This is what makes Norfolk and Lincolnshire the meat and bread-makers for London. The Smithfield returns confirm this. Well, then, having said so much, I will go to the point upon which I was so snubbed by Professor Voelcker and others at the last meeting of the Central Farmers' Club. First, let me say that the farmers with whom I occasionally associate in these districts are "practical men," living by their business, and, I may safely say, knowing well what they are about. A few years ago my friend, Mr. John Hudson, of Castle Acre, West Norfolk, was driving me from Lynn to his house, and I saw in the road 35 great 5-year old Devons, as fat as many we see in the show at Christmas. I said, "What extraordinary bullocks!" This was in July. "Well," he said, "these are mine; but I did not intend that you should see them until to-morrow." I said, "How are you feeding them?" He replied, "They were working bullocks, and after they had put in my 300 acres of Barley, I began with 5 lb. of Linseed-cake a day, and gradually increased their allowance; they are now eating 20 lb. of cake a day." I said, "What do they have besides?" "Well," he said, "what they like on the pasture and in the yards, but they won't eat a great deal beside the cake."

Last year, in a company of farmers, I asked, "How is friend Hudson feeding his animals?" The answer was, "He has some great Short-horns; they get 22 lb. of cake a day, half a peck of Bean-meal, and what hay and Turnips they like to eat." A farmer present (Mr. Fuller) said, "I once fed a lot of great Lincoln beasts on cake and straw; they actually at last ate 28 lbs. of cake each per day." Discussing, on the same occasion, the quantity of stock made per acre, Mr. Leeds, one of the company, was pointed out as one of the greatest meat-makers in Norfolk; and on inquiry I found that he purchased, on a farm of 1200 acres, from 250 to 350 tons of Linseed cake per annum, probably at a cost of 2500*l.* to 3500*l.* per annum. "Sometimes," he said, "I lose, and sometimes I gain by it; but the corn crops always feel the effect of it." Again, Mr. Hudson told me that during his long tenure (25 to 30 years) of a farm of 1200 acres, he had expended 70,000*l.* in cake, and 50,000*l.* in artificial manures; and, as he jocularly said to his landlord, "The top or ploughed soil is mine; I made it; the subsoil belongs to your lordship." Now, sir, these wise and successful men know quite well that small crops on land naturally poor and thin won't pay, and they go in for cramming it, and forcing from it great corn crops. I remember once, in a favourable season, seeing on Mr. Hudson's farm 8 Wheat stacks from a 40-acre field—the produce 8½ quarters per acre. This came of stuffing, and the loss on the cake was made up by the increase in the corn. On the ordinary "bread and cheese and no cake" principle, the natural crop of that thin soil would probably have been 4 quarters per acre. These farmers don't trouble themselves about the animal's digestion; they want the cake in the land, and they know that it is more profitable to pass it through the animal than to plough it direct into the soil. People who jeer about 20 lbs. of cake a day never tried what an animal will eat. It is no uncommon thing for my fat sheep on Clover to eat 2 lbs. of cake per day, which is equal to 16 lbs. or 18 lbs. for a bullock. Of course they must have water to drink. I know of a case in my own county where a cow, having got access during the night to the oil-cake bin, ate 55 cakes, or more than 112 lbs. My friend was alarmed for the cow, but she carried it off very comfortably. There is no mistake about it; many a poor farm that is now unprofitable might be rendered remunerative by the abundant consumption of cake. I know a case where half a field of Rape was folded with sheep eating cake, and the other half with sheep eating corn, of the same cost. The cake side, in the following Barley, produced 2 quarters per acre more than the corn-fed side. This was not far from my farm. Therefore don't let my "uncaked" farming friends laugh at me any more about my Cumberland speeches, but rather "go and do likewise," and so improve the condition of their breeches pockets. Many farmers are not aware that when they have given to their bullock 3 bushels of roots, weighing 150 lbs., he has had only 15 lbs. of dry food mixed with 13¼ gallons of cold water—very cold indeed in severe weather. This 15 lbs. of dry food is poor in nutritive and manurial matter, compared with oilcake, for it contains a large quantity of woody fibre (see comparative analysis); therefore, if I give my animal 15 lbs. of good cake (which, remember, is a cooked and well-prepared substance), I have afforded it a much better dinner than the Turnip meal, and the manure resulting from the cake is much richer and more forcing, and will show a larger return in the corn crop, or any other to which it may be applied. Of course the cake-fed animal would, like the Turnip-fed, have access to straw, and would also have water, of which I will promise you he will drink less than 13¼ gallons in cold weather.

We all farm too much land, and so complain of want of capital. Experience teaches me that our cultivation is too shallow, our manure too little, and our produce too small. No man ever ruined his root and green crops by filling the land to the depth of 2 feet with good manure. When I once told my farming friends that Mr. Bagley, of Fulham, grew 70 tons of Mangel per acre, and sold them at 20*s.* per ton to Mr. Rhodes, the cowkeeper, there was a shout of laughter, and something said about a "crammer;" but market gardeners, who cultivate four times as deep, and manure four times as heavily as ordinary farmers, look upon such a crop as nothing extraordinary. Depend upon it, England is not half farmed; and we must give up a good many of our old prejudices, both as landlords and tenants, before we make farming more profitable. Our tillage is miserably shallow—not deeper than a common wine glass. My practice and advice is:—"Break up your land very deep in dry weather. Do not bring the bad soil to the top, but let one plough follow under the other, and put on plenty of manure, and so grow as many roots and as much corn on 1 acre as you would by ordinary cultivation on 2 acres." This is my advice, but being "gratis," I fear it may not be sufficiently appreciated. *J. J. Mechi, Tiptree Hall, November*, 1863.

P.S.—I find on making up my live stock account annually that, after paying from 500*l.* to 700*l.* for purchased food, I get from 5*l.* to 6*l.* per acre for my green and root crops. The sewage irrigation helps me on my Italian Rye-grass, and my stock consume (cut up and steamed) all my Bean straw, and much of my grain straw. I have reason to believe that this is a more favourable result than is generally obtained where much purchased food is used. Since writing the foregoing, a neighbour, who farms 230 acres of very heavy land undrained, has just called and says he loses 400*l.* this year. On my asking him as to his live stock, he says he has 4 cows and 10 pigs. How can corn be grown without manure? On my own farm, which is only 170 acres, I have nearly 70 head of bullock, cow, and calf stock, and 100 sheep, besides pigs. Unfortunately I know of endless cases similar to my neighbour's. I have just returned from Cambridgeshire, and find the best farmers there using great quantities of cake and meal in feeding.

## Home Correspondence.

*Price of Bacon.* — Reading an article in the *Gardeners' Chronicle* to-day, on pig feeding, it struck me whether you would be interested in having a statistical account of the price of pigs slaughtered at one place for the last 32 years. Sixteen years under a high protecting duty on bacon, and 16 since free from any duty. It appears at first sight almost incredible, but I can vouch for its correctness, having every item before me, as I have entered it from year to year as it has taken place, and I give it you just as entered. *Isaac Hillier, Newmarket, near Stroud, Nov. 26.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1831 | price | 7*s.* | 2*d.* | per score | 1839 | price | 8*s.* | 1½*d.* | per score |
| 1832 | ,, | 7 | 4½ | ,, | 1840 | ,, | 8 | 4½ | ,, |
| 1833 | ,, | 6 | 8¾ | ,, | 1841 | ,, | 8 | 10½ | ,, |
| 1834 | ,, | 5 | 11 | ,, | 1842 | ,, | 7 | 6¼ | ,, |
| 1835 | ,, | 5 | 7 | ,, | 1843 | ,, | 5 | 10½ | ,, |
| 1836 | ,, | 7 | 9 | ,, | 1844 | ,, | 7 | 4 | ,, |
| 1837 | ,, | 8 | 1 | ,, | 1845 | ,, | 7 | 9½ | ,, |
| 1838 | ,, | 7 | 10 | ,, | 1846 | ,, | 8 | 6½ | ,, |

The average price for the 16 years ending 1846, 7*s.* 5*d.* In 1847 3*d.* per lb. duty was taken off bacon, and the following are the prices of pigs since:—

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1847 | price | 10*s.* | 10*d.* | per score | 1855 | price | 10*s.* | 1*d.* | per score |
| 1848 | ,, | 10 | 1 | ,, | 1856 | ,, | 10 | 8¼ | ,, |
| 1849 | ,, | 8 | 3½ | ,, | 1857 | ,, | 10 | 9½ | ,, |
| 1850 | ,, | 7 | 3 | ,, | 1858 | ,, | 8 | 8 | ,, |
| 1851 | ,, | 7 | 6 | ,, | 1859 | ,, | 8 | 11½ | ,, |
| 1852 | ,, | 7 | 8½ | ,, | 1860 | ,, | 10 | 9 | ,, |
| 1853 | ,, | 9 | 6 | ,, | 1861 | ,, | 10 | 8 | ,, |
| 1854 | ,, | 10 | 2½ | ,, | 1862 | ,, | 9 | 8 | ,, |

The average price for the 16 years, 9*s.* 6*d.* per score.

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

Monthly Council: *Wednesday, Dec. 2.*—Present, Lord Feversham, President, in the Chair. Lord Chesham, Major-General the Hon. A. N. Hood, Mr. Acland, Mr. Raymond Barker, Mr. Bowly, Mr. Barthropp, Mr. Bramston, M.P.; Colonel Challoner, Mr. Dent, M.P.; Mr. Druce, Mr. Exall, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Hoskyns, Mr. Holland, M.P., Mr. Jonas, Mr. Lawes, Mr. Pain, Mr. Randell, Mr. Shuttleworth, Mr. Thompson, M.P.; Mr. Torr, Mr. Wells, Mr. Frere, Professor Simonds, and Dr. Voelcker. The following New Members were elected:—

Boby, Robert, Bury St. Edmunds
Bowstead, Thomas, Eden Hall, Penrith
Champney, Felix, Gatwick, Crawley, Sussex
Duval, Fernand R., The Chateau de Marolles, Indre et Loire, France
Eddowes, Thos. Henry, Pontesbury, Salop
Freeman, Thomas, 27, Millbank Street, London, S.W.
Gilbert, Robert, jun., Ashby Hall, Bergh Apton, Norfolk
Henderson, John, Horsley Hill, South Shields
Honywood, Frances Emma, Marks Hall, Kelvedon
Horncastle, Edwin, Edwinstowe, Ollerton, Notts
Mynors, Robert, Weather Oak, Alvechurch, Worcestershire
Nicholson, James, Blencairn Hall, Penrith
Riddell, Henry P. A. Buchanan, Maidstone
Rodgett, Miles, West Cliffe, Preston, Lancashire
Smith, William Arthur, Colebrooke Park, Tunbridge
Tate, John, Bilton, Alnwick
Trethewy, Alfred Hugh, Blickling, Aylesham, Norfolk
Waddilove, G., M.D., Brunton, Hexham
Wall, Geo. Young, Jun., 39, North Bailey, Durham
Waller, John Anthony, Brinkburn House, South Shields
Wallis, Robert, Old Ridley, Stocksfield, Northumberland
Wing, William, Market Overton, Oakham

Finances.—The Hon. Major-General Hood presented the report, from which it appeared that the Secretary's receipts during the past month had been examined and found correct. The balance in the hands of the bankers on the 30th November was 1599*l.* 9*s.* 11*d.* The Country Meeting account for Worcester was laid on the table. The Committee recommended that the names of 20 members in arrear from various causes be struck off the list of the Society; this report was adopted.

Journal.—Mr. Thompson, M.P., reported that in Class VIII. (1863, Miscellaneous Essays) no prize is awarded, but No. 334 will be published in the Journal by arrangement with the author. *Worcester Local Prizes for Essays.*—When the essays competing for these prizes were sent in, the Journal Committee resolved to appoint one judge for each class on the part of the Society, and to invite the Worcester Local Committee to appoint another. Two applications made to the Worcester Committee with this object have, however, received no reply, and the Journal Committee now propose to appoint a second Judge for each class in the usual manner. This report was received and adopted.

Chemical.—Mr. Wren Hoskyns presented the report, which was ordered by the Council to be referred back to the Chemical Committee to prepare for publication in the Journal.

Veterinary.—Mr. Raymond Barker reported the recommendation of the Committee that, in consequence of the repeated abuse of the privileges of entry, the disqualification of their pigs, and abusive language towards the officers of the Society, John Dyson, of Adelphi Hotel, Dock Street, Leeds, and James Graham, of 1, Blackburn's Buildings, York Road, Leeds, be excluded from exhibiting in future at the shows of this Society. The Committee further recommended that the Stock Committee be requested to frame a resolution for the prevention of future erroneous entries.

General Newcastle. — Colonel Challoner reported that the Committee recommended that the showyard be open on Monday the 18th July, and close on Friday evening the 22d, and that the trials of implements commence on Wednesday, July 13. Maps and plans of the showyard and trial grounds were laid on the table, and the Council unanimously accorded their thanks to Mr. Torr for the time and care he had bestowed on the selection of the fields. The Committee further recommended that Mr. Jacob Wilson be authorised to make such arrangements as may be necessary to secure green food, hay and straw for the purposes of the Show. In consequence of the change and extra quantity of land taken for the trials of implements, it was desirable that 150*l.* be paid to the local Committee. This report was adopted.

The Annual Reports of all the standing committees were presented by the respective Chairmen.

The Standing Committees for 1864, viz.:—Finance Committee, Journal Committee, Chemical Committee, House Committee, Implement Committee, Veterinary Committee, and Stock Prizes Committee, were appointed.

The Council having fixed the General Meeting of the Society for 11 o'clock on Wednesday next, Dec. 9th, adjourned to the first Wednesday in February.

A Special Council was held at the rising of the Monthly Council, for the purpose of receiving the Reports of the Implement and Stock Prizes Committees and of settling the Prize-sheets for the Society's Show at Newcastle-upon-Tyne.

### MIDLAND COUNTIES AGRICULTURAL ASSOCIATION.

Bingley Hall: *Nov. 30.*—Bingley Hall is this year filled with an unusually good collection under almost every division of its manifold December show. The Cattle classes are more numerous than they have ever been before. The Pigs are also above the average number. The Poultry are 1500 strong. The collection of Roots and Grain was never better; and the several firms of agricultural machine manufacturers and seedsmen are well represented.

The *Hereford* classes include 31 animals in the four classes of oxen, steers, cows, and heifers. The best of the lot is a heifer shown by Mr. Groves, of Shrewsbury, girthing 8 feet 4 inches, and 5 feet 4 inches long at 3¼ years old; a remarkably deep, long, wide, well-covered frame, wonderfully good forward, but even and symmetrical throughout. The older oxen are not in any respect remarkable. Mr. Phillips' 1st prize ox is a heavy, somewhat coarse beast, and the 2d prize goes to an animal shown by Mr. W. Heath, with great depth and massiveness, also somewhat coarse; the 3d to the Earl of Shrewsbury. The younger oxen are of more even quality, and have received the general commendation of the judges. Mr. Shirley, of Bawcott, Munslow, who has been often successful at these shows, takes the 1st prize with a straight-backed, symmetrical, evidently well bred and well-coated animal. Mr. Pitt, of Leominster, the breeder of the 1st prize ox, takes the 2d prize for his steer, and the 3d prize goes to Mr. J. Williams, of Kingsland, for a mottle-faced steer, considerably inferior to the other two. The Cows, a small class, include entries by Mr. Pitt, Mr. Draper, and the Hon. General Hood, respectively 1st, 2nd, and 3rd, and two others, one of which certainly was unworthy of a place. The Heifer class of Herefords is worthily "generally commended." It, like the older female class, contains an animal that had tried for a prize at the Worcester Show, and in this

case was disqualified as being excessively fat. She came here when her fault had become a merit, and takes the third prize in the class. The 2d prize animal is shown by Mr. Betteridge of Wantage.

The *Shorthorns* are a noble show. Here, too, the prize of all the classes goes to a heifer, and she is further decorated as the best animal in the Hall. She is certainly a superb specimen of a well-bred well-fatted Short-horn, perfectly cylindrical throughout several feet of her length from the shoulder backward, remarkably fine and firm over the loin, with good flank and thighs, and hardly a weak point about her. She is 8 feet 10 inches round, and 5 feet 5 inches long, at 3 years and 11 months old. She receives the 1st prize in her class, and the prize of 25 guineas as the best Short-horn, the prize of 25 guineas as the best animal in the Cattle Classes, and the Gold Medal as the best Short-horn in the Hall. The class of Oxen includes several noble specimens of the breed; Mr. Baker, of Cottesmore, Mr. Swinnerton, of Nuneaton, and Mr. Thompson, of Anlaby, being 1st, 2d, and 3d, respectively. Mr. Baker's roan ox, rather light behind, particularly good forward, and handling well, girthed 9 feet 1 inch, and is 5 feet 3 inches long. The 2d prize red and white ox beside him, somewhat larger and more massive, is better behind, but coarse in his shoulders. He girths 9 feet 3 inches, and is 5 feet 4 inches long.

In the Steers, the Rev. T. Staniforth, of Windermere, takes the first place with a wonderfully deep and massive animal for so young a beast. He takes Lord Chesterfield's prize for the best ox in the yard, bred and fed by the exhibitor. The 2d prize goes to Mr. Baker, who has won also in the older class, and the 3d goes to the Duke of Beaufort for a very well bred well fed beast, Mr. Thompson, his agent, being commended for one of equal merit. The cows and heifers among Short-horns are very numerous and excellent classes. The 1st prize cow, shown by Mr. Lynn of Stroxton, received the extra prize of 15*l.* offered by Lord Aylesford for the best Short-horn bred by the exhibitor.

The *Devon* classes as usual are not very numerous. They include animals of a larger average size than heretofore. Messrs. Farthing, Heath, and Tucker, all well-known names, are 1st, 2d, and 3d in the older class of oxen. Major-General the Hon. A. N. Hood is first, and ought to have had the third place also in the younger class. It is awarded to Mr. Smith, of Southernhay. The 2d prize goes to Mr. Farthing. Mr. Tucker, Mr. Smith, and General Hood are 1st, 2d, and 3d in the older cow class. The 2d prize animal has an extraordinary development of flesh over the loins. The three heifers shown by Messrs. Smith, Tucker, and Hambro, were respectively 1st, 2d, and 3d in this class.

There is an unusually good show of Long-horns. The cross-bred animals do not include any such wonderful specimens as have in past years been seen, though Messrs. Martin's ox is a very fine beast, both broad and deep. The Scotch classes are particularly well filled. The West Highland class in particular contain a number of very even and handsome animals. Both the Scotch classes are generally commended.

The following are the awards in the Cattle classes:—

HEREFORDS.

OXEN OR STEERS.—1st, 15*l.*, Mr. Joseph Phillips, Ardington, Wantage, Berkshire; 2d, 10*l.*, Mr. William Heath, Ludham Hall, Norwich; 3d, 5*l.*, the Earl of Shrewsbury and Talbot, Brancote. Commended: Mr. Joseph Phillips, Ardington.

STEERS NOT EXCEEDING 3 YEARS AND 3 MONTHS OLD.—1st, 15*l.*, and Silver Medal as breeder, Mr. R. Shirley, Church Stretton; 2d, 10*l.*, Mr. G. Pitt, Chadnor Court; 3d, 5*l.*, Mr. John Williams, St. Mary's, Kingsland. Highly Commended: Mr. R. Shirley. Commended: Mr. J. S. Stock and Mr. J. Draper. The class generally commended.

COWS.—1st, 15*l.*, and Silver Medal as breeder, Mr. G. Pitt, Chadnor Court; 2d, 10*l.*, exhibitor, Mr. J. S. Draper, Thingehill Grange. Hereford; breeder, Mrs. Edwards, Kingsland, Leominster; 3d, 5*l.*, Major Gen. A. N. Hood, Windsor.

HEIFERS.—1st, 15*l.*, extra prize of 25*l.*, and Silver Medal as breeder, Mr. W. Groves, Walk Mills, Shrewsbury; 2d, 10*l.*, Mr. H. Bettridge, Wantage; 3d, 5*l.*, exhibitor, Mr. J. Williams, St. Mary's Kingsland. Highly Commended: Mr. J. Baldwin, Luddington, Stratford-upon-Avon. Commended: Lord Hatherton. The Class generally Commended.

SHORT HORNS.

SHORT-HORN OXEN OR STEERS, EXCEEDING 3 YEARS AND 3 MONTHS OLD.—1st, 15*l.*, and Gold Medal as best Ox or Steer, exhibitor, Mr. W. H. Baker, Cottesmore; breeder, the late R. W. Baker, Esq., Cottesmore; 2d, 10*l.*, exhibitor, Mr. R. Swinnerton, Nuneaton; breeder, Mr. R. Stratton; 3d, 5*l.*, Mr. J. B. Thompson, Anlaby, near Hull. Commended: Earl of Aylesford, and Sir W. de Capell Brooke, Bart.

STEERS, NOT EXCEEDING 3 YEARS AND 3 MONTHS OLD.—1st, 15*l.*, the President's Silver Cup, and Silver Medal as breeder, the Rev. E. Staniforth, Storrs, Windermere; 2d, 10*l.*, Mr. W. H. Baker, Cottesmore; 3d, 5*l.*, the Duke of Beaufort. Highly Commended: Mr. J. Thompson. Commended: J. Walter, Esq., M.P.

COWS.—1st, 15*l.*, Earl Aylesford's extra prize of 15*l.*, and Silver Medal as breeder, Mr. John Lynn, Church Farm, Stroxton; 2d, 10*l.*, exhibitor, Earl Howe; breeder, the late J. H. Langston, Esq., M.P.; 3d, 5*l.*, exhibitor, Mr. W. H. Baker; breeder, the late R. W. Baker, Esq., Cottesmore. Highly Commended: Earl Radnor. Commended: Mr. J. Faulkner, Bretby Farm, Burton-upon-Trent; Mr. J. N. Beasley, Brampton, Northampton; and Mr. C. H. Abbot, Long Ashton, Somersetshire.

HEIFERS.—1st, 15*l.*, extra prize of 25*l.*, Gold Medal as best Cow or Heifer, and 15*l.* Hotel or Innkeepers' prize, exhibitor, Mr. C. Swaisland, Crayford, Kent; breeder, Lady Lubbock, High Elms, near Farnborough, Kent; 2d, 10*l.*, Mr. James, Jun., Coventry; 3d, 5*l.*, Mr. R. Stratton. Commended: Mr. C. Stubbs and Mr. J. Faulkner.

DEVONS.

OXEN OR STEERS, EXCEEDING 3 YEARS AND 3 MONTHS OLD.—1st, 15*l.*, exhibitor, Mr. W. Farthing, Stowey Court, Bridgwater, Somersetshire; breeder, Sir A. A. Hood, Bart., M.P.; 2d, 10*l.*, Mr. W. Heath, Ludham Hall, Norwich; 3d, 5*l.*, Mr. John Tucker, Staplegrove, Taunton. Commended: Mr. W. Smith, Southernhay, Exeter.

STEERS, NOT EXCEEDING 3 YEARS AND 3 MONTHS OLD.—1st, 15*l.*, and extra prize of 25*l.*, exhibitor, Major-Gen. the Hon. A. N. Hood; breeder, the late Prince Consort; 2d, 10*l.*, exhibitor, Mr. W. Farthing, Stowey Court; 3d, 5*l.*, exhibitor, Mr. Smith, Exeter.

DEVON COWS.—1st, 15*l.*, exhibitor, Mr. John Tucker, Staplegrove, Taunton; breeder, Mr. J. Dunning, Crech St. Michael; 2d, 10*l.*, Mr. W. Smith, Exeter; 3d, 5*l.*, Major-General the Hon. A. N. Hood.

HEIFERS.—1st, 15*l.*, exhibitor, Mr. W. Smith, Exeter; breeder, Mr. G. Holland, Ladbury; 2d, 10*l.*, Mr. J. Tucker, Staplegrove; 3d, 5*l.*, C. Hambro, Esq., Milton Abbey, Blandford.

LONG-HORNS.

OXEN OR STEERS.—5*l.*, Mr. R. H. Chapman, Upton, near Nuneaton.

COWS OR HEIFERS.—1st, 10*l.*, and Silver Medal as breeder, Mr. J. H. Burbery, The Chase, Kenilworth; 2d, 5*l.*, W. T. Cox, Esq., The Hall, Spondon, Derby. Commended: Mr. R. H. Chapman, Upton, and Mr. R. Hawkes, Hunscote.

OTHER PURE BREEDS (EXCEPT SCOTCH AND WELSH) AND CROSS-BRED ANIMALS.

FAT OXEN OR STEERS.—1st, 10*l.*, Messrs. J. & W. Martin, Aberdeen (cross); 2d, 5*l.*, Mr. Allan Pollok, Lismany, Ballinasloe, Ireland (Short-horn and Scotch). Commended: Mr. John Baldwin, Luddington (Short-horn and Hereford).

FAT COWS.—1st, 10*l.*, and Silver Medal as breeder, Mr. C. Hobbs, Maisey Hampton, near Cricklade (Short-horn and cross); 2d, 5*l.*, Mr. Aaron Pike, Mitton, near Tewkesbury (cross).

FAT HEIFERS.—1st, 10*l.*, Messrs. J. & W. Martin, Aberdeen (cross); 2d, 5*l.*, Mr. Allan Pollok (Scotch and Short-horn). Commended: Mr. J. Faulkner, Bretby Farm, Burton-upon-Trent (Short-horn and Golloway).

SCOTCH BREEDS.

POLLED OXEN OR STEERS.—1st, 15*l.*, and extra prize of 25*l.*, Mr. W. M'Combie, Tillyfour; 2d, 10*l.*, Mr. W. Heath, Ludham Hall, Norwich (Galloway). Highly Commended: Mr. J. Stewart. Commended: Messrs. J. & W. Martin, Aberdeen. The Class generally Commended.

WEST HIGHLAND AND OTHER SCOTCH HORNED OXEN OR STEERS.—1st, 15*l.*, and Earl Dartmouth's prize of 10*l.*, exhibitor, Ralph Sneyd, Esq., Keele Hall, Staffordshire (West Highland); 2d, 10*l.*, Mr. Allan Pollok (Scotch horned). Highly Commended: Mr. S. Swan, Bush, Jedburgh; Mr. M. G. Rannie, Kelso; and B. B. Bennett, Esq., Rugby. Commended: Earl of Harewood (two Commendations). The Class generally Commended.

SCOTCH COWS AND HEIFERS.—10*l.*, the Earl of Southesk (polled Angus).

WELSH BREEDS.

OXEN OR STEERS.—1st, 10*l.*, B. B. Bennett, Esq., Rugby; 2d, 5*l.*, Henry Platt, Esq., Bangor.

EXTRA CLASS.

For Animals not qualified to compete in any other classes.

OXEN OR STEERS.—5*l.*, Mr. F. Lythall, Spittal Farm, Banbury (cross).

COWS OR HEIFERS.—5*l.*, Mr. W. Lambe, Aubourn, near Lincoln (Shorthorn). Highly Commended: Mr. W. Fletcher, Mansfield, and C. W. Packe, M.P. Commended: Lord Fitzhardinge.

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The SHEEP shown at Bingley Hall are not so large a collection as usual. Most of the Leicester prizes go to the finer boned, small high-bred style of sheep, of which Mr. Foljambe's 1st prize animal is the type.

The Long-woolled class is a very fine illustration of a noble breed.

Lord Walsingham carries away nearly all the prizes with his Southdowns in the Short-woolled classes; and in the class of the single fat ewes he is again successful with a model of quality and beauty.

The Shropshire classes include 28 entries, Lord Wenlock, Mr. Foster, and Mr. Holland being among the successful exhibitors. In the cross-bred sheep Mr. Overman takes the first prize with a very fine and massive pen. Colonel Loyd Lindsay shows two pens, from which three sheep, better than the first prize here, might have been selected, but they were badly arranged.

The classes of Pigs are very well filled, the most interesting being the Berkshire for breeding; and the single fat pigs exceeding 15 months old. Mr. Wainman's fat hog was as wonderful an animal in its way as Mr. Swaisland's fat heifer, near which it stood. Several pens are disqualified on the score of misstated age. Professor Gamgee had the noisy and disagreeable work of examining the dentition of every pig in the yard.

The following are the awards:—

SHEEP.

LEICESTERS.

FAT WETHERS, NOT EXCEEDING 22 MONTHS OLD.—1st, 15*l.*, extra prize of 10*l.*, given by the Mayor of Birmingham, and Silver Medal as breeder, G. S. Foljambe, Esq., Osberton Hall, Worksop, Nottinghamshire; 2d, 10*l.*, Mr. L. Willmore, Leicester; 3d, 5*l.*, Mr. R. Lovell, Knapton.

LONG-WOOLLED SHEEP, NOT BEING LEICESTERS.

FAT WETHERS, NOT EXCEEDING 22 MONTHS OLD.—1st, 15*l.*, and Silver Medal as breeder, Messrs. Thomas and George West, Greenhill Farm, Bletchington, Oxfordshire (Cotswold); 2d, 10*l.*, John Henry Elwes, Esq., Colesborne Park, near Cheltenham (Cotswold); 3d, 5*l.*, Mr. C. Kearsey, Glewstone, near Ross (Cotswold).

SOUTH AND OTHER DOWN SHEEP.

FAT WETHERS, NOT EXCEEDING 22 MONTHS OLD.—1st, 15*l.*, and Silver Medal as breeder, Lord Walsingham (Southdown); 2d, 10*l.*, Lord Walsingham; 3d, 5*l.*, Earl Radnor.

SOUTH AND OTHER DOWN SHEEP.

FAT WETHERS, EXCEEDING 22 BUT NOT EXCEEDING 34 MONTHS OLD.—1st, 10*l.*, extra prize of 10*l.*, given by the High Sheriff of Warwickshire, and Silver Medal as breeder, Lord Walsingham (Southdown); 2d, 5*l.*, Lord Walsingham. Highly Commended: Mr. J. Overman.

SHROPSHIRE SHEEP.

FAT WETHERS, NOT EXCEEDING 22 MONTHS OLD.—1st, 15*l.*, and Silver Medal as breeder, Lord Wenlock; 2d, 10*l.*, Lord Wenlock; 3d, 5*l.*, Mr. C. R. Keeling, near Penkridge. Commended: Mr. H. Smith, Sutton Maddock, Shiffnall.

FAT WETHERS, EXCEEDING 22 BUT NOT EXCEEDING 34 MONTHS OLD.—1st, 10*l.*, Mr. Newdegate's extra prize of 10*l.* 10*s.*, and Silver Medal as breeder, W. O. Foster, Esq., M.P., Kinver Hill, near Stourbridge; 2d, 5*l.*, E. Holland, Esq., M.P., Dumbleton. Commended: Mr. J. H. Bradburne, Pipe Place, near Lichfield.

SINGLE SHROPSHIRE WETHER OF ANY AGE.—Silver Cup, value 5*l.* 5*s.*, given by Messrs. Mapplebeck and Lowe, W. O. Foster, Esq., M.P., Kinver Hill Farm, Stourbridge. Highly Commended: Mr. J. Coxon, Freeford, Lichfield. Commended: the Earl of Aylesford.

OXFORDSHIRE DOWNS.

FAT WETHERS, NOT EXCEEDING 22 MONTHS OLD.—1st, 10*l.*, and Silver Medal as breeder, Duke of Marlborough; 2d, 5*l.*, Mr. S. Druce.

CROSS-BRED SHEEP.

FAT WETHERS, NOT EXCEEDING 22 MONTHS OLD.—1st, 10*l.*, and Silver Medal as breeder, Mr. John Overman (Southdown and Leicester); 2d, 5*l.*, Mr. W. Hewer, Sevenhampton, Highworth.

LEICESTER EWES.

FAT EWES OF ANY AGE HAVING BRED ONE OR MORE LAMBS.—1st, 5*l.*, exhibitor, Mr. John Lynn, Grantham; breeder, the late Mr. Robert Lynn; 2d, 3*l.*, Mr. J. G. Watkins, Woodfield, Worcestershire. Highly Commended: the Rev. Gregory Watkins, Woodfield.

LONG-WOOLLED EWES, NOT BEING LEICESTERS.

FAT EWES OF ANY AGE HAVING BRED ONE OR MORE LAMBS.—1st, 5*l.*, and Silver Medal as breeder, Mr. J. Lynn (Lincoln and Leicester); 2d, 3*l.*, Mr. T. Porter, Baunton, Cirencester (Cotswold). Highly Commended: Mr. T. Porter, Baunton, Cirencester, and Mr. W. Smith, Bibury. Commended: Mr. W. Smith, Bibury (two commendations, and Mr. T. Porter, Baunton, Cirencester.

SOUTH AND OTHER DOWN EWES.

FAT EWES OF ANY AGE, HAVING BRED ONE OR MORE LAMBS.—1st, 5*l.*, and Silver Medal as Breeder, Lord Walsingham (Southdown); 2d, 3*l.*, the Duke of Marlborough.

SHROPSHIRE EWES.

FAT EWES OF ANY AGE, HAVING BRED ONE OR MORE LAMBS.—1st, 5*l.*, and Silver Medal as Breeder, W. O. Foster, Esq., M.P., Kinver Hill Farm, Stourbridge; 2d, 3*l.*, Mr. Henry Smith, Sutton Maddock, Shiffnal. Highly Commended: Lord Wenlock. Commended: Mr. C. R. Keeling. Mr. J. H. Bradburne; Messrs. Bowen & Jones, Shrewsbury (two Commendations).

FAT PIGS.

THREE PIGS OF ONE LITTER, NOT EXCEEDING 10 MONTHS OLD.—1st, 10*l.*, Society's Silver Cup, and Silver Medal as breeder, T. L. M. Cartwright, Esq., Aynho, Banbury; 2d, 5*l.* Major General the Hon. A. N. Hood; 3d, 3*l.*, Mr. M. Sharman, Wellingborough. Disqualified: Mr. J. Perrin, Birmingham.

THREE FAT PIGS OF ONE LITTER, NOT EXCEEDING 15 MONTHS OLD.—1st, 10*l.*, and Silver Medal as breeder, Major-General the Hon. A. N. Hood; 2d, 5*l.*, G. B. Morland, Esq., Abingdon, Berkshire; 3d, 3*l.*, Colonel Pennant, M.P. Highly Commended: Mr. J. Darling. Commended: the Countess of Chesterfield, and Mr. T. Crisp.

EXCEEDING 15 MONTHS OLD.—1st, 6*l.*, and Silver Medal as breeder; exhibitor and breeder, W. B. Wainman; 2d, 3*l.*, Mr. S. G. Stearn, Brandeston; 3d, 2*l.*, Mr. G. Mangles, Givendale, Ripon. Highly Commended: Mr. W. Yulls, jun., Highworth. Commended: Mr. J. Darling, Rugeley, Mr. T. Crisp, W. B. Wainman, Esq., and Mr. J. K. Tombs, Langford, Lechlade.

BREEDING PIGS.

PIGS OF THE BERKSHIRE BREED.

FIVE PIGS OF ONE LITTER, EXCEEDING THREE AND NOT EXCEEDING SIX MONTHS OLD.—1st, 10*l.*, Society's Silver Cup, and Silver Medal as breeder, Mr. G. M. Allender, Lee Grange, Winslow, Buckinghamshire; 2d, 5*l.*, do.; 3d, 3*l.*, Mr. W. B. Scott, Queen's Hotel, Birmingham. Highly Commended: Rev. Edward Roberts. Silver Medal: Mr. W. J. Sadler, Bentham Calcutt, Cricklade. Disqualified: Mr. Daniel Long, Whaddon, near Gloucester; and Mr. J. K. Tombs, Langford, Lechlade.

PIGS OR OTHER LARGE BREEDS.

FIVE PIGS OF ONE LITTER, EXCEEDING THREE AND NOT EXCEEDING SIX MONTHS OLD.—1st, 10*l.*, and Silver Medal as breeder, W. H. Wainman, Esq.; 2d, 5*l.*, do.; 3d, 3*l.*, Mr. P. F. Wells, near Leamington. Silver Medal: Mr. A. A. Guy, Eaton.

PIGS OF A SMALL BREED.

FIVE PIGS OF ONE LITTER, EXCEEDING THREE AND NOT EXCEEDING SIX MONTHS OLD.—1st, 10*l.*, Society's Silver Cup and Silver Medal as breeder, Mr. T. Crisp; 2d, 5*l.*, Major-General the Hon. A. N. Hood; 3d., 3*l.*, R. Berkeley, Esq., Spetchley Park, near Worcester. Silver Medal: Mr. S. G. Stearn. Disqualified: Mr. J. Lynn, Church Farm, Stroxton, Grantham.

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THE GALLERIES OF THE HALL are filled with a capital assortment of Grain and Roots. The Mangel Wurzels are perhaps hardly so good as we have seen there. The class in which prizes are offered for the best collection of Mangels, Swedes, and Carrots, and Mangels, Swedes, and Cabbages, is uncommonly well filled. We have never seen a finer collection of specimens than Mr. Moore, of Warwick, and the Rev. T. Stevens, of Bradfield, exhibit. The show of Potatos too, is first rate. Fifty-seven entries of corn, and 124 of roots, show how great the competition is in the several classes. The Cabbages are enormous. The following is the List of Prizes:—

CORN (1 Bushel samples).

JUDGE.—Mr. J. Mathews, Edgbaston House, Birmingham.

WHITE WHEAT.—1st, 2*l.* 2*s.*, Mr. Charles Kearsey, Glewstone, Ross (Talavera); 2d, 1*l.* 1*s.*, Mr. Joseph H. Clark, Altwood House, Maidenhead, Berkshire (Chidham).

RED WHEAT.—1st, 2*l.* 2*s.*, Mr. Robert Raynbird, Hengrave, near Bury St. Edmonds (Shirreff's Bearded); 2d, 1*l.* 1*s.*, Mr. Edmund Lythall, Radford Hall near Leamington (Nursery).

BARLEY.—1st, 2*l.* 2*s.*, Mr. Joseph H. Clark, Altwood House, Maidenhead (Golden Melon); 2d, 1*l.* 1*s.*, Samuel Druce, Eynsham, near Oxford (Old Chevalier).

OATS.—1st, 2*l.* 2*s.*, Mr. Frederick Lythall, Spittal Farm, Banbury (white); 2, 1*l.* 1*s.*, do. (white).

BEANS.—1st, 2*l.* 2*s.*, Mr. Thomas Halford, Newbold, Shipston-on-Stour (French white) eyes; 2d, 1*l.* 1*s.*, Mr. Frederick Lythall, Spittal Farm (Spring).

PEAS.—1st, 2*l.* 2*s.*, Mr. Robert Raynbird, Hengrave (Early Emperor); 2d, 1*l.* 1*s.*, Mr. Edmund Lythall, Radford Hall (Blue Field). Highly Commended; Lord Boston, Hedsor, Maidenhead (Maple or Partridge).

ROOTS.

JUDGE.—Mr. J. Mathews, Edgbaston House, Birmingham.

A Silver Cup (10 guineas), offered by Messrs. Proctor & Ryland, of Birmingham, as a prize for the best collection of the four following varieties, namely, Long Mangel Wurzel, Globe Mangel Wurzel, Swedes, and Carrots—six roots of each to be shown for this prize alone—Mr. John Moore, Warwick.

A Silver Cup (10 guineas) offered by Messrs. Griffin, Morris, and Griffin of Wolverhampton, for the best collection of Long Mangel Wurzel, Globe Mangel Wurzel, Swedes, and Ox Cabbage—six roots of each kind to be shown for this prize alone; the Mangel Wurzel to be selected from crops of not less than 2 acres, the Swedes not less than 5 acres, and the Cabbage to be field-culture. The Rev. Thomas Stevens, Bradfield, Reading, Berkshire.

KOHL RABI.—1st, 2*l.* 2*s.*, Colonel North, M.P., Wroxton

Abbey, near Banbury (green); 2d, 1*l.* 1*s.*, Rev. Thomas Stevens, Bradfield.

LONG MANGEL WURZEL.—1st, 2*l.* 2*s.*, Mr. John K. Fowler, Prebendal Farm, Aylesbury (Sutton's Yellow); 2d, 1*l.* 1*s.*, Rev. Thomas Stevens, Braifield (red).

GLOBE MANGEL WURZEL.—1st, 2*l.* 2*s.*, Rev. Thomas Stevens, Bradfield; 2d, 1*l.* 1*s.*, the Lord Boston (yellow). Highly Commended: Col. North, M.P. (Wroxton Improved); Mr. John Moore, Warwick; and Rev. Thomas Stevens, Bradfield.

SWEDES OF ANY VARIETY.—1st, 2*l.* 2*s.*, Mr. John Darling, Beaudesert, Rugeley, Staffordshire (Dickson's Bronze Top); 2d, 1*l.* 1*s.*, Mr. Samuel Robinson, Shaw House, Melbourne, Derbyshire. Highly Commended: Mr. William K. Malins, Brackley, Northamptonshire (Skirving's); Mr. William T. Crosbie, Ardfert Abbey, Tralee (Sutton's Champion); Mr. Samuel Robinson, Shaw House; Mr. William Fletcher, Radmanthwaite, Notts (Sutton's Champion).

COMMON TURNIPS, SIX SPECIMENS.—1st, 2*l.* 2*s.*, Sir William Heathcote, Bart., M.P. (Grey Stone); 2d, 1*l.* 1*s.*, Mr. Charles Kearsey, Glewstone (Grey Stone). Highly Commended: His Grace the Duke of Portland (Green Globe), two entries.

CARROTS OF ANY VARIETY, SIX SPECIMENS.—1st, 2*l.* 2*s.*, His Grace the Duke of Portland (Altringham); 2d, 1*l.* 1*s.*, His Grace the Duke of Portland (Altringham). Commended: Mr. G. S. Foljambe, Osberton Hall, Notts (Altringham); His Grace the Duke of Portland (Belgian), two entries.

OX CABBAGE, 6 SPECIMENS.—1st, 2*l.* 2*s.*, Mr. Samuel Robinson, Shaw House (Robinson's Champion); 2d, 1*l.* 1*s.*, Mr. Samuel Robinson, Shaw House (Robinson's Champion).

KIDNEY POTATOS, 12 SPECIMENS.—1st, 2*l.* 2*s.*, Mr. George Mangles, Givendale, Yorkshire; 2d, 1*l.* 1*s.*, Mr. Samuel Robinson, Shaw House (King of Flukes). Commended: Mr. J. Choyce, jun., Harris Bridge, Atherstone (New Seedling); Mr. Samuel Robinson, Shaw House (Melbourne Hero); Mr. John Shackel, Blenheim House, Small Heath, near Birmingham (King's).

ROUND POTATOS, 12 SPECIMENS.—1st, 2*l.* 2*s.*, Mr. G. S. Foljambe, Malvern (Wonder); 2d, 1*l.* 1*s.*, Rev. Thomas Stevens, Bradfield (Red Rover). Highly Commended: Mr. J. K. Fowler, Aylesbury; Mr. G. S. Foljambe (Dunbar Regent).

The IMPLEMENT DEPARTMENT is well represented by 20 or 30 firms, including all the well-known names; and steam-engines, threshing machines, barn implements, and tools for the field, the foldyard, and the feeding house are all well represented.

The walls and galleries are filled with a magnificent suite of exhibitions by seedsmen, among whom Messrs. Sutton, of Reading, stand easily first, although Messrs. Dickson, of Chester, and Mr. Perry, of Banbury, also have first-rate stands.

LIST OF JUDGES.

CATTLE.—Mr. J. E. Jones, Springfield, Breinton, Hereford; Mr. Richard Doig, Lillingstone Hall, Buckingham; Mr. George Turner, Beacon Downes, Exeter.

SHEEP AND PIGS.—Mr. John Moon, Maristow, Plymouth; Mr. J. B. Spearing, Oxford; Mr. Edward Gough, Gravel Hill, Shrewsbury.

ROOTS AND CORN.—Mr. J. Mathews, Edgbaston House, Birmingham.

POULTRY.—The Rev. Robert Pulleine, the Rectory, Kirby Wiske, Thirsk; George James Andrews, Esq., Dorchester; J. H. Smith, Esq., Skelton Grange, York; Joseph Hindson, Esq., Barton House, Everton, Liverpool; Mr. John Baily, Mount Street, Grosvenor Square, London.

PIGEONS.—Mr. Harrison Weir, Lyndhurst Road, Peckham, London; Mr. T. J. Cottle, Pulteney Villa, Cheltenham.

REFEREE FOR THE AGES OF STOCK.—Professor John Gamgee, New Veterinary College, Edinburgh.

VETERINARY INSPECTOR.—Mr. E. Stanley, Stephenson Place, Birmingham.

POULTRY.

For fourteen years the progress of this show has been onwards, and the increase in every respect has never perhaps been more marked than in the show that terminated on Thursday last. Whether we look at entries or sales there was a considerable increase; and the question may arise at some future time as to what is to be done by the Council for the accommodation of the still growing giant. Seventeen hundred and eighty pens competed this year. While this affords an undeniable proof that the public interest in the pursuit remains unabated, the more practical side of the question receives its illustration in the fact that the breeds that offer the most useful qualities are the most largely kept, and while there are sufficient entries in the fanciful sorts to afford competition and amusement, yet the public taste remains fixed on the noble Dorking, as our best table fowl, and most profitable inhabitant of our farm yards, while numerous admirers remain to the once semi-worshipped Cochin China, recognizing and appreciating its laying properties, the ease with which it is reared, and the contented stay-at-home disposition that adapts it especially to the dweller in a town, or the man with limited space. By means of exhibitions like this, the progress is not confined to entries or visitors—it extends itself to knowledge. This is not limited to the breeds that were familiar in former times. Then, a fowl was a fowl, except that in certain counties, as Kent, Surrey, and Sussex, the Dorkings were known for the table. In others, as Lancashire, Worcestershire, Cheshire, and Yorkshire, Game were kept for fighting; and Moonies, Chitteprats, and Bolton Bays and Greys, were kept for eggs. Nearly all other fowls were summed up in one designation—they were barn-door fowls. The first thing that broke this quiet was the institution of showing; this caused the Cochin mania, and the stone once set in motion has been rolling ever since. Every one is more interested in this than would appear at first sight. Although poultry may still remain among the desiderata to many, yet all eat eggs, and it would be a boon if they were more numerous and consequently cheaper. This has led to inquiry into the capabilities of the different breeds of the Continent, and a desire to possess those that are the most profitable. The Council of the Birmingham Show, mindful of their mission, this year encouraged the pursuit by offering four prizes for Crevecœurs, believing on reliable information their introduction into this country would be an advantage, from the size and number of their eggs.

The different Dorking classes brought 260 competing pens, most of them of very high merit. Captain Hornby and Lady Holmesdale took the three principal prizes. Mrs. Fergusson Blair was a prize-taker in nearly every class with birds bred in and sent from Scotland, proving by their success when competing with birds bred in every part of England, that they do not degenerate when removed from their natural soil or climate. The Spanish were good, and added to the laurels of Mr. Lane, of Bristol, who was successful in three classes. This show was remarkable for veins of good fortune, and none more so than that of Captain Heaton, of Manchester, who won both the principal first prizes, and two silver cups, together with four other prizes in Cochin Chinas, although the entries of this breed were 163 in number. Messrs. Stretch, Tudman, and Smith, also showed excellent specimens. Mrs. Fergusson Blair took both the first prizes for Brahma Pootras. Mrs. Rothery and Mr. Teebay also showed very excellent specimens. This is another new breed, and a valuable one; the beauty and uniformity of the specimens show it is appreciated. The Malays were excellent, but not numerous. We have already mentioned the Crevecœurs, which came next in order. They were followed by two more new classes, viz., for Black Hambros. This was their first emancipation from the Various class, and they justified the experiment by the number and quality of their entries. Messrs. Royds, Shaw, and Lingard took the prizes. The Silver Pencilled were not as good as the Golden, but the Golden and Silver-spangled left nothing to desire. The Polish were well represented in every class Mr. G. C. Adkins was especially fortunate, taking four well deserved prizes. Mrs. Pettat and Messrs. Dixon and Edwards showed good birds. The former gentleman was distinguished in the Silver-spangled Hambros. Lord Guernsey, the Countess of Aylesford, and Mr. Lowndes took the prizes in the Various class, which consisted of Cuckoos, La Flêche, Silkies, Houdans, and other novelties. The Game brought two hundred and eighty competing pens of beautiful birds. It is hard to mention any in particular when Black-reds, Brown-reds, Duckwings, Blacks, Whites, and Piles have equal claims to notice. We were much struck with the Cup pen, belonging to Mr. James Wood, the Black-reds of the Rev. G. Cruwys, and the Duck-wings of Mr. Garlick. The condition of all these birds was marvellous. The classes for single cocks, introduced only within the last few years, formed a show in themselves, and 123 were named in the prize list. The Dorkings formed a wonderful display; great numbers of them were sold. Lady Holmesdale's first prize is a noble bird. The same lady headed a beautiful class of Spanish, beating all the best exhibitions of the day. Mr. Richard White took first in both the Cochin classes. Many of the Cochin cocks were very large and beautiful in shape. The Brahma Pootras rewarded Mrs. Fergusson Blair with first and second prizes, well deserved by the enterprise which makes this lady a large exhibitor. Regardless of distance, Mrs. Hargreaves showed a bird that in most shows would easily take a prize. The Hamburgh classes were highly meritorious, and the same may be said of the Game, especially Mr. Slatter's Silver Cup bird. Sebright Bantams were good, the Silver were better than the Gold in marking, the Golden better than the Silver in combs. Mr. H. D. Bayley was very successful here. The Game Bantam Cocks were beautiful. We noticed that, with few exceptions, the classes for pullets and hens were but moderately filled.

The Aylesbury ducks still stood first in weight, but they were hard run by the Rouens in this particular, and eclipsed in numbers. The increase of this latter class is astonishing. The weights were:—Aylesburys, 25, 24½, 24 lbs.; Rouens, 23, 22, 21½ lbs. East Indians were very good, but hardly equal to those we saw at the Crystal Palace. The white Geese weighed 67, 62, 53 lbs., 52, 50, 49 lbs.; the grey and mottled, 77, 75, 70 lbs., 63, 57, 50 lbs., each pen containing three birds. The Turkeys weighed 65, 61, 58 lbs., 58, 45, 44 lbs. We have been careful in giving these weights. They are eloquent essays to those who keep those birds. It is more than probable these heavy birds cost and consumed no more than the apologies that run in many farm yards, and excite wonder when geese weigh 12 lbs. or turkeys 18 lbs.

The show was eminently successful; it can hardly be otherwise when we consider the amount of intelligence, experience, and persevering industry brought to bear on the enterprise by all the members of the management. The public, and above all the people of Birmingham, are deeply indebted to them. The judges were, the Rev. R. Pulleine, Kirby Wiske, York; G. J. Andrews, Esq., Dorchester; J. H. Smith, Esq., Skelton Grange, York; J. Hindson, Esq., Barton House, Everton, Liverpool; Mr. Baily, London.

THE DOG SHOW in an adjoining street has attracted as usual large numbers of spectators. Prizes offered in no fewer than 57 classes have drawn together a very large collection for their inspection. A fine class of Bloodhounds—a better than usual class of Foxhounds, to which many packs contributed—fair classes of Greyhounds, and very fine classes of Pointers—a number of Retrievers, Water Spaniels, and Clumber Spaniels make up the list of Sporting Dogs. In the large remainder of the show, Mastiffs, Newfoundlands, Bulldogs, Sheep-dogs, and very large classes of Terriers were the most noticeable features of the show. We have not room for a prize list.

## Miscellaneous.

*Value of Mangel, Steamed, Raw, or as Pulp.*—To test the feeding-value of Mangel-pulp, and correct the exaggerated impression entertained by some persons of the unimportance of saccharine matter for feeding purposes, 3 lots, each of 5 sheep, 23 months old, the first cross of Southdown, were fed, from November 28, 1858, to May 5, 166 days, the 1st lot on raw Mangel; 2d, on pulp; 3d, on Mangel steamed, with the addition to each sheep of nearly ¼ lb. of bran and ½ lb. of straw-chaff. The result showed that, if Mangel is valued at 10*s.* per ton, pulp is worth 6*s.* 8*d.* per ton; or since a ton of Mangel gives about ¾ of a ton of pulp, the refuse from 1 ton of Mangel is worth 5*s.* In this experiment steamed Mangel showed a decided advantage over that given raw, since 59 lbs. steamed were found equivalent to 70 lbs. raw. In addition to the straw-chaff, the sheep picked a little straw out of the rack, but the amount was insignificant. The following table gives—

A. The total increase in live weight.
B. The total cost of the food: Mangel being valued at 10*s*, per ton, pulp at 6*s.* 8*d.*, straw at 2*l.*, bran at 6*l.*
C. An estimate of the total value of the manure, arrived at by the confinement of one sheep of each lot for 24 hours in the cell arranged for this purpose.
D. The amount of roots or pulp consumed for the increase of 1 kilogramme of live weight.
E. The cost of that same increase.
F. The nitrogen in the food for that increase.
G. The per centage of nitrogen found in the meat.

| | | A. | B. | C. | D. | E. | F. | G. |
|---|---|---|---|---|---|---|---|---|
| | | | | | For Gain of 1 Kil. Live Weight. | | | |
| Lot. | Mangel. | Gain. | Food. | Worth of Manure. | Roots Eaten. | Cost of Food. | Nitrogen in Food. | Per centage of Nitrogen. |
| | | kil. | fr. | fr. | kil. | fr. | grms. | |
| 1 | Raw .. | 45.3 | 72 | 20 | 70 | 1 15 | 235 | 3.61 |
| 2 | Pulp .. | 39.9 | 61.3 | 29 | 101 | .80 | 327 | 3.17 |
| 3 | Steamed .. | 58.7 | 75.5 | 23 | 59* | .89 | 187 | 3. 0 |

The economical results are given in the columns D, E, F, of which column E shows that Mangel steamed, at 10*s.* per ton, is nearly equal to pulp at 6*s.* 8*d.*, and much superior to raw Mangel. Column G may in some degree indicate the superior quality of the meat made in lot 1, but the variation is chiefly due to the greater fatness of lot 3; nevertheless, we are here reminded of Mr. Lawes's remarks on the degree in which meat produced by steamed food "boils away" when dressed. *Mr. J. Reiset's experiments, described by Mr. Frere in the Journal of the English Agricultural Society.*

*A Farm Balance Sheet.*—Mr. Henry Wiggin, of Metchley Grange, Harborne, has published the subjoined balance sheet of the Lea End Farm, Worcestershire, of which he is the proprietor, and which is in his own hands, but under the management of a bailiff. This balance sheet was prepared by Mr. Wiggin for distribution to his private friends amongst the merchants and manufacturers of Birmingham, his object being to show that gentlemen having a taste for rural pursuits might indulge it in amateur farming, and at the same time secure a moderate interest for the capital invested, with an undoubtedly safe security:—

"LEA END FARM BALANCE SHEET,
*For the year ending September 30th, 1863.*

EXPENDITURE.

*From October 1st, 1862, to September 30th, 1863.*

| | | | |
|---|---|---|---|
| Labour .. .. .. .. .. .. | £226 | 19 | 0 |
| Rates, tithe, and taxes .. ... .. | 71 | 15 | 0 |
| Manure .. .. .. .. .. .. | 60 | 6 | 0 |
| Seed .. .. .. .. .. .. | 44 | 16 | 0 |
| Keep .. .. .. .. .. .. | 73 | 17 | 0 |
| Sundries .. .. .. .. .. .. | 27 | 2 | 0 |
| | £504 | 15 | 0 |

RECEIPTS.

"*From October 1st, 1862, to September 30th, 1863.*

| | | | |
|---|---|---|---|
| Milk, butter, and cows sold .. .. .. | £182 | 6 | 0 |
| Sheep, wool, and lambs sold .. .. .. | 180 | 10 | 0 |
| Hay and straw .. .. .. .. .. | 71 | 6 | 0 |
| Pigs .. .. .. .. .. .. | 35 | 0 | 0 |
| Fowls .. .. .. .. .. .. | 6 | 10 | 0 |
| Corn not yet threshed is only approximate— | | | |
| Seventeen acres Wheat, a very good crop, say 240 bags, at 15*s.* .. .. .. | 180 | 0 | 0 |
| Thirteen acres Beans, say 150 bags, at 15*s.* | 112 | 10 | 0 |
| Twelve acres Oats, at 7*l.* per acre .. | 84 | 0 | 0 |
| Receipts .. .. .. .. | 852 | 11 | 0 |
| Expenditure .. .. .. | 504 | 15 | 0 |
| Balance, being Profit.. | £347 | 16 | 0 |

This farm is situated about seven miles south-west of Birmingham, in the county of Worcester, and consists of 80 acres of Grass and 60 acres of arable. The soil is a strong red tenacious marl, much better calculated for growing Wheat and Beans than Barley and Turnips. At the time it was purchased, about four years ago, it was terribly out of condition, and required thoroughly draining, cleaning, and manuring. This occupied between two and three years, consequently the year to which the accompanying balance-sheet refers is the first in which the whole farm could be said to be under proper cultivation. The total cost of the 140 acres,

* 59 kilogrammes of roots took up 11 of steam.

including draining, cleaning, and all improvements, is 7200*l.*, in addition to which a capital of 1300*l.* is employed for stock and working the farm; making a total of 8500*l.* The number and value of the stock was the same on the 1st of October, 1862, as on September 30, 1863. This is mentioned to show that nothing has been taken from capital to increase the amount of profit. The amounts placed to the credit of the farm are all sums actually received, except that for corn, which, not yet being threshed, is only approximate; but, as all the crops were good, the estimate may be considered rather under than over the real amount. The Wheat is estimated in the balance sheet at 14 bags per acre, and the price 15*s.* per bag; whereas 3 acres have been threshed out, and yielded a little over 16 bags per acre. all of which, on account of its very fine quality, has been sold for seed at 18*s.* per bag. It will thus be seen that the account shows an excess of receipts over expenditure of 347*l.* 16*s.*, or a little over four per cent. on the total capital employed. Probably, as the land improves in condition by the application of large dressings of manure, an increased produce will be obtained, and possibly it may ultimately become a 5 per cent. investment, but more than this it is doubtful if amateur farming can be made to pay. *Midland Counties Herald.*

*Bread from Tailing Wheat.*—The tailings of Wheat are sent to the mill, and ground into flour. This flour is made into dough with buttermilk instead of water. A dessert spoonful of carbonate of soda is mixed with a portion of the milk, and a little yeast added, with salt to taste. This leavens the lump in a few minutes; it is at once shaped out into loaves, and put into the kitchen oven, from which it is taken in rather less than an hour in the form of wholesome brown bread, pleasing to the palate and easy of digestion. The cost stands thus:—A bushel of tailings, weighing 57 lb., gave a return of 54 lb. flour; value of wheat, 7*s.* 6*d.*; milling and cartage, 6*d.*, total 8*s.* A baking of 6 lbs. flour at this rate costs 10½6.; half gallon buttermilk, 3*d.*; yeast, carbonate of soda, and salt, 1½*d.*; total, 1*s.* 3*d.* From this is produced 10½ lb. bread, which costs 1½*d.* per lb., say 5*d.* for the 4 lb. loaf. The oven of the cooking stove is ordinarily hot enough to fire the bread put into it.

*Hams.*—When perfectly dry from the smoke house wash them over with thick whitewash on every cut surface of meat, *i. e.*, all over excepting on the skin. Do this thrice at intervals of a few days. This is the best security against flies, which are the cause of hoppers. If the ham is already affected, cut out the affected part, and rub in some dry oatmeal and keep it in a paper bag in a dry place. The lime should be old whitewash.——For a ham from 15 to 20 lb. weight, salt well by rubbing every day with fresh common salt for four or six days, if preferred very salt; then rub lightly off the salt and rub in ¼ lb. of saltpetre finely powdered, and pour over all 3 lb. of treacle. It is better if several hams are pickled together, as there is more liquid. Drip the hams with the pickle so made several times a day, the oftener the better, for the first week; then rub in a handful of dry common salt, and drip the hams twice a day for six weeks; then smoke and dry them, and hang in bags well secured from flies in a dry airy place for a year before cooking. It is a great mistake to use hams without well keeping. Those 25 lb. each, or more, with this method of pickling, are better for keeping 18 months, or even longer.

*To make Potato Soup.*—Boil 3 lb. of Potatos and 7 good-sized Onions in 3 quarts of water; after rubbing it through a sieve, add a pint of good cream and 3 ounces of butter, with pepper and salt.

*Astro-Meteorology.*—Mr. White's pluck is uncommonly amusing. He slips over his frequent miscalculations with the dexterity of an eel, pointing here and there and everywhere for a local fulfilment of doubtful predictions, in the true style of Moore & Co., and assumes proof upon a bare assertion, not failing to discharge a heavy electric rod among unbelievers. Doubtless Mr. Silk's ingratitude to Jupiter calls for signal vengeance, but happily Silk is a non-conductor. It seems now that Neptune is in the ascendant (witness Poland and America); but Mr. White, who has exulted in planetary triumphs 25 years, only very lately accepted his services, because previously his influence was unappreciable. "Sed tempora mutantur." If therefore for about 20 years out of the 25 he did so well without him, why not give Jupiter an equal furlough? And to make amends for his absence, let some choice asteroids and a few picked comets fill up the void. I grant he has much to do in adjusting the results of 362,880 aspects annually; but by the aid of electric light and a few hints from the Admiral, what is this to his ubiquitous science? Besides, there are lots of legends when the planets won't work kindly. Hoping for truth and pleasant prospects. *Scintilla, in the Mark Lane Express.*

## Notices to Correspondents.

OATS: *Correspondent.* There is a collection of illustrations and characters given in the Farmer's Calendar (Routledge). Further next week.

TUMOURS: *Q B.* Sometimes these tumours are caused by lying down on a hard and slippery floor. If otherwise, give nitrate of potash, powdered, 1 drachm; colchicum, powdered, half-a-drachm, morning and night in a mash made with bran and a pound of crushed Linseed cake for four days; then omit a day or two, and repeat as before. The cake may be continued. The tumours may be painted over with compound tincture of iodine. *W. C. S.*

CATTLE SHOW, AGRICULTURAL HALL, ISLINGTON.—STAND No. 18.

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PORTABLE STEAM ENGINE, THRESHING MACHINE,

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Their 4-HORSE POWER FINISHING MACHINE, at the recent R. A. S. E. WORCESTER TRIALS, THRESHED 100 SHEAVES of WHEAT in 5 min. 55 secs., this time being less than was occupied by several other Machines requiring double the power. The Straw was threshed clean, the Corn unbroken, and the finished Sample unsurpassed.

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One Penny per Square Foot.

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BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.

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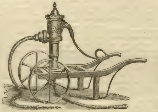

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No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
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No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1½-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4
2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... ... 3 0 0
3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

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4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

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Ditto, 10 to 12 feet high, 7 feet in diameter, 42s. each. Splendid trees, and all recently removed.

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TO THE TRADE.—A very large Stock of the undernoted finely grown Plants:—1 and 2 year Seedling LARCH, extra; True Native Highland SCOTCH FIR; Pinus Laricio, or true Corsican Pine; P. austriaca, P. maritima, P. Cembra; Silver Fir, Norway Spruce, Sycamore, Norway Maple, Oak, Elm, Ash, Alder, Beech, Birch, Hornbeam, Laburnum, Arbor-vitæ, Arbutus, Berberis of sorts, &c.; also Transplanted Spruce, Quick, Larch, Pinus austriaca, P. Laricio, &c., prices of which may be had on application.

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1000 CEDRUS LIBANI, 3 to 8 feet.
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7000 ARBUTUS UNEDO, 1½ to 3½ feet.
3000 LAURUSTINUS, 1 to 4 feet.
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1000 DEUTZIA GRACILIS, fine for Forcing.
50,000 FINE TRANSPLANTED THORNS.

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Lowest price, with Samples, for Cash, will meet with an immediate reply.

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AUCUBA JAPONICA, 12-inch; APPLE STOCKS, 1-year do. 2 feet, Transplanted; ARBORVITÆ, AMERICAN, 1-year laid, 6 to 12-inch; AZALEA PONTICA, 12-inch; BARBERRY, COMMON, 12-inch; BIRD CHERRY, 2 to 3 feet; BIRCH, Transplanted, very scarce, 1½ feet; RED CEDARS, 9-inch; CUPRESSUS MACNABIANA, 2 feet; CUPRESSUS THUJOIDES, 6-inch; EUGENIA UGNI; 3-year SEEDLING SILVER FIR; 2-year SEEDLING HAZEL; GREEN HOLLIES; 1-foot LAUREL, COMMON; 1 to 3-feet PEAR STOCKS; 1-year SEEDLING, and 2½-feet Transplanted PINUS CEMBRA, 3-feet, very fine specimens; PINUS AUSTRIACA, 1 to 2-feet; QUINCE STOCKS, 2 feet, very fine stems. SPURGE LAUREL, 1 to 2 feet.

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Also NATURAL GRASSES for LAWNS and MEADOWS, fine sorts of MANGEL WURZEL, TURNIP, and other AGRICULTURAL SEEDS.

SUTTON'S GENERAL DESCRIPTIVE PRICED CATALOGUE and AMATEUR'S GUIDE will be ready shortly, price 6d., gratis to customers.

Remittances may be made by Cheques on Town or Country Bankers, or by Post-office Orders payable to SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

## BARR & SUGDEN, 12 KING S.T COVENT GARDEN

*Orders amounting to 21s. sent Carriage Paid.*

## SURPLUS STOCK of BULBS for PRESENT PLANTING.

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| HYACINTHS, mixed, all colours .. per 100 15s. and | 18 | 0 | IRIS, ENGLISH, splendid mixed .. .. per 100 | 5 | 6 |
| " splendid named varieties per doz. 4s., 6s., and | 9 | 0 | " " " named varieties .. " | 7 | 6 |
| " POMPON, mixed, all colours .. .. per 100 | 15 | 0 | " SPANISH, splendid mixed .. .. .. " | 5 | 6 |
| " " named varieties .. .. .. " | 21 | 0 | " " " named varieties .. " | 7 | 6 |
| TULIPS, EARLY SINGLE, splendid mixed, all colours per 100 7s. to | 10 | 0 | IXIAS, SPARAXIS, TRITONIAS, and BABIANAS, splendid mixed .. .. .. .. per 100 | 5 | 6 |
| " " " named varieties per 100 7s. 6d. to | 10 | 6 | IXIAS, SPARAXIS, TRITONIAS, and BABIANAS, splendid named .. .. .. .. per 100 | 7 | 6 |
| " " DOUBLE, splendid mixed, all colours per 100 7s. to | 10 | 0 | LILY of the VALLEY .. .. .. .. .. " | 5 | 6 |
| | | | DOG'S-TOOTH VIOLETS .. .. .. .. " | 5 | 6 |
| " " " named varieties per 100 7s. 6d. to | 10 | 6 | WINTER ACONITES .. .. .. .. .. " | 2 | 6 |

### SURPLUS COLLECTIONS OF BULBS.

**No. 14. Collection for the Flower Garden, £2 2s.; Half, £1 1s.; Quarter, 10s. 6d.**

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|---|---|---|---|
| 50 HYACINTHS | 50 IRIS | 6 ARUMS | 12 ALLIUMS |
| 150 NARCISSUS | 30 IXIAS | 12 WHITE LILIES | 12 ORNITHOGALUM |
| 200 TULIPS | 30 SPARAXIS | 50 DOG'S-TOOTH VIOLETS | 12 WATSONIAS |
| 300 CROCUS | 30 SCILLAS | 50 WINTER ACONITES | 50 WINTER ACONITES |

**No. 15. Collection for the Sitting Room and Conservatory, £2 2s.,; Half, £1 1s.; Quarter, 10s. 6d.**

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|---|---|---|
| 25 HYACINTHS for Glasses | 25 POLYANTHUS NARCISSUS | 200 SEEDLING CROCUS |
| 25 HYACINTHS for Pots | 25 DOUBLE SWEET-SCENTED JONQUILS | 25 IXIAS |
| 25 POMPON HYACINTHS | 50 TULIPS in 16 varieties | 25 SPARAXIS |

BARR AND SUGDEN, SEED MERCHANTS, 12, KING STREET, COVENT GARDEN.

ESTABLISHED UPWARDS OF A CENTURY.

EXHIBITION PRIZE MEDALS 1851 and 1862.

## BUTLER & McCULLOCH,

SEED MERCHANTS,

COVENT GARDEN MARKET, LONDON, W.C.

## COLLECTIONS of VEGETABLE SEEDS for 1864,

OF THIS YEAR'S GROWTH.

*Carriage Free. Five per Cent. allowed for Cash.*

A London reference or remittance requested from unknown correspondents.

| | | £ | s. | d. |
|---|---|---|---|---|
| No. 1. | Containing 28 quarts Peas and Beans, and all other Seeds requisite for the Kitchen Garden in proportion ... ... ... ... ... ... | £3 | 3 | 0 |
| No. 2. | Containing 16 quarts Peas and Beans ditto ditto ditto ... | 2 | 2 | 0 |
| No. 3. | " 12 " " " " " " ... | 1 | 10 | 0 |
| No. 4. | " 8 " " " " " " ... | 1 | 1 | 0 |

A DETAILED LIST of these COLLECTIONS may be had on application.

### "Z" Family, now offered for the First Time.

HALLETT'S [TRADE PEDIGREE MARK] NURSERY WHEAT.

For full description of "Z family" see Advertisements in our Numbers for September and October, 1863.

PRICE—One Guinea a Bushel (or Seven Guineas a Quarter), delivered with printed directions for planting, at the Brighton Railway Station, in bags sewed up and sealed, upon receipt of Cheque or Post Office Order, which must in all cases accompany the order. *In December drill 8 bushels on 5 acres.*

HOW OUR WHEAT CROPS MAY BE DOUBLED, and other papers forwarded on application, enclosing six stamps.

Apply to FREDERIC F. HALLETT, Esq., F.L.S., The Manor House, Brighton, Sussex.

### Seed Potatoes.

H. AND F. SHARPE are now taking orders for all the principal varieties of Seed Potatoes, including MYATT'S EARLY PROLIFIC KIDNEY, and EARLY DALMAHOY (round), the earliest and most productive varieties in cultivation. The quality is very fine and prices low.

Seed Growing Establishment, Wisbech.

### To the Trade.

VEITCH'S PERFECTION PEA, TRUE.

MR. JAMES VEITCH, Royal Exotic Nursery, Chelsea, having grown a very superior Stock of the above fine PEA this Season, and having rather more than he requires for his own Retail Sale, will be happy to furnish price per bushel on application.

### To the Seed Trade.

PEAS.—Early Emperor, Prizetaker, Bedman's Imperial, Ne Plus Ultra, Sangster's No. 1, and Payne's Conqueror. The Subscribers have pleasure in offering about 200 quarters of the above, all the growth of 1863, from true stocks, and harvested in fine condition. Samples with Prices on application to

MARSH & PERKINS, 42, Drapery, Northampton.

### The Yorkshire Hero Pea.

E. P. DIXON AND SONS have to announce their intention of sending out their new DWARF GREEN WRINKLED MARROW PEA, the YORKSHIRE HERO, which cannot be surpassed for fine flavour and productiveness, upwards of 70 pods having been counted on a stem. It is similar in appearance to the Veitch's Perfection, but much dwarfer, more prolific and considerably earlier. Price 5s. per quart; 2s. 6d. per pint.

For Testimonials we beg to refer to the *Gardeners' Chronicle*, Dec. 5, p. 1152.

The NEW MAMMOTH WHITE CELERY, the largest and sweetest grown; wherever exhibited it always obtained the First Prize. 1s. per packet.

HUNT'S SWEET WILLIAMS (true), *1s. 6d. per oz., or 6d.* per packet.

EDMUND PHILIP DIXON & SONS, The Yorkshire Seed Establishment, 57, Queen Street, Hull.

AGENTS in London:—
Messrs. HURST & SON, 6, Leadenhall Street.
" COOPER & BOLTON, 152, Fleet Street.
" JACOB WRENCH & SONS, London Bridge.
" BECK, HENDERSON, & CHILD, Seed Merchants, 221 & 222, Upper Thames Street, London, E.C.

REIGATE SILVER SAND.—Best quality, 7s. 6d. per ton; packed, 16s. per ton; ditto 5s. 4 cwt.; ditto Clarified fine or sharp, 1s. 6d. cwt., put on the Rail at Reigate.
Best and second quality PEAT SOIL, LOAM, &c.
N B. Loaded Trucks can be sent on all the principal Railways
Every description of Nursery Products on Sale for the Trade.

W. SHORT, Reigate, Surrey.

REIGATE SILVER SAND, 12s. per ton at Swan Place, delivered five miles, or to any London wharf, or Railway, 16s. per ton, or 1s. 6d. per bushel (Sacks at cost price or on hire). KENTISH and HAMPSHIRE PEATS, LOAM, LEAF MOULD, SPHAGNUM, and COCOA FIBRE REFUSE.

J. KENNARD, Swan Place, Old Kent Road, London, S.E.

OSBORN'S WHITE WINTER BROCCOLI.—This is without doubt the best early and mid-winter Broccoli in cultivation; it forms fine heads and is as white as a Cauliflower—in these respects being equal to "Snow's," but superior to it, inasmuch as it is hardier (being self-protecting) and comes in before it. If sown early in March, it turns in early in November, and by successive sowings may be had in use up to April or May. Sold in sealed packets, 2s. 6d. each.

Fulham Nursery, London, S.W.—December 12.

Special offer to the Trade on application.

## Carter's Champion Broccoli.

A DWARF AND COMPACT-GROWING LARGE-HEADED LATE WHITE BROCCOLI, RAISED IN 1858 BY MR. SWINHERD, GARDENER TO JOHN SWINFORD, ESQ., MINSTER ABBEY, KENT.

JAMES CARTER AND CO. have much pleasure in calling special attention to the above first-class variety of BROCCOLI; it has been thoroughly proved by them for the last five seasons, and they can with confidence recommend it as being the BEST LATE WHITE BROCCOLI in CULTIVATION.

The following unsolicited testimonials have been received:—

Extract from the *Gardeners' Chronicle* of May 28, 1859:—

"Messrs. Carter & Co. have sent us specimens of a new Broccoli, with the following memorandum:—'This Broccoli has been proved side by side with the Wilcove Late White, Ward's Late White, Reading Giant Late White, Dwarf Danish, and other approved late kinds, and has shown itself superior to all of them. The Wilcove Late White are finished cutting more than a fortnight since; this variety is just coming in, and fine heads will be cut for the next 10 days.' The heads forwarded to us were of the finest possible quality, very large, not in the least coarse, white rather than cream-coloured, and proved when cooked to be wholly free from the strong taste which spoils so many Broccolis."

Extract from *Essex Telegraph*, September 1, 1863.

"Carter's Champion, a late variety, producing very large heads, white."

xtract from the *Gardeners' Chronicle* of Saturday, Oct. 3, 1863.

"Among Broccolis, Carter's Champion stands at the head, being the latest variety in cultivation, very large, white and unusually free from the strong taste which spoils so many Broccolis."

Letter received from ARTHUR HENDERSON, Esq., Pine Apple Place Nurseries, Edgware Road.

"Pine Apple Place, Edgware Road, London, W.
"November 9, 1863.

"DEAR SIRS,—A friend of mine in Bedfordshire sent me some very fine heads of your Broccoli 'Carter's Champion,' certainly a most excellent variety. He says: 'With me this kind comes so dwarf and keeps so close to the ground that the wintry weather and wind has no effect in hurting it; other varieties suffered, whereas this Broccoli escaped and produced fine large heads.' He also states: 'I have some dozens equal to those sent you to-day, May 28. Cauliflower with me will be fit to cut before this Champion is over. This is what has been wanting for many a long year; a vegetable of this kind is a trump card worth a trifle.' I saw this Broccoli afterwards myself, and it is a really excellent and compact variety, with large round and close heads, flavour sweet and first-rate; growth equal and alike as if turned out of a machine. There is no mistake in this being one of the right things; coming in so late is another valuable consideration; it certainly fills up the gap or interval between the Broccoli and Cauliflower.

"Yours faithfully, ARTHUR HENDERSON."

Messrs. JAMES CARTER & Co., High Holborn, London, W.C.

J. CARTER & Co. are prepared to offer seed of this first-class Broccoli in packets, price 1s. each, and to the Trade in larger quantities on liberal terms.

The undermentioned is a List of Seed Merchants who have received their supply direct from J. CARTER & Co.:—

| | |
|---|---|
| Messrs. AUSTIN & McASLAN | .. Glasgow |
| ,, BALLANTYNE & SON | .. Dalkeith |
| ,, BARR & SUGDEN .. | .. Covent Garden |
| ,, J. & T. BLACK .. | .. Jedburgh. |
| Mr. BRADFORD .. : | .. Fisherton, Salisbury |
| Messrs. BUTLER & McCULLOCH | .. Covent Garden |
| Mr. E. COOLING .. .. | .. Derby |
| ,, J. COOLING .. .. | .. Bath |
| Messrs. COOPER & BOLTON | .. Fleet Street |
| Mr. W. DEANS .. .. | .. Jedburgh |
| Messrs. F. & A. DICKSON & SONS, | Chester |
| ,, JAS. DICKSON & Co. | .. Edinburgh |
| ,, JAS. DICKSON & SONS | .. Edinburgh |
| ,, DICKSONS & BROWN | .. Manchester |
| Mr. W. DODS .. .. | .. Haddington. |
| Messrs. EDMONDSON BROS. | .. Dublin |
| ,, JAS. GARAWAY & Co. | .. Bristol |
| Mr. F. G. GODWIN .. .. | .. Sheffield |
| Messrs. A. HENDERSON & Co. | .. Edgware Road |
| ,, JAS. HUNTER & Co. | .. Bristol |
| ,, HURST & SON .. | .. Leadenhall Street |
| Mr. G. INGLIS .. .. | .. Dron |
| Messrs. LAIRD & SINCLAIR | .. Dundee |
| Mr. H. MAY .. .. .. | .. Bedale |
| ,, R. H. POYNTER.. .. | .. Taunton |
| Messrs. E. SANG & SONS .. | .. Kirkcaldy |
| Mr. G. SIBBALD .. .. | .. Dundee |
| ,, T. SIBBALD .. .. | .. Bishop Auckland |
| Messrs. SMITH & SIMONS .. | .. Glasgow |
| ,, W. SMITH & SON.. | . Aberdeen |
| Mr. J. SODEN .. .. | .. Middle Barton, Oxon |
| Messrs. STUART & MEIN .. | .. Kelso |
| ,, SUTTON & SONS .. | .. Reading |
| Mr. W. TAYLOR .. .. | .. Cupar, Fife |
| THE LONDON SEED COMPANY | .. Welbeck Street |
| Mr. C. TURNER .. .. | .. Slough |
| ,, JAMES VEITCH, Jun. .. | .. Chelsea |
| ,, W. J. WATSON.. .. | .. Fenham, Newcastle-on-Tyne |
| Messrs. J. C. WHEELER & SON | .. Gloucester |
| Mr. G. WHEELER .. .. | .. Warminster |
| ,, G. WHITE .. .. | .. Paisley |
| ,, B. S. WILLIAMS .. | .. Holloway |
| Messrs. W. WOOD & SON .. | .. Maresfield |

JAMES CARTER & Co., 238, High Holborn, W.C.

THE STUDENT PARSNIP.—This delicious Parsnip becomes every year more popular. Numerous Prizes have been taken this season at Horticultural Shows; as also the First Prize at the International Show of the Royal Horticultural Society in October 1862.

Mr. SHIRLEY HIBBERD, in the *Garden Oracle*, says of it:—

"SUTTON'S Student Parsnip is a great improvement, and should be grown everywhere. It is certainly the best for Exhibition."

SUTTON & SONS, Reading, can supply NEW SEED, 1s. per oz. (post free). Trade price on application. The undermentioned Houses have been supplied with New Seed direct from Messrs. SUTTON & SONS' this season.

| | |
|---|---|
| AUSTEN & McASLAN .. .. | 186, Trongate, Glasgow |
| BATT, RUTLEY & SILVERLOCK .. | Strand, London, W.C. |
| BACKHOUSE, JAS. & SON .. | York. |
| BECK, HENDERSON, & CHILD .. | Adelphi, London, W.C. |
| BROWN HENRY .. .. .. | 4, Commutation Row, Liverpool |
| BURGESS, A. .. .. .. | Nurseries, Cheltenham. |
| COOPER & BOLTON .. .. | Fleet Street, London, E.C. |
| DICKSON, HOGG, & ROBERTSON | 22, Mary Street, Dublin |
| DIXON, E. & SON .. .. .. | 57, Queen Street, Hull |
| DICKSONS & BROWN .. .. | Manchester |
| DICKSON & TURNBULL .. .. | 26, George Street, Perth |
| EDMONDSON BROTHERS .. .. | 10, Dame Street, Dublin |
| FINNEY, SAMUEL & Co. .. .. | Gateshead |
| FISHER, HOLMES, & Co. .. .. | Handsworth, Sheffield |
| GARAWAY & Co. .. .. .. | Durdham Down, Bristol |
| HURST & SON .. .. . | 6, Leadenhall Street. |
| LAFFAN, JOHN .. .. .. | 1, Pembroke St., Cork. |
| NUTTING & SON .. .. .. | 60, Barbican, E.C. |
| PILLINGER, JOHN .. .. .. | Nurseries, Chepstow. |
| STUART & MEIN .. .. .. | Kelso, N.B. |
| SHAW, JOHN .. .. .. | 29, Oxford St., Manchester |
| THE LONDON SEED COMPANY .. | 68, Welbeck Street, London |
| TURNER, CHARLES .. .. | Royal Nurseries, Slough |
| VEITCH, J. .. .. .. .. | Exotic Nursery, Chelsea |
| VEITCH & SON .. .. .. | 54, High Street, Exeter. |
| WOOD & SON .. .. .. | Maresfield, Uckfield. |
| WRENCH, JACOB & SON.. .. | London Bridge, E.C. |

RETAIL PRICE, 1s. per oz.
WHOLESALE PRICE ON APPLICATION.

SUTTON & SONS, Royal Berkshire Seed Establishment, Reading.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2s. per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the PATENT COCOA FIBRE COMPANY, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are sold in every town.

CAUTION.—Every Brush is stamped 'J. BARSHAM'S Patent'

Magnified Aphis.

NEAL'S PLANT SOAP and APHIS PASTILS,

1s. and 2s. per packet,

may be obtained from all respectable Seedsmen.

Testimonials forwarded on application to the Patentee,

J. NEAL,
Edward Street, Birmingham.

## Winter Dress all Fruit Trees with GISHURST COMPOUND

Red Spider Magnified.

*Copy of a Letter from* Mr. RIVERS.
"Nurseries, Sawbridgeworth, Herts, Oct. 22, 1861.

"I must tell you what I heard to-day from a very clever gentleman farmer, Anthony Bubb, Esq., of Witcombe Court, Gloucester. He has a wall to which Peach trees are trained. Well, last autumn they were in a wretched blighted state. As a desperate remedy he unnailed them all early last February, and gave all but one a thorough painting with Gishurst Compound, 1 lb. to the gallon of water; his trees, all but the one, commenced to grow favourably in spring, and are now pictures of health. The tree not painted is in a half-dead blighted state. He used the same dressing to his Apple trees; it killed the woolly aphis entirely, and has made his trees clear and vigorous in their growth. He intends to paint his wall trees annually, and tells all his friends to do the same. I shall certainly serve all my young Peach trees against my walls in the same manner. The Compound is, I believe, more efficacious than the usual offensive mixtures of clay, soot, sulphur, &c., and it does not blacken the shoots on the walls."

For Orchard-house Trees 4 ounces to the gallon will be found a good strength; when used stronger some buds on weakly trees may be injured.

GISHURST COMPOUND is Sold Retail by Nurserymen and Seedsmen, in boxes 1s., 3s., and 10s. 6d. each.

Wholesale by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont Vauxhall, London, S.

ROCKWORK FERNERIES, WATERFALLS, CAVES, BANKS of STREAMS and PONDS, executed in the only way it should be, *i.e.*, to imitate Natural ROCKS. Worked with pockets, for plenty of plants, by JAMES PULHAM, Broxbourne, Herts.

References to works executed in 10 counties, some by the recommendation of W. B. THOMAS, Esq., R. MARNOCK, Esq., and E. MILNER, Esq.

## Horticultural Agent and Valuer.

MR. A. CHANDLER (of the late Firm of CHANDLER & SONS) continues to undertake all kinds of VALUATIONS connected with Horticulture.

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## Landscape Gardening.

MR. GEO. H. STOKES, ARCHITECT, engages to prepare DESIGNS for Laying Out ESTATES and ORNAMENTAL GARDENS, having been for upwards of 17 years Principal, under Sir Joseph Paxton, M.P., in the preparation of similar Designs, including those for the Crystal Palace at Sydenham.

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SHAW'S TIFFANY.

For samples and prices apply to

J. SHAW & Co., 29, Oxford Street, Manchester.

## Universal Microscope. Price £5 5s.

SMITH, BECK, AND BECK, 31, Cornhill, E.C.; late 6, Coleman Street.

*** Catalogues sent on receipt of 6 postage stamps.

## Russian Mats.

FOR SALE, a large STOCK of the above, of various descriptions.

Apply to CHAMBERS & FARGUS, Importers, &c., 6, High Street, Hull.

## The Original Seed Bag Manufactory.

ALEXANDER NICOL AND CO., MANUFACTURERS of SEED BAGS, CORN SACKS, &c. Chalmers Street Works, Arbroath, N.B.

HORTICULTURAL and AGRICULTURAL IMPLEMENTS and MACHINES of every description.

Illustrated Catalogues on application.

THOMAS GREEN & SON, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

HOT-WATER PIPES, at Reduced Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, TUBULAR, and Elliptic, from 24s. each. Improved Boilers and Iron Stands to use without brickwork, 56s. each. Valves from 10s. 6d. each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at

Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S. Price List on application.

W. J. HOLLANDS, IRON MERCHANT, 31, Bankside, London, S.E.

HOT WATER PIPES, from Stock, per yard:—2 inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS, from stock, 1s. 7d., 2s. 6d., and 3s. 3d. each. THROTTLE VALVES, 10s. 6d., 13s. 6d., and 15s. each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

GARDEN BORDER-EDGING TILES, in great variety of patterns and material.

GARDEN VASES, FOUNTAINS, &c., in Artificial Stone, of great durability.

May be obtained at F. & G. ROSHER'S Premises, Upper Ground Street, Blackfriars, S.; Queen's Road West, Chelsea, S.W.; and Kingsland Road, Kingsland, N.E.

Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability, Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER, at their Premises as above.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump, Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

The GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

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| Two yards wide .. .. .. | 1s. 8d. per yard run. |
| Four yards wide .. .. .. | 3s. 4d. per yard. |
| An improved make, 2 yards wide, | 1s. 9d. per yard. |
| An improved make, 3 yards wide, | 2s. 8d. per yard run. |

Also "Frigi Domo" Netting, 2 yards wide, 1s. 6d. per yard run.

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Great Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering.

# GRAY'S OVAL TUBULAR BOILER.

## INTERNATIONAL EXHIBITION, Class IX., No. 2119.

Mr. Gray begs to call the attention of the Nobility, Gentry, Nurserymen, Gardeners, &c., to his

## NEW OVAL TUBULAR BOILER,

acknowledged by practical judges to be a great improvement on every form of Tubular Boiler yet introduced. It has proved itself superior to all other Boilers for quickness of action and economy of Fuel, doing its work with one-third less the amount required by any other.

*Extract from Report in* Gardeners' Chronicle *of International Exhibition, May 24, page 476.*

"The upright form of Boiler is usually made on a circular plan, but the oval form given to Mr. Gray's variety of it is said to be preferable in consequence of its bringing the tubes in closer contact with the fire. The usual form of a furnace being a parallelogram rather than a square, it seems feasible that the Boilers on the oval plan should bring the tubes more completely within range of the burning fuel; and this being so the change, though a slight one, is no doubt an improvement."

They are made of all sizes, which, with prices, may be had on application.

JAMES GRAY, HORTICULTURAL WORKS,
DANVERS STREET, PAULTON'S SQUARE, KING'S ROAD, CHELSEA, S.W.

# PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

# T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
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| 16 feet by 8 feet... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

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## ORIGINAL ANTI-CORROSION PAINT.

White ... ... ... }
Light Stone ... }
Bath Do. ... ... ... } Per cwt. 30s.
Cream Color ... ... }
Light Portland Stone ... }
Drab or Portland Do. ... }
Light and Dark Oak ... } 26s.
Lead Color ... ... ... }

Bright Red ... ... }
Dark Do. (or Brick Color) } Per cwt. 26s.
Chocolate Color ... ... }
Black ... ... ... }

Bright Green ... ... }
Deep Green... ... ... } 44s.
Blue ... ... ... }

PATRONISED BY

THE BRITISH GOVERNMENT | THE LAMENTED PRINCE CONSORT | RAILWAY AND CANAL COMPANIES
THE RUSSIAN GOVERNMENT | MOST OF THE NOBILITY & GENTRY | COLLIERIES, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

### OUT-DOOR WORK,

and has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to Wooden Houses, Farm and other Out-Buildings, Park Fencing, Gates, &c.; also Iron Roofing, Bridges, Hurdling, and every description of Iron Work, while for

PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

and every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone. It is undoubtedly the only Paint that will stand on

### CONSERVATORIES, GREENHOUSES, FRAMES, &c.

and is in consequence largely used by the Nobility and Gentry, also many eminent Horticulturists, for such purposes. The Anti-Corrosion is Lower in Price, and lasts twice as long as the Best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, and will keep any length of time.

Carriage paid upon quantities of not less than 5 cwt. to any station in England and Wales, or by Water to any Port in the United Kingdom, where there is a direct communication from London, as Leith, Dublin, Belfast, Glasgow, Aberdeen, &c.

OIL, TURPENTINE, AND BRUSHES.

Patterns, Cards, and Testimonials sent upon application to

WALTER CARSON and SONS (Successors to the Inventors),
9, GREAT WINCHESTER STREET (Near the Royal Exchange, London, E.C.)

*No Agents throughout the United Kingdom.*

Paxton Works, Sheffield, Established 1738.

International Exhibition Prize Medal was Awarded to Saynor & Cooke for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR and COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

Caution.—None are genuine unless marked Saynor. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

GREEN'S IMPROVED NEW PATENT ROLLER for LAWNS, DRIVES, BOWLING GREENS, CRICKET FIELDS, and GRAVEL PATHS, &c.

These Rollers possess many advantages over all others; they are made in two parts, and are free to revolve on the axis, affording greater facility for turning, and the outer edges are rounded off or turned inwards, thus avoiding the unsightly marks left by other Rollers. They are manufactured of the very best materials, and are got up in a manner surpassing any ever yet brought out.

Prices:—

| | | | |
|---|---|---|---|
| Diameter 30 inches, | length 32 inches | .. .. | £7 0 0 |
| ,, 24 inches, | ,, 26 inches | .. .. | 4 5 0 |
| ,, 20 inches, | ,, 22 inches | .. .. | 3 5 0 |
| ,, 16 inches, | ,, 17 inches | .. .. | 2 10 0 |

Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.

Thomas Green & Son, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

Card.

SAMUEL N. McGERROW,
General Horticultural Builder,
Knotty Ash, near Liverpool.
Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

JAMES WATTS and CO., Hothouse Builders and Hotwater Apparatus Manufacturers, 353, Old Kent Road, London, S.E.

200 CUCUMBER and MELON BOXES and LIGHTS, and from 400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.

Glazed and Painted complete, ready for immediate use. Packed and sent to all parts of the kingdom.

10 dozen strong Zinc HAND GLASSES, Glazed and Painted complete, ready for immediate use, 18, 20, and 22, all shifting tops.

Reference to the Nobility, Gentry, and Trade in most of the Counties in England.

Heating by Hot-water.

THE ORIGINAL SADDLE BOILER, with Improved Tubular Check Draft, Flued Ends, and Ribbed Sides, for Heating Greenhouses, Vineries, Forcing Pits, Public Buildings, &c. These Boilers possess increased heating surface capacity, power, economy in fuel, and are the only class of Boilers, all points considered, when properly fixed, that can be relied upon with safety for Heating Greenhouses, &c., of any extent by hot-water, and at a moderate price.

Gardeners interested in such work should write for LIST of TESTIMONIALS, sent Post Free, on application to Frederick William Butt (late of London), Portadown, Ireland.

Oil Paint no longer Necessary.

HILL and SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which Hill & Smith will forward on application.

Sold in casks of about 30 gallons each, at 1s. 6d. per gallon, at the Manufactory, or 1s. 8d. per gallon paid to any Station in the kingdom.

Apply to Hill & Smith, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

THE LONDON SEED COMPANY, LIMITED, with which is AMALGAMATED the PLYMOUTH SEED COMPANY LIMITED.
Offices: 68, Welbeck Street, Cavendish Square, London, W.

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**British Fern Catalogue.**

ROBERT SIM can now send, post free for six postage stamps, Part I. (British Ferns and their varieties, 36 pages, including prices of Hardy Exotic Ferns) of his New and PRICED DESCRIPTIVE CATALOGUE of BRITISH and EXOTIC FERNS, No. 7.

*** Part II. (Exotic Ferns) will be issued as early as possible.

Foot's Cray Nursery, S.E.

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**Superb Double Hollyhocks.**

WILLIAM CHATER'S NEW LIST is now ready, and may be had on application by enclosing one Postage Stamp.

P.S. A large stock of FINE PLANTS now ready.

Nurseries, Saffron Walden.

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**To the Seed Trade—Tritoma Uvaria.**

WM. THOMPSON, SEEDSMAN, Tavern Street, Ipswich, has a few Ounces of SEED to spare of the best variety of the above highly ornamental Perennial at a very moderate price, which he will be happy to furnish on application.

---

**To the Trade.**

AZALEAS, ERICAS, and EPACRIS, fine bushy plants, well set with flower buds, at moderate prices. An inspection solicited.

THOMAS JACKSON & SON, Nurseries, Kingston, S.W., adjoining the Kingston New Station, South Western Railway.

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**Notice.**

JOHN WATERER, of The American Nursery, Bagshot, Surrey, is the EXHIBITOR of RHODODENDRONS at the Royal Botanic Gardens, Regent's Park.

His CATALOGUE, describing colours, prices, &c., can be obtained by letter addressed to the Nursery as above.

☞ For detailed Advertisement of CONIFERS, ORNAMENTAL SHRUBS, &c., refer to page 1151.

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**Rhododendrons.**

CRIMSON, WHITE, PURPLE, AND SCARLET.

CHARLES NOBLE has RECEIVED the AWARD of the Royal Horticultural Society as under FOR RHODODENDRONS.

FIRST PRIZE, 1861.
FIRST PRIZE, 1862.
FIRST PRIZE, 1863.

CATALOGUES are now ready, and a stock of Plants in the most perfect health, of all sizes, and at prices to suit all purposes. Sunningdale Nursery, S.W. Rail.

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GEO. BAKER begs to announce that his extensive Collections of Hardy RHODODENDRONS, GHENT AZALEAS, and KALMIA LATIFOLIA, are unusually well set with bloom, and his fine Collection of CONIFERS in the best possible condition.

CATALOGUES on application at the American Nursery, Bagshot, Surrey. The Nurseries are about 1 mile from Sunningdale Station, South-Western Railway.

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JAPAN LILIES, Extra strong Flowering Bulbs.

| | | Each—s. | d. |
|---|---|---|---|
| LILIUM LANCIFOLIUM | ALBUM .. .. .. | 1 | 0 |
| „ „ | ROSEUM .. .. .. | 1 | 3 |
| „ „ | RUBRUM .. .. .. | 1 | 3 |

Three each of the above, 10s.

BUTLER & McCULLOCH, Seed Merchants, Covent Garden Market, London, W.C.

---

**Beck's New Pelargoniums,**

OFFERED FOR THE FIRST TIME.

B. S. WILLIAMS begs to announce that he is now prepared to supply strong plants of the above, which have received certificates of the highest merit during the past and previous seasons. They have been selected with great care, and are far in advance of any yet offered.

For descriptions and prices see *Gardeners' Chronicle*, Oct. 24; also in CATALOGUE, which can be had on application.

Paradise and Victoria Nurseries, Holloway, London, W.

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**New and Choice Plants.**

B. S. WILLIAMS invites inspection of his large and well assorted Collections of EXOTIC ORCHIDS, FERNS, and LYCOPODS, MISCELLANEOUS STOVE and GREENHOUSE PLANTS, VARIEGATED and ORNAMENTAL FOLIAGED PLANTS, TREE FERNS, &c., amongst which are some very fine specimens.

A DESCRIPTIVE and PRICED CATALOGUE post free on application.

Paradise and Victoria Nurseries, Holloway, London, N.

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**Gladiolus Brenchleyensis.**

YOUELL AND CO. have much pleasure in offering the above GLADIOLUS, unequalled by any other variety for the brilliancy of its colour. The Bulbs are unusually fine. Price 3s. per doz.; 20s. per 100.

Trade price on application,
Royal Nurseries, Great Yarmouth, Norfolk.

---

**Prize Gladioli.**

YOUELL AND CO. were awarded the following PRIZES for the above in September last:—

FIRST AND SECOND PRIZE, CRYSTAL PALACE,
FIRST PRIZE, ROYAL HORTICULTURAL SOCIETY,
FIRST PRIZE, BRIGHTON.

CATALOGUES of this collection will be forwarded on application.

Royal Nurseries, Great Yarmouth, Norfolk.

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**Choice Gladioli.**

B. S. WILLIAMS has great pleasure in announcing that he has a Choice Collection of each class of these popular Bulbs. Also a Select List of the New Varieties raised this year. The Bulbs are very fine, and early orders are respectfully solicited.

Collection of 24 Choice Varieties, one root of each, for 21s.
Choice named Varieties, 6s., 8s., and 10s. per dozen.
A PRICED and DESCRIPTIVE LIST on application.

Paradise and Victoria Nurseries, Holloway, London, N.

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LOUIS VAN HOUTTE, NURSERYMAN and SEEDSMAN, Ghent, Belgium, begs to call attention to his Four New PRICE LISTS, No. 97, 98, 99, and 100, containing the Stove, Greenhouse, Hardy Plants, Seeds (262 pages 12mo).

Agents in London: Messrs. R. SILBERRAD & SON, 5, Harp Lane, Great Tower Street, E.C.

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**To the Trade.—Continental Flower Seeds, &c.**

F. W. WENDEL, SEED MERCHANT, &c., Erfurt, Prussia, begs to announce that his WHOLESALE CATALOGUE of the above is now ready, and will be forwarded free on application to his Agent, GEO. MACINTOSH, Nurseryman, High Road, Hammersmith, W., to whom all communications should be addressed.

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**Great Reduction in the Price of Roses.**

NOT TO BE UNDERSOLD BY ANY RESPECTABLE HOUSE IN THE TRADE. WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

Since issuing their NEW ROSE CATALOGUE for the Autumn of 1863 and the Spring of 1864,

WILLIAM WOOD AND SON have ascertained that other Houses in the Trade are offering some kinds of Roses at a lower rate than themselves, and as they are fully determined NOT TO BE UNDERSOLD by any RESPECTABLE House, they have prepared a REVISED LIST of ROSES at reduced prices, and will have much pleasure in forwarding copies of the same, Gratis and post-free, to all applicants.

---

**Roses.**

EDWIN HOLLAMBY has the pleasure of informing the Nobility and Gentry that his extensive Stock of STANDARD and DWARF ROSES of all the leading kinds in cultivation is in the finest possible condition; fine straight stems, fine heads, and beautifully rooted. Purchasers of large quantities will be liberally dealt with.

DESCRIPTIVE PRICED CATALOGUES for the present season will be forwarded gratis and post paid on application.

Nursery and Seed Establishment, Tunbridge Wells; and Goldsmith's Park, Groombridge, Kent.

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**Mitchell's Renowned Roses.**

PATRONISED BY THE ROYAL FAMILY.

JAMES MITCHELL has the honour of informing the nobility and gentry, that he has to offer this season the most magnificent stock in England. All Roses at these Nurseries are propagated and grown in the open ground, possessing a hardy constitution suitable for all climates.

(No grafted plants or any drawn up under glass, which cause the great number to fail every season).

Piltdown Nurseries, Maresfield, near Uckfield, Sussex.

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**Roses.**

GEO. PARSONS, NURSERYMAN and SEEDSMAN, by Special Appointment, to her Majesty, begs to offer fine STANDARD ROSES, from 2½ to 4 feet stems, at 15s. per doz., or 5l. per 100; DWARFS (none better in England), 9s. per doz., or 65s. per 100. The new varieties of 1862 and '63 at proportionate prices. CATALOGUES free on application.

Western Road, Brighton; and Hassock's Gate Nursery, Keymer, Sussex.

---

**Roses.**

JOHN CRANSTON offers selections of STANDARD and DWARF ROSES of very superior quality.

The robust growth and hardy constitution of the plants grown in this Nursery has long been acknowledged, and the Stock to offer this season is perhaps superior to any previous growth.

He also begs to direct attention especially to DWARF ROSES on the Manetti stock, of which he has an enormous stock.

The plants upon their own roots are also very strong and well grown.

| | Per dozen.—s. | d. |
|---|---|---|
| STANDARD ROSES of all the leading varieties in cultivation .. .. .. | 18 | 0 |
| Do. Newer varieties, introduced in 1861 and 1862 .. | 24 | 0 |
| DWARF ROSES, extra fine plants upon the Manetti stock .. .. .. 9s. to | 12 | 0 |
| Do., do., upon Dog-rose stock .. .. | 9 | 0 |
| Do. Newer Varieties, introduced in 1861 and 1862 15s. to | 18 | 0 |
| Do., do., of 1862 and 1863 .. .. 24s. to | 30 | 0 |
| STANDARD and HALF-STANDARD TEA-SCENTED ROSES, all the best varieties .. .. | 24 | 0 |
| DWARF ROSES upon their own roots, Hybrid Perpetuals, and Bourbons .. .. 9s. to | 12 | 0 |
| Do., do, Tea-scented .. .. .. 12s. to | 15 | 0 |
| CLIMBING ROSES .. .. .. | 9 | 0 |
| PILLAR ROSES, extra strong plants, 4 to 5 feet 12s. to | 15 | 0 |
| STANDARD WEEPING ROSES .. each 2s. to | 2 | 6 |
| ROSES in 8 and 9-inch pots grown especially for Forcing or Greenhouse culture, the best Hybrid Perpetuals, China, and Tea-scented varieties .. .. 24s. to | 30 | 0 |

DESCRIPTIVE CATALOGUES forwarded free on application.

Nurseries, King's Acre, near Hereford.

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**Paul's Nurseries, Waltham Cross, N.**

ROSES.—Superior STANDARDS, 18s. per dozen and upwards; Do. DWARFS, 9s. per doz. and upwards.

All the NEW ROSES, including BEAUTY of WALTHAM, MRS. WM PAUL, and LORD MACAULAY (three of the best), at the lowest advertised Prices. The new PRICED CATALOGUE is now ready, free by Post.

FRUIT TREES.—Apples, Pears, Plums, Cherries, Apricots, Peaches, Nectarines, Figs, Grape Vines, Gooseberries, Currants, Raspberries, Strawberries, &c. All the really desirable sorts in perfect condition for transplanting at lowest advertised prices. Fruit-bearing trees of the first seven fruits may be had suitable for potting for orchard house culture, from 18s. to 30s. per dozen. PRICED CATALOGUE free by post.

PLANTING.—Planting to any extent, with or without the supervision of the trees, &c., till established, undertaken in any part of the United Kingdom. The rich and varied collection of Trees and Shrubs growing in one Nursery of 80 Acres, have been removed within three years, which is almost a guarantee of success in transplantation.

WM. PAUL (Son and Successor to the late A. PAUL), Nurseries and Seed Warehouse, Waltham Cross, N. Entrance from the platform, Waltham Station (Great Eastern Railway), half-an-hour's ride from London.

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**Fruit Trees.**

JOHN CRANSTON offers superior, healthy grown plants of all the best varieties of FRUIT TREES, DESCRIPTIVE CATALOGUES of which will be forwarded on application.

| | Each.—s. | d. |
|---|---|---|
| APPLES.—Very fine Dwarf-trained .. .. | 2 | 6 |
| „ Pyramids .. .. .. | 2 | 6 |
| „ Standards .. .. 2s. to | 2 | 6 |
| APRICOTS.—Dwarf-trained .. .. 3s. 6d. to | 5 | 0 |
| „ Standard-trained .. .. 5s. to | 7 | 6 |
| CHERRIES.—Dwarf-trained .. .. 3s. 6d. to | 4 | 6 |
| „ Pyramids .. .. 2s. 6d. to | 3 | 6 |
| GRAPE VINES.—Standards .. .. .. | 2 | 6 |
| „ Very fine and well-ripened .. 3s. 6d. to | 5 | 0 |
| NECTARINES.—Dwarf-trained .. .. 3s. 6d. to | 5 | 0 |
| „ Standard-trained .. .. 5s. to | 7 | 6 |
| PEACHES.—Dwarf-trained .. .. 3s. 6d. to | 5 | 0 |
| „ Standard-trained .. .. 5s. to | 7 | 6 |
| PEARS.—Dwarf-trained .. .. .. | 3 | 6 |
| „ Pyramids .. .. 2s. 6d. to | 3 | 6 |
| „ Standards .. .. .. | 2 | 6 |
| PLUMS.—Dwarf-trained .. .. 3s. 6d. to | 4 | 6 |
| „ Standards .. .. .. | 2 | 6 |
| WALNUTS.—Standards .. .. .. | 2 | 6 |
| „ Extra strong .. .. 3s. 6d. to | 5 | 0 |

GOOSEBERRIES, CURRANTS, FIGS, RASPBERRIES, STRAWBERRIES, &c.

PEACHES, NECTARINES, and APRICOTS, established in Pots for Orchard House Culture, 5s. each.

| | |
|---|---|
| ASPARAGUS, two years .. .. .. | 2s. 6d. per 100 |
| SEA KALE, „ .. .. .. | 8s. per 100 |

Nurseries, King's Acre, near Hereford.

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**Very Strong Standard and Pyramid Pears and Plums.**

JAMES GARAWAY AND CO., Durdham Down Nurseries, Bristol, offer the above, of the best varieties, 24s. to 30s. per dozen.

AUTUMN CATALOGUE and FOREST TREE LIST free by post.

JAS. GARAWAY & Co., Durdham Down Nurseries, Bristol.

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RASPBERRIES.—Trade Price: Cornwell's Seedling, 14s.; Carter's Prolific, 12s.; Fillbasket, 10s.; Red Prolific, Autumn-Fruited and Yellow Antwerp, 8s. per 100. GOOSEBERRIES: Crown Bob, Warrington, Whitesmith and Balloon, bearing plants, 16s. per 100. ASPARAGUS, 1-year 10s., 2-year 15s. per 1000. Large LAURUSTINUS, &c.

GEO. CORNWELL & Co., Seedsmen, &c., Barnet, Herts, N.

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**Peach Trees for Forcing.**

MESSRS. THOS. RIVERS AND SON beg to offer very fine PEACH TREES in pots for forcing; they are from three to four years old, and full of blossom buds. The varieties cultivated are Noblesse, Royal George, Grosse Mignonne, Early York, Early Grosse Mignonne, and others.

Largest sized trees, 7s. 6d. each; fine trees, 5s. each; carriage paid to London.

Nurseries, Sawbridgeworth.

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EXTRA STRONG FRUITING VINES, from Eyes, with stout well ripened Rods, for immediate Fruiting in Pots, from 7s. 6d. each; for Planting Out, from 3s. 6d. each. DESCRIPTIVE LIST upon application.

"We can especially recommend the above, our Strong Vines having for some years given unqualified satisfaction." *Vide* leading article in *Gardeners' Chronicle*, Dec 13, 1862, p. 1170.

JAMES DICKSON & SONS, The Newton Nurseries; and 102, Eastgate Street, Chester.

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**Vines.**

JAMES CARTER AND CO. beg leave to call attention to their splendid collection of the above, consisting of several thousand CANES of the most approved varieties in cultivation. Extra strong, short-jointed, well-ripened Canes for fruiting in Pots next year; fine strong, well-ripened Canes for planting in Vineries, and strong hardy Canes for open walls.

For prices and full descriptive list of more than 40 finest selected varieties most suitable for above purposes, see AUTUMN SUPPLEMENT to their VADE MECUM, forwarded post free on application.

Seed Merchants and Nurserymen, 237 and 238, High Holborn, London, W.C.

---

GRAPE VINES.—Strong well ripened Canes of the following, at 3s. 6d. to 5s. each:—Black Hamburgh, Grizzly Frontignan, Black Prince, Chasselas Musqué, Black St. Peter's, Black Frontignan, Cannon Hall Muscat, Précoce Malingre, White Frontignan, White Sweetwater, Muscat of Alexandria, Tokay, Golden Hamburgh, Syrian Muscat Hamburgh, Mill Hill Hamburgh, Lady Downes, Black Cluster, Esperion, Muscat Troveron, Royal Muscadine, Trentham Black, Blanc de Kentsheim, Black July, Ingram's Prolific, Buckland Sweetwater, Cavoush.

JOHN CRANSTON, Nurseries, King's Acre, near Hereford.

---

**Grape Vines, Late.**

J. MEREDITH has some Strong VINES of the true variety of BLACK ALICANTE (which he has never occasion to set artificially) in 13 and 8-inch pots.

J. M. obtained a Prize at the Great International Show in October last, at South Kensington, for the above excellent late Grape. Splendid bunches of this valuable Grape may be seen at his Vineyard.

J. M. has also to offer some extra strong LADY DOWNES in 13 and 18-inch pots.

Prices on application to J. MEREDITH, The Vineyard, Garston, near Liverpool.

---

ORCHARD-HOUSE TREES, Fruiting in Pots—PEACHES, NECTARINES, APRICOTS, CHERRIES, PLUMS, PEARS, APPLES, and VINES.

RICHARD SMITH, Nurseryman and Seed Merchant, Worcester.

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FORTY ACRES of FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, PEACHES, NECTARINES, and APRICOTS in every form they can be desired for Fruiting.

RICHARD SMITH, Nurseryman and Seed Merchant, Worcester.

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W. VIRGO AND SON have a very large Stock of the following to offer for Sale at very moderate prices:—

| | |
|---|---|
| Apples, espalier | Hazel, 1 year seedling |
| Beech (Common), 3, 4, to 6 ft. | Laburnum, 6 to 8 ft. |
| Berberis aquifolia, 12 to 18 in. | Laurel, Common, 2 to 3 ft. |
| Ditto dulcis, 1, 2, to 3 ft. | Ditto, Portugal, 1 to 2 ft. |
| Briar (Sweet), 2 to 3 ft. | Mountain Ash, 6 to 9 ft. |
| Cherries, espalier | Oak, Turkey, 3 to 4 ft. |
| Ditto, standard | Poplars of various kinds, 4 to 6 ft. |
| Cotoneaster microphylla, 9 to 12 in. | Privet, 2 to 3 ft. |
| Holly, Green, 9 to 12 in. | Sycamore, 3, 4, 5, to 6 ft. |

All the above are strong, healthy, and well rooted.

Samples with prices can be had on application at the Nursery, Wonersh, near Guildford, Surrey.

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EDWARD J. EVANS AND CO., of York, Pennsylvania, U.S., have issued a DESCRIPTIVE CATALOGUE of NEW AMERICAN NATIVE APPLES, to which they invite special attention. Their collection embraces a large variety obtained from various sections of the country, all of which have considerable local reputation in localities from which received, and are worthy of more extended trial.

For CATALOGUES apply as above, or to Mr. C. RAOUX, New York.

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**Double Italian Tuberose Roots, 4s. per Dozen.**

A. COBBETT, FOREIGN WAREHOUSE, 18, Pall Mall W., has the pleasure to inform all Amateurs and Gardeners that he has just received from Italy his usual Annual Importation of this beautiful and fragrant Flower: and has much pleasure in announcing that the Roots are very large, and in splendid condition.

N.B. Directions for Planting sent with each order.

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JAS. GARAWAY AND CO.'S AUTUMN CATALOGUE for 1863, containing Priced Lists of Shrubs, Ornamental Trees, Conifers, Roses, and Fruit Trees of all descriptions, is now ready, and will be forwarded Post-free on application.

Orders exceeding 5l. Carriage Paid to the Irish ports in direct communication with Bristol.

JAS. GARAWAY & Co., Durdham Down Nurseries, Bristol.

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**Nurseries, Clonmel, Ireland.**

THE UNDERSIGNED is prepared to make a special offer of the following well-grown Plants, viz.:—

| | |
|---|---|
| 40,000 Beech, 3 and 4 ft. high. | 5000 Evergreen Privet, 2 to 3 ft. |
| 8,000 Ash, 3 and 4 ft. high. | 3,000 Tree Box, 1½ to 2 ft. |
| 1,500 Sweet Bays, 1½ to 2 ft. do. | 100 Phormium tenax. |

With a large and well-assorted Nursery Stock.

JOSEPH HIGGINS.

**American Plants.**

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE for the present Season is now ready, and will be forwarded free to all applicants. As well as American Plants, it contains a summary of their General Nursery Stock, one of the most extensive in the kingdom.

Knap Hill Nursery, near Woking, Surrey.

WEBB'S PRIZE COB FILBERTS, and other varieties of FILBERTS and NUTS, as shown in the GREAT EXHIBITION of 1862, and for which a CERTIFICATE of Honourable Mention was given. Trees of the above can be had on application to Mr. WEBB, Calcot Gardens, Reading.

THE PLYMOUTH SEED COMPANY, LIMITED, is AMALGAMATED with the LONDON SEED COMPANY, LIMITED. Registered Offices: 68, Welbeck Street, Cavendish Square, London, W.

**Best Seeds, Carriage Free.**

RICHARD SMITH, SEED MERCHANT and NURSERYMAN, Worcester.

ROYAL HORTICULTURAL SOCIETY.
FLORAL COMMITTEE.
LIST OF AWARDS.

FIRST-CLASS CERTIFICATES.

Oct. 6. DENDROBIUM EBURNEUM, from Messrs. Low & Co., Clapton.
Nov. 10. PLEOPELTIS ALBIDO-SQUAMATA, from Mr. Veitch, Chelsea.
" LINDSÆA? TRAPEZIFORMIS, from Mr. Bull, Chelsea.
Dec. 8. CALANTHE VEITCHII SUPERBA, from Mr. Veitch.
" SAXIFRAGA "JAPONICA" TRICOLOR, from Mr. Bull.

SECOND-CLASS CERTIFICATES.

Oct. 6. ANEMONE JAPONICA HONORINE JOBERT, from Messrs. E. G. Henderson & Son.
Dec. 8. CHRYSANTHEMUM MISS NIGHTINGALE, from Mr. Brown, Great Marlow.

COMMENDATION.

Nov. 10. CHRYSANTHEMUM LATE YELLOW DRAGON, from the Society's Garden.

SPECIAL CERTIFICATE.

Dec. 8. ODONTOGLOSSUM PHALÆNOPSIS, from E. McMorland, Esq.

THOMAS MOORE, Secretary to the Committee.

# The Gardeners' Chronicle.

## SATURDAY, DECEMBER 12, 1863.

MEETING FOR THE ENSUING WEEK.
THURSDAY, December 17—Linnean .. .. .. .. 8 P.M.

FOR many many years—nay for centuries—in England and France we have been cultivating for mere ornament large numbers of a race of fruit trees which Providence bestowed on us for their invaluable fruit. With here and there an exception, home-grown Oranges have been confined to Dreamland, and our best gardeners, misled by ancestral tradition, have not thought of turning their attention to their culture. We are however awake at last. We are now reminded that the kingdom of Do-nothing has passed away, and that we may soon expect our desserts to be furnished with well-ripened delicious Oranges from October till Christmas, long before any can be imported.

We are led to introduce this matter in consequence of having received from Mr. RIVERS of Sawbridgeworth a basket of ripe Tangierine Oranges, of most excellent flavour, each fruit having attached to it a cluster of the bright green leaves of the tree: the fruit when cut emitting a most agreeable odour, and the juice having a delicious briskness never to be found in imported fruit.

There are, it seems, two modes of cultivating this kind of Orange; either by forcing it so as to ripen in a single season, or by greenhouse management, under which the fruit produced in June does not ripen till July in the following season, thus hanging on the trees upwards of a year. As the first method seems the most eligible, we extract from the 11th edition of the "Orchard House" * the directions given for this mode of culture.

"The best way is certainly by forcing so as to have the fruit ripe in October. Oranges, if properly treated, will then be in the highest perfection, their skins bursting with delicious juice. To carry out this mode of culture, the trees should be removed to the pinery or vinery where early Grapes are being forced, early in the month of January; the pots plunged in gentle heat in the high temperature of such houses. They will blossom towards the end of February, and should be treated as all other kinds of fruit trees are when in bloom, *i. e.*, the pots and the lower branches may be syringed, but the blossoms kept dry. They will set large crops of fruit, which if too much crowded should be thinned. If possible the pots should be kept plunged or stand on a heated surface all the summer in the temperature of the pinery or forcing vinery; they will then ripen their fruit early in autumn." We may add that the fruit may remain on the trees, even when quite ripe, till after Christmas.

In growing Tangierine Oranges for dessert it seems that we are only on the threshold of Orange culture, for Mr. Rivers tells us that the thin-rinded St. Michael's Oranges, of which there are several varieties, ripen freely under the above treatment, the trees beginning to bear when quite young. The Maltese Blood Orange ripens equally well a few weeks after the Tangierine, and is also an abundant bearer, even when the trees are young. Nor can there be a doubt that in time we shall cultivate the large Pernambuco Oranges and other fine kinds. We may even hope indeed to see some day an Orange grove such as is described in the "Orchard House." It must, however, be always borne in mind that root-heat or "geothermal culture" must be carefully provided wherever Orange trees are planted out in glass houses for the sake of their fruit, or no success can possibly attend the experiment.

It is not with fruit as with flowers; in growing the former, changes are made very slowly. In the case of these Tangierine Oranges it is, we understand, 10 years or more since Mr. RIVERS ate some from trees growing in the garden of Mr. BELLENDEN KER at Cheshunt. On that occasion he was so struck with their excellence that he forthwith attempted to make them a regular article of trade cultivation. Having in this been perfectly successful, the growth of other kinds of Oranges naturally followed, and it is now clear that no reason exists why they should not enter into our fruit culture as largely as Peaches and Nectarines, for which they are most especially adapted, because of the fragrance of their flowers, and the beauty of their foliage, as well as the universally recognised excellence of their delicious fruit.

That the Gardens of the Hesperides will soon be restored in England we entertain no doubt.

GARDENS AT RAILWAY STATIONS, to which a Correspondent alludes at p. 1062, are objects of considerable interest, both to the public and also to the proprietors and others engaged at the stations. As the train by which we are travelling comes slowly to the stopping place, it is pleasant to look out upon a neat little garden, gay with pretty flowers. It reminds us of a degree of refinement and civilisation which was all but unknown a few years ago, and suggests that such objects are well worth the encouragement which directors and managers of railways are said to bestow upon them. In so far as the servants of the companies are concerned, such gardens must employ many an idle hour which would otherwise hang heavy on their hands, and at the same time afford an amount of real pleasure which is the reward of all the lovers of gardening pursuits.

The poorer classes in the northern parts of the kingdom have, as a rule, been rather behind their brethren in the south in their appreciation and enjoyment of plants and flowers. We well remember the efforts that were made some years ago to induce the agricultural labourers in Scotland to cultivate ornamental plants, and to form little gardens in front of their dwellings. In many instances such gardens were made, planted, and even kept in order by the landed proprietors themselves. But all this was of no avail; these gentlemen could not create the taste which was desired; there was a deep-seated prejudice against such innovations, and in favour of the mud heaps and dunghills of the olden time. The fences were gradually broken down, the shrubs and flowers were one by one rooted up, and all these doings had a tendency to dishearten the landlords, who, after all, perhaps had not set about the system of reformation in the proper way. Railways, however, are now civilising the people in the North, as well as in other parts of the country. Station gardens are common objects on many of the lines, and very pretty they are. A few weeks ago we happened to travel along a portion of the new line which runs through the heart of the Highlands—from Perth to Inverness—and in the course of the journey between Perth and the celebrated Highland Pass of Killiecrankie, we were greatly pleased with the number of nicely kept station gardens which we passed by the way. From the neat way in which the flowers were grown and arranged, their cultivation was evidently no task work, but a "labour of love," the results of which were appreciated and enjoyed. We are glad to find by the remarks of the correspondent we have alluded to, that directors of other lines of railway on the east coast of Scotland are also patronising station gardens by offering and awarding prizes for those that are best kept. This is as it should be, and the encouragement afforded in this way has already been followed by the most satisfactory results. Expensive plants are not required for such gardens. A few ornamental evergreen shrubs, Fuchsias, Scarlet Geraniums, Verbenas, Stocks, Wallflowers and Hollyhocks, together with Mignonette, and a good assortment of hardy annuals, are all cheap, and are easily cultivated. And no doubt gentlemen's gardeners along the lines, with their usual good nature, would readily supply seeds and cuttings of plants from their surplus stores, and would be encouraged to do so by their employers.

The encouragement of gardening amongst the poorer classes of our countrymen is a subject well worth the attention of all who take an interest in their welfare and happiness. On this account we gladly notice the efforts that are being made in many parts of the country, and even in the heart of London itself, to induce the poor to cultivate flowers, fruits, or vegetables by means of prizes to the most successful competitors, and by kindly words—"good words"—to all. These efforts do a large amount of good in many different ways. They give a healthy employment, with something to interest the mind, and much to enjoy. Leisure hours which would probably be spent in idleness, or in something worse, are usefully employed, and much happiness unalloyed is in this way placed within the reach of many whose lot it is to "earn their bread by the sweat of their brow." Nor are the poor alone benefited by changes which are brought about in this way. Those who lend a helping hand, and society in general, are all better for them, and thus the effort made is "twice blessed"—"it blesseth him that gives and him that takes."

While upon the subject we may again allude to the great importance of having soldiers' gardens at all those places where our troops are stationed, not in England only, but also in all parts of our possessions abroad. Idleness of body and mind is the worst enemy the common soldier has to contend with. It leads to all kinds of excesses on the one hand, and on the other it renders him more liable to the attacks of many of those diseases which are so fatal in the countries in which he is called to serve. We could point to more than one of our colonies in which, while the commissioned officers, merchants, and all who had occupation for the body and mind, were comparatively healthy, the common soldiers sickened and died in such numbers that a whole regiment was lost in three years! We have no hesitation in saying that this fearful state of mortality is more to be attributed to the want of mental occupation than to the unhealthiness of climate. Let our soldiers have more to occupy their minds than the mere routine of duty, and there is no reason why they should be more unhealthy than the other classes we have just mentioned. As a means to this most desirable end, soldiers' gardens cannot be too highly encouraged.

In all parts of the world civilisation and a love for gardening pursuits appear to go hand in hand. Whenever we meet with a people who are fond of flowers, we may be pretty sure that they are not the rude savages we may have been led to believe them to be. Their civilisation may not be quite of the same kind as ours; they may not be so far advanced in a knowledge of arts and sciences as we are, but nevertheless we shall probably find that they have acquired enough of knowledge to enable them to produce all the necessaries and many of the luxuries of life, and that they are good parents, dutiful children, and worthy members of society. Our own country forms no exception to the general rule, and we are glad to accept the increasing love for flowers amongst our labouring population as one of the landmarks of progress in our advance in civilisation.

*IN the present transition state of the* ORCHID FANCY, *it cannot be too frequently repeated, that* some of the most lovely of the species of this lovely family are to be found among those which, for their preservation at least, if not always for their acquisition, do not make the highest demands on the purses of those who cultivate them. They ask but a minimum expenditure for fuel, if only they are sheltered by an enclosure of glass, and are not stinted for want of moisture. Mr. BATEMAN some time ago had illustrated this fact at one of the floral meetings at South Kensington by the production of Epidendrum vitellinum in good health, grown under the cool *régime*.

It was further illustrated on Tuesday last by Mr. M'MORLAND, who brought forward a plant of the

* *The Orchard House, or the Cultivation of Fruit Trees under Glass*; by Thos. Rivers. Eleventh edition, enlarged and improved. Longmans, 12mo., pp 193.

rare and beautiful Odontoglossum Phalænopsis in perfect health, and bearing a spike of its exquisitely-coloured moth-like flowers, very much finer, as Mr. M'MORLAND stated, than any he had ever been successful in growing before, successful as he is in Orchid culture. We understand that this plant had been KEPT ALL THROUGH THE SUMMER IN A GREENHOUSE. A month since it was removed into a CLOSER COOL HOUSE, where it is to be suffered to remain CLOSE TO THE GLASS until next May or June. When facts like these come to be realised by the lovers of horticultural pursuits, we may expect to see large accessions to the ranks of Orchid growers, which have no doubt been kept thinner than they would otherwise have been, from a general impression of the great expense attending the cultivation of this race of plants, as well as of the little enjoyment to be found in viewing them in the stew-pans in which only, it was thought, they could be coaxed to exist. It is now beginning to be seen that this is not the case, and indeed that while subjected to the discomforting conditions under which only they were lately to be found. they were literally being SIMMERED TO DEATH.

—— THE use which is made of HANGING BASKETS for the cultivation of flowers in conservatories and other plant structures, gives an especial interest to the appearance of a subject well adapted for such a mode of growth. We have often felt some degree of surprise that the hosts of glowing Mesembryanthemums and some other succulent plants of suitable habit to be found in the gardens of here and there a lover of succulents, are not more frequently seen employed for this mode of culture, which would most assuredly suit them admirably; it is not, however, our present object to refer further to these. We only wish to mention a novelty which seems to have been expressly designed for a basket flower.

It is sufficiently well-known that Mr. G. SMITH, of the Hornsey Road Nursery, is a raiser of new FUCHSIAS —indeed he is perhaps answerable for the production of some of those fat and full-faced ones which have been the subject of recent remark in our columns. Be that as it may, there occurred amongst his seedlings of last year, one which refused to grow upwards, but persisted in thrusting its branches down over the sides of the pot. When it came to flower it proved to have too little of the 'plethoric' character to be regarded as of any value as a florist's flower, but was just an ordinary common-place Fuchsia in respect to its blossoms. The habit however was noticed to be very peculiar, and quite dissimilar from that of other varieties. No upright stem was developed, but the whole of the branches were directed downwards, giving out branchlets and flowering freely: having in fact a thoroughly dependent or drooping character. Now as Fuchsias are very good plants for the system of basket-culture which has grown to be so popular, the new Fuchsia dependens may probably be found to be especially suitable for being grown in this way, if indeed it does not put on an entirely new face when it comes to be propagated. At any rate it will be worth inquiring about amongst the novelties of the ensuing spring, by those who adopt this style of decoration, and we invite their attention to it.

## NEW GARDEN FERNS.

PLEOPELTIS ALBIDO-SQUAMATA, *Presl, Tent. Pter.* 193. POLYPODIUM ALBIDO-SQUAMATUM, *Blume, Fil. Jav.*, 132; *Id. Fl. Jav.*, 137, t. 57; *Mettenius, Pol.* 108, t. 1, fig. 29. POLYPODIUM ALBO-SQUAMATUM, *Hooker, Gard. Ferns*, t. 47.

Fronds pinnate (or simple when young); pinnæ petiolate lanceolate or oblong lanceolate, cuspidate, repand, submembranaceous, smooth, marked on the upper surface along the margin and over the whole disk with small white scales, the principal veins parallel and evident beneath; sori in a single row half way between the costa and margin; stipes elongate, nearly terete, and, as well as the rachis, smooth; rhizome creeping, scaly.

This very handsome Polypodioid Fern, which was previously known as a native of Java, has been introduced to England by Mr. Veitch, of Chelsea, from Borneo, whence also it has made its way to the collection at Kew. It is a particularly elegant plant, combining with the beauty of a smooth-fronded pinnate Fern having caudate pinnæ, the interesting marking of its upper surface, whereon are distributed in a single tier close to the margin and also scattered rather thickly over the intervening space white dot-like scales. The tail-like extremities of the pinnæ seem to be rather less developed in the Bornean than in the Javanese plant. The fronds spring from a moderately thick creeping densely scaly rhizome, and are from 1 to 3 feet in length, and drooping, so that it will form a very handsome Fern for cultivation on blocks or in suspended baskets. The pinnæ are distinctly stalked, alternate, 6 inches or more in length, and about an inch in breadth, the fertile and sterile ones being uniform. Sir W. J. Hooker unites with this the P. varians of Blume, found both in Java and the Philippines, but this has the white scales confined to the margin of the pinnæ, and appears to be of thicker texture, so that the veins are not evident beneath. According to Blume, there is, however, a variety of the present species with the white scales confined to the margin.

PTERIS SERRULATA, *var.* CRISTATA, *Moore in Proc. Roy. Hort. Soc.* iii. 289.

Apices of the fronds, pinnæ, and pinnules, multifid-crisped.

Pteris serrulata, one of the commonest of our cultivated greenhouse Ferns, is also one of the most elegant and most valuable, especially for plant cases, its elegance resulting from the abundance of its long ribbon-like drooping pinnæ and pinnules, and its value for the specialty of case-culture resulting from its moderate size, its hardihood, and its free-growing habit. The species itself is of Chinese extraction, and has long been known in cultivation—much better indeed than in the wild state. The variety now under notice was met with in Japan, by Mr. J. G. Veitch, during his recent visit to that country. It has the general habit of the species itself, forming a moderate-sized tuft of spreading and more or less drooping fronds, which are bipinnately divided, the tips of the frond itself, as well as those of the pinnæ and pinnules, being developed into a crispy tassel, in which consists its difference from the type. The cristate varieties of Ferns being especial favourites with cultivators, we may expect that the present plant, so useful for Wardian cases, will soon establish itself in the good graces of Fern-growers. Like so many other crested varieties of Ferns it is reproduced from the spores. *T. M.*

## EXHIBITION FLOWERS.

### THE CHRYSANTHEMUM.

AGAIN has the Chrysanthemum season come and gone, and again has the opportunity been afforded us of profiting by the past, and making resolves for the future. Under these circumstances I feel sure the time will not be unprofitably spent in taking a retrospect of the Chrysanthemums and the Chrysanthemum exhibitions of the present season. At first, I would refer to the exhibitions. That held at the Agricultural Hall, of course, will take precedence, and for quantity it perhaps far, very far, surpassed any previous exhibitions of this flower; but, on the other hand, if the quality either of the plants, or blooms, is taken into account, I have no hesitation in saying that it manifested a very decided falling off. Those who remember the Crystal Palace, the Royal Horticultural, the early Stoke Newington, and the Hackney exhibitions, will, I am quite sure, arrive at the same conclusion. How this is to be accounted for, I scarcely know, for certainly the season has been by no means adverse; indeed, on the contrary, it has been an unusually fine one. I am rather disposed to account for this retrograde state of things, by the absence of several exhibitors whose names have for years been as household words among Chrysanthemum growers, but which this year have been conspicuous by their absence.

It has been stated that the improvement which has been effected in the Chrysanthemum is due rather to improved cultivation than to the production of new varieties; and to a certain extent this is true, for we find such sorts as Lycias, Lucidum, Formosum, Vesta, and King still holding their own. How soon they will have to give place to others which are both newer and better I will not say, but certainly among Salter's seedlings of this year are some varieties which are unsurpassed by any that I have yet seen, and I have no hesitation in saying they will be acquisitions to the most select collection. Foremost I would mention one called Prince Alfred, a noble Arigena-like flower, only as beautifully incurved as could possibly be desired; the colour is a silvery shaded purple-crimson; this is a first-class variety. Then Princess of Wales, an ivory blush, is a gem. Venus, a silvery lilac, is very fine. A variety called General Bainbrigge deserves especial mention; its colour is golden cinnamon. Lord Clyde, a very fine dark crimson, is a showy flower, and well adapted for a specimen plant.

One of the best among Anemone-flowered varieties (which, by the by, make but very little headway, at which I am not surprised, for they never have, and I think never will be favourites), is Empress, a promising blush flower with yellow centre. Among Pompons may be mentioned one called Lizzy Holmes, the colour of which is a golden-orange, shaded and tipped; this is as near perfection as I ever saw a Pompon, an abundant bloomer, and of good habit, each flower of great depth and full in the centre.

I will now offer a few remarks upon the cultivation of Chrysanthemums, first taking plants grown as specimens. As the habit of the different sorts varies greatly, it follows that all are not alike adapted for this object. I would therefore suggest that a selection should be made of those varieties which are stocky and short jointed in their habit, and of decided colours, such as Julie Lagravère, Mount Etna, Auguste Mie, Dr. McLean, Annie Salter, Defiance, Prince Albert, &c. If the object is to produce really fine specimens the young plants should be secured at once. Select the strongest suckers from the old stools, pot them separately into 60-sized pots, place them in a cold frame, and let them remain till April; then shift them from the sixties into the blooming pots, which should measure say eleven inches in diameter. By adopting this course it will be found that the plants will break uniformly at almost every joint, and thus the cultivator may secure at once the foundation of a well-balanced plant, without that miserable coiling round and round the pot which we now so often see. I have no hesitation in saying that a few years ago such abortions would not have been tolerated. I have this season seen plants of large-flowered varieties, perhaps 1 foot in height, with a score of solitary blooms, each tied to a separate stick, the pot being almost hidden by the stems coiled around it. Now I contend that a fine Chrysanthemum plant can be grown with foliage down to the pot without any coiling whatever. It has been done, and the sooner we fall back upon that plan the better for our reputation as plant cultivators. Plants treated in the way recommended will require no stopping if they are desired to assume the pyramidal shape. When the buds appear, the malformed and lateral ones are to be removed, reserving all the terminal ones. In a specimen plant a large number of perfect moderate-sized blooms is far preferable to a few of extra large size.

Now one word for the Pompons, which certainly may be called the people's flowers, for they are universal favourites, adapting themselves to every condition, and blooming under almost any circumstances. In the case of these again, it is much to be regretted that the plants are so mechanically trained, and so utterly spoiled, as we almost invariably see them now-a-days. The time was when a collection of Pompons would as nearly as possible resemble a collection of Turner's or Bailey's fancy Pelargoniums—I mean of course as regards their style of growth; but instead of this we now have placed upon our exhibition tables plants as round and broad as washing tubs, with a perfectly flat surface, and every bloom and twig secured with twine. It would be impossible to place such plants in any conservatory without offending the taste of those who gazed upon them. The following are a few of the very best Pompon varieties for pot culture:—Andromeda, Aurora Borealis, Bob, Duruflet, Florence, General Canrobert, Cedo Nulli, Golden Cedo Nulli, Miss Julia, Mrs. Talfourd, Requiqui, Saint Thais, Rose Trevenna, Autumnum, Drin Drin, Graziella, L'Escarboucle, and Lizzy Holmes. They may be treated exactly as the others, except that the Pompons will require stopping several times during the season; the last stopping, however, must not take place later than the middle of August.

In each case drainage is of paramount importance. No plant, I think, suffers more from imperfect drainage than the Chrysanthemum, for under such conditions the foliage turns yellow, and thus one of the prettiest features of a well-grown specimen is lost. The soil best adapted for the Chrysanthemum is a compound of two-thirds loam, and one-third well rotted manure, with sufficient sand to keep the mixture open. Broken oyster-shells freely mixed with the soil will be found advantageous; this will also be found the best material for drainage. In all cases liquid manure should be used sparingly.

Let me now offer a few remarks upon plants grown for the special purpose of producing specimen blooms. We will suppose the selection of sorts and of plants to have been already made, and that we have reached the month of April. All that is required will be to keep the plants perfectly free from aphides, and also from severe frosts, which latter may be done by growing them in a cold frame. As the pots become filled with roots they may be shifted into larger ones; not as in the case of specimen plants put immediately into their blooming pots, but gradually shifted on from one size to another, till they get up to the blooming pots. The advantage of this mode of procedure is, that the plants are never over-gorged, and consequently the ripening process is more perfectly secured. This ripening is an essential element in the production of fine flowers. I have never seen this fact more strongly illustrated than in the present year, in which I have met with a collection of wonderful plants, and they were in pots wonderful as to size, certainly; I think I never saw plants so fine before. I have also this season seen a collection of plants, small in number, bloomed in 48-pots, and for quantity of bloom, with two or three exceptions, the plants or rather the blooms from the 48-pots have beaten those from the large over-potted plants. I contend that to grow the Chrysanthemum so strong in its early stage, is a mistake. The result will generally be large malformed coarse flowers, unfit for exhibition, or even for decorative purposes. Hence, I think, little or no stimulant is required until the bud is formed; then it may be applied gradually with advantage, withholding it as the bloom shows colour. Most of the varieties will show their bloom buds by the middle of August. If they are grown very strong and vigorous, the buds may be got earlier, but, as I have before said, they will be of little use. As soon as the bud can be seen, at once remove every eye and side shoot, so as to throw all the vigour of the plant into the bud. It is as these buds increase in size that liquid manure can be supplied with advantage. It is to be remembered that several branches may be retained on a plant, but only one bud on each branch. Single-stemmed plants are not to be recommended. The plants must be kept free from earwigs, and especially from aphis, and with these precautions success will be tolerably certain.

I will add a list of the finest varieties for producing specimen blooms:—Abbé Passaglia, brassy amber; Lady Hardinge, rosy lilac; Lady Russell, shaded lilac; White Globe, white, fine; Cassandra, white, slightly

shaded; Pandora, light buff; Nil Desperandum, deep red; Aimée Ferrière, white with pink tip; Lycias, orange; Formosum, yellow; Dr. Brock, orange red; Lady St. Clair, white; General Slade, Indian red; Beverley, fine white; Her Majesty, blush; Princess Alexandra, lilac blush; General Hardinge, Indian red; Jardin des Plantes, bright yellow; Leon Leguay, lilac; Nonpareil, rosy lilac; Novelty, blush white; Pictorium Roseum, salmony purple; Pio Nono, red with gold tips; Queen of England, blush; Rifleman, dull red; Themis, lilacy rose; Vesta, blush, light; Carissimum, white; Julia Grisi, light rose; Little Harry, golden amber. *William Holmes, Hackney.*

## EGYPTIAN GARDENING.

[The following extracts from a letter recently received may prove interesting to your readers. *T. R.*]

"The Gardens, Gazeereh, Cairo, Nov. 10.

"We are now in November, and you will be putting on warm gloves and buttoning your overcoat closely around you, while here we are enjoying such weather as you would like to experience even during your summer months. The Nile is now receding fast, and as soon as the ground is sufficiently dry, we shall commence to plant, and to sow our vegetable seeds. Some of the deciduous trees are beginning to shed their leaves, but you would be surprised to see our gardens so gay with Roses, Poinsettia pulcherrima, and Hibiscus mutabilis, with its large double flowers, on trees 12 to 14 feet in height, literally covered with its gay blossoms. The beautiful Poincianas do well here; they have been in flower for months. Vinca rosea and alba are also in full beauty; they have, however, been so all the summer. Abutilon striatum grows and flowers abundantly here; it is just now in great beauty. Brugmansias and Scarlet Geraniums of many kinds are also very gay and beautiful.

"Clerodendrons, Plumbagos, Jasmines of sorts, Russelia juncea, and Yucca gloriosa are all in full bloom; and the Tussac[?] Grass is more magnificent than I ever saw it, for on one plant I have counted 70 of its fine feathery heads. Some Acacias are still in flower, as is also the Tamarind Tree. The Oleanders have been splendid all the summer. No English gardener could form any conception of the great beauty of this old well-known shrub. Our plants are from 8 to 10 feet in height, and 6 or 8 feet through; when covered with their Rose-like flowers they have a noble and beautiful appearance. Buddlea Lindleyana, Bignonia radicans, Lantanas, and Gardenias, are now really most beautiful. Crinums grow most vigorously, and have been in bloom for the last month, throwing up flower stems from 3 to 4 feet in height, with fine trusses of fragrant flowers, perfuming the entire garden.

"Petunias, Globe Amaranths, Marigolds, and Zinnias of sorts, are still in full bloom; they all grow with such vigour as scarcely to be recognised, and make the garden very gay. Ipomœas are also very fine and vigorous, but I must not forget a Pandanus, 10 to 12 feet high, which has flowered for the last two months, one spike after another. The Bamboo is something very extraordinary, its canes measuring 2 feet in circumference, and from 80 to 100 feet in height. Palms and Cycads have done well this season. We have had a fine crop of Dates; the trees really looked beautiful with their large bunches of red and golden fruit. Erythrinas grow to be large trees here, and bloom gloriously. Just at present I am most struck with the Poinsettia pulcherrima, which is one blaze of scarlet; some of our plants are from 8 to 10 feet high, and as much through.

"I have, I think, said enough about flowers, and must now tell you something about your favourites—the fruits. I commenced to cut Grapes on the 29th of June from the old Vines I mentioned in my last letter, and continued to cut from 12 to 18 bunches per diem to the end of August. On the 13th of September I commenced cutting my second crop from the same old Vines, and I shall continue to cut this second crop till the end of this month; this is something new in this old country, and mind, this is done in the open air, as we have no glass. The Vines have made very fine shoots for next year's crop.

"We had a fine crop of Peaches from June till August; few of the native Peaches are worth growing, being mostly Clingstones, although they are much thought of by the natives; some of them grow to a large size. Plums are in season from June till August; Apricots in June and July; Apples from June till September; they grow to a good size, but are deficient in juice and the piquant flavour we are used to in English Apples. The French and Belgian Pears do well here, and grow to a large size, but are inclined to be coarse. They are in season from June till the middle of this month. They seem this season as if they would be useful for some time to come. Gansel's Bergamot, and Williams's Bon Chrétien were remarkably good the past autumn. I hope by looking into all these matters closely, if I am spared and continue here, to be able to give some interesting information about fruits and fruit trees. Figs are of course very fine here, and are abundant from the end of July till September. Pomegranates from September till November; they are large and their flavour agreeable to those who like them. Mangoes are plentiful in August and September, also Prickly Pears (Cactus) in the latter month; they are fine, but I think the taste for them must be acquired. The natives are very fond of them. We have plenty of Guavas in August; our last crop was fine, and I observe that the trees are making a second growth, and are now in flower, but I doubt if they will ripen their fruit at this season.

"The native Fig (Ficus Sycomorus) is in abundance from September till November. Musas (Plantains) we commenced to cut in September, and shall continue to do so all the winter. The clusters of fruit are cut green and divided into pieces; these are then put into a large box in alternate layers of chopped straw. A heavy weight is then placed on the top, which causes the straw to heat; by this means their ripening takes places in a few days, and they are very good indeed. They would ripen well on the plants; but this forcing them into ripeness is done to keep up a succession for the table. The Loquat (Mespilus japonica) is in full bloom now (November 9), and will continue to ripen its fruit throughout the winter. I do not admire it, but it comes in useful when other fruits are scarce. I have now to tell you something about my favourite fruit, of which you write in the "Orchard House," quoting some author who called it "spiritualised Strawberries and cream"—I allude to the Custard Apple or Cherimoyer, as it is called in South America—the Arabs here call it "Qeshteh" (I cannot give you the Arabic letters) which signifies cream. I tasted one the other day, and I can assure you it is one of the most delicious fruits I ever tasted. It is like eating cream and sugar. The fruit is about the size of a good-sized Apple, but broad next the stalk. Its skin is, when the fruit is ripe, covered with warts about the size of the point of a lady's finger, and is of a uniform greenish yellow. It is a fruit that ought to be better known, and more generally cultivated in England, as it would form a valuable and delicious addition to our desserts. It grows here freely in a loamy soil in our fruit gardens, and I am inclined to think that the temperature of the forcing Peach-house would suit it well. It is worthy of its room in any house where it will grow and bear fruit." *James Hardie.*

[We quite agree, and hope that some clever fruit-grower will try his hand at this Cherimoyer, or Anona Cherimolia.]

## Home Correspondence.

*Eucharis amazonica.*—The wonderful specimen of this plant now growing at Syon is in a 13-inch pot; the leaves are 2 feet 7 inches long, and 6¼ inches wide; there are 22 flower spikes each from 2 feet 6 inches to 3 feet in height. The plant measures 4 feet 6 inches through. We learn moreover that Mr. Saunders, of Clifton, has also a very striking specimen growing in a 13-inch pot, and just coming into flower, with 9 strong spikes of bloom well thrown up above the foliage, some of which is 24 inches long by 5 inches wide. This too is something to be proud of, although but a pigmy compared with that at Syon.

*Home grown Tobacco.*—We sow the seed of the true Virginian Tobacco on a gentle heat in the first week in May, and prick off the young plants into pans, boxes, or pots, as soon as they can be handled, an inch apart, placing them again in a little heat in frames or shelves in some of the houses, making use of light rich open soil. By the time the flower-garden plants are turned out, plenty of small 60-pots are at liberty to pot off singly the required batch of plants, which are again placed thick together in a little warmth for a few days, then placed to harden off in some of the temporary structures, where the flower garden plants have previously been. Hardened off by the middle of June, they will become strong plants and fit to plant out of doors on any well-trenched well-prepared ground. By August the plants will be from 4 to 5 feet high, the bottom tier of leaves large, and the first three or four tiers in good order to gather. They should be tied up in bunches of eight or ten, and hung up to dry gradually in the tool-house, where a gentle smouldering fire is kept by using any kind of slow-burning refuse. The door and windows being kept shut, in about eight or ten days the sap is found to be enough evaporated to store the bunches of leaves, tightly pressed, into boxes or old hampers. They should be very firmly packed by pressing or treading, and placed away in a dry shed or loft till wanted for use. If put away in good condition, it will be found on being taken out for use very sweet, oily, and perfect for cutting up either by a chaff-cutter, bill-hook, or knife, according to the quantity required for use. We continue collecting a batch of leaves in succession at about a week or 10 days till the middle of October, when the plants have arrived to 7 or 8 feet high, when we make a general clearance of all the leaves, side shoots, and 3 or 4 feet of the summit of the stems—blossoms, seed and all. They are tied up, bunched, dried, and packed away when dry. Three or four feet of the large bare part of the stems and roots are then pulled up, and dried in open lofts or sheds, bundled or faggoted up, and stored in a dry loft, to smoke the Apple orchards with other rubbish in the months of April and May—which adds wonderfully to the success of the general crop of Apples. In short we find home-grown Tobacco so useful in gardens for many purposes, that I may point out a few of them on a future occasion. *James Barnes, Bicton.*

*Rhododendron Soils.*—Will any of your correspondents be so good as to inform me what is the fact as to the possibility of growing Rhododendrons, Azaleas, and Andromedas in other than peat earth. Messrs. Maule & Sons, near Bristol, have several acres of these and similar shrubs growing in what they assure me is ordinary loam; while my gardener and other people inform me, that whatever Messrs. Maule may do, I shall not be able to make these plants grow in any but peat soil. I cannot get peat, and I am trying some of Messrs. Maule's shrubs in ordinary garden loam. Will some one be so obliging as to tell me whether there are any special precautions which are likely to make the experiment—as my gardener holds it to be—succeed. *E. S., Sutton Court, Pensford, Bristol.*

*Woollen Refuse.*—I have found the waste wool thrown aside by manufacturers useful in a variety of ways. As a fermenting material, when thrown together in quantity, it is invaluable, the heat however, sometimes becoming so violent as to cause spontaneous combustion. As a covering for Vine borders it is much more effective than stable dung. I have been in the habit of covering all my Vine borders with a layer of this material to the depth of three or four inches in the fall of the year, before the temperature of the soil began to decrease. The application resembled covering them up with a good woollen blanket, that would keep out both cold and wet to a certain extent, for, owing to the oily nature of the material employed, rain does not soon penetrate it, and during cold and dry winds in spring moisture evaporates from it very rapidly. I would certainly advise persons preparing Vine borders to cover over the rubble or bottoming with a layer of this material to the depth of two inches; it effectively prevents the compost from ever becoming mixed with the rubble, and it also prevents all nutritive particles from passing through it. I cover over the rubble or bottoming of my Pine pits in this way, and not a particle of tan bark ever gets through it. Where moss is scarce, as it is in this neighbourhood, this refuse may likewise be used to cover the drainage of pots, and to those having a Peach wall covered by any kind of protecting material which causes constant treading around the trees, a ton or so of waste wool spread at the bottom of the wall will be of benefit, forming as it does a carpet to walk upon. In the early part of summer, when I remove the waste in question, I have found that the tree roots had come to the surface, and that they were running along underneath the waste. For the growth of subtropical plants in beds out of doors this material is superior to any other. In the autumn I dig out a bed to about the depth of 2½ feet, and fill it with refuse, covering with soil on which I sow Radish, and on removing the material at the end of 12 months I have found it still at a temperature of from 60° to 65°. Regarding its value as a manure I may speak on another occasion. *J. Thomson, Wortley, Leeds.*

*Alocasia zebrina and Caladium Veitchii.*—Will you allow me in justice to Mr. Veitch, the introducer of both the above-named plants, to point out thus publicly a slip of the pen in the list of new plants given in Hogg's Gardeners' Year Book for 1864, in which this Alocasia is said to be the same as C. Veitchii. The two plants are of course quite different. The statement in question applies to Alocasia Veitchii, and not to A. zebrina. The public should therefore be told that it is a palpable blunder, which lies at my door, as the writer of the list referred to. *M.*

*Vine Borders.*—In the autumn of 1862 I erected three new Vineries. In the smallest, for early fruiting, the Vines are planted inside, the front of the house being arched so as to permit the roots spreading outside. This outside Vine border is 4½ feet from the parapet wall to the walk, and the inside border is the same width. The outside borders of the two larger Vineries are 18 feet from the parapet wall to the gravel walk. The depth of soil is 27 inches at the parapet, tapering down to 15 inches at the gravel walk. The borders are well drained, and upon the drain pipes there is a layer of broken bricks and stones. The border is made of turf, good light soil, and prepared bones. The Vines are planted inside the houses, which are arched to allow the Vine roots to grow outside, there being a leaf-pit inside the houses, and consequently very little space for the roots to grow except outside. My gardener wishes to make a border under the gravel walk to give the Vine roots more room. I shall therefore be much obliged by some of your able correspondents favouring me with their advice upon this question. *An Old Subscriber.*

*Clivia nobilis.*—This useful winter-blooming plant is not grown so extensively as it deserves; even when not in flower, it is somewhat ornamental, especially when mixed with fine-foliaged plants. I give it stove treatment all the season through, and I find it to succeed remarkably well. It requires an abundance of water early in the season, with plenty of heat, both of which may be gradually reduced when growth is completed. It thrives in good loam and leaf-mould, with a liberal addition of sand, and it requires frequently sponging to keep the foliage clean. It is readily increased from seed as well as by means of shoots, which push at the base of the plant, from which they are readily detached. These offsets if grown well will bloom the second year. I have plants which have received this treatment in bloom now, and they are certainly beautiful. My

blooming plants are in No. 16 pots, a size sufficiently large for them. *John Edlington, Crom Castle, Ireland.*

*Rose Exhibiting.*—It appears to me that in sustaining a Rose Show, the promoters ought to have (*inter alia*) the following objects in view, viz.:—1. To make a Show and to gratify the public; 2. To make the exhibition sufficiently remunerative to promoters and exhibitors; 3. To afford information to Rose growers; and 4. To extend the public taste for the Queen of flowers. To accomplish these objects I take the schedule of the Royal Horticultural Society of last year as being very near my idea of a model schedule, and likely, with some slight modifications, to considerably further the ends sought; if some or all of the suggestions below, and not already adopted by the Society, be welded into its next issue, we shall have a very nearly perfect schedule. In order to make the Show attractive to the public, and to enlighten Rosarians, we must have quantity, and I see no reason why the 96 trebles for nurserymen should not be continued. Experience has shown that there is no difficulty in finding competitors in this class, and from the increasing popularity of the Rose, we may expect increasing competition, and ample opportunity is afforded for an amateur out of the 96 varieties of bud, opening and full-blown Roses, to select his score or more of varieties which to him may appear striking; sufficient scope is given too for all tastes—for what pleases the eye of one person does not always afford the same gratification to another. I would, however, suggest, that as there are both large and small growers for sale, the competitors amongst the 96's should not also be allowed to exhibit in the 48's and classes of smaller numbers. I also think that the 48 single truss class is the best possible limit for amateurs, and I would urge that an exhibitor in the 48's should not be allowed to exhibit in a class lower than the 24's. For effect, single trusses are unquestionably the best, and it would be impossible for any but the very largest amateur growers to cut three trusses each of a number of varieties. In making a show remunerative to its promoters, the time of exhibition is very important, and although the Rev. W. F. Radclyffe seems to think the 1st July late, and it probably is for the latitude of Rushton, it has not practically proved to be so for the district near London. Only as far north as Newark it has been much too soon; and, taking the seasons as average ones, I believe the first week in July is generally most suitable for a London Rose show. On the question of disbudding, I am glad to see a brother Rosarian, who I have an impression formerly favoured the disbudding Rule, now regard it as impossible to be carried out. Do not the frost, wind, weather, and Rose-maggot generally do more disbudding than the Rose-grower cares to see? and how is it possible for a judge to distinguish between the work of these natural executioners and the timely artificial manipulation of the cultivator? Additions to foliage should be prohibited in order to prevent a made-up Rose, but I would sweep away all restrictions, prohibitions, and disqualifications possible as tending to cramp the efforts of the promoters of a Rose show. An improvement may perhaps be effected by dispensing with the classes for single trusses and bouquets; by adding a class for Teas and Noisettes for amateurs; by more prizes (open) for 12 blooms of a particular sort, a half dozen or a dozen sorts to be named—the number of prizes to be increased in the class for 12 of any one variety. These twelves of one variety are very attractive and useful in affording a thorough test of the constitution and facility of propagation of the recent varieties. I would add prizes for the best material as a background for cut Roses (although I have never yet seen a stand of blooms more at home and more effective than when arranged on good green moss); also for the most improved mode of labelling the show flowers. If additional variety be desired, a class might be added for striped and mottled Roses, there being yet no good striped Perpetual. I see no advantage in further separating the families, for in reality the present divisions are arbitrary and merely nominal, and it might only give rise to quibbling, and cause extra work for the judges. With regard to judging, a standard set of rules should be framed, in which beauty of form, freshness of colour, size, novelty, foliage and buds, variety of shades and arrangement, should be taken into consideration in the order in which I have named them. Little regard should be paid to the proportion of Teas, Noisettes, or other varieties requiring warmth to bring them to perfection. Amongst the dealers' three-truss classes the different stages of maturity of bloom should be considered; and finally, Roses should be judged by their actual condition at the time of trial, as judges cannot and ought not to take into consideration what the blooms have been, or how far they have travelled. An autumn Rose show, I may add, ought to be and might be a success. Most of the high-coloured Roses are more brilliant, and some varieties even expand better in October than in summer. We should soon find out then whether all Roses which are called Perpetuals, are actually such. If the Society will initiate an autumnal exhibition, it will find growers ready to embrace another opportunity to exhibit and visitors enough to admire. *Stamfordiensis.*

*The Brugmansia.*—In my remarks last week I omitted to state that the Brugmansia should if possible be placed in a partially sheltered situation; strong winds, if not opposed by some protection, damage both foliage and flowers. I thank you therefore for pointing out the omission—an important one to those who may employ the plant for the purposes recommended at page 1158. *John Edlington, Crom Castle, Ireland.*

*New Hyacinths.*—We must say, in reference to these, that we agree with Mr. W. Paul, that though a Hyacinth had not been exhibited in London, it might have been shown in other places, and we find such to be the case, as you made mention of two Hyacinths which we exhibited in London in March last as new, while they had been shown in Edinburgh before. We refer to Amphion, "a novel claret-coloured variety," and to Lord Palmerston, "one of the blue varieties with white eye." It is thus almost impossible to say what constitutes a new Hyacinth. It may perhaps be worthy of mention that we have Hyacinths in full flower, and have had them since the 28th November. We do not of course refer to the early "miniature" varieties, but to ordinary Dutch sorts. This is about three weeks sooner than we ever had them before. *Carstairs & Sons*, 121, *George Street, Edinburgh.*

*Orchard Houses.*—These, if I understand rightly, are contrivances for mitigating the severity of our climate, especially in spring, when east winds, fogs, and hoar-frosts are often prevalent for weeks; they are, in short, intended to afford protection to the blossoms of fruit trees at a period when a dry and somewhat mild atmosphere is most conducive to fructification. I cannot quite agree with Mr. Rust that Frigi Domo is as effectual for this purpose as glass; yet I must express my belief that as splendid crops of Peaches may be grown even in these days of orchard houses with Frigi Domo and such like temporary coverings in spring, as used to be produced before we had any unheated glass structures. To erect orchard houses for the growth of Peaches alone, seems to me a useless outlay of money, unless artificial heat can be applied. As the time of ripening of this fruit in orchard houses differs so little from the period at which it arrives at maturity on the open wall, little is gained by so much outlay. The great object we should aim at in growing Peaches under glass is to extend the period during which this fruit may be had ripe for the table, and this I think cannot be done in cold houses; therefore a Peach house should have a heating apparatus, so as to get ripe fruit say in May, June, and July; then follow the out-door Peaches in August and September, thus securing ripe Peaches for four or five months. About 250 trees are grown here in pots, in the form of pyramids and bushes; among them are Apples, Pears, Peaches, Nectarines, Apricots, Plums, Figs, Eugenia Ugni, Cherries, and Vines. These last are in tubs, which stand seven feet apart on the south side of the house, which is 120 feet long; they are trained on wires across the roof. The sorts are principally Black Hamburgh, and they have only been planted two years. Six bunches were allowed to remain on them this year, which ripened in September; the last dish was cut December 1st. The only total failure here has been Apricots, which on open walls have been good crops. Of Peaches and Nectarines we had 20 dozen of various sizes and quality, from about 26 bushes. Plums have been a fine crop, varying from five to eight dozen on bushes measuring from two feet to a yard in diameter. Pears have been a good average crop, and some of the specimens have been of extraordinary size, and the trees are now splendidly set with blossom buds. Apples have been good and of large size; Cherries never fail. Pears, Plums, and Cherries are in my opinion the best subjects for orchard house culture. Pears especially are valuable, for with a judicious selection this fruit may be had from August to April, and a great number may be grown in the shape of pyramids in a small space. We have now many of them from 5 to 6 feet high, and 1½ to 2 feet through at the base, fine thriving trees. The points to be observed are, particular attention to the roots, pinching at proper lengths, a liberal supply of liquid manure when growing, and thorough ventilation at all times. I am surprised to see Mr. Polish telling us that orchard house trees when at rest do not even require fresh air, and that his house has been closed since October, and that the temperature is raised frequently to 60°. I fear if he perseveres in this mode of procedure, his trees will a season or two hence, assume a different appearance from what they do now. *J. Huddart, Ashfield Hall, Cheshire.*

## Societies.

ROYAL HORTICULTURAL: *December* 8 (*Floral Committee*).—Messrs. Veitch received a First-class Certificate on this occasion for a charmingly-coloured variety, superba, of Calanthe Veitchii, a bright rosy-crimson hybrid Orchid, raised between C. vestita and Limatodes rosea. Of the produce of this cross, four plants were exhibited, differing from each other slightly in colour, but all remarkably handsome, their tall graceful spikes of showy blossoms having a striking effect, especially at this dull season of the year. From E. McMorland, Esq., came a plant of the rare Odontoglossum Phalænopsis, for which a Certificate was awarded. To Saxifraga "japonica" tricolor, a pretty variegated-leaved Saxifrage, from Mr. Bull, a First-class Certificate was awarded. From the same grower also came a broad-leaved variety of Dracæna terminalis, a pretty red-veined Eranthemum, and one or two other plants. For an Anemone-flowered Pompon Chrysanthemum named Miss Nightingale, Mr. Brown, of Great Marlow, received a Second-class Certificate; it has a compact pale yellow centre and blush-coloured guard petals, well arranged and of good substance. From Mr. Macintosh, of Hammersmith, came blooms of a lilac-blush hybrid Pompon, which looked as if it might prove useful for decorative purposes. Messrs. Smith, of Dulwich, furnished various Chinese Primulas, consisting both of double and single varieties, all of which were stated to come true from seed.

*Dec.* 8 (*Fruit Committee*).—Considerable numbers of Apples were shown at this meeting. For three dishes of dessert kinds a 1st prize was awarded to Mr. Ruffett, gr. to Lord Palmerston, and a 2d to Mr. Simpson, gr., Stoke Park, near Slough. In these and other exhibitions were good fruit of Scarlet Russet, Golden Harvey, Keddleston Pippin, Cox's Orange Pippin, Cornish Gilliflower, Braddick's Nonpareil, Eldon Pippin, and other well known kinds of Apples. Of Huyshe's Bergamot Pear very fine specimens came from Mr. Pince, of Exeter, and of Huyshe's Victoria Pear, a fine looking variety, beautiful fruit was furnished from the neighbourhood of Exeter by Mr. Scott. Of Josephine de Malines Pear the best dish was contributed by Mr. Spivey, but Mr. Cox, of Redleaf, also had excellent fruit of that useful variety; the last named exhibitor likewise showed an interesting collection of Apples, which received a label of Commendation. From Mr. Wilson, Weybridge, came finely grown Pears from an orchard house. Two good specimens of Pine-apples were shown, one a Cayenne, the other the kind called Charlotte Rothschild. Of Grapes Messrs. Lane & Son again exhibited good bunches of Barbarossa and other black and white sorts, also a finely ripened bunch of Golden Hamburgh to show that it will keep good on the Vine for a considerable time after being fully ripe. Finally, from Mr. Meredith came a large and showy bunch of a new Grape, called "Childe of Hale," a pale amber-coloured sort, which promises to be one of our best very late white Grapes; on that account it must therefore be considered an acquisition. It is, we believe, a cross between the Syrian and Muscat of Alexandria. Along with it, Mr. Meredith also showed a bunch of Black Alicante, likewise a valuable late Grape. Of Currants, we observed a dish of Red Dutch still in a state of good preservation.

ENTOMOLOGICAL: *Nov.* 2. F. Smith, Esq., President, in the chair.—Mr. Bates, the distinguished traveller of the Amazons, and author, having been proposed as a member of the Society, the ordinary rules respecting the admission of members were dispensed with, and he was elected unanimously by acclamation. The President exhibited the nest of Trigona carbonaria, the small stingless honey bee of Australia, obtained by Mr. Woodbury from Queensland, and now belonging to the British Museum. Also the remarkable nest of Tenthredo (Deiloceras) Ellisii, figured and described by Mr. Curtis in the Transactions of the Linnean Society, consisting of a mass of hexagonal cells. The exhibition of these two remarkable insect-structures led to considerable discussion. He also exhibited specimens of the moth Hyponomenta, said to have been reared from larvæ found feeding on the unripe grains of Wheat in a corn field in Suffolk, but which statement, however, was considered to have originated in some mistake. Mr. F. Bond exhibited a drawing of the larva of Sphinx Convolvuli, taken at St. Leonard's on the 17th September, feeding on the small Bindweed. Also a specimen of a very dark-coloured variety of the larva of the Death's-head moth, preserved by Mr. Baker, of Cambridge, taken on the Ash. Mr. F. Moore exhibited some impressions of the wings of Indian butterflies taken upon waxed paper, and Mr. Francis specimens of Anthrebus albinus, taken at Folkestone in September. Mr. MacLachlan exhibited an interesting series of the cases formed by species of the different genera of Caddice flies. Professor Westwood exhibited a large sheet of a delicate white silken tissue found at the bottom of a biscuit chest, the contents of which had been attacked by larvæ considered as Dipterous; it was, however, thought that the structure was that formed by Lepidopterous larvæ, probably Tinea granella. The specimen had been received from Dr. Cuthbert Collingwood. Mr. Waterhouse communicated some notes on a species of Scymnus, regarded as identical with S. quadrilunulatus of Mulsant, and Mr. Stainton read a memoir on the European species of minute moths belonging to the genus Cosmopteryx, three of which were British, and amongst the most elegant of the native Tineidæ.

## Notices of Books.

*Explorations in Labrador.* By Henry Youle Hind, M.A., F.R.G.S. In 2 vols. London: Longman & Co. 1863. [SECOND NOTICE.]

Mr. Hind has given the reader a very lively and valuable account of his voyage up the Moisie, a voyage 120 miles long, during which his goods and canoes had to be carried round the sometimes stupendous rapids or falls, at about 40 different "portages." One of the two maps which accompany the book, gives, at its side, the elevation, drawn to a scale, of these various portages and lakes, till the travellers arrive at the table

land of the great Labrador Peninsula, at an elevation of 2214 feet above the level of the sea.

It was no small advantage to our author, that an artist brother was always ready with his sketch-book, whenever an opportunity occurred of delineating the features of the country or the people. Twelve beautiful chromo-lithographs give an excellent idea of the gorgeous colouring that so often adorns those regions in early summer time, and twice that number of woodcuts serve further to embellish these beautiful volumes. The strange perpendicular rocks, and other peculiarities of the country, are so well represented by Mr. W. Hind, that they make an indelible impression on the memory, and one almost fancies one has seen that singular land. This reminds us of another characteristic, viz., the remarkable growth of Lichens, from the mere time-stain that marks the gneissoid rock, to a vegetation of gorgeous colouring, which is thus described:—

"The colours of the rocks were most striking, and contrasted with the gloomy green of the Spruce forest and the narrow strips of Birch. The purple mountains rise in grand walls of labradorite, or slope away to the sky in cold masses of gneiss. Language fails to express the beauty of the Mosses and Lichens. They are of all colours, from frosted silver to vermilion—from deepest orange to velvet black. Here, a mere time-stain, there a thick, heavy, and pulpy thallus, varying in colour from the most vivid green, through all the greys, to the richest and deepest velvet black, these Mosses and Lichens creep over the harsh and unyielding rocks, covering the deep cracks with a treacherous mantle, beautifying jagged points, growing and flourishing wherever light can come."

Before quitting the Moisie, a few remarks must be made on the extensive utility of Birch bark. It is used for every conceivable purpose. To make canoes and tents, of course; to protect anything from the rain, large sheets of this material are used. If bread is to be made, the preliminary process is to cut and spread out a beautiful clean sheet of bark whereon the kneading may be performed. Is a letter to be written or a map to be drawn, or is a cache to be made, the Birch bark is called into requisition. In the latter case the skins, tobacco, or tea, or whatever light material is to be taken care of, is carefully folded up in the Birch bark, and tied neatly up with reindeer sinews or thongs, and the whole suspended on a tree out of the reach of four-footed depredators.

Whether it was any part of Mr. Hind's commission to collect information respecting the condition, habits, and customs of the Labrador Indians, or whether it was merely from his love of those investigations, certain it is, that he was well qualified for making these observations, from having already passed some time among the cognate races in Western Canada.

Of their earlier history this is known, that in 1535 a French mariner visited the village of Hochelaga, situated near where Montreal now stands. He found the people living in a semi civilized state, and cultivating their lands, and especially noticed that his road lay through fields of Indian Corn. The village was fenced with pikes and stakes, and was a very defensible position, enclosing houses made of wood, and covered with Birch bark, each house containing several chambers.

In 1603 this village had wholly disappeared, having doubtless been destroyed by the powerful tribe of Hurons. These villagers appear to have been of the Algorkin tribe, and all that remained of them were absorbed by the Hurons and Iroquois. It is a circumstance of peculiar interest, that the remains of the village of Hochelaga have lately been discovered. There were found skeletons, fire-places, carbonaceous matter, bones of wild animals, pottery, and various implements of stone and bone, including some of those articles which are used for playing the favourite Indian "game of bones."

Paul le Jeune, a Jesuit missionary, who visited the Montagnais of the Lower St. Lawrence in 1632, noticed the fiendish cruelty exercised by all these Indian tribes upon their unfortunate captives; he says, "in short they make them suffer everything that cruelty and the devil could put in their minds." Their fortitude and apparent indifference to pain while undergoing these tortures, is remarkable. They are dreadfully superstitious, and their medicine men or conjurors impose sadly upon them. They believe in a future state after death, and indeed in the spiritual existence of every material thing. The souls of the dead were thought to travel to a country near the setting sun, the happy hunting grounds of Indian mythology. They walked on the shadows of snow shoes in winter, and killed their game with the shadows of the arms they had been accustomed to use in life, subsisting upon the spirits of the beaver, porcupine, and caribou. The Jesuit asked what became of the souls of these beavers thus killed by the souls of Indians as they travelled to the setting sun? One replied, "Be still; you are talking about things which you do not understand. If I had been in that country I would have answered you."

Wonderful tales of hardihood, cruelty, and courage are told of all these races, whose feuds with one another seem to have been of the most deadly character. If there were ever villages, like Hochelaga, scattered over the land, they have been destroyed long since.

Now the poor Indians are constantly suffering from starvation; they have no notion of cultivating the land, and their hunting grounds have been over-hunted to supply the Hudson's Bay Company with peltry; much of their country has been burnt through carelessness; and the salmon fisheries in the mouths of their rivers have been leased to the white man, who forbids his swarthy brother to fish in his own waters, under the pretext that he is so wasteful and destructive of the fish. Hard lines these, for the poor Indian! Up the country he is starved; on the coast his constitution cannot stand the damp and foggy weather; his companions die around him; and he soon gets too feeble to return to his old pursuits.

The *robe noire*, as the Jesuit priest is called, does something towards his civilisation, but takes care to teach him as little religion as possible, beyond the very rudiments of faith.

Here is a characteristic tale which must not be omitted. At Seven Islands a girl had promised to marry an Indian as soon as the priest should come. Accordingly a seal was shot for the wedding breakfast; loons and porcupine were to form the side dishes, for it was to be a sumptuous entertainment. But they sought high and low; and the young lady could nowhere be found. So the friends consulted as to what should be done in this emergency, and with one consent it was agreed, that at all events they would have their feast. Presently the young girl was discovered most unconcernedly gathering Cranberries. They reproached her for her cruelty and inconstancy. She replied "Do you think I am going to marry him? he can't *call a loon*. I heard him yesterday, and he frightened the bird. He may find another wife." The strangest part of the story is, that the lover and the lass joined in the feast as heartily as any of the rest, without the least appearance of shyness or restraint.

In the latter part of his work Mr. Hind gives a description of the singular winter phenomena of the St. Lawrence, arising from the immense body of water, half pent up by the ice and exerting an enormous force, sometimes contriving to escape by a course underneath the ice; at other times, lifting and carrying ice and all downward with terrific violence. Mr. Hind also describes various harbours and fishing stations in the mouth of the St. Lawrence, and enlarges upon the importance of the island of Anticosta, which he considers to have the greatest possible value as a fishing station. It is highly probable that the information contained in this part of the volume respecting the fisheries, is vastly more valuable than all the rest of the book put together, and we hope the Canadian and British Governments will think well to act upon it.

The money value of the fisheries in these parts is estimated at fully 4 millions sterling, and they form a fine school for the training of hardy seamen. Newfoundland alone exports annually about half a million seal skins, together with 3 million gallons of seal-oil, worth 330,000*l*. Such an amount of wealth, won from the sea, ought not to be disregarded, for surely it is of national importance. Our rulers should study these pages to obtain correct information, and then judge for themselves.

We observe that Mr. Hind speaks very highly of the Moravian missionaries, in their four stations on the east coast of Labrador, where they are exercising the most beneficial influence upon the Esquimaux. He says, "Some idea of the hardships these devoted men and women have to endure, may be gathered from the fact that the mean annual temperature at Nain is 22° 52′. At Ok-kak it is 27° 86′, and at Hopedale 27° 82′, and this in a country where scarcely any fuel is to be had; the missionaries warm their houses by means of stoves." They have 1163 persons under instruction, and through their prudence and fostering care the natives never suffer absolute want. Besides instructing them in the truths of Christianity, they teach them useful mechanical arts. We have gained much instruction and amusement from Mr. Hind's capital work. It has also a good and copious index—a great merit.

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*Warner's Select Orchidaceous Plants.* Part VI.

This Part contains figures of *Oncidium sarcodes*, *Dendrobium Dalhousianum*, *Cattleya superba*, and an *Aerides* called *Williamsii*, although we are quite unable to see in what—except the paler tint of the flowers—it differs from the stouter-growing varieties of A. affine. The three first plants in the above list are charming subjects, and admirably rendered by Mr. Fitch; and we only regret that a work which in many respects is so well adapted to meet a pressing want of the day should forfeit so much of its usefulness and prestige by its reckless disregard of the ordinary rules of botanical nomenclature.

In our notice of the preceding Part we pointed out the identity between the so-called Dendrobium Wardianum and the D. Falconeri figured by Dr. Hooker, and if we were to cast a glance at the earlier numbers, we should find a still more extraordinary jumble of untenable names. What, for example, are Cattleya Dawsoni and C. Warneri but varieties of C. labiata or C. Mossiæ? and what Lælia Turneri and L. gigantea but varieties of the protean Cattleya elegans? Neither can we (or Reichenbach in the Xenia) discover any difference between "Cattleya Warscewiczii delicata" and the Cattleya pallida figured ages ago in Lindley and Paxton's Magazine of Botany. The work before us deserves to be regarded as something more than a Nurseryman's Catalogue, and yet the manufacture of unauthorised names, and—in the defiance of all botanical precedent—the calling plants by the editors *after themselves*, will, if persisted in, prevent its taking the place to which the general excellence of the plates, the beauty of the subjects, and the admirable cultural information it contains, would otherwise entitle it. As we see that it is intended to continue the work beyond the original ten parts, we are the more anxious to have the faults remedied to which we have now deemed it our duty to advert.

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*Flora of Surrey*, by J. A. Brewer (Van Voorst), is a very nice duodecimo volume, containing such an enumeration of the plants of this important county as may serve as a model for similar publications. Their localities are clearly and copiously given, and a capital coloured Geological Map of Surrey contributed by Mr. Prestwich adds greatly to the sterling value of the work.

*The Flora of Marlborough, with Notices of the Birds, and a Sketch of the Geological Features of the Neighbourhood* (same publisher), is a very inferior affair; but we dare say useful locally. We must, however, beg to inquire upon what authority the author makes the c in gigantea short, or the second i in Torilis, long.

The *National Magazine* for December, is ushered in by a hideous face called "Cunning," but which should have been labelled "Squinting." Upon the usual literary matter which follows, we have no observation to make.

In a small duodecimo printed at Bombay, Mr. Gill has published an excellent Vocabulary of native Indian names of plants under the title of a *Handbook for use in the Jungles of Western India, &c.* It ought to be among the baggage of every Indian official, and to be introduced into every native school. The first step to acquiring a knowledge of Botany is to become familiar with the common plants around the student, which can only arrive after their scientific names have been learned. That step taken, the rest is easy; and as Botany does not interfere with any native prejudices, it seems the most suitable of all natural sciences for Indian education. The little volume is introduced by a preface marked by very great good sense.

Watts' *Dictionary of Chemistry*, Part X. (Longmans), reaches "Fluorine," and has excellent articles on "Flesh" and "Fermentation."

Under the name of *A Handbook of Practical Telegraphy*, by R. S. Culley, Telegraphic Engineer and Superintendent (Longmans), an 8vo. volume has just appeared, containing an immense quantity of most useful information concerning the most marvellous of modern sciences.

Messrs. Walton & Maberly have issued the first number of *A History of the World*, by P. Smith, B.A., to appear in monthly parts. That before us contains chapters on the Creation of the World, and the First State of Man, from the Fall to the Deluge, or, the Catastrophe of Sin; the Post-diluvian World, from the Deluge to the Dispersion, or, Man's Second Probation and Fall; the Division of Nations; and Early History of the Hebrew Race, from the Call of Abraham to the Exodus.

## Miscellaneous.

*Mildness of the Season.*—Last Sunday—a bright, clear, sunshiny day, although frosty in the morning and evening—we saw in bloom, by the roadside, in the neighbourhood of Preston, the Dandelion and Daisy; on a bank under a Hawthorn a solitary lowly Primrose; and flowering in the garden were Stocks, Wallflowers, the Polyanthus and Double Primrose, hybrid perpetual and other late blooming Roses, several Heaths, the Marigold, and common Groundsel, not to make mention of the Chrysanthemum, which, unless cut down by frost, is generally in flower at this season. *Preston Chronicle.*

*Spontaneous Generation* was long a favourite speculation amongst casual observers, who could not otherwise explain the sudden appearance of thousands of little frogs or fish after a shower of rain, or of myriads of worms in organic substances in corruption. But science has gradually reduced the area of this mysterious operation till it is now nearly limited to those microscopic creatures which, in their full-grown state, often strain to their utmost limits the powers of our magnifying instruments, and whose germs, if they exist, may not be always appreciable to our senses. In this form the cause of heterogeny has been strongly taken up by some continental observers. M. Pouchet, of Rouen, in 1859 devoted a volume to its advocacy, under the title of Traité de la Génération Spontanée. M. L. Pasteur, on the other hand, came to an opposite conclusion, publishing the results of his researches in the Annales des Sciences Naturelles, Zoologie, sér. 4, vol. xvi. (1861), and more fully in the Annales de Chimie et de Physique for January, 1862. In this very remarkable paper he gives the history of the doctrine up to that time, and a detailed account of a number of curious experiments, by which he appears completely to refute the idea of heterogeny in the production of microscopic animals or plants in organic matter in a state of

fermentation, and brings forward a mass of evidence in favour of their origin in some of the numerous spores always floating in the air, although frequently inappreciable by our microscopes. Shortly afterwards Prof. J. Wyman instituted a number of similar experiments at Boston, but as it appears from his paper (dated May 6, 1862) in Silliman's Journal (vol. xxxiv. p. 79), not with the same results. It is probable, however, from his referring only to Pasteur's previous memoirs in the Annales des Sciences Naturelles, that he had not yet received the above-mentioned one in the Annales de Chimie, and that the heat employed for destroying the germs (M. Pasteur has ascertained that it required in certain cases 10° above boiling-water heat) was not always sufficient. At any rate, there is a great want of uniformity in the results of his different experiments; and Prof. Wyman, although he appears to consider them on the whole as contradicting Pasteur's, yet refrains from expressing any decision of his own, giving only the arguments that his researches might supply to both sides. In the mean time the Académie des Sciences of Paris had proposed this subject for competition for the Alhumbert prize for 1862. M. Pouchet sent in a series of papers, which, however, he withdrew before the Commission began their examination (Comptes Rendus, vol. lv. pp. 544, 785); and the Commission, consisting of MM. Milne-Edwards, Flourens, Brongniart, Coste, and Claude Bernard, appear to have actually had for consideration only M. Pasteur's memoir, and a series of communications from MM. Joly and Musset, a summary of which these gentlemen published in the Comptes Rendus, vol. lv. pp. 487-491, professing to have repeated M. Pasteur's experiments with results diametrically opposite, and quoting also in support of their views, Prof. Wyman's experiments. The commission, however, unanimously awarded the prize to M. Pasteur, with a high eulogium on the ability and care with which his experiments had been conducted, passing over MM. Joly and Musset's papers in silence. The Academy also further testified their opinion of M. Pasteur's merits by electing him, about the same time (December, 1862), into a vacant seat among their number. Again, a further communication illustrative of the subject, read by M. Pasteur, on the 9th of March of the present year (Comptes Rendus, lvi., p. 416), appears, from some journals of the day, to have excited considerable sensation among his colleagues, as affording further convincing proofs of the correctness of his views. Having scarcely risen from a perusal of M. Pasteur's papers, I was not a little surprised to see, in the Athenæum of March 28th of this year, a new form of spontaneous generation promulgated, as it were, *ex cathedrâ*, in a review of Dr. Carpenter's Introduction to the Study of the Foraminifera. We are told that these animals are produced by the action of a general polarizing force on the slime contained in the beds of mud or ooze at the bottom of seas, lakes, rivers and other aggregates of waters. I see, however, no indication of the evidences on which this extraordinary statement is founded, nor can I find, on looking over the general chapters of Dr. Carpenter's work, anything to warrant a hypothesis so contrary to all conclusions derived from analogy. It is true that the extreme simplicity of structure of the Foraminifera is insisted on in a most graphic passage extracted by the reviewer, showing how those vital operations, which we are accustomed to see carried on by an elaborate apparatus, are performed without any special instruments whatever; yet we learn from an equally strong passage in a subsequent page, that these creatures do perform all the functions which constitute in their aggregate the life history of an animal; and, without strong evidence to the contrary, we have no right to conclude that this vital power is the result of those purely physical forces which produce crystallisation, and is not transmitted from an organised being similar to themselves. It is to be regretted also that the anonymous reviewer should have adopted a tone so depreciatory of a work evincing such elaborate and extensive research, such powers of methodising and lucidity of exposition. Still less does it seem consistent with that impartiality which every reviewer is supposed to possess, that, when returning to the subject in the Athenæum of April 25, he should have cited as conclusive in favour of spontaneous generation, the authority of Pouchet, Joly, Musset, Schaaffhausen, Mantegazza, and Wyman, completely ignoring the refutation of Pasteur, considered so satisfactory by the French Academicians. *Bentham, in Annual Address to Linnean Society.*

*Growth of Wellingtonia in the Scottish Highlands.*—It has been considered doubtful whether this wonderful tree would bear the rigours of our severe climate; but we are glad to be able to adduce a case in which it has not only thriven, but thriven in a most remarkable degree, under circumstances which may be deemed anything but favourable. The Earl of Seafield has a nursery of Pines far up the Forest of Abernethy, almost at the base of the Cairngorms, and a correspondent mentions that he saw there, the other day, two young specimens of Wellingtonia, which, it had been ascertained by careful measurement, had grown not less than, in one case, 13, and in the other case 15 inches, in the course of 12 months. This instance of satisfactory growth seems to settle the question as to whether these trees ought not to be more generally planted. Their success in Abernethy, indeed, would seem to suggest that possibly the Wellingtonia may supplant the Pine, which has from time immemorial occupied and luxuriated in our native forests. *Banffshire Journal.*

*Retarding Cherries, an ancient Practice.*—When Sir Francis Carew had rebuilt his mansion at Beddington, in Surrey, he planted the garden with choice fruit trees. There he was visited by Queen Elizabeth;—and Sir Hugh Platt, in his Gardens of Eden, tells a curious anecdote relating to one of these visits. "I conclude," says he, "with a conceit of that delicate knight, Sir F. Carew, who, for the better accomplishment of his royal entertainment of our late Queen Elizabeth, led her Majesty to a Cherry tree, whose fruit he had of purpose kept back from ripening at least one month after all Cherries had taken their farewell of England. This secret he performed by straining a tent, or cover of canvas over the whole tree, and wetting it now and then with a scoop, as the heat of the weather required; and so by withholding the sunbeams from reflecting upon the berries, they grew both great, and were very long before they had gotten their perfect cherry colour; and when he was assured of her Majesty's coming, he removed the tent, and a few sunny days brought them to their maturity." *Country Paper.*

*People's Garden in Paris.*—A new garden for the recreation of the working classes is about to be opened at the Buttes St. Chaumont, one of the northern suburbs of Paris. This new garden, or, more properly, park, will be the largest within the fortifications of Paris, covering a space of 50 acres, nearly double the area of the Parc Monceaux. It will, moreover, command the finest view. It is to be, like other public gardens, planted with the rarest foreign shrubs, selected from the horticultural gardens of La Muette, near Auteuil. *Times.*

## Calendar of Operations

*(For the ensuing week.)*

### PLANT DEPARTMENT.

CONSERVATORY, &c.—After the beauty of the Chrysanthemums is over, move them to other quarters, and get such plants as had to be set aside for the time to make room taken back into their former situations, or so re-arrange matters that the whole may have a good effect. The decayed Chrysanthemums removed should be cut down, suffered to become somewhat dry, and placed in cold frames. Those who cannot afford frame room may secure them in some shed or outhouse for a few weeks, covering them overhead with clean straw should frost occur. Young plants intended for next years specimens should be at once secured. Little can be said with respect to stove plants at present. Use moderation in heat and atmospheric moisture. Beware of exciting the buds of Orchids before their time.

### FORCING DEPARTMENT.

PINERY.—As previously stated late swelling fruiters, which have had little water, may receive a slight increase of tepid manure-water. There is, however, room for doubt as to whether it is absolutely necessary after this period. Plants managed in the old style (in houses or pits with flues), no doubt would require it. By modern plans, however, a much greater amount of atmospheric moisture is indulged in; and this should be duly considered. When sunshine occurs, instead of giving air, let the thermometer rise to 80° or even 90°, after which give air.

VINERY.—Where forcing has commenced, and the roots are outside, every attention should be given to the borders. A proper degree of heat must be maintained in the fermenting material. Any kind of protection to throw off rain would be invaluable, and would improve the warming powers of the covering.

MUSHROOM HOUSE.—This, as we have formerly stated, is one of the most useful structures about a garden. Seakale may be forced here in constant succession with as little trouble as raising a crop of small Salad. The old plan of raising a bed of fermenting materials, over the crowns out of doors, is an uncertain process compared with this. It is equally well adapted for Rhubarb forcing. Nothing is needed but a long, narrow pit along the bottom of the house, on one or both sides, the top of the pit to be level with the floor. It should be 4 feet deep, and filled in portions as wanted, with any hot, fermenting material, to within half a yard of the top, which should be covered with a lid. The Kale and Rhubarb should be placed on the surface of the fermenting matter as thick as it can stand, and then filled in with soil or old tan.

### FLOWER GARDEN AND SHRUBBERIES.

When dry, open canopies or coverings of tender plants a little for a few hours, as often as time can be spared for that purpose. A plan of the masses or beds might now be decided on, and if frost sets in, the soil may be renewed according to the character of the flowers to be planted. Have all compost heaps turned over often if the weather should become frosty; by repeatedly removing the frozen surface, and piling it up, many insect pests may be destroyed. Hard weather is also a good time to cart turf, peat, &c. and to lay in a good stock of soils, which, however, should have been done before this time. After so fine an autumn, during which all bulbs have been got well into the ground—and the Tulip grower especially has commenced his labours under favourable auspices—we would advise that every bed, however small, be properly and substantially hooped over, so that by covering with a number of Russian mats sewed together, the whole length and breadth of the bed or beds, the collection may be safely defended from an excess of either rain or frost. Beds of choice Pansies ought also to be protected. Perhaps the best bloom of Polyanthuses which we have of late years seen was grown in a pit facing the north-east (built of turves cut from a pasture field), and planted in a compost of decayed leaves, loam, and sheep manure; the plants during the spring months were robust in the extreme, and the bloom of first-rate excellence. Growers of this flower should therefore try a turf pit against one made with brick, at least those of them who are about commencing the cultivation of the Polyanthus; it will be found more impervious to frost, and decidedly more congenial to the habits of the plants than growing them in pots in frames. Carnations, Picotees, and Auriculas must be kept clean, and the pots not allowed to get soddened with wet; in fact, the less water the better, compatible with health.

### HARDY FRUIT AND KITCHEN GARDEN.

Push forward all work that can be done now with expedition. When things that might be done now are delayed until spring, there is sure to be a sacrifice of some importance. All the pruning, except that of Figs and Apricots, and most of the nailing of wall trees, as well as the training of espaliers, should be finished if possible by New Year's day; and the same may be said of bush fruit. The making of borders or stations for fruit trees, too, should be autumn business; indeed, where new soil has to be introduced, September or October is the most fitting time, as the best of soils may be seriously injured by moving them in a wet state. In wet weather, let matting or bast required for the ensuing year be cut, sorted, and hung up ready for use. Besoms and baskets should also be prepared. The tool-house should be examined, and put in an efficient state, and in fact everything of this kind done that is possible. Should frost set in, the best Celery beds, if not already done, should be immediately covered with clean straw 6 inches thick. Let all other vegetables have due attention. Also let manure be wheeled out whenever the weather is favourable for such operations.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON,
For the Week ending Dec. 9, 1863, as observed at the Horticultural Garden

| Dec. | | Moon's Age. | Barometer. Max. | Barometer. Min. | Temperature. Of the Air. Max. | Of the Air. Min. | Of the Air. Mean | Of the Earth. 1 foot deep. | Of the Earth. 2 feet deep. | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Thurs. | 3 | ☽ | 29.816 | 29.119 | 44 | 30 | 37 | 47½ | 48½ | S.E. | .00 |
| Friday | 4 | 23 | 30.296 | 30.218 | 51 | 45 | 48 | 47 | 48 | S. | .00 |
| Satur | 5 | 24 | 30.196 | 30.044 | 54 | 30 | 42 | 47 | 48 | S. | .17 |
| Sunday | 6 | 25 | 30.200 | 30.002 | 52 | 36 | 44 | 48 | 49 | E. | .00 |
| Mon. | 7 | 26 | 30.317 | 30.242 | 52 | 43 | 47.5 | 48½ | 48½ | E. | .00 |
| Tues. | 8 | 27 | 30.224 | 29.936 | 51 | 41 | 46 | 48 | 48½ | S. | .05 |
| Wed. | 9 | 28 | 30.013 | [illegible] | [illegible] | 27 | 39.5 | [illegible] | [illegible] | S.W. | .01 |
| Average. | | | 30.151 | 29.933 | 50.8 | 36.0 | 43.4 | 47.6 | 48.3 | | .14 |

Dec. 3—Very boisterous; clear and boisterous; clear at night.
— 4—Clear; very fine; overcast.
— 5—Overcast; drying wind; boisterous; rain at night.
— 6—Very fine; fine throughout.
— 7—Fine; cloudy; fine.
— 8—Overcast; cloudy and fine.
— 9—Rain; damp and drizzly; densely overcast; fine.
Mean temperature of the week 2½ deg. above the average.

STATE OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Dec. 19, 1863.

| Dec. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 13.. | 46.4 | 32.5 | 39.5 | 21 | 1.16 in | 2 | 9 | 4 | 2 | 6 | 5 | 5 | 4 |
| Mon. 14.. | 45.8 | 33.8 | 39.3 | 19 | 1.24 | 6 | 5 | 4 | 5 | 2 | 6 | 5 | 4 |
| Tues. 15.. | 46.1 | 34.5 | 40.3 | 16 | 0.34 | 2 | 5 | 5 | 3 | 5 | 10 | 5 | 2 |
| Wed. 16.. | 45.6 | 34.4 | 40.0 | 13 | 0.34 | 6 | 3 | 4 | 3 | 6 | 8 | 5 | 2 |
| Thurs. 17.. | 4[illegible].9 | 33.6 | 39.8 | 18 | 0.38 | 8 | 5 | 3 | 1 | 7 | 8 | 2 | 3 |
| Friday 18.. | 45.0 | 33.0 | 38.9 | 19 | 0.56 | 3 | 6 | 3 | 2 | 3 | 12 | 3 | 5 |
| Satur. 19.. | 44.6 | 33.5 | 39.1 | 16 | 0.87 | 1 | 4 | 4 | 4 | 3 | 12 | 3 | 6 |

The highest temperature during the above period occurred on the 16th, 1840—therm. 62 deg.; and the lowest on the 15th, 1848—therm. 18 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

ARAUCARIA: *H F S.* The only thing you can do is to remove very carefully as much of the present soil as you can get away without injuring the roots, and replacing it with loam. The tree is evidently suffering from exhausted soil. The operation had better be effected at intervals of a few months.

BOOKS: *Under Gardener.* Lindley's School Botany, and Kemp on How to Lay Out a Garden.

GRAPES: *J D.* Your Grape resembles the Muscat of Alexandria, but, though very sweet, it has not so much Muscat flavour as is generally found in the true Muscat of Alexandria.

NAMES OF PLANTS: *W T T.* Either Camaridium vestitum, or very near it. The materials do not enable us to form a positive opinion on so nice a point.—We are obliged, as we have stated over and over again, to decline naming plants not in flower.—*A Young Gardener.* The Heath is some one of the Garden mules from E. cerinthoides.—*G.* Viburnum Lantana.—*A K.* Garrya elliptica. The others are species of Cupressus or Juniperus, not in a state for determination.—*R T.* No doubt some Abolboda, a mere Botanical weed.—*H W.* Garrya elliptica.

PASSIFLORA QUADRANGULARIS, OR GRANADILLA: *S.* says, should Mr. W. Thompson (see p. 1160) fail in obtaining in England seeds of this delicious fruit, he shall be happy to procure some from friends in South America (of which country it is a native) upon Mr. Thompson's favouring him through our columns with an address to which they might be sent in a letter. As the fruit in question, he states, does not ripen there till December, a long delay in forwarding the seeds will be inevitable. There is, he adds, a plant of the Granadilla in the Victoria House, at Kew, but he is quite unable to say whether it has ever ripened any fruit or not.

THE DOUGLAS FIR: *N.* No one in this country can as yet answer your question satisfactorily. All that is certain is that the timber, if grown in N. W. America, is the best "deal" in the world. As to rain water we reply "Yes."

**Land Drainage, and other Agricultural Improvements.**

MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5s. per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

LAND DRAINAGE.—WORKS of DRAINAGE of any extent are EXECUTED by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY, on all descriptions of property, whether freehold, entailed, mortgaged, trust, ecclesiastical, corporate, or collegiate.

Repayment may be made by the Landowner as successive portions of the Works are completed, or the outlay and expenses may be charged on the estate by way of rent charge created for such a term of years as the Landowner shall determine will best adopt the annual payment to the circumstances of the tenants.

No investigation of title being required, or notices given to reversioners or mortgagees, no legal expenses are incurred.

Works of irrigation, enclosing, wood grubbing, road-making, and farm buildings are executed in a similar manner.

Landowners desirous to execute any of the improvements by their own agents, and charge the outlay and expenses on the Estate, may obtain loans for the purpose.

Applications to be made to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, S W.

THE LANDS IMPROVEMENT COMPANY.
Incorporated by Special Act of Parliament in 1853.
2, Old Palace Yard, Westminster, S.W.

To LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
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# The Agricultural Gazette.

*SATURDAY, DECEMBER* 12, 1863.

IT is impossible, within the narrow limits of this Journal, to overtake, on one day, and in full report, the agricultural proceedings of the past week. The items are shortly these:—On Monday, the Show of the Smithfield Club (reported elsewhere) was opened in the Agricultural Hall. In the evening of that day Mr. COLEMAN, of Woburn, read an excellent paper on the management of live stock on arable land, which is imperfectly reported in another page. On Tuesday the annual dinner of the London Farmers' Club took place; and on Wednesday the general meeting of the Royal Agricultural Society (referred to elsewhere) was followed by what was probably the most important agricultural event of the week. A meeting took place in St. James's Hall under the presidency of Mr. HOLLAND, for the promotion of steam cultivation, of which a short account is given in another page. In the evening the Annual Dinner of the Smithfield Club took place, and Mr. MORTON read a paper before a full meeting of the Society of Arts, on Agricultural Progress, its Helps and its Hindrances. A portion of that paper is given in the following pages. There was a very vigorous discussion consequent upon it, in which Mr. COLE spoke of the condition of the labourer, Colonel CHALLONER and Mr. ROBERT SMITH, of Exmoor, defended the prize system of the Royal Agricultural Society of England; and Mr. FOWLER and Mr. RANSOME condemned it. Mr. HOLLAND spoke of the way in which agricultural progress had benefited all classes; and Dr. ELLIS referred to the improved condition of the agricultural labourer, consequent on the agricultural use of steam power. The Chairman, Mr. GREY, of Dilston, after a discussion unusually prolonged, and ultimately borne with impatience, in wise and weighty words, brought it to a close, speaking, as his long experience enabled him, of the benefits, obligations and duties by which all classes of the agricultural world are united, and on the right observance of which true agricultural progress depends.

We hope to give a report of these addresses next week, as well as of those which followed the excellent paper of Mr. COLEMAN at the Farmers' Club.

## SWEDES NOT BULBING.

THE evidence I gave at the trial which took place lately at Cavan regarding the sporting of the Swede Turnip having been questioned, I am induced to trouble you with a few facts which have come under my own observation, and I prefer giving facts rather than offering an opinion as to the cause of such sporting, for notwithstanding my close observation of this strange freak, and my experiments made to discover its source, I am as unable as ever to account for it, although it is now some years since I first observed this particular change in the character of the plant. And as every year the cases are increasing in Ireland, I have not only in late years given the subject greater attention, but, as a seedsman, have doubled my diligence and care in the production of the seed; still I am baffled, as my very best selected seed has given me the greatest trouble, through having produced some of the worst cases of sport. For instance, seed grown at my residence near Dublin, under my own care, from large selected bulbs (and not within sight of any seeding plant of Rape or other of the Brassica tribe), when sown in the county of Wicklow, on one of the very best cultivated farms, the ends of 20 or 30 drills, and extending 30 or 40 yards in the field, produced only plants without bulbs, and so tall and bushy, that they could be seen from a considerable distance. The roots were strong and forked, and of a yellow hue, like the flesh of the Swede; the remaining portion of the drills, and all the field beside, was a heavy crop of well-formed bulbs without a single sporting plant. Again, in the county of Tipperary, where were two fields separated by a wide ditch, the ditch was thrown down and the field sown with the same seed across the ditch; on each side of the levelled ditch was a crop of excellent bulbs, while over the ditch almost every seed produced large Rape-like plants without bulbs. Again, in 1861, a gentleman in the county of Carlow sowed 20 lbs. of Skirving's Swede on a field of 5 acres. The field had previously consisted of two fields of 3 acres and 2 acres, separated by a ditch; the ditch was levelled and the 5 acres tilled in the best manner and heavily manured; the seed was sown in drills running across the ditch. The 3-acre portion was an excellent crop of well formed bulbs, while the 2 acres produced only Rape-like plants quite innocent of bulbs. When the crop was matured the farmer was candid enough to inform the seed merchant that had the drills not run across the ditch and embraced in their length both fields, he would have insisted that Rape seed had been put on the top of the bag, and would have sued for compensation. Again this season, in the Queen's County, a gentleman who farms extensively, and who prides himself on his excellent cultivation and heavy crops, sowed on one afternoon about 25 drills of Swede, and in a day or two thereafter the remainder of the field; the previous crop, culture, and manure being the same, and apparently there was not the slightest difference in the soil. The 25 drills produced a mixed crop, about half Rape-like plants and half bulbs, while the other portion of the field, and much the largest, gave an excellent crop of bulbs, entirely free from sporters; but it is needless multiplying cases, although I could relate 20 similar to those above, and I vouch for all I state to be strictly true, and most of the sported crops I examined for myself. I am well aware of the necessity for a careful selection of the parent stock, and in growing the Brassicas especially that they be seeded far apart from flowering plants of every other variety of the tribe to keep them from hybridising, and I think I have not been wanting in success, as my friends have testified; but where the matter of the Swedes sporting is so little understood, it is certainly very hard that seedsmen should have to answer for that over which they have no control, for instance where one respectable seedsman here was sued for Swede sporting, and a verdict given against him to the tune, including costs, of over 500l., and another was mulcted in a still larger sum. While I am fully persuaded that the seed had nothing to do with it, at the same time I frankly admit seedsmen's responsibility, and would not for a moment flinch from meeting responsibilities if I brought them on myself through fraud or carelessness. That Turnip and other round seeds are too often adulterated with killed Rape, &c., I believe is too true, and those who follow such a nefarious practice should be made to answer for it; at the same time I am free to say that never in all the course of my business, and that is for nearly 30 years, did I ever mix or cause to be mixed, an ounce of such adulteration, but gave out my Turnip seeds pure as grown, and most of them are produced by my brother in Stirling, who is unusually careful in his selection of bulbs, and to avoid accidental mixing with Rape I keep my Turnip and Rape seed in separate warehouses, each bag having the name plainly marked; besides, the plants complained of which do not bulb are the true Brassica

campestris rutabaga, or Swede Turnip, and not the B. napus or Cole, which most growers suppose they are. It is to be remarked that although I have known the sport in Swedes for eight or more years in Ireland, and yearly increasing, I have not heard of a single case in Scotland, although much larger quantities of the same seed complained of here are annually sown in Scotland. *D. Drummond, Dublin, Dec.* 3.

## AGRICULTURAL PROGRESS.

### ITS HELPS AND HINDRANCES.

[The following paper was read by Mr. J. Chalmers Morton, last Wednesday evening, Dec. 9, before the Society of Arts—Mr. John Grey, late of Dilston, in the chair. The discussion which ensued upon it will be referred to next week.]

It is the object of this paper to illustrate the fact of agricultural progress—to specify the circumstances by which it has been promoted—and to enumerate some of the obstacles by which it has been hindered. A discussion of the helps and hindrances amidst which it has been accomplished ought to be of service to it in the future; and it is as an introduction to such a discussion that the following statement has been prepared.

[Unfortunately the subject is too great and the statement too long for discussion in one paper, and the former part of it is postponed till next week.]

I have collected a number of the testimonials and opinions of practical farmers and land agents of long and large experience in various parts of the country, all concurrent to the effect that the agricultural produce of this country is now much larger than it has ever been before—that the fertility of the land is increasing, and that both in bread and meat of home produce we are really better off than formerly, notwithstanding that our imports of food have also largely increased in order to supply our better fed and larger population. All this might have been as well illustrated, though not better *proved* by a number of definite instances of improvement. I have, however, preferred the other plan of putting the fact before you, for one reason among others—because I believe that the indefinite, and even the almost inarticulate judgment of an experienced man is, after all, more trustworthy than the precise figures which might be given in an account of individual examples. In agricultural questions, where everything is so dependent on circumstances, I would rather have the round numbers of a generally observant practical man than the decimals to the third and fourth place of an enthusiast on any particular point. And I think the body of testimony, from which I have now read specimens, is conclusive of the fact of agricultural progress. I should like, however, to add one reference to a particular example. If our Chairman can say that during his management of the Greenwich Hospital Estates 100,000*l.* has been spent in land improvements, and many hundreds of cottages have been built, and largely increased rents have been obtained, and the tenants are in better circumstances, and the land is more productive, so that every class connected with it is benefited—so also can many an owner of land in the south. I will particularly mention the Sarsden Estate in Oxfordshire, because it enables me to pay a tribute to the memory of one in whom English agriculture has lately lost a public-spirited exemplar and energetic friend.

During the late Mr. Langston's ownership of Sarsden—an estate of small extent compared with those of the Greenwich Hospital—60,000*l.* or 70,000*l.* had been spent in the various estate improvements, which include the soil and its live stock, its roads, fences, buildings, farm-houses, cottages, and schoolrooms. No part of the interests of landowner, tenant farmer, or labourer had been neglected. And the result is seen here, as in a multitude of other less definite examples throughout the country, in greater produce and a better conditioned agricultural population.

### CAUSES OF AGRICULTURAL PROGRESS.

Admitting, then, as proved, the increased produce of the country, what, let us ask, has it been owing to? And first not of the original but of the immediate causes of it.

(1) It has been owing, first, to better tillage. The object of tillage is the creation of an increased available surface within the soil, on which may be prepared and deposited food for plants, and on which the roots of plants may feed. The greater the quantity of this internal superficies to act as a laboratory, as a warehouse, as a pasturage, and the better stored it is, under a given extent of land—then, so long as the fitness of the mechanical condition of the land with reference to particular plants is preserved, the more fertile is that land with reference to those plants.

In order to the creation of this inner surface a greater depth of soil is stirred, and clods are comminuted. In order to the increased accessibility of this inner surface land is drained. The air and rain water which then traverse soil and subsoil, instead of merely lodging in them, introduce substances into this warehouse and activity into this laboratory.

The air which rain-water thus draws through the soil as it sinks downwards to the drains is as necessary to the fertility of the soil as it is to the heat of burning coals. The fire will merely smoulder until, by the erection of a chimney over it, a current upwards through the burning mass is impressed upon the air. And even then, in fires of caking coal, the heap may smoulder until, by the smashing of the fuel, that inner surface of the fire, where the action of the air takes place throughout it, is multipled, and the impervious ceiling—or floor, as we might call it, to an upward current—which has hindered the passage of the air over that inner surface, is broken up.

Land drainage is the provision of a passage for the rain water, along with which the fertilising air has thus a downward current given it through the soil and subsoil. And tillage, especially tillage by steam power, which does not cake a floor, as horse-power does, beneath the soil it stirs—has all that enlivening effect of the poker on a caked coal fire, which the parallel suggests. Extended drainage has a great deal to do with our increased produce. Mr. Bailey Denton estimates that nearly 2,000,000 acres have within the past 15 years been under-drained, and the fertility of these acres has no doubt been largely increased.

Deeper and better tillage has contributed to the same result. The extension of autumnal tillage is an undoubted fact; the enormously increased use of implements of the grubber class is another; the general adoption of a better form of plough is a third; the more general adoption of the fertilising practice of burning clay soils is a fourth. The success which has at length rewarded unconquerable perseverance in the attempt to use steam power for tillage operations is another great fact, which, if it cannot yet be quoted in explanation of agricultural progress hitherto, will unquestionably be looked back upon 10 years hence as having contributed largely to the increased fertility which will then fall to be recorded.

(2) In the second place our agricultural progress has been owing to the greater richness of home made manures, and to the greater use made of imported fertilisers. The imports of guano since 1840 have amounted to 3½ millions of tons; the imports of cubic nitre, which averaged 10,000 to 14,000 tons per annum up to 1858, have since varied from 25,000 to 40,000 tons per annum. The imports of bones since 1848 have increased from 30,000 to 70,000 or 80,000 tons annually. All these are manuring substances. Dr. Voelcker informs me that 75,000 to 80,000 tons of Suffolk and Cambridgeshire coprolites, and 15,000 to 20,000 tons of Sombrero phosphate are also used in the superphosphate manufacture, which now probably exceeds in worth 1,000,000*l.* per annum. To facts like this we have to add the enormous extension in the use of oilcakes and richer foods in the meat manufacture, by which the richness of home made manure is increased. The increased adoption of the practice of applying manures at once to the land instead of rotting it in heaps is an economy, and so an addition to our resources worth naming. The increased practice of feeding and collecting manures under shelter is another economy. The increased care to properly pulverise and even dissolve manures, so as to distribute them thoroughly through the soil, is another first-class example of a most important improvement in farm practice. On the other hand we have to confess the increased value of the town sewage, due to the improved drainage of our towns—which is still suffered to go to waste. On the whole, however, there cannot be a doubt that the increased fertility of the soil is due not only to improved drainage and tillage, but to the direct application of fertilising ingredients in a more liberal and economical manner.

(3) Leaving now the soil, we have the way in which its increased fertility is developed and expressed. I suppose in the first place it will on the whole be admitted that on arable lands at least there are fewer weeds, our fallow crops are cleaner, our tillage and manures are not wasted so much on plants we do not want to grow. That is the first *fact*, as I believe it to be, under this head.

Another is the prevalence of rotations of crops in which bare fallows are diminished, and in which there is a larger acreage of the more valuable crops. The prevalent rotation of the country is the four-field course, in which Wheat, Turnips, Barley, and Clover occupy one fourth of the land apiece. But it is common on well cultivated land—where the land is folded by cake-fed sheep, and where a top-dressing of guano is given to the corn, to take a crop of Wheat between the Turnips and the Barley, so that three-fifths instead of two quarters of the land are in grain crops. One-half of the Clover land, too, is often sown instead with Peas or Beans, so that five-eighths instead of three-fifths are in grain. Again, over large districts, especially in Scotland, Potato culture does to a great extent displace Turnips or other fallow crops, and this provides a great increase of food for man.

But besides the adoption of improved rotations, we have to report the improved cultivation of individual crops. I suppose that the gradually diminished quantity of seed used per acre in growing grain crops—as drill husbandry extends, and as an increased independence of mere custom becomes the rule, each man determining his practice for himself—will be admitted by most people as an example of this kind. Certainly every one will admit that the extension of drill husbandry in the cultivation of root crops, the extended use of the horse-hoe in the cultivation of grain crops, the extended use of so-called artificial manures as top-dressings and otherwise in the cultivation of all crops—all illustrate the improved cultivation of the plants by which the greater fertility of our soils is expressed and utilised.

Again, we owe our better crops to the selection and adoption of better sorts of the plants in cultivation. I don't suppose that individual sorts have improved upon our hands. Probably, as a general rule, they have deteriorated. But new sorts are being perpetually introduced; and of Wheat, Barley and Oats, Mangel Wurzel, Swedes, Turnips and Potatos, Cabbages and Vetches, a man can grow sorts as good as any—I think probably better than any—that his predecessors have known.

(4) We now come to the produce of meat; and the question of sort has a great deal to do with our improvement here. There are probably fewer acres now devoted directly to the growth of cattle food than there ever hitherto has been; and though, notwithstanding this I do not doubt that, owing to liberal and vigorous cultivation, we grow more tons of cattle food annually than ever hitherto, yet it is not so much to this as to our improved sorts of cattle, sheep, and pigs that we owe our increased produce of animal food. Our sheep are now ready for the butcher at 14 months old — our cattle at 24 and 30 months. Formerly it needed at least two years of feeding to make a smaller carcase of mutton, and at least three or four years' feeding to make a smaller carcase of beef. A thousand sheep upon a farm in March or April now mean something like 500 ewes in the lambing fold, and 500 sheep ready for the market. Formerly they meant not more than 300, and those a smaller lot, ready for the butcher; and this great increase in the meat produce of a given head of stock is witnessed as much in pork and beef as it is in mutton.

All the important breeds of cattle, sheep, and pigs have improved and increased in numbers during this period. Mr. Strafford receives entries for his Herd-Book from fourfold the number of Short-horn breeders, and the influence of this, the dominant breed of cattle, in crossing the general stock of the country has wonderfully increased. Messrs. Duckham and Tanner Davy report no falling off in the number and quality of the more local breeds of Herefords and Devons. Both Downs and Long-woolled sheep—and especially the latter—have made great strides both as to increase of numbers and general improvement, and much more general interest is taken in the improvement of the breeds of swine. The public attention has lately been drawn, or rather driven, to the fact that disease is rife among our stock, and it is said to be increasing. It is one part of our evidence for the fact of great agricultural improvement, that an evil of this kind, whether general or local, and wherever it exists, is not now left to fester, but exposed and probed by an energetic public agitation which will undoubtedly promote its cure.

The greater rapidity of growth and the increased size of our improved stock, both well illustrated by Mr Herbert's figures in the "Royal Agricultural Society's Journal," which describe the supplies to the metropolitan market, are owing partly to the better food we give our stock as well as to their increased precocity, and the enormous extension of better bred stock. And thus, as part of this experience, we have a supply of more fertilising manure and an increased growth of grain crops. It is I believe the fact that there are more acres of corn grown now than ever has before been known in England, and I look upon this as a proof of agricultural progress. And so long as this is consistent with the maintenance of fertility, it is certainly for the interests of the consumer. It is said our climate is especially favourable for the growth of green crops. I believe we grow more bushels of Wheat per acre than any other country, whether we have so good a climate for it or not; and if the present extravagant cry for laying land down to grass which has hitherto grown grain and green crops in alternate husbandry shall to any extent prevail, I do not know who is to benefit by the change. Landlord, tenant, labourer, and consumer are alike interested in the larger produce and more energetic cultivation of arable land.

The progress which I have thus sketched has been achieved rather by the extension of good agriculture than by the invention of any new process during the period of it: and yet there is enough of novelty and change apparent, too, on comparing the farmer now with his predecessor then. Bones and rape-cake, soot and salt and gypsum, lime and marl and composts, used to be the principal methods of adding directly to fertility; and indirectly the same end was attained by the cultivation of successive green crops, feeding Rye and Rape, Vetches and Turnips and Cabbages off successively upon the same field. This "double" culture was advocated confidently, as the perfection of arable cultivation, 28 or 30 years ago. Hear Mr. Middleton, who edited the 20th edition of Arthur Young's Farmers' Calendar, writing on this very practice: "That very numerous class of supine persons," he says, "whose minds are so weak as not to adopt this practice, which is the most improved that is known, will certainly continue to complain of hard landlords and bad times. Such characters do not succeed in any profession; neither can they in agriculture. I had nearly said they deserve to be poor, but, whether they deserve it or not, their destiny is to be so."

Notwithstanding, however, Mr. Middleton's vigorous assertion of this practice, it is not thus that the farmer now in general seeks the increased fertility of his lands.

He has guano, superphosphate, and other fertilisers at his command. He has machinery not only for the increased efficiency, but for the cheapening of all agricultural processes. Steam-power both tills the soil and threshes out its produce. The mowing machine, hay-tedder, and reaper—the chaffcutter, pulper, and steamer cheapen the labour of securing his crops, and economise the after use of them. Better plants are grown, and better animals are fed; and the fertility which came with profit under the best management in two or three years, is now achieved, perhaps with no greater profit, but almost at once.

But I believe that I have sufficiently illustrated the fact of agricultural progress. Let me now enumerate some of the helps and hindrances amidst which it has been accomplished.

### HELPS AND HINDRANCES TO PROGRESS.

The original purpose of this paper was to bring into the brightest light that I could strike, the share which agricultural societies have had in promoting the progress which has been now described—the influence of farmers' clubs, of local, provincial, and national agricultural associations—and in what way it could be wielded more efficiently. To this end I have entered into correspondence with the secretaries of these Societies; and learning from them the nature of the efforts and achievements which have thus in many places been witnessed, it is impossible to doubt that these societies have been of service in the promotion of good cultivation, both by the stimulating influence of the competition which they have excited, and also (though this is not so uniformly true) by the guiding influence of the awards that they have made. And in previously backward and secluded localities, especially where railroads and access to new markets have happened together with the establishment of the local society or club, great agricultural improvement has unquestionably been accomplished. It is however, I believe, also unquestionable that after all the Society plays a subordinate and merely incidental part. The real stimulant to agricultural improvement is the self-interest of the landowner—the self-interest of the tenant farmer—which is sharper, far more earnest, more genuine and trustworthy than any external spur or rein, such as societies do to some extent supply. And thus it is in the business relations of the farmer that we have the real limits and conditions under which his professional ability appears. The terms on which he has hired the machine, the factory, the mine, or whatever his farm may best be likened to—the relation in which he stands to the owner of it, and to the labourer by whom he is to work it—these are the real rein and spur by which his progress is at once urged and guided. For here, as in other professions, most men know a great deal more than they practise. It is not always ignorance which hinders progress, which societies with their exhibitions and discussions might remove. Self-interest does not urge them, or rather it is self-interest, after a wary consideration of their circumstances, which restrains them. And thus it is that first among the helps and hindrances upon our list stands the relation of landlord and tenant.

### RELATION OF LANDLORD AND TENANT.

All agricultural readers know that this has been the subject of very general discussion lately at agricultural meetings. A Society in Suffolk has offered a prize for the best form of agreement between landlord and tenant; Lord Lichfield, in Staffordshire, has done the same; and the Vale of Evesham Agricultural Society has issued the result of its studies of the subject. The salient points of the discussion were perfectly brought out at one of the meetings in connection with Lord Lichfield's prize agreement. The Earl of Shrewsbury is reported to have spoken there as follows:—

"I hold that you cannot frame any agreement which can be binding everywhere, but you can do what I have done—namely, endeavour to act fairly and honestly by those who live under you. I should be sorry, and I should feel it to be dishonest, if I allowed any tenant of mine to leave me in debt to him. I mean, if a man put on to a farm that which would improve it, I should feel bound not to let that man leave my estate without being remunerated for what is unexhausted. That is the only fair principle that can be acted on. All other matters must be subjected to a give-and-take agreement. I am not averse to any good arrangement that can be made, at the same time I do not hold out any hope that I can make any change in my arrangements with my tenants. We have agreed well together so far, and I hope that we shall continue to do so. Where there is a desire on both sides to agree, we are not likely to fall out. I adhere to what I have always said respecting leases—namely, that nothing will induce me to give a man a lease, because in the first place a lease is all on one side. The landlord remains, but the tenant, if he be inclined to be fraudulent, may go. I boldly and honestly state I will never surrender my property to a tenant. I mean that no man who will allow his sons to poach and act disgracefully shall have control over my land for a number of years. I will have an agreement for the mutual benefit and protection of myself and the tenant; and if any agreement really better than the existing one can be found, I will adhere to it. I hope that my tenants will feel confidence in me and my successor, and that they will be content to lay out their money with a feeling of security."

I do not recollect anywhere to have read a clearer, more straightforward statement of what is, I believe, the prevalent feeling among owners of land. It would, of course, be little better than impertinence to say that Lord Shrewsbury has a perfect right to dictate the terms on which he will let his land—this anybody knows. At the same time everybody, I am sure, also knows and feels that his lordship cordially admits the public duty by which the theoretical omnipotence of ownership is practically limited. It is only as among the helps and hindrances to agricultural progress that we have any right to the discussion here of the opinions he has expressed. The promotion of that progress—meaning, as it simply does, more food per acre—is what every public-spirited man will admit to be a public duty; and therefore it is clearly within the scope and object of this paper to consider the influence on agricultural progress of such a resolution as Lord Shrewsbury has expressed.

I am not going to weary you with the oft-repeated argument in favour of leases for a term of years as tending to increased fertility—to that increased outlay of capital in cultivation on which the productiveness of the land depends. But there are just two or three points, which Lord Shrewsbury's speech has mooted, on which as many short remarks may be made.

I ask then, first, with reference to leases—Is it true that the lease is all on one side?

On the contrary:—Put all the advantages on that side which it confers, it is the instrument which not only secures those advantages to the tenant, but which secures to the landlord the annual sum or rent at which he himself has valued them.

Again with reference to tenancy at will I ask—Does the landlord "remain"? We all know that the word "changeable" applies to a man's will as well as to his person. The landlord does not remain, and his successor, whether he be the inheritor of his property, or himself in a different mood of mind, may, in the case of a tenancy at will, arbitrarily put an end to an unwritten bargain.

Thirdly, as between leases and tenancy at will, Lord Shrewsbury says—"I will never surrender my land for a series of years to a tenant." Under tenancy at will, however, a tenant is asked to entrust his property in great measure, and I will say in *greater* measure, to his landlord: it is much truer to say the land remains, than it is to say the landlord remains, and I do not hesitate to say that, in the case of well cultivated land of average fertility, there is not under leasehold farming so much of the landlord's property per acre in the power of the tenant to injure or destroy, as in the case of tenancy at will there may be of the tenant's property per acre within the landlord's power to appropriate. A landlord may say, "I will never surrender my property to a tenant," but in point of fact he never does surrender his property to a tenant. The land remains—it cannot be destroyed. We hear from Baron Liebig of the exhaustion of the land—no such thing is known in practice. I do not suppose that in average circumstances what is practically known as "worn out" land is ever injured to the extent of two years' purchase; that is to say, a farm—and if it be held on lease, we must suppose the tenant to have been not only fraudulent but a fool—a farm which has been injured as much as such an one might do it, would be readily taken at the old rent, provided the new tenant had it the first two years for nothing. The injury which a fraudulent tenant can do—*provided he be also a fool*—may thus amount to 3*l*. or 4*l*. per acre. On the other hand, taking the case of a man farming land as it may be profitably farmed (in the manner which alone contributes to agricultural progress), where a large expenditure has been incurred perhaps in draining, certainly in liming, in burning, in boning, in marling, in artificial manures and oilcake, and other purchased food for cattle and for sheep (all of which require time to realise their effect upon fertility), and I say the landlord has more than 3*l*. or 4*l*. per acre of the tenant's property within his power.

"Well!" it may be rejoined, "it is the object of this model farm agreement to graft on the system of tenancy at will such a bargain as shall ensure the repayment of these 3*l*. or 4*l*., or whatever the unexhausted outlay may be. Lord Shrewsbury proposes to adopt this, and the objection to which you have thus alluded—putting it in as personal a manner as possible—thus falls to the ground." There is not a chance within the hour of discussing the essential superiority of the lease for a term of years to any modification of tenancy at will, however bolstered up by these provisions for the repayment of unexhausted improvements: and therefore, with reference to this rejoinder, I will only say that I cannot help the personal aspect in which the systems of lease and tenancy at will of necessity are regarded.

It is the personal aspect which is the real one. Landlords inevitably entertain the personal question first and foremost; and if obtruded on the one side, it must be entertained upon the other. It is even less a tenant who will cross-crop and starve the land, than a tenant "who will permit his sons to poach and behave disgracefully," that is feared. After all, it is the fear of having an ill-conditioned set of neighbours that is at the bottom of the dislike of leases. Experienced land-agents will tell you that it is altogether a mistake to apply general rules to the management of property. They say: "The majority of farmers don't want 'a field for the investment of capital,' as the phrase goes; they want an occupation and a home. Leases will not change the nature of a man; and, in fact, few things more obstruct agricultural progress than the system of dealing with farmers as a class (which they are not) instead of as individuals on their individual merits, which include as much variety as exists among any other body of their fellow countrymen."

To this most people will I think agree; and in accordance with it, one of the chief advantages I claim for leases is, that where adopted as a system greater individual care is taken in the admission of tenants on to an estate. And in accordance with it, too, one of the chief articles in the indictment against tenancy at will is that it is based upon a class treatment of the very kind which is thus condemned. It has, I believe, been proved in other walks of life that the plan of universal restriction—of treating all men with suspicion—of making your general arrangements hinge on the possibility that every man is a rogue, is a blunder. It is an especial mistake in agriculture: for there *is* a certain class colouring perceptible, as in other professions so in farming, and tenant-farmers may be safely spoken of as a worthy and well conditioned body of men. If, as is ludicrously feared, a general prevalence of the lease should displace the homely and neighbourly class with whom in English country districts one has so long enjoyably associated, by a set of energetic, ruthless, restless, money-making "sharps," the change would be lamentable indeed; but the fear is ludicrous. However many new men may be entering agriculture from other walks of life, it will always be that the bulk of farmers have been bred by farmers. And it is, I believe, an easier and a better thing to engraft upon the characteristic good qualities of the class, or rather (for they already exist) to foster there the intelligence and enterprise and energy of commercial life, by adopting more generally a commercial view of the relations between landlord and tenant, than it will be to engraft a strict valuation and acknowledgment of tenant right upon the system of tenancy at will.

I am aware that this subject has thus been barely touched—that in order to the full discussion of the influence of the well-drawn lease on farm practice, the great body of experience relating to it both in agriculture and in other businesses ought to be at least alluded to—that in particular those conditions of the lease which refuse or grant the tenant the full exercise of his intelligence in the cultivation of the land—and those conditions which maintain or define or abandon the landlord's right, if he choose to exercise it, to preserve a live stock of his own upon the crops grown upon his land should be discussed. The maintenance of an unlimited quantity of game upon the tenant's crops, consuming much that would be food for man and injuring the remainder, is of course fatal to agricultural progress, and has in many instances already proved so. And had there been time, it would have been my duty to put this fact, with the others which are dealt with in a well-drawn lease, as clearly as possible before the readers of this paper. Failing opportunity for this, however, I am very glad that if the relations of landlord and tenant shall be the subject matter of the discussion which will ensue, we have as Chairman one enabled to "moderate" in such a discussion, by a long and most useful experience of the influence of a liberal and well drawn lease upon not only the fertility of the land, but on the character of the tenantry and on the condition of the labourer.

The other business relations affecting agricultural progress are those existing between the farmer and his labourers. It would have been easy enough to show that agricultural labourers, still badly enough off in many districts, have largely shared in the advantages of recent agricultural progress. Wages are better—a good deal more is being done to the improvement of cottages—and day and evening schools are exerting an unquestionable influence. The goodwill and intelligence of the labourer, both of which have thus been increasing of late years, are again among the greatest helps to further progress; and this is especially true now that steam-power is being used everywhere in the fallow field as well as in the barn and feeding house. I merely name this subject, however, and hasten on to consider the way in which agricultural societies have influenced and may further agricultural improvement.

### AGRICULTURAL SOCIETIES.

To this subject, which should have been the main topic of my paper, I must now devote the remainder of the hour. There is, I believe, nothing in other professions corresponding to the Agricultural Society. There are no mutual improvement societies among those who supply us with our apparatus, or our means—agricultural machine makers, manure manufacturers, and seedsmen. Nor are there mutual improvement societies among those who deal with our results, as millers, brewers, bakers, and butchers. Every man among these, notwithstanding that for some special purposes, *e.g*, mutual protection, they may unite, does the best he can for himself, and stands or falls by his own merit or demerit. This is of course also true of farmers. But the Agricultural Society, like many another feature of our profession, arising out of the peculiarity of its raw material—land, is as much a social as a strictly technical or professional institution; it deals with and affects a whole country side, and the whole population is interested in its proceedings. This is more especially true, however, of only one class of agricultural societies. There are several: and it is plain that it is only by a short reference to the classes

under which the many hundred agricultural societies of this country can be arranged, that I can hope to illustrate my subject.

1. Proceeding from the ranks of the tenant farmer on either side of him, there is first the strictly farmers' clubs, meeting for periodical discussions of agricultural topics. They were once very much more numerous than they are now. Only a few have survived from the period of twenty years ago, when a great many were in activity. They have unquestionably been of great service in publishing agricultural information, in the direct introduction of improved practice into their respective neighbourhoods, and in establishing better business arrangements.

Their discussions generally published in the country papers, and their annual reports distributed to members, are sure of being read by those to whom they are addressed. I have an immense mass of reports, through many successive years, from a great many of these clubs, and there is no better agricultural library —no more useful one, if only some means were devisable for indicing or arranging it.

We have a Central Farmers' Club, in London distinguished for the great practical value of its monthly papers and discussions. I do not know that it claims anything more than geographical centrality. It would, however, be of great agricultural service, I believe, if it were also officially central with reference to these institutions, and its library contained the annual reports of all the local societies, or if its secretary were the editor of them, by whom an annual volume of selected papers might be prepared, to which more prominent influence might thus be given. A connection through some central officer in this way would tend to the permanence of these local institutions. They are very shortlived, and this in various ways has been owing to their strictly local character.

These institutions have not only kept their members informed—they have often introduced new practice into their localities. The Morayshire Farmers' Club, established so long ago and thriving still, was, I believe, the first to call general attention to the value of superphosphate as a manure. And long before this (I believe early in this century) it had deputed one of its members to visit Norfolk and bring back agricultural information for the guidance of the body. The Ayrshire Farmers' Club, by the adoption of similar means, appointing deputies to visit and report upon the dairy districts of England, has been the means of introducing the Cheddar cheese manufacture into its county. The business arrangements of their locality are also often most usefully guided by these societies. The erection of corn exchanges—the alteration of market arrangements, and the establishment of new markets, are among the subjects which are often thus regulated.

As an example of the great service done thus, I will quote a report from Mr. Wilson, of Edington Mains, regarding the Union Farmers' Club, a Society embracing more than one county :—

"Its head-quarters are at Kelso; it is of long standing, and has had upon the whole a useful career. I would specially refer to the annual sale of Leicester rams, now of some dozen years standing, which was begun and is carried on under its auspices, and which has been a great success. It has tended most directly to the preservation, improvement, and wide dissemination of that truly valuable breed of sheep, the Border Leicester. For several years past about 2,000 shearling rams, chiefly of that breed, have been sold by auction at this annual Kelso ram fair, and have been widely dispersed over Scotland, Ireland, and the North of England. These rams are for the most part bought for crossing either with pure Cheviot ewes or with ewes of the first, second, or third cross from the Cheviot. These crosses are a truly valuable kind of sheep, and it is with them that the arable farms of Scotland are now chiefly stocked This annual congregating of rams from the flocks of so many different breeders, and the sale of them by auction at the same time and place, both affords ample choice to customers, gives to the ram breeders the best opportunity of knowing exactly the kind of animal that is in demand, and brings them under the influence of a far more powerful stimulus to exert their utmost skill and care than any system of prizes for selected animals could do."

This is only one illustration of a whole class of public services rendered by local clubs.

It is impossible to enumerate even a tithe of the many local institutions which have been of immense local benefit in all these ways. In the North of England, the Newcastle and the Hexham and Penrith Farmers' Clubs have distinguished themselves by the valuable papers read at their meetings. The St. Quivox Farmers' Club, in Ayrshire, and the Wirral Farmers' Club in Cheshire, and the Maidstone Club (Kent), have occasionally adopted the useful plan of going in a body to visit particular farms and localities. Others have instituted book societies for the loan or circulation of the leading agricultural works.

Among the defunct institutions, whose annual reports are full of useful information, I may mention Gloucester. Among the longest lived and still surviving, similarly distinguished, I may mention St. Austel, in Cornwall, Framlingham, in Suffolk, and Wirral, in Cheshire. Among the newer and more lately established Farmers' Clubs, which have also attained high merit in this way, I would name the Kingscote Farmers' Club in Gloucestershire.

I have an immense mass of local correspondence and reports from the officers of these institutions, which it is impossible to epitomise, but I hope to publish it piecemeal hereafter. A great help to this most useful body of societies would, as I have already said, be given by a central office, such as the Central Farmers' Club might be, through which every individual society would be kept in communication with all the others. The Society of Arts has thus inspirited and aroused all the Mechanics' Institutes of the country, and a similar service might thus be also done to Farmers' Clubs.

2. There is a second class of local agricultural associations, of which I can give no detailed account, simply from want of space and time. They have, however, I believe, exerted a very useful influence on agricultural improvement. Labourers' Friend Societies, as they are called, are scattered pretty thickly over England; their prizes for skill in the ploughman, shepherd, hedger, and thatcher, and so on, have unquestionably led to useful rivalry and greater improvement in the ability of the agricultural labourer. There is many a locality where both master and man have thus benefited, and where the improvement, and, still more, the desire for improvement thus implanted have directly furthered agricultural progress.

3. I could give many examples of this, but must hurry on to the third and most important class of all, including all those societies which act mainly by the annual show of implements and cattle exhibited in competition for premiums awarded by the Societies' judges. They are of all ranks, as to the extent of district to which they are confined and the funds they administer. These societies have unquestionably been of great service to agricultural progress. They are useful in their social relations, as affording good-humoured gatherings of all classes with a common interest in view; and, professionally, they excite the rivalry and guide the judgment of those who exhibit stock or implements at them, and they confer commercial rank and afford commercial opportunities. The personal rivalry which they excite is as powerful an engine in the arm of the purely local societies as it is in those of greater pretensions; and there are in every locality now so many herds, and flocks, and manufactories, which send out specimens of first-class merit, that these local societies are also serviceable in the second way I named, by giving to spectators models of excellence for their guidance.

That these local societies, which, with their sweepstakes and local prizes, have always been serviceable in stimulating the farmers of the district, now stand so high also as affording examples of first class excellence in every department of their show, is due, in great measure, to the influence of the greater and the county societies, which, having a wider basis and more extensive district, have made merit in all their departments generally known when it was rarer. These provincial societies are now generally swallowing up the local ones. I think it is a pity that the local societies should disappear in this way. There is an almost domestic character about their annual meetings. A personal influence is exerted on exhibitor and spectator—and a more wholesome influence exerted on the relation of master and servant by the annual holiday thus spent together. And where these societies obtain the services of judges of well-known character from a distance, their decisions are not only of great service, but they are accepted, and thus the feeling of angry disappointment which is sometimes felt by exhibitors at these local shows has little chance of development.

The county and provincial societies have latterly enormously grown, distributing many of them a thousand pounds in prizes at their annual shows. They attract large quantities of stock, and a sufficient company is drawn together to induce the manufacturers of influence not only of the locality, but from a distance, to expose their wares, whether there is any competition among them for prizes offered by the Society or not.

Most of these county societies meet annually in successive towns within their district, and the whole force of the exhibition and the company is thus brought to bear on different localities in turn. The provincial societies—the Yorkshire and the Bath and West of England, which include either several counties or one as large as several—adopt, of course, with an increased effect, this principle of directing the whole force of a province on successive points within it. The latter of these Societies, which has other objects beside the strictly agricultural object, and thus can more directly claim the cordial sympathy of the Society of Arts than any of them, has by adopting this very principle lately taken a new lease of life. Invigorating, and being invigorated by the several districts which it visits, it has grown in all the departments of its show to the very highest rank of excellence and influence. I refer to it especially, because it has soonest of any of these great societies seen that the agricultural machine department has outgrown in many ways the power of the society to exercise with any good effect either the guiding or the stimulating influence which prizes have hitherto exercised. The Bath and West of England give no prizes, but merely room and opportunity to exhibitors of implements; yet the usefulness of this department of their show has not in any way diminished.

The national societies by which the stock of every breeder, and the machines of every manufacturer are made known at the annual shows to buyers of all countries, and by which the agricultural force of the whole nation is discharged upon one province after another, as the great association makes its annual step from one point to another in the course of its journey once in 12 or 15 years around them all—these are the last agency of this class for agricultural improvements to which I will refer. And, confining myself to the Royal Agricultural Society of England, although I do not think it necessary to enumerate the many proofs which exist of its usefulness, as seen in the multiplication of good herds and flocks, even in the increased activity of the provincial societies in the districts it has visited, in the improved agriculture especially of the more secluded of these localities, and in the general extension and adoption of improved implements, yet no one is more thoroughly convinced than I am of the great national service that it has rendered in all these ways. I will quote but one slight but (as it is definite and local) striking illustration of the kind of good which in one of these ways it has done, simply because it is just to that one way that I purpose to confine the rest of my remarks on its management.

In a very interesting report by Mr Jefferson, of Whitehaven, on the proceedings of the West Cumberland Agricultural Society, he says, "Thanks to the Royal Agricultural Society holding their meeting at Carlisle, I believe that exhibition was instrumental in opening the eyes of many of our Cumberland mechanics. Previous to 1855, our county was wont to boast of her ploughmen, but when it came to the test at Carlisle, we were well beaten upon our own soil; not that our ploughmen were deficient in skill, but they had not the implements to work with.

It is to the implement department of the English Agricultural Society—to the prize system as carried out in its annual shows, and to the influence of it that I shall now confine myself. The following are the reasons why I think that the prize system for implements may now be properly given up.

The awards of the judges are made after insufficient trial. During July, which is the usual month of meeting, the state of the soil and of the crops upon it is not adapted for the trial of whole classes of machines; and even if it were, the time allowed the judges for arriving at their conclusion is with reference to many machines altogether inadequate, and I believe that the Society would both guide and stimulate manufacturers better by appointing judges to report at leisure on the experience of localities respecting this, that, and the other machine, than it does at present, by submitting all, in a sort of scramble, before half-a-dozen judges on one spot. Then, again, the award of a prize confers too great, *i. e.*, too abrupt, a distinction. As regards many machines whose work cannot be expressed or represented by numbers—the plough for example—the prizeman wins, the rest are nowhere. There never probably was a more marked example of this than at the Warwick show, where a new man appeared as ploughwright, and took many of the principal prizes. His plough, a good and well made tool, as all of Messrs. Hornsby's manufacture are, pressed the furrow slice tighter home, and left a higher crest than the others. Its work gratified the eye—the judges pronounced it best—and their decision was an altogether excessive advantage given for the mere shade of alleged superiority which conferred it.

No doubt a tightly-laid furrow slice is, for some purposes, advantageous, but all the tendency of late has been to regard tillage as a smashing up; and where the land tilled lies on a drained subsoil, the rougher the surface is, the better for its future tilth. But it is an illustration of the excessive character of the prize system that, whereas the decision at Warwick placed Messrs. Hornsby on a pedestal, while Messrs. Howard and Ransome, and others, were, so far as the Society was concerned, in the case of that particular competition, nowhere, I do not suppose there are 10 practical tillage farmers who will say that it matters one penny per acre per annum whether Hornsby's, or Howard's, or Ransomes' plough is adopted as the implement of the farm. Yet, still, year after year [or rather every fourth year successively], ploughs are pitted against each other as if some new form of the tool were yet to be forthcoming, or as if three men, clever as they may be, could in a few hours' trial, fish out the microscopic differences which may exist. The whole thing has now dwindled to a mere ploughing match, and the firm that can tempt the cleverest ploughman to its service wins the day.

Although, however, to the extent of its value, the distinctions awarded at these shows are excessively abrupt, as well as liable to error from inadequate previous trial; and although, no doubt, originally, the award of a prize, during the earlier years of the Society's proceedings, was a great advantage to the winning firm, yet it is proof of the unfitness of this system to the existing state of the manufacture that it has now little influence on sales. This can be shown by examples, both of commercial success without prizes, and of failures notwithstanding prizes. To give names would be invidious, and I will therefore merely say that I know of a tillage implement which for years obtained a sale of thousands, before the Society's judges would consent to give it a trial. At length for two years it was placed first, but the manufacturer declares that no impetus was given to the sale of it by these awards, while in a subsequent year, after a rival had distanced it in the show-yard, the orders received for the tool were unusually numerous—400 more than could be executed. Again, I know a whole class of tools which for years were demanded, and patronised, and at length rewarded by the Society's judges, but they have never come into use. For these machines one maker received six

prizes, and never sold one; one indeed he parted with, but it was very soon returned to him as useless.

I could name to you firms which have repeatedly received first prizes for another whole class of implements, who have never succeeded in gaining the public patronage, although they have had that of the judges; while others who took hardly any of the prizes, have, nevertheless, taken all the orders.

Lastly, I could name an example in which a firm lost its trade in a particular tool by anxiously following the leading of the judge, regaining it, however, as soon as they resolved on depending on themselves. Making 700 or 800 implements of the kind annually, and taking prizes perpetually, yet following the lead of the judges, complaints from customers increased, and trade diminished year by year, until, from 700 sold each year, the sales dropped to 50. At length the manufacturer called his men together, that they might consult in order to recover the art they had lost. "You have been bamboozled," he said, "out of your ability by following false leadership. Here is one of the old tools, made 20 years ago; copy it in every particular." "Ah! Mr. ——," said one of his customers shortly afterwards—one who had complained of a machine he had previously bought—"this one answers perfectly; you have learned at length to make the tool work." He had but retraced the steps of 20 years' false leading. This may seem a one-sided and extravagant illustration of my point. Unfortunately it is a true one.

The trials are inadequate. There is a false advantage given to mere novelty—the prizes are in effect a premium upon mere speed and capability of standing a short race—on all these grounds it is impossible that the awards can be trustworthy. The prizes are too abrupt a distinction, and yet their influence on the trade is small, and both of these facts indicate that the time has arrived when, with reference to the implement department of the show, the prize system should be abandoned.

There is one further consideration, affecting the implement trade generally, to be urged against it. It adds considerably to the cost of agricultural machines. One firm says it has spent 30,000*l.* during the Society's meetings up till now, in preparing and exhibiting for prizes. Another estimates its expenditure at 20,000*l.* A third says the disorganisation of the work—the spoiling of the best men—and the actual expenditure are together past estimate. Who has paid these large sums? Not these firms, but their customers. The cost of a machine is made up of the material it is made of, the labour spent on it, and a whole class of items which come under the general designation of waste charges. These waste charges amount to no less than 30 per cent. of the selling price, and the expenditure at the Agricultural Society's shows is a principal one of them.

There need be no fear that the shows would dwindle if prizes were abandoned. The manufacturers will not lose the chance of so good an advertisement and market as these shows afford. In fact, though protesting against the prize system, yet they will endure it rather than give up the show, and many of them who protested some years ago and refused to exhibit, are, nevertheless, coming round again. Commercial success, which hinges on the efficiency of the machines made, is a sufficient stimulant to the manufacturers; and if the Society think they can can usefully guide the manufacture, let them appoint judges as heretofore, not to award prizes, but to make suggestions and reports. The exhibition may be as much under the control of the Society as hitherto, and the opportunities given to the exhibitors for showing their tools and implements at work, may be as completely arranged as hitherto.

In the quadrennial division of the exhibition which is now adopted, there is a certain confession on the part of the Society of some of the evils attending their present plan. I believe their influence would be as useful and as great if they were to abandon it altogether.

But I have exceeded my time, and therefore I now leave this subject, and shall conclude with a short reference to one other branch of the general subject of helps to agricultural progress; coming to it through one mention more of the class of small local societies named at first.

### AGRICULTURAL EDUCATION.

It is to the credit of a local Farmers' Club, that the only agricultural college in Great Britain originated in a paper read by one of its members.

The late Mr. Robert Brown, of Cirencester, read a paper, some twenty years ago, before the Fairford Farmers' Club, recommending systematic education for the farmer, and urging the establishment of a public agricultural school. Armed with the approving resolution of this Society, he aroused the gentry of the neighbourhood and county, obtained the support of public men and the patronage of the Prince Consort, and ultimately succeeded in raising a fund sufficient for the erection of the college buildings. The shareholders are incorporated by royal charter, and the institution, saved at one time by the public spirit of Mr. Holland, of Dumbleton, has continued, with varying prosperity, to impart an education in which the theory and practice of agriculture are combined.

The importance of the systematic education which is to be acquired as a whole at Cirencester, and piecemeal elsewhere, is the last consideration affecting the progress of agriculture to which I shall refer. Ours can be no exception to the rule of all other professions. There are great public schools of divinity, medicine, and law, and as the future rank of the individuals who have passed through them, so the status, from time to time, of the professions themselves, connected with each, depends on the thoroughness of the professional education there acquired. Agriculture, which deals with a larger capital, and provides a larger annual income than any other profession, ought to support and be supported by its schools. And I believe it is within the scope of our agricultural societies to attend to this. So directly was this seen by the promoters of the Royal Agricultural Society of England, that one of the 10 objects for which its Royal charter of incorporation declared it to have been founded was, "to take measures for the improvement of the education of those who depend upon the cultivation of the soil for their support." I have been a member of the Society from the year of its formation, and I submit to those who are responsible for its guidance that, from that year to this, nothing has yet been done by it in discharge of that particular duty which it then assumed.

It seems probable that the reason why comparatively little success has attended schemes of agricultural education hitherto is that the practical element has been inefficiently attended to. Certainly, no man is perfectly taught until he has acquired a practical knowledge of his business. There cannot be a doubt, I will not say of the absolute need of the practical part of agricultural education, but of its being the element which alone makes the education agricultural. The physiologist, the chemist, and the botanist, already have a knowledge of the general laws which include all the facts and phenomena of agriculture, but though any one combined the knowledge of them all he would not therefore be an agriculturist. None of them could make a living off a farm unless he also possessed a knowledge of farm practice, and therefore it is that no school or college will be ever trusted, or have any claim to be considered as an agricultural school or college, unless the practical teaching is regarded as the aim and end of the institution.

One is perfectly willing to admit, nevertheless, that agricultural progress depends in great measure on that general intelligence and scientific knowledge which includes the theory of agriculture. The scientific and the practical man really are and ought to feel themselves allies, as much so as the geographer and traveller. The one knows the map, the other has a knowledge of the country. The one knows the several bearings of the route—the other knows the difficulties of the way. To be a successful traveller needs indeed the tact and skill and courage of the practical man, but it also needs the previous knowledge of the geographer and man of science. And agricultural improvement regarded as a progress is necessarily guided by the great landmarks of scientific truth; and a general knowledge of the facts and doctrines by which these landmarks are established must tend to its promotion.

It is to the credit of the Society of Arts that this subject, notwithstanding the many to which its attention has been more particularly directed, has not been neglected by it. Its annual educational examinations include Agriculture among their subjects. The Highland and Agricultural Society of Scotland, too, confers its diploma after an annual examination in the sciences and practice of agriculture by a board of professors and practical farmers. The Agricultural Society of England, originally committed by its charter to direct action on this subject, has hitherto been inactive.

### IN CONCLUSION.

It only remains for me now to thank you for the patience with which you have listened to my long and tedious story. Its large subject has necessarily been very inadequately treated. The lease as giving the tenant security for his capital, provided, unlike many taken out of the dusty pigeon holes of an office, it also gives him liberty for the exercise of his intelligence—and the agricultural college for imparting a sound practical and scientific professional education: these are the great helps to agricultural progress. The Agricultural Society is also a great stimulant and help; but its chief use and merit is in having interested the landowners of the country in agricultural pursuits, for agricultural progress depends quite as much on good landowning as it does on good farming. Good service is done, I believe, to agricultural progress by the attraction of educated and wealthy men to agricultural pursuits. One word more, therefore, on the merits and advantages of the profession. We all know the general attractiveness of a country life; to this have to be added the more specific professional advantages of the art and business of agriculture. I do not claim for it a very lucrative or money-making character, but it is a maintenance and livelihood, and it has that, besides, which is more than money's worth. I believe there is in its intelligent prosecution, more than in that of any other profession, scope for the exercise and enjoyment of the whole nature of man. There is opportunity, during its prosecution, for the cordial, frank, and independent exercise of all the social relations. Landlords, tenantry, and labourers are generally a well-conditioned company. There is, certainly, opportunity in its superintendence for the profitable exercise and trial of most of the moral attributes. Temper, resolution, patience, and perseverance are tried in agricultural experience, and receive in it their appropriate reward. There is ample intellectual scope amidst the subjects which it presses on our attention. The first intellects of the age have been engaged with enjoyment and success in agricultural research. The highest names in all the sciences—Boussingault and Liebig among chemists; Buckland, Murchison, and De la Beche, among geologists;—De Candolle, Lindley, and Berkeley, among botanists, have especially distinguished themselves in the agricultural relations of their several sciences. The farm is no mere field for dull routine; it is the platform on which the best minds of the day may well employ themselves. And I add, as holding, of course, a good place upon the list of agricultural privileges, that the physical enjoyments of a country life are no mean additions to its advantages. We can all of us, to some extent at any rate, sympathise with the exclamation of the Arab scheik to Mr. Layard, as they went careering over the plain, then green with the first verdure, and enamelled with the first flowers of spring: "Oh, Bey! what else is there worth living for? What do the dwellers in towns know of true happiness—they have never seen Grass or flowers. May God have pity on them!"

I ought perhaps, to apologise for this somewhat wild ending of what has been intended as a sober statement of my subject, and I will, therefore, in a single sentence recall to your recollection the main object and purport of this paper. The general position which I wish to establish is that agricultural progress is chiefly dependent, first on the improvement of our means of agricultural education, and secondly, on the business relations of the farmer being placed on a sounder footing.

## STEAM CULTIVATION.

A PUBLIC meeting was held on Wednesday at St. James's Hall, for the purpose of considering the best mode of extending the application of steam power to the cultivation of the soil. Mr. E. Holland, M.P., in the chair.

Mr. HOLLAND said they all knew what the difficulties were of starting steam cultivation upon a farm, but after it was once started, and after the land had been for two years under such a system, they all knew how they were repaid for the capital employed in the machinery necessary for the purpose, and for the trouble and labour they had gone through. In steam cultivation they must not commence without having thoroughly drained the land, and after they had once commenced operations, they gained, more especially in heavy clay land, great advantages from the absence of the pressure of horses. With regard to the number of horses employed, he had in his own case at one time 20 working horses under the old system, and he had now reduced that number to 12, after four years' cultivation by steam. Younger horses had come in for the lighter work, which the steam had left to be done, and they had always a marketable value, like sheep, or stock, or anything sold from the farm. But the advantage from steam cultivation was that it enabled them to effect in a fortnight in the autumn, that which under the horse system would have taken six weeks. And these advantages were not obtained at a heavy cost. Where they used to plough with four horses at a cost of 20*s.* per acre, they now ploughed by steam at a cost, including wear and tear of machinery, of 10*s.* an acre, and cultivated by steam at a cost of 5*s.* or 6*s.* an acre. After having had the system in operation for four years, his experience was that the additional produce per acre under the influence of steam ploughing versus horse labour was about eight bushels. With all these great advantages arising from the system, how was it then that it had not been more generally adopted over the country? One reason was that the landlords were not yet satisfied as to the merits of steam ploughing, and, consequently, would still keep their small fields, and would not allow the numerous hedgerows to be removed. Another objection was to the amount of capital required to start steam ploughs. The amount of capital expended in his own case was 1000*l.*, and though a cheaper process might be employed, the farmer would still have to invest several hundreds. It had been considered that it would be of advantage to start a steam-ploughing cultivation company, for the sake of supplying ploughs, engines, and other agricultural implements to tenant farmers, and it was for the purpose of ascertaining what the opinions of the agricultural world were on this subject that the present meeting was called together. It was proposed to purchase the most improved steam cultivators and sell them to agriculturists upon the principle of a mortgage of the machinery, to be paid off by instalments; and whether this company was successful or not he was certain that its existence must prove a great advantage to the agricultural world.

Lord R. MONTAGU moved—"That the cultivation of the land by steam is now proved to be an advantageous and highly economical process, and that the machinery now used for this purpose is of a character sufficiently

perfect to be recommended for the use of practical farmers."

Mr. James Williams, of North-court, Abingdon, seconded the resolution, and pointed out the advantage of steam ploughing in the capability of the machine to work continuously for any number of hours.

Mr. Brooke was not satisfied with regard to the economy of steam cultivation. He was a landowner in Suffolk, and he had tried the application of steam to threshing, but had found the expense greater than the receipts to defray those expenses. Except upon very large farms he did not think that horse labour could be superseded by steam.

The Earl of Suffolk moved—"That one great obstacle to the progress of steam culture is the inability of the generality of tenant farmers to purchase the expensive machinery now used to break up and prepare the soil."

Sir H. Vavasour seconded the resolution.

Mr. Beavis, a Gloucester tenant farmer, believed that a great deal was to be accomplished from the employment of steam tackle for ploughing, and he doubted whether farmers, though an isolated class, were more backward than manufacturers in adopting anything that was for the good of their pockets. He should be glad himself to have the opportunity of hiring a steam plough, if it would do the work at 10s. an acre.

Mr. Harrison, who could speak from his experience in connection with the Gloucester Steam Plough Company, declared that the letting out of apparatus on hire was impracticable because unprofitable. The true way of assisting the promotion of steam cultivation was to do as the proposed Steam Company intended, sell the apparatus and receive payment by instalments. For the security of the Company it would, however, be necessary to have additional guarantee of repayment; and that he proposed to obtain from the owner of the land. Let the tackle be in effect the property of the landowner (whose only part, however, would be to guarantee the payment for it) until the engine had by complete payment become the tenant's. He proposed—"That considerable advantage would arise to tenant farmers and others from the establishment of a joint-stock company for the purpose of supplying steam apparatus to applicants, allowing them to repay the cost price by instalments extending over a certain number of years, on the principle of a rolling stock company." In his opinion the purchase should be made by the landlord and tenant in conjunction, the company taking a bond from the landlord for the payment of the money.

Dr. Voelcker seconded the resolution, in a long and excellent speech, expressing his belief that by steam cultivation they could get from many soils an immense quantity of manure, and thus save a great deal of money in the purchase of artificial or the production of home-made manure; and there were many soils in this country which were not in a fit condition to receive the manure, if the farmer had a willingness to purchase guano, superphosphate of lime, or to apply his own farmyard manure to the land, which would be made fit by the operation of the steam cultivator.

A Gentleman, the owner of sugar estates in the West Indies, spoke of the success with which steam cultivation had been introduced into Demerara, Barbadoes, and Antigua, but urged that attention should be turned to simplifying the machinery, and thus reducing its cost.

The resolution was carried.

On the motion of Sir Geo. Jenkinson, seconded by Mr. Hutchinson, whose speeches, both most serviceable to the cause of steam cultivation, we are unable to give this week, a resolution, approving of the objects of the General Steam Cultivation Company, and the mode in which it was designed to carry them into effect, was also adopted.

A cordial vote of thanks was then accorded to Mr. Holland for presiding, and the meeting separated.

## Societies.

### ROYAL AGRICULTURAL OF ENGLAND.

*December* 9.—The General Meeting was held this day, Lord Feversham in the chair. A large number of members were present.

The following Report was read and approved:—

The Council have to report that since the last General Meeting 317 Members have been elected, while 2 Governors and 33 Members have died, and 22 Members have been removed from the list; so that the Society now consists of

79 Life Governors
87 Annual Governors
1308 Life Members
3952 Annual Members
17 Honorary Members,

making a total of 5443 at the present time; being an increase of 226 within the year.

The Finances of the Society are in a satisfactory condition, as is shown by the Balance-sheet to the 30th June, which has been already published in the Journal; since which time the Finance Committee have reported that all claims against the Society submitted to them up to their last meeting had been discharged. The funded property invested in the names of the Trustees remains at 16,488*l*. 17*s*. 10*d*. stock in the New Three per Cents.

The collection of the arrears of subscription has been steadily progressing, the amount now due, inclusive of those in arrear for the present year, being 631*l*.: and the Council hope that, by an early payment of the subscription, the members will enable them to frame the financial arrangements for the ensuing year

The period of holding the half-yearly audits having been more closely approximated to the termination of the half-years, the Council are thus enabled to inform the Members, in each successive Journal, as to the latest state of the Society's accounts.

The Worcester Meeting, notwithstanding the unfavourable weather on some days of the Show, fully satisfied the expectations of the Council. The authorities of the city and the Local Committee contributed greatly to promote the objects of the Society on the occasion, and received at the time the public thanks of the Members at the General Meeting held in the Town Hall.

The Balance-sheet of the Meeting, which is now laid before the Members and will be published in the February Journal, shows that the system of distributing the Forage by means of tickets furnished to exhibitors, has proved satisfactory, and has tended to reduce this item of expense in the Live Stock department.

The quadrennial system for the trial of Implements, which commenced at Warwick, has terminated this year at Worcester, and, at the request of the Council, the Implement Committee have given the subject their careful consideration. The Council have adopted the recommendation of the Committee, that the trials should as formerly be triennial, such special prizes and medals for miscellaneous improvements being also offered each year as the Council may determine. The following is the schedule of arrangement:—

Special Prize for Steam Cultivation.

1864.—I. Implements and Machinery for the Drainage, Tillage, and Cultivation of Land.—Tile and brick machines, draining implements, grubbers, ploughs, cultivators, clod crushers, rollers, harrows.

1865.—II. Implements and Machinery for the Cultivation and Harvesting of Crops.—Drills and distributors, horse hoes, mowing machines, reaping machines, haymaking machines, horse rakes, carts and waggons.

1866.—III. Implements and Machinery for the Preparation of Crops for Market and for Feeding Stock.—Steam engines, threshing machines, dressing machines, mills and crushers, chaff cutters, cake breakers, root cutters and pulpers, dairy implements.

In order to consider the most effectual means of obviating the practice of unfairly clipping sheep for exhibition at the Society's Country Meetings, the Council appointed a Committee to take this subject into consideration, and have approved of the following regulations, which they trust will effectually prevent the recurrence of an evil so generally complained of:—

1. That sheep exhibited for any of the prizes must have been really and fairly shorn bare after the 1st of April in the year of the exhibition; and that the date of such shearing form part of the certificate of entry.
2. That two inspectors be appointed by the Council, to examine the sheep on their admission to the Show-yard, with instructions to report to the Stewards any cases in which the sheep have not been really and fairly shorn bare.

The Country Meeting next year will be held in the week, commencing Monday the 18th July, and the authorities at Newcastle-upon-Tyne are making great exertions to place the land for the Show Yard and trial fields in a course of due preparation.

The Council have decided on the Prize Sheet for the Newcastle Meeting. That for Live Stock will amount to 2820*l*., being an increase over last year of 625*l*.; and for Implements the amount will be 550*l*., being an increase over last year of 240*l*., making a total increase of 865*l*.

The above will, in addition to the usual prizes, include classes for Channel Islands, Ayrshire, Scotch Horned and Polled Cattle, Clydesdale Horses, Cheviots, and Black-faced Mountain Sheep.

By order of the Council,
H. Hall Dare, Secretary.

### ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Dr. Half-yearly Cash Account from 1st January to 30th June, 1863. Cr.

| Dr. | £ s. d. | £ s. d. | £ s. d. |
|---|---|---|---|
| To Balance in hand, January 1, 1863: | | | |
| Bankers | | 349 2 8 | |
| Secretary | | 33 3 9 | 382 6 5 |
| To Income, viz.:— | | | |
| Dividends on Stock | | 238 1 2 | |
| Subscriptions:— | | | |
| Governors' Annual | 390 0 0 | | |
| Members' Life-Compositions | 450 0 0 | | |
| Members' Annual | 2,994 5 0 | 3,834 5 0 | |
| Journal:— | | | |
| Sales | 116 19 6 | | |
| Advertisements | 23 16 4 | 140 15 10 | |
| Veterinary:— | | | |
| Sale of Pamphlets | | 5 1 3 | |
| Sale of Wool | | [illegible] | 4,221 6 3 |
| To London Show | | | 2 6 0 |
| To Worcester Meeting | | | 3,618 6 0 |
| | | | £8,226 18 8 |

| Cr. | £ s. d. | £ s. d. | £ s. d. |
|---|---|---|---|
| By Expenditure:— | | | |
| Establishment— | | | |
| Official Salaries and Wages | 327 6 0 | | |
| House Expenses, Taxes, &c. | 257 15 2 | 585 1 2 | |
| Journal:— | | | |
| Printing | 386 1 0 | | |
| Stitching | 65 0 0 | | |
| Delivery, Advertising, &c. | 109 18 3 | | |
| Prize Essays | 25 0 0 | | |
| Other Contributions | 5 10 0 | | |
| Editor's Salary | 250 0 0 | 841 9 3 | |
| Chemical:— | | | |
| Consulting Chemist's Salary | 150 0 0 | | |
| Grant for Investigations, 1863 | 200 0 0 | 350 0 0 | |
| Veterinary:— | | | |
| Grant to Royal Veterinary College | | 100 0 0 | |
| Stock:— | | | |
| Brokerage, &c. | | 9 13 6 | |
| Postage and Carriage | | 43 18 0 | |
| Advertisements | | 13 3 6 | |
| Sundries | | 10 16 10 | |
| Subscriptions returned (paid in error) | | 8 0 0 | |
| Wool at International Exhibition | | 9 16 4 | 1,966 18 7 |
| By London Show | | | 582 16 7 |
| By Worcester Meeting | | | 1,090 13 4 |
| Total Payments | | | 3,640 8 0 |
| By Deposit with London and Westminster Bank | | | 2,000 0 0 |
| By Balance in hand:— | | | |
| Bankers | | 2,585 1 11 | |
| Secretary | | 1 8 9 | 2,586 10 8 |
| | | | £8,226 18 8 |

### BALANCE SHEET, 30th JUNE, 1863.

| LIABILITIES. | £ s. d. | £ s. d. | £ s. d. |
|---|---|---|---|
| To Capital: | | | |
| Surplus, 31st December, 1862 | | 21,557 18 2 | |
| Surplus of Income over Expenditure during the Half-year, viz:— | | | |
| Income | 4224 6 3 | | |
| Expenditure | 1966 18 7 | 2,257 7 8 | 23,815 5 10 |
| To London Show:— Difference between Receipts and Expenditure, the latter exceeding the former by | | | 3,584 10 9 |
| | | | £20,230 15 1 |

| ASSETS. | £ s. d. | £ s. d. |
|---|---|---|
| By Cash in hand | 2,586 10 8 | |
| By Deposit Account, London and Westminster Bank | 2,000 0 0 | |
| By New 3 per Cent. Stock, 16,488*l*. 17*s*. 10*d*. cost | 15,881 11 1 | |
| By Books and Furniture, Society's House, Hanover Square | 2,000 0 0 | 22,468 1 9 |
| By Account at Credit of Worcester Meeting | | 2,237 6 8 |
| | | £20,230 15 1 |

(Signed) A. N. Hood, on behalf of Finance Committee.

Examined, audited, and found correct, this 11th day of August, 1863.

(Signed) William Copeland Astbury, Henry Corbet, William Cohen. } Auditors on behalf of the Society.

Mr. Sidney then addressed the meeting on the faults of the present management of the Journal. He also referred to the defective accommodation for members at present afforded by their rooms; and he argued for the establishment of a library and museum in connection with the Society.—Sir J. H. Maxwell, Bart., replied to Mr. Sidney as to the management of the Journal, which he considered most admirably conducted.—Mr. J. C. Morton called attention to the fact that whereas according to the charter, one of the objects for which the Society had been founded was to promote agricultural education, nothing whatever had yet been done by the Society in discharge of its duty on that point.—Mr. Duckham called attention to the difficulties of exhibition, and of removing stock from the show-yards of the Society, and also to the extreme variety of rule which different Societies observe in dating the age of stock.

Lord Feversham replied at length, acknowledging the value of many of the suggestions, and congratulating the members on the usefulness and condition of the Society.

After votes of thanks to the Auditors and the President, the meeting separated.

### THE SMITHFIELD CLUB SHOW.

The great Winter Show of Fat Stock, and (for it has now become an important feature of the meeting) of Agricultural Implements, has been held as usual under the auspices of the Smithfield Club during the past week. It is magnificently housed in the lofty and spacious Agricultural Hall at Islington, where 20,000 visitors need not incommode each other; and where both divisions of the exhibition are shown and seen and superintended, so that the animals themselves, the spectators, and the attendants are in peace and comfort, notwithstanding all the crowd.

The corresponding meeting of the preceding week at

Birmingham generally affords some indications of the fortunes of particular animals, and of the awards regarding them by the Judges at the Metropolitan Show. This year it has done so less than usual. The interval between the Shows, though only a few days, is sufficient in many cases to develope the foot and mouth disease, the seeds of which are laid on leaving the feeding stall for the first of these meetings, and illness at once affects the appearance of the animals. And this cause has had its effect in an unusual number of cases on the present occasion. But independently of this, the decisions made this week have been the result of a different judgment of the animals exhibited. Messrs. Coleman, Smith and Sanday, Brown, Randall, Parkinson, and Buckley do not agree in every case with Messrs. Turner, Doig and Jones, Moon, Spearing, and Gough. The awards of the latter in various cattle classes, and in those of the sheep classes where the same animals reappear for comparison, have not always been confirmed.

THE DEVON CATTLE, a large show, occupy the first four classes at Smithfield. Mr. Wortley's ox, wonderfully ripe and good over rib and loin, girths 8 feet at 2 years and 7 months old, and easily takes the first rank. Lord Leicester and Mr. Overman take the second and third. It is an illustration of the wide-spread reputation of the breed that all these animals were fed in Norfolk.

The older class of Oxen includes 13 well-fattened specimens. Several of the prize and commended animals at Birmingham are among them, but none of them are decorated here.

Mr. Heath's 4 years and 7 months old ox, wonderfully thick and wide in front, is easily 1st. Major-General Hood's 3 years and 1 month old ox, good in rib and flank, somewhat drooping at the rump, is 2d, Mr. Buller has a good ox in this class, very thick and wide all along the back, and straight from end to end.

The Heifers are a smaller class. The 1st prize is won by our correspondent, Mr. John Ford of Rushton, who shows an animal of remarkably fine quality, a perfect gem for beauty. Mr. Farthing's 2d prize heifer is also good. Mr. Smith of Exeter, takes the 3d prize with the heifer which was first at Birmingham. The other prize animals from Bingley Hall are also here. The 1st and 2d prize Cows from Birmingham do not receive prizes at Islington. Mr. Overman's straight, well-made, and heavily-fleshed cow is 1st, Mr. Heath and General Hood are 2d and 3d; both the cows shown by these, especially the one shown by Mr. Heath, are almost disfigured by the enormous development of flesh over the loin, giving the back the appearance of drooping at the rump.

The HEREFORD Classes are well filled. Major-General Hood's ox is placed 1st in the younger class; it was not noticed at Birmingham at all. The 1st prize ox at Birmingham, shown by Mr. Shirley, very good on loin and rib, is 2d here; and the 3d prize goes to Mr. Bettridge for a red and white, and rather coarse-looking animal.

The older oxen of this class carry off the Gold Medal for the best beast in the yard. Mr. Heath's 4-year old ox girths 9 ft. 4 in. He is an enormously thick animal, a perfect mountain of flesh, yet retaining true symmetry. In the Heifer Class Mr. Bettridge, 2d at Birmingham, is placed 1st. Mr. Grove's beautiful heifer, 1st at Birmingham, is here 2d, losing her place probably because of illness. The Cows are a small class. The 1st, 2d, and 3d at Birmingham are all here, and are placed 1st, 3d, and 2d, respectively; General Hood's cow advancing one step in the ranks.

The SHORT-HORNS are well represented. The Steers are a very numerous class, 20 animals competing for the prizes. The old class of Oxen number 17; there are six heifers and 12 cows. The Gold Medal for the best cow in the yard is awarded to Mr. Swaisland's heifer, which carried everything before it at Birmingham. She is, as we then stated, remarkably thick, good and symmetrical from shoulder backwards, but her head and neck and shoulders do not indicate first-class quality. There she is beaten by the 1st prize red cow shown in the older class, to which, on this account, good judges have declared the Gold Medal should have gone. The Birmingham award has, however, been confirmed. It has not however been confirmed in every instance, and there is one very remarkable example to the contrary. Mr. Thompson's (of Badminton) ox, only commended at Birmingham, placed below the Duke of Beaufort's, which took the 3d prize in its class, is here raised to the first rank. It takes the 1st prize in its class, beating animals which were placed above it at the Midland show, and beating a great many first-class specimens of the breed in the most numerous class within the Hall.

The SUSSEX breed is very well represented. No fewer than 30 specimens are shown. We have rarely seen two more beautiful heifers, remarkable for quality, symmetry, and ripeness of feeding, than those taking the 1st and 2d prizes in this class, shown by Messrs. Heasman and Mr. Shoosmith respectively; the competition is very large and close in many of the classes, and Sussex has every reason to be satisfied with its representations.

The NORFOLK Cattle, not so well represented as usual, has yet six or eight very good specimens of this capital breed, which comprises a first-rate dairy value with great aptitude to fatten; the prize list is given below. A few well-fattened Long-horned cattle, but equal in number to the Midland Society's show of them, are exhibited.

The SCOTCH classes are very well filled indeed. Mr Sneyd's horned ox is again placed 1st, as it well deserves to be, and Mr. McCombie's ox is also 1st, as it was at Birmingham, in the Polled classes. We have now only to notice the cross bred and extra stock classes of cattle, which, more numerous than usual, are yet not so perfectly illustrative as usual of the great merit of the produce of an ordinary cow by a pure bred bull.

The following are the Awards of Prizes in the Cattle classes, which we preface with the list of Judges.

LIVE STOCK JUDGES.

SHORT HORNS, SCOTCH, WELSH, AND EXTRA STOCK CATTLE.

Sanday, William, Holme Pierrepont, Notts.
Brown, John, Coldham Hall.
Parkinson, Thomas, Hexgreave Park, Southwell, Notts.

DEVONS, HEREFORDS, SUSSEX, NORFOLK, LONG HORN, IRISH AND CROSS-BRED CATTLE.

Smith, Robert, Emmett's Grange, South Molton.
Buckley, John, Normanton Hill, near Loughborough.
Coleman, John, The Farm, Woburn Park, Beds.

LEICESTER, COTSWOLD, LINCOLN, ROMNEY MARSH, CROSS-BRED OXFORD AND MOUNTAIN SHEEP.

Heanley, Marshall, Croft, Boston.
Phillips, John & Co., Beadlam Grange, Nawton, Yorks.
Spencer, Francis, Alma House, Claybrook, Lutterworth.

SOUTHDOWN, HAMPSHIRE AND SHROPSHIRE SHEEP.

Webb, Henry, Streetly Hall, West Wickham, near Linton.
Turner, J. S., Chyngton Farm, Seaford, Lewes.
Randell, C., Chadbury, near Evesham.

PIGS.

Mann, George, Scawsby, Doncaster.
Moon, John, Maristow, Plymouth.
Waters, John, Motcombe, Eastbourne, Sussex.

CATTLE.

CLASS 1. DEVON STEERS, NOT EXCEEDING 3 YEARS OLD.—1st, 30*l*., Robert Wortley, Suffield Hall, Aylsham; Silver Medal to the breeder, Robert Wortley; 2d, 20*l*., the Earl of Leicester, Holkham, Wells; 3d, 10*l*., John Overman, Burnham Sutton, Norfolk.

CLASS 2. DEVON STEERS OR OXEN, ABOVE 3 YEARS OLD.—1st, 30*l*., William Heath, Ludham Hall, Norwich; Silver Medal to the breeder, John Passmore, Twitchen, South Molton; 2d, 20*l*., Major-General the Hon. A. N. Hood, Windsor; 3d, 10*l*., the Earl of Leicester.

CLASS 3. DEVON HEIFERS, NOT EXCEEDING 4 YEARS OLD.—1st, 25*l*., John Ford, jun., Rushton, Blandford; Silver Medal to the breeder, Charles J. Louch, Westfield Place, Kingston-on-Thames; 2d, 15*l*., Walter Farthing, Stowey Court, Bridgwater; 3d, 10*l*., William Smith, 35, Southernhay Street, Exeter.

CLASS 4. DEVON COWS, ABOVE 4 YEARS OLD.—1st, 25*l*., John Overman, Burnham Sutton; Silver Medal to the breeder, Mrs. Clarke, Burnham Market; 2d, 15*l*., William Heath; 3d, 10*l*., Major-General the Hon. A. N. Hood.

CLASS 5. HEREFORD STEERS, NOT EXCEEDING 3 YEARS OLD.—1st, 30*l*., Major-General the Hon. A. N. Hood; Silver Medal to the breeder, H.R.H. the late Prince Consort; 2d, 20*l*., Richard Shirley, Baucott Munslow, Church Stretton; 3d, 10*l*., Henry Bettridge, East Hanney, Wantage.

CLASS 6. HEREFORD STEERS OR OXEN, ABOVE 3 YEARS OLD.—1st, 30*l*., William Heath; Silver Medal to the breeder, Thos. Lockley Meire, Cound Arbour, Shrewsbury; 2d, 20*l*., William Symonds, Lambourne, Romford; 3d, 10*l*., William Aldworth, Frilford, Abingdon.

CLASS 7. HEREFORD HEIFERS, NOT EXCEEDING 4 YEARS OLD.—1st, 25*l*., Henry Bettridge, East Hanney; Silver Medal to the breeder, Mr. Tudge, Adforton, Leintwardine; 2d, 15*l*., William Groves, Walk Mills, Shrewsbury; 3d, 10*l*., Charles Hunt, Widemarsh, Hereford.

CLASS 8. HEREFORD COWS, ABOVE 4 YEARS OLD.—1st, 25*l*., George Pitt, Chadnor Court, Dilwyn, Leominster; Silver Medal to the breeder, George Pitt; 2d, 15*l*., Major-General the Hon. A. N. Hood; 3d, 10*l*., Joseph S. Draper, of Thingehill Grange, Hereford.

CLASS 9. SHORT-HORNED STEERS, NOT EXCEEDING 3 YEARS OLD.—1st, 30*l*., John Thompson, of Badminton, Chippenham; Silver Medal to the breeder, John Thompson; 2d, 20*l*., the Earl Radnor, Coleshill; 3d, 10*l*., Sir A. de Rothschild, Bart., Tring.

CLASS 10. SHORT-HORNED STEERS OR OXEN, ABOVE 3 YEARS OLD.—1st, 30*l*., W. H. Baker, Cottesmore, Oakham; Silver Medal to the breeder, the late R. W. Baker; 2d, 20*l*., Robert Swinnerton, Weddington Grove, Nuneaton; 3d, 10*l*., John B. Thompson, Anlaby, Hull.

CLASS 11. SHORT HORNED HEIFERS, NOT EXCEEDING 4 YEARS OLD.—1st, 25*l*., Charles Swaisland, Crayford, Kent; Silver Medal to the breeder, Lady Lubbock, High Elms, Farnborough; 2d, 15*l*., Richard Stratton, Wall's Court, Stapleton; 3d, 10*l*., John Faulkner, Brethy Farm, Burton-on-Trent.

CLASS 12. SHORT-HORNED COWS, ABOVE 4 YEARS OLD.—1st, 25*l*., Thomas Matthews, Merton, Thetford; Silver Medal to the breeder, T. Matthews; 2d, 15*l*., John Lynn, Church Farm, Stroxton, Grantham; 3d, 10*l*., Charles Hardcastle Abbott, Long Ashton.

CLASS 13. SUSSEX STEERS OR OXEN, NOT EXCEEDING 3 YEARS OLD.—1st, 20*l*., John Shoosmith, Berwick, Lewes; Silver Medal to the breeder, John Shoosmith; 2d, 10*l*., William Wood, Ifield Court, Crawley.

CLASS 14. SUSSEX STEERS OR OXEN, ABOVE 3 YEARS OLD.—1st, 25*l*., J. M. Montefiore, Worth Park, Crawley; Silver Medal to the breeder, J. M. Montefiore; 2d, 15*l*., William Botting, Westmeston Place, Hurstpierpoint; 3d, 10*l*., Edward Cane, Berwick Court, Lewes.

CLASS 15. SUSSEX HEIFERS OR COWS, OF ANY AGE.—1st, 20*l*., John & Alfred Heasman, Angmering Arundel; Silver Medal to the breeders, John & Alfred Heasman; 2d, 15*l*., John Shoosmith, Lewes, Sussex; 3d, 10*l*., Pennington Gorringe, Pebsham, Selley, Bettle.

CLASS 16. NORFOLK OR SUFFOLK POLLED STEERS OR OXEN.—1st, 15*l*., Robert John Oliver, Docking, Norfolk; Silver Medal to the breeder, Robert John Oliver; 2d, 10*l*., Robert Wortley, Suffield Hall.

CLASS 17. NORFOLK OR SUFFOLK POLLED HEIFERS OR COWS, OF ANY AGE.—1st, 15*l*., William Thomas Mullen, Knapton, near North Walsham; Silver Medal to the Breeder, William Thomas Mullen; 2d, 10*l*., Barnabas Collins, Hunston, Ixworth, Suffolk.

CLASS 18. LONG-HORNED STEERS OR OXEN, OF ANY AGE.—1st, 10*l*., R. H. Chapman, Upton, Nuneaton; Silver Medal to the breeder, R. H. Chapman; 2d, 5*l*., William Thomas Cox, The Hall, Spondon.

CLASS 19. LONG-HORNED HEIFERS OR COWS, OF ANY AGE.—1st, 10*l*., Joseph H. Burbery, The Chase, Kenilworth; Silver Medal to the breeder, Joseph H. Burbery; 2d, 5*l*., William Thomas Cox, The Hall, Spondon, Derby.

CLASS 20. SCOTCH HORNED STEERS OR OXEN, OF ANY AGE.—1st, 30*l*., Ralph Sneyd, Keele Hall, Staffordshire; 2d, 15*l*., Allan Pollok, Lismany, Ballinasloe.

CLASS 21. SCOTCH HORNED HEIFERS OR COWS, OF ANY AGE.—1st, 15*l*., Richard Eastwood, Thorney Holme, Clitheroe.

CLASS 22. SCOTCH POLLED STEERS OR OXEN, OF ANY AGE.—1st, 30*l*., William M'Combie, Tillyfour, N.B.; Silver Medal to the breeder, James Stephen, Conglass, Aberdeen; 2d, 15*l*., William Heath, Ludham Hall.

CLASS 23.—SCOTCH POLLED HEIFERS OR COWS, OF ANY AGE.—1st, 15*l*., the Earl of Southesk, Brechin; Silver Medal to the breeder, the Earl of Southesk; 2d, 10*l*., James Stewart, 1 and 2, New Market, Aberdeen.

CLASS 24. IRISH STEERS OR OXEN, OF ANY AGE.—1st, 10*l*., Clare Sewell Read, Plumstead House, Norwich.

CLASS 25. IRISH HEIFERS OR COWS, OF ANY AGE.—1st, 10*l*., the Earl of Darnley, Cobham Hall, Gravesend.

CLASS 26. WELSH STEERS OR OXEN (RUNTS), OF ANY AGE.—1st, 20*l*., Barwell Ewins Bennett, Marston Trussell Hall, Rugby; 2d, 10*l*., Henry Platt, Bryn-y-newadd, Bangor.

CLASS 27. WELSH HEIFERS OR COWS, OF ANY AGE.—1st, 10*l*., Clare Sewell Read, Plumstead House; Silver Medal to the breeder, W. B. Roberts, Loveston, Pembroke.

CLASS 28. CROSS OR MIXED-BRED STEERS, NOT EXCEEDING 3 YEARS OLD.—1st, 20*l*., John Wortley, Felmingham, North Walsham; Silver Medal to the breeder, John Wortley; 2d, 15*l*., James Steward, 1 and 2, New Market, Aberdeen.

CLASS 29. CROSS OR MIXED-BRED STEERS OR OXEN, ABOVE 3 YEARS OLD.—1st, 20*l*., John Overman, Burnham Sutton; Silver Medal to the breeder, John Overman; 2d, 15*l*., John Tingey, Little Ellingham, near Attleborough; 3d, 10*l*., J. and W. Martin, Aberdeen.

CLASS 30. CROSS OR MIXED-BRED HEIFERS, NOT EXCEEDING 4 YEARS OLD.—1st, 15*l*., Allan Pollok, Lismany, Ballinasloe; Silver Medal to the breeder, Allan Pollok; 2d, 10*l*., Robert Farthing, Farrington Farm, North Petherton, Bridgewater.

EXTRA STOCK.—CATTLE.

Silver Medal and 5*l*. (the best Steer), Robert Birkbeck Gatton, Reigate; Silver Medal and 5*l*. Prize (the best Heifer) C. W. Packe, M.P., Prestwold Hall Farm, Loughborough.

## THE SHEEP AND PIGS.

The classes of Sheep shown are, with the exception of the Cotswold breed, fully up to the usual mark of excellence.

The LEICESTER classes, not very full, are nevertheless sufficiently representative of that important breed. Mr. Foljambe takes the highest prize with the only pen he showed, the second going to Col. Lowther. In the class of limited weight Lord Berners is 1st, and Col. Lowther again 2nd.

The COTSWOLD breed is represented by only two pens, and no prizes were awarded.

LINCOLNS again are represented by only four pens, the prizes going to Messrs. Cranfield, Marshall, and Wyles.

The SOUTHDOWNS are in their usual force. Nothing can be more beautiful than the style in which this breed is exhibited. Lord Walsingham has sent models of symmetry, which take the prizes in almost every case. The Duke of Richmond however is 1st in the older class.

Of the HAMPSHIRE DOWNS, a most useful breed, eight pens are shown. In the two classes of the Shropshires, 10 pens appear. There are four pens of the Oxfordshire Downs, and eight of Mountain breeds. The decisions of the Bingley Hall judges are overruled in the case of the Shropshires, where Mr. Henry Smith, of Shiffnal, carries away the 1st prize with a pen of first-rate yearling wethers, which were only commended at the Midland Counties show.

The EXTRA STOCK Classes are very well filled, both with the Long-woolled and Short-woolled breeds; containing many animals of remarkable merit, shown by Mr. J. Peel, Lord Walsingham, Mr. H. Smith, and Mr. T. Porter, of Cirencester, whose Cotswold wether redeemed the credit of the breed.

The PIG CLASSES contain nearly 60 entries. The Gold Medal for the best pen in the yard has gone to Major-General the Hon. A. N. Hood, for three first-rate specimens of the White Windsor breed. In the first class, young pigs under 4 months old, some astonishing specimens of precocity appear. Mr. Stearn's white pigs, and Mr. Crisp's black ones, are capital illustrations of the two sorts. The 1st prize however goes to Mr. De la Rue for Essex Black Pigs, and the 2nd to Mr. Barber, for improved Middlesex White.

Black and White appear in competition throughout the various classes, which are arranged simply according to eye. The Gold Medal goes to the oldest class, and certainly the 1st prize pen shown in that class, 17 months and 22 days old, are a capital illustration of the condition to which, by attention both to breeding and to feeding, the animal can be brought.

The following is the list of the awards:—

SHEEP.

CLASS 31. FAT WETHER SHEEP, OF THE LEICESTER BREED, (UNDER 23 MONTHS).—1st 20*l*., G. S. Foljambe, Osberton Hall, Worksop; Silver Medal to the breeder, G. S. Foljambe; 2nd, 15*l*., the Hon. Colonel Lowther, Barleythorpe Hall, Oakham; 3rd, 5*l*., Richard Lovell, Knapton, Malton.

CLASS 32. FAT WETHER SHEEP, OF THE LEICESTER BREED (UNDER 23 MONTHS), EACH SHEEP NOT TO EXCEED 22 LBS LIVE WEIGHT.—1st, 20*l*., Lord Berners, Keythorpe Hall; Silver Medal to the breeder, Lord Berners; 2nd, 15*l*., the Hon. Col. Lowther; 3rd, 5*l*., Lawrence Wilmore, The Newarke, Leicester.

CLASS 33. FAT WETHER SHEEP, OF THE COTSWOLD BREED (UNDER 23 MONTHS).—No prizes awarded—not sufficient merit.

CLASS 34. FAT WETHER SHEEP, OF THE LINCOLN BREED (UNDER 23 MONTHS).—1st, 20*l*., William Cranfield, Buckden, Huntingdon; Silver Medal to the breeder, William Cranfield; 2nd, 15*l*., Thomas B. Marshall, Branston; 3rd, 5*l*., Joseph Wyles, Welby Warren, Grantham.

CLASS 35. FAT WETHER SHEEP, OF THE KENTISH OR ROMNEY MARSH OR ANY OTHER DISTINCT LONG-WOOLLED BREED (NOT LEICESTERS, COTSWOLDS, OR LINCOLNS (UNDER 23 MONTHS).—1st, 15*l*., Frederick Murton, Smeeth, Ashford, Kent; Silver Medal to the breeder, Frederick Murton; 2d, 10*l*., James Newport, Elmsted Court, Ashford.

### EXTRA STOCK.—LONG-WOOL.

Silver Medal to the exhibitor, for the best Leicester Wether in Extra Stock, the Hon. Colonel Lowther; Silver Medal to the Exhibitor, for the best Leicester Ewe in Extra Stock, John Lynn, Church Farm; Silver Medal to the Exhibitor, for the best Long-woolled Sheep (not Leicester) in Extra Stock, Thomas Porter, Baunton, Cirencester.

Class 36. Fat Wether Sheep of the Southdown Breed 1 year old (under 23 Months).—1st, 20l., Lord Walsingham, Merton Hall, Thetford; Silver Medal to the breeder, Lord Walsingham; 2nd, 10l., John and Alfred Heasman, Angmering, Arundel; 3rd, 5l., the Earl of Radnor, Coleshill.

Class 37. Fat Wether Sheep, of the Southdown Breed (under 23 Months, each Sheep not to exceed 200 lbs. live weight).—1st, 15l., Lord Walsingham; Silver Medal to the breeder, Lord Walsingham; 2d, 10l., the Duke of Richmond; 3d, 5l., the Earl of Radnor.

Class 38. Fat Wether Sheep of the South-down Breed, (above 23 and under 35 Months.)—1st, 20l., Duke of Richmond; Silver Medal to the breeder, the Duke of Richmond; 2d, 10l., Lord Walsingham; 3d, 5l., John Overman.

Class 39. Fat Wether Sheep of the Hampshire or Wiltshire Down Breed, under 23 Months.—1st, 20l., William Brown Canning, Elston Hill, Devizes, Wilts; Silver Medal to the breeder, William Brown Canning; 2d, 15l., W. F. Bennett, Chilmark, Salisbury; 3d, 5l., William King, New Hayward, Hungerford.

Class 40. Fat Wether Sheep, of the Shropshire Breed, under 23 Months.—1st, 15l., Henry Smith, Sutton Maddock, Shiffnal; Silver Medal to the breeder, Henry Smith; 2d, 5l., Lord Wenlock, Bourton Cottage, Much Wenlock.

Class 41. Fat Wether Sheep of the Shropshire Breed (above 23 and under 35 Months).—1st, 15l., Thomas Horley, Jun., The Fosse, near Leamington; Silver Medal to the breeder, Thomas Horley, Jun.; 2d, 5l., The Earl of Aylesford, Packington Hall, Coventry.

Class 42. Fat Wether Sheep of the Oxfordshire Breed, (1 year old under 23 Months).—1st, 15l., Arthur Overman, Egmere, Brandon; Silver Medal to the breeder, H. W. Keary, Bridgenorth, Salop; 2d, 10l., Zachariah W. Stilgoe, Adderbury Grounds, Banbury; 3d, 5l., Samuel Druce, Eynsham, near Oxford.

Class 43. Fat Wether Sheep of any White-faced Mountain Breed of any age.—1st, 15l., J. B. Downing, of Holme Lacey, Hereford; Silver Medal to the breeder, J. B. Downing; 2d, 10l., William Smith, 85, Southernhay, Exeter.

Class 44. Fat Wether Sheep of any Black-faced or Speckled-faced Mountain breed of any age.—1st, 15l., Richard Eastwood, Thorney Holme; Silver Medal to the breeder, Richard Eastwood; 2d, 10l., Jonathan Peel, Knowlmere Manor, Clitheroe.

### EXTRA STOCK.—SHORT-WOOL.

Silver Medal to the Exhibitor, for the best South-down Wether Sheep in Extra Stock, to Jonathan Peel; Silver Medal to the Exhibitor, for the best South-down Ewe in Extra Stock, to Lord Walsingham; Silver Medal to the Exhibitor, for the best Short-woolled Sheep (not South-down) in Extra Stock, to Henry Smith of Shiffnal.

Class 45. Long and Short-woolled Cross-bred Fat Wether Sheep (under 23 months).—1st, 20l., John Overman; Silver Medal to the breeder, John Overman; 2d, 10l., Thomas James, Octagon House, Cople, Bedford; 3d, 5l., Sir Thomas Barrett Lennard, Bart., of Belhus Aveley, Romford.

Class 46. Long and Short-woolled Cross-bred Fat Wether Sheep, under 23 months.—Each Sheep not to exceed 220 lbs. live weight.—1st, 10l., John Overman; Silver Medal to the breeder, John Overman; 2nd, 5l., John Hatcher, Marlwood Grange, Bristol.

### EXTRA STOCK.—CROSS-BRED SHEEP.

Silver Medal to the exhibitor, for the best Cross-bred Sheep in extra stock, W. H. Baker, Cottesmore.

### PIGS.

Class 47. Pigs, of any breed, not exceeding 4 Months old.—1st, 15l., T. De la Rue, The Hazels, Sandy; Silver Medal to the breeder, Thomas De la Rue; 2d, 10l., William Albert Barber, Sunning Hill; 3d, 5l., William Mills Barber.

Class 48. Pigs, of any breed, above 4 and not exceeding 8 Months old.—1st, 15l., Sir Thomas Barrett Lennard, Bart.; Silver Medal to the breeder, Sir T. Barrett Lennard, Bart.; 2d, 10l., the Countess of Chesterfield, Bretby Hall, Burton-on-Trent; 3d, 5l., S. G. Stearn, Brandeston, Wickham Market.

Class 49. Pigs, of any breed, above 8 and not exceeding 12 Months old.—1st, 15l., G. B. Morland, Abingdon; Silver Medal to the breeder, G. B. Morland; 2d, 10l., John Biggs, Cublington, Leighton, Buzzard; 3d, 5l., Adolphus Frederick Slade, Kemnal House, Chiselhurst.

Class 50. Pigs, of any breed, above 12 and under 18 Months old.—1st, 15l., Major-General the Hon. A. N. Hood; Silver Medal to the breeder, Major-General the Hon. A. N. Hood; 2d, 10l., Thomas Crisp, Butley Abbey, Wickham Market; 3d, 5l., G. B. Morland.

Silver Medal to the exhibitor, for the best Pig in extra stock, to S. G. Stearn.

### SILVER CUPS.

Silver Cup, value 40l., to the exhibitor, for the best Steer or Ox in any of the classes, to William Heath.—Do., value 40l., to the exhibitor, for the best Heifer or Cow in any of the classes, Charles Swaisland.—Do., value 20l., to the exhibitor, for the best pen of Leicesters, Cotswolds, Lincolns, Kentish, or other Long-woolled breed, in any of the classes, G. S. Foljambe.—Do., value 20l., to the exhibitor, for the best pen of one-year old South-downs, Hampshire, or Wiltshire Downs, Lord Walsingham.—Do., value 20l., to the exhibitor, for the best pen of Shropshire, Oxfordshire, Cross-bred, or any other breed of Sheep (not specified in Prize List) in any of the classes, John Overman.

### GOLD MEDAL.

Gold Medal, to the exhibitor, for the best pen of Pigs in any of the classes, the Hon. Major-General Hood.

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The spacious galleries, with the spaces under them surrounding the Hall, are filled with a wonderfully fine collection of Implements.

The great seedsmen, too, exhibit astonishing collections of roots, and the usual series of specimens of other agricultural plants. Messrs. T. Gibbs & Co., and Messrs. G. Gibbs & Co., have their admirable stands on one side of the quadrangle, and on the other Messrs. Sutton, of Reading, make a very remarkable display. In particular, we may refer to the extraordinary Swedish Turnips on Messrs. Sutton's stand—probably the heaviest that were ever grown. They weigh upwards of 28 lbs. apiece, were grown by Mr. Crawshay, near Reading, and are the result, mainly, of early sowing. The only other point requiring notice is the display of the so-called Cattle Melon by Mr. Page of Southampton. Mr. Blundell of Bursledon, near Southampton, speaks of growing 40 tons per acre of them at no greater expense than he grows 20 tons of Turnips, and he speaks highly of their value as cattle food.

Of the Implement Show it is needless to repeat the report—for that is what it would amount to—of the multifarious articles which our great shows of agricultural implements now always include. We may, however mention as a novelty that Messrs. Howard have adapted to their cultivator for steam-power wings to each of the cultivating tines, which break up and scatter more thoroughly than the tool has hitherto done the ground it stirs. Mr. Fowler is present with a number of his powerful machines.

The manufacturers of steam cultivating machinery are all in good spirits; and they seem all to have more orders than they can immediately execute, and there is a good demand from English farmers. Messrs. Ransome, and Garrett, and Hornsby, and Clayton & Shuttleworth, Bentall, Samuelson, Burgess, Aveling, Nicholson, Ashby, Boby, Hunt, Holmes, Nalder, Amies & Barford, Richmond & Chandler, Cambridge, and many others, have stands at which steam engines, threshing machines, winnowing machines, ploughs, harrows, cultivators, horse-hoes, reaping and mowing machines, implements, of carriage, of the road, the field, the barn, and feeding house are exhibited in profusion. Mr. Steevens, of Hammersmith, shows his four-furrow steam plough, the driver seated on the framework, and in no way by his weight affecting the action of the tool.

The whole collection sent by the different makers, merely that they may meet their customers, is as perfect an illustration of the present state of our machine manufacture as was ever brought together in competition for prizes.

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## Farmers' Clubs.

London: *Dec.* 7.—At one of the largest meetings ever held of this Society, Mr. H. Trethewy in the Chair, a paper on the meat manufacture upon arable land was read by Mr. Coleman, Woburn. We can this week give only a partial report of it. He said:—

1. Heavy land has not hitherto carried that quantity of stock we should all of us like, for the reason that it is unkind for the growth of roots; and even when a crop can be grown, it very often injures the land to either cart them off, or eat them on, during the winter months; but now, with steam come to aid the occupiers of such soils, I see no reason why they should not in the autumn get some portion of the land in such a forward state as to admit of very early spring sowing, and by that means almost ensure a good crop of roots.

I will not press upon the occupiers of heavy land the necessity of increasing the growth of Mangels to too great an extent; but some they must have, if they wish to take care of their stock during the early spring months. I would rather see them planting in March a few acres of cattle Cabbage (the plants having been reared in some warm corner during the previous autumn), which may be eaten on the land in the summer months, June, July, and August, when it will bear treading with sheep; and I am sure if the fallows after an autumn cultivation were dunged and set up in ridges for the winter, a very heavy crop may be produced. I am no great friend to the Cabbage tribe on light soils, as they produce so much woody fibre that stock cannot turn to any account, but I think them quite worth a trial on heavy land. Every one knows the necessity of having the roots on clay land consumed in dry weather, therefore we must try to produce them at such a time. The Green Globe and common white Turnip, if sown in April or beginning of May, will be ready for consumption in July; now this is what must be done upon our tenacious soils, or at least attempted more than it has been. I have very often had white Turnips ready for use the early part of July; they have been sown in May, as soon as the Mangel seeding was finished; if the bulbs have not been very large they produce a great quantity of top, which is at that time of year more nutritious than the bulb would be in October. I well know the disadvantages a clay-land farmer has to contend against, but I think if a few of my friends try what can be done by early sowing even the commonest description of Turnip, they will not be disappointed with the result. They must leave it to their light-land neighbours to produce Swedes for winter use, and grow what they can for summer consumption: sow early and consume early must be their maxim; and I see no reason why, on such farms, very much more stock may not be kept than at the present day.

2. The medium soils are those which will grow any and every description of root to perfection, and although some of these are a little too stiff to admit of being much trodden in wet weather, still, when part of the crop is drawn off for consumption, with bullocks in the stalls, the rest may be used on the land without much detriment to it.

Such land as this is properly called Turnip land, and produces both the best crops and the finest quality; I know some persons say that a Turnip grown on one soil is as good as that grown on any other, but with this I do not agree, as I found when in Norfolk, that the stock did not do so well upon the light land roots as they did upon those grown on medium or mixed soils. Mr. Heath, of Ludham, grows roots upon his land that will fatten a bullock as fast as those upon the light sandy soils of West Norfolk, with from 2 to 4 lb. of cake in addition. The heavier the land that produces the root, generally the better the quality. I do not find upon light land that Turnips for winter use are the best that are sown first; and another thing against the roots keeping well through the winter is, that the Swedes are now much more tender than they used to be; we all like to have the sort that will produce the greatest weight per acre, and, like our improved cattle, improved Swedes are not so hardy as they were; they require to be pitted earlier, or you stand a chance of losing them by frost, and when secured do not keep so well as in years gone by. We must use every sort of root in its proper season; white-fleshed Turnips should be finished by October, Swedes from that time to February and March, and then comes that most valuable of all roots the Mangel Wurzel. You may use this with advantage all the year round; I have commenced upon a crop in September, and continued until the following August, but they are of the greatest value in the spring and summer months. The Mangel is a plant that requires warmth hence they are much more extensively grown in the east and south of England, where less rain falls; but in the north and west, which are moist climates, perhaps the Swede is the most profitable root to cultivate. For my own part I grow half of each as near as I can, and then in a very dry season the Mangel makes up the deficiency of the Swede, and in a wet one the contrary. For all roots a portion of farm-yard dung, from 8 to 10 tons per acre, with from 2 to 4 cwt. of superphosphate, forms the best dressing. I do not like upon any light soil to see too much dung used, as the most decayed crop of Swedes I ever saw in my life was upon a farm where from 20 to 30 tons had been applied without any artificial dressing.

3. How are the occupiers of arable land to stand their ground with the present low prices of Wheat?

Every one will answer, by keeping more stock. It is all very well to tell a farmer to keep four bullocks where before he had only three; but let him, before he thinks of increasing his stock, direct his attention to the production of food for them, for if there is anything that does not pay, it is having more stock than he can find food for, although I do not think many farmers now-a-days will have more money than is really necessary to invest in stock, as corn does not fill the pocket to overflowing. I am quite sure that a small number of cattle, well done, will pay more than a large number improperly attended to, or that have to be supplied with innutritious food, such as straw, to make up for the want of roots or hay. We will take the production of an acre of roots at 20 tons for a good crop, and a crop of Trefoil or Clover at 30 cwt. per acre, and see how long this will with proper management keep a fair-sized ox in a going-on state. The food per day shall be—84 lbs. of roots, 6 lbs. of Clover chaff, 6 to 8 lbs. of straw chaff. The artificial food shall be put at the quantity I generally use, viz.—4 lbs. of Linseed cake, 2 lbs. of corn meal. This gives from the produce of 1 acre of Turnips and 1 of Clover 76 weeks keep for a bullock: the artificial food, with cake at 10l., and Bean, Indian Corn or Lentil meal at 8l. per ton, will cost 3s. 6d. per week per head. Now, it is but a moderate sort of bullock that will not pay 6s. per week for this keep, which will leave 5l. per acre for the roots, and 3l. per ton for the Clover consumed, *besides the manure;* those who do not wish to give Clover to their cattle will have to add two pounds of artificial food per day, and use all straw; but I like a portion of each for profitable feeding, if possible. I consider if a farmer realises 5s. per ton for his roots, and 3l. for his hay, by feeding bullocks, he does very well, and it is quite as much as many of us do. With present prices of beef of course more is made, but he is a lucky man who this year averages 20 tons of roots per acre. Those who say that cattle do not pay for feeding I would tell to take a trip into Norfolk during the winter, and ask some of the farmers in the eastern part of the county what (with the present price of corn) pays their rents, and they will tell you their bullocks.

4. What is the best sort of bullock for our stalls, boxes, or yards?

Without doubt the Shorthorn, because as good a sort as any man need wish to have is always procurable at a lower price than any of our other established breeds; and I find if they, the Shorthorns, do consume a little more food than the Hereford or Devon, they make more meat, and invariably pay best where a liberal supply of cake, corn, and roots, can be given. I do not mean an animal that boasts of a long pedigree, for, though no one likes blood better than I do, still I find the best bred Shorthorns are not the best butchers' beast. I have found the Herefords very well in the stall, but much better in the Grass field, and therefore our arable farmer cannot compete with the Grass men for their possession, at any profit to himself; and if he chose to do so, I should like to know where he is to procure any quantity of good beasts from; there are not a great number bred, and of those the best never get far from their native county, and they do not make growth enough when in the stall to pay for expensive feeding. I consider their place is in the Grass field; and although I very often finish a good many in the stalls, and have some in now that will I hope this week make 40l. each, still I never like to keep them there for many weeks, and never will put them in unless they are in good condition. The Devon, or red beast of the West of England, is a very useful animal; I do not mean the pure "North Devon," for these are few and far between at our fairs and markets. I did pick up 15 at last Barnet fair, but I never saw many of them so far from home. The Scotch, both polled and horned, are now nearly all the best of them kept at home, and when fattened, sent to London and other markets. It is to Ireland we must look for the main supplies to our feeding stalls, as her moist climate and humid atmosphere are more suitable for growing cattle than corn. I trust the reports we have lately heard of the decrease of stock in the sister isle will prove incorrect, for it will be an immense loss to us all if the Irish store cattle came shorter in numbers than they have done.

5. The breeding of cattle upon a farm of arable land—is it advisable or not?

I say no; still as there are few farms upon which there is not some old pasture, a limited number may be bred and reared for the purpose of fattening for the butcher, and as store cattle are now so high in price, it is a good practice for all occupiers of arable land to keep a few cows, and rear the produce of them.

[The discussion of this point by Mr. Coleman, as well as his remarks on the relative value of foods, must be postponed for a week.]

6. I have, I am afraid, devoted too much time to the cattle on arable farms; but I felt that, if not of so great importance now-a-days as sheep farming, still there was more room for improvement in the management of horned stock than in that of the fleecy tribe.

My remarks relative to the production of Cabbage and common Turnips for consumption in the summer months, will be of even more service where a farmer prefers sheep to bullocks, for we know that at present prices sheep are kept at much less expense than cattle, as regards labour, and as they produce very nearly the same weight of meat for a like quantity of food as an ox, and the *wool besides*, they have an advantage in every manner, and therefore it does not require any words from me to impress upon the occupier of arable land the necessity of sheep farming. Every occupier of arable land will see the necessity of breeding as many sheep as possible; upon light soils as many as he can feed off in the winter with Turnips; and on heavy land, by the growth of early Cabbage, Coleseed, and common Turnips. Upon arable land, and where the lambs are intended for fattening purposes, they are usually taken off the ewe in June, as soon as some part of the seeds have been mown for hay, and then turned on to the eddish; and if a few early Cabbage are ready to throw to them at this time, it will be of great benefit, when Grass keeping is very short. As soon as taken from the ewe, the lamb should have a small quantity of cake or corn, as nothing pays so well for it as a sheep at this age—such as are intended for fattening at a year old, I mean. Of course, store sheep, that are meant for breeding purposes, need not live so well. Do not allow the lambs to go upon seeds that have been closely eaten down, and much manured by sheep in the spring, as it is very unhealthy for them indeed; and many farmers know, when once a lot of lambs begin to "scour," the loss they have suffered—so remember prevention is better than cure, and never keep the lamb too long upon the same food, but let it have a frequent change. The occupiers of chalk land know the

advantage of Sainfoin for young sheep, and I wish very much our sand land would produce it, but, after repeated trials, I am obliged to give it up. Dutch and Red Clover must be stocked with lambs very carefully at first: it is best to put them on for a few hours in the day, and that in dry weather, before they go on to it altogether: I have seen much damage arise to a lot of lambs turned into a piece of Dutch Clover fresh and full in the head. I expect to see our friend have upon his farm, by the beginning of August, some Turnips to throw to the lambs on his Clover eddishes, and if not quite ready, Cabbages until they are. By giving Turnips in this way, for a month or so before the lamb is put upon the Turnip land to fold, you stand a much better chance of keeping the animal in a healthy state, and there is not a loss of time and weakening of constitution, which necessarily occurs in any sudden change of food. The lamb, when put upon the Turnip land, should commence with a few hybrid Turnips, or Swedes, and white mixed, as it does not do to give all Swedes to young sheep at this time of the year, or you will stand a chance of losing very many of your tegs, as they are now called. When first put upon Turnips, a liberal supply of Clover and straw chaff must be given, and cake and corn in moderate quantities the first few weeks, to be increased as they get more accustomed to the food. Coleseed on many of our deep loamy soils is very often grown, and there is no green crop that will fatten sheep faster or so fast. I like it for finishing old sheep for the butcher, but find that tegs taken off it, and put on Turnips, make but little improvement for some time afterwards. The Swedes having lasted our sheep until the end of March, we now commence on Mangels for them, and at this time change the food if all cake, and give some corn, such as Peas, Beans, or Lentils. Cotton seed cake may now be used with advantage, and, mixed with the Linseed, will keep the sheep in a healthy state, now Mangels are given. If we take a good crop of Swedes, as before, to be 20 tons, and allowing a sheep to consume from 15 to 25 lbs. per day, besides chaff and artificial food, we have 250 to 400 head kept one week upon an acre. The difference in the quantity consumed will vary according to the size and breed of sheep; a small Southdown will eat about the smallest quantity, and a large Cotswold or Lincoln perhaps even more than the highest figures. It is a bad teg that will not pay 1s. per week for feeding on Turnips; of this amount it will cost about 4d. per week for artificial food, leaving 8d. as the return made for Turnips, chaff, and attendance. This, taking only 250 sheep as kept upon an acre of Turnips for a week, will give 8l. 6s. as the return for the Turnips, hay, and attendance, besides the manure, which may fairly be valued at from 2l. to 3l. per acre more; but suppose we only take half this estimate, and make the sheep pay 5l. per acre for a crop of Swedes, as, taking the country through, the average is not more than 12 to 15 tons per acre, and perhaps in some seasons not up to this. Sheep are much less expensive to feed than beasts, hence leave more profit; and I would have our arable-land farmer keep as many of them as possible.

7. Mr. Coleman then referred to the relative merits of the different breeds, and concluded as follows:—

I would impress upon the occupiers of our clayey or tenacious soils the necessity of trying to increase the production o meat during the summer months, for it is at that time of year that it often pays best, as we have witnessed during the last 25 years, such an immense increase of meat being made during winter (through the extended growth of Turnips, and the use of corn and cake upon arable land) as sometimes almost to inundate the market. Clay-land farmers well know the necessity of being on their land in dry weather, and will, I hope, make an effort in the direction I have pointed. We know we cannot upon our best Grass lands much increase the production of meat, and as every year the consumption goes on gaining ground, there will be an opening for our occupiers of clay land to see what they can do. I wish to be understood as meaning that the cheapest way to grow corn is by keeping plenty of stock, and doing them well; and generally if one does not pay, the other will make up the deficiency. Just now increase your root and green crops, and by that means, whenever corn should rise above its present value, you will be enabled to take a few extra crops when they pay you well, and with long leases (without which you cannot be expected to invest money upon another's property), you will prove that the British farmer is not quite "done up" yet. Our occupier of an arable farm will, I am sure, take care and have a lease of his farm before he starts upon modern improvements, for it is far preferable to any, and the best of yearly agreements; and I hope those landlords who object to granting leases of their farms (on the plea of giving the management of their property into the hands of others) will see it is their duty towards their country to give to the occupier of the soil security of tenure, or they cannot expect a man to become a good farmer and an enterprising tenant.

## Miscellaneous.

*Cream Cheese.*—Take a quart of cream, or, if not desired very rich, add thereto one pint of new milk; warm it in hot-water till it is about the heat of milk from the cow, add a small quantity of rennet (a table-spoonful is sufficient), let it stand till thick, then break it slightly with a spoon, and place it in the frame in which you have previously put a fine canvas cloth, press it slightly with a weight, let it stand a few hours, then put a finer cloth in the frame, a little powdered salt may be put over the cloth. It will be fit for use in a day or two. *Another Method.*—If cream is scarce, so that a sufficient quantity cannot be had at once, take a fine canvas bag, and pour as much cream as you may happen to have into it, adding additional small quantities of ice a day; and from its becoming naturally sour, the thin part will drain through the canvas, and the remainder will prove an excellent cheese. If one quart of cream can be had at once, and poured into a fine canvas bag, it will make a nice sized cheese, and, of course, equally good as those made by several small quantities added at convenient intervals. The cheeses made in this way are not fit for use so soon as those made with rennet.

## Calendar of Operations.

NOVEMBER.

Wester Ross: *November* 30.—Since the completion of harvest there has been a continuation of weather as fine as it was desirable for us to have, and all out-door labour consequently is unusually advanced. A pretty large breadth of Wheat has been laid down in first-rate condition, and the earlier sowings are already appearing above ground. A good deal of Wheat will yet be sown so soon as the fields are cleared of Turnips; but, Mr. Wilkins's earnest pleadings notwithstanding, we continue to sow some 3 bushels of Wheat per acre, and this habit we persevere in with the utmost unconcern, supposing that the censor's rod is too short, or not intended to reach us in the north of Scotland. We believe, however, that notwithstanding the severity of our winter, our damp and ungenial spring, and the necessity of speeding the crop to harvest by thick seeding, the quantity of seed will yet be considerably lessened by more thorough draining, and higher cultivation. Perhaps nothing is more requisite for improving agriculture in this county than increased drainage, and few things are more expensive. A large proportion of the subsoil is impervious mountain clay, which, although quite dry in summer, is in winter overlaid with a covering of mud, through which neither man nor beast can comfortably tread. For many years I have been in the way of putting in several thousands of yards of stone drains annually, which cost from 2d. to 2½d. per yard, and the regret is that present prices of grain will not admit of improvements of this nature being carried out on a scale that is both requisite and desirable. The next year's green crop lot is now nearly all turned over, and is thus early exposed to the pulverising and highly beneficial effects of the winter's frost. A beginning has also been made in breaking up leas for Oats. Turnips are now well-stocked with sheep and cattle, and as they scarcely stand the eating that we anticipated, we bid fair to be on short supplies ere the Grass returns. The wages of half-year's servants have considerably fallen over the north, and, as work is scarce, our labourers may not be fully employed through the winter, even at reduced wages.

## METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. Slatter, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dec. | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | 4 | 30.26 | 37 | 35 | W | 0 | 0 | 45 | 35 | 51 | 28 | 0.03 |
| Saturday .. .. | 5 | 30.10 | 50 | 46 | W. | 1 | 6 | 49 | 34 | 53 | 29 | .. |
| Sunday .. .. | 6 | 30.25 | 44 | 41 | N W | 2 | 0 | 51 | 40 | 54 | 34 | 0.01 |
| Monday .. .. | 7 | 30.37 | 50 | 48 | W. | 0 | 10 | 49 | 42 | 55 | 35 | 0.00 |
| Tuesday .. .. | 8 | 30.14 | 48 | 45 | S.W. | 2 | 7 | 51 | 46 | 55 | 42 | .. |
| Wednesday .. | 9 | 30.02 | 51 | 51 | S.W. | 0 | 10 | 50 | 47 | 52 | 40 | 0.07 |
| Thursday.. .. | 10 | 30.22 | 45 | 42 | S.W. | 1 | 2 | 50 | 35 | 51 | 29 | 0.04 |

## Notices to Correspondents.

Abortion: *Boveney.* This serious evil is often produced by the cows feeding on old pastures on which the old Rye-grass stems have not been mown, and which often contains Ergot. Remove the cattle and change the food as much as possible. If hay had been given change it for straw and oil-cake, and separate immediately the animals that have aborted, or threaten to do so. *W C S.*

Dr Cameron's Paper on Straw: *W Caus.* We do not know if it is published *in extenso* anywhere. Apply to the Editor of the *Agricultural Review*, Dublin.

Farm Labour: *Constant Reader.* "The Handbook of Farm Labour" (1s. 6d.), Longmans, is just what you ask for.

Flax Straw: *Rusticus* asks, What is its value, and for what purposes is it valuable? [For litter only.]

Gas Works Refuse: *T G* says—"Can you tell me what use can be made in agriculture of the spent oxide of iron obtained from some of the gas works. No doubt you are aware that a few of the gas companies throughout the country are using native oxide of iron to purify the gas. After they have done with it, it contains a large per centage of ammonia, which should be useful in some way. Would it do for Turnips or Potatos? and if so, what quantity would it take to the acre? or would it not do combined with something such as superphosphate of lime in certain proportions? No doubt it would be very valuable if there was any way of neutralising the oxide of iron. Perhaps you could tell me if there is any plan of so doing." [The annexed is an analysis of the spent oxide:—

| | |
|---|---|
| Water .. .. .. .. .. .. | 22.60 |
| Organic matter .. .. .. .. .. | 40.30 |
| Oxide and sulphide of iron .. .. .. | 20.50 |
| Sand .. .. .. .. .. .. | 5.40 |
| Sulphate and carbonate of ammonia .. | 11.20* |
| | 100.00 |

It is worth trying on Grass land, at the rate of 3 to 5 cwt. per acre. The ammonia will increase the produce, unless there be any noxious salt of iron in it.]

Oat Seed: *A Subscriber.* An immediate answer is probably unnecessary; and the pressure on our space hinders us this week.

Reports of Stands: *Two* Received, but will not be *read!*

* Equal to 3.75 per cent. of ammonia.

WILLIAM SMITH, of Woolston, Bletchley Station, Bucks, supplies the most efficient, simple, and durable STEAM CULTIVATING TACKLE there is in the world, but he did not send a dummy to the Smithfield Club Show, where it is utterly impossible for any practical man to know the worth of it. If practical men would like to know the worth of it, let them come and see the Woolston Farm.
1000l. upon the Woolston System against any other system of Steam Cultivation.

AGRICULTURAL IMPLEMENTS.—Steam Engines, Threshing Machines, Carts, Waggons, Ploughs, Harrows, Turnip Cutters, Chaff Cutters for hand and power, Lawn Mowers, Prize Churns, Cask Stands, Wire Netting, Garden Tools of all kinds.
Illustrated Catalogues on receipt of 6 stamps. Price Lists free.
Burgess & Key, 95, Newgate Street, E.C.
Works: Brentwood, Essex.

Improved Chaff Cutters.
Manufactured by Mapplebeck & Lowe, Birmingham.
MAPPLEBECK and LOWE Manufacture a Variety of NEW PATTERN CHAFF MACHINES, from 2l. 5s. to 10l. 10s. each, with recent Improvements, combining simplicity of construction, first-class Workmanship, great Durability, and economy of Labour.
Drawings and Prices on application.

To Seed Merchants and Nurserymen.
SAYNOR and COOKE, Pruning and Budding Knife Manufacturers, beg respectfully to say that they will not be undersold by any House in the Trade. They also warrant one of their Knives to last two of any other make.
Paxton Works, Sheffield.

Glass for Orchard Houses or Conservatories.
ENGLISH MANUFACTURED SHEET GLASS, 15 and 21 oz. to the foot, in sizes from 9 by 7 to 24 by 20, packed in 100 feet boxes, to be sold cheap.
Apply to Wm. H. Jackson, Plate, Crown, and Sheet Glass Warehouse, 315, Oxford Street, W.

TREE and PLANT LABELS.—10,000 CLOTH or PATENT PARCHMENT PUNCHED LABELS for 30s. Delivered free in London on receipt of a Post-office Order or Stamps for the amount.—Address, John Fisher & Co., West Road Works, Boston, Lincolnshire.

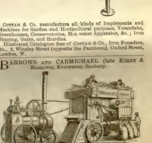
GREEN'S LATEST IMPROVED PATENT NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES, which gained the First Prize Medal of the International Exhibition.

Patronized by Her Most Gracious Majesty the Queen during the seasons of 1862 and 1863.
These Machines have proved to be the best, and have carried off every prize that has been given in all cases of competition.
ILLUSTRATED PRICE LISTS on application.
Thomas Green & Son, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

Iron Works.
COTTAM AND CO., 2, Winsley Street, Oxford Street, London, W.

Cottam & Co. manufacture all kinds of Implements and Machines for Garden and Horticultural purposes, Verandahs, Greenhouses, Conservatories, Hot-water Apparatus, &c.; Iron Fencing, Gates, and Hurdles.
Illustrated Catalogues free of Cottam & Co., Iron Founders, &c., 2, Winsley Street (opposite the Pantheon), Oxford Street, London, W.

BARROWS and CARMICHAEL (late Kirby & Barrows), Engineers, Banbury.



Price 255l. complete, and ready to Thresh and Finish 50 quarters of Grain a day in the most perfect manner. Guaranteed of best Workmanship and Material. Prizes in money and Medals have been received from important Agricultural Societies in England, Ireland, and the Continent.

**Glass for Garden Purposes.**

JAMES PHILLIPS AND CO. beg to submit their prices as follows:—

PROPAGATING GLASSES.

| | Each—s. | d. | | Each—s. | d. |
|---|---|---|---|---|---|
| 2 inches in diameter .. | 0 | 3½ | 12 inches in diameter .. | 1 | 9 |
| 3 „ „ .. | 0 | 4½ | 13 „ „ .. | 2 | 0 |
| 4 „ „ .. | 0 | 5½ | 14 „ „ .. | 2 | 6 |
| 5 „ „ .. | 0 | 6½ | 15 „ „ .. | 3 | 0 |
| 6 „ „ .. | 0 | 8 | 16 „ „ .. | 3 | 6 |
| 7 „ „ .. | 0 | 10 | 17 „ „ .. | 4 | 0 |
| 8 „ „ .. | 1 | 0 | 18 „ „ .. | 5 | 0 |
| 9 „ „ .. | 1 | 2 | 19 „ „ .. | 6 | 0 |
| 10 „ „ .. | 1 | 4 | 20 „ „ .. | 7 | 0 |
| 11 „ „ .. | 1 | 6 | | | |

HAND GLASSES, WITH OPEN TOPS.

| | Each—s. | d. | | Each—s. | d. |
|---|---|---|---|---|---|
| 12 inches .. .. .. | 6 | 6 | 18 inches .. .. .. | 9 | 6 |
| 14 „ .. .. .. | 7 | 6 | 20 „ .. .. .. | 10 | 6 |
| 16 „ .. .. .. | 8 | 6 | 22 „ .. .. .. | 11 | 6 |
| | | | 24 „ .. .. .. | 12 | 6 |

Painted and Glazed with 16 oz. Sheet Glass.

HYACINTH and FLOWER DISHES.

6 inches diameter, 1*s.*; 9 inches, 1*s.* 6*d.*; 12 inches, 2*s.* 6*d.*

Hyacinth Dishes are intended to contain a number of roots bedded in sand and covered with moss, instead of the common Hyacinth Glass.

HYACINTH GLASSES.

Common shape, p. doz., 2*s.* 6*d.* | Improved shape, p. doz., 4*s.* 6*d.*
Patent shape, per dozen, 6*s.* 6*d.*

London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

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E. DENCH being about to DISPOSE of his HORTICULTURAL BUSINESS, has on hand a considerable number of VINERIES, GREEN and HOTHOUSES, which he will dispose of at a low price to clear his premises.

The Sizes being from 16 ft. to 36 ft. in length, and from 10 ft. to 15 ft. in width.

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REDUCED TARIFF FOR SHEET GLASS AND HORTICULTURAL GOODS.

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Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home Use and for Exportation.

☞ *For prices see Advertisement of December 5.*

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IS PORTABLE, EASILY WORKED, NOT LIABLE TO GET OUT OF ORDER; WILL THROW WITH JET 40 FEET, AND WITH "ROSE" WILL COVER 40 FEET ACROSS.

**Price 30s. and 40s. each.**

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## PATENT ASPHALTE ROOFING FELT.

*Rail Carriage Paid.*

**One Penny per Square Foot.**

ALSO INODOROUS FELT, AND DRY HAIR FELT FOR COVERING BOILERS AND STEAM PIPES.

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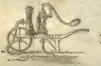
## PUMPS AND HYDRAULIC MACHINERY,

WHITEFRIARS STREET, FLEET STREET, LONDON.



No. 46a.

No. 50.

No. 4.

No. 38.

No. 49 a.

THE Landscape Sketch shows an adaptation of THE IMPROVED HYDRAULIC RAM for forcing water to considerable heights and distances to supply Mansions, Farms, &c., where a few feet fall can be obtained. Full particulars of this useful Self-acting Machine can be had on application.

No. 4. Useful YARD, GARDEN, and COTTAGE PUMPS, from 1*l.* 5*s.* each.
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### ENGLISH SHEET GLASS.

Packed in Crates of about 280 feet.

| | 16-ounce. | 21-ounce. |
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| Best ... ... | 5½d. ... | 7¼d. |
| Seconds ... ... | 3¾d. ... | 5d. |
| Thirds ... ... | 2½d. ... | 3½d. |
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| | | | | 4ths. s. d. | 3rds. s. d. | 4ths. s. d. | 3rds s. d. |
|---|---|---|---|---|---|---|---|
| 11 by 9 | 12 by 9 | 13 by 9 | 14 by 9 | 10 9 | 12 3 | 12 6 | 14 0 |
| 12 „ 10 | 13 „ 10 | 14 „ 10 | 15 „ 10 | | | | |
| 13 „ 11 | 14 „ 11 | .. | .. | | | | |
| 14 „ 12 | 15 „ 12 | 15 „ 11 | 16 „ 11 | | | | |
| 18 „ 12 | 19 „ 12 | 16 „ 12 | 17 „ 12 | | | | |
| 16 „ 13 | 17 „ 13 | 20 „ 12 | 21 „ 14 | 11 6 | 13 6 | 13 6 | 16 0 |
| 19 „ 13 | 20 „ 13 | 18 „ 13 | .. | | | | |
| 16 „ 14 | 17 „ 14 | 21 „ 13 | .. | 14 to 15 ozs. to the foot. | | 16 to 17 ozs. to the foot. | |
| 19 „ 14 | 20 „ 14 | 18 „ 14 | .. | | | | |

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### PATENT ROUGH PLATE GLASS.

Packed in Boxes of 50 feet each.

| | s. | d. | |
|---|---|---|---|
| 6 by 4 and 6⅓ by 4½ ... ... | 10 | 6 | per box. |
| 7 „ 5 „ 7½ „ 5½ ... ... | 12 | 0 | „ |
| 8 „ 6 „ 8 „ 6⅛ ... ... | 13 | 6 | „ |
| 9 „ 7 „ 9½ „ 7½ and 10 by 8 ... | 15 | 0 | „ |

### GLASS for ORCHARD HOUSES.

As supplied by us to Mr. Rivers, to the Royal Horticultural Society, and to most of the Nobility, Clergy and Gentlemen of the United Kingdom.

Packed in 100 feet Boxes.

| | | 14 to 15 ozs. | 16 to 17 ozs. | 21 ozs. |
|---|---|---|---|---|
| 20 by 12 | Fourths ... | 11s. 6d. | 13s. 6d. | 15s. 0d. |
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| 20 „ 15 | Best ... | ... | 18s. 0d. | 23s. 0d. |

The above prices include the Boxes.

We recommend 3rds quality at 16s., or 21-ounce at 19s. (as supplied to Mr. Rivers). Best and Seconds are intended only for pictures or dwelling-houses.

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|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11s. 6d. |
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Boxes 2s. each, returnable at full price.

All small squares from 6 by 4 to 10½ by 8½ are cut from pieces, consequently there is only one quality.

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LEAD in SHEETS or CUT to SIZES, LEAD PIPE, LIFT PUMPS, WATER CLOSETS, and PLUMBERS' BRASS WORK of every description.

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Reports from numerous Purchasers in most of the counties of England, with full particulars, may be had free on application to

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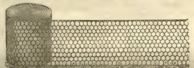
GREAT IMPROVEMENT,



WITH REDUCED PRICE.

PRICES PER LINEAL YARD, 24 INCHES HIGH:—

| Size of Mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra Strong. | |
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| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 2¼ inch | Hares, Dogs, Poultry ............ | 3d. | 4d. | 3¾d. | 5d. | 4½d. | 6d. | 5½d. | 7d. |
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PROTECTION from the COLD WINDS & MORNING FROST. "FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

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| Cherries, espalier | Oak, Turkey, 3 to 4 ft. |
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HYBRID CASHMERE, Green-flesh }
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VEITCH'S RED GLOBE, an excellent Garden variety.

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EARLY ASHLEAF, True.
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Three each of the above, 10s.
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GARDENERS' ROYAL BENEVOLENT INSTITUTION.
NOTICE IS HEREBY GIVEN that the ANNUAL GENERAL MEETING of the SUBSCRIBERS to this Institution will be held at the Bedford Hotel, Covent Garden, on THURSDAY, January 14 next, for the purpose of receiving the Report of the Committee and the Accounts of the Society for the past year, and Electing Officers for the ensuing year.
An ELECTION of THREE PENSIONERS will afterwards take place.
The Chair will be taken at 6 o'Clock in the evening.
The Ballot will close at 8 o'Clock precisely.
The Balloting Papers have all been issued; any Subscriber not having received one is respectfully requested to make immediate application for one. By Order,
EDW. R. CUTLER, Secretary.
14, Tavistock Row, Covent Garden, W.C.—Dec. 19.

**The Gardeners' Chronicle.**

*SATURDAY, DECEMBER* 19, 1863.

THE BULB FARMS OF HAARLEM have been sending us, during the last few weeks, their annual consignments of Hyacinths, on which we depend so much for the decoration of our windows, greenhouses, and gardens in the early portion of the year. Holland appears peculiarly well adapted for the production of such plants. Her moist air, sandy soil, and the water which is always met with standing a few feet below the surface of the ground, would seem to furnish the most favourable conditions for their cultivation, and until such conditions are met with in other countries, she is likely to remain without a rival in the market for such things. We buy them yearly of her; they bloom with us in perfection the first season, but are afterwards thought worthless, and, in most instances, they are thrown to the rubbish heap. All those millions of Hyacinth bulbs which crowd or have crowded our seedsmen's shops and auction rooms, will have disappeared by this time next year, and their pl ces will be filled by another importation direct from Holland. And so we go on year after year; the bulbs are reared in the sandy plains about Haarlem, where they form and lay up in store a stock of organic matter which enables them to bloom well one year at least after they are sent over to England, and then they dwindle away, degenerate, and die.

Is this result to be attributed to climate and soil, or to our mode of cultivation and general treatment of the bulbs? Is it possible, or probable, that the day may arrive when we shall be able to cultivate the Hyacinth as successfully as our Dutch friends do now, and keep it in health and vigour for a number of years instead of one only? We fully concur in the opinion that soil and climate are somewhat in favour of those who dwell in the vicinity of Haarlem; and further, that it will always be more satisfactory for us to import our annual supplies of fresh bulbs than to attempt to grow them ourselves.

But having admitted thus much, we, as good gardeners, ought not to consider such disadvantages insurmountable. With a little extra expense and care it is not impossible to preserve the Hyacinth in health and vigour, and thus enable it to grow and bloom with us for many successive years. Let us endeavour, therefore, to direct attention to the system of cultivation which is practised in Holland with such successful results.

In the first place the natural soil about Haarlem is composed chiefly of sand and decaying shell, which has been thrown up in former times by the ocean. It also contains a portion of vegetable matter, and is enriched annually by a liberal supply of cow-dung—the only kind of manure which is used. The land which is to be planted with the bulbs is trenched 2 or 3 feet deep in spring, and manured at the same time. But it is not yet in a fit condition for the reception of the Hyacinth. And mark, particularly, the next preparatory operation. *A crop of vegetables, generally Potatos, is taken off it* in order to draw out any rankness or impurities which might prove injurious to the Hyacinth. This being done during the spring and summer months, the land is ready for the reception of the bulbs in autumn, which is the proper season to plant them. Nor is this all; a careful system of rotation in cropping is also observed, so that these bulbs are rarely, if ever, grown on the same land two years in succession.

When planted, in October, the bulbs are covered over with 3 or 4 inches of soil, and are further protected during the winter months with a layer of reeds, some 5 or 6 inches in thickness. And now the process of growth immediately begins, and in a way to which we beg to draw particular attention. It is the roots only that grow. They strike deep down into the earth in search of nourishment, while the stem remains, all but inactive, patiently waiting for the time when the roots shall be in a position to supply all its requirements. And thus it happens that when the spring comes round, and when the bulb begins to grow, as we say, a sufficient supply of nourishment is readily and abundantly supplied.

Another point which the Dutch cultivator considers of great importance is the careful preservation and full development of the leaves. Any disease in the leaves is rapidly communicated to the bulb, and hence every precaution is used to keep them in health and vigour. The flower stems themselves are usually removed before they are in full bloom, not with the view, as is sometimes supposed, of strengthening the bulbs, but in order to prevent the heavy flower heads from falling upon and rotting the leaves. Huge heaps of Hyacinth blooms may be seen laid up in the corners of all the fields about Haarlem in the month of April, having been cut to prevent the chance of such a thing taking place. The Hyacinth would appear to be very liable to become diseased, and hence every precaution is taken by the Dutch cultivator to remove any predisposing cause, whether that be in the composition of the soil or in any injury that may happen to the leaves.

These, then, would appear to be the principal reasons which account for the success which attends the cultivation of the Hyacinth in Holland. That our gardeners, were they to try, might be as successful as the Dutch we have little doubt, but whether such success would be worth their while, or whether "it would pay," is quite another matter. All that we have in view is to point out the cause of this success, namely, a mode of management founded on a knowledge of the laws of vegetable physiology, and on the peculiar nature and habits of the Hyacinth.

In the above remarks we have drawn especial notice to the manner in which the growth of the Hyacinth commences; how the roots are formed during the autumn and winter, ready to supply nourishment to the leaves as they are put forth in the spring. This circumstance will explain, at a glance, the kind of treatment which should be given to Hyacinths when they are grown in glasses, or vases, in water, for the decoration of our windows or sitting rooms. At this season of the year, when our fair readers, in particular, are engaged in this kind of Hyacinth culture, we cannot do better than repeat the advice which we have often given, namely, "keep your bulbs in a dark place until they have formed a good supply of roots to nourish and support the coming leaves and flowers."

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ALMOST every one complains that in spite of the late dry and warm summer, which was so favourable to the ripening of the wood, and which promises such a plentiful and strong blossom in the spring, PEARS have kept very badly. Some have prematurely bletted, others have gone rapidly to decay, while many have been spotted all over, so as to be unpresentable. Far the greater part of an abundant crop of Glou Morceau from our own garden are in the latter condition. Under each dark spot there is a brown dry mass of tissue of a greater or less depth, without any tendency to run into a state of moist decay, and extremely analogous to the dry form of the Potato murrain. These spots have in the first instance undoubtedly originated in the growth beneath the real cuticle, of a minute brown parasitic Fungus, Cladosporium dendriticum, which has destroyed the vitality of the subjacent tissue, but has not sufficient vigour of growth or greediness of moisture to make it penetrate deeply into the fruit. Where moist d cay has supervened, it is apparently due to other Fungi which have accompanied or replaced the Cladosporium. This mould has of late years been a dreadful pest both to Pears and Apples, in some cases being virulent enough to destroy or greatly impair the young shoots, and its growth beneath the cuticle makes it almost impossible to apply a remedy. After a time, indeed, the cuticle bursts, to allow the fertile threads to break out into the air and bear fruit, but the mischief is then already done, and it is notorious that even were the habit different, dark threaded Fungi are far less destructible than those which are colourless. There is no reason to suppose that the Fungus is a new visitant, as some kinds of Apples, the Golden Pippin for example, have always been subject to this spotting. Unless, however, we are mistaken, it is far more prevalent than it was some 30 years ago, and the discovery of an effectual remedy would be a great benefit to the horticulturist. *M. J. B.*

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—— THE NEW HYACINTH question has been further ventilated in the pages of one of our monthly contemporaries, where Mr. W. PAUL argues that the admission of 'New and Rare' sorts would produce a finer exhibition, and more surely promote the true interests of floriculture, than the restriction to 'New' flowers alone, if the word is to be taken in the most restricted sense. Hence it is urged that the alteration in the schedules of the Royal Horticultural Society's Spring shows, which confines this class of new sorts to the productions of a single year, is a matter of regret, inasmuch as it is barely probable that six new varieties of the current year will surpass, if indeed they equal, those already known to us. If they do not, the prize would, on the one hand, have to be withheld on the ground of indifferent quality, or on the other hand must be awarded as a premium on retrogression—two horns of a dilemma, on neither of which would it be dignified to be transfixed. With the mystery and mystification which seem to hang over the nativity of Hyacinths, and the consequent uncertainty of what is really to be regarded as new, we think the limitation to varieties of one year—"new kinds of 1863 4," it is set down in the schedule—will not realise the effect which is to be looked for from classes like this, namely to familiarise the public with the best novelties. We have already stated our own conviction that in a flower which so slowly makes its way into the market at a price which puts it within reach of the public, and not merely into the hands of a few enthusiastic fanciers alone, it would have been better to have admitted the new productions of some two or three seasons to equal competition. Unlike many other popular flowers, the Hyacinth, if we mistake not, does not afford enough marketable new sorts annually, to support a competition of the kind which has now been referred to. The only advantage to gardeners and gardening to be derived from the existence of this competition amongst new sorts, is that of showing what are the best of the come-at-able new sorts: it will tell but little on the decoration of a conservatory to know, that some 10 years hence we may expect to meet with, at a non-prohibitive price, some striking variety which may happen to be shown under the present schedule.

—— Of RECENT APPOINTMENTS, it may be mentioned that Mr. BLACK, for some years the painstaking and obliging Curator of the Kew Herbaria, and who has left England on account of delicate health, has been appointed to the superintendence of the Botanic Garden at Bangalore.—— Mr. GUSTAV MANN, who has been engaged in exploring the mountain regions of Tropical Africa with so much success, and who not long since returned to England in good health, has been appointed to superintend the Cinchona plantations in Darjeeling, under Dr. ANDERSON.—— Professor SCHLEIDEN has been elected to the Chair of Botany in the University of Dorpat.

—— The NARDOO plant of Australia is not, it seems, "one and indivisible," for at the recent meeting of naturalists at Stettin, Prof. BRAUN exhibited living specimens of four species of Marsilea, two of which had been raised from Nardoo seed received from New Holland. These two were the M. hirsuta of R. BROWN, and the M. Salvatrix of HANSTEIN, the latter of which was figured recently in the *Journal of Botany*, and identified by Mr. CURREY with M. macropus of HOOKER. In this view, however, BRAUN does not agree, but he considers Salvatrix to be probably the same as a plant he had previously named Muelleri, and macropus as unquestionably one he had two years earlier named Drummondi. The learned Professor of Berlin, has moreover, recently published an interesting sketch of the genera Marsilea and Pilularia, 37 species of the former, and 4 of the latter genus being recorded, together with their geographical range, and various other particulars respecting them.

## DIES ORCHIDIANÆ.—No. IX.

(*Continued from p. 1157.*)

Mr. Rucker's, West Hill, Wandsworth.—Mr. Rucker has been famous as an Orchid grower for more than a quarter of a century. When quite a young man he distanced all competitors, and took at once the foremost place among exhibitors at Chiswick in the palmiest days of the old Horticultural Society. Nor, although he has long since left the excitements of all such like arenas to enthusiasts of more recent date, is this other than an act of self-denial on his part, for among all the multitudinous Orchid growers of the present day, I know not one who could hope to do battle against him with the slightest chance of success!

At the time of my visit (November), the show-houses at West Hill were gay—absolutely gay—with Orchids; and this not as is frequently the case, by multiplying plants of the more showy kinds, but by bringing together when in bloom a brilliant array of contrasted forms and varied hues. It would be utterly impossible to particularise all the beauteous things that made up this unparalleled display, but there were a few which for the sake of the neophytes may be advantageously singled out for special comment. Of these, Vanda cœrulea may perhaps claim the first place, for the profusion in which its blossoms of softest azure were borne aloft on stately flower-spikes, at once arrested the eye of the visitor. This species is often found troublesome to manage, but Mr. Rucker finds that if grown in a moderately cool house it is perfectly tractable, which is precisely what might have been anticipated when the climate and elevation of the Khasya Hills, on which it was originally discovered by Dr. Hooker, are taken into account. Next to this Vanda, as regards striking effect, came the old Cattleya labiata, which Mr. Rucker grows to perfection, and of which he has several splendid varieties. Less gorgeous, but scarcely less beautiful, was a well-flowered specimen of the still rare Cattleya maxima which one meets with in collections under a variety of "aliases," such as Lælia elegans, L. Laurenceana, &c.* Passing on, we come to Calanthe Veitchii, which as seen most frequently has flowers of a pale tint, but in Mr. Rucker's variety they are of the most brilliant rose-colour, and produced, moreover, in such profusion, that the eye is attracted by them at a great distance. Of course the two varieties (that with the crimson and that with the yellow eye) of the well-known C. vestita contributed their full quota of beauty. Equally, if not even more charming were two Dendrobiums—D. formosum and D. infundibuliforme—the latter flowering for the first time, but already rivalling the former in beauty; higher praise than which it cannot have. In agreeable contrast to the pure white flowers of these superb Dendrobia, Miltonia Moreliana displayed a number of its deep purple blossoms, the largest I had ever seen. All these and many more were on a shelf nearly level with the eye, but suspended in the air over-head was another world of interest and beauty, the most striking components of which were Sophronitis grandiflora and Lælia præstans (alias Cattleya marginata, C. pumila, C. Pinelli, &c.). I am no advocate for multiplying specimens of the same species—quite an epidemic now-a-days; but still I would allow every one to keep at least half a dozen plants of Sophronitis grandiflora, and this not merely for the sake of its scarlet colour, so rare among Orchids, but also because there is a difference, extending at least over two months, in the times at which different individuals (even if treated alike) come into bloom; and certainly the flowering season of such a sparkling gem can never be too much prolonged.† Not far from the Sophronitis hung a very splendid specimen of Oncidium crispum, producing a most singular effect with its large copper-coloured flowers margined with yellow. This species never seems to thrive unless it be set upon a block of wood and grown in a moderate temperature—such I mean as would be proper to the Cattleya-house as contradistinguished from the Odontoglossum-house, which should be much cooler, and from the East Indian house, which should of course be much warmer. The former temperature is that of the Organ Mountains, from whence come many of our finest Cattleyas, Oncidiums, and Sophronitis grandiflora itself. *Serapias.*

(*To be continued.*)

* Since the above was written I have seen a still finer specimen in the collection of Miss Willis, Hurst House, near Prescot, Lancashire. It had as many as eight flowers on a spike.

† An Orchidophilist should choose his own Sophronitis at the nurseries (in many of which there is now a vast assortment), so that he may secure the best varieties, and select a series that will flower in rotation. At Messrs. Low's, last November, such multitudes were in bloom that they looked like regiments of red-jackets dangling in the air.

## STRAY NOTES ON FLOWERS.

When winter is well established, and out-of-door flowers are rare, then comes the time when people wish they had some in-doors. There is something very pleasant in anticipating the spring, and in seeing sweet spring flowers blossoming in our windows in advance of those outside. I was reminded of this to-day by a visit to a seed shop in the neighbourhood of Covent Garden. I had been moving about, and had got very few bulbs indeed, but there I found they had such really charming arrangements—not things that one calls "shoppy," but really well arranged and coming on for bloom. There was the Rustic Robin, of which I made trial last year, a most luxuriant mass of Hyacinths and Crocuses, and Snowdrops, and I think Tulips, making such a pile of beautiful sweet flowers, giving so little trouble, asking only for light and water, and then lasting such a time.

Another plan there is for growing things in tiers; this is a jardinet, called after the Prince of Wales. This I have not yet seen in flower, but it promises to be beautiful. The rough wood-like single flower-pots never are very attractive to my particular taste, because for plants in rooms more finished things seem more suitable; but even these, for conservatories, often look very well. The large rustic things, however, seem quite free from that defect. They stand more as single objects. Besides these, there are well finished dark-red terra-cotta flower-pots of exquisite colour and texture, which would be quite perfect for standing in the deep windows and recesses of Gothic houses. These pots with some large white flower—a Lily for example—or else with tall white Hyacinths, or with spreading Ferns, would look beautiful. I mention these things now, because now is the time for having them, and yet it is perhaps a time when few people chance to be reminded of them by seeing them. And also it is pleasant to be able to make up for lost time, and to get bulbs ready growing, when we have failed to plant them.

I saw too at Covent Garden some such lovely table baskets or tins, planted with red Poinsettias, and white pink-touched Heaths and Tulips. It struck me that three of these would be so perfect for the dinner-table, one red and white say, and two white and red, or *vice versâ*, the centre plant being dominant, and making a real difference, though it does not sound so.

I took the precaution of asking if groups such as these could be packed and sent down safely anywhere, and was told that they could be, and that the cost of the three would be from a guinea to 30*s*. A more really charming ornament I could not recommend for Christmas time; and though, indeed, the Poinsettias require heat to grow in, the Heaths will last for many weeks in beauty if carefully soaked—not merely watered—and then let drain sufficiently.

A few weeks ago I mentioned some pretty rustic stands for holding small knots of cut flowers; and as many people seemed interested about them, I have sent one of my own to Mr. Hammond's (Baker Street), to be copied. It can be seen there any time for the next two or three weeks; but when seen without flowers, it does not look attractive; so people must imagine little red and yellow groups lighting it. Christmas Roses and Fir look well in it, and the red Anemones and Primroses will do charmingly. *E. A. M.*

## ROSES.

This article has been written five weeks. I see that "Stamfordiensis" takes the same view as myself of the bud rule, and has given the identical reasons herein expressed why the rule cannot be carried out. I agree with him in thinking that the schedule referred to needs but little alteration, if any. As regards time of show, if suitable to the interests of the Royal Horticultural Society, I would, to suit S. and N. alternately, have the days as near as possible (avoiding Monday and Saturday) to June 25 and July 1. Both these days are in the full London season. I also hope that the Royal Horticultural Society will have a September show for Roses. This is the time to tell "who is who!"

Have persons who advocate the bud rule considered how difficult it is to carry it out? Most Roses in the early part of the year have buds, but who can determine for certainty whether the side buds were killed in infancy by frosts, blights, aphides, the bud worm, or by the following mode? As soon as the centre bud is the size of a pea, a person may move back the sheath that covers the side buds, which are just visible, and by the prick of a pin in their centres procure their destruction. There is no need to remove them; they will wither away and drop off. Here then is one way of obviating the rule. To a Rosarian the sheaths that covered the buds will tell that there had been buds there, but who can say how they were removed?

Again, let us suppose that the centre Rose has bloomed and that three buds of the same age are left on. If two are removed, and taken away they must be, who is to say whether they have bloomed or have been removed?

Again, supposing a truss to have a good centre flower, two good buds, and one unsightly one. Is the exhibitor to be allowed to take off the bud that spoils the truss? If the answer is, yes, then he might, if untruthful, say, they were all so unsightly—nibbled by aphides, or yellow blighted, that "I was obliged to remove them, or they would have spoiled this beautiful Rose (holding it up in the hand) which is worth a king's ransom!" In fact, there would be no end to juggling, no end to examination, no end to adjudication.

Here is Class B., 24 singles. On a box numbered 7 is inscribed on a card "First prize," Peter Poser, Esq., of "Sans Souci" Cottage, Herts. Now, if at that moment P. P. could look in, and see his box labelled A 1, he would be in a "delirium" of joy, little dreaming that it is soon to be exchanged for "delirium tremens," or, as the poor people here call it, "delirious triangles!" The judges pass on to decide the 2d prize, followed by the examiners of buds (for judges have no time to do so), who, as the 2d prize is just decided, cry out, here is a screw loose in the box from "Sans Souci." Mutilation has been detected in several of the Roses of "delirious" Peter Poser—one of which, Géant des Batailles, is held up as a scandalous specimen of ingenious bud deprivation; and the triumphant colours of Peter Poser are hauled down, and the box of Simon Soapy, Esq., of Vilamgerbendi Cottage,* Wilts, becomes 1st prize. Well, the bud examiners now proceed to examine the box from Vilamgerbendi, and the same thing is found again; and "1st prize" descends, as from sire to son, respectively, to Richard Dodger and Samuel Slyboots, Esquires, who are, in due time, found to have loose screws. In fact,

> "Hæres,
> Hæredem alterius, velut unda supervenit undam."

Nor does the matter end here. I would it did; but it having eked out that Peter Poser is triumphant in Class B, Peter invites a dozen friends to dine with him at the Hummums. Peter Poser is not the man to enjoy a victory solus. He has sent a special message to the Hummums, with a scrap of paper on which might be seen something like the following:—"Dinner at 7; covers for 12; turtle and venison (if possible), turbot, mutton kebob, new college puddings, Pine Apple. P.S. Ice the champagne and sherry cobblers!"

Now, imagine the change of Peter Poser's face (reverse of the petals "glaucous"), as he learns that his box is disgraced, instead of being honoured, *triumphantibus coloribus*. Imagine the chaffing at dinner on the subject of the bud rule! and if at that moment, Peter is in a philosophic state of mind, he will fill his glass, and amuse the company with such broken fragments as these: "Nation worse and worse!"—"always cheated, go where I will!"—"said so before I went, hang me if I didn't!"—"what a fool I was!"—"never exhibit again in London."

It may be said, this is being too critical—too exact. I think so to; but if you have a rule at all, it should be carried out with the utmost rigour of the law. Practically you could not do so, because you could not tell whether the side buds were destroyed in infancy by hand, or by causes previously stated. If 24 Roses were all minus buds, it would be a strong *primâ facie* evidence of mutilation; still, you could not be sure. You might put a man upon his honour (which in all human competitions I am for neither trusting nor trying); and, if he were a truthful man, he would tell you "I pricked out their eyes with a pin."

> "Monstrum horrendum—lumen ademptum!"

But to examine the exhibitors, they must be kept close at hand. I need not say that this could scarcely be done. Nor do travelled Roses want so much handling as this severe scrutiny would occasion. From the moment they are cut they begin to decline.

The rule as it stands, like an Act of Parliament, is wide enough to drive a carriage and four horses through it. "The truss, with such buds as are on it, is to be exhibited as cut from the tree." Well, if I destroy the buds in infancy, or a few days before, and then cut the Rose for exhibition, I exhibit it as I cut it from the tree. The rule wants a little addition.

I think the following would insure buds where they could be left on with good effect. "It is requested that Roses will be shown with their buds on. The judges will have instructions to weigh the merits of such against larger Roses deprived of their buds."

In conclusion, I doubt whether you could find sufficient extra censors, (for you must have more) up to the mark, to carry out a rule rigidly, which would tend to shorten competition, and to impede rather than favour the production of good specimens.

I honestly confess that I have practised delirious Peter Poser's plan a good many times, in the case of medium sized Roses, or Roses that could not otherwise be got ready for the show day.. *W. F. Radclyffe, Rushton.*

## NEW PEAR.

### PRINCE CAMILLE DE ROHAN.

This variety has been produced from my seedlings. In 1857, the tree, scarcely eight years old, bore its first three fruits. In 1858, it bore seventeen; in 1859, a dozen, and in 1860, five only. This present year, the mother plant, having reached a good size, bore 170 beautiful Pears. And it must be added that none of these fruits fell, from the month of May to the time of gathering them.

The first gathering took place about the 15th of September; the second the 20th of the same month; and the third on the 12th of October.

The fruit of these different gatherings have the same form and colour; and there is little or no difference in their quality. The fruits of 1868 were larger, and of a more regular form.

The skin of the fruit, at the time of gathering it, has a clear green ground, covered almost entirely with indentations and brown spots. The more the fruit gains size, the more the skin becomes uneven. The eye is in a slight cavity, and has the calyx open. The stalk is thin, flexible, and woody, about an inch long,

* The late Sir Claude Scott called his Dorset House "Sans Souci"—(without care). Vilamgerbendi is a name that I saw some years ago, stuck on a cottage inhabited by an Indian, a little distance from the stone which marks the place where Rufus was slain in the New Forest; it always tickles my fancy!

of an olive brown colour. The cells, which are tolerably wide, each contain three, four, or five pips, which are fine, long, plump, slightly depressed, and of a nut-brown colour.

The fruits of the three first gatherings ripened in December; those gathered in 1860 held on till the 25th of January. Whilst ripening in the fruit-room, the Pear assumes successively a tawny yellow colour or an opaque brown, becoming soft about the stalk. It will keep a fortnight in this state without becoming over ripe. The skin is rather thin; the flesh a pure white, with a good sweet, vinous flavour, sufficiently juicy; it is neither stringy nor gritty. Let me add that the fruit is quite distinct from any varieties known to the most experienced amateurs. *J. de Jonghe, 9, Chaussée du Nieuwmolen, Brussels.*

## Home Correspondence.

*Anona Cherimolia (Cherimoyer), and Eriobotrya japonica (Loquat).*—One of your recent Correspondents seems to wonder that Cherimoyers are not grown in the hot-houses of this country, and is very urgent that an attempt should be made to add to our desserts what is undoubtedly a most delicious fruit. I am far from wishing to throw cold water upon a suggestion which I sincerely hope may be acted upon by some zealous horticulturist, but it is only fair that I should mention an attempt in the same direction made by myself some 25 years ago, and which resulted in total failure. Having obtained a healthy plant of the Anona it was turned out in a space of about 6 feet square that formed a portion of the border in a stove at Knypersley; and as it grew—which it did most vigorously—the branches were trained on a trellis near the glass, where flowers were produced in great abundance. Unhappily, although the experiment was continued for several years, and although we did what we could to fertilise the blossoms, not one of the latter ever could be induced to set, so that at last in sheer despair the plant was thrown away. I ought however to add that the house in which it grew had metal sashes and was then heated by steam pipes, both of which conditions would no doubt militate against success then, but do not prove that with our vastly superior modern appliances a different result might not be attained now. With the Loquat, which was treated in precisely the same manner, I was somewhat more successful, for it not only grew vigorously, and flowered in profusion, but actually on two occasions (in six years) produced about half a dozen fruit. These were the colour of the Apricot and the size of an ordinary Grape, and it is remarkable that the flavour was an exquisite compound of these two delicious fruits. Still, however excellent, it was impossible to continue to devote a sixth part of the available space in a hothouse to a tree which produced on an average two berries per annum! I believe the late Lord Bagot also fruited the Loquat, and succeeded much better than I did, as regards the amount of produce. *J. B., Biddulph Grange.* [The Cherimoyer was fruited at Howick about 30 years since, and the following brief account thereof was given by Mr. Stevenson in the *Floricultural Magazine*, in 1838:—"The Cherimoyer has been fruited at Howick for four successive years, producing one fruit in 1834 (I believe for the first time in the kingdom), two in 1835, one in 1836, and two in December 1837. The plant was raised from seeds brought from South America by the Hon. Capt. F. Grey, R.N., in 1829, and planted in a division between the back wall and the pit of a small plant stove in 1831; the division 1 foot wide, 4 feet long, and 5 feet deep. Although it has produced its fruit but sparingly, yet by appropriating a house to it, and carefully fertilising its fragrant blossoms when fully expanded, and otherwise judiciously managing it, I am inclined to think it would fruit as freely as the Peach." Can any one tell how this or other plants have behaved subsequently].

*Look to your Fruit-tree Buds.*—In passing through an orchard in the woods here in the beginning of the month, I noticed that a few bull-finches flew from a standard Kentish Cherry. Upon examining the tree in question, I was surprised to find that more than half the buds were gone, and that the whole of the trees in the locality, about one dozen in all, were more or less in the same condition. Several May Duke Cherries were also attacked, but not so badly as the Kentish variety. I found likewise on passing a clump of Thorns, a little beyond this garden, that a great many of the flower buds were gone, and that some Scotch Roses in another garden were also disbudded. Plums, Pears, and Gooseberries, are untouched, although they suffered last season, particularly the Plums. Soot I am afraid will not prove an effective remedy, as rain washes it off, and the buds are again attacked. *J. F., Cliveden.*

*Rhododendron Soils.*—For the benefit of "E. S." (see p. 1181), permit me to state, from practical experience in an extensive tract of forest land, that I find wherever Rhododendrons are planted in virgin soil, whether it be clay or loam, black or brown, they invariably luxuriate. To me it seems evident that Rhododendrons do not so much require a peat soil as one abounding in vegetable mould, properly so called. If "E. S." has not such a soil, he should add to his ordinary garden loam before planting as much leaf or other vegetable mould as he can get. After that I should not hesitate to plant Rhododendrons, knowing as I do that time would soon prove that they will not only grow but luxuriate under such circumstances. *Senilis.*——There can be no question that the Rhododendron grows best in peat, but it does also remarkably well in loam; I could point to thousands of magnificent plants growing in pure loam, and in some instances almost on bare rocks. Where the ground is naturally poor, I would recommend the addition of manure and leaf-mould, which will very much assist the plants in their growth. I may add, however, that this neighbourhood, and South Wales in general, owing to its moist atmosphere, is well suited to the growth of this beautiful tribe of shrubs; and I may refer hereafter to some of the more extraordinary specimens to be found at Penllergare, the seat of J. D. Llewellyn, Esq., F.R.H.S., and elsewhere in this neighbourhood. *W. Barron, Sketty Nursery Farm, Swansea.*——I can affirm that peat soil is not indispensable for these shrubs. I know more than one place in Sussex and Wilts where they grow luxuriantly, coming up by hundreds of seedlings in the woods, many miles from any peat. Any light loam with a little sand and leaf-mould will grow them well. But there are other conditions necessary to have Rhododendrons in any tolerable perfection, viz.:—1. A loose sandy soil, rather damp, and not too dry in summer. 2. It is absolutely impossible to grow them on a chalk or limestone subsoil, even in an artificially made bed; as soon as the roots penetrate down to the chalk the plants turn yellow, and their health is ruined. It is surprising how small an amount of lime will kill them. Even water from a well on the chalk is injurious. 3. Sea breezes are destructive to them. It is useless to try them in a maritime district—I suspect Bristol is too near the salt water. Messrs. Maule's nurseries are no doubt well sheltered from the sea air. Why not grow the Arbutus in such places instead? Nurserymen advertise Rhododendron ponticum by the 100 for coverts. It is, I am told, quite useless to game preservers; hares and rabbits will not touch these plants; but neither they nor pheasants will remain among them unless driven there. *C. D., Ashdean, near Chichester.*——Azaleas and Rhododendrons grow well here in loam on a clayey subsoil. As a proof of the way they grow, I have measured some Rhododendrons this morning and found them to be 40 feet and upwards in circumference, quite pictures of robust health. If "E. S." or his gardener will pay us a visit in June when they are in flower, I will feel a pleasure in showing how well our Rhododendrons grow in loam. *Geo. Fletcher, Gardener, Picton Castle, Pembrokeshire.*

*Perpetual Fruiting Grape Vine.*—It is nothing new to hear of perpetual Roses or perpetual Figs, but I fancy it would sound strange to hear of a perpetual Grape. If you refer to your volume for June 22, 1861, you will find my account of a Vine bearing ripe and unripe Grapes at the same time, which is carried on through pages 733, 755, and 792. At page 755 it was stated that I did not say whether the two crops were produced every year. This was answered at the time. I may, however, state that the Vine in question has not failed to do so yet, and the object of my again addressing you is to inform you that it has this year borne three crops. The two first ripened as in former years, and the last bunch (or rather part of it) of the third crop this year I send with this. It has hung rather too long, and being just over the open hot-water tank, you will perceive that it has lost a portion from the steam which is constantly rising. Of course this is not sent as being anything fine, but merely as a novelty; nevertheless I think you will allow that the Grapes are well coloured and sweet. I have hitherto been afraid to try a third crop, as we of the old school used to think it necessary to rest the Vine after it had ripened the crop. These have been ripened on the laterals produced on the wood which bore the early crop, so that it does not interfere with the wood for the next early crop whenever it may happen to come, as it is left entirely to chance, our object being to grow a few stove plants without studying the Vine. What the effect of this third crop will be I cannot tell, but you will see by the shoot sent that there is as yet no appearance of going to rest. I suppose the leaves will fall some day, when, if spared, I shall prune the Vine again; we shall then see how long it requires to rest. With these you will receive the young leaves of this last crop and a leaf of the early and second crop. *Jasper Standstill, Bourton.* [The Grapes were delicious.]

*Orchard Houses.*—Your correspondents seem to forget that what will succeed in one situation may be totally useless in another; Frigi Domo may be an excellent help in obtaining a crop of Peaches in some localities; Tiffany may be the one thing needful in another, but however skilfully handled I fear that both would not be of much service in ripening the crop, or maturing the wood in exposed situations where there is not sufficient solar heat to do so one season in six. In such a case I think that even glass without artificial heat would not be quite such a useless expense as Mr. Huddart seems to imagine. But let me give him a proof: we had nine Peaches and Nectarines against a south-east wall, which have been carefully cultivated and lifted for the last six years, yet they failed to produce a satisfactory crop; two were removed last December, one to an early house, the other to a late one, which although furnished with hot water, was never warmed by it except during a few days while the trees were in bloom. The tree in question bore five dozen fine fruit; the other in the early house bore eight dozen ripe in June, six months after planting, some of which gained our 1st prize at one of the leading provincial shows. Those on the open wall, seven in number, did not bear a dozen fruit each, and they never made a second swelling; as a remedy we have covered them with glass without hot water, and I hope to prove to my employer that it is not "a useless expense." *G.S.*

*Vine Borders.*—I would advise "An Old Subscriber" (see p. 1181) to get his gardener to cut a trench the whole length of his new 18 feet wide border, at the distance of 9 feet from the front of his house, and the full depth of the border. After that is done, he must encourage the roots to fill well that part of the border which is inside the house, and also the 9 feet space outside. At the end of five years from the time of planting, if the roots have made good progress, they may be allowed to take possession of the second 9 feet of border. *J. H., Ashfield Hall.*

*Callirhöe involucrata.*—Permit me to say in reference to your remark at p. 1157, that C. involucrata is really not liable to the imputation of being weedy when grown in light soils. Though perhaps in some soils with excess of moisture in them it may assume such a character. The flowers are so numerous, and the colour so rich, that I have not much doubt of its becoming as popular as C. pedata. *W. Thompson, Ipswich.*

## Societies.

Botanical of Edinburgh: *Nov.* 12.—Prof. Maclagan, President, in the chair. H.R.H. Prince Alfred was elected an honorary fellow. The following donations to the Herbarium were announced:—Plants collected in Western Australia by Captain Patullo, from P. N. Fraser, Esq.; specimens of Statice Caspia, collected near Hunstanston, from Dr. J. Lowe; large collection of Australian plants, from Dr. Milligan; specimens of Scleranthus annuus, var., from Dr. Dickson; specimens of Fucus distichus, from N. B. Ward, Esq.; specimens of Peltidea aphthosa, from W. H. Lightbody, Esq. Various donations to the Museum of Economic Botany at the Royal Botanic Garden were noticed. The President delivered a long opening address, from which the following are extracts:—Let me recall to your memory the leading features of the papers read to us last session. In the department of vegetable organography and physiology, we had Dr. Alexander Dickson, laying before us his observations on the embryogeny of Tropæolum majus, regarding which I shall only say that it would be well if in similar researches all authors would as conscientiously as he does refrain from eking out their delineations of structure by adding anything from memory to what they have actually under their eye when they make their drawings. It is quite a legitimate proceeding to put down diagrammatically what an organographist may feel assured is the actual relation of parts in any organism which he has been studying, provided he takes care to make it plain that his drawing is truly a diagram. But it is a disheartening and discouraging thing to a less experienced observer to find a drawing given of what seems to be a very plain structure, which he finds himself unable to make out, though, according to the paper before him, it ought to be easily recognised. We had also Mr. Sadler's remarks on the bursting of the spathe of Seaforthia, in which he was unable to obtain any evidence of the production of a sound as stated to occur in the native country of the Palm; and we had papers on the propagation and irritability of Drosera and Dionæa, and on the fertilisation of Orchids by Mr. John Scott. Among the organographic papers were two to which I would invite attention. The papers on the contractile filaments of the anthers of Thistles, by Cohn of Breslau, and on the Perigynium of the genus Carex, by Wesmael of Vilvorde; and with these De Candolle's paper on the character of the Oaks, drawn from the annual or biennial maturation of the fruit. In descriptive botany, besides the papers already mentioned, those on Lemania variegata and the Canadian Equisetums by Professor Lawson, the Rev. T. Salwey's paper on new and rare British Lichens, and Professor Babington's commentaries on Cyperaceæ, we have a continuation of Dr. Carrington's investigations of the various orders of Cryptogams, and the fruits of the diligence of our resident fellow Dr. Greville, in working out and describing the exquisite Diatoms. In the department of Œconomical Botany it is to be hoped that Professor Archer will lay before us those notices of the economic uses of plants which his position as Director of the Industrial Museum may enable him to present us, and of which his account of Paullinia sorbilis was an interesting example. We have also had before us three subjects which at present attract the notice not merely of the scientific but of the political world. The success of Tea cultivation in India is an established fact. Large tracts are now planted with it. The produce is of excellent quality, and that it does not seem to be an unprofitable culture may be inferred from the fact that Mr. Jameson of Saharunpore, has sold one Government experimental Tea farm in the north-west provinces for the substantial sum of 10,000*l*., while he expects with three lots more to realise an

additional 60,000*l.*! Not less interesting is the question of the production of cotton in our own colonies and other lands, which was brought before us in the form of abstracts of Mr. Markham's communications to the Agri-Horticultural Society of Madras. So long as fratricidal war continues to irrigate the valleys of the Potomac with blood, the question as to where Lancashire and Glasgow are to get the raw material must be of the deepest interest to Britain; but even were America at peace, cotton cultivation in other lands will not lose its interest; for we have from the political events across the Atlantic learned that it is unsafe to be dependent for the raw material of any of our great industries on any one country, however productive. Another lesson of a similar kind has also been taught us from across the Atlantic. The recklessness of the South American cascarilleros, or bark gatherers, in destroying the Cinchona trees, whilst they might have collected their medicinal barks by less destructive methods, has more than once led the governors of the country temporarily to interdict the gathering of the barks, and has thus raised the price of these valuable commodities to exorbitant amounts. To Britain, whose fleets and armies are in every quarter of the globe, and often in territories infected by the dangerous fevers of miasmatic origin, a full supply of the great remedy, quinine, becomes indispensable; and it has become imperative on Britain to take steps for making herself no longer dependent upon one foreign quarter of the world for this precious guardian of the health of our sailors and soldiers. The efforts that have been made to accomplish this have been at length, after many difficulties, so far successful that we have now many species, including the pre-eminently valuable Cinchona Calisaya, now in cultivation in India. It is true that we are neither the first, nor as yet the most successful cultivators of Cinchona in the East; the Dutch have done much in this matter in Java, but now that we have made a beginning, and considering that our Himalayas offer us the kind of localities in which Cinchonas thrive, we need, I think, be in no doubt that we shall in time have abundant supplies of quinine from our own eastern empire. The following communications were then read:—I. *Notes on the Fertilisation of Orchids.* By W. Rutherford, M.D.——II. *Synopsis of Canadian Ferns and Filicoid Plants.* By G. Lawson, LL.D.——III. *Notes of some New and Rare British Mosses, and on the occurrence of Trichomanes radicans in the Island of Arran, Firth of Clyde.* By Mr. J. Sadler, Curator.

ENTOMOLOGICAL: *Dec.* 6.—F. Smith, Esq., President, in the Chair. Mr. S. Stevens exhibited a box of interesting Coleoptera, collected in the Zulu country by the Rev. Mr. Gerard; also a curious variety of Polyommatus, apparently intermediate between P. Alexis and Adonis, taken in the Isle of Wight. General Sir J. B. Hearsey exhibited a case of Indian nocturnal Lepidoptera, containing some fine Geometridæ and Noctuidæ. Professor Westwood stated that the Rev. H. Rowley, attached to the Oxford and Cambridge Mission to the Zambesi, had recently forwarded a small collection of insects to Oxford, containing many interesting species, which were very similar to the insects of Mozambique. He also exhibited a manuscript Journal kept by the late Mr. Curtis, containing notes on the habits of insects extending through a number of years; also a Report of one of the Meetings of the Norwich Entomological Society in 1812, at which the Rev. W. Kirby was elected a member. He also exhibited and read descriptions of two curious minute Coleoptera collected in the Canary Islands by Mr. Wollaston, forming the types of two new genera. Mr. W. W. Saunders exhibited specimens of a small new species of Bryocoris (a genus of Hemiptera) which infests the leaves of Orchids from Hayti, as well as of Catasetum, in the same manner as Thrips. Captain Cox sent for exhibition a series of photographic representations of Lepidopterous insects, in which the peculiar markings of the insects were beautifully reproduced. Mr. Kirby exhibited a copy of Dr. Loew's new work on the Trypetidæ, in which the beautiful wings of these dipterous insects were represented by photography of a gigantic size. Mr. F. Smith read a description of the nest of the small honey bee of New South Wales, which had been opened and carefully examined since the last meeting. The cells were hexagonal, forming regular combs, but the honey was found stored in oval cells, as in the Bombi. Mr. Wilson, of Adelaide, communicated observations on the habits and larvæ of Calosoma Curtisii; and Mr. MacLachlan read some notes on the types of Phryganeidæ contained in the Banksian collection, described by Fabricius.

## Notices of Books.

*A Treatise on the Esculent Funguses of England.* By C. D. Badham, M.D. Second Edition. Edited by F. Currey, Esq., M.A., F.R.S., F.L.S. Reeve, 1863. 8vo. Pp. xvi. and 152. Plates xii., lith. and col.

The appearance of a second cheaper edition of Dr Badham's treatise is one amongst the many proofs which might be brought forward that the study of Mycology is daily becoming more prevalent. The wide-spread prejudice against the use of any Fungus for food, except the Mushroom, Truffle, and Morel, is rapidly wearing out, and there is scarcely an English village where there is not some one inquiring after information on which reliance may be placed, respecting these much maligned works of the Creator. Here and there a dark spot may still be found where prejudice is so strong, that even the best Mushrooms are passed by, or if gathered at all, gathered with fear and trembling; and we have even heard persons otherwise intelligent, and whose education has been such as ought to place them above vulgar errors, who have never in the whole course of their lives ventured to taste a Mushroom. This however is quite exceptional, and there is now many a family which gratefully acknowledges the immense boon that Fungi afford to those whose means do not allow them frequently to purchase meat. Their experience possibly may not extend much beyond the particular group to which the true Mushroom belongs, but they would as soon think of crushing their Potatos beneath their feet as to kick up Agaricus arvensis, as so many do in scorn, when, not to speak of its merits as a catsup yielding Fungus, it supplies such an abundant and excellent article of food through the months of autumn, in districts where the true Mushroom, Agaricus campestris, is comparatively rare.

Dr. Badham's book has done much towards dispelling prejudice, and with its help any one with ordinary powers of observation and comparison may fearlessly go into the fields and woods and procure many a wholesome and delicate repast. Cantharellus cibarius, Hydnum repandum, Agaricus gambosus, Agaricus personatus, and many more useful species of greater or less excellence, may be gathered without the possibility of mistake, and proper directions for cooking them in the most approved way are scattered about with no sparing hand throughout the volume. In spite, however, of Dr. Badham's efforts much still remains to be done. We would not, indeed, recommend rash experiments where doubts exist as to the real character of species. Agaricus melleus, for instance, should be carefully avoided, nor are its qualities such as to render it very inviting; while, on the other hand, when once Marasmius oreades has been well distinguished from one or two darker-gilled species, it will be welcomed wherever it is found as a dish worthy of the gods, though we have seen it, as at Rhyl, occurring in myriads, yet utterly neglected. Boletus edulis, one of our best Fungi, is comparatively unknown. Cantharellus cibarius again, which seldom occurs in any available quantity in England, grows in the utmost profusion in the Birch woods of Aberdeenshire, without the slightest suspicion on the part of the peasantry that it is an excellent article of food. This is, however, the less surprising, as even the common Mushroom, though abundant in some seasons, is little sought for in that part of Scotland, or esteemed.

We have lately had our attention called to the excellence of Agaricus pratensis, which occurs in such luxuriance on the Sussex Downs. We have ourselves no experience of its qualities, but its whole appearance and character bespeak its usefulness. It is doubtless perfectly wholesome, and is sometimes eaten in France, though not considered equal to Agaricus virgineus. Agaricus rubescens again, a widely distributed species, which has long borne a doubtful character, is on the authority of both Dr. Badham and Mr. Currey pronounced to be wholesome and very delicate.

As regards the present edition of Dr. Badham's work, which has been justly esteemed for its lively style, and the immense quantity of information it contains within a short compass, we may observe that Mr. Currey has with great good sense religiously preserved the original text, the few alterations and omissions he has made being so trifling as scarcely to deserve notice. The plates have been remodelled, some useless figures removed, and others substituted, while the whole number has been advantageously reduced from 20 to 12. A few errors are corrected in the preface, and we may ourselves remark that in Plate 5 of the new edition, there is some confusion as regards the references. Two things are certainly included under Fig. 2, and Fig. 3 is *Clavaria Botrytis* and not *C. coralloides.*

*Le Fraisier.* Par Le Comte Léonce de Lambertye. Paris, 8vo., pp. 392.

This is a work extending to nearly 400 pages on the Botany, History, and Cultivation of the Strawberry. The author recognises eight species, distributed as follows:—three European: Fragaria vesca, F. elatior, and F. collina; three American: Fragaria chiloënsis, F. virginiana, and F. Grayana; two Asiatic: Fragaria Daltoniana, and F. nilgherrensis.

There are numerous varieties of F. vesca; but the best, and most generally cultivated, is the semperflorens, comprising the Red Alpine, and its subvariety the White Alpine. The Red and the White Wood Strawberries cannot be considered distinct from the Red and White Alpines, for these if not renewed by seed will degenerate and become similar to the wood varieties; that is to say, instead of being tolerably large, conical, and sometimes cockscomb-shaped, they will assume a small and roundish form. There is a sub-variety, Fraisier de Gaillon (*efflagellosa semperflorens*) which does not emit runners, and is also known under the name of F. des Quatre Saisons sans Coulants. The variety called *muricata*, or F. de Plymouth, was described by John Tradescant in 1633, and he states that it was cultivated as a curiosity by a lady at Plymouth. The original has no doubt been lost; but it appears to have been only a sport or monstrosity from the Alpine, with the petals and stamens transformed into leaves. *F. vesca* var. *monophylla*, F. à Feuilles simples, is a variety raised by Duchesne, at Versailles, in 1761. The leaves consist of only one leaflet instead of the usual number, three. *F. vesca* var. *efflagellis*, Fraisier sans Coulants, and F. Buisson, Bush Alpine, is like the Wood Strawberry, but makes no runners. This was formerly much used for edgings, and is still sometimes employed for that purpose. It must not be confounded with the variety, des Quatre Saisons sans Filets, which, however, may be substituted for it. *F. vesca* var. *multiplex*, Fraisier à fleur double, the Double flowering Strawberry, had, it is stated, disappeared from the gardens in France, but had been latterly reintroduced by M. Gloède from England. Another variety of F. vesca is still cultivated in some districts near Paris, under the name of Fraise Petite Hâtive de Fontenay-aux-Roses. It ripens five or six days earlier than the earliest of the other varieties.

*Fragaria elatior*, Caperon commun, F. Caperon, is the Hautbois of the English. It appears that the French have employed the term Caperon as we have done that of Hautbois, to designate not only the Hautbois proper, but also any other large Strawberry of the Pine or Chili breed; and hence a considerable amount of confusion arose. Comte de Lambertye reduces the varieties to four, besides the Belle Bordelaise, and this he might have included with the Caperon Royal, our Prolific or Conical Hautbois, which it has proved to be. It may be useful to give the synonymes of the Hautbois according to the author's arrangement, as he has evidently taken great pains to ascertain them according to the different authors who have written on the subject. The Caperon Royal, Caperonier Royal, Caperonier parfait, Caperon hermaphrodite, Caperon de Bruxelles, Caperon de Fontainebleau, Prolific or Conical "Strawberry" [Hautbois], or Double Bearing, is very well described; but the description of the Caperon Framboise, taken from Duschesne, is somewhat imperfect; it is probably the Large Flat Hautbois. The Caperon Abricot, Caperonier Abricot, le Caperon abricoté, la Fraisier abricotée, is described as roundish or ovate, very large, brown-red, its flavour being the same as that of the common Hautbois. The Black, and the Monstrous Hautbois are also mentioned; and finally the Belle Bordelaise, stated to have been obtained in 1854 by M. Lartey. This last appeared in foreign and English catalogues as a new sort; but on fruiting in this country it was at once recognised as not differing from the Prolific or Conical Hautbois; and with the latter Comte de Lambertye's description of La Belle Bordelaise perfectly agrees.

*Fragaria collina.*—Six principal varieties are enumerated, and numerous sub-varieties, which have given rise to a confused nomenclature, which the author has cleared up to a considerable extent, though practically, as regards cultivation and utility, they are really not worth the trouble. Such for instance is the *Fragaria collina abortiva*, F. Concon, Breslinge Concon, Breslinge Borgne, F. Aveugle des Anglais, &c. The only one which, in our opinion, deserves notice in this group is the Green Strawberry. It is very different from the Alpine varieties, and from all others. Its flavour approaches nearer to that of the Pine-Apple than does perhaps the flavour of any other fruit. The question is, will it hybridise with the Scarlet Strawberries? Doubtful. Or with the Pine or Chili? Very doubtful. But with the Hautbois there is every probability that it would cross, and something very remarkable might be the result. Many years ago it was found, we believe, growing wild, at a place called Goftonburn, near Belsay Castle, in Northumberland. At all events it doubtless exists somewhere in England and consequently may be obtained.

From the remarks in the second part of the work, which relates to the geographical distribution of the Strawberry, it appears that Fragaria vesca, from which the cultivated Alpine Strawberry has been derived, is the most widely dispersed species of the genus. It is found indigenous in certain localities from Iceland to Madeira; and it grows in Lapland, the Caucasus, Siberia, and the Mongolian frontier of China. In the Alps it bears fruit at the height of upwards of 5000 feet; at 1400 feet it ripens in the beginning of July; at 3300 feet about the middle of July; and at 4600 feet in August and September.

The third part contains descriptions of 40 varieties which the author considers proper for cultivation. These are arranged into several categories, according to different points of merit, as, for example:—

1st. Sorts possessing all the merits—*goodness, fertility, beauty,* and *hardiness.* Of such, 28 sorts are enumerated.

2d. Sorts not invariably so productive as some, but of which the fruits are *handsome* and *excellent:* these consist of the British Queen and Keens' Seedling.

3d. Sorts which are of *remarkably fine appearance*: Admiral Dundas, very good; Duc de Malakoff, good; Jucunda, very middling.

4th. Sorts recommendable on various accounts: Elton, late, possessing all the desirable qualities were it not rather too acid; May Queen, the earliest of all known varieties; Prince of Wales (Steward and Neilson), very early; Princess Frederick William, the

earliest after the May Queen, and the first very large Strawberry. Among those in the category of such as force very well, we observe, besides the British Queen and Keens' Seedling, the names of La Constante, Empress Eugénie, Duc de Malakoff, Sir Harry, Sir Charles Napier, and Oscar.

According to Comte de Lambertye's full and excellent descriptions, the following appear to be most highly deserving of cultivation :—Carolina superba, flesh white, solid, buttery, melting, very sugary, with a delicious perfume; excellent. La Châlonnaise, flesh juicy, acidulated, very sugary and perfumed; excellent. La Constante; excellent. Duc de Malakoff, very large, weighing sometimes 1½ ounce, the flesh light red, juicy, acidulated, sugary and perfumed. Elton, a variety of which M. Gloëde wished both Comte de Lambertye and Dr. Nicaise to give up the culture, on account of its being too acid, but neither of them would consent to do so, its fault, the only one that can be ascribed to it, being easily corrected at table by a little more sugar; whilst, on the other hand, it has a handsome form, a superb colour, and its flesh is juicy and perfumed; the plants moreover are vigorous and very hardy; upwards of 300 acres are devoted to the cultivation of this Strawberry in the communes of Verrières, Sceaux, Châtenay, Fontenay-aux-Roses, &c. Hendrie's Seedling, exquisite. Lucas, excellent. Marquise de Latour-Maubourg, also called Vicomtesse Hericart de Thury, very sugary and high flavoured, one of the best. Oscar, excellent. Prince of Wales, very good. Sir Harry, flavour exquisite. [The Elton was first described when it fruited in the garden of the Horticultural Society, in 1827; but Mr. Knight, who raised it at Downton Castle, thought it too acid. Afterwards, however, he approved of it, and named it the Elton. It was then further distributed.]

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*Tom Moody's Tales;* by Mark Lemon. Square 12mo. (Bradbury & Evans).

This is a very pretty looking book in a scarlet cover, containing 14 tales, such as "The Martyr Post-boy," "Recollections of a Retired Butler," "The Adventures of a Christmas Turkey," &c., very acceptable no doubt to our young friends as a Christmas Box, and more especially suited to boys. The illustrations, of which there are 13, are extremely spirited and clever, as will be expected when it is known that they are executed by Hablot Browne.

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We find in the *Botanical Magazine* for the present month representations of the following plants:—*Dipteracanthus affinis*, a handsome Brazilian subshrubby Acanthad, with broad oval acute leaves, and axillary subsessile scarlet flowers having a long funnel-shaped corolla with a broad spreading limb, and vying, as Sir W. Hooker expresses it, with the deep purple-blue D. spectabilis. It was brought into notice and figured in the *Illustrated Bouquet* some time since, by Messrs. E. G. Henderson & Son. *Eria myristicæformis*, a Moulmein species, with upright spikes of pretty and very fragrant white flowers, but chiefly remarkable for the fact that its old pseudobulbs, after the leaves are cast off, look not unlike a cluster of nutmegs, whence the name has evidently been taken. It has flowered with Messrs. Low. *Heliconia brevispatha*, the H. aurantiaca of Belgian gardens, a supposed South American plant, with oblong acuminate stalked leaves, and having its stem terminated by three or four yellowish-white flowers issuing from the axils of short orange-red bracts. *Ligularia Hodgsoni*, a tall Japanese perennial, sent to Kew by C. P. Hodgson, Esq., The broad root-leaves are roundish cordate, repandly-lobed, and coarsely toothed; and the thick succulent stem, 3 feet high, is terminated by a corymbose head of large capitules, 2½ inches across, of from 16 to 20 broad bright yellow ray florets surrounding a yellow disk; the smaller upper leaves are cucullato-vaginate around the stem.. *Adenium obesum*, an odd gouty-stemmed plant from Aden, and said to be the same as the Adenium Honghel figured in the Botanical Register many years ago. The oblong leaves are crowded at the end of the short unshapely branches, from amongst which issue the rosy apocynaceous flowers. "Judging by a photograph lately sent to us by the kindness of Capt. Playfair, the shrub attains a very large size, and exhibits a most curious aspect with its thick tortuous branches, and very gouty base of its trunk; the flowers, however, are handsome and not much unlike those of the Oleander." *Burlingtonia decora var. picta*, a pretty Brazilian Orchid flowered by Mr. Bateman; the flowers have a large flat bilobed white lip, and white sepals and petals marked with spots and unequal blotches of deep chocolate purple; the leaves, short and acute, are said to resemble more closely those of B. rigida, than those of the original B. decora. This closes the volume for 1863, which is dedicated to Dr. Wight, "the distinguished illustrator of Indian botany."

The *Florist and Pomologist* has a figure of the fine *Clematis Fortuni*, already fully noticed by us; also a representation of the *Frogmore Late Pine Strawberry*, a valuable sort raised by Mr. Ingram. "The fruit is large, varying from conical to cockscomb-shaped, and having the glossy neck of the old Pine, which shows its parentage. The skin is glossy, bright red, with a scarlet shade in it, and the seeds are not deeply embedded. The flesh is tender, red throughout, and of a rich Pine flavour. The variety comes in at the same season as the Elton, but is far superior to it, both in flavour and productiveness."

*Gossip of the Garden* closes its useful career with the current number, the reasons being "entirely of a private nature." We shall be sorry to part company with so genial and well-conducted a contemporary. Amongst its contents we notice a few sharply reprehensory words on the famous Chrysanthemum advertisement; more about New Roses; seasonable hints on Seedling Gladioli; some notes on new Tulips; and various minor floral memoranda.

The *Floral Magazine* has a showy plate of *Fancy Pansies*, consisting of some of the finest of Mr. Dean's novelties, named Her Majesty, Prince of Wales, Princess of Wales, and Thomas Moore; *Gastronema sanguineum*, a handsome South African orange-red Amaryllidaceous bulb allied to Cyrtanthus, introduced by Messrs. Backhouse & Son, and said to be almost hardy; *Clematis reginæ*, a hybrid, raised by Mr. Anderson Henry, between azurea grandiflora and lanuginosa; and not at all well rendered in the figure if its flowers keep up the character they had when shown in 1862 at South Kensington; and finally a *Picotee* called *Colonel Clark*, and a *Carnation* named *Lord Clifton*, the first one of the heavy rosy-scarlet class, and the second a pink and purple bizarre "of great size and beauty."

*Seemann's Journal of Botany* contains a notice by Mr. Carruthers, with a coloured plate, of Fucus distichus, the new Irish Sea-weed, found last summer by Dr. Harvey and Mr. Ward at Kilkee, and previously mentioned under the name of F. furcatus. A more careful examination has shown it to be a Linnean species found in Northern Europe, but till now not noticed nearer our shores than the Faroë Islands. Mr. H. C. Watson has a note on the discovery of Sagina nivalis on Ben Lawers, where it was picked some years ago, by Professor Balfour. Mr. Mitten notices a Reigate Moss, hitherto known as Hypnum abietinum, under the new name of Thuidium hystricosum, with a short character. There are some remarks on the yield of quinine from Cinchona leaves, by Dr. Anderson; and though the quantity seems small and much entangled with tannin and other matters, yet its presence is confirmed. Dr. Anderson states that the quinine is present in the old leaves—those about to fall off; and hence, as the Cinchonas are not absolute evergreens, but cast off a large portion of their leaves after resting and when growth is renewed, the leaves might be picked then without any detriment to the plants. The Rev. Mr. Newbould asks British Botanists who visit Ingleborough to find out early in spring if Hutchinsia alpina is really British; its unbranched stem and large petals will, he says, enable any one who makes the search to distinguish it if met with. The translation of Goethe on the Metamorphosis of Plants, with notes by Dr. Masters, is concluded. There is also a notice of Dr. Prior's new book on the popular names of British plants. The present number concludes the volume, one of the commendable features of which is a good index, in which the subjects, and not merely the headings of the papers, are referred to individually.

The Society for the Diffusion of Useful Knowledge has commenced the issue of a *Family Atlas*, to consist of 80 maps, published in 20 half crown parts. It is in large 4to, beautifully executed, and Mr. Stanford, of Charing Cross, is the publisher. We observe that it is also to contain Star Maps, a Geological Map of England and Wales by Sir Roderick Murchison, and Plans of London and Paris.

The New Number of the *Linnean Transactions* (Vol. XXIV, Part 2. Longmans.) contains eleven good papers on interesting subjects, among which is a capital dissertation by Dr. Harley on the parasitism of Miselto, and a most curious account, by Mr. Salter, of a Passiflora that *took to forming pollen in its ovules!*

Mr. Murray has just published a most beautiful edition of the *Book of Common Prayer*, with all manner of illustrations in red and black initial letters, ornamental borders, &c. It has no rival as a Christmas gift book.

We have received from Messrs. Lawson, of Edinburgh, Parts III. and IV. of their superb *Pinetum Britannicum*. Part III. contains Picea Cephalonica and Pinsapo, with 26 engravings on wood. Part IV. has Abies Hookeriana and Pattoniana, with 23 engravings on wood. The work, which is most carefully prepared by Mr. Andrew Murray, is an honour to the Natural History of the present day.

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## Garden Memoranda.

CROFTON HALL, the seat of Sir Robert Briscoe, Bart. This fine place lies a few miles west from Carlisle. On approaching it, the first object that attracts attention is a noble archway erected over the road leading towards the hall; this road divides the latter from the deer park. The mansion itself is a fine building, and near it is an excellent orchard house, facing the south; it is built upon the lawn, and is backed up on the north by an Oak plantation, which not only hides the stables and back departments of the premises from view, but also forms shelter for the gardens. The deer park contains upwards of 120 acres laid down in Grass, and 20 more acres are occupied by water in the shape of ponds for fish, water-fowl, &c. The park, taken as a whole, is beautifully undulated, and outside on the south and north is a natural peak planted with Oaks, which may be seen from a great distance. A walk extends from the pleasure-grounds along the ridge of a hill sheltered from the north on one side by a plantation of Oak, and having a Sweet Briar fence on the opposite side. This overlooks the fertile valley of the Wample, from which the ground rises in swelling altitudes even up to lofty Skiddaw itself.

Upon entering the orchard house we were at a loss what most to admire—its noble appearance, or the fine healthy state of its inmates. This house is a span-roofed one, glazed with Hartley's rough plate glass. It is 140 feet in length, 25 feet in width, and 21 feet high. The space inside is divided into four longitudinal beds, into which the pots are plunged. There are 350 trees grown in this house, in pots 17 inches in diameter, and 15 inches in depth. They are all arranged in straight lines as follows:—One row consists of Pears, two of Apples, one of Plums, and one of Cherries. The front lines are Peaches and Nectarines, but we were informed that they did not succeed well, the trees being too far from the light. Cherries, Plums, and Apples do admirably; many of the latter, we observed, were worked on the French Paradise stock, and we were informed that it answered well, for wherever the stock came in contact with the soil an abundance of roots was emitted. The system of pruning pursued is summer finger-and-thumb-pinching, leaving very little to be done by the knife in winter. At the time of our visit, the trees with their pots were all placed on the surface of the beds. Mr. Weddle, the gardener, informed us that every year, when the fruit is all gathered, the pots are raised to the surface, and all roots that have entered the bed are cut off. The trees remain in this position until they have shed their leaves, when they are again plunged, covering the pots over the rim. This plan, we were told, answered much better than leaving the pots exposed in the winter, the roots being kept more uniform as regards warmth and moisture. As soon as the trees show signs of growth they are again lifted three parts of their depth, and receive a top-dressing, composed of good loam, well decomposed manure, with a few half-inch bones. Water is given when necessary, and after the fruit is set the trees receive a liberal supply of manure water, which Mr. Weddle states greatly assists their swelling. In this house Vines are trained up under each rafter; the varieties which succeed best in this cool temperature are Chasselas Musqué, Muscat St. Laurent, and Black Frontignan. Black Hamburgh Vines in 11 and 8-inch pots were also well grown, some of their canes measuring an inch in circumference.

In the frame ground two fine ranges of forcing pits are in course of erection; each range is to be 40 feet in length; the whole to be heated with hot water.

The kitchen garden, which has good walls, is rather more than an acre in extent, and is laid out in four squares. Espaliers were formerly grown here on wooden rails bounding each square, from which they were separated by a narrow border, the side of which next the wall was occupied by herbaceous and other plants, which created a pleasing effect in the summer. The espaliers are, however, now superseded by pyramid Pear trees. Two span-roofed houses, erected last spring, are about 25 feet long by 14 feet wide, and 10 feet 6 inches high. In one of these, Melons and Cucumbers have been grown in abundance this season; in the other, which is a permanent Pine stove, the plants are looking exceedingly well; nothing in short could excel their robust health. Next came two old-fashioned Vineries, each 35 feet in length by 21 feet in width, and containing two Pine beds, one in front and the other near the back of the house. The beds are divided by an alley, which runs up the centre of the house and passes along near the back wall. These houses are all furnished with hot-water pipes, both for bottom and surface heat; formerly they were heated by means of steam, but that plan is now superseded by Meiklejohn's cruciform boiler and hot-water pipes, which are found to work well. The Muscat Grapes grown in these houses at one period could not be surpassed in quality; but, owing to little or no extent of border having ever been made for them, they are now getting exhausted, and a new border is about to be raised for them entirely above the level of the surrounding ground. When that is done, young Vines will be planted. Adjoining this house is a plant stove, 33 feet long by 15 feet wide; in this house is a choice collection of plants, many of which are remarkably fine specimens. Among them we observed two splendid plants of Allamanda in flower, but most conspicuous of all was a fine example of the noble Cyanophyllum magnificum; here also were some fine specimens of Ferns, the beautiful Eucharis amazonica in flower, and some charming plants of Gesnera cinnabarina; some of the latter were in full bloom, and others were coming into flower. A good collection of Orchids is also cultivated here. In the other Vinery already mentioned was a collection of Azaleas, well set with flower-buds. Here also might be seen a fine old Hamburgh Vine, which we were informed had borne a heavy crop during the last summer, and, judging from the luxuriant shoots made this season, it looked as if it would soon fill the whole house. In a Peach-house, which is 96 feet long by 6 feet 6 inches wide, the trees are trained to a trellis on the back wall, and Vines are grown up each rafter. Mr. Weddle informed us that this house is to be removed into the kitchen garden to be enlarged and heated with hot water. After inspect-

ing this, we passed through the flower garden into the conservatory or show house. This is a lean-to structure, very lofty, and has altogether an elegant appearance. It is 91 feet long, and 15 feet in width, with a stage running the whole length of the house. Here we observed some remarkably fine Orange trees, bearing heavy crops of useful as well as ornamental fruit; indeed from their produce very fine marmalade has frequently been made. Of Camellias, all of which seemed in fine health, some were full of flower buds, and others were in bloom. Chrysanthemums and Scarlet Geraniums were interspersed with good effect amongst the green leaves of the Oranges and Camellias.

A fruit wall stands a little to the west of the mansion. It is 267 yards in length, and 10 feet high; 140 feet of it runs east and west, giving north and south aspects. The remainder runs nearly due south, which furnishes a great length of east and west aspect. On this wall are trained a fine selection of fruit trees, consisting of Pears, Plums, Cherries, and Apricots. Here were some fine examples of training. The Pear trees are all trained on the "pendulous" mode, which is said to answer admirably for this kind of fruit, but it does not suit Apple trees. Here were examples of the beneficial effects of root pruning. The fruit-tree borders were all trenched two spades deep in the autumn of 1861, when the roots were checked, and any that were taking a downward direction were lifted and replanted. No manure was given at that time; but after the trenching was finished, 4 inches of fresh loam were laid on the borders, slightly dug in, and well mixed with the old soil. These operations have produced favourable results, for the stems and branches literally shine as if polished. We never saw wall trees in a more healthy condition, and most of them had produced good crops last season. The Pears succeed much better on the west than on the east aspect; and in consequence of this all the finest Pears on the east side are to be removed to the west aspect, and many of the Plums will have to be rooted out to give them space. The borders to this wall are only 6 feet wide. The Pears most in favour at this place are Winter Nelis, Easter Beurré, Beurré Rance, Summer Rose, Glou Morceau, Beurré d'Amanlis, Citron des Carmes. In addition to these Mr. Weddle mentioned the Melon de Namur, as being a first-class dessert Pear.

## Miscellaneous.

*Christmas Flowers.*—There are now in flower at Acton Green near London, in the cold London clay, Primroses, Violets, Wild Strawberries, Purple Dead Nettle, Chinese Chrysanthemums, Cydonia japonica, Laurustinus (most beautiful), Arabis grandiflora, Iberis sempervirens, Garrya elliptica, Jasminum nudiflorum, China Roses, Heartsease, Holly-leaved Berberry, Christmas Roses, Aster Amellus, Periwinkles, Helleborus argutifolius, and Daisies. We learn too from Mr. Drewitt, of The Denbies, near Dorking, Surrey, that he gathered on December 16, from the open ground, flowers from the following plants, viz. Scarlet Rhododendron, Jasminum nudiflorum, Mignonette fresh and good, Picotees, Purple Branching Larkspur, Single Anemones, Wallflowers, Oxlips, Double Purple Primroses, Polyanthuses, Purple King and Lord Raglan Verbenas, and Cydonia japonica.

*Vitality of Fishes.*—Although the constitutions of fish are in some cases influenced by the temperature of the element they inhabit, and a few degrees above or below a certain temperature will drive them to seek other positions, yet, in many cases, they are not so influenced. The fact is well authenticated, that certain species can bear the test of being frozen in solid ice, and on being gradually thawed, will regain their former signs of vitality; while others have been observed swimming about in hot springs at Manilla and in Barbary, in water of a temperature of from 172° to 185°; and a species of Silurus, according to Humboldt, was observed by him thrown up alive with the heated waters of a South American volcano, which were proved to be of a temperature of 210°, or within 2° of the boiling point. *Technologist.*

*Drosera and Dionæa; their Propagation and Irritability.*—The modes of propagation and means of dissemination of Drosera (Sundew), and Dionæa (Venus's Fly-trap) are varied. Thus, independently of reproduction by seeds, the leaves of a number of the Droseras present a remarkable aptitude for the production of adventitious buds. This property is well illustrated by the British species, all of which produce with the greatest facility young plants on the surfaces of their petioles and laminæ. So frequent is this mode of propagation, that it must be familiar to all who have collected these plants in the later summer or autumn months, when the earlier developed leaves are beginning to decay. These falling on the moist mossy bed are reimbued with the formative force, and along their surfaces small cellular protuberances first make their appearance with a few pale fawn-coloured scales, after which one or usually two leaves are developed, and then a little rosette of undeveloped leaves beset with scales, forming a pseudo-hybernaculum. The young plant up to this period is generally attached to the generative leaf, so that its nourishment is entirely derived from the parent. The vital activity of the recipient plant now in a great measure ceases, the generative leaf undergoes decay, and leaves it a free and independent organism, which, ere spring returns, may have been transported to some distant nidus by the floods, which generally sweep their habitats during winter. As illustrating susceptibility to mechanical irritation, the following experiments on Drosera rotundifolia (round-leaved Sundew), performed in a temperature of 65° Fahr., may be mentioned. Selecting a vigorous plant, I carried on a gentle irritation of the hairs for a short time; their collapsing soon became evident, and in half an hour they were all curved in upon the surface of the laminæ. Again, placing an insect upon the surface of another, the hairs had begun to collapse in 12 minutes, and in 20 minutes nearly all those near the base of the leaf had their glands applied to the insect, while those on the apical part had undergone little or no change. This had been occasioned by the position of the insect, which had been accidentally placed on a line with the petiole near the base of the lamina. Thus it would appear that the Droseras do not possess the communicative powers of either their ally the Dionæa, the lobes of which collapse on the touching of a single hair, or of the Mimosa, which exhibits the same rapid communicability to the other pinna of the leaf when the equilibrium of one is disturbed. Some experiments in support of Dr. Nitsche's statement "that their susceptibility to irritation is invariably proportionate to the activity of their secretions, and dependent on the process of assimilation," were made, but none of those with chemical stimuli elicited any susceptibility to irritation, though chloroform seemed to have an anæsthetic influence. In one experiment two portions of the leaf of Drosera binata were placed under a bell-glass exposed to the vapour of chloroform. In four minutes no perceptible change having taken place in either, one of them was taken out, and it was found that the hairs were completely anæsthetised. *J. Scott, in Trans. Bot. Soc. Edinburgh.*

## Calendar of Operations

(*For the ensuing week.*)

### PLANT DEPARTMENT.

CONSERVATORY, &c.—About 40° is a good temperature for this house when not attached to sitting rooms, and only used for the purpose of wintering large specimens without plants in blossom; but where a supply of stove plants in bloom is constantly kept up from a forcing pit, which is essentially necessary in every large establishment in winter, the best heat is 45°. Cinerarias, which are great ornaments in this house in winter, are thirsty plants, and should be well attended to with water; they are also liable to the attacks of insects, and must be well looked after. Chinese Primroses are likewise very ornamental, and ought to be cultivated in quantity. In regard to soil, two parts rough leaf-mould, and one of well decayed cow-dung, with a little sand, suits them best, and with this they like plenty of moisture. All stove plants should now, and for the next six weeks, be quite at rest, and in that state 55° will be high enough for them in cold weather. No more water should be given at the roots than what will keep the leaves from flagging, but the atmosphere should be kept more or less moist. Keep plants in pits and frames as hardy as possible, by fully exposing them in mild weather, but do not give them any more water than is absolutely necessary. Remove all decayed or decaying leaves, and keep the atmosphere in as healthy a state as possible.

### FORCING DEPARTMENT.

PINERIES.—Where a supply of Pines is wanted throughout the year, it is sometimes necessary at this season to subject some of the fruiting plants to a high temperature to start them into fruit. If a few of those most likely to fruit soon can be put into a house by themselves, where a temperature of from 65° to 70° can be maintained by night and 72° by day, with about 85° of bottom heat, it will bring on the fruit. The other plants can then be kept at a moderate temperature till the end of next month; this will prolong the succession of fruit, and be much better than subjecting many plants to a high temperature at this dull season.

VINERIES.—As before mentioned, observe great moderation in regard to increase of temperature in houses in which forcing has just commenced.

PEACHES.—It is an excellent plan to have a stock of Peach trees in pots, especially for the first crop. Therefore, if these are not already at hand, no time should be lost in getting a supply of trees from some nursery, nicely set with fruit buds.

CUCUMBERS.—These should have as great an amount of foliage as possible exposed to light. Continue, as opportunities occur, successional crops of Kidney Beans, Seakale, Rhubarb, and Mushrooms.

### FLOWER GARDEN AND SHRUBBERIES.

Where alterations are contemplated, such as making new walks, new flower-beds, or renewing the soil in old ones, these should be forwarded whenever the weather will permit. Holes for planting choice shrubs or trees may also be prepared by removing the bad soil, and replacing it by a compost suitable for the plants; and even where trees are planted and not growing well, the soil may be carefully removed from the roots, and replaced by better material. In wet weather plenty of work may be found in making pegs, brooms, flower sticks, repairing rustic baskets, and seats, and in painting wire trellises. Should frost set in, cover Auricula frames with two good mats, giving air by tilting the lights whenever possible. Should the plants by any means get frozen, allow them to thaw gradually, without being exposed to the action of the sun's rays. Those who have not obtained the necessary number of Ranunculuses to make up their beds, ought to do so without delay. If the beds have not been already formed, perhaps the simplest and best way is to excavate the soil 2 feet deep, put in 6 inches of decayed cow-dung, covering this with maiden turfy loam to the depth of 12 inches, the remaining 6 inches to be equal parts loam, leaf-soil, and sand, thoroughly incorporated.

### HARDY FRUIT AND KITCHEN GARDEN.

Persevere while the weather is mild in getting well forward with all necessary operations on wall fruit trees, such as pruning, nailing, and dressing. Continue the renovation of old borders as opportunity offers. See that pyramid and bush Pears and Apples get the necessary pruning, and dress orchard trees with quick lime to destroy moss. The most effectual cure for this is, however, thorough drainage. All unoccupied ground should now be turned up by rough digging, trenching, or ridging; regulating these operations according to the nature of the soil, and the character of preceding and contemplated future crops. All sorts of work which can be done under cover should be got well forward in bad weather; and hard frost will afford opportunities for wheeling on all sorts of manures and composts. Every advantage must be taken of mild weather to give attention to growing crops, such as Lettuces, Cabbages, and Cauliflowers; surface stirring whenever practicable must be persevered in, also dressings of dry lime and ashes may be given to check damp and the ravages of snails.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending Dec. 16, 1863, as observed at the Horticultural Garden

| Dec. | Moon's Age. | Barometer. | | Temperature. | | | | | Wind. | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Of the Air. | | | Of the Earth | | | |
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 10 | ● | 30.141 | 30.122 | 51 | 28 | 39.5 | 48½ | 49 | S.W. | .00 |
| Friday 11 | 1 | 30.204 | 30.052 | 53 | 46 | 49.5 | 48 | 49 | S.W. | .00 |
| Satur 12 | 2 | 30.099 | 30.061 | 56 | 27 | 41.5 | 49 | 49 | W. | .00 |
| Sunday 13 | 3 | 30.325 | 30.180 | 56 | 29 | 42.5 | 49 | 49 | S.W. | .00 |
| Mon. 14 | 4 | 30.382 | 30.326 | 48 | 27 | 37.5 | 47 | 48½ | W. | .00 |
| Tues. 15 | 5 | 30.318 | 30.119 | 48 | 42 | 45.0 | 47 | 48 | S.W. | .00 |
| Wed. 16 | 6 | 29.867 | 29.714 | 49 | 32 | 40.5 | 47 | 48 | W. | .00 |
| Average. | | 30.189 | 30.083 | 51.5 | 33.0 | 42.2 | 47.9 | 48.6 | | .00 |

Dec. 10—Clear; overcast; mild breeze.
— 11—Overcast; densely clouded; fine at night.
— 12—Cloudy; very fine throughout.
— 13—Clear and fine; very fine; slight frost at night.
— 14—Foggy; fine throughout; slight frost.
— 15—Hazy; fine at night.
— 16—Densely clouded; very fine.
Mean temperature of the week 2¼ deg. above the average.

STATE OF THE WEATHER AT CHISWICK,
During the last 37 years, for the ensuing Week, ending Dec. 26, 1863

| Dec. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
| Sunday 20.. | 44.0 | 33.7 | 38.9 | 13 | 0.76 in. | 3 | 9 | 1 | 2 | 5 | 12 | 3 | 2 |
| Mon. 21.. | 43.4 | 33.7 | 38.6 | 14 | 0.20 | 1 | 8 | 3 | 2 | 2 | 14 | 3 | 4 |
| Tues. 22.. | 44.9 | 33.0 | 38.9 | 18 | 0.37 | 5 | 7 | 3 | 1 | 2 | 11 | 6 | 2 |
| Wed. 23.. | 44.2 | 32.0 | 38.1 | 20 | 1.13 | 6 | 8 | 2 | 2 | 1 | 12 | 2 | 4 |
| Thurs. 24.. | 44.0 | 31.4 | 37.7 | 16 | 0.30 | 4 | 4 | 4 | 2 | 1 | 15 | 3 | 4 |
| Friday 25.. | 43.5 | — | 38.8 | 9 | 0.45 | 4 | 8 | 3 | — | 2 | 12 | 5 | 3 |
| Satur. 26.. | 42.7 | 31.3 | 37.0 | 12 | 0.39 | 3 | 6 | 2 | 4 | 4 | 9 | 5 | 3 |

The highest temperature during the above period occurred on the 25th, 1827—therm. 58 deg.; and the lowest on the 21th, 1860—therm. 4 deg.

## Notices to Correspondents.

*** As usual, many communications have been received too late, and others are detained till the necessary inquiries can be made. We must also beg the indulgence of those correspondents the insertion of whose contributions is still delayed.

BOOKS: *W H.* Theology is not in our province.

CONCRETE WALKS: *S R.* Very good ones may be made by laying down 3 inches in thickness of clean coarse gravel, and pouring upon it a thin grouting of Portland cement, smoothing all over with a trowel. If done in summer such walks are stated to stand for years. If they are to bear much wheeling, then the gravel must be at least 4 inches in thickness.

CUCUMBERS: *J S.* They are bitter because they have too little bottom-heat and too much exposure.

GAS STOVES: —— Gas stoves cannot be recommended for warming a conservatory, or for any structure in which plants are grown. At least we have never met with a safe one. No doubt the premature decay of Cinerarias and Chrysanthemums may be attributable to the one you employ. The damage is caused by the fumes which escape.

GRAPES: *Henry.* Yes, they are named rightly, and uncommonly good they are. It would be better for more autumn heat.

NAMES OF FRUITS: *A.* 1. King of the Pippins, very fine specimen; 2. Over ripe, bears resemblance to the Gravenstein; 3. Hollandbury; 4. Probably a seedling, not worthy of a name.—*Mrs. F.* Apple B. New Rock Pippin; C. Beauty of Kent. Pear A. Ne plus Meuris; B. Beurré Rance. ‖

NAMES OF PLANTS: *Mrs. F.* Celosia coccinea.—*A.* After spending some time in a vain attempt at identifying your flower, we have had no success. If you will favour us with a leaf or two it will then be possible.

PASSIFLORA QUADRANGULARIS OR GRANADILLA. *Mr. Thompson, of Ipswich,* begs to tender his best thanks to "S." (see p. 1184) for his kind offer to procure seeds of this for him from South America; but adds that he does not now need to put him to so much trouble, as he finds that some of the great Continental seedsmen have them for sale.

SUNK FENCE: *F.* Next week.

VINES: *H R C.* At the warmest end of your house we would try a Muscat of Alexandria; for the other rafters you might have Buckland Sweetwater, Frankenthal, Grizzly and White Frontignans, Black and Mill Hill Hamburghs, Black Prince, Chasselas Musqué, Royal Muscadine, and for the coldest end West's St. Peter's and Lady Downes' Seedling.

WORMS ON LAWNS: *B.* Lime water, i e, water that has been mixed with caustic lime, and been allowed to stand till clear, will rid you of these pests.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—The Right Hon. the Earl Bathurst.

*Council.*

The Right Hon. The Earl Bathurst.
The Right Hon. The Earl Ducie.
The Hon. William Bathurst.
The Right Hon. T. H. Sotheron Estcourt, M.P.
Edward Holland, Esq., M.P.

*Principal*—The Rev. John Constable, M.A., Trin. Coll. Camb.

*Resident Professors.*

Practical Agriculture.

J. L. Fletcher, Farm Manager.
*T. Baldwin, of Glasnevin—A Course of 20 Lectures on Crops.
*R. Scott Burn, Co-editor of the Book of Farm Buildings—A Course of 15 Lectures on Agricultural Machines and Farm Buildings.

Chemistry.

Arthur H. Church, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

Assistant to Chemical Professor.

R. Warington, Jun., F.C.S.

Botany.—John Bayldon, M.B. Lond. B. Sc.

Veterinary Surgery.—A. J. Murray, M.R.C.V.S.

Mathematics and Surveying.

W. Meredith Lane, B.A., Scholar of Trin. Coll. Camb.

Drawing.—James Miller.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

Agriculture.

J. Algernon Clarke, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.

Hewitt Davis, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.

Captain Tanner Davy, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.

J. Bailey Denton, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.

Thomas Duckham, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.

Thomas Ellman, of Beddingham, Lewes—Lecture on South-down and Short-woolled Sheep.

J. Chalmers Morton, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.

Willoughby Wood, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

Agricultural Chemistry.

Thomas Anderson, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the Principal.

**Chemical Analyses.**

DR. AUGUSTUS VOELCKER, F.C.S., Consulting Chemist to the Royal Agricultural Society of England, has REMOVED his LABORATORY from Cirencester to 101, LEADENHALL STREET, LONDON, E.C., where he receives a few Private Pupils for the Practical Study of Analytical and Agricultural Chemistry.

**Drainage, &c.**

MR. JOSEPH BEAUMONT, Land Agent, Surveyor, and Drainage Engineer (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

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Offices: 52, Parliament Street, S.W.

Henry Ker Seymer, Esq., M.P., *Chairman.*
Sir J. Villiers Shelley, Bart., M.P., *Vice-Chairman.*
J. Bailey Denton, Principal Engineer.

Under this Company's Act tenants for life, trustees, mortgagees, guardians, committees of incompetent persons, beneficial lessees, corporations (ecclesiastical or municipal), incumbents, charitable trustees, &c., may effect the following land improvements, and charge the outlay and expenses on the estate improved, by way of rentcharge, to be paid by half-yearly instalments, viz:—

1. All works of Drainage, Irrigation, Warping, and Embankment.
2. The Erection of Farmhouses, Cottages for Agricultural Labourers, and all kinds of Farm Buildings.
3. The Construction of Roads.
4. The Grubbing and Clearing of Old Woodlands, Enclosing, Fencing, and Reclaiming Land.

The owners of estates, not entailed, who may be desirous to avoid the expense or inconvenience of a legal mortgage, may also charge their Estates with an outlay in improvements under the simple and inexpensive process of the Company's Act.

The term of years for the rentcharge is fixed by the landowner, so as to adapt the amount of annual payment to the circumstances of the tenants, the term for building works being limited to 31 years.

No investigation of title being required, and the charge not being affected by encumbrances, no legal expenses are incurred.

The arrangements for effecting improvements are threefold:—

No. 1. The works may be designed and executed entirely by the landowner's agent, and the Company employed only to supply the loan and conduct the matter through all the official forms for charging the outlay on the estate.

No. 2. The Company will supply plans, specifications, and estimates for any improvements to be executed by the landowner's agent as under No. 1. In each of these cases the landowner will be solely under the control of the Enclosure Commissioners.

No. 3. The Company will undertake the entire responsibility of the improvements, prepare the plans, execute the works, and finally charge on the estate the actual amount expended, with their commission thereon, approved by the Enclosure Commissioners.

Landowners may thus obtain what assistance they require from the Company, and no more, in effecting the objects in view.

Works of Drainage and other improvements are also executed on commission for landowners, who merely require the skill and experience of the Company's officers and a staff in constant practice.

Applications to be addressed to William Clifford, the Secretary, at the Office of the Company, 52, Parliament Street, S.W.

MESSRS. WAY and EVANS, Analytical and Consulting Chemists, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E.C.

**Drainage of Land.**

MR. C. F. HUMBERT, F.G.S., of Watford, Herts, and formerly Senior Surveyor to the Tithe Commission, a Land Surveyor and Land Agent, more than 20 years established in practice, undertakes works of Drainage either at a contract price, or to lay out and overlook the same at a commission of 5s. per acre; and he has at his command a staff of experienced workmen. His custom is to charge merely the expenses out of pocket in making the preliminary Survey and Estimate where the works are not carried out.

THE LANDS IMPROVEMENT COMPANY.

Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

To Landowners, the Clergy, Estate Agents, Surveyors, &c. in England and Wales and in Scotland.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

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# The Agricultural Gazette.

*SATURDAY, DECEMBER* 19, 1863.

The Autumn Session of the Royal Agricultura College was brought to a successful conclusion on Wednesday last. Messrs. Hill, Jacobsen, Rivington, Gray, and Wrightson received the College Diploma. The Principal and Professors reported severally of the industry and achievements of the students. Mr. Holland, M.P., the Chairman of the Council, who presided, offered his congratulations on the character of these reports, referred with satisfaction to the success which had attended the experiment of a divided lectureship on agriculture, and thanked the many public spirited men who had thus gratuitously taken part in the labours of the session.

——Our readers will have seen it announced in our advertising columns that Mr. Strafford is to dispose of the Sarsden herd of Short-horns on Tuesday, March 22, 1864. It will doubtless prove one of the leading sales in the history of the breed.

The rest of the Paper on Agricultural Progress, read last week at the Society of Arts, is given in another page; and the discussion which ensued upon it is also reported. A leading agricultural journal speaks of the meeting as "one of those amusing occasions when the farmer is assumed to know little or nothing of his own business, and is exhorted accordingly by the self-sufficient *savans* who seem to be permanent fixtures for these Wednesdays." Whether the remark is just or not will appear from the following facts:—

The argument of the introductory paper was directed especially to a proof that the farmer already knows his own business, and that sound business relations, and not prizes, patronage, or petting, are what is wanted for agricultural progress. Educate the young man, and when he enters into business, place him under favourable circumstances as to security for his capital and liberty for his intelligence; that is the way to promote agricultural progress. Societies have by their prizes and awards exerted a stimulating and a guiding influence; but the self-interest of the landlord and the tenant, and well defined, well drawn, relations between the two, are the real guarantee that the land will be made to yield its utmost.

And as to the discussion which ensued after the ground had been broken by two representative men on the Council of the Society, it was impossible to have selected a more thoroughly representative agricultural company than the speakers formed. In order to such a company there were wanted representatives of the societies and of the implement makers, of the landlords, the farmers, and the land agents.

In Colonel Challoner, a fluent, intelligent, and confident speaker, and an efficient labourer from the commencement on the Council of the Agricultural Society, there was the best possible representative of the view which is unquestionably correct, that the societies with their prizes have been of great agricultural service. In Mr. John Fowler, the most successful prize-taker of the day, who has nevertheless struggled into his present successful position by his own resolution and ability, we have an able representative of the view, also as we believe correct, that the imperfections of the prize system have at length overborne its usefulness. Mr. Ransome represents the long-established agricultural machine manufacture, and was thoroughly capable of giving authoritative expression to the views and interests of that particular body.

No one will deny that in Mr. Holland, M.P., we have the best possible representative landowner, or that in Mr. Robert Smith, of Exmoor, we have a thoroughly good representative tenant farmer. Dr. Ellis, of Richmond, who also spoke—and who is a frequent speaker at the London Farmers' Club—may well be taken as one of the considerable body of intelligent holders of land, who are not strictly tenant farmers; and in Mr. Cole, C.B., and Mr. Harry Chester, who, however, spoke merely to call his colleague to order, we have the voice of the outside public.

The whole discussion terminated in the address of the evening. Mr. Grey, of Dilston, whose experience has been acquired during a long life of labour in the service, not more of one of the largest landowners in the kingdom than in that of the farmers and the labourers upon the estates under his management, is a true representative of good land agency. We add that the writer of the paper on which the discussion turned, can himself look back on 12 years experience in the management of a farm, and 20 years of experience in agricultural journalism.

These are no "self-sufficient savans"—nor was this "an amusing occasion when farmers were assumed to know little or nothing of their own business, and so exhorted accordingly." The Hall is one of the oldest homes of "agriculture" in London. The word itself is the first which catches the eye of the Chairman—emblazoned chief among those which stand upon its walls to indicate the objects of the Society. The company, unusually large, included along with large numbers of agriculturists and manufacturers, a sufficient number of the general membership of the Society of Arts to ensure the advocacy of the public as well as of the strictly agricultural interest.

The only really outside voice in the course of the discussion was immediately rebuked by one in the same position as itself. The speakers were thus all men thoroughly well representing the several sections of the agricultural interest "exhorted;" and the President, grey-headed in public spirited, benevolent, and agricultural labours, had well earned his right to speak with authority on any agricultural or social question which could arise.

## AGRICULTURAL PROGRESS.

[The following is the first portion of the Paper read last week at the Society of Arts, of which the latter half was reported in our last Number.]

First: of the fact that great progress and improvement have been witnessed in our agriculture during the past quarter of a century.

This is just the period during which I have been in the ranks; and as, during the past 20 years, it has been my weekly occupation to narrate particular examples of agricultural improvement, and to record the circumstances to which they have been owing, it may be thought an easy thing for me to prove and illustrate the general agricultural progress which has thus been made. On the contrary, it is an extremely difficult thing to do so in any satisfactory manner: for agricultural progress, if of any interest or value whatever, simply means more food produced per acre; and of our food produce we have no statistics.

### IMPORTS AND SALES.

Such records as we possess do indeed appear at first to deny the existence of any such progress as is asserted. Certainly, they prove that our agriculture is now farther

short of supplying us with the food that we consume than it ever hitherto has been. The annual import of Wheat and flour of Wheat, reckoned together, which amounted in 1845 to 1,142,000 quarters, and in 1846 to 2,340,000 quarters, varied between 3 and 5 millions of quarters per annum between 1847 and 1859. In 1860 it exceeded 7,000,000, in 1861 it exceeded 8,000,000, and in 1862 it amounted to 11,528,445 quarters—more than tenfold what it was in 1845. And the annual importation of other kinds of grain and meal has also increased during the same period. Varying in general from 4 to 5 millions of quarters between 1846 and 1859, it exceeded 7,000,000 in 1860, '61, and '62.

These three last years have we know been very unproductive in this country; but even if we disregard the excessive importations of these three years as altogether exceptional, there remains the fact of an enormous and, on the whole, increasing dependence on foreign supplies during a long series of years before. And this, I say, appears at first to be incompatible with the idea of any great agricultural progress at home.

There has been no corresponding increase in the quantity of meat or in the number of cattle and sheep imported. The number of oxen has varied irregularly during the past 15 years between 60,000 and 100,000 per annum, and that of sheep and lambs between 130,000 and 300,000 per annum, without much indication of an increased importation year by year. Nor have the imports of bacon, beef, and pork materially increased except during the last two years. But admitting that we are not on the whole so increasingly dependent on foreigners for our meat as we are for our bread, it must be remembered, on the other hand, that the prices of our home-produced meat have been gradually rising. The best fat Hereford oxen were sold for little more than 5*d*. per lb. 18 or 20 years ago —they are now worth nearly one-half more. Mutton in like manner has risen from 6*d*. to 8*d*. and more per lb. And from this, as from the increased importation of grain, it does not at first appear as if the agricultural progress which we boast meant an increased produce of food. I need not refer in detail to those importations which supplement the produce of particular districts; but these, too—the imports of butter, cheese, and eggs—exhibit in an even greater degree the increasing deficiency of our home supplies.

And there is yet another set of figures, which, taken for what they are worth, seem even more to throw doubt upon the assertion that our produce per acre is increasing. In order to determine from year to year the value per quarter of those quantities of Wheat, Barley, and Oats into which the tithe has in every parish been commuted, it is provided by law that a record be kept in all the principal English market towns of the quantities and prices of Wheat, Barley, and Oats sold on every market-day throughout the year. There is a certain, and if we might suppose an unvarying degree of obedience paid to this law, then the amounts thus declared to have been sold would bear a constant proportion to the quantity of grain sold throughout the country, and they would fairly indicate the varying produce of our crops from year to year. That they do to a certain extent represent the productiveness of the year appears from the fact that they do rise and fall with the admitted character of the harvest. Thus, the quantity of Wheat recorded as sold, which is generally about 5,000,000 quarters per annum, was, in the unproductive years of 1860, '61, and '62, 4,600,000, 4,289,000, and 3,588,000 quarters respectively. But what is noteworthy, if it can be at all taken as indicating the general productiveness of the country, is that the largest quantity recorded since 1844 was 6,666,000 quarters, sold in 1845; that the quantity was somewhat under 5,000,000 quarters per annum from 1844 to 1854; that it was somewhat over 5,000,000 quarters per annum from 1855 to 1859; and that it again, as already said, fell considerably below 5,000,000 quarters per annum during the past three years. Certainly there is no indication here of increasing annual productiveness. And the sales of Barley and Oats, similarly recorded, are equally unsatisfactory to those who would naturally hope to see in these records some indication of the increasing productiveness of our arable lands.

Of course the great majority of those who examine these figures, will find for themselves some explanation of them which is consistent with the belief, which will be retained, that our agriculture *is* nevertheless greatly more productive than it was.

Every countryman can point to so many instances of agricultural improvement within his own knowledge, that whatever the explanation be, he knows there must be some way of reconciling these figures with the fact, of which he is certain, that land upon the whole produces now much more than formerly.

But before I proceed to justify this belief by marshalling the evidence on which it rests, it is right that we should be aware that it has been always possible to lead a proof by instances and examples of the productiveness of English agriculture.

Listen to Mr. Thompson, of Kirby Hall, near York, who, as President of the Yorkshire Agricultural Society had last year to review the agriculture of the 20 years during which the Society which he had helped to found had been in operation. He said that he had been a constant attendant at the shows of that Society, and a very frequent one at those of other societies; and he was confident that the prize animals shown by Lord Spencer, Messrs. Booth and Bates, and others, in the early days of the Society, were as good in every respect as those shown by Col. Towneley, Mr. Fawkes, Lord Feversham, and other noted breeders of the present day—and the same might be said of other classes of stock. Then as to the crops—it was usual 20 years ago to grow 5 quarters of Wheat per acre, and not uncommon to grow six. Occasional instances could be found where the produce had been greater still, and he had yet to learn that they could do more now. The best cattle and the best crops are no better now than then.

It is plain therefore, that though I should bring before you hundreds of examples of productive farming in operation now, yet as I should be doing no more than another might have done with equal force 20 or 30 years ago, I should not thereby establish the advance which I believe has been made during the interval. Although therefore I shall refer to one or two particular instances of the progress which has been accomplished, yet it will be rather by a collection of testimonies from land agents and tenant farmers in different parts of the country, of the general condition of the land as to productiveness now and 20 or 30 years ago, that I propose to prove the general progress which has been asserted.

### DISTRICTS OF STATIONARY FERTILITY.

Of some districts I suppose this progress cannot be asserted—their produce has not increased. Thus I have before me a curious table, giving the produce of Wheat on a large fen farm in Lincolnshire, from 1839 to 1862. The average produce of the Wheat harvest during that period has been close on 39 bushels per acre—but it has varied irregularly between 49 and 24 bushels, without any indication whatever of a gradually increasing fertility. The produce per acre runs thus in bushels per acre in successive years:—34, 40, 35, 43, 38, 48, 32, 41, 42, 43, 44, 28, 45, 47, 41, 45, 26, 47, 48, 40, 26, 24, 27, 34—these four last being the produce of 1859, 1860, 1861, and 1862.

"You will see," says the tenant of this farm, "that we are not at all improving in the yield of Wheat, which is the great staple of this district. The Oat crop has been more productive than formerly, or we should have been worse off, and stock have left more profit than usual; but with those helps I never knew three consecutive years so bad as 1859, 1860, and 1861. The rents generally have been raised from 5*s*. to 10*s*. per acre during that period."

Another correspondent in the same neighbourhood, speaking of the meat produce of the Fens, says:—

"I should think the amount of meat produced, and the quantity of live stock kept in the Fens, has decreased rather than increased during the last 15 or 20 years. Since railway facilities have been afforded, a good deal of land has been employed in the production of Potatos, Carrots, &c., for the London and Birmingham markets. Some of these crops, on lands suited to their cultivation, have realised good prices per acre, and have been as paying and profitable as the grain crops."

Another district of stationary agriculture, or rather class of districts it may be called, includes all those richly manured suburban holdings which around our large towns are cultivated rather as market gardens than as farms, and which have always been maintained in the highest state of fertility. If we except some considerable tracts of light land which have long been well farmed—where, as Mr. Hudson, of Castle Acre, says, they have been in the same rut for a quarter of a century, consuming on a single tenancy 2000*l*. to 3000*l*. worth of oilcake, and using 1000*l*. of artificial manure per annum, and where the land therefore has not much capacity of additional improvement in it—these are probably the only large tracts of land in the country of which no progress is reported; the one owing to the high degree of fertility which drainage and marling had at once conferred upon it, and the other because of the high artificial fertility which it has always possessed.

### TESTIMONIES TO PROGRESS.

Now for the large remainder. Beginning in the North, I would state generally, there cannot be a doubt that it, more than any other part of the island, has benefited by the importation of guano and the manufacture of artificial manures during the past 20 years. It has also benefited, as much as any other part of Great Britain, by the extension of drainage and of deeper tillage, and by the improvement of stock.

Thus Mr. Simpson, of Beauly, Inverness, says the live stock on the waste land of his district has increased one-half during the last 20 years. Mr. Fraser, of Culloden, says, during the past 20 years great improvements have taken place. Waste land has been brought into cultivation, and old land has been drained, and in many places the face of the country has been changed. Though the gross produce has increased, yet the produce of the best land has not altered. Rents, however, have greatly advanced.

Mr. McCormack, of the Vale of Alford (Aberdeenshire), says:—"Within the past 20 or 30 years rents have greatly increased. Railways have been introduced. Wages have risen 75 per cent. Much land has been reclaimed; much land has been furrow-drained and made fruitful."

Mr. Drennan, of Ayr, has in like manner given me an elaborate report of the alterations and improvements in his county, and of the share taken in them by the agricultural societies of the county. To this I shall refer again.

Except that it does not mention the increased growth of the Potato crop, by means of which such enormous rents are paid in many parts of Scotland, and by which a largely increased produce of food has been obtained, the following report by Mr. McLean Secretary of the Wigtown Agricultural Society, and specially descriptive of the County of Wigtown, will apply to many other districts:—

"During the last 20 years there has been a remarkable advance made within the bounds of the Society, particularly in the cultivation of green crops, and the feeding of cattle and sheep for the English markets, to which ready means of access have been, during all that period, afforded by our excellent iron steamer (the Countess of Galloway) plying regularly between the ports of the district and Liverpool, and for the last two years and a-half by the Portpatrick Railway Company. In many farms the dairy system (with Ayrshire cows) has been successfully introduced. I believe that the improvement of the district has been mainly owing to the introduction of imported manures (chiefly bones and guano), the consequent increased extent of green crops and ready means of conveying fatted stock to the English markets."

In Berwickshire Mr. Wilson, of Edington Mains, reports thus of the improvements during the past 20 or 30 years. After referring to the great extension of land drainage during the past 20 years, he says:—

"When I began farming, exactly 34 years ago, the application of bone-dust as a manure for Turnips was just getting into general use in this district, and the slicing of Turnips for hoggets was then unpractised among us. In 1830 or 1831 I happened to procure a Turnip-slicing machine from one of the Midland Counties of England, which—so far as I have been able to find out—was the first that was used by a tenant-farmer in this county. In a very few years after that date, the universal use of bone-manure caused an immense increase of the acreage annually under Turnips, and also of the weight of produce per acre. The general adoption of the practice of slicing Turnips for hoggets soon after changed our whole system of sheep management. Our hoggets began to be sent to market as soon as they were shorn (say at 15 months old) instead of being kept until about two years old, as had been the previous practice. The use of bone-manure produced nearly as great an improvement upon the seeds as upon the Turnip crop to which it was directly applied. This increase of the green crops and earlier marketing of the hoggets produced, of course, a greatly increased demand for lambs, and thus led to corresponding changes of practice on the upland sheep-farms, from which the supplies of store sheep were drawn. Instead of an annual crop of 2 or 3-years-old wedders of the pure Cheviot or Blackfaced breeds, they began to cross their ewes with Leicester rams, and sold these cross-bred lambs at weaning-time to the low-country farmers. The command of portable manures has enabled the occupiers of these up-lying farms to bring much additional land under tillage. This process is steadily extending; and as it does so, the command of green crops thus obtained is regularly accompanied by a change to a sheep-stock of a more valuable class. All these practices date earlier than 20 years ago; but they have been greatly extended and developed since then. The introduction of pipe-tiles for draining, and of guano, nitrate of soda, and bones in the form of superphosphate as manures, have supplied great additional facilities for all this. Until thirty-years ago Linseed-cake may be said to have been unknown in this district. About that time it began to be used in the rearing of calves, and gradually a good many farmers began to give a little of it to their fattening bullocks for a short time before sending them to market. Now cakes of various kinds and other farinaceous feeding stuffs are in general use for the fattening both of sheep and cattle. The trade in those articles and portable manure has here as elsewhere grown to an important branch of business. Thorough draining, portable manure, artificial feeding stuffs, are now trite expressions; but when it can be reported of a district or county that all of them are included, less or more, in the cultivation of very nearly the whole of its farms, it is superfluous to add that a very great increase of produce has been the result. It has been said that every cwt. of guano applied to our farms is equivalent to the importation of a sack of Wheat. Whether this be a strictly accurate statement or no, there can be no doubt that green crops, live-stock, dung, corn, is a true sequence in agriculture, and that an increase of the first item really means an increase of all the rest."

Coming farther south, I have the following excellent report from Mr. Stephenson, of Fourstones, near Hexham:—

"I think no change which has taken place in the farming of this district since 1840 will so much strike the practical farmer as the increased quantity of Turnips grown and, as a natural consequence, the very large extension of sheep-feeding. The general management of the district has so wonderfully improved, from the cause I have stated, that any one will at once perceive from what cause arises the increased value of land. The introduction of leases with clauses for unexhausted improvements has aided no little towards our progression, and I still hope to see enterprising tenants more liberally dealt with, which I think will be one of the best ways of giving birth to future and permanent improvements. The much earlier period at which sheep and cattle are brought to market must not be overlooked; for not only is this one of the most interesting parts of farming, but it possesses the additional advantage of bringing a quicker return for the outlay of capital. Perhaps one of the most striking, and, in its results, one of the most beneficial improvements that has taken place in this district is the greatly improved method of conducting our harvesting operations; reaping Corn is entirely done by machinery and short scythes, and the beautifully low and even-cut fields present a pleasing contrast to the knee-deep stubbles of 20 years ago. Nearly the whole of the district has been thoroughly drained, and pipe-tiles have taken the place of the old stone drains. In summing up improvements since 1840, we notice the general management of the district wonderfully improved; the extension of green crops, which has greatly enhanced the value of land; the greatly increased number of sheep and cattle reared, and the much earlier period at which they are brought to market —the improved method of cutting corn and harvesting in general—the improvement in agricultural implements—the success which has attended thorough draining, and the introduction of farm leases with clauses for unexhausted improvements. The high rate of wages which the agricultural labourer receives is to be attributed in a great measure to the demand for labour at the lead mines and collieries. Hinds are receiving from 15*s*. to 17*s*. per week, with privileges which cannot be less than 3*s*. per week. They are energetic and persevering, show much skill in the several departments of the farm, and readily learn the working of any new implement. There are now good schools in every parish; and as many of the men are receiving an income of 50*l*. per annum (independent of the money earned by their wives and families), it will be seen they have every chance of giving their children a sufficient education."

It is in this district that the Greenwich Hospital Estates lie, which have for so many years been under

the management of our Chairman—during which time the interests of landlord, tenant, and labourer have alike prospered. An additional 10,000*l.* a year as rent is now remitted to the landlord—the arrears are *nil*—cottages are improved, and wages are increased. And of course all this has come out of the increased produce of land.

"The increased produce," says Mr. Gray, "consists more in root crops and the amount of stock kept than in corn, although the crops of corn have also partaken of the benefit of better cultivation. The total increase upon farms where thorough draining and deeper cultivation are practised, must at least be one-third: in some instances it is more, but that is not yet apparent in the rents; for it is only obtained by a greatly increased expenditure by the tenant, in extra manuring and cultivating, and, besides, the value of the improvement is not found by the landlord till the end of the lease. All such increased outlay by tenants contributes no doubt to the welfare of the labourers, whose condition in this county has been greatly improved during the last 30 years, by the general improvement of their dwellings, and advance of wages."

I have a very interesting report from Mr. Sweeten, the Hon. Sec. of the Penrith Farmers' Club, of the improvements which during the last 20 years have taken place in Cumberland and Westmoreland. Rents have risen some 15 per cent., wages have risen 25 per cent.; the live stock of the locality has improved, and the extension of land drainage, and the increased use of artificial manures and feeding stuffs, have added materially to the produce of the land.

Hear now the following valuable account of North Lincolnshire improvements by Mr. Sowerby of Aylesby:—

"The improvement in farming in North Lincolnshire has been very progressive for the last 30 years and upwards. I daresay you are aware we farm, almost altogether on the four-course system, Turnips, Barley, &c., Seeds, and Wheat, the Turnips for the most part fed off by sheep with a liberal allowance of oilcake. This management, with a good quantity of oilcake used in the fold yards, will always insure improvement in land. Half inch bones to a great extent are used for the Turnip crop, and perhaps to a greater extent 20 years ago than they are now. Superphosphates have taken their place a good deal of late years; and of course that is the same thing, but not so lasting. Good crops of roots fed off by sheep is the great improver of land, and moreover what enables us to pay our rents; for nothing pays like sheep. A considerable extent of land in this part of Lincolnshire termed the 'Middle Marsh,' that is, land laying from the foot of the Wolds to the marshes adjoining the sea and Humber, required underdraining, which, to a great extent was done about 20 or 30 years ago, about 2 feet deep, with sods and bushes. That improved the land very much, and paid well for doing. Those drains of course after a time failed, but still lasted nearly 20 years when don well. For the last 10 to 15 years draining has gone on upon that land with pipe tiles put in from 3½ to 4 feet deep. This district of country is likewise farmed upon the four-course system same as the Wolds. A good deal of this was ordinary Grass land, a good deal of which is ploughed and makes good corn land. I have myself taken up nearly 800 acres the last 30 years upon Aylesby Farm. In addition to growing so much more corn, the same land will keep a great deal more stock. At the first glance you hardly could believe that. Bear in mind that though it is inferior Grass land, it becomes the best of corn land, growing good root crops, and keeping a great deal of stock. I have been 40 years at Aylesby, and I think I speak within bounds when I say I have grown double the quantity of corn and kept double the quantity of stock this last 10 years that I did the first 10 years I was a farmer, though of course I have been at considerably more expense. For the most part we have liberal landlords, particularly our larger landed proprietors. Wages are good. The lowest I gave last winter was 13*s.* 6*d.* per week, and this winter I daresay will be the same, though perhaps in many instances they may be down to 12*s.* for our common labourers. We do a good deal of work by the piece. I shall not grumble if my men that are draining earn 20*s.* per week, which I daresay they will do."

In the neighbourhood of Grantham, Mr. Charles Beasley, of Harston, informs me—

"There has been a very marked improvement in this district during the last 20 years, both in the quality of the stock bred and in the management of it, especially in the eating off of Turnips with sheep. The great majority of farmers are now cleaning their Turnips, cutting them up, and using large quantities of dry food with them, which has very much mitigated the prevalency to disease, which was a very serious impediment to successful sheep keeping in this neighbourhood."

Let us now cross to the dairy districts of Cheshire. Mr. Palin, of Stapleford Hall, near Tarvin, writes:—

"Great progress has been made in this county within the last 20 years; the increase of stock, both in cattle and sheep, is very considerable (in some instances nearly doubled), and this arises principally from the great improvement of our clay land pastures by the use of bone manure, by draining, and a more extensive cultivation of green crops, although it would be difficult to show by figures, with any great accuracy, the amount of such increase, either as regards cattle, sheep, or cheese, in consequence of the great changes in stock, from cattle to sheep and *vice versâ*, and also an increase of tillage occasionally on many of our farms during that period, caused by that dreadful scourge, pleuro-pneumonia."

From the same county Mr. Rigby, of Fenny Wood, Winsford, also writes:—

"The most decided improvements observable in the last 20 years have been seen in draining and boning Grass lands. The principal product of this county, as you are aware, is cheese; and the quantity of this commodity has been quite doubled by the application of bones on the pastures and of draining, although there is yet much of the latter to be done. I know many farms that used only to keep 40 cows ten years ago that now milk 80; and one farm which then kept 60 has now 140 milking cows on it, besides other stock, and this has been effected principally by these means; the stock too are better kept in the winter than formerly, and come to calve in much better condition, and as a consequence give better results."

I must not fatigue you with the multitude of witnesses who might, if there were time, be brought into Court, and I shall quote only a few more.

Mr. Howard, of Bedford, writes as follows:—

"The great improvements in cultivating the land during the last 20 years are almost confined to clay land; our light lands were farmed almost as well 20 years ago as now. Thousands of acres of clay have during this period been underdrained thoroughly with tiles; the growing of summer feed, such as Tares, is extensively practised; the growing of Mangel is a great boon; summer fallows are almost abolished, and the live stock kept is greatly increased—indeed, some of what were considered poor clays grow our best Barley, and will with the aid of steam be worth as much as the light lands. I cannot give you 'any instances of produce, rent, or wages,' but all have risen, the produce and rent in the larger proportions; still the introduction of piece-work has greatly benefited the labourer, and day wages have increased from 9*s.* to 11*s.*, and from 10*s.* to 12*s.* per week, according to which side the county I take."

This is in keeping with reports from Norfolk and from Essex. The lighter lands of the former county, which do not need drainage and have long been liberally treated with artificial manures and well-fed stock, have not such capacity of improvement in them as the heavier undrained soils of Essex, from which county we have reports of improved tillage, extension of root crops, diminished bare fallow, and improved crops, upon clays improved by land drainage and by deeper and better tillage.

Let us now travel to the end of our story by the other side of the country. Mr. Bowley of Siddington, near Cirencester, has given me an elaborate and most satisfactory report on the advantages of drainage, artificial manures, and improved machinery, as exhibited in the Cotswold district, where improved root crops, improved cattle and sheep, and better grain crops, have all increased the produce of the district.

Mr. Holborow, the Secretary of the Tetbury Farmers' Club, says of this district:—

"In the growing and management of root crops the improvement is very marked—autumn cultivation, drilling, horse-hoeing, the liberal use of artificial manures, securing the root crops in heaps covered with earth, being pretty general. In live stock the improvements may be said to consist in a greater quantity being kept of an improved sort, earlier maturity, and quicker preparation for the butcher being to a considerable degree manifested. The consumption of corn and oilcake by cattle and sheep is also largely increased, and the consequent effect on the crops of corn (coupled with better and more liberal management of the land generally) is patent to every one. The better employment (and payment too) of the labouring population is one happy result; their most respectable and comfortable appearance being very apparent, even though, alas! their cottage accommodation has not kept pace with other things, whilst their better education adds to the necessity and desirability of this. However, here is one class whose material interest has certainly kept pace with the other subjects of improvement—viz., the landlord's, in a considerably augmented rentroll."

Mr. Rich, of Didmarton, adds:—

"As an illustration of the advance of agriculture in this neighbourhood (part of the Cotswold hills) witness the improvement of live stock; the steer is now frequently made fat at about 2½ years old; the sheep, which formerly arrived at maturity at 2½ or perhaps 3 years, is now the same weight, and frequently too heavy for the butcher, at 1 year and 2 months old, yet wintered in the open field on roots, &c., leaving the richest manure where it is at once required."

I add a report from Wiltshire. Mr. George Brown, of Avebury, writes as follows:—

"The improvement in the cultivation of the soil is very great; a much greater abundance of stock is kept and brought out at a much earlier period, as regards age, and very much higher in condition, consequently much more valuable. Admitting this to be correct, I consider the great improvements in the cultivation of the soil and in the increase in stock, and condition in which they are brought to market, is at so great a cost to the farmer, as to leave a very small profit to him at the end of the year, but, on the other hand, it is a great advantage to the community at large."

Mr. Benson, of Tavistock, speaks of the vast advancement made in his locality during his acquaintance with it.

Mr. Scott Hayward, of Follington, Sussex, speaking of the light land and down district of the county, says:—

"The disposition to break up downland is increasing every year, and a very large extent has been brought under cultivation in the last 20 years; the use of artificial manures has increased to an immense extent with the breaking up of this description of land, and also the consumption of purchased artificial food (chiefly oilcakes), the result of which is a larger quantity of sheep kept, and much better kept than formerly—no doubt gradually increasing in size—a much larger produce of corn, and a much larger employment of labour. The use of bought cattle food has also greatly increased upon the poor and second-class lowland pasture farms, cattle and sheep being now fattened upon this description of land by this means, that formerly only kept them in fair growing condition. Oilcake is also now used very generally in keeping store cattle in the winter in yards upon straw or hay; formerly this description of stock was merely kept alive through the winter, and frequently to be seen going down to the marshes in the spring very little more than skin and bones. Latterly, by the use of oilcake with the corn fodder, poor stock is seldom to be seen. The great and gradual increase in the use of artificial manures and the consumption of bought cattle food is the most important feature in the recent history of Sussex farming."

The following report from Hampshire by Mr. Blundell, of Southampton, must conclude my quotations:—

"I offer you my estimate of the progress of the farming of our district, in a tabulated form, as the result of close observation since I have occupied my farm, for 22 years past. I estimate as follows:—

| Crops. | 1840 to 1842. Average produce per Acre. | 1860 to 1863. Average produce per Acre. | 1843 to 1863. Acreage grown. | 1843 to 1863. Quality. |
|---|---|---|---|---|
| Wheat .. .. | 24 bush. | 29 bush. | Increase 25 per cent. | No improvement. |
| Barley .. .. | 28 " | 32 " | Decrease 20 " | Deteriorated. |
| Oats .. .. .. | 34 " | 48 " | Increase 10 " | Improved. |
| Beans .. .. .. | 24 " | 26 " | Increase 10 " | No improvement. |
| Peas .. .. .. | 22 " | 24 " | Increase 10 " | No improvement. |
| Rye for feeding .. | .... | .... | Doubled | .... |
| Tares ditto .. .. | | .... | Doubled | .... |
| Grasses for hay and feeding .. .. | .... .... | .... | Decrease 25 per cent. | No improvement. |
| Swedish Turnips .. | 13 tons | 10 tons | Decrease 20 " | Deteriorated. |
| Common Turnips .. | 12 " | 15 " | Increase 5 " | Deteriorated. |
| Mangel Wurzel .. | 18 " | 25 " | Increase 15 " | Improved. |
| Cabbages, Carrots, Kohl Rabi, &c. .. | 15 " | 20 " | Increase 10 " | Improved. |

| Live Stock | 1843 to 1863. |
|---|---|
| Horned cattle, fattened .. .. .. | double number. |
| Dairy cattle .. .. .. .. | increase 10 per cent |
| Calves raised for dairy purposes .. | " 10 " " |
| Calves raised for fatting purposes .. | " 30 " " |
| Value of cattle raised at two years old | " 16 " " |
| Sheep stock for breeding purposes .. | " 25 to 30 " |
| " fatting purposes .. | " 50 " " |
| Value of sheep stock of all ages .. | " 20 " " |
| Swine of all ages .. .. .. .. | " 20 " " |
| Value of ditto. .. .. .. .. | " 10 " " |
| Horses for farm work .. .. .. | no increase. |
| Value of ditto .. .. .. .. | increase 15 per cent. |

"Great losses by disease unknown before 1840 have been reported of cattle and sheep.

"In the above attempt to tabulate this information, please observe that I make no reference to actual prices, as they may vary, but in speaking of value I take the real or improved value; with regard to produce, I only allude to increased production, and not to variation of crops. In speaking of increase of live stock, I make no allowance for losses by disease; they have, however, been enormous, past all calculation, and the improvement both in number and quality of sheep and cattle must have very far exceeded my present estimate had they been as free from disease as previous to the year 1840. In speaking of root crops, such as Swedes and Turnips in particular, deterioration in feeding quality has gone on, consequent upon repetition of the crop and the application of stimulating manures. The value of land has been raised in rental since 1843 from 4*s.* to 6*s.* per acre, and may be attributed to various causes, amongst which are the commutation of tithes, the competition for farms by parties who require a healthy and pleasant pursuit, and by those who possess capital for which an investment is required; and there are applicants for farms resulting from scientific education of young men for the business of farming. The actual returns, as profit for investment on the farming account, do not warrant the increased rental above alluded to. The quantity of land absorbed by railways, and the public works of government and companies of various kinds, and the increase of towns, has taken more land out of the market for occupation than has been supplied by recent enclosures. Although the recent Enclosure Act has facilitated the enclosure of waste and commonable lands, yet much more may be done in this respect."

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The following is an abridged report of the discussion which ensued last week upon Mr. Morton's paper.

After Mr. Cole, C.B., had called attention to one defect in the paper, its lack of information on the condition of the labourer, and Mr. H. Chester had redirected the discussion into the channel indicated by it:—

Colonel CHALLONER said he should be sorry it should go forth as the opinion of this Society, that the giving of prizes by the Royal Agricultural Society for implements had not been beneficial to the progress of agriculture. Mr. Morton was aware that at the first meeting of the Royal Agricultural Society, at Oxford, the number of implements exhibited was considerably under 150, and they were all of the coarsest description of manufacture. He asked what had brought the implements of England to the perfection in which they were at the present time? He submitted it was owing to the system of prizes adopted by the Royal Agricultural Society. He had been brought to this conclusion from his observations as a member of the Implement Committee of that Society. Let them compare the position of implement makers now and 20 years ago. The progress had been enormous, and he thought that, without the prize system, the manufacturers would not have been guided to the production of the class of implements really required. There were well known names who had made a high reputation everywhere, and it would perhaps be very agreeable for those gentlemen to rest upon their laurels, with the knowledge that everybody would buy their implements; but what was to become of the humble implement maker—the man of small means? He had no chance of competing against those great men, except by the help of the prize system.

Mr. JOHN FOWLER remarked that he stood in the position of a very successful exhibitor of agricultural implements, as far as prizes were concerned, and had never failed in obtaining the prize he competed for; at the same time, he thoroughly endorsed every word that Mr. Morton had said with regard to the prize system. He had many times been placed in an unduly prominent position by a prize—a position he had no right to at the time; and if the prize system were con-

tinued, it might be he should be placed in a position he had no right to the other way. With respect to the present system of awarding prizes by the Royal Agricultural Society, it was known to be a mere scramble, for there were often hurried and imperfect trials; but if instead of this a well considered report was made of agricultural experience with regard to any particular implement, this would be of real value. In the first place they must look at the circumstances under which the trials of implements were now made. The expense for land for this purpose at Leeds was 800*l.*, and the cost of 100 acres of land at Newcastle next year would be 500*l.* He had offered to subscribe another 250*l.* in order that the trials might be made on a more extended scale. They could not respect a prize which was given upon a trial extending over only a few acres of land, and confined to one locality, which had features of soil and other circumstances peculiar to it. Col. Challoner had stated that the prize system had made the implement makers what they were. He (Mr. Fowler) would say it had not made him. If the Royal Agricultural Society, instead of spending 500*l.* for land for the trials of implements next year, would spend that amount in a careful examination into the present results of steam cultivation upon farms in this country, no undue preference being given to any individual, very valuable practical results would be obtained. He was therefore opposed to the continuation of the prize system for agricultural implements, and he would prefer to see well-digested reports upon their merits as the result of test and experience in various localities.

Mr. E. Holland, M.P., said, all those great improvements to which Mr. Morton had alluded could not be carried on by the tenant-farmer alone, but were more or less associated with the landlord and the labourer. There were formerly points in connection with the state of society, which militated against every advance in agriculture, for at that time a tenant was more readily accepted by a landlord on account of his politics than his powers of farming. The labourer also was at that period in a far more wretched condition than at present. From the days of Elizabeth up to the time when the new Poor Law came into operation, the condition of the labourer had been gradually deteriorating; and the present Poor Law system was adopted as a remedy for a far worse system. Now-a-days a tenant was chosen because he understood his business and had capital to carry it on, and in proportion as the tenant improved in capital, intelligence, and experience, so would the condition of the labourer be improved. There was nothing of late years which had had so much influence upon all connected with agriculture as the introduction of steam ploughing. Agriculture in this country had an enormous task thrown upon it. Allowing for emigration and deaths, the annual increase of population was immense. Besides this, the wants of civilisation must be met; houses, railways, and land for domestic purposes were required, the whole of which had to be taken out of the area which produced food for the people. But the steam-plough had been introduced, and the farmer discovered that by going more deeply into the land he could produce more food, and more or less keep pace with the increasing wants of society. This would not have been effected by the old class of tenant farmers. Men of capital and education were now taking their places, and the consequence was that they required a firmer hold upon the land than the man who had no capital and no education to direct the profitable employment of it—unless such men made a bargain with the landlord for the due security of the capital which they put into the land, it was not likely they would farm up to the wants of the present day. The consequence of this was that the condition of the labourers was also raised, and though there might not be much in the matter of dress, yet he had found that on the adoption of steam culture, simply from being obliged to discard the smock frock, and adopt a less cumbersome form of garment, the labourer had become a different man. The labourer must now wear an engineer's dress, and he became a different creature, and his social condition was also improved. Upon the subject of labourers' dwellings he agreed with much that had been said. He had recently found it necessary to build a good many cottages, the rent of which, to pay a fair interest upon the capital expended, would be 6*l.* per annum, but the labourer could not afford to pay more than 4*l.* He explained this to his tenants. There remained 2*l.* per annum to repay him. This was arranged in the following manner:—The tenant, feeling the advantage he would gain by the improved condition of the labourer, agreed to pay half, while he, the landlord, consented to forego the other half. Thus, while the labourer only paid 4*l.* in rent, he was able, by being on the spot, to come fresh to his work in the morning, instead of being wearied by a walk of several miles. Mr. Cole would thus see that in some instances at least, landlords and tenants were not unmindful of the points he had raised.

Dr. Ellis thought the great improvements in agriculture during the last 20 years were mainly attributable to the improved implements employed in cultivation. These inventions had all tended to relieve man from the more arduous portions of labour as compared with the primitive modes of agriculture. Dr. Ellis referred to the effects upon the physical condition of the labourers who excelled in their localities in mowing and reaping, the great manual exertion required for those operations tending to cripple the frame at a premature period of life. Threshing and ploughing by hand-labour were also referred to, as further instances of this; and so complete was the exhaustion of the physical energies by this arduous toil from early morning till evening, that there was little opportunity and less inclination on the part of the labourer for any efforts at mental improvement. Upon the subject of leases, Dr. Ellis stated his entire concurrence in the views expressed by Mr. Morton, and contended that unless satisfactory leases were granted to tenants, neither the capital nor the intelligence necessary for successful farming would be employed in agriculture.

Mr. R. C. Ransome said, having been engaged for the last 16 or 17 years in the manufacture of agricultural implements, and having attended most of the exhibitions of the Royal Agricultural Society as the representative of his firm, he begged to state that all that had fallen from Mr. Morton condemnatory of the present prize system met with his fullest concurrence. He was quite sure it was not the temptation of the prizes that stimulated manufacturers to bring forward improved machinery, but the great and natural stimulus was the hope of ultimate profits from an extensive sale. With regard to the progress which agricultural machinery had made during the last 12 or 14 years, it must not be forgotten that railways had made the means of transit so much easier. The gold fields of Australia and California had been opened out, a large European population had emigrated to those regions, who required to be supplied with food raised by the operations of agriculture, and these could not be carried on without the aid of machinery, which machinery could only be manufactured in England or America. Nor must it be forgotten that during that period England had become the grain market of the world, importing large quantities of corn and sending back gold for it, so that a greater demand for our machinery had been created in all the corn-growing countries of the world. These were more potent stimuli to the industry of the country than medals, diplomas, or any such trifling matters, and when he found that cottagers could gain prizes for their pigs against men who were able to feed 200 or 300 head of swine, and out of that number select the best, he would believe that the small wheelwright could beat the capitalist. He (Mr. Ransome) entirely repudiated the notions of Col. Challoner with respect to prizes on behalf of his own firm, and he believed he might do so on behalf of many other firms. It was the desire of the large implement maker to assist in bringing forward talent wherever it was found to exist, and to keep steadily on in the march of improvement, not resting upon his laurels, but always making further efforts.

Mr. Robert Smith endorsed the remarks of Colonel Challoner with respect to the value of the prize system to the fullest extent, and pointed to the state of agricultural implements, as well as to the position of the makers prior to the institution of the Royal Agricultural Society, in support of that view. It was the prize system of that Society which brought together a large quantity of implements to be tested as to their merits. Allusion had been made to the Bath and West of England Agricultural Society having discontinued the system of prizes. Being himself a West of England man, he knew the history of that matter, and he believed it had been occasioned by undue dictation on the part of some members of that Society, to whom the Council gave way, and the consequence was the prizes were discontinued; but he added that a lurking fondness for the system was manifested by exhibitors of implements at the shows, for they displayed in a corner of their stalls the medals that had been awarded to them. As a member of the Council of the Royal Agricultural Society, and having closely watched its working, he considered the decision to continue the prizes for implements a judicious one. Mr. Ransome had spoken of the trade in these implements which had sprung up with our colonies. He (Mr. Smith) quite granted that, but it was only after the implements had been improved and had become of established use in our own country.

Mr. Hammick (Assistant Government Commissioner for the Census), referred to the subject of agricultural statistics. The advantage to all classes of the community, particularly to the agricultural portion of it, of organising a good system of agricultural statistics in this country had frequently been pointed out. Mr. Morton had referred to the testimonies of competent persons as to the extent of agricultural progress in this country, but had he been able to refer to figures instead of general statements from scattered parts of the country, he believed still more satisfactory results would have been put before them. It was quite competent for them to have a similar system to that in Ireland, where the facts were collected and recorded by public officers, forming the basis of all deductions drawn as to the state of things in that country. It was a reflection upon them that whilst France, Belgium, and other continental nations had established a complete system of agricultural statistics, nothing had been done in that direction in this country. He quite believed with Mr. Henley that the fault did not lie with the farmers themselves, for he thought they would be quite willing to give the information if the Government provided proper persons to collect it.

The Chairman said he felt it would be wanting in respect to them, and to the great subject which had brought them together, were he not to express the satisfaction he had felt at hearing the very comprehensive paper which Mr. Morton had read—a paper which was in so many points instructive, and in so many other points, suggestive of improvements which were to follow. Agriculture had been the occupation of his life, which had not been very short or very inactive, and he rejoiced to see the interest which was taken on this occasion by the large audience gathered before him, considering, as they must do, agriculture to be the most important branch of our national industry—inasmuch as we had to look to it for supplying the means of all human existence, and without it, no other branch of industry could long be sustained. There were very few opinions expressed in the paper with which he did not entirely concur, but from his own experience, he could not agree with what Mr. Morton had said, when he stated he believed there was less food for cattle raised in this country than at a former period. [Mr. Morton. Less acreage devoted to it.] His experience led him to think otherwise. In many of the mountainous districts the facility given for the production of root crops, by the introduction of portable manures, had gone far to increase the cultivation of green crops. The system of thorough draining and deeper cultivation had brought a great proportion of land into a condition to grow Wheat crops, which 40 years ago was thought only fit for a naked fallow, and would only produce a scanty crop of Wheat. In this respect he was a little surprised to hear what Mr. Morton—no doubt from his experience and facts gained in other parts of the country—believed to be correct. The introduction of the portable manures had undoubtedly had great effect in extending the growth of Turnips, and it was the superior cultivation of the land, by drawing from it much greater produce, and by the improvement of the various descriptions of crops, which had caused the great increase in the production of human food. One of the first things a farmer had to do was to exercise his judgment in the description of stock to which the climate and the soil in which he was located were suited, and then to bring that stock to the greatest perfection. They knew that large Short-horn cattle and large sheep would be destructive to the farmer having poor land; therefore it was upon the exercise of his judgment in that respect that his success depended. Something had been said with respect to the difference between leases and tenants-at-will. In his part of the country he could say he never asked a man to farm without a lease. He should think it was doing great injustice to the tenant not to give him the security which a lease afforded, nor, as far as his experience went, would he think he was doing justice even to the owner of the land, because he believed the greatest impulse had been given to improvements where leases of considerable length were granted. No doubt, if a farm was in good condition and admitted of but small improvement, a man might go in without the security of a lease and manage it to good purpose; but if there were large improvements to be undertaken, if a man were required to lay out, as was the case on many farms he had had to let, from 2000*l.* to 10,000*l.*, would it be reasonable to say, "I will not grant you a lease or give you any security for the capital you put into the land?" Although much might be said about good understandings between landlords and tenants, under which the same family had been found from age to age on the same land, he would ask, what had the public benefited by that? Did they find that great experiments were undertaken by tenants of that description? for however good might be the understanding which existed between one man and another, a Pharaoh might arise "who knew not Joseph," and the family of the tenant might not be left in the position which justice to their interests required. He had listened with some pain to the gentleman who had spoken of some instances—he hoped partial and exceptional—of great cruelty to the labouring class. That was another argument furnished in favour of leases, for in the country where he had lived and had a good deal to do with landed property, where they had leases, no tenant would take a lease unless he had sufficient houses on the farm for his labourers to live in. It had been said that the cows and pigs were better accommodated than the labourers, and that the latter had often to walk long distances to and from their work. That was so absurd and impolitic a proceeding, that he could hardly conceive a person in his senses would continue it. In the north of England and in Scotland, there were numbers of cottages for the labourers near their work, and they had them rent-free. They were built by the landlord and maintained in repair by the tenants. Of late years he had built many hundreds of cottages—not in the old style, with a single room, where whole families were huddled together without comfort or decency, but with three or four rooms and all kinds of conveniences. That led to another remark. Mr. Morton had very happily and properly alluded to the superior system of education amongst agriculturists of the present day. He had, however, in a great measure confined that to the sons of farmers and occupiers of land. He (the Chairman) should be glad to say one

word for the labourers. It was quite obvious that the class of men accustomed to perform the operations of agriculture some years ago, could not, without superior education and skill, manage the agricultural machinery now used. It was in this view of the matter, and desiring to promote the interests of agriculture, that he would suggest that each one of them should, as far as his influence went, aid in promoting the education of the labourer,—in fact, do what he could to elevate him in character and feeling. Even as a matter of mere policy this was important, because the work required was of a more skilled character than formerly. The value of the labourer did not now depend so much upon the strength of his limbs and sinews as upon the knowledge he could bring to bear in conducting his operations. Taking a higher view, however, he would say that it was also a matter of duty on the part of the higher classes to imbue the labourer with just sentiments as well as with knowledge beneficial to him in his occupation, and to educate the young amongst this class in such a way that they would perform their duties and fulfil their position in life as accountable beings here and hereafter. He was sure he should have the hearty concurrence of the meeting in tendering their best thanks to Mr. Morton for his very excellent paper.

## COTSWOLD FARMING.

Having made no memoranda as to dates during the last 20 years, my remarks must be very desultory, being dictated from memory of what has taken place in this county. Draining was undoubtedly the first start made; public attention was drawn to the advantage of thorough draining by the evidence of the late Mr. Smith, of Deanston, before the Parliamentary Committee appointed to investigate the causes of agricultural depression, in, I believe, 1836 or 1838; before this period the only drainage adopted was putting a drain here and there across a field to cut off the water, often very shallow, and never of any real use. The expense of this operation was generally divided between landlord and tenant, the former finding materials, the latter the labour.

I was myself much impressed by reading the evidence of Mr. Smith, which I laid before Lord Bathurst, and represented to him the advantage I thought would acrue to his tenants and himself if some arrangement could be made for carrying out the thorough drainage of his estate. He at once entertained the subject, and agreed to be at the whole expense of draining all land wished by his tenants on their paying him 6 per cent. for the outlay. This arrangement was speedily followed by other landlords, and greatly facilitated by the advances of money for the purpose by Government, so that now there is scarcely an undrained piece of land in this part of the county.

The advantage of draining to the tenant varies very much according to the quality of the land. I have some land not improved more than 10 per cent., and other which is quadrupled in value—the latter consisting of a sandy land on the forest marble formation, which, as you are aware, is quite as impervious to water as the strongest clay, but when broken through it drains freely, and the poor sand is converted into a sandy loam.

After drainage, I consider the introduction of superphosphates and other artificial manures the greatest advantage. We before applied 16 and 20 bushels bone-dust an acre, at an expense of from 2*l.* to 3*l.*; now, by the application of sulphuric acid, rendering the bones soluble, this expense is reduced to 15*s.* or 20*s.* per acre.

Steam threshing was the exception in this neighbourhood only 10 years since; now it is the rule. You never see the flail, and very rarely horse labour employed, and the advantages of steam over every other system, you estimate more correctly than I can.

Twenty years since, even the drill system for Turnips was by no means general—now the little man who has only an acre or two to plant, borrows his neighbour's drill.

One-horse carts are more general, and of the immense increase in number of implements, and the superiority of structure during the period of which I write, I know you are fully informed.

I am very sorry I can get no notes of the proceedings of our Farmers' Club. I dare say you are aware it was from it that our College started into existence; this Club was formed and attended almost exclusively by tenant farmers. The late Mr. R. J. Brown brought forward the subject of the advantages of education for agricultural pursuits, which was immediately taken up by the farmers, but so much time was occupied by the establishment of the College that none was left for other objects, and the Club was given up.

The late Mr. R. J. Brown wrote a report of the rise and progress of the College, which I dare say you have seen; if not, and you think it will be any use to you, I will try to get you a copy.

I should have before mentioned that in this neighbourhood the substitution of the scarifier for the plough has been successful in saving expense with advantage to the land. The old custom was to plough twice for Barley, and four times for Turnips; now these crops are often grown with only one plough, and we do not so often see the fields bare of Turnips, excepting on the headlands, where they were often good, being saved from the injury of overploughing by the extra treading they got.

I cannot agree with letters I often see in agricultural papers complaining that our land is tired of roots, and we cannot grow the same weight as formerly; in this neighbourhood the average crops of roots are better than they were.

Although there were perhaps as good individual specimens of our breeds of cattle the early part of this century as now, the number of good animals is vastly increased, particularly Short-horns. When I began breeding them in 1836, the late Lords Ducie and Sherbourne, and the Misses Strickland were almost the only persons besides myself who kept a pure bred bull in this county; now we have them in almost every parish.

Under the circumstances one is sometimes disappointed that the cattle brought to our markets and fairs are not more improved. This, however, proceeds from the best animals finding purchasers at home, and never entering a market at all.

Looking back perhaps 40 years our supply of mutton must be doubled, or nearly so, as by the improvement in feeding, our farmers bring out their sheep at a year old, weighing as much as they formerly did at two years old.

The Leicester sheep are little improved, probably not so good as they were 20 years since: but in Cotswolds there is great advance; likewise the Hampshire downs have been vastly improved by judicious crossing with the Sussex, and the Oxfordshire Downs are a new breed altogether within 20 years, and are becoming more popular every year, and I think deservedly so. *Edward Bowly, Siddington, Cirencester.*

## CATTLE TRAFFIC.

Though I am but a poor, lean, and now diseased Irish bullock, I am sure that you, with your usual readiness to make known and redress cruelty and wrong, will permit me to tell that great doctor of my cloven-footed race, John Gamgee, a few things which he seems not to know, for I hear that he is taking a wrong turn, so that his zeal in our behalf will do us no good, nor will be add much to his own reputation. As I have said, sir, I am an Irish bullock, one of a drove of 140, brought here not many days ago by two English farmers from Ballinasloe Fair. At the fair we were all strong and in good health, sound in lung and limbs; for though people called us lean store beasts, we had been well fed, and for growing cattle we were in first-rate condition. Alas, what a change is to be seen in us now! In this short time we, who were so strong, are brought down; some of us are dead, some of us have lungs so inflamed that we can hardly breathe, others' tongues are so sore we cannot eat, and our feet so distended by fœtid matter that we cannot walk, and all are truly lean, and have coats, so soft and free but a few days ago, standing up or turned the wrong way, as if fright had made them stand on end and fixed them there. Now, Sir, I hear that Mr. Gamgee has been writing to you that thousands of my fellow cattle in all parts of the country are suffering in the same way, and that he says it is because a few foreign cattle have been brought here, which come with diseases and give them to us. Pray let me be heard on this subject. It stands to reason that we bullocks know more than even Mr. Gamgee about the way we catch diseases, and I am sure that he will be glad to learn what we can tell. Well, then, we were bought in Ballinasloe Fair, carried thence in railway trucks, a distance of about 80 miles, to Dublin. We had been standing all day in the fair without food and without water, after long journeys the day, for some of us days, before. When we reached Dublin late at night we were driven some distance to onr beds for the night—such beds!—and were miserably supplied with food and even with water. The next day we were put into the hold of a steamboat, which carried us to Holyhead. We overheard the men on board say what a good passage we were having; but our sufferings, notwithstanding, were horrible. We had an atmosphere so close, so hot, so poisoned by being inhaled over and over again, that the men who came down at Holyhead to sling us could remain but a few minutes at a time, and had to work by relays; yet we, whose lungs as much as theirs require pure air, had to breathe it for hours. When we were got out we could hardly see each other, or even the lamps which the men carried among us, for the steam rose from us in dense clouds, and the rain, which was pouring down, seemed to hiss and bound from our burning skins as it did from the big hot funnel on the boat's deck. Here our masters, who would, if only for their own sakes, have taken care of us, could do no more than turn us on to a bleak mountain side, where, hot and weary as we were, we lay during a night uncovered, to be stiffened by the blasts of the cold wind and rain. After a night like this we were again put into railway trucks, which brought us to this place. On the way we spent long, long hours, through day and night, without food, without water, in inclement weather, with a footing so slippery we could not stand, but so closely packed that we could not lie down, in trucks so narrow that our heads had to be some half thrust through the upper rails, others forced up over our neighbours' backs—in positions so painful and constrained that we wonder we can now carry them right again. At times, when the train stopped or started, we were thrown this way, then that, having all our limbs wrenched, and our skins so abraded that most of us, if we survive, will bear the scars with us to the end of our days. Foreign cattle! What, Sir, have foreign cattle to do with our sufferings? In coming here did we not undergo enough to give us diseases of the lungs, diseases of the feet, diseases of the mouth, diseases in every part? If Mr. Gamgee had been with us, driven like us to the fair, made to stand like us through the day, unfed, treated as we were at Dublin, in the steamboat, on the mountain side at Holyhead, and in the trucks thence to Market Harborough, would not he be as we are, though no German or Dutchman or other outlandish foreigner had ever set foot in Great Britain? And what do our masters say? They have seen the causes of our sufferings, and they know that they have sustained by them the losses they have. They go at once to the point, and they say, as I overheard, that they would have paid half as much again to bring us as we ought to be brought, for our maltreatment has caused us to be as we are. And yet, after all, they say that we of this drove have been fortunate, for if we had been brought over as most of us Irish bullocks are, by dealers, we might have been carried all the way from Ireland, as —— brought his the other day to Leicester, and there made them stand through the market hours without having had one morsel of food or one drop of water since they left the shores of their own dear Erin. Such of us, it seems, as, having been brought here by dealers, on arrival are not fit to show in the market, are placed with small farmers round about, whose want of capital make them willing to take in even diseased bullocks for a little cash, there to recover or die as may happen, while the rest of the drove are driven at once to the market or fair for sale, there to stand for the first half of the day, and to be driven at last to their purchaser's home, where in a few days diseases "brought by foreign cattle," Mr. Gamgee would say, decimate the herd.

Pray, sir, let Mr. Gamgee and all men see this true though faint description of what I and my horned brethren were made to undergo, and tell them that in that horrible hold of the steamboat our hatches were open, but that in bad weather the hatches have to be closed. Ask, them, sir, to try to imagine the sufferings endured in that hold which the other day left the continental port, containing 500 living things, cattle, sheep, and pigs, but which on reaching its port here yielded up instead 500 dead carcases.

Tell men these things, and I shall remain with the deepest gratitude, your servant for ever, *Rory O'Moo-oh, The Pastures, Market Harborough.*

P.S. What was that Black Hole affair at Calcutta, which I heard some one comparing the hold of our steamboat to? Was it a place in which men shut up cattle? *Times.*

## Home Correspondence.

*Swedes and Rape.*—On my arrival here about a month ago from Scotland, I was struck with a report of a trial held at the county Cavan quarter sessions, as reported in the *Farmers' Gazette* of the 7th ult., and being much astonished at the evidence adduced, and the results of that trial, and also sharing in the opinion of Lord Cloncurry and others, that Swede Turnip seed could not produce Rape-like plants, I determined to examine for myself while travelling through the country the Turnip crops in various counties. The first farms which I visited were those of Mr. Anderson, on His Grace the Duke of Leinster's property in the county of Kildare. These farms are managed on the most approved principles of modern husbandry, and well worthy of being placed in the foremost ranks of good farming either in Scotland or England, and therefore no care or skill was awanting in the management of the Turnip crop, which is on the whole in this case an exceedingly abundant one. Mr. Anderson told me that a portion of his crop was grown from seeds raised by himself from selected transplanted bulbs. I found spread over some parts of the field various plants having an appearance of shott Cabbage or Rape; these plants are not regularly distributed all over the field, but occur only on certain patches of it, indicating clearly to my mind that the sporting in the crop is not from the seed. From these farms I drove to Carlow and thence through the counties of Wexford and Wicklow; in the latter county I examined the Turnip crops on a large farm in the highest state of cultivation, and there I found the sporting or malformation of the Turnip developed in a very marked degree. The field, a large one, was sown in the usual way in parallel drills; at the one end of the field and about half way down there was not a spurious Turnip to be seen, but at the other end, and extending for several hundred yards, and embracing portions of many drills, the crop was studded over with these sporting plants without bulbs, but having strong fibrous roots like small trees, and large tops resembling overgrown Rape. I was therefore conclusively led to the conviction that sporting in the Turnip seed did exist in this country, and although from a large and varied experience both in England and Scotland I had never seen or heard of it until now, the crop referred to, which had not sported, was as fine as I ever saw, and I was informed that the seed was saved from large selected bulbs, and in a country where no Rape is seeded, so that the Turnip could not be hybridised. *Land Agent, Jury's Hotel, College Green, Dublin.*——In reading in your last number the Cavan trial

upon Swedes *versus* Rape, I am quite disposed to agree with the verdict of the judge, jury, and evidence of D. Drummond, for this reason; some 10 years ago, a friend sent me from the neighbourhood of Ilsley, Berks, 2 quarts of Swede seed, of a particular good "sort," well known to have grown some first-rate crops, and under the eye of a very practical man. I took more than ordinary pains in sowing them with a drill on one side, Mr. W. Skirving's sort the other side of the drill, consequently they were put in the ground the same moment. The Berkshire came up what is described in the Cavan trial as Rape, and when the grower was informed of the transgression committed by his favourite Swede he would not believe it, nor does he to this day; and I firmly believe that if the extraordinary pains which our seedsmen resort to were to slacken for a year or two, Swedes would quickly resume their original complexion—Rape. Out of 50 acres of very good Swedes now on the land, when old hedgerows have been grubbed, you may have as fine Rape as need to be grown, while those on the old land are as handsome as can be grown—the stock of Mr. Skirving, of Liverpool, whom I have now patronised for 27 years, and while I live mean to do so. *W. Eve, Manor Farm, North Ockendon, Romford, Dec.* 1.

*Autumn Culture by Steam.*—The Messrs. Howard's letter is incorrect when it says that "on large farms it would be most unwise to postpone the work to so late a period as Mr. Smith recommends." Now I have examined most carefully every letter that I have written upon the subject of steam cultivation since January, 1856, and every thing that has been printed that I have said, without finding such a recommendation, but I have found in a letter written by me and addressed to the farmers of England in 1858, the following:—"I may state that five acres of heavy and eight acres of light land have been found to be an average day's work; that September, October, and March are the best months for applying steam power to the cultivation of the soil; that after deducting Sundays and a few days for threshing or stoppage by rain, the working days for September and October may be put down at 45; this, multiplied by 5 for heavy and 7 for light, gives 225 acres and 315 acres as the quantity of land that can be cultivated once over with a set of steam apparatus within three months. By this it is clearly seen that if steam power is to be generally applied to the cultivation of the soil, every large farmer must possess a set of apparatus of his own. Two or three small farmers may have a set between them or hire one of another, according to arrangement; for September and October will not wait, and if the work is to be done well it must be done in those months." The letter containing this recommendation for pushing on the work as fast as possible directly after harvest was not only published in the leading agricultural papers, but was circulated by the Messrs. Howard themselves, first by circulars, and lastly in their catalogues of 1859, 1860, and 1861. This will be enough to convince the Messrs. Howard of the incorrectness of their remark. Now let me tell them that their letter is further incorrect, or rather, short of the truth, when they say, "we recommend the following plan, which we adopt upon our own farms, and which has been generally and successfully adopted by others . . . break up the stubbles with the steam cultivator . . . Then with the steam plough, or as the horses are at that time not very busy, with the ordinary double mould board plough, ridge up the land for the winter." Now this may be correct so far as laying land for the winter, but it also implies that a harrowing and sowing is enough for the spring seeding, whereas that is not the practice either of the Messrs. Howard or the general public for the least done to the land either by them or the public, in the spring, is the putting in the manure and splitting the ridge before seeding; in many cases a great deal more is done. The Messrs. Howard would do well to be a little more correct in their statement, and above all to give the whole truth. *William Smith, Woolston.*

*Sheep Clipping.*—I am much pleased that the Council of the Royal Agricultural Society have at length seriously considered the sheep-clipping question. I have fought the battle almost single-handed, and have been ever steady in exposing this crying evil, and no one knows this better than one who made very unfair remarks concerning my sheep at Oxford and Kilkenny, where, by the bye, a bare shorn sheep won the first prize. I hope the Council will alter April for May as the day of shearing, for I have spoken to several skilled sculpturers, and they say they can be cut into shape if shorn bare the 1st of April; and no farmer in the world could prevent a shepherd doing so, or be answerable for it; and to appoint a censor for deciding such a matter would indeed open the flood gates of dissatisfaction. If, as the Bath and West of England orders them, they be shorn by the 1st of May, then not much harm can be done. Four weeks later will make a great difference; they should be very strict in seeing it is fairly done then, and on no account attempt a censorship. On the subject of over-feeding I am sure nothing can be done. I showed at Leeds, so best judges said, the best sheep there, but he was not fully fat, and the judges passed him over. I took him all through the Yorkshire and Leicester shows, and he was admitted to be the best grown Cotswold sheep they had ever seen, but he died from his journeys. Another subject which requires the serious consideration of the Council is, now they have decided upon open judging, to prevent the judges knowing who the sheep belong to, and they are not aware of the tricks that are played to do so. The stewards of the yard cannot be all the time with the judges, and persons should be appointed never to leave the judges, and those animals should at once be disqualified, when the owners take any steps to show the judges whose they are. I have always upheld the judges, knowing what an unthankful office it is, and should not have acted differently at Battersea, though I knew, and the Cotswold men admitted I had one of the best sheep there; but when Mr. Robert Smith, one of the judges, thought fit to write an account of the Cotswold sheep and their breeders, and to name the number of prizes every one had taken, and to leave me out, who had in six years taken more prizes than nearly all of them; and also knowing that no one had formerly more warmly congratulated me on my success, I could not set him down but as a biassed judge, recollecting he was one of the members of Council who I had just before tried to remove for new blood, and hence he was so severely handled by the public press. I am quite sure judges should be appointed as far as possible who have no local interest, and who are above petty spites. This Battersea sheep was shown at Worcester, just opposite the Gold Medal prize Battersea sheep, and took the second prize there, one of the judges telling me afterwards it was the best two-shear sheep he had ever seen, and the person who joined him in the congratulation was judge at Leamington, and gave the first prize to a sheep that was inferior in every point. Any person who is curious in these matters can come down here and see all three of the sheep, and now I hope the Council will allow the members to vote by proxy, and then I would prophesy an increase of prosperity to the Agricultural Society that its warmest friend has never anticipated. *T. Beale Browne, Salperton Park, Andoversford.*

*Mangel Growing.*—For the information of some of my neighbours, will Mr. Smith of Woolston be so kind as to publish in the *Agricultural Gazette*, how many of these roots he, on an average, grows on each square yard of ground when the crop is 55 tons or 123,200 lb. an acre? or, if he will give the average weight of each root it will do as well. And if Mr. Milward will answer the same question in reference to his Swede crops of 35 tons an acre, he will also confer an equal favour. From the many examinations I have made to ascertain the depths to which by good cultivation both grain and root crops will descend in search after food, and the large yields of produce that will be the consequence, if the land also be thinly and evenly seeded, I should not have been so much surprised at these results had Mr. Smith by steam cultivation, and Mr. Milward by horse-power, given their lands what I consider to be good, that is, deep and thorough cultivation. But I am surprised, and more than I can express, that one of these gentlemen should grow 55 tons of Mangel, and the other 35 tons of Swedes per acre, with in reality no cultivation at all, or certainly none within the year when these marvellous outrageous crops were grown. In the palmy times of my old friend, the *John Bull* newspaper, an old and prudent lady of the name of Ramsbottom—"Mrs. Ramsbottom"—used to instruct the public by the publication of some wise maxims, directed chiefly for her son and daughter, and amongst them she advised "her darlings always to take Time by the forelock," a maxim it appears which Messrs. Smith and Milward have dropped upon and put into practice, by the grubbing, and ploughing, and preparing their lands in the autumn of one year to be all ready for their cropping the next year. *Geo. Wilkins.*—P.S. Will Mr. Smith also be so kind as to favour me with one of his Wurzels, as, for the novelty of the thing, I should like to convert one into a kennel for my half-bred Newfoundland dog? *G. W., Wix Parsonage, Dec.* 2.

*Birmingham Root Show.*—At the late exhibition of the above Society there were exhibited some very fine White Belgian Carrots from Osberton, six of which weighed no less than 36 lbs., which, for such a weight were exceedingly well grown. Yet these received no award, while the Carrots that obtained the prizes, although well grown, did not weigh so much by at least 26 lbs. the half dozen. Now it is my opinion and impression that size combined with quality should have the preference and be encouraged, especially in agricultural produce, as weight per acre is the agriculturist's motto. Am I right or not? *A. H. B.*

## Societies.

ST. JAMES'S HALL: *Steam Cultivation.*—The following is a further report of some of the addresses at the meeting held last week, to which we alluded in our last Number:—

J. T. HARRISON, Esq., of Frocester Court, Gloucestershire, moved, "That considerable advantage would arise to tenant farmers and others from the establishment of a joint-stock company for the purpose of supplying steam apparatus to applicants, allowing them to repay the cost price by instalments extending over a certain number of years, on the principle of a rolling stock company." The purchase should be made by the landlord and tenant in conjunction, the company taking a bond from the landlord for the payment of the money. As a farmer he had had a little experience of steam-ploughing already, and he knew the great disadvantage to a farmer of having to wait for his turn to have his land cultivated by steam. He sometimes missed his opportunity, and when he did get the steam plough he almost wished it away. Hence he considered that it would be a great benefit to farmers to have steam-cultivating apparatus of their own. Their experience of steam ploughing in Gloucestershire clearly showed that it was not desirable for any company to undertake ploughing by hire. It was essential to the owners of an undertaking like that under consideration that there should be good security, and such security could be obtained through the landlord and the tenant acting in conjunction. Under the proposed plan the company could supply the steam cultivator, and the tenant would pay the cost by instalments, and a certain amount for interest; and the company would have an additional security in a bond from the landlord that the money should be paid. Let them observe the advantages of this scheme. When the machinery was first supplied, the landlord's responsibility was at the maximum; but the engine was new and in first-rate condition. Year after year, as the tenant continued paying off, the amount of his interest increased, while the landlord's responsibility diminished. The company still retained its security; and in the event of the tenant's refusing or becoming unable to continue the payments, the landlord would meet them, and at the end of the period the cultivator would be his. He thought that was the only way to obtain proper security: nor was it at all unreasonable in his opinion, to ask landlords to incur a responsibility for what would conduce to their benefit as well as to that of the tenant.

The Earl of SUFFOLK observed that under that system a landowner might have half-a-dozen steam ploughs left on his hands.

Mr. HARRISON replied, that in that case he would have half a dozen farms to be cultivated. He knew a recent case in which a farm had to be let, on which there was a steam plough, and one of the conditions was that the new tenant should take to that plough. There were a great number of applicants for the farm, and so far from the condition just mentioned being objected to by them, it was considered an advantage that the future tenant would obtain a steam plough on the farm.

Dr. VOELCKER seconded the resolution. He said the farmers of England were frequently spoken of as a prejudiced, ignorant, and slow race of men. It was not for him to say whether they were more so than other classes of the community. All had their prejudices, and all were more or less ignorant, and if one class were a little quicker than another, the quicker was not always the surer. Farmers, as a class, perhaps no one would deny, were slow, but their very slowness was a recommendation; for, if they were not slow, they could not be good farmers. But, if slow, they were sure. He believed that the carrying out of the resolution just proposed would be of immense advantage to agriculture. He thought there should be not only one joint-stock company of this kind, but a number of them scattered all over the country. What made a man engaged in manufactures or commerce enterprising was the command of surplus capital. Farmers, as a body, were not in that position: they really had to turn a penny twice before they could with comfort to themselves spend it; and it was very reasonable that a farmer should think twice before spending a large sum on an implement of which he had perhaps had little general observation, and no personal experience. Now, it was to meet this case, as he understood, that joint-stock companies were to be established, and he had no doubt that farmers would largely avail themselves of the opportunity of repaying by instalments the money advanced by capitalists. But he felt that he was somewhat out of place in speaking on such a purely practical question, and he would therefore, as a scientific man, mention two points with which the discussions which took place on the advantages of steam cultivation did not appear to him to have been made sufficiently prominent. They were, first, that by steam cultivation you could get from many soils an immense quantity of manure, and thus save a good deal of money in the purchase of artificial or the purchase of home-made manures—a very important advantage; secondly, that there were many soils in this country which were really not in a fit condition to receive artificial manure, if the farmer were willing to purchase it—for example, guano or superphosphate of lime, or even farm-yard manure. This second point was one of great practical importance. They frequently heard of clay land which was so poor that it would not repay the cost of cultivation; and it would be well to inquire what was the cause of that poverty. Land of that kind might be poor for one or two reasons—either because it had not the elements of fertility in it, or because it was not in a fit condition to receive manure. In either case something should be done to bring the soil into a better condition. To do this by manual labour was out of the question, and to do it by horse labour was in many cases, as he had no hesitation in saying, impossible. The only mode of effecting this object in some parts of England, was, happily, steam power. What would be the result of steam cultivation? In places where there was, so to speak, an immense amount of capital locked up in the soil, that capital would be set free; in other words, steam cultivation would eliminate from the soil itself the elements of manuring fertility which were purchased so dearly in guano and manufactured manures. All who knew anything of his writings must know that he was a great advocate for every description of manure in its proper place. He called applications of manure out of place when they had the elements of fertility in the soil, and when for want of proper energy or proper implements they did not avail themselves of steam cultivation to work out of the land the materials they required. This was a point which had not been sufficiently attended to by writers on steam cultivation, and he wished, therefore, strongly to impress on the meeting that from nine-tenths of the soils of a heavy description, they would get by steam cultivation an immense amount of fertilising matter. Few persons had any adequate idea of the enormous resources of clay soils. Some time ago he examined some clay soils in Gloucestershire, and for his own amusement he made a calculation with regard to their constituents. He found that in the clay soils there was, within a depth of an inch and a-half, a sufficient amount of that very important element potash to supply the Wheat crops for 1500 years, and that farmers had only to go down another inch and a half to get enough potash for 1500 years more. There were many poor clay lands, and if they were cultivated by steam would for a long succession of years yield large crops, without the farmers being compelled to make large purchases of guano or other artificial manures. In the next place he would observe that many soils were not in a fit condition to receive manures; they were bad clays, or so tenacious that if manure were applied to them it ran off the surface. When rain fell, the most valuable portion of the manure was washed out; the essence of the manure ran in the readiest way through the cracks of the clay, instead of filtering through the soil. By steam cultivation the mechanical condition of the soil, and therefore its fitness to receive manure, would be greatly improved. In whatever light clays were regarded, steam cultivation could not but produce wonderful effects; and he believed that what they now witnessed was merely a foretaste of what was to be expected from steam cultivation, and what would be seen 20 years hence.

Sir GEORGE JENKINSON moved: "That this meeting views with decided approbation the objects of the General Steam Cultivation Company, and the mode in which it is designed to carry them into effect." He said that resolution was a very practical one, raising, as it did, the question whether the scheme of forming a company should succeed or should fall to the ground. With a view of showing clearly the principal features of the scheme, he would read what they proposed to

make the base of their proceedings: "Since steam will enable the farmer to cultivate with fewer horses, since it improves the quality and increases the produce of his land, since it makes him almost independent of the weather, by doing his work with marvellous expedition and precision, the progress of steam cultivation must mean more profitable farming and more abundant food. The majority of farmers who use steam bear enthusiastic testimony to its superiority over horse-power The farmer who may desire to buy machinery through the agency of this company, will, to a great extent, be at liberty to choose his own system and implement maker. The shareholders, on the other hand, are free from risk, since the company order only after they have sold. They are not called upon to venture a shilling in agricultural steam machinery; they are merely the intermediaries who pay the implement maker for goods supplied, and have their outlay returned, with interest, by instalments. They have undoubted security for their invested capital, for while the company receive in ready money 25 per cent., and when the first year's quarterly instalments have been paid, hold a total cash security equal in no case to less than 33 per cent. of the retail value—they retain the legal ownership of the machinery—to them an always available security, until the price of it has been completely reimbursed to them. The rate at which the capital is repaid to the company will always, even under the seven years' scale, maintain the amount in their hands at a sum far beyond any possible amount of depreciation which the machinery might suffer from neglect; but the purchaser will, nevertheless, be bound to keep the machinery in an effectual state of repair, and to the satisfaction of the company's engineer; which, indeed, it will obviously be to his own interest to do." Three objections were raised against steam cultivation. The first was the expense it involved. That objection would be entirely met by the company, inasmuch as the tenant-farmer would not be called upon to lay out any money to obtain a steam cultivator. The second objection was the trouble or annoyance which might be caused to landlords by requiring them to alter the shape of their fields, and to remove their fences. If a landowner improved his farms to the extent necessary for steam-draining and cultivation, the enhanced value of the land would be ample compensation for his trouble. He would be able to obtain a better class of tenants, because the land would yield a greater amount of produce, and carry more stock. The last objection to steam cultivation was that it would interfere with hunting. Even if that would be the case, it should be remembered that hunting was not everything, and that it must, if necessary, give way to the production of increased food for the population. But as one who hunted himself, he contended that that objection was unfounded. In conclusion, he would remark that scarcely anything great or important could be achieved without some sacrifice at the outset; and even if a landlord did lose a few hundred pounds by making himself responsible in the manner now proposed, he would ultimately reap advantage in the improved state of his land, and in securing better tenants.

WEST CUMBERLAND.—I cannot even give you the date of the foundation of the West Cumberland Agricultural Society, I fancy it is about 30 years since it was established. For a few years, when the Society was in its infancy, the annual show was held at Egremont; it was afterwards removed to Whitehaven, where it still continues to be holden either in the month of September or early in October, the fixture depending upon the time of harvest. My residence in the district dates from 1845. For the last 10 years I have acted as Hon. Secretary and Treasurer to the Society. The funds are raised by annual subscription. We have no farmers' club, nor have we any discussions except what may be promiscuously brought forward at the show-day dinner.

The improvements that have taken place during the last 20 years in the agriculture of this district are marked and various. I will take for example the township of Sandwith: when I first came into this vicinity, it was one complete bed of Couch Grass. The land had been cropped with Potatos and Wheat until it was exhausted, and two or three small stacks were all one could see about each farm house. When the blight came upon the Potato crop in 1845, it was looked upon as a great visitation, but in the end it has proved the salvation of many a poor farmer. When the Potato failed, attention was then turned to the growth of the Swede, for which the climate and soil of the township is peculiarly adapted. And as the Society has always given liberal prizes for the growth of that root, the competition has been keen and spirited. As much as 13*l.* per acre has been made of a crop of Swedes by taking in sheep to consume them on the land at 4½*d.* per head per week. The difference between carting the Potato crop to market and consuming the Swedes on the land has made a wonderful change in the cereal crops which the land now produces. The stackyards are full to overflowing, the land is as clean as a garden, and whereas in 1845 it was one of the worst farmed districts in the North of England, it is now second to none in the kingdom.

There has also been a considerable improvement effected in regard to haymaking in West Cumberland since machinery was introduced into that department of husbandry. I get from my farm from 400 to 700 cart-loads annually; and before the year 1855 it was all made by hand labour, the scythe, the fork, and hand rake, being the sole implements used. I have now six horse machines in daily use, the result is, quicker, cheaper, and better made hay.

As an example of expeditious haymaking, I may mention that I commenced to cut a five acre plot on a Thursday evening at 5 o'clock, and before 6 o'clock on Saturday evening following I had the whole produce, consisting of 28 cart-loads, safely secured in the mow, as dry, sweet, and well-made hay as I would wish for, and the entire cost for manual labour of mowing, making, and gathering into rows, ready to fork into the cart, was 1*s.* per acre; whereas on the old system it would have cost from 7*s.* to 10*s.* per acre.

Threshing machines and ploughs have also undergone a considerable improvement during the last 10 years—thanks to the Royal Agricultural Society holding their meeting at Carlisle. I believe that exhibition was instrumental in opening the eyes of many of our Cumberland mechanics. Previous to 1855 our county was wont to boast of her ploughmen, but when it came to the test at Carlisle, we were well beaten upon our own sod—not that our ploughmen were deficient in skill, but they had not the implements to work with. Rents have been gradually rising since I came into the neighbourhood, and I know several farms which have gone up 50 per cent. If I may take the wages of my own farm servants as a criterion, they have also gone up 50 per cent. I keep eight servants in the house, and they are engaged by the half year; and I find in 1845 and 1846 they averaged 7*l.* each—they now average 10*l.* 10*s.* Poor-rates, taxes, &c., which come against my farm, have risen nearly 100 per cent. *Robert Jefferson, Preston House, Whitehaven.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.

By the Rev. J. SLATTER, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dec. | Inches. | | | | | | | | | | Inches. |
| Friday .. .. | 11 | 30.25 | 48 | 46 | W. | 2 | 10 | 48 | 42 | [illegible] | 35 | .. |
| Saturday .. .. | 12 | 30.17 | 49 | 47 | N.W. | 3 | 5 | 51 | 47 | 54 | 43 | .. |
| Sunday .. .. | 13 | 30.40 | 41 | 40 | N.W. | 0 | 9 | 54 | 38 | 61 | 29 | .. |
| Monday .. .. | 14 | 30.44 | 47 | 45 | N.W. | 0 | 0 | 40 | 34 | 60 | 29 | .. |
| Tuesday .. .. | 15 | 30.36 | 45 | 44 | N.W. | 0 | 10 | 52 | 35 | 59 | 28 | .. |
| Wednesday .. | 16 | 29.88 | 49 | 48 | W. | 0 | 10 | 49 | 41 | 59 | 39 | .. |
| Thursday .. .. | 17 | 29.96 | 45 | 40 | N. | 4 | 8 | 48 | 38 | [illegible] | 30 | .. |

The rainfall on the week ending Dec. 3, was 1.00 inch.

## Miscellaneous.

*To make Plain Gingerbread.*—Mix 3 lb. of flour with 4 ounces of moist sugar, ½ ounce of powdered ginger, and 1½ lb. of warm treacle, melt ¼ lb. of fresh butter in it, put it all to the flour, and make it a paste. Then form it into nuts or cakes, or bake it in one cake.

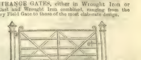
*Strengthening Jelly for an Invalid.*—2 ounces of white sugar candy, 1 ounce of isinglass, 1 ounce of gum arabic; put these ingredients into a basin, cover them with cold water, let it stand all night, the next morning put it on the fire and let it simmer until all is dissolved. Then add 1 pint of port wine and boil it all together half an hour; strain it, and let the patient take a tablespoonful three times a day.

*Marine Glue.*—Dissolve 1 lb. of caoutchouc in 4 gallons of coal naphtha; mix 1 pint of this solution with 2 lb. of shellac; the mixture, when cold, resembles sealing wax. Make the parts to be joined very hot, cover them with the cement, and press them tightly together till cold; clean off the superfluous portions with liquor potassæ.

*The best Soup.*—When 1 lb. of lean beef, free of fat, in the finely chopped state in which it is used for beef sausages or mince-meat, is uniformly mixed with its own weight of cold water, slowly heated to boiling, and the liquid, after boiling briskly for a minute or two, is strained through a towel from the coagulated albumen and the fibrine, now become hard and horny, we obtain an equal weight of the most aromatic soup, of such strength as cannot be obtained, even by boiling for hours, from a piece of flesh. When mixed with salt and the other usual additions by which soup is usually seasoned, and tinged somewhat darker by means of roasted onions or burnt sugar, it forms the very best soup which can in any way be prepared from 1 lb. of flesh. *Liebig's Researches on Food.*


HORTICULTURAL and AGRICULTURAL IMPLEMENTS and MACHINES of every description.
Illustrated Catalogues on application.
THOMAS GREEN & SON, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

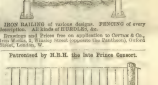
ENTRANCE GATES, either in Wrought Iron or Cast and Wrought Iron combined, ranging from the ordinary Field Gate to those of the most elaborate design.



IRON RAILING of various designs. FENCING of every description. All kinds of HURDLES, &c.

Drawings and Prices free on application to COTTAM & Co., Iron Works, 2, Winsley Street (opposite the Pantheon), Oxford Street, London, W.

Patronised by H.R.H. the late Prince Consort.



No. 7b variety, 9d. per lineal yard.

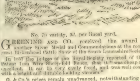
GREENING AND CO. received the award of another Silver Medal and Commendations at the recent great Birkenhead Cattle Show of the South Lancashire Society.

In 1857 the judges of the Royal Society reported of their Patent Iron Wire Sheepfold Fence, that it "was cheap and excellent. It can be very easily fixed, and was well coated with a bright and durable-looking varnish."

G. & Co.'s prices remain unadvanced, notwithstanding the rise in the iron market. Their enlarged Catalogue of Fences and Iron Gates post-free on receipt of three stamps. An explanatory circular sent without charge, on application.

Address GREENING & COMPANY, Victoria Works, 81, Oxford Street, Manchester.

BARNARD, BISHOP, AND BARNARDS, Norwich.
FURTHER REDUCTION in the PRICE of WIRE NETTING.

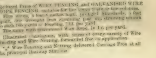


BARNARD, BISHOP, & BARNARDS beg to inform their friends and the public that they have made a further reduction in the prices of Machine-made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard. |
|---|---|---|---|
| 2-inch mesh, 24 inches wide .. | No. 19 .. | 4½d. .. | 3½d. |
| 2-inch ,, ,, | ,, 18 .. | 5 .. | 4 |
| 2-inch ,, ,, | ,, 17 .. | 6½ .. | 5 |
| 2-inch ,, ,, | ,, 16 .. | 8 .. | 6½ |
| 1½-inch ,, ,, | ,, 19 .. | 4½ .. | 4 |
| 1½-inch ,, ,, | ,, 18 .. | 6 .. | 4½ |
| 1½-inch ,, ,, | ,, 17 .. | 7 .. | 5½ |
| 1½-inch ,, ,, | ,, 16 .. | 9 .. | 7 |

All the above kinds can be made any width (under 6 feet) at proportionate prices.

Strong Galvanised Poultry Netting, 7½d. per yard, 3 feet Wide. Galvanised Sparrow-proof Netting for Pheasantries, 11d. per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.



Reduced Prices of WIRE FENCING and GALVANISED WIRE ROPE FENCING, suitable for [illegible]. Five wires, a [illegible] Standards, 5 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 11d. per yard.

The same with galvanised Wire Rope, 1s. 1d. per yard.

Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.

*,* Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations.

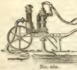
# CLINTON & OWENS

(LATE BENJAMIN FOWLER & CO.),

MANUFACTURERS OF

## PUMPS AND HYDRAULIC MACHINERY,

WHITEFRIARS STREET, FLEET STREET, LONDON.



No. 46a.

No. 50.

No. 49 a.

No. 1.

No. 38.

No. 49.

THE Landscape Sketch shows an adaptation of THE IMPROVED HYDRAULIC RAM for forcing water to considerable heights and distances to supply Mansions, Farms, &c., where a few feet fall can be obtained. Full particulars of this useful Self-acting Machine can be had on application.

No. 4. Useful YARD, GARDEN, and COTTAGE PUMPS, from 1*l.* 5*s.* each.
No. 38. Portable LIQUID MANURE PUMPS, with flexible suction pipe.
No. 46a. DOUBLE-ACTION PORTABLE FORCE PUMPS and FIRE ENGINES for Water or Liquid Manure.

No. 50. Improved (Holman's Patent) DOUBLE-BARREL FARM FIRE ENGINES and IRRIGATING PUMPS.
No. 49. GARDEN ENGINES of all sizes.

No. 49a. Improved SWING WATER CARRIERS, holding 24 and 35 gallons for Garden Use.

*Further Particulars, Estimates, and Illustrated Price Lists on application.*

# THOMAS MILLINGTON,

## GLASS MERCHANT. (Established 1750.)

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

## REDUCED TARIFF FOR SHEET GLASS AND HORTICULTURAL GOODS.

THE AGRICULTURAL HALL, ISLINGTON, CONTAINING AN ACRE OF GLASS, WAS SUPPLIED BY T. MILLINGTON.

**Mr. Rivers and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home use and for Exportation.**

### PROPAGATING GLASSES.

| | | | |
|---|---|---|---|
| 2 inches diam. | 0*s.* 3½*d.* each. | | |
| 3 ,, | 0 | 4½ | ,, |
| 4 ,, | 0 | 5½ | ,, |
| 5 ,, | 0 | 6½ | ,, |
| 6 ,, | 0 | 8 | ,, |
| 7 ,, | 0 | 10 | ,, |
| 8 ,, | 1 | 0 | ,, |
| 9 ,, | 1 | 2 | ,, |
| 10 ,, | 1 | 4 | ,, |
| 11 ,, | 1 | 6 | ,, |
| 12 ,, | 1 | 9 | ,, |
| 13 ,, | 2 | 0 | ,, |
| 14 ,, | 2 | 6 | ,, |
| 15 ,, | 3 | 0 | ,, |
| 16 ,, | 3 | 6 | ,, |
| 17 ,, | 4 | 0 | ,, |
| 18 ,, | 5 | 0 | ,, |
| 19 ,, | 6 | 0 | ,, |
| 20 ,, | 7 | 0 | ,, |

### FLOWER TUBES.

2*d.* each, or 1*s.* 6*d.* per dozen

### ZINC HAND GLASSES.

Painted and Glazed with 16-oz. Sheet Glass.

| | | | |
|---|---|---|---|
| 12 inches | 5*s.* | 6*d.* | each |
| 14 ,, | 6 | 6 | ,, |
| 16 ,, | 7 | 6 | ,, |
| 18 ,, | 8 | 6 | ,, |
| 20 ,, | 9 | 6 | ,, |
| 24 ,, | 11 | 6 | ,, |

If open top, 1*s.* extra.

### BEE GLASSES.

| | | | |
|---|---|---|---|
| 4 inches diameter | 0*s.* | 6*d.* | each |
| 5 ,, | 0 | 8 | ,, |
| 6 ,, | 0 | 10 | ,, |
| 7 ,, | 1 | 1 | ,, |
| 8 ,, | 1 | 4 | ,, |
| 9 ,, | 1 | 8 | ,, |
| 10 ,, | 2 | 0 | ,, |
| 11 ,, | 2 | 6 | ,, |
| 12 ,, | 3 | 0 | ,, |

### FLAT TOP BEE GLASSES.

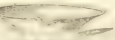
| Height | Width | *s.* | *d.* | |
|---|---|---|---|---|
| 4 inches | by 7 inches | 1 | 6 | each |
| 4½ ,, | by 7½ ,, | 1 | 9 | ,, |
| 5½ ,, | by 7½ ,, | 2 | 0 | ,, |
| 6½ ,, | by 8 ,, | 2 | 3 | ,, |
| 7½ ,, | by 8½ ,, | 2 | 10 | ,, |

### FERN SHADES & STANDS.

| Ins. dia. | Shades. | Stands. |
|---|---|---|
| 6 | 1*s.* 4*d.* each. | 1*s.* 0*d.* each |
| 7 | 1 8 ,, | 1 3 ,, |
| 8 | 2 0 ,, | 1 6 ,, |
| 9 | 2 6 ,, | 1 9 ,, |
| 10 | 3 3 ,, | 2 6 ,, |
| 11 | 4 0 ,, | 2 6 ,, |
| 12 | 5 6 ,, | 3 0 ,, |
| 13 | 7 6 ,, | 3 6 ,, |
| 14 | 10 0 ,, | 4 0 ,, |
| 15 | 14 0 ,, | 4 6 ,, |
| 16 | 18 6 ,, | 5 0 ,, |

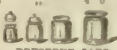
WASP TRAP, 2*s.* 6*d.* per doz.

Crystal Glass Shades, Ebony and Gilt Stands, Gas and Lamp Glasses, Chimneys and Globes, &c.



### MILK PANS.

| | | | |
|---|---|---|---|
| 6 inches diameter | 0*s.* | 6*d.* | each |
| 8 ,, | 0 | 9 | ,, |
| 10 ,, | 1 | 0 | ,, |
| 12 ,, | 1 | 3 | ,, |
| 14 ,, | 1 | 9 | ,, |
| 16 ,, | 2 | 3 | ,, |
| 18 ,, | 2 | 9 | ,, |
| 20 ,, | 3 | 3 | ,, |
| 22 ,, | 3 | 9 | ,, |
| 24 ,, | 4 | 6 | ,, |

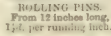


### PRESERVE JARS.

| In. diam. | Without Lids. | With Lids. |
|---|---|---|
| 3 | 0*s.* 4½*d.* | 0*s.* 6½*d.* ea. |
| 4 | 0 6 | 0 9 ,, |
| 5 | 0 8 | 0 11 ,, |
| 6 | 0 10 | 1 2 ,, |
| 7 | 1 0 | 1 4 ,, |
| 8 | 1 4 | 1 8 ,, |
| 9 | 1 8 | 2 2 ,, |
| 10 | 2 0 | 2 8 ,, |

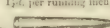
### FISH GLOBES.

| | Without feet. | With feet. |
|---|---|---|
| 8 inches diam. | Per lb. 7*d.* | 9*d.* |
| 9 ,, | | |
| 10 ,, | | |
| 11 ,, | | |
| 12 ,, | | |
| 13 ,, | | |
| 14 ,, | | |
| 15 ,, | | |
| 16 ,, | | |



### ROLLING PINS.

From 12 inches long, 1½*d.* per running inch.



### CUCUMBER GLASSES.

From 12 inches long and upwards, 1*d.* per running inch.

### SHEET GLASS.

In Cases for cutting up, in Sizes as Manufactured.

| | 300 feet | 200 feet. | | |
|---|---|---|---|---|
| | 15 oz. | 21 oz. | 26 oz. | 32 oz. |
| Fourths quality | 33*s.* 6*d.* | 33*s.* 6*d.* | 39*s.* 6*d.* | 45*s.* 6*d.* |
| Thirds do. | 42 0 | 42 0 | 49 0 | 56 0 |
| Seconds do. | 62 0 | 64 0 | 74 6 | 85 0 |
| Best do. | 88 6 | 88 6 | 108 6 | 118 0 |

### CRYSTAL SHEET GLASS.

For Pictures and best Glazing purposes.

Averaging 16 oz. to the foot.

| | |
|---|---|
| Best quality, in cases of 200 feet | 100*s.* |
| Second quality, in cases of 100 feet | 82*s.* |

Averaging 30 oz. to the foot.

| | |
|---|---|
| Best quality, in cases of 100 feet | 100*s.* |
| Second quality, in cases of 100 feet | 82*s.* |

### SQUARES, in 100 and 200 Feet Boxes.

Small Squares not exceeding 9½ inches by 7½ inches.

| Ins. Ins. | Ins. Ins. | Ins. Ins. | Ins. Ins. |
|---|---|---|---|
| 6 by 4 | 7 by 5 | 8 by 6 | 9 by 7 |
| 6½ by 4½ | 7½ by 5½ | 8½ by 6½ | 9½ by 7½ |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 9*s.* 9*d.* | 11*s.* 3*d.* | 13*s.* 9*d.* | 16*s.* 9*d.* |

Squares not exceeding 14 inches by 11 inches.

| | | | |
|---|---|---|---|
| 10 by 8 | 12 by 9 | 12½ by 10½ | 14½ by 10½ |
| 10½ by 6½ | 12½ by 9½ | 13 by 10 | 15 by 10 |
| 11 by 9 | 13 by 9 | 13½ by 10½ | 13 by 11 |
| 11½ by 9½ | 12 by 10 | 14 by 10 | 14 by 11 |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 10*s.* 9*d.* | 12*s.* 3*d.* | 15*s.* | 18*s.* |

Squares not exceeding 20 inches by 18 inches.

| | | | |
|---|---|---|---|
| 15½ by 10½ | 14 by 12 | 17 by 13 | 24 by 16 |
| 16 by 10 | 14½ by 12½ | 18 by 13 | 20 by 17 |
| 11½ by 11½ | 15 by 12 | 18 by 14 | 22 by 17 |
| 15 by 11 | 15½ by 12½ | 22 by 14 | 24 by 17 |
| 15½ by 11½ | 16 by 12 | 24 by 14 | 20 by 18 |
| 16 by 11 | 16½ by 12½ | 22 by 15 | 22 by 18 |
| 13 by 12 | 17 by 12 | 24 by 15 | 24 by 18 |
| 13½ by 12½ | 18 by 12 | 22 by 16 | |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 11*s.* 6*d.* | 13*s.* 6*d.* | 16*s.* 6*d.* | 20*s.* |

Orchard House Sizes, as recommended by Mr. Rivers.

| Ins. Ins. | 15 oz. | | 21 oz. | |
|---|---|---|---|---|
| 20 by 12, 20 by 13, 20 by 14, 20 by 15, 20 by 16 | 4ths | 11*s.* 6*d.* | 4ths | 15*s.* 0*d.* |
| | 3rds | 13 6 | 3rds | 19 0 |
| | 2nds | 16 6 | 2nds | 25 0 |
| | Best | 20 0 | Best | 30 0 |

Per 100 feet.

Squares Cut to Sizes not on List.

| Under | 15 oz. 4ths. | 3rds. | 2nds. | 1st | 21 oz. 4ths. | 3rds. | 2nds. | 1st |
|---|---|---|---|---|---|---|---|---|
| 1 ft. super. | 1¼*d.* | 1½*d.* | 2*d.* | 2¼*d.* | 2¼*d.* | 2¾*d.* | 3¼*d.* | 4½*d.* |
| 2 ft. super. | 1½ | 2 | 2½ | 3 | 2¾ | 3 | 4 | 5½ |
| 3 ft. super. | 2 | 2¼ | 2¾ | 3½ | 3 | 3½ | 4½ | 6 |
| 4 ft. super. | 2¼ | 2½ | 3 | 4 | 3½ | 3¾ | 4½ | 6½ |

GLASS TILES, in SHEET and ROUGH PLATE. PLATE GLASS, PATENT PLATE, and HARTLEY'S IMPROVED ROUGH PLATE.

### PAINTS, COLOURS, VARNISHES, &c.

| | Per cwt.—*s.* *d.* |
|---|---|
| GENUINE WHITE LEAD | 30 0 |
| ANTI-CORROSION PAINT | 28*s.* to 34 0 |
| LINSEED OIL PUTTY | 9 0 |

| | Per gallon.—*s.* *d.* |
|---|---|
| FINE OAK VARNISH | 10*s.* to 12 0 |
| ,, CARRIAGE | 12*s.* to 14 0 |
| PATENT DRYERS | per cwt. 28*s.* to 42 0 |

LINSEED OIL, BOILED OIL, TURPENTINE — Subject to fluctuation of the market.

MILLED LEAD in Sheet and Pipe of all sizes. Old LEAD bought or taken in exchange.

LIFT PUMPS, WATER CLOSETS, and PLUMBERS' BRASS WORK of all kinds.

**NETT CASH.**

THE LONDON SEED COMPANY, LIMITED.—The Directors have much pleasure in stating that they have completed the harvesting of all kinds of Seeds, and are now in a position to execute orders for every requisite for the FARM and the GARDEN.

The GENERAL PRICE CURRENT will be ready in December, and will be forwarded Gratis and Post-free on application. Seeds carriage free.

Offices: 68, Welbeck Street, Cavendish Square, London, W.

**Surplus Nursery Stock.**

WOOD AND INGRAM have to offer the following at very moderate prices, which, with samples if required, may be had on application.

ELMS, NARROW-LEAVED ENGLISH, 2 years seedling
" " " " fine transplanted
" HERTFORDSHIRE, true from layers, 3 to 4, 4 to 5, and 5 to 6 feet
" HUNTINGDON, 4 to 5, 5 to 6, and 6 to 8 feet
HOLLIES, 1-year Seedling, extra fine
OAK, ditto. ditto.
FIR, SPRUCE, 1 to 1½, and 1½ to 2 feet
" WEYMOUTH PINE, 2 to 3, 3 to 4, and 4 to 5 feet
LABURNUM, fine Standards
LILACS, 4 to 5, 5 to 6, and 6 to 8 feet
POPLAR, BLACK ITALIAN, 5 to 6, 6 to 8, and 8 to 10 feet
" LOMBARDY, 8 to 10, and 10 to 12 feet
" ONTARIO, 4 to 6, 7 to 8, 8 to 10, and 10 to 12 feet
" ABELE and WHITE, 2 to 3, 3 to 4, 7 to 8, and 8 to 10 feet
WILLOW, BEDFORD, CŒRULEAN and HUNTINGDON, 4 to 5, 5 to 6, 6 to 7, 8 to 10, and 10 to 12 feet
YUCCA RECURVA, very fine plants
ROSES, Dwarf Standards, on 6 to 18 inch stems
VINES, BLACK HAMBURGH and MUSCAT of ALEXANDRIA, from eyes, various size.
CURRANTS, Red and Black

Huntingdon Nurseries.

COCOA-NUT REFUSE, delivered within 2½ miles of Charing Cross, at 2s. per bag.

For particulars, and how to use it, see long Advertisement in *Gardeners' Chronicle* of the 21st March, 1863; or apply to the PATENT COCOA FIBRE COMPANY, Kingston-upon-Thames.

Postage Stamps or Post-office Orders payable to J. BARSHAM & Co.

BARSHAM'S BRUSHES and MATS are sold in every town.

CAUTION.—Every Brush is stamped. J. BARSHAM'S Patent'

Magnified Aphis.

NEAL'S PLANT SOAP and APHIS PASTILS,
1s. and 2s. per packet,
may be obtained from all respectable Seedsmen.
Testimonials forwarded on application to the Patentee,
J. NEAL,
Edward Street, Birmingham.

**Winter Dress all Fruit Trees with**
GISHURST COMPOUND.

*Copy of a Letter from* Mr. RIVERS,
"Nurseries, Sawbridgeworth, Herts, Oct. 22, 1861.

Red Spider Magnified.

"I must tell you what I heard to-day from a very clever gentleman farmer, Anthony Bubb, Esq., of Witcombe Court, Gloucester. He has a wall to which Peach trees are trained. Well, last autumn they were in a wretched blighted state. As a desperate remedy he unnailed them all early last February, and gave all but one a thorough painting with Gishurst Compound, 1 lb. to the gallon of water; his trees, all but the one, commenced to grow favourably in spring, and are now pictures of health. The tree not painted is in a half-dead blighted state. He used the same dressing to his Apple trees; it killed the woolly aphis entirely, and has made his trees clear and vigorous in their growth. He intends to paint his wall trees annually, and tells all his friends to do the same. I shall certainly serve all my young Peach trees against my walls in the same manner. The Compound is, I believe, more efficacious than the usual offensive mixtures of clay, soot, sulphur, &c., and it does not blacken the shoots on the walls."

For Orchard-house Trees 4 ounces to the gallon will be found a good strength; when used stronger some buds on weakly trees may be injured.

GISHURST COMPOUND is Sold Retail by Nurserymen and Seedsmen, in boxes 1s., 3s., and 10s. 6d. each.

Wholesale by PRICE'S PATENT CANDLE COMPANY (Limited), Belmont Vauxhall, London, S.

SHAW'S TIFFANY.
For samples and prices apply to
J. SHAW & Co., 29, Oxford Street, Manchester.

**Universal Microscope. Price £5 5s.**
SMITH, BECK, AND BECK,
31, Cornhill, E.C.; late 6, Coleman Street.
*** Catalogues sent on receipt of 6 postage stamps.

**The Original Seed Bag Manufactory.**
ALEXANDER NICOL AND CO.,
MANUFACTURERS of
SEED BAGS, CORN SACKS, &c.
Chalmers Street Works,
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HORTICULTURAL and AGRICULTURAL IMPLEMENTS and MACHINES of every description.
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THOMAS GREEN & SON, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

**Landscape and Ornamental Gardening.**

MR. THOROLD, of Thorpe Bower, near Norwich, continues to render his professional services in the highest branches of the Art, and can offer the best references.

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MR. GEO. H. STOKES, ARCHITECT, engages to prepare DESIGNS for Laying Out ESTATES and ORNAMENTAL GARDENS, having been for upwards of 17 years Principal under Sir Joseph Paxton, M.P., in the preparation of similar Designs, including those for the Crystal Palace at Sydenham.

7 Pall Mall East, London, S.W.

**Glass for Garden Purposes.**

JAMES PHILLIPS AND CO. beg to submit their prices as follows:—

PROPAGATING GLASSES.

| | Each—s. | d. | | Each—s. | d. |
|---|---|---|---|---|---|
| 2 inches in diameter .. | 0 | 3½ | 12 inches in diameter .. | 1 | 9 |
| 3 " " .. | 0 | 4½ | 13 " " .. | 2 | 0 |
| 4 " " .. | 0 | 5½ | 14 " " .. | 2 | 6 |
| 5 " " .. | 0 | 6½ | 15 " " .. | 3 | 0 |
| 6 " " .. | 0 | 8 | 16 " " .. | 3 | 6 |
| 7 " " .. | 0 | 10 | 17 " " .. | 4 | 0 |
| 8 " " .. | 1 | 0 | 18 " " .. | 5 | 0 |
| 9 " " .. | 1 | 2 | 19 " " .. | 6 | 0 |
| 10 " " .. | 1 | 4 | 20 " " .. | 7 | 0 |
| 11 " " .. | 1 | 6 | | | |

HAND GLASSES, WITH OPEN TOPS.

| | Each—s. | d. | | Each—s. | d. |
|---|---|---|---|---|---|
| 12 inches .. | 6 | 6 | 18 inches .. | 9 | 6 |
| 14 " .. | 7 | 6 | 20 " .. | 10 | 6 |
| 16 " .. | 8 | 6 | 22 " .. | 11 | 6 |
| | | | 24 " .. | 12 | 6 |

Painted and Glazed with 16 oz. Sheet Glass.

HYACINTH and FLOWER DISHES.

6 inches diameter, 1s.; 9 inches, 1s. 6d.; 12 inches, 2s. 6d.

Hyacinth Dishes are intended to contain a number of roots bedded in sand and covered with moss, instead of the common Hyacinth Glass.

HYACINTH GLASSES.

Common shape, p. doz., 2s. 6d. | Improved shape, p. doz., 4s. 6d.
Patent shape, per dozen, 6s. 6d.

London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

180, Bishopsgate Street Without, London, E.C.

**Glass for Orchard Houses or Conservatories.**

ENGLISH MANUFACTURED SHEET GLASS, 15 and 21 oz. to the foot, in sizes from 9 by 7 to 24 by 20, packed in 100 feet boxes, to be sold cheap.

Apply to WM. H. JACKSON, Plate, Crown, and Sheet Glass Warehouse, 315, Oxford Street, W.

GARDEN BORDER-EDGING TILES, in great variety of patterns and material.

GARDEN VASES, FOUNTAINS, &c., in Artificial Stone, of great durability.

May be obtained at F. & G. ROSHER'S Premises, Upper Ground Street, Blackfriars, S.; Queen's Road West, Chelsea, S.W.; and Kingsland Road, Kingsland, N.E.

Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability, Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

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"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

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An improved make, 2 yards wide, 1s. 9d. per yard.
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Also "Frigi Domo" Netting, 2 yards wide, 1s. 6d. per yard run

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Great Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering.

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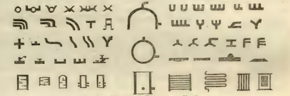

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INTERNATIONAL EXHIBITION, Class IX., No. 2119.

Mr. GRAY begs to call the attention of the Nobility, Gentry, Nurserymen, Gardeners, &c., to his

**NEW OVAL TUBULAR BOILER,**

acknowledged by practical judges to be a great improvement on every form of Tubular Boiler yet introduced. It has proved itself superior to all other Boilers for quickness of action and economy of Fuel, doing its work with one-third less the amount required by any other.

*Extract from Report in* Gardeners' Chronicle *of International Exhibition, May 24, page 476.*

"The upright form of Boiler is usually made on a circular plan, but the oval form given to Mr. GRAY's variety of it is said to be preferable in consequence of its bringing the tubes in closer contact with the fire. The usual form of a furnace being a parallelogram rather than a square, it seems feasible that the Boilers on the oval plan should bring the tubes more completely within range of the burning fuel; and this being so the change, though a slight one, is no doubt an improvement."

They are made of all sizes, which, with prices, may be had on application.

JAMES GRAY, HORTICULTURAL WORKS,
DANVERS STREET, PAULTON'S SQUARE, KING'S ROAD, CHELSEA, S.W.

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Containing all the best and latest Novelties in FLOWER SEEDS, FARM SEEDS, and GARDEN SEEDS, also NEW PLANTS, and FRENCH GLADIOLI, is now published, and will be forwarded gratis and Post Free on application to

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# CARTER'S COLLECTIONS of GENUINE GARDEN SEEDS for 1864,

BEING A COMPLETE SUPPLY OF VEGETABLE SEEDS FOR ONE YEAR.

Our Collections are made up in the most liberal manner, care being taken to give a sufficient quantity of all the finest varieties and most useful sorts of Vegetables rather than a long list of kinds that are comparatively useless in the Kitchen Garden, and of which the only real value is to make an imposing array of names.

*** *The Seeds in these Collections have been carefully grown and selected by ourselves at our Seed Farms at Dedham and St. Osyth.*

The following Collections are always kept ready, and can be supplied at a moment's notice.

**No. 1, 10s. 6d.; No. 2, 21s.; No. 3, 42s.; No. 4, 63s.; No. 5, 105s.**

JAMES CARTER AND CO., 237, 238, & 261, HIGH HOLBORN, LONDON, W.C.

# THE LATE MR. DONALD BEATON'S GERANIUMS.

It is with sincere regret that we have to notice the demise of the above-named highly esteemed gentleman, one whom we believe cannot easily be replaced in the world of horticulture. For the last 20 years he has been looked to by all as the genius of the gardening world; and it has been admitted on all sides that his Seedling Geraniums alone have immortalised his name among the floral public.

We have now to announce that only 10 days prior to his death he concluded a contract with us for all the Geraniums sold by him during the present season to Nurserymen for distribution in 1864. We therefore now offer that which for three years had been thought by him to be the best Nosegay Geranium he had ever raised, viz.:—

## CYBISTER.

We need add no other testimony in its favour, but when we say for two years successively it has been exhibited in the most prominent beds both at South Kensington and the Crystal Palace Gardens, and universally admired by all who have seen it, we have only to say that the flowers are scarlet crimson, produced in immense trusses, often more than 200 flowers and pips on each truss, habit of a Tom Thumb, and producing its trusses quite as freely. That all may be possessed of so desirable a plant, we offer them thus early in strong plants that may be propagated from before May, at 5*s*. each. The first week in May we shall send out the remainder of those entrusted to us; at this time we will only say that they are novel and of sterling merit. Full description will be given in the Spring.

JAMES CARTER AND CO., 237, 238, & 261, HIGH HOLBORN, LONDON, W.C.

# SNOWBALL versus WHITE TOM THUMB GERANIUM.

Messrs. E. G. Henderson & Son were pleased to draw an invidious comparison in last week's *Gardeners' Chronicle* between a White Geranium, Snowball (about to be offered to the public by us), and a White Geranium which Messrs. E. G. Henderson & Son announce for distribution in 1865, and misnamed by them White Tom Thumb; they also append a reputed copy of what they term an "Affirmation," from Mr. James Keeler, the raiser of both the Geraniums in question.

We do not wish to take up the time of the public by what we consider to be a useless squabble, and will endeavour to be as concise as possible, and we should not have condescended to notice Messrs. E. G. Henderson & Son's remarks had they not attacked us in a direct manner.

We give Messrs. E. G. Henderson & Son a direct denial that they have the finest White Bedding Geranium. We herewith annex a verbatim copy of the WARRANTY we received from Mr. James Keeler at the time we purchased Geranium Snowball of him, and it should be borne in mind THAT THIS WAS AFTER HE HAD SOLD Messrs. E. G. Henderson & Son their White Tom Thumb.

WARRANTY. "June 8, 1863.

"GENTLEMEN,—In acknowledging receipt of cheque I beg to assure you that I consider the White Seedling I have sold to you by far the finest I ever raised, and confident nothing can equal it for SUBSTANCE of FLOWER, PURITY of COLOUR, and FORM of TRUSS.

"Messrs. JAMES CARTER & Co.". "Gentlemen, your obedient servant,
(Signed) "JAMES KEELER."

REMARKS.

It will be remembered that when we announced Beaton's Helen Lindsay last spring, Messrs. E. G. Henderson & Son had something far superior to it (in their own estimation). They announced last week that Snowball was of INFERIOR MERIT to White Tom Thumb and Bel Demonio (a variety not yet out of our hands), considered (by whom?) much inferior to many others. We shall leave the Public to draw their own inference from the above remarks, and at the same time wish to say that we are always open to FAIR criticism, but we do not think that goods offered by one House can be made any better by endeavouring to depreciate the goods in the possession of another.

We also wish to observe that we have no doubt Messrs. E. G. Henderson & Son are fully alive to the advantages of a "selling" name, but at the same time we think that when a plant has a name given to it that bears a "direct" signification, we think it ought to be a "correct" one.

White Tom Thumb Geranium is described by Messrs. E. G. Henderson & Son as a seedling from Madame Vaucher. Why not let it stand on its own merits, without dragging the old favourite Tom Thumb (which it cannot be said to resemble in any one way, either in COLOUR, HABIT, or FOLIAGE), and our new favourite Snowball also into the question.

We again have the pleasure of calling public notice to our two First-Class GERANIUMS that we are about to let out.

**SNOWBALL, the finest White Bedding Geranium, 5s. each. | BEL DEMONIO, 3s. 6d. each.**

JAMES CARTER AND CO., HIGH HOLBORN, LONDON, W.C.; CRYSTAL PALACE NURSERY, PERRY HILL, SYDENHAM.

**Wholesale Catalogue of Nursery Stock.**

GEORGE JACKMAN AND SON'S PRICED and DESCRIPTIVE CATALOGUE for 1863 and Spring 1864 can be had free on application; it comprises FRUIT TREES, ROSES, AMERICAN PLANTS, CONIFERS, EVERGREEN and DECIDUOUS TREES and SHRUBS, and TRANSPLANTED FOREST TREES, &c.

Apply to Geo. Jackman & Son, Woking Nursery, Surrey.

**American Plants.**

WATERER AND GODFREY'S PRICED and DESCRIPTIVE CATALOGUE for the present Season is now ready, and will be forwarded free to all applicants. As well as American Plants, it contains a summary of their General Nursery Stock, one of the most extensive in the kingdom.

Knap Hill Nursery, near Woking, Surrey.

**Gladiolus Brenchleyensis.**

YOUELL AND CO. have much pleasure in offering the above GLADIOLUS, unequalled by any other variety for the brilliancy of its colour. The Bulbs are unusually fine. Price 3s. per doz.; 20s. per 100.

Trade price on application,
Royal Nurseries, Great Yarmouth, Norfolk.

**Prize Gladioli.**

YOUELL AND CO. were awarded the following PRIZES for the above in September last:—
First and Second Prize, Crystal Palace,
First Prize, Royal Horticultural Society,
First Prize, Brighton.

CATALOGUES of this collection will be forwarded on application.

Royal Nurseries, Great Yarmouth, Norfolk.

**Choice Gladioli.**

B. S. WILLIAMS has great pleasure in announcing that he has a Choice Collection of each class of these popular Bulbs. Also a Select List of the New Varieties raised this year. The Bulbs are very fine, and early orders are respectfully solicited.

Collection of 24 Choice Varieties, one root of each, for 21s.
Choice named Varieties, 6s., 8s., and 10s. per dozen.
A PRICED and DESCRIPTIVE LIST on application.
Paradise and Victoria Nurseries, Holloway, London, N.

**Gladiolus Bowiensis, brightest and best of its class.**

THOMAS BARNES offers fine Bulbs of the above at following prices, according to size:
Per 100: 8s., 10s., 12s., & 16s. Per 1000: 70s., 80s., 100s., & 140s.
When 5000 and more are taken at once, a great reduction will be made on either price.

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**Best Seeds, Carriage Free.**

RICHARD SMITH, Seed Merchant and Nurseryman, Worcester.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

Notice is Hereby Given, that the ANNUAL GENERAL MEETING of the SUBSCRIBERS to this Institution will be held at the Bedford Hotel, Covent Garden, on THURSDAY, January 14 next, for the purpose of receiving the Report of the Committee and the Accounts of the Society for the past year, and Electing Officers for the ensuing year.

An ELECTION of THREE PENSIONERS will afterwards take place.

The Chair will be taken at 6 o'Clock in the evening.
The Ballot will close at 8 o'Clock precisely.
The Balloting Papers have all been issued; any Subscriber not having received one is respectfully requested to make immediate application for one. By Order,

Edw. R. Cutler, Secretary.

14, Tavistock Row, Covent Garden, W.C.—Dec. 26.

# The Gardeners' Chronicle.

*SATURDAY, DECEMBER 26, 1863.*

At page 1129 we gave some account of the fruiting of the Cocoa-nut Tree in the garden of His Grace the Duke of Northumberland, at Syon House. We return to this subject in order to point to a circumstance of considerable importance in a horticultural point of view, and one which is well worth the attention of our readers.

The Cocoa-nut tree is largely cultivated in tropical countries, and generally near the sea-shore, a situation which it seems to prefer to more inland districts. It abounds in Ceylon, as well as in the islands of the Eastern Archipelago. As the voyager from Europe approaches the shores of these lovely islands, he is struck with the broad masses of green foliage which present themselves to his view, and which are unlike anything he has looked upon at home. When he gets a near view, or when he lands, he discovers that the forests he has been looking upon consist of Palm trees, and that these Palm trees yield the Cocoa-nut of commerce, one of the most useful of tropical productions, and one of the necessaries of life to the natives of those countries.

If our supposed voyager were a geologist, or a farmer, or a gardener, he would probably examine the soil in which these trees grow in such luxuriance; and if he did so, he would find it composed chiefly of a yellowish loam mixed with sand and vegetable matter formed by decayed leaves and stems of trees, which have probably been accumulating for ages before the Cocoa-nut trees were planted. This, then, is the soil, which, when salted by the spray of the ocean, seems best suited to the growth of the Cocoa-nut.

Keeping these facts, as regards the natural soil of the Cocoa-nut Palm, fully in view, let us now relate the story of the treatment which this plant has received in the gardens at Syon House. When Mr. Smith undertook the management at Syon, he found the plant in a very unsatisfactory condition. Its growth was all but stationary, and it was sickly and stunted in appearance. The cause of this state of things was supposed to exist in the composition of the soil in which it was planted. On examining this it was found to be a stiff sour kind of loam, badly drained, and altogether totally unsuited to a plant requiring such a soil as that in which this grows, when at home, in the Eastern Archipelago. That a change of soil was necessary in order to get the plant into a healthy condition was most evident, and it is to this change of soil and to its results that we now beg to draw especial attention. Mr. Smith removed the stiff and sour earth from his plant, cleaned its roots, and replanted it in a light rich vegetable mixture very like that in which it grows in the tropics. Knowing too, that the plant is always found naturally, and in the greatest luxuriance, near the sea-shore, where the land is salted by the spray, Mr. Smith applies to the soil, now and then, a little salt, and thus all the natural requirements of the plant are supplied, in as far as they can be in an artificial way, in an English hothouse.

The results of this mode of treatment are just such as we might have expected. Nature has well repaid the intelligent gardener for his attention to her laws. As we have already stated at p. 1129, the tree is now in magnificent health, with 15 exquisitely beautiful leaves, each about 16 feet long, growing from the top of a sturdy stem 2 feet in circumference. We have the authority of those who have visited the Cocoa-nut forests in the Eastern Archipelago for stating that this young tree in the stove at Syon is as healthy and vigorous as any they have ever met with in those favoured islands.

The circumstances relating to the cultivation of this Palm which we have just recorded, teach us all a useful lesson, and one which is well worth learning. Many plants, we know, will flourish in almost any kind of soil, but there are others which are formed by nature—for wise reasons no doubt—to feed in a peculiar way, and if we wish to succeed in the cultivation of such plants we must study the conditions which surround them in those countries to which they are indigenous, or in which they find themselves peculiarly at home.

Soil and temperature, wet and dry seasons, periods of growth and rest, exposure to the sun or shade, and many other circumstances in connection with the growth of plants in their natural habitats, ought to be carefully inquired into if we would be successful in the cultivation of such exotics in our English gardens. Had we studied these matters a little more closely, how many beautiful plants might have been growing and flowering amongst us which are now either lost altogether in this country, or dwindling away beyond hope of cure. The true mode of treatment is now dawning upon us at last, particularly with regard to Orchids from *cool countries*, which we used to try to grow but could not, although we supplied them with a temperature equal to that of the swamps of tropical India! When the natural habits and requirements of tropical fruit trees are more studied and better understood, we may expect the most satisfactory results; and, as a proof of this we point to the success which has followed Mr. Smith's treatment of the Cocoa-nut Palm at Syon House.

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No part of the garden is exempt from the attacks of Parasites, either in the form of Insects or Fungi. The disastrous influence of the former has been more or less distinctly an acknowledged fact from the earliest times of cultivation; and though the effect of the agency of the latter has almost as long been recognised under the general name of blight, the real cause of the mischief has often been overlooked, and indeed it is only within the last 20 or we may add even ten years, that anything like a general admission of the immense powers possessed by Fungi of originating disease, has prevailed even amongst scientific men, and the more highly informed cultivators.

A most curious instance of this influence has just been reported to us. A Mushroom bed, made after the most approved principles, with spawn derived from one of the first nurserymen in London, produced for about five weeks an abundant crop of excellent Mushrooms. About 10 days since however a sudden change took place. A few still remained in the ordinary condition, as appears from a fine specimen now before us, but the greater part underwent a most singular transformation. Those which still retained the ordinary external form, had the gills contracted, and connected together by a mould-like growth, which in parts entirely masked the common structure of hymenium, turning the whole into a spongy mass. Many of the individuals, however, produced a crop of small Mushrooms, after the fashion of a Hen-and-Chicken Daisy, from the margin, but they were destitute of any stem. Occasionally the growth had proceeded after the first development of the marginal pilei, so that the Mushroom was lobed in the most intricate manner, and the dark hymenium was variegated by the white margin, which appeared everywhere amongst the contracted gills. As regards the gills themselves, not one was in its usual condition, but their surface was everywhere corrugated, in such a manner that an intimate union took place between them, entirely altering the generic character. Indeed in a few places only did any trace of gills and of fructification appear, the rest being occupied by a liver-coloured parasite, which after a time loses all trace of pubescence, and becomes smooth and waxy. No fructification has at present appeared in the new growth, but it is quite clear that the distortion of the Fungus has been caused altogether by the attack of a little parasite which is known by botanists under the name of Hypocrea lateritia. We have seen Mushrooms attacked by this parasite before, but have never yet seen it perfectly developed except upon Fungi in woods, and even there in the majority of cases the young plant alone can be found, as from the great tendency of the plants on which it grows to run into decay, it is only under peculiarly favourable conditions of weather that it is fully developed. There are several species of the genus Hypocrea which attack the fleshy Fungi, but they are often overlooked by Fungologists, and the older writers on the subject mistook the metamorphosed species for new and distinct forms of very different genera.

Where these little parasites penetrate the Mushroom-house, no blame attaches either to the gardener or the preparer of the spawn. The only possible precaution, as far as we can see, is to destroy at once every individual which shows any *traces of the evil. If this is done there will at any rate be no new crop of seeds from within to injure the succeeding beds.*

Mushrooms vary much more under cultivation than is generally supposed. A few years since we figured several forms which they occasionally assume. A long stalked white variety comes up every year together with the usual brown form in a neighbouring Mushroom house, whatever be the source from whence the spawn is derived. Happily these varieties are equally wholesome with the more approved variety. We should however be very unwilling to try the transformed individuals before us, as it is very uncertain whether the parasite may not alter the chemical condition as well as the general structure of the Mushroom. *M. J. B.*

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Some specimens were kindly forwarded to us in the middle of last October by the Earl of Ilchester, of a curious monstrosity which has appeared regularly for many years at Melbury on the leaves of Yucca flaccida, but, as it appears, on no other species, not even its cognate Y. glaucescens. It has been observed in more than one garden, and is certainly not dependent merely on peculiarities of season. We have delayed noticing it till the present time, in the hope of gaining some information with respect to something like a modification of the peculiarity in neighbouring genera or species, but as it seems to be wholly unknown, we must content ourselves with simply calling attention to the fact.

The monstrosity consists in the development of two nearly but not exactly opposite lobes or projections, usually near the upper extremity of the leaf, in each of which the disc is raised from beneath into a conical process, the tip of which is slightly cartilaginous. The thread-like border passes completely round the lobes, which are sometimes directed backwards, and are more or less attenuated at the apex. There is not the slightest trace, as far as we can see, of any insect or other parasite in the cavity, and the peculiar position of the lobes seems to indicate some approach to a type which may exist in some neighbouring genera. The vascular bundles, it should be observed, are interrupted so as to enter into the lobes, and after

running round them, on their return to the main lamina they resume their original direction. *M.J.B.*

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It will be remembered that at p. 1011 an instance was recorded of the GERMINATION OF SEEDS which had been buried in the earth for a number of years, but which had been brought to the surface within the influence of heat and moisture. A somewhat similar case, or perhaps what some may consider a stronger illustration of the fact that buried seeds retain for a long time their germinating power, was observed by Mr. G. B. WOLLASTON, of Chislehurst, a few years since, at the time the Beckenham station on the Mid-Kent Railway was being formed. Certain excavations were necessary, and these had to be made to a depth varying from 5 feet to 10 feet in the virgin sand and gravel of the district. Thereupon Erigeron canadense sprang up everywhere so as to completely cover the surface of the earth, to the almost total exclusion of other vegetation.

The Erigeron was not previously known to grow in the neighbourhood. Indeed it is one of the so-called rare species, of which comparatively few habitats are known in England, and even its claim to rank as a native plant is generally questioned. Yet the interesting fact Mr. WOLLASTON records, though not to be taken as exact evidence, seems to afford strong presumptive proof that the plant is a true native, and that its seeds must have been buried for an indefinite period in the soil on which they sprung up. How else is the profusion in which the plant appeared immediately after the cutting was made, to be accounted for? At the same place Melilotus leucantha made its appearance, but in small quantity.

We may just mention, as bearing on the same subject, that Mr. WOLLASTON has reared in his garden during the past summer Lathyrus Aphaca and Melilotus leucantha, the first from seeds gathered in Cambridgeshire in 1850, and the second from seeds gathered in the Isle of Wight in 1857.

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—— The race of DOUBLE-FLOWERED PETUNIAS seems to have soon reached its limit. Recommended strongly to the notice of cultivators by the appearance some two or three years since of what was oddly named the Inimitable—P. inimitabilis flore-pleno—great expectations were raised as to what should follow in the wake of a flower of such acknowledged merit; but although numbers of new varieties have since appeared, and here and there one amongst these —Eliza Mathieu for example—has been really meritorious, the majority have proved very far inferior to that which first attracted special attention to the race, and which, along with the other variety that has been mentioned, will long be prized as a decorative plant. It is of course impossible to surmise what may be yet in store, but a really distinct and good double variety, when it shall be forthcoming, will be welcomed amongst plant growers, as P. inimitabilis flore-pleno itself was.

For the present, the striped-flowered race of single varieties, of which Mrs. Ferguson was the forerunner, is in the ascendant, and very pretty flowers occur amongst the members of this group, though unfortunately they are of a somewhat sportive character. Nevertheless it is probably in this direction that favourite Petunias will have to be sought, the natural form of the flower being one which is not generally improved by duplication. It will be incumbent however on seedling raisers and censors to exercise discrimination in respect to the sorts which are allowed to go forth as candidates for public favour, for there are two distinct types of this flower, of which one is much inferior to the other. The general form of a Petunia flower, as is well known, is that which is described as funnel-shaped. This monopetalous funnel-shaped corolla is made up of five petals joined together by their sides, and hence in the margin of the funnel there are five points more or less readily distinguishable. In one race of these flowers, of which Mr. HOLLAND has, during the past season, shown some very pretty examples, the margin is almost even, producing a very close approach to a Convolvulus-shaped flower. Now, it is this chastely-formed type, with its, so to speak, evenly chiseled outline, which is to be preferred as the more elegant form of a Petunia; and since we have varieties almost perfect in this respect, those should not be tolerated which deviate in any marked degree from this model, as do those of the other group to which reference has been made. In these latter, the little points which indicate the originally pentaphyllous character of the corolla are prolonged, and as their presence increases the length of the circumferential line they become necessarily reflexed, and thus we have a Convolvulus-shaped flower with five reflexed lobes superadded—an addition which takes off entirely the natural evenness of surface, and produces as many deep furrows as there are points, besides destroying anything like smoothness and definition in the margin itself. Such flowers, moreover, have always a loose flabby appearance, occasioned in great measure by the very coarseness which finds a vent in the development of these hanging marginal lobes.

The two groups to which attention has been invited, have been very well represented by seedlings of the striped race, exhibited during the past summer. Mr. HOLLAND's Royalty represents the classic model which we recommend should be adopted as the perfection of form in a florist's Petunia—the true Convolvulus pattern, with an even margin very slightly curving outwards; while Mr. TURNER's Mrs. Sherbrook represents the pointed form, which should not, we think, be admitted amongst choice Petunias. As for border flowers, varieties of this loose flabby type are altogether unfit for out-door growth unless serene summer weather can be assured.

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## New Plants.

266. ADA AURANTIACA, *Lindl. Fol. Orch.* vol. I.

This remarkable New Grenada Orchid is now in flower (for the first time in England) in Mr. Bateman's collection at Knypersley, to which it was sent by M. Linden. The foliage is prettily mottled, and the general habit somewhat resembles that of Warrea tricolor (the old Maxillaria Warreana of Loddiges' Botanical Cabinet), a variety of which was itself once most unexpectedly found by Mr. Purdie in the same parts of New Grenada from which the Ada comes. The flower-stems rise from among the young leaves, are a foot or more high, and bear at their extremity a closely arranged raceme of apricot-coloured flowers, of which the sepals and petals somewhat resemble those of Lælia cinnabarina, but they do not expand, and therefore quite conceal in their embrace the minute lip. In spite of this drawback the plant is decidedly ornamental, and will no doubt become much more so when it has gained strength enough to yield flowers in greater profusion. It is of easy cultivation, and was grown, Mr. Bateman informs us, during the summer in the Odontoglossum house at Knypersley, but on showing flower was removed to a warmer berth. At present the plant is exceedingly rare, but doubtless some of the many collectors now Orchid-hunting in New Grenada will be able to send home a fresh supply.

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## DIES ORCHIDIANÆ.—No. X.

(*Continued from p.* 1204).

MR. RUCKER'S, WEST HILL, WANDSWORTH.—Besides the plants I enumerated last week as contributing to the gaiety of the show-house, there were many other Orchids in flower, which had been suffered to bloom unmolested in the places where they ordinarily grew. Such were Angræcum apiculatum and A. pertusum,—the latter protruding a vast multitude of its singular spikes, by no means unlike the end of a rattle-snake's tail. These were in the East Indian house, where they would be speedily reinforced by A. eburneum var. superbum, and by the wondrous A. sesquipedale, which last was sending forth some half-a-dozen of its sturdy flower-stems.*

In a cooler, though by no means the coolest house, the charming Burlingtonia venusta and a white variety of the rare Sobrala liliastrum, were in flower. The latter disappoints expectation, for although there is much delicacy about its snow-white flowers, these are borne at the extremity of stems of such disproportionate length, that in order to be seen to any advantage they would need to be looked down upon from a gallery.†

The Burlingtonias deserve more than a passing word. Besides many varieties of the B. venusta above referred to, Mr. Rucker grows the deliciously sweet B. fragrans (rarely met with true), and half-a-dozen other kinds, in the very highest perfection. Formerly they were regarded as an impracticable race; but now, if their simple requirements be attended to, they may be grown with the greatest ease. All that they ask is to be suspended in small baskets, or, better still, in perforated saucer-shaped pots filled with potsherds and sphagnum mixed well together, so that their long roots may run freely in and out without any risk of injury from their greatest enemy, stagnant moisture. Of water, if it pass readily from them, they can scarcely have too much, and they are by no means impatient of heat.

In Mr. Rucker's cooler houses—for he has already two of these, and contemplates a third—Cypripedium Schlimii (a most desirable plant), Barkeria Skinneri (of which there were varieties of every shade, from richest rosy-crimson to purest white), Epidendrum vitellinum, &c., were already in bloom, while the noble Odontoglossum Pescatorei, Lælia autumnalis, L. anceps, and many others were sending up the most vigorous flower-stems. Here were the finest specimens I ever beheld of Odontoglossum citrosmum roseum; here, too, were plants of those exquisite treasures, O. triumphans and O. Phalænopsis, both apparently doing well. As great rarities I must also particularise Colax jugosus and Batemannia fimbriata. There was also an Orchid from N. Grenada, of so peculiar a habit, that I durst not commit myself to any opinion as to its probable genus, but as it was coming finely into flower, we shall not be kept long in suspense. In these houses there were several Huntleyas, some of them succeeding well, others evidently crying out for a little extra heat. Cultivators can indeed scarcely be too cautious in their management of the species of this singular genus, some of which require a very high and others a very low temperature—points that can only be settled by experience in default of accurate information as to the elevation and climate in which the plants were originally found. Let us hope that the half dozen collectors now gone forth in quest of cool-country Orchids, will furnish the most minute particulars on these all-important matters

I have scarcely left myself space to do more than glance at a few of the remarkable specimens which, even when out of flower, cannot fail to arrest the attention of the visitor. Foremost of these I must place the gigantic plant of Vanda Lowii, which a year ago produced flower spikes of such extraordinary length, that they required to be fastened to the rafters, from whence they hung down in long and graceful festoons. A stately specimen of Schomburgkia tibicinis producing flowers greatly superior to those of the ordinary variety, is a special favourite with Mr. Rucker. More interesting to me was a noble plant of Dendrobium bigibbum, a species which when it has attained its full dimensions* is among the most striking of all the Dendrobia. But it were vain to attempt to particularise a tithe of what was admirable, either among the Air-plants or in the Cattleya house, or in divers other houses, whether of high or low degree, through which this vast collection was distributed. Suffice it then to say that the Orchids as a whole were in most excellent health, thanks to Mr. Pilcher's untiring care and skill. May they for many many years to come minister to the enjoyment of their generous and spirited proprietor! *Serapias.*

* There are many other fine Angræcums yet to come to us from Africa and the adjacent islands, and it is much to be regretted that so much difficulty and delay should attend their introduction to our stoves, where they would be especially welcome, not simply for the sake of the beauty of their flowers, but because the species are of the easiest culture, and flower for the most part during the winter months. I have been told that many of the trees that overhang the Niger are loaded with Angræcums.

† In Mr. Day's collection there is a still loftier specimen of an allied species, S. dichotoma, which has not yet flowered. Fortunately there are other Sobralias of more manageable dimensions but of equal or greater beauty; *e. g.* S. macrantha and S. rosea (Ruckeri), and some half-dozen other kinds from New Grenada and Peru, which may probably reach us in the course of the ensuing summer, and which when they do come will require to be kept cool.

* Dendrobium bigibbum comes from the northern (*i.e.*, tropical) coast of Australia, and its beauty ought to serve as an incentive to further examination of that remarkable and little known region. New Guinea also teems with Orchids—many of them remarkably fine—not one of which has yet reached us in a living state. The natives of the island used indeed to be looked upon as pre-eminently dangerous, but surely if Mr. Wallace can pass months at a time among them, shooting Birds of Paradise, there can be no extraordinary difficulty in getting together a few living plants.

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## LATIMER'S, THE SEAT OF THE RIGHT HON. LORD CHESHAM.

THIS lovely place is situated about three miles north-east of Amersham, and two miles from Chesham. The mansion, which in its first foundation was very ancient, is built of red brick, and was fully repaired and ornamented in the Elizabethan style A.D. 1826. It is now an imposing structure, and has an air of great comfort about it. It is situated on the brow of one of the smaller branches of the Chiltern Hills. From the front of the house the view is most charming,; the surface is free from all rough excavations, and the eye reposes on an extensive bank of beautiful green turf, which carries it down to a lucid lake, formed by heading the river Colne, which flows through the park from Chesham on its way to Berkhampstead and Watford. On the banks of this lake are many Chestnut trees, which must augment the beauty much when in flower, and which in my mind's eye I long to see in that state. The grouping and distribution of the trees have been done by a master hand, and the top of a steep chalk hill opposite the house is most beautifully varied. Part of it belongs to the Duke of Bedford's estate at Cheneys, but his Grace allows Lord Chesham to treat his outline as he pleases, and he certainly has done it very perfectly.

There is a narrow terrace along the front of the house. The foundation of this is chequered by being built of freestone of different colours. I thought it had too much of a chess-board appearance, and that one and the same stone would have given more idea of solidity and stability, as the apparent foundation of this stately building.

The approach from the lodge to the house is nearly half a mile in length, and is very pretty. Upon entering, you have a nice breadth of park lawn, extending in some places far beyond the turnpike-road, and giving a good idea of extent, while on one side is situated an old and large farmhouse, which looks very well. The road continues, and passes over two bridges, the second of which gives a view of a beautiful cascade, over which the river Colne is precipitated in a very picturesque manner, and is by means of this dam made to form a beautiful lake, whilst below the cascade it meanders along the park in a gentle course.

On leaving this bridge the road winds a little and passes under a fine old Walnut tree. Every step you take now presents new charms, and on arriving at the summit, the beauty and harmony of the whole are apparent. Certainly it is one of the most perfect scenes of the kind with which I am acquainted.

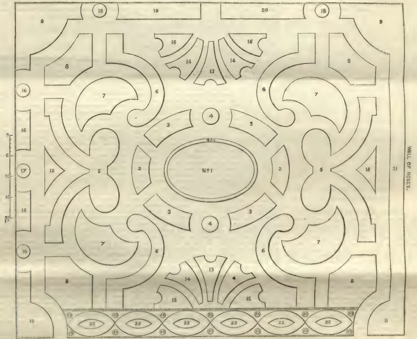
Having reached this summit you find a broad,

traight, gravel road, which conducts you to the house; and here I must pause to note one feature which particularly struck me. All was repose, beautiful turf, fine trees and shrubs, but no frittering of flowers, and all this with the highest keeping. From thence we passed along the front of the house to the south-west corner, where I found the most beautiful garden I have ever seen; it was perfectly dazzling to look at, and arranged with admirable symmetry. The following is a plan of it, designed by a Mr. Thompson.

It has always been my idea that gardeners generally err much in sticking flowers all over their grounds, which they thus render monotonous. In large places there may be several concentrations with adequate repose. Nothing has done more to disfigure our really fine places than the rage for planting Pinetums, where the little wretches of plants from 48 or 32 pots are planted in contrast with fine old English Elms, Limes, and Beeches. A Pinetum is a beautiful and attractive thing to have, but should not be attempted by engrafting it upon an old place, which is much too generally done; it should be formed in a wild, isolated spot.

There is a good deal of pleasure ground at Latimer's, which is all treated in the spirit of repose; the grounds are very pretty, but I was sorry to observe some fine young Pinuses planted so thickly as to destroy all breadth. I was happy however to hear that they were to be removed.

In the front of the house the terrace is very narrow, but below it there is a large platform of level turf, with




SIDE NEXT HOUSE.

REFERENCES TO PLAN.

1. Christine Pelargonium, rosy pink.
2. Tropæolum elegans, orange scarlet.
3. Alma Pelargonium (variegated), scarlet.
4. Tropæolum Garibaldi, dark orange scarlet.
5. Yellow Calceolaria (aurea floribunda) edged with Verbena Purple King.
6. Cloth of Gold Pelargonium (variegated), scarlet flowers, intermixed with Heliotrope, Etoile de Marseilles, violet purple.
7. Frogmore Improved Pelargonium, scarlet.
8. St. Clair Pelargonium (variegated), pink flowers, edged with blue Lobelias.
9. Trentham Rose Pelargonium, rosy scarlet.
10. Herald of Spring Pelargonium, orange tinted cerise.
11. Comte de Morny Pelargonium, rosy scarlet.
12. Tropæolum Eclipse, scarlet.
13. Gazania splendens, orange yellow, dark ring round the disc.
14. Verbena Purple King.
15. Brilliant Pelargonium (variegated), scarlet.
16. Petunia Mrs. Ferguson, purple and white.
17. Madame Vaucher Pelargonium, blush white.
18. Prince of Hesse Pelargonium, pale salmon pink.
19. Countess of Warwick Pelargonium (variegated), scarlet flowers, intermixed with Amaranthus melancholicus ruber, blood-red foliage.
20. Bijou Pelargonium (variegated), scarlet flowers, intermixed with Amaranthus.
21. Ribbon Border, in three rows:—Front row, Lobelia speciosa, blue; middle row, Annie Pelargonium (variegated), scarlet flowers; back row, Yellow Calceolaria and Amaranthus, plant for plant.
22. Mangles' Pelargonium (variegated), pink flowers, intermixed with blue Lobelia.
23. Coleus Verschaffeltii, dark purple foliage.

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a broad straight walk from end to end. Sir Joseph Paxton has suggested the placing of vases along the line of this walk, and I cannot but think that if this were done, the effect would be very good.

The kitchen garden is a very useful one, 3½ acres in extent. It is situated close to the house, and its walls are concealed by banks of Laurels. It contains one span-roofed and three other common Vineries, in one of which a magnificent crop was still hanging; these were of the Hamburgh kind; they were particularly well flavoured, owing mainly I think to the outside border being protected with tarred weather boarding, which has thrown off them the excessive autumnal rains and prevented the berries from being surcharged with aqueous fluid, thus rendering them in a more fitting state for keeping late. The use of these boards is in my opinion very judicious. There are also some other houses—a Peach-house, Fig-house, Stove and Green-house, also three houses for miscellaneous purposes—one Paxtonian built by Hereman, one built by Taylor, and one by Dench. Of these Taylor's house seemed much the best. Dench's had large squares and light metallic bars, and was found to get too hot in fine weather.

In the kitchen garden, Strawberries seem grown to great perfection, and I was struck with the vigour of the Brussels Sprouts, and all that tribe of plants. There was a magnificent collection of Chrysanthemums, superbly grown. The transplantation of large fruit trees seemed to be a general principle. I saw some fine Moor Park Apricots which had borne large crops of fruit, and close to them were trees (not transplanted) which had not given one Apricot.

The whole management of Latimer's does infinite credit to Mr. Donaldson, the gardener. I noticed some Spruce Firs which had become much disfigured by the leaves nearest the bases of the branches having turned to a reddish brown colour; the points of the branches were in vigorous health, but the whole of this brown foliage must in time fall off, and when so will render the trees miserable specimens. I supposed it to arise from the over dryness of a strong chalk soil in an extraordinary hot summer, which last year was.

I have already said a word upon the close proximity of Cheneys to Latimer's, and will conclude with a few words upon this charming place. The living is held by Lord Wriothesly Russell, and the village has the Bedfordian stamp of cleanliness, comfort, and ample convenience throughout it. I was charmed to hear such a character of this divine as one seldom meets with.

One of the most beautiful things at Cheneys is a long terrace walk bordered with English Elms, through the stems of which are seen the house and grounds of Latimers; it is on the side of a steep hill, from whence the ground slopes to the river Colne, while the prospect is bounded by large masses of Beech wood, which, when robed in their autumnal tints, as they were when I saw them, are most lovely. From this I ascended the hill, where I met with a ruin of the old manor house—part of the kitchen, and adjoining it at a little distance I found one wing of the old house fitted up and tenanted by Mr. Rickards, who occupies with it a farm of 500 acres. Near this house is a splendid farmyard, a horse-engine for pumping water up into a cistern, which provides by flow pipes and taps all the water necessary. On one side of the house there is a venerable Oak, upwards of 500 years old.

The church is close by the mansion house, and is a very pretty building, in thorough repair, and not mutilated as too many of our churches are by the whitewashing and repairs of Messrs. the Churchwardens. In it is a magnificent chancel, wherein lie the ashes of many generations of the illustrious house of Bedford.

Here is the monument of the first Baron Russell of Cheneys, of whom it is related by Dugdale that "in the reign of Henry 7th, Philip, Archduke of Austria, being bound for Spain, the heiress of which kingdom he had married, was obliged by a storm to put on shore at Weymouth, where he was received by Sir Thos. Trenchard, Knight, of Wolverton, who till he could inform the Court of the event, sent for his friend Mr. John Russell, then lately returned from his travels,

to entertain his illustrious guests. The Archduke was so pleased with his conversation that he soon advanced him to several honourable posts, and King Henry VIII. made him Baron Russell, of Cheneys, which he afterwards acquired by marriage, and also Lord Warden of the Stannaries, Lord Admiral of Scotland, Knight of the Garter, and Lord Privy Seal."

There is also a very splendid monument to the memory of Lord and Lady William Russell. It is of delicate white marble, and must have cost an immense sum of money. Lord and Lady William are full-sized figures exquisitely sculptured, and they are surrounded by medallion busts of their children. The sad history of his lordship's fate renders this an attractive object, and the numerous other monuments render the place most striking as an illustration of the vanity of human greatness.

It is to be remarked that there is a peculiar expression about the whole of the Bedford property. Thus the farm is distinguished from those in its vicinity by very extensive and open fields, with little hedge-row timber. The crops seem principally to be Wheat, Barley, and Mangel Wurzel. The hedge-rows, as is general in this county, are badly managed; they consist of nearly every hardy plant except the proper one, Whitethorn; Elder, Sloe, and Nut trees are the principal plants in them, and these are trimmed up with hooks every autumn; they vary in width from two yards at the base to four yards, and when the men cannot reach to top them, they are allowed to grow up *ad libitum*.

His Grace the Duke of Bedford's hedges are more moderate in size than those of his neighbours; but still there is much room for improvement, and I think that the landlords of Buckinghamshire cannot turn attention to a more profitable subject than the improvement of their hedges. If agricultural societies were to offer prizes for the best kept hedges, the result would be that we should have them such as they ought to be, and the farmer would gain by the increase of his crops. *Henry Bailey, C.M.R.H.S., Amersham, Bucks.*

## Home Correspondence.

*Sunk Fences.*—We are making a sunk fence to divide our garden from the surrounding field, and we should be very much obliged for any information your correspondents could give us, as to the best way of finishing it at the top. In our old sunk fence the turf of the lawn was simply continued to the extreme edge of the wall of the sunk fence, thus giving the thickness of one turf upon the top of the wall, but we have found that this has not answered, as the turf upon the well was always brown and bare, leaving an ugly edge to the lawn. Should we gain a sufficiently firm edge if we were to place a solid square of earth (cut with the sod) upon the top of the wall with the turf side outwards towards the field, and were then to lay the lawn turf on the top of that? This plan would give sufficient depth of soil for the lawn Grass, and a beautiful green coping for the wall of the sunk fence—but we fear that the earth would be liable to crumble down, and leave a ragged edge. The slope from the bottom of the wall up to the field has been made very smooth and gradual, so that if we could secure a firm green top to the wall, there would be scarcely any perceptible break to the eye between the lawn and the field, which is of importance to us, as our garden is not large. Any advice on the subject will therefore greatly oblige us. *F.* [We should advise you to keep the top of the wall somewhat below the level, sloping the lawn towards it, so that the eye might be carried over it to meet the green slope beyond.]

*Orchard-houses.*—May I ask some of your correspondents whether we may expect to ripen fruit in an orchard house without any heat, supposing proper skill and attention on the part of the gardener are supplied? We do not wish to force the fruit, but simply to protect it, as in this bleak part of Yorkshire (Otley), we find it vain to depend upon crops grown in the open air. But we are told that some heat is always required in an orchard-house. *F.*

*Cherimoyer.*—I am much interested in the remarks in your last week's impression on this Queen of Fruits. I have eaten it in great perfection at Sydney, New South Wales—the South American variety I mean, not the East Indian Custard Apple, which is turpentiny and inferior. The want of success in the stove at Knypersley is not surprising, for the flowers do not always readily set, even in the dry warm climate of Sydney. For instance, I there knew a tree of large size, 30 feet high, growing in a poor sand, never manured, which bore profusely. A raw English gardener in his zeal pruned it very severely, in fact headed it down. The following season it made tremendous shoots; after a year or two it flowered again profusely, perfuming the air with its most delicious scent, equal to that of orange blossom, but it set no fruit: other trees in its vicinity fruiting as usual. Whether the tree has since recovered the effects of the pruning or not, I am unable to say. May not the specimen at Knypersley have been also too vigorous? Would not pot culture and pinching be likely to produce the desired result—the tendency to set? Mr. Rivers in his little work the "Orchard House," talks very enthusiastically about this fruit—has he done anything with it? I have long thought it would fruit in a warmed orchard house, and had six plants sent to me from Sydney last year in a Wardian case, but they all arrived dead. Can any of your readers tell me where a plant may be procured nearer than the antipodes? The tree being deciduous, requires in winter, in my opinion, nothing but protection from frost, and to be kept tolerably dry at the root, together with a little heat in the spring, and perhaps also in summer if the season be gloomy and cold, for it only just ripens as the leaves are falling in the Sydney climate, where the summers are very hot and the autumn prolonged. *J. R.* [There can be little doubt that the Cherimoyer would always need to be artificially fertilised here. This should be done with a large camel's-hair pencil. It must be remembered that the leathery-petaled flowers do not open widely.]

*Wellingtonia.*—Permit me to add another proof to the many already published, of the hardiness of Wellingtonia. We have two plants of it here that were put out in May, 1859, when they were only 2 feet in height. I have just measured them, and I find them now to be 8 feet high, their annual growths measure 21 and 23 inches respectively, and altogether they are very good specimens, quite pictures of robust health and vigour. The plants just mentioned were raised from cuttings, and are equally as good in this locality as seedlings. *W. G., Brechin Castle, Forfarshire, Scotland.*

*Open Walls versus Orchard Houses.*—When will the warfare waged between the friends and opponents of these two systems of fruit growing come to an end? An open wall champion boldly throws down the gauntlet, and Mr. Polish accepts the challenge on the part of orchard houses, which he manfully defends. Nevertheless, as an old fashioned gardener, I certainly do feel a sort of veneration for open walls. In my youth they were thought to be appliances that would never be subjected to opposition, but it has come to them at last in the shape of various glass coverings and orchard houses. Still, with every degree of sympathy for their champion under the thrusts that have been aimed at him by his opponent, I really must confess that the latter seems to me to have the best of it. A clear and transparent covering of glass, either in the shape of an orchard house or otherwise, must, I should think, be preferable to Frigi Domo and other textile protections now in use; besides, glass must necessarily admit more light and heat, and exclude more cold than any woven material. As regards colour and flavour of fruit, Mr. Rust's remarks are important, for if they can be borne out by fact, we may at once discard our Peach houses, &c., as the argument advanced by Mr. R. must equally apply to all glass structures. Some more detailed account of his experience, therefore, on this and other points connected with the subject, would greatly oblige *A Looker On.*

*Heating Peach-houses with Fire-clay Pipes.* — In answer to your correspondent's inquiry, I beg to state that the pipes alluded to at p. 1136 are nearly one inch thick, 9 inches in diameter inside, and about 2 feet long, with a collar 2½ inches. Mine, as I before stated, are only in use five or six weeks during the year, and consequently the soot accumulates very slowly indeed; in fact they have only been cleaned once since the house was built—about nine years ago; they were then all taken up, as I had occasion somewhat to alter the position of the flue. The soot would, however, be removed at any time with the greatest facility by taking up one or more pipes at each end, and running a strong wire through the intermediate space, with a little hay or straw fastened to it. The chimney is of brick, with the exception of one pipe placed at the top; but it would doubtless answer the purpose equally well if made entirely of pipes, if this were found more convenient. I would have complied with "G. W. G.'s" request at an earlier date, but having been absent from home I only observed it a day or two ago on taking up your Paper of the 28th ultimo. A little lime will prevent smoke escaping at the collars. *W., Sheffield.*

*Rhododendron Soils.* —I am of opinion that the statement of your correspondents made at page 1205, in reference to this subject, should be received with some degree of reservation; that they are perfectly true, as far as they go, cannot be doubted, and I can confirm all that has been advanced in the matter as far as ponticum is concerned; but the latter is a most accommodating plant, and will, it should be remembered, grow most luxuriantly in loam and leaf-mould, in pure loam, and even in clay itself. When we come however to hybrids, particularly such as have much of the arboreum breed in them, we find them very much less accommodating in their habits and likings. In fact I have known many instances where, when planted side by side with the common ponticum, they have dwindled away, whilst the latter has grown away most luxuriantly. At the same time I must admit that hybrids may and will grow without peat. I have indeed known them to make satisfactory progress in pure sand, but they succeed much better when leaf mould is mixed with it. I have formed many borders of loam, leaf-mould, and sand intermixed with a strong clay soil, and in this they have run up to the height of 10 and 12 feet in a few years; in such cases however, leaf mould should always predominate as much as possible, but if peat is easily obtained I should prefer using a portion of it. I would never however think of planting these plants in a border consisting entirely of peat, being convinced that they are the better for having loam and leaf-mould intermixed with it. Andromedas and Azaleas I should treat in a similar manner. All of them require prepared soil, to which peat, though not absolutely necessary in certain cases, should always be applied if possible. I made a plantation of Rhododendrom ponticum on a sand-bank, about 10 years ago, with no other preparation than that of trenching in the Grass and brakes which grew on it, and the shrubs now form quite a jungle, which is a favourite home for hundreds of rabbits, and one in which our sportsmen always expect to find a good supply of pheasants. *A. A. P.*

## Societies.

Linnean: *Dec.* 3.—G. Bentham, Esq., President, in the chair. J. E. Tierney Aitchison, M.D.; E. J. Waring, Esq.; Rev. J. E. Woods; and R. C. Woods, Esq., were elected Fellows. Sir J. B. Hearsey exhibited a box of Indian Noctuidæ. The following papers were read:—1. "On the species of Mitridæ found in the seas of Japan," by A. Adams, Esq. 2. "On the Palms of Tropical Western Africa," by Mr. Gustav Mann and Herm. Wendland; communicated by Dr. Hooker. The authors stated that up to this time, only five Palms of Western Tropical Africa had been known, namely, Phœnix spinosa, Calamus (now Ancistrophyllum) secundiflorus, Raphia vinifera, Borassus æthiopum, and Elaeis guineensis. All these had been again found by Mr. Mann in the course of his explorations, and about a dozen others had been added. The group of Arecineæ, which was previously quite unknown on the mainland of Africa, had now yielded two species constituting two new genera, namely, Podococcus, distinguishable at first sight by its pedicellate ovary, and by its fruit, which when mature stands at almost a right angle with the pedicel; and Phytelephantopsis, which has for its nearest affinity the genera Orania and Manicaria, and is most remarkable for its extrorse anthers, and the position of the petals of the female flowers, which are membranous and imbricate only at the base. The Calameæ or Lepidocaryneæ were largely represented, four new genera and ten new species having been found. Thus two-thirds of the Palms which had been met with belonged to this sub-family, the others being distributed, two to the Arecineæ, one to the Cocoineæ, and one to the Borassineæ. The authors remarked that it had been hitherto overlooked, that in the young state, several species of Raphia are dichotomous, or even sometimes trichotomous, in consequence of which they are always seen with two or three stems together. Foremost amongst the useful Tropical Western African Palms stands the Elaeis, the oil of whose fruits constitutes in most parts the chief food of the natives, who scarcely take a meal in which it is not used in some way or other. It is nutritious and of an agreeable flavour, so that it generally becomes a favourite dish with Europeans. Besides being used for food, the natives also use it for oiling their skins, partly to keep off insects and partly as a substitute for clothing, of which they are entirely destitute. The Bubis or Boobees of Fernando Po make an excellent poultice of it, which they apply when, in accordance with usage, the hand of any person found guilty of adultery has been cut off. Amongst the more civilised nations it is used as with us, in the manufacture of soap, and for illumination, the oil from the kernel being preferred for this latter purpose. The exportation of the seeds of this Palm was stated to be rapidly on the increase, already large quantities being shipped from Sierra Leone and its neighbourhood, During the last three years 130,381 tons of palm oil, of the value of 5,605,913*l.* had been imported into Great Britain. It was stated that Elaeis wine, a drink much liked by the natives, is obtained by cutting off the male flower-spike; this wine is used by Europeans instead of yeast in making bread. The main nerves of the pinnæ, and the exterior of the petiole, are used for basket work, for making brooms, &c.; the fibre at the base of the leaves and also that of the spathe is used at St. Paul de Loanda for stuffing cushions; and the soft centre of the undeveloped petioles is much relished as a vegetable. Finger-rings, bracelets, necklaces, and other ornaments, are cut from the endocarp of the seed. The species of Raphia rank next to Elaeis in regard to utility. Their petioles furnish the materials of which huts and beds are made, while the pinnæ are used for roofing, and the epidermis of the leaflets furnishes a material for clothing; besides which, where the Elaeis is scarce, the oily substance between the scaly exterior of the fruit and the kernel, though bitter, is eaten with Yam, Cassada, &c., and the oil pressed out of it is preferred by the women for dressing their hair. Several of the Raphias yield wine; indeed the pleasant taste of that procured from R. Hookeri has even been sufficient to overcome the innate idleness of the natives of Old Calabar, and has induced them to cultivate it. The wine is procured by cutting out the terminal inflorescence as soon as it makes its appearance, and is obtained in large quantities. The natives of Old Calabar manufacture cloths, &c., from the epidermis of the leaflets of this species. Another found by Dr. Welwitsch, at St. Paul de Loanda, which the authors

briefly noticed under the name of R. Welwitschii, is used in a similar way. The petioles of R. vinifera are employed as poles upon which to carry the palanquins; and the leaflets furnish a durable roofing which lasts three years, that of other species enduring but one. Phœnix spinosa also yields wine; its fruit is much liked; and the very young leaflets before the leaves expand are used for plaiting hats and caps at Accra. The stems of the climbing Palms are used for binding together the materials of which the huts are constructed. The Bafan people take large quantities of Ancistrophyllum secundiflorum with them as food when they go to the hills to procure Rubber, the extremities of the stem without leaves being the parts used; these are simply roasted, and the soft central part (which is rather bitter and tough) is eaten. The fruits of Podococcus Barteri are also eaten. The authors gave many particulars of the differences between the various genera which formed the subject of the paper, and concluded by an enumeration of the species, the new ones consisting of Podococcus Barteri, Phytelephantopsis Manni, Calamus decretus (?), Lacoosperma læve and opacum, Eremospatha Hookeri, cuspidata and macrocarpa, Oncocalamus Manni, and Raphia Gaertneri, longiflora, and Hookeri; to which the above-mentioned R. Welwitschii may be added.

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Botanical of Edinburgh: *Dec.* 10.—Prof. Balfour in the chair. The following office-bearers for 1863-64 were elected, viz.:—President, Prof. J. H. Balfour; Vice-Presidents: Prof. Archer, Dr. Browne, Prof. Allman, Mr. H. Graham, W.S.; Council: Mr. C. Lawson, jun., I. Anderson-Henry, Esq., W. Elliot, Esq., F. Naylor, Esq., F. Anderson, Esq., Prof. Maclagan, Dr. Duckworth, Dr. Kirk, Dr. Seller, J. M'Nab, Esq.; Hon. Secretary, Dr. Greville; Hon. Curator, The Professor of Botany; Foreign Secretary, Dr. A. Dickson, Auditor, Mr. W. Brand, W.S.; Treasurer, P. N. Fraser, Esq.; Artist, Mr. N. Stewart; Vice-Secretary and Curator, Mr. J. Sadler. The following communications were read:—I. *Notice of the occurrence of Polypodium calcareum, near Aberdeen.* By Mr. J. Robertson; communicated by Prof. Balfour.——II. *Account of the Vegetation of the Cliffs at Kilkee, County Clare, Ireland.* By N. B. Ward, Esq.——III. *Remarks on the Sexual Change in the Inflorescence of Zea Mays.* By Mr. J. Scott.——IV. *Remarks on some of the Economical Plants of India.* By Dr. H. Cleghorn.——V. *On the Cultivation of the Quiniferous Cinchona in British Sikkim.* By Dr. T. Anderson, Superintendent of the Botanic Garden, Calcutta. The cultivation of Cinchona at Darjeeling has been carried on successfully. The following is a return of the Cinchona plants in the nurseries at that place on the 15th June 1863:—Cinchona succirubra, 1024; C. Calisaya, 53; C. officinalis, 573; C. micrantha, 695; C. peruviana, 2275—total, 4620. The cultivation of Cinchona at Darjeeling was attended with very great difficulties at first, but these have now been overcome, and there is every reason to believe that the plantation will be successful. In the beginning of June 1863, I supplied Dr. Simpson, the European Assistant Surgeon of Darjeeling, with about 2 lbs. of the fresh leaves of each of the following species:—C. succirubra, C. officinalis, and C. micrantha. Decoctions prepared with water slightly acidulated with sulphuric acid, were very bitter, and patients suffering from well-marked intermittent fever were cured by the administration of these preparations alone. Towards the end of June Dr. Simpson and I endeavoured to examine chemically the nature of the leaves of Cinchona succirubra, and we discovered quinine in them.——VI. *On the Cultivation of Tea in India.* By W. Jameson, Esq., Surgeon-Major, Saharunpore. Mr. Jameson gave an account of the Tea plantation in the Kohistan of the North-West Provinces of India. He referred to the cultivation of Tea in Kumaon, Almorah, Hanul Bagh, Bheemtal, Sealkote, Dehra Dhoon, Kangra, &c. He says—In a former communication I estimated the quantity of waste and other lands fitted for cultivation with Tea throughout the Kohistan of the North-western provinces and Punjaub and Dhoons, and showed that by them the enormous quantity of 885,000,000 lbs. might be there raised. But in this estimate I excluded the Kohistan of Huzarah and Rawul Pindee, of Cashmere Jummoo, and the protected Sikh States. The following estimate of the yield of the British territory is nearer the mark, and, as a general return when in full bearing, 100 lbs. per acre may be given:—

| Kohistan of Rawul Pindee and | Acres. | lb. per Acre. |
|---|---|---|
| Huzarah .. .. .. .. | 20,000 | 2,000,000 |
| Kangra Valley .. .. .. .. | 35,000 | 3,500,000 |
| Kasloo .. .. .. .. .. | 35,000 | 3,500,000 |
| Munndee, &c. .. .. .. .. | 40,000 | 4,000,000 |
| Protected Hill States .. .. .. | 10,000 | 1,000,000 |
| Jonsar Bawer .. .. .. .. | 10,000 | 1,000,000 |
| Dehra Dhoon .. .. .. .. | 100,000 | 10,000,000 |
| Western Gurhwal .. .. .. | 180,000 | 18,000,000 |
| Kumaon .. .. .. .. .. | 350,000 | 350,000,000 |
| | | 930,000,000 |

A quantity equal to the whole export trade of China, and with high cultivation the figures might easily be doubled, and thus not only allow an immense quantity for the consumption of the Indian community, but at the same time afford a vast supply for export to other countries. Tea cultivation in the North-western Provinces is no longer an experiment now. It has been proved by data which cannot be gainsaid, that the cultivation of the Tea can be profitably conducted; that the Tea prepared is admirably fitted for the home and Indian markets; and that, if properly conducted and backed by capital, the undertaking presents a safe and profitable investment.——VII. *Notice of the occurrence of Sagina nivalis, Lindbl., on Ben Lawers, Perthshire.* By Prof. Balfour.——VIII. *Extracts from a Letter from William Jameson, Esq.*——IX. *Notice of Plants in Flower in the open air in the Royal Botanic Garden.* By Mr. M'Nab. Mr. M'Nab remarked that to give some idea of the mildness of the present season, he begged to lay before the Society dried specimens of 220 species of plants in flower, collected from the open air in the Royal Botanic Garden since the 1st of December, the greater number being the summer and and autumn annual and perennial plants; the others chiefly composed of trees, shrubs, and spring flowering plants, in the following proportions:—Summer and autumn flowering annuals, 34; perennials, 118; trees and shrubs, 38; Ferns, 8; spring flowering plants, 22—total number of plants in flower, 220.——Miss Hope sent specimens of fifty species of plants in full flower, growing in the open air at Wardie.——Isaac Anderson-Henry, Esq., Hay Lodge, exhibited sprigs of blossom taken from two separate Pear trees growing in the open air in his garden. The one tree had been covered with blossom for the last fortnight, the other was just beginning to burst its flowers.——Mr. J. Sadler exhibited branches of Apricot in full foliage from the open wall in the Experimental Garden. The trees, although deciduous, have as yet lost none of their last summer foliage, owing to the mildness of the season.

## Notices of Books.

*Cartoons from Punch.* By John Tenniel. 4to. Bradbury & Evans.

Among the Christmas Books of the season, this stands almost, if not quite, without a competitor. A volume of a hundred of the cleverest possible drawings upon all manner of subjects, beautifully printed and charmingly "got up," forms such a present as we have rarely seen provided for the buyers of gift books. Never till now was there an artist with the talents of Mr. Tenniel who so thoroughly understood the art of representing human passions of the quietest or most violent kind without introducing an incident that could offend the most fastidious taste. "When he chooses to take a serious view of a serious subject, Mr. Tenniel quits the real, not for the grotesque, but for the sublimely real. He can symbolize grandly as well as comically, and astonish into grave admiration a public that merely expected to laugh." So says the *Times*, and so will every one say who has turned over these wonderful hundred pages.

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Amongst the continental publications devoted to Garden Botany, and giving illustrations of New Plants, that which reaches us the most regularly is *L'Illustration Horticole* of M. Ambroise Verschaffelt, which has just reached the close of its tenth volume. We find in the pictorial department of this work figures of many plants of interest to cultivators, some of the more prominent of which it may be interesting to notice. There is first a very good representation of *Phalænopsis Schilleriana*, a charming Orchid, which has now become pretty well known in England; also of *Cypripedium Stonei.* A tree Violet with double flowers, blue streaked with white, is called *Viola arborea Brandyana* after its raiser, M. Brandy, a French amateur: the 'arboreous' habit of the plant being induced by cultivation as in some other varieties of the Sweet Violet. A Lilac called *President Massart*, a Belgian seedling, bears noble thyrses of large deep violaceous flowers; another called *Ambroise Verschaffelt* has the flowers of a delicate lilac tint; both are fine hardy flowering shrubs. *Lilium neilgherrense* (here called neilgerricum) is an Indian Lily, with something of the aspect of eximium, and with greenish fragrant flowers, which, however, M. Lemaire figures and describes as of *un jaune miel.* The *Camellia Baron de Vrière* is a full imbricated rose-coloured sort, of an attractive character, and useful in its class; *Vicomte de Nieuland*, also a rose, is less pronounced in character; but one called *Bella Romana*, an Italian seedling, represented with very handsome flesh-coloured flowers striped with carmine, and having also good foliage, is no doubt an acquisition; *Duchesse de Nassau* is a bold flower, of a delicate blush rose, but the petals are notched, which is a blemish; this, however, is not the case with *Fanny Sanchioli*, which, if the figure is to be trusted, is a fine, full, round-petaled double white, with scarce a tinge of blush, in form a good deal resembling the noble Duchesse de Berri; this white is of Italian origin. One plate is devoted to some high-coloured varieties of *Diplacus glutinosus*, amongst which *Godronii*, with large crimson flowers deepening into deep blood-red around the open orange-yellow throat, must be a very handsome plant of its kind; these varieties were raised by M. Ingelrelst, of the Botanic Garden at Nancy. *Pinanga maculata* is a handsome broad-leaved Philippine Island Palm, in which the leaves are mottled with pale and olive green. *Dorstenia maculata* is a Mexican plant, with the aspect of D. Contrayerva, and with similar quadrangular receptacles, but having somewhat hastate leaves indistinctly marked with greyish blotches. A *Rhododendron* called *formosum* is said to be a hybrid between the yellow R. aureum and R. arboreum, but has carmine flowers very like the ordinary high-coloured hybrids of the latter species. *Azalea Reine des Beautés* should be, as it is described to be, magnificent, having large semi-double flowers of a delicate rosy flesh-colour dashed with white around the margin, and thickly spotted on the upper segments and central petaloid bodies with deep carmine. A yellow-flowered sub-shrubby stove plant, found in Para by M. Baraquin, is called *Scutellaria aurea*, and is of about equal merit with some other species already found in our stoves. *Serissa fœtida fol. aureo marginatis* makes a pretty little picture as it does a pretty little bush, succeeding in a greenhouse, but developing foliage all the better in a higher temperature. There is a group of *Pompon Chrysanthemums* of various tints, among which *Marmouset*, a crimson, looks tempting if it be true. *Rhododendron Duc Adolphe de Nassau* is a dark violet-red heavily spotted hardy variety. *Gymnostachyum Verschaffeltii* is the same as a pretty dwarf stove plant shown last summer by Mr. Veitch as Eranthemum rubronervium, a plant with the habit of E. leuconeurum but having the veins red; it is an elegant dwarf herb so far as the leaves are concerned, but has insignificant yellow flowers. *Sedum Sieboldii fol. medio-variegatis* is a beautiful little plant, pictured by just imagining Sedum Sieboldii, with all the central parts of its leaves of a clear cream colour in a sort of oval blotch half an inch or more across. *Catasetum trimerochilum* is one of the Mormodes set, with yellow flowers stained with brown and dotted in lines with purple, much like M. lineatum. Two glorious Moutan Peonies fill a double plate; the one, *Madame Stuart Low*, of a bright carmine rose, double, and fully 8 inches across; the other, *Président Lambinon*, equally large, but less full, and of a lilac rose; both are Belgian seedlings, and like other Tree Peonies grand acquisitions in situations where these requirements can be met. *Hechtea Ghiesbreghtii* is a dwarf Mexican Bromeliad, with the long spiny-edged spreading leaves, which are of a brownish purple above, white with close pubescence underneath; the tall scape bears numerous small white flowers. *Brahea dulcis* is a tall slender-stemmed fan Palm, the Corypha dulcis of Humboldt and Bonpland, and has been introduced from Mexico. *Phrynium Van den Heckii*, is one of the handsomest of the marantoid stove plants, throwing up its leaves boldly on purplish red stalks, the leaves themselves broad, of a shaded green with a clear silvery centre and two submarginal bands, thus trifasciate, and the under surface deep purplish red; it will be a remarkably effective plant. *Tacsonia Van Volxemii* is a fine New Grenadian creeper with large crimson short-tubed flowers, and appears to be one of the finest of its race. *Caladium mirabile* is a green sort with paler nerves and white dots, rather distinct, but falling into the second rank. In the text will be found historical notices of the species of Phalænopsis, Strelitzia, and Echeveria, with much miscellaneous information.

*Hogg's Gardeners' Year-Book for* 1864 is a good shilling's worth, and the best of its class. The lists of New Fruits, Plants, and Flowers are ample and carefully prepared; and the British and Foreign Horticultural Directory, which forms a prominent feature, is the most perfect of its kind which has been attempted. A very useful addition to this part of the book is a list of the more important seats of the nobility and gentry, with the gardener's name where known, and that of the post town. There is besides the usual information found in an almanac.

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## Garden Memoranda.

Royal Horticultural Society's Conservatory at South Kensington.—With the neat and tasteful manner in which this house is kept, the Fellows of the Society and their friends may well be satisfied; for no pains seem to be spared to render it both attractive and enjoyable at all seasons of the year. In early spring it is a blaze of floral beauty, produced by Hyacinths, Tulips, Lily of the Valley, and other forced bulbs. In summer these are succeeded by Pelargoniums, Tree Mignonette, and plants of that description; while later in the season Fuchsias and Chrysanthemums form prominent features of decoration; and at the present time masses of Chinese Primroses, and of Solanum Pseudo-Capsicum and Capsicastrum, loaded with tempting-looking round red fruit, together with Ferns and other plants, give the central promenade a gay and cheerful appearance.

Among specimen trees in tubs, the Norfolk Island Pine (Araucaria excelsa) seems to succeed admirably, making vigorous growth every year; and, associated with plants of this and other kinds we noticed, in addition to Orange trees, beautiful examples of Clethra arborea, standard Myrtles, and Sweet Bays, Tree Ferns, Palms, and Camellias the last covered with flower buds, many of which are just bursting into blossom. The old Double White kind is remarkable for robust health and for the beauty of its flowers, which, owing to severe disbudding early in the season, are unusually large and perfect. The well-known kind called variegata is also conspicuous for the gaiety of its prettily striped red and white blossoms.

In the border fronting the corridor at the rear of the building, thriving plants of Dicksonia antarctica rise out of elevated knolls green with Toothed Lycopod (L. denticulatum), and little masses of rockwork, raised in the first instance with the intention of hiding tubs in which Araucaria trees are grown, have been rendered extremely ornamental by planting them with variegated Ferns, such as Pteris argyræa and P. cretica albo-lineata, intermixed in such a manner with the green-leaved Cyrtomium falcatum, Asplenium bulbiferum (whose fronds furnish young plants by which it may be increased), and other kinds, as to produce an agreable contrast. Here too the Myrtle-leaved Eugenia forms a handsome pyramid some 14 feet in height; Fuchsias and Hedychiums bloom gaily during the summer and autumn months; and now, plants grown for the beauty of their leaves, such as Wigandias, Ferdinandas, and Dracænas, are set off to excellent advantage by blossoms of Camellias, Luculia gratissima, whose large sweet-smelling flower heads are quite nosegays of themselves, and, last but not least, the lively primrose-coloured inflorescence of Jasminum nudiflorum. An edging of Toothed Lycopod completes this border in a very satisfactory way.

In the belt of tall-growing plants in pots which occupy the foreground of this house, are some fine specimens of the true Rhododendron arboreum, whose rich scarlet flowers produce early in the summer a striking effect; Palms, Encephalartos, and Dracænas also succeed well here, although in winter the temperature is often little more than a degree or two above the freezing point.

To screen the outside pots from view—a great desideratum, as well as to form an agreeable evergreen

edging for the belt just mentioned, Mr. Eyles has in an ingenious manner contrived a series of boxes planted with Toothed Lycopod. These have not yet been placed in position; but when that is done they cannot fail greatly to improve the appearance of this portion of the house. The boxes in question are merely made of rough deal, 9 inches in height at the back, 3 inches high in front, filled with earth, and planted so as to form a little green sloping bank from the top of the pots down to the gravel pathway in front of them. In one of these boxes the variegated-leaved Cyanotis vittata and Isolepis gracilis have been planted with the Lycopod, a mixture, which, though tried for the first time, by way of experiment, looks as if it might answer. In short we need not state that the good keeping of a house of this kind consists quite as much in the skilful application of small matters as in that of more costly materials. Nothing is so well suited for indoor edgings as the gracefully drooping Grass-like Isolepis gracilis with which the margins of the central clumps here are ornamented, and the Toothed Lycopod, the deep green hue of which is always welcome to the eye.

The bracket-like semicircular stages fixed at certain intervals apart along the front of this house are at present filled chiefly with Pompon Chrysanthemums, which, as their beauty fades, give place to other plants, such as Begonias, Primulas, Mignonette, Jasminum nudiflorum, and little golden-striped Aloes. These, when judiciously arranged, as they are here, and surrounded by an edging of Lycopod, are extremely pleasing and pretty, the wire ornamentation round the margins forming a useful support for the Lycopod. To have the latter in perfection, however, it must have a little care in the way of trimming, and it requires to be renewed once at least in every two years.

Finally, Climbers planted to cover pillars and other supports have this season made great progress. Among them one of the fastest growing is Cobœa scandens, which is neatly trained in a circular manner over the arches at the back part of the house, and from them led up to the gallery railings, which it covers with a thicket of green leaves. Higher up, as well as in other parts of the building, it also forms graceful festoons of refreshing green foliage. On some of the pillars, too, the charming Lapageria rosea is growing with great vigour, so that all supports and cross ties necessary in the construction of a house of the dimensions of that now under notice are either already or very soon will be concealed beneath a mass of rich and luxuriant vegetation.

## Miscellaneous.

*Royal Horticultural Society.*—There is now to be seen in the garden at South Kensington a bunch of fruit of the Musa Cavendishii of unusual size. It is 5 feet in circumference at the broad end of the bunch, and weighs 86 lb. (50 lb., we believe, is reckoned a very fine bunch). Most people are under the impression that it takes a long course of years to get fruit from the Banana in England. The fruit now in the Horticultural Garden may dispel this notion. Mr. P. L. Hind, F.R.H.S., of Byfleet, Surrey, who has sent the fruit for exhibition, received some small plants from the West Indies on the 6th of September, 1862, and under the skilful culture of Mr. Carr, his gardener, one of these has already produced this enormous fruit; in fact, the bunch is little less in size than the plant which produced it. The plant is now 4 ft. 6 in. in height, and the bunch about 3 ft. It is now exhibited, hung up, in one of the arches of the colonnade in the conservatory. We understand that it is destined for presentation to the Queen, and an early visit will be necessary in order to see it before it leaves the garden. *Times.*

*Mildness of the Season.*—In confirmation of this a correspondent has sent us Laburnum blossoms gathered the other day from a tree growing in a shrubbery in the north of Shropshire. He also adds that Gooseberry trees are in flower. Mr. Barnes, of Bicton, Devonshire, has also furnished us with blossoms of Rhododendrons gathered in the open air there. He states that they are from plants measuring from 6 to 8 feet high, and about the same in diameter, and adds that they have hundreds of bunches of blooms all over them. Stray flowers, he mentions, of the old R. ponticum may be found generally all the autumn there, and it is usual, he says, for many varieties of the scarlets and intermediate colours to be in flower in succession from October till May, when they are succeeded by the North-American varieties for 8 or 10 weeks. In the open ground at Bicton are also yet to be seen Scarlet Pelargoniums, Salvias, Ageratums, Verbenas, Fuchsias, Mignonette, Wallflowers, Tree Carnations, Polyanthus, Primroses, and Violets in abundance. He states, moreover that "the Miselto thrush or storm cock is hurrying out its screeching sort of note, and that the song thrush, robin, wren, and hedge sparrow are all merry with their sweet songs."

*Yams.*—The Yam principally cultivated is the Dioscorea alata, Linn., having a square climbing stem without prickles. The natives distinguish a number of varieties, all of which are known by the collective name of Uvi. Some have large, some small roots, of either a white or more or less purplish tinge; and upon these differences, as well as their shape and time of maturity, the distinctions are founded. At Navua, in Viti Levu, Chief Kuruduadua showed us a lot of Yams 6 feet long and 9 inches in diameter, perfectly mealy, and every part good eating; and specimens 8 feet long, and weighing 100 lbs., are by no means rare in the group. Skilful growers maintain, that in order to produce large and abundant roots, the settings ought to be put into hard and unprepared soil. According to their notion, the Yam ought to meet with resistance ere it will put forth its whole strength, or, as they sometimes express themselves, it must get angry before it will exert itself. I even heard of a bet won by a woman who pursued this simple plan, and who fully made good her word, that she would produce a root large enough to feed 20 people; whilst the man who bet with her could only raise one that would not have fed one-third of that number, though he took great pains to pulverise and prepare the soil for the reception of the setting. The general signal for planting is the flowering of the Drala (Erythrina indica, Linn.). As soon as its blossoms begin to appear, which happens about July and the beginning of August, all hands busy themselves about it. The land having already been cleared during the previous months, hillocks, about 2 feet high and 4 or 5 feet apart, are thrown up; these hillocks are known by the name of Buke, whence the highest mountain in Kadavu—for the first time ascended on the 6th of September, 1860, by Mr. Pritchard and myself, and resembling them in shape—takes its name of Buke Levu, or large Yam-hillock. There are no spades or any other iron tool for digging; all is done with staves made of Mangrove-wood, and the bare hands. Pieces of old Yams are set on the top of these hillocks, and within a short space of time they begin to sprout out. In less than a month they require reeds for climbing, after which little else is needed than keeping the plantations free from weeds. About February the first Yams begin to ripen, and in the heathen districts offerings of them are made to the priests. In March and April the principal crop comes in, and is stored in sheds thatched with Cocoa-nut leaves. As the season advances the contents of these sheds require at least a monthly overhauling; the roots exhibiting any kind of decay have to be removed to prevent their contaminating the healthy ones. Yams are eaten baked, boiled, or steamed, and the natives can consume great quantities of them. Whole cargoes have occasionally been taken with profit to New South Wales and New Zealand, and whaling and trading vessels never touch at the group without laying in a good supply. *Seemann's Mission to Viti.*

## Calendar of Operations

(*For the ensuing week.*)

### PLANT DEPARTMENT.

Conservatory, &c.—As this house will now be the chief resort of the family, it is requisite that the floors, &c., be at all times kept particularly clean and dry. Dryness of atmosphere through fire heat will not, however, keep the plants in that luxuriant health which not only creates a present interest in them, but also furnishes a guarantee for success in the future. Great moderation, therefore, in the use of fire heat is necessary in this department. A temperature of from 40° to 45° at night, and from 50° to 55° during the day time, is during this dead time of the year amply sufficient. Camellias in bloom may be watered now and then with clear tepid manure-water. In the case of stove plants keep up an abundance of atmospheric humidity, to counteract the drying tendency of hot-water pipes. In order to obviate the inconvenience of drip, leave a very little back air on all night whenever the weather is at all favourable. A few early Gloxinias and Achimenes may now be gently forced on for the decoration of warm houses. Let Pelargoniums now be kept as much at rest as possible, giving them but little water—in fact none except the leaves show a disposition to flag. In favourable weather like the present they should, however, have plenty of air, but not in the shape of cold currents, which are apt to prove injurious to the leaves. A temperature of 50° by day and 40° at night will be sufficient for the present. The pit in which flowers for the conservatory are forced should possess at this period a permanent bottom-heat of from 70° to 80°; atmospheric moisture, let us presume, has been secured. Such being the case preparations must be made for securing a due succession of early flowers.

### FORCING DEPARTMENT.

Pineries.—Continue former directions with regard to Pines for the present.

Vineries.—If the buds in the early house are now broken, endeavour to raise the temperature daily a little, until it reaches 70°, at which it may remain for a while; attend well to atmospheric humidity.

Melons.—To ensure success with these there must be the means of maintaining a bottom heat of from 75° to 80°, and the temperature of the atmosphere at from 65° to 75°, but good crops may be obtained in summer frames placed upon a bed of slowly fermenting materials. Seed for an early crop must soon be sown; after the young plants are up pot them in small pots when strong enough; keep them near the glass, and either plant them out or pot into large pots, using properly warmed, rather strong turfy soil. Sow for succession at intervals of about a month until May. When the plants get into free growth give air on every favourable occasion, so as to secure short-jointed wood. Trim and train the shoots regularly, keeping the main shoots thin, so as to allow space for the laterals on which the fruit will be produced. The soil should be made rather firm, which will tend to prevent over-luxuriant growth, and water should not be given too freely; but care must be exercised to maintain a sweet healthy atmoshere, and to guard against red spider.

### FLOWER GARDEN AND SHRUBBERIES.

The weather having as yet been unusually mild, every chance has been afforded of not only bringing up arrears of autumn business, but of even stealing a march on the coming spring. In the flower garden little can, however, be done now except digging deep the beds for clumping out flowers to ameliorate the soil; any that are exhausted should, as we stated the other day, have the soil renewed ready for spring work. In open weather laying turf or other pleasure-ground alterations may be proceeded with. See that all half-hardy plants are secured against severe weather. All Pink and Pansy beds must be well looked after; those plants that are loosened in any way should be carefully fastened; the same observations will apply to seedling Auriculas, Polyanthuses, &c. Carnations and Picotees also require regular attention; water occasionally when the soil is very dry, but avoid wetting the foliage as much as possible.

### HARDY FRUIT AND KITCHEN GARDEN.

As has been before stated, all spare ground should now be dug and ridged, indeed, trenched, if time permit. Where a systematic rotation of crops is carried out, and, of course, a regular and pre-planned system of spade management, it is an excellent plan to trench all the kitchen garden successively in the course of every three years. The trenching to be performed each year should be on the ground intended for tap-rooted plants, such as Carrots and Parsnips; also, in forming new plantations of Strawberries, Raspberries, bush fruit, &c., if the subsoil is stiff, it should be well worked up, and if wet, of course, well drained; a good coat of cinder ashes worked into it would serve to facilitate the passage of water and air.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON.
For the Week ending Dec. 23, 1863, as observed at the Horticultural Garden

| Dec. | Moon's Age. | Barometer. | | Temperature. Of the Air. | | | Of the Earth | | Wind | Rain. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Max. | Min. | Max. | Min. | Mean | 1 foot deep. | 2 feet deep. | | |
| Thurs. 17 | ☽ | 30.221 | 29.821 | 48 | 40 | 44.0 | 45½ | 47½ | N. | .00 |
| Friday 18 | 8 | 30.415 | 30.356 | 44 | 31 | 37.5 | 45¾ | 47 | N. | .00 |
| Satur 19 | 9 | 30.411 | 30.361 | 51 | 25 | 38.0 | 45½ | 46¼ | N.W. | .00 |
| Sunday 20 | 10 | 30.213 | 30.147 | 48 | 31 | 39.6 | 45 | 46¼ | N.W. | .00 |
| Mon. 21 | 11 | 30.034 | 29.826 | 48 | 35 | 41.5 | 45½ | 46¼ | N.W. | .05 |
| Tues. 22 | 12 | 30.144 | 29.756 | 41 | 19 | 30.0 | 46 | 46¼ | W. | .03 |
| Wed. 23 | 13 | 30.052 | 29.934 | 50 | 34 | 42.0 | 45 | 46 | W. | .00 |
| Average. | | 30.213 | 30.028 | 47.1 | 31.7 | 38.9 | 45.5 | 46.6 | | .07 |

Dec. 17—Densely clouded; overcast; fine at night.
— 18—Fine throughout.
— 19—Uniformly overcast; very fine; slight frost.
— 20—Light clouds; very fine; clear and fine at night.
— 21—Partially overcast; hazy; fine; rain at night.
— 22—Showers; clear and cold; very clear at night; frosty.
— 23—Uniformly overcast; very fine in forenoon; clear.
Mean temperature of the week ½ deg. below the average.

STATE OF THE WEATHER AT CHISWICK.
During the last 37 years, for the ensuing Week, ending Jan. 2, 1864.

| Dec. and Jan. | Average Highest Temp. | Average Lowest Temp. | Mean Temp. | No. of Years in which it Rained. | Greatest Quantity of Rain. | Prevailing Winds. N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sunday 27.. | 42.7 | 29.80 | 36.1 | 14 | 0.40 in. | 5 | 5 | 1 | 5 | 2 | 8 | 7 | [illegible] |
| Mon. 28.. | 41.8 | 29.38 | 35.6 | 11 | 0.21 | 4 | 4 | 4 | 3 | 3 | 7 | 10 | [illegible] |
| Tues. 29.. | 43.0 | 33.3 | 38.1 | 17 | 0.62 | 2 | 5 | [illegible] | 1 | 5 | 8 | 7 | [illegible] |
| Wed. 30.. | 44.7 | 32.6 | 38.7 | 15 | 0.18 | 1 | 6 | 2 | 2 | 4 | 10 | 11 | [illegible] |
| Thurs. 31.. | 44.2 | 33.5 | 38.9 | 11 | 0.44 | — | 8 | 1 | 2 | 6 | 11 | 5 | [illegible] |
| Friday 1.. | 43.4 | 31.3 | 37.4 | 12 | 0.70 | [illegible] | 5 | 2 | 3 | 1 | 9 | 5 | 5 |
| Satur. 2.. | 42.5 | 31.3 | 37.4 | 15 | 0.21 | 3 | 3 | 2 | 2 | 4 | 11 | 6 | [illegible] |

The highest temperature during the above period occurred on the 28th, 1855—therm. 58 deg.; and the lowest on the 28th, 1860—therm. 1 deg. below zero.

## Notices to Correspondents.

Books: *T W R.* Hamilton on the Pine Apple was published by "Joseph Masters, 33, Aldersgate Street, and Thomas Claye, Stockport."

Dioscorea Batatas: *W.* Your gardener has advised you well. Only throw some litter over the place where they stand.

Dracontium pertusum: *Trowbridge* states that in the garden of Mr. John Norris Clark, of Bellefield, Trowbridge, there is a plant of this in flower, an occurrence which must be considered to be to some extent a rarity. To his inquiry, "Is the fruit edible?" we answer that we greatly doubt.

London Seedsmen: *Eques.* If such is your opinion you had better get rid of it; for nothing can be more erroneous. Moreover, if you promulgate it you will find yourself in a very serious scrape, the consequences of which, after this warning, you will richly deserve.

Names of Fruits: *J Wood.* 1, Hoary Morning; 2, Handsome enough, but acid and astringent; 3, Like the Bersdorffer Reinette; 4, Winter Pearmain. Pears:—1, Decayed; 2, St. Germain; 3, Glou Morceau.—*J. W.* Your Pear, is the Beurré Rance, ripened this season much earlier than usual, as has been the case with many other late-keeping sorts.

Names of Plants: *A.* After a long and careful comparison we have arrived at the conclusion that the Thunbergia is one of the varieties of Th. fragrans.—*R G.* Epidendrum radiatum.—*S S S.* Abutilon vitifolium; and Boronia crenulata, with withered leaves and flowers. Hardly examinable.—*J.* Phillyrea media.

Quercus chinensis: *C P* will be obliged by being informed whether the Quercus chinensis discovered by Mr. Fortune, and mentioned in our Leading Article, Jan. 25, 1862, can be purchased in England. We ourselves do not know.

Ulmus fulva: *C E F.* Botanists know nothing of this name. The Slippery Elm of North America is U. rubra, a plant very like the Dutch Elm or some form of U. montana. No doubt you may hear of it at Kew. We never see the paper to which you refer; if you think it worth while to send us a cutting from it we will endeavour to answer your enquiries. Prune Hybrid perpetual Roses about the end of February, if the weather is mild.

**Manures and Feeding Stuffs.**

RAYNBIRD, CALDECOTT, and BAWTREE, Address 89, Seed Market, Mark Lane; or Basingstoke. Samples and prices on application.

THE LONDON MANURE COMPANY have now ready

PREPARED BONE MANURE for present use on PASTURES.
WHEAT MANURE for AUTUMN SOWING.
BLOOD MANURE for ditto.
SUPERPHOSPHATES of LIME, &c.

All the above being in the finest condition. They also continue to supply

GIBBS'S PERUVIAN GUANO, NITRATE of SODA, SULPHATE of AMMONIA, and every Artificial Manure of known value. E. PURSER, Secretary.

116, Fenchurch Street, E.C.

**Autumn Sowing.**

THE PATENT NITRO-PHOSPHATE or BLOOD MANURE COMPANY (LIMITED),

Consisting of Tenant Farmers occupying upwards of 30,000 Acres of Land.

*Chairman.*—JOHN CLAYDEN, Littlebury, Essex.
*Managing Director.*—JAMES ODAMS.

Offices: 109, Fenchurch Street, London, E.C.
Manufactory: Plaistow Marshes, Essex.

ODAMS'S BLOOD MANURE for WHEAT.—This Manure, specially prepared for Autumn Sowing, has been in use for upwards of 11 years, and has given great satisfaction to consumers.

Orders may be sent to the Company's Agents throughout the country, or direct to C. T. MACADAM, Secretary.

Offices: 109, Fenchurch Street, London, E.C.

Price 7*l.* 10*s.* per Ton, delivered at any Railway or Wharf in London.

LAWES'S WHEAT MANURE for AUTUMN SOWING.

A supply of the above Manure is now ready for delivery, at J. B. LAWES' Factories, Deptford, and Barking Creeks. Price 8*l.* per ton.

2 to 3 cwt. per acre to be harrowed into the land before the seed is sown. It can be obtained of Mr. LAWES, or through any of his appointed Agents; also

| | | |
|---|---|---|
| SUPERPHOSPHATE of LIME .. .. .. | £6 | 6 |
| MINERAL SUPERPHOSPHATE .. .. | 5 | 5 |

Genuine Peruvian Guano direct from the Importers, and all Chemical Manures of value.

American and other Cakes at market prices.

Address JOHN BENNET LAWES, Offices, 1, Adelaide Place, London Bridge, E.C.; and 22, Eden Quay, Dublin.

**Drainage of Land.**

MR. C. F. HUMBERT, F.G.S., of Watford, Herts, and formerly Senior Surveyor to the Tithe Commission, a Land Surveyor and Land Agent, more than 20 years established in practice, undertakes works of Drainage either at a contract price, or to lay out and overlook the same at a commission of 5*s.* per acre; and he has at his command a staff of experienced workmen. His custom is to charge merely the expenses out of pocket in making the preliminary Survey and Estimate where the works are not carried out.

**Drainage, &c.**

MR. JOSEPH BEAUMONT, LAND AGENT, SURVEYOR, and DRAINAGE ENGINEER (for several years Assistant to Mr. Josiah Parkes), undertakes the Planning and Execution of Works of Drainage, and Estate Improvements generally; including Embankments, and River Works; Reclamation of Marshes and Waste Lands; Irrigation and Warping; the Erection of Farm Buildings, Labourers' Cottages, &c., either at the private cost of the Landowner, or through the medium of the various Land Improvement Acts.

Estates Surveyed and Mapped, or Inspected and Reported upon for contemplated Improvements. Valuations made for Sales, or the re-letting of Farms.

22, Parliament Street, Westminster, S.W.

DRAINAGE LOANS are made by the GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY to the Owners of Freehold Estates, Life Tenants, Trustees, Incumbents, Bodies Corporate, &c., for all works of Agricultural Drainage, as well as Irrigation, Enclosing, Road Making, Wood Grubbing, and Farm Buildings, sanctioned by the Inclosure Commissioners.

The advances are repaid by way of Rent Charge on the Estate created for such a term of years as the Landowner shall determine will best adapt the annual charge to the circumstances of the Tenants.

No investigation of title being required, or notices given to Reversioners or Mortgagees, no legal expenses are incurred.

The Company either supply the money expended by landowners in works designed and executed by their own Agents, or they undertake the entire improvement by their experienced staff, supply the weekly advances required, and charge on the estate the actual outlay in the works, and their commission thereon.

Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Offices of the Company, 52, Parliament Street, London, S.W.

THE LANDS IMPROVEMENT COMPANY. Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

MESSRS. WAY AND EVANS, ANALYTICAL and CONSULTING CHEMISTS, receive PUPILS for the study of AGRICULTURAL and GENERAL ANALYTICAL CHEMISTRY.

106, Leadenhall Street, E.C.

**Chemical Analyses.**

DR. AUGUSTUS VOELCKER, F.C.S., CONSULTING CHEMIST to the Royal Agricultural Society of England, has REMOVED his LABORATORY from Cirencester to 101, LEADENHALL STREET, LONDON, E.C., where he receives a few Private Pupils for the Practical Study of Analytical and Agricultural Chemistry.

**Land Drainage, and other Agricultural Improvements.**

MR. BAILEY DENTON, C.E., maintains a large staff for the execution of Land Improvements by a commission of 5*s.* per acre for Under Drainage, and a fixed charge for Outfall and other works.

For particulars apply to him, at 52, Parliament Street, Westminster, S.W.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

AUTUMN SESSION, 1863.

*President*—THE RIGHT HON. THE EARL BATHURST.

*Council.*

The Right Hon. THE EARL BATHURST.
The Right Hon. THE EARL DUCIE.
The Hon. WILLIAM BATHURST.
The Right Hon. T. H. SOTHERON ESTCOURT, M.P.
EDWARD HOLLAND, Esq., M.P.

*Principal*—The Rev. JOHN CONSTABLE, M.A., Trin. Coll. Camb.

*Resident Professors.*

PRACTICAL AGRICULTURE.

J. L. FLETCHER, Farm Manager.
*T. BALDWIN, of Glasnevin—A Course of 20 Lectures on Crops.
*R. SCOTT BURN, Co-editor of the Book of Farm Buildings—A Course of 15 Lectures on Agricultural Machines and Farm Buildings.

CHEMISTRY.

ARTHUR H. CHURCH, B.A., F.C.S., Smith's Exhibitioner, Lincoln College, Oxon.

ASSISTANT TO CHEMICAL PROFESSOR.

R. WARINGTON, Jun., F.C.S.

BOTANY.—JOHN BAYLDON, M.B. Lond. B. Sc.

VETERINARY SURGERY.—A. J. MURRAY, M.R.C.V.S.

MATHEMATICS AND SURVEYING.

W. MEREDITH LANE, B.A., Scholar of Trin. Coll. Camb.

DRAWING.—JAMES MILLER.

* These Gentlemen will be in temporary residence.

Arrangements have been made for the delivery of Special Lectures by the following Gentlemen, who have kindly offered their services:—

AGRICULTURE.

J. ALGERNON CLARKE, of Long Sutton, Lincolnshire—Lecture on Leicester and Long-Woolled Sheep.

HEWITT DAVIS, M.R.I., Author of Agricultural Essays—Lecture on the Injury and Waste of Corn from too thickly seeding.

CAPTAIN TANNER DAVY, Editor of the Devon Herd Book—Lecture on the History of the Devon Breed.

J. BAILEY DENTON, M. Inst. C.E.—Lectures on Drainage, Road Making, and other Land Improvements.

THOMAS DUCKHAM, Editor of the Hereford Herd Book—Lecture on the History of the Hereford Breed.

THOMAS ELLMAN, of Beddingham, Lewes—Lecture on Southdown and Short-woolled Sheep.

J. CHALMERS MORTON, Editor of the Cyclopædia of Agriculture—A Course of 8 Lectures on Tillage and Land Drainage.

WILLOUGHBY WOOD, of Holly Bank, Burton-on-Trent—Lecture on the History of the Short-Horn Breed.

AGRICULTURAL CHEMISTRY.

THOMAS ANDERSON, M.D., Professor of Chemistry in the University of Glasgow, and Chemist to the Highland and Agricultural Society of Scotland—A Course of Lectures.

For further particulars apply to the PRINCIPAL.

CENTRAL FARMERS' CLUB. NOTICE TO MEMBERS.

The term for which the Committee held the Rooms in Blackfriars having expired, due accommodation has been provided at THE CALEDONIAN HOTEL, 3, Robert Street, Adelphi, W.C., where the rooms will be ready for use on January 1.

HENRY CORBET, Secretary.

# The Agricultural Gazette.

## SATURDAY, DECEMBER 26, 1863.

—— WE publish in another column a verbatim report of several of the most important speeches given before the meeting in St. James's Hall, called by the Steam Cultivation Company during the week of the Smithfield Club Show. Nothing more strikes the observer of agricultural progress than the altered tone of men in authority on this subject. The President of the Royal Agricultural Society recommends the young farmer about to enter into business to consider the question whether he shall not at once apply steam power in his fields and purchase a diminished number of horses. And experienced men in all the agricultural ranks—landowners, large farmers, and even small occupiers—are to be found recommending their brother agriculturists to abandon horse tillage for steam cultivation. In the speeches now for the first time fully published, we have both the commercial and the scientific aspects of the subject well discussed, and the landlord and the tenant farmer respectively state their case.

—— On Wednesday of last week, Dr. E. SMITH, F.R.S., read before the Society of Arts an extremely full paper on the nutritive value of foods, which we hope hereafter to lay before our readers. One point on which he opposes the prejudice of what may be called amateur science, and gives his sanction to the long prevalent popular judgment, is the alleged superior nutritiveness of whole meal bread, which he denies, and on which he brings a good deal of illustrative experiment and discussion to bear.

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THE Morayshire Farmers' Club is, we believe, the oldest Society of its class in Great Britain. It has been in operation since 1798. Mr. ISAAC FORSYTH, its original secretary, could say when he resigned his office in 1825, that he had completed 27 years in its service—and he could then speak of the agricultural improvement which during the past quarter of a century had so evidently been accomplished by its means "in the country that we all love." During its operations up till then it had appropriated 2800*l.* to accomplish improvements in stock, implements, and tillage; and, as the report of that date says:—"every one who can carry his recollection to the beginning of the century, and compare the agricultural state of the country then with what it is now, will have no difficulty in attributing the mighty alteration that has taken place to such an application."

And the social benefits which the Association had conferred were also confidently named by its retiring Secretary. "Its happy influence in so frequently bringing together and uniting almost like the members of one family all the agricultural intelligence and respectability of so considerable a district have been attended with consequences in enlarging and liberalising the minds of its members that will continue to be felt in every corner of the county." Mr. FORSYTH was able to attend the Jubilee meeting of the Club in 1849, nearly a quarter of a century after the period of his retirement, and he then took his final leave of the association, after a 50th annual subscription to its funds, in an address which we have before us as we write, characterised by that hearty sympathy with both its objects and its membership, which had long made him so efficient an office bearer.

Mr. COKE of Holkham, had been elected an Honorary Member of the Morayshire Farmers' Club in 1818. His interest in it probably arose from the official visit paid to his estates by Mr. FORSYTH and other members of the Society, who in 1815 or 1816, had been deputed by the Club to examine into Norfolk agriculture. The inquiries which the deputation were directed to make are given below, along with the answers which were elicited. And we have to thank the family of the late Mr. FORSYTH, who have now enabled us to publish so interesting a picture of the agriculture of half a century ago.

The following are the questions put by the Club, and the answers obtained by Mr. FORSYTH, its Secretary:—

I.—The soil of many parts of Norfolk was poor and unproductive sand, at first yielding inferior Oats and Rye: by better management it now produces Turnips, Barley, Clover, and Wheat. It would be interesting to learn what steps have been taken, and by whom (whether heritors or tenants, or both combined) to work this change; what the old and new rents were and are, and in what proportion the times and new mode of husbandry have operated towards the beneficial change which has taken place?

The steps to this great improvement have been taken by landlord and tenant; and the means have been, 1st, applying the subsoil, consisting of calcareous matter, to the surface. 2d. The application of oilcake manure in addition to that of the farm-yard. 3d. The cultivation of Turnips, and eating them on the ground with sheep. The introduction of Southdowns in room of old Norfolks, the introduction of machinery and new implements of husbandry, and chiefly the introduction of drill husbandry, by which the land is kept so perfectly clean. The greatest part of these improvements have been introduced by Mr. Coke in the last 40 years. The general rent of Norfolk is supposed to be 15*s.* per acre, including tithes.

II.—Do the landlords build the houses and fence the lands; do they exact a per centage for such? Supposing a farm in want of both—what sum might be requisite for buildings and fences per 100 acres under a 5-shift course? How are the hedges reared and protected, and at what age do they become fencible on the clay, loams, and sands?

Landlord builds the houses and includes them in his rent. If houses are added after an agreement for a farm is made, the landlord builds them, but tenant pays $7\frac{1}{2}$ per cent. on the outlay. The fences are done by tenant, but landlord finds the Thorn-layer and Whin-seed to protect them, by forming a hedge on one side. The houses of every description for a farm do generally cost 5 years' rent. The hedges are all reared on a ditch and bank, and dead hedge of Thorns set on top of bank, and fenced from sheep on the land side by hurdles. They are fencible against sheep in 6 years, but require two or three years more to be strong

enough for neat cattle. They are not cut before they become mossed or cankered generally.

III.—Are leases given, and of what duration? What are the terms on lands in and out of condition at the tenants' entry?

Leases are given all over the county, and generally for 21 years: as there is no such thing here as a farm being out of condition at the end of a lease; the land is always let in an uniform way. The average price per acre, as already mentioned, is 15*s*. over the whole county.

IV.—At what terms are rents payable, and what are they in general for clays, loams, and sands?

The entries being at Michaelmas, the rents are due at Lady-day and Michaelmas following, but from the custom of the county the payments are seldom actually made till three months after these days, say at Midsummer and Christmas. The average rent of the county is given.

V.—Is marl, lime, or chalk used? In what quantities and at what cost per acre? Specimens of all would be desirable.

No lime used as manure, but the subsoil, which is found everywhere over the county under the denominations of chalk, marl, and clay, is applied to the surface. Chalk is the original substance in a dry state; marl is the same with an intermixture of earth, and rather moist; clay is the same substance with a more tenacious earth intermixed. These are all so strongly calcareous as to effervesce with vinegar. 40 cubic yards per acre are applied once in 20 years, and the expense of casting, carting, and spreading, when contracted for, is 1*s*. per cubic yard. There seems no necessity for specimens, as it cannot possibly be conveyed, and the variety of quality is very great.

VI.—Do the tenants obtain foreign manure, and by what means do they increase the ordinary produce of the farm-yard?

The only foreign manure used is oil-cake bruised and made from Rape-seed, which is Cole-seed. The method of increasing the farm-yard manure is distinctly pointed out in Mr. Blaikie's pamphlet on that subject.

VII.—Rape or Coleseed cake. Ascertain the usual weight allowed per acre for a Turnip crop, when and how deposited; if experienced agriculturists have actually found it equal to farm yard manure; supposing the Turnips carted off can they be succeeded by Barley with every chance of a fair return, or must a top-dressing be given, and what weight of Coleseed or other manure?

Seven cwt. per acre without yard dung for common Turnips; 12 loads of dung, 1 ton each, without oil-cake, for common Turnips; 10 loads of dung with 5 cwt. of oil-cake for Swedish Turnips. The cake is sown in two different ways: 1st, broadcast over the ground flat, then ridged up and Turnips sown on top immediately. 2d, the ridges formed and the oil-cake sown broadcast, the drills closed over it, and Turnips sown on top immediately. Experienced farmers use it in the above manner, and find it answer well for raising a crop of Turnips, but these must be eaten off by sheep, as a preparation for Barley. If Turnips, raised by yard manure or oil-cake, are carted off from good land, a good crop of Barley may be expected without further manure. A part only of Turnips can be carted off from light land; the residue must be eaten off by sheep, if a good crop of Barley is expected.

VIII.—Ascertain the construction and cost of the Coleseed cake bruising machine, and of that used for depositing the pounded cake? Those who subscribed for a quantity of the cake authorise Mr. Forsyth to order the depositing machine if he sees proper.

This machine for bruising oilcake to be worked by two men (about 2 tons per day) costs 15*l*.; ditto with horse-power attached, 30*l*. Machine for depositing the bruised cake with all sorts of corn and seeds, 40*l*. For the purpose of an experiment to sow it broadcast by hand is sufficient.

IX.—Is the four or five shift course practised? Are Turnips ate off the ground? By what description of stock and how are the bestial hurdled or netted?

According to the nature or quality of the soil, the four, five, six, and seven shift courses are adopted. Turnips are universally ate off the ground by sheep, except on the very strongest lands in the county. By South-down sheep, or cross Leicester and South-down. Generally hurdled.

X.—Is breeding, feeding, or part of both practised? What are the favourite and most approved kinds of cattle and sheep? How are they housed and fed the year round? Are pigs, and what breed, reared; if so, how are they kept?

Part breeding and part feeding is practised. The favourite breed of cattle is North Devons, and Galloway Queys, and oxen. In summer they are put to the pastures, and in winter in the fold yards, having open sheds for the cattle to go under in bad weather. In this season they have a small portion of hay in racks under the sheds; common and yellow Turnips to February, and Swedes after, as long as they last.

Sheep—South-Downs, and cross Leicester and South-downs—put to the pastures all the summer; and in winter in hurdles on Turnips.

Pigs, in mense quantities bred of the White Suffolk breed. When young, that is to 4 months, kept on whey, milk, kitchen wash, grains, &c., with a few Peas. After 4 months they have the run of the cattle and straw yard, and Swedish Turnips till sold. In summer, after the Swedes are done, the pigs have Clover mown for them, and given in the yard with Peas or Beans. Pigs after harvest are ringed and herded upon the stubbles, sometimes from 100 to 200 in a drove.

XI.—Examine particularly the Cocksfoot, Lucerne, Burnet, and Chicory Grass-fields. How is each sort liked compared to Clover, with or without Rye-grass? Whether all or either do for pasture only, or hay also? Ascertain the quantities sown per acre, and what soils each sort is adapted to. Bring samples. Learn the nature and value of Timothy Grass, the soil to which it is applicable, if sown alone, and in what quantity per acre.

There is scarcely any Lucerne, and no Burnet, or Chicory, or Timothy Grass raised in this county. Cocksfoot is sown upon the light and sandy lands, with Rib Grass, White Clover, and remains in pasture for three years, never cut as hay; and must be kept close eat down by store sheep. Red Clover, 12 lb., on the four-course shift, is only sown once in eight years, and is mown for hay. And the next round a mixture of a peck and a half of Rye-grass, 4 lb. of White Clover, and 8 lb. of Trefoil is sown and pastured, only used in good lands. Sainfoin, 12 lb., with White Clover, 4 lb., per acre, is sown on dry chalky land, and mown for hay every year for eight years.

XII.—How are horses and other working cattle fed? What are the hours of labour, summer and winter; and what the description most approved of for the purposes of husbandry?

Horses from 20th October to 20th May have a peck (Imp.) of Oats a horse a day, with hay also part of the hay is cut and mixed with the chaff of corn, and a few Swedes during this season. No boiled meat. From 20th May to October they are soiled on Clover in the yards. The horses have liberty of running loose from the yards to the stables day and night, summer and winter. The horses are light, strong, and active animals, about 15 to 16 hands high, little hair on the heel and full of bone, mostly browns, bays, and chesnuts. Devon oxen are used only in ploughing and scarifiers, but not generally. They are very active, and as quick in their paces as the horses, a pair plough an acre a day. They are not large, but very clean boned, handsome horns, and all dark red in colour. When fatted at 5, they weigh 70 stone of 14 lb.; they are broke into work at three years. In summer soiled, in winter Turnips and hay, and when in work a feed of cut hay and bran, Swedes.

XIII.—It may be desirable to see the moveable threshing machines at work, and to be well informed as to their merits and execution.

This machine from being moved about is very apt to go out of order, and cannot with advantage or safety be placed without a thorough bred mechanic accompanying it. Here where there are generally two large barns on every farm, at a distance—and on some farms three such barns, the convenience and economy of moving machines is obvious though very troublesome, as they are constantly going into disorder, and breaking parts of them. But this by no means applies to the necessities of Morayshire. A moveable machine of four horses power, to thresh 40 coombs a day, costs 100*l*., and some of the farmers seem perfectly satisfied with their execution, others not.

XIV.—Examine minutely the Wheat and other grain drill machines and cleaning hoe. Ascertain if they can be made to work on the flat broad ridges, and without rounded narrow ridges.

The grain drill here is very nearly the same as that in use in Morayshire. The difference is that the tubes for conveying the grain are made more flexible, and that there is a marker attached to every machine. This latter is a very material improvement, though perfectly simple. It consists of a pole across the shafts, from which is suspended a movable piece of iron fixed at the distance of the drill for the time, which trailing on the surface makes a rut or mark for the horse to be led on in the next turn. Hence, with the superiority of Norfolk ploughmen and the steadiness of their horses, arises that most striking and singular regularity and nicety of their drilling, which in a 1000 acres will not present one irregular line. As to working on the flat they do nothing else in Norfolk. There is not such a thing as a narrow ridge in Holkham. In 10,000 acres you will not find one hinting furrow in the whole space, all flat and level, and not one drill out of place or awry in the whole. A drill machine for grain is 15*l*. to 18*l*., a broadcast machine for seeds or grain, 15*l*. to 18*l*., a ditto to sow oil-cake, 15*l*. to 18*l*., a ditto. to sow the whole together or separate, 40*l*. The drills here have circular barrels with metal cups drove into them instead of the brushes in ours, which is thought a great superiority.

XV.—Ascertain the most approved method to crop the sands, loams, and clays of Norfolk; the quantities of grain and seeds sown per acre, broadcast and drilled; the distance between the drills, and most approved method of sowing.

The sands are done by a 7 and 4 shift course, viz., 1st, Turnips, Barley, Cocksfoot and mixed Grasses pastured for three years, Peas, Wheat; next, 2d, Turnips, Barley, Red Clover (mown), Wheat. For a weak loam, 5 and 6 alternate course—1st, Turnips, Barley, Rye-grass Trefoil and White Clover (pastured two years), Wheat; 2d, Turnips, Barley, Red Clover (mown), Wheat. Best loams, 4 course only—1st, Turnips, Barley, Red Clover (mown), Wheat; 2d, Turnips, Barley, Trefoil and White Clover, Wheat. Clays, 4 shift in 2 courses—1st, Turnips, Barley, Red Clover (mown), Wheat; 2d, Turnips, Barley, Beans, Wheat. Quantity of Wheat seed per acre is 3½ bushels drilled; Barley, 3 bushels; Oats, 6 bushels; Peas, 3 bushels: Beans, 2 bushels. Clover and Rye-grass with Sainfoin and Trefoil are already mentioned. As a general rule the distance of the drills is regulated by the condition of the land. A medium Wheat is 9 inches, Barley and Oats, 6; Peas, 9; Beans, 18; Turnips, 18 and 27.

VI.—Inspect the Wheat and Oats, especially those cut green, as described by Mr. Coke. Bring average samples of all (those green cut in the ear), and find how seed Wheat is prepared to insure the crop against the smut.

The general opinion here is in favour of cutting Wheat rather green, and a sample is taken. The test for shearing is when there can be no milk expressed from the grain by pressure, and the back of the corn becomes brownish, also when there is about 2 inches of the straw below the ear turned white, and you cannot express any juice from the stem—then it ought to be cut, however green in the straw. Barley should be dead ripe. Oats rather green to prevent shaking, and have the straw in greater perfection. Peas, when the lower pods are ripe. Beans, when black in the eye. Seed Wheat, to prevent smut, should be riddled gently into tubs half filled with water, and the swinings carefully skimmed off, which must on no account be put into the dung yard. Stir the Wheat well, and give it more clean water if necessary, then run off all the water, and pour in a brine made of salt and water sufficiently strong to carry a new laid egg. Let it remain in the brine six hours and frequently stirred in that time, careful to skim off all refuse as before. Then the brine is drawn from it and preserved for next steeping, with additional salt put to it to restore the strength of the former test. The Wheat is then put upon a floor where no smutty Wheat has previously been, and mixed with quick lime, and then spread thin on a floor. The greatest care must be taken in every part of this process to prevent the clean Wheat from touching anything which has formerly had smut near it, as inoculation will inevitably happen. Every farmer ought to be sufficiently aware of the infectious nature of the disease so as to be exceedingly on his guard against it And he has only to take a handful of clean Wheat, wet it and rub with smut powder, and sow it in his garden, to be convinced of this fact.

XVII.—Examine the implements of husbandry, from the thrashing-mill to the smallest dung fork. Fix in your own mind if all or either exceed ours, and be able to point out to the Club what you think it would be of importance to order. Attend to see the hand wheel rake, drill roller with cutting wheels, one-horse plough, &c.

The implements that appeared most useful to me were 1st, an inverted horse hoe for Turnips, &c.; 2d, a ditto for grain at 6 and 9 inches; 3d, a cultivator for bringing up quickens to the surface by four horses, having two rows of long and strong teeth, which are far superior to the extirpator for destroying root weeds. A marker to the drills used at Oldmills, and a set of more pliable iron funnels.

XVIII.—Ascertain the mode of storing Turnips—the kind most in use and preferred.

Look to Mr. Blaikie's book for the manner of placing Turnips, which is now become universal in the county, and at this moment (6th May) Swedish Turnips are to be seen everywhere in the highest state of preservation, in consequence of it, and expected to continue so for a month longer. The kinds preferred are Decanter Norfolk White, Yellow Scotch, Swedish.

XIX.—Find if the crops are cut down by the acre, day, or thrave; at what rate per acre, with or without food and drink.

Reaped by hooks at 10*s*. to 14*s*. per acre, according to thickness and standing, including binding and stooking; also by a band of shearers, all men, at 7*l*. or 7 guineas a head, for the harvest, to do everything, but receive no meat or drink; average of harvest a month. Each man is expected to do about 14 acres.

XX.—How are labourers and servants paid and fed?

Farm servants by the year receive 10*l*., and pay about 9*s*. a week of board wages. Labourers 17*s*. to 18*s*. a week in summer on piece work. In winter about 15*s*. do., no meat nor drink. Labourers plough at 2*s*. per acre, and keep six horses clean and feed them, and receive 2*s*. a week extra for this. In winter ploughs 1¼ acres per day, 10 inches wide and 6 deep. In summer ploughs 1½ acres a day, same size of slice, only one pair of horses to this work.

[Some detached reports of separate farms will be given hereafter.]

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It is necessary before closing our volume for 1863, that a correction should be made in the same pages with the error which was committed some weeks ago by the writer of an article on the census returns of 1861. On page 1018 will be found remarks on the changes in the agricultural population which are revealed by the census of 1861 when compared with its immediate predecessor. A table is there given in which the employments of the agricultural class in 1851 and 1861 were compared—but unfortunately the writer had compared the figures as given by the Registrar-General in a volume of the earlier date relating to England and Scotland with those given in the bulky Parliamentary Blue Book just issued about the recent census, which relates only to England and Wales.

Of course, this putting all Scotland out of consideration was certain to produce the great discrepancies which the writer thought he had detected. And we have to thank Mr. Wyatt,

chief clerk in the Census Office, for pointing the error out.

We have also to thank Mr. Robert Duke, who was engaged in the late Census, for supplying the correct figures for 1851 with which those of the recent Census are alone comparable. In 1851 the returns for Scotland were made up in Edinburgh; in 1861 they were made up at Somerset House; and the consequent variation in the form of publication led to the error which we now correct by publishing the accurate figures which Mr. Duke has sent to us:—

Employments of the Agricultural Class.

| | Males. | | Females. | |
|---|---|---|---|---|
| a. In Fields and Pastures. | 1861. | 1851. | 1861. | 1851. |
| Proprietors .. .. .. | 15,131 | 17,947 | 15,635 | 13,268 |
| Farmers .. .. .. | 226,957 | 224,066 | 22,778 | 22,916 |
| Graziers .. .. .. | .. | 2,449 | . | .. |
| Farmers' and Graziers' Wives | .. | .. | 163,765 | 164,618 |
| Farmers' Sons, Daughters | 92,321 | 111,704 | 83,880 | 105,147 |
| Farm Bailiffs .. .. | 15,698 | 10,561 | .. | .. |
| Agricultural Labourers (out-door) | 914,306 | 908,678 | 43,964 | 44,319 |
| Shepherds .. .. .. | 25,559 | 12,517 | .. | .. |
| Farm servants (in-door) .. | 158,401 | 189,116 | 46,561 | 44,319 |
| Land surveyors .. .. | 4,702 | } 3,064 | .. | .. |
| Land agents .. .. | .. | .. | .. | .. |
| Agricultural students .. | 490 | 104 | .. | .. |
| Hop growers .. .. | 33 | 30 | .. | .. |
| Willow " .. .. | 55 | 59 | .. | .. |
| Teazle " .. .. | 81 | 85 | .. | .. |
| Agricultural Implement Proprietors | 236 | 50 | .. | 5 |
| Agricultural Implement Makers | 1,084 | 641 | 14 | 12 |
| Drainage service .. .. | 1,761 | 11 | .. | .. |
| Colonial farmers .. .. | 91 | 16 | .. | .. |
| Others .. .. .. | 73 | 116 | 44 | 12 |
| b. In Woods. | | | | |
| Woodmen .. .. .. | 8,907 | 7,772 | .. | .. |
| Others .. .. .. | 10 | 220 | 9 | 16 |
| c. In Gardens. | | | | |
| Gardeners .. .. .. | 76,760 | 69,685 | 1,773 | 2,120 |
| Nurserymen .. .. | 2,838 | 2,350 | 79 | 33 |
| Water Cress growers .. | 55 | 39 | .. | .. |
| Others .. .. .. | 22 | 23 | 5 | 74 |

The leading numbers here are those of in-door and out-door farm servants and shepherds, and we repeat them, dividing them into columns, determining their ages:—

| Labourers. | Total. | | Under 20 Years Old. Males. | | Under 20 Years Old. Females. | | Over 20 Years Old. Males. | | Over 20 Years Old. Females. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1861. | 1851. | 1861. | 1851. | 1861. | 1851. | 1861. | 1851. | 1861. | 1851. |
| Out-door .... | 958,265 | 952,997 | 188,988 | 183,839 | 10,202 | 9457 | 725,318 | 724,839 | 33,762 | 34,862 |
| In-door .... | 161,902 | 288,272 | 94,959 | 101,508 | 20,718 | 51,706 | 63,442 | 87,608 | 25,843 | 47,450 |
| Shepherds .. | 25,550 | 12,517 | 4,900 | 2,265 | .. | .. | 20,659 | 10,252 | .. | .. |
| Total .... | 1,145,726 | 1,258,786 | 288,842 | 287,612 | 30,920 | 61,163 | 809,419 | 822,699 | 59,605 | 82,312 |

The chief points which these figures indicate, on a comparison of 1851 and 1861, are—the diminished number of male proprietors, the almost identical number of tenant farmers and graziers, the large increase in the number of farm bailiffs, and the largely diminished number of indoor farm servants. This last is, we presume, simply the continued extension of the tendency which has been in operation during many past decennial periods, by which masters and servants in agriculture have at length become socially as distinct as in all other occupations where capital is invested.

## STEAM CULTIVATION.

*Discussion at the Public Meeting in St. James's Hall. Dec. 9.*—The following is a report of the addresses of Mr. Harrison, C.E., Frocester Court, Gloucestershire; Sir G. Jenkinson, Bart., Eastwood House, Berkeley; and Dr. Voelcker, Consulting Chemist of the Royal Agricultural Society of England. A portion of the address of Mr. S. Hutchinson, of Grantham, is also given.

Mr. Harrison: The resolution which I have to submit is—"That considerable advantage would arise to tenant farmers and others from the establishment of a joint stock company, for the purpose of supplying steam apparatus to applicants, allowing them to repay the cost price by instalments extending over a certain number of years on the principle of a rolling stock company."

We have heard from previous speakers the immense advantage which the extension of steam cultivation throughout the country would be to the public at large. It seems to me that the point of view in which it is more especially desirable to regard this subject is, that the extension of steam cultivation is a very decided benefit not only to the tenant farmer but to the landowner, and in going into this question, and considering the best mode of introducing steam cultivation into this country, I think it must be looked upon as a joint question between the tenant farmer and the landowner. With respect to the expense of cultivating land, I believe there is very little land that cannot be cultivated by steam and cultivated very much better than by the ordinary processes. Now I have been connected with a steam machinery company, and therefore I speak with some knowledge of the subject. The disadvantages arising from a number of farmers in a locality joining together for the purpose of obtaining a machine have been already very truly pointed out. It is obvious that they would all be wanting the machine at the same time. Now that objection stands good in regard to the formation of a company in any particular town. As a farmer, I have experienced myself the very great disadvantage of having to wait my turn in order to have my land cultivated by steam. I have missed the opportunity of doing it when it would have been most advantageous. Therefore, I think it is better for farmers to have a complete apparatus of their own. Our experience as a steam company at Gloucester was that it was not desirable for any company to undertake ploughing by hire. Mr. Holland pointed out to us the disadvantages of continuing to employ the men for any length of time, and the inability to give them constant employment. This applies to letting the machines for hire. The proposition that I have to make is that a company should be formed for the purpose of supplying steam apparatus to tenant farmers, which shall be paid for by instalments extending over a certain number of years, on the principle of a rolling stock company. That, I believe, would be the right principle to go upon, but the thing would require an immense deal of care. Our experience is that the steam power, notwithstanding the improvements which are made, deteriorates so rapidly that any company formed to supply farmers with steam tackle under this system must be extremely cautious, otherwise they will very soon find that they have a large quantity of stock upon their hands which is almost unsaleable. In the case of a rolling waggon company, the waggons are kept in repair by the persons who hire them, and they are useful as waggons for many years. In the course of a few years, unless we had good security, these machines might be thrown upon our hands and found to be of little or no use. I think this is a company that is likely to stand, and the greatest safeguard for its permanency will be to obtain adequate security from the persons making use of the apparatus. Now it strikes me that that security is to be obtained from the tenant farmer and landowner in conjunction. Let the company supply the engines to the tenant farmer in the manner proposed, the tenant farmer having to pay a certain amount of interest and to pay off the capital by instalments, and the landlord to furnish the company with a security by mortgage of the land that those instalments shall be paid. Now see the advantage in point of fact of this plan. Year after year the tenant pays his instalments, and consequently while the value of the engine and tackle may be reduced, the amount remaining to be paid diminishes also, and the company's security is all the greater. In the case of the tenant refusing after a few years to continue to pay for the apparatus, the security would of course be called upon to make good the deficiency. I think that is a mode in which a good security would be got for the Company, and I do not at all think it is too much to ask the landlords to assent to it, because they have as much interest in the introduction of steam-power upon their land as the tenant farmer. In the case of a farm where steam machinery has been used which has lately let, I have it on the best authority that the number of applications has been very great indeed, and it has been considered most advantageous to the farm. It is suggested to me that the principle is of very great importance to small farmers who form the greater part of the community. The expense of steam machinery to such persons is so considerable that they are unable to obtain it in the ordinary way. Therefore I think that the formation of a company of this kind to supply steam apparatus to tenant farmers, upon receiving security from the tenant farmers conjointly with the landlord, so that the tenant farmers might have the privilege of using the apparatus in farming and paying for it by instalments from year to year, will be of very great benefit, and I happy to come forward to propose it.

The Chairman: The gentleman who seconds this resolution is no other than Dr. Voelcker.

Dr. Voelcker: The agriculturists of England are said to be a slow race of men. It is not for me to say whether they are slower than any other class of the community. We all have our prejudices, and if, perhaps, one class is a little quicker than the other, the quicker is not always the surer. Agriculturists as a class perhaps nobody will deny are slow, but their slowness is a great recommendation to them. If they were not slow, they could not be agriculturists; but, if they are slow, they are sure. After referring at some length to the advantages of the Company in supplying capital for agricultural use, Dr. Voelcker said:—

"In seconding the resolution, I feel I am somewhat out of place in speaking of such a purely practical matter as a scientific man. I will, therefore not say anything more on that subject, but point out one or two matters to your attention which occur to my own mind. All the advantages of steam cultivation have not in my opinion been sufficiently prominently brought forward. For instance, it is not generally understood that by steam cultivation we can work many soils without manure, and thus save a great deal of money in the purchase of composition or in the production of home made manure. A second point is that there are many lands in this country which are not in a condition to receive manure. If the farmer is willing to purchase guano or apply ordinary manure to his land, to what purpose is it unless the land is in a condition to receive it. These are two points of very great practical importance. We frequently hear of poor clay land, of land so poor that it does not pay for the trouble of cultivation, and it would be well to inquire what can be the reason of the poverty of this land? Now, land of that character may be poor in this sense, that it may not have the essence of fertility in it, or, on the other hand, it may not be in a fit condition to receive the manure. In either case we must do something towards bringing matters to this issue, that it shall be made a fit soil, and to do this by manual labour is out of the question. To do it in many instances by horse-labour is likewise, I have no hesitation in saying, impossible. The only way of cultivating some thousands of acres in England is by the employment of steam power. And what would be the result of steam cultivation? In the case of those lands which contain, so to speak, an immense capital in a locked up condition, the result would be to set this capital at liberty. We do by steam cultivation eliminate from the soil itself the elements of agriculture, the elements of fertility which we purchase so dearly in guano and in other manufactured manures. I am a great advocate for the liberal application of every description of manure in its proper place. Now, I call the application of manure out of place when I have the elements of fertility in the soil and for want of proper energy or for want of proper implements I neglect to get them out of the land, and ignore the advantages which steam will give me in working the land. Now this is a topic to which sufficient importance has not been attached by writers, and I wish therefore very strongly to impress upon the present meeting that besides cultivating soils of a heavy description, we get by steam cultivation an immense amount of fertilising matter. Few people have an idea of the enormous resources of some of the clay soils. Some time ago I examined some clay soils in Gloucester, and for my own amusement I made a calculation, and found that in one soil there was sufficient of the great element of fertility to supply our Wheat crops for 1500 years; and we have only to go down another inch and a half to have sufficient to last us another 1500 years, supposing nothing occurred with the soil. Now I mention this to show the enormous extent of subsoils, and yet those are described as poor clays not fit to be taken in hand by the tenant farmer. If they were properly cultivated, and they cannot be properly cultivated but by steam, they would yield for a succession of years large crops without compelling the farmer to put his hand into his pocket for buying very largely guano and other artificial manures. Then in the next place there are soils which are not in a fit condition to receive it—some of our bad clays. When rain falls the most valuable portion of manure is washed out, the essence waste away, filtering through the soil. Now, by proper cultivation the mechanical condition, and with it its fitness to receive the manure, may be very greatly improved. Whether we speak therefore of clay as poor in the latter or former sense, in most cases steam cultivation will effect such wonders as to astonish many of us. No doubt 20 years hence we shall know better what may be expected from steam cultivation than we do at the present time.

Sir G. Jenkinson:—The resolution which I have to propose is the practical resolution of this meeting; in fact, if I may so speak, it is popping the question, "Will you or won't you?" Now this resolution points to the entire question, whether it shall succeed or fall to the ground. With the view of showing shortly the principal point to be arrived at by this Company, I will read that which we propose to make the basis of our proceedings. Sir G. Jenkinson then read from the prospectus of the Company the portion already given at p. 1215, and continued:—

Now, gentlemen, I will shortly address myself to the principal points of objection which exist in my own knowledge to the use of steam machinery for the cultivation of the land. I may say I know something about it because I have been concerned already with the Steam Plough Company in Gloucestershire, and although that did not succeed, I could very easily show why it did not succeed, and why the position of this Company is quite distinct and different from that. The object of that Company was to hire out engines; the object of this Company is to purchase and sell them, not to be paid for at once, but in a series of years. Now that is a very different plan. It may be said that there are objections to the scheme, but I do not hold with the doctrine that they should in the least prevail, for reasons which I will shortly detail to you. The principal point I have heard is the expense as regards tenant-farmers or holders. The second is the prejudice of landowners and of some occupiers against squaring their fields, and enlarging them and straightening their fences. And, thirdly, there is an objection which has not at all been mentioned to-day, but which I can assure you I have often heard, that is, that it interferes with hunting. The expense is a question entirely met by the objects of this Company, because the tenant-farmers will not be called upon to lay out the money, for the capital invested in the machinery will be the capital of the Company. That therefore I look upon as practically of no effect as regards the tenant farmar. The second is a question which I think a little reflection will show the landowners they are not for a moment to regard, namely the trouble or even expense of altering the size and shape of their fields and fences, because everybody knows that if a landlord improves his land to the extent that it is certain to be improved by employing steam machinery and draining the land properly, the value of his land is so much enhanced that he will always be able to command a better and higher class of tenants, men with more capital, because the land will be in a state to produce infinitely better crops in an undrained and half cultivated state. Those are points which must be patent to everybody who reflects upon the subject. The third objection, as to interference with hunting, I have heard people make. I think it is a narrow-minded and superficial view which cannot for a moment stand. In the first place if it did interfere with hunting, hunting is not everything, and the increased food that is wanted for the masses is more important than hunting, and hunting must give way to it. I am one of those who hunt, and I say it is a great mistake. Everybody knows that if the land is well drained, you can ride over it with far greater pleasure, and jump the fences with far greater ease than if the ground is full of water and muck. And, to come to the chief point of all, the injury done to the land in a drained and dry state is infinitely less than when in a heavy undrained state where a horses foot makes a pool of water. I will not address myself more to the tenant's side of the question, because there are so many more practical men here. A great deal has been said both on the tenant's side and the landlord's side. We have heard a great deal as to this Company paying or not paying, we have heard a great deal of advocacy upon points of interest; but, gentlemen, I think, viewing it from a landlord's point of view, which is the one I am now taking, there is a higher ground of argument which I hope nobody of the class I belong to will ever ignore in this country. Everybody knows, and none better than the owners of land, that the improvement of land must depend upon the owners themselves. The tenants must and ought to follow the landlords, and everybody knows that it is the interest as well as the duty of landowners to set an enlightened example, and take the lead in all matters that intimately concern the material welfare not only of the general community, but of those who are dependent in any way upon them. There are not wanting at any time—certainly not at the present time, men who hold back and seem to say that they are not willing to do as much for those who depend upon them. Now, gentlemen, it is surely to take the wind out of such people's sails to set an example and disarm them entirely. Everybody will agree with me that there have been in former times many great and good men to whom the wealth and prosperity of this country is mainly to be attributed, and who have always been ready to make some sacrifice as a noble example to others. There is nothing to be achieved without some sacrifice, and I look upon it that if the landlord does lose a few hundreds, or perhaps one hundred, it is like throwing a sprat to catch a whale; he will lose the interest on that one or two hundred pounds, but he will reap the benefit in a very vastly improved state of his land. It seems to me that the landlords of this great country will, by aiding the introduction of steam machinery in agri-

culture, prove themselves worthy to hold the land, which has descended to them from their ancestors. The resolution I have to move is as follows :—"That this meeting views with decided approbation the objects of the General Steam Cultivation Company, and the mode in which it is designed to carry them into effect."

Mr. Hutchinson followed with a full and detailed account of his experience as a steam cultivator, which our readers will also find in his pamphlet, "Fire *versus* Water," (Simpkin, Marshall, & Co.) We make one extract from his speech :—

There are three points in which I consider the advantage of steam very great. The labour and the anxiety on a farmer's mind, which is caused by the employment of steam, is very different from what you may suppose. The process is extremely simple, and gives the farmer much less anxiety, inasmuch as he has fewer horses to care for and fewer men about his premises, and altogether he can get through the work with greater ease and greater facility. Without steam it is impossible that you can have perfect ploughing ; the plough does not go to the root of the matter, but steam roots up everything. Ploughing we all know merely cuts in two what we ought to eradicate, and therefore the root is always ready to push up its head whenever it has got the opportunity. There is another great advantage in the employment of steam power which has not been touched upon to-day, which is this. In the second season of my steam cultivation—not the year, because I go by the season : the second season I reckon at 168 days, not 365. During the 168 days of the second season there were 40 idle days, from wet weather, and Sundays, and other causes—one, I think, from breakage of the machinery. This is a point that requires particular consideration, and which I wish to impress upon this meeting more especially than any other point, that during those 40 days the loss upon the steam cultivator is incomparably less than upon horses and men who are idle for the same period. I made a calculation which any of you can follow. I will not give you the details, because they are rather tedious. We have the steam cultivator for 40 days idle ; what is the loss upon it ? There is the interest of the money, which amounts, we will say, to 2*l.* 4*s.* for the 40 days. But what have you as the loss upon horses ? I will take a very moderate number, say 24 ; I take the engine to represent 24 horses' work. I cannot go through the items particularly, but on a moderate estimate those 24 horses' keeping for the 40 days, deducting the value of manure, for which we ought to make a liberal allowance, amounts to no less a sum than 54*l.* There is the value of two horses gone at a cost, you see then, in 40 days. It amounts to this, that the loss by the steam cultivator came to 1*l.* 1*s.* per day, but with the horses it came to 1*l.* 15*s.* a day. You cannot make anything different of it. It is a fact that cannot be denied ; therefore it is a very important matter.

## ARTIFICIAL MANURES.

(The following address was delivered by Dr. Anderson before the Highland and Agricultural Society of Kelso.)

Few things are more astonishing than the rapid rise of the consumption of these manures ; and when we hear of millions being annually expended in their purchase, we can scarcely realise the fact that it is little more than 20 years since their use commenced, and that even a dozen years ago it was confined to the most active and energetic farmers ; while now, I suppose, it may be safely asserted, that there scarcely exists a man who does not use them, or would be inclined to deny their utility. The best proof of their value is in fact to be found in the rapidity with which they have become an essential and indispensable part of agricultural practice ; and the farmer may point to what has occurred with regard to them as a triumphant refutation of his alleged indisposition to go with the times and adopt what is new. I propose to confine myself to considering in a practical point of view the nature of these substances, the sources from which we obtain them, and the mode in which they are manufactured. In discussing these matters, however, we cannot altogether avoid reference to principles, and we must at least lay down some fundamental positions which may afford data for the discussion of certain matters it will be necessary afterwards to consider. I would in the first place point out that the action of a manure is of a twofold character. It supplies food to the plants growing in the soil to which it is applied, and it acts upon the soil itself, and promotes those chemical changes which are constantly going on within it, and which in particular cases proceed with extreme slowness.

The first of these is well known and universally recognised as the most important function of a manure, while the other is far too little regarded, and has scarcely received that amount of attention it merits. To supply food to the plants is unquestionably the primary and fundamental duty of a manure, and no substance deserves that name which does not fulfil it more or less completely, while it is not absolutely necessary that it should act on the soil ; and many substances are in daily use as manures which have little efficacy in this respect, although there are probably none which are altogether devoid of it. It is unquestionably possible that a substance might be used as a manure—and even with advantage—which has no action on the soil ; while a substance which exerts an influence on it without supplying in itself some part of the food of plants, would scarcely deserve to be called by that name. A perfect manure acts in both ways ; and these properties are possessed in the highest degree by substances rich in organic matters, which being in their nature prone to change, readily undergo decay in the soil, and yield carbonic acid—a substance which, though it acts slowly and imperceptibly, is nevertheless one of the most powerful agents in effecting many of the greatest and most important changes occurring at the surface of our globe.

If we are to accept as the definition of a manure a substance which supplies food to the plant, and acts upon the soil so as to set free the supplies of nutriment existing in it, but which, without its use, would be unavailable, then it may be said that farmyard dung is the only perfect manure. It is the only substance which, if added to a soil entirely devoid of all the elements of fertility, would enable it to maintain a crop, and under such circumstances it would obviously be valuable merely as a source of plant food, while its decomposing action on a soil containing none of the elements of fertility would be useless. The case now supposed is one that could never occur in practice, inasmuch as no soils exist which do not contain at least some of the elements required by the plant, and hence the decomposing action is always important. But there is a still more important inference to be drawn from this fact ; for if the soil contains within it a sufficient quantity of some substance necessary to the plant, it is immaterial whether it be present in the manure or not. And so, likewise, if the soil be rich in all the elements of plant food except one, a manure which supplies that substance, and that alone, would act just as well as if it contained every individual element required by the plant. Now, the condition to which reference has just been made, does, to a certain extent, occur in practice. Plants do not remove from the soil equal quantities of all their elements, some being carried off in much larger proportion than others ; and hence it happens that when land is cropped for a long succession of years, the supply of particular elements is reduced below the requirements of the crop, although others may still abound in the soil. Under such circumstances, it is obvious that a manure containing only, or chiefly, those substances which have been removed in excessive quantity would effectually restore the fertility of a soil. In fact, if it were possible to ascertain exactly what the plant removes, we might attain this object by adding them in precisely the requisite quantities. That would be the perfection of agriculture ; but I suppose we are none of us so foolish as to suppose that it is possible to attain perfection, or to imitate exactly the great laws of nature by which our earth is governed ; but we can at least keep these matters before us as guides and directors. Inquiring, then, as to those substances which are removed from the soil, it is important to notice that only a part of the crop is in this predicament. Root crops and straw are not lost, but restored to the land in the form of dung ; and it is really only the grain of the cereals which is conveyed off the farm and consumed elsewhere. Now, it so happens that the seed of all plants contains a large quantity of phosphoric acid and nitrogen. During the early part of their growth these substances circulate uniformly through all parts of the plant, but when the period of maturity arrives they are carried to the seed and accumulated there, while the quantity in all the other organs of the plant undergoes a corresponding decrease. The difference is well illustrated by linseed and flax straw, the latter containing little more than one-tenth per cent. of nitrogen, and the former 3.5 per cent., or more than 30 times as much. The same is observed though to a less striking extent, in the grain of the cereals, which in round numbers may be said to contain nearly ten times as much nitrogen as the straw. These considerations show distinctly that when the part of the crop which is rich in nitrogen is carried off, and that which is poor in it returned to the soil, there must be a gradual diminution in the quantity of that substance available to the plant unless the manure containing the small proportion be used in excessive quantities, and in that case the other elements of plant food which it may contain in full quantity are needlessly accumulated in the soil. What has been said regarding nitrogen applies equally to phosphoric acid, and to a minor extent also to potash. When dung was the only manure employed, the crop produced was limited by the quantity of these substances it contained ; or if it was used in sufficient abundance to supply them all, the other elements which accumulated in the soil were either lost, or, at all events, could only be looked upon as a reserve which might become available under favourable circumstances. It is in this state of matters that artificial manures become useful, and their great value lies in their supplementing farmyard manure, and increasing the supply of those substances which are relatively deficient in it. An artificial manure cannot take the place of farmyard manure : it is only capable of supplying its deficiencies. It cannot of itself support the life of plants, except in those rare cases in which it happens to contain all their constituents ; and when it is employed alone it operates by throwing the plants upon the natural resources of the soil for a supply of those substances in which it is deficient. By the term artificial manure, it will be observed we do not understand a substance manufactured by any particular process, but take it in its wider acceptation as meaning what is perhaps more correctly designated by the name of a special manure ; and the most conspicuous difference between them and farmyard manure lies in this, that the latter contains all, the former in general only some of the elements of plants. Some guano, no doubt, contains a small quantity of all the necessary constituents, and in a few manufactured manures an attempt has been made to supply them, but this object has generally been very imperfectly fulfilled ; and in all but exceptional cases, artificial manures may be considered as sources of nitrogen and phosphoric acid, the former existing in them as ammonia or nitric acid—chiefly in the first of these forms—and the latter as phosphate of lime, occasionally associated with a small quantity of phosphate of magnesia. Every substance which has acquired a reputation as an artificial manure contains one or other of these elements, often both ; and no substance which derives its commercial value from potash, soda, or magnesia, has come into general use ; and though cases occur in which they have been employed, and sometimes with very great advantage, they are so rare as to be quite exceptional. The fact is, that farmyard manure, and most soils capable of producing a crop, contain these substances in sufficient abundance to make their supply from other sources a matter of minor importance ; and though no wise farmer will overlook them, but will gladly add them to his soil when he has an opportunity, he will prefer nitrogen and phosphoric acid to them. In making this statement, I am expressing no theoretical opinion ; I am stating a fact derived from the experience of practical farmers, who invariably select as artificial manures substances containing nitrogen and phosphoric acid.

When used as manures, they are obtained either mixed or separate. When mixed, they are of peculiar importance to the farmer, not merely because he gets both together, but much more because when in that state they are, if I may so express it, condensed to be used as manures. Separate, they may be turned to other uses,, but mixed they are entirely at the disposal of the farmer, and there is little to interfere with their price, which will always be regulated by what we can afford to pay for them. The substances which yield these elements mixed are almost exclusively of animal origin, and embrace the various kinds of guano and bones. It is unnecessary to enter upon the composition of these substances further than to remark that we know guanos of various kinds passing from Peruvian, in which ammonia preponderates, to Bolivian, in which phosphates abound. Different as these are in composition, they were originally identical, both being the dung of carnivorous birds, and their present difference depends, as is well known, on the circumstances attending their deposition, a dry and rainless climate preserving them in their original condition, or in a slightly altered state, while in a moist locality the decomposition of their organic matter causes the disappearance of a large portion of ammonia. These manures, however, are important not merely on account of the large proportion of the elements in question which they contain but because of their organic matter, which is of a peculiarly decomposable kind, and hence they fulfil to a certain extent the office of acting on the soil and liberating its useful constituents, which is one of the great characteristics of farmyard manure. It is satisfactory to find from the statements recently published that the supply of Peruvian and analogous guano is much larger than we were led to suppose, and that there is at least for a very considerable time no prospect of their being exhausted. As regards the supply of phosphated guano, there is little available information. The best is Bolivian guano, which is imported in large quantities, though little of it comes to Scotland. There is a very valuable kind, containing about 60 per cent. of phosphates and 1 or 2 of ammonia, which merits more attention from farmers than it has received. The great objection to these guanos is their want of uniformity, and this tells still more with the inferior kinds, such as Bird Island, Kooria Mooria, &c. The sources and supply of these inferior guanos are of less importance, for their import has greatly diminished, and will probably become still less as farmers become aware of their quality. As it is, I believe it consists with the experience of all merchants that guanos of this description have of late years entailed a loss of not less than 1*l.* a ton on the importer. A certain number of cargoes of the kind are annually imported, which are got rid of in those districts where agriculture is less advanced, and where the relative value of different artificial manures is not understood. Sulphate of ammonia, which is an important source of nitrogen, has this disadvantage, that the supply cannot be increased in proportion to the demand, because it can only be produced during the manufacture of gas ; and a proportion of that manufactured is carried off by other trades—such as the manufacture of alum, &c.—in which it has come to be largely used in place of potash, which has largely increased in price. There is, however, some prospect of advantage in this respect, as a new source of potash has been recently discovered. At the present moment, the product of the salt called the muriate of potash in this country amounts to 7000 or 8000 tons, while a work has been recently established in Germany which proposes to make 10,000 tons annually. This great increase in the supply must affect the price of ammonia, and it may prove useful to the farmer in giving him a supply of potash which, at no distant date, it will probably be necessary for him to apply to the soil. Dr. Anderson then proceeded to refer to the nature and manufacture of superphosphates, pointing out the difference between those made from bone, which, like farmyard manure and guanos, contain decomposable organic matter, and hence exert a chemical action on the soil, and those which are made from mineral phosphates such as coprolites. While recognizing the fact that the latter are so far inferior, he pointed out that, considered merely as a source of soluble phosphates, there is no difference between a manure made from coprolites and one from bones ; but it ought to be understood that there is a very great

difference between the prices of the raw materials in the two cases, and the farmer has a right to complain if the manufacturer sells a manure as being made from bones, but which in reality contains coprolites. The various mineral phosphates—such as apatite, Sombrero guano, &c.—were then discussed, and their use in the manufacture of manures pointed out. Dr. Anderson then observed that the mode in which the sale of manure was conducted was a matter of the greatest importance to the farmer, and he thought it was at present conducted on erroneous principles. The manufacturers guaranteed a certain composition, and if the value of the manure supplied to the farmer fell short of this, a deduction was made; while, if it exceeded it, no corresponding increase of price was paid. He pointed out the effect this had in increasing the price of manure, and stated that the true principle, and that to which the farmer would come some time or other, was to sell each individual constituent of a manure separately, so that the farmer, in place of buying the mixture which the manufacturer now offers, would take the quantities of soluble phosphates, insoluble phosphates, ammonia, &c., which he required, and mix them for himself. No doubt there was great difficulty in introducing so great a change, but it would, he believed, eventually take place, and be for the advantage of both buyer and seller.

## Home Correspondence.

*The Metropolitan Sewage.*—I see by the resolutions passed, and the speeches made at several recent meetings of metropolitan ratepayers, that "the analysis of the metropolitan sewage made by Messrs. Hofmann and Witt," and Mr. Ellis's interpretation of the estimate of those gentlemen, are adopted as a basis of the expectations entertained of the great pecuniary benefit to accrue to the rate-payers from the utilisation of the sewage. Mr. Ellis maintains that the estimate of Messrs. Hofmann and Witt, of a little over 2*d.* per ton for the manurial value of the constituents in the metropolitan sewage, refers to the average of the normal sewage and the rainfall taken together. Accordingly, he takes 266,000,000 tons, the estimated annual amount with rainfall, at 2*d.* per ton; and on the assumption of this rate of value he holds out the pleasing assurance to the rate-payers that their moiety of the profit arising from the adoption of his scheme of utilisation would be "an annual sum of not less than 700,000*l.*" I, on the contrary, have repeatedly maintained that it is perfectly clear from the report of the main drainage referees, embodying that of Messrs. Hofmann and Witt, that their estimate of 17*s.* 7*d.* per 100 tons, or a little over 2*d.* per ton, refers to the normal sewage without rainfall; and, accordingly, in calculating the total annual value, they took into account only the amount of sewage exclusive of rainfall, which may be stated in round numbers as averaging only about three-fifths of the total quantity, inclusive of rainfall. I further maintain that, especially under the then existing conditions, it would have been absurd in the extreme to attempt to determine the average composition of the sewage by the analysis of samples of the essentially variable diluted sewage inclusive of rainfall, unless indeed of specimens taken almost the year round. But all my appeals to the public document itself have been met by Mr. Ellis, and some of the advocates of his scheme, by contradiction, by irrelevant quotations from it, by pretty direct accusation of falsehood, and by most unfair and entirely unfounded imputations of unworthy and interested motive on my part in making the statements, which it is alleged are untrue. I have thought it only due, therefore, both to the ratepayers who are so much interested in the matter, and to myself whose veracity and motive have been publicly called in question, to request statements for publication from the authors of the report. The following are copies of the letters which have been kindly furnished to me by Professor Hofmann, the surviving analyst, and by Captain Douglas Galton and Mr. James Simpson, C.E., the surviving Main Drainage Referees.

(Copy.)

"Royal College of Chemistry, October 14, 1863.

"My Dear Dr. Gilbert,—On referring to the report made by the late Mr. H. M. Witt and myself to the Main Drainage Referees in 1857, I find you are perfectly correct in stating that our estimate of 17*s.* 7*d.* for the manurial value of the constituents in 100 tons of the metropolitan sewage (equal a little over 2*d.* per ton) is founded upon the analysis of samples of mean sewage taken from the Savoy Street sewer. I also find that the amount of sewage which the samples in question were supposed to represent, was according to the information furnished to us by the referees, taken at 95,000,000 gallons per day, and their report (p. 14) shows that this was the estimated amount of the dry weather sewage. Reckoning the total amount of the normal dry weather sewage, in accordance with the above information supplied by the referees, at 95,000,000 gallons per day or 157,625,250 tons per annum, we arrived at 1,385,540*l.* as the total annual value of the constituents of the metropolitan sewage. You are at liberty to make whatever use you may like of this letter.—I remain, my dear Dr. Gilbert, yours very sincerely, A. W. Hofmann."

"Dr. Gilbert, F.R.S., F.C.S."

(Copy.)

"London, December 4, 1863.

"Dear Sir,—With reference to the question contained in your letter of the 18th ult., we beg to state that the samples of sewage taken under our direction for analysis by Messrs. Hofman & Witt for the purposes of our Report on the Main Drainage of the Metropolis, were mean samples of dry weather sewage taken from the Savoy Street sewer in the manner described in the Report, and, from the analysis of these samples, Messrs Hofmann & Witt estimated the value of the constituents in the Metropolitan Sewage at 17*s.* 7*d.* per 100 tons, or about 2*d.* per ton. Their estimate refers therefore to normal sewage without rainfall.—We are, dear sir, yours truly, Douglas Galton, James Simpson."

"Dr. J. H. Gilbert."

There is no doubt whatever, therefore, that Mr. Ellis has estimated the total sewage with rainfall, at the value per ton fixed by Messrs. Hofmann & Witt for the sewage without rainfall, and that he has thus, so far as the value is determinable on such data, overstated it by somewhat more than the amount which he informs the ratepayers will be placed at the disposal of the Board of Works for the reduction of local taxation over the metropolitan area, provided his proposition for the utilisation of the metropolitan sewage be accepted. *J. H. Gilbert, Harpenden.*

*Under Draining, River Drainage, Irrigation, and Water Supply.*—As under draining is extended, river drainage will become more difficult, if the water that is so rapidly discharged from the drains after heavy rains is not checked, impeded or diverted from its course to the rivers. I think this can be done with very great advantage, both to those who have drained their lands as well as to those who occupy land in low situations by the sides of the rivers. The rainfall not being greater now than formerly, we have only to deal with the water that is rapidly discharged from drains after heavy rains, so as to prevent the water from entering the rivers so rapidly as to cause overflowing, and this can to a great extent be done by a general system of irrigation, and with great advantage, as the water after heavy rains is of great value for the purpose, containing at those times a deal of valuable manure washed from farmyards, foul drains, and ditches; also from manure heaps, sheep-folds, and all lands that may have been recently manured. So that the manure that is washed away from one field is by means of the water spread over the surface of another; it is also on such occasions that we should make use of the water to spread the contents of our house sewage from the tanks and cesspools, which would add to the fertilising quality of the water, and at the same time create a more healthy atmosphere about our dwellings; and as under draining will diminish the supply of water to springs and watercourses, it may be desirable to construct reservoirs, tanks, and ponds for the supply of water in dry weather. The price of meat being high in comparison to the price of corn, many agriculturists are directing their attention to the importance of increasing the area of their pasture lands; and in doing so it is of importance that the most suitable portions should be selected for irrigation levelled and arranged with suitable ditches previous to being sown down with the Grass seeds; and it is not the water alone that falls on our own farms so much as what our neighbours may send to us that we may have to provide for, remembering that the water, as it travels from one farm to another, gathers manuring properties as fast as it deposits it. So long as the water is not impeded or retained too long in a place, it is the most important, because the cheapest element by which pasture lands can be speedily brought into a high state of productiveness; and we also have the satisfaction of knowing that we retain a deal of valuable drift and manuring properties that would otherwise be lost. *B. Ransley, Perrysfield Farm, Oxted, Surrey.*

*Rabbits.*—I have taken a farm of a gentleman on lease, and he has given the shooting to another gentleman; the rabbits, on a poor piece of ground, have completely eaten down a piece of Wheat, so that you can hardly see the rows, and he and his friends say it will stand out better in the spring. If so, why do not farmers the end of November eat down theirs close with sheep? I think it is quite poisoned and destroyed—what say you? *A Subscriber.*

*Mangel Wurzel.*—I am very pleased to give the Rev. George Wilkins the required information for the use of himself and neighbours. The Mangels referred to as producing 55 tonsper acre "were plants in rows 36 inches from row to row, and the planting in the rows averaged 24 inches from plant to plant. The average weight on the 7 acres was 17 lbs. per root. The weight per acre was 55 tons 2 cwt.," (see Vol. 20, Part 2, Page 448 of the R. A. Society's Journal. Now, see *Bell's Weekly Messenger* of Dec. 5, 1859. "At the stand of Messrs. Howard, who manufacture the steam cultivating implements of Mr. Smith of Woolston, were exhibited the Mangels that are grown on the farm of the latter gentleman, and which are the result of steam cultivation. These roots, of remarkable weight and of excellent quality, were much examined, and we may safely say also much admired. There certainly were no finer roots at the Show (Smithfield Club), but very many of much inferior quality. The average weight of the crop was 55 tons per acre, and the weight of those shown on the stand ranged from 35 lb. to 46 lb. each." By this, our reverend friend will see that it is no after fetch without data. One thing I am wrong in, for by reference to the Royal Society's Journal I find that the land was subsoiled at a cost of 3*s.* per acre in addition to the 10*s.* 2*d.* already shown. That is, a subsoil plough was drawn along between each ridge with horse to the depth of 14 inches. Mr. Wilkins's Newfoundland dog weighs more than 46 lb., and therefore is larger than my largest Mangel, that would not be large enough to make a kennel for him; besides Mr. W.'s dog is not of handsome globe-like make, and requires a kennel three times larger than himself to drag his sprawling legs into; his ugly tail will frequently stick out, and more frequently than that, his ugly legs and snout. This is all fancy, mind you, for I am not possessed of such an animal. Now, if my rev. friend will just have a peep at Woolston, I will show him my land now lying in ridges, at one operation, at a cost of 10*s.* 2*d.* per acre, without the assistance of any subsoiling, ready for next year's root crop, and if he will go a little further into an adjoining field I will show him an excellent plant of Wheat after Beans, the land cultivated and drilled with 2½ pecks of each per acre at one operation by steam-power, and altogether that I am the regular "Mrs. Ramsbottom" of his story. *William Smith, Woolston, Bletchley Station, Bucks.*

## Societies.

Long Sutton, Lincolnshire.—We commenced our Association about 23 years ago. Prior to that time but little attention was paid to any improvement of our agriculture, or the promotion of good conduct or skill in our labourers. I am sorry to say that at most of their gatherings in this neighbourhood, such as our village fairs, hiring statutes, &c., their great interests centered in the prowess of some rustic champion or some vulgar sports; and often the village belles had to encounter coarse and ribald conduct. At our own (Long Sutton Mayday Fair), great irregularities continually took place, which of course we were anxious to suppress. At length a few young farmers sought to promote a competition in ploughing. This was about 40 years since. We succeeded in getting up a "drawing match," *i. e.* to draw the straightest furrow across the field. This little diversion drew from the fair very many refractory young fellows who would have tried either their strength or skill in some way much less commendable. For some years we persevered with much success, till at length our Long Sutton Agricultural Association took it up. We persevered for a few years in getting up an exhibition of stock, as well as to offer a series of rewards for skill, good conduct, and industry to our labourers. Much good was effected amongst the owners and occupiers by this exhibition, but as this is not so much a breeding county as a grazing or fatting county, we after a few years decided to increase our offers of rewards to labourers, and give up the show of stock, so that in fact ours is now a Labourers' Friends' Society. I need not enumerate our premiums, they are similar to others, *i. e.* we have rewards for shepherds, wazgoners, ploughmen in many classes, stackers, thatchers, drillmen; length of servitude, male and female; widows, labourers with families, ditto for working with one master, ditto for cleanest cottage and garden, ditto for best allotments, hedgers, ditchers, drainers, &c. But to these we add a novel feature for an Agricultural Society. We have a long series of prizes which we call educational. Our educational prizes are for the poor children of our schools, free or otherwise. We have commenced this series in prospect of a new order of agriculture in which our labourers will be required to know more. We have very satisfactorily proved that our best informed thinking men are our best labourers—hence this new feature which we do not confine to mere agricultural subjects; but we design to make better labourers and better house-wives, and prizes are there for both boys and girls. Reading, writing, spelling, arithmetic, making out bills of parcels, book debt bill, settlement of accounts, receipts for bill, for rent, &c., and to write and fold a note, &c. Besides they are examined in scriptural knowledge, &c.; in agricultural mechanics (for boys), in history, geography, grammar, steam-power and machinery, implements and their uses. The girls are further examined in domestic economy—*i. e.*, of housemaid, cook, nurserymaid, and attendance on the sick, &c.; then as to proficiency in sowing, knitting, and varieties in needlework; then all as to punctuality in attendance at their respective schools, including Sunday schools. These classes create great interest, and the examinations and results are very satisfactory. These are now our objects, and for 28 years we have persevered, because we saw a manifest improvement in the condition of our population, both mental and social. The prejudices existing amongst our labouring population 30 years ago are all dissipated—abandoned. Threshing by machine was then only just tolerated; mowing Wheat was a "rank injustice to the poor;" "driving the Irish" was quite common; carting the crop before the gleaners were permitted to glean was unpardonable; mowers almost demanded the right to glean after their husbands; claiming a right to carry home Potatos at picking time. These matters and others are done away with. Now every labourer is prepared for the introduction of any improvement, be it threshing by steam power, ploughing by steam power, or to use it in any other way. They don't object to reaping machines; it prevents the influx of strangers "to take away the money;" women wait patiently till the field is cleared ere they enter to glean. In fact the labourers all perceive that more and more work is the result of these innovations. Autumn culture can at once proceed as soon as the field is cleared; no waiting for the stubble to be mown. The lads and lasses are wanted to pick off the rubbish, and the women are amongst Potatos and Mangels, getting them up; the

men are aiding, and also engaged to fork over the stubbles, clean out the ditches, seeing to the under-draining, &c., preparing the land for future cropping, &c. *Produce.*—There cannot remain a doubt as to the increase of produce. It is very considerable in every respect, but particularly in our root crops, for which we still retain two prizes; *i. e.*, for the best crop of Mangels, and the best crop of Swedes. It is chiefly owing to agricultural societies in general, and ours in particular for our district, that greater interest is excited. Great care is taken to prepare the land in the best style, to select the best seed, and to put it in in the best manner—and this is not all—no crop is permitted to take its chance after a successful seeding, but it undergoes careful attention and management up to the time it is harvested. There is no relaxation of efforts; every farmer is intent upon securing the best crop possible. Slovenly and bad cultivation is now unknown in the district; artificial manurings are universal and most liberal, reaching to 60*s.* per acre, besides foldyard manure. Average crops are about 5 qrs. for Wheat, 6 qrs. for Barley, 5 qrs. for Beans and Peas, 9 qrs. for Oats, 35 tons Mangels, 28 tons Swedes, 30 tons common Turnips, 8 to 10 tons Potatos. *Jno. Clarke.*

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ST. AUSTELL FARMERS' CLUB.—I received a note from you about the middle of last month, in which you desired me to give you some information respecting the formation of our Club, &c. As far as my knowledge will permit I will endeavour to do so.

Our Club was formed in 1842, and consists of a President, three Vice-Presidents, and Secretary, together with about 40 members, including several honorary ones. Our meetings until within the past six months have been monthly, but owing to the bad attendance of members we have this year tried it quarterly; we find it much better, as members don't find it such a tameness as before when meetings were so often.

We have had a great many subjects discussed, a few of which I subjoin:—Preparation of land and kind of manure for Turnip crop; comparative merits of Devon, Short-horn, and Hereford; preparation of land for Barley and Oats; rearing calves—their treatment; preparing land for Mangel Wurzel; the proper time to wean lambs; breed and treatment of horses.

The Club had a meeting some time since to discuss the total repeal of the malt tax; an animated discussion ensued, in which the members were anxious for the total repeal of the duty, and were willing to co-operate to obtain that object. Manure for Wheat. Tenant right—the Club sent a guinea towards the testimonial presented to Mr. Shaw in 1849, for his exertions on the subject of tenant-right. The culture of Carrots. Atmospheric influence on the Turnip crop—in fact, I could enumerate a great many subjects, but time and space will not admit.

Our library consists of several publications, some of which I annex:—The Farmers' Monthly Magazine, the Bath and West of England Journal, Royal Agricultural Society's Journal, the Journal of Agriculture, Youatt's Treatise on the Horse, Sheep, and Cattle, Morton on Soils, Liebig's Organic Chemistry, Berry's Short-horns, Johnson on Liquid Manure, Hillyard's Practical Farming and Grazing, the Veterinarian, by Karkeek, with a great number of other very useful books.

We have a ploughing match occasionally, together with hedge making, spear making, rope spinning, &c., for which prizes are offered, by which means we obtain indirectly good labourers.

The wages for our farm labourer is 12*s.* per week out of the house; farm servants, with board, about 10*l.* per year. The female labourer gets 8*d.* per day of eight hours; harvest time her wages is 1*s.* Wages are much higher now than at the formation of the Club, as I find then a good farm labourer out of the house had 9*s.* per week, and servant in the house, 7*l.* per year.

Rent is also considerably increased, in many cases since that period of fully 25 per cent. We get a great deal more out of the land now than formerly by the means of artificial food and manuring; our sheep and bullocks also are much improved both in quantity and quality. Wool is a great deal better in our neighbourhood than it was 20 years ago.

This year we have tried Hallett's Wheat, and the dibbling process, and found it answered well; although labour was high, we found at harvest there was a saving of 20 per cent., that is in reckoning the quantity of seed put and the yield per acre, as compared with our former means of putting. Next year we intend having one of Garrett's drills as a dibbler. This I have taken on myself to do independent of the Club.

Great benefit to the neighbourhood has arisen within the last two years owing to the Club having procured samples of the different phosphates, guanos, &c., sold in the district, and forwarded them to the chemist for analysis, and distributed the result to the farmers of the district, thereby benefiting the honest manufacturer, and the contrary with the dishonest one. We find phosphates containing a goodly quantity of soluble phosphate is very beneficial to the Rape and Turnip crops grown on the land in our district. Phosphate and guano are a great boon to our part of the country; they make land that was formerly considered worthless at least worth 30*s.* per acre.

Although the farmer grows more produce now in one year than he formerly did in two, and in some cases I may say three years, he is nothing the better off, as rent, tithes, taxes, and especially the poor rates, are so extremely high there is no chance. Several farmers of our neighbourhood are leaving on that account. Mining is in such a depressed state in this district, which is one cause of the rates being high. *H. H. Roberts.*

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KINGSCOTE.—The first Discussional Meeting of this season was held at Hunter's Hall Inn, recently, J. T. Harrison, Esq., in the Chair, when a lecture on "Outlines of Vegetable Physiology" was delivered by Mr. Cramb, of Tortworth. The lecturer showed the necessity of farmers acquiring an intimate knowledge of elementary principles, as the most legitimate guide to correct practice; that anything short of this is little less than a mere system of guessing. The four elementary principles that play so important a part in the vegetable economy—carbon, hydrogen, oxygen, and nitrogen, were described, and the compounds formed by their union, and their direct action upon the vegetable system, the different organs of plants, were brought under notice, the functional changes they perform, the difference existing between those bodies that possess or ever have possessed life and dead matter. Speaking of a seed, the lecturer showed that the duration of vitality depended principally on the amount of carbon, moderate dryness, and exclusion from air; on the contrary, oily and nitrogenous seeds are more prone to decompose, and some seeds part with life in the course of a few weeks.

The conditions necessary to produce germination were then explained; that owing to the difference in the excitability of seeds, all do not require the same amount of heat and water when the young shoot on springing into being is supported by the nutriment contained in the seed leaves, which principally consists of sugar and carbonic acid. The difference in the development of seed has divided the Vegetable Kingdom into two great classes, known among Botanists as Monocotyledonous and Dicotyledonous plants; and the lecturer explained the way in which the annual additions of new matter are deposited, in the one case derived from the outside and the other from the inside—hence the terms Exogen and Endogen.

The formation of roots next came under consideration: the growing points are nearly made up of water, and are consequently injured by very trifling causes; their formation is caused by the leaves, owing to the action of light and actinism, carrying on a constant succession of chemical transformations, setting in operation the absorbing power of roots, and conveying the sap through the stem, and distributing it among the remotest leaves, by a constant system of pumping somewhat akin to animal vitality; an action that can only be resolved into the indefinable principle of life. The difference in the density of solution next came under notice, showing that the greater the solidity the more sluggish absorption, and that the temperature of the earth should be constantly a few degrees warmer than the atmosphere, which can generally be secured by a proper system of drainage. The difference between the structure of the Exogenous and Endogenous leaf was explained, and the functions of perspiration and respiration, showing that in whatever way their action is impeded, the progress of the plant suffers in proportion. Some consideration was also given to the conditions requisite to enable plants to resist the greatest amount of cold without injury; the more water contained in the cells the greater the liability to be killed by frost, while on the contrary the more matured the wood the greater the resistance to cold; that if by the freezing of fluid the cells become ruptured death will follow; that all functions for the preservation of vegetable life are quite as necessary as in the animal body. In conclusion, that we had been dealing with inducted truths of what composes an organic body, what takes place within it, and the laws which act upon it; that a study of these can alone contribute to agricultural prosperity; that the farmer has gained all that mere practice can give him.

The discussion that ensued was of a practical and animating nature, and J. T. Harrison, Esq.; Colonel Kingscote, Mr. G. Thomas, Mr. F. Burnet, and several others entered fully into the advantages of draining, and having all seeds fully matured. They were aware that it was becoming more the practice of the day to cut Wheat before it was fully ripe. This was because the millers liked it better; but the opinion of most present was that Wheat cut in that state when used as seed did not come up so quick nor so strong as when fully ripe. In consequence of the lateness of the hour the discussion was agreeably brought to an end. A unanimous vote of thanks to Mr. Cramb for his excellent paper, and to J. T. Harrison, Esq., for his duties in the chair, concluded a most agreeable meeting.

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NEWMARKET.—Having been connected with this Union as an officer for nearly 28 years, I can speak upon the improvements with some certainty. Until the union was formed there appeared to be a large excess of labour, which, in some parishes, became fearful, and no hope appeared, but emigration immediately set in, and removed a great portion from some parishes, and there is now frequently a shortness of hands.

The produce has in many parishes increased to a very large extent, sheep and stock in much larger quantities are now to be seen on most farms, especially around me. In cleanliness much improvement has taken place, some kinds of weeds which used formerly to infest our soil have quite disappeared, especially Garlic and others.

I consider an important improvement has taken place amongst the labouring population. Wages in those parishes which used formerly to be known as low priced, have now come up to the average* amount paid in the neighbourhood, cottage accommodation is being increased, and a desire amongst landlands to make the dwellings of the poor fit for Christian families. At one of our dinners I mentioned the subject of ventilation in cottages, the want of which, in my opinion, is the great cause of diphtheria. Ventilation has much to do with the healthiness of such buildings. The improved appearance of the labourers in the parish I reside in is striking; about 15 years since smocks were generally worn, then came fustians—a dark velveteen gave quite a character to the individual, but now everything of that kind has disappeared, except in about two cases; dark coats and waistcoats, Tweed trowsers, Wellington boots, turn-down collars and ties, with nobby hats, are the general dress upon Sundays, quite equal to their employers.

I have been at this house 15 years, and it is a remarkable fact that the instances are rare, where children educated in our house return to it when grown up, either girls or boys. I have now application for boys, but have none to supply, and I am exceedingly careful into whose hands I send them; if not well used they have liberty to return to this house. I am often told they are too well cared for; they are like gentlemen's children. Corporal punishments I have abolished, either in or out of the schools, and it is a great pleasure to me, as they frequently call to see me, after long absence, to see, as they say, their old home.

There is one subject in farming which does not appear to be understood, and I am frequently laughed at when I introduce the subject. Some years since two friends of mine left three or four acres of Clover about a foot high, as they did not require the food, and ploughed it into the land for Wheat; and they both told me the difference was striking and plain from where they had fed or mown off close to the ground. Four years since I was looking out of an old farmer's window, and I remarked the difference between the crops in the field adjoining. He said, "I should not have thought you would have noticed it, but I will tell you; that was very large pudding Turnips, and I sold them for 25*s.* per acre. The sheep came on to that side, and they began to rot so that we were obliged to send them away. This side was not folded. We spread the Turnips over the land, and I believe I have three coombs more Barley on that portion than on that which was folded; thus showing the sheep had carried off the land if Barley was at 15*s.* per coomb, 20*s.* per acre instead of leaving anything behind them." I often put the question: suppose you fold 100 sheep upon 20 acres of Turnips, and they were worth 40*s.* each when they were put upon it, and when they have eaten these off, are worth 50*s.* each. From whence has the increase arisen? It is quite evident the soil has given up some peculiar quality, which renders it of less value and diminishes its power to produce the like amount without replenishing; thus growing animal food at a loss, and sending to the South Seas for fertilisers. A small piece of land which produced me eight quarters of Barley per acre, from the loss of shelled corn, is now covered with a green crop from 9 inches to a foot high. I have had several offers to feed it off for me, but I consider its rotting upon the land will be of more profit. *Chas. Clarke, Hon. Secretary to Newmarket Farmers' Club.*

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WIRRAL.—I feel confident that much good has been effected by our two Agricultural Societies in this "agriculturally" isolated part of Cheshire, for truly it was 20 years since, and even more recently than that, a most benighted part of the world in that respect—but has since that period made most rapid strides in the way of improvement, and which is still progressing rapidly; for certainly a good deal yet remains to be done. Strings of carts laden with pipe tiles for draining, pass my cottage daily from the adjacent railway station to the Earl of Shrewsbury's farms, and new farm-houses are also springing up on this hitherto large, but till recently neglected estate. The "Wirral Agricultural Improvement Society" (discussional), was established in the spring of 1849. The other Society, Wirral Agricultural Society, or commonly called or miscalled the "Wirral Farmers' Club" for rewards to labourers and for show of stock, was established a few years earlier, I think in 1842, and to prove that the interest taken in that Society has increased, I will mention that in 1849 I find the annual subscription was 49*l.*, while in 1862 it was 340*l.*; in 1863 I believe it will be more. Under its auspices the art of ploughing has arrived at great perfection, and is second to none in any part of the country, and the annual contest in the spring greatly excites the labouring population; up to four years since only one annual meeting was held in the spring, now we have one in the autumn also, for the show of live stock and produce. To show you the progress of the district, I beg to refer you to "A Selec-

* Coprolite digging has something to do with the rise of wages

tion from Papers read before the Wirral Agricultural Improvement Society," a copy of which I hope to send you by this post, where at pages 6, 7, 8, 9, and 10 you will find the particulars you require, for in it there are extracts from the prize report by Mr. Palin on the "Agriculture of Cheshire" in 1844, and his remarks (very disparaging) on this district of Wirral—and its present state contrasted. I myself came into this part in 1845, and can vouch that nothing is overdrawn. At that time little land was drained, and no sheep kept regularly; a few very ill-bred Irish sheep were driven through the county in the summer, and a score or two bought here and there for very little money, and an attempt made to fatten them. Now large flocks of superior Shropshire down ewes and some Cheviots are kept all over the Hundred; indeed, it is the prevalent opinion that the produce of the district by the improved methods pursued is trebled, but of course this is only conjecture

With regard to the subjects brought forward at the monthly discussions of the Improvement Society, I will state that we began in 1849 and following year with small practical matters, such as "the work on the farm," immediately following the monthly meetings, till we had gone through the whole course of husbandry, and we published our opinions in a small pamphlet, which I think might yet be read by a young beginner with some advantage to himself. I am sorry I have not a copy I can spare to send you. Since that time we have introduced subjects of general as well as local interest. The majority of the members are in favour of leases, and we have spent several evenings in endeavouring to frame a good lease, in which to the best of our knowledge we introduced such clauses as we considered would fully protect the landlord without restricting the tenant, except the last three or four years of the lease.

The inequality of weights and measures and proposed remedies for it occupied much of our time and attention, and we communicated with many societies on the matter throughout the kingdom. We succeeded in stirring up the powerful body of the Liverpool Corn Exchange Company, and the cental was introduced at first in Liverpool for all kinds of grain, but unfortunately prejudice set in strong against the innovation, and a compromise was at last agreed upon (tantamount to a defeat), that Wheat should be sold by the cental of 100 lbs., and the other grains remain at the various weights before in use, such as 45 lbs. for the bushel of Oats, 60 lbs. for Beans, Indian Corn, &c. Another object we attained, viz., establishing a market in Birkenhead for the sale of hay, straw, Turnips, &c., now in full force. Also we established an annual wool fair at the same place. Again, we well discussed and proposed a system by which agricultural statistics could be taken and no farmer's affairs be made public. We also attended in a body at an agricultural discussion at Chester on "Farm Agreements," and other subjects; and although we took no part in these discussions, it produced the little work I also send by post, called "Five Letters by a Tenant Farmer," one of our little body. Again, we went in a body by invitation to view some leading farms in the adjoining county of Lancashire, and compare notes with them on their quite different system of agriculture.

Our principal discussions, however, as you will see by the book sent, are on practical subjects of agriculture as best adapted for our district, and I think I may say (though all certainly are not yet converted to the opinion), that such meetings of farmers acting together and searching after truth, and joining to carry into execution any new work required by the growth of the neighbourhood and the general advance of agriculture everywhere, cannot fail to benefit ourselves, the farmers generally, and the public; and perhaps though last, not least, the landlords.

We are now comparing our own plans of farm buildings with a model which obtained a prize at the Manchester and Liverpool Show held at Birkenhead, which model, by the way, was made by a farmer, one of our best members.

N.B. Rents have greatly advanced in this neighbourhood, doubled in some cases. Skilled labour is scarce, and has also advanced about a sixth. *W. B. Burnham.*

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THE VALE OF ALFORD AGRICULTURAL ASSOCIATION (Aberdeenshire, Scotland), was instituted in the year 1831, and is now 32 years old. "The object and attention of the Society," says one of its rules, "shall be directed to encourage the rearing, fattening, &c., of farm stock, by granting premiums for the best specimens exhibited at shows; to promote the attention and reward the industry of tenants, farm servants, labourers and artificers; to obtain the earliest and best information of all discoveries and improvements connected with agriculture, and to disseminate the same, and in general to advance by every means in its power, the agricultural interests of the district."

The subscription constituting a member of this Society is only 7*s.* 6*d.*; it was formerly 10*s.* 6*d.* yearly. The Right Hon. Lord Forbes is the perpetual President, and his lordship contributes handsomely to the funds of the association by a liberal yearly donation.

Its meetings are appointed to be held at Bridge of Alford twice in the year, on the 12th March and on the 1st August, or on the day following when either of these days falls on a Sunday. As the members do not turn out so well at two meetings in the year, the spring meeting is now generally dispensed with; the other meeting almost always comes off in the first or second week of August. A handbill of our last show is herewith sent, which will give you some idea of the nature of our Society. Not a few subjects have been discussed at one time or other at the Society's meetings, but these discussions have not been recorded or reported.

The handbill herewith sent will show you the nature of the premiums given at the spring show (when held). Nothing now sent requires to be returned.

That this Agricultural Society has been the means of improving the breed of cattle (as well as many other things), admits not of a doubt. It was at some of its shows that Mr. McCombie's, of Tillyfour, stock was first exhibited and excited notice, and which has now gained him European fame as a breeder of Aberdeenshire's. Short-horns have been also introduced, and being of quicker growth than the Aberdeenshires, are thought by some to be more remunerative than the native breed. The beef, however, of the Aberdeenshires has the preference in the London market, brings the best price, and even reaches the table of Royalty itself. So much has the breed of cattle been improved in this locality within the past 20 years, that a crofter (a person occupying from, say, 2 to 10 acres of land) possesses now-a-days fully as good a cow, perhaps a pair, equal in size and quality to any that might have been found a few years ago in the herd of the largest farmer. This Society has also this year given a stimulus, a thing much needed, to the breeding of pigs (see the accompanying handbill) through sundry premiums for that class of animals kindly granted by the Highland Society of Scotland, and which are promised to be continued for the next two years. These premiums were keenly contested, and new blood of the most approved sort has already been brought into the locality. Pigs and their right breed have not had, in this part of the country, that attention paid to them that they deserve—which is not a little astonishing, seeing that no animal is more profitable, nor more easily kept.

Within the last 20 or 30 years the rent of land has been yearly increasing, till it is now believed to be at its utmost pitch. Railways have been lately intro duced. Farm servants' wages, men and women, are higher. Much land has been reclaimed from bogs and barren moor, especially since the introduction of guano. Much land formerly under the plough, but next to barren owing to wetness, has been furrow-drained and made fruitful. Grain crops have been for many years past cut with the scythe in place of the abandoned sickle, but reaping machines have been tried this year in different places. On all farms the flail, that ancient tedious laborious implement, has been many years ago laid aside, having given place to threshing mills driven by water or horses, and portable steam-mills. Rearing and feeding cattle for the Aberdeen, London, and other markets, occupy much attention. Wherever new houses are being erected for man or beast, these houses are neat and commodious—great improvements on the old ones.

The only great drawback to our agriculturists of the present day is the low price of all sorts of grain, which cannot remunerate the farmer; and the high price of our native beverage, whisky, which he can well live without. There is something absurd in a gallon of whisky costing more, 1*s.* or 2*s.*, than a quarter of Oats. A small quantity of our own native drink—the wine of our own country—agrees far better with a Scotch stomach than any quantity, small or great, of rot-gut French wines. We ought to be thankful that we have plenty of cold water, untaxed, to quench our thirst. But our native drink should not be put almost beyond our reach. *Hugh M'Connach, Sec. and Tr., Crobhlair, Alford.*

P.S. I may venture to add that within the last 20 years servants wages have risen 75 per cent., land about 50 per cent. *H. M'C.*

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## Reviews.

*The Companion to the Almanac, or Year Book of General Information for* 1864. Knight & Co., 90, Fleet Street.

This volume, which has now reached its 37th annual edition, is this year particularly interesting, containing, besides the usual statistical and historical information, essays on the Occupations of the People, by Mr. Knight; on the Physical Constitution of the Sun, by Mr. Brayley; on the Employment of Children in Trades, by Mr. Plummer; on the Royal Academy Commission, by Mr. Thorne; on the Fire Insurance Duty, by Mr. Dodd; on the War of Secession in America, a mere chronology; and on Architecture and Public Improvements. The following extracts may be properly republished in these columns:—

ABSTRACTS OF PUBLIC ACTS.

MISAPPROPRIATION BY SERVANTS.

[26 and 27 Victoria, cap. 103.—July 28, 1863.]

*An Act to amend the Law in certain cases of Misappropriation by Servants of the Property of their Masters.*

Servants taking their master's corn (§ 1) without authority, for the purpose of giving the same to their master's horses or other animals, are not in future to be deemed guilty of felony; but on conviction before two justices of the peace, may either be imprisoned, with or without hard labour, for any term not exceeding three months, or else forfeit and pay such sum as they may deem meet not exceeding 5*l.*; but the justices have the power to dismiss the case altogether if deemed too trifling, or if the circumstances render it inexpedient to inflict any punishment; and if upon the trial of any servant for feloniously taking his master's corn or other food for cattle, he satisfy the jury that it was only an offence under this Act, the jury may return a verdict accordingly, and the punishment to be awarded shall be such as the provisions of this Act prescribe. Power is given (§ 2) of appeal to the next quarter-sessions within twelve days after conviction; and no conviction or adjudication on appeal (§ 3) is to be quashed for want of form, and no warrant of commitment to be deemed void by reason of any defect therein, provided it be alleged that the person has been convicted and there be a good and valid conviction to sustain the same. Summary proceedings are to be taken (§ 4) under the 11 and 12 Vict., cap. 43, except in London and the Metropolitan district. The Act (§ 5) extends to England only; and commenced (§ 6) on September 1, 1863.

POISONED GRAIN.

[26 and 27 Victoria, cap. 113.—July 28, 1863.]

*An Act to prohibit the Sale of Poisoned Grain or Seed.*

Every person offering or exposing for sale or selling any grain, seed, or meal which has been steeped in poison, or with which any poison or other ingredient has been mixed, so as to render it calculated to destroy life; or who shall knowingly and wilfully "sow, cast, lay, put, place, or cause to be so done, any such grain, seed, or meal," is subject to a penalty not exceeding 10*l.*, to be recovered by summary process, and half the penalty to be paid to the informer, if not a police constable or peace officer; and any one giving evidence is discharged from the offence in case he has been a participator, provided he give the evidence before an information has been laid against himself. But "nothing in this Act shall prohibit the offering or exposing for sale or selling or the use of any solution or infusion, or any material or ingredient for dressing, protecting, or preparing any grain or seed for *bonâ fide* use in agriculture only, or the sowing of such last-mentioned grain or seed so prepared."

*The Agricultural Class of the People.*—This class is divided into two orders, the first amounting to 1,924,110 persons; the second to 86,344. The sub-orders sufficiently define the orders. It is noted, however, in the Census, that in addition to those here returned, many persons connected with the land, as proprietors or occupiers, are returned under other heads, according to their professions or occupations. The distinctive employments of males in the first sub-order are—Land Proprietor, 15,131; Farmer, Grazier 226,957; Farmer's son, grandson, brother, nephew' 92,321; Farm Bailiff, 15,698; Agricultural Labourer' out-door, 914,301; Shepherd, out-door, 25,559; Farm, servant, in-door, 158,401. There are also of Land Surveyors, &c., 4,702; and, an entirely new denomination—Agricultural Student, 490. The mechanised improvements of modern husbandry are indicated by 236 Agricultural Implements Proprietors, and 1205 Agricultural Engine and Machine workers. 1761 persons are also returned as belonging to Land Drainage service, not in towns. Of the two other sub-orders, there are—Woodman, 8907; Gardener, not domestic servant, 76,760. Of Female Agriculturists, there are, Land Proprietor, 15,635; Farmer, Grazier, 22,778; Farmer's, Grazier's Wife, 163,765; relatives living on the farm, 83,830; Agricultural Labourer, out-door, 43,964; Farm servant, in-door, 46,561.

The great fact connected with the agricultural class is, that the labourers are not increasing relatively to the increase of population. It has been held, indeed, that there is a positive decrease within the last few years. Some apprehension has been felt that this fact is one of the symptoms of national decay. It may be viewed as an evidence of the direct contrary. Scientific improvements are turning the mere physical labour into skilled labour, and the condition of the farm labourer will be proportionately improved. As the improvement goes on he will obtain better wages, more food, and some better home than a ruinous hovel.

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## Farm Memoranda.

STAPLEFORD HALL, NEAR CHESTER.—Farm contains 250 acres. Of this 114 acres are in pasture, 28 acres meadow not irrigated, 10 acres meadow irrigated, 17 acres Wheat, 17 acres Oats, 12 acres Barley, 3 acres Clover and Vetches for stall feeding, 15 acres Clover and seeds for mowing, but pastured with ewes and lambs till the end of May, 7 acres Potatos, 12½ acres of Turnips, 5¼ acres Mangels, 4 acres orchards and gardens, 5 acres homestead, plantations, and roads.

*Customary Rotation.*—First, ley Oats; 2d, Wheat; 3d, root crop; 4th, Barley, seeded Clover, seeds mown the first year, then pastured three or four years.

*Live Stock* consists of 8 horses, 6 colts, 50 dairy cows, 14 heifers, 226 sheep and lambs, 40 pigs, and 17 calves; total, 355. Stock pastured in summer, horses sometimes soiled. In winter fed on straw and roots till the end of January; then hay, roots, corn, and cake.

Make annually about 400 tons of manure, which is

applied principally to root crops. Make also a considerable quantity of compost of sand, urine, and dung, and applied to meadow. In 1853 purchased 60 tons of lime, and applied it to Clover root intended for Wheat. Cost 30*l.*, besides labour and carting four miles. Four tons were applied per acre. The improvement was more visible in the green crops than in the Cereals.

I have paid 28*l.* a year interest for an outlay for bones by my landlord upwards of 20 years, which were applied to permanent Grass. In March, 1860, this land was renovated by a second application of bones, 10 tons being applied to 20 acres, at a cost of 60*l.* In 1861, 18 tons were applied to 34 acres of old Grass, at a cost of 140*l.* I frequently apply 2 or 3 tons of artificial manure annually to root crops, at a cost of 15*l.* to 20*l.* per annum. This is chiefly prepared bones.

All the land has been drained which required it, and was done previous to 1853, when the prize for the farm was awarded me. In 1858 I marled 10 acres for Wheat, and 1 acre for Turnips, with 96 cubic yards per acre, and cost 5*l.* per acre. The sample of Wheat gained the medal at Liverpool for the best white Wheat. Upwards of two miles of new fences have been planted, but previous to gaining the last prize for the farm.

In 1860 improved 4½ acres of meadow by draining, eradicating old fences, and planting new, to the extent of 726 yards, and cost 8*l.* Landlord finding Quicks and paid for cutting the main drain.

July 22, 1862. (Signed) William Palin.

Inspectors' Remarks.

Mr. Palin's farm is not very well situated for good public roads. In markets and climate about on an equality with his opponent. Thirty-five acres of land is detached, and is a light sandy loam, and under arable cultivation. The remainder of the arable land is a good deep strong loam. The meadow land mostly an alluvial soil, lying on the banks of a brook. The pasture a stiff clay soil, of good quality, lying upon marl.

Potatos, mostly early varieties, and taken up, and second crops put in, of Mangels, Swedes, and common Turnips. Early sown Mangels, not healthy looking, but plenty of plants. Had Maggots in the leaf. Swedes had only been sown 10 days, but were well up and healthy. All the root crops clean, as well as the headridges around. A 5 acre piece of wheat, 4 acres a good average crop, and one acre very bad; 11 acre field of Wheat, after Oats, a very fine thick crop of good colour, and stood well. Oats a splendid crop of 5 feet high, thick on the ground, and stood well. Barley about an average crop, good seeds at bottom. Clover and seeds, pastured to the end of May, and then left to mow, was promising for a heavy crop of good quality. The old meadows, both those irrigated and those not irrigated, were full of good Grass, a very thick crop. A 15 acre field of third year's lie, in pasture, was bare of Grass, and did not appear very productive. The remainder of the pasture, mostly old turf, amounting to near 100 acres, and including the new boned land, was full of good herbage, and evidently in a very productive state.

The hedges on the farm very good ones, and on the Grass part left to grow up for shelter to the live stock. The gates, posts, roads, and watercourses in proper keeping. Gardens and orchards very extensive, and in good cultivation. Mr. Palin raises a considerable quantity of Turnips and Mangel seed from well selected roots.

The homestead is commodious, and well arranged in all the various departments. The various descriptions of live stock were of good average quality. The implements well selected for use. Attention being properly paid to all the departments of the concern, both indoors and out. *Report of the Manchester and Liverpool Society.*

## Miscellaneous.

*Bath Cheese.*—To 1 gallon of new milk add 2 quarts of cold spring water, rennet sufficient to turn it (not hard); take it gently out with the skimming dish and lay it in the vat until full; put a weight upon it, and apply dry cloths for a day or two when turned out on a plate with another over it, and turned occasionally. They are ready in about a fortnight.

*Breeding the Sexes.*—The *Archives des Sciences* for September, 1863, contains a communication from a Swiss agriculturist, stating that in February, 1861, he received from Professor Thury of Geneva, a letter containing confidential instructions which he was to carry out for the purpose of experimentally verifying an assumed law regulating the production of the sexes amongst animals. The result was, that in 22 successive cases females were obtained according to desire. The animals bred from were Swiss cows, and a Durham bull. M. Cornaz then purchased a Durham cow, and desired to procure by breeding a Durham bull, in which he succeeded. He also desired to breed six bulls crossed between Durham and Swiss, and by selecting cows of the colour and height he wanted, he was again successful, and regards Professor Thury's method as of the highest importance to breeders of cattle. The law enunciated by Professor Thury, and confirmed by M. Cornaz, is that sex depends on the degree of maturation of the egg at the moment of fecundation. In uniparous animals fecundation at the commencement of the rutting period gives females at its termination, males. In multiparous creatures the first eggs that descend from the ovary generally give females, the last males; but M. Thury says that in the second generative period that succeeds the first, circumstances are considerably changed, and the last eggs give females. Many of our rural readers engaged in agriculture will be able to verify these curious statements, which may have an important influence on the profits of farming. *From Intellectual Observer, Nov.* 1863.

## Calendar of Operations.

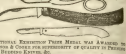
DECEMBER.

West Sussex: *December* 19.—After a rather wet season for Wheat sowing, we have now got dry and mild weather, such as we seldom get at this season. There are still some patches of Wheat to sow after Rape, as it is a practice with many to sow from time to time up to March. The Wheat generally up looks well, and in many places is by far too thick, as for tillering, it is impossible for the blades already up to find room for healthy growth. But there is always a false appearance of vigour about thick seeding when the plant first comes up that makes thin seeders almost regret their practice; it is only as the spring advances that they begin to feel thoroughly at ease. And it is no wonder that thin sowing is very cautiously adopted. But there is no doubt that there has been little allowance made for the better quality of the seed this year. There has already been a good deal of corn threshed out, and the yield, though good, is not more than was expected, and as the price is low it is not likely that more money will be made of it than last year. But stock farmers must have rather the best of it at present, as every kind of lean stock commands a good price; indeed it hardly leaves a chance for fatting to pay its way. Lean Devon steers, 30 months old, are from 13*l.* to 17*l.* each, and others in proportion, while Down ewes that are now about to lamb, range from 40*s.* to 50*s.* each, if about the size that will come out by ordinary feeding about eight and a half stones; so that we can hardly expect to get the lamb quite clear without feeding the ewe pretty highly. There are already a good many horned ewes lambed, but the suet, so far as I have heard, is not very good, and the quality of the lambs is seldom what it ought to be. It appears that little trouble is taken to get a good down ram for the ewes, and this perhaps is not to be wondered at, as the owners at the time they go to ram are not likely to see anything of the lambs, and only uphold them to have been put to a down ram, but it would be well if a little more care were taken in the selection of the rams. As might be expected sheep do pretty well in the field, but lameness is rather prevalent among them, perhaps owing to the dampness of the season. There has been a pretty good supply of stock sheep in the market, but they all sell well; wether lambs nine months old have been sold at 44*s* and 46*s.* each; lean pigs have been low at all ages, though lately strong ones fit for putting up to fat have got dearer. Fat pigs are worth about 3*s.* 10*d.* per stone if not over 25 stones and good, but many are sold at not more than 3*s.* 6*d.* Though Swedes are not a very good crop, yet Turnips have kept growing all through the autumn, so that there will be more feed than we expected at one time, and the mildness of the season has spared the hay. Potatos, though a good crop, have not kept well, perhaps owing to many of them having been dug before they were ripe, and the price most of them have been sold at has been about 3*s.* per cwt. Work is well forward, and the chief thing now is ploughing up the stubble land for roots when the weather permits, and providing for live stock. *G. S.*

METEOROLOGICAL OBSERVATIONS—BERKSHIRE.
By the Rev. J. Slatter, Streatley, near Reading.

| Day of the Week. | Day of the Month. | At 9 A.M., Railway Time. Reading of Barometer corrected to Freezing Point at Mean Sea Level. | Thermometer. Dry Bulb. | Thermometer. Wet Bulb. | Wind. Direction. | Wind. Force, 0—6 | Amount of Cloud, 0—10. | Reading of Self-Registering Thermometers. In Shade. Max. | In Shade. Min. | Max. in Sun. | Min. on Grass. | Rain fallen in previous 24 hours on the Ground. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inches. | ° | ° | | | | ° | ° | ° | ° | Inches. |
| Friday .. .. | Dec. 18 | 30.40 | 31 | 30 | N. | 0 | 2 | 45 | 27 | 51 | 20 | .. |
| Saturday .. .. | 19 | 30.48 | 43 | 42 | N.W | 0 | 8 | 45 | 31 | 49 | 27 | .. |
| Sunday .. .. | 20 | .. | .. | .. | N.W. | 0 | 10 | .. | .. | .. | .. | .. |
| Monday .. .. | 21 | 30.17 | 44 | 44 | W. | 0 | 9 | 40 | 35 | 58 | 27 | 0.05 |
| Tuesday .. .. | 22 | 29.90 | 41 | 39 | N.W. | 4 | 8 | 44 | 40 | 58 | 34 | 0.03 |
| Wednesday .. | 23 | 30.01 | 40 | 37 | N.W. | 3 | 5 | 40 | 26 | 45 | 19 | .. |
| Thursday .. .. | 24 | 30.19 | 47 | 45 | N.W. | 8 | 10 | 48 | 39 | 52 | 36 | .. |


Paxton Works, Sheffield, Established 1738.

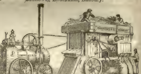


International Exhibition Prize Medal was Awarded to Saynor & Cooke for superiority of quality in Pruning and Budding Knives, &c.

SAYNOR and COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

Caution.—None are genuine unless marked Saynor. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

BARROWS and CARMICHAEL (late Kirby & Barrows), Engineers, Banbury.



Price 255*l.* complete, and ready to Thresh and Finish 60 quarters of Grain a day in the most perfect manner. Guaranteed of best Workmanship and Material. Prizes in money and Medals have been received from important Agricultural Societies in England, Ireland, and the Continent.

GREEN'S IMPROVED NEW PATENT ROLLER for LAWNS, DRIVES, BOWLING GREENS, CRICKET FIELDS, and GRAVEL PATHS, &c.

These Rollers possess many advantages over all others; they are made in two parts, and are free to revolve on the axis, affording greater facility for turning, and the outer edges are rounded off or turned inwards, thus avoiding the unsightly marks left by other Rollers. They are manufactured of the very best materials, and are got up in a manner surpassing any ever yet brought out.

Prices:—

| | | | | |
|---|---|---|---|---|
| Diameter 30 inches, | length 32 inches | .. | .. | £7 0 0 |
| ,, 24 inches, | ,, 26 inches | .. | .. | 4 5 0 |
| ,, 20 inches, | ,, 22 inches | .. | .. | 3 5 0 |
| ,, 16 inches, | ,, 17 inches | .. | .. | 2 10 0 |

Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.

Thomas Green & Son, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

W. J. HOLLANDS, Iron Merchant, 31, Bankside, London, S.E.

HOT WATER PIPES, from Stock, per yard:—2 inch, 1*s.* 2*d.*; 3-inch, 1*s.* 10*d.*; and 4-inch, 2*s.* 4*d.* BENDS, from stock, 1*s.* 7*d.*, 2*s.* 6*d.*, and 3*s.* 3*d.* each. THROTTLE VALVES, 10*s.* 6*d.*, 13*s.* 6*d.*, and 15*s.* each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3*d.* per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3*l.* 10*s.*

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

Heating by Hot-water.

THE ORIGINAL SADDLE BOILER, with Improved Tubular Check Draft, Flued Ends, and Ribbed Sides, for Heating Greenhouses, Vineries, Forcing Pits, Public Buildings, &c. These Boilers possess increased heating surface capacity, power, economy in fuel, and are the only class of Boilers, all points considered, when properly fixed, that can be relied upon with safety for Heating Greenhouses, &c., of any extent by hot-water, and at a moderate price.

Gardeners interested in such work should write for LIST of TESTIMONIALS, sent Post Free, on application to Frederick William Butt (late of London), Portadown, Ireland.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, APRIL 4, 1863.*



DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

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JAMES WATTS AND CO., HOTHOUSE BUILDERS and HOTWATER APPARATUS MANUFACTURERS, near the Green Man, Old Kent Road, London, S.E.

200 CUCUMBER and MELON BOXES and LIGHTS, and from

400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.

Glazed and Painted complete, ready for immediate use. Packed and sent to all parts of the kingdom.

10 dozen strong Zinc HAND GLASSES, Glazed and Painted complete, ready for immediate use, 18, 20, and 22, all shifting tops.

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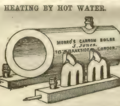


MONRO'S CANNON BOILER.

J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

PLANS, ESTIMATES, and DESCRIPTIVE CATALOGUE

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**Horticultural Buildings.**

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LATELY ENTRUSTED

BURY AND POLLARD with the WARMING of his FORCING HOUSES, and they have just completed the work at Frognal.

Estimates for Warming Conservatories, Forcing Houses, &c. BURY & POLLARD, Park Iron Works, Southwark, London, S.

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HOT WATER PIPES, from Stock, per yard:—2-inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS, from stock, 1s. 7d., 2s. 6d., and 3s. 3d. each. THROTTLE VALVES, 10s. 6d., 13s. 6d., and 15s. each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

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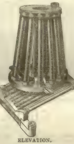
## GRAY'S OVAL TUBULAR BOILER.

INTERNATIONAL EXHIBITION,

**Class IX., No. 2119.**



ELEVATION.

PLAN.

Mr. GRAY begs to call the attention of the Nobility, Gentry, Nurserymen, Gardeners, &c., to his

**NEW OVAL TUBULAR BOILER,**

acknowledged by practical judges to be a great improvement on every form of Tubular Boiler yet introduced. It has proved itself superior to all other Boilers for quickness of action and economy of Fuel, doing its work with one-third less the amount required by any other.

*Extract from Report in* Gardeners' Chronicle *of International Exhibition, May 24, page 476.*

"The upright form of Boiler is usually made on a circular plan, but the oval form given to Mr. GRAY's variety of it is said to be preferable in consequence of its bringing the tubes in closer contact with the fire. The usual form of a furnace being a parallelogram rather than a square, it seems feasible that the Boilers on the oval plan should bring the tubes more completely within range of the burning fuel; and this being so the change, though a slight one, is no doubt an improvement.

They are made of all sizes, which, with prices, may be had on application.

JAMES GRAY, HORTICULTURAL WORKS,

DANVERS STREET, PAULTON'S SQUARE, KING'S ROAD, CHELSEA, S.W.

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# JOHN TAYLOR & SONS'

## HORTICULTURAL BUILDERS AND ENGINEERS,

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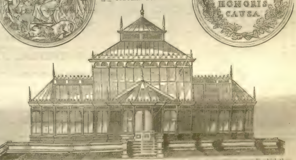
INTERNATIONAL EXHIBITION,
CLASS IX., 2191.

PRIZE MEDAL
For CONSERVATORY,
DOUBLE CHAMBER CORRUGATED
and HORIZONTAL
TUBULAR BOILERS.



J. TAYLOR AND SONS call the attention of the Nobility and Gentry to the very superior manner in which they erect CONSERVATORIES, VINERIES, FORCING, FRUIT, and PLANT HOUSES of every description, combining the most modern improvements with elegance of design and durability of materials and workmanship.

Our VENTILATING APPARATUS for the Roofs and Fronts of Horticultural Buildings, &c., supersedes any now in use, as being the most simple and effective in its action.

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General Horticultural Builder,
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Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

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HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c

Apply to Joseph Meredith, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

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T. G. M.'s PATENTED BUILDINGS combine all the modern improvements, are most effectually ventilated by means of his unequalled Apparatus, can be made either plain (and which are at the same time elegant in appearance), or of the most elaborate design. They can be fixed as permanent buildings, or made to be portable.

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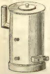
RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

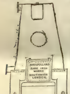


Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3d. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3l. 10s.

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.




New Method of Heating by Hot Water.

THE IMPROVED

CONICAL BOILERS,

SOLELY MANUFACTURED BY

BURY AND POLLARD (Successors to John R. Peill, Late Stephenson & Peill),

Have attained a celebrity far surpassing any other Boilers ever invented.

The annexed Sketch shows the improved arrangement, requiring

NO BRICKWORK SETTING.

All particulars on application to Bury & Pollard, Park Iron Works, New Park Street, Southwark, S.

THOMAS MILLINGTON,
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HORTICULTURAL GOODS.

PROPAGATING GLASSES.

| | | | |
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| 3 inches | 0s. 4½d. each. | 12 inches | 1s. 9d. each |
| 4 " | 0 5½ " | 13 " | 2 0 " |
| 5 " | 0 6½ " | 14 " | 2 6 " |
| 6 " | 0 8 " | 15 " | 3 6 " |
| 7 " | 0 10 " | 16 " | 3 6 " |
| 8 " | 1 0 " | 17 " | 4 0 " |
| 9 " | 1 2 " | 18 " | 5 0 " |
| 10 " | 1 4 " | 19 " | 6 0 " |
| 11 " | 1 6 " | 20 " | 7 0 " |

HAND GLASSES.

| | | | |
|---|---|---|---|
| 12 inches | 6s. 0d. each | 18 inches | 9s. 0d. each |
| 14 " | 7 0 " | 20 " | 10 0 " |
| 16 " | 8 0 " | 24 " | 12 0 " |

If open top, 1s. extra.

CUCUMBER GLASSES.
From 12 inches long and upwards, 1d. per running inch.

ROLLING PINS.
From 12 inches long, 1½d. per running inch.

Improved ANTI-CORROSION and other PAINTS.
GAS and LAMP GLASSES, GLOBES, &c.
CHIMNIES of every description.

Not accountable for Breakage.

"Excellence of Quality."—See Jurors' Report.

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SUCTION HOSE, TAPERS, and HAND-JOINTS of any size and length.

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UNDER THE PATRONAGE OF HER MAJESTY.

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PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREEN-HOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
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| 16 feet by 8 feet... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

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These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their Horses. They can be had Plain, Galvanised, or Enamelled.

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SHEET GLASS, 16 ounces, packed in boxes of 100 feet each. Package included.

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| 12 by 9, | 13 by 9, | 14 by 9, | 15 by 9 | 14s. 0d. | 12s. 6d. |
| 12 ,, 10, | 13 ,, 10, | 14 ,, 10, | 15 ,, 10 | | |
| 13 ,, 11, | 14 ,, 11, | 15 ,, 11, | 16 ,, 11 | 16s. 0d. per 100 feet. | 13s. 6d. |
| 14 ,, 12, | 15 ,, 12, | 16 ,, 12, | 17 ,, 12 | | |
| 18 ,, 12, | 19 ,, 12, | 20 ,, 12, | 16 ,, 13 | | |
| 17 ,, 13, | 18 ,, 13, | 19 ,, 13, | 20 ,, 13 | | |
| 16 ,, 14, | 17 ,, 14, | 18 ,, 14, | 20 ,, 14 | | |

Various other sizes.

GLASS for ORCHARD HOUSES.

As supplied by us to Mr. Rivers, to most of the Nobility, Gentry, and Clergy of the United Kingdom, and to the Royal Horticultural Society of England.

| Sizes | | 16 oz. | 21 oz. |
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| 20 in. by 12 in. | | | |
| 20 in. by 13 in. | Common | 13s. 6d. | £0 18 0 |
| 20 in. by 14 in. | Superior do. | 16 0 | 1 3 0 |
| 20 in. by 15 in. | English Glass | 18 0 | 1 9 0 |

The above prices include the Boxes.

SMALL SHEET SQUARES, IN 100 FEET BOXES.

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| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11s. 6d. |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | |
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Boxes 2s. each, returnable at full price.

SQUARES CUT TO SPECIAL SIZES.

16 oz. 4ths, 1½d., 2d., and 2¼d. 21 oz. 2¾d., 3d, and 3¼d.
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London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

Milk Pans and every description of Glass for Horticultural purposes.

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CHUBB'S FIRE PROOF STRONG ROOM DOORS; CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.

Illustrated Price List gratis and post free.

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CHANDELIERS for DINING ROOM and LIBRARY, Candelabra, Moderator Lamps, in Bronze, Ormolu, China, and Glass. Statuettes in Parian, Vases and other Ornaments.

Osler, 45, Oxford Street, London, W.

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OSLER'S GLASS CHANDELIERS. Wall Lights and Lustres for Gas and Candles, Table Glass, &c.

Glass Dinner Services for 12 persons, from 7l. 15s.

Glass Dessert Services for 12 persons, from 2l.

All articles marked in plain figures.

Ornamental Glass, English and Foreign, suitable for Presents.

Mess, Export, and Furnishing Orders promptly executed.

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Birmingham—Manufactory and Show Rooms, Broad Street.

Established 1807.

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HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.

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HAIR RESTORED, preserved, and beautified, by the use of ROWLAND'S MACASSOR OIL.—It prevents hair from falling off or turning grey, strengthens weak hair, cleanses it from scurf and dandriff, and makes it beautifully soft, pliable and glossy. For children it is especially recommended, as forming the basis of a beautiful head of hair. Price 3s. 6d., 7s., 10s. 6d., (equal to four small), and 21s. per bottle.

Caution—Ask for Rowland's Macassor Oil. Sold at 20, Hatton Garden, E.C., and by Chemists and Perfumers.

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The very general interest manifested by my statements regarding the specific character of the Hungarian Wines has induced me to obtain still further particulars respecting them, and I feel much pleasure in exercising the privilege afforded me of submitting to your notice the following analysis of various Wines undertaken by Dr. Wm. Kletzinsky, an eminent analytical physician of Vienna, with a view, if possible, to supplement from other sources the useful qualities of Malaga Wine. He informs us that "The rather considerable ingredient of phosphate of ammonia in Malaga Wine is one of the causes which secured for it the great celebrity it possesses as to its intrinsic worth; and from the undoubtedly great nutritive powers of the phosphate upon the system of the *nerves, bones*, and *muscles*, it can easily be understood why Malaga Wine became almost the only one officially acknowledged to be the Wine for convalescents. During a succession of inquiries into the definition and quantity of the free acid, the extract, and the alcoholic percentage of some warranted-genuine sorts of Wine, I discovered that the phosphate magnesia always forms an essential part of the Wine, without any difference as to the country or year of its growth, its standing-place, goodness, or age; but that the quantity of the phosphoric salt in the Wines is subject to important variations, in a sure and direct proportion to the degree of the goodness of the Wine; so much so, that the quantity of this salt affords, perhaps, a surer test of the goodness of the Wine, than the analysis of the extract or the alcohol itself. Heretofore, we have had heavy Wines, possessing a high quantity of extracts; strong Wines with high quantities of alcohol; light Wines with a scanty extract; and weak Wines having only a little alcohol. Each of these categories had its rightful designation and its dietetic circumference. To the arthritic patient the heavy Wines would be fatal; for the sufferers from calculi it would be as dangerous to use Wine of an oxalic sourness, as for those affected with tubercles the strong Wines. Now, to these three main principles has been joined a fourth—the quantity of the phosphate. The phosphor is for the organic nature such a precious element that everything able to furnish it should be held worthy of being encompassed within the halo of its own bi-chemical glory. The relative contents of phosphor in the Wine must therefore, influence aright the judgment as to its dietetic merits in general, and especially its therapeutic indication.

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"As to the nature and degrees of diseases in which the use of Wines *rich in phosphoric* acid are proved to be most beneficial, it is particularly in the convalescence from *typhus, exhausting perspirations*, the so-called *adynames*, and the immense number of these multinominal *chronic pains* which chemically originate from the deprivation of the body of the phosphoric acid, and slightly affecting the system of the bones or the muscles, the glands and fibres in scrofulous persons, or even the peripheric and central system of the nerves. These diseases never can be cured by calcinated oyster shells, bone ashes, osteolith, apatit, or the mineralogical phosphorite, or by any other kind of an organic phosphoric acid or cold application. The doses of all these bodies would pass through and leave the intestine quite untouched, without effecting a resorption, still less an assimilation."

The Wines quoted in the following table were examined as to—1, their extract; 2, their strength in alcohol; 3, their per centage of phosphoric acid.

| Names of Wines. | Specific weight. | Extract °/₀ | Alcohol °/₀ | Phosphoric Acid °/₀₀ |
|---|---|---|---|---|
| BRÜNNER STRASSE (Austria) .. | 0.9945 | 1.98 | 9 | 0.57 |
| VŒSLAU (Austria) .. | 0.9943 | 1.75 | 11 | 1.12 |
| HOCKHEIM .. | 0.9998 | 3.65 | 10 | 1.72 |
| CINCINNATI (U.S.) .. | 0.9942 | 3.12 | 12 | 1.56 |
| CHATEAU LAFITTE .. | 0.9991 | 3.72 | 12 | 2.02 |
| CAPE WINE .. | 1.0628 | 20.12 | 15 | 2.15 |
| TINTO DI ROTA .. | 1.0732 | 21.57 | 12 | 2.25 |
| CHAMPAGNE .. | 1.0063 | 4.57 | 7 | 1.27 |
| SANTORIN (Greece) .. | 1.0025 | 5.23 | 18 | 3.26 |
| MADEIRA (straw wine) .. | 1.0081 | 8.52 | 22 | 3.75 |
| SHERRY .. | 1.0017 | 6.23 | 18 | 3.72 |
| CYPRUS .. | 1.0331 | 8.76 | 18 | 3.25 |
| BUDA (Hungary) .. | 0.9981 | 3.24 | 11 | 3.75 |
| ERLAURE do. .. | 1.0127 | 3.34 | 10 | 3.90 |
| OFNER do. .. | 0.9983 | 3.25 | 11 | 3.74 |
| MALAGA (finest quality) .. | 1.0541 | 18.15 | 16 | 4.12 |
| MENES (Hungary) .. | 1.0286 | 11.17 | 10.5 | 4.52 |
| TOKAJ, 1827 (Hungary) .. | 1.0257 | 10.15 | 11 | 4.59 |
| TOKAJ, 1834 ... do. .. | 1.0316 | 11.23 | 11 | 4.98 |

Such are the valuable demonstrations of Dr. W. Kletzinsky, and their announcement occasioned a strong sensation among the medical men of Germany. It attracted notice from the Baron Liebig, the greatest authority in modern chemistry, who writes thus:—

"Munich, April 18th, 1861.

"Not long ago I read Dr. Kletzinski's analytical article, and my belief is that the Hungarian Wines, whose generous qualities I fully appreciate, have over other Wines a particular restorative virtue, to be attributed to the phosphoric acid which they contain. In a dietetical point of view, it must be taken into consideration that the Hungarian Wines are generally richer in alcohol than the Bordeaux Wines.

(Signed) "J. LIEBIG, M Pr."

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**Notice.**

ROYAL SCHOOL of MINES. — The remainder of the COURSE of LECTURES on GEOLOGY (TWENTY-FOUR) will be given by Mr. J. BEETE JUKES, M.A., F.R.S., on MONDAYS, TUESDAYS, THURSDAYS, and FRIDAYS, at half-past 1 o'Clock, commencing on April 13. During the Course Lectures will be given in the Field. Fee, 2*l*.

TRENHAM REEKS, Registrar.

PRACTICAL GEOLOGY. — KING'S COLLEGE, London.—Professor TENNANT, F.G.S., will COMMENCE a COURSE of LECTURES on WEDNESDAY, April 15, at 9 o'clock, A.M., having especial reference to the application of GEOLOGY to ENGINEERING, MINING, ARCHITECTURE, and AGRICULTURE. The Lectures will be continued on each succeeding Friday and Wednesday at the same hour. ee, 1*l*. 11*s*. 6*d*.

R. W. JELF., D.D., Principal.

HAMPTON LUCY GRAMMAR SCHOOL, WARWICK.—Head Master the Rev GEORGE HENSLOW has VACANCIES for two or three BOARDERS In addition to the usual Course of Classics, Mathematics, Divinity, &c , special instruction is given in Botany and the Principles of Agricultural Chemistry and Geology. Terms, 60 guineas. No extras. There are two Exhibitions at Oxford.

## News of the Week.

BOTH Houses of Parliament adjourned on Friday for the Easter recess, the Lords to Tuesday the 14th, and the Commons to Monday the 13th of April.

A modification of the French Ministry has taken place this week, caused by an intrigue on the part of some of his colleagues to drive M. FOULD, the Minister of Finance, from office. It appears that M. MAGNE, one of the Ministers without portfolio, had communicated to some of the papers an article depreciating M. FOULD's system of finance. M. FOULD immediately tendered his resignation, but was ultimately induced by the EMPEROR to withdraw it, on condition that M. MAGNE should retire from the Cabinet. M. MAGNE accordingly tendered his resignation, which the EMPEROR accepted in a letter thanking him for his devotion, and rewarding him for his past services by creating him a member of the Privy Council.

The KING OF DENMARK on Wednesday issued an important proclamation on the affairs of Holstein. After referring to his proclamation of 1852, promising a common constitution for the whole monarchy, HIS MAJESTY points out that his efforts to effect that object have failed in consequence of the interference of the Federal Diet in the interior affairs of the monarchy and the hostility of the Holstein Estates. HIS MAJESTY, therefore, has determined to settle once for all the position of Holstein in the monarchy. He therefore declares that the Duchy is to have an independent army, to share with the rest of the Monarchy the civil list, the appanages, the public debt, the navy, the department for foreign affairs, the customs, and the postal arrangements, with the right of a deliberate vote; reserving also the question of separation if co-operation between the Estates and the Rigsraad be found impossible. HIS MAJESTY further orders the Ministry to submit to the Holstein Estates Bills establishing constitutional regulations for the general control of the finances, a liberal electoral law, liberty of the press, the right of petition and association, and religious freedom.

Telegrams from Warsaw in the Breslau and Dantzig papers, assert that the revolutionary committee of Warsaw, considering it useless to prolong the struggle, has suspended the enlistments, and has ordered the insurgents to lay down their arms. In obedience to these orders two insurgent leaders have already disbanded their forces, but the bands of MIELENCKI and KOCHANOWSKI are still in the field, and have had several successful engagements with the Russian troops.

A despatch from Athens announces that the National Assembly, on Tuesday, unanimously passed a decree proclaiming PRINCE WILLIAM of Denmark constitutional KING of the GREEKS, under the title of GEORGE THE FIRST. The only condition the Greeks have annexed to their election is that his successors shall profess the orthodox religion of the Greek Church.

## Home News.

THE COURT.—The Queen and Royal family continue at Windsor. On Friday morning the Prince and Princess of Wales drove out. Earl Russell and Baron Gros, the French Ambassador, arrived at the Castle, and had an audience of the Queen. Baron Gros afterwards had an audience of the Prince of Wales, and presented his Royal Highness with the decoration of the Grand Cross of the Legion of Honour from the Emperor of the French. In the afternoon the Queen drove out, accompanied by the Princess of Wales. On Saturday morning the Prince and Princess of Wales left the Castle for Sandringham Hall, Norfolk. The Princess Helena, Princess Louisa, and Prince Leopold came to London. Prince Louis of Hesse went to Wellington College. On Sunday morning the Queen, Prince and Princess Louis of Hesse, Princess Helena, Princess Louisa, and Prince Leopold attended Divine service in the Private Chapel. The Rev. Lord Wriothesley Russell preached the sermon. On Monday morning the Queen drove out, accompanied by the Princess Louis of Hesse. In the afternoon the Queen and Princess Louisa walked in the grounds. The Earl and Countess of Derby arrived at the Castle on a visit. On Tuesday Earl Russell arrived at the Castle, and had an audience of the Queen. Senor Gonzalez, Spanish Minister; Count Wachtmeister, Swedish and Norwegian Minister; Mahmoud Khan-Nasserolmolke, Persian Minister; M. Sanz, Peruvian Minister; and Mr. Dubois, Haytian Minister, were presented to Her Majesty at audiences by Earl Russell. In the evening Prince Alfred arrived at the Castle from Malta. On Wednesday, the Queen, accompanied by the Princess Louis of Hesse, drove out. Prince Arthur arrived at the Castle from Greenwich Park. Prince Alfred and Prince Louis of Hesse rode on horseback. On Thursday afternoon the Royal charities of Maunday Thursday were distributed to 44 aged men and 44 aged women, in Whitehall Chapel, with the customary ceremonial.

THE PRINCE AND PRINCESS OF WALES IN NORFOLK.—The Prince and Princess of Wales left Windsor on Saturday for the Prince's estate at Sandringham. Their Royal Highnesses travelled by the North London line to Stratford, at which place they took the Great Eastern Railway to King's Lynn, and thence to Wolferton, the station on the Lynn and Hunstanton Railway, distant about two miles from Sandringham Hall. The train stopped only at Cambridge, where immense preparations had been made to welcome the Prince and Princess, and the Mayor and Corporation presented an address. Great preparations had also been made at Lynn, Wolferton, and Sandringham to give their Royal Highnesses a suitable reception. At Lynn the Mayor and corporation presented an address, and at Wolferton station, where the carriages were in waiting, the tenantry of the estate, mounted and wearing favours, had assembled to escort the Prince to Sandringham. Between Wolferton and Sandringham a triumphal arch had been erected. The population of the whole country seemed to have assembled at this point and at the gates of the Hall, where the clergy presented an address. The carriage then went slowly up the avenue, where, on each side, were ranged 200 children of the schools on the estate, holding flags and baskets of primroses, violets, and daffodils, which the children scattered on the road. At the porch of the Hall were ranged 25 young ladies, from the families of the clergy and farmers, all dressed in white, with blue or scarlet jackets, or mantles and white hats, with baskets of the same wild flowers, with which they covered the steps and roadway. On the opposite side were a number of ladies of the principal families of the neighbourhood, mostly dressed in white, and who performed the same office as their younger friends. Opposite the doorway the Smithdon Corps of Volunteer Rifles were drawn up as a guard of honour, their band playing the National Anthem. Upon the Prince and Princess alighting, Miss Rose Moxon presented the Princess with a beautiful bouquet, in a white and gold basket. Subsequently the officers of the Smithdon Corps and of the Norwich Light Horse were invited to partake of refreshment, at the Hall. The cheering being continued, the Prince and Princess again came to the porch, and repeatedly bowed their acknowledgments. By degrees the concourse of people dispersed, and their Royal Highnesses were left to their retirement. On Sunday the Prince and Princess attended Divine service at the parish church of Sandringham. The Rev. G. Moxon officiated. A large number of persons from Lynn and other places assembled at the church to gratify their curiosity; and the church was not only filled to its utmost capacity, but as many as 200 were left standing outside, and through these their Royal Highnesses and their attendants had to make their way. During the week the Prince and Princess have rode on horseback and visited the farms on the estate.

ARRIVAL OF PRINCE ALFRED.—On Tuesday afternoon Prince Alfred arrived at Dover from the Continent, and after taking luncheon at the Lord Warden Hotel, proceeded by special train direct to Windsor. His Royal Highness arrived at the Windsor station soon after 7 o'clock. The Queen, accompanied by the Prince of Hesse, the Princess Helena, and the junior members of the Royal family, were at the station to receive him, and as his Royal Highness stepped from the carriage, her Majesty affectionately embraced him. The Prince, although he appeared thin, was in excellent spirits, and in much better health than could have been expected after his recent illness, and he has grown nearly as tall as the Prince of Wales.

THE BRIDAL PRESENTS.—The Prince of Wales has given instructions that the wedding presents to be exhibited at the South Kensington Museum are to comprise not merely the jewellery, but almost all the presents which have been accepted. The day for the public exhibition will be announced as soon as the arrangements are sufficiently completed.

THE REVENUE.—The Revenue Returns for the Year and Quarter ended the 31st March were published on Wednesday. They show an increase of 929,082*l*. on the Year, and a decrease of 392,868*l*. on the Quarter. The Year's account shows an increase in the Customs of 360,000*l*.; Stamps, 403,055*l*.; Property Tax, 202,000*l*.; Post Office, 140,000*l*.; Crown Lands, 5000*l*.; Miscellaneous, 1,006,027*l*.; and a decrease in the Excise of 1,177,000*l*.; Taxes, 10,000*l*. The Quarter's Account shows an increase in the Stamps of 80,055*l*.; Taxes, 2000*l*.; Post Office, 50,000*l*.; Crown Lands, 1479*l*.; Miscellaneous, 391,598*l*.; and a decrease in the Customs of 2000*l*.; Excise, 379,000*l*.; Property Tax, 537,000*l*. The total Revenue for the year ending March 31, 1862, was 69,674,479*l*.; that for the year ending on Tuesday was 70,603,561*l*.

## Foreign.

FRANCE.—M. Fould, the Minister of Finance, tendered his resignation to the Emperor on Monday, on account of a difference between himself and M. Magne, Minister without portfolio, who had communicated to the official papers an article in opposition to M. Fould's system of finance. The Emperor having refused to accept M. Fould's resignation, M. Magne immediately tendered his resignation, which was accepted by the Emperor, who has, however, appointed him a member of the Privy Council. The following is the text of the Emperor's letter:—

"My dear M. Magne,—An incident, the responsibility of which does not rest with you, has rendered more apparent the difference of opinion which exists between M. Fould and yourself on several financial questions. Under the circumstances you have considered yourself bound to tender your resignation. In temporarily relinquishing your services, I wish it to be known that I have never had but to congratulate myself on your zeal and devotion. I have therefore resolved to give you a striking proof of my confidence by creating you a member of the Privy Council. I hope that you will never entertain any doubt of my sentiments of sincere friendship. "NAPOLEON."

*La France* says that M. Magne will not be replaced in the Ministry, and that MM. Baroche and Vuitry will speak on behalf of the Government on the financial questions about to be discussed in the Chambers. The *Constitutionnel* of Thursday, in an article signed by M. Limayrac, says:—

"In the maintenance of M. Fould in the Ministry the country will see with pleasure a fresh pledge of good order in the finances, and of reduction in the public expenses."

The *Nation*, in an article signed by its editorial secretary, says:—

"While the Polish insurrection maintains itself by scattering its forces, it becomes more difficult to suppress; France and England seek, in common, a solution that Austria will be able to accept without disquieting the other Powers interested. This question has, therefore, entered a diplomatic phase, and the result must be awaited without too much impatience. We believe we can state that France and England agree upon the end to be attained, and it is probable that Austria will not delay entering the same path. We need not dwell upon the importance of this fact."

SPAIN.—The Infante Don Juan de Bourbon, after having visited Madrid *incognito*, has returned to France. It is said that his journey has not been productive of any result. The President of the Council has, in a conference, stated to Señor Olozaga that the new Ministry does not continue the policy of the O'Donnell Cabinet, but that its programme is based upon Liberal Conservative principles.

PORTUGAL.—The Government has been defeated in the Chamber of Deputies. A dissolution of the Cortes or a change of Ministry is expected.

DENMARK.—The semi-official journals of Monday announced that Russia and France approved the nomination of Prince William of Denmark for the throne of Greece; that Prince Christian and Earl Russell have both inquired of the King of Denmark whether the nomination would have his Majesty's sanction, and that his Majesty does not seem disinclined to give his consent provided Prince Christian and Prince William desire the arrangement. His Majesty, however, will distinctly reserve further conditions, especially with regard to Prince William's right of succession to the Danish throne. The *Dagbladet* and the *Danmark* oppose the arrangement, on the ground that the succession to the throne of Denmark is restricted to the three sons of Prince Christian. All the Danish papers agree that Prince Christian cannot accept the Crown for his son without the consent of the King of Denmark. A sitting of the Privy Council was to be held on Monday at Freidericksburg to decide on the question. The resolutions adopted at the recent political meeting at Copenhagen declared that a common constitution for Denmark and Holstein was impossible without endangering the independence of the Danish Crown; and that foreign Powers have no concern in the internal affairs of Schleswig and Denmark. Earl Russell's despatches

were condemned by several of the speakers, and expressions of sympathy with Poland and of approval of Swedish policy were loudly applauded. On Wednesday night a most important proclamation of the King was published referring to the separation of Holstein from its connection with the entire monarchy, and calling together the Rigsraad (Legislative Assembly for Denmark-Schleswig) on the 22d of April. The following is a summary of this document:—

"The proclamation of the King of the 28th January, 1852, stated his Majesty's intention to combine the different portions of the monarchy, by means of a common constitution, into one single, well-regulated State. This intention could not be realised because the Federal Diet interfered in the interior affairs of the monarchy, and set up demands not founded upon federal laws, and incompatible with the independence of the Crown and the privileges of those portions of the country not belonging to the Confederation. The Estates of Holstein have, in addition, rejected every proposition which might have led to an agreement, and have declared themselves hostile to any common constitution based upon united representation. Such a state of internal discord, by which the development of the kingdom has been paralysed for the last 10 years, cannot longer continue. In consequence of the unsatisfactory results of the last assembly of the Holstein Diet, we deem it our duty, as ruler, to settle the position of Holstein in the monarchy as we consider most in conformity with our federal duties. For the present we confine ourselves to the most urgent part of this task, reserving any further developments for a future period. By this present proclamation, therefore, we grant to Holstein an independent army. For the future Holstein will share with the rest of the monarchy the civil list, the appanages, the public debt, the navy, the department for foreign affairs, the administration of the domains, the customs, and the postal arrangements; but even in reference to these details the Estates of Holstein shall have the right of decision, reserving further separation where no agreement between the Holstein Estates and the Rigsraad (Council of the Empire), for Denmark-Schleswig shall be found attainable. The Ministry shall submit to the Holstein Estates bills establishing constitutional regulations for the general control of the finances, a liberal electoral law, liberty of the press, the right of petition and of association, and religious freedom."

Sweden.—A grand banquet in honour of Prince Czartoryski was given at Stockholm on Friday evening. General Hazelius proposed the toast of "To Poland!" which was received with the greatest enthusiasm. Polish national hymns were sung by the Assembly.

Prussia.—In the sitting of the Chamber of Deputies on Tuesday, Count von Bismark laid before the House three Conventions concluded with Belgium on the 28th inst., comprising a navigation treaty, an agreement with reference to literary and artistic copyright, and a protocol declaring the adhesion of Prussia in principle to the redemption of the Scheldt dues on condition of her being placed by Belgium on the same footing as England. Count von Bismark pointed out that these Conventions marked further progress in the direction entered upon by the French commercial treaty. He also stated that Prussia had promised to co-operate in procuring the redemption of the Scheldt dues for a certain *maximum*. A debate then took place on the Polish question. Count von Bismark repelled the doubts expressed relative to the accuracy of his former statements. He said:—

"All statements contrary to his own which had been made by foreign Governments or Ministers were based on error. Foreign Ministers had themselves acknowledged that they had not been correctly informed on the subject. The Polish question was not originated by the Convention, but had existed since 1830. It had repeatedly exercised a great influence on Prussian interests. The Government had nothing to add to its former declarations in reference to the existence and contents of the Convention. Agents of the Polish revolution had sent telegrams from Cracow to the French papers in order to influence the French public."

Herr Waldeck stated that the Government had merely yielded to the pressure of former Governments. Count von Bismark replied that this assertion had not the least foundation, and that the Government had not yielded at all. Herr von Sybel said that, if they were to believe Count von Bismark, all Europe was in error. But, considering the declarations of the English and French ministers, enough remained of the Convention to make Europe uneasy and to compromise Prussia. Count von Bismark replied that he did not deny, and had never denied, the existence of certain arrangements with Russia. The contents and bearing of the treaty were not, however, known to the public, who would be surprised in the end, after all the false statements in reference to it, to learn what are its real contents. It was positively false that, according to the Convention, the Russians were allowed to pursue the insurgents on Prussian territory until they met with a number of Prussian soldiers sufficient to disarm the insurgents. Several members then recalled the first declarations made by the Ministers of the Western Powers and the communications of the Prussian Ambassadors on this subject. Count von Bismark said that the Western Powers had been sufficiently enlightened respecting the inaccuracy of the suppositions they had formed at that time. He defended the Prussian Ambassadors in Paris and London, and intimated that they had been misunderstood. The Polish members then asked what the Government intended to do with the refugees from Russian Poland who had been sent into the interior. Count Eulenberg stated in reply that the intentions of the Government were based on clemency in the majority of cases, especially with reference to those persons who had been drawn into the movement against their will. But, on the other hand, the Government was obliged to fulfil the obligations it had contracted with Russia.

Austria.—The Vienna papers of Tuesday state that at a conference between Count Rechberg, the Duc de Grammont, the French Ambassador, and Lord Bloomfield, the Ambassador for England, it was agreed to address simultaneously an identical note to the Russian Government, recommending the speedy introduction in Poland of seasonable reforms. A subsequent telegram says that as the diplomatic notes of the Western Powers to St. Petersburg are rather of a vague nature, Austria, as a participating Power, prefers intervening in a firmer but friendly manner. Langiewicz, accompanied by two police officers, left Cracow on Thursday night for Vienna. It is said that he will be taken to Gratz, where he will remain on parole.

Russia.—An Imperial ordinance has been issued appointing General Count Berg, in the place of General Sonmorokow, as Adlatus of the Grand Duke Constantine in the chief command of the army of Poland. The same ordinance appoints General Lewschine Chief of the Police of Warsaw.

Poland.—The *Breslauer Zeitung* of Wednesday publishes a correspondence from Warsaw, dated the 31st ult., asserting that the Revolutionary Committee of that city had resolved upon everywhere ordering the insurgents to lay down their arms, and that two insurgent leaders had already disbanded their forces. The *Danziger Zeitung* of Wednesday also publishes a telegram dated Warsaw, March 31, asserting that the Warsaw Revolutionary Committee had ordered the recruiting agents to cease making enlistments, and that a body of 1,500 insurgents, stationed near Muiszew, had been disbanded by order of its chief, it being considered useless to continue the struggle. The *Danziger Zeitung* also asserts that the Emperor of Russia intends granting an autonomy to Poland, but that he will not grant a Polish national army. The *Czas* of Monday last publishes a letter from Archbishop Felinski to the Emperor, in which he maintains that the only means of pacifying Poland is to unite all the Russo-Polish provinces with the existing kingdom into a Polish kingdom under the Russian Crown. Unless this is done, says the Archbishop, submission is impossible, and the country will be devastated. On the 28th ult., General Rzewuski crossed the Bug in order to commence operations in Volhynia. A despatch from Cracow says that the insurgent force commanded by Lelewel has been dispersed, and part of it compelled to seek refuge in Galicia. The *Czas* asserts, however, that Lelewel has repulsed the Russian troops. It is rumoured that a Polish Legion, under the command of Wiezbicki, has marched from Tultscha, in Bulgaria, into Podolia. The bands of insurgents under the command of Mielencki and Kochanowski have had several successful engagements with the Russian troops, and are increasing their exertions. The Russians are concentrating in the palatinate of Lublin, where the insurrection is increasing. Numerous fresh bodies of insurgents have assembled, under the command of Colonels Dowgiello and Czachoowski, on the mountains of Krzyr. The insurgents in the Governments of Plock and Augustowo have received 1000 Minie rifles. A body of 1000 insurgents, which was reorganised in the mountains of Swientykrzysz, has appeared in the vicinity of Kielce. The Russian troops are now marching towards Kielce. The Russians have quitted Michalowice, and are marching again upon Stomniki. Two persons known to be spies have been stabbed to death in one of the streets of Warsaw. A message dated Eydtkuhnen, April 1, states that on that afternoon the railway communication with Kowno was completely interrupted in the vicinity of Maurnoze. A portion of the telegraph wires extending for about an English mile has been destroyed, and the rails have been torn up. The same message announces that a special train has been despatched with military against the insurgents from Wirballen. Trains to Berlin are no longer allowed to pass the frontier.

Italy.—In the sitting of the Chamber of Deputies on Friday the recommendation of the Committee, that the petitions for Poland should be referred to the Government, and expressing a conviction that the Ministry would do all that was possible on behalf of Poland, was adopted by a large majority.

Greece.—The National Assembly on Monday unanimously proclaimed Prince William of Denmark King of Greece, under the name of George the First. The following telegram was received on Wednesday from Athens by the Greek Consul-General:—

"March 31.

"M. Mavrocordato, Minister of Foreign Affairs, to the Consulate-General of Greece, London.—The National Assembly, by a decree agreed to to-day, has unanimously proclaimed Prince William George, second son of Prince Christian of Denmark, constitutional King of the Greeks, under the title of George I., King of the Greeks. His successors will profess the orthodox religion. A committee of three members, chosen by the Ministry, will proceed to Copenhagen to offer him the crown in the name of the Greek nation. A *Te Deum* was celebrated to-day, and was followed by public festivities, illuminations and general rejoicings."

Turkey.—The intended voyage of the Sultan to Egypt has been postponed. Arrangements are making for the payment of the dividends on the Turkish Consolidés in London and Paris. Three Commissioners have been appointed to make a tour of inspection in the provinces. The Servian Government has addressed a most friendly message to the Porte.

Syria.—Accounts from Beyrout state that a Christian village near Latakia has been pillaged, and that the Druses of Hauran have attacked the regular Turkish troops. Conflicts have also taken place at Damascus between the Mussulmans and Christians. A great many of the latter took to flight. The Consuls have demanded energetic action on the part of the Government. Similar conflicts have broken out in Northern Syria, but have been terminated by the intervention of the Governor.

China.—A despatch from Shanghai of Feb. 23, says that the late General Ward's and the Imperial forces have suffered a severe defeat in the storming of Tailsin. The casualties among the united forces amounted to 500. The expedition to Fooshan has failed.

Japan.—Advices received at Shanghai from Japan announce that the British Legation at Jeddo had been destroyed by gunpowder by the Japanese. No fatal accident, however, resulted. The country was unsettled.

Australia.—Dissatisfaction prevails in the Council at Melbourne at the proposal of England to renew the transportation system.

United States.—Richmond papers of the 17th ult. state that St. Helena, 25 miles in the rear of Port Hudson, was attacked on the 9th by the Federals, and that heavy firing was heard there on the 13th ult. The bombardment of Port Hudson commenced at 2 o'clock on the 14th ult. At 12 o'clock a desperate engagement occurred, the Federals attempting to pass the batteries under cover of the darkness. One gunboat passed in a damaged condition. The Federal sloop of war Mississippi was burnt to the water's edge in front of the batteries. Another large vessel was completely riddled, a third badly crippled, and the rest driven back; 36 of the crew of the Mississippi were captured. Admiral Farragut's flag ship went down the river disabled. The land forces took no part in the attack, and the Confederate victory was complete. The Federal expedition from Yazoo Pass reached Greenwood at the junction of the Tallahatchie and Yallabusha rivers on the 14th ult., where its further progress was arrested by fire from a powerful Confederate battery. An engagement ensued, which lasted throughout the day. One of the Federal gunboats was seriously injured, and had four men killed and 14 wounded. By the last account the expedition had retired three miles up the Tallahatchie, so that all previous reports of its arrival at Yazoo, 150 miles further, are entirely unfounded. The Southern journals state that the expedition consists of two formidable gunboats, two rams with cotton defences, three small gunboats, three batteries, 300 cavalry, and 10,000 men. The works on the cut-off, or canal, at Vicksburg have been brought to an unexpected termination. The Confederates have cut the levées at Yazoo Pass and Lake Providence, and the Mississippi has filled the trench with earth and rubbish, thus rendering it useless. The inundations caused by the cutting of these levées cover a great extent of country. It is calculated that in Mississippi a district nearly as large as Scotland has been laid under water, and that in Louisiana a region covering 5000 square miles has been converted into a lake. It is stated that in consequence of the cutting of the levées one considerable corps of General Grant's army before Vicksburg has been compelled to re-embark and retreat up the river, and a report is current that the whole expedition is on the point of abandoning Vicksburg. This, if confirmed, would point directly to a serious movement of General Johnston's whole Confederate force against General Rosencranz in Middle Tennessee, and lend some colour to the fears of a Confederate invasion of Kentucky. The Confederates have erected formidable batteries at Galveston, mounted with guns captured from the Federal steamers Harriet Lane and Westfield. The Federal fleet off Galveston consists of the steam frigate Brooklyn and four gunboats. The fleet approaches to within a mile and a half of the town, where the vessels anchor and occasionally throw shells into the town and forts, but they cannot bring their broadsides to bear, and have to operate exclusively with their rifled pivot guns. The Brooklyn sent a few shells into the town, setting it on fire in three different places, but the fire was soon extinguished, and she was compelled to withdraw, as the forts began to send shot from their 15-inch rifled guns, one of which cut the rigging. The Harriet Lane is up the river some 70 miles, where she is to be iron clad. The Confederates are said to be constructing five gunboats at Selma, on the Alabama river. Two of them are on their way to Mobile to receive their guns, and all are to be ready by the 1st of April. Two are built for rams and three for sea steamers. Deserters from Savannah report that the Confederates have three iron-clad floating batteries at Savannah, two of which are completed, and the third is nearly ready. Large numbers of troops have left Savannah for Charleston, and large camps are organised at Grahamville, Hardeeville, Coosawhatchie, and Pocotaligo to resist any advance in those directions, and to mass the troops so that they can easily be thrown towards Savannah or Charleston, as one or other of those cities is attacked. Rumours were circulating at New York that the bombardment of Charleston commenced on the 17th ult. These rumours are, however, perfectly unreliable. The Mobile papers describe the Charleston defences as impregnable, and say that no floating thing can pass the batteries unharmed. The attack will conclusively test the power of [illegible] against batteries. Some unimportant skirmishing has taken place on the Rappahannock and Blackwater Rivers. Snow has fallen on the Rappahannock, and the weather

is very cold. There are reports of an unsuccessful attack of the Confederates upon a Federal fortification near Newberr. A steamer arrived at Port Royal from Fernandina, Florida, reports that the force of 1000 negroes which ascended St. Mary's River on the 9th ult. has met with a most severe reverse, and probably been captured. This negro force carried with it several thousand muskets to supply all slaves who could be incited to insurrection. If the report of their capture proves true, it is supposed that Colonel Higginson and all the white officers who commanded them have been shot, in accordance with President Jefferson Davis's proclamation. Major-General J. V. Sumner, late of the Federal army, has died at Syracuse, New York. The report that Mr. Chase had received an offer from European capitalists of a loan of 100,000,000 dols. is contradicted. Mr. Chase has not applied for a loan in New York, and has returned to Washington. The peace resolutions which passed the Senate of New Jersey on the 26th ult. have been adopted by the Assembly of that State, by a vote of 38 against 13. They were accompanied by a series of vigorous protests against the unconstitutional policy of the Administration, and by the expression of a belief that the appointment of Federal Commissioners to meet Commissioners from the insurgent States to consider if any plan may be adopted, consistent with the honour and dignity of the National Government, by which the present civil war may be brought to a close, is not inconsistent with the integrity, honour, and dignity of the Federal Government. Mr. Conrad, of the Confederate Congress, and formerly Secretary of War under President Filmore, offered. on the 11th ult., a resolution in that assembly, expressing a desire for peace with all or any of the States of the Federal Union if it could be effected upon terms consistent with the honour and independence of the Confederate States. The resolution was referred to the Committee on Foreign Affairs. A Union Democratic Convention was held at Louisville, Kentucky, on the 18th ult., at which resolutions were adopted to devote all the State resources to crush the rebellion, and to request the Government and State authorities to take steps to defend Kentucky against invasion. It has been found necessary to send a military expedition into one of the counties of Ohio to arrest deserters. It was supposed that there would be organised resistance on the part of the inhabitants, and that bloodshed would ensue. An armed party of inhabitants have succeeded in rescuing several deserters from the military authorities at Rush County, Indiana, but troops were sent from Indianapolis, and they were recaptured. It is stated that the Government will sustain Federal justice in Utah. The arrest of Brigham Young by Judge Kinney is said to have been an arrangement agreed upon between the two to test the constitutionality of the anti-polygamy law, and to create the impression that there is no resistance to judicial process in Utah. President Lincoln has definitively refused to authorize the issue of letters of marque. Much irritation exists at Washington on the subject of the depredations of the Confederate steamers, the Alabama and the Florida, which the Government and the press persist in calling British pirates. Measures of retaliation against British trade are threatened. It was reported from the Havannah that arrangements had been made for the steamers Harriet Lane, Alabama, and Florida, to meet at a designated point, with a view to an attack upon the California steamer from Aspinwall. A steamer, supposed to be a privateer, entered Savannah harbour on the 9th ult. and fired two guns, but left again before the Federal guns on Tybee Island could be brought to bear upon her.

Brazils.—Mr. Christie, the English Minister at Rio Janeiro, has arrived at Lisbon in the Royal Mail steamer Parana, on his way to England.

Mexico.—The rumoured capture of Mexico by the French is not yet confirmed, but is considered by the American papers as not improbable. The dissensions known to exist between Generals Comonfort and Ortega may have resulted in breaking up the Mexican army at that point, or General Forey may have carried out his intention of turning Puebla, and pushing directly for the capital. The latest news received in Paris states that General Forey had summoned a Council of all the Generals and chiefs of the service for the 28th of February, in order to arrange the details of the movement on Puebla.

## Parliament.

### HOUSE OF LORDS.

Friday.—The *Births and Deaths Registration (Ireland) Bill* was read a third time, and passed. The Report of Amendments on the *Post Office Savings Bank Bill* was agreed to. The *Marine Mutiny Bill* was read a second time.—The Lord-Chancellor moved the second reading of the *Augmentation of Benefices Bill*.—The Earl of Shaftesbury cordially supported the Bill.—The Bishop of London said that this was the first time for the last six years that the Government had introduced a Bill to adapt the Church to the wants of the country, and he was glad to see it was of a highly practical character.—The Archbishop of York approved the Bill, but thought the scale laid down by the Lord Chancellor would require revision.—After a few remarks from Lord Cranworth and from the Lord Chancellor in reply, the Bill was read a second time. Their lordships then adjourned for the Easter holidays to the 14th April.

### HOUSE OF COMMONS.

Friday.—*Easter Holidays.*—Lord Palmerston moved that the House at its rising adjourn to the 13th April.—The Chancellor of the Exchequer, in reply to a question from Mr. Gregory, said that he had not entered into any negotiations whatever with Messrs. Kelk & Lucas for the purchase of the building of the *Great Exhibition of* 1862. The Royal Commissioners would have a voice as well as the contractors in the disposal of the building; and he understood unofficially that the finance committee of the Exhibition of 1851 intended to make some proposition to Government for the purchase of the building, based upon terms which the Government could not undertake to recommend to the House or the country. *The Confederate Cruisers.*—Mr. W. E. Forster asked the First Lord of the Treasury whether the attention of her Majesty's Government had been called to the danger to our friendly relations with the United States, resulting from the fitting out in our ports of ships of war for the service of the Confederate States, in contravention of the Foreign Enlistment Act, and of the policy of neutrality adopted by this country. He referred especially to the building of the Florida and the Alabama, and urged that if the law was not strong enough to meet such cases, the Government ought to apply to Parliament for further powers.—The Solicitor-General denied that we had advisedly infringed the principle of neutrality as laid down by the proclamation of the Queen. He cited cases determined by American Courts, and the doctrine laid down by American judges, which took away all ground of international complaint in the matter of the Alabama. No timely or reliable evidence had been laid before the Government which would have enabled them to seize the ship, and he declared emphatically that Great Britain, so far from incurring the hostile criticism of the American nation, had acted throughout this lamentable war with the most scrupulous regard for international law, and the principle of neutrality.—Mr. T. Baring thought it a most unfortunate circumstance that the Alabama had been allowed to put to sea, as it gave the American people an opportunity for questioning the sincerity of our declarations of neutrality. He could see no reason why the Government had delayed so long in issuing the order for the seizure of the Alabama.—Mr. Bright denounced our neutrality as cold and unfriendly, and contended that it was the duty of her Majesty's Government to have exerted their influence to prevent the sailing of those vessels.—Mr. Laird said that all the transactions connected with the Alabama were perfectly open and above-board, that the Government had been afforded every opportunity of inspecting the ship, and that custom-house officers were on board of her when she quitted the dock. But if exception were taken to the building in England of one or two unarmed ships, what would be said of the shipment of vast quantities of arms and munitions of war for the Federal Government. The Custom House returns showed that enormous numbers of rifles, percussion caps, and other implements of war had been shipped to the Federal States by the great houses of Thomas Baring & Co., Brown, Shipley & Co., and others. Repeated applications had been made to his firm to build gunboats and ships-of-war on Federal account on the shortest possible notice. In addition to this, the Federal Government had spies in their pay all over England, and he knew a case in which a friend of his own had been dogged for weeks together by one of those persons. As for himself, he declared that he would rather go down to posterity as the builder of a dozen Alabamas, than as a man who could set class against class, and who could advocate the institutions of foreign countries, which, when tested, proved of no value, and under which liberty was reduced to an absurdity.—Mr. S. Fitzgerald called attention to the recent *Capture of the British Steamer Peterhoff*, on her way to Mexico with a general cargo, by the Federal Admiral Wilkes, whose name was so well known in connection with the outrage on the Trent, and expressed a hope that the Government would take active steps to prevent the repetition of such outrages by officers of the Federal navy.—Mr. Crawford stated that all the facts of the case had been laid before him by the owners of the Peterhoff, and that she contained no single article of cargo that could be considered contraband of war.—Mr. Layard said that the statement of the owners of the vessel had been laid before the law officers of the Crown, and when their opinion had been received, the Government would make such representations to the Federal Government on the subject as might seem to them desirable.—Lord Palmerston regretted the tone adopted by Mr. Forster and Mr. Bright, as he feared the effect would be to encourage irritation against England in America. Whenever any political party in that country got into difficulties, an attempt was made to procure political capital by raising a cry against England. The Americans had no cause of complaint against us, and if they thought they could by any pressure bring about a change in our laws they were very much mistaken. In the case of the Alabama, the American consul had not produced any legal evidence to show that she was an engine of war intended to be used against the Federal States. Mr. Bright's declaration that our neutrality was "cold and unfriendly" was a contradiction in terms, because if our neutrality were warm and friendly it would not be neutrality at all. *Poland.*—Mr. Hennessy asked what had been done relative to Poland, and how far Her Majesty's Government had accepted or refused joint action with France.—Lord Palmerston said the Government had made representations to Russia on behalf of Poland, and were in communication with France for the purpose of joint diplomatic action. They were also in communication with other Governments, parties to the Treaty of Vienna, and they hoped that after Easter those negotiations would be in such a state as to enable them to lay the papers before the House. After some remarks by Lord Fermoy, Sir F. Goldsmid, Mr. Newdegate, Sir H. Verney, and Mr. H. Grenfell, the motion for the adjournment of the House to the 13th of April was agreed to.—The House went into committee on the *Savings Banks Acts*, when the Chancellor of the Exchequer moved a resolution to amend the laws relating to savings-banks, with a view to create a charge upon the Consolidated Fund, in place of the perpetual annuities now standing in the names of the Commissioners; to give powers for converting such perpetual annuities into other annuities, and to provide for the payment out of the Consolidated Fund of any deficiency which may arise from insufficiency of the securities to meet the legal claims of the trustees of such savings banks. After some observations were made by Sir H. Willoughby, Mr. Ayrton, and Mr. Lygon, the resolution was agreed to, and authority given to bring in a Bill.—The report of the *Committee of Supply* was brought up.—Sir G. Lewis obtained leave to bring in a Bill to consolidate and amend the Acts relating to the *Volunteer Force in Great Britain*; and Mr. Bruce obtained leave to bring in a Bill to confirm certain provisional orders under the *Local Government Act* (1858). The other business was disposed of, and the House adjourned to the 13th April for the Easter holidays.

## City Intelligence.

Money Market, Thursday.—British Funds: Yesterday, being good Friday, was observed as a close holiday on the Stock Exchange. The closing prices on Thursday were as follows:—Consols, $92\frac{1}{4}$ to $\frac{3}{8}$ for Money, and $92\frac{3}{8}$ to $\frac{1}{2}$ for the 7th May; Reduced and New Three per Cents., 91 to $\frac{1}{8}$; India Stock, 228 to 230; India Five per Cents., $108\frac{5}{8}$ to $\frac{7}{8}$; Rupee Paper, 106 to 107 and 114 to $\frac{1}{4}$; India Bonds, 12*s.* to 16*s.* pm.; Exchequer Bills, 5*s.* to 2*s.* dis.—Foreign: Austrian, 1859, $81\frac{1}{2}$; Brazilian Four and a Half, $92\frac{3}{4}$; Danish Three per Cents., $84\frac{1}{2}$; Egyptian, 97 to $97\frac{1}{2}$; Greek, 29 to $28\frac{1}{2}$; Mexican, 33; Moorish, $93\frac{1}{2}$ to $\frac{3}{4}$; New Grenada, $14\frac{3}{4}$ to $\frac{1}{2}$; Peruvian, 1862, $87\frac{7}{8}$ to $\frac{1}{2}$; Portuguese, 1862, $47\frac{3}{4}$ to $\frac{7}{8}$; Ditto Scrip, $3\frac{7}{8}$ pm.; Russian Three per Cents., $60\frac{1}{2}$; Ditto 1862, $95\frac{1}{2}$ to $96\frac{1}{4}$; Sardinian, $84\frac{3}{4}$: Spanish, $53\frac{5}{8}$ to $\frac{7}{8}$; Ditto Passive, $28\frac{3}{4}$ to $\frac{7}{8}$; Ditto Certificates, 10; Turkish, old, $90\frac{3}{4}$; Ditto 1858, $68\frac{5}{8}$ to $68\frac{1}{8}$; Ditto 1862, $69\frac{7}{8}$ to 70; Venezuela, $23\frac{1}{2}$; Ditto Six per Cents., $59\frac{1}{2}$ to $\frac{3}{4}$; Austrian Five per Cents., $67\frac{1}{2}$; Italian Five per Cents., $70\frac{3}{4}$ to $\frac{7}{8}$.

## Gazette of the Week.

FRIDAY: *March* 27.—BANKRUPTS.—T. Ashby, Fletching, Sussex, Miller—G. Bartlett, Victoria Grove, Victoria Park—H. Buckingham, Swindon, Wiltshire, Labourer—N. Beesley, Hoxton, Grocer—R. W. Burton, Eccleston Street, South Pimlico, Auctioneer—N. Berry, Metheringham, Lincolnshire, Chemist—M. Brooks, Edenbridge, Kent, Miller—W. P. Bennett, Coleford, Gloucestershire, Labourer—G. Burn, Kingston-upon-Hull, Private Asylum Keeper—W. G. Browning, New Brompton, Kent, Baker—W. W. Bakewell, Loughborough, Leicestershire, Licensed Victualler—R. Cumming, Sebergham, Cumberland, Bone Manure Dealer—W. Cooper, Dudley, Worcestershire, Boot and Shoe Maker—J. Catterson, West Hartlepool, Durham—C. Cater, King's Lynn, Norfolk, Dealer in Cattle—H. H. Chambers, Exeter Street, Chelsea, Grocer—W. Collins, Macclesfield, Cheshire, Surgeon—E. Carney, Liverpool—J. Cross, Bilston, Staffordshire, Butcher—W. Crighton, T. Teggin, and G. Carter, Salford, Lancashire, Machinists—W. Doxey, Wirksworth, Derbyshire—J. Drake, Halifax, Inn-keeper—R. Dunn, Scoriton, Devonshire, Miner—M. Davies, Aberdare, Glamorganshire, Licensed Victualler—E. Driver, New Wortley, Yorkshire, Cloth Manufacturer—R. C. Dickinson, North Audley Street, Oxford Street—J. Doel, Bridgwater, Somersetshire, Hay and Corn Dealer—P. Edwards, Sain Clears, Carmarthenshire, Farmer—M. O. Eccles, Liverpool, Beerhouse Keeper—J. Evans, Christchurch, Southampton, Farmer—W. Fagon, jun. Wenlock Street, City Road, Law Clerk—J. Flood, Robinhood Lane, Poplar, Baker—R. V. French, Moore Place, Kennington Road, Surrey—J. Flowers, Wolverhampton, Tailor—R. Gouldsborough, Great Grimsby, Lincolnshire, Smack Owner—W. W. Garward, New Wellington Street, Roman Road, Holloway, Land Surveyor—J. Graves, jun., Chelsfield, Bromley, Kent, Agricultural Labourer—T. W. Gardner, Birmingham, Commission Agent—S. V. Gwyer, Bristol, Broker—D. F. Goodden, Liverpool, Assistant to a Marine Store Dealer—J. Gorr, Liverpool, Licensed Victualler—J. Hazlehurst, Wolverhampton, Licensed Victualler—J. R. Hill, Barnetby-le-Wold, Lincolnsh., Coal Merchant—E. Hawthorn, Smith Street, Stepney, Journeyman Brazier—J. Hayes, Kingsland Road, Tailor—F. Hall, Hanley, Staffordshire, Licensed Victualler—J. G. Humphreys, Manchester, Tobacconist—W. Hampson, Hindley, Lancashire, Brickmaker—J. Hunter, Sheffield, Brewer's Traveller—J. Harrison, Nottingham, Fishmonger—J. Jarvis, Haddenham, Buckinghamshire, Baker—M. P. Jones, Aston Manor, Warwickshire, Painter—J. S. Jordan, Madley, Herefordshire, Farmer—J. J. Ages, Halifax, Glass Bottle Merchant—J. J. Jackson, St. Mary Street, Whitechapel Road, Beer Retailer—W. H. James, Warren Street, Euston Road, Builder—J. C. Jones, Liverpool, General Broker—R. Stanley Kay, Derby, Brush Manufacturer—S. Kruger, Kendal, Westmoreland, Hair Dresser—E. Knapton, Huntspill, Somersetshire, Wheelwright—W. Knaggs, Whitby, Yorkshire, Master Mariner—T. Lawson, Wheaton Aston, Staffordshire, Inn Keeper—J. Livingston, Birmingham, Provision Dealer—T. E. Lovett, Marlborough Road, Old Kent Road, Merchant—C. Lambert, Newcastle-on-Tyne, Licensed Dealer in Ale—P. Lessch, Newington Crescent, Ball's Pond, Islington, Baker—J. R. Lewis, Harrington Street, Hampstead Road, Out of Business—E. H. E. Morse, Hill Top, Gloucestershire, Small Farmer—H. F. Martin, Bromley Street, Stepney, Tobacconist—R. Morris, Birmingham, Wire Manufacturer—G. W. Mortimer, Manchester—N. Procter, Jun., Headingley, Yorkshire, Stone and Sand Merchant—J. Phillips, St Michael Cwmdu, Brecon, Farmer—R. Pearson, High Street, Notting Hill—J. Pilkington & D Pilkington, Fenchurch Street, City, Ship Brokers—W. H. Preston, Lambeth Walk, Lambeth, Hosier—E. Price, Birmingham, Scrap Iron Dealer—W. Pollard, Sandwich, Kent, Plumber—W. Porter, Brixham, Devonshire, Licensed Victualler—Jarvis Payne, High Street, Southwark, Dealer in Hops—Charles Richens, Highworth, Wiltshire, Licensed Victualler—J. O'Ryan, South Molton Street, Oxford Street, Commission Agent—W. Reading, Hammersmith, Out of Business—J. Robinson, Nottingham, Hay Dealer—R. E. Rawlett, Liverpool, Licensed Master Porter—G. Reynolds, Romford, Essex, Pig Dealer—W. Somerville, Newcastle-upon-Tyne, Cork Cutter—J. Stennett, Saville Place, Mile End Road, Greengrocer—J. Stubbs, Congleton, Cheshire, Painter—W. Sutcliffe and J. Sutcliffe, Todmorden, Yorkshire, Cotton Manufacturers—R. Salmon, New Sleaford, Lincolnshire, Licensed Victualler—R. Smylie, Salford, Lancashire, Grocer—D. D. Smith, Newport Terrace, Sydney Street, Mile End—J. W. Skeath, Moulton, Lincolnshire, Journeyman Carpenter—W. Smith, Stourbridge, Worcestershire, Hosier—J. Stephens, Carmarthen, Grocer—J. H. Sheppard, Birmingham, Tailor—J. Tiernan, Liverpool, Master Mariner—A. Tomlin, Wisbeach St. Mary, Cambridgeshire, Journeyman Miller—S. H. Truebody, Bitton, Gloucestershire, Farmer—J. Vernon, South Moulton, Devonshire, Gardener—J. H. Watson, Norwich, Tailor—J. Ward, Frederick Street, Cornwall Road, Forman to a Contractor—W. J. Waring, First Street, Chelsea, Glass Cutter—W. Williams, Swindon, Wiltshire, Innkeeper—W. Willis, Swindon, Wiltshire, Timber Dealer—J. Willis, Swirle, Newcastle upon-Tyne, Miller—J. West, New Accrington, Lancashire, Plasterer—W. T. White, West Hartlepool, Durham, Grease Maker—J. Whitehead, Sibson, Huntingdonshire, Carter—W. Walker, Halifax, Working Gardener—H. Ward, Blackmore, Essex, Carpenter—J. Yeates, Chippenham, Wiltshire, Tailor.

SCOTCH SEQUESTRATIONS.—N. Campbell, Glasgow, Hotel Keeper—W. Ross, Edinburgh, Flesher—G. Stephen, jun., Old Meldrum, Aberdeen, Wood Merchant—J. R. M'Gibbon, Montrose, Merchant—R. Middleton, Edinburgh, Wire Fence Manufacturer—J. M'Elfrish, Linlithgow, Merchant and Glue Manufacturer—J. Hamilton, Dunfermline, Fifeshire, Brewer—J. Balls, Edinburgh, Hotel Keeper—D. Cairns, Stranraer, Wigton and Kirkcudbrightshire, Mason and Contractor.

TUESDAY: *March* 31.—BANKRUPTS.—T. Atkins, Aldershott, Southampton, Draper—T. Allison, Staindross, Durham, Brick and Tile Maker—J. Bastin, Hanley, Staffordshire, Grocer—J. Bartlett, Forest Row, Dalston, Coal Agent—E. H. Bradett, Little Peatling, Leicestershire, Ale and Porter Dealer—J. Beer, Graves Terrace, Walworth Road, Carver and Gilder—G. Barnett, Birmingham, Provision Dealer—J. Benham, Winchester, Gentleman—W. Benson, Birmingham, Tube Raiser—G. Biddle, Birmingham, Journeyman Brush Maker—J. Carver and E. A. Barber, Wells, Somersetshire, Cabinet Makers—W. Cornex, Winchmore Hill, Edmonton—C. Carr, Barnsley, Yorkshire, Wood Turner—T. Chamberlain, sen., Gloucester Place, Croydon Common, Builder—A. Clements, Cleaton, Cumberland, Butcher—J. Camm, Kemp's Row, Pimlico, Schoolmaster—W. Crockford, Dorchester, Engineer—W. A. Cutting, Ulceby, Lincolnshire, Tinplate Worker and Brazier—T. S. Curtis, Nelson Square, Park Road, Peckham—T. G. Carpenter, Kington, Gloucestershire, Brick and Tile Manufacturer—G. Dennis, Stickney, Lincolnshire, Joiner—J. Day, Luton, Bedfordshire, Grocer—J. Ellis, Gutter Lane, Cheapside, Mantle Manufacturer—R. W. Elliott, River Street, York Road, Plaster of Paris Dealer—J. W. Foord, Brighton, Railway Clerk—G. Faulkner, Penkridge, Staffordshire, Brickmaker—J. Forster, Upper Whitecross St., Butcher—R. Fowler, Melina Place, Westminster Road—T. Flewitt, Birmingham, Journeyman Tool Maker—Peter Gobbi and Pasquale Gobbi, Leeds, Looking Glass and Picture Frame Makers—G. Green, Alfreton, Derbyshire, Currier—W. K. Gresswell, Great Grimsby, Lincolnshire, Innkeeper—T. W. Gardner, Birmingham, Commission Agent—J. Gibbs, Warminster, Wiltshire, Draper—S. Gunn and T. Gunn, Featherstone Street, City Road, Smiths—C. V. Hall, Westbourne Place, Paddington, Riding Master—M. Read and M. Humphreys, Bristol, Berlin Wool and Fancy Dealers—T. Higginson, Barthomley, Cheshire, Shoemaker—J. Halliwell, Wigan, Lancashire, Grocer—A. Hucknall, Loughborough, Leicestershire, Attorney-at-Law—J. Hollingsworth, Wright's Road, Old Ford, Bow, Baker—J. Huff, Stoke-by-Nayland, Staffordsh., Innkeeper—J. Havenhand, Moxborough, Derbysh., Sickle Manufacturer—W. Hill, Oldswinford, Staffordshire, Brickmaker—S. Holliday, Batley, Yorkshire, Coal Proprietor—J. Hirst, Headingley, Yorkshire, Commission Agent—J. E. Ingle, Brigstock, Northamptonshire, Journeyman Feltmonger—R. Jones, Machynlleth, Montgomeryshire, Inn-keeper—T. L. Jones, Macclesfield, Cheshire, Gunmaker—T. Jones, Eglwysilan, Glamorganshire, Carpenter—E. Kimpton, Tabernacle Walk, Finsbury, Saddler—C. Knott, Glossop, Derbyshire, Licensed Victualler—W. Lowden, Newcastle-upon-Tyne, Journeyman Coach Trimmer—J. Moss, Garston, Lancashire, Shoe Maker—J. Morgan, Pontypool, Monmouthshire, Grocer—G. Mott, Emsworth, Hampshire, Licensed Brewer—W. Mainwaring, jun., Monks Coppenhall, Cheshire, Pianoforte and Music Dealer—R. Netting, City Road, Clerk—W. Onions, sen., Sewdley, Gloucestersh., Bay net Maker—R. Pritchard, Hereford, Builder—S. Phillips, Henley St., Battersea Park, Builder—W. Rodwell, Artillery Lane, Bishopsgate St., Plumber—T. Rowley, Barnsley, Yorksh., Bootmaker—J. Redmond, Sun St., Bishopsgate St., Greengrocer—N. F. Skinner, Chipping Norton, Buckinghamsh., Plumber—M. Sullivan, High St., Kensington, Publican—J. Storr, Mortlake, Upholsterer—H. Senior, Briestfield, Yorksh., Innkeeper—J. E. Simester, Old Bailey, Manager to Corn and Flour Dealer—J. Hawarth Sheard, Batley, Yorkshire, Manufacturer—J. Thomas, Llwynefaufethyg, Carmarthenshire, Farmer—J. Tebbutt, Rowell, Northamptonshire, Stonemason—J. Torbam, Nantwich, Cheshire, Grocer—M. Thacker, Charles Street, Commercial Road, Foreman to a Baker—J. Turner, of Dovenby, Cumberland, Blacksmith—J. Thomson, Churton Street, Pimlico, Ham and Beef Shop Keeper—E. E. Terry, Talbot Road, Bayswater, Boarding House Keeper—T. Vaughan, Gray's Inn Road—S. Vanson, Minaker, Kent—R. Wyatt, Campden Street, Kennington, Journeyman Baker—J. Warren, Buriton, Hampshire, Coal Merchant—W. Watson, West Firle, Sussex, Gentleman—B. Walton, Panton Street, Haymarket, Tailor—W. Younge, Heigham, Norwich, Road Contractor—E. A. Yeomans & R. F. Yeomans, Manchester, Provision Dealers.

## Metropolis and its Vicinity.

THE CITY POLICE.—A special Court of Common Council was held on Tuesday to receive from the Lord Mayor a communication that he had received from Sir George Grey, stating that the House of Commons had called for certain returns in regard to the City Police, and suggesting either that the interim appointment of Captain Hodgson, as superintendent to the City Police, should be continued for the present, or that any person elected to the office should hold it subject to any alteration which Parliament might think fit to make. This intimation of the designs of Government to interfere with the City Police was received with a derisive cheer, and was referred, after some discussion, to the police committee. Previous to the receipt of this communication from the Home Office, the committee of the Corporation, which was appointed to inquire into the cause of the confusion in the City on the occasion of the Royal procession on the 7th, had made their report, in which they traced the disorder to the six following causes:—

"1. The enormous increase in the numbers of the populace who strove to obtain and secure positions to view the procession within the City, in consequence of the arrangements for preventing the civic portion of it from passing along the entire route. 2. The death of Mr. Commissioner Harvey, which suddenly and at a moment of great difficulty threw double duty upon Acting Commissioner Captain Hodgson, who had at once, and without previous notice or preparation, to discharge both the administrative and executive functions connected with the employment of the City police upon so important an occasion. 3. The substitution of mounted Artillery for the household troops, which the authorities of the City had been led to expect, the latter being a force far better adapted and far more accustomed to keep an unbroken line through large masses of people than the troops which were actually sent. 4. To the unbounded enthusiasm and loyalty of the people, whose eagerness to witness and to share in the welcome of the Princess was beyond all example. 5. The obstruction caused by the intrusion into the line of route of vans and carts after the time appointed for their exclusion, and especially of several large vans filled with Metropolitan police constables. 6. The want of a complete understanding between the 1st City of London Volunteer Brigade and the police, whereby the only serious obstruction was created, viz.; that opposite the Mansion House."

The report, which was signed by the Lord Mayor and 12 aldermen, made no allusion to the more serious confusion and loss of life on the night of the illuminations.

THE GOVERNMENT AND THE CORPORATION.—A Court of Common Council was held on Thursday to consider the threatened interference of the Government with the privileges of the City. The standing orders having been suspended for the purpose, Mr. Lawley moved the appointment of a special committee to watch over any measure that may be introduced into Parliament affecting the City's rights. An amendment was moved by Deputy Harrison to refer the matters in question to the existing Law and Parliamentary Committee. After a long discussion, in which several members objected to allow the Metropolitan Board of Works to come into the City for the purpose of constructing the new street, the motion was lost on a division by a majority of five, in a court composed of 89 members. The amendment was then carried.

TOTAL LOSS OF H.M.S. ORPHEUS.—Intelligence has been received at Melbourne from New Zealand announcing the total wreck of Her Majesty's ship Orpheus on Manakau Bar. Commodore Burnett and Commander Burton, together with 188 men, officers and crew, were drowned.

LOSS OF THE SHIP INDIA.—A letter from Commander Stroke, of the troop-ship Vulcan, has been received at Lloyd's, communicating the loss of the ship India, which was engaged in carrying between 600 and 700 Mahomedans from Singapore to Jedda, on their way to the shrine of Mecca. The ship went ashore in the Malacca Straits, and but for the opportune appearance of the Vulcan it is probable that the whole of the ship's crew and passengers would have been lost.

THE FINSBURY PARK.—At the weekly meeting of the Metropolitan Board of Works on Friday it was finally determined to proceed with the new park for Finsbury.

BRITISH MUSEUM.—The trustees of the British Museum have unanimously elected the Right Hon. B. Disraeli, M.P., to supply the vacancy occasioned in their number by the death of the Marquis of Lansdowne.

THE PROPOSED RAILWAY VIADUCT ACROSS LUDGATE HILL.—A memorial signed by the inhabitants of Ludgate Hill, St. Paul's, Bridge Street, Farringdon Street, Fleet Street, and the neighbourhood, urging them to take steps to prevent the construction of the proposed viaduct across Ludgate Hill, was presented to the Court of Common Council on Thursday. The memorialists state that by an Act of Parliament passed in 1860, the London, Chatham, and Dover Company were empowered to carry their railway across Ludgate Hill by means of a viaduct 18 feet high; that they contemplate with great apprehension and alarm the erection of the viaduct over so crowded a thoroughfare; that it will be productive of serious injury to trade, of inconvenience, annoyance and danger, and will greatly disfigure that portion of the city; while it will to some extent shut out from public view the cathedral of St. Paul, and effectually prevent the widening of the street at any future time. They also represent that from the already overcrowded state of Ludgate Hill and the rapidity of its slope accidents are now of frequent occurrence; that the completion of the railway will largely increase the traffic east and west; and that the construction of such a viaduct will involve the necessity of erecting a similar unsightly structure over the intended new street from Blackfriars to the Mansion House in connection with the Thames Embankment. They believe that the railway may be carried with ease under Ludgate Hill by means of a tunnel. The powers granted by Act of Parliament to the London, Chatham, and Dover Company for works northward of Earl Street, Blackfriars, expire in August next, and a Bill is now before Parliament to extend the time, and to transfer these powers to a new company, to be called the Ludgate Station and Junction Company. This new company are asking for powers to take more than twice the extent of property contemplated by the old company. They seek to lay waste nearly half of Ludgate Hill, the whole of Bridge Street, and a large portion of Farringdon Street. The memorialists therefore think that an opportunity is thus afforded of making arrangements with the new company to carry out the proposed railway without constructing the obnoxious viaduct. After some discussion, in which the Court generally expressed their determination to oppose the projected viaduct, the petition was referred to the Improvements Committee.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, March 28, were 1,594. The average number in the corresponding week of the ten years 1853-62, corrected for increase of population, was 1,564. The present return is therefore 30 above the average. During the week the births of 1,085 boys and 1,073 girls, in all 2,158 children, were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1234.

## Provincial.

CHATHAM.—A coroner's inquest was held on Thursday in this town on the body of a child about a year old, which was murdered on Wednesday by its father, a private in the Artillery. The evidence proved that the prisoner had complained of being persecuted by his sergeant, and that he had confessed having killed the child for the purpose of being hung. The jury immediately returned a verdict of Wilful Murder against the prisoner, who was committed for trial at the assizes.

MANCHESTER.—At the meeting of the General Committee on Monday, a discussion arose on the expediency of devoting a portion of their funds to the assistance of emigration. Colonel Patten, M.P., said that the funds in hand were not above 9s. a head to maintain the 430,000 persons receiving relief, and he could not consent to give a larger portion to help emigrants than to those who remained at home. Alderman Goadsby severely censured the Mansion House Committee for sending money to Staleybridge without consulting the local authorities. The Rev. Mr. Eager of Staleybridge, defended the Mansion House Committee, and said that the local committees should take measures to remove the dissatisfaction of the poor, which was gaining ground daily. Sir J. Kay Shuttleworth said that these remarks were quite unjustifiable and totally opposed to the truth. The district to which the rev. gentleman belonged was chiefly notable for the agitation of the clergy, and no terms could be made with those whose arguments were calculated more than anything else to stimulate disorderly persons, and were exactly those upon which the recent disorders had been founded, and were now attempted to be justified. Colonel Patten said that for the previous seven months the committee had been receiving 40,000*l.* a week; whereas, lately, they were only getting from 4000*l.* to 6000*l.* per week. The rev. gentleman would do a great service if, instead of telling his congregation that the committee were dealing with a niggardly hand in the distribution of their funds, he would tell them they were doing the best they possibly could for the benefit of all under a full sense of their responsibilities. Mr. John Cheetham regretted to find that there were gentlemen holding the same position as Mr. Eager, who actually came forward to interfere and give their sympathy to those who were creating these disturbances. If the riots had been renewed last week, he should have laid at the door of one of the rev. gentleman's colleagues the responsibility of what might have o curred.

STALEYBRIDGE.—There was some apprehension of a renewed disturbance on Saturday, and at an early hour in the morning a troop of the 14th Hussars took up a position in front of the Town Hall, to be ready for any emergency, but happily their services were not needed. A deputation of workmen at Staleybridge, being one delegate from each of the 13 schools which the workmen attend, waited on the local committee during the day, and intimated their acceptance of the terms originally proposed by them. The fear of a renewal of an outrage may therefore be considered at an end.

## Scotland.

LORD PALMERSTON'S VISIT TO SCOTLAND.—The installation of Lord Palmerston as Lord Rector of the University of Glasgow, took place on Monday afternoon. In consequence of the great demand for tickets of admission, far exceeding the accommodation available in the University Common Hall, where the Rectorial address is usually delivered, it was found necessary to resort to St. John's parish church, which stands on the Eastern margin of the College grounds. The pews and passages were crammed soon after 12 o'clock. The area was filled by students, the galleries by ladies and members of the University Council. In front of the pulpit a platform was erected, covered with scarlet cloth, on which sat the various Professors and a number of distinguished visitors. Shortly after 1 o'clock Lord Palmerston made his appearance on the platform, accompanied by Principal Barclay, the Duke of Argyll, Lord Belhaven, the Lord-Advocate, Sir E. Colebrooke, M.P., Mr. Buchanan, M.P., Mr. Dalglish, M.P., Mr. Crum Ewing, M.P., Mr. Cowper, M.P., and other gentlemen. His lordship, who wore a black silk gown, trimmed with bullion tassels and fringe, was received with deafening shouts of applause, which continued several minutes. After a prayer, and a brief address in Latin by the Principal, Lord Palmerston proceeded to deliver his address as Lord Rector. The subject was Education as applied to the period of College training, and its influence on after life. The following are extracts:—

"Whatever may be the profession which a man enters into, he will perform the duties of that profession better by having general knowledge, and that generality of knowledge will not interfere with the successful study of the particular line which he determines to enter. Don't be discouraged by people who say it is absurd to have a smattering of different things—'a little knowledge is a dangerous thing.' A little knowledge is better than no knowledge at all; learn a little of everything of which you can learn anything. It will be useful to you hereafter; though it may not be in your own line, it will be the foundation upon which you will build up as you go along through life. But bear one thing in mind—be not content, with regard to many things, with mere rudimentary information, but what little you know, know it well. Don't accept a jingle of words for reality of things; go to fundamental principles; know accurately that which you are desirous of knowing, and however little that may be, depend upon it that upon that basis you will more easily be able to build up the future superstructure. Many people are content with words, and don't give themselves the trouble of inquiring into the principles and reality of things. Don't fall into that mistake. After the classics of ancient times, and after the most approved literature of your own country and in your own language, there are other departments of intellect to which naturally you will direct your attention. The philosophy of the human mind, mathematics, the mechanical arts, and history ought to be studied, while poetry and works of imagination, if resorted to occasionally, refresh the mind, and give a fresh tone to the intellect when it is again applied to more serious occupations. But you would fall short of that which I recommend to you if you did not devote also a part of study and a portion of your labour to the contemplation of the works of God. That branch of knowledge has in many respects made wonderful progress of late years, and you have the means, by the result of the studies of others, of acquiring information which it would have taken the labours of years for you yourselves to have acquired. There is this remarkable difference between the present and former ages—in former times there were men of great genius and research who made great progress in the study of the laws and phenomena of nature, but the mass of mankind had little means of profiting by their labours. In these days men of science contrive to give the results of laborious years in a short, compendious, and intelligible manner, so that you are able to profit by the labours of others, and to acquire knowledge of these results which other men have worked out by long and laborious study. Do not neglect to avail yourselves of these means. The first subject of study would naturally be that which is commonly comprised in the single term chemistry—the operations of nature in all those elements in which we live and deal, a knowledge of which is useful to every man in his individual condition, and on the study of which depend the industry, wealth, and prosperity of nations. There is almost no science that has made more wonderful progress of late years than chemistry, and it is well deserving, whatever may be your future career, that you should make yourselves acquainted with the leading principles of that science. It is not to be expected that those who are destined to the church, or the bar, or other such professions, should become skilful as analytical chemists; but they should be acquainted with the general principles by which substances act on each other, and this knowledge will be found useful in every position of life. Now, they concern the peasant in his cottage, the workman in his convenient dwelling, as much as they concern the great manufacturer in the arrangement of his business, because health and life are essentially connected with the practice, and the experience, and the counsel of the chemist. It is only comparatively of late years that men have turned their attention to acquiring scientific knowledge with regard to the crust of the globe on which we live, and certainly Scotland has contributed its full share towards the knowledge and information on that subject which we possess. What can be more useful than to have general information with respect to the manner in which layer upon layer and rock upon rock have at different times been placed upon each other? It tells upon the business of every day. It is only owing to that great knowledge which we have obtained that all your mineral operations have been conducted with the success which has attended them. A general knowledge of the arrangement of the crust of the earth is an essential accomplishment for every gentleman, and is useful in whatever pursuit a man is about to engage. Well, then, rising from the crust of the earth and all these numerous phenomena and arrangements connected with our atmosphere and our ocean, and the various circumstances belonging to the surface of our globe, we naturally turn our thoughts to the position and action of our globe in that system of which our sun is the centre; and that knowledge of astronomy connected, at all events, with the solar system is so easily acquired, and so interesting when known, that no man who has an opportunity of investigating could for a moment neglect those opportunities and remain in ignorance. It is admirable to think of all the varied arrangements upon which day and night and the succession of the seasons depend—how beautifully they have been adapted to the purposes of those who inhabit this globe. A knowledge of these things I trust no man who hears me will fail to acquire, so far as opportunity offers, but there is a wider range with regard to that great and extensive subject. Our solar system, as is well known, forms but a comparatively insignificant part in that great universe of which on a starlight night we see some portion exposed to our view; and the study of the mechanism of the universe is a study which leads the mind to the most exalted thoughts, which expands our considerations more than any other, and which, although it has not arrived at certain results which have been attained in the study of our solar system, yet of that enough is known to excite the wonder

and the admiration of those who are acquainted with it. Let it not be said that these studies divert the mind from the practical precepts of religion; on the contrary, I maintain that they tend to strengthen and confirm that faith which is inculcated by our revealed religion. For when, on the one hand, we contemplate those marvellous arrangements extending over space indefinite and comprising worlds innumerable, with order and system which nothing but the most supreme wisdom could have established; when we contemplate, in the first place, the arrangements for our system; when we consider the multitude of suns and worlds even beyond the range of the telescopic power of man, we are made sensible of the comparative insignificance of everything that belongs to this earth, this speck of creation; and if there is any man who, in the consciousness of genius, in the enjoyment of wealth, in the possession of station, is inspired by feelings of vanity and pride, when he reflects that the world which he treads upon is a mere speck in creation, and that he himself is an immeasurable atom in that speck, these thoughts must tend to lower that pride, to divest him of that vanity, and to teach him veneration and humility in his position. But when he turns his thoughts to the other scale, when he thinks and considers the infinite variety, inconceivable ingenuity, and wisdom with which everything in this earth has been adapted to specific purposes and to the enjoyment of created beings; when he sees that even in those smallest and most minute animals of the creation which are hardly perceptible, and some not perceptible to the naked eye, there is the most admirable adaptation of every detail for the purpose of the enjoyment of that creature, so long as it is to live; when he reflects on the constitution of his own frame, and, more than that, when he reflects upon all the faculties with which his mind has been endowed—when he considers the powers which have been given to man to extend his ken far away from the globe which he inhabits, and to acquire a certain amount of knowledge of things so distant that even, as it is said, millions of years are required to bring to us the light which flows from their centre,—he must be persuaded that those arrangements were not intended in vain. He must be convinced that those powers which have been given to his mind, those moral and intellectual powers with which he has been endowed, have not been given simply for the purpose of a day, and that day is the life of man. He must be convinced that they are designed to fit him for some better and future state, and therefore I say that these great, exalted, and sublime contemplations are calculated to strengthen and encourage that faith of which it is said that, panting for a happier state, it deems death but nature's signal for retreat."

On Monday evening the Corporation of Glasgow entertained Lord Palmerston at dinner in the city hall. In returning thanks for the toast of his health, his lordship said:—

"It has been, no doubt, the great aim and object of those who have been engaged in the conduct of public affairs to maintain the honour and the dignity of the country, but at the same time to preserve it in peace. And that is not so difficult a task as may at first sight appear—for so long as those who are charged with the responsible management of public affairs know that they are watched on the one hand by an intelligent and careful nation who would by interposition prevent them from engaging rashly in unwarrantable enterprises, they know on the other hand that there is a determined spirit in the British nation which will not suffer itself to be wronged—which will not brook insult, which is ever ready to repel aggression, and which, by maintaining within itself the means of adequate defence, will teach other nations of the world that while we refrain from aggression, while we are determined to commit no wilful injury, while we are resolved to infringe no right belonging to others—on the other hand, '*Noli me tangere.*' Let others be careful how they give us cause to resent anything that would give us just reason to deem it provocation; but I am glad to say that there never was a period when this country was upon better terms of friendship with all the other nations of the world. I advert not to those contending parties in America who sue us like rivals who sue a fair damsel each party wanting us to take up their cause, and each feeling some little stinging resentment on account of that neutrality which they lost, and which they both of them in some degree characterise as unfriendliness. But, setting aside these feelings, which create no irritation in our mind, and do not in any degree diminish that friendly feeling which ought to prevail between kindred races, as they and we are—I say, barring that, we may fairly congratulate ourselves that there is no Government, no nation, with whom we have political and commercial intercourse, with whom we are not upon terms of the most satisfactory friendship. And long may that continue. I am persuaded that, whatever political party may be charged with the Government of this country, so long as they pursue that course which is most consistent with the maintenance of peace and the assertion of the rights and dignity of the country, that party will be backed by the hearty support of the nation; and the statesmen—be they whom they may—by whom that course of policy is pursued will, when they come among their fellow-citizens, meet from all political parties the same cordial reception with which I have been honoured by you."

On Tuesday morning at 10 o'clock his lordship left Glasgow for Greenock, amidst the cheers of an excited crowd that lined the streets through which he drove to the Broomielaw, where he embarked in the Wolf steamer, for a trip down the Clyde. He landed at Greenock, where he was splendidly fêted, and presented with an address by the Corporation. On his return to Glasgow in the evening he addressed a crowded meeting, principally of the working classes, who held a *soirée* in his honour in the City Hall, and presented an address representing the feelings of 50,000 of the operatives of that city. His lordship returned thanks in a speech of some length, and concluded by saying that it was not often that it had fallen to the lot of one actively engaged in the administration of affairs to receive that hearty and unanimous testimony that he had received from them that evening of the goodwill and regard of a great number of his fellow-countrymen, who gave him that good will and who felt that regard simply because they were convinced that he was a man who, in discharging the duties that had fallen to his lot, had done to the best of his ability that which was due from him to his country, his Sovereign, and his countrymen. After the conclusion of this entertainment Lord Palmerston attended a ball given in his honour at the Corporation Galleries, where the reception accorded to him by a brilliant assemblage was most enthusiastic. On Wednesday morning his lordship was present at a breakfast given to Admiral Sir James Hope, by the President of the Gaiter Club. After breakfast, Lord Palmerston was elected an honorary member of the club, and, having added his name to the list of members, delivered the following address, which was received with great laughter and cheers:—

"I am very proud and flattered to be associated with such a distinguished body. I am informed, though gaiters have an intimate connection with legs, that no gaiterman is allowed to speak upon his legs. He may speak upon his legs, but not upon his legs. Now, as we in these days never show our legs, inasmuch as trousers would conceal even the gaiter if we wore it, you will excuse me if I am very short in my thanks. I can only assure you that, whether I wear long gaiters or short gaiters, my memory of your kindness will be long, and not short."

His lordship then left Glasgow by railway for Edinburgh, where the freedom of the city was presented to him in Queen Street Hall, the Council Chamber being far too limited in space to accommodate those who desired to be present at the ceremony. In returning thanks his lordship reverted to the three years which he had spent in early youth at Edinburgh University, and was glad to find that the citizens remembered him "for auld lang syne." He then proceeded to the University, where the honorary distinction of LL.D. was conferred upon him in the presence of a large assemblage, by which he was received with repeated acclamations. The degree having been conferred with the usual formalities, an Address from the students was presented to the newly created doctor. In the evening Lord Palmerston was entertained at dinner in the Music Hall by a numerous and influential company of gentlemen, without regard to creed or party. In returning thanks for the toast of his health, his lordship said:—

"Our policy has been a policy of peace, because, with one single interruption, we have, for a great number of years, maintained peace with the whole of Europe. That interruption was the Crimean war; but the nation judged the conduct of its Government, and deemed that that war was justly and necessarily undertaken. No doubt all war is an evil, but it is an evil which sometimes leads to good, and the result of that war, without going into detail, must be admitted to have been politically advantageous to the interests for which it was undertaken. There was one circumstance in that war which distinguished it favourably from other wars of much longer duration in which this nation has been engaged. In former times we, with our troops and officers, our soldiers and sailors, met the troops and officers, the soldiers and sailors of our neighbour on the other side of the Channel in hostile conflict, man opposed to man, bayonet to bayonet, broadside to broadside; but in that Crimean war we marched together like good fellows and friends. The only contest was a contest of emulation as to which of the two should best perform the duties which devolved upon them. We began the war as allies, and we ended it as friends. Then, I say, there was a double triumph. There was the triumph achieved over the enemy against whom we contended, and we gained also a glorious victory over ancient national antipathies and old standing rivalries. I say that our policy has been a policy of peace. Time was when England stood out, like the rock of Dumbarton, alone,—"a single eminence, with black grounds around it;" the only country that possessed the inestimable blessings of a free and representative constitution. Matters are now entirely changed. There is hardly a single country in Europe that has not in some shape or other, with some modification or other, institutions formed after the pattern, or at least upon the principles, of her constitution; and we are proud to say that some of those nations are greatly indebted for the benefits they enjoy to the assistance and countenance which they received from the Government of England. Greece, Belgium, Portugal, and Spain are greatly indebted to the diplomatic and other assistance of England for the free constitutions, the Parliamentary Governments which those countries now so happily enjoy. If it be honourable to a nation to contribute to the happiness of mankind—if glory consists not so much in forcing nations by blood and plunder to submit to a yoke they detest as in diffusing happiness and prosperity—then I say that we, the British nation, need not look with regret upon the efforts and influences which we have used in assisting those nations who are exerting themselves to obtain the blessings of free and Parliamentary institutions. We have recently given our moral influence to the Italians, who are struggling for freedom. There unfortunately still weighs on a part of that beautiful and noble land an incubus in what ought to be the capital of the kingdom. I can never believe that error and wrong can be everlasting. I cannot but believe that truth and justice must in the end prevail, and therefore, much as I lament the shorn position of the Italian kingdom, I cannot but believe that a brighter period is in store for it, and that a time will come when all those who are concerned in regulating its destinies will feel that it is for their advantage, as well as for the advantage of the Italians, that Italy should be in full possession of its capital. There is, gentlemen, another part of Europe which deeply engages the feelings and sympathies of these islands—I need not say that I mean Poland. Would that it rested with the English Government to decide the destiny of that noble people! If wishes, if diplomatic interposition, can have any effect, those wishes and that diplomatic and friendly interposition certainly will not be, and have not been, wanting. But I presume that even the most enthusiastic admirers of that noble Polish nation would hardly, under the circumstances of the times, expect or ask that any forcible intervention should by this country be undertaken. We cannot but hope that the united opinion of all the Powers of Europe may have an influence on the minds of those with whom it rests to determine the fate of Poland, and that benefit will still arise out of the calamities by which that country is for the moment oppressed. I wish I could tell you that we anticipate any very early termination of that most lamentable struggle which is going on among our kindred upon the other side of the Atlantic. We must all deplore that unhappy war. The most unhappy of all wars is a civil war, but any interference on the part of the nations of Europe, so far from extinguishing the flame, would, in all human probability, have only made it burn fiercer and with greater heat. When the passions of men are deeply enlisted in the contest in which they are engaged—when foe is opposed to foe, and on the point of striking his antagonist, any friend who interposes would only fare the worst for his interposition, but would not avert the blow levelled by the one against the other. I think the people of the United Kingdom have judged that their Government has determined rightly in not attempting intervention. A great and most estimable part of our population has been suffering deep distress caused by the cessation of the supply of the great staple of our industry. But if we had attempted by forcible means to bring over that supply which, owing to the contest, has been withheld from us, I am convinced that, instead of diminishing the pressure, we should have increased it, and should very much have increased the evil which we intended to alleviate, and the result would have been that the country would have blamed us for having taken a wrong view, and having adopted a policy ill-suited to the circumstances. I trust still that this calamitous war may soon have an end. I cannot but think, when the passions which excited that war have had their vent—and all passions must have their vent—and when the results of that war shall press more and more heavily upon both parties engaged in it, that without intervention, which they would resent as an affront, their own good sense and their own proper feelings may lead them to peaceful intentions, and that arrangements may be made which will put an end to that dreadful bloodshed and that wide-spread desolation of which the American continent has now for nearly two years been the scene. Gentlemen, I can only assure you that the policy which we, the present Government, pursue is founded upon our belief that we are the faithful exponents of the feelings and sentiments of the English people. I believe, and all indications have confirmed the conviction, that in that judgment we are not mistaken; and I will say this, speaking as I now do to an assembly not composed entirely of men of one political party—I will say in the spirit of an Englishman that I am convinced that if circumstances should lead to a change in those who administer the affairs of the country, and that if the men who now sit opposite to us, and are politically our antagonists, though not personally our enemies, should take the places which we now occupy, they would, both from their personal feeling, but more than all, by the effect and pressure of public opinion in this country, pursue a course much the same as that which we ourselves pursue. I say it not to their disparagement, but to their honour, for I hope and believe that the honour and interest of the country would be safe in their hands. I do not, at the same time, tell you that I look forward with any great or particular impatience to the moment when they will be put to that which, I trust, would not be to them a severe trial."

On Thursday afternoon his lordship paid a visit to Leith, where great preparations had been made for his reception. The Lord Provost escorted him over the works of the harbour, and explained the fresh improvements in contemplation. His lordship afterwards proceeded to the Corn Exchange, where an address was presented to him, to which he made a suitable reply. The company then proceeded to the Town Hall, where refreshments were served, under the presidency of Mr. Miller, M.P. His lordship's health was drunk with every demonstration of respect and enthusiasm, and was acknowledged in an appropriate speech. Lord Palmerston was then conducted to the railway station, and returned to Edinburgh. In the evening he dined with the Lord Advocate. Yesterday he attended Divine service at the English chapel, and proceeded afterwards to the residence of Sir Gibson Craig. To-day his Lordship leaves for London.

## Sporting.

Oxford and Cambridge Boat Race.—This great event in the aquatic register of the year was rowed and won on Saturday morning, in the presence of a vast number of spectators, who, in spite of the earliness of the hour, lined the shore and bridges. Oxford, as all anticipated, won with comparative ease, thus making the score of these victories between the rival Universities equal—10 and 10 for each. Almost at the last hour the arrangements were altered to prevent the annoyance of the steamers which usually follow the boats; the race was rowed down the river instead of upwards, and the time for starting was delayed nearly two hours beyond the time first fixed on. Oxford won the toss for choice of position and took the Middlesex side. In the course of the first 200 yards Oxford took the lead, and never resigned it, and won by about 12 boats lengths, or 22 seconds.

## Law.

Northern Circuit: Liverpool.—*The Ribchester Murder.*—*Duncan M'Phail*, 34, and *Geo. Woods*, 45, two returned convicts, were indicted for the murder of an old woman named Walne, who kept a beer-shop in a lonely part of the road near the village of Ribchester, Blackburn, and who lived entirely by herself. Four or five men were apprehended on the charge, but one of them died, and the other turned Queen's evidence; and his statements were confirmed in material respects by untainted witnesses. After an hour's absence, the jury returned a verdict of *Guilty*, with a recommendation to mercy. Baron Martin sentenced both prisoners to *Death*, stating that they had been both guilty of a wanton and barbarous murder, and though the jury had accompanied their verdict with a recommendation to mercy, he would not interfere beyond communicating it to the proper quarter, nor could he hold forth to them the slightest hope, as he did not think the Secretary of State would act upon the recommendation in their case. *The Manchester Murder.*—*Levi Taylor* was indicted for the murder of his wife, Mary Ann Taylor, on the 31st of January, in Manchester. The prisoner, a boy of 18, had formed a connexion with deceased, who was a handsome woman of bad character, 7 years his senior, and in his infatuation, married her two months before the murder. Up to that time he had borne an excellent character as a steady, industrious youth. He provided her a home, which she twice deserted to return to her old associations. Twice he took her back, in vain. After her third desertion, he found her in a brothel, and seemed disposed to forgive her again. At least, there was no animosity of word or action till the last moment, when, calling her into another room, he drew a knife and cut her throat. The defence was that his mind had been affected by the woman's gross misconduct, and that he was not morally responsible for the crime. But he had previously threatened to kill her, knew the consequences of the act, was provided with the weapon, and made the opportunity of using it. The Judge directed the jury that the crime was "murder or nothing," and the Jury, after consulting for about 10 minutes, returned a verdict of *Guilty*, with a recommendation to mercy. His Lordship passed sentence of *Death* in the usual form, and the prisoner, who had become insensible, was carried below by two officers.

Midland Circuit: Warwick.—*The Birmingham Murder.*—*Henry Carter*, a brass-founder, was indicted for the wilful murder of Alice Hinckley, a young woman to whom he was paying his addresses at Birmingham. Both parties were respectable members of the working class, the murderer being a brassfounder and his victim a manufacturer of jewellery. The prisoner, who is only 20 years of age, was received by deceased's parents as her suitor, but after the expiration of seven or eight months the neighbours noticed a reserve in her manner, which they attributed to some cross in the courtship. On Thursday, 1st December, the prisoner went to see her as usual, and after staying in her company for two hours, stood conversing with her at the top of an entry for a few minutes, during which conversation a person passing down the entry heard him say, "Do you mean it?" to which she replied in the affirmative. As she said "Yes," she was turning to leave him, but immediately a pistol was fired, and the shot passing through her body, brought her to the ground a corpse. The prisoner directly dashed down the entry at the top of his speed and escaped, but returned and was taken into custody near the

scene of the murder the same night. He admitted to the constable that he shot the girl, and his statement was borne out by the discovery on his person of a most deadly weapon—a double barrelled rifled pistol—a small box containing percussion caps, some gunpowder, and a paper parcel containing 15 bullets. The pistol, which he had only bought a day or two before, was capped and loaded in one barrel, with an ordinary charge of powder and a Minié rifle bullet. Other evidence was given, showing the murder not only to have been cowardly and determined, but deliberately premeditated without the slightest cause. It was in fact, as the judge remarked, a most atrocious murder. It was contended by the prisoner's counsel that no evidence of premeditated malice had been given against him. The Jury found him *Guilty* of Wilful Murder, and recommended him to mercy on account of his youth. Mr. Justice Willes passed sentence of *Death*, without the slightest hope of mercy. The prisoner cried out when sentence had been passed, and was carried from the dock. Before descending the steps he turned round to the judge, and thanked him for his kindness.

OXFORD CIRCUIT: HEREFORD.—*The Ullingswick Murder.*—*William Hope*, 29, a returned convict, was charged with the wilful murder of Mary Corbett, at Ullingswick, on the 20th of October. The poor girl had been sent in the evening by her mistress on an errand to a shop where the prisoner was drinking, and he followed her out of the house. She never returned home, and next morning she was found dead, her face covered with mud and blood, and other marks of violence, showing that she had been violated with dreadful cruelty as well as murdered; and the medical evidence went to show that she had been suffocated by throttling. The evidence clearly connected the prisoner with the crime, and the jury at once returned a verdict of *Guilty*. Baron Channell then assumed the black cap, and addressing the prisoner said the case, which had been proved to the satisfaction of the jury and himself, disclosed one of the blackest features in his criminal experience, and his life was the forfeiture. He then sentenced him to *Death* in the usual form, and gave no hope of any mercy being extended to him in this world. The prisoner heard the sentence unmoved, and maintained the utmost composure throughout the trial.

NORFOLK CIRCUIT: BURY ST. EDMUND'S.—*The Halesworth Murder.*—*John Ducker*, aged 63, was charged with the murder of Ebenezer Tye on the 25th of November. The prisoner, who was a labouring man in the village of Halesworth, was suspected of some petty acts of pilfering, and the constable had been set one night to watch him. He was never seen again alive. His body was found next day lying in the ooze and slime of a brook, and the prisoner's clothes were found concealed about his cottage stained with the same kind of mud and slime. The prisoner attempted to shift the crime to a neighbour of his, who he said had borrowed his clothes that night; but there was not the least confirmation of the charge. The jury returned a verdict of *Guilty*, and Chief Justice Erle passed sentence of *Death*, holding out no hope of mercy, and expressing his opinion that the murder was planned with deliberate malice. The prisoner is a very remarkable man in appearance, broad in figure, with a most determined-looking cast of countenance; and, except for a minute, as the verdict was given, he never flinched or seemed moved during the whole trial. About a year and a half ago the murdered policeman was most severely wounded in an affray with two thieves, whom he had been set to watch, and so gallant was his conduct then that he received a reward from the Court. *Attempted Murder at Polstead.*—*Isaac Humphrey* surrendered to his bail, and was charged with feloniously discharging a gun at Isaac Reed, with intent to murder, at Polstead, on the 6th of December, 1861. This case excited very great interest in the district, as much from the respectability of the prisoner, who is a farmer and owner of upwards of 300 acres in the county, as from the peculiar character of the evidence and the length of time that had elapsed between the commission of the offence and the trial. The prisoner was proved to have long had an ill-feeling against the prosecutor, arising out of disputes and lawsuits; and when the prosecutor was fired at and severely wounded on his way home at night, the prisoner was seen by several persons near the spot where the gun was fired. The jury returned a verdict of *Guilty*, and he was sentenced to penal servitude for life.

## Obituary.

VISCOUNT TEMPLETOWN died on Saturday morning at his residence in the Albany, in his 64th year. He was the only son of the first viscount, by the only daughter of the fifth Earl of Sandwich. He was born at Dorking, in 1799, and succeeded his father in 1846. As his lordship was unmarried, the title has descended to his brother, the Hon. George Frederic Upton, M.P. for Antrim, who married in 1850 the eldest daughter of Lieut.-General Sir Alexander Woodford, and who was Lieut.-Colonel of the Coldstream Guards from 1855 to 1858, when he was made Major-General. He distinguished himself at the battle of the Alma and was wounded at Inkerman. For his services in the war he was nominated a C.B. in 1855, and was made a Commander of the Legion of Honour in the following year.

LORD WATERPARK died on the 31st ult., in his 70th year. He was the son of the first baron, and married, in 1837, the youngest daughter of the first Viscount Anson and sister of the Earl of Lichfield. He succeeded his father in 1830, and was a Lord in Waiting to the Queen from 1846 to 1852, and from 1853 to 1858. From 1859 to 1861 he was Lord of the Bedchamber to the Prince Consort. His Lordship represented Lichfield for two years, from 1854 to 1856. He is succeeded by his son, the Hon. Henry Anson, born in 1839.

GENERAL SIR GEORGE LEIGH GOLDIE, K.C.B., Colonel of the 35th Regiment, died at Claremont, Southampton, on the 26th ult., in his 73d year. He entered the army as Cornet in 1803, and served in the Peninsula from 1809 until 1813. He was severely wounded in the Pyrenees in 1813, by a musket ball, which lodged in his lungs, and which was long considered mortal. He received the gold medal for Albuera, and the silver war medal with four clasps for Talavera, Busaco, Vittoria, and the Pyrenees. He became Lieut.-Colonel in 1819, and Colonel in 1837, and held an important command in the disputed territory in Canada in 1838 and 1839, while Lieut.-Colonel of the 11th Regiment. He became Major-General in 1846, and was Colonel of the 77th Regiment from 1854 to 1861, when he was transferred to the 35th. He became full General in 1862.

VICE-ADMIRAL G. W. C. COURTENAY died on the 31st ult., at his residence in the Albany, aged 67. He entered the navy in 1805, and saw much active service under Earl St. Vincent and Sir William Parker. He assisted at the capture, in 1806, after a long running fight, of the French 80-gun ship the Marengo, and the famed Belle Poule frigate. After obtaining his lieutenancy he commanded the boats of the Cyrene, at the destruction of some slave factories on the African coast. Being promoted in 1823, he became for some months senior officer on the African station, during the Ashantee war. He afterwards captured two Brazilian slavers, with 728 slaves on board. He was made post captain in 1828, and became Rear Admiral in 1854, and Vice Admiral in 1861.

BIRTHS.—On the 28th ult, at 116, Piccadilly, the Countess of LINCOLN of a daughter—30th ult, at Adisham Rectory, the Lady VICTORIA VILLIERS, of a son—29th ult, at 13, Belgrave Square, the Lady ISABELLA STEWART, of a son—26th ult, at East Hill, Athlone, the Hon. Mrs. HANDCOCK, of a son—26th ult, at Oxford, Mrs. LIDDELL, wife of the Dean of Christchurch, of a son—26th ult, at Harrow-on-the-Hill, the wife of the Rev. H. MONTAGU BUTLER, Head Master of Harrow School, of a son, stillborn—28th ult, at Hopton Congeford Parsonage, Mrs. GILBERT VYVYAN HEATHCOTE, of a daughter—30th ult, at Buryfields House, Gloucestershire, the wife of CECIL CHARLES VAN NOTTEN POLE, Esq., of a son and heir.

MARRIAGES.—On the 24th ult, at Trinity Church, Chelsea, FREDERICK A. BOYCE, Esq., Captain R.N., to CHARLOTTE, daughter of the late Sir CHARLES DES VŒUX, Bart.—19th ult, at Hawkshead, E. JUXON WHITTAKER, Esq., to FRANCES MARIA CAROLINE, daughter of Sir WILLIAM HENRY FEILDEN, Bart.—28th ult, at St. John's Church, Margate, WALTER CRAMP HUDSON, Esq., of Clapham, to MARIA, fourth daughter of LUKYN YEATS, Esq., and granddaughter of the late Captain John Yeats, formerly of Skelsmergh Hall, Kendal, Westmoreland—30th ult, at Windsor Terrace, Kingstown, SARAH MARGARET LODISA, wife of Captain A. M. ROBERTSON, of Inshes, Inverness-shire, and of the 4th Dragoon Guards; and eldest daughter of the late Colonel James M'Alpine, of Windsor, county Mayo, and 108, Eaton Square, aged 22.

DEATHS.—On the 25th ult, at Great Sarratt Hall, near Rickmansworth, the Lady FRANCES WADE, daughter of the sixth Marquis of Lothian—28th ult, at Addington Place, near Maidstone, the Hon. Mrs. WINGFIELD STRATFORD, relict of the Hon. John Wingfield Stratford, son of the third Viscount Powerscourt, aged 80—24th ult, at 8, Queen's Gate Gardens, South Kensington, the Hon. LIONEL FREDERICK ARCHIBALD FITZCLARENCE, second son of the Earl of Munster, aged five years and eight months—26th ult, PHILIP VINCENT JERVIS, Esq., youngest son of the late Right Hon. Sir John Jervis, Lord Chief Justice of the Common Pleas, of Fairhill, Tunbridge, aged 20—28th ult, in Old Burlington Street, Sir CHARLES ALDIS, aged 87—25th ult, at his house, Worthing, Colonel ROBERT CLARKE WALLACE, K.H., late of the King's Dragoon Guards, aged 73—25th ult, at Lee Grove, Blackheath, FRANCES JANE, widow of Colonel DAWSON, C.B., R.E., aged 59—29th ult, at Cheltenham, ANNA MARIA, widow of Colonel WALSHAM, of Knill Court, Hereford, aged 82—30th ult, at Rampside, Lancashire, CHARLES HOLLAND BADDELEY, Esq., Captain H.M.I.A., of Wigston Hall, Leicestershire, aged 72—29th ult, at Knowesthorpe House, Leeds, WM. MILTHORP MAUDE, Esq., a magistrate and deputy-lieutenant for the West Riding, Yorkshire, aged 85—22d ult, at Sandwich, Kent, GEORGE A. HILL, Esq., LL.D., a magistrate and an alderman of the borough, aged 48—25th ult, at Cheltenham, JOHN HERCY PARMENTER, Esq., only son of the late John Parmenter, Esq., of Castle Hedingham, Essex, aged 76—26th ult, at Haddington, N.B., KATHERINE, eldest daughter of the late THOMAS KER, Esq., of The Byres, Haddingtonshire, and Morville Hall, Salop—21st ult, at Water-Stratford Rectory, near Buckingham, ANNE MARGARET, wife of the Rev. Dr. BOSWORTH, Professor of Anglo-Saxon in Oxford—27th ult, at 29, Sion Hill, Clifton, ELINOR BASSETT, eldest daughter of the late Rev. Miles Bassett, formerly vicar of Swansea, aged 82—26th ult, the Rev. WILLIAM GRAY, M.A., canon of Ripon Cathedral, and vicar of Brafferton, Yorkshire, aged 77—22d ult, at Middleham, Sussex, the Rev. JOHN CONSTABLE, vicar of Ringmer, aged 83.

## Markets.

### COVENT GARDEN, April 4.

Supplies, owing to the fine weather with which we have lately been favoured, continue abundant. Importations of foreign goods are also well kept up. Apples and Pears are now scarce, and good samples of them fetch high prices. Oranges also realise fair prices. Cucumbers are more plentiful. Pine Apples and Grapes are still dear. Potato sales have not altered since last report. Cornish Broccoli is still coming in by the crateful. Cut flowers chiefly consist of Orchids, Pelargoniums, Cinerarias, Azaleas, Violets, Mignonette, spring bulbs, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 7s to 10s | Oranges, per box, 24s to 35s |
| Grapes, per lb., 15s to 20s | — per 100, 4s to 8s |
| Strawberries, per oz., 3s | Nuts, small, p. bush, 14s to 18s |
| Pears, per doz., 4s to 10s | Chesnuts, do., 14s to 20s |
| Apples, per doz., 9d to 1s 6d | Almonds, do., 18s |
| — per ½ sieve, 3s to 6s | Walnuts, do., 10s to 16s |
| Lemons, per 100, 5s to 9s | Kent Cobs, p. 100 lbs., 150s |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Asparagus, per 100, 9s to 12s |
| Potatoes, York Regents, p. ton, 100s to 110s | Seakale, p. punnet, 1s 3d to 2s |
| „ Flukes, do., 120s to 140s | Shallots, per lb., 6d to 8d |
| „ Rocks, do., 60s to 80s | Rhubarb, p. bundle, 6d to 9d |
| „ Cups, do., 75s. to 85s | Garlic, per lb., 6d to 8d |
| Turnips, p. bunch, 3d to 4d | Lettuces, each, 1d to 2d |
| Carrots, do., 3d to 6d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bundle, 1s 6d to 4s |
| Cucumbers, each, 2s to 3s 6d | Salsafy, per bundle, 1s 6d to 2s |
| Beet, per doz., 1s 6d | Scorzonera, p. bundle, 1s 3d to 2s |
| Celery, p. bundle, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 3d |
| French Beans per 100, 2s to 3s | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch 2d to 4d |

### NEWGATE.—April 2.

Best Fresh Butter .. .. 15s. per dozen lbs.
Second do. do. .. .. 12s. „
Pork, 4s. 0d. to 4s. 8d. per 8 lbs.

### HAY.—Per Load of 36 Trusses.

SMITHFIELD, THURSDAY, April 2.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 72s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | 75 | 80 | New Clover .. .. | — | — |
| Inferior do. .. | 40 | 60 | Do. second cut .. | 80 | 105 |
| New do. .. .. .. | — | — | Straw .. .. .. | 30 | 36 |
| Rowen .. .. .. | 40 | 60 | | | |

HARVEY & EASTON.

WHITECHAPEL, THURSDAY, April 2.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 78s to | 84s | Prime Clover .. | 110s to | 116s |
| Inferior do. .. .. | 60 | 70 | Inferior do. .. .. | 90 | 105 |
| Prime New Hay .. | — | — | Prime 2d cut .. | 95 | 105 |
| Inferior .. .. | — | — | Inferior do. .. .. | — | — |
| Straw .. .. .. | 32 | 36 | New 2d cut .. | — | — |

### BRITISH WOOLS.—LONDON, April 4.

There has been a continuation of the demand for first-class Southdown fleeces and matchings, and the quantity left on hand is very small. In skin wool very little business has been transacted.

### COAL MARKET.—April 1.

Byass's Bebside West Hartley, 14s. 9d.; Wylam, 15s. 6d.; North Pelton Gas, 13s. 3d.; Tanfield Moor Butes, 12s.; Walls End Haswell, 16s. 6d.; Walls End Russels Hetton, 15s; Walls End Hetton, 16s. 6d.; Walls End Stewarts, 16s.; Walls End Cassop, 15s. 6d.; Walls End Hartlepool, 16s.; Walls End Heugh Hall, 14s. 6d.; Walls End Kelloe, 15s. 6d.; Walls End South Hartlepool, 14s. 9d.; Walls End Trimdon Thornley, 13s. 6d.; Carway and Duffryn Malting, 19s. 6d.—91 ships at market.

### METROPOLITAN CATTLE MARKET.

MONDAY, March 30.

We have a few more Beasts than on Monday last, and trade is not so brisk, but choice qualities are not much lower. The supply of Sheep has considerably increased, and the demand is smaller. A large number remain unsold, notwithstanding prices are lower for all descriptions. Choice Lambs are in demand, and still realise 1s. per lb. Calves are lower. From Germany and Holland there are 400 Beasts, 960 Sheep, and 138 Calves; from Spain, 156 Beasts; from Scotland, 600; from Ireland, 80; from Norfolk and Suffolk, 2780; and 50 from Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 4 10 | Best Long-wools | 5 2 to 5 6 |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn .. | 4 4 — 4 8 |
| 2d quality Beasts | 2 10 — 3 8 | Ewes & 2d quality | 4 6 — 4 10 |
| Best Downs and Half-breds .. | 5 6 — 5 8 | Do. Shorn .. | 3 10 — 4 2 |
| Do. Shorn .. | 4 8 — 5 0 | Lambs .. .. | .. — .. |
| | | Calves .. .. | 5 0 — 5 8 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 4390; Sheep & Lambs, 24,070; Calves, 147; Pigs, 490.

THURSDAY, April 2.

We are but moderately supplied with Beasts. Trade is more cheerful, and Monday's quotations are well supported. The number of Sheep is large, but consisting principally of those turned out on Monday. Trade is still very bad, and they cannot be all sold to-day. Lamb is the article chiefly in demand, this being considered the commencement of the Lamb season. The number is smaller than on previous corresponding days. Trade is brisk at full prices. Calves are selling about the same as on Monday. Our foreign supply consists of 85 Beasts, 1350 Sheep, and 206 Calves. There are about 500 Lambs from the Isle of Wight. Milch Cows, 105.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. . | 4 8 to 4 10 | Best Long-wools. | 5 2 to 5 6 |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn .. | 4 4 — 4 8 |
| 2d quality Beasts | 3 0 — 3 10 | Ewes & 2d quality | 4 6 — 4 10 |
| Best Downs and Half breds .. | 5 6 — 5 8 | Do. Shorn .. | 3 10 — 4 2 |
| Do. Shorn .. | 4 8 — 5 0 | Lambs .. .. | 7 4 — 8 0 |
| | | Calves . .. | 4 8 — 5 8 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 825; Sheep & Lambs, 9050; Calves, 330; Pigs, 150.

### MARK LANE.—MONDAY, March 30.

There was a slightly increased supply of Wheat from Essex and Kent to this morning's market, which could only be disposed of at 1s per qr. below the prices of this day se'nnight. The attendance was moderate, and foreign Wheat met with a limited inquiry; granaried parcels were held firmly for last week's quotations, but where it was necessary to clear vessels, a decline of 1s. per qr. was submitted to. The malting season being nearly at an end, Barley was from 1s. to 2s. per qr. cheaper. Beans and Peas barely supported late prices. Oats met with a limited demand, and where vessels were on demurrage, a decline of 6d. per qr. had to be accepted.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 46—56 | Red .... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — — Talavera ........ | 48—60 | | |
| — Norfolk ........ | — | Red .... | — |
| — Foreign ........ | 34—64 | | |
| BARLEY, grind. & dist., 28s to 30s..Chev. | 34—38 | Malting . | 31—34 |
| — Foreign..grinding and distilling | 24—28 | Malting . | 31—33 |
| OATS, Essex and Suffolk ........ | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .. | 21—23 |
| — Irish ........Potato | — | Feed .. | — |
| — Foreign........Poland and Brew | 20—22 | Feed .. | 17—22 |
| RYE ........ | 35—37 | Foreign . | — |
| RYE-MEAL, foreign........ | — | | |
| BEANS, Mazagan....30s to 31s....Tick | 31—32 | Harrow . | 31—32 |
| — Pigeon ......34s —38s..Winds. | — | Longpod | — |
| — Foreign ........Small | 40—46 | Egyptian | 32—34 |
| PEAS, white, Essex and Kent..Boilers | 35—37 | Suffolk . | 37—40 |
| — Maple ....42s to 48s ...... Grey | 36—37 | Foreign . | 30—38 |
| MAIZE........White | — | Yellow .. | — |
| FLOUR, best marks delivered..per sack | 42—47 | | |
| — 2d do ........ditto | 32—40 | Country | 32—40 |
| — Foreign ........per barrel | 23—30 | Per sack | 34—48 |

WEDNESDAY, April 1.

The quantity of English Wheat received fresh up to our market to-day was very limited, but there were several of Monday's unsold samples on the stands. The imports of foreign produce being on a full average scale, and the accounts from most parts of the United Kingdom, in reference to the appearance of the winter Wheats, favourable, all kinds of Wheat of home produce moved off heavily, and in some instances sales were effected at 1s. per qr. beneath last week's currency. The transactions in foreign Wheat were much restricted, and inferior qualities were lower to sell. The show of samples was seasonably large. The few samples of English Barley on the stands moved off heavily, and barely late rates. Foreign parcels were very dull. No quotable change took place in the value of malt, but the sale for that article was very inactive. The Oat trade was in a sluggish state. Prices, however, ruled about stationary. Beans sold slowly, and late rates were with difficulty supported. In Peas very little was passing, at about previous rates. Foreign Flour was very dull, at the late decline. Most agricultural seeds were heavy, and rather drooping in price. Bombay Linseed sold at 69s., and Calcutta 61s. 6d. to 66s. per qr.

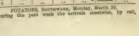
ARRIVALS FROM March 30 to APRIL 1.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 470 qrs. | 20 qrs. | — qrs. | 410 sks. |
| Irish .... | — | — | 10 „ | — „ |
| Foreign .. | 5350 „ | 11,420 „ | 7010 „ | — „ 7560 brls. |

LIVERPOOL, March 31.—We have had a very good attendance of millers and dealers at this morning's market. Wheat in fair consumptive demand, and prices of this day se'nnight fully maintained, some purchases being made to hold over. Indian Corn in better demand, and firmly held at quotations. Oats and Oatmeal more inquired for. Peas and Barley quiet. Beans dull. Market closes with a decidedly better feeling.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Feb. 21.. | 46s 6d | 36s 5d | 21s 8d | 31s 6d | 36s 3d | 37s 2d |
| — 28.. | 46 7 | 36 5 | 21 9 | 33 4 | 36 4 | 37 8 |
| March 7.. | 46 2 | 36 10 | 21 11 | 33 1 | 36 2 | 37 8 |
| — 14.. | 45 3 | 36 7 | 21 4 | 34 5 | 35 0 | 35 11 |
| — 21.. | 45 0 | 36 9 | 21 6 | 35 11 | 35 7 | 34 6 |
| — 28. | 45 4 | 36 5 | 21 2 | 32 4 | 35 4 | 36 5 |
| Agg. Aver. | 45 9 | 36 7 | 21 7 | 33 5 | 35 11 | 33 6 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




### POTATOES, SOUTHWARK, Monday, March 30.

During the past week the arrivals coastwise, by rail,

and from abroad have been moderate, but trade still continues very dull, and most descriptions hang on hand. The following are this day's quotations: — Yorkshire Flukes, per ton, 100s. to 130s.; ditto Regents, 100s. to 110s.; do. Seedlings, 80s. to 95s.; do. Rocks, 80s. to 85s.; Kent and Essex Regents, 110s to 120s.; Perth, Forfar, and Fife ditto., 70s. to 100s.; ditto Rocks, 65s. to 80s.; ditto Reds, 60s. to 65s.; French Whites, 45s. to 50s.; Belgian do., 40s. to 50s.

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SEA.—WANTED, MIDSHIPMEN and APPRENTICES for first-class Ships proceeding to India, the Colonies, and elsewhere. Premiums moderate. THIRD OFFICERS wanted.—Apply to Walker & Co., 93, Great Tower Street, City.

WANTED, a FOREMAN and PROPAGATOR.—Must thoroughly understand the Propagation and Growing of Hard and Soft-wooded Plants.—Apply, stating age and salary required, to Geo. S. Dods, Epsom Nursery, Surrey.

WANTED, a FOREMAN and PROPAGATOR.—Must thoroughly understand the Propagation and Growing of Indoor Plants in a small London Nursery.—Apply, by letter only, stating age, ability, and salary desired, to S. Glendinning & Sons, Chiswick Nursery, London, W.

WANTED, as GARDENER, a strong, active, middle-aged man, married, without incumbrance, in a single-handed place, where a small collection of Stove and Greenhouse Plants is grown, and where the usual routine of Flower and Kitchen is carried out. A boy helps often. There is no cottage on the place. Wages 52*l.* per annum. The strictest inquiry will be made as to character and practical ability.—T. Ingle, Esq., Emsworth, Hants.

WANTED, a thoroughly industrious, steady, and persevering Man as PROPAGATOR in a small Nursery in one of the Northern Counties. He must have a complete knowledge of the Growth and Propagation of Roses, Conifers, Stove, Greenhouse, and Soft-wooded Plants, and one with a knowledge of general Out-door Nursery Work will be preferred. None need apply who cannot produce the most satisfactory references both as to character and ability. Wages 25s. per week.—Apply in the first instance by letter to N. P., Messrs. Jacob Wrench & Sons, London Bridge, London, E.C.

### To Jobbing Men.

WANTED, ONE or TWO HANDS used to JOBBING, and good MOWERS.—Inquire of Wood & Sons, 172, Old Kent Road, S.E.

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MR. JAMES VEITCH, Jun., is in want of a thoroughly competent GENERAL PACKER, but more especially of Baskets and Boxes. Liberal wages will be given, in proportion to the man's ability and energy.—Royal Exotic Nursery, King's Road, Chelsea.

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WANTED, as COWMAN, a married man, without incumbrance, who thoroughly understands the Management of Cows, Pigs, and Poultry, and one who can dress a Sheep and Porker will be preferred. He will also be required to make himself useful on a gentleman's place. He will have part of a cottage on the premises, with fuel; and adequate wages will be given to a deserving person.—Apply by letter, with all particulars, to A. R., care of Mr. Crawford, Nurseryman, High Beech, near Loughton, Essex.

## WANT PLACES.—Letters to be Post Paid.

HEAD and UNDER GARDENERS.—Hugh Low & Co. have now in their Nursery several Men of excellent abilities and good characters, who are looking for situations in the above-named capacities. Gentlemen in want of Gardeners can have full particulars on application.—Clapton Nursery, London, N.E.

GARDENER (Head) or FOREMAN in a large place where several men are kept.—Age 32; has had 15 years good experience in all branches of his profession, is a first-rate Plantsman, and has been 7 years Foreman in the largest places in England. No objection to Ireland. Most excellent character from his last place.—E. C., Osborn's Nursery, Fulham, S.W.

### To Noblemen and Others.

GARDENER (Head).—Age 36, married; understands Forcing Pines, Vines, Peaches, Cucumbers, Melons, &c.; Stove and Greenhouse Plants, Flower and Kitchen Gardening; also the Management of Meadow and Arable Land if required.—A. C., Tanners End, Edmonton.

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GARDENER (Head).—Age 42, married; is practically acquainted with Horticulture in all its branches; is a good Plantsman and Fruit Grower, understands Arable and Pasture Land if required. Can be highly recommended by present and previous employers.—S. M., Mr. Patching's, News agent, Putney, S.W.

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GARDENER (Head).—Age 28, married, no incumbrance; thoroughly understands his profession in all its branches. Wife an experienced Laundress. Four years' good character from last situation.—A. Z., 20, St. John's Road, Reading.

GARDENER (Head).—Age 31, married; understands his profession thoroughly in all its branches. Has lived in first-class situations. Can be highly recommended.—Mr. McLean, 8, Casino Place, Great Norwood Street, Cheltenham.

GARDENER (Head).—Age 30, married, one child; understands his profession in all its branches, the superintendence of Land and Cattle. Single-handed place not objected to. Five years' unexceptionable character.—J. C., 3, Prospect Buildings, North Hill, Highgate.

GARDENER (Head).—Age 39, married; has had extensive practice in all kinds of Forcing, the Management of Stove and Greenhouse Plants, and Kitchen, Fruit and Flower Gardening. Unexceptionable character.—W. S. D., Upper Tooting, Surrey, S.

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GARDENER (Head, or Single-handed).—Age 28, single.—G. L., Mr. Wings, The Mount, Upper Norwood, Surrey, S.

GARDENER (Head, or Single-handed).—Age 23, single; has a thorough practical knowledge of his profession. Can be highly recommended. Five years good character.—S. M., Post Office, Romford, Essex, E.

GARDENER.—Age 30, married, no incumbrance; thoroughly understands his profession. Wife is a thorough Cook. The highest references.—H. R., Weller's Printing Office, Red Hill.

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GARDENER, or GARDENER and BAILIFF.—Age 38, married, four children; thoroughly understands the Management of Pines, Grapes, Peaches, Orchard Houses, Stove and Greenhouse Plants, Kitchen and Flower Garden, Land and Management of Stock. Wife can Manage the Dairy. Eight years' good character from the gentleman he has just left.—W. B., Mr. Arthur Henderson, Pine-apple Place, Edgeware Road, London, W.

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TRAVELLER and SALESMAN, or SHOPMAN.—Highly satisfactory references as to ability and integrity. Could commence immediately or await the Midsummer journey.—X. X., *Gardeners' Chronicle* Office, W.C.

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TRAVELLER or SALESMAN.—A person of great experience in both capacities, long on the road, and having a first-class connection, will be disengaged 1st of May. The highest references.—H. M., *Gardeners' Chronicle* Office, W.C.

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FOREMAN and PROPAGATOR.—Age 23; has a thorough knowledge of the Propagation and Growing of Hard and Soft-wooded Plants, Conifers, &c; expert Graftsman. First-class references.—Y. Z., Post Office, Beverley.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, APRIL* 11, 1863.

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It will burn in Churches from Saturday till Sunday evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of Warming a large Apartment for 24 hours, at a cost of 3*d.*; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

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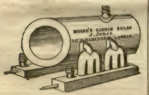


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The PATENT IN-DOOR PLANT CASE is one of the most useful of the Gardening novelties of the day. It is a handsome ornament for the Drawing Room or Sitting Room, and at all times forms a fresh, pleasant, and interesting object to the mind and eye. It is always under command, and will preserve many of the most tender Exotic Plants through the severest winter with comparatively little of the trouble and annoyance attending the use of Lamps, Gas, and Heating appliances of any other kind.

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The Cases are highly approved and recommended by Professor Lindley, and by Messrs. Veitch, of The Royal Exotic Nursery, King's Road, Chelsea.

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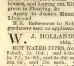


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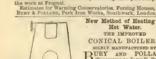

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METCALFE, BINGLEY, and CO.'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. Metcalfe's celebrated Alkaline Tooth Powder, 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each. 130 B, and 131, Oxford Street, W.

WHITE and SOUND TEETH are indispensable to personal attraction, and to health and longevity, by the proper mastication of food. ROWLANDS' ODONTO, or Pearl Dentifrice, preserves and imparts a pearl-like whiteness to the Teeth, eradicates Tartar and spots of incipient decay, strengthens the Gums, and gives a pleasing fragrance to the Breath. Price 2s. 9d. per box.

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ANTHYLLIS VULNERARIA, or LADIES' FINGERS; a newly-introduced Forage Plant. Excellent food for Sheep, of which they are very fond. Very productive on Light Sandy and Chalky Soils; the plant covers the ground like a thick mat—its stems run up from a foot to 18 inches high. On sandy and chalk flock farms it is invaluable, growing where other seeds fail. It is very healthy food, on which sheep never scour, let the weather be ever so wet. It is an exceedingly good change for Clover and Sainfoin, producing as much or more food. Very kind for the Wheat plant. It is perennial. On referring to Sowerby's "Botany," he says the plant is highly worthy of cultivation as a food for cattle, and productive of milk. The plant was first brought into cultivation in 1858, by H. Stebbing, the present Grower.

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TO BE HELD AT

THE GARDEN, SOUTH KENSINGTON, W.

## EXHIBITIONS, PROMENADES, BALLOTS FOR PLANTS, SEEDS,

AND

## MEETINGS OF COUNCIL AND FLORAL AND FRUIT COMMITTEE MEETINGS.

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| WEDNESDAY, APRIL 15 .. .. | AZALEA AND ROSE SHOW, at 1. Band at 2.<br>Floral Committee, at 10.<br>Fruit Committee, at 10. |
| FRIDAY, APRIL 24 .. | Council, at 11.<br>Meeting for Election of Fellows, and Ballot for Plants, at 2. |
| TUESDAY, MAY 5 .. | OPENING OF EXHIBITION OF SCULPTURE, at 1.<br>Floral Committee, at 12.<br>Fruit Committee, at 12. |
| SATURDAY, MAY 16 .. .. | Promenade. Band at 4. |
| WEDNESDAY, MAY 20 .. .. | Promenade. Band at 4. |
| SATURDAY, MAY 23 .. .. | Promenade. Band at 4. |
| WEDNESDAY, MAY 27 .. .. | FIRST GREAT EXHIBITION, at 1. Bands at 2.<br>Floral Sub-Committee, at 10.<br>Fruit Sub-Committee, at 10. |
| FRIDAY, MAY 29 .. .. | Council, at 11.<br>Meeting for Election of Fellows, Ballot for Plants, &c., at 2. |
| SATURDAY, MAY 30 .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 3 .. | Promenade. Band at 4. |
| FRIDAY, JUNE 5 | UNCOVERING OF MEMORIAL OF EXHIBITION OF 1851. |
| SATURDAY, JUNE 6 .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 10 .. | Promenade. Band at 4. |
| SATURDAY, JUNE 13 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 17 .. .. | SECOND GREAT EXHIBITION, at 1. Bands at 2.<br>Floral Sub-Committee, at 10.<br>Fruit Sub-Committee, at 10. |
| SATURDAY, JUNE 20 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JUNE 24 .. .. | Promenade. Band at 4. |
| FRIDAY, JUNE 26 .. .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| SATURDAY, JUNE 27 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 1 .. .. | THIRD GREAT EXHIBITION—ROSES, NEW PLANTS, &c., at 1. Bands at 2.<br>Floral Sub-Committee, at 10.<br>Fruit Sub-Committee, at 10. |
| SATURDAY, JULY 4 .. .. | Promenade. Band at 4. |
| TUESDAY, JULY 7 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| WEDNESDAY, JULY 8 .. .. | Promenade. Band at 4. |
| SATURDAY, JULY 11 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 15 .. .. | Promenade. Band at 4. |
| SATURDAY, JULY 18 .. .. | Promenade. Band at 4. |
| TUESDAY, JULY 21 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| WEDNESDAY, JULY 22 .. .. | Promenade. Band at 4. |
| FRIDAY, JULY 24 .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| SATURDAY, JULY 25 .. .. | Promenade. Band at 4. |
| WEDNESDAY, JULY 29 .. .. | Promenade. Band at 4. |
| TUESDAY, AUGUST 4 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| TUESDAY, AUGUST 25 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| WEDNESDAY, SEPT. 9 .. .. | AUTUMN FLOWER SHOW, at 1.<br>Band at 2.<br>Floral Committee, at 10.<br>Fruit Committee, at 10. |
| TUESDAY, SEPT. 22 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, OCT. 2 .. .. .. | Council, at 11.<br>Meeting for Election of Fellows, at 2. |
| TUESDAY, OCT. 6 .. .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, NOV. 6 .. .. | Council, at 11. |
| TUESDAY, NOV. 10 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, DEC. 4 .. .. | Council, at 11. |
| TUESDAY, DEC. 8 .. .. | Floral Committee, at 12.<br>Fruit Committee, at 12. |
| FRIDAY, DEC. 18 .. .. | Council, at 11. |

## ELECTION OF FELLOWS.

Gentlemen and Ladies wishing to become Fellows have to be proposed by some one already a Fellow, to whom they are personally known. The subscription is Two Guineas Entrance Fee, and Two Guineas or Four Guineas a year according to the privileges wished.

## ADMISSION OF THE PUBLIC.

Previous to April 30, packets of 25 tickets may be bought by Fellows for 5*l*. per packet. These tickets are available for any Show or Promenade during the year—admitting numbers corresponding to the prices of the day: *i.e.*, one on a 5*s*. day; two on a 2*s*. 6*d*. day; and five on a 1*s*. day.

### 1. HORTICULTURAL EXHIBITIONS AND PROMENADES.

| | | | |
|---|---|---|---|
| April 15. | AZALEAS AND ROSE SHOW .. .. .. | 2s. 6d. | Free to Fellows and the Transferable Cards, and also admission by payment at the door or by Tickets previously purchased. |
| May 5. | OPENING OF EXHIBITION OF SCULPTURE .. | 2s. 6d. | |
| Sept. 9. | AUTUMN FLOWER SHOW .. .. .. | 2s. 6d. | |

### 2. GREAT EXHIBITIONS.

| | | |
|---|---|---|
| May 27. | FIRST GREAT EXHIBITION .. | Free to Fellows and the Transferable Cards, and also admission by Tickets, price 5s. each, purchased previously to the day of the Show. If payment is made at the door, 7s. 6d. will be charged for each admission. |
| June 17. | SECOND GREAT EXHIBITION .. | |
| July 1 | THIRD EXHIBITION AND GREAT ROSE SHOW .. .. .. | |

### 3. PROMENADES.

| | | |
|---|---|---|
| WEDNESDAY, | May 20 | Free to Fellows and the Transferable Cards, and also admission by payment at the door of 2s. 6d. |
| " | June 3, 10, 24 | |
| " | July 8, 15, 22, 29 | |
| SATURDAYS, | May 16, 23, 30 | |
| " | June 6, 13, 20, 27 | |
| " | July 4, 11, 18, 25 | |

### 4. SPECIAL.

June 5. THE INAUGURATION OF THE MEMORIAL OF THE EXHIBITION OF 1851, BY HIS ROYAL HIGHNESS THE PRINCE OF WALES.

Fellows and the Transferable Cards will be Free.

## AZALEA AND ROSE SHOW, WEDNESDAY, APRIL 15.

FELLOWS and the TRANSFERABLE CARDS Free; FRIENDS 2*s*. 6*d*. each.

| Class. | | 1st Prize. £ s. | 2d Prize. £ s. | 3rd Prize. £ s. | Total. £ s. |
|---|---|---|---|---|---|
| 1. 9 Azaleas, distinct kinds .. .. | (*Nurserymen*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 2. 9 Azaleas, distinct kinds .. .. .. | (*Amateurs*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 3. 6 Azaleas, distinct kinds .. .. .. | (*Open*) | 1 10 | 1 0 | 0 15 | 3 5 |
| 4. 6 Roses, distinct kinds .. .. | (*Nurserymen*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 5. 6 Roses, distinct kinds .. .. .. | (*Amateurs*) | 2 0 | 1 10 | 1 0 | 4 10 |
| 6. 4 Roses, distinct kinds .. .. .. | ..(*Open*) | 1 10 | 1 0 | 0 10 | 3 0 |
| 7. 6 Cinerarias, distinct kinds .. .. .. | ..(*Open*) | 1 10 | 1 0 | 0 15 | 3 5 |
| 8. 4 Cinerarias, distinct kinds .. .. .. | (*Amateurs*) | 1 0 | 0 15 | 0 10 | 2 5 |
| NOTE.—Plants in Classes 1 to 8 must be grown in pots not exceeding 10 inches in diameter. | | | | | |
| 9. 4 Greenhouse Acacias, distinct kinds .. .. .. | | 1 0 | 0 15 | 0 10 | 2 5 |

| Class. | | 1st Prize. £ s. | 2d Prize. £ s. | 3d Prize. £ s. | Total. £ s. |
|---|---|---|---|---|---|
| 10. 12 Auriculas, 3 of each kind, viz.: 3 grey edged, 3 white edged, 3 green edged, and 3 selfs, distinct kinds .. .. .. .. | (*Nurserymen*) | 1 10 | 1 0 | 0 15 | 3 5 |
| 11. 8 Auriculas, 2 of each kind distinct .. | (*Amateurs*) | 1 10 | 1 0 | 0 15 | 3 5 |
| 12. 6 Alpine Auriculas, distinct kinds .. | (*Amateurs*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 13. 6 Polyanthus, distinct kinds .. .. | (*Amateurs*) | 1 0 | 0 15 | 0 10 | 2 5 |
| 14. 4 Cyclamens, distinct kinds .. .. | (*Amateurs*) | 0 15 | 0 10 | 0 7 | 1 12 |
| 15. 24 Pansies, cut blooms, 12 distinct kinds | ..(*Open*) | 0 10 | 0 7 | — | 0 17 |
| 16. 8 Pansies, Fancies, in pots, distinct kinds | ..(*Open*) | 0 15 | 0 10 | 0 7 | 1 12 |
| 17. Miscellaneous collection of Plants in Flower .. .. | | 1 10 | 1 0 | 0 15 | 3 5 |
| | | | | | £50 6 |

*Rules and Regulations to be had of* MR. EYLES.

**Notice.**

ROYAL SCHOOL of MINES. — The remainder of the COURSE of LECTURES on GEOLOGY (TWENTY-FOUR) will be given by Mr. J. BEETE JUKES, M.A., F.R.S., on MONDAYS, TUESDAYS, THURSDAYS, and FRIDAYS, at half-past 1 o'Clock, commencing on April 13. During the Course Lectures will be given in the Field. Fee, 2*l*.

TRENHAM REEKS, Registrar.

PRACTICAL GEOLOGY. — KING'S COLLEGE, London.—Professor TENNANT, F.G.S., will COMMENCE a COURSE of LECTURES on WEDNESDAY, April 15, at 9 o'clock, A.M., having especial reference to the application of GEOLOGY to ENGINEERING, MINING, ARCHITECTURE, and AGRICULTURE The Lectures will be continued on each succeeding Friday and Wednesday at the same hour. Fee, 1*l*. 11*s*. 6*d*. R. W. JELF., D.D., Principal.

PROFESSOR BROWN, VETERINARY INSPECTOR to the Bath and West of England Agricultural Society, 13 years Lecturer on Veterinary Surgery at the Agricultural College, may be consulted on Diseases of Horses, Cattle, Sheep, Dogs, &c.

Infirmary, White Horse Yard, New Cavendish Street, Portland Place, W.

HAMPTON LUCY GRAMMAR SCHOOL, WARWICK.—Head Master the Rev. GEORGE HENSLOW has VACANCIES for two or three BOARDERS. In addition to the usual Course of Classics, Mathematics, Divinity, &c., special instruction is given in Botany and the Principles of Agricultural Chemistry and Geology. Terms, 60 guineas. No extras. There are two Exhibitions at Oxford.

# News of the Week.

IT is reported that the elections for the French Corps Legislatif will take place in the beginning of June. Admiral JURIEN DE LA GRAVIÈRE has been recalled from Mexico, on the ground that the importance of the French naval forces in Mexican waters does not call for an officer of so high a rank.

Despatches from Warsaw inform us that there was no foundation for the report that the Polish Central Committee at Warsaw had called upon their countrymen to lay down their arms. No such order was issued, and the insurrection is not only unsubdued but is daily extending in Lithuania and other provinces, where it is joined *en masse* by the nobility and middle classes. The force under the command of General CZAKURSKI has entered the town of Radom, and taken possession of the Government treasury and the depot of ammunition; and on Sunday last General GREGOWICZ attacked and defeated a Russian detachment near Olkusz, after a fight of two hours. General BERG, the new military chief of Poland, has arrived at Warsaw, and has thanked the army in the name of the EMPEROR for their fidelity and courage. It is thought that the Grand Duke CONSTANTINE and Count WIELOPOLSKI will leave Warsaw. General LANGIEWICZ was removed on Thursday from Cracow to Vienna, and on the following day was conveyed to Tischnowitz in Moravia. The Vienna papers state that France, England, and Austria have come to an understanding on the Polish question, and have sent separate but identical notes to the Cabinet of St. Petersburgh. These notes put no pressure on the CZAR, but leave it to him to initiate measures which will put an end to the periodical risings of the Poles. Meanwhile the Russian nobility have presented an address to the EMPEROR, assuring him that, united with all the other classes of society in Russia, they will not shrink from any effort to defend the territory of the empire from dismemberment.

The Copenhagen papers this week have contained articles stating that the KING OF DENMARK has demanded, as the conditions of his acceptance of the Crown of Greece for Prince WILLIAM, a guarantee of the independence of Denmark by the Great Powers, and of the present order of succession to the Danish provinces. The *Times* of yesterday says it is officially authorised to declare that the Danish Government has made no such conditions, and entirely repudiates the statement.

From the United States we have accounts of the Federal operations on the Mississippi, and of the expedition to the Yazoo River, but they are so vague and contradictory that it is impossible to reconcile the conflicting statements. It appears, however, to be certain that Admiral FARRAGUT's attack on Port Hudson was on the whole a failure, and that General BANKS, after losing two or three regiments, was obliged to fall back upon his fortified camp. The Southern journals assert that the Federals have been repulsed in the attempt to pass Fort Pemberton, and compelled to return to Yazoo Pass. It is reported at New York that the Confederates are preparing to abandon Richmond as the capital of the Confederacy, and that the forts round that city are preparing to receive General LEE's army, which is falling back from the Rappahannock. The majority of the Washington Cabinet are said to be opposed to the issue of letters of marque.

# Home News.

THE COURT.—The Queen and Royal family continue at Windsor Castle. On Good Friday morning the Queen, Prince and Princess Louis of Hesse, Prince Alfred, Princess Helena, Princess Louisa, Prince Arthur, and Prince Leopold attended Divine service in the private chapel. The Rev. H. Ellison preached the sermon. On Saturday Viscount Sydney and the Right Hon. Sir George Grey arrived at the Castle. On Easter Day Prince Alfred, Princess Louisa, Prince Arthur, Prince Leopold, and Prince Louis of Hesse, attended Divine service in the private chapel. The Dean of Windsor officiated and administered the Sacrament. Sir George Grey left the Castle for London. On Monday morning the Queen, accompanied by Princess Louisa, walked in the grounds. Prince Alfred came to London. In the afternoon the Queen, accompanied by Princess Helena, Prince Arthur, and Princess Beatrice, drove out in a carriage and four. On Tuesday morning the Queen, accompanied by the Princess Helena, drove in the grounds. Prince Alfred and Prince Louis of Hesse rode on horseback. In the afternoon the Queen, accompanied by Prince Alfred, Princess Louisa, and Prince Louis of Hesse, walked in the grounds. Prince Arthur and Prince Leopold came to London. On Wednesday Sir Charles Eastlake, President, and Mr. Knight, Secretary of the Royal Academy, had an audience of Her Majesty to submit the proceedings of the past year. Earl Granville arrived at the Castle and had an audience of the Queen. On Thursday the Queen, accompanied by the Princess Helena, drove out in a carriage and four. Prince Arthur left the Castle for Greenwich Park.

ACCOUCHEMENT OF THE PRINCESS OF HESSE.—The Princess Louis of Hesse (Princess Alice), gave birth to a Princess at a quarter before 5 o'clock on Sunday morning. The Queen was with the Princess constantly during the night. In the room with the Princess at the birth of the child were her Majesty, Prince Louis of Hesse, Sir Charles Locock, Dr. Farre, and the nurses, and in the next room Sir J. Clark. In the adjoining apartment were Viscount Sydney, Lord Chamberlain; Sir George Grey, Secretary of State for the Home Department; and Baron de Ricou, Head of the Household of Prince Charles of Hesse. Intelligence of the happy event was immediately transmitted by telegraph to the Grand Duke and the Court of Hesse Darmstadt, and to the various members of the Royal family. The following was the bulletin issued:—

"Windsor Castle, April 5.

"Her Royal Highness the Princess Louis of Hesse (Princess Alice of Great Britain and Ireland) was safely delivered of a daughter this morning, at a quarter before 5 o'clock. Her Royal Highness and the Infant Princess are going on perfectly well.

"JAMES CLARK, M.D.
"CHARLES LOCOCK, M.D.
"ARTHUR FARRE, M.D."

The latest news states that the Princess and her infant daughter are going on most favourably.

THE PRINCE AND PRINCESS OF WALES attended Divine service on Sunday at Sandringham Church, and took the Sacrament. The Rev. Dr. Stanley preached the sermon. On Tuesday the "Norwich Gates" were presented to his Royal Highness by a deputation from the subscribers, consisting of the Earl of Leicester, Lord Lieutenant of the county; Mr. Scott Chad, high sheriff, and the Mayors of Norwich, Lynn, Yarmouth, and Thetford. The High Sheriff having read the address which accompanied the present, the Prince returned the following reply:—

"Gentlemen,—It is with the greatest gratification that I receive your present. I need hardly say that the circumstances under which it is offered are of a nature to make a deep impression upon me. Connected intimately as I am with Norfolk, I regard with pride so beautiful a specimen of Norwich workmanship and art, and this feeling adds to the pleasure I could not fail to experience in accepting any offering made by a large body of persons belonging to every class, but animated by a common feeling of affectionate goodwill towards myself and the Princess."

On Thursday a deputation, headed by the Lord Lieutenant and the High Sheriff, had an interview and presented the address of congratulation adopted at the recent county meeting, to which the Prince returned a suitable reply. The deputations on both occasions had the honour of lunching at the Hall after the proceedings had terminated. Their Royal Highnesses on leaving Sandringham will return to London by the coast line through Wisbeach, where an address will be presented by the corporation.

THE QUEEN'S BIRTHDAY.—It is understood that the Queen's birthday will be kept on the 6th of June, but there will be no drawing-room, and the usual parade of the Guards will be dispensed with.

THE BRIDAL PRESENTS.—The exhibition of the wedding presents of the Prince and Princess of Wales will be opened to the public on Thursday, the 16th inst., in the Italian Sculpture Court of the South Kensington Museum. The free and students' days will be kept as usual.

THE PRINCESS LOUISA.—The French and German papers state that Prince William of Denmark, the chosen King of Greece, is about to be affianced to the Princess Louisa of England.

LEVÉES AND DRAWING ROOMS.—It is announced that the Prince of Wales will hold a Levée, on behalf of the Queen, at St. James's Palace, on Wednesday, the 13th of May; and that the Princess of Wales will hold a Drawing Room, in Her Majesty's behalf, on Saturday, the 16th of May. There will also be a Drawing Room and a Levée on her Majesty's behalf in the course of June. Presentations will be made at both Drawing Rooms.

PARLIAMENTARY MOVEMENTS.—Lord Frederick Fitzroy is a candidate for Thetford, vacant by the succession of the Earl of Euston to the House of Peers. The death of Lord Templetown, and the consequent succession of his brother, the Hon. General Upton, to the peerage, has caused a vacancy in the county of Antrim.

DEANERY OF EXETER.—The Queen has granted to the Hon. and Rev. William John Brodrick, M.A., the Deanery of Exeter, void by the promotion of Dr. Ellicott, the late Dean, to the see of Gloucester and Bristol.

THE CASE OF BISHOP COLENSO.—The Archbishop of Canterbury, the Bishop of Oxford, and the Bishop of Chester have addressed their clergy on the subject of Dr. Colenso's work on the Pentateuch, stating that as he has not thought proper to comply with the request lately addressed to him by the episcopal bench, that he would resign his functions, it becomes a duty to prohibit him from ministering in the Word or Sacraments within their respective diocese. The Bishop of Durham has declined to issue a similar inhibition, on the ground that he has too much confidence in his clergy to consider such a measure necessary.

THE NAVY.—Admiral Smart has been appointed to succeed Sir Fanshawe Martin as Commander-in-Chief in the Mediterranean command; and will be succeeded by Rear Admiral Dacres in the command of the Channel Fleet. Captain the Prince of Leiningen has been appointed to the command of the Royal yacht in the room of Captain Seymour, who has obtained his flag as Rear Admiral.

GREENWICH HOSPITAL.—The Queen has directed letters patent to be passed under the Great Seal, appointing Sir Richard Madox Bromley, K.C.B., late Accountant-General of the Navy, to be one of the Commissioners of Greenwich Hospital.

CASE OF THE PETERHOFF AND MAGICIENNE.—Earl Russell has notified to the owners of the Peterhoff steamer recently captured by the Federal Admiral Wilkes, that Lord Lyons will be instructed to make the requisite representations to the Government at Washington to procure her immediate release, and the payment of proper damages. His lordship has also instructed Lord Lyons to apply for compensation for the seizure of the Magicienne, which was captured by a Federal cruiser on her voyage to Matamora, but subsequently released.

THE VOLUNTEER REVIEW AT BRIGHTON.—The third annual review of the Volunteers took place on Easter Monday on Brighton Downs. The first body, which was the Inns of Court Corps, arrived in Brighton at 7.15. They had paraded in the Temple before daylight at 4.30, and had left London Bridge at 5.41. With them were the 2d, 3d, and 4th London, and the 3d Middlesex. The next train, which started from Victoria, arrived 10 minutes afterwards, and brought the London Scottish, the Queen's (Westminster), the 1st London, and several other corps. The other trains followed in rapid succession for about two hours and a half. In all there were 16 trains from London—six from Victoria, nine from London Bridge, and one from Kensington—starting at regular intervals from 5.30 to 8 o'clock. Each train was made up with 22 carriages, and carried on an average about 800 men and 40 officers. Each corps as it arrived at the station marched off to the rendezvous marked out for it in the town; and the local authorities of Brighton had set apart the open space north of St. Peter's Church, known as the Inclosure, St. Peter's Churchyard, the North Steyne, and the Pavilion Gardens for this purpose. The quartermaster's department of the service seems to have been largely developed since last year, for most of the corps, especially those which started early, found a breakfast ready provided for them. At 10 o'clock the men were ordered to fall in, and the process of brigading began. The whole infantry force—which, as far as it was possible to ascertain, numbered about 16,000 men, was divided into two divisions. The First Division was commanded by Major-General Russell, and was constituted in the following manner:—

FIRST BRIGADE.—Lieut.-Col. Thorold commanding; Capt. Baldwin, 31st Regiment, Major of Brigade. 1st Battalion, Lieut.-Col. M'Leod of M'Leod—1st Middlesex Engineers; 1st Tower Hamlets; 1st City of London. 2d Battalion, Lieut.-Colonel the Hon. C. H. Lindsay—11th Middlesex. 3d Battalion, Major Farnall—1st Administrative Battalion, Kent. 4th Battalion, Lieut.-Col. G. Warde—1st City of London Brigade. 5th Battalion, Major Grant—1st Middlesex (Victoria); 18th Middlesex.

SECOND BRIGADE.—Lieut.-Col. Viscount Bury commanding; Capt. Morgan, 55th Regiment, Major of Brigade. 1st Battalion,

Major Corrie—4th Middlesex; 37th ditto; 12th Tower Hamlets. 2d Battalion, Major Verner—28th Middlesex (London Irish). 3d Battalion, Lieut.-Col. Whitehead—29th Middlesex; 48th Middlesex (Havelock's). 4th Battalion, Major Hill—21st Middlesex (Civil Service); 26th Middlesex; 30th ditto; 38th ditto; 43d ditto.

Third Brigade.—Lieut.-Col. Viscount Ranelagh commanding; Major Templer, Dorset Rifle Volunteer Corps, Aide-de-Camp; Capt. Wavell, 41st Foot, Major of Brigade. 1st Battalion, Capt. Atherley—2d Middlesex (South). 2d Battalion, Major Bowyer—20th Middlesex. 3d Battalion, Lieut.-Col. Sir J. V. Shelley—46th Middlesex; 2d City of London; 4th ditto. 4th Battalion, Lieut.-Col. Somerset—40th Middlesex (Central London Rifle Rangers). 5th Battalion, Lieut.-Col. Wood—16th Middlesex; 36th ditto.

Fourth Brigade.—Lieut.-Col. Bigge commanding; Capt. Jones, 20th Regiment, Major of Brigade. 1st Battalion, Major Irvine—1st Surrey (South London); 10th Surrey; 21st Surrey. 2d Battalion, Major Sir H. Fletcher—2d Administrative Battalion. Surrey; 12th Surrey; 13th Surrey. 3d Battalion, Major Beresford—7th Surrey; 19th Surrey. 4th Battalion, Lieut.-Col. A. L. Cole, C.B.—2d Surrey; 4th Surrey; 5th Surrey; 8th Surrey; 11th Surrey; 23d Surrey.

Fifth Brigade.—Lieut.-Col. Brewster commanding; Capt. McLean, Rifle Brigade, Major of Brigade. 1st Battalion, Major Richards—32d Middlesex; 3d City of London. 2d Battalion, Capt. Lysley—23d Middlesex (Inns of Court). 3d Battalion, Major De la Rue—4th Tower Hamlets; 6th Tower Hamlets. 4th Battalion, Lieut.-Col. Capper—2d Administrative Battalion, Essex. 5th Battalion of Garrison Artillery, commanded by Lieut. Col. Sturdee, composed as follows:—1st Administrative Brigade, Hants Artillery; 2d Sussex Artillery; 4th Sussex Artillery; 2d Middlesex Artillery; 2d Surrey Artillery; and 1st City of London Artillery.

The Second Division, which was commanded by Major-General Sutton, comprised the following troops:—

First Brigade.—Lieut.-Col, Lord Radstock commanding; Major Shaw, R.A., Major of Brigade. 1st Battalion, Lieut.-Col. Wilkinson—2d Administrative Battalion, Middlesex. 2d Battalion, Lieut.-Col. Bathurst—19th Middlesex. 3d Battalion, Lieut.-Col. H. Penton—39th Middlesex (Finsbury). 4th Battalion, Major Bridgman—9th (West) Middlesex.

Second Brigade.—Lieut.-Col. Dunsmure commanding. 1st Battalion, Capt. Faunce—1st Hants; 2d Hants; 16th Hants. 2d Battalion, Lieut.-Col. Conran—3d Administrative Battalion, Hants. 3d Battalion, Major Sir J. Simeon—1st Administrative Battalion, Isle of Wight. 4th Battalion, Capt. Ford—2d Administrative Battalion, Hants.

Third Brigade.—Lieut.-Col. Moorsom commanding. 1st Battalion, Major Crofton — 3d Administrative Battalion, Sussex. 2d Battalion, Major Gaisford—1st Administrative Battalion, Sussex. 3d Battalion, Lieut.-Col. the Hon. H. Gage—1st Administrative Battalion, Cinque Ports. 4th Battalion—2d Administrative Battalion, Sussex.

Fourth Brigade.—Lieut.-Col. Lord Elcho commanding; Major the Hon. W. Colville, Rifle Brigade, Major of Brigade. 1st Battalion, Major Sir D. Baird—15th Middlesex (London Scottish). 2d Battalion, Lieut.-Col. Walker—2d, 8th, and 9th Tower Hamlets. 3d Battalion, Lieut.-Col. Earl Grosvenor—22d Middlesex (Queen's), 1st Battalion. 4th Battalion, Lieut.-Col. Lord G. Fitzgerald—22d Middlesex (Queen's), 2d Battalion.

The cavalry and artillery, rendezvoused behind the Grand Stand, were brigaded as follows:—

The Cavalry Brigade consisted of the 9th (Queen's Royal) Lancers, commanded by Lieut.-Col. Drysdale, C.B.; the 1st Hants Light Horse, under the command of Capt. Bower; and a detachment of the Light Cavalry of the Hon. Artillery Company to act as orderlies.

The two Artillery Brigades were under the control of Colonel Ormsby. The First Brigade, commanded by Lord Truro, consisted of the Hon. Artillery Company's Horse Artillery, two six-pounders; and Field Battery, four six-pounders. 1st Middlesex Artillery, four 18-pounders; and 3d Middlesex Artillery, four 18-pounders. The Second Brigade, under the command of Lieut.-Col. J. Estridge, consisted of the 1st Sussex Artillery, four six-pounders and six 18-pounders; 3d Sussex Artillery, four 18-pounders; and 4th Cinque Ports Artillery, two 18-pounders. Total, 30 guns.

Major-General Lord W. Paulet, C.B., the commander of the Portsmouth district, was intrusted by the Commander-in-Chief with the movements of the day. His lordship was accompanied by the Earl of Chichester (lord-lieutenant of the county), the Earl of Cardigan, and other personages of distinction, and was attended by the following staff:—Colonel M'Murdo, Inspector-General of Volunteers; Colonel Morris, Lieut.-Col. Luard, Lieut.-Col. Ibbetson, Lieut.-Col. Hume, and Lieut.-Col. Harman. The marching past the flagstaff was led by the 9th Lancers, followed by the Artillery Brigades. The Middlesex Artillery guns were horsed from Pickford's stud, great care being taken in matching colours, and in supplying the drivers with uniform jackets and the regulation short whips. The Sussex and Cinque Ports Artillery, on the contrary, had their guns drawn by horses of all colours, doubtless well used to the plough, and attended by carters in their rough smock-frocks, with the long-handled whips of agricultural labour, many of the drivers wearing rosettes in honour of the occasion, Immediately following the Artillery Brigade was the fifth brigade of the First Division, under the command of Colonel Brewster, which was taken out of its regular position, having to play the part of "the enemy" in the subsequent movements. Conspicuous in this brigade was the celebrated Inns of Court battalion. The other brigades followed in due order, and all the favourite regiments were received with loud cheering by the spectators. The acclamations were renewed when the 1st Hants Light Horse went by at a rapid pace, with the 9th Lancers, after the last of the infantry battalions had passed. The ground selected for the movements which followed the march past was better fitted for the handling of large masses than the narrow White Hawk Valley in which Lord Clyde tested the training and bottom of the Volunteers last year, though the remove was a great disappointment to the occupants of the Grand Stand, and of the numberless carriages which lined each side of the Racecourse. On the far side of the Red-hill, the western ridge of the horseshoe running round the White Hawk Down, lies a deep valley or basin, bounded by an amphitheatre of Downs, which slope away at a gentle incline and have their eastern and western spurs resting on the sea, enclosing between them the two picturesque villages of Ovingdean and Rottingdean. The north-eastern extremity of the amphitheatre, which rises to some height, is known as Newmarket Hill, and in the north-western corner lie the buildings of the Industrial School and the Warren Farm. At the southern extremity of the valley, just in front of Ovingdean, rises a huge circular hill, which cuts it in two and blocks access to the sea. When the troops had reached the northernmost point of the racecourse, the Fifth Brigade of the First Division inclined to the right and made rapidly for this hill, which was the position assigned to the "enemy." Colonel Brewster, who last year performed the same duty, again commanded the invading force; and the troops under him were his own corps, the Inns of Court, the Garrison Brigade, 32d Middlesex, 3d London, 4th and 6th Tower Hamlets, and 2d Administrative Battalion, Essex. To his command, also, were attached a field battery of four six-pounders of the Hon. Artillery Company, and he was also supported by a battery of four 18-pounders of the third Middlesex Artillery. The rest of the Volunteers marched on for another half mile or more, and ultimately took up a position facing towards the sea in a south-westerly direction, separated by about a mile of undulating ground from the enemy's position. The second division formed the front line, massed in columns of brigades at deploying distance, with the right resting on Warren Farm, and their left on a spur of Newmarket Hill, and covered by a battery of four 6-pounders. The First Division, acting as reserve, was drawn up 300 yards to the rear in contiguous columns at quarter distance. In the rear of the Warren Farm, at the extreme height of the ridge, and sweeping all along the crest of the Red Hill, were posted eight 18-pounders, two batteries of heavy guns were posted in front of the first line, and a couple of light guns of the Hon. Artillery Company, under the command of Captain Jay, were attached to the cavalry, and followed them closely throughout the day in spite of the difficulties of the ground. It was 2 o'clock before all the positions were occupied, and the spectacle then presented to the thousands of spectators who almost crowded the side of Red Hill was perhaps the most imposing ever seen at a Volunteer Review, as there were nearly 20,000 men of all arms on the field. The manœuvres, which then commenced, were as follows. The enemy, being supposed to have made good a landing on the coast somewhere between Ovingdean and Rottingdean, was making his way in a north-easterly direction, with a view of fetching a sweep round on Brighton, when he suddenly found himself in front of an immensely superior attacking force. Finding it impossible to make further head against the powerful batteries playing upon him, Colonel Brewster determined to hold the favourable position which he had attained on the summit of the circular hill. Ordering his men to the back of the hill, where they lay down to allow the enemy's shot to pass over them, he brought his four six-pounders to the front, and opened fire immediately to check any attempt to dislodge him. To the right of his position, in the hollow beneath, lies Wooden-dean, a large farmhouse with outbuildings, and enclosed on one side by a plantation of young trees, which afforded a strong cover for a defending force. This was the key of his position; and it was clear that if he once lost it he would be in danger of being outflanked and forced back into the sea. To this point were despatched five companies of the Inns of Court, who lined it with skirmishers, and kept up a brisk fire on the left wing of the opposing force. A squadron of the 9th Lancers, advancing at a slow trot to feel for the enemy, came upon a party of the Inns of Court, posted advantageously in a thicket of gorse bushes, and were received with such a galling fire that they were compelled to retreat quickly on their supports. Again the Lancers charged in greater force, but the skirmishers, rapidly forming square, again drove them back, and, emboldened by their success, followed them up, taking advantage of every tree and bush to harass their retreat. It was not until Captain Jay's battery unlimbered and sent a few rounds into them that their ardour was checked, and they were driven back on the wood. Meanwhile, as it became evident that Colonel Brewster could not be dislodged very easily as long as he held possession of the Wooden-dean Farm, Lord Elcho, who commanded the left wing, was ordered to attack and carry it. Throwing out a battalion of the Queen's Westminsters as skirmishers, and supported by a battery of Horse Artillery, the 4th Brigade moved quickly down the slope, and at the same time a general advance of the whole of the first line was ordered, each brigade detaching a battalion as skirmishers. The 9th West Middlesex performed this duty for the 1st Brigade, and the 3d Hants and 1st Sussex for the 2d and 3d Brigades. While engaged in this movement it became necessary to prepare for an expected attack of cavalry, and in a few minutes both the first and the second division, which was advancing in support, were thrown into echellons of squares. This was one of the most beautiful movements of the day, and was effected with extraordinary rapidity and precision. The attack repulsed, the left wing again pressed forward towards Wooden-dean, and in a few minutes the Queen's Westminsters and the Inns of Court were engaged in a brisk contest. The Inns of Court held their ground so manfully that they attracted the reviewing General's special attention. "What corps are you?" asked Lord William Paulet, riding up to a party who were in the hottest of the fire. "Inns of Court, my Lord," was the reply. "And very good fellows, too," rejoined the General, "I should be very sorry to have you for an enemy." Still they were outnumbered, and were driven from the edge of the plantation, some of them scarcely making their escape before the enemy's skirmishers burst their way through the hedge. Slowly they retreated up the hill, making a stand now and again, but with little chance of success, for under the cover of the plantation Lord Elcho's brigade formed column, the London Scottish at their head, and advanced steadily up the hill. In vain Colonel Brewster brought up his main body and endeavoured to receive them in line, The Westminsters were hurrying up still further to the left, and in a few minutes he would have been outflanked. A crushing volley which the London Scottish delivered halfway up the hill completed his discomfiture, and he ordered his force to fall quickly back to gain the shelter of the 18-pounder battery on the opposite hill. Just in the hollow he encountered a new danger from the cavalry, which had stolen round the Wick valley, and almost caught him on his flank. There was hardly time to form squares before the Lancers came galloping along the valley almost at a racing speed, and charged right up to the bayonet. This was the great effect of the day. Three or four times the cavalry charged, retiring by squadrons, as they were driven off by the withering fire kept up from the faces of the squares, and at the last charge the Hants Light Horse passed between two of the squares, cutting at the bayonets as they dashed along with all the excitement of a real contest. It was well for them that it was not, for the 3d London, reserving their fire until the cavalry were close upon them, poured in a tremendous volley at point blank, which, as Lord Cardigan, who was riding close by, exclaimed, "would have emptied every saddle!" Finding the square so firm and impenetrable, the cavalry fell back, and Colonel Brewster continued his retreat up the hill, keeping his men still in their formation of squares to be prepared for another attack from the cavalry, who rode on his flank, in a parallel line, watching an opportunity to charge again, which, however, did not occur. By this time both divisions of the defending army had advanced on the position at first occupied by the enemy, and were formed on the crest of the hill in a long continuous line. In these respective positions a long fusilade was kept up by both sides, in the course of which the volley firing of the London Scottish, the Civil Service, and Westminsters was specially praised by the military; and about half-past 4 the movements were terminated by the hasty retreat of Colonel Brewster and his brigade in the direction of the railway station. The other troops then marched off their ground, and, having been massed again at their several rendezvous, were draughted in the order in which they arrived in the morning as fast as trains could be provided for them. Thus terminated a field-day which was certainly the most successful on a large scale in which the Volunteers have yet distinguished themselves. That their enthusiasm in the movement has not worn away is sufficiently proved by their undiminished numbers, and their improved efficiency was shown by the steadiness with which they manœuvred on ground not a little trying for young troops. The result, like that of last year, has shown that in the course of a single day a force of 20,000 volunteers can be transported 100 miles, and at a point 50 miles distant from the base of operations can conduct the movements of a regular engagement. The day unfortunately did not pass over without accident, Corporal Harding, of the London Irish, had his thigh bone broken by a fall; Corporal Cox of the same corps, was severely burnt by an explosion of gunpowder caused by some one putting a lighted fusee into some powder on the ground; and a woman was killed by being knocked down by the horse of Capt. Cowper, the Adjutant of the 40th Middlesex.

## Foreign.

France.—It is reported that the general election to the Corps Législatif will take place in the first fortnight of June. The frigate Normandie has arrived at Lisbon from Mexico; the health of the crew is satisfactory. Admiral Jurien de la Gravière has been recalled. The reason officially assigned for his recall is, that the importance of the French naval forces in the Mexican waters is no longer such as to warrant the presence of an officer of that rank. *La Nation* of Tuesday evening says—

"France, England, and Austria have come to an understanding, and sent separately to St. Petersburg notes identical in sense. In these notes the Powers have carefully avoided anything resembling pressure, leaving it to the Czar to take the initiative in the measures calculated definitely to put an end to the periodical risings so disquieting for Europe and so disastrous for Russia."

Spain.—The health of General Concha is re-established, and he has resumed his post. In a meeting held on Thursday by the members of the former Parliamentary majority, it was resolved not to engage beforehand to support the Ministry. It is asserted that Señor Castro intends directing the attention of the Senate to the

financial condition of the country, and to the deficit of 550,000,000 reals left by Señor Salaverria.

Portugal.—A telegram from Lisbon, dated the 7th inst., states that rumours are current of modifications in the Ministry. The Queen of Portugal has entered the third month of her pregnancy.

Denmark.—The *Dagblad* of Tuesday, in its review of the week, publishes another article hostile to the candidature of Prince William for the Crown of Greece, which concludes thus:—

"We must not forget that Europe and Greece do not render any service to Denmark in choosing a Danish Prince for the vacant throne. Should Denmark accept the election, it is she who extricates both parties from embarrassment. Unquestionably, therefore, we are perfectly justified in making such conditions as, while assuring our right, shall at the same time secure the tranquillity and equilibrium of Europe. In accepting our conditions Europe would obtain a King for Greece, and would put an end to the Schleswig and Holstein question. These conditions are:—The guarantee of the independence of Denmark by the Great Powers; assistance to maintain order in the monarchy for that purpose; renewal of the guarantees for the possession of Schleswig by Denmark, as obtained in 1720; and the neutrality of Holstein."

A despatch from Copenhagen, dated Wednesday last, says that it is stated on reliable authority, that the conditions imposed by Prince Christian are—1st, The formal abdication of King Otho. 2nd, That a suitable allowance should be made to the Prince. The King of Denmark, it says, will only give his consent to the arrangement, on condition that England should guarantee the present order of succession to the Danish provinces. The Danish Government will further on no account agree to a Regency of the Duke of Saxe Coburg during the minority of Prince William. The *Times* of yesterday says "it is officially authorised to declare that the Danish Government neither has proposed, nor intends to propose, any conditions like those mentioned in the *Dagblad*. Furthermore, it has no intention of making any other conditions than such as have exclusive reference to the position of the Prince in Greece. The opinions expressed by the *Dagblad* are those of its editor alone, and are utterly repudiated by the Danish Government."

Sweden.—The steamship Ward Jackson, belonging to the Hartlepool Steam Company, has arrived at Malmo, from England, with 190 Polish volunteers, of whom 26 are officers and engineers, and a large cargo of arms and ammunition. The English crew left the ship in consequence of the vicinity of Russian cruisers. The Swedish Government has confiscated the ship, probably with the view of protecting her from the Russians. The Poles have been permitted to remain in Sweden. A fire subsequently broke out on board the vessel, which was, however, extinguished in three hours by the Poles.

Belgium.—The King drove out on Easter Monday in public, taking part in the promenade of Longchamps. His Majesty drove along the Boulevards several times, and appeared to enjoy good health.

Bavaria.—The ex-Queen of Naples left Munich on Wednesday for Rome. The King has given orders that the portrait of her Majesty as the heroine of Gaeta shall be painted in fresco in the Wittelsbach Saloon of the Royal Palace. The painter Piloty, who is charged with the execution of the work, is to proceed to Gaeta to select the best site for a background to the picture. Henry de Hess, the famous battle painter, died last week at Munich, aged 65. He was for many years director of the Royal museums.

Austria.—General Langiewicz was removed on Friday to Tischnowitz, in Moravia. Count Apponyi has tendered his resignation as Judex Curiæ in Hungary. The Emperor has accepted the resignation, and has appointed Count George Andrassy as his successor. The final deliberations of the Venetian Special Commissioners appointed to draw up constitutional regulations for the administration of the Italian possessions of Austria took place on Wednesday. The Constitution unanimously agreed upon by the Special Commission will be immediately laid before the Emperor for approval.

Russia.—The nobility of St. Petersburg have, in a meeting, unanimously voted an address to the Emperor expressing their devotion to his Majesty, and their painful indignation at the pretensions put forward to Russian territory, and promising not to shrink before any sacrifice to preserve the integrity of the empire. The address says:—

"The pretensions to the patrimony of Russia arising from the troubles in Poland excite our grief and indignation. The era of reforms, inaugurated by your Majesty, will not be favourable for the projects formed against the integrity of the empire. The nobility, united with all the other classes of society, will not shrink before any effort or sacrifice to defend the territory of the empire."

The entire Russian army is about to be placed on a war footing. Baron de Budberg, the Russian Ambassador in Paris, has been informed by his Government that this increase of the army has become necessary on account of former reductions, and that Cronstadt has also been placed in a state of defence. Neither of these measures, however, has been undertaken with any aggressive tendency. The concession for a railway from Kieff to Odessa has been granted by the Government to a Russian company. The railway will consist of 647 versts, with two branches of 300 versts each. The capital will amount to 55,000,000 roubles, under a Government guarantee of 5 per cent. interest. A great number of soldiers on furlough have been called in.

Poland.—General Berg has arrived in Warsaw, and been received by the officers of the army. The General, in the name of the Emperor, thanked the army for their fidelity and courage. It is probable that the Grand Duke Constantine and Count Wielopolski will leave Warsaw. The insurrection appears to be everywhere increasing. Lithuania is in open insurrection. The peasants are burning the schismatic churches in that province, and rumours are current that the Guards from Tzarskoe-Selo are on the march to Lithuania. A battle has been fought at Janow, near Kownow, in which government the insurrection is making great progress. A telegram from Kalisch asserts that great agitation prevails there on account of the approach of the insurgents, whose forces in that district have been largely increased. The telegram further states that the churches of Kalisch are closed every day at 6 p.m., and occupied by the military. The garrison bivouacks in the public squares, and each of the military posts at the gates is furnished with two guns. A conflict took place on Sunday at Szyce, near the frontier. The Russians, although double the number of their opponents, were defeated. On the same day Gregowicz, with a force of 280 well-armed insurgents, attacked a detachment of 500 Russians near Olkusz, who retreated after a conflict lasting two hours. The insurgents, under the command of Czakurski, have entered the town of Radom, and taken possession of the Government treasury and the depôt of ammunition. The attacking party burnt the barracks, and then withdrew. The band of insurgents under Czieskowsky and Oxinsky are augmenting. A band of insurgents attacked a Cossack frontier post near Szlany on Saturday, and on the following day the attacking party were, in their turn, assailed by Russian infantry and dispersed. A detachment of 60 Cossacks has crossed the Austrian frontier near Narol, in Galicia, while in pursuit of insurgents. Two of the fugitives were killed, two wounded, and six taken prisoners. M. Bentkowski, a member of the Prussian Parliament, late chief of Langiewicz's Staff, was arrested at Cracow on Thursday. The Secretary of the British Embassy at Vienna has arrived at Cracow to inquire into the circumstances attending the attempted murder by Russian soldiers of Mr. Finkenstein, who is recovering and is now able to walk.

Italy.—The Chamber of Deputies has commenced the debate on the budget of the Minister of the Interior. The King arrived at Florence on Thursday, accompanied by three of the Ministers. His Majesty was received with the greatest enthusiasm by the inhabitants. The town was decorated for the occasion. The Pope officiated on Easter Day at High Mass in St. Peter's, and gave the benediction *urbi et orbi*. The French and Pontifical armies were present on the occasion. The weather was magnificent, and the concourse of people immense, including a large number of foreigners. His Holiness was cheered. The ex-King of the Two Sicilies is said to have disposed of all his jewels to a Florentine house for about 80,000 Roman scudi (400,000f.) Count del Recuerdo, son of Queen Christina of Spain, died on Good Friday at Pisa from a pulmonary complaint, at the age of 23.

Turkey.—Omar Pasha, the Commander-in-Chief of the Army, has provisionally assumed the direction of the Ministry of War. The army has been divided into six corps, the first of which, hitherto stationed at Constantinople, will be transferred to Schumla, under the command of Abdul Kerim Pasha. It is said that the 2d Division will occupy the line of the Balkan as far as Donas. It is stated that Aali Pasha will be appointed Grand Vizier.

Servia.—The Vienna papers state that the Prince of Servia has expressed to the Porte a desire to re-establish friendly relations with it, and to make every concession that the interest of Servia will allow him to do.

The Herzegovina.—Luca Vucalovich arrived at Ragusa on Sunday to render an account to the Austrian authorities of the debates at the Congress of the Woiwodes, held recently at Kosierova. He is also commissioned to request the mediation of Austria to induce the Turks to observe the conditions stipulated in September last at the termination of the insurrection in the Herzegovina.

Egypt.—The Sultan arrived at Alexandria on Tuesday, escorted by six war vessels. His Majesty took up his residence at the Royal Palace of Razel-Tin, and declared that he wished to be considered and treated only as a guest of the Viceroy. Great fêtes took place in Alexandria to celebrate the event. A congratulatory address was presented by the foreign consuls to his Majesty, who replied as follows:—

"I feel great satisfaction in seeing around me the honourable agents of Powers with whom I have relations as a friend or as an ally. I have come to Egypt with the sole purpose of giving the Viceroy a fresh proof of my goodwill and most particular affection, and to see this important portion of my empire. All my efforts are directed to the development of the welfare and the happiness of all classes of my subjects throughout the empire, and to strengthen the ties which unite us with Europe. I am convinced that the Viceroy will also continue upon this course, and that, following in the steps of his celebrated father—one of the most illustrious men of our nation—he will understand how to preserve and carry to completion the works which that great Prince commenced."

In the evening the Sultan drove through the streets of the city in order to witness the illuminations. On Wednesday his Majesty left Alexandria for Cairo.

The Principalities.—The Government has contracted a loan of 50,000,000 francs with English and French capitalists. The agents of some great financial houses have memorialised the Government for concessions to construct railways, and to establish a bank for granting credits on landed property. Perfect tranquillity prevails everywhere.

India.—The news by the Bombay mail is not of much interest. The Viceroy was continuing his progress, and entered Delhi on the 3d of March, in great pomp. The cultivation of cotton was extensively pursued, and large quantities were coming forward to market. The rebels in Jynteah were giving way, and the country was becoming peaceful.

Cochin China.—The *Moniteur* announces that all the centres of the Annamite insurrection have been dispersed, and the fortifications and batteries of the insurgents taken by the French troops. Few men were lost in the campaign, which was, however, very fatiguing.

United States.—Accounts have been received from New York to the 27th March. They relate chiefly to the proceedings on the Mississippi, but are so confused and contradictory, that little reliance can be placed on them. There are no less than four versions of the attempt of the Federals to pass Fort Hudson. One asserts that the whole of Commodore Farragut's fleet, except the Mississippi, which was abandoned and burnt, succeeded in passing; another states that Commodore Farragut's flag ship alone passed the batteries, and that the other Federal vessels were driven back; the third says that seven of the Federal steamers passed the batteries, and had gone up the river towards Vicksburg; the fourth and last says that only two Federal vessels, the Hartford and the Monongahela, passed Warrenton and arrived safely at Vicksburg. They also say that General Banks failed to make a land attack, and fell back to his fortified camp, his army being greatly demoralised; and that Admiral Farragut went in alone and at night, and recaptured the steamer Indianola without resistance. The Confederates had been working upon her, and she was nearly ready for service. These are all Northern accounts, but the second one corresponds with the Southern statement received by the last mail, and confirms the impression that the Federal attack was on the whole a failure. The Federals also find the passage of the Yazoo a very slow and difficult operation. Steaming down the Tallahatchie and Yallabusha to their junction at Pemberton, they were preparing to reduce the Confederate fort which obstructs their progress at that point, but by the last accounts their force was insufficient for the purpose, and the expedition had retreated up the Tallahatchie. The Southern journals assert that the Federals have been driven back from Fort Pemberton, and are in full retreat to Yazoo Pass. It is now said that the Federals cut the levees on the Yazoo River in order to drown the Confederates out. The water has been let into the canal at Lake Providence. The aperture is 20 feet wide, and is still widening. The water is pouring in with great force, and the greater part of the town of Lake Providence was submerged. The river is falling at Vicksburg, and the fears entertained of an overflow of the Federal camping-ground have subsided. The Confederates at Vicksburg are said to be living almost exclusively on corn meal. The news from Kentucky and Tennessee is as vague and confused as that from the Mississippi. The Confederates, under General Longstreet, have invaded the former State to obtain supplies, and are threatening Louisville. In Tennessee there are various reports of battles and skirmishes, but none of any great importance. Considerable anxiety is felt by the Government for the safety of Nashville. General Joe Johnstone is expected to take personal command of the army fronting Gen. Rosencranz. A fleet of iron-clad Monitors, seven in number, left Port Royal on the 22d ult. Their destination is supposed to be Charleston. The officers of the prize steamer Peterhoff, that arrived at New York on the 27th ult., report that on passing at a distance of 18 miles from Charleston Bar they saw flashes of artillery and shells bursting in the air over the city, and therefore were of opinion that the bombardment had commenced. The *New York Times* asserts that the Confederates are preparing to abandon Richmond as the capital of the Confederacy. The forts round Richmond are preparing to receive General Lee's army, which is falling back from the Rappahannock. The Confederates have captured Danville and burned Mount Sterling, in Kentucky; 200 Federal troops in the town surrendered. It was supposed that they would next attack Paris. The negro expedition is reported to have captured Jacksonville, Florida. General Burnside has arrived at Cincinnati, and has assumed the command of the department of Ohio. There are reported to be 130,000 deserters from the Federal army, reckoning from the beginning of the war. The *New York Times* says the majority of the Cabinet oppose the issue of letters of marque. The *New York Herald* asserts that a leading house in Amsterdam has offered to loan Mr. Chase 100,000,000 dollars in gold, to be exchanged for Federal 6 per Cent. Bonds at the current premium at the time of the draught of any portion of the amount. It is reported that President Lincoln will shortly visit New York and the principal cities of the Union. The new State constitution of Western Virginia has been ratified by the vote of the people. The constitution provides that the children of slaves born after July next shall be free. All slaves under 10 years of age shall be free when they reach 21 years. All slaves over 10 and under 21 shall be free at

25 years of age. No slaves will be permitted to come into the State for permanent residence. The Southern journals urge the attention of the Government to the railroads, which are getting in bad condition, as the Confederate armies depend for their existence and maintenance upon the railroads, and if the railroads fail the Confederate armies must retreat and surrender much valuable country. It is reported from Galveston that the French Consul, M. Theron, has been expelled by President Jefferson Davis for intriguing to take Texas out of the Southern Confederacy. The New Jersey Assembly, by a vote of 33 to 19, has passed an Act for the imprisonment and transportation of every free negro who shall hereafter come into the State and remain 10 days. The strikes among the workmen of New York for increased wages are extending to all the trades of the city; the dock labourers employed by the Erie Railway Company have struck work, and the places of some of them have been supplied by coloured men. This substitution caused great indignation, and the negroes were driven from their work. An offer of compromise was made by the company, but rejected by the workmen. The British steamer Georgiana has been driven ashore on Long Island, South Carolina, in an attempt to run the blockade at Charleston. She had a large cargo of dry goods, medicines, and artillery, valued at 1,000,000 dols. She was scuttled by the captain to prevent her capture, and was afterwards shelled and destroyed by the Federals. The British steamer Nicholas has been captured while endeavouring to run the Wilmington blockade. She previously made an effort to enter Charleston. Advices from Barbadoes to the 15th ult., state that the Governor had invited Admiral Wilkes to dine with him, but the Admiral refused, because the Governor had entertained Captain Maffitt, of the steamer Florida. Admiral Wilkes has transferred his flag to the Vanderbilt. The steamer Aries and another vessel were at St. Thomas's on the 16th ult. Admiral Wilkes threatened to seize these vessels if they left port, on the ground that they were blockade runners. The captain of the Aries applied to the British steamer Phaeton for protection, which was granted. The Vanderbilt then sailed out of port, and the other vessel was convoyed out by the Phaeton. The commander of the Phaeton has communicated with Admiral Wilkes regarding the capture of the steamer Peterhoff. The Confederate steamer Florida called at Barbadoes on the 24th ult. for coal, and remained for 24 hours. After she left port she was seen to set fire to three vessels, which were some 10 miles distant from the coast. Later a large steamer, supposed to be the Vanderbilt, was observed in pursuit, but the Florida made good her escape.

Mexico.—The latest news from New York says that General Bazaine is reported to have passed Puebla and taken a strong position at Huamantla, between Puebla and the city of Mexico, and that 10,000 French soldiers were left before Puebla, to hold the garrison in check.

San Domingo.—Official intelligence has been received in Paris from San Domingo to the 9th ult. relative to the insurrectionary movements which had taken place there. A state of siege was proclaimed, and troops were despatched into the disaffected districts, where, after some fighting, tranquillity was completely re-established.

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at 92¾ for Money, and at 92¾ to ⅞ for the 7th May; Three per Cents. Reduced, 91⅛ to 91; New Three per Cents., 91¼ to 91; Thirty Years' Annuities, 1885, 14 13-16; India Five per Cent. Stock, 108⅞ to 109⅛; Ditto Four per Cent. Debentures, 100 to ¼; Ditto Bonds, 12s. to 16s. prem.; Five per Cent. Enfaced Rupee Paper, 107; Ditto Five and a Half per Cent, 114 to 115; Exchequer Bills, 1s. to 3s. dis.—Foreign: Brazilian, 1852, '58, '60, 93; Chilian Six per Cents., 102½, ex div.; Dutch Certificates, 100¾ to 100, ex div.; Egyptian, 98; Ditto second issue, 97¾; Greek, for Acct., 28½ to ¾; Ditto Coupons, 13 to ⅛; Mexican, for Acct., 33¼ to ⅜; New Granada, 15; Ditto Land Warrants (Hectares), 6½; Peruvian Three per Cents., for Acct., 88½, ex div.; Ditto, 1862, for Acct., 88; Portuguese, 1862, 48; Russian, 1822, 95½; Ditto 1862, 95½; Sardinian, for Acct., 85; Spanish, for Acct., 53; Ditto Passive, 29⅝ to ½; Ditto Certificates, 10½ to ⅞; Turkish, 1854, for Acct., 90½ to ¾; Ditto, 1858, for Acct., 67¾ to 68; Ditto, 1862, 69⅝ to ⅝; Venezuela, 23⅝; Ditto, 1862, 61 to ¾.

## Gazette of the Week.

FRIDAY: April 3.—BANKRUPTS.—R. Arnold, Newark-upon-Trent, Nottinghamshire, Cabinet Maker—W. H. Andrews, Oxford, Butcher—S. Brown, Buglawton, Cheshire, Grocer—G. Broadhead, Greenoside, Yorkshire, Stone Merchant—W. Bargent, Basing, Southampton, Butcher—W. Bilby, Lesness Heath, Kent, Hairdresser—C. H. Borer, Brook Street, Ratcliffe, Grocer—C. H. Baumgarten, Critchill Place, Hoxton, late Merchant—J. Billinge, Burslem, Staffordshire, Beerseller—R. Brown, New Wortley, Leeds, Builder—N. H. Braham, Stanley Street, Pimlico, Artist—H. Bell, West Hartlepool, Durham, Grocer—J. Brooke, Huddersfield, Journeyman Corn Miller—J. Burgess, Tarporley, Cheshire, Farmer—J. D. Benjamin, Lemons Terrace, Stepney Green, General Agent—J. R. Brownlow, Bread Street Hill, City, Packer—F. Burton, Williton, Somersetshire, Cordwainer—J. Cooper, Southampton Street, Pentonville, Corndealer—R. Cullen, Vine Cottage, Providence Place, Shepherd's Bush, Coal Merchant—T. Chipperfield, late of Rutland Street, Stepney, General Dealer—F. Clement, Park Road, Clapham, Butcher—A. Crane, Wilden, Worcestershire, Licensed Victualler—S. Comber, Worthing, Sussex, Livery Stable Keeper—A. T. Cottrell, Norton, Durham, Forge Master—Joseph W. Corbie, Lowestoft, Suffolk, Accountant—T. Durant, Irwin Street, City, Attorney-at-law—J. U. Dale, Lowestoft, Suffolk, Smack Master—T. Dishley, Newcastle-under-Lyme, Licensed Victualler—J. Davidson, Belvidere Road, Lambeth, Baker—B. J. Drury, Selsey, Sussex, Clerk in Holy Orders—G. Davis, Bishampton, Worcestershire, Carpenter—J. Dennant, Brighton, late Chemist—J. Edmondson, Preston, Oil and Tallow Merchant—G. Evans, Kenilworth, Warwickshire, Schoolmaster—J. Eaton, Stretford, Lancashire, Commercial Salesman—J. French, Taunton, Somersetshire, Tailor—W. B. Fowler, Duffield, Derbyshire, Coal Merchant—J. Fisher, Newbury, Berkshire, Smith—M. Fairhall, Beckley, Sussex, late Farmer—J. Fisher, Cardiff, Glamorganshire, Umbrella Maker—H. Fawcett, Dewsbury, Yorkshire, Timber Merchant—G. Gower, Perryfields, Kent, Musician—J. Henry, Rochdale, Lancashire, Coal Dealer—J. S. Hannam, Thruscross, Yorkshire, Farmer—C. S. Hannis, Wolverhampton, Doctor of Medicine—G. B. Hanson, Winteringham, Lincolnshire, Butcher—J. Horsley, Ilkeston, Derbyshire, Tailor—J. Hill, Leadington, Gloucestershire, Late Haulier—E. Holmes, Ilkeston, Derbyshire, Saddler—W. Hole, Eastwood, Nottinghamshire, Assistant to a Friendly Society—Frederick Handsley, Boston, Lincolnshire, Greengrocer—Dent Hodgson, Darlington, Durham, Wheelwright—George Harris, Epworth, Lincolnshire, Blacksmith—J. Illingworth, Epping Place, Mile End, Baker—J. Johnson, South Shields, Engineman—E. S. James, Avenue Road, Hammersmith—J. Jeffery, Halifax, Yorkshire, Grocer—J. King, Horley, Surrey, late Licensed Victualler—G. Kerchins, Wells, Somersetshire, Farmer—F. Kayser, Clarendon Street, Pimlico, late General Merchant—L. Lewis, John's Street, Commercial Road East, General Merchant—J. Marsh, Banstead Downs, Surrey, Sub-contractor—T. Morritt, Epworth, Lincolnshire, Innkeeper—W. B. Neave, Besthorpe, Norfolk, Miller—T. Owen, Liverpool, Licensed Victualler—C. Pope, Newport, Monmouthshire, Wheelwright—J. Pudney, Great Coggeshall, Essex, Journeyman Blacksmith—D. Robinson, Birmingham, late Coal Dealer—W. D. Ruck, Duke St., London Bridge, Provision Agent—H. T. Ryde, Burlington Villas, Paddington, late Commission Agent—J. Roberts, Burnham, Buckinghamshire, Beerhouse Keeper—W. Robbs, Wellclose Square, St. George's-in-the-East, late Publican—E. Roberts, Huddersfield, Commercial Traveller—R. Rostron, Bury, Lancashire, and M. M. Rooker, Manchester, Merchants—S. Sissons, Leeds, Journeyman Joiner—R. Smith, Old Weston, Huntingdonshire, Horse Dealer—T. Smith, Manchester, Plumber—Richard [illegible] Bryan, East Worlington, Devonshire, Clerk in Orders—J. Simmons, Nottingham Place, Charlotte Street, Whitechapel, late Lime Burner—J. Salmon, New Headington, Oxfordshire, Printer—W. S. Sanders, Basingstoke, Southampton, Miller's Assistant—J. Scurr, Workington, Cumberland, Saddler—T. M. Swift, Snake's Lane, Woodford, Commercial Clerk—C. J. Sharood, Birchmore Place, Cardington Street, Hampstead Road, Attorney's Clerk—W. H. Slocombe, Plymouth, Shopkeeper—D. Thomas, late on board the Petrel, in George's Dock, Liverpool, Mate—T. Thompson, jun., Nottingham, Painter—S. Treswell, Edmonton, Middlesex, Music Seller—J. Turton, Leighton Road, Camden Town, ex-Police Constable—J. T. Thomas, Gloucester Grove West, Old Brompton—J. Upton, Whitwick, Leicestershire, Farm Labourer—J. Walker, Orchard Street, York, Farmer—A. White, Ledbury, Herefordshire, late Beerhouse Keeper—S. Ward, Nottingham, Hosier—W. Webster, jun., Princes Square, St. George's-in-the-East, late Collector for the Albert Memorial Fund—A. R. Welham, Nelson Square, Blackfriars Road, Merchant's Clerk—J. Woodcock, Rotherham, Yorkshire, Fishmonger—J. Wright, Shrewsbury, Draper—H. Winn, Lincoln, City, Furniture Broker.

SCOTCH SEQUESTRATIONS.—J. Anderson, Aberdeen, Baker—D. Baillie, Dundee, Grocer—J. Reid, Govan, Glasgow, Coal Merchant—M. Thorburn, Nether Bowerhouse, Berwickshire, Farmer.

TUESDAY: April 7.—BANKRUPTS.—J. Allen, Illogan, Cornwall, Miner—T. Ardale, Darlington, Durham, Builder—E. Benjamin, Bermondsey Street, Bermondsey, Licensed Victualler—J. H. Burden, Belvedere Road, Lambeth, Tailor—W. Brown, Saffron Walden, Essex, Butcher—E. H. Beyler, Church Street, Deptford, Rag Merchant—J. Burns, Mangotsfield, Gloucestershire, Miller—T. Blake, Exmouth, Inn Keeper—E. Chapman, Humberstone, Lincolnshire—W. Chaffer, Otley, Yorkshire, Plasterer—Henry Clayton, Liverpool, Beerhouse Keeper—John Oldale Cutts, Sheffield, Electroplate Manufacturer—George Carter, Gateshead, Durham, Coal Dealer—Henry Courteen, Gloucester, Commission Agent—John Wiles Clavicoates, Horncastle, Lincolnshire, Cordwainer—T. D. Davis, King Street, Clerkenwell, Lodging Housekeeper—J. Frost, Tiverton, Devonshire, Bacon, Cheese, and Cider Dealer—R. Green, Titchfield, Hants, Saddler—J. Graham, Eden Town, near Carlisle, Brewer's Cooper—J. Gibbs, Coventry, Warwickshire, Coach Builder—J. Hughes, Machynlleth, Montgomeryshire, Draper—J. A. Harding, Bryanstone Street, Portman Square, Portrait Painter—W. Holdstock, Puxton, Kent, Farmer—J. Knowles, Manchester, Boot and Shoe Dealer—F. E. Keene, Minerva Terrace, Lorrimore Road, Walworth, Sheriff's Officer—A. Lingfield, sen., Dover, Engineer—C. B. Moore, Bath, Somersetshire, Provision Merchant—J. Nichols, Leman Street, Whitechapel, Butcher—E. Rescue, Stoke-upon-Trent, Potato Dealer—J. Rowntree, jun., Little Brighton, Lancashire, Grocer—S. Rockliffe, Ormskirk, Lancashire, Licensed Victualler—Edward Sprawson, Birmingham, Licensed Victualler—J. Summersby, Grange Road, Bermondsey, Butcher—R. Samler, Brick Lane, Whitechapel, Ink Manufacturer—J. R. Smith, West Hartlepool, Durham, Painter—T. Tildesley, Eccleshall, Staffordshire, Farmer—W. Vincent, Kingswinford, Staffordshire, Coal Dealer—W. H. Waddell, Gerrard Street, River Terrace, Islington, Clerk—W. Woodhams, Harleford Terrace, Bridge Road, Camberwell, Clerk—J. H. White, Highbury Vale, Islington, Dairyman—E. Wilkins, Bristol, Upholsterer.

SCOTCH SEQUESTRATIONS.—R. Fowler and J. Gourlay, Glasgow, Mahogany and Timber Merchants—J. Kerr, Glasgow, House and Ship Painter—J. Keir, Polmadie, Dairy Farmer—R. Murdoch, Newmarket of Bannockburn, Wright—J. M'Kinney, Glasgow, Fruit and Poultry Merchant—J. Ritchie, Upper Kinmouth, Kincardineshire, Farmer—A. Smith, Thurso, Caithness-shire, House Carpenter.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued | £28,770,200 | Government Debt | £11,015,100 |
| | | Other Securities | 3,634,900 |
| | | Gold Coin and Bullion | 14,120,200 |
| | | Silver Bullion | — |
| | £28,770,200 | | £28,770,200 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,129,445 |
| Rest | 3,087,339 | Other Securities | 19,720,339 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 6,714,109 | Notes | 8,069,110 |
| Other Deposits | 14,829,632 | Gold and Silver Coin | 843,635 |
| Seven days and other bills | 578,249 | | |
| | £39,762,529 | | £39,762,529 |

April 9, 1863. GEORGE FORBES, Deputy Cashier.

## Metropolis and its Vicinity.

Easter Dinner at the Mansion House.—The Lord Mayor and Lady Mayoress, in conformity with ancient custom, entertained a distinguished party at dinner on Easter Monday at the Mansion House. As no minister of the Crown, and no great public functionary of any kind was present on the occasion, the festival presented no feature of political significance.

The Easter Holidays.—Monday last was the usual Easter holiday, and there was the usual outpouring of the London working population. Greenwich was the favourite resort, but the parks and commons in the suburbs were also alive with population and gaiety; and the British Museum, the Zoological Gardens, the Crystal Palace, and the different Exhibitions had their full share of visitors, to say nothing of the overflow at the theatres in the evening.

Accident to the Chancellor of the Exchequer.—On Saturday evening, as the Chancellor of the Exchequer was riding in the western extremity of Rotten Row, his horse took fright, and the right hon. gentleman lost all control of the animal. He was at length thrown and received a severe cut on the forehead, a slight cut on the nose, and some severe bruises about the head. Having had his bleeding face washed in the park-keeper's lodge, he again remounted and rode home. On Sunday he was obliged to keep his bed. On Monday he was able to come down stairs, and is going on in a very satisfactory manner.

The Alexandra Channel.—The Trinity House Corporation have given notice that, in commemoration of the arrival of the Princess of Wales in the Thames on the 7th March, the channel recently buoyed and now known as the Shingles, through which the royal yacht passed, will, with the permission of her Royal Highness, be hereafter called the "Alexandra Channel."

King's College.—The Professorship of Classical Literature in this College, vacant by the preferment of Archdeacon Browne to the rectory of Weston-super-Mare and a canonry in Wells Cathedral, has been conferred upon the Rev. James Lonsdale, M.A., Fellow of Balliol College, Oxford. Mr. Lonsdale, who is the son of the Bishop of Lichfield, formerly Principal of the College, graduated at Oxford in 1837, when he took a first class in classics and a second in mathematics.

Arrest of Colonel Waugh.—The well-known Colonel Waugh, whose name has been connected with so many notable projects, was arrested a few days since in London. For a long time past he has been residing by turns in France and Spain, and no one believed that he would venture within the reach of the English law. He was taken to a lock-up house in Cursitor Street, where he remained for two days, and was then removed to Whitecross Street prison. The arrest was for 300*l.*, and immediately afterwards a detainer for 50,000*l.* was lodged at the suit of the official liquidator of the Great Eastern Banking Company. Other detainers of large amounts have since been lodged against him, and it is expected that he will make an appeal to the Court of Bankruptcy, to which his case was submitted in 1857, when affidavits from Spain were put in stating that his health was so bad that a journey to England might kill him.

Royal Academy.—Mr. Boxall and Mr. Weekes have been elected Royal Academicians. Mr. Le Jeune has been elected an Associate.

Scientific Balloon Ascent.—Mr. Glaisher and Mr. Coxwell made the first of a new series of scientific balloon ascents from the Crystal Palace last week, in the presence of a large number of scientific gentlemen. The balloon was inflated with between 60,000 and 70,000 cubic feet of gas, and the instruments to be used by Mr. Glaisher were arranged on a bench before him, from which they bristled up in such close array as nearly to hide him from sight. At 4.17 the balloon sailed easily off right in the eye of the declining sun. The wind was fresh and sharp from the east. The balloon passed close to the north water tower of the palace, and for a few minutes obeyed the direction impressed upon it at starting. The course was then slowly upward, with very little horizontal motion. A stiller ascent, and, therefore, a finer one for the purpose could hardly be imagined. At the height of about two miles the balloon stood over Clapham. At this elevation, however, it encountered a south-west current, which changed its course, and wafted it over the south-eastern part of London to Deptford and the Isle of Dogs, where it rose to an elevation of four miles and a half. The thermometer then stood at zero, a higher temperature than was expected at this season. Mr. Glaisher and Mr. Coxwell, counting their pulses, found them to make respectively 97 and 98 beats a minute. The aëronauts descended at half past six at Gaysham Hall, Barking Side, Essex, pleased with the success of their excursion. Mr. Glaisher expressed the highest satisfaction with the manner in which the balloon was managed by Mr. Coxwell, so as to enable him to make his observations with care and safety.

Mr. Frith's Railway Station.—Mr. Flatow has sold Mr. Frith's picture of "The Railway Station" to Mr. Graves, the eminent publisher, for the enormous sum of 20,000*l.*, the largest sum ever paid for any single picture. Mr. Frith is to receive from the Queen 3000*l.* for the picture of the Prince of Wales's marriage, and Mr. Flatow has purchased the right to engrave it for the large sum of 5000*l.*

Report of the Thames Embankment Commissioners.—The report of the Commissioners appointed to consider plans for making a communication between the embankment at Blackfriars and the Mansion House, by means of a new street in a north-easterly direction, and of connecting the western portion of the embankment with that now existing at Millbank, has just been published. With respect to extending the embankment eastward from Blackfriars Bridge to Queenhithe, the commissioners report against the plan on the ground of the expense, which would at the lowest estimate be 768,640*l.*, and because it would interfere with many valuable wharves in which extensive businesses are carried on. Two other plans were submitted to them, one for a wide road from the embankment at Blackfriars Bridge, terminating at the south-west corner of St. Paul's Churchyard, and thence by Cannon Street, where, by widening Walbrook, a splendid thoroughfare would be opened up. Were this plan adopted, St. Paul's would be shown to great advantage; but the commissioners cannot recommend it, as it would cost 713,643*l.*, and would interfere materially with some of the great trading establishments on the south side of St. Paul's Churchyard. The third plan, which the commissioners do recommend, is that proposed by the Thames Embankment Commission of last session,—viz., to widen Lower Thames Street as far as St. Bennett's Hill, and to make a new street to run into New Earl Street, and then by a curve to the Mansion House. The cost is estimated at 460,015*l.*

This new street the corporation is willing to construct, and to appropriate the 4*d*. coal duty to that purpose. With respect to extending the embankment westward from Westminster Bridge, it was at first suggested to carry it in front of the Houses of Parliament, but this the commissioners consider objectionable. First, the terrace and tower of the Palace of Westminster now project into the river to the extent to which it was considered prudent to carry it at the time, having reference to the flow of the current and the important traffic on the stream. They are also in a line with the abutment of Westminster Bridge, and with the intended embankment northward. It would therefore be necessary to turn out 70 or 80 feet of the embankment, to use for the roadway the first arch of the bridge, and after passing the Palace of Westminster, to fall back again the same distance to a new embankment there. The cost of such a work would be considerable, and the commissioners doubt whether those entrusted with the control of the navigation would assent to it. Great objections were felt against such interference with the architecture of the Palace of Westminster, and the inconveniences which would be caused by a public street being carried in front of the committee-rooms and libraries of both houses. The commissioners, therefore, reject this proposition, and in lieu of it propose to continue the communication westward from Palace Yard to the Horse Ferry Road, by improving and widening Abingdon Street and Millbank. They especially point out, that open spaces are greatly needed in the immediate proximity of the Victoria Tower, in addition to the requirements for ordinary traffic, and which on certain state occasions are even more urgent, because, on the opening and closing of Parliament, room is required near the Royal entrance for troops, masses of pedestrians, and for the convenient placing of the vast number of carriages which then assemble there. They also call especial attention to the unsatisfactory position of premises immediately facing the robing-room and other apartments in the south front of the palace. Trades are carried on at these wharves or warehouses and yards of an offensive kind; the buildings are mean in character, and are liable at any time to a conflagration, which might occasion damage to the Victoria Tower, in which are kept the records of both Houses of Parliament. The commissioners recommend that these buildings be removed, and the ground cleared southward as far as the line of Wood Street, or 415 feet, and that so much of it as extends to the line of Great College Street, or 230 feet, should be embanked, kept clear of buildings, and laid out and planted as ornamental ground. Such an application of the space would relieve the palace from great danger and nuisance, form a suitable appendage to the south front of the palace, and be an agreeable embellishment to the river. The clearing away of these buildings would materially improve the appearance of that front of the palace, the edifice itself being, in the opinion of the commissioners, "a worthy monument of the wealth, power, and dignity of the British empire; and it is but fitting that ample space on all sides should afford opportunities to the people for fairly seeing and duly appreciating its merit and surpassing grandeur." In conformity with this view the commissioners recommend that the houses in Poet's Corner, Old Palace Yard, and Abingdon Street and the mews in the rear should be taken down, the Chapter House, Henry VII.'s Chapel, and the south front of the Abbey being fully brought into view; that the residences which stand between the Chapter House and the garden to the south be removed, and the site so cleared laid open, by which a clear space from Henry VII.'s Chapel to Great College Street would be obtained, about 200 feet wide in its narrowest part. They suggest that the ground between the road and the river between the lines of Great College Street and Wood Street, being the southern portion of the ground next the river, might be advantageously let for the erection of six or eight first-class residences, standing in a line at right angles with the river, and looking on the proposed ornamental ground between them and the palace. They recommend that a short road be made through the enclosures on the north side of St. Margaret's Church, so as more directly to connect Victoria Street with the Houses of Parliament and the Thames embankment. They finally suggest, with the view of relieving the traffic of Parliament Street, that King Street be widened. The total cost of these improvements is estimated at 450,120*l*., of which the commissioners recommend that that portion which affects the improvement of the Palace of Westminster should be defrayed out of the consolidated fund, and the remainder by the metropolis.

The Gresham Professorship of Music.—The Gresham committee have given notice that they will not receive applications for the Gresham professorship of music, rendered vacant by the death of Mr. Edward Taylor, later than the 22d inst. Amongst the candidates for the appointment are Dr. Dearle, Dr. Wylde, Mr. Hullah, the Rev. J. E. Cox, M.A., vicar of St. Helen's, Bishopsgate; Mr. Chas. Salaman, Mr. E. Clare, Mr. G. Benson, Mr. Josiah Pitman, Mr. G. W. Martin, Mr. E. J. Hopkins, Mr. J. Goddard, Mr. F. Weber, Mr. G. F. Flowers, Mr. W. M. Cazalet, and Mr. H. J. Lincoln. The committee have also given notice that a selected number of candidates will be expected to deliver a probationary lecture at Gresham College, under such conditions as the committee may appoint.

The Commissionership of City Police.—Several gentlemen have announced their intention of becoming candidates for the appointment of chief commissioner of police in the City of London, vacant by the death of Mr. D. W. Harvey. Among them are Colonel Wellesley (a nephew of the late Duke of Wellington); Captain Hodgson, now the acting commissioner; Colonel W. Westcott Davidson, of her Majesty's Bengal army; Colonel Fraser, chief constable of Berkshire; and Major Finney, of the 4th Middlesex Militia.

The Roupell Forgeries.—Three fresh actions in reference to the Roupell property were to have been sent down for trial at the present Home Circuit, but on account of the defendants not being prepared with the whole of the evidence they intend to bring forward, they have been postponed to the summer assizes. One of these actions relates to an estate in Essex, said to be of the value of 30,000*l*.; and the two others relate to the Roupell Park property at Brixton, in which a sum exceeding 100,000*l*. is involved. It will be recollected that at the former trial, when Mr. W. Roupell acknowledged that he had forged his father's will, and also the deed of gift having reference to the estate at Kingston, which was then the subject of litigation, the action was not tried out, the defendant consenting to certain terms. In the cases now to be brought forward the defendants are determined to take the opinion of a jury, and the case they intend to set up is, that the deed and the will were really genuine instruments, and that the object of Mr. W. Roupell in confessing himself a forger, was to obtain the restitution of the property to his family. A mass of evidence will be adduced with a view to show that the instruments alleged by Mr. W. Roupell to be forgeries are, in truth, genuine documents, and it is understood that, with regard to the deed of gift, a witness will be brought forward who will swear that he saw the deceased actually sign it. If the jury should be of opinion that the case for the defendants has been established, it will, of course, amount to the expression of their opinion that Mr. W. Roupell is innocent of the crime of which he confessed himself guilty, and the Government will probably interfere and release him from the sentence of penal servitude for life, to which he was condemned on his plea of guilty.

Leicester Square.—At the last meeting of the Board of Works a deputation from the Vestries of St. Martin's-in-the-Fields, and St. James's, Westminster, presented a memorial urging upon the Board to oppose a Bill now before Parliament for turning Leicester Square into a retail market, under the name of Regent Market.

Tower Bridge.—Application has been made to Parliament for power to construct a footway bridge over the Thames from Irongate Stairs to Horsleydown. In consequence of the opposition of the Board of Trade and the wharf owners, from the expected interference of the bridge with the navigation, the engineer, Mr. Barlow, has now proposed for the same estimate to construct an iron subway or tunnel under the bed of the river at the same spot.

The Bakers.—The Government has introduced a Bill for the regulation of this trade. It contains three several enactments. The first is that no one under 18 shall be employed in a bakehouse between 9 P.M. and 5 A.M. The second is that every bakehouse must be kept in a cleanly state, and provided with proper means for effectual ventilation, and be free from effluvia arising from any drain, privy, or other nuisance; and that the inside walls and ceiling and the passages and staircase shall either be limewashed once in every six months, or painted with oil once in every seven years, and the painting washed with hot water and soap every six months. The third enactment is that no place on the same level with the bakehouse, and forming part of the same building, shall be used as a sleeping place unless it is effectually separated from the bakehouse by a partition extending from floor to ceiling, and has an external glazed window of at least 9 superficial feet, with 4½ feet made to open. It is to be the duty of the local authorities to enforce the Act, and their officer is to have power to enter bakehouses during baking hours to inspect them. The several provisions of the Bill are enforced by penalties ranging from 20*s*. to 20*l*.

Restaurants for the Working Classes.—A meeting of clergymen and gentlemen interested in the welfare of the working classes was held on Saturday at the Working Men's Club in Clare Market, to carry out a plan for providing refreshments at moderate charges to the working classes. The Rev. Joseph Irving, rector of St. Clement's Danes, presided, and the company sat down to a substantial dinner, which, it was stated, could be furnished, and was proposed to be furnished, to working men at 4½*d*. per head.

Murder of a Girl in George Street, Bloomsbury.—On Thursday a girl called Jackson was murdered at a disreputable house in George Street, Bloomsbury, a few doors from the police station. It appears that about 5 o'clock in the afternoon the servant went into one of the rooms to sweep it, when she was horror-struck at seeing the girl lying on the bed dead, with several stabs about the neck and breast. There was also a quantity of blood about the room, and in a washhand basin some blood and water, as if a person had washed his hands. The girl had been brought to the house about 6 o'clock in the morning by a man having the appearance of a foreigner, but no trace of him has yet been discovered.

The Public Health. — The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, April 4, were 1475. The average number in the corresponding weeks of the 10 previous years, 1853-62, corrected for increasing population, was 1368. The present return is, therefore, 107 above the average. During the week the births of 955 boys and 1017 girls, in all 1972 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1924.

## Provincial.

Gloucester.—A statue of the martyr Bishop Hooper was recently unveiled in this city, in the presence of the Mayor and corporation, the local clergy, and about 20,000 spectators. It cost 100 guineas, and was executed by Mr. Thornhill, of Dublin. It stands on a handsome stone pedestal, surmounted by a canopy and a Gothic spire, which have been recently erected by the poorer inhabitants of Gloucester and its neighbourhood, at a cost of about 400*l*., on the spot where the bishop was burnt. In the evening a public dinner, presided over by the Mayor, and attended by the principal citizens, took place at the King's Head Hotel. The proceedings of the day celebrated the 308th anniversary of the bishop's martyrdom.

Guildford.—An extraordinary sensation was recently created in this town, and for several miles round, by the discovery of five skeletons and considerable quantities of human bones on a piece of land called Uplands, on the Merrow road, about a mile from Guildford. For several months past some men have been at work on the ground, trenching the land and getting flints. A few days since one of them discovered five skeletons, each lying in a sort of rough vault dug out of the chalk. On the breast of one of them was a dagger or knife. The bones were much decayed, but one of the skulls was in a remarkable state of preservation, as were the whole of the teeth. Other excavations in the chalk have since been discovered, containing numerous bones which had evidently been disturbed by previous explorers. The skeletons have been examined by a surgeon, who has given his opinion that two were old men, two middle-aged, and one a young man, the skull of the latter being that apparently of an idiot. The bodies were all lying east and west. Two of the leg bones had been broken and set in a most surgeon-like manner, and from this and other circumstances it has been conjectured that the spot was the burial place attached to the old hospital of St. Thomas, which is known to have existed somewhere in the locality. Others suppose that the spot was an Anglo-Saxon burial ground, or that it marks the site of a Danish engagement.

Leeds.—Another murder and attempted suicide, the consequence of profligate life, took place in this town on Saturday morning. A man named Gair who had been a soldier and a policeman, quarrelled on Friday night with a woman named English, with whom he had been living for some years past, because she had lately shown a preference for another man. They slept together that night however, and in the course of Saturday morning another couple who lived in the same room with them were awoke by a peculiar noise, and found Gair in the act of cutting his own throat, having previously murdered the woman. At the inquest, on Thursday, the jury returned a verdict of Wilful Murder against Gair, who is likely to survive.

Liverpool.—About noon, on Sunday, Mr. Morgan, one of the Customs' Surveyors, acting under instructions from the Commissioners in London, went on board the small wood-built screw steamer Alexandra, recently launched from the building yard of Messrs. Miller and Sons, and fitting for sea in Toxteth Dock, and having marked the "broad arrow" on one of the masts, remained on board, keeping the vessel under surveillance. No official reason was given for this proceeding, but it is believed to be in consequence of information communicated to the authorities that the vessel is built as a gunboat for the Confederate Government. She is a fine looking craft of 265 tons, coppered and copper fastened, and presents the appearance of possessing great speed and considerable power. It is said that a legal investigation will be immediately made into the circumstances connected with the building and outfit of the vessel. It may be worth mentioning that the Alexandra has no gun-ports, or magazine, and is not provided with a shell-room, or any other arrangement pertaining to a war-ship, and has no engines on board. In short, she presents merely the appearance of a fast schooner-rigged steam yacht. It is understood that an official inquiry is at present in progress in Liverpool in reference to the sailing of the Alabama, and the conduct of the customs authorities of the port in not acting more promptly on the Government instructions. In connection with this subject we may mention that the steamer Japan, built by Messrs. Denny, of Dumbarton, sailed from the Clyde last week for a Confederate port, under the name of the Virginia, with several guns on board. Some of her seamen, who had been shipped at Liverpool, gave information to the United States Consul at that port, but in telegraphing the fact to the Minister in London, he omitted to state that the Japan was at Greenock. The orders for her detention were accordingly sent to Liverpool, but while the

Custom House authorities were searching in vain for a vessel of that name in the Mersey, she succeeded in getting away from the Clyde without any difficulty.—The capital sentence passed on Levi Taylor, a young man of 18, at the recent Assizes, for murder, has been commuted to penal servitude for life, in consequence of the strong recommendation of the jury, founded upon the great provocation received by the prisoner.

Loughborough.—An extraordinary and fatal outrage was perpetrated at Mount Sorrel stone quarries on Wednesday week, by a man named Joseph Webster, manufacturer, and keeper of the Royal Oak public-house at Quorndon. It appears that on the afternoon of that day Webster, who was in a state of intoxication—and when so is a perfect maniac—drove over in his spring cart to the top of the cliff of Mount Sorrel quarry, which is worked by Mr. J. Martin, the high sheriff, and after unharnessing his horse and turning it out upon the hills, laid hold of the shafts of the cart and backed it over the precipice (90 feet high) upon the men below. About 600 men were at work at the time, but some of them appear to have observed the descent of the trap, for a cry of warning was raised, and many were enabled to get out of the way; but one poor man, named Pidcock, was not so fortunate, for the cart fell upon him, and he received such serious injuries to his spine that he died in the course of the evening. The vehicle, it is hardly necessary to say, was smashed to splinters. Webster ran away, but was apprehended the same evening and conveyed to Loughborough police station. An inquest on the body of the unfortunate man who was killed terminated on Tuesday in a verdict of "Manslaughter" against the prisoner, who was committed for trial at the assizes.

Manchester.—At the weekly meeting of the Central Executive Committee on Monday, the Hon. Secretary reported that during the past week 22 packages of clothing, 13 boxes of provisions, and two hampers of wine had been sent off. The total receipt of money during the week was 9178*l.* 5*s.* 7*d.*; the balance at the bankers, on general account, was 410,166*l.* 18*s.* 8*d.*; on employment account, 10,572*l.* 2*s.* 6*d.*, making a total of 420,739*l.* 1*s.* 2*d.* The hon. secretary also reported a diminution in the number of those relieved by local committees to the extent of 21,000 persons within the last month. Mr. Farnall reported that on the 28th ult. there was a decrease in the number receiving parochial relief in 27 unions in the cotton manufacturing districts, as compared with the number so relieved in the previous week, of 2298. Several grants were voted to different places, some for periods of six weeks.

Newcastle-on-Tyne.—The official report on the inquiry respecting the loss of the Lifeguard steamer, which ran between Newcastle and London, has been issued. The nautical assessors are of opinion that the draught of water of the vessel was such as to have made her voyage, in winter, one of great danger, and that "there was no reason to believe that the master had not full power to reject cargo in case he was so minded."

Portsmouth.—A court-martial assembled on Monday on board the Victory for the trial of Captain Hillyar, C.B., late commanding her Majesty's ship Cadmus on the West India station, and Lieutenant Lillingstone, now first lieutenant of of that ship, on charges of cruelty and oppression towards Robert Baker and other boys on board the Cadmus. Rear-Admiral Smart, K.H., officiated as president. The evidence for the prosecution has occupied the Court during the whole week, and the inquiry is expected to be a protracted one.

Trowbridge.—Some weeks since it was stated that another judicial investigation of the Road murder, in June, 1860, was about to be made. The statement originated in a report that certain members of Mr. Kent's former household had at length revealed the secret connected with the crime. This report reached an officer who had previously made an active investigation of the case, and who at once determined to test the truth of the statement. The result of these inquiries was that he thought himself possessed of sufficient information to commence another investigation; but, when the proposition was submitted to the authorities, it was decided that the grounds on which it were based were insufficient to warrant any renewed effort, either publicly or privately, and consequently the proposed inquiry has been abandoned.

Warwick.—The execution of Henry Carter, a brass-founder, aged about 20, for the murder of his sweetheart, Alice Hinkley, at Birmingham, took place on Monday in front of the county gaol, in the presence of a large concourse of people. On reaching the scaffold he addressed the crowd, warning them not to give way to feelings of jealousy, lest they should meet the fate which he was about to receive, and which, he said, he well deserved. He then repeated a prayer from a book entitled "The Prisoner's Memorial," after which the bolt was removed and the drop fell. Death ensued almost instantly.

## Ireland.

Mr. Smith O'Brien on the State of Italy.—The *Nation* of Saturday contained a letter of four columns from Mr. Smith O'Brien on the "State of Italy," dated from Corfu. He counsels the Italians to abandon their aspirations for Rome as their capital, and considers Florence to be preferable. He describes the general condition of Italy in dark colours, and refers to the severity with which the Government was forced to deal with the Garibaldians and Mazzinists, in spite of which brigandage is still rife in Naples. He studiously omits all reference to the reforms effected by the Turin authorities, and the civil and religious freedom which has accompanied their administration in the remotest provinces of Italy.

The Tralee Disloyalists.—Since the resistance of the Tralee patriots to the authority of Dr. Moriarty and his clergy, the two leaders of the Young Men's Society have received notice to quit from their employment as shopmen. One of these was the person called to the second chair at the recent meeting, and the other was the orator who spoke to the toast of the "Irish Exiles." Two others are also under notice.

Execution at Belfast.—On Wednesday Daniel Ward, who was convicted at the recent assizes at Belfast of the murder of Charles Wilgar, was executed in front of the gaol in the presence of a large crowd. The convict made a full confession of his crime to the prison authorities.

## Scotland.

Lord Palmerston's Departure from Scotland.—On Saturday morning Lord Palmerston left Edinburgh on his return to London. On the previous day, being Good Friday, he attended Divine service at St. Peter's Chapel, Lutton Place, and afterwards ascended to the summit of Arthur's Seat, and visited Holyrood Palace. His lordship next called on the Lord Provost, and expressed his heartfelt gratification at the cordial reception he had met with from the public of Edinburgh, and the kind hospitality he and his party had experienced at the Lord Provost's hands, which he said he should ever remember with the most pleasurable feelings. His lordship also paid a visit to an old servant of Dugald Stewart, who well remembered his lordship when under the professor's roof in early days. His lordship went to her lodgings in No. 1, Rankeillor Street, and expressed himself much pleased with renewing the acquaintance of the old domestic, "Peggie Forbes." Dr. John Brown had discovered the existence of this old association, and with it a box of tools which were the property of "Young Maister Henry" of those days. The sight of them called up the memory of days long bygone, and the Prime Minister was anxious not to leave Edinburgh without expressing his kind remembrance of her who in humble life had never forgotten him. In the evening Lord Palmerston proceeded to the residence of Sir William Gibson Craig, the Lord Clerk-Register, at Riccarton, where he remained the night.

Fatal Boiler Explosion.—On Wednesday morning a boiler explosion took place at the Mossend Works, about three miles from Glasgow. Four men and a boy were killed on the spot, and eight others were so shockingly wounded and scalded, that some of them are not expected to survive.

## Railways.

Appalling Accident to an Express Train.—On Saturday evening an express train on the Great Northern Railway, travelling at the ordinary speed of 40 miles an hour, was literally dashed to pieces, and yet, wonderful to relate, no lives were lost, although, of course, most of the passengers were severely hurt. The tire of the leading wheel of the engine broke while crossing a high embankment close to the Little Bytham station, about seven miles from Stamford, and but for the fact that a number of goods vans and cattle trucks were standing on a siding into which the express ran at full speed, the whole train must have run over the embankment. The engine, carriages, and trucks, were shivered to fragments, and it was necessary to extricate the passengers through the windows of the dismantled carriages. It was then found that happily no lives had been sacrificed, though many were stunned and bleeding. The chief sufferers among the passengers appeared to be Mr. and Mrs. Fletcher, of Holland House, Clapham Common, who were on their way home from Newark. Mr. Fletcher was severely cut about the head and face, besides having sustained various other injuries; and Mrs. Fletcher was still more severely hurt. Both were conveyed to an inn near the station, where their wounds were dressed. Captain Handley, late of Harrowby, near Grantham, was among the other sufferers, his chief injury being a cut on the knee. The driver was thrown with great violence from his engine to the ground, and it is feared that some of his limbs are fractured. The stoker was thrown from the tender upon the top of one of the goods vans, and was very little the worse for the disaster. The guard also escaped almost unhurt. Several of the slightly wounded passengers returned to their homes by a north train, and others proceeded on their journey by the Leeds express, which came up some time after the occurrence.

## Law.

Central Criminal Court.—*The Acton Murder.*—*Joseph Brooks*, 25, and *Isaac Brooks*, 23, the one described as a labourer, and the other as a baker, brothers, were charged with the wilful murder of William Davey, a policeman at Acton. The details of this case were fully reported at the time in our Metropolitan news, and no new facts were disclosed at the trial. The evidence was wholly circumstantial, and in the opinion of Baron Wilde, who tried the case, did not at all implicate Isaac. though it left little doubt of the guilt of his brother, the most conclusive facts against him being those established by the evidence of his sweetheart, who gave her testimony in a very proper manner, but was overwhelmed with grief and distress in doing so. The Jury after an absence of 25 minutes returned a verdict of *Guilty* as regarded Joseph Brooks, and of *Not Guilty* as regarded Isaac. The prisoner Isaac was then removed from the bar, and Joseph was called up for judgment. On the usual interrogatories being put the convict remained silent, but stood with his hands clenching the front of the dock. Baron Wilde then assumed the black cap, and, addressing the prisoner, said—Joseph Brooks, you have been convicted of the crime of wilful murder. The jury have come to a conclusion which every body else in court who has heard your case must also have arrived at—namely, that you have committed a most foul and deliberate murder. In listening to the details as presented in evidence I have sought in vain for any circumstances of extenuation, and I fear what provocation or motive induced your guilty act must remain to a great extent a secret. It does not appear that you had received any provocation for your violence, but your whole course betrays the utmost deliberation on your part. With deliberation and coolness you procured the gun—with coolness and deliberation you went to the spot at which you knew the unfortunate deceased would be found—you called him out of his own house, and then mercilessly took his life. For this crime your own life is forfeited. His lordship then passed the sentence of *Death* in the usual form. The prisoner, who had maintained the utmost self-composure throughout the proceedings, quitted the dock with a firm and unembarrassed step. The moment the sentence was pronounced, the court was for some time disturbed by the violent shrieking of the prisoner's sister in the gallery, whose cries were most painful to all who heard her. *Attempted Murder at Bethnal Green.*—*Henry Carter Benjamin Pye*, 19, labourer, was indicted for feloniously shooting at Matilda Madlin, with intent to murder her. The prisoner was a boiler maker, and had been keeping company with the prosecutrix for about nine months, acting towards her as her accepted suitor. Some time prior to this occurrence the acquaintanceship was broken off, and she transferred her affections to another. On the evening of the 1st of April she was proceeding homewards, when she met the prisoner, who followed her and shot her with a pistol in the right side. The pistol had been loaded with a rivet, and he had a dagger in his coat pocket, and another in his box. The jury found him *Guilty* of shooting with intent to do grievous bodily harm. His lordship, in passing sentence, said that the prisoner had been convicted of a most serious offence, and that he might have been standing at the bar on the far more serious charge of having taking away life, because the means he employed for injuring the young woman were calculated to deprive her of existence. His punishment should be one of an exemplary nature, intended to deter others from the commission of similar offences. Duty and the law compelled the Court to visit with severity crimes of this description, which were at present becoming very prevalent. The jury had taken a very lenient but a very proper view of the case. If there were any circumstances which would induce a mitigation of punishment, these must be transmitted to the proper authorities; but, in the meantime, the sentence must be penal servitude for six years. *The Mutiny on Board the Peruvian Man-of-War.*—*Manuel Oliva*, 23, a Peruvian soldier, was charged upon the coroner's inquisition with the manslaughter of Francisco Cellegas. The facts of the case are so fresh in the recollection of the public, that it is unnecessary to repeat them. The Recorder having summed up, the jury, after a short deliberation, returned a verdict of *Not Guilty.*

Norfolk Circuit: Norwich.—*Coe v. Wise.*—*The Inundation in the Fens.*—This great case, which occupied the court and jury five days, was the first of a vast number of actions brought against the defendant in his capacity of clerk to the mid-level drainage commissioners. In the course of the case a great number of witnesses were called on both sides, persons resident in the neighbourhood, and engineers of the greatest eminence. Lord Chief Justice Erle, in summing up, put it to the jury, first, was damage caused to the plaintiff by the absence of due care and skill on the part of the defendant in making the sluice; secondly, in maintaining the sluice; thirdly, in providing remedies against mischief after the sluice was destroyed; and, fourthly, by reason that no puddle clay wall was made along each side of the banks of the cut. The jury found a verdict for the defendant on the first issue, and for the plaintiff on the last three issues: which was virtually a verdict for the plaintiff. As the facts in all the remaining actions must be identical with the facts proved in this case, it is probable that as far as the assize court is concerned all the cases are so far decided. But the jury having done their part with the facts, it will remain for the defendant to test the verdict in point of law, and to that end no doubt the matter will eventually come before the House of Lords.

Northern Circuit: Liverpool.—*The Preston Barracks Robbery.*—*Mrs. Black*, the wife of a military officer, who was taken into custody a short time ago on a charge of stealing jewellery from the rooms of the brother officers of her husband at Preston Barracks, was put on her trial, and pleaded guilty to the charge. She was sentenced by Mr. Baron Martin to 18 months' imprisonment.

Home Circuit: Lewes.—*Extraordinary Charge of Attempted Murder.*—*Kate Richardson*, 18, a good-looking young woman, was charged with feloniously attempting to administer a large quantity of corrosive sublimate to William and Martha Halstead, her master and mistress, with intent to murder them. Her mistress had given her notice to leave in consequence of some soldiers from Chichester coming to the house to see her but there appeared to be no ill-feeling in consequence. One day it was found that some poisonous substance had been put in the beer she brought up to the family for dinner. Her master and mistress, however, could not bring themselves to believe that she intended to poison them, and they contented themselves with discharging her. The story came to the ears of the police, and they put her on trial, but were unable to trace the poison to the possession of the prisoner. The Lord Chief Justice summed up in her favour.

## Sporting.

### NEWMARKET CRAVEN MEETING.

Monday.—The *Craven Plate.*—Lord Stamford's Romanoff beat Hypermnestra, Captain Lane's c., and 5 others. *Handicap Plate.*—Baron Rothschild's Rest beat Lord W. Powlett's b. f. Eleanor, Stockowner, Oberon, and 14 others. *Sweeps.*—Mr. G. Bryan's Fantastic beat Livingstone, Leotard, and Touch and Go. *Handicap Sweeps.*—Mr. Hodgman's Libellous beat Cellarius, Bandage, Douche, Beauvale, and Spark. *Sweeps.*—Mr. C. Alexander's Water Kelpie beat Jerry. *Sweeps.*—Baron Rothschild's ch. c. walked over. *Sweeps.*—Baron Rothschild's King of the Vale beat Oscar and Gladstone. The *Forty-ninth Riddlesworth Stakes.*—Sir C. Monk's Scamander walked over.

Tuesday.—The *Seventh Sale Stakes.*—Mr. Fleming's Gold Dust, beat Dunkeld and Equinox. *Free Handicap Sweeps.*—Mr. George Angell's Vigil, beat Queen Elizabeth, Titmouse, and Good for Nothing. *Renewal of the Sweeps.*—Lord Stamford's Cerintha beat Bright Cloud and Canace. *Sweeps.*—Baron Rothschild's Sister to Wing, beat Cassidia, Curaçoa, and Nebula. *First Year of the Fifth Biennial Stakes.*—Mr. Savile's

The Ranger, beat Gladstone, Escape, Onesander, Newchurch, and 7 others. The *Newmarket Handicap.*—Ten Broeck's Bedouin beat Watchman, Fairwater, Attaman, and 14 others.

Wednesday.—*Free Handicap Sweeps.*—Mr. R. Ten Broeck's Santhal beat Mrs. Trimmer, Mr. F. Barne's f., and Nebula. *Sweeps.*—Lord Stamford's Oscar beat Lord W. Powlett's f. and Rosina. *Column Stakes.* — Count Batthyany's Turcos beat Curaçoa and Water Kelpie. *Sweeps.*—Lord Uxbridge's Erythia walked over. *Handicap Sweeps.*—Mr. J. H. C. Wyndham's Innellan beat The Maltster and Anaticulus. *Sweeps.*—Lord Exeter's Amelia beat Canace and Cassidia. *Subscription Plate.*—Sir J. Hawley's Argonaut beat Fantastic, Mr. Saville's f., Mr. Price's f., and Lizzie. *Sweeps.*—Lord St. Vincent's Necromance beat Harleston and Peru. *Plate.*—Mr. Savile's Clairvoyante beat Mr. H. Bird's f., Whitefield, and 13 others. The *Derby Trial Stakes.*—Count F. de Lagrange's Stradella beat Buckstone, Clarissimus, and 3 others.

Thursday. — *Second Year of the Fourth Newmarket Biennial Stakes.*—Mr. H. Saville's Harlequin beat Inellan, Canwell, and 8 others. *Handicap Plate.*—Mr. Payne's Bandage beat Battery, Stanton, and 4 others. *Sweeps.*—Mr. Naylor's Maccaroni beat Lord Glasgow's c, Valentine, Baron Rothschild's c, Gratitude, and Le Maréchal. *Second Year of the Ninth Aske Produce Stakes.*—Lord Stamford's Flying Fish walked over. A *Subscription Plate.*—Lord Portsmouth's Mrs. Trimmer beat Alcibiade, Lord Wilton's c, Newfoundland, and 4 others *Free Handicap Sweeps.*—Mr. G. Bryan's Zora beat Biondella, Spark, and Camperdown. *Sweeps.*—Lord Stamford's Le Maréchal beat Brother to Morocco. *Claret Stakes.*—Mr. Merry's Buckstone beat Clarissimus and Zetland. *Match.*—Mr. Rowland's The Bey of Tunis beat Bandage. *Plate.*—Mr. Eyton's Welcher walked over.

Friday.—*Queen's Plate.*—Asteroid beat Amy. *50l. Handicap Plate.*—Welland beat Stockowner and 8 others. *Bennington Stakes.*—St. Anne f walked over. *Match.*—Water Kelpie walked over. *Sweeps of* 100 *Sovs.*—Escape beat Beauvale. *Port Stakes*—Stradella beat Marquis.

## Obituary.

Admiral Sir John Louis, of Cadwell, Devon, died at his residence, 61, Eaton Place, on the 30th ult. He entered the navy in 1795; and when lieutenant of the Naiad, assisted at the cutting out of a French war-schooner near Brest. He commanded the Aigle, in 1814, and was particularly praised for the manner in which he placed his ship, and the precision of her fire when engaged in capturing and destroying a French convoy under the guns of Port Maurice. He became captain in 1806, rear-admiral in 1838, vice-admiral in 1849, and admiral of the white in 1815. He received the good-service pension in 1860. He was superintendent of Malta Dockyard from 1838 to 1843, and superintendent at Devonport from 1846 to 1850. He was also naval aide-de-camp to William IV. In 1807 he married the eldest daughter of Lieut. Colonel Kirkpatrick, of the 8th Bengal Native Infantry. He is succeeded in the baronetcy by his grand son.

Admiral Carter died on the 2d inst, at 12, Devonport Street, in his 78th year. He entered the navy in 1798, on board the Brilliant, 28, and in July following participated, off Santa Cruz, in that ship's escape from two 44-gun frigates. In 1805 he was promoted from the Victory, flagship of Lord Nelson, to an acting lieutenancy in the Leviathan, 74. He bore a part in the battle of Trafalgar, and was afterwards employed, at much personal risk, in securing the prisoners and destroying the prizes. After serving for a few months at the commencement of 1806 in the West Indies, he took command of the Cerf, 18, which he brought across the Atlantic with sails under her bottom and pumps going the whole passage. In 1814 he captured the French privateer L'Emile, 14, off St. Valery. He obtained post rank in 1815, was superintendent of Haslar Hospital and of the Royal Clarence Victualling Yard from 1841 to 1846; became Rear-Admiral on reserved half-pay in 1851; Vice-Admiral in 1857; and Admiral in 1862.

Rear Admiral John Shepherd died at Beaumont Lodge, Fareham, on the 2d inst. He was the eldest son of the late Rev. John Shepherd, M.A., perpetual curate of Pattiswick, Essex. He was born in 1794, and entered the navy in 1805. He served in the Channel, on the coast of Ireland, and on the Halifax Station, and was promoted to lieutenant in 1813. He served in that rank for some years on the North American and Jamaica stations, and after being advanced to the rank of commander in 1828, served in the West Indies, and on the Mediterranean and Lisbon stations. He obtained post rank in 1840, and commanded the Sparrowhawk on the coast of North America and at the Cape of Good Hope. He was captain of the St. Vincent, 120, in the Channel in 1846; commanded the Inconstant, 36, on the south-east coast of America, and in the Pacific from December, 1847, until the spring of 1850. He was captain of the Victory, flag-ship, at Portsmouth, from 1852 to 1853; and was commodore of the Fisgard, and superintendent of Woolwich dockyard from 1853, until advanced to flag rank in 1858.

Mr. Augustus Egg, R.A., one of the foremost of our Royal Academicians, died in Algiers on the 26th ult. He was born in 1817, and first exhibited at the Academy in 1838. His productions early attracted attention, and in 1848 he was elected an associate. In 1848 he executed his well-known picture, Gil Blas exchanging Rings with Camilla. In 1850 he executed what is generally considered his best picture, in which Peter the Great sees Catherine, his future Empress, for the first time. In 1857 he was selected to arrange the gallery of modern paintings at the Manchester Exhibition, and in 1859 exhibited at the Royal Academy a Trilogy, which was highly spoken of, and in the same year a subject from Thackeray's "Esmond." He was highly esteemed as a painter of scenic and humorous subjects, and the memoir writers of the 17th century furnished materials for many of his most successful pictures.

Mr. Thomas Powell, the well-known colliery proprietor of South Wales, died suddenly on the 24th ult., at his residence, the Gaer, Newport, Monmouthshire, in his 83d year. He was the owner of 16 collieries, and had about 6000 people in his employ. He was probably the largest coal exporter in the world, and an idea of the immense resources of his works may be formed from the fact that he shipped last year not less than 700,000 tons. He had been connected with the South Wales coal trade for half a century.

Mr. Edward Hughes Ball Hughes died a few days since at St. Germains near Paris, where he had long resided. In the days of George IV. Ball Hughes, or "Golden Ball," as he was called, was one of the leading dandies of a period which immediately followed that of Beau Brummell. He figured in the best society of London, among whom his fortune and favourable personal appearance made him a welcome guest. One evening at the Italian Opera the audience were disappointed at the non-appearance of the celebrated dancer of the day, Madlle. Mercandotti, who had unexpectedly become the wife of Mr. Ball Hughes. They departed for the Continent, and from that time the Golden Ball was heard of no more in the circles of fashion in London.

Mr. Lucas Barrett, the naturalist, died on the 18th Dec. at Kingston, Jamaica, in his 25th year. He was born in Tottenham Court Road in 1837, and became so early devoted to geological science that his election as a Fellow of the Geological Society took place at the early age of 18, so that he was, perhaps, the youngest man ever elected to a fellowship in that body. In the following year he accompanied Mr. M'Andrew in a tour through the Shetlands, and in a subsequent cruise on the coast of Norway, and northward beyond the Arctic Circle. In the next year he visited Vigo Bay with Mr. M'Andrew, and in 1858 he made a cruise with Captain Taylor off the coast of Greenland, and formed a collection which is partly in the British and partly in the Woodwardian Museum. He was at this time curator of the Woodwardian Museum, having been selected by Professor Sedgwick as the successor to Professor Frederick M'Coy, on the departure of that distinguished geologist to Melbourne. In 1859, by the recommendation of Professor Phillips, he received the appointment, from Sir E. Bulwer Lytton, of Director of the Geological Survey of the British West Indies, in accordance with which he shortly afterwards left England. In the spring of last year he returned to England as one of the Commissioners for Jamaica to the International Exhibition, availing himself of this visit to keep term at Trinity, and to give the most active and useful help to the meeting of the British Association. During his stay in England he made a balloon ascent with Mr. Coxwell, and gave much attention to submarine explorations, taking out with him a diving machine for exploring the sea bed at depths seldom reached by such an apparatus. On the 17th of December, he descended four times successfully in Kingston Harbour. The results gave him such confidence that, contrary to the advice of his friends, he resolved to go down at the Caps outside Port Royal, in order to try deep water and to search the coral reefs. On the 19th of December, after examining the apparatus and the pumps, he descended at that place, with a signal line in his hand, but not firmly attached, as it should have been, to his person. As he remained long under water without giving any signal from below, his attendants in the boat endeavoured to communicate with him, but found that he had parted from the signal line; and soon afterwards his lifeless body rose and floated on the surface.

Wills.—The will of Sir Benjamin C. Brodie, Bart. has been sworn under 18,000*l.* personalty; Archdeacon Thorp, of Durham, 45,000*l.*; Mrs. Marlborough, of Streatham, 12,000*l.*

BIRTHS.—On the 7th inst, at 48, Rutland Gate, the Viscountess Bury, of a son—7th inst, at 2, Upper Belgrave Place, Lady Helena Newenham, of a daughter—30th ult, at 86, Eaton Place, the Hon. Lady St. John Mildmay, of a son—4th inst, at Stoke Talmage, Oxon, the Hon. Mrs. William Byron, of a son—5th inst, at 42, Portman Square, the Hon. Mrs. Portman, of a daughter—2d inst, at 7, Merrion Square, Dublin, the Hon. Mrs. Fitz Gerald, of a son—27th ult, at Nettleworth Hall, Notts, the wife of Colonel FitzHerbert, of a son.

MARRIAGES.—Jan 29, at Christ Church, South Garra, Melbourne, Thomas Minchen, Esq., to Sarah Anne, eldest daughter of the Rev. William Newton Guinness, incumbent of Christchurch, and granddaughter of the late Rear Admiral the Hon. Wm. Le Poer Trench, of Dalystown, county Galway—7th inst, at Broadwater Church, Sussex, Augustus Pechell, Esq, eldest son of the Rev. Horace and Lady Caroline Pechell, to Lucy Jane, only daughter of the Rev. Charles D. Beckford—7th inst, at Wimborne Minster, the Rev. Robert William Plumptre, rector of Corfe Mullen, the only son of the Rev. Robert Bathurst Plumptre, to Ellen Blanche, the third daughter of John Bingley Garland, of Stone Cottage, Wimborne, and Leeson House, Langton, in the county of Dorset, Esq.

DEATHS.—On the 1st inst, at Woburn, Isabella Sophia, youngest daughter of Lord Charles J. F. Russell, aged 18—4th inst, at 66, Eaton Place, Captain W. W. Cole, second son of the late General the Hon. Sir G. Lowry Cole, G.C.B., aged 43—1st inst, at 29, Cambridge Terrace, Hyde Park, the Hon. Mrs Yelverton, wife of the Hon. W. H. Yelverton, of Whitland Abbey, Carmarthen, second son of the late Viscount Avonmore, and only daughter of John Morgan, Esq., of Furnace, Carmarthen, by his wife, Maria Lloyd, granddaughter of Lord Lisburne—7th inst, Lady Magnay, wife of Sir Wm. Magnay, Bart, of 24, Kensington Gate, Hyde Park—2d inst, at Great Malvern, Mary, widow of the late Arthur Heywood, Esq, of Stanley Hall, Wakefield, and niece and co-heiress of the late Sir Edmund Mark Winn, Bart, of Aketon Hall, Yorkshire—5th inst, at Ballycurry, co. Wicklow, Isabella Catherine, wife of Charles Tottenham, Esq, M.P.—4th inst, Frances, the widow of General Walter Tremenheere, K H., aged 86—5th inst, at Wooden House, Roxburghshire, Lieut.-General Duncan Scott, late H E.I.C.S., Bengal—March 31, at Dublin, Lieut.-Gen. J. Paterson, aged 87—4th inst, at Wells, Somerset, Jane Catharine, widow of the Very Rev. Thos Gaisford, D.D., Dean of Christ Church, Oxford, aged 75—7th inst, at Normanton Rectory, the Ven. Thomas Kaye Bonney, A.M., Archdeacon of Leicester, rector of Coningsby, Lincolnshire, and of Normanton, Rutland, and Prebendary of Lincoln Cathedral, aged 80—March 28, at Hernden House Eastry, near Sandwich, the Marquis Grimaldi (commonly called Stacey Grimaldi, Esq., F.S.A.), aged 72—4th inst, at Brighton, Charlotte, widow of Lieutenant-Colonel P. Campbell, C.B., late of the 52d Regt.—4th inst, at 6, Linden Grove, Kensington, Lieutenant-Colonel James Poole Oates, K.H., C.B., 88th Regt. Connaught Rangers, aged 95—6th inst, at Sadborow, Dorset, Colonel Bragge, late 3d King's Own Light Dragoons, aged 75—March 22, at Weston-super-Mare, Colonel Robert Shafto Vicars, aged 66—30th ult, at 12, Windsor Terrace, Kingstown, Louisa, wife of Captain Robertson, 4th Dragoon Guards, and eldest daughter of the late Colonel James M'Alpine, of Wyndsor House, Mayo, aged 22. [This was inadvertently inserted amongst the Marriages last week.]—4th inst, at Llanvair, Cardiganshire, Levett Thoroton, Esq., late Captain in H.M.'s 44th Regiment, aged 33—5th inst, at 31, Chester Terrace, Regent's Park, John Taylor, Esq, F.R.S. aged 83—4th inst, Ida Muriel Lovatt, eldest daughter of John Ayshford Wise, Esq., of Clayton Hall, Staffordshire—3d inst, at Speldhurst, Augustus Smyth, fourth son of the late Rev. Baden Powell, Savilian Professor of Geometry, Oxford, aged 13—30th ult, at 26, Edwardes Square, Kensington, the Rev. Charles Eckersall, M.A., aged 65—30th ult, at Brighton, the Rev. John Taylor, vicar of Croxton-Kerrial, Leicestershire—At Devonshire Place, Bath, A. Lawrance, Esq., aged 88.

## Markets.

### BRITISH WOOLS.—London, April 10.

In consequence of the holidays we have had almost a cessation of business. A few transactions only have taken place to supply pressing requirements, at late rates.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| South-down Hoggets | 1 8½ to | 1 9 | Leicest. Wethers | 1 7 to | .. |
| Half-bred ditto | 1 8½ — | 1 9 | Ditto Hoggs | 1 8 — | .. |
| Down Ewes | 1 8 — | 1 8½ | Combing Skins | 1 2 — | 1 6 |
| Kent Fleeces | 1 7 — | 1 7½ | Flannel Wool | 1 4 — | 1 8 |
| | | | Blanket ditto | .. — | .. |

### METROPOLITAN CATTLE MARKET.

Monday, April 6.

The number of Beasts is very much smaller than on Monday last. Trade is more active, and prices are rather higher for all descriptions. The supply of Sheep is also considerably less, but the demand is still moderate, and it is very difficult to obtain higher rates, except in choicest qualities. Good Calves are scarce and dear. Lambs maintain Thursday's quotations. From Germany and Holland there are 520 Beasts, 3690 Sheep, and 82 Calves; from Spain, 86 Beasts; from Scotland, 450; from Ireland, 80; and 1930 from Northern and Midland Counties.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to | 5 0 | Best Long-wools | 5 2 to | 5 6 |
| Best Short-horns | 4 6 — | 4 10 | Do. Shorn | 4 4 — | 4 8 |
| 2d quality Beasts | 3 0 — | 4 0 | Ewes & 2d quality | 4 6 — | 4 10 |
| Best Downs and Half-breds | 5 6 — | 5 8 | Do. Shorn | 3 10 — | 4 2 |
| Do. Shorn | 4 8 — | 5 0 | Lambs | 7 4 — | 8 0 |
| | | | Calves | 5 4 — | 6 0 |
| | | | Pigs | 3 4 — | 4 8 |

Beasts, 3410; Sheep & Lambs, 19,720; Calves, 82; Pigs, 360.

Thursday, April 9.

The number of Beasts is larger than on Thursday last, yet there is a demand for them, and prices are about the same as on Monday. We have a fair supply of Sheep; the demand is very limited, and a clearance cannot be effected, although there is a disposition to take lower rates. Lambs and Calves are not quite so much in request as they have been, and prices are lower. Our foreign supply consists of 85 Beasts, 1230 Sheep, and 117 Calves. Milch Cows, 115.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to | 5 0 | Best Long-wools. | 5 0 to | 5 6 |
| Best Short-horns | 4 6 — | 4 8 | Do. Shorn | 4 4 — | 4 6 |
| 2d quality Beasts | 3 0 — | 4 0 | Ewes & 2d quality | 4 6 — | 4 10 |
| Best Downs and Half breds | 5 6 — | 5 8 | Do. Shorn | 3 10 — | 4 0 |
| Do. Shorn | 4 8 — | 4 10 | Lambs | 7 0 — | 7 8 |
| | | | Calves | 5 0 — | 5 8 |
| | | | Pigs | 3 4 — | 4 8 |

Beasts, 1185; Sheep & Lambs, 6640; Calves, 717; Pigs, 130.

### COVENT GARDEN, April 11.

Supplies of English grown Vegetables of good quality are now plentiful, and importations of foreign goods are also well kept up Good samples of Apples and Pears now realise high prices. Oranges are also dear. Cucumbers are cheaper. Pine Apples and Grapes are sufficient for the demand. Potato sales have not altered since last report. Cornish Broccoli is still coming in by the crateful. Cut flowers chiefly consist of Orchids, Pelargoniums, Cinerarias, Azaleas, Violets, Mignonette, spring bulbs, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 7s to 10s | Oranges, per box, 12s 6d to 30s |
| Grapes, per lb., 15s to 20s | — per 100, 4s to 8s |
| Strawberries, p. oz., 1s to 1s6d | Nuts, small, p. bush, 14s to 18s |
| Pears, per doz., 4s to 10s | Chesnuts, do, 8s to 12s |
| Apples, per doz., 9d to 1s 6d | Almonds, do., 18s |
| — per ½ sieve, 3s to 6s | Walnuts, do., 10s to 16s |
| Lemons, per 100, 5s to 9s | Kent Cobs, p. 100 lbs., 150s |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Asparagus, per 100, 9s to 12s |
| Potatoes, York Regents, p. ton, 100s to 110s | Seakale, p. punnet, 1s 3d to 2s |
| ,, Flukes, do., 120s to 140s | Shallots, per lb., 6d to 8d |
| ,, Rocks, do., 60s to 80s | Rhubarb, p. bundle, 6d to 9d |
| ,, Cups, do., 75s. to 85s | Garlic, per lb., 6d to 8d |
| Turnips, p. bunch, 3d to 4d | Lettuces, each, 1d to 2d |
| Carrots, do., 3d to 6d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bundle, 1s 6d to 4s |
| Cucumbers, each, 1s to 2s | Salsafy, per bundle, 1s 6d to 2s |
| Beet, per doz., 1s 6d | Scorzonera, p. bundle, 1s 3d to 2s |
| Celery, p. bundle, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 3d |
| French Beans per 100, 2s | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch 2d to 4d |

### NEWGATE.—April 10.

Best Fresh Butter .. .. 15*s.* per dozen lbs.
Second do. do. .. .. 13*s.* ,,
Pork, 4*s.* 0*d.* to 4*s.* 8*d.* per 8 lbs.

### HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, April 9.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 72s | Clover, old | 90s to | 110s |
| Superior do. | 75 | 80 | New Clover | — | — |
| Inferior do. | 40 | 60 | Do. second cut | 80 | 105 |
| New do. | — | — | Straw | 30 | 36 |
| Rowen | 40 | 60 | | | |

Harvey & Easton.

Cumberland Market, Thursday, April 9.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 88s to | 96s | Inferior Clover | 76s to | 96s |
| Inferior do. | 65 | 78 | New do. | — | — |
| New do. | — | — | Straw | 39 | 44 |
| Superior Clover | 108 | 115 | | | |

Joshua Baker.

Whitechapel, Thursday, April 9.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 75s to | 84s | Prime Clover | 110s to | 116s |
| Inferior do. | 60 | 70 | Inferior do. | 100 | 105 |
| Prime New Hay | — | — | Prime 2d cut | 100 | 108 |
| Inferior | — | — | Inferior do. | — | — |
| Straw | 32 | 36 | New 2d cut | — | — |

### HOPS.—Borough Market, Friday, April 10.

Messrs. Pattenden & Smith report the demand increasing for Hops of all descriptions, and prices are the turn dearer for the better sorts of both English and foreign. Americans have been selling freely all the week, at an advance of 10s. per cwt. from the lowest point.

### MARK LANE.—Monday, April 6.

The supply of Wheat from Essex and Kent to this morning's market was small. Picked samples were taken freely at last Monday's prices, but the others met a slow sale, with but a poor attendance. Foreign Wheat was taken in retail only at our late quotations. Grinding Barley was 6d. per qr. cheaper, other descriptions unaltered. Beans and Peas brought late quotations. The Oat trade was slow, at about the prices of this day se'nnight. Flour was neglected.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk..White | 46—56 | Red .... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — — Talavera | 48—60 | | |
| — Norfolk | — | Red .... | — |
| — Foreign | 34—64 | | |
| Barley, grind. & dist., 23s to 30s..Chev. | 34—38 | Malting . | 31—34 |
| — Foreign..grinding and distilling | 24—28 | Malting . | 31—33 |
| Oats, Essex and Suffolk | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .. | 21—25 |
| — Irish ....Potato | — | Feed .. | — |
| — Foreign....Poland and Brew | 20—22 | Feed .. | 17—22 |
| Rye | 35—37 | Foreign . | — |
| Rye-meal, foreign | — | | |
| Beans, Mazagan....30s to 31s ...Tick | 31—32 | Harrow . | 31—32 |
| — Pigeon ......34s —38s..Winds. | — | Longpod | — |
| — Foreign ....Small | 40—46 | Egyptian | 32—34 |
| Peas, white, Essex and Kent..Boilers | 35—37 | Suffolk . | 37—40 |
| — Maple ....42s to 43s ......Grey | 36—37 | Foreign . | 30—38 |
| Maize ....White | — | Yellow .. | — |
| Flour, best marks delivered..per sack | 42—47 | | |
| — 2d do ....ditto | 32—40 | Country | 32—40 |
| — Foreign ....per barrel | 23—30 | Per sack | 34—48 |

Friday, April 9.

The weather since the 27th ult. continued fine with night frosts until the 7th inst., when it became somewhat showery. The wind has been southerly, varying from W. to E. and back

again, and was generally strong. Temperature becomes warmer. During the above period the Wheat trade has been very inanimate, and where sales ex ship were imperative, buyers have succeeded in purchasing winter American at a decline of rather more than 1s. per qr. Prices of Barley have given way about 1s. per qr., and the previous values of other kinds of Spring Corn have been barely supported. Flour has been very difficult of disposal, and sales of any extent were only practicable on reduced terms. Since the 27th ult. 27 vessels have been reported off the coast. In consequence of the very small number of vessels off the coast, and of the great want of inclination to buy, the floating trade was extremely quiet, and very few transactions have taken place at late rates; for Maize only a trifling advance could be obtained. In Paris (April 9), the Flour trade continued slow at unaltered prices. The six marks for delivery this month are quoted equal to 40s. per 280 lbs. The present stock of Flour is estimated at 18,930 cwts. Wheat is quiet, and all but the finest samples have declined about 3s. per 480 lbs. since the 26th ult. The arrivals of foreign Barley this week have been good, but of all other grain and Flour small. To-day's market was poorly attended. English Wheat met a slow sale at Monday's prices; business in foreign was quite of a retail character, and for ex ship parcels late rates were barely supported for American. Barley, Beans, and Peas were neglected. Oats were steady at Monday's quotations.

ARRIVALS THIS WEEK.

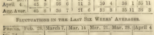
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 610 qrs. | 420 qrs. | — qrs. | 1090 sks. |
| Irish .... | — | — | — ,, | — ,, |
| Foreign .. | 9530 ,, | 4310 ,, | 7740 ,, | 150 ,, 6970 brls |

LIVERPOOL, April 7.—We have had a good attendance of both town and country millers and dealers at this morning's market, and Wheat opened with a good inquiry; holders, however, remaining firm at the full prices of last Tuesday, only a moderate business resulted. Flour dull of sale, and irregular in value. Indian Corn is more freely offered, and may be quoted 3d. per qr. cheaper, both ex quay and store. Oats and Oatmeal quiet but steady. Beans are the turn easier. Peas and Barley unchanged. The market closes with a holiday appearance.

FRIDAY, April 10.—The market moderately attended. Wheat fair business, without change in prices. Flour depressed. Fair inquiry for Indian Corn and 3d. lower. Beans steady. Oats and Oatmeal unchanged.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Feb. 21.. | 46s 7d | 36s 5d | 21s 9d | 33s 4d | 36s 4d | 37s 8d |
| March 7.. | 46 2 | 36 10 | 21 11 | 33 1 | 36 2 | 37 3 |
| — 14.. | 45 3 | 36 7 | 21 4 | 34 5 | 35 0 | 35 11 |
| — 21.. | 45 0 | 36 9 | 21 6 | 35 11 | 35 7 | 34 6 |
| — 28.. | 45 4 | 36 5 | 21 2 | 32 4 | 35 4 | 36 5 |
| April 4.. | 45 9 | 36 6 | 21 5 | 30 4 | 36 1 | 35 11 |
| Agg. Aver. | 45 8 | 36 7 | 21 6 | 33 3 | 35 11 | 36 3 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




COAL MARKET.—April 8.

Byass's Bebside West Hartley, 15s. 3d.; Wylam, 15s. 6d.; Hastings Hartley, 15s. 3d.; Tanfield Moor Butes, 12s.; Walls End Riddell, 14s. 3d.; Walls End Haswell, 17s. 3d.; Walls End Hetton, 17s. 3d.; Walls End South Hetton, 17s. 3d.; Walls End Cassop, 15s.; Walls End Hartlepool, 16s. 9d.; Walls End Kelloe, 16s.; Walls End South Kelloe, 15s. 6d.; Walls End South Hartlepool, 15s.; Walls End Trimdon Thornley, 14s. 3d.; Carway and Duffryn Malting, 19s. 6d.—85 ships at market.

WANTED, a FOREMAN, who thoroughly understands the Cultivation of Heaths, Azaleas, and other hard-wooded Plants, for Stock and Specimen plants.—Apply personally or by letter to WILLIAM ROLLISSON & SONS, The Nurseries, Tooting, London, S.

WANTED, a Single Man, as GARDENER, of strictly sober and steady habits. He will be required to take charge of a Cow. References must accompany application. Board and lodging will be provided.—Reply, stating wages required, to be addressed Y., *Weekly News* Office, Burton-on-Trent.

WANTED, a GARDENER and WOMAN SERVANT, 11 miles out of London. The Man must understand Kitchen and Flower Garden, and look after a Horse and Chaise, and be generally useful. Wages 18s per week. The woman must be a good Plain Cook, and understand House work. Only two in family; Washing put out. £12 per year and all found (with the probability of a rise). None but those whose character will bear the strictest investigation need apply (by letter.)—A. Z., Erswell's Carriage Manufactory, Little Moorfields, Finsbury, E.C.

WANTED, a good SOFT-WOODED GROWER, one who thoroughly understands the Growing of Plants for Market.—Apply, stating age, ability, and salary desired. GEORGE MCRAE, Tredegar Nursery, Bow Road, E.

WANTED, an UNDER GARDENER who can Mow well, and make himself useful in a Garden and Houses. Wages, 15s. a week. Good reference required.—Mr. BEGEEING, Southend, Eltham, Kent.

WANTED, a YOUNG MAN of good address to serve in the Seed Shop, attend upon Customers, and to make himself generally useful.—Direct, stating terms and reference, in own handwriting, to G. H. BUNNEY, Nurseryman, Stratford, Essex, N.E.

WANTED, in one of the principal London Nurseries, a YOUNG MAN, to assist in the Packing Shed, and make himself generally useful. One who has some previous knowledge of Packing will be prefered. Liberal wages, and a permanent situation, will be offered to any suitable applicant —Apply to Mr. JAMES VEITCH, jun., Royal Exotic Nurseries, King's Road, Chelsea, S.W.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (HEAD).—Middle-age, married, without incumbrance; Scotchman. A lady who has extensive Gardens in Sussex, can with confidence recommend an active Man as above, who has given her satisfaction in Forcing Peaches, Grapes, &c., all the year round. Has been a successful Exhibitor, and has a Certificate from Dr. Lindley for Mushrooms. Four years' character. Distance no object.—A. Z., Mr. Wm. Warren, Hadlow, near Tonbridge.

GARDENER (HEAD).—Age 35; his employer wishes to recommend him to any lady or gentleman.—E. M., Post Office, Stockwell.

GARDENER (HEAD).—Age 37; understands his profession.—H. MASON, G. Gurney, Esq., West Hill, Putney, S.W.

GARDENER (HEAD).—Age 25, single; thorough knowledge of Forcing and Plant Growing and the routine of the Kitchen Garden. First-class references.—The Gardens, Raven's Lodge, Dewsbury, Yorkshire.

GARDENER (HEAD).—Age 30; has a good practical knowledge of his profession in all its branches. Three years' good character.—W. W., Post Office, Colney Hatch, Middlesex, N.

GARDENER (HEAD).—Age 34, married; has had great experience in all branches, both in Scotland and England. Wages moderate. First-class references.—J. H., 25, Princes Road, Notting Hill, W.

GARDENER (HEAD).—Age 26, single; understands Kitchen, Fruit, and Flower Gardens; Plant Growing and Forcing. Good reference.—D. B., Mr. Sprague, 28, Bridge Street, Exeter.

GARDENER (HEAD).—Age 28, married, no incumbrance: thoroughly understands his profession in all its branches. Wife an experienced Laundress. Four years' good character from last situation.—A. Z., 20, St. John's Road, Reading.

GARDENER (HEAD).—Age 35, married; thorough knowledge of Forcing Fruit, Vegetables, Stove and Greenhouse Plants, Kitchen and Flower Gardens, &c. Four years' good character.—C. H., Mr. Clark's Nurseries, Brixton Hill, Surrey, S.

GARDENER (HEAD).—Age 29, single; has a practical knowledge of his profession in its various Departments. No single-handed place accepted. Character will bear the strictest enquiries.—W. M., The Gardens, The Mount, Bishopstoke, Winchester, Hants.

GARDENER (HEAD).—Age 24, married; well experienced in Early and Late Forcing of Vines, Peaches, &c.; also the Cultivation of Stove and Greenhouse Plants, Kitchen and Flower Gardens. Unexceptionable character.—T. SOUTH, Pimlico Cottages, Mutfield, Surrey.

GARDENER (HEAD).—Age 25; 10 years' experience in gardens of several of the nobility and gentry; understands his profession in all its branches. Can be well recommended.—H. C., 24, Burr Street, St. Katharine's Docks, London, E.

GARDENER (HEAD).—Age 31, married; understands his profession thoroughly in all its branches. Has lived in first-class situations. Can be highly recommended.—Mr. MCLEAN, 8, Casino Place, Great Norwood Street, Cheltenham.

GARDENER (HEAD).—Age 30, single; has a thorough practical knowledge of his profession in all its branches. Could also take the Management of Land and Stock. Reference for character and ability from the nobleman he has just left, also from previous employers.—G. H., 47, Hethpool Street, Maida Hill, London, W.

GARDENER (HEAD).—Age 32, married; practical knowledge of Grape, Cucumber and Melon growing, Stove and Greenhouse Plants, Flower and Kitchen Gardening. Sixteen years' experience. Land and Stock if required. Wife a good Dairy-woman. Two and a half years' good character.—G. M., Peel Heath, Hillingdon, Middlesex,

GARDENER (HEAD).—Thoroughly understands Vines, Peaches, Cucumbers, Melons, &c.; also the Cultivation of Stove and Greenhouse Plants, Fine-foliaged Plants, Ferns, Orchids, &c., Flower and Kitchen Gardening. Wife a thorough Laundress. Excellent testimonials.—H. G., 4, Grove Road, King's Road, Fulham, S.W.

GARDENER (HEAD).—Age 37, married, without incumbrance; understands his profession in all its branches; Early and Late Forcing Grapes, Melons, and Cucumbers, and Flower and Kitchen Gardening. Two years' good character.—J. P., 20, Park Place, Park Road, Clapham, Surrey, S.

GARDENER (HEAD).—Age 45, married, no incumbrance; a first-class industrious practical man, thoroughly understands the Forcing of Fruit and Vegetables, and every department of Flower and Kitchen Garden. Can also take the Management of Land and Stock, having had great experience in both.—J., Mr. Maurice Young, Milford Nurseries, near Godalming.

GARDENER (HEAD).—Middle age, married; 21 years practice in some of the leading Gardens in Scotland and England. Considerable practice in the Forcing of Flowers, Fruits, and Vegetables; can draw Plans, and lay out Geometrical Flower Gardens. Experienced in the Management of Meadow Land, Plantations, &c. Three years' character from late employer, with reference to former situations if required. Liberal wages expected.—W. H. Post Office, Potter's Bar, Middlesex.

GARDENER (HEAD), where one, two, or three are kept.—Age 38, no incumbrance; thoroughly understands his profession in all its branches; an excellent Florist. Can be highly recommended from the place he has left, where he has been nearly two years, and eight years in the one previous to that. Wife a good Dairy Woman.—J. T., Bunney's Nursery, Stratford, Essex, N.E.

GARDENER (HEAD WORKING), where one or more are kept.—Thoroughly understands his profession; good character.—P. J., Messrs. Lee's, Royal Vineyard Nursery, Hammersmith, W.

GARDENER (HEAD OR SINGLE-HANDED).—Married; understands the cultivation of Vines, Melons, Cucumbers, Flower and Kitchen Garden. Well experienced. Good character. Near London preferred.—D., Upton Lodge, Nursling, Southampton.

GARDENER (HEAD OR SINGLE-HANDED).—Age 30, married, no incumbrance; has a good practical knowledge of his profession in all its branches. Four-and-a-half years' good character as to capabilities, honesty, sobriety, and industry. State particulars to A. B., Mr. Edmonds, Newsman, Clapham, S.

GARDENER.—Age 32; understands Hothouse, Greenhouse, &c.; of sober and industrious habits, thoroughly respectable. No objection to Horse or Cow. Three years' character.—G. H., 2, Fairview Place, Tulse Hill, Brixton

GARDENER.—Age 31, married; understands the Management of Greenhouses, Conservatories, Early and Late Forcing of Fruits; also a good Flower and Kitchen Gardener. Two years' good character.—A. B., Post Office, Norbiton, Kingston, S.

GARDENER (middle-aged, married).—Mr. WM. PAUL, Waltham Cross, N., can recommend with confidence to any gentleman a good practical Gardener, with first-rate Testimonials as to character and ability.

GARDENER.—Age 38, married, without incumbrance; understands the Forcing of Vines, Melons, and Cucumbers; is a good Kitchen and Flower Gardener, and can manage Land and Stock. Wife a good Laundress, or can assist in the House. Good characters.—W. M., 26, Cadogan Street, Chelsea, S.W.

GARDENER (SINGLE-HANDED), or where a Boy is kept.—Married. The Wife understands Dairy and Poultry. Can have good reference from situation now leaving. A. B., 1, Rosefield Street, Leamington.

GARDENER (SECOND-HAND) in a nobleman's or gentleman's family.—Age 22; good character.—B. EVE, 8, Lea Bridge Road, Clapton, N.E.

GARDENER (UNDER) or FOREMAN, under any nobleman's or gentleman's Gardener.—Age 27, single; nine years' experience. Understands Early and Late Forcing, and the Management of Stove and Greenhouse Plants. Has been two years in Scotland, and can produce a good character. —H. S. S., Mr. J. Soden, Gardener, Whittlesea, Cambridgeshire.

GARDENER (UNDER) in a nobleman's family, where Forcing is extensively done.—A small premium would be given to obtain a place for improvement.—A. B., Post Office, Orsett, Essex.

GARDENER (UNDER, or SINGLE-HANDED).—Age 20; has a very good knowledge of Forcing and Kitchen Gardening. Good character.—G. M., 6, Langton Street, St. Luke's, London, E.C.

GARDENER (UNDER) or IMPROVER.—Age 19; 5 years' experience. State Wages and Premium required.—JAMES BUNCE, Post Office, Worksop, Notts.

GARDENER (UNDER), where he could improve himself.—Age 23; would not object to a Premium, where such is required. Good recommendation.—Y. X., Post Office, Queen's Road West, Chelsea, S.W.

GARDENER (UNDER).—Wishes for further improvement; has been accustomed to work under Glass. Willing to pay a premium. Good references can be given.—J. J. SKIMMINGS, Mr. Young's Lodge, Dulwich, Surrey, S.

GARDENER (UNDER), in a nobleman's or gentleman's Establishment, where Gardening is carried on with spirit.—Has had excellent practice, both in Fruit-forcing and Plant-growing. Is willing and persevering, has two years' excellent character from last place, and first-class references.—T. M., Mr. Young, The Gardens, West Hill House, Highgate, Middlesex, N.

GARDENER, or GARDENER and BAILIFF.—Age 38, married, four children; understands the Management of Pines, Grapes, Peaches, Orchard Houses, Stove and Greenhouse Plants, Kitchen and Flower Garden, Land and Management of Stock. Wife can Manage Dairy. Eight years' good character from the gentleman he has just left.—W. B., Mr. A. Henderson, Pine-apple Place, Edgeware Road, London, W.

GARDENER, or GARDENER and GROOM.—Age 28; understands the Growing of Cucumbers, Melons, Greenhouse Plants, also Flower and Kitchen Gardening. Two-and-a-half years' good character.—K. W., Mr. Green's, Heath End, Farnham, Surrey.

To Noblemen and Gentlemen.

GENERAL FOREMAN or MANAGER, upon an Estate.—Can Superintend the Erection and Repairs of Buildings, and Manage Plantations, &c. Can Draw Estimates and Measure up Work. Unexceptionable references and testimonials.—ALBERTA, Post Office, Woking, Surrey.

To the Trade.

PROPAGATOR and FOREMAN.—Young Man; good practice in the Management of general Nursery Stock. Good references as to character.—A. B. C., Post Office, Upper Norwood, S.

PROPAGATOR or GENERAL IN-DOOR FOREMAN.—Age 23; a first-rate Grafter of Camellias, Azaleas, Conifers, &c., and thoroughly experienced in the general routine of Propagation. Unexceptionable references.—A. B., 2, Lawn Terrace, North End, Fulham, London, S.W.

To Nurserymen.

PROPAGATOR.—A Young Man of good experience. —A. Z., Mr. Adams, No. 6, Fort Street, Spital Square, London, E.C.; Mr. G. Pearson, Mr. H. Grays, Mill Lane, West Derby, Liverpool.

To Nurserymen.

PROPAGATOR (HARD-WOODED or Otherwise), such as Ericas, Epacrises, New Holland Plants, Camellias, Roses, Rhododendrons, Coniferæ, &c.—W. B. W., St. Mark's Cottage, Fulham Road, Brompton, S.W.

To Nurserymen.

PROPAGATOR of Hard and Soft-wooded Plants, such as Azaleas, Ericas, Epacris, Camellias, &c. Can be well recommended.—H. W., 15, Stamford Road, Fulham, S.W.

BAILIFF and GARDENER, or either.—Has had long experience in both capacities in different countries.—J. S. EASTCOOMBE, Charlton, Kent.

FARM BAILIFF.—Age 33, married; has studied at the R. A. College, and has had extensive practical experience in every branch of Agriculture, the Breeding and Rearing all kinds of Stock, Erection of Farm Buildings, Draining, &c.; also understands Machinery, and the Management of Timber and Underwood, and is a good Accountant. Wife a first-class Dairy and Poultry Manager.—ALPHA, Messrs. Sutton & Sons, Reading, Berks.

TO NURSERYMEN, &c.—A Young Man, age 25, having a fair knowledge of the Nursery and Seed Business, Book Keeping, &c., is desirous of meeting with a situation in a first-class Establishment. Unexceptionable character from present employer.—J. F., Mr. J. Cole, Nurseryman, Birmingham.

ASSISTANT, in a Seed Shop, where he would be willing to make himself generally useful.—Age 20; has been accustomed to Flowers and to standing Markets.—B. B., Mr. Edmonds, Seedsman, Broad Street, Hereford.

IMPROVER (under a Practical Gardener, where Forcing, &c., is carried out to the full extent, or otherwise in a Nursery).—Can be highly recommended by his last employer.—Rev. C. T. PENROSE, North Hykeham, near Lincoln.

To Nurserymen and Seedsmen.

SHOPMAN. — Single; 12 years' experience with Agricultural, Vegetable, Flower Seed, and Florist business. Good references.—Y. Z., O. White's, Hillingdon End, Uxbridge.

# The Gardeners' Chronicle Newspaper.

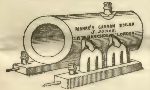
*SATURDAY, APRIL 18, 1863.*



Card.

SAMUEL N. McGERROW, General Horticultural Builder, Knotty Ash, near Liverpool.
Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

HEATING BY HOT WATER.




MONRO S CANNON BOILER.

J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

PLANS, ESTIMATES, and DESCRIPTIVE CATALOGUE

SENT POST FREE ON APPLICATION TO

J. JONES,

6, BANKSIDE, LONDON, S.E.

T. G. MESSENGER, Horticultural Builder and Engineer, Loughborough.

T. G. M.'s PATENTED BUILDINGS combine all the modern improvements, are most effectually ventilated by means of his unequalled Apparatus, can be made either plain (and which are at the same time elegant in appearance), or of the most elaborate design. They can be fixed as permanent buildings, or made to be portable.

T. G. M.'s HEATING APPARATUS continues to give the greatest satisfaction for its heating qualities and small consumption of fuel.

ILLUSTRATED CATALOGUES of the above, Glazing without Putty, Garden Engines, &c., sent upon application.

JAMES WATTS and CO., Hothouse Builders and Hotwater Apparatus Manufacturers, near the Green Man, Old Kent Road, London, S.E.

200 CUCUMBER and MELON BOXES and LIGHTS, and from 400 to [illegible] LIGHTS for PITS of all SIZES kept in STOCK.

Glazed and Painted complete, ready for immediate use. Packed and sent to all parts of the kingdom.

10 dozen strong Zinc HAND GLASSES, Glazed and Painted complete, ready for immediate use, 18, 20, and 22, all shifting tops.

References to the Nobility, Gentry, and Trade in most of the counties in England.

Hothouses for the Million.—Awarded a Prize Medal at the International Exhibition, 1862.

HOTHOUSES for the MILLION.—On the principle invented and patented by Sir Joseph Paxton, M.P., combining simplicity, cheapness, excellence, and durability, being capable of fulfilling, in the most perfect manner, all the requirements of Horticulture.

Illustrated Circulars, with Lists of Prices, can be had on prepaid application to Samuel Hereman, 7, Pall Mall East, London.

Also, A HANDBOOK on VINE and FRUIT TREE CULTIVATION, price 1s.; post free, 1s. 1d.

DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. Dennis, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

THE GREAT SUCCESS OF WEEKS'S ONE-BOILER SYSTEM.

MESSRS. WEEKS & COMPANY

Have the pleasure to announce that they are honoured with commands to supply a new HOT-WATER APPARATUS, upon the principle of their ONE-BOILER SYSTEM, to HEAT the ESTABLISHMENT of the ROYAL HORTICULTURAL SOCIETY, COLOGNE, PRUSSIA.

JOHN WEEKS and COMPANY,
HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS,
KING'S ROAD, CHELSEA, S.W.

PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

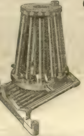
*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

GRAY'S OVAL TUBULAR BOILER.



ELEVATION.

INTERNATIONAL EXHIBITION,

Class IX., No. 2119.

PLAN.

Mr. Gray begs to call the attention of the Nobility, Gentry, Nurserymen, Gardeners, &c., to his

NEW OVAL TUBULAR BOILER,

acknowledged by practical judges to be a great improvement on every form of Tubular Boiler yet introduced. It has proved itself superior to all other Boilers for quickness of action and economy of Fuel, doing its work with one-third less the amount required by any other.

*Extract from Report in* Gardeners' Chronicle *of International Exhibition, May 24, page 476.*

"The upright form of Boiler is usually made on a circular plan, but the oval form given to Mr. Gray's variety of it is said to be preferable in consequence of its bringing the tubes in closer contact with the fire. The usual form of a furnace being a parallelogram rather than a square, it seems feasible that the Boilers on the oval plan should bring the tubes more completely within range of the burning fuel; and this being so the change, though a slight one, is no doubt an improvement."

They are made of all sizes, which, with prices, may be had on application.

JAMES GRAY, HORTICULTURAL WORKS,
DANVERS STREET, PAULTON'S SQUARE, KING'S ROAD, CHELSEA, S.W.

**Under the Patronage of Her Majesty.**

CLARK AND HOPE (late CLARK), HORTICULTURAL BUILDERS, COPPER, SASH, and HOT-WATER APPARATUS MANUFACTURERS, 55, Lionel Street, Birmingham. Established A.D. 1818.

**Heating.**

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

Apply to JOSEPH MEREDITH, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

HOT-WATER PIPES, at Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, TUBULAR, and Elliptic, from 24s. each. Improved Boilers and Iron Stands to use without brickwork, 50s. each. Valves from 11s. each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at

Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

BECK'S PATENT HOT-WATER VALVES.— (Upwards of 4000 in use). BECKS IMPROVED THROTTLE VALVES. Sanitary Depôt, 133, Great Suffolk Street, Southwark, S E.

W. J. HOLLANDS, IRON MERCHANT, 31, Bankside, London, S.E.

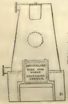
HOT WATER PIPES, from Stock, per yard:—2-inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS, from stock, 1s. 7d., 2s. 6d., and 3s. 3d. each. THROTTLE VALVES, 10s. 6d., 13s. 6d., and 15s. each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

**Horticultural Buildings.**

VISCOUNT SYDNEY, The LORD CHAMBERLAIN, LATELY ENTRUSTED

BURY AND POLLARD with the WARMING of his FORCING HOUSES, and they have just completed the work at Frognal.

Estimates for Warming Conservatories, Forcing Houses, &c. BURY & POLLARD, Park Iron Works, Southwark, London, S.




**New Method of Heating by Hot Water.**

THE IMPROVED

CONICAL BOILERS,

SOLELY MANUFACTURED BY

BURY AND POLLARD (Successors to JOHN R. PEILL, Late STEPHENSON & PEILL),

Have attained a celebrity far surpassing any other Boilers ever invented.

The annexed Sketch shows the improved arrangement, requiring NO BRICKWORK SETTING.

All particulars on application to BURY & POLLARD, Park Iron Works, New Park Street, Southwark, S.

RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

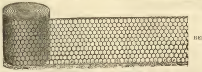
Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3d. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3l. 10s.

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

# NEW IMPROVED PREMIUM WIRE NETTING.

GREAT IMPROVEMENT,



WITH REDUCED PRICE.

PRICES PER LINEAL YARD, 24 INCHES HIGH:—

| Size of Mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra Strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. | Japanned. | Galvanized. |
| 2¼ inch | Hares, Dogs, Poultry ............ | 3d. | 4d. | 3¾d. | 5d. | 4½d. | 6d. | 5½d. | 7d. |
| 2 inch | Game or Poultry Netting ...... | 3½d. | 4¼d. | 4d. | 5d. | 5d. | 6½d. | 6½d. | 8d. |
| 1⅝ inch | Small Rabbits, Hares, &c. ...... | 4d. | 4¾d. | 4¾d. | 6d. | 5½d. | 7d. | 7d. | 9d. |
| 1½ inch | Smallest Rabbits.................. | 5d. | 6d. | 5¾d. | 7d. | 7d. | 9d. | 9d. | 11d. |

Quantities of 100 yards or upwards delivered free at nearly all the principal Railway Stations and Shipping Ports in England; and 200 yards or upwards delivered free to most parts of Scotland and Ireland.

*** *Every description of Netting warranted to give satisfaction, and if not approved will be exchanged or may be returned unconditionally.*

J. B. BROWN & CO., 18, CANNON STREET, CITY, LONDON, E.C.

# ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, N.W.

## IRON HURDLES, FENCING, and GATES.

The PROPRIETORS of the ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,

WERE AWARDED THE

SILVER MEDAL of the ROYAL AGRICULTURAL SOCIETY for their IRON HURDLES and GATES which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30s. to 500l.

***The Hurdles can be seen in process of Manufacture at the Works.***

GAME WIRE NETTING.

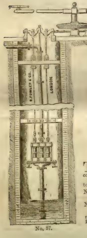
PROFESSOR VARNELL'S ENAMELLED and WROUGHT-IRON STABLE FITTINGS.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their Horses. They can be had Plain, Galvanised, or Enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized Stalls and Loose Boxes are erected for inspection at St. Pancras Iron Works.

ADDRESS—THE MANAGERS, ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, LONDON, N.W., OPPOSITE OLD ST. PANCRAS CHURCH.




No. 37.

# CLINTON & OWENS,

(LATE BENJAMIN FOWLER & CO.),

MANUFACTURERS OF

## PUMPS AND HYDRAULIC MACHINERY,

WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.

THE Landscape Sketch shows an adaptation of THE IMPROVED HYDRAULIC RAM. This is a simple Self-acting Machine, suited for raising a Supply of Water for use in Public and Private Establishments. Its adoption is not confined to positions as shown, but it is suited for any situation where a Fall can be obtained from a Stream, Brook, or Spring.

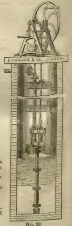
Messrs. FOWLER have fixed a great many in various parts of the country for raising from 600 to 6000 or more Gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes 50 yards to several miles in length.

No. 37. IMPROVED TREBLE BARREL PUMPS with HORSE GEARING for raising water from DEEP WELLS for the supply of MANSIONS and PUBLIC BUILDINGS.

No. 28a. DOUBLE BARREL PUMPS for HAND-POWER for similar purposes.

Messrs. FOWLER & Co. Manufacture and Erect every description of Engineer's Work required in Public or Private Establishments, such as Pumps for any purpose on the largest or smallest scale, Steam Engines, Water Wheels, Turbines, Warming and Drying Apparatus, Baths, Gas Works and Fittings. Estimates furnished from Plans or on inspection of position.

*Price Lists of Pumps, &c., free on application.*




No. 28

GREENHOUSES and CONSERVATORIES HEATED without special fire by the KITCHEN RANGE. See best methods, "Catalogue of Modern Inventions," post free.
London: Brown Brothers, 43, Cranbourn Street, W.C.

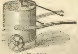
**To Noblemen, Gardeners, Farmers, and Others.**

AMIES and BARFORD beg to call particular attention to their NEW PATENT WATER BALLASTING FIELD and GARDEN ROLLERS, which have the following advantages over all others. They are made entirely of Wrought Iron, are made water-tight, and are loaded with water to obtain increased weight at pleasure, which is moreover employed with the greatest possible per centage of crushing power directly upon the surface of the soil. The weight of a Garden Roller can thus be doubled in a few minutes, and a one, two, or three Horse Land Roller is secured, as desired, in one implement.

Great numbers have already been sold, and are giving the greatest satisfaction, and whether for Gardens, Lawns, Cricket Grounds, Road-making, or for farmers' use, they will be found superior to all others.

For Illustrated Price Lists apply to Messrs. Amies & Barford, Queen Street Iron Works, Peterborough, Patentees and Sole Manufacturers.

JOHN WARNER and SONS, 8, Crescent, Cripplegate, London, E.C.



No. 554½.

No. 579½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

| | | |
|---|---|---|
| 10 gallons | .. | £2 15 0 |
| 16 ,, | .. | 3 15 0 |
| 24 ,, | .. | 5 0 0 |

Larger sizes may be had in other Wood or Iron.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | | |
|---|---|---|
| 35 gallons | .. | £2 10 0 |
| 20 ,, | .. | 2 0 0 |

BRASS SYRINGES of all kinds from 9s. to 21s.

No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 6 feet Flexible Suction Pipe,

**21s.,**

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

There are no suction or delivery Valves, hence much friction and liability to choke with leaves and dirt is avoided.

AMERICAN PORTABLE FIRE ANNIHILATOR and GARDEN ENGINE.

**£2 2s.**

An efficient means of Extinguishing Fires at their commencement. Nine out of ten Fires in London are put out on their first appearance by the London Fire Brigade with Hand Pumps of considerably less power.

One man will throw 7 or 8 gallons per minute from 40 to 50 feet with it.

It is an effective Garden Engine for cleansing or syringing Wall-fruit or Rose Trees, Plants, or Vines.

It may be used to draw water from the pail in which it is fixed, or from a tank or pond by the addition of the required length of suction. It is simple in its construction, having no suction or delivery valves to clog with dirt or leaves.

No Establishment, either private, commercial, or manufacturing, should be without one.

Six feet of Flexible Suction, with Union and Suction Rose, &c., extra, 12s. Longer lengths of Suction at 1s. 6d. per foot.

The above may be obtained of all Ironmongers and Seedsmen in Town and Country, or of the Manufacturers,

John Warner & Sons, 8, Crescent, Cripplegate, London, E.C.

J. TYLOR and SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. Tylor & Sons' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. | 24 gal. | 30 gal. |
|---|---|---|---|---|
| £2 13 6 | £3 5 0 | £3 15 0 | £5 0 0 | £5 18 0 |

Fig. 571.

J. Tylor & Sons' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0. |

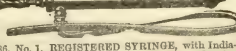


Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 ,,
Telescope Branch Pipe for ditto .. 0 10 0 ,,

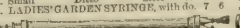


Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11s. 6d. each.
,, 589. Middle Ditto ditto .. 10 3 ,,
,, 588. Small Ditto ditto .. 9 0 ,,
,, 587. LADIES' GARDEN SYRINGE, with do. 7 6 ,,

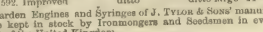


Fig. 591. READ'S SYRINGE, with two roses and one jet, 17s. 6d.
READ'S SYRINGE, with one rose and jet, 15 0
,, 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. Tylor & Sons' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

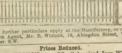
J. Tylor & Sons, Manufacturers, Warwick Lane, Newgate Street, London, E.C.

BENJAMIN EDGINGTON'S MARQUEES and PAVILIONS for Royal and Noble parties for the Season, 1863. RICK CLOTHS with Poles, &c., Complete, New, and Second-hand. NETTING and BUNTING for Fruit Trees, Garden Mats, &c. A quantity of FLAGS, used at the Royal Procession, to be Sold as Second-hand.

Address, Benjamin Edgington, 2, Duke Street, Southwark, foot of London Bridge, S.E. No other Establishment.

W. S. UNDERHILL'S NEW PATENT IRON FENCE for GARDENS, LAWNS, &c.
Manufactory: Newport, Salop.

Warranted the strongest and most durable Fence ever offered at corresponding prices. It is easily repaired if broken from accidents; can be rolled up most compactly when not in use, is admirably adapted for exportation, and can be had of any height and mesh required, at prices from 4d. to 1s. 6d. per yard and upwards.



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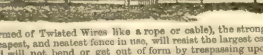

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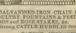

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| 18 ,, 12, | 19 ,, 12, | 20 ,, 12, | 16 ,, 13 | | |
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| 6 ,, | 0 8 ,, | 15 ,, | 3 0 ,, |
| 7 ,, | 0 10 ,, | 16 ,, | 3 6 ,, |
| 8 ,, | 1 0 ,, | 17 ,, | 4 0 ,, |
| 9 ,, | 1 2 ,, | 18 ,, | 5 0 ,, |
| 10 ,, | 1 4 ,, | 19 ,, | 6 6 ,, |
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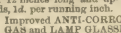

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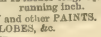

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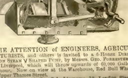

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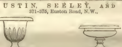

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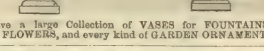

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## News of the Week.

In the House of Lords on Tuesday, the Post Office Savings Banks Bill was read a third time and passed. The Mutiny Bill and the Marine Mutiny Bill passed through committee. The Select Committee on the Augmentation of Benefices Bill was nominated after a discussion, in which Lord St. Leonards, the Earl of Derby, and the Lord Chancellor took part. On Thursday the Alkali Works' Regulation Bill was read a second time. The Mutiny Bill and the Marine Mutiny Bill were read a third time and passed. In answer to the Earl of Malmesbury, Earl Russell said that Her Majesty's Government had proposed Prince William of Denmark as a candidate for the throne of Greece, with the sanction of the King of Denmark, and with the assent of the Emperor of the French and the Emperor of Russia. They had also determined to cede the Ionian Islands to Greece after the other Powers which were parties to the Treaty of Vienna had consented to that step. On the motion of Earl Granville a select committee was appointed to inquire into the merits of the several schemes before Parliament for the construction of lines of railway within the limits of the metropolis.

In the Commons on Monday the House went into committee on the Civil Service Estimates, Class 3, and agreed to the various items without a division. The Local Government Act (1858) Amendment Bill passed through committee. The Telegraphs Bill, as amended, was considered and agreed to. The Lords' amendments to the Salmon Exportation Bill were considered and agreed to. On Tuesday, before the House entered upon public business, Mr. Walpole moved that out of respect to the memory of Sir George Lewis, the House should then adjourn. Lord Palmerston seconded the motion, which, after a few words of sympathy from Mr. Disraeli, was unanimously agreed to. On Wednesday Sir M. Peto moved the second reading of the Burials Bill. Lord R. Cecil moved as an amendment that the Bill be read a second time that day six months. The Chancellor of the Exchequer and Sir George Grey supported the motion for the second reading, Mr. Disraeli opposed it. On a division the amendment was carried by a majority of 125, the numbers being 221 to 96. The Bill was therefore lost. The Gardens in Towns Protection Bill, and the Oaths Relief in Criminal Proceedings (Scotland) Bill passed through Committee. The Lords amendments of the Births and Deaths Registration (Ireland) Bill were considered and agreed to. On Thursday the Chancellor of the Exchequer made his financial statement. In a speech of three hours he entered into an elaborate detail of figures showing that he had the large surplus of 3,874,000*l.* to deal with, of which he proposed to apply 3,343,000*l.* to the remission of taxation, keeping in hand a balance of 531,000*l.* He proposed to remit 2*d.* in the pound on the income tax, and at the same time allow a deduction of 60*l.* from all incomes ranging from 100*l.* to 200*l.*, before they are submitted for assessment. He also proposed to reduce the duty on tea to 1*s.* per lb., to repeal the small commercial charges in the shape of the penny and other imposts on dock entries, and the 1*s.* 6*d.* stamp on bills of lading outwards. He also proposed to advance the duty on chicory to the same proportion as that charged on coffee; to require Clubs to take out licenses for the sale of spirituous liquors, and to grant licenses to sell beer in small quantities to certain classes of persons who are at present precluded from obtaining them. He further proposed to abolish the exemption which corporations and charities have hitherto enjoyed from the payment of income tax; to subject carriers, travelling under four miles an hour and conveying passengers, to one-half the duty now paid by stage carriages, to abolish the exemption of excursion trains from duty, and to commute the present payment on railway trains of 5 per cent. with exemptions into a payment of $3\frac{1}{2}$ per cent. without exemptions. He also proposed to pay off 1,000,000*l.* Exchequer Bonds when they fall due, retaining power to re-issue them, if such a step be rendered necessary by the continuance of the Lancashire distress. He concluded by referring with great satisfaction to the result of the commercial treaty with France, which had, he said, more than made up for the falling off in our trade with the United States. After a short discussion, in which a general approval of the leading features of the Budget was expressed, resolutions giving effect to the proposed changes were agreed to, and ordered to be reported. The second reading of the Assurances Registration (Ireland) Bill was adjourned. The Thames Embankment (South Side) Bill was read a second time. The Office of Secretary at War Abolition Bill passed through committee.

A despatch from St. Petersburg states that on Sunday, being the Russian Easter Sunday, an Imperial manifesto was issued, granting a full and entire amnesty to all Poles in the kingdom who shall lay down their arms and return to their allegiance by the 13th of May. The manifesto also announces that the institutions granted to the Polish people shall be maintained, and, after practical experience of their working, shall be developed according to the necessities of the age and the country. The accounts from Poland concur in stating that the proffered amnesty has been everywhere rejected, and that the Revolutionary Government has announced that the insurgents will not lay down their arms until they have obtained the independence of their country.

## Home News.

The Court.—The Queen and Royal family continue at Windsor Castle. On Friday the Queen, accompanied by the Princess Helena, walked and drove in the grounds. In the afternoon the Queen, accompanied by the Princess Helena and Princess Beatrice, drove out in a carriage and four. On Saturday morning Prince Alfred rode out. On Sunday morning the Queen, Prince Alfred, Princess Helena, Princess Louisa, Prince Leopold, and Prince Louis of Hesse attended Divine service in the private Chapel. The Dean of Windsor officiated. On Monday morning the Queen, accompanied by the Princess Louisa, walked and drove in the grounds. In the afternoon Prince Alfred and Prince Louis of Hesse rode out. On Tuesday morning the Queen, accompanied by the Princess Beatrice, walked and drove in the grounds. Prince Arthur arrived at the Castle from Greenwich Park. In the afternoon the Queen, accompanied by the Princess Helena, drove out in a carriage and four. The Hon. Captain F. Egerton, R.N., arrived at the Castle. In the evening Prince Arthur returned to Greenwich. On Wednesday morning the Queen drove out. Prince Leopold and Princess Beatrice came to London and visited the Zoological Gardens. In the afternoon the Queen walked in the grounds. The Duke of Newcastle arrived at the Castle and had an audience of her Majesty. On Thursday Prince Alfred and Prince Louis of Hesse came to town, and were present in the Ambassador's gallery in the House of Commons during the Chancellor of the Exchequer's financial statement.

The Princess Louis of Hesse and the infant Princess continue to make most satisfactory progress. Her Royal Highness has had a most favourable recovery, and no further bulletins will be published.

The Prince and Princess of Wales have taken several equestrian excursions in the neighbourhood of Sandringham. On Saturday afternoon the Prince rode on horseback, after taking a drive with the Princess. On Sunday morning their Royal Highnesses attended Divine service at the parish church; the Rev. G. B. Moxon, vicar of Sandringham, preached the sermon. In the afternoon the Prince and Princess walked in the grounds. On Monday afternoon their Royal Highnesses paid a visit to Lynn, and drove through the town in an open phaeton drawn by a pair of greys, escorted by the mayor on horseback. Their intention to visit the town having become known beforehand, the principal streets were crowded with the inhabitants, and flags floated from nearly every window. Their Royal Highnesses were received with acclamations at every point of the route as they passed through the town. On Tuesday the Prince rode on horseback. The Princess drove out. Their Royal Highnesses afterwards walked in the grounds. Admiral Seymour, of her Majesty's yacht Victoria and Albert, arrived at Sandringham Hall, on a short visit to his Royal Highness, and left Sandringham on Wednesday morning for Barwick Hall. According to present arrangements their Royal Highnesses leave Sandringham to-day, and proceed by special train to Windsor, through Lynn and Wisbeach, where great efforts have been made by all classes to give their Royal Highnesses a cordial reception. After receiving an address from the corporation, the special train will proceed to March, and thence to Windsor, where the Prince will stay on a visit to the Queen for a few days, after which his Royal Highness will take possession of his town residence, Marlborough House. Immediately after their Royal Highnesses leave Sandringham the Hall will be partially unroofed, and a large number of workmen, under Messrs. Holland & Son, will proceed to make the extensive additions that have been decided upon.

The Wedding Presents.—On Thursday the wedding presents to the Prince and Princess of Wales were exhibited to the public, in the new court at the South Kensington Museum. They include all the bridal *cadeaux* which their Royal Highnesses have received, from the simple little gifts of children up to the regal offerings made by the Queen, by the Prince himself, or by Continental Powers. Not a single gift made has been omitted. Shawls, laces, dresses, cloaks, are all lent without restriction as to time; in fact, for as long a period as the public show any interest in seeing them. The gifts are divided into five classes—jewellery and goldsmith's work, silver plate, porcelain, textile fabrics, and miscellaneous; but, except in the matter of jewellery, no actual division is attempted, and the plate and china, shawls, laces, and works of art, are grouped together with beautiful effect as to form and colour. The jewellery makes a magnificent display. There are whole suites of gems, with bracelets, rings, brooches, lockets, and even tiaras, for almost every day in the week. The most magnificent of these are, of course, those given by the Prince himself, by her Majesty, and by the King of Denmark. The latter is a truly Royal gift—a gorgeous necklace of five rows of brilliants and pearls, terminating in the centre in an enamel facsimile of the famous Byzantine ornament—the much-revered cross of Dagmar, beautifully executed. Still more beautiful and tasteful is the *parure* of diamonds and opals presented by the Queen in the name of the late Prince Consort, and made from a design drawn by his Royal Highness himself. Near it are a superb pearl and diamond necklace and earrings, the gift of the Prince to his bride, and one of the most costly of them all. The most costly, however, is the grand diadem of 11 fine brilliants, also given by the Prince to the Princess the day before the marriage. In another case is a suite of Indian ornaments, consisting of corsage, pair of bracelets, and armlet, entirely composed of pearls, emeralds, and diamonds, the gift of the Queen. An exquisitely beautiful gold necklace, given by the Prince, is in the Etruscan form. The young Princes and Princesses of the Royal family make a joint present of a noble brooch of brilliants and sapphires; the Prince and Princess Louis of Hesse a bracelet of turquoises and brilliants; the Duchess of Cambridge a magnificent diamond and emerald brooch; the Princess Mary a diamond bracelet; and the Duke of Cambridge a diamond and enamel bracelet. The Landgrave William of Hesse and sisters give a beautiful *parure* of solid gold, of a fine old Danish design; and the Chamberlain Juel, another suite of the same richness; while the inhabitants of the two islands Laaland and Falster also send a gold suite of ancient Scandinavian design, consisting of a massive diadem, armlet, brooch, hairpin, button earrings, and finger-rings, all of massive gold, and of quaint old Runic design. One of the most interesting presents in this part of the collection is that made by the bridesmaids—a bracelet in eight compartments, each one containing a miniature of a bridesmaid, with her initials set

in diamonds on the cover of the portrait. The ladies of Liverpool give a cross composed of eleven large and superb brilliants, suspended from a row of pearls; the ladies of Manchester, a very fine opal and brilliant bracelet; the ladies of Leeds, a fine diamond bracelet in a white and gold casket. In a case by themselves are three bouquet holders, one from the Maharajah Dhuleep Sing, one from the Lady Mayoress, one from the ladies of Gravesend. That given by Dhuleep Sing is a most massive and costly ornament, of rock crystal and gold, jewelled over with diamonds, emeralds, rubies, and pearls. The Highland Companies of the Edinburgh Rifle Volunteers gave a beautiful and characteristic plaid or shawl brooch, with a Gaelic inscription, and Lord Harris a massive chased gold Indian bangle, set with rubies and emeralds. In the silver plate the most conspicuous ornament is the noble silver-gilt toilet service presented by the Royal Household, which is said to be the most costly present of the kind ever made. Near it is a magnificent silver-gilt and jewelled vase, in the style of Holbein, the gift of the Duke of Buccleuch. Among the porcelain gifts there is a vase almost large enough to bathe in, given by the King and Queen of Prussia, from the Royal factory at Meissen, the middle portion containing a portrait of the King. Near this are a ewer and plateau in the style of the 16th century, an imitation of the exquisite Limoges enamels, from the Royal Worcester Works, the gift of Lord Spencer. The Dowager Duchess of Sutherland gives a china service and a beautiful pair of beakers, made by Minton, which will bear favourable contrast with the Sèvres clock and turquoise porcelain candelabra presented by the members of the Household of the Prince. The textile fabrics include the Indian shawls and pieces of satin and velvet for dresses, given by the Queen and the Prince, and the exquisite fairy-looking webs of lace from Belgium, Norwich, and Ireland. The city of Norwich sends crape shawls, opera cloaks, and dresses. The three shawls from Norwich are hung close by the gold-woven tissues of Delhi which the Queen has given, and do not suffer by comparison. The laces given by the King of the Belgians are wonderful triumphs of this species of art manufacture, though not superior of their kind to the laces that have been sent from Ireland. A Paisley shawl woven of Cashmere wool and silk, the gift of the Queen, is another illustration of the strides with which this branch of native industry is outstripping all competition. The Committee of the British and Foreign Bible Society give a very magnificent Bible; a very pretty Bible and Prayer-book are given by the children of Windsor, and a Bible is given by the children of Whippingham School. Lord Hinchinbroke, the travelling companion of the Prince during his American progress, gives the Prince a cigar box of Algerian onyx, richly mounted. In the centre of the cases devoted to fabrics are the portraits of the Crown Prince and Princess of Prussia, presented by themselves. The rules for admission next week will be in accordance with the usual regulations of the Museum—namely, free on Mondays, Tuesdays, and Saturdays, and by payment of 6*d.* on Wednesdays, Thursdays, and Fridays.

The Cabinet.—A Cabinet Council was held on Wednesday at the official residence of the First Lord of the Treasury in Downing Street.

Parliamentary Movements.—Mr. Hans Hamilton, member for the county of Dublin, has retired from ill-health. In compliance with a requisition from the Conservative Society, Mr. Ion T. Hamilton, son of the late member, has offered himself as his successor, and at present he is the only candidate in the field.

The Army.—The Colonelcy of the 35th Foot, vacant by the death of General Sir G. L. Goldie, has been conferred on Major-General Baynes.

The Navy.—Rear-Admiral H. R. Yelverton, C.B., has been appointed second in command on the Mediterranean station.

Order of the Bath.—The Queen has given orders for the appointment of Major John Clayton Cowell, R.E., the Governor of Prince Alfred, to be a Companion of the Bath.

## Foreign.

France.—Lord Cowley has remitted to the Emperor a letter from Queen Victoria, thanking his Imperial Majesty for the Grand Cross of the Legion of Honour sent to the Prince of Wales. It is asserted that the Prince and Princess of Wales will visit the Emperor at the Palace of Fontainebleau towards the middle of May. An Imperial decree has been published proroguing the Corps Législatif to the 30th of April. The *Moniteur* of Monday in its bulletin, says:—

"The Austrian Government having displayed views upon the Polish question in conformity with those of the Western Powers, an understanding has been established between the three Courts for acting in concert towards the Cabinet of St. Petersburg."

The despatches from the three Governments were to have been remitted to the Cabinet of St. Petersburg on Wednesday. No reply is expected for about ten days. The Emperor of Russia's amnesty is the subject of warm discussion in the Paris papers. The *Constitutionnel* of Thursday, in an article signed by M. Limayrac, asks what will be the consequences of the amnesty, and says:—

"Blood continues to flow in Poland. Europe has not ceased to be uneasy. Will those who were the victims of the conscription be amnestied? The amnesty testifies to the noble sentiments of the Emperor Alexander. We are willing to believe it to be the first step in the path amicably advised by the Great Powers—namely, the pursuance of a policy which would insure the tranquillity of the interior of Russia and the repose of Europe. The amnesty is not a solution, but the hope of a solution."

The other papers are unanimous in condemning the amnesty, and the language of many of them is so violent as to lead to the apprehension of war. The *Presse* accuses the Emperor Alexander of wishing to deceive Europe, and of having no real intention of carrying out the amnesty. The *Patrie* says that the diplomatic action of the Powers is engaged, and will be carried out, without being arrested by the feeble obstacle which this ill-disguised *ruse* seeks to throw in its way. The *Siècle* and the *Temps* do not think that the manifesto will satisfy either Poland or the Powers. The *Opinion Nationale* says that France will never allow herself to be misled respecting the value of the amnesty, which it considers nothing but a delusive mystification—a mere diplomatic manœuvre, by which Russia wishes to place herself in a position to reply to the note of the three Powers, by saying that what they ask is already done, adding that neither Poland nor Europe will allow themselves to be duped by such a comedy. The *Débats*, without employing such harsh language, says that the development of the institutions which the Czar promised to maintain, has produced during two years the arbitrary recruitment, the most odious act ever imagined by any Government, while the imperial manifesto is completely silent as to political rights. *La France* and the *Nation* find in the manifesto the commencement of the satisfaction accorded to the wishes of the Powers. The International Commission appointed to fix a mutual tariff on sugars passing between England, France, Belgium, and Holland, held a meeting on the 9th inst. They arrived at a decision on several points, and then adjourned in order to give time to the Belgian representative to demand further instructions from Brussels. It is asserted that Prince Napoleon and the Princess Clotilde will embark on Monday next for Egypt. The splendid Pompeian mansion, constructed by Prince Napoleon, at an immense expense, in the Champs Elysées, is to be offered for sale by auction on the 9th of June next. The upset price is fixed at 36,000*l.* The Duke of Beaufort arrived in France a few weeks since with his splendid pack of foxhounds, for the purpose of hunting the wolf, which commits great ravages in the agricultural districts of France. On the 7th inst. his Grace took the field with his whole pack in Poitou; but the expectations of the numerous sportsmen who had assembled were disappointed at the result. The Badminton hounds not being accustomed to the scent of the wolf, refused to follow. A second hunt took place on Friday in the forest of Verrière. An unusually large wolf having been found, the Duke's dogs again refused to follow it. Thereupon 16 dogs of Poitou, belonging to MM. de la Besge and Maichin, were set on the scent, and killed the animal after a magnificent run of two hours. It is said that in order to obtain any success it will be necessary to train the Badminton dogs for a short time, by setting them on the scent of a tame wolf belonging to a gentleman in that part of the country.

Spain.—In the sitting of Friday the Minister of Finance requested authority to collect the taxes until the 1st of July next, and declared that if it were not granted the Government would withdraw the Bills for reforms in the Customs' Tariff presented by the late Government. In the sitting of Tuesday Senor Vahamonde, in reply to a question by Senor Gonzales Bravo, declared that the moderate section of the Liberal union and the Progressista party being at variance, they would not be able to form a Ministry. The present Ministry will not continue the policy of the former Cabinet, but will act in accordance with a policy of its own. It is asserted that M. Odilon Barrot, the French Ambassador, who has arrived at Madrid, is the bearer of a request to the Government to grant an amnesty to the persons convicted of having attempted to make converts to Protestantism. One hundred and twenty-eight members of the Chamber of Deputies held a meeting the night of the 9th inst. to discuss their future conduct. They resolved to remain faithful to their former political organisation, called the Liberal Union.

Denmark.—The *Danmark* of Thursday says that on the 14th inst. the question of Prince William's candidature was the subject of an animated debate in the Privy Council. It is asserted that Prince Christian abandoned some of the conditions he formerly required for his son's acceptance of the Crown, but still positively insisted upon the abdication of the ex-King Otho. The *Fadrelandet* of Thursday states that the difficulties which have hitherto opposed the acceptance of the Greek crown by Prince William were removed in the last sitting of the Privy Council.

Frankfort.—In the sitting of the Federal Diet on Thursday, the communication of the Danish Government relative to the Royal Ordinance of the 30th ult. was referred to the United Committees. The President put in a protest against the assertion of Denmark that the Federal Government had no right to interfere in the question of the Duchies. The Diet gave its assent to this protest. The representative of Hanover stated that he reserved a special motion against any arbitrary proceeding on the part of Denmark.

Prussia.—The Minister of War at Berlin has just issued a rescript concerning the Polish insurgents who have taken refuge on the Prussian side of the frontier. The refugees are to be treated according to the "cartel" concluded between the Cabinets of Berlin and St. Petersburg in 1857, in other words are to be sent back into Poland, and when that course is not practicable they are to be arrested and imprisoned in a fortress. The Minister indicates the fortresses at Neissen, Posen, Cosel, Grandeus, Castrin, Pillau, Weichselmund, Schmeidnitz, and Dantzic, as able to accommodate 3000 prisoners. Those belonging to the educated classes are to be sent to Posen, and to enjoy the privilege of a room instead of being thrust into a common gaol. They are all to be handed over to the Russian Government if it be proved that they have committed any offence, political or otherwise, against Russia. The "Progress" party held a meeting at Berlin on Friday, in which, on the proposition of Herr Twesten, it was resolved that, in a future sitting of the Chamber of Deputies, the Government should be asked whether it considers the recent acts of Denmark as a fulfilment of the engagements entered into by that country after the negotiations of 1850 and 1852, and also whether the Government still considers itself bound by the said negotiations, seeing that Denmark had evidently violated its engagements.

Austria.—The *Allgemeine Zeitung* of Friday publishes a letter from Vienna announcing that an understanding has been brought about between Austria, France, and England in reference to the notes to be sent by those Powers to St. Petersburg. The Austrian note will be immediately despatched. This note does not formally express any distinct request, but contains a hope that the Czar will restore tranquillity, not only to Congress-Poland, but to the whole of the Polish provinces. The *Augsburger Zeitung* adds that the Western Powers have made use of more energetic language, but that their notes do not contain any formal programme. It is semi-officially announced that Austria has energetically protested to the Danish Government against the Royal ordinances of the 30th of March relative to Schleswig and Holstein. The Reichsrath will assemble in the middle of next month. The Transylvanian Diet will meet shortly afterwards. Langiewicz has declared to the authorities that he can no longer be bound by his parole. It is expected that he will, therefore, be placed under a stricter guard.

Russia.—In reply to the recent address of the nobility the Emperor said:—

"As one of your own body, I fully participate in the sentiments you have expressed. I am persuaded that your feelings are common to the whole Russian nobility, and that you will transmit them to your children. I understand the love of our native country by which you are inspired. This patriotism has constituted the strength of Russia for centuries, and will remain the guardian of her power from one generation to another."

The *Journal de St. Petersbourg* of Tuesday publishes an address presented on Easter Day to the Emperor by the Municipality of St. Petersburg. Like the address of the nobility, the document expresses the devotion of the Municipality to the Czar, and its desire to promote by every means in its power, the integrity of the Empire.

Poland.—On Sunday, being the Russian Easter Sunday, an Imperial manifesto was published, granting a full and entire amnesty to all Poles in the kingdom who shall lay down their arms and return to their allegiance by the 13th of May. The same term for laying down their arms and giving in their submission is also fixed for the insurgents in the western Polish provinces. The only exceptions are with regard to ordinary crimes and to such offences as have been committed by the army. The manifesto further announces that the institutions granted to the Polish people shall be maintained, and, after practical experience, shall be developed according to the necessities of the age and the country. The proposed amnesty has produced a bad effect among the insurgents, and has been universally rejected, on the ground that it leaves Poland in the same position as before the insurrection. A manifesto of the Central Revolutionary Committee of Warsaw has been published, rejecting the amnesty, and declaring that the insurgents will not lay down their arms until they have obtained the independence of Poland. The manifesto also forbids the inhabitants to pay taxes to the Russian Government, and orders the Poles in the Russian army to come over to the insurgent ranks. The Revolutionary Committee has divided Poland into 23 districts, each of which is to furnish 400 men and to pay taxes; Lodz is to supply 25,000 and Czenstochow 10,000 roubles. Branches of the Central Committee are to be established in each district for the purpose of collecting taxes and raising recruits, and for the administration of the penal law. The Jewish community in Kalisch have been compelled, by a secret summons of the revolutionary party, to pay 5000 roubles to the National Committee. Those who refused to comply were notified that they would be declared outlaws. The *Czas*, in an extraordinary edition issued on Monday evening, publishes despatches stating that notes were despatched to the Powers from St. Petersburg simultaneously with the issue of the amnesty. It says:—

"This step of Russia was taken with the object of preventing intervention. The manifesto does not promise to change the state of things which brought about the revolution. It only returns to the position existing before the 22d of January, neither more nor less—the position which drove the Poles to arms. How will the country and the Powers accept the manifesto? It is not for us to reply, but it is doubtful whether

the Powers will be content. The insurrection will reply in the name of the whole country. By fixing the term of the 1st of May for laying down arms, the amnesty, in fact, recognises the insurrection, imposes upon the Powers the obligation of recognising it as a belligerent party, and may raise hopes of an armistice."

The *Breslauer Zeitung* publishes a telegram from Cracow, stating that intelligence had been received there from Warsaw that the amnesty was not to be extended to political prisoners. A serious engagement has taken place near Suwalki, in which 3000 insurgents participated. The Russians lost 200 killed and seven guns. At Konin the insurgents have gained a victory over the Russians. At Straszow an engagement has taken place between the Russians and a detachment of Poles under Major Polacki. Three fresh bodies of insurgents have been organised in the government of Plock, under the command of Podlenzki; and Major Lapazki has escaped from the Russian pursuit, and now occupies a strong position with his force. Another large detachment of insurgents under Andusziewicz has appeared in the district of Marianopol. The rising in Lithuania, Augustowo and Podlachia continues to extend. The committee of the revolutionary Government in Wilna has issued a manifesto stating the abuses of the Government, calling upon the inhabitants to rise in insurrection, and declaring that Lithuania and Little Russia are inseparable portions of Poland. In consequence of this manifesto the peasantry and the younger portions of the nobility have taken up arms against the Government. The Governor of Grodno has reported to the Russian Government that 4000 peasants in his district have expressed their intention to return to the United Greek Church. It is now stated that neither the Grand Duke Constantine nor the Marquis Wielopolski will leave Warsaw. On the representation of the Grand Duke Constantine, the Czar has accepted the resignation tendered by Archbishop Felinski as a member of the Council of State in the kingdom of Poland. On Saturday the Grand Duke summoned to his presence M. Walisgorski, late member of the Council of State, and after severely blaming the general conduct of the Polish nobility, concluded with these words:—

"The Poles trust in the aid of the West, and reckon upon a Congress; let them not deceive themselves, the West will not help them. The more sensible among the citizens should endeavour to suppress the insurrection, and lend their hands to the pacification of the country; my benevolent brother would give them much more than any Congress could give them."

The superiors of the Carmelite and the Reformed Convents at Cracow have been placed in confinement. The reasons for these arrests, as well as for those of Herr Bentkowski and of M. Chrzanowski, one of the writers for the *Czas*, who are still in custody, have not transpired. Another small party of seven Cossacks passed the Austrian frontier on Thursday. They were stopped and disarmed, but allowed to return to their quarters upon proof of their having crossed the frontier through inadvertence. A subsequent attempt on the part of some Cossacks to violate the Austrian frontier was frustrated by Austrian Hussars. Several of the Cossacks were taken prisoners. A great number of horses and waggons, laden with arms, ammunition, and provisions, destined for the Polish insurgents, have been confiscated in the Prussian district of Pleschen; and 40 persons who intended to proceed to Poland, have been prevented from so doing by the authorities. 200 Poles from Ostrowo have crossed over the frontier into Poland.

Italy.—The Minister of Justice on Saturday issued a circular, calling upon the public prosecutors to keep a vigilant watch upon the subversive tendencies of the Federalist and Radical press, and stating that every attack upon the principles of constitutional and united monarchy should be energetically repressed. The Italian Ministry had previously informed the Swiss Government of the preparations that were making by the Party of Action, with a view of warding off from the Federal Government the unpleasant complications which might have ensued in the event of armed bodies from Swiss territory invading the neighbouring country. The report that the Italian Government had warned Austria against the attempts which had been set on foot against the Italian portion of the Tyrol, is contradicted.

Greece.—Advices from Athens to the 5th announce that the French Ambassador in that city has communicated to the Government the adhesion of France to Prince William's election. The deputation commissioned to offer the crown of Greece to Prince William of Denmark has left Athens for Copenhagen. The National Assembly have appointed a new Ministry, composed as follows:—President, M. Koriaku; Foreign Affairs, M. Delyani; War, M. Botzaris; Marine, M. Buduris; Justice, M. Paleologos; Finance, M. Kumundurus; Interior, M. Petmetzas; Public Instruction, M. Kalophronos. The National Assembly has also voted an address of thanks to England for the proposed annexation of the Ionian Islands to Greece.

Egypt.—Since his arrival in Cairo, the Sultan, accompanied by the Viceroy Ismail Pasha, has offered up his prayers at the Sepulchre of Mehemet Ali, and has visited the tomb of Said Pasha, the Pyramids, and the environs of Cairo, and made an excursion some little distance up the Nile. His Majesty has also given magnificent presents to the Princesses, and has conferred the rank of High Officer of one of the Turkish orders upon the chiefs of the Jewish, Greek, Armenian, Coptic, and Catholic persuasions, observing in a letter written on the occasion that he made no distinctions on the score of religious belief. It is asserted that the Sultan still regards himself as the guest of the Viceroy, and has abstained from any act tending to display authority. His Majesty was expected to leave Cairo yesterday, on his return to Constantinople. The French Consul was not present at the reception of the Foreign Consuls by the Sultan in Alexandria, and was also absent at an audience given by His Majesty to the Consular Agents in Cairo. It is asserted in explanation that the French Consul has expressed his opinion that the Sultan's visit to Egypt constituted a danger for Europe.

China.—From Hong Kong we have the particulars of the attack made by the combined force of Ward and the Imperial troops on the city of Tai-tsan and its disastrous defeat. The loss consists of about 500 killed, wounded, and missing. Twenty Europeans were killed or wounded, Captains Maunder, Macarthy, Macleod, and Bosworth were killed, and twelve other officers, besides four marines, wounded. Among the former are Captains Graham, Murray, Tapp, Silverton, and Dunn. The latter is shot through the groin, and it is feared will not recover. The retreat, it appears, was orderly, and only a portion of the mandarins' troops fell into confusion. Captain Holland, who commanded the Ward force, has been replaced by Captain Gordon, R.E. A subsequent despatch from Shanghai, dated the 9th ult., states that the Imperialists have been again defeated at Shaoushing (?) for want of besieging materials. General Tardiff and Lieutenant Tinling were killed. Shanghai was quiet.

Japan.—The destruction of the new legation building at Yeddo is confirmed. It was fired and demolished with bags of gunpowder. The hostility of the Japanese is described as being on the increase. Admiral Kuper has proceeded with the English fleet to Japan, where the outbreak of military hostilities is reported.

United States.—Letters from New Orleans of the 15th ult. bring more intelligible accounts of the state of affairs at Port Hudson than have been received by telegraph from Cairo and Cincinnati. They confirm in the main particulars the Confederate report of the withdrawal of General Banks and the repulse of Admiral Farragut. Two vessels, the Hartford and the Albatross, alone succeeded in passing the batteries. The Lancaster had her bow entirely shot away, causing her to sink immediately. The Switzerland, having received a shot which disabled her machinery, drifted rapidly down the current, and was towed by the Albatross out of range of the Confederate guns. The Mississippi, as previously reported, was burnt. All the others were more or less injured, and returned to Bâton Rouge. General Banks withdrew his troops immediately on learning that Admiral Farragut had got beyond the reach of the Confederate guns, and is now at New Orleans. Fears are entertained for the safety of the Hartford and Albatross, as the Confederates now have three rams between Vicksburg and Port Hudson. The reports from Vicksburg and the Yazoo from Federal and Confederate sources are still too greatly at variance with each other to receive much credit. The Confederates claim to have sunk one and riddled another of four gunboats that attempted to run the blockade at Vicksburg on the 25th, and to have defeated and driven back the Sunflower River and Deer Creek expedition. The Federals, who at first asserted that they had really forced the passage of the Sunflower River and landed two divisions of troops, under the command of General Sherman, near Haines Bluff, now admit that General Sherman's expedition has returned, and is disembarking at Young's Point. The expedition is said at one time to have been hemmed in by the river obstructions placed in the front and rear of the transports, and to have been extricated with difficulty. The canal opposite Vicksburg is abandoned, the Confederate cannon commanding two-thirds of its length. It is said that General Grant has now placed a battery of 84-pounders beyond the levee in a position to reach Vicksburg easily, and is about to open the bombardment. The Federal soldiers in the occupation of Pensacola burned the town when ordered to evacuate it by Colonel Dyer, their commanding officer. Both the men and officers are represented to be in a state of great demoralization. Colonel Dyer in vain attempted to stop the work of destruction. General Rosencranz is still at Murfreesborough, maintaining a defensive position against General Bragg, who has concentrated a force of 60,000 men at Tullahoma. A great battle was believed to be imminent at or near Murfreesborough, Tullahoma, or Chattanooga, at which place the Confederates are building immense fortifications, and already have between 50 and 60 siege guns in position. Considerable anxiety is felt for the safety of General Rosencranz. On the 26th ult. the Confederate General Forrest attacked the Federals at Brentwood, five miles from Nashville, in the rear of General Rosencranz, and captured 800 prisoners, with a large quantity of military stores. They also destroyed the railroad track and bridge. The Confederates under Van Dorn are crossing the river at Palmyra, and are endeavouring to flank General Rosencranz on the left. Van Dorn has a heavy supply of artillery, and his movement is supposed to be aimed against Kentucky. General Price is reorganising the Confederate forces in Arkansas preparatory to the invasion of Missouri. General Joe Johnston has his head quarters at Atlanta, Georgia. Official depatches from Generals Burnside and Gilbert report that the latter defeated the Confederates under General Pegram, at Somerset, Kentucky, on the 30th ult., and forced them to retire across the Cumberland, leaving behind them a large number of the cattle they had seized. The Confederate loss is named at 50 killed and 400 prisoners, and that of the Federals at 30 in killed, wounded, and missing. General Gilbert states that by this victory he has driven the Confederates entirely out of Central Kentucky. Frankfort and Lexington have been placed under martial law by the Federals, who report that they have recaptured Danville. According to despatches from Fortress Monroe, the Confederates attacked Williamsburg, Virginia, and Wingfield, North Carolina, on the 29th, and were repulsed in both assaults. General Saxton, in his official report of the recent negro expedition to Jacksonville, Florida, under Colonels Higginson and Montgomery, for the purpose of arming and inciting the slaves to revolt, states his belief that no incident of the war has caused a greater panic throughout the whole Southern coast. He adds that the negroes are collecting at Jacksonville from all quarters. The captain of the steamer Peterhoff is said to have laid the facts of her capture before Lord Lyons, who, it is reported, will make a formal demand upon the Government for the release of the vessel and indemnity to the owners. Private letters from Port Royal of the 22d ult. state that no movement against Charleston was likely to take place for several weeks, and that the land force was totally inadequate for the purpose. President Lincoln, in compliance with the request of the Senate, has designated Thursday, the 30th of April, as a day of national humiliation, fasting, and prayer. The *New York Times* says that the majority of the Cabinet oppose the issue of letters of marque, and it is reported that the Government will not at present take any action under the Act. General Butler had attended a meeting at New York, at which his denunciations of England, and the predictions of retribution for the wrongs she has committed, were received and echoed with the utmost enthusiasm. He advocated the extermination of the Southern "rebels," the confiscation of the estates of the planters, and their partition among the soldiers of the Union. He said that at the time of the Trent affair it was perhaps wise not to provoke England, but he thanked God that the country was now getting into a condition to remember that case. He advised retaliation for the depredations of the Alabama and the Florida, and recommended that non-intercourse with England be proclaimed, so that not an ounce of food from America should get into an Englishman's mouth until those piracies were stopped. He also advocated the prohibition of the export of gold into England. President Davis is reported to be suffering from an abscess in the eye, by which it is feared he will lose his sight. The schooner Laura Ann, which arrived at Bermuda on the 24th ult., was boarded on the 21st by the Florida, and received on board the crew of the ship Star of Peace, 980 tons, which vessel the Florida had recently captured and destroyed. She was on her way to Boston from Calcutta, laden with saltpetre, hides, and wool.

Mexico.—The Mexicans at Puebla numbered 18,000 men, under Ortega; 4000 more, under Comonfort and Carvajal, were between Puebla and the capital. At the capital Juarez had no force of importance, and on the fall of Puebla would take refuge in the State of Morella. General Forey, with 12,000 men, was advancing by way of Orizaba, and General Bazaine, with 11,000 men, by way of Jalapa. They would meet at Amozoc.

## Parliament.

### HOUSE OF LORDS.

Tuesday.—The House re-assembled after the Easter recess. The *Post Office Savings' Banks Bill* was read a third time and passed. The *Mutiny Bill* and the *Marine Mutiny Bill* passed through committee. On the order of the day for naming the select committee on the *Augmentation of Benefices Bill*, Lord St. Leonards expressed a doubt whether it was within the power of the Lord Chancellor to divest himself of the patronage of those livings without the sanction of the Crown. His own impression was that the livings were vested in the Crown, and that the Lord Chancellor was simply a trustee, whose patronage was placed upon the same footing as that of the Prime Minister. He approved of the principle of the Bill, but on examining the details he was of opinion that it would be necessary to exercise great care and caution before adopting the scheme.—The Earl of Derby said that, since the Bill had been read a second time, he had carefully gone through its provisions, and the more he considered them, the more apprehensive he was that the Lord Chancellor had taken too sanguine a view of their operation. The Bill proposed to obtain aid in the augmentation of some livings from the common fund at the disposal of the Ecclesiastical Commissioners. Now, the Commissioners were at present endeavouring to raise the value of all livings the population of which was equal to 10,000 to 300*l.* per annum. If, therefore, any portion of the funds at their disposal were withdrawn, it would be impossible for them to carry out that object. He found, on examining the schedule of the Bill, that out of 320 livings proposed to be dealt with there were 314 which had only an average population of 376. Of the 314, 130 had only an average population of 200, while in seven cases the population was under 50. There was not therefore so much necessity for augmenting these as the more populous livings which the Ecclesiastical Commissioners were dealing with. The whole project appeared to him to be surrounded with difficulty; and his own opinion was that greater advantages would ensue if, instead of divesting himself of the patronage of the livings which were of the least value, the Lord Chancellor would bring into the market the more valuable portions of his

patronage and apply the produce to the augmentation of small livings.—The LORD CHANCELLOR assured the House that his only object was to secure a useful measure. He agreed that there ought not to be any interference with the action of the Ecclesiastical Commissioners; but he only proposed to call in their aid in cases which, even without the present Bill, would naturally attract their attention. With regard to the suggestion of the Earl of Derby, he would be glad to accept it if it were possible, but it was not. The select committee was then appointed.

THURSDAY.—*Greece and the Ionian Islands.*—The Earl of MALMESBURY inquired what was the present state of the negociations with respect to the Crown of Greece and the cession of the island and fortress of Corfu to that country; censuring the Government for keeping the Greeks so long in a state of uncertainty.—Earl RUSSELL declined to answer the inquiries whilst the matters were still under negociation. The Greeks had positively declined to be governed by King Otho, and had determined on establishing a constitutional monarchy. The nomination of Prince William of Denmark was conditional on the assent of the King of Denmark and Prince Christian. With reference to Corfu, it should be remembered that England was only one of the protecting Powers, and that she had a perfect right to propose its cession to Greece if she thought proper. If the Ionians assented to the cession the other protecting Powers would be asked to give their assent to the arrangement.—The Earl of DERBY thought the Government had from first to last played fast and loose with the Greeks, and had acted prematurely in proposing the cession of the Ionian Islands. He thought that this country should at least retain the great fortress and harbour of Corfu.—Earl GRANVILLE vindicated the policy of Lord Russell, and showed that the retention of so strong a fortress as Corfu, after foregoing the protectorate of the other islands, would be strongly opposed by the parties to the treaty of 1815.—On the motion of Earl GRANVILLE, a select committee was appointed to inquire which of the various Bills before Parliament for the construction of *Lines of Railway within the Limits of the Metropolis* can be proceeded with in the present Session without the risk of interfering with the future adoption of a comprehensive plan of metropolitan railway communication.

FRIDAY.—*Greece.*—In answer to the Earl of MALMESBURY, Earl GRANVILLE said that the King of Denmark, on being consulted by Earl RUSSELL respecting the nomination of Prince William to the throne of Greece, had replied that he had no objection to the arrangement if Prince Christian and his son agreed to it. [Left sitting.]

## HOUSE OF COMMONS.

MONDAY.—The House reassembled after the Easter recess. On the order for going into a Committee of Supply on the *Civil Service Estimates*, Mr. SMITH said that the House had not had a fair opportunity of examining the Estimates, Class I., and moved that they be referred to a Select Committee. After a short discussion, Sir G. GREY proposed that Class I. should be postponed, and that the Committee should commence with Class III. Mr. SMITH thereupon withdrew his amendment, and the House went into Committee, when certain votes were agreed to, and the resolutions ordered to be reported. The *Local Government Act* (1858) *Amendment Bill* passed through Committee. On the report upon the *Telegraphs Bill*, certain amendments were made in the Bill, and new clauses added. The Lords' amendments on the *Salmon Exportation Bill* were considered and agreed to. The report upon the *Savings Banks Acts* was brought up and agreed to, and leave was given to bring in a Bill.—Sir H. WILLOUGHBY obtained leave to bring in a Bill to consolidate and amend the laws relating to *Savings Banks.*

TUESDAY.—*The Seizure of the Alexandra.*—In reply to Lord R. MONTAGU, Mr. LAYARD said that the case of the Alexandra, the alleged Confederate ship-of-war, seized by the Government at Liverpool, was still under consideration, and that, in consequence, he was unable to lay the papers upon the table of the House.—In answer to a question from Lord H. LENNOX with reference to the recent election of Prince William of Denmark to the *Throne of Greece*, Mr. LAYARD said that it would not be for the benefit of the public service to make any communication to Parliament on the subject at the present moment.—Lord H. LENNOX gave notice that he would repeat the question next day, in the hope of getting a more satisfactory answer.—Mr. LAYARD replied that if he did the noble lord would not succeed in his object. *Death of Sir G. C. Lewis.*—Mr. BUXTON having risen to move in committee of the whole House that leave be given to bring in a Bill to amend the Acts of Uniformity, Mr. WALPOLE rose and said that he regretted to interpose between his hon. friend and the House, but at the same time he could not help feeling that the sudden gloom which had descended upon them all by the unexpected and lamented death of Sir George Lewis suggested that they would best exhibit their sympathy for the loss of that distinguished statesman by not proceeding further with the business of the evening. He believed that such was the general feeling, and he would therefore conclude by moving that, in order to show their respect for the memory of so beloved a member, the House should now adjourn.—Lord PALMERSTON, who was much affected, said that the feeling which had prompted the motion, was but a just tribute to the memory of the colleague whom they had lost, and he begged to second the motion.—Mr. DISRAELI said he was not aware until within the last few moments of the calamity which had fallen upon the country. The Queen had lost one of the best of her servants, and the House of Commons a member who possessed universal regard and respect. He was sure that the rising statesmen at both sides of the House might take Sir G. C. Lewis as an example which in many particulars might be remembered and followed with advantage; and he was quite confident that his name would never be mentioned in that House without feelings of deep respect and unfeigned regret for an untimely loss which the country could ill bear. The motion was unanimously agreed to, and the House at once adjourned.

WEDNESDAY.—*Lancashire Distress.*—Sir G. GREY stated in reply to Mr. FERRAND that the Government would give up Monday, the 27th inst., for the discussion of the distress in the cotton manufacturing districts.—Sir M. PETO moved the second reading of the *Burials Bill.* He said that the provisions were framed in accordance with the suggestions made by the select committee of last session, and that the measure was not intended in any way as an aggression upon the Established Church. Some of the Dissenting bodies felt that they were aggrieved in consequence of their ministers not being allowed to perform the burial service over their dead, and the object of the present Bill was to remedy the evils of which they complained.—Sir C. DOUGLAS seconded the motion.—Lord R. CECIL moved, as an amendment, that the Bill be read a second time that day six months. He assured the House that he was as anxious to promote peace and union as any one could be, but his conscientious belief was that this measure, so far from having that effect, would revive religious animosity to a fearful extent. The Baptists were the only Dissenting body that really felt themselves aggrieved by the present state of the law. The rubric of the Church of England made but two exclusions, namely, unbaptised persons and those who might have committed suicide. As, however, the Baptists did not confer the rite of baptism except upon adults, it followed that when their children died they were considered to come within the rubric, though the clergy seldom asked any question on the subject. The Dissenters had, however, an easy remedy for any alleged grievance, for there were now cemeteries all over the country to which they could have access.—Mr. WARD HUNT seconded the amendment, Lord HENLEY supported the Bill, Mr. NEWDEGATE, Sir J. TRELAWNY, Mr HARDY, and Mr. HUNT opposed it.—The CHANCELLOR of the EXCHEQUER said that he was a member of the select committee to which the Bill had been referred, and that they had gone carefully through its provisions, and had made various suggestions, the chief of which were embodied in the Bill. It did not follow that the House was bound to adopt the decision to which the select committee had arrived, but he thought it ought to consent to the second reading, and leave details for the consideration of a committee of the whole House. He admitted that there were objectionable features in the measure, but he had no doubt that a satisfactory solution of all difficulties might be arrived at in committee.—Sir G. GREY said he should vote for the second reading of the Bill, but could not give his consent to the details involved in the second and third clauses.—Mr. DISRAELI regarded the measure as one of many projects directed against the Church of England. He commented with some severity upon the course which the Chancellor of the Exchequer had adopted in reference to this matter, which he said reminded him of a recent statement made by the right hon. gentleman, that the principal enemies of the Church of England were to be found within her own fold. He believed that the House by rejecting the measure would not only uphold the legal privileges of the Church, but would show that it was acting in harmony with the strong convictions of the people of England. On a division, the amendment was carried by 221 to 96; the Bill was therefore lost. The *Gardens in Towns Protection Bill*, and the *Oaths Relief in Criminal Proceedings in Scotland Bill*, passed through committee. The Reports of the *Committee of Supply* were brought up and agreed to. The Lords amendments of the *Births and Deaths Registration (Ireland) Bill*, were considered and agreed to.—Mr. H. B. SHERIDAN obtained leave to bring in a Bill to facilitate the appointment of *Stipendiary Magistrates* in cities, towns, and boroughs of 20,000 inhabitants and upwards.

THURSDAY.—*The alleged Spy system at Liverpool.*—In reply to Lord R. CECIL, Sir G. GREY said there was no truth in the statement that spies had been appointed at Liverpool to attend upon persons who were supposed to be Confederate agents at that port, and to watch the private dockyards of the shipbuilders. A representation having been made to the Government by the American Minister that certain ships were fitting out at Liverpool contrary to the provisions of the Foreign Enlistment Act, a communication had been made to the Mayor of Liverpool, who had employed officers of the detective police to make inquiries, in order to ascertain whether the complaints of the American Minister were well founded. The result of those inquiries had not yet reached the Government. *The Budget.*—The House having resolved itself into a Committee of Ways and Means, the CHANCELLOR of the EXCHEQUER, in a very full House, made the financial statement of the year. Having referred to the financial pressure upon the resources of the country during the last two years, he said that the statement he had to make was not a mere detail of annual receipt and expenditure, but was the answer of the Government to a solemn, deliberate, and unanimous resolution of the House in favour of a reduction of expenditure. The financial statement of last year had been made with particular reserve, and the estimate of income and expenditure nearly balanced each other. But the account which he had now to submit was, in his opinion, as remarkable as it was hopeful. Two exceptional causes had operated during the past year to depress the revenue. The cotton famine had reached a degree of afflicting stringency, and he regretted to say there was no ground for indulging in any sanguine hope that things were mending, as the last quotation of the price of cotton was about 2s. per pound. The other exceptional cause of pressure was the condition of Ireland, in which country there had been a succession of three bad harvests. It was in this state of stagnation that the balance-sheet of the nation had been prepared. The state of Lancashire and the state of Ireland had of course deprived the revenue of a very large amount. The excise duties had produced one million less than was estimated; but this was to be traced exclusively to the depressed condition of the working classes. The expenditure of the last financial year was estimated at £70,108,000, and the actual expenditure £69,302,000, being less than the estimate by £806,000. Among the items of revenue which had exhibited an increase during the last year were—customs, 484,000*l.*; income and property tax, 467,000*l.*; and money from China, 42,000*l.* Against this, however, was to be set the excise deficiency in spirits and malt, amounting to 1,185,000*l.*, less about 150,000*l.* for the drawback on malt. The estimate of expenditure for the current year was 67,749,000*l.*, being less than that of 1862-63 by 1,553,000*l.* The estimate of revenue was 71,490,000*l.*, being a difference in favour of income over expenditure of 3,741,000*l.* With regard to alterations of duties, the House was already in possession of what had been done in reference to Tobacco. The Government now proposed to equalise the duty on chicory to that on coffee, with an allowance for waste; to impose the same license on clubs selling strong liquors as upon hotels and coffee-houses, and to raise the duty paid by beer-dealers who, having obtained a spirit license and a beer license, had dropped the spirit license and continued to sell beer at the reduced license. Their next propositions were to charge a guinea license to beer dealers selling less than two dozen bottles not to be consumed on the premises, and to make carriers travelling under four miles an hour and conveying passengers pay one half the duty now charged upon public carriages. They also proposed to abolish the exemptions in reference to excursion traffic on railways. At present excursion traffic was exempt, and thereby an inducement was held out to railway companies to develop one class of traffic at perhaps risk to life in preference to the ordinary legitimate passenger traffic. To check this, and to remove the exemption, the companies would in future have to pay a commuted tax of $3\frac{1}{2}$ per cent. upon all their passenger traffic, instead of 5 per cent. as at present on the ordinary traffic only. This would give a slight balance in favour of the revenue. The next change which they proposed to make was to assimilate the law as to duties on charitable legacies in Ireland to that of England, and to remove the exemption granted under the Income tax Act to charities and corporations with respect to such portions of their income as were expended in charity, exempting as at present buildings belonging to hospitals, colleges, &c., and their sites, and also sums of money expended on the building and repair of churches. The estimate of revenue to be derived from the income-tax on charities and charitable corporations was 75,000*l.*; and from the other imposts which it was proposed to levy, 58,000*l.*—making a total of 133,000*l.*, which, if added to the surplus of 3,741,000*l.*, would raise that sum to 3,874,000*l.* With regard to the disposal of this surplus, they proposed, after the 1st of July next, to abolish the penny charges on goods entered inwards and outwards, and the 1s. 6*d.* stamp upon bills of lading. The income-tax was naturally the chief source from which the taxpayers of the country looked for relief. They proposed, therefore, to fix 200*l.* a year as the limit to which some deduction should attach to incomes liable to the tax—to continue the taxable income at 100*l.* a year, as at present; to have only one rate of tax, but, in order to ease the pressure of the tax upon small incomes, to allow an abatement of 60*l.* upon all incomes between 100*l.* a year and 200*l.* a year at the several stages of 100*l.*, 125*l.*, 150*l.* and 175*l.* This, he believed, would be hailed as a great boon by those numerous classes who now complained, and not unreasonably, of the severe pressure of the tax upon their modest incomes. Then, with reference to indirect taxation, there were the rival claims of tea and sugar, which perhaps for the first time in their history were now placed in hostile competition. They proposed to destroy the natural alliance between tea and sugar, and inasmuch as the duty on tea was equal to 100 per cent. on the value of the commodity, to reduce it from 1s. 5*d.* to 1s. per lb., but not to disturb the sugar duties. This reduction would take effect immediately after the resolution should be adopted by the House, so that on Saturday week next the public would be in a position to profit by the reduction. This relief to the consumer would entail a loss upon the revenue of 1,300,000*l.* A further measure of relief would be given to the direct taxpayer by the reduction which they proposed to make in the income and property tax of 2*d.* in the pound, thus reducing the duty from 9*d.* in the pound, as at present charged, to 7*d.* in the pound. The total present relief to be afforded would be as follows:—abolition of small charges on commerce, 143,000*l.*; abatement on minor incomes, 300,000*l.*; reduction of tea duty, 1,300,000*l.*; reduction of 2*d.* in the pound on general income tax, 1,600,000*l.*; making a total of 3,343,000*l.* In addition to this a further loss, equal to 898,000*l.*, would fall upon the financial year 1864-65. To this, however, it was not necessary further to refer, as it did not affect the financial position of the country in the current year. The amount with which the Government proposed to deal was 3,874,000*l.*, out of which there were remissions of taxation equivalent to 3,343,000*l.*, so that the surplus would be 531,000*l.* Looking to the state of the country, the scale of expenditure, and the condition of the political horizon abroad, the Government considered it to be their duty to retain that amount, and they appealed to the committee to aid them in that determination. Having referred to the success which had attended the commercial policy of the country as inaugurated by the late Sir Robert Peel, and to the satisfactory results of the commercial treaty with France, which had more than made up for the falling off in our trade with America, he expressed his hope that other countries would follow our example, and find in our policy an innocent but powerful provocative to similar tendencies on behalf of peace, progress, order, and civilisation. The right hon. gentleman, who spoke for three hours, resumed his seat amid loud and general cheers. After some discussion, in which satisfaction at the Budget was generally expressed, the resolution for equalising the duty on chicory was put and agreed to. The House having resumed, the ATTORNEY-GENERAL moved that it be referred to the General Committee on Elections to inquire into the circumstances under which a letter complaining of an undue return for the borough of Lisburn had been signed by the petitioners, and whether such letter constituted a withdrawal of the petition. The motion was agreed to.—Sir R. PEEL moved the second reading of the *Assurances Registration (Ireland) Bill*, but, after some discussion, in which the Irish members took several exceptions to the measure, the debate was adjourned. The *Thames Embankment (South Side) Bill* was read a second time, and referred to a select committee. The *Bakehouse Regulation Bill* was read a second time. The *Office of Secretary at War Abolition Bill* passed through committee.

FRIDAY.—*Greece.*—Mr. B. COCHRANE asked if the Government would lay on the table a copy of the telegram which authorised Mr. Elliott to announce to the Greeks that Prince William of Denmark would accept the crown of Greece.—Mr. LAYARD said there were obvious reasons why it would be most inconvenient to produce a copy of a telegram. On the order for going into Committee of Supply, Sir F. SMITH moved that so much of the report of the Commissioners on *Harbours of Refuge* as applies to Waterford, Wick, and Padstow be carried into effect. [Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $92\frac{7}{8}$ to 93 for Money, and at $93\frac{1}{8}$ to 93 for Account; Three per Cents. Reduced, $91\frac{1}{4}$ to $\frac{3}{8}$; New Three per Cents., $91\frac{3}{8}$ to $\frac{1}{2}$; Bank Stock, 234 to 236; India Five per Cent. Stock, $109\frac{3}{4}$ to $\frac{7}{8}$; Five per Cent. Enfaced Rupee Paper $108\frac{1}{4}$; Exchequer Bills, 1s. pm.—FOREIGN: Brazilian, 1852, '58, '60, $93\frac{1}{2}$; Egyptian, $98\frac{1}{4}$ to $97\frac{3}{4}$; Greek, for Acct., $29\frac{1}{2}$; Ditto Coupons, $14\frac{1}{8}$ to $13\frac{3}{4}$; Italian, for Acct., $71\frac{3}{4}$ to $\frac{1}{2}$; Ditto Maremmana Railway, $75\frac{1}{4}$ to $\frac{1}{2}$; Mexican, for Acct., $33\frac{3}{8}$ to $\frac{1}{4}$; New Granada, $15\frac{1}{4}$; Ditto Deferred, 8; Peruvian, 1862, for Acct., $89\frac{1}{4}$; Portuguese, 1853, for Acct., $47\frac{7}{8}$ to 48; Ditto 1862, $47\frac{7}{8}$ to 48; Russian, 1859, $60\frac{1}{8}$; Ditto 1862, $95\frac{3}{4}$ to $\frac{1}{4}$; Sardinian, 85; Spanish, for Acct., $53\frac{3}{4}$ to $\frac{5}{8}$; Ditto Passive, 30 to $29\frac{3}{4}$; Ditto Certificates, $10\frac{7}{8}$ to $\frac{3}{8}$; Turkish, 1862, for Acct., $70\frac{7}{8}$ to 71; Venezuela, 1862, $60\frac{1}{8}$ to $\frac{1}{4}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £29,049,225 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,399,225 |
| | | Silver Bullion .. .. | — |
| | £29,049,225 | | £29,049,225 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,129,445 |
| Rest .. .. .. .. .. | 3,094,427 | Other Securities .. .. | 18,748,394 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 5,769,276 | Notes .. .. .. .. | 8,312,115 |
| Other Deposits .. .. .. | 15,013,391 | Gold and Silver Coin .. | 839,012 |
| Seven days and other bills | 650,040 | | |
| | £39,030,134 | | £39,030,134 |

April 16, 1863. W. MILLER, Deputy Cashier.

## Gazette of the Week.

FRIDAY: *April* 10.—BANKRUPTS.—J. ANDREWS, Church Street, Stoke Newington, Butcher—S. ARMITAGE, Birstal, Yorkshire, Widow—J. BERRY, Westhoughton, Lancashire, Journeyman Carpenter—M. BAKER, Market Place, Holloway, Stay and Crinoline Maker—S. BALL, Journeyman Silver Polisher—T. W. BROWN, Cheltenham, Plumber—C. S. CAMPBELL, Aldershot, Ensign in the 2d Battalion of her Majesty's Military Train—C. CAMBRIDGE, Hartlepool, Durham, Boat Builder—W. CAMBRAY, Burford, Oxfordshire, Labourer—P. J. CLANCY, Clarendon Square, Somers Town, Gate Porter at a Workhouse—W. COLLINS, Wellesley Street, Stepney, Messenger in the London Docks—J. COLLINS, Regent's Row, Dalston, Sawyer—R. CRAIG, Seacombe, Cheshire, Licensed Victualler—J. O. DAVIS, Plymouth, Coal Merchant—H. DALE, Holywell Street, Westminster, Queen's Marshalman—W. DAY, High Street, Shadwell, late Baker—G. J. ELLIS, Bermondsey Street, Southwark, Licensed Victualler—E. FOX, Whitchurch, Hampshire, Carpenter—W. FOSTER, Birmingham, Brass Cock

Founder—J. H. Fowler, Brighton, Riding Master—J. Gledhill, Huddersfield, Woollen Merchant—T. Green, Portsea, Assistant Engineer R.N.—G. Green, Northampton, Tin Plate Worker and Brazier—J. Green, Wantage, Berkshire, Carpenter—G. F. Garratt, Amersham, Buckinghamshire, Grocer and Tea Dealer—G. Garner, Staining Lane, City, Warehouseman—W. Green (otherwise W. B. Green), Chorlton Musgrove, Somersetshire, Beer House Keeper—G. Hill, Oldbury, Worcestershire, Licensed Victualler—B. Handley, Sedgebrooke, Lincolnshire, Gardener—Arthur Jardine, Chapel Street, Liverpool Road, Islington, Builder—Thomas Jones, Penyboat, Merionethshire, Farmer—William Ketley, Stourbridge, Worcestershire, Forgeman—Morris Lazarus, Drury Lane, Butcher—Hiram George Maycock, Queen's Road, Bayswater, Bootmaker—H. Y. Nathan, Birmingham, Jeweller—J. E. Pharoah, Southsea, Hampshire, Dairyman—J. Pleydell, Guestling, Sussex, Carrier—T. Parsons, Well Street, Hackney, Grocer—E. T. Prime, Mildmay Place, Kingsland, Baker—J. Paoden, Redhill, Surrey, Grocer—W. Page, Great Yarmouth, Norfolk, Grocer—Robert Michael Pringle (known as, and calling himself Robert Pringle), Southwood Terrace, Highgate, Tailor—G. Porter, Trevethin, Monmouthshire, Journeyman Pig Dealer—T. Stanesby, Ilkeston, Derbyshire—J. Sutcliffe, Scarborough, Yorkshire, Upholsterer—W. L. Scandrett, Newport, Monmouthshire, Butcher—T. Simcox, Willenhall, Staffordshire, Builder—J. S. Slyfer, Ockenden Road, Southgate Road, Islington, Diamond Merchant—S. Spencer, Ventnor, Isle of Wight, Livery Stable Keeper—S. Southall, Birmingham, Coal and Breeze Merchant—H. Tarr, Driffield Road, Middlesex, Attorney's Clerk—G. Trout, St. John's Road, Hoxton, late Boot and Shoe Salesman—T. Thrustle, Willerby, Yorkshire, Farmer—W. Trader, Whitecross Street, Boot and Shoe Manufacturer—J. S. Vickers, Beverley, Yorkshire, Grocer—J. Vickery, Nunhead Grove, Peckham, Retailer of Beer—R. Wilkinson, South Shore, Lancashire, Carrier—W. W. Ward, Liverpool, Attorney-at-law—J. White, Sutton, Cheshire, Labourer—R. B. Waterhouse, Widnes, Lancashire, Plumber and Glazier.

SCOTCH SEQUESTRATIONS.—P. Campbell, Perthshire, Feuar and Wood Merchant—A. Freyd, Glasgow, Jeweller—W. Gardner, Lanarkshire, Farmer—H. M'Creadie, Ballantrae, Joiner—H. R. Roby, Glasgow, Tobacconist.

TUESDAY: *April* 14.—BANKRUPTS.—G. G. Armitage, Luton, Bedfordshire, late Farmer—G. Balshaw, Everton, Lancashire, Bookkeeper—G. Bragg, Stoke-upon Trent, Potter—J. Brien, Sunderland, Durham, Merchant Tailor—F. Bell, High Street, Southwark, Milliner and Warehouseman—J. Butler, Darlaston, Staffordshire, Grocer—M. T. Cooke, Clerkenwell Green, Jeweller—W. Callaway, Exeter, Plumber—P. Charlesworth, Hanley, Coal Dealer—T. Coleman, New Shoreham, Sussex, Market Gardener—W. Cowdall, Liverpool, Woollendraper—A. Donato, Vivian Road, Victoria Park, late Cabinetmaker—C. Driffield, Lozells, near Birmingham, Commission Agent—T. Dunne, Kerry, Montgomeryshire, Farmer—J. Evans, Wrexham, Denbighshire, Cooper—J. G. Fletcher, Birmingham, Journeyman Baker—C. Flint, Dalston Terrace, Dalston, late Grocer—A. Fowler, Birmingham, Grocer—W. Gough, Walsall, Staffordshire, Brassfounder—T. Gilbert, Storrington, Sussex, Maltster—T. Griffiths, Kentchurch, Herefordsh., Farmer—J. A. Howell and A. E. M. Bosquet, Regent Street, St. James's, Ladies' and Juvenile Outfitters—G. L. Hall, Argyll Rd., Kensington, Artist—W. Hayes, Westbromwich, Staffordshire, Journeyman Baker—H. Harvey, St. Mary's Sq., Kennington Road, Late General Merchant—T. Hall, Manchester, Salesman—P. Halse, West Lee, Devonshire, Farmer—J. Holden, Rochdale, Lancashire, Dyer—J. Hadley, Sittingbourne, Kent, Coal Merchant—J. H. Hill, Rodney Street, Pentonville, Commercial Traveller—A. Hasson, Hastings, Lodging-house Keeper—W. Houghton, Peckham, Worcestershire, Blacksmith—R. Jones, Towyn, Carnarvonshire, Farmer—G. Knight, Union Terrace, Camden Town, Commercial Traveller—T. C. Kirkman, Leeds, Grocer—E. Lawrence, Litchurch, Derbyshire, Shopkeeper—I. P. Lines, Birmingham, Cabinet Maker—R. F. Manning, Plymouth, Licensed Hawker—M. M'Guffog, Liverpool, Biscuit Baker—G. Moore, Rackenford, Devonshire, Cattle Dealer—B. Naylor, Leeds, Yorkshire, Builder—P. Ogden, Manchester, Plumber and Glazier—F. Pearson, Nottingham, Machine Agent—G. Painton, Barming, Kent, Farmer—G. S. Pill, Birkenhead, Builder—Thomas B. Pinyon, Northiam, Sussex, Farmer—J. Reader, Eden Terrace, Battersea, Commission Agent—W. Randell, Kintbury, Berkshire, Journeyman Bricklayer—G. Rogers, Manchester, Bookbinder—B. G. Robinson, Kendal, Westmoreland, Miller's Assistant—J. Roberts, jun., Billingsgate Market, Fishmonger—J. Shall, Bath, Grocer—J. Simpkins, jun., Bath, Surgeon—J. Spikes, John Street, Hercules Buildings, Lambeth, Commercial Traveller—J. Simpson, Manchester, Plumber and Glazier—C. Slater, New Sleaford, Lincolnshire, Retailer of Beer—J. Teague, Blakeney, Gloucestershire, Coal Proprietor—J. Trew, late of Pontnewynydd, Monmouthshire—J. Thurman, Coventry, Warwickshire—W. Tweedie, Leeds, Travelling Draper—C. Thomas, Cheriton, Kent, Timber Carrier—T. Venner, Cotton Row, Dalston, Stamper in her Majesty's Post Office—J. Vaubey, Leeds, late Licensed Victualler—J. B. Westgate, Great Yarmouth, Norfolk, Smack Owner and Smack Master—E. Williams, Sussex Street, Battersea Park, Engine Fitter—H. Westcott, Hawkridge, Somersetshire, late Farmer—J. Wheeler, Hornton Terrace, Kensington, Plasterer—R. Williams, Beddgelert, Carnarvonshire, Quarryman—J. Ward, St. George's Street, St. George's-in-the-East, Licensed Victualler—J. Wingfield, Church Place, Paddington Green, Labourer.

## Metropolis and its Vicinity.

Lancashire Relief Fund.—At a meeting of the Mansion House Committee, on Friday, the financial report stated that the subscriptions now received are at the rate of about 1500*l*. a week from home sources alone, while those from the colonies are much larger. The total amount of donations received, including 750*l*. interest on a reserve fund invested at call, up to Friday was 478,171*l*. odd, of which 377,396*l*. had been distributed through the local committees. The home subscriptions during the fortnight amounted to 2908*l*., and those from the colonies to 5156*l*. A deputation from the parish of St. Paul, Covent Garden, had an interview with the committee, and presented a memorial in favour of applying some portion of the fund to the encouragement of emigration. Mr. Cubitt assured the deputation that their memorial would receive the serious consideration of the committee, and have due weight in determining the course they might think it right to pursue After the deputation had withdrawn, the Lord Mayor expressed himself strongly in favour of emigration, under proper safeguards, as a means of relief to the Lancashire people, and he dwelt upon the utter hopelessness of any attempt to maintain for any considerable length of time 500,000 people in a state of idleness by charity alone, and on the consequent demoralization of the recipients of the public bounty if such a thing were practicable. This expression of opinion met with very general concurrence among the committee, and it is now only a question whether they will vote some considerable sum to assist Lancashire people to emigrate from the fund at their disposal, or invite public subscriptions to a special fund for the purpose. The committee afterwards made grants to the amount of 5785*l*. to be distributed by the local relief bodies.

Sympathy with Poland.—On Tuesday evening a public meeting of the inhabitants of Marylebone was held at the Court house, for the purpose of expressing sympathy with Poland. Lord Fermoy, M.P., presided, and expressed his opinion that the day was not far distant when Poland would regain its nationality. Mr. Harvey Lewis, M.P., moved the first resolution, declaring the opinion of the meeting, that the provisions of the treaty of Vienna have been systematically and grossly violated by the Government of Russia, and that it is highly important for the interests of constitutional freedom that such measures should be promptly adopted by the British Government as are necessary in order to assist Poland in recovering her national existence. The Rev. Dr. Worthington seconded the resolution. Mr. Nicholay moved, and Mr. Israel Abrahams seconded, the appointment of a committee to draw up a petition to Parliament and a memorial to the Queen, praying for a remonstrance against Russian barbarities and for a recognition of Poland's nationality. Sir Robert Clifton, M.P., Mr. Cox, M.P., and other gentlemen also addressed the meeting, and strenuously urged the despatch of a fleet to the Baltic, the supply of arms, and the enlistment of volunteers for Poland. The speeches throughout were of a very warlike character and were loudly applauded.

The City Police.—At a meeting of the Court of Aldermen, on Thursday, the Lord Mayor submitted a communication he had received from Sir George Grey apprising him that it is the intention of the Government to introduce a Bill in the House of Commons, having for its object to place the whole of the metropolis, including the city, under one system of police. The discussion took place with closed doors, and the subject was eventually referred to the General Purposes Committee, to take any steps they may think proper in the matter. On the same day the Court of Common Council unanimously resolved to take no notice of Sir George Grey's recommendation that they should postpone the election of a chief commissioner of police, and determined to proceed with the election forthwith. For that purpose they fixed Thursday next as the last day on which they would receive applications for the office, and fixed the salary at 1000*l*. a year. Meanwhile the different wards of the City are taking active measures to resist the threatened amalgamation. Within the last few days wardmotes have been held in nearly every ward, at all of which resolutions were adopted pledging the wards to resist the attempt at amalgamation.

The Late Accidents at the Illuminations.—In the Court of Aldermen on Tuesday, the Lord Mayor stated that the sum of 125*l*. had been graciously forwarded to him by her Majesty and the Prince of Wales, for the relief of those who had suffered by the casualties on the night of the illuminations; and the knowledge of this fact had brought upon him a host of applications from persons who said they were injured on that occasion both in and out of the City. He wished, under these circumstances, that a committee would take the distribution of the money off his hands. The court, were, however, of opinion that his lordship would distribute it more satisfactorily himself, taking care that none but those who had sustained serious injuries should participate in it.

Waiting for the Budget.—On Thursday morning an extraordinary scene was presented in the approaches to the House of Commons, showing the deep interest taken in the financial statement of the Chancellor of the Exchequer. Though the strangers' gallery is only capable of accommodating about 100 persons, many who had obtained orders were in attendance as early as half-past seven o'clock, bringing with them meat, bread, cheese, and beer, in order to sustain themselves during their weary stay. By 10 a.m. there were more persons in waiting than would fill the gallery, and those who arrived after that hour had, consequently, little or no chance of obtaining admission.

The St. Giles's Murder.—Although a reward of 100*l*. has been offered by the Government, and every step has been taken for the apprehension of the perpetrator of this murder, it still remains a mystery; though it was reported on Thursday that the police had received information which might enable them to trace him. From morning till night crowds of people are still to be seen in front of the house where the murder took place.

The Acton Murder.—Joseph Brooks, the man who was found guilty of the murder of the policeman at Acton, at the Central Criminal Court a few days ago, has confessed that he was concerned in the crime, though he wishes to make it appear that another hand than his fired the fatal shot. The motive ascribed to the prisoners at the trial is now admitted to be the true one. The unfortunate policeman detected the two brothers in the act of pilfering some old wood; and though they escaped from him at the time they knew that he would inform upon them, and determined to escape the consequences by assassinating him.

The Public Health.—The Registrar-General's Weekly Return states that the deaths in the week that ended Saturday, April 11, were 1610. In the corresponding weeks of the 10 years 1853—62, the average number, corrected for increase of population, was 1324. The present return is therefore 286 above the average. During the week the births of 1131 boys and 1049 girls, in all 2180 children, were registered in London. In the 10 corresponding weeks of the years 1853—62 the average number was 1975.

## Provincial.

Ewell.—An explosion of a powder-mill took place on Wednesday morning in this village. Three men were employed in the works at the time, and were blown to pieces in the explosion, the fragments of their bodies being picked up in the adjoining fields. The shock of the explosion was severely felt all round the neighbohrhood.

Hereford.—The execution of William Hope, a ticket-of-leave-man, who was found guilty at the last assizes of violatiing and murdering Mary Corbett, a servant girl, at Ullingswick, in this county, took place on Wednesday in front of the county gaol, in the presence of a large crowd of persons. The murderer, who confessed his crime, died easily.

Ipswich.—The execution of John Ducker, who was convicted of the murder of a policeman at the last Suffolk assizes, took place on Tuesday in front of the county gaol in this town, in the presence of about 4000 persons. Since his conviction he has listened attentively to what was said to him, but in a stolid, unimpressionable manner. He made no confession.

Leeds.—At the inquest on the woman who was murdered last week in this town by a man called Gair, who subsequently attempted to commit suicide, the jury have returned a verdict of Wilful Murder against the prisoner, who is likely to survive.

Liverpool.—On Saturday last a meeting convened by the mayor, in compliance with a requisition very numerously signed by the most influential merchants and bankers, was held in St. George's Hall to express the feelings of the town on the Polish question. Resolutions were unanimously adopted expressing sympathy with Poland in her present struggle for independence, with memorials to her Majesty and to both Houses of Parliament, praying them to take such steps as shall, in their wisdom, be most effective in promoting it.

Maidstone.—The execution of Robert Alexander Burton for the murder of the little boy on Chatham Lines, took place on Saturday in this town, in the presence of 5000 persons. He expressed great penitence for his crime, and died without a struggle.

Manchester.—At the weekly meeting of the Central Executive Committee on Monday, the hon. secretary reported that during the week ending the 11th inst., 15 packages of clothing and 560 barrels of flour had been sent for distribution to the various local committees. The total receipts for the week amounted to 4193*l*. 18*s*. 8*d*., and for the month of March to 40,896*l*. 19*s*. 3*d*. The balance at the banker's on the general account was 402,712*l*. 4*s*. 8*d*., and on the employment account, 9823*l*. 1*s*. 6*d*. Total, 412,535*l*. 6*s*. 2*d*. Mr. Commissioner Farnall reported that on the 5th inst. there was a decrease in the number of persons receiving parochial relief in the 27 unions in the cotton manufacturing districts, as compared with the number so relieved in the previous week, of 4491, making a total decrease of 66,602 since the 6th December. Several grants from the general fund, and from the employment and school funds, were voted.

Plymouth.—The screw steam-ship Alar arrived in this port on Saturday, and landed 17 men belonging to the large iron steam-ship that left Greenock on the 2d inst., under the name of the Japan, it was said on a voyage to the China Seas. It was rumoured at the time that her alleged voyage was only a blind, and that her real intention was to fly the Confederate flag. The Alar's news now confirms this rumour. The Japan is an iron-built ship laid down to very fine lines for speed, about 600 tons, with engines of from about 200 to 250 horse power. She has all the fitments for carrying heavy guns, shot, and shell, and left Greenock with more than 100 men shipped at very high wages, and in perfect cognisance of the real intention of their voyage. At the shipping master's office in Greenock they were shipped for two years for a voyage to Shanghae, Hong-Kong, and any intermediate ports. After they had proceeded to sea another set of articles were produced by the captain, in which it was stipulated that they should fly the Confederate flag, and assist in capturing and destroying all Federal vessels they might fall in with. Thirteen of the crew objected to sign the new articles, alleging that they expected higher wages. The captain stated that he had no wish to take any man with him against his will, and transferred these hands to the Alar. From Greenock the Japan proceeded to a creek on the coast of France, east of the Channel Islands. The Alar, which has been for several years a regular trader between Newhaven and St. Malo, left Newhaven with 100 tons of goods in cases for St. Malo. These goods consisted of 12 Whitworth guns, 10 40-pounders, and two 100-pounders, with a large quantity of powder, shot, and shell, and some provisions. She proceeded to the coast of France, and was there joined by the Japan and a French pilot. The two vessels ran in and anchored in the creek, where the transhipment of the goods between the two vessels took place during two nights. The Japan then left, and afterwards the Alar, the latter being watched off the coast by a French frigate. The Alar lay two days in the Channel before she made for this port. In addition to the 13 dissatisfied seamen, she also landed two of the Japan's stokers who were severely scalded by the bursting of one of her condensers. The Japan is now sailing under the name of the Virginia. The customs authorities at this port instituted an inquiry into the circumstances attending the Alar's voyage, but not deeming themselves justified in detaining her, she was allowed to proceed to the eastward. The men report that on board the Japan everything was done to make the crew comfortable. Provisions of a high class and every accommodation were freely supplied. The crew were all picked men, and in addition to being good seamen the majority of them were old hands at gun drill. The names of the officers were unknown.

Sheffield.—A meeting in aid of the subscription for the Poles was held in this town a few days since, at which Mr. Roebuck, M.P., who was present by invitation, briefly explained his views with respect to the position and prospects of Poland and the duty of England in the crisis. H expressed his sympathy

with the Poles in their struggle against the despotism of Russia. He stated that the Austrian Government would be glad to see the kingdom of Poland reconstituted as a barrier between Austria and Russia, but that Russia and Prussia would never give up the shares they obtained by the scandalous partition without a war. He felt that England would do vastly more harm by creating a European war for Poland than it could possibly do good to the Poles, and therefore he was opposed to that course. Lord Palmerston had expressed strong opinions on the conduct of Russia towards Poland, and his intention to do all that could be done by diplomacy to benefit the Poles; and his advice was to leave the matter in the hands of the Government. He expressed a most decided opinion that the Poles would inevitably be crushed by Russia, and warned those who were encouraging the Poles in this country to go to Poland that they were sending them to a useless butchery.—A man named Tierney was murdered in this town last week. He bore a bad character and lived with a woman of the town who, like himself, was at large on a ticket-of-leave; and many robberies committed by them are reported to have taken place in the house they lived in. The woman had a quarrel with a man who visited her about money; and on deceased attempting to prevent his leaving the house, he stabbed him to the heart. It is now conjectured that an attempt had been made to rob the man, and that he stabbed deceased in self-defence. No trace of the murderer has been discovered.

Shrewsbury.—The execution of Edward Cooper for the murder of his son, a deformed boy, at Baschurch, took place on Saturday in this town, in the presence of not less than 10,000 persons. He made a full confession of his guilt, and died penitent. He struggled violently for several minutes before life was extinct.

## Ireland.

Trial for Inciting to Murder.—An extraordinary case was tried on Monday before the Dublin Commission Court. A respectable-looking man, named Joseph Harcourt, was indicted for having endeavoured to incite two men living in Dublin, named Smith and Graham, to murder Mr. Dickinson, a gentleman residing at Ashgrove, near Newry, in whose family the prisoner had been employed as tutor. The persons whom the prisoner endeavoured to incite to commit the crime, deposed to the fact that he had offered them 10*l*. to shoot Mr. Dickinson on the plea that he illused his wife, for whom the prisoner professed an attachment, and alleged that she was privy to his design. Several witnesses were also examined, who testified to the good character of the prisoner. The jury, after 20 minutes' consideration, returned a verdict of Guilty. Baron Hughes, in sentencing the prisoner, commented on the enormity of the offence of which he had been convicted, and sentenced him to the full punishment allowed by law—10 years' penal servitude. One of the jurors said they were desirous of recommending the prisoner to mercy on account of his previous good character, but another juror stated that they were not unanimous in the recommendation. His Lordship said that even had the recommendation been unanimous he would not attend to it, as previous character was no ground for mercy in a case of the kind.

The Murder of Mr. Fitzgerald.—Denis Dillane, who was convicted at the last assizes of hiring Beckham and Walsh to murder his landlord, the late Mr. Francis Fitzgerald, was executed on Monday morning at Limerick. When he appeared upon the scaffold, accompanied by two Roman Catholic clergymen, he seemed very weak. He was a farmer of bulky frame, about 60 years of age. His aspect gave striking evidence of his having undergone extreme mental suffering. He, however, bore himself with firmness and resignation, having been very penitent ever since he lost all hope of a commutation of the sentence. About 2000 persons were present at the execution.

Suicide of the Rev. Dr. Mason.—The Rev. Samuel H. Mason, LL.D., who for many years held a situation in the office of the Ecclesiastical Commissioners, was returning in the Ulster mail steamer from Holyhead on Wednesday morning, when he deliberately threw himself into the sea and was drowned, notwithstanding the most strenuous efforts to save him. He wrote a letter to the captain which leaves no room to doubt that he contemplated self-destruction.

## Obituary.

The Countess Dowager of Verulam died on Thursday morning at her residence in Grosvenor Square, after a short illness. Her ladyship was born in 1783, and was only daughter of the first Earl of Liverpool by his second wife, daughter of Sir Cecil Bisshopp. Her ladyship married in 1807 the first Earl of Verulam, by whom she leaves the present Earl of Verulam, the Countess of Craven, the Countess of Clarendon, the Countess of Caledon, and the Viscountess Folkestone.

Lord De-Saumarez, son of the celebrated Admiral, died at Cheltenham on the 9th inst. in his 74th year. His lordship, who was in holy orders, and was rector of Huggate, in Yorkshire, was born in Guernsey in 1789. In 1814 he married the daughter of Vice-Admiral Lechmere, and succeeded his father in 1836. He was educated at Christ Church, Oxford, where he was second class in classics in 1810. He is succeeded by his brother, the Hon. John St. Vincent Saumarez.

The Right Hon. Sir George Cornewall Lewis, Bart., Minister at War, died almost suddenly on Monday last at his seat, Harpton Court, Radnorshire. He had retired to the country to take his brief Easter holidays. Soon after his arrival he caught a cold, which brought on congestion of the lungs; the attack became serious on Sunday, and he died at 2 o'clock on Monday afternoon. He was in his 58th year, having been born in October, 1806. He was the son of the late Sir Thomas Frankland Lewis, who, having filled several offices in the State, including those of Secretary to the Treasury, Vice-President of the Board of Trade, and Treasurer of the Navy, received in 1846 a baronetcy for his public services. His mother was the daughter of another baronet, Sir George Cornewall, after whom he was named. He was educated at Eton and Christ Church, Oxford, where he took his bachelor's degree in 1828, being first class in classics, and second in mathematics. It was as a scholar that he became first known to the public, his earliest literary production being a translation of Müller's work on the "History and Antiquities of the Dorian Race," which, in conjunction with his friend Mr. Tufnell, he brought out in 1830. He subsequently published an "Enquiry into the Credibility of Early Roman History," a treatise "On the Origin and Formation of the Romance Languages," and various volumes, "On the Influence of Authority in Matters of Opinion," "On the Use and Abuse of Political Terms," "On Local Disturbances and the Irish Church Question," "On the Government of Dependencies," "On the Method of Observation and Reasoning in Politics," "On the Astronomy of the Ancients," and a "Dialogue on the Best Form of Government." He was also for some time Editor of the "Edinburgh Review" and a large contributor to many of the periodicals which devote their pages to the criticism of ancient writers. Among these was a paper "On the Fables of Babrius" in an old number of the Classical Museum. Sir George Lewis did not enter Parliament till 1847, when he was 41 years of age; but he had already had some taste of official life. He was a member of the Middle Temple, and was called to the Bar in 1831, though he never practised, probably from a sense of his deficiency as a speaker, which he was long in overcoming. In 1835 he was employed in the Commissions which were appointed to inquire into the relief of the Poor and into the state of the Church in Ireland. In the next year he was on the Commission of Inquiry into the affairs of Malta. In 1839 he succeeded his father as a Poor Law Commissioner, and in 1847, the date of his entry into Parliament, he was made Secretary to the Board of Control. In the following year he went to the Home Office, where he held the post of Under Secretary, and in 1850 he became one of the Secretaries to the Treasury, where he remained till the dissolution of Lord John Russell's Cabinet, and where he acquired a great reputation for financial ability. He did not return to office until Lord Palmerston formed his first Administration in 1855, and in this interval of his official life he edited the "Edinburgh Review." He joined Lord Palmerston's Cabinet, in succession to Mr. Gladstone, as Chancellor of the Exchequer, and soon commanded the confidence of the City by the practical character of his financial measures. In Lord Palmerston's second Administration he was placed in the Home Office. On the death of Lord Herbert he was removed to the War Office, and succeeded in mastering its innumerable details. In all these spheres of labour Sir George Lewis showed such versatility and such indomitable perseverance, that the Cabinet could sustain no severer loss, save that of its chief. He was not a showy character, and especially he did not shine much in those debates from which the country at large learns to estimate the position of a Minister; but his wonderful power of mastering any subject, his clear head, his sound sense, and his practical ability were fully recognised, and spite of his slow and hesitating manner, his voice had such an authority in the House of Commons that no one commanded more attention when he chose to speak, and no man was more entirely trusted. He married in 1844 the Lady Theresa Lister, sister of the Earl of Clarendon. He has left no children, and is succeeded in the baronetcy by his only brother. The Rev. Gilbert Frankland Lewis, Rector of Monnington on the Wye, and Gladestry, Radnorshire, and canon of Worcester, who married in 1843, the eldest daughter of Sir Edmund Antrobus, by whom he has a son and two daughters.

BIRTHS.—On the 13th inst, Lady Southampton, of a daughter—9th inst, at the Earl of Gainsborough's, in Portman Square, the Lady Louisa Agnew, of a daughter—8th inst, at Long Melford, Suffolk, Lady Parker, wife of Sir William Parker, Bart., of a son—6th inst, at Burton-on-Trent, Lady Every, wife of Sir Henry Flower Every, Bart., of a daughter—12th inst, at 11, The Cedars, Putney, the wife of the Hon. and Rev. Robert Henley, incumbent of Putney, of a son.

MARRIAGES.—On the 9th inst, at Maltby Church, Yorkshire, Lord Muncaster, to Constance, second daughter of Mr. and Lady Harriet L'Estrange, of Tynte Lodge, Leitrim, and niece of the Earl of Scarborough—14th inst, at St. James's, Westminster, Percy Mitford, Esq., third Sec. H.M.'s Mission, Brussels, eldest son of Henry Reverley Mitford, Esq., of Exbury House, Hants, to Emily Marion, third daughter of Lord and Lady Egerton of Tatton—14th inst, at St. Mary's, Marylebone, John C. Ramsden, Esq., eldest son of Mr. and Hon. Mrs. Henry Ramsden, of Oxton Hall, Tadcaster, Yorkshire, to Emma Susan, youngest daughter of the Rev. Edward Duncombe, and widow of the late Ellis Gosling, Esq., of Busbridge Hall, Godalming—9th inst, at Barton-under-Needwood, Henry Cunliffe Shawe, Esq., only son of the late Samuel Pole Shawe, Esq., of Maple Hayes, Staffordshire, to Georgina Wilmot, second daughter of the late Rev. Sir William Nigel Gresley, Bart., of Netherseale Hall, Leicestershire.

DEATHS.—On the 12th inst, at Drumcondra Castle, Georgina Maude Sita, youngest child of Lord James Butler, aged 14 months—12th inst., at 61, Fitzwilliam Square, Dublin, the Lady Elizabeth Borough, wife of Sir Edward Borough, Bart.—10th inst, at South Place, Knightsbridge, Lady Charlotte Sterling, wife of Sir Anthony Coningham Sterling, K.C.B., and daughter of Major-General Joseph Baird—13th inst, at Oakfield, Cheltenham, Lieut.-General Fiddes, aged 81—12th inst, in Queen Anne Street, Elizabeth Wray, relict of Colonel William Martin Leake, of the Royal Artillery, aged 76—2d inst, at Tunbridge Wells, Elizabeth Maria, wife of Lieut.-Colonel Elrington—5th inst, at Little Shelford, near Cambridge, Lieut.-Colonel Robert Batcheler Ficklin, aged 69—17th ult, Henry James Stephenson, late Captain 18th Royal Irish, only son of the late Henry Stephenson, Esq., of Swallowfield, Berks, aged 35—4th inst, at his residence, 66, Rue St. Anne, Paris, Captain James Henry Langford Brooke, late of her Majesty's 95th Regiment, aged 28—28th ult., on board the Simla, in the Red Sea, on his passage home, Lieut. Herbert Philip Streatfield, of the Bengal Army, second son of the late Major Sidney Streatfield, of the 52d Light Infantry, aged 21—7th inst, at Coulsdon Court, Thomas Byron, J.P. for the county of Surrey, aged 54—11th inst, at Hampton Deane, J. A. Russell, Esq., J.P. for the county of Hereford, aged 58—8th inst, John Curling, Esq., of Hoffley Holes, and Gosmore, J.P. for the county of Hertford, aged 78—12th inst, at Aston House, near Stevenage, the Rev. Henry Butler Pacey, D.D., formerly of the Priory, Boston, and for many years Justice of the Peace for the division of Holland in the county of Lincoln, aged 90—8th inst, at the Parsonage, Kilburn, Middlesex, the Rev. James Bolton, minister of St. Paul's Episcopal Chapel, aged 39—12th inst, at Bell Grove, Welling, Kent, the Rev. George Kember, M.A., aged 64—11th inst, the Rev. Thomas Fisher, rector of Little Waltham, Essex, aged 67—5th inst, the Rev. R. R. Bothwell, M.A., Rector of Sefton, Lancashire, aged 92.

## Markets.

### COVENT GARDEN, April 18.

Supplies of English grown Vegetables of good quality continue plentiful, and importations of foreign goods are also well kept up. Good samples of Apples and Pears now realise high prices. Oranges are also dear. Cucumbers are cheap. Pine Apples and Grapes are sufficient for the demand. Potato sales have not altered since last report. Cornish Broccoli is still coming in by the crateful. Cut flowers chiefly consist of Orchids, Pelargoniums, Cinerarias, Azaleas, Violets, Mignonette, Tulips, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 7s to 10s | Oranges, per box, 12s 6d to 30s |
| Grapes, per lb., 15s to 20s | — per 100, 4s to 8s |
| Strawberries, p. oz., 6d to 1s | Nuts, small, p. bush, 14s to 18s |
| Pears, per doz., 10s | Chesnuts, do., 8s to 12s |
| Apples, per doz., 9d to 1s 6d | Almonds, do., 18s |
| — per ½ sieve, 3s to 6s | Walnuts, do., 10s to 16s |
| Lemons, per 100, 5s to 9s | Kent Cobs, p. 100 lbs., 150s |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Asparagus, per 100, 9s to 12s |
| Potatoes, York Regents, p. ton, 100s to 110s | Seakale, p. punnet, 1s 3d to 2s |
| ,, Flukes, do., 120s to 140s | Shallots, per lb., 6d to 8d |
| ,, Rocks, do., 60s to 80s | Rhubarb, p. bundle, 6d to 9d |
| ,, Cups, do., 75s. to 85s | Garlic, per lb., 6d to 8d |
| Turnips, p. bunch, 3d to 4d | Lettuces, each, 1d to 2d |
| Carrots, do., 3d to 6d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bundle, 1s 6d to 4s |
| Cucumbers, each, 1s to 2s | Salsafy, per bundle, 1s 6d to 2s |
| Beet, per doz., 1s 6d | Scorzonera, p. bundle, 1s 3d to 2s |
| Celery, p. bundle, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 3d |
| French Beans per 100, 2s | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch 2d to 4d |

### BRITISH WOOLS.—London, April 17.

There is more demand for many descriptions of wool, and at full rates, but as our supply is very limited, the amount of business is not large.

### METROPOLITAN CATTLE MARKET.

Monday, April 13.

The number of Beasts is considerably larger than on Monday last, and trade is slow. Prices are lower, and a clearance cannot be effected. Sheep also are more plentiful. We have now very few in the wool, and therefore cease to quote them. Trade is very dull, and last Monday's quotations are barely maintained. Trade is not quite so active for Lambs and Calves. From Germany and Holland there are 460 Beasts, 2230 Sheep, and 145 Calves; from Scotland, 460 Beasts; from Ireland, 90; and 2800 from the Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 6 to 4 10 | Best Long-wools | .. — .. |
| Best Short-horns | 4 4 — 4 6 | Do. Shorn .. | 4 2 to 4 6 |
| 2d quality Beasts | 3 0 — 3 8 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds .. | .. — .. | Do. Shorn .. | 3 8 — 4 0 |
| Do. Shorn .. | 4 8 — 4 10 | Lambs .. .. | 7 0 — 7 8 |
| | | Calves .. .. | 4 8 — 5 6 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 4090; Sheep & Lambs, 21,710; Calves, 154; Pigs, 240.

Thursday, April 16.

Although the supply of Beasts is by no means large, they cannot all be disposed of. Trade is very dull, and Monday's quotations are not fully maintained. The supply of Sheep is also small, but quite equal to the demand. Prices remain unaltered, with a very slow trade. The number of Calves is considerably larger, and consequently prices are lower. Choice Lambs are in demand at fully late rates. Our foreign supply consists of 276 Beasts, 720 Sheep, and 404 Calves. Milch Cows, 120.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. . | 4 6 to 4 8 | Best Long-wools. | .. to .. |
| Best Short-horns | 4 4 — 4 6 | Do. Shorn .. | 4 2 — 4 6 |
| 2d quality Beasts | 2 10 — 3 8 | Ewes & 2d quality | .. — .. |
| Best Downs and Half breds .. | .. — .. | Do. Shorn .. | 3 8 — 4 0 |
| Do. Shorn . | 4 8 — 4 10 | Lambs .. .. | 7 0 — 7 8 |
| | | Calves .. .. | 4 0 — 5 4 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 1100; Sheep & Lambs, 5320; Calves, 498; Pigs, 230.

### NEWGATE.—April 17.

| | |
|---|---|
| Best Fresh Butter .. .. | 14*s*. per dozen lbs. |
| Second do. do. .. .. | 12*s*. ,, |

Pork, 4*s*. 0*d*. to 4*s*. 8*d*. per 8 lbs.

### COAL MARKET.—April 15.

Byass's Bebside West Hartley, 15s. 3d.; Wylam, 15s. 6d.; Hollywell Main, 15s. 3d.; Tanfield Moor Butes, 12*s*.; Walls End Riddell, 14s. 3d.; Walls End Haswell, 17s. 6d.; Walls End Hartlepool, 16s. 9d.; Walls End Heugh Hall, 15s. 6d.; Walls End Kelloe, 16s.; Walls End South Kelloe, 16s.; Walls End Trimdon Thornley, 14s. 3d.; Walls End Whitworth, 14s. 9d.; Carway and Duffryn Malting, 19s. 6d.—44 ships at market.

### HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, April 16.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 72s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | 75 | 80 | New Clover .. .. | — | — |
| Inferior do. .. | 40 | 60 | Do. second cut .. | 80 | 105 |
| New do. .. .. .. | — | — | Straw .. .. .. | 30 | 36 |
| Rowen .. .. .. | 40 | 60 | | | |

Harvey & Easton.

Whitechapel, Thursday, April 16.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 78s to | 84s | Prime Clover .. | 110s to | 116s |
| Inferior do. .. .. | 60 | 70 | Inferior do. .. .. | 100 | 110 |
| Prime New Hay .. | — | — | Prime 2d cut .. | 100 | 110 |
| Inferior .. .. | — | — | Inferior do. .. .. | — | — |
| Straw .. .. .. | 30 | 34 | New 2d cut .. | — | — |

### HOPS.—Borough Market, Friday, April 17.

Messrs. Pattenden & Smith report a continued steady demand for consumption for all the better sorts of both English and foreign Hops, at gradually improving prices.

### POTATOES, Southwark, Monday, March 13.

During the past week the arrivals coastwise and from abroad have been moderate, but more plentiful by rail. The demand for best samples improved towards the end of the week. The following are this day's quotations:—Yorkshire Flukes, per ton, 120s. to 140s.; ditto Regents, 100s. to 110s.; do. Seedlings, 95s. to 100s.; do. Rocks, 85s. to 90s.; Kent and Essex Regents, 110s to 120s.; Perth, Forfar, and Fife ditto., 70s. to 100s.; ditto Rocks, 70s. to 80s.; ditto Reds, 65s. to 70s.; French Whites, 50s. to 55s.; Belgian do., 45s. to 50s.

### MARK LANE.—Monday, April 13.

The supply of Wheat from Essex and Kent to this morning's market was very moderate; fine samples met with an improved sale at the full prices of this day se'nnight, inferior remained unsold towards the close; there was rather a better attendance; nevertheless, foreign Wheat was taken in retail only at late rates. Barley, Beans, and Peas were in steady request at last week's quotations. For Oats there was a

moderate demand, and prices were unaltered. Barrel Flour was but little inquired for.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk..White | 46—56 | Red .... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — — Talavera ................ | 48—60 | | |
| — Norfolk ........................ | — | Red .... | — |
| — Foreign ........................ | 31—64 | | |
| Barley, grind. & dist., 23s to 30s..Chev. | 34—38 | Malting . | 31—34 |
| — Foreign..grinding and distilling | 24—28 | Malting . | 31—33 |
| Oats, Essex and Suffolk .............. | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .. | 21—23 |
| — Irish ..................Potato | — | Feed .. | — |
| — Foreign........Poland and Brew | 20—22 | Feed .. | 17—22 |
| Rye ................................ | 35—37 | Foreign . | — |
| Rye-meal, foreign.................... | — | | |
| Beans, Mazagan....30s to 31s ....Tick | 31—32 | Harrow . | 31—32 |
| — Pigeon ......34s —38s..Winds. | — | Longpod | — |
| — Foreign ..................Small | 40—46 | Egyptian | 32—34 |
| Peas, white, Essex and Kent..Boilers | 35—37 | Suffolk . | 37—40 |
| — Maple ....42s to 43s ...... Grey | 36—37 | Foreign . | 30—38 |
| Maize..............................White | — | Yellow .. | — |
| Flour, best marks delivered..per sack | 42—47 | | |
| — 2d do ........................ditto | 32—40 | Country | 32—40 |
| — Foreign ..............per barrel | 23—30 | Per sack | 34—48 |

Friday, April 17.

The weather since the 10th instant has been fine, and quite of a spring character. The Wheat trade has continued in an inanimate state, fine samples of English Wheat being relatively cheaper than any other kind have met a good inquiry, but the supply of Foreign continues to be in excess of the demand, and some concession in prices is generally necessary to effect sales, which are only of a retail character. Spring Corn of all descriptions have also been in limited demand, and any alteration was in favour of purchasers, with the exception of Beans for which fully former prices were obtained. Flour has met but a limited inquiry, and our previous quotations were obtained with difficulty. Since Friday last 29 vessels have been reported off the coast. The floating trade has remained extremely quiet; there is very little off the coast besides several cargoes of Saide Wheat, of which a part has been sold about 1s. under last week's rates. Barley is in good demand at full prices. All other descriptions of grain unaltered. In Paris (April 16), Flour and Wheat have remained a very slow sale, and without alteration in prices. The present stock of Flour is estimated at about 10,600 cwts. The six marks for delivery this month are quoted equal to 40s. per 280 lbs. The arrivals of English grain and foreign Wheat have been small this week, of foreign Oats and Barley large. To-day's market was very thinly attended, but Monday's prices were maintained for both English and foreign Wheat. In the value of Barley, Beans, and Peas there was no alteration. The Oat trade was steady and good. Corn was in fair demand at Monday's quotations.

Arrivals this Week.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1250 qrs. | 440 qrs. | 20 qrs. | 1150 sks. |
| Irish .... | — | — | — ,, | — ,, |
| Foreign .. | 10,270 ,, | 6410 ,, | 35,920 ,, | 70 ,, / — brls |

Liverpool, April 14.—We have had only a small attendance of buyers at to-day's market, and the business passing in Wheat has been limited to the immediate wants of the trade, at the full prices of Friday last. Flour slow of sale and the turn cheaper. Indian Corn was held for an advance of 3d. per qr., which checked business; there were good buyers at previous rates. Oats and Oatmeal unchanged. Egyptian Beans are up 1s. per qr. Peas and Barley the turn cheaper. The market closes steady but quiet.

Friday, April 17.—Market quiet. Wheat cheaper. Flour dull, and little doing. Indian Corn quiet demand. Other articles unchanged.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| March 7.. | 46s 2d | 36s 10d | 21s 11d | 33s 1d | 36s 2d | 35s 3d |
| — 14.. | 45 3 | 36 7 | 21 4 | 34 5 | 35 3 | 34 11 |
| — 21.. | 45 0 | 36 9 | 21 6 | 35 11 | 35 7 | 36 6 |
| — 28.. | 45 4 | 36 5 | 21 2 | 32 4 | 35 4 | 35 5 |
| April 4.. | 45 9 | 36 6 | 21 5 | 30 4 | 36 1 | 35 11 |
| — 11.. | 45 6 | 36 8 | 21 5 | 31 9 | 35 11 | 35 2 |
| Agg. Aver. | 45 6 | 36 5 | 21 6 | 35 0 | 35 10 | 35 10 |

Fluctuations in the Last Six Weeks' Averages.

### Sheep Farming in New Zealand.

WANTED, a steady sober practical Man, who understands Sheep Farming, to go out to assist a Young Man with capital, who would secure him a share in the profits.—Testimonials as to character and competency will be required.—E. H., care of Henry Greenwood, Advertisement Agent, Liverpool.

WANTED, a PROPAGATOR and FOREMAN, one who thoroughly understands the Propagation and Cultivation of Heaths, Epacris, Azaleas, and other hard-wooded plants, as well as Grafting Camellias, Conifers, &c.—No one need apply who is not capable of carrying out the above to some extent; but to a fully competent person a permanent situation is offered.—Apply to Youell & Co., Royal Nurseries, Great Yarmouth.

WANTED, a sober, industrious Young Man as GARDENER, who thoroughly understands the Management of Greenhouse and Flower Garden. Character must bear strict investigation. Wages 18s. per week.—Apply to Mr. William Sparks, Crewkerne, Somerset.

WANTED, a middle-aged GARDENER and his WIFE, without incumbrance.—Excellent Lodge; Wife to attend to the Gate. Wages 1l. per week. Must have a good character.—Apply by letter, P. E., Post Office, Hertford.

WANTED, in a Nursery, a steady Man who is a good POTTER and GROWER for the MARKET.—Apply, giving reference as to character and ability, and stating wages expected, to C. J., Post Office, Loughton, N.E.

WANTED, a steady and sober MAN, to go out Jobbing Gardening. Constant work.—Apply, Devonshire Nursery, Hornsey Road, Holloway, London, N.

### Groom and Gardener Wanted.

WANTED, a good WORKING KITCHEN GARDENER, one who can drive a Brougham in London, and who understands the Management of Horses. Wages 18s. per week, and a Cottage.—Apply to Mr. J. Weeks, King's Road, Chelsea, stating full particulars.

WANTED, a Young Man of good character as PIPE-LAYER and Manager of a Company of DRAINERS.—Apply, stating age, terms, &c., to Mr. Fielding, Printer, Clitheroe.

## WANT PLACES.—Letters to be Post Paid.

HEAD and UNDER GARDENERS.—Hugh Low & Co. have now in their Nursery several Men of excellent abilities and good characters, who are looking for situations in the above-named capacities. Gentlemen in want of Gardeners can have full particulars on application.—Clapton Nursery, London, N.E.

GARDENER (Head).—Age 26, single; understands Kitchen, Fruit, and Flower Gardens; Plant Growing and Forcing. Good reference.—D. B., Mr. Sprague, 28, Bridge Street, Exeter.

GARDENER (Head).—Age 28; 4 years' unexceptionable character from last situation, can manage Stock if required. Wife as Laundress if required.—A. Z., 1, King's Road, Reading, Berks.

GARDENER (Head).—Age 36, married, three children, youngest 5 years; well understands his profession. Nearly six years in last situation.—H. W., Mr. Jeynes, Broomy Hill, Hereford.

GARDENER (Head).—Age 34, married; has had great experience in all branches of his profession, both in Scotland and England. First-class recommendations.—J. H., 25, Princes Road, Notting Hill, W.

GARDENER (Head).—Age 30, married; thoroughly practical in his profession. First-rate Forcer of Early and Late Fruit, &c. Three years' character.—S. E., Messrs. Protheroe & Morris, Leytonstone, Essex, N.E.

GARDENER (Head).—Thorough knowledge of his profession in all its branches. At liberty in consequence of his master breaking up his establishment. Unexceptionable character.—J. H., Post Office, Nottingham.

GARDENER (Head).—Middle-aged, married; has a thorough practical knowledge of Stove and Greenhouse Plants; all kinds of Early and Late Forcing, Kitchen, Fruit, and Flower Gardening.—S. W., Post Office, Upper Tooting, Surrey, S.

GARDENER (Head).—Age 37, married, no incumbrance; understands his profession in all its branches—Stove and Greenhouse Plants, Grapes, Melons, Cucumbers, &c. Two years' good character.—D. D., 20, Park Place, Park Road, Clapham, Surrey, S.

GARDENER (Head).—Age 40, married; understands, Pines, Vines, &c., Stove and Greenhouse Plants, and Kitchen and Flower Gardens; also the Management of Pasture Land, if required. Three years' good character.—J. W., Leslie Cottage, Laurel Grove, Penge, Surrey.

GARDENER (Head).—Age 29; thoroughly understands the Growing of Pines, Vines, Peaches, Melons, and Cucumbers; the Management of Kitchen and Flower Gardens, Plants, &c.; has lived in some of the best places in town and country. Good character from present and former situations.—W. M., The Gardens, The Mount, Bishopstoke, near Winchester.

GARDENER (Head or Single-handed).—Married, two children. One year and 10 months good character. G. E., Mr. Brister, High Street, Merton, Surrey, S.

GARDENER (Head or good Single-handed).—Age 28; two years' good character. Cows objected to.—H. W., George Inn, Borough, London, S.E.

GARDENER.—Married, one child; a gentleman giving up his Establishment can recommend his Gardener; he has been with him four years, and had the growing of Vines, Plants, the Management of Kitchen Garden, and can superintend Grass Land if required.—E. M., Post Office, Dunchurch, Rugby.

GARDENER (General).—Age 36, married; is conversant with his profession in all its branches. Satisfactory reference will be given.—M. P., Messrs. Weeks & Co., King's Road, Chelsea, W.

GARDENER (Under) or FOREMAN in any nobleman's or gentleman's family. Can be highly recommended.—T. S., Charles Street, Portland Town, N.W.

GARDENER (Under), or FOREMAN in the Houses.—Age 25; has been accustomed to work under Glass.—A. M., 1, Bright Street, Leicester.

GARDENER (Single-handed or good Under).—Age 27, married, no incumbrance. Understands Kitchen and Flower Gardens, Greenhouse, &c. Where Wife could assist in Laundry preferred.—G. L., Gardener, Leybourne Rectory, near Maidstone, Kent.

GARDENER (Under or Single-handed).—Age 25, single; has had good experience. Good references.—A. B., Mr. E. Randalls, Lillsworth, Thames Ditton, Surrey.

GARDENER (Under, or Single-handed).—Age 23, single. Good character.—A. C., Edwards's Dairy, 13, Woodchester Street, Harrow Road, W.

GARDENER (Under), in a large Garden, where several are kept.—To take charge of the Houses preferred.—A. C., Post Office, Oxted, Surrey.

GARDENER (Under), in a nobleman's or gentleman's garden.—A premium given. In confidence.—J. W., 218, South Street, Park, Sheffield.

GARDENER (Under).—Can make himself generally useful, and attend to a Stable where one Horse is kept.—A. Tebbott, Rickmansworth, Herts.

GARDENER (Under), or GROOM and GARDENER.—Age 24; 3½ years' good character.—A. Z., Post Office, Harlow, Essex.

### To Noblemen and Gentlemen.

GARDENER and STEWARD (First-Class).—A good General Manager and Estate Improver. Resident or otherwise.—Delta, 30, Southampton Street, Strand, W.C.

PROPAGATOR, or FOREMAN, of the In-door Department.—A Man who can be well recommended as a successful Multiplier of Hard-wooded Plants; a good skilful Grafter of Azaleas, Camellias, Conifers, Rhododendrons, Roses, &c.—A. B. Z., *Gardeners' Chronicle* Office, W.C.

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PROPAGATOR (Hard-wooded or Otherwise).—First-class abilities, with such as Ericas, Epacris, New Holland Plants, Camellias, Roses, Rhododendrons, Conifers, &c.—W. B. W., St. Mark's Cottage, Fulham Road, Brompton, S.W.

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BAILIFF and GARDENER.—In the prime of life. Upwards of 20 years' practical experience. Unexceptionable character.—A. Z., 1, King's Road, Reading, Berks.

### To Noblemen and Gentlemen.

FARM BAILIFF.—Practical in Modern Farming; has been accustomed to Breeding, Rearing, Buying and Selling of Stock; is thoroughly acquainted with the Working of all kinds of Machinery, and has a knowledge of Steam Cultivation. The highest references can be given.—A. B., Felderland Farm, Sandwich, Kent.

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FARM BAILIFF.—An aged and experienced Man in all practical parts of Agriculture, well accustomed to the best Breeds of Cattle and Sheep, and knows those that will leave the most profit. His Wife a good Dairy-Woman. Leaving on account of the death of his late employer.—A. Z., Post Office, East Cowes, Isle of Wight.

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Prices Current free on application.

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WORCESTERSHIRE SAUCE,
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Ask for Lea and Perrins' Sauce

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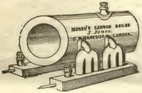
**The Gardeners' Chronicle Newspaper.**

*SATURDAY, APRIL 25, 1863.*

## HEATING BY HOT WATER.

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HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

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Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3*d*. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

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COMBINING SIMPLICITY, CHEAPNESS, AND DURABILITY,

BEING CAPABLE OF FULFILLING IN THE MOST PERFECT MANNER ALL THE REQUIREMENTS OF HORTICULTURE.

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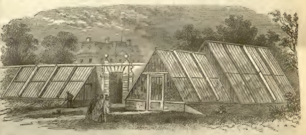

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| 31 | 3 in length | 16 10 0 | 21 2 6 | 31 | 9 in length | 29 6 0 | 37 12 0 | 45 16 0 |
| 41 | 11 in length | 20 18 0 | 26 18 6 | 42 | 7 in length | 36 16 0 | 46 14 0 | 57 7 0 |
| 63 | 3 in length | 30 6 0 | 38 10 0 | 64 | 3 in length | 51 14 0 | 64 18 0 | 80 10 0 |
| 84 | 7 in length | 39 6 0 | 49 11 6 | 85 | 11 in length | 66 12 0 | 83 2 0 | 103 11 0 |
| 105 | 11 in length | 48 17 6 | 60 12 6 | 107 | 7 in length | 81 10 0 | 101 10 0 | 126 13 0 |

SPAN-ROOF HOUSES at double the above prices for each length of house.

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Extract from the *Gardeners' Chronicle*, Edited by Professor Lindley.

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The above PATENT HAND MACHINE, which is fitted with Roses and Jet, may be placed in a Pail or Water Pot, price complete, Two Guineas. The same Machine, fitted with Suction and Discharge Tubes, for Drawing Water from a Tank or Pail, with Roses, &c., complete, price Two Guineas; larger size, 2½ Guineas.

Manufactured only by the Patentee,

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HOT WATER PIPES, from Stock, per yard:—2-inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS, from stock, 1s. 7d., 2s. 6d., and 3s. 8d. each. THROTTLE VALVES, 10s. 6d., 13s. 6d., and 15s. each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

Horticultural Buildings.

VISCOUNT SYDNEY, The LORD CHAMBERLAIN, lately entrusted

BURY and POLLARD with the WARMING of his FORCING HOUSES, and they have just completed the work at Frognal.

Estimates for Warming Conservatories, Forcing Houses, &c.
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Under the Patronage of Her Majesty.

CLARK and HOPE (late Clark), Horticultural Builders, Copper, Sash, and Hot-water Apparatus Manufacturers, 55, Lionel Street, Birmingham.
Established A.D. 1818.

Exhibition Prize Medal, 1862.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.—This Stove is the nearest approach to Warming by Hot Water, and an efficient aid in Ventilation.

It will burn in Churches from Saturday till Sunday evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of Warming a large Apartment for 24 hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

It is also made for Small Conservatories, with a vapour chamber, which maintains a moist atmosphere for 12 hours with once filling.

Particulars and prices post free on application to Musgrave Brothers, Ann Street Iron Works, Belfast.

DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. Dennis, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

JAMES WATTS and CO., Hothouse Builders and Hotwater Apparatus Manufacturers, near the Green Man, Old Kent Road, London, S.E.

200 CUCUMBER and MELON BOXES and LIGHTS, and from 400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.

Glazed and Painted complete, ready for immediate use. Packed and sent to all parts of the kingdom.

10 dozen strong Zinc HAND GLASSES, Glazed and Painted complete, ready for immediate use, 18, 20, and 22, all shifting tops.

References to the Nobility, Gentry, and Trade in most of the counties in England.

PATENT GUTTA PERCHA SOLES.—Important to Gardeners.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. Glenny, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. Glenny."

Every variety of Gutta Percha articles, such as Mill Bands Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C.

# HOWARD'S

## STEAM PLOUGHING and CULTIVATING APPARATUS

WILL BE AT WORK NEAR BEDFORD THROUGHOUT THE SEASON.

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| Price of a Complete Set with 10-Horse Engine ... ... ... | £515 0 0 |
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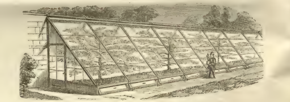

## SCOTT'S GLASS WALLS,

Designed to meet the suggestions of James Scott, Esq., of Hornsey, as being the desiderata of such structures. They are devoid of shadow, durable, portable, and a tenant's fixture, with the strength and durability of a permanent structure. Further particulars and prices by post or on application.

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| CONSERVATORIES | PINE and MELON PITS | BALCONIES | GATES |
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PATENT WROUGHT-IRON STABLE FITTINGS AND ENAMELLED MANGERS.

Every description of IRONWORK. *Lists Free.*

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## THE PATENT IN-DOOR PLANT CASES

(TO WHICH A PRIZE WAS AWARDED AT THE ROYAL HORTICULTURAL SOCIETY'S EXHIBITION).

SOLE MANUFACTURER,

# JAMES GRAY, Horticultural Works,

DANVERS STREET, CHELSEA, LONDON, S.W.

The PATENT IN-DOOR PLANT CASE is one of the most useful of the Gardening novelties of the day. It is a handsome ornament for the Drawing Room or Sitting Room, and at all times forms a fresh, pleasant, and interesting object to the mind and eye. It is always under command, and will preserve many of the most tender Exotic Plants through the severest winter with comparatively little of the trouble and annoyance attending the use of Lamps, Gas, and Heating appliances of any other kind.

To all who have a taste for the cultivation of In-door Plants, for raising Seedlings, striking Cuttings, &c. the Plant Cases will be found an inestimable boon.

The Cases are highly approved and recommended by Professor Lindley, and by Messrs. Veitch, of The Royal Exotic Nursery, King's Road, Chelsea.

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MADE OF SUPERIOR IRON (NO CINDER IRON USED) IN THE BEST MANNER.

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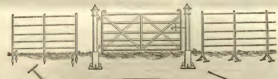

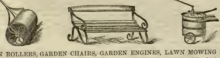

IRON GARDEN ROLLERS, GARDEN CHAIRS, GARDEN ENGINES, LAWN MOWING MACHINES, WIRE WORK, PUMPS, and every description of Implements for Horticultural and Gardening purposes. VERANDAHS, GREENHOUSES, CONSERVATORIES, HOT-WATER APPARATUS, &c. The Improved IRON MANGERS and RACKS for Stables, HARNESS BRACKETS, &c.

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## BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.

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No. 36½. Improved Cast-Iron Lift and Force Pump.

No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & Sons' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0
2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0
2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4

2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... ... 3 0 0

3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

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4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

PATENTEES and MANUFACTURERS,
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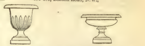
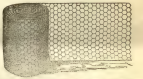
AUSTIN, SEELEY, and CO., 371-375, Euston Road, N.W.,



Have a large Collection of VASES for FOUNTAINS or FLOWERS, and every kind of GARDEN ORNAMENT.

BARNARD, BISHOP, and BARNARDS, Norwich.
FURTHER REDUCTION in the PRICE of WIRE NETTING.



Barnard, Bishop, & Barnards beg to inform their friends and the public that they have made a further reduction in the prices of Machine-made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard |
|---|---|---|---|
| 2-inch mesh, 24 inches wide.. | No. 19 | .. 4½*d* | .. 3½*d*. |
| 2-inch " " " .. | " 18 | .. 5 | .. 4 |
| 2-inch " " " .. | " 17 | .. 6½ | .. 5 |
| 2-inch " " " .. | " 16 | .. 8 | .. 6½ |
| 1½-inch " " " .. | " 19 | .. 4¾ | .. 4 |
| 1½-inch " " " .. | " 18 | .. 6 | .. 4½ |
| 1½-inch " " " .. | " 17 | .. 7 | .. 5½ |
| 1½-inch " " " .. | " 16 | .. 9 | .. 7 |

All the above kinds can be made any width (under 6 feet), at proportionate prices.

Strong Galvanised Poultry Netting, 7½*d*. per yard, 3 feet wide, Galvanised Sparrow-proof Netting for Pheasantries, 11*d*. per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.

Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies.

Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screw to each 100 yards of Fencing, 10*d*. per yard.

The same with Galvanised Wire Rope, 1*s*. per yard.

Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.

*** Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations.

J. TYLOR and SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. Tylor & Sons' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. |
|---|---|---|
| £2 18 6 | £3 5 0 | £3 15 0 |
| 24 gal. | 30 gal. | |
| £5 0 0 | £5 18 0 | |

Fig. 571.

J. Tylor & Sons' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0. |

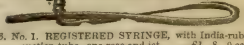


Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 ,,
Telescope Branch Pipe for ditto .. 0 10 0 ,,

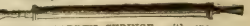


Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11*s*. 6*d*. each
,, 589. Middle Ditto ditto .. 10 3 ,,
,, 588. Small Ditto ditto .. 9 0 ,,
,, 587. LADIES' GARDEN SYRINGE, with do. 7 6 ,,

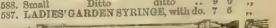
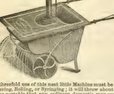


Fig. 591. READ'S SYRINGE, with two roses and one jet, 17*s*. 6*d*.
READ'S SYRINGE, with one rose and jet, 15 0
,, 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. Tylor & Sons' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

J. Tylor & Sons, Manufacturers, Warwick Lane, Newgate Street, London, E.C.

THE IMPROVED PATENT GARDEN WATER and ROLLING ENGINE may be had at J. Dore's, the Sole Manufacturer, 17, Exmouth Street, Clerkenwell, London.



The threefold use of this neat little Machine must be obvious in Watering, Rolling, or Syringing; it will throw about 60 feet, and is so portable that any ordinary domestic may use it. It contains about 20 gallons. Price 5*l.* 10*s.*; 25 gallons, 6*l.* 10*s.*

JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

No. 579½.

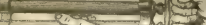
WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

| | |
|---|---|
| 10 gallons .. .. | £2 15 0 |
| 16 „ .. .. | 3 15 0 |
| 24 „ .. .. | 5 0 0 |

Larger sizes may be had in other Wood or Iron.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | |
|---|---|
| 35 gallons .. | £2 10 0 |
| 20 „ .. | 2 0 0 |



BRASS SYRINGES of all kinds from 9*s.* to 21*s.*

No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 6 feet Flexible Suction Pipe,

**21s.,**

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

There are no suction or delivery Valves, hence much friction and liability to choke with leaves and dirt is avoided.

AMERICAN PORTABLE FIRE ANNIHILATOR and GARDEN ENGINE.

**£2 2s.**

An efficient means of Extinguishing Fires at their commencement. Nine out of ten Fires in London are put out on their first appearance by the London Fire Brigade with Hand Pumps of considerably less power.

One man will throw 7 or 8 gallons per minute from 40 to 50 feet with it.

It is an effective Garden Engine for cleansing or syringing Wall-fruit or Rose Trees, Plants, or Vines.

It may be used to draw water from the pail in which it is fixed, or from a tank or pond by the addition of the required length of suction. It is simple in its construction, having no suction or delivery valves to clog with dirt or leaves.

No Establishment, either private, commercial, or manufacturing, should be without one.

Six feet of Flexible Suction, with Union and Suction Rose, &c., extra, 12*s.* Longer lengths of Suction at 1*s.* 6*d.* per foot.

The above may be obtained of all Ironmongers and Seedsmen in Town and Country, or of the Manufacturers,

John Warner & Sons, 8, Crescent, Cripplegate, London, E.C.

AGRICULTURAL and HORTICULTURAL TOOLS.—Threshing Machines for Steam and Horse Power, Ploughs, Waggons, Carts, Turnip Cutters, Cake Breakers, Chaff Cutters, 50*s.*, &c. Price List free. Illustrated Catalogues on receipt of six postage stamps.

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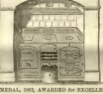
London: Brown Brothers, 48, Cranbourn Street, W.C.

PATENT WORCESTERSHIRE RANGE.




PRIZE MEDAL, 1862, AWARDED for EXCELLENCE.

The above RANGE is most complete, and strongly recommended for its unrivalled ECONOMY, CLEANLINESS, CONVENIENCE, DURABILITY, and is a certain CURE for SMOKY CHIMNEYS.

It is an entirely new invention, and consists of large MEAT ROASTER, PASTRY OVEN, and WROUGHT-IRON BOILER. The top forms a HOT PLATE for BOILING, STEWING, &c. The whole heated by ONE SMALL FIRE. One 5 feet wide is equal to an ordinary Range 8 feet wide.

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DEANE'S—Celebrated Table Cutlery, every variety of style and finish.
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DEANE'S—Fenders and Fire-irons, in all modern and approved patterns.
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CHUBB'S FIRE PROOF STRONG ROOM DOORS; CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.

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OSLER'S GLASS CHANDELIERS. Wall Lights and Lustres for Gas and Candles, Table Glass, &c.
Glass Dinner Services for 12 persons, from 7*l.* 15*s.*
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All articles marked in plain figures.
Ornamental Glass, English and Foreign, suitable for Presents.
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GLENFIELD STARCH, being a confirmation by some of the most eminent scientific men of the age, of the superior qualities of this world-renowned Starch. Sold in Packets at ½*d.*, 1*d.*, 2*d.*, 4*d.*, and 8*d.* each, by all respectable Grocers, Chandlers, Oilmen, &c.

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METCALFE, BINGLEY, AND CO.'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. Metcalfe's celebrated Alkaline Tooth Powder, 2*s.* per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2*s.*, 3*s.* 6*d.*, and 5*s.* each. 130 b, and 131, Oxford Street, W.

WHITE and SOUND TEETH are indispensable to personal attraction, and to health and longevity, by the proper mastication of food. ROWLANDS' ODONTO, or Pearl Dentifrice, preserves and imparts a pearl-like whiteness to the Teeth, eradicates Tartar and spots of incipient decay, strengthens the Gums, and gives a pleasing fragrance to the Breath. Price 2*s.* 9*d.* per box.

Sold by Chemists and Perfumers. Ask for "Rowlands' Odonto."

H. R. H. The PRINCE and H.R.H. The PRINCESS of WALES, the Nobility and the Gentry are respectfully recommended to use OLDRIDGE'S BALM of COLUMBIA, established upwards of 40 years; it is acknowledged to be the best and only certain remedy ever discovered for Preserving, Strengthening, Beautifying, or Restoring the Hair, Whiskers, or Moustache, and preventing them from turning grey. Price 3*s.* 6*d.*, 6*s.*, and 11*s.* by

C. & A. Oldridge, 22, Wellington Street, Strand, W.C., and all Chemists and Perfumers. For Children it is invaluable.

**Eau-de-Vie.**

THIS PURE PALE BRANDY, 18*s.* per gallon, is peculiarly free from acidity, and very superior to recent importations of Cognac. In French Bottles, 38*s.* per dozen; or in a case for the country, 39*s.* Railway Carriage paid. No Agents.

Henry Brett & Co.,
Old Furnival's Distillery, Holborn, E.C.
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Prices Current free on application.

**Sauce.—Lea and Perrins'**

WORCESTERSHIRE SAUCE,
Pronounced by Connoisseurs
"THE ONLY GOOD SAUCE."
See Name on Wrapper, Label, Bottle, and Stopper, and to avoid Counterfeits

Ask for Lea and Perrins' Sauce

*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. Crosse & Blackwell; Messrs. Barclay & Sons, London, &c.; and by Grocers and Oilmen universally.

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# News of the Week.

IN the House of Lords on Monday, the Earl of HARDWICKE called attention to the conduct of the Admiralty in depriving Lord ELPHINSTONE of his command on the mere report of a Court of Inquiry, without giving him the opportunity of defending himself. The Duke of SOMERSET vindicated the conduct of the Admiralty, which was also defended by Earl GRANVILLE and Earl RUSSELL, and condemned by the Earl of DERBY, Lord CHELMSFORD, and Lord CRANWORTH. The Illegitimate Children (Ireland) Bill and the Courts of the Church of Scotland Bill were read a third time and passed. On Tuesday the Local Government Act (1858) Amendment Bill was read a second time. On Thursday the Marquis of CLANRICARDE called attention to the seizure of British ships by the Federal cruisers in the West Indies. Earl RUSSELL said that after consulting the law officers of the Crown, he intended to bring these matters by the next mail to the notice of the Government of the United States, and, judging from precedents, he had no doubt that the United States' Government would readily make reparation if a wrong had been done. With regard to Mr. ADAMS'S assumption of granting certificates to British ships trading to neutral ports, he considered such conduct as most unwarrantable, and he intended to bring it before the United States' Government.

In the House of Commons on Monday Sir G. GREY moved the second reading of the Prison Ministers' Bill, the object of which was to give facilities for enabling Roman Catholic prisoners to receive the religious instruction of their own ministers under certain conditions and restrictions. Mr. GORE LANGTON moved as an amendment that the Bill be read a second time that day six months. The Bill was supported by Mr. HENLEY, Mr. DISRAELI, and Lord PALMERSTON, and opposed by Mr. SELWYN, Mr. NEWDEGATE, and other members. On a division the second reading was carried by 152 to 122. The adjourned debate on the motion for the second reading of the Assurances Registration (Ireland) Bill was resumed, when the second reading was carried on a division by 56 to 41. The Gardens in Towns Protection Bill was read a third time and passed. On Tuesday Sir G. GREY moved for leave to bring in a Bill for the amalgamation of the City of London Police with the Metropolitan Police. Mr. CRAWFORD said he would not oppose the introduction of the Bill, but gave notice of his intention to move as an amendment to the motion for its second reading that it be read a second time that day six months. After some discussion, leave was given to bring in the Bill. On Wednesday Mr. WYKEHAM MARTIN moved the second reading of the Innkeepers' Liability Bill, the object of which was to amend the present state of the law relating to the liability of innkeepers for the property of their guests. Sir F. GOLDSMID moved as an amendment that the Bill be read a second time that day six months. The amendment was negatived without a division, and the Bill was read a second time. The Elections during Recess Bill was read a second time. Mr. COLLINS moved the second reading of the Borough Residence Uniform Measurement Bill. Mr. Serjeant PIGOTT moved, as an amendment, that it be read a second time that day six months. On a division, the amendment was negatived by 171 to 135, and the Bill was read a second time. The Marriages (Ireland) Bill passed through committee. On Thursday Mr. ROEBUCK called attention to the seizure of British ships by Federal cruisers, and asked what course the Government intended to adopt. Lord PALMERSTON said that the question was one of the greatest possible importance, and that it was receiving due consideration on the part of the Government, but he was not then prepared to state the conclusion at which they had arrived. In Committee of Supply, Lord PALMERSTON moved a resolution granting to HER MAJESTY the sum of 50,000*l.* towards the expense of erecting a suitable memorial of the PRINCE CONSORT. Mr. DISRAELI supported the motion, which was unanimously agreed to. On the motion of Pord PALMERSTON the sum of 85,000*l.* was voted as prize money for the capture of Kertch during the Russian war. The House then went into a Committee of Ways and Means, and agreed to the resolutions of the Budget on the Tea Duties, the Sugar Duties, and the Income Tax. The Stock Certificates to Bearer Bill and the Vaccination (Ireland) Bill were read a second time. The Bakehouses Regulation Bill and the Telegraphs Bill passed through committee.

From the United States we learn that the Federal attack on Charleston commenced on the 7th inst., when eight Monitors and the iron-sides passed the bar, and opened a concentrated fire upon Fort Sumter at a distance of 3000 yards. After a fight of three hours, during which the firing was incessant, the Federal ships were repulsed, and one of their iron-clads was disabled and run on shore. When the mail left a great battle between the land forces was progressing within sight of the city. In North Carolina the Federal army under General FOSTER is in a very critical position, the Confederates having succeeded in surrounding him, and in repulsing the gunboats sent to his assistance. The latest news states that his capitulation was hourly expected.

# Home News.

THE COURT.—The Queen and Royal family continue at Windsor Castle. On Friday morning the Queen, attended by the Marchioness of Ely, Lady Augusta Bruce, and the Master of the Household, came to Buckingham Palace and returned to Windsor at 2 o'clock. Princess Helena and Princess Louisa, who had come to town on the previous day, returned with her Majesty. In the afternoon the Queen, accompanied by the Princess Helena and Princess Louisa, drove out. Prince Leopold and Princess Beatrice took a carriage airing. On Saturday morning the Duchess of Cambridge and the Princess Mary visited her Majesty. The Prince and Princess of Wales arrived at the Castle from Sandringham. In the afternoon her Majesty, accompanied by the Princess of Wales and Princess Helena, drove out in a carriage and four. Prince Leiningen, the Archbishop of York, the Right Hon. W. and Mrs. Gladstone, and Dr. Armstrong, R.N., arrived at the Castle on a visit. Mr. Gladstone had an audience of the Queen. On Sunday morning the Queen, the Prince and Princess of Wales, Prince Alfred, Princess Helena, Princess Louisa, Prince Leopold, Prince Louis of Hesse, and Prince Leiningen, attended Divine service in the private chapel. The Archbishop of York preached the sermon. In the afternoon the Prince and Princess of Wales, the Princess Helena, and Prince Alfred attended divine service in St. George's Chapel. On Monday morning the Prince of Wa es and Prince Alfred came to London. The Judge-Advocate-General had an audience of the Queen. The Archbishop of York and the Right Hon. W. and Mrs. Gladstone returned to London. In the afternoon the Queen, accompanied by the Princess of Wales and Princess Beatrice, drove out in a carriage and four. Prince Leopold drove in the grounds. The Prince of Wales returned from London. The Princesses Helena and Louisa came to town and attended the performance of the Philharmonic Society, accompanied by Prince Alfred. The Royal party returned to Windsor at night. Prince Leiningen left the Castle. On Tuesday the Queen, accompanied by the Princess of Wales and Princess Beatrice, visited an old and valued servant now on his deathbed in the Windsor Royal Infirmary, and afterwards visited the new buildings in Victoria Street. On Wednesday the Prince and Princess of Wales came to London, and after receiving addresses at Marlborough House visited the exhibition of the Wedding Presents at the South Kensington Museum. Their Royal Highnesses returned to Windsor in the evening. Earl Russell, the Right Hon. B. Disraeli, and Rear-Admiral Seymour arrived at the Castle. Earl Russell had an audience of the Queen. On Thursday morning the Queen, accompanied by the Princess of Wales, walked and drove in the grounds.

ADDRESSES TO THE PRINCE AND PRINCESS OF WALES.—The Prince and Princess of Wales arrived at Marlborough House on Wednesday morning from Windsor Castle, and in the afternoon received addresses of congratulation upon their marriage from the Lord Mayor and Corporation of the City of London, the Universities of Oxford and Cambridge, the Lord Provost and magistrates of Edinburgh, the Lord Mayor and Corporation of Dublin, the General Assembly of the Church of Scotland, and from the body of Presbyterian Ministers in and near the Cities of London and Westminster. The deputations from the three Corporations and from the two Universities went in state to Marlborough House, all the members being in full costume. Their Royal Highnesses returned gracious answers to all the addresses.

ROYAL WEDDING PRESENTS.—It is understood that

it will be necessary that the jewels now exhibited should be removed shortly for the Princess of Wales's personal use, but that her Royal Highness has consented that the most important of them shall, if possible, be returned from time to time when not required.

The Cabinet.—A Cabinet Council was held on Wednesday at the official residence of the First Lord of the Treasury in Downing Street.

Ministerial Arrangements.—Earl de Grey and Ripon has been selected to succeed Sir G. C. Lewis as Secretary for War, with a seat in the Cabinet, and the Marquis of Hartington, who was lately appointed one of the Lords of the Admiralty, has succeeded Earl de Grey in the Under Secretaryship. The seat at the Board of Admiralty, vacated by this arrangement, has been conferred on Mr. Stansfeld, M.P. for Halifax.

Parliamentary Movements.—The nomination for Thetford took place on Monday, when Lord Frederick Fitzroy, the Ministerial candidate, and Mr. R. J. H. Harvey, a local banker of considerable influence, were put in nomination. The show of hands was in favour of Mr. Harvey, but at the poll on Tuesday, Lord J. Fitzroy was returned by a majority of 12, the numbers being 93 to 81. Mr. Hamilton, jun., the son of the late member, has been elected for the county of Dublin without opposition.

## Foreign.

France. — The Emperor held a grand review of the Imperial Guard at Longchamps on Tuesday, and it is said that his Majesty spends hours in close study of the maps of Prussia, Poland, and Russia, just as he made the Lombardo-Venetian territory and rivers the object of his scrutiny during the period between the secret convention of Plombière and the declaration of war with Austria. It is also said that Prince Napoleon, who was on the point of making a journey to Egypt on account of his differences with the Court on the subject of Poland, has postponed his departure indefinitely, and that an intimate understanding has been established between France and Sweden in anticipation of a rupture with Russia. The Bourse has been greatly agitated this week by the prospect of serious complications in regard to Poland, and especially by the rumour that at the close of the Cabinet Council on Friday orders were sent to the naval arsenals to fit out and send to Cherbourg all the iron-clads that are launched, and to hasten the completion of those still on the stocks; while the maritime prefects have been ordered to send in a report on the condition of all steamers in the reserve, and to state how soon they can be manned and prepared for active service. The aspect of maritime questions with America has also caused uneasiness, and *La France* is inclined to believe that the provocations of Admiral Wilkes in seizing English merchantmen have no other object than to exasperate England and bring about a war. It is reported that Marshal Pelissier is about to be recalled from his post of Governor-General of Algeria, and that he will probably be succeeded by General Cousin Montauban, Count of Palikao, who commanded the French troops in China. MM. Persigny and Billault have been examined at Paris by the commission sent from London in the affair of Serjeant Glover and the *Morning Chronicle*. They positively deny all complicity or engagement with that paper. The *Journal des Débats* has received a second warning. The *Journal des Villes et Campagnes* has received a first warning. The *Moniteur* of Thursday says:—

"Some journals describe the candidates for the Legislative Body put forward by the Opposition as 'Independent candidates.' This designation is an electoral manœuvre, and an insult to those candidates who enjoy the sympathies of the country and the confidence of the Government. The Administration will repress manœuvres of this kind with severity."

M. Dufaure has been elected a member of the French Academy by a majority of 18, M. Jules Janin only receiving 9 votes. M. Carné has also been chosen a member by a majority of 18, M. Littré obtaining 11 votes. Admiral Hamelin is seriously ill. A French translation of "The Life and Speeches of Prince Albert" has just appeared. The translation is from the pen of Madame Cornelis de Witt, the daughter of M. Guizot, who has enriched the volume with a preface, in which he pays an eloquent and feeling tribute to the talents and virtues of the Prince, and observes that this little book, simply recording what he said and did, is the noblest monument that can be raised to his memory.

Sweden.—The French papers state that since the visit of Prince Czartoryski to Stockholm, Sweden has been actively engaged in armaments, and it is even intimated that the Prince had a mission from the French Government. The Russian Ambassador at Stockholm is said to have peremptorily demanded explanations from the Swedish Government in reference to these armaments. The Ambassador requires to be satisfied regarding the attitude of Sweden upon the Polish question, and threatens, in the case of not receiving a satisfactory reply, to demand his passports. The Finnish newspaper *Helsingfors Dagblad* publishes an article which has created a great sensation, in which the neutrality of Finland is advocated in the event of a war.

Prussia.—The *Nord* and some foreign journals speak of a projected interview between the Czar and the King of Prussia. In the Chamber of Deputies on Friday Herr von Twesten asked the Government to state whether it considered the Danish proclamation of the 30th ult. an infringement of the assurances given by Denmark in 1851 and 1852. Herr von Twesten further demanded that the Government should declare null and void the engagements concluded in those years, especially as regarding the succession to the Danish Crown entered into by the Protocol of London. Herr von Twesten observed that further measures than a disclaimer of this description could not at present be taken. The internal dissensions of the country rendered war impossible. The House itself would oppose the employment of hostilities. (Vehement applause followed this remark.) Count Bismark Schönhausen replied to the first question in the affirmative. He stated that the Government would concert with its federal allies, and especially with Austria, the steps to be adopted in answer to the Danish proclamation. Prussia and Austria had, indeed, already forwarded separate protests. The Government of the King was mindful of the action due to the national honour in this matter. If the Government felt disposed to embark in war it would do so without the assent of the House. The commercial treaty between Prussia and Belgium was adopted on Saturday in the Chamber of Deputies. Only two members of the Catholic party voted against it. In the sitting of Wednesday, the discussion on the Ministerial Responsibility Bill commenced. During the debate Count Bismark declared that the present was not a fitting time for the consideration of this measure. The preliminary condition requisite for such a Bill would be that the constitution should offer a clear and complete basis. The Government did not consider that such a preliminary condition now existed, at a time when there were material differences of opinion between the Crown and the Chamber upon the bearing of important portions of the Constitution. The Government was, therefore, unable to sanction the Bill. Notwithstanding the declaration of the President of the Council, there is no doubt that the Chamber will pass the Bill.

Italy.—A Note has been received at Turin from the French Government, inviting Italy to join diplomatic action with the three great Powers on the Polish question. The Italian Government has replied, that though they desire to co-operate with good effect in the steps taken by France, they nevertheless insist on the liberty of action demanded by her special political position. In the Senate on Friday, the Committee appointed to investigate the affair of the search made in the house of Senator Prince St. Elia, at Palermo, made its report, stating that the privilege of the Senate had not been violated. A debate then ensued upon the Budget. Signor Minghetti stated that an increase had taken place in the revenue arising from several taxes. The sale of public landed property would be, he said, effected in a few years, and the unification of the taxes would be very soon accomplished. On the previous day the Chamber of Deputies, by 190 votes to 11, and the Senate by 64 votes to 25, voted to the late Prime Minister, Luigi Carlo Farini, an annuity of 1000*l.*, of which, on his decease, 160*l.* annually are to be continued to his widow, and 160*l.* to his mother; and further voted an immediate gift of 8000*l.* as a national gift to the statesman and his family. In the Chamber of Deputies on Friday, the Minister of the Interior, in reply to a question on the state of affairs in Sicily, announced the measures which he proposed to adopt for re-establishing public safety and confidence in the island. After a long debate, the Chamber, in consideration of the declarations of the Minister, passed to the order of the day. In the sitting of Saturday the Chamber rejected a Bill proposed by Signor Lovito, authorising the Ministry to make the expenditure necessary for carrying on several branches of the public service without waiting for constitutional forms. The discussion of the budget of justice was then proceeded with. Signor Ricciardo complained of the bad administration of justice in the southern provinces, and of some summary executions of brigands. After some explanations from the Minister of Justice, who protested against the assertions of these members, the debate on the budget of justice was adjourned until the Chamber should hear the report of the Brigandage Committee. In the sitting of Wednesday the President of the Council announced that the King had accepted the resignation of the Marquis di Negro as Minister of Marine, and had nominated General Cuza as his successor.

Russia.—*La France* of Tuesday says that a Privy Council on Polish affairs was held on the 19th inst., at the Palace of Tsarzkoe-Seloe, near St. Petersburg, when the Notes of the three Powers were simultaneously presented, and produced a very great sensation. The Russian Government, it is said, had not expected that this step would have been taken with views so completely in unison. It is said that orders have been transmitted to Cronstadt to fit out a squadron to cruise in the Gulf of Finland and the Baltic, for the purpose of preventing any landing of the Poles.

Poland.—The text of the Imperial decree granting an amnesty has been officially published at Warsaw. It is not in conformity with the text given by the St. Petersburg journals. The amnesty is to be extended to those only who have been drawn into the movement, so that the leaders are excluded. A considerable body of insurgents are fortifying Kuezyk, in the district of Warsaw. A great many Russian troops are concentrated at Kolo. It was reported on Sunday that Lelewel's insurgent force, 300 strong, had been dispersed by the Russians, after an engagement of an hour's duration, but a despatch from Cracow of Tuesday says that Lelewel has not only succeeded in taking up a strong position, but has defeated a Russian corps, consisting of 600 infantry and 200 cavalry, who retreated to Janow. On Sunday last two serious engagements took place between the insurgents and the Russian troops in the forest of Kampinos, six German miles from Warsaw and Pultuesk. The latter place was burnt by the Russians during the engagement. The Russians have fortified themselves in the district of Sandomir, and thus occupy a firmer position against the insurgents under Lapacki. The insurgents stationed at Grabowce have successfully repulsed several Russian attacks. It is also asserted that they have been victorious near Bas. On Tuesday last a band of insurgents, 650 strong, including 150 cavalry, was posted at Gosenice, together with two corps, numbering 500, at Paczolewike, the entire force intending to attack Olkusz. A well armed body of insurgents, 600 strong, is in the district of Cracow. During the Easter holidays severe engagements took place in the vicinity of Wilna. Persons of all classes are constantly leaving that district to join the insurgents. Arrests and domiciliary visits are of daily occurrence. The citadel is filled to overflowing with political prisoners. Many persons have been sentenced to death by courts-martial, but none have yet been executed, the military Governor having in all cases commuted the sentences. A large number of Polish landholders have fled to Wilna. The latest news from that city announces that the insurrection has again broken out in Volhynia and Podolia. The insurrectionary movement is extending round Kalisch. The garrison had been alarmed by the news that a Russian patrol of 40 men had been captured by the insurgents near the town. The insurgents, numbering 5000 men, have assembled in the neighbourhood, and an attack on the town is daily expected. During the service in the Catholic church of the College on Monday, the students sang the Polish National Hymn in addition to creating disturbances. The College tutors immediately resolved upon closing the lecture rooms, and have asked by telegraph for further orders from superior quarters. The Russian General Waldersees has since arrived at Kalisch, and has expelled the students without closing the College. The frontier continues to be most strictly guarded, neither passengers nor goods being permitted to pass. The Provisional Government of Warsaw has issued a circular, denouncing in the strongest terms the insults offered to Prince Napoleon by Count Wielopolski and his son, and stating that not content with committing treason at home, they are now extending it abroad, by daring to insult a foreign prince remarkable for his generous devotion to Poland. Count Sigismund Wielopolski has since been requested to send in his resignation on account of the challenge he sent to Prince Napoleon, and it is rumoured in official quarters that the elder Count Wielopolski has requested leave to resign his post, owing to a disagreement with General Berg, who is said to have demanded 100,000 additional troops. A banquet was given at Cracow on Sunday in honour of Mr. Hennessy, M.P., at which Count Skorupka, in a speech of welcome to that gentleman, said that the sympathies of England with Poland were an important guarantee for the endeavours of Poland. Mr. Hennessy, in reply, said that a reconciliation was now impossible, and that it was rather to be expected that the complete independence of Poland would be brought about.

Greece.—The *Berlingske Tidende* of Wednesday officially announces that Prince Christian has had a long interview with Sir A. Paget, the British Minister, at which his Royal Highness declared that the only obstacles which had hitherto opposed the acceptance of the Crown of Greece—namely, the abdication of King Otho and the state of the Greek finances—having now been fully removed, he definitively accepted it for his son, Prince William. It is understood that representatives of the protecting Powers of Greece will meet at an early period in London for the purpose of coming to a final settlement of the Greek question.

Turkey and Egypt.—The Sultan left Alexandria on Friday afternoon on his return to Constantinople. Ismail Pasha remained on board the Imperial yacht till the last moment, and the parting was most cordial. The Sultan arrived at Smyrna on Monday, and on the following day went to Ephesus and turned the first sod of the works extending the Ottoman Railway. His Majesty returned in the evening by train to Smyrna.

United States.—The Siege of Charleston commenced on the 7th inst. At 2 o'clock in the afternoon of that day nine Federal Monitors opened fire on Fort Sumter at a distance of 3000 yards. At 4 o'clock the Ironsides and the Keokuk withdrew from the engagement, apparently disabled. A Southern despatch of the 8th reports that the Confederate Monitors went out to take part in the fight. Several Federal Monitors were still within the bar, and a terrible battle between the land forces was progressing within sight of the city. The Keokuk was sunk, and articles from her had drifted ashore. The contrivance for removing the torpedoes had also drifted to the beach. The casualties in Fort Sumter were one boy killed and five men wounded. The casualties in the other batteries are unknown. Accounts from New Orleans announce the capture by the Confederates of the Federal steamer Diana, in the Atchafalaya River. The Diana left Brashear on a reconnoitering expe-

dition, but encountered some Confederate masked batteries at Patersonville, and after a sharp engagement, in which Captain Peterson and several gunners were killed, the Diana surrendered. 25 Federals were killed and wounded, and 170 taken prisoners. Admiral Farragut is said to hold the Mississippi from Port Hudson to Vicksburg, and General Banks with 10,000 men has left New Orleans and gone down Bayou Plague mine to reinforce Weitzel, and attack the Bayou Teche country. The Federals have withdrawn from the peninsula opposite Vicksburg after cutting the levee, and turning the water into their old camping ground. General Grant went to Vicksburg in person under a flag of truce on the 4th inst. His mission is unknown. The Confederates, under Generals Hill and Pettigrew, 10,000 strong, have surrounded Washington, North Carolina, which is occupied by the Federal force under Gen. Foster, variously estimated at from 2000 to 4000 strong. The Confederates have erected a battery five miles below Washington, commanding the channel between that place and Newbern, thus cutting off the Federal communications with Newbern. General Foster sent to Newbern for reinforcements, and several gunboats started, but owing to the blockade of the river by powerful batteries, it was unable to reach him. General Foster's communication being thus wholly cut off both by land and water, it was hourly expected that he would be forced to capitulate. General Hill has notified General Foster to remove the women and children, as he is going to shell the city. Confederate despatches state that the Federals, 15,000 strong, are advancing on Columbia, Tennessee, and that a battle is imminent. Telegrams from Nashville state that the Confederate General Van Dorn attacked General Granger at Franklin, Tennessee, on the same day, and after two hours' severe fighting withdrew, leaving his dead upon the field. The casualties on either side are not stated. The Confederates have burnt two Federal steamers on the Tennessee River. The majority of the Pennsylvania Senatorial Investigating Committee in their report declare General Cameron guilty of the charges of bribery preferred against him. Four persons have been arrested in Reading, Pennsylvania, charged with being connected with the secret organisation known as Knights of the Golden Circle, whose designs are asserted to be the establishment of a North-Western Confederacy, the abduction of President Lincoln, and forcible resistance to the Conscription Act. These arrests have created much excitement and ill-feeling throughout Pennsylvania. The Democratic journals treat the charges as absurd. The *New York Tribune* continues to assert that the relations of the Federal Government with England is the topic of anxious interest in official and unofficial circles at Washington. It is reported semi-officially from that city that Mr. Seward has forwarded despatches to Mr. Adams to the effect that, if any other vessels of the character of the Alabama and Florida are allowed to leave British ports, the British Government will be held responsible for the injuries that may result to American commerce. The negro expedition has evacuated Jacksonville, Florida, and, after burning the town, returned to Port Royal. This wanton destruction of Jacksonville is severely commented upon by the journals of all shades of political opinion. The President and Mrs. Lincoln have visited General Hooker at his quarters on the Rappahannock, but the weather was so severe and the mud so deep that the grand review in honour of the visit was countermanded, and Mr. and Mrs. Lincoln returned to Washington, after the President had reviewed the army by brigades. The President is still urged by a section of the Cabinet to issue letters of marque, but persistently refuses, lest he should increase the difficulties of the Republic and imperil its friendly relations with the maritime Powers of Europe. The joint Committee of both Houses of Congress on the conduct of the war have presented their report. It censures General M'Clellan's whole military course since his appointment to the command of the Army of the Potomac, and points to him as the cause of the failure of the army to take Richmond. General Burnside's plans for dislodging the Confederates at Fredericksburg subsequently to his defeat in December are declared to have been thwarted by the interference of the President, who gave ear to prejudicial statements against General Burnside from subordinate officers, and countermanded his orders for an advance. The report concludes by stating the belief of the Committee that the rebellion can be subdued only by fighting, and their confidence that the present campaign will produce decisive victories to the Federal arms. The Secretary of the Treasury has issued stringent orders regarding commercial intercourse with the insurrectionary States. The purchase of cotton with gold is forbidden, and military officers are forbidden to trade. The New York Legislature has passed the Bill prohibiting the banks from loaning money on gold. A large meeting has been held in New York in aid of the distress in Ireland. General M'Clellan and Archbishop Hughes addressed the meeting. Cheers were given for the former as the future President. A large Democratic meeting has also been held at New York, at which resolutions were passed denouncing the Administration, declaring the war, as now conducted, a failure, and demanding peace. The Administration could not conquer the South if they would, and would not if they could. Therefore the Democracy favoured peace and conciliation as the only means to restore the Union. They demand a change of measures, not for separation but for restoration. Mr. Fernando Wood declared that until the Conferences were opened it was impossible for any one to say whether, under such circumstances, the South would or would not listen to negociations looking to reunion. Speeches were made declaring it to be insanity to suppose that the South ever could be conquered. The Southern journals say that the peace party were about to introduce a peace resolution which would probably pass one House of Congress before the adjournment. In Connecticut a Republican governor and Republican state officers have been elected. A bread riot has taken place in Richmond, in which 3000 women were engaged. They broke open the Government stores and took what they wanted. The military were unable to check the riot. President Davis and others made conciliatory speeches, and order was restored. The *Richmond Sentinel*, referring to this riot, says it was an attempt to rob under the excuse of a scarcity of food, as the dry goods establishments suffered as much as others. There has also been a bread riot at Petersburg. The prize steamer Dolphin, captured by the Federal steamer Wachusset, has arrived at Havannah. The steamer Julia has also arrived at Havannah, from Mobile, with cotton. The British prize steamer Aries has arrived at New York. She was captured 30 miles north of Charleston. The schooner Sue has been captured off Wilmington. The British ship Surprise, and the British schooners John Williams Florence Nightingale, and Brothers have also been captured.

# Parliament.

## HOUSE OF LORDS.

FRIDAY.—*Dismissal of Ionian Judges.*—Lord CHELMSFORD called attention to the removal of two judges of the Supreme Court of the Ionian Islands, and moved for correspondence and papers on the subject. He complained that these gentlemen had been dismissed from their offices without previous notice, and although he admitted the step was legal, he was anxious to learn what was the reason which had induced the Lord High Commissioner to take it.—The Duke of NEWCASTLE at first declined to produce the correspondence, but in answer to a subsequent appeal from the Earl of Derby, consented to produce copies of, or extracts from, the correspondence, and after a few observations from Lord CHELMSFORD and Earl GREY, the motion as amended was agreed to.

MONDAY.—The report of Amendments on the *Drainage of Land (Ireland) Bill* was received. The *Illegitimate Children (Ireland) Bill* was read a third time and passed. *The Case of Lord Elphinstone.*—The Earl of HARDWICKE, in calling attention to Courts of Inquiry in her Majesty's Naval Service, strongly stigmatised the treatment of Lord Elphinstone by the Admiralty in dismissing him from the command of the Vigilant without giving him the power of calling evidence in his defence, because his ship ran upon the Gunfleet Sand while in charge of a Thames pilot.—The Duke of SOMERSET said that the Board of Admiralty considering that the running of the Vigilant on so well-known a shoal as the Gunfleet Sand in broad daylight was a gross case of neglect, had after due inquiry, censured Lord Elphinstone. They had not refused to grant him a court-martial, but had sent him the evidence on which their censure was based, and left him the option after its perusal, of reiterating his demand; but this his lordship had not done.—The Marquis TOWNSHEND and Lord COLCHESTER condemned the course taken by the Admiralty.—The Earl of HARDWICKE said he did not wish to have brought down a fresh censure on Lord Elphinstone, but to have extracted an opinion as to the capacity of such tribunals as Courts of Inquiry.—Earl GRANVILLE considered that not the slightest case had been made against the Admiralty, and that Lord Elphinstone had been worse treated by the zeal of his friends, who had compelled the First Lord of the Admiralty to reiterate the censure, than by the Admiralty itself.—The Earl of DERBY thought it was contrary to all ideas of British justice to try, condemn, and censure an officer without giving him the opportunity of defending himself. Lord Elphinstone had been hardly dealt with, and in a manner contrary to the dictates of British justice.—Earl RUSSELL said Lord Elphinstone had himself refused a court-martial, after reading the evidence taken before the Court of Inquiry, and that the Admiralty were blameless in the matter.—Lord CHELMSFORD thought that the treatment of Lord Elphinstone had been harsh, and that the answer of the Duke of Somerset was most unsatisfactory.—Lord CRANWORTH was of opinion that the system of Courts of Inquiry was most objectionable, and required alteration.

TUESDAY.—The second reading of the *Local Government Act (1858) Amendment Bill* was moved by Lord STANLEY of ALDERLEY, who stated its object to be to prevent certain parishes from availing themselves of the provisions of the Local Government Act merely for the purpose of escaping the operation of the Highway Act. The Bill was read a second time.—On the motion of Viscount SYDNEY a copy of the report upon *Metropolitan Railway Schemes*, made to the Metropolitan Board of Works by their engineer, was ordered to be referred to the select committee of their lordship's House now sitting.

THURSDAY.—The Marquis of CLANRICARDE brought under notice the recent *Seizure of British Vessels by American Cruisers*, and referred especially to the case of the Dolphin, whilst on a lawful voyage from Liverpool to Nassau. He argued that these cases could not be overlooked as isolated acts, but that they showed a predetermined policy on the part of the Federal Government. He wished to know what course the Government intended to adopt with regard to Mr. Adams, the American Minister in London, assuming to grant certificates or permits to British ships trading to neutral ports, and urged the necessity of strongly reinforcing the English squadron in the West Indies.—Earl RUSSELL censured the language used by the noble marquis, which he said was based upon flying rumours and *ex parte* statements in the newspapers. The Government had consulted the law officers of the Crown, in whose opinion there was no ground, on a *primâ facie* view of the case, to justify the seizure of the Dolphin, though there might be facts which afforded reasons for sending her to a prize court. But on two points there was no doubt the American cruiser was wrong: first, in abusing the protection of a neutral port; and next, in landing the crew upon neutral territory. By the next mail he intended to bring the case under the notice of the Federal Government; and, judging from precedents, he entertained the hope that they would readily make reparation if wrong had been done. With regard to the conduct of Mr. Adams in granting certificates of protection to British ships, he had no difficulty in pronouncing it to be most unwarrantable, and it was his intention to make a representation to the Federal Government on the subject. — The Earl of CARNARVON said that the remarks of Lord Russell seemed to favour the impression that American ships of war had a right to seize British vessels engaged in a neutral and legitimate trade, and even to open and act upon the correspondence contained in her Majesty's mails.—Earl RUSSELL disclaimed any such intention, and stated that Mr. Seward had himself abandoned all rights of the sort in the instructions he had issued to the American naval commanders.—The Earl of DERBY said, that instead of withdrawing the mails from the Sea Queen, the Government ought to have insisted on their being conveyed in her, and at the same time to have provided her with effectual protection from the aggressions of the Federal cruisers.—Earl GREY did not think it just or reasonable that British vessels trading to neutral ports, and in so doing at liberty to carry even contraband of war, should be deprived of any sort of security. Her Majesty's Government could not help the inconvenience suffered by the owners of vessels trading with suspected ports, but they ought to take care that the rights allowed to belligerents were not wantonly or aggressively enforced.—Lord STANLEY of ALDERLEY said that the Sea Queen was in a different position to that of a mail steamer.—Lord WODEHOUSE argued that merchant vessels sailing to a neutral port ought not to be questioned by Federal cruisers. In the present temper of the American people, Government could only preserve peace by acting firmly though calmly, and, while not abating one jot of their own rights, respecting the rights of others.—Earl GRANVILLE contended that the Government had acted prudently and consistently under very delicate circumstances, and deprecated angry discussions on imperfect information.

FRIDAY.—*America.*—Lord REDESDALE asked whether the United States Government had requested that authority might be given to British Consuls to open the sealed mail bags from this country and inform the Federal Government if the letters contained any information bearing upon the question at issue between North and South.—Earl RUSSELL was understood to say that some such demand had been made.—The Earl of DERBY expressed his surprise at this proceeding, and several peers asked what authority the Consuls had to open the bags.—Earl RUSSELL said he would consult the law officers of the Crown and give his answer on Monday.

[Left sitting.]

## HOUSE OF COMMONS.

FRIDAY.—Mr. BRADY called attention to the reports of the Royal commission appointed to inquire into the best mode of utilising the *Sewage of Towns* and for applying it to beneficial and profitable uses, and spoke at some length in support of the inexpediency of granting any further public money for the use of the commission.—Mr. K. SEYMER said that the object of the commissioners was not to inquire into the best mode of utilising sewage, but to inquire into the means of getting rid of it under the system of water supply adopted in towns, and of then applying it to agricultural purposes. He defended the commissioners against the insinuation which had been thrown out respecting them, and observed that it was quite a mistake to suppose that the residuum after deodorisation was so valuable as had been represented.—Mr. COWPER expressed his approval of the reports of the commission, whose suggestions were calculated to be of great service to municipal bodies. The problem of utilising the sewage of towns was yet to be solved, and it was chiefly to the continuance of the labours of the commission that he looked for a solution. —After some observations from Mr. PAGET, Mr. AYRTON, and others, the subject dropped. *Russia and Sweden.* — Lord PALMERSTON, in reply to Mr. GRIFFITH, said that, so far as her Majesty's Government were aware, nothing had occurred to interrupt amicable relations between Russia and Sweden. *Affairs of Greece.*—In answer to Lord H. LENNOX, Lord PALMERSTON said that he must be excused from relating all that had taken place on the subject of the Throne of Greece, but he would say that the Government had not acted with precipitation in reference to Prince William of Denmark, and had not made any communications to Greece that they were not authorised to make. The House then went into committee of supply on the *Civil Service Estimates.*—Lord R. CECIL protested against proceeding at that hour, and Lord PALMERSTON consented that the Chairman should report progress. The report of the Committee on Ways and Means was brought up and agreed to after some remarks by Sir S. NORTHCOTE, who expressed his belief that the Budget of the Chancellor of the Exchequer would give general satisfaction to the country. On the order for the third reading of the *Telegraphs Bill*, Mr. AYRTON moved that the Bill, in respect to certain clauses, be recommitted, on the ground that the amendments therein were not made in accordance with the views of the House.—Mr. M. GIBSON defended the amendments, and, after some further discussion, the House divided, when the amendment for recommitting the Bill was carried by 25 to 19. Several other Bills were forwarded a stage.

MONDAY.—Sir G. GREY, in moving the second reading of the *Prison Ministers Bill*, stated the main facts upon which it was founded and its principal provisions. The Bill did not raise a question as to any form of religious belief, nor introduce any principle injurious to the maintenance of Protestant doctrines; it merely extended a principle adopted by the House to a large body of our fellow-subjects—Roman Catholic prisoners, of whom there was a very large number in the county and borough prisons of England and Scotland. In Ireland there was a paid Protestant chaplain in every prison, even though the prison did not contain a single Protestant prisoner. The Bill empowered the Court of Quarter Session to appoint Roman Catholic chaplains in prisons, with a reasonable remuneration, and to remove them.—Mr. GORE LANGTON moved to defer the second reading for six months. He objected to the principle involved in it, which would sanction the appointment of a Roman Catholic priest in every prison in the country.—The amendment was seconded by Colonel BARTTELOT.—Mr. HENLEY could not concur in the opinion that the measure was either unnecessary or uncalled for. He did not see why Roman Catholic prisoners should be shut out from visitation by their priests, unless they asked for it. He would do as he would be done by, and should vote for the second reading. — Mr. SELWYN opposed the Bill, on the ground that it affected the rights of the Established Church, and would establish one law in one country and in one borough and another in another.—Lord E. HOWARD considered that this was not an ecclesiastical, so much as a police measure. Its necessity had been affirmed by great authorities. There had been no complaint of conflicting interests in Irish prisons, and the mixed system prevailed in the colonies. He mentioned instances of impediments cast in the way of Roman Catholic prisoners desirous of seeing their priest, and of unfair advantages taken of them. —Mr. P. WINDHAM and Mr. LYSLEY opposed the Bill; Colonel PATTEN and Mr. BAINES supported it.—Mr. DISRAELI said, two great objections had been urged against this Bill. First, that it would affect the security of the Established Church. If he could suppose that it had a tendency to impair that security, he should oppose the Bill; but he had no such apprehension. Then it was said that the measure was dangerous to the Protestant spirit of the country. But who could suppose that the magistracy of the country would desire to depress that spirit, of the power of which Roman Catholics had had sufficient proof? Looking, therefore, at the influence which this Bill would exert upon the status

of the Church of England or upon the Protestant spirit of the country, it was, in his opinion, to have a very poor and mean conception of that Church and of that spirit to suppose that the Bill could endanger the one and lessen the other. He did not entertain these visionary apprehensions as to the effects of this permissive Bill, and hoped the House would pass it, as in harmony with the legislation which it had sanctioned upon the subject.—Lord PALMERSTON gave his hearty support to the Bill. His view of the question was, he said, that it was not one between Protestantism and Catholicity; but between sound sense and most respectable and honourable prejudices—prejudices which he had hoped had been dispelled more than 30 years ago, when the House resolved that differences of religious principles should cause no distinction between civil and social rights. While no danger was apprehended to the Protestant religion if Roman Catholics were allowed access to that House, and Roman Catholic priests had access to our soldiers, it would be dangerous, it was supposed, to allow them access to men imprisoned for crimes. To reject this measure, in his opinion, would be to act in opposition to the principles which had guided our legislation for more than 30 years.—Mr. NEWDEGATE opposed the Bill, which was sought, he said, not for the sake of Roman Catholic prisoners, who made no complaint, but in order to gratify the Church of Rome.—Mr. WHALLEY also opposed the Bill. On a division the second reading was carried by 152 to 122. The adjourned debate on the second reading of the *Assurance Registration (Ireland) Bill* was then resumed.—Mr. WHITESIDE reviewed, at considerable length, the system of the Registration Office in Ireland under the existing law and practice. The Bill, he said, contained so many novelties, so many difficulties and perplexities, that it never could become the law of the land. Upon a division the second reading of the Bill was carried by 56 to 41. On the question that the Bill be committed, a conversation arose upon a complaint by Colonel DUNNE that no answer had been given to Mr. WHITESIDE. The *Gardens in Towns Protection Bill* was read a third time and passed.—The SOLICITOR-GENERAL obtained leave to bring in a Bill to consolidate and amend the *Church Building and New Parishes Acts.* After a few words from Mr. F. POWELL, Mr. W. MARTIN obtained leave to bring in a Bill to amend the law relating to *Municipal Elections.*

TUESDAY.—*The Polish Amnesty.*—In answer to Mr. DENMAN Lord PALMERSTON said that more than one version had appeared of the amnesty, and that different interpretations had been put upon it, some giving it the comprehensive sense of suspending the execution of political prisoners and others a more limited and restricted meaning. All he could say was, that he hoped the larger interpretation was the just one. It was impossible not to feel that the Russian Government, and their troops in Poland, had committed so many acts of ferocious violence, that there was a great arrear of mercy and indulgence due from that Government, to set them right with the public opinion of Europe. *The New Ministerial Appointments.*—Mr. GRIFFITH asked whether the interests of the public service were not likely to suffer injury in consequence of three of the four Chief Secretaries of State being members of the House of Peers.—Lord PALMERSTON said that it had been his endeavour to make such arrangements as would combine as many advantages and as few objections as possible. It might be desirable that the distribution of Secretaries of State between the two Houses of Parliament should be different, but he was persuaded that the House of Commons would not experience any inconvenience from the present arrangement.—Mr. ROEBUCK inquired whether the Government had determined upon any line of conduct with respect to the *Proceedings of Admiral Wilkes*, and whether he would state to the House what that conduct would be. If it was inconvenient for the noble lord to answer the question offhand, he might consider it as a notice for Thursday.—Lord PALMERSTON, amid general laughter, said he would rather take the question as a notice. *Offices of Woods and Works.*—Mr. A. SMITH moved for a select committee to inquire into the department of woods, forests, and land revenues, the office of works and public buildings, and the operation of the Act by which these were constituted as two separate departments.—Mr. FREDERICK PEEL opposed the motion on the ground that the matters to which the motion referred had already been inquired into by a select committee as lately as the year 1854, who had reported satisfactorily. After a few words from Mr. CAIRD, the motion was negatived without a division.—Sir G. GREY moved for leave to bring in a Bill for the *Amalgamation of the City of London Police with the Metropolitan Police.* In doing so, he said that the measure was by no means to be regarded as one of a penal character consequent upon the events of the 7th March, although undoubtedly those events showed a great want of order and management, and an inadequate appreciation on the part of the authorities of the City of the nature of the emergency that was likely to arise. But a Royal Commission and committees of the House of Commons had reported in favour of the scheme contemplated by the Bill, and successive Governments had given it their approval. It was, in fact, rendered necessary by the altered circumstances of the metropolis, which in population and area had far outgrown the limits of the City. In this respect, therefore, the Corporation of the City of London differed from every other in the kingdom. Its position was entirely exceptional, inasmuch as it had a separate jurisdiction independent of the surrounding district; so that no other corporation need be under any apprehension that the measure could possibly be applied to them.—Mr. CRAWFORD said he would not oppose the motion for leave to bring in the Bill, but he intended at the proper time to move as an amendment that it be read a second time that day six months.—Alderman SIDNEY opposed the Bill, and charged the whole blame of the confusion on the 7th of March to the Government, who had interfered with the ancient privileges of the corporation, and had restricted their free action.—The LORD MAYOR took a similar view, and contended that the Bill was uncalled for and unconstitutional, and that if it were carried it would strike a heavy blow against the principle of local self-government.—Lord ALFRED PAGET thought it most advisable that there should not be two separate and distinct police authorities in the metropolis. He would rather see the whole metropolis under the control of the City than that the present state of things should continue.—Mr. NORRIS, Sir GEORGE BOWYER, Mr. BOVILL, Mr. HIBBERT, and Sir H. BRUCE opposed the Bill; Mr. AYRTON, Sir. H. STRACEY, and Mr. Serjeant PIGOTT supported it. After a short reply from Sir G. GREY, the motion for leave to bring in the Bill was agreed to. The Bill was then read a first time. Leave was given to Sir H. BRUCE to bring in a Bill on the subject of the *Removal of Destitute Persons from England and Scotland to Ireland*

WEDNESDAY.—Mr. P. W. MARTIN moved the second reading of the *Innkeepers' Liability (No. 1) Bill*, the object of which, he said, was to amend the present state of the law relating to the liability of hotel and innkeepers for the goods of their guests. The increased facilities for travelling which the railway system supplied had of late years occasioned a vast influx of visitors into railway hotels particularly, and had been accompanied by numerous robberies of luggage, the value of which had been recovered from the landlords, who were held to be responsible, whatever might have been the negligence of their guests. In many cases, however, the alleged losses had proved to be fictitious, and yet the innkeeper had no remedy against fraud. The Bill proposed to leave the law as it stood, so far as to leave hotel keepers liable for the loss of all goods not exceeding the value of 20*l.*, but if above that amount the guest should incur the risk, or place the property in the hands of the landlord, who was to provide proper fastenings for his doors.—Major EDWARDS supported the Bill, which he thought had long been required for the protection alike of the innkeeper and the public.—Sir F. GOLDSMID moved as an amendment that the Bill be read a second time that day six months. He admitted that a remedy for the evil complained of was required, but he argued that the remedy provided was not the right one, whilst the Bill was false in its preamble and vague and general in its enactments. The amendment was seconded by Mr. PACKE.—Mr. ROEBUCK supported the Bill on the ground that it sought a good end, and that it did so by just and proper means, and would not do harm to any one. The Bill was also supported by Mr. LOCKE and Sir G. BOWYER, and the amendment having been negatived without a division, it was read a second time and ordered to be committed. *The Innkeeper's Liability Bill (No. 2)* was withdrawn.—On the motion of Mr COLLINS, the *Elections during Recess Bill*, the object of which is to provide that the notice to the Speaker of a vacancy during the recess should be four days only instead of 14, so that the new election may take place within 20 days after the vacancy, was read a second time.—Mr COLLINS moved the second reading of the *Borough Residence Uniform Measurement Bill*, the object of which was that the seven-mile measurement shall be made not from a uniform place within the borough, but from any point within its circumference.—Mr. Serjeant PIGOTT opposed the Bill on the ground that no case had been made out in its favour, and moved, as an amendment, that it be read a second time that day six months.—Mr. BRUCE, Mr. KNIGHT, Mr. BUTT, and Mr. P. BOUVERIE also opposed the Bill, which was supported by Mr. BENTINCK, Mr. WHITESIDE, and Lord LOVAINE. On a division, the motion for the second reading was carried by 171 to 135. The Bill was then read a second time. The *Marriages, &c., (Ireland) Bill*, on the motion of Sir E. GROGAN, passed through committee, and was ordered to be reprinted. The *Metropolitan and City of London Police Bill* was brought up and read a first time.

THURSDAY.—*Seizure of British Ships by American Cruisers.*—On the motion for going into Committee of Supply, Mr. ROEBUCK called attention to the proceedings of Admiral Wilkes in the West Indian waters. At the outbreak of the civil war his feeling at first had been in favour of the North, but the conduct of the Federal Government had been such as to prove that they were not only unfit to govern themselves, but any civilised community. We had been subjected, he said, to every species of violent language, to insinuation as well as accusation, and had been compelled to call the Northern Government to account for one insolent, arrogant, and overbearing act. He called upon the Government to vindicate the honour and to protect the commerce of this country. He might be told, he said, that this might lead to war, and he was prepared for war.—Lord PALMERSTON said the matter, which was of a very grave nature, was receiving due consideration from her Majesty's Government, but he was not prepared to state the result.—Mr. BENTINCK called attention to the proceedings of Mr. Adams, the American Minister, and inquired whether it was the intention of the Government to take any steps in the matter.—Mr. PEACOCKE moved for the correspondence on the subject of the conveyance of ship letter mails on vessels bound for Matamoras.—Mr. LAYARD declined to produce papers on a subject still under the consideration of the Government.—Mr. R. W. CRAWFORD deprecated the continuance of the discussion after the statement of the Prime Minister.—Mr. NEWDEGATE censured the language of Mr. Roebuck.—Sir H. CAIRNS said that the course taken by the Government appeared to leave it an open question whether an American cruiser might not seize with impunity the mail packets between Dover and Calais.—Mr. MALINS said it was humiliating to see the commerce of the country carried on by the sufferance of a foreign Power.—The SOLICITOR-GENERAL denied that the Government had conceded to the Federal States the right of seizing English vessels conveying mails to neutral ports on the ground that they might include correspondence considered to be contraband.—Lord R. CECIL said that while her Majesty's Government were procrastinating the American Minister was master of the situation.—Mr. OSBORNE described the debate as mischievous, and recommended the House to leave the matter in the hands of Lord Palmerston.—The motion for papers was then withdrawn, and the House went into Committee of Supply. *Memorial to the Prince Consort.*—Lord PALMERSTON, having passed an eloquent eulogium upon the merits of the Prince Consort, moved that the sum of 50,000*l.* be granted to her Majesty to complete the national Memorial to the late Prince. He explained that the proposed memorial was to take the shape of an "Eleanor Cross," to be erected on the site of the Exhibition of 1851 in Hyde Park, and that the estimated cost was 110,000*l.*, of which the public had already subscribed nearly 60,000*l.*—Mr. DISRAELI approved of the course taken by the Government in this matter, and said that the feeling of the public was in favour of a great metropolitan memorial, which would appeal to the sentiments of the country, and represent as much as possible the character and career of the Prince. After some discussion the vote was unanimously agreed to. *Kertch Prize Money.*—On the motion of Lord PALMERSTON the sum of 85,000*l.* was voted as prize money for the capture of Kertch during the Russian war—the amount to be divided in the proportion of two-thirds to the naval and one third to the military forces engaged on that occasion.—On the motion of Mr. PEEL a sum not exceeding 1,000,000*l.* was voted to pay off and discharge *Exchequer Bonds* payable on the 8th of May next.—*Income Tax.*—Mr. ROEBUCK moved that, in the opinion of the House, the tax imposed on precarious incomes should be lower than that imposed on permanent incomes.—The CHANCELLOR of the EXCHEQUER resisted the motion on the ground that, whilst it would remove one or two anomalies, it would introduce three or four others, and leave the grievance complained of in even a worse position than before.—After some discussion, in which Mr. MALINS, Mr. HUBBARD, and Mr. MARSH took part, the motion was withdrawn, and the House went into Committee of Ways and Means.—The resolutions for reducing the *Duty on Tea* to 1*s.* per pound, for continuing the *Sugar Duties* at the present rates until the 1st of August, 1864, and for reducing the *Income Tax* to 7*d.* in the pound, were considered and agreed to.—The House having resumed, the *Stock Certificates to Bearer Bill* was read a second time. The *Bakehouse Regulation Bill* passed through committee. The *Vaccination (Ireland) Bill* was read a second time. The *Telegraphs Bill*, as amended, passed through Committee. The *Local Government Supplemental Bill*, and the *Land Drainage (Provisional Orders) Bill* were read a second time.

FRIDAY.—*The Albert Testimonial.*—Mr. CONINGHAM gave notice, that on the resolution for the Albert Testimonial he should inquire whether the proposed amount was sufficient, and should move that the vote be postponed until inquiries had been made on that subject. *Amalgamation of the City and Metropolitan Police.*—Mr. HENLEY gave notice that on the motion for the second reading of this Bill he should move that it be read a second time that day six months. *America.*—Lord A. CHURCHILL asked whether merchant ships in the prosecution of a voyage between neutral ports would be legally justified in defending themselves by arms from capture by the Federal cruisers.—The SOLICITOR-GENERAL said that vessels would not be justified in thus defending themselves by arms. That decision was laid down in the well known case of the Swedish convoys. *Mileage Duties.*—In answer to a question from Sir C. DOUGLAS, the CHANCELLOR of the EXCHEQUER said he should abandon the duties on carriers proposed in his recent Budget. [Left sitting.]

# City Intelligence.

BANK RATE OF DISCOUNT.—The Bank of England on Thursday reduced their rate of discount from 4 per cent., at which it was fixed on the 19th of February, to 3½ per cent.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 92⅝ to 92¾ for Money, and 92⅞ to ¾ for Account; Three per Cents. Reduced, 91½ to ¼; New Three per Cents., 91⅜ to ½; New Two and a Half per Cents., 76½; Five per Cent. Annuities, 108½; Bank Stock, 234 to 236; Ditto for Acct., 234½; India Five per Cent. Stock, 109⅞ to ⅝; Ditto Bonds, 21*s.* to 17*s.* pm.; Five per Cent. Enfaced Rupee Paper, 107½ to ¾; Ditto Five and a Half per Cent., 115½; Exchequer Bills, 5*s.* pm.—FOREIGN: Brazilian, 1839 and 1859, 100½, ex div.; Ditto 1852, '58, and '60, 93¼ to 94; Dutch Certificates, 100¼ ex div.; Egyptian, 97⅞ to 98¼; Greek, for Acct., 28⅝ to 29¼; Ditto Coupons, 13⅝; Italian, for Acct., 70⅛; Ditto Maremmana Railway, 75½; Mexican, for Acct., 33½ to ⅝; Portuguese, 1862, 47⅞ to 48; Spanish Passive, 30 to ⅛; Ditto Certificates, 10⅝; Turkish, 1858, for Acct., 68⅛; Ditto, 1862, for Acct., 70⅛ to 69¾; Ditto Guaranteed, 102¼; Venezuela, for Acct., 23; Ditto 1862, 58½.

# Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued | £29,191,830 | Government Debt | £11,015,100 |
| | | Other Securities | 3,634,900 |
| | | Gold Coin and Bullion | 14,541,830 |
| | | Silver Bullion | — |
| | £29,191,830 | | £29,191,83 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £12,051,396 |
| Rest | 3,100,148 | Other Securities | 18,034,138 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 6,316,413 | Notes | 8,291,525 |
| Other Deposits | 14,739,837 | Gold and Silver Coin | [illegible] |
| Seven days and other bills | 612,921 | | |
| | £39,322,379 | | £39,322,379 |

April 23, 1863. W. MILLER, Deputy Cashier.

# Gazette of the Week.

FRIDAY: *April* 17.—BANKRUPTS.—J. W. ANDERSON, Hartlepool, Durham, Chemist and Druggist—S. ABERDEIN, Hindolvestoe, Norfolk, Schoolmaster—J. ANSCOMBE, Brighton, Builder—J. ASHWORTH, Stacksteads, Lancashire, Joiner and Builder—J. AULT, sen., Birmingham, Hair Pin and Fancy Box Manufacturer—S. P. BARTLETT, Brighton, Milliner—J. A. L. BARNARD, Albert Road East, Queen's Road, Dalston, late Manager of a Public Company—J. BELL, Market Rasen, Lincolnshire, late Boot and Shoemaker and Licensed Hawker—W. BARRACLOUGH, late of Sheffield, News Agent—T. BONE, Scilly, Cornwall, Draper—E. BOND, Lichfield, Staffordshire, Maltster and Victualler—W. C. BRATHERWICK, Bracebridge, Lincolnshire, Labourer—S. BRAND, Hednesford, Staffordshire, Labourer—W. BROWN, late of Sheffield, Steel Manufacturer—S. CARTER, Tong, Yorkshire, Stonemason—W. COLDICOTT, Birmingham, Baker—J. CARLISLE, Brampton, Cumberland, Veterinary Surgeon—F. CLARKE, Stratford, Essex, Merchant's Clerk—J. DEAKIN, sen., and E. DEAKIN, Longton, Staffordshire, Earthenware Manufacturers and Farmers—C. H. DAVIS, Basinghall Street, Wholesale Stationer—M. DUNN, jun., Gateshead, Durham, Builder—CHRISTOPHER DUGGET, Birmingham, Catholic Priest—GEORGE DEIGHTON, York, Cabinet Maker—THOMAS EDWARDS, Plainsbrook, Herefordshire—WILLIAM RAYMOND FISHER, Leytonstone Road, West Ham, Chemist—R. T. FITCHEY, Charlotte Street, Portland Road, Tailor—G. GALE, Landport, Hants, Bookseller and Florist—E. GREEN, Forest Hill, late Fancy Warehouseman—J. GODFREY, Swanington, Leicestershire, Builder—G. GORLE, Handsworth, Staffordshire, Plumber—J. HARRISON, York, Cattle Dealer—W. HOPKISS, Llanferres, Denbighshire Bailiff—J. HOPKIN, Etham Place, Borough, Dealer in Marine Stores—J. HALL, High Street, Battersea, Assistant to a Colour Grinder—W. HUGHES, Newark, Nottinghamshire, Shoemaker—T. D. HAYLEY, Guildford, Tailor—H. W. HART, Upper Albany Street, Regent's Park, Patent reflecting Gas Shade Manufacturer—G. HUNT, Saham Tone, Norfolk, Licensed Victualler—J. HAMSON, Macclesfield, Cheshire, Joiner—S. J. HADDON, Christchurch, Southampton, Schoolmaster—W. HANCOCK, Fulham, Cambridgeshire, Grocer—L. J. IBBS, Upper Islington Terrace, Barnsbury, late Licensed Victualler—S. INGRAM, Kingswinford, Staffordshire, Miner—J. C. JACKSON, Moreton Street West, Pimlico, Cabinet Maker—THOMAS JONES, Toxteth Park, Liverpool, Slater and Plasterer—ROBERT JONES, Conway, Carnarvonshire, Confectioner—MICHAEL JENKINSON (alias JOHN DAVIES), Grantham, Lincolnshire, Journeyman Shoemaker—R. LEWIS, Whitchurch, Glamorganshire, Beer Retailer—M. LOPEZ, Camden Place, Camberwell, late Agent to a Spanish Merchant—J. LITTLE, Closehead, Cumberland, Husbandman—J. LEWIS, Narberth, Pembrokeshire, Tailor—J. LANE, Newark, Nottinghamshire, Tailor—S. MORETON, Birmingham, Anatomical Artist—G. MONKHOUSE, Castlesowerby, Cumberland, Labourer—F. C. MORPHEW, Liverpool, Wine Merchant—F. MELVILLE, Marylebone Road, Spinster—G. MANN, Manchester, Butcher—C. MARLER, St. Margaret's, Hertfordshire, Innkeeper—I. MORRIS, Bilston, Staffordshire, Licensed Victualler—G. MILLER, late of Lechlade, Gloucestershire, Cattle Dealer—W. NIXON, Ffynony Buth, Denbighshire, Farmer—T. PROSSER, Pershore, Worcestershire, Dealer in Fruit—A. C. PANK, King's Lynn, Norfolk, Plumber—G. PETTET, Earlsoham, Suffolk, Machine Maker—T. M. PORTER, Barrow Hill Place, Regent's Park, War Office Clerk—J. REED, Abbotts Bickington, Devonshire, Farmer—J. RICHARDSON, late of Middlesbro', Yorkshire, Printer—C. RANSOM, Edington, Wiltshire—E. RULE, St. Peter's Terrace, Hammersmith, Admiralty Clerk—C. RICHMOND, West Retford, Nottinghamshire, Cooper—CHARLES GERRARD RULE, Gravesend, Clerk—WILLIAM SUTCLIFFE, ALLISON SUTCLIFFE, and JAMES WHITTAKER, Bradford, Yorkshire, Cotton Spinners—JOSEPH STANTON, Westbromwich, Shoemaker—S. SMITH, Huddersfield, Listing Manufacturer—E. SMITH, Metcalf Road, Enfield Lock, late Licensed Victualler—R. A. SMITH, Gateshead, Durham, Beerhouse Keeper—G. STRATFORD, Mason's Arms Yard, Regent Circus, Livery Stable Manager—S. R. SMITH, John Street, Minories, Master Mariner—J. SUTHERLAND, Upper Fitzroy Street, Fitzroy Square, Tailor—E. H. J. TOWN, Bradford, Yorkshire, Ale and Porter Merchant—G. TURBERVILLE, Pershore, Worcestershire, Tailor—H. THOMAS, Hereford, Inn-keeper—J. UNSWORTH, Bolton, Lancashire, Tea Dealer—J. R. VIVIAN, Russell Place, Old Kent Road, Coal Agent—J. VERNON, Leicester, Dealer in Musical Instruments—R. VESSEY, East Anstey, Devonshire, Farmer—H. WYATT, Appleby, Leicestershire, Miller—W. WILLIAMS, Birkenhead, Cheshire, Licensed Victualler and Brewer's Agent—J. WARD, Birmingham, Railway Porter—J. WARD, Sutton in Ashfield, Nottinghamshire, Bag Hosier—D. WIGNALL, Everton, Lancashire, Tallow Chandler.

SCOTCH SEQUESTRATIONS.—G. BEARUP, Leith, Potato Merchant—T. GIBB, Edinburgh, Builder—R. R. LETHAM, Forfarshire, Inn keeper—R. REID, Letham, Forfarshire, Inn keeper—W. STEWART, Edinburgh—Messrs. URQUHART & Co., Dingwall, Ross-shire, Merchants.

TUESDAY: *April* 21.—BANKRUPTS.—W. ASHBOURN, jun., Lincoln, Tailor—H. T. ALLAN, Newcastle upon Tyne, Ship Broker—T. BLAISE, Burlington Arcade, Boot and Shoemaker—H. BONHAM, Frederick Place, Hampstead Road, Boot and Shoemaker—H. BARBER, Halifax, Yorkshire, Greengrocer—J. BUTLER, Ospringe, Kent, Farm Bailiff—F. C. BADMAN, Bristol, Commission Agent—E. J. BROWN, Gertrude Street, Chelsea, Assistant to a Publican—A. J. BURTON, Castle Street, Falcon Square, City, Warehouseman's Assistant—G. BRISTOW, Duke Street, London Bridge, Beershop-keeper—W. BURNS, late of Bury St. Edmunds—C. BLUNSOM, Wellingborough, Northamptonshire, Inn-keeper—I. BIRD, Manchester, Boatman—E. BAKER, Gravesend, Watchmaker—W. BROWN, Sheffield, Steel Manufacturer—W. BARRACLOUGH, Sheffield, Newsagent—G. COOPER, Bishop Auckland, Durham, Butcher—GEORGE AUGUSTUS H. CHICHESTER, Wigmore Street, Cavendish Square—RICHARD FREDERICK COOPER, Birmingham, Tool Maker—HENRY CORBETT, Harborne, Staffordshire, Charcoal Dealer—MATTHEW COLLINS, Hereford, Butcher—CHARLES JAMES DAVIES, Rufford's Buildings, Islington, late Coffee House Keeper—S. DUNN, Coburg Road, Old Kent Road, Carpenter—R. A. DONNINGTON, Southport, Lancashire, Woollen Merchant—E. DOWN, Manchester—G. DARRON, Chobham, Surrey, Farmer—J. P. ENDEAN, Upper Seymour Street, Euston Square, late Auctioneer—E. ENGER, Long Acre, late Licensed Victualler—W. FISK, sen., Ipswich, Innkeeper—J. FRANCE, Slaithwaite, Yorkshire, Grocer—W. FARNBOROUGH, Roxeth, Harrow, late Grocer—J. H. FITTON, Everton, Lancashire—M. FAY, Liverpool, Car Proprietor—J. GRAY, Upper Kirby-le-Soken, Essex, Farm Labourer—T. GRANGER,

Hartlepool, Durham, Manufacturer of Soda Water—C. H. Gordon, Burleigh Street, Strand, Lithographer—W. Gaskin, Union Place, Marylebone Road, Ornamental Draughtsman—C. Gledhill, Parkgate, Yorkshire, Tailor—R. Gloyn, Penryn, Cornwall, Accountant—G. T. Gillions, Great Amwell, Hertfordshire, Farmer—W. Harman, Macclesfield, Cheshire, Silk Manufacturer—Henry Hawkins, Bristol, Licensed Victualler—George Hutchinson, Newcastle upon-Tyne, Grocer—W. H. Hawkins, Aylesbury, Buckinghamshire, Grocer—J. N. Holmes, Norfolk Street, Strand, Merchant—J. M. Hayes, Gillingham, Kent, Bricklayer—George Heyes, Manchester, Plumber—Samuel George Homfray, Loughor, Glamorganshire, Coal Shipper—Thomas Impey, Guildford, Surrey, Auctioneer—T. Jackson, Haddens, Yorkshire, Provision Dealer—F. Jackson, Aspley Guise, Bedfordshire, Builder—G. Knowles, Brampton, Derbyshire, Earthenware Manufacturer—W. Lowe, Derby, late Eating House Keeper—M. Murgatroyd, Halifax, Yorkshire, Journeyman Joiner—H. Murch, Newland Street, Kensington, Tailor—W. Martin, Ratcliffe-upon Trent, Nottinghamshire, Surgeon—F. Malcolm, Stoke-upon Trent, Staffordshire, Earthenware Manufacturer—C. Nash, Liverpool, Boot and Shoe Dealer—A. Nicholls, Bath, Licensed Victualler—N. Priestley, late of Allerton, Yorkshire, Innkeeper—H. Payne, Weston super Mare, Somersetshire, Coal Merchant—W. Rees, Dowlais, Merthyr Tydfil, Glamorganshire, Grocer—R. Reid, Liverpool, Licensed Victualler—John Renwick, Berwick-upon Trent, Dealer in China—Edwin Roberts, Whitchurch, Shropshire, Lime Merchant—Charles Robinson, Montpelier Row, Twickenham, Masonic Jeweller—J. Robinson, Hulme, Lancashire, Builder—J. W. Spurr, Grange Road, Bermondsey, Newsvender—J. Senior, Kirkburton, Yorkshire, Licensed Victualler—J. Sheate, Corscombe, Dorsetshire, Foreman to a Miller—A. Stewart, St Mary le-Strand Place, Old Kent Road, Clerk—G. Saywell, Chenies Mews, Bedford Square, Carpenter—J. T. Smith, Circus Street, Marylebone, Working Upholsterer—E Tayler, Rowbarton, Somersetshire, Beerhouse Keeper—H. C Wilson, Manchester—J. Warren, South Benham, Somersetshire, Farmer—T. Weedon, jun., Chalfont St. Giles, Buckinghamshire, late Butcher—J. Wigginton, Stingo Lane, Marylebone, Grocer—J. Woolstencroft, Burslem, Staffordshire, Chemist—J. R. Whitaker, Shipley, Yorkshire, Tailor—H. W. Welch, Burney Street, Greenwich, Clerk—T. Wade, Leeds, Commission Agent—R. Young, Rosina Terrace, Creek Road, Deptford, Shipwright—R. Young, George Street, Islington, Tailor—F. Zerman, Tillotson Place, Waterloo Road.

SCOTCH SEQUESTRATIONS.—W. Alston, West Brigend, Dumbartonshire, Grocer—Fraser, Turner and Co., Glasgow, Sewed Muslin Manufacturers—J. Hepburn, Strathaven, Merchant—J. G M'Kay, Glasgow, Lessee of Swimming Baths—T. W. E. Robson, Cupar, Fifeshire, Rector of the Madras Academy—J. Sim, Cairnie, Aberdeenshire, Farmer.

## Metropolis and its Vicinity.

The Federal Government and the Shipping Interest.—A deputation of shippers and merchants interested in the trade with Mexico had an interview with Earl Russell on the 16th inst., to call attention to the treatment of the officers and crew of the Peterhoff, and to represent to the Government that Mr. Adams, the United States' Minister in London, has taken upon himself to issue licences to British vessels to trade with Matamoras, the privilege however being only accorded to those traders who carry arms and ammunition to the Mexicans to aid them in their resistance to the French. They further stated that a vessel called the Sea Queen, bound for Matamoras without any contraband of war on board, is now detained by the owners at Falmouth, until they receive some assurance of protection from the Government, and that the vessel has received on board her Majesty's mails, the owner being bound by the Mercantile Marine Act to carry them under a penalty. The deputation suggested that as evil-disposed persons might take advantage of this compulsory Act to despatch letters, which, in the event of seizure would implicate the vessels, a mail agent should be put on board all vessels which carried Post Office letter bags. Earl Russell in reply said that the Government were desirous of affording such protection to the merchants as they were legally justified in doing, and added that he would consider the propriety of acting on the suggestion. On Tuesday it was announced to the owners of the Sea Queen that the Government declined to send a mail agent with vessels lading to Mexico, and that the Postmaster-General at Lord Russell's recommendation will for the present relieve vessels proceeding to Matamoras from the obligation of carrying the mails.

The City Police.—A meeting of the Masters and Wardens of the various livery companies in the City was held on Tuesday in the Mansion House to consider the Government plan for the amalgamation of the City and Metropolitan Police. The Lord Mayor, who had called the meeting, took the chair, and the speakers were Mr. Cubitt, M.P., Mr. Underwood, Mr. Serjeant Payne, Alderman and Sheriff Lawrence, Mr. Greenaway, and Mr. Evans. The feeling against the proposed amalgamation was strong and unanimous, and the following resolution was passed with acclamation :—

"That in the opinion of this Meeting the attempt on the part of Sir George Grey to introduce a Bill, having for its object to deprive the City of London of the control of its own police, is destructive of the principles of local self-government, and this meeting therefore pledges itself to use all constitutional means to resist the same ; and that it be a recommendation to the whole of the Livery Companies that they petition separately against this proposed measure."

Lancashire Relief Fund.—At the meeting of the Mansion House Committee on Friday the financial statement showed the total amount received in aid of the fund up to the previous evening to be 480,346*l*. 16*s*., of which 384,000*l*. had been remitted to the distressed districts. The total sum received during the week was 2175*l*.; of which 649*l*. 4*s*. was from home, and 1,525*l*. 16*s*. from colonial sources. A deputation from the Australian Emigration Society, headed by Mr. Childers, M.P., had an interview with the committee, and stated that the Society had subscribed 5000*l*. from their own funds, for the purpose of assisting the Lancashire and Cheshire operatives to emigrate, and applied for a grant of 2000*l*. from the funds of the Mansion House Committee to supplement this grant. The committee, after some discussion, resolved to set aside 5000*l*. to be used exclusively for the purposes of emigration, out of which amount they granted the Australian Society 1000*l*., as the largest sum which they could at present give, seeing that in all probability they would have other applications. On Monday the Lord Mayor, in announcing this decision from the bench of the Mansion House Police Court, expressed his belief that the time had come when some other expedient than the continued dependence on the public bounty ought to be tried with a view to the permanent support of the destitute people, and that the most feasible and effectual remedy lay in plans of emigration, well considered and carefully carried out by practical men conversant with the labour requirements of each dependency, and able to form a just opinion as to the aptitude of the Lancashire cotton spinners for colonial life in its different phases. The committee, he said, having set apart a sum of 5000*l*. to encourage emigration from the cotton spinning districts, he now publicly called attention to the matter in order to state that if the public were of opinion that it was desirable to assist such a movement, he should be happy to receive contributions to a separate fund for the special object of assisting the unemployed hands to emigrate.

The Proposed Lines of Railway through Greenwich Park. — The reports of Professor Airy and Admiral Washington on the proposed lines of railway through Greenwich Park have just been published. Professor Airy states that after making all due allowance for the sedative effect of the tunnel covering, a distance of 600 to 700 feet may be regarded "as critical for decision on the probable effects of railway tremor on the operations of the Observatory. Within that distance very general inconvenience would be produced ; beyond it the inconvenience, though sensible, would probably not be serious." Entering into detail as to the respective plans, he concludes that "the effects of the South London, Greenwich, and Woolwich would be very troublesome, and the effects of the London, Chatham, and Dover, though sensible, would not be very troublesome." Admiral Washington says that as any railway passing within 1000 feet of the Observatory would disturb the operations, he recommends that the Lords of the Admiralty should refuse their assent to both the lines.

Consecration of a New Catholic Church.—Cardinal Wiseman last week solemnly opened and consecrated the new Roman Catholic church which has for some time past been in course of erection in Hatton Wall. The church is a handsome and convenient structure, and is dedicated to St. Peter. The Cardinal was received by several bishops and a large number of priests, all in full sacerdotal vestments. Pontifical High Mass was celebrated by Dr. Morris, Bishop of Troy ; the sermon being preached by Dr. Gillis, Bishop of Limyra vicar apostolic of the eastern division of Scotland. In the evening a sermon was preached by Canon Oakley, of Islington, formerly Fellow of Balliol College, Oxford.

Case of Colonel Waugh.—The Registrar of Bankruptcy on Saturday had before him for investigation the case of Colonel Waugh. It appeared that he had not surrendered to his bankruptcy, but venturing over to this country was arrested by a creditor for debt, and lodged in Whitecross Street prison. As he had not surrendered to his bankruptcy the Registrar declined to interfere, and the colonel remains in prison.

Scientific Balloon Ascent.—On Saturday Messrs. Glaisher and Coxwell made another balloon ascent from the Crystal Palace, and reached an altitude of 4½ miles. The wind was due north, and the balloon was carried so rapidly towards the coast that the aëronauts were compelled to make such a rapid descent that most of the instruments were broken, and they had a narrow escape from falling into the sea. As it was, by dint of coming to the ground at more than express railway speed, they were just able to alight on the extreme verge of the land near the railway station at Newhaven.

The Public Health.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended on Saturday, April 18, were 1437. The average number in the corresponding week of the last 10 years, corrected for increase of population, was 1283. The present return is therefore 154 above the average. During the week the births of 1052 boys and 1028 girls, in all 2080 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1977.

## Provincial.

Holyhead.—On Friday morning during a thick fog the Telegraph steamer, from Dublin, struck on a rocky islet south of the Stack Lighthouse, near Holyhead. Her fore compartment immediately filled with water, but the bulkhead prevented its going further. Captain Warren, who was on the bridge when the ship struck, was thrown to the deck by the shock, and sustained some injury. Still he kept on deck, and directed the passengers, more than 200 in number, to be placed on the rock. In consequence of the calmness of the night this difficult operation was successfully completed, though each person had to descend from the ship by means of a ladder. The steamer subsequently got off, and reached Holyhead. The passengers had to remain on the rock till daylight, when a boat from the neighbourhood carried them in small parties to the mainland. They had there again some difficult places to scale, and three miles to walk to the town.

Leeds.—On Monday night a public meeting was held in this town, to express sympathy with Poland. The Mayor took the chair, and was supported by the members of the Town Council. General Zamoyski addressed the meeting. Resolutions were unanimously adopted protesting against Russian barbarities, recommending the British Government to withdraw its sanction to Russian dominion in Poland, and to suspend diplomatic intercourse with St. Petersburg.

Liverpool.—The steamer Alexandra, alleged to have been built for a Confederate cruiser, has been exchequered and Messrs. Fawcett, Preston, & Co., her owners, and Messrs. Miller, her builders, will probably in a few days be summoned before the local magistrates on the charge of designing to infringe the Foreign Enlistment Act. The solicitors for the defendants, having applied to the Mayor for an inspection of the depositions, were informed by the Town Clerk that he was instructed by Mr. Waddington, of the Home Office, that the law officers of the Crown advised that the application ought not to be complied with.

Neath.—On Thursday week, as a man named Watkins was walking across a footpath towards the new works at Maesteg, a man, apparently a tramp, overtook him and demanded a shilling. On being refused, he seized him with ungovernable fury, brutally beat him, and then cut his throat from ear to ear. He then decamped across a mountain towards this town, where he was captured. He proves to be a lunatic, who had just escaped from a neighbouring asylum. His victim is in the greatest danger, but hopes are entertained of his recovery.

Penzance.—A shocking accident occurred on Saturday at Botallack tin and copper mine, near the Land's End. The mine is one of the largest in the county, a large portion of its workings being under the bed of the Atlantic ; and it is entered by a diagonal shaft; 180 fathoms deep, which slopes down at the steep angle of 35 degrees. The ores and the workmen are drawn up this slope by a waggon attached by a chain to the steam-engine at the top. On Saturday evening 10 men were coming up in a waggon, and had nearly reached the top when the chain snapped ; and the men losing their presence of mind and omitting to apply the breaks, were hurled to the bottom and killed on the spot.

Plymouth.—A court martial was held on Tuesday, on board the Royal Adelaide, guard-ship, in Hamoaze, to try Lieutenant Cavendish Gore Harvey, of the Blenheim, 60, coast guard service, at Milford, on charges of drunkenness. The Court found him guilty of "incapacity in the performance of his duty," and sentenced him to be discharged from the service.

Portsmouth.—The court-martial on Captain Hillyar, C.B., and Lieutenant Lillingston, of her Majesty's ship Cadmus, was brought to a conclusion on Tuesday, after having extended over 14 days. The Court acquitted Captain Hillyar of the charges of cruelty and oppression, and also of ordering punishments not to be entered in the defaulters' book, but found him guilty of an act to the prejudice of good order and naval discipline in not making himself acquainted with the punishments going on in the Cadmus while he was in command, and seeing them entered in the defaulters' book, for which the Court adjudged him to be severely reprimanded. The Court found the charge against Lieutenant Lillingston partly proved, inasmuch as he had been guilty of unofficerlike conduct in ordering punishments to be inflicted upon Robert Baker and other boys of the Cadmus which were not authorised by her Majesty's regulations. The Court adjudged him to be dismissed her Majesty's service, but in consideration of his zeal and ability recommended him to the favourable consideration of the Admiralty.

Preston.—Another disturbance took place on Wednesday in the manufacturing districts. The workpeople in this town were dissatisfied with the work allotted to them, and though they all assembled at the stoneyard, not more than 100 commenced work. The guardians of the poor refused to pay any but those who did their allotted tasks, and the consequence was that a mob assembled in the streets, broke the windows of the police office, and burnt the obnoxious guardians in effigy. The military were sent for from Fulwood barracks, but were not called upon to interfere.

Radnor.—The funeral of Sir George Cornewall Lewis took place on Saturday in the family vault at Old Radnor. Among the mourners were the Earl of Clarendon, Earl Russell, Earl de Grey and Ripon, the Right Hon. C. Pelham Villiers, Mr. Vernon Harcourt, Mr. Lister, Sir Velters Cornewall, Sir Gilbert Lewis, and Mr. Herbert Lewis. About 100 horsemen preceded the hearse, followed by the carriage of deceased and those of the mourners and the gentry of the neighbourhood. The coffin was of oak, enclosing a shell, and covered with black cloth, having a brass plate with the following inscription :—"The Right Hon. Sir G. C. Lewis, Bart., died April 13, 1863, aged 57 years." An immense concourse of people attended the funeral, and business was suspended in Hereford, Kington, Knighton, Presteign, Radnor, and other towns during the early part of the day.

## Ireland.

Serious Accident to Lord Massareene.—On Saturday morning Lord Massareene met with an accident at Antrim Castle, which will most probably terminate fatally. He was standing on a high embankment tying a young tree to a stake, when the stake broke, and he fell a great depth on some large stones. He sustained a fracture or dislocation of the spine, resulting in total paralysis of the lower half of the body, a broken leg, and a dislocated foot. The latest accounts state that his mind is unaffected, and that he suffers comparatively little pain, but his recovery is hopeless. Several eminent surgeons from Dublin, Antrim, and Lisburn, are attending him.

Destruction of Rockingham House.—On Wed-

nesday morning Rockingham House, the residence of Lord Lorton, was reduced to ashes by fire. The Hon. Mrs. King had a narrow escape. Miss Roe, her maid, was seriously burned. The house, it is said, was insured for 30,000*l*.

Federal Recruiting in Ireland.—A few weeks since a large number of recruits were embarked for America by the Federal agents in this country, under the pretence that they were engaged as navvies for the Chicago Railway. It is stated that any further shipment of emigrants, under similar circumstances, will be prevented by the Government.

Agrarian Murder in Donegal.—Adam Grierson, formerly a steward of Mr. Adair, of Glenveagh, was fired at on the 10th inst., and so dangerously wounded, that he died on the following Monday. A man named Bradley was promptly arrested by the police, and identified by Grierson as the person who fired the shot. The jury at the inquest returned a verdict of Wilful Murder against the prisoner, who was committed for trial at the next Lifford Assizes. He is the son of one of the men evicted about two years ago, when 30 or 40 cabins were levelled, and Grierson superintended the operation. The murdered man was married and had a large family. He was about leaving for Australia, but delayed his departure owing to his wife's confinement.

Murder in Monaghan.—A murder was committed on Sunday week within three miles of the town of Monaghan. The victim was a quiet, inoffensive man, named Greenan, who had been at service in the chapel, and who had his passage paid to go to America with a young wife. The persons who murdered him are two brothers named O'Neill, with whom he had some dispute about the running made by dogs at a late coursing match. For this slight cause they waylaid him on his return from chapel, and beat him to death—one, with the swingle-tree of a plough; the other, with a large shoulder-stone from a neighbouring quarry. The constabulary have not succeeded in arresting the murderers.

## Railways.

Accident to an Express Train.—On Tuesday the Great Western express which left Birmingham for Birkenhead at 8.55 suddenly broke down on the Bradley embankment. The train was running at about 30 miles an hour, when the massive crank axle of the engine broke and liberated the driving wheel, which fell upon the rails. The driver fortunately noticed the accident immediately, and brought the train to a stand within a distance of 300 yards before any of the carriages ran off the line. The passengers therefore escaped without any injury. The line was blocked for about three hours, when the disabled engine was taken to Wolverhampton.

## Law.

Court of Queen's Bench.—*Earl of Cardigan* v. *The Hon. Colonel Calthorpe.* This was an application for a criminal information against the Hon. Colonel Calthorpe for a libel on the Earl of Cardigan. The libel relates to the question of his lordship's conduct in leading the Light Brigade at Balaklava. Colonel Calthorpe, in his "Letters from Head Quarters," had published a statement to the effect that Lord Cardigan had rode off the field before the troops reached the Russian guns, though several officers and men had deposed to the fact that he rode at their head through the Russian batteries; and now that the history of the war by Mr. Kinglake is reviving attention to the matter, Lord Cardigan wishes his conduct in that affair to be set right. The Court granted a rule to show cause, subject to the risk of having it hereafter discharged, on the technical point, that the application has been made too late in respect to time.

## Sporting.

### NEWMARKET FIRST SPRING MEETING.

Monday.—*Handicap Plate.*—Mr. T. Hughes's Miss Emma beat Revolver, the Maltster, and Captain D. Lane's c. *Sweeps.*—Mr. R. Ten Broeck's Santhal beat Ætna and Columbine. *Maiden Plate.*—Marquis of Hastings' Garotter beat Rigolboche, Cybele, and Baron Rothschild's c. *Free Handicap Sweeps.*—Lord Glasgow's Clarior walked over. *Plate.*—Mr. W. Ashworth's Bedford beat Mr. Barnes's f. Peru, Tom King, and Foi de Gras. *Sweeps.*—Mr. W. G. Craven's Practitioner beat Chicquot the Jester, Mr. Greville's b f, and Vates. *Handicap Sweeps.*—Mr. W. G. Craven's Almack's beat Cerintha, Welland, and Curie. *Free Handicap Sweeps.*—Mr. G. Angell's f beat Corroborator and Dirt Cheap. *Plate.*—Mr. Fleming's Harvest Moon beat Millionaire, Romanoff, Lapidist and Amy.

Tuesday.—*Sweeps.*—Lord Stamford's Lacydes, beat Balder. *Handicap Plate.*—General Shirley's Missfire, beat Brother to Rapid Rhone, Anaticulus, and 4 others. The *Two Thousand Guineas Stakes.*—Mr. R. C. Naylor's Maccaroni, beat Saccharometer, King of the Vale, and 6 others. *Free Handicap Sweeps.*—Mr. Astley's Atherstone beat Gorse. The *Coffee Room Stakes.*—Lord Exeter's Fantail beat Villafranca and Ossian. *Sweeps.*—Lord Stamford's Chicquot the Jester, beat Sacrilege and Little Go. *Sweeps.*—Lord Stamford's Etna beat Mr. Bunbury's f., and Mr. P. Pricea's br. c.

Wednesday.—*Sweeps.*—Lord Strathmore's Sea King beat Oscar. The *Prince of Wales's Stakes.*—Lord Stamford's Citadel beat Teterrima, Lord Clyde, Vanguard, and Barbadoes. *Handicap Plate.*—Mr. Hargreave's Berkeley beat The Prophet, Drummer Boy, and 10 others. *Sweeps.*—Mr. Naylor's Biondella beat Wingrave. The *Newmarket Two-Year-Old Plate.*—Baron Rothschild's Sister to Queen of the Vale beat Garotter, Rigolboche, and 17 others. *Plate.*—Baron Rothschild's c. beat Mr. Savile's f. *Sweeps.*—Lord Stamford's Good-for-Nothing beat Miss Emma, Erythia, Mr. Fleming's f., Perquisite, and Leotard. *Sweeps.*—Lord Stamford's Chicquot the Jester beat Overcast, Neilgherry, Whitefield, Harleston, and Mr. Fleming's f. *Renewal of the Sweeps.*—Mr. Wybrow Robertson's Dunkeld beat Sea King and Revolver. *Sweeps.*—Mr. Savile's Harlequin walked over.

Thursday.—*Plate.*—Mr. Astley's Atherstone beat Baron Rothschild's ch. c., Lord W. Powlett's b. f., and 3 others. *Handicap Sweeps.*—Lord Westmoreland's Speedy beat Lizzie, Blanche of Lancaster, and 3 others. *Free Handicap Sweeps.*—Lord Stamford's Citadel beat Paste, Vinegar Hill, Rubicon, and Fauscombe. The *One Thousand Guinea Stakes.*—Lord Stamford's Lady Augusta beat Flying Fish, Cadeau, and 7 others. *Sweeps.*—Captain D. Lane's Southport beat Speedy, Strawberry Hill, and Miss Emma. *Handicap Sweeps.*—Lord Stamford's Cerintha beat Zora and Battery. *Handicap Plate.*—Baron Rothschild's Wingrave beat Harlequin, Foie de Gras, and 6 others. *Whip.*—Sir J. Hawley's Asteroid walked over.

Friday.—(By Electric Telegraph).—100*l.* *Handicap Plate.*—Lapidist beat Rubicon and 11 others. *Maiden Plate.*—Vates beat Pretty Bird and 3 others. *Match.*—Black Lily beat Alchymist. *Sweeps.*—Miss Emma beat Peru, and F. by Rataplan. *Sweeps of 10 sovs.*—Heirloom c. beat Sacrilege and Columbine. *Newmarket Stakes.*—Brother to Morocco beat Onesander and 5 others.

## Obituary.

Field-Marshal Lord Seaton died on the 17th inst, at Torquay, at the age of 87. He served in Sicily, Calabria, and Spain, and was present under Sir John Moore at Corunna. He afterwards took an active part in the Peninsular war, and highly distinguished himself at Waterloo. After the peace he became Governor of Guernsey, and was subsequently appointed Commander-in-Chief in Canada, and Lord High Commissioner of the Ionian Islands. He was raised to the peerage on his return from Canada, was appointed Colonel of the 2d Life Guards in 1854, and was created a Field-Marshal in 1860.

Lord Sandys died on the 10th inst. He was the third son of the second Marquis of Downshire, and succeeded to the barony of Sandys on the death of his brother, General Lord Sandys, in 1861. He was born in 1798, and was therefore in his 65th year. He married in 1837 the youngest daughter of Mr. Joseph Blake, by whom he leaves a large family. Lord Sandys, prior to his elevation to the House of Lords, was as Lord Marcus Hill a member of the House of Commons, and an active supporter of the Liberal party, being some years one of their whippers-in. His lordship graduated at the University of Edinburgh, and was created a D.C.L. of Oxford in 1834. In 1816 he was appointed précis writer in the Foreign Office. Subsequently he was attached to the British Legation at Verona and Paris in 1822 and 1823. In 1824 he was Under Secretary of Legation at Florence, and held several diplomatic appointments till 1827, when he was sent to St. Petersburg, and was appointed to the Embassy at Constantinople in 1830, as secretary, but declined the office. He was M.P. for Newry from 1832 to 1835, and latterly represented Evesham in the House of Commons. He was Controller of the Queen's Household from June to September, 1841, and from 1846 to 1847, and was Treasurer of the Royal Household from the latter date to 1852. Since his accession to the barony of Sandys he has taken but a minor position in politics.

The Hon. Mrs. Louisa Cavendish, widow of Mr. William Cavendish, and mother of the Duke of Devonshire, died at Chiselhurst on the 17th inst, in her 84th year. Her ladyship was the daughter of the first Baron Lismore, and was born in 1779.

Sir Robert Bateson, Bart., died on Tuesday at his residence, Belvoir Park, County Down, from an attack of influenza. He was the son of Thomas Bateson, Esq., by the daughter of George Lloyd, Esq., of Hulme Hall, Lancashire. He was born in 1782, and married in 1811 the youngest daughter of the late Samuel Dickson, Esq., of Ballynaguille, Limerick. He represented Londonderry in the House of Commons from 1830 to 1842, when he retired from Parliament. He was created a baronet in 1818, and is succeeded by his second son, Thomas, who was born in 1819, and married in 1849 the second daughter of Lord Dynevor.

Mr. Apsley Pellatt, formerly M.P. for Southwark, died at the residence of his brother-in-law, Mr. Field, at Balham Hill, near Croydon, on the 17th inst, in his 72d year. For several years he represented Southwark in the House of Commons as the colleague of the late Sir Charles Napier, and was a staunch supporter of the Liberal party.

BIRTHS.—On the 14th inst, at Burton Grange, the Lady Adela Goff, of a son—19th inst, at Acton Reynold, Lady Corbet, of a daughter—20th inst, at Valetta House, Torquay, Devonshire, the Hon. Mrs. Colborne, of a son—14th inst, at Brighton Park, Clifton, the wife of Major-General Drought, of a daughter—19th inst, at 33, Devonshire Place, W., the wife of Henry Paull, Esq., M.P., of a son.

MARRIAGES.—On the 15th inst, at St. Oswald's, Old Swan, near Liverpool, John Gerard Riddell, Esq., second son of Edward Widdrington and the Hon. Mrs. E. W. Riddell, of Bootham House, York, to Katharine Flora, younger daughter of Edward Chaloner, Esq., of Oak Hill, near Liverpool, and Hermeston Grange, Co. Notts—14th inst, at Knaresborough, Godfrey Edward Alaster, fourth son of Sir Joseph Radcliffe, Bart., of Rudding Park, Yorkshire, to Geraldine Mary, youngest daughter of the late Anthony Wright Biddulph, Esq., of Burton Park, Sussex—21st inst, at St. Mary Abbotts, Kensington, Major Shadwell Morley Grylls, R.A., to Isabella Ellen, eldest daughter of Sir A. Buller, M.P.—21st inst, at St. Mary Abbotts, Kensington, Captain Vivian Dering Majendie, R.A., to Adelaide Frances, youngest daughter of the late Rev. Henry Grylls, vicar of St. Neot, Cornwall—16th inst, at St. George's Church, Chorley, Lancashire, Joscelyn T. Fazakerley-Westby, of Mowbreck Hall, Lancashire, Esq., late of H.M.'s Royal Scots Greys, to Matilda Harriet, eldest daughter of the late Henry Hawarden Fazakerley, Esq., of Gillibrand Hall and Fazakerley House, Lancashire—16th inst, at Ston Easton, Somersetshire, the Rev. William Meade, rector of Binegar, Somerset, to Charlotte Mary, second daughter of John Hippisley, Esq., of Ston Easton Park—9th inst, at Milton Abbott, Tavistock, George Andrew, younger son of Andrew Spottiswoode, Esq., to Frances Grace, eldest daughter of the Rev. St. Vincent Love Hammick, vicar of Milton Abbott, and grand-daughter of Sir Stephen Love Hammick, Bart.—9th inst, at St. John's, Paddington, Major R. W. Brooke, 60th Royal Rifles, to Elizabeth Joanna Anne, daughter of Lieut.-General Sir D. MacGregor, K.C.B.—7th inst, at Wimborne Minster, Robert W. Plumptre, rector of Corfe Mullen, Dorset, to Ellen Blanche, third daughter of T. Bingley Garland, Esq., of Stone, near Wimborne, and Leeson House, county Dorset—11th inst, at St. Paul's, Avenue Road, Regent's Park, Hanmer William Webb, Esq., B.A., of Pembroke College, Cambridge, to Frances Emily, eldest daughter of Robert Lush, Esq., Q.C.

DEATHS.—On the 15th inst, at Arklow House, Connaught Place, Hugh, youngest child of Mr. and Lady Mildred Beresford-Hope, aged 1 year and 8 months—17th inst, Alexander William Campbell, eldest son of Captain F. E. Johnston, R.N., and grandson of the late Right Hon. Sir Alexander Johnston, of Carnsalloch, N.B.—20th inst, at 65, Regency Square, Brighton, the Hon. and Rev. Thomas Robert Keppel, M.A., rector of North Creake, Norfolk, aged 52—18th inst, at Kensington, Elizabeth Mary, relict of the Hon. George Winn, M.P., of Warley Lodge, Essex—19th inst, at Aston Hall, Sutton Coldfield, Alfred Octavius, eighth son of the Hon. E. S. Parker Jervis, aged 8—16th inst, at Westfield House, Old Wells Road, Bath, Lieutenant-General W. H. Hewitt, H.M.'s Bengal Army, aged 72—19th inst, at 64, Baker Street, Jemima, wife of Major-General Morden Carthew, H.M.'s Madras Army, aged 52—13th inst, at The Close, Salisbury, Jane, relict of Major-General John Swinburne, aged 70—15th inst, at Cheltenham, Lieut.-Colonel J. B. Harrison, C.B., formerly of the 50th Regiment, aged 85—16th inst, Mrs. D'Arcy, widow of Colonel D'Arcy, R.A.—17th inst, at Rose Bank, Fulham, Richard Napier, seventh son of Colonel M'Murdo, aged 8 years—17th inst, at Cowes, Isle of Wight, Selina Charlotte, wife of Major F. B. Tritton, of the 5th Depot Battalion, Parkhurst, and daughter of Charles Marryat, Esq., of Eccleston Square, aged 28—10th inst, at Bury St. Edmund's, Mary, wife of Major M'Gregor, late of the West Suffolk Militia—19th inst, at Holly House, Twickenham, Clement Tudway Swanston, Esq., Q.C., F.R.S., J.P. for Middlesex, aged 81—20th inst, at 53, Thurloe Square, Thomas Paynter, Esq., of Boskenna, Cornwall, and late one of the magistrates of Westminster Police Court, aged 69—20th inst, in Thurloe Square, South Kensington, Edward Walford, Esq., formerly of the Exchequer, son of the late Thomas Walford, Esq., of Bolton Street, Piccadilly, aged 58—17th inst, at The Chantry, Chichester, after a few days' illness, the Rev. George Croke Rowden, D.C.L., precentor of the cathedral, aged 43—20th inst, the Rev. John Jollands, vicar of Haslingfield, near Cambridge, aged 52.

## Markets.

### COVENT GARDEN, April 25.

Supplies of English grown Vegetables of good quality continue plentiful, and importations of foreign goods are also well kept up. Good samples of Apples and Pears now realise high prices. Oranges are also dear. Cucumbers are cheap. Pine Apples and Grapes are sufficient for the demand. Potato sales have not altered since last report. Cornish Broccoli is still coming in by the crateful. Cut flowers chiefly consist of Orchids, Pelargoniums, Cinerarias, Azaleas, Violets, Mignonette, Tulips, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 7s to 10s | Oranges, per box, 12s 6d to 30s |
| Grapes, per lb., 15s to 20s | — per 100, 4s to 8s |
| Strawberries, p. oz., 6d to 1s | Nuts, small, p. bush, 14s to 18s |
| Pears, per doz., 10s | Chesnuts, do., 8s to 12s |
| Apples, per doz., 9d to 1s 6d | Almonds, do., 18s |
| — per ½ sieve, 3s to 6s | Walnuts, do., 10s to 16s |
| Lemons, per 100, 5s to 9s | Kent Cobs, p. 100 lbs., 150s |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Asparagus, per 100, 9s to 12s |
| Potatoes, York Regents, p. ton, 100s to 110s | Seakale, p. punnet, 1s 3d to 2s |
| „ Flukes, do., 120s to 140s | Shallots, per lb., 6d to 8d |
| „ Rocks, do., 60s to 80s | Rhubarb, p. bundle, 6d to 9d |
| „ Cups, do., 75s. to 85s | Garlic, per lb., 6d to 8d |
| Turnips, p. bunch, 3d to 4d | Lettuces, each, 1d to 2d |
| Carrots, do., 3d to 6d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bundle, 1s 6d to 4s |
| Cucumbers, each, 1s to 2s | Salsafy, per bundle, 1s 6d to 2s |
| Beet, per doz., 1s 6d | Scorzonera, p. bundle, 1s 3d to 2s |
| Celery, p. bundle, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 3d |
| French Beans per 100, 2s | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch 2d to 4d |

### METROPOLITAN CATTLE MARKET.

Monday, April 20.

We have a larger supply of Beasts, and trade is slow. Last Monday's prices are not realised; but those of Thursday last are pretty freely given. The number of Sheep is not quite so large as last week, but quite equal to the demand. Trade is rather brisker, but we cannot quote higher on the average. Lambs and Calves are selling about the same as on Thursday. From Germany and Holland there are 530 Beasts, 1630 Sheep, and 108 Calves; from Scotland, 600 Beasts; from Ireland, 60; and 2890 from Norfolk and Suffolk.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 6 to 4 8 | Best Long-wools | .. — .. |
| Best Short-horns | 4 4 — 4 6 | Do. Shorn | 4 4 to 4 6 |
| 2d quality Beasts | 3 0 — 3 8 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds | .. — .. | Do. Shorn | 3 8 — 4 0 |
| Do. Shorn | 4 8 — 4 10 | Lambs | 7 0 — 7 8 |
| | | Calves | 4 0 — 5 4 |
| | | Pigs | 3 4 — 4 8 |

Beasts, 4390; Sheep & Lambs, 20,540; Calves, 130; Pigs, 470.

Thursday, April 23.

The supply to-day was about the same as last Thursday, but the trade was more cheerful, and for beef and mutton at a slight advance on Monday's prices. Veal and Lamb remain the same. Foreign arrivals were rather shorter, comprising from Germany and Holland 210 Beasts, 380 Sheep and 80 Calves; and 84 Beasts from Spain.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to 4 10 | Best Long-wools | .. to .. |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn | 4 10 — 5 6 |
| 2d quality Beasts | 3 2 — 3 10 | Ewes & 2d quality | 4 6 — 4 8 |
| Best Downs and Half-breds | .. — .. | Do. Shorn | 3 10 — 4 2 |
| Do. Shorn | .. — .. | Lambs | 7 0 — 7 8 |
| | | Calves | 4 0 — 5 4 |
| | | Pigs | 3 4 — 4 8 |

Beasts, 970; Sheep & Lambs, 5660; Calves, 269; Pigs, 120.

### NEWGATE.—April 24.

| | |
|---|---|
| Best Fresh Butter | 14*s.* per dozen lbs. |
| Second do. do. | 12*s.* „ |

Pork, 4*s.* 0*d.* to 4*s.* 8*d.* per 8 lbs.

### COAL MARKET.—April 22.

Buddle's West Hartley, 15s.; Cowpen Hartley, 15s.; Holywell Main, 15s. 6d.; North Pelton Gas, 13s.; Walls End Riddell, 14s. 3d.; Walls End Haswell, 17s. 6d.; Walls End Hetton, 17s. 6d.; Walls End Tunstall, 14s. 6d.; Walls End Hartlepool, 17s.; Walls End Heugh Hall, 15s. 6d.; Walls End Kelloe, 16s. 3d.; Walls End South Kelloe, 16s.; Walls End Trimdon Thornley, 14s. 6d.; Walls End Whitworth, 15s.; Carway and Duffryn Malting, 19s. 6d.—93 ships at market.

### HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, April 23.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 72s | Clover, old | 90s to | 110s |
| Superior do. | 75 | 80 | New Clover | — | — |
| Inferior do. | 40 | 60 | Do. second cut | 80 | 105 |
| New do. | — | — | Straw | 30 | 36 |
| Rowen | 40 | 60 | | | |

Harvey & Easton.

Cumberland Market, Thursday, April 23.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 90s to | 96s | Inferior Clover | 80s to | 95s |
| Inferior do. | 65 | 80 | New do. | — | — |
| New do. | — | — | Straw | 40 | 44 |
| Superior Clover | 110 | 116 | | | |

Joshua Baker.

Whitechapel, Thursday, April 22.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 78s to | 84s | Prime Clover | 110s to | 116s |
| Inferior do. | 60 | 70 | Inferior do. | 100 | 110 |
| Prime New Hay | — | — | Prime 2d cut | 100 | 110 |
| Inferior | — | — | Inferior do. | — | — |
| Straw | 30 | 34 | New 2d cut | — | — |

### BRITISH WOOLS.—London, April 24.

There has been an active inquiry for all descriptions of wool suitable for combing and carding purposes, and a fair amount of business has been transacted at full rates.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets | 1 8½ to 1 9 | Leicest. Wethers | 1 7 to .. |
| Half-bred ditto | 1 8½ — 1 9 | Ditto Hoggs | 1 8 — .. |
| Down Ewes | 1 8 — 1 8½ | Combing Skins | 1 2 — 1 6 |
| Kent Fleeces | 1 7 — 1 7½ | Flannel Wool | 1 4 — 1 8 |
| | | Blanket ditto | .. — .. |

**HOPS.—Borough Market, Friday, April 24.**

Messrs. Pattenden & Smith report the demand still improving for better sorts of both English and foreign Hops at slightly advanced prices.

**POTATOES, Southwark, Monday, March 20.**

During the past week the arrivals coastwise, by rail, and from abroad have been large for the season, which, coupled with fine sunny weather, has caused the trade to flag, and the prices of the former week have not been maintained:—The following are this day's quotations: — Yorkshire Flukes, per ton, 120s. to 140s.; ditto Regents, 100s. to 110s.; do. Seedlings, 95s. to 100s.; do. Rocks, 85s. to 90s.; Kent and Essex Regents, 110s to 120s.; Perth, Forfar, and Fife ditto., 70s. to 95s.; ditto Rocks, 70s. to 80s.; ditto Reds, 60s. to 65s.; French Whites, 50s. to 55s.; Belgian do., 45s. to 50s.

**MARK LANE.—Monday, April 20.**

The supply of Wheat from Essex and Kent to this morning's market was small, and although in tolerable condition met a very slow sale at barely the prices of this day se'nnight. There was a somewhat improved attendance of country millers; nevertheless the sale of foreign Wheat was limited, and new red Baltic must be written the turn lower. Barley was 1s. per qr. cheaper. Beans and Peas brought last week's quotations. With a large supply of Oats the trade was dull, and the rates of this day se'nnight were scarcely supported. Flour was neglected.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk..White | 46—56 | Red .... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — — Talavera ............... | 48—60 | | |
| — Norfolk ..................... | — | Red .... | — |
| — Foreign ..................... | 34—64 | | |
| Barley, grind. & dist., 23s to 30s..Chev. | 34—38 | Malting . | 31—34 |
| — Foreign..grinding and distilling | 23—27 | Malting . | 28—32 |
| Oats, Essex and Suffolk ............ | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .. | 21—23 |
| — Irish ..................Potato | — | Feed .. | — |
| — Foreign........Poland and Brew | 20—22 | Feed .. | 17—22 |
| Rye ........................... | 35—37 | Foreign . | — |
| Rye-meal, foreign................ | — | | |
| Beans, Mazagan....30s to 31s ...Tick | 31—32 | Harrow . | 31—32 |
| — Pigeon ......34s—38s..Winds. | — | Longpod | — |
| — Foreign ..................Small | 40—46 | Egyptian | 32—34 |
| Peas, white, Essex and Kent..Boilers | 35—37 | Suffolk . | 37—40 |
| — Maple ....42s to 43s ...... Grey | 36—37 | Foreign . | 30—38 |
| Maize.........................White | — | Yellow .. | — |
| Flour, best marks delivered..per sack | 42—47 | | |
| — 2d do ......................ditto | 32—40 | Country | 32—40 |
| — Foreign ..............per barrel | 23—30 | Per sack | 34—48 |

**Friday, April 24.**

The weather since the 17th instant has been fine, with the exception of a few showers on two or three days. The Wheat trade during the past week has continued in very much the same state as the previous one, the demand being very limited, but no alteration has occurred in prices. Oats were slightly firmer, but other kinds of spring corn have not undergone any alteration in value. Flour continues to be neglected, and previous rates were obtained with difficulty. Since Friday last 16 vessels have been reported off the coast. In consequence of the very few arrivals very little business has been done in floating cargoes. Egyptian Wheat has recovered 1s. per qr., and all other descriptions of grain remained steady. In Paris (April 23), Wheat and Flour have remained a very slow sale, and without alteration in prices. The present stock of Flour is estimated at 19,220 cwts. The arrivals of English grain this week are almost nil, moderate of foreign Wheat and Barley, good of Oats, and fair of Flour. The market was thinly attended; the value of English Wheat was unaltered from Monday, but foreign, more particularly American, was held with more firmness, and purchases could scarcely be effected at the prices current on that day. Business to some extent was done at the close. Barley, Beans, and Peas were steady at Monday's quotations. For Oats there was a better inquiry, and in some instances an advance of 6d. per qr. was obtained both for corn on the spot and to arrive.

**Arrivals this Week.**

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 610 qrs. | — qrs. | — qrs. | 550 sks. |
| Irish .... | — | — | 100 „ | — „ |
| Foreign .. | 8930 | 2610 „ | 35,460 „ | — „ / 10,070 brls |

Liverpool, April 21.—At our market to-day we had a fair attendance, and a fair business was transacted in Wheat at Friday's prices. Flour also met a fair sale at full prices for American. Indian Corn in good request and fully 3d. per qr. dearer. Egyptian Beans very firm. Oats, slow. Peas and Barley unchanged. Oatmeal in better demand.

Friday, April 24.—Market moderately attended, and the business in Wheat and Flour is quiet, with prices still in favour of purchasers. Indian Corn dull. Egyptian Beans steady. Oats and Oatmeal unaltered.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Mar. 14.. | 45s 3d | 36s 7d | 21s 14d | 34s 5d | 35s 3d | 34s 11d |
| — 21.. | 45 0 | 36 9 | 21 6 | 35 11 | 35 7 | 36 6 |
| — 28.. | 45 4 | 36 5 | 21 2 | 32 4 | 35 4 | 35 5 |
| April 4.. | 45 9 | 36 6 | 21 5 | 30 4 | 36 1 | 35 11 |
| — 11.. | 45 6 | 36 8 | 21 5 | 31 9 | 35 11 | 35 2 |
| — 18 . | 45 6 | 35 4 | 21 6 | 30 5 | 36 6 | 36 2 |
| Agg. Aver. | 45 5 | 36 2 | 21 5 | 32 6 | 35 11 | 35 8 |

**Fluctuations in the Last Six Weeks' Averages.**

WANTED, a PROPAGATOR and FOREMAN.—One who thoroughly understands the Propagation and Cultivation of Heaths, Epacris, Azaleas, and other hard-wooded plants, as well as Grafting Camellias, Conifers, &c. No one need apply who is not capable of carrying out the above to some extent: but to a fully competent person a permanent situation is offered.—Apply to Youell & Co., Royal Nurseries, Great Yarmouth.

WANTED, a good PROPAGATOR and GROWER for Market, in a Nursery 12 miles from London; must thoroughly understand the Cultivation of Geraniums, Roses, Hydrangeas, &c. Good character indispensable. — Apply, stating age, wages expected, &c., to N. L. D., Mr. Catleugh's, Hans Street, Chelsea, S.W.

WANTED, for a London Nursery, a PROPAGATOR and GROWER of Hard-wooded Plants; he must have held previously a similar situation, and be a man of industry and talent. Liberal wages will be given, and if married will be preferred.—Apply in the first instance to Mr. F. Boshell, Seed Merchant, 86, High Street, Borough, S.E., (by letter only) giving references, age, and wages expected.

WANTED, a GARDENER, who understands thoroughly Vines, Melons, Cucumbers, Early and Late Forcing, Fruit, Flower, and Kitchen Gardens; and who has a knowledge of Stock, and is married; Wife must be a good LAUNDRESS. No applications attended to, if age, family, and references be not given. Young children objected to. A Furnished Cottage with coals, candles, soap, &c., and 1l. 6s. per week. — Address Rev. W., Shipbourne Parsonage, Tunbridge.

WANTED, near Hampton Court, a GENERAL GARDENER, where only one is kept.—Middle-aged and married. A Cottage to live in.—Apply from 10 till 4, 15, Hatton Garden, Holborn, E.C.

WANTED, an industrious and trustworthy MARRIED COUPLE, without family, the Husband as WORKING BAILIFF, and the Wife to Manage a small Dairy. A monied security desirable.—Apply to Mr. Parry, Yeaton, Salop.

WANTED, a LAD to Work in the Garden and make himself generally useful. One from the country preferred.—L. K., Mr. Higgins, Grocer, Broadway, Hammersmith, S.W.

WANTED, a TRAVELLER and CLERK in a Provincial Nursery. A competent person required. None need apply whose character will not bear the strictest investigation.—Apply (personally on Monday only, afterwards by letter), to X. Y. Z., Messrs. Hurst & Son, 6, Leadenhall Street, London, E.C.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (Head)—Age 35.—A gentleman wishes to recommend his Gardener, an excellent Plantsman.—Y. Z., Post Office, Stockwell Green.

GARDENER (Head).—Understands Propagating, Culture of Vines, Greenhouse and Stove Plants, Flower and Kitchen Gardens Unexceptionable character.—G. B., Post Office, Beverley, Yorks.

GARDENER (Head).—Age 28, single; has a thorough knowledge of all kinds of Forcing, Stove and Greenhouse Plants, Kitchen, Fruit, and Flower Gardening.—W. Winfield, Burleigh, Cheshunt, Herts.

GARDENER (Head).—Single; successful Cultivator of Stove and Greenhouse Plants, Early Forcing Fruits, &c.; also a Good Flower and Kitchen Gardener. Good character.—P. W., Post Office, Norbiton, Kingston, Surrey.

**To Noblemen and Gentlemen.**

GARDENER (Head).—Age 36, married, three children, youngest 6 years old; experienced in all branches of his profession. Excellent character and references, Christian principles.—A. D., Mr. Over, Cannon Gardens, Mitcham, Surrey.

GARDENER (Head), where two or three are kept.—Age 28, married. Scotch; thoroughly understands his profession in all its branches; has had experience in some of the best places in England and Scotland. Can be highly recommended.—A. Z., Post Office, Ponder's End, N.

GARDENER (Head).—Age 37, married, no incumbrance; understands the Management of Flowers, Fruit, Kitchen Gardens, and Greenhouse; Early and Late Forcing of Vines. Two years' good character.—P. P., 20, Park Place, Park Road, Clapham, Surrey, S.

GARDENER (Head).—Age 29, married; has had great experience, especially in Forcing Fruits, &c., Stove plants and Floriculture; also a good Kitchen Gardener. Good references from Head Gardeners and present employer.—I. X. L., 5, Alfred Cottages, Acton Green, W.

GARDENER (Head).—Age 40, married; understands] Pines, Vines, &c., Stove and Greenhouse Plants, and Kitchen and Flower Gardens; also the Management of Pasture Land, if required. Three years' good character.—J. W., Leslie Cottage, Laurel Grove, Penge, Surrey.

GARDENER (Head). — Well experienced in his profession; the Growing and Forcing of Choice Fruits, Flowers, and Vegetables. Can be highly recommended. Three and a-half years' unexceptionable character.—R. L., Sion Row, Twickenham.

GARDENER (Head).—Age 30, married, one child; understands his profession in all its branches, the Superintendence of Meadow Land and Cattle. A good single-handed place not objected to. Five years' good character.—A. B., 3, Prospect Buildings, North Hill, Highgate, N.

GARDENER (Head).—Age 28, married, no incumbrance; well experienced in Forcing Pines, Vines, Peaches, Melons, &c.; the general routine of Kitchen and Flower Gardening, and is fully competent to Manage a first-class situation.—A. B., Mr. John Phillips, High Street, Berkeley, Gloucester.

GARDENER (Head).—Age 29; thoroughly understands the Growing of Pines, Vines, Peaches, Melons, and Cucumbers; the Management of Kitchen and Flower Gardens, Plants, &c.; has lived in some of the best places in town and country. Good character from present and former situations.—W. M., The Gardens, The Mount, Bishopstoke, near Winchester.

GARDENER (Head).—Age 34, married, no incumbrance; has a thorough practical knowledge of his profession; the Forcing of Fruits, Flowers, and Vegetables; the general routine of Kitchen and Flower Gardens; and is a first-rate cultivator of all kinds of Plants, including those for Exhibitions. Good character.—J. R., 11, Queen's Terrace, Camden Road Villas, N.W.

GARDENER (Head).—Age 33, single; first-class Plant and Fruit Grower; thoroughly conversant in Laying-out new Grounds, making Vine and Peach Borders on the most approved principles; the arrangement and Erection of every description of Horticultural Buildings. Can be highly recommended by the gentleman whom he is now leaving, and several of the leading Horticulturists of the present day.—X. Y., *Gardeners' Chronicle* Office, W.C.

GARDENER (Head, Working), where two or more are kept.—Well up to his profession in all its branches. Two years' good character.—B. A., Messrs. Lee's, Hammersmith, London, W.

GARDENER (Head, or Single-handed).—Age 32; of sober and industrious habits; understands Forcing, and the Management of Flower and Kitchen Gardens. Three years' character.—G. M., 2, Fairview Place, Tulse Hill, Brixton, S.

GARDENER (Head or Single-handed).—Married, two children. One year and 10 months good character. G. E., Mr. Brister, High Street, Merton, Surrey, S.

GARDENER (middle-aged, married).—Mr. W. Paul, Waltham Cross, N., can recommend with confidence to any gentleman a good practical Gardener, with first-rate Testimonials as to character and ability.

GARDENER.—A gentleman wishes to recommend a thoroughly experienced Man, who has lived in his family upwards of eight years.—W. H., Post Office, Low Leyton, N.E.

GARDENER (Single-handed). — Age 27, married, no incumbrance. Understands the general routine of Gardening. No objection to a few pigs or a cow. Good character.—G. L., Gardener, Leybourne Rectory, Maidstone.

GARDENER, or to look after a Horse and Brougham, small Flower Garden or Kitchen Garden.—Age 28, married; well understands Vines and Forcing. Two years' character.—F. F., 97, Ann Street, Plumstead, Kent, S.E.

GARDENER (Under or Single-handed).—Single. Understands Greenhouse and Kitchen Garden, and is willing to make himself generally useful.—D. M., 4, Little Mitchell Street, St. Luke's, E.C.

GARDENER (Under), or FOREMAN in the Houses.—Age 25; has been accustomed to work under Glass.—A. B., Mr. Preston's, 1, Bright Street, Leicester.

GARDENER (Under), in a nobleman's or gentleman's Establishment where Gardening is carried on with spirit. Two years' excellent character, and first-class references from previous situation.—M., Mr. Young, The Gardens, Hill House, Highgate, Middlesex, N.

**To Gardeners.**

GARDENER (Under), age 23. — W. Fielder, Ealing Park Gardens, beg to recommend a Young Man who wishes for improvement, and who has been with him in the houses the last seven years.—W. Fielder, Ealing Park Gardens, Middlesex.

GARDENER (Under), or IMPROVER in a gentleman's Garden.—Age 21. Can have three years' good character from the gentleman he is about to leave.—A. B., Post Office, Woolhampton, Reading, Berks.

**To Nurserymen and Others.**

IMPROVER in a Nursery, or under a practical Gardener.—A small Premium will be given.—Apply by letter, to R. C., The Parsonage, North Hykeham, near Lincoln.

IMPROVER, under a practical Man where Forcing is carried out.—A Youth accustomed to Gardening: a Premium would be given.—B. H., Post Office, Woolhampton, near Reading, Berks.

TO the TRADE.—The Advertiser (age 20), wishes to take the charge of the Glass department of a Provincial Nursery. Unexceptionable references.—H. B. M., *Gardeners' Chronicle* Office, W.C.

APPRENTICE, in a nobleman's or gentleman's Garden. — Age 22. A premium given. — E. B., Post Office, Sulham, near Reading, Berks.

FOREMAN.—Age 25; wishes for a re-engagement in a nobleman's or gentleman's Gardens. Good character.—C. W., Post Office, Chester.

**To Nurserymen.**

FOREMAN, or FOREMAN and PROPAGATOR.—Thoroughly experienced in all branches. First-class references.—M.P., Mr. Hall, Nurseryman, Wakefield.

FOREMAN, or FOREMAN and PROPAGATOR.—Middle-aged; extensive experience in all branches of Nursery Business, including Rose and Fruit Budding, Layering, and General Propagation and Management of Stock, both indoors and out; also knowledge of Seed Trade.—B. G., Post Office, Ponder's End, W.

STEWARD or BAILIFF.—Married; has had extensive practical experience in every branch of Agricultural pursuits; understands the Management of Heavy and Light Soils, the Breeding, Rearing, Feeding, and Buying of all kinds of Stock, Erection of Farm Buildings, and all kinds of Estate Work generally, Timber, &c.; Working of all kinds of Machinery; likewise a good Accountant. The highest references can be given.—A. B. C., Messrs. Carter & Co., Seedsmen, 237 and 238, High Holborn, London, W.C.

FARM BAILIFF.—No incumbrance; thoroughly understands his profession in all its branches. Wife to look after the Dairy and Poultry.—J. S. J., 46, Cochrane Terrace, St. John's Wood, N.W.

FARM BAILIFF.—Young, single, of persevering energetic habits; understands the Management of Arable and Pasture Land; the Buying, Selling, and Rearing Cattle. The highest reference.—A. Z., *Gardeners' Chronicle* Office, W.C.

**To Noblemen and Gentlemen.**

FARM BAILIFF.—An aged and experienced Man in all practical parts of Agriculture, well accustomed to the best Breeds of Cattle and Sheep, and knows those that will leave the most profit. His Wife a good Dairy-Woman. Leaving on account of the death of his late employer.—A. Z., Post Office, East Cowes, Isle of Wight.

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TRAVELLER, SALESMAN, or SHOPMAN, or combining either duties, to the London or Provincial Trade.—He is conversant with all classes of customers throughout the United Kingdom, and can give highly satisfactory references.—L., *Gardeners' Chronicle* Office, W.C.

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**The Gardeners' Chronicle Newspaper.**

*SATURDAY, MAY 2, 1863.*

Card.

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Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

Heating.

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

Apply to JOSEPH MEREDITH, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

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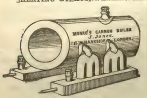


MONRO'S CANNON BOILER.

J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

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RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3d. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3l. 10s.

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

T. G. MESSENGER, HORTICULTURAL BUILDER and ENGINEER, Loughborough.

T. G. M.'s PATENTED BUILDINGS combine all the modern improvements, are most effectually ventilated by means of his unequalled Apparatus, can be made either plain (and which are at the same time elegant in appearance), or of the most elaborate design. They can be fixed as permanent buildings, or made to be portable.

T. G. M.'s HEATING APPARATUS continues to give the greatest satisfaction for its heating qualities and small consumption of fuel.

ILLUSTRATED CATALOGUES of the above, Glazing without Putty, Garden Engines, &c., sent upon application.

THE GREAT SUCCESS OF

WEEKS'S ONE-BOILER SYSTEM.

MESSRS. WEEKS & COMPANY

HAVE THE PLEASURE TO ANNOUNCE

That they are honoured with commands to supply a new HOT-WATER APPARATUS, upon the principle of their ONE-BOILER SYSTEM, to HEAT the ESTABLISHMENT of the ROYAL HORTICULTURAL SOCIETY, COLOGNE, PRUSSIA.

JOHN WEEKS AND COMPANY,

HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, KING'S ROAD, CHELSEA, S.W.

GRAY'S OVAL TUBULAR BOILER.

INTERNATIONAL EXHIBITION, Class IX., No. 2119.

Mr. GRAY begs to call the attention of the Nobility, Gentry, Nurserymen, Gardeners, &c., to his

NEW OVAL TUBULAR BOILER,

acknowledged by practical judges to be a great improvement on every form of Tubular Boiler yet introduced. It has proved itself superior to all other Boilers for quickness of action and economy of Fuel, doing its work with one-third less the amount required by any other.

*Extract from Report in* Gardeners' Chronicle *of International Exhibition, May 24, page 476.*

"The upright form of Boiler is usually made on a circular plan, but the oval form given to Mr. GRAY'S variety of it is said to be preferable in consequence of its bringing the tubes in closer contact with the fire. The usual form of a furnace being a parallelogram rather than a square, it seems feasible that the Boilers on the oval plan should bring the tubes more completely within range of the burning fuel; and this being so the change, though a slight one, is no doubt an improvement.

They are made of all sizes, which, with prices, may be had on application.

JAMES GRAY, HORTICULTURAL WORKS,

DANVERS STREET, PAULTON'S SQUARE, KING'S ROAD, CHELSEA, S.W.

JOHN TAYLOR & SONS,

HORTICULTURAL BUILDERS AND ENGINEERS,

HARROW ROAD, LONDON, W.

INTERNATIONAL EXHIBITION, CLASS IX., 2191.

PRIZE MEDAL For CONSERVATORY, DOUBLE CHAMBER CORRUGATED and HORIZONTAL TUBULAR BOILERS.

J. TAYLOR AND SONS call the attention of the Nobility and Gentry to the very superior manner in which they erect CONSERVATORIES, VINERIES, FORCING, FRUIT, and PLANT HOUSES of every description, combining the most modern improvements with elegance of design and durability of materials and workmanship.

Our VENTILATING APPARATUS for the Roofs and Fronts of Horticultural Buildings, &c., supersedes any now in use, as being the most simple and effective in its action.

Our system of HEATING APPARATUS for Churches, Public Buildings, Mansions, Schools, Offices, Baths, Horticultural Buildings, &c., is particularly worthy of notice, we having for many years devoted especial attention to this branch. The great variety of work which has passed through our hands has gained us such experience in the mechanical details as to insure success and entire satisfaction in any undertaking entrusted to our care.

The superiority of our DOUBLE-CHAMBER CORRUGATED and HORIZONTAL TUBULAR BOILERS has caused them to be acknowledged as the best now in use, being both powerful and rapid in action.

**Hothouses for the Million.**—Awarded a Prize Medal at the International Exhibition, 1862.

HOTHOUSES for the MILLION.—On the principle invented and patented by Sir Joseph Paxton, M.P., combining simplicity, cheapness, excellence, and durability, being capable of fulfilling, in the most perfect manner, all the requirements of Horticulture.

Illustrated Circulars, with Lists of Prices, can be had on prepaid application to Samuel Hereman, 7, Pall Mall East, London.

Also, A HANDBOOK on VINE and FRUIT TREE CULTIVATION, price 1s.; post free, 1s. 1d.

DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. Dennis, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

**Horticultural Buildings.**

VISCOUNT SYDNEY, The LORD CHAMBERLAIN, LATELY ENTRUSTED

BURY and POLLARD with the WARMING of his FORCING HOUSES, and they have just completed the work at Frognal.

Estimates for Warming Conservatories, Forcing Houses, &c.

Bury & Pollard, Park Iron Works, Southwark, London, S.

HOT-WATER PIPES, at Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, Tubular, and Elliptic, from 24s. each. Improved Boilers and Iron Stands to use without brickwork, 50s. each. Valves from 11s. each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at

Mr. Lynch White's Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

WILLIAM HASTINGS, Horticultural Builder and Hotwater Apparatus Manufacturer, 235, Old Kent Road, London, S.E. (for many years with Weeks & Co.) Every description of Hothouses constructed in a superior manner at greatly reduced prices. Buildings of all kinds Heated by Hotwater.

REGISTRY OFFICE FOR GARDENERS.

GREENHOUSES and CONSERVATORIES HEATED without special fire by the KITCHEN RANGE. See best methods, "Catalogue of Modern Inventions," post free.

London: Brown Brothers, 43, Cranbourn Street, W.C.

**Liquid Manure Distributor.**

THE JUDGES of the Liverpool, Manchester, and Staffordshire Agricultural Shows, 1861, have each awarded the First Prize to I. James, Tivoli Works, Cheltenham, for his LIQUID MANURE DISTRIBUTOR, making a total of 17 Prizes. It is also well adapted for Watering Streets, supplying the Steam Plough, Irrigating, or for a Fire Engine. Also his last great improvement in WASHING MACHINES, which have been awarded several First Prizes, and will wash 20 Shirts in 20 minutes.

PATENT GUTTA PERCHA SOLES.—Important to Gardeners.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. Glenny, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. Glenny."

Every variety of Gutta Percha articles, such as Mill Bands Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

The Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C.

SHAW'S TIFFANY.
For samples and prices apply to
J. Shaw & Co., 29, Oxford Street, Manchester.

**Glass for Greenhouses.**

JAMES PHILLIPS and CO. beg to submit their prices as follows:—

ENGLISH GLASS, 16 ounces to the foot, in Sheets averaging 40 by 30, packed in Cases containing about 280 feet, 2¼d. and 2½d. per foot.

SHEET GLASS, 16 ounces, packed in boxes of 100 feet each. Package included.

| | | | | 3rds. | 4ths. |
|---|---|---|---|---|---|
| 12 by 9, | 13 by 9, | 14 by 9, | 15 by 9 | 14s. 0d. | 12s. 6d. |
| 12 „ 10, | 13 „ 10, | 14 „ 10, | 15 „ 10 | | |
| 13 „ 11, | 14 „ 11, | 15 „ 11, | 16 „ 11 | 16s. 0d. | 13s. 6d. |
| 14 „ 12, | 15 „ 12, | 16 „ 12, | 17 „ 12 | per 100 feet. | |
| 18 „ 12, | 19 „ 12, | 20 „ 12, | 16 „ 13 | | |
| 17 „ 13, | 18 „ 13, | 19 „ 13, | 20 „ 13 | | |
| 16 „ 14, | 17 „ 14, | 18 „ 14, | 20 „ 14 | | |

Various other sizes.

GLASS for ORCHARD HOUSES,

As supplied by us to Mr. Rivers, to most of the Nobility, Gentry, and Clergy of the United Kingdom, and to the Royal Horticultural Society of England.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. | | | |
| 20 in. by 13 in. | Common | 13s. 6d. | £0 18 0 |
| 20 in. by 14 in. | Superior do. | 16 0 | 1 3 0 |
| 20 in. by 15 in. | English Glass | 18 0 | 1 9 0 |

The above prices include the Boxes.

SMALL SHEET SQUARES, in 100 feet Boxes.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11s. 6d. |
| 8 „ 6 | 8½ „ 6⅝ | 9 „ 7 | 9½ „ 7½ | |
| | | 10 „ 8 | 10½ „ 8½ | 12 6 |

Boxes 2s. each, returnable at full price.

SQUARES CUT to SPECIAL SIZES.

16 oz. 4ths, 1¾d., 2d., and 2¼d. 21 oz. 2¾d., 3d, and 3¼d.
„ 3ds, 2d., 2½d., and 3d. „ 3d., 3½d., and 4d.

London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

Milk Pans and every description of Glass for Horticultural purposes.

James Phillips & Co., 180, Bishopsgate Street Without, London, E.C.

THOMAS MILLINGTON,
87, Bishopsgate Street Without, E.C.
HORTICULTURAL GOODS.

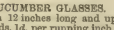
PROPAGATING GLASSES.

| | | | |
|---|---|---|---|
| 3 inches | 0s. 4½d. each. | 12 inches | 1s. 9d. each |
| 4 „ | 0 5½ „ | 13 „ | 2 0 „ |
| 5 „ | 0 6½ „ | 14 „ | 2 6 „ |
| 6 „ | 0 8 „ | 15 „ | 3 0 „ |
| 7 „ | 0 10 „ | 16 „ | 3 6 „ |
| 8 „ | 1 0 „ | 17 „ | 4 0 „ |
| 9 „ | 1 2 „ | 18 „ | 5 0 „ |
| 10 „ | 1 4 „ | 19 „ | 6 0 „ |
| 11 „ | 1 6 „ | 20 „ | 7 0 „ |

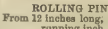
HAND GLASSES.

| | | | |
|---|---|---|---|
| 12 inches | 6s. 0d. each | 18 inches | 9s. 0d. each |
| 14 „ | 7 0 „ | 20 „ | 10 0 „ |
| 16 „ | 8 0 „ | 24 „ | 12 0 „ |

If open top, 1s. extra.



CUCUMBER GLASSES.
From 12 inches long and upwards, 1d. per running inch.



ROLLING PINS.
From 12 inches long, 1½d. per running inch.

Improved ANTI-CORROSION and other PAINTS.
GAS and LAMP GLASSES, GLOBES, &c.
CHIMNIES of every description.
Not accountable for Breakage.

"Excellence of Quality."—See Jurors' Report.

NORTH BRITISH RUBBER COMPANY (Limited), 56, Cannon Street West, London, E.C.; and Castle Mills, Edinburgh, Manufacturers of INDIA RUBBER and CANVAS HOSE, for Breweries, Fire and Garden Engines, &c.

SUCTION HOSE, TAPERS, and HAND-JOINTS of any size and length.

N.B. This Company are the only Manufacturers in Great Britain to whom Medals were awarded in 1862 for Mechanical Rubber and Hose.

**Exhibition Prize Medal 1862.**

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES, PATENT IRON COW HOUSE FITTINGS, and IRON PIGGERIES.

These inventions are recommended as possessing numerous advantages not to be found in anything hitherto made. At the late Meeting of the Royal Agricultural Society at Leeds, Musgrave Brothers received a Silver Medal, and two Awards of "Highly Commended," being the only Prizes conferred on any competitor in this class.

Particulars sent on application to the Inventors and Makers, Musgrave Brothers, Ann Street Iron Works, Belfast.

J. TYLOR and SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. Tylor & Sons' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. |
|---|---|---|
| £2 13 6 | £3 5 0 | £3 15 0 |
| 24 gal. | 30 gal. | |
| £5 0 0 | £5 18 0 | |

Fig. 571.

J. Tylor & Sons' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0. |

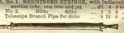


Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 „
Telescope Branch Pipe for ditto .. 0 10 0 „

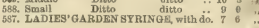


Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11s. 6d. each
„ 589. Middle Ditto ditto .. 10 3 „
„ 588. Small Ditto ditto .. 9 0 „
„ 587. LADIES' GARDEN SYRINGE, with do. 7 6 „

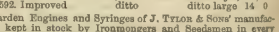


Fig. 591. READ'S SYRINGE, with two roses and one jet, 17s. 6d.
READ'S SYRINGE, with one rose and jet, 15 0
„ 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. Tylor & Sons' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

J. Tylor & Sons, Manufacturers, Warwick Lane, Newgate Street, London, E.C.

# ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, N.W.

## IRON HURDLES, FENCING, and GATES.

The PROPRIETORS of the ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON, WERE AWARDED THE SILVER MEDAL of the ROYAL AGRICULTURAL SOCIETY for their IRON HURDLES and GATES which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30s. to 500l.

*The Hurdles can be seen in process of Manufacture at the Works.*

GAME WIRE NETTING.

PROFESSOR VARNELL'S ENAMELLED and WROUGHT-IRON STABLE FITTINGS.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their Horses. They can be had Plain, Galvanised, or Enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized Stalls and Loose Boxes are erected for inspection at St. Pancras Iron Works.

Address—THE MANAGERS, ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON, N.W., Opposite Old St. Pancras Church.

TANNED NETTING, at reduced prices, 1d. per square yard; 200 yards, 14s.; 500, 30s.; 1000 yards, 50s. SCRIM CANVAS, for Wall Fruit; GARDEN MATS; GREENHOUSE SHADES.
Be particular. FREDERICK EDGINGTON & Co., Rick Cloth Manufacturers, Thomas Street, Old Kent Road, London, S.E.

TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½d.; 2 yards, 3d.; 3 yards, 4½d.; and 4 yards, 6d. per yard run, in any quantity, may be had at CHAS. WRIGHT'S, 376, Strand, W.C.
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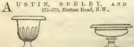
**Netting for Fruit Trees, Seed Beds, Ripe Strawberries, &c.**

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c., 2 yards wide, 3d. per yard, or 100 yards, 20s.; 4 yards wide, 6d. per yard, or 50 yards, 20s. NEW TANNED NETTING, suited for any of the above purposes, or as a Fence for Fowls, 2 yards wide, 6d. per yard; 4 yards wide, 1s. per yard; ½-inch mesh, 4 yards wide, 1s. 6d. per yard.
Can be had in any quantity of EATON & DELLER, 6 and 7, Crooked Lane, London Bridge, E.C.

AUSTIN, SEELEY, AND CO., 371-375, Euston Road, N.W.,



Have a large Collection of VASES for FOUNTAINS or FLOWERS, and every kind of GARDEN ORNAMENT.

GARDEN BORDER-EDGING TILES. — These Tiles, manufactured in Terra-Cotta, Terro-Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are invaluable.
To be obtained at F. & G. ROSHER'S Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.
Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.
Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability, Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.
To be obtained of F. & G. ROSHER at their as above.

**Garden Decorations in Terra Cotta**
PRIZE MEDALS OF 1851 AND 1862 WERE AWARDED TO
JAMES PULHAM, Broxbourne, Herts. Also Notice of ARTISTIC MERIT, and of SOUND and DURABLE MATERIAL. There were
PULHAM'S FOUNTAINS.—The best shown in Terra Cotta.
PULHAM'S NOVEL FERNDELABRUM.—To grow SIXTY FERNS (or Flowers) on a space of 4 ft. 8 in. over, 8 ft. 6 in. high. Price 9l.
PULHAM'S NOVEL CONSERVATORY TUBS.—The best at the Horticultural Garden Show in Terra Cotta. A 2 ft. one in one piece with rising bottom 25s.
PULHAM'S GARDEN STEPS, inlaid with black and red tiles, 1s. 6d. per foot.
Also Vases, Flower Baskets, Figures, Art Flower Pots, &c.
Illustrations in *Art Journal*, *The Masterpieces*, and among the Stereoscopic Gems of the Exhibition.
A Set of Stereographs sent to inspect for 12 stamps.
Waterfalls, Ferneries, Caves, and other Rockwork, executed in perfect imitation of nature.

**Terra Cotta**

MARK H. BLANCHARD AND CO., Successors to COADES, Established 1769, TERRA COTTA MANUFACTURERS to her Majesty, the Commissioners of 1851, the Board of Works, the Admiralty, the Trinity House, the Royal Horticultural Society and the Department of Science and Art, South Kensington, Recipients of the Prize Medal for Terra Cotta at the '51 Exhibition, and the only Recipients of the Two Prize Medals at the '62 Exhibition, for Terra Cotta and Pottery—beg to inform the Nobility, Gentry, and others, that the whole of the beautiful Columns to the Arcades, Vases, Tazzas, and other Terra Cottas at the Royal Horticultural Gardens were executed by them, and they are prepared to supply Vases, Tazzas, Pedestals, Statues, Terminals, Balustrading, and every other decoration in this invaluable and imperishable material, suitable for the adornment of the Conservatory, Flower Garden, and Grounds, at prices which defy competition, as the works of this Establishment have stood the test of time.
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## News of the Week.

IN the House of Lords on Friday, on the order for the second reading of the Qualification for Offices Abolition Bill, the Earl of DERBY moved, as an amendment, that the Bill be read a second time that day six months. On a division the amendment was carried by a majority of 69 to 52. The Bill was therefore lost. On Monday Earl RUSSELL stated that he had consulted the law officers of the Crown, but that it was not desirable at that moment to make public their opinion with reference to the instructions issued by Mr. SEWARD for the guidance of the naval officers of the United States in the capture of British merchant vessels carrying HER MAJESTY'S mails from this country to neutral ports. On Tuesday the Alkali Works Regulation Bill, the Local Government Act (1858) Amendment Bill, the New Zealand Boundaries Bill, and the Offences (South Africa) Bill, were read a third time and passed. On Thursday Earl RUSSELL stated that he had received a despatch from Lord LYONS announcing that Mr. SEWARD had decided that the Peterhoff and her cargo should be sent before a prize court, but that her mail bags should at once be forwarded to their destination without being opened. The Drainage of Land (Ireland) Bill was read a third time and passed. The Corrupt Practices at Elections Bill was read a second time.

In the Commons on Friday Mr. HORSFALL called attention to the seizure of the Alexandra at Liverpool, and condemned the act as the deliberate infliction of a serious injury on the owners, who denied that the vessel was fitted out with the view of being employed in the Confederate service. A long discussion ensued, in which the ATTORNEY-GENERAL and SOLICITOR-GENERAL defended the course the Government had pursued. The House then went into Committee of Supply. On the Report of the vote for the Prince Consort Memorial, Mr. CONINGHAM moved that it be postponed, on the ground that the sum proposed would be insufficient, and that the House would probably be asked for an additional grant. Lord PALMERSTON having stated that no further vote would be asked for, the motion was withdrawn and the Report agreed to. On Monday Mr. FERRAND moved a resolution that it is the duty of the Government to take into consideration, without delay, the measures necessary to relieve the distress in the cotton manufacturing districts, so that the people may no longer continue unemployed. Mr. POTTER moved as an amendment that an Address be presented to HER MAJESTY to appoint a Royal Commission to inquire into the present state of the cotton districts, and to report on the best made of relieving the existing distress. Mr. VILLIERS objected both to the motion and the amendment. A Royal commission could give us no information we did not already possess, and emigration was a desperate resource, to which we were not yet reduced. Lancashire and Cheshire could furnish, in drainage and other works, employment to 100,000 men for two winters. The Government had therefore determined to send down competent persons to inquire and report what works could be at once undertaken, and he hoped that in three weeks a sufficiency of employment could be found. After a long discussion both the motion and the amendment were withdrawn, the feeling of the House being that the matter ought to be left in the hands of the Government. The House then went into Committee of Ways and Means, and proceeded with the consideration of the proposals in the Budget. The resolution to impose a license of 18*l*. 1*s*. upon clubs was opposed by Mr. HENLEY, Sir W. JOLLIFFE, and Mr. M. SMITH, but was carried on a division by 143 to 111. On Tuesday General LINDSAY moved an address to the QUEEN, praying for a commission to inquire into the claims of the colonels in the army who were promoted for distinguished service in the Crimean war, and had been deprived of their position by the commission of 1858. After some discussion, Lord PALMERSTON offered to issue a commission if the motion were withdrawn. On this understanding General LINDSAY withdrew his motion. Mr. A. MILLS moved for papers respecting the military defence of Canada and New Zealand, with the view of showing that a full share of the expense should be borne by the colonies. Mr. C. FORTESCUE described the policy of the Colonial Office on the subject, and after some discussion the motion was withdrawn. Sir J. ELPHINSTONE moved an Address for a Commission to consider the best mode of constructing the iron-clad ships which are to compose the future Navy of England. Lord R. MONTAGU moved as an amendment that a body of scientific men should be employed to take part in the councils of the Admiralty, and assist that Board in the designs of ships. Lord C. PAGET opposed the motion, and after some discussion the motion and the amendment were both withdrawn. Mr. KER SEYMER moved that the analysis of evidence appended to the report of the select committee on the sewage of towns be cancelled on the ground of informality. After some remarks by Dr. BRADY, the motion was agreed to. On Wednesday Sir J. TRELAWNY moved the second reading of the Church-rates Abolition Bill. Mr. G. HARDY moved that the Bill be read a second time that day six months. On a division the amendment was carried by a majority of 10, the numbers being 285 to 275. The Bill was therefore lost. On Thursday the Customs' and Inland Revenue Bill was read a second time, the CHANCELLOR of the EXCHEQUER postponing until Monday a full exposition of the details of the Government proposition in regard to the tax on charities. The Stock Certificates to Bearer Bill passed through Committee. The Telegraph Bill was read a third time and passed. On the order for going into Committee on the Borough Residence Uniform Measurement Bill, Mr. BOUVERIE moved that the Bill be committed that day six months. On a division the motion was carried by 182 to 139. The Bill was therefore lost.

Accounts from the United States inform us that the Federal attack on Charleston ended in a crushing defeat, which left the whole squadron of iron-clads so shattered and crippled that any renewal of the attempt was impossible. The Federal commander therefore abandoned the idea of repeating the attack, and subsequently withdrew his fleet to Port Royal. The siege of Vicksburg has also been abandoned, and all the expeditions sent up the Yazoo and other streams to reach the land side of that city from the Mississippi have been withdrawn. The Confederates, relieved of their apprehensions for Charleston, have resumed the offensive in North Carolina and Virginia. In the former State the Federal General FOSTER is still in a position of great peril, though a steamer has succeeded in reaching him with one regiment and supplies, while in Virginia the Confederate General WISE has captured Williamston by bombardment. The animosity against England in New York is increasing, and is said to be stimulated by the Government in order to distract attention from the repulse at Charleston.

## Home News.

THE COURT.—The Queen and Royal family left Windsor Castle on Thursday for Osborne. On Friday the Prince and Princess of Wales came to London and returned to Windsor in the evening. The Princess Helena and Princess Louisa, Prince Alfred, and Prince Louis of Hesse, also came to London and returned in the evening. On Saturday morning the Queen, accompanied by the Prince and Princess Louis of Hesse and Princess Helena, drove out. In the evening Prince Alexander and Prince Henry of Hesse arrived at the Castle on a visit to the Queen. The Prince of Wales, Prince Alfred, and Prince Louis of Hesse met their Grand Ducal Highnesses at the Windsor Station. Prince Arthur, the Duchess of Wellington, the Right Hon. Sir C. Wood, and the Rev. Mr. Bender also arrived at the Castle on a visit. On Sunday morning the Princess Louis of Hesse attended the service for the Churching of Women in the private chapel. The service was performed by the Dean of Windsor in the presence of the Queen and Prince Louis of Hesse. The Queen, the Prince and Princess of Wales, Prince Louis of Hesse, Prince Alfred, Princess Helena, Princess Louisa, Prince Arthur, Prince Leopold, Prince Alexander and Prince Henry of Hesse, afterwards attended Divine service in the private chapel. The Dean of Windsor preached the sermon. On Monday morning the Queen, accompanied by the Princess Helena, walked and drove in the grounds. On

Tuesday morning the Prince of Wales, Prince Alfred, Prince Louis of Hesse, Prince Alexander, and Prince Henry of Hesse, went to Aldershott, and were present at a review of the troops. The Prince of Wales and Prince Alfred afterwards proceeded to London, and the Prince of Hesse returned to Windsor. The Princess of Wales left Windsor Castle for Marlborough House. The Princess Helena accompanied the Princess of Wales to London, and went to Buckingham Palace. In the afternoon the Queen held a Privy Council, at which Earl de Grey was sworn as a Privy Councillor, and as one of her Majesty's principal Secretaries of State. The Spanish Minister was presented at an audience by Earl Russell. Earl Granville and Earl Russell had audiences of the Queen. Her Majesty afterwards drove out, accompanied by the Princess Louis of Hesse. On Wednesday Prince Alfred and Princess Helena returned to Windsor from Buckingham Palace. The Queen Marie Amelie, accompanied by the Count of Paris and the Duke of Chartres, visited the Queen. Earl Russell and Lord Palmerston arrived at the Castle and had audiences of the Queen. On Thursday the Queen, the Prince and Princess Louis of Hesse, Princess Victoria of Hesse, Prince Alfred, Princess Helena, Princess Louisa, Princess Beatrice, and Prince Leopold, left Windsor for Osborne. Prince Arthur arrived from Greenwich Park, and left with the Royal family. Prince Alexander and Prince Henry of Hesse left the Castle for London.

The Prince and Princess of Wales on Tuesday evening went in state to the Royal Italian Opera, Covent Garden, where a festival performance was given by command of the Queen, in honour of the marriage of their Royal Highnesses. The Prince and Princess, with the Ladies and Gentlemen in Waiting, appeared in full dress, and were accompanied by the Princess Helena and Prince Alfred. The Royal party went from Marlborough House in five of the Queen's carriages, with the servants in State liveries, and escorted by a detachment of Life Guards. On Wednesday afternoon their Royal Highnesses received, at Marlborough House, addresses of congratulation on their marriage from a great many of the corporate bodies in the three kingdoms; all the members of the deputations entrusted with the presentation of the addresses being in uniform or Court dress. On Thursday the Prince and Princess of Wales visited the Exhibition of the Royal Academy in Trafalgar-square. Prince Alexander and Prince Henry of Hesse dined with their Royal Highnesses at Marlborough House. In the evening the Prince and Princess of Wales, accompanied by the Princess of Hesse, honoured the performance at the Royal Italian Opera with their presence. It is rumoured that their Royal Highnesses will visit Oxford on the 16th of June, and be present at the Commemoration on the following day.

Christening of the Infant Princess.—The christening of the infant daughter of the Prince and Princess Louis of Hesse, took place on Monday in the Green Drawing-room, at Windsor Castle, according to the rights of the Lutheran Church. The baptism was performed in German by the Rev. Mr. Bender, Court Chaplain to the Grand Duke of Hesse, who travelled from Darmstadt specially to officiate upon the occasion. The sponsors present were the Queen, Prince Alexander of Hesse, representing the Grand Duke, the Princess Mary of Cambridge, the Prince of Wales, and Prince Henry of Hesse. The infant was named by the Queen, who held the child at the font, "Victoria Alberta Elizabeth Matilda Mary." The font was filled with water brought from the River Jordan by the Prince of Wales. After the ceremony a *déjeûner* was served to the visitors and great officers of State, and a dinner party was given in the evening.

The Wedding Presents.—In consequence of the great interest taken by the public in the exhibition of the wedding presents, the Prince of Wales has consented to allow the presents to remain for inspection at the South Kensington Museum until the evening of Monday next, the 4th May. The jewels, however, have all been removed.

The Cabinet.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street.

Parliamentary Movements—Mr. Green Price was elected on Saturday for New Radnor, in the room of the late Sir G. Lewis, without opposition. Mr. Stansfeld, the new Lord of the Admiralty, was re-elected for Halifax on Tuesday, without opposition.

The Army.—The Colonelcy of the 2d Life Guards, vacant by the death of Field Marshal Lord Seaton, has been conferred on General the Earl Beauchamp. The Colonelcy of the 10th Hussars, vacated by this appointment, has been conferred on His Royal Highness the Prince of Wales. The Colonelcy of the 60th Rifles, vacated by the death of Lieut.-General Paterson, has been conferred on Lieut.-General Viscount Melville.

The Navy.—In pursuance of Her Majesty's pleasure, Admirals Sir F. W. Austen, G.C.B., and Sir W. Parker, Bart, G.C.B., have been promoted to be Admirals of the Fleet.

The Volunteer Review.—Major-General Lord William Paulett has presented to the Commander-in-Chief his report on the Volunteer review at Brighton on Easter Monday. His Lordship says:—

"The different brigades were very ably commanded by officers selected from Volunteer corps. The artillery far surpassed my expectations, for on commencing I feared they would confine my movements, being heavy guns of position, some 24 and 18 pounders, but, to my surprise, they moved like field artillery, and took up different positions as required, and were most efficiently worked. The skirmishing of the infantry was particularly good, the firing being well sustained and the general movements were performed in a very soldierlike manner. From my observations during the evolutions I cannot conclude my report without stating that I consider the volunteer force a most valuable institution, in a defensible point of view, for the country.'

The Despatches Respecting Poland.—The correspondence of her Majesty's Government with the European Powers relating to the Polish insurrection was laid before Parliament. The papers are very numerous, and extend over nearly 200 pages of the blue book. Among the most important of those hitherto unpublished is the following despatch of Earl Russell, calling on Russia to fulfil her treaty obligations towards Poland:—

Earl Russell to Lord Napier.

"Foreign Office, April 10, 1863.

"My Lord,—Her Majesty's Government think it incumbent upon them to state once more to the Government of his Majesty the Emperor of Russia, the deep interest which, in common with the rest of Europe, they take in the welfare of the kingdom of Poland. The general sympathy which is felt for the Polish nation might of itself justify her Majesty's Government in making, in favour of the Polish race, an appeal to the generous and benevolent feelings of his Imperial Majesty, who has of late by various and important measures of improvement and reform, manifested an enlightened desire to promote the welfare of all classes of his subjects. But with regard to the kingdom of Poland, her Majesty's Government feel that the Government of Great Britain has a peculiar right to make its opinions known to that of his Imperial Majesty, because Great Britain having, in common with Austria, France, Prussia, Portugal, Spain, and Sweden, been a party to the treaty of Vienna of June, 1815, her Majesty's Government are entitled to interpose with regard to any matter which may appear to them to constitute a departure from the provisions and stipulations of that treaty. By the first article of that treaty the Grand Duchy of Warsaw was erected into a kingdom of Poland, to be inseparably attached to the empire of Russia under certain conditions specified in that article; and her Majesty's Government are concerned to have to say that, although the union of the kingdom to the empire has been maintained, the conditions on which that union was distinctly made to depend have not been fulfilled by the Russian Government. The Emperor Alexander, in execution of the engagements contracted by the treaty of Vienna, established in the kingdom of Poland a national representation and national institutions corresponding with the stipulations of the treaty. It is not necessary for her Majesty's Government now to observe upon the manner in which those arrangements were practically administered from that time down to the revolt in 1830. But upon the suppression of that revolt by the success of the Imperial arms, those arrangements were swept away, and a totally different order of things was by the Imperial authority established. Prince Gortschakoff argues, as his predecessors in office have on former occasions argued, that the suppression of that revolt cancelled all the engagements of Russia in the treaty of Vienna with regard to the kingdom of Poland, and left the Emperor of Russia at full liberty to deal with the Kingdom of Poland as with a conquered country, and to dispose of its people and institutions at his will. But her Majesty's Government cannot acquiesce in a doctrine which they deem so contrary to good faith, so destructive of the obligation of treaties, and so fatal to all the international ties which bind together the community of European States and Powers. If, indeed, the Emperor of Russia had held Poland as part of the original dominions of his crown, or if he had acquired it by the unassisted success of his arms, and unsanctioned by the consent of any other Power, he could have contended that might was equivalent to right, and, without listening to the dictates of generosity and justice, he might have punished a temporary revolt of a portion of his Polish subjects by depriving the whole of them and their descendants for ever of those privileges and institutions which his predecessor had deemed essential to the welfare and prosperity of the Polish kingdom. But the position of the Russian Sovereign with regard to the kingdom of Poland was entirely different. He held that kingdom by the solemn stipulation of a treaty made by him with Great Britain, Austria, France, Prussia, Portugal, Spain, and Sweden; and the revolt of the Poles could not release him from the engagements so contracted, nor obliterate the signatures by which his plenipotentiaries had concluded, and he himself had ratified, those engagements. The question, then, having arisen whether the engagements taken by Russia by the treaty of Vienna have been and are now faithfully carried into execution, her Majesty's Government, with deep regret, feel bound to say that this question must be answered in the negative. With regard to the present revolt, her Majesty's Government forbear to dwell upon that long course of action, civil, political, and military, carried on by the Russian Government within the kingdom of Poland, of which the Poles so loudly complain and to which they refer as the causes which occasioned, and in their opinion justified, their insurrection. Her Majesty's Government would rather advert to the much-wished-for termination of these lamentable troubles. What may be the final issue of this contest it is not, indeed, for her Majesty's Government to foretel; but whether the result shall be the more extended spread of the insurrection, and its assumption of dimensions not at present contemplated, or whether, as is more likely, that result shall be the ultimate success of the Imperial arms, it is clear and certain that neither result can be arrived at without a calamitous effusion of blood, a great sacrifice of human life, and an extensive devastation of property; and it is evident that even if Poland shall be reduced to subjection, the remembrance of the events of the struggle will long continue to make it the bitter enemy of Russia, and a source of weakness and of danger, instead of being an element of security and of strength. Her Majesty's Government, therefore, most earnestly intreat the Government of Russia to give their most serious attention to all the foregoing considerations; and her Majesty's Government would beg, moreover, to submit to the Imperial Government that, besides the obligations of treaties, Russia, as a member of the community of European states, has duties of comity towards other nations to fulfil. The condition of things which has now for a long course of time existed in Poland is a source of danger, not to Russia alone, but also to the general peace of Europe. The disturbances which are perpetually breaking out among the Polish subjects of his Imperial Majesty necessarily produce a serious agitation of opinion in other countries of Europe, tending to excite much anxiety in the minds of their governments, and which might, under possible circumstances, produce complications of the most serious nature. Her Majesty's Government, therefore, fervently hope that the Russian Government will so arrange these matters that peace may be restored to the Polish people, and may be established upon lasting foundations. Your lordship will read this dispatch to Prince Gortschakoff, and you will give him a copy of it.—I am, &c.,

(Signed) "Russell."

A second despatch of the same date contains the following important conversation between Earl Russell and Baron Brunnow:—

"Baron Brunnow asked me some questions as to the nature of the representations about to be made at St. Petersburgh, and when I told him that the dispatch of her Majesty's Government was chiefly founded on the non-observance of the stipulations of the treaty of Vienna, he expressed some satisfaction that we still founded our demands on the basis of that treaty. But there was one question he felt he was entitled to ask, and that was whether the communication her Majesty's Government were about to make at St. Petersburgh was of a pacific nature. I replied that it was, but that as I did not wish to mislead him I must say something more. Her Majesty's Government had no intentions that were otherwise than pacific, still less any concert with other Powers for any but pacific purposes. But the state of things might change. The present overture of her Majesty's Government might be rejected as the representation of the 2d of March had been rejected by the Imperial Government. The insurrections in Poland might continue and might assume larger proportions; the atrocities on both sides might be aggravated and extended to a wider range of country. If in such a state of affairs the Emperor of Russia were to take no steps of a conciliatory nature, dangers and complications might arise not at present in contemplation. Baron Brunnow said he could not call our former dispatch an overture. The intentions of the Emperor towards Poland were most kind and benevolent. But there were projects afloat for altering the map of Europe. In these projects compensations to Russia were included. Russia entered into none of these projects; she wanted no compensation; she held by the present territorial arrangements of Europe, and he (Baron Brunnow) trusted Great Britain would do so likewise. I said it was the wish of her Majesty's Government to do so. But Russia herself had in some cases been active in proposing and carrying into effect territorial changes. I trusted, however, that in the present case the Emperor of Russia, by granting an amnesty to those who would lay down their arms, and the benefits of free institutions to Poland, would put an end to the insurrection."

The following contains the views of the English Government on the Russian amnesty:—

Earl Russell to Lord Napier.

"Foreign Office, April 24, 1863.

"Sir,—I have received and laid before the Queen, your excellency's dispatch of the 12th inst., enclosing a copy of a manifesto on Polish affairs issued by the Emperor of Russia on the 31st of March (April 12). Her Majesty's Government have carefully and anxiously considered the contents of this document, in the hope to find in it the germ of a restoration of peace, and a hope of good government to Poland. I have to make to you the following remarks as the result of their deliberations. An amnesty may lay the foundation of peace in two cases:—1. If the insurgents have been thoroughly defeated, and are only waiting for a promise of pardon to enable them to return to their homes. 2. If the amnesty is accompanied with such ample promises of the redress of the grievances which gave occasion to the insurrection as to induce the insurgents to think that their object is attained. It is clear that the first of these cases is not that of the present insurrection. It is not put down; it is, on the contrary, rather more extensive than it was a few weeks ago. Let us, then, examine the amnesty with reference to the second of the supposed cases. The Emperor, referring to the institutions which he has conferred on the kingdom of Poland, says:—"In maintaining, at this day, these institutions in their integrity, we reserve to ourselves, whenever they shall have been practically tried, to proceed to their further development in accordance with the requirements of the age, and of the country." This promise can hardly be satisfactory to the Poles. For it must be observed with regard to the institutions already given that it was during their existence that 2000 young men were seized arbitrarily in the night, and condemned to serve as soldiers in the Russian army in defiance of justice, and even in violation of the law of 1859, so recently enacted. So that it is evident no security would be obtained by submitting again to the same laws. With those institutions in full force and vigour, innocent men might be imprisoned as criminals, or condemned to serve as soldiers, or banished to distant countries, without a trial, without publicity, without any guarantee whatever. As to the promise held out for the future, it must be observed that it is made to depend on the practical working of these institutions and on the wants of the time and of the country. The first of these conditions alone destroys all reasonable hope of the fulfilment of this promise. For the practical working of the institutions hitherto given depends on the co-operation of native Poles of property and character as members of the Council of State, and of provincial and municipal assemblies. But the recent conduct of the Russian Government in Poland has deprived them of the confidence of all Poles of this description and forced all such Poles to withdraw from the bodies in which their functions were to be exercised. There are wanting, therefore, in this Imperial manifesto, the first elements of success, namely, a guarantee of security on the one side, and the feeling of trust and confidence on the other. In a despatch of Lord Durham, then ambassador of St. Petersburgh, dated in August, 1832, Lord Durham says:—'There has long been a jealousy, nay, hatred, existing between the Russians and Poles.' Her Majesty's Government had hoped that the present Emperor, by raising the social position of his Russian, and securing the political freedom of his Polish, subjects, might have united both by the link of loyal attachment to the Throne. This hope has been unfortunately disappointed, and it is with great pain that her Majesty's Government observe that the feelings of hatred between Russians and Poles have not in the lapse of 30 years been softened or modified. The present amnesty does not appear likely to diminish the intensity of the insurrection, or give any solid security to the most moderate of Polish patriots.

"I am, &c., "Russell."

## Foreign.

France.—The following is said to be the text of the despatch addressed by M. Drouyn de Lhuys to the French Ambassador at St. Petersburgh on the Polish question:—

"Monsieur le Duc,—The insurrection of which Poland is just now the scene has excited in Europe great anxiety in the midst of a repose which no future event seemed likely to disturb. The deplorable effusion of blood which that struggle has cost, and the painful incidents which mark its course, have excited an emotion as universal as it is profound. The Government of his Majesty, therefore, only fulfils a duty in communicating to the Court of Russia the reflections which such a state of affairs is calculated to suggest, and in directing its attention to the embarrassements and dangers which it involves. What characterises the outbreaks in Poland, Monsieur, and imparts to them an unexceptionably serious character, is the fact that they are not the result of a passing crisis. Events constantly recurring, as every successive generation

grows up, cannot be ascribed to purely accidental causes. These, now periodical, convulsions, are the symptoms of an inveterate evil; they prove the utter powerlessness of the combinations hitherto devised to reconcile Poland with the situation that has been framed for her. On the other hand, these too frequent perturbations are, whenever they occur, a source of anxiety and alarm. Poland, which occupies on the Continent a central situation, cannot be agitated without communicating to the neighbouring states a shock the effect of which is felt by the whole of Europe. This is what has happened at all periods when the Poles have taken up arms. The consequences of these conflicts, as may be seen by that which we have now to witness, is not only to excite public opinion to an alarming extent, but their prolongation may disturb the relations between the various Cabinets, and bring about the most deplorable complications. All the Powers are equally interested in removing the cause of these ever recurring dangers. We would fain hope, Monsieur le Duc, that the Court of Russia will receive in the same spirit as they were framed considerations so worthy of its attention. We are confident that it will show itself animated with those liberal dispositions of which the reign of his Majesty the Emperor Alexander II has already given such signal proofs, and that it will, in its wisdom, acknowledge the expediency of taking steps to place Poland in the conditions of a durable peace. You will leave a copy of this despatch with his Excellency M. le Prince Gortschakoff."

Count Levacheff, Aide-de-Camp of the Emperor of Russia, arrived in Paris on Tuesday with despatches for the French Government. *La France* states that Russia will address a memorandum to the Powers upon Poland, stating the concessions made to the Poles, and the causes of the continual insurrections. It is asserted that the Poles will publish a counter memorandum. The debate on the Budget of the Ministry for Foreign Affairs commenced on Friday in the Chamber of Deputies. In reply to a question from M. Emile Ollivier, relative to Poland, M. Billault said that great reserve in speaking was necessary for all the interests engaged in the question. He proceeded to say:—

"The Government will give no explanation which might injure the success of negotiations. We are all animated by a cordial feeling for the sufferings of Poland, but are convinced that the question is a European one, and that the sympathies of all Europe must concur in settling it. The Government regrets that people allow themselves to be so easily attracted to foolish and unreasonable excitations and suppositions, to-day believing in a general conflagration and to-morrow completely forgetting the difficulties of the situation. Affairs wisely conducted do not pass into these extremes. The country should have full confidence in the wisdom, prudence, and firmness of him who, having such great interests in his hands, well understands all his responsibility."

On Wednesday the Corps Législatif passed the whole Budget by 240 against 7 votes. The Session of the Corps Législatif has been prolonged to the 7th of May. *La France* of Thursday asserts that the elections will commence on the 31st of May, and that the Corps Législatif will reassemble for a fortnight's session in the beginning of July. The *Constitutionnel* publishes an article, signed by its chief editor, contradicting the reports which have been circulated by several newspapers relative to an alleged change in the policy of the Court of Vienna. The Prince and Princess Napoleon are about to make a journey to Egypt and Palestine. The Army of Paris was reviewed by the Emperor on Tuesday. One of the most distinguished members of the French aristocracy, the Marquis de la Rochefoucauld de Liancourt, well known in the literary world, died in Paris last week, at the advanced age of 84. The Duke of Beaufort's hounds killed a wolf on the 10th ult. in the Bois des Cartes. The Imperial Court of Montpellier has recently been called on to hear an appeal, in which the point in dispute was the question whether a frog is a fish. The judgment was in the affirmative.

Spain.—In the sitting of the Cortes on Friday the Ministry stated that they did not intend to dissolve the Cortes. The Duke of Brabant has arrived at Madrid, and taken up his residence at the Royal Castle of Aranjuez.

Portugal.—A difficulty has occurred with the Russian Minister, on account of the King's attending a theatrical representation given for the benefit of the Poles. It has, however, been amicably arranged. The vine disease begins to show symptoms of a gradual disappearance. The rigorous measures recently adopted in the Custom-house are continued. The use of passports in the interior of Portugal has been abolished; they are, however, necessary for leaving or entering the country. The present Ministers still continue to hold office, but the opposition in the Cortes is so strong that a change must soon take place. The Chamber of Peers has approved the abolition of majorats (landed property descending with the title to an heir) by a majority of 53 to 26.

Sweden and Norway.—The whole Norwegian General Staff has been summoned to Stockholm for the 1st of May. The *Nord* of Wednesday, however, formally announces that the relations between the Cabinets of Stockholm and St. Petersburg are most satisfactory.

Denmark.—The Rigsraad (Legislative Assembly for Denmark-Schleswig) was opened at Copenhagen on the 22d ult., by the President of the Council reading the Speech from the Throne. The Speech adverted to the marriage of the Princess Alexandra, and the marks of attachment and joy which that auspicious event had called forth among loyal subjects. His Majesty expected that the Rigsraad would vote her Royal Highness a dowry. The speech next stated that the Royal proclamation of the 30th of March had encountered opposition from the Great Powers of Germany, but that the Government of the King would not show itself to be led astray by that circumstance from the intentions it had expressed. The Bills about to be laid before the Rigsraad concerned Denmark-Schleswig, and not Holstein, except in cases where the contrary was distinctly stated. The Speech further notified that a new Customs' Bill was about to be submitted to the Rigsraad, and in case of its passing would also be laid before the Holstein Diet.—On Saturday the Greek deputation arrived at Copenhagen by railway. On Monday the deputation was presented to the King by the President of the Council. The members will, however, only be officially received by his Majesty when the acceptance of the crown by Prince William shall have been definitively agreed upon. An aide-de-camp and Court carriages have been placed at the disposal of the deputation.

Hanover.—The Government of Hanover has submitted to the Federal Diet a series of resolutions on the Schleswig-Holstein question, protesting against the late proclamation of the Danish Government, as being opposed to the treaties of 1851 and 1852, and to the fundamental laws of the Germanic Confederation.

Austria.—The *General Correspondenz* of Wednesday denies the news published by several continental journals of an intended interview between the Emperors of France and Austria. The *Vienna Gazette* of Monday publishes the text of the protest addressed by the Austrian Government to Denmark, and states that the Austrian Ambassador, in compliance with the wish of Prussia, has been instructed to forward to the Danish Government the reservation of the rights of the German Confederation in a simultaneous note with that of the Prussian Ambassador, and couched in similar terms. The Austrian Government is anxious to obtain a revision of the Concordat. For this purpose Archbishop Fessler left Vienna on Monday for Rome, to act as commissioner for the Austrian Government. The Polish insurgent General Langiewicz, having some days previously declared that he did not consider himself bound by his parole, attempted to escape on Sunday night. The police officer, to whom he offered a bribe of 300 florins, having betrayed him, he was on Wednesday conveyed, under a strong military escort, to the fortress of Josephstadt in Bohemia.

Transylvania.—The Transylvanian Diet has been summoned by Imperial decree to meet at Hermannstadt on the 1st of July.

Baden.—The Italian Government has made overtures to the Grand Duke of Baden for the recognition of the Kingdom of Italy. The Government of the Grand Duke at once informed its agents in foreign countries of its intention to recognise the Italian Kingdom, and especially communicated that intention to Austria, at the same time explaining its motives for so doing.

Prussia.—The *Neue Preussische (Kreuz) Zeitung* of Thursday says that if, on the one hand, the party of progress intend submitting the foreign policy of the Government to serious discussion, on the other hand the Government may be determined to immediately close the Chambers.

Saxony.—Baron Siebach, the Saxon Minister, has left Warsaw with the alleged object of taking possession of some landed property which he has inherited in Podolia.

Switzerland.—The Austrian Government has acquainted the Federal Council that adherents of Mazzini in Switzerland are plotting an attack upon the southern portion of the Tyrol. The Swiss Government has forwarded a note to Turin requesting, in energetic terms, explanations as to the concentration of Italian troops upon the frontier of the cantons of the Grisons and Tessin. The French Government has demanded that North Savoy should be constituted a free district with regard to Customs.

Italy.—The King has returned to Turin from Florence. The Senate has deferred sanctioning the provisional Budget until May. The Chamber of Deputies has adjourned the debate on the Bill for the general armament of the National Guard until the committee appointed to examine the Bill has made a fresh report. In reply to a question, the Minister of the Interior defended the authorities at Genoa in having prevented a meeting in favour of Poland taking place. He said that sympathy for Poland was a pretext for agitation dangerous to public safety. Other meetings in favour of Poland which had been allowed to take place in several towns of the kingdom proved the respect of the Government for the right of assemblage. The Chamber approved of the course taken by the Government by 150 against 13 votes. In the sitting on Monday questions were put to the Government relative to some recent invasions of brigands from Roman territory, Malta, and Marseilles. The Minister of the Interior replied that he had been informed that these brigand organisations consisted of Neapolitan reactionists recruited from different nations. Energetic measures had been authorised in the places threatened by the brigands, and the Government were redoubling their diplomatic efforts to prevent fresh expeditions of the kind. Accounts from Rome mention a rumour that the Pope, yielding to the influence of the Camarilla, which is in favour of Monsignor de Merode, has accepted the resignation of Cardinal Antonelli, and that Cardinal de Angelis has been appointed his successor. A rumour was also current that Tristani had resigned the command of the brigands, and had been replaced by Ferracante Catalano. Tristani was about to leave for Trieste. 200 brigands had left Rome, and proceeded in the direction of Aquila. General La Marmora has left Naples on a journey of inspection to the Papal frontier. The gaoler of the San Michelotto prison a few days since carried off the papers relative to the trial of Signori Venanzi, Fausti, and other political prisoners now in confinement. The official journals state that, although these documents have been purloined, the evidence against the prisoners is not weakened by their loss, and that as the Court has discovered that conspiracies have been organised at Turin against the Pontifical Government, the culpability of the accused is placed beyond a doubt. The French occupying Viterbo are to be replaced towards the middle of May by Papal Zouaves.

Russia.—An Imperial ukase has been published ordering a general levy in the seven Governments bordering on the Polish provinces now incorporated with Russia. Each Government is to furnish 8000 men. General Berg has asked the Government to replace all civil functionaries in the Polish provinces by military officials.

Poland.—The chief of the Warsaw Revolutionary Committee has issued a special order of the day forbidding the inhabitants to pay taxes to the Russian Government. The Russian Government has forbidden the religious processions of St. Mark, which usually take place at this time of the year. The Archbishop of Warsaw, however, having protested against this prohibition, the people formed a procession, whereupon Archbishop Felinski was confined as a prisoner in his palace, and the Canons Bialobrzeski, Wysznski, Poplawski, and others, as well as a great number of priests, were arrested. Orders however were subsequently sent to Warsaw by telegraph from St. Petersburg, directing that all the priests who were arrested should be set at liberty. Monseigneur Wolonczewski, Bishop of Samogitia, has since been arrested. On Saturday an important engagement took place between the Russians and the insurgents, near Warka, south of Warsaw, in which the Russians were defeated with great loss. A sharp encounter has taken place between the Russian and the Polish forces at Pazurek, near Olkusz, on the road to Miechow. The insurgents, under Mosakowski, destroyed a whole company of Russians, and put another to flight. The Poles under Olevinski have gained considerable advantages over the Russians at Wonszow, near Czenstochowa. The different corps under the command of Sziarotski, Waligorski, and Smiechowski are stationed in the environs of Jomeszow, in the palatinate of Sandomir. Olevinski is trying to effect a junction with Mosakowski. On Friday Lelewel, with the insurgents under his command, was surrounded and defeated by 2000 Russian troops. Lelewel was wounded, but escaped, together with 120 men. The Hussars of the Guard who were pursuing the insurgents have been beaten by them, with the loss of 300 killed and wounded. On Friday four engagements were fought between the insurgents and the Russian troops in the vicinity of the Cracow and Warsaw Railway. An engagement between the insurgents and the Russian troops has taken place near Myszkow. Two bridges upon the Warsaw and Vienna Railway have been rendered impassable. Severe fighting has occurred at Radomsko. The Warsaw official journal confirms the news that 500 Russians have been defeated and forced to seek refuge at Jerzyke, in Prussian territory. Several skirmishes have taken place in the Palatinate of Sandomir, in the course of which 120 Russians were killed. Three Russian infantry corps have been entirely defeated near Koszyce. On the other hand, the insurgents are said to have been defeated at Ostrowo, near Kalisch, and to have had 1000 taken prisoners. Three vessels have succeeded in landing arms at a depot station on the coast of Poland, but the name of the place is not given. The *Nord Deutsche Zeitung* publishes a telegram stating that in the districts of Thorn and Kulm, in West Prussia, 660 persons, 100 of whom were mounted, belonging to various towns and Polish estates, have crossed the frontier to join the insurgents. The force was attacked by a Russian detachment from Lipnsa. The mounted portion of the revolters took to flight, but the infantry and baggage were captured. The same journal of Saturday says that the Imperial decree granting an amnesty has been officially communicated to all Russian subjects who have sought refuge in Posen, and are now retained on Prussian territory. The majority have declared their intention of returning to their homes, and have requested Russian passports for that purpose. Count John Dzialinski, brother-in-law of Prince Czartoryski, and a member of the Prussian Chamber, has joined the insurgent camp in the Palatinate of Kalisch. The police have since made a domiciliary visit at the palace of the Count, and have seized the entire plan of an intended revolutionary organisation in the province, and a list containing the names of the members of the Central Committee, and those of the proposed civil and military commissaries for the different districts.

Greece.—The *Moniteur* says that the English Government has proposed a conference of the three protecting Powers, to be held in London. It is understood that the representatives of the protecting Powers will assemble about the 25th inst.

The Principalities.—The Government has concluded a treaty with Italy on commerce and navigation, based on the mutual suppression of protective duties, as well as a convention concerning literary and artistic copyright.

India.—A telegram from Bombay of April 13, says

that the Cotton Adulteration Bill has passed the Legislative Council. The construction of the Bhore Ghaut Railway has been completed. The Viceroy was continuing his progress. He made his entry into Meerut on the 7th of March, with considerable military display; and into Roorkee on the 16th. The Commander-in-Chief joined his Excellency at Meerut on the 8th, and followed him to Roorkee. Advices from Nepaul state that a Cabool merchant has reported to the Maharajah Sir Jung Bahadoor that he saw the rebel leader Feroze Shah at Herat, who entrusted him with several letters to the families of the Nana Sahib and Bala Rao, which he had lost on the way down. A fakeer, with seditious papers in his possession, has been apprehended at Cawnpore on a charge of exciting disaffection. He represented himself as the representative of Nana Sahib and Bala Rao, and professed to have full powers from the Nana to enlist troops. Three other emissaries of the Nana have also been apprehended. Rebellion still lurks in various districts in Oude. Seditious letters have recently been circulated among the Mahomedan inhabitants, inciting them to rise against her Majesty's Government. Several parties have been arrested and committed to stand their trial. There has been some hard fighting in the Jyntean Hills, and several of our officers have been wounded. By the last accounts the war seemed at an end. Intelligence from Cabool to the 23d February, reports the illness of the Ameer before Herat, which still held out, but fears of a famine were entertained in the city. Very extensive flights of locusts had visited the Punjaub. It was feared that the grub of next year would cause immense damage, and efforts were making to destroy the eggs. In one district these eggs were collected by maunds.

CHINA.—The rebels have gained another victory over the Imperialists at Shaou-hing, about 90 miles from Ningpo. Lieut. Tinling, of her Majesty's ship Encounter, who, with Captain Dew, were spectators of the action, received a chance wound in the head which proved fatal. All was quiet at Shanghae.

JAPAN.—The news from Japan is scanty, but the threatening state of affairs against foreigners is as alarming as ever.

UNITED STATES.—The Northern journals in their accounts of the siege of Charleston, state that nine iron-clads crossed Charleston Bar in single file on the 7th ult., and moved up the harbour towards Forts Sumter and Moultrie, to attack those forts, which vigorously returned the fire of the fleet. In their passage up the harbour the fleet discovered a network of obstructions stretching across the channel from Sumter to Moultrie, from Sumter to Cumming's Point, and from Fort Ripley to Fort Johnson. It was impossible to pass these obstructions, and after an engagement lasting from 3 till 5 in the afternoon the fleet returned from the harbour with five out of the nine iron-clads damaged, and one of them, the Keokuk, sank the following morning from the injuries she received. During the last 30 minutes of the engagement the Federal fleet received a concentric fire of the Confederate batteries, which is described to have been so terrific as to have rendered it impossible for any vessel to remain long under it. During part of the engagement the steamer Ironsides refused to obey her rudder, and became unmanageable. The Keokuk, which had two turrets, received 90 shots, and was horribly riddled. One Whitworth steel-pointed shot remained still sticking in the wall of the turret. The Weehawken was struck 59 times, and her turret worked with difficulty. The Passaic was struck 58 times, and received a shot that bent in her turret and disabled her 11-inch guns; three others, the Patapsco, Nantucket, and Nahant, were all more or less injured and rendered unfit for service. This condition of his fleet determined Admiral Dupont to abandon the idea of renewing the conflict. No land force co-operated in the attack. General Hunter stated that he could only spare 7,000 men to co-operate with the fleet, and this force only proceeded to Stone Inlet, 12 miles from Charleston, Admiral Dupont's whole available force to hold the forts, if he had captured them, was 1,100 men. At the date of the last advices two of the Monitors had sailed for Port Royal, whither the remainder followed on the 12th. The Federal loss was 20 officers and men wounded, one of whom has since died. The *Charleston Mercury* says that Fort Sumter, although somewhat pitted, is as strong as ever. It is estimated that the Federals fired 80 shots, 40 of which struck Fort Sumter. No one was killed in it. General Beauregard has issued a congratulatory address to the troops on the result of the engagement. The Confederates are said to have had some very effective Whitworth guns. The efforts made to reinforce General Foster, at Washington, North Carolina, have at length been successful. Information has reached Fortress Monroe that a steamer with one regiment and supplies succeeded in reaching him on the 14th ult. The Confederates under General Longstreet, to the reported number of 30,000 strong, continue to invest Suffolk, where the Federals are fortifying themselves. The Confederates have attempted to get round the city and cut off the Federal communication with Norfolk. It is supposed that in case of the capture of Suffolk by the Confederates the Federals would burn Norfolk. Considerable excitement has been caused at Suffolk by the shooting of Colonel Kimball by General Corcoran. It is said that Colonel Kimball while on picket duty attempted to prevent General Corcoran passing without the countersign, when the General shot him dead. An engagement has occurred on the Nansemond River below Suffolk between Federal gunboats and Confederate artillery. The latter was silenced by the gunboats, one of which, however, was disabled and towed off. All the expeditions for the purpose of reaching the rear of Vicksburg by the several passes leading from the Mississippi have been abandoned. The entire Yazoo Pass expedition has returned to Helena, having abandoned the attack upon Fort Pemberton. During the retreat they were frequently fired upon by guerillas, and had 30 men killed and many wounded. Southern reports state that Admiral Farragut was near the Red River, between two batteries, unable to pass either of them. Despatches from Vicksburg to the 10th ult. state that two more Federal transports, filled with troops, had gone up the Mississippi, and others were preparing to follow. 53 Federal gunboats had proceeded up the Coldwater River. A Federal iron-clad was abandoned, and destroyed at the mouth of the Amite River. Refugees from Vicksburg state that there are sufficient supplies there to last the garrison for two years. Vicksburg is fortified by 125 cannon. At present it is held by not more than 5000 troops, but in case of attack reinforcements can be had. The Confederates are constructing three gunboats up the Red River. The steamer Indianola is lying at Plaisance, on the Red River, ready for action. At Jackson, Mississippi, the Confederates are said to have an extensive foundry and powder manufactory. There are reported to be 800,000 bales of cotton in and around Jackson. 60,000 bales are hid away in swamps and woods. The Federals have closed the Memphis lines for 60 days; neither contrabands nor cotton being admitted. Thirty Federal boats and 12 gun boats have left Memphis to operate on the Cumberland River. Two of the gunboats and three transports were destroyed on Cumberland River by Wheeler's Cavalry, who had also captured several Federal trains between Louisville and Nashville. The Confederate General Van Dorn has been repulsed at Franklin, Tennessee, It is rumoured in Nashville that 500 Southern sympathisers are to be arrested in that city, and held as hostages for East Tennessee Unionists confined in Southern prisons. These hostages are to be exchanged for Unionists when the Confederate Government is willing. A fight took place at Williamsburg, Virginia, on the 14th. The Confederates under General Wise drove in the Federal picquets and occupied the town. The Federals retired to Fort Magrada, from which point they shelled Williamsburg. General Wise has intrenched one side of Williamsburg, and is going to attack Fort Magrada. It is asserted that the army of the Potomac is in motion. Great mystery is maintained on the subject by the Government, and no direct information from General Hooker's head-quarters has been allowed to be published for three days. It is also asserted that General Lee is moving upon Harper's Ferry, to invade Maryland. A special despatch to the *Tribune*, from Washington, dated the 17th ult., states that a force of Federal cavalry, infantry, and artillery, under General Stoneman, after making a feint at Kelly's Ford, crossed the Rappahannock higher up, and advanced upon Culpepper and Gordonsville, occupying the latter place. This movement, it is asserted, breaks the line of the Virginia Central Railway, and turns the left flank of the Confederates at Fredericksburg. None of the other journals contain this news. The disaster at Charleston has caused great discouragement in New York, and revived the popular clamour for a change in the Administration. The violent outcry against Great Britain is continued in the Republican journals, and it is declared that a war against England would effectually unite all parties in the North. The Solicitor-General and Lord Palmerston are vehemently denounced for their recent speeches on the depredations of the Alabama and Florida. There are indications that the anti-English spirit is stimulated by the Government to distract public attention from the disheartening repulse before Charleston. The *New York Herald* urges President Lincoln to call an extra session of Congress to share the responsibilities of a war with England, if such a course should be necessary to vindicate the honour or uphold the interests of America. The *New York Times* says it is physically certain America will exact an atonement for British outrages, the only uncertain thing is the question of time. It says that 70,000 Federal troops could march through Canada without impediment, as England could not break the blockade, which would be protected by iron-clads, of which America has five to one of England. The *World* ridicules this article, and says that the defences of Canada are superior to anything the Federals have met with at the south, and backed by the greatest naval power on earth, the conquest of Canada would not be such child's play as the *Times* supposes. The correspondent of the *World* reports from Washington that Mr. Seward's last despatch to Mr. Adams submitted to the British Government the alternative of preventing the departure of the vessels alleged to be building in England for the Confederate service or the rupture of diplomatic relations between the two countries. A grand mass meeting called by the instigators of the Loyal National League was held at New York on the anniversary of the fall of Fort Sumter. About 5000 persons assembled, who were addressed by Generals Fremont and Sigel and the Postmaster-General, Mr. Montgomery Blair. The latter denounced the English aristocracy for fitting out the pirates Alabama and Florida, and advocated the vigorous prosecution of the war. The disturbances between the white and coloured labourers in New York continue to be of frequent occurrence. In two instances the negroes were driven from their work on the wharves by Irish and other labourers. One of the negroes fired a pistol into the crowd, wounding one of his assailants, and it was with great difficulty that the police prevented his being lynched on the spot. The latest news from Washington states that Lord Lyons has requested that the mail bags found on board the English steamer Peterhoff be returned to him unopened, and that Mr. Seward has complied with his demand. The Peterhoff and her cargo are however to be sent before a prize court. The report of the Secretary of the Treasury estimates that the Government expenses for the six months ending December, 1863, will exceed 50,000,000 dollars per month, and recommends further taxation. It is rumoured that General M'Clellan has resigned his commission. It is reported from Havannah that Admiral Wilkes was held as a parolled prisoner there until he could explain why the Vanderbilt had fired a shot at a Spanish coasting steamer. A report is current that the British steamer Cygnet was fired at by Federal cruisers whilst entering a Cuban port, the cruisers having mistaken the Cygnet for a privateer. The Pennsylvania House of Representatives has agreed, by 44 votes against 40, to instruct the Governor to direct the Attorney-General to institute criminal proceedings against ex-Secretary Cameron for attempting to obtain a seat in the Senate by bribery. In compliance with the request of the Confederate Congress, President Davis on the 10th ult. issued an address to the people of the Confederate States upon the present condition and future prospects of their country. He says, in this address, that, alone and unaided, the Confederacy had defeated the most formidable military and naval combinations of its enemies, and, at the end of two years of war, could look back with pride upon all it had accomplished. Referring to the discomfiture of the Federals at Vicksburg, Port Hudson, and Charleston, he said that the forces of the Confederacy were never so numerous or efficient as at the present moment. He concluded by exhorting the people to be prepared for the continuance of war, and to cultivate the crops for the sustenance of their armies rather than cotton and tobacco.

MEXICO.—Official despatches from Vera Cruz announce that General Mirando has defeated Comonfort near Cholula, after a brilliant engagement. The Mexican loss was 200 killed and 80 prisoners; that of the French was 10 men, two of whom were killed. Puebla is completely invested by the French forces, whose head-quarters are established on the Cerro San Juan. The convents have been fortified, and earthworks are erected in the open country. The garrison of the place is estimated to number 18,000 men. The telegraph line between Puebla and Mexico has been destroyed. The whole population round Puebla is favourable to the French intervention. The sanitary condition of the French troops is excellent, and the army is full of ardour. The official report says, in conclusion, "We have cut the aqueduct, and command all the roads."

## Parliament.

### HOUSE OF LORDS.

FRIDAY.—Lord WODEHOUSE moved the second reading of the *Qualification for Offices Abolition Bill.*—The Earl of DERBY moved that the Bill be read a second time that day six months.—Earl COWPER, Lord LYTTELTON, Earl RUSSELL, and Earl GRANVILLE supported the Bill, which was opposed by the Earl of ELLENBOROUGH. On a division it was rejected by a majority of 69 to 52.

MONDAY.—*Opening of the Mail Bags in America.*—Earl RUSSELL said that in accordance with his promise on Friday he had consulted the Law Officers of the Crown in regard to the seizure of the Dolphin and other vessels, but it was not desirable to declare at present the opinions they had formed. A despatch had been issued by Mr. Seward on the 31st of October, containing instructions to the naval officers of the United States to the effect that it was not expedient to open the mail bags of a friendly Power duly authenticated by an official seal, when captured by Federal vessels. In consequence of those instructions no question on the point had arisen until the capture of the Peterhoff, when the mail bags, with the seal of the Postmaster-General, were forwarded to Mr. Archibald, the British Consul at New York. Mr. Archibald required that the bags should be forwarded to their destination; but the Federal authorities insisted that the bags should be opened, and they were opened accordingly. Lord Lyons, on receipt of this intelligence, communicated with Mr. Seward, and declared that the proceedings were contrary to Mr. Seward's letter of October 31, as the bags were protected by the seal of the Postmaster-General. Mr. Seward asked for time to consider the matter, and subsequently Mr. Archibald was informed that, in accordance with a decision of the Prize Court, the letters were to be opened, and such as were of a *bonâ fide* nature sent to their destination, but all relating to the cargo referred to the Prize Court. Mr. Archibald refused his approval to this course, and in consequence the proceedings seemed to have been suspended, as the packages had not been opened. Lord Lyons then asked Mr. Seward that the letters should be forwarded, and Mr. Seward had stayed proceedings until further orders from Washington, but when the mail left for England, no decision had been arrived at.—The Marquis of CLANRICARDE said that merchants ought to have been more fully informed of these instructions with respect to the mails. He suggested that a full report should be sent of the proceedings before the Prize Courts.—Earl RUSSELL said that he would communicate with Lord Lyons on the point.—Lord REDESDALE, in calling attention to the report from the Select Committee on *Charging of Entailed Estates for Railways*, thought there was no necessity for further legislation, as the existing law gave all necessary facilities.—

Earl Grey thought the suggestions of the committee would confer some very useful powers, an opinion in which Lord Stanley of Alderley concurred.

Tuesday.—The *Alkali Works Regulation Bill*, the *Local Government Act* (1858) *Amendment Bill*, the *New Zealand Boundaries Bill*, and the *Officers (South Africa) Bill* were read a third time and passed. *The Galway Contract.*—In answer to the Earl of Hardwicke, Lord Stanley of Alderley said that the contract for the conveyance of the mails between Galway and America would contain the stipulations of the old arrangement as to the rate of speed, and that a copy of the contract would be laid on the table before the vote for the subsidy was asked for.

Thursday.—*The Peterhoff Mail Bags.*—Earl Russell said he had received a despatch of Lord Lyons stating that the United States Government had determined to send the Peterhoff and cargo before a Prize Court, and to forward the mail-bags to their destination. Mr. Seward, considering the law of nations on this point not sufficiently precise, was anxious to make a communication to Her Majesty's Government in regard to mail-bags carried in private ships. For the future he believed that any mails seized would be forwarded to their destination without breaking the seals. *The Drainage of Land (Ireland) Bill* was read a third time and passed.—Earl Russell moved the second reading of the *Corrupt Practices at Elections Bill.*—Earl Grey regarded the Bill as a piece of the most absurd legislation that had ever sprung from Parliament. It was impossible to stop bribery, except by enlisting public opinion against it. The Bill, after a short conversation, was read a second time.—The Earl of Hardwicke inquired what steps were to be taken in reference to the continuation of the works on the *Forts at Spithead.* He inferred from the late fight off Charleston that forts still maintained their old superiority over ships, and insisted that the necessity for and advantage of such defences were as strong as ever.—The Duke of Somerset, in reply, stated that up to July, 1862, only 50,000*l.* had been expended on the Spithead forts, and that the works had for a time been suspended. It would, however, be shortly necessary to come to Parliament for a grant of money, and it was desirable that the question of the Spithead forts should be settled this year. The recent engagement at Charleston was to us a most useful experiment in connection with the subject of these forts, as the distances of range, the obstructions used, and the facility of approaching were in both harbours almost identical.—The Earl of Derby said that, after reading the published accounts of the attack on Charleston, it appeared to him that all the injury sustained by the iron-clad ships was inflicted after they had passed Forts Sumter and Moultrie and got into the harbour, where they were exposed to a concentrated fire from all the batteries at a distance of from 300 to 500 yards.—Earl Grey inquired whether, supposing such an attack had been made upon Portsmouth, the enemy might not have got near enough to shell the dockyards.—The Duke of Somerset thought not. His impression was that the vessels did not get up far enough to do the town of Charleston any injury.

Friday.—*The Vice-Admiralty Courts Bill* was read a second time. *Metropolitan Railways.*—Earl Granville moved with respect to the East London and Rotherhithe, the Grand Surrey and Commercial Docks, the Metropolitan, Tottenham, and Hampstead, the Rotherhithe, and the London (Victoria Section) Railway Bills, that the orders made for their committal be discharged, and that they be no further proceeded with during the present session. The motion was agreed to. *The Inclosure Bill* passed through Committee.

## HOUSE OF COMMONS.

Friday.—*Sailors' Homes.*—Sir H. Stracey moved a resolution empowering the Board of Trade to assist Sailors Homes by grants from the Mercantile Marine Fund.—Mr. M. Gibson opposed the motion, which was negatived without a division. *The Glasgow Murder.*—Mr. Stirling moved for papers relating to the conviction of Jessie M'Lachlan, and the subsequent commutation of her sentence, stating that the course taken by the Home Secretary had left a stigma on Mr. Fleming, a man 87 years of age.—Sir G. Grey vindicated the course he had taken, in conjunction with the Lord Advocate, in the proceedings subsequent to the trial. He was unwilling to produce the papers on account of the inconvenient precedent their production would establish. *Seizure of the Alexandra.*—Mr. Horsfall called attention to the seizure of the Alexandra at Liverpool, by the direction of the Government, on the ground of a violation of the Foreign Enlistment Act. He read documents to show that there was no just pretence for seizing this unarmed vessel on a mere suspicion that it was intended for the service of the Confederate Government. He asked why the large shipments of arms for the Federal Government had not also been stopped; and protested against a system of espionage introduced into this country in connexion with the transaction.—The Attorney-General said that the seizure in question had been made on the advice of those who were responsible for it, and upon evidence which had satisfied him that that advice ought to be given. As to the shipment of arms for the Federal Government, it was not in the power of her Majesty's Government to interfere; but if information were laid before the Government of any infraction of the Foreign Enlistment Act, measures would be immediately taken to put that Act in force.—Mr. Whiteside said that the owners of the ship wanted to know what was their offence, and had a right to a copy of the information.—Mr. Collier said that international law made a distinction between the shipment of arms and the equipment of vessels of war, the former being no violation of that law.—Sir H. Cairns said that if the vessel was really equipped, furnished, and fitted out with the intention of being employed in the service of a foreign State, it was no ground of seizure under the Act.—Mr. Cobden said that Mr. Horsfall had mixed up two totally distinct questions. The export of arms and munitions of war were not prohibited. The question was whether, in the case of the Alexandra, there had been an infringement of the Foreign Enlistment Act, which this country had the greatest interest in maintaining. He reviewed the history of the Foreign Enlistment Act of the United States, pointing out instances of the solicitude of that Government to enforce and even enlarge the powers of that Act for the benefit of European States, and he asked that we should act by the United States as they had done by us. We were bound in honour to observe a strict neutrality towards the States, and it was our interest that there should be a fair reciprocity, looking at the vast amount of property we had afloat on salt water. He wanted to set public opinion against the building and fitting out of such vessels as the Alabama, and asked why that vessel might not be forbidden to enter our ports.—Mr. Horsman believed that the Government desired to carry out the policy of a strict neutrality. That neutrality should be neutrality in acts; it need not be a neutrality of sentiment. Our first sympathy had been with the North, but as the frightful contest proceeded the feeling changed. The South had not only carried on the war with success, but had displayed a heroism which had conciliated the generous sympathy of Europe, while the North, by the barbarities of their acts, showed that they warred not only against freedom, but against civilisation. He hoped that all parties would support the Government in the solemn duty of maintaining an immovable attitude of peace.—The Solicitor-General said that in the case of the Alexandra it was impossible to divulge the evidence prematurely, but everything had been done according to the usual course of the law. Whether there was a good defence would appear hereafter.—Mr. Milnes commended the course which had been pursued by the Government, who, whatever might be their private opinions as to the conflict, had maintained a strict neutrality.—Sir F. Kelly asked what protection would be given to merchant ships carrying letter bags.—Lord Palmerston said that the American Government had prescribed rules to their naval officers not to open the bags, but to forward them to the consuls, who would have power to examine them and give up any correspondence of a hostile character. The House then went into a Committee of Supply *pro formâ*. The report of the Committee of Supply having been brought up, Mr. Coningham moved that the further consideration of the vote for the erection of a *Memorial to the Prince Consort* be postponed, believing that the sum proposed would be insufficient.—The motion was seconded by Sir H. Verney.—After an explanation from Lord Palmerston, who gave a pledge that no further vote would be asked for, Mr. Coningham withdrew his motion, and the Report was agreed to. The report of the *Committee of Ways and Means* was brought up and agreed to.

Monday.—*Distress in Lancashire.*—The orders of the day having been postponed, Mr. Ferrand moved a resolution to the effect that it was the duty of the Government to take into consideration, without delay, what measures may be necessary to relieve the distress in the cotton manufacturing districts, so that the people may no longer continue unemployed. Having criticised at some length the published letters of Mr Potter, the chairman of the Manchester Chamber of Commerce, which, he said, contained propositions which the House would not be justified in entertaining, he argued that the great mill owners were themselves responsible for the present lamentable state of affairs, because they had made no effort to make themselves independent of America for a supply of cotton. These men, who had broken all their pledges to the operatives, and who boasted of the enormous fortunes they had made, now ignored their responsibility, and called upon the Government not to desert them. The proposition of Mr. Potter to refer the subject to a royal commission would be simply to transfer the whole of the responsibility to the Government; while the proposal (after the mills had resumed work) to glut the untravelled parts of India with Manchester goods would be to consign the handloom weavers of that dependency to ruin, and perhaps to cause another revolution throughout the country. What, under these circumstances, were the manufacturers to do? Certainly not to come to the House for a loan to relieve them from their difficulties. He would recommend them to adopt an eight hours' bill for adults and a four hours' bill for children. This would check the tendency to over-trading and over-production, which had already done so much to bring misery upon the cotton operatives. If, in addition to this, Parliament would comply with the prayer of the overlookers and other high class operatives, and give them the means of emigrating, a great and permanent good would be done.—Mr. Potter moved, as an amendment, that an address be presented to Her Majesty, to appoint a royal commission to inquire into the present state of the cotton manufacturing districts, and to report on the best mode of relieving the distress. Up to the present time nearly two millions sterling had been raised by rates and voluntary subscriptions on behalf of Lancashire, and 437,000 persons were still subsisting on charity. There were among them 80,000 able-bodied men, and these the commission might be able to employ on public works of a reproductive character.—Mr. Cobden seconded the amendment.—Mr Baillie recommended the Government to assist emigration, and to employ the people at once upon the proposed fortifications and other public works.—Mr. Villiers said that Mr Ferrand had entirely failed to make out in what respect the Government had shown themselves indifferent to the distress of the people, and had not put any tangible issue to the House. With regard to the amendment, he did not think the House would be in a better position to act after a royal commission had reported than it was at present. All the facts were already before the country. There were upwards of 400,000 persons depending upon charity, including 72,000 able-bodied men. To find independent employment for the latter would no doubt be most desirable. With regard to emigration he did not consider it was the duty of the Government to expend the public money in giving facilities for exporting valuable labour to other countries. The department with which he was connected had caused inquiries to be made, and had ascertained that in Lancashire and North Cheshire alone there would be abundant employment in drainage and kindred works for 100,000 men for two winters. A competent person, with a staff of engineers and surveyors, would at once be despatched to the distressed districts, and he hoped that at the expiration of three weeks means would be found under the Land Improvement and other Acts to find employment for the whole of the able-bodied poor now reluctantly dependent upon charity.—Colonel Wilson Patten rejoiced at the step taken by the Government. The total amount which the central committee had received from every source was 2,735,000*l.* Of this 1,858,319*l.* had been expended, and there remained a net balance of 755,000*l.* Of the total receipts, 1,400,000*l.* had come from Lancashire, which showed that whatever ground there might be for charging individuals with holding back, the county had done its duty.—After some remarks by Mr. Hibbert, Major Edwards, Mr. A. Egerton, Lord E. Howard, Mr. W. Garnett, Mr. Newdegate, and Mr Maguire, Mr. Potter withdrew his amendment, and Mr. Ferrand withdrew his motion. The House then went into a Committee of Ways and Means, and resumed the consideration of the *Budget Resolutions.* Upon the resolution relating to *Club Licences*, Mr. W. Jolliffe objected that the tax was based upon a false principle of taxation, as the Clubs derived no profit from the sale of the articles.—The Chancellor of the Exchequer justified the principle. After much discussion, Mr. Liddell moved that the resolution be negatived.—The motion was seconded by Mr. Walter. On a division the resolution was carried by 143 to 111. The resolutions imposing a three guinea license on *Publicans* not taking out a spirit license, an additional one guinea license upon *Beer Dealers*, continuing the present *Sugar Duties* until the first of August, 1864, and for an excise occasional license upon the *Conveyance of Passengers*, at separate fares, were agreed to, and ordered to be reported. The House having resumed, the *Savings Banks Bill* was read a second time. The House went into committee on the *Salmon Fisheries (Ireland) Bill*, but the Chairman was ordered to report progress before it was decided whether the clauses should be proceeded with.

Tuesday.—*Distinguished Service Colonels.*—General Lindsay moved an address to the Crown, praying the appointment of a Commission to inquire into the claims of 21 officers of the army promoted to the rank of colonel in 1855 and 1856, as aides-de-camp to her Majesty, and for distinguished service in the Crimean war, who, by a recommendation of the Royal Commission of 1858, referring to another class of officers, had been deprived to an undue extent of the position they attained by the promotion conferred upon them; and to report to her Majesty whether they are entitled to redress; and if so, in what form it should be accorded to them.—The Marquis of Hartington opposed the motion on the ground that it was inexpedient to disturb the existing arrangement.—Sir J. Pakington was persuaded that the House of Commons would much rather disturb the army list than see an act of injustice done to a deserving class of officers.—Sir F. Smith, as a member of the Royal Commission of 1858, said he had no objection to have their recommendations revised.—Mr. Kinglake said that, divested of the mass of technicalities which surrounded it, there could be no doubt of the justice of the claim.—Lord Palmerston said that it was desirable to avoid any interference by the House with the details of the management of the army, and equally desirable to avoid anything which should give rise to a feeling in the public mind that an act of injustice was done by the Government. He therefore proposed that the motion should be withdrawn, and in that case he would engage that the subject should be referred to a Royal Commission.—Mr. Disraeli demurred to the position that it was unconstitutional for the House of Commons to address her Majesty on any subject connected with the management of the army.—General Lindsay having accepted the proposition of Lord Palmerston, the motion was withdrawn. *Military Defence of Colonies.*—Mr. A. Mills called attention to the correspondence between her Majesty's Government and the Governors of Canada and of New Zealand concerning the military defence of those colonies, and moved for a copy of all communications which have passed since the commencement of 1862 between the Secretary for the Colonies and the representatives of the Crown in the British dependencies respecting the mode and cost of their military defence. He argued that the time had arrived when, with the possession of a representative government and free institutions, the Colonies ought to take upon themselves the charge of their own defence.—Mr. C. Fortescue described the steps taken by the Canadian Government to raise a volunteer force, and to render the rural militia fit for training. It should be borne in mind that the enemy of Canada was our enemy, and that war with Canada meant war with England. If, then, no imperial force were supplied to her, it would appear as if we repudiated the obligation that rested upon us to defend every portion of our empire. At the same time, it did not follow that we could consent to maintain an unlimited number of troops at our own cost in time of war, much less in peace; consequently the defence of Canadian territory must mainly depend on the Canadians themselves. With regard to New Zealand, the danger was not from without, but from within; and as the Government could not permit an internecine war they were bound to assist the settlers through their present crisis.—Mr. Aytoun saw no reason why 2½ millions of people, with a revenue of 1,200,000*l.* per annum, should not do something more to defend themselves than the Canadians had done.—Mr. Adderley approved entirely of the policy of the Colonial Minister, and hoped it would be persevered in, no matter what opposition might be offered to it in the colonies. After some observations from Mr Buxton the motion was withdrawn. *Iron-clad Ships.*—Sir J Elphinstone moved an address to her Majesty to appoint a commission to consider the best mode of construction and form of the iron-clad ships which are to compose the future navy of England; to report upon the ships presently built and building, and the amount of dock and basin accommodation required for their use at home and abroad. He said that his object was to establish a council of scientific men to advise the Admiralty in the construction of iron ships.—Lord R. Montagu moved as an amendment that the Admiralty should be empowered to introduce into the public service a class of persons equal in education and position to the military cadets of Woolwich, who subject to certain regulations, may ultimately fulfil the duties of royal naval architects.—Lord C. Paget opposed the motion and the amendment, and after some remarks by Mr. Lindsay and Sir F. Smith the motion and the amendment were both withdrawn.—Mr K. Seymer moved that the analysis of evidence appended to the Report of the Select Committee on *Sewage of Towns*, in Session 1862, be cancelled. He detailed the circumstances under which the Report was prepared, and complained of the manner in which the analysis of the evidence was drawn up as irregular or informal.—The motion was seconded by Mr. Paget.—Dr. Brady, the Chairman of the Committee, defended the analysis, which he had drawn up, he said, with great labour. After some further discussion the analysis was ordered to be cancelled on the ground of informality.—Mr. Herbert obtained leave to bring in a Bill to authorize the *Removal of Poor Persons* born in England or Scotland, and chargeable in Ireland. The other orders of the day were then disposed of.

Wednesday.—*Church Rates.*—Sir J. Trelawny moved the second reading of the Church Rates Abolition Bill, and said that the defeats he had sustained during the last two years on the question had been achieved on the understanding that other measures relating to it would be brought forward. That, however, had not been done, and therefore his only course would be to fall back once more upon his proposal for total abolition.—Mr. G Hardy moved as an amendment that the Bill be read a second time that day six months. He urged that church rates were neither unjust nor intolerable, and reminded the House that every effort which had hitherto been made to relieve the Dissenters from the impost had been rejected.—Mr. Mitford seconded the amendment.—Sir C. Douglas supported the Bill, and quoted a number of statistics to show that although the abolition party had sustained Parliamentary defeats, their numbers were now greater than on any former occasion.—Mr. Whiteside supported the amendment, and contended that, according to the declaration of Mr. Miall, the object of the Bill was as a grain of sand to a mountain, compared with the object to which it would lead, and which was the separation of the Church from the State, the abolition of tithes, and the utilisation of the fabrics of the establishment. As one who held Conservative opinions, and believed that the Church was one of the institutions of the State linked with the monarchy, he was prepared to maintain that one of these institutions could not be touched without endangering the others.—Sir G. Grey thought it was highly inexpedient on the part of the friends of the Church to stake her existence on the continuance of church rates, for he could not imagine that the principle of an established Church could depend upon a system that was only partially acted upon in the country. It was not without reluctance that he would record his vote for the second reading, but he would do so to affirm the principle only, and with a distinct desire that before the Bill reached a third reading some measure of compromise might be carried out.—Lord J. Manners thought the simple issue was whether the Church of England was or was not to be the National Church. The other day a proposal was made to take her churchyards from her; to-day her immemorial right to raise Church-rates was questioned, and to-morrow her endowed schools would be attacked. The object of all this was to lower her position in the estimation of the people.—Lord A. Churchill said he should vote for the second reading, because he intended in Committee to move the introduction of a clause which he considered ought to remove all the reasonable objections of Dissenters.—Mr. Walter had no sympathy or connection with the abolition party, but he could not as a Churchman bring himself to the belief that Church-rates were a source of strength to the Church of England. On the contrary, he believed in his conscience that they were a source of weakness, and was therefore willing to vote for their abolition.—After some remarks by Mr. Newdegate and Sir J. Trelawny, the House divided, when the numbers were—for the amendment, 285; against it, 275; majority, 10. The Bill was therefore lost. The announcement of the division was received with loud cheers from the Opposition benches.—The *Marriages (Ireland) Bill* as amended, was considered and agreed to. The *Bakehouses Regulation Bill* was read a third time and passed. The *Elections during Recess Bill* was also read a third time and passed.—Mr. Holland obtained leave to bring in a Bill to extend the provisions and continue the terms of the Acts of the 12th and 17th Vict.

caps. 107 and 62, to prevent the *Spreading of Contagion among Sheep, Cattle, and other Animals.*

THURSDAY.—*Naval Architecture.*—Lord C. PAGET, in reply to Sir J. PAKINGTON, said that the Admiralty were impressed with the necessity that some steps should be taken for reviving the School of Naval Architecture, but that no distinct proposal with that object had yet been laid before them. In reply to a question by Lord R. MONTAGU, his lordship said that although the collection of naval models at Somerset House was in a limited space, still there was no foundation for the assertion publicly made by Mr. Scott Russell, that the models were thrust down into a dark cellar and effectually kept out of sight.—In answer to Mr. LOCKE, Mr. COWPER stated that it was intended to complete *Carlton House Terrace* upon the vacant ground where the Riding School formerly stood, but that he should not propose the continuation of the carriage way from the mall in St. James's Park to Charing Cross. *The Peterhoff Mail Bags.*—Mr. W. FORSTER inquired if the rumours were correct that the Foreign Office had that afternoon received a satisfactory despatch from America relative to the seizure of mail bags?—Mr. LAYARD, amidst general cheering, said he was happy to be able to state that the Government had received information from Lord Lyons that the mail-bags seized in the Peterhoff would be forwarded to their destination without being opened. *The Proposed Tax on Charities.*—On the order for the second reading of the *Customs and Inland Revenue Bill*, Lord R. CECIL complained that the Bill proposed to tax the charities of the country in a novel and oppressive manner. In the case of St Bartholomew's Hospital alone the imposition of the tax would deprive hundreds of in-patients and thousands of out-patients of the benefits of the charity.—Sir H. WILLOUGHBY expressed his disapproval of the proposal, and remarked that the Chancellor of the Exchequer was much too prone to apply small blisters of taxation to the ratepayers of the country.—Sir F. CROSSLEY feared that the tax would inflict a great injustice, especially in the case of alms-houses.—Mr. HUBBARD commented upon the proposed new arrangement for the imposition of the income tax, which he described as a tissue of inconsistencies, at variance alike with principles and precedent.—Sir J. FERGUSSON recommended the Chancellor of the Exchequer to give the trustees of public charities fuller information as to what extent they would be affected by the tax.—Mr. BAINES was willing to accept the general financial scheme of the Government; at the same time he could not but regard the tax upon charities as an impost upon religion and benevolence. After a few words from the LORD MAYOR on behalf of the City charities the CHANCELLOR of the EXCHEQUER, referring to St. Bartholomew's Hospital, said it would be taxed upon an income of 36,000*l.* per annum, and would have to pay about 700*l.* a year, which would be levied before it reached the hands of the trustees. The ground upon which the Government were prepared to stand in regard to the proposals to which objections had been urged was simply the ground of their justice to the community. If they were just to the country at large let the House adopt them; if they were not just, let them be rejected. He went into a variety of explanations relative to the operation of the income tax upon the several interests concerned, and said he would on Monday make a full exposition of the details of the proposed scheme in regard to charities.—Mr WALPOLE thought the great question to be considered was, whether they were to treat the recipients of charity as separate individuals or as persons receiving an amount of income which ought to pay the tax. In answer to a question from Sir S. NORTHCOTE, the CHANCELLOR of the EXCHEQUER said that the portion of endowments which he proposed to tax were those which were permanent sources of income only, and that he did not intend to impose any tax upon voluntary contributions to the charities.—After a few words from Lord H. VANE, Sir M. FARQUHAR, and Mr. HENLEY, in opposition to the proposed tax on charities, the Bill was read a second time.—The CHANCELLOR of the EXCHEQUER, in moving the committee on the *Stock Certificates to Bearer Bill*, explained that the object of the measure was to make a certificate of stock payable to bearer as negotiable a security as a Bank of England note. It was proposed to prohibit trustees from dealing with the stock, and to take all needful precautions against fraud.—Mr HODGSON (Governor of the Bank of England) expressed his approval of the Bill, which he said would have the effect of largely increasing investments in the public funds. The Bill was subsequently passed through committee, and ordered to be reported on Monday. The *Telegraph Bill*, after some opposition from Lord A. CHURCHILL, was read a third time and passed. The *Consolidated Fund* (20,000,000*l.*) *Bill*, and the *Exchequer Bonds* (1,000,000*l.*) *Bill* passed through committee. On the order for the committee on the *Borough Residence Uniform Measurement Bill*, Mr. Collins, who had charge of the Bill, not being present, Mr. M'CANN moved, and Mr. DENMAN seconded, a motion that the order for the committee be discharged.—Mr. VANCE protested against what he termed the sharp practice of hon. gentlemen opposite, which, he said, was as unusual as it was discourteous.—Sir M. W. RIDLEY moved, as an amendment, that the debate be adjourned.—Mr. COLLINS, who arrived a few minutes before 10 o'clock, and whose appearance was the signal for cheers and laughter, spoke at some length in support of the Bill, and avowedly with the view of giving his friends time to come up.—Mr. BOUVERIE recommended that the motion and the amendment should be withdrawn, so that the House might divide on the question of going into Committee on the Bill. He commented with some severity on the conduct of Mr. Collins—first, for not being in his place when the order was called; and, secondly, for abusing the indulgence of the House by speaking against time.—Sir J. PAKINGTON approved of the recommendation to withdraw the original motion and the amendment, but reminded Mr. Bouverie that, although he had himself given notice of an amendment to oppose the Bill, he was not in his place at the proper time to move it. The motion and the amendment having been withdrawn, Mr. BOUVERIE moved that the Bill be committed that day six months. On a division the motion was carried by 1[illegible] to 1[illegible]. The Bill was therefore lost. The House went into Committee on Mr Whiteside's *Judgments Law Amendment (Ireland) Bill*, but after a few clauses had been gone through the CHAIRMAN was ordered to report progress.

FRIDAY.—There not being 40 members present at 4 o'clock, the SPEAKER declared the House adjourned until Monday.

## City Intelligence.

BANK OF ENGLAND.—The Bank of England on Thursday reduced its rate of discount from 3½ per cent., at which it was fixed on the previous Thursday, to 3 per cent.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: This being the day for striking the half yearly balance at the Bank of England, the transfer offices at that establishment are closed, and the Stock Exchange is likewise shut, according to custom. The closing prices on Thursday were, for Money, 93⅛ to 93; Ditto for Acct., 93 to ¼; Three per Cents. Reduced, 91½ to ¾; New Three per Cents., 91⅝ to ¾; Bank Stock, 234 to 235 India Five per Cent. Stock, 109½ to ⅞; Five per Cent. Enfaced Rupee Paper, 107¼; Exchequer Bills, 8*s.* to [illegible]*s.* pm.—FOREIGN: Brazilian, 101; Ditto 1852, '56, '60, 94; Buenos Ayres, 94½; Chilian, 102; Dutch Certificates, 100½; Egyptian, 98 to ¼; Ditto Second Issue, 97½; Greek, for Acct., 29½ to ⅝; Ditto Coupons, 14⅛ to 14; Italian, 71⅝ to ¾; Ditto Maremmana Railway, 76½; Mexican, for Acct., 35¼ to 35⅜; New Granada, 15⅝ to ½; Ditto Deferred, 8¾ to ⅞; Ditto Land Warrants (Hectares), 7; Peruvian, 1862, for Acct., 88¾ to 89; Portuguese, 1862, 48¼; Sardinian, for Acct., 87; Spanish, for Acct., 54¼; Ditto Passive, 34 to 35; Ditto Certificates, 11½; Turkish, 1862, for Acct., 70¾; Venezuela, 1862, 58.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. | £29,141,405 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,491,405 |
| | | Silver Bullion .. .. | — |
| | £29,141,405 | | £29,141,405 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £12,051,395 |
| Rest .. .. .. .. | 3,104,770 | Other Securities .. .. | 17,845,954 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. | 7,178,312 | Notes .. .. .. .. | 8,272,940 |
| Other Deposits .. .. .. | 13,606,969 | Gold and Silver Coin .. | 857,087 |
| Seven days and other bills | 584,335 | | |
| | £39,027,376 | | £39,027,376 |

April 30, 1863. W. MILLER, Deputy Cashier.

## Gazette of the Week.

FRIDAY: *April* 24.—BANKRUPTS.—R. J. ARUNDEL, Surrey Place, Old Kent Road, Assistant to a Draper—J. ALLCOCK, Shoreham, Kent, Contractor—J. B. BEESON (sued as J. BEESTON) Nottingham, Bookkeeper—H. BONHAM, Great Russell Street, Bloomsbury, late Boot and Shoe Maker—C. BOARD, Bristol, Accountant—H. BEECH, Congleton, Cheshire, Victualler—J. S. BARTHOLOMEW, Aston Upthorp, Berkshire, late Corn Dealer—L. BADOW, Fashion Street, Spitalfields, Trimming Maker—F. BLONDEAU, late of Bushey, Hertfordshire, Dealer in Flour—R. BOUNFORD, Ranelagh Grove, Pimlico, Journeyman Mason—J. BURROWS, jun., Habergham Eaves, Lancashire, Grocer and Provision Dealer—W. R. BOWDEN, Oxford, Bookseller—R. CLARK, Basinghall Street, Umbrella Manufacturer—H. CONRATH, Harmood Street, Camden Town, Baker—J. COOK, Walsall, Staffordshire, late Lock Manufacturer—G. COX, Leeds, late Innkeeper—J. CARNDUFF, Birmingham, Tailor—W. CROSS, Nuneaton, Warwickshire, Farm Bailiff—J. CURTIN, Birkenhead, Clerk—DAVID CRUNDELL (sued as DANIEL CRUNDLE)—B. DODD, Wellington, Shropshire, late General Dealer—G. DADORN (and not G. DARROS), as previously advertised, Chobham, Surrey, Farmer—G. DEAKIN, Cheetham Hill, Lancashire, Boot and Shoe Maker—E. H. DALE, Folkestone, Kent, Tailor—W. J. ELLIS, Wednesbury, Staffordshire, Foreman to a Tailor—J. FORRESTER, Wolverhampton, Commission Agent—JOHN FITZ (sued as J. FITZ), Church Street, Deptford, Marine Store Dealer—J. FOX, Lewis Cottages, Lewis St., Kentish Town, Furrier and Shoe Manufacturer—J. K. FARNELL, St. Agnes Villas, Shepherd's Bush, Keeper of a Registry Office for Servants—A. FAYABETTI, Cardiff, Ship Broker—R. GIBSON, Mina Road, Old Kent Road, Licensed Victualler—JOHN GARRETT, sen., Bilston, Staffordshire, Builder—JACOB GROVES, Willenhall, Staffordshire, Rim Lock Maker—H. GIBBONS, jun., Beckenham, Kent—G. F. GOOD, Merriott, Somersetshire, Lace Licensed Victualler—W. GILLARD, Finsbury Place South, Drysalter—E. HORLOCK, Hampreston, Dorsetshire, Carpenter—M. A. R. HOULDING, Grove End Road, St. John's Wood, Lodging house Keeper—C. F. HUGHES, Westbromwich, Staffordshire, Gas Engineer—C. HARRAL, late of Bedford Terrace, Andover Road, Holloway, Builder—W. G. HALLOWS, Sudeley Street, Islington, late Dealer in Jewellery and General Merchant—S. HACKWOOD, Wednesbury, Staffordshire, Greengrocer—S. INKSON, King's Lynn, Norfolk, Butcher—E. JONES, Bristol, Commission Agent—L. JOHN, Pentyrch, Glamorganshire, Grocer—J. JEAVONS, Wolverhampton, Dealer in Skins—J. JONES, St. George's Square, Pimlico, Wine and Spirit Merchant—H. KEATES, King's Road, St. Pancras, Carman—T. P. LEWIS, late of Manchester, Licensed Victualler—T. LYNAS, Sadberge, Durham, Farm Servant—J. LINDSAY, Hamstall Ridware, Staffordshire, Butcher—J. LAW, Wolverhampton, File Cutter—CHARLES LEATHERLAND, Wolverhampton, Greengrocer—C. LEVENS, late of Custom House Terrace, Victoria Docks, Plaistow, Baker—G. LANGER, Christchurch, Hampshire, Tailor—T. LAWLEY, Wolverhampton, Labourer—A. M'HUGH, North Shields, Northumberland, Grocer—J. MINISTER, Yaxley, Suffolk, Miller—G. W. MAJOR, Caledonian Road, Islington, Printer—S. MARSHALL, Somercotes, Derbyshire, Beerhouse Keeper—J. NEWBY, Bishopwearmouth, Durham, Merchant Tailor—T. NANKWELL, Illogan, Cornwall, Grocer and Teadealer—H. PULLINGER, South Stoneham, Hampshire, Late Farmer—P. PILE, Bristol, Licensed Victualler—J. PARTRIDGE, Sharnbrook, Bedfordshire, Wheelwright—T. PRIESTLEY, Walsall, Staffordsh., late Beerhouse Keeper—R. POWELL, Bridgend, Glamorganshire, Victualler—T. PEARSON, Mileham, Norfolk, Bricklayer—H. PALLASH, St. Peter Street, Hackney Road, late Manufacturer of Fancy Leather Goods—JOSEPH PHILIP PRESS (commonly called and known as JOSEPH PRESS), Alpha Road, New Cross Road, Deptford, Assistant Warehouseman—J. PAYNE, Ealing, Boot and Shoe Dealer—T. PRICE, late of Bedfordbury, Covent Garden, House Agent and Furniture Dealer—F. RICH, Sheffield, Brickmaker—WILLIAM WRIGHT RICE (known as WILLIAM HERBERT RICE), Norwich, Teacher of Music—E. RILEY, Bradford, Lancashire, Washing Powder Manufacturer—J. RAPER, Castle Street, St. Martin's Lane, Provision Dealer—S. READING, Birmingham, Hardwareman—H. SPARKE, Boxted, Essex, Miller—J. SANDS, Sibsey Northlands, Lincolnshire, Carpenter—G. SWIFT, Oldham, Lancashire, Grocer and Tea Dealer—J. B. SISMEY, Middlesex Street, Whitechapel, Baker—H. SCHOLEY, High Street, Shadwell, Greengrocer—C. SHAW, Bakewell, Derbyshire, Saddler—J. STANTON, late of Hampton Lovett, Worcestershire, Blacksmith—J. TRINGHAM, Canterbury Terrace, Beresford Street, Walbrook, late Hosier—J. TUFF, late of Loampitt Hill, Lewisham, Jobbing Gardener—J. TOLFREE, Westfield Road, Surbiton, Journeyman Carpenter—W. THWAITES, Redcar, Yorkshire, Auctioneer—F. J. THORNE and W. THORNE, Liverpool, Tea Dealers—T. TEW, Marden, Herefordshire, Builder—T. W. VERNON, Smethwick, Staffordshire, Ironmaster—H. T. WILLIAMS, North Keppel Mews, Russell Square, Builder—C. WATTS, Bath, Currier—T. WALKER, Low Harrogate, Yorkshire, late Butcher—W. WINKS, Worksop, Nottinghamshire, Milliner—J. WITHERSPOON, Church Street, Woolwich, Greengrocer—D. WILLIAMS, Carmarthen, late Coachmaker—G. WATKINS, Brynmawr, Brecknockshire, Haulier—J. WATSON, Newcastle-upon-Tyne, Chemist and Druggist.

TUESDAY: *April* 28.—BANKRUPTS.—J. BLAKEMORE, Birmingham, Crate Maker—J. BEAUMONT and J. WHITE, Staleybridge, Cheshire, Common Brewers—J. BERESFORD, Birmingham, late Grocer—A. BUSH, Grove Road, St. John's Wood, Gentleman—T. BULL, Stone, Staffordshire, Licensed Victualler—G. BUGLER, Richmond Grove, Putney, Builder—F. BALDWIN, Tunstall, Staffordshire, Bookkeeper—C. BORER, late of Caroline Place, Haverstock Hill, Cheesemonger—R. BRIND, Reading, Berkshire, Corn Dealer—G. COOKE, Barnsley, Yorkshire, Grocer—T. CONSTANT, Luton, Bedfordshire, Gardener—J. CARTLIDGE, Chesterfield, Draper's Assistant—E. J. COX, Birmingham, Commission Agent—S. COLLINGWOOD, Birmingham, late Umbrella Maker—T. O. COXSON, Birmingham, Eating House Keeper—W. E. COLLINS, Birmingham, Plumber—H. CRAFT, jun., Aylsham, Norfolk, General Shop Keeper—J. CURRIER, Dawley, Shropshire, Licensed Beer seller—W. DYER, Torquay, Devonshire, Builder—J. DANKS, Wednesbury, Staffordshire, Gas Fittings Maker—R. DANIEL, Richard Street, Woolwich, Sculptor—R. DAVIS, West Bromwich, Licensed Victualler—BENJAMIN OCTAVIUS ENGLEHEART, 58, King William Street, City, Auctioneer—JOHN FOSTER, Market Rasen, Lincolnshire, Watchmaker—ROBERT GIBSON, Mina Road, Old Kent Road, Licensed Victualler—T. G. GLADWIN, Paddington Street, Marylebone, Builder—J. GAMESON, jun., Birmingham, late Beerhouse Keeper—A. G. HOLLISTER, Davies Street, Berkeley Square, Watch Maker—T. HILL, Old Dalby, Leicestershire, Farmer—E. G. HERRY, Monmouth Road North, Westbourne Grove, Milliner—G. HOCKNELL, late of Birmingham—T. HANDS, late of Birmingham, Licensed Victualler—H. HARVEY, late St. Mary's Square, Kennington Road, General Merchant—J. HILL, Feckenham, Worcestershire, Needle Manufacturer—J. HALL, Firsby, Lincolnshire, Stonemason—J. HILL, Willoughton, Lincolnshire, Grocer—J. INGRAM, Northampton—W. H. JOHNSON, Liverpool, Auctioneer—R. JARRETT, Bath, Ironmonger's Assistant—H. HILDITCH JOHNSON, St. Paul's Churchyard, Wine Merchant—N. I. JACKSON, Mason's Avenue, Basinghall Street, Serjeant-at-Mace to Sheriffs of London—F. JOHNSON, Draycott, Derbyshire, Farmer—I. JONES, Llanvabon, Glamorganshire, Innkeeper—J. KIRKMAN, Bolton, Lancashire, Brewer—J. KITCHING, Coxley, Somersetsh., Farmer—R. KELLY, Liverpool, Auctioneer—J. LAW, Sheffield, Yorksh., Beerhouse Keeper—T. MORLEY, Bury St. Edmunds, Suffolk, Lead Merchant—G. MERTON & J. MERTON, Newcastle-upon-Tyne, Grocers—THOMAS MASDIN, Sheffield, Yorkshire, Butcher—WILLIAM MOLD, Brook Street, Euston Road, Auctioneer—J. MARTIN, Dunston, Durham, Licensed Victualler—E. MILLS, late Cheltenham, Greengrocer—T. NANKIVELL (not NANKWELL, as previously advertised), Illogan, Cornwall, Grocer—J. NOTT, Worcester, Corn Dealer—W. NICHOLSON, West Hartlepool, Durham—G. PARKER, Goole, Yorkshire, Ale and Porter Merchant—H. PHENIX, Sheffield, Yorkshire, Innkeeper—W. PAPE, Kingston-upon-Hull, Commission Agent—J. PITCHER, Chesnut Row, Kentish Town, late Leatherseller—W. ROPER, jun., Walsall, Staffordshire, Veterinary Surgeon—E. C. RUSSELL, late Cottage Grove Park, Peckham—J. S. RUTHVEN, Liverpool, Ale and Porter Merchant—J. RIDEHALGH, Halifax, Yorkshire, Farm Labourer—H. RADNALL, late of Wolverhampton, Ale Dealer—R. ROOSE, Flint, Chemist and Druggist—G. RODGERS, Sheffield, Razor Manufacturer—P. STEVENS, Birmingham, Commercial Traveller—J. STRACHAN, late Norwich, Draper—F. STURMER, Lower Grove, Brompton, Clerk in Holy Orders—J. SHEEHAN, late of Waterloo, near Liverpool, Agent—H. SYLVESTER, Whittlebury Street, Euston Square, Cab Driver—E. SHELDRAKE, Brewer Street, Golden Square, News Agent—J. SMITH, Everton, Lancashire, late Fruit Merchant—WILLIAM SANDERCOCK, Altarnum, Cornwall, Cordwainer—WILLIAM SNAPE, Birmingham, Cast-iron Fender Manufacturer—PHILIP CHRISTIAN STORTZ, Liverpool, Artist—W. SIGSWORTH, Roos, Yorkshire, Tailor—G. SENDALL, Bath, Coach Builder—J. STEVENS, Frimley, Surrey, Licensed Victualler—W. TAYLOR, St. Peter-the-Great, Worcestershire, China Painter—A. TATE, Halifax, Yorkshire, Stonemason—C. TATHAM, Appleby, Westmoreland, Watchmaker—J. TAYLOR, Huddersfield, Yorkshire, Manufacturer—F. F. THOMPSON, Tenbury, Worcestershire, Surgeon—J. TAPP (not J. TUPP, as previously advertised), late of Lewisham, Jobbing Gardener—J. THRALE, Nottingham, Stonemason—T. TIMMINGS, late of Sedgley, Staffordshire, Coal Merchant—G. VOLANS, Sheffield, Yorkshire, Hosier—H. A. VILES, late of Long Acre, Coffeehouse Keeper—C. JONES, River View, Southampton, Wine Merchant—R. WILSON, late Spencer Street, Park Road, Battersea, Retired Purser—E. M. WARNER, Princess Road, Lambeth—J. WHITE, Ventnor, Isle of Wight, Blacksmith—W. WALMSLEY, Liverpool, Bookkeeper—S. WEBB, Birmingham, late Cap Maker—R. B. WARD, Barnsley, Yorkshire, Chemist—E. R. WALTHEW, Gravesend, Schoolmistress—J. WAITE, Workington, Cumberland, Beerhouse Keeper—D. WRAGG, Masbrough, Yorkshire, Butcher—L. WHITTAKER, jun., Bolton, Lancashire, Waste Dealer.

SCOTCH SEQUESTRATIONS.—J. CLARK, Keith, Banffshire, Corn and Manure Merchant—J. COLVIN, Holywood, Dumfriesshire, Farmer—R. HARDIE, Laurieston, near Falkirk, Farmer—W. MACGREGOR, Inverarity, Farmer—D. MOLLISON & COMPANY, Turin, Forfarshire, Quarriers—D. REVIE, Glasgow, Confectioner—A. ROSE, Inverness, Baker—C. STOCKTON, Glasgow, Saddler—A. TAGGART, Carnoustie, Potato Merchant—P. TONER, Glasgow, Draper.

## Metropolis and its Vicinity.

THE PRINCE CONSORT MEMORIAL.—The Committee appointed by the Queen to consider the best means of giving effect to her Majesty's wishes in respect to a Memorial to the Prince Consort, have presented their third report to her Majesty, stating the result of their recent proceedings. The report, which is signed by the Earl of Derby, the Earl of Clarendon, Sir C. L. Eastlake, and Mr. Cubitt, M.P., reviews at some length the designs submitted to them, and then refers as follows to Mr. George Gilbert Scott's design of a Gothic Cross:—

"We now proceed to notice, as especially worthy of your Majesty's favourable consideration, a magnificent design, by Mr. Scott, for a Gothic Cross, the statue being within the structure, but open to view, and, in a great measure, open to the air. While admitting the somewhat sepulchral character of what are called Gothic Crosses, we cordially appreciate the feeling which led Mr. Scott to adopt in his design, to use his own words, 'the style of the most touching monuments ever erected in this country to a Royal Consort,' and to give to an architectural structure the character of a vast shrine expressive of the value attached to the statue which it protects. We, therefore, do not dwell on the objection likely to be urged, of a certain want of originality in a monument of this kind, because we believe that the beauty of this example, if it could be carried into execution without sacrificing the richness and completeness of its effect, would abundantly compensate for any actual or imagined resemblance to other structures coming under the denomination of a Gothic Cross. It will be observed that Mr Scott's proposed monument is not essentially connected with any present or proposed buildings on the south side of the public road. But, inasmuch as it would correspond with the central line of the area on that side—the statue, of course, fronting in that direction—we conceive that the required connexion might be sufficiently attained by the arrangement of the immediately surrounding ground; and, although the isolated and independent character of the structure in itself would seem to fit it for any open situation, we by no means consider such a circumstance of sufficient weight to open again the question of site. A Gothic monument in the position already assigned for the Memorial might, in the opinion of some judges, involve as a consequence that the Hall, if ever to be built, should be similar in style to the Memorial, and consequently, again, dissimilar from the buildings already in existence on the estate of the Commissioners for the Exhibition of 1851. We think, however, that the intervening space might be a sufficient reason for some change of style, if desirable, in the Hall. Having noticed these general but, as we consider, not insuperable difficulties, we come to a much more formidable objection: the cost of Mr. Scott's proposed Memorial, after reducing the height from 185 to 148 feet,—an alternative proposed in his printed description,—and not without some other changes, cannot, we fear, be estimated at much less than double the amount subscribed. To this must be added that no calculation is made for the cost of laying out the ground (in this case an indispensable addition), nor for that of straightening the public road. Under these circumstances we still think we are bound to submit our opinion, in the first place, as to the relative merit of the designs. That opinion, after a careful and repeated comparison of these designs, considered irrespectively of cost, is in favour of that by Mr. Scott. The difficulties which present themselves in regard to the estimate can only be met, first, by abandoning for the present the project of a Hall; and, secondly, by such an addition to the present available amount as would secure the completion of Mr. Scott's monument without sacrificing its chief characteristics. It is not without extreme regret that we regard, even as a possibility, the indefinite postponement of a project which his Royal Highness the Prince Consort appeared so earnestly to contemplate. In relinquishing the objects of utility to science and art which the Hall and its accompaniments would have unquestionably promoted, and in recommending the adoption of Mr Scott's design, we have the consolation of reflecting that we in some measure revert to your Majesty's original intention in proposing the erection of a monument, in the usual acceptation of the word, with groups of statuary round its base. But, we repeat, even for the execution of such a monument alone the sum contributed will be insufficient. It would be unbecoming on our part to offer any suggestion as to the means by which that sum might be augmented; but we venture to think that the liberality of Parliament would not be appealed to in vain, and that by the aid of the House of Commons the monument would assume a character in all respects national, and thus be worthy of the Prince to whose memory it will be dedicated."

In reply to this report the following letter has been addressed to the committee by the Hon. General Grey on behalf of the Queen.

"Lieut.-General Grey has received the commands of the Queen to acknowledge the receipt of the report of the committee appointed to give her Majesty their assistance in the consideration of questions relative to the national Memorial to the Prince Consort. Her Majesty has directed that her best thanks may be returned to the committee for the valuable services which they have rendered and the advice which they have submitted to her Majesty. The Queen very fully participates in the regret expressed by the committee that it has been

ound necessary to abandon for the present the idea of the central Hall, which, combined with a personal memorial, would have appeared to unite the tribute of national gratitude with the objects in which the great and good Prince took the strongest interest, and would also have for ever associated with the Memorial the recollections of the Exhibition of 1851. This regret is, however, modified by the expectation that, whenever the Commissioners of 1851 may be in a position to appropriate the vacant space north of the conservatory in the Royal Horticultural Gardens to the purposes for which the estate was purchased, a hall may still form part of the buildings to be erected there. The personal memorial to the Prince was always the first object, and the Queen never contemplated the combination of the central hall until that was adequately provided for. Under these circumstancees the Queen is happy to see that the committee have recommended for selection the design of Mr. Scott, to which her Majesty had already given the preference among the many beautiful designs submitted for her judgment."

The American Minister and the Shipping Trade.—The *Times* states that the difficulties occasioned by the recent proceedings of Mr. Adams, the United States Minister, in issuing a certificate or pass to a vessel bound to Matamoras in Mexico, are likely to be removed. It is reported that Mr. Adams is conscious of having acted in the matter upon imperfect representations and with undue haste, and that, consequently, he raises no pretensions such as would necessitate any absolute protest from Her Majesty's Government to that of Washington on the subject. It is, therefore, believed that the friendly relations between the Cabinet and the United States' Legation in London will continue unimpaired.

The White Nile Expedition.—A telegraphic despatch from Alexandria has been received at the Foreign Office, announcing that Captains Speke and Grant have completed their arduous journey across Eastern and Central Africa, from Zanzibar to Khartum, by the White Nile, where they had arrived in safety.

Lancashire Relief Fund.—At the meeting of the Mansion House Committee on Friday their recent resolution to devote 5000*l*. to the purposes of emigration brought upon them a host of applications from various parts of the country, but the committee declined to afford help in any instance where a society was not fully formed and the emigrants were ready to start. They voted relief to the amount of 3,565*l*. to several local committees.

Sale of the Bicknell Collection.—The renowned collection of English pictures and sculpture of the late Mr. Elkanah Bicknell, of Herne Hill, was, by order of the executors, disposed of on Saturday, at the rooms of Messrs. Christie & Manson, in King Street, St. James's. The sale attracted great interest, and the large room was crowded to excess. The prices realised by the principal pictures were enormous. Ten pictures by J. M. W. Turner, R.A., realised 17,361*l*. 10*s*. Ten pictures by David Roberts, R.A., realised 5276*l*. 5*s*.; three pictures by Sir E. Landseer, 6646*l*. 10*s*.; two by T. Webster, R.A., 2897*l*. 10*s*.; two by W. Collins, R.A., 2236*l*. 10*s*.; one by C. R. Leslie, R.A., 1323*l*.; four by Clarkson Stanfield, R.A., 6405*l*.; and the others in proportion. The whole collection realised the enormous sum of 58,600*l*. The water-colour drawings are now on sale.

Execution at Newgate.—Joseph Brookes was executed on Monday morning at Newgate for the murder of the policeman at Acton. He denied his guilt up to the latest moment, and even addressed a memorial to Sir George Grey, attempting to explain away the facts against him. It was not till he stood on the scaffold, with the halter round his neck and the cap over his eyes, that all hope of a reprieve forsook him, and he felt it useless to brave out the matter any longer. Calling the chaplain to his side, he whispered that he was guilty, and that it was he who fired the shot. They were his last words. The crowd was not so large as usual, few women were present, and there was, comparatively, little disorder.

The Public Health.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, April 25, were 1408, including 65 deaths from small-pox, 65 from scarlatina, and 58 from measles. The average number in the corresponding week of the 10 years 1853-62, corrected for increase of population, was 1286. The present return is therefore 122 above the average. During the week the births of 958 boys and 1005 girls, in all 1963 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1933.

## Provincial.

Ashton-under-Lyne.—Three of the Ashton rioters were tried at the Salford New Bailey Sessions on the 16th ult. Their offences were of the same character as that of the men tried at Chester. Two of them were sentenced to three months and the other to six months' imprisonment.

Aylesbury.—The parish church of Waddesdon, which has been completely restored, at a cost of upwards of 1600*l*., was re-opened on the 7th inst. The Bishop of Oxford preached an appropriate sermon on the occasion to a crowded congregation, and a public luncheon was afterwards given, at which the Duke of Marlborough presided, supported by the Bishop of Oxford, the Duke of Buckingham, Mr. Disraeli, M.P., Sir Harry Verney, M.P., Sir T. F. Fremantle, Archdeacon Bickersteth, and a large number of the neighbouring clergy and gentry. After the usual loyal and local toasts, Mr. Disraeli, in returning thanks for the toast of his health, spoke as follows on the work of the Church :—

"I had hoped that in coming into the country I was getting away from the House of Commons, but I should be insensible if I did not feel grateful for being reminded that I have the great distinction of representing you in that assembly. I am sure Sir Harry Verney will agree with me that in all the labours of political life, whatever may be the excitement of the immediate object, whatever the feelings that may animate us at the moment, at the bottom of our hearts, on whatever side of the House we may sit, the predominant sentiment is anxiety that we may obtain the regard and respect of those among whom we live. But allow me to say, forgetting the House of Commons for a moment, this is not my first visit to Waddesdon. I cannot be insensible to the great and striking change that has taken place in this parish and in this county. Twenty years ago I recollect a sorry village with a dilapidated church. But now I find all the signs and symbols of progress; houses rebuilt and greatly improved, gardens distinguished by their beauty and exuberance, and, above all, that divine building, under whose roof we have assembled to-day, partaking in the steady improvement that we see everywhere in this county. But, what is still more gratifying is to observe that the change which has taken place in this village and this district is not merely a material change. Twenty years ago the village I venture to describe was inhabited by a lawless populace,—a suffering, and, perhaps, because suffering, a lawless populace. I find it to-day, from all I hear and from much that I can observe, animated by that sense of duty which is the only foundation of prosperity. I find in this comparatively small district as great a change, and for the better, has taken place as possibly can be noticed in any part of the country. I think I am justified in saying that in this community, as in many others we may principally attribute this great and beneficial change to the influence of the Church of this country. Much has been done, and it has been done by the Church in its largest and truest sense, by that union between clergy and laity without which nothing can be done, and with which everything that is desirable can be accomplished. Well, then, that is a state of affairs which may, I think, give us the greatest satisfaction, and we should recollect to whom we are indebted for this great amelioration. His Grace has referred in befitting terms to the character and conduct of my right reverend friend the Bishop of Oxford. He is the soul of the diocess which he rules, and all England recognises the great and advantageous consequences of that supervision. But we must also remember how much we are indebted to the gentleman who is the incumbent of this parish. It is, I am sure, a complete reward to him that he finds how his great efforts are recognised by his neighbours. I am sure what has happened to-day, while rewarding him for the past, will animate him to fresh exertions for the future. But remember that in the hierarchy of the Church every gradation has its specific duties, and without these specific duties being fulfilled, without that hearty co-operation which is so necessary, these desirable results will not be obtained. There are intermediate gradations of the utmost importance, on whom devolve high duties, on the complete understanding and fulfilment of which the great work of the Established Church of this country greatly depends. There are archdeacons—an office which has sometimes seemed insignificant in point of influence, though important as an office, for want of a due comprehension of its duties, or of zeal and energy in their performance. In this county we have an archdeacon—I am proud to say it, even in his presence—who duly comprehends his duty, and is zealous and earnest in the performance of it. There is also another gradation in our ecclesiastical hierarchy on whom the good working of our ecclesiastical polity mainly depends, and I may say that in this county the beneficial effects of the institution of that office, and the due fulfilment of what is incumbent on the individual who holds it are seen to be of the highest importance—I mean the rural deans. There is no office which, when filled by individuals who are conscious of the duties of the post they occupy, has contributed more to that signal revival of Church principles and of true Church sentiment which we see than that of the rural deans."

Kirkdale.—The execution of M'Phail and Woods for the murder of an old woman at the village of Ribchester, took place on Saturday in front of Kirkdale Gaol, in the presence of a large crowd. Both men confessed that they were with the party that went to rob the poor woman's house, but denied that they struck the blow.

Liverpool.—The steamer Alexandra has been appraised at 9500*l*. The cause of seizure as stated in the appraisement filed in the Court of Exchequer is "being equipped, furnished, and fitted out with intent to be employed in the service of persons exercising, or assuming to exercise, the powers of self-government in and over a foreign State, colony, province, or people."

Manchester.—At the monthly meeting of the Central Relief Committee on Monday, Mr. Commissioner Farnall reported that there was a decrease in the number of persons receiving parochial relief in 27 unions in the cotton districts, as compared with the previous week, of 4404. The honorary secretary reported that 16 packages of clothing, 96 barrels of flour, 6 boxes of bacon, and 6 hampers of wine, were sent off last week to the local committees. The receipts of the week had been 3819*l*. 14*s*. 3*d*., and the balance at the bank was 402,812*l*. 10*s*. 4*d*. Various grants were made to the distressed districts.

Penzance.—An inquest has been held on the bodies of the nine men and a boy who were killed by the breaking of a chain by which they were drawn to the surface. The jury returned a verdict of Accidental Death.

Portsmouth.—A court was held on Monday on board her Majesty's ship Victory, for the trial of Lieutenant Charles Hill, and the surviving officers and crew of her Majesty's ship Orpheus at present in England, for the recent loss of that ship on the bar of Manukau Harbour in New Zealand. After hearing a mass of evidence the Court found that her Majesty's ship Orpheus was lost by striking on the Manukau bar when going over it in the absence of pilot boats, that no blame whatever was attached to Commodore Burnet, or any of her officers and crew; that the conduct of every officer, seaman and marine, man and boy on board was deserving of the very highest praise, and that Lieutenant Hill and the surviving officers and crew were therefore fully and honourably acquitted. Lieutenant Hill was then called to the table and presented with his sword. The President said that the duty he had to perform was gratifying to him, and that he only expressed the feelings of the entire Court when he said they felt that the sword could not be intrusted to better or more worthy hands.

Preston.—On Thursday week the men resumed work, and the town is quiet again. It is stated that of the persons taken into custody for participation in the riot not one is a factory hand.

Ryde.—Brookfield House, Binstead, the marine seat of Lord Burghley, was destroyed by fire on Thursday morning. The furniture and effects were saved. No lives were lost.

Sheffield.—An engraver of this town, named Hides, and one of his workman, named Light, were brought before the magistrates a few days since on a charge of forging the American Government notes, known as "Greenbacks." The history of the case was traced by means of persons who had been employed by the prisoners in engraving and printing the notes, and who, suspecting that something was wrong, gave information to the American Minister. The prisoners were remanded, bail being refused.

## Ireland.

The late Trial for Inciting to Murder.—Mrs. Dickinson, the lady whose name was mentioned on the trial of Joseph Harcourt at the last Commission for inciting persons to murder her husband, has instituted a suit in the Consistorial Court for divorce *a mensâ et thoro* on the grounds of cruelty and adultery. The proceedings were commenced on Saturday by the formal lodging of the libel.

## Miscellaneous.

Dwellings of the Working Classes.—A practical experiment in the way of providing comfortable and commodious dwellings for working men in the metropolis, and on terms quite within the means of that class of the community, has recently been brought under public notice in the presence of Lord Ebury, Lord Radstock, Mr. Kinnaird, M.P.; Alderman Finnis, Mr. Scott, Chamberlain of London; Mr. W. A. Wilkinson, Mr. Samuel Morley, Mr. Gregson, M.P.; Mr. Chichester Fortescue, M.P.; Mr. Frederick Byng, Mr. Edwin Chadwick, and other gentlemen. The building in question, which is one of a series of similar blocks in contemplation, has been erected at the sole expense of Alderman Waterlow, who first secured a lease for 99 years of a large plot of ground in Mark Street, Finsbury, and demolished a lot of wretched dwellings which encumbered the ground. On part of the site so cleared, he has erected the first block, consisting of 20 houses for so many families, at a cost of only 2000*l*. in round numbers, or about 110*l*. for each house, and has called it "Langbourn Buildings," after the name of the ward which recently elected him as its Alderman. In designing the building especial care has been taken to divest it as much as possible of a distinctive and exclusive air, and although it now presents an unavoidable contrast with the mean and ricketty hovels which surround it, yet when the intended blocks are added, and the plan completely carried out, the general appearance will be that of a handsome and lofty street, harmonising throughout in its external design. A marked feature in the design of this particular building is that each of the 20 houses in it contains within itself every kind of domestic office and convenience. The tenants in fact have nothing in common but a winding staircase leading from the ground to their several houses and to a fine flat commodious roof for purposes of recreation, drying clothes, &c. To each tier or flat, rising one above another, there is a balcony in front, which gives to the whole structure a picturesque appearance. The rent of each house varies from 5*s*. to 6*s*. 6*d*. a week. In the erection of the block recourse has been had to a new material in the floors, stairs, &c., without the use of which the cost would have precluded such a return on the outlay as would justify and in fact recommend the repetition of the experiment on a larger scale. The whole exterior is built of the finest bricks, but by the use of a kind of artificial stone in the interior the cost of the whole structure is said to have been reduced by at least 25 per cent. This new material is said to be extremely hard, durable, and light. It is composed of clinkers, culm, hard broken coke, and similar substances, in the proportion of four parts of these to one of Portland cement. It is moulded in troughs for the purpose of giving it any desired form, such as lintels, arches, chimney-pieces, window-sills, slabs, and so forth. To afford an idea of the extraordinary cheapness of this material it is said that the arches and lintels throughout the whole building have been supplied and fixed in their places at the cost of what would have been spent in labour alone if ordinary brick arches had been employed. Besides the primary object of affording dwellings of superior comfort and convenience to so many of the working classes, Alderman Waterlow has the ulterior purpose in view, on which he lays great stress, of convincing others, and especially capitalists, that it is a mode of investing money insuring a profitable return—it may be of 8*l*. or 9*l*. per cent. He

repudiates every consideration of charity as offensive to the working classes themselves, whom it is sought to benefit, and as having militated against almost every other similar enterprise designed for their benefit by benevolent men. He shows on a careful estimate that the receipts for rent for a year on the block of houses he has just erected will be 309*l.* odd, and the expenditure in ground rent, rates, insurance, repairs, &c., 125*l.*; leaving a balance of 184*l.*, or exceeding 9 per cent. He is also of opinion that the trustees of the Peabody Fund should not expend money in erecting buildings, but in purchasing ground and granting leases of it in perpetuity, taking in all cases a covenant from the lessees that it should never be diverted from this especial purpose, so that in every instance it might for all time be called "the poor man's site."

## Obituary.

Lord Massareene died at Antrim Castle on Tuesday night, from the effects of the melancholy accident described last week in our Irish news. His lordship, John Skeffington Foster Skeffington, Viscount Massareene, Baron Loughneagh, Viscount Ferrard and Baron Oriel of Collon, in the county of Louth, in the peerage of Ireland, and Baron Oriel of Ferrard, in the county of Louth, in the peerage of the United Kingdom, was born in 1812, and united in himself the inheritance and titles of Foster Lord Oriel, and the Skeffingtons, Lords Massareene. He succeeded his mother as Viscount Massareene in 1831, and his father as Baron Oriel in 1843. He married in 1835 the fourth daughter of Mr Henry Deane O'Grady of Stillorgan, Dublin, by whom he has issue four sons and four daughters. His lordship was one of the most popular resident landlords in Ireland, and was also well known as a religious and benevolent nobleman. In 1847 he published a volume called "Church Melodies," for the benefit of the distress in Ireland; and in 1860 he published a poem "On the Love of God." Lord Massareene was a deputy-lieutenant for the county of Antrim and lieutenant-colonel of the Louth Militia, and was created a Knight of St Patrick in 1851. He is succeeded in his titles and estates by his eldest son Clotworthy John, born in 1842.

Lady Seaton, wife of Colonel Lord Seaton, died at Valetta House, Torquay, on Sunday morning, after giving birth to twins, and only a few days after the death of her father-in-law Field-Marshal Lord Seaton. She was the second daughter of General Lord Downes, and married, in 1851, Colonel the Hon. James Colborne, now Lord Seaton. Her ladyship was born in 1826, and was consequently in her 37th year.

Commander the Hon. Oliver Lambart, R.N., died at Thames Ditton on the 28th ult. He was the son of the seventh Earl of Cavan, a general in the army, and governor of Calshot Castle, by his second marriage, and was half-brother to the late Viscount Kilcoursie, father of the present Earl of Cavan. He was born in 1822, entered the navy in 1837, and served in the first China war, at the reduction of Amoy, the capture of Chusan, Chinghae, Nangpo, and Chapoo. He married a daughter of Captain Willes, R.N., of Langdown, Hants, and has had six sons and two daughters.

Major-General Dwyer, R.M., died at Lennox Lodge, Southsea, on the 22nd ult. He entered the Royal Marines as second lieutenant in 1812, and served in the blockading squadron off Flushing, the Texel, and Brest, and afterwards served in the Channel fleet. He was next employed on the East and West India stations, in the Mediterranean, and at Woolwich; was for many years lieut.-colonel of the Royal Marine Artillery at Portsmouth, and colonel commandment of the Royal Marines at Plymouth. He attained the rank of Major-General in 1859.

Sir Augustus Warren, Bart., died on Wednesday, at Macroom, in the county Cork. He was born in 1791, and succeeded his father in 1821. He is succeeded by his brother, now Sir John Borlase Warren, born in 1799.

Wills.—The will of Lady Olivia Sparrow has been sworn under 25,000*l.*; the Dowager Lady Stafford, 40,000*l.*; Sir William Stevenson, K.C.B., Governor of the Mauritius, 20,000*l.*; Sir John Wedderburn, Bart. 30,000*l.*; Admiral Sir James W. Deans Dundas, G.C.B., 16,000*l.*; Miss Hester Walker, of Weybridge Park, 90,000*l.*; Mr. William Hobson, of Harley Street, 300,000*l.*; Mr. William Stammers, of Nayland, Suffolk, 140,000*l.*

BIRTHS.—On the 24th ult, in Wilton Crescent, the Lady Emma Tollemache, of a daughter—20th ult, at Kensington, the Hon. Mrs. Roper-Curzon, of a daughter—28th ult, at St. Leonard's-on-Sea, the Hon. Mrs. Pakenham, of a daughter—27th ult, at 18, Eccleston Square, the wife of M. Wyvill, jun., Esq., M.P., of a daughter.

MARRIAGES.—On the 23d ult, at St. George's, Hanover Square, Major the Hon. Charles Wemyss Thesiger, Inniskilling Dragoons, second son of Lord Chelmsford, to Charlotte, eldest daughter of the Hon. George Handcock, of Marion Square, Dublin—28th inst, at St. George's, Hanover Square, R. E. Stuart Harrington, Captain Rifle Brigade, eldest son of Robert Harrington, Esq., of Crutherland, N.B., to Louisa Alice, second daughter of the Hon. Robert Arthur Arundell—21st ult, at Honington, Suffolk, S. Dowell Brownjohn, Esq., of Bath, to Eleanor Frances, eldest daughter of the Rev. George C. Hawkins, rector of Honington, and granddaughter of the late Sir John Cæsar Hawkins, Bart.—21st ult, at St. Mark's, Torquay, Joseph Kay, of the Inner Temple, Esq., to Mary Elizabeth, eldest daughter of the late Thomas Drummond, Esq., Under-Secretary of State for Ireland—30th ult, at St. Paul's Knightsbridge, Edmund Charles Nugent, Esq., only son of Sir George Nugent, Bart., and the Hon. Lady Nugent, to Evelyn Henrietta, youngest daughter of Lieut.-General Gascoigne—30th ult, at St. Peter's, Eaton Square, the Rev. Rowley Hill, M.A., of Trinity College, Cambridge, second surviving son of the late Sir George Hill, Bart., of St. Columbs, co. Londonderry, Ireland, to Caroline Maud, second daughter of Captain Alfred Chapman, of 90, Eaton Place.

DEATHS.—On the 29th ult, of scarlet fever, William Talbot, third son of the Right Hon. James and the Hon. Mrs. Stuart-Wortley, of East Sheen, Surrey, aged 10—22d ult, at Lindon Lodge, Bayswater, the Hon. Louisa Townsend, wife of Joseph Townsend, Esq., of Alveston House, Warwickshire, aged 66—25th ult, at 24, York Place, Edinburgh, Jane, wife of James T. Gibson Craig, Esq., W.S., and second daughter of the late Sir John P. Grant, of Rothiemurchus—26th ult, at 14, Cumberland Terrace, Regent's Park, Anne, youngest daughter of the late Lieutenant-General Edward Fanshawe, C.B., of the Royal Engineers—24th ult, at 12, Hyde Park Gate South, Kensington, Eliza, wife of Lieutenant-Colonel Harper, aged 64—25th ult, at Prestwich Rectory, Manchester, of scarlet fever, Henry Arthur Drinkwater, the dearly-loved only child of the Rev. Henry Mildred, and Harriet Julia Birch, aged 7 years—23d ult, at Markree Castle, Collooney, Ireland, Edward Joshua Cooper, Esq., aged 63—28th ult, at 6, Saville Row, Henry Charles Johnson, Esq., surgeon to St. George's Hospital, aged 54—23d ult, in Guildford Street, Peter Hardy, Esq., F.R.S., aged 49—28th ult, in Wimpole Street, James Birch Sharpe, Esq., of Birch Hall, Windlesham, Surrey, J.P. for Buckinghamshire, aged 73—26th ult, at Cheltenham, the Rev. Wm. Powell, B.D., canon of Llandaff, aged 93.

## Markets.

### COVENT GARDEN, May 2.

Vegetables of good quality continue to make their appearance in great abundance, and importations of foreign goods are also well kept up. Apples and Pears are now scarce; among the former good samples of Newtown Pippin may still be had. Oranges though tolerably plentiful, with the exception of the Tangerine, are dear. Cucumbers are cheap. Pine Apples and Grapes are sufficient for the demand, which, under present high prices, is limited. Old Potatoes are from 10s. to 20s. per cwt. lower than they were last week; large supplies of new Potatoes are making their appearance. Cornish Broccoli is still coming in by the crateful. Cut flowers chiefly consist of Orchids, Pelargoniums, Cinerarias, Azaleas, Violets, Mignonette, Tulips, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 7s to 10s | Oranges, per box, 12s 6d to 30s |
| Grapes, per lb., 10s to 15s | — per 100, 4s to 8s |
| Strawberries, p. oz., 6d to 1s | Nuts, small, p. bush, 14s to 18s |
| Pears, per doz., 18s to 24s | Chesnuts, do., 8s to 12s |
| Apples, per doz., 9d to 1s 6d | Almonds, do., 18s |
| — per ½ sieve, 3s to 6s | Walnuts, do., 10s to 16s |
| Lemons, per 100, 5s to 9s | Kent Cobs, p. 100 lbs., 150s |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Asparagus, per 100, 4s to 6s |
| Green Peas, per qt., 4s to 6s | Seakale, p. punnet, 1s 3d to 2s |
| Potatoes, York Regents, p. ton, 90s to 100s | Shallots, per lb., 6d to 8d |
| ,, Flukes, do., 100s to 120s | Rhubarb, p. bundle, 6d to 9d |
| ,, Rocks, do., 60s to 80s | Garlic, per lb., 6d to 8d |
| ,, Cups, do., 75s. to 85s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 3d to 4d | Endive, p. score, 1s to 2s |
| Carrots, do., 3d to 6d | Horse Radish, p. bundle, 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Salsafy, per bundle, 1s 6d to 2s |
| Cucumbers, each, 1s to 2s | Scorzonera, p. bundle, 1s 3d to 2s |
| Beet, per doz., 1s 6d | Mushrooms, p. pott., 1s to 1s 3d |
| Celery, p. bundle, 1s 6d to 2s | Parsley, p. 12 bunches, 3s to 4s |
| French Beans per 100, 2s | Herbs, per bunch 2d to 4d |

### METROPOLITAN CATTLE MARKET.

Monday, April 27.

The number of Beasts is considerably smaller than on Monday last, and we have consequently an advance in price. Sheep are more plentiful, yet the demand is good, and Thursday's advance is fully maintained. Trade is dull for Lambs, and prices are lower. Good Calves are in request at a slight advance. From Germany and Holland there are 220 Beasts, 1960 Sheep, and 210 Calves; from Scotland, 430 Beasts; from Ireland, 43; and 3030 from Norfolk and Suffolk.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools .. | — .. |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn .. | 4 6 to 4 8 |
| 2d quality Beasts | 3 2 — 4 0 | Ewes & 2d quality .. | — .. |
| Best Downs and Half-breds .. .. | — .. | Do. Shorn .. | 3 10 — 4 2 |
| Do. Shorn .. | 4 10 — 5 0 | Lambs .. .. | 6 8 — 7 4 |
| | | Calves .. .. | 4 0 — 5 6 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 3920; Sheep & Lambs, 22,650; Calves, 215; Pigs, 350.

Thursday, April 30.

We are largely supplied with Beasts, consequently trade is slow. The weather being favourable there is scarcely a quotable reduction in prices; yet a clearance cannot be effected at Monday's rates. The number of Sheep is not excessive, but quite equal to the demand; prices remain unaltered. Lambs are less in demand, and on the average lower. Calves are plentiful, and trade for them is rather worse. From Germany and Holland there are 235 Beasts, 480 Sheep and 407 Calves; the number of Milch Cows is 125.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. . | 4 8 to 5 0 | Best Long-wools. .. | — .. |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn .. | 4 6 — 4 8 |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | 4 6 — 4 8 |
| Best Downs and Half-breds .. .. | — .. | Do. Shorn .. | 3 10 — 4 2 |
| Do. Shorn . | 4 10 — 5 0 | Lambs .. .. | 6 4 — 7 4 |
| | | Calves . .. | 4 0 — 5 4 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 1355; Sheep & Lambs, 6870; Calves, 511; Pigs, 170.

### NEWGATE.—May 1.

Best Fresh Butter .. .. 14*s.* per dozen lbs.
Second do. do. .. .. 12*s.* ,,
Pork, 4*s.* 0*d.* to 4*s.* 8*d.* per 8 lbs.

### COAL MARKET.—April 22.

Buddle's West Hartley, 15s. 3d.; Bates' West Hartley, 13s. 9d.; Tanfield Moor Butes, 12s. 3d.; Eden Main, 14s. 6d.; Hastings Hartley, 15s. 3d.; Tanfield Moor, 12s. 4d.; Walls End Riddell, 14s.; Walls End Haswell, 17s.; Walls End Hetton, 17s.; Walls End South Hetton, 17s.; Walls End Tunstall, 14s. 6d.; Walls End Cassop, 15*s.* 6d.; Walls End Hartlepool, 16s. 9d.; Walls End Heugh Hall, 15s; Walls End Kelloe, 16s.; Walls End South Kelloe, 15s. 6d.; Walls End Trimdon Hartlepool, 16s. 9d.; Walls End South Hartlepool, 15s. 3d.; Carway and Duffryn Malting, 19s. 6d.—92 ships at market.

### HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, April 30.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 72s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | 75 | 80 | New Clover .. .. | — | — |
| Inferior do. .. | 40 | 60 | Do. second cut .. | 80 | 105 |
| New do. .. .. .. | — | — | Straw .. .. .. | 30 | 36 |
| Rowen .. .. .. | 40 | 60 | | | |

Harvey & Easton.

Cumberland Market, Thursday, April 30.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay.. | 90s to | 95s | Inferior Clover .. | 84s to | 97s |
| Inferior do. .. .. | 65 | 84 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 38 | 43 |
| Superior Clover .. | 108 | 117 | | | |

Joshua Baker.

Whitechapel, Thursday, April 30.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 80s to | 84s | Prime Clover .. | 110s to | 118s |
| Inferior do. .. .. | 60 | 70 | Inferior do. .. | 100 | 108 |
| Prime New Hay .. | — | — | Prime 2d cut .. | 100 | 108 |
| Inferior .. .. | — | — | Inferior do. .. .. | — | — |
| Straw .. .. .. | 30 | 34 | New 2d cut .. | — | — |

### BRITISH WOOLS.—London, May 1.

There is still a fair inquiry for most descriptions of skin wool, and they have become comparatively scarce. Fleeces and sorts were never known to be in such limited supply at this season of the year. The trade in all departments continues healthy and prices firm.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hogges .. .. .. | 1 8½ to 1 9 | Leicest. Wethers | 1 7 to .. |
| Half-bred ditto.. | 1 8½ — 1 9 | Ditto Hoggs .. | 1 8 — .. |
| Down Ewes .. | 1 8 — 1 8½ | Combing Skins | 1 2 — 1 6 |
| Kent Fleeces .. | 1 7 — 1 7½ | Flannel Wool .. | 1 4 — 1 8 |
| | | Blanket ditto .. .. | — .. |

The Colonial Wool Sales commenced last night at a reduction of ½d. per lb. on some descriptions, and on others at lower rates as compared with the last series.

### HOPS.—Borough Market, Friday, May 1.

Messrs. Pattenden & Smith report a good trade for fine and middling samples of both English and foreign at rather higher prices, and lower descriptions are more inquired after.

### MARK LANE.—Monday, April 27.

The supply of Wheat from Essex and Kent to this morning's market was small, and met a good inquiry at an improvement of 1s. per qr. upon the prices of this day se'nnight. American was in better demand at an advance of 2s. per qr. The sale of Baltic continues to be limited, and the extreme rates of last week could not be exceeded. Floating and C. F. I. cargoes were not offered, excepting at 1s. to 2s. per qr. more money, which checked business. Barley, Beans, and Peas brought our last week's quotations. Oats were in fair demand at an advance of 6d. per qr. Flour was generally held for an improved price, and American brought 6d. per barrel more money.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk..White | 46—56 | Red .... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — — Talavera .............. | 48—60 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 34—62 | | |
| Barley, grind. & dist., 23s to 30s..Chev. | 34—38 | Malting . | 31—34 |
| — Foreign..grinding and distilling | 23—27 | Malting . | 28—32 |
| Oats, Essex and Suffolk .......... | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .. | 21—23 |
| — Irish .................Potato | — | Feed .. | — |
| — Foreign.........Poland and Brew | 20—22 | Feed .. | 17—22 |
| Rye ............................ | 35—37 | Foreign . | — |
| Rye-meal, foreign................ | — | | |
| Beans, Mazagan....30s to 31s ...Tick | 31—32 | Harrow . | 31—32 |
| — Pigeon ......34s —38s..Winds. | — | Longpod | — |
| — Foreign ..................Small | 40—46 | Egyptian | 32—34 |
| Peas, white, Essex and Kent..Boilers | 35—37 | Suffolk . | 37—40 |
| — Maple ....42s to 43s ...... Grey | 36—37 | Foreign . | 30—38 |
| Maize..........................White | — | Yellow .. | — |
| Flour, best marks delivered..per sack | 42—47 | | |
| — 2d do ....................ditto | 32—40 | Country | 32—40 |
| — Foreign ..............per barrel | 23—30 | Per sack | 34—48 |

Friday, May 1.

The weather continued very fine and mild until the 28th ult., when it became cold, and has since continued so, with showers of rain and hail. Last night there were several degrees of frost. The reports of the growing crops are most promising, and the present cold weather is considered as very favourable by preventing the growth from being too rapid, which warm rain probably would have caused. The Wheat trade during the week has shown greater activity than of late, but no excitement; prices of Wheat throughout the kingdom are quoted either at 1s. or 1s to 2s. per qr. higher. Spring Corn fully supports the rates of last week, and Oats are generally sold at an improvement of 6d. per qr. Foreign flour must also be written 1s. per sack and 6d. per barrel dearer. Since Friday last 4 vessels have been reported off the coast. The business done in floating cargoes has been only limited, in consequence of the very small number of cargoes off the coast, but there is a better demand for all sorts of grain at improved prices. Wheat must be quoted 1s. to 2s., Maize 1s., Beans 6d., and Linseed 1s. per qr. higher than last week. In Paris (April 30), Flour has remained unaltered in price, but is very difficult to sell. The Wheat trade has been quiet, and prices must be quoted 6d. lower per 480 lbs. The present stock of Flour is estimated at 20,600 cwts. The arrivals of foreign Barley during the week have been good, but of all other grain very small. The attendance at to-day's market was limited. Monday's prices were supported both for English and foreign Wheat, but the business transacted was of a retail character. Barley, Beans, and Peas were steady at late rates. Oats were held for a slight advance, which was not responded to by purchasers, and the trade was quiet.

Arrivals this Week.

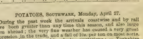
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 830 qrs. | 70 qrs. | — qrs. | 670 sks. |
| Irish .... | — | — | — ,, | — ,, |
| Foreign .. | 1180 | 3750 ,, | 10,160 ,, | 200 ,, — brls |

Liverpool, April 28.—With a good attendance of both town and country millers and dealers at this morning's market, Wheat has met a healthy consumptive sale at an advance of 3d. per cental over the currency of Friday last, whilst Flour has commanded a moderate share of attention at an improvement from 6d. to 1s. per barrel and sack. Indian Corn finds increasing favour and must be quoted 1s. to 1s. 3d. per quarter dearer. Oats bring full prices, and Oatmeal 6d. per load more money. No change in Beans, Peas, and Barley.

Friday, May 1.—The Market keeps firm, with fair demand for Wheat and Flour, at advancing rates. Beans and Indian Corn firm. Oats and Oatmeal quiet.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Mar. 21.. | 45*s* 0*d* | 36*s* 9*d* | 21*s* 6*d* | 35*s* 11*d* | 35*s* 7*d* | 36*s* 6*d* |
| — 28.. | 45 4 | 36 5 | 21 2 | 32 4 | 35 4 | 35 5 |
| April 4.. | 45 9 | 36 6 | 21 5 | 30 4 | 36 1 | 35 11 |
| — 11.. | 45 6 | 36 8 | 21 5 | 31 9 | 35 11 | 35 2 |
| — 18.. | 45 6 | 35 4 | 21 6 | 30 5 | 36 6 | 36 2 |
| — 25.. | 45 8 | 35 3 | 21 11 | 30 6 | 36 11 | 35 3 |
| Agg. Aver. | 45 6 | 36 0 | 21 6 | 31 10 | 36 1 | 35 7 |

Fluctuations in the Last Six Weeks' Averages.




### POTATOES, Southwark, Monday, April 27.

During the past week the arrivals coastwise and by rail have been greater than any time this season, and also large from abroad; the very fine weather has caused a very great depression in the trade, and a fall of 10*s.* per ton on most sorts. The following are this day's quotations:—Yorkshire Flukes, per ton, 110s. to 130s.; ditto Regents, 90s. to 100s.; do. Seedlings, 90s. to 95s.; do. Rocks, 80s. to 85s.;

Kent and Essex Regents, —s to —s.; Perth, Forfar, and Fife ditto., 70s. to 80s.; ditto Rocks, 65s. to 70s.; ditto Reds, 60s. to 65s.; French Whites, 50s. to 55s.; Belgian do., 45s. to 50s.

WANTED, a respectable Man to TRAVEL on COMMISSION; one having a connection among Landowners will be liberally treated with.—Address, T., 418, Stretford Road, Manchester.

WANTED, a respectable MAN, married, without incumbrance, to look after a large garden, propagate Roses and Fruit Trees. He will have to look after two Cows and a Pony; necessary assistance employed. An excellent Cottage, Milk, Vegetables, and 15s. per week.—Apply to A. B., 63, King Street, Maidstone.

WANTED, in the Country, a middle aged MAN and his WIFE (without children) who have been accustomed to and thoroughly understand the proper Management of a Dairy and Poultry. They must have undoubted characters for honesty and sobriety from their last employers, and none need apply who cannot produce the necessary recommendations showing that they are fully competent to undertake the situation.—Address by letter, prepaid, to W. O., care of J. Bowie, 7, Mark Lane, London, giving all particulars of age, &c., and their previous occupation.

WANTED, a LAD, about 18 years of age, who has been accustomed to a Flower and Kitchen Garden. One recommended by a Nurseryman preferred. He will have a Cow to look after. Wages, 15s. per week.—Address, B., 51, Seymour Street, Euston Square, N.W., stating particulars and references

WANTED, a GROOM and COACHMAN to drive a Brougham.—Apply to Mr. Douthwaite, Saddler, Finsbury.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (Head).—Age 40, married; well experienced Eight years' good character.—A., Mr. Bendell, Greengrocer, High Street, Camberwell, S.

GARDENER (Head).—Age 30; has a good practical knowledge of his profession in all its branches. Three years' good character.—W. W., Post Office, Colney Hatch, Middlesex, N.

GARDENER (Head).—Age 34, married; thorough practical knowledge of his profession. Twenty years' experience. Satisfactory references.—A. B., 25, Victoria Terrace, St. John's Wood, N.W.

GARDENER (Head).—Age 32, married; understands Flower, Fruit, and Kitchen Gardening, Early and Late Forcing. Good character. No single-handed place accepted. A. B., Halstead, Essex.

GARDENER (Head).—Age 30, married, no incumbrance; thoroughly understands his profession in all its branches. Three years' excellent character from last and previous employers.—A. B., 5, Victoria Cottages, Archway Road, Highgate, N.

GARDENER (Head), in a nobleman's or gentleman's family.—Age 36, married, no incumbrance; thoroughly experienced in all the branches of his profession. Character unexceptionable.—J. C., Post Office, Stanstead, near Bishops Stortford.

GARDENER (Head).—Age 40, married; understands Pines, Vines, &c., Stove and Greenhouse Plants, and Kitchen and Flower Gardens; also the Management of Pasture Land, if required. Three years' good character.—J. W., Leslie Cottage, Laurel Grove, Penge, Surrey.

GARDENER (Head).—Well experienced in his profession; the Growing and Forcing of Choice Fruits, Flowers, and Vegetables. Can be highly recommended. Three and a-half years' unexceptionable character.—R. L., Sion Row, Twickenham.

GARDENER (Head).—Age 34, single; has a thorough practical knowledge of his profession in all its various branches; the Forcing of Fruit, Flower, and Vegetables, and the routine of Kitchen and Flower Gardens, Plants, &c. Six years' good character.—G. G., Pine Apple Nursery, Edgeware Road, W.

GARDENER (Head), where two or more are kept.—Has had extensive practice in all kinds of Forcing, the Management of Stove, Greenhouse, Orchard-house and Vinery, Kitchen and Flower Gardens. Three years' character. Wife experienced Laundress if required.—A. B., 12, South Island Place, Brixton Road, London, S.

GARDENER (Head).—Age 36, married, two children, youngest six years of age; practically understands Stove and Greenhouse Plants, Vines, Peaches, &c., with the general rotation of Flower and Kitchen Gardening, Cropping. Good reference.—Thos. Rae, Gardener to E. F. Flower, Esq., Stratford-on-Avon.

GARDENER (Head).—Thoroughly understands Vines, Peaches, Cucumbers, Melons, &c.; also the Cultivation of Stove and Greenhouse Plants, Fine-foliaged Plants, Ferns, Orchids, &c., Flower and Kitchen Gardening. Wife a thorough Laundress. Excellent testimonials.—H. G., 4, Grove Road, King's Road, Fulham, S.W.

GARDENER (Head), with any nobleman or gentleman requiring the services of a thoroughly trustworthy and competent person.—In the prime of life, capable of conducting a first-class Establishment; has been employed in some of the finest gardens in the kingdom. Testimonials of the highest order.—Care of Mr. A. Saunders, The Gardens, Theobalds Park, Waltham Cross, Herts.

GARDENER (Head).—Age 33, single; first-class Plant and Fruit Grower; thoroughly conversant in Laying-out new Grounds, making Vine and Peach Borders on the most approved principles; the arrangement and Erection of every description of Horticultural Buildings. Can be highly recommended by the gentleman whom he is now leaving, and several of the leading Horticulturists of the present day.—X. Y., *Gardeners' Chronicle* Office, W.C.

GARDENER (Head), where two or more are kept.—Middle aged, no incumbrance; thoroughly understands his profession in all branches. Has lived in some of the leading places in the North of England. The highest testimonials from the lady he has left, and to whom any lady or gentleman can refer for character and ability. Wife capable of taking charge of Mansion, having lived upwards of 20 years as Upper Housemaid in some of the leading families in England.—A. B., Mr. Adam, Bookseller, Hull.

GARDENER (Head).—Age 28, married, one child. Wm. Wood & Son are desirous of recommending a really good Gardener; one well acquainted with his profession in all its branches.—Woodlands Nursery, Maresfield, Uckfield, Sussex.

GARDENER (Head).—Married, no incumbrance; has a thorough knowledge of the management of Vines, Early and Late Forcing, Greenhouse Plants, Kitchen and Flower Gardens. Good reference as to character and ability.—J. S., Mr. E P. Francis's Nurseries, Hertford.

GARDENER (Head).—Age 29; thoroughly understands the Growing of Pines, Vines, Peaches, Melons, and Cucumbers; the Management of Kitchen and Flower Gardens, Plants, &c.; has lived in some of the best places in town and country. Good character from present and former situations.—W. M., The Gardens, The Mount, Bishopstoke, near Winchester.

GARDENER (Head).—Age 34, married, no incumbrance; thorough practical knowledge of his profession; the Forcing of Fruits, Flowers, and Vegetables, and the general routine of Kitchen and Flower Garden; is a good Cultivator of all kinds of Plants, including those for Exhibition. Good character.—J. R., 11, Queen's Terrace, Camden Road Villas, N.W.

GARDENER (Head or Single-handed).—Married, two children. One year and 10 months good character. G. E., Mr. Brister, High Street, Merton, Surrey, S.

GARDENER (Head, or Single-handed).—Age 25, single; understands the Management of Greenhouse Plants, Vines, Cucumbers, Melons, Kitchen and Flower Gardens. One year's character.—G. S., Rose Cottage, Crayford, Kent, S.E.

GARDENER (Head or Single-handed).—Age 38, married, no incumbrance; understands the Management of Greenhouses, Vines, Kitchen and Flower Gardens. Good character.—A. B., Jackson's Nursery, Kingston, Surrey.

GARDENER (Head, or Single-handed).—Age 29, married, one child; understands Vines, Early and Late Forcing, Greenhouse, and Flower and Kitchen Gardening. Good character.—S. R., Mr. Langton's, Southsea Road, Surbiton, Surrey.

GARDENER (Head or Single-handed).—Age 35, married, one child aged eight; understands Gardening in all its branches. Wife could Manage a small Dairy. Two and a half years' good character and previous recommendation.—W. S., Mr. Davis, Dean Street, Dorking.

GARDENER (Head Working).—Middle aged, married (Scotch), with one child; understands Gardening in all its branches, and can manage Land if required. Wife an excellent Dairywoman. The best references.—A. B., Barker's Library, Dorcas Terrace, Hammersmith, W.

GARDENER (Good Working).—Middle-aged, married, one child 8 years of age; thoroughly competent in Forcing Fruits, Flowers, and Vegetables; Kitchen and Flower Gardening. Four years' unexceptionable character.—A. B., Dobson's, Woodlands Nursery, Isleworth, W.

GARDENER, where three or four are kept, or FOREMAN, in a nobleman's or gentleman's family. Two years and a half good character.—E. C., Mr. Osborne, East Acton, Middlesex.

GARDENER, or to look after a Horse and Brougham, small Flower Garden or Kitchen Garden.—Age 28, married; well understands Vines and Forcing. Two years' character.—F. F., 97, Ann Street, Plumstead, Kent, S.E.

GARDENER (Second).—Age 30, married; has a good knowledge of Plants and Forcing; but wishes for further improvement.—O. A., Post Office, Southport, Lancashire.

GARDENER (Second or Single-handed).—Age 27. Four years' character.—E. R., 1, Surrey Place, Woodbine Grove, Penge, S.E.

GARDENER (Under) or FOREMAN in the Houses.—Understands Forcing, and Flower and Kitchen Gardening.—A. C., Mr. Lee's, Westerham, Kent.

GARDENER (Under or Single-handed).—Age 20, single; no objection to a Cow. Four years' character.—J. B., 34, King Street, Maidstone.

GARDENER (Under), in a gentleman's family, where he can improve himself in Forcing, &c.—Age 25, single. Two and a half years in the situation he is about leaving. Is willing to pay a premium.—W. Downing, Bellsize Cottage, Hampstead, N.W.

GARDENER (Under), in a large garden; to take charge of the houses preferred.—Young. Two years' good character.—Apply to Mr. Peal, Bookseller, Derby.

GARDENER (Under), where Forcing, &c., is carried on.—Age 19; wishes to improve. 5*l.* Premium given. Good character.—B. D., Mr. Hansford, 40, Church Street, Stoke Newington, London, N.

FOREMAN, or FOREMAN and PROPAGATOR.—Well versed in the Propagating and Growing of all kinds of Plants, and well up to business. First-class testimonials.—A. B., Mr. Wm. Bull's Establishment for New and Rare Plants, King's Road, Chelsea, S.W.

PROPAGATOR, or PROPAGATOR and FOREMAN.—A young Man of 10 years' experience in some of the leading Nurseries.—A. B., 3, Andover Road, Hornsey Road, Holloway, N.

PROPAGATOR, or FOREMAN and PROPAGATOR, in a small Nursery.—Has had lengthened experience in Propagation and Culture. Satisfactory references if required.—J. W., Post Office, St. Thomas, Exeter.

### To Nurserymen.

PROPAGATOR (Soft-wooded).—Has had considerable experience. Unexceptionable references.—A. B., 5, South Grove, Rye-Lane, Peckham, S.E.

SALESMAN, or FOREMAN and GENERAL PLANT GROWER.—Three years' good character.—A. M., Post Office, Wakefield.

STEWARD or FARM BAILIFF.—Age 33, married; has studied at the Royal Agricultural College, and been since extensively employed in every branch of Agriculture, the Breeding and Rearing of Stock, Erection of Farm Buildings, Draining, and the Management of Timber and Underwood; is also a good Accountant. Wife a first-class Dairy Manager.—A. B., Messrs. Peter Lawson & Sons, 28, King Street Cheapside, E.C.

SHOPMAN or CLERK, in a first-class Establishment.—Age 21. Eight years' experience. Highly satisfactory references as to ability, integrity, &c.—G. F., Mr. B. Smith, Seed Merchant, Worcester.

CHANDELIERS for DINING ROOM and LIBRARY, Candelabra, Moderator Lamps, in Bronze, Ormolu, China, and Glass. Statuettes in Parian, Vases and other Ornaments.

Osler, 45, Oxford Street, London, W.

OSLER'S GLASS CHANDELIERS. Wall Lights and Lustres for Gas and Candles, Table Glass, &c.
Glass Dinner Services for 12 persons, from 7*l.* 15*s.*
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All articles marked in plain figures.
Ornamental Glass, English and Foreign, suitable for Presents, Mess, Export, and Furnishing Orders promptly executed.
London—Show Rooms, 45, Oxford Street, W.
Birmingham—Manufactory and Show Rooms, Broad Street.
Established 1807.

THE PERFECT SUBSTITUTE for SILVER.—The REAL NICKEL SILVER, introduced more than 30 years ago by William S. Burton, when PLATED by the patent process of Messrs. Elkington & Co., is beyond all comparison the very best article next to sterling silver that can be employed as such, either usefully or ornamentally, as by no possible test can it be distinguished from real silver. A small useful set, guaranteed of first quality for finish and durability, as follows:—

| | Fiddle or Old Silver Pattern. | Thread or Brunswick Pattern. | Lily Pattern. | King's or Military Pattern. |
|---|---|---|---|---|
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| 12 Table Forks | 1 13 0 | 2 4 0 | 2 10 0 | 2 15 0 |
| 12 Table Spoons | 1 13 0 | 2 4 0 | 2 10 0 | 2 15 0 |
| 12 Dessert Forks | 1 4 0 | 1 12 0 | 1 15 0 | 1 17 0 |
| 12 Dessert Spoons | 1 4 0 | 1 12 0 | 1 15 0 | 1 17 0 |
| 12 Tea Spoons | 0 16 0 | 1 2 0 | 1 5 0 | 1 7 0 |
| 6 Egg Spoons, gilt bowls | 0 10 0 | 0 13 6 | 0 15 0 | 0 15 0 |
| 2 Sauce Ladles | 0 6 0 | 0 8 0 | 0 9 0 | 0 9 6 |
| 1 Gravy Spoon | 0 6 6 | 0 10 0 | 0 11 0 | 0 12 0 |
| 2 Salt Spoons, gilt bowls | 0 3 4 | 0 4 6 | 0 5 0 | 0 5 0 |
| 1 Mustard Spoon, gilt bowl | 0 1 8 | 0 2 3 | 0 2 6 | 0 2 6 |
| 1 Pair of Sugar Tongs | 0 2 6 | 0 3 6 | 0 4 0 | 0 4 6 |
| 1 Pair of Fish Carvers | 1 4 0 | 1 7 6 | 1 10 0 | 1 12 0 |
| 1 Butter Knife | 0 2 6 | 0 5 6 | 0 6 0 | 0 7 0 |
| 1 Soup Ladle | 0 10 0 | 0 17 0 | 0 17 0 | 1 0 0 |
| 1 Sugar Sifter | 0 3 3 | 0 4 6 | 0 5 0 | 0 5 6 |
| Total | 9 19 9 | 13 10 3 | 14 19 6 | 16 4 0 |

Any article to be had singly at the same prices. An Oak Chest to contain the above, and a relative number of Knives, &c., 2*l.* 15*s.* Tea and Coffee Sets, Dish Covers and Corner Dishes, Cruet and Liqueur Frames, &c., at proportionate prices. All kinds of re-plating done by the patent process.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro Plate, Nickel Silver, and Britannia Metal Goods, Dish Covers, Hot Water Dishes, Stoves, Fenders, Marble Chimneypieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays, Urns, and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Room Cabinet Furniture, &c., with Lists of Prices, and Plans of the 20 large Show Rooms, at 39, Oxford Street, W.; 1, 1A, 2, 3, and 4, Newman Street; 4, 5 and 6, Perry's Place; and 1, Newman's Yard, London, W.C.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE PROOF STRONG ROOM DOORS; CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
Chubb & Son, 57, St. Paul's Churchyard, London, E.C.

THRESHER'S COLORED FLANNEL SHIRTS.—Prize Medal awarded to Thresher & Glenny for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.

Lists of Prices on application to Thresher & Glenny, General Outfitters, next door to Somerset House, Strand, W.C.

Odours of Plants.

PIESSE and LUBIN extract the PERFUME from every fragrant Flower by the process of "Enfleurage," which being conducted while the plant is yet alive, the odours obtained are retained in their true and natural fragrance. Jasmin, Violet, Acacia (Farnesiana), Tuberose, Jonquil, Orange, Mignonette, and several others. Sold in Bottles, 2*s.* 6*d.* each. Laboratory of Flowers, 2, New Bond Street.

Eau-de-Vie.

THIS PURE PALE BRANDY, 18*s.* per gallon, is peculiarly free from acidity, and very superior to recent importations of Cognac. In French Bottles, 38*s.* per dozen; or in a case for the country, 39*s.* Railway Carriage paid. No Agents.

Henry Brett & Co.,
Old Furnival's Distillery, Holborn, E.C.
and 30, Regent Street, Waterloo Place, S.W., London.
Prices Current free on application.

CAPTAIN WHITE'S ORIENTAL PICKLE, CURRY or MULLIGATAWNY PASTE, Curry Powder, and Curry Sauce, may be obtained from all Sauce Vendors, and Wholesale of Crosse & Blackwell, Purveyors to the Queen, Soho Square, London, W.

Sauce.—Lea and Perrins'

WORCESTERSHIRE SAUCE,
Pronounced by Connoisseurs
"THE ONLY GOOD SAUCE."
See Name on Wrapper, Label, Bottle, and Stopper, and to avoid Counterfeits
Ask for Lea and Perrins' Sauce

*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. Crosse & Blackwell; Messrs Barclay & Sons, London, &c.; and by Grocers and Oilmen universally.

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild aperient for delicate constitutions, more especially for ladies and children.—It is prepared in a state of perfect purity and of uniform strength by Dinneford & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

CORNS and BUNIONS.—A Gentleman many years tormented with Corns will be happy to afford others the information by which he obtained their entire removal in a short period, without pain or any kind of inconvenience.
Forward address on a stamped envelope to W. Goodall, Esq., 1, Royal Colonnade, Brighton, Sussex.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, MAY 9, 1863.*


**Notice.**

MR. A. CHANDLER (of the late Firm of CHANDLER & SONS), HORTICULTURAL VALUER, begs to inform his friends and the public that he has REMOVED from Priory Road, Wandsworth Road, to No. 1, Devonshire Terrace, Fulham Road, S.W.

**Glass for Garden Purposes.**

JAMES PHILLIPS AND CO. beg to submit their prices as follows:—

PROPAGATING GLASSES.

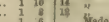
| | Each—s. d. | | Each—s. d. |
|---|---|---|---|
| 2 inches in diameter .. | 0 3½ | 12 inches in diameter .. | 1 9 |
| 3 ,, ,, .. | 0 4½ | 13 ,, ,, .. | 2 0 |
| 4 ,, ,, .. | 0 5½ | 14 ,, ,, .. | 2 6 |
| 5 ,, ,, .. | 0 6½ | 15 ,, ,, .. | 3 0 |
| 6 ,, ,, .. | 0 8 | 16 ,, ,, .. | 3 6 |
| 7 ,, ,, .. | 0 10 | 17 ,, ,, .. | 4 0 |
| 8 ,, ,, .. | 1 0 | 18 ,, ,, .. | 5 0 |
| 9 ,, ,, .. | 1 2 | 19 ,, ,, .. | 6 0 |
| 10 ,, ,, .. | 1 4 | 20 ,, ,, .. | 7 0 |
| 11 ,, ,, .. | 1 6 | | |

HAND GLASSES.

| | Each—s. d. | | Each—s. d. |
|---|---|---|---|
| 12 inches .. .. .. | 6 0 | 18 inches .. .. .. | 9 0 |
| 14 ,, .. .. .. | 7 0 | 20 ,, .. .. .. | 10 0 |
| 16 ,, .. .. .. | 8 0 | 24 ,, .. .. .. | 12 0 |

Painted and Glazed with 16 oz. Sheet Glass.
If Open at Top, 1s. extra.

CUCUMBER GLASSES.



| | | | |
|---|---|---|---|
| 24 inches long .. | 2s. 0d. | 16 inches long .. | 1s. 4d. |
| 22 ,, ,, .. | 1 10 | 14 ,, ,, .. | 1 3 |
| 20 ,, ,, .. | 1 8 | 12 ,, ,, .. | 1 0 |
| 18 ,, ,, .. | 1 6 | Made to any length. | |

London Agents for Hartley's Improved Patent Rough Plate. Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

180, Bishopsgate Street Without, London, E.C.

**Glass.**

THOMAS MILLINGTON, HORTICULTURAL WAREHOUSE, 87, Bishopsgate Street Without, London, E.C.
ESTABLISHED 1750.
NEW REDUCED TARIFF.

SMALL SHEET SQUARES.

Best. 2nds. 3rds. 4ths. } Per 100 feet
20s. 16s. 12s. 6d. 11s.

| | | |
|---|---|---|
| 6 in. by 4 in. | 9½ in. by 7½ in. | 14 in. by 10 in. |
| 6½ ,, by 4½ ,, | 10 ,, by 8 ,, | 15 ,, by 10 ,, |
| 7 ,, by 5 ,, | 11 ,, by 9 ,, | 12 ,, by 11 ,, |
| 7½ ,, by 5½ ,, | 12 ,, by 9 ,, | 13 ,, by 11 ,, |
| 8 ,, by 6 ,, | 13 ,, by 9 ,, | 13½ ,, by 11½ ,, |
| 8½ ,, by 6½ ,, | 12 ,, by 10 ,, | |
| 9 ,, by 7 ,, | 13 ,, by 10 ,, | |

Best. 2nds. 3rds. 4ths. } Per 100 feet
23s. 18s. 6d. 14s. 6d. 12s. 3d.

| | | |
|---|---|---|
| 15 in. by 11 in. | 16 in. by 12 in. | 24 in. by 14 in. |
| 16 ,, by 11 ,, | 17 ,, by 12 ,, | 22 ,, by 15 ,, |
| 17 ,, by 11 ,, | 18 ,, by 12 ,, | 24 ,, by 15 ,, |
| 18 ,, by 11 ,, | 22 ,, by 12 ,, | 20 ,, by 16 ,, |
| 13 ,, by 12 ,, | 17 ,, by 13 ,, | 20 ,, by 17 ,, |
| 14 ,, by 12 ,, | 23 ,, by 13 ,, | 20 ,, by 18 ,, |
| 15 ,, by 12 ,, | 22 ,, by 14 ,, | |

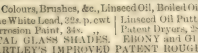
ORCHARD-HOUSE SIZES, as supplied to Mr. Rivers & others

| | Best. | 2nds. | 3rds. | 4ths. | |
|---|---|---|---|---|---|
| 16 oz. | 22s. 0d. | 18s. | 15s. 0d. | 12s. 6d. | Per 100 feet |
| 21 oz. | 33 6 | 28 | 21 6 | 17 0 | |

20 in. by 12 in. | 20 in. by 13 in. | 20 in. by 14 in. | 20 in. by 15 in.

GLASS, cut according to size not on the List.
16 oz. 4ths. 1¾d. 2d. and 2½d. per foot.
,, 3rds. 2¼d. 2½d. and 3d. ,,
21 oz. 4ths. 2¾d. 3d. and 3½d. ,,
,, 3rds. 3½d. 4d. and 4½d. ,,

Various thicknesses of Sheet Glass to the foot.




Paints, Colours, Brushes, &c., Linseed Oil, Boiled Oil, Turpentine.
Genuine White Lead, 32s. p. cwt | Linseed Oil Putty, 8s. per cwt.
Anticorrosion Paint, 34s. ,, | Patent Dryers, 28s. to 42s. ,,
CRYSTAL GLASS SHADES. EBONY and GILT STANDS.
HARTLEY'S IMPROVED PATENT ROUGH PLATE.
*_* Not accountable for breakage.
SHEET LEAD, PIPE, &c., at the lowest wholesale prices.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1s. 6d. per yard run.
Four yards wide .. .. .. 3s. per yard.
An improved make, 2 yards wide, 1s. 3d. per yard.
An improved make, 3 yards wide, 2s. 6d. per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1s. 4d. per yard run.

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

**Do as Others Do!**

BUY YOUR SEED BAGS from JAMES T. ANDERSON, SACK and BAG MAKER, and RUSSIA MAT MERCHANT, 15, SHERBORNE LANE, King William Street, London, E.C., who will supply you with a first-rate article at a low price. ARCHANGEL MATS, the pick of the season. Russian and Prussian Dunnage Mats.

Prices sent free on application.

**Bee-Hives.**

PRIZE MEDAL AND HONOURABLE MENTION AWARDED TO G. N. & SONS, for BEE-HIVES & HONEY at the VARIOUS EXHIBITIONS.

NEIGHBOUR'S IMPROVED COTTAGE BEE-HIVE, as originally introduced by GEORGE NEIGHBOUR & SONS, with all the recent improvements, three glasses, and thermometer, price 35s., securely packed for the country.

Several important novelties are introduced this season, including the WOODBURY STRAW BAR-AND-FRAME HIVE, price 18s. 6d., &c. Also, the ENGRAVED PRESSING ROLLER for the guidance of Bees in the construction of Honeycomb on the Bars, and impressed WAX SHEETS, to assist in the formation of cells.

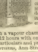
Address GEORGE NEIGHBOUR & SONS, 127, High Holborn, W.C., or 149, Regent Street, London, W.

Their newly-arranged Catalogue of other Improved Hives, with drawings and prices, sent on receipt of two stamps.

AGENTS:—Liverpool .. JAMES CUTHBERT, 12, Clayton Square,
,, Manchester . J. WILSON, 50, King Street.
,, Birmingham J. H. COTTRELL, 15, Bull Ring.
,, Dublin .. J. EDMONDSON, BROTHERS, 10, Dame Street.
,, Glasgow .. AUSTIN & M'ASLAN, 186, Trongate.

**Exhibition Prize Medal, 1862.**

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.—This Stove is the nearest approach to Warming by Hot Water, and an efficient aid in Ventilation.



It will burn in Churches from Saturday till Sunday evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of Warming a large Apartment for 24 hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

It is also made for Small Conservatories, with a vapour chamber, which maintains a moist atmosphere for 12 hours with once filling.

Particulars and prices post free on application to MUSGRAVE BROTHERS, Ann Street Iron Works, Belfast.

RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3d. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3l. 10s.

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

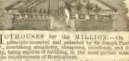
DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

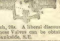
**Hothouses for the Million.**—AWARDED A PRIZE MEDAL AT THE INTERNATIONAL EXHIBITION, 1862.



HOTHOUSES for the MILLION.—On the principle invented and patented by Sir Joseph Paxton, M.P., combining simplicity, cheapness, excellence, and durability, being capable of fulfilling, in the most perfect manner, all the requirements of Horticulture.

Illustrated Circulars, with Lists of Prices, can be had on prepaid application to SAMUEL HEREMAN, 7, Pall Mall East, London.

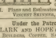
Also, A HANDBOOK on VINE and FRUIT TREE CULTIVATION, price 1s.; post free, 1s. 1d.



T. G. MESSENGER, HORTICULTURAL BUILDER and ENGINEER, Loughborough, has recently patented a VALVE which is unequalled for its efficiency, simplicity, durability, and cheapness. Prices as under. Two-inch, 17s. 6d.; 3-inch, 23s.; 4-inch, 28s. A liberal discount to the Trade.

These Valves can be obtained in London of Mr. J. JONES, 6 Bankside, S.E.

**West of England, Ireland, and Wales.**



VINCENT SKINNER (*late Partner with* J. WEEKS & Co.), HORTICULTURAL BUILDER and HOT-WATER APPARATUS MANUFACTURER. HEATING on the ONE-BOILER SYSTEM. Plans and Estimates on application.

VINCENT SKINNER, Bridewell Street, Bristol.

**Under the Patronage of Her Majesty.**

CLARK AND HOPE (late CLARK), HORTICULTURAL BUILDERS, COPPER, SASH, and HOT-WATER APPARATUS MANUFACTURERS, 55, Lionel Street, Birmingham.
Established A.D. 1818.

**Card.**

SAMUEL N. McGERROW, GENERAL HORTICULTURAL BUILDER, Knotty Ash, near Liverpool.

Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

**Heating.**

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c

Apply to JOSEPH MEREDITH, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

**Horticultural Buildings.**

VISCOUNT SYDNEY, The LORD CHAMBERLAIN, LATELY ENTRUSTED

BURY AND POLLARD with the WARMING of his FORCING HOUSES, and they have just completed the work at Frognal.

Estimates for Warming Conservatories, Forcing Houses, &c.

BURY & POLLARD, Park Iron Works, Southwark, London, S.

HOT-WATER PIPES, at Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, TUBULAR, and Elliptic, from 24s. each. Improved Boilers and Iron Stands to use without brickwork, 50s each. Valves from 11s. each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at

Mr. LYNCH WHITE'S Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

GREENHOUSES and CONSERVATORIES HEATED without special fire by the KITCHEN RANGE. See best methods, "Catalogue of Modern Inventions," post free.

London: BROWN BROTHERS, 43, Cranbourn Street, W.C.

W. J. HOLLANDS, IRON MERCHANT, 31, Bankside, London, S.E.

HOT WATER PIPES, from Stock, per yard:—2-inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS, from stock, 1s. 7d., 2s. 6d., and 3s. 3d. each. THROTTLE VALVES, 10s. 6d., 13s. 6d., and 15s. each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

## THE PATENT IN-DOOR PLANT CASES

(TO WHICH A PRIZE WAS AWARDED AT THE ROYAL HORTICULTURAL SOCIETY'S EXHIBITION).

SOLE MANUFACTURER,

JAMES GRAY, HORTICULTURAL WORKS,

DANVERS STREET, CHELSEA, LONDON, S.W.

The PATENT IN-DOOR PLANT CASE is one of the most useful of the Gardening novelties of the day. It is a handsome ornament for the Drawing Room or Sitting Room, and at all times forms a fresh, pleasant, and interesting object to the mind and eye. It is always under command, and will preserve many of the most tender Exotic Plants through the severest winter with comparatively little of the trouble and annoyance attending the use of Lamps, Gas, and Heating appliances of any other kind.

To all who have a taste for the cultivation of In-door Plants, for raising Seedlings, striking Cuttings, &c. the Plant Cases will be found an inestimable boon.

The Cases are highly approved and recommended by Professor Lindley, and by Messrs. Veitch, of The Royal Exotic Nursery, King's Road, Chelsea.

*Sizes and Prices on application.*

# SHANKS' NEW PATENT LAWN MOWERS for 1863.

**SHANKS' NEW PATENT HAND MACHINE, for Pushing or Drawing Separately or Together.**

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for use.

| Width of Cutter. | | |
|---|---|---|
| No. 8.—24-inch Machine ... ... | £8 17 6 | *Easily Worked by Two Men.* |
| No. 9.—22-inch Machine ... ... | 8 7 6 | |
| No. 10.—19-inch Machine ... ... | 7 12 6 | *Do. by a Man and a Boy.* |

| Width of Cutter. | | |
|---|---|---|
| No. 11.—16-inch Machine ... ... | £6 17 6 | *Easily Worked by a Man.* |
| No. 12.—13-inch Machine ... ... | 6 2 6 | *Do. by a Boy.* |

No. 16.—12-inch Machine for Pushing only, £5 5*s.*; easily worked by a Lady or a Boy.

*.* *The Machines are warranted to give ample satisfaction, and if not approved of may be at once returned.*

**Machines are kept in Stock, from which Orders can be at once executed.**

J. B. BROWN AND CO., 18, CANNON STREET, CITY, LONDON, E.C.

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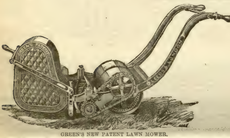
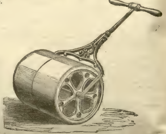
# GREEN'S LATEST IMPROVED PATENT

## NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES

FOR THE PRESENT SEASON 1863.



GREEN'S NEW PATENT LAWN MOWER.



GREEN'S NEW PATENT GARDEN ROLLER.

THE FIRST PRIZE MEDAL OF THE INTERNATIONAL EXHIBITION WAS AWARDED TO THOS. GREEN FOR HIS PATENT LAWN MOWERS.

PATRONISED BY HER MOST GRACIOUS MAJESTY THE QUEEN ON THREE SEPARATE OCCASIONS

DURING THE SEASON OF 1862, AND DURING THE PRESENT SEASON 1863.

GREEN'S PATENT LAWN MOWERS have carried off every Prize that has been given in all cases of competition, and were the only Machines Highly Commended at the Royal Horticultural Society's Great Shows held at South Kensington, May 21, June 11, and July 2, 1862. (No Prizes were given.) They are the only Machines in constant use at the ROYAL GARDENS, WINDSOR; the ROYAL HORTICULTURAL SOCIETY'S GARDENS, SOUTH KENSINGTON; the BOTANICAL GARDENS, REGENT'S PARK; the CRYSTAL PALACE COMPANY'S GARDENS, SYDENHAM; the KENSINGTON PALACE GARDENS; the HYDE PARK GARDENS, and in most of the principal Parks, Squares, &c., of the Nobility, Clergy, and Gentry throughout the Kingdom.

Upwards of 14,000 of the above Machines have been sold since the year 1856, and thousands of letters have been received by the Patentees testifying to their efficiency. They do not deem it necessary to publish more than the two following :—

TESTIMONIALS.

"Royal Horticultural Society, South Kensington, W., Feb. 28, 1863.

"DEAR SIR,—Your Mowing Machines, which have been in constant use here for two seasons, have answered well. They do their work efficiently, and with a less amount of manual labour than any other Machines I have tried,

"To Mr. Green." "Yours truly, GEO. EYLES."

"Royal Gardens, Windsor, March 27, 1863.

"DEAR SIR,—The Hand Mowing Machines you supplied last season for the use of the Royal Gardens, Windsor, give great satisfaction.

"To Mr. Green." "Yours very truly, THOMAS INGRAM."

PRICES.

| | | |
|---|---|---|
| To Cut 10 inches | £3 10 0 | Suitable for a Lady. |
| „ 12 „ | 5 0 0 | Suitable for One Person. If with internal gear, 10*s.* extra. |
| „ 14 „ | 5 10 0 | Do. Do. Do. Do. 10*s.* extra. |
| „ 16 „ | 6 10 0 | Suitable for One Man or Two Boys. |

The 16-inch and 14-inch Machine, with internal gear, are particularly recommended for use by one person.

| | | | If with Patent Delivery Box. |
|---|---|---|---|
| To Cut 18 inches ... | £7 10 0 | Suitable for One Man and Boy | £8 15 0 |
| „ 20 „ ... | 8 0 0 | Do. Do. | ... 9 5 0 |
| „ 22 „ ... | 8 10 0 | Suitable for Two Men | ... 9 17 6 |
| „ 24 „ ... | 9 0 0 | Do. Do. | ... 10 7 6 |

**DONKEY and PONY MACHINES, including Traces.**

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 24 inches ... ... | £11 10 0 ... ... ... | £12 10 0 |
| „ 26 „ ... ... | 12 10 0 ... ... ... | 13 12 0 |
| „ 30 „ ... ... | 16 14 0 ... ... ... | 18 0 0 |

Leather Boots for Donkey, 16*s.*; for Pony, 20*s.*

**PRICES of HORSE MACHINES, including Box of Requisites and Traces.**

| | With Collecting Box. | With Patent Delivery Box. |
|---|---|---|
| To Cut 30 inches ... ... | £20 0 0 ... ... ... | £21 10 0 |
| „ 36 „ ... ... | 23 0 0 ... ... ... | 24 16 0 |
| „ 42 „ ... ... | 26 0 0 ... ... ... | 28 2 0 |
| „ 48 „ ... ... | 29 0 0 ... ... ... | 31 8 0 |

Leather Boots for Horse, per set, 1*l.* 4*s.*

The Horse and Pony Machines have been entirely remodelled for the present season on the same principles as the Hand Machines, which have given such universal satisfaction. All Hand, Donkey, and Pony Machines have the Patent Self-Cleaning Self-Sharpening arrangements, and require no Box of Requisites.

The above Machines are made from the best materials, and of superior workmanship; are delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England; are warranted to give satisfaction, and if not approved of can be at once returned, if sent Carriage Free to Leeds.

## GREEN'S IMPROVED NEW PATENT GARDEN ROLLERS.

Diameter 20 inches, length 22 inches, price £3 5*s.* | Diameter 16 inches, length 17 inches, price £2 10*s.* | Diameter 24 inches, length 26 inches, price £4 5*s.* Diameter 30 inches, length 32 inches, price £7.

*Delivered Carriage Free to all the principal Railway Stations and Shipping Ports in England.*

GARDEN ENGINES, SYRINGES, WATER BARROWS, and PUMPS. CAST IRON FOUNTAINS, VASES, GARDEN SEATS, and GARDEN CHAIRS. IRON HURDLES, WIRE FENCING, WIRE NETTING, &c. Also every description of HORTICULTURAL and AGRICULTURAL IMPLEMENTS.

*Illustrated Price Lists free.*

T. GREEN & SON, SMITHFIELD IRON WORKS, LEEDS; & 2, VICTORIA STREET, HOLBORN HILL, E.C.

# SHANKS' NEW PATENT LAWN MOWERS for 1863.

PRICES, including Carriage to most of the principal Railway Stations and Shipping Ports in the Kingdom, and Directions for Use.

**SHANKS' NEW PATENT HORSE MACHINE.**

Width of Cutter.

No. 1.—48-inch Machine ... £28 0 0 } *Drawn by a Horse.*
No. 2.—42-inch Machine ... 26 0 0 }
No. 3.—36-inch Machine ... 22 0 0 }
No. 4.—30-inch Machine ... 19 0 0 *Drawn by a Horse or strong Pony.*

Patent Delivering Apparatus for Nos. 1 and 2 Machines, 40*s.*; for Nos. 3 and 4 Machines, 30*s.*

**SHANKS' NEW PATENT PONY and DONKEY MACHINE.**

Width of Cutter.

No. 5.—30-inch Machine ... ... ... £15 15 0 } *Drawn by a Pony.*
No. 6.—28-inch Machine ... ... ... 14 10 0 }
No. 7.—25-inch Machine ... ... ... 12 10 0 *Drawn by a Donkey.*

Patent Delivering Apparatus for Nos. 5 and 6 Machines, 30*s.*; for No. 7 Machine, 25*s.*

*** *The Machines are warranted to give ample satisfaction, and if not approved of may be at once returned.*

**Machines are kept in Stock, from which Orders can be at once executed.**

J. B. BROWN AND CO., 18, CANNON STREET, CITY, LONDON, E.C.

# HOWARD'S
## STEAM PLOUGHING and CULTIVATING APPARATUS

WILL BE AT WORK NEAR BEDFORD THROUGHOUT THE SEASON.

**Price of a Complete Set with 10-Horse Engine ... ... ... £515 0 0**
**Price of a Complete Set without Engine ... ... ... ... 220 0 0**

Catalogues, with Sixty Reports from Purchasers, may be had on application to

JAMES AND FREDERICK HOWARD, BRITANNIA IRON WORKS, BEDFORD.

## PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

# T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

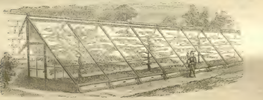
Estimates and Plans forwarded on application to

T. S. TRUSS, C.E., 53, GRACECHURCH STREET, LONDON, E.C.

# ST. PANCRAS IRON WORKS COMPANY.

OLD ST. PANCRAS ROAD, LONDON, N.W.

BY ROYAL LETTERS PATENT.



## SCOTT'S GLASS WALLS,

Designed to meet the suggestions of JAMES SCOTT, Esq., of Hornsey, as being the desiderata of such structures. They are devoid of shadow, durable, portable, and a tenant's fixture, with the strength and durability of a permanent structure. Further particulars and prices by post or on application.

| | | | |
|---|---|---|---|
| CONSERVATORIES | PINE and MELON PITS | BALCONIES | GATES |
| GREENHOUSES | VASES | IRON SASHES | TANKS |
| HOTHOUSES | VERANDAHS | IRON HURDLES | HOT-WATER WORKS. |

**PATENT WROUGHT-IRON STABLE FITTINGS AND ENAMELLED MANGERS.**

Every description of IRONWORK. *Lists Free.*

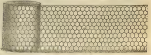
ST. PANCRAS IRON WORKS COMPANY, OLD ST. PANCRAS ROAD, LONDON, N.W.

BEFORE ORDERING LAWN MOWERS, see the "Sun and Planet Motion," with Patent Compound Wheel, in MORTON'S NEW PATENT LAWN MOWING MACHINE for 1863, allowed to be the best of the season.

Prices and particulars of Horse, Pony, or Donkey, and Hand Machines, to be had from GRIMMOND, LAIRD, & Co., 15, Cannon Street West, London, E.C.; or of the Patentee, Catherine Street Engine and Machine Works, Arbroath.

*** Agents wanted in every Town. Apply as above.

NEW IMPROVED PREMIUM WIRE NETTING.
**Great Improvement with Reduced Price.**



PRICES PER LINEAL YARD 24 INCHES HIGH.

| Size of Mesh. | Mostly used for | Light. | | Medium. | | Strong. | | Extra Strong. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Jap | Gal. | Jap | Gal. | Jap | Gal | Jap | Gal. |
| 2 in. | Poultry .. .. | 3½*d.* | 4½*d.* | 4*d.* | 5*d.* | 5*d.* | 6½*d.* | 6½*d.* | 8*d.* |
| 1⅝ in. | Small Rabbits .. | 4*d.* | 4¾*d.* | 4¾*d.* | 6*d.* | 5½*d.* | 7*d.* | 7*d.* | 9*d.* |

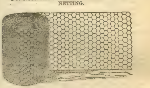
The above can be made any width (under 6 feet), at proportionate prices.

Strong GALVANISED POULTRY NETTING, 7½*d.* per yard, 3 feet wide. GALVANISED SPARROW-PROOF NETTING for PHEASANTRIES, 11*d.* per yard, 2 feet wide. WIRE NETTING of every mesh from half an inch to 6 inches.

*** Every description of Netting warranted to give satisfaction, and if not approved will be exchanged, or may be returned unconditionally.

J. B. BROWN & Co., 18, Cannon Street, City, London, E.C.

BARNARD, BISHOP, AND BARNARDS,
Norwich.
FURTHER REDUCTION in the PRICE of WIRE NETTING.



BARNARD, BISHOP, & BARNARDS beg to inform their friends and the public that they have made a further reduction in the prices of Machine-made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard |
|---|---|---|---|
| 2-inch mesh, 24 inches wide.. | No. 19 .. | 4½*d* .. | 3½*d.* |
| 2-inch ,, ,, ,, .. | ,, 18 .. | 5 .. | 4 |
| 2-inch ,, ,, ,, .. | ,, 17 .. | 6½ .. | 5 |
| 2-inch ,, ,, ,, .. | ,, 16 .. | 8 .. | 6½ |
| 1⅝-inch ,, ,, ,, .. | ,, 19 .. | 4¾ .. | 4 |
| 1⅝-inch ,, ,, ,, .. | ,, 18 .. | 6 .. | 4¾ |
| 1⅝-inch ,, ,, ,, .. | ,, 17 .. | 7 .. | 5½ |
| 1⅝-inch ,, ,, ,, .. | ,, 16 .. | 9 .. | 7 |

All the above kinds can be made any width (under 6 feet), at proportionate prices.

Strong Galvanised Poultry Netting, 7½*d.* per yard, 3 feet wide, Galvanised Sparrow-proof Netting for Pheasantries, 11*d.* per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.

Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies

Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10*d.* per yard.

The same with Galvanised Wire Rope, 1*s.* per yard.

Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.

*** Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations.

**Prize Medal at the International Exhibition, 1862.**

E. WOLFF AND SON'S SOLID INK PENCILS in CEDAR for GARDEN TALLIES.—These Pencils are the Best and Cheapest Invention ever used for Writing on Garden Tallies of all descriptions, the action of the air, rain, &c., not having the slightest effect upon them. The advantages resulting from their use are—Firstly, the simplicity of an ordinary lead pencil; secondly, the superiority and portability of a dry pencil over liquid Ink, or Paint; and, thirdly, their reasonable price, which places them within the reach of all classes. These Pencils are also useful for all kinds of Writing, Memoranda, &c.

Price 3*d*. each; extra thick, 6*d*. each.

To be had Retail of all Seedsmen, Nurserymen, and Stationers, and Wholesale at the Manufactory, 22 & 23, Church Street, Spitalfields, N.E.

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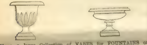

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Fig. 570.

J. TYLOR & SONS' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. |
|---|---|---|
| £2 13 6 | £3 5 0 | £3 15 0 |

| 24 gal. | 30 gal. |
|---|---|
| £5 0 0 | £5 18 0 |

Fig. 571.

J. TYLOR & SONS' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0. |

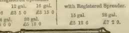

Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
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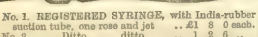

Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11*s*. 6*d*. each
,, 589. Middle Ditto ditto .. 10 3 ,,
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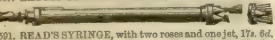

Fig. 591. READ'S SYRINGE, with two roses and one jet, 17*s*. 6*d*.
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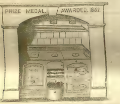


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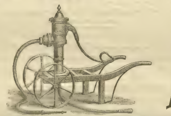

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## News of the Week.

IN the House of Lords on Monday the Royal Assent was given by commission to several public and private Bills. Lord CHELMSFORD moved the recommittal of the Albert Bridge Bill. After a long discussion the motion was rejected on a division by a majority of 11, the numbers being 40 to 29. On Tuesday, in answer to Lord CHELMSFORD, Lord STANLEY OF ALDERLEY stated that the Government had accepted tenders from the Belgian and French Governments for the conveyance of the English mails between Dover and Ostend and Dover and Calais at a very reduced rate, conditional upon Parliament finding money to buy up Mr. CHURCHWARD'S contracts. On Thursday the House went into Committee on the Corrupt Practices at Elections Bill, when Lord LYVEDEN moved the omission of the clause disqualifying agents who might be found guilty of corrupt practices. On a division the motion was negatived by 66 to 22. The other clauses were agreed to with amendments, and the Bill passed through committee. Lord REDESDALE moved a resolution that the principle of charging entailed estates for railways involved questions of too much nicety and importance to be sanctioned by Parliament otherwise than by public legislation. After some discussion the motion was agreed to.

In the Commons on Monday, the House resolved itself into committee on the Customs and Inland Revenue Bill, when Clauses 1 and 2, imposing the income tax upon trades, professions, and property, were agreed to. On Clause 3, by which it was proposed to charge charitable institutions with the tax, the CHANCELLOR OF THE EXCHEQUER made a long statement in favour of his proposal, contending that it was a measure agreeable to every principle of sound administration which had governed the proceedings of Parliament for more than 20 years past, that it was just to the tax-paying community, and above all just to the labouring poor, for the elevation of their character as well as the improvement of their condition. Sir S. NORTHCOTE opposed the scheme, which was also opposed by Mr. MAGUIRE, Lord H. VANE, Mr. W. MARTIN, Lord R. CECIL, Mr. DISRAELI, and Mr. HENLEY. The CHANCELLOR OF THE EXCHEQUER then said that as no independent member had spoken in favour of the proposition it was not his intention to take the sense of the Committee upon the clause. Clauses 3 and 4 were then negatived. The other clauses and the schedules were agreed to, with a few amendments. The House then went into Committee on the Savings Banks Bill, and agreed to the clauses with amendments. The Consolidated Fund Bill and the Exchequer Bonds Bill were read a third time and passed. On Tuesday Mr. WALTER moved two resolutions to the effect that the sums voted by Parliament for education ought to be applicable to all the poorer schools in which the attendance and examination exhibit the results required under the Revised Code; and that to require the employment of certificated teachers or pupil teachers by school managers as an indispensable condition of their participation in the Capitation Grant is inexpedient and unjust to the managers of such schools. Mr. LOWE opposed the motion. After a long discussion the first resolution was withdrawn, and the second was negatived on a division by 152 to 117. Mr. BOUVERIE moved that the House go into Committee upon that portion of the Act of Uniformity which required the heads of colleges and others to make a declaration of conformity to the Liturgy, his object being to bring in a Bill for the repeal of that requirement, with the view of admitting dissenters to the endowments and government of the Universities. On a division the motion was carried by 157 to 135. The House then went into Committee, when leave was given to bring in the Bill. The Marquis of HARTINGTON obtained leave to bring in a Bill to consolidate and amend the law relating to Volunteer Corps. On Wednesday Mr. NEWDEGATE moved the second reading of his Church Rates Commutation Bill. Sir C. DOUGLAS moved as an amendment that the Bill be read a second time that day six months. On a division, the amendment was carried by 94 to 56. The Bill was therefore lost. Mr. ALCOCK then moved the second reading of the Church Rates Redemption Bill. After some discussion the motion was negatived on a division by 81 to 72. The Bill was consequently lost. The House having gone into Committee on the Security from Violence Bill, Mr. PEACOCKE moved to amend the first clause by making the infliction of corporal punishment applicable only to second and subsequent convictions. On a division the amendment was negatived by 191 to 37. The Bill after two more divisions passed through Committee, and was ordered to be reported to the House. The Marriages Registration (Ireland) Bill and the Admiralty Court (Ireland) Bill were read a second time. On Thursday, on the order for going into Committee on the Prison Ministers' Bill, Mr. R. LONG moved as an amendment that the House resolve itself into committee that day six months. After a long debate, the amendment was negatived by 172 to 141. The House went into Committee, when Mr. MURE moved an amendment that the Bill be limited to England. The amendment was negatived on a division by 96 to 55. Mr. HUNT moved an amendment that there should be no regular appointment of a particular minister, and that there should be no payment. On a division the amendment was negatived by 96 to 80. Mr. BENTINCK moved the omission of the words making the payment to Ministers a charge on the county or borough rates. On a division the amendment was negatived by 101 to 71. The CHAIRMAN was then ordered to report progress. The Inland Revenue Bill was read a second time. The Stock Certificates to Bearer Bill was further considered, and certain verbal amendments were introduced. The Savings Banks Moneys Bill was read a third time and passed.

## Home News.

THE COURT.—The Queen and Royal family continue at Osborne. On Friday the Queen drove out, accompanied by Princess Louis of Hesse. Prince Louis of Hesse left Osborne for London. On Saturday the Queen drove out, accompanied by Princess Helena and Prince Arthur. On Sunday morning her Majesty, Prince Alfred, Princess Louis of Hesse, Princess Helena, Princess Louisa, Prince Arthur, and Prince Leopold attended Divine service at Osborne. The Rev. G. Prothero officiated. Prince Louis of Hesse returned from London. On Monday morning the Queen and Princess Louis walked in the grounds. Prince Arthur left Osborne for Greenwich Park. In the afternoon the Queen, accompanied by Prince and Princess Louis of Hesse, drove to West Cowes, and visited the Princess of Leiningen. Dr. Lyon Playfair arrived at Osborne. On Tuesday the Queen walked and drove, accompanied by Princess Louis of Hesse, Princess Helena and Princess Louisa rode on horseback. On Wednesday the Queen drove out with Princess Louisa and Princess Beatrice. The Prince and Princess Louis of Hesse crossed from Osborne to Portsmouth Dockyard in the Royal yacht Fairy, and inspected the Royal Sovereign turret ship, the armour plate workshop, the Royal Alfred frigate, and the Defence iron frigate, visiting the flagship Victory on their return to Osborne. Lord Stanley of Alderley arrived and had an audience of the Queen. Sir Charles Lyell also arrived.

HER MAJESTY'S VISIT TO BALMORAL.—It is understood that the Queen will leave Osborne for Balmoral on the 14th inst., where the Court will stay for about three weeks.

THE PRINCE AND PRINCESS OF WALES.—On Friday the Prince of Wales rode on horseback. The Princess of Wales took a carriage drive. In the afternoon Prince Louis of Hesse arrived at Marlborough House, from Osborne, on a visit. The Prince and Princess of Wales took a drive in an open carriage. In the evening their Royal Highnesses had a dinner party. On Saturday morning the Prince of Wales rode on horseback. The Princess took a carriage drive. In the evening the Prince of Wales and Prince Louis of Hesse were present at the annual dinner of the Royal Academy. The Princess of Wales honoured with her presence Her Majesty's Theatre, where her Royal Highness was joined in the evening by the Prince of Wales and Prince Louis. The Prince of Wales and Prince Louis afterwards attended the *conversazione* of the Royal Society at Burlington House. On Sunday morning the Prince and Princess of Wales attended Divine service in the Chapel Royal, St. James. The Communion Service was read by the Bishop of London, and the sermon was preached by the Sub-Dean. In the afternoon the Prince and Princess visited the Duchess of Cambridge at Kew. On Monday morning the Prince of Wales rode on horseback. In the afternoon his Royal Highness visited the House of Commons, and sat for some time in the gallery appropriated to foreign Ministers. In the evening the Prince and Princess honoured the performance of the Philharmonic Concert with their presence. On Tuesday morning their Royal Highnesses visited the Horticultural Gardens at South Kensington. The Prince afterwards rode on horseback. In the afternoon the Prince and Princess took a drive in an open carriage. In the evening their Royal Highnesses honoured the Royal Italian Opera with their presence. On Wednesday morning the Prince rode on horseback. The Princess took a carriage drive. In the afternoon the Prince and Princess took a drive in an open carriage. In the evening their Royal Highnesses had a dinner party. On Thursday morning the Prince and Princess rode on horseback. The Duke of Cambridge visited the Prince at Marlborough House. In the afternoon the Princess, attended by the Countess of Macclesfield, was present in the Ladies' Gallery in the House of Lords, to hear the debate, and remained until just after half-past 5 o'clock. The Prince of Wales, attended by the Earl of Mount Edgcumbe, walked to the House of Lords from Marlborough House, and remained until just before the division on the Corrupt Practices at Elections Bill. The Prince was warmly cheered by the people on his arrival and departure. In the evening their Royal Highnesses honoured the performance at the Haymarket Theatre with their presence. The Prince and Princess have accepted an invitation from the Lord Mayor and Corporation to be present at a ball to be given by the City authorities in Guildhall, in honour of their Royal Highnesses, on the 1st of June. It is said that there is no foundation for the report which has appeared in some foreign journals of an intended visit of the Prince and Princess to the Emperor of the French at Fontainebleau.

THE PRINCE OF ORANGE, travelling under the title of Count van Buren, arrived in London on Thursday. His Royal Highness is staying at the Palace Hotel.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. A Committee of the Cabinet Council held a meeting on Wednesday, at the office of the Secretary of State for War in Pall Mall.

PARLIAMENTARY MOVEMENTS.—Mr. Edward O'Neill has been elected member for Antrim, in the room of Lord Templetown, without opposition.

LORD LIEUTENANCY.—It is stated that the Earl of Harrowby, K.G., is selected to be the Lord-Lieutenant of Staffordshire, in the room of the late Lord Hatherton.

THE ARMY.—General the Right Hon. Sir George Brown has been appointed Colonel of the 32d Regiment, and Colonel-in-Chief of the Rifle Brigade, in the room of the late Field-Marshal Lord Seaton. Lieutenant-General Sir Charles Yorke has been appointed to succeed Sir George Brown as Colonel Commandant of the Rifle Brigade, and has been succeeded in the Colonelcy of the 33d Foot by Major-General William Nelson Hutchinson.

COLONIAL APPOINTMENTS.—Sir Henry Barkly has been transferred from the Governorship of Victoria to that of Mauritius, vacant by the death of Sir William Stevenson; and Sir Charles Darling has been promoted from the Government of Jamaica to that of Victoria. The period of service of each Governor in their respective colonies had expired. Admiral Elliott, who commanded the naval forces in China during the first China war, has been appointed Governor of St. Helena; and Captain Maxse, who acted as aide-de-camp to Lord Cardigan in the famed Balaklava charge, has been appointed Governor of Heligoland.

THE POLISH QUESTION.—The following is a translation of the Russian reply to the English Note on the state of Poland, addressed to Baron Brunnow, the Russian Minister in London :—

St. Petersburg, April 14, 1863.

"M. le Baron,—On the morning of the 5th (17th) of April Lord Napier delivered to me a copy, herewith enclosed, of a despatch from her Britannic Majesty's Principal Secretary of State relative to the present situation of the kingdom of Poland. The first part of this document is devoted to a retro-

spective examination of the question of right. The second expresses the wish that peace may be restored to the kingdom of Poland, and established on a lasting basis. I will reply to these two points of Lord Russell's despatch. As regards the question of right, her Britannic Majesty's Principal Secretary of State reproduces the arguments already recorded in his despatch of the 2d of March. I can, therefore, refer to the observations which I then made to the Ambassador of England. The Government of her Britannic Majesty takes a position on ground where the Imperial Cabinet will never hesitate to meet it—that of treaties. Nevertheless, it is here a question less of the text than of the interpretation of treaties. We have the right not to admit without reservation every interpretation which it might be wished to give them. Lord Russell says in his despatch that, by Article 1 of the General Act signed at Vienna, the 28th of May (9th of June), 1815, 'the Duchy of Warsaw was erected into a kingdom of Poland, to be inseparably attached to the Empire of Russia under certain conditions.' Now, this is what the Act of Congress of Vienna stipulates in respect to those conditions:—'Poles, subjects of Russia, Austria, and Prussia respectively, shall enjoy representation and shall obtain national institutions to be determined in conformity with the political existence which each of the Governments to which they belong shall consider it useful and expedient to grant to them.' The Emperor Alexander I. developed these principles in accordance with his personal views. He granted to Poland the Constitution of the 12th (24th) of December, 1815. It was a spontaneous act of his sovereign will, and it did not constitute an irrevocable engagement towards foreign Powers, inasmuch as the Act of the Constitution, posterior to the Treaty of Vienna, was not even communicated to them. Lord Russell contests the principle according to which the revolt of Poland in 1830, having resulted in the declaration of the forfeiture of the sovereign dynasty, should be held to annul the bases of political existence granted in virtue of the Act of Vienna. Although history has more than once confirmed this conclusion of natural right, theory may afford matter for controversy. We think it may be laid down that if the revolt does not invalidate the national engagements, it at any rate annuls the spontaneous development of them which had been generously added, and which have led to fatal results to Poland and to Russia. But the Principal Secretary of State of her Britannic Majesty gives to this argument a prominent place in his despatch, while I had only incidentally put it forward in the course of my conversation with Lord Napier. The English Ambassador alludes to it in the following terms in the despatch which he had the goodness to communicate to me:—'Prince Gortschakoff also said to me that, desiring to treat this question in a spirit of conciliation and humanity, he had abstained from employing an argument which lay at his disposal—that of the right of conquest.' Moreover, everything has been said on both sides in this discussion, and to prolong it on that ground would be a useless task. I proceed to the second part of Lord Russell's despatch. The design of our august master is to arrive at a practical solution. We assume that such is also the desire of the Government of her Britannic Majesty. Since its aim is to see assured to the kingdom of Poland the repose and welfare which are the objects of the solicitude of his Majesty the Emperor, it appears to us difficult not to arrive at an understanding. The difference in our points of view lies in the fact that the English Government appears to believe that the Constitution of 1815 is the sole panacea calculated to calm the present agitation of Poland. But the English Government and nation, whose practical good sense has founded the greatness of England, can hardly assert that there is only one form of government possible for all peoples, whatever may be their history and development. Before arriving at the political maturity of which England offers the example, there are many degrees to pass through, and each nation must proceed in this path according to its own instincts. It is just and natural that a Sovereign, animated by the most benevolent intentions, should calculate the bearing and extension of institutions destined to place his subjects in the most favourable conditions of existence. The idea of our august master has been shown ever since his accession to the throne, and cannot be ignored by any one in Europe. His Majesty has resolutely entered upon the path of reform. Relying upon the trust and devotion of his people, he has undertaken and accomplished in a few years a social transformation which other States have only been able to realise after a long lapse of time and many efforts. His solicitude has not ceased there. A system of gradual development has been applied to all the branches of the public service, and to existing institutions. It opens to Russia the prospect of a regular progress. The Emperor perseveres in it without precipitation or impulse (*entraînement*), taking into account the elements which it is the work of time to prepare and mature, but without ever deviating from the line he has traced for himself. This measure has conciliated to him the gratitude and affection of his subjects. We think it gives him a title to the sympathies of Europe. The same designs have not ceased to influence his Majesty since his solicitude has been brought to bear upon the kingdom of Poland. We shall not enter here into an enumeration of the national institutions, for the most part elective, with which this country has been endowed. They do not appear to have been sufficiently understood in Europe, either on account of remoteness, or rather because chimerical passions and the interested labours of a hostile party have stood in the way of an equitable and impartial judgment. The system inaugurated by our august master contains a germ which time and experience must develop. It is destined to lead to an administrative autonomy on the basis of the provincial and municipal institutions which in England have been the starting point and the foundation of the greatness and prosperity of the country. But in the execution of this idea the Emperor has encountered obstacles, which are found principally in the agitations of the party of disorder. This party has understood that if it allowed the peaceable majority of the kingdom to enter upon this path of regular progress, there would be an end to their aspirations. Their intrigues have not allowed the new institutions to be carried into effect. It has been impossible to show how they work, or how far they respond to the real necessities and to the degree of maturity of the country. It is only when this experiment shall have been made that it will be possible to pass a judgment upon this work, and to complete it. The manifesto of the 31st of March indicates the wishes of our august master in this matter. By the side of an act of clemency, to which it has been possible to give a large extension since the dispersion of the most important armed bands, the Emperor has maintained in force the institutions already granted, and has declared that he reserved to himself the power of giving to them the developments indicated by time and the requirements of the country. His Majesty can, then, refer to the past in the rectitude of his conscience; as to the future, it necessarily depends on the confidence with which these institutions will be met in the Kingdom. In taking a stand upon this ground our august master considers that he acts as the best friend of Poland, as the only one whose aim it is to secure her welfare by practical means. Lord Russell calls upon Russia to discharge those duties which, as a member of European Society, she owes to foreign States. Russia is too directly interested in the tranquillity of Poland not to understand the duties of her position towards other nations. It would be difficult to assert that she has met, in this respect, with scrupulous reciprocity. The continual conspiracy which is being organised and armed abroad to keep up disorder in the kingdom is a fact of public notoriety, the inconvenience of which principally consists in the moral effects which the favourers of the insurrection deduce from it, in order to lead astray the peaceable population, by gaining credit for the belief in direct assistance from abroad. In this manner we have seen produced two influences, both equally grievous—that exercised by foreign agitation on the insurrection, and that which the continuation of the insurrection itself exercises, in its turn, upon public opinion in Europe. These two influences react one upon the other, and have ended by bringing affairs to the situation which the Powers at present point out to the vigilance of the Imperial Cabinet. It is asked of it to restore the kingdom to the conditions of a lasting peace. The Powers are inspired with this desire by the conviction that the periodical troubles of Poland cause to the States placed in the immediate vicinity of its frontiers a shock, the reaction of which is felt by the whole of Europe, that they excite the minds of the people in a disquieting manner, and that they might, if prolonged, bring about, under certain circumstances, complications of the most serious nature. The Government of her Britannic Majesty, in expressing this desire, further relies upon the engagements of 1815 which affect the condition of the different parts of Poland. We do not hesitate to declare that these wishes are entirely in accordance with those of our august master. His Majesty admits that, in the peculiar position of the kingdom the troubles which agitate it may affect the tranquillity of the adjoining States, between which were concluded on the 21st of April—3d of May, 1815, separate treaties intended to determine the condition of the Duchy of Warsaw, and that they may interest the Powers who signed the general transaction of the 18th of May—9th of June, 1815, in which were inserted the principal stipulations of these separate treaties. The Emperor believes that explanations on the basis and in the spirit of the communications which have just been addressed to us may conduce to a result conformable to the general interests. Our august master notices with satisfaction the sentiments of confidence which the Government of her Britannic Majesty testify towards him in relying upon him to bring back the kingdom of Poland to conditions which would render possible the realisation of his benevolent views. But the more the Emperor is disposed to take into account the just prepossessions of the neighbouring States, and the interest which the Powers who signed the Treaty of 1815 show in a state of things which is the cause of deep solicitude to his Majesty himself, the more our august master considers it a duty to request the serious attention, upon the true causes of this situation, and upon the means of remedying it, of the Courts who have addressed themselves with confidence to him. If the Government of her Britannic Majesty lays stress upon the reaction which the troubles of Poland exercise on the peace of Europe, we must be still more struck with the influence which the agitations of Europe have in all times had the power to exercise upon the tranquillity of Poland. Since 1815 this country has witnessed the development of a material welfare unknown until then in her annals, while other States have in the same interval undergone many interior crises. This repose was only troubled in 1830 by the consequences of commotions coming from abroad; 18 years later, in 1848, while almost the whole of Europe was convulsed by the revolution, the kingdom of Poland was able to preserve its tranquillity. We are persuaded that it would be the same at present were it not for the continual instigations of the party of cosmopolitan revolution. If this party, everywhere devoted to the overthrow of order, at present concentrates all its activity upon Poland, a grave error would be committed in supposing that its aspirations will stop short at that limit. What it seeks there is a lever to overturn the rest of Europe. Those Cabinets which attach importance to seeing the kingdom of Poland return a moment earlier to the conditions of a durable peace cannot therefore more certainly ensure the realisation of this desire than by labouring, on their side, to appease the moral and material disorder which it is sought to propagate in Europe, and thus to exhaust the main source of the agitations at which their foresight is alarmed. We entertain the firm hope that in strengthening in this respect the ties which bind them together they will effectually serve the cause of peace and of the general interests. I have the honour to request that you will communicate a copy of this despatch to the Principal Secretary of State of her Britannic Majesty.

"Receive, &c., "GORTSCHAKOFF."

# Foreign.

FRANCE.—The following is the reply of the Russian Government to the Note of the French Government on the Polish question:—

"PRINCE GORTSCHAKOFF TO BARON DE BUDBERG AT PARIS.

"St. Petersburg, April 14 (26).

"Monsieur le Baron,—On the morning of the 5th (17th) of April the Ambassador of France communicated to me a despatch from M. Drouyn de Lhuys relative to the condition of the Kingdom of Poland. I transmit to your Excellency a copy of that document, which I immediately submitted to his Majesty the Emperor. Our august master came to the conclusion that the wishes expressed in the name of the Emperor Napoleon completely harmonise with his own. The French Government expresses, as regards the sad events which have taken place in the Kingdom of Poland, sentiments which cannot fail to be shared by every Government which is a friend to mankind. It could not for one moment entertain a doubt of the deep affliction which this state of affairs causes to our august master, of the lively solicitude with which it inspires His Majesty, nor of the ardent desire he entertains to be able to put an end to it. The French Government points out the reaction which these agitations exercise upon neighbouring States, and the anxiety to which they give rise in the rest of Europe. Our august master admits the just interest which the bordering Powers and those who co-operated in settling the state of Europe must naturally take in all complications of a nature to disturb its harmony. But the interest which Russia takes in events which touch her so nearly cannot surely be less profound, as more than all she desires to see tranquillity restored in the kingdom, and the safety of Europe assured. The Emperor Napoleon finally expresses his confidence in the liberal intentions of our august master, and is inspired with a sentiment of reserve which his Majesty appreciates when he points out to us in conclusion, the opportunity for taking measures to place Poland in the condition of a durable peace. Nothing could better respond to the wishes of the Emperor. But it is precisely upon the selection of those measures that it would be desirable to come to an understanding. The French Minister of Foreign Affairs points out the intensity of the evil and the insufficiency of the combinations hitherto imagined to reconcile Poland with the position granted to her. This is an additional motive not to recommence experiments which have been a source of misfortune to Poland as well as to Russia—a cause of troubles to Europe, and which, in all probability, would end in the same results. The evil from which the kingdom is actually suffering is not an isolated fact. The whole of Europe is infected by it. Revolutionary tendencies which are the curse of our age, are now concentrated in this country, because they find sufficient combustible materials there to give them the hope of making it the focus of a conflagration which would extend to the whole of the continent. The Government whose duty it is to cure this evil cannot devote too much attention to it, too much prudence and allowances, so as to distinguish the elements which ought to be removed as a common danger, from those the development of which, followed with perseverance and maturity, may serve to form a lasting future. Our august master has devoted himself to this task, which is connected with that which since his accession to the throne his Majesty has imposed upon himself to accomplish, so as to bring every portion of his empire into the path of regular progress. I have explained these views of our august master in the annexed despatch, which I have just addressed to the Ambassador of his Majesty in London, in reply to a communication from the Government of her Britannic Majesty analogous to that of M. Drouyn de Lhuys. By the Emperor's orders you are requested to hand a copy of that document to the French Minister of Foreign Affairs. He will see what part, according to our views, the Emperor Napoleon can take to accelerate the realisation of the wish which he expresses to us in the name of humanity, and in that of the permanent interests of Europe. He will assuredly admit that, with the elements of cosmopolite revolution spread in nearly every country, and which fix upon every point where there is a chance of disturbance or subversion, the task of restoring quiet and peace should not depend upon the efforts of a single Government, and that to ask us to extinguish a conflagration which is constantly being supplied with inexhaustible fuel from without would be to confine the question within a circle without an outlet. The concern which a French Government evinces to obviate it, the solicitude it expresses for the general interests of Europe, the friendly relations which exist between us, the sentiments of confidence in our august master contained in the despatch of the French Minister of Foreign Affairs, authorise us to hope that, appreciating the question in a high point of view, with all the difficulties it implies, and all the allowances it requires, the Emperor Napoleon will not refuse the moral support which may depend upon him, so as to facilitate to our august master the task pointed out to him by his solicitude for the kingdom of Poland, his duties towards Russia, and his international relations with his neighbours and with the great Powers of Europe. I request you to express the hope to M. Drouyn de Lhuys, and to leave him a copy of this despatch.—I am, &c. "GORTSCHAKOFF."

The *Moniteur* of Tuesday, in publishing this despatch and the text of the reply of Russia to England, says:—

"It is easy to be convinced, upon reading these documents, that they open a path to projects of conciliation, and that they contain the bases of negotiations likely to lead to a common understanding between the different Courts now seeking the means of upholding the legitimate interests of Poland."

The other papers are very nearly unanimous in the opinion that the documents are but the expression of a courteous and moderate refusal. The *Moniteur* of Tuesday contains the following article, which may be considered conclusive as to the rumours that have been afloat on the visit of the Prince and Princess of Wales to Fontainebleau:—

"The journal *La France* maintains, in spite of the denials of the English journals, that the Prince and the Princess of Wales are expected at Fontainebleau. *La France* is misinformed. The Court of the Tuileries, notwithstanding the pleasure that such a visit would give them, have never conceived a hope of it, in the face of the duties that their Royal Highnesses have to fulfil in England in the first months that follow their recent union."

An Imperial decree was published yesterday, dissolving the Corps Legislatif, and fixing the 31st May and 1st June for the general election of deputies throughout France. The *Moniteur* of Friday says, in reference to the elections:—

"Several journals announce that the representatives of the sub-electoral Committees will shortly assemble, in order to elect a central committee. The Government reminds the public that the law forbids associations of more than 20 persons meeting without the consent of the public authorities, even should those associations be subdivided into sections comprising a less number; and, further, that the journals would expose themselves to legal penalties if they published the resolutions or manifestos of such associations."

The Duke of Beaufort's experiment in wolf hunting was brought to a close on the 30th ult. His Grace is said to be satisfied with the sport he has obtained, and with the warm welcome he has received at the hands of our neighbours, while the Badminster pack have proved themselves in every respect worthy of their great fame.

SPAIN.—In the sitting of the Senate on Monday Marshal Narvaez defended the course which he had followed when at the head of the Government against the attacks of the Progressist party. General Prim replied in a speech violently attacking the Administration of Marshal Narvaez. The Grenada Court of Appeal has just sentenced Matamoros to nine years imprisonment for offences against religion, and another of the co-accused to seven years' imprisonment, with deprivation of civil rights.

SWITZERLAND.—The Federal Council, in reply to the English note, inviting it to support the steps of England at St. Petersburg in favour of Poland, has stated that it is impossible to take this invitation into consideration.

AUSTRIA.—In his reply to the Austrian Note on the Polish question, Prince Gortschakoff says:—

"Count Rechberg was right, as events have shown, in anticipating that the Emperor Alexander would be disposed to show clemency to the Poles on the dispersion of the insurrectionary bands. Count Rechberg will, however, perceive that a return to order does not depend upon interior measures alone. The intrigues of the Cosmopolite party of revolution are the main source of the agitation, and the influence of the great Powers would therefore be best exercised if directed against those intrigues. The Russian Government doubts not that Austria will neglect nothing in order to put a stop to the machinations of the revolutionary party."

The remaining 40,000,000 florins of the Austrian lottery loan of 1860 were allotted at Vienna on Monday. The house of Messrs. Rothschild, having offered 102¼, was the highest bidder.

ITALY.—In the sitting of the Chamber of Deputies on Friday the Minister of Justice opposed, in the name of liberty, the Bill introduced by Father Passaglia relative to the oath of allegiance to the Government to be taken by priests. The Bill was afterwards withdrawn. In the sitting of Thursday the President announced that the following order of the day had been adopted by the Secret Committee on Brigandage:—

"The Chamber invites the Ministry to take the necessary

teps that Rome may cease to be a secure asylum to conspirators against social order and peace. Italy being now engaged in the development of public works, the redemption of the burdens upon land and upon agricultural and industrial credit, tis requisite to employ every means to secure the assistance of the entire forces of the country in the repression of brigandage."

The Bill upon the subject proposed by the committee will be printed. Prince Ruggero Settimo, President of the Senate, and President of the Government of Sicily in 1848, has died at Malta. The Government has sent a frigate to convey the body to Palermo. The *Pungolo* of Monday publishes a despatch addressed by the Minister of the Interior to the Prefects, relative to meetings in favour of Poland. The Minister refers to the debate on the subject in Parliament, and states that the meetings in question are a pretext for agitation and for obstruction of the action of the Government. He concludes by enjoining the authorities to dissolve every political meeting of a character to endanger the interior or exterior safety of the State. The ceremony of the unveiling of the façade of Santa Croce at Florence took place on Sunday. Prince Carignan, Signor Peruzzi, and many senators and deputies were present. An immense crowd assembled on the occasion, and there was much cheering.

RUSSIA.—The *Journal de St. Pétersbourg* of Sunday publishes the despatches addressed by England, France, and Austria to the Cabinet of St. Petersburg on the Polish question, and the several replies given to the same by Prince Gortschakoff. Private letters received at Berlin from reliable sources state that Prince Gortschakoff, after having despatched these replies, read a confidential Note to the Ambassadors of the three Powers in St. Petersburg. This note explained the programme of reforms intended to be carried out in Poland by the Emperor. The introduction of these reforms would depend upon circumstances, although they would not be delayed after the pacification of Poland had been effected. It is said that this Note produced a good impression upon the Ambassadors of the great Powers. The *Journal de St. Petersbourg* of Wednesday publishes despatches from the Swedish Government of the 7th April, from the Spanish Government of the 21st March, and from the Italian Government of the 23d April, all relating to the Polish question, with the respective replies of the Russian Government to those communications. The Swedish Note relies above all upon the principles of humanity and generosity by which it is persuaded the Emperor of Russia is actuated, and expresses a conviction that the words of clemency and forgiveness, with the prospect of a rule of sagacious liberty, will suffice for the complete restoration of tranquillity and order. The reply to the Swedish Note refers to the answers forwarded to the three Western Powers upon the question. The Spanish Note deeply regrets the impatience of the Poles, who have been unable to await the continuance of the system of concessions already granted. Having seen by experience that moderation allays popular agitation more usefully than severity, the Queen asks that grace and indulgence may be shown towards the vanquished. The reply to this Note thanks the Spanish Government in friendly terms. The Note of the Italian Government is drawn up in a conciliatory spirit. It hopes that the Russian Court will see from the spirit of the despatch a proof of the desire of the Italian Government to remain upon the most friendly footing, and that entire confidence may continue to exist between them. In reply to this Note, the Emperor mentions the pleasure with which he has received the friendly expressions it contains. As regards the welfare of Poland, the Italian Government is not unaware that revolutionary efforts impose a difficult task upon the ruling Powers. The Government will endeavour to arrange the question upon a basis of lasting peace. The birthday of the Emperor has been celebrated in all the chief cities of the Empire, and loyal manifestations have taken place throughout the provinces. In the answer given by the Emperor in reply to an address presented to him on the occasion by the nobility, the municipality of St. Petersburg, the corporations, and the peasantry, his Majesty said:—"The only object of my life is the welfare of our dear fatherland, and the gradual development of our civil institutions." An imperial ukase was published on Friday, directing that corporal punishments shall in future only be employed in exceptional cases. General Berg has asked the Government to replace all civil functionaries in the Polish provinces by military officials.

POLAND.—A rumour was current at Warsaw that the Government intended to issue a manifesto on the 13th inst., ordering the reorganisation of the police, gendarmes, and peasants. The manifesto would, it was said, further order the confiscation of the property of insurgent landed proprietors, and the levying of a contribution throughout Poland. According to an order of the day of the insurgent chief Taczanowski, a battle was fought with the Russians at Pyzdvy on the 30th ult., which lasted eight hours. The victory was decided in favour of the insurgents by the scythemen. Tanier d'Abiu and Strzelecki specially distinguished themselves among the insurgents. On the 2d inst. the corps of Taczanowski was defeated near Bincszeno, and Taczanowski himself was wounded. On the 1st inst. Jezioranski defeated the Russians near Zamek, close to the Galician frontier. The loss of the Russians was 90 killed and wounded. On the 2d Jezioranski defeated the Russians at Kobylanka, in the palatinate of Lublin. 90 Russians were killed, and were honourably interred by the insurgents. A Russian detachment having entered Austrian territory at Lublinied, in order to surround the insurgents, was completely dispersed. On the 6th a sanguinary battle was fought at Tepely, in the Palatinate of Sandomir, between the Russians, 3500 strong, and the insurgents, under Jezioranski, in which the Russians lost 400 killed and wounded, and the Poles 100. The Russians retreated to Tomaszow. During the two previous days there had been partial encounters at Lami and Zamek, the Russians manouvring to surround the Poles, but they were forced to a general engagement by Jezioranski, and beaten. The insurrectionary movement has extended beyond the River Duna. On the 26th ult. the insurgents stopped a railway train near Dupnow and took from it 900 Russian rifles. On Friday Lelewel, with the insurgents under his command, was surrounded and defeated by 2000 Russian troops. Lelewel was wounded, but escaped, together with 120 men. A serious engagement took place between the insurgents and the Russians on Monday opposite Beuthen, a town upon the Oder, in Prussian Silesia. The forces of the hostile parties were drawn up in order of battle. The Russians lost all their artillery and vehicles. Some hundreds of the fugitives passed over on to Prussian territory and were disarmed. On Tuesday a body of 500 Russians were repulsed by Miniewski at Olkusz, in the government of Radom. The insurgent chief Osinski, after a successful encounter on the 5th inst. with the Russian troops, occupied Dombrowa. The band of 1000 scythemen, commanded by Franz, has been dispersed at a short distance from the Galician frontier. The Austrians received 59 of the fugitive insurgents, six waggonloads of arms, and two pieces of artillery. The peasants of the district of Podlachia, in the government of Lublin, are paying to the revolutionary agents the ground-rent for the support of the insurrection which their landlords have refused to pay. According to news received from Lithuania, 4000 Baskolniks (dissenters from the Greek faith), armed by the Russian Government in the neighbourhood of Dunaborg, are desolating Livonia with fire and sword. Shocking details have been received of their atrocities. The Prussian authorities have ordered the inhabitants of Inowraclaw, in the province of Posen, to afford quarters to the Russian troops, who are to be looked upon as Prussians by virtue of the convention concluded between Russia and Prussia. The *Nord Deutsche Zeitung* of Wednesday announces that during the past week the Prussian authorities have seized very considerable loads of arms, intended to be secretly introduced into Poland, in various and distant portions of the kingdom. The *Kreuz Zeitung* of Wednesday says that the terrorism exercised by order of the revolutionary committees at Warsaw and Cracow upon the inhabitants of Posen may render it at any moment necessary for the Prussian Government to proclaim a state of siege throughout the whole or in some of the smaller districts of the province. More than 60 persons have been arrested in the city of Posen. Numerous arrests, including many noblemen, have also been made in the province of Posen.

CHINA.—A despatch from Shanghai of March 25 says that Neingei (?) banditti have menaced Tientsin (?), but have been repulsed by Chinese troops under Consul Debson (?). The rebels have evacuated Shaoching, and are falling back upon Aurchow (?). [The remaining portion of the message is so imperfectly transmitted as to be entirely unintelligible.]

UNITED STATES.—Seven Federal gun-boats, one ram, and three transports have attempted to pass the Vicksburg batteries. One transport was obliged to return, another was burnt, and it is supposed that all on board were lost. The remainder of the vessels passed safely. Eleven Federal gun-boats, including three under Admiral Farragut, are now below Vicksburg. They have destroyed the Confederate batteries at Warrenton, and are anchored off New Carthage, where General Grant's head-quarters are established, and to which place a portion of General Grant's army had proceeded overland. The Southern journals think that the Federal gun-boats will attack Vicksburg from below and from the opposite shore. But it is generally supposed that the gun-boats will operate up the Red River, and, in conjunction with General Banks, will endeavour to force the evacuation of Vicksburg and Port Hudson by cutting off the supplies for those strongholds. The Southern journals have news of operations in General Banks's department, stating that the steamer Queen of the West has grounded in the Grand Lake and was blown up by the Federal gunboats; her crew, consisting of 113 officers and men, were captured. The Confederate steamer Diana was burnt in the Atchafalaya River by the Confederates to prevent her falling into the hands of the Federals. A portion of the force under General Banks was beyond Franklin, Louisiana, on the River Teche. The object of General Banks's expedition was to capture Franklin, where all the Confederates below the Red River are supposed to be posted, as a victory at that place would open the way for an advance of the Federals to the Red River. There was another movement making up the Yazoo River. Five Federal transports are reported to have reached a point above Haine's Bluff. The Confederates have burnt immense quantities of cotton along the Sunflower River. Federal gun-boats have been operating successfully against the Confederate cavalry along the banks of the Tennessee River. General Rosencranz is reported to have been reinforced by a portion of General Grant's army, and a battle in Tennessee is impending. General Foster arrived at Newbern from Washington, North Carolina, on the 16th, having run the blockade of the Confederate batteries on the Tar River in the transport Escort, the vessel by which he received supplies and reinforcements on the 14th. Eighteen shots took effect upon the hull of the Escort, and the pilot was killed at his post. It is presumed that General Foster will proceed with reinforcements to attack the Confederates who surround Washington, and compel them to raise the siege. Federal accounts of the 18th say that the Confederates had retired and abandoned all their batteries. Despatches from St. Louis of the 23d, report that General Marmaduke, with a large force of Confederates, has again entered Missouri, but the rumour that he has captured the town or port of Cape Girardeau, on the Mississippi, 150 miles below St. Louis, is said t be untrue. Fears are entertained of a blockade of the river at that point. On the 22d the Federals, under General Reynolds and Colonel Wilder, surprised the Confederates at Macminiville, Tennessee, captured the town, with 300 prisoners, and destroyed a cotton factory, two mills, and a large quantity of stores. Southern reports from Mississippi assert that the Federals, numbering 4000, have been repulsed upon Coldwater River, and that the Confederates were pursuing them. Confederate General Price is said to have 12,000 conscripts at Pocahontas. A Federal expedition has destroyed Celina, Kentucky, with immense quantities of Confederate stores. The Confederates are moving in Missouri, and threatening Pilot Knob. The Federals are advancing from two directions to meet them. General Halleck has visited Suffolk, Virginia, where the military situation remains unchanged. The Confederates are reported to be removing the obstructions in the James River at Fort Darling. The Charleston papers assert that the guns from the steamer Keokuk have been recovered. The mail-bag of the Peterhoff has been delivered unopened to the British consul by order of the district court. The trial of the question as to the legality of the capture of the ship and cargo has been postponed. The action of the British Government in the case of the steamer Alexandra has created a generally favourable impression in New York, and has allayed much irritation. Mr. Chase is in New York, and is urged to take advantage of the present favourable condition of the money market to effect a loan. Another meeting of the National League was held on the 20th ult. in Madison Square, at which General Scott presided. Addresses were made by the principal Republican leaders and a few Democrats; one of the latter, Mr. Van Buren, who in February last prophesied that six months would terminate the rebellion, now extended the time to one year, or even to the close of the present Administration. The British prize steamer Gertrude, captured off Harbor Island by the Vanderbilt, has arrived at New York. She was returning to Nassau after an ineffectual attempt to enter Charleston harbour. The Alabama is reported to have chased two vessels ashore in Turk's Island passage on March 26.

MEXICO.—General Berthier has defeated the Mexicans under General Comonfort, who was on the march to Puebla with reinforcements. General Ortega, who commands in Puebla, has offered to capitulate on favourable conditions. General Forey, however, demands the unconditional surrender of the city. The municipality and the ladies of Puebla have supplicated General Forey not to destroy the city. The General answered that he hoped to obtain its submission without firing a shot. Ortega with 15,000 men has made an attempt to force his way through the French columns in order to get to Mexico, but was repulsed with considerable loss, and compelled to return to Puebla.

## Parliament.

### HOUSE OF LORDS.

MONDAY.—The *Royal Assent* was given by commission to several public and private Bills.—Lord CHELMSFORD moved to recommit the *Albert Bridge Bill*, the preamble of which had been rejected by the Select Committee, on the ground that it was not desirable to sanction the construction of any further toll-exacting bridge over the Thames. After a long discussion, the motion was negatived by 40 to 29. The Bills on the table were advanced a stage.

TUESDAY.—*The Belgian Mails.*—Lord CHELMSFORD inquired of the Government whether they had accepted a tender from the Belgian Government for the conveyance of English mails between Dover and Ostend; whether any alteration was contemplated in the mail service between Dover and Calais, and whether any failure on the part of Mr. Churchward, the contractor, had rendered a change necessary.—Lord STANLEY OF ALDERLEY stated that an agreement had been made with the Belgian Government at a very reduced rate, conditional upon Parliament finding money to buy up Mr. Churchward's contract. If it did not, then the service would go on as at present until the expiration of the contract. With respect to the Calais mails, an offer had been made to undertake the service at a much lower rate, and it had been accepted, subject to the approval of Parliament. The Government had acted in accordance with the decision of a committee of the House of Commons, specially ratified by the House itself, which had strongly condemned Mr. Churchward's contract. *St. Bernard Reformatory.*—In reply to Lord BERNERS, Earl GRANVILLE said

that the Home-office had sent down an inspector to inquire into the recent disturbances at the Roman Catholic reformatory establishment of St. Bernard, Leicestershire, but that he had not yet made his report.

THURSDAY.—Earl RUSSELL moved that the House go into Committee on the *Corrupt Practices at Elections Bill.*—The Earl of DERBY said, as the Bill affected the House of Commons, he was not inclined to oppose it, although he disbelieved in legislative enactments to check bribery and corruption.—Earl Grey concurred with this opinion.—The House then went into Committee on the Bill, when Lord LYVEDEN moved the insertion of a clause disqualifying agents found guilty of corrupt or illegal practices. On a division the motion was rejected by 66 to 52. An amendment to clause 10 was agreed to, but on a division the clause itself was rejected by 92 to 26. Clause 11 having been struck out, the Bill passed through Committee, and was read a third time and passed.—Lord REDESDALE moved a resolution that the principle of *Charging Entailed Estates for Railways* involves questions of too much nicety and importance to be sanctioned by Parliament otherwise than by public legislation.—Lord ST. LEONARDS supported the motion.—Lord EVERSLEY moved as an amendment, "That this House is not prepared to withdraw from the consideration of Committees on Railway Bills clauses which may confer such powers, if certain specified conditions were agreed to by the tenant for life." A discussion ensued, in which the Earl of ROMNEY, Lord RAVENSWORTH, Lord PORTMAN, Earl GRANVILLE, and Earl GREY took part. Ultimately the amendment was negatived without a division, and the resolution was agreed to.

FRIDAY.—*Poland.*—The Earl of SHAFTESBURY, in presenting a petition from a meeting of merchants and others, held at the Guildhall, in favour of the Poles, said that he had 61 other petitions from various places. The separation of Poland from Russia must be the issue of the present struggle. It was impossible for the two nations to go on in union again. The separation would be greatly to the advantage of Europe, and to the advantage of Russia. Whatever the Poles required of other nations they required of England the strongest expression of opinion in both Houses of Parliament, in the press, and the platform. They looked with apprehension upon armed intervention, as they desired independence. He believed that public opinion, constantly and powerfully directed, would have ten thousand times greater an effect than the armed fleet in the Baltic.

[Left speaking.]

## HOUSE OF COMMONS.

MONDAY.—*The City Police.*—In reply to Sir J. DUKE, Sir G. GREY said that, as the Bill for the amalgamation of the City and Metropolitan Police proposed to repeal a local and personal act, the orders of the House of Commons required that it should be referred to the examiner of standing orders. That officer had reported that the usual notices had not been given in November last. The Bill was then referred to the Standing Orders Committee, and if they should report to the House that the Bill was in the nature of a private Bill, it would not of course be proceeded with in the present session. *The Count-out.*—Lord R. MONTAGU brought under notice the "no House" of Friday, and complained that the members of the Government, contrary to the understanding of two years ago, had studiously avoided coming into the House, although they mustered in considerable force in the lobby.—Mr. D. GRIFFITH and Mr. B. COCHRANE also deprecated the conduct of the Government as being evidently guided by a desire to get rid of the discussion of inconvenient subjects.—Lord PALMERSTON denied that the Government had been any party to the disaster of Friday, and hinted that when independent members had grievances to allege they ought to bring down their friends to help them to make a House.—Mr. DISRAELI certainly considered that the count out was not in conformity with the understanding that Government were to make and keep a House on Friday evening.—Mr. BENTINCK was disposed to blame the House itself, and not the Government, for what had happened. Experience had justified the truth of his prediction that the alteration made two years ago would be tantamount to a curtailment of the business of the House. *The Proposed Tax on Charities.*—The House having gone into committee on the *Customs and Inland Revenue Bill*, clauses 1 and 2, imposing the income tax on trades, professions, and property, were agreed to. On clause 3, charging charities with the tax, the CHANCELLOR of the EXCHEQUER said that the question he wished to raise was whether the law should be changed which gave an immunity to all charitable bequests. He confessed he could not see upon what grounds that special exemption was to be made, although he was quite prepared to modify the clause so as to prevent the tax falling upon funds which were disposed of in the shape of salary. He was prepared to say that 19-20ths of the charities which it was proposed to tax were derived from death-bed bequests. The income of the country, as gathered from the income tax returns, was about 180 or 190 millions a year, of which about three millions belonged to charities. These charities he divided into three classes—the small, the middling, and the great. With regard to the first of these he had no hesitation in saying that so far from being valuable they were positively pernicious, by tending to pauperise the people, and destroy their sense of independence and self-reliance. As an illustration he mentioned the case of Jarvis's Charity, which consisted of 100,000*l.* left to the poor of three parishes in Herefordshire. This was to be doled out to the inhabitants, but under no circumstances was any portion of the fund to be expended on buildings. The fund, however, accumulated so fast that the trustees were compelled to come to Parliament for an act to enable them to expend 30,000*l.* upon the construction of a boarding school for the labourers' children, thereby doing the very thing which old Jarvis declared should not be done. Of the middle charities a favourable type was to be found in the Clergy Orphan School, which had an income of 5000*l.* a year, and which it was proposed should be taxed at 145*l.* a year. The persons who supplied clergy orphans were poor clergymen, and it was proposed by the present scheme of the Government to remit taxation in favour of that class to the extent of 7000*l.* a year. The institution called Christ's Hospital was an appropriate illustration of the great charities. It enjoyed public contributions to the extent of 6000*l.* a year, and it had an income of at least 70,000*l.* It was originally intended for "sick, sore, and destitute children," but such was not the class who were now admitted to its benefits. On the contrary, the inmates were the children of persons with incomes from 200*l.* to 500*l.* a year, while the governors, in return for a payment of 500*l.*, received a vested interest in 1600 presentations. It was urged that if charities were taxed, 500 in-patients would be deprived of the benefits of St. Bartholomew's Hospital. The revenue of that institution was 36,000*l.* a year, and after deducting the income tax paid by the officers, the sum which the State would take from the hospital would be 850*l.* a year. This, however, was but a partial return for the advantages which the income tax had conferred upon the hospital. The reduction of the wine duties was equivalent to 238*l.*, and the reduction of the duty on foreign drugs to 415*l.*, while the remissions on articles of food consumed was 1214*l.*; so that from these sources alone the hospital was benefited to the extent of 1867*l.* a year. If to this were added 1440*l.* for the improved annual value of the property, the institution had derived a substantial advantage equivalent to 3307*l.* per annum. The Government did not propose this measure as one of financial necessity, but as one of justice and policy. They would not, however, press it on an unwilling House. Nevertheless, they urged it as in harmony with every principle of sound administration—as a measure just to the tax-paying community, and just to the labouring poor, as favourable in its tendency to the elevation of their character and the improvement of their condition. In conclusion, the right hon. gentleman appealed to the justice, the equity, the courage, and the wisdom of the House of Commons to agree to the principle involved in the clause.—Sir S. NORTHCOTE said that the speech of the Chancellor of the Exchequer was based on the fallacy that every man left untaxed received a gift from the State. He had also misconceived the reports of the Charity Commissioners, who had never recommended that the ancient and time-honoured endowments of the country should be mulcted with the income tax, but had advised that certain of those charities should be reformed and their abuses corrected. The proposition of the Government was simply to confiscate 250,000*l.* a year from the charities, in order that the income tax might be reduced and tea be cheapened by 5*d.* per lb.—Mr. MAGUIRE denounced the scheme as an attempt to impose taxation on the lowest and most destitute class of the community. Had he 10 votes he would give them all against the proposal.—Lord H. VANE admitted the ingenuity of the Chancellor of the Exchequer's argument, but was unable to agree with him in his deductions.—Mr. W. MARTIN put in a special plea on behalf of county hospitals.—Lord R. CECIL commented with much severity upon the principle of confiscation laid down by the Chancellor of the Exchequer, who had, he said, spoken with bitterness of the living, and raged with fury in denunciations against the dead. The right hon. gentleman could not have chosen a more unhappy time in which to make this long indictment against charity, benevolence, and poverty, for there was not an hospital in London upon whose funds the state of the manufacturing districts had not acted as a drain, and which was not obliged to drive people from its doors, and he had no doubt that if this measure passed its immediate effect would be to aggravate the misery that already so widely prevailed.—The CHAIRMAN having put the questions, the CHANCELLOR of the EXCHEQUER said that, as none of the independent members had declared themselves in favour of the clause, it was quite unnecessary to take the sense of the House upon it.—Mr. DISRAELI agreed in the wisdom of the announcement. At the same time he had never heard an announcement for which he was less prepared after the speech of the Chancellor of the Exchequer. The right hon. gentleman might, however, console himself with the reflection that though he had been defeated by the charities he had conquered the clubs. But it was possible that before the labours of the House terminated that eccentricity might also disappear from the budget. The proposition of the Government to attack the charitable endowments of the country was so monstrous that he was not surprised that the country had risen as one man against it. The great fundamental failing of the Chancellor of the Exchequer was that he held exemption from taxation to be equivalent to a grant from the country, than which nothing could be more fallacious or illogical.—Lord PALMERSTON defended the policy of the Chancellor of Exchequer, which, he said, was founded in justice and good sense, and had the entire approval of his colleagues. The fact, however, was that the House was influenced by local associations, and under these circumstances the Chancellor of the Exchequer had, he thought, exercised a wise discretion in withdrawing the proposition.—After a few words from Mr. HENLEY and Mr. LOCKE the clause was negatived without a division. The remaining clauses were agreed to, and the House resumed. The *Savings Bank Bill* passed through committee with amendments. The *Consolidated Fund (10,000,000l.) Bill*, and the *Exchequer Bonds (1,000,000l.) Bill* were read a third time and passed. The *Naval Medical Supplemental Fund Society Winding-up Act Amendment Bill* was read a second time, after a short debate. Other Bills were forwarded a stage.

TUESDAY.—*The War in China.*—In answer to a question from Colonel SYKES respecting the death of Lieut. Tinling, of H.M.S. Encounter, in the attack on Shon-hing, Lord C. PAGET said that instructions had been sent to the commanders of her Majesty's ships in China not to allow their officers or men to be employed beyond a radius of 30 miles from a treaty port. *Case of Captain Melville White.*—Colonel DUNNE inquired what steps had been taken to obtain redress for the cruelties inflicted by the Peruvian Government on Captain Melville White, a British subject.—Mr. LAYARD replied that Captain Melville White had been treated with very great brutality, and that the course taken by the Peruvian courts of justice in his regard was a disgrace to those institutions. The law officers of the Crown had inquired into the case, and had recommended that 4500*l.* should be demanded of the Peruvian Government as compensation for the injuries sustained by Captain White. The latter was, however, dissatisfied, and had sent in a claim to the Foreign Office for 292,174*l.*, of which 20,000*l.* was for kicks inflicted upon him, 5000*l.* for being compelled to eat bad food during five days, and 20,000*l.* for injury done to his health. The Government had offered to submit the matter to arbitration, and it was to be hoped that some satisfactory arrangement would be come to. *National Education.*—Mr. WALTER moved two resolutions, to the effect, 1. That the sums annually voted for educational purposes ought to be made applicable to all the poorer schools throughout the country (not being private schools or carried on for profit), in which the attendance and examination of the children exhibit the results required under the revised code by the inspectors of schools; and 2. That to require the employment of certificated teachers, or of pupil teachers by school managers, as an indispensable condition of their participation in the capitation grant, was inexpedient and unjust to the managers of such schools. He urged that a capitation grant of 8*s.* ought to be given to all schools in which the children should pass an examination in the three elementary branches of education to the satisfaction of the inspector.—Mr. BUXTON seconded the motion.—Mr. LOWE said he did not intend to raise any objection to the proposal on the ground of the vested rights of the certificated teachers, but because he believed that, if it were agreed to, the whole system of national education would degenerate into a mere scramble for public money. He urged that the Government ought not to make a grant to any school where it had not tested the capacity and qualifications of the teachers, and that the advantage of supplying schools with efficient teachers was proved by the experience of the 10 years during which the practice had been followed. Another objection to the motion was, that the revised code had not yet been tried, and that the employment of uncertified or unknown teachers would be a premium upon ignorance and an injustice at once to the public and to the children themselves. He called upon the House to give the Educational Department a period of rest and tranquillity, to wait and see the result of the changes already made, and not to unsettle the minds of men upon this important question.—The motion was supported by Mr. DUTTON and opposed by Mr. F. POWELL and Mr. SALT.—Mr. ADDERLEY contended that the existing system should be adhered to, and that no school which did not submit to the three tests now in force—namely, the elementary instruction test, the inspection test, and the test of certified tutorship—ought to receive aid in the shape of a grant of public money. The motion would abolish altogether the two latter tests, and open the Treasury to all schools on the single test of their giving elementary education. He moved, as an amendment, that the votes for education ought to be made applicable to schools only of the working classes, but to all of them alike, in the way of proportionate aid to voluntary support, subject to the favourable report of the inspector, and to tests of at least elementary instruction being given in them by teachers in all respects qualified.—Mr. B. COCHRANE seconded the amendment.—Mr. HENLEY supported the motion as a simple act of justice to the districts in which the poorer class of schools existed, and which had for the last 16 or 17 years contributed their quota to the education grant without participating in its advantages.—After some observations from Mr. PULLER, Sir M. FARQUHAR, and Mr. D. GRIFFITH, the amendment and first resolution were withdrawn. The House then divided on the second resolution, which was negatived by 152 to 117. *The Act of Uniformity.*—Mr. BOUVERIE moved that the House should go into committee upon that portion of the Act of Uniformity which required deans, canons, and prebendaries of chapters, professors, masters of colleges, and others, to make a declaration of uniformity to the liturgy of the Church of England. His object was to propose a resolution on which to found a Bill for the repeal of that requirement, and he said that his motion was made at the instance of the resident fellows of the University of Cambridge.—Mr. WALPOLE resisted the motion, observing that the House had already on two occasions considered and decided the question, and that unless some good reason were shown to the contrary, it ought upon principle, policy, and consistency, to adhere to that decision.—Lord STANLEY said that the proposal now made was different to that made in 1856. It would not take away from the colleges any right which they already possessed, but it acknowledged their right of self-government, which the proposal in 1856 did not.—Sir W. HEATHCOTE contended that the Dissenters had really no practical grievances, because all the distinctions of the universities were open to them, save those which related to the government thereof.—Mr. D. GRANT supported, and Lord R. CECIL opposed, the motion.—Lord PALMERSTON expressed himself willing to vote for the introduction of the Bill, but at the same time would hold himself free to deal with the matter hereafter as might appear to be expedient. On a division the motion for going into committee was carried by 157 to 135. The House then went into committee, when leave was given to bring in a Bill.—The Marquis of HARTINGTON obtained leave to bring in a Bill to consolidate and amend the law relating to *Volunteer Corps.*—Colonel DUNN moved for a select committee to inquire into the state of *Holyhead Harbour.* The motion was seconded by Mr. LEFROY.—Mr. M. GIBSON suggested that the motion should be delayed till certain correspondence was before the House. After some discussion and a division the debate was adjourned.

WEDNESDAY.—Mr. NEWDEGATE, in moving the second reading of his *Church-rates Commutation Bill*, said that the Church-rate question had now reached a point when, in the opinion of the House, some change of the law was expedient in order to adapt its provisions to the altered circumstances of the country, without disturbing the relations between the Established Church and the State. In 1837, the late Sir R. Peel had suggested, as deserving the best consideration of the House, a plan by which the owner, not the occupier, should be liable to the rate, without any invidious test being imposed upon Dissenters. These suggestions and others made in the report of the Committee of the House of Lords were embodied in his Bill, which, assuming, as the fact was, that Church-rates were a charge upon land and real property, removed all personal liability in respect to the rate, and provided that the maintenance of the fabric of churches should be a burden upon the land, and payable by the owners. He then explained and defended the principal provisions of the Bill and the machinery by which they were to be carried into operation.—Sir H. STRACEY seconded the motion.—Sir C. DOUGLAS moved as an amendment that the Bill be read a second time that day six months.—Lord HENLEY seconded the amendment, considering that the settlement proposed by the Bill would not be satisfactory or advantageous to Dissenters.—Mr. G. HARDY expressed his belief that the Bill had not the slightest chance of success.—Sir G. GREY said that, though the Bill contained some valuable suggestions, in his opinion it did not hold out any prospect of settling the question. He suggested cases in which it would operate injuriously upon owners of property, and that the machinery was too cumbrous. He recommended Mr. Newdegate not to press the Bill.—Sir S. NORTHCOTE concurred in this recommendation. After some further debate, Mr. NEWDEGATE declining to abandon the principle of the Bill by withdrawing it, the amendment was carried, on a division, by 94 to 56. The Bill was therefore lost.—Mr. ALCOCK moved the second reading of his *Church-rates Redemption Bill.* Its object, he observed, was different from that of Mr. Newdegate's Bill; it was not to perpetuate Church-rates, but simply to provide means of redeeming them, as had been done with regard to the land-tax.—Mr. EVANS seconded the motion.—Mr. NEWDEGATE spoke against the second reading, and Mr. DODSON in favour of it.—Sir G. GREY said he should not object to the second reading of the Bill, which, however, required in his opinion very extensive alteration in the committee.—After a few observations by Mr. GRIFFITH and Mr. BRISCOE, the second reading was negatived on a division by 81 to 72. The Bill was therefore lost. The House then went into Committee on the *Security from Violence Bill* of Mr. Adderley, when a long discussion took place, on the motion of Mr. PEACOCKE, to amend the first clause by making the infliction of corporal punishment applicable only to second and subsequent convictions. On a division, the amendment was negatived by 191 to 37. Several verbal amendments having been made on the clause.—Mr. DENT moved that the Chairman report progress; but the motion was rejected by 159 to 32. On the question that the clause stand part of the Bill, the House again divided, and it was agreed to by 144 to 31. The Bill was then reported to the House. The *Marriages Registration (Ireland) Bill*, introduced by Mr. MONSELL, and the *Admiralty Court (Ireland) Bill* were read a second time.

THURSDAY.—*The Brazilian Affair.*—In answer to a question by Mr. M. MILNES respecting the conduct of Mr. Christie, her Majesty's Minister at Brazil, Lord PALMERSTON said that General Webb, the United States' Minister at Rio, had written a letter to Earl Russell, impugning Mr. Christie's veracity, and that Lord Russell had treated it with the disregard it merited; that Mr. Christie was a gentleman and a man of honour, that no man could question his veracity with any semblance of truth, and that his conduct had been fully and entirely approved by her Majesty's Government.—Mr. BRAMLEY-MOORE entered upon a variety of details to show that the conduct of Mr. Christie had been anything but moderate and conciliatory towards the Brazilian Government in an emergency when special caution was necessary.—Lord PALMERSTON said that the information the Government had received differed from that of Mr. BRAMLEY-MOORE. After some further discussion the subject dropped. On the order for going into Committee upon the *Prison Ministers Bill*, Mr. R. LONG moved that the House should resolve itself into Committee that day six months. The grievance which the Bill proposed to redress, if it were a grievance, was a necessary consequence of the Constitution under which we lived, and the principle of the measure would justify the appointment in prisons of chaplains of all the various denominations of Dissenters from the Established Church.—Sir L. PALK seconded the motion.—Mr. MORRITT, Mr. G. DUFF, Sir J. PAKINGTON, and Lord H. LENNOX,

supported the Bill; Mr. KENDALL, Mr. WHALLEY, Lord A. V. TEMPEST, and Major HAMILTON, opposed it. On a division, Mr. LONG's motion was negatived by 172 to 141. The House then went into Committee on the Bill.—Mr. MURE moved that the Bill be limited to England, observing that in Scotland a special request from a prisoner to be visited by a clergyman of his own religious persuasion was not required in the local prisons.—Sir G. GREY objected to the limitations. After a long debate the Committee divided, when the amendment was negatived by 96 to 55.—Mr. HUNT moved to amend the third clause so as to exclude the power of appointing particular ministers and their payment.—Sir G. GREY objected that this would place the law of England upon the same footing as the law of Scotland stood at present, and would amount to a rejection of the Bill. This amendment, after a long debate, was likewise negatived upon a division, the numbers being 96 to 80.—Mr. BENTINCK moved to amend the clause by omitting the words making the payment to chaplains appointed under the Bill a charge upon the county or borough rates. After some discussion the amendment was negatived on a division by 101 to 71. The Chairman was then ordered to report progress.—Upon the order for the second reading of the *Inland Revenue Bill*, a desultory conversation arose, chiefly with reference to Club licences. The Bill was ultimately read a second time. The adjourned debate on the Report upon the *Stock Certificates to Bearer Bill* was then resumed, when certain amendments were made in the Bill. The *Savings Banks Moneys Bill* was read a third time and passed.

FRIDAY.—*Police Amalgamation Bill.*—A report was brought up from the Committee on Standing Orders, stating that the standing orders relative to the Bill for the amalgamation of the Metropolitan and City police, ought not to be dispensed with. So the Bill is dropped for the present session. *The Tax on Clubs.*—In answer to Mr. LYGON, the CHANCELLOR of the EXCHEQUER said that, in consequence of many applications he had received from various quarters of the House, it was his intention to abandon this tax. *Southern Italy.*—On the order for going into Supply, Mr. HENNESSY moved for further papers respecting the state of Southern Italy.

[Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $93\frac{1}{8}$ to $\frac{3}{8}$, cum. div., for Money, and $92\frac{1}{4}$ to $\frac{1}{8}$, ex div., for Account; Three per Cents. Reduced, $91\frac{7}{8}$ to $\frac{3}{4}$; New Three per Cents., $91\frac{3}{4}$ to $\frac{7}{8}$; Bank Stock, $234\frac{1}{2}$; India Stock, 231 to 230; Ditto Five per Cent. Stock, $109\frac{7}{8}$ to 110; Five and a Half per Cent. Enfaced Rupee Paper, $115\frac{1}{2}$; Exchequer Bills, 2s. to 6s. pm.—FOREIGN: Chilian, 87; Dutch Certificates, $100\frac{1}{4}$; Egyptian, $99\frac{3}{4}$; Greek, for Acct., $31\frac{3}{8}$ to $\frac{5}{8}$; Ditto Coupons, $14\frac{7}{8}$ to $\frac{3}{4}$; Italian, for Acct., $71\frac{3}{8}$; Ditto Maremmana Railway, $78\frac{1}{4}$; Mexican, for Acct., 37 to $37\frac{1}{8}$; New Granada, $16\frac{1}{8}$ to $\frac{1}{2}$; Ditto Two per Cents., $33\frac{1}{4}$ to 33; Ditto Deferred, $9\frac{3}{8}$ to $\frac{1}{4}$; Ditto Land Warrants, Hectares, $6\frac{7}{8}$; Portuguese, 1853, for Acct., $49\frac{1}{4}$; Ditto 1862, 49 to $\frac{1}{2}$; Ditto Scrip, $5\frac{1}{4}$ to $\frac{1}{8}$ pm.; Russian, 1862, $93\frac{1}{2}$ to $\frac{1}{4}$, ex div.; Sardinian, for Acct., 88; Spanish, for Acct., $54\frac{1}{2}$ to $\frac{1}{4}$; Ditto Passive, $33\frac{3}{4}$ to $34\frac{1}{4}$; Ditto Certificates, $11\frac{1}{4}$ to 11; Turkish, 1854, for Acct., $88\frac{1}{4}$ to $\frac{7}{8}$; Ditto 1858, for Acct., $70\frac{1}{8}$ to $\frac{3}{4}$; Ditto 100*l.* Bonds, $73\frac{1}{2}$ to $72\frac{1}{2}$; Ditto 1862, for Acct., $71\frac{1}{2}$ to $\frac{5}{8}$; Venezuela, 1862, $55\frac{1}{4}$ to 55, ex div.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £28,940,765 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,290,765 |
| | | Silver Bullion .. .. | — |
| | £28,940,765 | | £28,940,76 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £12,151,395 |
| Rest .. .. .. .. .. | 3,119,537 | Other Securities .. .. | 17,470,207 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 7,241,739 | Notes .. .. .. .. .. | 8,168,780 |
| Other Deposits .. .. .. | 13,122,087 | Gold and Silver Coin .. | 850,995 |
| Seven days and other bills | 603,014 | | |
| | £38,639,377 | | £38,639,377 |

May 7, 1863. W. MILLER, Deputy Cashier.

## Metropolis and its Vicinity.

ROYAL ACADEMY.—The annual dinner of the Royal Academy preparatory to the opening of the exhibition was held on Saturday night, Sir Charles Eastlake, President of the Academy, in the chair. The Prince of Wales, Prince Louis of Hesse, the Commander-in-Chief, the Prime Minister, the leaders of political parties, and numerous persons of eminence in literature, science, and art, were among the company. In returning thanks for the toast of his health, the Prince of Wales, who spoke evidently under deep emotion, but in a peculiarly clear and pleasing tone of voice and with great impressiveness of manner, spoke as follows:

"Sir Charles Eastlake, your Royal Highnesses, my Lords, and Gentlemen,—It is with the most contending feelings of pleasure, pride, and sorrow that I rise to return you thanks in the name of myself and the Royal family for the kind terms in which you, Sir Charles, have proposed our health, and for the very cordial way in which this distinguished assembly has received it. I cannot on this occasion divest my mind of the associations connected with my beloved and lamented father. His bright example cannot fail to stimulate my efforts to tread in his footsteps; and, whatever my shortcomings may be, I may at least presume to participate in the interest which he took in every institution which tended to encourage art and science in this country, but more especially in the prosperity of the Royal Academy. Adverting to my marriage, I beg you to believe how grateful I feel for, and I may be permitted to add how sincerely I appreciate, the sentiments you have expressed with reference to the Princess. I know that I am only speaking her mind in joining her thoughts to mine on this occasion. We neither of us can ever forget the manner in which our union has been celebrated throughout the nation; and I should be more than ungrateful if I did not retain the most lasting as well as most pleasing recollection of the kind expressions and reception which my attendance at your anniversary meeting has evoked this evening."

Prince Louis of Hesse acknowledged the toast of his health in the following terms:—

"Mr. President, your Royal Highnesses, my Lords, and Gentlemen,—I have been much flattered by your kind invitation, which has enabled me to spend this evening in so distinguished an assembly. Still more gratified have I been by the cordial way in which you have welcomed me, and in which you have drunk my health and that of the Princess. While I return my warmest thanks in both our names, I take this opportunity of expressing my devotion and gratitude to your beloved Queen and her family, and my profound admiration of this great and noble country, to which I am most sincerely attached."

MEMORIAL OF THE EXHIBITION OF 1851.—The ceremony of uncovering the Memorial of the Exhibition of 1851, and the statue of H.R.H. the late Prince Consort, will take place in the Gardens of the Royal Horticultural Society on Wednesday, the 10th of June. The Prince of Wales will officiate on the occasion, in the presence of the Princess of Wales and other members of the Royal family. The details of the ceremonial will be found in our advertising columns.

AMALGAMATION OF THE CITY AND METROPOLITAN POLICE.—A crowded meeting, convened by the Lord Mayor, pursuant to a numerously signed requisition, was held on Tuesday at Guildhall, to consider the proposal of the Government with respect to the amalgamation of the police of the cities of London and Westminster. The Lord Mayor occupied the chair, and was supported by a large number of members of Parliament and the principal members of the corporation. Mr. S. Morley, Mr. Fowler, the banker, Mr. K. Hodgson, M.P., Governor of the Bank of England, Mr. George Moore, Mr. Kinnaird, M.P., Mr. Crawford, M.P., Mr. Wood, M.P., and other gentlemen, addressed the meeting, and resolutions condemning the proposed scheme, with a petition to Parliament against it, were unanimously adopted.

THE LOSS OF THE ORPHEUS.—The Lords of the Admiralty have published a return of the names of officers and men who perished in the wreck of her Majesty's late ship Orpheus, at the entrance of the Manukau Harbour, New Zealand, on the 7th of February. The following is a complete list of the Commissioned Officers:—William F. Burnett, C.B., commodore; Robert H. Burton, commander; William T. F. W. Mudge, lieutenant; Arthur Jekyll, lieutenant; William D. Strong, master; William I. Taylor, second master; Arthur R. Mallock, Thomas H. Broughton, and George H. Verner, midshipmen; John J. Tozer, master's assistant; Rev. C. B. Haslewood, chaplain and naval instructor; W. H. P. M. Gillam, secretary (assistant paymaster); A. D. Johnston, assistant paymaster; James Clarkson, assistant surgeon; Edward E. Hill, first lieutenant Royal Marines.

THE MURDER IN BLOOMSBURY.—The body of a man, who had evidently committed suicide in a deliberate and determined manner, having filled his pockets with sand and fastened his hands in front of him, was taken out of the river on Monday. A rumour got abroad that this was the body of the man who murdered Emma Jackson a few weeks since in St. Giles's. There is some resemblance in the dress, height, and beard of the man as he was observed by those who saw him with the girl on the morning of the murder; but as the body had been more than a week in the water, and pains had been taken by the suicide before drowning himself to destroy all traces of his identity, there is necessarily great uncertainty on the subject. The inquest was opened on Wednesday, and adjourned for the purpose of obtaining further evidence. The police however are said to be satisfied that he is not the man.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that in the week that ended Saturday May 3, the deaths in London fell to 1374, a lower number than any that has been returned since the first week of March. The average number in the corresponding weeks of the 10 years 1853-62, corrected for increase of population, was 1287. The present return is therefore 87 above the average. 68 deaths occurred from small pox, 74 from scarlatina, and 47 from measles. During the week the births of 1002 boys and 973 girls, in all 1975 children, were registered in London. In the 10 corresponding weeks of the years 1853-62, the average number was 1981.

## Provincial.

CAMBRIDGE.—For several weeks past a number of undergraduate members of the University of Cambridge, have been in the habit of attending the evening service of the Roman Catholic chapel in Union Road, and interrupting the priest by laughing derisively, smoking clay pipes, and other unseemly conduct. The Rev. Mr. Quillinar, the priest, has remonstrated with them on several occasions, but, being anxious to spare them the disgrace and humiliation of a public exposure, he kindly abstaining from taking legal proceedings. This forbearance, however, instead of having the desired effect of quelling the disturbances, made the undergraduates more bold and violent, and last Sunday evening they conducted themselves in so outrageous a manner that the police who were in attendance for the purpose of preserving order, found it necessary to take the ringleaders into custody. On their way to the station-house a rescue was attempted by a body of students, in which the police were roughly handled. On Monday at the Borough court, two of the undergraduates concerned in the attempted rescue, Mr. Howard Simon Watson and Mr. Thomas Springett Watson, of Pembroke College, were convicted of assaulting the police, and sentenced to seven days' imprisonment without hard labour. Mr. Richard Ramsden, of Trinity College, was fined 4*l.* and expenses; and other charges were dismissed from insufficient evidence. The defendants Watson were removed to the Borough Gaol in a fly. On their exit from the Town-hall they were greeted with a sympathetic cheer from their brother undergraduates, but at the entrance to the gaol a different reception awaited them. The mob there also cheered lustily, but it was because they saw two gownsmen going to prison.

MANCHESTER.—At the weekly meeting of the Central Executive Committee on Monday, Mr. Commissioner Farnall's report stated that there was a total decrease in the number of the unemployed of 5373 as compared with the previous week. The Hon. Secretary's monthly return was no less favourable. During the month of April there were 24,954 more people were employed than in the previous month, and the local relief committees had spent 14,744*l.* less in April than in March. The total receipts for the week ending May 2 were 5787*l.* 7*s.* 3*d.*, and for the month of April 20,521*l.* 6*s.* 6*d.*, balance in the hands of the bankers, 392,868*l.* 14*s.* 5*d.*

## Obituary.

THE DOWAGER VISCOUNTESS ANDOVER died on the 29th ult. at Brighton. She was the eldest daughter of the first Earl of Leicester by his first marriage with the daughter of Mr. James Lennox Dutton, father of the first Lord Sherborne. Her ladyship was born in 1777, and married first, in 1796, Charles Viscount Andover, eldest son of the fifteenth Earl of Suffolk, who died in 1800; and secondly, in 1806, Admiral Sir Henry Digby, K.C.B., who died in 1842.

LORD HATHERTON died on Monday afternoon at his seat, Teddesley Park, Penkridge, in his 73d year. His lordship entered the House of Commons in 1812, and has therefore been a member of the Legislature for half a century. He was the eldest son of the niece of Sir Thomas Littleton, Bart., who died in 1812, and with whom ended the direct male line of an old English family, of which the famous Judge Littleton, "the great luminary of the law," had been one time the head. The late peer was, throughout his career in the House of Commons, a member of the Liberal party, and in the preparation of the Reform Bill of 1832 he was at the head of the Parliamentary Boundary Commission, whose report was afterwards adopted with little modification. In 1833, he was appointed Secretary for Ireland, but resigned the secretaryship in the next year, and was not a member of the following Melbourne Administration. In 1835 he was created a peer with the title of Lord Hatherton, and in 1854 was appointed Lord Lieutenant of Staffordshire. His lordship was greatly respected by public men of all parties, was profuse in his hospitality, and took a great interest in agriculture. He was twice married; lastly, in 1852, to the widow of Mr. Henry Davis Davenport, of Capesthorne. His lordship is succeeded in his title and estates by his only son, the Hon. Edward Richard Littleton, Colonel of the 2d Staffordshire Militia.

## Miscellaneous.

THE NILE EXPEDITION.—Another telegram reached the Foreign Office from Alexandria on Wednesday, conveying a message from Captain Speke to Sir Roderick Murchison, that "on the 27th of March he was in north latitude 14° 30′, on the Nile; that all was well, and the Nile settled." Sir Roderick Murchison in publishing this telegram says, "this is glorious news for all geographers."

## Markets.

COVENT GARDEN, May 9.

Notwithstanding the continued dryness of the weather, Vegetables of good quality continue to make their appearance in great abundance. Pears are now scarce; among Apples are samples of Newtown Pippin, Cockle Pippin, Court Pendu Plat, and Ashmead's Kernel. Cherries from France are fetching from 5s. to 7s. per box weighing about 2 lbs. each. Oranges, though tolerably plentiful, are still dear. Cucumbers are cheap. Pine Apples and Grapes are sufficient for the demand; the latter have fallen a little in price. Potatoes as last week; large supplies of new ones are making their appearance. Cornish Broccoli is still coming in. Cut flowers chiefly consist of Orchids, Pelargoniums, Cinerarias, Azaleas, Violets, Mignonette, Tulips, and Roses

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 7s to 10s | Oranges, per box, 12s 6d to 30s |
| Grapes, per lb., 8s to 14s | — per 100, 4s to 8s |
| Strawberries, p. oz., 6d to 1s | Nuts, small, p. bush, 14s to 18s |
| Pears, per doz., 18s to 24s | Almonds, do., 18s |
| Apples, per doz., 9d to 1s 6d | Walnuts, do., 10s to 16s |
| — per ½ sieve, 3s to 6s | Kent Cobs, p. 100 lbs., 150s |
| Lemons, per 100, 5s to 9s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | French Beans per 100, 2s |
| Green Peas, per qt., 4s to 6s | Asparagus, per 100, 4s to 6s |
| Potatoes, York Regents, p. ton, 90s to 100s | Seakale, p. punnet, 1s 3d to 2s |
| „ Flukes, do., 100s to 120s | Shallots, per lb., 6d to 8d |
| „ Rocks, do., 60s to 80s | Rhubarb, p. bundle, 4d to 6d |
| „ Cups, do., 75s. to 85s | Garlic, per lb., 6d to 8d |
| Turnips, p. bunch, 3d to 4d | Lettuces, each, 1d to 2d |
| Carrots, do., 3d to 6d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bundle, 1s 6d to 4s |
| Cucumbers, each, 1s to 2s | Mushrooms, p. pott., 1s to 1s 3d |
| Beet, per doz., 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Celery, p. bundle, 1s 6d to 2s | Herbs, per bunch 2d to 4d |

METROPOLITAN CATTLE MARKET.

MONDAY, May 4.

The number of Beasts is rather larger than last week; trade is not brisk, yet late rates are well maintained. The supply of Sheep is about the same as on Monday last; trade is slow, and that day's quotations are with difficulty realised. Good Calves and Lambs are in demand at fully late rates. From Germany and Holland there are 390 Beasts, 2510 Sheep, and 153 Calves; from Spain, 123 Beasts; from Scotland, 370; from Ireland, 30; and 2870 from Norfolk and Suffolk.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools .. | — .. |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn .. | 4 6 to 4 8 |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality .. | — .. |
| Best Downs and Half-breds .. .. | — .. | Do. Shorn .. | 3 10 — 4 2 |
| Do. Shorn .. | 4 10 — 5 0 | Lambs .. .. | 6 4 — 7 4 |
| | | Calves .. .. | 4 0 — 5 4 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 3990; Sheep & Lambs, 22,040; Calves, 133; Pigs, 450.

THURSDAY, May 7.

Although the number of Beasts is smaller than on Thursday last, it much exceeds the demand. Prices are lower, and

several remain unsold. There is a considerable increase in the supply of Sheep and Lambs. Quotations are lower for all descriptions, and there are very few purchasers at market. Calves are also more plentiful, and are sold at lowe rates. Our foreign supply consists of 278 Beasts, 860 Sheep, and 420 Calves; the number of Milch Cows is 120.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to 4 10 | Best Long-wools. | .. — .. |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn | 4 4 — 4 6 |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds | .. — .. | Do. Shorn | 3 8 — 4 0 |
| | | Lambs | 6 0 — 7 0 |
| | | Calves | 3 4 — 5 0 |
| Do. Shorn | 4 8 — 4 10 | Pigs | 3 0 — 4 4 |

Beasts, 1160; Sheep & Lambs, 8100; Calves, 560; Pigs, 130.

NEWGATE.—May 8.

Best Fresh Butter .. .. 13*s.* per dozen lbs.
Second do. do. .. .. 11*s.* ,,
Pork, 4*s* 0*d.* to 4*s.* 4*d.* per 8 lbs.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, THURSDAY, May 7.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to 72s | | Clover, old | 90s to 110s | |
| Superior do. | 75 | 80 | New Clover | — | — |
| Inferior do. | 40 | 60 | Do. second cut | 80 | 105 |
| New do. | — | — | Straw | 30 | 36 |
| Rowen | 40 | 60 | | | |

HARVEY & EASTON.

WHITECHAPEL, THURSDAY, May 7.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 80s to | 84s | Prime Clover | 110s to | 118s |
| Inferior do. | 60 | 70 | Inferior do. | 100 | 108 |
| Prime New Hay | — | — | Prime 2d cut | 100 | 108 |
| Inferior | — | — | Inferior do. | — | — |
| Straw | 30 | 34 | New 2d cut | — | — |

HOPS.—BOROUGH MARKET, FRIDAY, May 8.

Messrs. Pattenden & Smith report the market very firm, with a limited supply of fine and middling sorts, for which a further allowance of 2s. to 4s. is obtained.

MARK LANE.—MONDAY, May 4.

The supply of Wheat from Essex and Kent to this morning's market was moderate, and met a slow sale at the prices of this day se'nnight. The attendance was tolerably good, and the inquiry for foreign Wheat was limited and of a retail character, at late prices. Barley, Beans, and Peas were each rather dearer, and Oats, owing to a very short supply, brought an advance of 6d. per qr. For Flour there was scarcely any inquiry.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 46—56 | Red .... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — — Talavera .............. | 48—60 | | |
| — Norfolk .............. | — | Red .... | — |
| — Foreign .............. | 34—62 | | |
| BARLEY, grind. & dist., 23s to 30s..Chev. | 34—38 | Malting . | 31—34 |
| — Foreign..grinding and distilling | 23—27 | Malting . | 28—32 |
| OATS, Essex and Suffolk .............. | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .. | 21—23 |
| — Irish ..............Potato | — | Feed .. | — |
| — Foreign........Poland and Brew | 20—22 | Feed .. | 17—22 |
| RYE .............. | 35—37 | Foreign . | — |
| RYE-MEAL, foreign.............. | — | | |
| BEANS, Mazagan....30s to 31s ...Tick | 31—32 | Harrow . | 31—32 |
| — Pigeon ......34s —38s..Winds. | — | Longpod | — |
| — Foreign ..............Small | 40—46 | Egyptian | 32—34 |
| PEAS, white, Essex and Kent..Boilers | 35—37 | Suffolk . | 37—40 |
| — Maple ....42s to 43s ......Grey | 36—37 | Foreign . | 30—38 |
| MAIZE..............White | — | Yellow .. | — |
| FLOUR, best marks delivered..per sack | 42—47 | | |
| — 2d do ..............ditto | 32—40 | Country | 32—40 |
| — Foreign ..............per barrel | 23—30 | Per sack | 34—48 |

FRIDAY, May 8.

The weather this month has been particularly fine. The activity we had to report of the Wheat trade last week has been succeeded by dullness, and in some markets rather lower prices have been submitted to. Spring Corn, owing to the continued dryness of the season, continues to attract attention, and the tendency in the value of all descriptions is towards improvement. Oats in a few exchanges are quoted 6d. to 1s. per qr. higher. The Flour trade has been heavy; prices incline downwards. Since Friday last not any new arrivals have been reported, and the coast is cleared of cargoes for sale. A moderate business has been done in cargoes still on passage, which are held firm, and Maize has again advanced a little. The arrivals of English Wheat this week have been moderate, of all other grain and Flour small. There were very few Wheat buyers at this morning's market, and the English Wheat left over from Monday, although offered at that day's prices, remained unsold at a late hour. Very little business was transacted in foreign, and to have forced sales lower rates must have been submitted to. Barley, Beans, and Peas are unaltered in value. For Oats the trade is very firm at the extreme quotations of Monday.

ARRIVALS THIS WEEK.

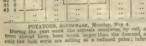
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1940 qrs. | 40 qrs. | 60 qrs. | 1380 sks. |
| Irish .... | — | 110 | — ,, | — ,, |
| Foreign .. | 6480 | 30 ,, | 27,970 ,, | — ,, 3350 brls |

LIVERPOOL, May 8.—There was a very fair attendance of buyers at our market to-day, but in Wheat there was only a poor consumptive demand at a decline of 1d. to 2d. per 100 lbs. since this day week. Flour was in less inquiry, and in some cases 6d. per barrel cheaper. Oats firm. Oatmeal held for 6d. per load advance. Barley and Beans steady. Indian Corn was wanted at 29s. 6d. for mixed, but holders insisting upon 29s. 9d. restricted business. Yellow, 30s.; white, 31s. to 31s. 6d. per 480 lbs.

FRIDAY, May 8.—Market dull in Wheat, and Flour dull trade, buyers having the advantage. Indian Corn steady demand. Egyptian Beans without change. Oats and Oatmeal better and the turn dearer.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas |
|---|---|---|---|---|---|---|
| Mar. 28.. | 45s 4d | 36s 5d | 21s 2d | 32s 4d | 35s 4d | 35s 5d |
| April 4.. | 45 9 | 36 6 | 21 5 | 30 4 | 36 1 | 35 11 |
| — 11.. | 45 6 | 36 8 | 21 5 | 31 9 | 35 11 | 35 2 |
| — 18.. | 45 6 | 35 4 | 21 6 | 30 5 | 36 6 | 36 2 |
| — 25.. | 45 8 | 36 3 | 21 11 | 30 6 | 36 11 | 35 3 |
| May 2.. | 45 9 | 34 6 | 21 2 | 29 8 | 37 3 | 35 6 |
| Agg. Aver. | 45 7 | 35 7 | 21 5 | 30 10 | 36 4 | 35 9 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




POTATOES, SOUTHWARK, Monday, May 4.

During the past week the arrivals coastwise, by rail, and from abroad have been much larger than the demand, and only the best sorts are selling at a reduced price; inferior or second-rate samples are next to unsaleable. The following are this day's quotations:—Yorkshire Flukes, per ton, 100s. to 120s.; ditto Regents, 90s. to 100s.; ditto Seedlings, 85s. to 90s.; do. Rocks, 80s. to 85s.; Perth, Forfar, and Fife ditto., 70s. to 80s.; ditto Rocks, 55s. to 65s.; ditto Reds, 50s. to 60s.; French Whites, 50s. to 55s.; Belgian do., 45s. to 50s.

WANTED, by a gentleman travelling through Lincolnshire, Yorkshire, and the North of England, and who has already an extensive Agricultural connection, One or Two First-class COMMISSIONS in IMPLEMENTS, MANURES, &c.—Address, with terms, ALPHA, Box 346, Post Office, Hull.

**To Gardeners.**

WANTED, in a fine and extensive Place in Germany, a First-class English GARDENER, who is thoroughly conversant with the Forcing of all kinds of Fruits, and the Cultivation of Plants generally. A person who has some knowledge of the German language will be preferred.—Address, with full particulars as to experience, &c., to A. B., care of Mr. James Veitch, Jun., Royal Exotic Nursery, King's Road, Chelsea, S.W.

WANTED, as GARDENER, a steady, industrious, conscientious Gardener, who can be well recommended. He will have a man under him, and must understand the Management of the Flower, Kitchen, and Fruit Gardens, a few Acres of Pasture Land, the Greenhouse, and the Culture of the Vine. Wages, 24*s.* a week. The situation is in Kent, a few miles from London. A Church-going man preferred. Apply by letter to J. R., ground-floor, 17, St. Helen's Place, London, E.C.

WANTED, by a Clergyman, a GARDENER, who thoroughly understands his business, and whose wife is a good Laundress.—Address, stating particulars as to age, family, and wages required, to Rev. F. H. L., Post Office, Burton-on-Trent.

WANTED, a FARM BAILIFF, to Manage a small Clay Farm of about 120 acres, in the neighbourhood of Kent. He must be able to Buy, Rear, and attend to stall-fed Cattle, and to the Breeding and Fatting Pigs, &c.; also a thorough knowledge of all the Newest Improvements in Husbandry.—Apply by letter, A. B., Mr. Lemercier, 5, Princes Street, Hanover Square, W.

ISAAC DAVIES is in want of a YOUNG MAN, who is thoroughly acquainted with Out-door Nursery work, and also Plant and Tree packing. None need apply who has not been seven years at such employment. Wages 20*s.* per week. A good character indispensible.—Larkfield Nursery, Wavertree, near Liverpool.

WANTED, a COWMAN, married, without much incumbrance, and to help in the Garden, &c., by a gentleman an hour from London by rail. A cottage to live in, and 15*s.* wages.—Apply by letter to R. B., Post Office, Dartford, with particulars of age, character, &c.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 28, married, no incumbrance; understands his profession. Two years' good character.—A. B., Mr. Wings, The Mount, Upper Norwood, Surrey, S.

GARDENER (HEAD). — Well experienced in his profession; the Growing and Forcing of Choice Fruits, Flowers, and Vegetables. Can be highly recommended. Three and a-half years' unexceptionable character.—R. L., Sion Row, Twickenham.

GARDENER (HEAD).—Age 40, single; has a practical knowledge of his profession, the Growing and Forcing of Fruits, Flowers, and Vegetables. Can take charge of Land if required. Can be highly recommended.—J. F., Mr. Rivers, Nursery, Sawbridgeworth, Herts.

GARDENER (HEAD).—Age 34, married, no incumbrance; understands Growing Stove and Greenhouse Plants, Orchids, Ferns, Vines, Cucumbers, Melons, Flower, and Kitchen Gardens. Two years' good character.—J. W., 2, Frederick Street, St. John's Wood, N.W.

GARDENER (HEAD).—Age 38, married, no incumbrance; thoroughly understands his profession in all its branches. Wife a good plain Cook or Dairywoman. No objection to any part of the country. Two years' good character.—G. L., 2 Anna Cottages, Gurney Road, Stratford, Essex, N.E.

GARDENER (HEAD).—Age 37, married, no family; understands Early and Late Forcing, Vines, Cucumbers, Melons, and Flower and Kitchen Gardens. Conservatory in all its branches. Two years good character.—J. P., 20, Park Place, Park Road, Clapham, Surrey, S.

GARDENER (HEAD). age 28.—Mr. BLAKE, Ombersley Court, Droitwich, can with confidence recommend his Foreman to any nobleman or gentleman requiring the service of a good, steady, industrious Gardener. He has a practical knowledge of Forcing Fruits, Flowers, and Kitchen Gardening in all its branches.—Address as above.

GARDENER (HEAD).—JAMES MORLEY, Calderstones, Liverpool, can with confidence be recommended to any nobleman or gentleman wishing to engage with a thorough practical Gardener; has had much experience in Early and Late Forcing of all kinds of Fruits, Flowers, and Vegetables; also has a thorough knowledge of Kitchen and Flower Gardens. Liberal wages expected.—Address as above.

GARDENER (HEAD).—Age 33, single; first-class Plant and Fruit Grower; thoroughly conversant in Laying-out new Grounds, making Vine and Peach Borders on the most approved principles; the arrangement and Erection of every description of Horticultural Buildings. Can be highly recommended by the gentleman whom he is now leaving, and several of the leading Horticulturists of the present day.—X. Y., *Gardeners' Chronicle* Office, W.C.

GARDENER (HEAD), age 36, married, no incumbrance; a native of Scotland.—S. TURNER, Gardener to the Hon. Mrs. Greville Howard, Ashtead Park, Epsom, Surrey, is desirous of recommending his present Foreman (who has been with him for upwards of three years) to any lady or gentleman in want of a Gardener; has a thorough practical knowledge of Gardening in every department, is very energetic, sober, and industrious.—Address as above.

GARDENER (HEAD or SINGLE-HANDED).—Age 27; understands his profession. Can have nearly five years' good character.—T. G., 65, Campden Street, Silver Street, Notting Hill, W.

GARDENER (HEAD or SINGLE-HANDED), in nobleman's or gentleman's family.—A thorough knowledge of the profession. Can be highly recommended by applying to T. ARNOLD, Esq., 27, Poultry, City, London.—A. B., Post Office, Hornsey, N.

GARDENER.—Age 31, single; well understands Forcing Vines, Cucumbers, and Melons, and Wall Trees, Kitchen Garden, &c. Good character.—W. S., 5, Well's Terrace, Well's Road, Upper Sydenham, Kent, S.E.

GARDENER.—Age 28, married; well understands Vines and Forcing; or to look after a Horse and Brougham, and small Flower and Kitchen Garden. Can drive well. Two years' character.—F. FRENCH, Tower House, Shrewsbury Lane, Plumstead, Kent, S.E.

GARDENER. — A Married Man, age 30, would well remunerate any one who will procure him a Situation as above. He understands his business in all its branches, and can be highly recommended.—A. W., Post Office, Scarisbrick, near Ormskirk, Lancashire.

GARDENER (UNDER) or FOREMAN.—Has been living for the last 2 years in a large establishment. Good references.—S. D., Post Office, Bramley, Basingstoke, Hants.

GARDENER (UNDER or SINGLE-HANDED).—Understands Greenhouse, Kitchen and Flower Gardens. Two years' good character.—G. W., 7, Alfred Place, Talbot Road, Holloway, N.

GARDENER (UNDER or SINGLE-HANDED).—Age 24; would not object to a Horse and Chaise. Three and a quarter years' good character.—W. T., Post Office, Harlow, Essex.

GARDENER (UNDER).—Age 20; has been in a large Garden for four years.—T. S., Cherrington, Shipston-on-Stour, Warwickshire.

GARDENER (UNDER) in a Forcing Department under the Foreman.—Age 24; a Premium, if required, for a place where he would be able to get good practice. One year's recommendation.—A. A., Priory Gardens, Stanmore, Middlesex, N.W.

GARDENER (UNDER), where he can improve himself in Forcing, &c.—Age 25, single; eight years' experience. Willing to pay 5*l.* premium. Two and a half years in the situation about leaving.—W. DOWNING, Bellsize Cottage, Hampstead, N.W.

**To Gardeners.**

GARDENER (UNDER), age 23. — W. FIELDER, Ealing Park Gardens, begs to recommend a young Man who has been with him in the Houses seven years, and whose object in leaving is for further practice.—W. FIELDER, Ealing Park Gardens, Middlesex, N.

GARDENER (UNDER), in a nobleman or gentleman's Garden.—An active, persevering, and respectful Young Man; has two years' excellent character, and first-class reference from previous situation.—T. M., Mr. Young, The Gardens, West Hill House, Highgate, Middlesex, N.

PROPAGATOR, or FOREMAN and PROPAGATOR in a small Nursery.—Has had lengthened experience in Propagation in Culture. Satisfactory references.—J. W., Post Office, St. Thomas's, Exeter.

PROPAGATOR and GROWER of Geraniums, Fuchsias, Calceolarias, and Soft-wooded Plants generally.—Married, no incumbrance; has had great experience in Growing for Exhibition and general purposes in some of the best Nurseries near London.—A. B., 41, Grafton Road, Kentish Town, N.W.

FOREMAN (in the Houses).—Age 24; understands Forcing, and Stove and Greenhouse Plants, Ferns, &c.—W. G., Mr. Roberts, 2, Humberstone Road, Leicester.

FOREMAN or IMPROVER in a gentleman's garden.—Age 28. A small premium if required.—W. X. Y., Post Office, Husband Bosworth, Rugby.

**To Nurserymen and Others.**

IMPROVER, in a Nursery, or under a practical Gardener.—Age 24. A small premium given.—R. C., The Parsonage, North Hykeham, Lincoln.

BAILIFF and GARDENER.—Middle aged; 19 years' satisfactory character from the nobleman he has just left. Salary moderate.—A. Z., Post Office, Derby.

FARM BAILIFF.—Married; thoroughly acquainted with the Breeding and Rearing of Stock. The advertiser will leave his present situation in July next, or earlier if needed. Good testimonials for his abilities.—J. W., Felderland Farm, near Sandwich, Kent.

FARM BAILIFF (WORKING).—Age 22, single; understands the Working and Managing Parts of a Farm Stock, &c.—R. S., Post Office, Bedmont, Hemel Hempstead, Herts.

FARM BAILIFF.—Practical in Modern Farming; has been accustomed to Breeding, Rearing, Buying, and Selling of Stock; is thoroughly acquainted with the working of all kinds of Machinery, and has a good knowledge of Steam Cultivation. The highest references can be given. Wife a good Dairy and Poultry woman if required.—W. C., Messrs. Cocking & Son, Seed Growers, Stotfold, near Baldock, Herts.

LAND STEWARD.—Respectably connected; has been practically acquainted with Agriculture for a number of years in some of the best farmed parts of England, The best of references will be given, and security if required.—P. W., Mr. Blackett's Library, Newbury.

**To Gardeners.**

APPRENTICE.—The Advertiser is desirous of placing his son, a strong and healthy lad, between 17 and 18 years of age, with some first-class Forcing Gardener, where he can be thoroughly instructed in Forcing the higher classes of Fruits and Vegetables, &c. A Premium in proportion to the advantages conferred will be willingly paid.—J. E., Post Office, Walham Green, Middlesex, S.W.

SHOPMAN.—Twelve years' experience in the Agricultural, Vegetable, and all other branches of the Trade. Good references.—C. C., R. Pain, Uxbridge Nursery.

**To the Seed Trade.**

CLERK or SHOPMAN, and TRAVELLER.— A young Man who has represented a house in Scotland for nearly five years, is open to an engagement. Full particulars will be furnished, with reference to present employers.—F. E., *Gardeners' Chronicle* Office, W.C.

COOK (PLAIN) and HOUSEKEEPER to an elderly gentleman, or Housekeeper in a gentleman's Farm House, where one or more are kept.—Age 30; wages 20*l.* Two years' excellent character.—Mrs. Whitehead, Pinner Park Farm, Pinner, Middlesex.

CHANDELIERS for DINING ROOM and LIBRARY, Candelabra, Moderator Lamps, in Bronze, Ormolu, China, and Glass. Statuettes in Parian, Vases and other Ornaments.

OSLER, 45, Oxford Street, London, W

OSLER'S GLASS CHANDELIERS. Wall Lights and Lustres for Gas and Candles, Table Glass, &c.

Glass Dinner Services for 12 persons, from 7*l*. 15*s*.

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All articles marked in plain figures.

Ornamental Glass, English and Foreign, suitable for Presents.

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LE SOMMIER ELASTIQUE PORTATIF.—The foundation for all Mattress Bedding should be elastic, and the usual Spring Mattress is too heavy and cumbersome for general use. HEAL & SON'S new Patent LE SOMMIER ELASTIQUE PORTATIF is made in three separate parts, and is therefore light and portable; it is also cheap and durable; and as it has no stuffing on the top, it cannot harbour moth.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.

HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

FURNISH YOUR HOUSE WITH THE BEST ARTICLES AT DEANE'S.

DEANE'S—Celebrated Table Cutlery, every variety of style and finish.

DEANE'S—Electro-plated Spoons and Forks, best manufacture, strongly plated.

DEANE'S—Electro-plate Tea and Coffee Sets, Liqueur Stands, Cruets, Cake Baskets, &c.

DEANE'S—Dish Covers and Hot-water Dishes. Prices of Tin Dish Covers in sets, 18*s*., 30*s*., 40*s*., 63*s*., 78*s*.

DEANE'S—Papier Maché Tea Trays in sets, from 21*s*., new and elegant patterns constantly introduced.

DEANE'S—Bronzed Tea and Coffee Urns, with Loysel's and other patent improvements.

DEANE'S—Copper and Brass Goods, Kettles, Stew and Preserving Pans, Stockpots, &c.

DEANE'S—Moderator and Rock Oil Lamps, a large and handsome assortment.

DEANE'S—Domestic Baths for every purpose. Bath-rooms fitted complete.

DEANE'S—Fenders and Fire-irons, in all modern and approved patterns.

DEANE'S—Bedsteads in Iron and Brass, with Bedding of superior quality.

DEANE'S—Register Stoves, Improved London-made Kitcheners, Ranges, &c.

DEANE'S—Cornices and Cornice-poles, a variety of patterns, French and English.

DEANE'S—Tin and Japan Goods, Iron Ware, and Culinary Utensils.

DEANE'S—Turnery, Brushes, Mats, &c., well made, strong, and serviceable.

DEANE'S—Horticultural Tools, Lawn Mowers, Garden Rollers, Wire-work, &c.

DEANE'S—Gas Chandeliers, newly designed patterns in glass and bronze—three-light glass from 63*s*.

DEANE'S—Harness, Saddles, and Horse Clothing, manufactured on the premises, of the best material.

NEW ILLUSTRATED CATALOGUE and PRICED FURNISHING LIST gratis and post free.

Established A.D. 1700.

DEANE AND CO., LONDON BRIDGE, E.C.

METCALFE, BINGLEY, AND CO.'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. METCALFE'S celebrated Alkaline Tooth Powder, 2*s*. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2*s*., 3*s*. 6*d*., and 5*s*. each. 130 B, and 131, Oxford Street, W.

WHITE and SOUND TEETH are indispensable to personal attraction, and to health and longevity, by the proper mastication of food. ROWLANDS' ODONTO, or Pearl Dentifrice, preserves and imparts a pearl-like whiteness to the Teeth, eradicates Tartar and spots of incipient decay, strengthens the Gums, and gives a pleasing fragrance to the Breath. Price 2*s*. 9*d*. per box.

Sold by Chemists and Perfumers. Ask for "ROWLANDS' Odonto."

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild aperient for delicate constitutions, more especially for ladies and children.—it is prepared in a state of perfect purity and of uniform strength by DINNEFORD & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

CORNS and BUNIONS.—A Gentleman many years tormented with Corns will be happy to afford others the information by which he obtained their entire removal in a short period, without pain or any kind of inconvenience.

Forward address on a stamped envelope to W. GOODALL, Esq., 1, Royal Colonnade, Brighton, Sussex.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.

CHUBB'S FIRE PROOF STRONG ROOM DOORS; CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.

Illustrated Price List gratis and post free.

CHUBB & SON, 57, St. Paul's Churchyard, London, E.C.

**For Watering Gardens, Lawns, and Washing Windows, Carriages, &c. India-Rubber Hose-Pipes and Tubing.**

JAMES LYNE HANCOCK, MANUFACTURER, has a large Stock of all sizes. Also BRASS HAND-BRANCHES, with SPREADERS, STOP-COCKS, JETS, and UNION JOINTS to connect the HOSE to CISTERNS.

INDIA-RUBBER FIRE-ENGINE HOSE for Private Houses, Mansions, and Breweries, and also the necessary FIRE-BRANCHES and UNION SCREWS.

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SHAW'S TIFFANY. For samples and prices apply to J. SHAW & Co., 29, Oxford Street, Manchester.

TANNED NETTING, at reduced prices, 1*d*. per square yard; 200 yards, 14*s*.; 500, 30*s*.; 1000 yards, 50*s*. SCRIM CANVAS, for Wall Fruit; GARDEN MATS; GREEN-HOUSE SHADES.

Be particular. FREDERICK EDGINGTON & Co., Rick Cloth Manufacturers, Thomas Street, Old Kent Road, London, S.E.

TANNED NETTING for the protection of Fruit Trees at 1*d*. per square yard: 200 yards, 14*s*.; 500 yards, 30*s*.; 1000 yards, 50*s*.; SCRIM CANVAS for Wall Fruits; SUN BLINDS, AWNINGS, TULIP COVERS, &c.

Be particular. JOHN EDGINGTON & Co., 17, Smithfield Bars, E.C.; 108, Old Kent Road, S.E.; and 18, Piccadilly, W.

TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½*d*.; 2 yards, 3*d*.; 3 yards, 4½*d*.; and 4 yards, 6*d*. per yard run, in any quantity, may be had at CHAS. WRIGHT'S, 376, Strand, W.C.

VARNISHED FLOWER STICKS:—1 foot, 3*d*.; 1½, 4*d*.; 2, 5*d*.; 2½, 7*d*.; 3, 10*d*.; 4, 1*s*. 6*d*. per dozen. DAHLIA do., per dozen:—3 feet, 1*s*. 6*d*.; 4, 2*s*. 3*d*.; 5, 3*s*.; 6, 3*s*. 6*d*. An allowance to Nurserymen.

**Netting for Fruit Trees, Seed Beds, Ripe Strawberries, &c.**

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c., 2 yards wide, 3*d*. per yard, or 100 yards, 20*s*.; 4 yards wide, 6*d*. per yard, or 50 yards, 20*s*. NEW TANNED NETTING, suited for any of the above purposes, or as a Fence for Fowls, 2 yards wide, 6*d*. per yard; 4 yards wide, 1*s*. per yard; ¾-inch mesh, 4 yards wide, 1*s*. 6*d*. per yard.

Can be had in any quantity of EATON & DELLER, 6 and 7, Crooked Lane, London Bridge, E.C.

**F. A. Haage's Flower Sticks and Tallies.**

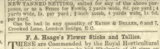
THESE are Commended by the Royal Horticultural Society, and can now be had Wholesale, of all sizes, on application to

Messrs. BETHAM & BLACKITH, Cox's Quay, Lower Thames Street, London, E.C.—May 9.

**To Plant Exhibitors.**

TO BE SOLD, a large convenient VAN, with double floor.

For price, &c., apply to J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.



GARDEN BORDER-EDGING TILES.—These Tiles, manufactured in Terra-Cotta, Terro-Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. **For Kitchen Gardens, Town, and Sea-side Gardens, they are invaluable.**

To be obtained at F. & G. ROSHER'S Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.

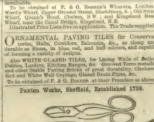
Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER at their Premises as above.

**Paxton Works, Sheffield, Established 1738.**



**International Exhibition Prize Medal is just awarded to SAYNOR & COOKE for superiority of quality in Pruning and Budding Knives, &c.**

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

PATENT GUTTA PERCHA SOLES.—IMPORTANT TO GARDENERS.—The Gutta Percha Company have the pleasure to acknowledge the receipt of the following letter from G. GLENNY, Esq., the celebrated Florist:—

"Gentlemen,—I have worn Gutta Percha Soles and Heels these two years, and being so much in a garden as I necessarily am in all weathers, and with the ground in all states, I would on no account be without them. As a matter of economy I would recommend Gardeners to use them, for they may repair the worn part at all times by warming the material at the fire, and pressing it from the thick parts to the worn parts, as easily as if it were so much dough. I think it the duty of all persons who must occasionally wet their feet to adopt a material that completely defies damp. Many a gardener would escape colds and rheumatism by the use of Gutta Percha Soles. Your obedient servant, G. GLENNY."

Every variety of Gutta Percha articles, such as Mill Bands, Tubing, Soles, Sheet, Pump Buckets, Fire Buckets, Bosses, Union Joints, Flasks, Bottles, Bowls, Chamber Vessels, Toilet Trays, Sponge Bags, Curtain Rings, Galvanic Batteries, Calbotype trays, &c., manufactured by the Gutta Percha Company, and sold by their wholesale dealers in town or country.

THE GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C.

WHY NOT PRESERVE YOUR HAY?—BENJAMIN EDGINGTON, Rick-cloth, Marquee, and Tent Manufacturer, 2, Duke Street, London Bridge, S.E. A quantity of Second-hand Marquees, Tents, and Rick-cloths, at greatly reduced prices. An Illustrated Catalogue sent free per post.

Address, BENJAMIN EDGINGTON, 2, Duke Street, Southwark, S.E. No other establishment.

THE FARMERS' BAROMETER, 50*s*., a New Instrument by NEGRETTI & ZAMBRA, will correctly indicate whether the Barometer falls for Rain or for Wind.

Particulars by enclosing stamp to 1, Hatton Garden, E.C.; 59, Cornhill, E.C.; and 122, Regent Street, W.

PATENT ELECTRICAL PLANT PROTECTOR, for the preservation of Plants, Flowers, and Shrubs from Snails, Worms, Slugs, &c.

This Protector being composed of zinc and copper, or of any two metals combined in such a manner as to form an electrical couple, constantly gives off a certain amount of electricity, rendering plants entirely secure from the attacks of slugs, &c., as it has been discovered to be perfectly impossible for any insect or worm to crawl over a combination of these two metals.

Being formed in plain and ornamental designs for borders, beds, &c., it is applicable to all gardens, terraces, &c.; it is also made in the form of plant guards to encircle the stems.

Illustrated Lists of Prices post free on application to ROBERT B. LEE & Co., Sole Manufacturers of the Patent Plant Protector, 22, Market Place, Manchester.

W. S. UNDERHILL'S NEW PATENT IRON FENCE for GARDENS, LAWNS, &c.

Manufactory: Newport, Salop.

Warranted the strongest and most durable Fence ever offered at corresponding prices. It is easily repaired if broken from accidents; can be rolled up most compactly when not in use, is admirably adapted for exportation, and can be had of any height and mesh required, at prices from 4*d*. to 1*s*. 6*d*. per yard and upwards.

For further particulars apply at the Manufactory, or of the London Agent, Mr. R. WINDER, 18, Abingdon Street, Westminster, S.W.

GARDEN ROLLERS, Patent Water-ballasting and Adjustable.

These Rollers, although only introduced in June last, have already attained a wide reputation. The principle of loading with water will at once commend itself to intending purchasers, for the advantages of having in one roller both a light and a heavy one at pleasure must be manifest to every one.

Besides being adjustable, they are more handy, especially on narrow walks and confined spaces; and they are cheaper, because an 11-inch size, loaded with water, has a greater crushing power than a 24-inch of the ordinary kind, and can moreover be used empty, where it would be impossible to use those of larger sizes.

For Mansion Grounds, Public and other large Gardens, Lawns, Cricket Grounds, and for the use of Landscape Gardeners, Surveyors, and others, for making new roads, the larger size for Pony and Horse-power will be found invaluable, and great numbers have already been sold for these purposes.

Agents by appointment: DEANE & Co., the Monument, London Bridge, E.C.

**To Noblemen, Gardeners, Farmers, and Others.**

AMIES AND BARFORD beg to call particular attention to their NEW PATENT WATER BALLASTING FIELD and GARDEN ROLLERS, which have the following advantages over all others. They are made entirely of Wrought Iron, are made water-tight, and are loaded with water to obtain increased weight at pleasure, which is moreover employed with the greatest possible per centage of crushing power directly upon the surface of the soil. The weight of a Garden Roller can thus be doubled in a few minutes, and a one, two, or three Horse Land Roller is secured, as desired, in one implement.

Great numbers have already been sold, and are giving the greatest satisfaction, and whether for Gardens, Lawns, Cricket Grounds, Road-making, or for farmers' use, they will be found superior to all others.

For Illustrated Price Lists apply to Messrs. AMIES & BARFORD, Queen Street Iron Works, Peterborough, Patentees and Sole Manufacturers.

HENRY J. MORTON AND CO., 2, Basinghall Buildings, Leeds.

**Galvanised Iron Water Cistern**

for Cottage Houses, &c., to contain 50 gallons, 26*s*.; 80 gallons, 31*s*. each; and 140 gallons, 37*s*., and fitted with tap, keeping the water perfectly sweet and clean; will not rust or corrode. Cisterns of all sizes.

**Galvanised Iron Pumps**

for Liquid Manure or Domestic Use, 3 inches diameter, 30*s*. and 32*s*. 6*d*. each; Tail Pipe for same at from 10*d*. per foot.

**Galvanised Iron Swing Water Barrows**

for Garden or Farm use, containing about 20 gallons, entire formed of iron, 35*s*. 0*d*. each.

**Oil Paint no longer Necessary.**

HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.

Sold in casks of about 30 gallons each, at 1*s*. 6*d*. per gallon, at the Manufactory, or 1*s*. 8*d*. per gallon paid to any station in the kingdom.

Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

**Glass and Mixed Paints (Ready for Use.)**

FOR FACTORIES, HOT-HOUSES, CONSERVATORIES, GARDEN FRAMES, PITS, AND DWELLING-HOUSES, &c.

THE LONDON CO-OPERATIVE OIL and COLOUR COMPANY (Limited), from their connection with some of the largest British and Foreign Glass and Lead Manufacturers, are prepared to supply White Lead, Zinc Paint, Mixed Paints in all Colours; and strong Sheet, Rough Plate, and every other description of Glass in Crates, Cases, or Cut to Size for Home Use or Export at the very lowest wholesale prices. Gardeners, Nurserymen, and others advised as to the best mode of Erecting, Heating, Ventilating, and Glazing Pineries and other Forcing Houses. Farmers, Stewards, Market Gardeners, &c., supplied with Stucco, Anticorrosion, Metallic Oxide, and Mixed Paints ready for use for Dwelling Houses, Farm Buildings, Park Fences, Ships' Bottoms, &c.

Apply for ILLUSTRATED LISTS to Mr. THOMPSON, Manager, 65, 66, & 67, St. George's Street, London Docks, E.

**The Gardeners' Chronicle Newspaper.**

*SATURDAY, MAY* 16, 1863.

TANNED NETTING, at reduced prices, 1*d.* per square yard; 200 yards, 14*s.*; 500, 30*s.*; 1000 yards, 50*s.* SCRIM CANVAS, for Wall Fruit; GARDEN MATS; GREENHOUSE SHADES.

Be particular. FREDERICK EDGINGTON & Co., Rick Cloth Manufacturers, Thomas Street, Old Kent Road, London, S.E.

TANNED NETTING for the protection of Fruit Trees at 1*d.* per square yard: 200 yards, 14*s.*; 500 yards, 30*s.*; 1000 yards, 50*s.*; SCRIM CANVAS for Wall Fruits; SUN BLINDS, AWNINGS, TULIP COVERS, &c.

Be particular. JOHN EDGINGTON & Co., 17, Smithfield Bars, E.C.; 108, Old Kent Road, S.E.; and 18, Piccadilly, W.

TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½*d.*; 2 yards, 3*d.*; 3 yards, 4½*d.*; and 4 yards, 6*d.* per yard run, in any quantity, may be had at CHAS. WRIGHT'S, 376, Strand, W.C.

VARNISHED FLOWER STICKS:—1 foot, 3*d.*; 1½, 4*d.*; 2, 5*d.*; 2½, 7*d.*; 3, 10*d.*; 4, 1*s.* 6*d.* per dozen. DAHLIA do., per dozen:—3 feet, 1*s.* 6*d.*; 4, 2*s.* 3*d.*; 5, 3*s.*; 6, 3*s.* 6*d.* An allowance to Nurserymen.

**Netting for Fruit Trees, Seed Beds, Ripe Strawberries, &c.**

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c., 2 yards wide, 3*d.* per yard, or 100 yards, 20*s.*; 4 yards wide, 6*d.* per yard, or 50 yards, 20*s.* NEW TANNED NETTING, suited for any of the above purposes, or as a Fence for Fowls, 2 yards wide, 6*d.* per yard; 4 yards wide, 1*s.* per yard; ¾-inch mesh, 4 yards wide, 1*s.* 6*d.* per yard.

Can be had in any quantity of EATON & DELLER, 6 and 7, Crooked Lane, London Bridge, E.C.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1*s.* 6*d.* per yard run.
Four yards wide .. .. .. 3*s.* per yard.
An improved make, 2 yards wide, 1*s.* 8*d.* per yard.
An improved make, 3 yards wide, 2*s.* 6*d.* per yard run.

Also "Frigi Domo" Netting, 2 yards wide, 1*s.* 4*d.* per yard run.

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon St., City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

W. J. HOLLANDS, IRON MERCHANT, 31, Bankside, London, S.E.

HOT WATER PIPES, from Stock, per yard:—2-inch, 1*s.* 2*d.*; 3-inch, 1*s.* 10*d.*; and 4-inch, 2*s.* 4*d.* BENDS, from stock, 1*s.* 7*d.*, 2*s.* 6*d.*, and 3*s.* 3*d.* each. THROTTLE VALVES, 10*s.* 6*d.*, 13*s.* 6*d.*, and 15*s.* each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

**Horticultural Buildings and Heating by Hot Water**

BURY AND POLLARD, Park Iron Works, New Park Street, Southwark, S.E., Manufacturers of every description of Buildings for Horticultural purposes, with their improved CONICAL BOILER for heating the same, are prepared to undertake works of any magnitude, and refer, among others, to the celebrated range of Forcing Houses at Her Majesty's Gardens, Frogmore; at Sir Robert Peel's, Drayton Manor, constructed under the superintendence of their manager, Mr. John Jones; and to the works at Frognal the seat of Viscount Sydney, the Lord Chamberlain, just completed by them.

Prices of Boilers and every particular on application.

**Glass for Greenhouses.**

JAMES PHILLIPS AND CO. beg to submit their prices as follows:—

ENGLISH GLASS, 16 ounces to the foot, in Sheets averaging 40 by 30, packed in Cases containing about 280 feet, 2¼*d.* and 2½*d.* per foot.

SHEET GLASS, 16 ounces, packed in boxes of 100 feet each. Package included.

| | | | | 3rds. | 4ths. |
|---|---|---|---|---|---|
| 12 by 9, | 13 by 9, | 14 by 9, | 15 by 9 | 14*s.* 0*d.* | 12*s.* 6*d.* |
| 12 ,, 10, | 13 ,, 10, | 14 ,, 10, | 15 ,, 10 | | |
| 13 ,, 11, | 14 ,, 11, | 15 ,, 11, | 16 ,, 11 | 16*s.* 0*d.* | 13*s.* 6*d.* per 100 feet. |
| 14 ,, 12, | 15 ,, 12, | 16 ,, 12, | 17 ,, 12 | | |
| 18 ,, 12, | 19 ,, 12, | 20 ,, 12, | 16 ,, 13 | | |
| 17 ,, 13, | 18 ,, 13, | 19 ,, 13, | 20 ,, 13 | | |
| 16 ,, 14, | 17 ,, 14, | 18 ,, 14, | 20 ,, 14 | | |

Various other sizes.

GLASS for ORCHARD HOUSES.

As supplied by us to Mr. Rivers, to most of the Nobility, Gentry, and Clergy of the United Kingdom, and to the Royal Horticultural Society of England.

| | | 15 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. | Common .. .. .. | 13*s.* 6*d.* .. | £0 18 0 |
| 20 in. by 13 in. | Superior do. .. .. | 16 0 .. | 1 8 0 |
| 20 in. by 14 in. | English Glass .. .. | 18 0 .. | 1 9 0 |
| 20 in. by 15 in. | | | |

The above prices include the Boxes.

SMALL SHEET SQUARES, IN 100 FEET BOXES.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11*s.* 6*d.* |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | |
| | | 10 ,, 8 | 10½ ,, 8½ | 12 6 |

Boxes 2*s.* each, returnable at full price.

SQUARES CUT to SPECIAL SIZES.

16 oz. 4ths, 1¾*d.*, 2*d.*, and 2½*d.* 21 oz. 2¾*d.*, 3*d.*, and 3½*d.*
,, 3ds, 2*d.*, 2½*d.*, and 3*d.* ,, 3*d.*, 3½*d.*, and 4*d.*

London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

Milk Pans and every description of Glass for Horticultural purposes.

JAMES PHILLIPS & Co., 180, Bishopsgate Street Without, London, E.C.

**For Watering Gardens, Lawns, and Washing Windows, Carriages, &c. India-Rubber Hose-Pipes and Tubing.**

JAMES LYNE HANCOCK, MANUFACTURER, has a large Stock of all sizes. Also BRASS HAND-BRANCHES, with SPREADERS, STOP-COCKS, JETS, and UNION JOINTS to connect the HOSE to CISTERNS.

INDIA-RUBBER FIRE-ENGINE HOSE for Private Houses, Mansions, and Breweries, and also the necessary FIRE-BRANCHES and UNION SCREWS.

Illustrated Price Lists on application.

JAMES LYNE HANCOCK, Vulcanized India-Rubber Works, 266, Goswell Road, London, E.C.

**To Plant Exhibitors.**

TO BE SOLD, a large convenient VAN, with double floor.

For price, &c., apply to J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

SHAW'S TIFFANY.

For samples and prices apply to J. SHAW & Co., 29, Oxford Street, Manchester.

PATENT ELECTRICAL PLANT PROTECTOR, for the preservation of Plants, Flowers, and Shrubs from Snails, Worms, Slugs, &c.

This Protector being composed of zinc and copper, or of any two metals combined in such a manner as to form an electrical couple, constantly gives off a certain amount of electricity, rendering plants entirely secure from the attacks of Slugs, &c., as it has been discovered to be perfectly impossible for any insect or worm to crawl over a combination of these two metals.

Being formed in plain and ornamental designs for borders, beds, &c., it is applicable to all gardens, terraces, &c.; it is also made in the form of Plant Guards to encircle the stems.

Illustrated Lists of Prices post free on application to ROBERT B. LEE & Co., Sole Manufacturers of the Patent Plant Protector, 22, Market Place, Manchester.

# THOMAS MILLINGTON,

**GLASS MERCHANT. (Established 1750.)**

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

## Reduced Tariff for Sheet Glass and Horticultural Goods.

THE AGRICULTURAL HALL, ISLINGTON, CONTAINING AN ACRE OF GLASS, WAS SUPPLIED BY T. MILLINGTON.

Mr. Rivers and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home use and for Exportation.

PROPAGATING GLASSES.

| | | | | |
|---|---|---|---|---|
| 2 inches diam. | .. | 0*s.* | 3½*d.* | each. |
| 3 ,, | .. | 0 | 4½ | ,, |
| 4 ,, | .. | 0 | 5½ | ,, |
| 5 ,, | .. | 0 | 6½ | ,, |
| 6 ,, | .. | 0 | 8 | ,, |
| 7 ,, | .. | 0 | 10 | ,, |
| 8 ,, | .. | 1 | 0 | ,, |
| 9 ,, | .. | 1 | 2 | ,, |
| 10 ,, | .. | 1 | 4 | ,, |
| 11 ,, | .. | 1 | 6 | ,, |
| 12 ,, | .. | 1 | 9 | ,, |
| 13 ,, | .. | 2 | 0 | ,, |
| 14 ,, | .. | 2 | 6 | ,, |
| 15 ,, | .. | 3 | 0 | ,, |
| 16 ,, | .. | 3 | 6 | ,, |
| 17 ,, | .. | 4 | 0 | ,, |
| 18 ,, | .. | 5 | 0 | ,, |
| 19 ,, | .. | 6 | 0 | ,, |
| 20 ,, | .. | 7 | 0 | ,, |

FLOWER TUBES.
2*d.* each, or 1*s.* 6*d.* per dozen.

ZINC HAND GLASSES.
Painted and Glazed with 16-oz. Sheet Glass.

| | | | | |
|---|---|---|---|---|
| 12 inches | .. | 5*s.* | 6*d.* | each |
| 14 ,, | .. | 6 | 6 | ,, |
| 16 ,, | .. | 7 | 6 | ,, |
| 18 ,, | .. | 8 | 6 | ,, |
| 20 ,, | .. | 9 | 6 | ,, |
| 24 ,, | .. | 11 | 6 | ,, |

If open top, 1*s.* extra.

BEE GLASSES.

| | | | |
|---|---|---|---|
| 4 inches diameter | 0*s.* | 6*d.* | each |
| 5 ,, | 0 | 8 | ,, |
| 6 ,, | 0 | 10 | ,, |
| 7 ,, | 1 | 1 | ,, |
| 8 ,, | 1 | 4 | ,, |
| 9 ,, | 1 | 8 | ,, |
| 10 ,, | 2 | 0 | ,, |
| 11 ,, | 2 | 6 | ,, |
| 12 ,, | 3 | 0 | ,, |

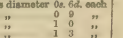
FLAT TOP BEE GLASSES.

| Height | Width | *s.* | *d.* | |
|---|---|---|---|---|
| 4 inches | by 7 inches | 1 | 6 | each |
| 4½ ,, | by 7½ ,, | 1 | 9 | ,, |
| 5½ ,, | by 7½ ,, | 2 | 0 | ,, |
| 6½ ,, | by 8 ,, | 2 | 3 | ,, |
| 7½ ,, | by 8½ ,, | 2 | 10 | ,, |

FERN SHADES & STANDS.

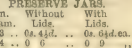
| Ins. dia. | Shades. | | Stands. | |
|---|---|---|---|---|
| 6 .. | 1*s.* 4*d.* | each. | 1*s.* 0*d.* | each |
| 7 .. | 1 8 | ,, | 1 3 | ,, |
| 8 .. | 2 0 | ,, | 1 6 | ,, |
| 9 .. | 2 6 | ,, | 1 9 | ,, |
| 10 .. | 3 3 | ,, | 2 0 | ,, |
| 11 .. | 4 0 | ,, | 2 6 | ,, |
| 12 .. | 5 6 | ,, | 3 0 | ,, |
| 13 .. | 7 6 | ,, | 3 6 | ,, |
| 14 .. | 10 0 | ,, | 4 0 | ,, |
| 15 .. | 14 0 | ,, | 4 6 | ,, |
| 16 .. | 18 6 | ,, | 5 0 | ,, |

WASP TRAP, 2*s.* 6*d.* per doz.



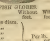
MILK PANS.

| | | | |
|---|---|---|---|
| 6 inches diameter | 0*s.* | 6*d.* | each |
| 8 ,, | 0 | 9 | ,, |
| 10 ,, | 1 | 0 | ,, |
| 12 ,, | 1 | 3 | ,, |
| 14 ,, | 1 | 9 | ,, |
| 16 ,, | 2 | 3 | ,, |
| 18 ,, | 2 | 9 | ,, |
| 20 ,, | 3 | 3 | ,, |
| 22 ,, | 3 | 9 | ,, |
| 24 ,, | 4 | 6 | ,, |



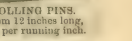
PRESERVE JARS.

| In. diam. | Without Lids. | With Lids. | |
|---|---|---|---|
| 3 .. | 0*s.* 4½*d.* .. | 0*s.* 6½*d.* | ea. |
| 4 .. | 0 6 .. | 0 9 | ,, |
| 5 .. | 0 8 .. | 0 11 | ,, |
| 6 .. | 0 10 .. | 1 2 | ,, |
| 7 .. | 1 0 .. | 1 4 | ,, |
| 8 .. | 1 4 .. | 1 8 | ,, |
| 9 .. | 1 8 .. | 2 2 | ,, |
| 10 .. | 2 0 .. | 2 8 | ,, |

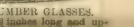


FISH GLOBES.

| | Without feet. | With feet. |
|---|---|---|
| 8 inches diam. | | |
| 9 ,, | | |
| 10 ,, | | |
| 11 ,, | Per lb. | |
| 12 ,, | 7*d.* | 9*d.* |
| 13 ,, | | |
| 14 ,, | | |
| 15 ,, | | |
| 16 ,, | | |



ROLLING PINS.
From 12 inches long, 1½*d.* per running inch.



CUCUMBER GLASSES.
From 12 inches long and upwards, 1*d.* per running inch.

SHEET GLASS.

In Cases for cutting up, in Sizes as Manufactured.

| | 300 feet | 200 feet | | |
|---|---|---|---|---|
| | 15 oz. | 21 oz. | 26 oz. | 32 oz |
| Fourths quality .. .. | 33*s.* 6*d.* | 33*s.* 6*d.* | 39*s.* 6*d.* | 45*s.* 0*d.* |
| Thirds do. .. .. | 42 0 | 42 0 | 49 0 | 56 0 |
| Seconds do. .. .. | 62 0 | 64 0 | 74 6 | 85 0 |
| Best do. .. .. | 88 6 | 88 6 | 103 6 | 118 0 |

CRYSTAL SHEET GLASS.

For Pictures and best Glazing purposes.

Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet .. .. .. 100*s.*
Second quality, in cases of 100 feet .. .. 82*s.*

Averaging 30 oz. to the foot.

Best quality, in cases of 100 feet .. .. .. 100*s.*
Second quality, in cases of 100 feet .. .. 82*s.*

Crystal Glass Shades, Ebony and Gilt Stands, Gas and Lamp Glasses, Chimneys and Globes, &c.

### SQUARES, in 100 and 200 Feet Boxes.

Small Squares not exceeding 9½ inches by 7½ inches.

| Ins. Ins. | Ins. Ins. | Ins. Ins. | Ins. Ins. | 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|---|---|---|---|
| 6 by 4 | 7 by 5 | 8 by 6 | 9 by 7 | Per 100 feet. | | | |
| 6½ by 4½ | 7½ by 5½ | 8½ by 6½ | 9½ by 7½ | 9*s.* 9*d.* | 11*s.* 3*d.* | 13*s.* 9*d.* | 16*s.* 9*d.* |

Squares not exceeding 14 inches by 11 inches.

| | | | | 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|---|---|---|---|
| 10 by 8 | 12 by 9 | 12½ by 10½ | 14½ by 10½ | Per 100 feet. | | | |
| 10½ by 6½ | 12½ by 9½ | 13 by 10 | 15 by 10 | | | | |
| 11 by 9 | 13 by 9 | 13½ by 10½ | 13 by 11 | | | | |
| 11½ by 9½ | 12 by 10 | 14 by 10 | 14 by 11 | 10*s.* 9*d.* | 12*s.* 3*d.* | 15*s.* | 18*s.* |

Squares not exceeding 20 inches by 18 inches.

| | | | | 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|---|---|---|---|
| 15½ by 10½ | 14 by 12 | 17 by 13 | 24 by 16 | Per 100 feet. | | | |
| 16 by 10 | 14½ by 12½ | 18 by 13 | 20 by 17 | | | | |
| 14½ by 11½ | 15 by 12 | 18 by 14 | 22 by 17 | | | | |
| 15 by 11 | 15½ by 12½ | 22 by 14 | 24 by 17 | | | | |
| 15½ by 11½ | 16 by 12 | 24 by 14 | 20 by 18 | | | | |
| 16 by 11 | 16½ by 12½ | 22 by 15 | 22 by 18 | 11*s.* 6*d.* | 13*s.* 6*d.* | 16*s.* 6*d.* | 20*s.* |
| 13 by 12 | 17 by 12 | 24 by 15 | 24 by 18 | | | | |
| 13½ by 12½ | 18 by 12 | 22 by 16 | | | | | |

Orchard House Sizes, as recommended by Mr. Rivers.

| Ins. Ins. | 15 oz. | | 21 oz. | | |
|---|---|---|---|---|---|
| 20 by 12 | 4ths .. | 11*s.* 6*d.* | 4ths .. .. | 15*s.* 0*d.* | Per 100 feet. |
| 20 by 13 | 3rds .. | 13 6 | 3rds .. .. | 19 0 | |
| 20 by 14 | 2nds .. | 16 6 | 2nds .. .. | 25 0 | |
| 20 by 15 | Best .. | 20 0 | Best .. .. | 30 0 | |
| 20 by 16 | | | | | |

Squares Cut to Sizes not on List.

| Under | 15 oz. 4ths. | 3rds. | 2nds. | 1st. | 21 oz. 4ths. | 3rds. | 2nds. | 1st. |
|---|---|---|---|---|---|---|---|---|
| 1 foot super. | 1½*d.* | 1¾*d.* | 2*d.* | 2½*d.* | 2½*d.* | 2¾*d.* | 3¼*d.* | 4¼*d.* |
| 2 feet super. | 1¾ | 2 | 2½ | 3 | 2¾ | 3 | 4 | 5½ |
| 3 feet super. | 2 | 2¼ | 2¾ | 3½ | 3 | 3½ | 4¼ | 6 |
| 4 feet super. | 2¼ | 2½ | 3 | 4 | 3¼ | 3¾ | 4½ | 6½ |

GLASS TILES, in SHEET and ROUGH PLATE.

PLATE GLASS, PATENT PLATE, and HARTLEY'S IMPROVED ROUGH PLATE.

**PAINTS, COLOURS, VARNISHES, &c.**

| | Per cwt.—*s. d.* | | Per gallon.—*s. d.* | | Per gallon.—*s. d.* |
|---|---|---|---|---|---|
| GENUINE WHITE LEAD .. .. | 30 0 | FINE OAK VARNISH .. | 10*s.* to 12 0 | LINSEED OIL .. .. .. .. .. | 3 9 |
| ANTI-CORROSION PAINT | 28*s.* to 34 0 | ,, CARRIAGE | 12*s.* to 14 0 | BOILED OIL .. .. .. .. .. | 4 2 |
| LINSEED OIL PUTTY .. .. .. | 8 0 | PATENT DRYERS, per cwt. | 28*s.* to 42 0 | TURPENTINE .. .. .. .. .. | 8 6 |

MILLED LEAD in Sheet and Pipe of all sizes. Old LEAD bought or taken in exchange.

LIFT PUMPS, WATER CLOSETS, and PLUMBERS' BRASS WORK of all kinds.

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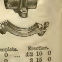

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## News of the Week.

IN the House of Lords on Friday the Earl of SHAFTESBURY, in presenting a petition from the City of London in favour of Poland, expressed his opinion that the only solution of the existing difficulty was the separation of Poland from Russia. The Earl of HARROWBY suggested that Russia had forfeited her rights by the violation of the Treaty of Vienna. Earl RUSSELL, in reply, said that her MAJESTY's Government had advised the EMPEROR OF RUSSIA to restore to Poland the institutions originally granted by the Emperor ALEXANDER, and had pointed out that the only means of restoring the confidence of the Poles was to entrust the judicial, civil, and political administration of the country to an assembly elected by the Poles themselves. He asked the House to rely on the efforts of the Government, on the public opinion of Europe, which not even the EMPEROR OF RUSSIA would be long able to neglect, on the general sense of justice which animated all men, and on that Heaven which would not allow oppression to go unpunished or such sufferings to endure. The Augmentation of Benefices Bill passed through Committee. On Monday, in answer to the Marquis of NORMANBY, Earl RUSSELL said that Mr. JAMES BISHOP, who is at present undergoing a sentence of imprisonment in the fortress of Alexandria, on the charge of conspiring against the Italian Government, had a fair and impartial trial, but her Majesty's Government interceded in his behalf, and succeeded in getting the sentence of 10 years' hard labour commuted to 10 years' imprisonment in a fortress, and they entertained the hope that at the first favourable opportunity the Italian Government would grant him a free pardon. On Tuesday the London Traffic Regulation Bill and the Elections during Recess Bill passed through committee. The Cayman Islands Bill and the London Diocese Bill were read a third time and passed. On Thursday, being Ascension Day, the House did not sit.

In the House of Commons on riday, on the order for going into Committee of Supply, Mr. HENNESSY moved for further papers respecting the state of Southern Italy. Mr. LAYARD opposed the motion, and after a long debate on the state of that country, the motion was withdrawn. The Offences (South Africa) Bill and the New Zealand Boundaries Bill was read a second time. On Monday the House went into Committee on the Prison Ministers' Bill, and resumed the consideration of its clauses. On Clause 3, Mr. PACKE moved as an amendment the omission of the words charging the county or borough rate with the payments for the chaplains to be appointed under the Bill. On a division, the amendment was negatived by 192 to 126. On the question that the clause stand part of the Bill, another division was taken, when the clause was carried by 166 to 71. The Bill then passed through Committee, and was reported to the House. The Customs and Inland Revenue Bill passed through committee. The Stock Certificates to Bearer Bill was read a third time and passed. On Tuesday Mr. ROEBUCK called attention to the case of the two dismissed judges in the Ionian Islands, and moved for papers on the subject. After some discussion the motion was agreed to. Mr. H. SEYMOUR moved a resolution that the occupation of waste lands in India by settlers, and the redemption of a portion of the land-tax of India, are desirable objects, especially with a view to the present state of the cotton industry in this country; and that it is expedient that her Majesty's Government should take further steps to carry them out. Sir C. WOOD opposed the motion, and after a long discussion it was withdrawn. Mr. W. EWART obtained leave to bring in a Bill to decimalise the existing system of weights and measures, and to establish an accordance between them and those of foreign countries. On Wednesday Mr. HADFIELD moved the second reading of the Judgments, &c., Law Amendment Bill. On a division, the second reading was negatived by 43 to 23. The Bill was consequently lost. Sir J. FURGUSSON moved the second reading of the Accidents Compensation Bill, the object of which was to limit the liabilities of railway companies in cases of accident. Mr. LONGFIELD moved as an amendment that the Bill be read a second time that day six months. On a division the amendment was carried by 90 to 70. The Bill was therefore lost. Mr. ALCOCK moved that the Church Rates Redemption Bill be read a second time on Wednesday, the 10th of June. On a division the motion was negatived by 39 to 25. Sir HUGH CAIRNS obtained leave to bring in a Bill to amend the law relating to district parochial churches in Ireland. On Thursday the Prison Ministers' Bill, as amended, was considered and agreed to. The Volunteers Bill was read a second time. On the motion for going into committee on the Thames Embankment (North Side) Bill, Mr. CRAWFORD moved that the Bill be recommitted to the select committee, with an instruction to consider an offer made by the Corporation of the City of London to appropriate 350,000*l.* out of the City funds to the construction of the new street from Blackfriars to the Mansion House. After a long discussion, the motion was withdrawn, and the Bill passed through committee. The House then went into committee on the London Coal and Wine Duties Continuance Bill, the clauses of which were agreed to. The English Church Services in Wales Bill, the Vaccination (Ireland) Bill, and the Sale of Mill Sites, &c. (Ireland) Bill passed through committee. The Salmon Fisheries (Scotland) Act Continuance Bill was read a second time. The Naval Medical Supplemental Fund Society Winding-up Act Amendment Bill was read a third time and passed.

## Home News.

THE QUEEN'S DEPARTURE FOR SCOTLAND.—The Queen, accompanied by Prince Alfred, Prince Leopold, and the Princesses Helena, Louisa, and Beatrice, arrived at Windsor Castle on Thursday afternoon from Osborne. Prince Arthur also arrived at the Castle from Greenwich Park. Yesterday evening at 10 minutes before 7 her Majesty and the Royal family left Windsor for Balmoral, travelling through the night by the Great Western Railway to Bushbury junction, and thence by the London and North Western, the Caledonian, Scottish Central, Scottish North Eastern, and Deeside lines to Aboyne, the furthest extremity of the railway system. The Royal train was timed to reach Crewe at midnight, Carlisle at 7 minutes after 4 this morning, Perth at 40 minutes after 8, and Aberdeen at 12.36, the whole journey of nearly 600 miles being accomplished in little more than 20 hours. Orders have been issued that the public are not to be admitted within the stations, in order that her Majesty may be perfectly undisturbed, the journey, as heretofore, being strictly private. The Court will return to Windsor in a month from this date.

THE COURT AT OSBORNE.—On Friday the Queen paid a private visit to the Military Hospital at Netley, crossing over from Osborne in the Fairy, with the Elfin in attendance. Her Majesty was accompanied by Prince Alfred, Prince and Princess Louis of Hesse, the Dowager Countess of Mount Edgcumbe, Mademoiselle de Grancy, Sir Charles Phipps, Lord Charles Fitzroy, Sir James Clark, and Major Cowell. The Royal party were met and escorted over the building by the whole military and medical staff at the Hospital, of which her Majesty laid the foundation stone nearly seven years ago. The visit extended over an hour and a half. Prince and Princess Leiningen visited her Majesty. The Hon. H. J. Elliot left Osborne. On Saturday the Queen drove out, accompanied by Princess Louisa and Prince Leopold. Prince and Princess Leiningen visited her Majesty. On Sunday morning the Queen, the Prince and Princess Louis of Hesse, Prince Alfred, and Princess Helena, attended divine service at Whippingham Church, and received the Sacrament. The Rev. G. Prothero and the Rev. W. L. Onslow officiated. Princess Louisa and Prince Leopold attended the morning service. On Monday morning the Queen and Princess Louis of Hesse drove out. Prince Alfred went over to Portsmouth. Earl Granville arrived and had an audience of the Queen. The Queen and Princess Louis of Hesse drove to Newport. Prince and Princess Leiningen dined with her Majesty. On Tuesday the Queen and Princess Louis of Hesse walked in the grounds. On Wednesday morning Prince Alfred left Osborne for London. On Thursday the Queen and Court left for Windsor, on their way to Balmoral.

THE PRINCE AND PRINCESS LOUIS OF HESSE took leave of her Majesty on Thursday morning, and left Osborne with the infant Princess for Marlborough House, where they will remain some days on a visit to the Prince and Princess of Wales, previous to their return to Germany. The Royal yacht, Victoria and Albert, is ordered to be completed in her refitting by the 20th inst., so as to arrive at Gravesend by the 23d, the day fixed for the embarkation of their Royal Highnesses for Antwerp.

THE PRINCE AND PRINCESS OF WALES continue at Marlborough House. On Friday the Prince and Princess de Joinville paid a visit to their Royal Highnesses. The Prince of Wales, attended by Major Teesdale, rode on horseback. The Princess took a carriage drive. The Sheriffs of London and Middlesex waited on the Prince of Wales at Marlborough House and invited his Royal Highness and the Princess to an entertainment and ball at Guildhall on the 8th June. In the afternoon their Royal Highnesses visited the House of Lords and remained for about half an hour. The Princess sat in the left-hand gallery above the throne, and was attended by the Countess of Macclesfield. The Prince occupied his usual seat on the front cross-bench, next to the Commander-in-Chief. In the evening their Royal Highnesses dined with the Duke of Cambridge at Gloucester House. On Saturday morning the Prince and Princess rode on horseback. In the afternoon their Royal Highnesses took a drive in an open carriage. In the evening their Royal Highnesses had a dinner party. On Sunday morning the Prince and Princess attended Divine service in the Chapel Royal, St. James's. The sermon was preached by the Bishop of London.

The Prince of Orange visited their Royal Highnesses at Marlborough House. In the afternoon the Prince and Princess visited the White Lodge in Richmond Park. On Monday morning the Prince rode on horseback, and afterwards visited the Prince of Orange at the Palace Hotel. In the afternoon the Prince and Princess took a drive in an open carriage, and in the evening their Royal Highnesses honoured the Duke and Duchess of Wellington with their company at dinner at Apsley House. On Tuesday morning the Prince rode on horseback. Mr. Thomas was honoured with sittings by the Prince and Princess for his picture of the Wedding of their Royal Highnesses. The Princess honoured Mr. Marshall Wood with a sitting for her bust. In the evening their Royal Highnesses honoured the Royal Italian Opera with their presence. On Wednesday morning the Prince and Princess visited the Royal Botanic Gardens. Prince Alfred visited their Royal Highnesses, and partook of a *déjeûner* at Marlborough House. In the afternoon the Prince of Wales held a levée in St. James's Palace, on behalf of her Majesty. The presentations exceeded 600, and the attendances were also very numerous. The Prince of Wal s and Prince Alfred rode on horseback. The Princess of Wales took a drive in an open carriage. In the evening the Prince and Princess of Wales and Prince Alfred dined with Lord and Lady Palmerston at Cambridge House. On Thursday morning the Prince of Wales and Prince Alfred rode on horseback. The Princess of Wales took a carriage drive. Prince and Princess Louis of Hesse arrived at Marlborough House on a visit to their Royal Highnesses. The Duchess of Cambridge and the Princess Mary visited the Prince and Princess of Wales. In the afternoon the Princess of Wales and the Princess Louis of Hesse took a carriage drive. The Prince of Wales, Prince Alfred, and Prince Louis of Hesse rode on horseback. In the evening the Prince and Princess of Wales, Prince Alfred, and the Prince and Princess Louis of Hesse honoured the Royal Italian Opera with their presence. It is announced that the Prince and Princess will honour Eton College with their presence at the annual ceremonies on the 5th of June. On Monday the 8th of June their Royal Highnesses will honour the Corporation by attending a ball to be given in their honour in Guildhall, and on the same day the Prince will accept the freedom of the city. On Thursday, the 11th of June, his Royal Highness will dine with the Merchant Taylors' Company, and be enrolled an honorary member of that corporation. Towards the end of June their Royal Highnesses will honour by their presence a grand ball to be given by the Brigade of Guards.

Prince Alfred.—Prince Alfred arrived at Portsmouth on Monday morning from Osborne, in her Majesty's screw yacht Fairy. His Royal Highness landed at the dockyard, and attended at the Royal Naval College in uniform, where he successfully passed through his gunnery examinations as a Lieutenant in the Navy. His Royal Highness afterwards visited the turret ship Royal Sovereign and other objects of interest in the yard, and returned to Osborne in the Fairy.

Court Arrangements.—It is announced that a Levée will be held on behalf of her Majesty on Monday the 8th of June; and a Drawing Room, also on behalf of her Majesty, on Saturday the 20th of June.

The Cabinet.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Wednesday.

Official Appointment.—Captain Daniel O'Connell, M.P., has been appointed a Special Commissioner of Income Tax, in the room of the late Mr. Bonham.

Parliamentary Movements.—It was resolved last night on the motion of Lord Palmerston, that Parliament shall adjourn for the Whitsuntide recess from Tuesday next, the 19th inst., to the following Thursday week. Mr. O'Hagan, the Attorney-General for Ireland, has offered himself in the Ministerial interest for Tralee, vacant by the resignation of Capt. Daniel O'Connell. The Hon. Mr. Vereker, Lord Mayor of Dublin, and Mr. W. G. Howard, also announced themselves as candidates in the Conservative interest, but the Lord Mayor subsequently retired in favour of Capt. Knox, who in his turn retired in favour of Mr. William Denny. On Thursday Mr. Denny and Mr. Howard both retired from the contest, so that the Attorney-General will be elected without opposition.

## Foreign.

France.—In closing the Session of the Corps Legislatif on Friday, the Duke de Morny, the President, delivered a speech thanking the Chamber for the support it had afforded to the Government. He said:—

> "The Emperor is gradually developing the institutions of the country. In the period which will now follow, the new Chamber will in its wisdom and devotion be able to maintain harmony between the great public powers, and will assure the future of the dynasty and the welfare of France."

In conclusion, M. de Morny wished re-election to all. His speech was received with much applause. MM. Drouyn de Lhuys, Reveil, Monnier, Sizeranne, Mocquard, Mentgue, and Germiny, and Generals Waldner, Marey, and Monge, have been nominated to the rank of Senators. Several evening journals announce that M. Thiers, yielding to the wishes of a great number of electors, has determined upon coming forward as a candidate for the representation of the second electoral district of Paris, and for the towns of Aix and Valenciennes. The *Constitutionnel* publishes an article signed by M. Paul Limayrac, stating that a perfect accord prevails among the three Powers on the Polish question. It says:—

> "The reply of Russia is by no means a refusal, as she acknowledges that the Polish question is a European one, and agrees to enter into negotiations. The agreement of Europe in this request is therefore henceforth an established fact, and everything permits the hope that in some diplomatic form not yet agreed upon it will perhaps be possible to protect the legitimate interests of Poland, which are bound up with the interests of civilisation and peace."

*La France* asserts that Russia accepts, in principle, the project of a Conference for the settlement of the affairs of Poland. The *Pays* announces that the Swedish fleet is expected to arrive at Cherbourg at the end of the present month. It is rumoured that 30 batteries are to be added to the artillery of the French army, and that the horses lent some time since by the War Department to farmers are quietly coming back. Mr. Arthur Cayley, Fellow of Trinity College, Cambridge, has been chosen corresponding member of the Institute of France in the department of astronomy.

Spain.—A Cabinet Council was held on Tuesday at Aranjuez, under the presidency of the Queen. Her Majesty expressed to the Ministers the happiness it would afford her to see them continue at the head of affairs. King Ferdinand of Portugal has arrived at Madrid.

Portugal.—The ex-Regent Dom Fernando has gone to Spain, on a visit to the Duke and Duchess de Montpensier. The Cortes are engaged in discussing the budget. The Eastern Railway has been opened from Abrantes to Crato, a distance of about 80 leagues. The new water company of Lisbon has nearly completed its labours, and the pipes are now laid in all the principal streets of the city.

Denmark.—After three days' debate the Rigsraad, in its sitting of Tuesday, voted the address to the King. By this vote the present policy of the Government in reference to the Constitutional regulations of the Monarchy is approved.

Sweden and Norway.—In the sitting of the Diet at Stockholm on the 2d inst., a debate took place on the motion in favour of Poland. Count Manderström, Minister for Foreign Affairs, stated that the Cabinet had despatched notes on the 2d and 7th of April to St. Petersburg in reference to Poland. The nobility and clergy voted the order of the day, expressing strong sympathies for Poland, and confidence that the Government would do all in its power for Poland, with regard, however, to the maintenance of peace, unless the public interest should require war. The members representing the citizens rejected the reservation in favour of peace, and only expressed their sympathies for Poland, and their confidence that the Government would be inspired by the feeling which they know to exist in the country. The representatives of the peasants also adopted a simple vote of confidence in the Government.

Prussia.—During the debate in the Chamber of Deputies on Monday on the Military Bill, Lieut.-General Von Roon, Minister of War, designated a remark made by Herr Von Sybel as an unwarrantable assumption. The President thereupon interrupted him, when a dispute arose respecting the powers of the President, which ended by the latter putting on his hat and adjourning the House for an hour. Much excitement prevailed. At the reopening of the Chamber the Minister of War sent word to the House that he was unable to attend. At the sitting of Tuesday the President read a letter signed by all the Ministers, stating that so long as the House supports the assumption made on the previous day by the President of a right to limit the Ministers' freedom of speech, the members of the Cabinet will no longer be present at the sittings of the Chamber. The Ministers require a declaration from the Deputies that the House has no disciplinary authority over the members of their body. The letter of the Ministers was at once referred to a special committee, which summoned all the Ministers to appear before them. Count von Bismark Schönhausen, however, replied for himself and his colleagues, declining to appear. He referred the committee to the explanations contained in the former Ministerial letter, which, he said, rendered any participation of the Ministers in the debates of the committee and the Chamber utterly impossible. On Wednesday the Committee proposed to the House not to consent to the demand expressed in the Ministerial letter. Meanwhile the Party of Progress has brought in a former address of Herr Virchow, respecting the political situation of the country. The Centre, upon the other hand, wishes to await the settlement of the dispute upon the question of competence. The draught of the address of Herr Virchow, which has been adopted by the Fortschritt party, gives an outline of the political position of Prussia abroad. The address further begs the King to set aside persons and a policy which threaten to bring ruin upon the Throne and country. It also states that the Lower House will use every constitutional means to ward off a war,—at least, while the Government pursues its present policy; and concludes by expressing a hope that the King will restore to the nation its constitutional rights, and again unfurl the banner of national strength and German unity. The Judicial Committee of the Chamber has authorised the demand of the Minister of Justice for the prosecution of the Polish members Counts Dzialynsk and Guttrys for high treason.

Austria.—The *Official Gazette* of Sunday published an Imperial patent, convoking the Reichsrath for the 17th of June. An Imperial decree was published on Wednesday, stating that, in order to throw into oblivion the remembrance of the events which took place in Transylvania in 1848, 1849, 1851, and 1853, the Emperor is pleased to relieve those who have passed their term of imprisonment for high treason from any legal consequences of such imprisonment.

Russia.—An insurrection has broken out in the Russian province of the Ukraine, especially near the town of Bialocerdient.

Poland.—The 13th of May, the term fixed for the expiration of the amnesty, passed without any noticeable event taking place in Warsaw. The secret Provisional Government of that city has issued a proclamation pronouncing severe penalties against any functionaries in Poland collecting taxes for the Russian Government. On the 2d inst. the corps of Taczanowski was defeated near Binczszans, and Taczanowski himself was wounded. Subsequently Taczanowski, who had been surrounded by a hostile force near Konin, on the Wartha, gave battle at Kolo, in the Government of Kalisch, and repulsed the Russians. 600 insurgents, who had come from Galicia, have been defeated near Slawko; 31 of their number were taken prisoners among whom were 14 Frenchmen and Italians. On the 5th inst. the insurgent chief Bonitza, with 800 men, attacked the Russian infantry near Milzyrzecz, but was defeated and taken prisoner. On the 6th inst. Miniewski suffered a defeat, with considerable loss, at Krzejkawka. General Nulle was killed. On the 7th the insurgents were defeated and dispersed near Scyce and Wilkowinne. A portion of them fought their way into the interior, and 141 others have been conveyed to Cracow. The band of Taczanowski, united with several others, was attacked near Nikel, north of Konin, and completely routed. The insurgents lost one cannon. On the same day a considerable force of insurgents from Galicia, commanded by Jordan, was defeated near Miechalovice, on the road to Carcova, and thrown back across the frontier with heavy loss. On the 8th, Tezoranski's band was compelled to retire into Galicia. On the 10th a battle took place in the district of Ulanow between the insurgents and the Russians. The insurgents crossed the Galician frontier the same evening. On the same day 600 well-armed insurgent cavalry occupied Lubar, in Volhynia, and, having been reinforced by 200 men, marched, under the command of the brothers Dunin, upon Ostropol and Labun. Rumours are current of risings in several other districts of Volhynia and Podolia. Travellers coming from Ostrowo state that a very sanguinary engagement took place on the 12th near Kalisch, in which the Russians were said to be victorious, although they suffered very great loss. Several carts filled with wounded had entered Kalisch. In this engagement both Czeckowski's and Jezioranski's corps were dispersed, and most of their men have since crossed the Galician frontier in detachments of from 20 to 30. The greater part of them were unarmed. At the last accounts Jezioranski had scarcely 300 men left under his command. On the other hand, Mierolawski is reported to be at the head of a large body of insurgents, well equipped and armed with several pieces of rifled cannon, moving in the south-western direction of Poland. Barbarous atrocities have been perpetrated on the estates of the Counts Mole, Plater, and 11 other noblemen in the neighbourhood of Dünaburg, by Russian soldiers in the disguise of peasants. The Countesses Mole and Plater both suffered the most shocking ill usage before the eyes of their husbands, while they lay bound with cords on the ground, and the former is said to have since become a lunatic. Fresh arrests and domiciliary visits have taken place in Posen. The prisons are filled to overflowing, and all the parties arrested will be carried off to Berlin as soon as it is safe to remove them, and there tried for high treason before the Supreme Criminal Court.

Italy.—In the Chamber of Deputies on Wednesday Signor Massari contradicted Lord Henry Lennox's assertion that he had visited the Neapolitan prisons in company of a member of the Italian Parliament. He also contradicted the alleged seizure of the Perseveranza. In the sitting of Thursday M. Lacaita declared that Lord Henry Lennox visited the Neapolitan prisons accompanied by M. Dassi, who was not a deputy, though he had been elected, but not admitted into the Italian Parliament. The Chamber has resolved to appoint a parliamentary committee for a general inquiry into the military and commercial navy of the kingdom. The Pope left Rome on Monday evening for Velletri, escorted by detachments of French and Pontifical troops. His Holiness will return to Rome on the 20th inst

Greece.—The English, French, and Austrian Ministers have addressed Notes to the Provisional Government relative to excesses committed by the military, and calling upon the Government to take energetic measures to prevent the recurrence of similar acts.

The Herzegovina.—The Paris papers publish telegrams from Ragusa, dated Wednesday, announcing that fresh disturbances have broken out in Trebigne. The wives of the Turkish inhabitants in the environs of the town assembled in arms, demanding the release of

the rioters who were arrested when the Greek school was destroyed, and who are now confined at Mostar. The assembly was dispersed by the regular troops.

Turkey and Egypt.—General Türr has arrived at Constantinople. The Porte has received a Note from France inviting it to join the diplomatic action of the Western Powers in favour of Poland. The Shah of Persia is said to have received a similar Note. Aali Pasha, Minister for Foreign Affairs, has addressed a despatch to the Turkish Minister in Paris relative to the conditions originally imposed by the Porte on the execution of the Suez Canal, and which have been evaded by M. Lesseps. The despatch says that the Sultan will only assent to the further prosecution of the scheme on the conclusion of international engagements guaranteeing the complete neutrality of the channel, like those of the Dardanelles and Bosphorus. It also insists on the immediate abolition of the forced labour employed on the canal, and on the annulment of the clause in the contract ceding to the company all the land bordering upon the different canals, the effect of which it says would be to create at the pleasure of the company on important points of the Ottoman Empire colonies almost independent of the Empire. The despatch adds that when these conditions are fulfilled, the Porte will take the contract into serious consideration, but at present it has not the slightest validity, as the company had no right to commence operations without the consent of the Porte. If the company cannot fulfil these conditions the Porte will endeavour, as a matter of grace, to return it the money it has expended, and will also adopt such measures, in conjunction with the Viceroy, as may be deemed expedient for continuing the works, if the realisation should be found feasible. The Prince and Princess Napoleon have arrived at Alexandria. Letters from Khartum mention the arrival there of English travellers, coming from Zanzibar, who have discovered the source of the Nile.

Syria.—A disastrous earthquake took place in the island of Rhodes on the 22d ult., by which 2200 houses were destroyed in 22 villages, with a great loss of life.

Cape of Good Hope.—The Cape Parliament was to meet on the 16th of April. The expenditure for 1862 had exceeded the revenue by 70,000*l*. The colony was suffering under very serious depression. Three years' drought and the long winter had reduced the agricultural population to great straits. Almost universal insolvency pervaded large farming districts, and the trade of the towns had suffered severely through distress in the country. Seven miles more of the Cape Town Railway had been opened. Orders had been received for the recall and breaking up of the Livingstone expedition. The latest news from the missionary stations was favourable. Messrs. Chapman and Baines had effected their passage across from Walwich Bay to the Zambezi, and confirmed Dr. Livingstone's glowing description of the Victoria Falls. On the 12th of March the Federal corvette Jamestown, 20 guns, for China, put into Table Bay, having damaged her rudder. She was suffered to remain two days on a plea of effecting repairs. During that time she shipped surreptitiously about 20 seamen there. Severe retribution had been exacted of the Arabs for murdering the Penguin's seamen.

India.—A cousin of Nana Sahib, who was recently arrested, has been tried and sentenced to transportation for life. A despatch from Bombay, April 28, says that the Bhore Ghât incline of the Great Indian Peninsula Railway has been successfully opened. Lord Elgin finished his "progress" and reached his residence at Simla, on the 4th ult. The last place he visited was Umballa, where he was accompanied by Sir Hugh Rose. They were received with great pomp by the troops of the garrison and the united forces of the Cis-Sutlej States; the troops of our allies Putteeala, Jheend, and Nabha, and a large number of Sirdars, making up the show. The troops of the Rajahs of Putteeala and Jheend, who took part in the capture of Delhi in 1857, and the men of the Nabha Contingent, who were engaged with the Jullundhur mutineers at Loodiana, have, through their chiefs, petitioned the Government to grant them the Indian medal. The Government has decided that they are entitled to the decoration, and has ordered the requisite medal rolls to be sent in. The Viceroy has at the request of the Rajah of Kupoorthalla conferred upon that chief the title of "Dowlut-i-Inglesia," which signifies "wealth of the English," and that his services are always at the command of the Crown. The Government of India has received authentic information that the rebel leader, Feroze Shah, and several other rebels of note, are now at the Court of Teheran. The Lucknow Begum, Huzrat Mehal, and her son, Brijis Kadr, the principal leaders of the Oude rebellion, having at last expressed their wish to surrender to the British authorities, the Government have directed that their names be expunged from the list of proscribed outlaws, and they are now added to the roll of our State prisoners. The orders for the first distribution of the proceeds of the booty captured in Pegu many years ago have been issued in the *Calcutta Gazette*. The total sum to be distributed is 335, 211 rs. Locusts have made great devastation in the Punjab. At Nynee Tal the valley was filled with them, and the lake covered with their corpses.

China.—A despatch from Shanghai of March 25 says that the new organisation of the Ward force has caused dissatisfaction among the troops composing it. The banditti who menaced Tien-tsin have been repulsed by the Chinese troops. The rebels have evacuated Shaou-Shing. No news has been received from Admiral Kuper's fleet.

United States.—A despatch from New York of the 1st inst. says that General Hooker's whole army is in motion. A portion of the army crossed the Rappahannock at Kelly's Ford, above Fredericksburg, on the previous Monday, and captured the Confederate pickets. General Hooker sent out skirmishers, but found no enemy. Since that time the remainder of the army has been crossing at three other fords above and below Fredericksburg, and it is supposed that the whole army is now across the Rappahannock. The Confederates are reported to have been everywhere surprised, and to have offered no serious resistance to the passage of the army at any point. The Federals have captured from 300 to 500 prisoners, who state that General "Stonewall" Jackson commands the right wing of the Confederate army. Advices previously received stated that differences had arisen between the President and General Hooker on the occasion of the last visit of Mr. Lincoln and General Halleck to the Army of the Potomac. General Hooker submitted his ideas of a forward movement, which required for its success the co-operation of the greater portion of the troops defending Washington, thereby exposing that city to the chances of an attack by the Confederates. General Halleck at once denounced the scheme as foolhardy; and the fears of the President becoming aroused, a warm discussion ensued, which terminated in an open quarrel. As General Hooker still adhered to his plan of campaign, it was thought that he would be removed, and strong efforts were made by the friends of General Fremont to obtain his appointment to the succession, but it was believed that General Halleck would himself assume the command of the Army of the Potomac. The present advance seems to prove that General Hooker's plans are to be carried out. General Stonewall Jackson, at the head of a large Confederate force, has taken possession of a portion of the Baltimore and Ohio Railroad between Cumberland and Piedmont. A Confederate force has also appeared at Morgantown, Western Virginia, on the Monnagavelli River, near the frontier of Pennsylvania. This raid has created intense excitement all along the line of the Baltimore and Ohio Railroad. Fears are entertained for the safety of Wheeling and Pittsburg; and the Federal Government has despatched a force of 8000 men from Washington to Cumberland to guard the threatened points westward of that city. The place of these men was supplied from Baltimore, by a portion of the force under General Schenck. A body of Confederate cavalry appeared near Murfreesborough on the 28th ult., causing much activity among the soldiers of General Rosencrans, a general attack being apprehended. Subsequent despatches from Murfreesborough state that the report of the advance of the Confederates against General Rosencrans is confirmed by accounts from Confederate deserters. Late arrivals from New Orleans give accounts of the successful progress of the Federal expedition into the Bayou Têche country. On the 17th inst. a battle took place on Vermillion Bayou, between the forces of General Banks and the Confederates, which resulted in the defeat of the latter, with the loss of 1500 prisoners. General Banks has since taken possession of the Opelousas Railroad, and is in communication with Admiral Farragut. General Banks is sending in prisoners daily to New Orleans. The Confederate batteries at Bute la Rose have been captured, with the valuable saltworks of Petite Anse. Large quantities of Confederate stores and ammunition had been destroyed, and several gunboats had been burnt or blown up by the Confederates themselves, to prevent their seizure by the Federals. Official despatches received at Washington on the 26th announce that a second fleet of six transports and gunboats has run the blockade of Vicksburg. Some 500 shots were fired from the batteries, and all the vessels were hit, but none received serious damage, except one of the transports, which was sunk. Special despatches from Memphis, however, assert that out of this second fleet, four were known to have been sunk, and the other two had succeeded in passing the batteries, but were seriously disabled. The whole of General Grant's army has since marched across the peninsula in front of Vicksburg. Two tugs, towing four heavy barges, ran the blockade of the batteries on the night of the 25th. It was also stated that the Federal General Osterhouse occupied Grand Gulf. Despatches from St. Louis of the 26th state that the Confederates, under General Marmaduke, attacked General McNeill at Cape Girardeau on that day. After three hours' severe fighting the Confederates were repulsed. By despatches of the 27th, Generals McNeill and Vandervere are reported to be in pursuit of the Confederates, and to have captured many prisoners, horses, arms, &c. The *New York Express* states that it has been ascertained that General Hill's investment of Washington, North Carolina, was merely a feint to cover his real object of collecting and removing large quantities of grain from Hyde County, in that State, and that all the waggons he could get were so employed from the 31st March to the 18th April. The correspondent of the *Tribune*, writing from Hilton Head on the 20th, states that preparations were making for another attack upon Charleston by the combined forces of General Hunter and Admiral Dupont. The report of the Congressional Committee on the conduct of the war has caused general discouragement. The *Herald* says the revelations it has made are scandalous, calculated to damage the President and his Cabinet, and to throw a wet blanket on the national enthusiasm for the war, so as to prepare the way to bring it to a close as soon as possible, with a divided Union and two independent general Governments. It also says that General Hooker's declarations before the War Committee, attributing the failures of Burnside and M'Clellan to incapacity, place him in an extraordinary position of responsibility, and he has now no alternative before him but death or victory—death in the field or death to his military reputation. He has voluntarily set himself up as a superior to M'Clellan and Burnside, and he must make good his pretensions or sink into irretrievable disgrace. The *New York Times* hopes that if General Hooker fails the nation has acquired sense enough to dismiss him to obscurity without wrangling for half a year. The New York press generally considers that the action of Mr. Adams in giving a certificate to a vessel bound to Matamoras with arms for Mexico does not justify the severe comments of the British press upon the subject, and thinks it proves there is a hostile feeling in England, ready to resent even the shadow of affront. Some journals consider Mr. Adams's action perfectly justifiable, and the *Herald* thinks the time has arrived when the United States, conceding to England her just dues, may peremptorily demand of her an honest and consistent neutrality, or the last alternative of war. The Polish Committee of New York has issued an appeal to the American people for aid. The *Herald* urges the people not to contribute, as Russia is the only country showing sympathy with the North, and such proceedings would be certain to destroy the cordial relations existing between the two countries. The arrears of pay due to the army, amounting to nearly 60,000,000 dols., have been liquidated. The arrears due to the widows of soldiers have not been paid. The Confederate steamer Alabama is reported to have coaled and received a supply of powder at Ronce, Porto Rico, on the 7th inst., and on the 8th to have captured the American ship Morning Star, which was afterwards released, upon giving bonds to the amount of 60,000 dols. Mr. W. Cornell Jewett has been sent by the Southern Government to Europe by this mail, for the purpose of again urging England to join France and other Powers for mediation in American affairs.

Mexico.—Telegraphic despatches from San Francisco report that General Forey had captured most of the fortifications around Puebla and surrounded those remaining, so that their capture, with the whole Mexican army, appeared imminent. The losses of the French are stated to be very heavy. General Vernet de Laumière, of the Artillery, was among the killed.

## Parliament.

### HOUSE OF LORDS.

Friday.—*Poland.*—The Earl of Shaftesbury, in presenting a petition from a meeting of merchants and others, held at the Guildhall, in favour of the Poles, said that separation of Polan from Russia must be the issue of the present struggle. He contended that, on grounds of expediency and of gratitude, Europe ought to insist on the settlement of this dangerous question. Poland had formerly stemmed the tide of Turkish invasion, and Europe ought not to forget it.—The Earl of Harrowby also condemned the policy pursued by the Russian Government, and was of opinion that by the violation of the Treaty of Vienna it had forfeited its rights as regards Poland.—Earl Russell alluded to the responsibility under which he spoke lest he should lead either the House or the Poles to think Her Majesty's Government were prepared in any way to take part in the present movement, or do more than address such representations to Russia as became a Government like our own. Having shown the good effects of the remonstrances of Lord Palmerston in behalf of Poland in 1831, he proceeded to express his belief in the benevolence and sincerity of the Emperor Alexander, who, by emancipating the Russian serfs, had given grounds for thinking that he would be animated by the same benevolent feelings towards the Poles. As yet nothing had been done to guarantee the rights which the Poles were entitled to expect. Prince Gortschakoff had stated that the development of the future institutions of Poland depended upon the confidence placed in them by the Poles; but so often had these institutions been violated by arbitrary measures that it was impossible for the Poles to place any confidence in the professions or promises of Russia. Having denounced the act of the conscription as the immediate cause of the outbreak, he stated that her Majesty's Government had recommended Russia to restore the constitution given by Alexander I. in 1815 to Poland; and had also suggested that an Assembly chosen by the Poles themselves would be the best means of conciliating confidence. Whether these or other steps were adopted, he had told the Russian Government that, unless civil, political, and judicial institutions in Poland were placed in the hands of the Poles, there was no chance of tranquillity. By tranquillity he meant lasting peace, without assuring which we should deceive ourselves, the Poles, and Europe. He examined at some length the proposition of Lord Shaftesbury as to the separation of Poland from Russia, and the forfeiture of Russian rights by violation of the Treaty of Vienna, as suggested by Lord Harrowby; and pointed out the apparently insurmountable difficulties which Austria, as well as Prussia and Russia, would oppose to such a policy, declaring at the same time that her Majesty's Government could not entertain such a suggestion. In conclusion, he requested the House to rely on the efforts of the Government, on the public opinion of Europe, which the Emperor of Russia could not neglect, on the general sense of justice of mankind, and on the never failing but sure justice of Heaven.

Monday.—The *Royal Assent* was given by commission to several public and private Bills. *Case of Mr. Bishop.*—The Marquis of Normanby, in presenting a petition from the Rev. Alfred Bishop in reference to his son Mr. James Bishop, now a prisoner in the fortress of Alexandria, undergoing a sentence of 10 years' imprisonment, called the attention of the House to the proceedings of her Majesty's Government and their local

agents in their conduct of this case. He animadverted in severe terms on the course pursued by Mr. Consul Bonham, and stated that Mr. J. Bishop had not met with that lenity which the Italian Government had extended to other political prisoners, owing to the refusal of Mr. Bonham to have him treated otherwise than a Neapolitan subject. He concluded by reading a letter from Mr. J. Bishop on his present weak state of health, and appealed to her Majesty's Government to exert its influence on Mr. Bishop's behalf.—The Duke of SUTHERLAND gave his experience from recent visits of the state of the Italian prisons, and asserted that Mr. J. Bishop was very comfortably provided for, and very kindly treated, as the authorities considered him weak in the head, and a friend of Lord Normanby. —The Earl of HARDWICKE protested against the language used by the Duke of Sutherland in describing the position of Mr. Bishop, whose position was worthy of the deepest sympathy. —Earl GREY objected to the practice of putting the worst possible construction on every act of the Italian Government. The experiment of Italian unity was one of the greatest moment, not only to Italy, but to the whole of Europe, and it was exceedingly hard that in the midst of unparalleled difficulties the Italian Government should be vilified night after night by Lord Normanby. As far as regarded Mr. Bishop, he saw nothing harsh in the sentence passed upon him, as he would, under similar circumstances in this country, have been hung as a traitor.—The Earl of CARNARVON thought if Englishmen mixed themselves up in the complications of foreign politics they must bear the consequences if they were seized by the Government against which they were conspiring. He did not believe there was any unfairness in the trial of Mr. J. Bishop, but he was inclined to think that the Italian Government would have performed a graceful act if they had passed a lighter sentence. He hoped the Foreign Secretary would take this view of the case, and press it on the attention of the Italian Government.—Earl RUSSELL, in stating the course he had taken in this case, expressed great sympathy for the Rev. A. Bishop and the misfortunes of his son, an additional one being that his noble friend had taken up the case. Having quoted the authority of Mr. Panizzi as to the fairness and impartiality of the Italian tribunals, he protested against Lord Normanby's assertions that Mr. Bishop had been convicted on insufficient evidence, especially as the decision had been confirmed on appeal, and thought it most unfair to impugn the justice of the Italian Government, and to make the House of Lords as it were a Court of Review. On hearing of the arrest of Mr. Bishop he had taken steps to procure him a speedy trial, and after conviction a full pardon, and when that was not deemed admissible a remission of the harder part of his sentence, on the ground of his ill-health. He had received a promise that on the first fitting occasion Mr. Bishop would be proposed to the King for a free pardon. He concluded by defending the Italian Government from the attacks of Lord Normanby.—After a few words in reply from Lord NORMANBY, the subject dropped. The *Hares (Ireland) Bill*, and the *Cayman Islands Bill* were read a third time and passed. The *Elections During Recess Bill*, the *Telegraphs Bill*, and the *Marriages, &c. (Ireland) Bill* were read a second time.

TUESDAY.—Lord CHELMSFORD, on the motion for going into Committee on the *City Traffic Regulation Bill*, said the object of the measure was to enable the City authorities to relieve the overcrowded streets, by regulating the great amount of traffic in the City, subject to the sanction of the Home Secretary.—Lord REDESDALE admitted the necessity of legislating on the subject, but proposed to limit the duration of the Bill to seven years, to see how the measure worked.—After a few words from Lord CRANWORTH and Lord Derby the House went into committee on the Bill, and the various clauses were agreed to. The *Cayman Islands Bill* and the *London Diocese Bill* were read a third time and passed. The *Elections During Recess Bill* passed through committee.

THURSDAY.—To-day being Ascension Day the House did not sit.

FRIDAY.—*Ludgate Hill Viaduct.*—The Bishop of LONDON having presented a petition from the Dean and Chapter of St. Paul's against this viaduct, Lord REDESDALE said that though the Railway Company had power to make the viaduct, they did not intend to continue their line beyond Earl Street at present, from want of capital, and they had now a Bill before Parliament for the purpose of obtaining further powers in reference to Faringdon station. It was a very important question as to what the House could do with regard to withdrawing powers already granted, and ought not to be disposed of at a moment's notice.—The Earl of ELLENBOROUGH called attention to the *Schleswig Holstein* question.

[Left sitting.]

## HOUSE OF COMMONS.

FRIDAY. — *Southern Italy.*—On the order for going into Supply, Mr. HENNESSY moved for further papers respecting the state of Southern Italy. He pointed out the discrepancies between the statements contained in the despatches of Mr. Consul Bonham and the returns of the Board of Trade with regard to the commerce of England with Naples and Sicily, the former representing that British trade had increased in 1862 over the previous year, while according to the latter there was a large falling off.—Mr. C. BENTINCK seconded the motion, and said that he himself had twice in that House convicted Sir J. Hudson, the British Minister at Turin, of withholding from her Majesty's Government information with regard to the state of Italy of which they ought to be in possession. He reviewed the present state of the Neapolitan provinces, and declared that the brigandage which prevailed there was in reality a national protest under the national flag against the presence of the foreigner. — Mr. LAYARD, in opposing the motion, declared that the brigandage was not a popular movement, but that of an insignificant reactionary section, whose only object was to involve the country in confusion and bloodshed, and the sympathy for which expressed by the party on the Conservative benches showed that they were not the friends of Italian liberty. He read returns to show that great commercial activity prevailed throughout nearly the whole of the Italian empire. He spoke warmly in favour of the Government of Victor Emmanuel, and expressed his opinion that it enjoyed the confidence of the Italian people, and was calculated to bring about that great desideratum, Italian unity. — Lord H. LENNOX emphatically denied that the Government of Victor Emmanuel was entitled to the admiration of the House, or the respect of the English people. On the contrary, he contended, not only from recent personal observation, but from official documents, that an odious system of domestic espionage was carried on, that the people were dragged out of their beds to prison, that liberty of the press was suspended, that the freedom of the subject was a mockery, that the state of the prisons was disgraceful to humanity, and that even ladies were imprisoned for "political sympathies." He gave a graphic description of the visits which he had paid to the Neapolitan prisons, the inmates of which he described as being reduced to the most deplorable condition of moral and physical destitution. — Mr. BUTLER JOHNSTONE defended the Italian Government, which he said was compelled to adopt strong measures in order to secure law and order, and to uproot the vicious system which so long had been in vogue in that country. With regard to brigandage there could be no doubt that it was organised by a Bourbon committee sitting at Rome, of which the ex-King is the chief.—Mr. L. GOWER also defended the Italian Government, and thought that Lord H. Lennox had been misled by the Mazzinian and reactionary agents.—Sir G. BOWYER called upon the Government, which had been mainly instrumental in bringing about the present state of things, to use its influence to mitigate the despotism under which Southern Italy was groaning.—After some observations from Mr. AGAR ELLIS and Sir P. O'BRIEN, Mr. B. COCHRANE read a long list of atrocities committed by the Italian Government during the last few months, and declared that the despotism practised in the Neapolitan provinces was a disgrace to a civilised State.—Mr. MAGUIRE denounced the monstrous cruelties committed by the Government of Victor Emmanuel, and expressed his opinion that a dynasty commenced in knavery, fraud, and treachery, would end in shame and disappointment.—After some remarks by Mr. WHALLEY, Mr. ONSLOW, Mr. SCLATER-BOOTH, and Sir J. WALSH, Lord PALMERSTON did not object to set up the affairs of Italy for debate in the House of Commons, as he considered that the result would be to elicit truth. The statement made by Lord H. Lennox, so far from inculpating the Italian Government, only showed how difficult it was to eradicate the abuses of an old system. Her Majesty's Government did not deny the existence of a great number of abuses in the Neapolitan provinces; but the cause was to be traced to the vicinity of Naples to Rome, where a committee composed of 200 persons was labouring in the interests of the ex-King, and sending forth the most reckless and desperate outlaws from society to prey upon the newly-annexed territory. Five out of the six States added to Piedmont were now prosperous and happy, and it was only in Naples that any one cared to see the restoration of the Bourbon dynasty. He believed that the unity of Italy would endure, and if the whole peninsula could be placed under one form of government the result would no doubt be even more gratifying than at present.—Mr. DISRAELI said that the policy of her Majesty's Government, so far from developing and consolidating the Italian empire, had weakened it, while it had distracted Europe and paved the way to ceaseless complications. That policy had alarmed and irritated Rome and France, and had not grappled with the great interests which were hostile to the unity of Italy. The result was the dismemberment, dilapidation, and utter confusion of the country.—The CHANCELLOR of the EXCHEQUER commented upon the manner in which Lord H. Lennox had conducted his inquiries into the condition of Southern Italy, and said it was his duty, as a liberal-minded Englishman, and not as a partisan, to have frankly and generously laid before the Italian Government the result of his investigation. He admitted that much still remained in the government of Italy that was lamentable and disgraceful, but he contended that the light of day had been let in to the darkest places, and that a vigorous attempt was making to cleanse the lamentable abuses in the former dynasty. The policy of her Majesty's Government in the affairs of Italy was conceived in equity and justice, and was directed towards a wise and righteous end. It had received the approval of the people of England, who would, he was convinced, be rewarded by beholding a free and united kingdom. The motion for papers was then withdrawn, and the House went, *pro formâ*, into a Committee of Supply. The *Offences (South Africa) Bill* and the *New Zealand Boundaries Bill* were read a second time.

MONDAY.—*Greece.*—Mr. B. COCHRANE inquired whether any final decision had been come to in reference to the throne of Greece.—Lord PALMERSTON said that no final decision had been arrived at, but he hoped the arrangement with which the public were already acquainted would be carried into effect. The House then went into committee on the *Prison Ministers' Bill*, and resumed the consideration of its clauses. On the 3d clause, Mr. PACKE moved to omit the words which declared that the sum to be awarded as a recompense for the services of a minister appointed under the Bill shall be deemed "a part of the expenses of the prison to which he is appointed, and be paid out of the funds legally applicable to the payment of such expenses." His object was, he said, to prevent the same being a charge upon the county-rates.—After a long discussion, in the course of which Mr. HENLEY suggested that the sums might be made payable out of money voted by Parliament, the Committee divided, when the amendment was negatived by 192 to 126. Other proposed amendments of the clause were also negatived. A division then took place upon the clause itself, which was carried by 166 to 71. The other clauses were agreed to, with a few amendments. The House then resumed in Committee the consideration of the *Customs and Inland Revenue Bill.*—Lord R. CECIL moved a new clause to remedy the inconveniences experienced by persons assessed to the Income-tax under 150*l.* a year by the present mode of appeal, by substituting another mode of hearing appeals. He accompanied his motion with remarks upon the vexations attending the collection of the tax.—The CHANCELLOR of the EXCHEQUER professed his readiness to listen to and redress any well-grounded complaint against an officer employed in the collection of the tax; but he observed that the Revenue must have vigilant officers in the collecting of a tax so often evaded, and that he believed the instances of excess were exceedingly rare. With reference to the proposed clause, he suggested various objections to its adoption. The clause, after some further discussion, was withdrawn. The House then went into Committee upon the Inland Revenue Bill. Clause 1, imposing an excise duty on club licences, was negatived. On Clause 9, reducing the rates of duty on stage carriages licensed to carry not more than eight persons, Mr. AYRTON moved to reduce the mileage duty on such carriages from $\frac{1}{2}$*d.* a mile to $\frac{1}{4}$*d.*, and to impose a duty of $\frac{1}{2}$*d.* a mile on stage carriages licensed to carry more than eight passengers.—The CHANCELLOR of the EXCHEQUER, in opposing the motion, said that he felt compelled to defend his surplus, which had now shrunk to 400,000*l.* The amendment was, on a division, negatived by 81 to 35, and the Bill passed through committee. The *Stock Certificates to Bearer Bill* was read a third time and passed. — The Solicitor-General moved the discharge of the order for the committee on the *Assurances Registration (Ireland) Bill.* He explained that the Government did not feel themselves justified in pressing the Bill in view of the great opposition raised against it in Ireland—chiefly, too, by those who had a year or two since declared that some such measure was absolutely necessary. After some remarks by Mr. WHITESIDE, Mr. BUTT, Colonel FRENCH, and Mr. HASSARD, the motion was agreed to, and the Bill was withdrawn.—The SOLICITOR-GENERAL, in moving the second reading of the *Church Building and New Parishes Acts Amendment Bill*, briefly explained the objects of the Bill, which it was proposed, he said, to refer to a Select Committee. —Mr. R. MILLS pointed out what he regarded as an omission in the Bill. After some observations by Mr. HADFIELD, Sir G. Grey, and the SOLICITOR-GENERAL, the Bill was read a second time. The *Sale of Mill Sites, &c. (Ireland) Bill*, the *Drainage and Improvement of Land (Ireland) Bill*, and the *Poor Removal (No. 2) Bill* were read a second time. The *Marriages Registration (Ireland) Bill* was committed *pro formâ.* The select committee on the *Partnership Law Amendment Bill* was nominated.

TUESDAY.—*Flogging in the Navy.*—In reply to a question from Mr. HADFIELD in reference to a case of flogging on board her Majesty's ship Majestic, Lord C. PAGET said that the article which had appeared in a Liverpool journal on the subject was a gross libel upon the conduct of one of the most distinguished officers in her Majesty's service. He read a letter signed by 35 of the petty officers of the Majestic, complaining of the article in question as a malicious attack upon Captain Inglefield, than whom there was no more humane commander in the service of the Crown. *French Occupation of Rome.*—In reply to questions relating to Italian affairs, Lord PALMERSTON made some very pointed allusions to the disturbing effects of the prolonged occupation of Rome by a French garrison. *Ionian Judges.*—Mr. ROEBUCK moved an address for a copy of memorials presented by Sir George Marcoras and Sir Typaldo Xydras, on the 16th of September, 1862, to Major-General Sir H. Storks, her Majesty's Lord High Commissioner of the Ionian Islands. He said that the two gentlemen in question, judges of the Supreme Court, had passed a long life in honour and in doing service to England, and had been treated with injustice in being removed without cause assigned. —Mr. C. FORTESCUE consented to produce the memorials, and said the case of these gentlemen must be judged by the law and constitution of the Ionian Islands, and that their non-reappointment was justified by the charter and as a measure of policy. He had not a word to say against their character, and they would enjoy their pensions; but there were considerations which had operated upon the mind of Sir H. Storks and his Senate in not reappointing them, and the decision had been received with satisfaction in the islands.—General PEEL, from official knowledge of Sir H. Storks, said he was the last man who would be guilty of an unconstitutional or a harsh action.—Lord STANLEY thought that upon the face of the case, a wrong had been inflicted upon these two gentlemen, although the act was legal by the Constitution.—Mr. EVANS, Mr. COCHRANE, and Mr. HENLEY also considered that the two judges had been placed in an unfair position. — The CHANCELLOR of the EXCHEQUER defended Sir H. Storks, and said that the Senate of the Islands was responsible for the proceeding complained of. The motion was then agreed to.—Mr. H. SEYMOUR submitted a resolution to the effect that the occupation of *Waste Lands in India* by settlers, and the redemption of a portion of the land tax of India, were desirable objects, especially with a view to the present state of the cotton industry in this country; and that it was expedient that her Majesty's Government should take further steps to carry them out. In a speech of great length he urged that the heavy land tax imposed in India had a depressing effect upon the country, decreased the other sources of revenue, and impoverished the people. He complained of the apathy and neglect of the Government in not taking measures to irrigate the enormous breadth of waste land which might otherwise be brought into culture, and which was capable of supporting almost any number of settlers. He likewise deprecated the conduct of the Secretary and Council for India in having reversed the policy of Lords Stanley and Canning with reference to the sale of lands, which he described as narrow-minded and short-sighted. What, he asked, had been done to encourage the growth of cotton throughout the vast dominions of the Crown in India? While other foreign countries were endeavouring to stimulate the culture of that substance, and while even the Government of Turkey had translated into the native language and circulated instructions for the cultivation of the plant, the Government of India had done literally nothing to promote its production.—Mr. BUXTON seconded the motion.—Mr. SMOLLETT said that the outcry raised against the amended rules for the sale of waste lands came, he said, from a set of land-jobbers; they had given the utmost satisfaction to the natives of India. On the subject of the sale of waste lands he thought the proposed measure was a faulty one; that in the plains, as regarded the settlement of Europeans, it would be inoperative; and with regard to the redemption of the land-tax he believed it was utterly impossible, in the present state of India, to be carried out.—Mr. VANSITTART approved the modifications of the rules for the sale of waste lands.—Lord STANLEY expressed his regret that the two subjects embraced in the resolution, namely, the redemption of the land tax and the sale of waste lands, were not separately presented for discussion. With regard to the former he had been, and still remained, of opinion that a very considerable number would not avail themselves of the opportunity to redeem the tax, yet that it was most important to offer encouragement to that step. As to the other subject, the sale of waste lands, he believed the quantity of these lands was practically unlimited, and the question was how best to open them to Europeans or natives, and whether it was best done by Lord Canning or Sir C. Wood. He did not blame the latter for expressing his opinion of the rules promulgated by Lord Canning; but he thought Sir C. Wood was wrong in delaying his revision of them. For his own part he was anxious to see the introduction of English capital and the establishment of a system of English colonisation in our Indian possessions; and although the difficulties were many, he trusted that the Government would use all their influence to effect their removal.—After a few words from Colonel SYKES, Mr. J. B. SMITH, and Mr. AYRTON, Sir C. WOOD defended himself from the charge of having been indifferent to the cultivation of cotton in India. As early as February, 1861, the Council offered prizes for the culture of the plant; they did all in their power to make known the scarcity of cotton in Europe, and they had distributed seed by means of the collectors in the various districts. Everything had also been done to stimulate the settlement of colonists in India. With respect to the sale of waste land, he approved of the regulations of Lord Canning, with two exceptions, namely, that there should be a survey previous to sale, and that there should be a sale by auction, even though there was no more than one applicant in the market.—The motion was ultimately withdrawn.—Mr. W. EWART obtained leave to bring in a Bill for decimalising our existing system of weights and measures, and for establishing an accordance between them and those of foreign countries; and Mr. Cox obtained leave to bring in a Bill to amend the *Leases and Sales of Settled Estates Act of* 1856.

WEDNESDAY.—The *Statute Labour Roads and Bridges (Scotland) Bill* and the *Statute Labour Roads and Bridges (Scotland) Transfer Bill* were read a second time.—Mr. HADFIELD moved the second reading of the *Judgments, &c., Law Amendment Bill*, explaining the state of the existing law and its injurious effects in certain cases, and the provisions by which he proposed to remedy them.—Mr. HUMBERSTON and Mr. MALINS supported the motion.—The SOLICITOR-GENERAL opposed it on the ground that the Bill would subvert a fundamental principle of the law of debtor and creditor, taking away rights which belonged to the latter. The tendency of the measure would be either mischievous, or the mischief must be prevented by multiplying the number of legal securities. On a division, the second reading was negatived by 43 to 23. The order for the second reading of the *Poisoned Grain Prohibition Bill* having been discharged and the Bill withdrawn, Mr. PAULL moved for leave to introduce in lieu thereof a Bill to prohibit the sale and use of poisoned grain or seed or poisonous preparations in certain cases, and the destruction of birds and animals not already protected by law. After a short conversation leave was given to bring in the Bill.—Sir J. FERGUSSON, in moving the second reading of the *Accidents Compensation Bill*, said that the railway companies did not desire to be exempted from a just responsibility, or to upset Lord Campbell's Act; but so to regulate and limit its operation, which had gone far beyond what Lord Campbell intended, that while it should protect the public interests, it should not injure those of railway proprietors. He dwelt upon the fraudulent claims made upon them. The companies were now exposed to an organised system of fraud provided by needy attorneys and medical men, and appeals were made to the feelings and prejudices of juries, who sometimes gave the parties double what they claimed before going into court. Having regard, then, to all the difficulties of the case and the just liabilities of the companies, the Bill proposed that in case

of accident where there was an equal payment there should be an equal liability; and that if any passenger estimated the value of his life at a higher rate than was provided by the Bill, he should insure himself for that amount with the company, who should then be responsible for the claim.—Mr. LONGFIELD moved as an amendment that the Bill be read a second time that day six months. He argued that the Bill, so far from providing a remedy for a grievance, was a most indecent and outrageous proposition to limit the liability of railway companies in order to increase dividends by a quarter per cent. If the Bill were carried, human life would be placed on the same category with sheep and cattle, and deaths would be appraised at the rate of 400*l.* for a first-class passenger, 300*l.* for a second, and 200*l.* for a third class. No advantage would be gained by legislation of this sort, which would merely serve to increase the dangers of railway travelling in order to stimulate the cupidity of railway directors.—Mr. BENTINCK seconded the amendment, and called upon the House not to sanction a measure which would deprive the public of all protection against the carelessness and recklessness of those who had monopolised the travelling power of the country.—Mr. THOMPSON defended the Bill, arguing that it would directly and indirectly benefit the public.—Mr. DUTTON and Mr. CLAY also supported the Bill.—The SOLICITOR-GENERAL, without denying that the practical application of the law might in some cases bear hard upon railway companies, said that the Bill proposed to affix an arbitrary money value upon lives, or to compel an insurance with the companies themselves against their own wrong, contrary to the principle of insurance.—Mr. BOVILL and Mr. AYRTON opposed the Bill.—After a few words from Mr. PAULL, Sir J. FERGUSSON offered to refer the Bill to a Select Committee. On a division, the amendment was carried by 90 to 70; so the Bill is lost.—Mr. ALCOCK moved that the *Church-rates Redemption Bill* be read a second time on the 10th of June.—Mr. MOWBRAY opposed the motion, which was negatived on a division by 39 to 25.—Sir H. CAIRNS obtained leave to bring in a Bill to amend the law relating to *District Parochial Churches in Ireland.*

THURSDAY.—*Loss of the Anglo-Saxon.*—In answer to Mr. DAWSON, Mr. M. GIBSON said that no detailed report of the loss of this vessel had yet been received at the Board of Trade. Last year the Associated Press of New York had offered to erect a fog-signal at Cape Race, but neither the Colonial Government nor the Colonial-office was of opinion that a foreign company should obtain a site for the purpose. The Government had, however, urged on the steam-shipping companies the necessity of erecting a fog-signal, but they had not done so, and as the Government had the power of making it, and of levying a toll upon passing ships to defray the expense, it might be desirable that the subject should be reconsidered.—On the Report upon the *Prison Ministers' Bill*, Mr. BENTINCK moved to omit from the third clause the words authorising the payment to a minister appointed to attend upon prisoners a reasonable sum as a recompense for his services.—Sir G. GREY said that this question had been disposed of in the Committee, and, after a short discussion, the motion was withdrawn.—Some amendments were introduced into the fourth clause on the motion of Mr. HENLEY. The Bill as amended was then agreed to.—On the order for the second reading of the *Volunteers Bill*, the Marquis of HARTINGTON said that the measure was rendered necessary by the report of the Royal Commission, recommending further assistance by the Government, and by the subsequent vote of the House of a sum for that object. He explained the principal points in respect to which the Bill would alter and amend the law relating to Volunteers, and concluded by giving a very favourable report of the condition of the force, now numbering upwards of 150,000 men. After some remarks by Major EDWARDS, Colonel FRENCH, Sir J. SHELLEY, and Colonel DUNNE, the Bill was read a second time. On the order for the re-committal of the *Thames Embankment (North Side) Bill*, Mr. CRAWFORD moved that the Bill be re-committed to the Select Committee, with instruction to take into consideration certain proposals made by the Corporation to the Government, since the report of the Select Committee. He said that the Corporation had offered to make the proposed improvements, which, in the hands of the Metropolitan Board of Works, would cost a sum of 650,000*l.*, for 300,000*l.*, paying the rest of the cost out of their corporate funds.—Mr. COWPER said, after all the inquiries he had made, he had been unable to ascertain where the corporate resources lay that were to furnish the 350,000*l.*, except the corporate coal duties, which had been granted by Parliament only till 1872, and which the Corporation erroneously regarded as theirs by right. This was a question which ought to be decided by a committee of the whole House. To accept the proposal of the Corporation would be a retrograde movement, and no case whatever had been made out for disturbing the arrangements.—The LORD MAYOR said the Corporation objected to raise funds in the city and intrust their distribution to a foreign body. The city had never failed in any undertaking, and would give a guarantee for providing the necessary funds.—Mr. NORRIS also insisted that the city of London had means to fulfil its engagements, and felt naturally jealous of the intrusion of the Metropolitan Board of Works.—Mr. DOULTON said that the principle of allowing the Board of Works jurisdiction in the city of London had been already sanctioned by Parliament and been conceded by the Corporation.—Lord J. MANNERS, as a member of the Select Committee, was bound to say that the city did not establish their case so as to justify the Committee in altering the Bill.—After some remarks by Mr. TITE, Alderman SIDNEY, and Mr. W. WILLIAMS, the amendment was withdrawn. The House then went into committee upon the Bill. A motion that the new street should be called "Mansion House Street" and another that the name should be "Palmerston Street," created some amusement. Both motions were withdrawn, and the Bill passed through committee. The House then went into committee on the *London Coal and Wine Duties Continuance Bill*, when a discussion took place upon Temple Bar, Middle Row, Holborn Hill, and other obstructions, the prolonged retention of which was universally condemned.—Mr. COWPER stated that when the Thames Embankment, which was the first charge upon the fund, was disposed of, attention would be turned to Holborn Hill and Middle Row, which he admitted were disgraces to the metropolis. The Bill passed through committee with certain verbal amendments, and was reported to the House. The *Vaccination (Ireland) Bill* passed through committee. The *Naval Medical Supplemental Fund Society Winding-up Act (1861) Amendment Bill* was read a third time and passed.—The *Sale of Mill Sites, &c. (Ireland) Bill* passed through Committee. On the consideration of the report of the General Committee of Elections on the *Lisburn Election Petition*, the ATTORNEY-GENERAL moved that the petition of William John Knox and Moses Bullick, complaining of an undue election and return for the borough of Lisburn, do stand referred to the General Committee of Elections, the document withdrawing such petition not having constituted a withdrawal thereof under the Election Petitions Act, 1848. After some discussion, in which the general opinion appeared to be adverse to re-opening the inquiry, the motion was agreed to. The *English Church Services in Wales Bill* was recommitted. After a long time spent in discussing and amending the first clause, the CHAIRMAN was ordered to report progress.—Mr. M. GIBSON obtained leave to bring in a Bill to authorise the taking of harbour dues at *Port Erin, in the Isle of Man*, in order to provide a fund for the improvement of the harbour, and for other purposes.—Mr. HUNT obtained leave to bring in a Bill to amend the law relating to *Election Petitions*; and Mr. BUTT obtained leave to bring in a Bill to amend the law relating to the giving of *Security for Costs* by plaintiffs residing out of the jurisdiction of the Courts; and a Bill to make better provision for the enforcement throughout England and Ireland of the decrees and orders of the *Courts of Chancery, Probate, and Divorce.*

FRIDAY.—*The Whitsun Holidays.*—Lord PALMERSTON moved with regard to the Whitsuntide holidays, that the House at its rising on Tuesday next, should adjourn until the Thursday in the following week. The motion was agreed to. *Regimental Quartermasters.*—On the order for going into Committee of Supply, Sir F. SMITH brought under the notice of the House the necessity of improving the condition of the regimental quartermasters of the army, and moved for correspondence on the matter.—The Marquis of HARTINGTON could not hold out any hope that the Government would recommend an increase of pay to the quartermasters, but there would be no objection to the production of the papers. On this understanding the motion was withdrawn. *China.*—Mr. LIDDELL called attention to events in China, with a view of obtaining an expression of opinion from the House upon the course of policy pursued in that country. [Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $93\frac{1}{4}$ to $\frac{1}{2}$, with div., for Money, and $92\frac{1}{4}$, ex div., for Account; Three per Cents. Reduced, $91\frac{5}{8}$ to $\frac{3}{4}$; New Three per Cents., $91\frac{5}{8}$ to $\frac{3}{4}$; New Three and a Half per Cents., $100\frac{1}{4}$; Bank Stock, $232\frac{1}{2}$ to 234; India Five per Cent. Stock, 110 to $\frac{1}{8}$; Five and a Half per Cent. Rupee Paper, 116; India Bonds, 16*s.* pm.; Exchequer Bills, 3*s.* dis.—FOREIGN: Danish Scrip, 65*l.* paid, $\frac{1}{2}$ pm.; Egyptian Seven per Cents., $100\frac{1}{2}$ to 100; Ditto Second Issue, $99\frac{3}{4}$; Greek, ex Coupons, for Acct., $33\frac{1}{8}$ to $32\frac{3}{8}$; Ditto Coupons, $15\frac{3}{8}$ to 15; Maremmana Railway, 80; Mexican Three per Cents., for Acct., $37\frac{1}{4}$ to 37; New Granada, 17 to $16\frac{3}{4}$; Ditto Deferred, $10\frac{1}{2}$ to $\frac{1}{4}$; Ditto Land Warrants, $7\frac{1}{2}$ to 8; Peruvian Four and a Half per Cents., 1862, $88\frac{3}{8}$; Portuguese Three per Cents., 1853, $49\frac{3}{8}$ to $\frac{3}{4}$; Russian Five per Cents., 1822, $95\frac{1}{2}$; Ditto, 1862, $92\frac{3}{4}$; Spanish Three per Cents., for Acct., $54\frac{1}{2}$; Ditto Deferred, for Acct., $48\frac{1}{2}$; Ditto Passive, for Acct., $36\frac{1}{8}$ to $\frac{1}{2}$; Committee's Certificates, $13\frac{5}{8}$ to $13\frac{1}{4}$; Turkish Six per Cents., 1854, for Acct., $89\frac{1}{2}$; Ditto, 1858, for Acct., $70\frac{3}{4}$; Ditto, 1862, $71\frac{7}{8}$; Ditto, for Acct., $71\frac{3}{4}$ to $\frac{1}{4}$; Ditto Four per Cents. Guaranteed, $103\frac{1}{4}$; Venezuela Six per Cents., $53\frac{3}{4}$ to $54\frac{1}{4}$, ex div.; Italian Five per Cents., for Acct., $71\frac{3}{4}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £28,381,925 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,731,925 |
| | | Silver Bullion .. .. .. | — |
| | £28,381,925 | | £28,381,925 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. | £11,151,385 |
| Rest .. .. .. .. .. .. | 3,138,682 | Other Securities .. .. | 18,952,725 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 6,735,187 | Notes .. .. .. .. .. | 7,744,315 |
| Other Deposits .. .. .. | 13,727,556 | Gold and Silver Coin .. | 921,216 |
| Seven days and other bills | 615,306 | | |
| | £38,769,651 | | £38,769,651 |

May 14, 1863. W. MILLER, Deputy Cashier.

## Gazette of the Week.

FRIDAY: *May* 8.—BANKRUPTS.—J. AGARS, Carlisle, Coal Agent—B ANDRADE, Caledonian Road, Butcher—M. BORCHARDT, Soho Square, Commission Agent—H. BROADHURST, Senior Street, Paddington, Journeyman Butcher—F. W. BENTON, Aldersgate Street, City, Fancy Box Manufacturer—R. W. BARROW, Abridge, Essex, late Brewer—A. BINNS, Plumstead, Kent, late Builder—J. BROOK, Huddersfield, Innkeeper—T. BOUNDY, Swansea, Beer House Keeper—E. H. BUTLER, Deptford, Rag Merchant—J. B. BROWN, St. Petersburgh Place, Bayswater, Merchant—C. BICKNELL, Walsall, Staffordshire—J. BICKERDIKE, Huddersfield, Innkeeper—E. COHEN, Wentworth Street, Spitalfields, Pastrycook—C. CHAPMAN, Sloane Street, Upholsterer—T. CORBISHLEY, late of Runcorn Gap, Lancashire, Joiner—C. CHILVERS, Clenchwarton, Norfolk, Steam Thrashing Engine Proprietor—J. N. CARTWRIGHT, Laurence Pountney Lane, City, Solicitor—R. L. CLARKE, late of Cowper's Court, Cornhill, Coffee House Keeper—J. CHINN, Westonzoyland, Somersetshire, Labourer—F. COOKE, Hilton, near St. Ives, late Farmer—J. DAY, Wreningham, Norfolk, Farmer—H. DAWES, Willes Road, Kentish Town, Contractor—J. DULVEY, New Brompton, Kent, Surgeon—L. DAWSON, Manchester, late Grocer—T. DUXBURY, Preston, Lancashire, Bolt and Screw Manufacturer—J. DISLEY, Grosvenor Place, Camberwell, Grocer—G. EDSON, Otley, Yorkshire, Labourer—W. J. ELLIS, Nottingham, Lace Manufacturer—M. EDERSHEIM, East Cheap, City, Merchant—J. ELLIS, Bangor, Carnarvonshire, Brewer—J. EDYE, Exeter, Surgeon—G. EVANS, Pentre Esteil, Glamorganshire, Haulier—J. FORSBURY, Loughborough, Leicestershire, late Shoemaker—W. FORD, jun., Duffield, Derbyshire, Miller—T. HOOMAN, Oxford Street, Glass Letter Manufacturer—E. HOLDBACK, Birmingham, Gun Finisher—T. HEATHCOTE, Derby, Licensed Victualler—W. HIRONS, Birmingham, Jeweller—J. HARRISON, Carlisle, Farmer—C. JENNINGS, Gutter Lane, City, Commission Agent—J. JONES, sen., Handsworth, Staffordshire, Commission Agent—W. JONES, Bala, Merionethshire, Flour Dealer—W. H. R. KETCHER, Billericay, Essex, late Chemist—H. W. KNOWLES, Barking, Essex, late Sail Maker—F. LANGAN, Birmingham, Journeyman Shoemaker—AUGUSTE WILHELM LE MOINE, Lawrence Pountney Hill, City, Russian Agent—FREDERICK LOWE, Derby, Joiner—WALTER MILLER, Norwich, Baker—JAMES MELLIN, Cleaton Moor, Cumberland, Clogger—H. G. MAXSTED, Milton-next-Gravesend, Tobacconist—J. MACLAGAN, late of Tottenham Road, Kingsland, Baker—G. MOORE, Harting, Sussex, Miller—E. ST. JOHN MILDMAY, Wellington Road, Old Charlton, Kent, Wine Merchant—H. MYERS, Cumberland Place, Newington Butts, Chair Maker—D. MORGAN, Brighton, Physician—R. NICHOLSON, Great Driffield, Yorkshire, Shoemaker—J. NORRIS, Forest Gate, Essex, late Traveller—F. NEWELL, Twickenham—T. OWEN, Haydock, Lancashire, Collier—R. POOLE, Nottingham, Draper's Assistant—F. PRATTEN, Sheerness, Licensed Victualler—A. POTT, Newton Heath, Manchester, Beer Retailer—T. PEPPER, Newington Green, Actuary—P. PANKHURST & T. PANKHURST, South Street, Isleworth, Wheelwrights—J. W. PICKERING, Blackburn, Lancashire, Licensed Victualler—R. E. ROWAN, Camden Street, Camden Town, Commission Agent—J. RICKETTS, Walsall, Staffordshire, Licensed Victualler—J. ROBERTS, Queen's Buildings, Knightsbridge Linendraper—M. DE REDDER, South Shields, Durham, Butcher—J. RICHARDSON, Bedale, Yorkshire, Cabinet Maker—H. SUTTON, late of Dudley, Worcestershire, Licensed Victualler—J. SHAW, Birstal, Yorkshire, Cotton Spinner—A. SMITH, Shrewsbury, Rag Dealer—THOMAS SUMMERTON, late of Birmingham, Carpenter—RICHARD WESTON STEVENS, Lincoln, Manager of the Co-operative Store Society—J. W. SPEED, late of Harpurhey, Lancashire, Colour Maker—J. C. SIMPSON, late of Birmingham, Eating House Keeper—H. SMITH, Gosport, Hampshire, Grocer—J. SHORE, Westbury, Wiltshire, Cabinetmaker—E. A. STUTELY (sued as E. STUTELY), Sovereign Mews, Edgware Road, Carman—Sir C. SULLIVAN, Bart., Colonnade Hotel, Haymarket—M. SARGENT, Hastings, Baker—W. SCHWARZ, Harrison Street, Gray's Inn Road, late Baker—T. THOMAS, Noyland, Pembrokeshire, Boatman—F. J. TROTT, Bridgewater, Somersetshire, late Inn holder—D. TOPLISS, North Kelsey, Lincolnshire, Labourer—W. TANSER, Duston, Northamptonshire, Farmer—T. W. WARNER, Great Dunmow, Essex, Ironmonger—T. WHITE, Denton Buildings, Somers Town, Boot and Shoemaker—G. WILKINSON, Hartshorne, Derbyshire, Shoemaker—D. WILLIAMS, Llandingat, Carmarthenshire—S. H. WHEIRMAN, Birmingham, Tailor—J. WARNER, Leicester, Tailor—W. WEST, late of Greenwich, Pawnbroker's Assistant—W. WENN, Sprowston, Norfolk, Beer Retailer—S. ZENO, Bradford, Yorkshire, Stuff Merchant.

TUESDAY: *May* 12.—BANKRUPTS.—H. BUTLER, jun., Birmingham, Butcher—T. BLAKE, Troston, Suffolk, Woodman—J. BURNETT, Hose, Leicestershire, Carpenter—G. S. BOARD, Bayswater, Salesman—F. BUNTING, Manchester, Beerseller—E. BELL, late of Alfred Place, Bedford Square, Gentleman—H. BALL, Farnham, Surrey, Licensed Victualler—J. BATESON, High Bentham, Yorksh., Innkeeper—T. R. BUCKLEY, Lofthouse Gate, Yorkshire, Grocer—J. T. CLARKE, Lincoln, Waiter—T. CATLEY, Evelyn Street, Deptford, Wood Carver—F. E. CUTBILL and S. CUTBILL, Providence Row, Finsbury, Cabinet Makers—R. C. CLIFTON, King Street, Whitehall—J. CANNON, Stafford Road, Old Ford, Commission Agent—J. CLINE, Lower Ham Road, Kingston-on-Thames, Builder—I. CONEY, Kilburn Lane, Kilburn, Builder—A. R. G. CHURCHILL, Exmouth, Devonshire, Grocer—J. COWELL, Blackburn, Lancashire, Licensed Victualler—I. CATTLE, Cardiff, Butcher—J. DARLINGTON, Burslem, Staffordsh., Clock and Watch Maker—T. DODSON, Leeds, Builder—E. DAWES, Willes Rd., Kentish Town, Widow—T. EDWARDS, Bangor, Carnarvonshire, Licensed Victualler—R. EMPSON, Beverley, Yorkshire, Plumber—J. E. FISHER, Knowstone, Devonshire, Farmer—C. W. GARNER, Liss, Hampshire—C. HOLMES, Churton Street, Pimlico, Plumber—F. B. HESLEWOOD, Hedon, Yorkshire, Commission Agent—G. HENSHAW, late of Liverpool, General Merchant—J. HART, Chertsey, Surrey, Currier—W. HEYWOOD, East Anstey, Devonshire, Thatcher—W. JOHN, Pant-y-glas, Glamorganshire, Farmer—J. JONES, Sedgeley, Staffordshire, Charter Master—H. KAY, Manchester, India-rubber Dealer—G. F. KIRK, Nottingham, Rope and Twine Manufacturer—S. R. LAMBIE, Grafton Street, Kentish Town, Builder—W. LEATT, Everett Street, Russell Square, Fruiterer—E. LEWIS, Artillery Street, Bethnal Green, Fishmonger—W. C. LEE, Three Colts Street, Limehouse, Licensed Victualler—E. J. LANNING, Southampton, Hatter—EDWARD MARTIN, Grace Street, Bromley, Middlesex, Dealer in Machinery—THOMAS METRICK, Queen Square, Aldersgate Street, Draper—ALEXANDER MORTON, Newcastle under Lyme, Staffordshire, Travelling Draper—JAMES MITCHELL, Barkla Shop, Cornwall, Miner—FREDERICK MILWARD, Great Marlborough Street, Tailor—T. NANKIVELL, Pool, Cornwall, Grocer—W. NICHOLS, Leeds, Builder—T. OATES, Worcester, Traveller—K. OGDEN, Manchester, Cabinet Maker—E. W. PRESTON, Kent Street, Newington, Clothier—R. PEABODY, Kettering, Northamptonshire, Innkeeper—W. H. PIDGEON, Linden Terrace, Old Kent Road, Bread and Biscuit Baker—F. PORTER, Commercial Road, Pimlico, Stoker—R. PRICE, Llanvase, Breconshire, Carpenter—H. J. QUARTLEY, Hemsley Blackmoor, Yorkshire, Clerk in Holy Orders—T. REGERS, Bwlch, Brecknockshire, Licensed Victualler—P. RICHMOND, Tonbridge, Kent, Tobacconist—A. RUSSELL, late Cottage Grove, Peckham, Professor of Music—D. RUFFELL, Haughley, Suffolk, Butcher—J. SOFFE, Fritham, Hampshire, Dealer—S. SWIFT, Birstal, Yorkshire, Grocer—G. SANDERSON, Warren, Yorkshire, Collier—M. SPICER, Gainsborough, Lincolnshire, Cooper—H. W. SUCKLING, Sparkbrook, Warwickshire, Auctioneer—THOMAS FRANCIS STEWARD (sued as EDWARD THORNTON), Oldbury, Worcestershire, Corn and Flour Dealer—F. H. STARR, Cardiff, Journeyman Baker—J. SYKES, Sheffield, Joiner—T. SMITH, Sheffield, Cutlery Manufacturer—C. TREGATHAS, Laurence Pountney Hill, City, late taking care of Chambers—S. TOMLINSON, Repton, Derbyshire, Farmer—R. VICKERS, Compton Martin, Somersetshire, Farmer—T. VAIN, Freemantle, Hampshire, Sawyer—J. WRIGHT, Market Drayton, Shropshire, late Farmer—J. W. WASHINGTON, late Devonshire Street, Lisson Grove, Journeyman Painter—W. WILTSHIRE, Lower White Cross Street, City, Commission Agent—G. WALKER, Darlington, Durham, Butcher—W. A. WALDEN, Elm Street, Gray's Inn Lane, Basket Maker—W. WALKER and J. EYRE, Pearson Street, Kingsland Road, Boot and Shoe Manufacturers.

SCOTCH SEQUESTRATIONS.—W. H. CARMAN, Glasgow, Flour Merchant—A. FOWLIS, Bankhead, Kinross-shire, Farmer—D. KENNEDY, Glasgow, Writer—F. M'IVER, Stornoway, Ross-shire, Merchant—D. PATTERSON, sen., Hawick, Flesher—R. STEWART, Kelso, Letterpress Printer—G. WILSON, Ayr, Plumber—M. WILSON, Dunse, Grocer.

## Metropolis and its Vicinity.

THE INTERNATIONAL EXHIBITION.—The report of the Royal Commissioners on the late Exhibition is now completed, and will be made public in the course of a few days. It is stated that the balance-sheet appended to the report will show a small surplus, and that the guarantors will not be called upon for a single shilling. This satisfactory result is entirely due to the liberality of the contractors for the building, who, besides waiving many of their claims, made good what was a deficit of 15,000*l.* by handing over that amount to the Royal Commissioners, thus enabling them to present their report and wind up their affairs with a balance of some few hundreds in hand.

INTERNATIONAL EXHIBITION BUILDING.—The daily papers state that the Government have at last made up their minds to purchase the "Exhibition Building" for national uses, in connection with the artistic and scientific education of the country. This decision was arrived at in the beginning of the week, and the Chancellor of the Exchequer is prepared to justify the bargain which he has made, and by which the building is virtually acquired for nothing, and the ground on which it stands is purchased of the Commissioners of 1851 at less than one-half of the value it could command in the public market. The Commissioners of 1851 will expend the purchase-money in the improvement of the remainder of the South Kensington estate, at present occupied by the Royal Horticultural Society. The roads and approaches and the ground on either side will remain under the care of the Commissioners, and the design, which was in the mind of the Prince Consort, from the day when the surplus fund of the first Exhibition was invested in the grounds of Gore House, to embellish the public buildings devoted in this neighbourhood to schools of art, museums, and galleries, with gardens, terraces, and arcades for sculpture and external decoration, will be realised under the present transactions between the Government and the Commissioners of 1851.

LOSS OF THE ANGLO-SAXON.—The steamship Anglo-Saxon, from Liverpool and Londonderry, for Quebec, ran ashore in a dense fog, about three miles distant from Cape Race, on the 27th of April, and in a short time became a total wreck. Of 445 passengers and crew who were on board, only 33 cabin passengers, 103 steerage passengers, and 71 of the crew were saved. The remaining 238, with all the mails and cargo, were lost. The following particulars of the catastrophe are given in the official statement of the first officer:—

"St. John's, Newfoundland, April 29.

"The Anglo-Saxon left Liverpool on the 16th inst. at 5 p.m. She experienced strong westerly gales until Saturday, the 25th, at 8 p.m., when she fell in with ice and a thick fog. The engines were immediately slowed. At 10 p.m., the ice being so thick and heavy, the engines were stopped altogether, a light breeze from the south forcing the ship ahead about one knot an hour. At 5 p.m. on the 26th the fog lifted, and the ice having slacked, we set the foretop sails and head sails, moving the engines occasionally at a dead slow. At half-past 10 a.m. the fog cleared away altogether, and we saw clear water to the west-north-west from the masthead. We continued our course towards clear water. At 2 p.m. we got the ship clear of ice, and steered north west by west with full speed, and with all possible sail. A moderate breeze was blowing from the southward at this time—at noon, lat. 46° 57', long. 57° 24' by the chronometer. At 10 p.m. the breeze freshened, and blew strongly from the south-south-east, and a dense fog set in. We took in all sail at 8 a.m. on the 27th. The fog still continued to be dense, and, supposing the ship to be 40 miles off Cape Race we altered her course to the west, half north, and slowed the engines

to half speed, which we supposed would have taken us 17 miles south of Cape Race. At ten minutes past 11 a.m. breakers were reported on the starboard beam. Captain Burgess immediately ordered the engines to be reversed at full speed, but before her headway could be stopped she struck flat on the rocks of Clam Cove, about four miles north of Cape Race. A heavy sea rolling in drove her quarter on the rocks, carrying away her rudder, sternpost, and propeller. Finding that there was no possibility of the ship coming off, the order was given to let go both anchors, to hold the ship on the rocks. The carpenter was forthwith sent to examine the fore peak, and found it filling fast with water. He also examined the fore hatch, but found no water there. The chief engineer coming up immediately afterward reported the forward stoke-hole filling fast. He opened the valves and blew the steam out of the boilers. The boats were all immediately lowered successfully, except No. 1 and No. 3. The ship was so close on the rocks these could not be got out. Boat No. 2, with some of the crew and passengers, commanded by Captain Crawford, was sent to find a place to land the passengers. Some of the crew being landed on the rocks by means of the studdingsail-boom, with the help of some of the passengers, got a hawser secured to a rock to keep the vessel from listing out. We then commenced to land the female passengers on the rocks by means of the foreyard arm. The first-class passengers were put into a boat. At about noon the ship's stern swung off from the rocks, and she settled down very fast, listing to port at the same time, and sunk in deep water. The Captain and a great many passengers were on deck at the time, and, with a part of the crew, are all lost."

The following is the official list of the passengers saved :—

*Cabin Passengers.*—The Hon. John Young, wife, seven children; Miss Hope, Miss Bertram, Miss Euglis, Miss Kerwood, Mr. Caldwell, Mr. Eaton, Mr. Kirkwood, Mr. Christien, Mr. Towers, Mr. Kirkness, Mr Fraser, Mr. Martin, Mr. Tealy, Mr. Whites, Captain Reed, Captain Hyles, Captain Cassidy, Lieutenant Simpson, Mrs. Stoddard, Mrs. Caristien, Mrs. Wright, Mrs. James, and Mrs Jackson and child. *Steerage Passengers.*—Mr. Parker, Mr. Parsons, Mr. St. Marie, Mr. Collogan, Mr. Dallie, Mr. Wilpolm, Mr. George Wood, Mr. Stanley, Mr. Naglies, Mr. Lahn, Mr. Barbour, Mr. Coulter, Mr. Finley, Mr. Morgan, Mr. Rooke, Mr. Lloyd, Mr. Turre, Mr. Gones, Mr. Griffiths, Mr. Churchchard, Mr. Wickett, Mr. Burrow, Mr. Nance, Mr. Black, Mr. Jones and wife, Mr. Cooth, Mr. Fleck, Mr. Furgusson, Mr. Callaghan, Mr. Pantrie, Mr. Barclay, Mr. Jamieson, Mr. Small, Mr. Bishop, Mr. Gormley, Mr. Corder, Mr. M'Killary, Mr. Johnston, Mr. Dinsmore, Mr. Reid, Mr. Honnell, Mr. M'Kay, Mr. Mustagh, Mr Garretty, Mr. Christienson, Mr. Davies, Mr. Tapper, Mr. M'Nally, Mr. Atkinson, Mr. Fideles, Mr. Jones, Mr. Wood, Mr. Danco, Mr Hall, Mr. Harrison, Mr. Walter, Mr. Bruce, Mr. Loubrier, Mr. Jones, Elizabeth Waunby, Mary Ann Thomas, Mary Ann Adams, Mina Christian, Jesse E. Christien, Mary Waldron, Mary Senwick, Martha Senwick, Maggie Senwick, Ann Gormley, Jane Colton, Mary Ralston, Ann Stevens, Mr. Rees and child, Mr. Townsend, Mr. Damsel, Mr. Cross, Mr. Cronon, Mr. Berry, Mr. Crawford, Mrs. Gauley and child, Christiana Brown, Mary Callan, Mary Callaghan, Alice Stewart, Mary Kenny, Mary M'Kenzie, Mary Reed, Jane Walker, Ellen Rijah, Sarah Smith, Kate Early, Margaret Evans, Sophia Davis and child, Eliza Gritty and two children, and two children unknown.

MILITIA REVIEW IN HYDE PARK.—Four metropolitan militia regiments now out for training, comprising the Royal London, Colonel S. Wilson; the King's Own, Colonel W. L. Grant; the 1st (East) Middlesex, Colonel Alcock; and the 3d (Royal Westminster) Middlesex, Colonel Glossop, were reviewed on Tuesday, in Hyde Park, by the Commander-in-Chief, in the presence of the Prince of Wales, and numerous officers of high rank. The men were put through various movements, which they performed in such a way as to call forth the approbation of his Royal Highness. Though the weather was unfavourable, there was a large concourse of spectators.

DIOCESS OF LONDON.—A meeting of property-owners and employers of labour in the metropolis, and other noblemen and gentlemen, was held at London House on the 29th ult., by invitation of the Bishop of London, to consider the best means of providing for the spiritual wants of the poorer districts of the diocess. Among those present were the Earl of Shrewsbury, Lord Egerton of Tatton, Lord Radstock, Viscount Sandon, Sir George Baker, Sir Fowell Buxton, Mr. Beresford Hope, the Deans of St. Paul's and Westminster, the Archdeacons of London and Middlesex, Sir W. C. James, Mr. W. Cotton, Mr. J. H. Baxendale, Mr. W. H. Smith, Mr. John Murray, Mr. C. E. Mudie, Mr. C. J. Freake, Mr. George Moore, Mr. Lucas, Mr. Cubitt, Mr. F. Charrington, Mr. R. T. Pritchett, Mr. Lancaster, Mr. A. Head, Mr. Claude Ash, the chairman of the Metropolitan Railway, the Master of the Stationers' Company, Mr. Arthur Powell, Mr. A. Hall Hall, the Rev. C. Girdlestone, Mr. C. H. Blake, Mr. Rydon, Mr. Jay, Mr. Merceron, Mr. Rokeby Price, Mr. W. Rivington, the Master of the Grocers' Company, the Master of the Drapers' Company, &c. The Bishop of London, in addressing the meeting, called their earnest attention to the pressing spiritual needs of the diocess—the want of additional churches and clergymen, the necessity for increased endowments, and the building of parsonage-houses in the poorer districts. He urged that some great effort should be immediately made to cope with what, in spite of all that has been done, is a growing evil. He pointed out an organisation already existing in the Diocesan Church Building Society, in connection with which such an effort could most effectually be made. This Society, by its varied operations of aiding in the erection of churches and mission chapels, as well as by employing missionary curates, and giving assistance towards parsonages and endowments, had already proved itself of the greatest value, and was well worthy of far more extended support. The Bishop requested the meeting to consider what steps could best be taken to effect the purpose which he had in view. In conclusion he called upon the hon. secretary of the Society to read an appeal which, with the approval of the meeting, it was proposed to circulate. The meeting was afterwards addressed by the Rev. C. Girdlestone, Mr. Beresford Hope, Lord Egerton, Archdeacon Sinclair, the Earl of Shrewsbury, Mr. W. Cotton, Mr. John Murray, Viscount Sandon, Mr. W. H. Smith, Mr. J. Charrington, Mr. Robert Few, Sir Walter James, and others, and resolutions were passed pledging the meeting to co-operate with the Bishop, through a committee of laymen, in raising a fund of 1,000,000*l.* within 10 years, to carry out the objects of the meeting.

THE TRADES' UNIONS AND THE AMERICAN MINISTER.—The address adopted by the meeting of the trades' unions held some time ago, congratulating the American President on his proclamation for the abolition of slavery, was presented to Mr. Adams, the American minister, a few days since by a deputation of the trades' delegates, who were introduced by Mr. Bright. The address having been presented, and several of the deputation having addressed his excellency, Mr. Adams said:—

"Gentlemen, I accept with pleasure the duty you have imposed upon me on receiving your address to the chief of my government. Representing as I do my country in England, you must be aware that I stand outside all local questions, therefore it is not my province to express dissatisfaction or satisfaction with those persons or parties in England who may express their opinions upon America. If there are some persons in this country who from prejudice or ignorance put a harsh construction on the conduct of the American Government, it is not my place to find fault, or my right to criticise. It is however my duty to accept from the representatives of any body of Englishmen their favourable sentiments towards the Government I represent, and to reciprocate the frank, manly, and independent spirit in which they have been tendered. I understand, gentlemen, you attend here as representing large bodies of working men who advocate and uphold the rights of labour, and it is therefore but natural you should look with dislike upon any parties, in whatever country they may exist, who infringe on those rights. You perceive that in the struggle now going on in America an attempt is being made to establish a government on the destruction of the rights of labour—a government of physical power to take away the rights of labour. It is a question above all local right—it is a general principle; and therefore, though taking place in a foreign country, you have a right to express your opinion thereon. Gentlemen, I accept the duty you impose upon me with great pleasure, the more so as you have taken advantage of the occasion to speak on the question of war. I agree generally with your views on the subject. But with two nations of the same race, of the same high spirit, both feeling a natural pride in their superiority on the ocean, I think it almost impossible, under existing circumstances, to prevent some things springing up that might occasion a collision; I therefore concur with you, gentlemen, as to the necessity for great forbearance being exhibited by both countries and Governments in construing the actions of each other. I trust that in spite of all that has occurred there is in the government of each country a sufficient sense of responsibility which will induce them to maintain friendly relations with each other. There must naturally be a feeling of pride—of fear—lest one nation should appear to refrain from properly resenting what it might deem to be an offence from the other; and in this feeling lies the great danger. I feel confident, however, that if the two peoples and the two governments would speak together in the same sense, in the same frank and unreserved tones, as you have spoken to me this evening, all fear of any collision would be at an end. I can assure you that notwithstanding the speeches of some of my countrymen, notwithstanding the writings in some of the American journals, there is no nation under the sun for which America entertains a greater regard than England; and if the real sentiments of the people of each country can be clearly established to each other, I shall have no fear of their coming into collision. I believe, gentlemen, you have taken the right course to produce this desirable understanding, and I undertake with great pleasure the duty of transmitting your address to President Lincoln."

THE VIADUCT OVER LUDGATE HILL.—At a special meeting of the Common Council on Thursday, it was unanimously resolved to continue the opposition to the viaduct over Ludgate Hill, notwithstanding the modifications which the railway company have offered to make in their plans. A petition against the structure has been signed by more than 1000 leading city firms, the following being among the names already affixed to it:—Baring Brothers & Co.; Prescott, Grote, & Co.; Frederick Huth & Co.; N. M. Rothschild & Sons; Glyn, Mills, & Co.; Hankey & Co.; Finlay, Hodgson, & Co.; Thomson Hankey & Co.; Smith, Payne, & Co.; Heywood, Kennards, & Co.; Barclay, Bevan, & Co.; Copestake, Moore, & Co.; Dimsdale & Co.; Western Wood; Jones Loyd & Co.; Robarts, Lubbock, & Co.; Hanbury & Lloyds; George Moffatt; Spooner, Attwood & Co.; J. & R. Morley; Leaf, Sons, & Co.; Masterman & Co.; Gregson & Co., &c. The clergy within the civic boundaries have also got up a petition to be presented to the House of Lords by the Bishop of London. It sets forth that the proposed viaduct will be a perpetual disgrace and disfigurement by obstructing the view of St. Paul's, entirely destroying the architectural character of the approach to the west front of the Cathedral, and so defacing the most picturesque street in the whole city. On Tuesday a deputation from the inhabitants of Ludgate Hill and vicinity waited upon the Court of Sewers and asked permission to erect a model bridge across Ludgate Hill, similar to the one which is to be erected by the company, that the public might see the inconvenience which would arise. The Court, however, declined to give their sanction.

WESTMINSTER IMPROVEMENTS.—Mr. Gilbert Scott, in giving evidence before the Thames Embankment Commission early in the present year, produced a plan showing the improvements he recommends in the immediate neighbourhood of Westminster Abbey and the Houses of Parliament. The Abbey is so filled with monuments that the Dean and Chapter have been obliged to refuse permission for the erection of memorials to very eminent men, and he suggests the erection of a large cloister, a sort of Campo Santo, round College Gardens, with a communication from the cloisters of the abbey, so that the funeral services could take place as at present in the abbey, and afterwards the procession could pass to this new cloister, in which also the monuments would be erected to the persons buried there. He would stop the cloister at the Jewel Tower, so as to preserve that as an interesting remnant of antiquity, and not hide the chapter-house. He would clear away the houses in Poet's Corner and Old Palace Yard and from Abingdon Street to the ancient boundary of the precincts of the Abbey, leaving a much wider approach and throwing the Abbey open to view. The buildings also on the south side of the Houses of Parliament cannot be allowed to remain, and Mr. Scott proposes to clear the ground as far as the new suspension bridge; the consideration of cost would probably prevent more than a partial removal of the wharves, but as a matter of taste, it would be highly desirable to have no buildings whatever between the Houses of Parliament and the new bridge. The Lord Chamberlain had it brought to the notice of the commission that the buildings on the south side of the Houses of Parliament cause great danger of fire, and that there is a stable loft only 16 yards distant, the door and window of which completely command the throne in the Queen's robing room, on which Her Majesty sits on State occasions; any maniac or evil-minded person secreted there might do incalculable mischief. The commissioners, in their report, recommend that the property south of the Houses be purchased, and the ground embanked as far as to the line of Wood Street, and that, so far as extends to the line of Great College Street, it be kept clear of buildings, and laid out and planted as ornamental grounds; but they think that beyond this latter point six or eight first-class residences might be erected, looking on to the proposed ornamental ground, being built at right angles to the river, like Richmond Terrace. They recommend that the houses in Poet's Corner, Old Palace Yard, and Abingdon Street, and "the mews" in the rear be taken down, and the residences between the Chapter House and the garden to the south removed, and that the site so cleared be laid open, by which a clear space from Henry VII.'s Chapel to Great College Street would be obtained, about 200 feet wide in its narrowest part. The space at present on State occasions is quite insufficient. The ultimate cost of these improvements would be 214,000*l.*, and it falls properly to the Imperial treasury. The ultimate cost of widening Millbank Street and the road beyond, so that there may be standing room for 300 carriages, would be 157,900*l.*; and the ultimate cost of widening King Street by setting back the houses on its west side, giving a very beautiful view of the Abbey, would be 78,000*l.* These two charges may be fairly considered metropolitan charges. The ultimate cost is here given; the first outlay would be much larger. The plan includes a short road through the inclosure on the north side of St. Margaret's Church, so that the traffic from Victoria Street to the Houses of Parliament should not be brought into contact with Westminster Bridge traffic. To throw King Street into Parliament Street would make a street so wide as to be dangerous to foot passengers; it would require a platform of pavement in the middle; which, however, says Mr. Scott, might have public statues upon it. Lord Redesdale suggested another improvement—namely, either widening and continuing College Street or making a new street, so as to give a passage round the abbey for anything coming up Millbank, because it might be expedient to shut up the street in front of the Houses of Parliament either in times of great public excitement, or for the few hours during which the Queen occupies the whole street in coming down to the Houses of Parliament; and Sir R. Mayne added that a new street from Millbank to Victoria Street would greatly relieve Westminster Bridge, by diverting part of the Lambeth traffic from Westminster Bridge to the new bridge.

LANCASHIRE RELIEF FUND.—At a meeting of the Mansion House Committee on Friday it was resolved whenever any emigration committee is prepared to send out a given number of emigrants, to advance a capitation grant of 2*l.* a head for the purposes of outfit. The total sum received up to the previous evening was 491,382*l.*, of which 398,746*l.* had been remitted to the affected districts, exclusive of a grant of 1000*l.* for emigration.

THE PROPOSED MARKET IN LEICESTER SQUARE.—The Parliamentary Committee, after hearing Mr. Dangerfield for the authorities at St. Martin's-in-the-Fields and others, have decided unanimously that the preamble of this Bill was not proved.

THE BLOOMSBURY MURDER.—The inquest on the body of the man who was found drowned in the river and supposed to answer the description of the murderer of Emma Jackson, was resumed on Saturday. An adjournment had taken place in order that an attempt might be made to combat the results of decomposition, and by some scientific process to restore the countenance to its natural hue; but on the re-assembling of the jury nothing had been elicited to throw any light on the affair, and the jury returned a verdict of "Found drowned." The witnesses examined stated that the body was not that of the man who was in company with the murdered woman, and no person came forward to identify it.

ATTEMPTED MURDER AND SUICIDE.—On Thursday some excitement was caused at Woolwich by the suicide

of Mr. George R. Roberts, a master baker, for many years residing in that town, the act having been committed under circumstances of an extraordinary nature. It appears that a young woman named Francis Eliza Paxton, for some months servant at the residence of Mr. Roberts, surrendered herself to the police, on her own confession of having attempted to poison her mistress on the previous Sunday, by putting oil of vitriol into her beer, stating that she had been instigated to commit the act by her master, between whom and herself an improper intimacy had existed. The young woman was removed to the police-station, and subsequently Inspector Linvell had an interview with Mr. Roberts, informed him of the serious charge made against him, and requested that he would attend the Police Court at 3 o'clock in order to be present at the examination of his accuser. To this request Mr. Roberts readily assented, but about an hour afterwards he was found suspended to the beam in the roof of his stable, having committed suicide in a determined manner. The female prisoner has been remanded, and the magistrate has directed that the beer, which has been preserved, should be subjected to analysis.

The Public Health. — The Registrar-General's Weekly Return states that the deaths in London in the week ended Saturday, May 2, were 1459. The average number in the corresponding weeks of the 10 years 1853-62, corrected for increase of population, was 1244. The present return is therefore 215 above the average, including 76 deaths from small pox, 54 from measles, and 73 from scarlet fever. During the week the births of 1078 boys and 1077 girls, in all 2155 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1911.

## Provincial.

Aldershot.—The recent murder of Mr. Henry Holton, of Bagshot, in the canal at Aldershot, appears to be one of those cases in which the ends of justice are likely to be defeated. Bills offering 100*l.* for the conviction of the murderer or murderers have now been issued more than two months, but, though the police have been unremitting in their exertions, not the slightest clue to the guilty party has been discovered. The deed was without doubt committed under cover of the night, and, as the body had been some days in the water when discovered, the chance of unravelling the mystery was considerably diminished, and it is now feared that nothing further will be elucidated.

Bedford.—A shocking outrage was committed on Sunday night in this town. A gentleman named Budd from Buckingham was proceeding towards his home, with his wife, about 11 P.M., when he was set upon by a mixed mob of labourers and militiamen, at present out for drill, and so seriously beaten by two of the labourers that he died on the following morning. The shock of the outrage was so great to an aged lady, Mrs. Higgins, a friend of the deceased, that she died under the excitement, and his wife, who does not appear to have been assaulted, is in such a precarious condition that doubts are entertained of her recovery. Seven men who were present when the assault took place were apprehended and charged before the magistrates, two with causing the death of Mr. Budd, the others with being accessories before the fact. The two principal culprits, Craddock and Jordan, were remanded, bail being refused, and the inquest has been adjourned for a week.

Blackburn.—Mr. Robert Rawlinson, civil engineer, acting inspector under the Local Government Act, and formerly Sanitary Engineering Commissioner in the Crimea, is now in the cotton districts with very extensive powers from the Government, for the purpose of organising a scheme of out-door labour, at fair wages, for the unemployed workpeople in Lancashire. He visited this town on Monday, and is engaged in inspecting the wants, and judging of the capacities for improvement of all the towns in the district. From his explanations to the local authorities it appears that Government is willing to advance money for a term of years, and at a low rate of interest, to municipal bodies, boards of health, &c., to carry out sanitary improvements and other works for the convenience and health of the towns.

Brighton.—A serious accident occurred on Wednesday evening at the Pavilion. The Christy Minstrels were announced to give a concert in the Music Room, and a very numerous audience had assembled. Just before the commencement of the performance an escape of gas took place. Search was made to discover where the escape was, and a light being applied several explosions took place. One side of the room was completely wrecked. Frightful confusion ensued, but as the means of egress were good, the audience escaped without any serious accident. The building, however, caught fire, and the flames were with some difficulty extinguished.

Clifton.—The works of the Suspension Bridge are so far advanced that the two piers on the Somersetshire and Gloucestershire sides of the Avon are expected to be connected by wire ropes in about a fortnight. These ropes will form the temporary platform on which the men will work to erect the permanent structure. They have been manufactured by Messrs. Glass, Elliot, and Co., of Cardiff, and are nine in number, measuring 1150 feet in length and weighing 2 tons each.

Herne Bay.—On Saturday week a brutal murder was perpetrated at a little village called Maypole, situate in the parish of Herne. The murdered man, named Richard Steed, was a carrier between Herne Bay and Canterbury, and a dealer in stock. Early in the evening he was drinking at a public-house in Herne with a number of navvies and a man named Alfred Algar, who has recently been discharged from St. Augustine's Gaol, where he had been confined for stealing timber. The murdered man (who was of a very quarrelsome disposition while under the influence of drink) quarrelled with some of the parties in the public house, and left for the purpose of going home. He was accompanied by Algar. He was not seen afterwards until between seven and eight o'clock, when he was found, almost in a lifeless state, in a middle road leading from Herne to Maypole, where he resided. He was frightfully disfigured, his face being completely battered in, and his head forced into the ground as if by a severe kick. Though in this state life was not quite extinct, as he was still breathing. He was removed to his home as quickly as possible and medical assistance sent for, but it was of no avail, as he immediately expired. The county constabulary immediately apprehended Alfred Algar, who was placed at the bar of the County Police Court at Canterbury on Monday charged with the murder. The prisoner, who is 32 years of age, is a native of North Kent. He has served 12 years in the army—first in the 92d and afterwards in the 52d Regiment, and has been discharged without a character. He is married and has one child, and for about four months has resided at Maypole, as a labourer on the railway works in that neighbourhood, but bears a very indifferent character. At the termination of the examination of the witnesses, the Chairman said it was their duty to commit him for trial. The prisoner said he hoped that something would be found out to clear him of the charge of murder, or at all events to lighten his crime. He had not seen the deceased since they parted after leaving Herne Street.

Holyhead.—An investigation was made on Friday and Saturday, under the authority of the Board of Trade, into the circumstances under which the Telegraph steamer struck against a rock near this harbour on the 17th ult. It will be recollected that the steamer was crossing from Dublin with a heavy cargo of goods and cattle, and more than 200 passengers, when she struck upon an islet during a very thick fog, and that the passengers were landed there, and had to find their way by boats to the adjacent mainland, three miles from the town. It was fully proved by the inquiry that the South Stack light was quite invisible to the steamer, and that the great fog-bell on the Stack, as well as the signal gun on the mountain, was inaudible, though both were going at the time. It was stated in evidence by Captain Priest, R.N., that the great fog-bell is very ill set. After a great many witnesses had been examined the Court fully exculpated Captain Warren, and said that the fortitude he had shown in keeping his post after being severely injured at the moment of the collision, and the successful landing of so many people in such a situation, were circumstances that reflected great credit upon him.

Liverpool.—A shocking murder was committed in this town on Friday. The wife of a sea captain let a portion of her house out as lodgings, and a sailor named Thomas had been lodging with her for some time. On Friday afternoon a young woman called on the landlady, and while they were sitting conversing together, the sailor, who was in the kitchen below, asked his landlady to come down. She did so, and a few minutes afterwards the sailor rushed upstairs, struck the young woman in the parlour a severe blow on the head, and also attacked another woman who entered the house attracted by her cries. Soon after, when the people had time to seek after the landlady, she was found lying in the kitchen bleeding from terrible wounds, of which she soon afterwards died. The other two women were so much injured that it was necessary to take them to the hospital. It is supposed that the sailor was labouring under *delirium tremens*.—Another murder was committed in the town on Tuesday. A Chilian sailor stabbed a man named Harrison in the street, inflicting injuries from which he shortly afterwards died. The sailor was arrested.

Manchester.—At the weekly meeting of the Executive Committee on Monday it was reported that the receipts of the past week amounted to 3280*l.* 8*s.* 2*d.*, and that the balance in the bank was 389,506*l.* 7*s.* 1*d.* Mr. Commissioner Farnall reported that there was a further decrease last week in the number of persons receiving parochial relief in 27 Unions, as compared with the previous week, of 5073. The total decrease since the 6th of December last is 84,348.

Oxford.—The Rev. Dr. Pusey and his associates in the prosecution of Professor Jowett, of Oxford, for heretical teaching, have abandoned their appeal to the Court of Queen's Bench. They state that they have been advised by the Queen's Advocate and Mr. Coleridge that the Court of Queen's Bench were not likely to grant a mandamus to compel the Vice Chancellor's assessor to take up the cause. There was another Court, within the bounds of the University itself, to which they might have appealed; but the time for appeal to that tribunal is now gone by. They therefore abandon the prosecution altogether.

Sheffield.—On Saturday two men named Edwin Hides and Henry Light, engravers and lithographers, were brought before the magistrates for final examination on a charge of forging and uttering large numbers of Federal Treasury notes (greenbacks) of 5, 10, and 20 dollars. A mass of evidence was adduced to prove their complicity in the forgery, which appeared to have been suggested to them by an American called Clifford Webster, who absconded as soon as he had got a supply of notes without paying them the money for which they had bargained. The magistrates committed the prisoners for trial at the assizes, and refused to accept bail. The case was brought under the Consolidated Act, which makes the offence a felony, punishable with 14 years' penal servitude.

## Ireland.

The Alleged Violation and Poisoning near Ballymena.—The case of Miss Amelia Cary, which excited a good deal of interest, and was for two or three months a general topic of conversation, has been abandoned by order of the Crown, and Dr. Courtenay has been released from his recognisances.

## Scotland.

The Yelverton Case.—It is considered probable that Mrs. Theresa Yelverton's appeal from the Scottish court, affirming the validity of her marriage, will not be argued before the House of Lords this session. The pursuer is ready with her case, but the defender, Major Yelverton, has applied for and obtained an extension of time to prepare his case; and the probability is that, as the session is now half over, and as a good many appeals are before the House, the pursuer is destined to remain for another year in her present equivocal position.

University of Glasgow.—Lord Palmerston, the Lord Rector of Glasgow University, has given a donation of 100 guineas, to be divided into three prizes, to be competed for by the students enrolled during his lordship's Rectorate—one prize of 35*l.* in each year.

## Railways.

Collision on the London and South-Western.—On Tuesday morning a serious accident occurred between the Wilton and the Dinton stations. It appears that passengers are taken every Tuesday morning by the up luggage train from Yeovil to enable them to reach Salisbury market earlier than by the ordinary train. This train, consisting of an engine, four passenger carriages, and a number of luggage waggons, arrived at the Dinton station shortly before 9 o'clock, and was allowed to go on by the stationmaster. A mixed train also left Salisbury some time after 8 on Tuesday morning, and this was despatched by the stationmaster of the Wilton station. There is a double line of rails between Salisbury and Wilton, but from Wilton to Dinton it is single, the additional line not being yet completed. The consequence was that the two trains came violently into collision near Hurdcott. The breaks were put on, and everything done to prevent the accident, but the rails were very slippery, and the breaks would not act. The engines ran into each other, and the 40 passengers in the up train received a severe shock, all being more or less injured. Mr. Thomas Wright, of Shaftesbury, received very serious wounds on the arm and hands, and was generally bruised. Several farmers from Shaftesbury, Tisbury, and Barford were also injured about the arms and legs, and one sustained a severe blow in the mouth. The passengers were all thrown one upon another, and the carriages were greatly damaged. A special train was sent down from Salisbury, and the injured passengers on their arrival in that city were immediately sent to the Infirmary, where they received every attention. The down luggage engine was thrown off the line by the collision, but a number of labourers were soon at the scene of the accident, and after some difficulty the line was cleared.

The Blackfriars Railway Bridge.—The foundation stone of the new railway bridge across the Thames, in connection with the London, Chatham, and Dover Railway, was laid on Saturday week by Lord Sondes, in the presence of a numerons company, including Lord Harris, the vice chairman, Mr. Cubitt, the engineer, Sir Morton Peto, &c. The bridge crosses the Thames a few yards only from the intended site of the new Blackfriars Bridge, and is to consist of five arches. The block of stone was about five tons weight. After the ceremony a collation took place, at which all prosperity was wished and anticipated for the new railway. It is expected that the bridge will be opened for traffic in May next year.

## Law.

Court of Arches.—*The Sudbury Union.*—A case of some interest to chaplains of unions was decided by Dr. Lushington on Monday. The Rev. Mr. Molyneux, incumbent of the

parish of Sudbury, in Suffolk, where the union is situated, objected to the Rev. Mr. Bagshaw officiating there as chaplain without his consent, as holding the spiritual cure of the parish. Dr. Lushington decided that, supposing Mr. Bagshaw to have been legally appointed by the poor-law guardians, he had an undoubted right to officiate without asking leave of the incumbent. Notice of appeal was given.

Court of Queen's Bench.—*Dickson* v. *Combermere.*—The Court on Friday gave judgment on the question whether Colonel Dickson, who is prosecuting Lord Combermere, Lord Wilton, and General Peel for a conspiracy to stop his rise in the army, should be allowed to put certain questions to General Peel. The General objected that he ought not to be called upon to answer questions as to what he did as Secretary for War. The decision of the Court was that Colonel Dickson should be allowed to put the questions, leaving it to General Peel whether he would answer them or not.

## Miscellaneous.

Eclipse of the Sun.—The sun will be partially eclipsed to-morrow afternoon, the 17th inst. As seen near the metropolis, the moon will enter upon his disc at 5h. 24m. 42s. p.m., Greenwich time, at a point 88° from the vertex towards the west, or nearly at the right hand extremity of the sun's horizontal diameter. The eclipse will be at its maximum at 6h. 28m. 30s. p.m., when very nearly one-third of the solar diameter will be covered by the moon, and will end at 7h. 12m. 0s. p.m., about half an hour before sunset, the last contact occurring a little to the left of the apparent upper point of the disc.

The Atlantic and Pacific Railway.—The advices from Nicaragua by the West India mail give some particulars of the progress of the exploration just commenced by Captain Bedford Pim, R.N., with the view to establish a railway and steam transit from the Atlantic to the Pacific. Captain Pim arrived at Greytown from England on the 9th of April, and started on the 11th for Bluefields, accompanied by two civil engineers whom he had brought with him, where he obtained a large force of Indians and Creoles to cut a path through the woods. Returning with these men to Gorgon Bay, which he contemplates as the starting point of the line, he built a house as a general rendezvous, and stored it with provisions under charge of a Rama chief. From Gorgon Bay he took his party about eight miles south to the Rama River, with the idea that its course might pass somewhere near his proposed route, and thus enable him to start two parties from about the centre of his line, and so to cut east and west at the same time. Captain Pim was right in this conjecture. He explored and made a survey of the river, and landed on the left bank about 20 miles from the sea, whence he started off two parties—one cutting through the forest easterly towards the Atlantic: the other westerly towards the Lake of Nicaragua. Each party consisted of 14 men, headed by a civil engineer. They commenced work on the 16th, and when Captain Pim left on the morning of that day each party had cut about a mile through the bush, with every prospect of running a line of levels right across by the end of the month. The starting station, nearly midway, was only 127 feet above the level of the sea, and not a hill of any sort could be seen. It was considered, therefore, that there is every chance that the route will afford easy gradients from end to end. Each party was supplied with needful stores and provisions, and the weather was favourable. The political condition of the Republic, however, was as threatening and uncertain as possible.

## Obituary.

Sir John Pollen, Bart., died on Saturday, the 2d inst., at the Grosvenor Hotel, Park Street, after an illness of some weeks. He was son of the first baronet, by the daughter of Mr. Walter Holt, of Redenham. He was born at Redenham in 1784, and married in 1819 the only daughter of the late Rev. John Craven, of Craven, Wilts, and succeeded his father in 1814. He represented Andover in Parliament from 1820 to 1831; was re-elected in 1833, and sat till 1841. He was colonel of the South Hants Militia. As he has died without issue he is succeeded in his title and estates by his nephew, Richard Hungerford Pollen, born in 1815, who graduated B.A. of Christ Church, Oxford, in 1837, and married in 1845, the daughter of Mr. John Godley, of Killigar, Leitrim, by whom he has, with other children, a son and heir born in 1846.

Lieut.-Colonel Sir William Lascelles Wraxall, Bart., died on the 2d inst., at Passy, near Paris. He was born at Laleham, Middlesex, in 1791, and was the son of Sir Nathaniel Wraxall, first baronet, by the daughter of Mr. Peter Lascelles, of Knight's House, Hertfordshire. He succeeded his father in 1831. He was never married, and his heir in the baronetcy is his nephew, Frederic Charles Lascelles Wraxall, son of Charles Edmund Wraxall, by the daughter of Mr. J. Madden. Sir Frederic Wraxall, born in 1828, was for some time an assistant-commissary in the Turkish Contingent, and is well known as the author of various articles in magazines, and as the translator of several French works. He married in 1852, the daughter of Mr. J. Herring.

Mr. John Gorham Maitland, Secretary of the Civil Service Commission, died a few days since, after a long illness, at his house, Rutland Gate, at the age of 45. He was a fellow of Trinity College, Cambridge, and a barrister. In 1852 he joined the Conservative Land Society as a member of the board, but retired from the direction on receiving the appointment, first as an examiner, and subsequently as secretary of the Civil Service Commission. He was the son of the Rev. Dr. Maitland, of Gloucester, formerly librarian of Lambeth Palace.

Dr. Reid, well known in connection with the ventilation of the Houses of Parliament, St. George's Hall, Liverpool, and other public buildings, died suddenly at Washington, on the 5th of April. Dr. Reid had been appointed by the American Government medical inspector to the sanitary commission, and he was about to leave Washington to be employed in ventilating the new military hospitals which have been erected in different parts of the United States.

Wills.—The will of Lord Sudeley has been sworn under 140,000*l.*; Mr. William Gregson, of Liverpool, 50,000*l.*; Viscountess d'Alte, formerly Miss Harriet Mangin Brown, and wife of Viscount d'Alte of the kingdom of Portugal, 60,000*l.* This lady has left the sum of 16,000*l.*, on the decease of her mother, with the dividends, to the Society for the Prevention of Cruelty to Animals, to be applied more particularly in the establishment of slaughter-houses in London and Westminster away from densely-populated places, and for protection against cruelty to the animals slaughtered.

BIRTHS.—On the 29th ult, at 18, Atholl Crescent, the Countess of Southesk, of a daughter—12th inst, at 49, Eaton Square, the Countess of Hopetoun, of a son—3d inst, at 6, Cumberland Terrace, Regent's Park, (prematurely, the Lady John Manners, of a son, stillborn—3d inst, at 45, Grosvenor Place, the Lady Harriet Wegg-Prosser, of a daughter—11th inst, at Chevet, Lady Milborne Swinnerton Pilkington, of a son—28th ult, at Scottowe Vicarage, near Norwich, the wife of the Hon. and Rev. John Horatio Nelson, of a son, stillborn—2d inst, at Foulmire Rectory, near Royston, the Hon. Mrs. Arthur Savile, of a daughter—30th ult, at Branston Rectory, Lincolnshire, the Hon. Mrs. A. S. Leslie Melville, of a daughter—10th inst, at Queen Ann Street, the Hon. Mrs. John Bridgeman, of a daughter—11th inst, at Barton Mills Rectory, the Hon. Mrs. Abraham, of a son—6th inst, at 27, Albany Street, Edinburgh, the Hon. Mrs. David S. Dickson, of a son—4th inst, at Glenmore, county Donegal, the Hon. Mrs. Style, of a son.

MARRIAGES.—On the 4th inst, at St. John's Episcopal Church, Edinburgh, William Johnston, of Ballykilbeg House, county Down, Esq., to Georgiana Barbara, second daughter of the late Sir John Hay, of Park, Bart.—30th ult, at the British Embassy, Brussels, Sir Henry Josias Durrant, Bart., to Miss Alexandrina Charlotte Barton—29th ult, at The Abbey, Bath, Colonel George Talbot, late of the 43d Light Infantry, to Angelina, widow of Henry Daniel, Esq.—13th inst, at St. Mary's, Bryanston Square, Samuel, second son of Joseph Harris, Esq., of Westcotes, Leicester, to Charlotte Georgina, second daughter of Basil T. Woodd, Esq., M.P., of Conyngham Hall, Yorkshire—12th inst, at Llanynys Church, Denbighshire, Richard Meredyth Richards, Esq., of Caer Ynwch, Merionethshire, to Louisa Janette Anne, only daughter of the late Edward Lloyd Edwards, Esq., of Cerrig-Llwydion, Denbighshire.

DEATHS.—On the 29th ult, at Hythe, near Southampton, the Hon. and Rev. Adolphus Frederick Irby, son of the second Lord Boston, aged 66—7th inst, at Richmond Green, Surrey, Louisa Maria, eldest daughter of the Hon. Frederick Tollemache, M.P., aged 30—5th inst, at East Bridgeford, Notts, Haughton, James, eldest son of Major-General Haughton James, 6th Regt. N.I., commanding at Asseer Gurh, Bombay, aged 15—29th ult, at Exmouth, Devon, Harriet, widow of General J. W. Tobin, of the Royal Artillery, aged 83—2d inst, at Petersfield, Sophia E. C. Cookson, third daughter of the late Lieutenant-General Charles Norris Cookson, R.A., aged 68—26th ult, at Bedfont, Middlesex, Elizabeth, widow of Lieutenant-Colonel George Engleheart, of the Bengal Army—1st inst, in London, Chambre Brabazon Ponsonby, Esq.—1st inst, at Flenhurst, suddenly, John Charles Schreiber, Esq., aged 81—2d inst, at Denmark Hill, Hugh Tilsley, Esq., assistant-solicitor of Inland Revenue, aged 67—4th inst, at The Vicarage House, Chigwell, Essex, Douglas Spencer Meadows, Esq., barrister-at-law, and B.A. of Pembroke College, Oxford, aged 30—4th inst, at 15, Montagu Street, Russell Square, Mary Ann, widow of Samuel Comyn, Esq., barrister-at-law and recorder of Rochester—10th inst, at Woolwich, Harriette, the wife of G. Paploe Brown, Esq., Royal Artillery, and on the 12th, at 22, Sussex Square, Hannah Elizabeth, her mother, widow of William Wilberforce Bird, Esq., formerly member of the Supreme Council of India—11th inst, suddenly, at his residence, 13, Great Cumberland Street, Hyde Park, John Challice, M.D., F.R.C.P. Edinburgh, Medical Officer of Health for Bermondsey, aged 48—5th inst, at Rome, William Younghusband, Esq., late Chief Secretary of Her Majesty's Government of South Australia—6th inst, at Kilconnell Glebe, county Galway, Ireland, the Rev. Robert Collis, rector of Kilconnell, and prebendary of Clonfert, aged 72—11th inst, at High Laver Rectory, the Rev. J. T. W. Allen, incumbent of Knowle St. Giles, aged 34.—14th inst, at Buckerell Villa, Exeter, Mr. James Veitch, aged 70.

## Markets.

### COVENT GARDEN, May 16.

Vegetables of good quality continue abundant. Pears are nearly over. Of Apples, Newtown Pippin, Cockle Pippin, Court Pendu Plat, and Ashmead's Kernel may still be obtained. Cherries of foreign growth are fetching from 3s. to 6s. per box weighing about 2 lbs. each. Oranges are plentiful. Pine Apples and Grapes are sufficient for the demand. Potatoes as last week; large supplies of new ones are making their appearance from Cornwall and the Channel Isles. Cut flowers chiefly consist of Orchids, Pelargoniums, Cinerarias, Azaleas, Violets, Mignonette, Tulips, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 7s to 10s | Oranges, per box, 15s to 20s |
| Grapes, per lb., 8s to 14s | — per 100, 5s to 10s |
| Strawberries, p. oz., 6d to 1s | Nuts, small, p. bush, 14s to 18s |
| Pears, per doz., 18s to 24s | Almonds, do., 18s |
| Apples, per dozen., 9d to 1s 6d | Walnuts, do., 10s to 16s |
| Lemons, per 100, 5s to 9s | Kent Cobs, p. 100 lbs., 150s |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Celery, p. bundle, 1s 6d to 2s |
| Green Peas, per qt., 4s to 6s | French Beans per 100, 2s |
| Cauliflowers, each, 6d to 1s | Asparagus, per 100, 2s to 5s |
| Potatoes, York Regents, p. ton, 90s to 100s | Shallots, per lb., 6d to 8d |
| „ Flukes, do., 100s to 120s | Rhubarb, p. bundle, 2d to 4d |
| „ Rocks, do., 60s to 80s | Garlic, per lb., 6d to 8d |
| „ Cups, do., 75s. to 85s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 3d to 4d | Endive, p. score, 1s to 2s |
| Carrots, do., 3d to 6d | Horse Radish, p. bundle, 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 3d |
| Cucumbers, each, 1s to 2s | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch 2d to 4d |

### METROPOLITAN CATTLE MARKET.

Monday, May 11.

Although we have a larger supply of Beasts, the demand being good a fair clearance is effected, and late quotations are fully maintained. The supply of Sheep is larger, and trade is dull. Big fat Sheep are difficult of sale; but sizeable qualities are not lower. Trade is heavy also for Lambs and Calves at about late rates. From Germany and Holland there are 485 Beasts, 2680 Sheep, and 128 Calves; from Spain, 61 Beasts; from Scotland, 450; from Ireland, 42; and 2950 from Norfolk and Suffolk.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to 5 0 | Best Long-wools | .. — .. |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn | 4 4 to 4 6 |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds | .. .. — .. | Do. Shorn | 3 8 — 4 0 |
| Do. Shorn | 4 8 — 5 0 | Lambs | 6 0 — 7 0 |
| | | Calves | 3 4 — 5 0 |
| | | Pigs | 3 0 — 4 4 |

Beasts, 4320; Sheep & Lambs. 24,410; Calves, 149; Pigs, 370.

Thursday, May 14.

The supply of Beasts is smaller than for many Thursdays past. The average quality is also inferior, consequently choice qualities are in demand at rather higher rates. The number of Sheep is not quite so large as on Thursday last, yet the supply is good. Trade is dull at about Monday's quotations. There is more inquiry for choice Lambs, and small Calves are rather dearer. Our foreign supply consists of 188 Beasts, 810 Sheep, and 310 Calves; Milch Cows, 105.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 10 to 5 0 | Best Long-wools | .. — .. |
| Best Short-horns | 4 8 — 4 10 | Do. Shorn | 4 6 — 4 8 |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds | .. .. — .. | Do. Shorn | 3 8 — 4 0 |
| Do. Shorn | 4 10 — 5 0 | Lambs | 6 0 — 7 2 |
| | | Calves | 3 8 — 5 2 |
| | | Pigs | 3 4 — 4 6 |

Beasts, 915; Sheep & Lambs, 7880; Calves, 396; Pigs, 200.

### POTATOES, Southwark, Monday, May 11.

During the past week the arrivals coastwise, by rail, and from abroad have been more limited, but still equal to the demand. Best sorts sold better towards the end of the week. The following are this day's quotations:—Yorkshire Flukes, per ton, 110s. to 130s.; ditto Regents, 90s. to 100s.; ditto Seedlings, 85s. to 90s.; do. Rocks, 80s. to 90s.; Perth, Forfar, and Fife ditto., 60s. to 80s.; ditto Rocks, 60s. to 70s.; ditto Reds, 50s. to 60s.; French Whites, 50s. to 55s.; Belgian do., 45s. to 50s.

### NEWGATE.—May 15.

Best Fresh Butter .. .. 13*s.* per dozen lbs.
Second do. do. .. .. 11*s.* „
Pork, 4*s* 0*d.* to 4*s.* 8*d.* per 8 lbs.

### HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, May 14.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 72s | Clover, old | 90s to | 110s |
| Superior do. | 75 | 80 | New Clover | — | — |
| Inferior do. | 40 | 60 | Do. second cut | 80 | 105 |
| New do. | — | — | Straw | 30 | 36 |
| Rowen | 40 | 60 | | | |

Harvey & Easton.

Cumberland Market, Thursday, May 14.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 88s to | 95s | Inferior Clover | 84s to | 100s |
| Inferior do. | 65 | 78 | New do. | — | — |
| New do. | — | — | Straw | 36 | 40 |
| Superior Clover | 108 | 115 | | | |

Joshua Baker.

Whitechapel, Thursday, May 14.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 80s to | 84s | Prime Clover | 110s to | 118s |
| Inferior do. | 60 | 70 | Inferior do. | 100 | 108 |
| Prime New Hay | — | — | Prime 2d cut | 100 | 108 |
| Inferior | — | — | Inferior do. | — | — |
| Straw | 30 | 34 | New 2d cut | — | — |

### BRITISH WOOLS.—London, May 15.

Our market continues in a healthy state, the supply being unequal to the demand for all descriptions of long wool. Flannel and Blanket wool are the only exceptions, and they are in very limited supply, and their influence on our present trade unimportant.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets | 1 $8\frac{1}{2}$ to 1 9 | Leicest. Wethers | 1 7 to .. |
| Half-bred ditto | 1 $8\frac{1}{2}$ — 1 9 | Ditto Hoggs | 1 8 — .. |
| Down Ewes | 1 8 — 1 $8\frac{1}{2}$ | Combing Skins | 1 2 — 1 6 |
| Kent Fleeces | 1 7 — 1 $7\frac{1}{2}$ | Flannel Wool | 1 4 — 1 8 |
| | | Blanket ditto | .. .. — .. |

Colonial Wool Sales.—These sales progress with more spirit than they opened, and the Port Philip qualities that were the most depressed are recovering from their depression somewhat. Large quantities are being taken for exports, and the sales are expected to improve as they go on.

### HOPS.—Borough Market, Friday, May 15.

Messrs. Pattenden & Smith report a good steady trade doing in Hops, fine samples being very scarce, and higher prices demanded.

### MARK LANE.—Monday, May 11.

The supply of English Wheat to this morning's market was moderate, and taken pretty freely on the terms of this day se'nnight. The market was tolerably attended, and foreign Wheat met an improved inquiry at late rates. For Barley, Beans, and Peas there was a good demand at the extreme rates of this day se'nnight. The Oat trade was firm, and previous prices were well supported. Flour was neglected.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk..White | 46—56 | Red .... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — — Talavera .............. | 48—60 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 34—62 | | |
| Barley, grind. & dist., 23s to 30s..Chev. | 34—38 | Malting . | 31—34 |
| — Foreign..grinding and distilling | 23—27 | Malting . | 28—32 |
| Oats, Essex and Suffolk .............. | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .. | 21—26 |
| — Irish ..................Potato | — | Feed .. | — |
| — Foreign........Poland and Brew | 20—22 | Feed .. | 17—22 |
| Rye .......................... | 35—37 | Foreign . | — |
| Rye-meal, foreign.................. | — | | |
| Beans, Mazagan....30s to 31s....Tick | 31—32 | Harrow . | 31—32 |
| — Pigeon ......34s —38s..Winds. | — | Longpod | — |
| — Foreign ..................Small | 40—46 | Egyptian | 32—34 |
| Peas, white, Essex and Kent..Boilers | 35—37 | Suffolk . | 37—40 |
| — Maple ....42s to 43s ...... Grey | 36—37 | Foreign . | 30—38 |
| Maize..........................White | — | Yellow.. | — |
| Flour, best marks delivered..per sack | 42—47 | | |
| — 2d do ....................ditto | 32—40 | Country | 32—40 |
| — Foreign ..............per barrel | 23—30 | Per sack | 34—48 |

Friday, May 15.

The weather continued very fine with strong N.W. winds until the 11th, when the latter changed to S.W., and we have since had some heavy showers of rain, but not sufficient to be of much benefit to the Grass or Spring Corn. The Wheat trade during the past week has been inactive, and a decline of 1s. per qr. is pretty generally reported from the country. Former prices for Spring Corn were well supported, Oats and

Beans being quoted dearer in many markets, but the change of weather has made the trade dull here. The sale of Flour has been very heavy, with a downward tendency of prices. Since Friday last 18 vessels have been reported off the coast. The floating trade has been quiet during the last week; there is no disposition to buy Wheat; in Maize a moderate business has been done at last prices: Linseed and Rye are in good demand at an advance of about 1s. per qr. In Paris (May 13), rather higher prices were asked for Flour, which limits business, but at last week's rates there was a good inquiry. Wheat remained unaltered. The present stock of Flour is estimated at 16,900 cwts. The six marks for delivery this month are quoted equal to 40s. per 280 lbs. The arrivals of foreign Oats and Barley this week have been moderate, of all other grain very small. The market was not well attended, and on the business transacted in Wheat, which was limited for both English and foreign, Monday's prices were maintained. Barley, Beans, and Peas are unaltered in value. The Oat trade is quiet, and Monday's prices are barely supported.

ARRIVALS THIS WEEK.

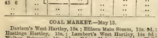
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 670 qrs. | — qrs. | 10 qrs. | 880 sks. |
| Irish .... | 550 | — | — " | — " |
| Foreign .. | 6270 | 2730 " | 24,996 " | 260 " / 5760 brls |

LIVERPOOL, May 12.—We had a very fair attendance of town and country millers and dealers at to-day's market, but they acted with great caution, and only a small retail business was done in either Wheat or Flour at about Friday's prices, or a shade under. Indian Corn was neglected, and the slight improvement made in the interval since Friday was lost. Oats and Oatmeal maintain the late advance with great firmness. Beans, Peas, and Barley remain as last quoted. The market closes inactive.

FRIDAY, May 15.—The market quiet; Wheat moderate demand at late rates. Flour dull; no change in prices. Indian Corn sells slowly at 29s. 9d. Egyptian Beans steady. Oats and Oatmeal unchanged.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| April 4.. | 45s 9d | 36s 6d | 21s 5d | 30s 4d | 36s 1d | 35s 11d |
| — 11.. | 45 6 | 36 8 | 21 5 | 31 9 | 35 11 | 35 2 |
| — 18.. | 45 6 | 35 4 | 21 6 | 30 5 | 36 6 | 36 2 |
| — 25.. | 45 8 | 35 3 | 21 11 | 30 6 | 36 11 | 35 3 |
| May 2.. | 45 9 | 34 6 | 21 2 | 29 8 | 37 3 | 35 6 |
| — 9.. | 46 2 | 34 4 | 22 1 | 30 11 | 37 6 | 34 0 |
| Agg. Aver. | 45 9 | 35 3 | 21 7 | 30 7 | 36 8 | 35 4 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




COAL MARKET.—May 13.

Davison's West Hartley, 15s.; Ellison Main Steam, 13s. 9d.; Hastings Hartley, 15s.; Lambert's West Hartley, 14s 9d.; Walker Primrose, 12s. 3d.; Eden Main, 14s. 6d.; Walls End Haswell, 16s. 6d.; Walls End Hetton, 16s. 6d.; Walls End Russel's Hetton, 15s. 8d.; Walls End Hartlepool, 16s. 3d.; Walls End Heugh Hall, 15s.; Walls End Kelloe, 15s. 9d.; Walls End South Hartlepool, 14s. 9d.; Walls End South Kelloe, 15s. 6d.; Walls End Trimdon Hartlepool, 16s. 3d.; Carway and Duffryn Malting, 19s. 6d.—34 ships at market.


A Rare Opportunity.

WANTED, a PARTNER, to join the Advertiser in the Nursery and Floral business. The Advertiser having commenced it 13 years ago, and having entered into a Greengrocery and Fruit business two years since, finds that he has more on hand than he can look after. The Nursery consists of from 6 to 7 acres, with plenty of Glass, and every convenience for carrying on the Nursery business; or any party wishing, might take the Nursery business altogether. There is no other Nursery of any importance within 10 miles.—For further particulars apply to EDWARD HALL, Fruiterer, Cross Square, Wakefield.

GARDENER.—J. R., 17, St. Helen's Place, in reply to many Applicants, has to state that (subject to character) the PLACE is FILLED UP.

WANTED, a respectable Man as GARDENER, to take charge of a small Garden and 20 Acres of Land; must Read and Write. If married, specify if Wife can look after Poultry, Dairy, and Cook.—Address, E., *Gardeners' Chronicle* Office, W.C., stating wages expected.

WANTED, as GARDENER, for a gentleman's Garden, where things are also grown for the Market, a Man thoroughly proficient in Forcing Fruit, Flowers, and Vegetables. Highly satisfactory references indispensable.—Apply GARDENER, 40, Upper Sackville Street, Dublin.

WANTED, a single-handed, unmarried GARDENER, in a gentleman's small establishment. Wages, 30l., with board and lodging. He must be a first-rate Forcer, with good references.—Apply, stating age and references, to T. M., Byfield, Daventry.

WANTED, a steady, honest, active and industrious YOUNG MAN to take charge of the Plants in the Greenhouse and Frames, under the direction of the Foreman. —Address, stating age, reference, wages, &c., A. Z., Post Office, Coventry.

WANTED, an active, industrious, clever Man, as GENERAL PROPAGATOR and PLANT GROWER. Application need not be made unless he thoroughly understands his business.—Wages, &c., to MARTIN & SON., Cottingham and Hull.

WANTED IMMEDIATELY, an intelligent, active YOUNG MAN of steady habits, who has some experience in, and a taste for Growing Specimen Plants for Exhibition. He will be required to Grow and Train Greenhouse Plants and keep a Conservatory in order under the direction of the Foreman. Wages 16s. per week, Lodging and Coals, with advancement when deserved.—Apply to Messrs. J. & C. LEE, Royal Vineyard Nursery, Hammersmith, London, W., enclosing Testimonials.

WANTED, in the Seed Trade, a HEAD SHOPMAN of experience.—One who has been accustomed to Travel would be preferred.—Apply by letter only, to W. W., *Gardeners' Chronicle* Office, W.C.

WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 28, married, no incumbrance; understands his profession in all its branches.—A. B., Post Office, Walham Green, W.

GARDENER (HEAD), age 32.—Messrs. GLENDINNING & SONS can with confidence recommend a respectable man, who has a thorough practical knowledge of his profession. —Chiswick Nursery, London, W.

GARDENER (HEAD).—Age 34, married, Scotch; thoroughly practical in the Cultivation of Early and Late Fruits. Good character. Wife could undertake Dairy or Laundry.—A. B., 25, Princes Road, Notting Hill, W.

GARDENER (HEAD).—Age 36, married, small family; perfectly understands his profession in all its branches. Good character and references.—Y. Z., Cannon Gardens, Mitcham, Surrey, S.

GARDENER (HEAD).—Age 28; thorough knowledge of all kinds of Forcing, Stove and Greenhouse Plants, Kitchen, Fruit, and Flower Gardening. Good character.—W. WINFIELD, Burleigh, Cheshunt, Herts.

GARDENER (HEAD).—Age 43, married; has a thorough practical knowledge of his profession in the various branches. No single-handed place accepted. Nine years' good character.—A. B., Mr. Wagstaff, Wright Street, Small Heath, near Birmingham.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, MAY* 23, 1863.

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## News of the Week.

IN the House of Lords on Friday the Earl of ELLENBOROUGH called attention to the Schleswig Holstein question, and expressed his hope that her Majesty's Government, in conjunction with France, would insist upon the designs of Germany being abandoned. Earl RUSSELL said that it appeared to him that Germany was wrong in her demands, and Denmark was wrong in not redeeming the engagements into which she had entered. He had proposed that Schleswig and Holstein should be divided and have a separate budget, and regretted that Denmark had not adopted his recommendation. The Earl of DERBY said that Denmark had made grave concessions to the German Diet for the sake of peace; while Germany had exerted her influence over Holstein to prevent the conclusion of any arrangement. He looked upon the independence of Denmark as a matter of vital interest to this country, and he hesitated not to declare that there was no alternative which he was not prepared to accept in supporting that Power, which would be by no means a contemptible ally of England in the event of a European war against the aggressions of the German Powers. The Corrupt Practices at Elections Bill, the Augmentation of Benefices Bill, and the Elections during Recess Bill, were read a third time and passed. On Monday the Marquis of CLANRICARDE moved for copies of any reports from our consular or diplomatic agents in North America of the decisions of proceedings of the prize courts of the Federal States. He complained of the continued seizures of British vessels by the Federal cruisers, and contended that it was the duty of her Majesty's Government to take more energetic and decisive measures to prevent them. Earl RUSSELL in reply defended the conduct of Mr. SEWARD, and said that the Federal Government had uniformly expressed their desire to respect the law of nations. Every case of seizure had been referred to the law officers of the Crown, who had reported that there was no rational ground for objection to the decisions of the Federal prize courts. The Earl of DERBY concurred in the opinion that every allowance should be made for the American Government, and that their prize courts should not hastily be accused of acting contrary to international law. After a few words from Lord CRANWORTH, the motion was withdrawn. The Marriages (Ireland) Bill passed through Committee. On Tuesday Lord EBURY moved the second reading of the Acts of Uniformity Amendment Bill, the object of which was to repeal the clause imposing on the clergy of the Church of England the necessity of subscribing their assent to the 39 Articles and everything contained in the Book of Common Prayer. The Archbishop of CANTERBURY moved that the Bill be read a second time that day six months. The Bill was supported by the Bishop of LONDON, the Bishop of ST. DAVID's, the Bishop of LLANDAFF, and Earl GREY, and opposed by Lord LYTTELTON, the Bishop of OXFORD, and the Bishop of LICHFIELD. On a division the amendment was carried by a majority of 40, the numbers being 90 to 50. The Bill was therefore lost. The Redemption of Rents (Ireland) Bill passed through committee *pro formâ.* The Stock Certificates to Bearer Bill and the Customs and Inland Revenue Bill were read a second time. On Thursday the Stock Certificates to Bearer Bill and the Customs and Inland Revenue Bill passed through Committee. Their Lordships then adjourned to Monday, the 1st of June.

In the Commons on Friday Mr. LIDDELL called attention to events in China, and moved for papers relating to them, with the view of obtaining an expression of opinion by the House upon the course of policy pursued by her Majesty's Government in that country. Mr. BAILLIE supported the motion. No Minister having risen to continue the debate, the SPEAKER put the question, which was negatived in a very thin House without a division. Mr. COBDEN, Mr. H. D. SEYMOUR, Lord NAAS, and other members, complained of the conduct of the Government, and Mr. LAYARD explained that he was reserving his speech in order to answer other questions of which notice had been given. The House then went into Committee of Supply, when the CHAIRMAN was ordered to report progress. The London Coal and Wine Duties Bill and the Sale of Mill Sites, &c., Bill were read a third time and passed. On Monday, on the motion for the third reading of the Prison Ministers' Bill, Mr. BLACK moved

as an amendment that the Bill be read a third time that day six months. On a division, the amendment was negatived by 196 to 167. The Bill was then read a third time and passed. The House then went into Committee of Supply, when Mr. PEEL moved a vote on account of the packet service, including the amount due to Mr. CHURCHWARD for the conveyance of the mails from Dover to Calais and Ostend up to the 20th June next, the resolution being so worded as to put an end at that date to the contract entered into by Lord DERBY's Government with Mr. CHURCHWARD in 1859. Sir S. NORTHCOTE moved, as an amendment, that all the words in the resolution relating to Mr. CHURCHWARD's contract be struck out. After a long discussion the amendment was negatived on a division by 176 to 168. The resolution was then agreed to. The Thames Embankment (North side) Bill and the Vaccination (Ireland) Bill were read a third time. On Tuesday Mr. DILLWYN moved for a Select Committee to inquire how far the present distribution of endowments for religious purposes in Ireland may be so amended as to conduce to the welfare of all classes of HER MAJESTY's Irish subjects. Mr. H. SEYMOUR moved, as an amendment, that an address be presented to HER MAJESTY to appoint a Royal Commission to inquire into the territorial arrangements of existing benefices, the circumstances of the different parishes, and other matters, with a view of readjusting the incomes to the population and to the amount of ministerial work. Mr. NEWDEGATE seconded the amendment. Mr. WHITESIDE opposed both the motion and the amendment. The debate was ultimately adjourned to the 28th inst. Sir R. PEEL obtained leave to bring in a Bill to amend the procedure in the Civil Bill Courts in Ireland; the LORD-ADVOCATE obtained leave to bring in a Bill to make provision in regard to Vaccination in Scotland; and LORD PALMERSTON obtained leave to bring in a Bill to carry into effect an additional article to the treaty of the 7th April, 1862, between HER MAJESTY and the United States, for the suppression of the Slave Trade. The House then adjourned to the 28th inst.

From the United States we have the important news that the advance of the Federal army under General HOOKER has been checked by a counter movement on the part of General LEE. On the 2d inst., the right wing of the Federal army was attacked by General STONEWALL JACKSON, who had made a flank movement from Fredericksburg for the purpose, and was only saved from destruction by the advance of General HOOKER's own division. On the following day the battle was renewed, and after a desperate struggle of seven hours and a half, the Federals again retired. On the 4th the Confederate General LONGSTREET attacked General SEDGWICK's column which had taken possession of the heights of Fredericksburg, and compelled it to recross the Rappahannock. On the 5th General HOOKER followed the example of General SEDGWICK, and recrossed the Rappahannock with his whole force. The losses on both sides have been enormous. The Confederate General PAXTON is among the killed, and General STONEWALL JACKSON and General HILL are severely wounded.

A despatch from Berlin states that the King of PRUSSIA has personally interposed in the quarrel between his Ministers and the Chamber of Deputies. In the sitting of Thursday Count VON BISMARK read a Royal Message, in which his MAJESTY characterises the conduct of the Chamber as unconstitutional, and advises them to terminate such a state of things in order that the business of the country may be resumed. The Chamber referred the Royal Message to the committee on the Address.

## Home News.

THE QUEEN IN SCOTLAND.—The Queen, accompanied by the Princesses Helena, Louisa, and Beatrice, Prince Alfred, and Prince Leopold, arrived at Balmoral on Saturday afternoon at four o'clock, from Windsor Castle. The Duke of Argyll arrived at the Castle as the Minister in attendance upon her Majesty. On Monday afternoon the Queen drove out, accompanied by Princess Helena. On Tuesday the Queen walked and drove in the grounds, accompanied by Princess Helena. Princess Louisa went out riding.

THE PRINCE AND PRINCESS OF WALES.—On Friday morning the Prince of Wales presided at a meeting of the Council of his Royal Highness held at the office of the Duchy of Cornwall. The Prince and Princess afterwards went to Windsor, and took leave of the Queen on her departure for Scotland. In the afternoon their Royal Highnesses and the Prince and Princess Louis of Hesse visited the Duchess of Inverness at her residence at Kensington Palace. The Duke of Cambridge visited the Prince and Princess Louis of Hesse at Marlborough House. In the evening the Prince of Wales had a dinner party. On Saturday morning the Princess of Wales and the Princess Louis of Hesse took a drive in an open carriage. In the afternoon the Princess of Wales held a Drawing Room on behalf of her Majesty. The Court was attended by about 2000 of the nobility and gentry, and the presentations exceeded 500, the ceremony occupying about 4 hours. In the evening the Prince and Princess of Wales and the Prince and Princess Louis of Hesse honoured the performance at the Lyceum Theatre with their presence. On Sunday morning the Prince and Princess of Wales and the Prince and Princess Louis of Hesse attended Divine service in the Chapel Royal, St. James's. The sermon was preached by the Bishop of London. In the afternoon the Prince and Princess of Wales and the Prince and Princess Louis of Hesse visited the White Lodge in Richmond Park. On Monday morning their Royal Highnesses, accompanied by the Prince and Princess Louis of Hesse and Prince Arthur, visited the Zoological Gardens. Captain Sinclair had an interview with the Princess of Wales, and presented a carpet worked by the Duchess of Gordon and some members of her family. The Duchess of Beaufort and the Mayoress of Bristol had an interview with the Princess, and presented a diamond and sapphire Holbein to her Royal Highness from the ladies of Bristol. In the evening the Prince and Princess and the Prince and Princess Louis of Hesse honoured the Philharmonic Concert with their presence. On Tuesday morning the Prince and Princess of Wales, and Prince and Princess Louis of Hesse visited the Polytechnic Institution and heard Professor Pepper's ghost lecture. The Duke de Nemours and the Princess Marguerite visited the Princess Louis of Hesse. Prince Edward of Saxe-Weimar visited the Prince of Wales. In the evening a State reception, followed by a concert and supper, was given by command of the Queen at St. James's Palace, in honour of the Prince and Princess of Wales, the invitations to which were issued by the Lord Chamberlain. At night the Prince of Wales and Prince Louis of Hesse visited *The Times*' Printing Office. On Wednesday the Prince of Wales and Prince Louis of Hesse went to Epsom races. The Princess of Wales and the Princess Louis of Hesse visited Mr. and Mrs. Thornycroft's studio in Wilton Place, to inspect an equestrian statue of the Prince Consort. Their Royal Highnesses also honoured Mr. Noble with a visit at his studio in Bruton Street. In the evening the Prince and Princess of Wales and Prince and Princess Louis of Hesse dined with the Duke of Cambridge at Gloucester House. On Thursday morning the Prince of Wales presided at a meeting of the Council of his Royal Highness, held at the office of the Duchy of Cornwall. The Prince and Princess, and Prince and Princess Louis of Hesse, visited the Royal Institution. The Princess of Wales and the Princess Louis of Hesse visited Mr. Theed's studio, and inspected his historical group of the Queen and Prince Consort for Windsor Castle. Prince Louis of Hesse visited Mr. Frith's studio. In the afternoon the Prince of Wales and Prince Louis of Hesse rode on horseback. The Princess of Wales and the Princess Louis of Hesse took a drive in an open carriage. The Prince and Princess de Joinville visited the Princess of Wales at Marlborough House. In the evening the Prince and Princess of Wales and the Prince and Princess Louis of Hesse honoured the Royal Italian Opera with their presence. The Prince and Princess will dine with the Duchess of Inverness at Kensington Palace on Monday next, and with the Duke and Duchess of Northumberland on Friday, June 12. On Tuesday, June 16, their Royal Highnesses will leave town for Oxford. On the 24th of that month the Prince will preside at the inauguration of the British Orphan Asylum in their new building at Slough. In July his Royal Highness will attend the meeting of the Royal Agricultural Society at Worcester, and will take up his residence at Hartlebury Castle, the seat of the Bishop of the diocess, during his stay.

THE PRINCE AND PRINCESS LOUIS OF HESSE, with the infant Princess, will embark this morning at Gravesend in the royal yacht Victoria and Albert on their return to Germany.

COURT ARRANGEMENTS.—Notice has been issued from the Lord Chamberlain's office that the Prince of Wales will hold a Levee at St. James's Palace, on behalf of the Queen, on Monday, the 8th of June; and that the Princess of Wales will hold a Drawing Room at St. James's Palace, on behalf of her Majesty, on Saturday, the 20th of June, the anniversary of her Majesty's accession.

PARLIAMENTARY MOVEMENTS.—The death of Mr. Western Wood has caused a vacancy in the representation of the City of London. Mr. Tottenham having retired from the representation of New Ross, his eldest son, Colonel Tottenham, has offered himself to the electors in the Conservative interest. It is rumoured that he will be opposed by Mr. M'Kenna, manager of the local Bank.

THE NAVY.—The Queen has directed letters patent to be passed under the Great Seal, granting the office of Vice-Admiral of the United Kingdom to Admiral Sir Thomas John Cochrane, G.C.B.; and the office of Rear-Admiral of the United Kingdom to Admiral Sir George Francis Seymour, G.C.B.

CONVOCATION.—On Tuesday morning both Houses of Convocation assembled at Westminster for the despatch of business, and as it was known that Bishop Colenso's book was to be discussed, on a report to be presented from the Lower House, there was an unusually large attendance of members. In the Upper House, after addresses to the Queen and the Prince and Princess of Wales had been adopted, a deputation from the Lower House, consisting of the Deans of Bristol, Canterbury, and Norwich, Archdeacon Bickersteth, Canon Wordsworth, and the Rev. Mr. Vincent, brought up a report from the committee appointed last session to examine Bishop Colenso's work on the Pentateuch. The report stated that the committee had examined the book generally concerning its contents and substance, its reasonings and conclusions. They found that the substance of the book was a series of arguments issuing in a denial that the Pentateuch was written by Moses, and a denial that the Pentateuch and the Book of Joshua were historically true. They found that one of the propositions it contained was that the Bible itself was not God's word. The committee observed that this proposition was, both in its terms and its meaning, as used in the book, contrary to the faith of the universal Church, which had always taught that Holy Scripture was given by inspiration of the Holy Ghost, and in particular to the Articles and the formularies of the United Church of England and Ireland, in which Articles and formularies the Holy Scriptures were constantly designated as the Word of God. A second proposition contained in the book was, that not Moses but Samuel and other persons of a later age composed the Pentateuch. Upon this the committee observed that Moses was spoken of by our blessed Lord as the writer of the Pentateuch. Among the "chief portions of the story," the historical truth of which was denied, were "The Deluge"—"The giving of the law of Moses"—"The institution of the Passover"—"The Exodus." They considered that the book involved errors of the gravest and most dangerous character, subversive of faith in the Bible as the Word of God, and they therefore submitted a resolution, adopted by the Lower House, praying their lordships to take such action upon the matter as they might think fit. The Archbishop of Canterbury having read the resolution, the Bishop of Salisbury moved that the report be read. The Bishop of London objected to the motion, on the ground that some of their body might be called upon to sit as judges on the question in the ecclesiastical courts. He moved as an amendment that no further steps be taken in the matter until the decision of the Bishop of Cape Town became known. The Archbishop of Canterbury, the Bishops of Oxford, Winchester, Lincoln, and Lichfield supported the motion. The Bishop of St. David's supported the amendment. After a long discussion the Bishop of London withdrew his amendment at the present stage, and the motion of the Bishop of Salisbury was agreed to. The Bishop of London brought up a report on foreign chaplaincies, recommending the appointment of a bishop, so soon as the funds will allow, for the supervision of foreign chaplains, and the appointment of missionary clergy for the instruction of foreigners in London. The Bishop of Oxford suggested that a fee should be levied upon all foreign chaplaincies, and so the necessary funds for the maintenance of the bishop might be obtained. Several matters were referred back to the committee for consideration. In the Lower House, after the report of the Committee on Bishop Colenso's book had been received and sent to the Upper House, the report on foreign chaplaincies was read and agreed to. A discussion took place on church music and other subjects. On Wednesday in the Upper House, the Bishop of Winchester moved that the following resolutions be sent to the Lower House as an answer to the report of their committe e on Bishop Colenso's work:—1st. That the said book does, in our judgment, involve errors of the gravest and most dangerous character, subversive of faith in the Bible as the Word of God. 2d. That this House, having reason to believe that the book in question will shortly be submitted to the judgment of an ecclesiastical court, declines to take further action in this matter, but that we affectionately warn those who may not be able to read the published and convincing answers to the work which have already appeared, of its dangereus character. 3. That these resolutions be communicated to the Lower House. The Bishop of Oxford seconded the motion. The Bishop of St. David's said he could not concur in the first resolution, because it assigned no grounds for the condemnation. The Bishop of Salisbury agreed with the first resolution, but could not agree to the second, because he considered further action necessary, quite independent of anything that might be done by

the Metropolitan of South Africa. The first resolution was then carried—the Bishop of St. David's being the only prelate holding up his hand against it. The second resolution was also carried—the Bishop of Salisbury being the only dissentient. The third resolution was carried unanimously. The Bishop of Oxford presented a petition, numerously signed by clergy and laity of the diocese of Exeter, praying that a bishopric might be erected for the county of Cornwall. The discussion of the petition was adjourned to a future day. In the Lower House the Rev. Dr. M'Caul moved that it is inexpedient, especially at the present moment, to alter the terms of subscription now recognised by the law for the protection of the doctrine and discipline of the Church, and that this resolution be respectfully communicated to the Upper House. Archdeacon Denison seconded the motion. The Dean of Canterbury moved, and Archdeacon Sandford seconded the adjournment of the debate. After some discussion the further consideration of the question was adjourned to the next session. The Rev. A. Oxendon moved the appointment of a joint committee to consider the means of providing a special and distinct training of candidates for holy orders. Archdeacon Harris seconded the motion. After some discussion the motion was agreed to. On Thursday the Upper House did not meet. In the Lower House Dr. Williams, Principal of Jesus College, Oxford, presented a *gravamen* against the Bishop of Bangor's Bill now before Parliament, giving power to introduce the Church service in the English language into Welsh parishes, even where the incumbent objected. After a long discussion, it was agreed to address the Upper House on the subject, suggesting that further time should be allowed for the consideration of the Bill and for consultation with the Welsh clergy. A resolution was then adopted to the effect that if the Upper House should think fit to adopt the course recommended by the committee as to the best method of securing the united action of the provinces of Canterbury and York, the Lower House, saving its rights and privileges, would gladly welcome the presence of the Lower House of the Convocation of York.

## Foreign.

France.—M. Baroche has been seriously ill for some days, and continues in a state of great debility. No symptoms however have appeared giving cause to apprehend an aggravation of his malady. Madame Lamartine, the wife of the poet, is dead, and M. Lamartine himself is so seriously ill that his recovery is considered hopeless. The *Presse* of Tuesday contains an address from the five Opposition deputies—Darimon, Favre, Ollivier, Picard, and Dr. Henon—to the electors of Paris, extending to seven columns, which thus concludes:—

"If you think there are others better qualified to take par in political struggles, then prefer them. All we ask in such case is that you will not completely forget the Five who did not despair when nearly all political men held aloof. Recollect those who would not allow that history should have to say that Liberal France had ever abandoned herself."

The recent accounts from the French army in Mexico have caused a great deal of uneasiness in Paris, and it is said that reinforcements of 8000 men, with a battery of artillery, and another general of division, are to be sent out forthwith. The Duke of Chartres, second son of the late Duke of Orleans, is about to marry his cousin, the daughter of the Prince de Joinville. To legalise the marriage in France it is necessary that notice shall be posted up in the Mairie of the former domicile of both. Accordingly, the following notice has been exhibited at the Mairie of the Louvre:—

"M. Ferdinand d'Orleans, Duke de Chartres, at present domiciled in England, in the Palace of Claremont, and at France in the Palace of the Tuileries, and Madlle. Amélie, Princess of Orleans, aged 18, also in the Palace of Claremont, and in France in the Palace of the Tuileries.

The marriage will be celebrated on the 11th of next month. The *Débats* of Tuesday says:—

"Queen Victoria has just sent to M. Guizot a magnificent copy of the "Speeches and Addresses of his Royal Highness the Prince Consort," to the French translation of which work he had written a preface. This volume is bound in white morocco, and upon the fly-leaf the following words are written in the Queen's own hand:—'To M. Guizot, in remembrance of the best of men, and with the expression of gratitude for the sincere homage which he has rendered to him, from his unfortunate widow, Victoria R.' Can anything be more touching and more noble than this simplicity in grandeur and in grief?"

Colonel Colson, who had been sent by the Government to the Crimea to examine into the state of the French cemetery at Sebastopol, has returned to France. He reports that he found the place in the most deplorable state; the tombs had been profaned and the burying ground treated in the most disgraceful manner. It has, therefore, been resolved that all the remains of the French soldiers shall be collected together into one spot, over which a commemorative monument will be erected. The whole will be surrounded by a strong wall, and a person placed in charge of it. The town of Sebastopol is not, it is said, in a better condition than the French cemetery; everything is in ruins, and scarcely any houses have been rebuilt.

Spain.—The sentence of imprisonment and hard labour at the galleys against the Granada Protestants has been commuted into the same number of years' banishment. The European deputation is at Madrid. It is said that the Ministers intend to appoint new prefects for the provinces.

Portugal.—The King has returned from Cintra, and is now residing at the Ajuda. The Duke de Brabant has arrived in Lisbon. He was received at the Royal Arsenal, where he disembarked, by the ministers and other high functionaries. A portion of the Crown diamonds are about to be sold to realise the value of about 60,000*l*. Several foreign dealers have appeared as bidders, but it is probable that the sale will be made in London. The premiums awarded to the Portuguese exhibitors of the London Exhibition have been presented. The King presided at the ceremony.

Denmark.—Accounts from Copenhagen state that at a sitting of the Privy Council, on the 16th inst., it was resolved that the answer of the Royal family to the Greek deputation should be postponed until the 1st of June. The deputation had intended to leave Copenhagen on the 25th, without waiting for a definite reply, but out of respect for the Danish Government and for the Ministers of the protecting Powers, they have now delayed their departure. It is considered at Copenhagen that the affair is terminated, and that it is only a question of time.

Sweden.—Letters from Stockholm, addressed to the Czartoryski party at Paris, state that a large transport of arms has left Stockholm, to be conveyed to the Baltic coast. The transport consists of 12,000 muskets, 6000 Minié rifles, and 50 cannons, the carriages of which are already in Poland.

Norway.—Prince Czartoryski has arrived at Christiania, where he met with a most enthusiastic reception. Manifestations in favour of Poland have been made in the theatre. The President of the Chamber has expressed the universal sympathies of the Norwegians in favour of Poland.

Finland.—The Senate of the Academy and the Municipality of Helsingfors have refused to sign the address of devotion to the Emperor of Russia relative to the Polish insurrection. The inhabitants of Abo, the second capital of Finland, have also refused to sign the address which has been recommended to all the Russian provinces by the military Governors.

Saxony.—The Princess Elizabeth, eldest daughter of Prince George of Saxony, died at Dresden on Monday evening.

Prussia.—In the sitting of the Chamber of Deputies on Friday, the proposition of the committee that the House should not consent to the demand expressed in the Ministerial letter was agreed to by 295 to 20 votes. The President, Herr Grabow, suggested that they should give the Ministers time until Monday, and then, communicating the resolution of the Committee, request their attendance at the sittings of the Chamber. Herr Forkenbeck moved that a distinct summons should be addressed to the Ministers to be present at the sittings, in accordance with article 60 of the Constitution. The latter motion was carried by 167 to 138 votes. On the re-assembling of the Chamber on Monday the Ministers did not make their appearance, but sent a letter to the President relative to the recent resolution, in which they said:—

"The Ministry have not asked that the President should relinquish his right of interrupting their speeches, but only that he should declare that he has no disciplinary privilege, especially that of calling the Ministers to order. The Ministry repeat that unless such a declaration be made they will not be present at the sittings of the Chamber."

Herr Hoverbeck then moved that the Chamber sees no reason to make any addition to its resolution of the 15th inst. This motion was passed by a large majority. The Chamber further resolved, on the motion of Herr Forkenbeck, that the question of the reorganisation of the army should be removed from the order of the day until the Ministers, in fulfilment of their constitutional duties, made their appearance in the House. It was also resolved that the debate on the Address to the Crown should be placed on the order of the day for the next sitting. On Tuesday the committee appointed to draw up this Address decided upon its form, and incorporated the draughts of Herren Virchow and Gneist, with the addition of the following passage:—

"The Ministers have absented themselves from the debates of the House upon the most trivial pretext, and have made their appearance dependent upon a condition calculated only to raise a fresh point of dispute upon constitutional right."

On Tuesday and Wednesday the military Ministerial representatives from the department of the Marine were present at the meetings of the Committee on the Budget. The appearance of these gentlemen caused great surprise among the members of the Committee. At the sitting of the Upper House on Wednesday a vote of thanks, as proposed by the Committee, was passed to the King for the attitude taken up by the Government in the Polish question. The Ministers Von Bismark Schönhausen and Von Roon were present, but did not speak. Attacks of the most violent character upon the Chamber of Deputies took place during the debate. On Thursday the Minister von Bismark made his appearance at the sitting of the Chamber of Deputies, and read a Royal Message, in which the King said:—

"The House has indirectly approved the conduct of its President, which was in violation of the constitutional rights of the Ministry. Such a position for the Ministers does not correspond with the dignity of the Crown. The King can only advise the Chamber to terminate such a state of things, in order that the business of the House may be continued.

Herr von Bismark then left the House. Herr Virchow moved that the Royal Message be referred to the Committee on the Address, as the Ministers had misinformed the King. Herr von Sybel and Count Schwerin seconded the motion, which was unanimously adopted.

Italy.—A Royal decree was issued on Wednesday, proroguing the Italian Parliament. The new session will be opened by the King on the 25th inst. In the sitting of the Chamber of Deputies on Thursday, Signor Lacaita declared that Lord Henry Lennox visited the Neapolitan prisons accompanied by M. Dassi, who was not a deputy, though he had been elected, but not admitted into the Italian Parliament. In the sitting of the Senate on Friday, a debate took place on the questions put to the Ministry by Signor Deforesta respecting the state of the Southern Provinces. Signor Peruzzi expressed his thanks to the statesmen who had defended the cause of Italy in the English Parliament. He refuted the assertions relative to the press, the prisons, and public safety made by those members of the English Parliament hostile to Italy. He stated that economic improvements and judiciary and administrative reforms had been realised within the last two years, and defended the policy of the French Government against the accusation of duplicity which had been brought against it by a senator. "The occupation of Rome," he said, "is a fact no less painful for the Government of the Emperor than for that of King Victor Emmanuel; but it is impossible to overlook the difficulties of the Emperor's position." He then demonstrated the complicity of the reactionary party in all the countries of Europe with Rome. He further stated that brigandage had sensibly declined, and that the support of the country was secured to the Government, "which," he said, "employs its efforts in order that the French flag should no longer protect the conspiracies going on in Rome." In reference to the cases of Mr. Bishop and Count Christen, Signor Peruzzi proved the legality of their condemnation. The Italian Government could not make any difference between foreigners and Italians. This speech produced a great sensation. The Minister of Justice then refuted the assertions which had been made in the British Parliament relative to the administration of justice. Signor Deforesta declared himself satisfied with the explanations of the Ministry. The Italian Government having learned that a Bourbon expedition, under the command of officers sent from Rome, was organising on the Albanian coast, for the purpose of conducting a number of Albanian brigands into the province of Puglia, despatched several men-of-war to cruise off the Albanian coast, and requested the Porte to arrest the conspirators. A domiciliary visit was accordingly made at the house of the Austrian Consul at Valona, when a quantity of arms and ammunition was discovered and seized. Three persons at the Austrian Consulate were arrested. The Chamber has resolved to appoint a parliamentary committee for a general inquiry into the military and commercial navy of the kingdom. The Pope returned to Rome on Wednesday evening. An immense crowd was present at his arrival. Bengal lights were displayed on the road taken by his Holiness, who was greatly cheered. It is said that the Pope is preparing a memorandum on the sufferings and condition of the Catholic Church in Poland.

Russia.—A decree of the Minister of War has been issued, ordering the formation of new regiments for the occupation of the fortresses of Finland, and the placing of eight battalions on a war footing in that province. Private letters state that the Russian Government has ordered the officers and civil functionaries in Poland to send their wives, without delay, into the interior of Russia.

Poland.—The Warsaw Credit Bank has declined to afford the Government a loan of a million roubles. The Provisional Government in Volhynia has issued proclamations declaring the peasants free, and assuring to them religious liberty and the partition of all landed property. This proclamation has produced an excellent effect. The Revolutionary Committee for Lithuania has published a reply to the Imperial ukase granting an amnesty, which says:—

"As the object of the insurrection is not to obtain concessions from the Emperor, but to establish the independence of the whole of Poland within the frontiers which existed before its partition, the national struggle shall continue until the last Muscovite soldier has been driven from these Polish provinces, or till the last Polish army has ceased to fight."

The Lithuanian Committee has also sent to the Provisional Government a proclamation, which they say has been addressed by the Russian Commanders to their troops, ordering the latter to exterminate all Catholics, especially the noblemen, and promising the partition of all landed property among them, as well as the blessing of Heaven and the thanks of the Emperor. The Warsaw National Committee issued a proclamation on the 5th inst. prohibiting any change in the present state of the accounts of the National Treasury. It also ordains that no private person or official shall be connected with any financial operations, or participate in any way in the public works, and declares null and void all future financial acts and ordinances of the Russian Government. It further warns foreign capitalists against acting in violation of the above regulations. Another ordinance of the National Committee forbids the Paris banker, M. Alexandre Laski, from accepting the Presidency of the Warsaw Bank. A proclamation has also

been issued forbidding any person to leave Poland without a passport from the National Government. The insurrection has broken out in Machnowska, in the Government of Kiew; 1000 students from the University of the province have joined it, and an engagement has taken place between Berdyczow and Machnowska, which resulted in favour of the insurgents. Near Kiew however the insurgents have suffered a defeat. The insurrection has also broken out in Little Russia, on the further side of the Dnieper, at Charkow, Pultawa, and Czernigow, four districts of Podolia, and in the Polish provinces now incorporated with Russia proper. Near Charkow 1000 insurgents are posted, under Russian officers, and above 1000 have occupied Zwiahel, in Volhynia. The peasants have not yet joined the movement. Three insurgent corps have made their appearance in the districts of Wladimir and Luck. The Russians are fortifying Luck. The whole of the Ukraine is in a state of insurrection, with the exception of the districts of Czerkask and Czechryn, where the nobility are favourable to Russia. A provisional insurgent chief has been proclaimed in the province, and an insurrectionary proclamation has been issued recognising the rights of the Russian nationalities. Between the 8th and 10th inst. the insurrection broke out at five different points of Volhynia. An engagement took place on Wednesday between the Russians and the insurgents near Lachow. Oninski has had a successful engagement with the Russians in the environs of Zarki, while Dombrowski was successful near Kleszewo. The *Czas* publishes a memorandum of M. de Pogodine, pointing out the means for the extirpation of the Poles in the provinces incorporated with Russia. The Prussian Ambassador at Paris has written to the Minister for Foreign Affairs, contradicting the statement of the *Czas*, that the Prussian Commandant at Inowraclaw had arranged with a Russian General the movements of troops upon the frontiers; but the *Czas* reiterates the charge.

Greece.—The Budget has been voted. Its principal features are the reduction of the ground rent to 5 per cent., and the raising of the tax upon house property. A complete change of Ministry has taken place. The National Assembly has voted an Address, conveying its thanks to the three Protecting Powers for the benefits they have hitherto conferred upon Greece.

Turkey.—M. de Moustier, the French Ambassador, having invited the Porte to co-operate with the other Powers in diplomatic action at St. Petersburg in favour of Poland, the Porte refused, on the ground that Turkey was not a party to the Treaties of 1815. In consequence however of fresh remonstrances, the Porte assented to the proposal of France, and despatched a note to St. Petersburg in favour of Poland in the same spirit as those sent by England, France, and Austria.

Egypt.—Prince Napoleon has presented his Highness Ismail Pasha, the Viceroy of Egypt, with the Grand Cordon of the Legion of Honour.

India.—The financial statement of the Indian Chancellor of Exchequer is expected to be made on the 29th inst. The Indian navy ceased to exist as an effective service on the 30th of April. The rebel Rao Sahib, apprehended by Captain Nuttall, and tried and convicted at Sholapore, has been sentenced to penal servitude for life. There was a rumour in Cabul that Dost Mahomed was dead, but no confirmation of the report had been received.

China.—A despatch from Shanghai of April 9 says that Pekin is quiet. The rebel bands have been driven away from the vicinity of the settlement at Tien-tsin. Reinforcements are supposed to have been sent to the relief of Fooshan. Japan is reported quiet.

Cochin China.—Official despatches to the 31st of March state that public order was re-established in Cochin China, and that Admiral Bonnard and a Spanish Plenipotentiary were to leave for Hué on the 3d of April, to exchange the ratifications of the Treaty of Peace of 1862. All the Spanish troops were to re-embark on the 2d of April on their return to Manilla.

Australia.—Accounts from the Australian colonies state that they have expressed a firm determination to resist the revival of transportation to their shores. The news from the gold-fields is good, and the state of trade generally was sound and progressive.

United States.—The army of the Potomac, under General Hooker, crossed the Rappahannock on the 27th ult., in two divisions. The smaller division crossed below Fredericksburg, in front of the scene of General Burnside's disaster; the larger, commanded by Gen. Hooker in person, crossed about 15 miles above the city, at a place called Kelly's Ford. The Confederates were prepared to receive them at the former spot, but are said to have been taken by surprise by the latter movement. Nothing, however, of any importance occurred until the afternoon of Saturday, the 2d inst, when the Confederate General Lee sent forward General "Stonewall" Jackson, by a flank movement to make a vigorous attack upon the right wing of the Federals near Chancellorsville. General Schurz's division, composed principally of Germans, was the first to feel the shock, and immediately gave way. No efforts of the officers to rally their men were of any avail, and the retreat became a rout; whole regiments threw down their arms and fled towards head-quarters. The panic soon extended to General Deven's division, which also broke and ran. Two brigades of General Howard's division alone retired in order, to the support of whom General Hooker sent his own division, commanded by General Berry. The united and desperate exertions of these troops, after a most sanguinary struggle, succeeded in checking the Confederate advance, and prevented General Jackson from completing his victory. At daybreak on Sunday the 3d, the Confederates again advanced, this time being met upon the extreme right by General Berry. The battle raged for three hours and a half, during which General Berry was killed. The Federals then fell back, the Confederates pursuing. The fighting continued four hours longer, when, the Federals having succeeded in getting the Confederates in their front, the conflict was suspended. The carnage on both sides is described as being awful, but no numbers are given. The Federal dead in the battle were left unburied, and the wounded without attention. On the same day the left of the Federal army captured the heights in the rear of Fredericksburg, and the Confederate forces at that point joined General Lee at Chancellorsville. General Hooker was busy throughout the 3d and 4th intrenching his line. The 4th was a quiet day until late in the afternoon, when General Hooker advanced a division of the Fifth Corps for the purpose of feeling for the enemy and ascertaining his position. The column moved out in line of battle across the fields and into the woods, in the direction of Fredericksburg. Soon after the skirmishers had entered the woods they met the skirmishers of the Confederates and drove them back. The main body then pushed on, and soon found a large body of Confederates drawn up in a formidable double line of battle, on a slope facing the main position. A brisk action ensued, lasting half an hour, during which time the musketry fire was nearly equal to that of the previous Sunday. The Federal batteries also opened on the ascertained position of the Confederates, who were soon compelled to fall back, somewhat in disorder. The Federal troops then returned to the main line and rested. The news from General Sedgwick's detachment was less encouraging. It appears that after the struggle of the 3d General Lee detached a large body of his main army to go down and meet General Sedgwick, and that at the same time General Longstreet was rapidly getting into his rear. Early on the morning of the 4th large masses of Confederates appeared on the heights to the east of Fredericksburg, which had been partially evacuated by the Federals in order to strengthen Sedgwick's column. It is understood that this force was Longstreet's column just arrived from Suffolk. General Sedgwick was hotly engaged throughout the entire day, the Confederates pressing him at all points, and cutting him up badly. He at length saw that it was impossible he could hold his position, and therefore determined to extricate himself by recrossing the river. This hazardous expedient was attempted and successfully carried out between midnight and 2 o'clock on the morning of the 5th. The Confederates held positions with their artillery raking the bridges over which Sedgwick was obliged to move his men, necessarily creating some confusion in his ranks as the columns moved over, and causing considerable loss of life. They also pressed hotly upon his rear when they discovered he was retreating, and harassed him incessantly. But he succeeded in getting his force over in wonderfully good order, and marched immediately in the direction of the United States Ford, to join the main army under General Hooker. At daybreak the Confederates had obtained a position on the hills on the south bank of the Rappahannock, scarcely two miles below the United States Ford, and commenced a vigorous shelling of the Federal trains lying posted on the north side of the river, close to the Ford. Several men were injured by these shells, and one or two killed. On the 5th General Hooker prepared to follow General Sedgwick's example by retreating across the Rappahannock, and on the following day his army had returned to the camp near Falmouth, after being absent nine days. His artillery commenced crossing the river at night, being very dark, and completed crossing by three o'clock on the following morning. The infantry then crossed, their rear being well covered. The crossing was entirely completed by daylight on the 6th, the rear guard having some severe fighting in getting over. Various reasons are assigned for this retreat—one is that General Sedgwick's repulse uncovered the line of the Acquia Creek railroad, and endangered General Hooker's communication and supplies. Another is that General Hooker did not consider his position tenable after the rout of the 11th corps of his army, which is described as disgraceful. General Lee's despatch to President Davis says that General Jackson penetrated to the enemy's rear, driving him from all positions to within one mile of Chancellorsville. General Lee further states that many prisoners were captured, and says in conclusion:—"The enemy's loss in killed and wounded was large. We have to thank God for a great victory. Paxton was killed, and General Jackson severely wounded." President Lincoln and General Halleck visited General Hooker's army on the 7th. It is rumoured that General Heintzelmann will supersede General Hooker. The Democratic journals urge General M'Clellan's appointment to the Command-in-Chief. General Hooker is reported to have captured 6000 to 15,000 prisoner and to have lost 6000 men. General Sedgwick's command lost 5000 men. General Stoneman's Federal Cavalry approached within two miles of Richmond, causing considerable excitement in that city. General Stoneman is reported to have returned safely to the Rappahannock. Admiral Porter reports that he has taken possession of Grand Gulf, Mississippi, which the enemy had abandoned, after blowing up their ammunition and spiking their guns. The forts were torn to pieces by the fire from the Federal fleet. On the 21st ult. General Banks occupied Opelousas and Washington, in Louisiana. General Banks's intention is to proceed northward, to form a junction with the forces under Admirals Farragut and Porter and General Grant, designing thereby the complete severance of the Confederate line of communication for supplies from Texas to Port Hudson. General Grant has landed a large force below Vicksburg, on the Mississippi shore, and General Sherman has landed up the Yazoo River, where he made his last attack. It is supposed that Generals Grant and Sherman will now make a combined attack on Vicksburg. The Federals are reported to have cut the Confederate railroad communication between Vicksburg and Richmond, Charleston, and Tullahoma. It is reported that the Confederate force in Arkansas under Generals Stirling Price and Kirby Smith is rapidly augmenting in numbers, and will soon resume operations in Missouri. Despatches from Cairo of the 6th say the attack of Federal gunboats on Haines Bluff was repulsed, and they were returning to Young's Point. The Choctaw was much damaged, her turrets penetrated with 64-pound round shot. The Federal loss was 80 killed and wounded. The attack on Charleston was to be renewed on the 4th inst., when the iron-clads were again to cross the bar. It is supposed that the Government intends to enforce the conscription forthwith. A list of provost-marshals for different districts is published. Mr. Chase has made a speech in Boston, expressing the opinion that the war was near its termination. Mr. Vallandigham, ex-member of Congress from Ohio, has been arrested at his residence in Dayton, by a detachment of soldiers, who battered down the doors of his house to reach his room. His friends endeavoured to rescue him; but he was carried prisoner to Cincinnati. General Burnside is said to have ordered his arrest for making disloyal speeches in Ohio. The arrest caused a riot, and it became necessary to send military from Cincinnati and Columbus to quell it. Telegraphic communication to Dayton was interrupted. Mr. Redgate, one of the owners of the cargo of the Peterhoff, has applied to the Court for permission to testify on his own account. The Court refused the application on the ground that Mr. Redgate, being a citizen of Texas at the time of the secession, must be regarded as an alien enemy. The examination of the cargo continues. The investigation into the alleged frauds committed in prize cases is to be conducted with closed doors. It is reported that the privateer schooner Retribution has been captured by the Federal steamer Alabama, off St. Domingo. The Federal sloop-of-war Tridle (?) has been burnt off Pensacola. The Confederate Alabama has captured, near Pernambuco, the Kingfisher, from Liverpool to Calcutta; the Charles Hill, from Liverpool to Montevideo; the Louisa Hatch, with a cargo of coals, from Cardiff to Ceylon; the Kate Corey, and the Lafayette. The Florida has captured the barks Henriette and Oneida, and put 15 of their crews on board the French transport Tremonton for conveyance to Pernambuco.

Brazils.—The Marquis Albuquerque, Minister of Finance, is dead. His portfolio has been provisionally intrusted to the Marquis Abrantes. The outbreak at Cordova has been suppressed.

## Parliament.

### HOUSE OF LORDS.

Friday.—The Earl of Ellenborough called attention to the *Schleswig Holstein* question, and inquired whether the Government were prepared to produce any further correspondence respecting it. He regretted to be obliged to call attention to a danger which, if not met at once, might seriously threaten the future peace of Europe so soon as the state of Poland would permit the German Powers to take up the matter. For the last two years negotiations had taken place, with no result but to increase the irritation. A most extraordinary despatch had been published last autumn, in which Earl Russell had reversed the policy of this country, and had threatened the integrity of Denmark, though the latter had made all the concessions which Germany was entitled to ask. Denmark was entitled to the sympathy of this country in her attempts to maintain her connection with Schleswig, which had been a portion of her dominion for 400 years. With respect to Holstein the recent proclamation by which the King of Denmark had conceded the demands of the German Diet ought to have satisfied the latter. The ambitious designs of Germany were prompted by the desire of obtaining possession of the harbour of Schleswig, and of thereby becoming a naval Power. He hoped that the Government, in conjunction with that of France, would insist upon the designs of Germany being abandoned. If this course were not adopted he saw no other alternative but to refer the question to a European Congress, as in its present condition it was a source of danger to the peace of Europe.—Earl Russell said that both Germans and Danes, being heated by their differences, had alike fallen into error, and had made demands and done acts which were not to be justified. The Germans were wrong in their demands, and Denmark was also wrong in not performing the diplomatic engagements into which she had entered. He had proposed that Schleswig and Holstein should be divided, and should have a separate budget, but this recommendation had not been accepted. He still thought that his proposal of 1862 would settle the question, for although it did not satisfy the German Diet, Prussia and Austria were willing to receive it. It would have preserved the independence

of Denmark, and he thought Denmark had unwisely refused her assent, considering the non-fulfilment of the engagements of 1851 on her part. Germany insisted on the fulfilment of these engagements, and the efforts of France and England were directed to obtain such a modification of them as would suit both parties. To override a solemn compact as to the duties of the Federal Diet, would be a most arbitrary act of international power. The treaty of 1851 ought to be adhered to by both parties, as it afforded the only ground for a fair settlement, and was a position which the English Government should maintain.—The Earl of DERBY expressed his surprise that Earl Russell should have charged Denmark with not keeping faith, as regarded her diplomatic arrangements, with the Federal Diet. The difficulty as regarded Holstein was the absolute refusal of that duchy, backed by German influence, to prevent any arrangement being made. This being the state of things, Denmark had made grave concessions to the Diet for the sake of peace, and the only question that now remained was in reference to Schleswig, over which the Federal Diet had no more control than had any other Power in Europe. Schleswig had been made a stalking-horse for the ambition of Germany, and there was no pretence for saying that the duchy ought to be disconnected from Denmark because the German and Danish population did not agree as to mutual rights and privileges. He looked upon the independence of Denmark as vital to England, and he contended that there was no alternative which he would not accept in supporting that Power (no contemptible ally to England in case of a European war) against the aggression of the German Powers.—Lord WODEHOUSE said that if Denmark was bound in honour to fulfil her diplomatic engagements, Germany was equally bound in honour not to put insurmountable obstacles in the way of that fulfilment. This, however, was precisely what Germany had done. He was of opinion that we were fully justified in supporting Denmark in maintaining her ancient connection with Schleswig. At the same time, he could not approve of the conduct of Denmark in not conceding to the inhabitants of that province all the rights and privileges which the inhabitants of Denmark proper enjoyed.—Earl RUSSELL remarked that it would not be expedient to produce the correspondence at the present moment, but he had no objection to do so at a later period. The subject then dropped. The *Corrupt Practices at Elections Bill*, the *Augmentation of Benefices Bill*, and the *Elections During Recess Bill*, were read a third time and passed.

MONDAY.—*Metropolitan Railways.*—Earl GRANVILLE, in reply to Lord STRATHEDEN, said he could not held out any hope that the Government would appoint a commission to inquire into the subject of metropolitan railways until they had an opportunity of considering the report of the Select Committee now sitting upon the subject.—The Marquis of CLANRICARDE, in moving for copies of any reports of decisions of the *Prize Courts of the United States*, said that the spirit evinced in the capture of our merchant ships by United States' cruisers was not only unfriendly, but contrary to international law. He insisted on the propriety of her Majesty's Government taking action in the matter, as, owing to these repeated seizures, it was impossible to effect insurances on ships trading to the Western hemisphere, except under ruinous rates. He contended that the seizure of the Labuan, the Adela, the Springbok, the Dolphin, and the Peterhoff was clearly illegal and contrary to international law, and he could see no prospect of an end to these captures, unless more energetic measures were taken by the Government.—Earl RUSSELL defended the American Government from the charge of violating international law, declaring that Mr. Seward had always acknowledged its force, and said that there must be a certain and legal cause of capture before a ship was taken. Admiral Milne had been instructed to protect vessels from unjustifiable seizure in the neighbourhood of Matamoras, although it did not appear that the American cruisers had done any great injury to the trade of that port, as its harbour was crowded with ships. He vindicated the justice and impartiality of the United States' Prize Courts, and stated that on referring their decisions to the law officers of the Crown no rational ground of objection could be found against them. No doubt, many swift vessels were employed in running the blockade, the owners of which, if their ships were seized, put on airs of injured innocence and demanded redress of the Foreign Office. There was also no doubt that the Americans were much incensed by the proceedings of the Alabama but he denied that she had been fitted up with the cognisance of the Government, and repudiated the idea of any wish on our part to interfere unfairly in the struggle now going on.—The Earl of DERBY concurred with Earl Russell's remarks on not imputing partiality to the American Prize Courts. We ought also, he considered, to make allowance for the very natural irritation felt in America at the breaking of the blockade and supplying the wants of the Confederates.—After a few words from Lord CRANWORTH, the motion was withdrawn. The *Marriages (Ireland) Bill* passed through committee.

TUESDAY.—Lord EBURY moved the second reading of the *Acts of Uniformity Amendment Bill*, stating that its object was to repeal the clause imposing upon the clergy of the Church of England the necessity of subscribing their assent to the 39 Articles, and to everything contained in the Book of Common Prayer. He added that he had brought forward the Bill at the request of a large body of clergy, and he called their lordships' especial attention to the fact that there had not been a single petition presented against it. He contended that the present state of the law was neither a benefit nor a safeguard to the Church, that it pressed heavily on the consciences of many, while it prevented many estimable young men from entering the ministry.—The Archbishop of CANTERBURY opposed the Bill as unnecessary, and not desired by the majority of the clergy. It would certainly confer no benefit upon them or upon the Church itself He therefore moved as an amendment that the Bill be read a second time that day six months.—The Bishop of LONDON supported the Bill, declaring that, in his opinion, the declaration, or rather certain words which had crept into it, for the express purpose of catching persons whom it was desired to exclude from the Church, were not only useless but mischievous.—Lord LYTTELTON spoke against the Bill, which was supported by the Bishop of ST. DAVID'S.—The Bishop of OXFORD did not believe that the declaration had kept one conscientious person out of the Church of England, or that its effect had been to reduce the number of young men entering the universities, and from thence going into orders.—The Bishop of LLANDAFF said that the amendment of the Archbishop would close the door to all concessions, and hoped that some middle course might be suggested.—The Bishop of LICHFIELD opposed the Bill: Earl GREY supported it. On a division the second reading was negatived by 90 to 50. The Bill was therefore lost. The *Redemption of Rents (Ireland) Bill* passed through committee *pro formá*, and was referred to the law officers of the Crown for Ireland for consideration during the recess. The *Marriages (Ireland) Bill* was read a third time and passed. The *Stock Certificates to Bearer Bill* and the *Inland Revenue Bill* were read a second time.

THURSDAY.—*International Exhibition Building.*—In reply to a question from the Duke of RUTLAND, Earl GRANVILLE said that the subject of the purchase of the Exhibition building of 1862 was under the consideration of the Government, and was in so forward a state that it would be brought before Parliament after the recess. The *Savings' Banks Moneys Bill* was read a second time. The *Stock Certificates to Bearer Bill*, and the *Customs and Inland Revenue Bill* passed through committee. Their lordships then adjourned to Monday, June 1.

## HOUSE OF COMMONS.

FRIDAY.—*Southern Italy.*—Sir G. BOWYER asked Lord Palmerston if he had any official documents in proof of his statement that there existed at Rome a committee of no less than 200 persons, by whom bands of murderers were organised and sent forth into the Neapolitan territory to commit every sort of atrocity.—Lord PALMERSTON replied that he was not prepared with documentary proofs, but he could refer the hon. baronet to an authority who perhaps could give him all the information he desired—namely, to Father Cucci, who when preaching on Sunday the 3d of May, before the ex-King of Naples and the members of his Court, said that his auditors, instead of submitting to the decrees of Providence, had kept stirring up by promises and money and inflammatory addresses the ignorant masses in Southern Italy, hounding them on to pillage and slaughter; and that, while money was found for the outfit of brigands, the Bourbonists would not give a single bajocco to their suffering fellow countrymen, who, but for Roman charity, would die of starvation. *China.*—Mr. LIDDELL called attention to events in China, with a view of obtaining an expression of opinion from the House upon the course of policy pursued in that country. That policy, he said, was not one of non-intervention, but of active interference, with the view of propping up by force of arms a weak Government against its own subjects. He entered upon a detailed narrative of the transactions in China, of the proceedings of the Taepings, and the operations of the British and French forces against the rebels, of the disorders and bloodshed attending them, and of the results, political, commercial, and social, of these transactions. He said that we had assumed a joint protectorship of China with other European Powers, in which he foresaw the seeds of interminable complications and embarrassments. Our commercial interests, instead of being promoted by the policy we were pursuing, were, on the contrary, prejudiced thereby, even the burden of the indemnity having fallen upon the foreign trade. He complained of the employment of British officers in the service of the Emperor of China, under the sanction of their own Government, being relieved from the penalties of the Foreign Enlistment Act by a Royal Proclamation; and, in conclusion, he asked the House to consider the whole question in all its bearings. He moved for copies of correspondence upon the subject.—Mr. BAILLIE supported the motion, and protested against the policy of the Government in endeavouring to prop up an effete Government in China—a policy justified, he said, by representations of the character and acts of the Taepings which he believed were not founded on facts. No other member rising, the question was put from the Chair, and the motion was negatived, without a division, in a very thin House.—On the question that the Speaker leave the chair, Mr. COBDEN protested against the conduct of the Government in giving no answer to the speech of Mr. Liddell. He thought it was scarcely decent on the part of the Premier and the Under-Secretary for Foreign Affairs to have remained silent under such circumstances.—Mr. H. D. SEYMOUR thought that the House had been treated with gross and studied disrespect.—Lord NAAS said he had never recollected such an occurrence, and gave notice that he would take an opportunity of again calling the attention of the House to the subject.—Mr. LAYARD said that, as there were several other questions on the paper relating to foreign affairs, he had intended to reserve his reply to the motion of Mr. Liddell until he should have come to deal with the whole of them *seriatim*. After a few words from Mr. S. FITZGERALD, Colonel SYKES, and Sir H. VERNEY, the House went into committee *pro formâ* and immediately resumed. The *London Coal and Wine Duties Continuance Bill*, and the *Sale of Mill Sites, &c. (Ireland) Bill*, were read a third time and passed. Leave was given to bring in a Bill to amend the laws relating to *Fisheries in Ireland*.

MONDAY.—*China.*—Lord NAAS gave notice that he intended, after the Whitsun holidays, to call the attention of the House to the state of affairs in China. *Greenwich Hospital.*—In reply to Mr. LIDDELL, Lord C. PAGET said that Sir R. Bromley, the late accountant-general to the Admiralty, had been in receipt of 300*l.* per annum as auditor of prize accounts, not from the funds of Greenwich Hospital, but from the 5 per cent. deducted from the prize money. The subject of a successor to Sir R. Bromley, and of the salary to be paid for the office, was under consideration. *Brazil.*—Mr. POLLARD-URQUHART inquired whether the Brazilian Minister had demanded his passports, or had informed the Government that he had instructions which might require him to suspend diplomatic relations.—Mr. LAYARD said he could only answer that the correspondence was still pending, and that it would be very inconvenient to the public service to produce it. *Southern Italy.*—Lord J. MANNERS, Mr. HENNESSY, and Sir G. BOWYER asked if any despatch had been received from Mr. Odo Russell, upon which the Under Secretary for Foreign Affairs in his recent speech on Italy had based what he described to be his "moral convictions" in respect to the state of Rome.—Mr. LAYARD denied that he had referred to any "despatch," and Lord PALMERSTON said he must decline to furnish any materials for getting up a quarrel between Mr. Odo Russell and the Governments of France and of Rome.—Sir G. GREY having moved the third reading of the *Prison Ministers' Bill*, Mr. BLACK moved, as an amendment, that the Bill be read a third time that day six months. He argued that the Bill would be injurious to criminals who might be Protestant Dissenters, while it would be of no substantial benefit to those who were Roman Catholics.—Mr. NORRIS seconded the amendment.—Mr. NEWDEGATE and Mr. ADDERLEY spoke in opposition to the Bill.—Mr. BRIGHT said he agreed with a great deal of what had been said by Mr. Newdegate and Mr. Adderley. He believed that one of the effects of the Bill would be to stir up angry feelings in some counties. But, in the whole of the discussion, the opponents of the measure had left out of consideration the religious wants of Roman Catholic prisoners; they had sought only to maintain the supremacy of their own Church. Those prisoners, however, had a right to be treated, as regarded their moral and religious teaching, as Protestant prisoners were, and, as he could not leave the state of things as he found them, he should vote for the Bill. On a division, the amendment was negatived by 196 to 167. The Bill was then read a third time and passed. *The Packet Contracts.*—The House went into a Committee of Supply, when Mr. PEEL, in moving a vote, on account, of 956,878*l.* for the packet service for the current year, explained the nature of the several contracts, and entered very fully into the history of Mr. J. G. Churchward's contract and its incidents, in order to state the reasons for including in the vote provisions for payments to Mr. Churchward for the conveyance of mails between Dover and Calais and Dover and Ostend from the 1st of April, 1863, to the 20th of June, 1863, but excluding any payment in respect of the period subsequent to the latter date to Mr Churchward, or to any person claiming through him by virtue of a contract, dated the 26th of April, 1859, between him and the Board of Admiralty. The question for the Committee, he said, was whether, taking into consideration the whole of the transaction, and what was due to the purity of the public service, and the honour and dignity of the House, they would or would not continue the payments to Mr. Churchward under the contract of 1859. He stated, in conclusion, the steps the Government had taken to provide for the service in the event of the Committee adopting his proposal.—Sir S. NORTHCOTE, in order to raise the question as to the contract of 1859, moved to omit from the vote all the words relating to Mr. Churchward. He reviewed the salient points of the case, pointing out the legal position of the Government in relation to the contract by their present form of proceeding, and the unfair position in which Mr. Churchward was placed. He warned the Government that they were bringing about a collision between the House of Commons and the courts of law, inflicting serious damage upon Mr. Churchward, and establishing a precedent which would make it impossible to get a contractor to enter into a contract; and all without the prospect of any solid advantage, and without, as he contended, any evidence of corrupt considerations influencing the contract. In justification of his own conduct in the transaction, when financial Secretary of the Treasury in 1859, he described the share he had in it and the course he had pursued, observing that, if he was not to be stigmatised, he could not see why a stigma should rest upon Mr. Churchward.—Mr. BOUVERIE objected to the amendment in point of form, as the vote in its present shape raised a question inconsistent with the functions of a Committee of Supply. Its object was to obtain a definite expression of opinion as to what ought to be done in respect to a particular transaction, which was a question for the House.—Mr. WALPOLE said that the amendment would get rid of Mr. Bouverie's objection to the vote.—The CHAIRMAN decided that it was not competent to him to refuse to put the resolution, and that the amendment was admissible.—The ATTORNEY-GENERAL explained the legal aspect of the question as regarded the contract of 1859, and stated the reasons why the matter had been propounded to the House in the present form, which, he admitted, was a special and unusual form.—Mr. MALINS argued that the Government were bound by the contract, and were not at liberty to repudiate it.—Mr. COBDEN, as Chairman of the Committee on Contracts, said that Captain Carnegie had stated that Mr. Churchward proposed to him at the Admiralty to give him his support at the Dover election, on the condition of his having a renewal of his contract. The Committee believed Captain Carnegie's evidence, and considered that there was an attempt to suborn a public functionary, and to induce him to accept a bribe; it meant that or it meant nothing.—Sir H. CAIRNS dwelt upon the irregularity of the proceeding taken by the Government in a Committee of Supply, and of the prejudice it would have upon the case of Mr. Churchward if he should be driven to a court of law. Mr. Churchward directly denied Captain Carnegie's evidence. He hoped, for the sake of order, of public advantage, expediency, and justice, that the House would accept the amendment.—Mr. HUBBARD said, with regard to the charge against Mr. Churchward, that where there was a balance of evidence of one man's against another's it was impossible to say the charge was proved; and that men were not to be punished by breaking contracts with them.—The SOLICITOR-GENERAL said that the Government could not have taken any other course, in deference to a decision of the House in 1860, than to bring this matter before a Committee of Supply; and the form in which it was presented would furnish a complete answer to an action upon the contract. He discussed the general merits of the case, calling attention to the principal dates and to the circumstance of the extension of the contract being on the eve of a general election, and maintained that, upon the merits of the case, the House would be justified in repudiating the contract, though satisfied that the members of the Government of the day acted on public grounds. On a division the amendment was negatived by 176 to 168. The vote was then agreed to.—On the question that the resolution be reported, Mr. WALPOLE suggested that there should be a further opportunity of discussing the question. It was a new mode of taking votes in a Committee of Supply, and a precedent, he thought, of the worst description.—Mr. DISRAELI concurred in the suggestion.—The CHANCELLOR of the EXCHEQUER said that the resolution would be reported on Thursday week.—The *Thames Embankment (North side) Bill* and the *Vaccination (Ireland) Bill* were read a third time and passed. The House then went into Committee on the *Offences (South Africa) Bill*, the *New Zealand Boundaries Bill*, the *Land Drainage (Provisional Orders) Bill*, and the *Salmon Fisheries (Scotland) Act Continuance Bill*. The *Vice-Admiralty Courts Bill* was read a second time.

TUESDAY.—*International Exhibition Building.*—In reply to Sir H. VERNEY, the CHANCELLOR of the EXCHEQUER said he was unable to state for what sum the building of the International Exhibition of 1862 could be purchased with a view to convert a portion of it into a museum or gallery for works of art, as the Commissioners of the former Exhibition had not yet considered the matter; but he hoped to be able to give the House some information on the subject on the re-assembling of the House after the Whitsun holidays. *American Affairs.*—In answer to Mr. WARNER, Mr. LAYARD said that Mr. Magee, British Vice-Consul at Mobile, had been dismissed because he had endeavoured to violate an honourable understanding which had been come to between her Majesty's Government and that of the United States by placing on board the Vesuvius a large sum of money in specie intended for England. *Poland.*—On the motion that the House at its rising do adjourn to Thursday the 28th inst., Mr. HENNESSY called attention to the breach of international law committed by Prussia in the war now raging between Russia and Poland, and expressed a hope that the Government would address some remonstrance to Prussia on the subject.—Lord PALMERSTON gave a definition of the law of neutrals on the subject, and said it had been laid down that a neutral was to be at liberty to furnish warlike stores to either or both belligerents.—Mr. PEACOCKE complained of the manner in which the foreign relations of the country were carried on, and said that five Cabinet Ministers, holding important offices, had seats in the House of Lords, while four of the principal departments of the State were represented in the House of Commons by under secretaries. He warned the House of Commons of the danger of surrendering its high position, and descending to the level of a bad debating club, with no more political authority than a parish vestry.—After some remarks by Mr. LAYARD, Lord R. CECIL, and Mr. COCHRANE, Sir G. GREY stated, in answer to Mr. BENTINCK, that the first order of the day on Thursday, the 28th inst., would be the report of the resolution passed in committee of supply on the *Dover Mail Packet Contract*.—Capt. JERVIS called attention to the subject of naval courts of inquiry, and the *Case of Lord Elphinstone*, the commander of the Vigilant.—Lord CLARENCE PAGET defended the conduct of the Admiralty in having severely censured that officer for having run his ship on the Swin Sands. *Irish Fisheries.*—Mr. ESMONDE called attention to a report in the Irish papers of a speech delivered by Sir R. Peel at a meeting of Irish members which he had convened, on the subject of the Irish Salmon Fisheries, to which meeting other members, representing large interests in connection with the fisheries, were not invited.—Sir R. PEEL said that he delivered no such speech at the meeting in question, but he had received a letter from an Irish gentleman who was not present, stating that he had supplied the report to the papers, believing that Sir R. Peel would certainly address the meeting in terms similar to those he had imagined in his behalf. The motion for the adjournment was then agreed to. *The Irish Church.*—Mr. DILLWYN moved for a select committee to inquire how far the present distribution of endowments for religious purposes throughout Ireland may be so amended as most to conduce to the welfare of all classes of her Majesty's Irish subjects; to search the journals of the House for any resolutions passed since the Act having reference to the application of any surplus revenue arising from ecclesiastical endowments in Ireland; and to report how far such

resolution or resolutions appear to have been subsequently carried into effect. He described the steps which had been taken in former years to deal with the great abuses connected with the Irish Church. He admitted that the inquiry for which he moved would probably result in the transfer of a large portion of the revenues of the Established Church in Ireland; but this he regarded as a great desideratum, considering that the Church as by law established was based on injustice, and was the chief source of all the discontent which existed in the country.—Sir J. Trelawny seconded the motion.—Mr. H. Seymour moved as an amendment the appointment of a royal commission to inquire into the territorial arrangement of existing benefices; the provision of the cure of souls; the amount of population and number of Protestants in each benefice; the erection of new parishes where required, having regard to amount of ministerial work, and the circumstances of surrounding parishes; the districts which it might be desirable to serve provisionally by stipendiary curates; the incomes of benefices and parts of benefices in Ireland, so far as might be necessary fairly to adjust the incomes of parishes proposed to be erected; the incomes of parishes or districts proposed to be served provisionally by stipendiary curates; poor benefices which need to be augmented; the liability of appropriators and impropriators, and the provision made by them for the cure of souls; and the revision and amendment of the law which would be required to give effect to their recommendations. He believed that the settlement of the Irish Church question might be effected without entering into the subject of appropriation. If abuses could be proved to exist in the Irish Church all the friends of that Church would desire to see them removed. His plan, which contemplated a reform of the Church suggested by Archdeacon Stopford, was a practical one and would be better conducted by a Royal Commission than by a Select Committee, which could not ascertain points within the scope and power of a commission to examine, while a Commission would save time, and settle the question speedily, and without strife or animosity.—Mr. Newdegate seconded the amendment.—Mr. Whiteside opposed both the motion and amendment, contending that there was no ground for the attack which Mr. Dillwyn had made upon the Irish Church, the existence of which, he said, was one of the articles of the union which was founded upon the principle of one constitution, one legislature, and one Church. He admitted that the Irish Church was the Church of a minority of the population; but he supported it because he regarded it as the depository of truth, as the representative of the early Catholic Church which existed in Ireland long before the time of Henry II., and as the natural ally of the constitution and liberties of the country.—On the motion of Mr. Osborne the debate was adjourned to the 28th inst.—Sir R. Peel obtained leave to bring in a Bill to amend the procedure in the *Civil Bill Courts in Ireland*.—Lord Palmerston obtained leave to bring in a Bill to carry into effect an additional article to the Treaty of the 7th April, 1862, between her Majesty and the United States of America, for the suppression of the *African Slave Trade*. The *District Parochial Churches (Ireland) Bill* was read a second time. The other orders of the day were disposed of, and the House adjourned to Thursday the 28th inst.

## City Intelligence.

Bank Rate of Discount.—The Bank of England on Saturday advanced the rate of discount from 3 per cent. to 3½ per cent., and on Thursday again raised it to 4 per cent.

Money Market, Friday.—British Funds: Consols closed at 93⅜ to ½ for Money, and 92¼ for Account; Three per Cents. Reduced, 91⅝ to ¾; New Three per Cents., 91¾ to ⅞; Bank Stock, 235; India Five per Cent. Stock, 110 to 110½; Five per Cent. Enfaced Rupee Paper, 107½; Exchequer Bills, 4s. dis., par.—Foreign: Brazilian, 1852, '58, '60, 94⅜; Buenos Ayres, for Acct., 94½; Chilian Four and a Half per Cents., 87¾; Egyptian, 100¼; Greek, for Acct., 31⅞ to 32⅛; Ditto Coupons, 14½ to ⅝; French Three per Cents, 69f. 75c.; Italian Maremmana Railway, 79; Mexican, for Acct., 36 to 35⅞; New Granada Deferred, 10, ex div.; Peruvian, 1862, for Acct., 88½; Portuguese, 1856, '57, '59, '60, and '62, for Acct., 49⅝; Russian, 1862, 92⅝, ex div.; Spanish, for Acct., 54¾; Ditto New Deferred, for Acct., 48⅝; Ditto Passive, for Acct., 35 to 34¾; Ditto Certificates, 12½ to ⅝; Turkish, 1854, for Acct., 88½; Ditto, 1858, for Acct., 70⅛; Ditto, 1862, for Acct., 71⅝ to ½; Ditto Guaranteed, 103¼; Venezuela, 1862, 56¼, ex div.

## Gazette of the Week.

FRIDAY: *May* 15.—BANKRUPTS.—W. Anderson, Southampton, Stationer—T. Abbott, Sydney Road, Homerton, Clerk in the Court of Probate—R. B. Behenna, Birkbeck Road, Lower Norwood, late Hop Merchant—T. Bradshaw, Lancaster, Seedsman—W. Boffey, late of Broomhall, Cheshire, Farmer—R. Bailey, Windham Street, Kentish Town, late Grocer—W. H. Bott, New Peter Street, Westminster, Carpenter and Builder—J. Breedon, Lowdham, Nottinghamshire, Carrier—J. Brunt, Hanley, Staffordshire, Collier—G. Taylor Brown, Francis Terrace, Hackney Wick, Accountant—J. Baldrey, jun., Norwich, Fruiterer—F. G. Brazier, Wharton Street, Pentonville, Commission Agent—E. Bigglestone, Hereford, Stonemason—S. H. Culley, Exeter, Accountant—J. Carter, late of Halifax, Yorkshire, Cotton Warp Manufacturer—H. W. Cooke, Walsall, Staffordshire, Jeweller—J. Cheese, Stokenchurch, Oxfordshire, Surgeon—J. Creasey, Leeds, Milliner—W. Caffrey, Bristol, Corn Merchant's Foreman—F. Warden Dick, Brighton, Sussex, Veterinary Surgeon—H. Daniels, Clark's Place, Bagnigge Wells Road, Carpenter—J. Vittery Davey, Brixham, Devonshire, Ropemaker—W. G. Edwards, Cantelowes Road, Camden Town, Picture Dealer—John Eades, Mildmay Street, Stoke Newington, Timber Merchant—A. Everist, late of Northfleet Hill, Kent, Journeyman Carpenter—J. England, Leeds, Currier—E. Edwards, Devonshire Street, Upper Kennington Lane, Cab Driver—E. Edwards, Seymour Place, Bryanstone Square—A. Edwards, Trowbridge, Wiltshire, Shoemaker—W. Flower, Walsall, Staffordshire, Corn Dealer—T. Flower, Wells, Somersetshire, Dissenting Minister—H. Field, Chapel Street, Somers Town, Earthenware Dealer—E. Field, Borehamwood, Herefordshire, Baker—M. Gabriel, Cardiff, Glamorganshire, Innkeeper—G. Garratt, late of Lowdham, Nottinghamshire, Cottager—H. S. Getley, Wellington, Shropshire, Glass and Lead Merchant—R. Greenhill, Strand, Tobacconist—W. C. Gordon, Charlton, Kent, Deputy Assistant Superintendent of Stores—H. A. J. Hornbeck, Charlotte Street, Fitzroy Square, Diamond Settler—J. Hallier, Roman Road, Holloway, Builder—S. Halding, Bridgnorth, Shropshire, Carpenter—T. C. Hands, Brackley, Northamptonshire, Journeyman Carpenter—F. Holledge, Croydon, late Timber Dealer—W. Hicks, New Church Street, Bermondsey, Assistant to a Leather Dresser—A. Heath, Portsea, Whitesmith—T. T. Hodges, Aldershot, Lieutenant in 76th Foot—John Tutt Harris, Brighton, Sussex, General Dealer—G. Hay, jun., Abbey Street, Bethnal Green Road, Cabinetmaker—T. Hines, Daventry, Northamptonshire, Innkeeper—T. Haywood, Homerton, Grocer—M. Hedgcock, Funtingdon, Sussex, Blacksmith—T. Hodkinson, Windsford, Cheshire, Schoolmaster—J. Jeffries, Somerset Street, Portman Square, late Licensed Victualler—J. Kent, Camborne, Cornwall, Cordwainer—F. King, Shirley, Southampton, Horse Dealer—G. Lattimer, Driffield, Yorkshire, Labourer—A. Leigh, Birkenhead, Cheshire, Scrivener—W. May, jun., Nottingham, Journeyman Bricklayer—S. E. Maddock, Nottingham, Lacemaker—H. Mallett, jun., Field Dalling and Blakeney, Norfolk, Grocer—H. Morris, Plymouth, Jeweller—W. Offord, Leyton, Essex, Gardener—J Powell, Little Dawley, Shropshire, Charter Master—W. B. Power, Bute Street, Old Brompton, Working Upholsterer—J Pugh, Knight's Hill, Lower Norwood, late Commercial Traveller—W. S. Poole, Kenilworth, Warwickshire, Scrivener—T. Prince, Heanor, Derbyshire, Lacemaker—J. Parr, Norton-in-the-Moors, Staffordshire, Grocer and Provision Dealer—J. P. Pinn, Birmingham, Draper—J. U. Power, Queen Street, Brompton—J. W. Royds, Birmingham, Tailor—J. Robinson, Burton-upon-Trent, Coppersmith—J. Ransom, Hollington, Sussex, Baker—H. Saunders, Dulverton, Somersetshire, Tailor—J. T. Stowell, Gloucester Grove, Old Brompton—M. Smith, late of Steeton, Yorkshire, Inn-keeper—M. Thompson, Portsea—H. Taylor, Westleigh, Devonshire, Lime Burner—J. Townsend, Lenton, Cambridgeshire, Ropemaker—E. C. Thomas, Chepping Wycombe, Buckinghamshire, Shoemaker—J. Turner, Milnsbridge, Yorkshire, Gas Engineer and Fitter—H. Taylor, St. Peter the Great, Worcestershire, China Painter—J Turner, Sutton in Ashfield, Nottinghamshire, Publican—T. Thomas, Llandovery, Carmarthenshire, Licensed Victualler—G. Viner, Cliffe, Sussex, Plumber—G. Varnam, Ollerthorpe, Leicestershire, Baker—W. Wilkinson, Ashington, Sussex, Plumber—J. Woodford, Croydon, Surrey, Watch and Clock Maker's Assistant—C. Williams, Shrewsbury, Shropshire, Painter—R. Worrall, Kingswinford, Staffordshire, Licensed Victualler—C. Wilkinson, late of Dudley, Worcestershire, Victualler.

SCOTCH SEQUESTRATIONS.—J. Boyd, Glasgow, Soap and Candle Manufacturer—J. Geddie, Lossiemouth, Elgin, Shipbuilder—J. Ree and J. Steven, Leetham, Forfarshire, Builders—J. Wilson, Fair-a-far, Cramond, Farmer.

TUESDAY: *May* 19.—BANKRUPTS.—T. Abdale and G. Kemp, Darlington, Durham, Builders—W. M Burnard, Hampstead Road, Glass and China Dealer—R. Burton, St. Dominick, Cornwall, Miller—A. G. Braithwaite, Stanley Street, Pimlico, Clerk—M. Bloomfield, late of Thornham, Norfolk, Mariner—I Bristow, Pembroke Dock, Pembrokeshire, Shipwright—T. Baines, Kendal, Westmoreland, Butcher—G. Bestey, Union Street, Southwark, Licensed Victualler—W. Ball, Middle Row, Holborn, Bookseller—J. Cave, Worcester Street, Pimlico, Accountant—J. Cocks, St. James's Street, Tailor—W. S. Culley, Sheffield, Flour Dealer—W. Cotton, Longton, Staffordshire, Commission Agent—T Champion, High Holborn, Carpenter—T. Cross, Ketton, Rutlandshire, Stonemason—R. Clayton, Ossett, Yorkshire, late Innkeeper—T. Dudley, Mappledurwell, Hampshire, Market Gardener—G. Deakin, Birmingham, Jeweller's Stamper—C. Y. Dyson, Great Randolph Street, Camden Town, Foreman to a Law Stationer—William Evans, Eldersfield, Worcestershire, Carpenter—William Galloway, jun., Heath, Derbyshire, Colliery Manager—Stephen James Grove, Pentonville Road, Clothier—C. Hasnip, Sibsey, Lincolnshire, Tailor—J. Hale, Swan Village, Staffordshire, Retail Brewer—J. M. Harris, Maida Hill, Middlesex, Merchant—R. Hyde, Halifax, Yorkshire, Willower—J. H. Hunt, Old Kent Road, Carpenter and Builder—J. P. Humphreys, late of Carey Street, Lincoln's Inn Fields, Commission Agent—L. Hilder, Windsor, Saddler and Harness Maker—B Illingworth, late of Bradford, Yorkshire, Tailor—J Jackson, Accrington, Lancashire, Stonemason—T Jenkinson, Guisborough, Yorkshire, Journeyman Tailor—J. Jones, Salford, Lancashire, Carter—T. Kitching, Guisborough, Yorkshire, Journeyman Joiner—O. Kemp, Hillingdon, Professor of Music—L. Kriegsfield, Cheetham, Lancashire, Macintosh Maker—J. Light, Old Kent Road, Iron Bedstead Manufacturer—A. R. Leask, Whitechapel Road, Refreshment House Keeper—G. Lickfold, Headley, Hampshire, Grocer—J. Lea, Norfolk Square, Paddington, Boarding House Keeper—J. Myers, Rye, Sussex, Licensed Victualler—M. L. Muller, Mason's Avenue, Basinghall Street, Watch Maker—F. Mountain, late of Bradford, Yorkshire, Coal Merchant—T. S. Norton, Brunswick Terrace, Westbourne Grove West, Carpenter—W. J. Newton, Brewer Street, Westminster, Schoolmaster—Benjamin Pool (known as Peter Pool), Leman Street, Goodman's Fields, Cattle Salesman—S. Piddlesden, Newchurch, Kent, Labourer—T. R. J. Pollyblank (commonly known as T. Jarvis), Westmorland Place, Bayswater, late Master Mariner—F. J. Palfrey, Avenue Terrace, Avenue Road, Camberwell, Window Ticket Writer—J. Parker, Oldham, Lancashire, Linendraper—J. Pilkington, Blackburn, Lancashire, Joiner—H. Parry, Birmingham, Agent and Collector—E. C. Potts, Newcastle-upon-Tyne, Commission Agent—R. Pettit, Liverpool, Provision Merchant—J. Payne, Northampton, Broker—P. Richmond, Tonbridge, Kent, Tobacconist—T. I. Rankin, Hulme, Lancashire, Beerseller—T. Ruttledge, East Greenwich, Foreman of a Composite Paving Works—J. Rea, Wood Street, King Square, Goswell Road, Baker—T. Stanworth, Wombridge, Shropshire, Beerseller—W. A. Swift, Maitland Park Villas, Kentish Town, Gentleman—David Louis Stevenborough, Swansea, Herbalist—Francis Henry Stait, Cardiff, Glamorganshire, Provision Dealer—W. Spiers, Maidstone, Boot and Shoemaker—H. Stacey, Sheffield, Beerhouse Keeper—E. Thompson, Warcop, Westmoreland, Inn-keeper—J. Turnbull, Cambridge Heath, Bethnal Green, Coffeehouse Keeper—W. Waters, Dunkirk, Kent, Blacksmith—S. Williams (late of York Road, Battersea)—T. Walker, East Retford, Nottinghamshire, Joiner—R. Weston, Crown Street, Soho, Working Jeweller—W. Watford, Wisbech, Cambridgeshire, Publican—W. Walker, late of Dudley, Worcestershire, Beerhouse Keeper—H. Ward, Southampton, Captain Royal Marines Light Infantry.

SCOTCH SEQUESTRATIONS.—H. Clark, Montrose, Cabinet Maker—J. Fraser, Edinburgh, Wine and Spirit Merchant—G. Hall, Montrose, Merchant—J. Higgie, Cupar, Fife, Grocer—J. Morrow, Glasgow, Spirit Dealer—J. Mackenzie, Edinburgh, Coal Merchant—J. Moore & Co., Glasgow, Rivet Makers—J. M'Kenzie, Glasgow, Spirit Dealer—A. H. Ritchie, Edinburgh, Sculptor—W. Wylie, Glasgow, Mason.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £28,344,505 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,694,505 |
| | | Silver Bullion .. .. .. | — |
| | £28,344,505 | | £28,344,505 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,151,395 |
| Rest .. .. .. .. .. .. | 3,152,019 | Other Securities .. .. | 20,236,420 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 7,610,278 | Notes .. .. .. .. .. | 7,661,395 |
| Other Deposits .. .. .. | 13,983,854 | Gold and Silver Coin .. | 834,946 |
| Seven days and other bills | 585,205 | | |
| | £39,884,156 | | £39,884,156 |

May 21, 1863. W. MILLER, Deputy Cashier.

## Metropolis and its Vicinity.

Trades Unionist Deputation in favour of Poland.—The deputation appointed at the trades unionist meeting in favour of Poland, held at St. James's Hall on the 28th ult., had an interview with Lord Palmerston on Monday evening, by appointment, in the library of the House of Commons. The deputation was introduced by Mr. Stansfeld, M.P., and consisted of Professor Beesly, of University College, the chairman of the meeting; Mr. G. Potter, the secretary; Mr. Coulson (bricklayer), the president; with Mr. Odger (shoemaker), secretary of the London Trades Council, and the following officers and members of the trades societies:—Messrs. Graham, Hamlyn, Applegarth, Merrifield, Harry, Smith, Eglinton, Cremer, Garland, Tremlett, Dormer, Mildred, Evans, Llewellyn, Burgess, Petherbridge (carpenters' societies), Facey, Vise, Vickers, Lambelle (painters), Stainsby (tailor), Grey, Connolly, Cruse, Pearson, Gibbon (mason), Butler, Jones (tin-plate workers), Miles (cabman), Nash (wire worker), Wigmore (bricklayer), Fast (zinc worker), Shave (plumber), Dodson, Murray, Bassett (boot and shoe makers), Osborne, and Nilass (plasterers). Prof. Beesly explained to his lordship the constitution of the society as one consisting entirely of trades unionists, of which the deputation now present were representatives. The trades unionists might claim to speak in the name of the large body of the labouring classes, and they had sought an interview with his lordship, because, working men not being represented in the House of Commons, they were obliged on any matter which was particularly interesting to them to address themselves directly to the Government. Their desire was to see France and England co-operating cordially in the cause of Poland. They were not jealous of the influence of France in Europe. That feeling might be entertained and expressed in other quarters, but among working men it did not exist. Mr. G. Potter then read the resolutions agreed to at the meeting, three in number, denouncing the conduct of Russia, expressing sympathy with the Poles in their insurrection, and calling upon the Government to interfere by force, if necessary, to secure the independence of Poland. Mr. Connolly (mason) said the working men of England considered it necessary for the peace of Europe that Poland should be again a nation; and though not insensible to the evils of war, they were prepared to encounter those evils, to bear suffering and increased taxation, if by so doing Poland would be made free. Mr. Cremer (joiner) said that the great bulk of the working men of this country desired the Government to take immediate action, to tell Russia to relinquish her hold on Poland, and if she would not do that, to compel her by force of arms. Mr. Murray (bootmaker) said they were no admirers of his lordship's domestic policy, for he refused workmen the right of representation; but they admired his general foreign policy, and trusted he would act on this question with his usual vigour. If Russia persisted in her present diabolical conduct his lordship should withdraw the English ambassador from St. Petersburg, and send the Russian ambassador home with a message to his master that an English fleet and army would follow him if necessary. Mr. Petherbridge (joiner) thought the time had passed for expressions of barren sympathy for the gallant Poles. The working men of this country desired to see a speedy termination to the savage atrocities of Russia in Poland, and thought that could only be accomplished by the determination of the English Government to proceed to the extremity of war if necessary. Mr. Nilass (plasterer) said that to preserve the balance of power it was the duty of the Government to restrain the growing power of Russia, whose ambition, if not kept within proper limits, would always be detrimental to the peace of Europe. The conduct of Prussia at this moment with respect to the Polish question was disgraceful to her as a civilised nation. Mr. Applegarth (joiner), Mr. Wigmore (bricklayer), Mr. Facey (painter), and Mr. Eglinton (joiner), contended that if war with Russia became necessary to set Poland free, it would be one of the most popular wars ever entered into by England, and the Government might depend on the support of the country at large. Lord Palmerston in reply said:

"I have felt considerable pleasure in listening to the members of the deputation, who have spoken in such clear and unmistakeable terms, and which do much credit to their intelligence and good feeling. I think it is always useful that a person occupying the position I do in her Majesty's Government should clearly understand the opinions and feelings of that numerous and important class represented by this deputation. I think the generous sympathy and feeling you have displayed for Poland highly creditable; indeed, the sympathy of Englishmen for the victims of wrong and bad government is so general as to have become almost a proverb. No nation has been so long the victims of wrong as the Polish people. By the Treaty of Vienna a constitution was guaranteed to Poland by Russia, and the Emperor of Russia of that day gave a constitution, but it was soon put to sleep, and never yet tried. Russia never did, nor does she to this day, fulfil the compact she entered into. I entirely share in the general feeling expressed towards Poland, but peace or war is a grave question, requiring much deliberation, and one that I would not enter upon without consulting my colleagues in the Government. Be assured, however, gentlemen, that I will represent the opinions you have so ably laid before me to my colleagues, and that we shall do our best for the cause of Poland."

Mr. Cremer: We are men of action, my lord, and have come to the conclusion that the only way to aid the Poles is to call on Russia to desist from her present conduct, and, if she will not attend to that call, thrash her into compliance. Lord Palmerston said:—

"I cannot pledge myself as to the course her Majesty's Government will ultimately take on this question. You must be aware, gentlemen, that the duty of a man in office is to give his opinion on the past, to speak of the present, but not to talk about the future. I can only say that I will faithfully convey the opinions of this important deputation, whom I have been very glad to have met, to my colleagues in the Government, and that they will secure every consideration."

The deputation then retired, thanking his lordship for the courtesy with which they had been received. The interview lasted nearly an hour.

Launch of a Russian Iron-clad.—On Monday an iron-cased vessel, built for the Russian navy from a Russian design, was launched at the Thames Iron Works at Blackwall, in the presence of an immense concourse of spectators. She is named the Pervenitz, or "Firstling," and is the first iron-clad ship in the Russian navy. She is built as a ram, and has not only a beak, but a monstrous projection under her bows level with the water-line, strong enough to transfix the stoutest three-decker that ever floated. Her sides slope inwards at an angle of 27 degrees with the view of assisting shot in glancing off them in action. These peculiarities are said to make her the ugliest vessel ever seen upon the river, and though in fair weather she would be a formidable antagonist to sailing vessels, it is expected that she will roll heavily and be very uncomfortable in a sea way. She will however draw only 14 feet of water when fully equipped for sea, less than any ship in the English iron-cased fleet, except the Enterprise, which is only one-third her size.

Election of a City Police Commissioner.—A Court of Common Council was held on Thursday for the election of a Commissioner of Police for the City, in the room of the late Mr. Daniel Whittle Harvey. There were twelve candidates, all of them

military men. By successive votes this number was at last reduced to two—Colonel James Fraser, Chief Constable of Berkshire, and Captain Congreve, of the Brigade Office, Chatham. At this stage the majority was nearly 100 in favour of the colonel, and Captain Congreve declined to put the Council to the trouble of another division. Colonel Fraser was therefore declared by the Lord Mayor to be duly elected.

LANCASHIRE RELIEF FUND.—At the meeting of the Mansion House Committee on Friday, the report stated that the total amount received up to the previous evening was 492,122*l.* 4*s.* 9*d.* The amount received during the week was 740*l.* 8*s.* 7*d.*, of which 181*l.* 4*s.* 9*d.* was from home, and 559*l.* 3*s.* 10*d.* from colonial sources. The sum already remitted for distribution in the distressed districts, including the amount for emigration, was 402,336*l.* 9*s.* 7*d.* 17 grants, amounting to 4430*l.*, were voted, and in consideration of the improved condition of the labour market, and the consequent diminution of distress, it was resolved to meet only once a fortnight for the future.

GRESHAM COLLEGE.—The Rev. Charlton Lane, M.A., of Jesus College, Cambridge, Incumbent of St. Mark's, Kennington, and rural dean of Southwark, has been elected Professor of Rhetoric in Gresham College. There were 14 candidates.

THE PEABODY FUND.—It is said that the trustees of this fund have nearly completed an arrangement for the purchase of a portion of the vacant ground in Victoria Street, Holborn Hill, for the purpose of erecting dwellings for the industrial classes.

THE ATTEMPTED MURDER AND SUICIDE AT WOOLWICH.—The inquest on the body of Mr. Roberts, the baker, at Woolwich, who hung himself in consequence of his servant girl charging him with having induced her to put poison in her mistress's supper beer, was resumed on Monday. The widow was examined, and stated that the girl had confessed to her she had put the poison in the beer, but said nothing about the complicity of her master. She also gave reasons for disbelieving the story altogether. Several witnesses deposed to the depressed spirits of the deceased, and the jury returned a verdict of Temporary Insanity. The girl herself has since been committed by the magistrate for trial on the charge of feloniously administering poison with intent to cause the death of Mrs. Roberts.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths in London in the week ending Saturday, May 16, were 1350. The average number in the corresponding weeks of the 10 years, 1853-62, corrected for increase of population, was 1214. The present return is therefore 136 above the average. The deaths from smallpox were 61, from scarlatina 89, from measles 55. During the week the births of 919 boys and 956 girls, in all 1875 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1881.

## Provincial.

BEDFORD.—The magistrates met on Friday to inquire further into the death of Mr. Budd, who was assaulted by some ruffians on Sunday week, and died on the following day. There were two civilians and three militiamen in custody on the charge, but at the commencement of the proceedings the magistrates ordered the militiamen to be set at liberty, stating that there was no evidence to implicate them, and expressing regret that suspicion should ever have been thrown on their conduct, as it appeared that instead of attacking the deceased, they came up after he had been assaulted and assisted him home. The case against the two civilians was adjourned. At the inquest on Wednesday, the evidence tended to turn the tables again against the militiamen. Lieut. Boultbee and a policeman, who saw deceased immediately after the outrage, deposed that he had told them the assault was made by soldiers. In this conflict of testimony the inquest was adjourned to obtain the evidence of Mrs. Budd, who was present with her husband when he was assaulted.

BRADFORD.—Mr. Rawlinson, the commissioner who was sent by Government into the manufacturing districts to report on the capability of the towns to afford employment for the distressed operatives, has made an interim report, in which he states the various towns that are in want of drainage, formation and pavement of streets, water works, parks, &c., at which the operatives could be profitably employed if Government would lend the money at a low rate of interest, and would pass a short Act to remove the difficulties in the way of the towns accepting it. Mr. Rawlinson reports that the operatives would almost all be willing to accept this kind of work, and he calculates that after a few weeks' practice, they would earn enough to take their families off the lists of charity.

LIVERPOOL.—The Great Eastern, under the command of Captain Paton, left the Mersey on Saturday morning for New York. She took out 600 passengers, 80 of whom were first-class. The rumour that the ship was to carry out 1300 recruits for the Federal service was incorrect, no application having ever been made to the agents of the Company to fit up accommodation for such a large number of male passengers.

MANCHESTER.—At the weekly meeting of the Executive Committee on Monday, the hon. secretary reported that the receipts of the week had been 1226*l.* 2*s.* 10*d.*, leaving a balance in the bank of 382,850*l.* 9*s.* 8*d.* Mr. Farnall reported that there was a further decrease on the 9th inst., in the number of persons receiving parochial relief in 27 unions, of 5071 as compared with the previous week, being a total decrease of 89,419 since the 6th December.

NORWICH.—About three weeks Mrs. W. F. Windham arrived in this city, with a view of effecting a reconciliation with her husband, though apparently without the slightest chance of effecting that object. Despite the indisposition at first manifested by Mr. Windham to receive her overtures, it is now reported that he has "made it up" with her. The suit which has been instituted in the Divorce Court will doubtless under these circumstances be abandoned, or, if prosecuted, will be evaded on the ground of condonation.

## Sporting.

### EPSOM SUMMER MEETING.

TUESDAY.—The *Craven Stakes.*—Mr. Hart's Adventurer beat Isoline, Comet, and 6 others. The *Heathcote Plate.*—Lord Stamford's Livingstone beat Miss Julia, Welland, and 8 others. The *Brighton Stakes.*—Mr. R. C. Naylor's Drummer Boy beat Libellous, Ellerton, Spicebox, and 14 others. The *Woodcote Stakes*—Count Lagrange's ch. f. Fille de l'Air beat Molly Carew, Procella, and 12 others. The *Rous Stakes.*—Baron Rothschild's Wingrave beat Ace of Clubs, Prince Plausible, and 7 others. The *Horton Stakes.*—Baron Nivière's Dirt Cheap beat Mr. R. Wales's b. f., Surbiton Hill, and Andromeda.

WEDNESDAY.—The heavy rain and cold north-east wind made this the most miserable Derby Day which has been known for years. The Prince of Wales was present, but the company as well as the amusements, were a sad falling off. The *Epsom Town Plate.*—Mr. W. Clay's Selection, beat Merry Maid, Libellous, and 9 others. The *Derby Stakes*—Mr. R. C. Naylor's b.c. Macaroni, beat Lord Clifden, Rapid Rhone, Blue Mantle, and 27 others. Upwards of an hour was consumed in 32 attempts to commence the race before the flag was lowered for the start, Lord Clifden took the lead and kept it round the Corner, and into the straight with the crowd of antagonists nearly two lengths behind him. But near the Stand the head of Macaroni showed nearer and nearer, and the powerful frame of Early Purl began to clear itself from the ruck, with Rapid Rhone close upon it. In 20 yards more Macaroni was close on Lord Clifden, who was called upon by his jockey with whip and spur. The favourite with an evident distress made an effort, turned his head from side to side as his lead diminished, and the head and mane of Macaroni showed clear above, but not beyond the favourite's. For 50 or 60 yards he struggled to maintain his lead, then slackened for a few seconds visibly, and lost by a head. There was a great shout as the numbers went up at the post, and Macaroni, Lord Clifden, and Rapid Rhone, were ranked respectively the first, second, and third in the Derby of 1863 The *Manor Plate.*—Mr. Rayner's Dirt Cheap beat Belgrave, Santhal, and 6 others. The *Bentinck Plate*—Mr. Bryan's Welland beat Creole, Queen of the Vale, and 10 others. The *Burgh Stakes.*—Mr. York's Blanche of Lancaster beat Wangle-eye, Neilgherry, and 2 others

THURSDAY.—The *Shirley Stakes*—Was void The *Two-Year-Old Stakes.*—Count Batthyany's Midnight Mass beat Tomato, Fille de l'Air, and 4 others. The *South-Western Stakes.*—Count Batthyany's Suburban beat Sauterelle, Tourist, and 5 others. The *Epsom Cup.*—Mr. J. N. Astley's Atherstone beat Zetland, Buckstone, and 3 others. The *Walton Stakes.*—Captain Goff's Mysterious Lady beat Surbiton Hill and Sevington. The *Grand Stand Stakes*—Mr. Fitzwilliam's Rubicon beat Millionnaire, Amy, and Energetic. Her *Majesty's Plate.*—Mr. I'Anson's Caller Ou beat Barchettina, Necklace, Baliverne, and Harvest Moon. The *Epsom Four-Year-Old Stakes.*—Lord Stamford's Lacydes walked over.

FRIDAY.—(By Electric Telegraph).—*Glasgow Plate.*—Ellerton beat Spicebox, Sauterelle, and 7 others. *Ewell Plate.*—Berkeley beat Odine, Principal, and 6 others. *The Oaks.*—Queen Bertha beat Marigold, Vivid, and 17 others. *Derby and Oaks Stakes*—Ruby f. beat Joy f., and 10 others. *Surrey Foal Stakes.*—Lord Clifden beat Jarnicoton. *Durdans Stakes.*—Flirtation beat National Guard, Overton, and 7 others.

CRICKET.—A single-wicket match between five players each, selected from the clubs of Messrs. Beck, Henderson & Child, Adelphi, Strand; and Messrs. James Carter & Co., Holborn, was played at Balham on Saturday, the 16th inst. The former was represented by Mr. W. Child, R. Dean, J. Braithwate, J. Cheeseman, and J. Tabritt; the latter by Mr. B. Ainsworth, one of the principals, A. Fraser,—Sharman, J. Ellis, and S. Simpson. A very close and exciting match resulted in a victory for the Adelphi Club by a very narrow majority. Messrs. Sharman and Dean "handled the ball" for their respective sides. The same houses will meet in an eleven-a-side contest at Balham on the 30th inst.; and a match is in contemplation about the latter end of June, between eleven of Messrs. Beck, Henderson, & Child's club and a like number from the firm of Messrs. Barr & Sugden, Covent Garden.

## Obituary.

THE HON. FREDERICK A. H. CHICHESTER, third son of the late Lord Templemore, died on the 18th inst. He was connected from early life with the Board of Control (now the India Office). He was born in 1824, and married in 1852 the eldest daughter of Mr Daniel Tighe of Rossanna, Wicklow

THE HON. ROBERT CURZON died on the 13th inst. in his 87th year. He was the youngest son of the first Viscount Curzon, and uncle of Earl Howe. He was born in 1774, and married, in 1808, the Right Hon. Baroness De la Zouche, by whom he leaves two sons—the Hon. Robert, married to the daughter of the late Right Hon. Sir Robert Wilmot Horton, Bart.; and the Hon. Edward, married to the sixth daughter of Mr. James Dannell.

SIR CULLING EARDLEY EARDLEY, Bart., died on Thursday morning at his seat in Hertfordshire. Owing to the prevalence of the small pox, he was re-vaccinated, in order to set an example to the persons of his household. From some derangement of blood, or other constitutional cause, it had not the desired effect. For the last three weeks he suffered severely, but no danger was apprehended until a few hours before his death. He was the son of Sir Culling Smith, Bart., by the second daughter and co-heir of Lord Eardley. He was born in 1805, and succeeded his father in 1829. He married in 1832, the daughter of the late Thomas William Carr, Esq., and has issue Eardley Gideon Culling and other children. He represented Pontefract in the Parliament of 1831, and was well known as the founder of the Evangelical Alliance. He assumed the name of Eardley by royal licence in 1847.

MR. WESTERN WOOD, M.P. for the city of London, died on Sunday morning at his residence, North Cray Place, Kent. He was attacked early in the week by inflammation of both lungs, accompanied by pleurisy, which baffled the skill of his medical attendants. He was the youngest son of the late Alderman Sir Matthew Wood, Bart., who represented the city of London in Parliament for 28 years. Mr. Wood was returned in July, 1861.

BIRTHS.—On the 17th inst, at Eaton Square, the Hon. Lady INGLIS, widow of Major-General Sir John Eardly Wilmot Inglis, of a son—17th inst, at 30, St. James's Place, the Hon. Mrs. WROTTESLEY, of a son—12th inst, at Hoveton Hall, Norfolk, the Hon. Mrs. RANDALL BURROUGHES, of a son—15th inst, at Woodville House, Blackheath, the Hon. Mrs. CHARLES WEBBER, of a daughter—15th inst, at the Newarke, Leicester, Lady CAVE, wife of Sir Mylles C. B CAVE, Bart., of a daughter.

MARRIAGES.—On the 19th inst, at St. George's, Hanover Square, Captain W. LLOYD BROWNE, 5th Royal Irish Lancers, eldest son of the late Colonel Browne, of Stout's Hill, Gloucestershire, to CHARLOTTE ELIZABETH, daughter of Lady ELIZABETH ORDE and the late General James Orde—19th inst, at Knockyn, Shropshire, LEOPOLD CUST, Esq., only son of Lieutenant-General the Hon. Sir Edward Cust, to ISABEL, fourth daughter of the late Vice-Admiral the Hon. CHARLES ORLANDO BRIDGEMAN—19th inst, at St. James's, Piccadilly, CHARLES LANGTON MASSINGBERD, Esq., of Gunby Park, Lincolnshire, to HARRIET, youngest daughter of the late Sir ROBERT WILLIAM NEWMAN, Bart., of Mamhead—19th inst, at Trinity Church, Tunbridge Wells, the Rev. EDWARD MILNER BARRY, B.A., vicar of Scothome, Lincolnshire, to ADELAIDE WILHELMINA CLARENCE, daughter of the late Sir JAMES DUNBAR, Bart., R.N., of Boath, Nairnshire, Scotland.

DEATHS.—On the 14th inst., at her residence, 39, Gloucester Place, Portman Square, the Countess Dowager of CARNWATH, aged 88—16th inst, in Hyde Park Square, the Hon. CATHERINE MUSGRAVE, widow of the late Archbishop of York and daughter of the first Lord Waterpark—14th inst, at Patshull, Staffordshire, MARY FLORENCE HENRIETTA, youngest child of the Earl and Countess of DARTMOUTH, aged 14 months—15th inst, at Elton Hall, Hunts, the Lady FANNY PROBY, eldest daughter of the Earl of Carysfort—14th inst, at Parham Park, Sussex, the Hon. ROBERT CURZON, third son of Assheton, first Viscount Curzon, aged 89—18th inst, at 8, Great Cumberland Street, the Hon. FREDERICK A. H. CHICHESTER, aged 39—13th inst, EMMA CHARLOTTE, youngest daughter of the late Admiral Sir EDWARD CODRINGTON, aged 49—15th inst, at the residence of her son-in-law, Hanover Lodge, Kensington Park, LOUISA HELEN, relict of WILLIAM MACDOWALL, Esq., of Woolmet, and daughter of the late Sir William Dunbar of Durn, Bart.—18th inst, at Cheshunt, Lieut.-General RICHARD JONES, R.A., aged 84—16th inst, at Atherton Grange, Wimbledon Park, Surrey, ALEXANDER KAY, Esq., J.P. for the county of Lancaster, aged 71—18th inst, at 20, Rutland Gate, ARTHUR MANNERS, Esq., aged 56—17th inst, at Heavitree, near Exeter, Major EDWARD WYNNE BRISTOW, of the Bengal Retired Service, and formerly of the 1st Bengal Native Infantry, aged 46—12th inst, at Wrentham Rectory, Suffolk, the Rev. STEPHEN CLISSOLD, honorary canon of Norwich Cathedral, aged 73—14th inst, at 57, Cambridge Terrace, Hyde Park, the Rev. CHARLES FORD, rector of Postwick, Norfolk, aged 69—9th inst, the Rev. THOMAS WM. HENRY BEAUCHAMP, rector of Buckenham and Hassingham, aged 73—13th inst, at 17, King Street, St. James's, the Rev. WM. SPENCER PHILLIPS, vicar of Newchurch-with-Ryde, Isle of Wight, and incumbent of St. John's Church, Cheltenham, aged 68—15th inst, at Wickham Rectory, Hants, the Rev. JONATHAN STACKHOUSE RASHLEIGH, aged 81.

## Markets.

### COVENT GARDEN, May 23.

Vegetables continue abundant. New Peaches and Nectarines have made their appearance, and realise as much as 42s. a dozen; inferior samples may however be had at half that price. Cherries of foreign growth are fetching from 2s. to 3s. per box weighing about 2 lbs. each. Oranges are plentiful. Pine Apples and Grapes are sufficient for the demand. Potatoes as last week; large supplies of new ones are still making their appearance from Cornwall and the Channel Isles. Cut flowers chiefly consist of Orchids, Pelargoniums, Cinerarias, Azaleas, Violets, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 7s to 10s | Lemons, per 100, 5s to 9s |
| Grapes, per lb., 8s to 14s | Oranges, per box, 15s to 20s |
| Strawberries, p. oz., 6d to 1s | — per 100, 5s to 10s |
| Pears, per doz., 18s to 24s | Nuts, small, p. bush, 14s to 18s |
| Apples, per doz., 9d to 1s 6d | Almonds, do., 18s |
| Figs, per doz., 12s to 15s | Walnuts, do., 10s to 16s |
| Melons, each, 3s to 7s | Kent Cobs, p. 100 lbs., 150s |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Green Peas, per qt., 4s to 6s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 6d to 1s | French Beans per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 100s | Asparagus, per 100, 2s to 5s |
| " Flukes, do., 100s to 120s | Shallots, per lb., 6d to 8d |
| " Rocks, do., 60s to 80s | Rhubarb, p. bundle, 2d to 4d |
| " Cups, do., 75s. to 85s | Garlic, per lb., 6d to 8d |
| Turnips, p. bunch, 3d to 4d | Lettuces, each, 1d to 2d |
| Carrots, do., 3d to 6d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun, 1s6d to 4s |
| Cucumbers, each, 1s to 2s | Mushrooms, p. pott., 1s to 1s 3d |
| Beet, per doz., 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch 2d to 4d |

### NEWGATE.—May 15.

Best Fresh Butter .. .. 12s. per dozen lbs.
Second do. do. .. .. 10s. "
Pork, 4s 0d. to 4s. 8d. per 8 lbs.

### METROPOLITAN CATTLE MARKET.

MONDAY, May 18.

The number of Beasts is not quite so large as on Monday last, and on the average that day's quotations are exceeded; yet trade was dull towards the close of the market. The supply of Sheep and Lambs is larger. Trade is slow, and late prices are with difficulty realised. Good Calves are not very plentiful, and command rather higher rates. From Germany and Holland there are 250 Beasts, 3820 Sheep, and 184 Calves; from Spain, 330 Beasts; from Scotland, 400; from Norfolk and Suffolk, 2800; and 100 from the Northern and Midland counties.

| | s | d | | s | d | | s | d | | s | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 | 10 | to | 5 | 0 | Best Long-wools .. | .. | | — | .. | |
| Best Short-horns | 4 | 8 | — | 4 | 10 | Do. Shorn .. | 4 | 6 | to | 4 | 8 |
| 2d quality Beasts | 3 | 2 | — | 4 | 4 | Ewes & 2d quality | .. | | — | .. | |
| Best Downs and Half-breds .. | .. | | — | .. | | Do. Shorn .. | 3 | 8 | — | 4 | 0 |
| Do. Shorn .. | 4 | 10 | — | 5 | 0 | Lambs .. .. | 6 | 0 | — | 7 | 0 |
| | | | | | | Calves .. .. | 3 | 8 | — | 5 | 4 |
| | | | | | | Pigs .. .. | 3 | 4 | — | 4 | 8 |

Beasts, 4170; Sheep & Lambs. 26,410; Calves, 209; Pigs, 510

THURSDAY, May 21.

The supply of Beasts is again small and the demand good, consequently Monday's prices are well maintained, and in a few instances exceeded. The number of Sheep is larger than on Thursday last. The trade is dull and no advance is realised on Monday's quotations. The demand for Lamb has decreased, and several remain unsold. Trade is slow for Calves at Monday's quotations. From Germany and Holland there

are 95 Beasts, 1620 Sheep, and 372 Calves; and from Spain, 30 Beasts. Milch Cows, 105

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 10 to 5 0 | Best Long-wools. | .. — .. |
| Best Short-horns | 4 8 — 4 10 | Do. Shorn | 4 4 — 4 8 |
| 2d quality Beasts | 3 2 — 4 4 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds | .. — .. | Do Shorn | 3 6 — 4 0 |
| Do. Shorn | 4 8 — 5 0 | Lambs | 5 8 — 6 8 |
| | | Calves | 3 8 — 5 4 |
| | | Pigs | 3 4 — 4 8 |

Beasts, 875; Sheep & Lambs, 8640; Calves, 527; Pigs, 190.

POTATOES, Southwark, Monday, May 18.

During the past week the arrivals coastwise, by rail, and from abroad have been small, and all fresh samples sold better, with a little advance in the prices. The following are this day's quotations:—Yorkshire Flukes, per ton, 120s. to 130s.; ditto Regents, 9[illegible]s. to 1[illegible]s.; ditto Seedlings, 85s. to 90s.; do. Rocks, 80s. to 90s.; Perth, Forfar, and Fife ditto., 60s. to 80s.; ditto Rocks, [illegible]s. to 70s.; ditto Reds, 50s. to 60s.; French Whites, 50s. to 55s.; Belgian do., 45s. to 50s.

COAL MARKET.—May 22.

Walls End Hetton, 16s. 9d.; Walls End Russel's Hetton, 15s. 6d.; Walls End South Hartlepool, 15s.; Walls End South Kelloe, 15s. 3d.; Walls End Hough Hall, 13s.; Walls End Wharncliffe, 14s 9d.; Walls End Kepier Grange, 15s. 9d.; Walls End Kelloe, 14s. [illegible]; Walls End [illegible], 1[illegible]s. [illegible]; Walls End Herton, 14s. 9d.; Walls End Tunstall, 14s. [illegible]; Wylam, 16s.; Powell's Duffryn Steam, 18s 6d; Tanfield Moor Butes, 13s. 6d.; Bebside Hartley, 15s.; Hastings Hartley, 15s.—204 ships at market.

HAY.—Per Load of 36 Trusses.
Smithfield, Thursday, May 21.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 72s | Clover, old | 90s to | 110s |
| Superior do. | 75 | 80 | New Clover | — | — |
| Inferior do. | 40 | 60 | Do. second cut | 80 | 105 |
| New do. | — | — | Straw | 30 | 36 |
| Rowen | 40 | 60 | | | |

Harvey & Easton.

Whitechapel, Thursday, May 21.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 76s to | 82s | Prime Clover | 108s to | 114s |
| Inferior do. | 60 | 70 | Inferior do. | 100 | 105 |
| Prime New Hay | — | — | Prime 2d cut | 100 | 108 |
| Inferior | — | — | Inferior do. | — | — |
| Straw | 28 | 32 | New 2d cut | — | — |

BRITISH WOOLS.—London, May 22.

Our trade continues in a healthy state, and prices firm, but from the short supply of many articles the prices quoted are almost nominal.

Colonial Wool Sales.—These sales are progressing at about the same rates as our last report, and fine parcels are taken on Continental account at the improved quotations then noticed.

HOPS.—Borough Market, Friday, May 22.

Messrs. Pattenden & Smith report the demand for Hops not quite so brisk as in the early part of the week. Prices firm.

MARK LANE.—Monday, May 18.

The supply of English Wheat to this morning's market was small, and met a slow sale at last week's rates, particularly the secondary and inferior qualities; the market was fairly attended, but foreign Wheat, both old and new, was neglected, and prices were unaltered. Barley brings last week's prices, and Beans and Peas are each 1s. per qr. dearer. Oats are a slow sale at a decline of 6d. per qr. Flour is but little inquired for, and prices are rather easier.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk..White | 46—56 | Red | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red | 42—52 |
| — — Talavera | 48—60 | | |
| — Norfolk | — | Red | — |
| — Foreign | 34—62 | | |
| Barley, grind. & dist., 23s to 30s..Chev. | 34—38 | Malting | 31—34 |
| — Foreign..grinding and distilling | 23—27 | Malting | 28—32 |
| Oats, Essex and Suffolk | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 23—26 | Feed | 21—23 |
| — Irish ....Potato | — | Feed | — |
| — Foreign....Poland and Brew | 20—22 | Feed | 17—22 |
| Rye | 35—37 | Foreign | — |
| Rye-meal, foreign | — | | |
| Beans, Mazagan....30s to 31s ...Tick | 31—32 | Harrow | 31—32 |
| — Pigeon ......34s—38s..Winds. | — | Longpod | — |
| — Foreign ......Small | 40—46 | Egyptian | 32—34 |
| Peas, white, Essex and Kent..Boilers | 35—37 | Suffolk | 37—40 |
| — Maple ....42s to 43s ..... Grey | 36—37 | Foreign | 30—38 |
| Maize ......White | — | Yellow | — |
| Flour, best marks delivered..per sack | 42—47 | | |
| — 2d do ....ditto | 32—40 | Country | 33—40 |
| — Foreign ......per barrel | 23—30 | Per sack | 34—48 |

Friday, May 22.

Since the 15th inst. we have had a great deal of heavy rain, which appears to have been general, and will prove very beneficial to the spring crops and late grass. The Wheat trade has continued without activity, although in some markets slightly firmer. The weather and liberal arrivals have caused Oats to decline 6d. per qr. here, but in the country they and other descriptions of spring corn have brought fully former prices. Flour is difficult of sale, and the turn of prices in favour of buyers. Since Friday last 54 vessels have been reported off the coast. A moderate business has been done in floating cargoes; there was not much disposition to buy Wheat, and the prices for this article are barely maintained. Maize, Barley, and Linseed advanced about 6d per qr., and are in good demand. In Paris (May 21), business in Wheat and Flour continues to be very limited, and although on the finest descriptions holders exact late prices, and occasionally an extra 6d., nevertheless the majority of buyers are not disposed to purchase at former rates. The present stock of Flour is estimated at 73,8[illegible] cwts. The six marks for delivery this month are quoted equal to 39s. [illegible]d. per 280 lbs. The arrivals of English grain are very small, of foreign Wheat and Barley good, Oats large, and of Flour moderate. To-day's market was badly attended. English Wheat met with an improved inquiry at slightly advanced prices; foreign was taken slowly at the late extreme rates. There was no alteration in the value of Barley, Beans, and Peas. With a large arrival of Oats, it was necessary to submit to a decline of 6d. per qr. to effect sales.

Arrivals this Week.

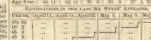
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 860 qrs. | — qrs. | 100 qrs. | 1050 sks. |
| Irish .... | — | — | — ,, | — ,, |
| Foreign .. | 19,970 | 2110 ,, | 45,420 ,, | 120 ,, 7230 brls |

Liverpool, May 19.—We had a good attendance of the trade at to-day's market. We have had a fair consumptive demand for Wheat at the full prices of last Friday. Flour steady without alteration in value. Indian Corn was taken to a moderate extent at late rates. Oats and Oatmeal are held firmly at outside figures. New Egyptian Beans being offered more freely, declined 6d. per qr.; the same remark applies also to Peas. Barley unchanged. The market showed more tone throughout, and closes with firmness.

Friday, May 22.—Moderate attendance. Wheat fair request at Tuesday's rates. Flour dull. Indian Corn steady. Egyptian Beans no change in value. Oats and Oatmeal no change.

| Averages | Wheat | | Barley | | Oats | | Rye | | Beans | | Peas | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| April 11. | 45s | 6d | 36s | [illegible] | 21s | 5d | 31s | 9d | 35s | 11d | 35s | 2d |
| — 18 | 45 | 6 | 35 | 4 | 21 | 6 | 30 | 5 | 36 | 6 | 36 | 2 |
| — 25 | 45 | 8 | 35 | 3 | 21 | 11 | 30 | 6 | 36 | 11 | 36 | 5 |
| May 2 | 45 | 9 | 34 | 6 | 21 | [illegible] | 30 | 8 | 37 | 3 | 36 | 6 |
| — 9 | 46 | 2 | 34 | 4 | 22 | 1 | 30 | 11 | 37 | 6 | 34 | 6 |
| — 16 | 46 | 9 | 34 | 5 | 21 | 11 | 32 | 7 | 38 | 3 | 35 | 8 |
| Agg. Aver. | 45 | 11 | 35 | 11 | 21 | 8 | 31 | 2 | 37 | 1 | 35 | [illegible] |

Fluctuations in the Last Six Weeks' Averages.




To Gardeners.

ESTIMATES for KEEPING in ORDER the ENCLOSED GARDEN of BELGRAVE SQUARE, [with Testimonials, to be sent before the [illegible] May [illegible], to the Secretary, Mr. Geo. Goldsmith, [illegible], Pont Street, Belgrave Square, who will give all necessary information.

WANTED, a good ANALYTICAL CHEMIST, capable of taking charge of the Manufacture of Chemical Manures, Linseed Cake, &c. None but parties producing unexceptionable references as to character, ability, and trustworthiness, need apply. Liberal remuneration will be given to a suitable party. A member of the Society of Friends preferred.—Apply to Box 1[illegible], Post Office, Belfast.

WANTED IMMEDIATELY, an active, steady YOUNG MAN, from 18 to 23, to take charge of a Flower Garden, and assist the Foreman in 14 Forcing Houses and Pits. Wages 1[illegible]s per week, live in the bothie, and have milk and vegetables. He must know something of a gentleman's garden and be determined to improve himself. A small Premium required, either at once or by weekly payments.—Address, W. Kitley, Portnall Park, Staines.

WANTED, a WORKING GARDENER.—Wages [illegible] per week.—B. C., 2[illegible], Bishopsgate Within, E.C.

WANTED, in a FARM HOUSE, a trustworthy MAN and WIFE, without incumbrance, under [illegible] years of age, who have been accustomed to service. Man as Gardener and Groom, and to be generally useful in the Farm. Wife as Cook, and to take charge of Poultry.—Address, with full particulars, W. H[illegible]' Library, Park Street, Camden Town, N.W.

## WANT PLACES.—Letters to be Post Paid.

To Noblemen and Gentlemen.

DAVID KIDD, F.R.H.S., will shortly be disengaged owing to the death of his late employer, the Marquis of Breadalbane, and formerly that of the late Rt. Hon. Sir William Molesworth, Bart. D. K. is extensively known and recommended as one of the best scientific practical men of the present day in every department of Horticulture. Is middle-aged, without family. D. K. also takes this opportunity, until re-engaged, to offer his services to the public, in giving Instructions and Advice, &c. for the better Management of Old Gardens in general; also with Plans and Estimates for the formation of New ones, and including all kinds of Horticultural Buildings, &c. Charges will be moderate.—D. K., Surbiton, Kingston, Surrey; or to Messrs. Osborn & Sons, Fulham, London.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (Head).—Age 43, married; a thoroughly practical man. No place accepted where there are less than three kept. Nine years' good character.—M. A., Mr. Wagstaff, Wright Street, Small Heath, near Birmingham.

GARDENER (Head).—Age 28; thorough knowledge of all kinds of Forcing, Stove and Greenhouse Plants, Kitchen, Fruit, and Flower Gardening. Good character.—W. Winfield, Burleigh, Cheshunt, Herts.

GARDENER (Head).—Middle-aged, married, one child, age 13; sound practical experience. Wife able to take any capacity if required.—A. B., Humphrey, Tobacconist, near Forest Hill Station, Kent.

GARDENER (Head).—Well experienced in his profession in all its branches, the Forcing of Fruit, Flowers, and Vegetables, and the routine of Kitchen and Flower Gardens. Good character.—W. H., Messrs. Lee's Nursery, Feltham, Middlesex.

GARDENER (Head).—Age 30, married, no incumbrance; has a thorough knowledge of his profession in all its branches. Three years' excellent character from last and previous employers.—A. B., 3, Dorothy Cottages, Southwood Lane, Highgate, N.

GARDENER (Head).—Age 37, married, no incumbrance; has a practical knowledge of Forcing in all its branches; Stove and Greenhouse Plants; Fruit, Flower, and Kitchen Gardens.—J. P., 20, Park Place, Park Road, Clapham, Surrey, S.

To Noblemen and Gentlemen.

GARDENER (Head).—Middle-aged, married, no incumbrance; understands all kinds of Forcing and Plant Cultivation, with Fruit, Flower, and Kitchen Gardening. Fifteen years' excellent character.—A. B., 5, Wimbush Grove, Hitchin, Herts.

GARDENER (Head).—Age 39, married; has had 24 years' experience in Early Forcing, Vines, Pines, Peaches, Melons, and Cucumbers; thoroughly understands Orchids, Stove and Greenhouse Plants, the Orchard House, Flower and Kitchen Gardens, Laying out, Erecting, and Heating Horticultural Buildings, with Park and Plantation work. Character unexceptionable.—T. H., Mr. Williams, Paradise Nursery, Holloway, N.

GARDENER (Head).—Mr. George Vallance, aged 40, upwards of 16 years Gardener at Farley Castle, near Bath, is at liberty to engage with any nobleman or gentleman in want of a good practical Gardener. He has a thorough knowledge of his profession in all its branches. He is leaving his present situation in consequence of a change of tenancy. Most satisfactory testimonials can be given as to character and ability.—G. D. Vallance, Farley Castle, Beckington, Bath, Somerset.

GARDENER (Head), age 28.—Mr. Blake, Ombersley Court, Droitwich, can with confidence recommend his Foreman to any nobleman or gentleman requiring the services of a good, steady, industrious Gardener. He has a practical knowledge of Forcing Fruits, Flowers, and Kitchen Gardening in all its branches.—Address as above.

GARDENER (Head) to any nobleman or gentleman.—Age [illegible], married, no incumbrance; well experienced in Early and Late Forcing, Growing Orchids, Stove and Greenhouse Plants, and the general routine of Gardening. Good testimonials can be given. No objection to Ireland, Wales, or Scotland.—J. B., Fraser's Nursery, Lea Bridge Road, Leyton, E.

GARDENER (Head), where two are kept.—Age 26, single; understands the culture of Vines, Cucumbers, and Melons, Greenhouse and Conservatory. Good character.—A. B., Post Office, Penge, Surrey.

GARDENER (Head, or Otherwise).—Age 35, married, two children; leaving his present situation in consequence of the death of his employer.—T. H., Post Office, Stockton, near Stourport, Worcestershire.

GARDENER.—Age 32, single; understands the Management of Vines, Pits, &c., Flower and Kitchen Gardens; can Drive or M[illegible]. Three years' character.—G. H., 2, Fairview Place, Tulse Hill, Brixton, S.

GARDENER.—Married, no incumbrance; has a practical knowledge of his profession. Wife willing to assist in a Family. Good references.—George W[illegible], Bru[illegible] Hill, Oadby, Leicester.

GARDENER (Second).—Understands Orchids, Stove and Greenhouse Plants, &c. Good recommendation.—H. H., [illegible], Hawkhurst, Kent.

GARDENER (Under or Head).—Good knowledge of Forcing Pines, Vines, Melons, Cucumbers, Peaches, and Nectarines; also Stove and Greenhouse Plants of every description.—W. B., Grittleton Park, Chippenham, Wilts.

GARDENER (Under or Single-handed).—Age 25; [illegible] years' experience in several good Establishments; understands Forcing. Can be well recommended.—H. G., 1[illegible], [illegible] Street, St. Katharine's Docks, London, E.C.

GARDENER (Under).—Single; good character.—D. D., Post Office, Turner's Hill, Cheshunt, Herts.

GARDENER (Under), in a small Family, where two or more are kept.—Age 2[illegible].—W. D., Post Office, W[illegible], Surrey, stating terms per week.

GARDENER (Under).—Age 22; wishes to improve himself. A premium would be given if required. Good testimonials.—Address, stating wages given, to G. B., at Mr. [illegible]'s, Hever, Kent.

FOREMAN in the Houses.—Age 25; understands the Management of Fruit, Stove and Greenhouse Plants, Ferns, &c.—W. G., [illegible]borough Manor, near Stroud, Gloucestershire.

PROPAGATOR or FOREMAN.—A good Propagator and Grafter, and also a good Plant Grower.—References sent on application to 1, Southcoats Lane, Holderness Road, Hull.

PROPAGATOR, or FOREMAN and PROPAGATOR.—Good experience in the Propagation and Growing of Plants in a General Nursery.—L. D., Post Office, Lower Tooting, London, S.

NURSERY SALESMAN, FOREMAN or MANAGER.—Of thorough practical experience and knowledge of Plants; also as a Designer and general Landscape Gardener.—M. E., Messrs. Carter & Co., Crystal Palace Nursery, Perry Hill, Sydenham, S.E.

BAILIFF, GARDENER, or GENERAL MANAGER.—Middle-aged, industrious and practical; well up in most branches of Horticulture, Agriculture, Breeding, Rearing, Sale and Purchase of Farm Produce, Timber, &c., Repairs and Improvement of Farm and other Buildings, Tile Draining, Collecting Rents, &c. No objection to Ireland. Unexceptionable character.—John Kirk, Royal Horticultural Gardens, Kensington, W.

To Noblemen and Others.

LAND STEWARD.—The Advertiser has had the Management of an extensive Farm in Scotland, and can give good references as to ability and character.—J. S., 8, Inkerman Road, Kentish Town, London, N.W.

To Noblemen and Gentlemen.

LAND STEWARD.—Has had the Management of a large Estate in one of the Midland Counties for many years; will be at liberty in July, and is desirous of a re-engagement. He has had many years of practical experience in the Management of Land, Timber, Woods, Plantations, and the Superintendence of all Repairs; also a large Farm Stock, &c., as well as the general business of an Estate. Testimonials and the most unexceptionable references can be given.—C. M., Post Office, Canterbury.

FARM STEWARD or BAILIFF.—Age 39, married, no incumbrance; a Scotchman; has a thorough knowledge of Farming and Cattle. The highest testimonials can be given.—A. B., 45, Shakespere Street, Manchester.

FARM BAILIFF, in July next, or earlier if required.—Married, with one child; is a good Judge in Breeding and Rearing of Stock, and is thoroughly practical in Farming. Can have a good character for the same.—J. W., Felderland Farm, Sandwich, Kent.

To Nurserymen and Seedsmen.

SHOPMAN and TRAVELLER, or MANAGER in a Provincial Nursery and Seed Business. Has had considerable experience in all departments. First-class Salesman. Unexceptionable references.—W. C., Mr. J. S. Haywood, Seed Merchant, Worcester.

FOREMAN and PLANT GROWER.—Has had 20 years' experience in Propagation, Culture, and Trade requirements.—Horti, 26, Nicholas Street, Hoxton, N.

PROPAGATOR, MARKET GROWER, and SALESMAN.—Experienced both in Hard and Soft-wooded Plants. Well recommended.—A. B., *Gardeners' Chronicle* Office, W.C.

PROPAGATOR, or PROPAGATOR and FOREMAN.—Great experience in first-class Establishments, London and Provincial; a first-class Graftsman, Hard and Soft wooded. A good Cultivator of Nursery Stock in general. Good references.—W. R., *Gardeners' Chronicle* Office, W.C.

CLERK.—Age 20, the son of a Nurseryman, well educated and respectably connected. Good references.—A. B., Mr. Evans, 75, North Street, Chichester.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, MAY* 30, 1863.


NOTICE.—SMITH, BECK AND BECK, MANUFACTURERS of MICROSCOPES, TELESCOPES, STEREOSCOPES, and other Optical and Scientific Instruments, have REMOVED from 6, Coleman Street to 31, Cornhill, E.C.

*** Our Customers will find these new Premises very superior in size, convenience, and position to those we have just left. SMITH, BECK & BECK.

**Under the Patronage of Her Majesty.**

CLARK AND HOPE (late CLARK), HORTICULTURAL BUILDERS, COPPER, SASH, and HOT-WATER APPARATUS MANUFACTURERS, 55, Lionel Street, Birmingham.
Established A.D. 1818.

**Card.**

SAMUEL N. McGERROW,
GENERAL HORTICULTURAL BUILDER,
Knotty Ash, near Liverpool.

Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

**Heating.**

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

Apply to JOSEPH MEREDITH, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

HOT-WATER PIPES, at Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, TUBULAR, and Elliptic, from 24s. each. Improved Boilers and Iron Stands to use without brickwork, 50s. each. Valves from 11s. each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at

Mr. LYNCH WHITE's Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S.

**Hothouses for the Million.**—AWARDED A PRIZE MEDAL AT THE INTERNATIONAL EXHIBITION, 1862.

HOTHOUSES for the MILLION.—On the principle invented and patented by Sir Joseph Paxton, M.P., combining simplicity, cheapness, excellence, and durability, being capable of fulfilling, in the most perfect manner, all the requirements of Horticulture.

Illustrated Circulars, with Lists of Prices, can be had on prepaid application to SAMUEL HEREMAN, 7, Pall Mall East, London.

Also, A HANDBOOK on VINE and FRUIT TREE CULTIVATION, price 1s.; post free, 1s. 1d.

T. G. MESSENGER, HORTICULTURAL BUILDER and ENGINEER, Loughborough.

T. G. M.'s PATENTED BUILDINGS combine all the modern improvements, are most effectually ventilated by means of his unequalled Apparatus, can be made either plain (and which are at the same time elegant in appearance), or of the most elaborate design. They can be fixed as permanent buildings, or made to be portable.

T. G. M.'s HEATING APPARATUS continues to give the greatest satisfaction for its heating qualities and small consumption of fuel.

ILLUSTRATED CATALOGUES of the above, Glazing without Putty, Garden Engines, &c., sent upon application.

RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3d. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3l. 10s.

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

**HEATING BY HOT WATER.**

MONRO'S CANNON BOILER.

J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

PLANS, ESTIMATES, and DESCRIPTIVE CATALOGUES

SENT POST FREE ON APPLICATION TO

J. JONES,

6, BANKSIDE, LONDON, S.E.

W. J. HOLLANDS, IRON MERCHANT, 31, Bankside, London, S.E.

HOT WATER PIPES, from Stock, per yard:—2-inch, 1s. 2d.; 3-inch, 1s. 10d.; and 4-inch, 2s. 4d. BENDS, from stock, 1s. 7d., 2s. 6d., and 3s. 3d. each. THROTTLE VALVES, 10s. 6d., 13s. 6d., and 15s. each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

**Greenhouses, Orchard-houses, and Conservatories.**

H. FREEMAN'S HORTICULTURAL WORKS, Triangle, Hackney, N.E. Established 20 years.

Good substantially made GREENHOUSES, glazed, ready for fixing, 42 feet by 13 feet, 50l.; 21 feet by 13 feet, 28l.; 12½ feet by 10 feet, 15l. ORCHARD-HOUSES 10 per cent. cheaper.

A handsome CONSERVATORY, 46 feet by 19 feet, for Sale. Estimates given.

**Horticultural Buildings and Heating by Hot Water.**

BURY AND POLLARD, Park Iron Works, New Park Street, Southwark, S.E., Manufacturers of every description of Buildings for Horticultural purposes, with their improved CONICAL BOILER for heating the same, are prepared to undertake works of any magnitude, and refer, among others, to the celebrated range of Forcing Houses at Her Majesty's Gardens, Frogmore; at Sir Robert Peel's, Drayton Manor, constructed under the superintendence of their manager, Mr. John Jones; and to the works at Frognal the seat of Viscount Sydney, the Lord Chamberlain, just completed by them.

Prices of Boilers and every particular on application.

**To Horticultural Builders (in Metal or Wood), Hotwater Engineers, &c.**

JOHN JONES will be at liberty after the 24th of June to offer his services to any in the above trades.

J. J.'s experience in HOTHOUSE BUILDING has been extensive; and varied from the simple and smallest Garden structure to the most extensive Horticultural arrangements. Among the latter are the ranges of Houses erected in the Royal Gardens, Frogmore. And among his varied experiences in Hot-water Apparatus he refers to his superintendence of the arrangements and fixing of the entire apparatus for Heating the Crystal Palace, Sydenham.

Any application addressed to JOHN JONES, 17, New Park Street, Southwark, London, S.E., will be immediately replied to.

PATENT ELECTRICAL PLANT PROTECTOR for the preservation of Plants, Flowers, and Shrubs from Snails, Worms, Slugs, &c.

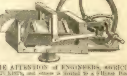
This Protector being composed of zinc and copper, or of any two metals combined in such a manner as to form an electrical couple, constantly gives off a certain amount of electricity, rendering plants entirely secure from the attacks of Slugs, &c., as it has been discovered to be perfectly impossible for any insect or worm to crawl over a combination of these two metals.

Being formed in plain and ornamental designs for borders, beds, &c., it is applicable to all gardens, terraces, &c.; it is also made in the form of Plant Guards to encircle the stems.

Illustrated Lists of Prices post free on application to ROBERT B. LEE & Co., Sole Manufacturers of the Patent Plant Protector, 22, Market Place, Manchester.

**Norton's Patent V Shaped Pumps,**

REQUIRING NO PACKING.
CAN BE WORKED BY HORSE, STEAM, OR OTHER POWER.



THE ATTENTION of ENGINEERS, AGRICULTURISTS, and others is invited to a 6-Horse Direct Action Steam V Shaped Pump, by Messrs. GEO. FORRESTER & Co., Liverpool, which will throw upwards of 60,000 Gallons per hour. Now on view at the Warehouse, Red Bull Wharf, 93, Upper Thames Street.

G. C. WARDEN & Co., Sole Licensees, 12, London Street, London, E.C.

JOHN WARNER AND SONS,
8, Crescent, Cripplegate, London, E.C.

No. 554.

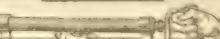
WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

| | | |
|---|---|---|
| 10 gallons | .. | £2 15 0 |
| 16 ,, | .. | 3 15 0 |
| 24 ,, | .. | 5 0 0 |

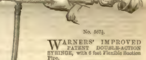
Larger sizes may be had in either Wood or Iron.

WARNERS' SWING GARDEN BARROW (holding about 25 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | | |
|---|---|---|
| 25 gallons | .. | £2 10 0 |
| 20 ,, | .. | 2 0 0 |



BRASS SYRINGES of all kinds from 9s. to 21s.



No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 6 feet Flexible Suction Pipe,

21s.,

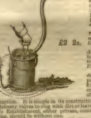
Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

THERE ARE NO SUCTION OR DELIVERY VALVES, hence MUCH FRICTION AND LIABILITY TO CHOKE with leaves and dirt IS AVOIDED.

AMERICAN PORTABLE FIRE ANNIHILATOR and GARDEN ENGINE.



£2 2s.

An efficient means of Extinguishing Fires at their commencement. Nine out of ten Fires in London are put out on their first appearance by the London Fire Brigade with Hand Pumps of considerably less power.

One man will throw 7 or 8 gallons per minute from 40 to 50 feet with it.

It is an effective Garden Engine for cleansing or syringing Wall-fruit or Rose Trees, Plants, or Vines.

It may be used to draw water from the pail in which it is fixed, or from a tank or pond by the addition of the required length of suction. It is simple in its construction, having no suction or delivery valves to clog with dirt or leaves.

No Establishment, either private, commercial, or manufacturing, should be without one.

Six feet of Flexible Suction, with Union and Suction Rose, &c., extra, 12s. Longer lengths of Suction at 1s. 6d. per foot.

The above may be obtained of all Ironmongers and Seedsmen in Town and Country, or of the Manufacturers,

JOHN WARNER & SONS, 8, Crescent, Cripplegate, London, E.C.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. TYLOR & SONS' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. |
|---|---|---|
| £2 13 6 | £3 5 0 | £3 15 0 |
| 24 gal. | 30 gal. | |
| £5 0 0 | £5 18 0 | |

Fig. 571.

J. TYLOR & SONS' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0 |

Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 ,,
Telescope Branch Pipe for ditto .. 0 10 0 ,,

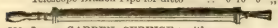


Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11s. 6d. each
,, 589. Middle Ditto ditto .. 10 3 ,,
,, 588. Small Ditto ditto .. 9 0 ,,
,, 587. LADIES' GARDEN SYRINGE, with do. 7 6 ,,

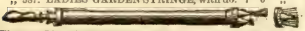


Fig. 591. READ'S SYRINGE, with two roses and one jet, 17s. 6d
READ'S SYRINGE. with one rose and jet, 15 0
,, 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. TYLOR & SONS' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

J. TYLOR & SONS, Manufacturers, Warwick Lane, Newgate Street, London, E.C.

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PRIZE MEDALS OF 1851 AND 1862 WERE AWARDED TO

JAMES PULHAM, Broxbourne, Herts. Also Notice of ARTISTIC MERIT, and of SOUND and DURABLE MATERIAL. There were

PULHAM'S FOUNTAINS.—The best shown in Terra Cotta.

PULHAM'S NOVEL FERNDELABRUM.—To grow SIXTY FERNS (or Flowers) on a space of 4 ft. 8 in. over, 8 ft. 6 in. high. Price 9l.

PULHAM'S NOVEL CONSERVATORY TUBS.—The best at the Horticultural Garden Show in Terra Cotta. A 2 ft. one in one piece with rising bottom, 25s.

PULHAM'S GARDEN STEPS, inlaid with black and red tiles, 1s. 6d. per foot.

Also Vases, Flower Baskets, Figures, Art Flower Pots, &c.

Illustrations in *Art Journal*, *The Masterpieces*, and among the Stereoscopic Gems of the Exhibition.

A Set of Stereographs sent to inspect for 12 stamps.

Waterfalls, Ferneries, Caves, and other Rockwork, executed in perfect imitation of natu re.

### Terra Cotta.

MARK H. BLANCHARD AND CO., Successors to 'COADES,' Established 1769, TERRA COTTA MANUFACTURERS to her Majesty, the Commissioners of 1851, the Board of Works, the Admiralty, the Trinity House, the Royal Horticultural Society and the Department of Science and Art, South Kensington, Recipients of the Prize Medal for Terra Cotta at the '51 Exhibition, and the only Recipients of the Two Prize Medals at the '62 Exhibition, for Terra Cotta and Pottery—beg to inform the Nobility, Gentry, and others, that the whole of the beautiful Columns to the Arcades, Vases, Tazzas, and other Terra Cottas at the Royal Horticultural Gardens were executed by them, and they are prepared to supply Vases, Tazzas, Pedestals, Statues, Terminals, Balustrading, and every other decoration in this invaluable and imperishable material, suitable for the adornment of the Conservatory, Flower Garden, and Grounds, at prices which defy competition, as the works of this Establishment have stood the test of time.

Works and Show Rooms, Blackfriars Road, London, S.
Estimates furnished and Illustrated Catalogues forwarded on the receipt of 6 Postage Stamps.

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HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.

Sold in casks of about 30 gallons each, at 1s. 6d. per gallon, at the Manufactory, or 1s. 8d. per gallon paid to any station in the kingdom.

Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

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FOR FACTORIES, HOT-HOUSES, CONSERVATORIES, GARDEN FRAMES, PITS, AND DWELLING-HOUSES, &c.

THE LONDON CO-OPERATIVE OIL and COLOUR COMPANY (Limited), from their connection with some of the largest British and Foreign Glass and Lead Manufacturers, are prepared to supply White Lead, Zinc Paint, Mixed Paints in all Colours; and strong Sheet, Rough Plate, and every other description of Glass in Crates, Cases, or Cut to Size for Home Use or Export at the very lowest wholesale prices. Gardeners, Nurserymen, and others advised as to the best mode of Erecting, Heating, Ventilating, and Glazing Pineries and other Forcing Houses. Farmers, Stewards, Market Gardeners, &c., supplied with Stucco, Anticorrosion, Metallic Oxide, and Mixed Paints ready for use for Dwelling Houses, Farm Buildings, Park Fences, Ships' Bottoms, &c.

Apply for ILLUSTRATED LISTS to Mr. THOMPSON, Manager, 65, 66, & 67, St. George's Street, London Docks, E.

## PORTABLE HOT-WATER APPARATUS,

WITH TRUSS'S PATENT JOINTS FOR HEATING CONSERVATORIES, HOTHOUSES, &c.

## T. S. TRUSS

Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—

TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet ... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet ... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet ... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

Estimates and Plans forwarded on application to

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## HORTICULTURAL TOOLS.

DEANE'S MOWING MACHINES, with Patented Improvements, 4l. 12s., 6l. 10s., 7l., 8l.
GARDEN ENGINES, Galvanised Iron. Prices 5[illegible], 65s., 78s., 90s., 100s., 110s.
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FLOWER STANDS, 4s. 6d. each.
CAST-IRON ORNAMENTAL FLOWER STANDS to hold Seven Vases, 27s.
GREEN'S PATENT MOWING MACHINES.
GREENHOUSE SYRINGES, 8s., 10s., 18s. 6d.
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GARDEN STOOLS, 4s. 6d.
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BOYD'S SELF-ADJUSTING SCYTHE, 10s. 6d.
WIRE WORK, 18 in., 4d. per yard run.

*Every Implement for Garden use on the lowest terms.*

DEANE'S NEW ILLUSTRATED HORTICULTURAL LIST POST FREE ON APPLICATION.

DEANE'S, OPENING TO THE MONUMENT, LONDON BRIDGE, E.C.

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BATH AND WEST OF ENGLAND SOCIETY,

TWO OF AVELING'S

## PATENT AGRICULTURAL LOCOMOTIVE ENGINES

WERE EXHIBITED.

FIRST PRIZE TO THE MANUFACTURERS.

MORE THAN SIXTY OF THESE ENGINES ARE NOW AT WORK.

*Illustrated Catalogues on application.*

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SHAW'S TIFFANY.
For samples and prices apply to
J. SHAW & Co., 29, Oxford Street, Manchester.

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**To the Nursery and Seed Trade.**

BROWN'S FLORAL SHADING, the cheapest and best material for protecting Plants under Glass from Sun. Prices on application to CHAS. BROWN, Greenheys, Manchester

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TANNED NETTING, at reduced prices, 1*d.* per square yard; 200 yards, 14*s.*; 500, 30*s.*; 1000 yards, 50*s.* SCRIM CANVAS, for Wall Fruit; GARDEN MATS; GREENHOUSE SHADES.
Be particular. FREDERICK EDGINGTON & Co., Rick Cloth Manufacturers, Thomas Street, Old Kent Road, London, S.E.

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TANNED NETTING for the protection of Fruit Trees at 1*d.* per square yard: 200 yards, 14*s.*; 500 yards, 30*s.*; 1000 yards, 50*s.*; SCRIM CANVAS for Wall Fruits; SUN BLINDS, AWNINGS, TULIP COVERS, &c.
Be particular. JOHN EDGINGTON & Co., 17, Smithfield Bars, E.C.; 108, Old Kent Road, S.E.; and 18, Piccadilly, W.

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TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½*d.*; 2 yards, 3*d.*; 3 yards, 4½*d.*; and 4 yards, 6*d.* per yard run, in any quantity, may be had at CHAS. WRIGHT'S, 376, Strand, W.C.
VARNISHED FLOWER STICKS:—1 foot, 3*d.*; 1½, 4*d.*; 2, 5*d.*; 2½, 7*d.*; 3, 10*d.*; 4, 1*s.* 6*d.* per dozen. DAHLIA do., per dozen:—3 feet, 1*s.* 6*d.*; 4, 2*s.* 3*d.*; 5, 3*s.*; 6, 3*s.* 6*d.* An allowance to Nurserymen.

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**Netting for Fruit Trees, Seed Beds, Ripe Strawberries, &c.**

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c., 2 yards wide, 3*d.* per yard, or 100 yards, 20*s.*; 4 yards wide, 6*d.* per yard, or 50 yards, 20*s.* NEW TANNED NETTING, suited for any of the above purposes, or as a Fence for Fowls, 2 yards wide, 6*d.* per yard; 4 yards wide, 1*s.* per yard; ¾-inch mesh, 4 yards wide, 1*s.* 6*d.* per yard.
Can be had in any quantity of EATON & DELLER, 6 and 7, Crooked Lane, London Bridge, E.C.

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CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
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## News of the Week.

THE House of Commons re-assembled on Thursday after the Whitsuntide recess. On the report of the resolution of Committee of Supply for the vote on account of the packet service, Mr. WALPOLE called attention to the unusual course adopted by the Government in coupling the vote with the condition that no portion of the amount should be applicable to the contract with Mr. CHURCHWARD for the conveyance of the mails between Dover, Ostend, and Calais. He contended that the form of the vote in supply was strictly limited to the grant proposed to be given to the Crown; and that the consequences of attaching such a condition to it would be to alter the relations of the House to the Crown and to the other House of Parliament in matters of supply. He moved as an amendment that all the words of the resolution relating to Mr. CHURCHWARD's contract should be struck out. The CHANCELLOR of the EXCHEQUER defended the resolution both in form and substance. Mr. CAVE, Lord J. MANNERS, Mr. LINDSAY, Lord R. CECIL, and Sir F. KELLY, supported the amendment, but the report of the resolution was agreed to on a division by 205 to 191. The House then went into Committee of Ways and Means, when the CHANCELLOR of the EXCHEQUER moved his resolution abolishing the exemption of excursion trains from duty. After a short discussion the resolution was agreed to. The Land Drainage (Provisional Orders) Bill was referred to a select committee, an amendment by Sir S. NORTHCOTE to refer it to a committee of the whole House having been negatived by 56 to 18. The Drainage and Improvement of Land (Ireland) Bill passed through committee. On the motion for resuming the adjourned debate on Mr. DILLWYN's motion on the religious endowments of Ireland, The O'DONOGHUE moved the further adjournment to the 5th June, in order that time might be given to the Irish members to be in their places. After a short discussion, the motion was agreed to. The District Parochial Churches (Ireland) Bill passed through committee. The Execution of Decrees Bill was read a second time. Lord C. PAGET obtained leave to bring in a Bill to establish officers of the royal naval reserve.

From the United States we have the melancholy announcement of the death of General STONEWALL JACKSON. He was so seriously wounded in the arm by an accidental shot from one of his own men during the engagement in which he defeated the right wing of General HOOKER's army, that amputation became necessary, and the effect of the operation, combined with an attack of pneumonia, caused his death. The Richmond papers state that no event has produced so deep and mournful an impression since the death of WASHINGTON, and that the Confederates could better have spared a brigade or a division. Neither army on the Rappahannock has made any fresh movement, but General LEE is reported to have taken up a new line of defence, in order to protect both railroads running out of Richmond; and there is a general impression that if the army of the Potomac is not soon able to resume offensive operations, he will cross the Rappahannock and march upon Washington, the capture of which is considered by the Confederates to be the speediest mode of conquering a peace.

The KING OF PRUSSIA has replied to the address of the Chamber of Deputies by identifying himself thoroughly with his Ministers and condemning the conduct of the Chamber towards them. HIS MAJESTY says that the attitude of the Chamber in foreign affairs has grieved him; but he will maintain the power of the Crown undiminished, and will not allow the foundation upon which it rests to be removed. He concludes by declaring that the Ministers possess his confidence, and their actions have his assent. This reply was followed on the same day by a Royal Message, closing the parliamentary session.

The Italian Parliament was opened on Monday by the KING in person. HIS MAJESTY in his speech congratulated the Chambers on the progress of the kingdom in order and in prosperity, adverted to the fact that the kingdom had been recognised by most of the European Powers, and expressed a hope that the treaties of commerce which had been or were about to be negociated would add to the development of the national resources.

A telegram from Bombay informs us that Sir CHARLES TREVELYAN's Indian Budget shows a surplus for the year 1862-3 of 957,000*l.*, and for 1863-4 of 815,000*l.* It reduces the duty on iron, beer, and wine, and takes 1 per cent. off the income tax. It abandons the tax on salt, and appropriates 5,000,000*l.* to public works and 500,000*l.* to education.

## Home News.

THE QUEEN IN SCOTLAND.—On Wednesday week the Queen drove out, accompanied by Princess Helena. The Royal family walked in the grounds. On Thursday the Queen drove out, accompanied by Princess Beatrice. Princess Helena went out riding. On Friday the Queen drove out, accompanied by Princess Helena. Princess Louisa and Prince Alfred went out riding. On Saturday the Queen went out driving, accompanied by Princess Helena. Princess Louisa went out riding. Prince Arthur arrived at the Castle from Greenwich Park. The Rev. Dr. M'Leod arrived at the Castle. On Sunday the Queen, Princess Helena, Princess Louisa, Prince Alfred, Prince Arthur, and Prince Leopold, attended Divine Service in the Castle. The Rev. Dr. M'Leod officiated. On Monday the Queen drove out, accompanied by Princess Helena. Prince Alfred rode to Invercauld, and paid a visit to Mr. Farquharson. The Rev. Dr. M'Leod left the Castle. On Tuesday the Queen, accompanied by Princess Helena, drove out, and honoured Mrs. Farquharson of Invercauld by a visit. Princess Louisa went out riding.

THE PRINCE AND PRINCESS OF WALES.—On Friday morning the Prince of Wales rode on horseback. In the afternoon the Prince and Princess and Prince and Princess Louis of Hesse took a drive in an open carriage. The Duke of Cambridge and the Princess Mary visited Princess Louis of Hesse at Marlborough House. The Prince of Leiningen visited the Prince of Wales. The Princess of Wales and Princess Louis of Hesse went to the performance at St. James's Hall. In the evening the Prince of Wales had a dinner party. His Royal Highness afterwards had an evening party, at which M. Levassor attended and performed. On Saturday morning the Duke of Cambridge visited Prince and Princess Louis of Hesse, and took leave of them on their departure. The Prince and Princess of Wales accompanied the Prince and Princess Louis of Hesse to Gravesend, and took leave of them on board the Royal yacht. In the evening their Royal Highnesses honoured the performance at the Royal Italian Opera with their presence. On Sunday morning the Prince and Princess attended Divine service in the Chapel Royal, St. James's. The sermon was preached by the Rev. Dr. Jelf. In the afternoon the Prince and Princess of Wales visited the Duchess of Cambridge at her residence at Kew. On Monday morning the Duke de Chartres paid a visit to their Royal Highnesses. The Prince of Wales rode on horseback. The Princess took a drive in an open carriage. In the afternoon the Prince and Princess visited the International Dog Show at the Agricultural Hall, Islington. In the evening their Royal Highnesses dined with the Duchess of Inverness at Kensington Palace. On Tuesday morning the Prince rode on horseback. The Princess took a carriage drive. The Prince afterwards presided at a meeting of the Council of his Royal Highness, at the office of the Duchy of Cornwall. In the afternoon their Royal Highnesses honoured Mr. Leighton with a visit at his studio in Orme-square, and also took a drive in an open carriage. In the evening the Prince and Princess honoured the performance at the Haymarket Theatre with their presence. On Wednesday the Prince and Princess visited the Horticultural Gardens and the South Kensington Museum. The Prince afterwards rode on horseback. The Princess took a drive in an open carriage. In the evening the Prince had a dinner party at Marlborough House. On Thursday morning the Prince rode on horseback. The Princess took a carriage drive. In the afternoon their Royal Highnesses visited the French Gallery in Pall Mall, and afterwards took a drive in an open carriage. The Princess honoured Mr. Marshall Wood with a sitting for her bust. In the evening their Royal Highnesses honoured the Wandering Minstrels' Concert at the Queen's Concert-rooms with their presence. Preparations are making at Frogmore Lodge for the reception of their Royal Highnesses during the Ascot race week. They will be present at the Eton Regatta on the 5th of June, and will lunch with the Provost of Eton on that day. On the arrival of her Majesty the Prince and Princess will occupy their apartments at the Castle. The announcement that the Prince would attend the meeting of the Royal Agricultural Society at Worcester, in July, has been contradicted, the engagements of his Royal Highness making it impossible for him to visit Worcester at that time.

THE PRINCE AND PRINCESS LOUIS OF HESSE, with the infant Princess, left Marlborough House about half past 12 on Saturday, on their return to Germany. The Prince and Princess of Wales accompanied their Royal Highnesses to the Bricklayers' Arms Station, and travelled with them by a special train to Gravesend, where the Royal party went on board the Victoria and Albert, Royal yacht, commanded by his Serene Highness the Prince of Leiningen. The Prince and Princess of Wales, after partaking of a dejeuner with the Prince and Princess Louis, landed at half past 3 o'clock, when the Royal yacht departed for Antwerp. The Prince and Princess Louis disembarked at Antwerp on Sunday, about half-past 1, and proceeded by the Northern Railway to Brussels, where they arrived at a quarter past 3. The Prince and Princess were received by the Duchess of Brabant and the Count of Flanders, by the English and Prussian Ministers, and other members of the diplomatic corps. Soon after their arrival they visited the King of the Belgians at Laeken. On their return to the palace at Brussels, a grand banquet took place, at which the members of the Belgian Royal family, the great officers of the crown, the ministers, and the diplomatic corps were present. Their Royal Highnesses left Brussels on Monday morning for Darmstadt.

PRINCE ALFRED.—It is reported in Edinburgh that Prince Alfred will reside in that city next winter, and pursue his studies at the University, as the Prince of Wales did a year or two since.

PRINCE ARTHUR, accompanied by Major Elphinstone, arrived on Wednesday week at Keswick. They were rowed across the lake to their quarters at the Derwentwater Hotel, Portinscale. On Thursday, after breakfasting at Lodore, they made an excursion to Buttermere, returning at night to Portinscale. They visited Crosthwaite church and Museum on Friday morning, and afterwards left Penrith for Balmoral, to be present on her Majesty's birthday.

ORDER OF THE GARTER.—The Queen has signified her intention to bestow upon Earl Grey the Garter vacant by the death of Earl Canning.

PARLIAMENTARY MOVEMENTS.—Mr. George Joachim Göschen, one of the directors of the Bank of England, and a partner in the firm of Goschen and Frühling, of Austin Friars, has been selected by the Liberal Registration Society as their candidate for the vacant seat in the representation of the City of London, and it is expected that he will be returned without opposition. There is a vacancy at Kinsale caused by the resignation of Sir John Arnott.

CONVOCATION.—Both Houses of Convocation met on Friday. In the Upper House the sitting was occupied with a discussion on the proposed bishopric of Cornwall, and of the memorial from past and present churchwardens in favour of the united action of the clergy and laity. In the Lower House a message was received from the Upper House, referring to the debate of the previous day on the union of the provinces of Canterbury and York for synodical purposes, and directing the Lower House to submit the question at once to the committee of privileges, and to acquaint the House with the results. Archdeacon Hale, as chairman of the committee of privileges, protested against this direct attempt on the part of the bishops to invade the privileges of the Lower House. After a warm discussion, in which several members took part, it was resolved to represent to the Upper House that under existing circumstances it would be very inconvenient to press the committee of privileges for an immediate report upon the subject referred to, and to express a hope that an early session might be appointed for receiving the report. Archdeacon Hale then brought forward a resolution of confidence in the archbishop, bishops, and archdeacons, in the matter of the proposed Ecclesiastical Dilapidations Bill. Archdeacon Denison seconded the motion. The Rev. H. A. Woodgate moved as an amendment that a dilapidation committee be appointed to consider the bill of the Bishop of Lincoln, the suggestions of Archdeacon Hale, any other suggestions which may be brought in a distinct shape before them, and the representation to the Upper House founded on

the report of the committee of 1860. After some discussion the amendment was carried. A message was received from the Upper House in answer to the message from the Lower House, praying for further deliberation in the matter of the English Services in Wales Bill before it passed into law, stating that that House had no constitutional means of delaying the Bill, as prayed for, or of ascertaining the wishes of the Welsh clergy. The Upper House granted Dr. Briscoe's committee on the best means of promoting the study of Church music. The committee was nominated at once, as were also Mr. Woodgate's Dilapidations Bill Committee, and Mr. Oxenden's Training for Holy Orders Committee. After the minutes had been read and reduced into "Acts," the Convocation was prorogued to July 1.

THE VOLUNTEERS.—A sham fight took place on Monday at Southend, in which the Volunteers were opposed to the blue jackets and Marines of the Royal Navy. The Volunteers engaged were a battery of six guns of the West Essex Yeomanry Artillery, the 3d and 5th Essex Rifles; 3d, 7th, and 10th Tower Hamlets; 3d Essex Battalion, from Romford, Ilford, Brentwood, Rochford, Ongar, and Woodbridge; 38th Middlesex, and 22d Essex. The gun-boats engaged were the Bullfrog, Sepoy, Speedier, Louisa, and Erne, each armed with one 110-pounder Armstrong, and one 32-pounder old pattern. The Marines, 350 in number, were under the command of Captain Butcher; and the gun-boats and flat boats under the command of Captain Luard, of her Majesty's ship Formidable. After a sharp fire of artillery had been kept up for some time with vigour on both sides, the attacking force, having either made a breach in the supposed fortifications or dismounted some of the guns of the imaginary forts, commenced landing. Some boats put off, each carrying their complement of Royal Marines; and as the blue jackets gallantly pulled towards the shore, the fire of the defenders redoubled in its intensity. Still, however, the boats pressed forward, protected by the fire of the gun-boats. As they neared the shore the marines kept up a smart fire of musketry, which was responded to by the advanced corps of volunteers on shore. Amid all this fire and smoke the boats were at length beached, and the marines effected a landing in the face of the opposition to which they were exposed. The sight of the marines swarming from the landing-boats was very striking, and no less effective was the regular order in which they left the decks of the gun-boats to proceed to the attack. As soon as they had landed they formed in companies on the beach, threw out their skirmishing parties, and cautiously advanced up the rising ground to take possession of the cliffs, the defence of which was entrusted to the volunteers, about a thousand strong. The first position occupied by the defending force was in front of the Cliff Terrace Parade. Subsequently, when the enemy had effected a landing on their right, they changed position and formed to meet the advancing foe. The artillery from some commanding heights raked the enemy as they advanced up the hill, and heavy and continued file firing, with occasional well delivered volleys, kept up the fight for some time. All, however, was in vain; the red coats of the marines appeared triumphant on the cliff, and rendered necessary several movements for the purpose of protecting the vanquished defenders, and enabling them to change their front so as to meet the enemy in new positions. All, however, was vain; the regulars still advanced, and after some file and volley firing the order to retire was given, and the Volunteers left the field after the usual marching past. Vice Admiral Sir Hope Johnstone, Colonel M'Murdo, and several Russian officers of distinction, were on the ground; and Colonel M'Murdo, who was in command, addressed the Volunteers and congratulated them on their efficiency and soldier-like conduct. The marines were then formed up in companies and marched along the pier, where they were taken on board the landing boats and rowed to the respective gun-boats, which returned at once to Sheerness.—A volunteer field-day on a small scale was held on Monday afternoon at the Balham end of Streatham Common. Lord Truro had announced that he would take the command of any disengaged Volunteers anxious to go through field evolutions, but only the corps immediately commanded by his lordship were present, consisting of 100 Middlesex Artillery, 5 companies of the 4th Middlesex Rifles, and 25 of the 1st Middlesex Light Horse. At the conclusion of the day's proceedings the men were regaled with refreshments at Lord Truro's expense. The proceedings lasted about three hours, and were witnessed by but a small number of persons, no doubt owing to the unfavourable state of the weather.—Another field-day was held in Camden Park, Chiselhurst. It was originally intended to have had a review of several of the metropolitan corps at that spot, but in consequence of the illness of Lord Ranelagh, who was to have undertaken the command, the proposed review was postponed, and only one regiment, the 29th Middlesex, made their appearance on the ground. This regiment, formerly known as Lord Enfield's, but which is now commanded by Colonel Whitehead, on arriving at Camden Park, were liberally supplied with refreshments, at the charge of the officers. They then marched past, and went through the usual manœuvres of a field-day. In spite of the small numbers of the Volunteers present, and the piercing north-easterly wind, a great number of persons assembled to witness the proceedings, which were not over until dusk.

## Foreign.

FRANCE.—The *Moniteur* contains a letter from M. de Persigny, Minister of the Interior, to the Préfet of the Seine, authorising him to contradict in the most energetic manner the rumour that the Government, hesitating to oppose the candidature of M. Thiers for the second arrondissement of Paris, would withdraw the Government candidate, M. Devinck. The Minister proceeds to say that, inasmuch as M. Thiers comes forward as the declared champion of the coalition of the avowed enemies of the Emperor and of the Empire, he stands henceforward the representative of the *régime* that France has condemned, and which the Government is bound openly to combat. Since M. Thiers and his party have been deprived of power, France has been aggrandised, and her prosperity and glory increased, and as she now enjoys universal suffrage she will not oppose a Government which has rescued the country from the abyss into which it had been allowed to fall. The *Constitutionnel* also contains an article signed by its chief editor, M. Paulin Limayrac, upon the intrigues of men belonging to the old parties. The writer says:—

"An end is about to be put to equivocation. Up to the present time former parties have undermined the power of the Government by underhand intrigues, attacking the Administration on the strength of former relations, and violating the principles of government. The tendency of popular government is vigorous, full of sap and energy, of love for the masses, and sympathy for the popular classes, who, though the first to hail it, have often been perverted by men of a different spirit, who have insinuated themselves into many positions under false pretences of devotion, corrupting the best systems by introducing the poison of ancient influences. It was a source of surprise that a known enemy of the Government should exercise so much influence on the Administration. Thank God that this is about to cease; false friends, false devotion, and false services will be unmasked and exposed as the declared enemies of the Government. The part which the Government has to fulfil will be freed from all the obstacles which have hitherto impeded its progress. The genius of the Empire will be strengthened by a stop being put to the spirit of intrigue."

M. Berryer, who has come forward as the Opposition candidate for Marseilles, and who was on the point of going down to canvass the constituency, has, in order to prevent public manifestations of a compromising character, renounced his intended journey. The elections take place to-morrow and on Monday. The opposition have put forth their strength on this occasion, and the number of opposition candidates throughout France surpasses the expectations of all parties. It is said that there are little more than fifty districts in which the Government Candidates will not be opposed.

SPAIN.—The rumours of a Ministerial crisis are unfounded. Señor Enriquez has been appointed Under-Secretary to the Ministry of Marine. The Duke of Montpensier will shortly leave for London. It is asserted that Señor Facundo Goni will proceed to Mexico as Spanish Plenipotentiary after the French troops shall have entered that city. Twenty-one Prefects have been replaced. At a dinner given at the house of Señor Madoz, to 200 members of the Progresista party, the conduct of General Prim in withdrawing the Spanish troops from Mexico was generally approved.

PORTUGAL.—The feeling in the north of Portugal is very inimical to the Government. In Foscoa tumults have occurred. At Braga, on the occasion of the Pope's anniversary, a large number of people paraded the streets with a band of music. Seditious shouts were raised, and it was found necessary to call out the guard to suppress the tumult. The Cortes are discussing the Budget. The Minister of Finance has announced some important alterations in the duties, which are in many instances exorbitantly high.

DENMARK.—The *Fädrelandet* of yesterday says that the question of the acceptance of the Greek throne, which in Tuesday's sitting of the Council of Ministers still encountered difficulties upon the part of Prince Christian, was decided on Wednesday. Prince William accepts the crown of Greece for himself and his successors. Prince Czartoryski was received on Thursday by the King, and dined with his Majesty.

PRUSSIA.—At the sitting of the Chamber of Deputies on Friday, the draught of the address was completed and modified, allusion being made to the Royal Message of the previous day. It proposed that the Chamber should decline to give the declaration required by the Ministers, should declare them responsible for the frustration of the objects of the session, and requested the King to put an end to the continuance of a situation which contained serious dangers for the monarchy and the State. The address was approved by 239 to 61 votes. At the sitting of the Chamber of Deputies, on Wednesday, the reply of the King to the Address of the Chamber was read by the President. The reply was not countersigned by the Ministers. The answer of the King states that His Majesty upholds the views of the last Royal Message, and continues:—

"The position of the country is known to the King. The Chamber by its Address has cut away all hope of community of action. The attitude of the House in foreign questions has grieved the King deeply. Prussia is not more isolated owing to her foreign policy than other Powers. Some members of the House have threatened to refuse the supplies in the contingency of a war; but the King will seriously oppose such unjustifiable endeavours to enlarge the constitutional rights of the Chamber. The King will maintain the power of the Crown undiminished, and will not allow the foundation upon which it rests to be removed."

The Message concludes as follows:—

"The Ministers possess my confidence, and their actions have my assent."

After reading this Message the Minister of the Interior, Count Eulenburg, gave notice that the Parliamentary Session would be closed in the afternoon. Accordingly at 2 o'clock the closing of the Chambers took place in the White Saloon of the Royal Castle, when Count von Bismarck read a speech from the Throne, of which the following is a summary:—

"By its address to the King upon the 29th of January the Chamber of Deputies has placed itself in direct opposition to the Government, and, notwithstanding the answer of the King, has remained in a position adverse to an understanding. By its debates upon foreign politics the Chamber has endeavoured to paralyse the influence of the Government, and has thereby increased the excitement prevalent in the provinces bordering upon Poland. It has accepted unfounded statements of the opponents of Prussia, and aroused apprehensions of external dangers and entanglement in war, for which the existing relations to foreign Powers give no well-founded cause. In the recent Address the Chamber, moreover, has altogether refused its co-operation with the Government. This renders the close of its deliberations immediately necessary. The Government reserves to itself the power of determining the manner in which the suspended financial measures shall be brought to a conclusion, and hopes to come to a future understanding with the representatives of the country."

ITALY.—The new Session of the Italian Parliament was opened on Monday by the King in person. The following speech was delivered by his Majesty on the occasion:—

"Gentlemen Senators—Gentlemen Deputies,—In opening the new Session as King of Italy I have to thank you for what you have done during a period of upwards of two years. You have secured the rights of the nation to its complete unity, and I shall know how to maintain them in their integrity. You first commenced your Parliamentary labours at the time when Providence had taken from us the illustrious man who so powerfully assisted me in the difficult enterprise of our regeneration. All Italy shared the sorrow which I felt for his loss. Most of the foreign Powers have recognised the new Kingdom. Our voice will make itself heard among theirs for the triumph of justice, and for the defence of the principles of liberty and nationality. The marriage of my daughter with the King of Portugal, while consecrating a useful alliance between two free States, has proved to me, as ever, that the joys of my family are also those of the nation. Treaties of commerce have been concluded with France, Belgium, Sweden, and Turkey, and others are about to be negotiated with England and Holland. Thus, by community of interests between the peoples, friendly relations grow up between the Governments. Within two years from the campaign of the glorious sub-Alpine army the soldiers of our new provinces have been organised, and we are now proud of an Italian army, brilliant alike by its valour and solid in its discipline. Our navy, rich with so many great elements, and to the development of which you have devoted so much solicitude, will equal in progress the renown the army has attained. My most ardent desire is that the nation may be able to repose with security upon the force of its own arms, and that Europe should recognise that fact. Liberty is producing its natural results of order and prosperity in all directions. If the public safety requires efficacious measures in some provinces, my Government will not fail in this supreme duty. The National Guards, who have already deserved so well of the country, will contribute to this object by their zeal. With the same view France is ready to associate herself with us in the adoption of military arrangements whenever she perceives the opportunity. Public works are carried on with activity in all the provinces of the kingdom. The Tronto has already been passed by the locomotive, and all parts of Italy, already united by feeling, will be still more bound together by facility of communication. Your most urgent task is to consolidate the laws of the kingdom, at the same time favouring the development of all local forces. Above all, I recommend to the solicitude of Parliament some arrangements relative to the reorganisation of the finances. The capitals of Europe have responded to our appeal with confidence in the new order of things. It is for us a debt of honour to reply to this confidence by our promptitude to impose upon ourselves the necessary sacrifices. Gentlemen Senators—Gentlemen Deputies,—To consolidate liberty with the Constitution for its base, and by liberty to win the complete independence and unity of the country—such is the end to which we have consecrated our life. To attain it, concord, wisdom, and energy are equally necessary. Italy has shown that she possesses these qualities in the highest degree. By persevering in the same path, no human force will be able to destroy the edifice we have raised, and it is with entire security and faith that I anticipate the hour of the accomplishment of the destinies of Italy."

The preliminary proceedings of the Chamber have been favourable to the Ministry. M. Cassinis, the Ministerial candidate, was elected President of the Chamber of Deputies on Tuesday by 166 votes out of 261. Baron Poerio was elected Vice-President by an imposing majority. The two other Ministerial candidates, M. Cantelli and M. Farina, were elected Vice-Presidents. The Pope on Friday received Count Aquila in a public audience.

RUSSIA.—The *Journal de St. Pétersbourg* of Sunday publishes a despatch from the Government of Holland, dated April 28, and a despatch from the Danish Government, dated the 8th inst., both upon the Polish question, addressed to the Emperor of Russia, with the replies of Prince Gortschakoff to these communications. The Dutch despatch takes the same ground as the French Note, and appeals to the benevolence of the Emperor. The reply abstains from discussing the practical utility of the step taken by the Government of Holland, regarding in the Note simply the good intention by which it is inspired. The Danish Note maintains that States of the second class might incur dangers in consequence of the general complication, and expresses an ardent desire that the Poles would lay down their arms. The reply thanks the Government of Denmark for its communication, and assures it that the dangers apprehended will not arise from Russia. A despatch from the Portuguese Government upon the same question, drawn up in the spirit of the English Note, not having

been communicated to the *Journal de St. Petersbourg*, remains unpublished. The reply of Prince Gortschakoff touches upon the encouragement given to the insurrection by foreigners, and observes that the Emperor has no necessity to receive suggestions otherwise than from his own heart and the sentiments of duty.

POLAND.—The official *Dziennik* of Saturday publishes an order of the Russian Government relative to the organisation of the police of Poland. It also publishes an official decree, addressed to the Civil Governor of Poland, which says:—

"An insurrection, which has been partially suppressed, having broken out in Poland, and certain functionaries having aided the disturbers of public order, such functionaries are to be dismissed and replaced by persons enjoying the confidence of the Government."

Several domiciliary visits have taken place in Warsaw, which are believed to be the forerunners of a state of siege. Count Alexander Branicki has been banished to Saratow. In consequence of orders of the National Government the documents relating to the trial of Dzialynski have been abstracted by the national police. A decree of the National Government, dated the 10th inst., has been published, ordering the organisation of a general rising, to take place on Monday the 1st of June. Levies are directed to be made for the purpose in Poland, Lithuania, and Russia. Langiewicz was designated as the leader of the movement, and he endeavoured to escape in order to accept the post. Four bodies of insurgents are under arms in Eastern Podolia: but in several districts the peasants have declared themselves willing to fight against them. In Little Russia and in Western Russia 84 districts are in a state of insurrection. A detachment of insurgents has made its appearance on the coast of the Baltic, near Polonga. Russian troops have been ordered to proceed thither by forced marches to Kamniecpodolsk, which is in a state of insurrection. Orsza, on the Dnieper, in the Government of Mohilew, has been occupied by the insurgents. In Samogitia the insurgents have gained a victory at Birzé. On the 25th inst. the band of insurgents under Oxinski gained an important victory over the Russians near Koniecpol, on the Pilcia, in the Government of Kalisch. Oxinski was attacked by six companies of Russian troops, 150 of whom were killed and the remainder put to flight. A detachment of insurgent cavalry has occupied Modrzejow and Dombrowa, and seized the treasuries. An engagement also took place on the 23d between Turck and Uniejow, in which the Russians were defeated. The insurgents have gained a victory at Kalisz, in the palatinate of Lask. The Russians suffered considerable loss. In the government of Mohilew the insurgents have occupied Gorki. The insurgent bands in Volhynia have been dispersed by the military and peasantry. Czechowsk's corps has been defeated by the Russians. Beomwski and three priests were taken prisoners by the Russians, who also captured the insurgent camp, with the arms, horses, and forage. In the Government of Plock a band, commanded by Fritsche, and formerly by Masthowski, has been defeated between Wyszkow and Ostrowo, with the loss of several hundreds of men, and all their baggage, arms, and correspondence. The *Czas* of Friday, in a leading article, dwells upon the moral bearing upon the Polish cause exercised by the meetings held in England, and says:—

"The resolutions of these meetings to recognise the independence of Poland prove the noble sentiments and the political spirit of the English nation."

GREECE.—The *Europe* states as official that the first protocol declaring the Greek throne vacant was signed at London on the 22d inst. The second protocol, expressing the adhesion of the protecting Powers to the election of the Danish Prince to the Greek throne by the Greek National Assembly, and the annexation of the Ionian Islands, is to be signed this week.

ALBANIA.—The apprehensions entertained at Durazzo of the landing of a detachment of Italian volunteers have been increased by the appearance of an Italian squadron off the Albanian coast.

THE PRINCIPALITIES.—General Türr and two aides-de-camp have arrived at Bucharest to meet Prince Couza on his return from a tour of inspection through Moldavia.

TURKEY.—The reply of the Russian Government to the Note of the Porte on the Polish question is of a most conciliatory character. It is understood that the new Budget will be very satisfactory, and will be published shortly, and that among other beneficial financial reforms, it will maintain the resolution of the Grand Vizier to raise the tax on tobacco and several other taxes. It is expected that Fuad Pasha will shortly be appointed Grand Vizier. The Sultan has feasted the troops stationed in the capital in celebration of his safe return. An envoy from the Viceroy of Egypt is expected at Constantinople to confer with the Government upon the Suez Canal question.

EGYPT.—Prince Napoleon has presented his Highness Ismail Pasha, the Viceroy of Egypt, with the Grand Cordon of the Legion of Honour. The Prince has paid several visits to the Suez Canal works. A fire has broken out at the Benha railway terminus, in which 300 persons perished. The Viceroy has given money and other assistance to the sufferers by the conflagration, and ordered the houses burnt down to be rebuilt at his own expense.

CAPE OF GOOD HOPE.—The Cape Parliament met on the 16th of April. The state of the finances was the principal topic of the governor's speech. He proposed additional taxation to the amount of 150,000*l.* per annum, to be raised by stamp and succession duties, increased transfer and auction dues and land tax. The policy of the union of the colonies in South Africa is strongly urged by the Government, but they do not propose taking any measures on the subject during the present session. The Government was paying great attention to the development of the railway system, and the introduction of several bills for the construction of lines under its superintendence was announced. The relations with the native tribes remained peaceable. Bishop Tozer and party were to embark for Zambezi on the 20th April in the Orestes, which would convey to Dr. Livingstone the intelligence of the recall of his expedition.

INDIA.—Sir Charles Trevelyan's Indian Budget has been published, and shows a surplus for the year 1862-63 of 937,000*l.*, and for 1863-64 of 815,000*l.* The following are its principal features:—The duty on iron is reduced to 1 per cent., that on beer to three halfpenny ($3\frac{1}{2}$*d.*?) per gallon, and that on wine to 2*s.* per gallon. One per cent. is taken off the income-tax. The sum of 5,000,000*l.* appears for public works, and 500,000*l.* for education. The salt manufacture is abandoned. The Viceroy and Commander-in-Chief were still in the Lower Himalaya. The holiday in celebration of the Prince of Wales's marriage was kept on the 20th ult. in a very loyal manner.

CHINA.—Everything is quiet at Pekin. From Tientsin we learn that Her Majesty's consul, Mr. Gibson, who was wounded in an affray with the Nyen-fei rebels, is out of danger. The rebels have been driven off from the vicinity of the settlement.

UNITED STATES.—General Lee, in the following general order, dated the 11th inst., announced to the Confederate army the death of General Stonewall Jackson:—

"With deep grief the Commanding-General announces to the army the death of Lieutenant-General Jackson, who expired upon the 9th, at 3.15 P.M. The daring skill and energy of this great and good soldier, by a decree of an All-wise Providence are now lost to us; but, while we mourn his death, we feel that his spirit lives, and will inspire the whole army with his indomitable courage and unshaken confidence in God as our hope and strength. Let his name be a watchword for his corps, who have followed him to victory on so many fields. Let officers and soldiers imitate his invincible determination to do everything in the defence of our beloved country."

It appears that General Jackson was accidentally shot in the arm and hand by his own men in one of the recent battles on the Rappahannock. It was found necessary to amputate his arm, and the effects of the operation, together with pneumonia, caused his death. General Lee, on hearing of his wound, addressed a letter to him dated Chancellorsville, in which he said:—

"I cannot express my regret at the occurrence. If I could have directed events I should have chosen, for the good of the country, to have been disabled in your stead. I congratulate you upon the victory, which is due to your skill and energy."

General Jackson's funeral took place at Richmond on the 12th, with great demonstrations of sorrow and respect. The *Richmond Whig* says that since the death of Washington no similar event has so profoundly and sorrowfully impressed the people of Virginia. The *Richmond Examiner* says: "We could have better spared a brigade or a division." The *Richmond Inquirer* reports that General Jackson's dying words were a request that General Ewell might be assigned the command of his corps. General Lee has issued a congratulatory address to the army on its recent victory at Chancellorsville. He compliments the officers and men upon their heroic conduct, and reminds them that they were more especially bound to return their grateful thanks to the Almighty as the only giver of victory. General Hooker had previously issued a general order to the Federal army, congratulating it on its late achievements, and stating "that in withdrawing from the south bank of the Rappahannock before delivering a general battle to its adversaries the army had given renewed evidence of its confidence in itself and its fidelity to the principles it represents."

"By fighting," he says, "at a disadvantage we would have been recreant to our trust, to ourselves, to our cause, and to our country. By the celerity and secresy of our movements, our advance and passage of the river were undisputed; and on our withdrawal not a rebel dared to follow us. The events of the last week may well cause the heart of every officer and soldier of the army to swell with pride. We have added new laurels to our former renown. We have made long marches, crossed rivers, surprised the enemy in his entrenchments, and whenever we have fought we have inflicted heavier blows than those we have received."

The *New York World*, in comparing the modest Order of General Lee with that of General Hooker, says that "it is the fate of many a brave and capable nation and army to be defeated; but to be untruthful, boastful, and false when occasion demands honesty, resignation, and a loyal hopefulness in adversity, will turn against us every civilised nation on earth. No honest and fair-minded man can read these two Orders without grief, pain, and shame. The incapables who are ruling and ruining us cannot save our honour." The Federal loss in the defeat at Fredericksburg is said to have been 6000 men out of 10,000, and that in the defeat at Chancellorsville was at least 18,000 in killed, wounded, and missing. 1200 wounded who were left on the southern side of the Rappahannock have been sent across by the Confederates. Some of the Federal wounded were burnt in the woods around Chancellorsville, the woods having been fired by the shells of both armies. General Hooker since his defeat has had long interviews with the President at Washington; nothing is positively known of the nature of their conferences. Many rumours are afloat of his supersedure or resignation. It is generally believed, however, that he will be retained in command, and conduct another advance. It is stated that some members of the Cabinet have urged the recall of General M'Clellan, but have been overruled by the opposition of the leading Republican and Abolitionist members of Congress. General Sickles has been closeted for two hours with the President, but neither the purport nor the result of the consultation is known. General Sigel has returned from Washington, having been refused a command by General Halleck. General Meagher has resigned the command of the Irish Brigade on the ground that the brigade no longer exists. The impression gains ground that General Lee intends to make an early offensive movement against Washington. Rumours are current that General Beauregard has arrived in Richmond with reinforcements. Important changes in the Federal Cabinet and among the army commanders are expected. It is said that differences of opinion between high officials as to the conduct of General Hooker and the affair of the Peterhoff prevail to such an extent as to interrupt the previous harmony of the Cabinet. The Federal debt is estimated at present at 984,000,000 dols., of which 400,000,000 dols. is in legal tender currency. The Northern papers have published detailed accounts of a cavalry raid made by General Stoneman in Virginia in the rear of General Lee, for the purpose of destroying the Fredericksburg and Richmond Railway, but it is now known that his performances were greatly exaggerated; the damage to the Virginia Railway was trifling, and the trains on the Railway were not interrupted longer than 24 hours. General Grant is endeavouring to cut the railroad between Jackson and Vicksburg. The report that he had fought any battles is untrue. Rumours of other battles at Vicksburg, Suffolk, and other places are equally doubtful. Mr. Vallandigham has been convicted of the charges preferred against him by a court-martial, and sentenced to transportation for two years to Dry Tortugas, a penal settlement on the coast of Florida. General Burnside approved the sentence. Mr. Vallandigham appealed to the Circuit Court at Cincinnati for a writ of *habeas corpus*. General Burnside sent a protest to the Court, saying it was his duty to stop licence and intemperate discussions, which tended to weaken the authority of the Government and the army. Mr. Vallandigham's counsel declared this protest to be a political speech from a gentleman carrying a sword and wearing epaulettes. He denied the authority of a military commission, and declared it to be the duty of the Court to grant the writ. The Court, however, refused to issue the writ. It is believed that the President will commute the sentence to banishment to the Confederate States. The leading Republican journals unite with the Democratic organs in condemning General Burnside's action in this case. The Mozart Hall Democracy at New York has passed resolutions demanding the discontinuance of the war and denouncing Mr. Vallandigham's arrest. The resolutions also state that the conduct of foreign affairs by the Administration had placed the country in a position where even "England dares to bully her." A call has also been issued by the Fernando Wood adherents of the Mozart Democracy for a peace meeting to be held at New York in June, on the ground that the efforts of the Administration to restore union by force of arms have failed. All the Loyal leagues in New York State were to meet at Utica on the 27th inst., to urge the vigorous prosecution of the war. The editor of a Democratic paper published at Plymouth, Indiana, was arrested on the night of the 5th by a detachment of 12 soldiers, under the command of a lieutenant, by order of General Haskall. The paper was ordered to be suppressed. The offences of which the editor is accused are his Copperhead politics and disrespect of General Haskall, whom he had publicly stigmatised as a "donkey." A captain of a New York regiment has been dismissed the Federal service for violating the sovereignty of a friendly State in arresting a deserter and bringing him away from within the boundaries of Canada. The deserter has also been discharged from the Federal service. It is reported that the sailing line-of-battle ships of the Federal navy are to be examined, and those which are found sound converted into steamers. The trial of the Peterhoff has been postponed. The Prize Court has decided to receive Mr. Redgate's testimony. The British vessels Cherokee, Wanderer, and Clara, have been captured by the Federal cruisers. The prize steamer Nicholas has been condemned.

CANADA.—The Canadian Parliament has been dissolved, and a general election is to take place immediately.

WEST INDIES.—Accounts from St. Thomas state that great excitement has been caused among the Danish inhabitants by the conduct of the Federal Admiral Wilkes, who has made that harbour the head-quarters of his squadron, consisting of seven vessels of war, which keep their steam always up, in readiness to overhaul any vessel leaving the port. It was expected that the Danish Government would energetically remonstrate with the Government of Washington against this aggression.

MEXICO.—Advices by the Tasmanian state that the French have sustained two serious repulses

before Puebla, that they have only taken two insignificant forts, and have lost 3000 men in killed and wounded. They also state that General Comonfort is in the rear of the French with, it is said, 8000 cavalry, and nothing can be sent to the French army from Vera Cruz except under a strong escort. Another account says that no fight had taken place before Puebla to the 20th April, and that the French had not only sustained no repulse, but on the contrary, on the 19th, had obtained success at the Carmen Convent, routing the Mexicans with great loss at the point of the bayonet. The works of the siege had greatly advanced, and the fall of the city was expected.

## Parliament.

### HOUSE OF COMMONS.

THURSDAY.—The House reassembled to-day after the Whitsun recess. *The Churchward Contract.*—On the report of the Committee of Supply, Mr. WALPOLE called attention to what he considered to be an unusual and novel form of proceeding adopted by the Committee of Supply on the 18th, in the vote for the packet service, which, he contended, was not consonant with the proper functions of a Committee of Supply; these functions being limited to the consideration of the amount of a grant proposed by a Minister of the Crown, or to a proposal to reduce the amount. Although a matter of form, he insisted that this alteration of the functions of a Committee of Supply was most inconvenient; that it would change the relations of the two Houses of Parliament to each other and to the Crown, and lead to other consequences, which he pointed out. He referred to circumstances stated in a petition from Mr. Churchward in relation to his contract, which had a material bearing upon the vote, and upon the form in which it had been adopted by the Committee, and which vote, he said, the Government ought to withdraw at once. In conclusion he moved the omission of certain words in the resolution, the effect of which omission would be substantially to reject it.—The CHANCELLOR of the EXCHEQUER said he was prepared to meet Mr. Walpole upon the points both of form and of justice. The form of a vote, he contended, could not be separated from the question of its policy. He disputed the doctrine laid down by Mr. Walpole as to the functions of a Committee of Supply, and said that instead of being a doctrine of political wisdom it was one of political superstition. Although the form of the vote might not be common, the question was not whether the form was new, but whether the vote was good; whether it was justified and required by the circumstances. After citing an old precedent of 1767, which, he thought, lent an authority to the form of the vote, he entered into the merits of the question as to the contract and its incidents, and showed the difficulties which would have beset any other course of proceeding on the part of the Government, insisting that it was impossible to have proceeded in any other manner so as to ascertain the mind of the House of Commons, and to give effect to its declared opinion.—Lord J. MANNERS, after remarking that the resolution of the Committee of Supply was wholly unprecedented, referred to parts of the evidence taken by the Select Committee on the subject of the charge against Mr. Churchward, which he denounced as monstrous and absurd, and he insisted upon the want of connexion between the premiss and the conclusion in the report of the Committee as to this charge. In the event of Captain Carnegie's evidence being infallible, was a contract to be repudiated, and Mr. Churchward to be punished for an erroneous conclusion? If it was fallible the case broke down.—Mr. LINDSAY thought that, while the Government had rightly exonerated Lord Derby's Ministry from corrupt motives in this matter, there was an inconsistency in holding Mr. Churchward to be corrupt. He was disposed to give his vote for the weaker party in favour of Mr. Walpole's motion. Lord R. CECIL warned the House against encouraging the Government in repudiating contracts which had been solemnly entered into, because it disapproved the conduct of an individual.—Sir F. KELLY argued that, both upon moral and legal grounds, the House would not be justified in putting an end to the contract of Mr. Churchward, of whose character he spoke in the highest terms. On a division Mr. WALPOLE's motion was negatived by 205 to 191. The report was then agreed to. *Tax on Excursion Trains.*—The House having resolved itself into a Committee of Ways and Means, the CHANCELLOR of the EXCHEQUER moved a resolution that the present exemption from duty, in respect of the conveyance of passengers by cheap trains, shall not extend to any railway train which shall not be a train running on at least six days of the week, or else a train running to or from a market town on a market day, and approved of by the Board of Trade as a cheap train, for the conveyance of passengers to or from market.—Mr. THOMPSON opposed any additional tax upon railway companies at the present time, urging the grievances to which they were liable, and the great advantages which excursion trains conferred upon the community.—Sir F. CROSSLEY also opposed it, on the ground of the benefit which the working classes derived from excursion trains. After some further discussion, the resolution was agreed to. On the order for the third reading of the *Land Drainage (Provisional Orders) Bill*, Mr. PEASE moved that the Bill be recommitted to a Select Committee, to be appointed by the Committee of Selection in the same manner as in the case of a private Bill.—Mr. BRUCE, on the part of the Government, offered no opposition to the motion, with an alteration limiting the terms of reference; to which Mr. PEASE assented.—Sir S. NORTHCOTE moved that the Bill be recommitted to a Committee of the whole House. On a division, this amendment was negatived by 56 to 18. The original motion was agreed to. The House then went into Committee upon the *Drainage and Improvement of Land (Ireland) Bill*, the clauses of which were agreed to, with a few amendments. On the motion for resuming the adjourned debate on Mr. DILLWYN's motion on the subject of *Religious Endowments in Ireland*, THE O'DONOGHUE moved the further adjournment to the 5th of June, to give time to the Irish Members to be in their places.—After some discussion the motion was agreed to. The *District Parochial Churches (Ireland) Bill* passed through Committee. The *Execution of Decrees Bill* was read a second time. The *Admiralty Court (Ireland) Bill* was committed *pro formâ*.—The ATTORNEY-GENERAL promised, if the Bill were withdrawn, that the matter should be taken up by the Government, and that a measure should be introduced by them next Session.—Lord C. PAGET obtained leave to bring in a Bill to establish officers of the *Royal Naval Reserve.*

FRIDAY.—*Recognition of the Confederate States.*—Mr. ROEBUCK gave notice that on an early day he intended to move an address to the Crown, praying that negociations might be entered into with the European Powers, for the recognition of the independence of the Confederate States.—Lord R. MONTAGU said he intended to move an amendment to the motion. *The Ballot.*—Mr. H. BERKELEY gave notice that he intended on the 16th June to move for leave to bring in a Bill providing that votes at parliamentary elections should be taken by ballot. *Condition of Turkey.*—Mr. GREGORY called attention to the condition of the Turkish empire and its dependencies, and moved for papers on the subject. [Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $93\frac{3}{8}$ to $\frac{1}{2}$ for Money, and $92\frac{1}{4}$ for Acct.; Three per Cents. Reduced, $91\frac{7}{8}$ to $\frac{3}{4}$; New Three per Cents., $91\frac{3}{4}$ to $\frac{7}{8}$; India Stock, 232; Ditto Five per Cent. Stock, $110\frac{1}{4}$; Ditto Four per Cent. Debentures, 100; Five per Cent. Enfaced Rupee Paper, $106\frac{3}{4}$; Exchequer Bills, 4s. dis.—FOREIGN: Brazilian, 1852, '58, '60, $95\frac{1}{2}$; Dutch Two and a Half per Cents., $65\frac{1}{4}$; Ditto Certificates, $100\frac{3}{4}$; Egyptian, $99\frac{7}{8}$; Greek, $32\frac{1}{2}$; Ditto, for Acct., $33\frac{1}{8}$ to $\frac{1}{4}$; Ditto Coupons, 15 to $14\frac{7}{8}$; Italian (Maremmana Railway), 81 to $80\frac{1}{2}$; Mexican, $35\frac{1}{8}$; Ditto, for Acct., $35\frac{1}{4}$ to $\frac{3}{8}$; New Granada, $16\frac{3}{4}$ to 17; Ditto Deferred, 10; Peruvian, 1862, for Acct., $89\frac{1}{4}$; Portuguese, 1856, '57, '59, '60, and 1862, 50 to $\frac{7}{8}$; Russian, 1850, $90\frac{1}{2}$; Ditto 1862, 92; Spanish Passive, $33\frac{7}{8}$ to $34\frac{1}{8}$; Ditto Certificates, $12\frac{1}{8}$ to $\frac{1}{4}$; Turkish, 1862, 72 to $72\frac{1}{2}$; Ditto for Acct., $72\frac{1}{4}$ to $\frac{3}{4}$; Venezuela, for Acct., $24\frac{3}{4}$; Ditto, 1862, $55\frac{1}{4}$ to 57.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
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| Notes issued .. .. .. | £28,256,730 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,606,730 |
| | | Silver Bullion .. .. | — |
| | £28,256,730 | | £28,256,730 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,151,395 |
| Rest .. .. .. .. .. | 3,157,326 | Other Securities .. .. | 20,163,795 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 8,002,346 | Notes .. .. .. .. .. | 7,882,990 |
| Other Deposits .. .. .. | 13,842,718 | Gold and Silver Coin .. | 893,289 |
| Seven days and other bills | 536,079 | | |
| | £40,091,469 | | £40,091,469 |

May 28, 1863. W. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *May* 22.—BANKRUPTS.—S. ARROWSMITH, late of Blackpool, Lancashire, Grocer—T. AUCKLAND, Knottingley, Yorkshire, Potter—G. ADAMS, Whitstable, Kent, Master Mariner—W. ALLEN, High Street, Poplar, Bootmaker—E. ASHFORD, Moreton Place, Pimlico—H. ABBEY, Skinner Street, Snowhill, Engraver—W. BURN, Wolsingham, Durham, Licensed Victualler—H. BUTTERWORTH, W. NEILD, W. BENN, and H. GREGORY, Bacup, Lancashire, Cotton Spinners—J. BLANEY, Hulme, Manchester, Plasterer—J. BLACK, Lincoln, late Fruiterer—T. BROOKS, Birthwaite, Westmoreland, Tailor—P. BLIGHT, Newport, Monmouthshire, Milliner—W. BRITTAIN, Wilton Square, New North Road, Carpenter—J. BOLINGBROKE, Kingston upon Hull, Last Maker—M. COOK, Chesterfield, Derby, Joiner and Wheelwright—E. W. COOPER, Lower Thames Street, Wine Dealer—S. CUSHING, Attleborough, Norfolk, Farmer—G. F. COLLYER, East Road, Hoxton, Tailor—J. CHAPMAN, Cambridge, Engineer—M. DYER, Bedford Street, Andover Road, Hornsey Road, late Commercial Clerk—T. N. DAVIES, Millpond Bridge, Vauxhall, Gas Inspector—J. B. DOUGLAS, Bishopwearmouth, Durham, Grocer—D. W. DELF, Norwich, Railway Labourer—P. DAWBER, St. Helen's, Lancashire, Licensed Victualler—G. EVERETT, Union Street, Borough, Licensed Victualler—D. FRENCH, Chatham, Kent, Corn Merchant—GEORGE EDWARD FIELD, Lower Shadwell, Biscuit Manufacturer—SAMUEL FROST, Braintree, Essex, Miller—JAMES FORDE, Judd Street, Brunswick Square, Assistant to a Warehouseman—GLYNN GRYLLS, jun., Ash, Kent, Farmer and Brickmaker—O. VON GUTTENBERG, Bromley, Kent, Gentleman—J. GREEN, Norwich, Travelling Draper—M. GROVES, late of Middlesborough, Yorkshire, Inn Keeper—C. E. GARDNER, Peignton, Devonshire, Saddler—G. GEE, Edingthorpe, Norfolk, Cattle Dealer—T. HUDSON, Wakefield, Yorkshire, Ironmonger—T. HILL, late of Swansea, Fishmonger—J. HAILSTONE, Liverpool, Barman—C. HODGES, East Dean, Gloucestershire, Labourer—J. HAWKER, Dorset Street, Portman Square, Plumber—G. N. HEPWORTH, Sheffield, Journeyman Silver Plater and Brazier—T. HIRONS, Hall Park, Paddington, Commission Agent—W. J. HOWES, Meadow Row, New Kent Road, Wholesale Boot and Shoe Manufacturer—J. HURST, Eckington, Derbyshire, Grocer—J. HAMMOND, late of Ramsgate, Kent, Victualler—J. HUNT, late of Danvers Street, Chelsea—R. INNES, Verulam Buildings, Gray's Inn, Clerk in the War Office—J. JACOBS, Graces Alley, Wellclose Sq., Fishmonger—G. JACKSON, late of East Greenwich, Grocer—J. JENKINS, Panteague, Monmouthshire, Contractor—S. J. JAMES, Brunswick Terrace, Poplar, Secretary to the Poplar Hospital—J. KNOTTS, Walker's Court, Berwick Street, Soho, Tripe Dresser—J. KEW, Goring, Oxfordshire, Castrator—C. H. LAWRENCE, Woolwich, Kent, Clothier—H. LOUDON, Sunderland, Durham, Linen and Woollen Draper—T. LANE, late of Birmingham, Commission Agent—S. LEWIS, late of Arrow, Warwick, Toll Collector—E. MADDER, East Leake, Nottinghamshire, Victualler and Carrier—W. MOGG, Stalbridge, Dorsetshire, Coach Builder—S. MARKS, Minories, Printseller—J. NORRIS, Over Darwen, Lancashire, Ironmonger—R. NICHOLSON, Great Driffield, Yorkshire, Boot and Shoe Maker—R. NICKS, Woodbury, Devonshire, Corn, Potato, and Pig Dealer—J. NEWBY, Birkenhead, Earthenware Dealer—H. NEWCOMBE, Exeter, Boot and Shoe Maker—R. OWEN, late of Pendleton, Lancashire, Manufacturer—W. PAYNE, Cross Street, Clapham, Chiropodist—L. W. PEYTON, Penzance, Cornwall, Lieutenant R.N.—H. ROWLEY (commonly called the Hon. HUGH ROWLEY), Sloane Street, Chelsea—MARTIN REANEY, Dronfield, Derbyshire, Blacksmith—JOHN JAMES ROLLS, late of Chisell Portland, Dorsetshire—E. W. J. SCLATER, Canterbury, Carver and Gilder—G. BUCKTON STOCKER, Goswell Street, Haberdasher—S. SEAL, Watling Street, City, Warehouseman—T. SHADE, Amble, Northumberland, Innkeeper—J. STEEDMAN, Central Street, St. Luke's, Baker—R. TUNSTILL, late of Blackpool, Lancashire, Innkeeper—J. TRAVIS, Red Lion Yard, Clerkenwell, Farrier—J. THOMAS, High Street, Notting Hill, late Butcher—J. TRANTER, Sheffield, Edge Tool Forger—E. TOMKINS, Diglis, Worcestershire, Coal Dealer—J. TATTON, Coventry, Warwickshire, Farmer—C. TATEM, Wolverhampton, Gilder—C. TREGALLAS, Lawrence Pountney Hill—C. WRIGHT, Mistley, Essex, Sail Maker—J. T. WALTON, Crook, Durham, Boot and Shoe Maker—H. WATSON, Sutton cum-Lound, Nottinghamshire, Grocer—P. WATTS, Fleet Street, City, Musical Instrument Maker—R. WINTERBOTTOM, Hapton, Lancashire, Farmer—J. WHITE, George Row, Dockhead, Bermondsey, Baker.

SCOTCH SEQUESTRATIONS.—A. T. LAWRIE, Edinburgh, Lessee of a Lunatic Asylum—G. PATTERSON, Arbroath, Cow Feeder—R. D. PRYDE, Ferry Port, Fifeshire, Ship Broker—J. SMITH, Aberdeen, Bookseller.

TUESDAY: *May* 26.—BANKRUPTS.—F. AYERS, late of Red Hill, Surrey, Road Contractor—C. J. AUSTEN, Newlyn, near Penzance, Cornwall, Commander in the Royal Navy—G. BURKINSHAW, Thurgoland, Yorkshire, Wood Collier—J. BURNHAM, Speenhamland, Berkshire, Cooper—W. T. BIRCH, Congleton, Cheshire, Victualler—W. BATT, late of Everton, Lancashire—R. BLACKBURN, Undercliffe, Yorkshire, Warehouseman—G. G. BURCALL, East Dereham, Norfolk, Farmer—W. COVENEY, Dover, Baker—C. CLARKE, Birmingham, Saw Hardener—E. CLARKE, Sandbach, Chesh., Butcher—H. W. CHURCH, Hackney Road, Brewer's Collector—J. COSTIN, High Street, Hoxton Old Town, Plumber—A. W. CLARK, Down's Terrace, Clarence Road, Lower Clapton, Colour Dealer—J. C. CHUTE, Birmingham, Theatrical Manager—Z. CHAPMAN, Norwich, Billbroker—J. CONSTABLE, Bishop's Stortford, Hertfordshire, Dealer in Marine Stores—C. DOBSON, Liverpool, Licensed Victualler—WILLIAM DICKER, Hastings, Sussex, Coachbuilder—EDWARD DOCKRIELL, George Street, Hampstead Road, Tailor—WILLIAM TUTTELL DRANE, Hethersett, Norfolk, Surveyor—I. EVANS, Llandilo, Carmarthenshire, Shoemaker—J. ELLIS, Pendleton, Lancashire, Joiner—G. L. ELGAR, Park Street, Regent's Park, Tobacconist—I. EDMONDS, late of Guildsborough, Northamptonshire, Gentleman—T. R. EALAND, Birmingham, Factor's Clerk—A. FLATHER, Liverpool, Builder—J. GOODWIN, Seasalter, Kent, Wheelwright—W. GUEST, late of Manchester, Cloth Agent—G. H. GOODALL, late of Liverpool, Furniture Broker—J. GILMAN, Berwick Street, Oxford Street, Tailor—C. GILDER, Hitchen, Hertfordshire, Builder—J. HUMPHRIES, High Street, Marylebone, Builder—N. HUTTON, Rippon, Yorkshire, Farmer—W. J. HOWES, Meadow Row, New Kent Road, Wholesale Boot Manufacturer—A. HOWSIN, Leeds, Horse Dealer—D. HALL, Oldswinford, Worcestershire, Clog Maker—J. HOLLAND, Leicester, Machine Fitter—E. HOLBROOK, Southport, Lancashire, Beerhouse Keeper—WILLIAM EDMUND HEATH, Burton Street, Burton Crescent, Clerk in the Admiralty—ANTHONY ILNICKI, Paulton's Terrace, King's Road, Chelsea, Insurance Office Clerk—J. JAMES, West Croydon, Commission Traveller—T. KEMP, Pontrhydfendigaid, Cardiganshire, Innkeeper—R. KENDALL, Doncaster, late Grocer—R. KEENE, Basinghall Street, City, Accountant—J. LODGE, Drury Lane, Journeyman Carpenter—A. M. MORTON, D. LENNON, and G. E. MORTON, Buckingham Street, Strand, Coal Merchants—R. MOSS, Bartholomew Square, St. Luke's, Coppersmith—T. W. MILNER, Queen Street, Cheapside, Surveyor—W. J. NEIL, Rickinghall, Suffolk, Flax Manufacturer—J. NICHOLLS, Exeter, Innkeeper—H. NEWSHAM, Yaxley, Huntingdonshire, late Farmer—J. PARKS, Riley Street, Chelsea, Dealer in Milk—T. PRICE, Kingswinford, Staffordshire, Carpenter—T. PALMER, Manchester, Beer Retailer—G. PHILP, Cranley, Surrey, Labourer—J. ROBINSON, Bradford, Yorkshire, Cab Driver—H. ROYSTON, Old Church Street, Paddington, Professed Cricket Player—WILLIAM ROBERT RHODES, Hampton, Middlesex, Painter—JULIAN RIVIERE, late Princes Street, Leicester Square, Bootmaker—JAMES SMITH, Liverpool, Builder—JOHN SMITH, Liverpool, Builder—J. W. SIMMONS, Derby, Portrait Publisher—W. SEVER, Bury, Lancashire, Cab Proprietor—E. SUTTON, Hartington, Derbyshire, Grocer's Assistant—S. SMITH, Birmingham, Grocer—H. THOMAS, Aston-juxta-Birmingham, Toolmaker—F. S. THOMAS, late of Wharton Street, Pentonville, Mine Lessee—G. THOUGHT, Cotton Row, Marlborough Road, Dalston, Tailor—J. WESTAWAY, Ashburton, Devonshire, Grocer—R. WALPOLE, Little Bowden, Northamptonshire, Stone Mason—J. WOOD, jun., Brierley Hill, Staffordshire, Publican—W. H. WILLIAMS, Providence Buildings, New Kent Road, Wheelwright—G. M. WELLS, Cheapside, City, Agent for Sale of Patent Boot and Shoe Tips—J. WELCH, Penton Place, Pentonville, Builder—R. YEATES, Hackney Road, Cutler.

SCOTCH SEQUESTRATIONS.—R. DOBIE, Glasgow, Lather—A. MACDONALD, Greenock, Writer—J. RISK, Glasgow, Merchant—J. T. RENFREW, Glasgow, Grocer—G. SANDERSON and T. SCOULAR, Dunse, Cutlers—T. STEWART, Ceres, Fifeshire, Brewer.

## Metropolis and its Vicinity.

INTERNATIONAL DOG SHOW.—The first great international show of sporting and other dogs was opened on Monday at the Agricultural Hall, Islington, and has remained open during the week. The number exhibited is about 2400, who are accommodated upon platforms, the entire length of which exceeds two and a half miles. The show is separated into two divisions, the first comprising "Dogs used in field sports," in 40 classes, to which the entire area of the basement is devoted; and the second, "Dogs not used in field sports," 26 classes, to which the galleries are appropriated. The prizes exceed 1000*l.* in money. Among the sporting dogs are the Duke of Beaufort's foxhounds, recently returned from wolf hunting in France; Mr. Barnett's Cambridgeshire pack, and several other kennels of foxhounds and harriers, including three couples of the Prince of Wales's harriers, bred by the Prince Consort. The show of beagles was very limited, as was also that of the otter hounds. There was a magnificent muster of bloodhounds, the prices of which ranged as high as 262*l.* The Earl of Stamford and Warrington, Mr. Bass, M.P., Mrs. Brassey, and Mr. Beresford Hope, exhibited several fine deerhounds, valued at 1000*l.* each. The Duchess of Manchester exhibited two foreign hounds valued at 1000*l.* each. There was an endless display of greyhounds, pointers, and setters, the different classes in which were admitted to be excellent. The Irish setters were well represented, and bid fair to compete successfully with some of the English breed. The remaining classes in the sporting department consisted of retrievers and spaniels, some of which were valued by the owners at almost fabulous sums. The Clumber spaniels exhibited by the Duke of Newcastle were greatly admired, and are stout, strong-legged animals, with silky white and tan coats, and with good-natured faces. Earl Spencer and Earl Berners also contributed to this class, some of their dogs being valued at 1000*l.* each. Among the other noticeable animals on the ground floor were the Duchess of Manchester's Russian wolf dog; several American slave-hunting hounds, powerful creatures with large and finely-shaped heads; a North American boarhound; and a Trebizond wolf dog. Great, however, as are the attractions of the sporting department, the great mass of visitors are most amused by the collection in the galleries of dogs not used in field sports. There are first the sheep dogs, both Scotch and English, which make a very good though limited show. Sir James Fergusson contributes one called "Sheepy," valued at 500*l.* Then come the mastiffs, a numerous and excellent show; and those popular breeds, the St. Bernards and Newfoundlands, which were much admired. The bull dogs over and under 20 lbs. in weight form the next classes. Next are bull terriers over and under 10 lbs., white smooth-haired terriers, black and tan terriers over 7 lbs. and other kinds of the same species, whose size and weight are considered to be material ingredients in the estimate of their value. There are Skye and other Scotch terriers in abundance, and of every shape and size, and a few specimens of the quaint dogs dubbed Dandy Dinmonts. The Italian greyhounds, the King Charles spaniels, the Blenheim spaniels, and the English toy terriers appear in great force, and exhibit all that perfection and delicacy of breeding of which those races are susceptible. The care with which the comfort of some of these dogs is secured seems almost ridiculous. Many recline on soft velvet and satin cushions, or are protected by rich and dainty coverlets, while others are enclosed in richly-gilt glass cases, and from their manner impress the spectator with a belief that they are fully conscious of their importance. The prices of these dogs run up to 500*l.* and 1000*l.*, and in one instance to 1500*l.*, and it may actually be said that some of them are worth their weight in gold. Mrs. William De la Rue exhibits two beautiful black and tan terriers, said to be the smallest in the show, each being able to occupy a pint pot as a dog-house with room to spare. There is an extraordinary-looking King Charles spaniel, named Jumbo, the value of which the owner fixes at 100*l.* The Italian greyhound classes are exceedingly beautiful, and there is one little fellow, answering to the name of Silvey, for which 100 guineas is also demanded. The shows of mastiffs and watch-dogs are truly splendid; but the most noble creature in the whole exhibition is a Pyrenean wolf dog, exhibited by Mr. S. R. Block, of Barnet. A class for well-shaped dogs under 3 lb. furnishes abundant amusement for the curious; and the pugs, which scarcely exceed a dozen, give a fair idea of a breed of

animals rarely now seen in the households of the wealthy, where once they were the chief favourites. Besides these, the galleries contain Pomeranian dogs; poodle and Japanese dogs, Esquimaux dogs; Dalmatian, Maltese, Manilla and Sic lian dogs; Greek terriers, Indian, Australian, Chinese, and Brazilian, &c., in fact most of the varieties known to exist. The Prince and Princess of Wales visited the show on Monday, and examined the collection with great interest, as well as the fish-hatching apparatus of Mr. Frank Buckland, who explained the whole process to their royal highnesses. After the departure of the Prince and Princess the number of visitors at 5s. per head amounted to 5000. On Tuesday, which may be said to have been the first public show day, the price of admission being 2s. 6d., the carriages of the visitors in the early part of the day formed a continuous line of nearly two miles, and the number of persons who passed through the Hall amounted to nearly 8000. On Wednesday, which was the first shilling day, the line of carriages at one time blocked the Pentonville Road from King's Cross upwards; and the number of visitors is said to have exceeded 20,000. On Thursday the numbers exceeded 30,000. To-day after 1 o'clock the price of admission will be reduced to 6d., which will enable many thousands of persons to avail themselves of the Saturday half holiday to visit the show.

The New City Street and the Ludgate Hill Viaduct.—The Court of Common Council held a meeting on Thursday, at which the committee appointed to watch over measures in Parliament affecting the privileges of the City presented a report, stating that the Government persisted in entrusting the formation of the new street in the City to the Metropolitan Board of Works, and recommending that the corporation should persist in their opposition to the formation of the street being taken out of their hands. Several members recommended that all further opposition be abandoned, and an amendment was moved to that effect, but on a division the original motion was carried by a narrow majority. The Improvement Committee also presented a report on the proposed railway viaduct across Ludgate-hill, stating that they had sought the advice of eminent engineers and surveyors, as to the practicability of the connexion between the London, Chatham, and Dover Railway and the Metropolitan Railway, being made by means of a tunnel. At a consultation held on the subject, at which were present Mr. Harrison, C.E., Mr. Bidder, C.E., Mr. Penrose, surveyor to St. Paul's Cathedral, and Mr. Heywood, the engineer of the City Commissioners of Sewers, those eminent authorities were unanimously of opinion that a perfectly practicable railway could be made from the bridge now constructing across the river to the Metropolitan station in Victoria Street, by a tunnel under Ludgate Hill. That such line would be cheaper in its construction than that which the company had authority to make, and that it would enable the main station to be on a level with Ferringdon Street, instead of being raised 18 or 20 feet above the ground. as the one at present proposed would be. The Chairman added that since the report had been prepared, Mr. Greenhill, the engineer, had submitted to him a plan which would combine in one bridge the two bridges about to be erected at Blackfriars, the railway bridge passing below the other, and forming a connexion with the Metropolitan Railway in a manner to obviate the necessity of the viaduct. It was then resolved to refer Mr. Greenhill's plan to the Improvement and Bridge House Estates Committee for consideration, with authority to confer with the several public bodies interested. The court also resolved to petition against the new bills of the London, Chatham, and Dover Railway, with a view to stop the viaduct across Ludgate Hill.

Threatened Enclosure of Tooting Common.—On Tuesday morning, Mr. Wetherall, one of the Assistant Enclosure Commissioners, opened an inquiry at Lower Tooting, on the subject of the proposed enclosure of Tooting Common. The investigation created great interest in the locality, as it was considered that the steps proposed to be taken by the lord of the manor, might be analogous to the threatened encroachment on Hampstead Heath, or in the still more recent instance of Wandsworth Common. The following professional gentlemen were present on behalf of their respective clients:—Mr. Kennedy, of Balham, for the Hon. S. Curzon, customary freeholder; Mr. Jessels, of the equity bar, for Mr. William James Thompson, lord of the manor; Mr. Bonner, for Mrs. Chapman, freeholder, claiming right of common; and Mr. Scott, of Lincoln's-Inn Fields, for Mr. Brand, a claimant to common rights. There were upwards of 200 gentlemen present. The Commissioner, in opening the proceedings, said that he would read through the questions, and take the answers before going into the evidence. On the 16th question, as to the right of the lord of the manor, Mr. Jessels produced the deed of conveyance and the court roll, and a long discussion ensued, which resulted in his refusing to allow an inspection of the deed, and it was not put in evidence, as the title of the lord as lord was not in dispute. On the question of the right to the soil, Mr. Williamson, surveyor of the roads, said that for years past he had taken gravel for the use of the parish without consulting the lord of the manor or paying him for it. After a lengthened discussion on the subject, the question of the rights of pasturage was proceeded with. Mr. Betts, butcher, carrying on business with his father at Tooting, Balham, and Streatham, gave evidence as to his possession of common rights since 1851 by turning out his cows and sheep, he being a landowner, and paying quit-rent to the lord of the manor. Mr. Samuel Martin, a farmer (who was admitted by the lord of the manor as possessing a right as tenant), also gave evidence to the same effect, as did several other witnesses who had been tenants, and exercised common rights for various periods. On this evidence Mr. Scott relied to show that the particulars furnished by the applicant for the enclosure were untrue, and, therefore, by the Act of Parliament, the jurisdiction of the Enclosure Commissioners was ousted. He also put in the resolutions of the parish vestry, in 1812 and 1815, to show that the lord of the manor in those days sought to encroach upon the common rights of the parishioners, but was obliged to pay them a considerable sum as satisfaction for a piece of the common he wanted. Mr. Jessels, for the lord of the manor, objected to such evidence, but left it to the assistant commissioner to deal with it as he thought fit. A lengthened discussion also ensued upon the other questions, but the 25th question disclosed the gravamen of the opposition. The question was—"What are the supposed advantages of the proposed enclosure in the increased productiveness of the land, the useful employment of labour, or otherwise?" Answer by the lord of the manor—"To render the land productive, by levelling the hillocks and filling in the swamps, and possibly for building purposes." The reading of this last clause created a very strong expression of opinion from the persons in the room. On the part of the lord of the manor, Mr. Jessels fully consented to any allotment that might be made for exercise and recreation, and also for the labouring poor, for the purposes of cultivation as gardens. He further said that Mr. Thompson did not desire to insist upon his extreme rights, but was willing to meet the parishioners in a friendly spirit, if a proposal was made of such a character as he could reasonably be asked to accept as lord of the manor. The several legal gentlemen then agreed to request an adjournment for a month that a proposal might be submitted, and after some deliberation the assistant commissioner assented, and the meeting was adjourned accordingly. On the previous evening a public meeting of the inhabitants of the district was held, Mr. Carpmael, Member of the Board of Works, in the chair, at which a general desire was expressed to co-operate with the Metropolitan Board of Works, and to subscribe for the purpose of securing to the public a right to the enjoyment of the common for ever, to any extent which might be considered necessary to effect the object. It was finally resolved that the proposed enclosure is inexpedient and objectionable, and should be opposed and resisted, and that a committee be appointed to protect and watch over the interests of the commoners and the public.

National Rifle Association.—The annual meeting of this Association was held a few days since at Willis's Rooms; his Royal Highness the Duke of Cambridge in the chair. Among those present were Lord Longford, Lord Wharncliffe, Lord West, Lord Hardinge, Earl Tankerville, Lord Talbot de Malahide, Lord Spencer, Earl Ducie, Lord Truro, the Hon. Mr. Lindsay, Sir T. F. Buxton, M.P., Hon. A, Kinnaird, M.P., Sir R. R. Hamilton, General Boileau, Sir John Burgoyne, Mr. Scourfield, M.P., Colonel North, M.P., &c. His Royal Highness, in opening the business of the meeting, stated that arrangements had been made for a meeting at Wimbledon on the 7th July, and for a review on the 18th July. Sixty new prizes will be offered for all comers, rank and file, using the government rifle. The winners of these sixty prizes will also be entitled to compete for a prize of 50*l.* value, to be given in honour of the Princess Alexandra. The House of Lords' prize amounts to 170*l.* and will be competed for by enrolled volunteers with any rifle of *bonâ fide* Government pattern carrying ·577 bore diameter. The entries for the Queen's prize already amount to 970. Tents will be erected as usual, and there will be two officers or four men in a tent. Already 40 officers and 100 men have sent in applications for tent accommodation; and members of the Association desiring to have tents of their own can do so on application. The general rules have been amended, and arrangements have been made to enable volunteers to compete with their own arms. Colonel Bigge moved that the rules, as amended, be adopted. Sir R. Hamilton seconded the motion. Captain Templar called attention to the desirability of handicapping the different rifles, and offering prizes to be contested for with the long Enfield, at 800 or 1000 yards. The Earl of Ducie said the Council had considered the question, and, acting on General Hay's opinion, did not propose to go beyond the 600 yards' range. General Boileau suggested that prizes should be offered to be competed for with the various kinds of rifles. Mr. M'Gregor thought it desirable that all should compete with rifles of the same make, and not that one man should use his rack rifle and another should compete with him with one of a different and superior make. At present many were excluded because they did not use the weapons to which they were accustomed. This was the case with the Inns of Court, who had the 5-groove rifle, and the artillery, who had the carbine. He moved a resolution to carry out his views, but it did not find a seconder. Colonel Lindsay said that the 5-groove rifles were excluded on account of the advantage they gave, and the competition was restricted to the rifles of the Government pattern as served out to the volunteers. In reply to Lord Truro, the Duke of Cambridge and the Hon. A. Kinnaird, M.P., stated that the Association was not entirely self-supporting. Colonel Coles moved that the 60 prizes for all comers should be restricted to long and short Enfields. Major Pipon seconded the resolution. Captain Templar suggested that the 1*l.* entrance money for the competition for the 60 prizes was too high, and again urged his views in favour of long ranges. Lord Truro expressed his entire disapproval of the long ranges being introduced. The amendment was negatived. Some other suggestions were then made as to offering a prize for shooting at unmeasured distances, when Lord Wharncliffe said the great difficulty they all felt, and which gave rise to differences of opinion, was occasioned through the Government serving out different kinds of rifles. He thought the council would do well if it endeavoured to induce the Secretary of State for War to issue only one kind of rifle to the volunteers. The amended rules were then adopted.

Manslaughter by a Wife.—An inquest was held a few days since on Mr. William Henry Doggett, an ironmonger carrying on business at 18, Shoreditch, aged 38. From the evidence it appeared that the wife of deceased was a Welshwoman, who entered the service of his father as a servant in 1852. After the death of the father she married deceased, who possessed property amounting to 8000*l.* or 10,000*l.*, and made a will leaving all of it to his wife. He became ill three months ago, and was badly treated by his wife. She used to swear at him, and say that if he was going to die he had better do so at once out of the way. She threw his medicines under the grate, and seldom gave him any nutriment, but liberally supplied him with brandy, wine, and beer. She used to strike him violently between the shoulders, and to kick his legs, which were dropsical, as she passed, making him cry out in agony. She used to say that she had got the will, and none of the family could get any of the property. When he died she should sell everything off and go to her own country, and they might find her there if they could. Mr. Roper, surgeon, said that the wife's treatment of deceased was most unfeeling. If he had got his medicines and proper nourishment he might have been alive now. He was kept in a state approaching imbecility from drink. In consequence of Mrs. Doggett threatening him with an action for assault, he discontinued his attendance. Mr. Mercer, another surgeon, discontinued his visits because Mrs. Doggett falsely charged him with stealing two of her rings. Deceased was completely under her control, and was so terrified that he used to tell the doctors that he regularly took his medicines, although the bottles were seen to be unopened. A man who had been in the employment of deceased, saw Mrs. Doggett throw a carving knife and other articles at deceased, and said she was always drunk. The jury, after a long deliberation, unanimously returned a verdict of "Manslaughter against Anne Doggett, for feloniously killing and slaying William Henry Doggett." Mrs. Doggett was then apprehended and conveyed to Newgate. The coroner said that he would take bail, herself in 500*l.* and two sureties for 250*l.* each.

Double Murder in Southwark.—On Monday morning a shocking tragedy was perpetrated in the parish of St. George the Martyr, Southwark. Mr. Thomas Lidbitter, aged 60, who has for many years carried on the business of a cabinet maker and licensed victuallers' fitter, at 28, Borough Road, murdered his wife as she lay in bed, and then attempted to murder his son. He had been ill from delirium tremens for some time, and was taking medicine from a chemist in the neighbourhood; and it appears that early on Monday morning he went over to the chemist and made such a statement as led to the police being sent for. On searching the house the wife was found quite dead, with her throat cut from ear to ear, in one room, and the son, who was bed-ridden, lying senseless in another, with his throat cut in so shocking a manner that he died on Tuesday in the hospital. He was unable to articulate, and consequently there will be no evidence of the circumstances under which the murderous attack was made on him and his mother. The murderer was taken into custody and at once admitted his guilt, stating that he did it with a razor, which was found smeared with blood in one of the rooms. He was taken before the magistrate and remanded to Horsemonger Lane Gaol to await the result of the inquest. On Wednesday at the inquest several witnesses spoke to the apparent unsoundness of the prisoner's mind. The coroner, in summing up, said that that was a question with which they had nothing to do, but must leave for another tribunal to determine, and the jury immediately returned a verdict of Wilful Murder against the prisoner.

The Public Health.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended on Saturday, May 23, were 1259, being less than in any previous week for more than six months. The average number in the corresponding weeks of the 10 years, 1853-62, corrected for increase of population, was 1216. The present return was therefore 43 above the average. There were 68 deaths in the week from small-pox, 94 from scarlatina, and 37 from measles. During the week the births of 961 boys and 927 girls, in all 1888 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1902.

## Provincial.

Bedford.—The two men Craddock and Jordan, charged with causing the death of Mr. Frederick Budd, solicitor, by beating him with their fists, underwent their final examination at the prison before a full bench of magistrates on Friday. It was proved in evidence that when the prisoners knocked Mr. Budd down the first time, his wife assisted him up; but after he had gone a few yards further on his way home both men went up to him and renewed the attack, knocked him down a second time, and beat him with their fists when on the ground until he became insensible. The *post mortem* examination disclosed a fracture of the skull, and other injuries sufficient to cause death. Both men were committed for trial on the charge of Wilful Murder. At the coroner's inquest on the same afternoon, the jury returned a verdict of "Wilful Murder" against them.

Bridgewater.—Considerable sensation has been caused in Glastonbury by an attempt made by a party of the Princites to induce a lady to leave her husband's house and retire to the Agapemone at Charlinch, near this town. It appears that the lady, who was once an inmate of that establishment, would not have been an unwilling captive; but just as the scheme appeared ripe for execution, and a carriage was at hand to receive her, the discovery was made, and the Princites were compelled to beat a retreat, amidst the hootings of a crowd who speedily assembled. It is, however, stated that they are not daunted by defeat, and are entrenched in sight of the lady's residence, ready to resume the attempt on the first favourable opportunity.

Claydon.—The parishes of Akenham and Claydon in Suffolk have been for some time in a state of excitement, caused by the manner in which the Church services have been performed by the rector, the Rev. George Drury. On Whitsunday, the service at Claydon commenced at half-past 8 in the morning. Candles were lighted at the altar, which was decorated with flowers and evergreens, with a large cross in the centre. The congregation numbered about 40 persons, the majority being old men and women of the village, and a few strangers. After the entry of the procession the Communion service began. The rector wore a large alb extending to his feet, and bordered with a yellow stripe. Over this he had a chasuble reaching down his back to within a few inches of the ground; this was of the pentecostal colour—bright red; on it was embroidered a golden cross more than a yard in length. Besides these he wore a girdle-maniple, amice, and stole. The Benedictine brothers or monks were habited in black serge, but without caps; their hair was cut quite close round the crown and left long outside. The choristers had scarlet skirts under their white surplices. The service was carried through with the evident intent to go as near the Roman form as possible without the Prayer-book being thrown entirely aside. Incense was used, the monks and choristers were continually moving about, the large candles were carried in and out of the vestry, and during the entire service 24 candles were burning at the altar, arranged on either side of the cross. Numerous breaks took place in the service to allow of the introduction of musical embellishments. After the consecration, Father Ignatius, and another of the brothers, presented themselves at the altar, prostrated themselves flat on the ground, and on rising received the sacrament. After this it was administered to three lots of nine of the congregation, who followed each other in turn. Then, after the "Gloria in Excelsis" had been sung, there was a departure from the form as laid down in the Prayer Book. The crumbs from the paten were first put into the chalice; then the rector, standing in front of the altar, drained the contents; then going to the side, wine was brought to him to perform the first oblation, after which he drank the contents. The second oblation was performed with wine and water; the third with water only. Then, after carefully folding up the veils, maniples, and clearing the altar, he placed them on a square cushion and carried them out of the church in procession. This terminated the service a little after 10 o'clock. At Akenham the service began at 11, Mr. Drury officiating. The dress worn by that gentleman on entering the church was a long black robe, so long, that to prevent it getting under his feet he had to raise it up from behind. The service comprised prayers and Communion, and in consequence of the interference of Mr. Woodward, the churchwarden, was more like that of other churches; but Mr. Drury expressed himself, on his return from doing duty, that this parish of only about 100 inhabitants was a source of great annoyance to him. At seven in the evening the services at Claydon were resumed. The procession, consisting of the two brothers, the rector, and choristers, came in at the vestry door; in front was a chorister bearing a large cross, then the banners, Brother Ignatius and the rector bringing up the rear. Having ranged themselves with their faces towards the altar, they chanted the opening sentences, and the rector commenced the exhortation. Just before the first lesson, two boys, who wore white surplices over their scarlet skirts, and who had borne the two large candles before the altar, went into the vestry, whence they returned at the end of the lesson. At the "Magnificat" the rector stood before the altar and swung the censer with incense; the candle boys again retired into the vestry, and the second lesson began, after which all the candles were extinguished except four. At the end of the prayers, Father Ignatius ascended the pulpit, and said he got up, not to preach a sermon, but to make a few remarks upon the event of that day—namely, the Descent of the Holy Ghost. He spoke as follows:—

"He had been forbidden by the bishop of the diocese to preach, why he knew not, as his lordship had assigned no reason; but he was called upon to submit, and he must do so: the lessons he had taught them about obeying the bishops, he was now called upon to put in practice for himself. He was an ordained minister of the Church of England, and by God's help he meant to continue in it; he did not mean to do as many of his brethren had done, go over to Rome on account of the persecutions they had endured in the church of England, and were likely to endure if they remained in it. No, he meant to stick to the Church of England, even if he had to lay down his life for its sake. He challenged any one to say that he had lived an inconsistent life, or that he had taught anything different to the Bible and the Book of Common Prayer. He had preached what he considered the Gospel, and what he considered were the doctrines of the Articles in the Prayer-book. More than 400 people residing in the parish, besides the rector and churchwardens, had signed a petition to the bishop, asking permission for him to preach; but some evil-disposed persons, who did not come to church, and who cared not for it, had given the bishop a wrong view on the subject, whereupon he had forbidden him to preach, and until that prohibition was removed he must obey; he asked the people to pray for him. But not only was he forbidden to officiate, but no other priest but the rector was to be allowed to officiate there. This was too much for any man to do."

The walls and buildings of the village bear ample proof of the strong opposition that is going on against these services. Crosses, with "No Popery" written in chalk, are to be seen almost everywhere, and on a building opposite the road leading up to the church are a number of caricatures on paper, with hundreds of inscriptions, such as "Go to Rome, Blazer!" "Who burnt Rogers?" "Who burnt Ridley, Latimer, and Cranmer?" The reverend brother, in writing to the *Ipswich Journal* on Saturday week in reference to these demonstrations, styles the Reformation "the Devil's Deformation under Luther, Calvin, Knox, Zuingle, Melancthon, and other arch heretics;" and the opponents of the Claydon practices "pig-headed."

Durham.—Her Majesty in Council has disallowed the ordinances of the Durham University commissioners appointed in 1861, which ordinances have recently been under the consideration of the Judicial Committee. The commissioners have declined to amend their ordinances, so that, practically, their commission will soon be at an end, and a new commission will probably be the result. The commissioners recommended that there should be a school of theology, which was to confer, after a two years' course, the new degrees of "Master of Theology" and "Bachelor of Theology," and provided that "no oath or subscription should be required from any student, member, or officer of the university, but every person proceeding to a degree in the school of theology should first declare that he was *bonâ fide* a member of the United Church of England and Ireland as by law established." In addition to the schools of theology they recommended that there should be schools of arts and physical science, conferring the degrees of B.A. and M.A., and of B.S. and M.S., for which no religious qualification should be required. The management of the university was to be entrusted to a senate and convocation, the duty of the senate being to "provide for the attendance of the students at Divine service, and make such regulations for this purpose as they might think fit, provided that no Dissenter should be required to attend the Church services." The commissioners proposed to have a professor of divinity, a professor of Hebrew, and other professors in various branches of secular learning. The fellowships were to be done away with, and the endowments of them, together with those of the university scholarships, bursarships, proctorships, &c., amounting to about 10,000*l.* a year, were to be converted into exhibitions. The present Bishop of Durham was one of the commissioners by whom the proposed ordinances were drawn up.

Manchester.—At the weekly meeting of the Executive Committee on Monday, the hon. secretary stated that the receipts of the week amounted to 2,292*l.* 4*s.* 8*d.*, and that the balance at the bank was 377,147*l.* 19*s.* 10*d.* Mr. Commissioner Farnall's weekly report showed a further decrease of 5,287 in the number of persons receiving parochial relief in the 27 unions, making a net decrease of 94,706, since the 6th of December. The committee made grants amounting to 15,520*l.* from the general fund to 26 different local committees. They also granted 624*l.* from the Employment and School Fund to seven places, and made a number of small grants to 22 places for the superintendents of labour in those places, ranging from 2*l.* to 26*l.*

Preston.—Eight men who were concerned in the riots which took place in this town on the 22d April were tried and convicted last week at the quarter sessions. The ringleader, Jeremiah Cowen, was sentenced to three years' penal servitude. Five of the others were sentenced to six months and two to 12 months' imprisonment.

Salisbury.—Preparations are making for the erection of the statue of the late Lord Herbert of Lea, the public inauguration of which will take place on Monday, the 29th June. The statue, which is by Baron Marochetti, is to be placed in the Market Place in this city, immediately in front of the Council Chamber, on the site heretofore occupied by the Russian gun captured during the Crimean war, and presented to the city by Lord Panmure. The only inscription on the pedestal will be "Sidney Herbert," the name by which he was best known. On the day of the inauguration the statue will be formally handed over to the mayor and corporation.

Sheffield.—A great open-air meeting was held in this town on Tuesday, to consider the advisableness of memorializing Government to "use its good offices to procure a suspension of hostilities between the North and South, with a view to an arrangement of the difference between them." The meeting was called by the Mayor, in pursuance of a requisition, and was attended by about 10,000 persons, including all classes of the inhabitants. Mr. Roebuck addressed the meeting at great length. He said:—

"Gentlemen, the question we are about to discuss is one of the highest possible importance. The mayor has asked me to attend this meeting, for he told me that you would be glad to hear my opinions. Those opinions shall be frankly stated to you. It is my habit always to speak out. If you do not like them, I cannot help it. Now, what is the question which we have come here to discuss? So far as I am concerned I can tell you that it is to me an entirely English question. What I have to consider is what is for the interest of England. What is for her interest I believe to be for the interest of the world. We hold such a position that every step taken by England as a country reverberates throughout the whole world, and influences the happiness of every man. Many years ago England planted great colonies in America. They raised themselves up to a great height. They became 3,000,000 of people; and they then determined to separate from England. They declared that they had a right to separate when they thought fit to do so. They supported that judgment of theirs by arms. They fought England; they beat England; they declared themselves independent. The consequence of it is that they established this great principle among mankind, that when a people are determined to throw off a yoke, whatever that yoke may be, they have the right to do so. England resisted these people. Then came France to aid them. France entered into an alliance with our revolted colonies. Thereupon we declared war against France. We carried on that war. We were again beaten. We yielded the independence of America, and we made a peace with France. Then again we established another great principle, that when a people are fighting for their liberty, it is in the power of any other state—any neutral power—to ally themselves with the so fighting body. They have a right to do so, and if they have the power to maintain themselves, they are justified in doing so. I am applying to history. I am not talking wildly. The facts are as I state them. The conclusions have been drawn by mankind. Now, after above 80 years of alliance, the United States of America have separated in two. They separated; and what was the feeling in England? I'll tell you what my feeling was. I mourned at that separation. But the North themselves, from the very commencement, were so cruel, so determined on maintaining empire, that they forgot charity; they forgot Christianity; they made themselves a spectacle to the world of cruelty, corruption, and horror. That being the case, my feelings changed; but I did expect that the great power of the North, their wonderful resources, would enable them to subdue the South. But the South stood up, like the real descendants, as they are, of Englishmen. They said, 'We will vindicate to ourselves the right to govern ourselves; we will fight to the death for our independence.' And they have fought to the death. They have conquered the North. And now I ask myself if the time has come when surrounding nations shall acknowledge the South as an independent nation (cries of 'Never,' and 'Slavery'). I am about to come to the question of slavery, and I hope the gentlemen who are so anxious about slavery will now be silent. The Northern States of America hate slavery; but there is one thing they hate still more, and that is the slave. Now, I know New York well, and people are here who do not know America; and I know this, that the black man in New York is treated as I would not treat a dog. My countrymen here have kind hearts, and their hearts bleed when they think that men are slaves. I say 'Can England, by allowing this horrible war to go on, can she, as she has done—being thoroughly neutral between the two—can she, if she can prevent it, in her own conscience, allow these horrible atrocities to continue?' Oh, I am met with the cry—I have heard it here—'Slavery.' But what is slavery in the South as compared with the black man's condition in the North? No man looks upon slavery with greater horror than I do, and if I could benefit the slaves—if I could do anything for their condition by at once making them a free people, I should be prepared, as far as my humble power goes, to confer liberty upon them. But we did that among a smaller body of black people in the West Indies. We paid for them, and, as England always has behaved in such cases, we dealt liberally, not only by the slave, but by the slaveholder. Can you do that in America? You cannot. (A voice: 'Yes, you can.') You say we can; but you know nothing about it. The millions of slaves in America would swallow up all the money in the North and in the South to buy their freedom. You cannot do it. But the connection between the shareholder and the slave is one not so painful as many imagine. They are kindly treated. I know they are not treated as I should like to be treated, because I am a freeman. I have been brought up in freedom, I have fought for my own livelihood; they have not. They like their condition, then, to this extent: that when they become old they are not called upon to maintain themselves, and the slaveholders treat them—unfortunately I must use the phrase—as I should treat my horse. I never overwork him if I am a wise man. I lament that any human being should be in that condition, but they are in that condition, and, as statesmen, what are we to do? I fear that for many years to come slavery must exist. You cannot get rid of it on a sudden. Time, patience, and the education of the black man, all must go hand in hand, and it will be the result of time, of education, of patience, which will drag them out of the condition in which they now are. Now, I hate slavery as much as any man. Were any man to attempt to make me a slave I would fight him. I say to England, 'If you now step in and declare boldly what you think to be requisite, namely, that the Southern States should be at once acknowledged as an independent nation' (cries of 'No, no,' and a voice with great emphasis 'Never!') I am told that if we acknowledge the South we shall go to war with the North. I say I do not believe it. I say there is no person, no body of men, who so much desire England's interference in that war as the Northern States themselves. Well, then, what is the reason why we should not do it? First, they say, England ought not to help slavery. I say so, too; but we should not help slavery by acknowledging the South. I have very little more to say, but I want to notice one or two arguments that have been brought against me. One is that we should be benefiting slavery by acknowledging the South. I say, no; we should not benefit slavery, but we should really benefit the slave. By doing everything to assist the North we may do away with slavery, but at the same time we should do away

with the slave. And I must say that throughout the wo contest there has been a curious feeling on the part of gentlemen who support the Federal power. They have said, 'We are not neutral, because we have shown no sympathy for the North.' Now, sympathy is not a part of neutrality; and I at once acknowledge that I have no sympathy with the North. I think my sympathies ought to go, as they do go, with the South. They are a gallant people, fighting for their independence, and they have obtained it. The chance of success on the part of the North is as a million to one. They never hope to conquer the South; but I will tell you what they hope for. There are a body of men in New York who thrive wonderfully upon the war. They have contracts, they have 'greenbacks,' they have every means of putting their hands into the public purse; they are gorged with wealth; and as long as this goes on they will wish the war to continue. But if you go into the agricultural districts of North America you would find things very different there. There you would see sorrow for the war; there you would find husbands dragged to the war—you would find brothers gone there, killed, wounded, maimed, made miserable for life. They know what the horror of the war is; they have none of the advantages of the contractor in New York; they therefore wish to put an end to the war. And there is another class of men in North America which so hates England that anything that should continue to give her pain they would delight in; and this arises from England's bad conduct—I am speaking of the banished Irish in America. But still all that notwithstanding—I say, 'If England can move in such a way as to put an end to this war, let her do so at once.' Now then, gentlemen, I have told you very frankly my opinions. I cannot reason out this question as I should desire in the immense area I have to address, but still distinctly I tell you I believe the time is come for an acknowledgment of the independence of the South; that England by so doing will be carrying out the great mission she has to advance and protect mankind; that if she do so she will benefit not only herself but the world at large. Therefore I should advise you —if my advice be worth anything, you will take it; if not, reject it—I should advise you to say that in our opinion the Confederate States of America should at once be acknowledged to be an independent nation."

The Rev. J. P. Hopps moved, and Mr. M. Beal seconded, the following resolution:—

"That in the opinion of this meeting the Government of this country would act wisely, both for the interests of England and those of the world, were they immediately to enter into negociations with the Great Powers of Europe, for the purpose of obtaining the acknowledgment by them of the independence of the Confederate States of North America."

The Rev. J. Guttridge (Wesleyan Free Church) moved, and Mr. J. Clegg seconded, the following amendment:—

"That this meeting records its high admiration of the honourable neutrality hitherto maintained by the Government in relation to the dreadful civil war now raging on the American continent, and earnestly hopes that the policy of non-intervention will be pursued in future."

Mr. Hopps's resolution was carried by an overwhelming majority.

## Ireland.

MURDER IN WEXFORD.—On Sunday week a National schoolmaster, named Fitzhenry, 28 years of age, was murdered near his own house within a few miles of New Ross. He was found in a lane quite dead, with his skull battered in and his brains scattered about, surrounded with blood. It appears that the murdered man had agreed to pay a sum of money for some land to a neighbour called Joseph Kelly, who was going to America, and who wanted him to advance a further sum to enable Kelly's father to emigrate with them. This request deceased refused. On the Saturday night he and Kelly were drinking together at New Ross, and on the following morning he was found murdered within 100 yards of his own house. The jury at the inquest returned a verdict of "Wilful Murder" against J. Kelly, who was committed for trial.

ALLEGED FEDERAL RECRUITING.—A few days since an American of military appearance visited Cork and its neighbourhood, representing himself to be an agent empowered to engage a large number of Irish labourers to complete some unfinished lines of railways in the United States, and offered the intending emigrants a passage to America on the payment of a deposit of 3*d.* each, with the certainty of continuous and remunerative employment from the moment of their landing. It is said that several hundred young men accepted these terms, but the police having thought it necessary to make some inquiries of the stranger, he suddenly decamped with the deposits he had received, leaving a young man whom he had engaged as his secretary behind him, without any chance of obtaining payment for his services.

## Scotland.

THE PRINCE CONSORT CAIRN.—A large cairn of pyramidal shape, erected by command of the Queen, in memory of the Prince Consort, has just been completed. It occupies a commanding position on a hill some distance south of the castle. It is built of roughly-dressed stones, and measures 35 feet square at the base, and 40 feet in height. On the north slope a tablet is built, having on it a suitable inscription, with a quotation from the Wisdom of Solomon, chap. iv., v. 13 and 14—"He, being made perfect in a short time, fulfilled a long time. For his soul pleased the Lord: therefore hasted He to take him away from among the wicked." On the east slope are cut the initials of all the members of the Royal Family, with the date 21st August, 1862.

GENERAL ASSEMBLIES OF THE CHURCH OF SCOTLAND.—The General Assemblies of the Church of Scotland commenced their annual sittings in Edinburgh on the 14th inst. Lord Belhaven, her Majesty's Lord High Commissioner to the Assembly of the Established Church, held a Levée in the forenoon in Holyrood Palace, which was numerously attended, and afterwards attended Divine service in the High Church, conducted by the retiring moderator, Dr. Bisset, of Bourtie. Dr. Craik, of Glasgow, was elected moderator for the ensuing year. In the General Assembly of the Free Church the Rev. Dr. Guthrie, the retiring moderator, preached the opening sermon on "Home and Foreign Missions;" and the Rev. Roderick Macleod, of Snizort, was elected moderator for the ensuing year.

THE YELVERTON CASE.—The Hon. Major Yelverton having recently presented a petition to the House of Lords, asking for further time to lodge his case, the appeal committee have granted one month's further delay. The appeal will, therefore, probably be heard before their lordships about the month of July next. An action was brought some time ago by Mrs. Longworth Yelverton against Mrs. Forbes, claiming damages on the ground of a slanderous libel contained in the latter's letter to the London *Examiner*. Defences have now been lodged in the Court of Session by Mrs. Forbes to the effect—first, that she is the lawful wife of Major Yelverton, and that as such her husband, if any person, is the party to be proceeded against; and, secondly, that as she has no domicile or effects in Scotland, the Court of Session has no jurisdiction in the case. The defences admit that the libellous letter was written by Mrs. Forbes.

## Law.

HOUSE OF LORDS.—*Sir J. B. Walsh, Bart.,* v. *The Secretary of State for India and the Attorney General.*—This was an appeal from the Court of Chancery on the question whether the Secretary for India is bound, as succeeding to the liabilities of the East India Company, to pay to the executor of the first Lord Clive the sum of five lacs of Sicca rupees, of which the company were trustees, to provide a fund out of which pensions were to be paid to the officers and soldiers of the Company's army who might be disabled in their service; and which they undertook to repay to his representatives whenever they should cease to employ ships and to have a military force in their actual pay and service. The Lord Chancellor, in delivering judgment, said that the question was whether the appellant was entitled to the fund by reason of the events contemplated by the deed having happened. In his opinion the appellant was entitled to it. The event contemplated had clearly taken place, and therefore, looking at the deed alone, the appellant would be entitled to recover. The questions which then arose were whether there was anything in the act of 1858 which interfered with the appellant's rights, and then, who were the parties liable. In the first place, the respondents, regarding the fund as a distinct and separate trust, contended that the act of 1858 had transferred that trust to the Crown for the benefit of the Indian army. But that was an utterly erroneous argument, because the trust was not a distinct and separate trust, but was blended with the funds of the general revenue of the East India Company. The appellant's claim was founded upon a distinct covenant by the Company to pay a certain sum upon a stipulated event, which had happened, taking place, and the act of parliament had not in any way interfered with the appellant's right under that covenant. The act of 1833 had directed that all debts and liabilities of the East India Company were to be chargeable upon the general revenues of India, and out of those revenues the appellant's claim must be satisfied. Under these circumstances the appeal must be allowed, and the decision of the Court below reversed, with costs. The other noble and learned lords concurred. Judgment reversed.

## Miscellaneous.

THE DISCOVERY OF THE SOURCE OF THE NILE.—At the anniversary meeting of the Royal Geographical Society on Monday, Sir Roderick Murchison, the President, referred to the labours of Captains Speke and Grant, who have discovered the sources of the Nile, and have determined that the great fresh-water lake, Victoria Nyanza, whose southern watershed extends to nearly 4° south of the equator, is the reservoir from which the sacred Bahr-al-Abiad, or White Nile, mainly descends to Gondokorò, and thence by Khartum into Egypt. In tracing the outline of Captain Speke's recent discoveries, he recapitulated the nature of the problem presented to the explorer when he started on the expedition. His previous journey (at right angles to the route jointly travelled by Burton and himself to the Tanganika Lake, and undertaken while Captain Burton lay sick at Kazeh) led him into a land where the waters flowed northward, and finally to the shores of a fresh-water sea, called the Nyanza, of great reputed extent. The lake was bounded to the right by the country of the warlike Masia race, through which no traveller can make way, and to the left, but at some distance north of where Speke then was, by an important kingdom called Uganda. Speke's furthest point lay, by astronomical observations, about 489 geographical miles south of Gondokorò, the uppermost well-known point on the White Nile, though the exploration of occasional travellers and ivory-dealers, as Peney, De Bono, and Miani, had reduced the distance between the nearest points then known to white men to 400 miles. The assertions of travelled Arabs convinced Speke that the outlet of the lake lay far away in the north, and that it gave birth to the parent stream of the White Nile. His present journey was made to ascertain the truth of this previous information, his chief difficulty being to obtain the good-will of the powerful chief of the Uganda and other native potentates that had power to block his way. The travellers started from the East African coast on the 1st of October, 1860, but the commencement of their journey was most inauspicious. Eastern Africa was parched with drought, and its tribes were mostly at war, partly owing to disputed successions to chieftainships, and partly in consequence of famine. The result was that they only reached Kazeh after great delays and anxiety, and consequent illness. The next intelligence was dated Sept. 30, 1861, near Kazeh, and told a more cheering tale. The travellers were again on the advance, with a sufficient attendance of porters and interpreters, and were hopeful of success. More than a year then ensued without a particle of news, when the joyful information reached England by telegram that they had reached Khartum, and then that they had joined at Gondokorò, on the 20th of February last, Mr. Petherick, Vice-Consul at Batoum, who was recently reported to have been drowned in crossing one of the rivers in Abyssinia. There is a short break in our knowledge of their proceedings in the meantime, for Speke sent a quire of papers by way of Zanzibar which have never reached the Society. His present reports contain a consecutive narrative of the latter and principal part of his journey between Kazeh and Gondokorò. They commence on January 1, 1862, and date from his departure from the capital of a kingdom called Karagwè, that abuts by one of its corners against the west shore of Nyanza at its southern end. Here he seems to have made a most favourable impression on the intelligent King, who gave him a much-needed introduction for his onward journey, franked his expenses, and forwarded him with urgent and friendly recommendations to the powerful King of Uganda. Karagwè is a portion of a peculiarly interesting district. It occupies a shoulder of the eastern watershed of a territory 200 miles broad, and some 6000 feet above the sea level, that is studded with detached conical hills, one at least of which attains the height of 10,000 feet—the Montes Lunæ of Burton and Speke. The sources of the Nile rise in this territory—namely, the chief feeder of the Nyanza lake, and that of another lake, the Luta Nzige; so also does the source of the Shire of Livingstone, if we may believe the reports now brought to us by Speke. It seems at length that the Tanganika lake is emptied, and not supplied, by a river at its southern end, and that this effluent feeds the Niassa lake, and through it, of course, the Shire. The northern feeder of the Tanganika takes its rise in the land of which we have been speaking. It is evident from a part of the present reports that the missing papers would have enlarged on the fact that in Karagwè Speke found himself in contact with a superior negro race, strongly and favourably contrasting with the tribes he had previously seen, and, with the exception of Uganda, whither Speke now went, is inhabited by a similar race. Their country lies along the Nyanza, and occupies a full half of both its western and northern shores. The parent stream of the Nile bounds Uganda on the east, as it issues from the middle of the northern boundary of the lake with a current 150 yards in width, leaping over a fall 12 feet in height. The Nyanza has numerous other outlets from the same shore, which all converge upon the Nile and feed it at various points of its course, extending to a distance of 150 miles from the lake. Speke describes the people of Uganda as "the French" of these parts, from their sprightliness and good taste in behaviour, dress, and houses. Captain Speke met with great favour from the ruler of these people—an absolute sovereign. He conceives the lake to have formerly extended further than at present. Its banks are intersected at frequent intervals by what he calls "rush-drains," apparently small half-stagnant water-courses, which drain that portion of the adjacent land he believes to have been formerly flooded by the lake. The present size of the Nyanza is considerable; it is about 150 miles in length and breadth, but it appears to have no great depth. Speke further learnt that other lakes have a share in feeding the Nile. One of them lies immediately to the east, and is probably connected with Nyanza. It supplies the Asaa river, which runs into the Nile just above Gondokorò. The other is the Luta Nzige, to which we have already alluded, and which Mr. Baker is now engaged in examining. Captain Speke never saw it, but pictures it on his map as being annexed to the Nile, which enters it, after making a great head at the easternmost part of its northern shoulder, and reissues at the westernmost part of the same. This lake is 120 miles north-west of the Nyanza. After about five months' hospitable detention as a kind of State prisoner, Captain Speke was passed on to the next kingdom, still inhabited by the same peculiar Whahuma race, but north of them the South African dialect suddenly ceased, and Captain Speke felt the want of Ungoro interpreters. The people, too, were far more barbarous. He then first saw people who lived in absolute nudity at Ungoro. There they adopted a scanty dress, out of deference to the customs of the place where they were strangers. Speke's troubles and the procrastination of the King Kaunasi, when he was getting to the end of his journey, were most annoying, the barbarian endeavouring to take from him his only remaining chronometer. He succeeded, however, in seeing the Nile for 2° of lat. north of the great lake, or to lat. 2° north. There the river makes its great bend to the west to pass through the Luta Nzige Lake, and Speke was obliged to travel along the chord of the bend, a distance of 70 miles. He again struck the river at De Bono's ivory station, in lat. 3° 45 min., a few marches south of Gondokorò. There is an unexplained difference of level of 1000 feet in the river before and after the bend, and in this interval highly inclined rapids or falls must occur. A large body of Turks (ivory traders) were the only occupants of the station

when Speke arrived, and they welcomed him cordially. After some days the camp broke up, and marched to Gondokorò, Speke accompanying them. They compelled the Bari natives to contribute porters, and he was sorry to add that the narrative fully confirms the universal accounts of the inhuman treatment of the natives by these Turkish traders. Captain Speke reached Gondokorò on the 15th February, and there met Mr. Baker. In his retrospect of the more civilised countries he had visited, or the three kingdoms of Karagwè, Uganda, and Ungoro, Speke unhesitatingly gives the preference to the first-named, inasmuch as the King Rumanika is described as a person of character and intelligence; Mtesa, the Sovereign of Uganda, being an amiable youth, surrounded by his wives, and delighting in field sports, while one of the rules of his Court seems to require the execution of one man per diem for the good of the State. The northernmost of these three kings, to the north of whose dominions the language changes entirely, is described as a morose, suspicious, churlish creature, yclept Kamrasi, whose chief occupation was the fattening of his wives and children till they could not stand, and in the practising of witchcraft. The travellers spent a whole year in getting through these three kingdoms, in no one of which had a white man ever been seen before, nor would they in all probability ever have escaped from their clutches had they not supplied their Majesties with numerous presents, and that the kings had not eagerly desired to open a traffic wth the whites. By the last intelligence the travellers were coming down the Nile in the steamers of the Viceroy of Egypt, and might be expected to reach our shores on the 8th of June. The President then quoted extracts from Captain Speke's journal, illustrative of his progress, and from his first letter, intimating the joy with which he had received from Petherick the founder's medal of the society, at their first meeting—a meeting of two old friends suddenly approaching one another from opposite hemispheres, which can be better understood than described. After discoursing of the value and magnitude of the discovery, the President alluded with pride to the fact that from first to last the Council of this Society has vigorously sustained East African expeditions, whether in southern or northern latitudes. He was well entitled to say that in the absence of their persistent representations to her Majesty's Government, for whose support and countenance they were indeed deeply grateful, the discoveries of Livingstone, and of Burton and of Speke, and the great recent discovery of Speke and Grant, which now occupied their thoughts, would not have been brought about in their days.

WRECK OF AN INDIAMAN.—The ship Moorsfoot, Captain Coulthurst, with a crew of 42 men and 4 passengers, was totally lost on the 1st February, on her homeward voyage from Calcutta. She had called at St. Louis, Mauritius, and was lying at anchor in the bay when a storm arose and drove her on a reef, and in a short time she was a total wreck. Thirty-one of the crew, including the captain and first and second officers, were drowned in the ship.

## Obituary.

LADY LECONFIELD died on Saturday afternoon under very sudden and painful circumstances. Her ladyship, with her daughter and a nephew, had left the family residence in Grosvenor Place to pay ordinary visits. After calling in Eaton Place, and then going to Grosvenor Street, her ladyship, immediately after handing her servant the visiting cards, fell on the shoulder of her daughter. She was at once driven home, and medical aid called in, but her ladyship expired in little more than half an hour. The medical man called in pronounced death to have arisen from apoplexy. Lady Leconfield was the only daughter of the Rev. William Blunt, of Crabbitt, Sussex. By her marriage with Lord Leconfield she has left five children, a daughter married to Mr. Alfred Montgomery, a daughter married to Lord Naas, a daughter married to Lieut-Colonel Mure; and two sons, the Hon. Henry and the Hon. Percy Windham.

BIRTHS.—On the 22d inst, at Balcary, the Lady VICTORIA KIRWAN, of a daughter—21st inst, in South Street, Lady COLEBROOKE, of a daughter—18th inst, at Smytham, the wife of Major the Hon. E. T. ERSKINE, of a daughter, stillborn—24th inst, at 2, Chapel Street, Grosvenor Square, the Hon. Mrs. SEYMOUR DAWSON DAMER, of a son, stillborn.

MARRIAGES.—On the 23d inst, at Milborne Port, Somerset, Captain FREDERICK BETTY, Royal Artillery, to SARAH ELIZABETH MEDLYCOTT, eldest daughter of Sir William Coles Medlycott, Bart., of Ven, Somerset—21st inst, at the British Embassy, Paris, VIVIAN ARTHUR, eldest son of the late Captain ARTHUR WEBBER, 47th Regt., aide-de-camp to the Commander of the Forces in Ireland, to CHARLOTTE AUGUSTA, only daughter of FREDERIC LEE, Esq., of the Abbey, near Knaresborough, Yorkshire—21st inst, at St. Mary Magdalen's, St. Leonard's-on-Sea, Captain GEORGE SHIRLEY MAXWELL, Adjutant E.K.M., to ADELAIDE FRANCES, youngest daughter of the late Major WM. STANHOPE TAYLOR.

DEATHS.—On the 22d inst, at 40, Wilton Crescent, Lady EMILY BEST, youngest daughter of John Stratford, Earl of Aldborough—23d inst, at Boulogne-sur-Mer, CHARLES WM. BEAUCLERK, Esq., J.P., and deputy-lieutenant for the county of Hants, eldest son of the late Right Hon. and Rev. Lord Frederick Beauclerk, D.D.—21st inst, at Cordoagh Rectory, Cootehill, Ireland, OLIVIA HENRIETTA, daughter of the Hon. and Rev. HENRY O'BRIEN—16th inst, at Dorking, Sir RICHARD HUGHES, of East Bergholt, Suffolk, Bart., aged 59—23d inst, at St. Leonard's-on-Sea, SOPHIA, youngest daughter of the late Sir HENRY and Lady WHEATLEY—24th inst, in Grosvenor Square, GEORGIANA EMILY, youngest daughter of Sir JOHN V. B. JOHNSTONE, Bart., M.P.—23d inst, at East Hill House, Hastings, MARIA MARY ANNE, daughter of General MENZIES, K.H.—17th inst, at Paris, Lieut.-Colonel HARRY LEE GIBBARD, Royal Horse Artillery, son of the late John Gibbard, Esq., Sharnbrook House, Bedfordshire—22d inst, in Portman Square, Captain WM. WYNNE, Coldstream Guards, aged 31—22d inst, at 17, Norfolk Street, Park Lane, PHILIP ANSTRUTHER, Esq., late Colonial Secretary of the Island of Ceylon, aged 60—23d inst, at 100, Lansdowne Place, Brighton, MARGARETTA JANE, relict of PEMBERTON HOBSON, Esq., late H.M.'s Attorney-General for St. Vincent, W.I., aged 58—21st inst, JOSEPH MOORE, Esq., of The Close, Lincoln, aged 71.

## Markets.

### COVENT GARDEN, May 30.

Vegetables continue abundant, and Pine Apples, Peaches, and Nectarines are more plentiful than they were last week. Strawberries from the open ground now begin to make their appearance; good samples of them fetch 4s. a pound. Cherries of foreign growth are fetching from 2s. to 3s. per box weighing about 2 lbs. each. Oranges are plentiful. Pine Apples and Grapes are sufficient for the demand. Potatoes as last week; large supplies of new ones are still making their appearance from Cornwall and the Channel Isles. Cut flowers chiefly consist of Orchids, Pelargoniums, Cinerarias, Azaleas, Violets, Mignonette, and Roses.

#### FRUIT.

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|---|---|
| Pine Apples, per lb., 7s to 10s | Melons, each, 3s to 7s |
| Grapes, per lb., 8s to 14s | Lemons, per 100, 9s to 12s |
| Strawberries, p. lb., 4s to 8s | Oranges, per box, 25s to 30s |
| Pears, per doz., 18s to 24s | — per 100, 5s to 10s |
| Apples, per doz., 9d to 1s 6d | Nuts, small, p. bush, 14s to 18s |
| Figs, per doz., 12s to 15s | Almonds, do., 18s |
| Peaches, per doz., 20s to 36s | Walnuts, do., 10s to 16s |
| Nectarines, do., 18s to 24s | Kent Cobs, p. 100 lbs., 150s |

#### VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Green Peas, per qt., 4s to 6s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 6d to 8d | French Beans per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 100s | Asparagus, per 100, 2s to 5s |
| „ Flukes, do., 100s to 120s | Shallots (new), p. bunch, 9d |
| „ Rocks, do., 60s to 80s | Rhubarb, p. bundle, 2d to 4d |
| „ Cups, do., 75s. to 85s | Garlic, per lb., 8d to 1s |
| Turnips, p. bunch, 3d to 4d | Lettuces, each, 1d to 2d |
| Carrots, do., 3d to 6d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun, 1s 6d to 4s |
| Cucumbers, each, 1s to 1s 6d | Mushrooms, p. pott., 1s to 1s 3d |
| Beet, per doz., 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch, 2d to 4d |

### NEWGATE.—May 29.

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| Best Fresh Butter .. .. | 12s. per dozen lbs. |
| Second do. do. .. .. | 10s. „ |

Pork, 4s 0d. to 4s. 8d. per 8 lbs.

### METROPOLITAN CATTLE MARKET.

MONDAY, May 25.

The supply of Beasts is about the same as on Monday last; the weather and demand being good, trade is brisk, at rather higher rates. The number of Sheep is rather less, yet quite equal to the demand. The choicest Downs and Half-breds are in request, at a small advance. But, owing to the depressed condition of the tallow-market, fat sheep are difficult of sale, and scarcely reach our quotations. Good Calves are scarce and dear. Lamb is lower. From Germany and Holland there are 390 Beasts, 4550 Sheep, and 34 Calves; from Spain, 36 Beasts; from Scotland, 350; from Ireland, 30; from France, 10 Calves; from Norfolk and Suffolk, 3100 Beasts; and 100 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 2 | Best Long-wools .. | — .. |
| Best Short-horns | 4 8 — 5 0 | Do. Shorn .. | 4 4 to 4 8 |
| 2d quality Beasts | 3 4 — 4 6 | Ewes & 2d quality .. | — .. |
| Best Downs and Half-breds .. .. | — .. | Do. Shorn .. | 3 6 — 4 0 |
| Do. Shorn .. | 4 10 — 5 2 | Lambs .. .. | 5 8 — 6 8 |
| | | Calves .. .. | 3 8 — 5 8 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 4190; Sheep & Lambs, 25,040; Calves, 63; Pigs, 390

THURSDAY, May 28.

We have a much larger supply of Beasts, and the weather being warmer trade is heavy. Last Monday's prices are not realised throughout, and indeed a clearance cannot be effected. The number of Sheep is also rather large, and trade very dull; prices are about the same as on Thursday last. Calves are more plentiful, and prices are rather lower. Lamb is more in request, but we cannot quote higher. Our foreign supply consists of 158 Beasts, 1540 Sheep, and 320 Calves. Milch Cows, 130.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. . | 4 8 to 5 0 | Best Long-wools. .. | — .. |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn .. | 4 4 — 4 6 |
| 2d quality Beasts | 3 4 — 4 4 | Ewes & 2d quality .. | — .. |
| Best Downs and Half-breds .. .. | — .. | Do. Shorn .. | 3 4 — 4 0 |
| Do. Shorn . | 4 8 — 5 0 | Lambs .. .. | 5 8 — 6 8 |
| | | Calves . .. | 3 8 — 5 4 |
| | | Pigs .. .. | 3 4 — 4 4 |

Beasts, 1360; Sheep & Lambs, 8890; Calves, 453; Pigs, 220.

### POTATOES, SOUTHWARK, Monday, May 25.

During the past week the arrivals coastwise, by rail, and from abroad have been limited, and for all fresh samples the prices have improved, but the arrivals of new Potatoes from Jersey have been large for the season. The following are this day's quotations:—Yorkshire Flukes, per ton, 140s. to 160s.; ditto Regents, 90s. to 100s.; ditto Seedlings, 105s. to 120s.; do. Rocks, 90s. to 100s.; Perth, Forfar, and Fife Rocks, 75s. to 80s.; ditto Reds, 60s. to 80s.; Jersey New, 10s. to 12s. per cwt.

### COAL MARKET.—May 27.

Hastings Hartley, 15s.; North Pelton Gas, 12s. 9d.; Tanfield Moor, 13s. 6d.; Wylam, 16s.; Walls End Riddell, 14s. 9d.; Eden Main, 15s.; Walls End Braddyll's Hetton, 15s. 6d.; Walls End Haswell, 16s. 9d.; Walls End Hetton, 16s. 9d.; Walls End Stewarts, 16s.; Walls End Hartlepool, 16s. 6d.; Walls End Kelloe, 15s. 9d.; Walls End South Hartlepool, 15s. 3d.; Walls End Trimdon Hartlepool, 16s. 6d.; Walls End West Hartlepool, 16s.; Carway and Duffryn Malting, 19s. 6d. 106 ships at market.

### HOPS.—BOROUGH MARKET, FRIDAY, May 29.

Messrs. Pattenden & Smith report a limited demand for consumption at last week's prices. The accounts from the Hop plantations generally state that in consequence of th late cold winds and frosts the bine has assumed a yellow and sickly appearance, the vermin also being decidedly on the increase, as many as from 10 to 15 flies being easily found on a single leaf in the middle of the gardens.

### HAY.—Per Load of 36 Trusses.

SMITHFIELD, THURSDAY, May 28.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to 72s | | Clover, old .. .. | 90s to 110s | |
| Superior do. .. | 75 | 80 | New Clover .. .. | — | — |
| Inferior do. .. | 40 | 60 | Do. second cut .. | 80 | 105 |
| New do. .. .. .. | — | — | Straw .. .. .. | 30 | 36 |
| Rowen .. .. .. | 40 | 60 | | | |

HARVEY & EASTON.

CUMBERLAND MARKET, THURSDAY, May 28.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay.. | 92s to 100s | | Inferior Clover .. | 84s to 100s | |
| Inferior do. .. .. | 72 | 84 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 36 | 40 |
| Superior Clover .. | 108 | 116 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, May 28.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 76s to | 82s | Prime Clover .. | 108s to 114s | |
| Inferior do. .. .. | 60 | 70 | Inferior do. .. .. | 100 | 105 |
| Prime New Hay .. | — | — | Prime 2d cut .. | 100 | 108 |
| Inferior .. .. | — | — | Inferior do. .. .. | — | — |
| Straw .. .. .. | 28 | 32 | New 2d cut .. | — | — |

### BRITISH WOOLS.—LONDON, May 29.

Our trade continues healthy, but the supplies are very small, as the growers are at present so exorbitant in their demands. However, as shearing will not be general for another month, prices remain unsettled.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 7 to 1 8 | Leicest. Wethers | 1 7 to .. |
| Half-bred ditto .. | 1 8 — 1 9 | Ditto Hoggs .. | 1 8 — .. |
| Down Ewes .. | 1 7 — 1 8 | Combing Skins | 1 2 — 1 6 |
| Kent Fleeces .. | 1 7 — 1 8 | Flannel Wool .. | 1 4 — 1 8 |
| | | Blanket ditto .. .. | — .. |

### MARK LANE.—MONDAY, May 25.

The supply of English Wheat to this morning's market was small, and met a quick sale at the extreme rates of this day se'nnight. The market was tolerably attended, and in some instances a slight advance was realised upon American and Russian descriptions, but no improvement could be obtained on the Baltic qualities. For Barley there was a good inquiry at full prices. Beans and Peas were unaltered in value. Oats were 1s. per qr. cheaper. For Flour the demand was limited at last week's rates.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 46—56 | Red .... | 42—50 |
| — — fine selected runs .. ditto | 47—54 | Red .... | 42—52 |
| — — Talavera ............ | 48—60 | | |
| — Norfolk ............ | — | Red .... | — |
| — Foreign ............ | 34—62 | | |
| BARLEY, grind. & dist., 23s to 30s .. Chev. | 34—38 | Malting . | 31—34 |
| — Foreign .. grinding and distilling | 23—27 | Malting . | 23—32 |
| OATS, Essex and Suffolk ............ | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .. | 21—23 |
| — Irish ............ Potato | — | Feed .. | — |
| — Foreign ........ Poland and Brew | 20—22 | Feed .. | 17—22 |
| RYE ............ | 35—37 | Foreign . | — |
| RYE-MEAL, foreign ............ | — | | |
| BEANS, Mazagan .... 30s to 31s .... Tick | 31—32 | Harrow . | 31—32 |
| — Pigeon ...... 34s —38s .. Winds. | — | Longpod | — |
| — Foreign ............ Small | 40—46 | Egyptian | 32—34 |
| PEAS, white, Essex and Kent .. Boilers | 35—37 | Suffolk . | 37—40 |
| — Maple .... 42s to 48s ...... Grey | 36—37 | Foreign . | 30—38 |
| MAIZE ............ White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 42—47 | | |
| — 2d do ............ ditto | 32—40 | Country | 32—40 |
| — Foreign ............ per barrel | 23—30 | Per sack | 34—48 |

FRIDAY, May 29.

The weather since the 22d inst. has been fine, with a low temperature. Although business in Wheat during the past week has been of a limited character, previous prices are well supported upon the sales effected, and in some markets it has been quoted 1s. per qr. dearer. The value of spring corn was well supported with rather an upward tendency, Oats excepted; these, owing to large arrivals here, and in several of the principal ports, have suffered a depreciation of 6d. per qr. in several markets. Flour has been in rather limited inquiry at last week's rates. In Paris (May 28), the trade has remained very slow for Wheat and Flour, but former prices are maintained. The present stock of Flour is estimated at 13,430 cwts. The six marks for delivery this month are quoted equal to 39s. 6d. per 280 lbs. The arrivals of foreign Barley and Oats this week have been large, of all other grain small. To-day's market was very thinly attended. Prices of both English and foreign must be considered nominally the same as on Monday. The amount of business transacted was very limited. In the value of Barley, Beans, and Peas there is no alteration. For Oats there was a fair demand at about Monday's quotations.

ARRIVALS THIS WEEK.

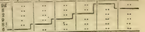
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 810 qrs. | — qrs. | — qrs. | 1290 sks. |
| Irish .... | — | — | — „ | — „ |
| Foreign .. | 5220 | 5110 „ | 35,150 „ | 150 „ / — brls |

LIVERPOOL, May 26.—We have had only a small attendance of town and country millers and dealers at this morning's market, and the demand for Wheat has been quite in retail at Friday's prices. Flour a slow sale, but fully as dear. Indian Corn met only a moderate inquiry, with few sellers under the extreme quotations. Oats the turn cheaper, owing to the better supply of foreign. Oatmeal steady, but not brisk. New Egyptian Beans are down from 3d. to 6d. per quarter. Peas and Barley unchanged. The market closes firm.

FRIDAY, May 29.—Wheat in consumptive demand, at about Tuesday's rates. Flour continues in good demand for fresh parcels, and late rates fully supported. Indian Corn, small business at 29s. 9d. for mixed. Egyptian Beans moderate sale; new Saidi 31s. 3d. to 31s. 6d. Egyptian Wheat unchanged. Oats and Oatmeal unchanged.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| April 18.. | 45s 6d | 35s 4d | 21s 6d | 30s 5d | 36s 6d | 36s 2d |
| — 25.. | 45 8 | 35 3 | 21 11 | 30 6 | 36 11 | 35 3 |
| May 2.. | 45 9 | 34 6 | 21 2 | 39 8 | 37 3 | 35 6 |
| — 9.. | 46 2 | 34 4 | 22 1 | 20 11 | 37 6 | 34 0 |
| — 16.. | 46 9 | 34 5 | 21 11 | 33 7 | 38 3 | 35 8 |
| — 23 . | 46 8 | 33 9 | 22 7 | 34 6 | 38 6 | 36 5 |
| Agg. Aver. | 46 1 | 34 7 | 21 10 | 31 7 | 37 6 | 35 6 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.



WANTED, a good ANALYTICAL CHEMIST, capable of taking charge of the Manufacture of Chemical Manures, Linseed Cake, &c. None but parties producing unexceptionable references as to character, ability, and trustworthiness, need apply. Liberal remuneration will be given to a suitable party. A member of the Society of Friends preferred.—Apply to Box 139, Post Office, Belfast.

WANTED, a TRAVELLER.—One having a connection among Nurserymen, Seedsmen, Market Gardeners, &c., will meet with a liberal commission. No samples required.—Apply to T. J. NICKS, Russia Mat Ware house, 32, Worship Street, Finsbury, E.C.

WANTED, an active YOUNG MAN, of good address, and well acquainted with his profession, particularly the Training of Wall Trees, to take the charge of several Gardens.—Apply to W. H. CAPARN & SON, King's Road Nursery, Newark.

WANTED, a good KITCHEN GARDENER (married, without young children) as Labour Master in a small Agricultural Boarding School; the Wife to Cook and Clean for the boys. None but Church-people with very good characters need apply.—Miss C., Beckley Grove, near Oxford.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD). — Married; understands Gardening in all its branches. Three years' good character.—J. W., 7, Archbutt Terrace, Manor Street, Chelsea.

GARDENER (HEAD).—Age 40, married, one child; has had 25 years' practice, and has been 5 years in his present situation.—A., Mr. Stedmans, Midhurst, Sussex.

GARDENER (HEAD).—Age 30; understands his profession in all its branches. Three years' good character. —T. N., Mrs. Wise, Stationer, Upper Mitcham, Surrey, S.

GARDENER (HEAD).—Age 36, married, no incumbrance; has a thorough knowledge of Flower and Kitchen Gardening, Early and Late Forcing. Can have 14 years' good character.—Mr. WILLIAM PAUL, Waltham Cross, N.

GARDENER (HEAD). — Age 32; Messrs. GLENDINNING & SONS can with confidence recommend a respectable Man who has a thorough practical knowledge of his profession.—Chiswick Nursery, London, W.

GARDENER (HEAD).—Age 40, married, no incumbrance; a good practical knowledge of his profession. Four years good character from his present employer.—A. B., Mrs. Vallance, Hove, Brighton, Sussex.

GARDENER (HEAD).—Age 31; a gentleman wishes to recommend a Young Man who understands Flowers, the Culture of the Vine, &c. Particulars can be had by referring to HENRY READ, Esq., Estate Agent, Beccles, Suffolk.

GARDENER (HEAD), married.—J. JEFFERSON, Gr. to Josh. Garside, Esq., Carlton House, Worksop, wishes to recommend a good Working Gardener. Sixteen years' character. Any person requiring an industrious, sober, and obliging Man, will find this party worthy of notice.

GARDENER (HEAD).—Single; has a thorough practical knowledge of the Management of Vines, Pines, Orchids, Stove and Greenhouse Plants, Flower and Kitchen Gardens. Good reference.—J. B., Mr. Andrews, Victoria Place, Croydon, S.E.

### To Noblemen and Others.

GARDENER (HEAD).—Age 36, married; understands the Forcing of all kinds of Fruit; also Stove and Greenhouse Plants, Flower and Kitchen Gardens. Good references, and can be highly recommended.—Y. Z., Silver Street, Edmonton, N.

GARDENER (HEAD).—Age 34, married, no incumbrance; understands Growing Stove and Greenhouse Plants, Orchids, Ferns, Vines, Cucumbers, Melons. Also the Management of Flower and Kitchen Gardens. Two years' good character.—J. W., Messrs. E. G. Henderson & Son, Wellington Road, St. John's Wood, N.W.

GARDENER (HEAD), age 30, single.—J. HORWOOD, Gardener to G. H. Turnbull, Esq., The Rookery, Downe, Bromley, Kent, S.E., wishes to obtain a situation for his Foreman, who has served him for three years. He is fully competent to undertake a first-rate situation as Gardener, being of active and industrious habits, much experienced in the Forcing of Grapes and other Fruits, Flowers, and Vegetables; is a good Plantsman and Flower Gardener.—Address as above.

GARDENER (HEAD, or SINGLE-HANDED).—Age 38, married, no incumbrance; understands the Management of Greenhouses, Vines, Cucumbers, Gardens, &c. Good character.—A. B., Jackson's Nursery, Kingston, Surrey, S.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 26, single; has a practical knowledge of his profession. Good character.—A. B., 3, Unity Place, Woodbine Grove, Penge, Surrey.

GARDENER.—Where a good, first-class, practically experienced hand is required. Good character.—A. J. A., Miss Brown's, Lower Tooting, Surrey, S.

GARDENER.—Single; understands Flower, Fruit, and Kitchen Gardens, Greenhouse Plants and Vineries, is energetic and trustworthy. Good character.—A. B. C., Post Office, Lamberhurst, Sussex.

### To Noblemen and Others.

GARDENER.—Age 36, married, two children; now in the employ of Thos. E. Moss, Esq., Banker, Liverpool; will be disengaged in a few days. Has had 20 years' practical experience in all branches of his profession.—CHARLES MANNING, Gardener, Roby Hall, Prescot, Lancashire.

GARDENER (SINGLE-HANDED).—Age 30, married, two children; thoroughly understands Early Forcing, also general Management of Flower and Kitchen Gardens. Six and a half years' good character.—W. P., 2, Orford Road, Walthamstow, Essex, N.E.

GARDENER (SINGLE-HANDED or UNDER), or to look after a Horse and Chaise, and a Cow, and to make himself useful.—Age 27, single.—Apply by letter, to J. M., 4, Royal Place, Greenwich, Kent, S.E.

GARDENER (UNDER, or SINGLE-HANDED).—Age 25; understands Forcing. Nine years' experience in several good establishments. Can be well recommended.—H. C., 24, Burr Street, St. Katharine's Docks, London, E.

GARDENER (SECOND).—Age 22. Two years' good character.—E. T., Post Office, Acton, W.

GARDENER (SECOND). — Understands Orchids, Stove and Greenhouse Plants, &c. Good recommendation.—H. H., Elfords, Hawkhurst, Kent.

GARDENER, or GARDENER and BAILIFF.—Messrs. WM. CUTBUSH & SON can strongly recommend a Man (middle-aged, married) of unexceptionable character and experience.—Highgate Nurseries, London, N.

FOREMAN in a gentleman's or nobleman's Garden. —Age 25. Good reference.—W. S., Mrs. Darrock's, Brook Lane, Chester.

FOREMAN and PLANT GROWER.—Has had 20 years' experience in Propagation, Culture, and Trade requirements.—HORTI, 26, Nicholas Street, Hoxton, N.

GENERAL FOREMAN and PROPAGATOR.—Well up in the Trade. Has served in some of the largest Nurseries, wholesale and retail, as Salesman. Has some knowledge of the Seed Department. Good as a General Manager if required. Eighteen years' experience. First-class references.—N. U., Messrs. Noble & Co., 152, Fleet Street, London, E.C.

PROPAGATOR, or PROPAGATOR and FOREMAN.—Great experience in first-class Establishments, London and Provincial; a first-class Grattsman, Hard and Soft-wooded. A good Cultivator of Nursery Stock in general. Good references.—W. R., *Gardeners' Chronicle* Office, W.C.

PROPAGATOR. — Good Grower of Soft-wooded Plants generally; has nearly 20 years' experience for Market.—A. B., 20, Moysten Terrace, Bow.

PROPAGATOR (GENERAL).—First-class abilities; no pretender.—C. A. Q., Mr. Wood, Nurseryman, &c., Bedford Nursery, Haverstock Hill, N.

PROPAGATOR, MARKET GROWER, and SALESMAN.—Experienced both in Hard and Soft-wooded Plants. Well recommended.—A. B., *Gardeners' Chronicle* Office, W.C.

### Bonus.

LAND STEWARD and GARDENER, or GENERAL MANAGER of an ESTATE.—The Advertiser will pay a liberal bonus to any one that obtains him a position as above. First-class qualifications and testimonials.—ARGUS, care of Mr. Thos. Cole, 2, Mansell Villas, Wimbledon, Surrey.

### To Noblemen and Gentlemen.

LAND STEWARD.—Has had the Management of a large Estate in one of the Midland Counties for many years; will be at liberty in July, and is desirous of a re-engagement. He has had many years of practical experience in the Management of Land, Timber, Woods, Plantations, and the Superintendence of all Repairs; also a large Farm Stock, &c., as well as the general business of an Estate. Testimonials and the most unexceptionable references can be given.—C. M., Post Office, Canterbury.

### To Landed Proprietors.

LAND AGENT.—The Advertiser, who has had 15 years' experience in the general Superintendence of an Estate of considerable extent in one of the Midland Counties, is desirous of an engagement of a similar character with a nobleman or gentleman requiring a Land Agent. The routine of his practice has comprised the Erection and Repairs of Farm Houses and Buildings, Under Draining and Improvement of Land, the Management of Woods and Plantations, and of matters in general connected with Landed Property. Testimonials of a high class can be given, together with references to the Proprietor of the Estate, with whom his engagement has extended to the above named period.—C. R., *Gardeners' Chronicle* Office, W.C.

FARM STEWARD or BAILIFF.—Age 39, married, no incumbrance; a Scotchman; has a thorough knowledge of Farming and Cattle. The highest testimonials can be given. —A. B., 45, Shakespere Street, Manchester.

FARM BAILIFF.—Age 22, single; understands the Management of a Farm, Stock, &c.—R. S., Bedmont, Hemel Hempstead, Herts.

IMPROVER.—Age 19; has had experience in the Nursery and Seed business. First-class references.—F. J. H., Post Office, Worcester.

### To the London Trade.

SHOPMAN and TRAVELLER.—Eighteen years' experience. First-class references.—X. Y., *Gardeners' Chronicle* Office, W.C.

### Seed Trade.

SHOPMAN and TRAVELLER.—A Young Man, who has acted in this capacity for the last five years, is open to an engagement. Reference to present employers.—F. D., *Gardeners' Chronicle* Office, W.C.

CARPENTER or WHEELWRIGHT in a Nursery or on a Gentleman's Estate.—Understands all Greenhouse work. Good reference from two first-class nurseries.—F. COLLINS, 10, Cambridge Road, Mark House Common, Walthamstow, N.E.

HAIR RESTORED, preserved, and beautified, by the use of ROWLAND'S MACASSOR OIL.—It prevents hair from falling off or turning grey, strengthens weak hair, cleanses it from scurf and dandriff, and makes it beautifully soft, pliable, and glossy. For children it is especially recommended, as forming the basis of a beautiful head of hair. Price 3s. 6d., 7s., 10s. 6d., (equal to four small), and 21s. per bottle.

Caution—Ask for ROWLAND'S Macassor Oil. Sold at 20, Hatton Garden, E.C., and by Chemists and Perfumers.

OLDRIDGE'S BALM of COLUMBIA, established upwards of 30 years, is the best and only certain remedy ever discovered for preserving, strengthening, beautifying, or restoring the Hair, Whiskers, or Moustache, and preventing them turning grey.

Sold in bottles, 3s. 6d., 6s. and 11s., by C. & A. OLDRIDGE, 22, Wellington Street, London, W.C., and by all Chemists and Perfumers. For Children and Ladies' Hair it is most efficacious and unrivalled.

CHANDELIERS in Bronze and Ormolu for DINING ROOM and LIBRARY, Candelabra, Moderator Lamps, in Bronze, Ormolu, China, and Glass. Statuettes in Parian, Vases and other Ornaments.

OSLER, 45, Oxford Street, London, W

OSLER'S GLASS CHANDELIERS, Wall Lights and Lustres for Gas and Candles, Table Glass, &c. Glass Dinner Services for 12 persons, from 7l. 15s. Glass Dessert Services for 12 persons, from 2l.

All articles marked in plain figures.

Ornamental Glass, English and Foreign, suitable for Presents. Mess, Export, and Furnishing Orders promptly executed.

London—Show Rooms, 45, Oxford Street, W.

Birmingham—Manufactory and Show Rooms, Broad Street. Established 1807.

THE PERFECT SUBSTITUTE for SILVER.—The REAL NICKEL SILVER, introduced more than 30 years ago by WILLIAM S. BURTON, when PLATED by the patent process of Messrs. Elkington & Co., is beyond all comparison the very best article next to sterling silver that can be employed as such, either usefully or ornamentally, as by no possible test can it be distinguished from real silver. A small useful set, guaranteed of first quality for finish and durability, as follows:—

| | Fiddle or Old Silver Pattern. | | | Bead Pattern. | | | Thread or Brunswick Pattern. | | | King's or Lily, &c. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | £ | s. | d. | £ | s. | d. | £ | s. | d. | £ | s. | d. |
| 12 Table Forks .. .. | 1 | 13 | 0 | 2 | 0 | 0 | 2 | 4 | 0 | 2 | 10 | 0 |
| 12 Table Spoons .. .. | 1 | 13 | 0 | 2 | 0 | 0 | 2 | 4 | 0 | 2 | 10 | 0 |
| 12 Dessert Forks .. .. | 1 | 4 | 0 | 1 | 10 | 0 | 1 | 12 | 0 | 1 | 15 | 0 |
| 12 Dessert Spoons .. | 1 | 4 | 0 | 1 | 10 | 0 | 1 | 12 | 0 | 1 | 15 | 0 |
| 12 Tea Spoons .. .. | 0 | 16 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 5 | 0 |
| 6 Egg Spoons, gilt bowls.. | 0 | 10 | 0 | 0 | 12 | 0 | 0 | 12 | 0 | 0 | 13 | 6 |
| 2 Sauce Ladles .. .. | 0 | 6 | 0 | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 9 | 0 |
| 1 Gravy Spoon .. .. | 0 | 6 | 6 | 0 | 9 | 0 | 0 | 10 | 0 | 0 | 11 | 0 |
| 2 Salt Spoons, gilt bowls.. | 0 | 3 | 4 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 4 | 6 |
| 1 Mustard Spoon, gilt bowl .. .. | 0 | 1 | 8 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 3 |
| 1 Pair of Sugar Tongs .. | 0 | 2 | 6 | 0 | 3 | 6 | 0 | 3 | 6 | 0 | 4 | 0 |
| 1 Pair of Fish Carvers .. | 1 | 4 | 0 | 1 | 10 | 0 | 1 | 10 | 0 | 1 | 10 | 0 |
| 1 Butter Knife .. .. | 0 | 2 | 6 | 0 | 4 | 0 | 0 | 5 | 6 | 0 | 6 | 0 |
| 1 Soup Ladle .. .. | 0 | 10 | 0 | 0 | 12 | 0 | 0 | 16 | 0 | 0 | 17 | 0 |
| 1 Sugar Sifter .. .. | 0 | 3 | 3 | 0 | 4 | 6 | 0 | 4 | 6 | 0 | 5 | 0 |
| Total .. .. | 9 | 19 | 9 | 12 | 9 | 0 | 13 | 9 | 6 | 14 | 17 | 3 |

Any article to be had singly at the same prices. An Oak Chest to contain the above, and a relative number of Knives, &c., 2l. 15s. Tea and Coffee Sets, Dish Covers and Corner Dishes, Cruet and Liqueur Frames, &c., at proportionate prices. All kinds of re-plating done by the patent process.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro Plate, Nickel Silver, and Britannia Metal Goods, Dish Covers, Hot Water Dishes, Stoves, Fenders, Marble Chimneypieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays, Urns, and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Room Cabinet Furniture, &c., with Lists of Prices, and Plans of the 20 large Show Rooms, at 39, Oxford Street, W.; 1, 1A, 2, 3, and 4, Newman Street; 4, 5 and 6, Perry's Place; and 1, Newman Yard, London, W.C.

THRESHER'S COLORED FLANNEL SHIRTS. —PRIZE MEDAL awarded to THRESHER & GLENNY for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.

Lists of Prices on application to THRESHER & GLENNY, General Outfitters, next door to Somerset House, Strand, W.C.

### Prize Medal 1862

AWARDED BY THE JURORS OF CLASS II. FOR THE

GLENFIELD STARCH, being a confirmation by some of the most eminent scientific men of the age, of the superior qualities of this world-renowned Starch. Sold in Packets at ½d., 1d., 2d., 4d., and 8d. each, by all respectable Grocers, Chandlers, Oilmen, &c.

WOTHERSPOON & Co., Glasgow and London.

### Eau-de-Vie.

THIS PURE PALE BRANDY, 18s. per gallon, is peculiarly free from acidity, and very superior to recent importations of Cognac. In French Bottles, 38s. per dozen; or in a case for the country, 39s. Railway Carriage paid. No Agents.

HENRY BRETT & Co.,
Old Furnival's Distillery, Holborn, E.C.
and 30, Regent Street, Waterloo Place, S.W., London.
Prices Current free on application.

CAPTAIN WHITE'S ORIENTAL PICKLE, CURRY or MULLIGATAWNY PASTE, Curry Powder, and Curry Sauce, may be obtained from all Sauce Vendors, and Wholesale of CROSSE & BLACKWELL, Purveyors to the Queen, Soho Square, London, W.

### Sauce.—Lea and Perrins'

WORCESTERSHIRE SAUCE,
Pronounced by Connoisseurs
"THE ONLY GOOD SAUCE."
See Name on Wrapper, Label, Bottle, and Stopper, and to avoid Counterfeits
ASK FOR LEA AND PERRINS' SAUCE

*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. CROSSE & BLACKWELL; Messrs. BARCLAY & SONS, London, &c.; and by Grocers and Oilmen universally.

METCALFE, BINGLEY, AND CO.'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. METCALFE'S celebrated Alkaline Tooth Powder, 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each. 130 B, and 131, Oxford Street, W.

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild aperient for delicate constitutions, more especially for ladies and children.—It is prepared in a state of perfect purity and of uniform strength by DINNEFORD & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, JUNE* 6, 1863.

NOTICE.—SMITH, BECK AND BECK, MANUFACTURERS of MICROSCOPES, TELESCOPES, STEREOSCOPES, and other Optical and Scientific Instruments, have REMOVED from 6, Coleman Street to 31, Cornhill, E.C.

** Our Customers will find these new Premises very superior in size, convenience, and position to those we have just left. SMITH, BECK & BECK.

PATENT ELECTRICAL PLANT PROTECTOR for the preservation of Plants, Flowers, and Shrubs from Snails, Worms, Slugs, &c.

This Protector being composed of zinc and copper, or of any two metals combined in such a manner as to form an electrical couple, constantly gives off a certain amount of electricity, rendering plants entirely secure from the attacks of Slugs, &c., as it has been discovered to be perfectly impossible for any insect or worm to crawl over a combination of these two metals.

Being formed in plain and ornamental designs for borders, beds, &c., it is applicable to all gardens, terraces, &c.; it is also made in the form of Plant Guards to encircle the stems.

Illustrated Lists of Prices post free on application to ROBERT B. LEE & Co., Sole Manufacturers of the Patent Plant Protector, 22, Market Place, Manchester.

**To Noblemen, Gardeners, Farmers, and Others.**

AMIES AND BARFORD beg to call particular attention to their NEW PATENT WATER BALLASTING FIELD and GARDEN ROLLERS, which have the following advantages over all others. They are made entirely of Wrought Iron, are made water-tight, and are loaded with water to obtain increased weight at pleasure, which is moreover employed with the greatest possible per centage of crushing power directly upon the surface of the soil. The weight of a Garden Roller can thus be doubled in a few minutes, and a one, two, or three Horse Land Roller is secured, as desired, in one implement.

Great numbers have already been sold, and are giving the greatest satisfaction, and whether for Gardens, Lawns, Cricket Grounds, Road-making, or for farmers' use, they will be found superior to all others.

For Illustrated Price Lists apply to Messrs. AMIES & BARFORD, Queen Street Iron Works, Peterborough, Patentees and Sole Manufacturers.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE PROOF STRONG ROOM DOORS; CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
CHUBB & SON, 57, St. Paul's Churchyard, London, E.C.

CHANDELIERS in Bronze and Ormolu for DINING ROOM and LIBRARY, Candelabra, Moderator Lamps, in Bronze, Ormolu, China, and Glass. Statuettes in Parian, Vases and other Ornaments.
OSLER, 45, Oxford Street, London, W.

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## News of the Week.

THE House of Lords reassembled on Monday after the Whitsuntide recess. Lord EBURY moved an address to the Crown, praying for the appointment of a Royal Commission to inquire what steps could be taken to obviate the evils arising out of the indiscriminate use of the Burial Service.

The Earl of Desart moved as an amendment that the motion be considered that day six months. The Archbishops of Canterbury and York, the Bishops of London, St. David's, Llandaff, and Cashel, and other Peers advised Lord Ebury to withdraw his motion, on the understanding that the subject should receive the early attention of Convocation. The motion was ultimately withdrawn. The Stock Certificates to Bearer Bill and the Customs and Inland Revenue Bill were read a third time and passed. On Tuesday the Savings Banks Moneys Bill was read a third time and passed. On Thursday the Telegraphs Bill was referred to a Select Committee.

In the House of Commons on Friday Mr. Gregory called attention to the present condition of Turkey and her dependencies, and in moving for papers on the subject, urged upon the Government the expediency of adopting a different line of policy, so that when the break-up of the empire came, England might not be found fighting on behalf of Mahomedan barbarism against Christian civilisation. Mr. Layard defended the policy of the Government, and asserted that the Porte had fulfilled all its obligations to Servia and her other dependencies. After a long discussion the motion was withdrawn. On Monday, on the order for considering the Inland Revenue Bill as amended, Mr. Hunt moved the addition of a clause exempting from Stamp duty all securities and agreements made under the Highways Act of last session. The clause was opposed by the Chancellor of the Exchequer, and was negatived, on a division, by 146 to 116. The Bill as amended was then agreed to. The House went into Committee of Supply on the Civil Service Estimates, when the votes for public buildings, the parks, and the Houses of Parliament, were agreed to. The Vice-Admiralty Courts Bill passed through Committee. The Cayman Island Bill, the Alkali Works Regulation Bill, and the African Slave Trade Treaty Bill, were read a second time. On Tuesday Mr. Whalley moved that the House should resolve itself into committee to consider the Maynooth College Endowment Act, with a view to its repeal. After a short discussion the motion was negatived on a division by 198 to 100. Mr. Fenwick moved an address for a Royal commission to inquire into our sea fisheries, with the view of increasing the supply of a favourite and nutritious article of food. The motion was opposed by Mr. M. Gibson, but was carried on a division by 50 to 27. Mr. Hassard called attention to the state of the laws relating to charitable donations and bequests in Ireland, and was proceeding with his speech when the House was counted out. On Wednesday Mr. Somes moved the second reading of the Public-houses Bill, the object of which was to compel the closing of all public-houses on Sundays. Captain Jervis moved as an amendment that the Bill be read a second time that day three months. After a long discussion the amendment was carried on a division by 278 to 103. The Bill was therefore lost. The Sheep and Cattle (Scotland) Bill, and the Fisheries (Ireland) Bill, were read a second time. The report of the Committee of Supply was brought up and agreed to. The Vice-Admiralty Courts Bill was read a third time and passed. On Thursday, on the order for going into Committee on the Volunteers Bill, Mr. Bagwell moved that it was impolitic and unjust any longer to exclude Ireland from the operation of the Volunteer system. The motion was opposed by the Government, and negatived on a division by 156 to 45. The House then went into Committee, when Mr. Hibbert moved to omit Clause 19, which authorised the employment of the Volunteers in the suppression of riots and internal disorders. After some discussion the motion was agreed to, and the clause was struck out of the Bill. On the 21st clause, authorising a commanding officer to discharge a Volunteer for any cause which he might deem to be sufficient, Sir R. Clifton moved as an amendment that the sufficiency of the clause should be determined by a court of inquiry composed of members of the corps. On a division the amendment was negatived by 108 to 21. The remaining clauses were agreed to with amendments, after a very long discussion. The House then went into a Committee of Supply on the Civil Service Estimates, when Lord R. Cecil moved to reduce the vote of 3234*l.* for the repairs and furniture of the Embassy House at Pera, by 400*l.*, the salary of the Clerk of the Works. This amendment was opposed by the Government, but was carried on a division by 74 to 68. Several other votes having been agreed to, the Chairman was ordered to report progress. The African Slave Trade Treaty Bill passed through committee. The Removal of Irish Poor Bill was read a second time.

The French elections have terminated in the unanimous rejection of the Imperial candidates in all the arrondissements of Paris. This is the most serious defeat which has been sustained by the Government since the establishment of the Empire, and is universally attributed to the attempt made by M. de Persigny, the Minister of the Interior, to prevent the election of the Opposition candidates by denouncing them as enemies of the Government.

From the United States we learn that General Grant has occupied Jackson, the Black River Bridge, and Haines Bluff; and, at the date of the last advices, was fighting a battle with General Pemberton with the prospect of capturing the entire Confederate force in Vicksburg. It was reported at Washington that President Lincoln had commuted the sentence passed on Mr. Vallandigham to banishment beyond the Federal lines.

## Home News.

The Queen's Return from Scotland. — Her Majesty, accompanied by Prince Alfred and the younger members of the Royal family, left Balmoral yesterday at 1 p.m., on her return to Windsor. Her Majesty left the Aboyne station of the Deeside Railway at half-past 2 o'clock, and arrived at Aberdeen, a distance of 33 miles, at half-past 3. From Aberdeen the Scottish North-Eastern Railway was traversed to Perth, a distance of 90 miles, with only one intermediate stoppage to take water at the Bridge of Dun. Her Majesty dined at the Perth station hotel, and, leaving that city at 7 o'clock, travelled over the Scottish Central Railway to Greenhill, a distance of 45 miles. From Greenhill, where the engine took water, the Royal party proceeded over the Caledonian Railway to the border city of Carlisle, a distance of 106 miles, stopping only once to take water at Summer station. At Carlisle, where the train was timed to arrive at half past eleven o'clock, the Queen partook of refreshments, proceeding thence, after 10 minutes delay, over the London and North-Western Railway by Kendal, Preston, and Withmore, at each of which stations the engine took water, to the Bushbury Junction of the Great Western Railway, which was to be reached at 5 o'clock this morning. From Bushbury the train was to run over the Great Western, through Leamington, and Oxford, to Windsor, where Her Majesty was expected to arrive at a quarter to 9 this morning. The journey throughout was made with the utmost privacy.

The Court in Scotland.—On Wednesday week the Queen drove out, accompanied by Princess Helena. Princess Louisa and Princess Beatrice went out driving. On Thursday the Queen, accompanied by Princess Louisa, drove to Mar Lodge. On Friday the Queen drove out, accompanied by Princess Helena. Princess Helena rode out. On Saturday the Queen drove out, accompanied by Princess Helena. Princess Louisa and Prince Arthur went out riding. The Duke of Athol and the Rev. Dr. Caird arrived at the Castle. On Sunday morning the Queen and the Royal family attended Divine service in the Castle. The service was performed by the Rev. Dr. Caird. Princess Helena and Prince Alfred attended Divine service in the parish church of Crathie. On Monday morning the Queen drove out, accompanied by Princess Louisa and Princess Beatrice, and in the afternoon walked and drove, accompanied by Princess Helena. Princess Louisa, Princess Beatrice, and Prince Arthur went to Invercauld. The Rev. Dr. Caird left the Castle. On Tuesday the Queen drove out, accompanied by Princess Helena. Prince Arthur left the Castle for Greenwich Park.

The Prince and Princess of Wales.—On Saturday morning the Princess Mary of Cambridge visited the Princess at Marlborough House. The Prince rode on horseback. In the afternoon the Prince and Princess took a drive in an open carriage. In the evening their Royal Highnesses honoured Viscount and Viscountess Sydney with their company at dinner. On Sunday the Prince and Princess attended Divine Service in the Chapel Royal, St. James's. The Rev. C. F. Tarver preached the sermon. On Monday morning the Prince rode on horseback. The Princess honoured Mr. Frith with a sitting at his studio, at Pembridge-villas. In the afternoon her Royal Highness went to Kew, and visited the Duchess of Cambridge. Prince Leiningen arrived at Marlborough House on a visit. The Prince of Wales, accompanied by Prince Leiningen, honoured Mr. James S. Westmacott with a visit at his studio, in St. George's Road. His Royal Highness afterwards went to the Hospital of the Grenadier Guards, in Rochester Row, and visited the men injured in the recent railway accident. In the evening the Prince and Princess, accompanied by Prince Leiningen, honoured an amateur performance at the Bijou Theatre with their presence. On Tuesday morning the Prince and Princess, accompanied by Prince Leiningen, went to Ascot Races, travelling from the private station at Vauxhall by the London and South-Western Railway. Their Royal Highnesses afterwards proceeded to Frogmore. On Wednesday the officers of the Coldstream Guards quartered at Windsor, dined with the Prince at Frogmore House, when the band and singing-class of the regiment were in attendance. On Thursday the Prince and Princess went to Ascot races. In the evening his Royal Highness dined with the officers of the Coldstream Guards, at the Sheet Street Barracks. Yesterday the Prince and Princess attended the Eton regatta, and the other festivities connected with the Eton anniversary.

The Cabinet.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury, in Downing Street.

Parliamentary Movements.—The election for the City of London took place on Tuesday, when Mr. Göschen was elected without opposition. Colonel Tottenham and Mr. M'Kenna have offered themselves for New Ross, the former on Conservative, the latter on Liberal principles. Sir George Colthurst and Mr. Victor Beare Fitzgibbon are candidates for Kinsale, vacant by the resignation of Sir John Arnott.

Rupture of Diplomatic Relations with Brazil.—The Commandeur de Carvalho Moreira, the Brazilian Minister at this Court, in consequence of recent occurrences, demanded his passports on Monday. His excellency received the necessary papers on Friday, and has since taken his departure from this country.

The Case of Bishop Colenso.—The Cape papers state that the rural deans of the diocese of Natal have complained to the Bishop of Cape Town, as metropolitan, of Dr. Colenso's works, and that the Bishop has informed them in reply, that if they frame articles against Dr. Colenso it will be his duty and that of the other Bishops of South Africa to summon the bishop of Natal to answer them.

Knighthood. — The Queen has directed letters patent to be passed under the Great Seal, granting the dignity of a Knight of the United Kingdom to Francis Richard Sandford, Esq., Secretary of the late International Exhibition.

## Foreign.

France. — The French elections have terminated in the defeat of the Government in all the arrondissements of Paris, and in the defeat of the Opposition with a few exceptions in the provinces. In Paris, in the first arrondissement, M. Havin, political editor of the *Siècle*, the Opposition candidate, was elected by 14,405 votes, against M. Delessert, the Government candidate, who obtained only 6975. In the second arrondissement M. Thiers, the Opposition candidate, was elected by 11,112 votes, against M. Devinck, the Government candidate, who obtained only 9857 votes. In the third arrondissement M. Emile Ollivier, ex-deputy, Opposition candidate, was elected by 18,651 votes, against the Government candidate, M. Varin, who received 9957 votes. In the fourth arrondissement M. Ernest Picard, ex-deputy, Opposition candidate, was elected by 17,046 votes, against General Perrot, ex-deputy, the Government candidate, who received 6487 votes. In the fifth arrondissement M. Jules Favre, ex-deputy, Opposition candidate, was elected by 18,655 votes, against M. Frederick Lévy, Mayor of 11th district, the Government candidate, who obtained 8507 votes. In the sixth arrondissement M. Guéroult, chief editor of the *Opinion Nationale*, Opposition candidate, obtained 10,717 votes; M. Fouché Lepelletier, ex-deputy, Government candidate, 9323 votes; M. Cochin, Opposition candidate, 6000 votes; and M. Prevost Paradol, editor of the *Journal des Débats*, Opposition, 2200 votes. None of the candidates having obtained the two-thirds majority requisite by the electoral law, another election will be necessary in this district. In the seventh arrondissement M. Darimon, ex-deputy, Opposition candidate, was elected by 10,593 votes. In the eighth arrondissement M. Jules Simon, the Opposition candidate, who was dismissed from his Professorship at the Sorbonne for declining to take the oaths to the Empire, obtained 1774 votes, and M. Konigswerter, Government candidate, 1057. In the ninth arrondissement M. Pelletan, a Republican, the Opposition candidate, is known to have the majority, but the numbers have not been published. In the provinces the following Opposition candidates have been elected:—M. Berryer, Legitimist, and M. Marie, Republican, for Marseilles; M. Henon

for Lyons; M. Dorian for the department of the Loire; M. Glais-Bizouin for that of the Côtes du Nord; M. Pierrou for Arras; M. Garnier for Hautes-Alpes But in the majority of cases in the provinces, the Government candidates have obtained the required majority. The following Opposition candidates have been defeated by the Government candidates:—Count Montalembert, MM. Dufaure, Odillon Barrot, Passy, Mérode, Dupont de l'Eure, L'Herbette, Glais, Bizouin, Kirdrel, Jouvenel, Renneville, Freslon, Charamond, Flavigny, St. Marc Girardin, de Civrac, Bac, Jules Lasteyrie, Mortemart, Prevost Paradol, Victor Lefranc, Barthélemy, St. Hilaire, De Mornay, the Duke Decazes, and Gustave Beaumont. The Minister of Public Worship has addressed a letter to the Archbishop and Bishops who signed a memorandum recommending the electors not to abstain from voting. The Minister censures this act as being in opposition to the obligations of the Episcopate, and as an excess of clerical power against the State. He says that the Government is firmly determined henceforth to prohibit the publication in the newspapers of any discussions which may take place among Bishops who hold meetings without legal authority. The *Presse* states that England and France have concluded a maritime treaty. The Emperor on Monday received a deputation from the English Society for the Protection of Aborigines, who presented an address of congratulation on the late measures in favour of the natives of Algeria. The address declared that the great English charter was not more truly the foundation of the national liberties of England than is the letter of the Emperor to the Duke of Malakoff the charter of the rights of the Arabs. The Imperial races took place on Sunday, when the Emperor's Grand Prize of Paris, value 100,000f., was won by Mr. Savile's Ranger by a length, beating La Toucques, Saccharometer, Donnybrook, Lord Clifden, and 7 others. Half the horses which ran and all the jockeys were English. Admiral Jurien de la Gravière has arrived in Paris from Mexico. The *Pays* contains the following on the Polish question:

"The three Powers have come to an understanding respecting their communications to St. Petersburg, in reply to the Notes of Prince Gortschakoff. These communications will soon take a definitive form, and matters are in as good a state of progress as could be desired."

A large body of English working men made an excursion to Paris last week, in three instalments. The trip was most successful and instructive. The French workmen vied with each other in the welcome they gave to their English brethren, and obtained for them the *entrée* to the principal manufactories and workshops.

SPAIN.—The sentence of imprisonment passed upon the Spanish Protestants Matamoros, Trigo, and Alhama at Granada, and on Marin, Carrasco, and Gonzales at Malaga, has been commuted to banishment. All the prisoners will be conveyed to France.

DENMARK.—The King will receive the Greek Deputation at Christiansburg to-day, in solemn audience, in order to announce to them the acceptance of the Crown by Prince William. A grand State Banquet will afterwards take place. An identical note has been sent by the Cabinet of Copenhagen in reply to the notes addressed by the Austrian and Prussian Governments to that of Denmark. In this reply to the two Governments, the Danish Cabinet, in a courteous but decided manner, refuses to make any alteration in the ordinance of March 30. It says:—

"The tenor of the patent of the 30th March does not furnish a pretext for any demand whatsoever on the part of the Germanic Confederation, inasmuch as the recent Royal measures exclusively concern the position of Holstein towards Denmark. The Federal resolutions and menaces have left no choice to Denmark. The patent of the 30th March must be maintained, or the Danish monarchy must become paralysed.

FRANKFORT.—The *Europe* of Tuesday announces that a Commission of the Germanic Diet will present its report upon the Schleswig-Holstein question within a fortnight. The majority of the Commission will set aside the motion of Oldenburg, and will propose that a final summons shall be sent to Denmark, calling upon her to annul the patent of the 30th March, and return to the rigorous fulfilment of the Convention of 1851-1852. A delay of four weeks will be allowed to Denmark for compliance with the summons.

PRUSSIA.—The official *Staatz Anzeiger* of Tuesday publishes a Royal decree, dated the 1st inst., based upon Article 63 of the Constitution, and countersigned by the entire Ministry. The decree empowers the Administrative authorities to prohibit, temporarily or altogether, after two warnings, the publication of newspapers the attitude of which is upon the whole dangerous to the public welfare. The Ministry is also authorised to forbid the introduction of foreign newspapers into Prussia upon similar grounds, when thought advisable. Six Berlin journals have published a joint declaration reserving their rights in view of this royal ordinance, and stating that the Government has yet to furnish the nation with proofs of the legality of the measure. It is reported that the King will shortly proceed to Carlsbad for the benefit of his health, and be represented by a Viceroy (Stadthalter) during his absence. The Crown Prince having declined, Prince Carl, the brother of the King, will, it is said, fill that post. The King has conferred on Cardinal Antonelli the Grand Cross of the order of the Red Eagle. The official journals assert that the statement of Mr. Hennessy, M.P., that Russian troops who had crossed the Prussian frontier near Herzyce were provided by the Prussian authorities with ammunition, is a mere invention.

RUSSIA.—The *Journal de St. Pétersbourg* reprints the proclamation which the *Czas* attributed to the Emperor of Russia, ordering the peasants to massacre all Roman Catholics, and adds:—"This is what a newspaper prints which pretends to be a serious publication." The same paper declares the rumours of an attempted insurrection at Smolensk and its environs to be entirely unfounded. It is stated in financial circles that Russia is about to contract a new loan of 500,000,000fr., half to be raised in Paris, the other half in Amsterdam.

FINLAND.—The gun-boats lately stationed at Helsingfors have been sent to Cronstadt. The fortifications of Sveaborg are carried on with great activity. A corps of 10,000 Finnish troops is forming, and large bodies of Russian troops are on the road to strengthen the Russian military forces in the Grand Duchy. A serious conflict has taken place at Nyby between a Russian regiment and the Finnish inhabitants, in which several persons were killed and wounded. The Russians had been guilty of great excesses.

POLAND.—The insurgents have gained a victory at Kalisz, in the palatinate of Lask. The Russians suffered considerable loss. In the government of Mohilew the insurgents have occupied Gorki. On Thursday week 300 mounted insurgents, commanded by Rozycki, dispersed six Russian frontier posts, and afterwards entered Galicia, where the necessary measures were taken for disarming them. A sanguinary engagement has taken place near Grochow. On the 28th ult. Czachowski defeated four companies of Russian infantry and a squadron of cavalry at Bialobrzegi. The Russians were also defeated by Oborski on the 30th ult. at Konin. Engagements have taken place between the Russians and insurgents at Stawatycze and Czernk, on the Bug. A large number of waggons with wounded Russians arrived at Kalisch on Tuesday. The Russians returned from the engagement considerably reduced in numbers. The fight appeared to continue, since fresh troops were despatched on Tuesday for the scene of action. Up to that time the insurgents had remained masters of the field, having captured two cannon.

ITALY.—In the Chamber of Deputies on Friday the new President delivered a speech, in which he declared that he recognised in his election a homage rendered by the Chamber to the political principles of the late Count Cavour, whose fellow-labourer he had been. This speech was received with applause. The Chamber then deputed the President to appoint a committee to draw up a reply to the King's Speech. Signor Minghetti introduced several financial and administrative Bills, and expressed a hope that these new laws would come into force on the 1st January, 1864, and produce results as soon as possible. "The financial plan of Italy," he said, "will thus correspond with the confidence shown by financial Europe." The Minister for Foreign Affairs laid on the table some diplomatic documents relating chiefly to the relations of the kingdom with the Papal States, the Polish question, Switzerland, and Servia. On Saturday the Brigandage Commission introduced a Bill giving the Prefects exceptional power to proclaim by law the provinces infected by brigandage. During the Parliamentary recess this proclamation is to be made by Royal decree. On Monday the draught of the Address was read in the Senate. It states that perfect harmony exists between the powers of the State to hasten the work of unification. The Senate approves the policy of the Government in re-establishing good relations with the great Powers, and in concluding the convention with France for the suppression of brigandage, and promises its loyal support in the completion of the general organisation of the State. The draught address was agreed to. Prince Humbert, the heir-apparent to the Crown, presided on Monday at the ceremony of letting water into the Grand Cavour Canal. An immense concourse assembled to witness the proceedings. The political trials at Rome commenced on the 29th ult. Chevalier Fausti spoke for two hours in his defence. The decision of the Tribunal has not yet been made public. It is said that the Pontifical Government is preparing a reply to the assertions of Lord Palmerston relative to the state of things in the States of the Church. This determination is said to have been approved by all the Catholic Powers.

TURKEY.—Fuad Pasha was nominated Grand Vizier on Monday. He will retain the portfolio of Minister of War, with Halil Pasha as his deputy. Emir Pasha has been appointed Chancellor of the Divan, and Commissioner in the Conference on the affairs of the Herzegovina, in the place of Zia Bey. The majority of the foreign officers in the Turkish army have claimed their discharge, in order to take part in the Polish insurrection. Several Italian and Hungarian officers belonging to the Italian service have arrived at Constantinople on their way to join General Turr in the Principalities. An English merchant vessel was run into and sunk off Constantinople on the night of the 29th ult. by the Austrian Lloyd's steamer Pluto. The crew of the English vessel were saved, but the captain's wife and children were drowned.

CIRCASSIA.—The new camp of the Russians was totally routed by the Circassians in the beginning of last month. A few of the Russians escaped, all the rest were killed or made prisoners.

INDIA.—Intelligence from Teheran, viâ Bagdad, announces the death of Sultan Achmet Khan, at Herat. His son continues the defence of the city.

JAPAN.—Great excitement prevailed at Yokohama pending the Japanese reply to the despatch of the British Government. The British residents at Yokohama held a meeting on the 3d of April.

CHINA.—Accounts from Shanghai of April 22, state that Koo-shang has surrendered. The siege of Chiansu has been raised. Taelsom (?) has surrendered, and the garrison has declared for the Imperialists.

COCHIN CHINA.—Advices from Saigon announce the return of Admiral Bonnard to that place from Hué and his subsequent departure for France. It was supposed that the Emperor had ratified the treaty with the French Government, confirming the proclamation of the colony of Saigon as French territory made on the 1st January.

AUSTRALIA.—The Melbourne Parliament was opened on the 24th April. The first intercolonial conference has finished satisfactorily. Australia challenges England to a horse-race, to come off at Victoria, for 10,000*l*.

UNITED STATES.—General Grant occupied Jackson, Mississippi, in the rear of Vicksburg, on the 14th ult., having previously had a brisk fight at Raymond and Mississippi Springs, driving the Confederates from those places towards Jackson. In his official despatch he states that General Joseph Johnstone commanded the Confederates, who, after three hours' desperate fighting, returned northward. The Federals, after destroying the State Capital and public and private property to an amount of between 5,000,000 and 10,000,000 dollars, evacuated the city. The latest intelligence (to the 18th) is from Confederate sources, both official and private. It recounts an obstinate but indecisive battle between General Grant and General Pemberton, at Edwards' Station, on the 16th. General Pemberton, with 12,000 men, is said to have sustained himself against the Federals, who were 24,000 strong, and to have fallen back in good order, at night, to his intrenchments beyond the Big Black River. General Grant afterwards proceeded northward some eight miles, where he was again confronted by General Johnstone. Official reports received in Washington to the 20th ult., say that General Grant has captured Haines Bluff and the entire works of Vicksburg, with a large number of prisoners and 57 guns. The battle was still raging, with the prospect of capturing the entire Confederate force in Vicksburg. General Grant then held Jackson, the Black River Bridge, and Haines Bluff. This news was generally considered highly favourable to the Federals, and had relieved the Government of Washington from great anxiety, as it had previously been feared that General Grant might be decoyed by the Confederates into an incautious advance from his base at Grand Gulf, and that his army might be eventually surrounded and forced to capitulate. Admiral Porter, with his own fleet and a portion of Farragut's gun boats, took possession of Alexandria, 70 miles up the Red River, on the 6th ult. On the same day General Banks's forces arrived at Alexandria, forming a junction with Admiral Porter. Alexandria was abandoned by the Confederates, who retreated to Schreveport, and took their gun boats above Red River Falls. The capture of Alexandria interferes with the Confederate supplies from Texas and Arkansas. On the nights of the 8th and 9th inst. the batteries at Port Hudson were bombarded by Admiral Farragut's mortar fleet and gunboats. No response was made by the Confederates on the first night, but on the second the firing on both sides was very heavy, continuing for several hours. The Northern press think that Grant, Porter, and Farragut's present movements will ensure the opening of the Mississippi. 30,000 Confederates, with 14 pieces of artillery, are reported to have crossed the Cumberland River and again invaded Kentucky, with the view of flanking General Rosencrans and compelling him to abandon his position at Murfreesborough. Twenty-eight Confederate regiments are stated to be at Norris Town, East Tennessee, for the same purpose. Colonel Grierson, with a brigade of Illinois and Iowa cavalry from General Grant's army, has made an extraordinary raid, passing from Tennessee through the heart of Mississippi, and reaching safely Bâton Rouge, Louisiana. He is said to have travelled 800 miles in 17 days, destroying 4,000,000 dollars worth of property and portions of most important railroads, and to have captured 1000 prisoners and 1200 horses. Two Federal despatch steamers, plying between Roanoke Island and Norfolk, were captured by the Confederates on the 15th ult. On the 19th two Federal regiments, which were advancing from Suffolk to a given point by parallel roads, mistook each other for the enemy; a spirited engagement ensued, and several men in each regiment were killed and wounded before the error was discovered. The position of the Army of the Potomac is to be changed from the line of the Rappahannock to a point unnamed, where its presence is likely to afford greater security to Washington in case of an advance upon the capital by General Lee. Governor Curtin, of Pennsylvania, has offered to raise 50,000 Volunteers in that State for the defence of Washington. The offer has been accepted by the President. The assumption of the command of the army by General Halleck, and the supercession of Mr. Seward and Mr. Stanton by General Butler and Mr. Sumner, are asserted to be changes not unlikely to take place. It was reported

from Washington that the President has commuted Mr. Vallandigham's sentence from imprisonment in Fort Warren to transportation to the Confederate States, and that he was to be sent forthwith to Louisville *en route* to General Rosencrans, who was to deliver him, under a flag of truce, to General Bragg. A meeting has been held at Albany, to protest against Mr. Vallandigham's arrest and sentence, at which a letter from Governor Seymour was read, characterizing the arrest as an act which had brought dishonour upon the country, which was full of danger to its citizens, and which bore upon its front a conscious violation of law and justice. Resolutions were adopted denouncing the assumption of military power by the Government or its officials, asserting the right of free speech, and calling upon Mr. Lincoln to liberate Mr. Vallandigham. A mass meeting on the same subject was held at Indianapolis, Indiana, on the 20th, when speeches were made denunciatory of the war and the arbitrary acts of the Government, especially in the arrest of Mr. Vallandigham. 40 or 50 persons were arrested for carrying concealed weapons, and shouting for President Davis in the streets. As the railway trains were leaving the city in the evening, shots were fired from the windows at the Soldiers' Home and the houses along the route. The trains were then stopped by the military, and about 500 pistols and revolvers taken from the passengers. General Francis Meagher's resignation of the command of the Irish Brigade was accepted by the President on the 14th ult. When this brigade took the field it was 5000 strong, it now numbers less than 400 men. The remainder have either fallen in battle, died of their wounds or disease contracted in camp, been taken prisoners, or deserted. Mr. Seward's reply to the French note, inviting the American Cabinet to join diplomatic action with the great Powers in favour of Poland, refuses the co-operation of the Washington Cabinet on the ground that America can never deviate from her traditional policy of non-intervention, except in cases of evident necessity. The Federal steamer R. R. Cuyler, cruising off Mobile, captured the steamer Eugénie while attempting to run the blockade. The Eugénie was fitted out at New York some weeks since, and despatched to Havannah, *viâ* Nassau, for the purpose, it is now supposed, of carrying arms and ammunition to the Confederates. The British steamer Linnet has also been captured.

MEXICO.—Accounts from Puebla to the 30th of April, published by the New York journals, say that the French have had two further conflicts with the Mexicans, in the first of which the Mexicans held their ground, and in the second remained masters of the field, capturing 150 Zouaves. Juarez has left for Comonfort's army, to urge offensive operations.

BRAZILS.—The opening of the Brazilian Chambers took place on the 3d of May. The Emperor, in his speech on the occasion, said that the solution of the difficulty with England depended on the King of the Belgians. The Chambers, in the address which they unanimously adopted in reply to the Imperial speech, said:—"All Brazilians are ready to make the sacrifices necessary to maintain the honour of Brazil."

# Parliament.

## HOUSE OF LORDS.

MONDAY.—The House reassembled to-day after the Whitsuntide recess. *Railway Accidents.*—Lord BROUGHAM inquired whether the Government intended to bring in any measure to diminish the speed of railway trains. He had himself suggested at the Liverpool Congress of the Social Science Association that the speed of trains should be limited by law to 25 miles per hour, but had been opposed by several eminent engineers. The late dreadful accident on the Brighton line near Streatham had, he believed, occurred from the needless velocity at which the train was driven.—Earl GRANVILLE said that the Government did not intend to interfere by legislation on the subject.—The Earl of HARDWICKE said that accidents on railways were to be attributed not so much to the speed of the trains as originally arranged, but to the increased speed at which the engines were driven in order to make up for delays caused by defective administration.—*The Burial Service.*—Lord EBURY moved an address to the Crown praying for a Royal commission to consider what steps should be taken to obviate the evils arising from the present compulsory and indiscriminate use of the burial service of the Church of England. Clergymen were now compelled to read the service in all cases under a penalty; and although the body about to be interred might be that of a notorious drunkard or professed unbeliever, and the clergyman might have conscientious scruples as to reading certain passages of the service, he had no alternative but to comply. Under these circumstances he was of opinion that the subject was one well worthy the attention of a Royal commission.—The Earl of DESART opposed the motion, and moved that it be considered that day six months.—The Archbishop of CANTERBURY could not agree to a course which would afford an opening for a wide and extensive revision of the Liturgy. At the same time, he thought there were portions of the burial service which were open to exception. He did not see why a clergyman should be exposed to penalties for conscientiously objecting to read the service over the body of a person who had died in the open avowal of disbelief in the truths of Christianity. For his own part, nothing would induce him to comply in such a case, and he would prefer incurring the risk of any proceedings that might be taken against him.—Earl GRANVILLE recommended Lord Ebury to withdraw the motion, although he thought a clear case had been made out against the retention of some of the expressions used in the burial service.—The Archbishop of YORK said that if the matter were to be left to the feelings of individual clergymen, 12,000 or 13,000 new judges would be created in the different parishes of the kingdom.—The Bishop of LONDON said he should have no hesitation in advising his clergy to omit the passages in the service if they could not use them conscientiously. At the same time he hoped that Lord Ebury would rest satisfied with the discussion which had taken place, and would not divide the House. He assured him that the subject should receive full consideration from the Episcopal bench.—The Duke of MARLBOROUGH thought the question was one which could be dealt with better by Convocation than by a Royal Commission.—Earl STANHOPE was opposed both to a Royal commission and to Convocation, and recommended that the bench of Bishops should be authorised by the Crown to consider this important subject.—Earl GREY thought it would be better to adjourn the debate for a month, in order to allow longer time for consideration of the question.—The LORD CHANCELLOR agreed in this suggestion, and protested against the Bishop of London advising his clergy on his own authority to contravene the law.—After some remarks by Earl RUSSELL and the Bishop of St. DAVID'S, Lord EBURY withdrew his motion conditionally on a measure being introduced by the bench of Bishops. The *Savings Banks Moneys Bill*, the *Stock Certificates to Bearer Bill*, and the *Customs and Inland Revenue Bill* passed through committee.

TUESDAY.—The *Savings Banks Moneys Bill* was read a third time and passed.

THURSDAY.—*Brazils.*—The Earl of MALMESBURY gave notice that on Tuesday, the 16th inst., he will call attention to the state of our relations with the Brazils. The *Telegraphs Bill* was referred to a Select Committee.

FRIDAY.—*Duchy of Cornwall Management Bill.*—The Duke of NEWCASTLE moved that the House go into committee on this Bill. He said that the property of the Prince of Wales was held under a charter given by Edward III. to the Black Prince, and the great desire of the King was to make it inalienable. The charter deprived the Princes of power to grant the leases of the property of the Duchy beyond their own lives; and up to the reign of William IV. the arrangements produced most inconvenient results. At the time of the Queen's accession the income from the property was only 11,000*l*., but in consequence of the prudent management of the Prince Consort, it now yielded an income of 50,000*l* per annum. The present Bill was intended to prevent the imposition of fines in connection with leases, and to enact the lengths of leases granted by the Council. It provided that for lands the leases should not extend beyond 30 years, and leases of houses should not be for longer periods than 99 years.—Lord BROUGHAM bore testimony to the great ability of the Prince Consort in the management of the Duchy of Cornwall, and after a short conversation the House went into Committee.

[Left sitting.]

## HOUSE OF COMMONS.

FRIDAY.—*Condition of Turkey.*—Mr. GREGORY called attention to the condition of the Turkish empire and its dependencies, and moved for papers on the subject. He reviewed at some length the policy adopted by her Majesty's Ministers in upholding an empire which was in the last stage of decrepitude and decay. Constantly recurring insurrections on the one hand, and threatened massacres on the other, were but the premonitory symptoms of an impending dissolution; and, in anticipation of that event, he urged upon her Majesty's Government the duty of following such a course with regard to Turkey as would render the break up as innocuous as possible, so that England would not be found fighting on behalf of Mahometan barbarism as it is, against Christian civilisation as it might be.—Mr. B. COCHRANE commented upon the improvidence and expenditure of the Turkish Government, and stated that the personal expenditure alone of the Sultan was at the rate of nine millions per annum. He did not wish to see Turkey wiped off the map of Europe, but after all the sacrifices which we had made to secure the independence of that empire, we were justified in demanding that the pledges given in respect to the Christian population should be fulfilled.—After some remarks from Mr. GRANT DUFF, in the course of which an unsuccessful attempt was made to count out the House, Mr. LAYARD vindicated the policy of the Government, and urged that it would be impossible for any one who had not travelled in the East to form a correct estimate of the condition of affairs there. Referring to the state of Servia, he contended that the Porte had strictly performed its treaty obligations, while the Servians, under their present ruler, had violated them both as regards Turkey and the great European Powers. He could not justify the recent bombardment of Belgrade, but it was due to the Turkish Government to state that, when apprised of the circumstance, they at once dismissed the pasha. There was a time when he entertained great hope of the future of Servia; but he owned that the recent acts of its present prince had completely changed his opinions. With regard to the general state of Turkey he read numerous reports of British consuls in different provinces, showing that the grievances of the Christian population under the Sultan's rule were not attributable to the Turks, but to the Christian bishops and priests, and that security to life and property had greatly increased. He granted that the administration of justice in the remoter districts was still very defective, and that much difficulty was experienced in getting the local tribunals to receive the evidence of Christian witnesses, but the Turkish Government were using their best efforts to remove such civil disabilities. As to the finances, the fact that the Porte had allowed the agents of England and France to examine the whole of their revenue and expenditure, taken with the reports of Lord Hobart and Mr. Foster on the subject, afforded the strongest proof of the desire of the Government to improve the administration and put the finances on a proper footing. The trade of Turkey too had greatly increased, roads were in course of construction, fiscal reforms had been introduced, custom-house abuses had been abolished, and more had been done by the Turks in the course of the past year for the cultivation of cotton than in any other part of the world. In short he believed that such was the elasticity of Turkish resources that the revenue would in a short time be doubled. He had great faith in the future of the Ottoman empire, and he was persuaded that the policy of England towards that country would more than anything else shed lustre on the reputation of the First Minister of the Crown.—Mr. MAGUIRE was of opinion that Mr. Layard had drawn far too favourable a sketch of the condition of Turkey; that the Government was corrupt at the core, and that the best thing for the cause of Christianity and the civilisation of Europe was to sweep Turkey back into Asiatic barbarism.—Lord H. SCOTT considered that maladministration of the empire affected not only the Christian but the Mussulman population; while the condition of the Turkish prisons was far more deplorable than even of Southern Italy.—Mr. COBDEN said that the question of Servia had lately been brought before the public by special agents from that country, the chief complaint against Turkey being the maintenance of the fortress of Belgrade. That place was, however, of no real use to Turkey, for she had no possessions within 200 miles of it; it was kept up at considerable cost to the Turkish Government, and its maintenance was to be attributed in great part to the perverseness of the Foreign Office. The real question was whether our policy was to be for the interests of the Christian population of Turkey or for those of the Mahometan. He dwelt especially upon the rejection of the evidence of Christians in the courts of justice as an indication of the barbarous usages of the country, and said he believed that Lord Palmerston was the only statesman in Europe who had faith in the reformation of the government or the prosperity of the empire.—The CHANCELLOR of the EXCHEQUER said that it was undoubtedly the duty of the English Government to uphold the civil and political privileges of the Christian subjects of the Ottoman Empire. It was also our duty to be loyal to our treaties with the Porte, but we were likewise bound to see that the obligations into which Turkey had entered were faithfully carried out. He would be a bold man who should maintain that the dominion of the Turks had been productive of happiness to mankind; but the existence of an Ottoman Power in Europe was an established fact, and if we were not prepared to encourage a general crusade against it we should not enter upon a policy that might prove the source of greater evils. After some remarks by Mr. GRIFFITH in reply, the motion for papers was withdrawn, and the House went into Committee of Supply *pro formâ*. The orders of the day were postponed, and the House adjourned to Monday.

MONDAY.—*The Exhibition Building.*—In reply to Lord J. MANNERS, the CHANCELLOR of the EXCHEQUER said that an arrangement had been come to, subject to the approval of Parliament, for the purchase of the interest of the Commissioners of the Exhibition of 1851 in the site of the present building for 120,000*l*., and for the purchase of the building itself, less the annexes, for 80,000*l*. *Ventilation of the House.*—Mr. D. GRIFFITH asked whether it would not better to ventilate the House by opening the windows rather than by shutting them and pumping up the air from the cellars beneath.—Mr. COWPER said the air was not pumped up from the cellars, but that it was washed in a stream of pure water and afterwards passed through clean canvas, so as to intercept all floating impurities. In cold weather the air was warmed, and in warm weather it was iced, the object being to obtain a uniform temperature within the chamber of 64°. *Federal Recruiting in Ireland.*—In answer to Mr. HORWOOD, Sir R. PEEL said there was reason to believe that a great many young men in Ireland had been induced by their friends in the Federal States, at the instance of the Federal Government, to take passage for America, with the intention of enlisting in the army. The Government were making inquiries, and would do all in their power to put an end to the practice.—On the report of the *Inland Revenue Bill*, Mr. HUNT moved to substitute for clause 21, altering the law relating to occasional licences, a clause enacting that the consent of one justice of the peace only shall be necessary for the granting of such licence, and that the hours during which an occasional licence shall authorise the sale of beer, spirits, or wine shall extend from sunrise to one hour after sunset.—The CHANCELLOR of the EXCHEQUER did not oppose the motion, which was agreed to.—On the motion of the CHANCELLOR of the EXCHEQUER, new clauses were added empowering the Commissioners of Taxes for any division of a county to hold their meetings within an adjoining city or other place of exclusive jurisdiction, and authorising the deduction of income tax from coupons on stock certificates, although the half-yearly payment be under 50*s*.—Mr. HUNT moved to add a clause exempting from stamp duty securities and appointments made pursuant to the Highways Act of last Session.—The motion was opposed by the CHANCELLOR of the EXCHEQUER, as extending the objectionable system of exemptions. The motion, after a short debate, was negatived upon a division by 146 to 116. The Bill was then recommitted, in order that certain other clauses relating to railways and publicans' licences to sell tobacco might be added. *Patriotic Fund Asylum.*—On the order for going into committee of supply, Mr. J. ABEL SMITH called attention to the resignation of the majority of the ladies' committee of the Royal Victoria Patriotic Asylum; and to the circumstances that one girl had been burned to death while undergoing a sentence of solitary confinement, that another of 16 had been flogged in the establishment, and that the act had been condoned by the executive committee.—The Marquis of HARTINGTON, on the part of the War Office, repudiated all control over the institution in question.—Sir J. PAKINGTON, as a royal commissioner, said that the majority of the ladies' committee had resigned because the executive committee refused to dismiss the lady superintendent and the chaplain. A resolution was, however, passed by the committee disapproving and regretting the conduct of the lady superintendent and the chaplain. They also disapproved the whipping of the girl, and had taken steps to prevent the recurrence of such a punishment. At a subsequent meeting of the commissioners Earl Grey brought forward a resolution disapproving of the retention of the lady superintendent and chaplain, but on a division it was rejected by seven to three. Many reforms had lately been introduced into the asylum, and that Lord St. Leonard's, one of the minority in the division, had expressed himself satisfied with the manner in which it was now conducted.—After some observations from Mr. KINNAIRD and Mr. BRISCOE, the subject dropped, and the House went into committee of supply on the *Civil Service Estimates*. The principal questions discussed had reference to the *Royal Parks*, and various suggestions were made with a view to their more economical management. The *Fountains in Trafalgar Square* were also brought under review, and Mr. BRISCOE suggested that in order to prevent their continuing to be objects of public derision, the squirts should be done away with, and the basins filled up with earth and planted with azaleas and rhododendrons. It was likewise incidentally mentioned that a sum of upwards of 6000*l*. was about to be expended on *Stables for the Speaker*, but that they were at such a distance from the right hon. gentleman's official residence that a further sum of 80*l*. would be required for an electric telegraph to communicate with them. With regard to the paintings in the Queen's Robing Room at the *House of Lords*, Mr. GREGORY complained of the delay which had taken place in completing the works undertaken by Messrs. Herbert and Dyce, to whom considerable sums of money had already been paid. Mr. Cowper explained that the works in question were necessarily of a slow and tedious character, but that the artists had assured him that they were making steady progress with them. Several votes were agreed to, and at midnight the CHAIRMAN reported progress, and obtained leave to sit again. The *Dockyards Protection Act Amendment Bill*, the *Cayman Islands Bill* and the *Alkali Works Regulation Bill* were read a second time. The *Vice-Admiralty Courts Bill* passed through Committee. The Lords' amendments to the *Corrupt Practices at Elections Bill* were considered when Mr. HUNT proposed to restore the clause struck out by the Lords, providing that the expenses of the commission of inquiry should be paid by the borough in respect of which charges of corruption might be reported. On a division the motion was negatived by 61 to 40, and the amendments were agreed to. The *Port Erin Harbour (Isle of Man) Bill* was read a second time.—Lord PALMERSTON, in moving the second reading of the *African Slave Trade Treaty Bill*, complimented the United States' Government upon the liberal manner in which they had acted with reference to the object of the treaty. After a short discussion, the Bill was read a second time. On the order for the third reading of the *Offences (South Africa) Bill*, Mr. ADDERLEY opposed the Bill, and moved that it be read a third time that day three months. The Bill was defended by Mr. C. FORTESCUE, and opposed by Mr. A. MILLS. Ultimately the Bill was recommitted, but the CHAIRMAN was ordered to report progress. Other Bills were forwarded a stage. The *Admiralty Court (Ireland) Bill* was withdrawn.

TUESDAY.—*The Alexandra.*—In answer to Mr. HORWOOD and Mr. HORSFALL, The ATTORNEY-GENERAL said he had every reason to believe that the case of the Alexandra would come on for trial on Monday week, but he could not furnish copies of the informations upon which the Government had taken action. *Maynooth.*—Mr. WHALLEY moved that the House should resolve itself into a committee to consider the Act for the endowment of the College of Maynooth with a view to its repeal, due regard being had to vested rights and interests

He contended that the Act endowing the institution had proved a failure, and had not fulfilled the expectations of its promoters. Under its operation the Jesuit or Ultramontane system of instruction had been substituted for the Gallican, and all he asked was that the grant should no longer be removed from the control of the House of Commons, so that the college might have the opportunity of defending itself from the charges that had been brought against it. The motion was seconded by Mr. Somes, and opposed by Mr. Black.—Sir R. Peel defended the Act by which the college was endowed, and said that regard being had to the peculiar circumstances of the country, and to the great preponderance of Roman Catholics over Protestants, it would be unjust and ungenerous on the part of the members of the Church of England to exclude their Roman Catholic fellow-subjects from the educational advantages which they derived from the efficient maintenance of the College at Maynooth.—Mr. Newdegate supported the motion, and urged that the College of Maynooth having become a mere monastic institution; and seeing that even in Roman Catholic countries like Spain it had been found necessary to reduce such establishments, it was an anomaly to give them a Parliamentary support in a Protestant country.—After a reply from Mr. Whalley, amid impatient calls for a division, the motion was negatived by 198 to 100. *Sea Fisheries.*—Mr. Fenwick moved an address to the Crown for a royal commission of inquiry into the sea fisheries of the United Kingdom, with the view of increasing the supply of a favourite and nutritious article of food for the benefit of the public. He cited a number of statistics to show the material importance of the sea fisheries, and stated that the amount of capital embarked in them was upwards of 10 millions sterling, whilst they gave employment to nearly 250,000 of the bravest and most adventurous of our seafaring community. But owing to the want of proper regulations, the system of beam trawling as at present carried on, in shallow waters especially, threatened in course of time to destroy the fisheries altogether. —Mr. Cave seconded the motion, and noticed how hardly the law pressed upon our deep-sea oyster dredgers.—Mr. Clay dissented from some of the statements of Mr. Fenwick, and thought the proposed inquiry not at all called for.—Mr. Bentinck believed that, though the inquiry would not do much harm, it would not do much good.—Mr. Collier considered that Mr. Fenwick had not made out sufficient ground for a Royal Commission, which would cost much and occupy much time.—Mr. Liddell supported the motion.—Mr. M. Gibson said that the proposed Commission would have a very wide field of inquiry, without any definite object. Negotiations were going on between this country and France for a joint Commission, the inquiries of which would touch some of the questions raised by Mr. Fenwick, and he did not think it advisable to appoint another Commission of such a roving character. The motion was supported by Colonel Dickson, Mr. R. Hodgson, and Mr. M'Mahon, and was carried on a division by 50 to 27.—Mr. Hassard called attention to the state of laws relating to *Charitable Donations and Bequests in Ireland*, and was proceeding with his speech when the House was counted out at a quarter-past 8 o'clock.

Wednesday.—*Public Houses Bill*.—Mr. Somes moved the second reading of this Bill, stating that its object was to close public-houses on Sundays. He had been assailed by the organ of the public-house and gin-palace interest for attempting to induce the House to legislate on the subject. He denied that he was actuated by any bigotted motive, or by any desire to enforce the proper observance of the Sabbath, or that the measure was intended to restrict the liberties of the working people. Upwards of 4000 petitions with 700,000 signatures had been presented to the House in favour of the Bill; whilst against it there were only 180 petitions signed by about 150,000 persons. A large proportion of the former was composed of working men, their wives and families; and so thoroughly convinced was he of the necessity of the measure, and of its value to the labouring classes, that, although he had been threatened with the loss of his seat if he persisted in giving it his support, he was prepared to incur even that penalty rather than shrink from the duty he had undertaken.—Mr. Pease seconded the motion. —Capt. Jervis moved as an amendment that the Bill be read a second time that day six months. He contended that no real necessity existed for such a measure, and that the House was not called upon to legislate for a few drunkards, but for the great majority of the people who were not drunkards.—Mr. Ker Seymer seconded the amendment. He gave credit to the promoters of the measure for being influenced by the best and purest intentions, but in his opinion there were greater evils than drunkenness, and he believed that if the Bill were to pass into law, the result would be but to create a feeling of rankling discontent among a large class of the people.—Mr. Clay suggested that the measure should be made a permissive one.—Mr. Horsfall said that it was the essence of the measure that it put the public-house interest upon the same footing with other trades. Under the existing law licensed victuallers had almost a sole monopoly of Sunday trading. He believed the Bill would prove a social, national, and lasting blessing to every class in the community.—Mr. W. Martin opposed the Bill on the ground that legislation could not stop drunkenness; and Mr. Baines supported it because he thought it would.—Mr. Packe condemned the measure as likely to perpetrate an injustice upon moderate consumers.—Mr. Lawson believed that if the Bill were passed it would do more for the improvement of the moral and social condition of the people than any other measure that had received the sanction of Parliament for many years past. He thought however that London and Westminster might be excepted from its provisions.—Sir G. Grey said that if the Bill passed the result would be that not a single glass of beer could be sold from 11 o'clock on Saturday night until 6 o'clock on Monday morning throughout the whole of England and Wales, and in his opinion it would be impossible to enforce the provisions of any Act with such an object. It would inflict much inconvenience on large masses of workpeople, and probably cause a violent reaction to the risk of those salutary regulations and restrictions which now existed by law. He had no reason to think that drunkenness was increasing, on the contrary there was evidence that it was on the decrease. He should oppose the further progress of the measure on the ground of its violent, rash, and precipitate character.—Mr. H. Berkeley also opposed the Bill, declaring that he had no sympathy with water-drinkers.—Mr. Adderley was opposed to the more stringent provisions of the Bill, but was ready to vote for the second reading, in order that it might be amended in committee.—Sir M. Peto, as one of the largest employers of labour in the country, took upon himself to say that the working classes were not prepared for legislation of this nature.—Mr. Newdegate said he should vote for the principle of the Bill, in order that it might be rendered permissive in committee.—Sir H. Cairns was favourable to the principle affirmed in the preamble, and would vote for the second reading. After some remarks by Sir J. Shelley, Mr. Sheridan, Mr. Ward-Hunt, Mr. Hardy, Mr. Ayrton, and Lord H. Vane, the House divided, when the amendment was carried by 278 to 103. The Bill was therefore lost. The *Sheep and Cattle (Scotland) Bill* was read a second time. The *Fisheries (Ireland) Bill* was read a second time *pro formâ*. The *Vice-Admiralty Courts Bill* was read a third time and passed. In committee of ways and means the Chancellor of the Exchequer moved a resolution fixing the charge for *Occasional Licences to Sell Beer, Spirits, or Wine* at 2*s*. 6*d*. per day, such licence not to exceed six days in all. The motion was agreed to.—Mr. Bruce obtained leave to bring in a Bill to consolidate and amend the acts relating to the *Payment of Regimental Debts*, and the distribution of the effects of officers and soldiers in case of death, and to make provision for the cases of desertion, insanity, and other cases.

Thursday.—*The Exhibition Building*.—In answer to a question from Mr. Gregory, Lord Palmerston said that no design by Captain Fowke, or any other person, for the alteration or completion of the Exhibition Building, had been submitted to the Government.—Mr. Gregory gave notice that, on the proposal to vote a grant of public money for the purchase of the Building, he intended to move a direct negative.—Mr. Tollemache and Colonel Pennant complained that the Chancellor of the Exchequer had charged the *Holyhead Harbour Committee*, of which they were members, with being an unfair and partial committee.—The Chancellor of the Exchequer disclaimed any intention of implying that either Mr. Tollemache or Colonel Pennant could be influenced by personal considerations.—Colonel H. Herbert warmly rebuked the Chancellor of the Exchequer for having used language insulting to the committee.—The Chancellor of the Exchequer denied that he had used insulting terms, or had travelled beyond what he considered to be his duty.—Mr. Hennessey, Mr. Disraeli, and Colonel French were of opinion that the Government should have moved to rescind the motion for the nomination of the committee rather than have imputed unworthy motives to them. After some observations from Mr. Bright, the subject dropped. On the order for going into Committee on the *Volunteers Bill*, Mr. Bagwell moved that it is impolitic any longer to exclude Ireland from the operation of the Volunteer system, and unjust, should such exclusion continue, to tax Ireland for the support of English Volunteers. He complained of the invidious distinction created by this exclusion, and said that as long as a difference was made between Ireland and other parts of the kingdom, Ireland would continue to be a source of weakness and uneasiness to the Government.—Major Knox regarded the motion as made only for an electioneering purpose. He did not think the proposal a safe one, and, as an Irish member, he should oppose it.—Sir D. L. Evans and Colonel French supported the motion.—The Marquis of Hartington said it was not through any want of confidence in the loyalty of the people that the Volunteer system was not extended to Ireland, but, owing to religious animosities in some parts of the country, it was apprehended that if Volunteer corps were formed in Ireland they would assume a religious character and serious collisions might occur.—Lord Palmerston said the Government had no doubt that the Irish were in the main very loyal subjects, and, that, if an occasion should arise to call upon them to arm in defence of the country, they would manifest their loyalty. But in Ireland religious opinions had a tendency to call into operation that exuberant pugnacity which was a national quality, and which the Government wished to reserve for a common enemy, and not to tempt the Irish, in order to keep their hands in, to exercise it upon each other. That was really the whole of the matter. After some observations by Mr. Maguire and Sir G. Bowyer, in support of the motion, the House divided, when the motion was negatived by 156 to 45. The House then went into committee on the Bill. The 19th clause, which applied the provisions as to actual military service to Volunteers acting in the suppression of riots or tumults, was withdrawn. On clause 21, which sanctions the dismissal without appeal of Volunteers by the colonel in command, Sir R. Clifton moved an amendment, providing that the causes of dismissal should be committed to writing, and communicated to the accused by the adjutant of the corps, and that the existence and sufficiency of such causes should be judged by a court of inquiry consisting of members of the same corps.—Lord Elcho defended the clause on the ground that the power which it was proposed to give to commanding officers would not be abused.—Mr. Cox protested against the arbitrary power which the clause would give to commanders of corps. On a division, the amendment was negatived by 108 to 21. The clause was then agreed to. The remaining clauses were agreed to without opposition, and the Bill passed through committee. The House then went into Committee of Supply on the *Civil Service Estimates*. On the vote of 4920*l*. for *Embassy Houses Abroad*, Lord R. Cecil moved as an amendment that the vote be reduced by 400*l*., the salary of the clerk of the works at the Embassy house at Pera. A discussion ensued in reference to the heavy annual charge for repairs of this residence, and a general opinion was expressed that so long as a permanent clerk of works was maintained so long would the expenditure be continued. On a division the amendment was carried by 74 to 68, and the vote as reduced was agreed to. Several votes were subsequently agreed to, including those for the *New Public Offices*, the demolition of the houses at the south side of *Palace Yard*, and other purposes. At midnight the Chairman was ordered to report progress.—The *Inland Revenue Bill* was recommitted. The *African Slave Trade Treaty Bill* passed through Committee. The *Removal of Irish Poor Bill* was read a second time. On the report of the *Drainage and Improvement of Land (Ireland) Bill*, a discussion arose as to the further amendments of which notice had been given by the Government, and which were ultimately agreed to. Other Bills were forwarded a stage.

Friday.—*Lisburn Election*.—The election committee reported that Mr. Barbour was not duly elected, and that he and his agents were guilty of bribery and treating. *Ionian Islands*.—In answer to Mr. Griffith and Lord J. Manners, Lord Palmerston said the Ionian Islands were erected into an independent State by treaty and not by any action of Parliament, and therefore any change that might be made in that condition would be made in the same manner in which the original arrangement was completed, namely, by treaty. Of course the cession could not take place without the consent of the parties who were to sign the treaty. *Public Works*.—On the order for going into Supply, Mr. B. Cochrane moved as an amendment, that for the sake of obtaining greater unity of design in our public buildings and with a view to efficiency and economy it is desirable that a permanent commissioner of public works and buildings should be appointed. [Left sitting.]

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at 92 to $\frac{1}{8}$ for Money, and 92 for Account; Three per Cents. Reduced, 91$\frac{3}{4}$ to $\frac{7}{8}$; New Three per Cents., 91$\frac{3}{4}$ to $\frac{7}{8}$; Bank Stock, 233; India Five per Cent. Stock, 108; Ditto, for Acct., 107$\frac{3}{4}$; Ditto Four per Cent. Debentures, 1864 or 1866, 100$\frac{3}{8}$; Five per Cent. Enfaced Rupee Paper, 106$\frac{1}{2}$; Ditto Five and a Half per Cent., 115$\frac{1}{2}$; Exchequer Bills, 4*s*. dis.—Foreign: Brazilian, 100$\frac{1}{2}$; Ditto 1852, '58, '60, 91$\frac{1}{4}$, ex div.; Dutch Two and a Half per Cents., 65$\frac{5}{8}$; Equador New Consolidated, 17$\frac{3}{8}$ to $\frac{3}{4}$; Egyptian, 99$\frac{3}{4}$; Greek, for Acct., 33$\frac{5}{8}$ to $\frac{3}{4}$; Ditto Coupons, 15$\frac{1}{4}$ to $\frac{1}{8}$; Italian, for Acct., 73$\frac{1}{8}$ to 72$\frac{7}{8}$; Ditto Scrip, 2$\frac{7}{8}$ prem.; Ditto Maremmana Railway, 81$\frac{1}{4}$ to 81; Mexican, for Acct., 34 to $\frac{3}{8}$; New Granada, 16$\frac{1}{4}$; Peruvian, 1862, for Acct., 90$\frac{3}{4}$; Portuguese, 1856, '57, '59, '60, and '62, 49$\frac{3}{4}$; Russian, 1850, 90$\frac{3}{4}$; Ditto, 1862, 92$\frac{1}{2}$; Spanish New Deferred, for Acct., 48$\frac{3}{8}$; Ditto Passive, for Acct., 34$\frac{3}{8}$; Ditto Certificates, 12; Turkish, 1854, for Acct., 90$\frac{1}{2}$; Ditto 1858, for Acct., 70$\frac{3}{4}$; Ditto 1862, for Acct., 72; Venezuela, 1862, 59$\frac{1}{8}$ to $\frac{5}{8}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £28,214,245 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,564,245 |
| | | Silver Bullion .. .. .. | — |
| | £28,214,245 | | £28,214,245 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,151,395 |
| Rest .. .. .. .. .. .. | 3,129,368 | Other Securities .. .. | 21,140,649 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 8,779,387 | Notes .. .. .. .. .. .. | 7,745,880 |
| Other Deposits .. .. .. | 13,896,450 | Gold and Silver Coin .. | 861,308 |
| Seven days and other bills | 541,027 | | |
| | £40,899,232 | | £40,899,232 |

June 4, 1863. W. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *May* 29.—BANKRUPTS.—R. Adams, Hornchurch, Essex, Gardener—W. Bazley, Heavitree, Devonshire, Inn-keeper—G. Bull, Leadenhall Street, Carpenter—J. Clee, Dudley, Worcestershire, Currier—E. S. Codd, Plymouth, Devonshire, Mine Agent—Elizabeth Clixby, Yawthorpe, Lincolnshire, late Farmer—G. J. Dobbins, Albert Terrace, Paddington, Ironmonger—L. Davis, Wolverhampton, Cattle Dealer—T. W. Evans, High Street, Peckham, Carver and Gilder—T. Franklin, Edmond Street, Camberwell, Licensed Victualler—T. Fitter, Smallheath-juxta-Birmingham, late Licensed Victualler—V. de Fernex, Ockendon Road, Islington—J. Franklyn, late of Fishguard, Pembrokeshire, Lieutenant in her Majesty's Navy on half-pay—J. B. Frier, Elmstone, Kent, Blacksmith—J. W. Gems, Sloane Street, Belgravia, Carver and Gilder—J. Gaven, Langham Street, Langham Place, St. Marylebone, Cabinet Maker—H. Hawtree, Belgrave Terrace, Bath Road, Hounslow, Labourer—W. Hutchinson, Kirkby Stephen, Westmoreland, Carpenter—A. Harvey, Deal, Kent, Licensed Victualler—Andrew George Hunter and Edward Fiott Ferris, Mark Lane, City, Alkali Manufacturers—J. T. How, Totnes, Devonshire, Boot and Shoemaker—J. James, London Road, West Croydon, Commission Traveller—J. Jackson, Penrith, Cumberland, Cabinetmaker—H. Keniston, Bath, Ladies' Hosier and Outfitter—B. Kirby, St. Neot's, Huntingdonshire, Cap Maker—R. Lann, Lurgashall, Sussex, Farmer—E. Lloyd, Pennant, Montgomeryshire, Innkeeper—R. Mycroft, Sheffield, Saw Handle Maker—C. W. Mullins, Exeter Place, Peckham, Accountant—T. F. Musson, Hose, Leicestershire, Farmer—J. C. Nichols, jun., Fradley, Staffordshire, General Commission Agent—G. Orton, High Street, Wapping, Shipping Butcher—B. Powell, Wolverhampton, Butcher—S. W. Reddish, Nottingham, Engineer—W. Rose, Nottingham, Naturalist—C. J. Rowe, Gloucester Place, Camden Town, Jeweller's Assistant—J. Rock, Rowley Regis, Staffordshire, Nail Manufacturer—Nathan Salter, Bath, Plasterer—Robert Summerskull, Great Grimsby, Lincolnshire, Common Carrier's Agent—George Tabrar, Goswell Street, Clerkenwell, Brass Finisher—J. Taylor, Tarleton, Lancashire, Grocer—J. White, Hucknall Torkard, Nottinghamshire, Cottage Farmer—T. Wilson, Doncaster, Yorkshire, Journeyman Painter—G. H. Wheeler, Bishopwearmouth, Durham, Joiner—E. Worrall, Salford, Boot and Shoemaker—H. P. Whitcombe, Colchester, Essex, Solicitor—C. T. Wood, Penge, Surrey, Assistant to a Licensed Victualler—J. Wilson, Dalton in-Furness, Lancashire, Labourer—S. E. Wright, late of Naseby Lodge, Northamptonshire, Farmer and Grazier—A. L. Winscomb, late of Churton Street, Pimlico, Baker—S. Wilson, Thetford Saint Cuthbert, Norfolk, Machine Manufacturer—W. H. Wells (sued and committed as J. Wells), Lime Street, City, Commission Agent.

TUESDAY: *June* 2.—BANKRUPTS.—F. Athow, College Street, Fulham Road, Baker—J. Ball, Heolrhydd, Brecknockshire, Labourer—H. A. Baldry, Green Street, Bethnal Green, Beerhouse Keeper—W. H. Bennett, Lincoln, Labourer—G. B. Bruce, King Street, Snow Hill, City, Slaughterman—G. Board, Bridgwater, Somersetshire, Timber Dealer—J. Bailiff, Tranmere Park, Cheshire, Overlooker—W. Barber, Bromley, Middlesex, Assistant to a Dairyman—S. Colyne, Birmingham, Tailor—G. Crabtree, Oldham, Lancashire, Grocer—A. Collins, Brewer Street, Regent Street, Preparer of Photographic Papers—G. E. Campbell, Bedford Hotel, Southampton Row, Russell Square, Hotel Keeper—C. Clode, Arbour Square, Stepney, Chemist and Druggist—Frederick Cons, jun., Kingsbridge Terrace, Malden Road, Kentish Town, Pianoforte Key Maker—John Daglish, Newcastle upon Tyne, Builder—George Dodd, Ledbury Road, Notting Hill, Nurseryman—James Elsden, Soham, Cambridgeshire, Inn keeper—J. Fairbrother, Haslingden, Lancashire, Greengrocer—F. W. Ford, Acton Green, Middlesex, Carpenter—J. B. Frier, Elmstone, Kent, Blacksmith—S. Goldston, Birmingham, Tailor—J. Gray, Sheffield, Joiner—A. Gallagent, Cable Street, Whitechapel, Greengrocer's Assistant—T. Gaylard, Wellington Mews, Bayswater, Cab Proprietor—W. Gray, Church Street, Hackney, Dyer—J. Gentle, Orchard Place, Clarence Road, Hackney, late Chandler's Shop Keeper—J. Hargreaves, Woodbottom Mill, Lancashire, Cotton Manufacturer—R. Hughes, Pwdwelloc, Carnarvonshire, Draper—W. Hooper, Bridgwater, Somersetshire, Painter—Charles Haynes, High Holborn, Tavern and Hotel Keeper—Kennett Harris, Grove Villas, South Hackney, Out of Business—Thomas Kemp, Gwnnws, Cardiganshire, Inn keeper—John Lees, Oldham, Lancashire, Tailor—W. Lever, Bury, Lancashire, Cab Proprietor—J. Morgan & F. H. Adams, Hereford, Bankers—G. Middleton, Oakfield Villa, Haverstock Park, Commission Merchant—J. Marshall, Dewsbury, Yorkshire, Fruiterer—E. Piff, Epsom, Surrey, Saddler and Harness Maker—C. E. Poole, Landport, Hampshire, late Milliner—T. Pilbeam, Prince's Place, Dorset Street, Clapham Road, Engineer—W. T. Perry, Clarence Place, Clapham Road, Poulterer—T. Rutledge, East Greenwich, Foreman in the Composite Paving Works—E. Rowell, Stokesly, Yorkshire, Haberdasher—S. C. Robertson, Gosport, Hampshire, Hairdresser—E. T. Robins, Burnham, Somersetshire, Accountant—W. Sims, Buckingham Street, Fitzroy Square, Chair and Sofa Maker—W. G. Selves, Strand, Tobacconist—G. Summerfield, Broughton, Northampton, Publican—A. Shaw, Birmingham, Journeyman House Painter—J. Tarbit, Thornley Colliery, Durham, Publican—T. Taylor, Brewood, Staffordshire, Machinist—W. West, Salford, Lancashire, Butcher—G. Wilkin, Upper Whitecross Street, Butcher—W. Worby, Chesterton, Cambridgeshire, Journeyman Smith—W. Walker, Easthorpe, Leicestershire, Builder—F. W. Wooldridge, Erith, Kent, Butcher—G. Walters, Stafford, Innkeeper—J. A. Williamson, Norwich, Carpenter.

## Metropolis and its Vicinity.

The Exhibition Building.—An estimate has been issued of the sum proposed to be voted by Parliament in the year ending March 31, 1864, for the purchase of land and purchase and alteration of buildings used for the purposes of the late International Exhibition. The total estimate is 484,000*l*., towards which, for the present year, 67,000*l*. are required for the purchase of the land from her Majesty's Commissioners for the year 1851; 80,000*l*. for the purchase of the existing building from the contractors; and 25,000*l*. for repairing, altering, and eventually completing the building, leaving the further amount that may be required at 312,000*l*.

Lancashire Relief Fund.—A meeting of the Mansion House Committee was held on Friday after an interval of a fortnight. The report stated that the total sum received up to that day was 494,954*l*., including 907*l*. interest which had accrued on money invested at call. Of this 408,183*l*. in all had been remitted to Lancashire and Cheshire. Letters were read from some of the local relief committees stating that, in consideration of the improved state of trade, they were enabled to suspend their relief operations for the present. Applications were made for aid in providing outfits for persons in the distressed districts to whom free passages had been offered to places in the colonies, showing that there is a growing desire to emigrate among the unemployed people. The committee

made a grant towards the outfit of 14 persons at Manchester who are about to start for Quebec as pioneers, for the purpose of reporting fully to the Manchester Committee on all matters relating to the emigration of unemployed operatives. A small grant was also made to a committee at Carlisle towards outfits for persons in that neighbourhood. An application from a committee at Glossop for a similar purpose was deferred for further information, the chairman stating that the committee would be prepared to make grants towards outfits, though in no instance more than at the rate of 2*l.* a head, to any regularly organised committee who would see to the proper expenditure of the money. The Committee then made grants to the amount of 4,300*l.* for the ordinary purposes of relief, to be distributed by the local committees.

ST. THOMAS'S HOSPITAL.—A public meeting was held on Monday evening at the Bridge House Hotel to consider the insufficient provision now made to fulfil the objects of the charity of St. Thomas's Hospital, the unnecessary delay in fixing the site for the future hospital, and the unreasonable desire on the part of some of the Governors to remove the hospital to a distance from the poor of the neighbourhood. The chair was taken by Mr. John Locke, M.P., and there were present the principal guardians and vestrymen of St. George's and St. Saviour's, Southwark; Christchurch Blackfriars; Lambeth, Camberwell, and Bermondsey, and many other inhabitants of the parishes surrounding the locality in which the hospital has hitherto been established. The chairman in opening the proceedings said that by various charters and grants from the year 1213 the building and lands called St. Thomas's Hospital were granted for the benefit of the poor of Southwark, and there was no pretext whatever for removing it from them. Dr. Rendle, Mr. Newman, Mr. Legge, Mr. Bricknell, Mr. Vickers, Dr. E. B. Jones, Mr. Freeman, Dr. F. Jones, and Mr. Goddard addressed the meeting, chiefly in reference to the premature and unnecessary removal of the hospital from its old site, and to the comparative advantages of the Surrey Gardens and Bethlehem Hospital as the best situation for the new hospital. After a long discussion the following resolutions were carried unanimously:—

1. "That St. Thomas's Hospital, named in the Charter of Edward VI. 'The House of Poor People in Southwark,' having been established in Southwark now more than 300 years as 'a place and house for poor people to be there relieved and maintained,' and having before its removal afforded relief annually to upwards of 40,000 persons, mostly of the immediate neighbourhood, suffering from illness and accidents—it is the opinion of this meeting that the hospital should be rebuilt upon a site as near as possible to the poorer population of the neighbourhood in which it has always been, and to which it has done so much good service; and that in no case should it be rebuilt more distant from the old hospital than the site now occupied by Bethlehem, that behind Newington Church, or that known as the Surrey Gardens." 2. "That a deputation be appointed by this meeting to join the Committee of Parishes for the purpose of waiting upon the Governors of St. Thomas's Hospital with a copy of the resolutions now passed, and that the deputation be instructed respectfully, but firmly, to request their most serious attention to the subject, and also a second interview, as soon as convenient, for their decision. That, if it should be deemed necessary, the deputation should also seek an interview with the governors of Bethlehem, and that afterwards another public meeting should be called, if in the opinion of the Committee of Parishes it should appear desirable."

A general meeting of the Governors of the Hospital was held on Thursday to receive a report on the subject of a site for the new hospital. The report recommended the vacant ground behind Newington Church as the best that could be obtained, but Parliamentary powers would be necessary for the purchase. If that site could not be had, there was little to choose between the Surrey Gardens and Myatt's Ground in the Camberwell New Road. In the course of the discussion it was stated that there was no chance of coming to an understanding with the Governors of Bethlehem, and the site of West Square, near Bethlehem, was suggested, upon which Mr. South, the senior surgeon, said that no place could possibly be more unfit. It was ultimately agreed that the report should be printed and circulated, and that another meeting should be held in a fortnight to determine the question.

VISIT OF NEW ZEALAND CHIEFTAINS.—Thirteen New Zealanders, three of whom are women, and most of them chiefs, are now on a visit to this country, accompanied by the interpreter to the Colonial Government. The principal man among them is a youth of 17, upwards of 6ft. in height. They are clothed in skins of various colours, their faces are painted, and their hair is stuck full of feathers; they carry their peculiar weapons, and some of them are tattoed. They intend to travel through the kingdom and to visit the principal dockyards, arsenals, public institutions, manufactories, and other places of interest, in order to obtain such general information respecting the greatness and power of England as may prove a lasting benefit to themselves and to their several tribes on their return to New Zealand. They have already visited the Crystal Palace, which appeared to excite their attention in a most extraordinary manner, particularly the collection of Ferns in the tropical parts of the building, which they said was the strongest reminiscence of their own country they had as yet seen. They were also present at a meeting at the Mansion House last week, when Kameriara Te Hautakiri Wharepapa, the son of one of Kiongi's celebrated generals, made the following speech in a full sonorous voice, which was translated by the interpreter:—

Ladies and gentlemen of England,—I salute you all. I am much pleased at this opportunity of appearing before so large an assembly at the house of your chief magistrate. Some time ago when the English first came to my land, some of my people were being eaten by the others. But the book of the good Lord of England was brought to New Zealand, and when the Gospel came the evil practices of our forefathers ceased, and we were allowed to live as you live. One of my forefathers visited England in the reign of King George IV. He brought back nothing good. He brought back fire-arms, with which to destroy a great number of his own people. But we are come for a different purpose. We have not come to purchase fire-arms to destroy our own countrymen—we have come to seek for knowledge, which we wish to take back with us. Ladies and gentlemen of England, my heart is very glad, and now for the first time I live. I have seen the first gentleman of England, and I shall not rest until I have seen the Queen of England. We have come to England to see how the English people will behave to us, and we shall write back home once a month to our friends and tell them of what we do and see. We have no desire except to live in peace and harmony with Europeans. We have none but good feelings towards Europeans who come to live in our land. Ladies and gentlemen of England, this is all I have to say!

THE ECLIPSE.—A total eclipse of the moon took place on Monday night. Shortly after nine o'clock the face of the moon became partially obscured, and at five minutes to eleven the eclipse became a total one, and lasted until half-past eleven, at which time the moon resumed her natural appearance.

MURDER OF A WIFE IN THE CITY ROAD.—An inquest was held on Tuesday, on the body of Mrs. Hannah Webb, aged 40, whose death was said to have been caused by the violence of her husband. After hearing evidence at great length, the jury returned a verdict of "Wilful Murder" against James Webb, who had been committed by the police magistrate on the previous day for trial on the capital charge.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths registered in London in the week ended Saturday, May 30, were 1,296. The average number in the corresponding weeks of the ten years 1853-62, corrected for increase of population, was 1,139. The present return is therefore 157 above the average. There were 68 deaths from smallpox, 46 from typhus, 78 from scarlatina, and 39 from measles. During the week the births of 1,005 boys and 992 girls, in all 1,997 children, were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1,770.

## Provincial.

BILSTON.—A fatal boiler explosion took place on Saturday at the Old Iron Works of Messrs. Sparrow & Co., by which four men were killed, and 15 more wounded. The day and night men were changing their shifts of work, and during the few minutes of this occurrence the machinery stood still, and there was so great an accumulation of steam in the boiler that the boiler gave way. 200 men were on the premises at the time, and the wonder is that the loss of life was not greater.

LIVERPOOL.—A public meeting in the concert-room of St. George's Hall was announced for Wednesday last, for the purpose of expressing sympathy with the family of the late General Jackson, and of deciding upon the most appropriate way of paying a substantial tribute to his memory. The public meeting was subsequently abandoned, and a subscription towards the erection of a monument at Richmond was opened instead.

MANCHESTER.—At the weekly meeting of the Executive Committee on Monday, the hon. secretary reported that the receipts of the week had been 2,120*l.* 0*s.* 4*d.*; leaving a balance at the bank of 364,301*l.* 3*s.* 1*d.* Communications were read from various local committees, expressing their thanks for grants heretofore made to them, and adding the gratifying intimation that they would be enabled to dispense with further aid from the Central Committee during the summer months. Mr. Commissioner Farnall's weekly report stated that on the 23d ult. there was a decrease in the number of persons receiving relief, as compared with the previous week, of 5,822. Grants were made to 19 places, amounting to 3,130*l.*, with 285*l.* from the employment and school fund. The next meeting was ordered to be held on that day fortnight.

## Ireland.

ADULTERATION OF WORKHOUSE SUPPLIES.—Dr. Cameron, "Public Analyst" to the City of Dublin, having been employed by the South Dublin Board of Guardians to examine the brandy and sugar supplied to the workhouse, has sent in a startling report. The so-called French brandy he found to be a spurious article, consisting of spirits of wine, flavoured with some such fruit as Prunes, and coloured with burnt sugar. The sugar he found extremely damp, containing a very large proportion of treacle, and a considerable amount of such impurities as sporules of fungus, particles of cane, albumen, and starch granules. It contained also in great abundance a species of acarus or mite, closely resembling in appearance and nature the insect which, by burrowing in the skin, produces itch. "It is no exaggeration," says Dr. Cameron, "to affirm that there cannot be less than 100,000 of these insects in every pound of sugar. In 10 grains weight I estimated 500, most of which were so large as to be distinctly visible to the naked eye." Such sugar is not only detrimental to health, but the least economical kind that can be employed, from its defective sweetening power. It was unanimously resolved that the contractors should be prosecuted.

THE EGMONT CASE.—The Lord Chancellor sat on Monday for the purpose of hearing this celebrated case, the leading facts of which were recently before the public when it was brought into the Court of Chancery in England. The hearing then took place before Vice-Chancellor Page Wood, who postponed the delivery of his judgment until the Court of Chancery in this country, where the bulk of the Egmont property is situated, should have decided on the present petition. The case excited so much interest that the court was crowded to inconvenience by the members of the bar and the general public. The Lord Lieutenant was present, and occupied a seat on the bench. The pleadings in the case occupy hundreds of brief sheets, while the correspondence referred to is equally voluminous. The petition of the Earl of Egmont recites the history of the family, and the connection of Edward Tierney with the late earl, as agent of his estates in Ireland and Wales; the present representative and principal respondent being the Rev. Sir William Lionel Darell, married to Edward Tierney's only daughter, and heiress of all the Tierney property. The Irish estates are in the county of Cork, known as the Churchtown and Kanturk estates. They contain 11,250 acres, and were at the time of Earl John's death of the annual value of 9,000*l.* or 10,000*l.*, the selling value being about 250,000*l.*, while the whole of the incumbrances amounted only to 101,000*l.* The reading of the affidavits filed on the part of the petitioner and of the various letters and documents occupied a considerable portion of the day. The Solicitor-General, Mr. Brewster, Q.C., Mr. Whiteside, Q.C., Mr. Chatterton, Q.C., Mr. Warren, Q.C., Mr. Owen and Mr. Davies, are the counsel for the petitioner. Serjeant Sullivan, Messrs. Walsh, Q.C., Ball, Q.C., C. Todd, and H. P. Jellett are engaged for the respondents.

## Scotland.

PRECEDENCY OF EDINBURGH AND DUBLIN.—The committee charged with the arrangements for the ceremonial of uncovering the Memorial of the Exhibition of 1851 on the 10th inst., have had under consideration the position to be occupied in the procession by the representatives of the cities of Edinburgh and Dublin, and have decided that the Scottish capital is entitled to precedence over the Irish. The quartering of the arms on the Royal Shield gives a heraldic precedence to Scotland, and it appears that in all the great public ceremonies, such as coronations, which have occurred within the last hundred years, the officials of Scotland have been ranked before those of Ireland. At the coronation of George III. the Scottish peers, as on all other occasions, ranked as British peers (in terms of the 23d article of the Union) before the British peers of their own degree, created since 1707; while the Irish peers were ranked after all the English and Scottish of their degree. On the same occasion Ulster King at Arms ranked below Clarencieux and Norrey; while Lyon King at Arms ranked next to Garter. The same precedence was followed at the coronation of George IV., at which a larger number of officials were present, at that of William IV., at that of her present Majesty, and at the funeral of the Duke of Wellington.

## Railways.

FATAL ACCIDENT ON THE BRIGHTON RAILWAY.—On Friday evening an appalling accident occurred to the 5 o'clock express train from Brighton to Victoria, by which four passengers were killed, and upwards of 30 others were more or less severely injured. The train arrived at Croydon 20 minutes after time, and in order to make up for this lateness, the driver put on the steam at a pressure so excessive as to cause the boiler to burst and the engine to leave the rails, dragging with it in its descent down an embanked part of the line between Streatham and Balham the entire train of 15 carriages. The force of the explosion was so great that the top of the boiler was actually thrown two fields off. All the carriages were capsized, and some of them reduced to splinters. Of others, the bottoms had fallen out, letting the travellers through to be torn and crushed beneath the wheels. Others had to be broken to pieces before the sufferers could be extricated. From others doors were wrenched off to be converted into litters. Any description of the ruin is impossible; rails, axles, and wheel tires, were thrown about in every direction, twisted into the most fantastic shapes like so many pieces of wire. The engine driver was so fearfully scalded that he died on Saturday in the hospital. The fireman was also dreadfully scalded and burnt, but hopes are entertained of his recovery. Mrs. Chilver, wife of Mr. T. F. Chilver, surgeon, of New Burlington Street, and the daughter of the late Sir Charles Clarke, Bart., the celebrated accoucheur, who was travelling with her husband, and was far advanced in the family way, was killed on the spot, as were two soldiers of the Grenadier Guards, who with two companies of the regiment, with their officers, Colonels Keppell and Burnaby, Capt. Norton, Lieut. Trotter, and Quartermaster Collins, in all 150 strong, were returning from their periodical rifle practice at Eastbourne. Besides the two Guardsmen killed on the spot, some 30 others were extricated with great difficulty and more or less wounded, one with his ribs fearfully

fractured, and suffering from internal hæmorrhage. Among the other sufferers were the Rev. Dr Cureton, Canon of Westminster, and his family. Dr. Cureton was dreadfully injured about his face and legs. His daughter, Miss Blanche Cureton, had one of her legs fractured. His head nurse had some of her ribs broken, and her teeth were knocked out. The under nurse received several bruises. Two of the guards, whose break-van, being next to the engine, was completely smashed, had a most marvellous escape, one being whirled away with only a broken arm, and the other with only a few bruises. The officers in command, who were in a carriage at the end of the train, escaped unhurt. On Sunday a special telegraphic message was received by the commanding officers from her Majesty at Balmoral expressing her regret at the catastrophe, and her sympathy with the sufferers; and messages have since been sent daily through the Commander-in-Chief, informing her Majesty how the men have been going on. On Monday the Prince of Wales went to the hospital in person to inquire after the wounded men, all of whom are now in a fair way towards recovery.

RAILWAY TRAVELLING.—Dr. Waller Lewis, medical officer of the London Post Office, states in his report just issued that he has arrived at the following conclusions from observations of the health of the travelling officers of the Post Office:—That railway travelling has little, if any, injurious effect on the healthy, strong, well built persons, if the amount be not excessive and if they take moderate care of themselves; but that persons who take to habitual railway travelling after the age of 25 or 30 are more easily affected than those who begin earlier, and that the more advanced in age a traveller is the more easily is he affected by this sort of locomotion. Weak, tall, loosely-knit persons, and those suffering under various affections, more especially of the head, heart, and lungs, are very unsuited for habitual railway travelling.

## Sporting.

### ASCOT RACES.

TUESDAY.—The *Trial Stakes.*—Duke of St. Alban's Tippler beat Redcap, Tornado, and 7 others. The *Ascot Stakes.*—Mr. J. Saxon's Stanton beat Rubicon, Oakapple, and 13 others. The *First Year of the Sixth Ascot Biennial Stakes.*—Mr. Lincoln's Light beat Goldylocks, Tomato, Cœur de Lion, Alpheus, and 11 others. The *Gold Vase.*—Mr. Crook's Adventurer beat Wingrave, Atherstone, and 5 others. The *Prince of Wales's Stakes.*—Lord Stamford's Avenger beat Borealis, Judex, Vivid, and 11 others. A *Maiden Plate.*—Lord Westmoreland's Birch Broom beat Leicester, Confederate, and 24 others. The *Queen's Stand Plate.*—Lord Glasgow's Knowsley beat Umpire, Giles the First, The Clown, and 8 others.

WEDNESDAY.—The *Coronation Stakes.*—Lord Stamford's Lady Augusta beat Fantail, Crafton Lass, Cerintha, and Columba. The *Ascot Derby Stakes.*—Lord Stamford's Onesander beat Queen Bertha, Blue Mantle, and 4 others. The *Royal Hunt Cup.*—Mr. Hodgman's Victor beat Glenorchy, The Knave, Knowsley, and 25 others. *Sweeps.*—Mr. R. Ten Broeck's Santhal beat Dirt Cheap and Lord of Linne. *First Year of the Eleventh Ascot Triennial Stakes.*—Lord Portsmouth's Becky Sharpe beat Mr. Merry's f, Mdlle. de Chesnois, and 5 others. The *Fernhill Stakes.*—Baron Rothschild's Tomato beat Lady Abbess, Midnight Mass, Flying Fish, and Vivid. *Second Year of the Fifth Ascot Biennial Stakes.*—Lord Strathmore's Saccharometer beat Judex, Tom Fool, Hospodar, and 5 others. The *Visitors' Plate.*—Mr. Bryan's Millionaire beat Paste, Vinegar Hill, Gardener, and 5 others.

THURSDAY.—This was the most successful Cup day ever known at Ascot. The Prince and Princess of Wales attended with a well-appointed and a handsome *cortége*, and received an enthusiastic welcome. The Stands and course generally were crowded with a brilliant and aristocratic assemblage. The following are the details of the races:—*Plate.*—Lord Wilton's b.c. beat Mr. D. Lane's ch. c., Petersham, and 2 others. *Plate.*—Mr. Longfield's Gem of the Sea beat Lord Glasgow's ch. c., Mr. T. Taylor's b. c., and 11 others. The *St. James's Palace Stakes.*—Mr. Merry's Gladstone beat King of the Vale. *First Year of the First Biennial Stakes.*—Mr. Merry's The Scottish Chief beat Master Richard, Knight of Snowdon, Mr. W. G. Craven's ch. c., and 7 others. The *Gold Cup.*—A dead heat between Mr. Merry's Buckstone and Tim Whiffler, beating Hurricane and 3 others. The start was made at a fearful pace, Eleanor leading, followed by Tim Whiffler and Buckstone. After half the race was run, Eleanor fell into the rear; but though Tim Whiffler still led, Buckstone was gaining upon him stride by stride with a speed wonderful to witness. Tim Whiffler made desperate efforts to retain his advantage, and kept Buckstone to his level, as in a most exciting race they rushed along, amid the cheers of thousands, and passed the chair at such a pace as horses have seldom passed it before, and without the difference of a fraction of an inch between them. There was the usual confusion, and cheers and counter cheers for both horses, whom the supporters of each were confident had each won until the signal for a dead heat went up. The race was run in 4 minutes 3¼ seconds. The Deciding Heat was won by Buckstone by two lengths. The race was run in 4 min. 2⅞ sec. *Plate.*—Mr. G. Angell's Vigil beat Rob Roy, Pyrrha, Ali Pasha, and 7 others. The *New Stakes.*—Baron Rothschild's Sister to Queen of the Vale beat Vacuna, Teddington, and 10 others. The *Royal Stand Plate.*—Baron Rothschild's Wingrave walked over. *Sweeps.*—Mr. R. Ten Broeck's Summerside walked over.

FRIDAY.—(*By Electric Telegraph.*)—*100l. Plate.*—Glance c. beat Miss Tait and Harvest Moon. *Tenth Triennial Stakes.*—Queen Bertha beat Fairy Purl, Avondale, and another. *Railway Stakes.*—Walloon beat Anonyma, Flash in the Pan, and 6 others. *First Class Wokingham.*—Exchequer beat Beauvale, Confidence, and 3 others. *Second Class Wokingham.*—Catalpa c. beat Walloon, Lady Abbess, and 6 others. *50l. Selling Plate.*—Hypermnestra beat Flying Spur, Foi de Gras, and 2 others. *Queen's Plate.*—Caller Ou beat Birdfinder. *Borough Member's Plate.*—Lord of Finne beat Santhal, Incitatus and Tolurno. *50l. Plate.*—Southport beat Reindeer and 5 others.

## Obituary.

THE DOWAGER LADY POLTIMORE died on Friday night at her house in Upper Brook street. Her ladyship has been in a declining state for some months past, but the serious nature of her illness only became apparent a few days since. She was the eldest daughter of the late General Frederick William Buller, of Pelynt, Cornwall, and sister of Major-General Sir George Buller, K.C.B. She married in 1836 the first Lord Poltimore, by whom she had issue an only son, the present peer.

BIRTHS.—On the 29th ult, at 137, Westbourne Terrace, Hyde Park, Lady CHAMBERLAIN, of twins (sons)—2d inst, at Scotney Castle, Sussex, the Hon. Mrs. HUSSEY, of twins, a son and a daughter—25th ult, at Little Packington Rectory, Warwickshire, the Hon. Mrs. G. LEGGE, of a son—28th ult, near Warbrook, Hants, Mr. ARTHUR CAVENDISH BENTINCK, of a son—27th ult, at 9, Pelham Crescent, Hastings, the wife of Major-General LUDLOW, of a son.

MARRIAGES.—On the 3d inst, at Trinity Church, Chelsea, the Earl of ESSEX, to Lady LOUISA BOYLE, eldest daughter of the Viscountess Dungarvan—2d inst, by special licence, at St. John's the Evangelist's, Westminster, EDWARD MANNINGHAM BULLER, Esq., of Dilhorn Hall, Staffordshire, to GEORGINA CHARLOTTE, widow of the Right Hon. GEORGE BANKS, M.P. for Dorsetshire—27th ult, at Iver, Bucks, CHAS. MEEKING, Esq., only son of Chas. Meeking, Esq., of Riching's Park, Iver, to ADELAIDE CAROLINE, fourth daughter of CHRISTOPHER TOWER, Esq., and Lady Sophia Tower, of Huntsmore Park, Iver—2d inst, at St. Michael's, Chester Square, HENRY CHRISTOPHER WISE, Esq., of Woodcote, Warwickshire, to JANE HARRIET, youngest daughter of the late Sir EDWARD CROMWELL DISBROWE, G.C.G.—2d inst, at St. James's, Westminster, GEORGE WILLIAM, second son of EDMUND FLOYD CUPPAGE, of Clace Grove, Co. Dublin, Esq., to LOUISA EMILY, only daughter of JOHN E. V. VERNON, of Clontarf Castle, Co. Dublin, Esq., D.L. —28th ult, in Westminster Abbey, JOHN NEVISON MAY, Esq., of 68, Pentonville Road, to EMMA, youngest daughter of the Rev. JAMES LUFTON, of The Cloisters, Westminster, minor canon of St. Paul's and Westminster Abbey.

DEATHS.—On the 22d ult, at the British Consulate, Naples, the much-beloved and deeply lamented HARRIET J. BONHAM, sister of Edward Bonham, Esq., Consul-General, Naples, and third daughter of the late Henry Bonham, Esq., M.P., and of Mrs. Bonham, of Charley—22d ult, at Woodlodge, Castlewallan, LOUISA CATHERINE, wife of Lieutenant-Colonel KEOGH, of Kilbride, Co. Carlow—31st ult., at 6, Harley Place, Commander JAMES RIGMAIDEN, R.N., aged 70—12th April, at Cherra Poojee, Lieutenant T. R. SADLEIR, 28th P.I., late 49th M.N.I., eldest and much-loved son of W. W. Sadleir, Esq., Cannons Town, Co. Meath—30th ult., FLORENCE COPE, third daughter of Mr. C. W. Cope, R.A., of Kensington—28th ult, EDWARD ROGER PRATT, Esq., of Ryston Hall, in the county of Norfolk, aged 74—24th ult, FREDERICK LOWRY BARNWELL, Esq., of Heath House, Twickenham—29th ult, FRANCIS WAKEFIELD SKEY, Esq., eldest son of Frederic C. Skey, Esq., of Grosvenor Street, aged 31—28th ult, at Edgbaston, Birmingham, the Rev. JOHN RILAND, M.A., aged 84—31st ult, at Braffords, Yorkshire, the Rev. WM. HENRY WRAY, M.A., aged 45.

## Markets.

### COVENT GARDEN, June 6.

Vegetables of all kinds continue abundant, and Pine Apples, Peaches, and Nectarines are tolerably plentiful. Strawberries from the open ground begin to make their appearance; Cherries of foreign growth are fetching from 2s. to 3s. per box weighing about 2 lbs. each. Of Melons, both English and foreign, there is a good supply, and Oranges are also plentiful. Grapes are sufficient for the demand. Potatoes as last week; large supplies of new ones are now making their appearance from Cornwall and the Channel Isles. Cut flowers chiefly consist of Orchids, Pelargoniums, Azaleas, Violets, Stocks, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 8s | Lemons, per 100, 9s to 12s |
| Grapes, per lb., 6s to 10s | Oranges, per box, 25s to 30s |
| Strawberries, p. lb., 4s to 8s | — per 100, 5s to 10s |
| Apples, per doz., 9d to 1s 6d | Nuts, small, p. bush, 14s to 18s |
| Figs, per doz., 8s to 12s | Almonds, do., 18s |
| Peaches, per doz., 15s to 30s | Walnuts, do., 10s to 16s |
| Nectarines, do., 10s to 18s | Kent Cobs, p. 100 lbs., 150s |
| Melons, each, 3s to 7s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Green Peas, per qt., 1s 6d to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 6d to 8d | French Beans per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 100s | Asparagus, per 100, 2s to 5s |
| „ Flukes, do., 100s to 120s | Shallots (new), p. bunch, 9d |
| „ Rocks, do., 60s to 80s | Rhubarb, p. bundle, 2d to 4d |
| „ Cups, do., 75s. to 85s | Garlic, per lb., 8d to 1s |
| Turnips, p. bunch, 9d to 1s 3d | Lettuces, each, 1d to 2d |
| Carrots, do., 1s to 1s 9d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun., 1s 6d to 4s |
| Cucumbers, each, 1s to 1s 6d | Mushrooms, p. pott., 1s to 1s 3d |
| Beet, per doz., 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch, 2d to 4d |

### POTATOES, SOUTHWARK, Monday, June 1.

During the past week the arrivals coastwise and by rail have been equal to the demand, and large arrivals of new Potatoes from Jersey and Cornwall. The following are this day's quotations:—Yorkshire Flukes, per ton, 150s. to 170s.; ditto Seedlings, 110s. to 120s.; do. Rocks, 100s. to 110s.; Perth, Forfar, and Fife Rocks, 80s. to 100s.; do. Reds, 80s. to 90s.; Jersey New, 8s. to 11s. per cwt.

### NEWGATE.—June 5.

Best Fresh Butter .. .. 12s. per dozen lbs.
Second do. do. .. .. 10s. „
Pork, 4s 0d. to 4s. 4d. per 8 lbs.

### METROPOLITAN CATTLE MARKET.

MONDAY, June 1.

We have rather a larger supply of Beasts, and consequently trade is heavy, but there is not much reduction in price. The number of Sheep is also larger, and the demand very small, especially for heavy fat Sheep. Sizeable qualities meet with purchasers at about late rates; but other kinds are on the average lower. Calves and Lambs scarcely maintain Thursday's quotations. From Germany and Holland there are 250 Beasts, 3890 Sheep, and 219 Calves; from Spain, 340 Beasts; from Scotland, 250; from Norfolk and Suffolk, 3020; and 150 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools .. | .. — .. |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn .. | 4 2 to 4 6 |
| 2d quality Beasts | 3 4 — 4 4 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds .. .. | — .. | Do. Shorn .. | 3 4 — 4 0 |
| Do. Shorn .. | 4 8 — 5 0 | Lambs .. .. | 5 8 — 6 8 |
| | | Calves .. .. | 3 4 — 5 0 |
| | | Pigs .. .. | 3 4 — 4 4 |

Beasts, 4260; Sheep & Lambs, 26,370; Calves, 263; Pigs, 440.

THURSDAY, June 4.

Although the supply of Beasts is considerably smaller than on Thursday last, the demand has decreased so much that we cannot quote the same prices, and a clearance cannot be effected at the reduced quotations. The number of Sheep and Lambs is considerably larger, consequently trade is very bad, and a large proportion remain unsold. The choicest descriptions meet with purchasers at our quotations; but other kinds can scarcely be sold. Calves and Lambs are also lower. Our foreign supply consists of 129 Beasts, 1660 Sheep, and 556 Calves. Milch Cows, 120.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. . | 4 8 to 4 10 | Best Long-wools. .. | — .. |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn .. | 4 0 — 4 6 |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality .. | — .. |
| Best Downs and Half-breds .. .. | — .. | Do. Shorn .. | 3 0 — 3 8 |
| Do. Shorn .. | 4 8 — 4 10 | Lambs .. .. | 5 4 — 6 4 |
| | | Calves . .. | 3 0 — 5 0 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 950; Sheep & Lambs, 10,780; Calves, 738; Pigs, 190.

### HOPS.—BOROUGH MARKET, FRIDAY, June 5.

Messrs. Pattenden & Smith report no alteration since Monday last. Market firm at late prices.

### HAY.—Per Load of 36 Trusses.

SMITHFIELD, THURSDAY, June 4.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to | 80s | Clover, old .. .. | 95s to | 120s |
| Superior do. .. | 84 | 90 | New Clover .. .. | — | — |
| Inferior do. .. | 55 | 60 | Do. second cut .. | 90 | 105 |
| New do. .. .. .. | — | — | Straw .. .. .. | 28 | 34 |
| Rowen .. .. .. | 50 | 60 | | | |

HARVEY & EASTON.

WHITECHAPEL, THURSDAY, June 4.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 80s to | 84s | Prime Clover .. | 110s to | 120s |
| Inferior do. .. .. | 72 | 80 | Inferior do. .. .. | 100 | 110 |
| Prime New Hay .. | — | — | Prime 2d cut .. | 100 | 114 |
| Inferior .. .. .. | — | — | Inferior do. .. .. | — | — |
| Straw .. .. .. | 27 | 30 | New 2d cut .. | — | — |

### BRITISH WOOLS.—LONDON, June 5.

Our trade continues in a sound state, but consumers having provided themselves with a supply of many descriptions for their immediate wants, are not disposed to increase their stocks at the present very high rates demanded by the farmers.

### MARK LANE.—MONDAY, June 1.

The supply of Wheat from Essex and Kent to this morning's market was small, and met an active inquiry at the full prices of this day se'nnight. Foreign was inquired after, without leading to much business, and late rates were difficult to obtain. In the value of Barley, Beans, and Peas there was no alteration. Oats met a slow sale at last week's prices. For Flour the demand was very limited, and we do not alter our quotations.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 46—56 | Red .... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — — Talavera ............ | 48—60 | | |
| — Norfolk ...................... | — | Red .... | — |
| — Foreign ...................... | 34—62 | | |
| BARLEY, grind. & dist., 28s to 30s..Chev. | 34—38 | Malting . | 31—34 |
| — Foreign..grinding and distilling | 23—27 | Malting . | 28—32 |
| OATS, Essex and Suffolk ............ | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .. | 21—23 |
| — Irish ....................Potato | — | Feed .. | — |
| — Foreign........Poland and Brew | 20—22 | Feed .. | 17—22 |
| RYE ........................ | 35—37 | Foreign . | — |
| RYE-MEAL, foreign.................. | — | | |
| BEANS, Mazagan....30s to 31s....Tick | 31—32 | Harrow . | 31—32 |
| — Pigeon ......34s —38s..Winds. | — | Longpod | — |
| — Foreign ..................Small | 40—46 | Egyptian | 32—34 |
| PEAS, white, Essex and Kent..Boilers | 35—37 | Suffolk . | 37—40 |
| — Maple ....42s to 48s ...... Grey | 36—37 | Foreign . | 30—38 |
| MAIZE..............................White | — | Yellow .. | — |
| FLOUR, best marks delivered..per sack | 42—47 | | |
| — 2d do .....................ditto | 32—40 | Country | 32—40 |
| — Foreign ..............per barrel | 23—30 | Per sack | 34—48 |

FRIDAY, June 5.

The weather during the past week has been fine, and of a warm summer temperature. The general reports of the crops are good. The Wheat trade has been dull, with a tendency in prices to decline, excepting in some of the agricultural markets of the east coast. Business in spring corn remained inanimate, but previous values were maintained. Flour has been neglected, and quotations are nominal. Since Friday last 33 vessels have been reported off the coast. The floating trade has remained very quiet, and no alteration in prices is to be reported. In Paris (June 4), the Flour trade has remained quiet at late prices. The six marks for delivery this month are quoted equal to 39s. 9d. per 280 lbs. The present stock of Flour is estimated at 12,750 cwts. The finest descriptions of Wheat have advanced about 6d. per 480 lbs.; other sorts are unaltered, and business has been limited. The arrivals of English grain this week are very small, but of foreign large. To-day's market was badly attended, and Wheat was sold to a limited extent only, at Monday's prices for both English and foreign. Spring Corn of all descriptions was steady at late quotations.

ARRIVALS THIS WEEK.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 530 qrs. | 30 qrs. | 570 qrs. | 960 sks. |
| Irish .... | — | — | 110 „ | — „ |
| Foreign .. | 16,220 | 10,960 „ | 33,410 „ | 2510 „ / — brls |

LIVERPOOL, June 2.—We had a fair attendance of both town and country millers and dealers at this morning's market, but fine bright sunshine operated against business, and the demand for Wheat was very limited at Friday's quotations. Flour had a moderate inquiry, and good samples brought previous rates. Indian Corn was neglected, and 3d. per qr. cheaper. Oats and Oatmeal slow of sale. Beans declined 3d. per qr. Peas and Barley remain as last quoted. The market closes dull.

FRIDAY, June 5.—The market quiet, with little doing in Wheat and Flour, and prices favour buyers. Beans and Indian Corn unchanged. Oats and Oatmeal quiet but steady.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| April 25.. | 45s 8d | 35s 3d | 21s 11d | 30s 6d | 36s 11d | 35s 3d |
| May 2.. | 45 9 | 34 6 | 21 2 | 39 8 | 37 3 | 35 6 |
| — 9.. | 46 2 | 34 4 | 22 1 | 20 11 | 37 6 | 34 0 |
| — 16.. | 46 9 | 34 5 | 21 11 | 33 7 | 38 3 | 35 8 |
| — 23.. | 46 8 | 33 9 | 22 7 | 34 6 | 38 6 | 36 5 |
| — 30.. | 46 5 | 33 8 | 22 8 | 40 2 | 38 11 | 35 9 |
| Agg. Aver. | 46 3 | 34 4 | 22 1 | 33 3 | 37 11 | 35 5 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.

### COAL MARKET.—June 3.

Holywell Main, 15s. 6d.; Tanfield Moor, 13s.; Tanfield Moor Butes, 13s.; Walker Primrose, 12s. 6d.; Wylam, 16s.; Walls End Riddell, 13s. 9d.; Walls End Haswell, 18s. 6d.; Walls End Hetton, 16s. 6d.; Walls End Russel's Hetton, 15s.; Walls End South Hetton, 16s. 6d.; Walls End Caradoc, 16s. 6d.;

Walls End Hartlepool, 16s.; Walls End Kelloe, 15s. 6d.; Walls End Trimdon Hartlepool, 16s.; Walls End Trimdon Thornley, 14s.; Carway and Duffryn Malting, 19s. 6d.—24 ships at market.


A PARTNER (Sleeping or Otherwise) with CAPITAL is WANTED (from circumstances which can be most satisfactorily explained) in a very extensive old established and First-class Nursery and Seed Business in the country. The concern is a thoroughly sound one, and will bear the strictest investigation.—Apply, by letter only, addressed to Messrs. Bevan & Whiting, Solicitors, 6, Old Jewry, London.

WANTED, a HEAD GARDENER, a few miles from Town.—He must thoroughly understand every branch of his business, and be a man of superior education.—Apply by letter only, to C., at Messrs. Creswick's, Stationers, Great Portland Street, W.

WANTED, a GARDENER.—No one need apply who has not a good practical knowledge in every department.—Apply to Mr. Read Crisp, Bookseller, Beccles, Suffolk.

WANTED, an industrious MAN and his WIFE, without incumbrance; the Man as Gardener, and to attend to Stock and Poultry. The Wife to do about two hours household work daily, and to give her whole time if required to her master. Wages 1l. per week, a lodge, and coke for fire. The character will be thoroughly investigated.—Apply in person before 12 o'clock, or by letter, to J. D., Post Office, Highgate, N., before Thursday next.

**Gardener.**

WANTED, in Staffordshire, a GARDENER and his WIFE, without incumbrance, to live in a Lodge. The Man must be a good Kitchen Gardener, understand the Cultivation of Vines and Flowers, Mowing Lawns, and be willing to make himself generally useful. The Wife is required to assist occasionally in the Laundry, for which she will be paid extra. Persons from the country will be preferred, and who can have from their last place at least two years' character for honesty, sobriety, industry, and competency. Wages to Gardener, 18s. per week and a Cottage.—Address, stating ages and where last employed, to Mr. Lowe, Nurseryman, Wolverhampton, Staffordshire.

WANTED, a MAN and WIFE, without family, or without young children.—The Wife has charge of the Advertiser's study. The Man to do the usual out-door household work, which is not much. His chief duties are in the Garden, a good practical knowledge of its management being required. A small Flower and Kitchen Garden, with plenty of Glass. The Gardener resides on the spot, and has a good house, rent and rates free. Every thing is most handy and convenient. The place will only suit a quiet man, who can bring a high character for steadiness, and who is well recommended. Not more than 18s. a week, besides house.—Rev. W. A., Tamworth.

WANTED, a YOUNG MAN of industrious habits, who understands the Flower and Kitchen Garden. He will also have to take the Management of Cows. One who has been with a nurseryman and florist preferred. Wages 15s. per week.—Address, A., 30, Exmouth Street, Euston Square, N.W.

WANTED, an ESTATE CARPENTER, one who has a knowledge of the Wheelwright business preferred. —Apply by letter only, stating wages, to E. Booth, Trent Park, East Barnet, N.

## WANT PLACES.—Letters to be Post Paid.

**To Noblemen and Gentlemen.**

DAVID KIDD, F.R.H.S., will shortly be disengaged owing to the death of his late employer, the Marquis of Breadalbane, and of the late Rt. Hon. Sir William Molesworth, Bart. D. K. is extensively known and recommended as one of the best scientific practical men of the present day in every department of Horticulture. Is middle-aged, without family. D. K. also takes this opportunity, until re-engaged, to offer his services to the public, in giving Instructions and Advice, &c. for the better Management of Old Gardens in general; also with Plans and Estimates for the formation of New ones, and including all kinds of Horticultural Buildings, &c. Charges moderate. — D. K., Surbiton, Kingston, Surrey; or to Messrs. Osborn & Sons, Fulham, London.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (Head).—Married, one child. A gentleman's Gardener is desirous of obtaining a situation for a trustworthy and industrious Man. Can be highly recommended.—W., Messrs. E. & C. Joscelyne's, Braintree, Essex.

GARDENER (Head).—Age 27; can be recommended with confidence by his present employer with regard to conduct, character, and practical knowledge. — Rev. T. R. Rooper, Wick Hill, Brighton.

GARDENER (Head.)—Age 30, married, no incumbrance; thoroughly understands his profession in all its branches; Pines, Vines, Peaches, Melons, Flower and Kitchen Garden. Has been 15 years in good establishments. Good references.—A. B., Post Office, Emsworth, Hants.

GARDENER (Head).—Age 37, married; has a practical knowledge of Forcing in all its branches, Stove and Greenhouse Plants, Fruit, Flower, and Kitchen Gardens. Understands Land. — J. P., 20, Park Place, Park Road, Clapham, S.

GARDENER (Head).—Age 38, married, no incumbrance; thoroughly understands his profession in all its branches, including Early and Late Forcing. Wife a good Dairy-woman and plain Cook. Can take charge of a country house. Many years' experience. Two years' good character, and 8 years' previous character. State wages, &c.—J. T., Bunney's Nursery, Stratford, Essex.

GARDENER (Head) to any nobleman or gentleman.—Age 37, no incumbrance; has had practical experience in all branches of his profession, and is fully competent to take charge of an establishment where early Flowers, Fruit, and Vegetables, are required; is also a good Kitchen and Flower Gardener. Four years' character from late employer—the Right Hon. Lord Camoys, Stonor Park.—John Keith, 4, Albion Place, Henley-on-Thames, Oxon.

GARDENER (Head), where two or more are kept. —Middle aged, no incumbrance; sober, industrious, and trustworthy; thoroughly understands his profession in all branches. Has lived in some of the leading places in the North of England. The highest testimonials from the lady he has left, and to whom any lady or gentleman can refer for character and ability.—B. B., Mr. Adams, Bookseller, Hull.

GARDENER (Head).—Age 30, married; 14 years practical experience in Early and Late Forcing; also the Management of Stove and Greenhouse Plants, with Kitchen and Flower Gardens. First-class character.—A. B., East Coombe Park, London, S.E.

GARDENER (Head), where two or more are kept.—Age 32, married, one child. Good character.—R. Y., Post Office, Leatherhead, Surrey.

GARDENER (Head), where not less than two or three are kept.—Middle-aged, married, no incumbrance; can superintend Grass Land and Stock.—J. B., Post Office, St. Mary Cray, Kent, S.E.

GARDENER (Head or Single-handed).—Middle-age, married, no incumbrance. Understands his profession in all its branches; many years' experience; can manage Land or Stock, if required. Seventeen months' character. Leaving on his own account. Now working in Page's Nursery, Southampton. Wages, 1l. per week. — J. Goodridge, 6, Stanley Street, Shirley, Southampton.

GARDENER in a nobleman's or gentleman's Establishment, where two or more are kept.—Age 28; is fully qualified to undertake the general Management of Pines, Grapes, Peaches, Cucumbers, and Melons; also Kitchen and Flower Garden. Can have first-rate testimonials for ability, sobriety, and industry.—C., Mr. Reeves' Nursery, Acton, Middlesex.

GARDENER, where two or more are kept.—Thoroughly acquainted with Vinery and Stove Cultivation. Good reference.—Mr. Thomas Wilson, Bicester.

GARDENER, where three or more are kept.—Age 29; thoroughly understands his profession in all its branches. Good character from present and former situations.—A. B., Post Office, Bishopstoke, Hants.

GARDENER (Under) in a Large Garden or Nursery; to take charge of the Houses preferred.—Understands the Management of a Conservatory, Vineries, and Cucumberhouse; also the Propagation of Bedding Plants. Two years' good character.—Mr. Peal, Bookseller, Derby.

GARDENER (Under, or Single-handed).—Age 24, Single. Four years' good character.—H. G., 148, Hand Croft Road, Croydon.

GARDENER (Under), where one or more are kept.—Age 26, single; understands the Management of Pines, Vines, Stove and Greenhouse Plants, &c. Three years' good character.—H. B., 3, Love Lane, Mitcham, Surrey.

FOREMAN in a gentleman's or nobleman's Garden. —Age 25. Good reference.—W. S., Mrs. Darrock's, Brook Lane, Chester.

FOREMAN in a gentleman's or nobleman's Garden.—Understands Forcing Fruits; first-class Grape Grower; Orchids, Stove and Greenhouse Plants, Lycopods, Kitchen and Flower Garden. Has served in some of the leading gardens in England, where the highest testimonials can be given.—C. Sonders, 41, Warwick Street, Ryde, Isle of Wight.

FOREMAN or PROPAGATOR.—First-rate experience in Propagating, Grafting, Budding, Plant Growing, and Trade qualifications.—Alpha, 4, Grove Terrace, New Church Road, South Hackney.

PROPAGATOR or FOREMAN.—Has had extensive practice in the Propagation and Culture of Stove and Greenhouse Plants, Conifers, Roses, Rhododendrons, and general Nursery Stock. Good Salesman.—A. B. C., Post Office, Bowdon, Cheshire.

PROPAGATOR, or FOREMAN and PROPAGATOR (First-class).—Experienced in Hard and Soft-wooded Plants, a proficient Graftsman (the Belgian principle), Azaleas, Camellias, Roses, Rhododendrons, &c.; well versed in Outdoor Bedding and Grafting, and the Propagation of general Nursery Stock. Good reference.—W., Post Office, Whitton, Hounslow, Middlesex.

FORESTER. — The Undersigned are anxious to recommend a thoroughly practical Woodman and Forester, who learnt his business under the most eminent Foresters in Scotland. Lived last nearly 6 years with a nobleman in Staffordshire, who will highly recommend him.—Francis & Arthur Dickson & Sons, Seed Merchants, 106, Eastgate Street, Chester.

BAILIFF and GARDENER to any gentleman requiring a good General Manager to Plan and carry out alterations.—M. H., 30, Southampton Street, Strand, W.C.

**To Noblemen and Gentlemen.**

LAND STEWARD.—Has had the Management of a large Estate in one of the Midland Counties for many years; will be at liberty in July, and is desirous of a re-engagement. He has had many years of practical experience in the Management of Land, Timber, Woods, Plantations, and the Superintendence of all Repairs; also a large Farm Stock, &c., as well as the general business of an Estate. Testimonials and the most unexceptionable references can be given.—C. M., Post Office, Canterbury.

**To Landed Proprietors.**

LAND AGENT.—The Advertiser, who has had 15 years' experience in the general Superintendence of an Estate of considerable extent in one of the Midland Counties, is desirous of an engagement of a similar character with a nobleman or gentleman requiring a Land Agent. The routine of his practice has comprised the Erection and Repairs of Farm Houses and Buildings, Under Draining and Improvement of Land, the Management of Woods and Plantations, and of matters in general connected with Landed Property. Testimonials of a high class can be given, together with references to the Proprietor of the Estate, with whom his engagement has extended to the above named period.—C. R., *Gardeners' Chronicle* Office, W.C.

FARM STEWARD or BAILIFF.—Age 39, married, no incumbrance; a Scotchman; has a thorough knowledge of Farming and Cattle. The highest testimonials can be given. —A. B., 45, Shakespere Street, Manchester.

BAILIFF, &c., on a nobleman's or gentleman's Estate.—Age 26; the son of a practical farmer. Has a good knowledge of Agricultural Chemistry, Veterinary Surveying, and the various Sciences connected with Agriculture, together with a practical knowledge of the several operations entailed in the Management of Heavy and Light Soils, under the most improved principles, and thoroughly acquainted with the Breeding, Rearing, and Marketing of Stock. Testimonials of a high class can be given as to industry, ability, and integrity.—Index, Post Office, Totness, Devon.

BAILIFF, with a Farmer.—A Young Man well acquainted with Agriculture and Surveying.—R. S., Post Office, Cirencester, Gloucestershire.

IMPROVEMENT in FARMING.—Age 22; understands Grass Farming and Horned Cattle, wishes for a position where he could obtain a thorough knowledge of Arable Farming. Would prefer a godly family. Remuneration for services rendered of no consideration.—R. N., Post Office, Harrow, N.W.

**To Gardeners and Others.**

IMPROVER.—Age 20; strong, active, sober, intelligent, and industrious, with excellent character, where he can improve himself. Has served four years in and out of doors. Wages moderate.—G. Varney, Mr. Holder, Crown Nursery, Reading.

**Seed Trade.**

SHOPMAN.—Four years' unexceptionable character. Reference to present employer.—Mr. William Chater, Seedsman, &c., Saffron Walden.

PATENT WORCESTERSHIRE RANGE.

PRIZE MEDAL, 1862, AWARDED for EXCELLENCE.
The above RANGE is most complete, and strongly recommended for its unrivalled ECONOMY, CLEANLINESS, CONVENIENCE, DURABILITY, and is a certain CURE for SMOKY CHIMNEYS.
It is an entirely new invention, and consists of large MEAT ROASTER, PASTRY OVEN, and WROUGHT-IRON BOILER. The top forms a HOT PLATE for BOILING, STEWING, &c. The whole heated by ONE SMALL FIRE. One 5 feet wide is equal to an ordinary Range 8 feet wide.

Extracted from the *London Daily Telegraph*, May 19, 1862.
"International Exhibition, Class 31.
"Of the most recent inventions it should be said that Messrs. Jones & Rowe's Patent Worcestershire Range has attracted very special attention, and has been commended by the best authorities. A valuable peculiarity of their Ranges is the placing of the OVEN and ROASTER one above the other instead of *side* by *side*; and the ROASTER is constantly replenished with fresh air."
Inventors and Manufacturers, Jones & Rowe, Worcester.
Agents for London: Barron, Son, & Wilson, 436, Strand, W.C.
Illustrated Catalogues, with Testimonials and Prices, forwarded on application.

METCALFE, BINGLEY, and CO.'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. Metcalfe's celebrated Alkaline Tooth Powder, 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each. 130 b, and 131, Oxford Street, W.

WHITE and SOUND TEETH are indispensable to personal attraction, and to health and longevity, by the proper mastication of food. ROWLANDS' ODONTO, or Pearl Dentifrice, preserves and imparts a pearl-like whiteness to the Teeth, eradicates Tartar and spots of incipient decay, strengthens the Gums, and gives a pleasing fragrance to the Breath. Price 2s. 9d. per box.
Sold by Chemists and Perfumers. Ask for "Rowlands' Odonto."

OLDRIDGE'S BALM of COLUMBIA, established upwards of 30 years, is the best and only certain remedy ever discovered for preserving, strengthening, beautifying, or restoring the Hair, Whiskers, or Moustache, and preventing them turning grey.
Sold in bottles, 3s. 6d., 6s. and 11s., by C. & A. Oldridge, 22, Wellington Street, London, W.C., and by all Chemists and Perfumers. For Children and Ladies' Hair it is most efficacious and unrivalled.

Sauce.—Lea and Perrins'
WORCESTERSHIRE SAUCE
Pronounced by Connoisseurs
"THE ONLY GOOD SAUCE."
See Name on Wrapper, Label, Bottle, and Stopper, and to avoid Counterfeits
Ask for Lea and Perrins' Sauce
*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. Crosse & Blackwell; Messrs. Barclay & Sons, London, &c.; and by Grocers and Oilmen universally.

**Eau-de-Vie.**

THIS PURE PALE BRANDY, 18s. per gallon, is peculiarly free from acidity, and very superior to recent importations of Cognac. In French Bottles, 3[illegible] per dozen; or in a case for the country, 39s. Railway Carriage paid. No Agents.
Henry Brett & Co.,
Old Furnival's Distillery, Holborn, E.C.
and 30, Regent Street, Waterloo Place, S.W., London.
Prices Current free on application.

F. C. CALVERT'S PHENYLINE (the active principle of coal-tar) is an unfailing remedy for Foot-rot, Distemper, Grease, Glanders, Scab, Mange, &c., and may be obtained of any of the following Agents:—
John Bell & Co., 338, Oxford Street, London; A. Pattison & Co., 67, Buchanan Street, Glasgow; Clay & Abraham, Liverpool; J. Woolley, Manchester; Harvey & Reynolds, Leeds; H. Bradey, Newcastle-on-Tyne; J. Reed, Arundel; C. Cortis, Worthing.

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild aperient for delicate constitutions, more especially for ladies and children.—it is prepared in a state of perfect purity and of uniform strength by Dinneford & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, JUNE* 13, 1863.

NOTICE.—SMITH, BECK AND BECK, MANUFACTURERS of MICROSCOPES, TELESCOPES, STEREOSCOPES, and other Optical and Scientific Instruments, have REMOVED from 6, Coleman Street to 31, Cornhill, E.C.

*** Our Customers will find these new Premises very superior in size, convenience, and position to those we have just left. SMITH, BECK & BECK.

**For Watering Gardens, Lawns, and Washing Windows, Carriages, &c. India-Rubber Hose-Pipes and Tubing.**

JAMES LYNE HANCOCK, MANUFACTURER, has a large Stock of all sizes. Also BRASS HAND-BRANCHES, with SPREADERS, STOP-COCKS, JETS, and UNION JOINTS to connect the HOSE to CISTERNS.

INDIA-RUBBER FIRE-ENGINE HOSE for Private Houses, Mansions, and Breweries, and also the necessary FIRE-BRANCHES and UNION SCREWS.

Illustrated Price Lists on application.

JAMES LYNE HANCOCK, Vulcanized India-Rubber Works, 266, Goswell Road, London, E.C.

GARDEN BORDER-EDGING TILES. — These Tiles, manufactured in Terra-Cotta, Terro Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are invaluable.

To be obtained at F. & G. ROSHER'S Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.

Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER at their Premises as above.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.

CHUBB'S FIRE PROOF STRONG ROOM DOORS; CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.

Illustrated Price List gratis and post free.

CHUBB & SON, 57, St. Paul's Churchyard, London, E.C.

METCALFE, BINGLEY, AND CO.'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. METCALFE'S celebrated Alkaline Tooth Powder, 2*s*. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2*s*., 3*s*. 6*d*., and 5*s*. each. 130 B, and 131, Oxford Street, W.

HAIR RESTORED, preserved, and beautified, by the use of ROWLAND'S MACASSOR OIL.—It prevents hair from falling off or turning grey, strengthens weak hair, cleanses it from scurf and dandriff, and makes it beautifully soft, pliable, and glossy. For children it is especially recommended, as forming the basis of a beautiful head of hair. Price 3*s*. 6*d*., 7*s*., 10*s*. 6*d*. (equal to four small), and 21*s*. per bottle.

Caution—Ask for ROWLAND'S Macassor Oil. Sold at 20, Hatton Garden, E.C., and by Chemists and Perfumers.

THRESHER'S COLORED FLANNEL SHIRTS.—PRIZE MEDAL awarded to THRESHER & GLENNY for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.

Lists of Prices on application to THRESHER & GLENNY, General Outfitters, next door to Somerset House, Strand, W.C.

**Glenfield Patent Starch.**

MESSRS. WOTHERSPOON AND CO. have been appointed STARCH PURVEYORS to H. R. H. the PRINCESS of WALES. This Starch is used in the Royal Laundry and was awarded a Prize Medal. Sold by all Grocers, Chandlers, &c.

WOTHERSPOON & Co., Glasgow and London.

**Sauce.—Lea and Perrins'**

WORCESTERSHIRE SAUCE,

Pronounced by Connoisseurs

"THE ONLY GOOD SAUCE."

See Name on Wrapper, Label, Bottle, and Stopper, and to avoid Counterfeits

ASK FOR LEA AND PERRINS' SAUCE

*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. CROSSE & BLACKWELL; Messrs. BARCLAY & SONS, London, &c.; and by Grocers and Oilmen universally.

CAPTAIN WHITE'S ORIENTAL PICKLE, CURRY or MULLIGATAWNY PASTE, Curry Powder, and Curry Sauce, may be obtained from all Sauce Vendors, and Wholesale of CROSSE & BLACKWELL, Purveyors to the Queen. Soho Square, London, W.

**Manufacturers to the Queen and Prince of Wales.**

FRY'S | HOMŒOPATHIC ICELAND MOSS PEARL | COCOA.

FRY'S SOLUBLE CHOCOLATE.

J. S. FRY & SONS were the only English Manufacturers of Cocoa who obtained the Prize Medal, 1862.

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild aperient for delicate constitutions, more especially for ladies and children.—it is prepared in a state of perfect purity and of uniform strength by DINNEFORD & Co., 172 New Bond Street, London, and sold by all respectable Chemists throughout the world.

CHANDELIERS in Bronze and Ormolu for DINING ROOM and LIBRARY, Candelabra, Moderator Lamps, in Bronze, Ormolu, China, and Glass. Statuettes in Parian, Vases and other Ornaments.

OSLER, 45, Oxford Street, London, W.

OSLER'S GLASS CHANDELIERS. Wall Lights and Lustres for Gas and Candles, Table Glass, &c.

Glass Dinner Services for 12 persons, from 7*l*. 15*s*.

Glass Dessert Services for 12 persons, from 2*l*.

All articles marked in plain figures.

Ornamental Glass, English and Foreign, suitable for Presents.

Mess, Export, and Furnishing Orders promptly executed.

London—Show Rooms, 45, Oxford Street, W.

Birmingham—Manufactory and Show Rooms, Broad Street.

Established 1807.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for home use and for tropical climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut-tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by Post.

HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

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## News of the Week.

In the House of Lords on Friday the Duchy of Cornwall Management Bill passed through committee. The Vaccination (Ireland) Bill and the Bakehouses Regulation Bill were read a second time. On Monday, in answer to the Earl of Ellenborough, Earl Russell stated that England and France had agreed upon a proposition to be made to Russia in favour of Poland, and had invited the concurrence of Austria. As the reply of Austria had not yet been received, it would be inexpedient to enter into the nature of the proposition further than to state that it was consistent with the provisions of the Treaty of Vienna. On the motion for the second reading of the Prison Ministers' Bill, Lord Berners moved as an amendment that the Bill be read a second time that day six months. The Earl of Derby spoke in favour of the Bill, and the amendment was negatived on a division by 65 to 35. The Bill was then read a second time. On Tuesday Earl Russell laid upon the table the papers relating to Greece, stating that Prince William of Denmark had accepted the Crown, and that his title had been recognised by the Great Powers. His lordship also laid on the table the communication which had been made to the Powers with respect to the intention of Her Majesty to cede the Ionian Islands to Greece. The Earl of Carnarvon moved the second reading of the Security from Violence Bill, the object of which was to inflict the punishment of flogging on garotters. Lord Cranworth moved, as an amendment, that the Bill be read a second time this day six months. After a short discussion the amendment, at the suggestion of Earl Granville, was withdrawn, and the Bill was read a second time without a division. On the report of the Duchy of Cornwall Management Bill, a long discussion took place on the powers given by it to the Prince of Wales to make grants of land to Dissenting Chapels. The debate was ultimately adjourned to Friday. The Vaccination (Ireland) Bill passed through committee. On Thursday, in answer to the Earl of Carnarvon, Earl Russell said that there was a good deal of mystery and contradiction with respect to the nature and provisions of the recent Convention between the Governments of Russia and Prussia. The convention had been represented at Berlin as solely a military one, entered into at the request of Russia, while at St. Petersburg it was alleged that it had been entered into at the request of Prussia. It was also reported that there was a secret article, but he had no reliable intelligence on the subject.

In the Commons on Friday Mr. B. Cochrane moved that a permanent commissioner of public works should be appointed. Mr. Cowper opposed the motion, which was ultimately withdrawn. Mr. Fortescue called attention to the circumstances attending the imprisonment and death of

Regimental Sergeant-Major Lilley, of the 6th Dragoons, now serving in India, and to the imprisonment of two troop sergeant-majors of the same regiment, without being brought to trial, and asked whether Colonel Crawley, under whose authority this took place, was to be permitted to remain in command of the regiment. The Marquis of Hartington said that the Judge Advocate General had given an opinion that there was not sufficient evidence to establish the charge of conspiracy which Colonel Crawley brought against the sergeant-majors, and that the punishment inflicted upon them was illegal. He added that it was the intention of the Government to make a grant to the family of Sergeant-Major Lilley. The House then went into Committee of Supply upon the remaining Civil Service Estimates, when a long debate took place place upon the vote for Harbours of Refuge. Mr. Lindsay moved the reduction of the vote for the harbours of Alderney and Dover. This amendment was negatived, on a division, by 76 to 62. Several other votes, including those for Holyhead and Portpatrick Harbours, were agreed to. The debate on the third reading of the Drainage and Improvement of Land (Ireland) Bill was adjourned. On Monday, on the order for going into Committee of Supply, Mr. Gregory moved a resolution that the Royal Botanical Gardens of Edinburgh should be opened to the public after the hours of Divine service on Sundays, like other botanical gardens supported by Parliamentary grants. On a division, the motion was negatived by 123 to 107. The House then went into Committee of Supply on the Civil Service Estimates, and was counted out after a few votes had been agreed to. On Tuesday Mr. Buxton moved a resolution that the subscription required from the clergy to the Thirty-nine Articles and to the Prayer Book ought to be relaxed. Mr. M. Milnes moved, as an amendment, that subscription should be relaxed in the case of the Prayer Book only. Sir G. Grey admitted that the law was not in a satisfactory state; but the Government were not prepared to assent either to the motion or the amendment, though they would not be unwilling to consider the question of subscription so that the securities of the Church might not be weakened. If, therefore, the amendment should be withdrawn, he would move the previous question. The amendment was then withdrawn, and the "previous question" after a long debate was agreed to without a division. Mr. Dalglish moved for a Select Committee to inquire into the constitution of the Board of Admiralty, and the different departments under its control. Lord C. Paget opposed the motion, and the debate was ultimately adjourned. On Wednesday the Innkeepers' Liability Bill and the Savings Banks Acts Amendment Bill passed through committee. The Election Petitions Bill was read a second time. The House then went into Committee on the Metropolis Turnpike Roads Acts Amendment Bill on recommittal, and agreed to the clauses with amendments. On Thursday Mr. Grant Duff called attention to the abuses existing in many endowed charities, with especial reference to their bearing upon the amount of the vote for elementary education. Mr. Lowe then moved a vote of 804,002*l.* for public education, and gave a short explanation of the past year, and of the alterations made under the Revised Code, with the results of examinations. Mr. Black moved as an amendment, a reduction of the vote by 30,000*l.*, for stipends of pupil-teachers. After a long discussion, the amendment was withdrawn, and the vote agreed to. The vote of 122,883*l.* for the department of Science and Art, after a lively discussion on the architectural merits of the International Exhibition, was agreed to. The Volunteers Bill, as amended, was considered and agreed to after an ineffectual effort by Sir R. Clifton to obtain the insertion of a clause giving volunteers a right of appeal against dismissal by commanding officers.

From the United States we learn that General Grant, after destroying Jackson, invested Vicksburg on the 18th ult., in conjunction with Admiral Porter, who had managed to get his gun boats up the Mississippi. Between the 19th and the 27th the siege was pushed with great vigour, but the Confederates had repulsed with heavy loss three assaults of the Federals, and expressed their confidence of holding the city until the arrival of General Johnstone, who was collecting a large force near Jackson, with the intention of making an attack on General Grant's rear. General Banks was reported to have crossed the Mississippi at Bayou Sara, seven miles above Port Hudson. A portion of the Confederate army under General Lee has crossed the Rappahannock, and another division is preparing to invade Kentucky. President Lincoln having commuted the sentence passed on Mr. Vallandigham to banishment beyond the Federal lines, that gentleman has been delivered to the Confederates at Shelbyville, and is now at General Bragg's head-quarters awaiting the decision of the Confederate Government on his case.

The French Government has received despatches from General Forey, announcing the capture of Puebla on the 27th May, and the unconditional surrender of General Ortega and the Mexican garrison.

From Japan we have the important news that Colonel Neale, the British Chargé d'Affaires, has demanded reparation from the Tycoon for the attack on the British Legation on the 26th of June, and the assassination of Mr. Richardson while riding in the public road in September last. The terms demanded are the trial and execution of Mr. Richardson's murderers, a large pecuniary indemnity for the offence, and compensation to the sufferers or their surviving relatives. The ultimatum was sent on the 6th of April, and 20 days allowed for a reply. A large fleet of ships of war and gun-boats, under the command of Admiral Kuper, was stationed in the harbour of Yokohama for the purpose of enforcing the demand if the refusal of the Japanese Government should render it necessary to do so.

## Home News.

The Court.—On Saturday the Prince and Princess of Wales visited her Majesty after her arrival at the Castle. On Sunday morning the Queen, the Prince and Princess of Wales, Prince Alfred, Princess Helena, Princess Louisa, and Prince Leopold, attended Divine service in the private chapel. The Rev. Lord Wriothesley Russell officiated. On Monday morning the Queen walked and drove in the grounds. The Prince of Wales left Frogmore for Marlborough House. The Princess of Wales visited her Majesty at the Castle, and remained to luncheon. Her Royal Highness afterwards returned to London. Prince Alfred left for London. On Tuesday morning the Queen, accompanied by the Princesses Helena and Beatrice, came to London by special train on the Great Western Railway. Her Majesty was met at the station by Prince Alfred, and proceeded thence to the Horticultural Gardens. Her Majesty was received at the entrance in Exhibition Road by the Duke of Buccleuch, President; Sir W. Dilke, Vice-President; and the Council and Secretaries of the Society, who had the honour of being presented to her Majesty. The Queen proceeded up the centre walk of the Gardens to the spot where the Great Exhibition Memorial is erected, surmounted by the statue of the Prince Consort. Her Majesty was there met by Mr. Durham, the sculptor of the statue, and the Chairman and Secretary of the Memorial Committee, who had the honour of being presented to her Majesty. Her Majesty made a lengthened inspection of the Memorial, visiting every spot whence a fresh view might be obtained, and frequently expressed the gratification it afforded her. Her Majesty also marked her interest in the progress of the Gardens by afterwards spending a considerable time in the conservatory and adjoining terraces, with which she declared herself much pleased. Her Majesty then returned by the Eastern Arcade to her carriage in Exhibition Road, and drove to Marlborough House to visit the Prince and Princess of Wales. The Prince of Orange visited her Majesty at Marlborough House. The Queen returned to Windsor at 2 o'clock. On Wednesday morning the Queen, accompanied by the Princess Helena, walked and drove in the grounds. In the afternoon Princesses Helena and Louisa, and Prince Leopold left the Castle for Marlborough House, to accompany the Prince and Princess of Wales to the uncovering of the Memorial in the Horticultural Gardens. Earl Russell arrived at the Castle in the evening and had an audience of the Queen. On Thursday morning Prince Alfred, Princess Helena and Princess Louisa, drove to Claremont. In the afternoon the Queen held a Privy Council. Earl Granville had an audience of Her Majesty. Yesterday morning the Queen came to town and paid a visit to the Exhibition building, which she had not seen since the ground was marked out for its foundations in the autumn of 1861. Her Majesty arrived at precisely half past 10, accompanied by the Princesses Helena and Louisa, and attended by her ladies and gentlemen in waiting. The Queen entered by the Western Dome, and was received by the Earl of Derby and the Earl Granville, who, the one on her Majesty's right and the other on the left, escorted her into the nave. Among those present were the Commissioners of the Exhibition of 1851, and all the Commissioners of the Exhibition of 1862, excepting the Duke of Buckingham. Having entered the Nave, the Queen walked slowly up the centre, where she paused for a moment, and afterwards proceeded beneath the Eastern Dome, where she looked at the majolica fountain. At this point several presentations were made by Earl Granville. Among the gentlemen presented were Lord Overstone, Mr. Disraeli, the Chancellor of the Exchequer, Mr. Lowe, Sir R. Murchison, Mr. Thomas Baring, Sir F. Sandford, Sir W. Dilke, Mr. Kelk, the Messrs. Lucas, Mr. Fairbairn, Mr. Crace, and Captain Fowke. Leaving the ground floor, her Majesty ascended the gallery under the dome, commanding a view of the whole length of the building, the general effect of which her Majesty viewed with evident interest. Thence the Queen proceeded to the water-colour gallery, and afterwards to the other picture galleries, passing right through the English department and a portion of the foreign. On leaving the entrance to the picture galleries Mr. Redgrave was presented to her. Her Majesty, on proceeding along the gallery, recognised Lady Portman, formerly lady-in-waiting, and, graciously advancing towards her, affectionately shook hands and kissed her ladyship. Having descended to the nave, about the centre of the building, her Majesty crossed it, and proceeded to the Horticultural Gardens, where she spent a few moments, and ultimately left by the north entrance into the Kensington Road. The time spent in the building and gardens by the Royal party was 35 minutes. Her Majesty was attired in deep mourning, wearing a narrow widow's cap; the only colour visible was the mauve lining of her parasol. The Princesses wore lavender silk dresses with black trimming, white cloaks, and light-coloured bonnets. Owing to there having been scarcely any notice of the intended Royal visit, no very large number of persons had assembled to witness her Majesty's arrival and departure.

The Queen's Visit to Germany.—It is understood that her Majesty will take her departure for Coburg about the second week in July. The Queen will not occupy the château of Rheinhartsbrunn, as she did last year, but will live at Rosenau, which the Duke of Saxe-Coburg has placed at her disposal. It is expected that Earl Russell will accompany her Majesty as Secretary of State.

The Prince and Princess of Wales on Friday attended the Eton regatta, and the other festivities connected with the Eton anniversary. On Monday morning their Royal Highnesses left Frogmore for London. In the afternoon the Prince held a Levee on behalf of the Queen at St. James's Palace, at which nearly 400 noblemen and gentlemen were presented. In the evening the Prince and Princess honoured the Corporation of the City of London with their company at a grand ball and supper in Guildhall. On Tuesday morning the Prince, accompanied by Prince Alfred, rode out on horseback. In the afternoon the Prince and Princess received addresses of congratulation from the Archbishop, Bishops, and clergy of the Province of Canterbury in Convocation, and from the Bishop and clergy of the cities of London and Westminster. A deputation from the Grocers' Company had an interview with the Prince to confer the freedom of the Company on his Royal Highness. In the evening the Prince, accompanied by Prince Alfred and Count Gleichen, honoured the performance at Her Majesty's Theatre with their presence. On Wednesday morning the Prince of Wales and Prince Alfred rode on horseback. The Princess took a carriage drive. In the afternoon the Princesses Helena and Louisa and Prince Leopold arrived at Marlborough House from Windsor, and Prince Arthur arrived from Greenwich Park. Shortly before 4 o'clock the Prince of Wales went to the Horticultural Gardens and uncovered the memorial of the Exhibition of 1851 and the statue of the Prince Consort. His Royal Highness was accompanied by the Princess of Wales and other members of the Royal family. The procession was composed of six dress carriages, with an escort of Life Guards. On Thursday morning the Prince and Princess, accompanied by the Princess Mary of Cambridge and the Prince of Leiningen, went to Claremont, and returned in the afternoon to Marlborough House. In the evening the Prince of Wales dined with the Merchant Taylors' Company.

Visit of the Prince and Princess of Wales to Scotland.—The Aberdeen papers say that the Prince and Princess of Wales are expected at Abergeldie Castle about the end of July.

Approaching Visit of the Queen of Prussia.—A despatch from Berlin of Thursday says that on the departure of the King of Prussia for Carlsbad next week, the Queen will proceed to Windsor, at the invitation of Her Majesty Queen Victoria.

Marriage of the Duke de Chartres and the Princess Francoise d'Orleans.—The marriage of the second son of the late Duke of Orleans to his

[illegible] the daughter of the Prince de Joinville, took place on Thursday, according to the rites of the Roman Catholic Church, in the Chapel of St. Raphael, at Kingston-upon-Thames. The marriage being strictly private and domestic, no invitations were issued by the Royal family either in France or England. This did not, however, prevent a numerous gathering of attached friends of the House of Orleans, many of whom came spontaneously from France to offer their respect to the youthful Prince and Princess. The scattered members of the ex-royal family have been assembling at Claremont for some days past. The Duke de Montpensier arrived from Madrid on Saturday, his Duchess having been prevented from accompanying him by inability to bear the fatigue of the voyage. The Duchess of Saxe Coburg, accompanied by her two sons, the Princes Augustus and Philippe, reached Claremont on Tuesday, and on the following day Prince Philip of Wurtemburg joined the family circle. The [illegible] to the neighbourhood of Claremont extended to Kingston, where the inhabitants assembled in large numbers to witness the arrival of the bridal party at the chapel. From the entrance gate to the porch the chances of bad weather were provided against by a covered way, within which were stationed the children of St. Raphael's School, bearing baskets filled with rose leaves wherewith to strew the bridal path. The company provided with tickets for the chapel began to arrive at 10 o'clock, and in less than half-an-hour the edifice was fully occupied in every part, except that small portion reserved for the Royal party. Among the arrivals from London were the Austrian and Prussian Ambassadors, the Belgian, Hanoverian, Bavarian, Italian, Portuguese, Saxon, and Swedish Ministers, and a large number of French ladies and gentlemen. The members of the Orleans family arrived about half past 10. The Duchess of Saxe Coburg was the first to enter the chapel, accompanied by her sons, the Princes Philippe and Augustus. The Duke de Nemours, with his daughters, the Princesses Marguerite and Blanche d'Orleans, followed, and the Duke and Duchess d'Aumale, and the Duke de Montpensier, with Prince Philip of Wurtemberg, were all in their places at a quarter before 11 o'clock. Prince Edward of Saxe Weimar and the Prince of Leiningen came down from London, and joined the bridal party in the chapel. The Duke de Chartres arrived at a few minutes before 11, attended by his elder brother, the Count de Paris, as "groomsman." His Royal Highness gracefully received the greetings of his friends, and awaited at the altar the approach of his bride. Presently both young Princes returned to the porch to receive their venerable grandmother, the Queen Marie Amelie, whose entrance into the chapel was marked by a visible emotion, all present rising from their seats to pay her homage. Her Majesty advanced with dignified step up the centre aisle, leaning on the arm of the young bridegroom, and supported by the Count de Paris, the organ playing a voluntary. On reaching the altar the Queen and the Count de Paris knelt in devotion for a few moments, and then took their appointed places in front of the altar. Precisely at 11 o'clock the bishops and priests left the altar to meet the bride, who, accompanied by her parents, the Prince and Princess de Joinville, arrived from [illegible]. Kneeling at the altar, the youthful pair listened attentively to the religious exhortations addressed to them by [illegible], the Roman Catholic Bishop of Southwark, who, in a few brief and appropriate words, led their attention to the venerable relative whose presence graced their nuptials, and whose example he exhorted them to emulate. At the close of this address the Prince and Princess were admitted within the altar rails, when the Bishop demanded who gave each to the other. The Prince de Joinville answered for his daughter, and the Count de Paris for his brother, the youthful pair each acknowledging their response by a profound obeisance. The mutual plighting of troth followed, after which the Prince and Princess retired from the altar, and again kneeling in front of the rails received the benediction of the Bishop. The bride and bridegroom, with the Count de Paris and the Prince de Joinville, then entered the sacristy, where the usual record of marriage was signed and duly attested. On their reappearance in the chapel a musical mass was performed, at the close of which the Royal party returned to Claremont. Meantime the ladies of the neighbourhood had assembled in the grounds and on the steps beneath the portico of the mansion, where a number of children, each carrying bouquets of choice flowers, awaited the return of the bridal party. The bride's approach to the house was heralded by a feu-de-joie from a battery of guns, manned by an improvised corps of artillerymen, composed of young tradesmen of the neighbourhood, and when the young couple alighted they were affectionately greeted by the assembled spectators. The company present at the ceremony continued to [illegible] up to 1 o'clock, at which hour the Princesses Helena and Louisa arrived, having posted across from Windsor Castle. The Princesses were received by the Count de Paris and the Prince de Joinville and conducted to the drawing-room, where they offered their congratulations to the bride and bridegroom. The Duchess of Cambridge and the Duke of Cambridge were the next arrivals. At half-past 1 o'clock the approach of the Prince and Princess of Wales, the Princess Mary, and Prince Alfred was announced by a Royal salute, the band of the [illegible] Militia playing a few bars of the National Anthem. The Royal visitors were received by the Count de Paris, the Prince de Joinville and other members of the Orleans family. The Count de Paris led the Princess of Wales and the Princess Mary was conducted by the Prince de Joinville. Their Royal Highnesses first paid their respects to the Queen Marie Amelie, and then offered their congratulations to the newly-married pair. Previously to the déjeuner the Duke de Chartres, mindful of the pleasant [illegible] between his young bride and the neighbours among whom she had been nurtured from childhood, took occasion to present her to the visitors assembled in the vestibule. He said he thanked them with all his heart for the kindness they had shown to himself and his bride, and wished them every happiness [illegible]. At 2 o'clock the illustrious guests sat down to breakfast. The bride and bridegroom led the way from the drawing-room, the Prince of Wales following with the ex-Queen. The Count de Paris came next, leading the Princess of Wales. Prince Alfred followed, leading the Princess de Joinville, and then came the Prince de Joinville with the Princess Helena, the Duke of Cambridge with the Princess Louisa, the Duke d'Aumale with the Duchess of Cambridge, the Duke de Montpensier with the Princess Mary, Prince Edward of Saxe Weimar with the Duchess Augustus of Saxe Coburg, Prince Philip of Wurtemburg with the Princess Marguerite of Orleans, and the Prince of Leiningen with the Duchess d'Aumale. The other guests at the Royal table were Prince Augustus of Wurtemburg, and the Ambassadors and Ministers present at the marriage. The bride and bridegroom sat in the centre of the table, faced by the Prince of Wales and Queen Marie Amelie, and supported by the Princess of Wales and the Princess de Joinville. Towards the close of the déjeuner the health of the newly-married pair was [illegible] by the venerable Queen herself, who, with glass in hand, arrested general attention by emphatically calling upon her guests to respond to the toast, "A la santé du [illegible] et de la Duchesse de Chartres." The illustrious party [illegible] responded to the appeal, rising from their seats and greeting the young couple with every mark of affectionate esteem. After the déjeuner was concluded, the Prince and Princess of Wales and other members of our Royal family took an affectionate leave of the Duke and Duchess de Chartres, and departed on their return to London. At [illegible] o'clock the bride and bridegroom left Claremont on their way to Scotland.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street.

PARLIAMENTARY MOVEMENTS.—The New Ross election has terminated in the return of Colonel Tottenham, the Conservative candidate, by a majority of 2 over Mr. M'Kenna, the numbers being 81 to 79. The Kinsale election has terminated in the return of Sir George Colthurst by a majority of 14 over Mr. Fitzgibbon, the numbers being 62 to 48.

THE CROWN OF GREECE.—On Friday afternoon their Excellencies Baron Gros, Ambassador of France, Baron Brunnow, Ambassador of Russia, and M. de Bille, Minister of Denmark, signed the protocol of the formal acceptance of the Crown of Greece by His Royal Highness Prince William of Denmark. Earl Russell, as Secretary of State for Foreign Affairs, and their Excellencies at the [illegible] of the State document.

THE BISHOPRIC OF GIBRALTAR.—The Duke of Newcastle has appointed the Rev. Dr. Trower, formerly Bishop of Glasgow, to the vacant see of Gibraltar, on the recommendation of the Archbishop of Canterbury.

THE BISHOPRIC OF MADAGASCAR.—The Bishop of Cape Town has recommended to the [illegible] the appointment of the Rev. Mr. [illegible], the chief of the London Missionary Society's agents in Madagascar, as the first Bishop of the proposed new diocese.

THE CASE OF BISHOP COLENSO.—The Cape papers state that the rural deans of the diocese of Natal have [illegible] to the Bishop of Cape Town as Metropolitan, [illegible], and that the Bishop has informed them in reply, that if they frame articles against Dr. Colenso it will be his duty and that of the other Bishops of South Africa to summon the Bishop of Natal to answer them.

LORD LIEUTENANCY.—The Earl of Lichfield has been appointed Lord Lieutenant of Staffordshire, in the room of the late Lord Hatherton.

## Foreign.

FRANCE.—The *Moniteur* announces that the Minister of Foreign Affairs received on Wednesday evening the following despatch from M. de Montholon, Consul-General of France at New York:—

"New York, June 1.

"News from Havannah and Vera Cruz.—Puebla is in our hands. Ortega has surrendered without conditions, with 18,000 men."

Salvos of artillery were fired on Thursday at the Invalides in celebration of the capture of Puebla, and the Emperor yesterday received the congratulations of the Emperor of Austria and the King of Prussia on the victory. Subsequent despatches received in Paris add to the facts already known that immediately after the capitulation of Puebla General Forey despatched a division on the road to the capital in order to occupy the passes. The Paris evening papers state that the Mexican troops who were taken prisoners will be sent to the interior of the islands of Martinique and Guadaloupe. It had previously been resolved to send fresh reinforcements, to the number of 10,000 men, to Mexico, and orders had been given for four ships of the line, three transports, and two or three steam frigates to be got ready to convey them to Vera Cruz. The *Moniteur* publishes an official announcement on the steps taken to ensure the supply of provisions and munitions to the troops in Mexico. On April 19 the army was furnished with [illegible] for six days, the removal of which was easily effected. Independently of the [illegible] from St. Nazaire, the Minister of Marine has organised a ship service, leaving Cherbourg or Toulon on the 20th of every month, carrying out supplies and bringing back the sick. M. Havin, director of the *Siècle* newspaper, and the Opposition candidate for the representation of La Manche, has been returned for that department. MM. d'Andelarre and Marmier have been elected in the department of Haute Saone. The *Pays* says that Prince Napoleon after leaving Egypt will proceed to Constantinople with the intention of removing or lessening the difficulties attending the question of the Suez Canal. Senhor de Moreira, late Brazilian Minister in London, will reside in Paris until the settlement of the dispute between England and Brazil.

PORTUGAL.—The feeling against the Ministry appears to be gaining ground in the north of Portugal. The discussion of the Budget has terminated, but the chief clauses, having been referred to the committees, must again undergo discussion. The bill augmenting the tax on property, and rendering it compulsory for officers and soldiers to go on foreign service, has been passed. The King has given a grand dinner party at the [illegible] Palace in celebration of the birthday of Queen Victoria. The corvette [illegible] has been sent to cruise in the waters of the Azores, to look after the American vessels of war.

SWEDEN.—Advices from Helsingfors state that great excitement prevails there. The Governor of Finland has again asked the citizens to sign the address of allegiance to the Emperor of Russia, but they have declined to do so.

DENMARK.—The King on Saturday received the Greek deputation at Christiansborg in solemn audience, in order to announce to them the acceptance of the Crown by Prince William. His Majesty was attended by all the Princes of the Royal House, the Ministers and entire Court, the high functionaries of the kingdom, and the ambassadors of England, France, and Russia. Admiral Kanaris, the spokesman of the deputation, read in Greek the decree of the National Assembly electing Prince William to the Crown. The King of Denmark replied as follows:—

"We accept for our young relative, the crown to which he has been called by the Greek people. [illegible] [illegible]"

Turning to Prince William, the King continued:—

"[illegible] If you make your [illegible], you and your people will prosper."

The King then took up the insignia of the Order of the Elephant, and advanced to the Prince, saying:—

"[illegible] a Knight of the order of the Elephant."

The King next conducted the Prince to the highest step of the throne, kissed him three times, and said with deep emotion and hearty kindness:—

"Receive the blessing of your King, and may God be with you."

King George subsequently gave audience to the deputation at the palace of Prince Christian. Admiral Kanaris made a speech, concluding as follows:—

"Greece is convinced that your Majesty is filled with a sense of the high duties to which you are called, and will devote yourself to the welfare of the country and the development [illegible]"

King George replied:—

"[illegible] the attainment of our common object—the

happiness of Greece. I have grown up in a country where legal order is combined with entire constitutional freedom, and which has thereby attained large and [illegible]. The lessons I have here received shall accompany me to my new country, and I shall always keep in view the motto of the King of Denmark, 'The love of the people is my strength.'"

The new King of the Greeks was much cheered by the people upon leaving the Castle of Christiansborg. In the evening a grand banquet was given by the King of Denmark, at which 250 guests were present. His Majesty proposed the health of King George of Greece, saying that he had always himself endeavoured to find happiness in the love of his people, and that he advised the young King to follow the same course. King George replied that he would faithfully observe his Majesty's advice, and that it should be his constant endeavour to do honour to the land which had given him birth. On Sunday the Greek deputation had an audience of the King of Denmark, at which his Majesty conferred high Danish orders upon its members. The deputation left Copenhagen on Tuesday. The young King will not leave before the end of the year. A matrimonial alliance between his Majesty and the royal family of England is spoken of. An identical note has been sent by the Cabinet of Copenhagen in reply to the notes addressed by the Austrian and Prussian Governments in that of February. In this reply to the two Governments, the Danish Cabinet, in a courteous but decided manner, refuses to make any alteration in the ordinance of March 30. It says:—

"The tenor of the patent of the 30th March does not furnish a pretext for any demand whatsoever on the part of the Germanic Confederation, inasmuch as the recent Royal measures do not [illegible] the position of Holstein towards Denmark. The Federal [illegible] and [illegible] have left no choice to Denmark. The patent of the 30th March must be maintained, or the Danish monarchy must become [illegible]."

BELGIUM.—It was reported last week that the King of the Belgians was again in a very critical state, and the accounts received privately from Brussels were of an alarming nature. It is now said that these rumours are entirely unfounded. His Majesty's health, although not robust, is in a satisfactory condition.

PRUSSIA.—The Crown Prince and Crown Princess of Prussia arrived at Dantzic on Friday, and paid a visit to the Rathhaus, where they were received by the municipal authorities. The chief magistrate having expressed his sorrow that circumstances would not permit the manifestations of public rejoicings at the visit of their Royal Highnesses, the Crown Prince replied:—

"I also regret that I have come here at a time when disagreement has taken place between the Government and the people, the news of which surprised me greatly. Being absent, I was unaware of the ordinances which have brought about this position of affairs and took no part in the deliberations when they were resolved upon. But we are all convinced—and no one better than I, who know the noble and patriotic sentiments of the King—that Prussia, under His Majesty's sceptre, is securely approaching the greatness which Providence has marked out for her."

The Chief Magistrate, Herr Winter, replied to the speech of his Royal Highness by calling upon those present to give three cheers for the King and the Crown Prince. The Municipality of Berlin on Friday resolved to agree to the proposition made on the previous day by the Common Council, to send an address to the King, of which the following is a summary:—

"The address calls the attention of his Majesty to the prejudicial consequences of promulgating the recent ordinance on the press, and of carrying on the Government without a settled Budget. It represents the unfavourable influence of the long protracted constitutional conflict upon the relations of property, trade, and the public credit, and concludes by requesting the King to reestablish the constitutional state of affairs by a speedy convocation of the Diet."

At the sitting of the Municipality on Tuesday, a Royal decree was read definitively prohibiting the execution of the resolutions determined upon by the common council on the 4th inst. Motions for complaint to the Chief President and for the issue of an address to the Crown having been successively negatived, it was resolved simply to refer the Royal decree to a committee, whose report is looked for with great interest. It is said that the Government threatened to suspend the Burgomaster, but the Crown Prince interfered, and caused the order for suspension, while on the point of being issued, to be recalled. The Common Council of Breslau has decided upon sending a deputation to the King, to petition his Majesty to withdraw the late press ordinance, and to convoke the Diet. The chief magistrate, Herr Elwanger, opposed this proceeding most energetically. The deputation left for Berlin on Thursday. The Minister of the Interior has issued an order to the Governors of the provinces relative to the discussions of municipal councils on constitutional affairs, and politics in general. The order says that such discussions being illegal cannot be tolerated, and that the resolutions passed by the councils cannot be carried out. The Minister expects that the authorities will exercise with energy the disciplinary powers with which they are invested in respect to the municipalities. The committee charged with making preparations for the statistical congress at Berlin have decided upon petitioning the Ministry to postpone the congress for one year, on account of the present state of political affairs.

AUSTRIA.—The Emperor received the reigning Duke of Saxe Coburg Gotha in audience on Wednesday. At a Council of Ministers held on Tuesday, the proposals of the Western Powers on the Polish question were taken into consideration. No concurrence with these propositions was however arrived at. Austria will send counter-proposals of a mediatory character to Paris. It is said that the proposals of the Western Powers contained the following points:—

1. A general amnesty offered to all insurgents, including the leaders. 2. An amnesty having a retrospective action for 15 years, and including all Polish State prisoners, emigres, and exiles. 3. The obligation on the part of Russia not to increase the military force in Poland for the next 15 months. 4. A complete autonomy and independent administration for Poland.

HUNGARY.—The assembling of Hungarian officers in the Principalities has caused uneasiness at Pesth, where revolutionary pamphlets are in circulation. The majority of the people are quiet, but it is feared that they may be led away by the exertions of agitators. The house of a tailor in good business has been searched by the military, and papers of a seditious kind having been found he was made prisoner. Several other arrests have taken place.

RUSSIA.—Prince Gortschakoff actuated with the desire of giving immediate publicity to his reply to Mr. Seward's note on the Polish question, has, instead of transmitting it in the regular way to the Russian Ambassador in America, sent it to Mr. Clay, the American Minister resident at St. Petersburg. In this reply, Prince Gortschakoff expresses the warmest sentiments of gratitude on the part of the Emperor Alexander towards the American Government. The Municipal Council of Moscow has resolved upon the formation of a civic militia and thousands of citizens enrolled themselves in the first two days.

POLAND.—The Bank of Warsaw has been robbed of 5,000,000 roubles, consisting mostly of bonds. It appears that the Commissioners of the Exchequer, on examining the government treasury, discovered that Russian Bank notes, Polish Bonds, and gold half-imperials, to the amount of 5,000,000 silver roubles, had been abstracted. In their place was left a receipt signed by the national government. Four officials, and the books in which the numbers of the missing bonds were entered, had also disappeared. It is said that all the telegraphic lines leading from Warsaw have been destroyed. On the repeated requests of the Archbishops of Posen and Gnesen, the Pope has ordered a grand jubilee to take place in the diocese of Posen, commencing upon the 20th inst. The jubilee is intended to celebrate the thousandth anniversary of the introduction of Christianity into Poland by Cyrillus and Methodius. The Church Festival of Corpus Christi Day at Warsaw has passed off with the utmost tranquillity. The procession consisted of 50,000 persons, and neither police nor military were paraded, the National Government having pledged itself for the orderly observance of the day. On the 29th ult. an engagement took place at Grochowy, in the palatinate of Kalisz, in which the Russians were defeated by the insurgents with great loss. They returned however to the attack on the following day at Slawiszyn, when they were again defeated. Another encounter took place on the 31st ult. at Bendzewo, in which several waggons full of Russian soldiers were driven across the frontier into Prussian territory, where they were received by the authorities, and cantoned at Pleszewo. Upon the 31st ult. the insurgents under Lelewel attacked the Russians under General Goscirad between Zawichost and Zaklikow. The Russians were defeated with considerable loss, while the insurgents had 15 killed and 18 wounded. Czachowski with his forces having joined the band of Konowitz, have defeated the Russians near Pilica, in the government of Radom. Engagements, terminating favourably for the insurgents, have taken place in Wyszogrod and Balwierzyski, in the kingdom of Poland, and at Horke in Lithuania. Koziello, the leader of a band of insurgents, fell at Wladyki on the 28th ult. Advocate Trzetrzewinski has been arrested at Warsaw. The Russians have shot the Abbé Iszola at Wilna. The well-known Lithuanian leader, Sierakowski, who had fallen into the hands of the Russians, has died of his wounds. The Polish leader Kononowicz has been captured by a stratagem, and is about to be shot. His band remains undiminished. 5,000 of the Imperial Guard have been despatched from St. Petersburg to Lithuania. A frightful accident happened to a train conveying a portion of the troops caused by the railway giving way. 300 soldiers were killed. M. Wolowski, late Minister of Justice in the kingdom of Poland, has been arrested at Warsaw.

ITALY.—The Treaty of Commerce between England and Italy was signed on Thursday. The State trials at Rome have terminated in the conviction of the prisoners. Chevalier Fausti and Signori Venanzi and Galmanelli are condemned to 20 years, and the other five to 15 years' imprisonment. The inauguration of the railway from Naples to Eboli has been celebrated by a banquet. Signor Tecchio, the representative of the railway company, drank the health of the King, and expressed his hope that Rome and Venice would soon be included within the Italian kingdom. The speech was received with enthusiastic applause, and cheers for the unity of Italy.

GREECE.—It is stated from official sources that the following are the conditions attached to the acceptance of the throne of Greece by Prince William. The Danish Government agrees to the amount fixed for the civil list of the young King, namely, 48,000*l*. The English Cabinet accedes to this point. The English Government, however, are opposed to the departure of the Prince for Greece before he attains his majority, which will happen at the end of the present year. The Danish Cabinet yielded this point, but desired—1st. The immediate cession of the Ionian Isles; 2d. The presence of an English fleet in the Piræus for a long-termed period; 3d. A Regency during the King's minority, the Regent to be an Englishman. On these points negotiations are still going on. On the night of the 22d a revolutionary movement at Athens was prevented by the intervention of an armed force. The soldiers continued to commit excesses in the provinces of Greece. Public order had been disturbed in several places. Several parts of the country were infested by brigands.

TURKEY.—Five ex-Chamberlains have been exiled to Barbary on account of frauds discovered to have been committed by them upon the Civil List. The investigation into the charges against the late Ministers Riza, Hasseib, and Saffeti Pasha has been commenced.

EGYPT.—Prince Napoleon paid a visit to the Suez Canal on the 18th ult. At a banquet given to him at Suez, the Prince, in proposing the health of the Emperor, said that he was the protector of every enterprise that added to the glory of France. He declared his firm belief that the Suez Canal would soon be a *fait accompli*, and said that M. Lesseps was one of the best friends of his country. M. Lesseps proposed the union of France and England.

COAST OF AFRICA.—The King of Ashantee has invaded the protected countries on the Gold Coast, in consequence of the refusal of the English Government to deliver up to him a fugitive captain who was accused of stealing rock gold, and who had sought protection in British territory. Commodore Wilmot, and the officers and men of Her Majesty's ship Rattlesnake, had intrenched and garrisoned Cape Coast Castle and the environs, and assistance had been demanded from Gambia and Sierra Leone by Governor Pine.

INDIA.—Lieutenant Jackson, of the Bengal Engineers, has been sentenced to four years' penal servitude for beating his native servant to death.

CHINA.—Fooshan has surrendered to an attack by the Anglo-Chinese force under Major Gordon, and the siege of Chang-zu has been raised. Taitsan also has surrendered, and its garrison has declared for the Imperialists.

JAPAN.—Colonel Neale, her Majesty's Chargé d'Affaires, has addressed the Tycoon on the subject of the last two outrages on foreigners, viz., the attack upon the British Legation on the 26th of June, when two of the guard from her Majesty's ship Renard were murdered; and the assassination of Mr. Richardson on the Tokaido in September. For these outrages Colonel Neale demands reparation, the principal clauses of the ultimatum comprising, "the trial and capital execution of the murderers of Mr. Richardson; a heavy pecuniary penalty on Japan for that offence; and a considerable compensation for the sufferers or their surviving relatives." Should these demands not be complied with, Colonel Neale reserves to himself the right of adopting coercive measures of a nature "proportioned to the degree of ill-advised obstinacy or resistance which the Japanese Government may assume." In order to give weight to these demands a fleet is assembled in the harbour of Yokohama, under the command of Admiral Kuper, consisting of the Euryalus, Pearl, Argus, Centaur, Rattler, and Racehorse, with the gunboats Havoc and Kestrel; these would shortly be joined by Her Majesty's ships Ringdove, Encounter, Scout, and Coromandel, with the gunboat Hesper. Two Dutch and two French vessels of war were also present with the English fleet. The Perseus and Leopard were in Hong-Kong harbour, and would probably join the admiral's fleet as soon as they could be got ready. The ultimatum was sent in on the 6th April, and 20 days allowed for a reply, but none had arrived up to the 17th. The mayor of Kanagawa is said to have stated to the admiral, that the Tycoon's Government was not strong enough to arrest and punish Shimadzoo Sabaro, father of Prince Satzuma; he was one of the murderers of Mr. Richardson, and it will be recollected that the Tycoon then expressed his comparative helplessness in the case. In the present emergency it is alleged that the mayor of Kanagawa has suggested that satisfaction should be taken from the Prince of Satzuma himself, by the seizure of the Loo Choo Islands, which are his property, and yield a revenue of half a million sterling per annum.

AUSTRALIA.—The proceedings of the Intercolonial Conference, for the adjustment of the commercial relations of the different colonies, were brought to a close on the 13th of April, but the conclusions arrived at do not seem to be regarded with much favour. On one point alone was the conference unanimous, and that was in protesting against the transportation of criminals to Australia.

UNITED STATES.—General Grant landed at Brulensburg on the 30th April, and on the 1st May defeated General Bowen's army at Port Gibson, capturing 1500 prisoners and 5 guns. On the 12th he defeated the Confederates at Raymond, the latter losing 800 men. On the 14th he defeated General Johnstone at Jackson, with a loss of 400 men, stores, and 17 guns. On the 16th he fought a bloody and decisive battle at Baker's Creek, defeating the entire Vicksburg army, under

General Pemberton, with a loss of 29 guns and 4000 men. On the 17th inst. he defeated the same force at Black River Bridge, the enemy losing 2600 men and 17 guns. On the 18th he invested Vicksburg, and on the 19th General Steele carried the rifle pits on the north of the city, the right of General Grant's army resting upon the Mississippi, above Vicksburg. On the 22d the Federals were completely repulsed at all points of the line, and compelled to intrench and dig rifle pits. A furious battle was fought on the 25th. The latest news to the 27th says that the Federals had been repulsed in three assaults. The last assault was made by General Sherman with 20,000 men, and he lost 600 killed and a large number wounded. The Federal outer lines were within 100 yards of the Confederate works. The Confederate fortifications consist of a chain of forts 800 yards apart, connected by deep intrenchments, and extending several miles. It is supposed that regular siege operations will be necessary to capture the city. Apprehensions are entertained of an attack on General Grant's rear, as General Johnstone was reported to be in the neighbourhood of Jackson with 15,000 men, short of provisions. Southern journals assert that two gunboats had been sunk at Vicksburg, and that General Banks had crossed the Mississippi at Bayou Sara, seven miles above Port Hudson. Admiral Porter arrived in the Yazoo River on the 15th to co-operate with General Grant. Ascertaining on the 18th that the latter was approaching the rear of Vicksburg, he immediately opened communications with him by way of the Yazoo River. The Admiral then sent the gunboats to Haines Bluff, which the Confederates were evacuating, leaving their guns, forts, and tents, which Admiral Porter captured. The fortifications and rifle pits at Haines Bluff extended a mile and a quarter. Admiral Porter destroyed all the works, encampments, and gun carriages, and then pushed the gunboats up the Mississippi from below, and opened fire on Vicksburg. On the 19th he placed the mortars in position, with orders to fire night and day as rapidly as they could. He also sent gunboats up to Yazoo City, and officially reports that he has destroyed the navy yards at that place, together with three powerful steamers, a formidable ram, all kinds of machinery, and property valued at 2,000,000 dols. Southern accounts assert that the Vicksburg army can hold the city in defiance of the Federals, that six attacks have been repulsed, and express confidence that General Pemberton can hold out until reinforcements reach him. General Johnstone is reported to have stated that if Vicksburg could hold out 14 days he would furnish reinforcements of 100,000 men, even if it required that he should relinquish all the territory of his department. It is believed that he is massing a large force in the vicinity of Canton, north of Jackson, for the purpose of making a sudden and overwhelming descent upon General Grant's rear, and compelling him to abandon the siege and take refuge in his gunboats. The Confederates are crossing the Rappahannock. General Lee has issued orders informing the troops they were about to have long and rapid marches in a country without railroads, and warning them to prepare for severe hardships. Large columns are moving in the direction of Culpepper, but whether to make a raid into Maryland or to get between Hooker's army and Washington is not known. Two divisions of the Confederate army fronting General Rosencranz are reported to be moving slowly forward. The Confederate plan of campaign for the present year is said to be the defeat of the armies of Generals Hooker, Rosencranz, and Grant at points as far south as those Generals can be enticed, and an invasion of the north through Ohio and Pennsylvania. Despatches from Murfreesborough state that the Confederate General Marmaduke was reported to have captured Helena, Arkansas, and many negro soldiers, all of whom, together with their officers, he had hung. The public await further advices before crediting this report. General Burnside has informed General Bragg that he should hang ten Confederate officers if the Confederates retaliated for the two whom General Burnside asserts were spies, tried and condemned in accordance with the usages of war. President Lincoln having commuted the sentence on Mr. Vallandigham to transportation from the Federal States, he was delivered into the Southern lines, near Shelbyville, where he now remains at General Bragg's headquarters. President Jefferson Davis is reported to have telegraphed that if Mr. Vallandigham would not take the oath of allegiance to the Southern Confederacy he must be returned to the Federal lines. Mr. Seward's reply to the French note, inviting the American Cabinet to join diplomatic action with the great Powers in favour of Poland, refuses the co-operation of the Washington Cabinet on the ground that America can never deviate from her traditional policy of non-intervention, except in cases of evident necessity. The Great Eastern arrived off New York on the 27th ult. in 11 days from Liverpool.

CANADA.—The *Canada Gazette* contains the proclamation dissolving Parliament. The writs are returnable on the 3d of July. The Governor-General has sworn in the new Ministry as follows:—J. Sandfield M'Donald, Attorney-General West; W. M'Dougal, Commissioner Crown Lands; Oliver Mowat, Postmaster-General; Lewis Wallbridge, Solicitor-General West; W. P. Howland, Receiver-General; A. J. Ferguson Blair, Provincial Secretary; L. H. Holton, Finance Minister; A. A. Dorion, Attorney-General East; Letellier de St. Just, Minister of Agriculture; M. Thibadeau, President of the Council.

MEXICO.—The *Havannah Diary* of the 26th ult. reports the arrival at Havannah of the French war steamer Doria from Vera Cruz, with despatches from General Forey, announcing the occupation of Puebla by the French on the 17th ult., and the unconditional surrender of General Ortega with all his forces.

# Parliament.

## HOUSE OF LORDS.

FRIDAY.—*Duchy of Cornwall Management Bill.*—The Duke of NEWCASTLE having moved that the House go into committee on this Bill, Lord CHELMSFORD objected to certain privileges which it proposed to enable the Duke of Cornwall to confer on the Methodists.—The Duke of NEWCASTLE explained the state of religious feeling in the county, and showed the strong necessity and propriety of assenting to the clause, which was ultimately agreed to. The Bill then passed through Committee. In reply to a question by Lord St. LEONARDS relating to the *Royal Victoria Asylum*, the Duke of NEWCASTLE briefly stated what steps were about to be taken for the reappointment of the ladies' committee. The *Vaccination (Ireland) Bill* and the *Bakehouse Regulation Bill* were read a second time.

MONDAY.—Lord BROUGHAM laid on the table a Bill for the Establishment of *Courts of Reconciliation.*—The Earl of ELLENBOROUGH, in asking information as to the present state of the *Negociations respecting Poland*, said that he did not consider he was premature in bringing this subject before the House, as it demanded discussion on the grounds of humanity and justice. The condition of Poland was dangerous, not only to Russia, but to all Europe, for the weakening of Russian influence tended to the destruction of the balance of European power. The more the present state of things was prolonged the greater would be the difficulty of applying a remedy, and he as a friend of Russia as well as of Poland desired to see it ended. Having discussed at some length the impracticable course pursued by the Congress of Vienna in annexing a constitutional kingdom to a despotic Government, he censured the few efforts Russia had made to overcome the difficulties thereby created. It was impossible, however, that there could be a good Government in Poland as long as the Emperor of Russia exercised direct authority: and he expressed a hope that if it were proposed to allow the Poles to manage their own internal affairs under the sovereignty of a Prince belonging to the Imperial family, England and the other Powers would willingly assent to such an arrangement. In conclusion, he scouted the notion of an armistice, and advised the Poles to persevere with arms in their hands until they had secured their liberty and obtained their just rights.—Earl RUSSELL said that since the replies given by the Russian Government to the notes of the three Powers, France and Great Britain had agreed on certain propositions to be made to Russia, and had referred them to Vienna for the assent of the Austrian Government. Such being the case it was as yet hardly fair to discuss them. He then entered at some length into the question raised by Lord Ellenborough as to the wisdom of the course adopted by the Congress of Vienna in regard to Poland and Russia, and detailed the reasons by which Lord Castlereagh had been guided on that occasion. Our present position was to be bound by the treaty of 1815, and it would be the duty of her Majesty's Government to propose terms consistent with that treaty for the advantage of Poland, and to endeavour to conduct the negotiations in such a manner as to preserve the general peace. The Poles would be no gainers by a general war, nor could he see what object the British Government could hope to attain, should it ever enter upon one.—The Duke of RUTLAND thought that the Emperor of Russia, by enforcing the conscription at Warsaw, was only desirous of getting rid of disaffected subjects, in order that he might at once introduce the constitution.—Lord Brougham, judging from the previous benevolent character of the Emperor of Russia, considered it was unfair to impute the conscription to him, although he ought to have repudiated that act instantly. He trusted it might be possible to give a constitution to Poland, and he hoped if a constitution were offered that the Poles would not hesitate to accept it.—Lord STRATFORD DE REDCLIFFE hoped that the Poles would not accept a constitution without guarantees from Russia. He doubted, however, whether there could be any security for peace unless Poland were made independent.—Earl GREY thought that if we did not mean to interfere with arms, diplomacy on our part would only aggravate the evils we sought to remedy. *Prison Ministers' Bill.*—The Duke of SOMERSET, in moving the second reading of this Bill, briefly explained the object of the measure, and dwelt on the propriety of providing for the spiritual wants of Roman Catholic prisoners.—Lord BERNERS thought the Bill unnecessary and mischievous, as it would put the Roman Catholic on an equality with the Established Church. He moved that the Bill be read a second time that day six months.—The Earl of DERBY said his opinion of the policy and justice of the Bill was so strong that, however much he lamented to differ from many of his friends, he felt bound to give a vote in its favour. He appealed to the life-long support he had given to the Established Church as a proof that he would not consent to any measure mischievous to its interest, and he denied that the Bill would place the Roman Catholic Church on an equality with the national establishment. The state of the law was unjust to Roman Catholic prisoners, and was only rendered not intolerable by the good sense of the magistrates, who *proprio motu* allowed prisoners to send for ministers of their own persuasion. He could not for one moment admit that because the teaching of Roman Catholicism was considered erroneous, therefore no Roman Catholic chaplain should be provided; because, whatever he might think of the errors of the Roman Catholic Church, there was no doubt that the ministrations of that church were alone acceptable to those who believed in it; and it would be most unjust to expect that Roman Catholic priests should attend their co-religionists without payment.—The Earl of HARROWBY thought the Bill would raise a new spirit of discord through England, and therefore opposed the Bill.—Lord CHICHESTER supported the Bill, but objected to its permissive nature, as it would render it inoperative.—The Bishop of LONDON did not know where, if this measure were passed, the principle it laid down would stop, as the same arguments would be used for introducing Roman Catholic priests into workhouses. The present state of the law gave every facility to Roman Catholic prisoners, and he could not understand why the *status* of a prison chaplain should be given to Roman Catholic priests in order to do that which they could do now.—Lord CORK, Lord ARUNDEL, and Lord DONOUGHMORE supported the Bill.—The Bishop of CASHEL opposed it. On a division the numbers were—for the second reading, 65; against, 30; majority, 35. The Bill was then read a second time.

TUESDAY.—*Throne of Greece.*—Earl RUSSELL laid upon the table the papers relating to Greece, and stated that Prince William of Denmark had accepted the Crown, and that his title had been recognised by the Great Powers, who would do all they could to get him recognised by other Governments. Among the papers would also be found the communication which had been made to the Powers with respect to the intention of her Majesty to cede the Ionian Islands to Greece.—The Earl of CARNARVON moved the second reading of the *Security from Violence Bill* sent up from the Commons, and the object of which, he reminded their lordships, was to inflict the punishment of flogging upon persons committing garotte offences.—Lord CRANWORTH moved as an amendment that the Bill be read a second time that day three months. He condemned it as a retrograde measure, which would do more harm than good. The present law would, he thought, be quite sufficient to punish offenders without a resort to panic legislation.—Earl GRANVILLE supported the amendment, for he could not approve of the Bill, although it had been passed by the other House of Parliament with large majorities; but, looking at the crowded state of the Opposition benches, he thought it would be useless to persist in opposing it further. After a few words from the Earl of HARDWICKE and HARROWBY, the Bill was read a second time without a division. On the report of amendments to the *Duchy of Cornwall Management Bill* being brought up, a long discussion ensued on the powers taken in the Bill for making grants of land for Dissenting Chapels, the Earl of DERBY expressing his opinion that the blocks of land in many instances for church, school, and parsonage-house would amount to an endowment. Ultimately the further consideration of the report was postponed to Friday.

THURSDAY.—*Case of Sergeant-Major Lilley.*—The Earl of SHAFTESBURY gave notice that on Monday he would ask whether the Government intended to institute a further inquiry into the conduct of Colonel Crawley, of the 6th Dragoon Guards, in reference to the death of Sergeant-Major Lilley.—The Earl of CARNARVON asked Earl Russell whether he could give any further information with respect to the nature and provisions of the recent *Convention between the Governments of Russia and Prussia.* He considered that the interference of the Prussian Government was a needless aggravation of the deplorable struggle now going on, and although the Prussian Government chose to merge its constitutional forms in those of a despotism, it was a matter for which it was responsible to Prussians only. Still, if they violated the principles of international law, as they had done in aiding Russia, they were responsible to the other Powers of Europe, especially to those who were parties to the treaty of Vienna. Although the Prussian Minister declared that the convention was not ratified, Sir A. Buchanan had declared that it was virtually in force, and the admission of the Government confirmed this opinion. It also appeared that the copy shown to Sir A. Buchanan by Count Von Bismark differed from that shown at St. Petersburgh to Lord Napier, who had ascertained that there was a secret article which had not been alluded to by Count Von Bismark. Such equivocation was very unworthy of the Prussian Government, whose policy was dangerous to itself, and fraught with mischief to Europe at large.—Earl RUSSELL said he could not add anything to the information contained in the papers already laid before Parliament. The noble earl had truly described the convention as being represented at Berlin as solely a military one, entered into at the request of Russia, whilst at St. Petersburg it was represented as entered into at the request of Prussia. In fine, there were all sorts of contradictions and mystery in reference to the terms of the convention, and whether it was a military one, or whatever it might be termed, it went beyond the arrangements which Prussia would be justified in making to prevent the insurrection extending into Prussian Poland. The *Bakehouses Regulation Bill* was read a third time and passed.

FRIDAY.—*The Statute Law.*—The LORD CHANCELLOR rose to call attention to the present state of the Statute Law and of the reports of decisions in the Courts of Law and Equity, and to introduce a Bill for the revision of the statute law. The object of the measure would be to insure a greater certainty in legal decisions—that a case might be decided according to the statute rather than by precedent. In asserting the necessity of such a measure, he quoted statements made by Lord Eldon, Lord Ellenborough, and other learned lords in giving judgment in cases which had come before them, all bearing evidence to the glorious uncertainty of the law.

[Left speaking.]

## HOUSE OF COMMONS.

FRIDAY.—*Public Works.*—On the order for going into Committee of Supply, Mr. B. COCHRANE moved as an amendment, that for the sake of obtaining greater unity of design in our public buildings, and with a view to efficiency and economy, it is desirable that a permanent commissioner of public works and buildings should be appointed. He drew the attention of the House to many of our public buildings and monuments, to show the manner in which those works had been carried on, and the enormous excess of expenditure thereon beyond the estimates, caused, he contended, by the constant changes in the management of the Board of Works; and he thought the appointment of a permanent Commissioner would be an important step in the reform of the management of Public Works.—Mr. COWPER defended the administration of the Board of Works, and said that the greater portion of the extravagant expenditure complained of had been incurred when the Chief Commissioner was a permanent officer and not responsible to Parliament. He granted that there was an advantage in favour of permanency; but that was counterbalanced by the commissioner being in such case removed from Parliamentary influence, and his department not represented in the House of Commons.—Sir J. SHELLEY was convinced that, looking to the interests of the country, as regarded expenditure, it was expedient that there should be a permanent Commissioner of Public Works.—Sir M. PETO said what was wanted here was what they had in France—a person able to deal with questions in relation to public works, without causing disappointment. He desired to see a reform of the whole department; that the Board of Public Works should be really a department of public works.—Lord J. MANNERS said that there was already a permanent officer in the Board of Works, and that in his opinion the appointment of a permanent commissioner was not called for. The motion was then withdrawn. *Ordnance Survey.*—In answer to Mr. H. BAILLIE, the Marquis of HARTINGTON said that the men employed on the Scotch survey had been removed for the purpose of completing the surveys of the south-coast for the new fortifications, but they would immediately resume their duties in Scotland. *Electric Light at Portland.*—Lord LOVAINE asked if it was intended to adopt the electric light at Portland.—Mr. M. GIBSON said the Board of Trade had no power to introduce new lights along the coast, but he understood that Professor Faraday had reported to the Trinity Board that it would not be expedient as yet to rely exclusively on the electric light. For his own part he considered that the experiment of the light at Dungeness was most satisfactory.—Sir J. PAKINGTON urged the great advantage that would result from the employment of the light. After some observations from Lord H. VANE and Mr HENNESSY, the subject dropped. *Case of Sergeant-Major Lilley.*—Mr. FORTESCUE called attention to the circumstances attending the death, after four weeks imprisonment, of regimental Sergeant-Major Lilley, of the 6th Dragoons, at Mhow, in India, on the 25th May, 1862, and to the imprisonment at the same time, for a still longer period, of Troop Sergeant-Majors Duval and Wakefield, of the same regiment, without either of the three having been brought to trial, or any formal charge having been preferred against them, and asked whether Colonel Craw-

ley, the commanding officer, under whose authority these transactions took place, was still permitted to command the regiment. He described the circumstances under which Lilley and his wife had died, and observed that, although redress and reparation were now out of the question, it was not too late for punishment—such punishment as he hoped the indignant voice of the House of Commons would mete out to him. He added that, should Colonel Crawley return to England, it was the intention of the friends of the late Sergeant Lilley to indict him for manslaughter.—Mr. CONINGHAM considered that Colonel Crawley was a disgrace to her Majesty's service, and that if the Duke of Cambridge retained him in the service his royal highness was unfit to command the British army.—The Marquis of HARTINGTON entered into a long statement of the circumstances which had led to the imprisonment of Sergeant-Major Lilley, which he admitted to have been a most unfortunate and tragic circumstance. The Judge-Advocate-General had given his opinion that there was not sufficient ground for charging Lilley with conspiracy or for sentencing him to imprisonment. It was, however, necessary to remember that Major-General Farrell was superior to Colonel Crawley, and that Sir William Mansfield was superior to Major General Farrell. An inquiry would, however, be instituted into the conduct of Colonel Crawley upon some of the collateral circumstances arising out of the transaction, and an allowance similar to the pension to which Sergeant Lilley would have been entitled would be given to his family.—Alderman SIDNEY hoped that there would be a most searching inquiry, for he believed that nothing short of the dismissal of Colonel Crawley would satisfy the public.—Colonel BARTTELOT said that Colonel Crawley courted the fullest inquiry into the charges brought against him.—Mr. Serjeant PIGOTT asked who was to blame if Colonel Crawley was not.—Captain ARCHDALL, as an old Inniskillinger, hoped the inquiry would have the effect of restoring the character of the regiment, and that the guilty parties, whoever they were, would be brought to justice. The House then went into committee of supply on the *Civil Service Estimates*, commencing with the vote of 80,000*l*. for *Alderney and Dover Harbours of Refuge*, which Mr. LINDSAY moved should be struck out, on the ground that the works were wholly useless and a source of danger rather than of security to shipping. After some discussion, during which Sir J. ELPHINSTONE said that the expenditure of a million of money on Alderney harbour had produced nothing but a perilous shoal, the committee divided, when the vote was agreed to by 76 to 62. Another long debate arose on the vote for *Holyhead and Portpatrick harbours*, with reference to the sum of 5000*l*. for the latter harbour, the vote being ultimately agreed to. Other votes were likewise agreed to, after much discussion, and the CHAIRMAN was ordered to report the resolutions. The *Inland Revenue Bill*, on the report, received further amendments. The *Report of the Committee of Supply* was brought up and agreed to. On the order for the third reading of the *Drainage and Improvement of Land (Ireland) Bill*, Mr. HENNESSY moved that the Bill be recommitted. After some discussion the debate was adjourned. Several Bills were forwarded a stage.

MONDAY.—On the order for going into a Committee of Supply, Mr. GREGORY moved a resolution that the *Royal Botanical Gardens at Edinburgh* should be open to the public after the hours of Divine service on Sundays, as is the case of other botanical gardens supported by Parliamentary grants. He urged the success that had attended the experiment elsewhere, and mentioned facts which showed the manner in which signatures had been obtained to a petition against the proposal. —The LORD ADVOCATE opposed the motion, on the ground that there was no necessity for a measure that would give offence to a large portion of the community in Scotland. He pointed out distinctions between the cases of the Dublin and Edinburgh gardens.—Mr STIRLING supported the motion. He admitted that a large majority of the clergy of Scotland opposed the proposal, but he did not believe that they represented the intelligent opinion of the laity. He stated additional facts, showing the scandalous mode in which petitions were got up. —The resolution was supported by Mr. G DUFF, and opposed by Mr. BLACK, Mr. KINNAIRD, and Mr. MURE, who said that the great preponderance of public opinion in Scotland was against the measure, and that there was no necessity for it.—Major HAMILTON also testified that the feeling of the people of Edinburgh, high and low, was against it.—After some observations by Mr. SCULLY in favour of the motion, Lord PALMERSTON said, although he could see no harm, but good, in the measure proposed by Mr Gregory, there was another consideration which ought to guide the House—namely, the religious, sincere, and honest feeling of the people of Scotland, to which they ought not, he thought, to do violence without very powerful reasons. Now, the feeling of the people of Scotland was said to be against the opening of the gardens on Sundays, and the Lord Advocate had shown that there was no necessity for the measure.—On a division the motion was negatived by 123 to 107. The House, having resolved itself into a Committee of Supply, resumed the consideration of the remaining *Civil Service Estimates*. The vote of 6000*l*. for the "four colossal couchant lions," to be placed on the pedestals at the base of the *Nelson Column* in Trafalgar Square, gave occasion to many remarks upon the extraordinary delay which had taken place in furnishing these ornaments. While discussing the vote for *Lighthouses abroad*, the Committee was counted out about a quarter past 8 o'clock.

TUESDAY.—*The Fisheries Commission*.—In reply to Sir E. GROGAN, Mr M. GIBSON stated that the royal commission about to be appointed would be instructed to include within its inquiry the sea fisheries of Ireland. *Clerical Subscription*.—Mr. BUXTON moved a resolution that the subscription required from the clergy to the Thirty-nine Articles and to the Prayer-book ought to be relaxed. He argued that the subscription was unnecessary and mischievous, and that it did violence to the consciences of many scrupulous persons, and deterred the best men of the Universities from offering themselves for ordination. The question was one essentially for the laity, as represented by Parliament, to deal with, and it was their duty to relieve the clergy from what they felt to be a grievous burden, and to open the way to the Church of England for many who were now excluded. The motion was seconded by Mr. GRANT DUFF.—Mr. M. MILNES moved an amendment to limit Mr. Buxton's resolution to the subject of subscription to the Prayer-book. In adopting this suggestion the House would not, he said, derogate from the integrity of the Church of England, or damage her power or influence, but would do a simple political right in expiation of a political wrong.—Mr KINNAIRD seconded the amendment.—Sir G. GREY saw many grave objections to adopting either the motion or the amendment. He was not, however, prepared to say that the present law might not be amended without inflicting injury upon the interests of the Church. In his opinion the law was not satisfactory, because it imposed obligations upon clergymen which might be met by a simple declaration. No change ought, however, to be introduced without the most careful inquiry. Believing that both the motion and the amendment would only create uncertainty and unreasonable expectations with regard to the length to which Parliament might be disposed to go, he would suggest that the amendment should be withdrawn, in which case he would move "the previous question" to the original motion. The amendment was then withdrawn, and the "previous question" put.—Mr NEWDEGATE expressed his regret that the Government had not taken a more decided course on this subject, for the motion, if adopted, would give far greater latitude of teaching to the clergy. The subscriptions to which exceptions were taken were the security to the laity that when they went to church they should hear the doctrine of their Church faithfully expounded.—Mr. WALPOLE warned the House how it tampered with those safeguards under which the Church of England had grown up to be the most pure and tolerant establishment in the world.—Mr. MORRISON supported, and Sir S. NORTHCOTE opposed the motion.—The CHANCELLOR of the EXCHEQUER defended the retention of the subscriptions, which he said had grown up out of the real *boná fide* necessity of the Church from the time of the Reformation. It was the opinion of the Government that the present state of the law on the subject was capable of improvement; it was, therefore, prudent not to meet the motion with a direct negative. The Government were not prepared to take upon themselves to propose any change, but to leave it open to consideration whether some improvement was not desirable, in *boná fide* concurrence with the ministers of the Church.—Mr. HADFIELD and Mr. B. JOHNSTONE supported the motion, Mr. LEFROY opposed it.—Mr. HENLEY referred to the unwillingness of young men to take orders. No one said that the formularies of the Church were wrong, or that the articles were wrong, or that men should profess what they did not believe. Mr. Buxton had asked them first to cut the cable and cast the ship loose, and then he would say what he would do.—Mr. H. SEYMOUR thought that, in moderate times like these, it would be desirable to do away with tests which had been imposed in an epoch of great excitement. That such tests were not necessary was proved by the Episcopal Chuch in America, where declarations were used in lieu of them.—Lord R. CECIL thought that the reason why young men were not entering the Church as heretofore was to be traced to causes far deeper than an objection to subscription—namely, an objection to the articles themselves. There could be no doubt that there was an intellectual movement against the truths in which the articles were enshrined, and that higher minds of the day were casting about for something to believe. He did not regard the subscription as an obstacle to Episcopal ordination, and therefore he would vote for its retention.—Mr. DISRAELI said the Government, in moving the previous question, had consented to a course which conveyed an implied assent that there were grounds for the House to consider the desirability of making some alteration in the existing law. He disapproved of this attempt to tamper with the ancient documents of the Church. There was nothing in the constitution which could not be cavilled at, questioned, and "improved;" but he feared that if these assaults were made upon the safeguard of the Church the result would be to sap the foundations of that edifice of public rights and liberties which had been built up with so much pains and consolidated at so much cost. If there was to be inquiry at all, the proper course would be to appoint a Royal Commission, who could submit the result of their deliberations to Convocation, and ultimately to Parliament. For his own part, he preferred rather to stand upon the ancient land-marks of the Church than to lend himself to the new and dangerous philosophy indicated by the motion.—Sir G. BOWYER said that his Church had no Act of Uniformity, but that, if he belonged to the Anglican Church, as he once did, he would not give a farthing for such an Act. The previous question was then put and agreed to without a division.—Mr. DALGLISH moved for a Select Committee to inquire into the constitution of the *Board of Admiralty*, and into the different departments under the control of that Board.—The motion was seconded by Mr. JACKSON, and opposed by Mr. SCOURFIELD, who pointed out the inability of a committee to conduct such an inquiry at this period of the session.—Mr. BENTINCK, though concurring in the object which Mr Dalglish had in view, recommended him to withdraw the motion.—Lord C. PAGET was not prepared to admit that the Admiralty was a perfect institution, but he contended that the evils evils incidental to it were greatly exaggerated. He expressed his willingness at any time to lay before the House all information that might be required with reference either to the constitution or the administration of the Admiralty. The real object of the motion appeared to be to take exception to the Admiralty, because they had commenced building iron ships in their own yards instead of giving commissions to the owners of private yards.—Sir H. WILLOUGHBY moved the adjournment of the debate, which was agreed to.

WEDNESDAY.—The *Innkeepers Liability (No. 1) Bill* and the *Savings Banks Acts Amendment Bill*, passed through committee. —Mr WARD HUNT moved the second reading of the *Election Petitions Bill*, the object of which was to prevent the withdrawal of a petition without the particulars of such withdrawal being disclosed to a standing committee of the House. He did not, however, wish to force any petitioner against his will to proceed with his petition, but to prevent sham petitions for purposes of extortion or annoyance, or with the view of effecting corrupt bargains.—Mr. COX supported the second reading, having been himself the object of a sham petition for the purpose of extortion.—Mr. COLLINS believed that more *boná fide* petitions were withdrawn than there were sham petitions presented. He would, however, support the preamble, as such assent would not preclude him from opposing the clauses.—Mr. BOUVERIE thought the Bill would impose a check upon the presentation of sham petitions.—Mr. AYRTON doubted whether the House would not be doing more harm than good by discouraging the presentation of petitions.—The ATTORNEY-GENERAL joined in the approbation expressed of the main provisions of the Bill, but he thought the House ought to be very careful not to interfere with the right of petitioning. After a few words from Serjeant PIGOTT and Sir W. MILES in favour of the Bill, the motion for the second reading was agreed to. The *Metropolis Turnpike Roads Acts Amendment Bill* passed through committee. The *Local Government Supplemental Bill*, and the *Dockyards Protection Act Amendment Bill* were read a third time and passed. The *Officers of Royal Naval Reserve Bill* passed through committee.

THURSDAY.—*The Slave Trade*.—In reply to Mr CONINGHAM, Lord PALMERSTON said that the Federal Government of the United States had concluded a treaty with Great Britain for the suppression of the slave trade, and that the Government of the Confederate States had passed a law making the slave trade highly penal. As, however, the United States and the Confederate States had no relations save those of war, and as her Majesty's Government had not yet recognised the Confederate States, it would be impossible to enter into friendly negotiations for the extinction of slavery on the American continent. *Educational Charities*.—On the order for going into a Committee of Supply Mr. G DUFF called attention to the abuses existing in many endowed charities, with especial reference to their bearing upon the amount of the vote for elementary education. He complained of the great waste of power caused by the manner in which the large revenues of some of these charities were administered, pointing out instances in which they were applied to superfluous, obsolete, or even mischievous objects, and might be devoted to educational purposes. Large sums of public money were obtained in certain counties where charitable endowments existed, the funds of which, if properly regulated, would suffice without any public aid. *Reports of School Inspectors*.—Mr. W. E. FORSTER asked upon what conditions the reports of her Majesty's inspectors of schools were allowed to be published for the information of the House.—Mr LOWE said that the Council of Education published all the reports of the inspectors with the exception of those passages which in the opinion of the Council ought not to be printed. It was clear that no department of the Government could be efficiently conducted if subordinates were allowed to publish reports which had not been brought under the supervision of the heads of the department.—Mr. ADDERLEY, Lord R. CECIL, and Mr. CHILDERS complained of the inordinate length of the reports, and expressed a hope that in future some means might be taken to condense them.—The O'DONOGHUE made an appeal to the Government to fix a day for the discussion of Mr. DILLWYN's motion on the *Ecclesiastical Revenues of Ireland*.—Lord PALMERSTON said it was not the duty of the Government to find days for private members to bring on motions. This was the duty of the members themselves, who had ample opportunities. Several of the Irish members complained of the course taken by the Government. The House then went into Committee of Supply on the remaining *Civil Service Estimates*, and a number of votes were agreed to. On the vote of 604,000*l*. for *Education*, Mr. LOWE made a short explanation, in which he stated that the number of children in schools was 1,057,426—that school accommodation was provided for 1,378,000—and that the actual average number of children attending all the schools was 914,000. The vote now asked was 36,000*l*. less than that of last year.—Mr. BLACK objected to the stipends to pupil teachers, and moved that the vote be reduced by the sum of 40,000*l*.—Mr. LOWE defended the vote, and observed that after the 30th of the present month (on which day the revised code would come into operation) no more pupil teachers would be engaged by the Government. The vote was eventually agreed to. The vote of 82,883*l*. for the department of science and art also led to a lengthened discussion with reference to the *South Kensington Museum*, in the course of which the architecture of the building was freely discussed, Mr. LOCKE declaring that it was absolutely hideous, while Mr. CONINGHAM suggested that it should be removed.—Sir M. W. RIDLEY also complained of the defective mode of ventilation in the picture galleries, which, he said, was gradually injuring the paintings. An objection was likewise taken to the expenditure on account of four houses as permanent residences for the officers. Ultimately Mr. A. SMITH moved that the vote be reduced by 10,000*l*., but on a division the amendment was rejected by 129 to 31, and the vote was agreed to.—On the report of the *Volunteers Bill*, Sir R. CLIFTON moved an amendment of Clause 20, which he had moved in the Committee, that the sufficiency of the cause of dismission be judged of by a court, to consist of a captain, two subalterns, and two non-commissioned officers or privates of the corps. He alluded to cases of summary dismission of Volunteers by their commanding officer.—Mr. GRIFFITH spoke in favour of the amendment, which was likewise supported by Mr. COX, who contended that the Volunteers were at the mercy of their commanding officers, and mentioned instances in which individual Volunteers had been harshly treated.—Lord ELCHO replied to Mr. Cox, and showed that, in one of the cases he had mentioned, the facts did not justify his complaint. He protested against commanders of Volunteers being held up as tyrants, when every Volunteer had the remedy in his own hands.—After some observations by Colonel EDWARDS and Mr. HENNESSY, the Marquis of HARTINGTON opposed the amendment upon the same grounds as he had urged in the Committee, and contended that the clause was essential to the discipline of Volunteer corps. On a division the amendment was negatived by 100 to 29. A few verbal amendments were agreed to.—The *Drainage and Improvement of Land (Ireland) Bill* was recommitted.

FRIDAY.—*Fisheries (Ireland) Bill*.—After some remarks from Mr. V. SCULLY, Sir F. HEYGATE, and other gentlemen, the House went into committee on this Bill, when Sir Robert PEEL stated the intentions of Government and the alterations they proposed to introduce. The discussions on the various clauses occupied the remainder of the morning sitting. The House resumed at 6 o'clock. [Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $91\frac{3}{4}$ to 92 for Money, and $92\frac{1}{8}$ for Acct.; Reduced and New Three per Cents., $91\frac{1}{2}$ to $\frac{3}{4}$; Bank Stck, $233\frac{1}{2}$ to 234; India Five per Cent. Stock, $107\frac{3}{4}$ to 108; Ditto Bonds, 14*s*. to 10*s*. pm.; Four per Cent. Enfaced Rupee Paper, 96; Exchequer Bills, par, 4*s*. pm.—FOREIGN: Greek, for Acct., $37\frac{1}{8}$ to $37\frac{3}{8}$; Ditto Coupons, $18\frac{1}{4}$ to $\frac{1}{2}$; Italian, for Acct., $72\frac{5}{8}$; Ditto Maremmana Railway, $81\frac{1}{2}$; Mexican, for Acct., $36\frac{1}{8}$ to $36\frac{3}{8}$; New Granada, 16; Peruvian, 1862, $90\frac{1}{4}$; Ditto for Acct., $90\frac{1}{2}$; Russian, 1859, $58\frac{1}{8}$; Ditto, 1862, $92\frac{7}{8}$ to $\frac{1}{8}$; Sardinian, for Acct., $84\frac{3}{4}$, ex div.; Spanish, for Acct., $54\frac{5}{8}$; Ditto Passive, for Acct., $34\frac{1}{4}$ to $33\frac{7}{8}$; Ditto Certificates, for Acct., $12\frac{1}{8}$ to 12; Turkish, 1854, for Acct., $92\frac{1}{4}$; Ditto 1862, for Acct., $71\frac{1}{2}$ to $\frac{3}{4}$; Ditto 1863, $1\frac{1}{4}$ to 1 pm.; Ditto Guaranteed, $102\frac{3}{4}$; Venezuela, for Acct., $25\frac{7}{8}$; Ditto 1862, $57\frac{3}{4}$ to 58.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £28,330,910 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,680,910 |
| | | Silver Bullion .. .. | — |
| | £28,330,910 | | £28,330,910 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,231,295 |
| Rest .. .. .. .. .. | 3,140,780 | Other Securities .. .. | 21,801,797 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts. .. .. .. | 9,781,830 | Notes .. .. .. .. .. | 7,816,460 |
| Other Deposits .. .. .. | 13,783,263 | Gold and Silver Coin .. | 875,311 |
| Seven days and other bills | 566,010 | | |
| | £41,824,863 | | £41,824,863 |

June 11, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY, *June 5*.—BANKRUPTS.—T. B. ARIS, White Street, Moorfields, Warehouseman—W. AINSWORTH, Preston, Furniture Broker—J. BENNETT, Saxmundham, Suffolk, Butcher—H. F. C. BARBER, Jamaica Level, Bermondsey, Saltpetre Refiner—J. BRAY, Grafton, Yorkshire, Farmer—B. [illegible], Southampton Street, Camberwell, Ironmonger—R. BARNES, Wilmington Square, Clerkenwell, Jewel Case Maker—S. BALL, Fenton, Staffordshire, Cordwainer—T. R. [illegible], Grantham Place, Coburg Road, Old Kent Road—G. BEARD, Love Lane, Billingsgate, Coffee House Keeper—B. BEASLEY, Ipswich, Saddler—H. BOND & C. WILLIAMS, Finsbury Market, Boot Makers—R. BAILEY, Stockport, Cheshire, Journeyman Butcher—J. BAKER, Ladbroke Road, Notting Hill, late Corn Factor—W. BARTLETT, Watlington, Oxfordshire, Grocer—G. F. CAPPS, Westerham, Kent, Hotel Keeper—J. CARTER, Wymondham, Norfolk, Relieving Officer—T. CLARK, Holbeck, Yorkshire, Provision Dealer—G. COLE, Ryde, Hampshire, Lodging House Keeper—J. CLARK, Chesterfield, Derbyshire, Fishmonger—G. F. [illegible] (and not [illegible], as advertised in "Gazette" of June 2), Southampton Row, Russell Square, Hotel Keeper—J. CARR, Grantham, late of Cayworth, Nottinghamshire—W. C. DAY, Portman Place, Globe Road, Mile End, General Dealer—T. H. DREW, Birmingham, Accountant—J. DYER, Chickerell, Dorsetshire, Builder—F. EATON, Lansdowne Place, Wandsworth Road, Butcher—W. C. F. ELLIOTT, Ivybridge, Devonshire, Colonel in the Army—H. FIELD, Chapel Street,

Somers Town, Dealer in Earthenware—C. H. FOSTER, Liverpool, Retail Beerseller—S. FOWLER, Winterbourne, Monkton, Wiltshire, Baker—J. T. FLETCHER, Woking, Surrey, Surgeon—J. C. GARROOD, Hertford, Plumber—J. GRIMWOOD, Wetherden, Suffolk, Maltster—T. HEELIS, Liverpool, Glass Dealer—E. HARRIS, Strand, Commission Agent—S. HARDING, Oldham, Lancashire, Grocer—T. W. HAMMOND, Southampton, Butcher—A. HOOKER, Ben, Devonshire, Blacksmith—W. HESMONDHALGH, Blackburn, Lancashire, late Innkeeper—R. HILTON, Sellinge, Kent, Grocer—J. JONES, Coventry, Fishmonger—M. JAMESON, St. Helen's, Lancashire, Innkeeper—A. JACKSON, Over Darwen, Lancashire, late Grocer—T. KINNERSLEY, Hereford, Butcher—LEVY KAUFMAN, Kingston-upon-Hull, Travelling Jeweller—R. KIRBY, Newmarket, Journeyman Shoeing Smith—SAMUEL LOWNER, Longton, Staffordshire, Labourer—CHARLES LUCAS, Leckhampton, Gloucestershire, Stonemason—JOHN LEONARD, Hanley, Staffordshire, Joiner—HENRY MARSHALL, Charlotte Street, Fitzroy Square, late Newspaper Proprietor—MARY ANNE MILO, Kingsland Road, Tallow Chandler—JOHN MITCHELL, Mere Hall, Lincolnshire, Agricultural Labourer—A. NUTTALL, Sheffield, Shoemaker—J. ODOM, Wellington, Shropshire, Tailor—R. OSBORN, Ipswich, Whitesmith—S. PRICE, Gloucester, Innkeeper—W. T. PURKISS, Roxburgh Grove, Haverstock Hill, Builder—J. PRING, Birmingham, Provision Dealer—P. PULLIN, Swansea, Ginger Beer Maker—THOMAS RICHARDSON, Kingston-upon-Hull, Joiner—JOSEPH RICHARDSON, High Lorton, Cumberland, Farmer—PHILIP ROBSON, Carlisle, Butcher—JOSEPH ROBERTS, Glasgoed-fawr, Wigfair, Denbighshire, Labourer—W. STEED, Groten, Suffolk, Plumber—L. SAMUELS, of Queen Margaret's Grove, Stoke Newington—W. SCRIVENER, Bridlington, Yorkshire, Coach builder—G. SMITH, Rotoan Road, North Bow, Builder—R. TAYLOR, Birmingham, Builder—G. THOMAS, Wainwen, Glamorganshire, Journeyman Sawyer—J. R. THORNTON, late of Huddersfield, Auctioneer—F. THORPE, Bryanstone Street, Portman Square, Messenger in a Government Office—F. TAYLOR, Newark, Nottinghamshire, Butcher—W. T. WINMAN, Sheerness, Grocer—T. WILLIAMS, Hereford, Coach Wheel Maker—W. WITHAM and H. WITHAM, George Street, Camberwell, Horticultural Engineers—J. WILLIAMS, Walsall, Staffordshire, Roller Maker—J. WAKE, Blackburn, Lancashire, File Manufacturer—F. WALL, Worcester, Innkeeper—D. WESSON, Exmouth Street, Hampstead Road, Pianoforte Maker—R. WILLIAMS, Salford, Lancashire, Beer Retailer.

SCOTCH SEQUESTRATIONS.—J. BAIRD and SONS, Edinburgh, Wool Dealers—M. MACINNES, Isle of Skye, Inverness-shire, Merchant—W. ROBINSON, Aberdeen, Advocate—C. STEWART, Tombreck, Elginshire, Farmer—T. TURNER, Northrigg, Haddingtonshire, Farmer.

TUESDAY, *June* 9.—BANKRUPTS.—J. ALLGOOD, Banbury, Oxfordshire, Ironmonger's Assistant—J. A. ATLAND, Stoke-upon-Trent, Staffordshire, Parian Manufacturer—H. BEEK, Tottenham, Town Traveller—J. BOLDOCK, Lincoln, Tailor—C. BROOKS, Southampton, Wine and Spirit Merchant—G. BISH, High Street, Stratford, Engineer—J. BELL, Elksley, Nottinghamshire, Bricklayer—R. BASSETT, Southcandown, Glamorganshire, Innkeeper—H. BOND and C. WHELLAMS (and not C. WHELLANS, as previously advertised), Finsbury Market, Boot and Shoe Makers—J. BUTLER, Portsea, Clerk of Works—T. H. BALLIS, Mornington Place, late Insurance Office Manager—H. BROOM, Widworthy, Devonshire, Butcher—J. BATTERSBY, Bolton, Lancashire, Beerseller—H. COLWELL, jun., Crawford Street, Truss Maker—J. F. CORBETT, Manchester, Attorney's Clerk—B. CALLOW, Liverpool, Artist—SARAH DARBA, Tipton, Staffordshire, Grocer—RICHARD EVANS, Benvilstone, Glamorganshire, Farmer—S. N. EVANS, Wolverhampton, Brassfounders' Clerk—W. ELLIOTT, Newbury, Berkshire, late Innkeeper—W. FRANKLAND, Stokesley, Yorkshire, Grocer—M. FESTING, St. George's Place, Victoria Dock Road, Grocer—E. FISHER, Willow Vale, Shepherd's Bush, Draper—J. FARRINGTON, Winchester Street, Bethnal Green, Oilman—J. FULLER, Gravesend, Kent, Baker—J. GEACH, jun., Paradise Street, Marylebone, Journeyman Carpenter—C. GERARD, Burslem, Staffordshire, Boot and Shoe Maker—J. M. HALL, Kingston-upon-Hull, Licensed Victualler—E. HINCHCLIFFE, Scholes Moor Bottom, Yorkshire, Cloth Weaver—M. HAYDEN, Luton, Bedfordshire, Lodging House Keeper—R. R. HAMLEY, Lapford, Devonshire, Manure Agent—B. HARRISON, Batley, Yorkshire, Fruit Dealer—N. HERDMAN, Durham, Butcher—I. HAMLIN & M. A. HAMLIN, Bristol, Stationers—RICHARD WILLIAM HUGH JONES, Victoria Terrace, Notting Hill Gate, Commission Agent—CHARLES LLOYD, Rainhill, Lancashire, Grocer—ALEXANDER PATRICK LAW, Brecknock Terrace, Camden Town, late a Clerk to the Ecclesiastical Commissioners for England—G. MASON, North Somercotes, Lincolnshire, Farm Bailiff—R. S. MORRIS, Stoke St. Gregory, Somersetshire, Farmer—J. B. NEWTON, Blackburn, Lancashire, Fellmonger—W. NELSON, late of Liverpool, Provision Merchant—H. OLDHAM, jun., Hampton Terrace, Camden Town, Ironmonger—W. H. ONIONS, Shrewsbury, Bookseller—M. PARK and T. FRANCIS, Bradford, Yorkshire, Tailors—J. PRING, of Hawkenbury, Kent, Labourer—W. POYNER, Shiffnal, Shropshire, Butcher—R. S. ROBSON, South Shields, Durham, Draper—H. ROWAN, Sheffield, Silversmith—JOSEPH VAN RAALTE and JACOB VAN RAALTE, St. John's Road, Hoxton, Commission Agents—P. SELBY, Royal Hill, Greenwich, Master Mariner—ENOCH SOLOMON, late of Bristol, Baker—THOMAS WILLIAM SABBERTON, Norwich, Blacksmith—WATSON STAFFORD, Cropley Terrace, West Hoxton, Letter Carrier—GEORGE SLUMAN, Northam, Devonshire, late Shipbuilder—J. SPENCER, Seawby, Lincolnshire, Wheelwright—A. TRILL, Sidney Road, Homerton, Commercial Traveller—E. TAYLOR, Birmingham, late Commercial Traveller—H. W. TAYLOR, Eaton Terrace, St. John's Wood, Clerk to an Upholsterer—J. R. WIGHT, Barnsley, Yorksh., Painter—G. WARD, Dronfield, Derbyshire, Shoemaker—T. F. WRIGHT, late of Princes Place, Kennington—S. WORTHINGTON, Birmingham, late Licensed Victualler—J. WILDING, Shrewsbury, Butcher.

SCOTCH SEQUESTRATIONS.—J. CARRUTHERS, Forfar, Vintner—J. DRUMMOND, Crieff, Flesher—T. FARRIE, East Binny Quarry, Linlithgow, Quarrier—IRVINE & Co., Edinburgh, Auctioneers—H. MACLEAN, Lossiemouth, Elgin, Merchant—D. MARTIN, Stranraer, Grocer—J. MACNEE, Glasgow, Oil and Grease Merchant—A. W. MENZIES, Dundee, Draper—J. SHEARER, Glasgow, Wine Merchant—J. STRANG, Hamilton, Portioner and Fruit Merchant.

## Metropolis and its Vicinity.

THE QUEEN'S BIRTHDAY.—On Saturday her Majesty's birthday was celebrated in the metropolis with more than ordinary enthusiasm, being the first demonstration of the kind since the death of the Prince Consort. All the Government offices were closed, and flags floated over the various public establishments. At noon Royal salutes were fired in the parks and the Tower, as well as at Woolwich, and the household troops paraded in the Wellington Barracks. In the evening the Cabinet ministers and other great officers of state gave full dress banquets in honour of the day, and the public establishments, the clubs and the principal shops were brilliantly illuminated.

THE PRINCE AND PRINCESS OF WALES AT GUILDHALL.—On Monday evening the Prince and Princess of Wales were entertained by the Corporation of the City of London at a grand ball in Guildhall, in the presence of one of the most illustrious assemblages which the municipality has ever drawn together to share in its magnificent hospitality. The entertainment was worthy both of the guests and the City. All old precedents were quite disregarded on the occasion. The Metropolitan police not only aided the City functionaries, but actually lined the route. Barriers were erected and maintained at every opening, while the Life Guards kept the streets as early as 6 o'clock. The decorations of Guildhall were taken out of the hands of city architects and officials, and entrusted entirely to Mr. Crace, under whose skilful directions the old hall assumed an appearance such as it has never presented since its ancient roof was destroyed in the fire of London. A temporary roof was erected similar in appearance to those at Hampton Court, Westminster Hall, and other celebrated examples, giving the edifice the appearance of a grand baronial hall of the Tudor period. The arches were painted of a light colour, slightly relieved by lines of various tints, and bearing shields on which the arms of the 12 great City companies were displayed. The arms of the ancient Lord Mayors were emblazoned on a series of shields on the left side of the hall, and on the corresponding side were the arms of more recent civic chiefs down to those of the present Lord Mayor. At the sides the panels in the walls were filled with the arms of some of the numerous royal visitors to Guildhall, 18 in number, from Henry V. to the Emperor Napoleon. The throne and canopy at the eastern end of the hall were of a truly regal character. At the back of the daïs was hung a rich cloth of state, on which were emblazoned the arms of the Prince and Princess of Wales. The dais was surmounted by a canopy, at the front and sides of which was a valance ornamented with the arms of the Prince and Princess, and the rose, shamrock, and thistle, while above was an enormous Prince's plume in spun glass. The banners of the various City companies, and of the principal cities in the kingdom, were suspended round the upper part of the hall. The armorial bearings of the Prince and Princess Christian of Denmark, and the Danish national arms, emblazoned on oval shields, and surrounded by trophies of banners, were fixed half way up the columns of the hall. In addition to the clusters of lights suspended from the roof, many of the arches were lighted by lines of gas jets, having baskets of flowers beneath them. The floor was covered with a carpet manufactured for the occasion, and of a colour to harmonise with the general character of the decorations. The upper part of the daïs, on which the chairs of state for the Prince and Princess were placed, were covered with a carpet of a deep blue colour. The Council Chamber upstairs was fitted up as the Royal supper room, and presented a grand and regal aspect. Its lantern and tapering roof had been exquisitely gilded and decorated by Mr. Crace, and from the four columns on which the dome rests depended large gilt baskets filled with flowers. The lights from above were so arranged as to fall upon the portrait of her Majesty in her coronation robes. The east end of the Chamber was filled in with mirrors, between tall, green banks of heaths, ferns, and palms, which made the end of the room seem like a luxuriant garden in the tropics, in the centre of which a scented fountain cast its fresh spray into the air. The sides of the Chamber were hung with two rich tapestries by Giulio Romano. The north end of the Chamber was devoted to a display of the almost untold wealth of the Corporation and the great City Companies, and from the floor almost to the ceiling the side of the Chamber was hidden by massive gold plate. In the Court of Aldermen was arranged, for the gratification of the Princess, a representation in real foliage of the country residence and gardens in Denmark where she passed much of her youthful life. The surprise and evident gratification which this afforded her was one of the prettiest incidents of the night. In Guildhall Yard a temporary building in the Gothic style was erected two stories high, the basement serving as a reception room, and the upper story being the supper room for the general company. Both these apartments, though necessarily of a temporary character, were decorated with great taste in harmony with the hall itself. The company began to arrive as early as 6 o'clock. At a quarter past 9 a flourish of trumpets announced the arrival of the Royal guests. It took some time for them all to assemble in the reception hall, for the party was a large and brilliant one. Foremost came the Prince and Princess, the former wearing his uniform of a General in the Army, with the riband and star of the Garter. The latter wore a rich but simple white dress, with the coronet and brooch of diamonds given her by her Royal husband, but with the superb City necklace of brilliants. Her hair was turned back from her forehead, in the style with which her portraits have made all so familiar, setting off her features to the utmost advantage. With them came Prince Alfred, in his lieutenant's uniform, his face looking bronzed, and almost weather-beaten, in contrast with the fair complexion of his brother or the still more delicate bloom of his young sister-in-law. With the Royal party were the Duchess of Cambridge, the Duke of Cambridge, Princess Mary, Prince of Reuss Schleiz, the Prince of Orange, and the Princess of Servia, attended by a numerous suite. The Princess of Wales took the arm of the Lord Mayor, while the Prince gave his to the Lady Mayoress, and the party, headed by the Entertainment Committee, entered the hall, the band playing the National Anthem. On reaching the daïs the city officials mustered round a plain office table placed at the foot of the throne. At the head of this the Lord Mayor took the chair, and the members of the Corporation present at once resolved themselves into a Court of Common Council, the Lord Mayor, as President of the Court, wearing his official robes and gold chain; the aldermen their scarlet robes, and the councillors their mazarine gowns. The ponderous sword and mace of the Corporation lay piled in front of the Chief Magistrate. The Town Clerk, the Chamberlain, and the Clerk of the Chamber, took their usual places, wearing their official robes. The Court then, taking no manner of cognizance of the presence of Royalty, began to read the minutes of the previous Court, which were duly confirmed by a show of hands. The Town Clerk then read the resolution of the Court of the 12th March last, requesting the Prince to take up his freedom by patrimony, and directing that a copy of the freedom be thereupon presented to him in a casket of the value of 250*l*. The formal documents having been read, his Royal Highness read aloud and subscribed the usual declaration of loyalty to the Queen and obedience to the Mayor of the city. The Chamberlain then addressed the Prince in an appropriate speech, in which he recounted the virtues of the Prince Consort, and congratulated his Royal Highness on being the first Prince of Wales who had claimed the freedom by patrimony—that is, as a son born subsequently to his father's admission to citizenship. The Prince replied as follows:—

"My Lord Mayor, Mr. Chamberlain, and Gentlemen,—It is, I assure you, a source of sincere gratification to me to attend here for the purpose of being invested with a privilege which, for the reasons you have stated, you are unable to confer upon me, and which descends to me by inheritance. It is a patrimony that I am proud to claim—this freedom of the greatest city of the commercial world, which holds its charter from such an ancient date. My pride is increased when I call to memory the long list of illustrious men who have been enrolled among the citizens of London, more especially when I connect with that list the beloved father to whom you have adverted in such warm terms of eulogy and respect, and through whom I am here to claim my freedom of the City of London. My Lord Mayor and gentlemen, the Princess and myself heartily thank you for the past, for your loyalty and expressions of attachment towards the Queen, for the manifestation of this evening towards ourselves, and for all your prayers for our future happiness."

The Prince spoke in a clear voice, every syllable being heard throughout the vast hall with the utmost distinctness. At the conclusion of his reply a loud shout of acclamation arose from the company, and the orchestra again played a few bars of the National Anthem. It was then resolved that the address and reply be entered on the minutes, and the ceremonies terminated with the presentation of the two senior Aldermen, the mover and seconder of the address, and the Chairman of the Entertainment Committee. The Royal visitors then withdrew from the Hall, but, presently returning, the ball began, the Lord Mayor leading off in a quadrille with the Princess, immediately in front of the *haut pas*, and the Prince with the Lady Mayoress. Prince Alfred danced with the Princess Mary of Cambridge; and the Duke of Cambridge, the Earl of Mount Edgecumbe, Lord and Lady Bury, Major Teesdale, Colonel Keppel, the Hon. Mrs. Stonor, the Hon. Miss Stanley, Earl de Grey and Lord Harris took part in the quadrille. For nearly two hours the dancing was maintained with unflagging spirit, her Royal Highness joining repeatedly, and the Prince still more frequently. On one occasion, the Prince of Orange danced with the Princess in a quadrille, Prince Alfred dancing with the Lady Mayoress, and the Princess Mary with the Lord Mayor. At times the Duke of Cambridge, the Prince Reuss Schleiz, the Duke of Manchester, Earl Granville, Lord Grosvenor, Lord Bury, and other distinguished persons, joined in the dance, which was conducted in an open space in front of the daïs, kept with difficulty from the eager crowd of guests who pressed forward to witness it. Shortly before 12 o'clock the Reception Committee, amid a flourish of trumpets, led the way for the Royal party to supper in the Council Chamber, the Lord Mayor conducting the Princess, and the Prince the Lady Mayoress. The Lord and Lady Mayoress presided at the Royal table, the Princess of Wales being on the right of the Lord Mayor and the Prince on the left of the Lady Mayoress. On the left of the Prince of Wales sat the Duchess of Cambridge and Prince Alfred; on the right of the Princess the Prince of Orange, the Princess Mary, and the Duke of Cambridge. The other visitors who had the honour of supping with the Royal party, were her Majesty's Ministers and great Officers of State, the Foreign Ambassadors and their wives. The general company supped in the apartment over the Reception Saloon, and in the smaller Courts up stairs, the total number provided for being about 2000. The Prince and Princess left Guildhall at one o'clock, after cordially thanking the Lord Mayor and Lady Mayoress for the magnificent entertainment afforded them by the Corporation. The ball was subsequently renewed, and at six o'clock on Tuesday morning the hall was not deserted by the latest guests.

INAUGURATION OF THE PRINCE CONSORT'S MEMORIAL.—The public ceremony of uncovering the commemorative Memorial, erected not less as a perpetual record of the Great Exhibition of 1851 than as a tribute to the Prince Consort to whom its success was due, was celebrated at South Kensington on Wednesday with every circumstance of stately pomp and Royal ceremony. The whole *fête* was well planned in its broad features, well arranged in its minute details, and passed off with complete success. The line of procession from under the West Dome of the Exhibition through the Horticultural Gardens was marked out by double rows of seats, giving sitting accommodation to more than 10,000 visitors, the Exhibition building and the gardens being considered as one during the day. The seats for the Royal party were placed under the Western Dome, all the space around them being railed off for the official personages who took part in the procession. The seats round this enclosure were filled as early as 2 o'clock with a brilliant assembly, and at 3 there were at least 12,000 or 14,000 people in addition, collected on the line of route in the gardens. Precisely at 4 o'clock, with characteristic punctuality, the Royal carriages drove up to the western entrance. The rattle of arms was heard as the Guard of Honour of the Grenadiers saluted, the band struck up the National Anthem, and a loud cheer greeted the entrance of the Royal party. The Prince of Wales wore the uniform of a General Officer. The Princess was dressed in a pale mauve moire antique, with a white lace mantle and a light bonnet. The Princesses Helena and Louisa wore plain morning dresses. Prince Alfred wore the uniform of a Lieutenant in the Navy; and the two younger Princes, Arthur

and Leopold, wore kilts of Royal Stuart tartan. The Executive branch of the Memorial Committee and a deputation of the members of the Horticultural Society having been presented by the Duke of Buccleuch to the Prince of Wales, the procession was immediately formed in the following order:—Trumpeters; Mr. George Eyles, Superintendent of the Horticultural Gardens; the Sculptor, Mr. Joseph Durham; the Memorial Committee; the Mayors, Provosts, and Chief Magistrates of those Cities and Towns which in 1851 formed Local Committees; the Lord Provost of Perth, the Lord Mayor of York, Lord Provost of Glasgow, Lord Mayor of Dublin, and Lord Provost of Edinburgh; the Sheriffs of London and Middlesex; the Lord Mayor of London; the Council of the Society of Arts; the Presidents of Learned and Scientific Societies of which his Royal Highness the Prince Consort was a Member; Her Majesty's Commissioners for the Exhibitions of 1851 and 1862, and their Secretaries; the Household of the Prince Consort; the Corps Diplomatique; the Members of her Majesty's Government and Household; the Archbishop of Canterbury; the Duke of Buccleuch and Council of the Horticultural Society, and the Executive Department of the Memorial Committee. The Prince and Princess of Wales followed, accompanied by Prince Alfred, the Princess Helena, the Princess Louisa, Prince Arthur, Prince Leopold, the Duchess of Cambridge, the Duke of Cambridge, the Princess Mary of Cambridge, and their respective suites. With trumpets sounding, the procession passed halfway down the nave, and then, turning to the left and ascending the gallery stairs, filed into a large temporary balcony, gaily decorated with garlands of flowers and scarlet hangings, which overlooked the Horticultural Gardens. The Royal party took their seats in the central part of the balcony, which projected beyond the rest of the structure. The appearance of the Prince and Princess of Wales was the signal for renewed cheering from the mass of spectators gathered in the open air. The Duke of Buccleuch, at the head of the Council of the Horticultural Society, then approached the Prince of Wales and presented, without reading, an address, congratulating his Royal Highness on his marriage, expressing the grief of the Society at the death of the Prince Consort, and concluding with a statement of the satisfactory progress of the Society, which now numbers 3450 Fellows. The Prince of Wales briefly thanked the Council for the address, and stated that a reply would be forwarded to them. The united bands of the Guards then performed Lindpainter's "Procession March," after which Mr. George Godwin, Honorary Secretary to the Executive Department of the Memorial Committee, stepped forward and read the following address:—

"May it please your Royal Highness,—In the year 1853, a meeting convened by the Lord Mayor of London, Mr. Thomas Challis, M.P., and presided over by him, was held in the Mansion House, to consider the propriety of erecting some memorial of the Great Exhibition of 1851, in connexion with a tribute of admiration to its great founder, the Prince Consort, your Royal Highness's illustrious and lamented father. The propriety of the step was at once recognised; and it was resolved unanimously, as well by the country at large as by the meeting, that the Exhibition 'was an event of the greatest importance to the nations of the world, by enabling them to observe the relative influence of science, art, and national characteristics upon production, by furnishing the means of a valuable review of the past, and by marking a new starting point for the future progress of productive industry and giving it an increased stimulus.' The meeting saw, too, with the wise author of the undertaking, that its tendency had been to promote useful intercourse between all peoples, and to induce in them feelings of good will towards each other. Money was accordingly subscribed for the erection of a Memorial, and active steps were taken to obtain a place for the intended monument on the site of the Exhibition in Hyde Park. Artists of all countries were invited to submit drawings and models in competition, and ultimately, out of nearly 50, the design sent in by Mr. Joseph Durham was selected. The endeavours to procure a site in the Park having failed, we, the Executive Committee, who had met with difficulties that might not have been anticipated—sought the aid of the Prince Consort. This was at once freely accorded on the condition, characteristic of his Royal Highness's noble self-denial, that the Memorial should be in no way personal, but one to which he could himself subscribe. The Royal Horticultural Society granted the fine site before which we now stand, on land belonging to the Royal Commissioners for the Great Exhibition, and therefore appropriate, the Commissioners themselves concurring in the grant; and from that time till the very last his Royal Highness continued to give consideration and personal assistance of inestimable value in completing and carrying out the project. Guided by his cultivated judgment, and aided by an increase of the funds, the design was enlarged and improved to its present form; and the last public act of the Prince in London was the approval of the statue of Her Most Gracious Majesty the Queen, then intended to surmount the Memorial. A letter from your Royal Highness after the painful event that had plunged the nation into grief conveying the will of the Queen, that instead of Her Majesty's statue that of her beloved husband should crown the Memorial, and offering on your Royal Highness's own part to present the statue proposed to be thus placed—a letter which touched the heart of the country—enabled us to carry out the original desire of the subscribers, which was emphatically to offer a public and lasting tribute in connection with the Great Exhibition of 1851 to the good Prince—'to whose far-seeing and comprehensive philanthropy' (as now recorded on the face of the Memorial) 'its first conception was due, and to whose clear judgment and untiring exertions in directing its execution the world is indebted for its unprecedented success.' We take the liberty of expressing our great satisfaction with the admirable manner in which Mr. Durham has executed the commission confided to him. He has produced a work that we believe to be honourable alike to himself and to the country; and we trust this feeling will be generally shared in, especially by those eminent persons who assisted in the Great Exhibition, and whose names he has consequently recorded on enduring granite. In concluding this brief account of our proceedings, we tender most grateful thanks to the Queen for the interest Her Majesty has been pleased to show in the progress of this work, and the all-important assistance thus rendered us in our self-imposed labour. And we pray heartily and devoutly that Almighty God may, in his goodness, long preserve Her Majesty's life—a life most precious to her loyal and loving people. It only remains for us to acknowledge most respectfully the anxious readiness with which you, Sir, accompanied by the illustrious Princess whom all the kingdom welcomes with open heart, and by your Royal brothers and sisters, have graciously taken part in the proceedings of to-day. We offer in the name of the subscribers our earnest thanks, and we solicit that your Royal Highness will now be pleased to command the uncovering of the Memorial."

To this address the Prince returned the following answer:—

"Gentlemen,—I have listened with an interest, which I am sure will be shared by all present, to the details which you have given in connection with the Memorial to my lamented and revered father which we are assembled this day to inaugurate. As a son I cannot but be deeply affected by that part of your address in which you have referred to the beloved parent whose aid and counsel were never wanting when work was to be done, or when difficulties were to be overcome. I am confident that our proceedings in commemorating so proud a year in England's annals would have met with his approval, and I am sustained in the part which, in obedience to the Queen's commands, I have undertaken, by the conviction and grateful sense that the sympathy of the entire nation accompanies me. I have now the pleasure of directing that the Memorial—of which the artist may well be proud—be now uncovered."

At the close of this address the Royal standard was run up close by the statue, and the canvas covering was removed amid a Royal salute, fired from a battery in the Park. The Memorial is entirely constructed of red and grey granite, on a base of Portland stone. Its form is that of a temple, with projecting bases at four equal distances, of sufficient size to carry seated four bronze figures 8 feet high, representing the four quarters of the globe. The entire height of the Memorial, exclusive of the under work with arches, is 42 feet; the width across the angles of the granite is 18 feet. The entablature is broken to correspond with the projections of the base. Beneath, and in front of each statue, there are four bronze medallions inserted in the granite base, representing enlarged copies from the prize medals awarded to successful exhibitors of 1851. Behind each of these statues arise two pilasters and two pillars of the Corinthian order, from stylobates placed above the heads of the statues. The capitals and bases of the columns are of bronze, the shafts of polished red granite, the effect of which is very good as an architectural decoration. Polished red granite is also introduced with equal effect in the crescent side panels of the base, and upon the circular side panels of the body of the temple. Upon the four latter panels there are inscribed in gilded incised lettering the principal features and facts relating to the first International Exhibition, including a record of all those who were actually engaged in any responsible position connected with its management, commencing with the Royal President of the Commission, the late Prince, whose statue in bronze surmounts the Memorial. It is 10 ft. high, and in the mantle and with the insignia of the Master of the Order of the Bath—the Queen, as Sovereign, being head of every other Order. The frieze of the Temple bears upon it, in gilded lettering, two inscriptions—one from Isaiah, "Let all the nations be gathered together, and let the people be assembled;" the other from the Psalms, "I will remember the works of the Lord; surely I will remember Thy wonders of old." On the north tablet is the dedication of the Memorial itself, as follows:—

"Erected by public subscription. Originally intended only to commemorate the International Exhibition of 1851, now dedicated also to the Memory of the great Author of that undertaking, the good Prince, to whose far-seeing and comprehensive philanthropy its first conception was due; and to whose clear judgment and untiring exertions in directing its execution the world is indebted for its unprecedented success. ALBERT FRANCIS AUGUSTUS CHARLES EMANUEL, the PRINCE CONSORT. Born August 26, 1819. Died December 14, 1861."

"He was a man! take him for all in all,
We shall not look upon his like again."

The Royal party on leaving the balcony entered the gardens, where a procession was formed in the same order as before. Their Royal Highnesses made the tour of the gardens, stopping at several parts to inspect the gardens, the conservatory, and the Memorial, receiving as they passed along enthusiastic demonstrations of esteem and loyalty. Their Royal Highnesses left the gardens shortly after 5 o'clock, and the great body of the visitors, who are said to have numbered not less than 20,000, almost immediately dispersed.

THE PRINCE OF WALES AT MERCHANT TAYLORS' HALL.—On Thursday the Merchant Taylors' Company gave a grand banquet in their hall, in honour of the Prince of Wales becoming an honorary member of their ancient corporation. The ceremony of his reception was accompanied with the usual forms, and in acknowledging the compliment the Prince spoke as follows:—

"Master, Wardens, and Gentlemen,—It is with a real pleasure that I have come here to take up my freedom of the Merchant Taylors' Company. The history you have given of the Princes of England who have become freemen of your ancient corporation has increased my ambition to follow their example. Were another motive wanting it would be supplied by the revered and dear memory of him whose words on a similar occasion you have heard in this room where I now address you. The wealth and hospitality of the Merchant Taylors proclaim the wisdom with which its affairs are administered, and its widely extended charities the spirit in which its wealth is used. The history of its educational establishments tells its own tale of the success which has attended the liberal principles and sound basis on which they are formed. Mr. Warden and gentlemen, I am proud to belong to a corporation which thus nobly works for the benefit of the human race, and I esteem it an honour to have my name enrolled amongst the freemen of the Merchant Taylors' Company."

The freedom of the company was very beautifully illuminated on vellum, and presented to the Prince in an ebony casket, richly covered with gold chasing, in which was introduced the arms of the Prince and the Company. At the banquet which followed, the Prince again briefly acknowledged the welcome he had received, and the Duke of Cambridge, in returning thanks for the Army and Volunteers, said that the Company ought highly to appreciate the compliment paid to them by the Prince, as it showed on his part that it was his anxious hope and desire that the old institutions of this country should be maintained in all their efficiency. The Earl of Derby, in returning thanks for the honorary members, spoke as follows:—

"It is quite clear that on this occasion it would be highly improper in me to touch on a single question bearing in the slightest degree on the political or party divisions of the day. That is forbidden by the mixed character of the assembly I address—by the presence of many from whom I may differ in political opinions, but for whom I entertain sincere regard and friendship, and, above all, by the presence of the illustrious Prince who has this day honoured us with his company and membership—than whom I will say there is no one who takes a deeper interest in all the affairs of this country, and, although no one can attend more sedulously to them, yet, from his high and distinguished position, he stands above, and must at all times be kept invariably separate from all political connections and party considerations. But so much I think I may say on the present occasion without hurting the feelings of any one—that there are topics on which in the present day there is little or no difference of opinion, and in most of our great political topics the questions which separate us and create differences between us are differences rather of degree than of principle, and while we are all of us, some faster and some slower, some more cautiously and some more eagerly, anxious to increase, improve, and amend the institutions of our country, we are all of us disposed to rest our improvements and our adaptations to the spirit of the age on the old foundations and the time-honoured institutions of the country. There is no one, high as his station may be, distinguished as may be his position—I will not except even the illustrious Prince who has done us the honour of becoming this day an honorory member of this great company—who may not be proud of being associated with a company so distinguished as the present—distinguished not only by that splendid and magnificent hospitality which in itself is not mere show or empty profusion, but which serves the practical purpose of bringing together in social intercourse classes of the community who otherwise see little of each other; but, far more than that, a company which knows how to make so honourable and generous a use of its wealth—which knows how to subscribe so liberally to all the charities of the country; and, above all, has done so much by its example, attention and pecuniary means for supporting, maintaining, and upholding the great and fundamental cause of religious and moral education throughout the country."

Mr. Disraeli, in returning thanks for the House of Commons, said:—

"It is a source of pride and satisfaction to the people of this country to remember that the Prince of Wales, however exalted his position, is also a member of Parliament. He has taken his hereditary seat in the Senate of his country. There he has learnt the course and conduct of legislation, and there, if imperious duty prompted him, he might legitimately express his opinions by his voice. It is the boast of your company to-day, and it is one well founded and much to your honour, that his Royal Highness has to-day taken up the freedom of your company; but the country recollects that he has already in the House of Lords taken up the freedom of this country. It is in the recollection of these public circumstances that the people of England find a source of great satisfaction. They look on them as a guarantee for the future welfare of England. They look on them as the source of proud satisfaction to the illustrious Prince himself, and the best security for the happiness of the people."

THE GUARDS' BALL.—The preliminary arrangements are completed for the festivities which are to take place on the 26th inst. as a welcome to the Prince and Princess of Wales from the officers of the Guards, in the British division of the picture gallery of the International Exhibition. Three magnificent *salons* are to be constructed, comprising a reception-room, a ball-room 200 feet long, and a supper-room. The approach and staircases will be fitted with military decorations, in which the Household Brigade will form an imposing spectacle, and at the head of the principal staircase the regimental bands will be stationed and will perform until all the company is assembled. The reception-room will be sumptuously furnished with rich carpeting, pictures, statues and flowers of the rarest description, and be lighted with candelabra bearing wax lights. Messrs. Lucas have contracted to fit the ball-room with a floor specially prepared for dancing, and the walls will be draped or papered with a light tinted paper or textile material. But the greatest display is reserved for the supper-room, in which gold and silver plate and china, lent for the occasion by some of the most distinguished collectors who are among the personal friends of the officers of the household regiments, will surpass the richest decorations of any similar event of the season.

FIRE AT THE HOUSES OF PARLIAMENT.—On Monday afternoon some alarm was caused by a portion of the House of Commons being discovered to be on fire. At appears that a flue from the kitchen passed over the corridor leading from the Speaker's House to the Library, and a brick in the flue having become displaced the heat acted on the woodwork of the corridor, till it burst into a blaze. The members who were engaged in committees, left the business on which they were engaged and rushed to the spot; and the policemen and firemen stationed about the building, with the fire apparatus at their command, soon extinguished the flames, and the flues were all examined and cleansed before the Speaker took the chair at 4 o'clock. It seems that the smell of fire had been noticed for some time; but no one could discover whence it proceeded till it made itself visible.

LOSS OF THE CANADA PACKET SHIP.—The new iron ship Canada was lost on her voyage from London to Montreal, having been "nipped" in one of the huge fields of ice which are found in the Atlantic in the early part of the year. The Canada left the Thames about

the first week of last month, and on the night of the 26th ult. fell in with loose detached ice, which accumulated so fast, that early on the following morning the ship was surrounded. An effort was made to wear ship, when the tiller broke into several pieces, and it was discovered that the vessel was hard and fast in the ice, and striking heavily. Attempts were made to repair the rudder, when it was discovered that she was making water fast. Many of the bolts and rivets were gone, and beams and bulkheads were started by the ship being crushed in the ice. Cargo was thrown overboard, the pumps were set to work, and everything done with a view of keeping the vessel afloat, but the water rose so fast, that a passing ship being sighted, a signal was fired, and the ship Able Seaman, from London, bore down and took on board the crew of the Canada, which had 13 feet of water in her hold, and soon afterwards suddenly disappeared. The Canada was nearly 1000 tons burden, and was largely insured at Lloyd's. Another ship, called the Aronica, from Quebec for Liverpool, is reported to have been seen in a distressed condition in the ice, but her fate is not yet known.

Thames Angling Preservation Society.—The annual meeting of this society was held a few days since at the Freemasons' Tavern, Mr. Whitbread in the chair. The secretary read a report detailing the proceedings of the society for the past year. It stated that artificial breeds had been in numerous cases most successfully performed. 203 brace of trout in a spawning condition had been placed in the Thames, and great results were expected. Whether the salmon turned into the river during the present and preceding year would remain in the Thames was as yet matter of conjecture, but, no doubt, much would depend on the way in which the main drainage system was carried out. For experiment the society had hatched and reared 6000 Rhine salmon, 4000 of which had been placed in the river at Hampton, and also 22,000 young trout in a healthy condition. The treatment of the ombre chevalier ova received from the French establishment at Huningues, had been very successful. Of about 4000, good and bad, placed in the river at Hampton, the society had reared 3000 young fish, all healthy. The committee were also able to state that 2000 young grayling would shortly be placed in the river. The committee regretted to say that their old enemy, the otter, had again appeared in the Thames, and had hitherto escaped with impunity. The committee acknowledged the liberality of the Thames conservators, and also noticed with satisfaction the recent measures adopted by the legislature to protect the salmon fisheries of the country, so imperatively necessary to prevent the total destruction of that fish. The report then referred to the great benefits the society conferred on the public at large, rendering it worthy of a much more extended support than it had yet received. The income and expenditure was nearly balanced, there being a small excess in favour of the society. The report was unanimously adopted.

General Post Office.—A Parliamentary return has been published showing that the post offices and road letter-boxes have increased to 14,776, and day mails and free deliveries are continually extended, and new rural posts established. The mails are now conveyed over 160,000 miles a day in the United Kingdom. The number of letters delivered in 1862 was 605,471,000, being 12 millions more than in 1861. In 1862 the Post Office carried as many letters as would make, in England, 24 to each person; in Ireland, 9; in Scotland, 19. At Liverpool and Birmingham the proportion was as high as 30 letters to each person, at Bristol 35, at Manchester 38, at Dublin 39, at Edinburgh 41, and in London 49. The increase in printed circulars has been very great; in relation to the Lambeth election there were as many as 40,000 posted in a single day. Nearly half-a-million letters passed through the temporary post office in the International Exhibition. More than 450,000 valentines passed through the London office on the last anniversary. The number of newspapers delivered in 1862 was nearly 73,000,000—about half-a-million more than in the previous year. The number of book packets was rather more than 14,000,000—an increase of about 1,700,000*l.*; 7,587,045 inland money orders were issued in 1862, for 15,761,259*l.*—above 1,000,000*l.* more than in 1861. In England and Wales there was about one to every three persons, in Scotland one to every five, in Ireland one to every 11. A money order, if stamped with 1*d.* stamp, may be made not payable till 10 days after date, thus allowing time for acknowledgment or for stopping the payment. Small sums sent in postage stamps may be exchanged for money at all the larger offices on payment of a commission of 1*d.* on 40 stamps; and in London alone nearly 60,000*l.* was thus paid last year for stamps. In sending them by post they should be folded in rather thick paper, so that the contents may neither be seen nor felt through the cover. The regulation compelling payment of the registration charge on letters containing money or articles of value has answered well, and will soon be extended to the country. It has caused a great diminution in application for missing letters containing coin—a diminution by more than one-half; the regulation came into operation in London last August, and 58,000 letters were compulsorily registered in the remainder of the year. It is satisfactory to learn that, while in the last quarter of 1861 four London letter-carriers were convicted of stealing cash letters, in the corresponding quarter of 1862 not one was even charged with such an offence. During the last half of 1862, out of about 900,000 registered letters, the whole number lost was only 12, containing together 9*l.* 5*s.* 6*d.*

Nonconformist Emigration.—About 700 emigrants took their departure on Monday week from Blackwall for Albertland, the new colony, in New Zealand, founded mainly by dissenters. A party of 1000 colonists were sent out about twelve months ago, and the reports they sent home have encouraged the agents to send out 1000 more, of whom the present body is the main portion. They embarked on board two vessels at Blackwall in the presence of a large number of spectators.

New Convent and Girls' School. — Cardinal Wiseman opened a new convent and girls' school last week in Albert Place, Spitalfields, adjoining the Roman Catholic Church in that locality. There was a large attendance of Roman Catholic clergymen from different parts of London. After the religious ceremonial a *déjeûner* took place, at which the Hon. Charles Langdale presided. After the usual toasts Cardinal Wiseman addressed the meeting. He alluded to the rapid increase in the number of buildings devoted to worship and education. He acknowledged that much kindness and good feeling had been shown in many localities by liberal-minded Protestants towards Catholic clergymen engaged in the effort to provide education for the poor.

The Main Drainage Works.—At the meeting of the Metropolitan Board of Works on Friday, Mr. Bazalgette, the chief engineer, presented his report, from which it appeared that the original estimate for the main drainage of the metropolis, which formed the basis of the Act for borrowing 3,000,000*l.*, in 1858, for the execution of such works, was framed upon the then value of materials and workmanship, which had since considerably increased, so much so, that in the estimates for the northern scheme the original sum was 271,290*l.*, whereas it was very probable that the cost would not be less than 300,000*l.* The estimate as to the north of Thames intercepting system and conveyance down to Barking Creek, instead of a total cost of 1,378,190*l.*, would reach 1,750,000*l.*, and the south side of the Thames 750,000*l.*, with extension of same through Woolwich to an outlet in Plumstead Marshes, 500,000*l.*, making a total of 3,000,000*l.* The report was received.

Murder and Attempted Suicide.—On Thursday Mary Anne Payne, aged 21, residing in Allsopp Place, Marylebone, was charged at the Marylebone Police Court with the murder of her child, Charles Albert Payne, aged two years and three months, and further on her own confession, with attempting to commit suicide, first by taking poison, and afterwards by throwing herself out of a second-floor window. The evidence left little doubt that the prisoner was under the influence of insanity at the time, and she was ultimately remanded for a few days.

The Public Health.—The Registrar-General's Weekly Return states that in the week that ended Saturday, June 6, the deaths registered in London were 1214. The average number in the 10 years, 1853-62, corrected for increase of population, was 1132. The present return is therefore 82 above the average. During the week the births of 971 boys and 877 girls, in all 1848 children, were registered in London. In the 10 corresponding weeks of the years 1853–62 the average number was 1850.

## Provincial.

Bridport.—A shocking murder was committed in this town on Friday. A hemp sorter named Dommett, about 50 years of age, the father of six children, who had the character of a steady, honest, and industrious man, cut the throat of one of his children, a boy about seven years of age, with whom he had partaken of breakfast a minute before. It appears that an elder son had been out of work from ill health, and the loss of his earnings and the expenses of his illness had been preying on the mind of the father. The jury at the inquest returned a verdict of Wilful Murder.

Cambridge.—The Duke of Devonshire, to whom, as Chancellor of the University, the committee for the Cambridge Memorial to the Prince Consort referred the selection of the sculptor, has chosen Mr. Foley, R.A., to execute the marble statue which is to form the memorial.

Eton.—On Friday the Prince and Princess of Wales attended the festivities at Eton College, the "speech day," which is usually celebrated on the 4th of June, having been changed to the 5th, in consequence of the Cup being run for at Ascot on the 4th. A brilliant company was assembled on the occasion, and though the day was showery it had no effect on the enthusiasm of the Etonians, who cheered vehemently as the Prince and Princess arrived, and again when they took their departure. All the speeches were well delivered; the poetical address by the son of the Marquis of Bristol attracted particular attention. The regatta, the Rifle parade, and the fireworks in the evening, were all numerously attended. The fireworks were the only portion of the amusements that suffered from the weather.

Guildford.—The committee of the Surrey County Memorial Hospital have at length determined upon proceeding without delay with the building which is to be erected on a plot of two acres presented by the Earl of Onslow, on the slope of the Hogsback, close to this town. In answer to the advertisements for tenders, 33 large building firms competed, the highest offer being 15,254*l.*, and the lowest 10,629*l.* The committee have accepted the lowest tender but one—that of Mr William Barnes, of Nutfield, Redhill, for 11,303*l.* At present the committee have only money in hand and promises to the extent of about 7300*l.*, which includes 500*l.* offered by a gentleman on condition that two like sums should be contributed, which offer has not yet been responded to. Under these circumstances the committee reserve to themselves power to stop the further progress of the works after the building has been roofed in, should the funds at that time not be sufficient for their completion. It is now determined to make the hospital much more complete and perfect than was at first contemplated, and hence the original estimate, which was something under 8000*l.*, has been much exceeded. The plans were submitted to Miss Nightingale, at whose suggestion numerous practical improvements have been adopted. It is intended to use Parian cement for the internal walls of the wards, to have plate-glass windows, and to construct an additional floor in the roof, at the Earl of Onslow's suggestion, for which his lordship will pay. It is also intended to apply Fox & Barrett's principle, which will render the building fireproof, to have a hot-water supply over the whole of the hospital, a well with an engine and pump, tanks for rain-water and fittings of every description. Hopes were entertained that the Prince of Wales might have been induced to lay the foundation stone of the hospital, as being the first erected as a distinct memorial of the Prince Consort, but he was compelled by the many applications made to him from all parts of the country, to decline all those which are not locally connected with his property.

Manchester. — At the weekly meeting of the Executive Committee on Monday, the honorary secretary reported that the receipts during the week had been 2270*l.* 1[illegible]*s.* 3*d.*, leaving a balance in the bank of 362,465*l.* 12*s.* 10*d.* Mr. Commissioner Farnall reported that the decrease in the week ending the 30th May of persons in receipt of relief in 27 unions was 1858. The total decrease since the 6th of December was 102,386 persons, leaving 1[illegible]9,597 persons still chargeable. The secretary's monthly report for May stated that the total number of persons in receipt of relief on the books at the end of May as compared with the end of April showed a decrease of 72,000.

Norwich.—The 30 coach horses purchased some time since by Mr. W. F. Windham were sold a few days since by auction and realised 460*l.* Several of them were purchased by Mr. Windham in the winter for 30*l.* or 40*l.* each. The coach has been transferred to Mr. T. Raynham, a well-known local coachman, whose name has been substituted upon the vehicle for that of Mr. Windham. Mr. and Mrs. Windham are now living in London, and the lady's debts are said to be all paid.

Wilton.—An exceedingly beautiful monument in marble, the work of Mr. Phillip, of Roehampton place, Vauxhall Bridge Road, has just been placed in the parish church of Wilton, to the memory of the late Lord Herbert of Lea. The monument consists of a recumbent figure with clasped hands, resting on a tomb, with two angels at the head. The figure, an excellent likeness of his lordship when young, is admirably carved, and around the top of the tomb is a brass with the following inscription:—"Sidney, Lord Herbert, second son of George Augustus, eleventh Earl of Pembroke, born 16th September, 1810; died 2d August, 1861. Blessed are the dead which die in the Lord; they rest from their labours. Founder of this church. In pace." The monument is erected on the right-hand side of the chancel, within the rails, opposite to the one by the same sculptor, erected at the latter end of last year to the memory of his lordship's mother, the late Countess of Pembroke.

Wotton-under-Edge.—The first stone of a monumental memorial of Tyndale, the martyr, and translator of the Bible, was laid a few days since near this town. The monument, which is to be erected by public subscription, will be on Nipley Knoll, and in the parish in which Tyndale was born. The knoll belongs to Lord Fitzhardinge and the freeholders of North Nibley, and the stone was laid by the Hon. Colonel Berkeley, M.P., as representative of his father. There was a very large assemblage of people. The spot selected is so lofty that the memorial will be seen from a great distance. It will consist of a tower 111 feet high, exclusive of the terminal, which is to be a reflector. The cardinals will be ornamented with sculpture, representing the chief events in Tyndale's life. Inside the entrance door will be a recess, in which a Bible will be chained, and there will be a book tray upon which it may be laid to be read. As yet only 800*l.* have been received towards the 1500*l.* required.

## Ireland.

The Egmont Case.—The Lord Chancellor of Ireland gave judgment on Monday in this case, granting the prayer of Lord Egmont, and directing the question to be tried at common law at the next Cork assizes.

Murder of another Landlord in Tipperary.—On Thursday week Mr. Andrew Jackson, a magistrate, residing at Mount Pleasant, about four miles from Nenagh, after finishing his breakfast and ordering his car to be got ready to take him to Nenagh, lit his pipe and went out in his slippers, as he was accustomed, to

take a walk in his shrubbery, which is close to the house. He also gave directions that his little son, four years old, should be got ready to accompany him on the car. Hours passed and he did not make his appearance; yet Mrs. Jackson was not alarmed, supposing that he had walked across the field to his brother's, or that he had gone into town with some friend who was passing. She sent to his brother's, and to her father's residence, but nothing was heard of her husband in either place. The idea of murder did not occur to her mind during the day, but during the night she sent the coachman, steward, and herd to search about the grounds, and about daybreak on Friday morning they found the body under a cluster of laurels in the shrubbery within a few yards of his house. The slippers were first discovered a few paces from the body, which was lying with the face downwards. The head was covered with blood, but as there were no marks of violence on the rest of the body, they feared he had burst a blood-vessel. A surgeon on being sent for found the skull broken in two places by a blunt instrument. The blow must have been struck with a bludgeon from behind, and the effect was instant death. The assassin seems to have been lurking behind a tree, and to have come stealthily behind Mr. Jackson as he sauntered quietly along the gravelled walk smoking his pipe without a thought of danger. His gold watch and money were gone, but it was supposed that this was done to divert attention from the real motive of the murderer, which was not robbery, but agrarian vengeance. The jury returned a verdict of "Wilful Murder against some person or persons unknown." The magistrates held a meeting at the Court House at Nenagh on the same day, and subscribed 500*l.* as a reward for the discovery of the murderer, and on Wednesday the Lord-Lieutenant offered 100*l.* on behalf of the Government. Four of Mr. Jackson's tenants who had paid him no rent for several years, and whom he had served with ejectment processes, were afterwards taken into custody. Two of them are brothers, named Peters, the names of the others are Cummins and Kennedy. The steward of the murdered gentleman, a man named Madden, and his son, have also been arrested since the inquest. The *Nenagh Guardian* says that Mr. Jackson was "generally esteemed and beloved by men of all classes and creeds." His wife was sister to Miss Smythwick, who was drowned a few years since at the Puffin Hole, Kilkee, in company with Colonel Pepper.

## Railways.

The Charing Cross Railway.—The works of this important metropolitan line have lately been pushed forward with such vigour, that it is expected to be ready for opening in July. At Charing Cross the station is rapidly advancing, the walls being up nearly to the height required for carrying the iron and glass roof. The front facing the Strand, the lower part of which is to serve as the booking and general offices, and the upper part as a hotel, has advanced to the basement story, and the east wing, facing Villiers Street, is progressing with equal rapidity. The bridge may be considered as complete so far as its actual supports and heavy framework is concerned. Hungerford Bridge has disappeared with the exception of the lower part of the two towers, which rest upon the brick piers. The station in the West Strand will be 170 feet wide, and about 450 feet long. It will be on brick-built arches, the whole of which have been tarred and concreted. The arches, which are of enormous solidity, have a span of 30 feet, and cover a large area available for cellarage. The station front will be 100 feet back from the Strand, and its frontage will be 230 feet in length, extending from Villiers Street on the east to Brewer's lane on the west. On the Surrey side and the other bridges on this line, nearly the whole of the work is completed, and, with the exception of a bridge near the Borough Market, and another across the road leading to the present London Bridge Station, no heavy work now remains to be done. This latter bridge will be a skew bridge, and, being of very great span, requires to be of enormous depth in order to obtain the requisite strength. These will be the most unsightly structures ever erected in the metropolis, and will do more to disfigure London than anything which has been devised since the introduction of railways. When completed however, the new line from Charing Cross, connected as it will be with the South-Western, and the whole system of the South-Eastern, London, Chatham, and Dover and Brighton Railways, will be of immense value in relieving the crowded streets of the metropolis, and in providing for the wants of an enormous local as well as through traffic.

## Law.

Court of Queen's Bench: *Cardigan v. Calthorpe.*—In this case the Earl of Cardigan had obtained a rule calling on the Hon Colonel Calthorpe, nephew of Lord Raglan, to show cause why a criminal information should not be filed against him for a libel, in asserting in his work on the Crimean war—entitled "Letters from Head Quarters,"—that Lord Cardigan instead of leading the light cavalry charge at Balaklava, actually fled from the field from cowardice before the whole of his men had reached the Russian batteries. Lord Cardigan submitted numerous affidavits from officers and men who were present on the occasion to show the utter groundlessness of this imputation; and Colonel Calthorpe to a certain extent admitted that his statements were unfounded, and instructed his counsel to say that he had instructed his publishers to destroy the unsold copies of his book. The Lord Chief Justice on Wednesday, in giving judgment, said there could be no doubt that the passages complained of did contain a gross libel, for which, in ordinary circumstances, the Court would have had no hesitation in granting a rule for criminal information, but as all the unsold copies had been destroyed, and Lord Cardigan, instead of coming to that Court in the first instance for redress, had taken the matter into his own hands by applying for a Court Martial, bringing the matter before the House of Lords, and other measures, the Court felt bound to refuse the application, but without costs.

Central Criminal Court: *Robbery by a Dissenting Minister.—Thomas Wycherley*, a Baptist minister, was indicted for stealing 50*l.* in Bank of England notes, and some articles of clothing and jewellery, the property of a lady named Sophia Levy. The principal witness against him was the servant, girl who is now undergoing punishment for her share in the offence, and her statements had varied so much at different times that little dependence could be placed on her word. Several other witnesses, however, were examined, who confirmed her evidence in all the material points. The jury afte quarter of an hour's deliberation returned a verdict of *Guilty*, and the prisoner was sentenced to six years' penal servitude, the judge observing that the crime he had committed was so much the worse from the fact that he was a man who, under the garb of sanctity, had wormed himself into Mrs. Levy's household, and then basely robbed her with the help of the servant *Alleged Murder of a Husband.—Ann Doggett*, a middle-aged woman, dressed in deep mourning, surrendered to take her trial for the manslaughter of William Henry Doggett. The case was of a very peculiar character. The offence imputed to the prisoner was, that she had by gross neglect and ill treatment caused the death of her husband. It appeared that deceased was suffering from dropsy, and that his illness was of such a character that it was impossible he could have recovered; but it was alleged that the prisoner had accelerated his death by neglecting to give him his medicine, and by treating him in other respects in a most gross manner. It was however admitted to be doubtful whether the charge was one legally sustainable, and it appeared that the greater portion of the acts imputed to the prisoner were committed while she was in a hopeless state of intoxication, and that when she was sober, she behaved kindly to deceased. Several witnesses having been examined, Baron Bramwell said that it might possibly be that if deceased had been more carefully attended to he would have lasted longer, but it appeared to him that there was no evidence to support the charge against the prisoner, and that she ought not to be convicted. If she had acted in the way that had been described, her own reflections and her conscience must be her punishment. The Jury then, under his lordship's direction, returned a verdict of *Not Guilty*. *Burglary by Ticket of Leave Men.—Roderick O'Lochlen*, 28, printer, and *Arthur Hewitt*, 30, smith, were indicted for feloniously breaking and entering the dwelling-house of Lord Chesham, and stealing therein jewellery and watches to the value of 110*l.* From the evidence it appeared that a police-constable was on duty at the lower end of North Audley Street, when he saw the two prisoners jump from a wall surrounding the premises of the prosecutor. They were immediately seized, and after some resistance secured. Upon each of them was found tremendously large life preservers, with which they attacked the constables, and when captured the whole of the stolen property was found in their possession. The Jury convicted both the prisoners. It was then proved that they were both ticket-of-leave men, and that the elder prisoner Hewitt had been a thief and depredator by profession since the year 1851, when he was sentenced to four years' penal servitude. From this he was released by ticket-of-leave, but was sentenced again to imprisonment in 1853. No sooner was he out of gaol than he again resumed his practice, and in 1859 he was sent into penal servitude once more. As this sentence, also, was for four years, and as he committed the crime for which he was now convicted on the 12th of last month, he must either have received a fresh ticket of leave, or have begun to prey again upon society without the loss of an hour after the expiration of his punishment. The other prisoner O'Lochlen, though only 28, had been twice before convicted, and had been once sent into penal servitude for four years, but had also been released on "leave." Baron Bramwell sentenced O'Lochlen to 15, and Hewitt to 10 years' *Penal Servitude*.

## Obituary.

General Sir John Hanbury, K.C.B., K.C.H., Colonel of the 99th Regiment, died on the 7th inst., at 15, Charles Street, Berkeley Square, after a protracted illness, in his 81st year. He entered the army in 1799, and in his early career saw much active service. He served in the Egyptian campaign of 1801 as lieutenant in the 58th, including the actions of the 8th, 13th, and 21st of March, and received the gold medal from the Sultan. He was aide-de-camp to General Warde in the campaign of 1808-9, and was present at Sir John Moore's retreat, and at the Battle of Corunna. He served with the 1st Guards at Walcheren, in 1809, and subsequently in the Peninsular campaign, including the retreat from Burgos, Passage of the Bidassoa, and Adour, battles of Nivelle and Nive, investment of Bayonne, and repulse of the sortie. He received the war medal with four clasps for Egypt, Corunna, Nivelle, and Nive, and was created a Knight Commander of the Bath and of the Hanoverian Order. He was appointed colonel of the 99th Regiment in 1851, and attained the full rank of general in 1854. He was the second son of the late Mr. William Hanbury, of Kelmarsh, Northamptonshire, and married, in 1842, the eldest daughter of Sir Nelson Rycroft, Bart. His elder brother, William, was created a peer by the title of Lord Bateman in 1837, and the deceased was consequently uncle of the present lord.

The Rev. Dr. Russell, D.D., Canon of Canterbury, and Rector of St. Botolph, Bishopsgate, died at Canterbury on the 3d inst. He was formerly well known as head-master of the Charterhouse, and for 30 years has been rector of one of the most important of London parishes. Dr. Russell was educated at Charterhouse School, where he gained the gold medal of honour in 1801, and was thence elected student of Christ Church, Oxford, graduating in honours in 1806, and proceeding M.A. 1810. Having been ordained deacon in 1809 and priest in 1810, he returned to his school as head-master in 1811, and became a D.D. in 1819. For 21 years Dr. Russell guided the studies of a vast number of youths, many of whom became distinguished in after life—among them the Bishop of St. David's, Mr. Grote, Mr. Thackeray, Archdeacon Churton, Sir H. Havelock, Sir C. Trevelyan, Archdeacon Otter, Dr. Saunders, Dean of Peterborough, and Dr. Elder, both successively head-masters of Charterhouse, Mr. G. S. Venables, Q.C., the Hon. J. C. Talbot, Q.C., Mr. C. C. Clifford, M.P., the Dean of Christchurch, Sir H. Storks, Mr. Bernal Osborne, M.P., and Mr. Martin Tupper. In the most flourishing time of his mastership—1823-24—there were about 480 boys in the school; in 1829, there were but 299. Dr. Russell's character as a stern but able head-master of the old school is well drawn by his pupil, Mr. Thackeray, in "The Newcomes," whose Greyfriars is, of course, the Charterhouse. Dr. Russell was made a Canon of Canterbury by Archbishop Howley in 1827, and in 1832 he received from the Crown in succession to Dr. Blomfield, Bishop of London, the valuable rectory of St. Botolph, Bishopsgate, upon which he resigned his mastership. Though he was never a popular preacher, he was one of the best readers in the Church. As an administrator he was much valued in the church societies, and was, up to his death, the treasurer of the Society for the Propagation of the Gospel. Dr. Russell was author of a popular English grammar (1832), the "Rudiments of Latin" (1816), a Spital sermon (1833), "Concio ad Clerum" (1833), and he edited "Casaubon's Ephemerides," in 1850.

BIRTHS.—On the 9th inst., at Essex Lodge, Upper Norwood, Surrey, the Lady Charlotte Hetley, prematurely, of a daughter, stillborn—9th inst, in Portman Square, Lady Louisa Agnew, of a daughter—8th inst, at 16, Charles Street, Berkeley Square, the Lady Evelyn Brudenell Bruce, of a son—4th inst, at Dalham Hall, Suffolk, Lady Affleck, of a daughter.

MARRIAGES.—On the 9th inst, at St. Peter's Church, Eaton square, Colonel Richard C. H. Taylor, C.B., late of the 79th Regiment, second son of the late Hon. and Rev. Henry E. Taylor, to the Lady Jane Hay, fourth daughter of the Marquis and Marchioness of Tweeddale, and sister of the Duchess of Wellington—9th inst, at St. George's, Hanover Square, Sir John Hill, Bart., of St. Columbs, co. Londonderry, Ireland, Major 19th Hussars, to Charlotte Isabella, only daughter of Henry D. Blyth, Esq., of Hamilton Place, Piccadilly—4th inst, at All Saints', Huntingdon, Wellington Montagu, son of Vice-Admiral Pakenham, to Emma Sophia Julia, daughter of George Rust, Esq., of Cromwell House, Huntingdon—3d inst, at the parish church, Lancaster, George Whitehead, Esq., of Escrick, to Mary Jane, daughter of the late Right Hon. Matthew Talbot Baines—2d inst., at St. Peter's Church, Eaton Square, Vice-Admiral Sir Henry Leeke, K.C.B., K.H., M.P., to Georgiana Lucy Cecilia, only daughter of the late Rev. Geoffry and the Hon. Mrs. Hornby—4th inst, at the Consulate Chapel, Cologne, the Rev. John Glover, M.A., vicar of Brading, Isle of Wight, eldest son of the late Colonel Glover, of Livingshayes, in the county of Devon, to Susan Emma, youngest daughter of the late Colonel the Hon. Alexander Murray, of Frimley, Surrey, and granddaughter of John, fourth Earl of Dunmore.

DEATHS.—4th inst, in Queen Square, Westminster, the Lady Sophia Hoare, aged 55—7th inst, at 24, Bruton Street, after a long illness, the Lady Louisa Elizabeth Pakenham, youngest daughter of the late and sister of the present Earl of Longford, aged 33—4th inst, at Ravensworth Castle, the Hon. Hedworth John Liddell, second son of the Right Hon. Lord Ravensworth, and formerly Captain of the 15th Regiment, aged 38—20th ult, at 133, George Street, Edinburgh, Elizabeth Diana Sinclair, daughter of the late Right Hon. Sir John Sinclair, Bart.—4th inst, at Blenkinsopp, Northumberland, Colonel John Blenkinsopp Coulson, aged 84—5th inst, at Norwood, Adam Steuart Gladstone, Esq., Lieut.-Colonel of the Liverpool Volunteer Rifle Brigade, aged 48—10th inst, Charles Standish, Esq., of Standish, in the county of Lancaster, aged 73—10th inst, in Russell Square, Sophia, wife of J. B. Heath, Esq., F.R.S., Sardinian Consul General—2d inst, at 7, Burlington Street, Bath, Dr. William Barry, M.D., late Deputy Inspector-General of Hospitals, aged 79—4th inst, drowned in the river Cam, at Grantchester, by the upsetting of his boat, Mr. Isaac Pask, foundation scholar of Emmanuel College, Cambridge, and mathematical scholar of the London University, eldest son of Mr. James Pask, of 6, Stratford Place, Camden Town, and the Common Pleas Registry Office, aged 19—1st inst, at Brighton, the Rev. Frederick Græme Middleton, rector of Medstead, Hants, aged 61—31st ult, at Guildford, the Rev. T. Ludlam, M.A., rector of Holy Trinity and St. Mary's, Guildford, aged 53—4th inst, at West Felton Rectory, near Shrewsbury, the Rev. H. C. Boutflower, rector of Elmdon, Warwickshire, aged 66.

## Markets.

### COVENT GARDEN, June 13.

Owing to the late rains Vegetables of all kinds are abundant, Peaches, and Nectarines are more plentiful, and of Grapes and Pine Apples the supply is sufficient for the demand. Strawberries are becoming plentiful, and fetch from 2s. to 4s. per lb. Cherries of foreign growth, of which there are large arrivals, are fetching from 5s. to 6s. 6d. per basket, weighing about 24 lbs. each. Of Melons, both English and foreign, there is a good supply, and Oranges are also plentiful. New Potatoes realise from 8s. to 11s per cwt; old ones are about 1*l.* lower per ton than last week's quotations. Cut flowers chiefly consist of Orchids, Pelargoniums, Azaleas, Violets, Stocks, Calceolarias, Mignonette, and Roses.

#### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 8s | Lemons, per 100, 9s to 12s |
| Grapes, per lb., 6s to 10s | Oranges, per box, 25s to 30s |
| Strawberries, p. lb., 6s to 10s | — per 100, 5s to 10s |
| Apples, per doz., 9d to 1s 6d | Nuts, small, per bushel, 14s to 18s |
| Figs, per doz., 8s to 12s | Almonds, do., 18s |
| Peaches, per doz., 15s to 30s | Walnuts, do., 10s to 16s |
| Nectarines, do., 10s to 18s | |
| Melons, each, 3s to 7s | |

#### VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Green Peas, per qt., 1s 6d to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 6d to 8d | French Beans per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 99s | Asparagus, per 100, 2s to 5s |
| „ Flukes, do., 100s to 120s | Shallots (new), p. bunch, 9d |
| „ Rocks, do., 60s to 80s | Rhubarb, p. bundle, 2d to 4d |
| „ Cups, do., 75s. to 85s | Garlic, per lb., 8d to 1s |
| Turnips, p. bunch, 9d to 1s 3d | Lettuces, each, 1d to 2d |
| Carrots, do., 1s to 1s 9d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun, 1s 6d to 4s |
| Cucumbers, each, 1s to 1s 6d | Mushrooms, p. pott., 1s to 1s 3d |
| Beet, per doz., 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch, 2d to 4d |

### POTATOES, Southwark, Monday, June 8.

During the past week the arrivals coastwise and by rail have been limited: but owing to the large arrivals of Jersey and foreign new ones, there has been a reaction in the trade, and the old Potatoes have fallen in price from 10s. to 20s. per ton. The following are the quotations:—York Flukes, per ton, 130s. to 150s.; ditto Seedlings, 90s. to 110s.; do. Rocks, 90s. to 100s.; Perth, Forfar, and Fife Rocks, 80s. to 90s.; do. Reds, 75s. to 80s.; French New, 8s. to 10s. per cwt.; Jersey do., 8s. to 10s.

### NEWGATE.—June 12.

Best Fresh Butter .. .. 13s. per dozen lbs.
Second do. do. .. .. 11s. „
Pork, 4s 0d. to 4s. 4d. per 8 lbs.

## METROPOLITAN CATTLE MARKET.

MONDAY, June 8.

We have a few more Beasts than on Monday last; but the demand is good, and that day's quotations are well maintained. The number of Sheep is about the same. The trade is much more active, and choicest descriptions make rather more money. Good Lambs are in request at fully late rates. Calves are rather more plentiful, and prices on the average not so good. From Germany and Holland there are 680 Beasts, 5740 Sheep, and 257 Calves; from Spain, 70 Beasts; from Ireland, 30; from Norfolk and Suffolk, 3120; and 250 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools .. | .. — .. |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn .. | 4 4 to 4 8 |
| 2d quality Beasts | 3 6 — 4 6 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds .. | .. — .. | Do. Shorn .. | 3 4 — 4 2 |
| Do. Shorn .. | 4 10 — 5 0 | Lambs .. .. | 5 8 — 6 8 |
| | | Calves .. .. | 3 0 — 4 6 |
| | | Pigs .. .. | 3 4 — 4 4 |

Beasts, 4480; Sheep & Lambs, 26,180; Calves, 325; Pigs, 310.

THURSDAY, June 11.

The number of Beasts is considerably larger than on Thursday last; yet the demand is good, and a fair clearance is effected at fully late prices. The supply of sheep has not increased. Trade is brisk, and quotations on the average are rather higher. We are fairly supplied with Calves and Lambs; there is a cheerful trade for them at rather over Monday's prices. Our foreign supply consists of 362 Beasts, 1120 Sheep, and 422 Calves. Milch Cows, 125.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 10 | Best Long-wools. .. | — .. |
| Best Short-horns | 4 8 — 4 10 | Do. Shorn .. | 4 6 — 4 8 |
| 2d quality Beasts | 3 6 — 4 6 | Ewes & 2d quality .. | — .. |
| Best Downs and Half-breds .. | .. — .. | Do. shorn .. | 3 6 — 4 4 |
| Do. Shorn . | 4 10 — 5 0 | Lambs .. .. | 6 0 — 7 0 |
| | | Calves . .. | 3 8 — 4 10 |
| | | Pigs .. .. | 3 4 — 4 4 |

Beasts, 1285; Sheep & Lambs, 10,570; Calves, 591; Pigs, 180.

## HOPS.—BOROUGH MARKET, FRIDAY, June 12.

Messrs. Pattenden & Smith report a fair demand for fine and middling samples of both English and foreign, with a short supply. The plantation accounts are favourable as regards the progress of the bine, but every district is more or less infested with both fly and lice. Prices remain the same.

## COAL MARKET.—June 10.

Davison's West Hartley, 15s. 3d.; Hastings Hartley, 15s. 3d.; Tanfield Moor Butes, 13s.; Walker Primrose, 12s. 3d.; Wylam, 15s. 9d.; Eden Main, 15s. 3d.; Walls End Belmont, 16s.; Walls End Braddylls Hetton, 16s. 3d.; Walls End Haswell, 17s.; Walls End South Hetton, 17s.; Walls End Stewarts, 16s. 6d.; Walls End Tunstall, 15s.; Walls End Hartlepool, 16s. 9d.; Walls End Heugh Hall, 16s.; Walls End Kelloe, 16s.; Walls End East Hartlepool, 16s. 9d.; Walls End South Kelloe, 16s. 3d.; Carway and Duffryn Malting, 19s. 6d.—60 ships at market.

## HAY.—Per Load of 36 Trusses.

SMITHFIELD, THURSDAY, June 11.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to | 80s | Clover, old .. .. | 95s to | 120s |
| Superior do. .. | 84 | 90 | New Clover .. .. | — | — |
| Inferior do. .. | 55 | 60 | Do. second cut .. | 90 | 105 |
| New do. .. .. .. | — | — | Straw .. .. .. | 23 | 34 |
| Rowen .. .. .. | 50 | 60 | | | |

HARVEY & EASTON.

WHITECHAPEL, THURSDAY, June 11.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay.. | 96s to | 105s | Inferior Clover .. | 88s to | 98s |
| Inferior do. .. .. | 75 | 88 | New do. .. .. | — | — |
| New do. .. .. | 70 | 80 | Straw .. .. | 36 | 42 |
| Superior Clover .. | 112 | 120 | | | |

JOSHUA BAKER.

CUMBERLAND MARKET, THURSDAY, June 11.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 80s to | 90s | Prime Clover .. | 115s to | 123s |
| Inferior do. .. .. | 72 | 80 | Inferior do. .. .. | 108 | 115 |
| Prime New Hay .. | — | — | Prime 2d cut .. | 105 | 116 |
| Inferior .. .. | — | — | Inferior do. .. .. | — | — |
| Straw .. .. .. | 28 | 32 | New 2d cut .. | — | — |

## BRITISH WOOLS.—LONDON, June 12.

Our trade continues in a healthy state, and a fair amount of business is transacted, considering the small arrivals of new wool. The prices asked by the farmers continue very exorbitant.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 8 to 1 8½ | Leicest. Wethers | 1 7 to .. |
| Half-bred ditto.. | 1 9 — 1 9½ | Ditto Hoggs .. | 1 8 — .. |
| Down Ewes .. | 1 6½ — 1 7 | Combing Skins | 1 4 — 1 6 |
| Kent Fleeces .. | 1 8 — 1 8½ | Flannel Wool .. | 1 4 — 1 8 |
| | | Blanket ditto .. | .. — .. |

## MARK LANE.—MONDAY, June 8.

The supply of English Wheat for this morning's market was small, and disposed of at the prices of this day week. Foreign Wheat met an improved inquiry, but sales were slow, particularly for Baltic qualities, which must be written 1s. per qr. lower. For Barley there was a fair sale at last week's quotations. Beans and Peas are unaltered in value. Good fresh Oats are in demand at the prices lately current, but out-of-conditioned parcels are difficult of sale, and 6d. per qr. cheaper. For Flour there was a moderate inquiry at a reduction of 6d. per barrel.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 46—56 | Red .... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — Talavera .............. | 48—60 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 34—62 | | |
| BARLEY, grind. & dist., 23s to 30s..Chev. | 34—38 | Malting . | 31—34 |
| — Foreign..grinding and distilling | 23—27 | Malting . | 28—32 |
| OATS, Essex and Suffolk ............ | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .. | 21—23 |
| — Irish ...............Potato | — | Feed .. | — |
| — Foreign........Poland and Brew | 20—22 | Feed .. | 17—22 |
| RYE ........................ | 35—37 | Foreign . | — |
| RYE-MEAL, foreign.......... | — | | |
| BEANS, Mazagan....30s to 31s ...Tick | 31—32 | Harrow . | 31—32 |
| — Pigeon ......34s —38s..Winds. | — | Longpod | — |
| — Foreign ..............Small | 40—46 | Egyptian | 32—34 |
| PEAS, white, Essex and Kent..Boilers | 35—37 | Suffolk . | 37—40 |
| — Maple ....42s to 43s ......Grey | 36—37 | Foreign . | 30—38 |
| — ..........................White | — | Yellow .. | — |
| FLOUR, best marks delivered..per sack | 42—47 | | |
| — 2d do ....................ditto | 32—40 | Country | 32—40 |
| — Foreign ...............per barrel | 23—30 | Per sack | 34—48 |

FRIDAY, June 12.

Since the 5th inst. the weather has been very wet and boisterous. The rain is proving of the greatest benefit to all the crops. The Wheat trade has been dull; prices are generally written 1s. per quarter lower. The value of Barley, Beans, and Peas has remained unaltered, but Oats in the chief markets of the kingdom are quoted the turn lower. Since Friday last 38 vessels have been reported off the coast. A moderate business has been done in floating cargoes. Wheat prices were barely maintained; Maize declined about 1s. per quarter; other descriptions of spring corn remained steady, and Linseed fetched 6d. per qr. better prices. In Paris (June 11), the Wheat and Flour trades have improved in tone; extreme rates have been paid for Flour, and Wheat prices advanced about 9d. per qr.; the business transacted, however, has not been large. The present stock of Flour is estimated at 10,770 cwts. The six marks for delivery this month are quoted equal to 40s. per 280 lbs. The arrivals of all descriptions of grain this week are moderate, but large of barrel Flour. The attendance at this day's market was small. Wheat, both English and foreign, met a slow sale at Monday's prices. Spring corn of all kinds was steady at our late quotations. For Flour there was a moderate inquiry at reduced rates.

ARRIVALS THIS WEEK.

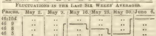
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1090 qrs. | 10 qrs. | 20 qrs. | 790 sks. |
| Irish .... | — | — | — ,, | — ,, |
| Foreign .. | 8130 | 1670 ,, | 15,350 ,, | 1520 ,, 26,550 brls |

LIVERPOOL, June 9.—At our market to-day, with a moderate attendance, Wheat met a slow sale at a decline since Friday of 1d. per cental. Flour dull and easier. Indian Corn again 6d. per quarter cheaper.

FRIDAY, June 12.—The market fairly attended. Wheat limited business, and prices in favour of purchasers. Flour dull and rather cheaper. Indian Corn steady demand; mixed 28s. to 28s. 3d. Egyptian Beans scarce, Saida on the quay being 30s. 9d. Oats and Oatmeal moderate sale at late rates.

| AVERAGES. | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| May 2.. | 45s 9d | 34s 6d | 21s 2d | 29s 8d | 37s 3d | 35s 6d |
| — 9.. | 46 2 | 34 4 | 22 1 | 30 11 | 37 6 | 34 0 |
| — 16.. | 46 9 | 34 5 | 21 11 | 33 7 | 38 3 | 35 8 |
| — 23.. | 46 8 | 33 9 | 22 7 | 34 6 | 38 6 | 36 5 |
| — 30.. | 46 5 | 33 8 | 22 8 | 40 2 | 38 11 | 35 9 |
| June 6.. | 46 10 | 31 11 | 22 10 | 32 5 | 39 10 | 36 8 |
| Agg. Aver. | 46 5 | 33 9 | 22 2 | 33 6 | 38 5 | 35 8 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




WANTED, a BOOKKEEPER in a Nursery and Seed Establishment.—Apply to Messrs. J. & C. LEE, Royal Vineyard Nursery, Hammersmith.

WANTED, a FOREMAN for a small Nursery.—Must be well versed in Out-door Bedding and Grafting, and the Propagation of General Nursery Stock. Vegetables and Plants are also Grown for Market. Will have to attend to several Gardens taken by the year.—Apply to the undersigned, stating wages and where last employed, FRANK WARWICK, North Road Nursery, Sleaford.

WANTED, as GARDENER, an active Young Man to live in the house; must understand Flower and Kitchen Gardening, and the Management of a Greenhouse.—Apply by letter to M. M., Mullen's Hotel, Ironmonger Lane, Cheapside, E.C.

WANTED, as BUDDER, a Young Man who understands Nursery Work, and is willing to make himself generally useful. Good character indispensable.—Apply to SALTMARSH & SON, Nurserymen, Chelmsford, Essex.

WANTED AT ONCE, as PROPAGATOR, a single young Man; must well understand the Propagation of Soft-wooded Plants, also the Propagation and Growth of Foliage Plants. This is a rare opportunity to a young man who wishes to get into the Forcing of Pines, Peaches, and Grapes, &c.—Address, with age, terms, and testimonials, to the Horticultural Establishment, Gloucester.

WANTED, a MAN and his WIFE, without incumbrance, to live in a Gate Lodge near Bromley, Kent.—The Man as UNDER GARDENER, to Milk two Cows and make himself generally useful; the Woman to take the Dairy and Poultry Yard. Wages 15s. per week, rent free, and allowances.—Address by letter to H. B. C., 11, Lombard Street, E.C.

WANTED, in a retired district, as GROOM and GARDENER, to look after a Cow and make himself generally useful, an active steady Man, of good character. Also wanted a good PLAIN COOK, who understands Baking and Management of Dairy.—Address, Rev. P. G. McDOUALL, Kirk Newton Vicarage, Wooler.

WANTED, as COWMAN, a Man about 30 years of age.—It is requisite the applicant should understand the Management of Fancy Pigeons, Poultry, &c. A single Man preferred.—J. H., 11, Montpellier Row, Twickenham, Middlesex, S.W.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

QUEENSLAND.—The friends of a young gentleman are desirous to meet with some gentleman returning to Queensland who would be willing to take a youth out with him and teach him SHEEP FARMING. References given and required.—Address, H. D., Rhind's, 2, Little Sussex Place, Hyde Park Square, W.

GARDENER (HEAD) to any nobleman or gentleman.—Age 37, no incumbrance; has had practical experience in all branches of his profession, and is fully competent to take charge of an establishment where early Flowers, Fruit, and Vegetables are required; is also a good Kitchen and Flower Gardener. Four years' character from late employer—the Right Hon. Lord Camoys, Stonor Park.—JOHN KEITH, 4, Albion Place, Henley-on-Thames, Oxon.

GARDENER (HEAD), age 30, married, one child three years old.—JAMES BROWN, formerly Gardener to General Sir John Hanbury, Bart., and to D. Boucicault, Esq., is now out of a situation, and will be happy to serve any gentleman who may be in want of an experienced Gardener. Has had extensive practice in Fruit Growing, Flower and Kitchen Gardening.—J. BROWN, The Deepdene Gardens, Dorking, Surrey, S.

GARDENER (HEAD).—Age 28, married; with good practical knowledge. Four years' character.—W. HARRISON, Humberston, Leicester.

GARDENER (HEAD). — Age 40, married, two children; understands Cucumbers, Grapes, Flower and Kitchen Garden, and Grass Land. Two and a half years' good character.—G. W., Post Office, Walham Green, Fulham, S.W.

GARDENER (HEAD.)—Age 30, married, no incumbrance; thoroughly understands his profession in all its branches; Pines, Vines, Peaches, Melons, Flower and Kitchen Garden. Has been 15 years in good establishments. Good references.—A. B., Post Office, Emsworth, Hants.

GARDENER (HEAD).—Age 29, married; thoroughly understands Gardening in all its branches, having had 12 years' experience in first-rate places. Five years' good character from present situation.—A. B., Post Office, Stanmore, Middlesex.

GARDENER (HEAD).—Age 40, married; has had 24 years' experience in Early Forcing of Vines, Pines, Peaches, Melons, and Cucumbers; thoroughly understands Orchids, Foliaged, Stove and Greenhouse Plants, the Orchard House, Flower and Kitchen Gardens, Laying Out, Erecting and Heating Horticultural Buildings, also Park and Plantation work. Character unexceptionable.—T. H., Mr. Williams, Paradise Nursery, Holloway, N.

GARDENER (HEAD), where not less than two or three are kept.—Middle-aged, married, no incumbrance; can superintend Grass Land and Stock.—J. B., Post Office, St. Mary Cray, Kent, S.E.

GARDENER (HEAD), where one or two are kept.—Age 27, single; understands the general routine of Gardening. Good character.—A. B., Mr. Boxall, Upper Mitcham, Surrey.

GARDENER (HEAD OR SINGLE-HANDED.)—Age 24, single; has a practical knowledge of his profession. Three years' good character.—J. B., 17, Archer Mews, Westbourne Grove, London, W.

GARDENER (HEAD OR SINGLE-HANDED).—Age 38, married, no incumbrance; understands the Management of Greenhouse, Vines, &c. Good character.—A. B., Jackson's Nursery, Kingston, Surrey, S.W.

GARDENER (FOREMAN), age 23, single.—A Gardener can with confidence recommend his Foreman, who has lately left, to a good Gardener, where Plant Growing and Forcing is carried on. Is a trustworthy, persevering man, steady, industrious, and has a fair knowledge of his business.—A. L., Post Office, Queen's Road, Chelsea, W.

GARDENER.—Age 24, single; practical knowledge of profession.—A. B. C., Post Office, Lamberhurst, Kent.

GARDENER.—Married, one child; thoroughly understands his profession in all its branches. Five years' good character.—J. T., 4, Henry Street, Upper Kennington Lane, S.

### To Noblemen or Gentlemen.

GARDENER.—Age 36, married; thoroughly practical; has had for years the Management of a Nobleman's Garden, where Plants, Fruits, and Vegetables are grown in the highest perfection, and by whom he can be recommended, also by his present employer.—JAMES PYNE, 212, Buxton Road, Macclesfield.

GARDENER, where three or more are kept.—Age 27; thoroughly understands his profession in all its branches. Good character.—A. B. C., 4, Broomhill, Sheffield.

GARDENER (SECOND).—Age 22; understands the Management of Stove and Greenhouse Plants, and Forcing. Two years' good character.—M. A., Post Office, Bramley, Basingstoke.

GARDENER (UNDER or SINGLE-HANDED).—Age 23, single; can do any part of the work. Good character.—A. N., 5, Craddock Street, Prince of Wales Road, Kentish Town.

GARDENER (UNDER or SINGLE-HANDED).—Age 22, single; is experienced in all kinds of Forcing, Plant-growing, Kitchen and Flower Gardening.—A. B., Clapham Rise Nursery, Clapham, S.

GARDENER (UNDER). — Age 24; has been accustomed to Glass. Five years' good character from present and previous situation.—P. T., Mr. Allman, Nursery, Horsham, Sussex.

GARDENER (UNDER), where he could improve.—Age 23, would not object to a Premium where such is required.—Q. M. N., Post Office, High Beech, Essex.

IMPROVER, in a good Establishment.—Age 19; two years' experience in the Nursery Business. Wages no object. First-class references.—F. J. H., Post Office, Worcester.

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PROPAGATOR (FIRST-CLASS) or FOREMAN.—Has had extensive practice in the Propagation and Culture of Stove and Greenhouse Plants, Conifers, Roses, Rhododendrons, and General Nursery Stock. First-class Graftsman and good Salesman.—A. B. C., Post Office, Altrincham, Cheshire.

FARM BAILIFF.—Age 22, single; understands the Management of a Farm, Stock, &c.—R. S. BEDMONT, Post Office, Hemel Hempstead, Herts.

CLERK.—Age 20, well educated; has had some experience in a Nurseryman's Counting House, and can give good references.—H. S. E., Mr. Evans, Nurseryman, Chichester.

SHOPMAN.—Four years' unexceptionable character. Reference to present employer.—Mr. WILLIAM CHATER, Seedsman, &c., Saffron Walden.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, JUNE* 20, 1863.

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A Bird's-eye View or Plan of the Garden.

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## News of the Week.

In the House of Lords on Friday the Lord Chancellor introduced a Bill for the Revision of the Statute Law, the object of which was to secure its consolidation, arrangement, and abridgment. The Bill was read a first time. On Monday

the Marquis of CLANRICARDE called attention to the proceedings of the American cruisers, contending that they were in many instances contrary to international law. Earl RUSSELL in reply said that representations had been made to the American Government respecting some of the recent seizures, and he believed there was every desire on the part of the Federal Government to prevent injustice from being done. Her Majesty's Government were of opinion that the blockade maintained by the Federal fleet was sufficiently efficient to entitle it to be respected, and that every allowance should be made for any hasty act on the part of the blockading force. The Prison Ministers' Bill passed through committee. In answer to a question by the Earl of SHAFTESBURY respecting the case of Sergeant-Major LILLEY, the Duke of CAMBRIDGE explained the circumstances under which he had ordered a court-martial to be held on Colonel CRAWLEY. On Tuesday the Vaccination (Ireland) Bill was read a third time and passed, and the Bleaching and Dyeing Works Amendment Bill passed through committee. On Thursday the Duke of RUTLAND asked the intentions of the Government in regard to the Exhibition Building, and condemned the idea of purchasing it at the exorbitant price of 80,000*l*. Earl GRANVILLE defended the course adopted by the Government. The Earl of DERBY, while approving of the purchase of the land, expressed his opinion that the Government ought not to take any steps in regard to the Building without more ample information than they at present possessed as to its capabilities for its projected purposes. The report of amendments in the Prison Ministers' Bill was agreed to. In reply to Lord LYTTELTON, Earl GRANVILLE stated that the Government were considering the best means of effecting an improvement in the law on vaccination.

In the Commons on Friday Colonel DUNNE called attention to the depressed condition of Ireland, and the amount of taxation imposed on that country, and moved for a Select Committee to inquire into the causes of such depression. The motion was opposed by the CHANCELLOR of the EXCHEQUER and Sir R. PEEL, and was ultimately withdrawn. The Drainage of Land (Ireland) Bill was read a third time and passed. On Monday Lord PALMERSTON moved a vote for the purchase of the Exhibition Building and lands at South Kensington, and explained at some length the objects for which the purchase was intended, and the various sums that would be required to alter and adapt the Building to those purposes. He concluded by moving a vote of 67,000*l*. towards the purchase of the land. Mr. GREGORY moved as an amendment, that the vote be rejected. On a division the vote was carried by 267 to 135. The vote for the purchase of the Building was postponed to Thursday the 25th. On the vote for the Department of Science and Art, Mr. A. SMITH moved to reduce it by 10,000*l*. The motion was negatived, upon a division, by 147 to 19. On the order for the third reading of the Volunteers Bill, Mr. HENNESSY moved the recommittal of the Bill with the view of omitting the 20th clause, authorising dismissal of a Volunteer by the commanding officer. On a division, the motion was negatived by 138 to 31. The Bill was then read a third time and passed. On Tuesday Mr. BERKELEY brought forward his annual motion for leave to bring in a Bill to cause the votes of parliamentary electors to be taken by way of ballot. Lord PALMERSTON opposed the motion, which was negatived on a division by 122 to 102. Mr. M'MAHON moved a resolution in favour of such alterations in the assize and circuit arrangements as would secure a more speedy trial of country causes. The motion was seconded by Mr. HADFIELD, and supported by Mr. BAINES, and while the latter was speaking the House was counted out. On Wednesday, on the motion of Mr. DILLWYN, the order for the second reading of his Endowed Schools Bill was discharged, and the Bill withdrawn. The Navy Prize Money Bill and the Civil Courts (Ireland) Bill were read a second time. Mr. LONGFIELD moved that the latter Bill be referred to a Select Committee. The motion was resisted by Sir R. PEEL, and negatived on a division by 40 to 36. The Election Petitions Bill was referred to a Select Committee. The Marriages Registration (Ireland) Bill passed through committee. The Offences (South Africa) Bill was read a third time and passed. On Thursday Mr. VILLIERS moved the second reading of the Public Works (Manufacturing Districts) Bill, the object of which was to afford employment for the distressed operatives in Lancashire and Cheshire. After a long discussion the Bill was read a second time. The House then went into Committee of Supply on the Civil Service Estimates. On the vote of 236,000*l*. for public education in Ireland, Mr. O'REILLY objected to the district model schools, and with a view to their gradual abolition moved the reduction of the vote by the sum proposed for the school at Enniscorthy. On a division the motion was negatived by 122 to 38. Mr. HENNESSY moved that the CHAIRMAN report progress. On a division the motion was negatived by 115 to 35. The motion was again made with the same result, when the Government gave way, and progress was reported. The Charitable Uses Bill passed through committee. The Mutiny (East India) Act Repeal Bill was read a second time.

The Notes addressed to Russia by France, England, and Austria on the Polish question, were despatched to St. Petersburg on Thursday. It is said that they are nearly identical in terms, the only marked difference being that Austria does not suggest a suspension of arms in the form employed by the two Western Powers.

From the United States we learn that General LEE has evacuated Fredericksburg, and abandoned the line of the Rappahannock, and that General HOOKER has crossed the river, and occupied the evacuated city. The latest news from Vicksburg states that all the attempts of the Federals to take Vicksburg by assault had been unsuccessful up to the 2d inst. The Confederate General JOHNSTONE was reported to be at Jackson, with the intention of making an attack on General GRANT's rear. Port Hudson is besieged by the forces of General BANKS on land, and by the fleet of Admiral FARRAGUT by water. A great peace meeting has been held in New York, at which the war policy of the Administration was strongly denounced.

## Home News.

THE COURT.—The Queen and Royal family continue at Windsor Castle. On Friday, on leaving the Horticultural Gardens, the Queen paid a visit to Baron Marochetti's studio, where she remained some time, and then left for Windsor, where she arrived about half-past 12. Prince Alfred left the Castle for Portsmouth. In the afternoon the Queen, accompanied by Princess Helena, drove out in a carriage and four. On Saturday her Majesty, accompanied by Princess Helena and Prince Leopold, visited the Queen Marie Amélie at Claremont. Prince Alfred returned from Portsmouth. Prince Arthur arrived at the Castle from Greenwich Park. Count de Lavradio also arrived at the Castle. Viscount Palmerston had an audience of the Queen. On Sunday morning the Queen, Prince Alfred, Princess Helena, Princess Louisa, Prince Arthur, and Prince Leopold attended Divine service in the private chapel. The Rev. W. R. Jolly officiated. On Monday morning the Queen drove in the grounds. Prince Arthur left the Castle for Greenwich Park. In the afternoon the Queen, accompanied by Princess Louisa, drove out in a carriage and four. In the evening Princess Helena came to London, and was present at the Philharmonic concert. Princess Beatrice drove to Claremont and visited Queen Marie Amélie. On Tuesday Prince Reuss visited the Queen. The Austrian Ambassador and Countess Apponyi arrived from London, and had an interview with her Majesty. On Wednesday morning the Queen walked and drove in the grounds, accompanied by Princess Louisa. Prince Alfred went to Dover to meet the Queen of Prussia. In the afternoon the Queen, accompanied by the Princess Helena, drove out in a carriage and four. Sir George Grey arrived at the Castle and had an audience of her Majesty. On Thursday afternoon the Queen of Prussia, attended by her suite and escorted by Prince Alfred, arrived at the Castle on a visit to her Majesty. The Prince and Princess of Wales arrived at the Castle from Oxford.

ARRIVAL OF THE QUEEN OF PRUSSIA.—Her Majesty the Queen of Prussia arrived at Dover on Wednesday night from Ostend, and was received on landing by Prince Alfred, the Prussian Ambassador, and the Countess Bernstorff, and some members of the Queen's household. Her Majesty passed the night at the Lord Warden Hotel, and on Thursday morning proceeded to Windsor on a private visit to the Queen. The Princesses Helena and Louisa, and Prince Leopold, with a guard of honour, received her Majesty at the Railway Station in Windsor, and the Queen, attended by the ladies and gentlemen in waiting, met her Majesty at the bottom of the staircase of the Castle, and conducted her Majesty to her apartments, which are those formerly occupied by the Duchess of Kent. It is understood that her Majesty will remain at the Castle for a fortnight.

THE PRINCE AND PRINCESS OF WALES.—On Friday morning the Prince of Wales honoured Mr. Heath with a sitting for his photograph at his rooms in Piccadilly. The Prince and Princess afterwards went to Twickenham to visit the Duke and Duchess d'Aumale, and partook of *déjeûner* with their Royal Highnesses. In the evening their Royal Highnesses dined with the Duke and Duchess of Northumberland at Northumberland House. On Saturday a deputation of ladies, consisting of the Countess of Powis, Lady Lucy Herbert, Lady Louisa Pennant, Lady Williams Wynn, Lady Williams, of Bodelwyddw, the Hon. Mrs. William Owen Stanley, Mrs. Wynne, and Mrs. William Gladstone, each representing one of the counties of North Wales, had an interview with the Princess at Marlborough House, and presented to her Royal Highness the jewels subscribed for by the ladies of North Wales. The Countess Vane, who was also deputed from one of the Welsh counties, was unavoidably prevented from attending. The present was composed of a leek formed of emeralds and diamonds, with earrings, and a brooch to correspond. On the leek was a motto in Welsh, signifying "To our own Princess." The Prince was present at the reception. The New Zealand Chiefs had an interview with his Royal Highness at Marlborough House. The Prince of Wales and Prince Alfred rode on horseback. In the afternoon the Prince and Princess honoured with their presence the military concert at the International Exhibition Building in aid of the Princess Mary's Fund for providing nurses for the Cambridge Asylum. In the evening the Prince and Princess of Wales honoured the performance at her Majesty's Theatre with their presence. On Sunday morning their Royal Highnesses attended Divine service at the Chapel Royal, St. James's. The sermon was preached by the Rev. C. Packman. On Monday morning the Prince accompanied the Duke of Cambridge on a visit to the Royal Military College, Sandhurst. The Princess honoured Mr. Heath at his rooms in Piccadilly, with a sitting for her photograph. In the afternoon her Royal Highness took a drive in an open carriage. In the evening the Prince had a dinner party at Marlborough House. On Tuesday morning the Prince and Princess left London about 10 o'clock for Oxford to attend the festivities of Commemoration week. Their Royal Highnesses travelled from Paddington by a special train on the Great Western Railway to Culham station. The details of their reception at Oxford will be found in our Provincial news. On Thursday afternoon their Royal Highnesses left Oxford for Windsor Castle on a visit to the Queen. The Prince and Princess were met at the Windsor station by Prince Alfred, who had been waiting their arrival. Their Royal Highnesses are expected to return to Frogmore in the course of next week.

VISIT OF THE PRINCE AND PRINCESS OF WALES TO SCOTLAND.—The Aberdeen papers say that the Prince and Princess of Wales are expected at Abergeldie Castle about the end of July. Their Royal Highnesses will visit Halifax on their way, the Prince having signified his intention of being present at the opening of the new Town Hall.

PRINCE ALFRED joined her Majesty's screw corvette Racoon, 20 guns, Captain Count Gleichen, at Portsmouth on Friday as her junior lieutenant. His Royal Highness paid a visit to the Port-Admiral and Commander-in-Chief, the Admiral Superintendent of the dockyard, and the Royal Naval College. His Royal Highness afterwards returned to Windsor on short leave. In the course of a few days the Racoon will sail for a three months' cruise on the coast of Scotland, at the close of which Prince Alfred will commence his course of study at the Royal Palace of Holyrood.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street.

PARLIAMENTARY MOVEMENTS.—The death of Captain Gordon has caused a vacancy in the representation of Berwick. Mr. Mitchell, of Stow, is a candidate for the vacant seat in the Liberal interest.

THE NEW CANON OF CANTERBURY.—The canonry in Canterbury Cathedral, vacant by the death of the Rev. Dr. Russell, has been conferred upon the Rev. George Drinkwater Bourne, M.A., of Oriel College, Oxford, rector of Weston-sub-Edge, Gloucestershire.

## Foreign.

FRANCE.—The election for the sixth circumscription of Paris has terminated as follows:—The number of voters upon the register was 40,916, of whom 29,162 recorded their votes. M. Gueroult, the Opposition candidate, editor of the *Opinion Nationale*, obtained 17,495 votes, and M. Fouché Lepelletier, the Government candidate, 11,016. M. Gueroult was therefore elected. The Opposition candidates have also been victorious in the second elections in the department of

the Charente at Havre, and in the department of Seine-et-Oise; while the Government candidates have been returned at Bordeaux, in the department of the Nord, and in the Haut Rhin. At Lyons MM. Favre and Perras have been elected. At St. Quentin M. Malezieux, the Opposition candidate, has been elected by a large majority. At Bordeaux M. Curé has been elected by a majority of 40 votes. At Cambrai M. Boitelle has been elected by 15,429 votes against M. Steinewart, who obtained 14,874 votes. It is said that M. Ferdinand Barron will replace M. Haussmann as Prefect of the Seine, and that M. Rexuel will succeed M. Rouher, Minister of Agriculture, who will be appointed a Minister without portfolio. The resignation of M. Baroche is spoken of. The Minister of Marine has received the following despatch from Rear-Admiral Bosse:—

"Puebla surrendered unconditionally on the 17th of May. Our troops have captured 25 Generals, 900 officers, and about 16,000 men. General Bazaine is marching on Mexico."

The *Moniteur* of Monday published a despatch from General Forey, dated May 18, confirming the report of the departure of General Bazaine for the city of Mexico. It also published a letter addressed on the 12th inst. by the Emperor to General Forey, assuring the General that the capture of Puebla has given the greatest satisfaction. The Emperor says:—

"Tell the officers and troops how highly I appreciate the courage they have shown in this distant expedition, struggling against the climate and an enemy who is the more obstinate because he has been deceived with respect to my intentions. Our object is not to impose on the Mexicans a Government against their will, or to ensure the triumph of any party. I desire to see Mexico rise again with fresh life, and under a Government founded on the national will, show her respect to the law of nations, and by friendly relations acknowledge that she owes to France both peace and prosperity."

The *Constitutionnel* of Saturday publishes an article signed by M. Limayrac, stating that the capture of Puebla is the sure presage of a glorious end of the undertaking. The writer continues:—

"The nations know that our honour once satisfied and reparation obtained, our triumph changes into benefaction. We are not enemies, but liberators of the Mexican people, who were deceived by an iniquitous Government. They will learn that under Napoleon III. the French soldier is more than ever the soldier of civilisation and humanity."

The *Nord* says that a French vessel has been despatched to take possession of the State of Sonora. *La France* asserts that, upon learning the capitulation of Puebla, President Juarez decreed the transference of the seat of Government to San Luiz Potosi. This decision is presumed to indicate an intention of not defending the city of Mexico. The same paper states that orders have been forwarded to the ports of France to keep the men-of-war intended for Mexico in a state of armed preparation, and that the question of reinforcements will not be decided till further reports have been received from General Forey. In the meantime the organisation of the civil Government of Mexico will be proceeded with. It says that 120 officials of the Ministry of Finance, the Postal and Telegraphic services, the Custom House, &c., are to be sent out at once, and that when peace is restored a staff of engineers will be despatched to Mexico to study the question of a canal to the Pacific. It is understood that General Forey will be nominated a Marshal of France, and that General Bazaine will be appointed a Senator. The Emperor arrived in Paris, and presided at a Cabinet Council on Thursday. The King of Sweden has congratulated his Majesty on the victory of Puebla. The Prince of Orange has arrived at Fontainebleau, where his Royal Highness will pass a few days. The Notes of the three Powers upon the Polish question were despatched to St. Petersburg on Thursday morning. It is said that they are almost identical in terms, the only material difference being that Austria does not suggest a suspension of arms in the form adopted by France and England. The *Patrie* of Thursday evening publishes an article, signed by M. Delamarre, reviewing the atrocities committed by the Russians in Poland, and declaring that no hopes can be entertained of any benefit arising from diplomacy. The writer calls upon France, in conjunction with other friendly nations, to draw the sword and intervene actively for the re-establishment of an independent Poland, declaring that it would be a new crusade of civilisation against barbarism.

PORTUGAL.—The Chambers have closed without having completely discussed the budget.

SPAIN.—The Infanta Don Juan de Bourbon has addressed a letter to the Queen of Spain, tendering his submission. The Marquis Miraflores has declined to consider the subject until after the repeal of the law under which the Infanta was exiled.

DENMARK.—It is stated from Copenhagen that Count Sponneck, well known as a most efficient administrator and financier, and who formerly held the portfolio of Finance Minister, will accompany King George to Greece, and remain in that country five years.

FRANKFORT.—At the sitting of the Federal Diet on Thursday the special committees on the affairs of Holstein brought in their report, proposing that the Danish Government should be requested to withdraw its ordinance of the 30th March. The Danish representative at the Diet handed in a protest against the report of the committees. The proposal will be submitted to the vote of the Diet upon the 7th July.

PRUSSIA.—The recent speech of the Crown Prince at Dantzic has caused deep offence to the Court and Cabinet. The Ministry lost no time in making their complaints to the King, who is said to have written a letter to his son, stating that the least reparation he could make for his grave offence was to retract what he had said, adding that if he did not do so he would be deprived of his honours and appointments. The Prince, in concert, it is said, with the Princess Royal, wrote a firm answer to this demand, refusing to retract anything, offering to resign his command and dignities, and requesting leave to retire with his wife and family to some place where he might be free from the suspicion of interfering in any way in the affairs of state. The Queen of Prussia left Berlin on Monday evening for England. The King has refused to receive the deputation appointed by the Common Council of Breslau to present their address to his Majesty praying him to withdraw the late press ordinance, and to convoke the Diet. The King has also refused to receive the address, on the ground that it was illegally voted. The deputation has since been entertained at a banquet by the Berliners. Numerous other deputations have arrived with addresses from various provincial towns, protesting against the late proceedings of the Government. The Ministry use every effort to deter these deputations from coming to Berlin, where their presence causes great annoyance to the Ministers and the King.

AUSTRIA.—The Archduke Charles Louis, as representative of the Emperor his brother, opened the Reichsrath in state on Thursday in the Hall of Ceremony. The following is a summary of the Speech from the Throne:—

"The Emperor makes a satisfactory retrospect of the activity of the Reichsrath, and expresses a hope that Transylvania will also shortly take part in its deliberations. The Reichsrath closed its first Session under the blessings of peace, which the Government will endeavour to maintain undisturbed. Thanks to the liberal institutions of the Empire, its material and intellectual life is everywhere being rapidly developed, and its influence and position as a great Power are continually becoming more powerful. The financial condition of the Empire is becoming more and more satisfactory. The credit of the State and the public currency have most decidedly improved. It has been unnecessary to apply for any extraordinary credit during the current year. The Budget, which will be submitted to you, has been prepared with a view to the greatest possible economy. Bills relative to taxation will be submitted to you, the object of which is to re-establish the currency on a thoroughly sound basis. Bills will also be introduced upon the reform of the administration of justice. As regards the administration of the penal law more especially, these reforms will comprise oral proceedings, publicity, and trial by jury. The Bills for the reform of the civil law relate to bankruptcy, the private arrangement of debts, and the right of domicile."

The Duke of Saxe-Coburg-Gotha has left Vienna, where he was received with particular distinction by the Emperor. His Royal Highness's visit in the present state of Germany is considered extremely significant. The Duchess de Grammont, wife of the French ambassador at the Austrian Court, and daughter of Mr. W. A. Mackinnon, M.P., has embraced the Roman Catholic faith at Vienna.

RUSSIA.—The *Journal de St. Pétersbourg* publishes Prince Gortschakoff's despatch to Mr. Clay, expressing the Emperor's satisfaction at the reply of Mr. Seward to the proposal of France to join the diplomatic intervention in favour of Poland. It concludes by saying that "such facts draw closer the bonds of sympathy between Russia and America. The Emperor knows how to appreciate the firmness with which Mr. Seward maintains the principle of non-intervention." A reform of the tariff is imminent. A difference of 50 copecks per pood will be made in favour of importation by land. The existing difference of five copecks per pood upon tea, however, is to be maintained until 1866.

POLAND.—The insurgent chief Abicht and the Capuchin monk Konarski were hung on Friday, in front of the citadel of Warsaw. After the execution the Grand Duke Constantine received a warning from the National Government that it could no longer be responsible for his safety. The Archbishop and clergy of Warsaw also sent in a protest to the Government, and demanded that the body of Konarski should be handed over to them for interment. The protest and demand were immediately telegraphed to St. Petersburg, whence an order was received that the Archbishop should at once repair to the capital. Archbishop Felinski left Warsaw for St. Petersburg on the 14th. All telegraph lines leading from Warsaw have again been cut. The news of the capture of Puebla has created great sensation throughout Poland, and great rejoicing took place in the Polish camps. All the patriots now look eagerly for assistance from the Emperor Napoleon III. A report is current at Cracow that General Mouravieff, Governor of Lithuania, will replace the Grand Duke Constantine and General Berg. General Mouravieff has caused the Abbé Zumecki and the landowner Leskowicz to be shot, and the Polish chief Colysko to be hung. He has also issued an ordinance proclaiming that the penalty of the knout will be inflicted upon all ladies dressed in mourning. Several ladies are detained as hostages, and are threatened with death unless their husbands surrender themselves to the authorities. The *Patrie* says that these proceedings have excited a feeling of disgust among the Russian officers in Lithuania. Several Generals have tendered their resignations, and the Russian General Cheuchin has declared publicly at Wilna that it is impossible for a man of honour to serve under General Mouravieff. The insurgent leader Broniewski has met with considerable success at Nagoszew, in the palatinate of Plock. In Lithuania an engagement favourable to the insurgents has taken place at Olkieniki, near Kowno. On the 10th inst. Czachowski gained a brilliant victory over the Russians at Konskie, in the government of Sandomir. Two Russian companies were completely destroyed. On the same day the Poles defeated the Russians at Ignacew and Kalskie; and the insurgents, under Calicz Raczkowski, suffered a defeat north of Konin. On the 11th Czachowski's corps was beaten at Rataje, but his force was not dispersed as asserted in the Russian bulletins, and he is now awaiting reinforcements in the district of Sandomir. Cihowski and Bliziny have gained a complete victory over the Russians at Kielce, in Podlachia. Seven Russian officers were killed and buried by the insurgents. At Radzyn, on the 10th inst., the insurgent chief Krysinski dispersed a detachment of Russian infantry. A detachment of light Russian cavalry has been defeated, and 100 Cossacks lost their arms and horses at Mienoryszey. Three insurgent officers have been shot at Warsaw. Colonel Lapinski's expedition, which was stationed for a long time at Malmö, has unsuccessfully endeavoured to disembark, during a tempest, at Polangen, a village on the Baltic coast, in the government of Wilna. The expedition made the passage on board a Danish ship. Twenty-four Frenchmen were drowned in the attempt to disembark. The expedition returned to Gothland on the 14th inst.

ITALY.—In the Chamber of Deputies on Saturday the Minister for Foreign Affairs replied to questions put to him by Signor Mecchi respecting the international relations between Italy and Rome, and the intentions of the Government relative to the Polish question. The Minister stated that Italian policy in the Roman question had not varied with respect to the accord between Italy and France, and the Government was always disposed to treat on the basis of the principle of non-intervention. With regard to Poland he said that Italy could not follow a passive policy in the question, and was too strong for her influence not to be calculated in an European congress. In conclusion, he refuted certain revolutionary theories, and said that Italy ought not to be in permanent revolution in the midst of regular governments. In the sitting of Monday Signor Buoncompagni made a remarkable speech on the Roman question. He maintained that it was necessary to continue the alliance with France, and resume negotiations on the basis of the principle of non-intervention. He admitted that Italy ought to recognise the territorial rights of the Pope as they at present exist. At the same time the rights of the Romans with respect to their own Government must be preserved. In the sitting of Tuesday Signor Buoncompagni, having concluded his speech on the Roman question and the alliance with France, moved the order of the day, approving the policy hitherto pursued by the Minister of the Interior and the Minister of Foreign Affairs. Signor La Farina then spoke on the position of the Powers with regard to the Polish question, and expressed his belief that the only Powers who felt a sympathetic interest in the reconstitution of the kingdom of Poland were France and Italy. He also believed that the French empire was not adverse to Italian unity. The efforts of the Muratist party at Naples and of the partisans favouring the autonomy of Tuscany in 1859 were simply ridiculous, and would clearly never meet with the support of the Emperor of the French. In the sitting of Wednesday, Signor Rattazzi, as leader of the Opposition, made a speech accusing the Ministry in particular of having abandoned the negotiations on the Roman question, and of having allowed Austria to take, in the common action of the Western Powers, the part that properly belonged to Italy. Signor Minghetti in reply said that the Italian Ministry had never lost sight of the Roman question, and was still ready to treat. In the sitting of Thursday Signor Minghetti again addressed the Chamber, and defended the policy of the Ministry, concluding by urging the Chamber to pass a vote of entire confidence in the Ministry. Signor Rattazzi, in reply, made a personal attack on several Ministers who, during their political career, had served other Princes in 1848. Signor Minghetti retorted that the Ministers alluded to did not abandon their Sovereigns until those Sovereigns abandoned their country. Much applause followed this remark. The general discussion was then closed. The *Perseveranza* says that the legal advisers of the ambassadors of Austria and France at Turin, who have been directed to inquire into the Fausti-Venanzi trial, have disapproved of the conduct of the Roman Consulta in this affair. Cardinal Antonelli is reported to have given in his resignation. On the arrival of the news of the capture of Puebla the Pope ordered a salute of 21 guns to be fired from the Castle of San Angelo.

GREECE.—The Greek Government has ordered three days of public festivity in commemoration of the acceptance of the Crown by Prince William of Denmark. In Elis the portrait of the young King had been torn down by the mob. The National Guard were obliged to interfere.

TURKEY.—The *Oesterreichische Zeitung* of Friday publishes intelligence from Constantinople, stating that the reply of the French Government to the recent note of the Porte denies that the Suez Canal works are detrimental to the interests of Turkey.

EGYPT.—Prince Napoleon has returned to Cairo from Upper Egypt in good health. His Imperial Highness held a review of the Egyptian troops, at

which the foreign Consuls were present. After the review the Prince set out on his return to Alexandria.

UNITED STATES.—Advices from Vicksburg to the 2d inst. state that General Grant has planted heavy siege guns close up to the Confederate works, and has erected earthworks for the protection of the troops. The bombardment of Vicksburg by the fleet appears to have had little effect, and Admiral Porter reports that the works are stronger than they dreamt of. Scouts report that General Johnstone, with 15,000 to 30,000 men, is at Jackson with the purpose of advancing between the Yazoo and Big Black Rivers, with the intention of retaking Haines Bluff and cutting off General Grant's retreat by breaking up his communication by the Yazoo River. One Federal division has gone up the Yazoo River to meet General Johnstone. A Confederate officer on the Rappahannock stated to the bearer of a flag of truce that General Grant, after being repulsed at every point, had fallen back upon the line of the Big Black River, and was fortifying his position to prevent Johnstone from crossing. The Northern journals discredit this statement. The *New York World* thinks the siege of Vicksburg may last during the greater part of the summer; other journals urge the Administration to reinforce General Grant. Admiral Porter has repeated the announcement of the capture of Haines Bluff by his gunboats. In an official despatch to the Navy Department, dated the 25th ult., he states that three steamers and a partially built ram, together with the navy yard and the different machine shops at Yazoo city, were destroyed. He calculates the loss to the Confederates at 2,000,000 dollars. On the 26th ult. the gunboat Cincinnati, which attempted to pass Vicksburg, was sunk by the fire of the Confederate batteries. More than 20 of the crew of the Cincinnati were either killed or wounded by the Confederate shot, or drowned when the vessel sank. Gen. Banks's forces, with the forces from Bâton Rouge, have completely invested Port Hudson, and are besieging that stronghold in the rear, while Admiral Farragut's fleet keep up a continual bombardment from the river. The assault commenced on the 27th, and was continued up to the date of the sailing of the steamer. General Banks directed the movements in person. General Weitzel, who commanded the Federal extreme right, had captured a battery and turned the guns upon the Confederates. General Sherman had been repulsed with heavy loss in an attack upon the Confederate right. The 2d Louisiana Native Guard (coloured) lost 600 out of 900 men. The total Federal loss is admitted to be 3000. General Sherman and many other officers of high rank were severely wounded. General Lee has evacuated Fredericksburg, and abandoned the line of the Rappahannock. It is not known whither he has gone. General Hooker has crossed the river and occupied Fredericksburg. In Tennessee the Confederates have thrown nearly all their forces forward from Tullahoma to Shelbyville, and are reconnoitring in front of General Rosencrans at Murfreesborough, where heavy skirmishing has occurred. The Confederate cavalry has also attacked Franklin. Admiral Foote has relieved Admiral Dupont in the command of the South Atlantic squadron. Commodore Lardner is to supersede Admiral Wilkes in the West Indies. It is asserted that Admiral Wilkes has been superseded in consequence of representations made at Washington by Lord Lyons. The Federal Government desires to maintain at this time the most amicable relations with that of Great Britain. An influential committee of Abolitionists has visited President Lincoln, urging him to give General Fremont the command of the coloured troops. The *New York Tribune* asserts that President Lincoln said he would accept and protect all coloured troops offered, that he looked to them for essential service in ending the war, and that he would gladly offer a command to Fremont. A great peace meeting, convened under the auspices of the Hon. Fernando Wood and the Mozart Hall section of the Democratic party, was held at the Cooper Institute, on the evening of the 3d inst. A vast crowd of people, estimated at from 20,000 to 50,000, was present, and much enthusiasm was manifested. Speeches were made by Mr. Wood, Judge M'Cann, A. S. Sullivan, Marshal Rynders, and others, all advocating immediate peace on any terms, and some of them the recognition of Southern independence. The resolutions adopted denied the right of the Government under the Constitution to coerce the seceded States; asserted that the war was fast consuming all the resources of the country; that by its continuance the South and the North must alike crumble into ruin, and recommended in the name of the people the suspension of hostilities and a resort to Conventions both at the North and South, to determine upon what conditions the contending factions might be reconciled. Mr. Fernando Wood subsequently had a long interview with the President and Mr. Stanton, at Washington, in which he urged that the Government ought to propose an immediate cessation of hostilities. When asked by the President what assurances he had from the South that propositions looking to peace would be favourably received, Mr. Wood replied that the masses of the people, South as well as North, were tired of the war, and would welcome the olive branch if their leaders would let them. Large Valiandigham meetings have been held in Buffalo, Newark, Philadelphia, and other places, at which the conduct of the Government was generally condemned. General Burnside had forbidden the publication of the *Chicago Times*, and had ordered the military to disregard the writ issued by the Law Courts for the protection of the paper. Great excitement prevailed at Chicago, public meetings were held, and a collision between the military and the people was expected. In consequence of the general indignation throughout the Northern States, the President felt it necessary to disapprove the order, and General Burnside has accordingly revoked it. General Hunter has informed President Davis that unless the order for the execution of white officers commanding negroes be revoked, he will execute every rebel officer and slaveholder in his possession. The officers of Colonel Streight's command, captured at Rome, Alabama, are held by the Confederate authorities, at the demand of the Governor of Alabama, upon the plea that there were negro soldiers in the ranks. The steamer Dolphin has been condemned at Key West, rifles and sabres having been found among her cargo. The Spanish steamer Union and the British steamers Hero and Eagle have been captured. The Sea Queen, which was the subject of Parliamentary discussion about two months back, on account of the course pursued by the Government with regard to her carrying a mail, arrived safely at the Mexican port of Matamoras on the 19th of May.

THE BRAZILS.—The Chamber of Deputies at Rio Janeiro was dissolved on the 12th May. The Minister of War, General Polidore Gordao, has been replaced by Senhor Antonio Manuel de Mello. The insurgents have invaded Cordoba, which has been placed in a state of siege. Late advices, however, are more favourable.

# Parliament.

## HOUSE OF LORDS.

FRIDAY.—*The Statute Law.*—The LORD CHANCELLOR, in bringing in his Bill for the revision of the Statute Law, said that it was simply a revival of the proposal of Lord Bacon, contained in his essay upon the amendment of the laws of England, but which, from the inertia attending all attempts to improve the legislation of the country for a period of 250 years, had not had any practical effect. As the law stood, the mere opinion of a judge had the force of legislative enactment, and the judges, instead of sitting to expound the law, were in fact the law-givers. He was anxious, therefore, that measures should be adopted for weeding the statute book, expunging such decisions as were palpably erroneous, and reconciling those which were conflicting, so that in future there should be one sound and certain guide. By the Bill he now laid upon the table he proposed to secure the consolidation, arrangement, and abridgment of the statute law; and if he were successful in inducing their lordships to read it a second time, he should next move the appointment of a Committee of Inquiry. In conclusion he pointed out the necessity of instituting an annual revision of the Reports, which might be accomplished by a "Department of Justice," in order to prevent the law from again falling into its present contradictory and chaotic state.—Lord BROUGHAM expressed a general approval of the measure, which he thought would be of great utility. He wished the Lord Chancellor success in the enterprise he had undertaken.—Lord CRANWORTH doubted whether the first part of the scheme propounded by the Lord Chancellor was possible, but cordially supported the second part, for the consolidation of the Statute Law.—Lord KINGSDOWN objected to the proposal of Commissioners to revise the Reports, as he thought that would be to substitute the Commissioners for their Lordships or some other Court. The Bill was then read a first time.—The *Redemption of Rents (Ireland) Bill* passed through Committee, and the *London Coal and Wine Duties Continuance Bill* was read a second time.

MONDAY.—*The American Blockade.*—The Marquis of CLANRICARDE, in moving for copies of reports received from the Admiral on the North American and West Indian station, concerning the protection from seizure or visitation afforded to British merchantmen, asked what had been the result of the remonstrances made to the United States Government by her Majesty's Minister at Washington against the seizure of certain vessels. He referred to the recent condemnation of the Adela as contrary to all principles of international law, and considered that it was the duty of the Government to demand her restoration. He insisted that this country ought to afford adequate protection to her commercial marine, and denounced the seizure of vessels bound to Matamoras and Nassau as a means of monopolising the trade to Matamoras for the benefit of the New York shippers. He protested against the blockade of 2500 miles of coast, and showed, from the practice of the United States themselves in regard to the Spanish blockade of the South American coast, only a few hundred miles in extent, that they deemed such a blockade absurd and unjust. The blockade was ineffective and ought not to be recognised by her Majesty's Government.—Earl RUSSELL did not presume to pronounce an opinion on the condemnation of the Adela, but suggested reasons which might have justified her seizure, and asserted that if a vessel laden with munitions of war had papers on board showing that such munitions of war were intended for a hostile port, that the vessel might be legally captured. He pointed out the inconsistency of at one moment showing that the blockade was easily broken, and at another blaming American cruisers for attempting to seize vessels suspected of such a purpose. In regard to the blockading a line of coast, he showed that this country had formerly proclaimed a blockade of 2000 miles of American coast and thought it would hardly be becoming or wise for England to protest against a course she had herself formerly adopted, and which in the case of a war with the United States she would probably adopt again. In conclusion, he expressed his intention, as Foreign Minister, of being guided, not by a wish to avenge fancied affronts, but to uphold the honour of the country by adhering to justice.—The Duke of SOMERSET did not think it wise to produce all the reports that had been received. He read a letter to show the great cordiality which existed between the officers of the United States' navy and that of Great Britain on the West Indian station; and the invariable courtesy which Commodore Wilkes had exercised towards British officers. The motion was then withdrawn. The House then went into Committee on the *Prison Ministers' Bill.* On clause 3, Lord LYVEDEN moved an amendment, making the appointment of additional ministers in prisons obligatory instead of permissive. After an animated debate the amendment was negatived without a division. The Bill then passed through Committee. [*Case of Sergeant-Major Lilley.*—The Earl of SHAFTESBURY asked the Secretary of State for War whether it was the intention of the Government to institute any further inquiry into the case of Lieutenant-Colonel Crawley and Sergeant-Major Lilley.—The Duke of CAMBRIDGE said that the conduct and discipline of the Indian army rested with the Commander-in-Chief in India, and that he himself only stood in the position of referee, or a last appeal. He had however felt it his duty to take notice of the proceedings in Sergeant-Major Lilley's case when officially brought to his knowledge, but he was not then in possession of sufficient information to justify him in doing more than expressing a very strong opinion on the case. He did not then know of the illegal imprisonment of Sergeant-Major Lilley and other circumstances, which had since led him to order a court-martial. He had acted not from a desire to screen any one, but to do justice to all, especially to those implicated. He spurned the idea of any pressure having been put upon himself in reference to this matter.—Earl DE GREY and RIPON said as it had been decided to bring Colonel Crawley to a court-martial it would not be becoming to discuss the question at the present moment.—The Earl of SHAFTESBURY expressed a hope that the court-martial would be held not in India but in England.—The Earl of MALMESBURY vindicated Sir Hugh Rose on account of the remarks he had made on Sergeant-Major Lilley's death being caused by intemperance.

TUESDAY.—The *Vaccination (Ireland) Bill* was read a third time and passed. The *Bleaching and Dyeing Works Amendment Bill* passed through committee.

THURSDAY.—*The Indian Navy.*—The Duke of SOMERSET, in answer to the Earl of ELLENBOROUGH, said that a small local navy would be maintained in India for the conveyance of troops and stores from one port to another, but that the Admiralty would be responsible for the general protection of that portion of her Majesty's dominions, the Governor-General having a limited power over the naval force.—The Duke of RUTLAND called attention to the proposed purchase of the *Exhibition building at South Kensington*, and expressed his disapprobation of the scheme. He would prefer to see the present building razed to the ground, and another constructed in its stead with some unity of design.—Earl GRANVILLE said that so far as the purchase of the land was concerned that question had been settled by a vote of the House of Commons. He was of opinion that the building was capable of adaptation to the reception of certain national collections, and that the proposed purchase was judicious and economical.—The Earl of DERBY, as one of the commissioners of the Exhibition of 1851, said he had given his assent to the sale of the land for 120,000*l.*, but he thought the discussion of the purchase of the building was premature, before the question of the purchase of the land was finally settled. He wished to know why the Government had only asked for a vote of 67,000*l.* for the purchase of the land—thus incurring the danger of having the remainder of the 120,000*l.* refused by the House of Commons in another year.—Earl GRANVILLE replied that it would be unprecedented for the House of Commons to refuse the balance of a vote a portion of which had already been granted.—Lord REDESDALE and the Earl of HARDWICKE recommended the Government to have nothing to do with the building.—The Duke of ARGYLL expressed his belief that parts of the building were fit for permanent use. The *Redemption of Rents (Ireland) Bill*, and the *Salmon Fisheries (Scotland) Act Continuance Bill* were read a third time and passed. The *Local Government Supplemental Bill* was read a second time.—In reply to Lord LYTTELTON Earl GRANVILLE said the Government were considering the best means of amending the *Vaccination Acts.*

FRIDAY.—*Poland.*—Lord STRATFORD DE REDCLIFFE rose to call attention to the cruelties practised in Poland, and asked for information on the subject.—Earl RUSSELL in reply said that on Wednesday last despatches left London for St. Petersburg; and when replies had been received to these, her Majesty's Government would lay the whole of the papers before the House.—Lord BROUGHAM expressed his reprobation of the atrocities committed, but thought that they were only such as were incident to civil war.—*Brazil.*—The Earl of MALMESBURY moved an address to her Majesty for copies of any papers relating to the diplomatic rupture with Brazils.

[Left sitting.]

## HOUSE OF COMMONS.

FRIDAY.—Lord PALMERSTON stated, in reply to an inquiry of Lord R. CECIL, that there was no plan in existence for the conversion of the *International Exhibition Building.* All that was intended to be done was to complete the front as it now stood with stucco, and to alter the domes from glass into brick.—On the motion for going into Committee of Supply, Sir H. BRUCE moved that the restrictions placed by the Board of Works in Ireland and the Treasury, on the advance of money for the building of *Labourers' Cottages in Ireland*, are inexpedient and calculated to render the Act in a great degree inoperative.—After an explanation from Mr. F. PEEL and Sir W. SOMERVILLE, the motion was withdrawn.—Colonel DUNNE brought under notice the present depressed *Condition of Ireland*, together with the amount of taxation imposed on that country. The public burdens borne by Ireland amounted to nearly 11,000,000*l.* a year, a sum altogether disproportionate to the wealth of the two countries. Other causes of the distress which prevailed were the non-residence of the landed gentry; and the inadequate sum spent for local purposes as compared with England and Scotland. The entire subject was one which called for inquiry, and he therefore moved for a committee to inquire into the causes of the depression which now existed, and the effects of the taxation now borne by Ireland.—Colonel FRENCH seconded the motion.—The CHANCELLOR of the EXCHEQUER could not agree that the sums spent in Ireland for local purposes were inadequate; as compared with Scotland they were excessive. The special votes for Ireland amounted to 1,351,000*l.* annually, whereas for Scotland they only amounted to 300,000*l.* With respect to general taxation, Ireland did not pay an undue proportion of taxation. There was no tax paid in that country to which England and Scotland were not subject, whereas England and Scotland were burdened with taxes from which Ireland was exempt. No want of consideration for Ireland was manifested in the legislation of the united Parliament, and he was convinced that political equality could not be claimed or exercised if equality of taxation did not exist. He was willing to admit, however, that there should be greater liberality in helping public enterprises by loans of money in cases where the security was unexceptionable. Ireland had of late made great progress in manufactures and agriculture; and he believed she had before her a future of increasing prosperity. The appointment of a committee at that period of the session was inexpedient, and could only excite hopes that were sure to be disappointed.—Mr. LONGFIELD, Mr. GREGORY, Sir P. O'BRIEN, and Mr. COGAN supported the motion.—Sir R. PEEL gave statistical details as to the condition of Ireland, the state of agriculture, and the amount of pauperism, to show that there was no call for Parliamentary inquiry or exceptional legislation. As an evidence of the decrease of poverty in Ireland he stated that while population had diminished 12 per cent., crime, the result of poverty, had diminished at the rate of 400 per cent.—Mr. WHITESIDE expressed his opinion that neither the Chancellor of the Exchequer nor Sir Robert Peel had offered any suggestion or held out any hope that an inquiry would be instituted into the condition of Ireland or the grievances of her people.—Mr. MAGUIRE described the maintenance of the Established Church in Ireland as a standing insult to the

country, and a gross violation of civil and religious liberty.—Mr. WHALLEY supported the motion.—Lord NAAS could not see that a committee appointed at this period of the session to inquire into so large a question could effect any practical result, though he admitted that considerable distress existed among the small farmers of Ireland.—After a few words from Mr PEEL DAWSON, the motion was withdrawn. *Case of Sergeant Major Lilley.*—Lord PALMERSTON appealed to Mr. Coningham to postpone the motion of which he had given notice in relation to the case of Sergeant-Major Lilley, as Colonel Crawley, whose conduct was inculpated, was to be brought to a court-martial.—Mr CONINGHAM said it was not Colonel Crawley's conduct only that was in question, but two General Officers in India, the Commander-in-Chief in India, the Commander-in-Chief of the British Army, and the officials at the Horse Guards, were deeply compromised in the question. He insisted that there ought to be a searching investigation of the case, in the interests of the public and of the discipline of the English army.—The Marquis of HARTINGTON justified his Royal Highness the Commander-in-Chief.—Colonel NORTH suggested the injustice to Colonel Crawley of any strictures upon his conduct after it had been referred to a Court-martial.—Lord PALMERSTON said that Mr Coningham had given an example of the grossest injustice in launching out into an abuse of the Commander-in-Chief, without the slightest ground.—Mr. E. BOUVERIE considered the course taken by Mr. Coningham unwise, imprudent, and unfair. The subject then dropped, and the House went into committee of supply *pro formâ*. The *Drainage of Land (Ireland) Bill* was read a third time and passed.

MONDAY.—*Japan.*—In answer to Mr. LIDDELL, Mr. LAYARD stated that her Majesty's Government had made demands upon Japan for reparation for injuries committed on British subjects in that country—that these demands consisted of an ample apology for the murderous attack on Mr. Richardson and other British subjects, and the payment of 100,000*l.* by way of penalty. They also required that the perpetrators of the attack should be tried and executed in the presence of one or more British officers, and that compensation should also be made for the murder of two marines connected with the British Legation at Jeddo.—The House having gone into Committee of Supply, Lord PALMERSTON moved the vote for the purchase of the land and buildings of the *International Exhibition at South Kensington.* He observed that the purchase, if carried out, would provide for the immediate and prospective wants of the nation upon terms infinitely cheaper than if land were to be acquired nearer to the centre of the metropolis. A patent office and museum, an addition to the British Museum, and a portrait gallery, were among the public buildings which were urgently required, and a site for these could not be obtained in the neighbourhood of existing public institutions under a sum which he believed the House of Commons would not be prepared to sanction. The arrangement recommended by the Government would give the largest possible amount of space at the smallest possible outlay. It was proposed that the Government should purchase 17 acres of land with the new buildings erected thereupon. For these the Commissioners of the Exhibition of 1851 would take 120,000*l.*, and the contractors were willing to accept 80,000*l.* Therefore for 200,000*l.* the public would be put in possession of 17 acres of land with the buildings thereupon. The sum of 154,000*l.* would be required to make the building substantial, and further sums incidental to its adaptation would be requisite, equivalent to 130,000*l.*, making the whole cost for adaptation 284,000*l.*, which, if added to 200,000*l.* for the cost of the site and the present fabric standing upon it, would raise the whole charge to 484,000*l.* He added that it was not proposed to remove the National Gallery from Trafalgar Square to South Kensington; nor was it in contemplation to remove the scientific societies from Burlington House. He concluded by moving the first vote of 67,000*l.* towards the purchase of the land.—Mr. GREGORY moved as an amendment that the vote be rejected. He ridiculed the idea that the Exhibition building of 1862 could be converted to any useful purpose under an expenditure which the House of Commons would not be justified in sanctioning. The building was a hideous erection of brick and mortar, which, he was justified in stating, on the authority of Mr. Mallet, could not be adapted in the manner proposed under an outlay of half a million. He implored the House of Commons not to sanction a scheme of loose and reprehensible expenditure founded on fallacious estimates, merely for the purpose of snatching at a cheap bargain. The whole scheme appeared to him to have been got up by the South Kensington Museum people for their own aggrandisement and self-glorification, and he cautioned the House that, if carried into effect, it would entail perpetual mortification, disappointment, and disgrace.—The CHANCELLOR of the EXCHEQUER declined to admit the fidelity of Mr. Mallet's estimate. He contended that, on the ground of public policy, and in the exercise of a sound economy, it was desirable to effect the purchase. The opinion of the most experienced persons on the subject of enlarging the British Museum was, that an area of several acres would be required for accommodating the natural history collection, and this, with the requisite buildings, would cost, according to calculations made with reference to other purchases of land in the metropolis, the sum of 450,000*l.* The advisers of the Crown had long and anxiously considered the best means of providing for the public wants, and the result of their deliberations was the recommendation of the present plan.—Sir J. PAKINGTON expressed his opinion that the Government would have failed in their duty if, looking to the congested state of the British Museum and other public institutions, they had not recommended the purchase of the land.—Lord ELCHO was apprehensive that the House had not sufficiently considered the subject in reference to the future, and moved that the Chairman report progress.—Lord PALMERSTON was willing to report progress, provided the House came to a decision on the vote for the purchase of the land without the buildings.—Mr. OSBORNE denied that there was any necessity whatever for moving the collections to South Kensington. Art and science were no doubt very desirable in the opinion of those who made their fortunes out of them, but in the present case they might well be apostrophi-ed in the language addressed to the Statue of liberty—"Oh Science and Art, what atrocities are perpetrated in your names!" On a division, the vote of 67,000*l.*, on account of purchasing the land, was carried by 266 to 135.—Lord PALMERSTON then said that he proposed to take the remaining votes for the purchase of the building, cost of adaptation, &c., on Thursday week. Several minor votes, chiefly for *Education in Ireland*, were subsequently agreed to, and the House resumed. On the report of the Committee of Supply, Sir S. NORTHCOTE called attention to the interpretation put by the Committee of Council for Education on article 51B of the *Revised Code*, which proposes to give certified teachers a first charge upon the capitation grant; but which, he observed, was not construed in accordance with the arrangement come to last year—the charge being a certainty, and not dependent upon accident.—Mr. LOWE defended the minute and argued that it was in perfect agreement with the meaning of the article.—Sir J. PAKINGTON and Mr. HENLEY thought that there had been a breach of faith.—Mr. A. SMITH moved to reduce the vote (82,821*l.*) for the *Department of Science and Art at South Kensington* by the sum of 10,000*l.* On a division the motion was affirmed by 147 to 19. The report was then agreed to. On the order for the third reading of the *Volunteers Bill*, Mr. HENNESSY moved its recommittal, in order that the 20th clause, conferring on the commanding officer of a regiment the power of absolutely dismissing at pleasure any member of the corps, might be struck out, and a court of inquiry be substituted.—Colonel FANE seconded the motion. After some discussion, the motion was negatived by 128 to 31, and the Bill was read a third time and passed. The *Regimental Debts, &c., Bill* was also read a third time and passed. The *London, &c., Dioceses Bill* was read a second time. The *Pier and Harbour Orders Confirmation Bill* passed through Committee.

TUESDAY.—At the morning sitting the House discussed in committee the 4th and 5th clauses of the *Salmon Fisheries (Ireland) Bill*, both of which were ultimately agreed to. On the resumption of business in the evening, Lord A. CHURCHILL gave notice that on the 7th July he intended to move for leave to bring in a Bill to amend the law for the recovery of *Church Rates.*—Mr. H. BERKELEY moved for leave to bring in a Bill to cause the votes of parliamentary electors to be taken by way of *Ballot.* He contended that, as the practice was uniformly resorted to in clubs, learned societies, and other similar bodies, it ought to be used in parliamentary elections also. In foreign countries the ballot was bearing excellent fruit. In America it was not, perhaps, the most perfect institution, but it was the best they had at present. In France the ballot box had defeated the Government by returning Opposition candidates in the teeth of Ministers, while in Australia it was regarded as one of the most valuable features in the constitution. He was persuaded, from these and other circumstances, that although his motion might not be acceded to, still that the foundation of the structure of the ballot had already been laid in the House.—Mr. AYRTON seconded the motion.—The LORD MAYOR protested against the fallacies of Mr. Berkeley, and declared that in the recent battle at Southampton, where freedom of election had been vindicated in his person, the humbler class of voters did not want the ballot.—Lord PALMERSTON opposed the motion mainly on the ground that secret voting was opposed to the spirit and essence of the British constitution, which was in favour of public opinion and public responsibility. As an illustration of the retrograde nature of the movement, he mentioned that the members of the Reform Club had, at the instance of Mr Bright, given up the ballot, and had vested the power of election in a select committee of their number.—Mr. COX expressed his regret that the House would not devote a single evening to the dispassionate discussion of so grave a question.

On a division the motion was negatived by 122 to 102.—Mr. M'MAHON moved a resolution to the effect that it was expedient to make such alterations in the *Assize and Circuit Arrangements* as would secure a more speedy trial in the country of local causes. He said that his object was to carry out the recommendations of the commissioners by giving country towns a more frequent opportunity of trying causes arising in their own neighbourhood. There were now but three assizes in the year, and the result was, a tendency to attract causes to London, to the great cost and inconvenience of suitors.—Mr. HADFIELD seconded the motion.—Mr. BAINES said that in the West Riding a very great grievance was felt in consequence of the long interval between the assizes. During his speech the House was counted out.

WEDNESDAY.—Mr DILLWYN moved that the order of the day for the second reading of the *Endowed Schools Bill* be discharged, in order that the Bill might be withdrawn. He said he had no alternative but to adopt this course, as he felt it would be impossible to pass the measure this session. He denied that in introducing the Bill he was actuated by hostility to the Church of England; on the contrary, it was a defensive measure on the part of the Dissenters against an attack by the Church.—Mr. SELWYN expressed his satisfaction at the withdrawal of the Bill, and his regret that so much of the time of the House had been taken up of late with such little profit or useful result.—Mr. LOWE rejoiced that the Bill was withdrawn, and hoped it would never be re-introduced. If the object which Mr. Dillwyn had in view was the promotion of tolerant feelings between Churchmen and Dissenters, the introduction of so mischievous a measure was not likely to achieve that end.—After a few words from Lord HENLEY, Mr. W. E. FORSTER, and Mr. HADFIELD, the motion was agreed to, and the Bill withdrawn.—Sir J. HAY moved the second reading of the *Naval Prize Money, &c., Bill*, the object of which is to enable captors to employ naval agents to act for them in obtaining the distribution of the prize money to which they may be entitled.—Lord C. PAGET admitted that the law in reference to prize money required amendment, but as the Government intended to introduce a comprehensive measure next session, he hoped that the measure would not be pressed.—Mr. HARDY did not believe that the passing of the Bill would be an obstruction to future legislation by the Government.—Mr. COLLIER and Mr. STANSFELD were not disposed to deny that reform was necessary, but could not see that it was necessary to proceed in the present session.—Mr. SELWYN and Sir J. ELPHINSTONE spoke in favour of the second reading.—Colonel DUNNE recommended the Government to bring in a similar Bill for the army, as the present tedious, anomalous, and unjust system of dealing with prize money was disgraceful.—Lord C. PAGET said that as the feeling of the House appeared to be in favour of the principle of the Bill, he would give way and content himself with proposing such amendments in Committee as he might consider necessary. The Bill was then read a second time.—On the motion for going into Committee on the *Election Petitions Bill*, Mr. AYRTON moved that the Bill be referred to a Select Committee. After some debate the motion was carried on a division by 92 to 91.—The *Marriages Registration (Ireland) Bill* was read a third time and passed through Committee. The *Offences (South Africa) Bill* was read a third time and passed. The *Civil Bill Courts (Ireland) Bill* was read a second time.—Mr. LONGFIELD then moved that the Bill be referred to a Select Committee. On a division the motion was negatived by 40 to 36.

THURSDAY.—The *London City Traffic Regulation Bill* was, after some discussion, read a second time.—In reply to Mr. Heygate, Mr. COWPER stated that a scheme had for some time been under the consideration of Government for erecting a new national gallery at the back of *Burlington House*, leaving the present building in the occupation of the Royal Academy; but, until a decision had been arrived at, the space would be used as a drill ground for volunteers.—Mr. VILLIERS, in moving that the *Public Works Manufacturing Districts Bill* be read a second time, said that the measure was the result of an inquiry instituted by the Government, with a view to ascertain whether employment could not be found for the operatives who had been so long suffering in Lancashire and Cheshire. Although it was gratifying that adequate means had been provided for the maintenance of such a large number of persons by the public benevolence, it was impossible to ignore the serious evils consequent upon their continuing for so long a time to derive their subsistence from charitable sources. Various remedial measures had been suggested—such as the dispersion of the people throughout the country, emigration to the colonies, and the finding of employment nearer home. It was the last of these that the Bill proposed to adopt, by means of advances from the loan commissioners to municipal and other local authorities, for the execution of works and improvements in their respective districts; and he believed that the Bill would, as nearly as possible, meet the requirements of the case. It was not intended, however, as a panacea for the evils which had arisen out of the failure in the supply of cotton. It did not strike at the root of the calamity which had befallen the country. It was essentially a precautionary measure designed in some degree to mitigate the sufferings of the people; and he believed that it might be turned to beneficial account if the local authorities availed themselves of its enactments.—Mr. FERRAND approved of the Bill, his only objection to it being that it did not go far enough.—Mr. HIBBERT and Mr NEWDEGATE also approved of the measure.—Mr. HENLEY objected to public bodies being empowered to raise money for the improvement of private estates.—Mr. COBDEN warned the House that in all probability the coming winter would press more severely upon the people than the last, as their own resources would be completely exhausted. He did not regard the present measure as a specific remedy for existing distress, but he hoped that it would materially assist to meet the evil. As to emigration, he thought that to send our cotton population to the colonies would be very cheap philanthropy; but a cotton spinner transferred to a country like Australia or Canada, where there were no mills—a man who could not mow or thresh—would soon sink down into helplessness.—Sir G. GREY said he very much agreed with Mr. COBDEN, and though the Government would not interpose the slightest obstacle to the reception of emigrants by the colonies, any attempt to force emigration would, in their opinion, be a great evil to the emigrants themselves.—After remarks by Mr. SCULLY, Mr. BAZLEY, and Sir F. CROSSLEY, the Bill was read a second time. The House went into a Committee of Supply upon the *Civil Service Estimates*, when Sir R. PEEL moved the Irish Education vote of 236,000*l.*—Mr. O'REILLY moved the reduction of the vote by the sum proposed for the model school at Enniscorthy. After a debate of considerable length, and an eloquent defence of the Irish model schools by the ATTORNEY-GENERAL for Ireland, the Committee divided, when the amendment was negatived by 122 to 38.—Mr. HENNESSY then moved that the CHAIRMAN report progress. On a division the motion was negatived by 122 to 38. After another division with the same result, the Government gave way, and the CHAIRMAN reported progress. The *Charitable Uses Bill* passed the Committee. The *Mutiny (East India) Act Repeal Bill*, *Sir Robert Hitcham's Charity Bill* and the *Ruthin Charities Bill* were read a second time.

FRIDAY.—The House went into Committee on the *Alkali Works Regulation* Bill sent down from the Lords, and agreed to the clauses up to 11. A division took place on clause 12, which was carried by 111 to 67. On clause 13, Mr. VIVIAN proposed an addition, to the effect that owners of mills should be liable in the first instance, preliminary to the punishment of culpable workpeople. On a division the motion was carried by 87 to 61. The clause was then added to the Bill, after which the CHAIRMAN was ordered to report progress.

[Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 92 to ⅛ for Money, and 92¼ for Account; Three per Cents. Reduced, 91⅜ to ⅞; New Three per Cents., 91¾ to ⅞; New Two and a Half per Cents., 76½; India Five per Cent. Stock, 108¼ to 108; Five and a Half per Cent. Enfaced Rupee Paper, 115; Bank Stock for Account, 234; Exchequer Bills, March, 2*s.* dis. to 1*s.* pm.; Ditto June, 2*s.* dis.—FOREIGN: Chilian Six per Cents., 103½; Egyptian, 100½; Ditto Second Issue, 100¼ to 100; Greek, for Acct., 38½ to 38; Ditto Coupons, 18⅜ to ¼; Italian Scrip, 2⅞ pm.; Ditto Maremmana Railway, 81; Mexican, for Acct., 37⅜ to ½; New Granada, 15⅞; Ditto Deferred, 10; Portuguese, 1856, '57, '59, '60, and 1862, for Acct., 49½; Russian, 1862, 93 to ¼; Spanish New Deferred, for Acct., 48⅜; Ditto Passive, for Acct., 35⅛ to 34⅞; Ditto Certificates, for Acct., 12½ to ¾; Turkish, 1854, 92¼; Ditto, for Acct., 92½; Ditto, 1858, 71; Ditto, for Acct., 70⅞; Ditto, 1862, for Acct., 71½ to ¾.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £28,612,205 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,962,205 |
| | | Silver Bullion .. .. .. | — |
| | £28,612,205 | | £28,612,205 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. .. | £11,251,395 |
| Rest .. .. .. .. .. | 3,158,995 | Other Securities .. .. | 21,402,556 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 9,882,135 | Notes .. .. .. .. .. .. | 8,478,155 |
| Other Deposits .. .. .. | 13,904,506 | Gold and Silver Coin .. | 887,951 |
| Seven days and other bills | 521,423 | | |
| | £42,020,059 | | £42,020,059 |

June 18, 1863. M. MARSHALL, Chief Cashier

## Gazette of the Week.

FRIDAY: *June 12.*—BANKRUPTS.—T. ARROWSMITH, Stafford, Shoe Manufacturer—W. AUNGIER, Montpelier Street, Brompton, Tailor—G. BUGBEE, Vauxhall Walk, Lambeth, Journeyman Carpenter—A. BARNES, Sheffield, Cutlery Manufacturer—W. BEALL, jun., Reigate Surrey, Butcher—J. BILTON, late of Gough Street, Gray's Inn Lane, Auctioneer—J. BARNS, Staverton Row, Walworth Road, Poulterer—H. S. BANKS, Queen Street, Mile End New Town, Foreman to a Butcher—C. BOWMER, Devonshire Grove, Old Kent Road, Commission Agent—J. CLEMMET, jun., Stock-on-Tees, Durham, Attorney—W. COOKE, Newbold Verdon, Leicestershire, Grocer—G. B. CAPES, Burton-on-Trent, Engineer—J. CALLOW, Saint Andrew's Road, Horsemonger Lane, Assistant to a Miller—T. P. COOPER, Studely Street, Islington, Clerk—R. CRAIG, jun., Liverpool, Licensed Victualler—W. CUMBERLAND, Nottingham, Maltster—W. A. COLLINGWOOD, Basinghall St., Accountant's Clerk—J. DAVIES, Lamb's Conduit St., Compositor—T. S. JONAS, Milman Row, Chelsea, Commission Agent—J. DUDLEY, sen., Cottage Row, Bermondsey Wall, late Smith—J. N. DUMBRILL, Eastbourne, Sussex, Baker—J. FIELD, Kirkburton, Yorkshire, General Shopkeeper—J. FISHER, Golcar, Huddersfield, Cloth Dresser—M. J. FOX, Rotherham, Yorkshire, Cordwainer—R. GELDERD, Girlington in Manningham, Yorkshire, Carter—M. GOLDSMITH, Portslade, Sussex—J. GARDINER, Queen Street, Golden Square, Envelope Stamper—T. GIBSON, Bedworth, Warwickshire, Sawyer—J. GLOVER, late of James Street, Paddington, Commission Agent—T. HODGES, jun., Huddington, Worcestershire, Haulier—A. HOWARD, Southampton, Optician—T. HALL, David Street, Old Kent Road, Journeyman Carpenter—J. HUNT, sen., Preston, Suffolk, Builder—I. INMAN, Sheffield, Commercial Traveller—J. H. JEANS, Southampton, Medical Practitioner—C. JACKSON and C. SAUNDERS, Oldham, Lancashire, Coach Builders—E. JANES, Southampton, Builder—J. KERSHAW, Rochdale, Lancashire, Woollen Weaver—T. B. LINSEY, Railway Place, Shoreditch, Silversmith—J. LORD, Halifax, Yorkshire, Accountant—B. LEE, Park Street, Islington, Attorney's Clerk—T. LLOYD, Birmingham, Timber Merchant—H. S. MASTERMAN, Warner Place, Hackney Road, Hearthrug Manufacturer—G. N. V. M. MASCARENTI, Frith Street, Soho, Commission Agent—E. M. NASH, Strand, Tobacconist—E. HILL, North Nibley, Gloucestershire, Hauler and Dealer in Coals—W. H. PEARSON, Kingston-upon Hull, Slater—J. PERKINS, Thomas Street, Newington Causeway, Commission Agent—J. POWELL, Stanton Lacy, Shropshire, Farm Bailiff—W. PEARSON, Whaplode, Lincolnshire, Shoemaker—T. PICK, Union Row, Clapham, late Manager to a Farmer—F. PILBEAM, Croydon, Surrey, Builder—H. RAFTER, Coventry, Warwickshire, Artist—T. REEVE, Coleshill, Warwickshire, Wheelwright—J. RICE, Cheadle, Cheshire, Brickmaker—C. SHEPLEY, Oldham, Assistant to a Cattle Dealer—THOMAS SHORTLAND, Weedon, Northamptonshire, Tailor

—EDOUARD SIMON, late of Park Wall, Chelsea, Commission Agent—C. SOYER, High Street, Borough, Dealer in Furniture—J. B. SMITH, Regent Street, Pall Mall, Photographer—C. J. SMITH, Houndsditch, Oil and Colourman—J. STEVENS, St. John's Wood Terrace, Regent's Park, Clerk—F. G. SALTMER, Cleveland Street, Fitzroy Square, Boot and Shoe Maker—J. STEINTHAL, Abbey Hey, Lancashire, Manufacturing Chemist—J. SHAW, Manchester, Provision Dealer—J. SMITH, Birmingham, Manufacturer of Electro-plated Goods—R. TERRINGTON, Stanhoe, Norfolk, Cordwainer—J. WHITE, Wells, Somersetshire, Butcher—G. WILLIAMS, Maidenhead, Berkshire, Blacksmith—J. WAINWRIGHT, King David Lane, Shadwell, Bass Broom Maker—W. WALKER, Over, Cheshire, Agent to a Salt Manufacturer—M. WEISS, King William Street, Strand, Accoucheur—T. N. WILSON, Woolwich, Dock Clerk—M. M. WESTLEY, Derby, Milliner—E. WALL, Birmingham, Bootmaker.

SCOTCH SEQUESTRATION.—G. MARSHALL, Auchendennan, Contractor.

TUESDAY: *June* 16.—BANKRUPTS.—F. ARMSTRONG, Fratton, Hants, Clerk—J. ALDERSLEY, Leeds, Beerhouse Keeper—J. BAYLIS, Arthur Grove, Kentish Town, Ship Steward—C. BOURNER, Devonshire Grove, Old Kent Road, Commission Agent—H. H. BROWN, Exeter, Clay Merchant—A. G. Bew, Fulham Road, West Brompton, Coffee-house Keeper—J. C. BERNER, Harp Alley, Farringdon Street, Baker—E. BROWN, Charles Place, Ferdinand Street, Hampstead Road, Mason—J. BAYLEY and E. BAYLEY, Wilmslow, Chester, Journeyman Bricklayer—T. BURGESS, Lawford, Essex, Farrier—J. BROWNE, Southsea, Grocer—J. BROGAN, Hulme, Manchester, Painter—J. BARLOW, Bury, Lancash., Curte Sheet Maker—J. M. CHAPMAN, Denbigh Place, Pimlico, Clerk—W. T. CARTER, Fulham, Clerk—T. CUIL, East Farleigh, Kent, Farmer—S. ENGLAND, Featherstall, Lancashire, Builder—J. FLEWELLEN, Bermondsey Street, late Leather Dresser—S. FORSTER, Leek, Staffordshire, Shoemaker—T. GARDNER, Brunswick Street, Blackwall, Butcher—J. GILCHRIST, Millbridge, Yorkshire, Manufacturing Chemist—R. T. GUILE, Chichester, Butcher—J. P. GROOME, Pentonville Road, Islington, Builder—J. GOCHER, Matthews Terrace, Stratford New Town, Butcher—A. C. HART, Glamford Briggs, Lincolnshire, Millwright—H. F. HOUSE, Upper Street, Islington, Master Mariner—S. HAYMAN, Spencer Terrace, Lower Road, Islington, late Provision Merchant—J. E. GLEDHILL, Rochdale, Plumber—J. HEDGES, Burslem, Staffordshire, Publican—WILLIAM HOGG, Penrith, Cumberland, Milliner—WILLIAM HENRY JONES, Piccadilly, House Decorator—JAMES JOHNSON, Wheathamstead, Hertfordshire, Licensed Victualler—C. L. KAINDWORTH, Manchester Street, Manchester Square, Professor of Music—J. N. KENNEY, Catherine Street, Strand, Clerk—J. LANCASTER, Northwich, Cheshire, Tea Dealer—S. LOCKER, Longton, Staffordshire, Labourer—J. LOUYS, Great Winchester Street, Commission Agent—J. MCLAUGHLIN, Kingston-upon-Hull, Auctioneer—A. METEYARD, Manor Cottages, Kennington Oval, Warehouseman—G. M. B. MITCHELL, Maryon Rd., Charlton, Kent, Examiner of Military Stores—W. C. MORRIS, Neath, Glamorgansh., Lime Burner—J. NEWMAN, Shirleywick Place, Old Kent Road, Builder—J. OSBORN, King's Road, Bedford Row, Cow Keeper—G. O'HARE, Wakefield, Licensed Hawker—J. ORMEROD, Bradford, Yorkshire, Warehouseman—J. POWELL, Abergavenny, Monmouthshire, Coal Merchant—J. PAGE, Mount Row, Islington, Confectioner—Z. R. PATTEN, Tolleshunt d'Arcy, Essex, Pig Dealer—R. RUNNALLS, Copperhouse, Cornwall, Butcher—R. RYDER, Bury, Lancashire, Provision Dealer—B. STUCKEY, Kern, Somersetshire, Beer Retailer—R. SHIPWRIGHT, Randolph Street, Camden Town, Working Jeweller—J. STEFFOX, Baxenden, Lancashire, Cotton Spinner—T. TASSELL, Erith, Licensed Victualler—S. THOMAS, Mornington Road, New Cross, Assistant Hosier—J. TURNER, New Cross Road, New Cross, Kent, Baker—R. L. WOODS, Warwick Street, Eccleston Square, Clerk—T. WARDIE, Redland, Bristol, Glass Dealer—E. H. S. WARING, Westbourne Park Road, Bayswater, Spinster—H. WEST, Leather Lane, late Boot and Shoemaker—A. G. WAITHMAN, Leeds, Cloth Manager.

SCOTCH SEQUESTRATIONS.—T. BUCHAN, Glasgow, Commission Agent—G. REID, Kingcase, Ayrshire, Farmer—J. E. ROSS, Tore, Ross-shire, Farmer.

## Metropolis and its Vicinity.

BANQUET TO HER MAJESTY'S MINISTERS.—On Wednesday evening the Lord Mayor gave a banquet at the Mansion House to her Majesty's Ministers and a party of about 250 guests. In returning thanks for the toast of the evening, Lord Palmerston spoke as follows:

"In addressing as I do the representatives of this great commercial capital of the world, I may congratulate you on the healthful and prosperous condition of the commercial interests of the country. In human affairs there are difficulties which appear greater at a distance than when they are boldly faced, and when we approach nearer to meet them. Thus for many years it was supposed that if any event, political or physical, should deprive this country of that great staple of its industry—cotton—ruin, bankruptcy, and desolation would be the inevitable consequence. That difficulty has, however, come; that calamity has fallen upon us. We have survived it, and although I do not mean to deny that in parts of the country, and with regard to a large portion of the manufacturing and commercial industry, it has been accompanied with great and severe distress, yet, taking the nation at large, we are happy to find that our general industry and commerce have not suffered—that our commerce has sustained scarcely any diminution, and that, in spite of that calamity, the revenue of the country has been in a prosperous and healthy state, so much so as to enable the Government to propose important and great reductions in taxation. National prosperity and commercial prosperity depend generally on the continuance of peace, and although there may be questions pending which are of a grave character, yet I trust we may flatter ourselves that those questions are susceptible of friendly, satisfactory, and peaceable solution by means of negotiation instead of by an appeal to arms. This country may boast that its relations with all other nations of Europe, and I will say also of America, in spite of that little outpouring of sentiment which is not quite so friendly—I say we may boast that our relations with other Governments of the world are friendly. There are two Powers upon whose friendship and understanding, or upon whose differences and animosities, mainly depend the question of peace or of disturbance in Europe. I mean England and France, and I am happy to say that on all those great questions upon which the issues of peace or war depend—whether in the Far West or in the distant East—there exists between the Governments of England and France the most friendly and honourable concert. The interests of these two great countries must be identical, and the Governments of both are sufficiently enlightened to know that those interests lie in the same direction. If any pledge were required of the friendly disposition which animates the Emperor of the French, I would point to my honourable and distinguished friend on my left, Baron Gros, the French Ambassador. Baron Gros has had much intercourse in many parts of the world with British diplomatists; his intercourse has invariably been of the most friendly character, honourable to his country and courteous and friendly to his ally. I allude, my lords and gentlemen, to the presence of Baron Gros, as representing the Emperor of the French in London, as a pledge of the sincerity of the alliance between the two countries. I trust that there are no clouds in the horizon which may not vanish and melt into thin air, and that whatever questions may be still pending—and I do not disguise the fact that there are questions of grave importance pending—I trust, I say, that negotiations conducted on the principles of justice and of right may lead those questions to a happy solution, and that nothing may occur to retard that progress of civilisation and industry, of art and intelligence, in which the nations of Europe are, I trust, destined uninterruptedly to follow."

PURCHASE OF THE EXHIBITION BUILDING.—A public meeting was held on Wednesday in the Concert room of St. James's Hall, to protest against the proposed purchase of the International Exhibition building. Mr. Beresford Hope presided, and spoke at great length in opposition to the scheme. He contended that the building had been the by word and mockery of Europe, and he protested against 284,000*l.* being fiddled away on tinkering a gigantic abortion, which had by its unsightly appearance considerably depreciated the value of property in its neighbourhood. Mr. Ferguson then moved a resolution to the effect that the meeting had learned with regret and surprise the proposal to purchase the International Exhibition buildings about to be submitted to Parliament by the Government, and earnestly deprecated so imprudent and wasteful an expenditure of public money. Mr. Seddon, in seconding the motion, said that architects had suffered a great deal of abuse in connection with the Exhibition building. They had borne what had been said against them in silence, but he thought the time had come when they ought to speak out against the proposed purchase. Mr. Hanretty moved an amendment to the effect that it was expedient that the building should be obtained for the use of the people. Mr. Finlen seconded the amendment. On the vote being taken the resolution was carried by a large majority. Mr. Nicholay then moved that a petition be sent to Parliament, praying it not to sanction the proposed purchase of the building. Mr. Alfred Jenoure seconded the motion. Mr. Wall moved, as an amendment, that a petition be sent to Parliament in favour of the purchase, which was seconded by Mr. M'Sweeny. The amendment was negatived by a large majority, and the original motion was then carried. It appears from the correspondence laid before Parliament that in accepting the Government offer of 80,000*l.* for the removable portion of the Exhibition building, Messrs. Kelk & Lucas stated that they could have realised a larger sum from other offers, but identified as they had been with the Exhibition, they preferred taking a course more in harmony with their feelings than making it a mere money question. The Government, on the other hand, "believed that they were making, and indeed going beyond, a most liberal estimate of the value of the materials for removal." In regard to the further proposed purchase from the Commissioners of the Exhibition of 1851, those Commissioners calculate the value of the site of the building at 500*l.* a year per acre, which gives 8250*l.* a year for the whole 16½ acres, representing at even thirty years' purchase a value of 247,500*l.*; and the Commissioners propose to include in the sale the refreshment rooms between the building and the Horticultural Society's gardens, excepting the central portion. Upon these rooms and the arcades about 40,000*l.* has been expended, and the ground is worth a very considerable sum. But considering that the Government intended to devote the Exhibition building, if purchased by them, to purposes entirely analogous with those for which the estate was originally obtained, the 1851 Commissioners consent to sell their interest in the whole of this property for 120,000*l.* They stipulate that access shall be preserved, in the interest of the public, from any public establishments which may be placed within the building to the portion of the refreshment rooms which the Commissioners propose still to retain. They stipulate also that the property shall be permanently used for purposes connected with science or the arts. They declare that the arrangement is proposed exclusively with a view to the public interests.

ARRIVAL OF CAPTAINS SPEKE AND GRANT.—The two travellers to whom the scientific world is indebted for the solution of the great geographical problem of the source of the Nile, Captains Speke and Grant, arrived at Southampton on Wednesday morning from Alexandria. The Mayor and Corporation presented them with an address on landing, and invited them to a public breakfast, but their engagements in London prevented their accepting the invitation. On Monday next they will be received by the Royal Geographical Society at an Extra Meeting at Burlington House, and on Tuesday evening Captain Speke will deliver a lecture on their discovery at the Royal Institution.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that in the week that ended Saturday, June 13, the number of deaths registered in London was 1186. The average number in the corresponding week of the ten years 1853–62, corrected for increase of population, was 1143. The present return is therefore 43 above the average. During the week the births of 995 boys and 1000 girls, in all 1995 children, were registered in London. In the ten corresponding weeks of the years 1853–62 the average number was 1791.

## Provincial.

LIVERPOOL.—The Great Eastern, which left New York at 2 P.M. on the 6th inst., arrived at Liverpool on the 17th with 391 passengers.

MANCHESTER.—At the meeting of the Central Executive Committee on Monday, the hon. secretary stated that the receipts for the week were 1239*l.* 3*s.* 7*d.*, and the balance in the bank 35*l.*587*l.* 11*s.* 10*d.* A subscription was announced of 500*l.* from Honolulu, to which the King of the Sandwich Islands was a contributor. Mr. Commissioner Farnall's weekly report showed a further decrease of the unemployed to the extent of 2645. It was however the opinion of the meeting that the distress next winter will be as severe as it was last year, but that the cotton trade in Lancashire will eventually become more prosperous than it has ever been.

NOTTINGHAM.—For some time past workmen have been employed in altering Welbeck Abbey, the seat of the Duke of Portland. On Saturday a storm visited that place; and about 1 o'clock in the afternoon, while the storm was raging at its height, a thunderbolt descended upon the tower, striking it with such force that the four-dial clock was completely demolished and the tower split down, the report of thunder and the fall of the old pile causing great alarm among the workpeople. There have been several severe thunder storms in Nottingham and the surrounding neighbourhood during the past few days.

OXFORD.—The Prince and Princess of Wales arrived in Oxford on Tuesday, and were received with becoming state and rejoicing, but the event added another to the long list of disappointments as regards the weather where the Prince is concerned, for the morning was ushered in with a damp chilly drizzle, and ended in as heavy rain as ever [spoilt an outdoor holiday in England. This mischance damped a great deal of the enthusiasm of the reception, and quite marred what would otherwise have been a gay and attractive spectacle. The High-street was thronged with spectators; every window and balcony was crowded with ladies; the houses were dressed with rosettes and evergreens; and banners, mottos, and devices, more or less suited to the occasion, fluttered in all directions. The reception took place on Magdalen Bridge, which was, of course, the great centre of attraction. The Archbishops of Canterbury and Armagh, the Bishops of London, Winchester, and Lincoln, followed by the Vice-Chancellor, Deans, Wardens, Heads of Houses, and Doctors of Divinity and Medicine, in their Academic robes, headed the procession, which was brought up by a crowd of Masters of Arts and College dignitaries. The procession had scarcely drawn up in double lines along the bridge when the rain came down with vehemence, and in the midst of it the Royal *cortège* drew up. It was a plain travelling chariot drawn by four horses, and preceded by two outriders in scarlet liveries; while in front of all rode the Duke of Marlborough, as Lord-Lieutenant of the county. On entering the bridge the Royal carriage stopped, and, though the drenching rain might well have justified their Royal Highnesses in keeping the vehicle closed, the Prince gave orders that the hood should be thrown back, and for the rest of the route to Christ Church they both sat exposed to the heavy rain with the most perfect indifference. Both the Prince and Princess were in plain morning costume, and looked pleased with the extreme warmth of their reception. Unfortunately, just as the *cortège* reached the bridge, the pressure of the country people who had gathered in the Iffley Road quite overpowered the police and Volunteers in their efforts to keep the pathway clear; and the Royal carriage was instantly surrounded by a mixed crowd, whose cheering and pushing to see the Princess marred the ceremony which constitutes the presentation of an address. The intruders, however, were ultimately checked by the police, and the Royal procession continued its course up the High Street, amid the most enthusiastic demonstrations of welcome, in spite of the drenching rain, which now came down in streams. On arriving at Christ Church the band struck up "God Save the Queen," the Volunteers presented arms, and amid general cheering the Royal procession drove up to the flight of steps at the upper terrace, where they were received under an awning by Dean Liddell, Archdeacon Clarke, the Sub-Dean, and other dignitaries of the College. Giving his arm to the Princess, the Dean led his illustrious guests to the apartments provided for them in his own house. In about a quarter of an hour the Royal party returned to the awning, under which the Volunteer prizes had been arranged. The Princess, who seemed to suffer somewhat from the damp chilly atmosphere to which she had been exposed during her drive through the town, wore a warm woollen wrapper over her mauve silk dress. Lieut.-Colonel Bowyer handed the cups and other articles to her Royal Highness, who presented them to the winners with a kindly courtesy which seemed to bespeak an almost personal interest in the success of each. At the close of the presentation the corps, at the request of the Princess, went through some of their exercises. Shortly before 3 the Prince and Princess left the Deanery for the Sheldonian Theatre, where the undergraduates for nearly two hours had been indulging in the demonstrations and clamour which are their peculiar privilege on such occasions. When their Royal Highnesses entered, the whole assemblage rose, and the undergraduates, starting to their feet with a deafening cheer, waved caps, gowns, handkerchiefs in the air, and stamped their feet in the ecstacy of their enthusiasm till the building trembled in a manner that was almost alarming. Never since the Theatre was built have its walls echoed and vibrated to such a long, hearty, and absolutely deafening outburst as the Prince advanced, bowing with kindly grace from side to side, and leading his young bride, who was quite unable to conceal the expression of absolute astonishment at this astounding welcome. The Prince wore his uniform and riband of the Garter, and over it his academic gown. The Princess was dressed plainly and simply as in the morning. They were accompanied by the Earl of Derby in his splendid robes as Chancellor of the University, the Dukes of Newcastle and Marlborough, Earls Granville, Spencer, Mount Edgcumbe, Lord Harris, Mr. and Mrs. Gladstone, Mr. and Mrs. Disraeli, General Knollys, Dean Liddell, &c. The Chancellor occupied his own seat, the Prince and Princess sat on his right in chairs of state; and all having taken their places waited patiently till the

long cheering came to an end. The Earl of Derby then rose and delivered a long Latin address, at the conclusion of which he presented the diploma conferring the degree of Doctor in Civil Law on his Royal Highness, amid prolonged applause. After the usual presentation by the Regius Professor of Civil Law, the honorary degree of D.C.L. was conferred on Earl Spencer, the Earl of Mount Edgcumbe, Lord Harris, and General Knollys. Congratulatory poems on the occasion of the Royal visit were then delivered by two undergraduates. With this the special Congregation closed, and amid cheers and shoutings the Prince and Princess left the Theatre. Their Royal Highnesses then honoured with their presence a bazaar in St. John's College Gardens in aid of the funds of the Radcliffe Infirmary, and the second show of the Royal Oxfordshire Horticultural Society in the adjoining grounds of Trinity. Both fêtes were celebrated under the depressing influence of a pouring rain. In the evening the Prince and Princess were entertained at a state banquet in the Hall of Christ Church, after which they honoured with their presence a grand Masonic ball, given by the Apollo University Lodge, in the New Corn Exchange. On Wednesday the Encœnia or Commemoration of Founders was celebrated in the Sheldonian Theatre with the usual honours. The undergraduates in the gallery manifested their feelings with still greater energy than on Tuesday, the greatest demonstration being reserved for Professor Kingsley, whose name was said to have been withheld from the list of honours through the influence of Dr. Pusey, who was received with a proportionate amount of hisses. Professor Jowett was also the subject of unbounded admiration. The Chancellor took his seat about 12 o'clock, and almost immediately left the Theatre and conducted the Prince and Princess to the chairs of state which had been prepared for them. The cheering was vociferous, and their Royal Highnesses were evidently touched with the warmth of their reception. The honorary degree of D.C.L. was then conferred on the Duke of Newcastle, Earl Granville, M. de Bille the Danish Minister, the Right Hon. Edward Cardwell, the Right Hon. James Whiteside, Sir Hugh Cairns, Sir Stafford Northcote, and Mr. Seymour Fitzgerald. The Public Orator then delivered his address amidst an unceasing succession of interruptions from the undergraduates, after which the prize essays and poems were recited. The Earl of Derby then declared Convocation closed. At 2 P.M. the Royal party partook of a grand collation in the library of All Souls' College. It was expected that their Royal Highnesses would attend the Freemasons' fête in Worcester College Gardens, but as they had been regularly mobbed at the Horticultural Show on the previous day, they declined to submit themselves a second time to the rudeness of the crowd. The rain, moreover, descended in torrents during the entire fête. The Prince and Princess subsequently witnessed the procession of boats. They were rowed from Folly bridge to the University barge in a new and handsome boat, constructed by Messrs. Salter. They there witnessed an eight-oared race from the Willows to the University barge, followed by the grand procession of boats which is one of the sights of the University. Later in the evening their Royal Highnesses were entertained by the Vice-Chancellor at a grand banquet in Exeter College-hall, and afterwards honoured with their presence a ball given by the Undergraduates of Christ Church in the New Corn Exchange. On Thursday morning the Prince and Princess paid a visit to Frewen Hall, the house occupied by his Royal Highness during his academic residence. They next visited Exeter College, the Bodleian Library, and the New Museum. At half-past 3 their Royal Highnesses left Oxford by railway for Windsor, their departure being marked by the same manifestations of enthusiastic loyalty which had greeted their arrival. The students immediately started off for the Long Vacation; the visitors joined them in a general rush to the railway; and the city rapidly subsided into the stillness and repose of the Long Vacation.

## Ireland.

THE MURDER OF MR. JACKSON.—The *Limerick Reporter* contains further particulars in connection with the murder of Mr. Jackson, which tend to controvert the idea of its having been an agrarian outrage. It states that there could not have been less than 100*l.* about the person of the deceased and in his home on the morning of the murder. Of this sum not one shilling was to be seen on the day the body was found. Search was made in the safe or strong box in which he kept his money, but there was none in it. Search was then made in the drawers and desks in which he was accustomed to keep his accounts, but there were no accounts to be found since 1861. For the years 1862 and 1863 no accounts whatever were to be found. Search was also made for other matters connected with the business of the house and estate, and they were not forthcoming. The *Reporter* observes that these are most extraordinary and astounding facts. The murder was perpetrated on a Thursday morning. During the whole of that day the murderer was probably engaged in carrying out his scheme of plunder and destroying the accounts, as no great alarm was felt at Mr. Jackson's absence until late at night, and search was not really made for him until next morning. Among the latest arrests is that of the cook, who is said to have uttered some expression which, if unexplained, would go to demonstrate that she had some idea that evil was about to befall her master.

## Railways.

REJECTION OF THE PROPOSED NEW LINE TO BRIGHTON.—On Monday, after a sitting of five weeks' duration and an expenditure of about 1000*l.* a-day, the committee threw out the proposed new line to Brighton promoted by the London, Chatham, and Dover Company, the chairman stating that the committee were unanimously of opinion that the preamble of the Bill was not proved.

## Obituary.

LADY HENRIETTA LOUISA MORANT died on Wednesday evening at her residence in Park Lane, after a long and painful illness. Her ladyship was daughter of the late and sister of the present Duke of Beaufort, was born in 1831, and married Mr. John Morant in 1855.

MAJOR GORDON, M.P. for Berwick-on-Tweed, died on Tuesday after a painful illness of some days. In politics he was a Liberal Conservative. He contested Berwick unsuccessfully in 1857, and was first elected in 1859.

WILLS.—The will of the Duke of Grafton has been sworn under 160,000*l.* personalty; the Countess Dowager of Verulam, 12,000*l.*; Lord Henry Seymour, 80,000*l.*; Sir Tatton Sykes, Bart., 120,000*l.*; Mr. Francis Dashwood, 10,000*l.*; Mr. Serjeant Wrangham, 30,000*l.*; Mr. N. C. Moginie, of Chiswick, 30,000*l.*

## Sporting.

BOAT RACE FOR THE CHAMPIONSHIP.—The great boat race for the Championship and 200*l.* a side, which has been the theme of general interest lately among all lovers of aquatic sports, took place on Tuesday between Green, who had come from Australia to contest it, and Chambers, the champion of the Thames and the Tyne. The Australian won the choice of position, and in the first few minutes of the race gained a decided lead. He was unable, however, to maintain the pace at which he started, and Chambers came in the winner by about half a mile.

BIRTHS.—On the 15th inst, at Glenarm Castle, the Countess of ANTRIM, of a daughter—16th inst, the Hon. Mrs. O'BRIEN, of a daughter—13th inst, at 25, Belgrave Square, Mrs. CALLANDER, of Preston Hall, prematurely, of a son, stillborn—13th inst, at 19, Chester Street, Belgrave Square, the wife of WILLIAM SPOTTISWOODE, Esq., of a son, stillborn—14th inst, at St. John's Villa, Redland, Bristol, the wife of W. I. M. POCOCK, Esq., of a son.

MARRIAGES.—On the 18th inst, at St. George's, Hanover Square, FREDERICK FREEMAN THOMAS, Esq., of Ratton, Sussex, to MABEL, third daughter of the Hon. Mr. and Mrs. BRAND—17th inst, at the Church of the Holy Trinity on Hatfield Heath, the Rev. EDWARD CAPEL CURE, of Blake Hall, Essex, to GERTRUDE LOUISA JANE, second daughter of Sir JOHN SELWIN, Bart., of Down Hall, in the same county—10th inst, at St. Saviour's, TEMPLE BOUVERIE CLEAVELAND, eldest son of the late SOMERSET WILMOT, of Gresley Park and Blaise Castle, Esq., J.P., Deputy-Lieutenant, and K.S.V., &c., formerly gentleman in waiting on His Majesty George IV., when Prince of Wales, to CATHERINE BOASE, only daughter of RICHARD [illegible], Esq., of Bochym, in the county of Cornwall, and cousin to Lord VIVIAN—3d inst, at Frankfield Church, the Rev. ROBERT S. GREGG, M.A., son of the Lord Bishop of Cork, to [illegible], eldest daughter of JOHN HUGH BAINBRIDGE, of Frankfield, co. Cork, Esq.—11th inst, at Leckhampton, Gloucestershire, CROFTON VANDELEUR FITZGERALD, Esq., brother to the late Lieut.-General Sir Augustine Fitzgerald, Bart., of Carrigoran, county Clare, Ireland, to FRANCES EMMA, daughter of the late Colonel GREY, of the Scots Greys—11th inst, at Alderminster, Captain ARBUTHNOT, H.M.'s 18th Hussars, eldest son of Sir R. K. Arbuthnot, Bart., to ALICE MARGARET, fourth daughter of the Rev. M. C. TOMPSON, vicar of Alderminster, Worcestershire—15th inst, at All Saints', Margaret Street, CHRISTIAN CHARLES AUGUSTUS GOSCH, Esq., Attaché to the Legation of H.M. the King of Denmark, son of Lieut.-Colonel Gosch, R.A., to HARRIETTE, widow of STEPHEN TOWGOOD, Esq.

DEATHS.—On the 12th inst, at Trinity College, Glenalmond, Perthshire, the Hon. CHARLES BRUCE, third son of the Earl of Elgin and Kincardine, aged 10—14th inst, at 23, Grafton Street, the Hon. Lady BOROUGH, widow of Sir Richard Borough, and only surviving issue of the first Viscount Lake, aged 87—14th inst, at Carlton Park, Northamptonshire, ARTHUR WATSON PALMER, Esq., late Captain 5th Fusiliers, fourth son of Sir John Henry Palmer, Bart., aged 37—16th inst, in London, [illegible] MER, wife of the very Rev. the Dean of Grahamstown, Cape of Good Hope—14th inst, at Cheltenham, Mrs THERESA LYNCH, widow of Andrew Henry Lynch, Esq., a Master in Chancery in Ordinary, and younger daughter of Charles Butler, Esq., Q.C., aged 77—16th inst, in Devonshire Street, Portland Place, CLARE ST. GEORGE REYNOLDS, youngest sister of the late Henry Revell Reynolds, Esq., Chief Commissioner of the Court for Relief of Insolvent Debtors—13th inst, at Hastings, CHARLOTTE ELIZABETH, widow of RICHARD KYNASTON SUMMERFIELD, Esq., of Aylesford, Kent, aged 79—11th inst, at his residence, Villa d'Este, Ryde, Captain HENRY BENJAMIN WYATT, Royal Navy, aged 76—9th inst, at Bath, WM. LLOYD CALDECOTT, Esq., of Llandegwning, Carnarvon, J.P., and Deputy-Lieutenant for the counties of Carnarvon and Lincoln—14th inst, at No. 1, Seamore Place, Mayfair, JAMES EVANS BAILLIE, Esq., of Kingussie and Culduthel, N.B., aged 81—15th inst, at 18, Montague Place, Russell Square, ELIZABETH, relict of ROBERT PAGE, Esq., and eldest daughter of the late WILLIAM PHELPS, Esq., of the Island of Madeira—14th inst, at 23, Leinster Square, Bayswater, SARA, sister of CHARLES FORTESCUE TAGART, Esq.—11th inst, at 3, Porchester Terrace, AGNES, wife of MARKHAM SPOFFORTH, Esq., and daughter of the late John Claudius Loudon, Esq.

## Markets.

POTATOES, SOUTHWARK, Monday, June 15.

During the past week the arrivals both coastwise and by rail have been small, but a plentiful supply of new Potatoes from France, Holland, and Jersey. As the old Potatoes will be done with in a few days, this will be our last report for the season. The following are this day's quotations:—York Flukes, per ton, 120s to 140s; ditto Seedlings, 90s to 100s; do. Rocks, 90s. to 100s; Perth, Forfar, and Fife Rocks, 80s. to 90s.; do. Reds, 75s. to 80s.; French, Dutch, and Jersey New, 8s. to 10s. per cwt.

COVENT GARDEN, June 20.

Vegetables of all kinds still continue abundant. Peaches and Nectarines are more plentiful, and of Grapes and Pine Apples the supply is sufficient for the demand. Strawberries are becoming plentiful, and fetch from 6d. to 3s. per lb. Cherries of foreign growth, of which there are large arrivals, are fetching from 5s. to 6s. 6d. per basket, weighing about 24 lbs. each. Of Melons, both English and foreign, there is a good supply, and Oranges are also plentiful. New Potatoes realise from 8s. to 11s per cwt. Cut flowers chiefly consist of Orchids, Pelargoniums, Azaleas, Violets, Stocks, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 8s | Lemons, per 100, 9s to 12s |
| Grapes, per lb., 6s to 10s | Oranges, per box, 30s to 40s |
| Strawberries, p. lb., 1s to 3s | — per 100, 5s to 10s |
| Apples, per doz., 9d to 1s 6d | Nuts, small, per bushel, 14s to 18s |
| Figs, per doz., 8s to 12s | Almonds, do., 18s |
| Peaches, per doz., 15s to 30s | Walnuts, do., 10s to 16s |
| Nectarines, do., 10s to 18s | |
| Melons, each, 3s to 7s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Green Peas, per qt., 1s to 1s 6d | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | French Beans, per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 99s | Asparagus, per 100, 2s to 5s |
| ,, Flukes, do., 100s to 120s | Shallots (new), p. bunch, 9d |
| ,, Rocks, do., 60s to 80s | Rhubarb, p. bundle, 2d to 4d |
| ,, Cups, do., 75s to 85s | Garlic, per lb., 8d to 1s |
| Turnips, p. bunch, 9d to 1s 3d | Lettuces, each, 1d to 2d |
| Carrots, do., 1s to 1s 9d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun. 1s 6d to 4s |
| Cucumbers, each, 1s to 1s 6d | Mushrooms, p. pott., 1s to 1s 3d |
| Beet, per doz., 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch, 2d to 4d |

NEWGATE.—June 19.

| | |
|---|---|
| Best Fresh Butter .. .. | 12s. per dozen lbs. |
| Second do. do. .. .. | 10s. ,, |

Pork, 4s 0d. to 4s 4d. per 8 lbs.

METROPOLITAN CATTLE MARKET.

MONDAY, June 15.

We have rather a larger supply of Beasts than on Monday last, and the demand is not so active; consequently on the average prices are lower. The number of Sheep is scarcely as large, but trade is dull, especially for heavy fat sheep. It is very difficult to maintain late quotations. Good Lambs and Calves are in request at late rates; inferior kinds meet with a dull sale. From Germany and Holland there are 600 Beasts, 4650 Sheep, and 244 Calves; from Spain, 160 Beasts; from Scotland, 150; from Norfolk and Suffolk, 2920; and 400 from the Northern and Midland counties.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to | 5 0 | Best Long-wools .. | .. — | .. |
| Best Short-horns | 4 6 — | 4 8 | Do. Shorn .. | 4 4 — | 4 8 |
| 2d quality Beasts | 3 4 — | 4 4 | Ewes & 2d quality | .. — | .. |
| Best Downs and Half-breds .. | .. — | .. | Do. Shorn .. | 3 4 — | 4 0 |
| Do. Shorn .. | 4 10 — | 5 0 | Lambs .. .. | 5 8 — | 6 8 |
| | | | Calves .. .. | 3 8 — | 4 10 |
| | | | Pigs .. .. | 3 4 — | 4 4 |

Beasts, 4500; Sheep & Lambs, 25,690; Calves, 272; Pigs, 430.

THURSDAY, June 18.

The number of Beasts is scarcely as large as on Thursday last; the demand, however, is much smaller, and consequently several remain unsold, although there is a disposition to take rather lower than our quotations. Sheep and Lambs are rather more plentiful; trade is exceedingly dull, and Monday's quotations cannot be realised throughout. We have a large supply of Calves, and on the average prices are lower. Our foreign supply consists of 895 Beasts, 2130 Sheep, and 531 Calves. Milch Cows, 85.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to | 5 0 | Best Long-wools .. | .. — | .. |
| Best Short-horns | 4 6 — | 4 8 | Do. Shorn .. | 4 4 — | 4 6 |
| 2d quality Beasts | 3 4 — | 4 2 | Ewes & 2d quality | .. — | .. |
| Best Downs and Half-breds .. | .. — | .. | Do. Shorn .. | 3 4 — | 4 0 |
| Do. Shorn .. | 4 8 — | 5 0 | Lambs .. .. | 5 6 — | 6 4 |
| | | | Calves .. .. | 3 0 — | 4 10 |
| | | | Pigs .. .. | 3 0 — | 4 4 |

Beasts, 1215; Sheep & Lambs, 11,[illegible]; Calves, 7[illegible]; Pigs, [illegible].

HOPS.—BOROUGH MARKET, FRIDAY, June 19.

Messrs. Pattenden & Smith report a continued steady demand for all Hops of last year's growth for consumption at firm rates. Old Hops also, if sound and well kept, meet with a ready sale at a slight advance in prices. The accounts from a portion of the Weald of Kent and Sussex are still unfavourable, while those received from Mid and East Kent and the eastern part of Sussex state that the bine grows rapidly and not much vermin.

COAL MARKET.—June 17.

Davison's West Hartley, 15s. 3d.; Hastings Hartley, 15s. 3d.; Holywell Main, 16s.; Wylam, 15s. 9d.; Walls End Riddell, 15s. 6d.; Eden Main, 17s. 9d.; Walls End Braddyll's Hetton, 18s. 6d.; Walls End Framwellgate, 16s. 9d.; Walls End Haswell, 17s. 6d.; Walls End Hetton, 17s. 6d.; Walls End Keepier Grange, 16s.; Walls End Russell's Hetton, 16s. 6d.; Walls End Stewarts, 18s.; Walls End Hartlepool, 17s.; Walls End Hough Hall, 16s. 6d.; Walls End Kelloe, 16s. 6d.; Walls End East Hartlepool, 17s.; Walls End Trimdon Hartlepool 17s.; Carway and Duffryn Malting, 18s. 6d.—65 ships at market.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, THURSDAY, June 18.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 80s | Clover, old .. .. | 90s to | 120s |
| Superior do. .. | 80 | 90 | New Clover .. | — | — |
| Inferior do. .. | 45 | 60 | Do. second cut .. | 80 | 100 |
| New do. .. .. | — | — | Straw .. .. | 28 | 31 |
| Rowen .. .. | — | — | | | |

[illegible] & BARTON.

CUMBERLAND MARKET, THURSDAY, June 18.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 92s to | 100s | Inferior Clover .. | 88s to | 100s |
| Inferior do. .. | 72 | 84 | New do. .. .. | 70 | 92 |
| New do .. .. | 65 | 80 | Straw .. .. | 26 | 42 |
| Superior Clover .. | 112 | 120 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, June 18.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime Clover .. | 120s to | 12[illegible]s |
| Inferior do. .. | 75 | 80 | Inferior do. .. | 110 | 115 |
| Prime New Hay .. | — | — | Prime 2d cut | 115 | 120 |
| Inferior .. .. | — | — | Inferior do. .. | — | — |
| Straw .. .. | 28 | 32 | New 2d cut .. | — | — |

BRITISH WOOLS.—LONDON, June 18.

The shearing of the sheep is now progressing as usual, and some quantity of wool is selling daily at extreme prices, which are not likely to be maintained throughout the next month, when the bulk will have been brought to market.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| South-down Hoggets .. | 1 8 to | 1 9 | Leicester Wethers | 1 7 to | 1 8 |
| Half-bred ditto .. | 1 9 — | 1 10 | Ditto Hoggs .. | 1 8 — | 1 9 |
| Down Ewes .. | 1 7 — | 1 [illegible] | Combing Skins | 1 4 — | .. |
| Kent Fleeces .. | 1 9 — | .. | Flannel Wool .. | 1 4 — | .. |
| | | | Blanket ditto | .. — | .. |

MARK LANE.—MONDAY, June 15.

The supply of English Wheat to this morning's market was small, and met a quick sale at fully our last week's quotations,

a portion being taken for France. Foreign was in good retail demand, and in some instances, particularly American for export, commanded an advance of 1s. per qr. Barley, Beans, and Peas were taken freely at the extreme prices of last week. Oats were a slow sale at a decline of 6d. per qr. For Flour there was very little inquiry.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk..White | 46—56 | Red ..... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — — Talavera .............. | 48—60 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 34—62 | | |
| Barley, grind.&dist.,23s to 30s..Chev. | 34—38 | Malting .. | 31—34 |
| — Foreign..grinding and distilling | 23—27 | Malting .. | 28—32 |
| Oats, Essex and Suffolk ........... | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .... | 21—23 |
| — Irish ...................Potato | — | Feed .... | — |
| — Foreign ......Poland and Brew | 20—22 | Feed .... | 17—22 |
| Rye .............................. | 35—37 | Foreign .. | — |
| Rye-meal, Foreign ................ | — | | |
| Beans, Mazagan....30s to 31s...Tick | 31—32 | Harrow .. | 31—32 |
| — Pigeon ...... 34—38..Winds. | — | Longpod | — |
| — Foreign ................Small | 40—46 | Egyptian | 32—34 |
| Peas, White, Essex and Kent..Boilers | 35—37 | Suffolk .. | 37—40 |
| — Maple .... 42s to 43s .... Grey | 36—37 | Foreign .. | 30—33 |
| Maize ..........................White | — | Yellow .. | — |
| Flour, best marks delivered..per sack | 42—47 | | |
| — 2d do ..................... ditto | 32—44 | Country .. | 32—42 |
| — Foreign ............ per barrel | 20—28 | Per sack | 34—43 |

Friday, June 19.

The weather since the 12th inst. has continued to be showery, and occasionally the rain has been very heavy, particularly so this morning. The crops are reported as having been greatly benefited; Wheat in the early districts is coming into blossom. The Wheat trade has been stimulated by a continental demand, and prices generally have recovered the depression of the previous week. Oats in several of the chief markets have declined in value 6d. per qr. No alteration has occurred in the quotations of other kinds of spring corn. Flour continues to attract little attention. Since Friday last 31 vessels have been reported off the coast. The floating trade has become more lively by a good demand for Wheat for the continent. Wheat prices have improved 1s. to 2s., Barley advanced 1s., but Maize and Linseed are 1s. per qr. cheaper. In Paris (June 18), the market is very firm, but the transactions have not been of great extent. Wheat has advanced 1s. to 6d. per 480 lbs., Flour 1s. per 280 lbs. The six marks for delivery this month are quoted equal to 40s.6d. p. 280 lbs. The present stock of Flour is reduced to 6670 cwt. The arrivals of English grain are small, moderate of foreign Wheat, large of Oats, none of Barley, of Flour good. To-day's market was very thinly attended. English Wheat met a quick sale at the extreme rates of Monday; foreign was held firmly at full prices, but notwithstanding that there is still an inquiry for the Continent, only a limited business was transacted. Spring Corn was in fair demand at our last quotations.

Arrivals this Week.

| | Wheat | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 840 qrs. | — qrs. | 370 qrs. | 410 sks. |
| Irish .... | — | — | 500 | — |
| Foreign .. | 10,270 ,, | — | 50,210 ,, | 250 ,, / 16,270 brls |

Liverpool, June 16.—We have had a very fair attendance of buyers at to-day's market, and with a more general demand Wheat has obtained an improvement of 1d. to 2d. per cental on the low rates of last Friday. Flour is held for a slight advance, but does not move freely. Indian Corn meets a good consumptive inquiry at Friday's prices. Oats and Oatmeal dull, but are not to be bought cheaper. Beans, Peas, and Barley are each steady, without alteration in value. The market closes with firmness.

Friday, June 19.—Wheat and Flour in irregular demand at last Tuesday's rates. Indian Corn is held for Tuesday's quotations, but the large shipments from America have caused buyers to act with great caution, and very little business done. Oats and Oatmeal dull. Egyptian Wheat unchanged.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| May 9.. | 46s 2d | 34s 4d | 22s 1d | 30s 11d | 37s 6d | 31s 0d |
| — 16 | 46 9 | 34 5 | 21 11 | 33 7 | 38 3 | 35 8 |
| — 23 | 46 8 | 33 9 | 22 7 | 34 6 | 38 6 | 36 5 |
| — 30 | 46 5 | 33 8 | 22 8 | 40 2 | 38 11 | 35 9 |
| June 6 | 46 10 | 31 11 | 22 10 | 32 5 | 39 10 | 36 8 |
| — 13 | 46 11 | 32 4 | 22 10 | 34 10 | 39 8 | 36 11 |
| Agg. Aver. | 46 8 | 33 5 | 22 6 | 34 5 | 38 9 | 35 11 |

Fluctuations in the Last Six Weeks' Averages.

WANTED, a TRAVELLER.—Youell & Co. will shortly require an experienced person to represent them in the above capacity. He will be required to have a thorough knowledge of Plants and their value, to be of steady and persevering habits, and be able to give satisfactory references.—Royal Nursery, Great Yarmouth.

WANTED, a FOREMAN at Page's Nursery, Southampton.

WANTED, as GARDENER, an active industrious Man, who thoroughly understands Flower and Kitchen Gardens and Greenhouses. He would be required to take charge of two or three Cows and some Poultry. Two under men are kept.—Apply to the Porter, 4, Victoria Street, Westminster, between 11 and 4 o'clock.

WANTED, in a Small Nursery, a MAN that has a knowledge of Propagating Hard and Soft-wooded Plants, and is willing to go out Jobbing occasionally. A married Man preferred. There is a comfortable Cottage on the premises.—Apply to John Day, Nurseryman, Dartford.

WANTED, a MAN and WIFE, about 40 years of age.—Man as Gardener; to look after a Pony and Chaise and make himself generally useful; one preferred who has a knowledge of Horses. Woman as Plain Cook and General Servant. Cleanly and good tempered, early risers, with 12 months' character. There are only two in family. Washing put out. Little or no company kept. Twelve miles from London. Wages 30*l.* per annum.—Apply between 11 and 2 o'Clock at Erswell's Carriage Depôt, Little Moorfields, Finsbury, E.C.

WANTED, a BAILIFF, or Person who understands the Management of Grass Land, and who has a full knowledge of Cattle and of the customs of Letting and Leasing Farms.—Address to Benson & Holme, Stationers, &c., 10, Castle Street, Liverpool, stating Salary expected, and employment last accustomed to.

Gardener.

WANTED, in Staffordshire, a GARDENER and his WIFE, without incumbrance, to live in a Lodge. The Man must be a good Kitchen Gardener, understand the Cultivation of Vines and Flowers, Mowing Lawns, and be willing to make himself generally useful. The Wife is required to assist occasionally in the Laundry, for which she will be paid extra. Persons from the country will be preferred, and who can have from their last place at least two years' character for honesty, sobriety, industry, and competency. Wages to Gardener, 18*s.* per week and Cottage.—Address, stating ages and where last employed, to Mr. Lowe, Nurseryman, Wolverhampton, Staffordshire.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (Head).—Age 30; well experienced in all its branches. Four years' good character.—C., M. A. Sanders', Theobalds Park, Waltham Cross, Herts.

GARDENER (Head).—Age 32; Messrs. Glendinning & Sons can with confidence recommend a respectable Man, who has a thorough practical knowledge of his profession.—Chiswick Nursery, London, W.

GARDENER (Head).—Age 34, married, no incumbrance; good Plantsman. Understands Vines, Forcing, &c.; Flower and Kitchen Gardens. Two years' good character.—J. W., Messrs. E. G. Henderson & Son, Wellington Road, St. John's Wood, N.W.

GARDENER (Head).—Middle aged, married, no incumbrance; understands his business in all its branches. The Wife can undertake the Laundry, Dairy, Poultry, or Domestic affairs. Good character.—G. L., Cutbush's Nursery, Barnet, Herts.

GARDENER (Head).—Age 38, married, no incumbrance; has a thorough practical knowledge of his profession in all branches. No objection to any part of the country. Unexceptionable character.—A. B., *Gardeners' Chronicle* Office, W.C.

GARDENER (Head), to any nobleman or gentleman.—Age 35, married, no incumbrance; thoroughly practical. He is fully competent to take charge of an establishment where the Forcing of Fruit in all its branches is required, is a successful Cultivator of Stove and Greenhouse Plants, Ferns and Orchids, &c. Can be highly recommended by present employer.—A. B., Post Office, Kirkelea, near Hull.

GARDENER (Head), with any nobleman or gentleman.—Age 27, married; has had 12 years' experience in his profession in all its branches, viz., the Forcing and Management of Flowers, also Pines, Grapes, Peaches, Strawberries, Melons, Cucumbers, and all sorts of Vegetables, and is a good Kitchen Gardener. Can have a first-rate character from the gentleman he has just left, with whom he lived six years.—E. Mitchell, Post Office, Wootton, near Liverpool.

GARDENER (Head) to any nobleman or gentleman.—Age 37, no incumbrance; has had practical experience in all branches of his profession, and is fully competent to take charge of an establishment where early Flowers, Fruit, and Vegetables, are required; is also a good Kitchen and Flower Gardener. Four years' character from late employer—the Right Hon. Lord Camoys, Stonor Park.—John Keith, 4, Albion Place, Henley-on-Thames, Oxon.

To Noblemen and Gentlemen.

GARDENER (Head), where a trustworthy and confidential servant is required.—Married, no incumbrance, in the prime of life; competent to conduct an Establishment of any magnitude. Has had first-class and varied practice in the highest branches of the profession in some of the finest Gardens in the Kingdom. Two years' first-class character from last situation, and testimonials of the highest order from many titled families.—J. M., Mr. Young, The Gardens, West Hill House, Highgate, Middlesex, N.

GARDENER (Head, or good Single-handed).—Age 27, single; understands Pines, Vines, Stove and Greenhouse Plants, &c. Three years' good character.—A. B. Mr. Boxall, Upper Mitcham, Surrey.

GARDENER (Head), where three or more are kept.—Single; can be well recommended, and has a thorough knowledge of Gardening. Can have five years' good character.—W. J., Post Office, Barnet, Herts, N.

GARDENER (Head), or GARDENER and BAILIFF.—Married; understands all kinds of Forcing, Fruit, Flowers, and Kitchen Gardening; and is competent to take charge of Stock and Land. Can be well recommended by his present employer. Five years' good character.—W. D., Post Office, Windsor, Berks.

GARDENER (Foreman), age 23, single.—A Gardener can with confidence recommend his Foreman, who has lately left, to a good Gardener, where Plant Growing and Forcing is carried on. Is a trustworthy, persevering man, steady, industrious, and has a fair knowledge of his business.—A. L., Post Office, Queen's Road, Chelsea, W.

GARDENER.—Single; understands Greenhouses, Vines, and Kitchen Garden. Good character.—J. Pittman, Aston Sumerhill, near Evesham, Gloucestershire.

GARDENER.—Age 25, single; understands Forcing, Kitchen and Flower Gardens. Has 18 months' good character.—T. S., Egham Nursery, Egham, Surrey.

GARDENER.—Age 30, married; active and steady. Understands Kitchen and Flower Gardens, also Cows, and can Wait at Table when required. Three years and 8 months' character.—W., Post Office, Wimbledon, Surrey, S.W.

GARDENER (Single-handed or Otherwise.)—Age 22; married, no incumbrance. Two years' good character.—A. M., Post Office, Acton, W.

GARDENER (Single-handed).—Age 30, married; no objection to attend to Cows or Horse.—F. B., Page, News Agent, Lower Tooting, Surrey, S.

GARDENER (Under).—Age 19; no objection to pay a Premium.—A. B., H. Holdaway, Gardener, L. Booth's, Esq., Englefield Green, Egham, Surrey.

GARDENER (Under).—A steady young Man, accustomed to Forcing, and willing to make himself useful. Good references.—D. N., Brook Street, Tring.

GARDENER (Under).—Age 24; has been accustomed to Glass. Five years' good character from present and previous situation.—P. T., Mr. Allman, Nursery, Horsham, Sussex.

GARDENER (Under), where he could improve.—Age 21, single. A Premium given, where such is required. Good character.—W. J., Post Office, Blunham, Beds.

IMPROVER, under a good practical Gardener, where he will be instructed in all branches of the profession.—Age 17; a Premium will be given.—A. B. C., Market Bosworth.

FOREMAN in a nobleman's or gentleman's Gardens.—Age 26, single. Two years' good character.—A. B., Bayfordbury, Hertford, Herts.

FOREMAN in a Small Nursery, and to take the Management of Jobbing.—Middle-aged, experienced in Budding Roses and Fruit Trees; good hand at Training, Nailing, Layering, &c.—E. T., Mr. Haines, 4, Princes Road, Notting Hill, W.

FOREMAN, in a gentleman's or nobleman's Garden.—Understands Forcing Fruits; first-class Grape Grower; Orchids, Stove and Greenhouse Plants, Lycopods, Kitchen and Flower Gardens. Has served in some of the leading Gardens in England, where the highest testimonials can be given.—C. Sonders, 41, Warwick Street, Ryde, Isle of Wight.

FOREMAN, or FOREMAN and PROPAGATOR.—First-class experience and references.—A. B., Mr. W. Bull's Establishment for New and Rare Plants, King's Road, Chelsea, S.W.

PROPAGATOR and FOREMAN.—Age 23; thoroughly understands the Propagation and Growing of Hard and Soft-wooded Plants, Roses, Rhododendrons, Conifers, &c. Expert Budder and Graftsman. First-class references.—A. B., 33, Buttesland Street, Hoxton, London, N.

FARM BAILIFF.—Married; thoroughly practical in all his duties.—J. W., Felderland Farm, Sandwich, Kent.

BAILIFF, &c., on a nobleman's or gentleman's Estate.—Age 26; the Son of a practical Farmer.—Has a good knowledge of Agricultural Chemistry, Veterinary Surgery, and the various Sciences connected with Agriculture, together with a practical knowledge of the several operations entailed in the Management of Heavy and Light Soils, under the most improved principles, and thoroughly acquainted with the Breeding, Rearing, and Marketing of Stock. Testimonials of a high class can be given as to industry, ability, and integrity.—M. R. C. A., Post Office, Totness, Devon.

To Landed Proprietors.

LAND AGENT.—The Advertiser, who has had 15 years' experience in the general Superintendence of an Estate of considerable extent in one of the Midland Counties, is desirous of an engagement of a similar character with a nobleman or gentleman requiring a Land Agent. The routine of his practice has comprised the Erection and Repairs of Farm Houses and Buildings, Under Draining and Improvement of Land, the Management of Woods and Plantations, and of matters in general connected with Landed Property. Testimonials of a high class can be given, together with references to the Proprietor of the Estate, with whom his engagement has extended to the above named period.—C. R., *Gardeners' Chronicle* Office, W.C.

To the Seed Trade.

TRAVELLER and SHOPMAN.—A young Man of experience, who has filled a situation as above for nearly five years. Reference to present employers.—F. E., *Gardeners' Chronicle* Office, W.C.

SHOPMAN, or SHOPMAN and CLERK.—Age 21, well educated, respectably connected, and possessing good address; thoroughly understands his business; is also a good Plantsman. Can be well recommended from first-class firms.—Alpha, *Gardeners' Chronicle* Office, W.C.

DAILY or OCCASIONAL GOVERNESS.—A Lady who has resided many years in France, seeks a re-engagement in London, to instruct in English, French, and Music with Singing (by the new system); the rudiments of German and Drawing. Terms moderate.—H. H., 29, Queen's Road, Camden Square, N.W.

HAMPTON LUCY GRAMMAR SCHOOL, WARWICK.—Head Master the Rev. George Henslow has VACANCIES for two or three BOARDERS. In addition to the usual Course of Classics, Mathematics, Divinity, &c., special instruction is given in Botany and the Principles of Agricultural Chemistry and Geology. Terms, 60 guineas. No extras. There are two Exhibitions at Oxford.

LOANS.—THE BRITISH MUTUAL INVESTMENT, LOAN, and DISCOUNT COMPANY (Limited), is prepared to GRANT LOANS, in sums not exceeding 1000*l.*, upon approved personal or other security, repayable by easy instalments, extending over any period not exceeding 10 years.

Forms of Proposal, Prospectuses, and every other information, may be obtained at the Offices of the Company, 17 and 18, New Bridge Street, Blackfriars, E.C.

Charles James Thicke, Manager.
Joseph K. Jackson, Secretary.

Eau-de-Vie.

THIS PURE PALE BRANDY, 18*s.* per gallon, is peculiarly free from acidity, and very superior to recent importations of Cognac. In French Bottles, 38*s.* per dozen; or in a case for the country, 39*s.* Railway Carriage paid. No Agents.

Henry Brett & Co.,
Old Furnival's Distillery, Holborn, E.C.
and 30, Regent Street, Waterloo Place, S.W., London.
Prices Current free on application.

To Farmers, Contractors, and Others.

GOOD OLD ALE for 1*l.* per 36-Gallon Barrel. Terms:—Cash. Delivered Carriage Free, within 15 miles of the Brewery.

Address, Store Clerk, Swan Brewery, Walham Green, Fulham, London, S.W.

*** Orders immediately attended to, and Sample Barrels sent upon remittance of Post-office Orders for 1*l.*, payable to Henry Wallis.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE PROOF STRONG ROOM DOORS
CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
Chubb & Son, 57, St. Paul's Churchyard, London, E.C.

THRESHER'S COLORED FLANNEL SHIRTS.—Prize Medal awarded to Thresher & Glenny for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.

Lists of Prices on application to Thresher & Glenny, General Outfitters, next door to Somerset House, Strand, W.C.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, JUNE* 27, 1863.



**Hothouses for the Million.**—AWARDED A PRIZE MEDAL AT THE INTERNATIONAL EXHIBITION, 1862.

HOTHOUSES for the MILLION.—On the principle invented and patented by Sir Joseph Paxton, M.P., combining simplicity, cheapness, excellence, and durability, being capable of fulfilling, in the most perfect manner, all the requirements of Horticulture.

Illustrated Circulars, with Lists of Prices, can be had on prepaid application to SAMUEL HEREMAN, 7, Pall Mall East, London.

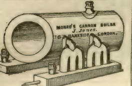
Also, A HANDBOOK on VINE and FRUIT TREE CULTIVATION, price 1*s.*; post free, 1*s.* 1*d.*

**Card.**

SAMUEL N. McGERROW,
GENERAL HORTICULTURAL BUILDER,
Knotty Ash, near Liverpool.

Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

**HEATING BY HOT WATER.**




MONRO'S CANNON BOILER.

J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

PLANS, ESTIMATES, and DESCRIPTIVE CATALOGUES SENT POST FREE ON APPLICATION TO

J. JONES,

6, BANKSIDE, LONDON, S.E.

DENNIS'S PATENT HORTICULTURAL BUILDINGS are made from the best Wrought Iron, upon

an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, portable, of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St., Chelmsford, Essex.

# THOMAS MILLINGTON,

## GLASS MERCHANT.

ESTABLISHED 1750.

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED TARIFF FOR SHEET GLASS AND HORTICULTURAL GOODS.

The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by T. MILLINGTON.

Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home Use and for Exportation.

☞ *For prices see Advertisement of June* 6.

"The GEARING of SAMUELSON AND CO.'S LAWN MOWING MACHINES is not liable to Derangement."

# SAMUELSON & CO.'S

## PATENT LAWN MOWING MACHINES.

SAMUELSON AND CO.'S 12-INCH and 16-INCH NEW PATTERN LAWN MOWERS.
SAMUELSON AND CO.'S IMPROVED GARDEN ROLLERS AND GARDEN SEATS.

Catalogues Free, on application to BRITANNIA WORKS, BANBURY; or to

SAMUELSON AND CO.'S LONDON WAREHOUSE, 76, CANNON STREET WEST, CITY,

where Samples may be seen.

# DEANE & COMPANY'S

## HORTICULTURAL TOOLS.

DEANE'S MOWING MACHINES, with Patented Improvements, 4*l.* 12*s.*, 6*l.* 10*s.*, 7*l.*, 8*l.*
GARDEN ENGINES, Galvanised Iron. Prices 55*s.*, 65*s.*, 78*s.*, 90*s.*, 100*s.*, 110*s.*
GARDEN ENGINES, Wood, 90*s.*, 110*s.*, 138*s.*
FLOWER STANDS, 4*s.* 6*d.* each.
CAST-IRON ORNAMENTAL FLOWER STANDS to hold Seven Vases, 27*s.*
GREEN'S PATENT MOWING MACHINES.
GREENHOUSE SYRINGES, 8*s.*, 10*s.*, 18*s.* 6*d.*
GARDEN ROLLERS, 1*l.* 14*s.* 6*d.*, 2*l.*, 2*l.* 12*s.*, 3*l.* 3*s.*, 3*l.* 18*s.*, 4*l.* 13*s.*, 5*l.* 12*s.*, 7*l.* 10*s.*
GARDEN STOOLS, 4*s.* 6*d.*
GARDEN SEATS, from 25*s.*
BOYD'S SELF-ADJUSTING SCYTHE, 10*s.* 6*d.*
WIRE WORK, 18 in., 4*d.* per yard run.

*Every Implement for Garden use on the lowest terms.*

DEANE'S NEW ILLUSTRATED HORTICULTURAL LIST
POST FREE ON APPLICATION.

DEANE'S, OPENING TO THE MONUMENT, LONDON BRIDGE, E.C.

# ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, N.W.

## IRON HURDLES, FENCING, and GATES.

The PROPRIETORS of the ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD, LONDON,

WERE AWARDED THE

SILVER MEDAL of the ROYAL AGRICULTURAL SOCIETY for their IRON HURDLES and GATES, which, by their peculiar construction, are more than twice as strong and durable as those in ordinary use.

Lists per post on application. Gates from 30*s.* to 500*l.*

*The Hurdles can be seen in process of Manufacture at the Works.*

GAME WIRE NETTING.

PROFESSOR VARNELL'S ENAMELLED and WROUGHT-IRON STABLE FITTINGS.

These Patent Mangers and Stable Fittings obtained the Commendation and the Silver Medal of the Royal Agricultural Society of England and the Royal Agricultural Society of Ireland, are adopted by the Royal Veterinary College, and Professor Spooner of that Institution states that they should be used by all who value the health and comfort of their Horses. They can be had Plain, Galvanised, or Enamelled.

A Show Room is devoted entirely to every description of Stable Furniture, and full-sized Stalls and Loose Boxes are erected for inspection at St. Pancras Iron Works.

ADDRESS—THE MANAGERS, ST. PANCRAS IRON WORKS,

OLD ST. PANCRAS ROAD, LONDON, N.W., OPPOSITE OLD ST. PANCRAS CHURCH.

**Greenhouses, Orchard-houses, and Conservatories.**

H. FREEMAN'S HORTICULTURAL WORKS, Triangle, Hackney, N.E. Established 20 years.

Good substantially made GREENHOUSES, glazed, ready for fixing, 42 feet by 13 feet, 50*l.*; 21 feet by 13 feet, 28*l.*; 12½ feet by 10 feet, 15*l.* ORCHARD-HOUSES 10 per cent. cheaper.

A handsome CONSERVATORY, 46 feet by 19 feet, for Sale. Estimates given.

W. J. HOLLANDS, IRON MERCHANT, 31, Bankside, London, S.E.

HOT WATER PIPES, from Stock, per yard:—2-inch, 1*s.* 2*d.*; 3-inch, 1*s.* 10*d.*; and 4-inch, 2*s.* 4*d.* BENDS, from stock, 1*s.* 7*d.*, 2*s.* 6*d.*, and 3*s.* 8*d.* each. THROTTLE VALVES, 10*s.* 6*d.*, 13*s.* 6*d.*, and 15*s.* each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

**Heating.**

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

Apply to JOSEPH MEREDITH, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

**Horticultural Buildings and Heating by Hot Water.**

BURY AND POLLARD, Park Iron Works, New Park Street, Southwark, S.E., Manufacturers of every description of Buildings for Horticultural purposes, with their improved CONICAL BOILER for heating the same, undertake works of any magnitude, and refer, among others, to the works at Frognal the seat of Viscount Sydney, the Lord Chamberlain, just completed by them.

BURY & POLLARD also call attention to

THE IRON FURNACE STAND

invented by them. A most economical, durable, and efficient arrangement for warming Conservatories, &c.

Prices of Boilers and every particular on application.

T. G. MESSENGER, HORTICULTURAL BUILDER and ENGINEER, Loughborough.

T. G. M.'s PATENTED BUILDINGS combine all the modern improvements, are most effectually ventilated by means of his unequalled Apparatus, can be made either plain (and which are at the same time elegant in appearance), or of the most elaborate design. They can be fixed as permanent buildings, or made to be portable.

T. G. M.'s HEATING APPARATUS continues to give the greatest satisfaction for its heating qualities and small consumption of fuel.

ILLUSTRATED CATALOGUES of the above, Glazing without Putty, Garden Engines, &c., sent upon application.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

Fig. 570.

J. TYLOR & SONS' GALVANIZED IRON TUB GARDEN ENGINES, with Registered Spreader.

| 8 gal. | 12 gal. | 16 gal. |
|---|---|---|
| 2 13 6 | £3 5 0 | £3 15 0 |

| 24 gal. | 30 gal. |
|---|---|
| £5 0 0 | £5 18 0 |

Fig. 571.

J. TYLOR & SONS' OAK TUB GARDEN ENGINES, with Registered Spreader.

| 15 gal. | 28 gal. |
|---|---|
| £5 12 6 | £7 2 0 |

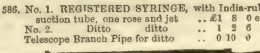


Fig. 586. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. £1 8 0 each.
No. 2. Ditto ditto .. 1 2 6 ,,
Telescope Branch Pipe for ditto .. 0 10 0 ,,

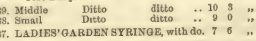


Fig. 590. Large GARDEN SYRINGE, with one rose and jet .. .. .. .. 11*s.* 6*d.* each
,, 589. Middle Ditto ditto .. 10 3 ,,
,, 588. Small Ditto ditto .. 9 0 ,,
,, 587. LADIES' GARDEN SYRINGE, with do. 7 6 ,,

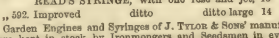


Fig. 591. READ'S SYRINGE, with two roses and one jet, 17*s.* 6*d.*
READ'S SYRINGE, with one rose and jet, 15 0
,, 592. Improved ditto ditto large 14 0

Garden Engines and Syringes of J. TYLOR & SONS' manufacture kept in stock by Ironmongers and Seedsmen in every part of the United Kingdom.

J. TYLOR & SONS, Manufacturers, Warwick Lane, Newgate Street, London, E.C.

**Glass for Greenhouses.**

JAMES PHILLIPS AND CO. beg to submit their prices as follows:—

ENGLISH GLASS, 16 ounces to the foot, in Sheets averaging 40 by 30, packed in Cases containing about 280 feet, 2¼*d.* and 2½*d.* per foot.

SHEET GLASS, 16 ounces, packed in boxes of 100 feet each, Package included.

| | | | | 3rds. | 4ths. |
|---|---|---|---|---|---|
| 12 by 9, | 13 by 9, | 14 by 9, | 15 by 9 | 14*s.* 0*d.* | 12*s.* 6*d.* |
| 12 ,, 10, | 13 ,, 10, | 14 ,, 10, | 15 ,, 10 | | |
| 13 ,, 11, | 14 ,, 11, | 15 ,, 11, | 16 ,, 11 | 16*s.* 0*d.* | 13*s.* 6*d.* per 100 feet. |
| 14 ,, 12, | 15 ,, 12, | 16 ,, 12, | 17 ,, 12 | | |
| 18 ,, 12, | 19 ,, 12, | 20 ,, 12, | 16 ,, 13 | | |
| 17 ,, 13, | 18 ,, 13, | 19 ,, 13, | 20 ,, 13 | | |
| 16 ,, 14, | 17 ,, 14, | 18 ,, 14, | 20 ,, 14 | | |

Various other sizes.

GLASS for ORCHARD HOUSES.

As supplied by us to Mr. Rivers, to most of the Nobility, Gentry, and Clergy of the United Kingdom, and to the Royal Horticultural Society of England.

| | | 16 oz. | 21 oz. |
|---|---|---|---|
| 20 in. by 12 in. | | | |
| 20 in. by 13 in. | Common .. .. .. | 13*s.* 6*d.* .. | £0 18 0 |
| 20 in. by 14 in. | Superior do. .. .. | 16 0 .. | 1 3 0 |
| 20 in. by 15 in. | English Glass .. .. | 18 0 .. | 1 9 0 |

The above prices include the Boxes.

SMALL SHEET SQUARES, IN 100 FEET BOXES.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11*s.* 6*d.* |
| 8 ,, 6 | 8½ ,, 6½ | 9 ,, 7 | 9½ ,, 7½ | |
| | | 10 ,, 8 | 10½ ,, 8½ | 12 6 |

Boxes 2*s.* each, returnable at full price.

SQUARES CUT to SPECIAL SIZES.

16 oz. 4ths, 1¾*d.*, 2*d.*, and 2¼*d.*, 21 oz. 2¾*d.*, 3*d.*, and 3¼*d.*
,, 3ds, 2*d.*, 2¼*d.*, and 3*d.* ,, 3*d.*, 3½*d.*, and 4*d.*

London Agents for Hartley's Improved Patent Rough Plate.

Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

Milk Pans and every description of Glass for Horticultural purposes.

JAMES PHILLIPS & CO., 180, Bishopsgate Street Without, London, E.C.

**Glass and Mixed Paints (Ready for Use.)**

FOR FACTORIES, HOT-HOUSES, CONSERVATORIES, GARDEN FRAMES, PITS, AND DWELLING-HOUSES, &c.

THE LONDON CO-OPERATIVE OIL and COLOUR COMPANY (Limited), from their connection with some of the largest British and Foreign Glass and Lead Manufacturers, are prepared to supply White Lead, Zinc Paint, Mixed Paints in all Colours; and strong Sheet, Rough Plate, and every other description of Glass in Crates, Cases, or Cut to Size for Home Use or Export at the very lowest wholesale prices. Gardeners, Nurserymen, and others advised as to the best mode of Erecting, Heating, Ventilating, and Glazing Pineries and other Forcing Houses. Farmers, Stewards, Market Gardeners, &c., supplied with Stucco, Anticorrosion, Metallic Oxide, and Mixed Paints ready for use for Dwelling Houses, Farm Buildings, Park Fences, Ships' Bottoms, &c.

Apply for ILLUSTRATED LISTS to Mr. THOMPSON, Manager, 65, 66, & 67, St. George's Street, London Docks, E.

## WARNERS' IMPROVED PATENT,

NOW FITTED WITH AN AIR VESSEL,

IS THE ONLY

**DOUBLE-ACTION ENGINE**

at £2 2s.

THAT

THROWS A CONSTANT STREAM.

May be obtained of any Ironmonger or Seedsman at the above price, or of

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

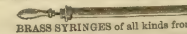
| | |
|---|---|
| 10 gallons .. .. | £2 15 0 |
| 16 ,, .. .. | 3 15 0 |
| 24 ,, .. .. | 5 0 0 |

Larger sizes may be had in either Wood or Iron.

No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | |
|---|---|
| 35 gallons .. | £2 10 0 |
| 20 ,, .. | 2 0 0 |



BRASS SYRINGES of all kinds from 9*s.* to 21*s.*

No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 5 feet Flexible Suction Pipe,

**21s.**

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

THERE ARE NO SUCTION OR DELIVERY VALVES, hence MUCH FRICTION AND LIABILITY TO CHOKE with leaves and dirt IS AVOIDED.

JOHN WARNER & SONS, 8, Crescent, Cripplegate, London, E.C.

WILLIAM BARRATT,
Landscape and Ornamental Gardener.
St. John's and Newton Moor Nurseries, Wakefield.

SHAW'S TIFFANY.
For samples and prices apply to
J. Shaw & Co., 29, Oxford Street, Manchester.

TANNED NETTING, at reduced prices, 1*d.* per square yard; 200 yards, 14*s.*; 500, 30*s.*; 1000 yards, 50*s.* SCRIM CANVAS, for Wall Fruit; GARDEN MATS; GREENHOUSE SHADES.

Be particular. Frederick Edgington & Co., Rick Cloth Manufacturers, Thomas Street, Old Kent Road, London, S.E.

TANNED GARDEN NETTING for preserving Seed Beds, Fruits, Strawberries, from frost, blight, birds, &c., and as a Fence for Fowls, &c. 1 yard wide, 1½*d.*; 2 yards, 3*d.*; 3 yards, 4½*d.*; and 4 yards, 6*d.* per yard run, in any quantity, may be had at Chas. Wright's, 376, Strand, W.C.

VARNISHED FLOWER STICKS:—1 foot, 3*d.*; 1½, 4*d.*; 2, 5*d.*; 2½, 7*d.*; 3, 10*d.*; 4, 1*s.* 6*d.* per dozen. DAHLIA do., per dozen:—3 feet, 1*s.* 6*d.*; 4, 2*s.* 3*d.*; 5, 3*s.*; 6, 3*s.* 6*d.* An allowance to Nurserymen.

**Netting for Fruit Trees, Seed Beds, Ripe Strawberries, &c.**

TANNED NETTING for Protecting the above from Frost, Blight, Birds, &c., 2 yards wide, 3*d.* per yard, or 100 yards, 20*s.*; 4 yards wide, 6*d.* per yard, or 50 yards, 20*s.* NEW TANNED NETTING, suited for any of the above purposes, or as a Fence for Fowls, 2 yards wide, 6*d.* per yard; 4 yards wide, 1*s.* per yard; ¾-inch mesh, 4 yards wide, 1*s.* 4*d.* per yard.

Can be had in any quantity of Eaton & Deller, 6 and 7, Crooked Lane, London Bridge, E.C.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the SCORCHING RAYS of the SUN.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1*s* 6*d.* per yard run.
Four yards wide .. .. 3*s* per yard.
An improved make, 2 yards wide, 1*s.* 8*d.* per yard.
An improved make, 3 yards wide, 2*s.* 6*d* per yard run.
Also "Frigi Domo" Netting, 2 yards wide, 1*s* 4*d* per yard run.

Elisha Thomas Archer, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon Street, City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

WHY NOT PRESERVE YOUR HAY?—Benjamin Edgington, Rick-cloth, Marquee, and Tent Manufacturer, 2, Duke Street, London Bridge, S.E. PAVILIONS and TEMPORARY ROOMS for Royal and Noble Parties.

A quantity of SECOND-HAND MARQUEES, TENTS, and RICK-CLOTHS, at greatly reduced prices. An Illustrated Catalogue sent free per post.

Address, Benjamin Edgington, 2, Duke Street, Southwark, S.E. No other Establishment.

**Weeds on Walks.**

FLEMING'S SALTING MACHINE.—This most useful Horticultural Machine is now in use in many parts of the kingdom, and gives the greatest satisfaction. An immense saving of labour is not only effected, but the Walks and Drives are kept beautifully clean and fresh from the action of the Salt and Hot Water on the surface. If the operation of Salting be performed (according to directions) in warm dry weather, one, or at most two dressings, will suffice for the season.

Prices:—

| | | |
|---|---|---|
| HAND-MACHINE, to disperse 20 gallons each time | .. | £9 5*s.* |
| " " 30 " " | .. | 12 0*s.* |
| " " 40 " " | .. | 18 10*s.* |
| HORSE-MACHINE, " 100 " " | .. | 23 0*s.* |

Manufactured by Alexander Shanks & Son, Dens Iron Works, Arbroath, N.B.; and 27, Leadenhall Street, London.

**To Noblemen, Gardeners, Farmers, and Others.**

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| 6 Egg Spoons, gilt bowls.. | 0 | 10 | 0 | 0 | 12 | 0 | 0 | 12 | 0 | 0 | 13 | 6 |
| 2 Sauce Ladles .. | 0 | 6 | 0 | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 9 | 0 |
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| 1 Mustard Spoon, gilt bowl .. .. | 0 | 1 | 8 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 3 |
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| 1 Pair of Fish Carvers .. | 1 | 4 | 0 | 1 | 10 | 0 | 1 | 10 | 0 | 1 | 10 | 0 |
| 1 Butter Knife .. .. | 0 | 2 | 6 | 0 | 4 | 0 | 0 | 5 | 6 | 0 | 6 | 0 |
| 1 Soup Ladle .. .. | 0 | 10 | 0 | 0 | 12 | 0 | 0 | 16 | 0 | 0 | 17 | 0 |
| 1 Sugar Sifter .. .. | 0 | 3 | 3 | 0 | 4 | 6 | 0 | 4 | 6 | 0 | 5 | 0 |
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## News of the Week.

IN the House of Lords on Friday, in answer to Lord STRATFORD DE REDCLIFFE, Earl RUSSELL said that despatches on the Polish question left London for St. Petersburg on Wednesday, and when replies had been received he would lay all the papers before the House. In answer to the Earl of MALMESBURY, Earl RUSSELL defended the course he had taken in demanding reparation for the wrongs and insults that had been inflicted by Brazil on British subjects, and expressed an earnest hope that amicable relations would soon be restored. On Monday Lord EBURY called attention to the distinction made by the Ecclesiastical Commissioners in the distribution of the common fund between benefices in public and private patronage, and moved that the necessity of the case, and not the incidents of patronage, should be made the main consideration. After a short discussion the motion was withdrawn. The Prison Ministers' Bill was read a third time and passed. The Volunteers' Bill was read a second time. On Tuesday the Earl of DONOUGHMORE called attention to the report of the evidence on the West Hartlepool Harbour and Railway Bill, and moved for a Select Committee to inquire and report as to what legislative measures were desirable for the purpose of restraining directors of railway companies from exceeding the borrowing powers fixed by their Acts of Parliament. The motion was agreed to after some remarks by the LORD CHANCELLOR, who said that he would at once give directions to the Solicitor to the Treasury to institute an inquiry into the case, and to prosecute the offenders if there were any probability of a conviction. The Security from Violence Bill passed through Committee. The Innkeepers' Liability and the Militia Pay Bills were read a second time. On Thursday the Volunteers Bill passed through Committee, the clauses relating to the compulsory acquisition of land for ranges having been withdrawn by the Government. The African Slave Treaty Bill, the Officers of the Royal Naval Reserve Bill, the Inland Revenue Bill, and the Militia Pay Bill also passed through committee. The Waywardens Contracts Bill was read a second time. The Thames Embankment (North Side) Bill was read a third time and passed.

In the Commons on Friday Mr. STANSFELD stated, in answer to Mr. LIDDELL, that the Admiralty were prepared to adopt many of the recommendations of the Royal Commissioners on Greenwich Hospital, and that a Bill on the subject would be introduced in the course of a few days. The Harwich Harbour Bill passed through committee. The Militia Pay Bill and the Charitable Uses Bill were read a third time, and passed. The ATTORNEY-GENERAL FOR IRELAND was instructed to prosecute Messrs. J. D. and R. BARBOUR for bribery, treating, and undue influence at the late election for Lisburn. On Monday Lord PALMERSTON moved that the orders of the day be postponed until Mr. HENNESSY'S motion on the affairs of Poland had been disposed of. Mr. S. BEAUMONT, Mr. KINGLAKE, and Lord ENFIELD urged Mr. HENNESSY not to press his motion at the present time. On a division, Lord PALMERSTON'S motion for postponing the orders of the day was negatived by 165 to 110. Mr. HORSMAN and other members expressed their dissatisfaction at the result, and charged the Government with a breach of faith. Lord PALMERSTON said that he had been entirely taken by surprise, but as the majority of the House were averse to a debate on Polish affairs at the present moment, he would briefly state the substance of the recommendations which, in concert with France and Austria, her Majesty's Ministers had submitted to the Russian Government. They were first, a general and complete amnesty; second, a national representation for Poland on the principle of the engagement made by ALEXANDER I. in 1815; third, the appointment of Poles alone to public offices, and a Polish administration; fourth, full liberty of conscience; fifth, the use of the Polish language in all public transactions; sixth, a regular system of recruiting. In addition to these propositions, her Majesty's Government had recommended that there should be a cessation of hostilities. Mr. HENNESSY expressed himself satisfied with this statement, and postponed his motion until the reply of Russia has been received. The London, &c., Dioceses Bill, the Passengers Act Amendment Bill, and the Thames Embankment (South Side) Bill passed through Committee. The Walmer Vesting Bill was read a second time. The Mutiny (East India) Act Repeal Bill and the Local Government Supplemental (No. 2) Bill were read a third time and passed. The Pier and Harbour Orders Confirmation Bill was recommitted when the motion that the provisional order of the Board of Trade for the construction of a pier at Rhyl be reinstated in the Bill was agreed to on a division. The House then went into Committee on the Poor Removal (No. 2) Bill, when an amendment of the first clause moved by Mr. C. TURNER having been carried, Mr. HERBERT, who introduced the Bill, moved that the CHAIRMAN report progress, with the view of considering what course he should take in regard to it. The motion was agreed to. On Tuesday the Thames Embankment (South Side) Bill, as amended, was considered and agreed to. The Vaccination (Scotland) Bill passed through Committee. The Statute Labour Roads and Bridges Bill was withdrawn. Mr. MAGUIRE moved an address to HER MAJESTY, praying for a Royal Commission to inquire and report on the state of the agricultural classes of Ireland, and to suggest such improvement in the relations between landlord and tenant as might seem necessary and expedient. The motion was opposed by Government, and negatived on a division by 128 to 49. Sir F. KELLY moved for a Select Committee to consider the effect of the malt duties on the cultivation and price of barley, the manufacture and price of malt and malt liquor; and the application of malt to the feeding of cattle and sheep. The CHANCELLOR of the EXCHEQUER assented to the motion, which was agreed to. On Wednesday, on the motion of Mr. BOUVERIE, the order for the second reading of the Uniformity Act Amendment Bill was discharged. The Misappropriation by Servants Bill was read a second time. Mr. DALGLISH after a short debate withdrew his motion for the appointment of a Select Committee to inquire into the constitution of the Board of Admiralty, on the understanding that he will renew it early next session. Mr. COX'S Leases and Sales of Settled Estates Act Amendment Bill, the object of which was to enable Sir THOMAS M. WILSON to build on Hampstead Heath, was lost on the question of the second reading by 78 to 54. On Thursday Mr. DILLWYN moved that the order for resuming the adjourned debate upon his motion on Religious Endowments in Ireland be discharged. The motion was agreed to. The House went into Committee of Supply, and agreed to the Education vote for Ireland, the vote for the National Gallery, and other votes. In a Committee of the whole House, the CHANCELLOR of the EXCHEQUER moved a resolution authorising the Lords of the Treasury to issue, out of the Consolidated Fund, an amount not exceeding 1,200,000*l.*, on the security of local rates, for facilitating the execution of public works in certain manufacturing districts. The motion was agreed to. Sir ROBERT HITCHAM'S Charity Bill, the Ruthyn Charities Bill, the Walmer Vesting Bill, and the Postmaster-General (Sale of Land) Bill were read a third time and passed.

The EMPEROR OF THE FRENCH has this week effected some important changes in the French Ministry, the real meaning of which is not at present understood. Count WALEWSKI, M. DE PERSIGNY, M. ROULAND, and M. DELANGLE, have been removed from office, and have been replaced by MM. BOUDET, DURUY, and BEHIC, who have hitherto been unknown to public life. M. FOULD, the Minister of Finance, remains in office.

## Home News.

THE COURT.—The Queen and Royal family, with the Queen of Prussia, continue at Windsor Castle. On Friday morning her Majesty, accompanied by the Princess of Wales, drove in the grounds. The Prince and Princess of Wales left the Castle for London. In the afternoon her Majesty, accompanied by the Queen of Prussia and Princess Helena, drove out in a carriage and four. On Saturday morning Prince Alfred and Princess Helena came to London and attended the Drawing Room. Prince Leopold also came to London with the Princess Helena,

and returned with her to Windsor after the Drawing Room. In the afternoon the Queen, accompanied by the Queen of Prussia and Princess Beatrice, took a drive. Prince Arthur arrived at the Castle from Greenwich Park. The Judge Advocate-General had an audience of the Queen. On Sunday morning her Majesty, with the Queen of Prussia, Princess Helena, Princess Louisa, Prince Arthur, and Prince Leopold, attended Divine service in the private chapel. The Rev. J. St. John Blunt officiated. On Monday morning the Queen walked and drove in the grounds. Prince Arthur returned to Greenwich Park. The Queen of Prussia, accompanied by Prince Edward of Saxe-Weimar, walked through some of the principal streets of Windsor, and afterwards proceeded on foot to Eton College, unrecognised by the public. In the afternoon the Queen, accompanied by the Queen of Prussia, the Princess Helena, and Prince Leopold, drove out in a carriage and four. On Tuesday morning her Majesty, accompanied by the Princess Helena, walked and drove in the grounds. The Queen of Prussia attended morning service in St. George's Chapel. In the afternoon her Majesty, accompanied by the Queen of Prussia, drove in the grounds. The Princess Helena visited the Duke and Duchess of Aumale at Twickenham, and afterwards came to London. On Wednesday morning the Queen of Prussia visited the British Museum, and afterwards called on the Duchess of Cambridge, at St. James's Palace. Her Majesty then honoured Count and Countess Bernstorff with her company at luncheon at the Prussian Embassy. The Queen drove out, accompanied by the Princesses Louisa] and Beatrice. In the evening the Princess Helena honoured the Haymarket Theatre with a visit, and returned at 12 o'clock to Windsor. On Thursday morning the Queen drove in the grounds, accompanied by Princess Helena. The Queen, in consideration of the interest taken by the Prince Consort in the Gravel Street and Golden Lane schools, witnessed the children of these schools, 1500 in number, pass in procession round the terraces of the Castle. Viscount Sydney, and Sir Henry Howard, her Majesty's Minister to Hanover, had audiences of her Majesty. The Duchess of Cambridge and Princess Mary visited the Queen.

THE PRINCE AND PRINCESS OF WALES.—On Saturday morning the Prince rode on horseback. The Duchess of Cambridge and the Princess Mary visited the Princess at Marlborough House. In the afternoon the Princess held a Drawing Room on her Majesty's behalf, in St. James's Palace. The ladies presented amounted to 223. In the evening the Prince and Princess honoured the performance at the Olympic Theatre with their presence. On Sunday morning the Prince and Princess attended divine service in the Chapel Royal, St. James's. The sermon was preached by the Rev. H. M. Birch. On Monday morning the Prince accompanied the Duke of Cambridge to Woolwich, and witnessed the review of the troops. The Princess visited the Princess Mary of Cambridge. In the afternoon the Prince and Princess took a drive in an open carriage. The Duchess d'Aumale and the Princess de Joinville paid a visit to the Princess at Marlborough House. In the evening the Prince and Princess honoured the Duke and Duchess of Buccleuch with their company at dinner in Belgrave Square. On Tuesday morning the Prince rode on horseback. The Duke de Montpensier visited the Prince and Princess at Marlborough House. In the afternoon their Royal Highnesses took a drive in an open carriage. In the evening the Prince visited the Royal Institution. On Wednesday morning the Prince rode on horseback. The Princess honoured Mr. Gibson with a sitting for her bust. In the afternoon the Prince and Princess went to Slough, and were present at the opening of the British Orphan Asylum. Their Royal Highnesses travelled from town by a special train on the Great Western Railway, and returned to Paddington by a special train after the inauguration of the new asylum. In the evening the Prince and Princess honoured the Earl and Countess of Derby with their company at dinner in St. James's Square. On Thursday morning the Prince presided at a meeting of the Council of the Duchy of Cornwall. His Royal Highness afterwards rode on horseback. The Princess took a drive in an open carriage. In the evening their Royal Highnesses had a dinner party at Marlborough House.

VISIT OF THE PRINCE AND PRINCESS OF WALES TO SCOTLAND.—The Prince and Princess, on the approach of grouse shooting, will pay a visit to the Highlands. Their Royal Highnesses will not go to Balmoral, but will occupy Abergeldie Castle, formerly the residence of the Duchess of Kent.

PRINCE ALFRED.—On Saturday evening Prince Alfred left London for Portsmouth, and joined his ship, the Racoon, as Junior Lieutenant. The Queen, as Sovereign of the Order of the Garter, has by letters patent under the Great Seal of the Order, bearing date June 10, dispensed with all the statutes and regulations observed in regard to installation, and granted to Prince Alfred full power and authority to exercise all rights and privileges belonging to a Knight of the Order in as full and ample a manner as if he had been formally installed.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Wednesday.

THE PEERAGE.—The Queen has directed letters patent to be passed under the Great Seal, granting the dignity of an Earl of the United Kingdom to the Duke of Somerset, K.G., and his heirs male, by the title of Earl St. Maur, of Berry Pomeroy, in the county of Devon.

PARLIAMENTARY MOVEMENTS.—The Lisburn election has terminated in the return of Mr. Verner, the Conservative candidate, by a majority of 61 over Mr. Richardson, the former member, in whose favour Mr. R. Barbour, who had been put in nomination by the Liberals, retired on the day of election. The numbers were 151 to 90.

THE CANONRY OF CANTERBURY.—The Rev. Drinkwater Bourne having declined to accept this canonry, Lord Palmerston has conferred it upon the Rev. Joseph W. Blakesley, B.D., of Trinity College, Cambridge, vicar of Ware.

THE IRON NAVY.—The Royal Oak, 35, screw iron-cased frigate, Captain A. A. Campbell, sailed from Spithead on Thursday for Portland, to join the Channel fleet. In her preliminary trials she attained an almost unparalleled degree of success, both in her steering and steaming qualifications, though she is said to be about the ugliest vessel afloat. She made upwards of 12½ knots an hour with ease, being 1 knot more than she had been calculated to make; and she even went faster with all her guns and stores on board than she did in light draught. It is also said that she answered her helm as quickly and as sensitively as a cutter, and that her steering capabilities cannot be approached by any vessel above the size of a gunboat on the list of the Royal Navy.

## Foreign.

FRANCE.—A modification of the French Ministry has taken place this week. Count Walewski, Count de Persigny, M. Rouland, and M. Delangle have retired from office; M. Billault has been appointed Minister of State; M. Boudet, Minister of the Interior; M. Baroche, Minister of Justice; M. Duruy, Minister of Education; M. Behic, Minister of Agriculture, Commerce, and Public Works; M. Rouher, Minister President of the Council of State; Count de Morny, President of the Corps Législatif. The decree nominating M. Billault Minister of State, places among his functions those exercised by the Ministers without portfolio. Part of the functions appertaining to the Ministry of State are transferred to the Ministry of the Household, and another part to the Ministry of Education. Public Worship is assigned to the Ministry of Justice. The direction of the *Moniteur* is assigned to the Minister of the Interior. In reference to these changes the *Moniteur* says that the Emperor has thought proper to modify the position of the speaking Ministers who, without portfolio, represented and spoke for their colleagues in the Chambers. Henceforward the Minister of State, freed from administrative functions, and the Minister President of the Council of State, are to defend the policy of the Government in the debates of the Legislative Bodies. It is rumoured that the Corps Législatif will assemble shortly for the purpose of confirming the elections of the new members. It is generally reported that M. de Persigny will proceed to St. Petersburg on a special mission; and that MM. Boudet and Baroche will be nominated senators. It is asserted that M. Thuiller has been appointed prefect of Lyons, and M. Dureau prefect of Arras. *La France*, speaking of these Ministerial changes, says that they will in no way affect the foreign policy pursued by the Government; and the *Nation* asserts that Count de Morny was not unconnected with them. The *Patrie* says that the Cabinet of St. Petersburg will accept the Austrian proposals in regard to Poland, declining in some respects those of France and England, in order to destroy the combination of the three Powers. The *Constitutionnel* of Monday publishes an article on the Polish question, signed by M. Paulin Limayrac, in reply to the assertion that England would not proceed beyond diplomatic action. It says:—

"It should be understood that as the question is an European one it must be resolved by the common action of Europe. Should the assertion alluded to mean that England (if by some mischance, and against all probability, the intervention of the three Cabinets should remain without result) would refuse to proceed further, even if the two other Powers were prepared to march with her, then we must lower the praises given to a false enthusiasm, the consequence of which was to drive the unfortunate Poles to certain death. We are convinced that England will dispel all equivocation. Her honour and the interests of Europe and humanity demand it."

Orders were sent on Saturday to Vincennes to prepare for immediate service three batteries of 12-pounders and 100 artillery waggons. The news was speedily communicated to the Paris garrison and created immense sensation. The officers at Vincennes think that war will probably break out before the end of July, and boast that the French army will be ready for any emergency before that time. At a Cabinet Council held on Thursday week, at which the Emperor presided, it was resolved that the French ambassador in London should be instructed to renew the proposals of the Emperor to the English Government for joint diplomatic action in America. Mr. Lindsay and Mr. Roebuck arrived at Fontainebleau on Monday, and had an audience of the Emperor, who received them most graciously. The conversation lasted some time, and the Emperor declared that he entertained the same views as before with respect to the civil war in America; that he was desirous again to interpose his good offices, and equally desirous that England should join him; that he believed the joint intervention of France and England would be attended with good results; and that, in again proposing to England to act with him, he was moved by no unfriendly feeling towards the North—quite the contrary. His only motive was to put a stop to the horrible carnage in America, the more so as it was productive of no results; and the more to be deplored as there was no chance of restoring the Union. A Paris letter in the *Indépendance Belge* states that Mr. Slidell, the Confederate Commissioner, was received at Fontainebleau last week, and was well satisfied with his visit. The Prince and Princess Napoleon are expected in France in about 10 days. Garibaldi is expected at Neris, in the department of Allier, to take the baths. The trial of M. Casimir Perier commenced on Thursday at Grenoble. M. Berryer appeared for the defence, and the Procureur Imperial conducted the prosecution. The Court deferred giving judgment until the next sitting, which will probably take place on Monday next. The members of the bar gave a banquet on Thursday evening to M. Berryer. The *Moniteur* of Friday publishes the report of General Forey to the Emperor. It states that the speeches of MM. Picard and Jules Favre had been translated into Spanish and distributed through Mexico, and that thousands of copies of these speeches were found in the enemy's quarters. With the view of facilitating commercial operations in Mexico, General Forey has decided that merchandise consigned to ports occupied by the French, and destined for portions of the country in French occupation, shall only pay half of the import duty to which they are liable by the regular tariff. The *Nord* says that a French vessel has been despatched to take possession of the State of Sonora. The *France* of Saturday evening says that the French Government has offered, at London and Madrid, to undertake the settlement of the English and Spanish claims on Mexico. The papers of Friday state that the Mexican prisoners taken at Puebla are confined in Forts Guadaloupe, Loreto, and Carmen. The health of the French army continues satisfactory.

SWITZERLAND.—The Federal Council has passed a special resolution securing to England the advantages stipulated in the commercial treaty concluded between Belgium and Switzerland.

BELGIUM.—The King of the Belgians on Sunday sent to the Ministers of England and Brazil his award in the difficulty between the two countries, which was referred to his Majesty's arbitration. This award is believed to be more favourable to Brazil than to England. It is said that his Majesty has decided that, notwithstanding certain irregularities on the part of the Brazilian authorities, which he points out and censures, the treatment of which the English officers complained did not constitute an insult to the British navy. The ratifications of the Prusso-Belgian Treaty of Commerce of the 28th of March were exchanged on Saturday at the Foreign-office at Berlin, between the President of the Ministry and the Belgian Ambassador. The treaty will therefore take effect from and after the 1st of next month.

FRANKFORT.—The fortresses of the Germanic Confederation have been ordered to be put in a complete state of defence in the shortest possible time, more especially to afford accommodation for troops in the casemates, in the event of the army being placed on a war footing.

PRUSSIA.—The King of Prussia arrived at Carlsbad in Bohemia on the 19th inst. It is said that the Emperor of Austria will shortly visit his Majesty at that place.

AUSTRIA.—The draught of the Address from the Upper House, in reply to the Speech from the Throne, dwells principally upon the necessity of Austria supporting the national and religious interests of the Poles; and at the same time advocates a pacific policy and the maintenance of the integrity of the Austrian empire. The draught of the address of the Lower House advises a policy of justice for Poland, expresses the necessity for German Federal reform, and warmly desires the success of the task of establishing the constitution in Austria. On Thursday the Address of the Upper House was adopted almost without debate exactly as reported by the committee. In the Lower House it was resolved that there was no reason for the absence of the Czech members from the sittings of the Reichsrath, and that they were to be summoned to make their appearance on pain of having their title to sit as members cancelled. The discussion on the Address was then commenced. All the members who spoke on the subject expressed great sympathy for Poland, and were enthusiastically cheered. M. Grocholski advocated the complete independence of Poland. Mr. Jewett, who came to Europe from America on a mission the object of which was to restore peace in America, had a private interview on Monday with Count Rechberg on the subject of mediation, on the basis of the proposals made by the Emperor of the French. Mr. Jewett asked for Austria's friendly co-operation for the restoration of peace. Count Rechberg promised to comply with this request in the event of the North and South expressing a wish to that effect.

ITALY.—In the sitting of Friday General Bixio advised the interruption of relations with France, who

while occupying Rome, does not prevent the organisation of brigandage. Signor Buoncompagni then moved that the Chamber should express its confidence in the policy of the Ministry. In the sitting of Saturday Signor Sella gave explanations arising out of the personal remarks exchanged between Signori Minghetti and Rattazzi on Thursday. The subject then dropped, and the debate on the policy of the Ministry was resumed. Signor Chiaves moved a resolution approving the conduct of the Ministry in dissolving the Democratic Society of Genoa, and commending the declaration of the Cabinet with regard to the Roman and Polish questions. Signor Minghetti, the President of the Council, was opposed to every proposition except that of Signor Buoncompagni, expressing entire confidence in the policy of the Ministry. The motion of Signor Buoncompagni was accordingly put to the Chamber, and carried by 202 to 52 votes. In consequence of the personalities which took place during the debate, a duel was fought on Tuesday between Signori Minghetti and Rattazzi in the Royal Park of Stupinigi. Signor Minghetti, who had the choice of weapons, selected the sabre, and inflicted a slight wound on Rattazzi's arm. The late and present Prime Minsters then shook hands, and the matter terminated. King Ferdinand of Portugal has arrived at Turin. The Marquis Pepoli left on Thursday for St. Petersburg, to resume his functions as Italian Ambassador at the Russian Court. The Turin evening papers assert that France has made fresh remonstrances at Rome to obtain the withdrawal of Francis II. from that city. Despatches from Rome announce that, by order of General Dumont, the French gendarmes have arrested the brigand chiefs Stramenga and Tristany.

Russia.—The Notes of the three Powers on the Polish question arrived at St. Petersburg on the 23d inst. It was believed that they would be remitted to Prince Gortschakoff on Thursday. Private letters state that an Imperial ukase has been issued authorising the issue of notes to the amount of 10 millions of roubles, in order to cover the deficit and the additional expenditure which have been caused by the insurrection in Poland. Great preparations continue to be made at Cronstadt and other naval and military arsenals.

Poland.—Archbishop Felinski has arrived in St. Petersburg, and it is rumoured that he has been exiled to the Government of Vologda. A great sensation has been caused throughout Poland by the execution of Count Léon Plater, who was shot by the Russians in the square of the Fortress of Dunaburg. He was only 26 years of age, and was an intimate friend of the Emperor Napoleon. Three insurgent officers have been shot at Warsaw. The insurgent leader Bialozor has been shot at Kowno. Frankowski, having recovered from his wounds, has been executed at Lublin. Prince William Radziwil has been arrested at Lemberg. Madlle. Lakinska has been confined in the prison for the lowest criminals at Pleszew. 869 gentlemen are confined as prisoners in the fortress of Dunaburg. 600 persons, partly public functionaries and partly gentlemen, are shut up in the barracks at Mobilew, while ladies and aged men have been brought bound into the city. M. Krzywicki, the Polish Minister of Public Worship, has sent in his resignation. The National Government has published a warning to the citizens of Warsaw that the Russian Government is desirous of exciting a rising in that capital. The revolutionary town captain of Warsaw issued a proclamation on the 19th, stating that the list of bonds published as having been stolen from the Bank of Warsaw is incomplete and false. On the 20th inst. 20,000 persons followed to the grave the body of the insurgent Szarnianski, who had died of his wounds. Two detachments of insurgents crossed the Galician frontier on the 20th inst. The insurgent leader Dunajewski attacked the Russians near Chosciakiewicz, and was repulsed with loss, being five times outnumbered by the enemy. The battle lasted nine hours, and was fought with much desperation. The losses on both sides were large, the insurgents having, it is said, 200 killed. Dunajewski himself is reported to have been drowned in the retreat. The *Invalide Russe* states that several engagements have taken place in Lithuania. A body of Poles attacked a detachment of Russians at Biala, and took the Russian General Maniukin prisoner. He was immediately tried by court-martial for ordering the massacre of the innocent inhabitants of the town of Siemiatcze, in Lithuania, and sentenced to be shot. The Poles, under Swientorzecki, have gained another victory in the neighbourhood of Minsk. On the 12th Krysinski was again victorious at Wiechon in Podlachia. A detachment of light Russian cavalry has been defeated, and 100 Cossacks lost their arms and horses at Mienoryszey. Wielunskie and 140 insurgents have cut their way through 600 Russians, by whom they had been surrounded. Boncza and his followers have had a skirmish with a cavalry force at Gory. The losses on both sides were trifling, but Boncza was wounded. A detachment of Polish mounted gendarmes has defeated a troop of Cossacks on the Warta, near the village of Kaliskie. The Cossacks lost 30 killed. Lelewel encountered the Russians at Korytnica on the 10th, but being attacked by a superior force retired in order. An entire detachment of insurgents has been driven across the Austrian frontier near Maniow. Many were drowned in the Vistula, and 150 of the remainder were detained in Galicia. The Cossacks of the Don are discontented, and intend to return to their own country with the large quantity of booty they have obtained by pillage. Some doubts having arisen as to the alleged threat of General Mouravieff to punish the Polish ladies with the knout, the French papers publish the original instructions issued by the Russian Government to General Mouravieff, on his appointment to the chief military command in Lithuania. The following are extracts from these instructions:—

"His Excellency should take every opportunity of acquainting the peasants with the paternal intentions of the Czar towards them, and of demonstrating that the landowners are their enemies and oppressors. If his Excellency considers it advisable, he can also furnish arms to those among the peasants who are attached to the Czar and to Russia. His Excellency should oppose certain demonstrations of the women, and for their hindrance will even adopt severe measures against them."

Greece.—The National Assembly has voted, by a majority of 130 to 52, the indemnity claimed by the French Minister, M. Bourré, in favour of M. Soulié, a Frenchman, who was ill-treated by some Greek soldiers.

Ionian Islands.—The Lord High Commissioner, Sir Henry Storks, issued a notice on the 17th, announcing the proposal of England for the annexation of the Ionian Islands to Greece, after which a *Te Deum* was sung, and general illuminations took place in the evening.

Turkey.—The supplementary loan of 2,000,000*l.*, authorised at the time of the negotiation of the late loan, will shortly be issued, for the purpose of withdrawing the base currency from circulation. Four frigates and 50,000 rifles have been ordered by the Turkish Government in England.

India.—A despatch has been received from Her Majesty's Chargé d'Affaires in Persia, dated June 11, stating that intelligence had that day been received of the capture of the city of Herat by Dost Mahomet Khan. The *Oesterreichische Zeitung* of Monday publishes intelligence from the East, stating that Dost Mahomed has died before Herat.

China.—A despatch from Shanghai of May 7 says that Colonel Gordon has besieged and captured Taitsan. The previous surrender was a snare, and half the Imperial force sent to take possession of the city were murdered.

Japan.—News received at Shanghai from Japan announces that the Japanese Government had been granted 15 days to reply to the English *ultimatum*. War appeared probable. The British minister had remonstrated with the United States minister at the large importations of arms and ammunition which American subjects were supplying to the Japanese, and which the extension of time would enable the Japanese to make available. Foreigners were embarking in expectation of hostilities.

Cape of Good Hope.—In honour of the marriage of the Prince of Wales the 15th of May was proclaimed a public holiday, and the event was celebrated with great *éclat* in all parts of the colony. The Colonial Secretary introduced his annual budget in the Cape Parliament on May 9. The estimated expenditure of the year falls short of the estimated revenue by 95,000*l.* To meet the cost of services not included in the estimates and to defray temporary loans, the Government proposes to impose additional taxes to the amount of 150,000*l.* Bills had already been introduced for that purpose, but their fate was considered doubtful, the general feeling of the colonists being against any heavy increase of taxation in the present depressed state of the colony. All was quiet on the frontier, but cattle-stealing by the natives was still prevalent.

United States.—There is nothing decisive from Vicksburg. An early attack upon General Grant's rear is considered probable. The Southern advices are very hopeful. They state that General Pemberton has reported he could hold Vicksburg, and that General Johnstone was to take his time to organise his forces. They also assert that Kirby Smith, with 10,000 men, has occupied Miliken's Bend, 20 miles above Vicksburg, cutting off General Grant's supplies. The Northern accounts state that there was fighting along the river from Lake Providence to within sight of Vicksburg, and that a severe fight occurred at Miliken's Bend on the 6th inst., the Federal forces, consisting mostly of negro regiments, being driven to the bank of the river under cover of the gunboats. A report, requiring confirmation, has been received from the South that General Kirby Smith has driven General Banks from Port Hudson, and was still pursuing him on the 5th. Despatches from Mobile, in giving the news of this repulse, state that General Banks has lost an arm. Official despatches state that the Federal General Keyes, with a large force, left Yorktown some days since. Federal gunboats have been sent up the James River as far as the Chickahominy. The report of the Northern journals that General Lee had evacuated Fredericksburg, and that Hooker had occupied the city, is untrue. Generals Lee and Longstreet are still at Fredericksburg, and occupy the city and heights in force. Three brigades of Federal cavalry and 2000 infantry crossed the Rappahannock at Beverley Ford, and had a severe engagement with General Stuart's cavalry, lasting all day, when the Confederates received heavy infantry reinforcements, and the Federals recrossed the river, bringing away their dead and wounded. The object of the expedition was to frustrate the plans of General Lee, who had assembled a force of cavalry at Culpepper Court House, with the view of making a raid into Maryland. The expedition is said to have succeeded in its object. General Lee has received heavy reinforcements, and the impression still prevails that he will shortly assume the offensive. The *New York Daily News* asserts that General Hooker was to move against General Lee on the 11th, and street rumours were current on the 12th that a battle was progressing on the Rappahannock. Great preparations for defence are making in Pennsylvania. A meeting had been held to raise 10,000 negroes for General Fremont. President Lincoln, in reply to a Missouri committee of Germans, stated that Generals Fremont, Sigel, and Butler were not systematically kept out of command, but had by their own action placed themselves in their present positions. He said that he favoured gradual emancipation. His being President might be a misfortune, but, having been elected, he meant to be President and perform his duty if he died for it. The *New York Herald* urges the nomination of President Lincoln for the next Presidency, in order to prevent a reign of terror and a revolutionary election campaign in 1864. The Enrolment Commissioners have been driven out of some counties in Indiana, and the Provost-Marshal and his assistant have been shot. Considerable excitement prevails, and a military force has been sent to the scene of disorder. Mr. Vallandigham has been unanimously nominated candidate for the Governorship of Ohio by the Democratic State Convention. He is said to have reached a Southern port, intending to sail for Nassau. In consequence of the general indignation throughout the Northern States, the President has felt it necessary to disapprove General Burnside's order suppressing the *Chicago Times*, and General Burnside has accordingly revoked it. The Prize Court at New York in the case of the Dolphin has decided that a vessel bound to Nassau, with the intention of sailing thence to a blockaded port, was equally liable to capture as if she was bound direct to a blockaded port. The Commissioners who superintended the discharge of the Peterhoff's cargo have presented their report. The case was to be argued on the 15th inst. The privateer brig Coquette has burnt the bark Whistling Wind. The Federal steamer Rhode Island chased and fired at the steamer Margaret and Jessie within 250 yards of the shore of Nassau. Several shots reached the shore alarming the inhabitants. The Margaret and Jessie escaped.

Mexico.—Advices from Puebla to the 1st inst. state that the Mexicans who surrendered at that place numbered 12,000. Their surrender was necessitated by hunger. It was rumoured that General Ortega and several officers had escaped whilst upon the road to Vera Cruz. They had refused to sign a pledge to remain neutral during the war. The French were at Cholula, six miles beyond Puebla, on the way to Mexico. The Mexicans asserted that the approaches to the city of Mexico would be vigorously defended.

## Parliament.

### HOUSE OF LORDS.

Friday.—*Brazils.*—The Earl of Malmesbury moved an address to her Majesty for copies of any papers relating to the diplomatic rupture with Brazils. The Brazilian people were unanimous in supporting their Government in resisting the demands of this country, and were making every effort to obtain reparation. He charged Earl Russell with not having made due allowance for the state of Brazil, and with having allowed himself to be unduly influenced by the representations of his subordinates. He also charged him with having used arbitrary and imperious language in his communications with the Brazilian Government and with having resorted to illegal and impolitic reprisals. He complained strongly of the conduct of Messrs. Christie and Vereker for having hastily jumped at the worst construction of the facts, and resorted to threats most insulting to an independent Government. He maintained that there was no proof of the murder of the crew of the Prince of Wales, and that the Brazilian Government had done all in their power to institute an inquiry and punish those who might be guilty. In regard to the Forte, he was of opinion that the subject had been taken up with a gravity not warranted by the circumstances. The account of the squabble between the officers of that ship and the Brazilian sentry did not agree, and it seemed to be a most extraordinary thing to ask the King of the Belgians to decide whether an insult had been done to the British navy. He believed that if the noble earl had communicated with the Brazilian Minister in London, whom he had never consulted, the question would have been settled without difficulty.—Earl Russell said the principle upon which her Majesty's Government had acted was, that it was the duty of one Government to protect the subjects of another State living within their jurisdiction. He readily admitted the commercial importance of Brazil, but that was not sufficient to debar the British Government from asking reparation for a wrong that had been committed. Since the year 1831 there had been no fewer than 21 cases in which France, 22 in which Great Britain, and 23 in which the United States had resorted to force in order to obtain reparation. With regard to the wreck of the Prince of Wales, he especially commended the conduct of Mr. Vereker, who repaired to the spot, and, finding suspicious signs that the crew had been murdered, asked for an inquest, which was at first refused though subsequently granted. Some of the plunder was found in the house of the chief official, and if the wrecking had been the work of the wild inhabitants of the coast the officials must have been accomplices to it. This was what her Majesty's Government complained of, more especially as the Brazilian Government did not take any steps either to institute an inquiry or protect the cargo of the wrecked vessel. If her Majesty's Government had done otherwise it would have neglected a clear and imperative duty. He denied that the tone or language of his despatches was imperious, or that he could with justice be accused of having acted arbitrarily or with precipitation. In conclusion, he said there was no objection to produce the papers, and he earnestly hoped that amicable relations would soon be restored.—Lord Chelmsford

commented upon the legal part of the question, and contended that the proceedings of her Majesty's Government in enforcing reprisals were altogether unjustifiable.—After a few words from Lord Lyttelton in defence of Mr. Christie, the subject dropped.—The Duke of Newcastle laid a Bill on the table to provide for the government of the colonies of *British Columbia and Vancouver's Island.*

Monday.—*Liberated Slaves in Brazil.*—Lord Brougham asked for papers connected with the treatment of liberated slaves in Brazil. He said that the conduct of Brazil in reference to the abolition of slavery had been admirable, and contrasted favourably with that of Spain, who had hitherto done nothing except receive the compensation.—Earl Russell had no objection to produce the papers. *Parliamentary Oaths.*—Lord Stratheden called attention to the oaths required to be taken by members of the Legislature, with a view to legislation on the subject. He laid a Bill on the table for the purpose of amending the oaths now administered, but stated that it was not his intention to proceed with the Bill this session.—Earl Granville thought no advantage would accrue from discussing the question, unless it was intended that some practical result should follow. The Bill was read a first time.—Lord Ebury called attention to the distinction made by the *Ecclesiastical Commissioners* in the distribution of the common fund between benefices in public and in private patronage, and moved that in the opinion of the House the necessity of the case and not the incidents of patronage should be their main consideration, as laid down by the directing statute.—The Earl of Chichester said the principle adopted by the Commissioners in the distribution of the common fund was in strict accordance with the Acts of Parliament, and he did not think they could substitute any others with advantage.—Lord Portman was of opinion that the utmost vigilance should be exercised by Parliament in looking after the commission, which was not only too costly but too large and unwieldy to be manageable.—After some remarks from the Earl of Harrowby in defence of the Commissioners, the motion was withdrawn.—The *Thames Embankment (North Side) Bill* passed through committee. The *African Slave Trade Treaty Bill* and the *Regimental Debts, &c., Bill* were read a second time. The *Prison Ministers Bill*, the *Bleaching and Dyeing Works Act Amendment Bill*, and the *Local Government Supplemental Bill* were read a third time and passed.—Earl de Grey, in moving the second reading of the *Volunteers Bill*, explained the nature of its provisions, and added that the condition of the Volunteer force at the present moment was most satisfactory.—The Duke of Richmond thought that several of the clauses of the Bill would require amendment in committee.—Lord Hardinge approved of the clause which gives a commanding officer power to dismiss at will, on the ground that it was necessary in order to maintain discipline.—Lord Melville complained that some of the provisions of the Bill were of an arbitrary character, and gave powers which were not exercised either in the regular army or the militia.—Lord Truro, on the whole, approved of the provisions of the measure. The Bill was then read a second time.

Tuesday.—*Case of Mr. Bishop.*—Earl Russell, in reply to the Marquis of Normanby, stated that the Italian Government had decided not to pardon Mr. Bishop in the present state of Southern Italy, but would release him at the first fitting opportunity.—The Earl of Derby gave notice that on Tuesday next he should call attention to the proclamation said to have been issued at Corfu in regard to the *Cession of the Ionian Islands to Greece.*—Earl Russell doubted the authenticity of the proclamation.—The Duke of Newcastle also warned Lord Derby against too implicit a credence in the proclamation. *The Brazilian Difficulty.*—The Earl of Malmesbury read a letter from Mr. Christie, regarding remarks made by him on Friday last.—The *Innkeeper's Liability Bill*, and the *Militia Pay Bill* was read a second time. The *Security from Violence Bill* passed through committee.—The Earl of Donoughmore called attention to the report of the evidence on the *West Hartlepool Harbour and Railway Bill*, and moved that the report and evidence be referred to the Attorney-General, with directions to inquire into the alleged illegal conduct of the late directors of the company, and to institute proceedings against such persons as in his opinion could be convicted of illegal and fraudulent conduct. He said that the directors were charged with having raised sums of money in excess of their borrowing powers from 1856 to 1860, and had never presented a true statement of their accounts to the shareholders. This having been reported by a committee, it was incumbent on the House to take further steps, and as chairman of that committee he brought the matter before the House. He also moved that a select committee should be appointed to inquire and report as to what legislative measures are desirable for the purpose of restraining directors of railway companies from exceeding the limits of the borrowing powers fixed by their Act of Parliament.—The Earl of Airlie moved an addition to the resolution, extending the inquiry to the evasions of the Acts requiring a certain amount of capital to be subscribed before the borrowing powers came into operation.—The Lord Chancellor stated that the Government had determined to take immediate proceedings in the matter, and he had given instructions to that effect to the Solicitors of the Treasury. With this explanation he hoped the motion would be withdrawn.—Lord Ravensworth presented a petition from Mr Ralph Ward Jackson, vindicating himself from the charges which had been brought against him.—Lord Donoughmore withdrew his first resolution, and incorporated Lord Airlie's addition in his second motion for a Select Committee. After some remarks from Lord Overstone and Lord Stanley of Alderley, in favour of inquiry, the resolution for the Select Committee, as amended, was agreed to.—Lord Chelmsford then moved that the Bill of the Company be referred to the Select Committee, with a view of affording relief to the bondholders and shareholders, without exempting those persons who had been implicated in the illegal proceedings.—Earl Granville said that as it was a case of hardship, he would not oppose the motion.—Lord Redesdale also expressed his concurrence. The motion was then agreed to. *Overworked Milliners and Dressmakers.*—The Earl of Shaftesbury called attention to the recent melancholy death of Miss Walkley, the seamstress, caused by overwork and unfit sleeping apartments. He asked whether the Government were prepared to introduce a measure for the ventilation and sanitary regulation of the workrooms in which seamstresses were employed.—Earl Granville was not prepared to state that the Government intended to introduce any Bill on the subject; but if Lord Shaftesbury himself would bring in a Bill, it would meet with full consideration.

Thursday.—The Duke of Somerset, in reply to Lord Carnarvon, stated that the Admiralty had abandoned their objections to the *New Milford Docks Bill*, and that there would be no opposition on their part. The *Waywardens Contract Bill* was read a second time. The *Leases and Sales of Settled Estates Act Amendment Bill* passed through committee. The *Drainage and Improvement of Land (Ireland) Bill* was read a second time, and ordered to be referred to a Select Committee. The *African Slave Trade Treaty Bill* passed through committee. The *Volunteers Bill* passed through committee, after Clauses 35 and 36, relating to the compulsory acquisition of land for rifle ranges, to which the Duke of Richmond and the Earl of Derby objected, had been struck out. The *Thames Embankment (North Side) Bill* was read a third time and passed.

Friday.—*The Regimental Debts, &c., Bill* passed through Committee. *The Innkeepers' Liability Bill* passed through Committee. *Bethlehem Hospital.*—The Earl of Shaftesbury moved for several returns relating to the removal of the hospital. 1. The annual amount of the revenue during the last ten years administered by the authorities of Bethlehem. 2. Amount received by the hospital from Parliamentary grants. 3. Average number of patients in each year for ten years, apart from criminal patients. 4. Total number of governors of the hospital. 5. Number of special meetings since January, 1863, in reference to the removal of Bethlehem, and number of governors present on each occasion. 6. The questions proposed at such meetings, and the divisions taken.

[Left sitting.]

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## HOUSE OF COMMONS.

Friday.—*Poland.*—Mr. Scully inquired if it were true that the Russian General Mouravieff had issued an ordinance proclaiming that the penalty of the knout would be inflicted on all Polish ladies dressed in mourning.—Mr. Layard replied that he wished he could deny the statement, but that the Government had not received any official information on the subject.—On the motion for going into committee of supply, Mr. Hubbard called the attention of the House to the state of the *Law for Rating to the Relief of the Poor*, and moved for returns in connection with the Union Assessment Committee Act.—Mr. Villiers admitted that there were apparent anomalies in the law, but he did not think further legislation necessary. The motion was withdrawn.—Mr. Liddell called attention to the report of the Royal Commission on *Greenwich Hospital*, presented to Parliament in May, 1860, and inquired what were the intentions of the Government in respect to carrying out the recommendations of that commission, either by a bill to amend the law relating to the hospital or by regulations of the Board of Admiralty.—Mr. Stansfeld said he rejoiced that this important question had been brought to the attention of the House. He agreed that the report of the commission of 1860 was a most valuable document, and many of its recommendations had guided the Board of Admiralty; but he could not undertake to say that the Board were prepared to accept, in all their details, every one of the suggestions in that able report. They intended, however, to make the hospital more conformable with the intentions of the founders, to extend its benefits to the wives, widows, and families of pensioners, and to reduce the expenditure. In conclusion he said that he intended to bring in a Bill upon the subject in the course of a few days.—Sir J. Pakington said that reforms were necessary in the management of the hospital, and that the growing expenditure called for inquiry and correction, but he believed that this might be done without legislation, full power being in the hands of the Board of Admiralty.—Sir J. Hay, as one of the Commissioners of 1860, adhered to their recommendations and trusted that, if legislation was necessary to alter the government of the Hospital, a bill would be introduced without delay; or, if not, that the Board of Admiralty would lose no time in effecting reforms.—After some remarks by Mr. Briscoe, Mr. Angerstein, Mr. Ingham, and Lord C. Paget, the subject dropped. At midnight the House went into Committee of Supply *pro formâ*. On the order for going into Committee on the *Harwich Harbour Bill*, Mr. Clay objected to the principle involved in the measure, of expending public money on one harbour to the prejudice of others, and moved that the Bill be committed that day three months.—Mr. M. Gibson explained that, unless steps were taken to prevent the formation of a bar at the entrance of the harbour, it would soon become useless. The motion was ultimately withdrawn, and the Bill passed through committee. The *Militia Pay Bill* and the *Charitable Uses Bill* were read a third time and passed. The *Watchmen in Towns (Ireland) Bill* was withdrawn.—Mr. Collins moved that the Attorney-General for Ireland be instructed to prosecute Mr. J. D. Barbour, Mr. R. Barbour, and Mr. T. Barbour for bribery, treating, and undue influence at the late election for Lisburn.—Mr. Baines moved the adjournment of the House, on the ground that, although he was prepared to concur in the motion, the subject was much too serious to be considered at two o'clock in the morning. On a division the motion for adjournment was negatived by 142 to 19.—Mr. Collins then moved a formal resolution that the Messrs Barbour be prosecuted.—Mr. Evans, chairman of the Lisburn Election Committee, moved as an amendment that the name of Mr. T. Barbour, whom there was no chance of convicting, be omitted from the resolution.—The Attorney-General concurred, and after some discussion the motion, as amended, was agreed to.

Monday.—In answer to Lord Hotham, Lord Palmerston said that he intended to postpone the motion for the purchase of the *Exhibition Building* to Thursday week. *Case of Sergeant-Major Lilley.*—The Marquis of Hartington stated, in answer to Mr. Coningham, that Colonel Crawley, of the 6th Inniskilling Dragoons, would be recalled from India in order to be tried by court-martial in this country, and that this proceeding had received the approval of the Judge Advocate General.—Mr. Layard stated, in reply to Mr. Baines, that the *Commercial Treaty with Italy* had not yet been signed, and that Mr. Mallet, who had been entrusted with the negotiation, had returned from Turin for further instructions. *The Knout in Poland.*—In reply to a question relating to the alleged order of General Mouravieff subjecting Polish ladies to the knout, Mr. Layard said that the Russian Government had declared the order to be a fabrication, but he felt bound to say that great cruelties had been committed.—Lord Palmerston also strongly condemned the manner in which hostilities had been carried on on both sides.—Lord Palmerston moved the postponement of the orders of the day until after the motion on the *Affairs of Poland*, of which Mr. Hennessy had given notice, had been disposed of.—Mr. S. A. Beaumont appealed to Mr. Hennessy not to proceed with his motion, on the ground that the House was not as yet in possession of all the information which it required on the subject, and that consequently the discussion would be premature.—Mr. Kinglake and Lord Enfield also urged the postponement of the discussion, on the ground that the House was not in a condition to discuss the question. The House then divided on Lord Palmerston's motion, which was negatived by 165 to 110.—Mr Horsman protested against what had just taken place, as novel, irregular, and unparliamentary. The Prime Minister had made a contract in the name and with the consent of the House, and it ought to have been respected. Mr. Beaumont's motion was a surprise and a breach of faith, alike injurious to the Government and treasonable to the public interest.—Lord Enfield denied the right of Mr. Horsman to question the action of independent members.—Lord R. Cecil, Mr. Coningham, and Mr. Bentinck deprecated the course which had been adopted by the House as calculated to shake confidence in the arrangements made by those who were supposed to have the control of the public business.—Mr. Newdegate did not approve of the House taking the control of foreign affairs into its own hands, and opposed further discussion.—Lord Palmerston said that he himself was taken entirely by surprise both by the motion, and the result of the division. With regard to the motion of Mr. Hennessy, he was bound to say that, although the discussion would not in his opinion be injurious to the public service, an address to the Crown would render negotiation altogether impossible. It would, he thought, be desirable to postpone the discussion until time had been given to Russia to answer the recommendations forwarded to her on the 17th of the present month by Great Britain, France, and Austria. The substance of these recommendations were—1. A general and complete amnesty; 2. National representation on the principle established by Alexander I. in 1815, in conformity with the Treaty of Vienna; 3. That Poles alone should be appointed to public offices, and that an administration should be formed which would command the confidence of the people; 4. Full liberty of conscience in religious matters; 5. That the Polish language should be used in all public transactions and in the education of the people; and—6. A regular system of recruiting, so as to prevent a recurrence of the proceedings which had led to the present revolution. Her Majesty's Government had also urged upon Russia the cessation of hostilities. He was quite prepared to give Mr. Hennessy every facility for renewing his motion, but he still remained of opinion that the proposed discussion was premature.—Mr. Disraeli feared that the propositions described by Lord Palmerston would, if adopted, leave matters very much as they were before. They were in his opinion undistinguished by prescience, sagacity, or firmness, and unlikely to lead to any satisfactory result. Russia in all probability would not accept them; but even if she did, their effect would be merely to conjure up a phantom of Polish liberty fraught with new difficulties and fresh complications.—Mr. Hennessy expressed himself willing to defer to the opinion of the House, and not to renew the subject until the answer of Russia had been received. The *London, &c., Diocese Bill* passed through committee. The *Mutiny East India Act Repeal Bill* was read a third time and passed. The *Passenger Act Amendment Bill* and the *Thames Embankment (South Side) Bill* passed through committee. The *Sir Robert Hitcham's Charity*, the *Ruthen Charities*, and the *Inclosure (No. 2) Bill* passed through committee. The *Local Government Supplemental Bill* was read a third time and passed. In committee on the *Poor Removal Bill*, Mr. C. Turner moved an amendment to clause 8 to limit the power of removal to the case of the children of English or Scotch parents, or of Irish parents, having acquired a settlement in England or Scotland, or being irremovable therefrom by reason of length of residence. After some discussion the amendment was carried by 73 to 43.—Mr. Maguire and Mr. Hennessy declared that the amendment destroyed the principle of the measure.—Mr. Herbert, by whom it was introduced, said he should like to consider the course he should pursue, and for that purpose moved that the Chairman report progress. The motion was agreed to, and the House resumed.—Lord Raynham obtained leave to bring in a Bill to amend the *Nuisances Removal Act for England*, 1855, with respect to the seizure of diseased and unwholesome meat; a Bill to prohibit unqualified persons from the *Practice of Midwifery*; and a Bill for the *Prevention of Accidental Poisoning.*

Tuesday.—The *Thames Embankment (South Side) Bill*, as amended, was considered and agreed to. The *Vaccination (Scotland) Bill* passed through committee. The *Statute Labour Roads and Bridges (Scotland) Bill*, after some discussion, was withdrawn. *State of Ireland.*—Mr. Maguire moved an address to her Majesty, praying her to issue a royal commission to inquire into and report upon the state of the agricultural classes of Ireland, and to suggest such improvement in the relations between landlord and tenant as might seem necessary and expedient. He said that the agrarian disturbances and distressed condition of Ireland were sometimes attributed to the religion of the majority of the people, and at others to the existence of a religious establishment which was the church of the minority; but in his opinion the evil was rather to be traced to the present state of the law of landlord and tenant; and the object he had in view was to do for the Irish tenantry that which had already been done in this country, and provide security for the enjoyment by the tenant of the improvements he might have effected, and the adoption of an equitable law to induce him to put forth his energies in the cultivation of the soil.—Mr. Bagwell seconded the motion, which was supported by Dr. Brady, and opposed by Sir E. Grogan.—Mr. Roebuck said that the term "tenant right" suggested the idea of taking from a man the power over his own property. He would allow the landlord and tenant to make what contract they pleased; but if there was no contract, he would allow the law to step in and say what the outgoing tenant was to receive and what the incoming tenant was to pay.—Sir G. Colthurst argued that the law of 1860, referred to in the motion, went far enough, and that it could not have been carried farther without affecting the rights of property.—Sir R. Peel admitted the importance of the question, but contended that not a single argument had been adduced to justify the House in accepting the motion of the hon. member for Dungarvon, and disturbing the existing relations between landlord and tenant. There was no doubt that distress prevailed in Ireland, and that the land tenure there was not satisfactory; but he protested against the Irish people being told that it produced their ruin. The proper way of dealing with a people who were suffering from the dispensations of Providence was to endeavour to awaken the spirit of hope in their breasts by showing them that returning prosperity would replace them in that position which their energy, industry, and perseverance entitled them to occupy. He regretted that the Bill of 1860 had proved inoperative, and he could only say as regards the future, that he would not be indisposed when the proper time arrived to consider whether further legislation in the same direction might not be attempted.—The O'Donoghue laid the whole charge of the misery which afflicted the Irish people to the door of the British Government.—Mr. O'Reilly supported the motion.—Mr. Cardwell reminded the House that Mr. Maguire had not made any practical suggestion for the remedy of the evils of which he complained. The Bill of 1860 had, it was true, hitherto proved a dead letter, but he believed that when returning prosperity visited the country the tenantry of Ireland would not fail to avail themselves of it.—Mr. O'Reilly, Mr. Blake, and Mr. Scully supported the motion, Mr. Packe opposed it.—Mr. Hennessy said that the Government had lamentably failed in their attempt to legislate for Ireland, and asserted that it did not command the confidence of any portion of the people but a few antediluvian Whigs and energetic place-hunters.—Lord Palmerston said the British Government had done all it could to secure property in Ireland, and he had no hesitation in saying that it was quite as secure, and that life was more secure in that country than in England, because there were not committed in Ireland those social crimes which, he regretted to say, too often disfigured the character of the people in England. The evils of Ireland in past days were to be traced in great part to the system of middlemen, to a redundant population, and to the minute division of holdings. He was happy to say that those evils had been greatly diminished, and that there was reason to believe that the material prosperity of the country would be restored on the return of productive harvests. In his opinion the true policy to be adopted in reference to the tenure of land was to give full liberty to the landlord and to the tenant to settle their own affairs without legislative interference. Speaking as a landlord, he would ask what right had any tenant to come to him and say that it was his intention to effect certain improvements on his land, whether his landlord wished it or not? He regretted that the Act of 1860 had not been carried further. Its intention was to enable the tenant to make improvements on his holdings; but what improvements could a tenant with 10 or 15 acres be expected to make? Why, the only improvement in his power was to dig up the stones, and render the land available for the plough.

After a few words from Colonel GREVILLE in support of the motion, the House divided, when the motion was negatived by 128 to 49.—Sir F. KELLY moved for a select committee to consider the effect of the *Malt Duties* on the cultivation and price of Barley, and upon the manufacture and price of malt liquors; also on the application of malt to the feeding of cattle and sheep.—Colonel BARTTELOT seconded the motion, which was also supported by Mr. COBBETT.—The CHANCELLOR of the EXCHEQUER said he was quite prepared to accede to the appointment of a committee. The motion was then agreed to. —Mr. TITE moved for a Select Committee to inquire into the improvement of the approaches to the *New Palace of Westminster*.—Mr. COWPER did not object; but a division was called for, when the motion was carried by 40 to 15. The other orders of the day were then disposed of.

WEDNESDAY.—Mr. BOUVERIE moved that the order of the day for the second reading of the *Uniformity Act Amendment Bill* be discharged, on the ground that there was no prospect of getting it through Parliament this session. He said that his object in bringing the measure forward had been very much misrepresented. He did not wish to injure either the Church or the universities, but to improve and strengthen them.—Sir W. HEATHCOTE and Mr. WALPOLE, on the part of Oxford and Cambridge, referred to the petitions presented from those universities as showing the very strong feeling which existed against the Bill.—Mr. HADFIELD deplored the necessity of withdrawing a most useful measure.—Mr. NEWDEGATE thanked Mr. Bouverie for withdrawing the Bill. —Mr. GÖSCHEN did not regard the measure as an assault upon the stronghold of the Church, but rather in the light of an auxiliary, for it would enable her to fight her enemies with a freer hand.—Mr. R. MILLS denied that the Dissenters were animated with a desire to pull down the Church.—Mr. HENLEY said that all the ability of the universities was in favour of the Bill. It was always the cry of a minority that all the talent and all the good sense were on their side.—After a few words from Mr. MONSELL and Mr. DUNLOP, the order for the second reading was discharged and the Bill was withdrawn. The *Misappropriation by Servants Bill* was read a second time. The adjourned debate on Mr. DALGLISH's motion for a select committee on the *Board of Admiralty* was resumed by Sir H. WILLOUGHBY, who expressed his opinion that at the present period of the session it would be useless to appoint a committee on so large a subject as Admiralty reform.—Sir J. HAY was of opinion that something should be done to secure if possible unity of action and individual responsibility in the 13 departments of the Admiralty. —Mr. C. BERKELEY opposed the motion, on the ground that there had already been sufficient inquiry.—Mr. STANSFELD said that the First Lord of the Admiralty was responsible for the conduct of the heads of all the departments which were in constant communication with him, and he did not believe any First Lord would ever attempt in Parliament to disclaim that responsibility. He did not, he said, wish to rest the defence of the Admiralty on broad generalities, but he contended that a great deal had been done to carry out the recommendations of the select committee, and to comply with the requirements of the House. The finance and building departments had been placed on an improved and satisfactory footing, and other reforms were in progress.—Sir J. PAKINGTON thought that the real question was not what individual reforms had been introduced into separate departments, but whether the present constitution of the Board of Admiralty was satisfactory, and such as the House could approve of.—Sir F. BARING recommended the withdrawal of the motion.—After a few words from Mr. HENLEY and Sir M. PETO, Mr. DALGLISH said that in accordance with the general wish he would withdraw his motion, but gave notice that he intended to renew it next session.—Mr. COX moved the second reading of the *Leases and Sales of Settled Estates Act Amendment Bill*, which he said would not in any way interfere with the enjoyment by the public of Hampstead Heath.—Lord ENFIELD moved, as an amendment, that the Bill be read a third time that day three months, on the ground that the object of the measure was to enable Sir Thomas Wilson to build over a portion of Hampstead Heath, and that it was not expedient to legislate in a public act for the benefit of a private individual.—Mr. AYRTON and Sir M. PETO supported the Bill; Mr. HANBURY, Mr. ALCOCK, and Sir J. V. SHELLEY opposed it. On a division the second reading was negatived by 78 to 24. The Bill was therefore lost. The *Thames Embankment (South Side) Bill* was read a third time and passed. Leave was given to bring in a Bill to continue the *Poor Law Board*, and a Bill to make perpetual an Act to amend the law relating to *Loan Societies*.

THURSDAY.—Sir G. GREY stated that in consequence of the absence of Lord Palmerston on account of indisposition, the *Vote for Fortifications and Works* would be postponed until Thursday next; and when it was disposed of, the vote for the purchase of the *Exhibition Building at South Kensington* would be submitted. —Mr. BENTINCK inquired whether any precedent had been found for directing that the *Court Martial on Colonel Crawley* should be held in this country, a course which amounted to a censure on the Commander-in-Chief and the highest military authorities in India.—The Marquis of HARTINGTON replied that he had not been able to find any precedent, but he did not consider that the course intended to be pursued implied any censure upon the authorities in India.—Mr. DISRAELI asked who was to pay the expenses incidental to bringing witnesses from India; the trial of Col. Crawley might be quite as protracted as that of Warren Hastings.—Sir D. EVANS suggested that the better course would be to order the 6th Inniskilling Dragoons home, as the country would not be satisfied unless the inquiry took place in England. —Sir G. GREY said that, as the Commander-in-Chief in England had ordered the inquiry, all officers whose attendance might be required as witnesses would be considered as on duty, and would receive full pay during their absence from India.—Mr BENTINCK and Sir J. FERGUSON disapproved of the course pursued by the Government in ordering the inquiry to be conducted in England.—Sir F. SMITH thought that no other course would satisfy public opinion. In answer to a question from The O'Donoghue, Mr. DILLWYN said that he was prepared to withdraw his motion on the subject of *Religious Endowments in Ireland*, in favour of the motion on the same subject of which notice had been given by Mr. B. Osborne. The order of the day for the resumption of the debate was then discharged. *Brazils.*—In reply to Mr. BRIGHT, Mr. LAYARD said that the award of the King of the Belgians, in reference to the misunderstanding with Brazil, was received on Wednesday, and would be laid upon the table, together with the "case" as submitted to his Majesty. On the order for going into Committee of Supply, General PEEL directed attention to the receipt and expenditure for *Army and Militia Services* for the past year, and addressed inquiries to the Government relative to the expenditure on account of native Indian troops employed in China.—Mr. T. J. BARING explained the causes of excess in certain items, and said that the excess had been properly paid out of the vote of credit for China, the transactions being brought to the notice of the House in the Appropriation Act.—Mr. H, VIVIAN alluded to the recommendations contained in the *Report of the Committee on Small Arms*, and asked what action her Majesty's Government proposed to take thereon.—The Marquis of HARTINGTON said that when the Enfield rifle was adopted for the Government pattern it was the best small arm then in existence, and it was still a useful and serviceable weapon. Experience of the small bore Whitworth rifle had, however, determined the War-office to give it a trial, and they had ordered it to be supplied to the Rifle Brigade and the 60th Rifles; 2000 breech-loading rifles had also been ordered for distribution among the troops in all parts of the world; not for actual service, but for trial under every possible variety of condition and circumstance. The House then went into Committee of Supply, and the vote of 236,016*l.* for *Education in Ireland* was considered, and agreed to after considerable debate. The votes for the *National Gallery*, the *National Picture Gallery*, and the *Settlement* at Lagos, also had a long discussion, but were ultimately agreed to. Several votes for civil establishments abroad were also agreed to, and at midnight the Chairman reported progress. In committee on *Public Works, Manufacturing Districts*, the CHANCELLOR of the EXCHEQUER moved that the Commissioners of the Treasury be authorised to issue, out of the Consolidated Fund an amount not exceeding 1,200,000*l.* upon security of local rates, for facilitating the execution of public works in certain manufacturing districts. The balances in the Exchequer were in excess of the demands upon it, and although a million of Exchequer Bonds and a similar amount of Exchequer Bills had lately been paid off, there were still ample funds out of which the proposed advances could be made. The motion was agreed to. The *Newcastle-upon-Tyne (St. Mary Magdalen Hospital) Bill* passed through committee. *Sir Robert Hitcham's Charity Bill*, the *Ruthin Charities Bill*, the *Walmer Vesting Bill*, and the *Postmaster General's Sale of Lands Bill*, were read a third time and passed. The *Police and Improvement (Scotland) (Provisional Order) Bill* was read a second time. The *Howth Harbour Bill* passed through committee.

FRIDAY.—*Public Works (Manufacturing Districts) Advances Bill.*—Mr. VILLIERS brought up the report on this Bill, when the resolution empowering 1,200,000*l.* to be devoted to the purposes of the Bill was agreed to. The House then went into committee on the Bill, and various minor amendments were introduced into several of the clauses. The remaining clauses were agreed to, with the exception of Clause 11, which was struck out, with several amendments and additions.

[Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $91\frac{3}{4}$ to $\frac{7}{8}$, ex div., for Money, and $91\frac{7}{8}$ to 92, ex div., for Acct.; Three per Cents. Reduced, $91\frac{3}{8}$ to $\frac{5}{8}$; New Three per Cents., $91\frac{1}{2}$ to $\frac{5}{8}$; India Five per Cent. Stock, $108\frac{1}{4}$ to 108; Five per Cent. Enfaced Rupee Paper, $107\frac{1}{4}$; Exchequer Bills, March, 1s. dis.; Ditto, June, 4s. dis. to 3s. dis.—FOREIGN: Brazilian, 1852, '58, '60, $90\frac{1}{4}$, ex div.; Equador New Consolidated, $16\frac{1}{2}$, ex div.; Egyptian, $100\frac{1}{2}$ to 101; Ditto, second issue, 100; Greek, for Acct., 35 to 34; Ditto Coupons, 16 to $15\frac{1}{2}$; Italian, for Acct., $72\frac{3}{4}$ to $\frac{1}{4}$; Mexican, for Acct., $36\frac{1}{2}$ to $35\frac{5}{8}$; New Granada, $15\frac{1}{2}$; Ditto Deferred, $9\frac{1}{4}$; Portuguese, 1856, '57, '59, '60, and 1862, for Acct., $49\frac{1}{2}$ to $\frac{1}{4}$; Russian, 1862, $92\frac{1}{4}$; Sardinian, for Acct., 89, ex div.; Spanish New Deferred, for Acct., 49; Ditto Passive, for Acct., $33\frac{3}{8}$ to $\frac{1}{4}$; Ditto Certificates, for Acct., 12 to $11\frac{3}{4}$; Turkish, 1858, for Acct., $70\frac{1}{4}$ to $69\frac{1}{2}$; Ditto, 1862, $70\frac{7}{8}$ to $\frac{5}{8}$; Venezuela, for Acct., 25.

## Bank of England.

ISSUE DEPARTMENT.

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| Notes issued .. .. .. | £28,776,490 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,126,490 |
| | | Silver Bullion .. .. | — |
| | £28,776,490 | | £28,776,490 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,251,895 |
| Rest .. .. .. .. .. | 3,167,863 | Other Securities .. .. | 21,408,064 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 10,279,053 | Notes .. .. .. .. .. | 8,789,500 |
| Other Deposits .. .. .. | 13,809,996 | Gold and Silver Coin .. | 899,828 |
| Seven days and other bills | 538,675 | | |
| | £42,348,587 | | £42,348,587 |

June 25, 1863. M. MARSHALL, Chief Cashier

## Gazette of the Week.

FRIDAY: *June* 19—BANKRUPTS.—G. ALLEN, East Dereham, Norfolk Harness Maker—C. AUSTIN, Marnhull, Dorsetshire, Baker—I. ARNOLD Shalfleet, Isle of Wight, Builder—F. BUSWELL, York Road, Lambeth, Late Fishmonger—A. BEVAN, Rochdale, Lancashire, Carpet Dealer—M. BARREN, Royal Naval Place, New Cross—C. BARR, Chales Street, Woolwich—T. BYFORD, late of Trafalgar Square, Brompton, Lodging House Keeper—T. BIRTWISTLE, Rochdale, Lancashire, Carpet Dealer—J. BENNEE, Truro, Cornwall, Provision Dealer—J. COOPER, late of Birmingham—J. COOPER, Chapel Place, Liverpool Road, Islington, Cab Proprietor—P. COWS, John Street, Tottenham Court Road, Pianoforte Key Manufacturer —J. COLLINS, Guildford Street, Russell Square, Surgeon and Apothecary—M. CHABRY, late of Queen Street, Kingsland Road, Woollen Merchant—J CAMERON, Bolton, Lancashire, Grocer—N. DORRINGTON, late of Coventry, Ribbon Manufacturer—F. DROSIER, late of Loughton, Essex, Chemist—H DERBY, Wolverhampton, Tailor—D. DANE, late of Headcorn, Kent, Farmer—J. DIETRICH, Carlisle, Clockmaker—W. DANES, Finchley, Grocer —C. EYRE, late of Nottingham, Publican—C. R. EMPSON, Kingston-upon-Hull, Printer—J. EDGCOMBE, jun., Fenchurch Street, Commission Agent—T. FLEMMING, late of Birmingham, Journeyman Boot Maker—T FLETCHER, Ridgeway, Derbyshire, late Beerhouse Keeper—O. FOWKES, Ashby-de-la-Zouch, Leicestershire, Inn-keeper—J. FORSTER, Carlisle, Inn-keeper—S. GOLDSTON, Birmingham, Tailor—W. GRIEVES, Stibbington Street, St. Pancras Pianoforte Tuner—T. GARRATT, Carrington, Nottinghamshire—W. J. GRASEBROOK, Liverpl., Merchant—S. GARRATT, East Nottinghamsh., Collier—J. A. GOLLOP, Emmerson St., Southwrk, late Engineer—C. GOOD, late of Fetter Lane, Commission Agent—W GOOD, jun., Landport, Hampshire, Brickmaker—W. GRAINGER, Briton Ferry, Glamorganshire, Ship Broker —R. L. GIROUD, Mark Lane, City, Merchant—E. HARLEY, Pattingham, Staffordshire, Plumber—F. HARRISON, Birmingham, late Farmer—T. HOWES, Fenny Stratford, Buckinghamshire, late Licensed Victualler—J. HOLROYD, Leymoor, Yorkshire, Journeyman Mechanic—H. HONOR, late of Brunswick Terrace, Camberwell, Commercial Clerk—M. HUTT, Cambridge, Widow—J. HEBBLETHWAITE, Marlborough Road, Peckham, Railway Clerk —T. F. JARVIS, Littlethorpe, Leicestershire, Miller—J JACKSON, Birmingham, Grocer—G. JACKSON, Paul Street, West Ham, Essex, Builder's Foreman—G JOHNSON, St. Alban's, Herts, Trimming Manufacturer—W. JONES, late of Soar, Anglesey—W. JACOBS, Wellington, Somersetshire, late Relieving Officer—M. A. INDER, Martock, Somersetshire, late Butcher—S. KENDRICK, Rugeley, Staffordshire, Beerhousekeeper—W. LEWIS, Pelsall, Staffordshire, Innkeeper—L. LEE, late of Monkton, Devonshire—J. A. LEAKEY, late of Prince of Wales Avenue, Haverstock Hill, Photographer—T. HOWES, Fenny Stratford, Buckinghamshire, late Licensed Victualler—W. MACKEY, Hastings, Sussex, Auctioneer—W. L. MOLYNEUX, late of New Bridge Street, Blackfriars—J. E. MEACHAM, Leicester, Chemist —T. GEORGE MAHANY, Long Lane, Bermondsey, Shopman—H. E. MASKEW, Chatham, Kent, Chaplain to the Forces—J. MUGFORD, Portsea Hampshire, Commission Agent—H. J. MORTIMER, Grove Terrace, Brompton, Cheesemonger—J. F. F. MARSHALL, late of Middlesborough, Yorkshire, Grocer—J. MUMFORD, Salisbury Street, Lisson Grove, Marylebone, Grocer—S. H. MITCHELL, Spencer Terrace, Lower Road, Islington—H. MALIN, Coventry, Watch Finisher—W. P. MANN, Middleham, Yorkshire, School master—W. D. PORTCH, Lower Marsh, Lambeth, Oil and Colourman—J. PEARCE, Wood Green, Tottenham, Lodging and Boarding House Keeper—W. E. PERRY, late of Bobbington, Staffordshire, Dealer in Artificial Manures—D. POPPER, Cleveland Street, Fitzroy Square, Glasscutter—J. PERRY, late of Aberaman, Labourer—C. POLLARD, late of Hunter Street, Brunswick Square, Commission Agent—B. R. PERKINS, Ladbroke Grove, Notting Hill, Ironmonger—G. E. RUNDLE, late of South Bank, St. John's Wood—D. ROSS, Snow's Fields, Bermondsey, Chandler's Shop Keeper—W. H. REYNOLDS, Prince's Square, St. George's in-the-East, Chemist's Assistant—T. ROBINSON, Newcastle-under-Lyme, Printer—J. W ROBERTS, late of Reynoldstone, Glamorganshire, Schoolmaster—H. STEVENSON, Brighton Terrace, Victoria Park, Woollen Factor—C. SATTERTHWAITE, Preston, Lancashire, Druggist—J. SMITH, Wivenhoe, Essex, Porter Merchant—E. STACEY, Portsea, Hampshire, Jeweller—J. P. SMITH, Tettenhall, Staffordshire, Agricultural Engineer—J. SWIFT, Hunslet, near Leeds, late Shopkeeper—H STOCKDALE, Cardiff, Greengrocer—E. TATTERSALL, Blackburn, Lancashire, Licensed Victualler—T. VIOLET, Leeds, Tailor's Cutter—W. WHITAKER, John Street, Old Kent Road, Journeyman Tanner—G. WARD, Peartree Street, Lambeth, Boot and Shoemaker—W. WELLS, Tempsford, Bedfordshire, Blacksmith—W. H. WELLS, Manchester Street, Argyle Square, Commission Agent—M. WOODLEY, Exeter—J. WORSLEY, Witton-cum-Twambrooks, Cheshire, Cabinet Maker—W. WHITEHEAD, Leeds, Cattle Dealer.

SCOTCH SEQUESTRATIONS.—W BUCHANAN, Glasgow, Grocer—G. E. EWING, Glasgow, Sculptor.

TUESDAY: *June* 23.—BANKRUPTS.—J. ANDREWS, Totton, Southampton, Timber Merchant—R. G. AMOS, Bishopsgate Churchyard, Manager of a Tavern—J. ATTERTON, Brunswick Nursery, Camberwell, Florist—T. ABBOTT, Shap, Westmoreland, Joiner—F. BADHAM, Worcester, Dealer in Timber—T B BATTOS, Bristol, Undertaker—G BEADLE, Selhurst Road, Croydon, Builder—C. BATTERBEE, Coalville, Leicestershire, Carpenter—J. BOURNS, Kingswinford, Staffordshire, Grocer—J. BERKLEY, Dudley Place, Harrow Road, Hay Dealer—T BERRISSHAW, Sheffield, Tile Manufacturer —W. BRAMPTON, late of New Broad Street, Crinoline Manufacturer—J. BOULTER, Kington, Herefordshire, Boot and Shoe Maker—T BURTON, Durham, late Stationer—M BURNS, Manchester, Carter—A. BERKLEY, Rochdale, Lancashire, Plasterer—W. BRADFORD, Swan Street, Newington, Bedding Manufacturer—R BASSETT, Smethwick, Staffordshire, Gentleman —T COOK, Penton Row, Walworth Road, Saddler—G. A. COPELAND, Constantine, Cornwall, Safety Blasting Cartridge Manufacturer—G. CROWTHER, Yeadon, Yorkshire, Mill Owner and Manufacturer—H. COLWELL, Green Street, Bethnal Green, Boot Maker—THOMAS CURTIS, Ansford, Somersetshire, Clerk—W. DAVIES, Birkenhead, Timber Measurer—F. DENNANT, Bedford Place, Vauxhall Bridge Road, Sewing Machinist—I. DYMENT, Bridgewater, Somersetshire, Farmer—J. DILWORTH, Halifax, Yorkshire, Stonemason—E EVANS, Southampton, Baker—J. EMERY, Waterloo Place, Shepherd's Bush, Carpenter—J. F. FENN, Norwich, Licensed Victualler—A. F. R. FRINNEBY, Cannon Street, City, Bristle Merchant—H FREEAR, Daventry, Northamptonshire, Pig Dealer—E. G. FROST, East Dereham, Norfolk, Butcher—B. ST. JOHN FURMAN, Colchester, Essex, Sack Manufacturer—R. C FROST, Kingston upon Hull, Commission Agent—H. FAIRBROTHER, Rotherfield, Sussex, Farmer—J. FIELD, Rochester, Licensed Victualler—T. FORRESTER, Gillingham, Kent, Cattle Dealer—R. GUN, Charlotte Street, Bedford Square, Advertising Agent—C. GIBSON, Little St. Andrew Street, Seven Dials, Publican—G. GRIBBS, Totnes, Devonshire, Wheelwright—O. GARRATT, Nottingham, Joiner—G. HARRIS, Epworth, Lincolnshire, Blacksmith—E. HUMPHREYS, Llanerchymedd, Anglesey, Draper—J. HUTCHINSON, late of Sedgefield, Durham, Blacksmith—W. M. HARDING, Artillery Place West, Accoucheur—F. HARRISON, Brampton, Derbyshire, Grocer—T. HEWARD, Anstrey, Warwickshire, Farmer—D HILL, Godfrey Street, Chelsea, Commercial Clerk—W. JEVON, Sedgley, Staffordshire, Flour Dealer—J. W JONES, Windsor Road, Islington, Commission Agent—R. KETTLEWELL, sen., late of Belton, Lincolnshire, Dealer in Leather and Bootmaker—R. KENT, Brightside, near Sheffield, Gardener—W. P. KELLY, Gordon Street, Islington, Merchant—G. LEES, Manchester, Leather Dealer—I MORRIS, Birmingham—H. MOORES, late of Hulme, Lancashire—E. MAY, Old Ferry Road, Poplar, General Dealer and Builder—J. S MISKIN, St. Jude's Place, Mildmay Road, Butcher—J. NEWTON, Sheerness, Carter—H. OAKEY, Wootton, Gloucestershire, Baker—G. S. PEARSON, Putton, Cheshire, Silk Agent—J. C. PERSONS, Ilminster, Somersetshire, Grocer—T. PARSONS, Lewisham, Kent, late Banker's Clerk—J. PALKINS, New Cross Road, Surrey, Commission Agent—D. B. PAUL, late of the Waverley Hotel, King Street, Cheapside, Dealer in Fancy Goods—S. PALFREY, Ottery St. Mary, Devonshire, Farmer—J. PARKINSON, late of St John's Court, Snow Hill, Commission Agent—C. A. PERKINS, Upper Charlotte Street, Manager to an Importer of American Sewing Machines—E. ROBERTS, Leek, Staffordshire, Assistant Surgeon—THOMAS WILLIAM ROWLAND, Great Coggeshall, Essex, Labourer—EDMUND RYAN, Manor Terrace, Kilburn, Coal Agent—C. STRINGER, jun., Northampton, Blacksmith—W. SABBERTON, Ely, Cambridgeshire, Farmer—J. SMITH, Cockermouth, Cumberland, Innkeeper—W. STEWARD, Darlaston, Staffordshire, Tailor—J. THOMAS, Redruth, Cornwall, Mine Agent—R S THOMSON, Heath Lodge, Ham Common, Surrey —H. J. TAYLOR, Woodbridge, Suffolk, Cornchandler—T. TRIST, Dittisham, Devonshire—H. TINKLER, late of Sedgefield, Durham, Grocer—J. TILLING, Clifton, Bristol, Confectioner—W. TANSER, Duston, Northamptonshire, Farmer—C. WIGGS, Chester Street, Kennington, Builder—J WRAGG, Barnsley, Yorkshire, Pork Butcher—W. WEBB, Leeds, Yorkshire, Carver and Gilder—T. WILSON, Slater Street, Bethnal Green, Chenille and Trimming Manufacturer—G. WHITE, Frimley, Surrey, Commercial Agent —H. C. WILLS, Bristol, Bookseller.

SCOTCH SEQUESTRATIONS.—A. DAVIDSON, Edinburgh, Builder—S. M. FULLARTON, Edinburgh, Major in the Army—G. G. RUSSELL, Edin., Draper—W. SMITH, Redcastle, Ross-shire, Blacksmith—T. SOMMERVILLE and M. COLQUHOUN, Bothwell, Lanarkshire, Potato Salesmen—J. W. & J. THOMSON, Edinburgh, Merchant.

## Metropolis and its Vicinity.

ELECTION OF SHERIFFS.—Wednesday being Midsummer day the liverymen of London were convened in common hall to elect Sheriffs of London and Middlesex for the ensuing year. The Common-Serjeant read the names of six gentlemen eligible in rotation for the office:—Aldermen Dakin, Besley, Gibbons, and Waterlow, Mr. H. R. Nissen, and Mr. Richard Mitchell, and a seventh was put in nomination in the person of Mr. Thomas Cave. It is usual to have one alderman elected to the office; but on this occasion the ordinary course was departed from, and on a show of hands the choice of the liverymen fell on Mr. Nissen and Mr. Cave, who were accordingly declared to be duly elected.

THE PALACE OF WESTMINSTER.—The following is the thirteenth and last report of the Commissioners on the Fine Arts:—

"We, the Commissioners appointed by your Majesty under a Commission bearing date the 22d day of November, 1841, for the purpose of inquiring whether advantage might not be taken of the rebuilding of your Majesty's Palace at Westminster —wherein your Majesty's Parliament is wont to assemble—for the purpose of promoting and encouraging the fine arts in your Majesty's United Kingdom, and in what manner an object of so much importance might be most effectually promoted, beg leave to submit to your Majesty a report respecting the progress of the works recommended by us to be undertaken, and, at the same time, to bring under your Majesty's notice the position in which the commission is at present placed. Bearing in mind the warm interest which our late chairman, his Royal Highness the Prince Consort, at all times took in the labours of the commission and in the progress of works undertaken under its direction, we should have deemed it our duty to proceed to the election of another chairman, difficult, nay impossible, as we should feel it to be to supply in any adequate degree that combination of knowledge in art, of tried experience in business, and of high personal authority, by which his Royal Highness was distinguished. But we feel ourselves relieved from the necessity of this most difficult selection, since, in our opinion, the term of our prescribed duties has now arrived. The whole scheme of decoration for the Palace of Westminster has been considered and decided; and, trusting that the series of works now in progress can be carried on to their completion, it does not appear to us that the commission need be continued to superintend the execution. In our 12th report, dated the 25th of February, 1861, we entered so fully into the history of the labours of the commission from the first that it will be sufficient on the present occasion to specify the works that have been completed since the date of that report, and to submit our view as to the extent to which various series of works, both in painting and sculpture, now begun should be continued. We have the pleasure to report that Daniel Maclise, R.A., has brought to a successful and highly satisfactory termination the large wall-painting, executed in the water-glass method, representing the meeting of Wellington and Blucher after the battle of Waterloo; and that he has

already begun the corresponding painting representing the Death of Nelson. Those works, measuring each 45 feet in length, occupy the principal compartments in the Royal Gallery. Referring in our last report to the vast scheme of decoration proposed for the Royal Gallery, we observed that while so extensive a plan cannot be completed in the lifetime of one artist, it would be desirable that the necessarily partial execution should so conducted as that the works when interrupted, should, as far as possible, present a symmetrical arrangement. On this principle we recommended that the two large compartments facing each other in the Royal Gallery should be completed first. Anticipating the same industry on the part of Mr. Maclise as he has hitherto manifested, we by no means recommend the limitation of his labours even to the two vast surfaces referred to. On the contrary, believing that a painter combining so much skill with so much energy is especially qualified for such undertakings, we recommend that, assuming willingness on his part, such other portions of the Royal Gallery be subsequently intrusted to him, as may, according to the principle above explained, still produce a satisfactory arrangement and a relative completeness. In the apartment called the Queen's Robing Room, William Dyce, R.A., has, since the date of our last report, been occasionally employed on the largest of the frescoes belonging to the series of subjects he has undertaken to treat in that place from the legend of King Arthur. The stipulated remuneration for the entire series having been long since received by him, we have only to express our earnest hope that he will see the importance of prosecuting the work with greater assiduity; more especially since his exclusive occupation of the apartment must, as we have observed in our last report, occasion great inconvenience to your Majesty. We next come to the decoration of another apartment—the Peers' Robing Room—which is also required for the meeting of one of the standing committees of the House of Lords. Here the general subject is 'Justice on Earth and its Development in Law and Judgment.' John Rogers Herbert, R.A., who has undertaken the series, and who has prepared sketches for several of the subject, has nearly completed a large wall-painting, representing 'Moses bringing down the Tables of the Law to the Israelites.' The delay that has taken place in the execution of this, the first of the series, has been chiefly in consequence of frequent experiments by the artist in the water-glass method of painting. We are informed, however, that the Committee of the Lords finds its business at present most seriously obstructed, and we think that, as Mr. Herbert now appears to be satisfied as to the technical process to be adopted, there is no reason why in future he should not proceed much more rapidly. The subjects proposed for the Peers' and Commons Corridors are illustrative of that great contest which commenced with the meeting of the Long Parliament and terminated in 1689. Charles West Cope, R.A., who has undertaken the Peers' Corridor, has prosecuted his work with equal ability and industry. Five out of the eight paintings of which the series is to consist have been already finished, and the designs for the remaining three have been approved by us, The work last completed—'Basing House defended by the Cavaliers against the Parliamentary army"—has been satisfactorily executed in the water-glass method. The Commons' Corridor, consisting of the same number of compartments, has been allotted to Edward Mathew Ward, R.A., whose name is so highly distinguished by his able treatment of subjects from modern history. Four of the paintings, executed in fresco, have been completed, and a sketch for a fifth has been approved. In sculpture, the works now in progress consist of statues of British Sovereigns in chronological order. Twelve of those statues (to be executed in white marble), from James I. to William IV., are proposed to be placed in the Royal Gallery; commissions have been given for six, and the completion of the remaining six may be regarded as indispensable In our last report we stated that the whole series of statues of British Sovereigns proposed to be placed in the Royal Gallery and its immediate precincts admits of being subdividd into four distinct classes, occupying respectively the Royal Gallery, the Queen's Robing Room, the Vestibule, and the Lower Landing-place. Should the series be continued beyond the Royal Gallery, we recommend that the five statues intended for the Queens' Robing Room should be undertaken next. The remaining statues in the Vestibule and Lower Landing-place, to be executed in metal, would be of much less cost. The above may be said to comprehend all the works that are in progress. In some instances—for example, in the series of statues and in the series of paintings in the Royal Gallery and Peers' Robing Room—we have not presumed to define how far any of the works should or should not be deferred. In the other cases—the Queen's Robing Room and the two Corridors—it is obviously desirable that they should be completed without interruption. Among future undertakings, requiring less time, may possibly be included the re-painting of some of the earlier experimental frescoes in the upper Waiting Hall. The partial decay of some of those works induced us to appoint a committee in the last year to inquire into the causes of the deterioration. The members of that committee, assisted by an able chemist, after careful and repeated inspections of the paintings, not only in the Upper Waiting Hall, but throughout the building, having examined various artists and other competent witnesses, but up to this time they have not been able to arrive at any satisfactory result. With regard to to the amount that may for a time be required to meet the cost of works in progress, although there has been for some years an understanding that a vote for 4000*l*. would be annually proposed to Parliament for carrying on the objects of the commission, it does not appear probable that so much will be required hereafter. The estimate which we have this year submitted to the Lords of the Treasury to be proposed, with their approval, to Parliament, amounts to 3700*l*. We have included in the appendix, a detailed statement of the works now in progress for which further payments will be required. We cannot conclude this our final report without desiring to offer our testimony to the professional skill, as well as the activity, the zeal, and the uprightness with which our secretary, Sir Charles Eastlake, has, during a period of 21 years, fulfilled an important and sometimes an invidious task. We know that Sir Charles Eastlake's services were fully appreciated by his Royal Highness the Prince Consort, and we venture to hope that some regard may be shown to those long and meritorious services.—STANHOPE (in the chair), NEWCASTLE, PALMERSTON, RUSSELL, WILLOUGHBY DE ERESBY, EVERSLEY, LYNDHURST, JOHN EVELYN DENISON (Speaker), JOHN MANNERS, LLANOVER, WILLIAM COWPER.—Palace of Westminster, March 11, 1861."

BETHLEHEM HOSPITAL.—A meeting of the Governors of Bethlehem Hospital, the largest that has occurred for years, was held on Monday, to consider a letter from the Secretary of State for the Home Department, enclosing one from the Commissioners in Lunacy, stating their views in reference to the proposed purchase of Bethlehem Hospital by the Governors of St Thomas's, and the removal of the former institution to a suitable locality in the neighbourhood of London. Alderman Copeland, M.P., President of Bethlehem, took the chair. The letters of Sir George Grey and of the Commissioners in Lunacy were first read. The letter of the Commissioners said they had watched with much interest the discussion in reference to the purchase of Bethlehem Hospital by the Governors of St. Thomas's, and the removal of Bethlehem to a healthy and suitable locality. They had earnestly hoped that the protracted negotiations which had so long occupied the attention of the governors of both these important and wealthy charities would before this have resulted in an arrangement so desirable, and recommended by such obvious considerations of the great benefits which would thence be derived by the unfortunate objects of the respective institutions. Before it might be too late, they urged upon the Governors of Bethlehem Hospital, through the Home Secretary, the expediency and duty of availing themselves of the present favourable opportunity to give the insane the advantages of pure air and cheerful scenery, so essential to health, mental and bodily. It had for many years been the opinion of the Commissioners that the site of Bethlehem, as respected its limited extent and situation, in the centre of a dense and rapidly increasing population, was most unsuited to the care and treatment of the insane, for whose sole benefit the administration of its ample property and income was intrusted to the Governors. The Commissioners dwelt upon these points in detail, and hoped that the new hospital would be built in the country, and upon a plan embodying all the improvements suggested by modern experience and the advanced state of science. The letter of Sir George Grey, in forwarding this letter of the Commissioners to the Governors of Bethlehem, expressed his concurrence in their views, and a hope that the Governors would carefully consider the subject of the unfitness of the present site and buildings of Bethlehem for the purposes of the institution, and not allow the opportunity now offered of removing the hospital to a suitable locality to escape. The Clerk to the Governors having read a number of documents describing the negotiations which had taken place between the authorities of the two hospitals, Mr. Johnson, the treasurer, read the draught of a letter he had prepared in answer to the Home Secretary, appending to it letters from Drs. Hood and Lawrence in opposition to that of the Commissioners, and in defence of the present site and buildings for the treatment of the insane. The Right Hon. R. C. Hamilton thought it would be undesirable to come at once to a decision on a matter so important, and moved as an amendment that the treasurer's letter, with the accompanying ones, be printed and circulated among the members, and an early day be appointed for their consideration. Alderman Phillips said that the question was simply one of money, and that the Governors of Bethlehem were disposed to fall in with the proposal of those of St. Thomas if the latter would pay the price that was asked. Alderman Sidney said that the Governors of Bethlehem had now an opportunity, such as might never occur again, of doing a great public service in the interest both of the sick poor and the insane of the metropolis, and he counselled them to avail themselves of it while the chance remained. After some remarks by Mr. Harwood, Sir Walter Stirling, and the Chairman, Mr. Hamilton's amendment was put and negatived. A long discussion ensued, in which Mr. A. Hankey, Dr. Webster, Mr. Thompson Hankey, M.P.; Mr. Williams, M.P.; Mr. Briscoe, M.P.; Mr. H. Pownall, Mr. Beck, and Alderman Waterlow took part, and after two further amendments had been negatived, the consideration of the reply to the Home Secretary was adjourned to a future meeting, and it was resolved that the President, Treasurer, and five of the Governors of Bethlehem and St. Thomas's Hospital should meet in the meantime for a preliminary discussion.

ST. THOMAS'S HOSPITAL.—A General Court of the Governors of this hospital was held on Tuesday, when it was resolved on the motion of Mr. Tite, M.P., seconded by Alderman Finnis, to appoint a deputation, as suggested by the authorities of Bethlehem Hospital, to meet a similar deputation from their body, for the purpose of ascertaining whether it is probable that an arrangement can be made for obtaining the Bethlehem site on terms mutually advantageons. It was also resolved that the deputation should consist of the President, the Treasurer, Mr. Tite, M.P., Mr. Deputy Elliott, and Dr. Leeson. Previous to this meeting a deputation from the grand committee of the Hospital had had an interview with the Thames Embankment Committee of the Metropolitan Board of Works at their offices in Spring Gardens on the subject of a site for the new hospital. The deputation was introduced by Mr. Tite, M.P., who explained the anxiety of the committee to obtain as a site for the hospital a piece of ground on the Surrey side of Westminster Bridge, and immediately opposite the New Houses of Parliament, which is about to be reclaimed from the river, and may be rendered available by the proposed embankment of the south side of the Thames. The Board of Works Committee discussed the subject with the deputation in a kindly and accommodating spirit. The whole matter, they said, was then under the consideration of the Parliamentary Committee, but as the medical staff of the hospital was in favour of that particular site, they would do all in their power to give effect to the wishes of the deputation, and so endeavour to solve the difficult problem as to a suitable position for the reconstruction of this great metropolitan institution in the midst of a dense population. The site suggested would also commend itself to those who had regard to ventilation, by being open to the river on one side and having a great thoroughfare at the back leading from London Bridge, by way of the York Road, to Lambeth and Vauxhall.

LOSS OF ANOTHER CANADIAN STEAMER.—The Montreal Steam Company's mail steamer, Norwegian, 1800 tons, which left Liverpool for Montreal on the 5th inst., was lost on the night of the 14th inst. on St. Paul's Island, in the Gulf of St. Lawrence. The mails, passengers, and crew were saved. The Norwegian was sister ship of the ill-fated Anglo-Saxon, which was lost about two months since off Cape Race, and is the seventh steamer the company has lost since its formation.

ST. BOTOLPH, BISHOPSGATE.—The rectory of St. Botolph, Bishopsgate, vacant by the death of the Rev. Dr. Russell, has been conferred by the Bishop of London upon the Rev. William Rogers, M.A., incumbent of St. Thomas, Charterhouse, Chaplain in ordinary to the Queen, and Prebendary of St. Paul's. The living was in the first instance offered to the Rev. F. G. Blomfield, rector of St. Andrew Undershaft, and son of the late Bishop of London. It is proposed to make such alterations in the benefice as will reduce the rector's income in future to 1200*l*. per annum.

DRESSMAKING AND DEATH.—An inquest was held at the St. James's Workhouse a few days since on Mary Anne Walkley, aged 20, in the employ of Madame Elise, Court dressmaker, 170, Regent Street. It appeared from the evidence that deceased, who was of a delicate constitution, and who worked in a room with nearly 30 others, was taken ill on Friday week, and on the following Sunday became much worse, when medical assistance was called in. She afterwards appeared to fall asleep, and her bedfellow, Miss Santry, who was examined as a witness, lay down by her side, but on awakening in the morning was shocked to find her dead. A *post mortem* examination showed that death resulted from apoplexy, the surgeon stating in answer to the coroner, that long hours of work in a crowded apartment, and sleeping in a close, badly ventilated room, would have a great tendency to produce the symptoms which he described. Another surgeon confirmed this evidence and described the bed-rooms, which were divided by partitions into small compartments, as being just large enough to contain two beds placed end to end. With two young women in each bed, he considered they were decidedly unfit places to sleep in, and more particularly in the state of health in which deceased had been. A third medical man, who had attended deceased during her last illness, expressed his opinion that the rooms in which she died were overcrowded and badly ventilated. The jury returned a verdict that deceased died of apoplexy; but there was too much reason to fear that her death was greatly accelerated by working long hours in a crowded workroom, and sleeping in a close badly ventilated bed-room. On Thursday the case was brought before the St. James's Vestry. Dr. Lankester, who had visited the premises, reported that the work and bed rooms were scrupulously clean and otherwise well managed, but that the ventilation was defective. It was referred to a Committee to consider how far it would be desirable to inspect houses where more than a certain number of persons work or sleep.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that in the week that ended Saturday, June 20, the number of deaths registered in London were 1191. The average number in the corresponding week of the 10 years 1853-62, corrected for increase of population, was 1143. The present return is therefore 48 above the average. Scarlatina was fatal in 97 cases, and smallpox in 64. During the week the births of 938 boys and 941 girls, in all 1879 children, were registered in London. In the 10 corresponding weeks of the years 1853–62 the average number was 1864.

## Provincial.

CLAYDON.—Brother Ignatius, who has been inhibited from preaching in this parish by the Bishop of Norwich, has circulated among the parishioners the following explanation of the English Order of S. Benedict, to which he belongs:—"It is a newly formed society, strictly Church of England, formed because many members of the English Church feel called to devote themselves entirely to God's service, though not desirous of the yoke of the priesthood. 2. Because many have left the English Church for want of a monastic society in which to lead a regular life. 3. Because the Church of England did not at the *Reformation* abolish religious orders. 4. Because the dissolution was a violent proceeding of Henry's, unjust, wicked, and never approved by the authority of our Reformed Church. 5. Because the rule of S. Benedict is entirely scriptural, and in harmony with the doctrines of the Reformed English Church. 6. Because as long as the English Church is without such institutions she is in this respect unlike the universal primitive church. 7. Because she desires to afford her sons the regular means of acting out those counsels of perfection enjoined by Christ to those who are able to receive them—celibacy, voluntary poverty, perfect obedience. 8. Because the English Church, in her prayer book and canons, refers us to the Catholic bishops and ancient fathers as our best guides to a true understanding of Scripture, and they unanimously, and even in councils, authorised monastic orders. 9. Because such institutions are required now-a-days more than ever—first, to insure the services of

literature in the cause of the Church against the attacks of heresy and infidelity (this work the secular clergy have no time for, their numbers being sadly insufficient for the wants of our increasing population); secondly, to supply in a well-organised 'regular,' colleges of home missionary helpers, there being an alarming dearth of labourers in the Lord's vineyard, and which dearth is fast increasing with the population; thirdly, to supply places of retreat for the overworked and poor among the parochial clergy, whose place during their period of rest might be supplied by a member of the monastic order."

Loughborough.—On Wednesday, before a bench of magistrates in this town, the Marquis of Hastings was charged with causing a cock to be cruelly tortured, and Edward Platts, Joseph Farebrother, and James Dumelba, his gamekeepers, were charged with aiding and abetting in the offence. Mr. Sleigh conducted the prosecution on behalf of the Society for the Prevention of Cruelty to Animals. The principal constable of the society said that he had gone down to make inquiries regarding this charge. On the 4th of June, accompanied by an officer of the Society, he called on Platts, who told him that the Marquis of Hastings had had some good cock-fighting at Donnington Hall on a Sunday three weeks before. He said they fought six pairs of cocks, that there were six cocks killed, that they had all steel spurs on, and that the Marquis was one of the persons who put the cocks together to fight. The other persons accused were present. The Secretary of the Society and an officer in their employ stated that they had called on Lord Hastings on the 8th of June. They stated who they were, and told his Lordship that he and other gentlemen were accused of having been present at a cock-fight at Donnington Hall, and he admitted that the fight had taken place. Mr. Merewether, who appeared for the Marquis said, after the admission made to the secretary, he thought he could not say that there had been no cock-fighting, but his Lordship denied altogether that there had been any cruelty used in the sense of the words of the information. As far as Lord Hastings and the three keepers were concerned, he should relieve the Bench from any further trouble. A conviction against them was then entered. The magistrates ordered the Marquis to pay the full penalty of 5*l.*, and the three gamekeepers to pay a fine of 2*l.* each. The secretary stated that it was not the custom of the society to take the moieties of penalties allowed by the Act to complainants, and in this case he would be glad to hand such moieties, amounting to 5*l.* 10*s.*, to the Loughborough Dispensary.

Slough.—The new building of the British Orphan Asylum at this place was inaugurated on Wednesday by the Prince and Princess of Wales. In the course of the proceedings Mr. Edward Mackenzie, of St. Paul's Wharf, placed in the hands of the Prince the munificent sum of 12,000*l.* to pay the cost of the building, which is thus, in fact, given free for ever to the institution.

Manchester. — At the weekly meeting of the Central Relief Committee on Monday, the Hon. Secretary reported that the amount received last week was 2101*l.*; and the balance in the bank was 355.282*l.* Mr. Commissioner Farnall's report stated that there was a decrease of 1556 in the number of persons receiving relief in the 27 unions as compared with the previous week, and that since the 6th of December there had been a total decrease of 106,587. Grants of nearly 12,000*l.* were voted to various places.

## Scotland.

Murder in Dundee.—On Sunday morning, about 4 o'clock, the residents in Gibbs' Land, Dundee, were alarmed by William S. Grant, a clerk in the employment of Mr. Stephen, shipbuilder, knocking at their doors and informing them that his wife was dead in the house. On proceeding with him she was found lying dead on her back across the threshold of the bedroom door, and on a *post-mortem* examination it was found that she had been murdered, every rib in her body being broken, and her lungs and bowels much contused. It is said that she had been a confirmed drunkard for some years, and that her husband had been rendered miserable by her. On Saturday evening Grant himself arrived home in a state of intoxication, and about seven o'clock the neighbours heard a loud noise in the house, and it is supposed that at that time the murder was committed. The husband, who has hitherto borne a very respectable character, has been apprehended on the charge of Wilful Murder.

## Law.

Judicial Committee of Privy Council.—*Rev. W. Long v. The Bishop of Cape Town.*—This was an appeal from the Supreme Court of the Cape of Good Hope, and was regarded with much interest in the Church, inasmuch as it was known that the Bishop of Cape Town, who is Metropolitan of the Church in Africa, has been waiting for a delivery of this judgment in order that it may afford him a guide as to the proceedings he shall take in reference to Bishop Colenso, who is one of his suffragans. The Rev. W. Long, the appellant, was the incumbent of St. Peter's Church, Mowbray. In the year 1856 he disputed the right of the respondent, the Bishop of Cape Town, to hold a diocesan synod of the clergy and representatives of the laity of the colony, and persisting in his refusal to obey the laws adopted by that synod, he was suspended and ultimately deprived of his living. He appealed without success to the Supreme Court of the colony, and now appealed to this Committee. Lord Kingsdown in giving judgment said that the diocesan synod and its acts were illegal, and that the bishop had decided wrongly. They therefore annulled the sentence, and condemned the bishop in the costs.

Court of Exchequer.—*The Alexandra.*—The case which has been so long pending respecting the seizure of the steamer Alexandra was begun in the Court of Exchequer on Monday. It will be remembered that the vessel was seized by the Custom-house authorities at Liverpool on the plea that she was built and fitted out for the Confederate States, contrary to the provisions of the Foreign Enlistment Act. The prosecution, which was instituted by the Government, was conducted by the Attorney-General in person, and many witnesses were brought up from Liverpool in support of the case, including some of the spies engaged by the Federal authorities, and a person who had been employed up to a recent period by the Confederates' agents in Liverpool. The case for the prosecution closed on Tuesday. Sir Hugh Cairns on Wednesday addressed the jury for the defence, but called no witnesses, contending that no reliance whatever could be placed on the evidence of the principal witness for the Crown, who had commenced his career in the Confederate Navy and was now a spy of the Federal Government. The Lord Chief Baron in summing up, said that the Foreign Enlistment Act was intended to prevent the enlistment or engagement of His Majesty's subjects to serve in Foreign Armies, and to prevent the fitting out and equipping in His Majesty's dominions vessels for warlike purpose without His Majesty's license. The question in this case was whether the Alexandra was merely in course of building to be delivered in pursuance of a contract that was perfectly lawful, or whether there was any intention, in the port of Liverpool, or any other English port, that the vessel should be fitted out, equipped, furnished, and armed for purposes of aggression. Now, surely, if Birmingham, or any other town, may supply any quantity of munitions of war of various kinds for the destruction of life, why object to ships? Why should ships alone be in themselves contraband? The jury were lawyers enough to know that a man may make a vessel and offer it for sale. If a man may build a vessel for the purpose of offering it for sale to either of the belligerent parties, may he not execute an order for it? That appears to be a matter of course. The statute is not made to provide means of protection for belligerent Powers, otherwise it would have said you shall not sell powder or guns, and you shall not sell arms, and if it had done so all Birmingham would have been in arms against it. The object of the statute was this—that we should not have our ports in this country made the ground of hostile movements between the vessels of two belligerent Powers, which might be fitted out, furnished, and armed in those ports. The Alexandra was clearly nothing more than in the course of building. It appeared that, according to "Webster's Dictionary," equipping is furnishing with arms, and furnishing is given in other dictionaries as the same thing as equipping. It appeared to him that if true that the Alabama sailed away from Liverpool without any arms at all as a mere ship in ballast, and that her armament was put on board at Terceira, which is not in her Majesty's dominions, then the Foreign Enlistment Act was not violated at all. After reading some of the evidence, his Lordship said if the jury thought that the object was to furnish, fit out, equip and arm that vessel at Liverpool, that was a different matter; but if they thought the object really was to build a ship in obedience to an order in compliance with a contract, leaving those who bought it to make what use they thought fit of it, then it appeared to him that the Foreign Enlistment Act had not been broken. The jury immediately returned a verdict for the defendants. The Attorney-General tendered a Bill of exceptions to the Chief Baron's ruling.

## Obituary.

Admiral the Hon. Sir George Elliot, K.C.B., died on Wednesday at his residence at Prince's Terrace, Knightsbridge, in his 79th year. He was the second son of the 12th Earl of Minto, by the eldest daughter of Sir George Amyand, and was consequently brother of the late, and uncle of the present, Earl of Minto. He was born in 1784, and married in 1810, the youngest daughter of Mr. James Ness, of Osgodrie, Yorkshire, by whom, who died in 1848, he had a numerous family, including Admiral George Elliot, the Countess of Northesk, Lady W. Compton, and Mrs Drummond, wife of the Hon. Capt. Drummond, one of the Lords of the Admiralty. The late Admiral entered the navy in 1794, in the St. George, flag-ship of Sir Hyde Parker, and was present in Lord Hotham's actions in 1795, and was on board the Goliah when that ship led the British fleet into action, on the 1st of August, 1798. For some time he was on board the San Josef and the St. George, flagships of Lord Nelson and Sir Charles M. Pole, in the latter of which, under Captain Masterman Hardy, he was present at the action off Copenhagen in 1801. In 1808 he captured La Jena, French corvette, of 18 guns and 150 men, and subsequently, when in command of the Aurora, in an action of three hours, he captured three Spanish gunboats near Tarifa. At the reduction of Java he was recommended to the notice of the Admiralty for the ability he displayed in superintending the landing of the troops. After chastising the pirates of Sambas, in Borneo, and assisting Col. Macgregor in reinstating the Sultan of Palambang, he returned home, and was for some time unemployed, his next appointment being, in 1827, to the Victory guardship at Portsmouth. In 1837, the year he obtained his flag rank, he was appointed Commander-in-Chief at the Cape of Good Hope, and in 1840 assumed the command of the fleet in China, where, in the additional capacity of joint plenipotentiary with Captain Charles Elliot, R.N., he superintended the earlier operations of the war from July to November. He returned home in 1841 in ill health, from the combined effects of the climate and over exertion in the discharge of the duties attached to his command. He filled the office of First Secretary to the Admiralty from December, 1834, until April, 1835, and was subsequently, until his appointment to the command at the Cape, a Junior Lord of the Admiralty. In 1830 he was appointed a naval aide-de camp to King William IV.; in 1831 he was nominated a Commander of the Bath, and made a Knight Commander of the Order in November last.

Sir Joshua Jebb, K.C.B., died suddenly yesterday morning at Charing Cross, under very melancholy circumstances. It appears that he was proceeding with a friend from his residence, The Elms, Parson's Green, Fulham, towards his offices in Parliament Street. They were both seated on the outside of one of the Fulham omnibuses, and when at about 11 o'clock, the vehicle had reached the Haymarket, Sir Joshua complained of being unwell. It was considered advisable to continue the journey to Charing Cross, and indeed, he expressed a desire to do so, but on approaching the Strand he fell backwards and became insensible. He was immediately lifted down and conducted to the shop of Mr. Starkie, the chemist, at the corner of Northumberland Street, where in a very few minutes he ceased to breathe. Summonses were immediately sent to the relatives, and the body still lies at Mr. Starkie's, until arrangements can be made for the coroner's inquest. Sir Joshua Jebb was born in 1793, and was therefore 70 years of age; his present wife is the daughter of the second Earl of Chichester. He had seen much service in the Royal Engineers, in Canada, America, and the West Indies, and became a Major in 1860. Latterly he has been more prominently known by his labours and writings as surveyor general of convict prisons.

## Miscellaneous.

The Source of the Nile. — On Monday evening an extra meeting of the Royal Geographical Society was held at Burlington House, to welcome back to England Captains Speke and Grant, and to hear from them a short account of their discovery of the source of the Nile. An hour before the time of meeting the large room was crammed in every part, and large numbers were unable to obtain admission. In opening the meeting, Sir Roderick Murchison stated that the Queen and the Prince of Wales had expressed the greatest possible interest in this marvellous achievement of human enterprise. The King of Italy had sent two gold medals specially struck in honour of the occasion for presentation to Captains Speke and Grant, accompanied by a most flattering letter, which he would read to them. The French Geographical Society having given Captain Speke their gold medal for his discoveries in the Lake Nyanza district in 1858, Captain Speke had shown his sense of the honour done to him by naming the principal channel leading from the lake after the Emperor Napoleon. He then introduced Captain Speke, who would, he said, on behalf of himself and his companion, Captain Grant, read to them a paper on the "Nile and its Tributaries." On coming forward Captain Speke met with a most flattering reception, the whole meeting rising and cheering loudly. When silence was at last restored, Captain Speke said that before reading his paper he begged to introduce to them a little boy belonging to one of the most intelligent of the Equatorial tribes. It was through the friendliness and fidelity of a man of this tribe that he was able to complete his great work, and he thought it only just that the Government should educate some of the most intellectual of this race and send them back to their native country as consuls, to assist in spreading our commerce and civilization throughout Eastern Africa. The little fellow, a fine boy of about 14, is an excellent specimen of the intellectual black type, his nose being as straight and his forehead as high as those of an European, although his woolly head and dark skin were thoroughly characteristic of his African blood. He seemed in no way disconcerted at his reception, and was as cool and collected as if he had attended the meetings of the society all his life. Captain Grant had a similar companion with him. Captain Speke commenced his paper, "The Nile and its Tributaries Compared," by describing the Lake Nyanza, the principal head of the Nile. This lake is situated in lat. 3 deg. S., and from that point to its debouchure, in the Mediterranean, in lat. 31 deg. N., the Nile traverses a distance of over 3000 geographical miles, or nearly one-tenth of the circumference of the earth. When he discovered the Nyanza Lake in 1858, he found it to be a large sheet of sweet water, lying about 3500 feet above the level of the sea, and he at once felt certain that it could only be the source of some vast river such as the Nile. The natives had traditions, too, of its great extent, and certain Arab merchants of Zanzibar, who penetrated those regions in search of ivory, assured him that Nyanza was the source of some great river. Other traditions heard from the natives confirmed him in this opinion; and he believes he would have settled the question of the source of the Nile in 1859, by travelling to Uganda with an Indian merchant, had not the chief of the expedition fallen ill. On his return to England he found Sir Roderick Murchison deeply imbued with the necessity of at once completing the work he had left undone. He himself could not rest satisfied until the world had accepted his views, now happily confirmed by actual inspection and observation. On returning with his brave companion, Captain Grant, to Unyanyembe, 5 deg. south of the lake, in 1861, he hit upon a new route, which he supposed, from the accounts of the ivory merchants, would lead to a creek in the western flank of the lake; but owing to the confusion existing in the language of the country with regard to the terms river and lake, it turned out to be a new lake, the Luero-lo-Urigi, which once contained large quantities of water, but is now fast drying up. It is to the west and north of Karagwe that the great lake receives its largest supply of terrestrial water, through the medium of the Kitangule river, which drains off the Luero-lo-Urigi and many minor lakes. These lakes are all mere puddles compared to the Nyanza; but the Kitangule is a noble river, sunk low in the earth, like a huge canal, and measuring 80 yards across. The question now arises—what forms these lakes without number? The Mountains of the Moon, from whence they derive their water, are in the middle of the rainy zone, where he observed in 1862 that no less than 233 days out of the year were more or less wet days. The first place from which he obtained a view of Lake Nyanza during the second expedition was from the town of Mashonde, in the Uddu portion of the country of Uganda, on the western side of the lake. Pursuing his way northward along the shore to the valley of Katonga, which is situated on the Equator, the land above the lake becomes very beautiful, being composed of low sandstone hills deeply scored and seamed by the

heavy rains, covered with gigantic grass of unsurpassed verdure, and by dells of trees as tall and straight as the blue gums of Australia. Travelling, however, is most irksome in this part of the country, for, owing to the gradual subsidence of all the streams, the moorlands surrounding them are mere networks of rushes covering unfathomable soft bogs. Crossing the Equator he reached the Mworango, a stream of moderate size, and said to flow out of the lake. It runs north, and joins the Nile in the kingdom of Unyoro, when its name is changed to Kafu. Further on, the Luajerri follows its example, and still further on, at the centre of the northern coast of the lake, issues the parent stream of the Nile, falling over rocks of an igneous character, and forming falls 12 ft. high, which he had christened by the name of the "Ripon Falls," in honour of the President of the Geographical Society at the time of the starting of the expedition. The escape of the Nyanza's waters, 20 miles north of the Equator, was the only outlet examined, owing to the barbarous restrictions placed on travellers by the king of the country. They, however, saw the junction of the Nile with the Kafu and Asua rivers, and crossed the Luajerri half-way between its escape from the lake and its junction with the parent stream. Proceeding down the Nile from the Ripon Falls, they first passed through a row of sandstone hills, after which the river rushes down due north with the beauty of a mountain torrent, running off at last into long flats, more like a lake than a river. In Unyoro it is increased by the contributions of the Kafu and Luajerri, and continues navigable as far as the Karuma Falls, where it rushes on with boisterous liveliness. They could not continue their passage beyond this point, owing to a war that was raging in the country. They next met the old river in the Madi country, where it still bears the unmistakable character of the Nile—long flats and long rapids. Here it is that another great feeder from the Nyanza lake, the Asua river, joins it on the eastern side. On the other side a long flat extends far into the country—as far, Captain Speke believes, as the little Luta Nzigi lake. With the rest of the Nile we ought to be well acquainted, but little is really known about it, owing to the fact of no one having yet taken the trouble to place Nilometers at proper spots. Proceeding onwards, the next great affluent is the Bahr-el-Ghazal, which joins the Nile with hardly any visible stream, having more the appearance of a lake than of a river. The second is the Geraffee river, which may be said to be only one-third of the Nile in size at its point of junction. Its source has yet to be discovered. Its character suggests the possibility of its coming from Lake Nyanza. The third affluent is the Southern Sobat river, also full and navigable. The Northern Sobat they passed without knowing it. Captain Speke then went on to describe some other tributaries of the Nile, concluding by giving an account of his meeting with Mr. Baker, who had nobly come up the Nile to meet him, with no less than three ladies. Mr. Baker and his party intended following out the stream supposed to lead to the little Luta Nzigi lake to its source. They would be pleased to hear that Mr. Petherick was in perfect health and excellent spirits, and trading energetically when last he heard of him. Captain Grant, who met with a similar round of cheering to that given to his companion, then addressed the meeting. He said that, nothing could give him greater pleasure than to bear witness before the eyes of the world to the energy of his friend, Captain Speke, during the whole expedition. Not one man in 10,000 who attempted such a journey would have come home victorious, and he felt proud at having had the honour and privilege of serving under such a chief. They had collected specimens of natural history, and had made many sketches. They were neither of them artists, so the sketches must not be judged too critically. He would, however, vouch for their accuracy. Sir Roderick then called on the meeting to give three cheers for the heroes of the evening, which was responded to by at least a dozen ringing rounds.—On Tuesday evening Captain Speke delivered another lecture at the Royal Institution in the presence of the Prince of Wales, the Comte de Paris and several other members of the ex-Royal family of France. This lecture was devoted chiefly to an account of the Wahuma and some of the other tribes inhabiting the shores of Lake Nyanza. He said that judging from the physical characteristics of those tribes, he considered them to be descended from the ancient Abyssinians. This idea was in a great measure confirmed by the traditions of the people, who, when questioned about their origin, always replied that they came from the north. The Abyssinians sprang from the union between the children of Shem and Ham, the negro blood being modified and toned down by the Shemitic admixture. He then went on to describe how the aboriginal inhabitants of Abyssinia, who were essentially an agricultural people, had been conquered and enslaved by nomad races, who lived on the produce of their flocks and herds. These ancient Abyssinians came down by degrees from the north, carrying all before them, and founding the great kingdom of Kittara, which was now split up into several minor kingdoms through continual internal wars. A singular tradition of the double origin of these people was repeated to him by one of the chiefs, who gravely told him that at one time the inhabitants of Kittara were half black and half white, one side of their heads having curly hair, the other straight. The largest portion of Kittara consists of the kingdom Unyoro. He gave a long and interesting account of the history of this people, tracing their Kings down to the present monarch. On the most fertile part of the shores of Lake Nyanza is the kingdom of Uganda, which is the most interesting of all the nations of equatorial Africa, being better cultivated and better governed than any other. The customs of Uganda are many of them most irregular. The Princes having large harems of women, their progeny is, of course, most numerous. When a King dies all his sons are burnt except his successor and two others, who are kept in case of accident until the coronation, after which one is pensioned off and the other banished to Unyoro. Untidiness in dress is a capital crime, unless the offender possesses sufficient riches to pay an enormous fine. Ingratitude, or even neglecting to thank a person for a benefit conferred, is punishable. The Court customs are also curious. No one is allowed to stand before the King, and to touch him or look at one of his women is death. They believe implicitly in magic and the evil eye, and the Kings are always attended by a certain number of women crowned with dead lizards, and bearing bowls of plantain wine in their hands. The King of Karagwe is the most civilised of all these native chiefs; before entering Uganda Captain Speke spent many days with him. In manners, civility, and enlightenment he might be compared with many Europeans. He owes much of this to the influence of an Indian merchant named Moussa Mzouri, who helped him by his advice to conquer his brother, with whom he was at war. He was much entertained with many of the King's questions, as to what became of the old suns and why the moon made faces at the earth. He also wanted to know whether England, of which he had heard from the ivory traders, could blow up the whole of Africa with gunpowder. The moment the King heard that he was desirous of going north he sent messengers to the King of Uganda to prepare the way for him. The King was most anxious to afford him every possible information about the country. While at the palace the King took him yachting on Murchison Creek for several days, and he frequently went shooting with the Princes of the Court, who, when he had shot anything, would rush up to and shake him heartily by the hand—a custom little known in that part of Africa. Before leaving they heard from the King Kamrasi that a body of white men had been seen to the north, who had killed numbers of the natives with a wonderful gun. This made him most anxious to push on, as he supposed the party of white men to be that of Mr. Petherick, who had appointed to meet him. He then started for Uganda, with a numerous retinue. Before leaving King Rumanika's palace at Karagwe he had noticed on several occasions three or four lofty mountain peaks, more than 10,000 feet high. The King of Uganda sent an armed body of men to meet him, who conducted him through the kingdom. Everywhere they went the people left their huts, leaving their provisions behind them. The fertility of this part is very great, and the scenery on the shores of the lake most beautiful. On arriving at the King of Uganda's capital he found it necessary to wrap up all his presents in chintz before sending them to the King, as nothing bare or naked could be looked at by his Majesty. He found the palace to consist of hundreds of conical tents, spread over the spur of a hill. Thousands of courtiers and attendants were to be seen engaged in every conceivable occupation, from playing on musical instruments to feeding the Royal chickens. On sending word to the King that he wished for an interview, that monarch sent back a sharp message that he was to sit on the ground and wait until he was at liberty. But he sent back word that he was a Prince, and not accustomed either to sit on the ground or to wait. A courtier followed him, prophesying all kinds of evil from his presumption. He however terrified the whole Court, King and all, into submission by merely opening his umbrella, which they took to be a deadly weapon, killing by magic. A chair was consequently allowed him, and he was received by the King surrounded by the Court, and having by his side the women crowned with dead lizards to ward off the effects of the evil eye. The King stared at him for about an hour, at the end of which time his Majesty said, "Have you seen me?" and retired to another tent, where the same process of staring was followed by a similar inquiry. The King went into a third tent, and Captain Speke followed. This time however, the monarch deigned to examine Captain Speke's Whitworth rifle. Captain Speke told him that it was the custom of the inhabitants of the country of which he was a prince to make presents of everything that they possessed to any King into whose country they entered. He accordingly left him several rifles and watches, and a quantity of gunpowder. He endeavoured to engage his Majesty in conversation about Petherick's party, and the possibility of opening trade through the north. It was a long time, however, before he gained his confidence. On leaving the King presented him with numerous valuable presents. He concluded by describing two drawings of Lake Windermere and the Ripon Falls, the scenery of which is most picturesque. The Prince of Wales remained for some time after the end of the lecture, examining the numerous specimens of arms, photographs, and drawings on the table.

BIRTHS.—On the 19th inst, at 2, Rue St. Florentin, Paris, the wife of Sir J. F. Olliffe, M.D., of a daughter—19th inst, at 101, Eaton Square, the wife of Gerald Seymour-Fitzgerald, Esq., of a daughter—19th inst, at Little Coombe, Charlton, the wife of Lieutenant-Colonel Lynedoch Gardiner, Royal Artillery, of a daughter—20th inst, at Nynehead Court, the wife of W. A. Sanford, Esq., of a son.

MARRIAGES.—On the 18th inst, at Charlton, Wilts, Frances Henry Atherley, Esq., to the Lady Isabel Howard, eldest daughter of the Earl and Countess of Suffolk and Berkshire—23d inst, at Lea Church, Lincolnshire, Ernest Roland Wilberforce, second son of the Lord Bishop of Oxford, to Frances Mary, third daughter of Sir C. H. J. Anderson, Bart, of Lea.—18th inst, at St. James's, Major G. W. Stacpoole, of Eden Vale, Ennis, to the Lady Rossmore—25th inst, at St. George's, Hanover Square, Charles Du Cane, Esq., M.P., to Georgiana Susan, youngest daughter of Lord Lyndhurst—25th inst, at St. Mary's, Chelsea, Charles Cavendish, Esq., son of the Hon. General Cavendish, to Miss Cockburn, daughter of the Lord Chief Justice of England—25th inst, at St. George's, Hanover Square, Westby Moore, Esq., to Miss Fortescue, daughter of the Hon. G. M. Fortescue - 23d inst, at St. Peter's, Pimlico, Captain Francis Lyon, Royal Horse Artillery, to Flora, youngest daughter of the late Hon. Arthur Annesley—23d inst, at St. James's, Piccadilly, James Robert Walker, Esq., M.P. for Beverley, eldest son of James Walker, Esq., of Sand Hutton, Yorkshire, to Louisa Marlborough Heron, third daughter of Sir John Heron Maxwell, Bart, of Springkell, Dumfriesshire—20th inst, at St. Mary's, Brompton, Alexander Gordon, youngest son of the Rev. Edward Breton, rector of Charmouth, Dorset, to Florence Barbara, youngest daughter of Sir Frederic Slade, Bart., Q.C., of Maunsell Grange, near Bridgewater, Somerset, and 46, Onslow Square, London—18th inst, at the Church of the Holy Trinity, in Brompton, Major Herbert Vaughan Mundell, late of H.M.'s 96th Regt., to Mary Jane, only daughter of John Walter Pugh, Esq., of Berkeley Square, London.

DEATHS.—On the 18th inst, James, youngest son of the Right Hon. James Stuart-Wortley and Mrs. Stuart-Wortley, aged 3 years and 10 months—15th inst, at Baden-Baden, at the house of her sister, Countess Blücher von Wahlstatt, Justina, third daughter of the late Right Hon Sir Robert Dallas, Lord Chief Justice of the Court of Common Pleas—22d inst, at 21, Arlington Street, Lucretia, wife of Joshua Bates, Esq., and mother of Madame Van de Weyer, wife of the Belgian Minister, aged 76—17th inst, at Billericay, Denzil Ede, Esq., Lieutenant R.M., and J.P. for the county of Essex, aged 82—18th inst, at Bath, Janet Phillips, the wife of Major Moneypenny, West Kent Militia, and of Maytham Hall, Rolvenden, Kent—9th inst, at Algiers, John Bell, Esq., H.M.'s Consul-General in Algeria—17th inst, at Brighton, the Rev. Owen Marden, M.A., rector of Great Parndon, Essex, aged 33—23d inst, at the Rectory of St. Paul's, Covent Garden, the Rev. Henry Hutton, aged 54.

## Markets.

### COVENT GARDEN, June 27.

Vegetables of all kinds still continue abundant. Peaches and Nectarines are more plentiful, and of Grapes and Pine Apples the supply is sufficient for the demand. Strawberries are becoming plentiful, and fetch from 6d. to 2s. per lb. Cherries of foreign growth, of which there are large arrivals, are fetching from 5s. to 6s. 6d. per basket, weighing about 24 lbs. each. Of Melons, both English and foreign, there is a good supply, and Oranges are also plentiful. New Potatoes realise from 8s. to 11s per cwt. Cut flowers chiefly consist of Orchids, Pelargoniums, Azaleas, Violets, Stocks, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 7s | Lemons, per 100, 9s to 12s |
| Grapes, per lb., 4s to 8s | Oranges, per box, 30s to 40s |
| Strawberries, p. lb., 6d to 2s | — per 100, 5s to 10s |
| Apples, per doz., 9d to 1s 6d | Nuts, small, per bushel, 14s to 18s |
| Figs, per doz., 6s to 8s | Almonds, do., 18s |
| Peaches, per doz., 15s to 30s | Walnuts, do., 10s to 16s |
| Nectarines, do., 8s to 18s | |
| Melons, each, 3s to 7s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Green Peas, per qt., 1s to 1s 6d | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | French Beans, per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 99s | Asparagus, per 100, 2s to 5s |
| " Flukes, do., 100s to 120s | Shallots (new), p. bunch, 6d |
| " Rocks, do., 60s to 80s | Rhubarb, p. bundle, 2d to 4d |
| " Cups, do., 75s to 85s | Garlic (new), per bunch, 6d |
| Turnips, p. bunch, 9d to 1s 3d | Lettuces, each, 1d to 2d |
| Carrots, do., 1s to 1s 9d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun. 1s 6d to 4s |
| Cucumbers, each, 1s to 1s 6d | Mushrooms, p. pott., 1s to 1s 3d |
| Beet, per doz., 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch, 3d |

### NEWGATE.—June 26.

| | | |
|---|---|---|
| Best Fresh Butter | .. .. | 12s. per dozen lbs. |
| Second do. do. | .. .. | 10s. " |

Pork, 4s 0d. to 4s 4d. per 8 lbs.

### HOPS.—Borough Market, Friday, June 26.

Messrs. Pattenden & Smith report the trade in a quiet state, the only demand being to supply the immediate wants of consumers. The plantation accounts are not altogether favourable; fly and lice increase, and the bine grows rapidly. Mould is also spreading in parts of Mid Kent. Prices remain without alteration.

### METROPOLITAN CATTLE MARKET.

Monday, June 22.

The number of Beasts is considerably smaller than on Monday last. The demand is good, and in some instances our top quotations are exceeded. The supply of Sheep is about the same as of late; the demand is rather larger, and prices on the average are better. Choice Lambs are in request at rather higher prices. Trade is very dull for Calves at reduced rates. From Germany and Holland there are 680 Beasts, 4670 Sheep, and 350 Calves; from France 34 Calves; from Scotland, 106 Beasts; from Ireland, 60; from Norfolk and Suffolk, 2600; and 500 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 2 | Best Long-wools. .. | — .. |
| Best Short-horns | 4 8 — 5 0 | Do. Shorn .. | 4 6 — 4 10 |
| 2d quality Beasts | 3 8 — 4 4 | Ewes & 2d quality .. | — .. |
| Best Downs and Half-breds .. .. | — .. | Do. Shorn .. | 3 8 — 4 4 |
| Do. Shorn .. | 5 0 — 5 2 | Lambs .. .. | 5 8 — 6 8 |
| | | Calves .. .. | 3 0 — 4 8 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 4160; Sheep & Lambs, 25,490; Calves, 411; Pigs, 430.

Thursday, June 25.

We have a good supply of Beasts both as regards number and quality. The trade is not very active, yet prices on the

average are about the same as on Monday last. We have exactly the same number of Sheep and Lambs as on Thursday last. The demand is rather larger than on that day, and Monday's quotations are well maintained. Trade is exceedingly heavy for Calves. Prices are lower, and many remain unsold. From Germany and Holland there are 340 Beasts, 2760 Sheep, and 553 Calves; and from Spain, 37 Beasts. Milch Cows, 90.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 10 to 5 0 | Best Long-wools | .. — .. |
| Best Short-horns | 4 8 — 4 10 | Do. Shorn | 4 6 — 4 10 |
| 2d quality Beasts | 3 8 — 4 4 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds | .. .. — | Do. Shorn | 3 8 — 4 4 |
| Do. Shorn | 5 0 — 5 2 | Lambs | 5 8 — 6 8 |
| | | Calves | 3 0 — 4 4 |
| | | Pigs | 3 0 — 4 4 |

Beasts, 1170; Sheep & Lambs, 11,320; Calves, 760; Pigs, 220.

## COAL MARKET.—June 24.

Byass's Bebside West Hartley, 15s. 3d.; Lambert's West Hartley, 15s.; North Pelton Gas, 13s. 3d.; Tanfield Moor Butes, 13s.; Walker Primrose, 12s. 9d.; Wylam, 15s. 6d.; Walls End Gosforth, 14s. 6d.; Eden Main, 15s. 3d.; Walls End Braddylls Hetton, 15s. 6d.; Walls End Hetton, 17s.; Walls End Kepier Grange, 15s.; Walls End Russel's Hetton, 15s. 3d.; Walls End South Hetton, 17s.; Walls End Heugh Hall, 16s.; Walls End Kelloe, 15s. 9d.; Walls End South Kelloe, 16s.; Carway and Duffryn Malting, 19s. 6d.—101 ships at market.

## HAY.—Per Load of 36 Trusses.

### Smithfield, Thursday, June 25.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 80s | Clover, old | 90s to | 126s |
| Superior do. | 80 | 90 | New Clover | — | — |
| Inferior do. | 45 | 60 | Do. second cut | 80 | 115 |
| New do. | — | — | Straw | 26 | 34 |
| Rowen | — | — | | | |

Harvey & Easton.

### Cumberland Market, Thursday, June 25.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 94s to | 100s | Inferior Clover | 84s to | 98s |
| Inferior do. | 70 | 84 | New do. | 80 | 95 |
| New do. | 70 | 84 | Straw | 38 | 43 |
| Superior Clover | 110 | 120 | | | |

Joshua Baker.

### Whitechapel, Thursday, June 25.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime Clover | 115s to | 126s |
| Inferior do. | 75 | 86 | Inferior do. | 100 | 110 |
| Prime New Hay | — | — | Prime 2d cut | 115 | 123 |
| Inferior | — | — | Inferior do. | — | — |
| Straw | 28 | 32 | New 2d cut | — | — |

## BRITISH WOOLS.—London, June 26.

Our trade continues in a sound state, and a fair demand exists at full rates. But the manufacturers are unwilling to speculate at the present extreme rates demanded by the growers.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets | 1 8 to 1 9 | Leicest. Wethers | 1 7 to 1 8 |
| Half-bred ditto | 1 9 — 1 10 | Ditto Hoggs | 1 8 — 1 9 |
| Down Ewes | 1 7 — 1 8 | Combing Skins | 1 4 — .. |
| Kent Fleeces | 1 9 — .. | Flannel Wool | 1 4 — .. |
| | | Blanket ditto | .. — .. |

## MARK LANE.—Monday, June 22.

The supply of English Wheat to this morning's market was unusually small, and met a quick sale at an improvement of 1s. per qr. The market was only moderately attended, and foreign Wheat was taken but slowly and in retail at late rates. Barley and Peas were steady at last week's quotations. Beans were rather dearer. With a large supply of Oats, the trade was slow, and prices were fully 6d. per qr. cheaper. Flour was unaltered in value.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 46—56 | Red | 42—50 |
| — — fine selected runs .. ditto | 47—54 | Red | 42—52 |
| — — Talavera | 48—60 | | |
| — Norfolk | — | Red | — |
| — Foreign | 35—62 | | |
| Barley, grind. & dist., 23s to 30s .. Chev. | 34—38 | Malting | 31—34 |
| — Foreign grinding and distilling | 23—27 | Malting | 28—32 |
| Oats, Essex and Suffolk | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed | 21—23 |
| — Irish .... Potato | — | Feed | — |
| — Foreign .... Poland and Brew | 18—22 | Feed | 17—22 |
| Rye | 35—37 | Foreign | — |
| Rye-meal, Foreign | — | | |
| Beans, Mazagan .... 30s to 31s .. Tick | 31—32 | Harrow | 31—32 |
| — Pigeon .... 34s to 38s .. Winds. | — | Longpod | — |
| — Foreign .... Small | 40—46 | Egyptian | 32—34 |
| Peas, White, Essex and Kent .. Boilers | 35—37 | Suffolk | 37—40 |
| — Maple .... 42s to 48s .... Grey | 36—37 | Foreign | 30—33 |
| Maize .... White | — | Yellow | — |
| Flour, best marks delivered .. per sack | 42—47 | | |
| — 2d do .... ditto | 32—44 | Country | 32—44 |
| — Foreign .... per barrel | 20—28 | Per sack | 34—48 |

### Friday, June 26.

During the week the weather has been fine and hot, favourable to the growing crops, with the exception of Wednesday night, when we had a severe storm of thunder and lightning accompanied with heavy rain. The Wheat trade here, and in most of the country markets during the last few days has been dull, and rather lower; the demand for the Continent being for the present satisfied. Spring corn was firm with a good inquiry, excepting Oats, which were rather cheaper. Of American Flour some quantity has been taken for the Continent early in the week, but for consumption the trade was dull, and prices are unaltered. Since Friday last 20 vessels have been reported off the coast. The floating trade has been quieter this week. Wheat prices were not fully maintained. Spring Corn remained unaltered. Rye was in good demand and advancing; Linseed and Cottonseed rather lower. In Paris (June 25), holders asked late rates for Wheat and Flour; business remained limited. A few parcels of inferior Wheat have been sold at a small reduction. The present stock of Flour is estimated at 7750 cwt. The six marks for delivery this month are quoted equal to 40s. 6d. per 280 lbs. The arrivals of English grain and foreign Barley during the week have been small, of foreign Wheat and Oats good. This morning's market was very thinly attended, and scarcely any business was transacted in either English or foreign Wheat. Prices must be considered nominally the same as on Monday. Beans and Peas bring Monday's quotations. The Oat trade was dull, and to effect sales it was necessary to submit to a slight reduction.

### Arrivals this Week.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 660 qrs. | 20 qrs. | — qrs. | 710 sks. |
| Irish .... | — | — | — | — |
| Foreign .. | 12,050 ,, | 930 | 20,860 ,, | — ,, / 4310 brls |

Liverpool, June 23.—Wheat only in retail demand at a decline of 1d. since Friday. Flour slow sale, 6d. per barrel easier; a good deal offering ex quay. Indian Corn, sellers at 27s. 6d. for mixed American. Egyptian Beans offering at 30s. with a limited business. Oats and Oatmeal quiet at late rates.

Friday, June 26.—The market continues very dull, and prices are going down in all articles, as the quantity of stuff offering is considerably in excess of the demand.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| May 16.. | 46s 9d | 34s 5d | 21s 11d | 33s 7d | 38s 3d | 35s 8d |
| — 23 | 46 8 | 33 9 | 22 7 | 34 6 | 38 6 | 36 5 |
| — 30 | 46 5 | 33 8 | 22 8 | 40 2 | 38 11 | 35 9 |
| June 6 | 46 10 | 31 11 | 22 10 | 32 5 | 39 10 | 36 8 |
| — 13 | 46 11 | 32 4 | 22 10 | 34 10 | 39 8 | 36 11 |
| — 20 | 46 9 | 30 7 | 23 0 | 32 3 | 40 4 | 37 10 |
| Agg. Aver. | 46 9 | 32 10 | 22 8 | 34 8 | 39 3 | 36 6 |

### Fluctuations in the Last Six Weeks' Averages.

**Wanted, a Traveller.**—Youell & Co. require an experienced person to represent them in the above capacity. He will be required to have a thorough knowledge of Plants and their value, to be of steady and persevering habits, and be able to give satisfactory references.—Royal Nursery, Great Yarmouth.

### Steam applied to Agriculture.

**Wanted, a competent MAN,** conversant with Agricultural Machinery, to take charge of Steam Ploughing and Threshing Machinery, and manage them in work and repair. If character and capabilities are suitable, the engagement will be permanent.—Apply, stating age, qualifications, previous occupation, references, and wages expected, to C. Sherwood Newman, C. E., The Green, Sherborne, Dorset.

**Wanted, a WORKING HEAD GARDENER,** who will have the assistance of an Under Gardener, and partly of another Man. He must be sober, honest, industrious, and well acquainted with his profession. Wages 22s. a week, with the Lodge to live in; no perquisites. A married Man with one or two children will be preferred.—Address J. A. T., Messrs. Barton, Charing Cross, W.C.

**Wanted, a First-class GRAPE GROWER,** to take charge of Four large newly-constructed Vineries and a Cucumber House. None need apply unless accustomed to Grow for Market. No application will receive attention unless fully stating terms, age, &c., and needed references as to capability. The Foreman or Assistant where there are numerous Vineries under most recent culture preferred.—Address, James Walter, 17, Water Street, Liverpool.

**Wanted, as GARDENER,** an active industrious Man, who thoroughly understands Flower and Kitchen Gardens and Greenhouses. He would be required to take charge of two or three Cows and some Poultry. Two under men are kept.—Apply to the Porter, 4, Victoria Street, Westminster, between 11 and 4 o'clock.

**Wanted, as UNDER GARDENER,** an active steady Lad, willing to make himself useful. Must understand his business, and produce a good character for honesty, ability, &c.—J. L., Post Office, Godstone, Surrey.

**Wanted, a PERSON** to manage a Seed Shop; must have a good knowledge of Clover and Grass Seeds, and be a good Bookkeeper.—Apply by letter, stating antecedents and salary expected, addressed Seedsman, Post Office, Newcastle-upon-Tyne.

**Wanted, a SHOPMAN and CLERK** in the Seed Trade. Must thoroughly understand his business.—Address, stating age, if married, and where last employed, to Bridgewater Page, Seed Merchant, Southampton.

**Wanted, an ASSISTANT or UNDER KEEPER,** where two are kept.—A married Man with no family preferred, not under 25. One who has been used to Game and Catching Vermin, &c. An unexceptionable character required. Wages 12s. per week and a house.—Apply by letter to Mr. Stewart, Redenham, Andover.

**Wanted, a LAD** about 16, to take charge of Two Horses, and to Ride with a Lady. Must be active, clean, and fond of Horses.—G. B., Ibstone Rectory, Tetsworth.

### To Laundresses.

**Wanted, Two active competent WOMEN,** without incumbrance, to do the Washing of a Family, and reside in a Cottage fitted for the purpose, but not otherwise furnished. Good character indispensable.—Apply by letter to A. B. C., care of Mr. Balt, Stationer, 25, New Quebec Street, Portman Square, W.

## WANT PLACES.—Letters to be Post Paid.

**Experienced Gardeners** (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

**Gardener (Head),** age 27, single.—The Rev. T. Rooper can with confidence recommend his Gardener, who is competent to take charge of Flower and Kitchen Gardens and Forcing Houses. Three years' good character.—W. A., Wick Hill, Hove, Brighton, Sussex.

**Gardener (Head, Working).**—Age 35, married, two children, eleven and three years; understands his profession in all its branches; no objection to a little Land if required. Wife can attend to the Dairy in the Devonshire style; also Poultry if required.—W. S., Post Office, Walham Green, Fulham, London, S.W.



**Gardener (Head).**—Age 40; understands every branch of the profession. Four years' good character.—N. N., Arnold's, News Agent, Heath Street, Hampstead, N.W.

**Gardener (Head).**—Age 31, married; understands Pines, Grapes, Peaches, Melons, &c., and Flower and Kitchen Gardens. No single-handed place accepted.—J. F., 2, North Street, West Brompton, S.W.

**Gardener (Head).**—Age 29, married, Scotch; understands Gardening in all its branches. Good character.—C. D., Wade & Son's Library, High Street, Kensington, W.

**Gardener (Head).**—Married, one child; Wm. Wood & Son are desirous of recommending a first-rate Gardener; one thoroughly acquainted with his profession.—Wm. Wood & Son, Nursery, Maresfield, Uckfield, Sussex.

**Gardener (Head).**—Age 40, married, two children; thoroughly experienced in all the branches of his profession. Three years' good character.—J. W., Leslie Cottage, Laurel Grove, Penge, Surrey.

**Gardener (Head).**—Age 40, married; understands Stove, Greenhouse, Flower, Fruit, Kitchen Garden, &c. Has had 25 years' practice, five years' in his present situation.—M. A., Mr. Stedman's, Midhurst, Sussex.

**Gardener (Head).**—Married; will shortly be disengaged on account of a reduction in the garden, and will be glad to engage with any nobleman or gentleman, where a good practical Gardener is required.—W. H., Bedale Hall, Yorkshire.

**Gardener (Head or Single-handed).**—Age 24, single; has a practical knowledge of his profession. Three years' good character.—J. B., 17, Archer Mews, Westbourne Grove, London, W.

**Gardener.**—Age 25, single; understands Forcing, Kitchen and Flower Gardens. Has 18 months' good character.—T. S., Egham Nursery, Egham, Surrey.

**Gardener.**—Married, no incumbrance; understands his profession in all its branches. Good references can be given.—J. B., Post Office, Stony Stratford, Bucks.

**Gardener.**—Single; thoroughly understands Flower and Kitchen Garden, Early and Late Forcing. Two years' good character.—G. S., 19, Hampshire Grove, Camden Road Villas, N.W.

**Gardener.**—Age 34, married, with incumbrance; good experience in Flower and Kitchen Gardens, the Management of Cucumbers, Melons, and Greenhouses. Can Milk if required.—J. G., 2, Robert's Terrace, South Road, Forest Hill, Kent, S.E.

**Gardener,** age 30, single.—Mr. Wm. Paul can recommend to any gentleman a good practical Gardener; well versed in the general routine of Kitchen and Flower Gardening, and can have first-rate testimonials as to character and ability. Wages 24s. per week.—W. J., Paul's Nurseries, Waltham Cross, N.

**Gardener (Under),** where Gardening is carried on with spirit.—Age 23; good reference.—E. W., Post Office, Slough, Bucks.

**Gardener (Under).**—Age 20; thoroughly understands the Management of Orchard Houses, Vineries, Greenhouse, Conservatory, Flower and Kitchen Garden. Upwards of 4 years' good character.—W. F., The Ferns, Weybridge, Surrey.

**Gardener (Under) or PLANT GROWER,** or to assist in Propagating.—Age 22; six years in one of the principal Nurseries in England.—J. P. D., Mr. A. R. Clarke, Godalming, Surrey.

**Foreman,** in a nobleman's or gentleman's Garden.—Age 28; well experienced in Early and Late Forcing, and Flower and Kitchen Gardening. Unexceptionable character.—R. T., Mr. Southgate, 18, Duke's Terrace, Maldon Road, Kentish Town, N.W.

**Foreman,** in a gentleman's or nobleman's Garden.—Understands Forcing Fruits; first-class Grape Grower; Orchids, Stove and Greenhouse Plants, Lycopods, Kitchen and Flower Gardens. Has served in some of the leading Gardens in England, where the highest testimonials can be given.—C. Sonders, 41, Warwick Street, Ryde, Isle of Wight.

### To Nurserymen.

**Foreman and PROPAGATOR or MANAGER.**—Has had extensive practice in the Propagation and Cultivation of all kinds of Plants, Hard and Soft-wooded, Stove, &c. Well-up in Grafting Rhododendrons, Azaleas, Conifers, Roses, &c., and the general routine of business. Understands the value of Stock. Could Travel if required. Is a good Salesman and Correspondent. Good reference.—Y. Z., *Gardeners' Chronicle* Office, W.C.

**Propagator (Foreman).**—Thoroughly experienced in Propagation, Plant Growing, and all that concerns the Trade.—Horace, 24, Clift Street, New North Road, N.

**Propagator, or PROPAGATOR and FOREMAN.**—Age 24; understands the Propagation of Plants generally, and their Cultivation. Likewise Grafting, &c.—A. B., Mr. Williams, Victoria Nursery, Junction Road, Holloway, N.

**Propagator.**—A first-class MAN, of 25 years' experience, offers his services to the Trade in any of the undermentioned capacities, as Propagator and Foreman, and General Manager or Traveller. Not a pretender. Good reference.—A. Z., *Gardeners' Chronicle* Office, W.C.

### To Noblemen and Gentlemen.

**Land Steward.**—Has had the Management of a large Estate in one of the Midland Counties for many years: will be at liberty in July. He has had many years of practical experience in the Management of Land, Timber, Woods, Plantations, and the Superintendence of Repairs: also a large Farm, Stock, &c., and the general business of an Estate. Testimonials and the most unexceptionable references can be given.—C. M., Post Office, Canterbury.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, JULY* 4, 1863.

BRITISH ORPHAN ASYLUM, SLOUGH. "The Festival, held in celebration of the Opening of the New Buildings by their Royal Highnesses the Prince and Princess of Wales, must be regarded as one of the greatest successes of the season."—*Times*, June 25.

BENJAMIN EDGINGTON respectfully informs the Public that the whole of the Marquees, Tents, Awnings, Flags, &c., used on the above occasion, as well as those at All Souls' and Christ Church, Oxford, the previous week, are, with a quantity of others—affording any amount of accommodation for Royal and Noble Parties, and Public Entertainments—TO BE LET ON HIRE. A quantity of Second-hand Canvas suitable for Rick Cloths.

Address—BENJAMIN EDGINGTON, Marquee, Tent, Rick Cloth, and Flag Manufacturer, 2, Duke Street, London Bridge, S.E.
No other Establishment.

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CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE PROOF STRONG ROOM DOORS; CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
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CHANDELIERS in Bronze and Ormolu for DINING ROOM and LIBRARY, Candelabra, Moderator Lamps, in Bronze, Ormolu, China, and Glass. Statuettes in Parian, Vases and other Ornaments.
OSLER, 45, Oxford Street, London, W.

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OSLER'S GLASS CHANDELIERS. Wall Lights and Lustres for Gas and Candles, Table Glass, &c.
Glass Dinner Services for 12 persons, from 7*l.* 15*s.*
Glass Dessert Services for 12 persons, from 2*l.*
All articles marked in plain figures.
Ornamental Glass, English and Foreign, suitable for Presents.
Mess, Export, and Furnishing Orders promptly executed.
London—Show Rooms, 45, Oxford Street, W.
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Established 1807.

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THRESHER'S COLORED FLANNEL SHIRTS. —PRIZE MEDAL awarded to THRESHER & GLENNY for very fine and superior FLANNEL SHIRTS, India Tweed Suits and India Gauze Waistcoats.

Lists of Prices on application to THRESHER & GLENNY, General Outfitters, next door to Somerset House, Strand, W.C.

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**Odours of Plants.**

PIESSE AND LUBIN extract the PERFUME from every fragrant Flower by the process of "Enfleurage," which being conducted while the plant is yet alive, the odours obtained are retained in their true and natural fragrance. Jasmin, Violet, Acacia (Farnesiana), Tuberose, Jonquil, Orange, Mignonette, and several others. Sold in Bottles, 2*s.* 6*d.* each.
Laboratory of Flowers, 2, New Bond Street.

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**Eau-de-Vie.**

THIS PURE PALE BRANDY, 18*s.* per gallon, is peculiarly free from acidity, and very superior to recent importations of Cognac. In French Bottles, 38*s.* per dozen; or in a case for the country, 39*s.* Railway Carriage paid. No Agents.

HENRY BRETT & Co.,
Old Furnival's Distillery, Holborn, E.C.
and 30, Regent Street, Waterloo Place, S.W., London.
Prices Current free on application.

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**Sauce.—Lea and Perrins'**

WORCESTERSHIRE SAUCE,
Pronounced by Connoisseurs
"THE ONLY GOOD SAUCE."
See Name on Wrapper, Label, Bottle, and Stopper, and to avoid Counterfeits
ASK FOR LEA AND PERRINS' SAUCE

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FRY'S | HOMŒOPATHIC / ICELAND MOSS / PEARL | COCOA.

FRY'S SOLUBLE CHOCOLATE.

J. S. FRY & SONS were the only English Manufacturers of Cocoa who obtained the Prize Medal, 1862.

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DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for Acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild Aperient for delicate constitutions, more especially for ladies and children. It is prepared in a state of perfect purity and of uniform strength by DINNEFORD & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

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GLYCERINE, which very simple tests show to be impure, is being sold on the statement that it is in every respect "EQUAL TO PRICE'S."

Most medical men prescribe "PRICE'S GLYCERINE;" where purity is of importance patients can insure it by desiring to have their Glycerine in 1 lb., 8, 4, or 2 oz. bottles, with capsules over the stoppers, marked "PRICE'S PATENT."
Belmont, Vauxhall.

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TURKISH BATHS, Victoria Street.—This magnificent establishment, accommodating 800 daily, is NOW OPEN, Sundays excepted. Public and Private Baths for Ladies and Gentlemen, price from 1*s.* 6*d.* upwards.—N. B. Baths for Horses. ORIENTAL BATH COMPANY of LONDON Limited), Victoria Street, near the Station, Westminster.

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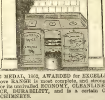


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THE NATURAL HISTORY REVIEW. No XI. (JULY, 1863).

CONTAINS Reviews of Carpenter's Foraminifera—Agassiz, Natural History of the United States, Vol. IV.—Saporta's Tertiary Flora of Provence—Caspary on the Vessels of Plants—De Candolle on the Juglandeæ—Anderssen's Vegetation of the Galapagos Islands—Triana and Planchon's Flora of New Grenada—Hoffmeister's Botany of Ceylon, the Himalayas, &c.—Huxley's Man's Place in Nature—Bates' Naturalist on the Amazons—Burmeister's Mammals of La Plata. Also the following original articles, viz.: on the Embryology of the Echinodermata, by Professor WYVILLE THOMSON, F.R.S.E. on the Ancient Shell-mounds of Scotland, by JOHN LUBBOCK; Esq., F.R.S.; and an Account of the Proceedings of the lat, Conference in France on the alleged Discovery of a Human Jaw-bone in the Gravel at Moulin Quignon; including the *Procès Verbaux* of the Sittings of the Conference, with notes by H. FALCONER, M.D., F.R.S.; GEORGE BUSK, Esq., F.R.S., and W. B. CARPENTER, M.D., Vice-President of the Royal Society.

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## News of the Week.

IN the House of Lords on Friday, in reply to the Marquis of CLANRICARDE, Earl RUSSELL said there was no truth in the report that the EMPEROR of the FRENCH had renewed his overtures to her Majesty's Government for the purpose of offering joint mediation in the civil war in America. On Monday, in answer to Lord LYTTELTON, the Duke of NEWCASTLE said that the Government had no intention of abandoning the colonists of New Zealand in their difficulties, and that the war with the natives was begun with the cordial support of the colonists themselves for their sole benefit. On Tuesday Earl RUSSELL stated that the French Ambassador had called on him and contradicted the rumour that the EMPEROR of the FRENCH was desirous of making propositions to Her Majesty's Government with a view to bring about a cessation of hostilities in America. The Earl of DERBY moved for a copy of the proclamation issued by Sir H. STORKS for the annexation of the Ionian Islands to Greece, and expressed his opinion that the cession would

be neither advantageous to England, beneficial to the Islands, nor likely to conduce to the harmony of European arrangements. Earl RUSSELL defended the proposed cession, which was opposed by Lord STRATFORD DE REDCLIFFE and approved by Lord TAUNTON. The motion was ultimately withdrawn. On Thursday, on the motion of the Duke of NEWCASTLE, the British Columbia Boundaries Bill was read a second time.

In the Commons on Friday Mr. OSBORNE moved for a Select Committee to inquire into the present Ecclesiastical Settlement of Ireland. Mr. CARDWELL, on the part of Government, opposed the motion, and the debate was ultimately adjourned to Monday. On Monday, in answer to Mr. PEACOCKE, the SOLICITOR-GENERAL said that the practice of the American prize courts was identical with that of this country, and that her Majesty's Government had, so far, no reason to complain of the decisions of those tribunals. The adjourned debate on Mr. OSBORNE's motion for a select committee on the ecclesiastical settlement of Ireland was resumed, when Mr. GRANT DUFF and Mr. HENNESSY spoke in favour of the motion, Mr. P. DAWSON, Sir R. PEEL, Sir H. CAIRNS, and Sir G. GREY against it. Colonel GREVILLE moved the adjournment of the debate, which was negatived on a division by 228 to 67. Mr. LANIGAN then moved the adjournment of the House, which was agreed to without a division. On Tuesday Mr. ROEBUCK moved an address to the QUEEN, praying HER MAJESTY to enter into negotiations with the Great Powers of Europe for the purpose of obtaining their co-operation for the recognition of the independence of the Confederate States of North America. Lord R. MONTAGU moved an amendment expressing the earnest desire of the House that an impartial neutrality should continue to be maintained. After a long discussion the debate was adjourned to Thursday. On Wednesday Mr. EWART moved the second reading of the Weights and Measures Bill, the object of which was to apply the metrical system to all our weights and measures. The motion was opposed by Mr. HENLEY and Mr. HUBBARD, and supported by Mr. COBDEN and Mr. ADDERLEY. Mr. M. GIBSON and other members objected to the compulsory clauses of the Bill, and recommended that it should in the first instance be permissive only. Mr. EWART expressed his willingness to adopt the suggestion. On that understanding the second reading was carried by a majority of 110 to 75. On Thursday Mr. LAYARD stated that there was no truth in the statement of Mr. ROEBUCK that Her Majesty's Government had communicated to the Government of Washington the despatch of the EMPEROR of the FRENCH in November last in reference to intervention in America. Her Majesty's Government never had a copy of that despatch, and it was communicated to the Federal Government not by Lord LYONS, but by M. MERCIER, the French Ambassador at Washington. The House resolved itself into a Committee of Supply, when the CHANCELLOR of the EXCHEQUER moved a vote of 105,000*l.* for the purchase of the International Exhibition buildings at South Kensington. Lord ELCHO moved, as an amendment, the rejection of the vote, and Sir S. NORTHCOTE moved an amendment to reduce the vote by 25,000*l.* After a long and excited discussion, both the amendments were withdrawn, and the vote was negatived on a division by 287 to 121, being a majority of 166 against the Government. The Duchy of Cornwall Management Bill was read a second time.

From the United States we have the important news that the Confederates have invaded the Northern States. General LEE, with an army of 100,000 men, has crossed the Rappahannock in three divisions, and is threatening the cities of Washington, Baltimore, and Philadelphia.

## Home News.

THE COURT.—The Queen and Royal family, with the exception of Prince Leopold, who is suffering from slight indisposition, leave Windsor to-day for Osborne, where her Majesty will remain until the 28th inst., when she will return to Windsor preparatory to her departure on the 31st inst. for Germany. On Friday morning the Queen, accompanied by Princess Beatrice, drove in the grounds. In the afternoon her Majesty drove out, accompanied by Princess Beatrice. The Queen of Prussia and the Princess Helena, accompanied by Prince Edward of Saxe-Weimar, came to town and visited the Horticultural Gardens and the South Kensington Museum. Her Majesty afterwards went to Marlborough House and partook of a *déjeûner* with the Prince and Princess of Wales. In the afternoon her Majesty took a drive in an open carriage with their Royal Highnesses and the Princess Helena, and returned to Windsor in the evening. The Princess Louisa honoured the performance at Covent Garden Theatre with her presence, and afterwards returned to Windsor. The Dowager Duchess of Sutherland arrived at the Castle. On Saturday the Queen, accompanied by the Queen of Prussia, took a drive in an open carriage. The Prince and Princess of Wales, Prince Arthur, Earl Granville, and the Rev. Dr. Stanley arrived at the Castle. Earl Granville had an audience of her Majesty. On Sunday morning the Queen, the Queen of Prussia, the Prince and Princess of Wales, Princess Helena, Princess Louisa, and Prince Arthur attended Divine service in the Private Chapel. The Rev. Dr. Stanley officiated. On Monday morning the Queen walked and drove in the grounds. The Prince and Princess of Wales left the Castle for Marlborough House. Prince Arthur returned to Greenwich Park. The Queen of Prussia and Princess Helena drove out in a carriage and four. The Russian Ambassador and Baroness de Brunnow had audiences of Her Majesty. Earl Russell also had an audience, and introduced General Don Juan Antonio Pezet, President of Peru. The Princess Louisa and Princess Beatrice went to the Ranger's Lodge, Greenwich Park. On Tuesday the Queen, accompanied by Princess Helena, visited the South Kensington Museum, and inspected the new courts, the designs for their proposed decorations in mosaics and majolica, and the new galleries with the national competition drawings of the schools of art now on exhibition. The Queen of Prussia also came to town and returned in the afternoon. The Duke and Duchess d'Aumale and the Duke de Montpensier visited her Majesty. On Wednesday morning the Queen, accompanied by Princess Beatrice, walked and drove in the grounds. The Queen of Prussia, the Princess Helena, and the Princess Louisa visited the Exhibition of the Horticultural Society. Count and Countess Bernstorff arrived at the Castle, and had an interview with her Majesty. In the afternoon the Queen and the Queen of Prussia drove to Cliefden. Princess Louisa took a drive. The Duchess of Wellington arrived at the Castle. On Thursday morning the Queen, accompanied by Princess Helena, walked and drove in the grounds. The Duke of Cambridge visited her Majesty.

THE PRINCE AND PRINCESS OF WALES.—On Friday the Lady Mayoress of York and the Hon. Mrs. Smyth had an interview with the Princess, and presented to her Royal Highness the gift of the ladies of the city of York, consisting of a silver-gilt inkstand, representing Clifford's Tower, the Micklegate Bar, and Monkbar, with the Barbicans. The Marchioness of Winchester also had an interview with the Princess, and presented to her Royal Highness a bracelet of diamonds and rubies from the ladies of Hampshire and the Isle of Wight. The Prince and Princess honoured Mr. Heath with a sitting for their photographs. In the afternoon their Royal Highnesses took a drive in an open carriage, accompanied by the Queen of Prussia and Princess Helena. In the evening the Prince and Princess went to the ball given by the officers of the Brigade of Guards at the International Exhibition Building. On Saturday morning the Prince rode on horseback. In the afternoon the Prince and Princess left Marlborough House for Windsor Castle on a visit to the Queen. On Monday morning their Royal Highnesses returned to Marlborough House. The Prince rode on horseback. The Princess honoured Mr. Gibson with a sitting for her bust. In the afternoon the Prince and Princess of Wales took a drive in an open carriage and four. In the evening their Royal Highnesses gave an evening party and a dance to a limited number of the nobility and gentry. On Tuesday the Princess Mary of Cambridge visited the Princess of Wales. The Prince rode on horseback. The Princess took a carriage drive. On Wednesday the Prince went to Kew, and visited the Duchess of Cambridge. The Princess took a drive in an open carriage. On Thursday morning the Prince rode on horseback. The Princess went to Kew, and visited the Duchess of Cambridge. In the afternoon the Prince and Princess, and the Princess Helena, took a drive in an open carriage. In the evening the Prince of Wales and the Princess Helena honoured the performance at the Olympic Theatre with their presence.

PRINCE ALFRED IN SCOTLAND.—Prince Alfred, in company with some of the officers belonging to her Majesty's ship Racoon, which is now in the Tay, landed on Monday, and visited Dundee and Stirling Castle, proceeding thence to Edinburgh by railway.

THE QUEEN OF PRUSSIA took leave of Her Majesty, and left Windsor yesterday for the residence of the Prussian Embassy in Carlton House Terrace. According to present arrangements Her Majesty will remain the guest of the Prussian Ambassador and the Countess Bernstorff until Monday, when Her Majesty will depart for Coblentz on her return to Berlin.

ROYAL VISIT TO CROXTETH.—It is stated that the Prince and Princess of Wales will shortly honour the Earl and Countess of Sefton with a visit at Croxteth Hall, near Liverpool.

THE CABINET.—A Cabinet Council was held on Saturday, at the official residence of the First Lord of the Treasury in Downing Street.

PARLIAMENTARY MOVEMENTS.—The Berwick Election terminated on Monday in the return of Mr. Cargill the Conservative Candidate, by a majority of 18 over Mr. Mitchell, the numbers being 328 to 310.

CONVOCATION.—The Convocation of the Province of Canterbury met again on Wednesday after the recess. In the Upper House a report was presented from the Lower on the subject of joint action between the Provinces of Canterbury and York, in which it was suggested that although the two Convocations could not sit and vote together, they might appoint joint committees to deliberate together, and each report to its own body. Their lordships highly approved of this report, which was unanimously adopted. It was resolved on the motion of the Bishop of Oxford to appoint a committee to communicate with a committee appointed by the General Episcopal Synod of the United States, to consider the propriety of opening intercommunion with the orthodox branch of the Eastern Church. It was also agreed to memorialise the Queen on the propriety of dividing the diocese of Exeter, by creating a bishopric of Cornwall. In the Lower House the debate on Dr. M'Caul's resolution of last Session, "That it is not expedient to relax the rule of subscription to the Act of Uniformity," was resumed by Archdeacon Sandford, who moved as an amendment, "That the declaration required at ordination and on induction to a cure is sufficient for all clergymen." The Rev. J. Bramston moved the following amendment:—That the Prolocutor be requested to nominate a committee to consider the question of clerical subscription, and whether there are grounds for considering the subscription burdensome on the clergy, and whether it might be relaxed or modified without endangering the definitive faith of the Church of England." Archdeacon Sandford withdrew his amendment in favour of Mr. Bramston's, which was opposed by Archdeacon Denison. After a long discussion the House divided, there were for the amendment, 24; against it, 14. The amendment was declared carried. On Thursday in the Lower House the subject of the burial service, and the pledge made by the bishops in the House of Lords to consider whether any alterations could be made in it, was discussed. Some surprise was expressed that the bishops had made no communication to the Lower House on the subject, and a committee was appointed to consider the whole question, the Prolocutor being instructed to inform the Upper House of their readiness to concur with their lordships in the inquiry. The report of the committee of 1860 on cathedral chapters was adopted with some modifications.

CASE OF BISHOP COLENSO.—The last mail from Cape Town announces that the Bishop of Cape Town, acting as Metropolitan of South Africa, has cited Bishop Colenso to appear before him and answer for his heretical opinions.

THE REVENUE.—The Revenue Returns for the Year and Quarter ended June 30, show an increase of 998,072*l.* on the year, and an increase of 80,300*l.* on the quarter. The Year's account shows an increase in the Customs of 456,000*l.*; Stamps, 477,055*l.*; Taxes, 29,000*l.*; Property Tax, 164,000*l.*; Post Office, 215,000*l.*; Crown Lands, 4500*l.*; Miscellaneous, 1,025,517*l.*; and a decrease in the Excise of 1,373,000*l.* The Quarter's account shows an increase in the Customs of 66,000*l.*; Stamps, 141,000*l.*; Taxes, 33,000*l.*; Property Tax, 146,000*l.*; Post Office, 100,000*l.*; Crown Lands, 500*l.*; Miscellaneous, 74,800*l.*; and a decrease in the Excise of 481,000*l.*; caused chiefly by the extension of the Malt credit under the recent Act of Parliament.

## Foreign.

FRANCE.—The Emperor arrived in Paris at 11 o'clock on Monday night, and presided at a Council of Ministers on Tuesday, returning in the evening to Fontainebleau. His Majesty will return to Paris to-morrow, and will leave for Vichy on Tuesday. An imperial decree has been published for an Universal Exhibition of Agricultural and Industrial Products of All Nations, to be held in Paris in May, 1867. The Emperor has addressed a letter to the President of the Council of State, in which his Majesty says:—

"Our system of centralisation, despite its advantages, is attended by the serious inconvenience of leading to an excess of administrative action. It is impossible to understand why an unimportant communal affair should require investigations lasting at least two years, owing to the intervention of 11 different authorities. The Emperor further expresses himself convinced of the urgency of this reform necessitating the revision of numerous laws, decrees, ordinances, and Ministerial instructions. His Majesty intrusts this labour to the different sections of the Council of State: 'for if,' continues the letter, 'the Council of State does not administer, it observes the acts of the Administration.' The Emperor concludes by saying:—'As I attach great importance to this reform, I rely upon the enlightened zeal of the Council of State to arrive very soon at a satisfactory solution.'"

An imperial decree has been published proclaiming

entire freedom in the baking trade of Paris from September next. No limit is to be placed to the number of bakers, and all absolute restrictions are to be replaced by control sufficing to insure fairness in the weight of bread and excellence of quality. It is said that the new Minister of Public Works will undertake the task of establishing a complete network of internal navigation throughout the country, the use of which, as of the land roads, is to be based upon the principle of entire freedom of transit, without tolls. M. Rouland has been nominated first Vice-President of the Senate. M. Schneider and M. Vernier have been appointed Vice-Presidents of the new Corps Législatif, and M. Hebert and M. Romeuf have been appointed Questors. An Imperial decree has been published, creating the office of Superintendent-General of the Theatres. M. Bacciochi has been nominated to this post. The *Pays* contradicts the assertion of foreign papers that large armaments are in progress in France in view of certain eventualities which may take place in the north of Europe. The *Nation* publishes a rumour to the effect that negotiations are taking place between England and France to settle the agreement between the two Powers, and concert their mode of action in the not impossible case of the Polish question passing out of an exclusively diplomatic sphere. The *Nord* states that the complaint of abuse of authority laid against the Archbishop of Tours has been withdrawn. A great fire occurred on Tuesday at Nantes, which destroyed 15 large factories in the Rue Châteaubriand and on the Versailles Quay. Some persons were injured. The destruction of property was enormous. The Emperor's visit to Cherbourg is postponed until the end of this month. The iron-cased frigate Solferino is now ready for sea in that port. She is described as a ship of war of most formidable proportions, and is armed with a spur, which is so arranged that it becomes part of the entire vessel, so that any shock it has to support will be felt throughout the ship. The shaft of the screw is, by an ingenious mechanical contrivance, protected from injury arising from the shock caused by the spur, and can recede in such case without causing any inconvenience. The trial of M. Casimir Perier and M. Maisonville, the manager of the journal *Impartial Dauphinois*, at Grenoble, for publishing an article on the finances, has terminated in an acquittal. A crowd accompanied the defendants, crying "*Vive Perier!*" Prince Polignac, the son-in-law of M. Mirès, died on Monday night from an attack of small pox.

SPAIN.—A number of bishops having demanded that the publication of "Les Misérables" should be stopped, the Council of State has requested them to point out what portions of the work they think of a dangerous tendency.

PORTUGAL.—The Cortes were closed on Tuesday by the King in person. The Speech from the Throne contained nothing of especial importance. The Portuguese railway to Badajos has been opened, amid much popular enthusiasm.

HOLLAND.—The Dutch Government has officially announced to the Swiss Federal Council that war will probably break out with Japan within a short time.

DENMARK.—The hereditary Prince Frederick Ferdinand of Denmark, heir to the Danish Crown, born in 1792, died suddenly on Monday morning. The Prince was uncle to the King of Denmark, and great uncle to the Princess of Wales.

PRUSSIA.—The Chief of the Provincial Government of Posen has published a letter from the Crown Prince of Prussia, dated the 28th ult., thanking the inhabitants for the warm reception given to his Royal Highness on his recent journey through the Grand Duchy and during his stay in the city of Posen.

AUSTRIA.—In the Lower House on Friday the debate on the Address was resumed by Count Rechberg, who stated that the policy of the Government in all foreign questions was a policy of peace, combined with defence of the integrity of the Empire. M. Thiers was received by the Emperor in private audience on Tuesday, and dined with his Majesty on Thursday at the Castle of Laxenburg.

RUSSIA.—A great part of the summer residence of the Czar, the palace of Zarskoe-Zelo, has been burnt. The cause of the fire is unknown.

POLAND.—Executions continue to take place almost daily by order of the Russian Government. Macewicz, Ancypa, and Korsak were shot at Mohilew on the 18th, and Zetinski was executed at Kiew. Czarnecki, Micewicz, and Bokiewicz have been hung at Siedlce and Piotrkow. Count Sierakowski was hung at Wilna on the 27th ult. Among the most recent victims of General Mouravieff at Wilna are Countess Plater, sister of Count Leon Plater, who was lately executed; and Madlle. de Terlecks. The execution of these young ladies so exasperated the inhabitants that they attacked Mouravieff's palace, and not finding the general, who had taken refuge in one of the casemates, they destroyed the palace. Archbishop Felinski has been banished to Jaroslaw. Monsignor Krasinski, Bishop of Wilna, has been banished to Perme. Count Victor Starzenski, Marshal of the Government of Grodno, and well-known for his intimate relations with the Imperial family, has been imprisoned in the citadel of Wilna, preparatory to being exiled to Siberia, for having sent in his resignation on the outbreak of the revolution, which he had in vain endeavoured to avert. Three hundred landed proprietors have been arrested in the government of Mohilew, and their lands confiscated. It is asserted from various quarters that wounded Poles were buried by the Russians at Lubar, in Volhynia, in the same grave with their dead companions, and that General Mouravieff has taken the wife of a refugee as a hostage, and threatened to have her put to death if her husband does not return within a given time. The Archbishop of Warsaw was strongly guarded in his late visit to St. Petersburg. Though he was allowed to have part of a railway carriage to himself, an escort of gendarmes was in the adjoining compartment, and in the next carriage were 30 soldiers. The reply of the Polish National Government to the Notes of the three Powers was despatched on Saturday to the proper quarters. The National Government has appointed Government Commissioners to be attached to every military command, and has decreed that all Poles remaining in the service of the Russian army within the frontiers of Poland as existing in 1772 after the 1st of August next shall be exiled, shall be deprived of their civil and political rights, and be declared to have forfeited their honour as citizens. Another decree has been issued by the National Government, ordering the stoppage of all traffic on the Warsaw and St. Petersburg and the Wilna and Eydkuhnen railways. All telegraph officials, engineers, guards, porters, and workmen employed on these lines are directed to leave immediately. The telegraph officials are ordered not to forward any messages, and private persons are forbidden to travel on these railways. All persons acting contrary to these orders of the National Government are threatened with severe punishment. The Polish leader Taczanowski had a sanguinary engagement with 2500 Russians near Widawa on the 20th ult., in which the latter lost six guns. A detachment of Polish cavalry had an encounter on the 24th ult. with the Russians near Radomsk. A murderous encounter occurred in Podolia on the 23d, and on the same day an engagement took place at Orany, in Lithuania, terminating in favour of the Russians. Two other sanguinary conflicts have occurred at Krolowymost and Lucinki, in Lithuania. The Russians have fallen back upon Suwalki. The insurrection in Podlachia continues undiminished; and an engagement took place on the 23d. The Polish leader Andruszkiewicz has occupied Lomza, Styczn, and Grajewo, in the government of Augustowo. A sanguinary engagement occurred at Serolk on the 22d. A railway train, conveying Russian soldiers, has run off the line. The insurgent leader Wysocki, at the head of 1400 infantry and 100 cavalry, crossed the Russian frontier into Volhynia near Radziwilow, and occupied that place on Wednesday night. On the 2nd he had a sanguinary engagement at Perzajow, in which he succeeded in piercing the Russian lines. He afterwards marched in the direction of Krzymeintel. Jawadzki, at the head of two detachments of Polish cavalry, encountered the Russians on the 29th ult. at Dobra, in the palatinate of Kalisch. An engagement ensued, lasting 10 hours. About 300 Poles, with arms and ammunition, and 70 wounded, have been taken into Brody. The Russians have reoccupied Radziwilow. A desperate engagement took place on the 26th ult. at Podborze, in the palatinate of Kalisch. The Russians sustained considerable losses in an engagement on the 24th at Kolo. The insurgent leader Suzin defeated the Russians in the Government of Augustowo on the 23d ult. Suzin was, however, killed. Two engagements took place in the government of Plock on the 22d and 27th ult. Numbers of wounded Russians have been conveyed to Praga, and the suburbs of Warsaw.

ITALY.—Judgment has been pronounced at Turin against the defendants in the criminal suit brought against certain clerical tutors in public educational establishments. Fathers Ignorantelli and Arcadius were found guilty of offences against morality, and sentenced to five years' imprisonment. Two other tutors, equally guilty of offences against decorum, were acquitted in default of civil prosecutors. Sentence *in contumaciam* was pronounced against three other defendants, who had evaded justice by flight, Father Theoger being condemned to 15 years' imprisonment, and Fathers Narcissus and Telesphorus to confinement for eight years and six years respectively.

GREECE.—The last sittings of the National Assembly have been very stormy, owing to attacks of the party of M. Bulgaris upon the Ministry. The resignation of the latter is expected. The National Assembly intends to declare King George of age.

TURKEY.—Sir Henry Bulwer has addressed, in the name of his colleagues of the Diplomatic Body, a protest to the Porte, referring to the indemnity due by the Turkish Government for the persons killed in Syria. The Turkish Government has announced its intention of granting two years' pay and a free passage home to all Polish officers and soldiers leaving the service of the Porte. This measure is not intended to apply to Hungarian troops.

SERVIA.—The Prince of Servia has demanded the evacuation of the forts upon the Dwina occupied by Turkish troops, and the removal of the Turkish inhabitants. The Porte has refused to comply with the demand.

MADAGASCAR.—A revolution broke out in Madagascar on the 12th of May. King Radama was strangled, and his Ministers hanged. His widow Queen Rabidon was proclaimed as Sovereign of Madagascar, and Lambert's concession, the cause of the revolution, was annulled. The treaties concluded with European Powers were suspended, and the reign of the late King was declared null, and mourning prohibited. Religious liberty is still to be maintained. The Queen has signed a constitution in conformity with the views of the old Hova party. Much discontent prevails throughout the kingdom, and fears are entertained of civil war. The Paris evening papers state that the Ministers of the murdered King, the officers of the Palace, and the commander of the King's Guard were foreigners. *La France* says that the Queen and her Ministers were the instigators of the revolution, and are devoted to the English.

INDIA.—The *Patrie* and the *Pays* assert that Herat is not yet taken. The chief of the Affghans has offered a principality to the Governor of the town if he will consent to its surrender. The Governor is stated to have refused the offer. A Persian army is said to be advancing to relieve Herat.

JAPAN.—News from Kanagawa to the 11th May has been received through San Francisco, confirming the announcement that the English Admiral had demanded of the Japanese Government a large indemnity, and the surrender of the murderers of Mr. Richardson; failing in which before the 26th May England and France would declare war against Japan. Thirteen British vessels of war and the flagship of the French Admiral were lying at Kanagawa.

UNITED STATES.—The interest of the war news has suddenly changed from Vicksburg and Port Hudson to the Confederate invasion of the North. On Sunday the 14th ult. non-official information reached New York from Washington that the army of General Lee, numbering nearly 100,000 men, had crossed the Rappahannock in three divisions, and was marching northward towards the Shenandoah Valley. It was added that General Hooker had struck his camp, and was hastening by a forced march to Fairfax Court House, with his whole army, to intercept General Lee's advance. Telegraphic despatches from Washington on the 15th confirmed this news, and stated that the Confederate advance cavalry, under General Stuart, 10,000 or 20,000 strong, had crossed the Potomac at Nolan's Ferry or Ford, and occupied Hagerstown in Maryland. General Milroy, commanding at Winchester, Virginia, thought to dispute the progress of General Lee's main body, but, finding himself surrounded, abandoned his guns and baggage, cut his way through the Confederates, and escaped to Harper's Ferry, with the loss of 2000 men: the rest dispersed in their flight. The Federal force at Martinsburg also retreated to Harper's Ferry, while General Reynolds was driven from Berryville to Bunker's Hill. On the 16th the capture of Chambersburg and Greencastle, in Pennsylvania, on the previous evening, was reported from Harrisburg; the Confederates thus menaced the cities of Washington, Baltimore, and Philadelphia. The President immediately issued a proclamation, calling upon Maryland to furnish 10,000, Pennsylvania 50,000, Ohio 30,000, and West Virginia 10,000 men, to repel the invaders. The men who rally to this call are to serve without bounty for a term not exceeding six months, and will be accredited to the several States on the account of the draught that is to be made for three years' men. Governors Curtin and Tod also issued proclamations exhorting the people to respond promptly to the President's call. The Government, at the same time, called upon Governor Seymour, of New York, to order out 20,000 militia to assist in the exigency. Governor Seymour forthwith summoned the several Major-Generals of the State Militia to consult upon the necessary steps to be taken, and several regiments of Militia have left New York for Pennsylvania and Maryland. The Unionists in Eastern Tennessee and Western North Carolina have organised a powerful force to hold the mountain region against the Confederates. The Governors of all the Northern States are organising all the militia they can send. On the 16th, the Confederates were at Chambersburg, awaiting reinforcements. They had destroyed the bridge at Scotland, on the Harrisburg Railway, six miles north of Chambersburg. General Jenkins, the Confederate commander, ordered all private property to be respected, and compelled the merchants to receive Confederate money in payment for the goods taken by his soldiers. Correspondence from Washington, published on the 17th, purporting to be based on information derived from Confederate sources, states that General Lee's army numbers 100,000 men, including 30,000 cavalry, and that it is generally thought that the capture of Washington is the object of his campaign. He is advancing upon Hooker's army in three columns, his right under Hill, by way of Occoquan and Wolf Run Shoals, his centre under Ewell, by way of Thoroughfare Gap, and his left under Longstreet, by way of Leesburg. General Hooker's army at present occupies the old Bull Run battle-ground, and the line of the Orange and Alexandria railroad. His head-quarters are at Fairfax. His forced march from Falmouth to that place was attended with great hardship, all the streams being dried up. The woods were full of stragglers, who could not be kept in the ranks, and numbers fell upon the road through exhaustion. The *New York Tribune* publishes a special Washington despatch, dated the 19th, asserting that General Lee has moved in force upon Centreville, and defeated the Federals at that point. On the 18th Generals Lee and Ewell occupied Thoroughfare Gap, which they hold. General Long-

street is threatening Leesburg, and General Hill was at Dumfries. On the 18th the Confederates transported their stores across the Potomac to Hagerstown, making that place their head-quarters for raids into Pennsylvania. Twenty thousand Confederate insurgents are reported to have offered to join the Federals if a military post was established at Raleigh. An attack was apprehended in Baltimore on the 17th ult., and the north and north-western roads leading to the city were barricaded with tobacco hogsheads. During the night of the 17th the Confederates crossed the Potomac at two points, and drove the Federals from Point of Rocks and Catoctin station, afterwards capturing a military train running between Harper's Ferry and Baltimore. General Bragg has been reinforced, and there are indications of his uniting with Gen. Buckner to invade Kentucky. General Sherman's corps have pushed their approaches to within 20 yards of the bastions at Vicksburg. The Federals still hold the Black River Bridge, and it is said that there are no Confederates within 30 miles of General Grant's rear. Reinforcements and supplies for Gen. Pemberton in Vicksburg are said to be sent across the Mississippi from De Soto during the night. The reported capture of the Pocataligo Bridge between Savannah and Charleston by negro troops, was untrue. Several Federal expeditions have been made from Port Royal into defenceless portions of the country, and private residences and property have been destroyed and plundered. The Federal gunboats have ascended the Chickahominy to within 50 miles of Richmond, a land force of 15,000 men co-operating. Preparations were making to repel any attack. The popular clamour for the appointment of General M'Clellan continues. The Philadelphia and New York municipalities have proposed resolutions, urging the President to reinstate him. The New York German committee has requested Mr. Lincoln to permit Generals Fremont and Sigel to issue a call for volunteers for the defence of Pennsylvania. The President replied that the Governor of New York was sending troops, and it would cause confusion for the administration to set to work independently of him. Serious resistance has been offered to the enrolment in Ohio. A collision has occurred between the military and 500 armed insurgents. Another enrolment officer has been shot in Indiana, and a public meeting, held at Montgomery, in that state, has appointed a committee to inform the enrolment commissioners that they would enrol at their peril. The President has acknowledged to the Committee of the Vallandigham meeting, held in Albany on the 16th ult., the receipt of a copy of resolutions adopted on that occasion. In his reply he asserts that Mr. Vallandigham was not arrested for treason, but for labouring to discourage enlistments, to incite desertion, and to leave the Government without adequate military force to suppress the rebellion, and declares that he would gladly release him if he believed the public safety would not suffer thereby. He argues his right to suspend the Habeas Corpus, and declares the freedom of speech demanded by the Democratic party was calculated to keep up a corps of spies, informers and supplyers—aiders and abettors of the Confederate cause in a thousand ways; that the time will come when he will be blamed for having made too few arrests, instead of too many; and that it is his duty to employ all measures that may seem to him to be necessary to provide for the public safety. The British Consul has arrived at Fortress Monroe, from Richmond, from which place he has been expelled by the Confederate Government. The Confederate Secretary of State has addressed an official despatch to Mr. Mason on the subject, of which the following is an abstract :—

"President Davis's decision to revoke the Consul's exequatur was mainly influenced by the Consul denouncing unofficially the Confederate Government as indifferent to cases of great and atrocious cruelty. These remarks referred to the enlistment by conscription, of two British subjects, who by their acts had acquired *de facto* citizenship. Protection and respect will be continued towards foreign consuls who possessed the Federal exequator, prior to the secession, as long as they do not seek to evade the legitimate authority of the Confederate Government. But Lord Lyons assumes the power to issue instructions and exercise authority over British consuls residing in the Confederate States, thus ignoring the existence of the Confederate Government, and implying the continuance of relations between that Ministry and British consuls residing in the Confederate States which existed prior to secession. This is also the assertion of a right by Lord Lyons to exercise the authority of a Minister accredited to and officially received at Richmond. President Davis, therefore, forbids further direct communication between neutral consuls in the Confederate States and functionaries of neutral nations residing in the enemy's country. In future all communications between the British consuls and foreign countries, neutral or hostile, must be restricted to vessels arriving from or despatched to neutral ports."

News was received in Washington on the 14th of the capture of six vessels by the Clarence, acting as tender to the Confederate steamer Florida, between the 7th and 12th ult. Two of the captures were made within 45 miles of the entrance to Chesapeake Bay. Three of the vessels were burnt, two released upon giving heavy bonds, and the sixth, the Tacony, received the guns and ammunition of the Clarence, and was turned into a privateer, in the place of the Clarence, which was destroyed. The Federal Naval Department has despatched several vessels of war in search of the Tacony.

MEXICO.—General Ortega, with five other Generals or superior officers, escaped from Orizaba on the 25th of May, and proceeded to the city of Mexico. The Mexican Congress had been occupied in discussing the question whether the Government should remain in the city of Mexico or transfer itself to some other place. The President, however, had expressed his determination to remain in the city. He had issued a fresh manifesto to the nation, urging the continuance of the war, and promising to defend the capital to the last extremity, and not to entertain any proposals of peace attacking the sovereignty and independence of the nation.

## Parliament.

### HOUSE OF LORDS.

FRIDAY.—*The Slave Trade.* — Lord BROUGHAM asked Earl RUSSELL whether he intended to communicate to the Spanish Government the report of Commodore Wilmot in reference to the slave trade. He was sorry to perceive that that Government had not yet abolished the slave trade, and though they had received 500,000*l.* compensation for doing so, 23,000 slaves were imported annually into Cuba.—Earl RUSSELL said he had no objection to forward the report referred to. The Spanish Government, however, were doing something to suppress the slave trade, although he admitted that they were not as active as they might be.—In answer to the Marquis of CLANRICARDE, Earl RUSSELL said that there was no truth in the report that the Emperor of the French had recently renewed his proposition for recognising the independence of the *Confederate States*; his own opinion on that subject remained unchanged. The *African Slave Trade Treaty Bill*, the *Security from Violence Bill*, the *Inland Revenue Bill*, and the *Militia Pay Bill* were read a third time and passed.

MONDAY.—Lord BROUGHAM withdrew the *Suitors Conciliation Bill*, and presented another with the same object.—Lord LYTTELTON presented a petition from Taranaki, *New Zealand*, on the subject of the distress brought upon the inhabitants by the native war, and called attention to the military defence of the colony. He traced the history of ancient and modern colonisation, and contrasting them one with another, strongly urged upon the colonists the necessity of self-reliance and self-defence, while at the same time he thought the Government was bound to see the colonists out of the difficulties in which they were involved through no fault of their own.—The Duke of NEWCASTLE explained the policy he had laid down in his despatches in regard to the military defence of New Zealand. From the wise and firm policy pursued by Sir G. Grey, the present Governor, he entertained the most sanguine hopes that no disturbances would occur, but that a most brilliant future was opening on the colony.—Earl GREY thought that unless a more effective and decided policy were adopted, New Zealand would remain in the state of a slumbering volcano. He examined the effects produced by the Act of 1852 in New Zealand, and expressed his opinion that, to prevent a renewal of the war, we must to some extent retrace our policy by a modification of the representative institutions of the colony with a view to the conciliation of the Maories. He considered the Government had kept the country in ignorance by their delay in producing papers on this subject to the House.—Lord LYVEDEN dissented from the remedies suggested by Lord Grey. —Lord LYTTELTON having briefly replied, the subject dropped. —Earl RUSSELL requested Lord Clanricarde to postpone the motion on *Polish Affairs* of which he had given notice, as in the present state of the negotiations it would be prejudicial to the interests of the country.—The Marquis of CLANRICARDE complied with the request.—The Earl of DERBY thought that if the House of Commons were allowed to express their opinions on this topic, the same liberty might be accorded to the House of Lords. He contrasted the conduct of Lord Palmerston in the House of Commons on this subject with that of Lord Russell, and suggested the propriety of some arrangement in regard to these matters between the Prime Minister and the Secretary of State for Foreign Affairs.—Lord GREY also objected to the silence imposed on the House.—After a few words from Lord RUSSELL in explanation, the subject dropped.

TUESDAY.—*Poland.*—Earl RUSSELL stated, in reply to the Earl of SHAFTESBURY, that an order had been issued by General Mouravieff imposing penalties upon ladies wearing mourning in Poland; but there was no truth in the assertion that those who were unable to pay the penalty were to be subjected to the punishment of the knout. *Mediation in America.*—In answer to Lord STRATHEDEN, Earl RUSSELL said that the French Ambassador had that evening called upon him with the information that there was no truth in the rumour that the French Government intended to make any communication to her Majesty's Government in reference to mediation between the Northern and Southern States of America.—The *Sheep and Cattle (Scotland) Bill*, the *Oath Relief in Criminal Proceedings (Scotland) Bill*, and the *Postmaster-General (Sale of Land) Bill* were read a second time.—The Earl of DERBY, in moving for a copy of the proclamation issued by Sir H. Storks, for the *Annexation of the Ionian Islands to Greece*, took occasion to protest against the doctrine laid down by Lord Palmerston that, as these islands had been placed under the protection of Great Britain, the English Parliament had no interest in any question which involved the cessation of that protectorate. He considered that it would be an act of folly and danger to relinquish the costly fortifications of Corfu, and that the cession would be eminently disadvantageous to the Islands themselves, and was not likely to conduce to the harmony of European arrangements. He wished to know whether in the cession about to take place any arrangement had been made for the payment of pensions and allowances hitherto granted; and what provision had been made for the repayment of the loan made by this country to Greece.—Earl RUSSELL thought that the desire for annexation was only a natural one on the part both of Greece and of the islands themselves. He denied that the loss of Corfu as a military and naval station would be disadvantageous to this country. On the contrary, instead of causing a diminution of our strength, he thought that strength would be greatly augmented by our having only one great station in the Mediterranean in time of war. It was necessary to consult the great Powers who were parties to the protectorate before it could terminate, and it was intended to hold a conference to consider the subject. With regard to the fortifications at Corfu it would be matter of consideration whether they should not be destroyed, as they were of too great magnitude for a weak power to maintain, and might afford temptation for aggression to a strong Power. In respect to financial arrangements the utmost this country could lose would be 4000*l.* a year, and he did not think the people of England would regard that as a sacrifice if the result were to render Greece happy, and to secure for her people a free constitutional Government.—The Duke of NEWCASTLE stated that no proclamation had been issued by Sir H. Storks, announcing the annexation, but the people themselves had got up a religious ceremony on the receipt of news that Prince William had accepted the Crown of Greece.—Lord STRATFORD DE REDCLIFFE believed that the abandonment of the protectorate would lessen our influence in the East.—After some remarks from Lord TAUNTON, the Marquis of NORMANBY, and the Earl of HARDWICKE, the motion was withdrawn.—Lord CHELMSFORD called attention to the paper on the *Removal of the two Ionian Judges*, and severely condemned the Government for sanctioning such a measure.—The Duke of NEWCASTLE said that the two judges were political demagogues, who, having secretly plotted to bring the Government of the islands to a dead lock, had in consequence not been continued in office. He was compelled by the imprudence of Lord Chelmsford, in justice to other individuals, to make this statement; but if a motion were made for further papers he should plead the exigency of the public service and decline to produce them.—The Earl of DERBY said it was unjust to bring such charges against the two judges, unless it was intended to produce the papers on which they were founded. The subject then dropped.—The Earl of SHAFTESBURY moved an address to her Majesty praying that an inquiry into the physical and moral condition of the *Milliners and Dressmakers* be made by the Royal Commission now sitting on "the state of children and young persons in trades and manufactures not regulated by law."—Earl GRANVILLE stated that the subject had been already referred to the Commission. The motion was consequently withdrawn.

THURSDAY.—The Duke of NEWCASTLE moved the second reading of the *British Columbia Boundaries Bill*, and said that the Government of the colonies of British Columbia and Vancouver's Island would now be separated altogether. It was not, however, thought desirable to give to the former, with its present fluctuating population, representative institutions, but it would have a legislative council on the model of that of Ceylon. Arrangements were nearly completed for a road and telegraph through British America, to join the roads in British Columbia, which now reached practically to the Rocky Mountains, and negotiations had been entered into for the sale of the interest of the Hudson Bay Company to the International Financial Association, which intended to issue two millions of shares for the establishment of another company.—The Earl of DONOUGHMORE thought that as there was to be a transfer of the rights of the Hudson Bay Company, the present was a favourable opportunity for ascertaining what those rights were.—Lord TAUNTON doubted whether the contemplated transfer of the interest of the Hudson Bay Company would be any improvement. He believed the new company comprised the names of many gentlemen who were Americans, either by birth or interest, and he should be sorry to see the seat of the direction changed from this country to New York. With respect to British Columbia, he did not think it was yet in a position to justify the Government in entrusting it with representative institutions. After some further discussion the Bill was read a second time. The *Officers of Royal Naval Reserve Bill*, the *Sale of Mill Sites, &c. (Ireland) Bill*, the *Volunteers Bill*, and *Regimental Debts, &c. Bill*, were read a third time and passed. The *Land Drainage (Provisional Orders) Bill* was read a second time.

FRIDAY.—The *British Columbia Boundaries Bill*, the *Jurisdiction of Justices Bill*, and the *Oaths Relief in Criminal Proceedings (Scotland) Bill* passed through Committee. *Academical Subscription.*—Earl RUSSELL presented a petition from certain heads of colleges, professors, fellows, and tutors of the University of Oxford, praying for the removal of the subscription at present required for academical degrees. He thought there was danger in multiplying declarations now unnecessary, and thought the Universities should throw their doors open to all, without requiring from them a declaration of assent to the Thirty-nine Articles.

[Left sitting.]

### HOUSE OF COMMONS.

FRIDAY.—On the order for going into committee of supply, Mr STIRLING called the attention of the House to the papers in the *Jessie M'Lachlan Case*, and complained of the course pursued by the prosecution.—The LORD-ADVOCATE defended the course he had pursued, and contended that it was contrary to the practice of the law of Scotland to place a person on his trial for a capital offence who had been examined in a court of justice in reference to a case in which he was supposed to be an accomplice.—Sir G. GREY justified his interference on behalf of the prerogative of the Crown, although he admitted that the evidence given at the trial warranted the conclusion at which the jury had arrived.—Serjeant PIGOTT said that if capital punishment were to be continued a tribunal ought to be established to which an appeal might be made in cases in which fresh evidence might come to light, or in which there was good reason to suppose that there had been a miscarriage of justice. —After some remarks from Mr. BLACKBURN and Mr. MURE the subject dropped.—Mr. OSBORNE next moved that a select committee be appointed to inquire into the present *Ecclesiastical Settlement of Ireland*. In the face of the late Irish census it would be impossible for Parliament to refuse any longer to deal with the anomalies and abuses of the Established Church. Indeed, the time had arrived when it could no longer be maintained without extensive reforms and new adaptations. Having referred to the opinions of Lord Palmerston, Sir George Grey, and Lord Carlisle on the Irish Church, he disclaimed any intention to destroy or uproot the Church, although he was prepared to say that it was to a great extent a pious fraud. In Ireland there were dioceses which contained but a few hundred episcopalians, while the salaries of the bishops varied from 4000*l.* to 6000*l.* a year; there were parishes in which there were no member of the Church of England at all, and there were congregations limited to a solitary policeman, while there were many parishes in which the rector was never seen. He recommended that the suggestion of Vice-Chancellor Page Wood should be carried out, and that the number of the bishops should be cut down from 12 to 6, and their salaries be reduced to 1500*l.* or 2000*l.* a-year. If something of this sort were not done, the whole bench of bishops would be swept away. Another beneficial change had been suggested by Archbishop Whately, namely, that the territorial system should be abolished and the congregational set up in its stead. The late Sir G. C. Lewis had approved of this proposal, and had urged that the number of bishops should be reduced, not to six but to four, namely, one for each province. —Mr. CARDWELL said that the course which the Government intended to take in this matter was to ask the House to resist the motion. After the manner in which Mr. Osborne had denounced the Irish Church he was surprised to hear him say that he had no desire to uproot it. His proposition was not for a Committee of Inquiry; but to obtain an abstract resolution of the House condemning the Irish Church. He believed that the House would never surrender the principle of an Established Church, nor consent to alienate the property of the Irish Church from the ecclesiastical uses to which it was devoted. He thought it would be mischievous to both Ireland and England to appoint a committee of inquiry without the smallest expectation of its arriving at a sound and satisfactory result.—The O'DONOGHUE contended that there never could be a sincere and lasting union of Irishmen so long as the great principle of religious equality was ignored, and the whole revenues of the Church were monopolised by an insignificant minority.—Mr. GRANT DUFF moved the adjournment of the debate.—Mr. NEWDEGATE said the motion pretended to aim at reform, but was nothing but a phase of agitation. If the House was to reconsider the Article of the Act of Union he trusted it would reconsider the Union altogether.—After some remarks by Sir G. GREY and Lord J. MANNERS the debate was adjourned

to Monday. The *Misappropriation by Servants Bill* passed through committee.

MONDAY.—On the report of the *Public Works (Manufacturing Districts) Bill*, Mr. BENTINCK asked if the security on which the money was to be advanced rendered it certain that the money would be repaid; and whether the distress in the manufacturing districts was not as much the result of over-trading as of a deficient supply of cotton.—Mr. FERRAND asked what was to become of the enormous mass of unemployed factory operatives during the ensuing winter.—Mr. VILLIERS said the Commissioners never advanced any money without examining the security. As to the question whether the distress was occasioned by overtrading, he did not think it his duty, when he found great distress existing, to inquire whether the people had been the victims of overtrading. As to whether the Bill would provide a permanent source of relief, it was a temporary measure, intended to mitigate distress, not in the hope that it would put an end to it. In conclusion he expressed his belief that there would be sufficient funds during the winter.—Sir H. WILLOUGHBY called for explanations, which were given by the CHANCELLOR of the EXCHEQUER. After some further discussion the report was agreed to, with amendments.—On the report of the Committee of Supply, Mr. PEACOCKE called attention to the interference with our *Trade with Matamoras* by the capture of British vessels by Federal officers, and by the proceedings of the American Prize Courts, giving the details of particular cases in which, he contended, the vessels had been illegally condemned. Under these circumstances the trade with the port in question would be gradually transferred to the ships of another nation. He concluded by moving for papers.—The SOLICITOR-GENERAL opposed the motion, and pointed out the facilities of the port of Matamoras for carrying on a trade in contraband of war, observing that in the cases referred to the remedy, in the way of appeal, provided by the law had not yet been gone through, so that they were still *sub judice*. Her Majesty's Government, he said, applied to the United States the same principles that were applied to other nations in former wars.—Lord R. CECIL insisted that, in existing circumstances, the decisions of the United States' Prize Courts were not entitled to the respect they formerly enjoyed, some of them laying down a doctrine repugnant to international law. He charged the Foreign Office with neglect of the interests of British commerce, and with partiality towards the Federal Government.—Mr. COBDEN said that when it was known that the contraband trade was carrying on largely from England, it was unreasonable, it was affectation, to stand up and assume that we were the aggrieved party. Those who carried on the trade might do so, but they did it at their own risk.—Mr. S. FITZGERALD said the legitimate trade had been interfered with in a manner he held to be utterly unjustifiable, and that the condemnations were contrary to the rules of international law laid down by Lord Stowell and Chancellor Kent. The motion was then negatived.—Mr. HORSMAN called attention to the state of the negotiations on the subject of *Poland*, and urged that no time should be lost in laying the answer of Russia to the notes of the three Powers before the House.—Mr. B. COCHRANE called attention to the recommendations of the *Diplomatic Committee*, and asked whether it was the intention of the Government to carry them out.—Mr. LAYARD admitted that the diplomatic service was, on the whole, underpaid. All the recommendations of the Committee, however, but one, had been carried out in whole or in part.—Mr. DISRAELI objected to the country being put to expense by special envoys.—Sir G. GREY justified the sending of special missions under special circumstances. After some remarks by Mr. S. FITZGERALD, Mr. DODSON, Sir M FARQUHAR, and Mr. A. SMITH, the report was agreed to. On the order for going into a Committee of Supply, the adjourned debate on the motion of Mr. Osborne, for a Select Committee to inquire into the present *Ecclesiastical Settlement of Ireland*, was resumed by Mr. DUFF, who supported the motion. There was no other part of the world in which an established Church existed receiving so much and doing so little. As a missionary church, it had failed. What was the remedy? He did not advocate half remedies. There was only one remedy—that which Cato proposed for Carthage.—Mr. DAWSON said it was impossible to deny that anomalies in regard to religious endowments existed in Ireland, but it was dangerous to attempt to remedy these anomalies, and the very attempt would strike at the existence of Ireland as a component part of the empire.—Sir R. PEEL said that Mr. Osborne had drawn upon his imagination for a terrible picture of the state of the Irish Church, which he called a political blunder and a pious fraud. Yet he had told them that he did not desire to uproot this product of a pious fraud. This question had often been the battle-field of political strife; but it had been interred in 1838, and there was no necessity for resuscitating it now. What was the object of the motion? To appoint a Select Committee in the month of July. By the Act of Union the Irish Church was united to the English Church, and any change must be effected by the concert and combined action of Churchmen in both countries. He accused Mr. Osborne of errors and exaggerations in his statements of the revenues of the Irish bishops, the numbers of Protestants, and upon other points; and from statistics he drew conclusions differing from those of Mr. Osborne, who had said that the clergy in Ireland were too highly paid. In Scotland they paid their ministers, under the voluntary system, a higher rate than that at which the Irish clergy were paid. He was certain, he said, that the House would adopt the view taken by Mr. Cardwell; that it was impossible for the Government to give their assent to this motion, which, if carried, would be a preliminary to an inquiry into the Church establishment of this country.—Mr. HENNESSY said that the Missionary operations in Ireland had been a failure, and that there had been a falling off of Protestants there every year.—Sir H. CAIRNS said this was not a motion to amend or improve the Church of Ireland, which could not be improved by a motion of this kind. It was not shown that there was anything extravagant or unnecessary in the expenditure of the Irish Church, and the number of Episcopalians had increased relatively to the aggregate population of Ireland.—Sir G GREY gave his decided opposition to the motion. It had been avowed by a supporter of the motion that his object was to abolish the Established Church in Ireland, and this and other wild notions it was proposed to submit to 15 members upstairs—Colonel GREVILLE moved the adjournment of the debate (which was negatived on a division by 228 to 67.—Mr. MONSELL said the real question was whether the Irish people were to be treated as the Scotch and English people determined to be treated.—After a few remarks by Mr. SCULLY, Mr. LANIGAN moved the adjournment of the House, which was agreed to without a division.

TUESDAY.—The *Salmon Fisheries (Ireland) Bill* was further considered in committee, and the clause was struck out by which it was proposed to give compensation to the owners of stone weirs for allowing a free gap for the ascent of the fish to the upper waters—Mr. HORSFALL asked whether the British ship *Gibraltar*, bound for Nassau, had been refused a clearance by the customs authorities at Liverpool; if so, on what ground the refusal was based, and whether it had been done at the instigation of Mr. Adams, the American Minister.—Mr. LAYARD replied that the Gibraltar was the famous Sumter under another name, and that when the Government heard that large guns had been put on board her, they made inquiries though not at the instigation of Mr. Adams); but, on ascertaining that the guns were not such as could be used for the armament of the ship, they directed the authorities at Liverpool to give her clearance. *Recognition of the Confederate States.*—Mr. W. E. FORSTER inquired whether any communication had been received by the Foreign Office from the French Government relating to the recognition of the South.—Mr. LAYARD replied that no communication either for recognition or for an armistice, had been received since last autumn from the Emperor of the French—Mr. ROEBUCK then moved an address to her Majesty, praying her to enter into negotiations with the great Powers of Europe, for the purpose of obtaining their co-operation in the recognition of the independence of the Confederate States of North America. In bringing forward this question he was quite aware that he would incur obloquy from a certain party, but he was quite prepared to accept any unpopularity which might attach to him on that account. The Americans, who considered themselves the salt of the earth, having obtained their own independence by a revolution against a stubborn and silly King, laid down two great principles—one, the right of nations to assert their independence, as they themselves had done; and the other, the right of nations to recognise conceded States. The Federals had, however, since the outbreak of the civil war ignored those principles altogether, and now denied the right of the Southern States to self-government, and the right of the great Powers of Europe to acknowledge an independence which had been achieved by heroic valour in the field and profound sagacity in the council. The victories which had crowned the Southern arms were continuous and indubitable. The Confederates had swept the invader from their soil, and Washington was now in greater danger than Richmond. To say that negro emancipation was the object for which the North had gone to war with the South was simply absurd, because if the South would come back into the Union to-morrow the North would join her to rivet the fetters of the slave yet more firmly. With regard to the feeling of the Emperor of the French, he had reason to know that his Majesty was still mose anxious to co-operate with England for the recognition of tht Southern States, and that he had directed Baron Gros to intimate as much to Earl Russell. At the same time the Emperor felt aggrieved by the conduct of her Majesty's Government in having sent his despatch of November last to Washington, where Lord Lyons showed it to Mr. Seward. His Majesty would not again subject himself to such treatment, and he gave him (Mr. Roebuck), full liberty to state the fact to the House. Having referred to the privations which the operatives in the cotton districts were suffering, he concluded by appealing to the House to disregard the hypocritical cry of the Manchester party, and to assent to his proposal.—Mr. LINDSAY seconded the motion.—Lord R. MONTAGU moved as an amendment, "that this House earnestly desires that an impartial neutrality should continue to be maintained by her Majesty's Government during the present unhappy contest in the States of North America." He felt quite as much sympathy for the South as Mr. Roebuck, but he did not wish to deprive her of the glory of achieving her own independence in her own way. He also objected to recognition, because he believed that it meant war, and would be as injurious to this country as it would be to the Confederates themselves.—Mr. C. CLIFFORD seconded the amendment.—The CHANCELLOR of the EXCHEQUER said there could be no doubt that the sympathy of the vast majority of the people of this country was with the Confederates in their struggle for independence, and that there was an equally general desire for a cessation of hostilities. He for one, did not believe that the restoration of the Union was attainable, or that the emancipation of the negro could be achieved by bloodshed. At the same time, he could not give his sanction to a premature recognition, which the experience of history showed was generally followed by war. Intervention at this moment might arouse a strong patriotic reaction in the North, and impart to the people that defensive energy which was the secret of Southern success. He thought the time had arrived when the war should end, but he had more faith in the gentle action of public opinion than in diplomatic action, which might lead to complications terminating in war.—Mr. W. E. FORSTER supported the amendment, contending that premature recognition would be a breach of neutrality, and that if it were not followed by war, it would be a pompous nothing. The action of France had induced Congress to pass the conscription law, and any approach to intervention now would weaken the peace party in the North.—Lord R. CECIL supported the original motion, believing it vain to suppose that the North could conquer the South, and therefore the continued prosecution of hostilities was a gigantic crime—Mr. BRIGHT criticised the speech of Mr. Roebuck, which he considered to be illogical and inconclusive. The war in America was more likely to abolish slavery than anything else that could have happened; but even that end would not justify interference on our part in a struggle which was purely internecine. He did not believe that the North would subjugate the South, but, if a separation should occur for a time, he believed that the interests, sympathy, sentiments, and necessities of the entire continent would at no distant period unite them again under one central Government. He warned the House not to commit itself to the course indicated by the motion, for if it did, when the war was over, a wound would be left in the hearts of a great people which a century might not heal.—Mr. PERCY WYNDHAM moved the adjournment of the debate.—Sir G. GREY said that Mr. Roebuck's assertion that the Emperor of the French had again invited the Government of her Majesty to co-operate with him to obtain the recognition of the South, was at total variance with the information which had reached the Foreign Office.—After a few words from Mr. NEWDEGATE in opposition to the motion, the debate was adjourned until Thursday next. Several Bills on the table were advanced a stage.

WEDNESDAY.—Mr. W. EWART moved the second reading of the *Weights and Measures Bill*, the object of which was to decimalize our weights and measures, making them correspond with those of other countries. Pages, he said, might be filled with a list of the varieties and anomalies in our measures of quantity and length, which not only embarrassed our internal trade, but our transactions with other countries. The proposed system would rest upon the metre, or new yard, whereby all other measures of extension were to be derived and computed, the units of measures of capacity and weight having relation thereto. The Bill was founded upon the report of the Select Committee of last year, and would not come into operation for three years.—Mr. HENLEY believed that the change would cause greater evils and inconveniences than it would remove.—Mr. LOCKE, Mr. P. URQUHART, Sir M. FARQUHAR, Mr. ADDERLEY, and Mr. BAINES, supported the Bill, though they objected to its being made compulsory.—Mr. HUBBARD thought the commercial advantages expected from the decimal system were exaggerated, and that there would be great difficulty in carrying the system into effect unless it was enforced by penal laws.—Mr. COBDEN said that the weight of authority in the evidence taken by the committee was immensely in favour of a decimal system. The French system was entirely cosmopolitan, and might be adopted by us without any concession to France. It was opposed only by the *vis inertiæ*, all admitting that the present system was bad. The people would be reconciled to the decimal and metrical system by the saving of time it would effect, and the young would in time influence the old in its favour. He strongly felt, however, that this matter must be dealt with by a body like the Board of Trade.—Mr. FERRAND thought that compensation would be required by the small traders who had bought weights and measures under the present law.—Mr. M. GIBSON did not feel sanguine as to the people of this country being induced to conform, without great resistance, to any change of our weights and measures. It was also a question whether the House ought to assent to a compulsory measure enacting that, after a certain time, every person in the United Kingdom who did not use in the transactions of trade the metrical system should be liable to a penalty. Though he approved the metrical question, he could not consent to making it compulsory, and if Mr. Ewart would withdraw this Bill, he would support a measure of permissive character, as a first step to the object in view.—Mr. BAZLEY was of opinion that the difficulties of the change of system had been exaggerated.—Mr. ROEBUCK suggested that the Bill might be read a second time, so as to affirm the principle.—The CHANCELLOR of the EXCHEQUER said it would be idle to attempt to pass a Bill, the principle of which was compulsory.—Mr. HODGSON suggested that Mr. Ewart would disarm much opposition if he would make the Bill in committee permissive, and not compulsory.—Mr. EWART said he had no objection to alter the measure in conformity with this suggestion. On this understanding the House divided, when the motion for the second reading was carried by 110 to 75. The Bill was then read a second time.—Mr. HOLLAND withdrew the *Sheep, &c., Contagious Diseases Prevention Bill*, and Mr. BRUCE, on the part of the Government, undertook to bring in a Bill to continue for another session the powers of the existing statutes to prevent the spread of contagious diseases in cattle. The *Nuisances Removal Act* (1855) *Amendment Bill* was read a second time. The *Stipendiary Magistrates Bill*, the *Poor Law Continuance Bill*, and the *Loan Societies Bill* passed through committee.—Mr. VILLIERS obtained leave to bring in a Bill to extend for a further period the provisions of the *Union Relief Aid Act*.—Mr. STANSFELD obtained leave to bring in a Bill to enable provision to be made, out of the funds of *Greenwich Hospital*, for the widows of seamen slain, killed, or drowned in the sea service of the Crown.

THURSDAY.—*Mr. Roebuck and the Emperor of the French.*—In answer to questions from Mr. W. E Forster, Mr. LAYARD made a statement in reference to the assertions of Mr. Roebuck on Tuesday evening, that the Emperor of the French considered he had been badly treated by the English Government, which had sent his private despatch of November last on the subject of mediation in America to the British Minister at Washington, by whom it had been shown to Mr. Seward before a copy had been received by the French Minister in that capital. He distinctly denied that the English Government had been the first to publish the despatch in question, and said that the French Government had published their note in the *Moniteur* before they had received the answer from London; that it was not Lord Lyons, but M. Mercier, the French Minister at Washington, who had communicated it to Mr. Seward, and that it was Mr. Seward, and not Lord Lyons, who spoke first on the subject.—The CHANCELLOR of the EXCHEQUER moved a vote of 105,000*l.* for the purchase and part alteration of the *International Exhibition Building*. He said that if the House were to accede to this proposal, he should give notice to introduce a Bill to authorise the separation of certain collections in the British Museum. The three urgent wants which the Government had to supply were—a national portrait gallery, a museum of patents, and a place for the reception of the natural history collection now in the building at Bloomsbury. To meet these it was proposed to retain the picture galleries and the refreshment rooms looking into the Horticultural Gardens, and, in fact, to deal with the interior of the building and the four and a-half acres of land on which it stood, leaving the domes, the decoration of the exterior, and the remaining 12 acres of land, for the future consideration of Parliament. The cost of this arrangement would be 290,000*l.*, and the Government were prepared, under all the circumstances, to recommend it, on the ground of economy and expediency. There was no obligation upon the contractors to remove the building within a certain time, and if the Government removed it they would have a great architectural question to deal with, besides a great money question, while serious inconveniences would result from the unavoidable delay.—Lord ELCHO moved the rejection of the vote, on the ground of the utter impossibility of metamorphosing the present hideous building into anything either creditable to the nation or useful for the purposes intended. He contended that the scheme would be a fruitful source of expenditure, disappointment, and annoyance, and called upon the committee in the name of sound sense, sound economy, and good taste, to negative the vote.—Mr. TITE said that the Institute of British Architects had satisfied themselves by a careful examination that, independently of all artistic considerations, the adaptation of the building in the manner proposed was absolutely impracticable.—Mr. BENTINCK insisted that if any serious difficulties were likely to arise with the contractors respecting the removal of the building, Parliament was released from obligation to purchase the land, as the vote for that purpose had been carried by a false pretence. If, on the other hand, the purchase was a good one, the best thing that could be done would be to sell the land again as soon as possible. He believed that if the building were purchased there would be no limit to the expenditure which it would entail.—Sir J. SHELLEY could not conscientiously vote for the purchase, and expressed his opinion that the best economy would be to pull down the building.—Mr. COWPER supported the vote, contending that it would not commit the House to any extravagant expenditure.—Mr. C. BENTINCK declared that if it had been known that any obstacle would have been raised by the contractors to the removal of the building the House would never have agreed to purchase the land. He opposed the proposition as extravagant, irrational, and discreditable.—Lord H. LENNOX supported and Mr. GREGORY opposed the vote.—Sir S. NORTHCOTE next endeavoured to address the committee amid a scene of some confusion, but was compelled to resume his seat.—Mr. DISRAELI and Mr. LOWE also endeavoured to obtain a hearing, but with no better result.—Lord R. CECIL besought the committee to conduct the debate with greater moderation.—Mr. HENLEY said that the Chancellor of the Exchequer's speech had removed all doubt from his mind, and compelled him to oppose the vote.—Mr. DISRAELI, amid loud calls for a division, explained that the object of Sir S. Northcote in rising was to move that the subject be referred to a select committee.—Sir S. NORTHCOTE subsequently moved as an amendment that the vote be reduced by 25,000*l.*, so that 80,000*l.* might remain for the purchase of the building only.—The CHANCELLOR of the EXCHEQUER recommended that the amendment should be withdrawn.—Sir S. NORTHCOTE complied, and the committee divided amid a scene of unusual excitement, when the numbers were—For the vote, 121; against it, 287; majority against it, 166. The vote was then expunged amid the enthusiastic cheers of the majority. The Committee on *Fortifications and Works* was postponed. The *Duchy of Cornwall Management* (1863) *Bill* was read a second time. The other orders of the day were then disposed of.

FRIDAY.—At the morning sitting several Railway Bills were read a third time and passed. *Fisheries (Ireland) Bill.*—The House went into committee on this Bill, and the consideration

of the [illegible] the remainder of the sitting. The House resumed at six o'clock.

[Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 92½ for Money; Three per Cents. Reduced, 92 to 91¾; New Three per Cents., 91¾ to 92; Bank Stock, 236 to 235; India Five per Cent. Stock, 108¾ to ¾; Ditto Four per Cent. Debentures, 10[illegible] to ½; Five per Cent. Enfaced Rupee Paper, 107¾ to 107; Ditto Five and a Half per Cent., 116½; Exchequer Bills, March, 4s. dis.—FOREIGN: Brazilian, 1859 and 1860, 100½; Danish, 1862, 88½; Ditto 1864 Bonds, 89; Egyptian, 101½; Greek, for Acct., 34¼ to 34½; Ditto Coupons, 16¼ to ½; Italian (Maremmana Railway), 78, ex div.; Mexican, for Acct., 36¾ to 37; Russian, 1822, 96½; Ditto, 1862, 93¾ to 92¾; Sardinian, for Acct., 8[illegible]; Spanish, for Acct., 24½, ex div.; Ditto New Deferred, for Acct., 48¼, ex div.; Ditto Passive, 24; Ditto for Acct., 33¾ to ¼; Ditto Certificates, 12¾; Ditto, for Acct., 12½; Turkish, 1858, for Acct., 70½; Ditto, 1862, 67¾ to 68, ex div.; Ditto, for Acct. 67½ to 68, ex div.; Venezuela, 1862, for Acct., 57.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued.. .. .. | £2[illegible] | Government Debt .. .. | £11,[illegible] |
| | | Other Securities .. | [illegible] |
| | | Gold Coin and Bullion .. | 14,221,383 |
| | | Silver Bullion .. .. .. | — |
| | £2[illegible] | | £2[illegible] |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,[illegible] |
| Rest .. .. | 3,[illegible] | Other Securities .. | 2[illegible] |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of National Debt, and Dividend Accts.) .. .. .. | [illegible] | Notes .. .. .. .. | 7,[illegible] |
| Other Deposits .. .. | [illegible] | Gold and Silver Coin .. | 866,911 |
| Seven days and other bills | [illegible] | | |
| | £44,[illegible] | | £44,[illegible] |

July 2, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY, June 26.—BANKRUPTS.—[illegible]

[illegible]

## Metropolis and its Vicinity.

THE GUARDS' BALL.—The grand ball, given by the officers of the Brigade of Guards to the Prince and Princess of Wales, took place on Friday night, and was by far the most magnificent entertainment of the season. About 2000 invitations were issued, chiefly among the highest aristocracy. The company began to arrive at 9 o'clock, the earliest arrivals including the members of the Royal family, the Princes of the ex-Royal family of France, the Foreign Ambassadors, and the members of the Government, the general company having been requested to assemble before the arrival of the Prince and Princess. All the company were in plain evening dress, the Guards alone, as the entertainers, wearing full uniform. Before 10 o'clock every part of the room was crowded, and it became evident, as at Guildhall, that there could be no great amount of dancing. Precisely at half-past 10 the guests of the evening arrived with their suite in three of the Royal carriages, their approach being literally heralded from afar by the prolonged cheers of the crowd outside. On alighting their Royal Highnesses were received by the Committee, with the Duke of Cambridge at their head. The Duke conducted the Princess of Wales, the Prince giving his arm to the Duchess of Cambridge, while the Princess Mary was escorted by Prince Edward of Saxe-Weimar. Amid a silence that was marked and deep, but amid the most profound salutations of respect, the Royal party passed along to the Princess's boudoir, where the Princess remained for a minute to admire its beautiful interior, and then the Royal party proceeded at once to the dais beneath the throne, passing through a double line of the officers of the three regiments. For a minute there was a pause as the Princess with deep curtseys acknowledged the homage of greeting with which she was received. The Princess wore a mauve silk slip, over which fell a skirt of the richest Valenciennes lace, a wreath of hand roses interspersed with diamonds, and the necklace presented by the Corporation of London. The Prince of Wales wore plain evening dress, with the ribbon and star of the Order of the Garter. The ball at once commenced with a quadrille of 16 couples, the Duke of Cambridge, as first among the entertainers, leading forth the Princess of Wales while the Prince danced with the Princess Mary. Dance after dance followed, until at a little before 1 o'clock the band played the National Anthem, the heavy curtains at the head of the room were drawn aside, and the Prince and Princess of Wales, the Duke and Duchess and Princess Mary of Cambridge, followed by the most distinguished guests, passed down the ballroom to the apartment where the supper was laid out with more than regal splendour. As a spectacle, it was one of almost unequalled magnificence. The room had been decorated by Mr. Stone entirely with military trophies. Four great stars, formed entirely of weapons, occupied each side of the room, each star requiring the martial equipments of almost an entire regiment to complete it. Some were of immense weight, all were of great size and beauty, and those towards the centre of the room were encircled with wreaths formed of sabre blades, which had a most beautiful effect. Between these trophies, which glittered from a thousand different points, were groups of flags with men in armour at the bases, while at the head of the room, in the alcove where Foley's great statue of Caractacus stood last year, was one of the finest ornamental military trophies ever seen. It consisted of a group of figures in full suites of tilting armour, with visor down and lance in hand. The centre knights supported shields bearing the Prince's plume and motto, and the cross of the Dannebrog. Behind them were grouped a superb collection of ancient weapons—a perfect thicket of bristling points and blades, battleaxes, brown bills, two-handed swords, halberds, partisans, with helmets, gauntlets, shields, greaves, and breastplates, mixed up with spears and wall pieces that had done duty from the Wars of the Roses to the time of the Ironsides of Cromwell. Behind all was a star, composed of nearly a thousand ramrods, its centre formed of a small glass device representing the crosses of St. George and Andrew, with the badge of the Brigade with its motto "[illegible]." This magnificent trophy was raised about 10 feet from the floor, and its base of [illegible] was enriched with a magnificent collection of gold plate lent by the Dukes of Cambridge, Wellington, and Buccleuch, the Marquises of Exeter, Salisbury, and Londonderry, the Earl of Derby, and, indeed, most of the chief nobility famous for the rarity and value of their collections of plate. The centre piece was Flaxman's celebrated Waterloo Shield, the largest, and, probably, the finest work of art in gold in Europe—the first time that it had ever been lent by the Duke of Wellington. On the table itself was a gilded monument in silver, belonging to the Duke of Buccleuch, while on every side were massive piles of silver-gilt cups, salvers, and candelabra. Some idea may be formed of the glittering profusion with which these costly ornaments were shown on this occasion, when it is stated that the value of the plate lent for the fête amounted to nearly two millions sterling. After supper the Royal party returned to the ball room. Not a minute did the Prince lose after his return in recommencing the festivities of the evening, and again figure after figure succeeded each other rapidly, the Prince with his untiring vivacity and kind genial humour standing up in every set, and the Princess also dancing often, but not waltzing. It was getting well on to the gray of dawn before their Royal Highnesses quitted the room, when not even the severest rules of etiquette could entirely check the loyalty of the visitors as they retired. Their example of retiring early was not, however, by any means generally followed, and the clear dawn of Saturday morning found the entertainment almost in the zenith of its gaiety and beauty.

NATIONAL CONSERVATIVE REGISTRATION ASSOCIATION.—The anniversary dinner of this society took place on Friday evening at Willis's Rooms, the Earl of Shrewsbury and Talbot in the chair. About [illegible] guests sat down to table, including Mr. Disraeli, the Earl of Cardigan, the Earl of Malmesbury, the Marquis of Waterford, the Earl of Carnarvon, the Earl of Sheffield, Lord Redesdale, Lord Sondes, Lord J. Manners, Mr. Walpole, Mr. Henley, and the bulk of the Conservative party in the House of Commons. The usual loyal toasts were received with much enthusiasm. The Earl of Cardigan, on the part of the Army, replied to the toast of "the Army," and in doing so briefly adverted, amid much applause, to the recent trial in which his name was brought so prominently before the public. Sir J. Hay replied on behalf of the Navy. The toast of the evening was "Our leaders, and success to the Conservative cause," to which Mr. Disraeli responded. The right hon. gentleman contrasted the principles of the Conservative party with those of their opponents, described the adverse circumstances under which his party had twice taken office, the growth of Conservative opinions in Parliament and the country, and encouraged his hearers to do their duty at the coming registration. The following are extracts from his speech:—

"It has always appeared to me that the great political struggle which has prevailed during the last 30 years is, in fact, a struggle between popular principles and liberal opinions. The institutions of the country—our limited and limited but still real monarchy, our national Church, our estates of the realm, our colonial empire, our hereditary tenure of land, our ancient corporations and endowments, the vast and complicated fabric of our local jurisdiction and administration—all involve, represent, and secure popular principles and popular rights. It is by their united aid and agency that we enjoy that security for our persons and our properties which to the same degree, and in the same manner, is enjoyed by no other country and no other State. It is by their united aid and agency that the public liberties are preserved, that an education, secular and spiritual, is provided for the great body of the people, and that the rights of labour and the claims of industry are recognised in the scheme of the constitution. It is in short by their united aid and agency that the government of this country is carried on, by the benign assistance of local [illegible] influence, and not by the rude authority of a [illegible] police. It is by their agency that the national character has been formed. A professor of Liberal opinions, on the other hand, is an individual who is of opinion that he ought to be liberated from the control of these institutions. If he has a [illegible] he is for reducing the sovereign to the position of a chief magistrate. If he be a Dissenter, quite forgetful of the indirect advantage of an Establishment and a national Church even to himself; quite forgetful even of the direct advantage of a national Church to the millions of his fellow-subjects, he is desirous of reducing that Church to the position of a rival sect. If the House of Commons is an obstacle to the success of his political schemes, he is for reforming the House of Commons. If he is successful in the House of Commons, and the House of Lords is the obstacle, he will abrogate the House of Lords. To him the colonial empire is only an useful burden. To him corporations is only an expensive [illegible] for [illegible], and endowment for [illegible]. The tenure of land, which in forms of [illegible] and [illegible], external or domestic, offers something around which men may rally and save the State, is to him only the remains of the feudal system; and as for the great system of our self government, no one so much as the professor of Liberal opinions is [illegible] in showing you the imperfections necessarily inseparable from the political scheme, or can prove with such irresistible logic that the same thing can be done much better and much cheaper by a system of centralised administration founded on the principle of competitive examination. Gentlemen, the Tory party is only in its proper position when it represents popular principles. Then it is truly irresistible. Then it can uphold the Throne and the Altar, the majesty of the Empire, the liberty of the nation, and the rights of the multitude. There is nothing mean, petty, or exclusive about the real character of Toryism. It necessarily depends upon enlarged sympathies and noble aspirations, because it is essentially national. The moment that Toryism deviates from that great fundamental principle it is in danger. From that moment Liberalism flourishes, for Liberalism is the consequence of our errors, and often their corrective. When Lord Derby reluctantly accepted the Queen's commands

n 1852 there was an absolute majority against us in the House of Commons of 200. When Lord Derby took office in 1858 there was an absolute majority in the House of Commons against us of 140. Do you believe that under such circumstances those whom you entrusted with your confidence were ignorant of the immense risks they ran? Do you suppose that those to whom you still look up with a confidence, which is their greatest pride, were not prepared in either instance for the great probability—perhaps for the positive certainty—of great personal mortification? All this we had to consider when we accepted office under conditions which never before were offered to English statesmen. But we had a sense of duty to guide us, and we had to ask ourselves this,—Shall we still struggle to preserve the great traditions of English political life, or shall we say that the system of party Government, to which we owe, in our opinion, English liberty and all those blessings that have marked out this realm among nations for so many years—shall we at once say that from the fear of personal mortification we will lose such a choice for the kingdom and for the people? No, with great reluctance, as is now well known, with a true sense of danger which all might have imagined, we confronted on both occasions that [illegible] peril, and in time, I confess, we yielded to it. But this I hope I may say in passing, that, accepting office under such conditions, at least we performed its duties in a manner not disgraceful to ourselves, and not dishonourable to you. But, what was the cause of our fall? On both occasions there happened that which in the history of this country, rich and long as are its political annals, never before was equalled, for which there is no parallel, and which the future, perhaps, would have no instance to compare with. We fell before the most peculiar coalition that ever existed, or probably ever can exist even in England. The Liberal party defeated us in 1852 because they coalesced with the pupils of Sir R. Peel, and the Liberal party defeated us in 1859 because they coalesced with the pupils of Mr. Bright. But, gentlemen, don't you see the moral of this? The powers of coalition are exhausted. In the purgatory in which the Liberal party found themselves they first applied to celestial archangels, and then they descended to the lowest abyss of Hades. But a lower abyss there is not. Their means are exhausted. Coalition has nothing to fall back upon. Then, I tell you, and I tell the country this, for it is an important truth, that in a country like England, a coalition produces the same effect as in continental lands is produced by a coup d'état. It suspends political life, and from such a state of affairs there is an inevitable reaction which no nation can escape. That reaction will come in countries where coups d'état have succeeded as it will come in countries which are still ruled by the remnants of exhausted coalitions. But when that inevitable reaction comes, it is the duty of the Tory party to be prepared. And if during a long period you have endured mortification and disappointment, if you have been betrayed by those in whom you have trusted, if for a moment the principles which bind you together seemed to be loosed, I trust that the moral experience of those years have brought you back to a due sense of the true value and eternal character of the principles by which a great national party in England can alone be maintained.

CONSERVATIVE DINNER AT THE MANSION HOUSE.—On Wednesday evening the Lord Mayor entertained at dinner, in the Egyptian Hall, the leading members of the Conservative party in both Houses of Parliament. There were present the Earl of Derby, Mr. Disraeli, the Marquis of Salisbury, the Earl of Malmesbury, Lord Chelmsford, Lord Stanley, Sir E. B. Lytton, General Peel, Mr. Walpole, Mr. Henley, and about 250 other guests. In returning thanks for the toast of the evening, the Earl of Derby spoke at great length on the prospects of the Conservative party in connection with the present state of the country and of Parliament. The following are extracts:—

"I thank you cordially for associating my name with that great and noble Conservative party with which it is my happiness to be associated. I can assure you I am far more grateful for this association with that noble party than I could be for any compliment whatever, however high and unmerited, which might be paid to me personally for any services I might be supposed to have at any time performed. For I venture to say there is no language which can adequately express, or, at all events there is no language which could exaggerate the merits of the conduct—the forbearing, the firm, the patient, the self-denying, the patriotic conduct which has been pursued for the last four years by that great party. I beg to be forgiven for recalling to the recollection of this company the position in which that party has been placed for the last four years. It is that length of time since that party—numerically far superior to any of the sections into which what is called the Liberal party is divided—numerically far superior to any of these, and not very far though somewhat inferior to all of these sections put together—that party found itself ejected from office by what I may, without offence, call a pretext, which pretext, as soon as it had served its purpose, was at once abandoned. And what was the course of the Conservative party on that occasion? Did they give way to the indulgence of idle vexation, to revenge, to retaliation? Did they immediately occupy themselves in forming combinations and coalitions to overthrow the Government which had succeeded in their stead? They did nothing of the kind. Far from entering into such combinations and coalitions, the course they have been pursuing for the last four years has been that of adhering steadfastly to their own fixed principles; but, at the same time, not only not opposing, but even supporting, against their own more violent supporters, that very Government by whom they were ousted from office. It is with parties very much as it is with troops—it is not the active campaign, it is the heat of the engagement which tries the real mettle of the troops; but it is the long protracted inaction; it is the lying exposed to fire with the enemy in your front, and not being permitted to make an attack; it is the waiting for the moment when victory may be achieved, when it would be lost by being too early anticipated;—it is this which tries the temper, the forbearance, the real courage of the soldier. That is the trial of the temper, the forbearance, the real courage, the true patriotism of a political party. Such, gentlemen, has been the course which for the last four years has been pursued by the Conservative party in this country. Feeling themselves able at any moment, could they but stoop to such combinations as they have been charged with, to overthrow the Government, they have yet studiously abstained from any risk of throwing the country into disorder or confusion, and have been satisfied by maintaining their own principles, and often supporting the Government against their own more advanced political allies. I must say that it is most vexatious and annoying to a great party to see during the long period of four years every political office, every office in Church and State, and all the little minor patronage of the country appropriated entirely to those who are their political opponents, and themselves deprived of any portion of the influence derived from the possession of that patronage. Except the great Conservative party, there is no party which under such a state of things could have passed that long period of inaction without materially dwindling in their numerical force and spirit as a party. But, so far from this being the case, I am proud to say we reckon in the House of Commons at this moment a greater number of Conservative members than I could claim the assistance of when I was First Minister of the Crown. From the period when the so-called Liberal Government succeeded to office, for the most part the advanced Liberals have been very well satisfied to leave their favourite projects in abeyance; and, with the exception of those renewed assaults on the Church of England—which I am happy to say, owing to the vigour, firmness, and determination of the Conservatives, have been constantly repelled, as I trust they will continue to be repelled—the supporters of her Majesty's Government have had the somewhat unpleasant surprise of seeing some of their more favourite projects either faintly supported or quietly abandoned, or even almost hooted out of the House of Commons. Well, as long as the advanced Liberals were satisfied to remain in office, and to see their favourite principles discarded, and all their pet projects laughed out of the House of Commons, we, as good Conservatives, were, under existing circumstances, satisfied for the present with that arrangement. I do not say that is an arrangement which is satisfactory, because it is always unsatisfactory when power and office are in different hands. A weak Government is the greatest possible misfortune for a country, and it is therefore unfortunate that at the present moment the Government of the country is so far from being able to keep its own course and to take its own time that it is constantly relying, not on the forbearance, but even on the support of its political adversaries, while those political adversaries, thus wielding the real power of the country and directing its affairs, have yet not such a numerical absolute majority as to enable them, in their turn, to form a strong Government, and to hold as well as to take possession of the reins of power. I say this is an unfortunate state of things; but if you ask me or any member of the Conservative party whether they would rather be connected with a strong Opposition or a weak Government, I must say for myself, I have not the slightest hesitation in saying, for the benefit of the Conservative party, for the benefit of the country, for the benefit of the conduct of affairs, let us be not in a weak and feeble Government, relying on the forbearance of our opponents, but let us be in a strong Opposition, able to control the action of Ministers—to be held forth as a bugbear to the advanced Liberals by the heads of that party, and also effectually to prevent their combination from operating dangerously to the country. There can be no greater misfortune than that the Conservative party should attain office with such a measuring-cast majority, if any majority at all, which would place them day by day at the risk of any combination or coalition that might be formed against them by the various elements which, if they cannot work well together, are sure to agree well enough to oppose them."

SCIENTIFIC BALLOON ASCENT.—Mr. Glaisher and Mr. Coxwell ascended in a balloon from Wolverton on Friday, in the presence of a number of scientific men, who went down purposely from London in a special train placed at their disposal by the North-Western Railway Company. The balloon left Wolverton at 12 minutes after 1, and descended about eight miles beyond Ely at 28 minutes past 2. The highest point reached was four miles and a half, and the balloon at times travelled at the rate of 70 miles an hour. At an elevation of three miles it encountered a snowstorm, and came in contact with the clouds at various intervals.

SINGULAR DISCOVERY AT STOKE NEWINGTON.—On Tuesday morning several coffins containing the bodies of infants, and a pauper coffin of an adult, but without a corpse in it, were discovered concealed under a quantity of rubbish, on the premises of Mr. H. Chapman, undertaker, at Stoke Newington. At present there is no explanation of the circumstances, but Mr. Chapman states that he will be able to produce medical certificates to prove that the deaths were not the result of foul play.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that in the week that ended on Saturday, June 27, the deaths in London were 1158. The average number in the corresponding week of the 10 years 1853—62, corrected for increase of population was 1,236. The present return is therefore 78 below the average. During the week the births of 1025 boys and 934 girls, in all 1959 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1912.

## Provincial.

LEEDS.—Nine persons have lost their lives by the explosion of a large steam boiler at the woollen cloth manufactory of Messrs. Hirst & Sons, Hem Brigg Mill, Morley, near this town. The boiler exploded on Saturday morning, at the time when the mill was stopped for breakfast. Parts of it, with portions of the attached machinery, and the materials of the mill and boiler-house, were thrown to great distances with immense force. Six persons were killed at the time, and several others were so seriously injured that three of them have since died. It appeared from the scientific evidence at the inquest that the safety-valve was out of order. The jury returned a verdict of "Accidental Death."

LIVERPOOL.—The Great Eastern sailed from Liverpool on Tuesday morning for New York, under the command of Captain Paton. She took out about 6000 tons of cargo, 130 cabin and 600 steerage passengers. She was to call at Queenstown, where it was expected that she would embark about 500 more passengers.

MANCHESTER.—At the meeting of the Central Relief Committee on Monday, Mr. Commissioner Farnall reported a further decrease in the number of unemployed operatives to the extent of 2613, making a diminution of more than 100,000 since the 6th December last. The chairman, Sir J. Kay Shuttleworth, took a gloomy view of the prospects of the district, and said that next winter the distress would be fully as great as it was last, minus the number of those that might find employment on the public works.

NEWARK.—On Monday morning a shocking suicide was committed at this place by a Frenchman called Viscount de Maires, on the Great Northern line. He entered the booking-office at Edinburgh, and took a through ticket to London by the early mail train. When the train was approaching Newark station his fellow-passengers were startled by the report of a pistol, which he had discharged with deadly effect into his head. On the train stopping at this place the body was removed from the carriage, which was covered with blood and brains. The jury at the inquest returned a verdict "that deceased took away his own life, but there was no evidence to show the state of his mind."

## Law.

COURT OF QUEEN'S BENCH: *Dickson v. Lord Combermere and others.*—This action, which has occupied the Lord Chief Justice and a Special Jury for 8 days, was brought by Colonel Dickson, formerly Lieut. Colonel of the 3d Tower Hamlets Militia, against the Earl of Wilton, formerly Colonel-in-Chief of the same regiment, Viscount Combermere, Lord-Lieutenant of the Tower Hamlets, and General Peel, Secretary for War under Lord Derby's Government, charging them with having conspired together to procure, by means of false and malicious charges, the dismissal of the plaintiff by her Majesty from the command of that corps. A second count in the declaration charged each and all of the defendants with the false and malicious representations, without the allegation of conspiracy. At an early period of the trial, the Lord Chief Justice intimated that there was no case against General Peel, and on Saturday the jury, without leaving the box, and after a consultation of only a few minutes, returned their verdict for the other defendants.

BIRTHS.—On the 27th ult, at Edwinsford, Carmarthenshire, Lady WILLIAMS DRUMMOND, of a son—29th ult, at 7, Mansfield Street, Madame DE COMYN, the wife of the Spanish Minister, of a son—28th ult, at 30, Norfolk Square, Hyde Park, the wife of Lieutenant-Colonel Hon. CHARLES POWYS, of a son.

MARRIAGES.—On Tuesday, the 30th ult, at St George's, Hanover Square, the Hon. GERARD NOEL, M.P., to AUGUSTA MARY, second daughter of Colonel the Hon. HENRY CECIL LOWTHER, M.P.—27th ult, at the Old Church, Caterham, Surrey, the Rev. GEORGE M. GAY, M.A., eldest son of the late George Gay, Esq., of Biddlesden Park, Northamptonshire, to CHARLOTTE MARIAN, youngest daughter of the late Sir JOHN KEY, Bart.—30th ult, at St. James's, Piccadilly, Captain T. P. BERTHON, Royal Artillery, eldest son of P. H. Berthon, Esq., of The Forest, to AMELIA CAROLINE HURD, eldest daughter of the late Major-General MILES.

DEATHS.—On the 24th inst, at Cantley, ANNE, the wife of JOHN WALBANKE CHILDERS, Esq., aged 60—29th ult, at 32 Hyde Park Gardens, JOSEPH MARTINEAU, Esq., of Basing Park, Hampshire, aged 77—25th ult, at Dix's Field, Exeter, Captain JOHN BINGHAM, R.N., aged 78—26th ult, in Down Street, Piccadilly, Commander HENRY RICH, R.N., aged 74—23d ult, at Hythe School of Musketry, Lieutenant JAMES EDMUND BRYMER, H.M.'s 83d Regiment of Foot, aged 24—24th ult, at Perth, Ensign WALTER STANHOPE SHERWELL TROUP, 92d Highlanders, eldest son of Major General Troup, aged 22—25th ult, at Clifton Park, Birkenhead, the Rev. JAMES DICKSON DIXON, M.A., late incumbent of Bramley, Yorkshire, aged 47—25th ult, at Blandford, the Rev. W. HARTE, rector of Blandford, aged 48—30th ult, at his residence, Cossna House, Surbiton, the Rev. WILLIAM JAMES WALL, M.A., eldest son of the late Rev. Daniel Henry Wall, formerly rector of Clonmel, Tipperary, Ireland, aged 50.

## Markets.

COVENT GARDEN, July 4.

Vegetables of all kinds are now most abundant, and fruit is also becoming very plentiful, especially Peaches and Nectarines. Of Grapes and Pine Apples the supply is likewise sufficient for the demand. Strawberries are abundant and good in quality. Cherries of foreign growth are fetching from 5s. to 6s. 6d. per basket, weighing about 24 lbs. each. Some good English grown Cherries may also now be obtained. Of Melons, both English and foreign, there is a good supply, and Oranges are plentiful. New Potatoes realise from 8s. to 11s per cwt. Cut flowers chiefly consist of Orchids, Pelargoniums, Calceolarias, Fuchsias, Violets, Stocks, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 3s to 6s | Lemons, per 100, 12s to 16s |
| Grapes, per lb., 2s 6d to 8s | Oranges, per box, 30s to 40s |
| Strawberries, p. lb., 6d to 2s | — per 100, 5s to 10s |
| Apples, per doz., 9d to 1s 6d | Nuts, small, per bushel, 14s to 18s |
| Figs, per doz., 6s to 8s | Almonds, do., 18s |
| Peaches, per doz., 15s to 30s | Walnuts, do., 10s |
| Nectarines, do., 8s to 18s | |
| Melons, each, 3s to 7s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Green Peas, per qt., 1s to 1s 6d | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers each, 3d to 6d | French Beans, per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 99s | Asparagus, per 100, 2s to 5s |
| " Flukes, do., 100s to 120s | Shallots (new), p. bunch, 6d |
| " Rocks, do., 60s to 80s | Rhubarb, p. bundle, 2d to 4d |
| " Cups, do., 75s to 85s | Garlic (new), per bunch, 6d |
| Turnips, p. bunch, 4d to 8d | Lettuces, each, 1d to 2d |
| Carrots, do., 8d to 10d | Endive, p. score, 1s to 2s |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bun. 1s 6d to 4s |
| Cucumbers, each, 1s to 1s 6d | Mushrooms, p. pott., 1s to 2s 6d |
| Beet, per doz., 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| | Herbs, per bunch, 3d |

NEWGATE.—July 3.

| | | |
|---|---|---|
| Best Fresh Butter | .. .. | 13s. per dozen lbs. |
| Second do. do. | .. .. | 11s. " |

Pork, 4s 0d. to 4s 4d. per 8 lbs.

HOPS.—BOROUGH MARKET, FRIDAY, July 3.

Messrs. Pattenden & Smith report a fair consumptive demand for the better descriptions of last year's growth at firm rates. The reports from many parts of the the plantations are not so favourable, vermin increasing, followed by honey-dew.

METROPOLITAN CATTLE MARKET.

MONDAY, June 29.

The number of Beasts is rather larger than on Monday last, but the average quality is scarcely as good. Trade is active for the choicest descriptions at about that day's quotations. Other kinds are rather lower. The supply of Sheep is shorter, and they are readily disposed of at late rates. Lambs are more plentiful; there is however a demand for them at nearly late rates. Calves are selling at about the same as on Thursday. From Germany and Holland there are 1060 Beasts, 4460 Sheep, and 298 Calves; from France 35 Calves; from Scotland, 96

Beasts; from Ireland, 130; from Norfolk and Suffolk, 1650; and 700 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 2 | Best Long-wools .. | — .. |
| Best Short-horns | 4 8 — 5 0 | Do. Shorn .. | 4 6 — 4 10 |
| 2d quality Beasts | 3 6 — 4 2 | Ewes & 2d quality .. | — .. |
| Best Downs and Half-breds .. | .. — .. | Do. Shorn .. | 3 8 — 4 4 |
| Do. Shorn .. | 5 0 — 5 2 | Lambs .. .. | 8 — 6 4 |
| | | Calves .. .. | 3 0 — 4 6 |
| | | Pigs .. | 3 0 — 4 4 |

Beasts, 4330; Sheep & Lambs, 24,340; Calves, 399; Pigs, 310

THURSDAY, July 2.

The number of Beasts is smaller than on Thursday last, Trade is consequently brisk, and Monday's quotations fully maintained. We have about an average supply of Sheep and Lambs. The demand has rather increased, and prices in some instances have advanced. Calves are plentiful; some of the choicest make rather more than on Monday, but inferior kinds are not selling any better. Our foreign supply consists of 375 Beasts, 2130 Sheep, and 540 Calves, Milch Cows, 85.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 2 | Best Long-wools. .. | — .. |
| Best Short-horns | 4 8 — 5 0 | Do. Shorn .. | 4 8 — 4 10 |
| 2d quality Beasts | 3 8 — 4 4 | Ewes & 2d quality .. | — .. |
| Best Downs and Half-breds .. | .. — .. | Do. Shorn .. | 4 0 — 4 6 |
| Do. Shorn .. | 5 0 — 5 2 | Lambs .. .. | 5 2 — 6 4 |
| | | Calves .. .. | 3 0 — 4 8 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 1055; Sheep & Lambs, 11,580; Calves, 735; Pigs, 190.

## COAL MARKET.—July 1.

Byass's Bebside West Hartley, 15s. 3d.; Lambert's West Hartley, 15s.; Walker Primrose, 12s. 6d.; West Hartley, 15s. 3d.; Wylam, 15s. 6d.; Walls End Harton, 14s. 6d.; Walls End Riddell, 14s 6d.; Eden Main, 15s.; Walls End Braddylls Hetton, 15s. 6d.; Walls End Haswell, 17s.; Walls End Hetton, 17s.; Walls End Russel's Hetton, 15s. 3d.; Walls End South Hetton, 17s.; Walls End Stewarts, 16s 6d.; Walls End Cassop, 15s. 6d.; Walls End Hartlepool, 16s. 6d.; Walls End Heugh Hall, 15s. 9d.; Walls End Kelloe, 15s. 9d.; Walls End South Hartlepool, 15s. 3d.; Walls End South Kelloe, 15s. 9d.; Carway and Duffryn Malting, 19s 6d.—113 ships at market.

## HAY.—Per Load of 36 Trusses.

SMITHFIELD, THURSDAY, July 2.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 80s | Clover, old .. .. | 90s to | 126s |
| Superior do. .. | 80 | 90 | New Clover .. | — | — |
| Inferior do. .. | 45 | 60 | Do. second cut .. | 80 | 115 |
| New do. .. .. .. | — | — | Straw .. .. .. | 26 | 34 |
| Rowen .. .. .. | — | — | | | |

HARVEY & EASTON.

WHITECHAPEL, THURSDAY, July 2.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime Clover .. | 118s to | 126s |
| Inferior do... .. | 75 | 80 | Inferior do... .. | 100 | 110 |
| Prime New Hay.. | 60 | 70 | New do. .. .. | 80 | 90 |
| Inferior.. .. .. | — | — | Prime 2d cut .. | 115 | 123 |
| Straw .. .. .. | 28 | 32 | Inferior do. .. | — | — |

## BRITISH WOOLS.—London, July 3.

A fair demand continues for all descriptions of combing wool at full rates, but at the prices demanded by the growers the consumers merely supply their recurring wants.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 9½ to 1 10 | Leicest. Wethers | 1 8 to 1 9 |
| Half-bred ditto.. | 1 10 — 1 11 | Ditto Hoggs .. | 1 9 — 1 10 |
| Down Ewes .. | 1 8½ — 1 9 | Combing Skins | 1 4 — .. |
| Kent Fleeces .. | 1 9 — 1 10 | Flannel Wool .. | 1 4 — .. |
| | | Blanket ditto .. .. | — .. |

## MARK LANE.—Monday, June 29.

There was very little English Wheat at this morning's market, nevertheless it met a slow sale at the prices of this day se'nnight. Foreign was in limited demand, and where it was necessary to force sales ex ship a slight decline had to be accepted. Barley, Beans, and Peas bring late prices. The Oat trade is quiet. Good sweet Corn is in fair demand at late rates, but out-of-conditioned parcels are very difficult to sell and cheaper. In Flour there is but little doing, and prices are unaltered.

| Per Imperial Quarter | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk.. White | 46—56 | Red ..... | 42—50 |
| — — fine selected runs..ditto | 47—54 | Red .... | 42—52 |
| — — Talavera .............. | 48—60 | | |
| — Norfolk ..................... | — | Red .... | — |
| — Foreign ...................... | 35—62 | | |
| Barley, grind. & dist, 23s to 30s.. Chev. | 34—38 | Malting .. | 31—34 |
| — Foreign.. grinding and distilling | 23—27 | Malting .. | 28—32 |
| Oats, Essex and Suffolk ........... | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .... | 21—23 |
| — Irish ..................Potato | — | Feed .... | — |
| — Foreign ...... Poland and Brew | 18—22 | Feed .... | 17—22 |
| Rye ...................................... | 35—37 | Foreign .. | — |
| Rye-meal, Foreign ................. | — | | |
| Beans, Mazagan....30s to 31s.. Tick | 31—32 | Harrow .. | 31—32 |
| — Pigeon .... 34s to 38s.. Winds. | — | Longpod | — |
| — Foreign ................. Small | 40—46 | Egyptian | 32—34 |
| Peas, White, Essex and Kent.. Boilers | 35—37 | Suffolk .. | 37—40 |
| — Maple .... 42s to 43s .... Grey | 36—37 | Foreign .. | 30—38 |
| Maize ........................White | — | Yellow .. | — |
| Flour, best marks delivered.. per sack | 42—47 | | |
| — 2d do .................... ditto | 32—44 | Country .. | 32—40 |
| — Foreign ............ per barrel | 20—28 | Per sack | 34—48 |

FRIDAY, July 3.

The weather since the 26th ult. has been very fine, excepting only a few insignificant showers, but the temperature was not high for the season. Business in Wheat has been very restricted with a lowering tendency in the prices, which are quoted 1s. cheaper in many important markets. Spring Corn of all kinds was very dull of sale, and Oats have again declined in various parts of the kingdom. The sale of Flour has been very limited, and in some instances a slight concession in value has been submitted to. Since Friday last 43 vessels have been reported off the coast. The floating trade has remained dull; the prices of Wheat and Maize have declined 6d. to 1s, and have still a downward tendency. In Paris (July 2), the Flour trade has been very depressed, and prices have declined about 1s. 6d. per 280 lbs. The six marks for delivery this month are quoted equal to 38s. 9d. per 280 lbs. The present stock of Flour is estimated at 8680 cwt. Sellers are willing to submit to a reduction on Wheat of about 2s. 6d. per 480 lbs., but this is still 1s. and 1s. 6d. above the prices buyers are willing to pay. The arrivals of all descriptions of grain this week have been small, but of Flour large. This morning's market was again very badly attended, and only a minimum business was transacted in Wheat. Prices remain nominally the same as on Monday for both English and foreign. Spring Corn of all kinds was a slow sale at Monday's rates.

ARRIVALS THIS WEEK.

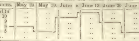
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 720 qrs. | 40 qrs. | — qrs. | 570 sks. |
| Irish .... | — | — | — | — ,, |
| Foreign .. | 8390 ,, | 5060 | 18,050 ,, | 1170 ,, 22,020 brls |

Liverpool, June 30.—Wheat met a limited sale at about previous rates, although in some cases 2d. per cental cheaper. Flour neglected and easier to buy. Indian Corn, under an immense arrival, was freely offered at 27s. for mixed, without buyers over 26s. 6d.

Friday, July 3.—The market was thinly attended. Wheat only a retail demand, at a decline of 1d to 2d. Flour neglected at late rates. Indian Corn without change. Egyptian Beans in better demand. Oats and Oatmeal very dull.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| May 23.. | 46s 8d | 33s 9d | 22s 7d | 34s 6d | 38s 6d | 36s 5d |
| — 30 | 46 5 | 33 8 | 22 8 | 40 2 | 38 11 | 35 9 |
| June 6 | 46 10 | 31 11 | 22 10 | 32 5 | 39 10 | 36 8 |
| — 13 | 46 11 | 32 4 | 22 10 | 34 10 | 39 8 | 36 11 |
| — 20 | 46 9 | 30 7 | 23 0 | 32 8 | 40 4 | 37 10 |
| — 27 | 46 5 | 31 2 | 22 10 | 35 9 | 39 8 | 36 1 |
| Agg. Aver. | 46 8 | 32 3 | 22 9 | 35 0 | 39 6 | 36 7 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.

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WANTED, a really first-rate MANAGER of a General Seed business (not Wholesale), in one of the highest and most popular Horticultural Establishments of the day. There is already a first-class business in Vegetable and Flower Seeds, and as it is now intended to embrace Agricultural Seeds, it is necessary that this branch be fully understood as well as the others. Ample salary will at once be given, and arrangement made for an increase, on the business improving through the exertions of the person engaged. A person acquainted with London habits of business preferred.—Address to A. B. C., care of Messrs. Cooper & Bolton, 152, Fleet Street, E. C.

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WANTED, a competent MAN, conversant with Agricultural Machinery, to take charge of Steam Ploughing and Thrashing Machinery, and manage them in work and repair. If character and capabilities are suitable, the engagement will be permanent.—Apply, stating age, qualifications, previous occupation, references, and wages expected, to C. Sherwood Newman, C. E., The Green, Sherborne, Dorset.

WANTED, a FARM BAILIFF (Working), in a Sussex Farm, about 200 acres. He must well understand the Drilling of Corn and Root Crops, and Stiff Land Cultivation, and possess a thorough knowledge of Rearing and Fattening Stock.—Apply by letter only, stating age and other particulars; good character indispensable.—A. Y., care of Mr. Basely, Stationer, Throgmorton Street.

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WANTED, a SHOPMAN, in a Provincial Nursery, a trustworthy experienced steady Man not under 30.—Address, stating where he has been employed, wages required, and other particulars, to A. B., Messrs. Hurst & Son, 6, Leadenhall Street, London, E.C.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, JULY 11,* 1863.


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## News of the Week.

In the House of Lords on Friday, Earl Russell presented a petition from heads of colleges, professors, fellows, and tutors of Oxford University, praying the removal of the present subscription required for academical degrees, and expressed his hope that a Bill would be introduced on the subject in a future session. The Earl of Derby, the Earl of Harrowby, and the Bishop of Oxford opposed the object of the petition; the Bishop of London and Earl Granville supported it. Several Bills were advanced a stage. On Monday, on the motion of the Earl of Shaftesbury, the petition presented on Friday by Earl Russell praying for the removal of academical subscription was ordered to be printed. Earl Grey gave notice that on Monday week he will call attention to the affairs of Poland On Tuesday the Statute Law Revision Bill was read a second time. The Sheep and Cattle (Scotland) Bill, the Public Works (Manufacturing Districts) Bill, and the Thames Embankment (South Side) Bill, passed through committee. On Thursday Lord Chelmsford moved for copies of the charges on which the two judges of the Supreme Court of the Ionian Islands were removed from office. The Duke of Newcastle pro-

tested against reopening the question, but after some remarks by the Earl of DERBY, Earl RUSSELL, and Earl GREY, the motion was agreed to in a modified form.

In the Commons on Friday Mr. CAIRD called attention to the supply of cotton, and moved for a Select Committee to inquire whether any further measures could be taken, within the legitimate functions of the Indian Government, for increasing the supply from that country. After a long discussion the motion was withdrawn. On Monday Mr. AYRTON moved that the purchase-money of the land at Kensington should be applied by the Commissioners of the Great Exhibition of 1851 towards discharging their liabilities, and that their property should be vested in the Crown, and the Commission cease. The motion was opposed by Mr. LOWE and Mr. BARING, and negatived on a division by 165 to 42. Lord NAAS called attention to the state of affairs in China, and condemned the policy of her Majesty's Government in that country. Mr. LAYARD and Lord PALMERSTON defended the policy of the Government, and after a long debate the subject dropped. Lord PALMERSTON moved a resolution for raising by way of terminable annuities a further sum of 650,000*l.* for the fortifications of the ports and dockyards. After a short discussion the resolution was agreed to. The Greenwich Hospital (Provision for Widows) Bill was read a second time. On Tuesday the House went into committee on the Fisheries (Ireland) Bill, and passed the remaining clauses. Mr. B. COCHRANE moved that the large sums annually voted for public buildings and improvements in the metropolis are not expended in a satisfactory manner, and that the Office of Works should be re-constituted on a different basis. Mr. COWPER opposed the motion, which was negatived on a division by 116 to 24. Lord A. CHURCHILL obtained leave to bring in a Bill to amend the law relating to the recovery of Church-rates, by doing away with penalties for their non-payment. Sir F. KELLY moved for a Select Committee to inquire into the claims of His Highness AZEEM JAH to the title and dignity of Nawab of the Carnatic. The motion was seconded by Mr. SMOLLETT, who had scarcely commenced his speech when the House was counted out. On Wednesday Mr. PAULL moved the second reading of the Poisoned Grain Prohibition Bill, the object of which is to prevent the sale and indiscriminate use of poisoned wheat and other preparations for the destruction of small birds. Sir G. GREY said that the Bill went far beyond its professed object, and contained provisions which would require material amendment. After some discussion the Bill was read a second time, on the understanding that it should be committed *pro formâ*, and reprinted with the proposed amendments. Lord RAYNHAM withdrew the Casual Poor (Metropolis) Bill, and the Domestic Servants' and Apprentices' Protection Bill. Mr. LAIRD moved the second reading of the Anchors and Chain Cables Bill, the object of which is to provide by tests a more effectual security that the material of which anchors and cables for the merchant service are made should be of the best quality. Mr. M. GIBSON opposed the motion, which was carried on a division by 119 to 44. The Navy Prize Agents, &c., Bill passed through committee. On Thursday Lord PALMERSTON moved the second reading of the Fortifications (Provision for Expenses) Bill. Mr. F. SMITH moved as an amendment that no further expenditure be incurred at present upon the fortifications of Portsmouth and Plymouth, except such works as are in an advanced state of progress. After a long debate the amendment was negatived on a division, by 132 to 61. The Bill was then read a second time. Lord PALMERSTON moved the second reading of the Augmentation of Benefices Bill. Mr. BARNES moved that the Bill be read a second time that day two months. On a division, the amendment was negatived by 179 to 29. The Bill was then read a second time. The report of the Fisheries (Ireland) Bill, as amended was considered and agreed to.

## Home News.

THE COURT.—The Queen, accompanied by Princess Helena, Princess Louisa, and Princess Beatrice, left Windsor on Saturday morning for Osborne, where they still remain. Prince and Princess Leiningen arrived at Osborne on a visit to her Majesty. On Sunday morning the Queen and Princesses attended Divine service at Osborne. The Rev. G. Prothero officiated. On Monday morning the Queen walked in the grounds. In the afternoon the Queen, accompanied by Princess Louisa and Princess Leiningen, drove out in a carriage and four. On Tuesday the Queen walked and drove. Prince Leopold arrived at Osborne from Windsor. On Wednesday the Queen, accompanied by Prince and Princess Leiningen, drove out. The Duke of Somerset arrived from London, and had an audience of her Majesty. Miss Van de Weyer arrived at Osborne. On Thursday Lord W. Paulet, and Sir Michael Seymour, the military and naval [illegible] arrived at Osborne, and had an interview with her Majesty.

THE PRINCE AND PRINCESS OF WALES.—On Saturday morning the Prince rode on horseback. The Princess visited the Horticultural Gardens. The Princess Mary of Cambridge visited the Prince and Princess. The Duke of Montpensier paid a visit to the Prince. In the afternoon the Prince went to Twickenham and dined with the Duke of Aumale, at Orleans House. The Princess took a drive in an open carriage. In the evening the Queen of Prussia visited the Princess. On Sunday morning the Prince and Princess attended Divine service in the Chapel Royal. The sermon was preached by the Rev. R. Harvey. In the evening the Queen of Prussia and a select party dined with their Royal Highnesses. On Monday morning the Prince and Princess accompanied the Queen of Prussia to the Bricklayers' Arms Station, and took leave of her Majesty on her departure for Germany. In the afternoon the Prince rode on horseback. The Princess took a drive in an open carriage. In the evening the Prince honoured the Royal Italian Opera with his presence. On Tuesday the Prince honoured Mr. Frith with a sitting for the picture he is painting of his Royal Highness's wedding. The Countess of Zetland had an interview with the Princess, and presented to her Royal Highness specimens of woollen manufactures, presents from the Islands of Shetland. The Duchess of Cambridge, the Princess Mary, and the Duke of Cambridge, visited their Royal Highnesses at Marlborough House. The Prince and Princess honoured the Duchess Dowager of Sutherland with their company at an afternoon party at Chiswick. On Wednesday morning the Prince went to the Hall of the Mercers' Company, in Cheapside, and received the freedom of the Company. The Prince and Princess afterwards took a carriage drive. On Wednesday the Duke and Duchess de Chartres paid a visit to the Prince and Princess. In the evening their Royal Highnesses left Marlborough House for Frogmore, travelling from Paddington by the Great Western Railway to Windsor.

THE QUEEN OF PRUSSIA took leave of Her Majesty on Friday and left Windsor for the residence of the Prussian Embassy in Carlton House Terrace. The Prince of Wales paid a visit to her Majesty at 5 o'clock. In the evening the Queen, accompanied by the Prince of Wales, honoured the performance of the Royal Italian Opera with her presence. On Saturday her Majesty paid a visit to the Duchess Dowager of Sutherland, at Chiswick, and in the evening attended the performance at the Lyceum Theatre. On Sunday morning the Queen attended the early service at Westminster Abbey, and subsequently attended Divine service at the German Chapel, St. James's. Her Majesty afterwards received at luncheon at Prussia House the Prince and Princess Edward of Saxe Weimar, Count Pahlen, and the Countesses Dowager of Jersey and Westmoreland. In the afternoon her Majesty visited the Zoological Gardens, and afterwards drove to Richmond. On Monday morning the Queen left the Prussian Embassy on her return to Berlin. The Prince and Princess of Wales visited her Majesty previously to her departure, and accompanied the Queen to the Bricklayers Arms Station of the South Eastern Railway. Her Majesty left the station about half past 11 for Tunbridge Wells to pay a visit to Queen Marie Amelie, accompanied by the Prince and Princess Edward of Saxe-Weimar, the Prussian Ambassador, and the members of the suite. The Queen left Tunbridge Wells at 2 o'clock for Ramsgate, where her Majesty embarked in the Vivid, Government steamer, for Ostend, on her way to the Hague and Brussels.

THE PEERAGE.—The Queen has directed a writ to be issued under the Great Seal summoning Edward Adolphus Ferdinand Seymour, Esq., commonly called Earl St. Maur, eldest son of the Duke of Somerset, to the House of Peers, by the title of Baron Seymour.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street.

CONVOCATION.—On Saturday the Prolocutor presented to the Upper House the reports agreed to by the Lower House, with the resolution they had adopted on the subject of the proposed change in the burial service. The Archbishop of Canterbury said the Upper House were about that very day to invite the Lower House to consider this subject, and they gladly adopted this voluntary offer of co-operation. Convocation was then adjourned to the 18th August.

THE CHANNEL FLEET, under the command of Rear-Admiral Dacres, arrived at Spithead on Tuesday in two divisions, the wooden-screw ships Edgar, 71; Emerald, 35; and Liverpool, 39, under plain sail; and the iron-clads Black Prince, 40; Royal Oak, 35; Defence, 16; and Resistance, 16; under steam. The Warrior iron frigate joined them on Thursday, and the whole fleet was under orders to leave Spithead yesterday for the Downs and the North Sea.

## Foreign.

FRANCE.—The Emperor left Fontainebleau on Tuesday for Vichy. On the previous day a Council of all the Ministers, presided over by the Emperor, was held at Fontainebleau. During the absence of the Emperor M. Billault will preside at the Council of Ministers. Prince and Princess Napoleon have arrived in Paris from Egypt. The rumour that the Emperor intends going to Cherbourg to hold a review of the fleet is without any foundation. The *Moniteur* of Sunday contains the following:—

"[illegible] have been [illegible] an occurrence which recently took place in the House of Commons. Messrs. Roebuck and Lindsay visited Fontainebleau to engage the Emperor to take official steps at London for the recognition of the Southern States. The Emperor expressed his desire to see peace re-established [illegible] but observed that, England having declined the proposal of mediation [illegible] [illegible] [illegible] His Majesty [illegible] [illegible] [illegible] [illegible] [illegible] the Emperor has not attempted, as certain [illegible] pretend, to influence the British Parliament [illegible] [illegible] [illegible] Emperor saw no reason to refuse."

In consideration of their eminent services in Mexico, General Forey, the chief of the expeditionary corps, has been appointed a Marshal of France and General Bazaine will receive the Grand Cross of the Legion of Honour. M. Vaillant and the Marquis Gricourt have been created Senators. A grand dinner was given on Wednesday at the Hotel of the Ministry for Foreign Affairs. Marshal O'Donnell and the Duke of Saldanha were present. General Oudinot, Duke of Reggio, eldest son of the Marshal of that name, has just died in Paris of apoplexy in his 70th year. A report to the Emperor by M. Rouher, the President of the Council of State, and the approval of its object by his Majesty, have been published. The report dwells upon the necessity of developing professional instruction, and recommends the establishment of a commission to discuss the most effectual means of attaining this result. *La France* says that it has every reason to hope that the answer of Russia to the Notes of the three Powers on the Polish question will be favourable, but it is not expected to arrive before eight days hence. The *Nation* asserts that if the proposal for a conference be accepted by Russia, M. Thouvenel will represent France, Earl Clarendon, England, and Baron Hubner, Austria. The *Pays* publishes an article, signed by the editorial secretary, urging the necessity of perfect concord between the three Powers in all the eventualities which may arise from the Polish question. The *Opinion Nationale* contains an article, signed by M. Gueroult, bitterly regretting the inaction of the great Powers, and saying that they are about to allow the opportunity of emancipating Poland to escape them. *La France* publishes an article, headed "Rome and Carthage," which concludes as follows:—

"France and England, the two great [illegible] have a magnificent destiny. They represent progress and liberty. Separated, they would be a struggle and a [illegible] in Europe; united, they would form a model, and their [illegible] would [illegible] them to [illegible] a [illegible] of the [illegible]."

SPAIN.—It is asserted that on the proposition of Senor Sierra the reform in the tariffs introduced by Senor Salaverria will be annulled.

PORTUGAL.—The Portuguese Court is about to repair to Mafra. The Bishop of Oporto has resigned his functions on account of a disagreement with the Government.

DENMARK.—The Danish Government has ordered an extraordinary levy of two years' service men, the whole of whom are ordered to be under arms on the 1st of August next.

FRANKFORT.—In the sitting of the Federal Diet on Thursday a debate took place on the Schleswig Holstein question, when a resolution in accordance with the propositions of the Committee on the question was adopted by a majority of 13 votes. A few votes were given in support of the motion of Oldenburg. The representatives of Denmark and the Netherlands alone voted entirely against the resolution. The Danish representative made a detailed statement in refutation of the resolution, and maintained the rights of the Danish Crown.

COBURG.—Baron Stockmar died at Coburg on Wednesday night.

PRUSSIA.—The King will leave Carlsbad on the 18th inst. for Gastein. It is rumoured that the Emperor of Austria will visit his Majesty at Carlsbad in a few days. A Royal decree, dated Carlsbad, the 23d ult., was published on Tuesday, treating of the pre-

vention of collisions between vessels at sea. Its tenor corresponds with the regulations on the same subject in force in England and France. The issue of this decree is based upon Article 63 of the Constitution. It is accompanied by a proposal of the Ministry to the King, stating that the decree could not be submitted to the Prussian Diet on account of the closing of the session, and that in the interest of public safety it could not be postponed until next session.

RUSSIA.—Private letters from St. Petersburg, dated the 7th inst., received at Berlin, state that the Council of the Empire will be reinforced by the addition of the Marshals of the Nobility and the Burgomasters of St. Petersburg and Moscow. The Prussian Government has been informed by Russia that the reply to the Notes of the three Powers will, in its essential points, assent to their proposals, especially with reference to the assembly of a Congress. The wishes of Austria will be especially regarded, while those of England, which are of a more advanced character, will not be conceded. The *Pays* says that the intentions of Russia are conciliatory, and that in every interview the Russian Ministers have shown a desire to settle the Polish question in concurrence with the Powers. The *Memorial Diplomatique* says that the reply will be delayed for the result of the debates in Parliament on the 10th on Mr. Hennessy's motion, in order that Russia may shape her answer according to the attitude assumed by the British Cabinet. A great part of the summer residence of the Czar, the palace of Zarskoe-Zelo, has been burnt. The cause of the fire is unknown.

POLAND.—The National Government has published a proclamation to the following effect:—

"Nothing has been altered in the proceedings of the National Government since the programme put forth on the 22d of January last. We have never over-estimated the value of foreign diplomacy, nor have we entered into negotiations for an armistice. The National Government could only place itself under obligations to foreign Powers when it negotiated with them upon a footing of equality as the representative of a free nation."

The *Czas* points out the disadvantages that would ensue to the Polish cause by the adoption of an armistice. It also says that Poland will be compelled to continue the struggle for independence, and that the six points proposed in the Notes of the three Powers cannot be accepted by the country. The Marquis Wielopolski has given in his resignation, and has been ordered to go abroad. M. Wolowski has been exiled to the interior of Russia. The Bishop of Wilna, Monsignor Kramnski, having published a pastoral expressing sympathy with the insurrection, has been transported to Nijni-Novgorod, whence he will be sent to Wiatka. The official papers assert that the reports of the execution of Countess Plater and Fräulein Terlerzka at Wilna are not confirmed; but the *Ost Deutsche Post* of Vienna says that another sister of Count Plater, and the Countess Moll, aged 17 years, have been executed, and that a younger brother of Count Plater, the only member of the family still at large, is now in Vienna. On Thursday the Provincial Tribunal of Lemberg ordered the arrest of Prince Adam Sapieha, who is suspected of having supported the late expedition to Volhynia. The Prince was arrested in the house of the Agricultural Society in Lemberg. Domiciliary visits have been made on the Prince's estates near Przemysl. It is asserted that 32 of the most distinguished nobles in Lithuania have been starved to death in the citadel of Wilna, by order of General Mouravieff, whose prosecutions of ladies wearing mourning are increasing in Volhynia. Cruelties of a similar kind have been perpetrated on Polish prisoners in the Citadel of Warsaw, bodies, with the hands tied behind the back, having been seen floating in the Vistula. Four Italians captured simultaneously with other insurgents, and condemned to death by court-martial, have had their sentences commuted by the Grand Duke Constantine to transportation, and will be sent out of the country by the earliest opportunity. The treasurer of the General Post Office at Warsaw has absconded with 48,000 roubles, leaving behind him a declaration stating that he had given up the Treasury by order of the National Government. A Russian patrol is said to have taken from a traveller, near Radomsk, a large portion of the bonds and imperials. Trains have ceased running upon the Warsaw-Petersburg Railway in pursuance of the recent decree of the National Government. Horodinski's detachment has been defeated in Radziwilow. Horodinski himself was killed in the market place. Radziwilow has been deserted by the officials, who fled to Brody. The Russians pillaged the town after their departure. The number of wounded insurgents taken to Brody after the recent battle was so large that many of them had to be removed to Zloczow. The insurgent leader Miniewski has had a successful engagement with the Russians at Beresteczki in the government of Volhynia. Chmielinski has annihilated a company of Russian troops near Olkusz. A fresh detachment of cavalry, under the command of Count Mycielski, has appeared in the palatinate of Cracow. The National Government has organised six detachments of infantry and one of cavalry to operate in each palatinate. A detachment of 500 insurgents engaged the Russians on the 1st inst. at Kleczew, near Orzyee. Count Mycielski defeated a Cossack detachment on the 4th. Omilinski has cut to pieces a company of Russian troops. M. de Rochebrun, the French commander of a band of insurgents, appeared on the 28th ult., with 600 well-armed men, on the Russian side of the Pruth, opposite Lepezan. Pysocki is advancing into the interior of Volhynia, in the direction of Kremience, in which province the insurgents have occupied Beresteczek, Sestratyn, and Cybachow. Seven Russian officers and 70 men were killed in the battle that took place at Draginia, in Lithuania. The insurgents gained a victory on the 27th ult. at Medelow. The town of Warta, near Kalisz, has been bombarded and plundered by the Russians. The insurgents, in conjunction with the peasants, have obtained an important success at Drazewo, in the palatinate of Plock. Numerous detachments of Polish cavalry are hovering about the environs of Olkusz. Another body of Galician insurgents, numbering 500, crossed over into Poland on the 5th inst. Engagements between the Russian troops and the insurgents took place from the 5th to the 8th in the palatinate of Cracow. The Russians have plundered the environs of Miechow. A fresh detachment of insurgents has made its appearance at Lubelski, under the command of Wierzbicki. Two encounters took place on the 2d inst. near Konin, and the Russians were driven over into Prussian territory. They were reconducted to the frontier with military honours by the Prussian authorities, keeping their arms. Two small detachments of Russian troops have been forced to take refuge upon Prussian territory, near Podwicz and Slupce. The Russians are endeavouring to organise a militia from the peasantry, who, however, oppose the project.

ITALY.—The Ministry having made the acceptance by the Chamber of the principle of raising a revenue of 30,000,000 fr. by an income tax a Cabinet question, the Ministerial proposition was agreed to by a vote of 141 to 86. The *Italia* of Saturday asserts that three brigand chiefs recently arrested by French gendarmes in Rome, will be transported to France.

SICILY.—The recruiting in Sicily has been attended with very satisfactory results. This measure, which could never have been realised under a Bourbon Government, is now considered as completely successful.

IONIAN ISLANDS.—A circular despatch addressed by Earl Russell to the four Great Powers, Austria, France, Prussia, and Russia, was published on Wednesday. It sets forth the terms on which the question of the proposed annexation is to be determined. Earl Russell declares in this document "her Majesty's readiness to consent to the union of the Islands with Greece, if the Ionians should themselves desire that union." He then points out that those islands are "not a part of the possessions of the British Crown," but a free State, which, with the consent of the Great Powers, must now exercise its own will in determining its political future. He then proceeds historically to trace the manner in which the present relations of the Ionian Islands with Great Britain arose, and while believing that "the wish for annexation with Greece has been often laid hold of as a pretext for factious opposition," assumes that that must nevertheless be regarded, "however irregularly expressed," as the course which the Ionians would prefer. "If those wishes," his lordship concludes, "deliberately expressed, should be in favour of a union with Greece," the British Government would then propose that the Great Powers should meet in a conference, to take into consideration the wishes of the Ionian people. The Ionian Parliament, which has hitherto been sitting, is not yet dissolved, and the question of the annexation will be submitted to its successor.

GREECE.—A mutiny broke out on the 2d inst. in the garrison of Athens, and in parts of the provinces. A portion of the army, however, with the National Guard, remained faithful to the Government. The Bank of Athens was attacked by the insurgents, and 50 persons were killed and wounded, a son of M. Canaris being among the former. The Bank was subsequently occupied by a detachment of 90 marines from the French, English, and Russian ships in the harbour. The English, French, and Russian Ambassadors have succeeded in obtaining an armistice for two days between the insurgents and the troops of the Government in Athens, and have addressed identical Notes to the National Assembly, declaring that they will quit Athens if it does not re-establish order in the country. A portion of the English fleet has been summoned from Malta. A new Ministry has now been formed, consisting of MM. Rufo, Calligas, Kihagia, Climeka, Mauramikalis, and Nikopulo; and the two leaders of the revolt have made their submission to the Assembly. The National Assembly has since obtained the simultaneous removal of the troops of the two parties from Athens, and the city is again restored to tranquillity.

THE CAUCASUS.—The insurrection which has broken out in Daghestan is rapidly spreading through Georgia and is now in full vigour between Tiflis, Karatakh, and the Lesghian provinces. What renders the movement serious is that the Tartars, who until now were favourable to Russia, take part in the insurrection. The Circassians have taken Zakatal, a fortified village, where Generals Citianeff and Cholukoff with 920 soldiers were killed. The road to Moukha has been completely blocked up, and the whole country between Tiflis and that place is threatened by the insurgents.

EGYPT.—Letters from Alexandria state that Sir Henry Bulwer has presented the Viceroy of Egypt, in the name of her Majesty, with the insignia of the Order of the Bath.

INDIA.—By news from Cabool to May 13th, it appears that Dost Mahomed had sent a messenger to Shah Nawaz Khan, the present ruler of Herat, asking him if he would ratify the terms agreed upon by the late Sultan Ahmed Jan. The reply was that he had written to the King of Persia on his father's death, and, on the receipt of an answer from the Shah, would communicate his intentions to the Ameer. The Prince of Meshed was on his way to Herat, having left his troops at Ghorian, to condole with Shah Nawaz Khan on his father's death. Sir R. Montgomery's interview with the Maharajah of Cashmere is said to have led to important results, which will tend to the commercial prosperity of the Punjaub and Cashmere. The King of Burmah is reported to have been murdered.

MADAGASCAR.—The official report of the French Consul at Tamatave, dated May 16, states that the cause of the recent revolution in Madagascar was the rivalry between the nobles and the Court. The young men who at the accession of King Radama took power and monopolised all favours suggested measures disapproved by the people. They were accused of injustice, of being open to corruption, and immorality. Under their influence the King published a law authorising duels and even combats of tribe against tribe and village against village, without any other formality than the consent of the two parties; thus proclaiming civil war and furnishing a pretext for hostilities. The officers and principal inhabitants begged the King to recall this law; but he refused, and the preparations for the conflict then began. The French Consul assembled all his fellow-countrymen, and the English Consul wished the missionaries to take a similar course, but they did not respond to his invitation. The King having again refused to revoke the law, the people, slaves, and soldiers assembled in the public places to search for the 33 persons belonging to the Court who had been proscribed by the conspirators. Eleven were killed, while negotiations were entered into with the King, who asked mercy for those remaining, promising that they should be exiled for life. This was refused by the conspirators, who demanded that the guilty should undergo perpetual imprisonment in chains. The King would not at first comply with this demand, but after much parleying, ended by accepting it. On the following day the King was assassinated, and the Council proclaimed Queen Rabodo, announcing that the King, disconsolate at the loss of his friends, had committed suicide. The Queen accepted the Constitution, which stipulates among other things that she shall not drink strong liquors, and that the right over life and death belongs to the Council. It also abolishes the Tanguin, and maintains religious liberty. The Prime Minister informed the French Consul that he had sent orders to the Governors on the coast to protect the whites.

CHINA.—Advices from China to the 26th of May state that a complete understanding existed between the Chinese Government and the representatives of England and France. The insurgents had not recommenced hostilities. Tranquillity prevailed in Cochin China.

JAPAN.—News has been received from Japan stating that the Government had given reason to hope that it would give the satisfaction which the English Admiral had been ordered to obtain by force.

UNITED STATES.—General Lee, by bold and rapid movements, has transferred the war from Virginia, north-eastward from the Rappahannock to the Potomac, and even to the Susquehannah, and has successfully achieved the most difficult and dangerous operation in war—a flank movement in presence of the enemy. Without any considerable loss he has succeeded in making a circuit around the right flank of the Union army and getting in the rear of Washington while Hooker is still in front of that city, and unable to avoid a battle in any position in which General Lee chooses. The Confederate force is said to consist of Ewell's corps, of 35,000 men; Longstreet's corps, of 42,000 men; Hill's corps, of 28,000 men; General Stuart's cavalry, 18,000 strong; Jenkin's cavalry, 3000 strong; with a pontoon train and an artillery said to be in superb condition and very numerous. Among the troops are 30,000 of his own old soldiers which he had sent to Chattanooga some weeks ago, 20,000 others from General Bragg's army, and 10,000 sent by General Beauregard from Charleston, his total force being about 150,000 men. So imminent is the peril supposed to menace Baltimore that the most urgent appeals have been made to the people by the Government, the mayor of the city, the councils of the military authorities, and the newspapers, to turn out to work on the intrenchments which are hastily raising for the defence of the city, and to enlist in the various military organisations. Earthworks have already been erected around the west and north sides of the city, and barricades in the streets, but the people generally seem indifferent to the crisis. In Pennsylvania the universal apathy to the invasion is the subject of much comment. The New York papers say that the inhabitants seem to have lost all spirit, and either retreat rapidly at the approach of the Confederates or exhibit a strange apathy. Even the troops sent by New York and New Jersey were not received with cordiality or enthusiasm, though all classes attempted to profit pecuniarily by their presence. The Governor of New Jersey has already recalled the troops of that State, in consequence of a dispute between himself and the Governor of Pennsylvania,

and the fact that the Jersey troops were abused as Copperheads. The Federals have evacuated Carlisle, and fallen back to Harrisburg. It is reported that the 71st Regiment of New York, one of the force comprising General Knipe's command, was captured previous to Carlisle falling into the hands of the Confederates. The Confederate General Jones, with cavalry and artillery, after a severe skirmish, has driven the Federals under Milroy out of M'Connellsburg, and occupied that place. General Milroy has since been dismissed from his command, and some of the journals urge that he should be tried by court-martial for running away from Winchester. His defeat at that place was so disastrous that he abandoned 3 batteries of field artillery, siege guns, 28 waggons, and 1200 horses; 5000 of his troops are missing, but they continue to come in from different parts of the country. General Banks assaulted Port Hudson at daylight of the 14th, and at 11 o'clock on the same morning retreated to his entrenchments, having been disastrously repulsed at all points with the loss of 700 to 1000 men. It was supposed that another assault would be made on the 19th ult., Colonel Dudley having volunteered to lead a storming column of 4000 picked men. The Confederates were reported to be concentrating in General Banks' rear, to prevent his retreat to Baton Rouge. Intelligence from Vicksburg to the 23d ult. announces that preparations are making for another assault upon that place. General Johnstone telegraphed to President Jefferson Davis on the 22d ult. that Kirby Smith had got possession of Miliken's Bend, above the city. The Confederates, under Generals Roddy, Ruggles, Chambers, and Biffles, were threatening General Grant's rear. The Confederates estimate their loss during General Grant's different attacks on Vicksburg at 6000 men, and the Federal losses at 40,000. They think that Grant's present force, with the reinforcements which he has received, does not exceed 60,000 men. No fears are expressed of a want of provisions at Vicksburg. Admiral Foote died in New York on the 25th ult. He was appointed to the command of the South Atlantic squadron only a few days before he was attacked with the fatal illness, which was caused it is said by overwork. The negro troops, under Colonel Montgomery, pillaged and burned the town of Darion, Georgia, on the 11th ult. Turpentine was poured upon the floors of the churches and other buildings, and they were then set on fire. Cattle were shot in the streets and left there. All the negroes were forced to go with the Federals at the point of the bayonet, and a negress who attempted to run from them was shot through the head and then carried on board their boats. The officers in command of the negroes are from the States of Massachusetts and Pennsylvania. On the 17th ult. the Confederate iron-clad Atlanta (formerly the Fingal) was captured by the Federal monitors Weehawken and Petapsco, after an action of thirty minutes. Eighteen of her officers and 120 of her crew have arrived at Fortress Monroe. Five shots only were fired on either side, and it is supposed that one of them, penetrating the armour of the Fingal, damaged her machinery and rendered her unmanageable. The Confederate iron-clad Chattahoochee has been destroyed in the Apalachicola River, by the explosion of her boilers while getting up her steam, with the design of making a raid upon the Federal fleet. Many of her officers and crew were killed or scalded. The vessel sank, but her guns have been recovered and mounted on shore. Several vessels while attempting to run the blockade of the South Carolina coast have been sunk by the Federal cruisers. It is asserted that the officers of the blockading squadron at Charleston have announced their intention hereafter to sink all blockade runners, instead of capturing them. The frauds committed in the Prize Courts, whereby the captors are deprived of their prize money, are reported to be one cause of this determination. The blockade running steamer Calypso was captured off Fryingpan Shoals, on the 11th ult., by the Federal steamer Florida. The ship Isaac Webb, from Liverpool, was captured by the privateer Tacony, on the 20th ult., but released upon giving bonds to the amount of 40,000 dollars. The privateer Tacony has burned six schooners and three sloops off Nantucket. Three privateers—a steamer, a bark, and a schooner—are committing depredations at the mouth of the Bay of Fundy. Forty vessels are reported to have been destroyed by a Confederate steamer off Cape Sable. It is reported that Capt. Semmes has transferred his command from the Alabama to the Georgia. Mr. Vallandigham has run the blockade from Wilmington, on his way to Nassau, whence he will proceed either to New York or to Canada.

CANADA.—The returns of the election for members of the Canadian Parliament up to the 23d June, show that 41 Ministerial candidates have been chosen, against 45 Opposition and 13 Independent.

## Parliament.

### HOUSE OF LORDS.

FRIDAY.—*Academical Subscription.*—Earl RUSSELL presented a petition from certain heads of colleges, professors, fellows, and tutors of the University of Oxford, praying for the removal of the subscription at present required for academical degrees. He thought there was danger in multiplying declarations now unnecessary, and that the Universities should throw their doors open to all, without requiring from them a declaration of assent to the Thirty-nine Articles. A more general and liberal character would thereby be given to the university, and their lordships would favour that liberty of conscience which this country above all others ought always to be desirous of promoting. He hoped in another session that a Bill would be introduced on the subject.—The Earl of DERBY complained that the petition had been got up surreptitiously, had not been laid on the table in any of the common rooms, or submitted to the hebdomadal council, and did not fairly represent the opinion of the university. He should very much regret to see the request of the petitioners complied with, as he feared it would only be the first step towards a similar interference with clerical subscriptions.—Earl GRANVILLE denied that the petition had been got up in the manner described, and asserted that it had been laid upon the common tables of the university.—The Earl of HARROWBY strongly objected to any relaxation of the subscription, which would have the effect of introducing into the university, as teachers, persons who did not belong to the Established Church. —The Bishop of LONDON was of opinion that the declaration might with safety be relaxed. He rejoiced that the subscription formerly required from undergraduates had been abolished, and expressed his regret that any shred or tatter of the same system should still be retained by the authority of the university.—After a few words from Lord BROUGHAM and the LORD CHANCELLOR, the Bishop of OXFORD said that the only object of the subscription was to insure that the governing body of the university should be members of the Established Church. For his part he thought no grievance existed, and that therefore it was unnecessary to legislate upon the subject.—The *Mutiny (East India) Act Repeal Bill*, the *Public Works Manufacturing Districts Bill*, and the *Thames Embankment (South Side) Bill* were read a second time. The *Innkeepers' Liability Bill*, the *Postmaster General's (Sale of Land) Bill*, and the *Local Government Supplemental Bill*, were read a third time and passed.

MONDAY.—*Academical Subscription.*—The Earl of SHAFTESBURY, in the absence of the Bishop of Oxford, moved that the petition from certain heads of colleges, professors, fellows, and tutors of the University of Oxford for removing the present subscription required for academical degrees be printed.—The Earl of DERBY corrected a mistake into which he fell unconsciously on Friday night in regard to the signatures of this petition.—After a few remarks from Earl GRANVILLE the motion was agreed to.—Lord PORTMAN expressed a hope that in the scheme about to be brought forward by the Government for fortifications something would be done for the better protection of the *Bristol Channel.*—Earl DE GREY stated that sites for the erection of forts had already been purchased in the Bristol Channel.—Earl GREY gave notice that on Monday week he should call attention to the *Affairs of Poland.* Several Bills were advanced a stage.

TUESDAY.—The LORD CHANCELLOR, in moving the second reading of the *Statute Law Revision Bill*, said he must ask the House to take it upon trust, placing reliance on the industry, skill, and fidelity of those by whom it had been prepared.—Lord ST. LEONARDS concurred in thinking that their lordships were called upon to show confidence in those who had framed the Bill. He objected to codification, but approved the preparation of a revised and expurgated edition of the statutes. —Lords BROUGHAM, CRANWORTH, and CHELMSFORD expressed their opinion that the House could do no more than give a general supervision to a measure of such magnitude. The Bill was then read a second time. On the motion for going into committee on the *Public Works (Manufacturing Districts) Bill*, the Earl of DERBY expressed his approval of the measure as founded upon a right principle and calculated to afford considerable relief. There had already been a great diminution in the number of persons receiving relief, and during the past year, exclusive of 150,000*l.* distributed in food and clothing, the total money subscription amounted to 1,900,000*l.* The sum at present in hand was 600,000*l.*, and 53,000*l.* a month was expended in relief, in addition to the assistance derived from the Poor-law.—After a few words from Earl GRANVILLE, the Bill passed through committee. The *Port Erin Harbour (Isle of Man) Bill*, the *Militia Ballots Suspension Bill*, and other Bills, were read a second time. The *Thames Embankment (South Side) Bill*, and the *Passengers' Act Amendment Bill* passed through committee. The *Oaths Relief in Criminal Proceedings (Scotland) Bill*, and the *Mutiny (East India) Act Repeal Bill* were read a third time and passed.

THURSDAY.—The *Colonial Letters Patent Bill*, the *Poor-law Board Continuance Bill*, and the *Loan Societies Bill* were read a second time. The *Telegraphs Bill*, and the *Passengers' Act Amendment Bill* were read a third time and passed. The *Statute Law Revision Bill*, the *Militia Ballot Suspension Bill*, and the *Walmer Vesting Bill* passed through committee. *The Ionian Judges.*—Lord CHELMSFORD moved for copies and papers containing charges of conduct inconsistent with the judicial office against Sir George Marcoran and Sir Anastasio Xidian, judges of the Supreme Court of the Ionian Islands, who, he contended, had been removed in a most arbitrary and unconstitutional manner.—The Duke of NEWCASTLE protested against re-opening the question, and said that after impartially considering the appeal of those gentlemen, he felt that he had no alternative but to confirm the decision of Sir Henry Storks, who had acted properly in removing them. He entreated their lordships to have confidence in Sir H. Storks, and warned them that it would be fatal to the authority of public officers if appeals to private friendships were to be allowed to prevail over public interests. Believing that the production of these papers would be injurious to the public service, he threw the responsibility of ordering them upon the House, with the assurance that they would do no good to the cause of the two ex-judges.—The Earl of DERBY said that the course pursued by the Colonial Secretary was most extraordinary. Both the noble duke and Sir H. Storks had been made the dupes of parties who had interested motives to serve, and he insisted that on the commonest principles of justice the dismissed judges ought to be informed of the charges that had been brought against them, and of the names of their accusers.—Earl RUSSELL defended Sir H. Storks, who, he said, was the real object of attack, and contended that he had only exercised his legal powers, and in so doing his high character ought to entitle him to confidence. After some remarks by Earl GREY and Earl GRANVILLE, the motion in a modified form was agreed to.

FRIDAY.—*Poland.*—Earl RUSSELL stated that he had just learned by a telegraphic despatch that the reply of the Russian Government to the despatch of the three Powers would not be sent off until the 14th or 15th, and consequently could not reach her Majesty's Government until it was too late for him to make the statement he had promised. He would therefore on Monday evening enter into an explanation of the state of negotiations with Poland, and in the meantime would lay upon the table a copy of the despatch containing the six points. *Japan.*—The Earl of CARNARVON called attention to the state of our relations with Japan.

[Left sitting.]

### HOUSE OF COMMONS.

FRIDAY.—On the order for going into committee of supply, Mr. CAIRD called attention to the *Supply of Cotton*, and moved for a select committee to inquire whether any further measures could be taken within the legitimate functions of the Indian Government for increasing the Supply from that country. He said that, no matter what might be the result of the war now raging in America, it would be unreasonable to expect from the Southern States anything like the supply of cotton which we were formerly in the habit of obtaining from that part of the world. In India, on the contrary, the field of production was unlimited. The motion was seconded by Mr. BAZLEY, who urged the importance of encouraging the growth of cotton in the West Indian Islands.—Mr. SMOLLETT said that no good purpose could result from the appointment of a committee at this period of the session.—Mr. COBDEN said that two measures had been recommended for encouraging cotton cultivation, the settlement of the land upon a perpetual tenure, and the sale of waste land; but he owned he did not share in the sanguine hope which some people formed with regard to the effect of these measures. He thought, however, that an alteration in the system of collection might be introduced with advantage. He also observed that at the foot of the Rocky Mountains, in the western valley of the Mississippi, there was an exhaustless field for the production of cotton with a soil and climate admirably adapted to the plant, and which only required the investment of English skill, capital, and enterprise for its full development.—After a few words from Mr. PENDER, Sir CHARLES WOOD said that the cultivation of cotton had already been tried in India, and after an experience of five years had proved a failure. Although in some instances the cultivation was successful, yet, upon the whole, it was found impossible that cotton grown in India could compete with that grown in more favourable localities. At the same time there was no indisposition on the part of the Government to assist private individuals in the cultivation of cotton in India.—Mr. CRAWFORD concurred in the course which had been pursued by the Government.—Mr. BRIGHT complained of the flippant and offensive manner in which the Minister of India had treated the representations made by the deputations which had waited upon him. He did not believe that any material increase in the production of cotton could take place in India, or that the difficulties which now existed could be got rid of by any legislative miracle. After some remarks from Mr. T. G. BARING, Mr. J. B. SMITH, and Mr. H. SEYMOUR, Mr. FERRAND said that the Manchester party, after having clamoured so long for free trade, were now whining for protection for their own particular industry. The motion was then withdrawn.—Mr. BUTT asked the Under Secretary for War whether, on the return of *Colonel Crawley* to this country, it was intended to prefer the charges against him before a court-martial, or before the Court of Queen's Bench.—The Marquis of HARTINGTON replied that as the alleged offence was a military one, the trial would be by court-martial.—A short discussion ensued, in which some warm expressions were exchanged between Mr. OSBORNE and Mr. CONINGHAM, and Sir G. GREY deprecated the use of such language as discreditable to the House of Commons. The *Militia Ballot Suspension Bill* was read a third time and passed.—On the motion of Mr. SCHOLEFIELD, the House went into Committee on the *Partnership Law Amendment Bill*, but Mr. CRUM EWING moved that the Chairman should report progress. On a division, the motion was carried by 32 to 19. The other orders of the day were then disposed of.

MONDAY.—*The Ludgate Viaduct.*—Alderman SIDNEY moved that the Corporation of the City of London should be allowed to be heard before the committee on the London, Chatham, and Dover Railway (No. 1) Bill, in order that they might procure the insertion in the measure of a clause to prohibit the company from carrying a viaduct across Ludgate Hill. After some discussion the motion was negatived without a division.—In reply to Mr. HADFIELD, Sir GEORGE GREY said the Government had under their consideration a project for altering *the Circuits*, and were in communication with the judges on the subject, but that nothing could be done to affect the coming assizes.—In answer to Mr. S. FITZGERALD, the CHANCELLOR of the EXCHEQUER said that the proposition to guarantee 4000*l.* a year to the new *King of Greece* would have to be brought before Parliament, and be made the subject of diplomatic arrangement. Under these circumstances the matter could not be submitted during the present session.—Mr. LAYARD stated, in answer to Mr. Fitzgerald, that Mr. Seward had written to Lord Lyons to state that the commander of the Federal vessel of war which lately destroyed the Margaret and Jessie denied that he had fired upon the ship within British waters. Mr. Seward, however, added that he would cause inquiry to be made, and that if it should prove that the vessel had been destroyed within the prescribed distance, the Federal Government would disavow the act and make ample compensation to the owners. *Poland.*—In answer to Mr. WARNER, Lord PALMERSTON said that we had not entered into arrangements with any foreign Power which would commit us to a war on behalf of Poland, and were perfectly free to act as events might require. *The Great Exhibition Commission.*—On the motion for going into committee of supply, Mr. AYRTON moved "That in the opinion of this House the purchase money of the land at Kensington should be applied by the Commissioners of the Great Exhibition of 1851 towards discharging the liabilities of the commission, and that the commission should be determined, and the property now held by the commission be vested in the Crown, subject to any interests now existing therein, and to any charges thereon. He traced the history of the Royal Commission of 1851, and contended that the Commissioners had departed from the principles which should have guided their conduct as trustees of a public fund, and that the best thing to do would be to get rid of them altogether. He claimed the whole of the property at South Kensington—the land, the Horticultural Gardens, the conservatories, promenades, &c. (which he observed were painfully suggestive of Kensal Green Cemetery)—as the property of the public, and he held that the House of Commons, in its capacity of guardian of the public interests, had a right to deal with it.—Mr. LOWE defended the Commissioners, and said that, starting 10 years since with 180,000*l.*, the surplus of the Exhibition of 1851, they had sold land to the Government for the South Kensington Museum for [illegible], which was now worth 150,000*l.*; that they had lately sold a further quantity for 120,000*l.*, which was worth 260,000*l.*; and that, after allowing for all incumbrances, their surplus property was worth 300,000*l.* The Commissioners were men of the highest honour and respectability, and there was no ground for the inaccuracies and misrepresentations which Mr. Ayrton had stated in reference to them.—Mr. H. SEYMOUR supported the motion, and contended that there was no ground whatever for keeping up the commission.—Mr. T. BARING said the Royal Commissioners were always ready to devote their funds to the purposes of science and art, but that the House of Commons had determined that the money should be held over for the present. On a division the motion was negatived by 165 to 42.—Lord NAAS called the attention of the House to the state of *Affairs in China.* He complained that for many years past the policy of England towards China had been to bring the Imperial Government into contempt, and that our interference with the internal affairs of the country, and our consistent endeavour to force the opium trade, were combining to give us an influence in China which must eventually prove fatal to the independent existence of the empire. In a political, financial, and military point of view the influence of England was paramount, and the Hon. Frederick Bruce was to all intents and purposes Prime

Minister of China. The influence of England was thrown into the scale against the Taepings, who nevertheless were in possession of the finest tea and silk producing districts in the Empire. This was an unhealthy state of things which could not endure. We had tried it in India and it had failed, and he feared that if it were pursued much longer in China its effect would be to destroy the very dynasty which we were endeavouring to prop up, to complicate our relations with Russia and France, and weaken the legitimate authority of the Chinese Government with its own subjects.—Sir H. Verney expressed his approval of the policy of the Government in China.—Mr. Layard said that the position of affairs in China could not excite much interest in this country, as the noble lord had for nearly three hours addressed a House consisting of little more than 20 members. The general policy of the Government towards China was wise and just. The difficulties in the way of maintaining our relations with that empire were very great, but we had adopted a policy at once firm and conciliatory. Mr. Bruce had consistently endeavoured to enforce upon the people that we regarded them not as barbarians, but as a civilised nation, and that treaties made in good faith must be respected by the contracting parties. Under this policy we had obtained great concessions. He denied that we were at war with China; on the contrary, all our efforts were to preserve peace, and at no previous period of our relations with that country was war less probable than at the present moment.—Mr. S. Fitzgerald said that formerly her Majesty's Government had pursued a policy of neutrality in China, but of late years it had been changed in favour of active interference in the civil war.—Lord Palmerston said he could not find any ground for the censure which Lord Naas had passed upon the policy of the Government. That policy was founded in good faith, and was calculated to be of great advantage to this country. Our relations with China were of the most friendly character, and trade had of late years enormously increased. If we withdrew altogether from China, we should leave that empire to fall under the influence of Russia or France; and he felt convinced it would be much wiser on our part to continue to co-operate, as at present, with those Powers, for the establishment of peace and order throughout the Chinese territory.—Mr. Liddell condemned our policy of interference in the internal affairs of the empire, and argued that the effect was to weaken the authority of the Imperial Government. After some remarks by Colonel Sykes, Mr. Gregson, and Mr. Whiteside, the subject dropped. The House then went into committee of supply, *pro formâ*. In Committee on *Fortifications and Works*, Lord Palmerston moved a resolution that, towards providing a further sum for defraying the expenses of the construction of works for the defence of the royal dockyards and arsenals, and of the ports of Dover and Portland, and for the creation of a central arsenal, a sum not exceeding 650,000*l.* be charged upon the Consolidated Fund, and that the Treasury be authorised to raise the said sum by annuities for a term not exceeding 30 years, and that such annuities shall be charged upon, and be payable out of the Consolidated Fund. The works which it was proposed to carry out were those already sanctioned by Parliament, and the sum now asked, with the balance in hand, would suffice until July, 1864, when a further application to Parliament would be necessary.—Sir F. Smith thought that the experience of the war in America had not proved the superiority of forts as against iron-clads, and said that he should divide the House against any further expenditure at Spithead.—Mr. Osborne called upon the House to be consistent, and not to rescind the vote which it had passed last year. After some discussion, in which Sir S. M. Peto, Alderman Salomons, Sir J. Fergusson, the Marquis of Hartington, Sir J. Hay, Mr Locke, and Mr. Newdegate took part, the resolution was agreed to, and reported to the House. On the order for the second reading of the *Greenwich Hospital (Provision for Widows) Bill*, a discussion took place, in which Mr. Adam, Sir J. Hay, Mr. Liddell, and Lord C. Paget took part. The Bill was read a second time. Other Bills were forwarded a stage.

Tuesday.—The report on *Fortifications and Works* was brought up and agreed to. The House then went into committee on the *Salmon Fisheries (Ireland) Bill*, and passed the remaining clauses. *Office of Works.*—Mr. B. Cochrane moved that the large sums annually voted for public buildings and improvements in the metropolis are not expended in a satisfactory manner, and that, with a view to the efficiency of the Office of Works, it should be constituted on a different basis. He enumerated several instances of mismanagement in the department of Works, involving delays and augmented expenditure. In particular he mentioned that Burlington House, purchased 10 years since, had been taken possession of by one or two learned societies, whilst the grounds attached to it were appropriated to the use of Volunteers. A sum of nearly 30,000*l.* had been voted by Parliament for a memorial to the late Duke of Wellington in St. Paul's Cathedral, but no work of the sort had yet been executed, and nothing more had been heard on the subject. The land in Carlton Gardens lately occupied by the "Rode" had been sold at the rate of 30,000*l.* per acre only, or about one-third of its value. He also referred to Buckingham Palace, the National Gallery, and the condition of the Serpentine. The state of things of which he complained arose out of the fact that the same chief commissioner was not in office for more than two years on an average, and that every new commissioner seemed to consider it his mission to undo the work of his predecessor. He thought that a permanent commissioner with an able board would be advisable; and he proposed that the Government should have the opportunity during the recess of considering how the department might be improved.—Mr Cowper repudiated all responsibility so far as the instances referred to by Mr. Cochrane were concerned, with the single exception of the Serpentine, which, if it were filled with weeds, could not be helped. With regard to Carlton Gardens, they belonged to the Commissioners of Land Revenue, who alone were responsible for the sale. All the public works in the metropolis conducted by the Office of Works had been carried on with success, and there was no office under the Crown which performed its duties with greater care, accuracy, and efficiency. The House of Commons would make a great mistake if it altered the constitution of the department, and put it in a subordinate position with no one in Parliament to represent it. On a division the motion was negatived by 116 to 24.—Lord A. Churchill obtained leave to bring in a Bill to amend the law relating to the recovery of *Church Rates*.—Sir F. Kelly moved for a Select Committee to inquire into the claims of his Highness Azeem Jah to the title and dignity of *Nawab of the Carnatic*, and otherwise in respect of the treaty entered into between his highness's father, Azeem ul Dowlah and the East India Company in 1801, and the circumstances attending the same.—The motion was seconded by Mr Smollett, who was speaking in support of it when the House was counted out.

Wednesday.—Mr Paull moved the second reading of the *Poisoned Grain, &c., Prohibition Bill*. He showed the injurious consequences of the wholesale destruction of small birds in foreign countries, in the enormous increase of insect life and the ruin of crops; and he read communications to prove that this indiscriminate slaughter was going on at an alarming rate in this country by the use of poisoned grain, which destroyed not only rooks and crows, but pigeons and poultry, and even pigs and dogs. It was not his intention to interfere with the game laws or with the legitimate objects of agriculture in the employment of dressings or the steeping of seed corn, and he explained some modifications of the Bill which he intended to propose in committee.—The motion was seconded by Mr C. Forster, and supported by Sir H. Stracey and Viscount Galway.—Mr. Caird said that the Bill went too far, and Mr. Henley considered that the measure would be impracticable. —Sir G. Grey said that he would support the second reading on condition that the Bill should be confined to the use, and not the sale, of those poisoned preparations. On this understanding the Bill was read a second time, committed *pro formâ*, and ordered to be reprinted.—Viscount Raynham moved the second reading of the *Casual Poor (Metropolis) Bill*, which was intended to provide greater facilities for the accommodation in workhouses for casual poor by means of a more general system of rating, and providing for their reception.—Mr. Gilpin opposed the measure on the ground that it would entail a heavy expense without providing necessary supervision, and be a step towards the equalisation of the system of rating in the metropolis. The Poor Law Board, however, were giving their attention to the subject with the view of seeing whether a practical remedy could not be applied.—After some further discussion, in which Sir S. Northcote and Mr. Knight took part, the order for the second reading was discharged, and the Bill was withdrawn.—Lord Raynham's *Domestic Servants and Apprentices Protection Bill* was also withdrawn. On Sir G. Grey moving that the second reading be deferred for three months, Mr. Laird moved the second reading of the *Anchors and Chain Cables Bill*, the object of which was to establish testing machines with the sanction of the Board of Trade. He said that 82 per cent. of the chain cables tested at Liverpool had been found defective, and that the measure he proposed was rendered necessary for the security alike of life and property.—Mr. Cave seconded the motion.—Mr. Lindsay moved as an amendment that the Bill be read a second time that day three months. As a shipowner, it was his interest to have cables and anchors tested, but small owners would be very much inconvenienced by the imposition of such a condition.—Mr. Horsfall supported the Bill. —Mr. M. Gibson was not opposed to the principles of the Bill, but could not see his way to providing the means of carrying it out without an additional cost to the shipping interest. The expense of sending heavy chains and cables to the testing-house would in many cases exceed their value, and this was an interference with the rights of property, to which he could not assent. The tendency would also be to throw the manufacture of chains and anchors into certain hands, to the exclusion of the great body of the trade.—Sir J. Pakington, Sir J. Elphinstone, Mr. Bentinck, and Mr. R. Hodgson supported the Bill; Mr. Fenwick, Mr. Crawford, and Mr. Goschen opposed it. On a division, the second reading was carried by 119 to 44.—The *Navy Prize Agents, &c., Bill* passed through Committee on recommittal.—Mr. Whalley moved to discharge the order for the second reading of his *Railway Bills Bill*, stating that he should ask for leave to introduce another Bill to give effect to two resolutions of the Select Committee. The order was discharged and the Bill withdrawn, and leave was given to introduce another Bill.—The adjourned debate on the motion for the enlargement of the dining-rooms, proposed by the *Kitchen and Refreshment Rooms Committee*, was resumed by Mr. A. Smith, who said he would often dine at the House if there was anything to be got in it fit to eat. The debate was again adjourned to Wednesday next. The *Removal of Prisoners (Scotland) Bill* was read a third time and passed. The *Alkali Works Registration Bill* passed through committee.

Thursday.—Lord Palmerston moved the second reading of the *Fortifications (Provision for Expenses) Bill*. He stated that a great portion of the works already sanctioned by Parliament were either completed or nearly so, and that on the whole they had been constructed under the estimates. When the Bill was in committee he hoped to be able to show that the experience of the war in America, combined with the improvements lately made in the science of gunnery, proved that the proposed forts at Spithead would greatly contribute to the defence of the arsenal at Portsmouth.—Sir F. Smith moved as an amendment,—"That no further expenditure be incurred for the present upon that part of the project for fortifications, which is based on the assumption that an enemy might land in force and attempt to besiege Portsmouth and Plymouth, except on such works as are in a very advanced state of progress." He considered that the invasion of a place like Portsmouth was a chimera, and that there was no ground for such an apprehension.—Sir J. D. Hay seconded the amendment.—Sir D. L. Evans approved of the project of a central arsenal, and thought that an unjust prejudice had been raised against the defences at Spithead.—The Marquis of Hartington said that the works at Portsdown Hill were in such a state of forwardness as not to come within the amendment.—Mr. Cobden called upon the House to take a common-sense view of the subject, and not to indulge in such a wasteful expenditure as that which was now going on at Portsdown Hill. He had visited the scene, and he only wished the House would adjourn for a day, and witness the enormous excavations now making at the South Downs. He believed, if such a visit were made, the House would either abandon the works altogether, or agree that Englishmen should no longer sing "Rule Britannia, or "Ye Mariners of England." He regarded these preparations as a disgrace to the age and to the manhood of the country, because such fortifications could be of no service except to shelter an army that ought to meet the invader in the open field. He offered no opinion upon forts dominating the sea, but he would raise up both hands against what he believed would inflict a permanent wound upon the reputation and good fame of Parliament.—Sir J. Fergusson said that the erection of the forts at Portsmouth and Plymouth would be the means of letting loose a certain number of ships to meet the enemy in mid-channel.—Colonel Dickson believed that invasion was utterly impossible from any quarter whatever; and that even if a hostile force landed on our shores, it would not only fail to establish itself there, but that not a single man would escape with his life. After some observations from Mr. C. Berkeley and Lord Fermoy, Mr Newdegate condemned the proposed central arsenal, but approved of the protection of our seaboard and naval arsenals.—Sir E. Colebrooke and Colonel Sykes opposed, and Lord C. Paget and Mr. Pullen supported the Bill.—Mr. Monsell thought the main defence of the country should consist of a powerful iron-clad navy, which could not only command the Channel, but blockade the enemy's ports.—Mr. Osborne expressed his surprise at the apathy of the House of Commons, which strained at the Kensington gnat, and was ready to swallow the Portsdown camel. He objected to the measure because it was a fragmentary one, which would lead to an outlay of possibly 20,000,000*l.*, and because he could not believe that any attempt to surround Portsmouth with fortifications would be any practical defence to the country.—Lord Palmerston said the amendment was a motion to throw out the Bill, stop the works, and reverse the decision deliberately come to by the House and the country. Mr Cobden was an admirable amateur diplomatist, but was not equally successful as a general. Amateur generals had been tried in America, where a uniform and a cocked hat were considered qualifications for the command of an army, but the result was that instead of Richmond being taken in 90 days, the Federals were now expecting the "rebels" at Washington. He still remained of the same opinion that it would be quite possible for a powerful enemy to land an army on the English coast, and do an immensity of damage to our dockyards. To repel such invasions permanent defences were necessary, as well as a Channel fleet. On a division the amendment was negatived by 132 to 61. The Bill was then read a second time.—Lord Palmerston moved the second reading of the *Augmentation of Benefices Bill*, the object of which is to authorise the Lord Chancellor to dispose of 320 of the smallest livings in his gift, and to apply the purchase-money to the augmentation of other small livings. —Mr. Barnes moved as an amendment that the Bill be read a second time that day three months.—Lord Henley seconded the amendment. After some discussion the House divided, and the amendment was rejected by 179 to 29. The Bill was then read a second time. The *Fisheries (Ireland) Bill* as amended, was considered and agreed to. The *Court of Session (Scotland) Bill* passed through committee. Several other Bills were advanced a stage.

Friday.—*Church Rates Amendment Bill.*—At the morning sitting Lord A. Churchill brought in this Bill, which was read a first time. The House went into Committee of Supply on the *Civil Service Estimates*, which occupied the remainder of the sitting. At six o'clock the House resumed.

[Left sitting.]

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at 92⅝ to ⅞ for Money, and 92⅝ for Acct.; Reduced and New Three per Cents., 92½ to ⅞; Thirty Years' Annuities, 1885, 15; Red Sea Telegraph, 21½; India Stock, 227; Ditto Five per Cent. Stock, 108¼ to ⅛; Ditto Bonds, 18*s.* pm.; Four per Cent. Enfaced Rupee Paper, 97½; Ditto Five per Cent., 107; Exchequer Bills, March, par; Ditto June, 2*s.* pm.—Foreign: Brazilian Old Five per Cents., 100¾; Ditto, 1852, '58, '60, 91¾; Danish, 1853, 90⅞ to ½; Egyptian, 102¾ to 103¼; Ditto second issue, 103¼; Greek, for Acct., 35⅝ to ¾; Italian, for Acct., 71⅛ to ⅜, ex div.; Mexican, for Acct., 36¾; Moorish, 96⅜; Portuguese, 1853, 48⅜, ex div.; Ditto, 1856, '57, '59, '60, and 1862, for Acct., 48¼ to 47⅞, ex div.; Russian, 1862, 93⅜; Spanish Passive, 33⅝; Ditto Certificates, for Acct., 12⅝; Turkish, 1862, 67⅞, ex div.; Ditto, for Acct., 67⅞ to 68, ex div.; Venezuela, 1862, for Acct., 57.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £28,614,000 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,964,000 |
| | | Silver Bullion .. .. | — |
| | £28,614,000 | | £28,614,000 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,046,888 |
| Rest .. .. .. .. .. | 3,344,275 | Other Securities .. .. | 23,503,448 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 5,593,824 | Notes .. .. .. .. .. | 7,233,120 |
| Other Deposits .. .. .. | 18,595,718 | Gold and Silver Coin .. | 860,969 |
| Seven days and other bills | 557,608 | | |
| | £42,644,425 | | £42,644,425 |

July 9, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

Friday: July 3.—BANKRUPTS.—W. Atkinson, Gildersome, Yorkshire, Farmer—J. Barrow, Bramhall, Cheshire, Farm Labourer—O. Bealey, Costessey, Norfolk, Journeyman Wheelwright—H. Brewer, Wormley, Hertfordshire, Bricklayer—H. Broad and E. Broad, Stourport, Worcestershire, Maltsters—E. Burton, Church Street, Minories, Optician—G. H. Bullivant, Lewisham, Solicitor's Clerk—D. Cowell, jun., Blackburn, Lancashire, Innkeeper—J. Casson, Sunderland, Grocer—H. M. Crosskill, Rochdale, Bookseller—E. Cox, Bath, late Hatter—T. Craven, Birstall, Yorkshire, Mason Contractor—W. H. Dannin, Great Driffield, Yorkshire, Joiner—F. Dates, Manchester, Doctor of Medicine—M. Duck, Wootton Bassett, Wiltshire, Innkeeper—Richard Dawson, Liverpool, Clerk—Charles Edwards, Kington, Herefordshire, Butcher—J. Fellbeck, Cowpen Quay, Northumberland, Builder—T. Felton, Southampton Street, Strand, Commission Agent—J. Ford, Greenwich, Fly Proprietor—W. Featherstonhaugh, Durham, Commercial Traveller—P. Goatcher, Britannia Street, Gray's Inn Road, Licensed Victualler—J. H. Gower, Church Row, Old St. Pancras Road, Builder—J. P. Hatton, Cheltenham, late Professor of Music—W. Halliwell, Westhoughton, Lancashire, Miller—J. Hummel, Lynn, Norfolk, Watchmaker—J. Hill, Deptford, Baker—M. Jones, Nottingham, Boot and Shoe Manufacturer—F. D. Jones, Wandsworth, Baker—G. K. Kenwood, Montagu Place, Trinity Square, Southwark, Commercial Traveller—J. Knott, Jun., Sturminster, Dorsetshire, Shopkeeper—C. Knight, Gloucester, Journeyman Saddler—J. Langford, Nottingham, late Licensed Victualler—J. Linzey, Trowbridge, Wiltshire, Stonemason—J. Lewis, Gastard, Wiltshire, Blacksmith—J. R. Latto, Archer Ter., East India Rd., Limehouse, Dress Maker—J. Levane, St John Street, Middlesex, Undertaker—A. Mainwaring, late of Bury Street, St. James's, chaplain in her Majesty's Army—J. Marrs, Stockdalewath, Cumberland, Blacksmith—S. May, Judd Street, Brunswick Square, Journeyman Watchmaker—W. Nicholls, Tipton, Staffordshire, Retail Brewer—I. S. North, King Street, Long Acre, Dairyman—J. Pass, [illegible], Yorkshire, Paper Manufacturer—T. Pearce, [illegible], Wiltshire, Groom—M. A. [illegible], Davies Street, Berkeley Square, Milliner—T. Rook, Barnsbury Terrace, Liverpool Road, Islington, late Licensed Victualler—J. Rayman, Cavendish Terrace, Victoria Park Road, Stick Manufacturer—S. G. Raymond, Graham Street, Pimlico—J. Rose, Chesterton, Cambridge, Baker—W. Randle, Norwich, Assistant to a Corn Dealer—J. J. Rowell, High Street, Newington Butts, Surrey, Butcher—John Rennie, Denmark Street, Islington, Draper—T. Sharp, Leicester, Coal Merchant—A. Schneiders, Upper Lisson Street, Lisson Grove, Baker—N. Sykes, jun., Globe Road, Mile End, County Court Bailiff—F. W. Sweet, King's Road, Chelsea, Commission Agent—J. Stringer, Cottage Grove, Peckham, Dealer in Building Materials—T. Speak, Woodham Ferris, Essex, Farmer—R. Skeffington, Leicester, Butcher—W. Lawson, Radford, Nottingham, late Paper Stainer—T. Thompson, Virginia Row, Bethnal Green, Leather Seller—P. Thompson, New Brighton, Cheshire, Hotel Keeper—W. V. Williams, Buckfastleigh, Devonshire, Mine Agent—J. Westcott, jun., Kingston upon Hull, Smack Owner—W. T. Walker, Enfield, Coal Merchant—R. H. Ward, Duke Street, Stamford Street, Blackfriars Road, Plumber.

SCOTCH SEQUESTRATIONS.—A. Carmichael and H. Neilson, Glasgow, Masons—J. Edward, Forfar, Surgeon.

Tuesday: July 7.—BANKRUPTS.—W. Ayres, Saltfleetby, St. Peter's, Lincoln, Labourer—R. Branch, Nursery Terrace, Plaistow Road, Westham, Shoemaker—J. L. Burkitt, Kenilworth, Warwickshire, Attorney—D. [illegible], Brighton, Dramatic Author—W. Bannigan, South Hamlet, Gloucestershire, Hide Waster—J. Barnes, sen., Walton, Lancashire, Farmer—S. Bourne, Chaddesley Corbett, Worcestershire, Shoemaker—S. Burrows, Wells, Norfolk, Grocer—T. P. Brandon, Great Yarmouth, Norfolk, Attorney—W. [illegible], Luton, Bedfordshire, Blacksmith—A. H. Bryant, Leicester Square, Trunk Maker—P. Cross, New Cross, Surrey, Joiner—S. Collett, Westmoreland Road, Walworth Common, Baker—R. Corbett, New Hackney Road, Builder—J. Connor, Colchester, Essex, Shoemaker—J. Church, Brighton, Sussex, Travelling Commission Agent—C. Davis, Drummond St., Euston Sq., Public House Manager—G. S. A. Dickens, Duke St., Lincoln's Inn, Clerk in Holy Orders—D. Daley, Bristol, Fish Salesman—F. B. [illegible], Westmoreland Place, City Road, Law Clerk—F. C. Daniels, Glanville Terrace, Jeffries Road, Clapham, late Clerk—H. C. Dean, Oxford Road, De Beauvoir Town, Islington, Warehouseman—R. Fearn, Thirsk, Yorkshire, Land Surveyor—W. Frank, Mirfield, Yorkshire, Grocer—J. Friend, Hythe, Kent, Chief Superintendent of Police—H. Gibbs, Summer Hill, Gloucestershire, Market Gardener—W. [illegible], Yorkshire, Stone Mason—W. Gibbs, Churston, Devon, Shipbuilder—W. J. Gerrard, Woolwich—F. A. Holmes, East Street, [illegible] Kent Road, Decorator & Painter—W. Hawkins, Almondbury, Yorkshire, Joiner—H. Hanson, High Street, Borough, Butcher—James Hannaford, Cleveland Street, Mile End, Tailor—[illegible] Hudson, Ambleside, Westmoreland, Corn Merchant—John Holt, Dewsbury, Yorkshire, Manufacturer—James Hitchin, and William Hitchin, Birmingham, Wire Drawers—Joseph Hield, Sheffield, Licensed Victualler—H. Ingham, Todmorden, Lancashire, Clock and Watchmaker—J. W. Johnstone, Queensborough, Kent,

Clerk and Draughtsman in her Majesty's Dockyard—E. S. James, Tottenham Court Road, Bonnet Manufacturer—W. Kennywell, Sheffield, Stone Mason—J. W. Lewis, Bangor, Carnarvonshire, Wine Merchant—A. Lawrance, Weston-super-Mare, Somerset, Butcher—R. Loader, Ryde, Isle of Wight, Butcher—W. Moses, East Dean, Gloucestershire, Innkeeper—H. Weston, Blackburn, Lancashire, [illegible] cestle, late Cabinet Maker—F. R. Matthews, Hereford, Banker—T. C. Mansion, High Street, Southwark, [illegible] Merchant—Thomas W[illegible] [illegible]

[illegible] SEQUESTRATIONS.—W. H[illegible], [illegible] Farmer—W. M[illegible], [illegible] Merchant.

# Metropolis and its Vicinity.

The Prince of Wales at Mercers' Hall.—On Wednesday the Prince of Wales gave the city another proof of his attachment to ancient guilds and corporate constitutions by taking up his freedom in the most ancient of all its great leading companies—the Mercers', and enrolling his name on their records, which already contain the names of Henry VIII., Elizabeth, Sir Thomas Gresham, Caxton, and Lord Mayor Whittington. The Prince on his arrival was received by the Master Wardens and the principal officers of the Company, who presented him with an address, to which his Royal Highness replied as follows:—

"Master and Court of Assistants,—I am glad to avail myself of the last opportunity which my stay in London affords me of attending here this day to receive the freedom of your ancient and honourable company. The oldest of the city companies, the Mercers, is hardly exceeded by any in the [illegible] of its charities, or in its [illegible] of doing good. How these [illegible] have been [illegible] the list of the benefactions of the company, and of the distinguished persons whom you have [illegible] as benefactors and [illegible]. Among the latter, the great Sovereign, who was herself a sister of the company, [illegible], and commerce and science appear equally to have lent their representatives to ennoble the Mercers' Company. To be associated with such names in the [illegible] and [illegible] of your company is an honour and privilege I am proud to have conferred upon me. I thank you sincerely for the terms in which you have mentioned the names of my beloved mother and the Princess, and for the happiness you desire for us both."

The Prince then subscribed the oath of the Company, after which the Clerk presented his Royal Highness with the formal document which enrolled him as freeman. This was engrossed on vellum and enclosed in a superb casket of solid gold, of great cost intrinsically, and made still more valuable by its elaborate chasing and workmanship, which were by Mr. C. F. Hancock, of Bruton Street. On it was inscribed, "Presented to his Royal Highness Albert Edward, Prince of Wales, K.G., by the Corporation of Mercers, Premier Guild of the city of London, on the occasion of his Royal Highness honouring them by accepting the Freedom of the Company, July 8th, 1863." With the acceptance of this splendid gift, the fourth of the kind the Prince has received in the last four months, the formal part of the ceremony concluded, and the general visitors were entertained at a *déjeuner* in the Banqueting Hall, while the Prince and his suite, with 20 selected guests, had luncheon in the Council Room. At the conclusion of the repast, the toastmaster gave the toasts of "The Queen," and then that of "The Prince" as Citizen and Mercer. His Royal Highness departed soon after the *déjeuner*.

Wimbledon Prize Meeting.—The Prince of Wales on Monday visited Wimbledon Common, where the volunteers were assembling for their 12 days' campaign, and at the suggestion of Lords Elcho and Ducie inaugurated the meeting by making some excellent shooting at the 200 yards pool range as well as at the running deer. The regular shooting commenced on Tuesday, when in a match between the three counties, Lancashire won, Gloucestershire being second, and Middlesex losing that place by only one point. Three of the soldiers employed by the association as markers were more or less seriously wounded, though no blame appears to have attached to any one. On Wednesday the Public Schools' Match was contested by Eton, Harrow, Rugby, Marlborough, Winchester, and Cheltenham. They fired first at the 200 yards range, where Harrow obtained a trifling ascendancy over Marlborough, Eton occupying the third place, Rugby and Winchester making ties, and Cheltenham being last. The firing at the 500 yards range altered the relative positions of the schools, Eton making fewer bull's-eyes than some of the other elevens, but obtaining a far greater number of centres and outers, hitting the target in nearly every instance, beating Harrow to the extent of 22 points, or 16 upon the gross score, and thus carrying off Lord Ashburton's challenge shield. The most successful competitors on behalf of each school, making jointly a squad of six, then proceeded to fire seven shots at the 500 yards range for Earl Spencer's Cup. In this contest Sergeant Deedes, son of the late Mr. Deedes, M.P., the representative of Winchester, made five bull's eyes and two outers in seven shots, or within four of the *maximum* which it was possible to attain. The numbers were, Winchester 24, Cheltenham 19, Marlborough 18, Eton 17, Rugby 17, Harrow 13. The Cup was therefore won by Winchester. The competition for the first stage of the Queen's Prize at 200 yards was entered upon at a very early hour, and carried on briskly throughout the day, the highest score being made by Captain Benning, of the 2d Hants, who made five consecutive bull's eyes at 200 yards. The Bronze Medal was won by Captain Field of the Hon. Artillery Company, and the five prizes of 5*l.* each were won by Sergeant Hooper (40th Middlesex), Private Richards (1st London Rifle Brigade), and Private Kennedy (29th). The fifth prize was a tie between Captain Gould (37th) and Private Salter (39th). Several accidents occurred during the day to the markers, and an official report was transmitted to the Commander-in-Chief on the subject. On Thursday the authorities of the Horse Guards declined any longer to expose the troops to the dangers of the Swiss system of marking. Lord Elcho and Lord Ducie immediately called a meeting of the Volunteers, who unanimously resolved to abide by the system and to go into the butts themselves, the Victoria Rifles volunteering to take the lead, and officers and men alike undertaking their share of the duty. The shooting for the early stages of the Queen's Prize, the House of Lords' Prize, the [illegible] All Comers, at 200, 500, and 600 yards, and the extra prizes, was then proceeded with.

Experiments at Shoeburyness.—An important target trial took place at Shoeburyness on Tuesday. Hitherto the targets have been constructed on the principle that the backing must be elastic, but the present trial was to determine the value of the theory in favour of a rigid backing. Up to the test furnished by the 68-pounder the rigid theory was sustained, but a 150 lb. steel shot passed through the target and its supports, and a 300 lb. shell penetrated the target and set the filling of the cells on fire. The outer ring of one of the Armstrong guns used at the trial gave way, but no one was injured.

Cheltenham [illegible] School.—The Head Mastership of this school has become vacant by the resignation of the Rev. Richard Sawyer.

Steam Fire Engines.—A series of experiments, interesting in themselves, and in their result likely to be of the highest importance, took place last week in the Crystal Palace gardens with a view to test and ascertain by actual competition which was the best description of steam fire-engine out of the many different machines of the kind now made. The experiments lasted several days, and were honoured on one occasion by a visit from the Prince of Wales. All the engines worked satisfactorily except the American engine "Manhattan" from New York, which at no time fulfilled the conditions of the competition, and at last completely broke down. At a meeting of the committee on Wednesday, the Duke of Sutherland in the chair, the result of the trials was announced as follows:—For large class engines, first prize of 200*l.* to Messrs. Merryweather & Sons; second prize of 100*l.* to Messrs. Shand & Mason; small class engine, first prize of 250*l.* to Messrs. Shand & Mason; second prize of 100*l.* to Messrs. Lee & Co. of America. The committee highly commended the engine of Mr. W. Roberts, of Millwall.

Child Murder.—On Monday evening a lad, digging in the garden of a florist in William Street, New North Road, Islington, came upon the decapitated body of a child in a state of decomposition, buried a little way below the surface. The remains on being inspected by a medical man, were found to be those of a little girl, and a close examination of the clothing established the fact that the body was that of a poor child called Elizabeth Hunter, aged 5 years, who was taken away on a pretended errand by a man while she was walking near her mother's house with her sister, about 15 months since, within a couple of hundred yards of this spot, and for whose discovery her Majesty's Government offered 100*l.* reward. The missing child's boots corresponded exactly with those found, and earrings like those she wore were found with the head, which was discovered buried at a short distance from the body. It appeared from the evidence at the police court that the head was found some months since, and reburied by order of the proprietor of the nursery without any notice being taken. An immense crowd of persons gathered round the place where the body was discovered, and remained there till past midnight. The body has been removed to the dead-house, where it awaits an inquest. On Thursday a shabbily dressed lad, between 17 and 18 years of age, called William Henry Clarke, who was working in the nursery at the time of the girl's disappearance, and who is said to have been several times in custody on the charge of indecently assaulting children, was brought before the magistrate at Clerkenwell Police Court, charged on suspicion of having murdered the child. The evidence left little doubt of his identity, and he was remanded for a few days, the magistrate refusing to accept bail.

The Discovery at Stoke Newington.—An inquest on the bodies found on the premises of the undertaker at Stoke Newington was held on Saturday. After several witnesses had been examined the jury returned a verdict that the bodies had been taken to the premises of the undertaker for interment; that he had received money for that purpose, but had neglected to inter them.

The Public Health.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, July 4, were 1187. The average number in the corresponding weeks of the 10 years 1853-62, corrected for increase of population, was 1142. The present return is therefore 45 above the average. During the week the births of 995 boys and 942 girls, in all 1937 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1728.

# Provincial.

Bath.—A case of triple murder and suicide took place on the canal, in the parish of Bathampton, on Monday afternoon. A woman named Cole, living on Sallsway Bridge, took her three children, aged six years, three years, and six months, and, having drowned them in the canal, jumped in after them, and by the time the bodies were got out they were all dead. The husband resided some years ago at Larkhall, and seemed then to have been in good circumstances. From thence he went to Bristol and opened a public-house, which proved a failure. The family have latterly depended on the husband's earnings as a carver and gilder, but have suffered great penury. This appears to have unsettled the wife's mind, and to have led her for some time past to threaten suicide rather than go into the workhouse.

Liverpool.—On Saturday the screw steam ship Gibraltar, formerly the well-known Confederate privateer Sumter, left the Mersey for Nassau, with a large cargo. Since her arrival in Liverpool she has undergone a complete overhaul, and her deck timbers have been materially strengthened. It is generally believed that on her arrival at Nassau, she will be further strengthened, and eventually resume her old occupation of looking after Federal merchantmen. It is understood that she took out the monster guns which caused her to be detained by the Customs authorities a few days ago.

Manchester.—At the weekly meeting of the Relief Committee on Monday it was reported that the decrease in the number of the unemployed during the week was 8601, and that 47 local committees had suspended their operations in consequence of the disappearance of distress in their districts.

# Ireland.

Trial for Murder.—On Friday last Michael M'Cormack was convicted at the Longford Assizes of the wilful murder of Michael Beglan, and sentenced to be executed on the 4th of next month. The prisoner heard his sentence with great firmness.

# Scotland.

Scottish National Memorial.—The Queen has signified her approval of a design prepared by Mr. Noel Paton for the Scottish National Memorial to the Prince Consort, and the committee are now engaged in ascertaining its probable expense. The design is that of a rich Gothic cross surmounted by a moulded cope and plinth, bearing a full-length statue of the Prince in the robes of the Garter. Under the trefoil arch on each of the four sides of the cross is a seated figure emblematic of science and the arts. The whole is supported on a moulded pedestal and flight of steps taking the form of a cross. The front of the pedestal under each of the figures bears an elaborate bas-relief. The height of the whole erection is about 50 feet, and it is designed to be placed on the terrace in West Princes Street Gardens.

# Law.

Court of Queen's Bench.—*Morrison v. Belcher.*—This was an action for libel, brought by Lieutenant Morrison of the Royal Navy, against Rear-Admiral Sir Edward Belcher. It appeared that the plaintiff was the author and proprietor of a publication called "Zadkiel's Almanack," and that in consequence of some predictions in 1861, concerning the Prince Consort, a contemporary inquired in an article of the 31st of January last, "Who is this Zadkiel?" and was answered the next day by Sir Edward Belcher in a letter which formed the libel complained of. He stated that the author and the editor of the almanack in question was a retired lieutenant of the navy named Morrison. He went on to say that Mr. Morrison was the same person who in 1851 had gulled many of the nobility by exhibiting a crystal globe, in which he pretended that various persons saw visions and held converse with the spirits of the Apostles, even our Saviour, with the angels of light as well as of darkness, and could tell what was going on in any part of the world. The essence of the libel consisted in a further charge that he had done this for money, knowing it to be a mere imposture. The defence was that it had not been done for money, and that Zadkiel had a real belief in the virtues of his glass globe, which appeared to have been formerly the property of the Countess of Blessington, and was in her well known in fashionable society. Various persons of rank were summoned as witnesses to show that they had seen the ball, and that it had been shown them as a "gentle amusement" freely and without payment. The Earl of Wilton, among others, had seen it, but without having had any "conspiracy" suggested to him by it. The Bishop of Lichfield and Sir Bulwer Lytton gave evidence to the same effect. A clergyman deposed that he had seen it, and that the "seer," or medium, described a vision of his son in a distant country, but the description was so general that it was impossible to tell whether it was true or not. Several other respectable persons came into court and swore to the fact of themselves or others having looked into this crystal ball to converse with "the presiding spirit of the crystal," or to make inquiries about their children, about Sir John Franklin, Judas Iscariot, Titania, St. Luke, Eve, and other subjects equally solemn or grotesque. Accounts had been published on the strength of these visions, of Titania "as she appeared in a chariot," and St. Luke "as he appeared on several occasions." These personages were seen "with legends as coming out of their mouths," and spoke various languages, as English, Turkish, French, Latin, and Hebrew, but their present language seems to be totally independent of their

education, inasmuch as Titania, St. Luke, and Eve, spoke English. The Jury, under the direction of the Lord Chief Justice, seem to have thought that if so many other persons could be brought to look at the crystal ball, Zadkiel might be supposed to believe in it; and, as it was not made out that he had received any money for exhibiting it, they found a verdict for the plaintiff. They, however, gave only 20s. damages, and the Judge refused to certify for costs.

COURT OF COMMON PLEAS.—*Cummings v. Berkeley and Others.—The British Columbian Overland Transit Company.*—This was an action against the Hon. F. H. Berkeley, M.P. for Bristol, and others, who had been directors of the British Columbia Overland Transit Company, to recover damages in consequence of the plaintiff not having been carried to British Columbia, according to contract, the plaintiff and the other passengers having been, in fact, left at a place called St. Paul's, in Minnesota. At the trial the plaintiff recovered a verdict for [illegible], but subsequently a rule nisi was granted to enter a verdict for the defendants, or for a new trial, and this rule having been argued, the question now was whether it should be made absolute. The Court held that the plaintiff was entitled to recover, and that the verdict ought not to be disturbed. The rule was therefore discharged.

COURT OF EXCHEQUER.—*Attorney General v. Lord Sefton.—Important question of Succession Duty.* This was a case of considerable importance. The late Earl of Sefton, who died in August, 1855, was the owner of certain lands at Toxteth Park, Liverpool. At the time of his death, and for ten years previously these lands were wholly unoccupied and unproductive, and incapable of being used profitably for agriculture or any other purpose. No income or profit was derived from them, and they were not, it appeared, marketable as building land, but still they were of great value, being in 1855 worth [illegible] an acre, which was 40 times the value of the best agricultural land. The Crown claimed succession duty upon these lands from the present earl, and the question was, whether they were liable to it—a most important point, as there is a considerable amount of valuable land in the country similarly circumstanced. Baron Martin was of opinion that judgment should be for the Crown; the Lord Chief Baron and Baron Wilde thought that the contention on the part of the Crown was wholly untenable, and that judgment should be for the defendant. Mr. Baron Channell said he was obliged to leave the court during the argument to attend chambers, he did not think that he could properly take any part in the decision, but he had carefully considered the judgment prepared by his learned brothers, and he was inclined to arrive at the same conclusion as the Lord Chief Baron and Baron Wilde. The majority of the Court being in favour of the defendant, judgment was entered for him, against the Government.

## Railways.

ACCIDENT AT THE LONDON AND NORTH-WESTERN.—On Mondon afternoon, while the third class train from Liverpool was standing at Wolverhampton station for the collection of tickets, an engine which had been waiting at Bushbury junction ran up at a speed of about 10 miles an hour and dashed into the rear of the train, which was a very long one. The force of the collision shattered the guard's break van, and two third-class carriages filled with passengers, 39 of whom were severely injured, one it is feared dangerously. The driver of the engine has confessed that he alone was at fault, for the distance signal, which is 800 yards from the ticket platform, and can be seen a mile away, was "against him." He is understood to have been at the time on the wrong side of his engine, and thus to have had his view intercepted by the funnel of the engine.

THE FATAL ACCIDENT ON THE BRIGHTON LINE.—The inquest on the soldiers and others killed by the recent accident at Streatham was concluded on the 1st inst. Several scientific witnesses were examined, and gave their opinion that tank engines, like the exploded engine, were quite as safe as tender engines. Colonel Yolland, the Government inspector, expressed his opinion that the accident was owing to the excessive speed and weight of the engine, which, he said, the rails were unable to bear. The jury returned the following verdict:—

"Accidental Death, attributable to the high rate of speed at which the express trains run over the line from Croydon to Victoria. The jury would urge on the directors of the London and Brighton Company the necessity of allowing more time for the performance of the journey, and that careful attention should be given to the coupling of the trains."

## Obituary.

THE DOWAGER LADY KILMAINE died on Monday, at her house in Chester Square, in her 90th year. She was the fourth daughter of the Right Hon. Sir Henry Cavendish, Bart., by Baroness Waterpark, and was born in 1774. She married in 1793, the second Lord Kilmaine, by whom she had the present peer, and a numerous family.

SIR WILLIAM MASSEY STANLEY, Bart., died in Paris on the 29th ult., after a very short illness. He was the eldest son of the ninth baronet, by the only daughter of Sir Carnaby Haggerston, of Haggerston, Northumberland. He was born in 1807, and succeeded to the baronetcy and large patrimonial estates in Cheshire on the death of his father in 1841. From 1837 to 1847 he represented Pontefract in Parliament on Conservative principles. Soon after his accession to the title he was obliged by ill-health to seek the more genial climate of the South of Europe, and had been long resident in Paris and its vicinity. Although, when he came to the baronetcy, he was possessed of a large fortune, by some unfortunate management the princely estate in Cheshire passed into other hands, and at his death he enjoyed but a diminished income. He is succeeded in the baronetcy by his next brother, Rowland Errington, born in 1809, and married in 1838 to the eldest daughter of the late Sir John Macdonald, K.C.B. The present baronet assumed, in 1820, the name of Errington, in lieu of his patronymic, in compliance with the will of Mr. Henry Errington, of Red Rice, Hertfordshire.

MAJOR-GENERAL THOMAS KELLY, K.C., died on the 27th ult., at Lansdowne Square, Rosherville, at the age of 87. He entered the army nearly 70 years ago, and was engaged with his regiment, the 26th Light Dragoons, in the operations carried on towards the close of the last century in the West India Islands, till he was ordered to Portugal. He afterwards proceeded to Egypt with Sir R. Abercrombie, and was present at the siege of Aboukir, and in the operations under Sir Eyre Coote, near Alexandria. He was wounded in a night attack when he captured the whole of the enemy's pickets with a far inferior force. For these services he received the gold medal from the Grand Seignior, and had also the silver war medal with one clasp. Having been sent to the West Indies on foreign service on the outbreak of the Peninsular war, he had no opportunity of sharing in the promotions which fell to his more fortunate comrades, and his career from 1809, when he became a captain, was so slow that it was 29 years before he attained the rank of major. He was then appointed Commandant of Tilbury Fort, and discharged the duties of that office for 46 years, only retiring in consequence of age and infirmity a short time ago with the rank of major-general.

MR. MULREADY, R.A., died on Tuesday last, at Linden Grove, Bayswater, in his 78th year. He was born at Ennis, in Ireland, and was admitted a student of the Royal Academy when only 14 years of age. His works are, perhaps, as familiar to the British public as those of any modern artist. The Vernon Gallery, the Sheepshanks, and the Royal collections, are rich in examples of his genius.

MR. JAMES HANS HAMILTON, formerly M.P. for the county of Dublin, and father of the present member, died on Monday after a long illness. He only resigned his seat a few months ago from impaired health. He was first returned in 1841, in the Conservative interest. He was born in 1810, and was son of Mr. Hans Hamilton, who represented the county of Dublin for nearly 30 years.

WILLS.—The will of the Marquis of Lansdowne, K.G., has been sworn under 350,000*l.*; the Earl of Ellesmere, 150,000*l.*; Mr. Henry Powell, of Tunbridge Wells, 100,000*l.*; Mrs. Elizabeth Wray Martin Leake, of Queen Anne Street, [illegible].

BIRTHS.—At 20, Berkeley Square, Lady SKELMERSDALE, of a daughter—5th inst, at 12, Cavendish Square, the Hon. Mrs. TOWNLEY MITFORD, of a son—4th inst, at Garendon Park, Leicestershire, the lady of A. L. DE LISLE, Esq., of a son, who survived his birth only a few hours—4th inst, at 38, South Street, Grosvenor Square, Mrs. MATHESON, of Ardross, of a daughter—3d inst, at the Vicarage, Sutton Courtney, Berks, the wife of the Rev. HOWARD RICE, of a son.

MARRIAGES.—On the 4th inst, at St. George's, Hanover Square, WILLIAM EARLE WELBY GREGORY, Esq., eldest son of Sir Glynne Earle Welby Gregory, Bart., and M.P. for Grantham, to the Hon. VICTORIA STUART-WORTLEY, only daughter of the late Hon. Charles and Lady E. Stuart-Wortley, and one of the Maids of Honour to the Queen—7th inst, at Christ Church, Paddington, the Rev. SIR JOHN CÆSAR HAWKINS, Bart., M.A., incumbent of St. Paul's, Chatham, to MARY CATHERINE, youngest daughter of the late THOMAS ELLAMES WITHINGTON, Esq., Culchette Hall, Lancashire—2d inst, at St. George's, Hanover Square, HARINGTON BALFOUR, eldest son of Charles Balfour, Esq., to ISABELLA ANNE, eldest daughter of Sir DAVID KINLOCH, Bart., of Gilmerton, Haddington, N.B.—4th inst, at Little Portland Street Chapel, HENRY ENFIELD ROSCOE, Esq., F.R.S., of Manchester, to LUCY, youngest daughter of EDMUND POTTER, Esq., M.P., F.R.S., of 22, Prince's Gardens, Kensington.

DEATHS.—On the 29th ult, at Dresden, FRANCES BARONESS VON WEHREN, aged 22—2d inst, at 15, Cheyne Walk, Chelsea, DAME ANNA MARIA ALDIS, widow of Sir Charles Aldis, aged 76—28th ult, at Beachlands, Ryde, Isle of Wight, General Sir J. L. CALDWELL, G.C.B., aged 92—28th ult, at Weymouth, ALICE MARIAN, second surviving daughter of Admiral SYDNEY DACRES, C.B., commanding the Channel Fleet, aged 1[illegible]—5th inst, at Northfleet, Kent, ELIZA SARAH, eldest daughter of the late General CROKSON, Royal Artillery, aged 74—4th inst, near Dublin, Lieutenant-Colonel RICHARD PALMER SHARP, late of the 72d Highlanders, eldest son of the late Richard Sharp, Esq., of Apps Court, in the county of Surrey—30th ult, at Holbeach, Lincolnshire, MARY JOHNSON, only daughter of Lieutenant-Colonel DONELAN—2d inst, at Anglesea, Hants, Captain DOWNES, R.N., of Letton Court, Herefordshire, and J.P. and Deputy-lieutenant of that county, aged 58—2d inst, at Thames Ditton, MARY ELIZABETH, widow of Captain WM. WALBANKE CHILDERS—5th inst, at 68, Eaton Square, of bronchitis, THOS CAMPBELL ROBERTSON, Esq., late of the Bengal Civil Service, aged 74—3d inst, at Edenhurst, Fulham, the Rev. WM. MOSELEY, LL.D., aged 93—4th inst, at Elmer's End, Beckenham, Kent, the Rev. THOMAS SHORE, aged 70—1st inst, at North Cheriton, near Wincanton, the Rev. THOMAS GATEHOUSE, aged 74—4th inst, at South Hayes, Worcester, the Rev. GEORGE DINELEY, B.D., rector of Churchill, aged 76.

## Markets.

### COVENT GARDEN, July 11.

In consequence of the delightful weather we are now experiencing supplies of both fruit and vegetables are unusually well kept up. Peaches and Nectarines are plentiful. Greengages and other Plums are now included in foreign imports, and of Grapes and Pine Apples the supply is sufficient for the demand. Strawberries are abundant. Cherries of foreign growth, of which there are large arrivals, are fetching from 5s. to 6s. 6d. per basket, weighing about 24 lbs. each. Of Melons, both English and foreign, there is a good supply, and Oranges are also plentiful. New Potatoes realise from 8s. to 11s. per cwt. Cut flowers chiefly consist of Orchids, Pelargoniums, Violets, Stocks, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 3s to 6s | Lemons, per 100, 12s to 16s |
| Grapes, per lb., 3s to 6s | Oranges, per box, 30s to 40s |
| Strawberries, p. lb., 6d to 2s | — per 100, 5s to 10s |
| Apples, per doz., 9d to 1s 6d | Nuts, small, per bushel, 14s to 18s |
| Figs, per doz., 6s to 8s | Almonds, do., 18s |
| Peaches, per doz., 12s to 30s | Walnuts, do., 10s |
| Nectarines, do., 6s to 15s | |
| Melons, each, 3s to 7s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Peas (shelled), p. qt., 1s to 1s 6d | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | French Beans, per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 99s | Shallots (new), p. bunch, 6d |
| „ Flukes, do., 100s to 120s | Rhubarb, p. bundle, 2d to 4d |
| „ Rocks, do., 60s to 80s | Garlic (new), per bunch, 6d |
| „ Cups, do., 75s to 85s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 6d to 8d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bun. 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 3s 6d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |

### NEWGATE.—July 10.

| | |
|---|---|
| Best Fresh Butter .. .. | 13s. per dozen lbs. |
| Second do. do. .. .. | 11s. „ |
| Pork, 4s 0d. to 4s 4d. per 8 lbs. | |

### HOPS.—BOROUGH MARKET, FRIDAY, July 10.

Messrs. Pattenden & Smith report no quotable alteration in the market during the last few days, although a rather improved demand is perceptible for the best samples of both English and foreign Hops. The plantation accounts from the blighted districts in England as well as the Continent speak of no improvement, and the plant is in a very critical state.

### METROPOLITAN CATTLE MARKET.

MONDAY, July 6.

The number of Beasts is larger than for some time past. Trade is consequently slow and lower prices are taken. Several inferior qualities are unsold. The supply of Sheep and Lambs is also larger; the demand is active, and there is no quotable reduction in price. Calves are selling about as on Thursday. From Germany and Holland there are 1360 Beasts, 6340 Sheep, and 306 Calves; from Spain, 460 Beasts; from France 24 Calves; from Ireland, 730 Beasts and 500 Lambs; from Scotland, 73; from Norfolk and Suffolk, 1000; and 1590 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to 5 0 | Best Long-wools | .. — .. |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn | 4 8 — 4 10 |
| 2d quality Beasts | 3 6 — 4 0 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds | .. — .. | Do. Shorn | 4 0 — 4 6 |
| Do. Shorn | 5 0 — 5 2 | Lambs | 5 8 — 6 4 |
| | | Calves | 3 0 — 4 8 |
| | | Pigs | 3 0 — 4 0 |

Beasts, [illegible]; Sheep & Lambs, 28,[illegible]; Calves, 381; Pigs, 230.

THURSDAY, July 9.

We have a large supply of Beasts and a dull trade; consequently prices on the average are lower, although there is scarcely a quotable reduction in the choicest descriptions. The number of Sheep and Lambs is about larger than of late. Monday's quotations are barely maintained for Sheep, but well supported for choice Lambs. Calves are lower. Our foreign supply consists of 460 Beasts, [illegible] Sheep, and 577 Calves. Milch Cows, 85.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to 5 0 | Best Long-wools | .. — .. |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn | 4 6 — 4 8 |
| 2d quality Beasts | 3 6 — 4 0 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds | .. — .. | Do. Shorn | 3 8 — 4 4 |
| Do. Shorn | 5 0 — 5 2 | Lambs | 5 4 — 6 4 |
| | | Calves | 3 [illegible] — 4 6 |
| | | Pigs | 3 0 — 4 0 |

Beasts, 1135; Sheep & Lambs, 13,700; Calves, 865; Pigs, 80.

### COAL MARKET.—July 8.

Cowpen Hartley, 15s. 3d.; Davison's West Hartley, 15s. 3d.; Hastings Hartley, 15s. 3d.; Hollywell Main, 15s. 6d.; North Percy Gas, 15s. 3d.; West Hartley, 15s. 3d.; West Wylam, 15s.; Walls End Riddell, 15s.; Eden Main, 15s. 3d.; Walls End Haswell, 17s. 3d.; Walls End South Hetton, 17s. 3d.; Walls End Tunstall, 14s. 9d.; Walls End Hartlepool, 16s. 6d.; Walls End Heugh Hall, 15s. 9d.; Walls End Kelloe, 15s. 9d.; Walls End East Hartlepool, 16s. 9d.; Walls End South Hartlepool, 15s. 3d.; Walls End South Kelloe, 15s. 9d.; Walls End Trimdon Hartlepool, 16s. 6d.; Carway and Duffryn Malting, 19s. 6d.—38 ships at market.

### HAY.—Per Load of 36 Trusses.

SMITHFIELD, THURSDAY, July 9.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 60s to | 80s | Clover, old .. .. | 90s to | 126s |
| Superior do. .. | 80 | 95 | New Clover .. | 70 | 95 |
| Inferior do. .. | 36 | 54 | Do. second cut .. | 80 | 115 |
| New do. .. .. .. | 60 | 80 | Straw .. .. .. | 28 | 31 |
| Rowen .. .. .. | — | — | HARVEY & EASTON. | | |

CUMBERLAND MARKET, THURSDAY, July 9.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 92s to | 100s | Inferior Clover .. | 90s to | 108s |
| Inferior do. .. .. | 70 | 84 | New do. .. .. | 80 | 98 |
| New do. .. .. .. | 70 | 84 | Straw .. .. | 38 | 43 |
| Superior Clover .. | 118 | 126 | JOSHUA BAKER. | | |

WHITECHAPEL, THURSDAY, July 9.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 90s | Prime Clover .. | 120s to | 126s |
| Inferior do. .. .. | 70 | 80 | Inferior do. .. .. | 108 | 115 |
| Prime New Hay .. | 70 | 76 | New do. .. .. | 80 | 90 |
| Inferior .. .. .. | — | — | Prime 2d cut .. | 115 | 120 |
| Straw .. .. .. | 25 | 32 | Inferior do. .. | — | — |

### BRITISH WOOLS.—LONDON, July 10.

Our demand is scarcely so brisk as it has been, and prices equal to some of the extreme ones paid the farmers cannot be realised. At the same time trade is healthy, and all wool finds customers at current rates.

| | s. d. s. d. | | s. d. s. d. |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 9½ to 1 10 | Leicest. Wethers | 1 8 to 1 9 |
| Half-bred ditto .. | 1 10 — 1 11 | Ditto Hoggs .. | 1 9 — 1 10 |
| Down Ewes .. | 1 8½ — 1 9 | Combing Skins | 1 4 — 1 8 |
| Kent Fleeces .. | 1 9 — 1 10 | Flannel Wool .. | 1 6 — 1 8 |
| | | Blanket ditto .. .. | — .. |

### MARK LANE.—MONDAY, July 6.

The supply of Wheat from Essex and Kent to this morning's market was very short; last Monday's prices were realised for the former, but barely maintained for the latter. The demand for foreign was limited to the requirements of necessitous buyers, who were in very small attendance, and generally compelled to purchase on previous terms. Barley, Beans, and Peas brought last week's quotations. Good sweet Oats were unaltered in value, but out-of-conditioned parcels were 6d. per qr. cheaper. Flour trade was quiet, and late rates were scarcely supported.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 46—56 | Red .... | 42—50 |
| — — fine selected runs .. ditto | 47—54 | Red .... | 42—52 |
| — — Talavera .............. | 48—60 | | |
| — Norfolk .............. | — | Red .... | — |
| — Foreign .............. | 35—62 | | |
| BARLEY, grind. & dist. 23s to 30s .. Chev | 34—38 | Malting .. | 31—34 |
| — Foreign .. grinding and distilling | 23—27 | Malting .. | 28—32 |
| OATS, Essex and Suffolk .............. | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—2[illegible] | Feed .... | 21—23 |
| — Irish ............ Potato | — | Feed .... | — |
| — Foreign ...... Poland and Brew | 18—22 | Feed .... | 17—22 |
| RYE .............. | 35—37 | Foreign .. | — |
| RYE-MEAL, Foreign .............. | — | | |
| BEANS, Mazagan .... 30s to 31s .. Tick | 31—32 | Harrow .. | 31—32 |
| — Pigeon .... 34s to 38s .. Winds. | — | Longpod | — |
| — Foreign .............. Small | 40—46 | Egyptian | 32—34 |
| PEAS, White, Essex and Kent .. Boilers | 35—37 | Suffolk .. | 37—40 |
| — Maple .... 42s to 48s .... Grey | 36—37 | Foreign .. | 30—38 |
| MAIZE .............. White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 42—47 | | |
| — 2d do .............. ditto | 32—44 | Country .. | 32—40 |
| — Foreign .......... per barrel | 20—25 | Per sack | 34—48 |

FRIDAY, July 10.

The weather since the 3d inst. has been all that farmers could desire, and with the exception of Beans in some districts the reports of the crops are very favourable. The cutting of winter-sown Oats and Barley has commenced in two or three of the neighbouring counties. The sale of Wheat continues to be on the most limited scale throughout the kingdom, and prices are quoted 1s. per qr. lower in all the principal markets. Business in spring corn is also very restricted, but no alteration has occurred in its value with the exception of Oats, these have generally declined 6d. per qr. The demand for Flour is very limited, and where sales are effected a slight concession in price is generally necessary. Since Friday last 31 vessels have been reported off the coast. The floating trade has been quiet at unaltered prices, only Maize has declined again 6d.

per qr. In Paris (July 9), Flour has declined about 1s. 6d. per 280 lbs., Wheat 9d. to 1s. 3d. per 480 lbs., and business continues very slow. The present stock of Flour is estimated at 9170 cwt. The six marks for delivery this month are quoted equal to 37s. 6d. per 280 lbs. The arrivals of foreign Oats during the week have been considerable; of all other grain and Flour very small. There were scarcely any Wheat buyers at market this morning, and in the almost total absence of business prices of both English and foreign Wheat must be considered nominally the same as on Monday. Barley, Beans, and Peas were unaltered in value. The Oat trade was firm, and Russians were in rather better demand at the extreme rates lately current. Flour was neglected.

ARRIVALS THIS WEEK.

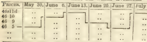
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 670 qrs. | 10 qrs. | — qrs. | 640 sks. |
| Irish .... | — | — | — | — ,, |
| Foreign .. | 2230 ,, | 1720 | 47,250 ,, | 830 ,, / — brls |

LIVERPOOL, July 7.—We have had a fair attendance of town and country millers and dealers at to-day's market. Wheat has remained slow of sale at a further reduction of 1d. per cental, whilst Flour is very dull, but not quotably cheaper than on Friday. Indian Corn steadily maintains late rates, with a fair consumptive demand. Oats and Oatmeal unchanged. Egyptian Beans are held firmly at the recent advance of 6d. per qr. Peas and Barley the turn cheaper. The market closes without animation.

FRIDAY, July 10.—The market was fairly attended. Wheat in limited demand at a decline of 1d. to 2d. per cental. Flour very little doing and the turn cheaper. Indian Corn, fair sale for mixed, at 26s. 9d. Egyptian Beans steady; Saide, 30s. Oats and Oatmeal unchanged.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| May 30.. | 46s 5d | 33s 8d | 22s 8d | 40s 2d | 38s 11d | 35s 9d |
| June 6 | 46 10 | 31 1 | 22 10 | 32 5 | 39 10 | 36 8 |
| — 13 | 46 11 | 32 14 | 22 10 | 34 10 | 39 8 | 36 11 |
| — 20 | 46 9 | 30 7 | 23 0 | 32 3 | 40 4 | 37 10 |
| — 27 | 46 5 | 31 2 | 22 10 | 35 9 | 39 8 | 36 1 |
| July 4 | 46 11 | 30 9 | 23 11 | 32 11 | 39 6 | 38 0 |
| Agg. Aver. | 46 9 | 31 9 | 23 0 | 34 9 | 39 8 | 36 11 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




WANTED, a PERSON to manage a Seed Shop; must have a good knowledge of Clover and Grass Seeds, and be a good Bookkeeper.—Apply by letter, stating antecedents and salary expected, addressed SEEDSMAN, Post Office, Newcastle-upon-Tyne.

WANTED, a really energetic and good business Man as OUT-DOOR FOREMAN, who thoroughly understands the Management of Hardy Ornamental Trees, Fruit Trees, Shrubs, &c., as well as general out-door Nursery Stock, and can produce first-class testimonials.—Apply, in own handwriting, with all particulars, to JAMES DICKSON & SONS, The "Newton" Nurseries, Chester.

WANTED, an INDOOR FOREMAN, PLANTSMAN, SALESMAN, and PROPAGATOR, both Hard and Soft-wooded, more particularly the Propagation of Rhododendrons, Conifers, Camellias, Ericas, Roses, &c. A knowledge of the Early Forcing of Plants for Cut Flowers, &c. indispensable. Neither Dissenters nor such as cannot command first-class testimonials both for ability and high moral standing need apply.—Address, stating age, wages required without house, to THOMAS CRIPPS, Nurseryman, Tunbridge Wells, Kent.

WANTED, for a NURSERY, a good PLANT GROWER.—One who has grown for the Market would be preferred; he must be well experienced in growing Geraniums, Heaths, Azaleas, &c. To a first-class Man liberal wages would be given, and the situation a permanent one; but it would be useless for any person to apply for it who cannot give from his last employment a satisfactory proof of his abilities.—Apply by letter to A. B., Mr. J. G. Waites, 181, High Holborn, W.C., stating former experience, age, if married, and wages expected.

WANTED, as GARDENER, an active industrious Man, from 30 to 40, who thoroughly understands his profession, married (without children). The Wife a good Laundress. To reside in a small cottage on the premises. Members of the Established Church preferred. Unexceptionable references required.—Apply by letter, J. G., Houndshill, Stratford-on-Avon.

WANTED, as GARDENER and LAUNDRESS, a Man and Wife; both thoroughly competent. Wages 26s. per week, with coals and furnished cottage.—Address, Rev. W., Shipbourne Parsonage, Tunbridge.

WANTED, a SHOPMAN, in a Provincial Nursery, a trustworthy experienced steady Man not under 30.—Address, stating where he has been employed, wages required, and other particulars, to A. B., Messrs. Hurst & Son, 6, Leadenhall Street, London, E.C.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 30, single; understands Fruit, Flower, and Kitchen Gardens, Greenhouses, &c.; also Meadow Land and Stock. Four years' good character.—H. T., 4, Cornwall Road, Brixton Hill, S.

GARDENER (HEAD).—WM. WOOD & SON are desirous of recommending to the notice of any lady or gentleman requiring a first-class Gardener a Man who is in every way qualified to fill a good situation. He has an excellent knowledge of Growing Pines, Vines, Melons, Orchids, Flower and Kitchen Gardening—in fact, has a thorough knowledge of his profession.—WM. WOOD & SON, Maresfield, Uckfield, Sussex.

GARDENER (HEAD) with any nobleman or gentleman.—Age 37, married; has had 22 years' experience in his profession in all its branches, viz., the Forcing and Management of Flowers, also Pines, Grapes, Peaches, Strawberries, Melons, Cucumbers, and all sorts of Vegetables, and is a good Kitchen Gardener. Can have a first-rate character from the gentleman he has just left, with whom he lived six years.—E. MITCHELL, Post Office, near Woolton, Liverpool.

### To Noblemen and Gentlemen.

GARDENER (HEAD).—Age 35, married; a scientific practical man in every department of Horticulture.—A. R. M., Messrs. Rollisson & Son, Tooting, London, S.

GARDENER (HEAD).—Age 33, single; W. HOWARD, Gardener to B. Edgington, Esq., Lavender Hill, Wandsworth, S.W. A first-class Plant and Fruit Grower, and good general Gardener. Can be highly recommended by several leading horticulturists, also by his present employer.

GARDENER (HEAD).—Age 37, married; thorough knowledge of Forcing Fruit, Flowers, and Vegetables; also Kitchen and Flower Gardening in all its branches; the Management of Land and Stock if required. Good testimonials.—C. H., Mr. Robson's, Mead Vale, Red Hill, Surrey.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, JULY* 18, 1863.


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The practical working of the above Machine has been the most successful on the Inventor's Farm, who has been rewarded by good crops last year and again this year; and here is some evidence as to its usefulness, when worked by practical Tenant Farmers:—

"Buckden, June 2, 1863.

"Dear Sir,—In the autumn of last year I cultivated and drilled with Wheat, at one operation, with your Combined Machine, 75 acres of heavy clay land Bean stubble in 90 working hours, and 9 acres of Vetches. Some time back the Wheat looked as though I should have had too much, but the dry weather has put all straight, and it now promises to be a thorough good crop. The Vetches were very good, and have been eaten off. In the spring of this year I used the Machine again, cultivating and drilling with Barley 12 acres of clay land after Turnips, fed off with sheep in the winter, and it did well. I shall be pleased and hope to see you before harvest.—I remain, yours truly, "WILLIAM CRANFIELD.

"To Mr. Smith."

"Hemingford, St. Ives Hunts, June 10, 1863.

"Dear Sir,—Your kindness in allowing the Combined Drill and Cultivator to remain in this neighbourhood for the use of those who work your Cultivating Apparatus, induced me to take advantage of it, and with the Machine I have effected that which I am satisfied could not have been done by any other means.

"The field we worked is 24 acres Swedes, fed off half of it in January, which was afterwards drained, and the remaining part of the Swedes was fed late in the spring; not finished till first week in April.

"Your implement completed the 24 acres in 2½ days' work, from 6 A.M. to 6 P.M., although the land was as hard as it possibly could be. The Oats were visible above ground in 18 days, and from present appearances I have a right to anticipate a good crop. Had the same field been cultivated with horses, I consider it would have taken a hundred or more; and then I am sure the Oats would only partly have appeared above ground, the weather was and has remained so very dry.—Yours very faithfully, "F. BATTCOCK."

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Temporary Offices—25, Birchin Lane, E.C.

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The importance of this trade, and the certainty of its future development to a much larger magnitude, are manifest from the great increase that has taken place in the consumption of vegetable oils, both in England and upon the Continent, as shown by the amount of our imports of Oil Seeds, which have risen since 1847 from 487,035 quarters, to an annual average during the last three years of 1,401,603 quarters; whilst the annual export of Seed Oils to the Continent has grown up during the past five years from 16,250 to 32,000 tons.

The consumption of Oil-seed Cake has advanced in a still greater ratio, the import of foreign descriptions having kept pace with the extra supply from our home manufactures, thus establishing the important fact that Oilcake is an article of permanent and increasing extensive demand; and there is every reason to expect that England must become more and more a grazing country, owing to the high price of meat, and the disadvantage of competing in the growth of corn with countries more favoured by nature for this purpose.

This statement is made without reference to cotton seed, which has increased in supply during the last few years more than ten-fold; and although an article but recently applied to oil-producing and fattening purposes, the profits arising from its manufacture have been highly satisfactory.

In order to commence operations at an early date, the Directors have entered into a provisional contract for the purchase of the Seed crushing Mills, situated at Dover, in Kent, which have lately been refitted with machinery upon the most approved principles. The price fixed for these mills is at the valuation of Messrs. Fuller & Horsey (the eminent valuers of this description of property), who in their report say:—"We have no hesitation in expressing our opinion that for the purposes for which the mills were erected they are without a rival, both as to the substantial character and arrangement of the buildings and also as to the machinery, the whole of which (or nearly so) may be said to have been renewed within the last year, and all the appliances that modern science and practical experience have suggested up to the present time for economical working with large results have been introduced in a most perfect manner."

The situation of these Mills, contiguous to the harbour of Dover, and having the command of two railways, one of which loads at their doors, leaves nothing to be desired either as regards facilities for foreign imports or the distribution of their manufacture throughout the kingdom. The cheap and rapid means of communication between Dover and the railways of France and Belgium also enable them in a peculiar way to derive benefit from the export of seed oils to the continental cities.

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By this purchase the Directors will be enabled to avoid the usual delay necessary for building, erection of machinery, &c., as the Mills are now in full work; and from carefully made estimates and the practical experience of a portion of the Board, coupled with the fact that Mr. Edward Hales has consented to undertake the management of the business, the Directors anticipate with confidence a profit of at least 10 per cent. upon the capital invested.

Early possession of the property will be given, and operations can be commenced without delay, so that there is no reason to doubt that a dividend, from earnings, will be payable within 12 months.

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Gentlemen,—I request you to allot me shares of 20*l.* each in the Oilseed Crushing Company (Limited), and I hereby agree to accept such shares, or any less number that may be allotted to me, subject to the regulations of the Company, and to pay the further deposit of 1*l.* 10*s.* per share on allotment; and I further authorise you to enter my name in the register of the Company for the number of Shares which may be allotted to me.

Signature..............................
Address in full ......................
Date ..................................

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## News of the Week.

IN the House of Lords on Monday Earl GREY moved an address to the QUEEN for papers with regard to Poland, and expressed his opinion that a war with Russia on behalf of Poland would be a

great calamity. He therefore thought that Parliament ought not to separate until the opinion of her Majesty's Government had been elicited on the subject. Earl RUSSELL in reply said that in conjunction with France and Austria her Majesty's Government had submitted six propositions to Russia, which provided for an armistice, and would, if accepted, secure for Poland national institutions and a national representation. Further than this they could do nothing, inasmuch as armed intervention was out of the question. They could neither assist the Poles by force of arms nor propose terms to Russia for the recognition of the independence of Poland; but if anything was obtained for the Poles it would be the result of the force of reason and representation. The Earl of DERBY expressed his satisfaction that the debate had elicited a declaration that we were not to be dragged into a war, and said that the declaration would be most beneficial in crushing any false hopes which might have been entertained. After some observations from Earl GRANVILLE, the Marquis of CLANRICARDE, the Duke of ARGYLL, and the Earl of HARROWBY, the motion was withdrawn. On Tuesday Lord CHELMSFORD called attention to the manner in which the compensation for the loss of the Prince of Wales on the Brazilian coast was assessed and enforced. Earl RUSSELL explained the manner in which the claims for compensation had been drawn up, and after some remarks by the Earl of MALMESBURY and Earl FORTESCUE the subject dropped. On Thursday the Fisheries (Ireland) Bill, the Alteration in Judges Circuits Bill, the Greenwich Hospital (Provision for Widows) Bill, and the Metropolitan Main Drainage Extension Bill, were read a second time.

In the Commons on Monday Mr. ROEBUCK moved the discharge of the order for the adjourned debate on the recognition of the Confederate States, and said that he did so because the Prime Minister had stated that the continuance of the debate would be an impediment to the good government of the country. Mr. LINDSAY narrated the circumstances that led to the late interview of himself and Mr. ROEBUCK with the EMPEROR OF THE FRENCH, and said that Mr. ROEBUCK's statement in regard to that interview was substantially correct. Lord PALMERSTON said that Mr. ROEBUCK had judged rightly in moving to discharge the order, for no good could possibly arise from a debate and a division on American affairs at the present moment. He hoped, however, that this would be the last time that any member of the House of Commons would deem it to be his duty to communicate to the House what might have passed between himself and the Sovereign of a foreign country. The order was then discharged. In committee on the Fortifications (Provision for Expenses) Bill, Sir M. PETO moved to omit from the schedule of the Bill the items of the Spithead forts. After a long debate the motion was negatived on a division by 135 to 52. The schedule was then agreed to. The Union Relief Acts Continuance Bill was read a second time. The Sydney Branch Mint Bill, and the Alkali Works Regulation Bill were read a third time and passed. The Companies Clauses and the Railways Clauses Bill passed through committee. On Tuesday, on the order for going into committee on the Union Relief Aid Act Continuance Bill, Mr. CHILDERS moved that any monies raised under the Bill by way of loan on the security of the rates in the distressed districts shall be applicable to assist emigration to such colonies as may be willing to co-operate in carrying it out. After a long discussion the motion was withdrawn, and the Bill passed through committee. Mr. A. MILLS called attention to the constitution of the Indian Council, and moved an address for a Royal Commission to inquire into the subject. The motion was opposed by Sir C. WOOD and Lord STANLEY, and ultimately withdrawn. Colonel NORTH moved an address for a Royal Commission to inquire into the realisation of army prize money and its mode of distribution. Lord PALMERSTON assented to the motion, which was agreed to. Mr. H. SHERIDAN moved a resolution that the duty now chargeable upon fire insurances is excessive in amount, that it prevents insurance, and should be reduced at the earliest opportunity. The CHANCELLOR of the EXCHEQUER opposed the motion, which was carried on a division against the Government by 103 to 67. On Wednesday the adjourned debate on the Kitchen and Refreshment Rooms was resumed, when the motion for the enlargement of the Dining Rooms was withdrawn on the understanding that the committee should be reappointed next session. The House went into committee on the Partnership Law Amendment Bill, when Mr. HUBBARD moved that the CHAIRMAN leave the chair. On a division, this motion was negatived by 70 to 40. The Bill then passed through Committee with amendments. The House next went into Committee upon the Anchors and Chain Cables Bill, but did not proceed further than the second clause. On Thursday Mr. S. FITZGERALD called attention to the state of our relations with Brazil, and moved for a copy of the manifest of the cargo of the Prince of Wales. After a long debate the motion was withdrawn. Mr. LAWSON moved that the laws under which licences are granted for the sale of intoxicating liquors are eminently unsatisfactory, and require immediate alteration. On a division the resolution was negatived by 87 to 21. The Fortifications (Provision for Expenses) Bill was read a third time and passed.

From the United States we learn that great excitement and alarm have been caused at Philadelphia and even at New York, by the advance of the Confederate army into Pennsylvania, while Washington and Baltimore are in hourly expectation of attack. General HOOKER has been superseded in the command of the Federal army by General MEADE, who has lost no time in giving battle to the invaders. The battle commenced on the 1st inst., and had not terminated on the 3d. The loss of life on both sides has been enormous, including General LONGSTREET on the part of the Confederates, and Generals REYNOLDS and PAUL on the part of the Federals, while General SICKLES and many others were wounded. The Federals are making very little progress in their attack on Vicksburg, and though General BANKS has threatened a new attack on Port Hudson, the immediate abandonment of the siege is considered certain.

The Mexican garrison evacuated the city of Mexico on the 30th May, and the principal leaders of the Church party thereupon sent a deputation to General FOREY, offering their allegiance to the Emperor NAPOLEON. Accordingly on the 5th ult. a division of the French army entered and occupied the city of Mexico, and the whole army was to follow in a few days.

## Home News.

THE COURT.—The Queen and Royal family continue at Osborne. On Sunday morning the Queen, Princess Helena, and Princess Louisa, attended Divine service at Whippingham Church. The Rev. G. Prothero officiated. On Monday the Queen and Royal family walked and drove in the grounds. In the afternoon her Majesty, accompanied by Princess Leiningen, drove out in a carriage and four. On Tuesday the Queen drove out. On Wednesday her Majesty received at Osborne the New Zealand chiefs, consisting of 13 persons—10 males and three females, who arrived from London to have the honour of an interview, accompanied by Mr. Jenkins, Government interpreter, and two other interpreters. The Duke of Newcastle, Secretary of State for the Colonies, was present. The Chiefs crossed over from Southampton in her Majesty's yacht Fairy, which was sent to meet them. The Queen, accompanied by the Princess Helena, Princess Beatrice, and Prince Leopold, received the Chiefs in the Council room, where they were presented by Mr. Jenkins, and had the honour of kissing her Majesty's hand; the heads of tribes then addressed the Queen through the interpreter. After partaking of luncheon, the whole party were taken on board the Victoria and Albert, and went afterwards to Portsmouth. In the afternoon the Queen and Princess Leiningen drove out. The Duke of Newcastle arrived and had an audience of the Queen. On Thursday the Duke of Newcastle and Viscountess Jocelyn left Osborne for London.

THE QUEEN'S VISIT TO GERMANY.—It is understood that her Majesty will leave England for Germany early in August, travelling *incog.* under the same title of Duchess of Lancaster as upon the last occasion, and maintaining the strictest privacy. Her Majesty, after paying a visit of a day to the King of the Belgians, will proceed direct to the Castle of Rosenau, near Coburg, the birthplace of the Prince Consort, which the Duke of Coburg has placed at her Majesty's disposal. The Queen's stay abroad will probably not exceed four weeks. The Minister in attendance upon her Majesty will be Earl Granville.

THE PRINCE AND PRINCESS OF WALES continue at Frogmore. On Saturday the Prince went to Caterham Junction and laid the foundation stone of the Warehousemen and Clerks Schools at Beggars' Bush. On Monday the Prince and Princess arrived at Marlborough House from Frogmore. Their Royal Highnesses afterwards proceeded to Wimbledon, and were present at the rifle shooting of the National Rifle Association. In the afternoon the Prince and Princess visited the Duchess of Cambridge at her residence in St. James's Palace. In the evening their Royal Highnesses honoured the performance at the Princess's Theatre with their presence. On Tuesday morning the Prince and Princess left Marlborough House for the private station at Vauxhall, and proceeded by special train to Aldershott. The Princess Mary of Cambridge joined the Prince and Princess at the station, and accompanied them to Aldershott, where they witnessed a review of the troops. On Wednesday the Prince and Princess drove in a pony phaeton to Virginia Water, where they dined. On Thursday the Prince rode on horseback.

VISIT OF THE PRINCE AND PRINCESS TO YORKSHIRE.—It is officially announced that the visit of the Prince and Princess of Wales to Leeds will take place on Monday, the 3d of August, and that the new Town Hall will be opened on the following day, on the afternoon of which their Royal Highnesses will proceed to Ripon, and pass the night at Studley Royal, the seat of Earl de Grey and Ripon. On the next morning their Royal Highnesses will proceed to Scotland.

PRINCE ALFRED paid a visit to Shetland on the 8th inst. in the Racoon corvette, and left Lerwick on the 10th for Stromness, Stornoway, and St. Kilda. It is understood to be her Majesty's intention that in the ensuing autumn the Prince shall pass some time in Edinburgh. His Royal Highness will reside in Holyrood, and will attend the lectures at the University and by other means complete his education. It is probable that his Royal Highness's stay in Edinburgh may extend to six months.

THE CROWN PRINCE AND PRINCESS OF PRUSSIA, as at present arranged, will leave Putbus, in the island of Rugen, in about 10 days, on their return to Potsdam. After a short stay at that place, their Royal Highnesses will proceed to Rosenau, on a visit to Queen Victoria.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street.

COLONIAL APPOINTMENT.—The Queen has appointed Sir Charles Henry Darling, K.C.B., now Governor of Jamaica, to be Governor of the Colony of Victoria.

THE CHANNEL FLEET, under the command of Rear Admiral Dacres, arrived in Yarmouth Roads from the Downs on Tuesday evening, and after remaining there for a few days will make a cruise round Scotland, visiting the principal ports on their way.

## Foreign.

FRANCE.—The *Moniteur* of Monday publishes the text of the three despatches sent by England, France, and Austria to the Russian Government on the affairs of Poland. The character of these despatches has long been known. The six articles which the Powers consider as calculated to restore tranquillity and secure peace for the future are conceived in almost identical language. Earl Russell's despatch, however, more distinctly demands a suspension of hostilities to be proclaimed by the Emperor of Russia. The *Patrie* of Tuesday evening publishes an article, stating that the Notes of the Three Powers to Russia are no longer suited to the actual state of affairs, and that Poland does not wish for reconciliation with Russia, but desires independence. There can be no doubt, it adds, that Russia will consent to negotiate upon the basis of the six points, as the negotiation will permit of her pursuing the work of destroying Poland. M. Guéroult, in the *Opinion Nationale* of Tuesday, believes that no good results are to be expected in the Polish question from the efforts of diplomacy, which will only succeed in establishing its impotence. The *Constitutionnel*, on the other hand in an article signed by M. Boniface, its editorial secretary, expresses the belief that negotiations on the bases of the six points might lead to a real independence of Poland. It is stated that the Corps Législatif will not reassemble before November. The Empress presided on Monday at a Council of Ministers at St. Cloud. The body of the late Duke of Hamilton will be conveyed to Glasgow on board a French man-of-war. The widowed Duchess, with her children, are staying at St. Cloud with the Empress. The *Moniteur* announces that the Emperor has received the congratulations of the Queen and King of Spain, as well as of the Kings of Prussia, Portugal, and Holland, on the taking of Mexico. Orders have been sent to Toulon for the equipment of a squadron for Madagascar to protect

French interests in that country. The *Patrie* publishes an article stating that the entry of the French into Mexico will allow of negotiations being entered into which will put an end to the war. The statement of the same journal, that M. Hubert Delisle has been charged with the administrative organisation of Mexico, is said to be unfounded. Prince de la Tour d'Auvergne has arrived in Paris. M. Drouyn de Lhuys received Prince Metternich and the Chevalier di Nigra on Saturday. It is said that Nubar Pasha will shortly arrive at Paris upon a mission relating to the Suez Canal.

SWEDEN.—It is said that Sweden is about to protest against the works which Russia is constructing on the Aland Isles as a breach of the Treaty of Paris.

DENMARK.—The Estates of Schleswig assembled on the 17th inst., for the purpose of deliberating upon different Bills for extending the right of petition, the electoral franchises, and religious liberty. The *Malmo Mällpost* states that interviews will take place shortly between the Kings of Denmark and Sweden—first in Denmark, and subsequently in Sweden. The same paper says it is probable that the real cause of the meeting of their Majesties is the prospect of serious differences between Germany and Denmark.

PRUSSIA.—The *Sud Deutsche Zeitung* publishes the following summary of the correspondence which has taken place between the Crown Prince and the King. The first letter is from the Crown Prince to the King, written on the 31st of May, before he set out for the military tour, during which he expressed to the municipality of Dantzic his disapproval of the course taken by the Ministry:—

"Expressions you lately made use of in my presence, regarding the possibility of forcing your measures upon the country, oblige me to speak out on the subject. On dismissing the Auerswald Cabinet you told me that, being more liberal than yourself, I had now got an opportunity for enacting the usual part of a Crown Prince, and throwing difficulties in the way of your government. At that time I promised you to keep back and maintain silence, and offer no opposition. Intending to keep my promise, as I do, I yet feel it my duty to speak to you in private. I beseech you, my dearest father, not to invade the law in the way you hinted. Nobody is more fully aware than myself that to you an oath is a sacred thing, and not to be trifled with. But the position of a Sovereign in regard to his Ministers is sometimes very difficult. Skilled as they are in the lawyer's art, and expert at interpretation, they know how to represent a measure as fair and necessary, and by degrees to force a Sovereign into a path very different to that he intended to tread. The concern, however, I feel for your happiness, and the conviction that it is seriously imperilled, induce me," &c.

Next follows the answer of the King, conceived in a mild spirit:—

"You say you do not intend to offer any opposition. You cannot then have been cautious. Opposition speeches of yours have got abroad and found their way to me. You have now an occasion for making amends by expressing yourself in a different way, by slighting the Progressists and courting the Conservatives. The decree of June, besides being in accordance with the charter, and more particularly with Clause 63, will be laid before the Landtag. The decree, so far from being the enormity you say, ought to have been introduced in the shape of a Bill, even under the late Liberal Cabinet; for it was on this condition only I sanctioned the law protecting printing-offices against the supervision and interference of the police."

On the 3d of June the Crown Prince lodged a formal protest against the decree on the press. It was addressed to Herr von Bismark, accompanied by a request to communicate it to the Cabinet. In this protest the Prince expressed himself in the following style:—

"I deem the proceedings of the Cabinet to be both illegal and injurious to the State and the dynasty. I declare the measure to have been taken without my wishing and knowing it; and I protest against any inference and ascriptions to be possibly based upon my relation to the Council of State."

On the 4th of June the Prince wrote again to the King, stating that the Charter had been evaded and set aside in the case of the decree on the press. Then followed a letter of the King, censuring the Crown Prince in no measured terms, commanding his immediate disavowal of anything falsely reported in the papers, enjoining him to abstain from venturing any similar statements, and intimating that if it should occur again he would be recalled to Berlin, and perhaps deposed from office and deprived of his command. The King was originally inclined to have recourse to measures of restraint, but the Cabinet, though similarly disposed at first, ultimately advised the King to bear with his son. From the reply of the Crown Prince to this communication we extract the following:—

"The address I delivered at Dantzic is the result of calm reflection. I long owed it to my conscience and my position to profess, in the face of the world, an opinion, the truth of which has forced itself upon me more fully from day to day. The hope only of being able after all to avoid placing myself in opposition to you stifled the monitions of my internal voice. But now, ignoring my different views, the Ministry have taken a step imperilling my future and that of my children. I shall make as courageous a stand for my future as you, my dear father, are making for your own. I cannot retract anything I have said. All I can do is to keep quiet. Should you wish me to do so, I hereby lay at your feet my commission in the army and my seat in the Council of State. I beg you to appoint me a place of residence, or to permit me to select one myself, either in Prussia or abroad. If I am not allowed to speak my mind, I must naturally wish to dissever myself entirely from the sphere of politics."

This letter seems to have produced a powerful impression upon the King, who had lately forbidden Count von Bismark to lay his son's protest before the Ministry; but now endeavoured, as the first and sole object of his policy, to restrain the Prince in the course he had entered upon. He wrote him a friendly letter, saying he was welcome to open his mind to his father, but he was to maintain the strictest secrecy with regard to all others, unless, indeed, he wished to incur the punishment suspended over his head. He, too (the King), had a conscience. Count von Bismark, the Prime Minister, also replied to the Prince, stating that his royal highness was in a position to render the task of ministers easy or difficult, but they would persevere in pursuing the grand object they had identified themselves with. They were, he said, the loyal and obedient servants of the king, and they, too, had got a conscience.

RUSSIA.—Letters from St. Petersburg assert that the reply of Prince Gortschakoff to the Notes of the Three Powers will be very pacific, and will only make some reserves relative to the time and place of the Conferences. Private letters from St. Petersburg state on good authority that the intended journey of the Empress has been postponed for political reasons. Her Majesty, it is said, will await the result of the Russian reply to the Notes of the three Powers. The *Czas* of Thursday publishes a letter which has been addressed to the Czar by the Pope.

POLAND.—It is said that the Grand Duke Constantine is about to visit Berlin and the German Baths. Intelligence from Warsaw states that the Marquis Wielopolski has been formally dismissed, and replaced by General Berg. The ecclesiastic replacing Archbishop Felinski has proclaimed the Church to be in mourning. Many ecclesiastics have been arrested. An order has been issued prohibiting persons from travelling from one village to another without a passport. The Russians have arrested many landowners in the Kingdom of Poland. They have also hung M. Gaczowski at Kielce, and M. Wisniewski, commandant of the National Gendarmery at Radom, with seven others. The 34 gentlemen who were arrested at Warsaw for protecting women against the insults of the police and rabble in the streets during the late riot have been sentenced to be flogged and afterwards sent to the regiments for criminals in Siberia. The widow of Sierakowski, far advanced in pregnancy, has been transported to Siberia, with the two sisters Dalowski. Accounts from Warsaw state that the National Government intended to draw up a circular Note, refusing to agree to the six points of the Three Powers; but, being informed that the Emperor Napoleon would pay no attention to their refusal, they have resolved to issue a manifesto to the people. This manifesto will be published in the English, French, German, and Polish languages on the day that the reply of Prince Gortschakoff becomes known. The National Government on Thursday issued the first number of a new official journal, under the title of the *Independence*, the leading article of which repudiates the idea of any negotiation with Russia. The announcement that the funds of the National Government had been seized by the Russians is entirely false. An engagement took place on the 6th inst. between the insurgents and Russians at Janow, in the palatinate of Cracow. Great atrocities were committed by the Russians after the engagement. The whole town, with the exception of three houses, was burnt down, and it is said that 20 Jews and several wounded persons met their deaths in the flames. The Polish detachment under Chmielinski has cut to pieces a company of Russian troops. The 7th Prussian brigade, cantoned on the Polish frontier, has been replaced by the 5th. The motive for this change is that the Poles in the 7th brigade passed over to the insurgents with their arms and baggage. An engagement between a flying corps of insurgent cavalry and a body of Russian infantry took place on the 5th at Kaski, in which the insurgents were successful. Another engagement has taken place at Mlawa. A sanguinary engagement took place on the 7th inst. at Nowawies, in the district of Kalisch. The insurgent leader Wawer had desperate conflicts with the Russians at Sapockiny, in the district of Augustowo, on the 5th and 7th inst. An engagement occurred on the 8th at Walewice. A numerous band of insurgents is collecting near Dubno, in Volhynia. Wierzbicki, by a manœuvre whereby he deceived the Russians, has succeeded in penetrating into the interior of the Government of Lublin, and has effected a junction with Rucki, who had already after his defeat at Bukowata, effected a junction with Krysinski, Jankowski, and Zilinski. The united forces of these leaders had desperate engagements on the 7th, 8th, and 9th inst. with the Russians, in which the latter were repulsed. Grabowski obtained a victory over the Russians on the 10th inst. at Zuluczek. The insurgent chiefs Skrzynski and Skowronski also had engagements with the Russians on the 11th inst. at Ragowa. Taczanowski occupied Turek on the 12th, and advanced on the 13th to Sieradz. Czengery has left Kielce, whither considerable forces had been despatched against him. Fiquette is operating with a flying column of gendarmerie in Sandomir, Bogusz, and Stobnick. Fresh detachments of insurgents, very well armed, have appeared in the government of Plock and in Podlachia. The son of General Mouravieff is in command in the district of Kowno, and spreads terror among the inhabitants. The police discovered a secret gunpowder factory in Cracow on the 14th, and arrested the workmen engaged. The populace hissed and threw stones at the military escort, carrying away three carts full of powder. The soldiers fired and wounded two persons. An engagement between Prussian troops and insurgents took place on the 15th near Miloslaw. Several insurgents were killed, and 60 taken prisoners. Since the arrest of Prince Adam Sapieha, the son and heir of the Marshal of the Austrian province of Galicia, the police have seized the papers of the Galician Agricultural Society, and searched the palace of Prince Leo Sapieha, who, as Marshal of the Province, is President of the Galician Diet. The Sapieha family possess a large castle at Krasiczu, near Przemysl, in Galicia, and the telegraph informs us that on the 9th inst. it was searched from top to bottom by police agents from Lemberg.

ITALY.—Despatches from Rome assert that, on the solicitation of the French Government, Generals Bosco, Luvera, Lusmet, and Pesacane, known for their activity in forwarding brigandage, have been expelled from Rome. Five Neapolitan brigand chiefs, among whom are Cipriano and Lazala, notorious for numerous atrocities, were captured on Friday on board the French steamer at Genoa by the Italian authorities, it is said with the consent of the French Consul. The brigands were provided with passports for Spain signed by the Roman police, and were bearers of letters for the Roman consul at Marseilles, which have been seized by the Italian authorities. It is said, however, that the French Government has disavowed the conduct of the Consul in permitting the arrest, on the ground that it compromised the respect due to the flag of France, and has demanded the immediate liberation of the five prisoners. The subject was brought before the Italian Chamber of Deputies on Wednesday, but was ultimately postponed at the request of the Ministers. The ex-Queen of Naples is said to be suffering from pulmonary disease.

CHINA.—The insurgents have not recommenced hostilities. The Chinese are raising their prices for silk, foreseeing the cessation of Japanese competition. Tranquillity prevailed in Cochin China.

JAPAN.—A further delay has been granted to the Japanese. It is apprehended, however, that war will break out, as the English Admiral has ordered troops from India.

NEW ZEALAND.—Advices have been received at Melbourne from New Zealand announcing that the Maories in the Taranaki district waylaid the military escort on April 27, and massacred Lieutenant Tradgett, Staff Assistant surgeon W. A. Hope, M.B., Sergeant Samuel Hill, and Privates Edward Kelly, John Flynn, Bartholomew Macarthy, and William Banks of the 57th regiment. They then plundered the bodies and mutilated them with tomakawks and spears. The greatest excitement prevailed, and unless the murderers were given up, war was considered inevitable. Sir G. Grey had previously abandoned the Waitara purchase.

UNITED STATES.—General Hooker has been relieved from the command of the army of the Potomac at his own request. General Meade, a West Point graduate, not connected with any political faction, and late commander of the Fifth corps of the Potomac army, has been appointed his successor. General Hooker on leaving issued an order saying that he parted from the army impressed with the belief that his usefulness as a commander was impaired. General Meade also issued an order stating that he accepted the command, which was totally unexpected and unsolicited, with just diffidence. He relieved an eminent and accomplished soldier, and relied upon the troops to assist him in discharging his trust. The sudden change of command at the present crisis has caused general astonishment, but no time has been lost in testing its effects. At 9 A.M. on the 24th ult. the 1st corps of General Meade's army, under Reynolds, followed by the 11th corps under Howard, entered Gettysburg on the east side, and, passing out on the west side, was met by General Hill's corps, advancing from Chambersburg Turnpike in line of battle towards the town. An engagement commenced immediately. During the first portion of the fight Reynolds, by a skilful movement, captured the Confederate General Archer and about 1000 men. General Reynolds was engaged two hours before Howard came up, and at that time the Confederates had partially succeeded in turning Reynolds' right flank. General Reynolds held a position on a wooded ridge, and to the right was another range of hills, which Howard directed Schurz to occupy with the 2d Division. Owing, however, to the flank of the Confederates on Reynolds right Schurz was unable to accomplish his object. At this time General Ewell came up with 25,000 men, and planted batteries, exposing the Federals to a destructive cross-fire. The Federals' right flank was turned, and their left flank at the same time, so superior were the Confederates in numbers. Reynolds's corps giving way, Howard found it impossible to maintain his position, and at 4 o'clock in the afternoon both corps fell back to a position south of Gettysburg, where they were joined by the other corps of Meade's army. At the termination of the engagement the Confederates occupied Gettysburg. The Federals are reported to have numbered 20,000, and the Confederates 50,000. Howard's corps is said to have lost 3000 men, and Reynolds's corps 1500, including Reynolds, General Paul, and an immense number of officers killed. Fighting was resumed on the 25th, but the battle between the main armies did not take place till the 2d inst. Early on that morning General Meade formed his line of battle. His centre occupied the heights south of Gettysburg, at and near the cemetery. The 2d and 3d Corps, under General Sickles, formed the left wing, and the 1st and 11th the right. In the early part of the day it was supposed that General Lee was massing his forces on the Federal right, and dispositions were

made accordingly. At 3 P.M. General Sickles, with the 3d corps, was ordered forward and reconnoitered. This brought on a general engagement. The Confederate artillery opened on the Federal left, and the Federal batteries on the Cemetery Hill opened against the Confederates in the field, who returned the fire. All the Federal guns on the northern face of the Cemetery Hill engaged the Confederate batteries two miles across the country. On the Federal right the Confederate artillery caused a large number of troops to run to the rear of the Cemetery Hill, but the line was established in the rear and they were kept in front. The musketry on the Federal left became fierce, and the 3d Corps were driven in disorder from the ground on which they had advanced, but General Sickles rallied them and they again went forward, reinforced by the 5th Corps on their left. The Confederates now attempted to get round the Federal left, but the Federals pressed forward and drove them back until they occupied a position where a Confederate battery had been previously stationed; but the fire being concentrated further to their rear, and the Confederates being reported on their left, they returned to the crest of the hill. General Anderson's and M'Law's division of Longstreet's Corps now advanced upon this position with great fury, killing men on the crest of the hill, over the crest, and coming down on the other side; but the 5th Corps rallied, and, by a strong effort, drove the Confederates back down the hill, and the engagement on the left terminated with darkness. After dark the Confederates advanced upon the Federal right, but the Federals held their position, and the Confederates did not renew the engagement. At the termination of the battle, which is said to have been the most terrific of the war, each belligerent appears to have held the same position as at the commencement. The Federals suffered considerably in killed and wounded. Among the former Brigadier-Generals Paul and Zook, and among the wounded Generals Sickles, Barlow, Graham and Warren. General Sickles was wounded so severely, that his right leg has been amputated, but he is doing well. The Confederates lost General Barksdale and many other General officers. On the 3d inst, the action commenced again at early daylight on various parts of the line. General Meade reports that the Confederates thus far had made no impression upon his position, though all accounts agreed in placing their whole army there. The cannonade lasted till 2 p.m., at the expiration of which time the Confederates assaulted the Federal left and centre twice, being upon both occasions repulsed with severe loss, leaving in General Meade's hands nearly 3000 men. Among the prisoners were General Longstreet, who has since died, Brigadier-General Armistead, and many Colonels and officers of lesser rank. They also left many dead on the field. The loss on the Federal side in killed and wounded was also considerable. Major-General Hancock and Brigadier-General Gibbons were among the wounded. After the assault had been repelled an armed reconnaissance was pushed forward, when the Confederates were found to be in force. General Meade reported that his "cavalry had been engaged all day on both flanks of the enemy, harassing and vigorously attacking him with great success, notwithstanding they encountered superior numbers of both cavalry and infantry. The army is in fine spirits." On the 4th inst. Mr. Lincoln issued the following address, dated Washington, 10.30 A.M.:—

"The President announces to the country that the news from the army of the Potomac up to 10 P.M. of the 3d inst. is such as to cover that army with the highest honour, and promises a great success to the cause of the Union, and to claim the condolence of all for the many gallant fallen, and he especially desires that on this day He whose will, not ours, should ever be done, be remembered and reverenced with the profoundest gratitude."

The Federals are reported to have captured 6000 prisoners in Pennsylvania, 2000 of whom have arrived at Baltimore. General Fitzhugh Lee, with 3000 men, demanded the surrender of Carlisle on the 24th ult., which was refused. General Lee then shelled the town, burning the barracks and numerous buildings, and retired on the 25th towards Shippensburg. The defences of Baltimore are manned by 10,000 citizens, and all arms have been taken from private persons. General French has abandoned Maryland Heights, destroying all the fortifications, and has moved to cooperate with General Meade. The Governor of Pennsylvania has telegraphed to the Governors of New York and New Jersey that there is pressing need of troops. General Couch was going to move down through Cumberland Valley against the Confederates. The bombardment of Port Hudson continues, and another assault was expected to take place. News from Vicksburg to the 28th ult. states that the Confederates continued active resistance. General Johnstone is said to have received reinforcements from Bragg, and to be perfecting arrangements to attack General Grant.

MEXICO.—Telegraphic despatches from San Francisco, dated June 30, report that, according to news received there from the city of Mexico to the 6th ult., the Juarez Government had evacuated the city with the garrison and all the arms and ammunition and gone to San Luis Potosi, believing that better resistance to the advance of the French could be made at that place than at Mexico. The leaders of the Church party afterwards tendered their allegiance to the French Emperor, which so exasperated the populace that a division of French troops was sent into the city for their protection. The whole French army was expected to occupy the capital on the 8th of June. Three newspapers had already been established favouring the policy of the French. General Forey had issued a decree confiscating the property of all parties who have been or are in arms against the French.

PERU.—An important survey of guano deposits on the coast of Peru has been concluded. The stocks are estimated at 1,500,000 tons on the Macabi islands, 2,500,000 tons on the Guanape group, and 4,000,000 tons on the Lobos islands, representing a total value of 46,000,000*l.* sterling. There was every probability of a magnificent dock being speedily erected at Callao, which will be the clearing port for guano vessels from all these islands.

# Parliament.

## HOUSE OF LORDS.

FRIDAY.—*Japan.*—The Earl of CARNARVON called attention to the state of our relations with Japan, and asked for an explanation of the *ultimatum* addressed by Admiral Kuper to the Japanese Government, under the threat of commencing immediate hostilities. He concluded by moving for the production of papers.—Earl RUSSELL vindicated the policy pursued by her Majesty's Government. The British Legation was attacked soon after its establishment. Sir Rutherford Alcock himself narrowly escaped with his life, and Mr. Oliphant was wounded. British subjects had been repeatedly attacked, and some had even been murdered. He considered it therefore to be the duty of the Government to demand redress, more especially as the outrages resulted from a premeditated determination to defeat the treaty. It was just possible that the demands made in the name of her Majesty would be refused, and in that case it would be requisite to have a force to support them. Having entered upon a particular line of policy, and having made treaties with Japan, we must either follow up our policy or confess our failure, and give up all prospect of trading with a country so rich and fruitful.—Earl GREY believed that our treaties with Japan had been extorted from its fears. To require such a Government to act on and to enforce the law of civilised nations was to ask an impossibility, and he deprecated the proceedings of her Majesty's Government as arbitrary and ungenerous. Our policy and our wars in China had produced anarchy and confusion, and we were now about to reproduce the same state of things in the empire of the Tycoon.—The Duke of SOMERSET said that the treaty concluded by Lord Elgin with Japan had been acted upon by successive Governments, and at the request of the Japanese Government modifications had been introduced in it. After this they were surely responsible for its faithful execution. The Government of Japan had been treated with every consideration, and he believed it would not be difficult to obtain redress for the outrages of which we complained. After a few words from Lord WODEHOUSE, the motion was withdrawn. The *Removal of Irish Poor Bill* and the *Marriages Registration (Ireland) Bill* were read a second time. The *British Columbia Boundaries Bill*, the *English Church Services in Wales Bill*, the *Statute Law Revision Bill*, the *Thames Embankment (South Side) Bill*, and the *Public Works (Manufacturing Districts) Bill* were read a third time and passed.

MONDAY.—*The Channel Fleet.*—Earl RUSSELL stated, in reply to the Earl of MALMESBURY, that there was no truth in a statement which had appeared in a Sunday print that the Channel fleet had been sent to the Baltic.—The LORD CHANCELLOR laid a Bill on the table authorising the Queen in Council to alter the *Circuits of the Judges.*—Lord EBURY inquired what steps had been taken towards devising a remedy for the evils arising from the compulsory and indiscriminate use of the *Burial Service.*—The Archbishop of CANTERBURY replied that the subject had been considered at an influential meeting of the Episcopate, at which several colonial bishops were present, and by the two Houses of Convocation; but no decision had yet been arrived at.—After a few words from the Earl of DESART, the Archbishop of YORK said he was by no means sanguine that a satisfactory measure could be introduced next session. In his opinion the adoption of the American service would not meet the difficulties of the case.—Earl GRANVILLE expressed a hope that some agreement would be come to before next session.—The Bishop of EXETER hoped that the question would not be left to the discretion of the clergy.—Earl GREY, in moving an address for papers on the *Affairs of Poland*, said he entertained such serious apprehensions with regard to the existing state of matters in that country that he thought Parliament ought not to separate until the opinion of her Majesty's Government had been elicited on the subject. A war with Russia on behalf of Poland would be a great calamity, and his fear was that whilst we did not intend it, we might be gradually drawn into hostilities. He wished to know, therefore, what grounds her Majesty's Ministers had for supposing that the Poles would accept national institutions upon the terms proposed to Russia by the Western Powers. His own opinion was that the insurgents would not accept anything short of complete independence, and he condemned the diplomatic interference of England between a Sovereign and his subjects, as much more calculated to produce a bad than a good result, and to encourage hopes which might prove delusive. But although he deprecated any idea of war on behalf of Poland, he deeply lamented the condition to which that country was reduced, and he had read with horror and indignation the published accounts of the atrocities of the Russians. Nevertheless he considered that this was not a case for armed intervention, which would only aggravate the evil.—Earl RUSSELL did not complain of Lord Grey for bringing forward the question, nor for the tone in which he had treated it. It was one in which her Majesty's Government were acting in concert with the Emperors of France and of Austria, who would necessarily have to be consulted in regard to any ulterior steps that might be taken. He admitted that this was not a case for armed intervention, and that such a proceeding would be more likely to produce fresh calamities than put an end to those which already existed; but he denied that simple diplomatic action would lead to war, or that the remonstrances and good advice which this country had offered to Russia, could produce any evil results. The course which her Majesty's Government had pursued was to enter into communications with France, which had always displayed a warm sympathy with Poland, and also with Austria, which was strongly in favour of ruling her Polish subjects with as much regard as possible to their nationality. In conjunction with these Powers, the six propositions with which the House was familiar had been submitted to Russia. Further than this her Majesty's Government could do nothing. They could neither assist the Poles by force of arms nor propose terms to Russia for the recognition of the independence of Poland. He could not say what the answer of Russia might be, or what course, after receiving that answer, it would be the duty of her Majesty's Government to take. Everything depended upon the answer itself, and the spirit in which the proposals of the Western Powers were received. He regretted to say that the appointment of General Mouravieff and the orders issued by that person were not favourable to the hope that the Emperor of Russia would act a liberal and generous part towards Poland.—Lord BROUGHAM was sorry that Earl Russell should have thought fit to declare, before the answer of Russia had arrived, that armed intervention was out of the question.—Earl RUSSELL said the Emperor of Russia had already decided upon his answer, and that it would be despatched from St. Petersburg that morning.—The Earl of DERBY expressed his entire concurrence in the view taken by the Government with regard to the policy of an armed intervention, and he believed it was the general opinion of the country that we ought not to allow ourselves to be drawn into hostilities on this question. He deprecated even diplomatic interference, as calculated to draw us sooner or later into war. It was possible, indeed, that we might be dragged into a war with Poland herself; for if the six propositions were accepted by Russia, and it was then found that the Poles themselves were the obstacles to carrying them out, Russia would have a right to call upon us to throw the whole weight of our moral influence into the scale on her behalf. He thought her Majesty's Government had acted injudiciously in basing their demands on Russia upon the Treaty of Vienna. They ought to have declared that it was a matter of European interest that the insurrection should end, and the grievances of the Poles be redressed.—Earl GRANVILLE was surprised at Lord Derby finding fault with her Majesty's Government for having done something, rather than nothing, after the numerous appeals which had been made to the Government to make some attempt to stop the cruelties in Poland.—The Marquis of CLANRICARDE approved the policy of non-intervention.—The Duke of ARGYLL defended the Government for basing its proposals on the Treaty of Vienna.—The Earl of HARROWBY said the Treaty of Vienna was the only sanction given by Europe to the partition of Poland, and the title gained thereby had been torn to pieces by the violation of that treaty by Russia.—Earl RUSSELL said, in regard to the motion, that there were as yet no papers, but as soon as the Russian answer was received he would lay it before Parliament.—Earl GREY explained that he did not mean that this country should always adopt a non-interference policy, but that if we were not prepared to back our representions by force we ought not to interfere, as no useful result could ensue. He ultimately withdrew his motion. The *Colonial Letters Patent Bill*, the *Poor-law Board Continuance Bill*, and the *Loan Societies Bill* were read a third time and passed.

TUESDAY.—*The Federal Cruisers.*—The Earl of AIRLIE asked Earl Russell whether he had received any official report of the alleged attack made by a ship of war of the United States on the ship Margaret and Jessie in British waters. He expressed a hope that Mr. Seward would not only make reparation, but would punish the officers of the ship of war guilty of the offence. He also asked whether a report that the blockading squadron at Charleston had determined to sink ships running the blockade was true.—Earl RUSSELL confirmed the account of the attack on the Margaret and Jessie, and stated that an inquiry was at present going on, with a view, if justified by the evidence, of demanding reparation. In regard to the rumour concerning the intentions of the blockading squadron he had no information, but could not suppose it to be true. *The Brazilian Difficulty.*—Lord CHELMSFORD called attention to the extraordinary manner in which the compensation for the loss of the ship Prince of Wales on the Brazilian coast was assessed and enforced. He severely condemned the proceedings of the Foreign Secretary and his agent, Mr. Christie, in the matter, and said he thought some apology was due to the Government of Brazil.—Earl RUSSELL said that, as the Brazilian authorities had refused to produce the bodies from the wreck, or to hold an inquest to ascertain what had become of them, and had taken care to destroy all proofs, her Majesty's Government could only draw inferences from the undoubted and very suspicious facts. With regard to the assessment of compensation in the case of the Prince of Wales, the Government were satisfied with it, and had decided upon the sum which Brazil ought to be called upon to pay.—The Earl of MALMESBURY said that the British Government had assumed the offices at once of judge, appraiser, and executioner in a most improper and unjustifiable manner. He regretted they had not thought it consistent with their dignity to intimate to the Brazilian Government their regret at having resorted to reprisals.—Earl RUSSELL said he had been informed by the Portuguese Minister that the King of Portugal had directed his Minister at Brazil to use his good offices to effect a reconciliation between her Majesty's Government and that of the Emperor of Brazil. The *Galway Contract.*—In answer to the Earl of HARDWICKE, Lord STANLEY of ALDERLEY said that the contract for the conveyance of the mails from Galway to America had been sent to the Atlantic Steam Navigation Company for their signature, and that the service would be commenced as soon as the company were ready to undertake it. The terms were nearly similar to those of the former contract, and the company had been warned that the penalties would be strictly enforced. Several Bills on the table were advanced a stage.

THURSDAY.—The LORD CHANCELLOR moved the second reading of the *Alterations in Judges Circuits Bill*, stating that its object is to enable her Majesty to make a redistribution of the circuits, and to give compensation to persons who might be affected by the redistribution.—Lord BROUGHAM expressed his approval of the Bill; and after some remarks from the Earl of Powis, it was read a second time.—Lord STANLEY of ALDERLEY moved the second reading of the *Fisheries (Ireland) Bill*, the object of which is to assimilate the law in reference to the Irish salmon fisheries to that which exists in England and Scotland.—Lord CHELMSFORD thought the measure would bear most unjustly on the proprietors of the stake and bag net fisheries, which were to be abolished.—The Earl of DONOUGHMORE said these fisheries were not ancient rights, but were erected illegally during the present session.—The Bill was opposed by the Duke of DEVONSHIRE, Lord CRANWORTH, and the Earl of MALMESBURY; and supported by the Marquis of CLANRICARDE and Lord LIFFORD. Ultimately it was read a second time. The *Greenwich Hospital (Provision for Widows) Bill* and the *Metropolis Main Drainage Bill* were read a second time.

FRIDAY.—*Judicial Statistics.*—The Marquis of CLANRICARDE moved a resolution, that it is expedient and necessary that judicial statistics from Ireland, similar to those for England and Wales, should be annually furnished; that a person acquainted with the Irish courts and otherwise competent should be attached to the Home Office, and that all possible facilities and co-operation should be afforded to this officer by the several authorities in Dublin Castle and the various law courts of Ireland. [Left sitting.]

## HOUSE OF COMMONS.

FRIDAY.—Mr. WALPOLE, in proposing a sum of 65,541*l.* to complete the grant of 90,541*l.* for the *British Museum*, stated that the total vote was a diminution of 8471*l.* upon that of last year. The number of visitors during the year was 895,000, against 641,000 for the previous year: and the reading-room had become so crowded that it had been found advisable to limit the admission to persons who had attained the age of 21 years.—Mr. AYRTON urged the propriety of supplying greater facilities to the working classes to visit the museum in the evening.—Mr. LOCKE thought that the better course would be to open the institution after the hours of Divine service on Sundays, which would prove the best possible competitor of

the public-house.—Mr. Coningham suggested that lectures should be delivered in connection with the several collections, and protested against their being broken up and removed to South Kensington.—Mr. Walpole said that it would not be safe to open the museum at night, owing to the danger of fire arising from the use of gas. Moreover, there was no doubt that gaseous exhalations were calculated to injure the books, pictures, and marbles. As to opening the building on Sundays, he believed it would be most improper for any set of trustees to take such a step, when it was illegal to open other institutions to the public on that day.——After some remarks by Mr. Mitford, Colonel Sykes, and Mr. Kinnaird, the vote was agreed to. *Orange Lodges in North America.*—In answer to Mr. Maguire, Mr. Fortescue said that a Bill for incorporating the Orange Lodges of Prince Edward's Island had been passed by the Legislature of that colony, and had occasioned great regret to the Duke of Newcastle, as such a measure was calculated to produce most injurious effects, by causing division and bad feeling among its inhabitants, but it would not be right to state what advice the noble duke was prepared to offer to the Crown upon the subject *The American Debate.*—Sir J. Fergusson suggested to Mr. Roebuck that the debate on the recognition of the Southern Confederacy should not be resumed at present on account of the important events now rapidly maturing in America—Lord Palmerston joined in the recommendation, and said, in reference to the interview which had taken place between the Emperor of the French and Messrs. Roebuck and Lindsay, that her Majesty's Government were always willing to exchange opinions with the French Government, either in reference to recognising the independence of the Southern States or any other subject. He hoped, however, that anything that might have passed between the Emperor and two private gentlemen would not be made the subject of discussion in the House of Commons, as it might tend to prevent that courteous and gracious reception which the Emperor was at all times disposed to give to Englishmen of distinction who might have anything to communicate of importance in reference to the well-being of the two countries.—Mr. Lindsay said that Mr. Roebuck had stated nothing but what was true. He recommended him not to make a hasty answer to the appeal addressed to him, but to take full time for consideration.—After a good deal of conversation, Mr. Roebuck said he should accept Mr. Lindsay's advice, and give his answer on Monday.—Sir M. Peto called the attention of the House to the want of official control of the public works of the country, and the necessity of the reorganisation of the *Board of Works* with a view to remedy the evil. Having criticised the useless expenditure incurred on various public works, and commented on the unsatisfactory condition of the department generally, he recommended that the Board should be remodelled altogether, and made responsible for all the public works of the country in respect of which Parliament had voted money.—Mr. B. Cochrane confessed that he had given up in despair any hope of seeing a reform in this department of the Government. Who, he asked, was responsible for the frightful public statues which evoked the amazement and indignation of foreigners; and who, he inquired, had set up the mutilated figure on horseback in the centre of Leicester Square?—Sir C. Wood and Mr. Cowper defended the Department of Public Works, the administration of which was criticised by Sir F. Smith and Colonel French.—Sir J. D. Hay brought under notice the *Attack on Tringanu* in Siam, on the 12th November, 1862, which he stigmatised as a gross, unnecessary, and precipitate exercise of power against an unoffending State.—Mr. Liddall and Lord Naas also denounced the act.—Sir C. Wood admitted that the attack appeared to have been of a very precipitate character, but said that a full report of the transaction had not yet reached the Indian Government.—Mr. Bentinck called attention to the subject of *Accidents on Railways*, and moved that in the opinion of the House it was the duty of the Government to legislate for the better prevention of such accidents by reducing the speed of trains.—Mr. Dutton supported the motion.—Mr. M. Gibson opposed it on the part of the Board of Trade, on the ground that it would be impossible for Parliament to legislate with advantage upon such a subject. The motion was withdrawn.—Mr. M. Smith called attention to the insufficient accommodation in the *Courts of Law* at Westminster and in the City of London for the increased wants of the country.—Mr. Malins and Mr. Collier added their testimony to the correctness of Mr. Smith's picture of the state of the Courts.—The Solicitor-General concurred in regretting the rejection by the House of the scheme of the Government for an ample accommodation for the Courts of Law and Equity. The House went into Committee of Supply *pro formâ*, when the other orders of the day were then proceeded with.

Monday.—*Japan.*—Lord Naas inquired whether, in case of the forces of the Tycoon of Japan becoming engaged in hostilities with either the forces of the Spiritual Emperor or those of the native princes, the instructions issued to the commander-in-chief of her Majesty's fleet would authorise him to take part in such hostilities.—Lord Palmerston replied that it was the invariable rule not to give publicity to the instructions sent to naval and military officers until after the operations to which they referred were brought to an end. On the order for resuming the adjourned debate on the motion for the *Recognition of the Confederate States of America*, Mr. Roebuck moved that the order be discharged. He said that his only object in advocating recognition was to put an end to a cruel carnage, and at the same time to serve the commercial interests of the country. In doing so he had incurred the obloquy of a noisy but not of a wise party. Their censure had not the least influence with him in the course he had resolved to pursue; but he was prepared to withdraw his motion, because the noble Lord at the head of the Government had declared that if it were persisted in it would be an impediment to the good government of the country. Under these circumstances he felt he ought to withdraw his motion; but in doing so he warned the noble lord that he had two great dangers to meet—the possibility of the reconstruction of the Union on a Confederate basis, and the other the acknowledgment of the Confederate States by France alone.—Mr. Lindsay gave a narrative of the famous interview with the Emperor, substantially similar to that of Mr. Roebuck; and, in reply to the taunt of Mr. Layard that he had gone to Paris as an amateur diplomatist, said that a few years since it was her Majesty's Government who had made him one, as they had sent him to the Emperor to do that which they themselves ought to have done—namely, to assist in the completion of a treaty of commerce and navigation—a task to which he had devoted three years and a half without pay or reward of any kind. During these protracted negotiations he had invariably reported to Lord Cowley all that had passed in the interviews between the Emperor of the French and himself.—Lord Palmerston expressed his satisfaction at the withdrawal of the motion, and his hope that this would be the last occasion on which any member of the House would think it his duty to communicate to Parliament anything which might have passed between himself and the Sovereign of a foreign country. He did not impute blame to Messrs. Roebuck and Lindsay, for he presumed they were animated by what they deemed to be a sense of duty, but their proceedings were, to use the mildest term, most irregular. Moreover, if the Emperor of the French and the Queen of England wished to communicate with each other, they could do so through the medium of their diplomatic agents in London and Paris without the assistance of the members of the Legislature. With regard to the "employment" of Mr. Lindsay in the matter of the Treaty of Commerce and Navigation, the mission of that gentleman was in no way similar to that of Mr. Cobden, who was an accredited agent of the Government, whereas Mr. Lindsay had called at the Foreign Office with a tender of his services, and had received a note to Lord Cowley by means of which to obtain access to the Emperor. The order for the adjourned debate was then discharged. The House then went into Committee on the *Fortifications (Provision of Expenses) Bill*, the clauses of which were agreed to. In the course of the discussion that ensued, Lord Palmerston said that the Bill did not in any way commit the House to the description of central arsenal that might hereafter be raised, as after the land had been purchased each successive step for the construction of the arsenal would be brought under the review of Parliament.—Sir M. Peto moved to omit from the schedule the items for the Spithead Forts, viz. the Horse Sand Fort, 25,000*l.*; No Man's Land, 25,000*l.*; Sturbridge, 25,000*l.* He contended that nothing had occurred to alter the state of this question since last year, and that it was almost impossible for the forts to prevent the passing of iron-clad ships.—Sir J. Fergusson maintained that the objections of Sir M. Peto were unfounded, and had been refuted by experience during the last 12 months. The amendment was opposed by the Lord Mayor, Mr. Newdegate, the Marquis of Hartington, Sir D. L. Evans, Mr. B. Carter, and Sir W. Jolliffe; and supported by Captain Jervis, Mr. Lindsay, and Sir F. Smith.—Mr. Osborne said it would be time enough to construct these forts when we had got a gun that would hit a ship in motion at 1000 yards. He denied that, after all the improvements and all the enormous expense, we had a gun that would do that.—Sir J. Hay concurred in this opinion.—Lord C. Paget said he had been assured by artillery officers that we should have a 600-pounder gun that would pierce an iron-plated vessel at 1500 yards. He dwelt upon the unprotected state of our dockyards at present, and upon the impossibility of keeping up a blockade of an enemy's ports.—Lord Palmerston considered that the balance of the arguments was completely in favour of the forts. The proposition of the Government was to have forts and floating batteries, and all admitted that forts would be useful. The advocates of the amendment wished for delay; the Government thought it should be done at once. A permanent floating force would require an enormous addition to our navy. On every principle forts must be an essential part of the defence of our dockyards. On a division the amendment was negatived by 135 to 52.—On the order for the second reading of the *Union Relief Aid Acts Continuance Bill*, Mr. Villiers explained the amendments which he had made and proposed to make in the Bill.—After some remarks by Mr. J. Tollemache, Mr. E. Egerton, Mr. Packe, Mr. Humberston, Mr. Hibbert, Mr. A. Egerton, and Sir B. Leighton, the Bill was read a second time. The *Sydney Branch Mint Bill*, and the *Alkali Works Regulation Bill* were read a third time and passed. The *Companies Clauses Bill* and the *Railways Clauses Bill* passed through committee. The report of the *Committee of Supply* was brought up and agreed to. The Lords' Amendments of the *Volunteers Bill* gave rise to some discussion, but were ultimately agreed to. Leave was given to bring in certain Bills.

Tuesday.—The *Fortifications (Provision for Expenses) Bill* was recommitted, and a clause was added founded on the resolution for payment of expenses to the Bank of England in connection with the loan. On the order for going into committee on the *Union Relief Act Continuance Bill*, Mr. Childers moved a resolution to the effect that it was desirable that any moneys raised under the Bill by way of loan on the security of the rates in the distressed manufacturing districts should be applicable to assist emigration to such colonies as might be willing to co-operate in carrying it out.—Mr. Marsh seconded the motion, which was supported by Mr. Turner and Mr. Bagwell, and opposed by Mr. Hibbert and Mr. Adderley—Mr. Villiers said there was no proof that the colonies would be favourable to the scheme. Emigration was already going on at the rate of 20,000 or 24,000 a month, principally to the United States, and on the whole he thought the course now suggested was contrary to good policy, and should not be sanctioned by the House.—Mr. Henley said he was favourable to the application of some portion of the money raised under the Bill for the purpose of emigration. After some remarks by Mr. Cobden, Sir B. Leighton, and the Chancellor of the Exchequer, the motion was withdrawn, and the Bill passed through committee.—*The Attack on Tringanu*—Lord Naas inquired whether orders would be issued to naval officers on foreign stations, forbidding them to attack the ports or ships of friendly Powers without a declaration of war or distinct instructions from the Home Government. The question he said, arose out of the late debate on the attack by a British force upon Tringanu, in Siam.—Lord C. Paget replied that, under general orders, British officers were not justified in having recourse to measures of violence without the sanction of the senior officer of the station, who could only interfere when British life or property was endangered. *Indian Council.*—Mr. A. Mills called attention to the constitution of the Council of the Secretary of State for India, and moved an address to the Crown for the appointment of a royal commission to inquire and report whether any, and what, alterations might be advantageously adopted in the Home Government of India. He complained that the powers of the Secretary of State were of an autocratic character, that he could withdraw from the consideration of the council any matter that in his opinion was of such urgent importance as to require an immediate answer, and that in such cases he decided alone without consulting the council.—Mr. Bazley seconded the motion.—Sir C. Wood said that no case had been made out to show that the Government of India had failed to perform its duty. The home policy of the Government had received the approval of the council, and the only case in which any difference of opinion had arisen was with reference to the sale of waste lands. He regarded the act constituting the Council of State on its existing basis as a measure that did the greatest credit to Lord Stanley, who had also made a wise selection of members of council.—Sir E. Colebrooke opposed and Colonel Sykes supported the motion.—Lord Stanley said that though the arrangements of 1858 were not necessarily final, there was no ground for the inquiry at the present moment.—After some remarks by Sir H. Willoughby and Mr. Kinnaird, the motion was withdrawn.—Colonel North moved for a Royal Commission to inquire into the realisation of *Army Prize Property* and its mode of distribution; and into the cause of the delays which have in most cases occurred in its distribution to the captors, with a view to a remedy for the same.—Lord Palmerston said the Government had no objection to the motion, as the inquiry might lead to beneficial results affecting both the army and the navy. After some observations from Sir S. Northcote and Sir C. Wood, the motion was agreed to. *Fire Insurance Duty.*—Mr. H. B. Sheridan submitted a resolution to the effect that, in the opinion of the House, the duty now chargeable on fire insurance is excessive in amount, that it prevents insurance, and should be reduced at the earliest opportunity. He said that his proposal was to reduce the duty by 1*s.* per cent., and at the expiration of five years by another shilling, leaving the permanent duty at 1*s.* per cent.—Mr. Cox seconded the motion, which was also supported by Mr. Hubbard.—The Chancellor of the Exchequer, in opposing the motion, warned the House of the danger of pledging itself by the adoption of an abstract resolution to the remission of any particular tax. It was not the merits or demerits of the impost that were to be considered, but the bearing of the proposal upon the financial arrangements of the country. The produce of the fire insurance duty had increased in a far greater ratio than any other branch of the revenue, a clear proof that it could not be so oppressive or injurious as was supposed.—After some observations from Mr. Hankey in support of the motion, the House divided, when the resolution was carried against the Government by 103 to 67.—Mr. Ayrton moved for a select committee to inquire into the treatment of the *Fellowship Porters* by the Corporation of London. He complained of a gross maladministration of the funds belonging to the fellowship.—Sir J. Shelley supported the motion; Mr. Crawford and Mr. W. Bruce opposed it. The motion was ultimately withdrawn.—Sir S. Northcote moved an address to the Crown to give such directions in the matter of the *Banda and Kirwee Prize Money* as the law officers or some competent judicial authority might advise.—Sir M. Farquhar seconded the motion.—Lord Palmerston said that until the papers relating to the subject were laid upon the table it would be premature to institute an inquiry. There was no particular rule for the distribution of booty, which was left entirely in the discretion of the Crown. The motion was ultimately withdrawn.—Mr. Whalley obtained leave to bring in a Bill to amend the law as regards persons charged with *Petty Offences*, and to enable such persons and their wives to give evidence. The orders of the day were then disposed of.

Wednesday.—Sir D. L. Evans resumed the debate on the motion that the enlargement of the dining-rooms proposed by the committee on the *Kitchen and Refreshment Rooms* be carried into execution.—Sir P. O'Brien supported the motion.—Lord Hotham opposed it, on the ground that the enlargement of the rooms would encroach upon the court-yard of the division lobbies, and that it was not right that the public should be called upon to contribute anything towards the dinners of members.—Sir J. Trelawny disapproved altogether of any expenditure on the personal comforts of members. Let those who disliked the dinners bring down a bun or a biscuit, and go home to dinner. He feared that if too much encouragement were given to members to dine in the House, the next thing they would want would be to have their washing done on the premises.—Mr. Bass thought that as dinner was an absolute necessity some steps should be taken to obtain it with comfort.—Mr. Osborne ridiculed the idea of expending possibly 20,000*l.* upon enlarging a dining-room with wine cellars attached, which, when completed, would probably be so attractive that Mr. Bass and others of his way of thinking would pass their days and nights in it.—Colonel White, as a member of the committee, said that personally he was quite indifferent to the matter, as he dined as seldom as he possibly could in the coffee-room, where the contractor charged 5*s.* a bottle for sherry which was not worth half the money.—Mr. Dillwyn complained of the quality of the food supplied, and said that the meat was extremely bad. All he wanted was a plain dinner, but of good quality.—Mr. Cowper recommended the withdrawal of the motion, so that next session some course might be adopted which would meet with general approval.—After some further discussion, Sir D. L. Evans withdrew the motion. The House then went into committee on the *Partnership Law Amendment Bill.*—Mr. Hubbard moved that the Chairman leave the chair. He contended that it did not follow that because the House had sanctioned the principle of limited liability that further legislation was necessary in the same direction before time had been given to ascertain how the change worked.—Mr. T. Baring also opposed the Bill as contrary to the sound principles of commerce.—Mr. M. Gibson thought that if Mr. Hubbard's object was to offer a decided opposition to the Bill the more candid course would have been to have moved an amendment to the second reading. He thought the best plan would be to proceed with the consideration of the clauses. On a division the motion of Mr. Hubbard was negatived by 70 to 40. The various clauses of the Bill were subsequently agreed to with amendments. The House went into committee on the *Anchors and Chain Cables Bill*, and made some progress with the clauses. The *Jurisdiction of Justices Bill*, the *Pauper Lunatic Asylums Bill*, the *Expiring Laws Continuance Bill*, and the *Land Tax Commissioners Names Bill* were read a second time. The amendments to the *Fortifications (Provision for Expenses) Bill* were considered and agreed to.

Thursday.—The *Great Eastern Railway (Steamboats) Bill* was referred back to the select committee. The *Brazilian Difficulty.*—Mr. S. Fitzgerald brought under notice the relations of this country with Brazil and the recent rupture of diplomatic intercourse. He commented at some length on the assessment of the damages by the Queen's Advocate in the matter of the loss of the Prince of Wales, and contended that the result arrived at was absurd beyond all proportion to the real value of the cargo. The whole conduct of the British Government with reference to the recent misunderstanding was unjust and undignified, and such as would not have been adopted towards a powerful State. He moved for a copy of the manifest of the ship's cargo.—Mr. Layard defended the conduct of the British Government, and contended that, although there was no positive proof of the murder of the crew and of the plunder of the wreck, still there could be no moral doubt of the fact. Her Majesty's Government had no alternative but to resort to reprisals, unless they wished it to be understood that the lives and property of her Majesty's subjects might be attacked with impunity in foreign lands. He hoped amicable relations would soon be re-established with Brazil, the King of Portugal having undertaken to act as mediator, and her Majesty's Government having accepted his offer.—Sir H. Cairns thought that though the Government of Brazil had not acted with as much alacrity in the matter of the Prince of Wales as might be expected, still that the British agents had acted towards Brazil in a rude, disdainful, and contemptuous manner, which could lead to nothing but alienation between the two countries.—The Solicitor-General said that, in admitting that this country had a just claim for reparation, Sir Hugh Cairns had given up the whole case.—Mr. Henley said that after the King of the Belgians had given his award it was the duty of Ministers to have acquiesced in it, and not to have indulged in reproaches calculated to wound yet more the honour of Brazil.—After some remarks by Mr. Milnes and Mr. B. Moore, the motion was withdrawn.—Mr. Lawson moved that in the opinion of the House the laws under which licenses are granted for the *Sale of Intoxicating Liquors* are eminently unsatisfactory and deficient in power to protect the public, and therefore require immediate alteration. He said that the resolution was intended to give effect to the recommendations of the select committee, and to lead the way to the remedy of a great and admitted evil.—The motion was seconded by Mr. Ayrton, and opposed by the Chancellor of the Exchequer, on the ground that to adopt so abstract a resolution would be only to practise a delusion on the House and the country.—After some remarks by Mr. Newdegate, Mr. W. E. Forster, Sir P. O'Brien, and Lord Fermoy, the House divided, when the motion was rejected by 87 to 21.—Mr. C. Bentinck called attention to a recent purchase of a damaged and doubtful picture by the trustees of the *National Gallery*; and asked whether it was not desirable to discontinue the practice of acquiring such pictures at a high price.—Mr. Peel said that the picture was a work of great merit, and that Sir C. Eastlake had assured him that the injury was confined to the sky only, and was of a trifling character.—Mr. Coningham protested against the continued purchase of bad pictures at high prices, and expressed a hope that the Royal Academicians would soon be turned out of

Trafalgar Square and sent to South Kensington, where their patrons chiefly resided. The House then went into Committee of Supply *pro formâ*. The *Fortifications (Provision for Expenses) Bill* was read a third time and passed. The *Union Relief Aid Acts Continuance Bill*, as amended, was considered and agreed to. Several other Bills were advanced a stage.

FRIDAY.—*Lord Lieutenancy of Ireland.*—Mr. M'Mahon gave notice that early next session he should move for the appointment of a commission to consider the expediency of extending the English law to Ireland, and abolishing the office of Lord Lieutenant.—Mr. Coningham said that on the motion for going into Supply next week he should call attention to the threatened *Removal of the National Gallery. New Zealand.*—In reply to Mr. Mills, Mr. Fortescue said that despatches had been received at the Colonial Office confirming the statement which had appeared in the newspapers with respect to the unexpected outbreak in New Zealand.

[Left sitting.]

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at 93 for Money, and 93⅛ to 93 for Acct.; Three per Cents. Reduced, 93¼ to 93; New Three per Cents., 93⅛ to 93; Bank Stock, 237 to 236; India Stock, 226 to 228; Ditto Five per Cent. Stock, 108⅛ to 108; Five per Cent. Enfaced Rupee Paper, 107⅝; Ditto Five and a Half per Cent., 116½; Exchequer Bills, par to 3*s*. dis.—Foreign: Brazilian, 1843, 100⅜; Danish, 1863, 90¾; Egyptian, second issue, 103⅜ to 104¼; Greek, for Acct., 35 to ⅛; Italian, for Acct., 71⅜ ex div.; Ditto, Maremmana Railway, 80¼ ex div.; Mexican, for Acct., 37⅜ to ½; Peruvian, 1862, 87½ ex div.; Portuguese, 1856, '57, '59, '60, and 1862, for Acct., 48⅛ ex div.; Russian, 1862, 93⅜ to ½; Sardinian, for Acct., 90; Spanish Passive, for Acct., 33⅛ to ½; Ditto Certificates, for Acct., 12½ to ¾; Turkish, 1858, for Acct., 71¼ to 71; Ditto 100*l*. Bonds., 74; Ditto 1862, 67⅞ to 68, ex div.; Ditto, for Acct., 68 to ⅛, ex div.

## Gazette of the Week.

FRIDAY: *July* 10—BANKRUPTS.—G. Angel, Commercial Street, Spitalfields, Glassdealer—J. J. Archer, Terrace, Vaughan Road, Camberwell, Commercial Clerk—J. Alcock, Leek Moor, Staffordshire, Brickmaker—R. Burge, Bristol, Shipowner—J. Baker, Bedfordbury, Hosier—F. Brook, Gomersal, Yorkshire, Manufacturer—T. Bishop, Knowle, Manager to a Lime Burner—R. Beckley, Torrington Square, Boarding House-keeper—W. A. Bratt, Ratcliffe Cross, Licensed Victualler—J. Bush, Winterbourne—G. Brunsdon, Cheltenham, Baker—A. Cameron, Shaftesbury Street, Hoxton, Cabinet Maker—E. Davies, Caio, Carmarthenshire, Farmer—W. Dyer, Birmingham, Stationer—W. Dobbins, Birmingham, Druggist's Assistant—N. Dear, Church Street, Kentish Town—G. Ellis, Great Waltham, Coach Builder—W. Farnham, Old Street, St. Luke's, Milliner—R. Fisher, Tynemouth—M. Foulkes, Hanley, Staffordshire, Grocer—T. W. Green, Castle Terrace, Dalston, Shoemaker—W. George, Bristol, Beer Retailer—W. Gardner, White Lund, Lancashire, Farmer—J. Gittins, Chorlton upon Medlock, Jeweller—G. Carney, Portsea, Superannuated Gunner—C. Gregory, London Colney, Herts, Farm Bailiff—E. C. L. Godoy, Suffolk Street, Pall Mall—G. Hollings, David Place, Bethnal Green, Stonemason—W. Henderson, St. Paul's Rd., Kennington—M. Hooper, Bedford Square, Domestic Servant—W. Hodges, Shoeburyness, Journeyman Baker—G. Heaton, Shipley, Yorkshire, Brickmaker—W. Hance, Kiln Green, Berks, Grocer—J. Inkersole, Pembury Road, Lower Clapton—H. Jones, Salford, Pawnbroker—J. Jones, Nottingham, Licensed Victualler—F. Knight, Liverpool, Assistant to a Silk Mercer—J. Kennings, Tring, Herts, Saddler—W. S. C. Lawrence, Chapel Street, Somer's Town, Commercial Traveller—T. Lees, Newfield Head, Lancashire, Coal Miner—G. A. M'Carthy, New Bond Street, Artist—Jeremiah Moverly, Gillingham, Dredgerman—John Newbold, Liverpool, Bookkeeper—John Perrons, Old Basford, Notts, Collector of Taxes—John Pickup, Haworth, Farmer—W. Rogers, Stebbington Street, Oakley Square, General Smith—E. C. Seaman, Kingston Russell Place, Oakley Square, Solicitor—J. Stone, Canterbury—C. Slinn, Northampton, Builder—J. Sutcliffe, Todmorden, Machine Blacksmith—C. Toft, Church Street, Clapham Road, Baker—M. A. Viner, Brighton, Hosier—J. Williams, Warwick Lane, Commission Slaughterman—S. Walter, Hadlow, Schoolmaster—M. Weir, Freeschool Street, Horselydown, Baker—E. Warden, Burham, Kent, Dealer in Artificial Manure—W. Wright, Leighton Buzzard, Boot Maker—W. Whitehouse, Birmingham, Coal Agent—W. C. Woodbine, Manningtree, Innkeeper—T. Weller, Croydon, County Court Bailiff.

TUESDAY: *July* 14.—BANKRUPTS.—D. Baker, Kingston-upon-Hull, Provision Dealer—R. Burrow, Bampton, Westmoreland, Clogger—J. Bailey, Hetton-le Hole, Durham, Grocer—T. Basten, Reading, Builder—F. Bianchi, Nottingham, Plaster Maker—T. Barrett, Folly, Hertfordshire, Iron and Brass Founder—W. Bullen, Closworth, Somersetshire, Cattle Jobber—E. Chapman, Plymouth, Accountant—C. Cross, Shrewsbury, Grocer—F. T. Castleton, Park Road, Clapham, Tea Dealer—W. Charley, Coventry, Dyer—J. Cartledge, Longton, Staffordshire, Potter's Fireman—F. Dean, Stoke-upon-Trent, Staffordshire, Blacksmith—W. Davies, jun., Ystrad, Glamorganshire, Farm Labourer—J. Elton, Friendly Street, New Town, Deptford, Fishmonger—J. Everard, Long Buckby Folly, Northamptonshire, Farmer—Thomas Forster, Ripon, Yorkshire, Joiner—James Foley, Bristol, Wholesale Stationer—Francis Edith Gardener, Berkley Street, Bryanstone Square—W. Greenwood, Colchester, Tailor—A. C. Halfhide, Lupus Street, Pimlico, Watchmaker—W. J. Harrison, Ebury Street, Pimlico, Lodging House Keeper—T. Holland, Stockport, Candlewick Spinner—W. H. D. Jennings, Ipswich, Inland Revenue Officer—J. B. Jude, Sheerness, Mariner—A. M. Lotinga and A. A. Lotinga, Sunderland, Merchants—J. Loosmore, late of Brackley, Glamorganshire, Lime Burner—A. Long, Clifton, Bristol, Butcher—E. Lawrence, Portsea, Hampshire, Licensed Brewer—J. Mustill (and not Mastill, as advertised in "Gazette" of the 7th July), Leicester, Cabinetmaker—W. Mabe, Swansea, Butcher—A. Mendheim, Nottingham, Professor of Music—J. Phillips, Glanbrynar, Monmouthshire, Carpenter—S. Pearsall, Lichfield, Professor of Music—W. Quixley, Canterbury Place, Lambeth—T. W. Randall, Hyde Terrace, Battersea, late Potato Merchant—J. Kidd, Bideford, Devonshire, Wine and Spirit Merchant—Thomas Ridge, Wolverhampton, Coal Dealer—J. Smallman, Dawley, Shropshire, Brickmaker—J. Stiff, Hampshire, Baker—H. M. Sudlow, Liverpool, Bookkeeper—W. M. Shick, Redcross Street, Cripplegate, Commercial Clerk—M. Slack and M. C. Slack, Hereford, Timber Merchants—J. Skelding and R. Hancox, Birmingham, Plumbers—E. Staples, Ely, Cambridgeshire, Corn Merchant—G. Thompson, Caistor, Lincolnshire, Innkeeper—T. Telling, Stratton, Gloucestershire, Baker—R. Thorn, Pearson Street, Kingsland Road, Butcher—G. Tyler, Bristol, Beer Retailer—J. Taylor, Liverpool, Auctioneer—W. Woodbridge, Kirby le-Soken, Essex, Farmer—J. Wingrove, Gray's Inn Lane, late Grocer—J. S. Withey, Fir Lane, Edmonton, Nurseryman.

SCOTCH SEQUESTRATIONS.—H. Monro, Cromarty, Farmer—J. Chisholm and A. Harper, Leith, Coal Merchants—T. Haining, Garloff, Kirkcudbright, Farmer.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued | £28,536,095 | Government Debt | £11,015,100 |
| | | Other Securities | 3,634,900 |
| | | Gold Coin and Bullion | 13,886,095 |
| | | Silver Bullion | — |
| | £28,536,095 | | £28,536,095 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,046,988 |
| Rest | 3,277,029 | Other Securities | 20,908,633 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 4,948,158 | Notes | 6,997,080 |
| Other Deposits | 16,281,914 | Gold and Silver Coin | 863,781 |
| Seven days and other bills | 655,981 | | |
| | £39,816,382 | | £39,816,382 |

July 16, 1863. M. MARSHALL, Chief Cashier.

## Metropolis and its Vicinity.

The Prince of Wales at Caterham.—On Saturday the Prince of Wales performed the ceremony of laying the foundation stone of the Warehousemen and Clerks' Schools, about to be erected at Beggars' Bush, a well known spot on the Surrey Hills, between Croydon and Caterham. A large octagonal tent was erected round the stone, and arranged as an amphitheatre for the accommodation of 3000 persons, for the most part ladies. The interior was tastefully decorated, and when filled presented a very agreeable scene. Earl Russell, as President of the Institution, presented an address to his Royal Highness, who said:—

"My Lord President and Gentlemen,—I am happy in the opportunity afforded me this day of assisting in the prosecution of so good a work as I believe that to be in which we are engaged; for, I feel it the duty of us all to contribute by any means in our power towards the care and education of the children of those who have themselves contributed to the wealth and prosperity of the community. The Warehousemen and Clerks' Schools appear to have well performed their functions in this respect, and to have as liberally interpreted the claims of those children whose fathers have been incapacitated by the hand of God as of the orphans themselves. The result has been the increase of numbers which has brought us together this day. In such a cause we may, without presumption, invoke God's blessing on our undertaking, and pray that He may 'prosper our handiwork.'"

The Prince then laid the stone in the usual manner, and the Bishop of Winchester read prayers. The Hon. Artillery Company attended as a guard of honour, and fired a Royal salute, and the band of the Grenadiers enlivened the proceedings by playing suitable music. A large brass tray filled with a beautiful wreath of scarlet and white flowers was then placed on the stone, in which were to be deposited the purses containing 5*l*. and upwards which had been collected by ladies in aid of the funds of the asylum. Unfortunately, just as this interesting portion of the ceremony began, Earl Russell engaged the Prince in conversation a little apart from the stone, so that his Royal Highness remained apparently unaware of the fast accumulating pile of well-filled purses laid on the stone in front of him, or of the profound curtseys to himself with which the long file of young ladies tendered their gifts. The purses formed such a pile upon the tray that they had, before they were much more than half given in, to be removed in baskets, to make room for those which were yet to come. Nearly 800 were thus deposited. The choir then sang the Danish National Anthem, another salute was fired, and the Prince quitted the tent and returned to Frogmore by rail. Later in the evening there was a cold collation served in a large tent, where Lord Russell took the chair, and where Lord Brougham arrived in the midst of the repast and addressed the company amidst loud cheering. At the close of the proceedings it was announced that the amount received in the purses and at the déjeuner was 7850*l*.

The Exhibition Building.—On the very day following the vote of the House of Commons against the purchase of this building Messrs. Kelk & Lucas arranged their plans for pulling down the whole structure. So little time was lost that by the end of last week almost all the floors of the east and west transepts had been pulled up, and the owners of the few things yet remaining—organs, fountains, &c., had begun to remove them. Such progress has been made in this work that the whole building is now encircled by a huge hoarding, formed of the floor boards, which projects far into the road. Since the middle of last week, however, the work of demolition has been stopped, negotiations having been opened between the Alexandra Park Company and the contractors for the purchase of every part of the building except the picture galleries. The Alexandra Park Company has been lately formed for the purpose of establishing a North London Crystal Palace on the slopes of Muswell Hill. It is not often that a building of the size and composition needed for such a structure is in the market, and the directors have, therefore availed themselves of the first chance which offered of securing that at South Kensington. The offer is to purchase all, except the picture galleries, as it now stands—nave, domes, and side courts—to remove it to Muswell Hill, and there erect it as a permanent rival to the Crystal Palace. It is understood that it is intended to place one of the domes over the centre of the nave, and to use the other apart from the main building as a palm house. It is also intended to redecorate the nave in a rich and permanent manner, to give it a slate roof, and render its side courts perfectly water-tight, with leaden gutters between the ridge-and-furrow glass roofs. Mr. Minton's majolica fountain, under the east dome, has been presented by that gentleman to the South Kensington Museum.

The Wimbledon Prize Meeting.—On Friday, in consequence of another accident to a marker, the Swiss system was finally abandoned. All the interest of the day was centered in the shooting for the Queen's Prize at the 600 yards range. The result was two ties of 49 points each between Private Whisker of the 2d Essex, and Sergeant Millard of the St. George's, 49; for the first place and the Silver Medal, while Private Miller, 1st Gloucester, made 47 points, and there were 14 ties of 41 each. There were also several high scores and ties for the other prizes. On Saturday the ties in the first stage of the competition for the Queen's Prize were shot off, when the highest score was made by Private Whisker, of the 2d Essex, who wins the silver medal of the Association. The competitions for the St. George's Vase, and the prize offered by the Prince of Wales were also concluded. The former was contested by one Volunteer from each battalion in England and Scotland. Mr. Jopling, who won the Queen's prize the year before last, had the satisfaction of confirming his former victory by bearing off the vase for the South Middlesex, and by winning for himself the Gold Jewel of St. George. The Prince of Wales's prize was won by Corporal A. Rumball, 3d Herts. The Prince was on the field in person for a part of the day. On Monday the Prince and Princess visited the Common to witness the match between the Lords and Commons. The respective elevens were thus composed:—House of Lords: Earl Ducie, Marquis of Abercorn, Earl of Airlie, Lord Bolton, Lord Suffield, Earl of Dunmore, Lord Dufferin, Duke of Marlborough, Earl of Granard, Lord Londesborough, and Lord Wharncliffe. House of Commons: Viscount Bury, Hon. W. Duncombe, Mr. Dillwyn, Sir Philip Egerton, Earl Grosvenor, Mr. Forster, Mr. Humberston, Mr. Talbot, Mr. Vivian, Mr. Hay Wemyss, and Lord Elcho. Last year the Lords were victorious by a majority of 62. They were now defeated by 37. The result is not due to any falling off in the aggregate number of points made by the Lords, which this time were 423 as against 411 in 1862. But the Commons' Eleven advanced their total from 349 to 460, so that one House has been practically standing still while the other has made an enormous stride. Another competition attracting general attention, was that between the Universities of Oxford and Cambridge, in which the latter was successful by 402 to 329. The Alexandra Prize, shot for by the 30 winners of the Enfield All Comers at 200 yards, and 30 winners at 500 yards, was won by Private M'Kenzie, London Scottish (600 yards). On Tuesday the 60 competitors who had made the highest scores on the first stage for the Queen's Prize, proceeded in sections to shoot in the second stage at the 800 yards range. In accordance with the rules that had been laid down Lord Elcho was disqualified through shooting at one of the wrong targets. After an exciting contest the Prize was won by Sergeant Roberts of the 12th Shropshire, who scored 65 points, Sergeant Graham, of the 2d Wilts, being only one point behind him. At night there was a bonfire and a camp *fête*, and the band of the G division of police performed several pieces of music. On Wednesday Sergeant Martin Smith, of the Victoria Rifles, won the Albert Prize with 73 points, the next best score being that of Ensign Brazill, 61st Lancashire, who made 70 points. On Thursday the international match between England and Scotland was commenced. At 800 yards the Scotch Eight scored 389, and the English 386; at 900 yards the English scored 394, and the Scotch 362, giving England a majority of 29 on the two ranges. The shooting at the 1000 yards range was not completed by Scotland before dark.

Gresham Professorship of Music.—This appointment, which was rendered vacant some since by the death of Professor Taylor, has been bestowed on Dr. Henry Wylde. There were six other candidates, viz., Mr. Edward Clare, Mr. J. Pitman, Mr. John Hullah, Mr. G. W. Martin, Rev. J. E. Cox, and Mr. George Benson, each of whom had to deliver a probationary lecture required by the standing orders of the Corporation.

Destruction of the Langham Bazaar.—On Sunday morning, about ten o'clock, a fire broke out in the German Fancy Fair, in Langham-place. The building was occupied as a fancy bazaar, and let out in stalls and counters to about 40 to 50 young women, several of whom stocked them with their own goods. These unfortunate persons have lost all their property, and it is said that none of them are insured. Mr. Whittaker's curious collection of foreign birds, reptiles, &c., and several valuable pictures were also burnt. The fire extended to the neighbouring premises, where a large amount of property also was destroyed. The steam fire engines rendered much valuable service, and finally prevented it from extending further. It is not known how the fire originated.

The Public Health.—The deaths in London in the week that ended on Saturday, July 11, were 1287. The average number in the corresponding weeks of 1853-62, corrected for increase of population, was 1170. The present return is therefore 117 above the average. The deaths from small-pox during the week were 55, and from scarlatina 113. During the week the births of 989 boys and 994 girls, in all 1983 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1777.

## Provincial.

Aldershot.—On Tuesday there was a great field day of the regiments in camp at Aldershot, when 16,000 troops of all arms were manœuvred in the presence of the Prince and Princess of Wales, the Duke of Cambridge, and other distinguished personages. Their Royal Highnesses went down by South Western Railway to Farnborough, and drove from the station to the camp. As the intended visit of the Prince and Princess was generally known, a large and brilliant company was attracted to the common, and the fine weather added to

the attractions presented by the various evolutions. The heat, however, was intense, and a corporal in the 87th Irish Fusiliers fell dead on the field; the clouds of dust also obscured many of the manœuvres. At the conclusion of the review the Royal party passed through the permanent barracks, and after taking luncheon at the quarters of Lieut.-Gen. Sir John Pennefather, left the camp about four o'clock.

# Law.

## THE ASSIZES.

SOUTH WALES CIRCUIT: *The Fishguard Murder — Lydia Williams* was charged with the wilful murder of her husband, Dan Williams, at the parish of Llanunda. The evidence showed that deceased had died from oxalic acid and arsenic which had been mixed with his food, and both he and other members of his family for some time previous to his death had reason to suspect that the prisoner was slowly poisoning him. Though he suffered severely from internal inflammation and vomiting, his constitution so long resisted the effects of the poison, that Mr. Herapath, the chemist, said that in all his experience he had never known so long a time elapse before death ensued. The fact of the prisoner having procured the poison was clearly proved. The jury returned a verdict of *Guilty* of the intent, but not of the murder. Baron Wilde sentenced the prisoner to penal servitude for life.

CENTRAL CRIMINAL COURT.—*The Murder in the Borough Road. — Thomas Lidbetter*, 59, was indicted for the wilful murder of his wife Martha Lidbetter. The prisoner was also charged with the wilful murder of his son, David Gray Lidbetter. The facts of this case lay in a very narrow compass. The prisoner carried on the business of a pewterer and public-house bar fitter, in the Borough Road, and on the morning of the 25th of May he went to the house of a neighbour, named Pugh, and deliberately told him that he had murdered his wife and son, and that he had tried to kill himself. At first the statement was not credited, but upon Mr. Pugh going to the house it was found to be too true, the wife of the prisoner being discovered lying on the bed quite dead, with her throat cut in a most dreadful manner, and his son, a young man 17 years of age, lying on an adjoining bed with his throat also cut, but not dead, although he only survived a few hours. It appeared in the course of the trial that the prisoner had been twice thrown out of a vehicle, and received injuries upon the head on both occasions, that since then he had acted very strangely, and talked incoherently, and that he generally behaved very kindly and affectionately to his wife, and was devotedly attached to the son whose life he destroyed. The Lord Chief Baron having summed up, the jury, after a short deliberation, found the prisoner *Not Guilty* on the ground of insanity, and he was ordered to be detained during her Majesty's pleasure. The *Mary'ebone Murder. —Mary Anne Payne*, 21, was indicted for the wilful murder of her child, Charles Albert Payne. This was a very distressing case. The prisoner was a married woman, and lived with her husband in Allsopp Place. She was in a pregnant state, and subject to morbid delusions. The deceased child was two years and a half old, and the prisoner had always appeared to be very fond of it, but on the 12th of June she seemed to have cut the head of the poor child nearly from its body, and then took a quantity of laudanum, after which she jumped out of the window. The jury *Acquitted* the prisoner on the ground of insanity, and she was ordered to be confined during her Majesty's pleasure. *Assaults on Women. — Arthur Robert Willoughby Waite, alias James Smith*, formerly adjutant of a Surrey regiment of Militia, pleaded *Guilty* to an indictment charging him with indecent assaults on no less than five women, and was sentenced by the Recorder to be kept to hard labour in the House of Correction for 18 calendar months, the first 12 months on the first count of the indictment, and the second six months to be computed from the expiration of the first term of imprisonment, on the second count.

# Obituary.

THE DUKE OF HAMILTON died in Paris on Wednesday. His Grace was on the previous Wednesday at the Duchess of Buccleuch's concert, in the best apparent health, and remained to a late hour. On the following day he left for Paris, on his way to Baden-Baden to meet the Duchess and family. On Thursday night, on returning from the Opera, he supped at the Maison Dorée, on the Boulevard des Italiens, with Mr. Henry Howard, and on leaving the house fell and severely injured the back of his head. Congestion of the brain followed. The best medical advice, English and Foreign, was called in. The Duchess and family were telegraphed from Baden, and the Marquis of Douglas from this country. They at once repaired to Paris, and were with the Duke a few hours after the serious nature of his illness was known. On Wednesday morning his condition was less alarming, but he afterwards became worse, and died at noon. His Grace the Right Hon. William Alexander Anthony Archibald Hamilton Douglas, Duke of Hamilton, Marquis of Hamilton, Douglas, and Clydesdale, Earl of Angus, Arran, and Lanark, Baron Hamilton, Baron of Abernethy, Jedburgh Forest, Aven, Polmont, Machanshire, and Innerdale, and premier peer in the Peerage of Scotland, Duke of Brandon and Baron Dutton, in the peerage of Great Britain, was the only son of the tenth Duke, by the second daughter of Mr. William Beckford, the author of "Vathek," and owner of Fonthill Abbey. He was born in 1811, and was therefore in his 53d year. He married in 1843, her Serene Highness the Princess Marie Amelia Elizabeth Caroline, youngest daughter of Charles Louis Frederic, late reigning Grand Duke of Baden, by the late Grand Duchess Stephanie, and cousin of the Emperor Napoleon III. By his marriage the Duke leaves William Alexander Louis Stephen, Marquis of Douglas and Clydesdale, born in 1845; Lord Charles, born in 1847; and Lady Mary Victoria, born in 1850. His Grace succeeded to the ancient titles of nobility in the peerages of Scotland, Great Britain, and France, together with the vast patrimonial estates, on the death of his father in 1852. He was Hereditary Keeper of Holyrood Palace (an honour held by his ancestors since 1646), Knight Marischal of Scotland, and Colonel of the Queen's Own Royal Lanark Militia, and was from 1849 to 1857 Major Commandant of the Glasgow Yeomanry. He was Lord Lieutenant of Lanarkshire, and a Deputy-Lieutenant of the county of Bute. He was educated at Christ Church, Oxford, where he graduated B.A. in 1832. The titles and estates are inherited by his eldest son, the Marquis of Douglas and Clydesdale, now in his 19th year.

THE COUNTESS DOWAGER OF CALEDON died on the 8th inst. at her seat, Tittenhanger, Hertfordshire, after a short illness. Her ladyship was the second daughter of the third Earl of Hardwicke, by Lady Elizabeth Lindsay, eldest daughter of the fifth Earl of Balcarres. She was born in 1786, and married, in 1811, the second Earl of Caledon, by whom she had an only son, James Du Pré, the late earl, and father of the present peer, who is a minor. The late countess was sister of the Countess of Mexborough, Lady Stuart de Rothesay, and the Dowager Countess Somers.

LADY KATHLEEN TIGHE, sister of the Countess of Kerry, Earl of Bessborough, and Lady De Mauley, died on the 9th inst., at Rossana, Wicklow, in her 36th year, after having given birth to an infant about a week previously. Her ladyship was the sixth daughter of the late Earl of Bessborough, by Lady Maria Fane, daughter of the tenth Earl of Westmoreland. She was born in 1826, and married, in 1858, Mr. Frederick Edward Tighe.

GENERAL SIR THOMAS ERSKINE NAPIER, K.C.B., Colonel of the 71st Highlanders, died on the 5th inst., at Polton House, Lasswade, his seat in Scotland. He was the youngest son of the Hon. Charles Napier, second son of the sixth Lord Napier, of Merchistoun, and brother of the late Admiral Sir Charles Napier, and was born in 1790. He entered the army just after he had attained his 15th year, in the 52d Regiment, and served with that regiment at the siege of Copenhagen and battle of Kiogo in 1807, and in the following year acted as aide-de-camp to Sir John Hope in the expedition to Sweden. He served subsequently in Sir John Moore's campaign in Spain, including the retreat of Corunna. He served in Sicily with the 52d until the autumn of 1810, and afterwards served on the staff in the Peninsula, including the defence of Cadiz, battle of Fuentes d'Onor, second siege of Badajoz, battles of Salamanca, Vittoria, Nivelle, and the Nive. He was slightly wounded on the 10th December and severely on the 11th, when he lost his left arm. In 1838 he was made a Companion of the Bath, and in 1860 a Knight Commander of that Order. In 1854 he was appointed colonel of the 15th Regiment, and on the death of Sir James Macdonell in 1859 he was transferred to the 71st Regiment. For some years he was assistant-adjutant-general in the northern district of Ireland, and had held several other staff appointments. He attained the rank of major-general in 1846, and general in 1861. For his services in Spain and Portugal he received the silver war medal with seven clasps.

BIRTHS.—On the 8th inst, in Berkeley Square, the Lady SKELMERSDALE, of a daughter — 13th inst, at 40, Lowndes Street, the Lady POLTIMORE, of a daughter — 5th inst, at Bourton Cottage, Lady WENLOCK, prematurely, of a son—8th inst, at Whittlesford, the Lady W. GODOLPHIN OSBORNE, of a son—7th inst, at Knipton Rectory, the Hon. Mrs. A. CAMPBELL, of a son—8th inst, at Ross, Dumbartonshire, the wife of Sir GEORGE LEITH, of a daughter.

MARRIAGES.—On the 16th inst, at Baseley Church, Tredegar Park, Monmouthshire, Viscount HEREFORD, to the Hon. MARY MORGAN, daughter of Lord and Lady Tredegar—14th inst, at St. Paul's, Knightsbridge, the Hon. GILBERT HENRY HEATHCOTE, only son of Lord Aveland, to the Lady EVELYN ELIZABETH GORDON, second daughter of the Marquis of Huntly — 9th inst, at Christ's Church, Lancaster Gate, ALEXANDER ANDERSON, Esq., of Newstead, Australia, to MADELINE BREDALBANE, youngest daughter of Sir JOHN and Lady ELIZABETH PRINGLE, and niece of the late Marquis of Bredalbane—7th inst, at the Cathedral, Bangor, JOHN H. ALLEN, Esq., third son of the late J. H. Allen, Esq., M.P., of Cresselly, Pembrokeshire, to MARGARETTA, eldest daughter of WILLIAM SNELGAR, Esq.—14th inst, at St. Matthias Church, Richmond, WINTHROP MACKWORTH PRAED, Esq., eldest son of Bulkley John Mackworth Praed, Esq., to LOUISA, youngest daughter of the late JAMES EWING, Esq.—8th inst, at Hunterston House, West Kilbride, Ayrshire, Lieut.-Colonel GOULD WESTON, to JANE, eldest daughter of ROBERT HUNTER of HUNTER, Esq.

DEATHS.—On the 12th inst., at the residence of her nephew, W. H. May, Esq., 6, Sussex Square, Brighton, Lady TWYSDEN, wife of Sir WILLIAM TWYSDEN, Bart., and sister to the late W. B. May, Esq., of Hadlow Castle, Kent—9th inst, at Hurst House, West Molesey, JEAN ANNE, widow of Admiral Sir CHARLES SULLIVAN, Bart., aged 66—2d inst, at his residence, Upper Harley Street, THOMAS JAMES IRELAND, Esq., of Ousden Hall, Suffolk, a magistrate and deputy-lieutenant for that county, aged 71—8th inst, at Rhyl, JOHN WHITEHALL DOD, Esq., of Cloverley, Shropshire, aged 65—9th inst, at Milsted, the Rev. RALPH PRICE, formerly rector of Lymings, Kent, aged 85—12th inst, at the Oratory, Brompton, the Rev. Father WILLIAM ANTONY HUTCHISON, aged 40.

# Markets.

## COVENT GARDEN, July 18.

In consequence of the delightful weather we are now experiencing supplies of both fruit and vegetables are unusually well kept up. Peaches and Nectarines are plentiful. Greengages and other Plums are now included in foreign imports, and of Grapes and Pine Apples the supply is sufficient for the demand. Strawberries are abundant. Cherries of foreign growth, of which there are large arrivals, are fetching from 5s. to 6s. 6d. per basket, weighing about 25 lbs. each. Of Melons, both English and foreign, there is a good supply, and Oranges are also plentiful. New Potatoes realise from 8s. to 11s. per cwt. Cut flowers chiefly consist of Orchids, Pelargoniums, Violets, Stocks, Calceolarias, Mignonette, and Roses.

### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 3s to 6s | Lemons, per 100, 12s to 16s |
| Grapes, per lb., 2s to 5s | Oranges, per box, 30s to 40s |
| Strawberries, p. lb., 6d to 1s | — per 100, 5s to 10s |
| Apples, per doz., 9d to 1s 6d | Nuts, small, per bushel, 14s to 18s |
| Figs, per doz., 6s to 8s | Almonds, do., 18s |
| Peaches, per doz., 10s to 20s | Walnuts, do., 10s |
| Nectarines, do., 6s to 10s | |
| Melons, each, 2s to 4s | |

### VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Peas (shelled), p. qt., 1s to 1s 6d | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | French Beans, per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 99s | Shallots (new), p. bunch, 6d |
| ,, Flukes, do., 100s to 120s | Rhubarb, p. bundle, 2d to 4d |
| ,, Rocks, do., 60s to 80s | Garlic (new), per bunch, 6d |
| ,, Cups, do., 75s to 85s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 6d to 8d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bun. 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 3s 6d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |

## HAY.—Per Load of 36 Trusses.

SMITHFIELD, THURSDAY, July 16.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 60s to | 80s | Clover, old | 90s to | 126s |
| Superior do. | 80 | 95 | New Clover | 70 | 95 |
| Inferior do. | 36 | 54 | Do. second cut | 80 | 115 |
| New do. | 60 | 80 | Straw | 28 | 31 |
| Rowen | — | — | | | |

HARVEY & EASTON.

WHITECHAPEL, THURSDAY, July 16.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime Clover | 120s to | 126s |
| Inferior do. | 70 | 80 | Inferior do. | 108 | 115 |
| Prime New Hay | 70 | 78 | New do. | 90 | 100 |
| Inferior | — | — | Prime 2d cut | 115 | 120 |
| Straw | 30 | 34 | Inferior do. | 90 | 100 |

## COAL MARKET.—July 15.

Buddle's West Hartley, 14s. 6d.; Davison's West Hartley, 15s.; Hastings Hartley, 14s. 6d.; North Pelton Gas, 15s. 3d.; Walker Primrose, 12s. 6d.; West Hartley, 14s. 3d.; Walls End Riddell, 15s.; Walls End Wharncliffe, 16s.; Eden Main, 15s. 3d.; Walls End Haswell, 17s. 6d.; Walls End Hetton, 17s. 6d; Walls End South Hetton, 17s. 3d.; Walls End Tunstall, 14s. 9d.; Walls End Cassop, 15s. 9d.; Walls End Hartlepool, 16s. 6d.; Walls End Heugh Hall, 15s. 9d.; Walls End Kelloe, 15s. 9d.; Walls End East Hartlepool, 16s. 9d.; Walls End South Hartlepool, 15s. 3d.; Walls End South Kelloe, 15s. 9d.; Walls End Trimdon Hartlepool, 16s. 6d.; Carway and Duffryn Malting, 19s. 6d.—89 ships at market.

## BRITISH WOOLS.—LONDON, July 17.

Our market is rather quiet, although several buyers are in town, but as they have supplied themselves at the sale on easier terms than they could by private very little business is being transacted. This attempt to sell farmers' wool by auction has not succeeded, as the few who have tried it have sacrificed considerably.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets | 1 9½ to 1 10 | Leicest. Wethers | 1 8 to 1 9 |
| Half-bred ditto | 1 10 — 1 11 | Ditto Hoggs | 1 9 — 1 10 |
| Down Ewes | 1 8½ — 1 9 | Combing Skins | 1 4 — 1 8 |
| Kent Fleeces | 1 9 — 1 10 | Flannel Wool | 1 6 — 1 8 |
| | | Blanket ditto | — |

## METROPOLITAN CATTLE MARKET.

MONDAY, July 13.

The number of Beasts is not quite so large as on Monday last, but it is equal to the demand; indeed a clearance cannot be effected. The supply of Sheep and Lambs is unusually large. Trade is very heavy, and a considerable number remain unsold. Calves are also plentiful, and prices not better. From Germany and Holland there are 1630 Beasts, 9330 Sheep, 377 Calves, and 110 Pigs; from Spain, 120 Beasts; from France 33 Calves; from Scotland, 55 Beasts; from Ireland, 140; from Norfolk and Suffolk, 300; and 2200 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to 5 0 | Best Long-wools | — |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn | 4 4 — 4 8 |
| 2d quality Beasts | 3 4 — 4 0 | Ewes & 2d quality | — |
| Best Downs and Half-breds | — | Do. Shorn | 4 0 — 4 4 |
| Do. Shorn | 5 0 — 5 2 | Lambs | 5 8 — 6 4 |
| | | Calves | 3 0 — 4 6 |
| | | Pigs | 3 0 — 4 0 |

Beasts, 4750; Sheep & Lambs, 32,340; Calves, 466; Pigs, 350

THURSDAY, July 16.

The supply of Beasts is rather larger than on Thursday last. Trade is very slow, and Monday's prices cannot be maintained. The number of Sheep and Lambs is again large, but the demand is good for choice qualities, and trade is rather more cheerful than on Monday last. Calves are plentiful, and trade for them slow; prices unaltered. Our foreign supply consists of 390 Beasts, 3890 Sheep, 739 Calves, and 30 Pigs. Milch Cows, 80.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to 4 10 | Best Long-wools | — |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn | 4 6 — 4 8 |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | — |
| Best Downs and Half-breds | — | Do. Shorn | 4 0 — 4 4 |
| Do. Shorn | 5 0 — 5 2 | Lambs | 5 8 — 6 4 |
| | | Calves | 3 0 — 4 6 |
| | | Pigs | 3 0 — 4 0 |

Beasts, 1270; Sheep & Lambs, 13,840; Calves, 968; Pigs, 190.

## MARK LANE.—MONDAY, July 13.

The supply of Wheat from Essex and Kent to this morning's market was insignificant, and together with foreign met a very slow sale at last week's prices; in some instances a trifle less was accepted for the latter. Barley, Beans, and Peas are fully as dear as on this day se'nnight. The Oat trade is steady, and good corn brings an advance of 6d. per qr. For Flour there is scarcely any demand, and the little business doing was at about the late rates.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 46—56 | Red | 42—50 |
| — — fine selected runs .. ditto | 47—54 | Red | 42—52 |
| — — Talavera | 48—60 | | |
| — Norfolk | — | Red | — |
| — Foreign | 35—62 | | |
| BARLEY, grind. & dist., 23s to 30s .. Chev. | 34—38 | Malting | 31—34 |
| — Foreign .. grinding and distilling | 25—29 | Malting | 28—32 |
| OATS, Essex and Suffolk | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed | 21—23 |
| — Irish ... Potato | — | Feed | — |
| — Foreign ... Poland and Brew | 18—22 | Feed | 17—22 |
| RYE | 35—37 | Foreign | — |
| RYE-MEAL, Foreign | — | | |
| BEANS, Mazagan .... 32s to 33s .. Tick | 32—34 | Harrow | 32—34 |
| — Pigeon .... 36s to 40s .. Winds. | — | Longpod | — |
| — Foreign ... Small | 40—46 | Egyptian | 32—34 |
| PEAS, White, Essex and Kent .. Boilers | 35—37 | Suffolk | 37—40 |
| — Maple .... 42s to 48s .... Grey | 36—37 | Foreign | 30—38 |
| MAIZE ... White | — | Yellow | — |
| FLOUR, best marks delivered .. per sack | 42—47 | | |
| — 2d do ... ditto | 32—44 | Country | 32—44 |
| — Foreign ... per barrel | 20—28 | Per sack | 34—48 |

FRIDAY, July 17.

We have to report another week (being the fourth in succession) of remarkably fine weather. The grain markets have been very inactive, but there has been less pressure to sell than is usual during fine weather at this season of the year, and where a decline is quoted the same does not exceed 1s. per qr. Business in spring corn has been dull, and Oats were written 6d. lower in several markets, whilst here there has been an improvement of 6d. upon fine descriptions. Business in Flour has been very limited, and late rates are barely maintained. Since Friday last 26 vessels have been reported off the coast. The floating trade has remained quiet, and prices of Wheat and Maize are declining. Linseed has been active, and is in demand at an improvement of 1s. per qr. In Paris (July 16), the prices for Wheat and Flour have remained unaltered, but business is exceedingly restricted. The present stock of Flour is estimated at 8490 cwt. The six marks for delivery this month are quoted equal to 33s. per 280 lbs. The arrivals of English grain and foreign Wheat this week have been very trifling, moderate of foreign Oats, and large of Barley. To-day's market was thinly attended, and although the business transacted was not large, millers evinced rather more disposition to purchase Wheat, but Monday's prices are not exceeded for either English or foreign. Spring Corn is steady at that day's quotations. Flour is a slow sale at a decline of 6d. per barrel.

ARRIVALS THIS WEEK.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 490 qrs. | — qrs. | 80 qrs. | 320 sks. |
| Irish .... | — | — | 120 | — ,, |
| Foreign .. | 3210 ,, | 4950 | 22,260 ,, | 50 ,, / — brls |

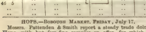
LIVERPOOL, July 14.—We have had a fair attendance of both town and country millers and dealers at this day's market, and Wheat may be said to have met rather a better demand than of late, at a trifling concession on the rates current last

Friday. Good qualities of Flour maintain their value, but anything of doubtful character is irregular in value. Indian Corn is offered sparingly, and choice samples of American being scarce, bring 3d. per quarter more money. Oats had a good inquiry at previous prices. Oatmeal dull. Beans are decidedly stiffer. Peas and Barley unchanged, but late heavy arrivals being now almost cleared, market closes with more firmness.

FRIDAY, July 17.—The market was well attended. Wheat in better demand, at about last Tuesday's rates. Flour in better demand. Indian Corn 3d. dearer, with more doing. Egyptian Beans firm. Oats extremely dull. Oatmeal unchanged. Egyptian Wheat keeps firm.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| June 6.. | 46s10d | 31s11d | 22s10d | 32s 5d | 39s10d | 36s 8d |
| — 13 | 46 11 | 32 4 | 22 10 | 34 10 | 39 8 | 36 11 |
| — 20 | 46 9 | 30 7 | 23 0 | 32 3 | 40 4 | 37 10 |
| — 27 | 46 5 | 31 2 | 22 10 | 35 9 | 39 8 | 36 2 |
| July 4 | 46 11 | 30 9 | 23 11 | 32 2 | 39 6 | 38 0 |
| — 11 | 46 10 | 30 10 | 23 6 | 34 5 | 40 2 | 39 0 |
| Agg. Aver. | 46 9 | 31 3 | 23 2 | 33 9 | 39 10 | 37 5 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




HOPS.—BOROUGH MARKET, FRIDAY, July 17.

Messrs. Pattenden & Smith report a steady trade doing in Hops, with but few fine samples on offer, for which late prices are obtained. The accounts received from the plantations do not speak of much improvement having taken place during the past week.

GEORGE CLARKE requires a Person who can grow well Azaleas, Heaths, Geraniums, and Soft-wooded Plants generally for Sale; one who has grown for Market would be preferred. — Nursery, Streatham Place, Brixton Hill, London, S.

WANTED, a really energetic and good business Man as OUT-DOOR FOREMAN, who thoroughly understands the Management of Hardy Ornamental Trees, Fruit Trees, Shrubs, &c., as well as general out-door Nursery Stock, and can produce first-class testimonials.—Apply, in own handwriting, with all particulars, to JAMES DICKSON & SONS, The "Newton" Nurseries, Chester.

WANTED, a GARDENER.—A professional Gentleman, who has just purchased an Estate of 150 Acres in the neighbourhood of London, is desirous of securing the services of a steady honest Gardener, practically acquainted with the latest improvements in Horticulture. The Advertiser is a good Botanist, and intends Cultivating Scientifically Flowers, Fruit, and Vegetables on a large but economical scale, and requires a superior Assistant. The Gardener's Cottage is a modern building, and the wages will be liberal, but the strictest inquiry as to capabilities will be made.—M. D., *Gardeners' Chronicle* Office, W.C.

WANTED, an experienced GARDENER (married), who thoroughly understands Kitchen and Flower Gardens, Greenhouse, Pruning, &c. He will have a boy under him. Wages, 16s. a week, and a house and vegetables.—Mrs. C., Beckley, near Oxford.

To Gardeners.

WANTED, in a large Establishment near Town, a steady, active, young Man, as GARDENER. He will have the charge of Pleasure Grounds and Kitchen Garden, and to look after Pigs and Cows. He must be single, and of good character. Wages, 8s. per week, with Board, Lodging and Washing.—Apply to M. D., Mr. Hall, Cutler, London Road, Southwark, S.E.

WANTED, as GARDENER, an active young Man to live in the House. Must have a thorough knowledge of Flower, Fruit, and Kitchen Gardens, and the Management of Greenhouses. One who understands profitable Gardening preferred.—Address by letter Z. Y., Mullins' Hotel, 11, Ironmonger Lane, City, E.C.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 40, married, two children; thoroughly experienced in all the branches of his profession. Three years' good character.—J. W., Leslie Cottage, Laurel Grove, Penge, Surrey, S.

To Noblemen and Gentlemen.

GARDENER (HEAD). — Middle-aged, no incumbrance; thoroughly practical. Can produce first-class testimonials from the gentleman he has just left.—Messrs. DOWNIE, LAIRD, & LAING, Stanstead Park Nursery, Forest Hill, London, S.E.

GARDENER (HEAD).—Married, no incumbrance; thoroughly practical, and can give satisfaction in the growth of Fruit, Flowers, and Vegetables, for which the Advertiser has been awarded many Prizes at Exhibitions. Satisfactory reasons given for leaving his last situation, where he lived for eight years. — X. O., Post Office, Preston, Lancashire.

GARDENER (HEAD), to a nobleman or gentleman. —Age 32, married, one child; a thorough good Grower of Pines, Vines, Stove and Greenhouse Plants, Melons, Cucumbers, &c.; understands the management of Flower and Kitchen Gardens; also Meadow Land and Stock.—G. COLE, Rydon Lodge, Ball's Pond, Newington Road, Islington, N.E.

GARDENER (HEAD).—Middle-aged, married; well versed in every branch of his profession, including the Growth of Pines, Grapes, Orchids, Ferns, and Stove and Greenhouse Plants in general; the Management of the Kitchen and Flower Gardens, &c. Character undeniable.—A. Z., 17, Charlotte Terrace, Lyham Road, Brixton Hill, S.

GARDENER (HEAD).—Age 31, married; has a thorough knowledge of Early and Late Forcing of Grapes and other Fruits, Flowers, and Vegetables; also a competent knowledge of the Cultivation of Orchids, Ornamental Stove and Greenhouse Plants, and practically acquainted with the other departments connected with Gardening. Good references for character and ability. Liberal wages will be required, and no single-handed situation noticed.—A. H., Post Office, East Sheen, Surrey.

GARDENER (HEAD).—Age 40, married, no incumbrance; understands Forcing all kinds of Fruit, Flowers, &c.; likewise Flower and Kitchen Gardening.—J. T. P., Hale's Cottages, Putney Heath, Surrey, S.W.

GARDENER (HEAD).—Age 40, married, one child; understands Early Forcing, Flower, Fruit, Kitchen Garden, &c. Has had 25 years' practice. Five and a half years' character.—M. A., Drivers, Post Office, Stoke Newington, N.

GARDENER (HEAD).—Age 28, married, two children; understands the Management of Vines, Pines, &c. Three and half years' good character.—A. B. C., 117, Manor Street, Clapham, Surrey, S.

GARDENER (HEAD).—Age 27, single; has a practical knowledge of Vines, Stove and Greenhouse Plants; Fruit, Flower, and Kitchen Gardens. Good character from present situation.—A. B., Post Office, Totteridge, Herts.

GARDENER (HEAD).—Age 33, single; W. HOWARD, Gardener to B. Edgington, Esq., Lavender Hill, Wandsworth, S.W. A first-class Plant and Fruit Grower, and good general Gardener. Can be highly recommended by several leading horticulturists, also by his present employer.

GARDENER (HEAD).—Age 40, married; has had extensive practice in all kinds of Early and Late Forcing, the Management of Stove and Greenhouse Plants, Kitchen, Fruit and Flower Gardening, Land and Stock.—E. L. M., Post Office, Streatham, S.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, JULY* 25, 1863.

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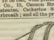

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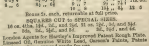

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JOSEPH K. JACKSON, Secretary.

## News of the Week.

IN the House of Lords on Monday the Fortifications (Provision for Expenses) Bill, the Nuisances Removal Act (1855) Amendment Bill, and the

Public Works Bill were read a second time. The Salmon Fisheries (Ireland) Bill passed through Committee with amendments. On Tuesday the Royal assent was given by Commission to several Bills. The report of the amendments on the Fisheries (Ireland) Bill was agreed to. The Harwich Harbour Bill, the Pier and Harbour Orders Confirmation Bill, the Misappropriation by Servants Bill, the India Stock Bill, and the Sydney Branch Mint Bill, were read a third time and passed. On Thursday on the order for the third reading of the Fisheries (Ireland) Bill, Lord CRANWORTH moved that the Bill be read a third time that day three months. After a long discussion the motion was negatived on a division by 40 to 25. Two other amendments, moved by Lord CRANWORTH and Lord DONOUGHMORE, were negatived on a division, and the Bill was read a third time and passed.

In the Commons on Monday Mr. HORSMAN moved a resolution that the arrangements made with regard to Poland by the Treaty of Vienna have failed to secure the good government of that country or the peace of Europe, and any further attempt to replace Poland under the conditions of that treaty must cause calamities to Poland and embarrassment and danger to Europe. The CHANCELLOR of the EXCHEQUER and Lord PALMERSTON opposed the motion, which was ultimately withdrawn. The Lords' Amendments of the Telegraph Bill were considered and agreed to with amendments. The London City Traffic Regulation Bill was read a third time, and passed. On Tuesday the Consolidated Fund (Appropriation) Bill was read a second time, and the Promissory Notes and Bills of Exchange Bill was read a third time and passed. The House went into Committee upon the Augmentation of Benefices Bill, and made progress to the 31st clause. Mr. H. BERKELEY moved a resolution—that the grievances suffered by Mr William Bewicke, a magistrate of Northumberland, who had been imprisoned and deprived of his property by a conspiracy, were such as to entitle him to the consideration of the Government. Sir G. GREY opposed the motion, which was negatived on a division by 22 to 20 Mr. COCHRANE called attention to our present relations with Japan, and moved for papers. Mr. LAYARD opposed the motion, which was withdrawn. The resolutions for several mail contracts were agreed to. The Petty Offences Bill was withdrawn. The Indemnity Bill was read a third time and passed. On Wednesday the Statute Law Revision Bill passed through committee. On Thursday in answer to a question by Mr. S. FITZGERALD in reference to the dispute between Germany and Denmark respecting the Danish Duchies, Lord PALMERSTON said that it was the policy of her Majesty's Government to maintain the integrity and independence of Denmark; and if any attempt were made to overthrow her rights it should be resisted. Mr. COBDEN called attention to the equipment of Confederate cruisers in this country as a violation of the Foreign Enlistment Act, and as likely to produce a rupture with the United States. Lord PALMERSTON said that according to the doctrine of the United States Government itself, a neutral power might supply a belligerent with ships, arms, and ammunition, and that her Majesty's Government had done everything which the law allowed them to do in the matter. Sir C. WOOD made his statement on the finances of India, and showed that the estimate for the current year would leave a surplus of 1,280,000*l.* He moved a series of resolutions which were agreed to. The British Columbia Bill passed through committee. The Colonial Acts Confirmation Bill and the Partnership Law Amendment Bill were read a third time and passed.

From the United States we learn that after the battle of Gettysburg on the 3d inst., the Confederates withdrew from the field, and retreated during the night towards the Potomac, where General LEE has taken up a strong position, and has made preparations for another battle. A report had been received that Vicksburg surrendered unconditionally on the 4th inst., but it was believed to require confirmation. Port Hudson still held out, and the Confederates were operating to cut off General BANKS's supplies, and to attack New Orleans. The Washington Government had refused to allow Mr. STEPHENS, the Confederate Vice-President, to present in person to President LINCOLN important communications from President JEFFERSON DAVIS.

The Russian replies to the Notes of France, Austria, and England, on the Polish question were received by the three Powers on Friday. Russia accepts the principle of the six points, but instead of an armistice she proposes an amnesty for all who may lay down their arms, and instead of a conference of the eight Powers which were parties to the Treaty of Vienna, she proposes that the question should be settled by the three Powers concerned in the partition. These replies are said to have given dissatisfaction to all parties in Paris and Vienna, and the decision of the three Cabinets respecting them is looked for with great anxiety.

## Home News.

THE COURT.—The Queen and Royal family continue at Osborne. On Thursday week the Queen drove out accompanied by Princess Helena, Princess Beatrice, and Princess Leiningen. Prince Arthur arrived from Greenwich Park. Vice-Admiral Sir Michael Seymour, Commander-in-Chief at Portsmouth, and Major-General Lord William Paulet, commanding the South-Western District, arrived from Portsmouth, and had an interview with her Majesty. On Friday Prince Arthur left Osborne on a tour. On Sunday morning the Queen, Princess Helena, and Princess Louise, attended Divine Service at Osborne. The Rev. G. Prothero officiated. On Monday morning the Queen and Princess Helena drove out. In the afternoon the Prince and Princess of Wales, arrived on a visit to Her Majesty. On Tuesday the Judge-Advocate-General had an audience of the Queen. On Wednesday morning the Queen and Royal family walked and drove in the grounds. Earl De Grey and Ripon arrived and had an audience of her Majesty. In the afternoon the Queen drove out. The Prince and Princess of Wales, Princess Helena, and Princess Louise also drove out.

THE PRINCE AND PRINCESS OF WALES on Saturday drove in a pony phaeton to Cliefden, the seat of the Duchess Dowager of Sutherland. From Maidenhead the Royal party returned to Windsor by water, his Royal Highness and Captain Grey rowing and the Princess steering. Their Royal Highnesses landed at Albert Bridge, in the Home Park, where the carriages were in waiting to convey them to Frogmore. On Sunday morning the Prince and Princess attended Divine service in the parish church of Windsor. In the afternoon their Royal Highnesses paid a visit to the Dean of Windsor and the Hon. Mrs. Wellesley, at their residence in the Cloisters. On Monday morning the Prince and Princess arrived at Marlborough House from Frogmore. The Prince presided at a meeting of the Council of his Royal Highness, held at the office of the Duchy of Cornwall. In the afternoon their Royal Highnesses left London for the Isle of Wight on a visit to the Queen; travelling by railway to Southampton, and crossing thence in the Royal yacht Fairy to Osborne.

PRINCE ALFRED IN THE HEBRIDES.—Her Majesty's ship Racoon, having his Royal Highness on board, arrived at Stornoway on Thursday evening the 16th inst., and was welcomed by an enthusiastic display of flags and by bonfires at night. On the 17th the Prince spent the day at Lews Castle, the seat of Sir James Matheson, and paid a visit to the town in the afternoon. In the evening there was a general illumination and a ball at the Castle. On Saturday morning the 18th, the Racoon proceeded to the Isle of Skye. On Sunday after passing the Isle of Mull, she went up Loch Linnhe, and anchored above Coran Ferry.

PRINCE ARTHUR on Monday arrived at Ross, and descended the Wye by boat to Monmouth, where a carriage was in waiting to convey him to Raglan Castle. After a hurried visit his Royal Highness returned to Monmouth, where he passed the night. On Tuesday morning his Royal Highness visited the ruins of Monmouth Castle, the Church of St. Mary, and the other public buildings in the town. He then left for Tintern Abbey and Chepstow, where he passed the night. On Wednesday his Royal Highness proceeded to Cardiff and Llandaff.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury, in Downing Street.

PARLIAMENTARY MOVEMENTS.—The annual Ministerial Whitebait dinner is to take place at Greenwich to-day, and it is expected that the session will be prorogued on Tuesday. The death of Mr. Calcutt has caused a vacancy in the representation of Clare. Sir Colman O'Loghlen, and several others are mentioned as candidates for the vacant seat.

THE CHANNEL FLEET under the command of Rear-Admiral Dacres, left Great Yarmouth Roads on Sunday evening for the north.

THE RUSSIAN DESPATCH.—The following is the text of the Russian Reply to the English Despatch on the Government of Poland:—

"PRINCE GORTSCHAKOFF TO BARON BRUNNOW.

"St. Petersburg, July 1.

"M. le Baron —Lord Napier has been instructed to give me the annexed despatch from her Britannic Majesty's principal Secretary of State to read, and a copy of it. We have pleasure in learning that Lord Russell admits with us the barren nature of a prolonged controversy relative to the signification of the 1st article of the Treaty of Vienna; and that with us, likewise, he desires to place the question upon ground which should offer more opportunities for arriving at a practical solution. Before taking our stand upon this ground which we deem it useful to put in a clear light our positions respectively. The Imperial Cabinet admits the principle that every Power signing a treaty has the right to interpret the sense thereof from its own point of view, provided always that that interpretation remains within the limits of the meaning that is possible to be put upon it according to the text itself. In virtue of this principle the Imperial Cabinet does not dispute this right in any one of the eight Powers which have concurred in the general proceedings of Vienna of 1815. Experience has, it is true, demonstrated that the exercise of such right issues in no practical result. The experiments made already in 1831 have had no issue but to place on record the divergence of opinions. Nevertheless, this right exists. It extends as far as the limits which I have indicated above, and is incapable of obtaining a wider range but with the express consent of the contracting party most directly interested. Accordingly it depended upon the Imperial Cabinet to maintain the strict application of this principle, observing the line of action taken towards them in the course of the month of April last, with respect to events which occurred in the kingdom of Poland. If, in reply to that appeal, they went further into the subject, it was entirely owing to their perfect readiness to seek to conciliate, and in order to reply with courtesy to an appeal which bore a similar character. I will add that another cause was, that in the intentions which his Majesty the Emperor cherishes towards his Polish subjects there was no purpose which could dispose us to remove them from the light. This consideration was perfectly brought out by your Excellency when you informed the principal Secretary of her Britannic Majesty that the Imperial Cabinet was ready to enter upon an exchange of views upon the basis and within the limits of the treaties of 1815. That declaration we adhere to, and my despatch of this day will furnish the best proof of our perseverance in the same disposition. Having thus confirmed the genuine and sole character of the invitation which we have addressed to the English Cabinet, we will permit ourselves, after Lord Russell's example, to precede the observations which we have to communicate to his Excellency by some reflections in reply to the questions which he has entered upon and proposed at the outset. The principal Secretary of State of her Britannic Majesty says that the basis of government is in every case the confidence which it inspires in the governed, and that the ascendancy of the law over the arbitrary element must be the foundation for order and stability. *A priori*, we subscribe to these principles. We will only recall to mind that their indispensable corollary is respect for authority. The confidence with which a Government inspires the governed depends not only on the goodness of its intentions, but also on the conviction imparted that it has the power of carrying them into effect. If Lord Russell affirms that partial tumults, secret conspiracies, and the influence of cosmopolite strangers will not shake a Government based upon confidence and respect for the laws, he will also admit that neither confidence nor legal conduct would be possible were that Government to allow that a fraction of the people was vested with the right of seeking elsewhere than under the legitimately constituted authority, by armed rebellion supported by hostile or foreign parties, the well-being and the prosperity which they might declare that they could not realise without the aid of inspirations from abroad. Lord Russell places before us six articles which he considers to be of a nature to provide for the pacification of the kingdom of Poland. In communicating them to us her Britannic Majesty's Principal Secretary of State adopts in part the point of view put forward by my despatch of the 14th of April. This is an exchange of sentiments, and to that form of expression we have no objection to raise. I have clearly indicated in the despatch to which I refer the germs of practical conduct laid down by our august master, and the developments reserved in his Majesty's purpose to be given them when he should deem the proper time to be come. In comparing them with his own views, Lord Russell will convince himself that the greater part of the measures which he points to have already been decreed or prepared on the initiative of our august master. The Principal Secretary of State of her Britannic Majesty expresses the hope that the adoption of these measures would lead to the complete and permanent pacification of the Kingdom of Poland. We are unable to share this hope without certain reserves. Viewing the subject as we do, re-organization of the kingdom must in all cases be preceded by the re-establishment of order in the country. That result is dependent upon a condition to which we had called the attention of the Government of her Britannic Majesty, and which is not only unfulfilled, but is not even alluded to in the despatch of Lord Russell. We refer to the material assistance and moral encouragement obtained from abroad by the insurrectionists. We are not aware from what sources of information the Government of her Britannic Majesty have formed their judgment of the state of affairs in Poland; we must presume that they are not of impartial origin. Indeed, we find Lord Russell himself establishing a kind of similarity between the news published by the St. Petersburg journal from statements furnished under the control and upon the responsibility of the recognized agent of the Government, and the information of every kind which the London journals borrow, without discernment or any guarantee, from the most suspected publications of the Polish revolutionary press. The confidence inspired by these publications has more than once given cause for declarations which, in spite of the formal denials given to them by daily events, have contributed to mislead opinion in England. In this manner have been propagated, in relation to the brave Russian soldiers who fulfil in Poland a painful duty with devotion and self-denial, calumnies and outrages which all Russia has felt with profound indignation. If Lord Russell were exactly informed of what passes in the Kingdom of Poland, he would know, as we do, that wherever the armed rebellion has striven to acquire substance, to give itself a visible head, it has been crushed. The masses have kept aloof from it, the rural population evinces even hostility to it, because the disorders by which agitators live r in the industrial classes. The insurrection sustains itself alone by a terrorism unprecedented in history. The bands are recruited principally from elements foreign to the country. They gather together in the woods, and disperse at the first attack to reunite in other places. When they are too closely pressed they cross the frontier to re-enter the country at another point. Politically, it is a stage display intended to act upon Europe. The principal of action of the directing committees from without is to keep up agitation at all cost, in

order to give food for the declarations of the press, to abuse public opinion, and to harass the Government by furnishing an occasion and a pretext for a diplomatic intervention which should lead to military action. All the hope of the armed insurrection is in this, it is the object at which it has laboured from its rise. Lord Russell will admit that in this situation the measures which he recommends to us would with difficulty find application practically. The greater part, I repeat it, have already been decreed; the state of the country has, up to the present time, paralysed their execution. As long as that condition of things shall subsist the same causes will produce the same effects. The presence of armed bands, the terrorism of the central committee, and the appearance of an immediate pressure from without, would moreover take from these measures the fitness of time, the dignity, and the effectiveness, which we could promise ourselves in their spontaneous adoption. We will go further. Even when they could be put into execution with the full extension with which they are invested in the mind of the principal Secretary of State of her Britannic Majesty, they would have no prospect whatever of attaining the result which he has in view, that of pacifying the country. If Lord Russell follows attentively the productions of the press devoted to the Polish rebellion, he must be aware that the insurgents demand neither an amnesty, nor an autonomy, nor a representation either more or less complete. The absolute independence of the kingdom even would be for them only a means for arriving at the final object of their aspirations. This object is dominion over provinces where the immense majority are Russians by race or by religion; in a word, it is Poland extended to the two seas, which would inevitably bring about a claim to the Polish provinces belonging to other neighbouring powers. We desire to pronounce no judgment upon these aspirations. It suffices for us to prove that they exist, and that the Polish insurgents do not conceal them. The final result in which they would arrive cannot be doubtful. It would be a general conflagration, which the elements of disorder scattered through all countries would be brought to complicate, and which seek for an opportunity to subvert Europe. We have too much confidence in the Principal Secretary of State of her Britannic Majesty to allow that he can approve an object as irreconcileable with the peace and with the equilibrium of Europe, with which are bound up the interests of Great Britain, as they are with the maintenance of the treaties of 1815, the only basis and the only starting point of the overtures which he has just made to us. Lord Russell quotes a passage related by Lord Castlereagh of a conversation which that statesman had with the Emperor Alexander I. in 1815, and which mentions the project formed by this Sovereign to combine the Duchy of Warsaw 'with the Polish provinces anciently dismembered into a kingdom under the sovereignty of Russia, with an administration in accordance with the wishes of the people.' This idea was a passing inclination of the Emperor Alexander I., and one which that Sovereign did not accomplish when he was enabled to consider more maturely the interests of his kingdom. At all events, this question must be excluded even in an exchange of ideas made within the limits of the treaties of 1815. The only stipulation of these treaties which can have made it appear doubtful that the Emperor of Russia possessed the kingdom of Poland by the same title as that by which he holds his other possessions, the only one which might have made his rights dependent upon any condition whatever, and which explains the possibility of an exchange of ideas with foreign Courts upon the subject of his relations with that portion of his dominions, is the vague phrase of article 1, which says 'that the Emperor of Russia reserves it to himself to give to this State, enjoying a distinct administration, such an internal extension as he shall deem advisable;' and that article which says 'that the Poles, the respective subjects of the high contracting parties, shall obtain representation and national institutions, regulated in conformity with the mode of the political existence which each of the Governments to which they belong shall deem it expedient and proper to bestow upon them.' But the history of this period is not so remote that the remembrance can be lost of the position which Russia held at the termination of the European crisis which was brought to an end by the Treaty of Vienna. From that time we should not be far from the truth if we affirmed that the 1st article of the Treaty of Vienna was prepared by and directly emanated from his Majesty the Emperor Alexander I. The conversation with Lord Castlereagh cited by Lord Russell is an additional evidence of this fact. After saying this the Principal Secretary of State of her Britannic Majesty will dispense us from giving an answer to the proposed arrangement for a suspension of hostilities. It would not resist a serious examination of the conditions necessary for carrying it into effect. If it were to be defined between whom it was to be negotiated, of what nature the *status quo* was to be which it would guarantee, and who was to watch over its execution, it would readily be perceived that the provisions of public law could not be applied to a situation which would be a flagrant violation of such law. His Majesty the Emperor owes to his faithful army, which struggles for the maintenance of order, to the peaceable majority of the Poles who suffer from these deplorable agitations, and to Russia on whom they impose painful sacrifices, to take energetic measures to terminate them. Desirable as it may be speedily to place a term to the effusion of blood, this object can only be attained by the insurgents throwing down their arms and surrendering themselves to the clemency of the Emperor. Every other arrangement would be incompatible with the dignity of our august master, and with the sentiments of the Russian nation. It would, besides, have a result diametrically opposed to the one recommended by Lord Russell. As to the idea of a conference of the eight Powers who signed the Treaty of Vienna which should discuss the six points adopted as bases, it presents to us serious inconveniences, without our being able to see in it any advantage. If the measures in question are sufficient for the pacification of the country a conference would be without object. If the measures were to be submitted to ulterior deliberation, there would result a direct interference of foreign Powers in the most intimate details of the Administration, an interference that no great Power could admit, and which certainly England would not accept in her own affairs. Such an interference would be neither in the spirit nor in the letter of the treaties of Vienna on the base of which we have invited the Powers to a friendly exchange of ideas. It would result in removing still further the end which they propose to themselves by depriving the Government of its prestige and its authority, and by further increasing the pretensions and illusions of the Polish agitators. The course which was followed 1815 appears to us to indicate clearly enough the nature of the deliberations which may take place upon questions bearing, on the one side, on the general interest, and on the other upon administrative details of the exclusive dominion of the neighbouring Sovereign States. At that epoch a distinction was practically established between these two classes of interests; the first have been the object of separate negotiations on the part of the Courts of Russia, Austria, and Prussia, between which the traditions of history, a permanent contact, and an immediate neighbourhood created a strict solidarity. All the arrangements destined to regulate the interior administration and the mutual relations of the Polish territories placed, since the Congress of Vienna, under their respective dominions, have been laid down in treaties concluded directly between these three Courts on April 21 (May 3), 1815. They have been successively completed by a series of special conventions whenever circumstances have required it. The general principles mentioned in these treaties, and which could interest Europe, have alone been inserted in the Act of the Congress of Vienna signed on May 27 (June 9), by all the Powers invited to concur in it. At present it is not a question of these general principles but the administrative details and ulterior arrangements would furnish useful matter for discussion by the three Courts, in order to place the respective position of their Polish possessions, to which the stipulations of the treaties of 1815 extend, in harmony with present necessities and the progress of time. The Imperial Cabinet declares itself from the present time ready to enter into a similar understanding with the Cabinets of Vienna and Berlin. In any case the re establishment of order is an indispensable condition, which must precede any serious application of the measures destined for the pacification of the kingdom. This condition depends greatly upon the resolution of the Great Powers not to lend themselves to calculations which the instigators of the Polish insurrection found on or expect from an active intervention in aid of their exaggerated aspirations. Clear and categorical language on the part of those Powers would contribute to dissipate these illusions, and to thwart these calculations, which tend to prolong the disorder and excitement of public opinion. They would thus bring nearer the moment which we invoke—that in which the tranquillisation of passions and the return of material order will permit our august master to labour for the moral pacification of the country by putting into execution the measures which his Majesty maintains both in the germs already laid down, and in the development of them which he has allowed to be foreseen. Your Excellency will have the goodness to read and give a copy of this despatch to the principal Secretary of State of her Britannic Majesty.

"Receive, &c. "GORTSCHAKOFF."

# Foreign.

FRANCE.—The reply of Russia to the despatch of M. Drouyn de Lhuys on the affairs of Poland arrived in Paris on Friday morning and was immediately communicated by the Russian Ambassador to the Minister for Foreign Affairs. The *Moniteur* of Wednesday publishes the text of this reply of which the following is a summary:—

"The six points are dealt with in the same manner as in the reply to England—the armistice is rejected, and the conference only accepted in part. The note, moreover, contains a charge against the French Government of encouraging the revolutionary spirit, which can scarcely fail to give great offence in France. It insists on the moral solidarity of the Great Powers in presence of the evident action of the revolutionary element of all countries, concentrated at present in Poland, stating that this gives the question a European character:—"We are so much the more compelled to call the attention of the French Government to this fact, since one of the principal focuses of the agitation which exists is Paris itself. The Polish emigrants, profiting by their social relations, have organised a vast conspiracy, destined to mislead public opinion in France by a system of misrepresentation and calumny, and to keep alive disorder in the kingdom of Poland by assisting it with material, by the terror of a secret committee, and, above all, by propagating the conviction that active foreign intervention will take place in favour of the most senseless aspirations of the insurrection.' 'This influence,' it adds, 'is at present the principal source of the agitation which without it would be overtaken by the action of the law in presence of the indifference or opposition of the masses. Herein lies the moral cause which tends to prolong the present painful state of things, for the prompt cessation of which the French Government, like ourselves, appeals in the name of peace and humanity. We have pleasure in believing that the French Government will not permit its name to be abused for the advantage of the revolution in Poland and in Europe.' The note proceeds to say that experience has demonstrated that it is illusory to expect the moral pacification of Poland so long as the hope of foreign intervention continues. The maintenance of the military *status quo* is not possible between the legal Government, the regular army, and the secret committee served by bands of rebels lurking in the forests. Between such elements the only transaction possible is the submission of the insurgents. Respecting the conference of the eight Powers, it says that ideas communicated through the usual diplomatic channels will be considered in a conciliatory spirit. The proposed conference would extend its action far beyond the limits of mere interpretation, inasmuch as the action of such conference would constitute a direct interference, which is sanctioned neither by the spirit nor by the letter of the treaty of Vienna. Following the course marked out in 1815, Russia is ready to enter on a similar engagement at Vienna and Berlin. The note concludes by expressing the desire to arrive at an understanding by friendly explanations, and says that the differences of appreciation are not so great as to exclude the hope of arriving at a satisfactory solution."

All the French papers except the *Presse* consider that this reply is not satisfactory to the three Powers, and that the Cabinets are quite agreed in adhering to their programme. The *France* does not hesitate to avow that the reply of Russia is a miscalculation, and will be accepted as satisfactory neither at London, Vienna, nor Paris. It urges the public to await the resolution of the French Government, which will be prudent, but firm, and says that the country should place confidence in the loyal understanding of the Three Great Powers, which is irresistible, and not despair of seeing the Cabinet of St. Petersburg return to a path of conciliation. The *Pays* says:—

"Throughout France, in the departments as in Paris, in the saloons as in the workshops, there exists but one feeling—namely, approval of the steps taken by the Government of the Emperor, and a determination to sustain it in the firm and dignified attitude which it intends to assume in face of the singular pretensions of Russia. People have judged the Russian replies instinctively, and have found in them offensive expressions and fresh causes of irritation."

The *Patrie* says that the despatch is not an answer but an *acte d'accusation*, which must soon bring the diplomatic action of the Three Powers to a close. It also says that a good understanding exists between the Three Powers, who in a few days, without drawing up any fresh propositions, will refute the arguments put forward by Russia, and will again appeal to the conciliatory sentiments of the Russian Government. The *Nation* asserts that, in consequence of the declaration of Russia that the Polish insurrection is the work of foreign revolutionary agents, the National Committee at Warsaw has proposed at Paris and London that Prince Adam Czartoryski should be immediately proclaimed King of Poland. The *Temps* thus defines the crisis at which matters have arrived:—

"Russian diplomacy appears to have attained the object it had in view; it has done all that was requisite to gain time. It remains to be seen whether the Powers will allow themselves to be deceived by a stratagem so transparent. At the point matters have now reached the Powers have placed themselves in the alternative of having to present an ultimatum or to submit to a defeat."

It is asserted on good authority that the French Government has decided upon the terms of its reply to Prince Gortschakoff, and that it was to be sent to London and Vienna on Thursday. The English and Austrian Notes are expected in Paris. Prince Metternich, the Austrian Ambassador, had a long conference with M. Drouyn de Lhuys on Thursday, and the Empress left on the same morning for Vichy. It is asserted that the Emperor has summoned Admiral Bouët Willaumez to Vichy. His Majesty has gone into mourning for a fortnight on account of the death of the Duke of Hamilton. M. Gallifet, one of the officers from General Forey's army, delivered to his Majesty last week in the presence of the Imperial Guard, the flags taken by the French troops in Mexico. A small rifled cannon, taken at Puebla, has been sent to the Prince Imperial by the army of Mexico.

SPAIN.—The Ministerial journals express sympathy for the Confederate States of America. The Madrid papers state that a collision has taken place off Malaga between an English and a French frigate, both of which sunk, and only one English sailor and five French sailors were saved. It appears however that there is no truth in the statement. The report originated in a disaster to two vessels which came into collision 10 miles west of Malaga, but the crews saved themselves in the boats; the vessels were the Alice Hawthorn from Kustendje for Falmouth, and the French ship Nouveau Luming for Marseilles. The crews had reached Malaga in safety.

HAMBURGH.—The International Cattle Show was opened on Tuesday. A large concourse of foreigners was present.

DENMARK AND SWEDEN.—The King of Sweden, accompanied by his brothers the Princes Oscar and August, arrived on Wednesday morning at the Royal summer residence at Skodsborg, on a visit to the King of Denmark. His Majesty left again in the evening, and was escorted by the King of Denmark as far as Elsinore, where the embarcation took place. The Minister of the Interior has issued an order renewing the old ordinance relative to extraordinary billeting, it being considered possible that circumstances may render its enforcement necessary. The Minister of Marine has issued a circular urging captains of merchant vessels to enter the navy, in which service they will rank as lieutenants. News received at Copenhagen announces that in the Swedish State Council on Friday the question of placing the army and navy on a war footing was discussed.

THE DANISH DUCHIES.—The Assembly of the Schleswig Estates was opened on Friday. The Danish Royal Commissioner, as temporary President, refused to accept a vote by which the majority wished to exclude a member of the Danish party. 24 German deputies resigned their seats, and the Assembly was adjourned, as incompetent to come to a resolution. The Government has since issued orders for the election of Deputies to supply the places of the 24 members who resigned. The new members are to appear at the Diet by the 30th inst.

PRUSSIA.—The Crown Prince and Princess of Prussia arrived at Stralsund on Saturday in the Prussian ship-of-war Grille, and were received with great enthusiasm. Their Royal Highnesses had accepted an invitation to a grand entertainment, to be given on the 21st by the nobility of the province of Usedom.

AUSTRIA.—The Russian reply has been received at Vienna. Its great object appears to be to detach Austria from her alliance with France and England. It formally invites Austria to an exchange of ideas upon their common interests, and suggests that the Polish question only affects details of internal administration, and that the Three Powers concerned in the partition should consequently, as in 1815, deliberate at present together. The reply makes no allusion to the proposal of an armistice, but says that it regards a conference, in view of the general agreement concerning the basis of the negotiations, as unnecessary. The Austrian Government is said to be extremely dissatisfied with this reply, and immediately after its receipt placed itself in communication with the Cabinets of London and Paris, and also addressed a Note to the Austrian ambassadors at those Courts declaring that the good understanding between the three Courts formed a tie between them from which Austria will not separate herself, and that she will not negotiate separately with Russia, as demanded by the latter. Great irritation has also been produced in Vienna generally by the reply of Prince Gortschakoff, and M. de Balabine, the Russian Ambassador in that city has left suddenly for St. Petersburg for the purpose of obtaining fresh instructions. The Austrian budget was laid before the Reichsrath on Friday, and was favourably received. The ordinary expenses are 500,000,000 florins; the extraordinary 200,000,000. After adding the produce of the new poll

and sumptuary taxes, a deficit of 33,000,000 remains. The propositions for the reform of the German Federation are under the consideration of the Emperor, and will shortly be published.

ITALY.—The affair of the Aunis has been arranged. The Italian Government has surrendered the five brigand chiefs in such a manner that its dignity is entirely preserved. On Wednesday they were handed over on the frontier of Mont Cenis to the French authorities, by whom they will be guarded while the Italian Government makes an application for their extradition in the usual form, under the treaties between the two countries. The French and Italian Governments will institute a joint inquiry as to the manner in which the brigands got on board a French steamer. In the Chamber of Deputies on the 21st, the Income Tax Bill was passed by a majority of 130 against 70 votes.

SICILY.—Letters from Catania state that an eruption of Mount Etna had commenced. Black columns of smoke were ascending from the crater. This phenomenon is exceedingly rare.

RUSSIA.—An Imperial decree has been published which, in view of the present state of affairs, orders a fresh levy of troops in November next, at the rate of 10 men for every 1000 of the population; but the conscription in the governments of Wilna, Grodno, Kowno, Volhynia, Kiew, and Podolia has been postponed till 1864. A Russian corps is marching towards Libau, on the Baltic. The Emperor has again inspected the batteries, vessels of war, and the camp of the troops at Cronstadt; and will visit towards the end of this month Sweaborg, Revel, and other ports of the Baltic, and Finland.

POLAND.—Accounts from Warsaw state that General Berg has invested Russian military officers with administrative functions. Count Paslowski has been shot at Minsk, by order of General Mouravieff, who has confiscated the estates of 260 landowners in the palatinate of Wilna, and 210 in Kowno. The property of 62 others has been plundered. The National Government has established a complete judicial administration in Poland, Lithuania, and Ruthenia. The *Narodawa Gazette* reports the spread of the insurrection to the district of Kowno, occasioned by the entrance of an insurgent corps commanded by Trangott. The insurrection is assuming formidable dimensions in the palatinate of Lublin. Seven detachments, composed entirely of peasants, form part of the insurrectionary forces. On the 13th Taczanowski's insurgent cavalry, gained a victory over the Russians near Kutnow, in which a Russian colonel was killed. His detachment also had an engagement with the Russians on the 13th, near Kleczew, and another successful encounter near Powiedz on the 15th. The insurgent leader Wawer surprised and cut to pieces on the 14th inst., the Cossack detachments plundering Graiewo, in the palatinate of Augustowo, and again defeated them on the 15th and 16th in conjunction with Jasinski, in the palatinate of Plock. The mounted Chasseurs, commanded by Parczewski, defeated a body of Russian Hussars on the 10th inst. The insurgent leader Wiederzbicki defeated 800 Russians near Lubartow on the 15th, and Chrezepecki has gained a victory over 500 Russians near Sobota. Grabowski, commanding an excellently-equipped detachment of 800 men, beat the Russians on the 18th at Bialobrzezi. On the 10th the insurgents, under Wierzbicki, gained a victory over the Russians near Stroza. The railway has been interrupted in the vicinity of Dzwina.

THE DANUBIAN PRINCIPALITIES.—An engagement took place on the 15th inst. on the Bessarabian frontier between the Roumans and a detachment of 400 Polish insurgents who had arrived from Turkey. Both sides suffered severely, the Poles having 47 and the Roumans 63 killed and wounded, but the Poles continued their march towards the Polish frontier. They were however pursued, and on the 17th they surrendered to the Rouman troops near Costandinowika. By order of Prince Couza they are to be treated as military prisoners, and receive rations as if with a regiment. Milcowitz, the commander of the Poles, has been released upon parole.

CAPE OF GOOD HOPE.—The Cape Parliament, although it had been 64 days in Session, had done little beyond voting Estimates. A motion, declaring that the time had arrived for the establishment of a responsible Government had been discussed for three days. Most of the members of the greatest Parliamentary experience and influence were for the change, but it was known that a numerical majority would vote against it. The Government had maintained perfect neutrality in the matter. A vote of censure had been passed on the Colonial Engineer and the Chief Commissioner of Works for extravagance and inefficiency in constructing public works. The Government proposal for purchasing the Cape Town and Wellington Railway had been referred to a select committee. The proposed new railway schemes had gone no further than the Government being empowered to prepare surveys and estimates for the guidance of the Legislature next year. The Assembly had refused to authorise an expenditure of 4000*l.* per annum for a trigonometrical survey of the colony. The Gorgon had arrived with news from Zambesi. Dr. Livingstone was about to proceed to Great Lake Nyassa. At the University Mission on the River Shire, the Rev. Mr. Scudamore had died from exhaustion. There was a famine in the country, and animal food was so scarce that it was feared the missionaries would not be able to remain there. All was quiet on the frontier. In the Free States the movement in favour of re-annexation was extending. Negotiations were pending with the object of bringing Basutos also under British rule.

AUSTRALIA.—The marriage of the Prince of Wales was celebrated throughout Victoria on the 19th May with the liveliest demonstrations of loyalty, and the Melbourne journals are full of reports of the processions and illuminations. The weather was unfavourable, but neither rain nor wind was allowed to interfere with the rejoicings.

UNITED STATES.—The battle of Gettysburg was recommenced at daybreak on the 3d by an attack of the Confederates with muskets and artillery upon the extreme left of the Federals. Fighting continued for three hours, when the Confederates are said to have fallen back, yielding the whole of the battle field of that morning and the previous days. Simultaneously with the attack upon the left the Confederates attempted to flank the Federal right. This attempt was opposed by the Federal artillery on Cemetery Hill, but the Confederates pressed forward, and the Federal 12th and portions of the 11th corps became engaged. The fight took place in front of a densely wooded lofty mountain, from the summit of which the Confederate batteries could command the Federal position on Cemetery Hill. To gain this position General Hill's corps, which fought on the previous day upon the left, was brought round to the right to reinforce General Early. To resist this onslaught the reserve of the Federal artillery was brought into play, and shelled the face of the mountain, where the Confederates were supposed to be, from elevated points at the back of Cemetery Hill. This, combined with the vigorous resistance offered by the 11th corps, checked the Confederates, who had been advancing for an hour or two. At this juncture, at 11 A.M., two brigades of militia, which had arrived, were thrown as a reinforcement into the Federal right, which was being badly pressed, and this reinforcement determined the contest. The Confederates retired slowly, fighting at every step, until the afternoon, when they abandoned the field in this direction; but within an hour they were again massed in the Federal front and made an assault along the entire Federal line. They were driven back; and at five p.m., after twelve hours' fighting, the engagement terminated. At this time the Federals are said to have had nearly the entire battle-field in their possession. In this engagement it is stated that 50,000 men were put *hors de combat*, 20,000 Federals and 30,000 Confederates. It is estimated that the Federals captured from 12,000 to 20,000 prisoners. During the night General Lee withdrew his forces from the field; but according to General Meade's report it was not known whether it was a manœuvre, a retreat, or for other purposes. He withdrew from Gettysburg in a south-westerly direction towards the Potomac, but the river was so greatly swollen that it was impossible to build pontoon bridges across, and it was supposed that he would again give Meade battle somewhere between Hagerstown and the Potomac. The latest news to the 13th inst. says that General Lee still holds his position in front of Hagerstown and Williamsport, and has transferred all his wounded and his supplies across the Potomac; while he is intrenching his front. It is reported that he is receiving reinforcements and supplies of ammunition from Virginia, and that he intends to try his fortune in another battle with General Meade on or near the old battle field of Antietam. The Baltimore papers affirms that General Beauregard, with 40,000 men, has reinforced General Lee, whose own army is estimated at 50,000 men, with 250 pieces of artillery. The Richmond papers speak of a fight between Generals Meade and Lee, stating that the Confederate centre, under Hill, fell back, drawing the Federals from their works, when Generals Longstreet and Ewell advanced upon both Federal flanks and captured 4000 Federal prisoners. A despatch, purporting to come from Admiral Porter, has officially reported that Vicksburg unconditionally surrendered to the Federal forces on the 4th of July, but the absence of details from General Grant, as well as from newspaper correspondents, throws a degree of doubt on the genuineness of the despatch. Richmond papers, received up to the 8th, continue to express hopes that the besieged city will hold out. General Morgan, with 8000 men, has captured Corydon, Indiana, and is advancing to Jeffersonville, where there are large Federal supplies. Business is suspended at Indianapolis, and the Governor of Indiana has called out 50,000 men. General Bragg has crossed the Tennessee River and destroyed the bridge at Bridgeport. It is stated that he will make the Tennessee River his future line of defence. New Orleans advices to the 4th inst. state that Port Hudson still held out. The Confederates have made a cavalry raid in Springfield Landing, whence General Banks derives his supplies, and retreated after destroying the stores. The steamers passing between New Orleans and Port Hudson are fired upon from the banks of the river, and the steamer Berville has been disabled in this manner. The Confederate General Taylor at the head of 12,000 troops, is marching on New Orleans, for the defence of which an infantry brigade is being raised for 60 days' service. General Neal Dow and Staff have been captured outside the Federal lines near the city. The question of peace has been informally discussed in the Cabinet, and Mr. Seward has proposed that the President should revoke his Emancipation Proclamation, suspend the Confiscation Act, and proclaim a general amnesty. Messrs. Chase, Stanton, and Welles oppose the proposition, unless slavery be abolished. The *New York Herald* says that as the work of putting down the rebellion may be said to be substantially accomplished, the question arises what policy should be pursued to accomplish the speedy and harmonious restoration of the Union. It recommends President Lincoln to propose an amnesty to all the Southern people except the leaders of the rebellion, on condition of their returning to their allegiance within a specified time; and having thus restored internal peace, America would have an opportunity, upon sufficient provocations, for a final and decisive settlement with France and England upon American affairs. The Monroe doctrine, it says, will be certainly brought to bear in the next presidential election against Napoleon's Mexican intervention, and England's perfidious neutrality during the rebellion. Mr. Stephens, the Confederate Vice President and the Confederate commissioner Mr. Ould, have come down the James River in the Confederate gunboat Dragon under a flag of truce, requesting permission to present in person important communications from President Jefferson Davis to President Lincoln. A Cabinet Council was held in consequence in Washington, and it was decided that permission should not be granted to Mr. Stephens to come to Washington. Mr. Stephens was informed that the ordinary channels of communication would suffice to transmit any message to President Lincoln. The *New York Herald* asserts that Mr. Stephens's message was a proposition from President Davis for a separate Government for the North and South, but only one President. The Southerners, however, state that the visit was either to arrange for the exchange of prisoners or to inform the Federal Government that if private property were not respected the Confederates would retaliate. The alleged surrender of Vicksburg has caused great enthusiasm throughout the North. Popular assemblies in Washington waited upon President Lincoln to congratulate him. The President, General Halleck, and Messrs. Seward, and Stanton, made speeches. Mr. Seward said:—"He had been censured for his predictions that the rebellion would be ended in ninety days, and it would have been ended before it was begun if a counsel of *patriots* had been held. It had been protracted by the hopes held out of foreign interference. If foreign nations would keep their hands off, the Americans would settle all their own quarrels." A serious riot broke out in New York on the 13th, in consequence of the enforcement of the conscription. A mob of several thousand persons surrounded the buildings where the lots were drawn, destoyed the enrolment papers, and assaulted the officers and police, several of whom are reported to have been either killed or seriously injured. Troops and artillery had been ordered from Governor's Island to quell the disturbance.

MEXICO.—The official journals contain glowing accounts of the entrance of the French into Mexico. The population are asserted to have received the French troops as deliverers from tyranny and oppression, strewing their way with flowers, and shouting "Vive la France!" "Vive l'Empereur!" "Vive l'Impératrice!" Official information from Vera Cruz states that the province of Chiapa has pronounced in favour of the French intervention. A similar movement is reported to have taken place in other provinces.

## Parliament.

### HOUSE OF LORDS.

FRIDAY.—*Judicial Statistics.*—Earl GRANVILLE assented to the Marquis of CLANRICARDE's motion for an annua. return of judicial statistics from Ireland, similar to those for England and Wales, which after a few words from Lord BROUGHAM and the Earl of DONOUGHMORE was agreed to. The *Removal of Irish Poor Bill*, the *Growing Crops Seizure (Ireland) Bill*, the *Land Drainage (Provisional Orders) Bill*, and the *Marriages Registration (Ireland) Bill*, were read a third time and passed. The *Vaccination (Scotland) Bill*, the *India Stock Bill*, and the *Sydney Branch Mint Bill* were read a second time.

MONDAY.—*Canada.*—The Duke of ARGYLL presented a petition from Sheffield, praying Parliament to give facilities for establishing a ship canal from Lake Erie to the Ottawa River, for the purpose of conveying grain through Canada, instead of the United States. In reply to Lord LYVEDEN, Earl GRANVILLE expressed his regret that up to the present time the people of Canada had not provided any adequate force for their defence in case of war, and stated that it was impossible for this country to defend Canada effectively unless the colonists themselves aided in that object. On the motion for going into committee on the *Salmon Fisheries (Ireland) Bill*, Lord CHELMSFORD moved that the petitioners against the Bill be heard by counsel at the bar.—Lord STANLEY of ALDERLEY opposed the motion, which, after a long discussion, was negatived on a division, the numbers being—For the motion 19; against it, 66. The House then went into committee on the Bill, which, after a very long discussion and several divisions, passed through committee. The *Drainage and Improvement of Land (Ireland) Bill*, the *Alterations in Judges' Circuits Bill*, the *Greenwich Hospital (Provision for Widows) Bill*, the *Metropolitan Main Drainage Extension Bill*, the *Savings Banks Acts Amendment Bill*, the *Clergymen (Colonies) Bill*, and other Bills were read a third time and passed. The *Fortifications (Provision for Expenses) Bill*, the *Nuisances Removal Act* (1855) *Amendment Bill*, and the *Public Works and Fisheries Acts Amendment Bill* were read a second time.

TUESDAY.—The *Royal Assent* was given by Commission to the *Poor-law Board Continuance Bill*, *Loan Societies Acts Amendment Bill*, *Regimental Debts, &c., Bill*, *Growing Crops Seizure (Ireland) Bill*, *Volunteers Bill*, *Greenwich Hospital (Provision for Widows) Bill*, *Metropolitan Main Drainage*

*Extension Bill*, *Officers of Royal Naval Reserve Bill*, *Land Drainage (Provisional Orders) Bill*, *Local Government Supplemental (No. 2) Bill*, and numerous Railway and private Bills. The *Promissory Notes and Bills of Exchange Bill*, the *Misappropriation by Servants Bill*, the *India Stock Bill*, the *Sydney Branch Mint Bill*, and other Bills were read a third time and passed. On the motion for the consideration of the Commons' amendments to the *Alkali Works Regulation Bill*, the Earl of Derby moved that the House should reject the clause inserted by the Commons, imposing penalties upon the workmen for offences against the Act, as he contended that the master alone should be liable.—Lord Stanley of Alderley supported the amendment of the Commons, but on a division the numbers were—For disagreeing, 47; for agreeing, 24: Majority, 23. The rest of the Commons' amendments were then agreed to. The report on the *Salmon Fisheries (Ireland) Bill* having been brought up, Lord Wensleydale moved an amendment providing that no person should be deprived without compensation of the rights which he enjoyed under the Act of 1842.—Lord Stanley of Alderley opposed the motion, which was negatived on a division by 49 to 17. The report was then agreed to. Several Bills were advanced a stage.

Thursday.—The Earl of Malmesbury directed attention to the fatal *Tight Rope accident* at Aston Park, Birmingham, and suggested that it was the duty of Government to take immediate steps for preventing such dangerous exhibitions in future.—Earl Granville agreed that these exhibitions were of a disgraceful character, but believed that the expression of a strong opinion against them by Parliament and the press, would have a far more beneficial effect than any legislative enactment.—After a few words from the Earl of Shaftesbury the subject dropped. On the order for the third reading of the *Fisheries (Ireland) Bill*, Lord Cranworth moved as an amendment that the Bill be read a third time that day three months. He argued that the Bill would sweep away the immemorial rights of individuals without giving any compensation.—The Earl of Derby said that he could not be a party to the commission of an act of such gross injustice as confiscating private property, even for a public benefit.—The Bill was also opposed by Lords Kingsdown, Wensleydale, Chelmsford, and Wicklow, and supported by the Duke of Argyll, the Marquis of Clanricarde, and Lord Cloncurry. On a division, the third reading was carried by 40 to 25.—Lord Cranworth next moved as a proviso that nothing in the act should interfere with any rights held at the time of its passing, under royal grant or charter, and possessed from time immemorial. The motion was opposed by the Earl of Donoughmore, and negatived on a division, by 34 to 23. The Bill was then read a third time and passed. The *Fortifications (Provision for Expenses) Bill*, the *Public Works and Fisheries Act's Amendment Bill*, the *Vaccination (Scotland) Bill*, and the *Exhibition Medals Bill*, were read a third time and passed. Several other Bills were forwarded a stage.

Friday.—The *Poisoned Grain, &c., Prohibition Bill*, the *Removal of Prisoners (Scotland) Bill*, the *Charitable Uses Bill*, the *Union Relief Aid Acts Continuance Bill*, the *Companies' Clauses Bill*, and the *Expiring Laws Continuance Bill* passed through committee. The *Petty Sessions (Ireland) Bill*, the *Trustees (Scotland, Act Amendment Bill*, the *Navy Prize Agents Bill*, the *Nuisances Removal Act* (1855) *Amendment Bill*, the *Turnpike Trusts arrangements Bill*, the *Railways Clauses Bill*, the *Waterworks Clauses Bill* and the *Turnpike Acts Continuance, &c., Bill* were read a third time and passed. *Employment of Children.*—The Earl of Shaftesbury brought under the notice of the House the first report of the Children's Employment Commission.

[Left sitting.]

## HOUSE OF COMMONS.

Friday.—Mr. Hennessy moved an address to her Majesty in favour of *Open Competition* for the junior appointments in the civil service.—Mr. B. Cochrane said that, so far as he had been able to ascertain, competitive examination had been rather detrimental than otherwise to the public service, while the whole patronage of the civil service had been placed in the hands of three irresponsible commissioners.—The Chancellor of the Exchequer said that the principle of appointments to the civil service was based on elementary knowledge, but questions of a more recondite nature were introduced with the view of testing the qualifications of the candidates in other respects. The system of competitive examination was not retrograding, but progressing, though but slowly.—After some remarks by Mr. Maguire, Mr. Bentinck, Mr. Clay, and Mr. Milnes —Lord Palmerston said that the Government were responsible for the appointment of competent persons to offices, and that it was unreasonable to expect that they should open an office for the registration of the name of every man in the community who chose to offer himself for examination. The present system worked well, and no case had been made out for a change.—Mr. Henley thought that the experiment had worked fairly, and that it would be unwise to disturb it until more experience had been gained. — Mr. D. Griffith said that the system, so far from diminishing the patronage of the Government, had trebled it. On a division the motion was negatived by 118 to 37.—Mr. Bass next called attention to the nuisance caused by *Street Music in the Streets of the Metropolis*, and moved that it was expedient to reconsider the law on the subject at the earliest opportunity. Mr. Babbage had, on one occasion, been disturbed by no fewer than 182 bands, and Lord Canning had stated that a grave error had crept into an important despatch of his, because a band of German vagrants had suddenly commenced blasting and counter-blasting under his window. — Lord Fermoy defended the nuisance, and suggested that objection might as well be taken to the pale ale drays of Mr. Bass rumbling through the streets.—Mr. C. Bentinck said that the law was not sufficiently defined, and the magistrates were not agreed as to the interpretation of what was the "reasonable cause" which justified a person in handing a minstrel over to the police. Mr. Malins said that he was so seriously annoyed by itinerant musicians that he feared he would not be able to continue to reside in the metropolis.—Mr. Bruce could not agree that, under all circumstances, street music should be suppressed, because what displeased in one locality might be acceptable in another. He considered that the magistrates administered the law in a reasonable manner, and that there was no necessity for further legislation on the subject. The subject then dropped.—Lord Robert Cecil asked whether the Government were prepared to grant any compendetion to Captain Blakeley for loss occasioned to him by the of tention, without cause, of the vessel Gibraltar on suspicion as being in the service of the Confederate States. Captain Blakeley had sustained a loss of between 20,000*l.* and 30,000*l.*, and was an especial object of aversion to Mr Adams, the American Minister, in whose hands her Majesty's Government appeared to be mere tools.—The Chancellor of the Exchequer said that the Government had no information whatever that Captain Blakeley had sustained the wrong referred to; and repudiated the insinuation that they had been influenced by any pressure from the American Minister.—Colonel Dunne brought under notice the *Case of M. Chisholm Anstey*, late Attorney-General for Hong-Kong and asked what reparation had been made for the injustice done to him by the authorities in that colony.—Mr. C. Fortescue said that Mr. Anstey had been dismissed from office because of his violent temper, his disrespect towards the Governor of the colony, his want of discretion and judgment, and his general unfitness to be the legal adviser of the Governor. The matter had been investigated by the Colonial Secretary, who was of opinion that there was no ground whatever for reparation, and that it was impossible to reappoint Mr. Anstey. *The Spanish Protestants.*—Mr. G. Duff asked for papers relating to the case of Matamoros and the other Spanards lately sentenced to banishment on account of their religious opinions.—Sir G. Bowyer said that Matamoros and his companions were paid agents of a proselytising society at Malta, whilst Matamoros himself had formerly been a political prisoner, and was obliged to fly from his country. He then read letters contradicting a statement made by Lord Palmerston some months ago, to the effect that a Jesuit father, named Curci, in a sermon before the ex-King of Naples and his Court, in the church of Santo Spirito at Rome, had reproached his audience for encouraging brigandage.—Lord Palmerston said that the Queen of Spain had remitted the sentence upon Matamoros and his friends to banishment to some other country, and that there was reason to believe that a more tolerant feeling in religious matters was springing up in Spain. With regard to the statement made by Sir G. Bowyer, he had received a letter from Italy stating that the sermon of Father Curci drew a distinction between the true and the false emigration, fulminated against the second, and accused the first of pride and of little faith in God, from whom alone could come the restoration of the Bourbon dynasty.—Sir S. Northcote called attention to the proposals which have been made for the establishment of a *Route to Australia by way of Panama*; and asked the Government to state their intentions on the subject.—Mr. Peel said that the Suez route was preferable to that by Panama, and that the latter would not only be longer by some days, but more expensive. After a short discussion, in which Mr. Bentinck and Mr. Hankey took part, the House went into committee of supply.—Mr. Peel moved the vote of 700,000*l.* for *Post Office Packet Services.*—The motion led to considerable discussion, in the course of which the system of subsidising foreign Governments was censured especially by Sir S. Northcote, Mr. Ayrton, and Mr. Corry. — Eventually, Mr. Ayrton moved to reduce the vote by 3,110*l.*, the amount payable to the Belgian Government for the night Ostend packet service. On a division the motion was negatived by 75 to 26, and the vote—the last of supply—was agreed to amid the cheers of the committee. The *Union Relief Aid Acts Continuance Bill*, *the Companies Clauses Bill*, and the *Turnpike Trust Arrangements Bill* were read a third time and passed. The *Indemnity Bill* was read a second time.

Monday.—The *London City Traffic Regulation Bill* was read a third time and passed. *Dover Mail Contracts.*—The Chancellor of the Exchequer stated that as the contract for conveying the Dover and Calais and Ostend mails had not yet been concluded, and would not probably be in the hands of members for some days to come, it was not intended to submit any vote to the House for that service during the present session. *Poland.*—The orders of the day having, on the motion of Lord Palmerston, been postponed for the purpose, Mr. Horsman moved the following resolution:—"That the arrangements made with regard to Poland by the treaty of Vienna have failed to secure the good government of Poland or the peace of Europe; and any further attempt to replace Poland under the conditions of that treaty must cause calamities to Poland, and embarrassment and danger to Europe." He commenced by saying that Poland had been diplomatised to death, and that the diplomatic documents which had been published had placed England in a condition of embarrassment from which it would be impossible to escape. He then proceeded to sketch the history of the Polish question from the partition of 1772 to the Treaty of Vienna and the revolution of 1831. Russia, he said, had set aside the obligations of 1815, and had fastened herself on Poland like a garotter. The Czar was King of Poland by the treaty of Vienna, but he denied this tenure, and maintained that he was king by the right of conquest alone. Poland was the ward of Europe, and England was her legal guardian. This being the state of affairs, and Russia having repudiated her treaty obligations, there was yet a way to free Poland without bloodshed. If Austria would give up Galicia, and Prussia would relinquish Posen, the kingdom of Poland might be established without a blow. If Austria refused, and England faltered beside her, it was impossible to predict what course France would take. It should, however, be remembered that the Polish question was one that united all parties in that country, and that the Emperor of the French had sounded the Italian Government, and had been offered an army of 60,000 men. This being the state of affairs, he appealed to the noble lord at the head of the Government to use his influence to bring about the restoration of an independent Poland as the great political event of the day.—The Chancellor of the Exchequer said that Mr. Horsman's speech wanted coherence, and meant either war or nothing. He did not agree that Russia had no claim on the sympathy of Europe. On the contrary, he could not forget that the present Emperor had succeeded to an inheritance of triumphant wrong, and that in the face of enormous difficulties he had carried out great and beneficient changes for the welfare and happiness of his people. The language held by Russia in 1863, as contrasted with that of 1831, was favourable to the prospect of a peaceful solution of the difficulty; for while in 1831 she held that the European Powers had no right whatever to interfere, she now did not dispute their right to exchange views with reference to the interpretation to be put upon the treaty of Vienna. Earl Russell in his despatch of the 10th April had not indulged in any menace of war, but had exercised a wise reservation of discretion, for who could answer that the flame of revolution would be confined to Poland? The assurance of the noble lord had reference merely to the present limits of the question, and was not intended in any way to fetter the action of England should the state of circumstances undergo a change. He thought therefore that the motion was not one which it would be desirable to adopt, because, although intended for the benefit of Poland, the renunciation and abandonment of the treaty of Vienna would deprive the friendly Powers of the only basis on which they could interfere on her behalf.—Mr. Hennessy said that the general feeling of sympathy entertained throughout the United Kingdom for the cause of Poland, prevailed also in Austria. The revolution had a claim upon the consideration of Europe in the fact that it was essentially national, consisting of all classes of the people —from the peasants in the villages, and the artizans in the towns, to the students, the ecclesiastics, and the nobles in the great towns and cities. The nationality of the movement was also proved by the fact that to the taxes levied by the National Government and cheerfully paid by the people the success of the movement was due.—Mr. Kinglake said that this mysterious National Government was one of the great difficulties which surrounded the question. The House ought, however, to reflect upon the relations of Russia and Poland. In 1815 Russia held Poland, which had joined the French invasion, by the right of conquest; but the Emperor nevertheless granted most liberal terms to them. With regard to the course adopted by her Majesty's Government his own opinion was that they could not have pursued any other. The people of England would not have been satisfied if Ministers had shown perfect torpor; but as England was not bound by guarantees they had acted on their rights under the treaty of Vienna, and it was going a great deal too far to say that, in consulting the interests of the country and the state of Europe, they had discredited England by declining the terrible alternative of war.—Mr. Peacocke said the Government had placed the country in a position from which it could not advance with profit or recede with honour.—Mr. Newdegate approved the policy of the Government —After some remarks by Sir F. Goldsmid, Lord H. Vane and Mr. S. Beaumont, Lord Palmerston said the speech of Mr. Horsman was scarcely consistent with his motion. According to his views, England must either remain passive or insist upon the re-establishment of the kingdom of Poland within its ancient limits. If all the Powers of Europe were prepared to compel Russia to restore everything that had been taken from Poland, he could understand that it might be thought desirable to combine for that object; but it was quite clear that that could not be accomplished by persuasion, but that force would have to be resorted to. The single ground upon which we were entitled as a matter of international right to speak to Russia on the question of Poland was the treaty of Vienna, which authorised us to require that certain arrangements should be carried out, and the moment we began to go beyond that, we should be told that we had no business to make demands which could only be enforced by war, and successful war. The Powers of Europe were not prepared to take that course; and if we declared the treaty of Vienna at an end as regarded Poland, we should divest ourselves of the right to remonstrate with Russia in reference to her treatment of the Poles. How the Poles were to be saved by such a course as that he was at a loss to know. He believed that, instead of being an advantage to them, it would only be handing them over, hand and foot, to be dealt with at the pleasure of General Mouravieff, and other Russian agents of a similar character.—Mr. Horsman then withdrew the motion, observing that to press it before her Majesty's Government had sent an answer to the reply of Russia might be productive of inconvenience to the public service. The Lords' Amendments to the *Telegraph Bill* were considered. The *Railway and Waterwork Clauses Bills*, the *Turnpike Acts Continuance Bill*, the *Petty Sessions (Ireland) Bill*, and the *Expiring Laws Continuance Bill*, were read a third time and passed. Other bills were advanced a stage.

Tuesday.—The *Consolidated Fund (Appropriation) Bill* was read a second time. The *Promissory Notes and Bills of Exchange Bill* was read a third time and passed. The *Augmentation of Benefices Bill* was committed, and progress made to the 31st clause. *Ionian Islands.*—In answer to Lord John Manners, Lord Palmerston said that the Ionian Islands were still under the protectorate of England, and that it was not the intention of the Government to invite the Porte to attend the conference on their proposed cession to Greece.—Mr. B. Cochrane asked whether the recent events at Athens were likely to delay the arrival of the new King.—Lord Palmerston said that he saw no reason for any delay. *Proxy Papers Stamps.*—Mr. D. Griffith moved that the present amount of stamp duty on proxy voting papers being excessive in amount in comparison with other stamps, and not involving considerations of importance to the revenue, might conveniently be reduced to one penny.—The motion was seconded by Mr. Vance, and supported by Mr Whalley.—The Chancellor of the Exchequer said that the Government had no evidence of any extensive desire for a reduction of the stamp duty on proxies; but if representations were made to that effect, he would be happy to give them consideration. The motion was then withdrawn. *The Civil War in China.*—Colonel Sykes called attention to the despatch of Admiral Kuper, reporting the death of Lieut. Tinling, of her Majesty's ship Encounter, at the siege of Showshing, and moved for papers. — Lord C. Paget said that as Lieut. Tinling had gone beyond the radius of 30 miles, and engaged in operations against the Taepings, which British officers had been strictly ordered not to do, he would not be justified in saying that he had died in the service of his country. After some remarks by Mr. White and Mr. Cochrane, the motion was withdrawn. *Case of Mr. Bewicke.*—Mr. Berkeley moved a resolution that the grievances suffered by Mr. Bewicke, as detailed in his petition of 28th April, were such as entitled him to the consideration of her Majesty's Government. The petitioner had been sentenced to four years' penal servitude on a charge of firing a pistol and resisting some sheriffs' officers in the execution of their duty, but subsequently received the royal pardon on its being clearly proved that his conviction was the result of a conspiracy. On returning to his home, however, he found that the Commissioners of Greenwich Hospital, who were trustees of the estate, had entered, seized his furniture, and sold it for less than one-third of its value as the property of a felon.—Sir G. Grey contended that there was no failure of justice as far as regarded the evidence upon the trial, which was perfectly satisfactory both to the judge and jury; and when the witnesses upon whose evidence Mr. Bewicke was convicted were tried and found guilty of perjury, that gentleman was pardoned; and as it was impossible to restore his property—which had been sold by the Commissioners of Greenwich Hospital in the interval—they paid him the sum it had realised.—Sir F. Kelly said that the state of the law was disgracefully unjust, and that it was the bounden duty of the Government to take the case into their consideration, and to do as they did in the case of Mr. Barber, and grant a sum of money as compensation to Mr. Bewicke. The Solicitor-General acknowledged that the petitioner had been badly used, though no fault attached to the law, or those who administered it; but he did not see how an exception could be made in this instance, or why it should be put upon a different footing from that of other cases where there had been a possible miscarriage of justice. On a division the motion was negatived by 22 to 20.—Mr. B. Cochrane directed attention to the present state of our *Relations with Japan*; and contended that her Majesty's Government were not justified in resorting to compulsion. He moved for the production of papers relating to the existing causes of dispute. — Mr. Liddell seconded the motion.—Mr. Layard defended the policy of the Government, and said that the treaty with Japan was drawn up under instructions from Lord Malmesbury. He regretted that we had been obliged to take a firm course with the Japanese Government, but he could not see what other alternative we had. The Tycoon and his Ministers had been treated with the greatest leniency and consideration, and all that England had done was to demand that the lives and property of British merchants should be protected.—Mr. Cochrane withdrew his motion.—*Mail Contracts.*—Mr. Peel moved that the contract for the conveyance of the Cape of Good Hope mails with the Union Company; the contract for the conveyance of the Brazil and River Plate mails with the Royal Mail Company; and the contract for the conveyance of the American mails with the Galway Mail Company, be approved.—Mr. Ayrton hoped that the course now adopted would not be drawn into a precedent, as the motion ought to have been submitted in a committee of the whole House.—The Chancellor of the Exchequer said that the object was, that persons who had embarked large sums of money to enable them to carry out their contracts should have the guarantee of a positive vote of the House. — Mr. Dillwyn asked whether Galway was to be the port of departure, and not merely a port of call.—Mr. Peel said the new Galway contract was precisely similar to the old, and that the port of departure was to be Galway. The motion was then agreed to.—In committee of the whole House, Mr. Peel obtained leave to bring in a Bill to reduce the *Duty on Rum* used in the manufacture of paint, and for other purposes.—Mr. Whalley moved the second reading of the *Petty Offences Bill*.—Mr. Bruce opposed the Bill, and

moved to defer the second reading for two months. The Bill was withdrawn.—Mr. WHALLEY likewise withdrew the *Railway Bills (No. 2) Bill*. The *Indemnity Bill* was read a third time and passed.

WEDNESDAY.—On the order for going into Committee upon the *Statute Law Revision Bill*, the SOLICITOR-GENERAL adverted to the inquiries which the subject had undergone, to the commissions that had been appointed, their cost to the country, and their results, one of which had been the Act of 1861, comprehending a revision of the statutes from the year 1771. The present Bill carried the expurgatory process backwards from the 20th of Henry III. (1236) to the 1st of James II. (1685), removing from the Statute Book all Acts passed during that interval which had expired or were obsolete, or had been impliedly or virtually repealed. The Bill, which would very materially reduce the bulk of the Statute Book, must be accepted by the House, in a great measure, on the ground of confidence in the gentlemen to whom its preparation had been intrusted, and in the eminent persons who had approved the work.—Sir F. KELLY expressed his entire approval of the Bill, but said that, unless expurgation was accompanied by consolidation, the Statute Book would still be encumbered with evils and beset with anomalies. He mentioned, among other examples, the law of real property, which was to be collected from 600 or 800 enactments. The task of consolidation would, he said, present no insurmountable difficulties.—Mr. HENNESSY moved to defer the committee till that day week.—Sir H. CAIRNS recommended the House to go into Committee.—Mr. HENLEY thought it would be wiser to let the Bill lie over till next Session.—After some remarks by Mr. CLAY and Mr. AYRTON, the amendment was withdrawn, and the House went into Committee upon the Bill, which was passed without amendment, after a long discussion.—The *British Columbia Boundaries Bill* was read a second time, on the understanding that the debate upon its principle should be deferred till the next stage. The *Colonial Acts Confirmation Bill*, the *Consolidated Fund Appropriation Bill*, the *Alteration in Judges Circuit Bill*, and the *Superannuation (Union Officers) Bill* passed through Committee. The *Land Tax Commissioners' Names Bill* was read a third time and passed. The House then went again into Committee upon the *Augmentation of Benefices Bill*, the details of which continued under discussion till the hour of adjournment arrived.

THURSDAY.—*Denmark and Germany.*—Mr. S. FITZGERALD called attention to the existing relations between the Germanic Confederation and the Government of Denmark, and wished to know what was now the policy of her Majesty's Government in the matter. He urged that it was the duty of this country to maintain the integrity and independence of the Danish monarchy.—Lord PALMERSTON said the subject was a very complicated one, but he entirely agreed that it was the policy of England to maintain the integrity and independence of Denmark. Her Majesty's Government held that Holstein was a member of the Germanic Confederation; that the latter had the same control over the affairs of Holstein as over those of the other members of the Confederation, and that any arrangement made by the King of Denmark opposed to this fundamental rule was not justifiable; but with regard to Schleswig, that the Germanic Confederation had no more right to prescribe rules for it than for England, Russia, or any other separate and independent State. If the Confederation should act precipitately, and a war broke out, it must extend farther, and involve many other States in its disastrous consequences. As to the policy of her Majesty's Government, they were desirous that the rights of Denmark should be maintained, and if any attempt were made to overthrow those rights that it should be resisted. Every effort, however, would be made to induce the parties to include all disputes within the limits of diplomatic intercourse. *Foreign Enlistment Act.*—Mr. COBDEN brought under notice the seizures of American merchants by the Oreto, *alias* the Florida, the Alabama, and the Virginia. These vessels had been built in this country contrary to the provisions of the Foreign Enlistment Act, and he was apprehensive if the building of similar vessels were allowed to go on in British ports the consequence would inevitably be a rupture between England and the Federal States.—Mr. LAIRD denied that the Alabama had left Liverpool in an improper manner, as the owner had a builder's certificate, and had a right to do what he pleased with her.—Lord PALMERSTON said he looked upon the two hostile parties in America as belligerents, and therefore entitled to all the rights and privileges of belligerents; whereas Mr. Cobden regarded them not as belligerents but as a legitimate Government endeavouring to put down a rebellion against its authority. According to the doctrine of the United States Government itself a neutral Power might supply a belligerent with ships, arms, ammunition, or anything else; and neither the American Government nor Mr. Cobden could say that her Majesty's Ministers had omitted to do anything that by law they could do in the matter. *Ionian Islands.*—In answer to Lord J. MANNERS, Lord PALMERSTON said that as the Sultan had not been a party to the establishment of the Protectorate of the Ionian Islands, he would not be invited to send a representative to the conference. A treaty would be signed by the great Powers before the meeting of the Ionian Parliament. The *Appropriation Bill* was then read a third time and passed. The *Augmentation of Benefices Bill*, the *Rum Duty Bill*, the *Clergymen (Colonies) Bill*, and other measures passed through committee. The *Colonial Acts Confirmation Bill* was read a third time and passed.—Sir G. GREY stated, in reply to Mr WARNER, that it was intended next session to bring in a Bill founded on the report of the Commissioners on *Transportation and Penal Servitude*.—In reply to Mr W. E. FORSTER, Mr. C. FORTESCUE said that the Government of *New Zealand*, apprehending the renewal of war, had applied for another European regiment and three regiments of Sikhs, and her Majesty's Government had decided that the request ought to be complied with. *Railway Communication.*—Mr. BLAKE drew attention to the recent murderous outrage in a carriage on the London and North-Western Railway, and inquired whether the Government intended taking any steps to compel railway companies to provide means for enabling passengers to obtain assistance in the event of outrage or accident.—Mr. M. GIBSON replied that the Board of Trade were not prepared to introduce any measure on the subject. They had frequently sent circulars to railway companies, calling their attention to the necessity of having means of communication between guards and drivers, but not between passengers and guards.—The House then went into committee, when Sir C. WOOD made his annual statement in reference to *Indian Finance*, showing as the general result that the total revenue was 45,105,000*l*., and the expenditure 43,823,000*l*., leaving a surplus of 1,280,000*l*.; and he was happy to add that, from the latest accounts, there was reason to believe that the result of the current year's operation would be even more satisfactory. He then entered into minute details relating to the construction of railways, the cultivation of cotton, the Indian debt, the strength of the army, &c., and in reference to the latter stated that, whereas in the year 1858-59 the military expenditure was 25,500,000*l*., it had been reduced in 1862-63 to 14,500,000*l*. In conclusion he submitted a series of resolutions declaring the revenue and expenditure of the year 1861-62 in all the Indian territories, and the interest on the registered debt. After a discussion in which Colonel SYKES, Mr. GREGSON, Mr. VANSITTART, Mr. BAZLEY and Mr. AYRTON, took part, the resolutions were agreed to. On the order for going into Committee on the *British Columbia Boundaries Bill*.—Mr. C. FORTESCUE explained the objects of the measure, and gave details of the progress of the colony, and the character of its population. He said that he looked forward to the time when British Columbia would be most valuable to this country.—Mr. WYLD complained of defects in the administration of the colony; and of the influence exercised by the Hudson's Bay Company. He said that the people were not adequately represented, in consequence of which the population of the two colonies of Vancouver's Island and British Columbia had decreased.—Mr. AYTOUN objected to the Bill on the grounds that it conferred enormous powers upon the Crown, and that it formed part of a great scheme of the Colonial Secretary for an intercolonial railway, which was a wild project that would affect the interests of the taxpayers of this country.—The House then went into Committee upon the Bill, the clauses of which were agreed to, except the fourth, which was negatived. The *Partnership Law Amendment Bill* was read a third time and passed.

FRIDAY.—The *Rum Duty Bill*, the *Augmentation of Benefices Bill*, the *Alteration in Judges' Circuits Bill*, and the *Clergymen (Colonies) Bill* were read a third time and passed. The *British Columbia Boundaries Bill*, as amended, was considered and agreed to, and was then read a third time and passed. The *Statutes Law Revision Bill*, upon some opposition from Mr. HENNESSY, was read a third time and passed.—The *Exhibition Medals Bill* was read a second time; and the standing orders having been suspended for the purpose, it passed through committee. The Lords' amendments to the *Piers and Harbours Orders Confirmation Bill* were agreed to.

[Left sitting.]

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 92¾ to 93 for Money, and at 92⅞ for Account; Reduced and New Three per Cents., 93 to 93⅛; Bank Stock, 239 to 237½; India Stock, 225; Ditto Five per Cent. Stock, 108¼ to 108; Ditto Four per Cent. Debentures, 1864, 100; Ditto Bonds, 19s. pm.; Exchequer Bills, March, 3s. to 1s. pm.; Ditto June, 3s. to 4s. pm.—FOREIGN: Brazilian, 1839 and 1859, 101; Ditto 1852, '58, '60, 93; Buenos Ayres, for Acct., 93; Dutch Two and a Half per Cents., 65 ex div.; Egyptian, 103⅛; Ditto, second issue, 103; Greek, for Acct., 34 to 33¾; Ditto Coupons, 15⅝ to ⅛; Italian, for Acct., 70¼ to ⅜ ex div.; Ditto Scrip, ½ pm. ex div.; Ditto Maremmana Railway, 79 ex div.; New Granada, 15⅜; Portuguese, 1853, for Acct., 47¾ ex div.; Ditto 1856, '57, '59, '60, and 1862, for Acct., 48 ex div.; Russian, 1862, 93 to 92¾; Sardinian, for Acct., 90½; Spanish New Deferred, for Acct., 48 ex div.; Ditto Passive, for Acct., 32⅛ to ⅜; Ditto Certificates, 12¼; Turkish, 1854, for Acct., 94 to 93; Ditto 1858, for Acct., 70 to ¾; Ditto 1862, for Acct., 67⅛ to ¼ ex div.; Ditto Guaranteed, 103⅜; Venezuela, 1862, for Acct., 56½.

## Gazette of the Week.

FRIDAY: *July* 17—BANKRUPTS.—J. APPLETON, Warrington, Lancashire, File Smith—J. ANDREW, Tavistock, Devonshire, Miller—W. B. APPLEYARD, Foot's Cray, Kent, Grocer—G. BARNES, Bedford, Grocer—J. BROWN, jun., Wombridge, Shropshire, Licensed Victualler—J. BEARDSHAW, Ecclesfield Common, Yorkshire, Publican—T. S. BULL, Clifton, Gloucestershire, Mason—J. M. BAILLIE and G. DUYSTER, Great St. Helen's, Bishopsgate Street Within, Merchants—J. BIRKETT, Liverpool, Commission Agent—H. BAKEWELL, late of Birmingham, Land and Estate Agent—J. BATE, Birmingham, Provision Dealer—E. CALLOW, St Paul's Grove, Ball's Pond, late Tobacconist—D. CHURCH, Buxton Street, Spitalfields, Chemist—W. CLARKE, Liverpool, Out of Business—W. H. COLLARD, Brighton, Painter—G. H. ST. CLAIR, Birmingham, Auctioneer—S. COX, Cheltenham, Teacher of Music—E. COULTAS, Birmingham, Provision Dealer—R. CADDICK, Westbromwich, Staffordshire, Attorney—W. COX, Spencer Place, Brixton Road, Carpenter—B. DAVIES, Liverpool, Provision Dealer—J. DARRALL, Deepfields, Staffordshire, Grocer—E. EDWARDS, Willenhall, Staffordshire, Beer House Keeper—W. EVANS, Finchfield, Staffordshire, Gun Lock Filer—J. EARNSHAW, Stannington, Yorkshire, Farmer—J. EDMUNDS, Hanley Castle, Worcestershire, Shoemaker—M. A. FULLER, Swansea, late Licensed Victualler—S. FOWLER, jun., Stockcross, Berkshire, Farmer—FRANCES EDITH GARDENER (not FRANCIS EDITH GARDENER, as previously advertised), Berkeley Street, Bryanstone Square—J. GEE, Lincoln, Sewing Machine Manufacturer—F. J. GUNN, Newnham, Gloucestershire, Chemist and Druggist—G. GARNER, Kingston, Surrey, Fancy Stationer—J. HADLEY, Amelia Place, Walworth, Baker—J. S. HAYS, Gravel Lane, Southwark, Licensed Victualler—J. HORROCKS, Bradford, Yorkshire, Picker Maker—P. HAMILTON, Ripon, Yorkshire, Farmer—E. HAMILTON, Ripon, Yorkshire, Farmer—J. HIGINBOTHAM, Fernilee, Derbyshire, Ironmonger—M. HENDERSON, Old Shildon, Durham, Grocer—R. JAMES, late of Gravesend, Victualler—E. JAMES, Upton, Berkshire, Blacksmith—JOHN JACKSON, Oakham, Rutlandshire, Innkeeper—ELIJAH LAWTON, Burslem, Staffordshire, Cabinetmaker—THOMAS LAYCOCK, Brotherton, Yorkshire, Cattle Dealer—GEORGE EDWIN LAMBERT, Bilston, Staffordshire, Chain Manufacturer—H. LEGGETT, Gorleston, Suffolk, Fisherman—J. LEESON, Braunston, Northamptonshire, Builder—W. LAWRENCE, Beaufort Street, Chelsea, Commercial Traveller—J. H. MASKELL, Liverpool Street, King's Cross, Ale Merchant—J. MEREDITH, Salisbury Street, Portman Market, Late Dairyman—P. R. MILLER, Birmingham, Commission Agent—C. MERSON, Manchester, Boot and Shoe Maker—J. G. MORRIS, Northampton, Commercial Traveller—W. H. MELLOR, Liverpool, Brewer—R. MARSHALL, Middlesborough, Yorkshire, Shoe Dealer—G. MUNTON, Hanbury, Staffordshire, Coachman—E. T. NEWMAN, Bognor, Sussex, Plumber—G. ONSLOW, Willow Place, Mile End, Commercial Traveller—J. PHILLIPS, City Road, Fur Rug Manufacturer—J. E. PARTRIDGE, Westbromwich, Staffordshire, Brass Founder—J. PITT, jun., Worcester, Cooper—R. G. ROSE, Fenchurch St., City, Ship Store Merchant—W. RICHARDSON, late of Shalstone, Buckinghamshire, Farmer—T. REA, Liverpool, Dealer in Old Metal—J. R. ROBERTS, Stoney Street, Southwark, Licensed Victualler—J. B. SHELLEY, Bilston, Staffordshire, Chemist and Druggist—E. SHELLEY, Wolverhampton, Commission Agent—E. S. SHELLEY, Bilston, Staffordshire, Chemist and Druggist—G. SHACKLETON, Leeds, Corn Dealer—S. SMITH, Everton, Lancashire, Grocer—T. STARKEY, Manchester, Boot and Shoe Maker—J. SERGEANT, Liverpool, Timber Dealer—W. SCOTT, Millhouse, Cumberland, Blacksmith—S. TOWNSEND, Leicester, Dealer in Wood—T. TUNE, Winterton, Lincolnshire, Carrier—H. TAYLER, Lupus Street, Belgravia, late Merchant—E. A. WALLER, Cambridge Terrace, Bayswater, Commission Agent—W. WARD, Birmingham, Licensed Victualler—J. M. WESTLAKE, Brisworthy, Devonshire, Corn Dealer—W. H. WRIGHT, Chudleigh, Devonshire, Maltster—G. B. C. WATSON, Liverpool Road, Cheshire, Surgeon.

SCOTCH SEQUESTRATIONS.—J. GRAHAM, Auchtermuchty, Merchant—J. M'INTYRE, Bridge of Turk and Callender, Innkeeper—T. ROME, Batrich, Dumfriesshire, Farmer—P. M'CULLOCH, Glasgow, General Dealer—R. FERRIE, Edinburgh, Drysalter.

TUESDAY: *July* 21.—BANKRUPTS.—S. ANDREWS, Southampton, Fish Dealer—R. ARNOLD, Yardley, Worcestershire, Farmer—S. AKERS, Birmingham, late Butcher—M. ANSCOMBE, St. Ann's Street, Westminster, late Domestic Servant—J. ANDREW, Tavistock, Devonshire, Miller—C. W. ARROWSMITH, Bishopwearmouth, Durham, Timber Merchant's Clerk—E. ADDY, Sheffield, Traveller—R. BALL, Hastings, Sussex, Wheelwright—S. BIRKS, Fenton, Staffordshire, Butcher—R. BOYLE, Newington Place, Stoke Newington, late Licensed Victualler—R. BOND, late of Poulton le-Fylde, Lancashire, Butcher—T. B. BOOTH, Stourbridge, Worcestershire, Baker—J. BENSON, Dalton, Yorkshire, Fine Drawer—A. P. BERENS, Liverpool, Commission Merchant—G. BAILEY, Moulton, Lincolnshire, Ketchup Manufacturer—F. C. BEARD, Welbeck Street, Cavendish Square, Surgeon—C. BOUFIELD, Barnard Castle, Durham, Saddler—W. COX, Northampton, late Furniture Dealer—A. CROSSLAND, Kingston-upon-Hull, Licensed Victualler—J. CLARK, Victoria Terrace, Rotherhithe, Baker—CHARLES COOPER, Hurstpierpoint, Sussex, Colonel on Retired List Indian Military Forces—P. CRONIN, Bermondsey Street, Southwark, Tailor—THOMAS DEASON, Furness, Lancashire, Blacksmith—J. DOTTERILL, Alverstoke, Hampshire, Brewer—D. DAVIS, Preston-on-Stour, Gloucestershire, Baker—G. W. DAY, Southampton, Bricklayer—C. DILLON, Liverpool, Tallow Chandler—D. DANIELL, Portsea, Waterman—W. ELLIOT, South Shields, Grocer—T. EVANS, Bewdley, Worcestershire, Haulier—J. B. FRANKLAND, Brunswick Street, Euston Road, Oilman—P. J. FARRELL, Birmingham, Machinist—G. FEARNLEY, Camden Row, Camden Town, Coffee House Keeper—J. B. FAIRBAIRN, Rochester, Kent, Seedsman—G. GURNEY, Rotherfield Street, Islington—S. GOODAKER, sen., Birmingham, Baker—J. GUTTERY, Kidderminster, Cooper—T. HOLT, Little Bolton, Lancashire, Draper—J. HUDSON, Bradford, Yorkshire, Cloth Manufacturer—F. HAYWOOD, Blackpool, Lancashire, General Dealer—J. HOLMES, Ashby-de-la-Zouch, late Publican—J. HARDMAN, Dudley, Grocer—C. HILLS, West Street, Gravesend, Farmer—THOMAS JONES, Sculton, Yorkshire, Dealer in Potatoes—ALFRED JENKINS, Newent, Gloucestershire, Horse Dealer—JOHN JENNINGS, Bradford, Journeyman Butcher—JOHN JOHNSON, Brick Lane, Spitalfields, Carpenter—J. KIRBY, Longsight, near Manchester, Beerseller—B. KEIGHLEY, Leeds, Provision Dealer—G. S. KEYMER (sued as J. KEYMER), Claremont Cottages, Holloway, Wine Gauger—C. C. KIERNAN (sued as C. KIERNAN), Brook Street, Bond Street—J. KING, Leeds, Watchmaker—G. L. KELLY, Bootle, Lancashire, Clerk—E. LOWMAN, Portland, Dorsetshire, Housekeeper—J. W. Lambert, Clifton Street, Shepherd's Bush, Journeyman Bricklayer—J. LOCK, Bexhill, Sussex, Farm Labourer—C. LUCAS, Leckhampton, Gloucestershire, Stonemason—F. LEWIS, West Bromwich, Staffordshire, Surgeon—W. S. MOAKES, Ivy Cottage, Battersea, Horse Dealer—F. M'VEA, Ulverston, Lancashire, Printer—W. C. NEAL, Wythall, Worcestershire, late Bedstead Manufacturer—W. OTT, York Place, Walworth Road, Plumber—C. OLSEN, St. George Street, St. George's-in-the-East, Lodging-house Keeper—T. PERKINS, Shutford, Oxfordshire, Baker—J. PEAR, Northumberland Street, New Road, Wig Maker—W. A. PHILLIPS, Wilderness Row, Clerkenwell, Pewterer—E. PLACE, Scruton, Yorkshire, Carpenter—J. W. ROBERTS, West London Cricket Ground, Brompton, Beer Dealer—T. RAWLINS, Wellington St., Deptford, Journeyman Baker—H. REYNOLDS, Neath, Glamorganshire, Colliery Proprietor—E. W. RUSSELL, Lambeth Walk, Beerhouse Manager—J. SEWELL, Nicholas Lane, City, Iron Merchant—A. SPENCER, Hare Street, Bethnal Green, Clothier—C. SWAN, Watling Street, City, Commission Agent—W. SIMMONDS, Stourbridge, Worcestershire, Pork Butcher—J. B. SMITH, Grosvenor Road, Stockwell, Teacher of Music—E. SLIP, Bath, Oil and Colourman—J. W. SHIELDS, Ipswich, Accountant—W. THORLEY, Kingston-upon-Hull, Innkeeper—J. TOMLIN, Sheerness, Kent, late Publican—A. E. WOOD, Redcliffe Road, West Brompton, Lodging House Keeper—C. WOODWARD, Redcliffe Road, West Brompton, Schoolmistress—E. WEBB, Southampton, Innkeeper—T. WILLIAMS, late of Bedwelty, Monmouthshire.

## Metropolis and its Vicinity.

THE WIMBLEDON PRIZE MEETING.—On Saturday the meeting was brought to a close by a review and sham fight of the principal Volunteer corps of London and the neighbourhood. The Duke of Cambridge conducted the operations in person, and the Volunteers were formed in two divisions—one under the command of Lord Frederick Paulett, the other under Sir J. Yorke Scarlett. The concluding ceremony took place on Monday at the Crystal Palace, when the Duke of Cambridge presented the prizes to the respective winners, who passed across the stage at the foot of the Handel Orchestra, as their names were called by Lord Elcho. About 12,000 persons witnessed the ceremony.

THE MAIN DRAINAGE SCHEME.—On Saturday a large number of the members of both Houses of Parliament in compliance with an invitation for the Metropolitan Board of Works, paid a visit of inspection to the outfalls of the great drainage scheme. They embarked at the Speaker's stairs on board a steamer, and proceeded to Crossness Point, in the Erith marshes, where Mr. Bazalgette, the engineer of the Board, explained to them the system adopted for discharging the southern drainage into the Thames. They then crossed the river to Barking, where in like manner he explained the scheme of the northern outfalls. The works on that side are so far completed, that the contents of the high level sewer were for the first time allowed to run through the outfall direct into the river. Mr. Bazalgette assured the company that in the course of the next twelve months the whole sewers of the southern drainage will be in full operation, and that in about two years and a half the northern embankment will be completed, and the drainage of London perfected. On Monday and Tuesday the members of the Metropolitan vestries paid a similar visit to the outfalls.

THE POLES AT WOOLWICH.—In consequence of the difficulty of obtaining a passage to join their countrymen in arms, the Poles who were brought to Woolwich about three weeks since by a Swedish Government steamer, were on Friday disbanded by direction of the London Polish Committee, each man receiving a sum of 3*l*. 10*s*. The majority of the men have disposed of their uniforms and kits, but others will, it is stated, proceed to Paris to join a body of Poles in France who are preparing to leave for the seat of war.

ACCIDENT TO SIR CRESSWELL CRESSWELL.—On Friday afternoon as Sir Cresswell Cresswell was riding up Constitution Hill after the rising of the Divorce Court, the horses of Lord Aveland's carriage, which had taken fright at the breaking of the axletree, ran against his horse and threw him off, seriously injuring one of his knees, and fracturing the kneecap. He was immediately taken to St. George's Hospital, and was subsequently removed to his own residence, where he has been constantly attended by two eminent surgeons. In consequence of this accident the remainder of the causes standing for hearing in the Court of Probate and Divorce cannot be tried before Michaelmas Term, as all the other judges are on circuit, and the Chief Registrar of the court can only dispose of ordinary matters, and has no power of hearing causes.

ILLNESS OF LORD CLYDE.—The *Morning Post* of Tuesday published a circumstantial account of the death and services of Lord Clyde, for which there was no foundation beyond the fact that his lordship has been for some time very ill at Government House, Chatham, where he is staying with his friend General Eyre. It appears that he is slightly better, and though not out of danger, is expected to recover from almost the first attack his robust constitution has had to sustain. In the course of Tuesday a telegram was received from her Majesty at Osborne, making kind inquiries after the health of the gallant veteran.

THE PUBLIC HEALTH.—The Registrar-General's weekly return states that the deaths in London in the week ending July 18 were 1364. The average number in the corresponding weeks of the ten years 1853-62, corrected for increase of population, was 1223. The present return is therefore 141 above the average. This increase is caused chiefly by diarrhœa, from which there were 148 deaths, in addition to 15 from summer cholera. During the week the births of 930 boys and 880 girls, in all 1810 children, were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1808.

# Provincial.

BIRMINGHAM.—Another fatal accident, arising from the exhibitions which Blondin made popular, took place on Tuesday, at the Foresters' fête, at Aston Park. Among the other attractions of the day, a woman calling herself Madame Geneive, the female Blondin, but who was the wife of Edward Powell, of King Street, Southwark, undertook to perform sundry feats on a tight rope for the sum of 15*l*. After passing once or twice along the rope she put a sack over her head, but had not taken many steps when the rope broke, and she fell heavily to the ground at her husband's feet quite dead, concussion of the brain or injury to the spine being the cause of death. She was six months advanced in pregnancy, and is said to have had some presentiment that the rope was not safe. It belonged to her husband, and appears to have been rotten internally, though there were no external signs of decay. This shocking occurrence produced so little effect on the spectators, who included many thousand persons from Birmingham and the black country, that the fête was continued, terminating with a display of fireworks at midnight; the Foresters' Committee, who had the conduct of the proceedings, having determined at a meeting held after the accident "to go on with the programme, omitting the dangerous parts." The scene of this disaster is that very Aston Park which her Majesty opened as a "People's Park" five years ago.

BLETCHLEY.—A shocking circumstance, resembling in some respects the fatal attack upon one of the French judges in a French railway last year, took place on Saturday in a train of the London and North-Western Railway. Three passengers, Mr. Michael Lyons, National School teacher, of Bampark, Ballymascallan, near Dundalk, Mr. Peter M'Lean, and Mr. James Worland, of Plaistow, Essex, entered a second class carriage, in which there was previously a lady 80 years of age. After the train had reached the Bletchley station on its way to London, Mr. Lyons, who had been for some time talking to himself in incoherent sentences, stabbed Mr. Worland on the forehead and inflicted several other wounds both upon him and on Mr. M'Lean, who only saved their lives by a severe struggle with him during the whole journey of 50 miles from Bletchley to London. As the train stopped at no intermediate stations there was no opportunity of giving an alarm, and there was of course no possibility of communicating with either guard or driver. The lady who was in the compartment fainted away during the struggle, but on recovering assisted in binding up the wounds of the passengers. The assailant was taken into custody, and removed for examination before the Buckinghamshire magistrates. He is an Irish schoolmaster and was found to be in possession of a prize medal awarded to him by the Society of Arts. He stated that he had come from Dundalk to be examined as a schoolmaster at the forthcoming examination at Burlington House. It appears that he is insane, and has only lately been discharged from an asylum.

# Law.

NORTHERN CIRCUIT: YORK.—*The Leeds Murder.*—John Gair, aged 53, was indicted for the wilful murder of Alice Gair, at Leeds, on the 3d of April last. It appeared that the prisoner had formerly been in the army, and was a pensioner, living in Somerset Street, where he carried on the business of a joiner. The deceased woman lived with him as his wife, and was a dealer in clothes. By their united means they had a very comfortable home, and the prisoner seems to have been much attached to her. She was, however, of drunken habits, and had frequently been seen in the company of a man named Davis, a fishmonger, of whom the prisoner became jealous, and this feeling led to frequent quarrels between them, the deceased threatening to leave him, and break up their home. On the 2d of April he went to draw his pension, and while he was away the deceased removed some of her furniture, in order to leave him, and was afterwards seen drinking with Davis. The prisoner was greatly exasperated, and charged the deceased with being too intimate with Davis, which she did not deny. On that night a man and woman called M'Manus, who slept in the same room with them, were roused from sleep by hearing a strange noise, and on starting up found that the prisoner had cut deceased's throat with a razor, and was in the act of committing suicide, having inflicted a serious wound on his own throat, and partially divided the windpipe. They were, however, in time to seize the razor, and so prevented him from fully accomplishing his purpose. For the defence it was urged that the prisoner had been so greatly aggravated that he was not master of himself nor of his actions. The jury, after an absence of three quarters of an hour, returned a verdict of *Guilty*, but strongly recommended the prisoner to mercy on account of the extreme aggravation he had received from the deceased. Mr. Justice Mellor said that their recommendation would be forwarded to the proper quarter, and, assuming the black cap, proceeded, in a very impressive manner, to pass on the prisoner sentence of *Death*, shortly referring to the crime he had been found guilty of. The prisoner who is a respectable looking, middle aged man, with a pleasing and kindly expression of face, was removed in a fainting state.

MIDDLESEX SESSIONS.—*The Riots at Cremorne.*—The trial of the six prisoners charged with riot at the Cremorne Gardens, on the Oaks night, after occupying the Court for several days, was concluded on Saturday, when the jury found all six prisoners guilty. The Assistant Judge sentenced four of them—*Herbert, Burkitt, Saville, and Shawcross* to pay a fine of 50*l*. each, and to find two sureties in 500*l*. to keep the peace for the next 12 months. *M'Dougall* was fined 20*l*., and *Mott*, 10*l*., the first to find two sureties in 100*l*., and the other to enter into his own recognisances to keep the peace for the same period.

BIRTHS.—On the 12th inst, at 9, Upper Grosvenor Street, the Lady JULIA WOMBWELL, of a daughter—20th inst, at Felixstowe, the Lady ROBERT MONTAGU, of a daughter prematurely—17th inst, in Eaton Place, Lady CAIRNS, of a son—18th inst, in Eaton Square, Lady SCOTT, of a daughter.

MARRIAGES.—On the 16th inst, at Grace Dieu Manor, Leicestershire, the Right Hon. Lord EDWARD GEORGE FITZALAN HOWARD, to WINIFRED MARY, third daughter of A. L. M. PHILLIPPS DE LISLE, Esq., of Garendon Park and Grace Dieu Manor—21st inst, at St. James's Church, Piccadilly, the Hon. LLOYD, eldest son of Lord Kenyon, to FANNY MARY KATHARINE, only child of JOHN RALPH ORMSBY GORE, Esq., M.P.—16th, at St. James's, Paddington, SAMUEL SANDARS, only son of George Sandars, Esq., of Chesterford Park, Essex, and 27 Sussex Square, London, to ELIZABETH MARIA, eldest daughter of FRANCIS WILLIAM RUSSELL, Esq., M.P., of 9, Lancaster Gate, Upper Hyde Park Gardens—21st inst, at St. George's, Bloomsbury, the Rev. FRANCIS JICKLING, rector of Beeston St. Lawrence, and incumbent of Ashmanhaugh, Norfolk, to ROSE ELIZABETH, younger daughter of Major-General JAMES ALEXANDER, C.B.

DEATHS.—On the 15th inst, at 37, Grosvenor Place, JULIET FANNY, youngest daughter of Lieutenant-General Sir RICHARD AIREY, K.C.B., Quartermaster-General, aged 17—15th inst, at Swanage, ANN CHARLOTTE, second daughter of Mr. and Lady LOUISA WARDLAW RAMSAY—11th inst, at Ryde, Isle of Wight, ANNA MARIA MARGARET, eldest daughter of the late Sir G. W. DENYS, Bart—16th inst, at Park Place, Regent's Park, Major-General FARRER, aged 86—16th inst, at Blendon Cottage, Bexley, MARY, widow of the Very Rev. ROBERT HODGSON, dean of Carlisle, aged 83—17th inst, at 69, Eccleston Square, MARY, widow of RICHARD CRAWSHAY, Esq., of Ottershaw Park, Surrey, aged 84—13th inst, at Dale Castle, Pembrokeshire, CHARLOTTE CAROLINE, wife of JOHN P. A. LLOYD PHILIPPS, Esq., aged 61—18th inst, at the School House, Great Berkhampstead, the Rev. J. R. CRAWFORD, M.A., aged 46—15th inst, the Rev. ROBERT BURNABY, incumbent of St. George's, Leicester, aged 67.

# Markets.

## COVENT GARDEN, July 25.

Supplies of both fruit and vegetables are still unusually well kept up. Peaches and Nectarines are plentiful. Greengages and other Plums are now included in foreign imports, and of Grapes and Pine Apples the supply is sufficient for the demand. Foreign Pine Apples are also plentiful. Strawberries are abundant. Cherries of foreign growth, of which there are large arrivals, are fetching from 5s. to 6s. 6d per basket, weighing about 25 lbs. each. Of Melons, both English and foreign, there is a good supply, and Oranges are also plentiful. New Potatoes realise from 8s. to 11s. per cwt. Cut flowers chiefly consist of Orchids, Pelargoniums, Violets, Stocks, Calceolarias, Mignonette, and Roses.

### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 3s to 6s | Currants, p. punnet, 6d to 9d |
| Grapes, per lb., 2s to 5s | Gooseberries, do., 6d to 9d |
| Strawberries, p. lb., 6d to 1s | Lemons, per 100, 12s to 16s |
| Apples, per doz., 9d to 1s 6d | Oranges, per box, 30s to 40s |
| Figs, per doz., 6s to 8s | — per 100, 5s to 10s |
| Peaches, per doz., 10s to 20s | Nuts, small, per bush, 14s to 18s |
| Nectarines, do., 6s to 10s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 10s |

### VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Peas (shelled), p. qt., 1s to 1s 6d | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | French Beans, per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 98s | Shallots (new), p. bunch, 6d |
| ,, Flukes, do., 100s to 120s | Rhubarb, p. bundle, 2d to 4d |
| ,, Rocks, do., 60s to 80s | Garlic (new), per bunch, 6d |
| ,, Cups, do., 75s to 85s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 6d to 8d | Endive, p. score, 1s to 2s |
| Carrots, do., 4d to 6d | Horse Radish, p. bun. 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 3s 6d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |

### HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, July 23.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 80s | Clover, old | 100s to | 120s |
| Superior do. | 80 | 90 | New Clover | — | — |
| Inferior do. | 54 | 70 | Do. second cut | 95 | 115 |
| New do. | 70 | 84 | Straw | 26 | 31 |
| Rowen | — | — | | | |

HARVEY & EASTON.

CUMBERLAND MARKET, THURSDAY, July 23.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 90s to | 100s | Inferior Clover | 90s to | 105s |
| Inferior do. | 70 | 80 | New do. | 84 | 100 |
| New do. | 70 | 84 | Straw | 36 | 43 |
| Superior Clover | 115 | 126 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, July 23.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 84s to | 90s | Prime Clover | 118s to | 126s |
| Inferior do. | 70 | 80 | Inferior do. | 106 | 115 |
| Prime New Hay | 78 | 84 | New do. | 98 | 105 |
| Inferior | 60 | 70 | Inferior do. | 90 | 96 |
| Straw | 28 | 34 | Prime 2d cut | 110 | 120 |

BRITISH WOOLS.—LONDON, July 23.

We have to report a firm market, and full rates for South Down and half-bred wool, as the prices paid in all parts of the country the last few days have been the extreme rates, except Yorkshire and Lincolnshire, which have receded to some extent from the superiority over all other countries they had previously attained to. Farmers ought indeed to be well satisfied at the prices they have obtained, the great bulk of wool having been sold at prices varying from 1s. 9d. to 1s. 9½d., and parcels of extra quality have freely realised 1s. 10d. to 1s. 11d. The clip has been disposed of by them in an unprecedentedly short time, and has, we believe, in the majority of instances, proved very deficient both in number and weight of fleeces, and with the present large consumption of wool we see no prospect of lower prices, but rather of higher ones, as the present clip becomes worked up.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| South-down Hoggets | 1 9½ to | 1 10½ | Leicest. Wethers | 1 8 to | 1 9 |
| Half-bred ditto | 1 10 — | 1 11 | Ditto Hoggs | 1 9 — | 1 10 |
| Down Ewes | 1 8½ — | 1 9½ | Combing Skins | 1 4 — | 1 8 |
| Kent Fleeces | 1 9 — | 1 10 | Flannel Wool | 1 6 — | 1 8 |
| | | | Blanket ditto | — | |

COLONIAL WOOL SALES.—The July—August series, which will comprise nearly 102,000 bales, commenced on the 16th, and (as might be expected from the quantity to be offered) realised the full rates of the last series. It is however expected that as the sales progress higher prices will be obtained.

### METROPOLITAN CATTLE MARKET.

MONDAY, July 20.

We have a large supply of Beasts, and consequently a slow trade. The choicest descriptions, however, are sold about the same as on Thursday last. Inferior kinds met with a dull sale at rather lower rates, and some remain unsold. Sheep and Lambs are not quite so plentiful as on Monday last, yet the number is large. Trade is rather more active at a slight advance on that day's quotations. There is no alteration in the Calf trade. From Germany and Holland there are 1820 Beasts, 9530 Sheep, and 319 Calves, from France 33 Calves; from Scotland, 100 Beasts; from Ireland, 100 Beasts and 400 Lambs; from Norfolk and Suffolk, 100 Beasts; and 2300 from the Northern and Midland counties.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to | 4 10 | Best Long-wools | — | |
| Best Short-horns | 4 4 — | 4 8 | Do. Shorn | 4 6 — | 4 10 |
| 2d quality Beasts | 3 0 — | 3 10 | Ewes & 2d quality | — | |
| Best Downs and Half-breds | — | | Do. Shorn | 4 2 — | 4 4 |
| Do. Shorn | 5 0 — | 5 2 | Lambs | 5 8 — | 6 4 |
| | | | Calves | 3 0 — | 4 6 |
| | | | Pigs | 3 0 — | 4 0 |

Beasts, 4930; Sheep & Lambs, 30,110; Calves, 402; Pigs, 370.

THURSDAY, July 23.

The number of Beasts is large and the trade dull. Monday's quotations are realised for choice qualities; but several inferior ones remain unsold. We are not quite so largely supplied with Sheep and Lambs as of late. Trade is consequently rather more active, but prices cannot be quoted higher on the average. Good Calves are in demand. Our foreign supply consists of 600 Beasts, 2790 Sheep, and 540 Calves; Milch Cows, 75.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to | 4 10 | Best Long-wools | — | |
| Best Short-horns | 4 4 — | 4 8 | Do. Shorn | 4 6 — | 4 10 |
| 2d quality Beasts | 3 0 — | 3 8 | Ewes & 2d quality | — | |
| Best Downs and Half-breds | — | | Do. Shorn | 4 2 — | 4 4 |
| Do. Shorn | 5 0 — | 5 2 | Lambs | 5 4 — | 6 4 |
| | | | Calves | 3 10 — | 5 0 |
| | | | Pigs | 3 6 — | 4 0 |

Beasts, 1845; Sheep & Lambs, 11,580; Calves, 713; Pigs, 190.

### MARK LANE.—MONDAY, July 20.

With the exception of a slight shower or two on Saturday, the weather since Friday has been fine. The supply of English Wheat to this morning's market was very small, and sold readily at the prices of this day se'nnight. For foreign there was a fair consumptive demand, at about late rates. Barley, Beans, and Peas were unaltered in value. The Oat trade was quiet; prices unaltered. In Flour there was very little doing.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 46—56 | Red ..... | 42—50 |
| — — fine selected runs .. ditto | 47—54 | Red ..... | 42—52 |
| — — Talavera ..... | 48—60 | | |
| — Norfolk ..... | — | Red ..... | — |
| — Foreign ..... | 35—62 | | |
| BARLEY, grind. & dis. ,23s to 30s .. Chev. | 34—38 | Malting .. | 31—34 |
| — Foreign .. grinding and distilling | 25—29 | Malting .. | 28—32 |
| OATS, Essex and Suffolk ..... | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—2- | Feed ..... | 21—23 |
| — Irish ..... Potato | — | Feed ..... | — |
| — Foreign ..... Poland and Brew | 18—22 | Feed ..... | 17—22 |
| RYE ..... | 35—37 | Foreign .. | — |
| RYE-MEAL, Foreign ..... | — | | |
| BEANS, Mazagan .... 32s to 33s .. Tick | 32—34 | Harrow .. | 32—34 |
| — Pigeon .... 37s to 40s .. Winds. | — | Longpod | — |
| — Foreign ..... Small | 40—46 | Egyptian | 32—34 |
| PEAS, White, Essex and Kent .. Boilers | 35—37 | Suffolk .. | 37—40 |
| — Maple .... 42s to 43s .... Grey | 36—37 | Foreign .. | 30—38 |
| MAIZE ..... White | — | Yellow .. | — |
| FLOUR, best marked delivered .. per sack | 42— | | |
| — 2d do ..... ditto | 32—47 | Country .. | 32—47 |
| — Foreign ..... per barrel | 20—28 | Per sack | 34—48 |

FRIDAY, July 24.

During the past week we have had some change in the weather, the temperature was lower than of late. So far the rain has done much good to the roots and vegetables, but we hear of a few cases where grain crops have been beaten down. Our country markets have shown more firmness, and in some of them a small advance on Wheat prices has been established, but upon the whole the trade has not been very active. Spring corn remains unaltered in value, Oats being a slow sale. Flour is neglected, and only the best sweet parcels command fully late rates. Paris, July 23. Business in Wheat and Flour is very limited, buyers holding off till the results of the harvest are known better. The present stock of Flour is estimated at 7770 cwts.; the six marks for delivery this month are quoted equal to 37s. 9d. per 280 lbs. Old Wheat declined about 9d. per 280 lbs.; a few new samples have been sold at prices equal to 48s. to 49s. 6d. per 480 lbs. The arrivals of English and Foreign Grain during the week have been small, but fair of American Flour. There was a moderate attendance at this morning's market, and English Wheat was inquired for at the extreme prices of Monday. For Foreign there was also a fair consumptive demand at the quotations of that day. Spring Corn of all descriptions met a good inquiry at full rates.

ARRIVALS THIS WEEK.

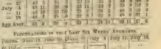
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 670 qrs. | — qrs. | 110 qrs. | 290 sks. |
| Irish .... | — | — | 850 | — ,, |
| Foreign .. | 10,990 ,, | 1640 | 7110 ,, | 110 ,, 13,040 brls |

LIVERPOOL, July 21.—We have had a fair attendance of millers and dealers at our Corn Exchange to-day, and Wheat has met a good consumptive inquiry at the extreme rates current on Friday last. Flour attracted more attention at previous prices. Indian Corn was offered sparingly, and holders endeavoured to make an advance of 3d per quarter, which was not complied with, and only a small business resulted. Oats and Oatmeal steady. Beans are held for an improvement of 3d. per qr. Peas and Barley maintain late rates. The market closed steady, but not so brisk as it opened.

FRIDAY, July 24.—Wheat in good consumptive demand at 1d. per cental advance. Flour: good sweet barrels scarce, and bring 6d. per barrel more money. Indian Corn steady demand. Egyptian Beans rather dearer. Oats and Oatmeal unchanged. Egyptian Wheat firm.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| June 13 .. | 46s 11d | 32s 4d | 22s 10d | 34s 10d | 39s 8d | 36s 11d |
| — 20 | 46 9 | 30 7 | 23 0 | 31 8 | 40 4 | 37 10 |
| — 27 | 46 5 | 31 2 | 22 10 | 35 9 | 39 8 | 36 2 |
| July 4 | 46 11 | 30 9 | 23 11 | 32 2 | 39 6 | 38 0 |
| — 11 | 46 10 | 30 10 | 23 6 | 34 5 | 40 2 | 39 0 |
| — 18 | 46 7 | 28 10 | 22 6 | 32 9 | 40 0 | 37 1 |
| Agg. Aver. | 46 9 | 30 9 | 23 1 | 33 10 | 39 11 | 37 6 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




HOPS.—BOROUGH MARKET, FRIDAY, July 24.

Messrs. Pattenden & Smith report a fair trade doing in the better descriptions of both English and foreign Hops at firm rates. The accounts from part of Weald of Kent and Sussex come rather more favourable, but the badly blighted districts are past recovery. Mould continues to spread in part of Mid and East Kent.

NEWGATE.—July 24.

Best Fresh Butter .. .. 18s. per dozen lbs.
Second do. do. .. .. 11s. "
Pork, 4s. 0d. to 4s. 4d. per 8 lbs.

COAL MARKET.—July 22.

Bates's West Hartley, 14s.; Davison's West Hartley, 15s.; Tanfield Moor, 13s.; Tanfield Moor Butes, 13s.; Walls End Gosforth, 15s. 9d.; Eden Main, 16s. 3d.; Walls End Haswell, 18s.; Walls End Hetton, 18s. 0d; Walls End Russel's Hetton, 16s. 9d.; Walls End South Hetton, 17s. 9d.; Walls End Stewarts, 17s. 3d.; Walls End Heugh Hall, 16s. 3d.; Walls End Kelloe, 16s. 3d.; Walls End East Hartlepool, 17s. 6d.; Walls End South Hartlepool, 16s.; Walls End South Kelloe, 16s. 3d.; Walls End Trimdon Hartlepool, 17s. 6d.; Carway and Duffryn Malting, 19s. 6d.—48 ships at market.

DAILY or OCCASIONAL GOVERNESS.—A Lady who has resided many years in France, seeks a re-engagement in London, to instruct in English, French, and Music with Singing (by the new system); the rudiments of German and Drawing. Terms moderate.—H. H., 29, Queen's Road, Camden Square, N.W.

WANTED, an experienced GARDENER and his WIFE. The former must understand the Management of a Horse and Cow if required. The latter to undertake the Laundry. Wages 20s., with house and coal.—Apply to J. GLYNNE BATESON, New Brighton, or Tithebarn Street, Liverpool.

WANTED, a steady, honest, active, and industrious YOUNG MAN, to take charge of the Plants in the Greenhouses and Frames under the direction of the Foreman.—Address, stating age, capabilities, wages, &c., to T. G., Post Office, Coventry.

WANTED, an UNDER GARDENER.—For particulars, apply to JOHN PEARSON, Worksop Manor Gardens, Notts.

WANTED, a SHOPMAN.—A Young Man who has a good general knowledge of Plants and Seeds, and is a good Salesman.—Address, stating salary and experience, A. B., Barr & Sugden, 12, King Street, Covent Garden, W.C.

WANTED, a YOUNG MAN to attend to Poultry and Milk four Cows, and fill up his time in the Garden. Good character. Wages 14s. per week.—Mr. SEWELL, Isleworth House Gardens, Isleworth, W.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD), married.—A gentleman will highly recommend his late Gardener.—A. B., Mr. Crosswell's, Builder, Durley, near Southampton, Hants.

GARDENER (HEAD).—Age 38, married; understands his profession in all its branches.—GEORGE MITCHELL, Plas Power, Wexham, Denbighshire.

GARDENER (HEAD).—Thoroughly understands his profession. Six years' good character from the gentleman he is now leaving.—T. B., 7, Princes Terrace, South Kensington, W.

GARDENER (HEAD).—Age 28, married; understands Pines, Vines, Melons, Cucumbers, &c. Three and a half years' good character.—A. B. C., 117, Manor Street, Clapham, Surrey, S.

GARDENER (HEAD).—Age 30, single; understands Fruit, Flower, and Kitchen Gardens, and Greenhouses; also Early and Late Forcing. Excellent character.—A. B., Mr. Woolards, Coal Merchant, Lewisham, Kent, S.E.

GARDENER (HEAD).—Age 28, married; well experienced in Early and Late Forcing, Plant Growing, and Flower and Kitchen Gardening. Satisfactory references can be given.—Y. Z., The Gardens, Berkeley Castle, Gloucester.

GARDENER (HEAD).—Age 33, no incumbrance; thoroughly understands the Management of Kitchen and Flower Gardens, Forcing of all kinds of Fruit, Vegetables, &c. Can have a good character from the place he is leaving.—J. G., Marble Hill, Twickenham, S.W.

GARDENER (HEAD).—Age 33, single; a first-class Specimen Plant and Fruit Grower, and good general Gardener. Can be highly recommended by several of the leading Horticulturists of the day.—W. HOWARD, Messrs. W. Rollisson & Son, Tooting, London, S.

GARDENER (HEAD).—Age 36, married; has had 20 years practice in several noblemen's gardens in Scotland and England. Experienced in Meadow Land, Plantations, &c. Three years' character from late employer.—A. B., 28, Eleanor Road, Waltham Cross, N.

GARDENER (HEAD).—Age 26, married; has a thorough practical knowledge of Gardening in all its branches; also Meadow Land, Stock, &c. Three years' good character.—E. C., 2, Woodbury Terrace, London Road, Tunbridge Wells.

GARDENER (HEAD).—Age 27, single; has a practical knowledge of the Management of Stove and Greenhouse Plants, and Fruit, Flower, and Kitchen Gardens. Good character from present situation.—A. B., Post Office, Totteridge, Herts.

To Noblemen and Gentlemen.

GARDENER (HEAD).—Age 33; a truly honest, steady, and industrious man, capable of taking charge of a Garden, with Vineries, Peach-house, Hothouse, Conservatory, &c. Highly recommended.—W. SEAGRAVE, 10, Violet Hill, St. John's Wood, London N.W.

GARDENER (HEAD).—Age 32, married, one child; understands Vines, Pines, Stove, and Greenhouse Plants; Forcing, Peach House, Melons, Cucumbers, Flower and Kitchen Gardens, &c. Unexceptionable character from present and previous employers.—B. G., No. 7, Edward's Place, Newington Road, Ball's Pond, Islington, N.

GARDENER (HEAD or SINGLE-HANDED).—Age 39, married, no incumbrance; capable of Managing a Vinery, Greenhouse, Flower and Kitchen Garden. Five years' character.—T. M., The Lodge, Daventry, Northamptonshire.

GARDENER.—Married, no incumbrance; thoroughly understands Stove and Greenhouse Plants, and Forcing Fruits, Flowers, and Vegetables. Unexceptionable reference can be given.—ROBT. GIBBS, Messrs. Youell & Co., Royal Nurseries, Great Yarmouth.

GARDENER (age 27, single).—JAMES FLETCHER understands the general routine of Gardening, and care of Houses. Has been living in his present situation as second Gardener 14 years.—Robert F. Darby, Nurseryman, Cirencester.

GARDENER.—Married, no incumbrance; experienced in Forcing, and Flower and Kitchen Gardens. No single-handed place accepted. Four and a half years' good character. Wife can look after Poultry if required.—Post Office, Hanworth, Middlesex.

GARDENER (middle-aged, married, without incumbrance).—D. DAVIES, who has been 19 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. LINDLEY, Acton Green, Middlesex, W.

GARDENER.—Age 45, married; perfectly understands his profession, having had many years' experience. Leaving his present situation on account of the establishment being broken up. Wife a good Laundress, or would take charge of Dairy and Poultry. Good character.—S. T., Post Office, Croydon, Surrey.

GARDENER (age 30).—A nobleman's Gardener, in one of the Midland Counties, would be glad to recommend his Foreman to any lady or gentleman in want of a thoroughly good practical Gardener, well acquainted with the Cultivation of Fruits and Plants, and the general routine of Gardening. Two and a half years in present situation. Any inquiry as to ability, honesty, and sobriety will be satisfactorily answered.—W. C., Post Office, Great Heywood, Stafford.

GARDENER (SINGLE-HANDED).—Age 30, married, no incumbrance; understands Vinery, Greenhouse, Kitchen and Flower Gardens. Wife can Manage Dairy or Poultry if required.—W. W., 40, Daniel's Road, Nunhead Cemetery, S.E.

GARDENER (WORKING).—Age 35, married; good practical knowledge of Gardening in all its branches. Well recommended.—J. H., Post Office, South Norwood, S.

GARDENER (SECOND, where more than two are kept).—Age 21; good reference.—A. C., Mr. Lee, Westerham, Kent.

GARDENER and BAILIFF (HEAD).—Age 37, married; thoroughly understands the Management of Pines, Grapes, Peaches, Orchard Houses, Stove and Greenhouse Plants, Kitchen and Flower Gardens; also the Management of Land and Stock, Keeping Accounts, &c. Wife can Manage the Dairy. Eight years' good character.—W. B., East End House, Parson's Green, Fulham, S.W.

PROPAGATOR, FOREMAN, &c.—Age 35, married; a first class man in Conifers, Rhododendrons, Roses, Ornamental Trees, Shrubs, and plants in general. Good reference.—ALPHA, Post Office, Tunbridge Wells, Kent.

To Nurserymen.

PROPAGATOR.—Age 24, single; thoroughly understands the Propagation of Roses, Rhododendrons, Coniferæ, &c. Has had first class experience. Good reference.—C. D., Post Office, Maresfield, near Uckfield, Sussex.

FACTOR, or LAND STEWARD.—A young Scotch Farmer, who has had 20 years practical experience of Farming in all its departments in the east and west of Scotland. Unexceptionable references can be given as to character and ability.—Messrs. ALEX. CROSS & SONS, Seed Merchants, Argyll Street, Glasgow.

BAILIFF.—Age 38, married, no incumbrance; well understands his business. Wife as Cook and Housekeeper, or take charge of a Dairy, &c. Good references.—A. B., Post Office, Kingswinford, Dudley.

FARM BAILIFF, at Michaelmas next.—Age 44, married, no young family; a Norfolk Man, but of late years employed in the Midland Counties on a Farm comprising upwards of 1000 Acres Arable, besides Grass, under a practical Agriculturist, to whom he would be glad to refer any nobleman or gentleman for character and ability in all branches of Agriculture, the Management of Stock, &c. Cause of leaving, Farm Let.—BAILIFF, Rectory Farm, near Chipping Norton, Oxon.

FARM BAILIFF (WORKING).—Age 32, married.—J. C., Walton Lane, Bicester, Oxon.

FARM BAILIFF (WORKING).—Age 35, married; well understands Stock Management, and has been accustomed to Clay and Light Lands. Wife a good Dairywoman. Unexceptionable testimonials.—A. H., Post Office, Llanwarn, near Ross, Herefordshire.

CLERK or TRAVELLER.—Age 24; has been six years in a London Wholesale House.—A. B. C., 14, Great Turnstile, London, W.C.

Universal Microscope. Price £5 5s.

SMITH, BECK, AND BECK, 31, Cornhill, E.C.; late 6, Coleman Street.
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Odours of Plants.

PIESSE AND LUBIN extract the PERFUME from every fragrant Flower by the process of "Enfleurage," which being conducted while the plant is yet alive, the odours obtained are retained in their true and natural fragrance. Jasmin, Violet, Acacia (Farnesiana), Tuberose, Jonquil, Orange, Mignonette, and several others. Sold in Bottles, 2s. 6d. each.
Laboratory of Flowers, 2, New Bond Street.

Manufacturers to the Queen and Prince of Wales.

FRY'S | HOMŒOPATHIC ICELAND MOSS PEARL | COCOA.

FRY'S SOLUBLE CHOCOLATE.
J. S. FRY & SONS were the only English Manufacturers of Cocoa who obtained the Prize Medal, 1862.

CAPTAIN WHITE'S ORIENTAL PICKLE, CURRY or MULLIGATAWNY PASTE, Curry Powder, and Curry Sauce, may be obtained from all Sauce Vendors, and Wholesale of CROSSE & BLACKWELL, Purveyors to the Queen, Soho Square, London, W.

Sauce.—Lea and Perrins'

WORCESTERSHIRE SAUCE,
Pronounced by Connoisseurs
"THE ONLY GOOD SAUCE."
See Name on Wrapper, Label, Bottle, and Stopper, and to avoid Counterfeits
ASK FOR LEA AND PERRINS' SAUCE.
*.* Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. CROSSE & BLACKWELL; Messrs. BARCLAY & SONS, London, &c.; and by Grocers and Oilmen universally.

TO BE SOLD, one of SHANK'S PATENT LAWN ROLLER and MOWING MACHINE, 22 inches, nearly new and in good working order, for 4 guineas, cost 8l. 1s. On view at SEWARD's Ironmongery Warehouse, Brixton Hill, S.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE PROOF STRONG ROOM DOORS
CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
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CHANDELIERS in Bronze and Ormolu for DINING ROOM and LIBRARY, Candelabra, Moderator Lamps, in Bronze, Ormolu, China, and Glass. Statuettes in Parian, Vases and other Ornaments.
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OSLER'S GLASS CHANDELIERS, Wall Lights and Lustres for Gas and Candles, Table Glass, &c.
Glass Dinner Services for 12 persons, from 7l. 15s.
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All articles marked in plain figures.
Ornamental Glass, English and Foreign, suitable for Presents.
Mess, Export, and Furnishing Orders promptly executed.
London—Show Rooms, 45, Oxford Street, W.
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Established 1807.

THRESHER'S COLORED FLANNEL SHIRTS.—PRIZE MEDAL awarded to THRESHER & GLENNY for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.
Lists of Prices on application to THRESHER & GLENNY, General Outfitters, next door to Somerset House, Strand, W.C.

METCALFE, BINGLEY, AND CO'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. METCALFE's celebrated Alkaline Tooth Powder, 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each. 130 B, and 131, Oxford Street, W.

Glenfield Patent Starch.

MESSRS. WOTHERSPOON AND CO. have been appointed STARCH PURVEYORS to H. R. H. the PRINCESS of WALES. This Starch is used in the Royal Laundry and was awarded a Prize Medal. Sold by all Grocers, Chandlers, &c.
WOTHERSPOON & Co., Glasgow and London.

TURKISH BATHS, Victoria Street.—This magnificent establishment, accommodating 800 daily, is NOW OPEN, Sundays excepted. Public and Private Baths for Ladies and Gentlemen, price from 1s. 6d. upwards.—N. B. Baths for Horses. ORIENTAL BATH COMPANY of LONDON (Limited), Victoria Street, near the Station, Westminster.

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DINNEFORD & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

KEATING'S PERSIAN INSECT DESTROYING POWDER.—Fleas in Dogs, Poultry, &c., are instantly destroyed, as also Bugs, Beetles, and every other Insect, by this Powder, which is perfectly harmless to animal life; Sportsmen particularly will therefore find it invaluable.
Sold in Packets, 1s., 2s. 6d., and 4s. 6d. each, or post free for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice each genuine packet bears the above name and address.
For which a Prize Medal was awarded to the Producer at the International Exhibition, 1862.

GLYCERINE, which very simple tests show to be impure, is being sold on the statement that it is in every respect equal to PRICE's. Most medical men prescribe "PRICE's Glycerine" where purity is of importance.
Patients can ensure it by desiring to have their Glycerine in 1 lb., 8, 4, or 2 oz. bottles, with capsules over the stoppers marked—
"PRICE's Patent," Belmont, Vauxhall.

TWO or Three of PARR'S LIFE PILLS may be taken by young or old, at any time, place, or season, with a certainty of a beneficial result. They may be used with confidence in all cases of sick headache, indigestion, bilious, liver, and stomach complaints, habitual costiveness, nervous affections, &c. In most cases the sensation of illness vanishes after two or three pills have been taken.
May be obtained of any Medicine Vendor, in boxes 1s. 1½d., 2s. 9d., and family packets 11s. each.

CONSUMPTION.—All Nervous, Bilious, Liver and Stomach Complaints are only aggravated and accelerated by drugs of every description, but perfectly curable by DU BARRY's health-restoring REVALENTA ARABICA FOOD, as proved by thousands of cases which had been considered hopeless. We quote a few.—Cure No. 62,914. Miss Lange, age 18 years, Liège in Belgium; cured after the medical men had abandoned all hopes of her recovery from the last stage of pulmonary consumption, with fearful cough, expectoration, exhaustion, spitting of blood, perspirations, hollow cheeks, emaciated to a skeleton. She is now, thank God, a perfectly healthy, blooming, fleshy girl.—N. LANGE, Commissaire de Police.—Cure, No. 46,270. Mr. James Roberts, of Frimley, Surrey, of 30 years' diseased lungs, spitting of blood, liver derangement, and partial deafness.—Cure, No. 47,121. Miss Elizabeth Jacobs, of extreme nervousness, indigestion, gatherings, low spirits, and nervous fancies.—Cure, No. 54,816. The Rev. James T. Campbell, Fakenham, Norfolk, "of indigestion and torpidity of the liver, which had resisted all medical treatment."—In tins 1 lb., 2s. 9d.; 2 lb., 4s. 6d.; 5 lb., 11s; 12 lb., 22s.; 24 lb., 40s.
BARRY DU BARRY & Co., No. 77, Regent Street, London, W.; also at 61, Gracechurch Street, E.C.; 4, Cheapside, E.C.; 63 and 150, Oxford Street, W.; and all Grocers and Chemists in every town of the United Kingdom.

Seventh Edition, 10th Thousand, price 2s. 6d.; free by post, 32 Stamps,

DISEASES of the SKIN; a Guide to their Treatment and Prevention, illustrated by Cases. By THOMAS HUNT, F.R.C.S., Surgeon to the Western Dispensary for Diseases of the Skin, 21A, Charlotte Street, Fitzroy Square.
"Mr. Hunt has transferred these diseases from the incurable class to the curable."—*Lancet.*
London: T. RICHARDS, 37, Great Queen Street.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, AUGUST* 1, 1863.

BRITISH ASSOCIATION for the ADVANCEMENT of SCIENCE.
The Next Meeting will be held at NEWCASTLE-UPON-TYNE, commencing on WEDNESDAY, August 26, under the Presidency of Sir W. G. Armstrong, F.R.S.
Notices of Communications intended to be read to the Association, accompanied by a statement whether or not the Author will be present at the Meeting, may be addressed to G. Griffith, M.A., Assistant-General Secretary, Newcastle-upon-Tyne; or to Captain Noble; Augustus H. Hunt, Esq., R. C. Clapham, Esq., Local Secretaries, 5, Grey Street, Newcastle-upon-Tyne
William Spottiswoode, M.A., F.R.S., General Treasurer.
19, Chester Street, Belgrave Square, London, S.W.

NORWICH UNION FIRE INSURANCE SOCIETY.
The Business of the Company exceeds 70,000,000*l.*
The Duty paid to Government for the year 1862 was 85,062*l.*, and the amount insured on farming stock, 10,086,332*l.*
A Bonus of three-fifths of the profits periodically made to parties insuring, who have thus, from time to time, received sums amounting in the aggregate to 440,000*l.*; and the Society now holds a LARGE RESERVE applicable to a future Bonus.
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Sauce.—Lea and Perrins'
WORCESTERSHIRE SAUCE.—This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE,"
Is prepared solely by Lea & Perrins.
The public are respectfully cautioned against worthless imitations, and should see that Lea & Perrins' Names are on Wrapper, Label, Bottle, and Stopper.
Ask for Lea and Perrins' Sauce.
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Lists of Prices on application to Thresher & Glenny, General Outfitters, next door to Somerset House, Strand, W.C.

DAILY or OCCASIONAL GOVERNESS.—A Lady who has resided many years in France, seeks a re-engagement in London, to instruct in English, French, and Music with Singing (by the new system); the rudiments of German and Drawing. Terms moderate.—H. H., 29, Queen's Road, Camden Square, N.W.

## News of the Week.

Parliament was prorogued on Tuesday by Commission. The Queen's Speech commenced with an expression of regret at the condition of Poland, and stated that Her Majesty, in concert with France and Austria, has been engaged in negotiating with Russia in favour of the Poles on the basis of the Treaty of Vienna. The Speech then stated that the civil war in America is still injurious both to America and to us, but Her Majesty has seen no reason to depart from the strict neutrality she has observed from the beginning of the contest. It next referred to the proposed cession of the Ionian Islands to Greece, and to the state of our relations with Japan and the Brazils, expressing a hope that the Japanese Government will concede our demands without the necessity of coercive measures, and that friendly communications may soon be re-established with that of the Brazils. In regard to domestic topics, the Speech acknowledged the supplies voted for the fortification of the dockyards and the establishment of the Prince of Wales, and noticed with satisfaction the decrease of the distress in Lancashire and the measures taken for its further alleviation. The outbreak in New Zealand was next noticed with a promise of conciliatory but vigorous measures for the maintenance of order in that colony. The Speech then mentioned briefly the Bills for the sale of Benefices, for the expurgation of the Statutes, and for defining the position of the Volunteers. It noticed with satisfaction the Treaty with the United States for the suppression of the Slave Trade, and concluded by congratulating Parliament on the improved state of trade and finance, notwithstanding the great injuries inflicted upon both by the disturbances in America, and on the wonderful and gratifying progress of our great Indian Empire. The Lord Chancellor then declared Parliament to be prorogued to Wednesday, the 14th of October.

The business in both Houses for the few days previous to the Prorogation was for the most part of a routine character, though there were incidentally some brief discussions on topics of public interest. In the Lords on Friday the Marquis of Clanricarde called attention to the state of Poland. Earl Russell explained his views in regard to the question of non-intervention, and said that Austria had refused to negotiate separately with Russia, and had signified her adherence to the policy of France and England. On Monday Lord Stratford de Redcliffe called attention to the proposed guarantee of the Ionian Islands when transferred to Greece, and expressed a strong opinion that the Government had acted unwisely in ceding the islands to Greece. Earl Russell said that the cession of the Islands met the general approval of the people of this country, and that there was no longer any opposition to the measure on the part of either Austria or Turkey. The Earl of Derby considered that the proposed cession was one of the most gratuitous weakenings of this country he ever remembered. Lord Redesdale called attention to the minute of the Committee of Council on Education of the 19th of May, the effect of which was to reduce the grant to endowed schools by the amount of the annual endowment which such schools received. The Earl of Derby believed that if the minute were carried out it would be impossible for many of the schools to receive the slightest benefit from these parliamentary grants. The Duke of Somerset defended the minute, and denied that it would have the effect attributed to it.

In the Commons on Friday, Mr. Kinglake called attention to the Russian note, and Lord Palmerston announced the determination of her Majesty's Government to act in concert with France and Austria on the Polish question. On Monday, in answer to Lord E. Bruce, Mr. C. Fortescue said that the order of St. Michael and St. George would not be transferred with the Ionian Islands to the Kingdom of Greece, but Her Majesty would retain the sole power of conferring the order on such persons as she might think proper. On Tuesday Lord Palmerston said that the treaty ceding the Ionian Islands would receive the sanction of the Powers who were parties to that which fixed the limits of Greece, and though various agencies were at work to prevent the arrival of Prince William of Denmark as King of Greece, he felt convinced that his presence would restore tranquillity to that country.

The news from the United States announces an unexampled succession of reverses to the Confederates. General Lee has recrossed the Potomac into Virginia with his whole army, and is supposed to be retreating upon Richmond. The fall of Vicksburg has been followed by the surrender of Port Hudson. The Federals have recommenced their attack on Charleston, and General Bragg is said to be retreating before General Rosencranz in Georgia. On the other hand the Conscription has led to such alarming riots in New York, and has been attended by so much loss of life and destruction of property, that Governor Seymour and the State authorities have declared the draught to be unconstitutional, and have called upon President Lincoln to abandon it. The latest news announces that the President has rejected this appeal, and has ordered the draught to be carried out by military force. The Federal authority has thus been brought into direct collision with that of the State, and crowds of people are leaving New York with their families in anticipation of a more serious outbreak, which may possibly inaugurate a revolution.

## Home News.

The Court.—The Queen and Royal family continue at Osborne. On Friday morning the Princess Leiningen gave birth to a Princess at Osborne, and, with the infant, is doing perfectly well. Her Majesty was with her niece at the time, and during the greater part of the night. On Saturday afternoon her Majesty, accompanied by the Princess of Wales and Princess Helena, drove out in an open carriage and four. Princess Helena, Princess Louise, and Princess Beatrice, went to Freshwater. The Right Hon. Sir George Grey arrived at Osborne, and had an interview with her Majesty. On Sunday morning the Queen, the Prince and Princess of Wales, Princess Helena, Princess Louise, and Prince Leopold, attended Divine Service at Osborne. The Rev. Dr. Stanley officiated. On Monday the Queen held a Privy Council, which was attended by Lord Palmerston, Earl Granville, and Sir George Grey. At the Council, the Royal Speech for the prorogation of Parliament was approved by Her Majesty. In the afternoon the Ministers returned to London. The Queen, Princess Helena, and Princess Beatrice drove out. On Tuesday the Queen drove out accompanied by Princess Helena and Princess Leiningen. The Prince and Princess of Wales cruised in Lord Alfred Paget's yacht, and sailed to the Needles. On Wednesday the Queen and Princess of Wales drove out. Earl Russell arrived at Osborne and had an audience of Her Majesty.

The Prince and Princess of Wales are expected to leave London for Halifax on Monday morning by the ten o'clock train, to which a state carriage will be attached. This train always travels at express speed, and will reach Halifax at 3.49. Their Royal Highnesses will be received on their arrival by the mayor and corporation, and will be the guests of the mayor during the night.

Prince Arthur in Wales.—His Royal Highness arrived in Dolgelly on Saturday evening the 25th ult. On Sunday he attended divine service in the morning at the village church of Llanellyd, two miles on the Barmouth Road, and in the afternoon in Dolgelly church. On Monday his Royal Highness ascended Cader Idris. On Tuesday the Prince visited the Cambrian and Clogau gold mines, the town of Barmouth, the Precipice Walk, and Nannau Park. On Wednesday his

Royal Highness inspected the Cader Idris Volunteers. After the inspection the principal residents were presented to his Royal Highness by the High Sheriff. The Prince then took his departure from Dolgelly for Bala and Beddgelert, visiting Bryncoed-for church in his way. It was expected that his Royal Highness would make the ascent of Snowdon on Thursday.

THE CABINET.—A Cabinet Council was held on Saturday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Tuesday, and another yesterday.

NEW PEERAGE.—Mr. Monckton Milnes has been raised to the House of Lords by the title of Baron Houghton of Houghton—an estate long possessed by his family.

PARLIAMENTARY MOVEMENTS.—The elevation of Mr. Milnes to the peerage has caused a vacancy in the representation of Pontefract. There are two candidates in the field, Major Waterhouse in the Conservative, and Sir Edmund Head in the Ministerial interest. There is a vacancy in the Montgomery Borough caused by the death of Capt. Johnson. Mr. Pugh, son of Mr. David Pugh, a former member, is a candidate for the vacant seat.

THE ARMY.—The Colonelcy of the 71st Foot, vacant by the death of Sir Thomas E. Napier, has been conferred on Lieut.-General the Hon. Charles Grey. The Colonelcy of the 3d Foot, vacated by this promotion, has been conferred on Lieut.-General Wharton Frith. The Colonelcy of the 2d West India Regiment, vacated by Gen. Frith's promotion, has been conferred on Major-General Botel Trydell.

THE VOLUNTEERS.—The Queen has appointed his Royal Highness the Prince of Wales, K.G., to be Captain-General and Colonel of the Hon. Artillery Company of London.

THE CHANNEL FLEET remained at Sunderland until Tuesday morning, when it sailed for the Firth of Forth. On Wednesday afternoon it entered the Firth in two divisions, and anchored a mile to the west of Inchkeith, and about three miles from Leith harbour. It will remain for about a week in Leith Roads, and is expected to visit the Mersey before completing its cruise.

## Foreign.

FRANCE.—It is reported that the *Moniteur* will shortly publish a note on the actual state of the negotiations with Russia. A pamphlet was published on Thursday by the Government publisher, in which it intimated that unless Russia comes to a prompt and amicable settlement in the full spirit as well as letter of the six points, the question must be left to the decision of arms and the chances of war. The *Constitutionnel* of yesterday publishes an article, signed by M. de Limayrac, dwelling energetically upon the insufficiency of the Russian reply. *La France* publishes an article on the necessity of the Three Powers acting together in the Polish question, and believes itself able to state that the draught of the French Note has produced a good impression upon the Cabinet of London, because it does not present the character of an ultimatum. The writer says:—

> "England is hesitating between three courses. 1. The despatch of separate notes with identical conclusions. 2. The despatch of identical Notes. 3. The despatch of a collective Note. Earl Russell would prefer the retraction of some expression he considers too bitter in the French draught. The French Cabinet wishes for the despatch of a collective Note, which Austria should be requested to present."

The same journal states that the Cabinet of Berlin has proposed the discussion of the six points by the five great Powers, and says that the latest intelligence from St. Petersburg gives rise to the idea that Russia is disposed to show herself more conciliatory. The *Pays* says that the maintenance of unalterable agreement between the three Powers is the safety and strength of Europe and a warning to Russia, and that henceforth every one should know that France, England, and Austria will remain united in the Polish question, whatever steps may be taken to arrive at a satisfactory solution. The *Patrie* also states that the most perfect accord continues to exist between the respective views of the three Powers. The squadron of ironcoated ships of war which is assembling at Cherbourg is composed of the spur ships of the line, Solferino and Magenta, the frigates Normandie, Couronne, Invincible, and Gloire. It is again repeated that the Emperor will be present at the experiments and manœuvres which are to be made on a grand scale with these ships, of a different construction from any which have yet appeared at sea. Prince Napoleon is about to leave Paris for a tour in Switzerland. The Empress has returned to St. Cloud.

SPAIN.—It is officially stated that the Spanish Government has taken no diplomatic steps in reference to the recognition of the Southern States of North America. Spain will await the course of events.

PORTUGAL.—The Ministry have sent to Rome a solemn protest against the conduct of the Pope in forwarding to the Archbishop of Goa an apostolic letter freeing the clergy of Bombay of censure. The health of the Cardinal Patriarch of Lisbon is in a critical state. The recent heat has developed the vine disease to a great extent.

BELGIUM.—The treaty for the redemption of the Scheldt dues was signed at Brussels on the 16th ult. The King of the Belgians was present on the 21st ult. at a solemn performance of the *Te Deum* in the church of St. Gudule, to celebrate the anniversary of his accession to the Throne. His Majesty was loudly cheered.

HOLLAND.—An attempt was made a few days since to murder the Roman Catholic Archbishop of Utrecht, Monsigneur Zwysen, while he was asleep in bed. The assassin fired a pistol at him, and the ball, after grazing the prelate's right arm, entered the abdomen and penetrated to the liver. It is feared that the wound will prove fatal. Report says that the crime was committed by a student of the ecclesiastical seminary of Haaren.

DENMARK AND SWEDEN.—At the recent interview of the King of Sweden with the King of Denmark the Danish President of the Council was the only other person present. After the interview of the Sovereigns the President had a conference of an hour and a half with the King of Sweden.

THE DANISH DUCHIES.—At the sitting of the Schleswig Diet, on Thursday, three new deputies only appeared in place of the German members who recently resigned. The Danish minority protested against the consequences which might result from the resignation. The Danish Royal Commissioner read a declaration of the Ministry declaring the Diet closed, on account of the necessary number of Deputies not having attended. In the evening the loyal inhabitants of Flensburg, headed by a band of music, made a demonstration in honour of the Royal Commissioner and the loyal Deputies, who were warmly cheered.

AUSTRIA.—The Emperor left Vienna on the 28th ult. for Ratisbon, to escort the Empress home. The Prussian papers mention a report that the Emperor of Austria will visit the King of Prussia at Gastein early in August. The sudden departure of M. Balabine, the Russian Minister, has created a great sensation at Vienna. It appears that he was recalled to St. Petersburg as soon as the Austrian reply was received by the Russian Cabinet. Letters received at Vienna from St. Petersburg, state that Russia, recognising the serious nature of the danger, is inclined to yield. The official *Wiener Zeitung* denies the statement that Prussia has endeavoured to detach Austria from common diplomatic action with the Western Powers. In the sitting of the Lower House of the Reichsrath on Friday the Committee on the petition of Langiewicz to be released from imprisonment presented their report, urgently recommending the Government to take the petition into consideration.

TRANSYLVANIA.—The solemn opening of the Transylvanian Diet took place on the 16th ult. The Imperial rescript declaring the union of Hungary with Transylvania null and void, and confirming the new constitution of Transylvania as suited to present circumstances, was most favourably received by the members. The Diet resolved upon sending an address of thanks to the Emperor.

HUNGARY.—The French papers announce the arrest in Hungary of three Russian emissaries, who were endeavouring to foment disturbances.

PRUSSIA.—The *Neue Preussische* (*Kreuz*) *Zeitung* publishes a leader, stating that it is urgently important for the policy of Prussia to seek a better understanding with Austria, and especially with England. It says that Russia alone is neither an entirely sufficient nor a reliable ally, and inquires whether the present representative of Prussia in London is adequate to the emergency. The Civic authorities of Berlin have determined to send no deputation to the funeral of Prince Frederick, although they had been invited to attend by the marshal of the Court.

RUSSIA.—The *Invalide Russe* states that the Czar has ordered reinforcements to be sent to the companies of Artillery stationed at Kertch, Nicolaieff, Dunamunde, Wiborg, and Sweaborg. All the companies of Artillery in the fortresses of Poland have been placed on a war footing. The number of workmen employed on the fortifications of Cronstadt has been increased from 15,000 to 18,000. The Government has made considerable purchases of provisions of all kinds, and has already prohibited the exportation of corn, flour, and cattle. The papers are filled with accounts of the defensive preparations in progress in Finland. The Commander-in-Chief in that province, Baron Wrangel, is making constant journeys in the environs of Helsingfors, Tavastehuus, Abo, Gango, and other places, accompanied by the officers belonging to the military council. Gangs of labourers work day and night upon the fortifications of Sweaborg, and works are constituting at Tronsund and in the vicinity of Wiburg.

POLAND.—Accounts from Warsaw state that General Berg has invested Russian military officers with administrative functions, and has ordered the judges and civil assistants in legal examinations to be replaced by military officers. 200 persons were transported on the 20th ult. to the interior of Russia. Further atrocities have been committed in the Palatinate of Kalisz by Colonels Muchanoff and Pomerancoff. The castles of Wionzow, Chorzow, and Rodzeb have been pillaged. The proprietors, Prondzyuski, Zbijewski, and Chrumigowski, and Madame Rogawski were whipped and transported to Warsaw. Colonel Pomerancoff has ordered the peasants to massacre the landed proprietors, promising, in the name of the Emperor, to divide their lands among them. A proclamation of the National Government was published in Warsaw on the 25th ult., announcing the appointment of Citizen Ladislaus Czartoriski as its general diplomatic agent at London and Paris. The proclamation states that the National Government had received sufficient guarantees that his negotiations would be conducted on the basis of the unimpaired rights of a nation fighting for liberty, equality, and independence. The National Government has also opened a loan of 28,000,000 Polish florins (700,000*l.*) to be guaranteed by the national lands belonging to the Crown, and which are to be confiscated. The combined detachments of Rudzki, Jenkowski, and Krysinski gained a complete victory over the Russians, commanded by General Chruszczeff, on the 24th, near Krasnystaw, in the palatinate of Lubin. 700 Russians and 200 Poles were killed. The Russians fled in disorder towards Lublin. The town of Dubna has been occupied by Soltau, with a numerous detachment. On the 18th ult. the Russians stationed in the town of Radzano, in the palatinate of Plock, were attacked and dispersed by a Polish detachment. On the 19th two Russian columns were entirely defeated by Zielinski near Janow, in Podlachia. 200 Russians and 70 Poles were killed. On the same day Taczanowski defeated the Russians at Kurek, near Blasqui. Fresh detachments of insurgents have been organised in the vicinity of Radom. The Russians have been defeated by Dolinowski at Konskie, in the palatinate of Sandomir, and by Rudowski at Przysucha, in the Government of Radom. On the 28th ult. the insurgent leader Chmielinski had a successful engagement with eight companies of Russian troops at Secemin, in the palatinate of Cracow. The Russians suffered a defeat on the 24 ult. near Pionfek. The reinforcements they had demanded from Skierniewice arrived too late to take part in the engagement. The railway has been interrupted in the vicinity of Dzwina. Popular excesses were committed at Lemberg on the 26th against the Jews. Several persons were injured by the stones thrown at them by the populace. Military patrols ultimately succeeded in re-establishing order. Deputy Zimialkowski, Deputy Count Wodzicki, Count Stephen Zamoyski, and M. Sierakowski have been arrested in Lemberg.

ITALY.—The Chamber of Deputies has approved the levy of 55,000 conscripts of the first category, and the armament of the National Guard. It is generally believed in Turin that, in the event of France taking ulterior measures in support of her diplomacy on the Polish question, Italy will not hesitate to combat by her side. The judicial inquiry into the affair of the band of Pilone has terminated. The trial of the persons implicated, who number 113, will shortly come on before the assizes. The Turin journals state that Garibaldi's health is almost completely restored. In the Senate on Wednesday a debate took place on the laws relative to the provisional dispositions for the public safety of Sicily. The Senate approved its clauses. The same Bill was introduced into the Chamber of Deputies, with the request that it should be referred to the Committee on Brigandage, with instructions to report upon it separately. The Chamber granted the request. The squadron of Admiral Provana, consisting of eight frigates and one despatch boat, is about to assemble off Cagliari, and will visit the Sicilian and Neapolitan ports. The French police at Rome have made a search at the residence of the Tuscan Minister. In consequence of his visit the Papal Government has delivered his passports to the representative of the ex-Grand Duke.

GREECE.—King George I. will leave Copenhagen immediately after the question of the Ionian Islands has been arranged. His Majesty will pass through Brussels, London, and Paris. He will stay six days at the latter city, and will embark at Toulon in a steam frigate. He will travel *incognito* until after his embarcation for Greece. Letters from Athens to the 19th ult., assert that the battalion commanded by Leotzakas, which recently left the capital, has taken possession of the citadel of Nauplia. The same authority states that the Trafalgar, English man-of-war, has left for Nauplia. It is reported that General Leli has been sent by the Grand Duke Michael on a secret mission to Greece.

TURKEY.—The Sultan has returned from a visit to the dockyards in the Sea of Marmora, and ordered a fresh increase of the war fleet. The Porte has prohibited any foreign company from undertaking the postal service upon the seaboard of the Turkish empire. The Government intends to carry out such service itself.

THE PRINCIPALITIES.—Intelligence from Bucharest, to the 27th ult., states that Prince Marcel Czartoryski had arrived there.

INDIA.—Accounts from Bombay to the 24th ult. state that the Viceroy was still at Simla, where with the Governor, he had held a durbar for the hill chiefs, and made a speech in which he assured them of the continued favour of the British Government if they pursued a course of loyalty and good conduct. The Maharajah of Gwalior has visited Lucknow in state. The Bhootias have again come down upon Assam. The belief is universal that it is the Nana Sahib who is instigating them. With their raid is connected a rumour of a new mutiny in the North-West. From the Punjaub we hear that there is every chance of another flood in the Indus similar to that in 1858. The people are leaving their villages in consequence. Intelligence from Cabool to 20th May states that there had been more fighting before Herat. Overland accounts deny the statement that Dost Mahomed was dead, and assert that he was in Herat, of which he had taken possession. Cholera had broken out in the vicinity

of Rangoon. Captain Hazen and Surgeon Sparrow, and between 30 and 40 men of the 60th Rifles had fallen victims to the disease. Major Fraser, of the same regiment, had died, but not from cholera.

UNITED STATES.—General Lee has re-crossed the Potomac with his whole army, with the exception of one brigade of 1,500 men, two guns, two caissons, and a number of small arms, which were captured by the Federals. This movement was wholly unexpected, as only two days before he issued an address to his troops, calling upon them to prepare for another desperate encounter with the enemy. The latest news states that he was marching for Culpepper, and was supposed to be retiring upon Richmond. The *Tribune* says that General Lee has not only carried off the spoils of his Pennsylvania invasion, but that the laurels of the campaign subsequent to his defeat at Gettysburg belong also to him. The action at Gettysburg is at last admitted by the Northern press to have been a drawn battle. The New York *Daily News* says that it was a bloody affair, but utterly fruitless, except in slaughter and misery. It adds that the Northern army was not annihilated, and its unexpected escape from destruction was looked upon by the Administration as a victory. The army of the Potomac is at Berlin, in Maryland. The correspondence between Generals Grant and Pemberton in relation to the surrender of Vicksburg was published on the 11th, but no official report from General Grant has yet been given to the public. The latest advices from Vicksburg, to the 8th, state that the paroling of the prisoners had been completed; that they numbered 31,277, and that immediately after the surrender General Sherman moved in the direction of the Big Black River, and on the following day fought a battle with General Johnstone, whom he defeated with a loss of 2000 men. This statement needs confirmation, but it seems certain that he is in pursuit of Johnstone. Fort Hudson unconditionally surrendered to the Federals on the 9th ult. General Bragg's army has fallen back from Chattanooga to Atlanta, and General Rosencranz has captured 4000 prisoners during his recent advance. A combined expedition of Federal troops and iron clads under General Gilmour and Admiral Dahlgren, has captured Morris Island in Charleston harbour, except about one mile on the north end, which includes Fort Wagner and a battery on Cumming's Point. On the 11th they attempted to carry Fort Wagner by assault. The parapet was gained, but the supports could not be got up. Another unsuccessful attempt was made on the 12th, and the fort still held out on the 15th, though mining operations had been commenced against it. The *Richmond Inquirer* says the capture of Vicksburg, Bragg's retreat, Lee's repulse, and the attack on Charleston are the most serious disasters that have attended the Confederate arms since the commencement of the war. All persons in the South refusing to take up arms are to be sent out of the Confederacy. General Morgan has entered Ohio and visited Jackson, Georgetown, and several other towns, destroying the railroads at different points, and approaching to within 35 miles of Cincinnati. Great excitement exists throughout the State. Federal gunboats, with a large force, have left Cincinnati, to prevent his crossing the Ohio River. Cincinnati has been declared under martial law, and the inhabitants are organising for defence. The popular feeling against the Conscription openly manifested itself in New York on the 13th in acts of violence and destruction. A mob attacked one of the offices in which the lots were being drawn, drove out the officers—many of whom were severely beaten—destroyed the enrolment papers, and finally set fire to and destroyed the building. The police and provost guard attempted to interfere, but were quickly disarmed, and forced to seek safety in flight. A number of them were pursued, overtaken, and beaten to death. Colonel H. F. O'Brien was seized and hanged on a lamp post, and Mr. Kennedy, the superintendent of police, was seriously injured. The rioters also burned some of the other enrolment offices, and, the flames extending to the adjoining houses, much valuable property was destroyed. The Coloured Orphan Asylum was burnt to the ground. The *Tribune* office was attacked, but saved by a strong police force. Negroes were attacked wherever seen, 10 or 12 were beaten to death or thrown into the river, 7 were hung from the lamp posts in different parts of the city, and a fire was lighted under one of them, burning his body to a cinder. Late in the afternoon troops were brought up from Governor's Island, and patrolled the streets, but the crowd dispersed before midnight, in consequence of the heavy rain. On the 14th the rioters again collected and continued their work of destruction. They attempted to burn the house of Mr. Opdyke, the Mayor, but were foiled in their purpose. They were more successful at the house of Mr. Wakeman, the postmaster, which they sacked and burnt to the ground. A proclamation was issued by Mayor Opdyke calling upon all order-loving citizens to come forward and act as special constables, and General Wool appealed to the returned volunteers to assist in restoring order. Governor Seymour addressed the crowd from the City Hall steps, urging them to keep the peace, stating that whatever could be done towards protecting their rights as citizens of the State of New York would be done as soon as possible, and that he had sent the Adjutant General of the State to Washington to consult with the President in relation to the draught, and was in hourly expectation of receiving telegraphic despatches of the result. Collisions occurred on the 14th between the soldiers and the mob, in which upwards of 30 persons lost their lives. A great many negroes were killed, and on the departure of the mail not a coloured person was anywhere to be seen. The rioters were supposed to be fully 50,000 strong, and were armed with muskets, bludgeons, pikes, brickbats, and railroad iron. Many women were among them, and rendered themselves conspicuous for their ferocity. During the night of the 14th the rioters were less violent than during the day. The announcement that the draught would be abandoned tended in some degree to allay the excitement. On the 15th and 16th the riots were renewed with great fury. Several encounters took place between the military and the mob, a great number being killed on both sides. The last fight of any consequence between the military and the rioters occurred near Ninth Street. A military force had been sent to drive away the rioters, who were plundering houses to such an extent that nearly every house for three or four blocks on both sides the streets was filled with them. The mob fired bullets, stones, and other deadly missiles upon the soldiers, who had to withdraw. 700 regular troops were sent up as a reinforcement, when a terrible battle ensued; 11 rioters were killed, 18 wounded, and 35 taken prisoners; and 15 men of the 5th Company of the 7th Regiment were reported killed by stones and brickbats. One of the leaders of the rioters, named Andrews, was arrested. 5000 cavalry sabres and 100 muskets were seized by the police in a house in Stanton Street. The most daring act of the rioters was an attack on the Armoury, in Cooper Street, where a force of military was stationed to protect it. When the mob had broken down the doors they were fired upon by a 6-pounder loaded with canister. This effectually scattered the mob at that point. One rioter was completely riddled with shot, and fell dead at the door of the Armoury. Three young women and three or four small boys were wounded, but not seriously. They were not participators in the riots. The rioters then attacked the gunshops in Dock Street, stealing and destroying from 40,000 to 50,000 dollars' worth of property. They were speedily dispersed by a volley from the revolvers of the police. In the morning of the 17th the rioters on Staten Island burnt the depôt and water station. They afterwards attacked and burnt the negro shanties, killing 100 negroes. Many persons left the island, including prominent citizens who had been threatened. General Dix has since superseded General Wool in New York. The city is much quieter, although collisions between the military and the mob continue. The Provost Marshal-General has officially announced that the Federal Government will sustain the enforcement of the draught with military force. This determination it is supposed will cause the renewal of still bloodier riots, and inaugurate a revolution. Governor Seymour, the State authorities, and the Democratic press are opposed to the draught as unconstitutional, while the Republican press insist that it must be carried out at all hazards. The Republican and Democratic journals are becoming more vituperative in their mutual abuse, each party accusing the other of being responsible for the riots. This course is inflaming the public mind and adding to the danger. Crowds of people are leaving New York, and sending their families to Canada. Archbishop Hughes has addressed a concourse of 5000 persons in front of his residence. He appeared in full sacerdotal robes, and told them they were called rioters, but he could not see a riotous face among them. If they were Irishmen he recommended them to keep quiet, though in case of a violent assault upon their rights without provocation every man had a right to defend his house or church with his life. He alluded in opprobrious terms to England, saying, "he did not envy John Bull in replacing by a race of fat bullocks a noble population like that of Ireland, which was the mother of heroes and poets." He said that a "man" was a higher title than a "gentleman;" that if New York were invaded by Great Britain or any other Power, the women of the city, with their tender babes at their breasts, would look to "men" and not to "gentlemen" for protection; that he felt it a disgrace that his countrymen should be called rioters, and entreated them all to go quietly home, and seek a remedy for all their grievances in the ballot-box. President Lincoln has ordered the 2d of August to be set apart as a day of thanksgiving for victories so effective and signal as to furnish reasonable grounds for augmented confidence that the Union and the Constitution will be preserved, and that peace and prosperity will be permanently maintained. Official correspondence between Mr. Stephens and President Davis shows that the object of the proposed mission of Mr. Stephens to Washington was the establishment of a fresh cartel for the exchange of prisoners, and to place the war upon the footing of hostilities waged by modern civilised nations, divesting it of the savage character which had been impressed upon it by the Federals, in spite of all the efforts and protests of the Confederates.

MEXICO.—It is reported from Havannah that Juarez has been abandoned by his troops, and is making his way to the Pacific coast in order to embark for New York. Yellow fever and smallpox are raging at Vera Cruz. General Forey has ordered that all goods for the interior are to be under French protection. The general feeling is in favour of the French Government. General Marin has obtained possession of San Juan Baptista, in the State of Tabasco, an important position commanding the river, where vessels load cargoes of Campeachy wood. Colonel Dupin has occupied the city of Huatusco.

SAN DOMINGO.—The Paris papers publish news from San Domingo, stating that a general political amnesty has been proclaimed in that island.

BRAZILS.—The Hon. W. G. C. Elliot has received his passports, but has not yet left Rio.

## Parliament.

### HOUSE OF LORDS.

FRIDAY.—The Earl of SHAFTESBURY in bringing under the notice of the House the first report of the *Children's Employment Commission*, dwelt upon the sufferings inflicted on young children employed in the making of lucifer matches, percussion caps, pottery, pillow lace, chimney sweeping, &c., and insisted that it was the duty of the Legislature to rescue these children from the moral and physical degradation entailed by their employments by enforcing Acts of Parliament against those who violated them. The *Consolidated Fund (Appropriation) Bill* was read a third time and passed. *Russia and Poland.*—The Marquis of CLANRICARDE moved for any reports received from our diplomatic or consular agents of atrocities committed or threatened by Russians or Poles since the 1st of May. He thought that the three Governments ought to urge that the war in Poland should be henceforth conducted in accordance with the usages of civilised warfare, or to say that they would themselves take part in that war.—Earl RUSSELL said the production of such papers would be attended with very great inconvenience. On a former occasion her Majesty's Government had been censured for entering into negotiations with Russia without being prepared to enforce their demands. Now, although he did not wish at that moment to enter into a controversy as to the wisdom of that policy, he held that it might be advisable to make propositions with a view to securing peace without being prepared to go to war in support of those propositions. With regard to the negotiations he might state that, so soon as Russia proposed that a conference should take place between Russia, Austria, and Prussia in reference to Poland, Austria telegraphed to St. Petersburg declining to become a party to any such proceeding.—Lord STRATFORD DE REDCLIFFE eulogised the conduct of Austria throughout the negotiations, and gave expression to his regret that Russia should have been so ill-advised as to pursue a policy with regard to Poland which could only result in endangering the peace of Europe.—The Earl of ELLENBOROUGH regarded the answer of Prince Gortschakoff as a practical termination of the attempt at diplomacy with any hope of success. We now knew exactly where we were, and it was for her Majesty's Government carefully to consider what they would do next. England was not the enemy of Russia; on the contrary, she desired the maintenance of the state of things established at Vienna, but Russia would render this impossible if she persisted in the course upon which she had now entered. After condemning the atrocities of General Mouravieff, he said that at the present moment the Emperor of Russia was the greatest revolutionist in Europe, and he might rely upon it that he and his family would suffer for the confusion and danger he was now creating in Poland.—The Earl of MALMESBURY censured her Majesty's Government for not pursuing in the case of Poland the same policy of non-intervention which they had adopted in regard to America.—After a few words from Earl GRANVILLE in defence of the Government, the motion for papers was withdrawn.

SATURDAY.—The *Commons' Amendments* to a number of Bills were agreed to. The *Indemnity Bill*, the *Land Tax Commissioners' Names' Bill*, the *Promissory Notes and Bills of Exchange Bill*, the *Removal of Prisoners (Scotland) Bill*, the *Charitable Uses Bill*, the *Companies Clauses Bill*, and the *Poisoned Grain, &c., Prohibition Bill* were read a third time and passed.

MONDAY.—The *Consolidated Fund (Appropriations) Bill* was read a third time and passed. The Commons' reasons for insisting on one of their amendments to the *Alkali Works Regulations Bill*, and for disagreeing to the Lords' amendments to the *District Parochial Churches (Ireland) Bill* and other Bills were considered and agreed to.—Lord STRATFORD DE REDCLIFFE, in calling attention to the proposed guarantee of the *Ionian Islands* when transferred to Greece, referred to the main objections to the cession of those Islands. These were the value of Corfu to this country in case of a war in the Mediterranean, the expenditure which had been made there for the last 45 years, the opposition of both Austria and Turkey, and the creation of a new embarrassment for Greece. As the transfer was not yet completed, he trusted that something would occur to prevent it, as he foresaw circumstances arising out of the guarantee we had given, which might involve this country in serious complications and war.—Earl RUSSELL believed that the transfer of these islands met with the general approbation of the country and of Parliament, as no vote or resolution had been proposed during the Session to stop the negotiation. The guarantee was not a fresh one, but only an extension of the guarantee of 1832 to the enlarged territory in 1863, and the addition of the Ionian Islands to that guarantee was not likely to cause embarrassment. Austria and Turkey, it was true, had at first objected to the cession: but they did not now make any opposition to it. In conclusion, he referred to the present state of affairs in Greece, and expressed a sanguine hope in regard to the future welfare of that country, notwithstanding the recent disturbances.—The Earl of DERBY entirely concurred with Lord Stratford de Redcliffe's denunciation of guarantees, and his objections to the cession, in the interests of England, in the interests of the Ionian Islands themselves, and in the interests of Europe. The present condition of Greece rendered the cession of these islands a crime of the gravest character.—Lord STRATHEDEN moved that a humble address be presented to Her Majesty to appoint a Commission to inquire into and report upon the principles which ought to guide further legislation on the subject of *Metropolitan Railways.*—Lord STANLEY of ALDERLEY opposed the motion, which was withdrawn.—Lord REDESDALE called attention to the Minute of the *Committee of Council on Education* of the 19th of May last, and the memorandum of the Committee of the National Society to the Committee of Council thereon, and condemned it on the ground that it was injurious to the schools affected by it, and was a plan for applying the charities of the country in aid of the public revenue.—The Earl of DERBY mentioned instances of the hardships which the Minute of the Council had inflicted.—After a few words from Earl POWIS, the Duke of SOMERSET explained that the object of the Minute was that State subscriptions for purposes of education should be applied to those districts where facilities for education did not already exist, and that grants should not be given where the school, from endowments, was already in receipt of an average of [illegible] for each scholar.—After a few remarks from Lords REDESDALE, DONOUGHMORE, and FORTESCUE, the subject dropped.

TUESDAY.—*The Prorogation.*—The Commons having been summoned to the bar, the Royal Assent was given by Commission to the following Bills:—*Consolidated Fund (Appropria-*

*tion), Fortifications (Provisions for Expenses), Prison Ministers, English Church Services in Wales, India Stock, Sydney Branch Mint, Colonial Letters Patent, Jurisdiction of Justices, Oaths Relief in Criminal Proceedings (Scotland), Removal of Irish Poor, Marriages Registration (Ireland), Public Works and Fisheries Act Amendment, Vaccination (Scotland), Sheep and Cattle (Scotland), Stipendiary Magistrates, Misappropriation by Servants, Colonial Acts Confirmation, Savings Banks Acts Amendment, Naval Medical Supplemental Fund Society Winding-up Act* (1861) *Amendment, Union Relief Aid Acts Continuance, Turnpike Acts Continuance, &c., Augmentation of Benefices, Clergymen (Colonies), Statute Law Revision, Alterations in Judges' Circuits, Indemnity, Land-tax Commissioners Names, Promissory Notes and Bills of Exchange, Poisoned Grain, &c., Prohibition, Removal of Prisoners (Scotland), Expiring Laws Continuance, Rum Duty, Petty Sessions (Ireland), Nuisances Removal Act* (1855) *Amendment, Navy Prize Agents, Trustees (Scotland) Act Amendment, Waterworks Clauses, Pauper Lunatic Asylums, Turnpike Trusts Arrangements, Fisheries (Ireland), District Parochial Churches (Ireland), British Columbia Boundaries, Drainage and Improvement of Lands (Ireland), Alkali Works Regulation, Exhibition Medals, Telegraphs, Charitable Uses, Companies Clauses, Railways Clauses, Harwich Harbour, Howth Harbour, Thames Embankment (south side), Metropolis Turnpike Roads Acts Amendment, Port Erin Harbour (Isle of Man), Pier and Harbour Orders Confirmation*, with 46 Railway and other private Bills.—The LORD CHANCELLOR then read the Queen's Speech for the prorogation of Parliament, as follows:—

"MY LORDS AND GENTLEMEN,

"We are commanded by her Majesty to release you from further attendance in Parliament, and at the same time to convey to you her Majesty's acknowledgments for the zeal and assiduity with which you have applied yourselves to the performance of your duties during the session now brought to a close.

"Her Majesty has seen with deep regret the present condition of Poland. Her Majesty has been engaged, in concert with the Emperor of the French and the Emperor of Austria, in negotiations, the object of which has been to obtain the fulfilment of the stipulations of the Treaty of Vienna in 1815, in behalf of the Poles. Her Majesty trusts that those stipulations will be carried into execution, and that thus a conflict distressing to humanity and dangerous to the tranquillity of Europe may be brought to a close.

"The civil war between the Northern and Southern States of the North American Union still unfortunately continues, and is necessarily attended with much evil, not only to the contending parties, but also to nations which have taken no part in the contest. Her Majesty, however, has seen no reason to depart from that strict neutrality which her Majesty has observed from the beginning of the contest.

"The Greek nation having chosen Prince William of Denmark for their King, her Majesty is taking steps with a view to the union of the Ionian Islands to the kingdom of Greece. For this purpose her Majesty is in communication with the Powers who were parties to the treaties of 1815, by which those islands were placed under the protection of the British Crown; and the wishes of the Ionians on the subject of such union will be duly ascertained.

"Several barbarous outrages committed in Japan upon British subjects have rendered it necessary for her Majesty to demand reparation; and her Majesty hopes that her demands will be conceded by the Japanese Government, without its being necessary to resort to coercive measures to enforce them.

"The Emperor of Brazil has thought fit to break off his diplomatic relations with her Majesty, in consequence of her Majesty not having complied with demands which she did not deem it possible to accede to. Her Majesty has no wish that this estrangement should continue, and would be glad to see her relations with Brazil re-established.

"GENTLEMEN OF THE HOUSE OF COMMONS,

"Her Majesty commands us to convey to you her warm acknowledgements for the liberal supplies which you have granted for the service of the present year, and towards the permanent defence of her Majesty's dockyards and arsenals; and her Majesty commands us to thank you for the provision you have made for the establishment of his Royal Highness the Prince of Wales.

"MY LORDS AND GENTLEMEN,

"The distress which the civil war in North America has inflicted upon a portion of her Majesty's subjects in the manufacturing districts, and towards the relief of which such generous and munificent contributions have been made, has in some degree diminished; and her Majesty has given her cordial assent to measures calculated to have a beneficial influence upon that unfortunate state of things.

"Symptoms of a renewal of disturbance have manifested themselves in her Majesty's colony of New Zealand, but her Majesty trusts that by wise and conciliatory measures, supported by adequate means of repression, order and tranquillity will be maintained in that valuable and improving colony.

"Her Majesty has given her assent to a measure for augmenting the income of a considerable number of small benefices, and she trusts that this measure will be conducive to the interests of the Established Church.

"Her Majesty has given her assent to an Act for the revision of a large portion of the Statute Book, by the removal of many Acts which, although they had become obsolete or unnecessary obstructed the condensation of the statute law.

"Her Majesty has felt much pleasure in giving her assent to an Act for placing upon a well defined footing that Volunteer force which has added a most important element to the defensive means of the country.

"Her Majesty has gladly given her assent to an Act for carrying into effect the additional treaty concluded by her Majesty with the President of the United States for the more effectual suppression of the slave trade; and Her Majesty trusts that the honourable co-operation of the Government of the United States will materially assist her Majesty in those endeavours which Great Britain has long been engaged in making to put an end to the perpetration of that most disgraceful crime. Her Majesty has assented with satisfaction to many other measures of public usefulness, the result of your labours during the present session.

"It has been gratifying to her Majesty to observe that notwithstanding many adverse circumstances, the general prosperity of her empire continues unimpaired. Though great local distress has been suffered in Great Britain from the effects of the civil war in America, and in Ireland, from the results of three unfavourable seasons, the financial resources of the United Kingdom have been fully maintained, and its general commerce with the world at large has not been materially impaired.

"It has been a source of great satisfaction to Her Majesty to find that her East Indian possessions, rapidly recovering from the disasters which lately overspread them, are entering upon a course of improvement, social, financial, and commercial, which holds out good promise for the growing prosperity of those extensive regions.

"On returning to your several counties you will still have important duties to perform; and her Majesty fervently prays that the blessing of Almighty God may attend your efforts to promote the welfare and happiness of her subjects, the object of her constant and earnest solicitude."

The Commission for proroguing the Parliament was then read, and the Lord Chancellor, in Her Majesty's name, declared Parliament to be prorogued to Wednesday the 14th of October.

## HOUSE OF COMMONS.

FRIDAY.—*Small-pox in Sheep.*—Mr. D. GRIFFITH inquired whether the Government intended to take any steps to prevent the inoculation of sheep, and what had been the result of the experiment of vaccination as a preventive of small-pox in those animals.—Mr. LOWE replied that the result of the vaccinating experiment had not been satisfactory, while with regard to inoculation, the evil was so patent that it was quite unnecessary for the Government to interfere by legislation to prohibit the practice. *Academical Subscription.*—Mr. DODSON brought under notice the petition from members of the University of Oxford for the abolition of the requirement of subscription to formularies of faith as a qualification for academical degrees.—Mr. HENLEY said that the petition did not fairly represent the feelings of the University.—Mr. GOSCHEN argued that the Church of England would be better without tests and artificial supports, which many good and staunch Churchmen believed to be injurious to the Church. Inclusion was safer than exclusion. By relying on her truth and power, the Church would become stronger and stronger.—Lord R. CECIL took a different view of the value of subscription. Masters of Arts constituted the Governing body to decide what should be the religious education of the University.—The CHANCELLOR of the EXCHEQUER said that the question of tests in the University was connected with the usual training of the young. The parents of England would not be satisfied to intrust their children to the University without some definite religious security. He should be sorry to see the interference of Parliament, except from necessity, in the regulations of the University, modifications of which should be its spontaneous act. After a discussion in which Mr. LYGON, Mr. G. DUFF, Mr. NEWDEGATE, and Mr. BUXTON took part, the subject dropped.—Mr. C. BENTINCK and Mr. MONSELL called attention to the proposed cession of the *Ionian Islands* to Greece.—Lord PALMERSTON said that there had been no change in the policy of the Government on the subject. They still thought that they should be consulting the interests and wishes of the Ionian people and of Greece if they gave the Islands the option of uniting with Greece, but they would not force it upon them. Mr. M. MILNES called attention to the fees demanded by the Dean and Chapter of Westminster for the erection of public *Monuments in Westminster Abbey.*—Mr. COX and Mr. HUNT called attention to the *Increase of Infanticide* in England and Wales.—Sir G. GREY said he saw no reason to assume that the crime of infanticide was increasing, and that in regard to the fees demanded by the Dean and Chapter of Westminster, the Government had no power to interfere in the matter.—Mr. KINGLAKE called attention to the *Polish* question, and passed some severe strictures upon the reply of Prince Gortschakoff to the note of the British Government, which, he observed, must make us despair of any good resulting from negotiation. He commended the conduct of Austria; but thought it was her duty to take a more prominent part than other Powers in putting an end to what was going on in Poland.—After some remarks by Mr. HENNESSY, Mr. S. BEAUMONT, and Lord RAYNHAM, Lord PALMERSTON said that the condition of Poland was undoubtly most deplorable; but it was impossible for him to answer off-hand what course her Majesty's Government might find it their duty to adopt; but this he would say, that they were determined to act in concert with France and Austria.—Lord ELCHO asked what the Government proposed to do with the land they have recently acquired at *South Kensington.*—Lord PALMERSTON said that he understood that the contractors for the Exhibition building of 1862 had sold that curious structure for 20,000*l.* more than the sum for which it had been offered to the public, and that the Government would, between now and next session, consider the proper disposition of the land lately purchased. On the consideration of the Lords' reasons for disagreeing from one of the Commons' amendments of the *Alkali Works Regulation Bill*, the Commons, on a division, insisted upon their amendment. The *Church Building* and *New Parishes Acts Amendment Bill* was withdrawn.

SATURDAY.—The Lords' amendments to the *Fisheries (Ireland) Bill* were considered and ultimately agreed to. The Lords' amendments to a number of other Bills were considered and agreed to.

MONDAY.—*Remarriage of Dissenters.*—Sir M. PETO asked the Government whether they had heard of the remarriage of a Mr. and Mrs. Hulin by the Rev. H. Walmesley, vicar of St. Briavels, Gloucestershire, after they had been previously married in a Dissenting chapel, and on which remarriage the vicar entered the parties in his register-book as bachelor and spinster, knowing of the previous marriage; and whether the Government would prosecute the vicar for making such entries.—Mr. BRUCE said the remarriage was not an offence against the law, although no doubt it was an offence against good taste and decency.—Lord E. BRUCE inquired whether in the event of the *Ionian Islands* being ceded to Greece, her Majesty, as Sovereign of the order of St. Michael and St. George, would continue to retain the sole power of conferring that order.—Mr. C. FORTESCUE replied that her Majesty would continue to retain the sole power of conferring the order, which would not be transferred with the Ionian Islands to the kingdom of Greece, though when the protectorate ceased it would be necessary to revise the rules of the order.—Mr. NEWDEGATE called attention to the opening of a *Roman Catholic Burial Ground at Sydenham*, and asked if it had been sanctioned in the usual way.—Mr. MONSELL said that the hon. member for North Warwickshire had hounded the late Mr. Turnbull of the Record Office to death, inasmuch as the anxiety of mind which he suffered in consequence of the imputations made against his character by Mr. Newdegate and others, had brought him to his grave; and though Mr. Newdegate might war against the living, he might have spared the dead.—Sir G. BOWYER said he had ascertained from the medical attendants of the late Mr. Turnbull that his death was clearly to be traced to a broken heart.—Mr. BRUCE said that the burial ground at Sydenham had been sanctioned by the Home Office in the usual manner, and that it was intended for the clergy and lay brethren of the oratory at Brompton.—In answer to Mr. H. Seymour, Mr. LAYARD observed that there was great mystery hanging over the *Affairs of Herat.* Some time ago the Government received a telegram from the British mission at Teheran that Herat had been taken by Dost Mahomed's Affghan forces; but the announcement had not been confirmed. The accounts as to the death of the Dost were conflicting.—On the order of the day for the third reading of the *Exhibition Medals Bill*, Mr. AYRTON condemned the precipitancy with which the measure had been carried through its earlier stages, and the objectionable nature of the principle involved, and concluded by moving that the Bill be read a third time that day week. Mr. M. GIBSON, the LORD MAYOR, Mr. J. FOWELL, and Sir G. BOWYER, supported the Bill, Lord R. CECIL, Mr. BUTT, and Colonel FRENCH, opposed it. On a division the motion was negatived by 62 to 15. The Bill was then read a third time and passed.—On the motion of Sir G. BOWYER, the order for the second reading of the *Benchers Jurisdiction and Authority Bill* was discharged, and the Bill withdrawn. The House was then counted out.

TUESDAY.—*Precedency of Edinburgh, Dublin, and York.*—Sir G. GREY, in answer to Mr. Brown-Westhead, said that the Corporation of London was the only one in England which had a right to present a petition to the Queen in person. The question of precedence as between the Lord Mayor of York, the Provost of Edinburgh and the Lord Mayor of Dublin could not, therefore, arise.—Mr. LAYARD, in replying to Sir G. BOWYER, said that the terms of the arbitration in the *Case of Captain Melville White* had not yet been settled between her Majesty's Government and the Government of Peru, and that negotiations on the subject were still pending.—Lord PALMERSTON stated, in answer to an inquiry of Mr. GRIFFITH, that there were agencies at work with the view of preventing the establishment of Prince William of Denmark as *King of Greece.* It was desirable, therefore, that every difficulty and embarrassment should be removed, in order that such a result might not take place. By the treaty constituting Greece a kingdom the territorial limitations were fixed with the sanction of the contracting parties, and no future change would be made in these limits without mutual consent; and the treaty by which the Ionian Islands would be added to Greece would extend to the Septinsular Republic the same sanction as applied to the present territorial limits of Greece. Lord PALMERSTON, in answer to another question, said that he declined all responsibility for any assertions made by M. Lesseps palliating or defending the employment of *Forced Labour on the Suez Canal.* He believed that the Peninsular and Oriental Company did employ forced labour in the embarkation and debarkation of their cargoes in Egypt; but as soon as the order of the Sultan abolishing forced labour came into operation that order would apply to the Peninsular and Oriental as well as to other companies. *Poland.*—In answer to Mr. HENNESSEY, Lord PALMERSTON said that, in his opinion, it would be injurious to the interests of Poland to tell Russia that the stipulations of the Treaty of Vienna were no longer of value.—Mr. O'HAGAN replied to questions regarding the *Administration of Justice in Ireland.*—The House was then summoned to the House of Lords to hear the Queen's speech read by commission. On its return the SPEAKER read the Queen's speech at the table, and the session of 1863 was brought to a conclusion.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $93\frac{1}{8}$ to 93 for Money, and $93\frac{1}{8}$ for Account; Three per Cents. Reduced, $93\frac{1}{4}$ to $\frac{1}{8}$; New Three per Cents., $93\frac{3}{8}$ to $\frac{1}{4}$; Thirty Years' Annuities, 1885, $15\frac{1}{8}$; Red Sea Telegraph, 21 1-16; Bank Stock, 239; India Stock, 226 to 228; Ditto Five per Cent. Stock, $108\frac{3}{8}$ to $\frac{1}{2}$; Ditto Four per Cent. Debentures, 1863, $100\frac{1}{8}$; Ditto, 1864, $100\frac{1}{8}$ to $\frac{1}{4}$; Ditto Bonds, 16*s.* pm.; Five per Cent. Enfaced Rupee Paper, 107; Ditto Five and a Half per Cent., 116; Exchequer Bills, March, 1*s.* dis. to 2*s.* pm.; Ditto June, 1*s.* dis.—FOREIGN: Egyptian, $103\frac{1}{2}$ to 103; Ditto, second issue, 103; Greek, $32\frac{1}{2}$ to $\frac{5}{8}$; Ditto, for Acct., $32\frac{1}{2}$ to $\frac{5}{8}$; Ditto Coupons, $15\frac{1}{2}$ to 16; Italian, Maremmana Railway, $78\frac{3}{4}$; Mexican, 37; Ditto for Acct., $37\frac{1}{8}$ to $36\frac{7}{8}$; Peruvian, 1862, $85\frac{3}{4}$; Russian, 1862, $92\frac{1}{2}$; Sardinian, $89\frac{7}{8}$ to $\frac{3}{8}$; Spanish, for Acct., $53\frac{3}{4}$; Ditto Passive, for Acct., $32\frac{1}{4}$ to $\frac{3}{4}$; Ditto Certificates, for Acct., $12\frac{3}{8}$ to $\frac{1}{2}$; Turkish, 1854, $92\frac{1}{2}$; Ditto 1858, for Acct., $70\frac{3}{4}$; Ditto 100*l.* Bonds, 74; Ditto 1862, 67; Ditto for Acct., $67\frac{1}{4}$; Venezuela, for Acct., $23\frac{3}{8}$; Ditto 1862, $55\frac{3}{4}$; Ditto for Acct., $56\frac{1}{8}$ to $55\frac{1}{2}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued.. .. .. | £28,564,050 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,914,050 |
| | | Silver Bullion .. .. | — |
| | £28,564,050 | | £28,564,050 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,006,888 |
| Rest .. .. .. .. .. | 3,321,340 | Other Securities .. .. | 19,374,052 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 5,629,282 | Notes .. .. .. .. .. | 7,365,115 |
| Other Deposits .. .. .. | 14,441,872 | Gold and Silver Coin .. | 830,185 |
| Seven days and other bills | 630,746 | | |
| | £38,576,240 | | £38,576,240 |

July 30, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *July* 24.—BANKRUPTS.—J. H. ALDERSON, Everton, Lancashire, General Merchant—R. BRIDGEN, Brighton, Stationer—A. BROWNE, Clerkenwell, Tool and Metal Dealer—A. J. BOUNEVIALLE, Fenchurch Street, City, Globe Manufacturer—J. BOUCHER and T. BOUCHER, Newnham, Gloucestershire, Carpenters—F. BARKER, Alrewas, Staffordshire, Grocer—W. BOLZANI, Birmingham, Hosier—C. BARNES, Cambridge, Tailor and Robe Maker—J. BURTON, Tottenham, Middlesex, Blacksmith—W. H. BLACK, Haslingden, Lancashire, Cotton Spinner—T. CHESTERTON, Loughborough, Leicestershire, Brush Manufacturer—JAMES ARAUNAH CLEMMANS, Upper Thames Street, Licensed Victualler—JOHN CORNS, Wolverhampton, Journeyman Mill Maker—JOHN PETER CROWTHER, Chelsea, Statuary Mason—G. CATON, Wheeler Street, Spital Square, Spitalfields, Chenile and Silk Umbrella Manufacturer—R. A. DALE, Walsall, Staffordshire, Attorney's Clerk—G. DEVALL, Dudley, Worcestershire, Journeyman Hatter—W. DAVIES, Wombridge, Shropshire, Tailor—B. DRAKE, Northtawton, Devonshire, Higgler—J. DAVIES, Birmingham, Cabinet Maker—A. ELKINGTON, South Camp, Aldershott, Deputy Assistant Commissary General—J. D. ELLIS, Furnival's Inn, Architect—W. ELLIOTT, Pimlico, Boarding and Lodging House Keeper—F. A. FARRAR, Russell Grove, Vassal Road, Brixton, Solicitor—S. FLINT, Mansfield, Nottinghamshire, Licensed Victualler—D. FINLANSON, Fenchurch Street, City, Tailor—E. GUARD, Bedminster, Bristol, Timber Dealer—W. GREEN, Leeds, Galvanised Iron Manufacturer—J. GUTTERIDGE, Ryde, Isle of Wight, Shoemaker—V. D. HUNT, otherwise V. D. DE V. HUNT, Stranraer Place, Paddington, Commission Agent—J. HOOPER, Charlton, Kent, Carpenter—J. HAYNES, Ryde, Hampshire, late Postmaster—W. H. HOCKING, Falmouth, Cornwall, Painter—S. HARDY, late of Holmfirth, Yorkshire, Coal Dealer—T. B. HEWORTH, Leeds, Joiner—J. HUNTER, Doncaster, Yorkshire, Tea Dealer—J. HILLIER, Queen's Buildings, Brompton, Carpenter—T. HEATON, Ince, Lancashire, Coal Proprietor—J. INGARFIELD, Brighton, Fishmonger—T. JOLLY, Loughborough, Leicestershire, Watchmaker—W. JEFFRIES, Cambridge Road, Mile End, Oil and Colourman—R. E. JONES, Birkenhead, Coal Merchant—H. KEMP, jun., Grange Road, Bermondsey, Traveller—R. KIMBER, St. James's Street, Pentonville, Plater—J. KEARNS, Oxford Street, Cutler—R. KING, late Chorlton-upon-Medlock, Lancashire, Cigar Dealer—J. KING, Portswood, Southampton, Builder—A. W. LEVETT, Jewin Street, City, Hair Net Manufacturer—WILLIAM CLARK LUPTON, Harrogate, Yorkshire, Whitesmith—J. LONG, Downham Market, Norfolk, Coach Painter—G. LADMORE, late of Toxteth Park, Liverpool, Shipwright—G. MOORE, St. James Place, Bermondsey, Lighterman—H. MARSHALL, Portland Place, Salt Merchant—A. F. MORRIS, Christian Malford, Wiltshire, Tailor—W. MEDDOWCROFT, Notting Hill, Boarding House Keeper—J. MASON, Duncan Terrace, Islington, Jeweller—W. M'LAREN, Eaton Street, Pimlico, late Teadealer—W. MILLS, late Fishergate, Lancashire, Fishmonger—J. MITCHELL, Sowerly, Yorkshire, Butcher—W. NEWMAN, Middlewich, Cheshire, Grocer—J. NICHOLSON, Newcastle-upon Tyne, Engraver—W. S. POOLE and J. L. BURKITT, Kenilworth, Attorneys-at-Law—W. H. PERKINS, Church Street, Woolwich, Tailor and Outfitter—G. PATTRICK, Mount Radford, Exeter—C. PHAROAH, Hoxton, Wholesale Shoe Currier—E. J. PERRYMAN, Kentish Town, Tailor—P. REED, York, Ironmonger—H. READY, Old Jewry, Surveyor—W. H. J. ROBBINS, Crawford Street, Bryanston Square, Boot Dealer—C. RUST, Mare Street, Hackney, Attorney's Clerk—C. ROBERTSON, Bishopsgate Within, Attorney-at-law—W. SHIPP, Cotham, Bristol, Coachman—PETER GEORGE STUBBS, Easington, Durham, Merchant Tailor—ESTER STOWELL and AMELIA JANE EVERETT, Anerly, Spinsters—J. STARKEY, Wolverhampton, Licensed Retailer of Ale—T. SPITTLE, Eckington, near Pershore, Worcestershire, Horse Dealer—W. SPATCHER, Northampton, Plumber—G. STANESBY, Chapel Street, Park Walk, Chelsea, Livery Stable Keeper—H. STEPHENSON, Pimlico, Commission Agent—S. H. STEWART, Aldwark, Yorkshire, Linen Draper—W. THOMAS, Liskeard, Cornwall, Grocer—H. TOWLE, late of Bingham, Nottinghamshire, Surgeon—H. THOMAS, Hereford, Herefordshire, Innkeeper—M. TURNER, Chatham,

ent, Carrier—H. Taylor, Rinstead, Norfolk, Higgler—A. Turner, esterfield, Derbyshire, Brewer's Manager—W. Urquhart, late of Will ett Place, Old Kent Road, Paper Pulp Maker—G. F. Upward, Regent's rk, Stock Jobber—G. Watson, Bedale, Yorkshire, Currier—J. Wilson shopwearmouth, Durham, Boot and Shoemaker—R. Watson, New oss, Watchmaker—J. Whiteley, Bradford, Yorkshire, Machine Wool mber—R. A. Westbrook, Westminster, Solicitor—G. Webb, late of ebb's Place, Gower's Walk, Whitechapel, Builder—J. Yates, jun., terborough, Northamptonshire, Plumber.

SCOTCH SEQUESTRATIONS.—A. Graham, Summerston, Stirlingire, Farmer—W. Johnston, Ecclefechan, Dumfries-shire, Farmer—Mitchell, Pitlowie, Perthshire, Farmer.

TUESDAY: *July* 28.—BANKRUPTS.—J. L. Ash, Glamorganshire, ipping Master—G. Atkinson, Grassthorpe, Nottinghamshire, Miller—Barratt, Wakefield, Yorkshire, Seedsman—J. Burton, Price's Yard, ledonian Road, Journeyman General Smith—H. F. Barton, Bath Street, bernacle Square, Shoreditch, Tripe Dresser—J. Briggs, Northfleet, ent, General Dealer—J. Bird, jun., Bryanston Street, Portman Square, dging house Keeper—J. Best, Harlington, Middlesex, late Labourer—. Broughton, Great Bolton, Lancashire, Shopkeeper—G. Benn, Park ne, Piccadilly, Dairyman and Lodging house Keeper—Z. Batchelor, rmingham, late Grocer—W. H. Biddick, St. Issey, Cornwall, Carpenter H. Barnett, Liverpool, Toy Dealer—W. H. Cole, Sevenoaks, Kent, ationer—W. C. Chapman, Crowle, Lincolnshire, Plumber—S. Cowell, ennington Oval, Vocalist—J. Compton, Farnham, Dorsetshire, Farm ailiff—G. F. Cornelius, Penton Street, Pentonville, Commission Agent—Cape, Gainsborough, Inn-keeper—A. Cohen, Judd St., Euston Rd., Furture Dealer—P. J. B. de Chantal, Baker St., Portman Sq., Professor of e French Language—J. Driver, Bradford, Yorkshire, Dyer—A. Disney, ennington Grove, Kennington Lane, late Dealer in Railway Shares—Ellison, Salisbury Street, Lisson Grove, Coach Painter—H. Edwards emingford Road, Barnsbury, Attorney's Clerk—D. Finlayson (and not Finlanson, as formerly advertised), Fenchurch Street, City, Tailor—Flight, late of Grove Cottages, Edgware Road, Boot and Shoemaker—. Gurney, St. James Road, Holloway, late Grocer—J. Gair, Darlington, urham, Grocer—T. Herbert, Wakefield, Yorkshire, Glass and China ealer—D. Hilton and H. Hilton, Sheffield, Britannia Medal Manufacturers—J. E. Harris, Wisbech, Cambridgeshire, Grocer—A. Heflin, aternoster Row, Publisher—D. Hayes, Bridge Street, East, Mile End, e Rope Manufacturer—J. Iceton, Willington, Durham, Agricultural bourer—A. Jackson, Ipswich, late Pastrycook—G. Jackson, Liverpool, le Maker—J. Kettle, Cardiff, Beer Retailer—C. Longman, Blackman reet, Borough, Dyer—J. Lusher, Ashill, Norfolk, Blacksmith—G. Lax, anchester, Draper—J. Marshall, Ripon, Yorkshire, Chorister—ederick Mittonnette, late of Trinity Street, Islington, Commission ent—Joseph Dagnall Muddiman, Aylesbury, Buckinghamshire, rfumer—Alfred Marsh, Copenhagen Street, Caledonian Road, arehouseman—John Mason, Runcorn, Cheshire, Shipbuilder—James itchell, Macclesfield, Cheshire, late Licensed Victualler—S. Naylor, lford, Lancashire, late Indigo Manufacturer—R. N. Parsons, Dudley, orcestershire, Dealer in Cattle—C. Pengilly, Bodmin, Cornwall, armer—N. Perrons, Basford, Nottinghamshire, late Coal Dealer—H rorum, Brighton, Licensed to Let Flys and Horses—R. Robinson, alifax, Sail Yarn Maker—T. Remmitt, Smethwick, Staffordshire, ookseller—G. Richardson, Kentish Town Road, Furnishing Ironmonger—W. Russell, St. Andrew's Terrace, Wandsworth Road, Journeyman Coachman—J. Russell, Axminster, Devonshire, Saddler—W. Raven, helmsford, Essex, Baker—J. Reeves, Shrewsbury, Licensed Victualler—. Street, High Street, Hoxton, Baker—L. Shaw, Hollin's Green, ancashire, Provision Dealer—W. Stowell, Torriano Gardens, Camden oad, Dissenting Minister—C. Smith, Island of Portland, Dorsetshire, hoe Maker—W. Sims, Liverpool, Shipwright—J. M. Shields, Long enton, Northumberland, Hotel Keeper—H. M. Smith, Flamstead Lodge, ar Dunstable, Gentleman—G. Sach, Ealing, Middlesex, Carpenter—J. Smith, Stockwell Place, Clapham Road, Publican and Bricklayer—. Smith, late of Leigham Place South, Lambeth New Road, Bricklayer—Smith, Howthorpe, Yorkshire, Farmer—F. Swebeck, Fowke's uildings, Great Tower Street, Merchant—F. E. Tucker, Old Broad reet, City, Bill Broker—J. Touth, jun., Greenheys, Lancashire, obacconist—M. Timpson, Southampton, Photographer—W. F. Vincent, ast Mersea, Essex, Coachmaker—W. J. Williams, Merthyr Tydfil, lamorganshire, Colliery Overmann—W. Wood, late of Beer Ferris, evonshire, Dealer in Powder—B. Wright, Bilston, Staffordshire, Charter aster—W. H. Webb, late George Street, Hammersmith, Private Tutor J. C. Wingfield, Kingston-upon-Hull, Confectioner—J. Williams, hosllanerchrugog, Denbighshire, Tailor—G. Wright, St. Thomas's quare, Hackney, Master Royal Navy—J. Wilkins, Exeter, Grocer.

SCOTCH SEQUESTRATIONS.—E. Anderson & J. Wilson, Elgin, ood Merchants—R. Allison, Ardrossan, Shipping Agent—D. Cowie, ettercairn, Kincardineshire, Furnishing Tailor—W. Forsyth, Forres, lginshire, Clothier—D. Marwick, jun., Kirkwall, Ironmonger—R. isbet, Glasgow, Wine and Spirit Merchant—W. Smith, Broughty Ferry, aker—J. Strutheers, Glasgow, Spinner.

## Metropolis and its Vicinity.

Proposed Railway from the City to the West End.—At the last meeting of the Court of Common Council, Alderman Waterlow presented a petition from Mr. Francis Giles, civil engineer, for the assent of the corporation to a railway projected by him for the purpose of relieving the pressure and of providing an expeditious means of transit between the City and the West End. He proposes to construct this railway from Walbrook behind the Mansion House to the Regent Circus, running under Newgate Market, across Farringdon Street, under Chancery Lane, Lincoln's-Inn-Fields, and Covent Garden, and near Trafalgar Square, capable of extension towards the east to the Fenchurch Street Station of the Blackwall Railway, and towards the west to the Marble Arch, Hyde Park. He proposes to construct the railway with four lines, in order to insure ample capacity, and the power so to divide the trains as to combine safety with the despatch of eight or 10 trains each way every hour of the working day. He had so arranged the levels of the proposed railway as to avoid all the new main sewers, to deal with other sewers without injury to the drainage, and to render it unnecessary to alter the level of any street except Farringdon Street. The terminal stations at Walbrook and at the Circus, Oxford Street, and the intermediate stations at Chancery Lane and at a point near Trafalgar Square for Piccadilly and Charing Cross, would be in open cuttings, at depths averaging 25 feet from the surface. The memorial was referred to the Improvements Committee for consideration and report, with an instruction to confer with the Commissioners of Sewers on the subject.

The Thames Embankment.—Mr. Bazalgette has submitted to the Metropolitan Board of Works the plans and sections of the northern embankment and the Board have advertised for tenders for the work. The following details of Mr. Bazalgette's plan for the entire scheme from Westminster to Blackfriars will be read with interest. The foundations of the embankment will be laid upon a bed of gravel, 7 feet below the river mud, overlaying the London clay, and averaging from about 15 feet to 25 feet in thickness. They will rest upon the lower portion of this bed of gravel, at a depth of about 14 feet below low water mark, and 10 feet above the London clay, or about the depth of the bottom of the deep-water channel of the river in the mid-stream. In order to get in the foundations to this depth Mr. Bazalgette proposes, by excavating within them, to sink a connected line of iron caissons, and to fill them with Portland cement concrete to within 6 feet of low water; and at this depth, and upon the concrete, to build the brick granite-faced embankment wall. The caissons will be so constructed as to form a full-tide dam, and the work will be carried on in short lengths, so that the upper portion of the dam above low-water can be removed, as each section is completed, and employed in the formation of the adjoining length. Thus the ironwork used as a dam between high and low water will not be wasted, but will become available for other purposes after the whole work is completed. This, therefore, will be a safe, rapid, and economical mode of operation. Behind the embankment wall, and underneath the roadway, he proposes to construct a subway and sewers, an arrangement which will add much to the stability of the embankment wall. The total length of the embankment will be about 7000 ft., but it will be completely divided by the bridges into three sections, each of which will be viewed by itself, and the line of vision will not ordinarily be continued from one section to the other. The first section will be from Westminster to Hungerford Bridge, the second from Hungerford Bridge to Waterloo, and the third from Waterloo to Blackfriars Bridge. A continuous line of embankment wall would not in itself be productive of much architectural effect, the present landing-places for steamboats are exceedingly ugly, and there would be much difficulty in connecting the river wall with the existing bridges, so as to produce an effective and consistent design. At each of the bridges there are, and must be, landing-places for steamers, and midway between the bridges there are landing-places of some description, which will have to be maintained. To meet these requirements it is proposed to treat each length of embankment from bridge to bridge as a complete design, and to make the steamboat-piers and landing-places prominent and effective, as well as useful and necessary features. At Westminster Bridge the roadway, which rises at an inclination of 1 in 80 to the level of the bridge, will be set back 30 or 40 feet from the face of the embankment wall, and the intervening space will be reserved as a promenade and steamboat-pier, having access from the bridge by a wide and imposing flight of steps opposite the Houses of Parliament. This will terminate without abruptness the various styles of architecture at this point. Between Westminster and Hungerford bridges will be landing stairs for smaller craft, and it is proposed to introduce at that point the beautiful water gate at the end of Buckingham Street, erected after a design by Inigo Jones. On either side of Hungerford and Waterloo Bridges will be steamboat landing places, the dummies for which will be partly concealed within recesses formed by projecting into the river, in front of the general line of embankment, massive granite piers with moulded pedestals rising about 30 feet above the roadway, and hereafter to be enriched with bas-reliefs and surmounted by groups of statuary. Half way between Hungerford and Waterloo Bridges it is proposed to construct a flight of landing steps 60 feet wide, projecting into the river, and flanked at each end with massive piers, rising to the level of a few feet above the roadway, and hereafter to be surmounted with colossal figures of river deities, or other appropriate groups. It is proposed to form an approach for foot passengers from the high level roadway to the river by a second flight of steps, descending to the level of the lower or embankment roadway, which would add much to the effect of this central feature as viewed from the river. On either side of this approach a line of shops could be erected on the land side of the embankment roadway, the backs of which would form a retaining wall to the ornamental crescent and promenade above them. Between Waterloo and Blackfriars Bridges, and in front of Arundel Street, a steamboat pier will be constructed, in lieu of the present Essex Street pier, designed upon the same principle as those adjoining the bridges. The embankment wall itself will be enriched with mouldings of a simple character down to the level of the high-water mark, the continuous line of moulding being broken by the introduction at intervals of massive blocks of granite to carry ornamental lamps, and by occasional recesses for promenade seats. It is proposed in the first instance to construct the embankment wall and fill in behind it to the level of 4 feet above Trinity high-water mark, and afterwards to arrange for the laying out of the area reclaimed.

Hudson's Bay Company.—The International Financial Society, composed chiefly of parties connected with Canadian interests, have purchased the entire property and rights of the Hudson's Bay Company, at the price of 300*l.* for every 100*l.* stock. The total capital was 500,000*l.*, and the amount of the purchase has therefore been 1,500,000*l.* Sir Edmund Head, formerly Governor-General of Canada is the Governor, and Mr. C. M. Lampson, the most experienced merchant in London connected with the fur trade is the Deputy-Governor of the new Company with six directors of high commercial reputation—viz., Messrs. Eden Colvile, G. Lyall, M.P., D. Meinertzhagen (of Huth & Co.), J. S. Hodgson (of Finlay, Hodgson, & Co.), J. H. W. Schröder, and Richard Potter. The property of the company in its new form consists of all the stores, ships, &c., hitherto employed in the trading operations of the Hudson's Bay Company, valued at 1,023,569*l.*, a cash balance of 370,000*l.*, and the entire landed territory granted to the Company under their charter nearly two centuries ago, extending over an area nearly half as large as Europe and in the southern portion of which, connecting Upper Canada with British Columbia, there is a fertile and temperate tract for settlement said to comprise more than twice the area of France. Up to this time the policy of the Hudson's Bay Company has been one of rigid exclusion, the sole object having been to preserve the country as a chase for the Indians. The fresh operations contemplated by the new company are the erection of a telegraph line connecting Canada with British Columbia, which will pass through 2500 miles of their territory, and for which the provincial Governments have offered an annual subsidy; the settlement of the country along that route, skirting Minnesota, Nebraska, and Washington; the development of the mines near the head of Lake Superior, and on the eastern slopes of the Rocky Mountains; and the encouragement of all undertakings connected with agricultural and commercial enterprise.

The Dutch Library in Austin Friars.—At the last meeting of the Court of Common Council, it was announced that the consistory of the Dutch church in Austin Friars, had presented to the corporation their valuable library, which was fortunately saved from destruction when that ancient fabric was partially destroyed not long ago by fire. This library, which consists of about 2000 volumes, was established by Marie Dubois, a pious lady, in 1650, and additions were made to it from time to time by the Dutch Ambassadors, the Dutch East India Company, and the wealthy members of the congregation. It includes a very interesting collection of manuscript letters of the early Ecclesiastical reformers; among others, of Erasmus, Calvin, Beza, Bucer, Peter Martyr, Grindal, Archbishop of Canterbury; Vizet, John à Lasco, the first minister of the Dutch Church in London; Bullinger, Dathenæ, and John Fox, the Martyrologist; also letters of the principal founders of the Dutch Republic, including the Prince of Orange, afterwards William I., Sir Philip de Marinix, Count d'Aldegonde, the Admiral of the Dutch fleet. One batch alone contains 272 original letters to Abraham Ortelius, geographer to Philip II. of Spain, from the chief learned and scientific men of the age; portrait etchings of Albert Durer by himself, Ortelius Christopher Plantin (printer of the polyglot Bible), Cardinal Ximenes, Gerard Mercator, William Camden, Dr. John Dee (physician to Queen Elizabeth), Lord Burleigh, the Earls of Leicester, Sussex, and Lincoln, several of the English bishops of those times, and of the Lord Mayors of London. The principal part of the library consists of early theological works in Latin, German, Dutch, and English, good editions of the classics, illuminated Bibles, Blaew's view of the different Continental States in 1649, and embassy to China in 1670; making in all about 2000 volumes, and with the old fittings complete.

Lancashire Relief Fund.—At the meeting of the Mansion House Committee on Friday the report stated that the total amount received, including interest, was 507,267*l.* 14*s.* 4*d.*, of which 428,802*l.* 12*s.* 7*d.* had been already remitted to the distressed districts. The subscriptions received during the week amounted to 2,170*l.* 15*s.* 1*d.*, of which 69*l.* 7*s.* 4*d.* was from home and 2,101*l.* 7*s.* 9*d.* from colonial sources. 31 grants were made, amounting in all to 1440*l.*

Burlington House.—A return made to Parliament shows that Burlington House, with its gardens, was purchased in 1854 for 140,000*l.* The extent of the ground is about 3½ acres. The building is now occupied by the Royal Society, the Senate of the University of London, the Linnean Society, and the Chemical Society, and certain Volunteer Corps are allowed to drill in the gardens and in a temporary building which they have been permitted to erect there for the purpose. No income is derived from the property; the annual outgoings and cost of maintaining it average 470*l.*

Abolition of Metropolitan Turnpikes.—The Metropolis Turnpike Roads Act Amendment Bill, which received the Royal Assent on Tuesday, after eight years of agitation, will confer a great benefit on the metropolis by the removal, on and from July 1, 1864, of 25 toll-gates and 56 side bars, and the setting free from toll-gate obstruction of about 51 miles of road on the Middlesex side of the Thames. The gates and bars to be removed are:—Fulham, Walham Green, Earl's Court, Kensington, Hammersmith, Notting Hill, Harrow Road, Kilburn, Camden Town, Kingsroad Gate, High Street, Chalk Farm, Haverstock Hill, Camden Road, Brecknock Gate, Kentish Town, Gloucester Place, Holloway Road, Islington, Ball's Pond, City Road, Kingsland Road, Cambridge Heath, Hackney, Clapton, Stoke Newington, Twickenham, and Teddington.

Opening of the Alexandra Park.—The Alexandra Park, at Muswell Hill, was opened on the 23d ult. with a horticultural fête and an archery contest, in the presence of many thousand persons. This park, which is intended as a place of public resort and recreation to the inhabitants of North London, comprises the whole estate of Muswell Hill, lately belonging to Mr. Rhodes, with some surrounding land, making in all an extent of about 450 acres of the most picturesque and beautiful wooded country to be found—certainly near London, if not in any part of England. On the highest point of the grounds it is intended to erect the nave, domes, side courts, transepts—in fact all the glass and iron structure of the Exhibition building; but at present there is no building into which the visitors may retreat in case of rain, and the only railway accommodation is from King's Cross to the Wood Green Station of the Great Northern, on the grounds

of the Park itself. It is intended to intrust the care of the building and the grounds entirely to the Corps of Commissionaires, and to dispense entirely with the police in favour of old soldiers.

MURDEROUS OUTRAGE IN WHITEHALL.—On Saturday a murderous affray took place at the Lodge of Richmond Terrace between the old man who acted as gate-keeper, and his daughter who lived with him. It is said that both were of intemperate habits, and frequently quarrelled; and on this occasion they attacked each other—one armed with a knife and the other with a fork—and stabbed each other so severely that both were taken to the hospital, where they still remain in a serious state.

THE ISLINGTON MURDER.—The young man Clarke, who was charged with the abduction and murder of a little girl at Islington, was brought before the magistrate at Clerkenwell Police-court on Thursday, when Mr. Clerk, who attended from the Treasury, intimated that on a careful examination of the evidence he did not think it would bear out the charge of murder. He would, therefore, abandon that charge, but proceed against him for acts of indecency towards other little girls that had come out in the evidence. The magistrate committed him for trial, but offered to accept heavy bail, which the prisoner was unable to procure, and was accordingly removed in custody.

THE PUBLIC HEALTH. — The Registrar-General's Weekly Return states that the deaths in London in the week ended Saturday, July 25, were 1452. The average number in the corresponding weeks of the years 1853-62, corrected for increase of population, was 1253. The present return is therefore 199 above the average. This excess was caused chiefly by diarrhœa, from which 233 deaths were reported. There were 20 deaths from cholera, of which 2 were Asiatic. The deaths from small-pox declined to 34, which is lower than any previous weekly number since the end of March. During the week the births of 994 boys and 898 girls, in all 1892 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1818.

## Provincial.

BIRMINGHAM.—At the inquest on Madame Geneive, the female Blondin, last week, Edward Powell, her husband, deposed that deceased had for 17 years been the sole support of himself and seven children. She belonged to the original "Huntini" family, and had been accustomed to walk upon the tight rope ever since she was three years of age. She had been in every town in England, Ireland, and Scotland; and never had a fall till nine years ago, when witness caught her. She was engaged on this occasion to go through two performances on the same day for 15*l*. Henry White, rope maker, deposed that it would have been impossible to have discovered any defect in the rope without opening it. He had done this since the accident, and found that it presented every appearance of dry rot, as if it had been put away wet. Its appearance, however, without being untwisted was such that it might deceive anybody. Mr. Porter, surgeon, who had made the *post mortem* examination, stated that on the left side eight ribs were broken, and on the right side six. The liver was ruptured in five or six places, and the hip bone was fractured through the joint. The spine was not fractured, but two of the spinous processes of the last two dorsal vertebræ were broken. The deceased was between the seventh and eighth month of pregnancy. It also appeared from the other evidence that there were about 14,000 persons present in the park, and that one-fourth of the gross amount of the receipts was to be paid by the Foresters' committee to the Aston Park company. The jury returned a verdict of Accidental Death, with an expression of opinion that parties are greatly to blame who engage people for performances which are dangerous to life for the amusement of the public, and that all dangerous and degrading performances by either sex should be discouraged. The following letter has been addressed to the Mayor of Birmingham, by command of the Queen, in reference to this catastrophe:—

"Osborne, July 25, 1863.

"Sir,—The Queen has commanded me to express to you the pain with which her Majesty has read the account of a fatal accident which has occurred during a fête at Aston Park, Birmingham. Her Majesty cannot refrain from making known through you her personal feelings of horror that one of her subjects—a female—should have been sacrificed to the gratification of the demoralising taste, unfortunately prevalent, for exhibitions attended with the greatest danger to the performers. Were any proof wanting that such exhibitions are demoralising, I am commanded to remark that it would be at once found in the decision arrived at to continue the festivities, the hilarity, and the sports of the occasion after an event so melancholy. The Queen trusts that you, in common with the rest of the townspeople of Birmingham, will use your influence to prevent in future the degradation to such exhibitions of the Park which was gladly opened by her Majesty and the beloved Prince Consort, in the hope that it would be made serviceable for the healthy exercise and rational recreation of the people.

"I have the honour to be, &c. "C. B. PHIPPS."

BURY.—We learn that in recognition of the special services rendered to the Royal Italian Commission for the International Exhibition of 1862, Mr. William Wanklyn, of Bury, Lancashire, whose valuable report on the samples of cotton in the late International Exhibition was published by the Cotton Supply Association, has had the honour of receiving from the King of Italy the order of Knighthood of St. Maurizio and Lazzaro.

NEWPORT PAGNELL.—The Irish schoolmaster Michael Lyons, who made the murderous attack on two men in a railway carriage a few days ago, was brought before the Buckinghamshire county magistrates in this town on Thursday. Both the injured persons were able to attend and give their evidence, and the old lady who was in the carriage with them was also examined. The magistrates committed the prisoner for trial, and refused to accept bail.

## Ireland.

THE KILMALLOCK MURDER.—The last of the five men concerned in the murder of Mr. Fitzgerald was tried on the 13th ult. at Limerick Assizes. Three of them, Beckham, Walker, and Denis Dillane, had already been executed; another, a farmer called Cooke, who had harboured them, had been severely punished; and the fifth, Matthew Dillane, was now tried on the charge of being an accessory before the fact. The Attorney-General in opening the case said that though there was evidence sufficiently strong to place the prisoner on trial for the capital offence, that evidence was not admissible in a legal form, and therefore the Crown would only proceed upon the minor counts of the indictment. To these the prisoner pleaded Guilty, and Mr. Justice Keogh sentenced him to ten years' penal servitude, directing that he should be sent off at once, without being allowed an interview with his friends.

THE NEW ROSS MURDER.—At the Wexford Assizes on the 11th ult. Joseph Kelly was convicted of the murder of Michael Fitzhenry, a national schoolmaster. The Solicitor General went down specially to conduct the case. The judge, in passing sentence of death, stated that the jury would have been guilty of a violation of their oath if they had come to any other conclusion than the one at which they had arrived. He then sentenced the prisoner to be executed on Tuesday the 11th August.

THE DERRYNEAGH MURDER.—The trial of Francis Bradley for the murder of Adam Grierson, agent on the estate of Mr. Adair, at Derryneagh, took place at the Lifford Assizes last week. The prisoner was identified in a dying declaration by the murdered man; but owing to some informality the document was not put in. The jury after long deliberation were unable to agree to a verdict and were discharged; and the prisoner was detained in custody to be tried again at the next assizes.

THE MULLINGAR MURDER. — At the Mullingar assizes the trial of John Bodkin for the murder of Michael Bannon, after lasting three days, terminated in the disagreement of the jury. The deceased was found dead on the 3d of December in his own field, his body mutilated, and his head broken almost to a jelly. Suspicion fell upon the prisoner, who was arrested, and blood found upon his clothes. There had been ill feeling between him and deceased about the management of a farm belonging to a Mrs. Coughlan, which was supposed to supply a motive for the crime. Deceased, who was an elderly man, had been some months married to Mrs. Coughlan's daughter, but they did not seem to have agreed, and she was not living with him at his death. Thomas Moran swore that he had been repeatedly solicited by the prisoner to shoot Bannon, and had been supplied with a pistol for the purpose. One of the witnesses examined was the prisoner's daughter, who deposed that her father was out on the night of the murder, and that next morning she assisted in washing his trousers. While under examination she broke out into hysterical sobs, and it was some time before she could answer any questions. The jury were locked up for some time, but as there was no likelihood of their agreeing they were discharged.

THE TIPPERARY MURDER.—The murderers of the late Mr. Jackson seem to have completely baffled the authorities. The two Maddens, father and son, who have been in prison since the murder, have been set at liberty, there being no evidence to warrant their further detention. The elder Madden, it will be remembered, was Mr. Jackson's steward, and was arrested in consequence of a large sum of money having been found in his box.

## Scotland.

THE LATE DUKE OF HAMILTON.—It is stated that the late Duke of Hamilton insured his life for the large sum of 100,000*l*. about a week before he last left Scotland for Paris. The chief part of the loss will fall upon the Scottish offices.

THE PRECEDENCY OF EDINBURGH OVER DUBLIN.—The correspondence between Sir George Grey and the various parties concerned in the decision of this question has recently been published. The report of Sir Bernard Burke, Ulster King at Arms, to the Lord-Lieutenant of Ireland, together with the correspondence of the Lord Provost of Edinburgh, has been forwarded to Sir Charles Young, Garter King at Arms, for his remarks. These are given as the last document in the case, and the opinion of Garter King at Arms is decidedly in favour of Edinburgh.

THE BREADALBANE SUCCESSION.—The Judges of the first division of the Court of Session have recently given judgment on the petition of Lieutenant Campbell of the Bengal Cavalry, one of the claimants of this succession, for the sequestration of the estates till the claims of the parties are decided on. The Lord President, Lord Curriehill, and Lord Ardmillan, held that as the legitimacy of the father of Mr. Campbell, of Glenfalloch, titular Earl of Breadalbane, which the petitioner impugned, had been hitherto recognised, Mr. Campbell's claim to be considered the heir apparent must be allowed. They considered that the petitioner should have been more explicit in his statements, that he should have mentioned the date of the birth of Mr. Campbell's father, as, although the person whom his grandfather married had been at the time the wife of another man, there was nothing to prevent the supposition of a re-marriage and the birth of the respondent's father afterwards. Lord Deas dissented from the other judges, holding that sufficient facts had been stated by the petitioner to justify the sequestration of the estate; and that it was the duty of the respondent to have stated the true facts about his grandfather's marriage, and not have confined himself to a simple denial. The Court reserved to the petitioner the right to make a new application as the case progressed, but found him liable in the expenses. It is understood that he will immediately appeal to the House of Lords.

## Railways.

THE FATAL ACCIDENT ON THE MONMOUTHSHIRE.—The adjourned inquest was resumed on Friday at Cwmbran, when Colonel Yolland, the Board of Trade Inspector deposed that the Monmouthshire Company did not keep the line in such order as would warrant the West Midland Company in running their express trains from Pontypool Road to Newport in 15 minutes. He also strongly recommended that the road should be entirely renewed. After a brief address from the coroner, the jury returned the following verdict:

"That Robert Magee met with his death by the West Midland express train accidentally running off the rails on the Monmouthshire Company's line, on the 3d of July, at Cymbran, and we attribute the accident to the high speed on a road not originally intended for fast running, and we urge the companies to allow more time for express trains from Pontypool Road to Newport till the road is renewed."

The damage to the railway and plant and the compensation to be paid to sufferers, will, it is expected, amount to from 8000*l*. to 10,000*l*.

## Sporting.

### GOODWOOD RACES.

TUESDAY.—The *Craven Stakes*. Mr. J. Woolcot's The Gunner beat Waterwitch, Bosh, Xurullo, and General Hess.—The *Ham Stakes*. Mr. Merry's b f beat Izaak Walton and Mirage.—The *Gratwicke Stakes*. Lord Glasgow's Clarior beat Zapateado and Curie.—The *Stewards' Cup*. Duke of Beaufort's Birdhill beat Entremet, Dolphin, and 26 others.—*Sweeps*. Lord Annesley's Ace of Clubs beat Picador, Ellangowan, Lord Clyde, and 3 others.—*Sweeps*. Mr. H. Joice's Etna beat Bradamante, Salvioni, and 6 others.—The *Lavant Stakes*. Mr. W. Day's c beat Durham, Crytheia, and 6 others.—*Fifty Pounds*. Mr. Jenning's Indolence beat The Principal, and Douche.

WEDNESDAY.—The *Goodwood Derby*. Count F. de Lagrange's Jarnicoton beat Warhorse.—*Handicap Plate*. Lord Uxbridge's Liston beat Despair, Zora, and 3 others.—*Sweeps*. Lord Stamford's Ætna beat Gold Dust.—The *Goodwood Stakes*. Mr. Drewitt's Blackdown beat Anfield, Jack o'Hearts, Magnum Bonum, and 9 others.—The *Cowdray Stakes*. Captain Christie's Spicebox beat Hedworth, Salvioni, Indolence, and Lady Clare.—The *Findon Stakes*. Mr. R. Ten Broeck's Paris beat Linda, Polonaise, and 9 others.—The *Drawing Room Stakes*. Mr. R. C. Naylor's Macaroni beat Gunner and Escape.—*Handicap Plate*. Mr. York's The Principal beat Microscope, Buckenham, Black Prince, and Kingswood.

THURSDAY. — *Sweeps*. Mr. R. C. Naylor's Carnival beat Jarnicoton.—The *Second Year of the Twelfth Bentinck Memorial Stakes*. Mr. J. Bowes's The Old Orange Girl beat Almack.—The *First Year of the Thirteenth Bentinck Memorial Stakes*. Mr. G. Bryan's Lady Hylda beat Rigolboche and Goldylocks. The *Racing Stakes*. Mr. Merry's Lord of the Isles beat Œnopides.—The *Goodwood Cup*. Mr. T. Parr's Isoline beat La Toucques, Fairwater, Buckstone, Zetland, and Myrtle. Won by a neck, Fairwater a bad third; Buckstone fourth, Zetland fifth, Myrtle sixth, and Mazagan last, the latter being pulled up and trotting a long way in their rear.—The *Third Year of the Eleventh Bentinck Memorial Stakes*. Mr. Savile's Buckenham walked over.—The *Sussex Stakes*. Count F. de Lagrange's La Belle Feronniere walked over.—The *Molcomb Stakes*. Count F. de Lagrange's Fille d'Air beat Scottish Chief, Idler, and 6 others.—The *Chichester Stakes*. Lord Strathmore's Bohemia beat Lady Clifden, Erythia, Queen of Trumps, and 4 others.

FRIDAY.—*(By Electric Telegraph.)* — *Nassau Stakes*.—Fantail beat Cassidia, Roly Poly, and another.—*Queen's Plate*. Isoline beat Millionaire. — *Nursery Stakes*. — Paris beat Idler, Mail Train, and 10 others.—*Duke of Richmond's Plate*. Dolphin beat Bosh, Silkstone, and 4 others.—*Chesterfield Cup*. Ace of Clubs beat Aurelian, Tippler, and 18 others.—*Sweeps. of 10 sovs*. Crytheia beat The Hare and Spectre.—*March Stakes*. Laura beat Cuckoo, Ætna, and 7 others.—*Sweeps. of* 100 *sovs*. Buckstone walked over.

## Law.

ROLLS COURT.—*Broun v. Kennedy*.—*The Swynfen Case*.—This was a Bill filed to set aside a deed whereby Mrs. Broun, then Mrs. Swynfen, conveyed the reversion of the Swynfen estate, subject to certain charges, to the defendant. The plaintiff impeached the validity of that deed on the ground of undue influence. The Master of the Rolls yesterday delivered judgment. He held that Mr. Kennedy had exercised an undue influence over Mrs. Swynfen, and that his relations to her were not satisfactory. He ordered that the deed conveying the estate to Mrs. Swynfen should be returned to Court, for the purpose of being cancelled; and that Mr. Kennedy be condemned in the costs.

HOME CIRCUIT: MAIDSTONE. — *Attempted Murder*. — *George Haver*, a soldier, was charged with attempting to murder Mr. Fenn, the Governor of the gaol at Canterbury, where he was at the time confined under sentence of a court-martial. He had managed to secrete the blade of a knife, which he sharpened and fastened to a piece of wood, and with it inflicted some severe stabs on the head and face of the prosecutor, who was with difficulty rescued from him. The prisoner made no defence. The jury found him guilty of wounding with intent

to murder, and Baron Channell sentenced him to penal servitude for 20 years.—*The Chatham Murder.—Alfred Holden*, 25, a private in the Royal Artillery, a smart, soldierlike, young man, was charged with the wilful murder of his child, eleven months old, named Alfred James Holden. It appeared that the prisoner was stationed with his regiment at Chatham, and had been employed as cook, but having disagreed with his sergeant they were on bad terms. On the morning of the 1st April, while at his lodgings at Gillingham, with his wife and child, he took the infant out of the bed where it was lying, and nearly cut its head off with a razor. He never denied the act, but stated to the police that the sergeant had aggravated him, and he was determined to kill some one, in order that he might lose his own life, as he was tired of existence, and that, having considered what he should do, he resolved to kill his child in order that his wife might not have the additional burden of maintaining it as well as herself after he was gone. The prisoner was represented to have been very fond of his wife, and also of the child, and it was supposed in the first instance that his mind was affected, but nothing had transpired since the occurrence that in any way tended to confirm this suggestion. When the prisoner was called upon to plead, he replied in a calm and deliberate tone, "I am guilty." Baron Channell asked him whether he was aware that he was charged with wilful murder, for which his life might be forfeited, and told him clearly to understand that pleading guilty would not have the slightest effect on the sentence. The prisoner coolly said that he was aware of it. Baron Channell, after making some inquiries as to the state of his mind, put on the black cap, and passed sentence of *Death* in the usual form. The prisoner, who was perfectly unmoved, when the judge had concluded turned hastily round and retired from the bar, apparently quite unconcerned. *The Herne Murder.—Alfred Eldridge*, 33, a tall powerful man, was charged with the Wilful Murder of Richard Steed, at Herne, on the 2d of May. The two men who were railway labourers, lived in the village of Maypole, near Herne, and the prisoner was indebted a few shillings to the deceased, who kept a small shop in the village, and had frequently asked the prisoner for payment without success. On the evening of the murder, both men had received their weekly wages, and were seen going home together about 7 o'clock. In the course of that night Steed was found in a ditch on the road horribly mangled, with his skull fractured and his brains beat out, as if he had been knocked down and trampled on by the iron shod boots of a railway navvy. The evidence was wholly circumstantial, though closely linked together. The jury found the prisoner *Guilty*, and Baron Channell sentenced him to *Death* without hope of mercy. The prisoner heard the sentence without exhibiting the slightest emotion, and when the judge had concluded he bowed slightly to him and to the jury. CHELMSFORD.—*Roupell and another* v. *Haws and others*.—This was an action, in which Richard Roupell, as heir and also as devisee of his father, sought to recover the estate at Great Warley, in Essex, which had been sold to the defendants by William Roupell under the powers of a deed of gift which the plaintiff alleged to be a forgery. After occupying Baron Channell and a special jury for nine days, the trial ended, at a late hour on Friday night, by the jury being unable to agree, in consequence of which they were called into Court between 10 and 11 o'clock and were discharged. All the cost, and trouble incurred on both sides is consequently thrown away, but the defendants retain possession of the property.

WESTERN CIRCUIT: DORCHESTER.—*The Allington Murder.—Henry Dommett* was indicted for the wilful murder of his son, by cutting his throat, at Allington, on the 5th June. The prisoner is about 45 years of age. When placed at the bar he seemed in a very desponding state of mind, at the same time perfectly collected, and apparently aware of the position in which he stood. Upon being called upon to plead he hesitated for a moment, and then said "Not Guilty." The jury *Acquitted* him on the ground of insanity, and he was ordered to be detained during Her Majesty's pleasure.

NORFOLK CIRCUIT: BEDFORD.—*The Bedford Murder—Robert Jordan*, 21, and *William Craddock*, 33, pleaded not guilty to the charge of wilful murder of Frederick Budd, in the town of Bedford, on the 10th ult. It appeared that the deceased gentleman, Mr. Budd, who was a solicitor, practising in Buckingham, was staying with his wife on a visit in Bedford, and on the night in question they were both returning from St. Paul's Square to their residence through Castle Lane, the prisoners and some other man, without any provocation attacked deceased with such violence that he died soon afterwards. The jury returned a verdict of *Manslaughter*, and his lordship sentenced the prisoners to seven years penal servitude.

## Obituary.

THE MARQUIS OF NORMANBY, K.G., died on Tuesday morning at Hamilton Lodge, South Kensington, from an attack of paralysis, in his 67th year. His lordship, the Right Hon. Constantine Henry Phipps, Marquis of Normanby, Earl of Mulgrave, Viscount Normanby, and Baron Mulgrave of Mulgrave, Yorkshire, in the peerage of the United Kingdom; Baron Mulgrave of New Ross, Wexford, in the peerage of Ireland, was the eldest son of the first Earl of Mulgrave, by the daughter of the late Mr. Christopher Thomson Maling, of West Herrington, Durham. He was born in 1797, and married in 1818 the eldest daughter of the first Lord Ravensworth, by whom he leaves issue an only son, the Earl of Mulgrave. The late marquis received his education at Harrow, and at Trinity College, Cambridge, at which university he took his degree as M.A. before he was 19. Shortly after he attained his majority he entered Parliament as member for Scarborough, a borough in which his family had great influence. His maiden speech in the House of Commons, made in 1819, was in favour of the Roman Catholic claims, and was considered by his political friends a decided success. He also seconded Lord John Russell's resolutions on Reform, in a speech somewhat in advance of his party, and shortly afterwards resigned his seat in Parliament, and retired to Italy. In 1822 he was elected for Higham-Ferrers, and resumed his position in the House of Commons. In 1826, at the general election, he was elected for Malton, and gave his support to Mr. Canning's Administration. In 1831 he succeeded his father as Earl of Mulgrave, and removed to the House of Peers. In the following year he was appointed Governor of Jamaica, where by his conciliating and popular manners he succeeded in smoothing the existing difficulties in that colony. After a successful administration of two years in the West Indies, he returned home. On the formation of Lord Melbourne's first Administration he accepted the office of Lord Privy Seal, with a seat in the Cabinet. In 1835, in Lord Melbourne's second Administration, he was appointed Lord-Lieutenant of Ireland, when he soon made himself a popular viceroy. In 1838 he was created Marquis of Normanby. In 1839 he succeeded Lord Glenelg as Secretary of State for the Colonies, but removed in the same year to the Home Department, which post he held till the end of 1841. In 1846 he was appointed Ambassador at Paris, where he remained till the early part of 1852. From 1854 till 1858, he was Envoy Extraordinary and Minister Plenipotentiary at Florence. Since his recall from that post he has not held any public employment. Recently he has opposed the policy of the Government in the affairs of Italy, and in fact had quite forsaken his former political friends and generally voted with the Opposition peers. His lordship was the author of several political pamphlets which excited great interest at the time of the Reform movement and several novels and other works, both in prose and verse, including "Yes and No," "Matilda," "The Contrast," and "Clorinda." In 1832 he was made a Privy Councillor, and nominated Knight Grand Cross of the Guelphic Order; in 1847 he was made a Knight Grand Cross of the Bath, and in 1851 was made a Knight of the Garter. His lordship is succeeded in the family honours and estates by his only son the Earl of Mulgrave, who formerly represented Scarborough in the House of Commons during several Parliaments. He was in early life in the Scots Fusilier Guards, Comptroller of the Queen's Household from 1851 to 1852, and Treasurer of the Household from 1853 to 1858. In the latter year he was appointed Governor of Nova Scotia, from which he has recently returned. His lordship married in 1844 the daughter of the late Mr. Robert Russell, by whom he has several children.

THE EARL OF MORNINGTON died in Paris on the 25th ult., in his 50th year. His lordship, William Arthur Pole Tylney Long Wellesley, Earl of Mornington, Viscount Wellesley of Dangan Castle, and Baron Mornington of Mornington, county Meath, in the peerage of Ireland, and Baron Maryborough of Maryborough, Queen's County, in the peerage of the United Kingdom, was the only surviving son of the fourth earl, by his first wife, Miss Tylney Long, eldest daughter and co-heir of Sir James Tylney Long, Bart. He was therefore great-grandson of the first Lord Maryborough, and nephew of the Marquis Wellesley, the Duke of Wellington, and Earl Cowley. He was born at Wanstead House in 1813, and on the death of his father in 1857, he succeeded to the family honours, and, by the extravagance of his father, to a diminished patrimony. He has left an only sister, Lady Victoria Long Wellesley, to whom the whole of the maternal property, once of great value, descends. In default of male heirs, the Irish titles merge into the long list of honours enjoyed by his cousin the Duke of Wellington. The Barony of Maryborough becomes extinct.

GENERAL LORD DOWNES, G.C.B., Colonel of the 29th Regiment, died at his seat, Bert House, Kildare, on the 26th ult., in his 75th year. His lordship entered the army at an early age, and served as aide-de-camp to Sir John Cradock in Portugal, and subsequently in the same capacity and as assistant military secretary to the Duke of Wellington during the whole of the Peninsular war. Few men were then better known than Sir Ulysses Burgh. He was present at the battles of Talavera, Busaco, Fuentes d'Onor, El Bodon, Salamanca, Vittoria, Pyrenees, Nivelle, Nive, Toulouse, and the sieges of Badajoz, Ciudad Rodrigo, and San Sebastian. In 1826 he succeeded his cousin as second baron, soon after which he was elected a representative peer, and was Clerk to the Ordnance during the Wellington Administration. He was twice married, and by his first marriage leaves an only surviving daughter, the Countess of Clonmell. His second daughter, Lady Seaton, died three months before him. As there is no male representative of the family the title is now extinct.

LORD MACDONALD died on Saturday last at Bessingby Hall, Yorkshire, after a protracted illness, in his 55th year. His lordship, Godfrey William Wentworth Macdonald, Lord Macdonald, Baron of Slate, county Antrim, in the peerage of Ireland, and a baronet of Nova Scotia, was the eldest of the two sons of the third baron, by the daughter of Mr. Farley Edsir. He was born in 1809, and on the death of his father in 1832 succeeded to the family honours. In 1845 he married the eldest daughter and coheir of the late Mr. George Thomas Wyndham, of Cromer Hall, by whom he leaves a youthful family, his eldest son and successor, Somerled James Brudenell, being born in 1849. The late peer was brother of Colonel the Hon. James Macdonald, private secretary to the Duke of Cambridge.

SIR CRESSWELL CRESSWELL, Judge of the Court of Probate and Divorce, died at his residence at Albert Gate on Wednesday evening in his 70th year. It will be remembered that on the 17th ult. he met with an accident in riding home from his court. The horses in Lord Aveland's carriage had broken away while driving in the Mall, St. James's Park, and coming in contact with the horse which Sir Cresswell Cresswell was riding, the animal was knocked over and the Judge came heavily to the ground, fracturing his knee cap. He was conveyed home in the carriage of Sir Thomas Fremantle, who was passing at the time, and under the care of Mr. Chas. Hawkins there was for a time every prospect that he would soon be able to resume his official duties. In fact, up to the day of his death he was progressing favourably, and was able to see and converse with his friends. On Wednesday Lord Wensleydale called and sat with him for some time, but soon after his lordship's departure, and on Sir Cresswell being removed from the sofa to his bed, he complained of faintness, and in a few minutes, before medical attendance could be called in, expired without a struggle or a groan. A *post mortem* examination proved that death was caused by disease of the heart. Sir Creswell Creswell was born in 1794, and was the fourth son of Mr. Francis Easterby, of Blackheath, by the elder of the two daughters of Mr. John Cresswell, of Cresswell, in Northumberland, the last male representative of an ancient Northumbrian family, whose name was afterwards assumed by his son-in-law and his children. He was educated at Charterhouse School and Emmanuel College, Cambridge, where he graduated in 1814. In 1819 he was called to the bar by the Middle Temple, and went the Northern Circuit, of which he became leader in 1834, having in the meantime acquired a high reputation at the bar for his law reports in connection with the late Mr. Barnewall from 1822 to 1830. In 1837 he was elected M.P. for Liverpool, and retained his seat until he was appointed one of the Judges of the Court of Queen's Bench in 1842. After occupying his seat on the bench for 16 years, Sir C. Cresswell was transferred to the new Court of Probate and Divorce, which Parliament had established in the session of 1857, and he took his seat for the first time in January, 1858. It is universally admitted that a better appointment could not have been made. He created a code of Divorce law by his decisions, and based it upon sound, broad principles, and it was to his tact and sagacity that the success of the Court must be attributed. The Judge was never married.

THE DOWAGER LADY FOLEY died on Monday morning, at her residence in Great Stanhope Street, in her 77th year. Her ladyship had been in a weak state of health for some time past. She was the fifth daughter of the second Duke of Leinster, by the only daughter and heir of Lord St. George, whose title is extinct. She was born in 1786, and married in 1806, the third Lord Foley, who died in 1833.

MAJOR THE HON. HENRY L. POWYS KECK, formerly of the 60th Rifles, died on the 10th ult. at his residence, Stoughton Grange, near Leicester, in his 51st year. Last summer he was thrown from his carriage while driving to attend a meeting at the Leicester infirmary, and sustaining very severe injuries his life was despaired of for some days. He however recovered slowly, though he does not appear to have entirely got over the injuries he received. He was the son of the 2d Lord Lilford, and married 1st in 1840 the daughter of J. M. Sancho Esq., and 2d in 1862 the daughter of the late Admiral Sir John Gore, K.C.B., and sister of the Countess Howe. After the Crimean war he took an active part in raising a fund for the support of the orphan children of soldiers. If he had lived it was understood that he would have come forward as a candidate for South Leicestershire in the Conservative interest at the next election. He took the name of Keck by Royal licence in 1861.

LIEUT.-COLONEL JAMES M'GRIGOR was drowned at Aden on the 28th June. He belonged to the Bombay Native Infantry, and served in one of its regiments throughout the campaign of Scinde, under Sir Charles Napier. During the Indian mutiny the suppression of an outbreak in the Bombay Presidency was attributed by the Secretary of State for War to his prompt and vigorous measures. A plot had been formed by the men of one of the regiments at Bombay, first to murder the officers, and afterwards, in concert with other Sepoys, to pillage and massacre all the Christian residents. Major M'Grigor however possessed the confidence of the soldiers, and having learned from one of them the particulars of the plot, which was to take place at midnight, he galloped off for reinforcements, summoned the regiment for parade a quarter of an hour before midnight, and obliged the intended mutineers to lay down their arms. He was son of the late Colonel M'Grigor, who commanded her Majesty's 70th Regiment, and nephew of the late Sir James M'Grigor, Director-General of the Army Medical Department.

CAPTAIN J. S. WILLES JOHNSON, M.P., for the Montgomery district of boroughs, died on the 25th ult., at Hannington Hall, Wilts, after a long illness. He was the son of the Rev. Charles Johnson, rector of Barrow, by the daughter of Archdeacon Willes. He was born in 1793, and entered the navy in 1807. After seeing a good deal of service in the Baltic, the Adriatic, and the Mediterranean, he was Lord Exmouth's flag lieutenant at the taking of Algiers. In 1842 he served in the expedition to China, and obtained his post rank in 1846. In 1861 he was elected M.P. for the Montgomery boroughs, in the place of his father-in-law, Mr. David Pugh.

MR. CALCUTT, M.P. for Clare, died a few days since at his residence in Upper Seymour Street, in his 44th year, after a long illness. He had represented his native county of Clare, with a short interval, since 1857, and was a stanch supporter of the Liberal party. Although educated as a member of the Church of England, and returned as such to the House of Commons, he refused to take the oath usually observed by members of the Protestant Church, and was sworn as a Catholic. He was some months ago received into the Roman Catholic Church by the Right Rev. Dr. Grant, Bishop of Southwark.

WILLS AND BEQUESTS.—The will of Lord Sandys, K.T.S., of Ombersley Court, Worcester, has been sworn under 30,000*l.*; the Duke of Grafton, 160,000*l.*; Admiral the Hon. Sir George Elliot, K.C.B., 25,000*l.*; Viscount Templemore, 45,000*l.*; Mr. John Charles Schreiber, of Henhurst, Kent, 350,000*l.*; Mr. John Gully, of Durham, 70,000*l.*; Mr. Joshua Field, of Park Crescent, 250,000*l.*

BIRTHS.—On the 28th ult, at Dufferin Lodge, the Lady DUFFERIN and CLANEBOYE, of a son and heir—25th ult, in Charlotte Square, Edinburgh, the Lady JULIANA WALKER, of a daughter—23d ult, the Lady ROSE LOVELL, of a daughter—26th ult, in Lower Berkeley Street, Lady WYNN, of a son—25th ult, at 27, Hertford Street, Mayfair, the Hon. Mrs. ALLEN BATHURST, of a daughter.

MARRIAGES.—On the 22d ult, at Ayott, St. Lawrence, Herts, the Viscount KILCOURSIE, eldest son of the Earl of Cavan, to MARY SNEADE, only child of the Rev. JOHN OLIVE, rector of Ayott, St. Lawrence—4th ult, at Trinity Church, Brompton, Count HUGO RADOLINSKI, of Polish Prussia, to LUCY KATHERINE, second daughter of the late Lieutenant-Colonel Wakefield—25th ult, at All Souls' Church London, Lieut.-Colonel E. J. BULWER, C.B., 23d Fusiliers, second son of W. E. Lytton Bulwer, Esq., of Heydon Hall, Norfolk, to ISABELLA ANNE, youngest daughter of the late Sir JOHN JACOB BUXTON, Bart., of Shadwell Court, Norfolk—25th ult, at Wroxham, Captain EATON TRAVERS, Royal Artillery, second son of the late Sir Eaton Travers, K.H., to HENRIETTA, youngest daughter of JAMES GREEN, Esq., of Wroxham—23d ult, at Lyndhurst, WILLIAM NORRIS, Captain in the 4th Battalion Prince Consort's Own Rifle Brigade, to FREDERICA BURRARD, youngest daughter of Admiral Sir CHARLES BURRARD, Bart., of Lyndhurst, Hants—15th ult, at Madras, Lieut. E.F. H. ARMSTRONG, Mysore Commission, son of Major-General H. Armstrong, to MATILDA BRUCE, daughter of Major-General J. FITZGERALD, Madras Army—23d ult, at Christchurch, Paddington, the Rev. RICHARD GAWLOR MEAD, M.A., to ELIZABETH MARTHA, eldest daughter of JOHN CLUTTON, Esq., of 3, Sussex Square.

DEATHS.—On the 26th ult, at Hanover, his Excellency General HUGH BARON HALKETT, G.C.H., aged 79—24th ult, at Bedford Square, Brighton, Lady MACGREGOR, widow of Sir Patrick Macgregor, Bart.—26th ult, suddenly, at the Dowager Lady Bateman's, 36, Great Cumberland Place, GEORGE ASTLEY CHARLES DASHWOOD, Esq., late Captain 71st Highland Light Infantry, second son of the late Sir George Dashwood, Bart., of Kirtlington Park, Oxon, aged 43—29th ult, at 16, Portland Place, JOHN LABOUCHERE, Esq., of Broome Hall, Dorking, brother of Lord Taunton, and head of the banking firm of Deacon & Co., of Birchin Lane, aged 66—22d ult, at 20, Charles Street, Berkeley Square, FRANCES MARY, the wife of CHARLES PRIDEAUX BRUNE, Esq., of Prideaux Place, Padstow, Cornwall—22d ult, at South Camp, Aldershot, MARY HARRIETT, wife of Colonel WILBRAHAM LENNOX, Royal Engineers—20th ult, at Bath, Major GEORGE DUNCAN DRUMMOND, formerly of H.M.'s 95th Regiment (Rifle Brigade) and barrackmaster at Manchester, aged 69—25th ult, at 54, Brunswick Square, Brighton, Captain GEORGE STEVENSON, formerly of the Grenadier Guards, aged 82—21st ult, at Laugharne, Carmarthen, from the effects of a fall, JOHN TREVER SCURLOCK, Esq., of Doctor's Commons, only son of the late Rev. David Scurlock, of Blaencorse, Carmarthenshire—19th ult, at Leeds, the Rev. T. C. PERCIVAL, rector of Barnburgh, Yorkshire, and prebendary of Southwell, aged 66—27th ult, at Bocking, near Braintree, Essex, SARAH SUSANNA, relict of the Rev. CHARLES WAKEHAM, late rector of Wickenby, in the county of Lincoln, and prebendary of Lichfield.

## Markets.

### BRITISH WOOLS.—LONDON, July 30.

Our prices continue firm, but the amount of business transacted is not considerable.

| | s. d. | | s. d. | | s. d. | | s. d. |
|---|---|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | 1 9½ | to | 1 10½ | Leicest. Wethers | 1 8 | to | 1 9 |
| Half-bred ditto .. | 1 10 | — | 1 11 | Ditto Hoggs .. | 1 9 | — | 1 10 |
| Down Ewes .. | 1 8½ | — | 1 9½ | Combing Skins | 1 4 | — | 1 8 |
| Kent Fleeces .. | 1 9 | — | 1 10 | Flannel Wool .. | 1 6 | — | 1 8 |
| | | | | Blanket ditto .. | .. | — | .. |

### COAL MARKET.—July 29.

Davison's West Hartley, 15s. 9d.; Hastings Hartley, 15s. 9d.; Holywell Main, 16s. 3d.; North Pelton Gas, 13s. 3d.; West Hartley, 15s. 9d.; Eden Main, 16s.; Walls End Braddylls Hetton, 16s. 6d.; Walls End Hetton, 18s.; Walls End Russel's Hetton, 16s. 6d.; Walls End South Hetton, 17s. 9d.; Walls End Cassop, 16s. 6d.; Walls End Hartlepool, 17s. 6d.; Walls End Heugh Hall, 16s. 6d.; Walls End Kelloe, 16s. 6d.; Walls End East Hartlepool, 17s. 6d.; Walls End South Hartlepool, 16s.; Walls End South Kelloe, 16s. 6d.; Walls End Trimdon Hartlepool, 17s. 6d.; Carway and Duffryn Malting, 19s. 6d.—44 ships at market.

### COVENT GARDEN, Aug. 1.

Supplies of both fruit and vegetables are still unusually well kept up. Peaches and Nectarines are plentiful.

Greengages and other Plums are now included in foreign imports, and of Grapes and Pine Apples the supply is sufficient for the demand. Foreign Pine Apples are also plentiful. Strawberries are every week getting scarcer. Of Melons, both English and foreign, there is a good supply, and Oranges are also plentiful. Good Potatoes realise from 8s. to 11s. per cwt. Cut flowers chiefly consist of Orchids, Pelargoniums, Violets, Stocks, Calceolarias, Mignonette, and Roses.

### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 3s to 6s | Currants, p. ½ sieve, 3s to 3s 6d |
| Grapes, per lb., 2s to 5s | Gooseberries, do., 2s 6d to 3s |
| Strawberries, p. lb., 6d to 1s | Lemons, per 100, 12s to 16s |
| Apples, per doz., 9d to 1s 6d | Oranges, per box, 30s to 40s |
| Figs, per doz., 5s to 6s | — per 100, 5s to 10s |
| Peaches, per doz., 8s to 15s | Nuts, small, per bush, 14s to 18s |
| Nectarines, do., 6s to 10s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 7s 6d |

### VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Peas (shelled), p. qt., 1s to 1s 6d | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | French Beans, per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 99s | Shallots (new), p. bunch, 6d |
| „ Flukes, do., 100s to 120s | Garlic (new), per bunch, 6d |
| „ Rocks, do., 60s to 80s | Lettuces, each, 1d to 2d |
| „ Cups, do., 75s to 85s | Endive, p. score, 1s to 2s |
| Turnips, p. bunch, 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Carrots, do., 6d to 8d | Mushrooms, p. pott., 1s to 3s 6d |
| Spinach, p. sieve, 1s 6d to 2s | Parsley, p. 12 bunches, 3s to 4s |
| Cucumbers, each, 1s to 1s 6d | Herbs, per bunch, 3d |
| Beet, per doz., 1s 6d | |

### HOPS.—Borough Market, Friday, July 31.

Messrs. Pattenden & Smith report the accounts from the plantations less favourable, and a better demand for the few news Hops on hand at fully late prices. The prospects in Bavaria, Alsace, and Bohemia will not be so good as last year, but in Baden, Poland, and Belgium an average crop is likely to be grown.

### NEWGATE.—July 31.

| | | |
|---|---|---|
| Best Fresh Butter | .. .. | 13s. per dozen lbs. |
| Second do. do. | .. .. | 11s. „ |

Pork, 4s. 0d. to 4s. 4d. per 8 lbs.

### METROPOLITAN CATTLE MARKET.

#### Monday, July 27.

We have a large supply of Beasts, and a dull trade. Prices on the average are about the same as on Thursday last, but a clearance cannot be effected. The number of Sheep and Lambs is not quite so large, yet quite equal to the demand. Trade is very slow, at barely Thursday's quotations. There is scarcely any alteration in the Calf trade. From Germany and Holland there are 1750 Beasts, 7620 Sheep, and 319 Calves; from Scotland, 60 Beasts; from Ireland, 170; from France, 18 Calves; from Norfolk and Suffolk, 50 Beasts; and 2800 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | .. 4 8 to 4 10 | Best Long-wools | .. — .. |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn | .. 4 4 — 4 8 |
| 2d quality Beasts | 3 0 — 3 8 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds | .. .. — .. | Do. Shorn | .. 4 0 — 4 4 |
| | | Lambs | .. 5 0 — 6 0 |
| | | Calves | .. 3 4 — 5 0 |
| Do. Shorn | .. 5 0 — 5 2 | Pigs | .. 3 0 — 4 0 |

Beasts, 5130; Sheep & Lambs, 28,760; Calves, 381; Pigs, 360.

#### Thursday, July 30.

The number of Beasts is not quite so large as on Thursday last, yet it is considerable. Trade is very slow, prices for the choicest qualities are about the same as of late, but inferior kinds are lower. Sheep and Lambs are rather more plentiful; the demand is very limited; on the average prices are lower, and several remain unsold. Calves are lower. From Germany and Holland there are 353 Beasts, 2860 Sheep, and 623 Calves; and from Spain, 184 Beasts. Milch Cows, 50.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | .. 4 8 to 4 10 | Best Long-wools | .. — .. |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn | .. 4 4 — 4 6 |
| 2d quality Beasts | 3 0 — 3 6 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds | .. .. — .. | Do. Shorn | .. 3 10 — 4 2 |
| | | Lambs | .. 5 0 — 6 0 |
| | | Calves | .. 3 0 — 4 8 |
| Do. Shorn | .. 4 10 — 5 0 | Pigs | .. 3 0 — 4 0 |

Beasts, 1290; Sheep & Lambs, 12,520; Calves, 765; Pigs, 130.

### MARK LANE.—Monday, July 27.

The supply of English Wheat to this morning's market was larger than of late, and to effect sales it was necessary to submit to a decline of 1s. per qr.; for foreign there was a moderate demand at the prices of this day se'nnight. Barley, Beans, and Peas brought fully late rates. Good sweet heavy Oats were the turn dearer, but inferior sorts neglected. For Flour there was but little inquiry.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 46—56 | Red ..... | 42—50 |
| — — fine selected runs .. ditto | 47—54 | Red .... | 42—52 |
| — — Talavera .............. | 48—60 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 35—62 | | |
| Barley, grind. & dist., 25s to 29s .. Chev. | 34—38 | Malting .. | 31—34 |
| — Foreign .. grinding and distilling | 25—29 | Malting .. | 28—32 |
| Oats, Essex and Suffolk .......... | 21—24 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .... | 21—23 |
| — Irish ............ Potato | — | Feed .... | — |
| — Foreign ...... Poland and Brew | 18—22 | Feed .... | 17—22 |
| Rye .......................... | 35—37 | Foreign .. | — |
| Rye-meal, Foreign .............. | — | | |
| Beans, Mazagan .... 32s to 33s ... Tick | 32—34 | Harrow .. | 32—34 |
| — Pigeon .... 36s to 40s .. Winds. | — | Longpod | — |
| — Foreign .............. Small | 40—46 | Egyptian | 32—34 |
| Peas, White, Essex and Kent .. Boilers | 35—37 | Suffolk .. | 37—40 |
| — Maple .... 42s to 43s .... Grey | 36—37 | Foreign .. | 30—38 |
| Maize ...................... White | — | Yellow .. | — |
| Flour, best marks delivered .. per sack | 42— | | |
| — 2d do .................. ditto | 32—47 | Country .. | 32—47 |
| — Foreign ............ per barrel | 20—28 | Per sack | 34—48 |

#### Friday, July 31.

Last Saturday we had some rain, and with this exception the weather during the past week has been fine, forcing our grain crops to maturity; many of our farmers are now busy cutting, and with a continuance of fine weather harvest will be general in the home counties next week. Under the influence of the weather the firmness reported last week in the Wheat trade has disappeared; prices generally are again pointing downwards throughout the country, excepting only some of the Scotch markets, which report a slight improvement in the value of Wheat. The stocks of fine class foreign Wheat are small, and needy buyers continue to pay full prices. Feeding Barley meets some inquiry; all other sorts of spring corn remain neglected at about late rates. Good sweet Flour is scarce, and sells readily at full prices; common sorts and sour are very dull. Since Friday last 114 vessels have been reported off the coast. A fair business has been done in floating cargoes this week; former prices were nearly maintained for Wheat, and a good part of the very numerous arrivals of Maize has been placed at a very small reduction. In Paris (July 30), business in Wheat and Flour was very quiet. The present stock of Flour is estimated at 7550 cwts.; the six marks for delivery this month are quoted equal to 37s. 3d. per 280 lbs. Old Wheat is entirely neglected; new samples bring prices equal to 48s. to 50s. 6d. per 480 lbs. The arrivals of English and Foreign Grain since Monday have been small. This morning's market was thinly attended, and the business done in Wheat, either English or foreign, was in retail at Monday's quotations. In the value of spring corn there is no alteration.

#### Arrivals this Week.

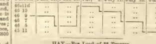
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 780 qrs. | — qrs. | 20 qrs. | 720 sks. |
| Irish .... | — | — | 370 | — „ |
| Foreign .. | 5120 „ | 2260 | 25,330 .. | { 130 „ 2280 brls |

Liverpool, July 28.—We have not had a large attendance at market to-day, and Wheat has met only a slow retail demand, at barely the quotations of Friday last. Flour is more difficult to sell, although nominally unchanged in value; good parcels are scarce. Indian Corn has given way 3d. per qr., and finds few buyers. Oats and Oatmeal have undergone no alteration. Egyptian Beans from scarcity are fully 3d. per quarter dearer. Peas and Barley steady. The market closes without animation.

Friday, July 31.—Wheat, in the absence of important sales, is without quotable change in value. Flour: Good fresh parcels maintain late rates; all other sorts neglected. Indian Corn very quiet and rather easier; mixed, 26s. 9d. to 27s. Egyptian Beans steady; Saidi, 36s. 6d. on the spot, 30s. to arrive. Oats and Oatmeal very dull. Egyptian Wheat steady.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| June 20 | 46s 9d | 30s 7d | 23s 0d | 32s 3d | 40s 4d | 37s 10d |
| — 27 | 46 5 | 31 2 | 22 10 | 35 9 | 39 8 | 36 2 |
| July 4 | 46 11 | 30 9 | 23 11 | 32 2 | 39 6 | 38 0 |
| — 11 | 46 10 | 30 10 | 23 6 | 34 5 | 40 2 | 39 0 |
| — 18 | 46 7 | 28 10 | 22 6 | 32 9 | 40 0 | 37 1 |
| — 25 | 45 11 | 29 10 | 22 9 | 32 8 | 39 3 | 35 11 |
| Agg. Aver. | 46 7 | 30 4 | 23 1 | 33 6 | 39 10 | 37 4 |

#### Fluctuations in the Last Six Weeks' Averages.




### HAY.—Per Load of 36 Trusses.

#### Smithfield, Thursday, July 30.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 80s | Clover, old .. .. | 100s to | 120s |
| Superior do. .. | 80 | 90 | New Clover .. | — | — |
| Inferior do. .. | 54 | 70 | Do. second cut .. | 95 | 115 |
| New do. .. .. .. | 70 | 84 | Straw .. .. .. | 26 | 34 |
| Rowen .. .. .. | — | — | | | |

Harvey & Easton.

#### Cumberland Market, Thursday, July 30.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 92s to | 100s | Inferior Clover .. | 90s to | 100s |
| Inferior do. .. .. | 70 | 84 | New do. .. .. | 80 | 105 |
| New do. .. .. .. | 72 | 88 | Straw .. .. | 36 | 42 |
| Superior Clover .. | 108 | 120 | | | |

Joshua Baker.

#### Whitechapel, Thursday, July 30.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 90s | Prime Clover .. | 115s to | 126s |
| Inferior do... .. | 70 | 84 | Inferior do... .. | 100 | 110 |
| Prime New Hay .. | 78 | 84 | New do. .. .. | 90 | 105 |
| Inferior .. .. .. | 60 | 70 | Inferior do. .. | 80 | 90 |
| Straw .. .. .. | 28 | 32 | Prime 2d cut .. | 100 | 110 |

WANTED, as HEAD WORKING GARDENER, age from 30 to 40, an active industrious married Man (no children), who thoroughly understands his profession. Wife a good Laundress (the family is small). House and garden provided. Wages 25s. per week. Persons who attend the Established Church preferred. Unexceptionable references required.—Address A. Laverton, Westbury, Wilts.

WANTED, as HEAD GARDENER, and more especially as BAILIFF, a thoroughly experienced and competent person, with undoubted character for integrity and skill. He would have the Management of 170 Acres of fine Meadow Land, a few miles from London. Must have practical experience in Milch Cows for the London Trade, general Stock and Haymaking. His Wife to Manage Dairy and Poultry.—Address, stating all particulars as to former service, age, salary expected, &c., to A. B., care of Mr. Batt, Tailor, Edwards Street, Portman Square, W.

WANTED, a GARDENER, in a small establishment, 20 miles from London, a single, respectable Young Man, to board and lodge in the family. He must understand Kitchen and Flower Gardens, Growth of Bedding Plants, and the Management of small Greenhouse. No Forcing. Two Cows and Pigs to be looked after, and general Out-door work. Assistance given.—Address M. C., Post Office, Godstone, Surrey.

To Engine Drivers.

WANTED IMMEDIATELY, TWO steady MEN to Drive and Attend to TRACTION-ENGINES used for Steam Cultivation. Wages 1l. per week.—Apply by letter or personally to Mr. Joseph Nicholls, Drainage Engineer and Contractor, Queen-Camel, Ilchester, Somersetshire.

J. T. HODSON, Edgbaston Nursery, near Birmingham, is in want of a good IN-DOOR PROPAGATOR and Grower of Plants in general. Also a YOUTH to assist in the Houses.—Address as above, stating age and wages.

WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (Head, or Single-handed).—Age 27, single; thoroughly understands his profession in every branch; Hothouse, Greenhouse, Stove, and other Plants, with Fruit, Flower, and Kitchen Gardens. Can be well recommended from the gentleman he has just left.—F. C., Pymmes Park, Edmonton, Middlesex.

GARDENER (Head).—Age 35; his employer wishes to recommend a good Gardener; can take care of Land.—E. G., Post Office, Stockwell Green, S.

GARDENER (Head).—Married, no incumbrance; has a thorough practical knowledge of his profession. Good references.—W. T., R. Bowie's, Clapham Rise Nursery, Clapham, S.

GARDENER (Head).—Age 34, married, no incumbrance; has a thorough practical knowledge of his profession. Good references.—W., R. Bowie's, Clapham Rise Nursery, Clapham, S.

GARDENER (Head).—Age 28, married; understands the Management of Pines, Vines, Melons, Cucumbers, &c. Three and a half years' good character.—A. B. C., 117, Manor Street, Clapham, Surrey, S.

GARDENER (Head).—Age 28, married; well experienced in Early and Late Forcing, Plant Growing, and Flower and Kitchen Gardening. Satisfactory references can be given.—Y. Z., The Gardens, Berkeley Castle, Gloucester.

GARDENER (Head).—Age 33, married, no incumbrance; understands his profession in all its branches. Three years' good character.—L., 10, Charlotte Terrace, Lyham Road, Clapham Park, S.

GARDENER (Head).—Age 30, single; has a thorough knowledge of his profession in all its various branches. No small place accepted.—J. R. J., Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, N.W.

GARDENER (Head).—Messrs. S. Glendinning & Sons can with confidence recommend a respectable Man, age 32, who has a thorough practical knowledge of his profession.—Chiswick Nursery, W.

GARDENER (Head).—Age 30; thoroughly understands the Growing of Pines, Vines, Peaches, Melons, &c.; the Management of Kitchen and Flower Gardens, Stove and Greenhouse Plants. Three years' good character from his last place.—A. B., The Gardens, Bishopstoke, near Winchester.

GARDENER (Head).—Age 34, married; thoroughly understands his profession in every branch. Early and Late Forcing; can take charge of Land and Stock if required. Eleven years' character.—C., Francis F. Powell, Esq., Walthamstow, Essex.

GARDENER (Head).—Age 33, married, one child; the Advertiser is thoroughly acquainted with the various departments of Fruit, Vegetable, and Flower Culture. Seven years in his last situation. Unexceptionable references can be given.—J. W. C., — Bingham's, 84, Mount Street, Grosvenor Square, W.

GARDENER (Head).—Age 40, sober and active; thoroughly understands the Early Forcing of Grapes, Cucumbers, Melons, &c., and is a good Flower and Kitchen Gardener. Four years' unexceptionable character from the gentleman he has just left.—A. B., Post Office, Forest Hill, S.E.

To Noblemen and Gentlemen.

GARDENER (Head).—Middle-aged, no incumbrance; thoroughly practical. Can produce first-class testimonials from the gentleman he has just left.—Messrs. Downie, Laird, & Laing, Stanstead Park Nursery, Forest Hill, London, S.E.

GARDENER (Head, Single-handed, or otherwise).—Age 32, married; good character for ability, industry, sobriety, &c.—Head Gardener, Upper Sheen House, East Sheen, Surrey, S.W.

GARDENER.—Age 39; understands Forcing, and Flower and Kitchen Gardens. Wife as Chief Servant if required.—J. Bryant, 2, Kingsley Road, Maidstone, Kent.

GARDENER.—Married, one child 13 months old; Wife to take charge of Poultry, Dairy, or Laundry.—Robert Eacott, Englefield Green, Staines.

GARDENER.—A thoroughly practical Man is open to an engagement; he is well up in all the routine of the profession, &c.—T. T., 5, Bywater Street, King's Road Chelsea.

GARDENER.—Age 23, single; is well experienced in Forcing, Plant Growing, Kitchen and Flower Gardening. Good character and references.—F. B., 14, Ormond Row, Smith Street, Chelsea, S.W.

GARDENER (middle-aged, married, without incumbrance).—D. Davies, who has been 19 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. Lindley, Acton Green, Middlesex, W.

GARDENER (Single-handed).—Age 24, married; thoroughly understands Flower and Kitchen Gardening. No objection to a Cow. Two years and a quarter good character.—T. B., Post Office, Dulwich, S.

GARDENER (Under) in a nobleman's or gentleman's Garden.—Single; has some knowledge of the profession.—B. L., Post Office, Harlow, Essex.

GARDENER and BAILIFF (Head).—Age 37, married; thoroughly understands the Management of Pines, Grapes, Peaches, Orchard Houses, Stove and Greenhouse Plants, Kitchen and Flower Gardens; also the Management of Land and Stock, Keeping Accounts, &c. Wife can Manage the Dairy. Eight years' good character.—W. B., East End House, Parson's Green, Fulham, S.W.

GARDENER or GARDENER and GROOM.—Age 26; understands the Growing Cucumbers, Melons, Greenhouse Plants; also Flower and Kitchen Gardening. Two and a half years' good character.—H. H., Mr Green's, Heath End, Farnham, Surrey.

PROPAGATOR, or PROPAGATOR and FOREMAN.—Age 28, married; has had practical experience from boyhood, both in London and provincial Nurseries, in the Propagation of Hardy and Tender Plants, Roses, Rhododendrons, &c.—C., Mr. Carter, Nursery, Keighley, Yorkshire.

To Nurserymen and Florists.

PROPAGATOR, or PROPAGATOR and FOREMAN.—Age 22; thoroughly understands the Management of Stove, Greenhouse, and Soft-wooded Plants. Has been employed in some of the best London and provincial nurseries.—A. A. A., *Gardeners' Chronicle* Office, W.C.

BAILIFF and GARDENER or GENERAL MANAGER on an Estate.—No incumbrance; 20 years service in the Northern and Midland Counties of England with noblemen and gentlemen. References on application.—Samuel Brown, Wheldrake, Yorkshire.

FARM BAILIFF, by a Norfolk Man.—Married, one child; well understands Breeding and Rearing of Stock. Has lived in Hampshire. Good references.—B. R., 21, Duke Street, Chelsea, S.W.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, AUGUST* 8, 1863.

THE MUSEUM of PRACTICAL GEOLOGY, Jermyn Street, will be CLOSED from the 10th August until the 10th September.

LOANS.—THE BRITISH MUTUAL INVESTMENT, LOAN, and DISCOUNT COMPANY (Limited), is prepared to GRANT LOANS, in sums not exceeding 1000*l.*, upon approved personal or other security, repayable by easy instalments, extending over any period not exceeding 10 years.

Forms of Proposal, Prospectuses, and every other information, may be obtained at the Offices of the Company, 17 and 18, New Bridge Street, Blackfriars, E.C.

Charles James Thicke, Manager.
Joseph K. Jackson, Secretary.

**Universal Microscope. Price £5 5s.**

SMITH, BECK, and BECK, 31, Cornhill, E.C.; late 6, Coleman Street.
*** Catalogues sent on receipt of 6 postage stamps.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE PROOF STRONG ROOM DOORS. CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
Chubb & Son, 57, St. Paul's Churchyard, London, E.C.

CHANDELIERS in Bronze and Ormolu for DINING ROOM and LIBRARY, Candelabra, Moderator Lamps, in Bronze, Ormolu, China, and Glass. Statuettes in Parian, Vases and other Ornaments.
Osler, 45, Oxford Street, London, W.

OSLER'S GLASS CHANDELIERS. Wall Lights and Lustres for Gas and Candles, Table Glass, &c.
Glass Dinner Services for 12 persons, from 7*l.* 15*s.*
Glass Dessert Services for 12 persons, from 2*l.*
All articles marked in plain figures.
Ornamental Glass, English and Foreign, suitable for Presents.
Mess, Export, and Furnishing Orders promptly executed.
London—Show Rooms, 45, Oxford Street, W.
Birmingham—Manufactory and Show Rooms, Broad Street.
Established 1807.

LE SOMMIER ELASTIQUE PORTATIF.—The foundation for all Mattress Bedding should be elastic, and the usual Spring Mattress is too heavy and cumbersome for general use. Heal & Son's new Patent LE SOMMIER ELASTIQUE PORTATIF is made in three separate parts, and is therefore light and portable; it is also cheap and durable; and as it has no stuffing on the top, it cannot harbour moth.

HEAL and SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.
Heal & Son, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

CAPTAIN WHITE'S ORIENTAL PICKLE, CURRY or MULLIGATAWNY PASTE, Curry Powder, and Curry Sauce, may be obtained from all Sauce Vendors, and Wholesale of Crosse & Blackwell, Purveyors to the Queen, Soho Square, London, W.

**Sauce.—Lea and Perrins'**

WORCESTERSHIRE SAUCE.—This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE,"
Is prepared solely by Lea & Perrins.
The public are respectfully cautioned against worthless imitations, and should see that Lea & Perrins' Names are on Wrapper, Label, Bottle, and Stopper.
Ask for Lea and Perrins' Sauce.
*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. Crosse & Blackwell; Messrs. Barclay & Sons, London, &c.; and by Grocers and Oilmen universally.

**Glenfield Patent Starch.**

MESSRS. WOTHERSPOON and CO. have been appointed STARCH PURVEYORS to H. R. H. the PRINCESS of WALES. This Starch is used in the Royal Laundry and was awarded a Prize Medal. Sold by all Grocers, Chandlers, &c.
Wotherspoon & Co., Glasgow and London.

THRESHER'S COLORED FLANNEL SHIRTS. —Prize Medal awarded to Thresher & Glenny for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.
Lists of Prices on application to Thresher & Glenny, General Outfitters, next door to Somerset House, Strand, W.C.

DAILY or OCCASIONAL GOVERNESS.—A Lady who has resided many years in France, seeks a re-engagement in London, to instruct in English, French, and Music with Singing (by the new system); the rudiments of German and Drawing. Terms moderate.—H. H., 29, Queen's Road, Camden Square, N.W.

## News of the Week.

It was announced in Paris on Monday that the French Government had proposed to Austria and England that the three Powers should present a joint note to Russia in reply to Prince Gortschakoff's despatch on the affairs of Poland. It has since been announced that her Majesty's Government at the Cabinet Council held on Friday, declined this proposition, and resolved to send, as before, a separate note. The French papers state that this decision does not imply an abandonment of the understanding between the three Powers, but only leaves to the negotiations the character of separate action, which they have hitherto maintained. The British Government it is said, is not only opposed to any step which may lead to a war in favour of Poland, but considers that common action would entail the necessity of an ultimatum, with the possibility of a rupture in the event of a refusal, while recent events have shown a more conciliatory disposition on the part of Russia, a proof of which is to be found in the fact that Prince Gortschakoff has addressed another despatch to the Ambassador in Paris with the view of removing the unfavourable impression produced by his previous answer to the French Government. Meanwhile the official journals of St. Petersburg repudiate all idea of foreign intervention, and intimate that Russia is making extraordinary preparations to resist any attacks from the naval forces of the Allies. At the same time the National Government at Warsaw has issued proclamations declaring that nothing short of independence will satisfy the Poles, and calling upon the nations of Europe to recognise a living Poland, and to proclaim that Russia has no right to rule over her.

The Emperor of Austria has addressed an autograph letter to all the Sovereigns of the German Confederation, and the Senates of the Free Cities, inviting their personal attendance at an assembly to be held at Frankfort on the 16th inst, for the purpose of discussing the question of a reorganisation of the German Confederation suitable to the requirements of the age. It is said that the Emperor will himself take the initiative in proposing the necessary reforms.

A despatch from Bombay of the 9th June announces the capture of Nana Sahib in the Temple of Ajmere by Captain Brodigan of the 28th Infantry. There was no doubt of his identity, and the papers found upon him disclosed the plans of an extensive conspiracy, and of his having large sums of money at his command. It is also said that Tantia Topee, who was supposed to have been executed four years ago, is still alive, and at the head of 5000 Bengal Sepoys at Saloomba. Nana Sahib will be forwarded to Calcutta or Cawnpore for trial, under a strong escort of Europeans. A telegram from Lahore announces that Dost Mahomed had taken Herat by storm, assisted by treachery within and stratagem without. It is said, however, that the Dost died soon after the capture of the fortress.

Accounts from Japan to the 27th of May state that hostilities had not then commenced, and it was understood that a further indulgence of 18 days had been granted to the Japanese authorities. Hopes were entertained that peace would be preserved, though the native preparations for war were proceeding vigorously at Nagasaki, and the Prince of Satsuma had concentrated in the neighbourhood an army of 60,000 men. In China the Anglo-Chinese contingent under Major Gordon had captured the city of Quin San, after defeating the Taepings with a loss of many thousand men.

The latest news from New York announces that General Meade has crossed the Potomac in pursuit of General Lee, who is said to have assumed so threatening a position on the Blue Ridge Mountains, that apprehensions are entertained of another invasion of Maryland. The siege of Charleston continues, and rumours of a Federal disaster in that harbour were current at Washington and New York. The loss to the Confederates from the fall of the Mississippi forts and the consequent release of the Federal armies for other operations becomes daily more apparent; but the Federal successes in the West are not so great as was at first reported. In spite of the rumour to the contrary General Bragg still holds Chattanooga, though his position there is now likely to be turned; and General Rosencranz has not crossed the Georgia Border. General Johnston's army is still intact, and General Morgan, who was described by the last advices as annihilated, is now reported to be marauding in Ohio at the head of 10,000 men. The Confederates have called out a levy *en masse* in the districts threatened with invasion. New York was quiet, though the President had rejected the appeal of the State Authorities for the abandonment of the conscription, and had ordered the draught to be carried out by military force. It is said, however, that official reports have reached Paris to the effect that the Government has since definitively renounced the conscription, on learning that it had been declared unconstitutional by the sentence of one of the judges of New York.

## Home News.

The Court.—The Queen and Royal family leave Osborne on Monday next for Windsor. On Saturday the Prince and Princess of Wales left Osborne for London. The Duke of Newcastle arrived on a visit. On Sunday morning the Queen, Princess Helena, Princess Louisa, and Prince Leopold attended Divine service at Whippingham Church. The Rev. G. Prothero officiated. In the afternoon Prince Alfred arrived at Osborne in the Racoon from his cruise round Scotland. On Monday morning the Queen and Royal family walked in the grounds. The Duke of Newcastle had an audience of the Queen, and left Osborne for London. The Queen drove out, accompanied by Princess Helena and Princess Beatrice. Princess Louisa rode on horseback. On Tuesday the Countess Gleichen had an interview with the Queen. In the afternoon the Queen drove out, accompanied by Princess Louisa. The Belgian Minister arrived on a visit. On Wednesday the Queen drove out with Princess Louisa and Prince Leopold. Princess Helena rode on horseback. The Princess Leiningen is convalescent, and the infant Princess in good health.

The Queen's Visit to Germany.—Arrangements have been made for the embarcation of her Majesty on Tuesday evening at the Royal Arsenal pier, Woolwich. The landing-place is to be carpeted and arranged simply as on the embarcation of any personage of distinction, it being her Majesty's desire, as on the last occasion, to dispense with all ceremonial.

The Prince and Princess of Wales arrived at Marlborough House on Saturday afternoon from Osborne. On Sunday morning their Royal Highnesses attended Divine service at the Chapel Royal, St. James's. The Duke of Cambridge visited the Prince and Princess at Marlborough House. In the afternoon their Royal Highnesses took a drive in an open carriage. On Monday morning the Princess drove out, and took a drive in an open carriage in the afternoon.

Visit of the Prince of Wales to Halifax.—The Prince and Princess of Wales were to have left London on Monday morning for Halifax and Leeds, on their way to Scotland. The Prince, however, was obliged to set out alone, as her Royal Highness was too unwell in her present interesting condition to undertake the journey. It appears that when the Prince and Princess returned from Osborne on Saturday the Princess complained of languor and fatigue, and retired early to rest. On Sunday morning her Royal Highness attended Divine service with the Prince in the Chapel Royal, and in the afternoon drove out in the park. On their return her Royal Highness expressed her belief that on account of returning indisposition she should be unable to accompany the Prince to Halifax. His Royal Highness at once expressed his intention to intimate to the authorities of Halifax his wish to postpone the ceremony of opening the Town Hall for a few days, believing that the presence of the Princess would be the great attraction of the Royal visit. The Princess at once expressed a hope that the Prince would proceed to Halifax alone, and to that course his Royal Highness, after much persuasion, assented. The Prince accordingly left London on Monday morning by the ordinary train, and arrived at Halifax a few minutes after 3. The absence of the Princess in London was an immense disappointment to the people of Yorkshire, who had flocked into Halifax from the three Ridings to see her. The Prince was received with the usual honours by the Mayor and Corporation, and was conducted to Manor Heath, the residence of the Mayor, Mr. John Crossley. His Royal Highness subsequently visited Dean Clough Mills and the carpet factory of Messrs. Crossley & Son. In the evening the Prince dined at Manor Heath, and during the evening was serenaded by the Halifax Choral Union. In the evening the town was illuminated. On Tuesday the heavy rain thinned the crowds in the streets, and was exceedingly unpropitious for the ceremonials of the day. The Prince however went to Piece Hall, where the Sunday school children sang the National Anthem, and presented an address. His Royal Highness afterwards visited the beautiful Gothic church erected on Haley Hill, by Mr. Edward Ackroyd, from the designs of Mr. Gilbert Scott, and then drove to the new Town Hall, designed by Sir Charles Barry, the opening of which was one of the chief objects of his visit. The Hall itself was crowded with the county gentry, and on the Prince's arrival the National Anthem was sung, a prayer offered up by the Bishop of Ripon, and an address read by the Town Clerk. To this the Prince replied briefly, thanking the municipality for the reception which had been accorded him, congratulating them on the completion of their fine Town Hall, and expressing the warm interest which he would ever feel in the commercial pros-

perity of the great town of Halifax. This formal ceremony over, the Prince, accompanied by his suite, and followed by the Mayor, went out on the balcony in front of the Town Hall, and in a loud, clear, ringing voice proclaimed the Hall opened, amid the most tremendous cheers from the crowd beneath. After partaking of a *déjeûner*, his Royal Highness proceeded at once to the station, and left Halifax by the 3.10 train. From Halifax, along the whole route to Leeds, both sides of the line, when it did not pass through tunnels, were crowded with country people, who had been waiting for hours on the mere chance of catching a glimpse as the train flew by. At Leeds there was an immense assemblage, and here the Prince alighted, and for a moment occupied a chair of State, while an address was presented. Another short stay was made at Peterborough, to allow the Prince to partake of refreshments, and the train then proceeded direct to London, where it arrived at half-past 9 P.M. On arriving at King's Cross the Prince entered his carriage, and drove to Marlborough House.

DEPARTURE OF THE PRINCE AND PRINCESS FOR SCOTLAND.—On Wednesday morning the Prince and Princess of Wales took their departure, by special train, from King's Cross Station, for the North of England and Scotland. The Princess looked in good health and spirits, and her appearance effectually dissipated the alarm felt at the report of her indisposition on Monday, but in consideration of her health, some modifications were made in the journey. The royal train, which left King's Cross at 10.30, arrived at Ripon at 3.45. The Prince and Princess were there received by Earl and Countess De Grey, the Bishop of Ripon, and a few of the local nobility and gentry. On their appearing on the platform, they were greeted by the people with tremendous cheers, while the band of the Yeomanry Hussars played the National Anthem. The Royal party proceeded direct to Studley Royal, the seat of Earl De Grey, where they met a select party at dinner, after which there was a carpet dance, everything being conducted in the most private manner. On Thursday the Prince and Princess visited the ruins of Fountains Abbey. In the afternoon their Royal Highnesses, after planting two young Wellingtonias in the park, took their departure for Edinburgh. The Royal train was met at Darlington by the mayor and corporation, who presented an address, and the volunteers saluted. At Newcastle the mayor also presented an address, and at Berwick the mayor received their Royal Highnesses, and the battery of the port fired a Royal salute. The Prince and Princess arrived at the Waverley Bridge station, Edinburgh, at 20 minutes before 8, and were received by the Lord Provost, magistrates, staff officers, and others, with the band and a guard of honour of the 92d Regiment. They drove rapidly in a carriage and pair through densely crowded streets to Douglas's Hotel, in St. Andrew Square, where they passed the night. The way was lined with military. The Prince and Princess met with a cordial reception, and appeared at the window of the Hotel in answer to the calls of a vast assemblage in the square. Yesterday morning the Prince and Princess were expected to visit Holyrood Palace. Instead of remaining in Edinburgh till this morning, as originally arranged, their Royal Highnesses, on account of the Princess's health, intended to leave the city yesterday afternoon, and proceed by easy stages to the North. It was their intention to pass last night in Perth, and to resume their journey this morning to Aberdeen and Aboyne, where the train is expected to arrive at a quarter before six. At that place the railway journey ends, but a drive of about two hours will enable their Royal Highnesses to reach Abergeldie shortly before eight o'clock.

PRINCE ALFRED arrived at Portsmouth on Wednesday in her Majesty's yacht Fairy, wearing his full uniform as a lieutenant, expressly to attend the funeral of a seaman-gunner of the Racoon, named William Keyer, who was killed by falling from the foretop on the 31st ult. On his return from the funeral the Prince immediately re-embarked, and returned to Osborne. During his stay in the harbour the Prince went on board the Enchantress, and paid his respects to the Lords of the Admiralty.

PRINCE ARTHUR arrived at Chester on Wednesday by train from Holyhead, visiting Penrhyn Castle on his way. His Royal Highness passed the night at the Railway Hotel, and left on Thursday for Shrewsbury.

THE PEERAGE.—The *Gazette* of last evening announces that Colonel White, of Woodlands, has been raised to the peerage of the United Kingdom, as Baron Annaly of Rathcline, in the county of Longford. It also contains the announcement of Mr. Monckton Milnes's elevation to the peerage of the United Kingdom by the title of Baron Houghton, of Great Houghton, in the West Riding of Yorkshire.

PARLIAMENTARY MOVEMENTS.—Major Waterhouse, the Conservative candidate, was returned for Pontefract on Monday without opposition, in the room of Mr. Monckton Milnes, Sir E. W. Head, the Ministerial candidate, having declined to go to the poll. Sir Colman O'Loghlen was elected for the county Clare on Monday without opposition. It is said that the Montgomeryshire boroughs will be contested by the Hon. Hanbury Tracy, a relative of Lord Sudeley, in the Liberal interest, and by Mr. C. V. Pugh or the Hon. Mr. Herbert, a brother of Earl Powis, in the Conservative interest.

THE ARMY.—The colonelcy of the 29th Regiment, vacant by the death of Lord Downes, has been conferred on General Sir James Simpson; and the colonelcy of the 87th Regiment, vacated by this promotion, has been conferred upon Major-General Lord W. Paulet, commanding the south-west district.

THE INDIAN ARMY.—It is announced that her Majesty has been recommended to grant a free pardon to Paymaster Smales, and that he is likely to be appointed to a regiment as soon as an opportunity offers.

THE NAVY.—In consequence of the Brazilian difficulty, the Lords of the Admiralty have issued a very stringent circular, enjoining officers to appear always in uniform, even when going into private society, in the neighbourhood of the port at which their ship is anchored.

THE CHANNEL FLEET, after a week's stay in Leith Roads, weighed anchor on Wednesday afternoon, and under canvas, with partial assistance from steam, sailed down the Firth of Forth and proceeded to Cromarty Firth. After sailing round the North of Scotland, it will then visit the Clyde and the Mersey. During their stay in Leith, the ships, particularly the great ironclads, Black Prince and Warrior, were visited by immense numbers; the crowds at Leith and Granton Piers being so great that many thousands failed to get out to the roadstead. On Tuesday evening the Lord Provost, magistrates, and council of Edinburgh entertained the officers of the fleet, to the number of 200, at dinner in the Music Hall.

THE BISHOPRIC OF GIBRALTAR.—Serious difficulties have arisen with regard to the appointment of the Right Rev. Dr. Trower to the bishopric of Gibraltar, and an opinion adverse to his nomination has been obtained from Sir Hugh Cairns, Q.C., by a considerable body of churchmen, who are opposed to Bishop Trower's theological views. Dr. Trower was nominated to the vacant bishopric two months since, but no *Gazette* announcement of it has yet appeared. Sir Hugh Cairns and Mr. A. J. Stephen had submitted to them a question whether, having regard to the law as to the consecration of bishops and to the patent creating the see of Gibraltar, the consecration of Dr. Trower by the bishops of the Scottish Episcopal Church made without the permission or mandate of the Crown, will be sufficient to constitute him a bishop lawfully competent to discharge the spiritual functions of a colonial bishop of the United Church of England and Ireland. The following opinion has been returned by the two gentlemen:—"We are of opinion that, under the letters patent creating the Bishop of Gibraltar, as under all letters patent which the Crown has been in the habit of issuing for the erection of colonial sees, the persons appointed by the Crown must be also canonically ordained and consecrated thereto by the Archbishop of Canterbury, according to the form and usage of the United Church of England and Ireland; and that, inasmuch as Dr. Trower, being already a bishop of the Scottish Episcopal Church, cannot comply with those conditions, he would not, if appointed to the office of Bishop of Gibraltar, be competent to discharge the spiritual functions of a bishop of the United Church of England and Ireland in that see." The Duke of Newcastle, who, as Colonial Secretary, has the nomination to the bishopric of Gibraltar, has forwarded this opinion to the law officers of the Crown, and it is at present under their consideration.

## Foreign.

FRANCE.—The Emperor returned on Wednesday evening to St. Cloud, and presided at a Council of Ministers on Thursday morning. Rumours were previously current that the greater part of the Ministry had formed a coalition against M. Drouyn de Lhuys, and that M. Fould, who was said to be at the head of the cabal, thought M. Drouyn de Lhuys was leading the policy of France in a direction which must conduct to war. It is supposed that this question was raised in the Council on Thursday, which lasted two hours. The *Patrie* of Tuesday stated that objections had been raised by England to the principle of an identical note to Russia, and said:—

"The difference is of a very serious character, and, by causing the miscarriage of the negotiations which have been pending for the last fortnight, may open the door to fresh combinations, and, according to certain rumours, give rise to modifications in the very heart of the French Cabinet."

The same paper of Thursday persists in maintaining the necessity for an European intervention, and says:—

"We are convinced that Austria herself, when in danger, will call for succour from France; but will it again happen that Europe shall shamefully allow a state of things to be created from which it can only escape by terrible sacrifices?"

*La France* says it is confirmed that England has renounced the despatch of an identical Note to Russia, and adds:—

"This resolution was taken after a sitting of the Cabinet Council. It does not imply an abandonment of the understanding between the Three Powers, but only leaves to the negotiations the character of separate action which they have up to the present retained. England is most interested in the solution of the Polish question, but she hesitates now that it becomes a question of taking a decisive step in the path of the common action pursued by the Powers. To England attaches the responsibility of the definitive solution which will be given to this affair. If she confines herself to the limits of diplomatic action it is not we who can complain. It will be well established that France has failed in none of her duties, and has displayed in the negotiations the firmness which could best assure their success, and was to be expected from a Sovereign whose greatness disdains arrogance and knows not weakness."

In another article on the "Negotiations," on Thursday, *La France* says:—

"England has considered it preferable that separate Notes should be despatched to Russia. The motives of this determination are said to be—1. An intention not to enter into common action, which would entail the necessity of an ultimatum, with the possibility of a rupture of the negotiations in the event of a refusal by Russia. 2. The repugnance of the English Cabinet to any step which might lead to a war in favour of Poland. 3. The hope entertained by England of a more conciliatory disposition on the part of Russia."

The same paper publishes an article headed "No Humiliating Peace," in which it recalls the policy of Louis Philippe which necessitated the wars of 1854 and 1859, and says that the only durable peace is one satisfying right, equity, and dignity. The article concludes by quoting the words of the Emperor Napoleon—"For Europe to be tranquil France must be satisfied." The *Pays* of Thursday evening says:—

"The replies of the Three Powers will be identical in their conclusion, and will maintain all the moral force of an understanding between the Powers."

The *Nation* of Thursday remarks that the logic of the situation is as follows:—

"France, not being able to rely on her two allies, must address Russia directly, in order to obtain, by relations with that Power, a credit and a force which association with England and Austria has not imparted. Poland, which has failed to embroil Russia and France, will reunite them in an intimate alliance. This alliance will consummate the humiliation of England, and perhaps draw down chastisement upon Austria."

The *Constitutionnel* says:—

"The despatch of separate Notes to Russia in no way affects the union of idea, object, and action on the part of the Three Powers, which is more complete now than ever."

SPAIN.—The resignation of the Minister of Finance has been accepted. He will be replaced by the Minister of Public Works, whose post will be filled by Señor Alonso Martinez. Señor Pernmayavia has been nominated Colonial Minister.

PORTUGAL.—The Royal family continues at Mafra. The state of the Queen's health is very satisfactory. The Duke de Penthièvre, son of the Prince de Joinville, who has been staying on a visit to the King, leaves shortly for New York, in the American frigate Macedonian. It is said that the King intends to open the Agricultural Exhibition at Braga. There is every probability that the Ministers will not renew the present tobacco contract, and that the commerce in that article will be thrown open. The Government has purchased on account of the Crown 500 contos of reis in the Portuguese Funds with the proceeds of the diamonds recently sold to the agent of a French house. The keels of two new corvettes, to be named the Duke of Palmella and the Duke de Terceira, have been laid at the Royal Arsenal. The vine disease continues to be developed.

BELGIUM.—Mr. W. Cornell Jewett, of Colorado territory, United States, had an interview on Monday with M. Rogier, Minister of State, and on Thursday had an audience of the King of the Belgians on the policy of mediation. Mr. Jewett in this audience asked the King to exercise his influence with the Queen of England in favour of the British Government uniting with France in urging the North to agree to an armistice. The King has permitted the publication of the substance of the interview. His Majesty believes that the decision of a just tribunal offers the only means for the restoration of peace. The abolition of slavery, if stipulated for at all, should be gradual. America and Europe should together make provision for the slave. Mediation is not interference. The other Governments should not be unwilling to join France in working in the interest of peace, now that the South favours such a policy. Humanity and the interest of the world in a general peace invite friendly action. Force cannot secure the welfare of America. An international judgment would cement firmer the foundations of American liberty. In conclusion the King promised to submit the matter to the Queen and Cabinet of Great Britain.

DENMARK AND SWEDEN.—The *Fädrelandet* considers an alliance between the Scandinavian Monarchies to be near at hand. The Swedish Minister for Foreign Affairs, in a Note addressed to the Courts of London and Paris, protests energetically against the intention of the German Federal Diet to exercise its influence upon the affairs of Schleswig by a Federal execution in Holstein. Prince Oscar, Crown Prince of Sweden, left on Saturday for Germany, after having paid a visit to the King of Denmark at the Royal Palace at Skodsborg.

THE DANISH DUCHIES.—A royal rescript addressed to the members of the Schleswig Diet says that the Government has decided not to sanction the request of the Diet for an alteration of the regulations as to the use of the Danish language in churches, for education, in courts of law, and for general business in the districts of Schleswig inhabited by a mixed population.

SAXE WEIMAR.—The Weimar paper called the *Deutschland*, warmly congratulates Austria upon being more than ever decided upon making common cause with the Western Powers, whether in the way of ulterior negotiations or for stronger measures. It strongly contrasts with the conduct of Austria the selfish and anti-national character of the policy of Prussia, who, instead of acting in concert with her German neighbours, gives moral aid to Russia by her equivocal bearing.

FRANKFORT.—It is officially announced that the Emperor of Austria, in an autograph letter, dated the 31st July, has invited all the Sovereigns of the Germanic Confederation and the Senates of the Free Cities to meet in an Assembly, at which all should personally attend, with the object of discussing the question of a

re-organisation of the German Confederation suitable to the requirements of the age. The Emperor, who will personally take the initiative in introducing these reforms, has proposed that the meeting shall take place at Frankfort on the 16th inst.

Austria.—The Emperor of Austria reached Gastein on Sunday evening. His Imperial Majesty was immediately visited by the King of Prussia, accompanied by General von Manteuffel. The two Sovereigns had a short interview. The Emperor, accompanied by the Archduke Ludwig, returned the King's visit in the course of the evening. The Emperor was expected to return to Vienna on Tuesday. The Vienna *Abend-Post* of Tuesday evening asserts that no understanding has yet been arrived at by the Three Powers upon the form of the reply to Prince Gortschakoff's despatch.

Prussia.—Large bodies of Prussian troops are being concentrated on the Polish frontier. Two battalions of the 49th Regiment of infantry have been despatched thither from Starogard, and the whole of the Pomeranian regiment from Sierakow. It is positively asserted at Posen that in a few days all Prussian districts bordering on Poland will be declared in a state of siege, and that immediately after the Prussian troops will enter the kingdom of Poland. A document signed by the Prussian General von Werder, and addressed to Count Waldersee, the commander of the 5th Army Corps, in Posen, in reference to these arrangements, has been published, but the Berlin official papers deny its authenticity.

Russia.—Accounts from St. Petersburg to the 1st inst. state that the Emperor of Russia has issued a ukase declaring free landowners the 2,000,000 peasants who are tenants of the Crown domains and appanages. The Emperor has left St. Petersburg for Finland, accompanied by his two younger sons, the Minister of War, the Minister of Marine, the Minister for the Grand Duchy of Finland, and a numerous suite. Before leaving St. Petersburg the Czar again inspected the fortifications of Cronstadt, and reviewed the artillery of the Guard, by whom he was enthusiastically cheered. His Majesty examined their equipments with great care, appearing to pay especial attention to the performances of the rifled guns, and expressed himself highly satisfied with their accuracy and extent of range. The *Invalide Russe*, the official organ of the Government, declares that if the Western Powers persist in the policy of intervention in Poland, they will be responsible for leaving no other issue to the question than the arbitrament of war. At Moscow, where the old Russian party most prevails, the replies of Prince Gortschakoff to the notes of England, France, and Austria, have been received with intense satisfaction, and the public enthusiasm has found vent in a grand banquet, at which toasts were drunk to the Emperor and his chief Minister, and a despatch was sent to the latter, thanking him for the manner in which he had expressed the wishes and thoughts of the nation, and upheld the honour and dignity of the empire. The *Journal de St. Pétersbourg* of Thursday publishes the following despatch addressed by Prince Gortschakoff to M. de Budberg, replying to the views expressed by M. Drouyn de Lhuys relative to the Russian reply to the French Note. Prince Gortschakoff says:—

"M. Drouyn de Lhuys seems to conclude that the Russian reply implies a refusal of the six points under the appearance of adhesion. The Russian reply explained that the greater part of the measures indicated in the six points had been granted, but that, far from pacifying the Kingdom of Poland, they were the starting point of the insurrection. The agitators made reforms a pretext for raising the country. Having conceived the hope of complete independence by the aid of foreign intervention, they could not appear satisfied with the liberal institutions the bases of which were being carried out by the Government. If the Government did not repudiate bad faith and tortuous paths, it would perhaps have displayed some ability in categorically accepting the six points; but we wish to express our ideas loyally. The six points could not receive a practical solution until after order had been re-established. M. Drouyn de Lhuys sees an accusation against the French Government in the assertion of the existence of a permanent conspiracy in a foreign territory. Such an intention could not enter our mind. We are persuaded that the French Government regrets these intrigues; but it remains a fact that they exist in its despite, and from Paris, one of their principal foci, they feed the moral agitation in the kingdom of Poland, and furnish it with material resources. The movement in Poland proceeds from a turbulent minority, and points out that Russia has possessed Poland for half a century. The measures adopted depart but slightly from the bases recommended by the Three Powers, but have been impeded by the existence of exterior influence. The insurgents did not take up arms for liberal institutions, and have loudly declared that their exclusive object was the reconstitution of the limits of Poland in 1772. They have also put forth foreign intervention as the crowning of the enterprise. The language of the French and English press has not diminished these encouragements, and it is on this account we stated our conviction that foreign assistance was the principal cause of the persistence of the insurrection. We adhere to our observations concerning the suspension of hostilities. It is necessary that the rebels should lay down their arms or that the Government should abdicate all authority. It is impossible otherwise to understand the question of dignity and public order. The proposal of a preliminary conference of the Three Courts was suggested to us by the principle of the treaties of 1815, which is stated as the base of the diplomatic action of the Powers. The opinion expressed by M. Drouyn de Lhuys confirms our conviction that this question has led to difficulties because it has been ill-stated, and because the debates have made it a matter affecting the dignity of our Cabinet. Our proposal was inspired by the desire of conciliation, and we regret the opinion entertained by M. Drouyn de Lhuys. We are also painfully surprised at his impression of the general sense of our reply. Our despatch contained neither irony nor provocation; but a feeling of wounded dignity might have manifested itself in the expression of our ideas. In face of the insults lavished upon us, it was impossible for us to disregard the force of the energetic sentiment of our nation. The Government endeavours to calm and enlighten, and to repress the explosion of the public spirit, which had been deeply wounded. The duty of a Government and the task of diplomacy are to separate from the conduct of affairs those passionate impulses which complicate them, and may endanger peace. We are conscious of having neglected nothing in the work of conciliation, and in endeavouring to arrive at an understanding in conformity with the relations which have long united us to the Government of the Emperor Napoleon, we take pleasure in counting on the same disposition on his part. Our task would be difficult if France misunderstood the necessities imposed upon us by the sentiments of our nation, which cling to the traditions and vital interests of the country."

Poland.—The official journal of Wilna publishes a decree of General Mouravieff, ordering that all the Lithuanian insurgents who fall into the hands of the Russians, particularly the nobles and priests, shall be tried and shot within 24 hours. The insurgent leaders Stefanski, Zawistewski, Nowikki, and Heine were hung before the citadel of Warsaw on the 29th ult. Sixty-nine persons have been transported to Orenburg from Warsaw, and incorporated with the penal companies of the army. 200 persons were transported on the 20th ult. to the interior of Russia. The ill-treatment of the Polish prisoners confined in the citadel of Warsaw continues. Proudzynski has become insane from flogging. A proclamation has been issued by the National Government to the peoples and Governments of Europe declaring that the insurrection is that of the whole nation, and while admitting that experience proves they can only rely on their own arms for achieving independence, they confidently say that they will be satisfied with nothing short of that result, and call upon the nations of Europe to recognise a living Poland and to proclaim that Russia has no right to rule over her. In another proclamation the National Government encourages the Poles to continue as hitherto in the path upon which they have embarked, promises them a regular administration, a disciplined army, and that the Government will remain true to the programme of the 22d January. Another proclamation, which has been scattered about in the streets of Warsaw, runs thus:—

"Countrymen, brothers! Continue stedfast in the holy battle of honour for your altars and liberty. Take courage! Remember, a thousand avengers spring from one hero's corpse. In Paris, at this moment, are taking place secret conferences between Drouyn de Lhuys, Cowley, and Prince Metternich, which bode good to us in the speediest way. Marshal Canrobert is receiving, perhaps at this very moment, special orders. Six cavalry and as many infantry regiments have already received their equipment for active service, and will shortly assemble at Rouen. Courage, Poles! The French eagle is mindful of Poniatowski's warriors' death, and will fly to the aid of the white eagle."

Rumours have been current that an insurrection would break out at Warsaw on the 9th inst. The Town Captain, in consequence, has warned the people not to be led away to make demonstrations by the endeavours of Russian agents, and stating that the National Government will inform the inhabitants when the right time for insurrection shall have arrived. The insurgents commanded by Rallier defeated the Russians on the 22d and 24th ult. near Dobrzelin and Walewice. On the 25th, although surrounded by a superior force, they succeeded in retiring without provoking any engagement with the Russian troops. Engagements between the insurgents and the Russians also took place near Kozlowa and Ruda, in Lithuania, on the 22d, in which the former were victorious. The Polish leader Wisniewski has been totally defeated by the Russians near Stranuch. Wisniewski is reported to have been killed. Only about 40 of his detachment succeeded in escaping into the forests. Engagements between the insurgents and the Russians took place at Seyny, in the government of Augustowo, on the 25th ult., and at Radzymin, near Warsaw, on the 30th ult., in both of which the insurgents were victorious. The Polish leader Wierzbicki was attacked by an overwhelming force near Kaniawola on the 27th, but managed to retreat, with the loss of six men. Wierzbicki himself was slightly wounded. The insurgents have defeated an equal number of Russians at Zielun, in the palatinate of Plock. The Russians were driven back into the town of Zielun, and, after a fight in the streets, retreated, and were pursued for a mile. Seventy Russians were left dead in the town. The loss of the Poles was 40 killed. Many young persons were arrested in Cracow on the 3d inst. On the 5th one of the Civil Guards was surprised and attacked by several young men, who wounded him with knives, and otherwise ill-treated him. Several further arrests have taken place. The Chief of the Town of Lemberg, just appointed by the local Committee, has issued an address warning the inhabitants against disturbances, as provoked by enemies. The address is stamped like those of the Warsaw Committee.

Italy.—The *Stampa* of Thursday announces that Sir James Hudson has been recalled from Turin, and that Mr. Henry Elliott has been appointed British Minister in his stead. The Italian Parliament terminated its session on Saturday. In the Chamber of Deputies the Bill regulating taxation upon articles of consumption was passed by 146 to 54. The debate on the Bill for the repression of brigandage was postponed until November. The *Official Gazette* announces the arrival and friendly reception of Prince Amadeus at Stockholm. Colonel Sarragante, a Spaniard, commander of the band which recently made an incursion into the Neapolitan provinces from Sora, has been arrested by the French. His band has been dispersed. Important documents were found upon him.

The Caucasus.—Accounts from the Levant announce the discovery in the Caucasus of a conspiracy against Russia, having extensive ramifications.

India.—Telegraphic despatches from Bombay of the 9th June announce that Nana Sahib has been captured in the Temple of Ajmere by Captain Brodigan, of the 28th Infantry, on information supplied by the Bombay police. According to the official report of Major Davidson, the political agent at Ajmere, no doubt whatever exists of the prisoner's identity. He was tracked to that place by two Bombay detectives, acting under the instructions of Mr. Forjett, acting commissioner of police at Bombay. The detectives traced a companion of the Nana's from the Deccan to Bikaneer, where the Nana was found a guest of the Bikaneer Rajah; he was allowed to depart thence to Ajmere and there denounced, his trackers having joined him on the road and introduced themselves as agents from a neighbouring durbar. The papers found upon the Nana show plans of an extensive conspiracy, and of his having large sums of money at his command. 5000 Bengal Sepoys are rumoured to be at Saloomba, under Tantia Topee. The man hanged in that name four years ago is now supposed not to have been that leader. The country is everywhere quiet. Dost Mahomed took the city of Herat by storm on the 26th May. Previous to the attack it had been given out that Dost Mahomed was at the point of death, that he had assembled his sons, nominated his successor, and given his parting advice to all. The demonstration appears to have thrown the Heratees off their guard and enabled him to surprise and capture the citadel by a sudden assault, aided no doubt by treachery within the walls. Since the fall of the city, authentic intelligence had been received of Dost Mahomed's death. A sharp visitation of cholera in Bombay has carried off several Europeans, but the scourge has now disappeared.

Madagascar.—News has been received at Reunion from Madagascar that the reaction against foreigners continued. The Minister who signed the treaty with France had been assassinated, and the French were prohibited from taking possession of the land conceded to them by the treaty. M. Laborde, the French Consul, had taken down his flag, and withdrawn with his compatriots to a distance of eight leagues from the capital.

China.—We have advices from Hong Kong to the 13th June. The following details respecting the capture by the Anglo-Chinese contingent, under Major Gordon, of Quin San, a city between Tai-tsan and Soochow, are from the *North China Herald*:—

"It appears that this place is surrounded with stockades of a formidable character, chiefly built of granite. The attack was begun on those on the south side of the walls, from which the rebels were speedily driven. The force then marched round to the west side, and succeeded in taking the stockades there. Major Gordon, with a rapidity of movement unknown in Chinese warfare, immediately led his troops along the only road leading to Soochow, along the east bank of the creek, which at this point becomes a broad and deep river—the Hyson, armed steamer, accompanying the force. On the road he captured three stone forts, and afterwards encountered a body of some 15,000 rebels, whom he attacked and defeated with great loss to them. He then proceeded in the Hyson to reconnoitre the country in the vicinity of Soochow, coming within view of the walls of that famous city. The steamer then returned to where the force stood, when they marched to the attack of Quinsan, which was being evacuated by the garrison. A number escaped, but many yielded submission to their captors. Then followed the taking of the strongest rebel post near Soochow, with the loss of only a few killed and wounded; while on the Taeping side the loss is estimated by thousands. This rebel force was chiefly composed of picked men from Soochow, under the leadership of the Moo-wang, who, it is said, has himself been cut off. There was scarcely any loot found in Quinsan, as it was purely a garrison town, having a manufactory for ordnance, shot, and shell. Two good 13-pounders were found in the place, which had been worked by foreigners."

Shocking cruelties are said to have been inflicted by the Imperial troops on the rebel prisoners. From Tien-tsin we have news to the 22d of May. The Nyen-fei marauders had disappeared from the neighbourhood, and business had taken an active turn in consequence. Foreign merchants were continuing to build. From Newchwang and Chefoo there is no news. From Pekin we learn that Mr. William C. Milne, assistant secretary to the British legation, died in a fit while sitting at table. He was formerly attached to the London Missionary Society, and has written successfully on subjects connected with China. At the time of his death he was in charge of the student interpreters at Pekin. Complaints are made of unfair play in the division of loot taken at Shang-yu and Shaoshing, the French tenaciously holding all they have obtained.

Manilla.—A fearful earthquake took place at Manilla on the 3d June. The town was destroyed, and 1000 natives buried among the ruins. The *China Mail* contains the following account of the earthquake in a letter from Manilla, dated June 4:—

"On the 3d, at half-past seven in the evening, a circumambient flame was seen to rise from the earth and gird the city of Manilla, and at the same time a most terrific quaking of the earth took place. It lasted scarcely a minute; but in that short space nearly the whole of fair Manilla has been reduced to a heap of ruins. Upwards of a thousand have been killed and many thousands wounded. Scarcely an edifice has escaped without dead or wounded. The priests, choristers, and sacristans, and the congregation who were hearing vespers, have been nearly all buried and suffocated under the ruins of the cathedral and other churches. The only church that has escaped wholly is San Augustin, the same that withstood the tremendous shock of 1645. The Palace and nearly all the public and private, as well as commercial edifices, have either been thrown down or shaken from their foundations. Not a single foreigner has been killed, but two have been seriously hurt, though not dangerously. The British Consulate has been entirely destroyed, and is nothing but a mass of ruins.

Before the earthquake took place, sulphurous odours were perceived, rumbling like the firing of ordnance, and then like the approach of an immense locomotive and train. The flame that surrounded the city was seen from the Bay to ascend towards the sky; and another, a triple one, came from the land over the water to the shipping, and threw them up at least 2 or 3 feet, while on shore the earth has everywhere sunk at least 2 feet."

JAPAN.—The intelligence from Japan is to the 30th of May. The news is conflicting, but it seems certain that hostilities had not broken out. A rumour was current at Yokohama that a further postponement of 18 days had been allowed to the Japanese Government, but of this there was no certainty. Negotiations, however, were still going on up to the day of the steamer leaving. Consul Winchester declined to state their purport, but advised the British residents to hold themselves in readiness for any emergency. The native town of Yokohama has been thoroughly deserted, the shops and houses gutted to the bare walls and floors. At Nagasaki great excitement prevailed, on account of the large preparations making by the Japanese for war. Six new batteries had been erected, and it was reported that there were 60,000 troops in the neighbourhood of the town. Other reports allude to the possibility of civil war, owing, it is said, to the existence of a party in the country opposed to the exclusion of foreigners.

UNITED STATES.—It is admitted by most of the Federal journals, except those in the confidence of the Government, that the repulse of the Confederates at Gettysburg was not by any means so severe as was represented, and that General Lee is still in force on the fords of the Potomac and in the Shenandoah Valley, and in a position to re-invade Maryland if such be his intention. It appears that General Meade's army has crossed the Potomac near Harper's Ferry, and moved down the east side of the Blue Ridge, on the supposition that General Lee was rapidly retreating out of the Shenandoah Valley, on the west side of the mountains. But General Meade found General Lee holding the line of the Upper Potomac, and threatening Maryland and Washington. General Lee's attitude stopped General Meade's advance, and an immediate battle is considered imminent in order to prevent another invasion of the North. It is believed that General Lee has been reinforced by General D. H. Hill with 10,000 men from Lower Virginia, and that he intends to cross the Blue Ridge at Chester or Thornton Gap, and that he delayed his movements on the Upper Potomac, in order to carry away the plunder gathered in Pennsylvania and Maryland, and the new crop of the Shenandoah Valley. At the latest accounts the two armies retained their positions upon either side of the Blue Ridge, and an attempt made on the 24th ult. by 400 Confederates to cross the Potomac at Nolan's Ferry was defeated by a superior force of Federals stationed at that point. Many rumours are in circulation of the state of affairs before Charleston. Some assert that Fort Wagner and the whole of Morris Island have been captured by the Federals; others that the Federals have been severely repulsed. The Government is reported to be in possession of news which it declines to publish. A steamer has arrived at New Orleans from Natchez without meeting any impediment in the whole length of the river. Her arrival is considered as a proof of the re-opening of the Mississippi to navigation, and has caused much enthusiasm. The steamer has left on a return trip to St. Louis. The Federal movement for the occupation of the Teche county continues. General Morgan's forces are now reported to number 10,000, and to have reached Washington in Ohio. Their progress has been several times checked, but they made good their escape. The reports of General Rosencranz's movements on Chattanooga and Rome are unfounded. He is still on the northern slope of the Cumberland mountains, preparing to move into East Tennessee. The *Richmond Whig* says the evacuation of Jackson left in the enemy's hands the rolling stock of the Orleans, Jackson and Great Northern, Mississippi Central, and Mississippi and Tennessee Railroad. Over 40 engines were lost. The loss, continues the *Richmond Whig*, is incalculably important, and wholly irreparable. The Newbern cavalry expedition has destroyed two miles of the Wilmington and Weldon Railroad, and burnt a bridge 1000 feet long over the New River. Another Federal cavalry expedition, after severe fighting, captured and destroyed Wythville, South-eastern Virginia, taking 100 prisoners and two pieces of artillery. They cut the Virginia and Tennessee Railroad at Wythville. The *New York Herald* correspondent at Washington asserts that Mr. Seward has proposed terms of peace and reunion in the Cabinet, upon the basis that slavery is an existing fact, with which the Federal Government has nothing further to do than to prevent its extension into their territories. A spirited resistance to the draught is manifested in Maryland. The barns of two enrolling officers have been burnt, and their residences attacked. Forcible opposition to the conscription has also been made in several towns in Maine. At Kingfield, in that State, the officers conducting the draught were set upon by a mob, their papers seized and destroyed, and themselves driven from the town. In other places the citizens have thrown up earthworks to resist the enforcement of the Act. It has been decided by the Provost-Marshal, General Fry, that no negro can be accepted as a substitute for the draughted white man. Official reports received in France from New York state that the Government definitively renounce the conscription, which had been declared unconstitutional by the sentence of a New York municipal judge. "This fact is to be attributed to the progress of pacific ideas in the North." The Republicans attribute to Governor Seymour treasonable views, and an intention to get the State military power into his own hands. The Democratic press asserts General Seymour's right to control the State militia, and attributes to the Republican party a plot to consolidate the military power in the hands of the Federal Government. The *New York Herald* still urges President Lincoln to enlist the sympathy of all men, North and South, by declaring an intention to drive the English from Canada and the French from Mexico. The Richmond papers say that a Virginia Navy Company has been formed for the purpose of sending ships to sea, which will keep up a guerilla warfare against the Federals without loss of men to the South. They also ridicule the idea that the Federals have seen the end of the war, and declare that their past struggles are only a trifle of what they can do, as they have scarcely yet begun to fight. A meeting has been held at Montgomery, Alabama, to organise the whole population for home defence. General Maury, at Mobile, has called all the able-bodied men of the city and county to report for duty in the defence against an attack from Grant's army. The Mayor of Charleston has impressed all the free and slave coloured population between 18 and 60 to work on the defences at Morris Island. The people of Georgia are arming to resist Rosecrans, and Rome is to be fortified. The citizens of Lynchburg, Virginia, are organising for defence. General Fitzhugh Lee and Captain Winder have been imprisoned in the casemates of Fort Monroe. Notice has been given to the Confederate Government that if the two Federal officers selected in Richmond are executed, Lee and Winder will be executed in retaliation. Mr. Vallandigham, in an address from Niagara, accepts the nomination for Governor of Ohio. He says that after his journeyings he found himself a free man on British soil and exercised the privileges and rights the usurper had denied him at home. He denies the practicability of subjugating the South by force of arms, and states that he met in the South not a man, woman, or child, who were not resolved to perish rather than yield to force. He met no one in the South, whatever his opinions or station, political or private, who did not declare his readiness, when war shall have ceased, and the invading armies are withdrawn, to consider and discuss the question of reunion. The ship George Griswold has been captured and bonded by the Georgia for 100,000*l.* The steamer Lizzie has been captured off Abaco, and the steamer Kate Dale off Fortugal, with 800 bales of cotton. The Scotia has been intercepted off Cape Race. The United States' District Court has confirmed a decree of the Lower Court condemning the steamer Ella Warley and cargo and the brig Delta and cargo, the steamers Ouachita and Elizabeth, the schooner J. S. Toone, and the brig Sarah Star. It has also confirmed the decision condemning the bark General Greene, and restoring the cargo. The decision of the Lower Court condemning the bark Empress and cargo has been reversed.

MEXICO.—*La France* asserts that Marshal Forey will leave Mexico on the 15th of September, giving up the command to General Bazaine. The New York papers publish news from the city of Mexico, *viâ* San Francisco, to the 1st ult., stating that the Mexican army was hovering around Mexico in detachments. Ortega was commanding between San Luis Potosi and Mexico. Negreta was operating with 2000 cavalry to destroy the communication between Mexico and Vera Cruz. No couriers had arrived at Mexico from Vera Cruz within 30 days. Marshal Forey reports that he had sent a column to protect the mines at Real del Monte, which the enemy intended to plunder and to destroy the engines; and it is now occupied in forming a provisional Government, which, following out the intentions of the Emperor, will be composed of men of moderate views belonging to all parties.

## City Intelligence.

BANK AMALGAMATION.—It is officially announced that Messrs. Hankeys & Co. have ceased business as an independent firm and have joined the Consolidated Bank, recently formed by the union of the Bank of Manchester with that of Messrs. Heywood, Kennards & Co. The capital of the united banks is divided into 150,000 shares of 10*l.* each, 4*l.* paid, or, in other words, a paid up capital of 600,000*l.*

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $93\frac{1}{8}$ to $92\frac{7}{8}$ for Money, and $93\frac{1}{8}$ to $\frac{1}{4}$ for the 9th September; Three per Cents. Reduced, 93 to $\frac{1}{4}$; New Three per Cents., $93\frac{1}{8}$ to $93\frac{1}{4}$; New Two and a Half per Cents., $77\frac{1}{4}$; Bank Stock, 238; India Five per Cent. Stock, $108\frac{1}{4}$ to $\frac{1}{2}$; India Four per Cent. Debentures, August, 1864 or 1866, $100\frac{1}{2}$; Exchequer Bills, par, 1*s.* dis. to 2*s.* pm.—FOREIGN: Brazilian Old Five per Cents., $101\frac{1}{2}$; Dutch Two and a Half per Cents., $64\frac{3}{4}$; Ditto Four per Cent. Certificates, 103; Greek Five per Cents., for Acc., $32\frac{7}{8}$ to $\frac{3}{8}$; Italian Five per Cents., 1861, for Acct., $71\frac{1}{4}$ to 71; Mexican Three per Cents., for Acct., $36\frac{7}{8}$ to $36\frac{3}{4}$; Portuguese Three per Cents., 1856, '57, '59, '60, and 1862, for Acct., 48; Russian Five per Cents., 1822, $94\frac{1}{8}$ to 94; Ditto 1862 $92\frac{7}{8}$; Sardinian Five per Cents, for Acct., $89\frac{1}{2}$; Spanish Passive, for Acct., $32\frac{1}{4}$ to $\frac{1}{8}$; Committee's Certificates, for Acct., $12\frac{1}{4}$ to $\frac{1}{8}$; Turkish Six per Cents., 1854, for Acct., $92\frac{1}{8}$; Ditto 1858, for Acct., $70\frac{5}{8}$; Ditto 1862, for Acct., $67\frac{7}{8}$ to $\frac{1}{2}$; Ditto Guaranteed Four per Cents., $101\frac{1}{2}$, ex div.; Venezuela Three per Cents., for Acct., $23\frac{1}{4}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued.. .. .. | £28,676,005 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,026,005 |
| | | Silver Bullion .. .. | — |
| | £28,676,005 | | £28,676,005 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,038,[illegible] |
| Rest .. .. .. .. .. .. | 3,423,480 | Other Securities .. .. | 19,153,801 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 5,577,268 | Notes .. .. .. .. .. | 7,001,175 |
| Other Deposits .. .. .. | 13,790,855 | Gold and Silver Coin .. | 817,[illegible] |
| Seven days and other bills | 665,979 | | |
| | £38,010,582 | | £38,010,582 |

August 6, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *July* 31.—BANKRUPTS.—LOUIS CHARLES CRETIAN ABLE (sued and committed as LOUIS ABEL), Bedford Street, Covent Garden, Waiter at an Hotel—J. BURLING, Newmarket St. Mary, Suffolk, Tailor—J. BEARDSLEY, Thorpe, Derbyshire, Licensed Victualler—W. A. BLAKESTON, Sunderland, Durham, Schoolmaster—J. R. BREWSTER, Birmingham, Bookseller—J. BAILEY, Brambleberry Park, Plumstead, Builder—W. BARLOW, Radcliffe, Lancashire, Grocer—J. HUTCHINSON BEAUMONT, Leeds, Painter—E. CROSS, Southampton, Leather Seller—F. W. H. CHARLES, Leigh, Worcestershire, Shoemaker—H. CADOGAN, Aure, Gloucestershire, Innkeeper—M. CARNEY, Rugeley, Staffordshire, Marine Store Dealer—J. CHADBONE, Great Bolton, Lancashire, Filesmith—J. DAVIES, Cleobury Mortimer, Shropshire, Brick Maker—J. DENTITH, Leeds, Eating House Keeper—G. EXLY, Leeds, late Coal Merchant—STEPHEN FROST, Acton Place, Kingsland Road, Mariner—SAMUEL GREG, Chester, Plasterer—R. GULLICK, Newport, Monmouthshire, China and Glass Dealer—H. M. GOODALL, Hinckley, Leicestershire, Cowkeeper's Assistant—W. B. GILES, Leeds, Dealer in Horses—T. GOODALL, Fareham, Hampshire, Pipemaker—W. GADSDEN, late of Eaton Bray, Bedfordshire, Pig Jobber—T. S. GOODE, Heath Row, Hampstead, Commission Merchant—J. HOWATSON, late of Gateshead, Durham, Wine and Spirit Merchant—R. HOYLE, Boston, Lincolnshire, Boot and Shoemaker—J. HANCOCK, Bolsover Street, Portland Place, Sculptor—W. T. HAND, Egmanton, Nottinghamshire Schoolmaster—J. HITCHINS, Vassall Road, Brixton, Assistant to a Photographer—J. HAWKES, Cambridge, Dealer in Cattle—J. S. WEST and H. HUGHES, Welbeck Street, Cavendish Square, Brush Manufacturers—A. S. JONES, Crawford Street, Camberwell, Plumber's Clerk—L. JONES, late of Toxteth Park, Lancashire, Printer—EDWIN CORNISH LAMBLE (sued and committed as EDWIN LAMBLY), Kentish Town Road, Carpenter—HENRY JAMES LYONS, Kingston upon-Hull, Ironmonger—R. LATHBURY, Leighton Road, Kentish Town, Cattle Dealer—S. LIGHT, Manchester, Flour Factor—W. MASON, Sheffield, Yorkshire, Electro Plate Manufacturer—H. MEE, Chesterfield, Derbyshire, Jeweller—F. C. MARSHALL, Market Row, Oxford Market, Pork Butcher—J. H. MARSDEN, Shoe Lane, City, Hat Manufacturer—R. LYON, Leeds, Late Grocer—A. NORDABY (sued as M NORIBY), Hammersmith, Widow—F. H. I. NAPIER, Brunswick Square, Camberwell, Private Boarding Housekeeper—R. NICHOLLS, Phillack, Cornwall, Mining Clerk—A. NUTTALL, Accrington, Lancashire, Contractor—J. P. O'BRIAN, Maindee, Monmouthshire, Organist—J. OWEN, Monk Sherborne, Hampshire, Surveyor—H. S. PETERS, Bristol, Ship Chandler—J. REYNOLDS, late of the Lunatic Asylum, Stapleton, Gloucestershire—THOMAS RICHARDSON, Bury, Lancashire, Fishmonger—JAMES RIGBY, Upper Whitecross Street, Saint Luke's, Fruiterer—W. J. SMITH, Manchester, Manufacturer—F. STEPHENSON, Joseph Street, St. George's-in-the-East, Iron Founder—J. STEAR, Belper, Derbyshire, Boot and Shoemaker—W. STARK, Bristol, Carpenter—F. SWENBECK (and not F. SWEBECK, as advertised in last "Gazette".) Fowke's Buildings, Great Tower Street, Merchant—C. SMITH, Sandown, Isle of Wight, Manager of the Sandown Gas Works—J. SCUBLOCK, Pembroke Dock, Pembrokeshire, Joiner—T. STOCKER, Basingstoke Southampton, General Dealer—F. C. THOMAS, Elm Street, Gray's Inn, late Coach Plater—H. N. TOLLERVEY, Cardinal Terrace, Ball's Pond Road, Paper Hanger—C. WHITE, Hull, Smack Owner—F. I. WATSON, Holt, Norfolk, Bookseller—G. WILKINSON, Kingston upon-Hull, Corn Porter.

TUESDAY: *August* 4.—BANKRUPTS.—W. ADAMS, Cleobury Mortimer, Shropshire, Inn-keeper—C. ASHMORE, Birmingham, Journeyman Saddler—W. BURTON, Holt's Place, Hoxton, Farrier—J. BRINGLOE, Elizabeth Place, Cold Harbour Lane, Camberwell, Surgeon—R. BAGLEY, Grove Road, Fulham, Foreman to a Market Gardener—W. BERRY, Warrington, Lancashire, Slater—T. BLACK, Durham, Publican—J. BRIER, Northowram, Yorkshire, Farm Labourer—M. A. BELL, Charrington Street, Camden Town, late Licensed Victualler—J. P. BURROUGHS, Canterbury Row, Kennington Road, Commission Agent—W. H. CASE, John's Mews, Bedford Row, Cab Proprietor—T. CASTLE, Birmingham, Baker—J. CHAFFER, Blackpool, Lancashire, Glass Dealer—H. DALE, Albion Place, Hackney, Clerk in the Royal Exchange Insurance Office—W. DAVENPORT, Liverpool, Grocer—SARAH DARBY, Tipton, Staffordshire, Grocer—C. DARCH, Weston-super-Mare, Butcher—R. EVANS, Cowley, Oxfordshire, Builder—J. FLEYD, Aberdare, Glamorganshire, Collier—T. GROVER, jun., Orpington, Kent, Market Gardener—R. GRIFFITHS, Bow Lane, Fringe and Trimming Manufacturer—G. V. HARE, Stafford Place, Pimlico, Proprietor of an Equestrian Circus—W. D. HAINES, Romford, Essex, Beer Shop Keeper—G. HOWARTH, jun., Manchester, Provision Dealer—J. IMBER, jun., Bridgewater, Somersetshire, Journeyman Gardener—J. JONES, jun., Worcester, Huckster—D. JOLLY, Bradford, Yorkshire, Grocer—W. JONES, Swansea, Glamorganshire, late Licensed Victualler—J. KIRKLAND, Castlegate, Yorkshire—SOLOMON KING, Penzance, Cornwall, Jeweller—JABEZ KITTSON, Benwick, Cambridgeshire, Carpenter—CHARLES KING, New Street, St. Luke's, Journeyman Coachman—JOHN KING, Wilson Street, Finsbury Square, Saddler—H. H. LORD, Bacup, Lancashire, Plumber—H. LEVY, Lower Marsh, Lambeth, Clothier—R. G. LUPTON, West Derby, Lancashire, Book Keeper and Printer—W. T. LYON, Pleasant Place, Lower Tulse Hill, Plumber—C. MOSS, Newark-upon-Trent, Nottinghamshire, Stationer—J. B. MARKLAND, Manchester, Wine Merchant—H. MASON, Chesterfield, Derbyshire, Licensed Victualler—G. M'RAE, Bow Road, Mile End, Nurseryman—R. MARRISON, Norwich, Gun Maker—G. MYERS, Bream's Buildings, Chancery Lane, Printer—G. NEWMAN, Salisbury Street, Pitt Street, Old Kent Road, late Beershop Keeper—WILLIAM PEARSE, Burnham, Somersetshire, Baker—ISIDORE RUDNISKY, Stratford, Essex, Dealer in Watches and Jewellery—FREDERICK ROBERTS, Three Tun Passage, Newgate Market, Licensed Victualler—JOHN SMITH, Wednesbury, Staffordshire, Shoemaker—E. SOUTHWICK, Rowley Regis, Staffordshire, Builder—S. R. SANDERS, Rotherham, Yorkshire, Waggon Dealer—J. B. SCRASE, late of Keymer, Corn Chandler—E. SLIP, Bath, Oil and Colourman—M. SPENCE, Leeds, Mason—R. TREGASKIS, Perran-ar-worthal, Cornwall—C. L. TRACY, Vale Place, Hammersmith, late African Merchant—G. S. THOMPSON, Newcastle-upon-Tyne, Builder—J. TURNER, Morecambe, Lancashire, Licensed Victualler—T. TAYLOR, Hastings, Fruiterer—C. TREE, Elizabeth Street, Pimlico, Watchmaker and Jeweller—L. WATSON, Rickmansworth, Hertfordshire, Whitesmith—J. M. WELCH, High Street, Camberwell, Licensed Victualler.

SCOTCH SEQUESTRATIONS.—A. PENMAN, Glasgow, Marble Cutter—C. RENFREW, Paisley, Innkeeper.

## Metropolis and its Vicinity.

LORD PALMERSTON AT THE SAILORS' HOME.—The ceremony of laying the foundation stone of a building for the enlargement of the Sailors' Home in Dock Street, London Docks, was performed on Tuesday afternoon by Lord Palmerston, in the presence of a large assemblage of ladies and gentlemen, including the Bishop of London, the Earl of Harrowby, the Bishop of Mauritius, Mr. Ayrton, M.P., Mr. Hanbury, M.P., Miss Burdett Coutts, Colonel Sykes, M.P., Mr. Somes, M.P., and several naval officers. On the arrival of Lord Palmerston, Admiral Sir W. Bowles read an address stating that it is now a quarter of a century since the Home was opened, and that its advantages have been increasing ever since, its apartments being constantly crowded

and scores of seamen being turned away nightly for want of room. The directors had therefore resolved to enlarge the premises, at an estimated cost of 10,000*l.* Lord Palmerston in reply said:—

"I feel great pleasure and pride in having been permitted to take a part in this most interesting ceremony. We are by our insular position necessarily a seafaring nation. All our interests, I may say our national independence, are connected with the skill, the enterprise, the daring courage of our seamen. It is needless to point out that by the great extension which the principles of free trade have received of late years our commercial intercourse with other nations, carried on in every ocean, has incredibly increased, and that we now are dependent upon our commerce for the maintenance of our national industry, for the subsistence of a great part of our population, and for the markets to which the produce of our manufactures are destined to go. If, then, nothing but commercial interests were concerned, it would be needless to point out how greatly the strength and prosperity of the country depend upon our seafaring population. But there are still higher considerations than that to point out their value, and how much they deserve encouragement from their fellow countrymen. It is true that something near 30,000.000 of men could not be conquered by any invasion that might reach these shores. But short of that we might, if we lost the command of the seas, be blockaded by the cutting off of our foreign supplies, and, by the prevention of our export trade, be reduced to very distressing extremities, and therefore in that point of view we ought fully and highly to appreciate the value of our sailor fellow subjects. Well, it is the result of their life to be separated in great measure from intercourse with their fellow men on land, and hence they are peculiarly a simple-minded and a guileless set of men, but simple minded and guileless men are too often, when they come into contact with them, the victims of men of different character. A sailor when he comes to port cannot go probably to the seat of his family—he cannot go to his friends and relations. He must remain in the port where he has landed, and in that port he is exposed to every temptation and to the loss both of his money and his health. Well, these institutions tend to provide him with a home. It is said, indeed, that "his home is on the deep," but we provide him with a home on *terra firma*, and it is needless to point out how much his physical and moral interests are promoted by a reception such as he meets with in these institutions. They are indeed part of those great social improvements which have been made in recent times, and I may truly say that among them few are more deserving of public encouragement, and few are more conducive to the real interests of the country. I therefore am glad—and I return thanks to those who have given me the invitation—I am glad to be present and contribute to the foundation of an institution which will be attended with such great national advantages."

A form of prayer was then read by the Bishop of London, after which Lord Palmerston laid the stone in a most business-like manner, spreading the mortar with all the appearance of a skilled workman, and giving the customary tap with the mallet. His lordship then formally declared the stone laid, and after some further prayers the ceremony was concluded by the singing of the National Anthem.

ALEXANDRA PARK.—The directors of the Alexandra Park Company have arranged with Messrs. Kelk & Lucas for the reconstruction of the Exhibition Building of 1862 on an improved design, on the heights of Muswell Hill.

DEPARTURE OF THE RUSSIAN IRON CLAD.—The floating battery Pervenetz, which was built for the Russian Government on the Thames, went down to Gravesend on Thursday, and sailed yesterday for Cronstadt. The Russian frigate the General Admiral was sent over to escort her to Cronstadt—an assistance of which she stands in need, as she is in a condition as unfinished as the day she was launched; the iron plates which are intended to cover her sides being at present stowed away between decks. It is said that she has been thus hurried off in a dangerously incomplete state from the fear of her being seized in case of a sudden declaration of war against Russia. During her passage down the river, though in tow of a steam tug, and with her own steam on, she became so unmanageable that she ran into the Warspite, training frigate of the Marine Society, carried away part of her own bow, lost an anchor, and caused so much damage to the Warspite, that she will have to be docked at a cost of 1000*l.*

PENAL SERVITUDE AND TRANSPORTATION.—The Royal Commissioners appointed to inquire into the operation of the Penal Servitude Acts for England and Ireland, in lieu of transportation, presented their report a few days previous to the prorogation. They consider that the period of separate confinement might be extended over the present maximum of nine months with advantage in some cases. The system of "intermediate prisons" adopted in Ireland, in which the convicts state they are "comfortable," the commissioners consider utterly bad. The relapses after liberation in cases thus treated are 18.3 as against 7.1 per cent. of prisoners discharged from the ordinary working prisons. The relapses in Ireland generally, which are 21.27 per cent., contrast unfavourably with those of cases in England, which are only 6.5 per cent. Ireland contrasts unfavourably in another respect. Though the population in England and Scotland has so increased, the decrease in convict crime has been one-third, while in Ireland it has but kept pace with the decrease of the population. Comparing the English and Irish systems, the Commissioners are not in favour of the latter, to which they ascribe no part of the decrease in the number of prisoners, and they are not of opinion that the want of efficiency in the present system of punishment in English convict prisons arises from any error of principle; they consider it mainly attributable to the shortness of the punishment, but they are of a decided opinion that the length of the sentence should not be unalterably fixed, but that it should be of a sufficient length to admit of relaxation or remission, as the reward of industry and good conduct. The only portion of the Irish plan which they recommend is that of supervision after liberation on ticket of leave. They consider that English prisoners should be encouraged to emigrate on receiving their discharge to a greater extent than they at present are. In reference to the rations supplied to the prisoners, some of the Commissioners thought it excessive, while others did not think it too good, considering the labour exacted from them. No diminution is therefore recommended by them. In conclusion the Commissioners thus recapitulate their recommendations:—

"1. That sentences of penal servitude should not in future be passed for shorter terms than seven years; 2d, that the principle already recognised by the law, of subjecting re-convicted criminals to severer punishment, should be more fully acted on; 3d, that convicts sentenced to penal servitude should be subjected, in the first place, to nine months' separate imprisonment, and then to labour on public works for the remainder of the term for which they are sentenced, but with the power of earning, by industry and good conduct, an abridgment of this part of their punishment; 4th, that all male convicts, who are not disqualified for removal to a colony, should be sent to Western Australia during the latter part of their punishment; 5th, that those who may be unfit to go there, but may earn an abridgment of their punishment, and who may consequently be discharged at home under license, should be placed under strict supervision till the expiration of the terms for which they were sentenced, and that the necessary powers should be given by law for rendering this supervision effectual."

The Lord Chief Justice approves of that portion of the report which refers to transportation to Western Australia. He concurs also with the suggestion of a partial remission of sentence after the convict has been transported. But for convicts detained at home he is strongly opposed to any remission of sentence whatever, and emphatically condemns the practice of making it a means of rendering the task of prison administration more easy to the officials employed, who have other modes of enforcing discipline at command. For this reason he has refused to agree to the report.—On Friday last an influential meeting of Australian colonists was held at Willis's Rooms, to consider that portion of the report which recommended transportation to Western Australia. Sir Charles Nicholson took the chair, and in opening the proceedings strongly deprecated the suggestions of the report, and said that any renewal of transportation would lead to great irritation and disaffection in the Australian colonies. Sir Stuart Donaldson moved a resolution declaring that the meeting viewed with the greatest alarm, and desired to protest in the strongest terms against the recommendation of the Royal Commission, and that, in the event of such recommendation being carried into effect, great and irreparable injury would be inflicted on Australia and New Zealand, inasmuch as they would inevitably become the final receptacles of the criminal population thus sent forth from the United Kingdom. Mr. C. H. Ebden seconded the motion, which was carried. Mr. Edward Wilson moved that a sub-committee be appointed, consisting of Sir Charles Nicholson, Sir Stuart Donaldson, Mr. James Youl, Mr. Childers, M.P., and others, to draw up a petition to the Queen praying her to withhold her sanction to the measure recommended in the report, and to arrange for an early interview with the Prime Minister on the subject. Mr. Youl seconded the motion. Major Sandford, as the only West Australian present, expressed his opinion that the case had been exaggerated, and that, in the present state of Western Australia, there were no other means by which the colonists could get labour. The colonists could employ a thousand convicts a year, and the Government intended to send out a proportionate number of the convicts' wives and families. After some further discussion the motion was put and carried all but unanimously, the only hand held up against it being that of Major Sandford.

THE LOSS OF THE ANGLO-SAXON.—The report on the loss of this ship near Cape Race, on the 27th of April, has been presented to the Board of Trade by Mr. Raffles and Captains Harris and Baker, before whom the official inquiry took place. The report characterises the conduct of the late Captain Burgess in driving the ship at the rate of 12 knots an hour, when she was passing a dangerous coast, as highly reprehensible, and severely blames him for not using the lead when the ship was so near Cape Race, and in a position which he must have known from recent surveys to be a most dangerous one. The court approve of the regulations drawn up by the owners of the ship, and regret that the officers did not pay more attention to them.

NEW BLACKFRIARS BRIDGE.—The first pile of the temporary bridge to be constructed at Blackfriars for the accommodation of the traffic during the building of the new bridge was driven on Saturday. The cost of the temporary structure will be 30,000*l.*, and it will be constructed of sufficient width to allow of two lines of vehicles and two paths for foot passengers. The Bridge Committee have resolved that Mr. Joseph Cubitt, the engineer and designer of the new bridge, shall be paid the sum of 13,500*l.* for his professional services in superintending its erection.

REMOVAL OF THE BLACKFRIARS STEAMBOAT PIER.—The Thames Conservancy Committee have issued a printed notice, that with the close of the present week, consequent on the commencement of the works for the new Blackfriars Bridge, the steam-boat pier, which has existed for so many years on the eastern side of Blackfriars Bridge, will be removed. For the future, therefore, the steam-boats which have been in the habit of calling at this pier will use the Paul's Wharf Pier. The public will be much inconvenienced by the removal of this pier, but it is understood that on the completion of the new bridge the City authorities intend to erect a handsome and commodious pier by its side.

THE LUDGATE VIADUCT.—At the last meeting of the City Sewers Commission the solicitor laid before the Court for approval the heads of an agreement he had prepared between the London, Chatham, and Dover Railway Company and the Commission in reference to the construction of the proposed railway viaduct across Ludgate Hill, and by which the company agree to make the viaduct after a design approved by the engineer of the Commission, to widen Ludgate Hill 70 feet at the bottom, and to make other improvements in the roadway.

IMPROVED DWELLINGS FOR THE INDUSTRIAL CLASSES.—Towards the close of the recent session of Parliament, meetings of some interest were held at the West End and in the City for the purpose of considering the best means of improving the dwellings of the working classes. The West End meeting was held at the Vestry Hall of St. James's, Westminster, and Lord Stanley, the Bishop of London, Lord Egerton of Tatton, and Lord Lyveden took part in the proceedings. The resolutions adopted were in favour of opening a new street from Rupert Street to Berwick Street, and for forming a parochial association for the erection of improved dwellings for the working classes under the Limited Liability Act. The City meeting, which was held previously, was held at the Mansion House to consider the expediency of forming an association of twenty to thirty gentlemen, protected by the Limited Liability Act, and having a capital of 25,000*l.* to 50,000*l.* for the erection of a series of blocks of improved dwellings for the working classes. Lord Stanley, M.P., who took the chair, said they all knew there was in London, and especially in the centre and eastern part of it, a great want of decent and respectable house accommodation, not only for the labouring classes, fitly so called, but also for the whole body of mechanics. There was, in truth, no town in England where that want was so much felt as in the metropolis, and it was not at all a new matter of complaint. He well remembered a meeting in the city about nine years ago, at which Mr. Baring was chairman, and at which the subject was discussed, and various remedies suggested. Since that time different societies had been set on foot with the intention of supplying the deficiency. He would not say they had been failures, because they had kept public attention alive to the subject, and in that respect had done much good, besides providing a considerable amount of house accommodation for the working classes. But looking at them as self-supporting, and as what ought to be remunerative, associations, if they had not failed entirely there had been at best a very partial and imperfect success. They were met there, then, to make one more trial to overcome the difficulty. They knew that estimates were often deceptive and prophesied dangerous; but they started from a sounder foundation, they thought, than any previous association of the kind. They profited by the experience which others had at their own cost obtained for them, and they would be able to avoid errors of detail, and in the main he thought they would differ from their predecessors chiefly in this—that they would look rather to the accommodation of families than of single men, and not to the highest amount of rent which the better class of persons among the labouring classes could afford to pay, but to what was necessary to make the undertaking remunerative to themselves as an association. In the first place, it was simply impracticable to attempt to lodge the labouring population of London in a manner otherwise than remunerative to those who aid it. Now, what they had to go upon was the experience which Mr. Waterlow had obtained in erecting a block of buildings in a crowded part of Finsbury. Mr. Waterlow said that for a sum of 25,000*l.*, including all preliminary expenses, and also the dividends for one year on the capital during the period of construction, they would be able to put up blocks of buildings for the accommodation of 200 families. The gross estimate was 25,000*l.*; and assuming that each house, on a moderate estimate, would be let for about 15*l.*, that would give a gross return of 3000*l.* a year, or 12 per cent. on the gross outlay. From that, if they deducted, in respect of ground rents, cost of supervision, the occasional loss on rooms unoccupied, and other incidental expenses, 50 per cent. on the returns, a net return of 6 per cent. would still be left after the payment of all expenses, both present and prospective; and that, they thought, would be sufficient to induce capitalists to embark their money. A question had been raised as to whether even a better net return could not be obtained for those who put in their money, if part of the capital was raised on the security of the buildings, and having of course a preferential payment. Half the money might be obtained for 4½ per cent., and if the net return was 6 per cent. on the whole investment there would be 7½ or 8 per cent. for those who put in their money not upon preferential security. But it was a question for consideration whether they ought to have recourse to such a step. He was induced to think that they might raise all the necessary capital in shares, without obtaining any preferential capital whatever. He had spoken of this undertaking in the sense of its being remunerative. At the same time he need hardly say for himself or for those whom he was

addressing that they should not have troubled themselves about it as a mere matter of profit; but the reason why they wanted it to be remunerative was that the only way of working on a scale at all commensurate with the general object they have in view was to show the capitalists of the country at large that it was an investment affording a reasonable prospect of fair return. A committee to carry out the undertaking was appointed, and at one of the subsequent meetings it was announced that shares in the association had been taken to the extent of 20,000*l*.

St. Thomas's Hospital.—It is announced that the Governors of St. Thomas's Hospital have definitively arranged for the purchase of the proposed site at Stangate, on the new embankment of the Thames, opposite the Houses of Parliament, for 95,000*l*.

Harrow School.—The Rev. H. M. Butler, headmaster of Harrow School, has issued an order that the side trousers pockets of the scholars shall in future be dispensed with, his reason for the prohibition being, that the boys continually had their hands in these pockets, and thereby contracted a lounging and stooping habit.

The Recent Affray in Whitehall.—On Thursday the old man Davis and his daughter, who were found within the lodge at Richmond Terrace lying on the floor both covered with blood from injuries inflicted on each other in a drunken quarrel, were brought up from the hospital to the Bow Street police office. They both presented a miserable spectacle, being covered with wounds; but the father, an old man, nearly 80, refused to make any charge against his daughter, and they were both discharged. The old man has, of course, lost his situation, and both were sent to the workhouse for the present.

Infanticide.—A society is about to be formed for the purpose of dealing with the increase of infanticide, which has lately been the subject of frequent discussion in the public papers, and was the subject of debate in the House of Commons a few days before the prorogation.

Child Murder in the Marylebone Road.—A shocking tragedy was committed on Friday at 108, Marylebone Road, where for several months past there have been residing a young woman calling herself Mrs. Chappell, her child, and a nurse. She stated that her husband, on account of business engagements, could only occasionally visit her. After she had taken the lodgings a gentleman repeatedly visited her, and represented himself as her husband. These visits continued until seven weeks ago, when they had a quarrel, and the visits were discontinued. On Friday, Mrs. Chappell sent the nurse to Covent Garden market to buy a peach. On her return she found the door of the bed room locked, and heard moaning sounds, which proceeded from the room. Not being able to obtain admittance she ran for Mrs. Chappell's medical adviser, Mr. Cathrow, of Weymouth Street, who returned with her, and being unable to obtain admittance, kicked in a panel of the door, making an aperture sufficiently large to admit him and the nurse. On their entering the room they found Mrs. Chappell lying on the floor bathed in blood, proceeding from wounds in her throat, and the child lying on the bed covered with a pillow. The bed and mattress were soaked with blood, which had flowed from a wound inflicted about an inch below the child's left nipple. First directing his attention to Mrs. Chappell, he sewed up three large gashes in her throat. He next attended the child, and bandaged up its wounds. Mr. Cathrow was desirous of avoiding an exposure, and, thinking both the lady and her child would recover, he refrained from informing the police. On Sunday morning however the child died, whereupon Mr. Cathrow communicated the facts to the police, who immediately searched the room. Behind the shutters they found a small stiletto or dagger, the end of which was bloody up to about three inches, a razor, the handle of which was covered with blood, and a quantity of bedding and clothing covered with blood and steeped in cold water. On the sideboard a Bible was laid open, with the 9th, 10th, 12th, 13th, 15th, and 18th verses of the 37th Psalm underscored in ink. There was also on the sideboard a lecture by Hugh Miller, on "Courtship and Matrimony," several passages of which were underscored. The police also found a quantity of money and documents, including a copy of a will, dated in March last, containing a codicil leaving 250*l*. a-year to Mrs. Chappell, 100*l*. a-year to the deceased child, and 100*l*. a-year to the child with which Mrs. Chappell was then pregnant. It appeared from further investigation, and the admission of the young woman herself, that after she had sent the nurse to market she fetched the child from the upper room to her own apartment, when, after stabbing it in the breast, she cut her own throat and then fainted. Reviving after some time, and finding her child still alive, she, after giving her throat two other cuts with the razor, took a pillow, and placing it upon the face of her child, lay upon it; but it appears she afterwards slipped down on the floor, where she was found. Before committing the deed she had dressed herself and child in white clothing, and had put out on the bed all the linen necessary for laying them out when dead. At the inquest on Tuesday it was stated that the young woman's real name is Sarah Emily Mitchell, aged 24, and that the nurse, Mary Mitchell, is her sister. They are the daughters of an accountant at Liverpool, and the father of the deceased child is Mr. Frederic Chappell, merchant of Liverpool, who had supplied her with every comfort and ample means, but whose desire to sever the connection appeared to have been in some measure the cause of the tragedy. Mr. Cathrow, the surgeon, deposed that the mother of the child, who was highly nervous, obstinate in the extreme, and jealous, had told him that she could not survive unless she again got on friendly terms with Mr. Chappell, and that she should be driven to do something to herself. For the last three or four days she had been so much excited that he thought it desirable to call in another medical man, and on the very morning when the deed was committed, Mr. Byam, of Welbeck Street, saw her with him in consultation, and they left with the impression that she would not do any harm to herself, or require any restraint. She remains at present in a very dangerous condition. The jury, after consulting together about five minutes, returned a verdict of Wilful Murder against Sarah Emily Mitchell.

The Public Health.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, August 1, were 1514. The average number in the 10 corresponding weeks of the years 1853-62, corrected for increase of population, was 1284. The present return is therefore 230 above the average. There were 122 deaths from scarlatina, and 217 from diarrhœa and cholera. During the week the births of 1007 boys and 934 girls, in all 1941 children, were registered in London. In the 10 corresponding weeks of the years 1853–62 the average number was 1810.

## Provincial.

Aldershott.—The Bishop of Winchester visited the camp at Aldershott last week, and consecrated the church built there in connection with the camp—the first purely military church that has ever been consecrated in the kingdom. Sir John Pennefather, the general in command, afterwards entertained the Bishop, the Secretary for War, and other distinguished personages at a collation.

Birmingham.—Sir George Grey has addressed a letter to the directors of Aston Park at Birmingham, stating that he has received a memorial numerously signed on the subject of the unfortunate young woman who was killed by the breaking of the rope on which she was performing at the recent *fête* in Aston Park, and expressing his hope that after this melancholy occurrence the directors will not allow a repetition of such dangerous performances in the park. In reply the directors state that they concur in the sentiments contained in the memorial, and that on the occasion referred to they had let the park for a charitable purpose, and omitted to reserve to themselves any right to control the performances.

Clifton.—The wire ropes which span the Avon, and connect the piers of the Suspension bridge on the Somersetshire and Gloucestershire sides of the river, are now adjusted to support a temporary platform, which is an object of great attraction to large numbers of visitors from all parts of the kingdom. From this platform will be fixed 350 tons of iron for one side of the chains, and the whole temporary bridge will then have to be taken down, and the wires again payed out at a sufficient distance to enable the men to form the chains on the other side. The workmen for some days past have been engaged in raising the huge iron castings, weighing from 3 to 5 tons, to the top of the piers to form the supports for the saddles on which the chains will rest. The anchorage plates weigh nearly 3 tons each, and there will be three of them to each set of chains. These plates will be firmly imbedded in the rock at the bottom of the anchorage shafts. All this portion of the work, on which the men are now engaged, results in scarcely any perceptible progress, the greater part of it being carried on underground.

Cowes.—The Royal yacht squadron regatta took place on Thursday. The squadron prize was won by Mr. Chamberlayne's Arrow, beating Mr. Sedden's Phryne, Mr. Kennard's Christabel, Mr. Monce's Mariana, Mr. Johnson's Audax, and Mr. Sladen's Crusader. The Queen's Cup was won by Lord Londesborough's Albertine, beating Mr. Thellusson's Aline, Count Bathyany's Flying Cloud, which ran on shore; Lord Colville's Volage, Mr. Percival's Petrel, and Colonel Markham's Sultana. Both were very fine races.

Exeter.—On Thursday a serious accident occurred at a brigade review of the Devon County Volunteers, on Little Haldon. The grand stand broke down. No persons were killed, but several were injured.

Guildford.—On Friday the ceremony of laying the foundation stone of the Surrey County hospital on the slope of the Hog's Back, about 300 yards from the railway station in this town, was performed by Mr. Lewis Loyd, High Sheriff of Surrey, in the presence of a large concourse of spectators, including members of Parliament, magistrates, clergymen, and most of the aristocracy of the county. The hospital, which is to be associated with the name of the Prince Consort, as a memorial Hospital, is to be built from the designs of Mr. E. W. Lowe, architect, of Guildford, submitted to and approved by Miss Nightingale. The site has been presented by the Earl of Onslow. It will contain two principal wards—one for males and the other for females—each 92 ft. long by 25 ft. 6 in. wide, and 17 ft. 6 in. high. It will embrace all the most modern improvements, and afford accommodation for about 50 patients. The estimate for the building is 11,000*l*., of which 9200*l*. have been promised.

Jersey.—The steamer Paris, belonging to the Newhaven and Jersey line, was lost on the 28th ult. on the Grunoth rock, near Elizabeth Castle, and went down immediately, and it is said to be doubtful whether she can be raised. All her passengers and crew were saved, having been picked up by the South-Western Company's steamer Wonder, but the cargo was lost.—The Theatre Royal at St. Helier's was totally destroyed by fire on Friday morning, nothing now remaining of a fine building but the outside walls and pillars.

Manchester.—At the meeting of the Central Executive Committee on Monday, the report stated that the balance in the bank was 326,267*l*. 13*s*. 10*d*., and that 1431*l*. had been received during the week. Mr. Commissioner Farnall's weekly report stated that on the 25th ult., there was a decrease in the numbers receiving relief in the 27 unions, as compared with the previous week, of 177. The total decrease since the 6th December had been 127,524. Grants were made to various places to the amount of 9870*l*.

Maidstone.—Alfred Eldridge, who was convicted a few days ago at the Assizes of the murder of Richard Steed, has made what he calls a confession of his guilt. He states that the murder was the result of a quarrel, in the course of which deceased struck him. He then knocked Steed down and kicked him about the head until he was lifeless. This statement is not credited, and the law will in all probability be allowed to take its course. A memorial has been forwarded to the Home Secretary, praying for the commutation of the sentence on Alfred Holden, who was convicted at the same assizes of the murder of his child, 11 months old. The memorialists ground their application on the plea of insanity, and it is believed that Baron Channell, by whom the case was tried, is not opposed to the granting of the petition.

Neath.—The inquest on the six men who were killed on June 26, by the explosion in the Briton Ferry Colliery, terminated on Monday in a verdict of Accidental Death. The Government Inspectors in their evidence distinctly stated that the mine was imperfectly ventilated, and that several of the general rules for the management of mines had been violated.

Newport.—A few months ago Mr. Thomas Powell, an eminent colliery proprietor in South Wales, died at the Gaer near this town, when it was discovered that his will had been stolen. A reward of 100*l*. was offered for its recovery, but without effect till the week before last, when an anonymous letter was sent to his widow, offering to restore the document for a sum of 125*l*. After two unsatisfactory interviews between a gentleman of the family, dressed in lady's clothes, and the anonymous correspondent, the affair was placed in the hands of the police, and a third interview resulted in the apprehension, after a desperate struggle, of a young man called Edwin Truscott Gill, employed in the neighbourhood. On searching the ground where the encounter took place the whole of the missing property which had been so mysteriously stolen from the Gaer was discovered. The prisoner was taken before the magistrates and remanded for a few days, when the father of the prisoner, with a workman in his employ, a clerk lately in the employ of Mr. Powell, and two other persons were brought up with him, on suspicion of being concerned in the affair. A diaper cloth was stolen on the same night as the will, and was traced to the possession of the father. This was the only evidence against him, but the magistrates did not consider it sufficient, and he was discharged. The other four prisoners were also discharged, as there was no evidence against them. The son, Edwin Gill, was committed for trial at the Assizes.

Rochester.—The annual Congress of the Archæological Institute was opened in this city on the 28th ult., under the presidency of the Marquis Camden, supported by the leading noblemen and gentry of the county, by the Archbishop of Canterbury, the Bishop of Oxford, the Bishop of Gibraltar, the Earl of Darnley, Earl Amherst, Lord Talbot de Malahide, Lord Neaves, Professor Stanley, the Dean of Peterborough, the Provost of Oriel, Mr. Gilbert Scott, Sir Sibbald Scott, Colonel Pinney, M.P., Sir John Boileau, Bart., Mr. W. W. E. Wynn, M.P., Sir S. Glynn, Bart, and M. Maury, of Paris, who was specially deputed by the Emperor of the French to attend it. During the Congress, which continued daily until Saturday, papers of great interest were read, including one by Dr. Guest of Gonville and Caius College, Cambridge, on the "Landing of Cæsar;" by the Dean of Chichester, on the "Life and Times of Gundulph"; by Mr. Beresford Hope, on the Church Architecture of the South Eastern Counties; by Professor Willis, on Rochester Cathedral; by the Rev. C. H. Hartshorne, on the "Architecture of Rochester Castle," &c. The objects of antiquity in Rochester having been examined, excursions were made to Leeds Castle, Battel Hall, Maidstone, Chillington House, Allington Castle, Horton Kirby, Darenth, Dartford, Stone, Cliffe Cooling, Malling Abbey, the Mote at Igtham, Leybourn Castle, Cobham Hall, the seat of the Earl of Darnley, and Wilderness Park, the seat of the Marquis Camden.

York.—The sentence of death passed on John Gair, at the last assizes, for the murder of the woman with whom he lived, has been commuted, in accordance with the jury's recommendation to mercy, to penal servitude for life.

## Ireland.

The Egmont Case.—The great case of the Earl of Egmont against Sir William Lionel Darell, which has occupied the attention both of the English and Irish Courts for several months past, has at last been settled by a compromise. The last Earl of Egmont, it may be remembered, left his Irish estates, which were then much encumbered, to his agent, the late Sir Edward Tierney, from whom they descended by marriage to the present possessor, Sir William L. Darell. After the lapse of several years, the present Earl of Egmont, shortly after the death of some intermediate relations had made him heir at law to the deceased Earl, impeached the will as obtained by fraud and misrepresentation. The latest phase of the case has been in course of trial for some days at the Cork assizes before Mr. Justice Keogh and a special jury, and on Wednesday it was suddenly brought to a conclusion by the parties agreeing to a compromise, the terms of which were understood to be that Lord Egmont was to receive the estates on payment to Sir W. L. Darell of 125,000*l.* and the costs of the suit.

The Thurles Murder.—At the recent assizes Philip Hayes was tried before Mr. Justice O'Brien for shooting at Mr. Gore Jones, with intent to murder him, on the 2d of January last. Mr. Jones, who is a resident magistrate of long standing, detailed the circumstances of the case, and identified the prisoner as one of two men whom he saw behind a ditch when a gun was fired at him while riding along the road from Thurles. He immediately pulled up and said, "You scoundrels! I know you, and I'll make you pay for this." The men then ran away through the fields, and he rode after them through a lane, which ended in a bog. He was obliged to return, and they escaped. Two holes, as if made by a bullet, were visible in the cape which he wore at the time. The jury were locked up all night, and on the next day, being unable to agree to a verdict, they were discharged.

Execution at Longford.—Charles M'Cormack, convicted at the present assizes of murdering an old man named Michael Beglon, was executed on Tuesday in the presence of 2000 persons at Longford. Through some mistake the rope was too long, and when the executioner drew the bolt the unfortunate criminal fell on his knees on the ground. The incident caused a sensation of horror among the spectators. He was quickly raised to the platform, the rope was reduced to the proper length, when he was again thrown off, and died in three minutes. He made a full confession of his guilt, and left in writing a dying request to all young men to shun all secret and illegal societies, as the greatest evils to their country and religion.

## Railways.

Fatal Accident on the Lynn and Hunstanton.—On Monday night a shocking accident happened on this new line to an excursion train, which left Hunstanton for Lynn and Wisbeach at 8 o'clock, consisting of 15 well-filled carriages. When the train had passed Wootton station about half-a-mile, and was near Gaywood within about two miles of Lynn, it ran upon a bullock which had got upon the line. Four carriages were thrown off the rails, and dashed to pieces. Five persons were killed, four or five seriously injured, and 20 others slightly wounded. Those who were killed were so frightfully mutilated as to defy recognition for a time. They were Mr. John Laird, builder, of Lynn; Mrs. Clarke, wife of Mr. Clarke, of Brandon; Miss Clarke, age 73, of Guanock Terrace, Lynn; Miss Palmer, of Walpole, near Wisbech, aged 25; and Mrs. Brown, wife of Mr. W. Brown, builder and stonemason, of Lynn. Those seriously hurt were Mrs. Laird, wife of the Mr. Laird who was killed; Mr. Dennis, shipowner, of Lynn, who had his thigh broken and his legs so dreadfully injured, that he has since died; Miss Eliza Bartle, who was so severely wounded in the leg as to render amputation necessary; Miss Ann Jickling, who is said to have had both her legs broken; Miss Cobb, of Lynn, who had her arm broken; Miss Southgate, of Lynn; Mrs. Batterham, of Lynn; Mrs. Cobb, of Lynn; Mrs. Adams, of Lynn; Mr. Wilkin, of Lynn; Miss Masters, of Lynn; and Mrs. Brightmore, of Lynn. An inquest was opened at Gaywood on Monday afternoon, and adjourned after the identification of the bodies.

The Underground Line.—On Monday placards were posted at all the stations on the Metropolitan line announcing that the Great Western Company had given notice that they would cease to carry passengers over the line on and after Monday, the 10th inst. It appears that the Great Western, who have hitherto worked the line between Bishop's Road station and Farringdon Street, have determined to conclude the arrangement, and to throw the duty on the Metropolitan Company, on the ground that the working arrangements as they at present stand, entail upon them a loss of something like 300*l.* a week. The Metropolitan Company are thus temporarily thrown on their own resources, and are making arrangements for carrying on the passenger traffic between Farringdon station and their Edgware Road station. There will thus be a break between the Bishop's Road and the Edgware Road stations.

The Charing Cross and London Bridge.—The contractors of this important line are pushing forward with great energy the small amount of work which yet remains to be completed, in order that it may be opened to the public on the 5th September. The station at Hungerford Market is the portion upon which the greatest amount of work remains to be done; the fixing of the iron and glass roof has only just commenced, but is expected to be completed within the time. The bridge across the entrance to the present station at London Bridge progresses rapidly, and the north wing of the office of the South-Eastern station has been demolished, for the purpose of continuing the Charing Cross branch to its point of junction with the main line. The bridge across the Thames at Hungerford is practically finished. A small amount of work remains to be done near the Borough Market; but the whole of this will be easily finished by the time the station at Charing Cross is ready for the opening. The hotel at the station is rapidly advancing, and the directors are desirous to make Charing Cross not only the most convenient, but the most attractive station in the metropolis. The branch to Cannon Street is also pushing forward with energy, and something like a race is being run between the contractors for the two bridges at Southwark and Blackfriars.

The Winchburgh Accident.—Several cases have been tried within the last few days in the Jury Court at Edinburgh for the settlement of claims for compensation for personal losses or injuries sustained in the dreadful accident at Winchburgh in October last. In the first case tried the jury awarded the sum of 1,750*l.* to Mrs. Joanna Hedderwick, against the Edinburgh and Glasgow Company, for the loss of her son, who was killed by the accident. In another case the jury awarded 2000*l.*, in another 3000*l.*, in another 2000*l.* Many other cases were settled out of court.

## Law.

Northern Circuit, Appleby.—*Child Murder.*—Agnes Pattinson was indicted for the wilful murder of her infant female child at Windermere, on the 2d April last. It appeared that the prisoner went into the Milnthorp Workhouse to be confined, and that she was delivered of a fine female child on the 13th March, which had the peculiarity of being born with a large quantity of long black hair on its head. The prisoner recovered, and on the 1st April she left the workhouse with her child, having been cautioned by the matron to take great care of it. The child was then healthy and well, and was dressed in some childs' clothes given to the prisoner by the matron, some of them the property of the workhouse, and marked. On the afternoon of the 2d April, the prisoner, carrying her child, called on a female acquaintance, and showed her the child's head of hair. On the same evening she was seen by several persons without the child. She then went to a farm-house at Ossett Head as domestic servant and was there on the 13th of April, when one of the railway porters found a bundle concealed under some laurels on an embankment she had crossed, and discovered in it the dead body of a female infant. A *post mortem* examination having been made, there were no outward marks of violence, and the internal organs were all healthy; but, on examining the head, it was found that a triangular piece of bone, about half an inch across, had been driven in on the brain, the skull having been fractured. This injury had caused the death of the child, and must have arisen from a heavy blow with some blunt instrument, or from a fall from a height on a hard substance. No mere fall from a woman's arms could have inflicted the injury, taking into consideration the yielding nature of an infant's head. Inquiries caused the prisoner to be taken into custody, and two days afterwards a small bundle was found in the garden of the Rev. Mr. Lowndes, of Windermere, which abuts on the road, within 300 yards of the place where the body of the child was found. These clothes, and an old cape, which was wrapped round the body of the child when found, were identified by the matron of Milnthorpe as those which she had given to the prisoner, and the body of the child was also identified by her as the prisoner's child from its long hair and general appearance. On being confronted with the matron the prisoner denied at first that she knew her, or that she had ever been in the Milnthorpe Workhouse, or had had a child. The matron took her by the hand, and said, "Oh, Agnes, you should tell the truth." The prisoner then burst into tears, and said, "I should not have done it, or I should not have done so had my father not turned me out of doors, and turned his back on me three years ago." At the close of the case for the prosecution the prisoner, who had no counsel, wished to have one assigned to speak for her, but the case being over, Mr. Justice Mellor asked her what she wished to say to the jury. The prisoner, who is a fair, little, sulky looking girl of about 20 years of age, said she let the child fall as she was getting over a stile, and it died afterwards in her arms. She did not like to give herself up to the police, but took the body and placed it where it was found, as near to the police station as she could. His Lordship in summing up told the jury that he could not at that time take upon himself, without the prisoner's previously expressed wish, the responsibility of assigning counsel to defend her, when a single incautious question arising from insufficient instruction might lead to most serious results. The jury, after but a short consultation, found the prisoner *Guilty*, but recommended her to mercy. His Lordship then assumed the black cap, and bidding the prisoner not to be led away by false hopes, but to prepare for the solemn fate that awaited her, passed upon her sentence of *Death* in the usual form. For a great number of years this is the only charge of murder that has occurred in this county, and the fate of the young woman excited a most painful impression in court.

Home Circuit: Croydon.—*Wife Murder.*—*Joseph Howes* was indicted, and also arraigned on the coroner's inquisition, for the wilful murder of his wife on the 16th of July, in the parish of Christchurch, Blackfriars. This case arose out of a drunken quarrel, during which the prisoner knocked down his deceased wife, who in falling struck her head upon the fender, where she lay insensible till she died. The Jury found him *Guilty* of Manslaughter, and Baron Channell sentenced him to penal servitude for 10 years.

BIRTHS.—On the 4th inst, at Coptfold Hall, Essex, the Lady Catherine Petre, of a daughter—29th ult, at Grimston Lodge, Tadcaster, Yorkshire, the Hon. Mrs. Charles Lane Fox, of a daughter—24th ult, in Dublin, the wife of the Hon. R. Monck, of a son—27th ult, at Banchory, N.B., Lady Outram, wife of Sir Francis Outram, Bart., of a daughter—28th ult, at Hilliers, Petworth, the wife of Lieut.-Colonel Barttelot, M.P., prematurely, of a daughter, stillborn.

MARRIAGES.—On the 30th ult, at Castle Donington, Viscount Marsham, eldest son of the Earl of Romney, to the Lady Constance Hastings, sister of the Marquis of Hastings—6th inst, at the Roman Catholic Chapel, Warwick Street, and afterwards at St. George's, Hanover Square, Lord Alexander Gordon Lennox, third surviving son of the late Duke of Richmond, to Emily Frances, second daughter of Colonel Charles and Lady Caroline Towneley—1st inst, at the Roman Catholic Church, Warwick Street, and afterwards at St. George's, Hanover Square, Sir Henry Winston Barron, Bart., of Barron Court and Glenanna, county of Waterford, to Augusta Anne, youngest daughter of the late Lord Charles Somerset—30th ult, at St. Peter's Church, Bandon, Colonel Aldworth, late 7th Royal Fusiliers, eldest son of Richard Oliver Aldworth, Esq., and Lady Letitia Aldworth, of Newmarket, county Cork, to the Lady Mary Catherine Henrietta Bernard, eldest daughter of the Earl and Countess of Bandon—4th inst, Arthur Henry Turner Newcomen, Esq., of Kirkleatham Hall, Yorkshire, to Rachel, third daughter of Sir Jervoise Clarke Jervoise, Bart., M.P., of Idsworth, Hants—30th ult, at St. Barnabas' Church, Pimlico, the Rev. Euseby D. Cleaver, to Julian Helen, eldest surviving daughter of the late General Sir William H. Sewell, K.C.B., and niece of Sir Hew Dalrymple, Bart.—30th ult, at the parish church of Winkfield, Berkshire, Charles Augustus, eldest son of the late Charles Edmund Rumbold, M.P., of Preston Candover, Hants, to Agatha Ellen, second daughter of George Woodroffe Franklyn, Esq., M.P., of Lovelhill, Berkshire—29th ult, at Barningham, Norfolk, Fiennes Cornwallis, Esq., late Major in the 4th Hussars, second son of Charles Wykeham Martin, Esq., of Leeds Castle, Kent, to Harriet Elizabeth, second daughter of John Thomas Mott, Esq., of Barningham Hall—1st inst, at St. George's, Hanover Square, George Hodgson Wayte, Esq., of the Inner Temple, Fellow of King's College, Cambridge, second son of the late William Wayte, Esq., of Highlands, Wilts, to Annie, youngest daughter of Sir Joseph Paxton, M.P.—4th inst, at Balcombe Church, Captain Henry Fanshawe Davies, Grenadier Guards, eldest son of Lieutenant-General Davies, of Danehurst, Sussex, to Ellen Christine Alexander, second daughter of John Alexander Hankey, Esq., of Balcombe Place, Sussex.

DEATHS.—On the 5th inst, at Pembridge Gardens, Bayswater, the Hon. Charlotte Sophia, wife of Frederick Angerstein, Esq., and youngest daughter of the late Lieutenant-General Lord Blayney—27th ult, in Dover Street, Urani, wife of Admiral Sir Edward Tucker, G.C.B.—4th inst, at 13, Stanhope Street, Gloucester Gate, Catherine Jane Mathew, widow of Colonel Edward Warner, and eldest daughter of the late Major General Sir Charles Shipley—25th ult, at Crimble Hall, John Fenton, late M.P. for the borough of Rochdale, in the county of Lancaster, Esq., aged 72—29th ult, at Hilliers, Petworth, Harriet, the beloved wife of Lieut.-Colonel Barttelot, M.P., fourth daughter of the late Sir Christopher Musgrave, Bart., of Eden Hall, Cumberland—2d inst, at Gilmonby Hall, Yorkshire, Maria, widow of the late Venerable Archdeacon Headlam, aged 77—3d inst, accidentally, by a fall from his horse, Clayton de Windt, Esq., of Blunsdon Hall and Dunnington, Northumberland—3d inst, at West Cliff House, Brighton, Lilian Emily, the infant daughter of Lieutenant-Colonel Wilbraham Lennox, Royal Engineers—28th ult, at 13, Onslow Crescent, Brompton, Lieutenant-Colonel R. A. Andrews, formerly of the 30th Regiment—31st ult, at his residence, 12, Circus, Bath, Captain Montagu Montagu, R.N., second son of the late Montagu Montagu, Esq., of Little Bookham, Surrey, aged 76—28th ult, at Erith, Kent, the Rev. Edward Eyre, rector of Laring, Norfolk, aged 55—27th ult, at Uckfield, Sussex, the Rev. John Streatfeild, M.A., incumbent, aged 67.

## Markets.

### COVENT GARDEN, Aug. 8.

Fruit and vegetables are still plentiful, especially Peaches and Nectarines, which are abundant. Greengage Plums of good quality are now included in foreign imports, and of Grapes and Pine Apples the supply is sufficient for the demand. Foreign Pine Apples are also plentiful. Strawberries are every week getting scarcer, as are also Raspberries, which are all but over. Of Melons, both English and foreign, there is a good supply, and Oranges are also plentiful. Good Potatoes realise from 6s. to 8s. per cwt. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Stocks, Calceolarias, Mignonette, and Roses.

FRUIT.

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| Pine Apples, per lb., 3s to 6s | Currants, p. ½ sieve, 3s to 3s 6d |
| Grapes, per lb., 2s to 5s | Gooseberries, do., 2s 6d to 3s |
| Strawberries, p. lb., 6d to 1s | Lemons, per 100, 12s to 16s |
| Apples, per ½ sieve, 5s to 9s | Oranges, per box, 40s to 45s |
| Figs, per doz., 5s to 6s | — per 100, 5s to 10s |
| Peaches, per doz., 8s to 15s | Nuts, small, per bush, 14s to 18s |
| Nectarines, do., 6s to 10s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 7s 6d |

VEGETABLES.

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| Cabbages, per doz., 6d to 1s | Tomatoes, each, 4d to 6d |
| Peas (shelled), p. qt., 1s to 1s 6d | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | French Beans, per 100, 2s |
| Potatoes, York Regents, p. ton, 90s to 99s | Shallots, per lb., 8d |
| ,, Flukes, do., 100s to 120s | Garlic, per lb., 8d |
| ,, Rocks, do., 60s to 80s | Lettuces, each, 1d to 2d |
| ,, Cups, do., 75s to 85s | Endive, p. score, 1s to 2s |
| Turnips, p. bunch, 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Carrots, do., 6d to 8d | Mushrooms, p. pott., 1s to 3s 6d |
| Spinach, p. sieve, 1s 6d to 2s | Parsley, p. 12 bunches, 3s to 4s |
| Cucumbers, each, 1s to 1s 6d | Herbs, per bunch, 3d |
| Beet, per doz., 1s 6d | |

HAY.—Per Load of 36 Trusses.
Smithfield, Thursday, Aug. 6.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 80s | Clover, old .. .. | 100s to | 120s |
| Superior do. .. | 80 | 90 | New Clover .. | — | — |
| Inferior do. .. | 64 | 70 | Do. second cut .. | 95 | 118 |
| New do. .. .. .. | 70 | 84 | Straw .. .. .. | 26 | 34 |
| Rowen .. .. .. | — | — | | | |

Harvey & Easton.

Cumberland Market, Thursday, Aug. 6.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 88s to | 95s | Inferior Clover .. | 84s to | 96s |
| Inferior do. .. .. | 65 | 80 | New do. .. .. | 90 | 110 |
| New do. .. .. .. | 74 | 86 | Straw .. .. | 34 | 40 |
| Superior Clover .. | 108 | 118 | | | |

Joshua Baker.

Whitechapel, Thursday, Aug. 6.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 80s to | 90s | Prime Clover .. | 120s to | 124s |
| Inferior do. .. .. | 75 | 80 | Inferior do. .. .. | 110 | 115 |
| Prime New Hay .. | 80 | 84 | New do. .. .. | 100 | 105 |
| Inferior .. .. .. | 70 | 75 | Inferior do. .. | 90 | 100 |
| Straw .. .. .. | 28 | 33 | Prime 2d cut .. | 100 | 108 |

BRITISH WOOLS.—London, Aug. 6.

Our prices continue firm, but the amount of business transacted is not considerable.

| | s. d. | s. d. | | | |
|---|---|---|---|---|---|
| South down Hoggets .. .. .. | 1 9½ to | 1 10½ | Leicest. Wethers | 1 8 to | 1 9 |
| Half-bred ditto .. | 1 10 — | 1 11 | Ditto Hoggs .. | 1 9 — | 1 10 |
| Down Ewes .. | 1 8½ — | 1 9½ | Combing Skins | 1 4 — | 1 8 |
| Kent Fleeces .. | 1 9 — | 1 10 | Flannel Wool .. | 1 6 — | 1 8 |
| | | | Blanket ditto .. .. | — | .. |

HOPS.—BOROUGH MARKET. FRIDAY, Aug. 7.

Messrs. Pattenden & Smith report a better demand for Hops of all descriptions, with a very bare supply of 1862's. Old Hops are in more request at slightly advanced prices. The plantation accounts are still very unfavourable from all parts, excepting East Sussex, a portion of the Weald of Kent, and Worcester.

NEWGATE.—Aug. 7.

Best Fresh Butter .. .. 13s. per dozen lbs.
Second do. do. .. .. 11s. "
Pork, 4s. 0d. to 4s. 4d. per 8 lbs.

## METROPOLITAN CATTLE MARKET.

MONDAY, Aug. 3.

We have a very large supply of Beasts, and trade is slow, consequently prices are lower for all kinds, yet there is scarcely a quotable] reduction in choicest descriptions. Sheep and Lambs are rather more plentiful than on Monday last. Trade is dull, but that day's quotations are pretty well maintained. Trade is slow for Calves at Thursday's rates. From Germany and Holland there are 1850 Beasts, 8640 Sheep, and 364 Calves; from Scotland, 30 Beasts; from Ireland, 260; from France, 14 Calves; and 3000 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 6 to 4 10 | Best Long-wools. | .. — .. |
| Best Short-horns | 4 2 — 4 6 | Do. Shorn .. | 4 4 — 4 6 |
| 2d quality Beasts | 2 8 — 3 4 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds .. | .. — .. | Do. Shorn .. | 3 8 — 4 2 |
| | | Lambs .. .. | 5 0 — 6 0 |
| | | Calves .. .. | 3 0 — 4 8 |
| Do. Shorn .. | 4 10 — 5 0 | Pigs .. .. | 3 0 — 4 0 |

Beasts, 5690; Sheep & Lambs, 30,090; Calves, 408; Pigs, 220

THURSDAY, Aug. 6.

The number of Beasts is rather smaller than on Thursday last. Trade is still very heavy, and we cannot quote higher than on Monday. We are not quite so heavily supplied with Sheep, but the demand is smaller, and late quotations are with difficulty maintained. Trade is rather more cheerful for Lambs; choicest kinds are readily disposed of, but other kinds meet with a dull sale. We have again a large supply of Calves; trade dull, and prices rather lower. Our foreign supply consists of 335 Beasts, 2540 Sheep, and 609 Calves. Milch Cows, 90.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 6 to 4 10 | Best Long-wools. | .. — .. |
| Best Short-horns | 4 2 — 4 6 | Do. Shorn .. | 4 4 — 4 6 |
| 2d quality Beasts | 2 8 — 3 10 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds .. | .. — .. | Do. Shorn .. | 3 8 — 4 2 |
| | | Lambs .. .. | 5 0 — 6 0 |
| | | Calves .. .. | 3 0 — 4 8 |
| Do. Shorn .. | 4 10 — 5 0 | Pigs .. .. | 3 0 — 4 0 |

Beasts, 1120; Sheep & Lambs, 10,120; Calves, 772; Pigs, 140.

## MARK LANE.—MONDAY, Aug. 3.

The supply of English Wheat to this morning's market was very small, and purchasers were found at the prices of this day se'nnight. There were several parcels of new, of which the quality was various, but mostly fine. The prices realised were too irregular to enable us to give quotations. For foreign the inquiry was very limited, and the little business transacted was at barely last week's rates. Barley, Beans, and Peas were unaltered in value. The Oat trade was dull, and to effect sales it was necessary to submit to a decline of 6d. per qr. Flour was rather cheaper.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 46—47 | Red ..... | 42—44 |
| — — fine selected runs .. ditto | 47—52 | Red .... | 42—48 |
| — — Talavera .............. | 48—52 | | |
| — Norfolk .................... | — | Red .... | — |
| — Foreign .................... | 35—62 | | |
| BARLEY, grind. & dist, —s to —s. . Chev. | — | Malting .. | — |
| — Foreign .. grinding and distilling | 25—29 | Malting .. | 28—32 |
| OATS, Essex and Suffolk ............ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ..................Potato | 19—22 | Feed .... | — |
| — Foreign ......Poland and Brew | 18—23 | Feed .... | 17—22 |
| RYE ................................ | 30—33 | Foreign .. | — |
| RYE-MEAL, Foreign .................. | — | | |
| BEANS, Mazagan....33s to 35s...Tick | 34—36 | Harrow .. | 34—36 |
| — Pigeon .... 37s to 40s.. Winds. | — | Longpod | — |
| — Foreign .................Small | 40—46 | Egyptian | 32—34 |
| PEAS, White, Essex and Kent .. Boilers | 37—38 | Suffolk .. | 38—40 |
| — Maple .... —s to —s .... Grey | — | Foreign .. | 30—38 |
| MAIZE .........................White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 42—47 | | |
| — 2d do ..................... ditto | 30—38 | Country .. | 30—38 |
| — Foreign ........... per barrel | 20—28 | Per sack | 34—48 |

FRIDAY, Aug. 7.

Harvest work has been fast progressing in the home counties during the week, and although we had some rain on Wednesday night it was not sufficient to stop it. The Wheat trade has continued dull and inactive, with a downward tendency of prices, resulting where the supplies from abroad were heavy, as in Glasgow, Liverpool, and some markets of the E. C., in a reduction of 6d. to 1s. per qr. on foreign; of old English the markets were badly supplied, and prices for such unaltered; several samples of new have been sold at irregular rates upon our market, they were generally good and fit for immediate use. Barley met a little more demand. Beans, Peas, and Oats were neglected, the latter being cheaper to sell. Flour was a slow sale, but best sweet samples could not be bought at less money. Since Friday last 77 vessels have been reported off the coast. The floating trade has been pretty active at declining prices; Wheat is 1s., Maize, Barley, and Beans about 6d. per qr. cheaper than this day week. In Paris (Aug. 6), the Flour trade was very slow, and prices have declined 1s. 6d. per 280 lbs. The present stock is estimated at 7800 cwts.; the six marks for delivery this month are quoted equal to 36s. per 280 lbs. Holders of Wheat are willing to accept about 1s. 3d. lower prices than last week, but buyers declined purchasing without a reduction of 2s. to 2s. 6d. per 480 lbs. The arrivals of English Grain since Monday have been small, of foreign moderate, but of American Flour large. This day's market was but poorly attended, and the little business transacted in Wheat, either English or foreign, was at Monday's prices. Spring Corn of all descriptions sold slowly at late rates.

ARRIVALS THIS WEEK.

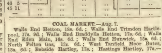
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 410 qrs. | 20 qrs. | 80 qrs. | 320 sks. |
| Irish .... | — | — | 640 | — " |
| Foreign .. | 26,280 " | 3540 | 22,930 " | — " / 57,770 brls |

LIVERPOOL, Aug. 4.—There are not many Wheat samples offering as yet from this week's abundant arrival, but with a limited number of buyers in attendance, and much indifference to enter upon transactions, the business to-day is of very moderate extent, and the value must be noted 1d. per cental under that of Tuesday last for most descriptions of American red; white Wheat nominally unchanged. Previous rates are paid for fresh barrel Flour, on a retail demand; sack Flour is in small compass, and meets more inquiry than of late. Beans move slowly without change in prices. Oats and Oatmeal dull, and unaltered in value. Indian Corn has declined 9d. per qr. on the week, mixed American being sold ex quay at 26s 6d.; sales to a tolerable amount, but few purchases for Ireland; white Corn, 29s. to 30s., this description being in limited supply.

FRIDAY, Aug. 7.—Attendance fair; Wheat in moderate consumptive demand at Tuesday's rates, and in some cases rather easier; Flour more freely offered, and the turn easier. Indian Corn, good demand for mixed, at 26s. to 26s. 3d. Egyptian Beans steady. Oats and Oatmeal unaltered. Egyptian Wheat quiet.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| June 27 | 46s 5d | 31s 2d | 22s10d | 35s 9d | 39s 8d | 36s 2d |
| July 4 | 46 11 | 30 9 | 23 11 | 32 2 | 39 6 | 38 0 |
| — 11 | 46 10 | 30 10 | 23 6 | 34 5 | 40 2 | 39 0 |
| — 18 | 46 7 | 28 10 | 22 6 | 32 9 | 40 0 | 37 1 |
| — 25 | 45 11 | 29 10 | 22 9 | 32 8 | 39 3 | 35 11 |
| Aug. 1 | 45 11 | 31 0 | 23 0 | 37 11 | 39 11 | 36 3 |
| Agg. Aver. | 46 5 | 30 5 | 23 1 | 34 5 | 39 9 | 37 1 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




## COAL MARKET.—Aug. 7.

Walls End Hetton, 18s. 6d.; Walls End Trimdon Hartlepool, 17s. 9d.; Walls End Braddylls Hetton, 17s. 6d.; Walls End Eden Main, 16s. 6d.; Walls End Hunwick, 15s. 6d.; North Pelton Gas, 13s. 6d.; West Tanfield Moor Butes, 13s. 6d.; Bebside Hartley, 17s.; Hastings Hartley, 17s.—29 ships at market.


To the Trade.

WORKING PARTNER or MANAGER.—Has a thorough knowledge of the Cultivation of Plants and the Nursery Business generally. The highest references given. —C. M., Mr. Stewart, 46, Old Bond Street, W.

WANTED, a HEAD GARDENER for a first-rate Plant place.—Although the principal requirement is the cultivation of Orchids and Ferns, of which there is a splendid collection, yet a general knowledge of the other branches of Gardening, embracing the growth of Fruit and the Management of Pleasure Grounds, is requisite. A liberal salary, with other advantages, given, and all necessary and reasonable accommodation and assistance to insure success is allowed. —Address with full particulars, (in the first instance by letter only) to A. B., care of Mr. James Veitch, King's Road, Chelsea.

WANTED, a steady active YOUNG MAN to work in a Nursery, a good Budder and Grafter, willing to make himself generally useful. References required as to character and ability.—Apply, stating wages required, to G. J. WOOLLETT, Caterham, Surrey.

WANTED, at Michaelmas, a BAILIFF and WIFE, without incumbrance; the latter to Manage Dairy and Poultry. He must understand thoroughly the duties of a Bailiff on a gentleman's estate. The farm is between 200 and 300 acres.—Apply to G. WESTBURY, Esq., 44, Lincoln's Inn Fields, or at Andover.

WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 40, married, two children; well experienced. Three years' good character.—J. W., Leslie Cottage, Laurel Grove, Penge, near Sydenham, Kent.

GARDENER (HEAD).—Age 29, single; practical experience in Grapes, Pines, Peaches, &c.; a thorough good Plantsman, also a good Kitchen and Flower Gardener. Four years' good character.—A. B., Reading Rooms, Crystal Palace, Sydenham.

GARDENER (HEAD), will be disengaged by the end of this month.—Married, no incumbrance. Seven years' first-class character as a Grower of Grapes, Pines, Peaches, &c., Stove and Greenhouse Plants; a good Kitchen Gardener, and experienced in Laying Out Grounds, &c.—L. M., Kingsfield House, Dartford Heath.

GARDENER (HEAD).—Age 39, married; a first-rate Hard and Soft-wooded Plant Grower, Orchids, and Ferns; also Early and Late Forcing; Pines, Vines, Flowers, and Vegetables. Three years' good character.—F. C., Pole Hill, Hillingdon Heath, near Uxbridge, W.

GARDENER (HEAD), where one or more are kept, or would not object to a good Single-handed place. —Age 29, single; understands the Management of Flower and Kitchen Gardens; also the Growing of Grapes, Cucumbers, Melons, &c. Good character.—A. B., Mr. J. Maskell, Tilehurst, near Reading, Berks.

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GARDENER (HEAD), age 30, single.—J. HORWOOD, Gardener to G. H. Turnbull, Esq., The Rookery, Downe, Bromley, Kent, S.E., wishes to obtain a situation for his Foreman, who has served him for three years. He is fully competent to undertake a first-rate situation as Gardener, being of active and industrious habits, much experienied in the Forcing of Grapes and other Fruits, Flowers, and Vegetables; is a good Plantsman and Flower Gardener.—Address as above.

GARDENER (HEAD), age 28, married, without incumbrance.—WM. WOOD & SON are desirous of recommending a first-rate Gardener; one thoroughly acquainted with the Management of Forcing Vines, Pines, Melons, &c.; Plant-houses, Kitchen and Flower Garden, &c. Messrs. W. & S. feel perfectly satisfied he would give any lady or gentleman requiring a good Gardener thorough satisfaction.—WM. WOOD & SON, Nurseries, Maresfield, Uckfield, Sussex.

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GARDENER (HEAD).—Age 39, single; thoroughly understands the Growing of Vines, Peaches, Melons, &c., the Management of Kitchen and Flower Gardens, Stove and Greenhouse Plants. Good character.—W. JONES, H. R. Corbet, Esq., Adderley Hall, Market Drayton, Salop.

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GARDENER (HEAD).—Age 32, married, one child; thoroughly competent in his profession. Has taken many prizes at the Botanic and Horticultural Societies of London. Undeniable character.—H. LAMB, 20, Marlow Terrace, Wick Road, Homerton.

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GARDENER (HEAD, or SINGLE-HANDED).—Age 26, single; has a good knowledge of his profession. Good character.—E. C. J., Mr. Bennett, Stationer, Upper Sydenham, Kent, S.E.

GARDENER (HEAD, or SINGLE-HANDED).—Age 33, married, no incumbrance; understands his profession in all its branches. Seventeen years in first-rate gardens. Good character.—W. M., 15, Friendly Place, New Town, Deptford, S.E.

GARDENER.—Age 40, married, no incumbrance; can have a good character from the nobleman he has just left.—K. Y., Oak Villa, North Hill, Highgate, London, N.

GARDENER.—Married, no incumbrance, thoroughly practical; well up in all the routine of the profession, &c.—T. T., 5, Bywater Street, King's Road, Chelsea.

GARDENER.—Age 39; understands Forcing, and Flower and Kitchen Gardens. Wife as Chief Servant if required.—J. BRYANT, 2, Kingsley Road, Maidstone, Kent.

GARDENER.—Age 23, single; is well experienced in Forcing, Plant Growing, Kitchen and Flower Gardening. Good character and references.—F. B., 14, Ormond Row, Smith Street, Chelsea, S.W.

GARDENER.—Married, no incumbrance; experienced in Forcing, and Flower and Kitchen Gardens. No single-handed place accepted. Four-and-a-half years' good character. Wife to look after Poultry if required.—W. C., Post Office, Hanworth.

GARDENER (middle-aged, married, without incumbrance).—D. DAVIES, who has been 19 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. LINDLEY, Acton Green, Middlesex, W.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, AUGUST* 15, 1863.

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The NEXT MEETING will be held at NEWCASTLE-UPON-TYNE, commencing on WEDNESDAY, August 26, under the Presidency of Sir W. G. ARMSTRONG, F.R.S.

Notices of Communications intended to be read to the Association, accompanied by a statement whether or not the Author will be present at the Meeting, may be addressed to G. GRIFFITH, M.A., Assistant-General Secretary; or to Captain NOBLE; AUGUSTUS H. HUNT, Esq.; R. C. CLAPHAM, Esq., Local Secretaries, Westgate Street, Newcastle-upon-Tyne

WILLIAM SPOTTISWOODE, M.A., F.R.S., General Treasurer.
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| Year. | Fire Premiums. | Life Premiums. | Invested Funds. |
|---|---|---|---|
| 1851 | £54,305 | £27,157 | £502,824 |
| 1856 | £222,279 | £72,781 | £821,061 |
| 1861 | £360,130 | £135,974 | £1,311,905 |
| 1862 | £436,065 | £138,703 | £1,417,808 |

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JOHN ATKINS, Resident Secretary, London.

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## News of the Week.

THE Notes of the three Powers in answer to the despatches of Prince GORTSCHAKOFF on the Polish question have been transmitted to St. Petersburg. It is understood that each Cabinet has replied specially to the arguments addressed particularly to itself, but that the three Notes terminate with an identical paragraph, in which the three Powers again testify the unity of their views by insisting firmly on the six points and the proposal of a conference.

The KINGS OF SAXONY, BAVARIA, HANOVER, and WURTEMBERG, the GRAND DUKES OF HESSE, MECKLENBURG-STRELITZ, and NASSAU, and 14 other minor Princes of Germany, have accepted the invitation of the EMPEROR OF AUSTRIA to meet in Congress at Frankfort for the reform of the Germanic Confederation. The KINGS OF HOLLAND and DENMARK have declined the invitation, and the KING OF PRUSSIA has not yet come to a decision, though it is rumoured that he contemplates seceding from the Confederation altogether. The CROWN PRINCE was summoned on Monday by telegraph to Gastein, where an animated discussion is said to have taken place between the King, the Prince, and the Prime Minister, but the object of the discussion has not transpired. After the conference the CROWN PRINCE returned to Berlin.

Accounts from Mexico announce that the Council of Notabilities on the 10th inst. declared unanimously, with the exception of two votes, that the Mexican nation, through them, selected the Empire as the form of government, and through them proclaimed the Archduke MAXIMILIAN of Austria Emperor of Mexico. They also resolved that, if his Imperial Highness should refuse the offer, the EMPEROR OF THE FRENCH should be implored to select a person in whom he has full confidence to occupy the throne. The French official journals assert on what they state to be good authority, that the ARCHDUKE has accepted the offered crown; and it is reported from Vienna that His Imperial Highness intends to visit the Emperor NAPOLEON at Biarritz. The French papers also state that the ratification of the choice made by the Council of Notabilities will not be submitted to universal suffrage, but to the 6000 municipalities of Mexico. They add that France, England, and Spain, will recognise the new Emperor immediately, and that arrangements will be made for the payment by Mexico within 10 years of the cost of the war and the sums owing to French creditors, and for the maintenance of a French army of occupation for a period to be agreed upon, at the expense of Mexico. A despatch from San Francisco states that 10,000 French troops were expected at Acapulco, whence they were to be sent to garrison the Mexican ports in the Pacific.

Advices from New York to the 1st inst. state that the army of the Potemac, under General MEADE, is once more on the Rappahannock, and has seized the heights in the rear of Fredericksburg. General LEE has escaped out of the Shenandoah Valley with all his army and stores, and has assumed a defensive position on the old well-fought ground between Culpepper and Gordonville; The Confederates have been defeated in Kentucky and Tennessee, but have repulsed the Federals with great slaughter in an assault on Fort Wagner in Charleston harbour, and compelled them to suspend operations. The proclamation of an empire in Mexico, and the policy pursued by the Emperor NAPOLEON in that country, in utter disregard of the Monroe doctrine, have caused an immense sensation in the Northern States, where an offensive and defensive alliance between the Confederate Government and France is already discussed as a probable event. The *New York Tribune* states that the Washington Cabinet has intimated to her Majesty's Government that the sailing of privateers from this country will be regarded as an unfriendly

act; while the *New York Herald* goes so far as to assert that Mr. Seward has informed Earl Russell, that if privateers continue to be fitted out in England, Federal war vessels will not regard British ports as a protection to such ships. The United States district court has condemned the cargoes of the steamers Peterhoff, Springbock, Gertrude, and Liorvi.

Despatches from China inform us that the neighbourhood of Shanghai was quiet on June 22, and that the affairs in Japan are temporarily settled. Accounts from New Zealand have been received through Australia, stating that the Maoris have been completely routed at Taranaki by General Cameron.

## Home News.

Departure of the Queen for Germany.—The Queen, accompanied by Prince Alfred, Princess Helena, Prince Arthur, Prince Leopold, and Princess Beatrice, arrived at Windsor on Monday afternoon from Osborne, and on Tuesday afternoon proceeded to Woolwich Dockyard, and embarked in the Fairy for Greenhithe, where the Royal yacht Victoria and Albert was waiting to convey her Majesty to the Continent. The Royal party travelled to Woolwich in seven carriages. There was no military escort, but the carriages were preceded by a body of mounted police, wearing their newly appointed helmets, to clear the way. The Queen having expressed her desire that all ceremony should be dispensed with, and that there might be no assemblages of people to witness the proceedings, all applications for admission to the Arsenal to see the embarkation were rejected, and rigorous orders were given that the strictest privacy should be observed, the workmen and clerks occupying offices in the yard being forbidden to approach the windows on pain of instant dismissal. These regulations, which went far beyond what the Queen wished, did not prevent the people assembling along the Greenwich road and the streets through which the Queen passed, and her Majesty bowed repeatedly in recognition of the various marks of loyalty and respect with which she was received. A few minutes after the Queen's arrival in the dockyard, Earl Granville drove up in a phaeton, and joined Her Majesty on board the Fairy. In less than 20 minutes after the Queen's embarkation, the Fairy, accompanied by the Vivid and the Trinity yacht Irene, was under weigh, and Viscount Sydney, Colonel Maude, Colonel Du Plat, Colonel Sir David Wood, and Sir F. Nicholson, who had been in attendance on the Queen, took their departure. On arriving at Greenhithe, the Queen went on board the Victoria and Albert, which remained at anchor during the night, and at an early hour on Wednesday morning left the Thames for Antwerp, escorted by the Osborne, the Vivid, and other vessels. Her Majesty landed at Antwerp in the course of the afternoon, and proceeded to the Palace of Laeken. The King of the Belgians and the Duke and Duchess of Brabant received the Royal party at the private railway station. The Queen's suite were conducted to the Palace at Brussels. A grand dinner was given at Laeken in the evening in honour of her Majesty. On Thursday the English and Belgian Royal families drove out at Brussels. A grand dinner was given in the evening at Lacken, after which both the Royal families, with the exception of the King and Queen Victoria, attended the performances at the Saint Hubert Theatre.

The Court at Osborne.—On Thursday week Prince Alfred, Princess Louisa, Prince Leopold, and Princess Beatrice embarked in the Royal yacht Fairy, to be present at the Cowes Regatta. Count and Countess Gleichen dined with her Majesty in the evening. On Friday the Queen, accompanied by Princess Louisa, inspected the new schools at Whippingham, now erecting by her Majesty's command. On Sunday morning the Queen, Princess Helena, Princess Louisa, Prince Alfred, Prince Arthur, and Prince Leopold attended Divine service at Osborne. The Rev. G. Protheroe officiated. On Monday the Queen, accompanied by Prince Alfred, Princess Helena, Prince Leopold, and Princess Beatrice, left Osborne for Windsor. Prince Alfred travelled with her Majesty to Basingstoke, and thence proceeded to London. On Tuesday the Queen and Royal family left Windsor for Germany. Prince Arthur left Windsor for Bagshot Park. Princess Louisa remains at Osborne.

The Prince and Princess of Wales.—On Friday week the Prince and Princess visited Holyrood Palace, the Castle, and other objects of interest in Edinburgh, and received a most enthusiastic welcome in passing through the streets. In the afternoon their Royal Highnesses left Edinburgh for the North. The rain poured in torrents as they left the hotel, completely drenching the spectators. Their Royal Highnesses travelled by a special train to Perth, where they passed the night at the British Hotel. Soon after their arrival the Prince left the hotel and paid a visit to Lord Stormont at Scone Palace. On Saturday morning the Prince and Princess resumed their journey through Aberdeen and Aboyne, and arrived at Abergeldie at half past 5 o'clock, all well. On Sunday the Prince and Princess attended Divine worship in Crathie Church. The Rev. Mr. Anderson, minister of the parish, officiated. It is expected that the stay of their Royal Highnesses at Abergeldie will extend over two months, and the Highlanders hope that they may honour the Braemar gathering with their presence.

Prince Arthur, who arrived in Shrewsbury on Thursday the 6th inst., paid a visit on Friday to the abbey and the museum, where the curiosities discovered at the ancient Roman city of Uriconium are deposited. His Royal Highness then proceeded to the spot itself, which lies about five miles from the town. On Saturday morning the Prince left Shrewsbury for Windsor, to visit the Queen previous to her departure for the Continent.

Christening of the Infant Princess of Leiningen.—The christening of the infant Princess, daughter of the Prince and Princess Leiningen, took place at Osborne on Sunday afternoon. The ceremony was performed by the Rev. W. L. Onslow, chaplain of her Majesty's ship Racoon. The sponsors were the Queen, the Princess William of Baden (representing the Grand Duchess of Baden), Princess Helena (representing the Crown Princess of Prussia), and Prince William of Baden (representing the Duke of Saxe Coburg), and the Dowager Princess of Leiningen. Her Majesty named the child Alberta Victoria Sophie Marie Ernestine.

Lord-Lieutenancy.—The Queen has appointed Lord Belhaven, K.T., to be Lieutenant and Sheriff Principal of Lanarkshire, in the room of the late Duke of Hamilton.

The Bishop of Oxford, whose health has been for some time in an unsatisfactory state, caused by a severe affection of the throat, has left England at the desire of his medical advisers to spend a few weeks in Switzerland.

Court of Probate and Divorce.—Sir James Wilde, one of the Barons of the Exchequer, has been appointed to succeed Sir Cresswell Cresswell as Chief Judge of this Court.

Diplomatic Changes.—Sir James Hudson, her Majesty's Envoy to the King of Italy, who has for a long series of years represented England at the Court of Turin, has been recalled. The Hon. Henry George Elliot, who was Minister Plenipotentiary to the kingdom of the Two Sicilies from 1859 till their absorption in the new kingdom of Italy, has been appointed his successor.

Order of the Bath.—The Queen has given orders for the appointment of Sir James Hudson, K.C.B., her Majesty's Minister at Turin, to be a Knight Grand Cross of the Bath; James Douglas, Esq., C.B., Governor of Vancouver's Island and British Columbia; and Captain his Serene Highness the Prince of Leiningen, R.N., to be Knights Commander of the Bath; Charles St. John Septimus Herbert, Esq., formerly commanding the Militia and Volunteers in New Zealand, and George Benvenuto Mathew, Esq., her Majesty's Minister to the Republic of Central America, to be Companions of the Order.

Knighthood.—The Queen has directed letters patent to be passed under the Great Seal, granting the dignity of a Knight of the United Kingdom to Dr. James Coxe, M.D., of Kinellan, in the county of Edinburgh, one of the Lunacy Commissioners for Scotland; and to Goldsworthy Gurney, Esq., of Bute, in the county of Cornwall, the inventor of the Bude light, and the successful ventilator of the two Houses of Parliament.

Parliamentary Movements.—There is a vacancy for Ludlow caused by the death of Mr. Beriah Botfield. It is stated that either Sir James Bailey, Bart., or Sir William Fraser, Bart., will come forward as a candidate for the vacant seat in the Conservative interest.

## Foreign.

France.—The Note of the French Government, in reply to the despatch of the Russian Cabinet, was sent to St. Petersburg on Saturday by a special courier. Those of Austria and England have also been despatched in order that the three Notes may reach their destination simultaneously. The *Constitutionnel* says that each Cabinet has replied specially to the arguments addressed particularly to itself, but the three Notes terminate with an identical paragraph, once more testifying the unity of the views of the three Powers. The *France* has reason to believe that the notes maintain with firmness the demands of the three Powers, and insist on a conference of the eight Powers. They are, however, drawn up in a spirit of moderation which will allow Russia to consent to the re-opening of negotiations without sacrificing her dignity. The same journal in another article, referring to the despatch of the Notes to St. Petersburg, says that should Russia formally refuse to do justice to the claims of the three Powers, the period of the negotiations might be considered at an end. Several of the Ministerial papers publish comments on the recent despatch of Prince Gortschakoff, and say that though it is courteous in its language it makes no concession, and changes nothing in the real state of affairs. The *Pays*, in an article signed by the editorial secretary, says:—

"Russia flatters herself she will intimidate France, England, and Austria by bluster and rhodomontade. Can she hope for such a result from her menaces, the exhibition of a convulsive patriotism, and the display on paper of her military forces? No! Russia, by crying very loudly, hopes to dissemble the sentiment of her danger, but does not succeed in deceiving the Powers, who are not likely to be terrified out of their equanimity."

The *Semaphore* of Marseilles having lately announced an exchange of letters between the Emperor of the French and the Emperor of Russia, has received a first warning for having published false news, calculated to lead public opinion astray. The Emperor left Paris on Saturday to attend the Pin races. An immense concourse of people, more than 100,000, were present to receive his Majesty, who was welcomed with the greatest enthusiasm. The Emperor returned to St. Cloud on Wednesday, and presided at a Cabinet Council on Thursday. It was expected that the Emperor would have reviewed the army of Paris and the national guard yesterday on the Champ de Mars, but in consequence of the excessive heat his Majesty countermanded the review. To-day being the Emperor's fête day the usual reception will take place at the Tuileries. In the evening M. Drouyn de Lhuys will entertain the Corps Diplomatique at a grand dinner. The Emperor will leave on the 17th instant for the camp at Châlons. His Majesty's journey to Biarritz will probably take place in the early part of September. The Emperor has given an audience to the Archbishop of Mexico, about to depart for that country on the 15th inst. The Emperor and Empress have congratulated the Archduke Maximilian on his election as Emperor of Mexico. The Archduke immediately thanked their Majesties for their congratulations, and according to the *Nation* expressed himself in terms implying his acceptance of the throne. The *France* says that of the 18 States of Mexico, 15 have already pronounced in favour of intervention and the plans of the French Government. If, it says, the Archduke accepts the throne, the Mexican empire will be immediately recognised by France and England; and arrangements will be made by which the amounts due to France, comprising the cost of the war and the sums owing to private creditors, are to be paid by Mexico within six years; and France will keep an army of occupation, for a period to be agreed upon, at the expense of Mexico. It also asserts that the vote of the Chamber of Notables will not be submitted for ratification by universal suffrage, but will be brought for indorsement before the 6000 municipalities of Mexico. The *Patrie* states that the Archduke has made his acceptance dependent upon the consent of his brother, the Emperor of Austria. Some of the other papers state that the Archduke had requested the Pope, in the event of his election, to send a Nuncio to that country charged with organising religious affairs. The Council of State on Monday, on the report of Mr. Suin, allowed appeal in the matter of the indictment of the Bishops on three grounds. The *Pays* says that the Emperor has received a letter from the Queen of Madagascar, expressing her friendly sentiments towards France. An Imperial decree has been published, dated August 1, according to which Belgian vessels coming direct from Belgian ports with cargo, or from any other ports without cargo, are exempted from all tonnage dues. M. Drouyn de Lhuys, who had recovered from his late indisposition, presided a few days since at the distribution of prizes among the students of the Louis le Grand Lyceum. He concluded a speech, giving good advice to the young students, by saying that owing to the wisely democratic institutions which prevailed in France, each of them might find his Marshal's bâton at the bottom of his desk. Colonel Marchal, one of the few surviving veterans of the first Empire, has just died at the village of Garches, near St. Cloud, in his 90th year. The celebrated painter Eugène Delacroix is dead. *La France* of Thursday contradicts the report of the death of Abd-el-Kader.

Spain.—The *Official Gazette* of Thursday publishes the Royal decree dissolving the Cortes. It is reported that the Council of Ministers has approved the new situation that has arisen in Mexico, and will despatch a special envoy to Paris on the subject. Senor Pacheco is spoken of as likely to be sent to Paris; Senor Gonzales Bravo is going to London. It is asserted that the electoral circular to be issued by the Minister of the Interior will be very liberal and conciliatory. The Court and Government have resolved to bestow some relief on the sufferers from the earthquake at Manilla.

Belgium.—On Saturday the first stone of a palace to be presented by the province of West Flanders to the King of the Belgians as a seaside residence was laid at Ostend by the King in person, His Majesty having been invited to officiate on the occasion. The King on his arrival was received by the Governor of the province at the head of all the provincial and municipal authorities, amid the most enthusiastic cheering of the people. The Governor read an address expressing the gratitude of the Belgians to his Majesty for thus allowing them to offer him a testimonial of the high estimation in which they held the immense services he had rendered to their country. In reply, the King expressed his affection for the Belgian people, and for the town of Ostend in particular, and concluded with saying that a reign of 32 years was already long; but he should continue to devote himself to securing the national independence, the free institutions, and the happiness of the country.

Denmark.—The King of Denmark has declined to be present at the Conference of the Sovereign members of the German Confederacy, to which his Majesty was invited by the Emperor of Austria. A grand military camp will be established, and a review held at the end

of this month near Dannekirke, in Schleswig. The King will visit the camp.

SWITZERLAND.—An Ultramontane meeting has been held in the canton of Aargau, at which a petition was drawn up, praying for a revision of the Federal Constitution. Endeavours will be made to obtain 50,000 signatures to it, that being the number necessary to insure its being taken into consideration.

PRUSSIA.—The Crown Prince of Prussia, who was telegraphed for to Gastein, arrived there on Monday. Very animated conferences took place on Wednesday between the King of Prussia, the Crown Prince, and Count von Bismark. It is asserted that Prussia intends to secede from the German Confederation. The Crown Prince left Gastein for Berlin on Wednesday. Ten of the Berlin journals were seized on Sunday, probably for having published the last proclamation of the Polish National Government. The Queen of Prussia has sent a donation of 50 gold Frederics, accompanied by an autograph letter, to the committee charged with the erection of the monument to the Prince Consort.

FRANKFORT.—The Emperor of Austria sent the invitations to the Congress of Sovereigns in 34 letters all bearing his signature, those addressed to the five Kings being written with his own hand. Out of the 34 invitations the acceptance by 21 has been received at Vienna. The Kings of Saxony, Wurtemberg, Bavaria, Hanover, the Grand Dukes of Hesse, Mecklenberg-Strelitz, and Nassau, and several minor Princes are among those who have accepted the invitation. The only refusals as yet received are from the King of Holland, representing the Grand Duchy of Luxembourg and the Duchy of Limburg, and from the King of Denmark. The King of Prussia has not yet come to a decision on the subject. The report therefore that His Majesty had refused to entertain the invitation in the most absolute manner, was premature. The Emperor has decided that newspaper reporters shall be admitted at the Conference. The following is said to be a correct statement of the contents of the reform project proposed by Austria:—1. An Assembly of delegates from all the German Diets, with right of voting, and to be convoked periodically. 2. An Upper House, composed of the representatives of the Sovereigns. This Assembly is to include the former Princes of the German Empire. 3. The direction of Federal affairs to be administered by seven groups of German States, under the presidency of Austria. 4. The present Federal Diet to be dissolved. 5. A reform of the military organisation of the Confederation. 6. Abolition of the article of the German Federal Constitution by which unanimity of the members of the Diet is required for the adoption of measures of general utility, and establishment of organic federal institutions.

AUSTRIA.—At a Cabinet Council held on Thursday week the reply to be sent to Russia was taken into consideration. It is believed that the Notes of the three Powers are by no means identical, although the six points and the proposal of a Conference are maintained. The Archduke Maximilian has arrived at Vienna, to be present at a family council. A rumour that the Archduke intends to visit the Emperor Napoleon at Biarritz has exercised a favourable influence upon the Bourse. The *Oesterrichische Zeitung*, in an article on the election of his Imperial Highness to the throne of Mexico, says:—

"The acceptance or refusal of the throne is up to the present a personal affair with the Archduke. The Austrian Government has in no way interfered in the question, and taken no part in the negotiations relative thereto. The Emperor Napoleon, in communicating direct with the Archduke, has perfectly maintained this point of view. Negotiations have been opened solely between the two high personages, and not between France and Austria. The conduct of the Emperor has thus been marked both by courtesy and loyalty. The situation of Mexico might lead at a later period to differences with America. But all this is irrelevant so long as the matter has a personal character apart from politics. It is for the Archduke in his wisdom, and in consulting his own tastes, to see whether he will enter into this affair, and what guarantees he can obtain. The Archduke is too experienced a man to accept the offer of the Mexicans before their country be entirely submitted, and before it has expressed itself through the medium of freely-elected representatives. The whole subject is one of a very delicate and difficult nature, and must be treated with prudence and ability."

The Emperor left Vienna on Thursday for Frankfort, and will visit on his way the Courts of Munich and Stuttgardt. His Majesty will stay at Frankfort at least a week, and will occupy the Tour and Taxis Palace in that city during the approaching Congress. His Majesty will enter the old Federal city with great pomp, and will be attended by a numerous train. The life-guardsmen, termed the Trabanten-Garde, and a number of the Court Gendarmery, will form the escort, and a portion of the imperial stud will also accompany the Emperor. His Majesty will be received on his arrival by both the Burgomasters and the assembled Senate. The other Princes summoned will be received by single senators. A banquet will be given on Monday in the Kaisersaal, to consist of 27 courses. After the banquet a grand procession will take place, followed by a State visit of the Princes to the theatre. A brilliant display of fireworks will take place in the evening.

ITALY.—The treaty of commerce between Italy and England has been signed. A permanent Danish Legation has been established in Turin. M. Rosencrantz, who has been nominated Chargé d'Affaires, presented his credentials to the King of Italy on Wednesday, and it is asserted that he will at once open negociations for a commercial treaty between Italy and Denmark. The Minister of Commerce left Turin on Thursday evening for Naples, where he will remain several weeks. The Italian squadron at the Piræus has dispersed. The man of war Rè Galantuomo is about to leave for Cork, to take in tow the frigate Rè d'Italia. The *Opinione* contradicts the rumour that the Italian fleet is about to repair to Cherbourg. The *Stampa* reports from Marseilles that the brigand chief Tristany has been taken to France and confined at Nevers. The Italian Government has taken very severe measures against Senor Salamanca's company for having dismissed the Italian *employés* from the railroad to Capua, and appointed in their stead Spaniards and Frenchmen who are compromised with the reaction. The Italian Government warn the company that they have it in their power to suspend the payment of the guaranteed sum.

IONIAN ISLANDS.—A proclamation connected with the cession of the Ionian Islands has been published in the *Official Gazette* at Corfu, in which Sir Henry Storks, the Lord High Commissioner, publishes for general information a proclamation by her Majesty in Council dissolving the present Parliament of the States from the 6th inst. The Lord High Commissioner says that he has received her Majesty's commands to call the solemn attention of the Ionian people to the reasons which have induced her Majesty to dissolve the 12th Parliament of the Ionian States. Her Majesty, the protecting Sovereign, has declared her readiness to consent to the union of the Ionian Islands with Greece; and it is with a view to consult in the most formal and authentic manner the wishes of the inhabitants of the Ionian Islands as to their future destiny that her Majesty has been pleased to dissolve the present Parliament. The Lord High Commissioner says that the Ionian people will fully appreciate the responsibility which rests on them in choosing their representatives. They are called upon to decide by this choice on the momentous question now submitted to them, and the only wish of her Majesty is that they may be guided to a wise decision, by which their happiness and prosperity may be secured on a solid foundation.

RUSSIA.—The official journals announce the return of the Emperor from Finland, and state that he was everywhere received with extraordinary enthusiasm. During his tour he reviewed 10 battalions of chasseurs of Finland, and assisted at a sham fight by the troops encamped on the road from Abo to Bierenborg. The Empress of Russia will probably set out on a journey to Jerusalem in September. Ten steamers have been ordered to hold themselves in readiness to transport troops to Circassia. Prince Gortschakoff has addressed a circular despatch to the Russian Ministers abroad on the subject of the recall of Monsignor Felinski, Archbishop of Warsaw. The Prince renders full homage to the honourable character of the Archbishop, but he contends that the Government could not tolerate that the prelate should become, in the hands of the party of action, an instrument the more dangerous as his position was the more elevated. The proceedings of Monsignor Felinski were, besides, inconsistent with his duties as a high ecclesiastical dignitary, bound by a sentiment of fidelity towards the Emperor, and invested with his personal confidence.

POLAND.—Pawlowicz and Czarkowski have been shot by the Russians; the former at Brzesc, the latter at Siedlice. The official journal of Wilna publishes a decree of General Mouravieff, ordering that all the Lithuanian insurgents who fall into the hands of the Russians, particularly the nobles and priests, shall be tried and shot within 24 hours. In another decree General Mouravieff orders that those who voluntarily give themselves up shall be subjected to torture until they have furnished the Government with information respecting other insurgents, and condemns to systematic plunder all districts within which an insurgent is seen. No less than 70 persons, including three ladies, have been sent from Wilna to Siberia, where they have been sentenced to hard labour in the mines. Another woman has been sent to the mines, with a child eight months old. The mother is to perform the journey in chains. Two sisters of mercy have been sent from Warsaw to Siberia to take care of the wounded insurgents. It is asserted that the landed property of Count Zamoyski has been confiscated by General Mouravieff. In pursuance of orders from St. Petersburg, a Council of War had been held in Warsaw. At its termination a notification was given to the Warsaw and Vienna Railway Company that they should suspend the public traffic for one week and prepare all their carriages for the conveyance of the military. Numerous copies of an appeal of Russian patriots to the Poles, dated from Moscow, have been widely circulated in Congress Poland. The appeal advises the Poles to desist from a useless struggle and to unite themselves with Russia, in order to establish the greatness of the Slavonic races, and to revenge themselves upon the West, by which Poland is being betrayed. The appeal finally promises the Poles an independent national existence. The *Ostsee Zeitung* states that the direction of the insurrection is now entirely in the hands of the aristocracy. The same paper asserts that the seat of the National Polish Government is at Paris, and that Prince Czartoryski is at its head. "His party has been ordered to agitate to the effect that he may be proclaimed King of Poland as soon as France shall have declared war against Russia." The insurgents have made signals with rockets before the gates of Warsaw. This proceeding has spread alarm through the garrison. An unimportant engagement has taken place before the Mokatower Gate. On the 29th ult. the united bands of Polveck, Strzelecki, and Gastow, 700 strong, were beaten in the district of Mlawa, in the government of Plock. The loss of the insurgents was nearly 100 killed and 20 prisoners. The Russians were defeated by the insurgents on the 30th ult. near Radom, in the palatinate of Lublin. On the 5th inst. the insurgents, under Eminoricz, Crick, and Rucki, gained another important advantage over the Russians at Chelm, in the same palatinate. Three Russian companies were dispersed. It is asserted that the Russians, under cover of their artillery, locked up their killed and wounded in a barn and burned them, in order to conceal their loss. The *Invalide Russe* mentions four engagements in Lithuania near Roza, Morzany, Leninty, and Dolsk, respectively. There had also been one at Minsk, in the Government of Kowno. The news of the victory of the insurgents under Chruscina at Polichna on the 4th and 5th inst., and of the concentration of troops in Dublin, has been confirmed. The insurgents under Collier attacked a squadron of Uhlans on the 8th inst. at Raszyn, near Warsaw, liberating a convoy of prisoners. The Uhlans fled to Warsaw. Grabowski suffered a defeat on the 7th inst. near Grodzisk. The insurgents are said to have gained a decided victory near Janow, and to have dispersed the Russians, while they are reported to have been beaten near Mazow. The Russians, under the command of Baumgarten, have been defeated by the insurgents Zielinski and Grzymales. The official Russian report admits the defeat of the Imperial troops, but states that the number of insurgents, amounting to 2000, was superior to that of the Russians. Engagements between the insurgents and the Russians have taken place at Seyny. Telegraphic communication with Warsaw is again interrupted in all directions.

TURKEY.—Russian troops are concentrating at Gumri. The Porte has demanded explanations from the Russian Government on the subject. The old Seraglio has been totally destroyed by fire. The Inland Custom Houses have been abolished, and an octroi substituted.

CAPE OF GOOD HOPE.—Accounts from the Cape to July 2 state that the Parliament continued in Session, and that the Governor had sent to the Assembly a Bill for raising a new loan of 150,000*l*. The balance in the Treasurer's hands was only 10,818*l*., and during the previous five months the expenditure was 11,000*l*. per month above the income. The long-disputed boundary line between the Queenstown district and British Kaffraria had at last been settled. More Kaffir robberies have occurred on the frontier. At Whittlesea they had perpetrated a daring robbery, leaving two Germans for dead. The synod of the English Church at Graham's Town had been opened by the bishop of the diocese. The bishop in his address had discussed at some length the power and constitution of these synods. Pretorius resigned the Presidency at the Volksraad on June 17.

MADAGASCAR.—Further particulars of the revolution in Madagascar confirm the opinion that the assassination of the King arose from a reactionary spirit among the people, and their suspicion of his too liberal tendencies and concessions to Europeans. Queen Robodo and her supporters had, however, not shown any symptom of reversing the King's tolerant policy. The principal cause of the dissatisfaction of the people being brought to a climax is said to be Mr. Ellis having sent persons to preach at a village in which are deposited the remains of the late Queen, who was anti-Christian, and the preaching was considered an insult and desecration to her memory. Her Majesty's ship Gorgon left the Cape for Madagascar on June 30.

CHINA.—The neighbourhood of Shanghai was quiet on June 22. The Imperial army was before Nankin. The insurrectionary movements in the southern provinces are creating serious embarrassments to the Government.

JAPAN.—Affairs in Japan are temporarily settled. The American Legation has been burnt.

NEW ZEALAND.—The Maoris have been completely routed at Taranaki by General (?) Cameron.

UNITED STATES.—General Lee's army passed through Chester Gap on the 23d and 24th ult., and is now south of Culpepper. His passage through Chester Gap was ineffectually opposed by Burford's cavalry. The divisions under Generals Longstreet and Hill, after passing through Thornton's Gap, encamped between Culpepper and Gordonsville. General Ewell's command covered their rear and flank by guarding the Blue Ridge passes. The bulk of this corps on the 29th was passing down the valley, and threatening the Federal lines. On the morning of the 28th Federal pickets were driven in near Amissville, and the indications were that the Federal outposts were liable to be forced at any moment by superior detachments of Confederates. Accounts were received at Washington on the 31st to the effect that General Lee was massing his troops at Culpepper, and the belief existed among the officers of the Federal army that he was preparing for a battle on the Rappahannock. The leading Republicans in Washington urge the appointment of General Sedgwick to the chief command of the army of the Potomac in place of General Meade, who is looked upon with disfavour by the Republican and Abolition party.

General Lee has officially denied General Meade's report of having captured a brigade of infantry and two pieces of artillery as the Confederates were retiring across the Potomac. He says that none but stragglers were captured, and two guns which were left on the road. The repulse of the Federal attacks upon Fort Wagner between the 18th and 23d is officially reported to the Confederate Government by General Beauregard, and confirmed by the Federal accounts brought by steamers to Fortress Monroe. On the 18th, after a furious bombardment of the fort for 11 hours by the Federal land batteries and the ironclads, an assault was ordered by General Gilmore, and repeated and desperate attempts were made to dislodge the Confederates, and at one time the Federals had succeeded in mounting their flag upon the parapet of the fort, but they were driven back by the terrific fire of the garrison. Two regiments of negro troops who participated in the attack are described as having fought with great bravery. It is stated that the sight of them so infuriated the Confederates that wherever they appeared the whole fire of the fort was concentrated upon them until they retired out of range. The Federal loss in the assault was upwards of 2000 in killed, wounded, and prisoners. The *Richmond Despatch* of the 27th contains despatches from Charleston to the 25th, reporting that the bombarding of Fort Wagner had been recommenced on the 24th, and continued heavily throughout that day, the only result being the killing of three men and the wounding of six others. During the ensuing night firing was carried on by Forts Wagner and Sumter against the Federal position on the island, the Federals occasionally responding. On the 28th the "monitors" entirely suspended operations. On the following day General Gilmore erected a line of batteries within 250 yards of Fort Wagner, and planted three heavy siege guns one mile and a quarter from Fort Sumter. He has made earnest application to the Government for reinforcements, and all the transports at Fortress Monroe have been appropriated to the duty of conveying the troops required, the authorities at Washington being determined to reduce Charleston, and to send such supports and reinforcements as may be needed for that purpose. It has since been reported that General Gilmore has abandoned for the present the idea of taking Fort Wagner, the shells making but a slight impression upon the sand of which the fort is composed. It is also reported at Washington that General Gilmore's losses at Charleston by sickness and casualties amount to about one-third of his original force. A body of 2500 Confederates, under Generals Pegram and Scott, have crossed the Kentucky river, and attacked the Federals at Paris, but were repulsed after two hours' fighting. The Confederates retreated to Winchester, followed by the Federal cavalry. They subsequently occupied Standford, but were driven out with loss, and retreated towards the Cumberland River. General Burnside has since declared martial law in Kentucky. The Confederates, who were forcing the conscription in West Tennessee, have been routed by the Federals at Lexington, with the loss of several officers and two cannon. Brashear city has been captured by the Federals. It was also rumoured at New York that Chattanooga was captured by Rosencranz on the 16th ult, but direct accounts from Chattanooga of the 19th state that the head-quarters of General Bragg were still at that place, which was occupied by a division of his army under General Claiborne. The other divisions were stationed at different points along the Knoxville, Western, and Atlanta railroads, within supporting distance of Chattanooga. General Johnstone is reported to have been heavily reinforced from the army of General Bragg, and to be fortifying Meridian and the Ohio and Mobile railroad, at Okalona, for the defence of Mobile. General Morgan's raid into Ohio is at an end. General Shackleford, under date of the 26th, officially reports the capture of General Morgan, Colonel Cluke, and 400 of their men. General Morgan and Colonel Cluke were taken to Cincinnati, and confined in the Penitentiary at Columbus. Governor Parker, of New Jersey, has announced by proclamation that no draught has been ordered in that State, and that 30 days will be allowed for filling up the *quota* required by volunteering. At the end of that time, if the number shall not be complete, a draught will be ordered. The *Richmond Despatch* of the 27th publishes a despatch from Morton, Mississippi, stating that Jackson was again evacuated by General Grant on the 23d, and that the General had returned to Vicksburg. The Court House at Jackson was much damaged by an attempt of the Federals to blow it up, and great destruction was committed upon the railway tracks, rolling stock, and machine shops. In consequence of information given by a negro, the private library and correspondence of President Davis have been seized by the Federals at Jackson. The account of the capture states that thousands of volumes of books and bushels of letters and papers from both Northern and Southern statesmen upon the subject of secession, some of them dated as far back as 1832, had been brought into camp. Many of the more private writers had accepted the division of the Union as a foregone conclusion, and disagreed as to how and when it should take place. The amount of property destroyed by the Federals in their late raid into North Carolina is estimated at 5,000,000 dollars. The Hon. John Jay Crittenden, the author of the Crittenden resolutions of compromise between the North and South, which were rejected by the Republican members of the Border State Convention immediately previous to the breaking out of the war, died at Frankfort, Kentucky, on the 26th ult., at the age of 77. The *New York Herald* asserts that Mr. Seward has informed Earl Russell, that if privateers continue to be fitted out in England, Federal war vessels will not regard British ports as a protection to privateers. It also says that when the rebellion is crushed America will step in to restore the Republican form of Government in Mexico. The *New York Times* says that the proclamation of the Mexican empire shows that an affiliation between the Emperor Napoleon and the South is absolutely certain, while the *New York Daily News* asserts that President Davis has sent a messenger to the Emperor, proposing an offensive and defensive alliance, the Confederate Government acknowledging the French protectorate over Mexico, and promising to modify the institution of slavery. The Government has determined to force the draft in New York, and is said to be fully prepared for any emergency that may arise. There are several gunboats in the river, and a considerable number of Federal troops in the city and neighbourhood. Frauds upon the Government to the amount of 1,000,000 dollors have been discovered in the contracts for clothing, subsistence, supplies, and horses, in the late military operations in Pennsylvania. President Davis has issued a proclamation appointing Friday, the 21st of August, for a day of fasting, humiliation, and prayer. Vice President Stephens, who is making a tour of the Confederate States, addressed the people of Charlotte, North Carolina, on the 17th ult. He expressed great confidence in the military genius and patriotism of General Lee, and stated that vast quantities of supplies had been obtained by his invasion of Pennsylvania. In alluding to the fall of Vicksburg and Port Hudson, Mr. Stephens said that the Confederacy had survived severer blows in the loss of New Orleans, Island No. 10, and Fort Pillan, and that should even Mobile, Charleston, Savannah, and Richmond be captured, these calamities would not prevent the ultimate independence of the South if the people would but continue its support of the Government. He concluded by saying that the only terms on which they could obtain permanent peace are final and complete separation from the North. Rather than submit to anything short of that, they would all resolve to die like men worthy of freedom. The Southern journals recommend that if the decision in the case of the Alexandria be affirmed in England, the Confederates should promptly avail themselves of it to give a death blow to Northern commerce and strike some Northern cities. The Florida between the 17th and 21st ult. had destroyed 12 vessels, of which the name of only one (the William B. Nash) is ascertained. On the 16th the Florida put into Bermuda to coal, and was still there on the 22d ult., taking fuel from the Confederate steamer Harriet Pinckney, the English naval authorities having refused to furnish her with fuel. The steamers James Battle and William Bazley have been captured. The United States District Court has condemned the cargoes of the steamers Peterhoff, Springbok, Gertrude and Liorvi.

West Indies.—The Governor of the Bahamas has received information from Lord Lyons that the efforts to induce the Washington Cabinet to withdraw its prohibition to export live stock to Nassau were fruitless.

Mexico.—News from the city of Mexico and Vera Cruz was received at New York on the 27th, *viâ* Havannah. On the 10th Mexico was declared by the public proclamation of the Council of Notabilities to be an empire. The throne was tendered to the Archduke Maximilian of Austria, and in the event of his refusal to accept it, the Emperor of the French was implored to select a candidate for the Imperial dignity. The public proclamation of the empire took place in the city of Mexico on the 10th ult. A courier was immediately despatched to Vera Cruz, and it is stated that all the towns along the route of the courier made immense manifestations of joy on the promulgation of the news, and at Vera Cruz 100 guns were fired in honour of the event. The clergy and people generally were represented as being greatly rejoiced at the remodelling of their Government. The *New York Daily News* states that in the event of the refusal of the Archduke Maximilian to accept the throne, Mr. Jerome Bonaparte (Patterson), of New Jersey, will be petitioned to preside over the destinies of that nation. *La France* of Saturday says that a deputation of five persons left Mexico on the 12th ult. for Europe, to convey the decree to the Archduke Maximilian. The French are preparing an expedition against Tampico. Ten thousand French troops from the Gulf of Mexico are expected at Acapulco, whence they will be dispatched to garrison all the Mexican Pacific ports. It is rumoured that the people of San Luis Potosi have declared against Juarez, who fled to Monterey.

Central America and Pacific.—The hostilities in which Guatemala and Nicaragua have been engaged with Salvador and Honduras were approaching a termination owing to the successes of the two former states. At the last accounts the President of Guatemala had possession of the chief towns of Salvador, and President Barros had been overthrown. Chili and Bolivia were also preparing for a contest, for the possession of the Megillones Rocks and the Attacama Desert. The dispute between the Peruvian Government and that of Brazil about the rights of navigation of the Amazonas had been settled in the most friendly manner. The company, who on the part of Brazil sought exclusive privilege, had abandoned the claim, and it was believed that if the explorations which have been made were followed up with the facilities which both the Peruvian and Brazilian Governments now afford by their steamers, the present uninhabited fertile valleys of the Amazonas would be the richest settlements in the world.

## City Intelligence.

**Money Market, Friday.**—British Funds: Consols closed at 93⅛ for Money, and 93¼ for Account; Reduced and New Three per Cents., 93⅛ to ¼; Bank Stock, 238; India Five per Cent. Stock, 108½ to ¾; Ditto Bonds, 16*s.* to 19*s.* pm.; Exchequer Bills, March, 1*s.* dis. to 2*s.* pm.: Ditto June, 2*s.* pm. to 1*s.* dis.—Foreign: Brazilian, 1852, '58, '60, 93½; Chilian Four and a Half per Cents., 86; Egyptian, 104½ to 104 Greek, 33⅜; Ditto, for Acct., 33½ to ⅜; Ditto Coupons, 15⅝ to ⅞; Italian, for Acct., 71¼ to 71; Ditto Maremmana Railway, 79½ to 79; Mexican, 38⅜; Ditto, for Acct., 38⅛ to 39¼; Russian, 1850, 90; Ditto, 1862, 92⅝ to ¾; Spanish Passive, 33⅜; Ditto, for Acct., 33½ to ⅝; Ditto, Certificates, 12¼; Ditto, for Acct., 12⅜; Turkish, 1854, 92½; Ditto, 1858, for Acct., 71½ to 71; Ditto, 100*l.* Bonds, 76; Ditto, 1862, 67⅞ to 68¼; Ditto, for Acct., 68¼ to 68; Ditto, 1863, 4½ dis.; Venezuela, 1862, 57.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued.. .. .. | £28,824,920 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,174,920 |
| | | Silver Bullion .. .. | — |
| | £28,824,920 | | £28,824,920 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,089,426 |
| Rest .. .. .. .. .. | 3,428,233 | Other Securities .. .. | 18,472,407 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 5,754,863 | Notes .. .. .. .. .. | 7,563,805 |
| Other Deposits .. .. .. | 13,578,358 | Gold and Silver Coin .. | 864,899 |
| Seven days and other bills | 676,083 | | |
| | £37,990,537 | | £37,990,537 |

August 13, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *July* 31.—BANKRUPTS.—J. Allen, Runcorn Gap, Lancashire, Grocer—J. Blanchard, Esher Place, Kennington Road, Lambeth, Carpenter—E. E B. Bathe, St. Paul's, Bristol, Cordwainer—B. Borwood, Bridgenorth, Salop Hairdresser—A. W. Bernal, late of Fenton's Hotel, St. James's Street—M. A. Butler, King's Road, Chelsea, Baker—W. Bowden, Barnstaple, Devonshire, Gardener—J. Craven, Harrowgate, Yorkshire, Carter—S. Cheetham, Wharncliffeside Green, Yorkshire, Labourer—A. Ceileur, Strawbury Villas, Camden Road, Photo-Lithographer—A. Choimet, Oakley Terrace, Pimlico, Upholsterer—J. Cooper, jun., Woolwich, Grocer's Assistant—T. Davies, sen., Aberystwith, Grocer—R. A. Dale, Walsall, Staffordshire, Clerk—J. Eyre, jun., Derby, Mail Contractor—H. B. Fox, late of Liverpool, Commission Agent—G. French, Park Road North, Bow, Mariner—J. T. Glasspool, Southampton, Corn Factor N. A. Harris, Leinster St., Cleveland Sq., Bayswater, late Licensed Victualler—F. Hale, Limehouse Miller—W. Herbert, Cricknowell, Brecknockshire, Labourer—J. R. Henckley, Birmingham, Chemist—C. H. Hossfeld, Palace Road, Lambeth, Publisher—S. Johnson, Leadenhall St., City, late Commercial Clerk—S. K. Kaufman, Arthur's Hill, Newcastle-upon-Tyne, Teacher—G. H. Kidd, late of Leamington, Warwick—T. S. H. Lowe, Birmingham, Gasfitter—J. Lindley, Shrewsbury, Shropshire, Fishmonger J. Lee, Pilton, Devonshire, Wood Turner—H. Lusty, Barton Hill, Bristol, late Beer Retailer—J. Langtry, Napier Terrace, Bow Common Road, late Grocer—E. Morris, Baring Street, Islington, Engineer—W. M. Minty, York Road, Lambeth, Plumber—T. Mawby, Liverpool, Warehouseman—S. Marsh, Glastonbury, Somersetshire, Butcher—J. Macnamara, Navarino Terrace, Cowley Road, Brixton, Government Clerk—S. Mitson, Philip Lane, Tottenham, Corndealer—W. R. Murray, late of Exeter Hall Hotel, Strand—A. M'Donald, Glasgow, General Merchant—Robert Martin, Lower Park Road, New Peckham, Licensed Victualler—Robert Preston, Blackburn, Butcher—John Page, Tavistock, Devonshire, Shoemaker—Caroline Pauline, Princess Street, Hanover Square, Milliner—James Pollard, Halifax, Yorkshire, Beer Retailer—George Quartermain, Bicester, Oxfordshire, Watchmaker—R. Quick, Hove, Sussex, Fencing Master—T. S. Stearman, Aldershott, Ironmonger—G. Strutt, Havelock Terrace, Meeting House Lane, Peckham, Builder—W. Sansome, Coventry, Ribbon Manufacturer—W. Stark, Bristol, Carpenter—C. Townend, Birmingham, Surgeon—J. Ullmann, Oxford Street, General Merchant—C. Vernon, Wimbledon, Cow Keeper and Dairyman—G. Vincent, Mistley, Essex, Blacksmith—J. Woolley, Kettering, Northamptonshire, Draper—J. Winterbottom, Lees, Lancashire, Tin Plate Worker—J. Whitehand, Wymondham Norfolk, Tailor—G. Willsmer, Lewisham Road, Kent, Carpenter—J. Aspin and W. Ward, Blackburn, Lancashire, Cotton Manufacturers—G. Walker, St. Helen's, Lancashire, Miller—R. Wallis, Liverpool, Provision Dealer—T. W. Wood, Bishopwearmouth, Durham, Furniture Dealer.

SCOTCH SEQUESTRATIONS.—W. Cruickshank, Monquhitter, Aberdeenshire, Farmer—A. Wood, Glasgow, Leather Merchant.

TUESDAY: *August* 11.—BANKRUPTS.—A. Arnold, Faversham, Kent, Grocer—C. Bradley, Doncaster, Yorkshire, Cabinet Maker—E. Bowers, Stafford, Provision Dealer—S. Box, Ilford, Essex—W. M. Brewster, Oystermouth, Glamorganshire, Printer—J. Book, Hulme, Lancashire, Teacher of Languages—J. Burningham, Farnham, Surrey, Baker—G. Burt, Salisbury, Wiltshire, Whitesmith—C. Bianconi, jun., Seaford, Sussex, Gentleman—J. Bolton, Lostock Gralan, Chester, Cheese Dealer—J. Cowburn, Atherton, Yorkshire, Journeyman Iron Moulder—J. Chester, Chorlton-upon-Medlock, Lancashire, Beer Retailer—C. Dobson, Wakefield, Wood Turner—J. Dean, Kidderminster, Worcestershire, Victualler—Joseph Fox, Northampton, Beerseller—J. Guy, York, Draper's Assistant John Gittoes, jun., Great Bridge, Staffordshire, Coke Merchant—T. Hall, Newcastle-upon-Tyne, Joiner—E. Harris, Pilgrim Street, Newcastle-upon Tyne, Furniture Broker—J. Hartill, Westbromwich, Staffordshire, Plumber—F. Hale, Linchmere, Sussex, Miller—E. Hughes, Machynlleth, Miller—S. Hirst, Bradford, Yorkshire, Woolstapler—F. Hunt, Leeds, Yorkshire, Dealer in Game—S. Johnson, Waddington, Lincolnshire, Dealer in Skins—S. Kearton, Liverpool, Car Driver—W. Learmouth, Ellington Street, Liverpool Road, Messenger to the Lord Chancellor—C. L. T. Lorrette, Aldermanbury, City, Lithographer—J. Lowe, Branston, Leicestershire, Keeper—H. Lovell, Bugbrooke, Northamptonshire, Innkeeper—J. H. Murphy, Tooley Street, late Dealer in Jewellery—A. Malony, Swansea, Glamorganshire, Labourer—T. Maltby, Selston, Nottinghamshire, Farmer—W. Mead, Linslade, Buckinghamsh., Builder—Samuel Nye, Little Tower Street, City, Licensed Victualler—J. Nicholas, late of Ventnor, Isle of Wight, Greengrocer—J. Platt, jun., Hey, Yorkshire, Wool Carder—Thomas William Tottingham Prescott (known as Thomas William Prescott), Elm Tree Road, St. John's Wood—A. Pilotti, Prince's Street, Hanover Square, Professor of Music—W. H. Petrick, Waverley Road, Harrow Road, Journeyman Plasterer—W. Richardson, Ardwick, Manchester, Wharfinger—J. Roberts, Liverpool, Foreman to a Joiner—T. Steadman, Shoreham, Sussex, Baker—T. Sharp, Colney Hatch, Carpenter—T. Smith, Canterbury, Victualler—J. Sanderson, Mortimer Road, Kingsland, Dressing Case Maker—G. E. Sewell, late of Fitzroy Place, Kentish Town, Manager to a Refreshment House Keeper—J. Staddon, jun., Uxbridge, late Shoemaker—S. F. Smith, Cassington, Oxfordshire, Schoolmaster—W. Smith & J. Smith, Burslem, Staffordshire, Earthenware Manufacturers—L. Stock, Weston-super-Mare, Somerset, Builder—D. S. Southwell, Dudley, Worcestershire, Confectioner—B. Turley, Tipton, Staffordshire, Annealer of Tin Plate Iron—

B. Townend, Pontefract, Yorkshire, Accountant—R. Turley, Awre, Gloucestershire, Beerhouse Keeper—R. Thompson, Boston, Lincolnshire, Corn and Flour Dealer—S. Thomas, Aberdare, Glamorganshire, Licensed Victualler—J. Thompson, Bedlington, Northumberland, Grocer—T. Thomas, St. Bride's Major, Glamorganshire, Cattle Dealer—E. Trasler, Northampton, Shoe Manufacturer—E. J. Turner, Victoria Terrace, New Cross, Accountant—G. Wilson, Newcastle-upon Tyne, Builder—H. A. Wildes, Maidstone, Attorney-at-Law—S. Woodroof, Union Place, Islington, Dealer in Corn.

## Metropolis and its Vicinity.

Utilization of the Metropolitan Sewage.—At the last meeting of the Metropolitan Board of Works Mr. Freeman brought up the following report from the Main Drainage Committee on the several tenders for taking the sewage of the metropolis:—

"Your committee have to report that, in compliance with your resolution of the 10th inst. they have considered the several propositions for taking the sewage of the metropolis which have been made to the Board in reply to their advertisements. They find that nine communications have been received, that none fully comply with the terms of the advertisements, and that three do not make any proposals of the nature of a tender. As the subject is one which has already seriously occupied the attention of your committee, it may be convenient to remind you that in April, 1860, you directed them to prepare a form of advertisement, in answer to which tenders were received and opened on the 6th July, 1860, from Messrs. Townsend, Moore, and Shepherd, expressed in nearly the same terms as their appended communications. The names of the parties who have replied to the recent advertisements are as follows:—Dr. Thudichum, M.D., 2, Pembroke Road, Kensington; Mr. David Curwood, 18, Upper Grosvenor Street: Lord Torrington, Sir Charles Fox, and Mr. Hunt, 8, New Street, Spring Gardens; Mr. John James Moore, 6, Pump Court, Temple: Mr. George Townsend, secretary to the London Sewage Utilization Company (Limited), 18, New Street, Spring Gardens; Mr. George Shepherd; Mr. C. F. Kirkman, 6, Duke Street, Adelphi; Mr. Thomas Ellis, 76, Warwick Square, Belgravia; the Hon. W. Napier, and Mr. Hope. Dr. Thudichum proposes, by a mechanical arrangement, so to separate the house drainage as to retain that which he considers most valuable, and gives a sketch of his closet and drains, and tables of analysis of the constituents of fluid sewage. He estimates the cost of the works for carrying out his process at 1,500,000*l.*, and the net profit at 1,000,000*l.* per annum; of this he proposes that he should receive a percentage, and that one-half of the balance should be paid to the Board, and one-half to the shareholders of a company formed for carrying out the system. Mr. Curwood is not in a position to offer a tender, but suggests the separation of the solid and liquid sewage. Lord Torrington, Sir C. Fox, and Mr. Thornton Hunt regret their inability to comply with the conditions of the advertisement, on the ground of the impolicy of publicly declaring the land with which they propose to deal, but express their willingness to discuss the matter with the Main Drainage Committee, and to enter into a provisional arrangement for prosecuting a Bill in Parliament during the ensuing Session. Of the remaining six, three refer to their previous communications responding to the Board's advertisement, in April, 1860, as embodying the propositions they have to submit; these are Mr. Moore, Mr. Townsend, on behalf of the London Sewage Utilisation Company, and Mr. G. Shepherd. The two first are printed at length at pp. 488-489 of the minutes for 1860. The proposals of the London Sewage Utilisation Company had been previously reported on by the Main Drainage Committee on January, 17, 1860. These were that the Board should grant the company as much sewage as they might require at Barking Creek for two years, at a rent of 5*l.*; that, should the experiment be successful, the Board should at the end of those two years grant a further term of 21 years at the same rent, and, at the end of such term, that the company should pay such rent for such further term as may be agreed between the parties, or as may be determined by the arbitration of the President of the Institute of Civil Engineers or by the Board of Trade. The proposals of Mr. Moore were that the Board should grant the sewage for a term of 90 years, of which the first 14 should be at a peppercorn, and at the expiration of that term one-half the profits, after deducting 10 per cent. interest on the capital invested, or on such reasonable return as the Secretary of State may award, to be paid by the grantees to the Board. In a further communication on the 9th July, 1863, Mr. Moore offers to pay one farthing per ton for every ton of sewage raised by the Board to a height of 200 feet, which, at 80 million gallons daily, would, he estimates, amount to 136,000*l.* per annum. Mr. Moore states that he has already engagements with the occupiers of nearly 60,000 acres for the use of the sewage. Mr. Shepherd, in answer to the Board's advertisement, adheres to the proposals made in his former letters, and states that he shall shortly be in a position to lay before the Board plans for applying the whole of the sewage; that on obtaining a concession he will apply to Parliament for the necessary powers, and asks for a concession of that of the south side first. Mr. Shepherd's letters extend from January, 1860, to the present date, but only two communications are of the nature of tenders. The first, dated the 21st April, 1860, asks for a concession of the whole of the sewage of London for 50 years, and offers to divide with the Board the net profits received by the company, after paying 7½ per cent. on the invested capital; after 50 years the company are to deduct 5 per cent. interest on their capital. The second, dated 4th July, 1860, refers to the former tender, but requests that the concession should be full and free, without let or hindrance, on the part of the Board. There remain three communications, purporting to be tenders, in answer to the Board's advertisement. Mr. Kirkman's embodies a patent, of which he is the patentee, for obtaining manure from sewage by filtration and deposit—the water after such treatment to be discharged into the river. He purposes to erect works for this purpose at Barking, on condition that the Board shall convey to him the necessary land adjoining the reservoir, shall deliver the sewage to him from the main outfall sewer into his work, shall grant him the use of the river frontage and wharves for the term of seven years at a peppercorn, seven years at a rent of one-fifth the net profits, after deducting a dividend of 20 per cent. on the capital expended, and for a further term of seven years at a rent of one-fifth the net profits, after deducting 5*l.* per cent. on the capital, and for any further term at such rate as shall be settled by the Secretary of State. Mr. Kirkman states that he is prepared to guarantee a minimum rent of 10,000*l.* per annum, and he undertakes to name two or more securities for the performance of his contract. He consents also to surrender the works on two years' notice, subject to the repayment of the capital invested, and of a premium of 25*l.* per cent. thereon, and to a royalty of 1*l.* per cent. for the use of his patent. Mr. Ellis proposes to pump the sewage from the Board's reservoir to certain covered tanks, constructed at such points as the Board may approve,* to flow by gravitation through pipes laid along the sides of the roads adjoining the area to be irrigated, which is also to be approved by the Board. Mr. Ellis, on behalf of the Company to be formed, undertakes to provide and use all necessary deodorising agents, and to subject himself in all things to the directions of the Board. He further offers to submit the Act of Incorporation for the Board's approval. The net profits, deducting working and management expenses and reserve-fund, he proposes to divide equally between the company and the Board, and he suggests that three of the directors should be nominated by the Board. The concession of the sewage he requires should be in perpetuity, subject to the Board's power to purchase after 50 years, on giving three years notice, the price to be fixed by valuers chosen jointly. Messrs. Payne, Eddison, and Ford undertake to pay 60,000*l.* to the credit of Mr. Ellis's local trustees, on his obtaining the concession of the sewage on satisfactory terms. Messrs. Napier and Hope propose to intercept the whole of the ordinary flow of the northern sewage, near Abbey Mills, to convey it by a culvert 44 miles in length to Maplin Sands on the one hand, and Dengie Flats on the other. Both these areas are at present submerged at high water, and their redemption is part of the project, extending to 15,000 or 20,000 acres. The capital proposed to be invested is 2,000,000*l.*, the concession of the sewage to be for 50 years, subject to Parliamentary authority being obtained, and to a grant of land from the Crown. The net profits to be divided equally between the company and the Board, after a deduction of 10 per cent. on the outlay. The Board to have the power of resuming the grant of sewage, and taking the whole of the land and works at a valuation at the end of the term of 50 years, on giving seven years' notice, or a new concession to be granted, on terms settled by the Secretary of State. The Board to be represented by two directors of the company. The company to be formed within two years after obtaining Parliamentary powers. The company within three months of its formation to pay into the hands of trustees, chosen jointly, a sum of 25,000*l.* India Five per Cent. Stock (interest to be paid to the company) until three-fourths of the works are complete; the whole to be forfeited to the Board, if the company abandon the enterprise before three-fourths are completed. Your committee have thought it desirable for the information of the Board to append to this report the several tenders which have been from time to time made to the Board for taking the sewage of the metropolis, together with supplementary documents and explanations of such tenders, and your committee have also included in the appendix other communications which have been addressed to the Board on the question of the sewage."

Mr. Freeman said the question involved very extensive considerations, from the magnitude of the interests concerned. It was a subject that ought to be deliberated upon by a committee of the whole Board. He therefore moved that the report and all documents connected with the subject be printed, and sent to all the vestries in the metropolis. Mr. Richardson seconded the motion. Mr. Newton asked whether the documents were very voluminous. The Chairman said they were very voluminous. Mr. R. Taylor suggested that they should be printed and a price put upon them, because there were many persons who would like to have a copy of them, and if they could purchase them from the printer he believed the sale of them would be very great. The Chairman said it was the intention of the Board to fix a price upon them. Ten copies would be sent to each vestry, and one to each person tendering, and if they required any more they could purchase them from the printer. The motion was then agreed to.

City Traffic Regulation Act.—The Act passed at the instance of the corporation of London, towards the end of last Session of Parliament, for regulating the traffic in the streets of the city and for preventing obstructions, recites in its preamble that it is expedient to make better provision for the regulation of omnibuses, cabs, carriages, carts, and other vehicles passing through the streets of the city or its liberties, so as to prevent obstruction and enable the increasing traffic to be conducted with less delay and in a safer manner. With that view the Act empowers the Court of Aldermen to make from time to time such by-laws and regulations as they may think necessary, and these are to apply to three principal subjects. First, the Aldermen may prescribe the routes to be followed and the particular streets or parts of streets to be used by omnibuses, cabs, and vans; secondly, the height and width to which the heavier vehicles, such as carts, waggons, and drays, for the conveyance of goods, wares, and merchandise, using the streets of the city between 9 in the morning and 6 in the evening, may be laden; and, thirdly, they may determine the period of the day or night during which carts, waggons, or other vehicles wholly or partially laden with timber, metal, or any other material exceeding 25 feet in length or 8 feet 6 inches in breadth, may be allowed to pass or be prohibited from passing. The Court of Aldermen is also empowered to regulate the mode of distinguishing hackney cabs when empty and when actually plying for hire; the time of day during which coals may be shot into cellars through openings in the streets; and to appoint places at which street shoeblacks may stand to exercise their calling, and to determine the number of such shoeblacks at each place. The by-laws may at any time be varied, altered, or repealed, but not in a manner repugnant to the general laws of the kingdom or to the provisions of this particular Act. They are also to be enforced by penalties not exceeding 40*s.* for each offence, with the alternative of a term of imprisonment. For purposes of the Act and the recovery of penalties certain provisions of the City of London Police Act are incorporated, and are to be read as if re-enacted. A right of appeal is given, or rather an existing one in like cases continued, to a superior court. No by-law or alteration in a by-law is to come into operation until one month after its approval under the hand of one of Her Majesty's principal Secretaries of State; nor shall any by-law or alteration be submitted for such approval until one month after the intention to apply for the approval shall have been publicly notified by advertisement. The by-laws, when so settled and approved, are to be posted in a conspicuous manner on the Mansion House, the Royal Exchange, Guildhall, Temple Bar, the Custom House, and the General Post Office, St. Martins-le-Grand. The Act is to continue in force for seven years after its passing, and thence to the end of the then next Session of Parliament, and the expenses of obtaining it are to be borne out of the city police rate.

The Oratorians at Brompton.—The debate which took place in the House of Commons on the day before the prorogation, in which Mr. Monsell and Sir George Bowyer defended the Oratorians at Brompton from the censures by Mr. Newdegate, who charged them with interfering in the concerns of families, has called forth the following letter from Mr. J. Harrison, of Park Place, Regent's Park:—

"My youngest son was the captain of Westminster School in 1861. On Sunday, the 3d March, he was taken by a young friend to see over the Oratory. Before that day he had never in his life spoken to a Roman Catholic Priest. He was introduced to Mr. Bowden about one o'clock, and was baptised by him the same night at nine o'clock, with the knowledge and consent of Mr. Faber, the Father Superior, for the express purpose of preventing any interposition of my parental authority. Had this most distressing event never occurred my son would, in the course of a few weeks, have been elected to a junior studentship of Christ Church, Oxford. Thus, in a few hours, he lost his position at Westminster and all his future prospects at the university. I was at a loss how to provide for him, but recollecting that he had once expressed a wish of rejoining in India a brother to whom he was greatly attached, I directed my daughter to tell him that if he still retained any desire to compete for an Indian appointment I would enter him at one of the halls at Oxford, where he might not only take a degree, as his brother had done, but also have the advantage of studying the Oriental languages with the professors. He seemed grateful for the offer, and I expected that he would accept it. But here again my wishes were thwarted by the interference of these Oratorians. They commenced a correspondence with my son, and offered him, as I was told, 100*l.* per annum if he liked to join the Oratory. As his health was very indifferent I sent him to spend a month at the seaside with a relative. I purposely kept him short of money in order that he might not go to the Oratory without my knowledge. But here, again, I found that Mr. Faber had interfered in my family arrangements. My son wrote to me for money, but at the same time told me that if I did not send him any Mr. Faber had lent him 3*l.* Mr. Faber, in a letter, says it was a gift. Be that as it may, my son thus became independent of my control, and went to the Oratory before the time fixed for the end of his visit, when I had intended to remove him to my house. As soon as I heard that he was in the Oratory, and was about to become a postulant at the early age of 18½ years, I wrote to remonstrate with Mr. Faber, most strongly forbidding any such step, and expressing my amazement at his encouragement of so flagrant a breach of the fifth commandment. But all that I could say was of no avail. My son, with the aid and sanction of Mr. Faber, set me completely at defiance, and has continued to reside in the Oratory ever since. I cannot venture at present to trespass any longer on your indulgence. I think the hurried baptism at nine o'clock at night, and that, too, with the knowledge and sanction of the Father Superior—to say nothing of their subsequent unjustifiable interference with a father's rights—are quite sufficient to qualify the excessive praise lavished on the Oratorians by Mr. Monsell and Sir G. Bowyer in the House of Commons."

Accident at a Volunteer Prize Meeting.—On Tuesday the proceedings connected with the annual prize meeting of the St. George's Rifles at the Wormwood Scrubs rifle ranges were brought to a melancholy close by an accident that befell the commanding officer, Lieut.-Colonel the Hon. C. H. Lindsay, while competing with the other officers for a Lansdowne revolver pistol, presented by Lieutenant Hawkins. The prize was being shot for with revolver pistols, and a competitor, who was standing close to Colonel Lindsay, had fired a shot, when the next chamber of the pistol exploded, and the ball passed obliquely through one of Colonel Lindsay's legs. A surgeon was speedily in attendance, and the colonel was taken to his residence in his carriage, which was fortunately at hand. It is understood that the occurrence was purely accidental, and that Colonel Lindsay is progressing as favourably as possible.

Departure of M. du Chaillu.—This celebrated traveller left St. Katherine's Docks in the ship Mentor, a few days since, for Africa. He took with him a complete photographic apparatus, for the purpose of taking views, portraits of animals, &c., having previously received lessons in the art of photography from Mr. H. Claudet, who has taught him his newly discovered quick process, by which means moving objects can be transmitted to paper.

The Theatres in Holy Week.—A deputation from the English Church Union waited upon the Archbishop of Canterbury a few days since on the subject of the opening of theatres to which licences are granted by the Lord Chamberlain in the *Holy Week*. The Hon. Colin Lindsay, president of the Union, said that he and the members of the deputation had waited upon his Grace to present a memorial, which bore 1500 signatures, including those of 15 bishops, 8 deans, 15 archdeacons, a great number of beneficed clergy, peers, and members of the House of Commons. It was as follows

"To his Grace the Archbishop of Canterbury.—We, the undersigned members of the Church of England, approach your Grace with all the respect due to your office, and beg to represent to you the strong feeling entertained by us with respect to the opening of theatres in Holy (or Passion) Week. Your Grace is well aware that until within the last 26 years it was the custom to close the theatres on the Wednesdays and Fridays in Lent, as well as during the last week in Lent. This rule having been relaxed, the year before last the present Lord Chamberlain made a further relaxation, and allowed the theatres to be opened during Holy (or Passion) Week, for the first time during the Lent of 1862. A very influential deputation waited upon his lordship to remonstrate with him upon the proposed desecration of that most holy season. He replied that it was then too late to insert the prohibition clauses in the licences which had been issued to the managers of the theatres. In the ensuing autumn, therefore—i.e., of 1862, it was arranged that another deputation, to be introduced by

* Mr. Ellis has addressed a letter to the daily papers, stating that this is an incorrect description of his plan, in which he says he proposes to "pump the sewage into a summit-regulating reservoir on either side of the Thames, placed on hills of sufficient elevation to enable him to command, by gravitation, the area to be dealt with."

the Duke of Marlborough, should wait upon the Lord Chamberlain before the granting of the new licences. His lordship's health was in too delicate a state to receive the deputation; but a memorial very influentially and numerously signed, including the names of your Grace, twelve bishops, and other dignitaries of the Church, and also several members of both Houses of Parliament, was presented to the Hon. Spencer Ponsonby, who acted on behalf of the Lord Chamberlain. But again, in spite of all these respectful though earnest remonstrances, the Lord Chamberlain has maintained his own course, which tends, as we believe, to the profanation of that most holy season when all Christians should be commemorating the Death and Passion of our Redeemer. It would be as presumptuous on our part to urge upon your Grace any reasons for the due celebration of that week, as it would be unnecessary to expose the weakness and fallacy of the arguments put forward to defend the desecration of that season. But we humbly and most earnestly entreat your Grace to use all your influence with the Lord Chamberlain, and, if that be ineffectual, with her Majesty the Queen herself, to have re-inserted (in the licences about to be issued in the course of the autumn to the managers of the metropolitan theatres) the ancient clause prohibiting them from opening those theatres under the Lord Chamberlain's jurisdiction during the last week of the next Lent. We are your Grace's most humble and faithful servants."

Mr. Lindsay said the Archbishop of York would have signed the memorial, but his Grace thought it did not go far enough. The Archbishop asked in what sense. Mr. Lindsay said the Archbishop of York thought that theatres ought to be closed on other days than those contemplated by the memorialists. The Bishop of London would also have signed it had it not been that his Lordship thought he could act in the matter more efficiently on his own behalf as bishop of the diocess in which the theatres alluded to were situate. The Archbishop of Canterbury having received the memorial, and run his eye over the numerous signatures appended to it, said,—"I need not say, gentlemen, how entirely I deprecate the opening of her Majesty's theatres during the Holy Week. I have already testified my earnest desire that they should not be opened by having signed a similar memorial. Certainly, any influence I possess I shall be glad to use in the same direction. I will not pledge myself to the precise mode, but I will pay the most respectful attention to the memorial, and will communicate with the Lord Chamberlain on the subject. Beyond that I will not say anything, but I have the matter very much at heart, and I will do all I can to prevent the recurrence of that of which you complain. I will give my best attention to the matter during the year."

LANCASHIRE RELIEF FUND.—At the fortnightly meeting of the Mansion House Committee on Friday, the report stated that the total amount of subscriptions to the previous day had been 508,516*l.*, of which 1249*l.* had accrued as interest on the reserve fund. During the fortnight 1248*l.* had been received in subscriptions, and the available balance at the disposal of the committee amounted to 74,450*l.* Out of this sum grants were voted to the amount of 3315*l.* Letters were read, showing the extent to which emigration is going on from the cotton districts. From these it appeared that the Victoria (Australia) Emigrants Assistance Society, of which Mr. Hugh Childers, M.P., is Chairman, sent out on May 20, 50 married couples, with their children, or 200 people in all, from Liverpool, by the ship Southern Ocean; on May 21, 30 married couples, by the Queen of the South; and on the 6th June 100 single women, by the ship Robert Small, from Southampton. Besides these, 220 adults will leave Liverpool on the 15th inst., by the ship Landsborough, and 180 early in September. The Manchester Emigrants' Aid Committee have sent to Canada 148 statute adults at a total cost of 863*l.*, of which 500*l.* had been contributed by the Mansion House Committee. They have also made a grant of 2*l.* a head for 50 statute adults from Blackburn to Canada, and are now arranging to forward 50 families (equal to 125 statute adults) and 75 single women to Victoria (Australia), at a cost of 7*l.* 10*s.* per statute adult, or 1500*l.* The Blackburn Emigration Committee have sent to Canada 62 statute adults. The Manchester Operatives' Emigration Society have made arrangements for sending to Queensland 50 adults from among the overlookers, the Mansion House Committee contributing 100*l.* towards their passage-money and outfit. Another society at Manchester sent off 24 persons to Queensland from Plymouth on the 7th of July, and they will forward about 30 more for the same destination from Queenstown on the 17th inst.

BERMONDSEY PARK.—At the meeting of the Board of Works last week Mr. Le Breton brought up the report of the Streets Committee, recommending that the letter from the Bermondsey Vestry be referred back to the committee, with instructions to negotiate for a suitable site, not exceeding 40 acres, for a park for the district of Bermondsey, and to report the same to the Board. He moved the adoption of the report. Mr. Brooker moved as an amendment that the question be deferred for three months, which was seconded by Mr. D'Iffanger. After a discussion, the amendment was negatived by a majority of 7 to 13.

CHARGE OF RECRUITING FOR THE POLISH ARMY.—On Tuesday Mr. Alfred Styles, a young man, about 21 years of age, was brought up by warrant at Bow Street, charged before the chief magistrate with having "unlawfully attempted, and endeavoured to procure certain persons to enlist, serve, and to be employed as soldiers in the service and aid of certain foreign people—to wit, to assist the Poles, who are now in arms against and opposed to his Imperial Majesty the Emperor of Russia." The charge was preferred by Messrs. William and Henry Sharp, the agents of the Russian Government in this country. The evidence clearly proved that an attempt had been making in the metropolis to form an Anglo-Polish legion, and that the defendant, who had served under Garibaldi, had been acting as recruiting agent. Mr. Hall, the chief magistrate, said that the offence was within the Act, which was intended to embrace any enlistment for a "foreign service." He therefore remanded the defendant, and fixed the bail at 400*l.* and two sureties in 200*l.* each, or four in 100*l.* each.

MURDER AND SUICIDE IN BETHNAL GREEN.—On Wednesday morning a shocking case of murder and suicide took place in Globe Street, Globe Road, Bethnal Green. A Spitalfields weaver, named James Dupey, occupied a small house in that street, with his wife and three children. The family went to bed about 11 o'clock, and about midnight the children and some of the neighbours were alarmed by cries of murder from Mrs. Dupey. It was found that her throat was cut in so shocking a manner that death took place almost immediately. The husband rushed out of the house towards Victoria Park, where it was afterwards found that he had cut his own throat and then flung himself into the Regent's Canal, where his body was found in the course of the morning. At the inquest on Thursday it appeared from the evidence that there were three children living at home with the deceased, but that the whole family were in great distress, and had recently applied for parish relief, which was afforded them. The jury returned a verdict ascribing the murder and suicide to insanity.

STABBING IN THE KINGSLAND ROAD.—A fatal case of stabbing took place in the Kingsland Road on Saturday week. A man named Burke, who had been living a wretched life with a woman named Perry, had a more violent quarrel with her than usual, and attempted to turn her out of the house. She immediately snatched up a dinner-knife and stabbed him in the thigh. The man ran out into the street, and before medical aid could be procured he died from loss of blood. The jury at the inquest returned a verdict of Manslaughter against her.

ALLEGED MURDER IN LAMBETH.—An inquest was held on Wednesday on the body of a woman called Ann Griffin, who was found dead in a house in Lambeth, and was said to have died from injuries inflicted by a man called George Bagent, with whom she had been living. He was seen to strike and kick her in a shocking manner, and there was some suspicion of her having taken poison, but the *post mortem* examination effectually disproved this suspicion, and showed that death had been caused by a fractured rib which penetrated the lungs. The jury returned a verdict of Manslaughter against Bagent, who was committed to Newgate for trial.

THE ISLINGTON MURDER.—The coroner's inquest on the body of the little girl found buried in the nursery-garden at Islington was resumed on Friday. It will be remembered that a young man named Clarke was in custody for the murder, but the solicitor appointed by the Treasury to conduct the prosecution before the police magistrate abandoned the charge of murder, and determined to proceed against him for an indecent assault on other girls. The evidence before the coroner could not be carried farther than that before the magistrate, and the jury in consequence returned a verdict of Wilful Murder against some person unknown.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended August 1st, were 1402. The average number in the 10 corresponding weeks of the years 1853-62, corrected for increase of population, was 1252. The present return is therefore 150 above the average. During the week the births of 919 boys and 853 girls, in all 1772 children, were registered in London. In the corresponding weeks of the years 1853-62 the average number was 1797.

## Provincial.

APPLEBY.—The sentence of death passed upon Agnes Pattinson, at the late Westmoreland assizes, for the murder of her infant, has been commuted to penal servitude for life, on the recommendation of Mr. Justice Mellor, before whom she was tried.

BIRMINGHAM.—On Sunday morning a fatal affray occurred in Bissel Street, in which a man named Thomas Jefferson, a brassfounder, aged 32, was killed. It appears that he lived within a few doors of a man called George Hignett, a tobacco manufacturer; a powerfully made man, known for his quarrelsome disposition. On Sunday morning he was illusing his wife in front of his house. The neighbours hearing the woman's screams, went out to interpose, and among them was the deceased Jefferson. An altercation between him and Hignett took place, in the course of which the latter said that if the other interfered he would "make it warm for him." Notwithstanding this threat Jefferson approached Hignett, who ran into the house for a poker, with which he struck Jefferson on the skull, and felled him to the ground. The man was carried to the hospital, but died soon afterwards. Hignett was taken into custody in his own house, and said that deceased should not have interfered with him when he had been drinking. The deceased has left a widow and three children. At the inquest on Tuesday the evidence showed that deceased had been drinking, and was about to strike the prisoner, who hit him with the poker. The jury returned a verdict of Manslaughter against the prisoner, who was committed for trial at the assizes.

HALIFAX.—The Princess of Wales has presented Mrs. Crossley, the wife of the mayor of this town, with a diamond bracelet, as a slight *souvenir* of the Prince of Wales's very agreeable visit to Halifax. A letter has also been written by command of the Prince to the mayor, expressing his high satisfaction with his visit.

IPSWICH.—On Saturday the Postmaster-General offered a reward of 50*l.* for the recovery of the Ipswich registered letter-bag, containing bank-notes, bankers' bills, and other property, which disappeared in its transit to St. Martin's-le-Grand one night last week in a mysterious manner. It is customary to place the registered letter-bag within the large bag, and during the journey up it is removed and placed on a shelf in the mail van while the other letters are sorted. This was done as usual, and the small bag was then replaced. On arriving at the General Post Office the registered bag was not to be found, and nothing has yet been heard of it, though every effort is making to recover the bag or to obtain information as to the way in which its contents have been disposed of. The inquiries at the office for the registered letters have been numerous during the week, and it is rumoured that some of the notes have already made their appearance in the City.

LIVERPOOL.—The Great Eastern is again on her way across the Atlantic. She left the Mersey on Tuesday morning for New York, in the presence of large numbers of people, who crowded both sides of the river to see her off. She took out a large cargo and 900 passengers from this port; and at Queenstown it was understood that she would take on board about 200 more.

MANCHESTER.—At the meeting of the Central Executive Committee on Monday, the Earl of Derby in the chair, the report stated that there was a balance in the bank of 317,168*l.* 1*s.* 10*d.*, and that 1373*l.* 5*s.* 8*d.* had been received during the week. Mr. Commissioner Farnall's weekly report stated that the utmost point of improvement has been turned, and that on the 1st inst. there was an increase of 1299 persons in the 27 unions receiving parochial relief. Grants were made to 14 places to the amount of 2455*l.* A long discussion ensued as to the probable effect of certain clauses of the Public Works Bill on the employment of factory operatives. Lord Egerton, of Tatton, said it would be interesting to know whether in granting money to boards of guardians for public works Government would make any condition as to the remuneration to be given to those who were employed with it; that is to say, whether men were to be allowed to receive a fair week's wage for a fair week's work, or merely such a sum per hour or day as would simply suffice to keep body and soul together. Mr. Farnall said there was nothing in the enactment compelling local authorities who might be established to carry out these public works to pay any particular amount of wages neither was it incumbent on them to employ factory operatives. The Bill throughout was permissive. He had seen and conferred with nearly 300 of these local authorities for carrying out the works, and Mr. Rawlinson would justify him in stating that there was every reason to expect that in the whole of the places represented by them the entire provisions of the Act would be received, and that a very large sum of money would be applied for in order to set the class referred to upon work. With respect to the question put by Lord Egerton, he believed that in all the places which they had visited the payment would be made upon a measurement of the work, so that each man would receive the same rate of remuneration as could be earned by any independent labourer. Lord Egerton said he had recently visited a considerable number of the Stockport operatives who were employed by himself in out-door work during the whole of the winter, and he was astonished at the extraordinary improvement which had taken place in their appearance. They looked better and stronger in every way, and in reply to his inquiries, they declared that they were up to any kind of work. Sir J. Kay Shuttleworth said the question raised by Lord Egerton was most important. Under the 14th clause of the Bill the guardians, it was clear, had superadded to their ordinary functions that of which there was a faint shadow in the Nuisances Removal Act, but which was totally distinct from the relief of the poor, namely, the function of undertaking public works. It was most essential that this distinction should be kept in view, or otherwise great confusion and mischief might arise. He understood Lord Egerton to imply that a board of guardians when employing a man upon public works ought not to consider him a pauper receiving relief, but as a man working for wages. Unless that were so they might be introducing a system of employing indigence on public works similar to that adopted at Paris, which was a thing utterly unknown in this country heretofore. Lord Egerton said it did appear most desirable that where money was borrowed from Government under the powers of the Act, whether for expenditure by guardians in out townships or by relief committees, there should be a clear understanding that the money was to be applied to the intended purpose, namely—the employment of the distressed people upon a fair

system of wages for work. Sir J. Kay-Shuttleworth inquired of Mr. Rawlinson what rules Boards of Guardians, applying for this form of aid for public works in localities having no local government board, would be required to observe with regard to its application. Mr. Rawlinson replied that the requirements laid down would be similar to those exercised under the Public Health Act, and in the first instance under the Local Government Act. He was happy to inform the committee that a *boná fide* application had already gone up from Preston for something like 50,000*l.* At Blackburn it was resolved to apply for about 75,000*l.*, and that was merely a first instalment. He knew also that application would be made from Wigan for 35,000*l.*; from Bolton, for 50,000*l.*; from Stockport, for 50,000*l.*; from Oldham, for 50,000*l.*; from Ashton, for about 30,000*l.*; from Bromley, for 30,000*l.*; from Glossop, for 8000*l.*; from Denton, for 3000*l.*; from Dukinfield, for 8000*l.*; and from Rochdale, for 30,000*l.* These were small items; but he had no doubt about the whole million and a half being applied for before the middle of autumn. Then as to the requirement that the Poor-law Board would make. First, all the applicants for loans would be required to state to them the population of the district, the present rateable value, the local debt, if any, the income arising from any portion of that debt, also a distinct account of what they wished to do with the money, under separate heads, whether for public or private improvements. The money would be advanced by instalments, and the Board could then get monthly or quarterly returns of the number of men employed, the number of distressed operatives included in them, what they were doing, and whether paid by piece-work, the rate of pay, and the men's earnings. In reply to the Earl of Derby, Mr. Farnall said he had everywhere distinctly stated it would be requisite that these people should be treated as independent labourers and struck off the list of the guardians and relief committees. In reply to the Mayor of Manchester, Mr. Rawlinson stated that the first object of the Government was to give a certain amount of relief in the execution of sanitary works and town improvements. It was his duty to lay fully before the Government all the details of the several kinds of work, and it would be a breach of faith on the part of any corporation if they were to apply for a large sum of money for paving the streets, and employ skilled labour to the utmost extent necessary on the work; but they would be expected, though not compelled, to use unskilled labour for everything that it was capable of performing. Even in work of that description he could say, from personal knowledge, that the lowest estimate of unskilled labour which might be made available was from 18 to 25 per cent.

Newcastle-on-Tyne.—The 33d annual meeting of the British Association for the advancement of Science will commence in this town, on Wednesday, the 26th inst., when the first general meeting will be held in the Town Hall, and the Rev. Robert Willis will resign the chair, after which Sir William Armstrong will assume the presidency and deliver his inaugural address. The local executive, and general committees in Newcastle are making ample preparations for the meeting, and the members from a distance will be entertained with unbounded hospitality by the people of this district. The following is the programme of the proceedings:—Thursday, Aug. 27.—Section committee meetings, at 10 p.m.—Section meetings, at 11 a.m.—Exhibition and Soirée, in Central Exchange News Rooms, at 8 30 p.m. Aug. 28.—Gun Experiments at Whitley, by Sir W. G. Armstrong, at 9 a.m.—Section committee meetings at 10 a.m.—Section meetings, at 11 a.m.—Evening lecture, in the New Town Hall, at 8.30 p.m. Aug. 29.—Section committee meetings, at 10 a.m.—Sections meeting, at 11 a.m.—Excursion to Canobie, Riccarton, and Kielder, under the guidance of the Northern Mining Institute.—Excursion to Sunderland.—Excursion to Crag Lough, under the guidance of the Tyneside Naturalists' Field Club. Aug. 31.—Section committee meetings at 10 a.m.—Section meetings, at 11 a.m.—General committee, at 3 p.m., at Literary and Philosophical Society.—Microscopic Soirée, in Central Exchange News-room, at 8.30 p.m. Sept. 1.—Section committee meeting, at 10 a.m.—Section meetings, at 11 a.m.—Evening lecture, in the New Town-hall, at 8.30 p.m. Sept. 2.—General committee, at 3 p.m., at Literary and Philosophical Society's Rooms.—Concluding general meeting, at 3 p.m., in the New Town-hall. Sept. 3.—Excursion to Cleveland to see the iron-works and iron mines.—Excursion to Allenheads to see Mr. Beaumont's lead mines.—Excursion to Marsden Rocks and South Shields. The following gentlemen have been chosen presidents of sections:—Mathematical and Physical Science, Professor Rankin, C.E., LL.D., F.R.S., Professor of Engineering in the University of Glasgow; Chemical Science, Professor Williamson, Ph. D., F.R.S., Professor of Chemistry in University College, London; Geology, Professor W. W. Smyth, M.A., F.R.S., F.G.S., Professor of Mining and Mineralogy at the Royal School of Mines, London; Zoology and Botany, including Physiology, Professor Balfour, M.D., Professor of Botany in the University of Edinburgh; Geography and Ethnology, Sir R. I. Murchison, K.C.B.; Economic Science and Statistics, Mr. W. Tite, M.P., F.R.S.; Mechanical Science, Professor Willis, of Cambridge. Among the more interesting features of the meeting will be the reading of papers descriptive of the great branches of industry in the district, such as coal mining, the glass and iron trades, iron ship-building, &c.; and the excursions to the iron district of Cleveland; to the lead mines of Mr. Beaumont, M.P., at Allenheads; to the Northumberland lakes and the Roman wall; to South Shields, Sunderland, and to Seaton Delaval and other large collieries in the district. There will be an extensive exhibition of works of art and science in the Central Exchange News-room, the Mayor of Newcastle will give a grand concert, and there will be several balls and other gaieties during the week of the meeting. Sir William Armstrong will also make several great gun experiments on Whitley Sands on one of the days of the meeting.

Nottingham.—At the Shire Hall, on the 6th inst., a young man about 20 years of age, named Bennett Carnell, was brought before Lord Belper and the sitting magistrates, charged with shooting a child named Elizabeth Oldham, three years old. It appeared from the evidence that on the previous evening at half-past 6 o'clock the prisoner was shooting birds with an air-gun from the window of his mother's house, at Beeston, four miles from this town, and the deceased was playing with other children in a garden about 20 yards from him. He continued shooting for some time, when a bullet from his gun struck deceased on the head, and caused her death in a few minutes. The prisoner was apprehended and remanded. The jury at the inquest returned a verdict of Manslaughter against the prisoner, who was committed for trial at the next assizes.

Portsmouth.—Some interesting experiments have been carried out in this dockyard during the last two months, in order to test the efficiency of "Brown's patent vitreous sheathing," for the preservation of the bottoms of iron ships from oxidation, and also from fouling. It has been applied to her Majesty's ships Resistance and Warrior, which are now afloat, and Messrs. H. J. Hall & Co., of London, the proprietors, have just finished the coating of the Hector, which was severely tested last week in the presence of the full Board of the Admiralty, and of Mr. Reed, chief constructor, Mr. Craddock, master shipwright, and the whole staff of the yard. Their lordships, having some doubt as to the adhesive qualities of the material by which the glazed plates are attached, gave orders that one of the most powerful shores should be placed against the plates and wedged up. When removed the plates were as perfect as before the test; but not being yet satisfied, the controller ordered the shores to be again applied, and with the same satisfactory result. It would appear from these experiments that a successful protection has at last been discovered for iron ships, as Messrs. Hall have in their offices a plate that has been on the Peninsular and Oriental Company's steam-ship Ellora for two voyages, and was found, when removed, to be perfectly clean. The Emperor of the French has ordered a similar trial to be made at Cherbourg on one or more of his iron-plated vessels, having been favourably impressed with the accounts of the invention.

Ryde.—The regatta of the Royal Victoria Yacht Club commenced on Tuesday, and was numerously attended. There was a very exciting race between the Syren, Audax, Marina, Christabel, and Crusader cutters for a prize of 50*l.* The Audax was the winner, beating the Marina by six minutes. On Wednesday there was a private match between Mr. Weld's English schooner Alarm, and the American schooner yacht Gipsy, in which the Alarm beat her opponent by nine minutes. During the day all the yachts of the Club got under weigh by signal from the Commodore and manœuvred at Spithead in two divisions, forming a spectacle that will not be easily forgotten by any who witnessed it. Fifteen schooners, 13 cutters, six yawls, and two screw steamers passed in procession by the pier in all the glory of well-kept hulls, snow-white canvas, and coloured flags. The match to Cherbourg, for a plate value 100 guineas, on the 18th inst., is exciting much attention, and the mayor and the military of Cherbourg have invited the members of the Club to a grand ball at the Hotel de Ville on the evening of the race.

Windsor.—The Peterhead papers state that a stone has been successfully cut from the Cairngall Granite Quarry which is to form a tomb for Prince Albert—on a smaller scale, but on the same principle as the tomb of Napoleon at Paris, being placed on the floor of the vault, and not underground. The stone is 10 feet long, by about seven broad, and three and a half deep; and is to be cut into a sarcophagus, to rest on a pedestal. Two cysts are to be cut in the stone for the insertion of coffins and lids left to be cemented down. The body of the late Prince is to occupy one cyst; and it is said to be the express wish of her Majesty that her own remains shall be deposited in the other. The obtaining of this stone has been a work of extreme difficulty—one or two blocks having been rejected for flaws. The stone weighs above 18 tons.

## Ireland.

The Irish Relief Fund.—The Central Committee for the Relief of the Distress in Ireland has been dissolved, in consequence of the exhaustion of its funds. The Lord Mayor said that before the meeting broke up he wished to remind the people of Ireland, that they contributed 20,000*l.* for the relief of distress in Lancashire, of whose extent and reality they had no doubt, while out of a total of 22,764*l.* received by the Central Committee for the Relief of Irish Distress, upwards of 20,000*l.* came from the United States, and the people of Ireland only contributed 2457*l.*

Great Libel Case.—A libel case of some importance has been on trial before Mr. Justice Hayes, at the Antrim assizes. The plaintiff was the Mayor of Belfast, and the defendant was Mr. John Rea, a man of great eccentricity, who has kept Belfast in a state of turmoil for many years. The libel consisted of charges made by Mr. Rea against the mayor during discussions in the corporation, conspiracy and perjury forming the least serious. He conducted his own case; and among the witnesses whom he summoned for the defence were Sir Hugh Cairns, ex-Chancellor Napier, and other official personages. After occupying the Court for 11 days, the case terminated in a verdict for the plaintiff on all the issues, in consequence of the course pursued by the defendant, who endeavoured, during his examination of witnesses, to support his charges against the mayor by putting irrelevant questions to them. This led to frequent collisions between him and the judge, who was often engaged for hours in preventing the repetition of the libels by questions asked for that purpose, and at last ordered down every witness as soon as Mr. Rea began to abuse the time and patience of the court. Mr. Rea then retired from his defence, alleging that he was not being legally or justly treated. On the jury giving in their verdict, Mr. Rea said, "I am very glad of it." It is understood that he will do all he can to prevent the verdict being carried into effect by appeals. Sentence has not been pronounced on him, the case being on issue from the Queen's Bench.

The New Ross Murder.—Joseph Kelly, who was found guilty at the recent assizes of the murder of Michael Fitzhenry, a national schoolmaster, near New Ross, was hung on Tuesday morning in front of the gaol at Wexford, in the presence of a large number of persons from the surrounding country. He died penitent, and made a full confession of his guilt.

## Scotland.

Discovery of Norse Remains in Orkney.—A most interesting discovery has been made in Westray by Mr. Farrer, M.P., who in his researches has found what appear to be the unmistakeable remains of a mailed Norse warrior and his horse. The *Orkney Herald* in describing this discovery, says that the labourers engaged in removing sand from the lower part of the Links, east of Pierowall, in Westray, with a view to ascertain whether any graves yet remained undisturbed, discovered portions of the skeleton of a small horse, a fragment of the lower jaw of a human being, in which were three teeth in good preservation, together with pieces of iron very much corroded, two iron buckles, several large nail heads, and the half of what appeared to have been a bone button. The oak wood to which the iron had been attached is in most instances as hard as the iron itself. From the position in which the human jaw was found, it seems probable that the horse and rider had fallen at the same moment. There was no appearance of any grave. The skeletons had obviously been left to decay where they fell, and the discovery of some pieces of iron a few yards further off suggests the probability of the bodies having been pulled to pieces by dogs or birds of prey. A piece of bone, possibly the wrist-bone, adhered to the larger of the two buckles, but it crumbled away on being touched. The size of the nails and weight of the iron render it doubtful whether the whole could have formed a shield, and it is not impossible that some of these iron relics may have belonged to the horse trappings. Sand had drifted over the remains, but there was no appearance of artificial interment. The horse was probably unshod; the horny parts of the hoofs had disappeared, but the bone beneath was in good preservation. No portion of iron was found near the hoofs. The skull of the horse was almost entirely decomposed. The sand covering the remains varied in depth from 2 to 3 feet. There is a tradition in Westray of a battle having been fought between the old inhabitants and the Norsemen at the place where the remains were found.

Interesting Discovery in Argyleshire.—A cavern similar to those found in England and on the Continent, containing osseous remains of men and of lower animals, has lately been discovered on the property of Mr. John Malcolm, of Poltalloch. By the liberality of that gentleman, says the *Glasgow Herald*, the cavern has been fully explored, and its contents carefully collected by the Rev. Messrs. Mapleton and Macbride. These contents consist of the remains of men, of other animals, and shells of edible shell-fish. The only article of manufacture found in it was a small celt, a flint flake; and the only domestic utensil was a scallop shell, or *pecten maximus*—the shell used by the ancient Celts as a drinking vessel. The cavern was evidently used as a place of residence, for beneath the cave stuff, or *débris*, were found ashes, bits of charred wood, and bones, a flint pebble for striking fire, and stones, which, from their form and position, seemed to have served for seats. When first discovered, the human remains were supposed to have been those of persons who had fled there for shelter when the adjacent country was laid waste by fire and sword during the ruthless raid of Alister M'Coll Citto. The absence, however, of metal weapons and culinary

vessels—both which were of universal use in the days of this scourge of Argyleshire, and which undoubtedly would have been conveyed by the refugees to their place of concealment—and the presence of celts and scallop shells seem to disprove this opinion, and to point to a much higher antiquity for its inhabitants. What seems to confirm this opinion is the fact that many of the bones, teeth, and shells are as firmly imbedded in a calcareous matrix as are the fossil remains in the lias and carboniferous limestone. Mr. Macbride is engaged in examining its contents and preparing a report on the subject.

EXTRAORDINARY SCENE AT THE NESS SALMON FISHERIES.—The *Inverness Courier* records a strange scene which occurred a few days ago at the Ness salmon fisheries:—Hundreds of fish came surging up in shoals, and wriggled with difficulty over the fords. Troops of boys lunged after them through the shallows, pelting them, driving them back, and causing consternation among the poor fish. On the ford below Holm Mills a monster salmon showed himself leading up a great shoal of lesser fish. His dimensions as he splashed about in the shallow water, turning on his deep silvery side to lessen the difficulty of finding water, could not escape notice, and two or three lads rushed into the water to give chase. He tried hard to effect the ascent, and his followers for a moment remained quiet to watch the result. But the boys were too active for him, and he turned down the stream, never halting till he found himself safe in Macintyre's Pool. His followers were scattered, some rushing to the right and some to the left, the greater part finding their way upwards, but many returning to the safe haven they had so recently left. All this time the river had not undergone the slightest change, but was lower and clearer than it had been almost in the memory of man; not a drop of rain had fallen for weeks; but a change was impending, and it is presumed that the salmon knew it. Within 24 hours thunder-showers were pouring down torrents on the hills of Glengarry and Loch Ness, and no doubt the fish were impatient for the slightest hint that up stream there would shortly be water enough to cover them.

## Railways.

THE METROPOLITAN.—The working of this line by the Great Western Company having ceased on Monday evening, the traffic was worked on Tuesday morning by the Great Northern Company on the narrow-gauge rails. As this gauge was not in such good order as the broad gauge, and in fact was now worked for the first time, great inconvenience to the public was occasioned by delays in the trains. At King's-cross station such was the state of things that the clerks declined at one period to take money from intending passengers, and refused to return money to persons who had paid their fares and found themselves unable to proceed to their destination with sufficient speed. The engine of the train which left Bishop's-road station at 9·30 ran off the line soon after the train had left the station, causing considerable alarm to the passengers and a temporary stoppage of the traffic. On Wednesday morning another train ran off the line at the Gower-street station, and completely disarranged the traffic until the line was cleared. The Metropolitan Company, however, are now building engines and carriages for themselves, which will, it is said, be quite equal to those with which the line has hitherto been worked by the Great Western.

THE LYNN RAILWAY ACCIDENT.—The inquest on the five persons who were killed by the accident on the Lynn and Hunstanton Railway was resumed on Friday. On the previous occasion nothing was done beyond the identification of the bodies that they might be buried. The evidence of several passengers was now taken as to the rate of speed at which the train was travelling, as well as the cause of the accident. It appeared that the bullock was seen by the side of the line, on the wrong side of the fence, by the guard and driver of a train that passed a quarter of an hour before, but nothing was done to remove it. The inquest was again adjourned to Saturday, when Capt. Tyler, the inspector of the Board of Trade, was examined and severely censured by some of the jurymen for having certified that the line was fit for use when the fences were in such an imperfect state. He insisted, however, that the fences were sufficiently secured at the time he examined them. On Monday, to which day the inquiry was again adjourned, a report from Captain Tyler was read, stating that the carriages in which the deceased persons were travelling were very weak in construction, while some of their woodwork was in a state of decay, that the fences had got somewhat out of order, the ditch was dry, and the sides were broken down, which allowed cattle to pass; but the company were now taking effectual precautions. The coroner then summed up, and the jury returned the following verdict:—

The jury find an unhesitating verdict of Accidental Death, caused by a bullock straying on the line between Wootton and Gaywood, through the gross negligence of the authorities of the Great Eastern Company and their officers—first, by not putting the fence into a state of safety; secondly, by not putting the bullock off the line where the accident occurred; thirdly, by the disgraceful state of the carriages used for the conveyance of those unfortunate persons who met with their untimely end by such means. They also consider the Government Inspector deserving of censure for passing a line so inadequately fenced.

On Wednesday Captain Tyler made another inspection of the line in order to make his official report to the Board of Trade. The inquest on the body of Mr. Dennis, who died at his own house in Lynn, from injuries received by the accident, was resumed on the same day by the borough coroner. After hearing the evidence given before the county coroner on the former inquest, the jury returned the following verdict:—

The jury find unanimously that John Dennis died from injuries received in an accident caused by a bullock straying upon the line; are also of opinion that the accident was owing to the insufficiency of the fences, and the neglect of the same by the Great Eastern Company; that the driver and the guard acted to the best of their ability and according to instructions. The jury strongly recommend that the carriages be more frequently subjected to close examination, and further are of opinion that Captain Tyler was perfectly justified in passing the line in September last.

ATTEMPT TO UPSET A TRAIN.—On Tuesday night last an attempt was made to upset a passenger train on the North Kent, between the Woolwich dockyard and Arsenal stations. It appears that the passenger train leaving London Bridge at 10 P.M., preceeded as usual until its arrival at a spot about midway between the two stations, and at the rear of the houses in Powis Street. A severe shock was here felt, and the concussion was so great that crockery and other articles were thrown off shelves in the adjacent houses. It was at first thought that the engine had left the line, but fortunately it continued its progress in safety. On subsequent examination a large piece of timber which had evidently formed the post of a gate, was found to have been placed across the metals; fortunately it was completely severed by the wheels of the locomotive, otherwise a fearful accident might have resulted. The police have taken prompt measures to trace the offender.

## Law.

JUDGES' CHAMBERS.—*Stuart and Another* v. *Waugh.*—This was an application for the release of Colonel Waugh from the imprisonment in which he is detained on the order of Mr. Justice Blackburn, at the instance of the managers of the London and Eastern Bank, for the sum of 50,000*l.* The application was resisted on the part of the bank, and after a good deal of argument, Mr. Justice Keating, before whom the application was made, deferred his judgment until Tuesday, when he decided that the case did not come under the terms of the statute, and refused the application with costs.

OXFORD CIRCUIT: MONMOUTH.—*Stealing a Will.*—*Edwin Truscott Gill,* 17 years of age, a gilder, was charged with stealing the original will of the late Thomas Powell, Esq., merchant, of Newport. It appeared from the evidence that the will was read over to the family of deceased on the 25th March, the day after his death, and was missed on the 8th May. A letter was received by the widow, Mrs. Bowell, dated Rendezvous, June 27, 1863, and worded as follows:—"Respected Madam,—We perhaps merit the utmost possible contempt you or the world may throw upon us, but we trust you will overcome your repugnance sufficient to peruse and comply to the ensuing, 'our only possible stipulation,' for the restoration of the late Mr. Powell's original will, and other documents of more or less intrinsic value. It is thus—should you think fit to negotiate with us we will restore to you the above-mentioned documents for the sum of 125*l.* in gold. If you consent to this you may let us know, by inserting in *The Star of Gwent*, for July 4th, the following advertisement:—'John Anderson may apply to his late employers.' Should this appear you will soon after hear from us, and will please hold the money in readiness. We remain yours respectfully, THE BROTHERS 'LAVERNA.' P.S.—You must understand that we consider this private. Therefore you will please hold no communication with the police, for were you to do so, the civil authorities, as a right, would take it in hand and endeavour to bring us to light, both for the benefit of their reputation and pocket, heedless of the risk they would cause you, for should they fail (which most assuredly they would) it is you who will suffer, not they. For this reason 'beware that you attempt no treachery.' If the advertisement appears, we shall look upon it as your word of honour as much as if you said, 'Upon my honour as a woman and a lady I hereby cede to your proposal, &c." The advertisement was inserted as requested, and three other letters were received, requesting to meet at a certain lonely place at half-past 10 o'clock at night, and, saying "though your person is familiar to us, it is necessary that you should during your walk burden yourself with a slight asthmatic cough, which must be repeated every half-dozen steps or so." The police were made acquainted with the circumstances, and accordingly were on the qui vive. A female was hired to "cough," and the result was the apprehension of the prisoner after a severe struggle. The will was found wrapped up in brown paper a few yards from where the struggle took place. The jury found the prisoner *Guilty*, and Baron Martin, in passing sentence, referred to the ruinous litigation in which the family might have been involved if the will had not been found. After alluding to the prisoner's previous bad character, he said he must pass upon him a sentence that would be a warning to others. The sentence of the Court would be that he be kept in penal servitude for 12 years.

MIDLAND CIRCUIT: LEICESTER.—*The Mount Sorel Catastrophe.*—*Joseph Webster* was indicted for the manslaughter of Henry Pideack. It appeared that at the time of the occurrence deceased was at work with 400 or 500 other men at the granite quarries at Mount Sorel. These quarries, which are cut to a depth of nearly 200 feet into the side of the hill, form a nearly perpendicular wall of stone, which is entirely unfenced at the top. On the 1st of April the prisoner, who keeps a public house near the quarries, was driving a pony and cart over the top of the mound. On getting near the quarries he took the pony out of the cart, removed the harness from the pony, which he drove away, and backed the cart over the edge of the precipice on the heads of the men who were working in the quarries 200 feet below. The cart was seen to fall by the men at work, and all of them managed to get out of its way except deceased, who was struck on the back by the edge of the cart, and received such injuries that he died the next day. The case for the prosecution was that the prisoner was drunk, and backed the cart over the edge of the precipice recklessly and purposely. For the defence it was elicited, in cross-examination, that the edge of the quarry was bare and smooth, that there was a considerable inclination of the ground towards the precipice, and that accidents had often happened from cattle and other things falling over the edge. It was also shown that the top of the mount was a common, and that the prisoner claimed commonable rights thereon. It was admitted that there could be no dissent as to the facts of the case; but it was contended that the prisoner had gone to the top of the mount in a state of great excitement for the purpose of exercising his rights over the common, by turning out his pony to graze there. It was not proved that the prisoner knew that men were working underneath, and it was impossible to suppose that he had taken his cart to the mount merely to destroy it—a purpose which he could have accomplished equally well at home. The more reasonable conjecture was that, when he took his pony out of the shafts, the cart had slipped backwards down the incline in spite of all the prisoner could do to prevent it. It was true that the witnesses had deposed that the prisoner was pushing the cart backwards over the precipice, but their minds were biassed by the fatal result, and they were too far off to see distinctly what the prisoner was doing. It was impossible to assign any object for the act, if it was supposed to be the result of design. The Lord Chief Justice in summing up told the jury that the question was not whether the prisoner intended to injure any one. If he had had such an intention he would have been guilty of murder. The question for them was whether the prisoner intentionally backed his cart over the quarry, or whether its fall was the result of accident. If the cart was thrown down intentionally it was immaterial whether it was done from mere recklessness and wantonness, or to try some right or from an insane design on the part of the prisoner to destroy his own property. The jury found the prisoner *Guilty*, and he was sentenced to 18 months' imprisonment with hard labour.

OXFORD CIRCUIT: STAFFORD.—*Cruelty by a Stepmother.*—*Sarah Reece*, 32, was charged with the manslaughter of William Ellis Reece, on the 16th March, in Wolverhampton. The deceased was a child of about 4 years old, and the prisoner was the second wife of the child's father, who was an ironworks' labourer, living in Monmore Green, in Wolverhampton. The child's mother died at its birth, and it was nursed by a relative, and passed into the keeping of the prisoner when she became the father's wife, and when the child was nearly a year old. It was then healthy, but soon afterwards showed signs of disease from neglect and want. The prisoner had been known to beat it cruelly with a strap, to lift it from the ground and dash it down again, after which one of its arms was broken, and before it could properly set the bandages were off. Neighbours had often heard the child screaming in the house whilst the prisoner was beating it, and had often fed it when it was suffering from hunger and thirst. The arm was broken by the mother picking the deceased up and dashing him down whilst he was drinking dirty soap water that had collected in front of the house, and to get at which the child had run out. Further, during the excessive cold at the beginning of the year, the prisoner fastened the child in a back kitchen without fire and food, leaving him alone in the house. The post-mortem examination showed that both the child's arms had been broken; the whole of the head under the forehead was one entire bruise; there were seven or eight bruises on other parts of the head; there were several slight bruises on the face, lip, and body; the stomach was contracted and empty; the bones on the right fore-arm were fractured, and there was no bony union, and the radius of the left arm had been fractured. The deceased had evidently received excessive violence, and that on more than one occasion. The surgeon was of opinion that the bruises were the result of blows, but he would not swear they were. The child had been improperly fed, and should have received medical treatment before his death. The body was diseased, and the bruises were not sufficient to cause death. He was of opinion that death had been accelerated by ill treatment and violence combined. The prisoner had been imprisoned two months for cruelty to the child before she went to live in Wolverhampton. On her release she had frequently said she would kill him. The children in the house said he was insufficiently fed; and a witness deposed to the prisoner having thrust him in a soiled condition into a pail of cold water, and then forced him to drink of it. The defence was that the child had been injured by falling down stairs a day or two before his death, and that these injuries, combined with the diseased state of the body, produced death. The jury found a verdict of *Guilty*; and Mr. Justice Byles sentenced the prisoner to penal servitude for life.

HOME CIRCUIT: CROYDON.—*Tredell and Others* v. *Molyneux.*—This was an action virtually between brother and sister as to the right to a little slip of waste land in the manor of Braheuf, near Guildford. The plaintiffs are trustees for a married lady, Mrs. Shrubb, and defendant is her brother. The dispute had arisen through the cutting down of a tree on the little piece of waste land in question. Mr. Molyneux, the defendant, resides at Loseley House, near Guildford. The defendant's residence and land are within the manor of Braheuf, of which Mrs. Shrubb is owner, and a turnpike-road runs through the land of defendant, and from the road runs a private road up to his residence at Loseley Lodge. Thus the land of defendant lies on each side of the turnpike-road, but between his fences and the hard portion of the road and along each side of the road are, as is usual in this and in many other parts of the country, some slips of green waste land. The case on the part of Mrs. Shrubb was that the waste belonged to her, as lady of the manor, being portions of the "waste" of the manor. The tree cut down grew on one of two little slips or pieces of land at the corner of the private road up to Loseley House. Mr. Chambers, Q.C., and Mr. Archibald were for the plaintiffs; Mr. Lush, Q.C., and Mr. C. Pollock were for the defendant. The declaration was for trespass, in cutting down the tree, &c., and defendant pleaded that the land on which it grew was his soil and freehold; and his case, in substance, was that as the slips of land lay on the side of a road passing through his land, and, moreover, at the end of a private road of his, the presumption was that the land was his. As the case was between relatives, and there was nothing really in dispute, of course it was contested with great tenacity. The alleged trespass was described as committed on land at the lodge entrance or drive leading from the turnpike road to the premises of the defendant. Mr. Chambers, in opening the case on the part of the plaintiffs, said the action was virtually between brother and sister, and undoubtedly the cause of action, in a pecuniary point of view, was insignificant. The case for the plaintiff, however, as trustees of the lady, was that the piece of land was waste within the manor, which had never been inclosed, and therefore belonged to her as lady of the manor. The first witness on the part of the plaintiffs, the steward of the manor, was called to prove that the piece of land was "within the ambit of the manor," but he admitted that there were no copyholds in the manor at all, and that it was not the business of the steward to know the boundaries of a manor, and the estate of defendant, it appeared, was freehold, to which he succeeded on the death of his father above 30 years ago. Thereupon the bailiff of the manor, who received the "quit rents," was called to prove that he received quit rents from defendant, and also to prove the boundaries of the manor; but it was objected on the part of defendant that the court rolls would show what the quit rents were paid for; and as to the boundaries, it appeared that the witness had only gone round the boundaries once, and that was with Mr. Shrubb (the husband of the real plaintiff), and that he had been guided by an old "perambulator," as he called it—i. e., perambulation of the boundaries of the manor. This was called for, and he said it was dated in 1800, and the witness was asked where it was, and whether he did not know of one as old as 1500; this he denied, but the one he produced was manifestly a copy, and the original was not forthcoming. Thereupon the Rev. Mr. Shrubb, the husband of the lady who was really plaintiff, was called as a witness to prove that the

copy was taken from the old one, and that he went round the boundaries as shown in this "perambulation," so as to comprise the piece of land in question. Mr. Lush objected that it must first be proved that these were the ancient boundaries of the manor, and that until that was shown this evidence was quite irrelevant, and Baron Bramwell so ruled. The witness then stated that the fence as it now stood at the spot in question had been as it was now 40 or 50 years, leaving the tree outside. He was pressed a good deal as to whether 40 years ago the fence did not include it, and whether defendant had not removed the fence further back, to widen the end of the private road. This he could not say. Being pressed as to where he found what was produced as purporting to be the copy of the ancient plan of 1593, he said it was at the Manor House, in the place where the muniments of the manor were kept, and where the "homage" was held and the court rolls preserved. He said he had not found any more ancient document, and believed the more ancient had tumbled to pieces from age. Mr. Chambers then tendered the document in evidence as an ancient perambulation of the manor; but Mr. Lush objected that even if it were an original it ought to be entered on the rolls, and that this was only a copy; nor was there any evidence that there ever was an original, or that this was a record of a perambulation by the other parties interested as against the lord, and this was only by the lord or his bailiff who had an interest in enlarging the manor. Mr. Archibald submitted that it was admissible as evidence of reputation. The Judge said he would consult Baron Channell, and, having done so, said that he thought it was not evidence, but that he would receive it at the risk and peril of the plaintiffs if it were pressed. It was, however, only a copy, and not signed by the bailiff. Mr. Chambers thereupon consulted with his clients, and withdrew the document, as being too doubtful, and sought to prove his case in another way, by showing the piece of land in question to be parcel of a tract or slip of waste land extending continuously to a marsh within the manor. Here, however, a fresh difficulty arose in proving the continuity of these slips or pieces of land; while, on the other side, it was insisted that contiguity would suffice, whereas it was answered that, though this might be so, if there was evidence that they were originally parts of the same common or waste, evidence of acts of ownership on any of them would then be admissible as regarded others of them; that was not so here. It was replied that, if the pieces were along the same road and of a similar character, contiguity sufficed, even though the continuity was broken. It was urged again, in opposition to this, that it must first be proved that all were within the "ambit" of the manor. However, in the result, after a long struggle, it was ruled that the evidence was admissible, and the question was accordingly asked of the witness, who said he could not answer it; upon which the judge, amid some laughter, observed that the witness would have saved much trouble if he had said that before. A fresh head of evidence was then entered into with a fresh series of objections, the object being to show that these pieces of land had been "depastured" by the tenants of the manor, and that some of these had been enclosed, but when it came to be asked where these were it turned out that they were too far off to make the evidence admissible as regards the *locus in quo*, and so this head of evidence also became abortive. Mrs. Shrubb was then called, and stated that in 1834 she married a Major White, in whose family the manor had long been, and she resided at the manor house. He died in 1837, and devised it to her, and she afterwards married Mr. Shrub. Courts were held and the muniments kept at the manor house. The perambulation produced was found among the old documents there. It was signed by a person named White, who, from the other old documents, she knew had been lord of the manor. She said that it was in the family of the Whites in the reign of Elizabeth, and had been so ever since. She recollected the piece of land in question ever since 1818, when she lived with her father at Loseby Lodge, which afterwards went to her brother, the defendant. From about that time to the present she had known no alteration in it; and there were always pieces of land between the fences, or enclosures, and the high road, which, she said, were portions of the marsh or waste through which the road ran. The lady's examination and cross examination lasted a long while, and was the chief evidence in the case. Its effect was that the piece of land in question formed part of the waste. No actual perambulation of the manor within living memory was proved, except that quite recent. The copy of the ancient perambulation was put in, and it included within the boundaries of the manor the *locus in quo*. No acts of ownership, however, were proved, or the *locus in quo* itself, though it was proved that defendant attended manor courts and paid quit rents, it was not clearly shown for what they were paid or that they comprised the *locus in quo*. At the close of the evidence for the plaintiff, Mr. Lush submitted that there was no case, and the judge said he thought it was a very slight case indeed. Mr. Lush then commenced his address to the jury, declaring that this was a most lamentable instance of a litigious spirit between brother and sister, but he urged that there was no sufficient evidence that the spot lay within the manor. The jury interrupted the counsel, intimating that they did not desire to hear him. Mr. Chambers then addressed the jury in reply on the part of the plaintiff. The judge left the case briefly to the jury, observing that the action was one of the most groundless and vexatious he had ever known. Mr. Chambers thereupon desired to be nonsuited, and accordingly a nonsuit was entered. The case occupied the entire day.

Sheriffs' Court.—*Ryley* v. *Stevens's Patent Bread-making Company.*—This was an action to recover two weeks' wages in lieu of notice. Plaintiff deposed to having been summarily dismissed. Cross-examined by Mr. Girdlestone for the company: I was discharged for bad bread, but I can explain that. The German yeast was completely rotten and running with maggots. I had bad potatoes, and the flour was very queer. I showed the yeast to the manager, and he said he was very sorry, but I must do the best I could with it. His Honour: What! With rotten German yeast? Plaintiff: Yes. It was very common to put potatoes in the bread. The manager told me that they were obliged to get things at cheap prices, so that something could be put before the shareholders, as they were doing very badly. I have had to use yeast completely rotten and maggoty, and once I went to the Board, and was refused admission. I had a sample of the bad yeast. We had to squeeze out the moisture through our fingers. Mr. Girdlestone: Who supplied the yeast? Plaintiff: Messrs. Wilkin and Pugh, of St. Mary Axe, and Mr. Matthews. Several times before I found maggots in the yeast, and I used it. The flour was weak sometimes, and beans were ground up to strengthen it. A gentleman once found a bean in the flour. He took away the bean, but left the flour. My bread was always good when I was at Islington, and when I went to Brompton I had flour at 34*s.* per sack. His Honour: Then it come to this, that you had filthy materials and made up filthy bread? Plaintiff: Yes. I made up the best bread I could from the materials.—But thought nothing of the stomachs of your customers? Plaintiff laughed. Mr. Girdlestone: I confess all this takes me by surprise, I have witnesses who will be able to contradict all this. Plaintiff (in answer to his Honour): Good flour was 41*s.*, and we paid 34*s.* Mr. Girdlestone: Now were not complaints frequently made about your bread? Plaintiff: Whenever my bread was bad it arose out of bad flour, bad potatoes, and rotten yeast. Miss Thompson complained of my bread. On one occasion the flour was so weak that the bread was almost black, and it turned mouldy. Mr. Girdlestone: If your Honour will grant me a remand for an hour I will prove that all plaintiff's statements are false. We buy the very best articles in the market. His Honour (to plaintiff): What causes the German yeast to be bad? Plaintiff: Sometimes the weather and sometimes its being washed by sea-water. His Honour then agreed to allow the case to stand over until defendant's witnesses arrived. When defendant's witnesses arrived, Mr. Stevens said: I am managing director of this company. Plaintiff had good materials, and at first made good bread at Brompton, but afterwards he made very bad bread. He made no excuse. I saw the yeast one day and it was rather soft, but he said he could use it. He never had yeast with maggots. I believe he had made bad bread wilfully and to injure us. We have a great deal of difficulty in carrying on the business. There is a hostile feeling. Good bread was turned out at the other branches, and with the same flour. I was never shown any yeast with maggots. Cross-examined: I never said that I wished to show something to the shareholders. Mr. Girdlestone: Nor that he was to use the bad yeast? Mr. Stevens: No. Plaintiff made good bread at Islington, and he was removed to Brompton. Mr. Wilkins said: I am a yeast merchant, of St. Mary Axe. I partly supply defendants with German yeast. We have orders to supply the best yeast. Never sent in any yeast with maggots. The warm weather will affect yeast. Cross-examined: Bad yeast is returned. Warm weather will take the strength out of German yeast. Mr. Paine: I saw some yeast of which plaintiff complained. It was soft, and I left it to plaintiff to make bread of. The bread from that yeast was not particularly bad. The yeast was useable. Plaintiff thought the soft yeast could be used, and he did it. There was a consultation about sending some one for some fresh yeast, but the soft was used. His Honour: That shows that there was a doubt. Mr. Paine: I have seen German yeast in the company's premises with maggots in it, but not for use. Potatoes are used in our trade, and it is customary for millers to put bean flour into the wheat flour. A bean was found one day in the flour.—Plaintiff's brother deposed that he was in defendant's employ. The company is very particular. They provided the best yeast and the best potatoes. The company are not sparing. They try to get the best materials. Potatoes are necessary in bread to keep it moist. I was sent down to Brompton to examine some bread, which had turned bad in consequence of the potatoes being bad. His Honour: That is just what plaintiff says. Witness: I believe the flour was the same. Bread may be good in appearance, but bad in quality. Plaintiff is a good baker. Mr. Girdlestone said that he would admit plaintiff's capability, but he had neglected his work. The Superintendent of the company at Brompton deposed to the plaintiff's having made bad bread, the same being sour, bad coloured, and heavy. He lost 34 customers in one day; 190 quarterns of plaintiff's bread were sold at a loss in consequence of the badness. The last day plaintiff made bread the yeast, potatoes, and flour were good. Witness saw them. Groves, who came before plaintiff, made good bread. Cross-examined: I saw new potatoes when I came into the house. I have seen bad yeast, but it is always sent back. The yeast was not very good a fortnight before plaintiff left. I have sent back some bad yeast to Messrs. Wilkins and Pugh. Plaintiff: The bad yeast spoilt the bread. Mr. Paine recalled: The day when plaintiff used bad yeast the bread was not bad. It was not so good as it might have been. Plaintiff: Since I have left the company have had to sell some bad bread down Petticoat Lane at 1½*d.* per loaf less than the customary price. The men at work for the company saw the maggoty yeast, but of course will not come up for fear of losing their situations. A witness called by plaintiff said he saw the yeast running with maggots.—Cross-examined: He told me it was the same yeast as he had made the bread with the night before. Plaintiff's brother: The hot weather will turn the yeast, but we always send it back. Our duty is to use nothing bad. I told my brother that I believed this was a conspiracy. Plaintiff: Paine offered to give evidence for me. Mr. Girdlestone forcibly urged that plaintiff had grossly neglected his duty by using yeast with maggots in it. If the company could not discharge a servant for doing so, then it was crushed entirely and without hope. His Honour reviewed the evidence with great care, and said it was extremely unlikely that a man with a good character, and who was in good employment, would change in a single night and wilfully injure his employers. There was a doubt as to the materials provided. Mr. Girdlestone urged that good materials had been used. Mr. Stevens re-called: Even if the yeast was bad plaintiff had no right to use it. Our orders are to use good materials. The plaintiff has been twice discharged before. Five days before the plaintiff was discharged he had good materials but made bad bread. The Plaintiff: We had the worst of materials. Mr. Stevens: I repeatedly reasoned with the plaintiff, but with little avail. It was the wish of the company to use good articles. Cross-examined: The price of the flour is 33*s.*, 34*s.*, and 36*s.* The best millers only charge 36*s.* Our company bound the millers down not to adulterate. We are most particular. His Honour did not think the company had made out their defence, and found for the plaintiff. Verdict for the plaintiff, with costs.

## Miscellaneous.

Discovery of Antique Dies.—The *Journal de Saone-et-Loire* publishes a letter from the Abbé Cucherat, giving a detailed account of a discovery recently made about half a league from Paray (Saone-et-Loire). A workman who was digging a field which only last year formed part of the neighbouring forest, and was then broken up for the first time, struck his spade against a large Roman tile about a foot below the surface, and under it were found seven metal dies, such as were used by the Romans for coining. The Abbé says that these dies are made of a mixed metal, hard and brittle, but that he has not yet been able to ascertain its precise composition. Some of them are in the form of truncated cones, 1.77 in. in height, 1.38 in. in diameter at the large end, and 0.79 in. at the other, on which the impression is engraved. The smaller dies are of nearly equal size at the two ends, and thickest in the middle. They belong to the reigns of Tiberius, Caligula, and Claudius, and bear respectively the following inscriptions:—Ti. Cæsar Div. Aug. F. Augustus (Tiberius Cæsar, divi Augusti filius, Augustus); C. Cæsar Aug. G. Fra. . . . (Caius Cæsar Augustus, Germanicus Fra. . . .); T. C. Cæsar Aug. Romæ Tr. Pot. III. Cos. III. (Tiberius Claudius Cæsar Augustus, Romæ tribunitia potestate functus tertio; consul tertio). There are two dies of Tiberius, but one of them is broken. The three princes all bear laurels over their diadems. The fifth die represents a goddess seated, with the inscription Juno J . . . placed vertically on the right side. "Two of the dies," says the Abbé, "are in the possession of an amateur who forestalled me, but I have impressions of them. They appear never to have had any inscription, but I believe the head to be that of Augustus. The Emperor is not crowned with laurels, but has the radiated crown with five points reserved for emperors after their apotheosis. The die for the reverse presents a ram, the emblem of the sacrifices offered to the deified Emperor. From the place in which they were found there seems little reason to doubt their authenticity. It was well known that the Romans coined money during their military expeditions, and there is every probability that the Roman armies, which overran all parts of Gaul before the time of Constantine, visited this region."

The Life of Cæsar.—The *Journal de Genève* states that "'La Vie de César, par Louis Napoleon,' is printing at this moment at the Imperial printing-office. A first impression, consisting of 100 copies, has been struck off, in which the necessary alterations are now making. Workmen have been selected for this purpose who have been employed in the office for many years, and they have been told that on the slightest indiscretion on their part they will lose their places. After the printing of each leaf in quarto every form is secured with three chains and three locks, the keys of which the director of the printing-office takes with him. As soon as the printing is completed the sheets are taken into the Emperor's cabinet; then the *collaborateurs* set to work correcting the press or altering such passages as the Emperor wishes to see re-done. These measures are designed to prevent any information reaching foreign papers. The work, it is said, will appear in a few months in two editions, one printed at the Imperial printing-office, the other at Plon."

Paris a Seaport.—The design of making Paris a seaport has been repeatedly entertained for more than two centuries past. It was first proposed in the time of Louis XIV., and Colbert had surveys made to ascertain whether the Seine could be made navigable for sea-going vessels. The engineers of that time, with Vauban at their head, decided that it was impossible to obtain a sufficient depth of water in the Seine, but that a direct communication with the sea might be established by means of a canal from Dieppe. The state of the public finances, however, did not then admit of undertaking so expensive an enterprise. This scheme was again revived by the Marquis de Crécy in 1779, and in the following year the Government authorised the project, but nothing was done for want of funds. When Napoleon became Emperor the project of making Paris a seaport was submitted to him, and he remarked that if the canalization of the Seine could be realised, "Paris, Rouen, and Havre would become one city, with the river for its principal street." Political events, however, prevented the execution of the design, and nothing more was heard of it till the reign of Charles X., when a company was formed with a capital of 200,000,000f. for making Paris a seaport by the canalization of the river. The course of events, however, again hindered the realization of the scheme. It is now proposed to make a canal from Dieppe, passing along the valley of the Béthune, by St. Aubin, Dampierre, and Neufchâtel, thence to the valley of the Thérain, passing south of Beauvais through the marshes of Bruneval to the Oise, and by Ile Adam, St. Denis, and St. Ouen, to the fortifications near Neuilly, where it is proposed to form a port for merchant vessels, from which a canal is to be made to the Ternes, in order to diminish land carriage as far as possible.

Astronomy in the Middle Ages.—Last week M. Leverrier presented the Academy of Sciences, in the name of the editor, Don Rico y Sinobas, with the first volume of the splendid folio edition of the astronomical books of King Alphonso X. of Castile, printed at Madrid by order of the Queen. The original MS. of this work, which had long been preserved in the library of the University of Alcala, was found to be imperfect, 60 large parchment leaves being wanting; but, through the efforts and researches of Don Rico y Sinobas, a member of the Academy of Sciences of Madrid, it has been completed. The work is written in Spanish, being almost the first book of western science written in a modern language, a great step towards the diffusion of knowledge in the 13th century. King Alphonso divided his work into 16 parts, but he begins it with a catalogue of the fixed stars, in order to help the astronomers of his time to the complete knowledge of all the constellations. This forms an introduction to the other parts of the work, where he treats of the apparatuses and instruments necessary for the observation of the fixed stars, and of the planets, which he calls estrellar movediras (moving stars). It differs in some points from Ptolemy's catalogue, such as the 30th of Centaurus, the 11th of Lupus, and seven stars belonging to Piscis Meridionalis, because the most learned astronomers, the King tells us, of his time had looked in vain for those stars in the places mentioned by Ptolemy, and had not found them. The catalogue is divided into four books. In the three first, the northern, zodiacal, and southern constellations are given; in the fourth, the astronomers of Toledo give the Arab names of 330 of the principal stars, with the Spanish opposite. There are also some eloquent and poetic explanations on the stars, of a certain importance in astronomy, and likewise some short hints about astrology.

The following short quotation will show how King Alphonso treated certain astronomical questions. In speaking of Ursa Minor, he says:—"Some astronomers have taken it for a wain with its pole; others say it has the form of an animal, which might as well be a lion, a wolf, or a dog, as a male or female bear. Here, then, are heavenly animals inhabiting that part of the sky where this constellation is to be found, and recognised by ancient astronomers, because they saw four stars forming a square, and three in a right line. They must have been endowed with a better eyesight than ours, and the sky must have been very clear. Since they say it is a she-bear, let it be one; they were very lucky in being able to distinguish it."—*Galignani.*

The Suez Canal.—The report of an English engineer on the whole of the works now in progress in Egypt by which it is proposed to connect the Red Sea with the Mediterranean, by a Ship Canal through the Isthmus of Suez, will be read with interest by both parties in the controversy the undertaking has excited. When the late Pasha of Egypt visited the International Exhibition last summer, he requested Mr. Hawkshaw to visit Egypt, to examine professionally the line of the proposed Canal, and report his opinion of that work to the Egyptian Government. Mr. Hawkshaw accepted the commission, and, accompanied by four Egyptian engineers, made his survey in the course of last winter. He was in direct communication with M. Lesseps, the president of the Canal Company, and states that he and all the officers engaged on the works readily answered every question put to them, and without hesitation gave him access to every document he required. He adds that the labour of investigating so large a subject had been much lightened by the vast amount of research that had been previously bestowed upon it. The undertaking of the company is twofold. The first and principal scheme is, of course, the Ship Canal itself, to be cut directly across the Desert, northward from Suez to Port Said, on the Mediterranean. Port Said is nearly at the eastern point of the great Delta of the Nile, that includes the whole of the fertile region of Egypt, the better known port of Alexandria being at the extreme western extremity. The sea coast of the Mediterranean is the base of the great triangle, of which Cairo may be taken as the apex. Port Said itself is situated on the long narrow spit of land that shuts in Lake Menzaleh from the Mediterranean. Through the shallow water of this lake the canal has been formed by dredging. This process has been so far completed that, for nearly one-third of the whole line proposed, a channel has been deepened through water "covering the earth." It is only at the southern point of Lake Ballah that the work of cutting through the dry and sandy soil of the Desert commenced. From this southern point of Lake Ballah an excavation, 10 miles in length, has, Mr. Hawkshaw states, opened a channel navigable "for flat-bottomed boats of small draught of water," from the Mediterranean into Lake Timsah. On summing up, therefore, what has actually been accomplished, we find that such boats, adapted for very shallow water, can penetrate the Isthmus from north to south for a distance of 50 miles from the sea, and of this distance 30 miles have been obtained by the process of dredging. The second scheme undertaken by the company is independent of the first, and though called a "fresh water canal," is, more strictly speaking, only an aqueduct. It is not intended to be navigable as the term canal generally implies in England. It is better described as a large trench or cutting, for the purpose of conveying the water of the Nile from Cairo northward, curving to the east, through a tract of land "purchased by the company," to Lake Timsah, before-mentioned, and then southward to Suez. At present all the fresh water to be obtained at Suez is brought from Cairo by the railway. Large trains, conveying iron tanks filled from the river, are constantly passing along the line that conveys the passengers by the overland route, from sea to sea. The whole line of the proposed Ship Canal from Suez to Port Said, runs either through the two salt water lakes on the Isthmus, the wide expanse of Lake Menzaleh on the sea coast, or the soil of the Desert, "a barren land, where no water is." Labour is impossible without a certain and abundant supply of this element, for the want of which travellers in similar arid regions have often perished. This aqueduct is, therefore, a work of necessity, if the larger undertaking is to be carried on. It will also be employed to irrigate such portions of the soil through which it passes as may be worth cultivating; and of this secondary purpose a beginning seems to have been made. The portion of the Ship Canal still to be excavated is the whole of the line from Lake Timsah, southward, through another large sheet of salt water called the "Bitter Lakes," and the Desert that lies between them and the northern point of the Red Sea. This last section of the line will run parallel with the ancient canal, and a little to the westward of it. The course of the old work can be traced, but no part of it has been taken into the modern scheme. The works of the new harbour will carry the canal through the water of the Red Sea, past Suez, and terminate near a point on the eastern or Arabian shore marked as the "Fountain of Moses." It is scarcely necessary to say that the portion of the line described as completed and "navigable" is very far from the accomplishment of the object in view. What has to be done exceeds what has been finished in about the proportion a large heavily-freighted merchant ship bears to a "small flat-bottomed boat of small draught of water." In fact, the Suez Canal at present is a narrow and shallow cutting, marking out what is to be the course of an artificial channel that must be navigable for large ships of heavy burden, or be useless. It has been ascertained that the seas on both sides of the Isthmus have nearly the same level, and as the soil along the whole line across it is strewed with shells common to the Red Sea and the Mediterranean, it is evident that "at no distant period, geographically speaking," those seas spread over the desert track through which it is proposed to unite their waters again. But by far the greatest portion of the work has yet to be done. Without reference to the plans and sections by which the report is illustrated, it is difficult to convey a very clear idea of the proportion of what has to be excavated to what has been marked out by the cutting on land and the dredging through shallow water; but if the reader will suppose that the furrow drawn by a subsoil plough marks the course of what is to be enlarged into a ditch, he will have a rough notion of the approximation of what exists, compared to what is proposed. Nothing has yet been done between Suez and the northern end of Lake Timsah; and from that point northwards to the Mediterranean nearly five times the amount of work completed has yet to be executed. The earthwork done is estimated at 7,848,000 cubic yards; the amount still to be performed is 34,000,000 yards. The cost of the works so far has been, by the French estimate, 1,220,000*l.* Mr. Hawkshaw states that he sees no unusual difficulty in the execution of the plan, nor does he conceive that any contingencies can arise which engineering skill could not surmount; and, if completed, he thinks the canal could be maintained without any extraordinary yearly expenditure. But, considering the possibility of meeting with rock at the Red Sea entrance, and that the deep-sea dredging at the Mediterranean end may cost more than the first estimate—considering also "the money already expended compared with the work done"—he thinks it would be prudent for the promoters of the scheme to calculate on having to expend 10,000,000*l.* sterling and five years of labour before a single cargo can be towed across what is now a neck of dry land. This is the least encouraging part of the report to those customary victims of modern enterprise, the "original shareholders." *Times.*

## Obituary.

Field Marshal Lord Clyde died yesterday at Chatham. His remains will be brought to his house in Berkeley Square.

The Ven. Archdeacon Lane Freer, D.D., Archdeacon and Prebendary of Hereford, and Rector of Bishopstone, near that city, died on Tuesday at his rectory house, after a long illness. He was one of the most popular clergymen in Herefordshire, and, as a leading Freemason, held a high position in the city and neighbourhood. He was the only surviving son of the Rev. Thomas Lane Freer, Rector of Handsworth, near Birmingham, by the daughter of the Very Rev. Dr. Wetherell, Dean of Hereford and Master of University College, Oxford, so that he was nephew of the late Sir Chas. Wetherell and of Mr. Spooner, M.P. He was born about 1806, and was sent as town boy to Westminster School, to which he was always warmly attached, officiating as a Steward of the old Westminster's dinner in 1845, and signing in 1847 the memorial to Dean Buckland in favour of the continuance of the Westminster Play, his constant attendance at which was the signal for a hearty welcome, as his death will be certainly alluded to in the prologue this winter. He graduated at Christ Church, Oxford, in 1828, and became D.D. in 1858. In 1829 he was ordained to his father's curacy of Handsworth, which he held till his father's death in 1835, when he retired, and in 1838 was presented by Sir Robert Price, Bart., to the rectory of Bishopstone with Yazor, near Hereford. In 1847 Bishop Musgrave gave him the prebendal stall of Gorwall and Overbury, in Hereford Cathedral, and in 1852 Bishop Hampden appointed him Archdeacon of Hereford, on, the resignation of his relative, Archdeacon Wetherell. In 1861 he became prelector of the cathedral, and there is little doubt that the next vacant canonry would have been conferred on him had he lived. Dr. Freer was a man of conciliatory manners and moderate views in the Church, and was an officer of rank in the masonic body. He published a volume of hymns, some charges and sermons. He married, in 1848, the daughter of the Rev. Dr. Clutton, canon of Hereford.

General Sir Hugh Halkett, C.B., G.C.H., whose death at the age of 80 was recently announced, was the younger brother of Sir Colin Halkett, and served throughout the greater part of the Peninsular campaign with Alten's Germans, and afterwards at Waterloo. The father of the deceased had served with distinction in that celebrated Scotch brigade which fought for two centuries under the banner of the Dutch Republic, and his own commission in the brigade bore the date of 1794, so that he entered the service when only ten years of age. His brother Colin had already attained high rank in the brigade which had been turned over to the English service, when Holland was overrun by the French revolutionary armies. After being quartered for some time in Ireland, he went to India with his regiment, but returned in 1803, and his first active service was in 1805 in an unsuccessful expedition to Hanover, under the King of Sweden. In 1807 he took part in the expedition to the Baltic, and in 1809 was with Sir John Moore, in his retreat and at the battle of Corunna. He took part in the Walcheren expedition, which cost him an illness that was nearly fatal, but recovering he went to the Peninsula, where he fought at Albuera and Salamanca, sharing the day after the latter battle, in the famous charge in which the French squares were broken by the German cavalry. With the campaign of 1812 his Peninsular experiences terminated, but in 1813 he commanded the first Hanoverian Brigade which took part in some auxiliary operations on the Elbe and the Weser, in the campaign of the Allies against the French, and distinguished itself at the battle of Gohrde. He was Commandant of the Third Hanoverian Brigade at Waterloo, and did good service, though the incident for which he will be best remembered was his making prisoner of Cambronne, the famous colonel of the French Guard. After this battle he was made a C.B., and here terminated his English service. The German Legion was disbanded, and Sir Hugh being strongly urged to do so by the Horse Guards, entered the Hanoverian service, where he acquired the highest distinction as the general in command of the Hanoverian army, with the rank of a Baron. He continued until within the last few years in command of that army, but failing eyesight made it at last necessary for him to retire from active service, and, during the closing years of his life, he has lived peacefully with his family at Hanover, in the full possession of his faculties to the very last, and enjoying the affection and esteem of every one, from the King downwards.

Sir Frederick Slade, Bart., Q.C., died suddenly on Saturday night at Maunsell Grange, his seat in Somersetshire. He had conducted a case in the Nisi Prius Court at Wells on the previous day, and was apparently in robust health. Having concluded his day's work, he returned to Maunsell; in the evening he complained of fatigue, and on Saturday morning he called in a medical friend, but there was not much the matter. He went to bed rather early on Saturday night, and about 11 o'clock Lady Slade, who was by his side, discovered that he had ceased to exist. At the inquest on Wednesday the medical evidence proved that death had been caused by apoplexy, arising from fatty degeneration of the heart. The Jury therefore returned a verdict of Death from Natural causes. The late Baronet was in his 60th year, and leaves a numerous family. He was the eldest surviving son of the late General Sir John Slade, Bart., G.C.H., by his first wife. He was born in 1803, and educated at Winchester and Brasenose College, Oxford, where he took the degree of B.A. He was called to the bar at the Middle Temple in 1830. He was a bencher of the Middle Temple, a magistrate and deputy-lieutenant for Somersetshire, and lieutenant-colonel of the West Somersetshire Yeomanry. He married in 1829 a sister of Lord Vaux of Harrowden, and is succeeded in the title by his eldest son, Captain Alfred Frederick Adolphus Slade, who served in the 57th Regiment through the Crimean campaign, and was twice severely wounded.

Mr. Beriah Botfield, M.P. for Ludlow, died on Friday last, at his residence in Grosvenor Square. For the last four months he had been in a precarious state of health, and of late little or no hopes were entertained of his recovery. He was the eldest son of the late Mr. Ralph Botfield, of Norton Hall, Northamptonshire, and was born in 1807. He was educated at Harrow and Christ Church, Oxford, where he graduated B.A. in 1828, and M.A. in 1847. Although of a literary and studious turn of mind, he entered into political life, and in 1847 was returned to the House of Commons as member for Ludlow, in the Conservative interest. At the ensuing general election in 1841 he was again returned, but in 1847, at the general election which succeeded the exhaustion of Sir Robert Peel's Parliament, he was defeated, and remained out of the House of Commons until a vacancy presented itself by the retirement of the Hon. Colonel Percy Herbert. Since that period he has continued to represent the borough without interruption. Mr. Botfield had from his scholastic and antiquarian attainments acquired a reputation not only in England but abroad. He was a fellow of the Royal Society, the Society of Antiquaries, and a prominent member and secretary of the Roxburghe Club, besides other learned institutions; and, for his merits as a scholar, was made a Chevalier of the Saxon Order of Albert the Brave, and a Knight of the Belgian Order of Leopold. At Harrow he was highly honoured for his munificent contributions to the library, and for the medal he established in 1853. He was the author of a long series of works, among others, his "Notes of the Libraries of the Cathedrals of England," his "Notices of Libraries," and a very elaborate and expensive work, "The History of the Botfield Family." He married in 1858 the second daughter of Sir Baldwin Leighton, Bart., of Luton Park, Salop. He was a deputy-lieutenant of Northamptonshire and Shropshire, and served the office of high sheriff of the former county in 1831.

Mr. James William Gilbart, F.R.S., Manager of the London and Westminster Bank, the chief promoter of the joint-stock system of banking, died on the 8th inst. in Brompton Crescent, in his 69th year. Mr. Gilbart came of a Cornish family, but was born in London in 1794. Failing in obtaining a Government appointment, he became clerk in 1813 in a London bank, which suffered and collapsed during the panic of 1825. While a clerk he took an active part in the Athenian Debating Society with the late Right Hon. M. T. Baines, Mr. Edward Baines, M.P., Mr. Edwin Chadwick, and Baron Channell. He was also connected with the Union Society, of which Mr. J. S. Mill and Lord Macaulay were members, and did much to found the City of London Literary and Scientific Institute. He also found time to write articles for various periodicals—"The Preacher and the Platform" (1822-3), and a remarkable answer to Cobbett's book on the Reformation, pointing out the various social benefits of the Reformation. From 1825 to 1827 he was a cashier in a Birmingham office, and in 1826 he returned to London and published his "Practical Treatise on Banking," with reference to the evidence delivered by London and county bankers before the Parliamentary Committee appointed to consider the propriety of the suppression of notes under 5*l.* He then removed to Kilkenny as manager of the Kilkenny branch of the Provincial Bank of Ireland, and contributed various papers on banking to the local papers. From 1829 to 1833 he held a similar office of higher importance at Waterford, where he established a literary and scientific institution, and delivered lectures on all sorts of subjects. In 1833 he was appointed manager of the London and Westminster Bank, then in course of formation, and discharged the duties of that office till 1859. In 1846 he was presented with a handsome service of plate by the directors and shareholders of joint stock banks, in recognition of the services he had rendered to the principles of banking, and on his retirement from the office of manager he received a pension of 1500*l.* a year, and was elected a director of the company. Mr. Gilbart was the author of many works, among which may be mentioned, "The History and Principles of Banking," "A History of Banking in Ireland," "The Logic of Banking," "Banking and the Currency," "History of Banking in America," "Logic for the Million." He was a Fellow of the Royal Society, and in the International Statistical Congress, held in July, 1860, he was appointed one of the committee of the section of commercial statistics, and read a paper on "The Statistics of English Banks," which was printed in the "Transactions of the Congress."

Wills.—The will of Lord Monson, of Burton Hall, Lincoln, Chart Lodge, Kent, and Gatton Park, Surrey, has been sworn under 35,000*l.* personalty. Mr. George Augustus Bruxner, formerly of Binfield Manor House, Berkshire, but late of Regency Square, Brighton, 200,000*l.*

BIRTHS.—5th inst, at South Park, Penshurst, Viscountess Hardinge, of a son—6th inst, Lady Gardiner, of Roche Court, of a daughter—5th inst, at Seggieden, Perthshire, Mrs. Drummond Hay, of a son and heir—5th inst, at Mulbarton Hall, Norfolk, the Lady of Donald Mackinnon, Esq., of a daughter.

MARRIAGES.—On the 8th inst, in St. George's, Hanover

square, Viscount Dangan, eldest son of the Earl and Countess Cowley, to Gwendoline, second daughter of Colonel Thomas Peers Williams, M.P. for Marlow—6th inst, at St. George's, Hanover Square, Captain the Hon Charles Edward Hobart, fourth son of the Earl of Buckinghamshire, to Lucy Pauline, only daughter of the late John Wright jun., Esq., of Lenton Hall, Notts—8th inst, at St. Paul's, Knightsbridge, Lieut.-Colonel George Grant Gordon, Scots Fusilier Guards, eldest son of the late Lord Francis Gordon, to Constance Augusta Lennox, daughter of Laurence Peel, Esq., and of the late Lady Jane Peel—11th inst, at St. Paul's, Knightsbridge, Hugo Meynell, eldest son of Hugo Charles Meynell Ingram, Esq., of Hore Cross, to Miss Wood, eldest daughter of the Right Hon. Sir Charles Wood, Bart., M.P., and Lady Mary Wood—12th inst. in Westminster Abbey, Eustace John Wilson Patten, Esq., of the 1st Life Guards, son of Colonel Wilson Patten, M.P., to Emily Constantia, daughter of the Hon. and Rev. Lord John Thynne, sub-dean of Westminster—5th inst, at St. James's, Piccadilly, the Rev. William Henry Fremantle, second son of the Right Hon. Sir Thomas F. Fremantle, Bart., Fellow of All Souls, vicar of Lewknor, and Chaplain to the Lord Bishop of London, to Isabella Maria, second daughter of the late Sir Culling Eardley, Bart., of Bedwell Park, Herts—5th inst, at Crickett Malherbie, in the county of Somerset, Francis Philip Egerton, Esq., Commander R.N., son of the late General Sir Charles Egerton, G.C.M.G., to Georgiana Augusta, eldest daughter of the Rev. G. Pitt, vicar of Audlem, Cheshire.

DEATHS.—On the 9th inst, at Cheltenham, Frances Anna, fourth daughter of the late Thomas March Phillipps, Esq., of Garendon Park, Leicestershire, aged 76—8th inst, at Cromer, Norfolk, Arthur John Vernon, only child of Francis G. M. Boileau, Esq., of Tacolnestone Hall, Norfolk, aged 2—4th inst, at 13, Stanhope Street, Gloucester Gate, Catherine Jane Mayhew, widow of Colonel E. Warner, and eldest daughter of the late Major-General Sir C. Shipley—6th inst, at Lewisham, Kent, Margaret, widow of Major Hillary Harcourt Torriano, of the Hon. East India Company's Corps of Engineers on the Madras Establishment, aged 92—July 30, at Southampton, Lieut.-Colonel Thomas Vincent, aged 68—8th inst, at Woolwich Common Margaret Young Spearman, youngest daughter of the late Major A. Y. Spearman, of the Royal Artillery—10th inst, at Phœbe Cottage, Crabtree, Plymouth, Henry Richard Vansittart, eldest son of Captain H. Hillyar, R.N., C.B., aged 7 years and 3 months—11th inst, at Balham Hill House, Surrey, Joshua Field, Esq., C.E. and F.R.S., aged 76—8th inst, at Lowestoft, the Rev. F. Cunningham, M.A., Vicar of that parish, Hon. Canon of Norwich and Rural Dean, aged 78—6th inst at Buckworth, Huntingdon, the Rev. John Duncombe Shafto, Rector of that parish, and Hon. Canon of Durham, aged 55.

# Markets.

## COVENT GARDEN, Aug. 15.

Fruit and vegetables are still plentiful, especially Peaches and Nectarines, which are abundant from open walls. Greengage Plums of good quality are still included in foreign imports, and of Grapes and Pine Apples the supply is sufficient for the demand. Strawberries are nearly over, as are also Raspberries. Of Melons, both English and foreign, there is a good supply, and Oranges are also plentiful. Kent Filberts are coming in plentifully at from 45s. to 55s. per 100 lbs. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Stocks, Calceolarias, Mignonette, and Roses.

### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 3s to 5s | Currants, p. ½ sieve, 3s to 3s 6d |
| Grapes, per lb., 2s to 5s | Gooseberries, do., 2s 6d to 3s |
| Strawberries, p. lb., 6d to 1s | Lemons, per 100, 12s to 16s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Oranges, per box, 40s to 45s |
| Figs, per doz., 5s to 6s | — per 100, 5s to 10s |
| Peaches, per doz., 6s to 10s | Nuts, small, per bush, 14s to 18s |
| Nectarines, do., 3s to 6s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 7s 6d |

### VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Celery, p. bundle, 1s 6d to 2s |
| Peas (shelled), p. qt., 1s to 1s 6d | French Beans, p. sieve, 2s to 6s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatoes, York Regents, p. ton, 70s to 90s | Garlic, per lb., 8d |
| „ Shaws, do., 50s to 70s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 6d to 8d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 3s 6d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatoes, each, 4d to 6d | |

## HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, Aug. 13.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 80s | Clover, old .. .. | 90s to | 120s |
| Superior do. .. | 80 | 90 | New Clover .. | 80 | 105 |
| Inferior do. .. | 40 | 70 | Do. second cut .. | 80 | 110 |
| New do. .. .. .. | 60 | 84 | Straw .. .. .. | 26 | 34 |
| Rowen .. .. .. | — | — | | | |

Harvey & Easton.

Cumberland Market, Thursday, Aug. 13.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 86s to | 95s | Inferior Clover .. | 80s to | 98s |
| Inferior do. .. .. | 65 | 76 | New do. .. .. | 90 | 110 |
| New do. .. .. .. | 75 | 86 | Straw .. .. | 34 | 38 |
| Superior Clover .. | 108 | 115 | | | |

Joshua Baker.

Whitechapel, Thursday, Aug 13.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 90s | Prime Clover .. | 120s to | 126s |
| Inferior do... .. | 75 | 80 | Inferior do... .. | 110 | 115 |
| Prime New Hay .. | 80 | 84 | New do. .. .. | 100 | 105 |
| Inferior .. .. .. | 70 | 75 | Inferior do. .. | 90 | 100 |
| Straw .. .. .. | 28 | 33 | Prime 2d cut .. | 100 | 108 |

## BRITISH WOOLS.—London, Aug. 14.

Our market remains in a satisfactory state, stocks being only moderate for the season, and prices fully as high for fleeces, and higher for all descriptions of skin combing and clothing suitable either for the worsted or the flannel trade.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 9½ to 1 10½ | Leicest. Wethers | 1 8 to 1 9 |
| Half-bred ditto .. | 1 10 — 1 11 | Ditto Hoggs .. | 1 9 — 1 10 |
| Down Ewes .. | 1 8½ — 1 9½ | Combing Skins | 1 4 — 1 8 |
| Kent Fleeces .. | 1 9 — 1 10 | Flannel Wool .. | 1 6 — 1 8 |
| | | Blanket ditto .. .. | — .. |

## HOPS.—Borough Market, Friday, Aug. 14.

Messrs. Pattenden & Smith report the arrival of the first pocket of new English Hops in the Borough this morning, grown by Mr. C. Manwaring, of Brenchley, Kent, and sold by W. Austen & Co. to R. & T. Collis, on account of Messrs. Boddington & Co., brewers, Manchester. The market is not likely to be supplied until the 16th or 18th September. Prices firm.

## COAL MARKET.—Aug. 12.

Bates's West Hartley, 15s. 6d.; Byass's Bebside West Hartley, 17s. 3d.; Davison's West Hartley, 17s. 3d.; Hastings Hartley, 17s. 3d.; Holywell Main, 17s.; Lambert's West Hartley, 17s.; North Pelton Gas, 13s. 3d.; Tanfield Moor, 12s. 6d.; Tanfield Moor Butes, 12s. 6d.; Walker Primrose, 12s. 9d.; West Wylam, 16s.; Walls End Harton, 15s. 9d.; Eden Main, 16s; Walls End Braddylls Hetton, 16s. 9d.; Walls End Haswell, 18s.; Walls End South Hetton, 18s.; Walls End Stewarts, 18s.; Walls End Tunstall, 15s. 9d.; Carway and Duffryn Malting, 20s.—106 ships at market.

## NEWGATE.—Monday, Aug. 10.

| Per 8 lbs. by the carcase. | | |
|---|---|---|
| Inferior Beef .. 2s 6d to 2s 10d | Inferior Mutton 2s 6d to 3s 0d |
| Middling .. 3 0 — 3 2 | Middling do. .. 3 2 — 3 6 |
| Prime large .. 3 4 — 3 6 | Prime do. .. 3 10 — 4 2 |
| Do. small .. 3 8 — 3 10 | Lamb .. .. 4 0 — 4 8 |
| Large Pork .. 3 0 — 3 6 | Veal .. .. 4 0 — 4 4 |
| | Small Pork .. 3 10 — 4 2 |

### BUTTER.

Best Fresh Butter .. .. 14s. per dozen lbs.
Second do. do. .. .. 12s. „
Pork, 4s. 0d. to 4s. 4d. per 8 lbs.

## METROPOLITAN CATTLE MARKET.

Monday, Aug. 10.

We have not quite so many Beasts as on Monday last; the demand, however, is so limited that it is difficult to realise that day's quotations. The number of Sheep and Lambs is much smaller, but still quite equal to the demand. Trade is very heavy for Sheep at about late rates, but more cheerful for Lambs, although it is difficult to advance prices. Calves are selling about the same as on Thursday. From Germany and Holland there are 1950 Beasts, 7260 Sheep, 254 Calves, and 60 Pigs; from France, 19 Calves; from Scotland, 30 Beasts; from Ireland, 280; and 2770 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 6 to 4 10 | Best Long-wools .. | — .. |
| Best Short-horns | 4 2 — 4 6 | Do. Shorn .. | 4 4 — 4 6 |
| 2d quality Beasts | 2 8 — 3 4 | Ewes & 2d quality | .. — .. |
| Best Downs and Half-breds .. | .. — .. | Do. Shorn .. | 3 8 — 4 2 |
| Do. Shorn .. | 4 10 — 5 0 | Lambs .. .. | 5 0 — 6 0 |
| | | Calves .. .. | 3 0 — 4 8 |
| | | Pigs .. .. | 3 0 — 0 |

Beasts, 5380; Sheep & Lambs, 26,780; Calves, 308; Pigs, 540.

Thursday, Aug. 13.

The number of Beasts is smaller than for many weeks past, consequently they met with a ready sale at an advance on Monday's quotation. There is also a considerable falling off in the supply of Sheep and Lambs. A clearance is effected at higher rates. We are still largely supplied with Calves. There is rather more demand, but we cannot quote higher. Our foreign supply consists of 295 Beasts, 2540 Sheep, and 512 Calves. Milch Cows, 70.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 4 6 — 4 8 |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn .. | .. — .. |
| 2d quality Beasts | 3 0 — 3 8 | Ewes & 2d quality | 4 0 — 4 4 |
| Best Downs and Half-breds .. | 5 0 — 5 2 | Do. Shorn .. | .. — .. |
| Do. Shorn .. | .. — .. | Lambs .. .. | 5 6 — 6 4 |
| | | Calves .. .. | 3 0 — 4 8 |
| | | Pigs .. .. | 3 0 — 4 0 |

Beasts, 880; Sheep & Lambs, 8230; Calves, 653; Pigs, 180.

## MARK LANE.—Monday, Aug. 10.

The little old English Wheat at this morning's market was taken at about the prices of this day week. Of new there were about 3000 qrs., mostly fine quality, and in good condition, but some portion soft, from being hurried to market before maturity; fine quality of white was sold at 48s. to 52s. per qr., and red at 44s. to 48s. per qr. For foreign the demand was very limited, and to effect sales it was necessary to submit to a decline of 1s. per qr. Barley was rather easier, and Beans and Peas were unaltered in value. The Oat trade is dull, and prices are against the seller. Flour was but little inquired for.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 46—50 | Red ..... | 40—44 |
| — — fine selected runs .. ditto | 48—52 | Red .... | 42—48 |
| — — Talavera ............ | 48—52 | | |
| — Norfolk ............ | — | Red .... | — |
| — Foreign ............ | 38—60 | | |
| Barley, grind. & dist., —s to —s., Chev. | — | Malting .. | — |
| — Foreign .. grinding and distilling | 25—29 | Malting .. | 28—32 |
| Oats, Essex and Suffolk ............ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ............ Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 19—23 | Feed .... | 18—20 |
| Rye ............ | 30—33 | Foreign .. | — |
| Rye-meal, Foreign ............ | — | | |
| Beans, Mazagan .... 33s to 35s... Tick | 34—36 | Harrow .. | 34—36 |
| — Pigeon .... 37s to 40s.. Winds. | — | Longpod | — |
| — Foreign ............ Small | 40—46 | Egyptian | 30—32 |
| Peas, White, Essex and Kent .. Boilers | 37—38 | Suffolk .. | 38—40 |
| — Maple .... —s to —s .... Grey | — | Foreign .. | 32—38 |
| Maize ............ White | — | Yellow .. | — |
| Flour, best marks delivered .. per sack | 42—47 | | |
| — 2d do ............ ditto | 30—38 | Country .. | 30—38 |
| — Foreign ............ per barrel | 20—26 | Per sack | 34—45 |

Friday, Aug. 14.

The weather during the past week has again been exceedingly hot and dry, favouring harvest work, and a considerable portion of this year's crop is now housed in good order south of the Humber, while cutting has commenced in Scotland under favourable auspices. Owing to large supplies, combined with this very promising and early harvest, the Wheat trade has remained inactive, and prices have declined 1s. per qr. on old English and foreign qualities, while new has receded more; 48s to 52s. having been accepted for heavy white, and 48s. for best red, down to 42s. for ordinary sorts. The root crops and Grass having suffered from drought, more attention has been directed to feeding stuff, and this has no doubt prevented a further reaction in the value of Barley, Beans, Peas, and Oats. Flour remained a slow sale. The supply of foreign grain and Flour into the United Kingdom was the largest we remember for one week, exceeding 600,000 qrs. of all sorts. Since Friday last 29 vessels have been reported off the coast. The floating trade has been quiet, last week's prices are scarcely obtainable for Wheat, but spring corn remained unaltered in value, and Maize is 6d. per qr. dearer. In Paris (Aug. 14), the Flour trade had been very quiet throughout the week, and prices are tending downwards. The six marks are quoted equal to 36s. per 280lbs. The present stock is estimated at 5870 cwts. Wheat is extremely slow, and 3s. per 480 lbs. cheaper. The arrivals of English and foreign Grain and Flour since Monday have been moderate. There was a thin attendance at this day's market, and but little business was transacted in any article. Prices of all grain remain nominally the same as on Monday.

Arrivals this Week.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1010 qrs. | 10 qrs. | 120 qrs. | 280 sks. |
| Irish .... | — | — | 1500 | — „ |
| Foreign .. | 5890 „ | 960 | 26,570 „ | 180 „ / 12,220 brls |

ARRIVALS LAST WEEK.

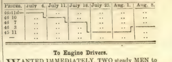
| | Wheat. | Barley. | Malt. | Oats. | Beans. | Peas. | Linseed. |
|---|---|---|---|---|---|---|---|
| | Qrs. | Qrs. | Qrs. | Qrs. | Qrs. | Qrs. | Qrs. |
| English and Railway | 5560 | 580 | 17,613 | 549 | 444 | 276 | — |
| Irish .. | — | — | 15 | 640 | — | — | — |
| Scotch . | — | 105 | — | 82 | — | 80 | — |
| Foreign | 42,673 | 8162 | — | 30,321 | 1515 | 4559 | 3443 |

Liverpool, Aug. 11.—We had a very fair attendance of buyers at to-day's market; they showed little disposition however to operate, and only a retail business resulted in Wheat at a reduction of from 1d. to 2d. per cental on Friday's rates. Flour met a fair inquiry at a decline of 6d per barrel; no change in sacks. Indian Corn would find numerous buyers both on the spot and to arrive, if sellers showed a little more disposition to do business; the quantity offering, however, is most limited, and we raise quotations 3d. per qr. Oats and Oatmeal slow of sale. Beans, Peas, and Barley steady at late rates. The market closes quiet but firm.

Friday, Aug. 14.—Fair attendance. Wheat a low dragging sale at about 1d. per cental decline. Flour very little doing, and rather easier. Indian Corn a little weaker; mixed, 26s. 3d. Transactions moderate. Egyptian Beans steady. Oats and Oatmeal rather lower. Very little doing.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| July 4 | 46s 11d | 30s 9d | 23s 11d | 32s 10d | 39s 6d | 38s 0d |
| — 11 | 46 10 | 30 10 | 23 6 | 34 5 | 40 2 | 39 0 |
| — 18 | 46 7 | 28 10 | 22 6 | 32 9 | 40 0 | 37 1 |
| — 25 | 45 11 | 29 10 | 22 9 | 32 8 | 39 3 | 35 11 |
| Aug. 1 | 45 11 | 31 0 | 23 0 | 37 11 | 39 11 | 36 3 |
| — 8 | 46 3 | 31 6 | 23 0 | 31 6 | 33 8 | 34 9 |
| Agg. Aver. | 46 5 | 30 6 | 23 1 | 33 8 | 39 7 | 36 10 |

Fluctuations in the Last Six Weeks' Averages.





To Engine Drivers.

WANTED IMMEDIATELY, TWO steady MEN to Drive and Attend to TRACTION ENGINES used for Steam Cultivation. Wages 1l. per week.—Apply by letter or personally to Mr. Joseph Nicholls, Drainage Engineer and Contractor, Queen-Camel, Ilchester, Somersetshire.

WANTED, for India, a practical AGRICULTURIST, to superintend a Plantation of Oil Seeds on the Malabar coast. Must be young, unmarried, and Scotch preferred. References must be unexceptionable. One having had experience in growing Rape, or Sunflower seed, will be preferred.—Apply by letter, with full particulars, to Mr. G., 13, Buccleuch Terrace, Upper Clapton, N.E.

WANTED, as HEAD-GARDENER, a married Man, accustomed to the northern climate, to take the entire charge of a gentleman's Garden and Grounds in the county of Cumberland. It is essential that he be experienced in the management of Stoves, Vineries, and other Forcing Houses, and Peach Orchard Houses; and especially that he have a competent knowledge of the Propagation and Culture of high class Stove and Conservatory Plants and Flowers. Good wages, and a superior Gardeners' House on the spot.—Apply by letter, with references, to O., at the Post Office, Keswick, Cumberland.

WANTED, TWO respectable MEN for JOBBING, age from 30 to 40. Constant place. They must be experienced men and good Mowers. Also a respectable single young MAN, aged about 30, who thoroughly understands the Cultivation of Plants under Glass; also to attend to the fires.—Apply to C. Grimbly, the Albion Nursery, Stoke Newington, London, N.

WANTED, as SHOPMAN, a Young Man who has a good general knowledge of Plants and Seeds, and is a good Salesman.—Address, stating salary and experience, to A. B., Barr & Sugden, 12, King Street, Covent Garden, W.C.

WANTED, as SECOND SHOPMAN, an active young Man in a Wholesale Seed Warehouse.—Apply by letter, in own handwriting, A. B., Nutting & Sons, 60, Barbican, E.C.

WANTED, at Michaelmas, a BAILIFF and WIFE, without incumbrance; the latter to Manage Dairy and Poultry. He must understand thoroughly the duties of a Bailiff on a gentleman's estate. The farm is between 200 and 300 acres.—Apply to G. Westbury, Esq., 44, Lincoln's Inn Fields, or at Andover.

WANTED, a WORKING BAILIFF and his WIFE.—The Man to Manage a small Farm, Kitchen Garden, and make himself generally useful; Wife to Milk, attend Poultry, and wait upon a small family. Must have a good character, and without incumbrance.—Apply to Mr. T. Smith, 83, Oxford Street, London, W.

WANTED IMMEDIATELY, as DAIRYMAID, in a gentleman's family, a strong active person, who thoroughly understands the Dairy and Care of Poultry. An excellent character for honesty, sobriety, and general good conduct will be required. Good wages given to a competent person.—Apply personally, or by letter to Mrs. Littledale, Scarlets, Twyford, Berks.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

LANDSCAPE GARDENER.—The Advertiser having had many years experience in Designing and Laying Out New Grounds, and effecting Alterations and Improvements, is open to an engagement with any lady or gentleman requiring the services of a first-class Gardener. Satisfactory references and testimonials.—Gardener, Mr. John Kernan, Seed Merchant, 4, Russell Street, Covent Garden, W.C.

GARDENER (Head).—A young Man, with good references. No single-handed place accepted.—Please state terms to Charles Canning, Gardener, Ascog, Rothesay, by Glasgow.

GARDENER (Head), where two or more are kept.—Married; has had considerable practice. Good character from past and present employer.—F. D., Mark Hall, Harlow, Essex.

GARDENER (Head).—Age 33, married, no incumbrance; thoroughly understands Forcing of Vines, Melons, Cucumbers, Greenhouse Plants, and Flower and Kitchen Gardens. Good reference.—H. B., Little Plumstead Hall, Norfolk.

GARDENER (Head).—Age 40, married, no incumbrance; thoroughly understands his profession in all its branches. Can be well recommended. Three years' character from the nobleman he last lived with.—F. M. I. C., Messrs. Cutbush & Son, Highgate, London, N.

GARDENER (Head).—Age 40, single; has a practical knowledge of his profession, the Growing and Forcing of Fruits, Flowers, and Vegetables. Can take charge of Land if required. Can be highly recommended.—J. F., Mr. Rivers' Nursery, Sawbridgeworth, Herts.

GARDENER (Head).—Age 40, sober and active; thoroughly understands the Early Forcing of Grapes, Cucumbers, Melons, &c., and is a good Flower and Kitchen Gardener. Four years' unexceptionable character from the gentleman he has just left.—T. W., 14, Raglan Street, Forest Hill, S.E.

GARDENER (Head).—Age 30; thoroughly experienced in all branches of his profession, more especially in all kinds of Forcing, and in the Laying-out and Planting of Flower Gardens on the Bedding-out system. Satisfactory references.—A., Messrs. J. & J. Fraser, Lea Bridge Road, Leyton, Essex, N.E.

GARDENER (Head).—Age 30, married, one child aged 3 years; can be highly recommended by his late employer as a successful Cultivator and Forcer of all kinds of Fruit, Flowers, and Vegetables, and as being a strictly sober and trustworthy servant; good Manager of Land and Stock.—S. E., Messrs. Protheroe & Morris, American Nursery, Leytonstone, Essex, N.E.

GARDENER (Head), age 28, married, without incumbrance.—Wm. Wood & Son are desirous of recommending a first-rate Gardener; one thoroughly acquainted with the Management of Forcing Vines, Pines, Melons, &c.; Plant-houses, Kitchen and Flower Garden, &c. Messrs. W. & S. feel perfectly satisfied he would give any lady or gentleman requiring a good Gardener thorough satisfaction.—Wm. Wood & Son, Nurseries, Maresfield, Uckfield, Sussex.

### To Noblemen and Gentlemen.

GARDENER (Head).—Age 40, married, no incumbrance; a thorough practical knowledge of his profession in all its branches, viz., Early and Late Forcing, Pines, Grapes, Peaches, Nectarines, &c., Flower, Kitchen, and Fruit Gardens. Character will bear the strictest inquiries.—M. J., —Woods, Esq., Hale End, Woodford, Essex, N.E.

GARDENER (Head).—Age 30, married, no incumbrance; successful Cultivator of Pines, Vines, Peaches, &c., accustomed to the Orchard House, the growing of fine Foliaged and other Stove specimen Plants for exhibition, Orchids, Ferns, &c., and is a first-class Kitchen and Flower Gardener. Good reference.—W., Wm. Bull's Establishment for New and Rare Plants, King's Road, Chelsea, S.W.

### To Noblemen and Gentlemen.

GARDENER (Head), will shortly be disengaged.—Age 32, married; is extensively known, and recommended as one of the best scientific practical men of the present day. Has lived in some of the largest and best Gardens in England; and for years has been successful as a Grower and Early Forcer of Vines, Pines, Peaches, Cucumbers, Melons, Strawberries, &c.; is a first-class Grower of Orchids, Stove, fine Foliage, and Greenhouse Plants, also the Orchard House and Kitchen Garden. Is well known to most of the leading men of Horticulture round London. Character and testimonials of the highest order.—Alpha, Mr. Wm. Bull's Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

GARDENER (Head Working or Single-handed).—Married, no incumbrance; has a practical knowledge of his profession. Good character.—A. B., 26, North Street, Edgware Road, London, W.

GARDENER (Head or Single-handed).—Age 24, married; understands Flower and Kitchen Gardens. Two years' character.—J. C., 196, High Holborn, W.C.

GARDENER.—Age 24, married, no incumbrance; well understands his profession. No objection to a Cow. Twelve months' good character.—W. B., 4, Maple Terrace, Maple Road, Penge, Surrey, S.E.

GARDENER.—J. Morris, Gardener to T. White, Esq., Manor House, Wethersfield, wishes to recommend an industrious and trustworthy Gardener, married, with one child.—For particulars apply as above.

GARDENER (middle-aged, married, without incumbrance).—D. Davies, who has been 19 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. Lindley, Acton Green, Middlesex, W.

GARDENER.—Age 31, married, two children; understands Forcing in its various branches, and the Management of Kitchen and Flower Gardens. Thirteen years' experience in gentlemen's gardens. No objection to look after Cattle. Good character from last situation.—J. D., Post Office, Lower Tooting, Surrey.

GARDENER (Single-handed).—Age 24, single; has been used to all branches in Gardening. Can look after a Horse. Two years' good character.—A. B., 24, Fitzroy Place, St. Mark's Square, Regent's Park, N.W.

GARDENER (Under or Single-handed).—Understands his work well.—T. Pankhurst, Post Office, Fordcomb, near Tunbridge Wells.

GARDENER (Under or Single-handed).—Age 22, single; has had practical experience in every department of Horticulture; good Plant and Fruit Grower. Excellent character.—J. P., Bute House, Campden Hill, Kensington, W.

GARDENER (Under).—Age 19; not much accustomed to the work, but is very desirous to learn. Would not object to a situation under a Keeper.—W. Mawby, Fillongley Hall, Coventry, Warwickshire.

GARDENER (Under).—Age 21; good references can be had from last employers.—T. G., Mrs. Eales, Meadfoot Row, Torquay.

GARDENER and STEWARD.—Age 32, married; 18 years' practical experience in all branches of Horticulture, also has a thorough knowledge of Agriculture, Buying and Selling Cattle, and Stock of all sorts. Five years' unexceptionable testimonials from present employer.—R. B., *Gardeners' Chronicle* Office, W.C.

FOREMAN in a nobleman's or gentleman's Garden, or to take the general Management under a Steward.—Age 27, single. Can have first-rate testimonials for ability, sobriety, and industry.—A. B., 61, Orchard Street, Plumstead, Kent.

### To Gardeners.

FOREMAN or IMPROVER, under a first-class Gardener.—Age 21; possesses good abilities. A good Premium will be given.—X. Y. Z., *Gardeners' Chronicle* Office.

NURSERY FOREMAN or MANAGER.—An energetic young Man, married, and possessing a good practical knowledge of the Nursery business in all its branches, is desirous of obtaining a situation in the above capacity, or a place in a Nursery where a confidential man is required. Commands a good address, and is a competent Salesman and correspondent. The Advertiser would have no objection to treat with any respectable party already established in a moderate-sized Nursery, or about to commence one, with a view to a Partnership. A liberal capital could be found.—Hortus, Post Office, Birmingham.

IMPROVER.—Accustomed to all kinds of Forcing and Flowers. Good premium given.—D. Tanly, 24, Park Street, Dorset Square, London, N.W.

STEWARD or BAILIFF.—Middle-age, married; has had 14 years' practical experience in the above capacity; well understands the cultivation of all kinds of Soil, Breeding and Rearing of all kinds of Stock, Buying and Selling; likewise the Valuation and Measuring of Timber, Building, &c., and every other branch connected with a gentleman's estate. The highest reference can be given.—G. H., Messrs. Sutton & Sons, Seed Growers, Reading, Berks.

BAILIFF and GARDENER or GENERAL MANAGER on an Estate.—No incumbrance; 20 years service in the Northern and Midland Counties of England with noblemen and gentlemen. References on application.—Samuel Brown, Wheldrake, Yorkshire.

FARM BAILIFF (by a Norfolk Man).—Age 41, married, one child; well understands Breeding and Rearing of Stock. Has lived in Hampshire. Good references.—B. R., 176, King's Road, Chelsea, S.W.

BAILIFF, or BAILIFF and GARDENER.—Age 40, married, no incumbrance; has had 20 years' practical experience in Farming, both Heavy and Light Land, Buying and Selling of Stock, and has a thorough knowledge of Gardening in all its branches. Wife can take the Management of a Dairy and Poultry if required.—F. D., Mr. Jones, Stationer, Woodford, Essex.

WORKING BAILIFF.—Single; has had several years' experience in different counties, in the Management of Stock, Roots, Crops, Woods, &c. Several years' references. Has a Sister who could attend to Poultry, &c., if required.—A. B., Mr. T. Smith's, Poplars, Godstone, Surrey.

### To the Seed Trade.

SHOPMAN.—Well experienced in the business.—A. T., Messrs. James Carter & Co., 237, High Holborn, London, W.C.


### Landscape Gardening, Ireland.

MR. J. W. CHAPMAN offers his services to the nobility and gentry of Ireland in the formation of Gardens and Pleasure Grounds, and the general improvement of Estates. Plans and Drawings for these purposes will be furnished, and where it is desired, experienced men will be sent to any part of the country to superintend the carrying out of the works.

Mr. C. will be happy to refer to gentlemen in this country and elsewhere, with whom he has been professionally engaged.

27, Molesworth Street, Dublin.—August 15.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.

CHUBB'S FIRE PROOF STRONG ROOM DOORS. CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.

Illustrated Price List gratis and post free.

Chubb & Son, 57, St. Paul's Churchyard, London, E.C.

LE SOMMIER ELASTIQUE PORTATIF.—The foundation for all Mattress Bedding should be elastic, and the usual Spring Mattress is too heavy and cumbersome for general use. Heal & Son's new Patent LE SOMMIER ELASTIQUE PORTATIF is made in three separate parts, and is therefore light and portable; it is also cheap and durable; and as it has no stuffing on the top, it cannot harbour moth.

HEAL and SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.

Heal & Son, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

BEDSTEADS, BATHS, and LAMPS.—William S. Burton has SIX LARGE SHOW ROOMS, devoted exclusively to the SEPARATE DISPLAY of LAMPS, BATHS, and METALLIC BEDSTEADS. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

| | | | | |
|---|---|---|---|---|
| Bedsteads, from .. .. | 12s. 6d. | to | £20 0s. | each |
| Shower Baths, from .. | 8 0 | to | 6 0 | " |
| Lamps (Moderateur), from | 6 0 | to | 8 10 | " |

(All other kinds at the same rate).

Pure Colza Oil .. .. .. 4s. 6d. per gallon.

WILLIAM S. BURTON, GENERAL FURNISHING IRONMONGER by appointment to H.R.H. the Prince of Wales, sends a CATALOGUE gratis and post paid. It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro-Plate, Nickel Silver and Britannia Metal Goods, Dish-Covers, Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea-Trays, Urns and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Room Cabinet Furniture, &c., with Lists of Prices, and Plans of the 20 large Show Rooms, at 39 Oxford Street, W.; 1, 1a, 2, 3, and 4, Newman Street; 4, 5, and 6, Perry's Place; and 1 Newman Yard, London.

THRESHER'S COLORED FLANNEL SHIRTS.—Prize Medal awarded to Thresher & Glenny for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.

Lists of Prices on application to Thresher & Glenny, General Outfitters, next door to Somerset House, Strand, W.C.

FAMILY JARS for PRESERVES.—Many a Lady has had to lament the total loss of her Preserves and Pickles for want of a good cork for her Jars. JENNING'S PATENT CAPSULE hermetically seals any Bottle or Jar on which it may be placed, is proof against the attacks of Mice or Insects, can be fixed or removed in a moment, and will last for years.

Descriptive Illustrations and Prices from Jennings's Wholesale Depôt, Palace Road, Lambeth.

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WORCESTERSHIRE SAUCE.—This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE," Is prepared solely by Lea & Perrins.

The public are respectfully cautioned against worthless imitations, and should see that Lea & Perrins' Names are on Wrapper, Label, Bottle, and Stopper.

Ask for Lea and Perrins' Sauce.

*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. Crosse & Blackwell; Messrs. Barclay & Sons, London, &c.; and by Grocers and Oilmen universally.

Manufacturers to the Queen and Prince of Wales.

FRY'S | HOMŒOPATHIC / ICELAND MOSS / PEARL | COCOA

FRY'S SOLUBLE CHOCOLATE.

J. S. Fry & Sons were the only English Manufacturers of Cocoa who obtained the Prize Medal, 1862.

METCALFE, BINGLEY, and CO'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. Metcalfe's celebrated Alkaline Tooth Powder, 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each. 130 b, and 131, Oxford Street, W.

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for Acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild Aperient for delicate constitutions, more especially for ladies and children. It is prepared in a state of perfect purity and of uniform strength by Dinneford & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

CORNS and BUNIONS.—A gentleman, many years tormented with Corns, will be happy to afford others the information by which he obtained their entire removal in a short period, without pain or any kind of inconvenience.

Forward address, on a stamped envelope, to W. Goodall, Esq., Epsom, Surrey, S.

KEATING'S PERSIAN INSECT DESTROYING POWDER.—Fleas in Dogs, Poultry, &c., are instantly destroyed, as also Bugs, Beetles, and every other Insect, by this Powder, which is perfectly harmless to animal life; Sportsmen particularly will therefore find it invaluable.

Sold in Packets, 1s., 2s. 6d., and 4s. 6d. each, or post free for 14 or treble size for 36 postage stamps, by Thomas Keating, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice, each genuine packet bears the above name and address.

For which a Prize Medal was awarded to the Producer at the International Exhibition, 1862.

GLYCERINE, which very simple tests show to be impure, is being sold on the statement that it is in every respect equal to Price's. Most medical men prescribe "Price's Glycerine" where purity is of importance.

Patients can ensure it by desiring to have their Glycerine in 1 lb., 8, 4, or 2 oz. bottles, with capsules over the stoppers marked—

"Price's Patent," Belmont, Vauxhall.

CONSUMPTION.—All Nervous, Bilious, Liver and Stomach Complaints are only aggravated and accelerated by drugs of every description, but perfectly curable by Du Barry's health-restoring REVALENTA ARABICA FOOD, as proved by thousands of cases which had been considered hopeless. We quote a few.—Cure, No. 46,270. Mr. James Roberts of Frimley, Surrey, of 30 years' diseased lungs, spitting of blood, liver derangement, and partial deafness.—Cure, No. 47,121. Miss Elizabeth Jacobs, of extreme nervousness, indigestion, gatherings, low spirits, and nervous fancies.—Cure, No. 54,816. The Rev. James T. Campbell, Fakenham, Norfolk, "of indigestion and torpidity of the liver, which had resisted all medical treatment."—In tins 1 lb., 2s. 9d.; 2 lb., 4s. 6d.; 5 lb., 11s; 12 lb., 22s.; 24 lb., 40s.

Barry du Barry & Co., No. 77, Regent Street, London, W.; also at 61, Gracechurch Street, E.C.; 4, Cheapside, E.C.; 63 and 150, Oxford Street, W.; and all Grocers and Chemists in every town of the United Kingdom.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, AUGUST* 22, 1863.

ROYAL SCHOOL of MINES.
*Director.*
Sir Roderick Impey Murchison, K.C.B., F.R.S., &c.

During the SESSION 1863-64, which will COMMENCE on OCTOBER 6, the following COURSES of LECTURES and PRACTICAL DEMONSTRATIONS will be given :—

1. CHEMISTRY. By A. W. Hofmann, LL.D., F.R.S., &c.
2. METALLURGY. By John Percy, M.A., F.R.S.
3. NATURAL HISTORY. By T. H. Huxley, F.R.S.
4. MINERALOGY. } By Warington W. Smyth, M.A., F.R.S.
5. MINING. }
6 GEOLOGY. By
7. APPLIED MECHANICS. By Robert Willis, M.A., F.R.S.
8. PHYSICS. By T. Tyndall, F.R.S.
Instruction in Mechanical Drawing, by Rev. J. Haythorne Edgar, M.A.

The Fee for Students desirous of becoming Associates is 30*l*, in one sum on entrance, or two annual payments of 20*l*., exclusive of the Laboratories.

Pupils are received in the Royal College of Chemistry (the Laboratory of the School), under the direction of Dr. Hofmann, and in the Metallurgical Laboratory, under the direction of Dr. Percy.

Tickets to separate Course of Lectures are issued at 3*l*. and 4*l*. each.

Officers in the Queen's Service, Her Majesty's Consuls, acting Mining Agents and Managers, may obtain tickets at reduced prices.

Certificated Schoolmasters, Pupil Teachers, and others engaged in education, are also admitted to the Lectures at reduced fees

His Royal Highness the Prince of Wales has granted two Scholarships, and several others have also been established.

For a Prospectus and information, apply at the Museum of Practical Geology, Jermyn Street, London, S.W.

Trenham Reeks, Registrar.

SCIENCE and ART DEPARTMENT of the COMMITTEE of COUNCIL on EDUCATION,
South Kensington, W.

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## News of the Week.

An Imperial decree was published in Paris on Thursday condemning the bishops' letters on the subject of the elections, and declaring them to be an abuse of ecclesiastical authority. The decree states that it is a fundamental maxim of French public law that the Chief of the Church and the Church itself have control solely over spiritual, and not over temporal and civil affairs; and that the bishops and archbishops are not empowered to deliberate together or pass common resolutions without the special permission of the Government.

The Congress of Sovereigns convened by the Emperor of Austria at Frankfort for the reform of the Germanic Confederation was opened on Monday by the Emperor in person. Of the 35 States of which the Confederation consists, 32 were represented on the occasion, the only absentees being Prussia, Denmark, and Lippe Detmol. The minor sovereigns, however, had previously held a meeting, at which it was unanimously resolved to send a deputation to the King of Prussia, for the purpose of inviting him to attend the conference. The King of Saxony, at the request of the meeting, undertook to convey the invitation in person, and on Wednesday last proceeded to Baden and had an interview with his Majesty, who is credibly reported to have declined the invitation.

Accounts from St. Petersburg state that the notes of the three Powers were to be presented to Prince Gortschakoff on Wednesday or Thursday. The contents of the Austrian Note are not known, but those of France and England are said to be thoroughly courteous and pacific in their tone, though the English communication is somewhat reserved. Both Powers again urge the "six points," and express the hope that Russia will adopt such measures in regard to Poland as will lead to the restoration of peace. If she does not, the Powers, having done their utmost in the cause of humanity, will hold Russia responsible for any consequences which may hereafter ensue. Dissensions are said to have broken out among the chiefs of the insurgents in Poland, and it is said to be not improbable that the movement will henceforth be directed wholly by the extreme party. A telegram from Posen states that Prince Roman Czartoryski has been arrested by the Prussian authorities, and conducted to Berlin.

From the United States we learn that General Meade has insisted on the acceptance of his resignation, and that General Grant is spoken of as his successor. The army of the Potomac is to be re-organised and reinforced, and it is reported from Baltimore, that by the middle of August General Lee's army will be increased to 150,000 men, with 300 pieces of artillery, and will assume the offensive if the Federal army has not advanced. Accounts from Louisiana state that the Confederate General Taylor has routed the Federals under General Banks, and captured 6000 prisoners. The siege of Charleston was still in progress on the 6th inst., though the idea of taking Fort Wagner had been abandoned, in consequence of the little impression made on the fortifications by the guns of the assailants. The Federal steamer Ironsides was within 500 yards of Fort Sumter, and General Gilmore's batteries were expected to open fire from Morris Island on the 8th. The New York papers state that an offensive and defensive treaty has been concluded between the United States and Russia against France and England, and that, after discussing the Mexican question at several cabinet meetings at Washington, it has been resolved to demand from France the abandonment of the scheme for establishing an empire in that country. A despatch from Baltimore says that the Confederate Government has determined to arm the whole able-bodied negro population to resist Federal aggressions.

By the overland mail we learn that there is some doubt of the identity of the prisoner supposed to be Nana Sahib; the evidence of the blind Brahmin, who turned Queen's evidence, and denounced him as the Rajah of Bithoor, being considered to require confirmation.

Despatches from Japan state that on the 13th June ambassadors from Yedo had an interview with Colonel Neale, and paid the 400,000 dollars demanded for the murder of Mr. Richardson; but excused the Tycoon from surrendering the offenders, because his authority was insufficient to enable him to capture them. The Mikado has since issued imperative orders for the expulsion of foreigners and the closing of the ports. From China we learn that Nanking had been attacked by the Imperialists, and the outworks carried.

## Home News.

The Queen in Germany.—On Friday afternoon the Queen, accompanied by the Royal family and suite, took leave of the King of the Belgians, and left Laeken for Germany. Her Majesty passed through Cologne at a quarter past 7 in the evening, and arrived at the Castle of Rosenau shortly before 10 on Saturday morning. The Duke of Coburg being absent at the Congress at Frankfort, the Duchess received the Queen and the Royal family on their arrival, and visited her Majesty in the evening. The Queen was much fatigued by the intense heat in the journey from Laeken, and has remained in perfect quiet since her arrival.

The Prince and Princess of Wales.—The Prince went out to the hills on the 12th, and was exceedingly successful, having killed no fewer than 95 brace. The Princess frequently promenades and drives in the neighbourhood of Abergeldie. On Friday their Royal Highnesses, accompanied by the Count of Flanders, drove through Braemar on a visit to the Earl and Countess of Fife at Mar Lodge. On Saturday the Royal party drove by Clachinturn and Lochnagar distillery, on their way to Loch Muick, on an angling excursion. On Sunday, the Prince and Princess attended service at Crathie Church. The Rev. A. Anderson preached the sermon. It is announced that their Royal Highnesses will be present at the Braemar Gathering on the 27th inst., and that the Prince and Princess, accompanied by the Count of Flanders, will remain at Mar Lodge on a visit to the Earl and Countess of Fife till Saturday, the 29th.

Parliamentary Movements.—The election for the Montgomery Boroughs has terminated in the return of the Hon. Mr. Tracy, the Liberal candidate, by a majority of 109 over Mr. Pugh, the numbers being 439 to 330.

The Channel Fleet anchored at Kirkwall on the 12th inst., and were expected to leave on Friday for the Clyde. The Lord Provost and magistrates of Glasgow have invited Admiral Dacres and the officers of the fleet to a public dinner on their arrival in that city; and the corporation and people of Derry have resolved to invite the Admiral and his officers to a grand ball and supper on their arrival in Lough Foyle.

## Foreign.

France. — The *Moniteur* publishes the following important decree signed by the Emperor, and countersigned by M. Baroche, Keeper of the Seals and Minister of Justice and Public Worship :—

"A pamphlet having been published, having for its title, 'Reply of various Bishops to Consultations addressed to them relative to the forthcoming Elections,' the said pamphlet being signed by the Archbishops of Cambrai, of Tours, of Rennes, and by the Bishops of Metz, Nantes, Orleans and Chartres, we have decreed and decree as follows :—Considering that it is an established principle that, at all times, by the canonical law and confirmed by the bull and decree which fixed the new circumscription of the dioceses, that the powers of bishops are limited within the bounds of that circumscription, and cannot be exercised except within their respective dioceses: Considering that the archbishops and bishops have no right to deliberate together or adopt resolutions in common without the express permission of the Government: Considering that, according to the terms of the declaration of 1682, it is a fundamental maxim of the public law of France that the head of the Church and the Church itself have not received any power except upon spiritual matters, and not upon temporal things; that, consequently, the pastoral letters which bishops may address to the faithful of their diocess only must be confined to instructing them in their religious duties: Considering that the pamphlet in question has been addressed by the archbishops and bishops who have put their names to it, not only to the faithful and clergy of their respective dioceses, but to the faithful and clergy of the French Empire, by the medium of the daily newspapers and by a pamphlet distributed in the departments: Considering that the said pamphlet is evidently the result of a common agreement and joint resolution: Considering that its object is by no means to instruct the faithful in their religious duties; that it is in fact a political programme. Relative to the letter of the Archbishop of Tours: Considering that the letter challenges the right of the Government to enforce the respect due by the bishops to the laws imposed upon them by the Empire: Considering that it contains a censure upon certain acts attributed to the Government and concerning its foreign policy: That, under this double head, it constitutes a violation of the laws of the Empire and an abuse of power: Having consulted our Council of State, we have

decreed as follows: — Art. 1.—There is abuse of power in the pamphlet entitled 'Reply of certain Bishops to the consultations addressed to them relative to the forthcoming Elections,' signed and published by the Archbishops of Cambrai, Tours, and Rennes, and by the Bishops of Metz, Nantes, Orleans, and Chartres. The said pamphlet is suppressed. Art. 2. There is abuse of power in the letter addressed to our Minister of Public Instruction and Worship by the Archbishop of Tours on the 4th June last. The said letter is suppressed. Art. 3. Our Minister of State, and our Keeper of the Seals, Minister of Justice and of Public Worship, are charged, each as far as he is concerned, with the execution of the present decree, which will be inserted in the *Bulletin des Lois*.

"Approved, Aug. 16, 1863. "NAPOLEON.
"Countersigned. "BAROCHE."

The Emperor presided at a Council of Ministers on Sunday, and left on Monday for the camp at Châlons, where his Majesty was very warmly received. The Emperor is expected to return on Monday to St. Cloud, and will go to Biarritz in September. It is rumoured that the Emperor will have an interview in the course of a few days with the Emperor of Austria at Baden, where the King of Prussia is now staying. It is also reported from Vienna, that the Archduke Maximilian is about to visit the Emperor at Paris or Biarritz, and that the Archduchess Charlotte will accompany him. The Emperor of Russia sent to the French Ambassador at St. Petersburgh his congratulations on the Napoleon fête. At the State dinner given by M. Drouyn de Lhuys, as Foreign Minister, to the diplomatic body, the Papal Nuncio proposed the health of the Emperor. M. Drouyn de Lhuys drank to the health of the Sovereigns who are friends and allies of France. The whole of the Corps Diplomatique, with the exception of Prince Richard Metternich, who had gone to Frankfort, were present at this dinner. M. Drouyn de Lhuys will preside at the inauguration of the statue erected to Marshal Serrurier. He will subsequently preside at the Council-General, and will return to Paris when the Emperor returns from Châlons. It is said that his intended resignation has been withdrawn at the request of the Emperor. *La France* states that the Corps Législatif will meet on the 6th of November for the transaction of public business. The same journal says that the Archbishop of Mexico has left St. Nazaire for Vera Cruz, bearing with him the conditions on which the Archduke Maximilian will accept the throne. The *Moniteur* states that General Forey's confiscation decree has not only not been confirmed, but was revoked as soon as it came to the knowledge of the Government. The arrival of Ambassadors from Cochin China is expected shortly at the Tuileries. They are bringing with them a large cargo of presents, including a palanquin and four parasols; and have likewise taken the precaution of bringing their provisions in 500 huge boxes. The Correctional Tribunal on Tuesday acquitted the newspaper the *Sémaphore de Marseilles*, which received a warning from the Government a short time back. The *Gironde* of Bordeaux has received a second warning for publishing an article accusing the policy of the Emperor of wishing to avoid a war at any price, of being easily satisfied, and endeavouring to make the public believe that the review of the 14th inst. was not countermanded on account of the heat, but from fear of manifestations being made contrary to this policy. The *Nation* of Tuesday evening, under the heading "Our Allies at Frankfort," publishes an article which says—

"It is clear that if the Emperor of Austria had no other thought than that of Federal reforms, the idea of the Congress at Frankfort would not have been a sudden inspiration. It must be that the Court of Vienna is desirous of avoiding a snare which it thinks is being laid for it. It is our duty to foresee that Austria will shortly astonish the world by a startling defection. Her pro-Polish enthusiasm must come to an end. Another step and she would be compelled to draw the sword, and give up Galicia and Venetia. Instead of rushing to the rescue of Poland, Austria is thinking only of her personal defences behind the phalanx of German princelets. This melancholy spectacle does not scandalise England, since quite by accident the Queen of England finds herself in the neighbourhood of Frankfort. If, then, a plot against France be on foot, England is implicated therein. More than ever is it urgent that France should look for allies elsewhere than at Vienna and London."

SPAIN.—The Democrats have requested permission to hold a Meeting preparatory to the elections. This has not yet been granted. Señor Matamoros, the Spanish Protestant, who with several others was prosecuted and condemned in Granada for disseminating his religious opinions, and subsequently pardoned by the Queen of Spain, has left Gibraltar, where he has been for some time past, with his companions, for Oran. Previous to their leaving, he delivered a farewell address to his friends at Gibraltar, in the Presbyterian Chapel, on the evening of Sunday, the 9th inst.; and on the following Tuesday evening a public service was held in the Wesleyan Chapel, when the Rev. George Alton gave them a farewell address.

PORTUGAL.—The King and the Court have assisted at a solemn funeral mass over the remains of the Duke de Terceira in the Church of St. Vincent. The Portuguese journals are unanimous in their expression of sympathy with Poland. The Duke de Saldanha is said to have formally denied any intention to return to Lisbon. The rumour that the Duke will take the place of Count Lavradio as Minister at London is not credited. The vine disease continues to increase. The wheat crops are very abundant.

AUSTRIA.—The Vienna *Presse* says that it believes it to be the unanimous opinion of the Austrian people that the acceptance of the crown of Mexico by the Archduke Maximilian, at the hands of a Napoleon, would be rather a fatality than good fortune.

FRANKFORT.—The Emperor of Austria, accompanied by the Crown Prince of Wurtemberg, arrived at Frankfort at 6 o'clock on Saturday evening. His Majesty, who was attended by Count Rechberg, was received by all the members of the Senate, by the military and civic authorities, by the Archduke William of Austria and the representatives of the German States at the Federal Diet. Great crowds of people thronged the streets through which the Emperor passed, greeting his Majesty with vociferous cheers. The King of Bavaria arrived very shortly after the Emperor, and was received with great enthusiasm. The Grand Dukes of Weimar and Baden, the Dukes of Saxe-Coburg-Gotha, Brunswick, and Saxe-Meiningen, Prince Henry of the Netherlands, the Prince of Rudolstadt, and the representatives of the free cities of Hamburg, Lubeck, and Bremen, also arrived on Saturday. The Grand Dukes of Baden and Saxe-Weimar and the Duke of Saxe-Coburg Gotha held a conference in the course of the afternoon. The Dukes of Saxe Meiningen, Nassau, and Brunswick likewise held a private conference. The streets at night were crowded with people. The German tricolour was hoisted upon the Palace of the Federal Diet. The Emperor of Austria, on his journey through Stuttgart, received an address from the Burgomaster. His Majesty, in reply, said:—

"I am about to meet the wishes of the German people, and to undertake a work in which I hope to be successful. It affords me great pleasure to find myself supported therein by the counsels of your King, and the sympathies of the people of Wurtemberg."

The Princes of the different States were received by the Emperor on Saturday night. On Sunday they exchanged visits. The Emperor attended mass at 8 o'clock in the morning at the Cathedral, where he was received by the Bishop of Limburg. In the afternoon the minor Princes held several sittings, and resolved that a collective Note should be forwarded to the King of Prussia, in which His Majesty should be respectfully requested to attend the Congress. The King of Saxony undertook to convey the invitation to His Majesty in person. The Emperor afterwards gave a State dinner at the Palace of the Federal Diet. The opening of the Congress took place at 11 o'clock on Monday morning, under the presidency of the Emperor. The Members of the Congress were pledged to secrecy, but it has transpired that His Majesty delivered a very conciliatory speech, in which he said that his object in convoking the assembly was to bring about a reform of the German Bund that should be in keeping with the necessities of the times. He declared that he was actuated by no selfish motives, and expressed a hope that his Federal allies would assist him in the task which he had undertaken. He concluded by lamenting that Prussia was not represented, "a Power which in Germany is on the same level with Austria." The first sitting of the Congress lasted an hour and a half, and it is rumoured that it was a satisfactory one. In the evening the members of the Congress dined with the Burgomaster and Corporation of the city. At this banquet the Burgomaster proposed as a toast "The Princes and Free Towns of Germany." The Emperor of Austria replied in the following terms:—

"I take this opportunity of thanking the Senate and citizens, in the name of the Princes assembled, for the hospitable reception extended to us. I think we cannot display our gratitude to patriotically disposed citizens in a more worthy manner than by testifying as Princes that we are all united in hearty love to our common Fatherland. We are all further united in best wishes for this memorable town. The illustrious guests will joyfully drink with me to Frankfort's welfare and prosperity. May Frankfort prosper!"

The following are stated to be the bases of the Austrian programme of Federal reform:—

A Directory of five, consisting of Austria, Prussia, Bavaria, and two other German Powers to be chosen. A Federal Council of permanent representatives of German States; an Upper House, to be composed of the Princes; and an Assembly of Delegates from the German Diet, 300 in number, half of whom will be sent by the Austrian and Prussian Diets, the remainder by the other German Diets. Two-thirds of the Delegates are to be chosen by the Lower Houses of the Diets of the German States, and one-third by the Upper Houses. The powers of the Federal Assembly to be increased. The sessions to be triennial. Some principles for general national legislation to be adopted—viz., a law regulating the right of domicile, a general press law, a general law respecting associations, and a law for the establishment of Federal tribunals.

There was no sitting on Tuesday on account of the Emperor's birthday. On Thursday the permanent committee of the popular delegates of the German Diets held a sitting. The following questions were upon the order of the day:—"The German question; the more enlarged organisation of the Congress; the Schleswig-Holstein question. Meetings of the Congress were to take place yesterday and to-day. Herren Schultze, Delitsch, Bennigsen, Metz, &c., are among the deputies who have already arrived. The King of Holland attended at the gala performance in the theatre on Thursday. Thirty-two sovereign Princes, with their Ministers and the corps diplomatique, were present upon the occasion. The Earl of Clarendon, Earl Granville, and the Duke of Cambridge, who are now at Frankfort, have had interviews with the Emperor, and paid frequent visits to the different Princes and German Ministers. Prince Richard Metternich, Count Apponyi, and other Austrian diplomatists are also at Frankfort for the purpose of discussing European questions, notably the affairs of Poland and the German difference with Denmark.

PRUSSIA.—The King of Saxony arrived at Baden on Wednesday afternoon to deliver to the King of Prussia the Austrian project of reform, together with an invitation to his Majesty to attend the Congress at Frankfort. The King of Prussia and Count von Bismark arrived at midnight. An interview between the two Sovereigns took place on Thursday. Yesterday morning the King of Saxony returned to Frankfort, and it is credibly reported that he is the bearer of a letter from the King of Prussia declining the collective invitation of the German Princes.

ITALY.—The Turin papers announce that public subscriptions have been opened to offer a testimonial to Sir James Hudson as a token of Italian gratitude. The report that the Chevalier di Nigra, the Marquis d'Azeglio, and the Marquis Pepoli were to be recalled from Paris, London, and St. Petersburg is entirely unfounded. Letters from Rome announce that Cardinal Antonelli has again tendered his resignation. The Pope declined to accept it. The Cardinal, however, insisted, and it is said that Cardinal Alfieri will be his successor. A loan for the establishment of better means of communication throughout the little Republic of San Marino has been negotiated in Paris by the Chargé d'Affaires of the Republic with the banking house of Messrs. J. Pic and Co. Advices from Constantinople state that the Italian Minister at the Ottoman Porte has protested to the Austrian Internuncio, on the ground that the latter opposes obstacles to the exercise of his diplomatic functions.

RUSSIA.—Letters from St. Petersburg state that the Notes of the Western Powers were to be presented to Prince Gortschakoff on Wednesday or Thursday. They add that the purport of the French Note is thoroughly pacific, and that the English Note, although couched in terms of the most perfect courtesy, is rather more reserved, although maintaining the same sense. Both Notes persevere in the proposals formerly made by the Powers to Russia. They regret that Russia has not consented to accept the six points, the project of a conference, and an armistice, but hope that after mature consideration the Government of the Emperor will arrive at a different conclusion. While both Powers make Russia responsible for future consequences, they declare that, after having fulfilled the duties imposed upon them by humanity and the right interpretation of treaties, they must for the present confine themselves to repeating their former observations with increased emphasis. M. Drouyn de Lhuys and Earl Russell further declare themselves willing to await the measures which the Russian Government may adopt, in the hope that they will lead to peace. Nothing authentic has transpired with respect to the contents of the Austrian Note. It is believed that Prince Gortschakoff will take some time before forwarding his replies to the Notes, as the Emperor left on the 16th for Novgorod, and will certainly not return for at least 10 days. The Vienna *Presse* mentions the rumour of an offensive and defensive alliance between St. Petersburg and Washington, affecting principally the bearings of the Mexican and Polish questions. The Bank of Russia at St. Petersburg has suspended payments in imperials.

POLAND.—*La France* of Friday evening states that differences have sprung up among the chiefs of the Polish party, and that the extreme party had the chance of taking the lead in the movement. The insurgents attacked and dispersed three companies of Russian infantry and a squadron of cavalry, on the 8th inst., at Zarzyn, in the palatinate of Lublin. Upwards of 300 Russians were killed and 110 taken prisoners; the latter, however, were sent back. The insurgents captured 200,000 roubles in this engagement. Two sanguinary engagements took place in the palatinate of Cracow on the 15th, the first at Grodzisko, the second at Czcruschan, on the Galician frontier. A Polish detachment, after having destroyed a company of the enemy near Grodzisko, was attacked near Glanow by the Russian forces from Olkusz and Miechow. A sanguinary conflict ensued, and the Poles, after making a heroic resistance until dusk, recrossed the frontier. At the commencement of the engagement the Poles were 250 strong, of which number only 36 succeeded in retreating into Galicia. In the village of Glanow several persons, among whom were Mr. and Mrs. Rutkowski, were burnt in their houses by the Russians, who also burnt the village of Korzkiez and massacred several of the inhabitants. Numerous desertions of Poles serving in the Russian army have taken place. Prince Roman Czartoryski has been arrested by the Prussian authorities at his estate of Ruchberg, and conducted to Berlin.

GREECE.—Intelligence from Athens states that the Greek National Assembly has resolved on the re-organisation of the Senate. Another decree orders a change in the Insignia of the Order of the Saviour.

TURKEY.—Russian troops are concentrating at Gumri. The Porte has demanded explanations from the Russian Government on the subject. Hussein Pasha has been appointed Minister of War, in place of Halil Pasha, who has resigned. A Turkish camp of observation is to be established at Schumla. Omer Pasha is seriously ill. The old Seraglio has been totally destroyed by fire. The Inland Custom Houses have been abolished, and an octroi substituted.

CAPE OF GOOD HOPE.—The Bishop of Cape Town has cited Bishop Colenso to appear before him on the 17th of November next. The House of Assembly has passed, by an overwhelming majority, the Loan Bill, which is intended to provide for the revenue deficit. As regards

the manner in which the loan should be negotiated, the Government advocated 6 per cent. Debentures of the usual character. The Government has been defeated on their Crown lands policy of reassuming the disposal of these lands. The railway Bills have passed, but merely empower the Government to prepare surveys. The Roads Bill is likely to last another year. The Chamber of Commerce has received a letter from the Governor, declining to introduce a Bill to abolish the general clauses in special mortgages. The frontier mail arrived on the 8th of July, but brought no news of importance. The Union Company has offered, for 4000*l.* subsidy, to run a steamer between Natal and Mauritius.

India.—Lord Elgin has been laid up with fever at Simla, but was convalescent at latest dates. The Council of the Governor-General for making laws and regulations will assemble at Lahore in January next. The man captured at Ajmere as the Nana Sahib of Bithoor has not yet been satisfactorily identified. Information has been received from Rajpootana that the blind Brahmin who was captured with him has become Queen's evidence, and has himself identified the Nana. But the story is not credited in its present form. A plan for a general rising in the cold weather is said to have been organised. Authentic intelligence and full details regarding the capture of Herat, the death of the old Ameer Dost Mahomed, and the arrangements made by him, and by his sons previous to his death, for the Government of the country have been received from Cabul. An order went from Poonah on the 10th July relieving Colonel Crawley of the command of the 6th Inniskillings, and appointing Colonel Prior as his successor. It has also intimated that Colonel Crawley was not to leave the Presidency of Bombay without permission. Government has sanctioned the enlistment of men from the Punjab into the native regiments throughout India. The number of Punjabees in any one regiment is not to exceed 100 men.

Australia.—The colony of Victoria is in the midst of a ministerial crisis, the O'Shannasy Cabinet, which has long since lost the confidence of the country, having been beaten by a large majority in the Legislative Assembly. The *Age* says that the Romanism of the late Ministers had long long been a serious obstruction to measures of general benefit. The removal of Sir H. Barkly to the Mauritius is viewed with regret, and little interest was excited by the announcement of Sir Charles Darling as his successor.

New Zealand. The Maoris have been completely routed at Taranaki by General Cameron, of Crimean renown, who has adapted his tactics to his enemy, and has surprised the Maories in one of their strongholds at Tataraimaka, killing about 40, and wounding many more, with a loss to his own force of only two killed, two mortally wounded, and eight slightly wounded. It appears that the rebel natives concerned in the massacre of the 4th of May retired to a strongly fortified pah on the spur of a range of hills, from which they occasionally sallied in detached parties, with the view of cutting off any unfortunate settlers or soldiers whom they might encounter. A party of the 57th Regiment, under Lieut. Brutton, who were patrolling the district, in the hope of being able to revenge the death of their comrades, stumbled upon a party of natives that were out on a similar errand, and killed eight of their number. The General, having determined to attack the rebel pah, where the enemy were supposed to be lodged in considerable force, despatched on May 25, a force consisting of 500 men of the 70th, 108 of the 40th, 55 of the 65th, and two guns, under the command of Major Murtoch, of the 70th Regiment, with the intention of attacking the rebel position. The weather, however, set in so wet and cold that the troops were marched back to town after having proceeded a short distance in the direction of the enemy. On the 4th June another attack was determined on, and accordingly plans were adopted by which to conceal the real intentions of the General. For some days prior to the expedition, rumours were allowed to circulate of a supposed intention to withdraw the troops for the winter, and, to give some colouring to the statement, baggage waggons and carts were made to pass continually to and from the various redoubts, accompanied by escorts which were so disposed as to convey the impression that they did not return. On the evening of the 3d, the volunteers under Captain Atkinson were ordered to ambuscade in the bush, and a large number of civilians were told off for patrol duty. At 9 o'clock in the evening, the attacking force quietly left the town and began its march to the pah. The force consisted of 81 men of the 65th Regiment, under Captain Gresson, with Lieutenants Lewis and Chevalier; 90 men of the 40th, under Lieut Hobbs and Ensign Ducrow; 228 men of the 70th, under Major Murtock, with Captains Rutherford, Tovey, Ralston, and Cay, Lieutenants Huskinson and Grierson, Ensigns Clarke and Young, and Dr. Meikleban; 119 dismounted men of the Royal Artillery, under Captain Mercer, R.A., and Lieutenants Rait and Larcom; Lieut.-Colonel Hutchins, Military Secretary; Major Paul, Dr. Mouat, C.B., Lieut.-Col. Gamble, Deputy Quartermaster-Gen.; Capt. Travers, of the Land Transport Corps; Major M'Neil, Aide-de-Camp; Capt. Gorton, Aide-de-Camp; Dr. Tomlinson and Deputy Assistant-Commissary-General Innes, the whole under the command of General Cameron, who, accompanied by the Governor and Staff, steamed to the scene of action in her Majesty's ship Eclipse. On reaching the Pontoko redoubt, the garrison, under Colonel Warre, was replaced by the detachment of the 40th. Before reaching the Tataraimaka redoubt, the force was increased by the addition of a party of the 70th regiment, from the Oakuru redoubt. On mustering in the rear of the Tataraimaka redoubt, the force consisted of 650 men from the 57th, 70th, and 65th regiments, three Armstrong guns, the greater portion of Captain Mercer's men, and a few Engineers. The Taranaki correspondent of the *Otago Daily Times*, an eye-witness of the affair, gives the following particulars:

"The Katikara river—the southern boundary of the block—runs towards the coast almost at a right line from the mountain; its banks, mostly precipitous and rugged, are covered with dense vegetation. About a mile up the river, so as to command the back of the block, a short distance from the precipitous banks the enemy had constructed earthworks, the strength of which was chiefly in the underground excavations, the country in the neighbourhood being literally honeycombed with zig-zag rifle pits. The proper road for crossing the river wends down an incline towards the shore, where it divides into two, one passing to the south, the other leading up the steep cliff towards the enemy's works. The plan of attack adopted was to storm in two parties—one from the road up the cliff from the beach, under cover of the Armstrong guns of the Eclipse; the other from a party who were to ascend the river, cross it, rush the rifle-pits on the opposite gully, and join the other party in storming the main earthwork. In accordance with this well-concerted plan, at about a quarter to 7 A.M., Major Mercer's battery of artillery, consisting of three Armstrong 12-pounders, with detachments of the 57th and 70th under the command of Colonel Warre, marched up the river. At about 400 yards' distance from St. George's and 800 from the enemy's works the guns unlimbered and commenced throwing shell with beautiful precision; at the same time the skirmishers lined the banks of the river and the cliffs. Under this united protection Colonel Warre's party doubled down through the broken country, crossed the river, and, climbing the opposite incline, which was very steep, in dead silence, but with great rapidity, came at once on to the rifle-pits, in which were two native sentinels, who were immediately despatched with the bayonet, and the other works one after the other 'rushed.' By this time the garrison of the main work awoke, and fired upon the 57th. It was now that our greatest casualties occurred. One old chief, in bold defiance, waving his hand as he retired, became a perfect target for the rifles; at last he leaped into a pit and was bayoneted. He had in his hand a handsome spear, for which one of the officers gave to the man who took it 10*l.* The other party, under the command of Colonel Logan, with Captain Short acting as the support, now coming up, a rush in extended order of about 600 yards was made on the southern redoubt. As Colonel Logan's party came up a shell from the Eclipse drove the natives from the pah; when, seeing the party advancing, they rushed back again for shelter. In a very few minutes our men were in possession. Major Murtock, with a detachment of the 70th, came to the attack from the beach road. Colonel Logan, who had dismounted from his horse, was quietly standing, imagining all to be over, when a Maori deliberately covered him with his piece, but was prevented from firing by the presence of mind of one of the 57th, who bayoneted the man in his eye. Another Maori rushed forward with a tomahawk, but was shot by a soldier, who in the struggle received a gash across the shin. A party of men were standing, regardless of danger, over a pit in the ground that had been covered with a hurdle, when a Maori from beneath endeavoured to stab a man with a bayonet at the end of a stick, in which he fortunately failed. The covering was immediately removed, when six natives, refusing to yield, met their death at the point of the bayonet in the first rush. A woman threw herself over her husband to protect him, and was run through with the bayonet. A hut in which our men had despatched many now caught fire, and some of the bodies were burnt. In one hour from the commencement of the attack all was again quiet. The natives fled in two directions—one party sought the shelter of the bush towards the ranges, while the other escaped by the gullies through the high fern on to the beach. Those who fled inland were harassed by the 65th and 70th skirmishers, while Lieutenant Rait with his artillerymen pursued them with revolver and sabre. The number of the enemy killed in this part of the field has not been ascertained, but it must have been heavy. The bodies of the enemy killed are stated to be Wanganui and Waitara natives. The Taranakis witnessed the whole affair from their pah in the ranges."

One of the natives engaged in the late massacre was captured. He had in his possession the watch and chain of Lieut. Tradgett, of the 57th. The native is to be tried before the Supreme Court. The New Zealand settlers are elated with this success, and with such generalship anticipate a speedy termination of the war.

China.—The city of Shanghai was quiet on the 4th July. The Imperialists have attacked Nankin, and captured the outworks.

Japan.—The New York papers publish intelligence from Kanagawa to the 24th of June, *viâ* San Francisco, stating that the Japanese Government had paid the indemnity of 400,000 dollars demanded by England for the murder of Mr. Richardson, but had refused to surrender his murderers under the pretence that they were unable to take them forcibly. Negotiations concerning the surrender of the murderers were still pending. The foreign residents were apprehensive that war was inevitable. Subsequent accounts received through China confirm the news that the Japaneese have paid the indemnity, but state that the Mikado had issued orders to expel foreigners and to close the ports.

Manilla.—The loss of property caused by the earthquake at Manilla amounts to 40,000,000 dollars.

United States.—It is reported that General Meade has twice tendered his resignation, and now insists upon its acceptance. General Grant is spoken of as his successor. The army of the Potomac is to be reorganised. Drafted men and substitutes are now reinforcing it. A considerable force of all arms from General Meade's army, under General Buford, crossed the Rappahannock on the 1st inst., and encountered the Confederates near the river. A desperate conflict commenced. The Confederates retreated, fighting, upon Culpepper, when they were reinforced and in turn drove back the Federals. The Federals were shortly afterwards also reinforced by a whole army corps, and gained a strong position, when the Confederates again retreated towards Culpepper. The loss on both sides is reported to have been heavy. It is stated that further reinforcements were pushed forward by both Generals Lee and Meade during the night. The Federal pickets now extend two miles and a half beyond the south bank of the Rappahannock. The railroad bridge across the river at Rappahannock station has been rebuilt. Skirmishes occur daily; but no general engagement is immediately anticipated, though the Richmond journals announce that General Lee has massed his forces, and is prepared for another battle. It is said that by the middle of August he will be reinforced to the number of 150,000 men, with 300 pieces of artillery, and if by that time the Federals have not advanced, he will assume the offensive, and move from Fredericksburg direct on Alexandria, or on Arlington Heights. The Richmond papers state that General Meade has been reinforced by 15,000 men from Grant's army. It is reported that General Taylor has defeated General Banks in a battle in Louisiana, and captured 6000 prisoners. The raid of General Spear into North Carolina, previously reported as successful, is now asserted to have been a total failure. New Orleans papers of the 26th ult. report the sacking and destruction of Yazoo City, Mississippi, by the Federals. Telegrams from Charleston, dated the 31st ult. to the *Richmond Whig*, announce that the batteries at Cumming's Point, on Morris Island, were bombarded by three ironclads for five hours during the previous day. At the end of that time the vessels withdrew, having inflicted no serious injury to the works. All the Confederate forts within range replied to the Federal fire. At daylight on the 31st a heavy bombardment was opened upon the Federal position on Morris Island, which was continued until 2 o'clock in the afternoon, the result of which is not stated. The bombardment of Fort Wagner still continued on the morning of the 4th. The garrison of the Fort had made a sortie upon one of the Federal batteries, but were repulsed. General Gilmore's heavy batteries, which are said to mount the largest guns ever cast at the North, were expected to open fire from Morris Island on Fort Sumter on the 8th inst. The steamer Ironsides was within 500 yards of Fort Sumter. A letter from Charleston, published in the *Boston Traveller*, confirms the statement that the Confederate shot pierced the plating in the decks of the Monitors. Three of these shots struck the Nahant during the recent attack upon Fort Wagner, and considerably damaged that vessel. The *Tribune* reports that fears exist in Washington that the insufficiency of the reinforcements for General Gilmore, and the delay in sending them to him, may result in the failure of the present siege of Charleston. General Bragg is at Chattanooga. Part of his army is at Rome, Georgia. It is rumoured that Bishop Polk has superseded General Bragg. General Foster has made a reconnaissance up the James River, during which his vessels were fired at by artillery and sharpshooters stationed along the banks. A torpedo exploded under one of the vessels, doing considerable damage. The Federal expedition from Vicksburg has arrived at Port Hudson. It is stated that 100,000 negro troops will be organised to defend the navigation of the Mississippi. President Lincoln has issued a proclamation announcing that the Federals will adopt a system of retaliation if the South refuse to treat negroes as prisoners of war. For every Federal soldier killed in violation of the laws of warfare a rebel soldier will be executed; and for every one enslaved or sold into slavery a rebel soldier will be placed at hard labour on public works, and kept at labour until the other be released and receive the treatment due to prisoners of war. Mr. Cisco, the United States' Assistant-Treasurer, has given notice that the interest on the temporary loan of United States' notes to the Government will, after the expiration of the several periods of the current six months, be paid in legal-tender notes, instead of coin as heretofore promised. The 6th being the day appointed by President Lincoln for a general thanksgiving for the Federal successes in the South-west, services were held in the different churches. The Maine Democratic State Convention has passed strong resolutions denouncing the course of the Lincoln Administration. The draft was resumed in New York on the 3d. 1500 names were drawn, a third being those of negroes. The Governor of New York has written to President Lincoln complaining of the injustice done to the State by the mode of enrolment, and asking for a suspension of the draft until the errors are corrected. He urges volunteering to be substituted for the draft, and claims that, by the constitution, the Conscription Act should be tested in the State courts. President Lincoln has replied that the draft must be enforced, but that the districts where there is any irregularity could be re-enrolled. The President does not object to submit the constitutionality of the Conscription Act to the decision of the courts, but cannot consent to lose time while obtaining judgment, "as the enemy is driving every man into his ranks very much as a butcher drives bullocks into his slaughter pen, thus producing an army which will soon turn upon the victorious Federals if not sustained by recruits. The volunteer system is so far exhausted as to be inadequate." The *New York Herald* states that several Cabinet meetings have been held at Washington, at which the Mexican question was discussed, and it was decided to demand from France the entire abandonment of the monarchical scheme. It is also reported

from Washington that Mr. Cassius Clay has concluded an offensive and defensive treaty with Russia, agreeing to declare war with the Western Powers in the event of their going to war with Russia on the Polish question. The *Richmond Whig* of the 31st ult. announces the death of the Hon. W. L. Yancey, of the Confederate Congress. On the 1st inst. President Davis issued a proclamation exhorting all the men of the Confederacy to come to the rescue of their country in this its hour of peril. He declares that victory is still within their reach if they will but stretch forth their hands to grasp it. To all soldiers who are absent without leave he promises full pardon, provided they return immediately to their duty. He finally conjures all the women of the Confederacy to use their influence in aiding this call, and to take care that none who owe duty in the field shall be sheltered at home. The Confederate Secretary of the Treasury has written a letter stating that as the fall of Port Hudson and Vicksburg exposes to the enemy the Government cotton purchased in Mississippi and Louisiana, many planters will probably leave their plantations. The military authorities will therefore, he says, destroy all cotton they cannot preserve from the enemy. The cotton will be destroyed only when there is imminent danger of the enemy capturing it. It is reported from Baltimore that the Confederate Government has determined to arm all the able-bodied negro population. The *Richmond Examiner* says—

"It appears to be the determination of the British Government and people to do no act that shall tend to abridge the war, help the South, or involve itself in a quarrel with the United States. The South has no worse enemies than the British Government—not that the British Government is a friend to the North, but it hates the whole American people, and all their diplomacy will be to prolong war by preventing the interference of any other nation. Napoleon's possession of Mexico, however, will render his interference compulsory whenever it shall become evident that the Southern Confederacy shall cease to exist without it, for the Crown of Mexico will be untenable on the day when the subjugation of the South shall be completed and the United States power restored."

Captain Moffit, of the steamer Florida, writes that up to May 11 he had destroyed 9,700,000 dollars worth of Northern commerce, and had eluded 13 Federal cruisers sent to destroy him. The following are the points decided by Judge Betts, of the United States' District Court at New York, in the case of the prize steamer Peterhoff:—

"1. That the ship Peterhoff, in the premises mentioned, was knowingly on the voyage aforesaid laden in whole or in part with articles contraband of war, and had them in act of transportation at sea. 2. That her voyage with the said cargo was not truly destined to the port of Matamoras, a neutral port, and for purposes of trade and commerce, within the authority and intendment of public law, but, on the contrary, was destined for some other port or place, and in aid and for the use of the enemy, and in violation of the law of nations. 3. That the ship's papers were simulated and false as to her real destination. Wherefore, it is considered by the Court that the said vessel and her cargo are subject to condemnation and forfeiture, and it is ordered that a decree therefore be entered accordingly."

Decrees of condemnation and forfeiture were also issued in the cases of the Springbok, Stephen Hart, Gertrude, and Sally Magee. The value of these vessels and their cargoes is estimated at more than 1,500,000 dollars. The Government has repudiated an article in the *Washington Republican*, a semi-official organ, representing war with England as imminent, stating that the article was not authorised by the Government, nor made up with any knowledge of its views. The following is the article:—

"If there should be a slight occasion for hostilities, and England and America were likely to be involved in war, the Federal steam marine will at once be converted into privateers, and British commerce will be driven from the ocean. War is not desirable with England, but war is not the highest of evils. A spirited nation cannot submit to injustice, insolence, and outrage through a series of years and make no effort to avenge its wrongs. The course pursued by England has alienated every American of the loyal States. These facts indicate what the future has in store for America."

Mexico.—Intelligence from Vera Cruz to the 17th ult. confirms the news of the proclamation of the Archduke Maximilian as Emperor of Mexico. Cobos and Benavides have agreed with Juarez to demand in common of the Powers that the French intervention shall be limited to the application of the Treaty of London. A French steamer arrived on the 8th at Vera Cruz, with the English schooner Carolina Goodyear in tow. The schooner was captured at Rio Grande, with a cargo of arms for Juarez. She had cleared from Liverpool for Matamoras, and it is said to be the vessel to which Mr. Adams gave a permit a few months ago to secure her from seizure by the United States navy.

## Gazette of the Week.

FRIDAY: *August* 14.—BANKRUPTS.—J. Ashby, Northampton, Butcher—J. Alpe, Kingston on-Hull, Lincolnshire, Grocer's Assistant—E. G. Alchmann, High Street, Whitechapel, Oilman—S. Brown, Walkley, near Sheffield, Quarryman—J. Brown, Aspatria, Cumberland, Farmer—F. Brain, Stanmore Place, High Street, Camden Town, Ivory Cutter—J. Burton, Macclesfield, Cheshire, Pig Dealer—T. Bradney, Wolverhampton, Attorney's Clerk—G. Buckingham, Beckford Row, Walworth Road, Bootmaker—J. Bennett, Bristol, Grocer—A. Butcher, late of Birmingham, Draper—T. Baker, Selby, Yorkshire, Potato Merchant—W. Cowell, Thirsk, Yorkshire, Horse Dealer—J. Child, late of Felton, Winford, Somersetshire, Farmer—J. Cushion, Stamford, Lincolnshire, Coal Merchant—D. Carruthers, Blackburn, Lancashire, Reed Maker—R. Cosnett, Wolverhampton, Market Gardener—W. Creasy, Tonbridge Wells, Butcher—J. Chick, Hereford, Baker—H. D. Davis, Cheltenham, Gloucestershire, Cattle Dealer—S. T. Dickinson, Stanley Street, Pimlico, Accountant—J. Ellis, Weston Street, King's Cross, Confectioner and Biscuit Baker—T. Fries, William Street, Regent's Park, General Commission Agent—W. R. Griffiths, Bristol, Horticultural Engineer—T. M. Harding, Stourbridge, Worcestershire, Apothecary—G. T. Hemphris, Birmingham, Eating House Keeper—H. Harper, Houghton-le-Spring, Durham, Publican—W. Horsfoot (known as Horsfool), Montagu Street, Russell Square, Grocer—J. Hussey, Bath, Beerhouse Keeper—J. Juson, jun., Clarendon Terrace, Maida Hill, Horse Keeper—J. Jones, Mold, Flintshire, Watch and Clock Maker—S. Johnson, Great Wigston, Leicestershire, Baker—S. Jones, Longton, Staffordshire, late Currier—W. Knowles, Bollington, Cheshire, Stone Mason—J. Keates, Willenhall, Staffordshire, Furniture Broker—J. Lockley, Wolverhampton, Tobacconist—A. M'Connell, Guildford, Surrey, Draper—R. Morgan, Usk, Monmouthshire, Innkeeper—R. Marr, Kingston-upon-Hull, Draper's Assistant—J. Moor, Kingston upon-Hull, Seed Merchant—W. Nicholls, Bromley, Middlesex, Pattern Maker—G. Newman, Tunbridge Wells, Kent, Auctioneer—W. Northam, Exeter, Whitesmith—J. Pickering and S. R. Sanders, Rotherham, Yorkshire, Railway Waggon Builders—H. F. Perry, Tatsfield, Surrey, Farmer—W. Pritchard, Derby, Tobacconist—John Page, Stucley Terrace, High Street, Camden Town, Baker—John Reynolds, Lower Belgrave Street, Pimlico, Licensed Victualler—Thomas Roebuck, Rusholme, near Manchester, Attorney's Clerk—W. Reid, Birmingham, Draper—F. Smith, Boston, Lincolnshire, Grocer—John Matthew Sykes (known as and using the name of John Sykes), Upper Clifton Street, Finsbury Market, Chair Maker—Y. Shorrock, Over Darwin, Lancashire, Licensed Victualler—A. Sax, late of Birmingham, Glass Dealer—R. Smith, Gloucester Street, Hoxton, Painter—C. Townsend, Birmingham, Surgeon—R. Taylor, Princes Street, Edgware Road, Licensed Victualler—J. Tanner, Weston super-Mare, Somersetshire, Cabinet Maker—B. Vickers, Charles Terrace, Victoria Park, Beershop Keeper—William Newman Vincent, Old Palace Yard, Westminster, Messenger to the Comptroller-General's Office of Exchequer—W. Wilson & S. Forster, Kingston-upon-Hull, Iron Founders—J. Wilson & W. Slater, Liverpool, Merchants—J. F. Wills, High Street, Whitechapel, Oil and Spice Merchants—E. A. Wade, Augustus Square, Regent's Park—J. Harrison Wilding, Bexley, Kent, late Corn Dealer—H. White, Bilston, Staffordshire, Plumber—J. H. Whittem, Menden, Warwickshire, late Draper's Assistant—C. Wilcombe, Doulting, Somersetshire, Baker—T. Wiggins, Guildford, Surrey, Bargeman—E. Wilson, Leicester, Carpenter—F. Young, Chapel Place, Cold Harbour Square, Camberwell, Literary Writer—T. Young, Eastbourne, Sussex, Market Gardener.

SCOTCH SEQUESTRATION.—A. Tregarthen, Glasgow.

TUESDAY: *August* 18.—BANKRUPTS.—J. Atkinson, Bishopwearmouth, Durham, Plasterer—A. Autty, Daw Green, Dewsbury, Yorkshire, Grocer—J. Allan, Kendal, Westmoreland, late Innkeeper—T. Adams, Southampton, Licensed Victualler—J. Atkinson, Misson, Lincolnshire, late Innkeeper—W. Arnold, Cardiff, Grocer—J. Burgoine, Sheffield, Painter—J. Beard, Wolverhampton, Licensed Victualler—N. Brown, Manchester, late Commission Agent—C. E. Butler, Birmingham, Wire Worker—E. Bunning, Market Harborough, Leicestershire, Pastrycook—R. B. Coltman, Brewer Street, Golden Square, Manufacturer of Sewing Machines—M. Charlesworth, Overton, Yorkshire, Farmer—W. Coward, Grasmere, Westmoreland, late Licensed Victualler—G. Cavill, Cardiff, Miller's Foreman—Andrew Christy, Sun Court, Cornhill, Commission Agent—T. Collins, Silver Terrace, Millwall, Builder—James Dove, North Witham, Lincolnshire, Licensed Victualler—Charles Ellet, Wicken, Northamptonshire, Butcher—W. Eisenstein, Hatton Garden, Exporter of Watches—J. W. French, Manchester, Innkeeper—G. Furness, jun., Cannon Street, Provision Merchant—J. Farrall, Hanley, Staffordshire, Commission Agent—J. N. Galleux, Haberdasher's Place, Hoxton, Merchant—W. Hicks, Cardiff, Builder—C. Holden, Brunswick Grove, Cromer Street, Gray's-inn road, Undertaker—J. Harrison, Bradford, Yorkshire, Waste Dealer—J. High, Cold Harbour Street, Hackney Road, Machine Sawyer—E. Hill, North Nibley, Gloucestershire, Coal Dealer—T. H. Harris, Old Ford Bridge, Victoria Park, Beershop Keeper—H. Hewitt, Kildare Terrace, Bayswater, Lodging House Keeper—M. Hawkesworth, Leicester, late Licensed Victualler—G. Hodges, Green Street, Bethnal Green, Cheesemonger's Assistant—T. Higley, sen., Habberley, Shropshire, Wheelwright—H. Holland, Rusholme, near Manchester, Engine Packing Maker—G. Harris, Aldersgate St., Working Watch Jobber—M. Hood, Plaitford, Wiltshire, Wheelwright—A. D. Hopkins, Neath, Glamorganshire, Lime Burner—D. Jones, Manchester, Tailor—L. Jenkins, Mountain Ash, Glamorganshire, Joiner—W. Jackson, Coningsby, Lincolnshire, Farmer—G. D. Jones, Glasgow Terrace, Pimlico, Commercial Clerk—T. Johnson, late of Southampton Terrace, Lambeth, Attorney-at-law—W. Jefferies, Weston super-Mare, Shopkeeper—J. Linsdale, Birmingham, Coppersmith—F. Lister, Great Grimsby, Lincolnshire, Butcher—B. Lawrence, Great May's Buildings, St. Martin's Lane, Woollen Draper's Assistant—George Manchee, Southampton, Merchant's Clerk—Andrew M'Dowall, Southampton, Saddler—A. McMullin, Cockermouth, Cumberland, Watchmaker—William Medder, Liverpool—Thomas Masters, Park Street, Camden Town, Cook—Ennis M'Donald, Birmingham, Travelling Draper—C. Overall, Great Bardfield, Essex, Bootmaker—S. Pridgeon, Luton, Bedfordshire, Draper—T. Poultney, Coventry, Licensed Victualler—A. Riddit, Over Wallop, Hampshire, Baker and Grocer—E. Smith, Blackburn, Lancashire, Tinplate Worker—J. W. Smith, Birmingham, Trimming Manufacturer—E. Stern, Threadneedle Street, Ship Broker—J. Smith, Millbrook Road, Brixton—F. Sherrington, Charlotte Terrace, New Cut, Lambeth, Biscuit Baker—S. Starling, High Holborn, Hosier—A. S. Teagle, Redruth, Cornwall, Grocer—D. Taylor, York Road, Lambeth—T. G. Taylor, Cheltenham, Builder—T. Trendall, Brunswick Street, Grocer—J. Williams, Llanfair, Montgomeryshire, Saddler—J. T. West, Gillingham, Kent, Caulker in her Majesty's Dockyard at Chatham.

SCOTCH SEQUESTRATIONS.—S. Corrie, Dumfries, Coal Agent—A. Young, Glasgow, Tea Merchant.

Erratum: In the Bankrupts last week, for Friday, July 31, read Friday, August 7.

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at $93\frac{1}{4}$ to $\frac{3}{8}$ for Money, and $93\frac{1}{4}$ for Account; Three per Cents. Reduced, $93\frac{1}{2}$ to $\frac{5}{8}$; New Three per Cents., $93\frac{3}{8}$ to $\frac{1}{2}$; Bank Stock, 240 to 238; India Five per Cent. Stock, $108\frac{1}{2}$ to $\frac{3}{4}$; Ditto Four per Cent. Debentures, 1863, 100; Five per Cent. Enfaced Rupee Paper, $107\frac{5}{8}$; Exchequer Bills, 1*s.* dis.—Foreign: Chilian, $87\frac{7}{8}$; Danish, 1863, $91\frac{1}{4}$; Dutch Certificates, $102\frac{3}{4}$; Egyptian, 105; Ditto, second issue, $104\frac{1}{8}$; Greek Coupons, 16; Italian, $71\frac{3}{4}$; Mexican, $38\frac{3}{4}$ to $\frac{1}{2}$; New Granada, $15\frac{5}{8}$; Ditto Two per Cents., 32; Portuguese, 1856, '57, '59, '60, and 1862, for Acct., $48\frac{3}{8}$ to $\frac{1}{2}$; Russian, 1862, $92\frac{3}{4}$ to 93; Spanish Passive, for Acct., $34\frac{1}{4}$ to $\frac{1}{8}$; Ditto Certificates, for Acct., $12\frac{3}{4}$ to $\frac{7}{8}$; Turkish, 1854, for Acct., $93\frac{1}{4}$ to 93; Ditto 1858, for Acct., $72\frac{1}{4}$ to $\frac{1}{2}$; Ditto, 1862, for Acct., $68\frac{7}{8}$ to 69; Venezuela, 1862, for Acct., $57\frac{1}{2}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued | £28,903,490 | Government Debt | £11,015,100 |
| | | Other Securities | 3,634,900 |
| | | Gold Coin and Bullion | 14,253,490 |
| | | Silver Bullion | — |
| | £28,903,490 | | £28,903,490 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,088,426 |
| Rest | 3,449,113 | Other Securities | 18,317,701 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 6,126,668 | Notes | 7,582,160 |
| Other Deposits | 13,005,322 | Gold and Silver Coin | 827,662 |
| Seven days and other bills | 681,846 | | |
| | £37,815,949 | | £37,815,949 |

August 20, 1863. M. MARSHALL, Chief Cashier.

## Metropolis and its Vicinity.

Funeral of Lord Clyde.—By desire of her Majesty's Government, the remains of Lord Clyde are to be buried to-day in Westminster Abbey, instead of Kensal Green. In accordance with his own desire, the funeral will be conducted in the simplest and most private manner. The procession will leave Berkeley Square at 11 o'clock.

The Metropolitan and City Police.—Sir Richard Mayne has addressed a letter to Sir George Grey on the comparative cost, work, and efficiency of the City and the Metropolitan police, from which the following are extracts:—

The expenditure for the metropolitan police, amounting to 400,389*l.*, divided by 6116, the number of the metropolitan police force in the metropolitan divisions, exclusive of those employed in the dockyard and war department stations, gives an annual cost of 65*l.* 9*s.* 3*d.* for each man, and the expenditure for the city police, amounting to 48,172*l.*, divided by 608, the number of the city police, gives an annual cost for each man of 79*l.* 4*s.* 7*d.* The cost of each man is therefore 13*l.* 5*s.* 4*d.*, or 21 per cent. higher in the city police. The difference of cost thus shown arises partly from the higher rate of pay, and cost of clothing, equipments, &c., amounting to 7*l.* 5*s.* 7*d.* per man, and the remainder is from the greater expense of the establishment for the management of the city police. The additional cost thus caused to the city on the whole number of the city police amounts to 8370*l.* a year more than it would be if the pay, expenses, and management were according to the metropolitan scale. The additional cost to the metropolitan district on the whole number of the metropolitan police, if the pay, expenses, and management were according to the city scale, would be 84,196*l.* a year more than it now is, which sum may therefore be considered as so much saved by the more economical administration of the metropolitan establishment. The cost of the maintenance of the police, considered as a tax per head of the whole population of each district, is, in the metropolitan district, 2*s.* 10*d.*, and in the city, 8*s.* 4*d.*, or 194 per cent. higher in the city. The cost as a tax for each house, inhabited and uninhabited, is, in the metropolitan district, 19*s.* $0\frac{1}{2}$*d.*; in the city, 3*l.* 2*s.* 10*d.*, or more than 200 per cent. higher in the city. The cost of police, whether considered as a tax on the population or houses, being, as thus shown, so much higher in the city, it was asserted that the inhabitants of the city pay the higher rates for the greater security of person and property afforded them. In answer to the assertion that there is a greater security of person and property in the city, I have to refer to the criminal returns in the latest volume of the "Judicial Statistics" presented to Parliament for the year 1861; it is there shown that the number of crimes committed in the year was—in the city, 1029; in the metropolitan district, 11,203. The area of the city is little more than one square mile; the population, 111,784 persons, and the number of houses inhabited and uninhabited, 1479. The area of the metropolitan district is 571 square miles; the population, 3,110,684 persons; the number of houses inhabited and uninhabited, 461,848. The proportion of crimes to population is—in the city, 1 crime to 108 persons; in the metropolitan district, 1 crime to 277 persons. In this relation crimes in the city are upwards of 156 per cent. higher than in the metropolitan district. The proportion of crimes to inhabited houses is—in the city, 1 crime to 12 houses; in the metropolitan district, 1 crime to 37 houses. In this relation crimes in the city are upwards of 208 per cent. higher than in the metropolitan district. The proportion of number of persons apprehended to number of crimes committed is—in the city, 10 apprehensions to 15 crimes; in the metropolitan districts, 10 apprehensions to 28 crimes. But since, as it will be observed presently, half the number of persons apprehended by the city police were discharged by the magistrates, it is necessary to compare the number of efficient apprehensions, which resulted in bringing the offenders to trial, with the amount of crime in each district. This ratio was—in the city, 10 efficient apprehensions to 32 crimes; in the metropolitan district, 10 efficient apprehensions to 37 crimes. The proportion of prisoners discharged by magistrates in respect of those apprehended—by the city police, 1 in 2; by the metropolitan police, 1 in 4. If the whole value of a police were to be measured by the number of magisterial committals in comparison with the number of police apprehensions, it would appear from these figures that the number of persons improperly apprehended by the city police is double that so apprehended by the metropolitan police. The metropolitan police are concerned with much graver classes of crimes, or they get up their evidence more satisfactorily; of the suspected and accused persons apprehended by the city police less than one-half, of those apprehended by the metropolitan police fully three-fourths are committed for trial. The precise number of criminals committed for trial in the year was—in the city, 321; metropolitan district, 2997. Comparing the ratio of those figures to the respective populations of each district, it is found that such crimes are—in the city as 3; in the metropolitan district, 1. Crimes of a serious character, both those against persons and houses, as well as crimes of every description, are relatively to population and houses much higher in the city than in the metropolitan district. The inference is, that the metropolitan police are more efficient than the city police for the prevention of crime. The per centage of the persons apprehended who are committed for trial is much greater in the metropolitan districts than in the city. These results show that a greater number of persons are improperly apprehended in the city. The metropolitan police act with better discretion and more regard to the evidence against the persons apprehended. The metropolitan district comprises the metropolis, except the small portion called the city, besides suburban and rural districts, extending over an area of 571 square miles; the population and houses are largely increasing, whilst there is a constant decrease of population and houses in the city. The India House, with its great offices and storehouses, no longer exists. The metropolitan cattle market is removed from Smithfield to Islington, and a large city prison is built at Holloway. The establishment in the metropolitan district of branch banks of the Bank of England, and many others, all denote the progressive transfer even of quarters of wealth and business out of the city, and the consequently increasing duties and responsibilities of the metropolitan police. In the suburban and rural districts houses are greatly exposed to depredations from the facility with which criminals can get into gardens and enclosed grounds out of sight of the police, effect an entrance into the house undisturbed, and take an opportunity to escape without observation; also thefts of fruit and vegetables from gardens, poultry, &c., from detached buildings may be committed with comparative facility, and often with small means of detection. The railway stations, theatres, and numerous places of amusement open at night, the great assemblages at Ascot, Epsom, Hampton, and other races, fairs, &c., which afford opportunities for the commission of crime and escape of the criminals—none of these exist in the city. The city police are far more numerous in proportion to the extent of ground they have to cover than the metropolitan police, but it need scarcely be stated that the protection of any place is not to be estimated merely by the numbers of the police employed there. Under a combined system of action, and mutual observation maintained at other and even distant places, information communicated throughout an extensive district, and the additional numbers of police that may be occasionally brought to bear upon each point when required, protection may be given, and a degree of police efficiency obtained much greater than would be possible by the separate action of the police at the several places. Such combined action and intercommunication can never be effected between bodies of police under different authorities, without any real antagonism; and, indeed, with every desire for cordial co-operation on the part of the superior officers, which has at all times existed between those of the metropolitan and city police—it cannot be expected that either force will take much interest in the prevention of crime out of their own district. Another very important consideration arises in times of public commotion and on great public occasions. The numbers and organisation of the metropolitan police give the means of bringing together whatever amount of the civil power may be required to preserve the peace and maintain good order without the intervention of military or

other extraordinary force. The small numbers of the city police do not admit of such arrangements, and the city authorities, therefore, if left to their own resources, are unable to provide for the public safety, and lamentable consequences have ensued. This was foreseen, and in some degree provided for by the City Police Act (2 and 3 Vict., cap. 94, sec. 24), by which the Secretary of State for the Home Department, on the application of the Lord Mayor, in any case of special emergency, may grant the assistance of the metropolitan police to act within the City; but the Lord Mayor can hardly judge of the actual necessity, or know the amount of assistance that ought to be applied for. Moreover, the principle of such dependence is unfair to the inhabitants of the metropolitan districts, who are thus at times (most frequently times of great general excitement) deprived of their proper protection, and for which they can receive no equivalent from the city force. I beg leave, in conclusion, to state that the existence of a detached police force in the heart of the metropolis is at variance with the principle on which the police is established in every other town in the kingdom. The continuance of such an extraordinary exception in the metropolis has, after lengthened inquiry and careful consideration, been condemned by two select committees of the House of Commons and by two royal commissions appointed to inquire into the state of the corporation of the City of London. On the last occasion, in the year 1854, the commissioners, the Right Hon. H. Labouchere (now Lord Taunton), the late Sir George C. Lewis, and Mr. Justice Patteson, in their report to the Queen, expressed their deliberate opinion that the incorporation of the city with the larger district by which it is surrounded is a measure recommended alike by considerations of efficiency and economy."

The Polish Legion.—Mr. Alfred Styles was again brought up before the magistrate of Bow Street on Tuesday, charged with a violation of the Foreign Enlistment Act in having attempted to raise an Anglo-Polish Legion in this country. No fresh evidence was adduced, and the magistrate, at the request of the counsel for the Russian Government, committed him for trial at the next Old Bailey Sessions. The prisoner reserved his defence. It is not yet known whether the English Government intend to take up the prosecution.

Foresters' Fete. — The annual festival of the Ancient Order of Foresters took place on Tuesday at the Crystal Palace. About 70,000 persons were present, many of whom had travelled all Monday night from Edinburgh, Glasgow, Liverpool, Manchester, Southampton, and indeed from almost every part of the country, in order to be present on the occasion, and a large number of them wore the dress of their order. The special business of the day began by the procession of the members in their uniform, and, after they had perambulated the ground they amused themselves with dancing, and other demonstrations. The great fountains were displayed in honour of the occasion, and in the evening Mr. Coxwell made an ascent in his balloon.

Omnibus Accident in Holborn.—On Thursday week a fatal accident occurred immediately in front of Furnival's Inn. Two omnibuses were racing towards Holborn Hill, when the foremost one stopped to take up a fare. The conductor ran across to the pavement, and before he could return the hinder one, attempting to cut in between him and the pavement, knocked him backwards with the pole, when the wheels passed over his head, killing him instantaneously, and scattering his brains and even his teeth into the kennel. The tragic character of the disaster was increased by the fact that deceased's wife and child were riding in his omnibus and witnessed his death. At the inquest on Monday some of the witnesses stated that deceased, whose omnibus was foremost, called to the driver to pull across the road so as to stop the omnibus which was racing with it, while he went to take up a passenger. Other witnesses gave their opinion that the driver of the hindmost omnibus must have seen deceased in the road, and might have pulled up before striking him. After a long consultation the jury were discharged, being nearly equally divided on the question whether their verdict should be Manslaughter against the driver or Accidental Death.

The Public Health. — The Registrar-General's Weekly Return states that the deaths in London, in the week that ended Saturday, August 15, were 1320. The average number in the ten corresponding weeks of the years 1853-62, omitting 720 deaths from cholera in 1854, and corrected for increase of population, was 1256; the present return is therefore 64 above the average. During the week the births of 979 boys and 930 girls, in all 1909 children, were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1806.

## Provincial.

Godalming.—On Sunday night an attempt was made to burn down the church of St. Peter's, in this town. The attempt fortunately did not succeed, but it was found next morning that a quantity of partially-burnt paperhanging was lying about in the aisles, and that several of the doors of the pews were much scorched. Suspicion fell on a man named Hackman, who had been seen near the spot on the previous night, and on searching his lodgings it was found that the paperhanging which covered his room had been stripped off in several places, and corresponded in pattern to the unburnt fragments lying about in the church. He was consequently apprehended, and, after being examined by the magistrates, was remanded.

Halifax.—Mr. Marshall Wood has received a commission from the Mayor of Halifax to execute marble busts of their Royal Highnesses the Prince and Princess of Wales, to be placed in the Town Hall, in commemoration of the recent royal visit.

Maidstone.—The execution of Alfred Holden the soldier, who was convicted at the late assizes of having in a fit of *delirium tremens* murdered his infant child, and of Alfred Eldridge, a labourer, who was convicted of the murder of Richard Steed, a letter carrier, with whom he formerly lodged, took place on Thursday in front of the county gaol, in the presence of about 6000 persons. Both prisoners confessed their guilt, and acknowledged the justice of their sentence.

Manchester.—At the weekly meeting of the Central Executive Committee on Monday, the Earl of Derby in the chair, Mr. Maclure reported there was a balance in the bank of 314,596*l.* 12*s.* 11*d.*, and that 513*l.* 3*s.* 2*d.* had been received during the week. Mr. Farnall's report stated that on the 8th inst. there was an increase of 91 in the number of persons receiving parochial relief in the 27 unions as compared with the number relieved in the previous week, but as the provisions of the Public Works Act will shortly come into operation, he anticipated that a great number of able-bodied unemployed operatives would soon be removed both from the poor rate and the charitable funds. Colonel Wilson Patten inquired whether measures were taken in the places applying for loans to show eventually what number of men had been employed upon public works and the number taken off the relief committee books. Mr. Farnall said he should take care to see these men at work, and to report to this committee as to the number of previously unemployed operatives who were included amongst them. Mr. Goodair, in reply to an inquiry from Mr. Farnall as to the cause of the increase of 501 persons in receipt of parochial relief in Preston, said that during the past week two mills had been reduced to short-time working, and that the local relief committees were throwing off their books a certain number of persons who might possibly be finding their way to the books of the guardians. In answer to the Chairman, he also said that in the present state of the markets for cotton and manufactured goods it was impossible to predict with any degree of certainty how long these mills might continue on short time. Mr. Rawlinson stated that the following towns had sent in applications, accompanied by plans and estimates, for loans:—Blackburn, 78,300*l.*, for main sewers, cleansing river, deepening, forming, and paving the beck through the town, forming and paving streets, and other works; a further sanction to be asked for during the winter. Preston, 28,500*l.*, to form public parks and recreation grounds, complete sewers and streets, paving and repairing the footpaths on the banks of the Ribble, and other works. Dukinfield, 2000*l.* for main sewers and other works. These applications had been reported upon, and sanctions would be granted. Blackburn would have a first instalment of 10,000*l.*, and additional instalments as the work proceeded. Preston would have the same; and Dukinfield would have the 2000*l.* asked for, as it was part of 10,000*l.* to be asked for when the plans could be got ready. Denton is preparing plans for main sewers; and Wigan has given notice for 5000*l.* Bolton was about to apply for a sanction to borrow 100,000*l.* for water works extension, cleansing and improving river, sewering, forming, paving, and completing streets, recreation grounds extension, markets extension, new town hall. The plans and specifications were now in course of preparation. Stockport was about to make application for 50,000*l.* for making sewers and streets, cleansing river, and other works. Most of the boroughs and towns in the district would apply for loans as soon as plans and estimates could be prepared. The Chairman asked if the public works carried out under the new Act in the places named would absorb a large amount of unskilled labour. Mr. Rawlinson replied that they would. At the present moment something like 550 unskilled labourers were employed at Blackburn. At Bolton a large number were also at work. In Dukinfield public works had been commenced, in anticipation of obtaining a loan for the purpose of finding employment for applicants to the relief committee there. All the men were employed in gangs, and paid for measured work. The Chairman suggested that in the event of a larger amount than the million and a half at present appropriated to public works being applied for and granted, the Poor Law Board might exercise a discretion in limiting its application to such works as would employ the largest amount of unskilled labour. Mr. Farnall said he had no doubt that, under the circumstances mentioned, some such discretion would be exercised. Grants were then made to various towns to the amount of 3955*l.*, including 1000*l.* to Blackburn. The Chairman asked Mr. Rawlinson what steps had been taken there to put the new Public Works Act into operation? Mr. Rawlinson replied that Blackburn was the first place to accept the provisions of the Act; and as regarded the preparation of the necessary plans and specifications and the carrying out all the other preliminary details, that town might serve as a model for the rest of Lancashire, for nothing could be more complete and perfect. He begged also to remark that in Blackburn they had forestalled the Act, in setting men to work for wages in the way provided for in the Act itself. They certainly deserved the warmest praise of the committee and of the country.

Portsmouth.—On Saturday afternoon the Portsmouth and Ryde steamboat, Her Majesty, ran on the Coles Rocks, off Bembridge, in fine weather and open day. She had started from Ryde at noon for a trip round the island, with about 50 excursionists. The water was perfectly smooth, and all went well until she neared Bembridge Point, when, with an open, safe, and perfectly well known passage on either side of the ledge, she was steered directly on the Coles Rocks, striking heavily and knocking a hole in her bottom, which soon put out her fires. There was time however to run her on the sands before she filled, and the passengers were taken off by a pilot boat without injury. This is the second boat which has met with a similar mischance on the coast of the Isle of Wight during the present season. The Challenger grounded on the rocks off Ventnor a few weeks back, and became a total wreck, happily in that case also without injury to passengers.

Ryde.—The great sailing match of the Royal Victoria Yacht Squadron from Ryde to Cherbourg took place on Tuesday, when the prize was won by Mr. Broadwood's schooner Galatea, which accomplished the distance in 5 hours 21 minutes, beating The Shark, Marina, Christabel, Julia, Albatross, Gleam, Fernandé, Audax, and Miranda. The Commodore's schooner Aline took only 4 hours 48 minutes, but she was not entered in the race. The American yacht Gipsy was also not in the race, but came in ninth of the squadron, performing the distance in 6 hours 22 minutes. It blew very heavy from the time the yachts left the Isle of Wight until their arrival in Cherbourg Roads.

Wolverhampton.—A terrible crime has been committed in this town. About five or six weeks ago, a young man and woman, who seemed to obtain a livelihood by making and selling forks and skewers of iron wire, took a small house in the court called the barracks. The woman appeared to be employed in selling the goods, and the man remained mostly in the house. About three weeks ago the woman locked up the house and told the neighbours that they were going into the country for a time. Last week, the neighbours, being annoyed by an offensive smell from the house, broke open the door, and found in one of the upstair rooms the body of a man lying on a mattress on the floor in such an advanced stage of decomposition that it was literally swarming with maggots. The body was blackened and the sheets and mattresses were discoloured, not simply by the progress of decomposition, but by what appeared to have been hot gas tar poured upon it during life. With this blood was mixed on the sheets, the mattress, and the floor, and was also found apart from the tar. One eye had been gouged out, and lay upon the cheek. The nose, jaw, and thumb were broken, and there seemed to be an incised wound on the thigh and other parts of the body. The murdered man had on a shirt and waistcoat; and his head was covered with the bed clothes fastened over the face, tight enough to secure suffocation if death had not previously taken place. He was subsequently identified as a young man called William Williams, who had lived with a woman calling herself Sparrow. A few days after the man's body had been discovered, the body of a woman was found dead in an empty house at Dudley with a half pint bottle of laudanum by her side, and from inquiries which have been made by the police there is no doubt that the corpse was that of the woman Sparrow, but who appears to have been a widow named Steadman, whose father lives in Birmingham. Her husband died in that town about eight years ago, leaving her a widow at the early age of 22. After the death of her husband she went to Liverpool, and has since lived with the man she is supposed to have murdered.

## Ireland.

Conclave of Roman Catholic Bishops.—The Roman Catholic bishops last week held a conference in Dublin which lasted five days. Their deliberations embraced the land question, emigration, the Poor-law, and its administration, the education question, the Protestant Church Establishment, and the Civil Service. Ecclesiastical discipline and education, however, were the chief matters under consideration. The completion of the University was one of the most important matters discussed. The building is to be erected at a cost of 100,000*l.*, the collection of which is to be extended over five years, and appeals are to be made in Great Britain, in America, and in Australia, all to be done under the sanction of the Bishops of the respective countries. All the diocesan and middle-class schools connected with the Roman Catholic Church in Ireland are already affiliated with the Catholic University, and are thus brought directly under the control of the central authority in Dublin. The primary schools remain to be brought into the same condition of dependence upon the Church. This it is proposed to effect, not by employing the National Schools, but by training the National teachers. The parish priests have been already forbidden to send their teachers to be trained in the model schools of the National Board, and now the prelates have decided on establishing "Catholic training colleges for teachers, masters, and mistresses." The staff of the Catholic University will be made available for this purpose, and the schools of the Christian Brothers in Dublin and the Roman Catholic parochial schools are to serve for imparting the art of teaching, and all that is wanted is a

domestic establishment in which the teachers can be lodged.

ANOTHER IRISH AGITATION.—A "monster" meeting of Irish Nationalists was convened on Saturday, on the summit of Slievenamon, in the county of Tipperary, "to hear the suggestions of several patriots on the wrongs of this grand old country, and the best means to restore to her the blessing of nationality." The weather was unfavourable, and this circumstance no doubt prevented many who would otherwise have attended. There were about 700 present, chiefly of the labouring class. Mr. C. J. Kickham, of Mullinahone, one of the contributors to the *Nation* during the repeal agitation, was called to the chair, and addressed his "brother Nationalists" at some length, calling on them to imitate the example of other oppressed people, and to woo the goddess Freedom in the only way in which she ever could be won. He might be told it was dangerous to do this, but the goal could never be reached without sacrifice and suffering. He hoped that ere long, upon that spot they would again assemble with their tried and trusted chief, O'Mahony, at their head. Mr. Gill, proprietor of the *Tipperary Advocate*, moved a resolution to discountenance parliamentary agitation as senseless and illusory. He said that Lord Palmerston did not care if 20 Irish landlords were shot per day—a sentiment which elicited loud cheers and cries of "Down with the landlords!" and "there would want to be more of them shot." The meeting was subsequently addressed in a nearly similar strain by a Mr. Finnerty, from North Tipperary, who said they did not want aristocrats, but men whose hands were hardened by manly labour, whose hearts were stout and brave, and whose hands would not be blistered by the pike-handle. But Irishmen should remember that no nation ever earned independence without spilling more or less blood. If after years of petitioning the British Parliament; if after years sending representatives and misrepresentatives to Parliament they had won nothing, how was it to be won? They were unarmed, but scythes could be turned to some use if they provoked them too far. He concluded by calling on Nationalists to rally round the green flag till they planted it for ever above the red on the highest parapets of Dublin. The resolution having been put by the chairman, was carried by acclamation. A tricolor flag, bearing the harp without the crown, was displayed during the meeting from an elevation called Meagher's Rock.

THE CONFEDERATE WAR STEAMER FLORIDA was seen off Queenstown on Monday, when she sent ashore three persons by a fishing boat. On Wednesday afternoon the Cork steamer Falcon passed the Florida lying to off Tuskar. Three hours afterwards the Falcon passed a large American ship, outward bound from Liverpool, running right into the track of the Florida.

## Scotland.

THE FREE CHURCH AND THE CHANNEL FLEET.—At a meeting of the Commission of the Free Church General Assembly, held at Edinburgh on Wednesday week, under the presidency of Dr. Candlish, as moderator, a discussion took place with reference to the proceedings of the Channel fleet while off the coast of Scotland. The discussion was introduced by the Rev. Dr. Begg, who first called attention to what took place last year, when there were offensive scenes of Sabbath desecration in the east; but this was thought to be purely inadvertent, since on application to the admiral in the Clyde not to allow visitors on Sundays, he acquiesced, and no such scenes occurred in the west. A similar application was made this year by the Sabbath Alliance of Scotland, but it had not been complied with. Admiral Dacres wrote from Sunderland that Divine service would be regularly performed on board her Majesty's ships, and no irregularity would be permitted to desecrate the day. No visiting would be permitted during Divine service; but, said the admiral, "my orders are to give every facility to the inhabitants in the vicinity of the ports I call at to visit the squadron; and, although they will not be specially invited to do so on Sunday more than on other days, I see no reason to fear a greater amount of desecration of the day than will happen in officers and others landing from the squadron, which I do not suppose the memorialists will endeavour to prevent." Upon receipt of this reply a communication was addressed to the Duke of Somerset, as First Lord of the Admiralty, who replied on July 31, that he was "not prepared to lessen the facilities afforded to the inhabitants of the ports at which the Channel fleet touches, of seeing the ships of which it is composed, by making any new regulations to prevent her Majesty's ships from being visited by the public on Sundays." Well, then, continued Dr. Begg, it would appear that the responsibility of opening the ships on the Sabbath day rests with the Admiralty; that they have issued orders under which the admiral acts, and that these ships shall be thrown open on the Sabbath, as well as on other days, as objects of curiosity to the general community. I wish the commission further to understand how this arrangement has been carried out. In the letter of Admiral Dacres he states that Divine worship is performed on Sabbath, and evidently hints that, Divine worship being performed, the Sabbath is at an end, and that the ordinary processes of sight-seeing may go on uninterruptedly with perfect propriety. Now, a fair interpretation even of that would have been that Divine service would be conducted in the fleet at the usual hours of worship in this country, and that only after these hours of worship had passed away would the fleet be thrown open. But what has been the fact? The worship—whatever worship there was—seems to have been hurried over at a very early part of the day, because the newspapers inform us that these ships were thrown open at 11 o'clock—that is to say, that they were thrown open to the public at the very time that the ordinary worship of the Sabbath commences. Of course, even had it been otherwise, there would have been no real excuse. We do not hold the idea of what are called "canonical hours." We hold that the Lord's day is just a day of twenty-four hours, like any other day of the week, and that it is equally a desecration to violate the Sabbath after public worship as at any other time. But here is the monstrous nature of the arrangement as it stands, that at 11 o'clock the ships of the fleet were thrown open, crowds of people flocked towards the shores of Leith, steamboats plied from the pier to the ships—these steamboats loaded with multitudes of people; and Leith was more crowded, it is said, than at almost any other time, and the whole of that day after 11 o'clock was desecrated by this process of sight-seeing. Now, this comes to be a very important question in many aspects of it. It seems to me a most important question even in reference to the government of the country. It is a most melancholy thing to find any connected with the government of the country acting as ringleaders in inducing the people to violate the Lord's Day. No doubt, men say, "If people choose to violate the Lord's Day, how can they be hindered?" But that is not the question. If people violate the Lord's Day the sin is with themselves; but if the government of the country hold out temptations to the people to violate the Lord's Day, the sin will rest to a large extent with them. It seems to me a most solemn consideration that the rulers of this country should take part—if the Admiralty are acting under the authority of the Government, which I presume they are, for I could mention another fact to show that the Government themselves have refused to interfere—I say it is a most solemn thing that they should violate, and teach the people to violate a part of the Divine law. It is a very important question what this commission ought to do, and it seems to me that there are two things specially incumbent on us—the one is to instruct our special committee to use their utmost influence to bring before the Government the important question which has thus been raised, and to endeavour to induce them so to alter their regulations that these ships shall not be used as places of sight-seeing on the Sabbath; and on the other hand it seems to me that all our ministers, especially in those places at which the fleet may touch, should be urged to deal faithfully with the people in regard to the duty and the privilege of observing the day of God. After some discussion the commission instructed the Sabbath committee to take such steps as they might think expedient in the way of communicating with presbyteries and ministers on the subject to abate the evils complained of.

## Sporting.

CRICKET.—On the 12th inst. a match was played in the Home Park, Windsor, between 11 players selected from the firms of Messrs. Beck, Henderson, & Child, Adelphi, and Messrs. Carter & Co., Holborn, and a like number in the employment of Mr. Turner, Slough. At noon the "Metropolitans" took possession of the wickets, from which they were dislodged for a total of 36 runs. The Nursery hands then took their innings, and were all got rid of for 45 runs, or 9 ahead of their opponents. An adjournment then took place, after which the London players took their second innings, and made but 31 runs. This left the home party but 23 runs to win the match, which they obtained with the loss of but one wicket. At 7 o'clock some 40 persons sat down to a substantial supper at an inn in Eton, and, an agreeable day having been passed, it was fervently hoped by both sides that it would be a matter of annual recurrence.

## Law.

HOME CIRCUIT: CROYDON. — *The Hammersmith Railway Accident.—Ogden* v. *Bummens.*—This was an action brought under Lord Campbell's Act, by the widow of a labouring man, to recover compensation for the loss of her husband, whose death was alleged to have been caused by the negligence of the defendant. The defendant was the contractor for building a viaduct at Hammersmith for the West-end Junction Railway, and the husband of the plaintiff was a labourer employed on the works, and at the time he lost his life was earning 1*l.* a week wages. The accident occurred in November last, when several of the arches suddenly fell, and deceased and four or five others were killed. The cause of the accident appeared to be that one of the arches had been built over a swell ditch, which had been filled up, and had given away and dragged the others along with it; but it was clearly established that it was impossible by any foresight to have provided against such an occurrence, and that the defect in the foundation was not discovered until after the accident. It was also proved that the best materials had been used in making the arches, and that every ordinary care and caution had been exercised to erect the work in a solid and proper manner. It also transpired that the defendant had paid the funeral expenses of deceased, and had given plaintiff 10*l.* The jury returned a verdict for the defendant, accompanied with an expression of sympathy for the widow, and with the hope that something would be done for her. Baron Bramwell said he concurred with the jury in a feeling of sympathy for the poor woman who had lost her husband under such circumstances, but as to anything being done for her he did not see who was to be called upon to do it. The defendant certainly ought not to be looked to with that object, and now that the case was concluded he had no hesitation in expressing his opinion that there was no ground for the action, and that it ought never to have been brought against him.

NORTHERN CIRCUIT: LIVERPOOL.—*The Liverpool Murders.—Jose Maria Alvarez*, a Spanish sailor, was indicted for the wilful murder of James Harrison, on the 12th May. It appeared that Harrison was in company with two other men, Cohen and Howell, who all spent some time in a public-house. The men were not drunk, and were walking along Old Hall Street, when Cohen jostled against the prisoner. He turned round and apologised, but the prisoner, who appeared to be in a great rage, drew his dagger and stabbed Cohen twice, once in the breast and once in the back. When Cohen cried out that he was stabbed, the deceased rushed upon Alvarez with the intention of seizing him, and a scuffle ensued, during which deceased received two wounds, one in the stomach proving fatal. The prisoner made his escape, and as he passed some women, he took hold of the apron which one wore, and wiped his knife upon it. The women called him a villain, but he took no notice of them, and on reaching his lodgings, told his landlord that he had stabbed an Englishman, thinking that the men were going to kill him. He afterwards left the house, but was speedily arrested and identified. The defence was that the prisoner, ignorant of English usages and language, might have been under the impression that deceased had some design upon him, which it was necessary to resent, and that thus the crime would be reduced to manslaughter. The jury after a brief consultation, returned a verdict of guilty, but with a strong recommendation to mercy, on the ground of the prisoner being a foreigner. Mr. Justice Blackburn passed sentence of *Death* in the usual form, stating that the recommendation of the jury should be forwarded to the proper authorities; but from the nature of the crime he would not advise the prisoner to entertain any hopes that the recommendation would be carried into effect. The sentence was translated to the prisoner by the Spanish Consul; and the prisoner, who did not seem to be at all moved, then left the dock.—*Benjamin Thomas*, 24, was indicted for the murder of Mary Rowlands, the wife of a captain, at Liverpool. On the 8th of May the prisoner requested deceased, with whom he lodged, to follow him down stairs, as he wished to speak to her privately. Accordingly deceased went down into the cellar, but instead of the prisoner speaking to her, he dashed her brains out with a potato crusher. A woman named Benbow hearing a noise went down stairs, when she also was furiously attacked by the prisoner. A woman named Evans likewise went down stairs, when the prisoner chased her into the yard, and he was then taken into custody. The only reason assigned for this outrage was that the deceased woman wished to get Thomas shipped, as he had received an advance note, and in accordance with articles was bound to go on board ship or render himself liable to imprisonment. The woman Benbow was dreadfully wounded about the head, and was for a long time in the hospital. Evans also sustained injuries from the violence of the prisoner, but they were of a less serious character. During the trial the prisoner at intervals broke out into fits of great violence, and it required the exertions of three or four turnkeys to keep him from scrambling over the side of the dock. The barristers in front of the dock fled to the right and left, evidently anticipating that their wigs might be sacrificed to the frenzy of the accused. At length the prisoner's legs being tied and his hands manacled, the proceedings went on with some degree of order. A surgeon, who was examined, and who had seen the man in prison, said that he believed he was sane, though his brain appeared to be imperfectly developed. One of the turnkeys, who was called as a witness, said that the prisoner, when in gaol, frequently resisted the attendants with great violence, and positively objected to the washing process. The defence was that the prisoner when he committed the murder was labouring under an insane impulse. The jury found him *Guilty*, and Mr. Justice Blackburn passed sentence of death in the usual form. *Murder on the High Seas.—John Lloyd*, a man of colour, and a native of Madras, was indicted for the wilful murder of Benjamin Jack on the high seas, on the 11th October. The prisoner and deceased were seamen on board the Ethiopian, and on the day in question were at New Calabar. The deceased, who was a West Indian negro, and a very quarrelsome fellow, commenced an altercation with the prisoner relative to the supply of grog, and would have struck him, but the prisoner said, "Ben, if you strike me, I will put a mark upon you that you will not get rid of." After this the prisoner armed himself with a knife, which he obtained from the pantry, and deceased tried to take it from him. A struggle ensued, and deceased received his death wound. One of the witnesses deposed that when the prisoner was leaving the pantry he was told to be cautious what he did, and that he replied, "I know very well what I am about, I am not going to do anything." The same witness said the prisoner had stated in conversation that he had stabbed deceased in self-defence; that Jack had his hand on his throat and was pressing upon his breast; and that he thought his own life was in danger. The Jury found the prisoner *Guilty* of Manslaughter, and he was sentenced to 10 years' penal servitude. *Wife Murder.—John Hughes* was indicted for the wilful murder of Mary Ann Hughes, his wife, at Liverpool, on the 28th of April. The prisoner, who was a shoemaker, was addicted to habits of intemperance, during which he had been accustomed to ill-use and threaten deceased, who was a sober, industrious woman, and conducted a small greengrocery business for the support of her husband and herself. The prisoner had been drinking excessively for several days prior to the 26th of April, when his wife refused to give him any more money. He then struck her, and said he would be "hanged for her yet." He continued his course of intemperance and ill-usage daily up to the morning of the 28th of April, when he struck her twice on the back of her neck while she was asleep. The second blow threw her off the bed upon the floor. He then jumped upon her and kicked her several times. She was found lying on the spot completely paralyzed, and after lingering two days she died. A *post mortem* examination showed that the fifth cervical vertebra had been dislocated and fractured, causing pressure on the spinal cord, from which paralysis ensued. There were contusions and other marks of injury from the prisoner's violence. The defence was that the prisoner having been drinking for some time, was in such a state of excitement that he had no deliberate intention to inflict the injuries. The jury, after a short deliberation, returned a verdict of *Guilty*, upon which the prisoner fainted. Mr. Justice Blackburn passed sentence of *Death* in the usual form, holding out no hope of mercy. DURHAM.—*Marley* v. *Thompson and Another.*—This was an action for a nuisance, consisting in the erection of a patent brick manufactory, within 100 yards of the plaintiff's house. The plaintiff was a coal agent, who in 1844 went to reside in his present house, near to the railway station at Darlington; and the defendants were manufacturers, who were engaged in many undertakings in the town, and, among others, in the patent brick manufactory in question, which was established in 1853. The plaintiff enjoyed his house undisturbed up to that time, and, what was of much importance to him, for he was a great horticulturist and amateur, especially in Tulips, having as many as 2500 flowering bulbs of tulips in his garden, worth 150*l.*; but, after the completion of the works in 1854, he began to experience gradually increasing detriment and discomfort until in June of last year, when the weather was foggy, the nuisance arising from the noxious smoke became so intense that the plaintiff and his wife were unable to sleep, and the lady shortly after became insensible. In the course of three or four days all vegetation in the garden was destroyed, everything crumbling to pieces under the touch, and the bees, of which the plaintiff was also an amateur, were lying about dead in thousands. The doctor ordered that the plaintiff's wife should be immediately removed from the house, and she had never been able to

return to it again. Various cases were quoted to show that the plaintiff was entitled under them to recover in respect of these injuries, especially as the brickworks might have been put in a much less injurious situation in the same district, and the coal used in them contained such a percentage of sulphur as to render it totally unfit for any heating purposes whatever, and was burnt in ovens capable of great improvements, partly, indeed, carried into effect since the present action was commenced. The cross-examination of the plaintiff went to show that there were a great many other foundries, brick-kilns, and works in the neighbourhood, and that the plaintiff was very fortunate in being driven, with his wife, to pleasant country quarters from such a smoky place as Darlington; and it was suggested that the extraordinary destruction in the garden in June 1862 was caused by blight, independent of the brickworks. It was, however, difficult to account for the death of the bees under this theory. Evidence was called on behalf of defendants to prove that the district in which plaintiff's house stood was used, generally, for manufacturing purposes, and that the works in question were not more injurious than those surrounding them, and were properly conducted. The jury found a verdict for plaintiff, with 10*l.* damages.

Oxford Circuit: Gloucester.—*Attempting to Upset a Railway Train.*—*James Weins* was charged with maliciously placing two stones on the Bourton-on-the-Water railway, with intent to endanger the safety of the passengers travelling on the said railway. The offence was clearly proved. There could be no doubt that the prisoner placed the stones on the line, but he declared that he had no idea that the act would endanger the lives of passengers. Mr. Justice Byles, in sentencing him to eight months' imprisonment, said that if the malice had been proved he should have sentenced the prisoner to penal servitude for life. *Garotte Robbery.*—*Thomas Jones* and *George Smith* were convicted of a garotte attack on John Suter, and stealing 28s. from his person. The prosecutor was very badly used, and the prisoners being convicted were sentenced to seven years' penal servitude, his lordship remarking that had the offence not been committed before the Act was passed authorising corporal punishment for this class of offences, he should have sentenced the prisoners to be whipped. *More Garotters.*—Two men, named *Phillips* and *Adams*, were charged with garotting William King, and robbing him of 2*l.* 8s. in money, a gold watch, and valuables to the amount of 15*l.* Mr. King was returning home to Bristol, when, on passing under an archway, he was attacked by two men. He called out "murder" three times, and was as often struck in the bowels by his assailants. As however he could not satisfactorily identify Adams he was acquitted, but Phillips was convicted. The prisoners were then charged with a similar attack on John Harding at Bristol, and robbing him of his watch. In this case there was no doubt about the identity of both the prisoners, who were convicted. Sentence deferred.

Central Criminal Court.—*Forgery of Austrian Notes.*—*Peter Rinaldi*, 33, an Italian, was indicted for having feloniously made on glass a copy of a promissory note for the payment of one gulden, Austrian currency, contrary to the statute. It appeared that on the 18th of June last the prisoner sent to the premises of Mr. Maguire, a photographic artist in Aldgate, and after having had his portrait taken engaged Mr. Maguire to make copies of Austrian bank-notes. Mr. Maguire at once communicated with the police, and ultimately the prisoner was apprehended. The case was fully proved but as the forgery was done by means of photography the prisoner's counsel set up the defence that forgery by means of photography was not contemplated, and therefore not prohibited by the statute. The judge reserved the point, and as the prisoner was found *Guilty* on the facts, sentence was deferred.

## Obituary.

Field-Marshal Lord Clyde, G.C.B., K.S.I., died on Friday afternoon at Government House, Chatham, after a long illness. Lord Clyde, better known as Sir Colin Campbell, was the son of a working man at Glasgow, but the name of Campbell was that of a maternal uncle, and not his by right of birth. His father, John M'Liver, was apprenticed to a Glasgow cabinet-maker, and his son Colin—born in 1792—at the close of the last century might have been seen running about the workshop. Mr. M'Liver lived till December, 1858, his son having been for six months previously Lord Clyde, a Grand Cross of the Bath, a D.C.L. of Oxford, a general in the army, with orders of the highest rank in France, Sardinia, and Turkey, and decorated with innumerable medals and clasps. He entered the army in 1808, and became lieutenant in the following year. He served in the Walcheren expedition, at Barossa, at Tarifa, at the relief of Tarragona, at Corunna under Sir John Moore, at Osma, Vittoria, and at the relief of the posts in the valley of Malaga. He was severely wounded at the passage of the Bidassoa, a musket shot passing through his thigh, and at the assault on St. Sebastian in 1813 he was again twice wounded. The Duke of Wellington afterwards appointed him his aide-de-camp, and repeatedly urged his claims to promotion on the Duke of York. But in spite of the Duke's patronage he was still a captain at the close of the Peninsular War. He was then sent to America, and served with the Rifles in Canada and Demerara. He was not gazetted a major till 1825, and it was not till 1832 that, while not in active service, he became a lieutenant colonel. In 1842 he served with the 98th Regiment in China, and took part in the capture of Chin-Kiang-foo and in the operations near Nankin. Towards the end of that year he became a full colonel. His first Indian career commenced about 1844, when he led the 98th regiment at Maharajpore. In the Punjaub war in 1848-9 he commanded the third division at Ramnugger, at the passage of the Chenab, at the affair of Sadoolapore, at Chillianwallah, and at Goojerat. He next commanded at Peshawur, and against the hill tribes, forced the Kohat Pass, and subdued the Ootmankail and Ranazai tribes. He was created a K.C.B. and received the thanks of Parliament for these Indian services. On the outbreak of the Crimean war in 1854, while only a colonel, Sir Colin Campbell was appointed to command the Highland Brigade, which, with a brigade of Guards, formed the Duke of Cambridge's division. He shortly afterwards became a major-general. At the Alma he and his Highlanders were eminently distinguished by their bravery and impetuosity. At Balaklava he ranged the 93d Highlanders into what has become historically famous as "the thin red line" of single file, and successfully repulsed the successive charges of the Russian cavalry. On the retirement of Sir James Simpson from the command of the army of the Crimea, which had devolved upon him after Lord Raglan's death, it was supposed that Sir Colin Campbell would have succeeded him, but he was again passed over in favour of a Colonel of the Guards who had never seen a shot fired by an enemy till he led up his division at the Alma. Sir Colin Campbell feeling that, after 40 years of service in the field, this slight was more than he could be fairly called on to tolerate, returned to England, and it was only at the request of the Queen herself that he resumed his command in the Crimea. At the close of the campaign, which took place soon afterwards, he was made a Lieut.-General for his services, created a Knight Grand Cross of the Bath, a D.C.L. of Oxford, Knight of the Legion of Honour, of the Sardinian order of St. Maurice and St. Lazarus, and the Turkish order of the Medjidie, 1st class. He also received the Turkish medal, the Crimean medal, with clasps for Alma, Balaklava, and Sebastopol, the war medal with five clasps, and was nominated military aide-de-camp to the Queen. In 1856 his fellow-citizens of Glasgow voted him a sword of the value of 250 guineas, and the Corporation of London presented him with the freedom of the city. In 1857, on the outbreak of the Sepoy rebellion, Sir Colin Campbell was sent out with full powers to save India. He was nominated Commander-in-Chief on the 3d July, 1857, requested only 24 hours for preparation, and landed in Calcutta on the 29th August. He arrived at Alumbagh in November; and, after occupying Dilkooshah and Martiniere, hastened to the relief of Lucknow. He succeeded in relieving that garrison on the 17th November, but the English were forced to retire five days afterwards. He recaptured it, however, on the 4th March, but was wounded in the siege. In 1857 he fought the famous battle of Cawnpore, defeated the Gwalior Contingent, at Futtehghur defeated another body of rebels, marched to Lucknow once more—one of the grandest marches on record—and finally reconquered the Doab, Rohilcund, and Oude. For these eminent services he was created a peer, as Lord Clyde, in 1858; received the thanks of both Houses of Parliament in 1859, with a pension of 2000*l.* a year; and was nominated a Knight of the Star of India in 1861. In May, 1858, he was appointed colonel of the 93d Highlanders; and in June, 1860, colonel of the Coldstream Guards. He was also honorary colonel of the London Scottish Volunteers, and more than once evinced his interest in the volunteer movement by reviewing volunteers on a grand scale at Brighton and elsewhere as the representative of the Horse Guards. He was much shaken by the death of Lord Herbert of Lea, and has since that time been gradually breaking up. His lordship was never married, and his title and honours have died with him.

Vice-Admiral Octavius Vernon-Harcourt died at his residence, Swinton Park, near Masham, on Friday. He was a younger son of the Right Rev. Dr. Vernon, late Archbishop of York, who took the surname of Harcourt by royal sign manual in 1831, on coming to the estate of the last Earl Harcourt. He was born in 1793, and was consequently in his 70th year. He entered the Navy as midshipman in 1806, and in the following year witnessed the surrender of Alexandria, while he was afterwards employed in boat service up the Nile. After assisting at the blockade of Toulon, and at the destruction of two French ships-of-the-line—the Robuste and the Lion—in 1809, he served until he received his first commission, in 1814, when he served on shore with the troops on the south-east coast of Spain, and did duty in the batteries at the siege of Tarragona. His subsequent services were in the Mulgrave, 74, in which he captured a martello tower at Piombino, and brought out or destroyed a convoy anchored under it. In the Amelia, 38, he served at the blockade of Elba, and after the battle of Waterloo remained on half-pay until 1818. He subsequently served on the West India station, whence he brought home, in 1827, upwards of a million dollars. He had been on half-pay for some time, and attained his rank as vice-admiral in 1861. In 1838 he married the daughter of Mr. W. Gater, and relict of Mr. Danby, of Swinton Park, Yorkshire. He built, at his own expense, a very handsome church and parsonage, at Healey, near Masham, which he amply endowed, and another church at Brentford, Devon, the endowment of which he considerably augmented. He also restored at his own cost the parish church at Masham, besides contributing largely to the funds for the restoration of several other churches in the midland and northern counties. He contributed munificently to the Riddell Memorial Mechanics' Institute, the Masham Grammar School and Free School, the Infant School and Free School at Kelbank, and to other local charities.

Sir Angus Campbell, Bart., died on the 13th inst., at Dunstaffnage Castle, Argyllshire, in his 36th year. He was the eldest son of Sir Donald Campbell, who obtained the baronetcy in 1836 for his civil services, and was Lieutenant-Governor of Prince Edward's Island from 1847 to 1850. He succeeded his father in 1850, having previously entered the navy, and obtained the rank of lieutenant in 1849. He has died unmarried, and is succeeded in the baronetcy and estates by his next brother, Donald.

The Rev. Dr. Raffles, of Liverpool, one of the most prominent members of the Independent body, died in Mason Street, in that town, on Tuesday, from dropsy, in his 75th year. He was cousin of the late Sir Stamford Raffles, the founder of Singapore, and father of Mr. T. S. Raffles, the stipendiary magistrate of Liverpool. He had occupied a leading position in the religious, literary, and scientific circles of Liverpool since the year 1812, when he became the minister of Great George Street Chapel, occupying that pulpit for upwards of half a century, and retiring from active duty only two years ago. Since his retirement Dr. Raffles preached occasionally in different parts of the county, and his services were eagerly sought after at the opening of new chapels and the induction of ministers of the congregational body, up to within a few days of his death.

Wills.—The will of the Right Hon. Sir George Cornewall Lewis, Bart., D.C.L., M.P., of Harpton Court, near Radnor, and Kent House, Knightsbridge, has been sworn under 20,000*l.*

BIRTHS.—On the 18th inst, at 6, Tilney Street, Park Lane, the Countess Manvers, of a son—7th inst, near Copenhagen, Lady Paget, of a daughter—5th inst, at Boulogne-sur-Mer, Lady Hearsey, wife of Sir J. B. Hearsey, of a son—14th inst, at Castle Irvine, the wife of H. Mervyn D'Arcy Irvine, of a son and heir.

MARRIAGES.—13th inst, at St George's, Hanover Square, Henry Dalrymple Des Vœux, Esq., to the Lady Alice Egerton, youngest daughter of the Earl of Wilton—14th inst, at St George's, Hanover Square, H. Blundell, Esq., Captain in the P.C.O. Rifle Brigade, eldest son of the late R. B. B. H. Blundell, Esq., of Daysbrook, West Derby, to the Hon. Beatrice Byng, Maid of Honour to the Queen, and youngest daughter of the late Vice-Admiral the Hon. H. D. Byng—18th inst, at Knockyn, Shropshire, Arthur Philip Lloyd, eldest son of the late Rev. Henry J. Lloyd, rector of Selattyn, to Katrine Selina, youngest daughter of the late Admiral the Hon. Charles Orlando Bridgeman—18th inst, at St. Mary's, Bryanston Square, the Rev. Charles Dallas Marston, rector of St. Mary's, to Katharine, eldest daughter of J. H. Calcraft, of Rempstone, Dorset, Esq., and the Lady Caroline Calcraft—11th inst, at St. Michael's Church, St. Alban's, Sir Charles Lawrence Young, Bart., of the Inner Temple, to Mary Florence, younger daughter of Henry H. Toulmin, Esq., of Childwickbury, Herts—13th inst, at Richmond, Surrey, the Rev. Theodore Chambers, eldest son of the Rev. S. C. Wilks, M.A., Rector of Nursling, to Agnes Maria, youngest daughter of the late Vice-Admiral Sir Henry Loraine Baker, Bart., C.B.—18th inst, at St. Mary's Church, Birkenhead, Joseph Richard, second son of W. D. Busk, Esq., of St. Petersburg, to Mary Hamilton, fourth daughter of John Laird, Esq., M.P., Birkenhead.

DEATHS.—On the 10th inst, at Georgiana House, Cheltenham, Lady Agar, wife of Sir Felix Agar—9th inst, at Bridlington Quay, Yorkshire, Joshua Hincks Morris, youngest daughter of the late Rear-Admiral Henry Gage Morris, aged 34—12th inst, at East Lodge, Belmont, Brighton, Sophia Eliza, widow of the Ven. Richard Panton, D.D., Archdeacon of Jamaica, aged 57—15th inst, in Russell Square, George Magnay, Esq., fifth son of the late Alderman Christopher Magnay, aged 63—17th inst, at 35, Upper Grosvenor Street, Anna, eldest daughter of the late Rowley Lascelles, Esq.—12th inst, at Bent House, Prestwich, near Manchester, Frances Isabella, youngest daughter of Cuthbert E. Ellison, Esq., aged two years—July 28, off the Island of St. Thomas, on his passage to England, Captain Thomas Bruce, 21st R.N.B. Fusiliers, eldest son of Thomas Bruce, Esq., of Arnot, N.B., aged 27—16th inst, at Lowestoft, Richard Lambert Jones, Esq., of 49, Porchester Terrace, Kensington Gardens, aged 80—16th inst, at Stoke Newington Green, E. S. Bowerbank, Esq.—12th inst, the Rev. Charles Douglas, curate of Trinity Church, Whitehaven, aged 33—14th inst, at the Rectory, Upper Clatford, Andover, the Rev. Edward Frowd, rector of that parish.

## Markets.

### COVENT GARDEN, Aug. 22.

Vegetables and most kinds of Fruit still continue plentiful. Greengages fetch from 6s. to 8s. a sieve; other Plums may also be had in great abundance at nearly the same price, and of Grapes and Pine Apples the supply is sufficient for the demand. Of Melons, both English and foreign, there is a good stock. Kent Filberts are coming in plentifully at from 45s. to 55s. per 100 lbs. For Potatoes the market is heavy, and prices about from 5s. to 10s. per ton lower than those of last week. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Stocks, Calceolarias, Mignonette, and Roses.

FRUIT.

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|---|---|
| Pine Apples, per lb., 3s to 5s | Lemons, per 100, 12s to 16s |
| Grapes, per lb., 2s to 5s | Oranges, per box, 40s to 45s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | — per 100, 5s to 10s |
| Figs, per doz., 5s to 6s | Nuts, small, per bushel, 14s to 18s |
| Peaches, per doz., 6s to 10s | Almonds, do., 18s |
| Nectarines, do., 3s to 6s | Walnuts, do., 7s 6d |
| Melons, each, 2s to 4s | |
| Gooseberries, do., 2s 6d to 3s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Celery, p. bundle, 1s 6d to 2s |
| Peas (shelled), p. qt., 1s to 1s 6d | French Beans, p. sieve, 2s to 6s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatoes, York Regents, p. ton, 60s to 80s | Garlic, per lb., 8d |
| „ Shaws, do., 50s to 70s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 6d to 8d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 3s 6d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatoes, each, 4d to 6d | |

### HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, Aug. 20.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 80s | Clover, old | 90s to | 120s |
| Superior do. | 80 | 95 | Do. second cut | 80 | 110 |
| Inferior do. | 50 | 70 | New Clover | 70 | 105 |
| New do. | 70 | 85 | Straw | 26 | 32 |
| Rowen | — | — | | | |

Harvey & Easton.

Cumberland Market, Thursday, Aug. 20.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 88s to | 95s | Inferior Clover | 84s to | 100s |
| Inferior do. | 68 | 80 | New do. | 90 | 110 |
| New do. | 80 | 90 | Straw | 34 | 38 |
| Superior Clover | 112 | 120 | | | |

Joshua Baker.

Whitechapel, Thursday, Aug. 20.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 90s | Prime Clover | 118s to | 126s |
| Inferior do. | 78 | 84 | Inferior do. | 100 | 110 |
| Prime New Hay | 80 | 86 | New 1st cut do. | 105 | 112 |
| Inferior | 70 | 75 | Inferior do. | 90 | 100 |
| Straw | 28 | 34 | Prime 2d cut do. | 95 | 110 |

### BRITISH WOOLS.—London, Aug. 21.

There has been more inquiry for wool the last few days, and full rates are easily realised.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| South down Hoggets | 1 9½ to | 1 10½ | Leicest. Wethers | 1 8 to | 1 9 |
| Half-bred ditto | 1 10 — | 1 11 | Ditto Hoggs | 1 9 — | 1 10 |
| Down Ewes | 1 8½ — | 1 9½ | Combing Skins | 1 4 — | 1 8 |
| Kent Fleeces | 1 9 — | 1 10 | Flannel Wool | 1 6 — | 1 8 |
| | | | Blanket ditto | — | |

Colonial Wool Sales.—These sales will conclude to-morrow evening. The concluding rates are rather improved in comparison with the commencement of the series.

### COAL MARKET.—Aug. 19.

Haswell Gas, 12s. 6d.; Tanfield Moor Butes, 12s. 9d.; Walker Primrose, 12s. 9d.; West Hartley, 17s. 3d.; Wylam, 16s. 6d.; Eden Main, 16s. 3d.; Walls End Braddylls Hetton, 17s.; Walls End Haswell, 18s.; Walls End Hetton, 18s.; Walls End Russel's Hetton, 17s.; Walls End South Hetton, 18s.; Walls End Tunstall, 16s.; Walls End Hartlepool, 17s. 6d.; Walls End Heugh Hall, 16s. 9d.; Walls End Kelloe, 16s. 9d.; Walls End South Kelloe, 16s. 9d.; Walls End Trindon Hartlepool, 17s. 6d.; Carway and Duffryn Malting, 20s.—60 ships at market.

### NEWGATE.—Aug. 21.

| | |
|---|---|
| Best Fresh Butter | 15s per dozen lbs. |
| Second do. do. | 13s. „ |

Pork, 4s. 4d. to 4s. 8d. per 8 lbs.

### METROPOLITAN CATTLE MARKET.

Monday, Aug. 17.

The number of Beasts is nearly as large as on Monday last; the demand has improved, and the choicest descriptions make rather higher prices. The supply of Sheep and Lambs is much shorter, and Thursday's advance is well maintained. Indeed some of the choicest qualities are rather dearer. Trade is rather better for Calves on the average, but we can scarcely quote higher. From Germany and Holland there are 1800 Beasts, 8180 Sheep, 265 Calves, and 45 Pigs; from Spain, 60 Beasts; from Ireland, 320; and 2600 from the Northern and Midland counties.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 10 to | 5 0 | Best Long-wools | — | |
| Best Short-horns | 4 6 — | 4 8 | Do. Shorn | 4 6 — | 4 10 |
| 2d quality Beasts | 3 0 — | 4 0 | Ewes & 2d quality | — | |
| Best Downs and Half-breds | — | | Do. Shorn | 4 0 — | 4 4 |
| Do. Shorn | 5 0 — | 5 4 | Lambs | 5 8 — | 6 4 |
| | | | Calves | 3 4 — | 4 8 |
| | | | Pigs | 3 4 — | 4 4 |

Beasts, 5360; Sheep & Lambs, 24,190; Calves, 298; Pigs, 240.

Thursday, Aug. 20.

We have a larger number of Beasts than on Thursday last, still the demand is good, and Monday's quotations are pretty generally realised. The supply of Sheep and Lambs is also larger. There is very little alteration from Monday, but the demand is scarcely as active for Lambs as on that day. Good Calves are in demand, but inferior meet with a dull sale. Our foreign supply consists of 375 Beasts, 2360 Sheep, and 584 Calves. Milch Cows, 75.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 to | 5 0 | Best Long-wools | 4 6 — | 4 10 |
| Best Short-horns | 4 6 — | 4 8 | Do. Shorn | — | |
| 2d quality Beasts | 3 0 — | 4 0 | Ewes & 2d quality | 4 0 — | 4 4 |
| Best Downs and Half-breds | 5 0 — | 5 2 | Do. Shorn | — | |
| Do. Shorn | — | | Lambs | 5 8 — | 6 4 |
| | | | Calves | 3 0 — | 4 8 |
| | | | Pigs | 3 4 — | 4 4 |

Beasts, 1215; Sheep & Lambs, 10,580; Calves, 678; Pigs, 130.

### HOPS.—Borough Market, Friday, Aug. 21.

Messrs. Pattenden & Smith report the demand entirely confined to the immediate wants of consumers; stocks of the 1862 growth nearly exhausted, and prices firm. The accounts from the plantations are slightly more favourable; the

blighted districts will do but little, but those not so much affected are improving.

MARK LANE.—MONDAY, Aug. 17.

To this morning's market there was a good supply of English Wheat, consisting almost entirely of the new crop, to effect sales of which it was necessary to submit to a decline of 4s per qr., at which a fair clearance was made. For foreign there was a very limited demand, and the little business done was at prices 1s. to 2s. below those current this day se'nnight. Barley was in good demand at late rates. Beans and Peas were unaltered in value. Oats 6d per qr. cheaper. The top price of town-made Flour was reduced to 43s. per sack. In barrels the little business done was at about late rates.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 44—47 | Red ..... | 40—44 |
| — — fine selected runs .. ditto | 46—52 | Red .... | 44—48 |
| — — Talavera ............ | 48—52 | | |
| — Norfolk ............ | — | Red .... | — |
| — Foreign ............ | 38—56 | | |
| BARLEY, grind. & dist., 30s to 33s .. Chev. | 36—40 | Malting .. | 35—38 |
| — Foreign grinding and distilling | 26—29 | Malting . | 28—32 |
| OATS, Essex and Suffolk ............ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ............ Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 19—27 | Feed .... | 18—20 |
| RYE ............ | 30—33 | Foreign .. | — |
| RYE-MEAL, Foreign ............ | — | | |
| BEANS, Mazagan ... 29s to 33s .. Tick | [illegible] | Harrow | [illegible] |
| — Pigeon ... 37s to 40s .. Winds. | — | Longpod | — |
| — Foreign ............ Small | 40—46 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent .. Boilers | 37—38 | Suffolk .. | 38—40 |
| — Maple ... —s to —s .... Grey | — | Foreign .. | 32—38 |
| MAIZE ............ White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 38—43 | | |
| — 2d do ............ ditto | 30—34 | Country | 30—34 |
| — Foreign ............ per barrel | 20—26 | Per sack | 34—45 |

FRIDAY, Aug. 21.

The weather, which had continued fine up to Monday last, changed that night, and since then we have had some heavy showers, which are very beneficial to the Grass and root crops, but have partially interfered with harvest work. Where new Wheats have appeared in the country markets the quality has been mostly good, some parcels very fine and heavy; the trade, however, remained inactive, prices still declining, so that we must write old English and foreign Wheat 1s. to 2s. per qr. down; new sold at irregular rates, showing a reduction of from 1s. to 4s. per qr. upon the week. Flour was a difficult sale at lower rates for all sorts. Barley, Beans, and Peas remained unaltered. Oat prices incline downwards. Since Friday last 35 vessels have been reported off the coast. The floating trade has been rather slow this week. Wheat is about 2s. per qr. cheaper, and prices for all other descriptions of grain are looking downwards. In Paris (August 21), the Flour trade was extremely slow, and notwithstanding holders are ready to make concessions of 1s. per 280 lbs., very little has been sold. The six marks for delivery this month are quoted equal to 36s. 3d per 280 lbs. The present stock is estimated at 9140 cwts. Wheat is very dull, and 9d. per 480 lbs. cheaper. The arrivals of English Grain, foreign Barley and Oats since Monday have been small, but good of foreign Wheat and Flour. This morning's market was very badly attended, and scarcely any business was transacted in any article. The value of all grain remains nominally the same as on Monday.

ARRIVALS THIS WEEK.

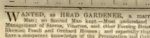
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1150 qrs. | 170 qrs. | 10 qrs. | 340 sks. |
| Irish .. | — | — | 780 | — |
| Foreign | 27,810 ,, | 3520 | 14 130 ,, | 79 ,, / 18,920 brls |

LIVERPOOL, Aug. 18.—We have had only a small attendance of buyers at to-day's market, who have shown little disposition to buy Wheat; holders, however, are not anxious to force sales, and prices cannot be quoted more than 1d. per cental cheaper than on Friday last. Flour slow of sale at a reduction of 3d. per barrel. Indian Corn is offered quite sparingly, and the market is cleared of all prime mixed American at 26s 6d., which is an improvement of 3d. per qr. on the rates lately current. Oats are somewhat scarce and no cheaper, but Oatmeal is down 6d. per load. Beans, Peas, and Barley are each steady at full prices. The market closes irregular.

FRIDAY, Aug. 21.—Wheat in retail demand, at a decline of fully 1d. per cental. Flour very difficult to sell, and rather lower. Indian Corn a slow sale, at about Tuesday's rates. Egyptian Beans steady. Oats and Oatmeal slow, at less money. Egyptian Wheat quiet.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| July 11 | 46s 10d | 30s 10d | 23s 6d | 34s 5d | 40s 2d | 39s 0d |
| — 18 | 46 7 | 28 10 | 22 6 | 32 9 | 40 0 | 37 1 |
| — 25 | 45 11 | 29 10 | 22 9 | 32 8 | 39 3 | 35 11 |
| Aug. 1 | 45 11 | 31 0 | 23 0 | 37 11 | 39 11 | 36 3 |
| — 8 | 46 3 | 31 6 | 23 0 | 31 6 | 38 8 | 34 9 |
| — 15 | 45 11 | 31 4 | 23 7 | 36 4 | 40 7 | 35 7 |
| Agg. Aver. | 46 3 | 30 7 | 23 1 | 34 3 | 39 9 | 36 5 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




WANTED, as HEAD GARDENER, a married Man: no Second Man kept.—Must understand the Management of Stoves, Vineries, and other Forcing Houses; likewise Peach and Orchard Houses; and especially that he have a competent knowledge of the Propagation and Culture of first-class Stove and Conservatory Plants and Flowers. Wages 20s. per week.—Apply by letter, with references, to Mr McGARRISON, Bookseller, Tewkesbury, Gloucestershire.

WANTED IMMEDIATELY, a GARDENER, who understands his profession in all its branches. A Man whose Wife is a good Laundress would be preferred.—Address, Mrs. T. MATHEWS, Crewkerne, Somerset.

WANTED, a WOODRANGER, who has thorough knowledge and experience in the Management of Timber, Plantations, and Coppice. He should also understand how to Fix Iron Railing, as well as the Erection of other descriptions of Fencing, and be a good Judge of the Value and Labour of Work of the above kind.—Apply, stating age, family (if any), wages, references, &c., addressed to Mr. MOON, Maristow, Plymouth.

WANTED, an active and experienced ASSISTANT, to take charge (under the Foreman) of the Hard and Soft-wooded Greenhouse and Stove Plants in a Country Nursery.—Address, stating where experience has been gained, and the wages required, to Z. A., Messrs. Hurst & Son, 6, Leadenhall Street, London, E.C.

WANTED, a steady active Young Man as YARDSMAN and GARDENER in a small place. He would live in the House; Washing found him.—Address A. Z., Post Office, Sidmouth, Devon.

WANTED, as SHOPMAN, a Young Man who has a good general knowledge of Plants and Seeds, and is a good Salesman.—Address, stating salary and experience, to A. B., Barr & Sugden, 12, King Street, Covent Garden, W.C.

WANTED, a COWMAN, married, by a gentleman an hour from London by rail. He will have to help in the Garden, attend Pigs, &c. Wages, 15s. and a cottage.—Apply to R. B., Post Office, Dartford.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 35; 6 years' good character from the place he is now leaving.—A. B., Post Office, Portland Place, St. John's Wood, N.W.

GARDENER (HEAD).—Married; thoroughly understands his business. Three years' good character.—A. B., 44, Clark Street, Stepney, E.

GARDENER (HEAD).—Married, two children; understands his profession in every department. Eight years' character.—JOHN BUTLER, Princess Street, Pembroke Dock, South Wales.

GARDENER (HEAD), to any nobleman or gentleman.—Age 32, single; a good Gardener. Two years' excellent character from last employer.—F. S., Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 28; understands Early and Late Forcing of Fruit, &c., Flower and Kitchen Gardens. Six years' unexceptionable character.—J. C., Marfleet's, Grocer, High Street, Carshalton.

GARDENER (HEAD).—Married, no incumbrance; seven years' first-class character as a Grower of Pines, Grapes, Peaches, &c., Stove and Greenhouse Plants, Kitchen Gardening, Laying out Ground, and General Management of Land and Stock.—G. H., Mr Kitters, Lowfield Street, Dartford.

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GARDENER (HEAD).—Age 26, unmarried; thorough knowledge of his profession in all its branches; well experienced in Early and Late Forcing, the Management of Greenhouses, Flower and Kitchen Gardens, &c. References unexceptionable from last and former situations.—X. Y., Post Office, Budleigh Salterton, Devonshire.

GARDENER (HEAD), age 42.—H. MUGGLETON, more than seven years Head Gardener to W. Cubitt, Esq., Penton Lodge, is leaving his situation, and offers his services to any nobleman, lady or gentleman, requiring a first rate Gardener; he is an excellent Forcing Gardener, including Pines, Grapes, Peaches, &c., is a good Plant Grower and Kitchen Gardener. Character excellent.—The Gardens, Penton Lodge, Andover.

GARDENER (HEAD) to a nobleman or gentleman.—D. WICKS, Head Gardener to W. Wilson Saunders, Esq., Hon. Secretary to the Horticultural Society, will be at liberty to engage after the 25th September. Has a thorough practical knowledge of Forcing in all its departments; likewise the Growth of Plants from most parts of the world, and the Management of Flower and Kitchen Gardens. Ten years' good character.—Hillfield, Reigate, Surrey.

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GARDENER (HEAD).—Age 40; versed in Forcing Fruit and Kitchen Gardening, Propagating, Specimen Plant Growing, Bedding and British Botany, Ground work and Planting; Forester; the greatest experience in removing large specimen Shrubs and Trees; treatment of Conifers especially successful. Eight years' character.—C. S. J., Post Office, Wimbledon Common.

### To Noblemen and Gentlemen.

GARDENER (HEAD).—A gentleman is desirous of procuring a situation for his Gardener, a married man, aged 39, who has lived with him nearly five years, and is leaving him solely in consequence of change of residence. He can with confidence recommend him in every respect as an excellent and experienced Gardener, thoroughly trustworthy and fully competent to take the entire Management of a first-rate place.—A. B., Post Office, Maidenhead.

GARDENER (HEAD), where one or more are kept.—Age 30, single; first-class testimonials as to character and ability.—W. J., Paul's Nurseries, Waltham Cross, N.

GARDENER (HEAD), where two or three are kept.—Married; has had considerable practice. Good character from past and present employer.—F. D., Post Office, Melton Mowbray, Leicestershire.

GARDENER (HEAD OR SINGLE-HANDED).—Age 32, married; understands his profession in all its branches. No objection to the Management of a Cow and a few acres of Land. Good character.—Y. Z., 12, Evelyn Street, Lewisham Road, S.E.

GARDENER (HEAD OR SINGLE-HANDED).—Age 24, married; understands the Management of Greenhouse, Kitchen and Flower Garden, Vines, &c.; would have no objection to a Horse or Cow.—C. INNES, Colmer Rectory, Alton, Hants.

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GARDENER.—Married, one child; thoroughly understands his profession in all its branches. Five years' good character.—J. T., 4, Henry Street, Upper Kennington Lane, S.

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GARDENER.—A. COOK, late Head Gardener to W. Riley, Esq., Pymmes Park, Edmonton, is disengaged and desirous to engage with any one requiring a thorough Gardener. Can be highly recommended from his late employer.—Address as above.

### To Noblemen and Gentlemen.

GARDENER.—Age 30, married; has a thorough practical knowledge of his profession in all its branches; good Accountant, &c. Character will bear the strictest investigation for 10 years or more if required.—W. B. B., Post Office, Daventry, Northamptonshire.

GARDENER (middle-aged, married, without incumbrance).—D. DAVIES, who has been 30 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. LINDLEY, Acton Green, Middlesex, W.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, AUGUST* 29, 1863.

ROYAL SCHOOL of MINES.

*Director.*

Sir RODERICK IMPEY MURCHISON, K.C.B., F.R.S., &c.

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|---|---|---|---|---|
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## News of the Week.

THE Congress of German Sovereigns at Frankfort has adopted, with scarcely any modifications, the principal articles of the Austrian project of reform, including that relating to the Directorate. This article provides that the Directorate shall consist of six members:—Austria, Prussia, and Bavaria to have each one vote; Saxony, Hanover, and Wurtemburg together to have one vote in turn; Electoral Hesse, and the seven Grand Duchies to nominate the fifth member, and the remaining German States to elect the sixth. The question of the presidency of the Directorate is left open in order that Austria and Prussia may come to a mutual understanding on the subject. The report which was current last week that the KING OF PRUSSIA had declined the collective invitation of the Princes to attend the Congress is confirmed. HIS MAJESTY has refused on the ground that he had not received any official communication of the propositions to be discussed, and that it would be impossible to participate in the deliberations of the Congress without entering into binding engagements, which he could not do without consulting his advisers.

Despatches from St. Petersburg state that the Notes of the Three Powers were delivered to Prince GORTSCHAKOFF on the 19th inst., and that the Grand Duke CONSTANTINE has been summoned from Warsaw by telegram for the purpose of taking part in the deliberations of the Cabinet on the affairs of Poland. It was rumoured on the Paris Bourse on Tuesday that General MOURAVIEFF had been assassinated, but the report has not been confirmed from any authentic source.

From the United States we have a doubtful report that the Cabinet of Washington has formally protested against the proceedings of the French in Mexico. The protest is based upon the Monroe doctrine, and declares the establishment of a Mexican empire under French influence to be a menace to the United States, and a direct encouragement to the South. Great excitement has been caused in California by a contemplated rising of Secessionists. Outbreaks are said to have occurred at the extreme portions of the State, and the military Governor has commenced fortifying San Francisco for the purpose of repressing any renewal of the disturbances. The latest accounts from Charleston state that a combined land and naval assault was appointed for the 13th, and the Federals are sanguine that it will result in the capture of Forts Sumter and Wagner, and of Cumming's Point. General LEE has a considerable force between the Rapidan and the Rappahannock, holds all the mountain passes of the Blue Ridge Mountains, and has a strong force in the Shenandoah Valley. The dispute between President LINCOLN and the Governor of New York on the subject of the draft is still unsettled, and as the law officers of the State have pronounced the Conscription Act to be unconstitutional and despotic, it is feared that the working classes, supported by the Governor, will again attempt a forcible resistance. It is reported from the Canadian frontier that the Federal Government have erected a new fort at Rouse's Point, 45 miles from Montreal, with magazines capable of containing supplies for 100,000 men, and accommodation for a permanent garrison of 5000.

By the Overland mail we learn that the Japanese Government, finding that Admiral KUPER was preparing to assume hostilities, communicated to Colonel NEALE through the French Minister, that they were willing to pay the indemnity by instalments as originally agreed upon. Colonel NEALE, in reply, intimated that as the matter had been suffered to go so far, the whole sum of 440,000 dollars must be paid at once. The money was accordingly paid before 7 on the next morning. At the same time the Japanese Ministers informed the representatives of foreign Powers that the TYCOON had instructed them to obey the MIKADO's orders to expel foreigners and close the ports.

## Home News.

THE QUEEN IN GERMANY.—The Queen and the Royal family have taken walks and drives in the neighbourhood of the Rosenau and to Coburg, and have visited the Duchess of Coburg at the Kallenberg. Her Majesty is everywhere received with marks of affection and respect, but her privacy is nowhere intruded upon. The Princess of Wied and her daughter, who were staying for a few days at Coburg, have been received at the Rosenau by the Queen. The Crown Princess of Prussia arrived on the 19th on a visit to the Duchess of Coburg, and drove over to the Rosenau to visit the

Queen. Her Royal Highness has dined with her Majesty every day. The Duchess of Coburg has also dined with her Majesty. On Saturday Prince and Princess Augustus of Saxe Coburg, with their son and daughters, visited the Queen. On Sunday morning the Queen, accompanied by the Princess Helena, attended divine service in the Chapel at the Kallenberg. The service was performed by General Superintendent Dr. Meyer. Her Majesty and the Princess remained for luncheon at the Kallenberg, where the Duke of Coburg and the Crown Prince of Prussia had arrived that morning. Her Majesty and the Princess afterwards visited the Prince and Princess Augustus of Saxe-Coburg at Coburg. It is announced that her Majesty will proceed to Potsdam for a few days, on a visit to the Crown Prince and Princess of Prussia.

Parliamentary Movements.—Sir William Fraser was elected for Ludlow yesterday in the room of the late Mr. Botfield, without opposition.

Court of Probate.—The Queen has directed letters patent to be passed under the Great Seal, appointing Sir James Plaistow Wilde, Knt., one of the Barons of the Exchequer, to be Judge of the Court of Probate.

The Channel Fleet, under the command of Admiral Dacres, arrived in Lough Foyle at 6 o'clock, on Wednesday morning. Great efforts are making by the corporate authorities of Belfast, Dublin, and Cork, to obtain a visit from the fleet in its passage down channel.

American Interference with British Trade.—A long diplomatic correspondence between this country and the United States was published on Friday, on the subject of the regulations established by the Federal Government at the port of New York as to vessels trading to the Bahamas. The correspondence originated in May last year, when complaints were made by merchants and others in Nassau that the Custom House at New York required shippers there for the Bahamas to give bonds that none of the goods would be delivered at Confederate ports, and this they complained of as an undue restriction upon trade. It appeared that the restrictions were directed by an Act of Congress of 1861. Earl Russell accordingly directed remonstrances to be made against such restrictions as violating the treaty of 1815 between this country and the United States, giving English ships freedom to trade in American ports; and in August and September last Lord Lyons remonstrated with Mr. Seward. Mr. Seward replied by maintaining that the restrictions complained of were internal acts of administration applying equally to American and English ships, and he pointed to the vast increase of the commerce of Nassau since the outbreak of the war as a proof that the restrictions did not interfere with the "legitimate" trade to that port. Earl Russell replied that this was no answer to his complaint, and it was perfectly lawful for British ships at Nassau to tranship their cargoes for American ports. In his despatch, dated Dec. 17, he, however, expressed the hope that, notwithstanding Mr. Seward's defence, the remonstrance would have the practical effect of preventing the continuance or repetition of similar proceedings. Mr. Seward rejoined on January 9, but at the close of his arguments he gave the assurance that the laws of the United States would continue to be executed in such a way as to afford no just ground for complaint of partiality or injustice. Earl Russell, however, having discontinued the correspondence, hoping that his remonstrances would have practical effect, wrote to Lord Lyons again on the 18th July, noticing the representation of Messrs. Tootal, Broadhurst, and Co., that such a bond had been required of them when making a shipment to Nassau on the 13th of June last. His lordship considers this as a proof that the interference of the United States authorities with the trade is still persisted in, and instructs Lord Lyons to address a fresh remonstrance on the subject.

## Foreign.

France.—The Emperor arrived at St. Cloud on Wednesday night from the Camp at Chalons, and will preside at a Council of Ministers to-day. M. Drouyn de Lhuys was expected to return yesterday. Prince Napoleon and the Princess Clotilde are about to leave shortly for Lisbon. The *Patrie* states that the last steamer brought a protest from the Washington Cabinet relative to late political events in Mexico. It says that the Government of the North bases its protest upon the Monroe doctrine, and considers that the establishment of an Empire in Mexico by French influence would be a menace to American independence and encouragement given to the South. The *Patrie* adds that letters from New York attribute this step of Mr. Lincoln to the advice of the English and Russian Ministers at Washington. *La France*, however, denies that the American Government has addressed any such protest to France. It is said that the French Ambassador at Frankfort has been instructed to ask for explanations of the conduct of the American Consul in hoisting the Mexican flag over his door by the side of the "stars and stripes,' in the presence of the German Sovereigns assembled in that city. M. Boudet, the new Minister of the Interior, has issued a circular to the Presidents of the Councils-General, requesting them not to touch upon politics in their speeches at the opening of the session of the Councils. M. Aladenize, known chiefly by his share in the Boulogne expedition, died a few days since. The death of General Count de Rochefort, who ordered the Lancers to charge the Parisians on the Boulevard Poissonière on the 4th December, 1851, is also announced. An important boon is about to be granted to several cities of France, which, from their being fortified, are compelled to close their gates at certain hours, to the great inconvenience of the citizens and of travellers, who in some towns are shut out for the night, or compelled to obtain permission to enter after a certain hour. It is intended in future to allow a free passage at all hours of the night, and prevent the necessity of guarding the city gates from sunset to sunrise. M. Renan's volume, "La Vie de Jesus," has brought upon him the censures of the heads of the Catholic Church in France. The Archbishop of Toulouse has interdicted his flock from reading it, and in Bretagne the peasants of some of the villages have made an *auto-da-fé*, consigning to the flames every copy that can be obtained. Father Passaglia, also, has undertaken to reply to it, a task which was somewhat unexpected in one who has been so adverse to the supremacy of the Pope and to many of the dogmas of the Church. The work has nevertheless a prodigious sale. The Confederate frigate Atalanta has arrived at Brest and been subjected to a short quarantine, as she has no bill of health. The responsible editor of the *Courrier de St. Etienne*, who was acquitted in the first instance of an offence against the laws relating to the press, growing out of the late elections, has been condemned by the Court at Lyons to a term of imprisonment, and the journal is suppressed.

Spain.—The King is very ill at La Granja. Several German banking-houses have offered Spain a loan of 500,000.000 reals, at 6 per cent., to repair the disaster which has taken place at Manilla. The *Correspondencia* states that the Ministry will not enter upon the consideration of the Mexican question until after the Archduke Maximilian has accepted the Crown. The electoral meetings in the various districts have been authorised by the Government. The Liberals in Catalonia refuse to follow the advice of General Prim on the subject of the elections.

Sweden.—It is asserted that Sweden has given notice to several of the Powers that she will side with Denmark in the event of hostilities breaking out between that Power and Germany. It is also said that Prince Oscar, after having had interviews with the Emperor of Austria at Vienna and Frankfort, has left the latter town with the conviction that a conflict between Denmark and Germany is inevitable.

Denmark and the Duchies.—The King of Denmark was to preside at a sitting of the Privy Council on Saturday, to resolve upon the reply to be given by Denmark to the resolution of the Federal Diet of the 9th July. The Committee of the University of Kiel have given their decision upon the constitutional conflict between the German majority of the Schleswig Diet and the Government Commissioner. The award of the committee considers the Government Commissioner not justified in preventing the Diet from deciding upon the validity of the elections.

Belgium.—A clerical congress was held last week at Malines for the purpose of devising the means of propagating Roman Catholic influence in Europe. Among other matters the Congress has decided, with only one or two dissentients, that the establishment of a journal is the best means of securing the objects in view. After serious deliberations many important points in relation to the production of a newspaper were settled. Theatrical advertisements, and a dramatic criticism every Monday, are to be permitted, and the printers are to be allowed to work on Sundays. It was moved that the journal should not appear on Sundays, and that theatrical news, crimes, accidents, and offences should be excluded from its columns, but these motions were rejected. It was however resolved that accounts of suicides should be omitted, the occurrence of suicides from imitation having been unquestionably proved by medical observation. A discussion took place as to the proscription of works of art from churches. Two opinions were started: one that there was a nudity that was immoral, and another artistic; that the latter ought to be received. The other opinion was that nudity belonged to Paganism, and that every statue ought to be dashed to pieces. The congress came to no decision on the subject. During a discussion on the sufferings of Catholics in Italy, Garibaldi and his chaplain Pantaleone were branded with reprobation. Count de Montalembert, who was present at the sitting, and was received with great enthusiasm, read a paper advocating the necessity of a reconciliation between democracy and Catholicism. He contended that the *ancien régime*, whatever its grandeur might have been, had one fault which nothing could redeem. It was dead and gone; it would never return to life. Democracy existed in part of Europe; it would exist in the remaining part to-morrow. The Catholics must make up their minds frankly to accept liberty—complete liberty—not political, apart from religious freedom; not civil apart from political liberty—but liberty in all things—liberty in every manifestation of social life, for they would ruin the interests of Catholicism if they persisted in clamouring for liberty for themselves, and denying it to others. Cardinal Wiseman also addressed the meeting, and was listened to with marked attention. He rendered justice to the generosity and sense of fair play of the English people, and bestowed much praise on the conduct of the Government. He was well aware that strong prejudices, arising from historical circumstances, continued to exist against Catholicism in England, but acknowledged that there was every desire to give free exercise to the rites of religion. The British Parliament did equal justice to Catholics and Protestants; upon all committees his co-religionists were heard and their claims attended to, and he gratefully acknowledged the complete enjoyment of civil and religious rights by her Majesty's Catholic subjects. The Congress was brought to a close on Saturday, its fifth day of meeting. A despatch from the Pope was received, thanking the assembly for the address which it had voted to him, and giving his Apostolical benediction in return. The proceedings terminated by an address and benediction from the Cardinal Archbishop of Malines, followed by a banquet in the evening.

Frankfort.—There was no sitting of the Princes on Tuesday, on account of the Emperor's birthday. At the sitting of Saturday the reply of the King of Prussia, declining the invitation to be present, was read. Some of the articles of the Austrian project of reform were discussed. The first article was adopted unanimously, after some opposition on the part of the Duke of Oldenburg, whose arguments were replied to at length by the Duke of Saxe-Coburg-Gotha. The 2d article was discussed and adopted. Bavaria, Saxony, and Hanover strongly advocated reforms being granted, in accordance with the propositions of Austria. In the sitting of Monday the 3d article, relating to the Directorate, was adopted with some modifications. The Directorate will consist of six members—Austria, Prussia, and Bavaria having each one vote; Saxony, Hanover, and Würtemberg, together, will have the fourth vote in turn; Electoral Hesse and the seven Grand Duchies will choose the fifth member; and the remaining German States will elect the sixth. As regards the 5th article of the project, relating to the Presidency of the Directorate, it was proposed that Austria and Prussia should preside alternately, but decided to leave those two great Powers to come to a mutual understanding. The 6th article, establishing the general principles of the privileges of the Directorate and Federal Council, was adopted. Baden has entered a protest, pointing out that the acceptance of the Austrian propositions as fit bases of reform amounts to a binding engagement to interpret important points in the sense laid down by Austria. In the sitting of Tuesday, Articles 8 to 14 were agreed to. On Wednesday, Article 16, relative to the composition of the Assembly, was agreed to. It was also resolved that in the event of it happening in the sittings of the Directorate that there should be the same number of votes for and against any proposition, the vote shall be in favour of the proposition supported by the States which have the greater number of inhabitants. On Friday there was another sitting of the popular delegates, at which more than 300 were present. M. Benningsen was President. The proposition of the committee relative to the German question was unanimously adopted, after a discussion of eight hours' duration. The following were the resolutions on the subject:—

"1. That although the Austrian proposals are in many points of doubtful utility, they ought not to be absolutely rejected. 2. The members of the Lower House should be freely elected. 3. That Prussia should be placed on an equal footing with Austria in every respect. 4. That East and West Prussia should be admitted to the Confederacy. 5. That the acceptance of the Austrian proposals should be voted by a National Assembly, to be elected in conformity with the resolutions passed by the Federal Diet in March and April, 1848."

In the sitting of the Delegates on Saturday the proposals of the Committee relative to the Holstein question were adopted. In the sitting of Wednesday the Committee communicated the resolutions passed by the Assembly on the German question to the Princes present in Frankfort, to the representatives of the free towns, and to the foreign Ministers. In the sitting of the Federal Diet on Thursday, the declaration of the Danish Government with reference to Schleswig which has been received was referred to the committees. The Danish ambassador, who was unable to be present on account of illness, reserved further explanations. On Saturday evening Baron von Bethmann, the wealthy owner of Dannecker's famous statue of Ariadne, who fills the office of Consul-General of Prussia at Frankfort, gave a grand ball to the Sovereigns. The Prussian Government has since expressed its dissatisfaction at the fête having been given without its consent. Count Rechberg, in the name of the Emperor of Austria, has remitted to the Ministers of Foreign Affairs of the various German States a memorial pointing out the best and most speedy mode of bringing the project of reform submitted by the Emperor of Austria for the approval of the German Sovereigns to a satisfactory solution. The memorial states that it is highly important the Princes should agree upon the essential points of the programme, and should not separate before the termination of this preliminary and fundamental work. The Emperor of Austria was to have an interview with Queen Victoria at Rosenau on Thursday.

Prussia.—Prince Alfred of England has arrived in Potsdam. The King of Saxony returned to Frankfort on Friday, with a letter from the King of Prussia declining the collective invitation of the Princes, on the same grounds as those he had already communicated to

the Austrian Government during his stay at Gastein. The reply of the King was published on Monday. His Majesty repeats the refusal he had already given on the 4th inst., observing that he feels it the more incumbent upon him to do so from not having yet received any official communication of the propositions. His Majesty states that it would be impossible to participate in the deliberations of the Congress without entering into binding engagements, which he could not do without consulting his advisers. Every communication, however, made to his Majesty by his Federal allies will be readily and carefully taken into consideration. A despatch of Count von Bismark to the Prussian representative at Frankfort has also been published, dated Baden, the 21st inst. It concludes as follows:—

"For the present I must declare the Austrian project of Federal reform, according to our opinions, neither adequate to the actual position of the Prussian monarchy, nor to the just interests of the German people. Were Prussia to accept the propositions, she would renounce the position her power and history have created for her in the family of European States. She would run the risk of devoting the strength of the country to ends foreign to its interests, and over whose employment we should not have that degree of influence and control we are justly entitled to claim."

An Adjutant-General of the Czar left Berlin on the 24th for Baden. It is reported that he has been sent to the King of Prussia on an extraordinary mission from St. Petersburg.

Bavaria.—At the special sitting of the House of Representatives at Munich on Saturday, the President of the Chamber delivered a speech, in which he called upon the members to avail themselves of the opportunity of sho·ing that they unanimously approve the exertions of the Sovereigns to bring about German unity. The House gave three cheers for the Princes assembled at Frankfort.

Saxony.—The King of Saxony intends returning to Dresden, and leaving the Crown Prince as his representative at Frankfort.

Austria.—The Town Council of Vienna have resolved to give the Emperor a most brilliant reception on his return from Frankfort, and have granted the committee appointed for that purpose an unlimited credit.

Italy.—The *Stampa* of Wednesday says that it is rumoured that M. Baroche, the Minister of Justice, has reported in favour of the extradition of the five brigands. The news however is not yet officially announced. Signor Massari's Report on Brigandage has been published, and has produced a great sensation. It clearly proves the complicity of the Roman Government. The new law for the suppression of brigandage was promulgated on the 21st. The *Stampa*, in an article on the subject, regrets that certain special conditions connected with public safety have compelled the Government to declare 11 provinces infested by brigandage, although all of them are not equally agitated. The Minister, it says, is preparing the way for the execution of the law, and very shortly special tribunals will be instituted, juntas established, the relations between the civil and military authorities regulated, and volunteers enrolled. It points out the advantage which may be expected from the voluntary enlistment of riflemen, and concludes by saying that the political character of brigandage has almost disappeared, and would disappear entirely if Francis II. were driven from Rome, it Italy recovered her capital, and confided in the efficacy of the new measures. The railway from Castel Borghese to Ravenna was opened on Sunday in presence of a large concourse of people. Prince Carignan and the Ministers Minghetti, Peruzzi, and Menabrea were enthusiastically cheered. The Bill for the cession of the Victor Emmanuel Railway to the State received the Royal assent on Tuesday.

Russia.—The replies of the Western Powers were delivered to Prince Gortschakoff on Wednesday the 19th inst. The *Patrie* says that it does not expect that Russia will make any concessions. The old Muscovite party is averse to a temporising policy, and public opinion pronounces energetically against every concession. The *Courrier du Dimanche* of Saturday believes itself able to guarantee that the Notes of the three Powers contain an identical conclusion, couched in the following terms:—

"One imperious duty now remains to be fulfilled by the Government. This is to call the most serious attention of Prince Gortschakoff to the gravity of the situation and the responsibility it imposes upon Russia. Austria, France, and England have pointed out the urgency of putting an end to a deplorable condition of affairs, filled with peril to Europe. They have indicated the means which it appears to them their duty to be employed to attain this end. If Russia does not do all that depends upon her, to realise the moderate and conciliatory intentions of the three Powers, if she does not enter upon the course indicated by their friendly counsels, she will become responsible for the serious consequences which the prolongation of disorder in Poland may bring about."

Finland.—It is asserted that the Fins have sent delegates to St. Petersburg demanding a Constitution for Finland and a separate Finnish army.

Poland.—Private letters from Warsaw state that the Grand Duke Constantine left the Polish capital for St. Petersburg on the 25th inst. The Grand Duchess remained. It is reported that the Grand Duke has been summoned by the Emperor to deliberate upon the affairs of Poland. A rumour was current at the Bourse on Tuesday of the assassination of General Mouravieff. The *Pays* states that it is without foundation. General Mouravieff is now endeavouring to compel the peasants to sign addresses of loyalty to the Emperor. Five peasants have been banged in the district of Mariopol; a number were arrested, and 30 conducted to Wilna to sign the address. Gen. Mouravieff has also hung without trial, at Wilna, two brothers, Joseph and Alexander Bewkowki, suspected of participation in the attempt to assassinate the Marshal of the Lithuanian nobility. The engineer Zeglinski was hanged at Gledamek on the 17th. The pretext for his execution is unknown. Marszewski and Dombrowski have been hanged at Warsaw. Jablouski and Sipowicz were hanged at Wilna on the 19th. Madlle. Slanianoff, a young Polish lady, 20 years of age, has just died near Dubbein, in consequence of a flogging with the knout, inflicted by the orders of Mouravieff, because she wore mourning. At the beginning of the present month General Mouravieff confiscated 162 estates in the palatinate of Wilna. Since then he has issued a decree for the confiscation of 193 more. The landed proprietors are forced to sell their cattle, their carriages, and even their furniture, to pay the extraordinary tax of 10 per cent. levied by the Governor of Wilna. The property of one lady of large fortune has been confiscated because one of her sons joined the insurgents, although she has four other sons who are officers in the Russian army. A convoy of 47 condemned persons were transported last week to Siberia. Officials, with strong military escorts, are to traverse the kingdom of Poland to collect the taxes, and sequestrate the estates of those who refuse payment. The latest intelligence from Lithuania announces that the detachment commanded by Mackiewicz has gained a victory over a superior Russian force near Kiesdany. Ten thousand Russians have been sent into the palatinate of Lublin. Insurgent detachments, under Eminowicz and Cwick, are hastening with reinforcements from the government of that province. The Polish leaders are taking care to avoid an engagement. The Galician frontier is unguarded. The *Presse* states that an engagement unfavourable to the Russians had taken place at Obiachow, in the palatinate of Cracow. Railway and telegraphic communication between Cracow and Warsaw has been interrupted. A rising of the peasantry has taken place in the palatinate of Sandomir. The first engagement between them and the Russian forces is said to have already taken place at Jedlna, in the vicinity of Radom. Cavalry engagements of Taczanowski's corps, favourable to the insurgents, took place on the 18th at Kusno, and on the 12th at Poddembic. The insurgents were victorious in cavalry engagements at Dobra on the 21st, and at Gluchow on the 23d in the voyvodeship of Kalisz. The railway communication between Warsaw and Zombkowire, near the Prussian frontier, has been interrupted. The insurgents have destroyed six bridges, and interrupted telegraphic communication. A considerable insurrection of the peasants against Russia has broken out in the Ukraine.

Greece.—The King of the Greeks, according to the Copenhagen papers, will soon take his departure for Athens. His Majesty will arrive in Greece in the latter half of October, after the vote for the annexation of the Ionian Islands by the Ionian Parliament. The King will stay in London 10 days, and a similar time in Paris.

The Principalities.—Prince Couza has addressed a Note to the Powers who protested against his sequestration of the property of the Greek convents, declaring that this sequestration is definitive, but that he is disposed to grant an indemnity to the Greek priests for the sequestrated property. Holland has demanded of Prince Couza a modification in the Roumain flag, on account of its resemblance to her own.

Syria.—Some disturbances have taken place in the vicinity of Damascus. The Bedouins, under Djibel, attacked a detachment of gendarmes, of whom five were killed. Similar attacks took place at Kesronet. These outbreaks have caused some uneasiness, but it is believed that energetic measures on the part of the Turkish Government will soon put a stop to them.

Egypt.—The Viceroy has gone for a visit of a fortnight to Upper Egypt. M. de Lesseps has arrived at Alexandria. The Annamite Ambassadors have arrived at Suez. The statements published by some journals relative to the Suez Canal settlement are erroneous. Forced labour is absolutely abolished, the company having six months allowed them to make other labour arrangements. The Viceroy has already provided 900 labourers to work at the Canal.

Cape of Good Hope.—Accounts from the Cape to the 21st ult. state that the dissolution of the Cape Parliament was expected in a few days. Only two of the taxing Bills proposed by the Governor had passed, *i. e.*, the Transfer Duties Bill and the Succession Duties Bill. They were expected to yield only 2000*l.* additional revenue this year, but 25,000*l.* next year. The Governor had introduced another Bill to amend the stamp tariff. A Bill has been passed authorizing the Government to raise a loan in England of 150,000*l.* upon debentures at 6 per cent. interest. A motion for introducing a responsible or party Government has been rejected. The Assembly has voted an address to the Governor to summon the next Session of Parliament in the Eastern province. The Council had passed a resolution for the introduction of Lancashire emigrants at the expense of the Home Government, but the Assembly rejected the motion. There was some danger of hostilities upon the frontier between the Basutos and the Free State from a dispute about their boundaries. News had been received from the Zambesi to May 18. Bishop Tozer and his companions had arrived safely, and landed at the mouth of the Congone River. The bishop intended to proceed to the mission station as speedily as possible to take council with Mr. Proctor, and also with Dr. Livingstone, as to future opinions.

Persia.—The capture of Herat is reported to have aroused an extremely warlike spirit at Teheran.

China.—From Pekin and the Northern Ports there is no political news. An embassy from the Netherlands was about to proceed to Pekin. At Hankow, everything was quiet; at Kiuikiang also tranquillity prevailed, though the Taepings were known to be in the neighbourhood. Nankin had been attacked by a considerable Imperialist force, and some important outworks taken. A few Englishmen who were engaged in an illicit traffic in the creeks, were killed or wounded by the imperial troops; others fled to Chinkiang, 50 miles to the eastward. At Ningpo an Englishman charged with selling arms to the rebels, was tried by a court-martial, consisting of four British officers, presided over by a French colonel. The four officers, it is said, were in favour of his acquittal; but the French colonel held a different opinion, and having ordered the man to be sent to the head-quarters of the Franco-Chinese contingent, he was there taken out at night and shot.

Japan.—Advices from Yokohama state that the indemnity claimed by England was being paid at the departure of the mail, on the 27th June. Colonel Neale and Admiral Kuper had, however, been compelled once more to threaten hostilities in eight days in order to obtain payment. The Japanese finding that preparations were making by the fleet, communicated to Colonel Neale through the French Minister that they were ready to pay the money as agreed upon, by instalments. Colonel Neale replied that as the Japanese had suffered matters to go so far, the whole sum must be paid at once, in 440,000 Mexican dollars, to be delivered at 7 the next morning. The money was paid accordingly. At the same time, the Japanese Ministers informed the foreign Ministers that the Tycoon, then at Miako, had instructed them to obey the Mikado's orders to expel foreigners and close the ports, and expressed themselves willing to enter into negotiations on the subject. The foreign Ministers declined to discuss any such matters, but promised to convey the communication to their respective Governments. The Japanese also requested that foreigners would hold their settlements by their own military forces. The Prince of Satsuma still refused to deliver up the murderers of Mr. Richardson.

United States.—General Lee has a considerable force between the Rapidan and the Rappahannock, holds all the passes of the Blue Ridge Mountains, and has a strong force in the Shenandoah Valley. It is anticipated that he may send a portion of his forces through one of the gaps to Gainsville or Manassas, in order to attack simultaneously the front and rear of General Meade's position. A new Confederate camp has been discovered at Poney Mountain, near Culpepper, and the Confederate cavalry have captured a Federal signal station near Warrenton. General Meade has had a conference with the President, General Halleck, and Mr. Stanton, at Washington. Considerable excitement has been caused throughout California by a contemplated rising of Secessionists. An affray has occurred at Vasalia, in the northern part of the State, between the soldiers and Secessionists. The citizens were arming, and cavalry was sent to Vasalia. Secession outbreaks are also rumoured to have occurred in Santa Clara and Salano counties, north and south of San Francisco Bay. The fortifications of San Francisco are to be commenced immediately, and General Wright, the military Governor, has instituted other measures to meet the contingency. A vessel which passed Charleston on the night of the 7th states that Fort Sumter and the batteries on Morris Island kept up a terrific bombardment on the Federal position. A combined land and naval assault on Charleston was appointed for the 13th, which Admiral Dahlgren and General Gilmore are sanguine will result in the capture of Forts Sumter and Wagner and of Cumming's Point. Deserters assert that the Confederates have removed guns from Sumter and mounted them on James Island. The Confederates are actively at work on James Island preparing to defeat the Federal plans. Federal reinforcements of coloured troops continue to be sent to Charleston. It is rumoured that the 300 pounder Parrot gun sent to be used against Fort Sumter was lost overboard at Morris Island. Commander Bell has superseded Admiral Farragut in the Gulf department. Numerous guerilla bands are marauding throughout the interior counties of Missouri. General Grant in his official report of the siege of Vicksburg, published in the *Official Gazette*, attributes his success to the efficiency of his army and the prompt co-operation of Admiral Porter and his officers. The value of war material and general merchandise which has run the blockade at Wilmington, South Carolina, since the commencement of the present month, is estimated to be 3,000,000 dollars. On the 4th inst. 18 Federal negro soldiers from Island No. 10, on the Mississippi, proceeded to Beckham's Landing, in Tennessee, and murdered Mr. Beckham and his whole family of six persons. A number of the murderers have been arrested, and

state that they were incited to the act by the chaplain of their regiment, who had been unsuccessful in the attempt to obtain the freedom of a coloured girl belonging to Mr. Beckham. The British, French, Russian, Spanish, Prussian, Italian, and Swedish Ministers have left Washington, accompanied by Mr. Seward, upon an excursion to the Northern Lakes. The municipality of New York has unanimously passed a vote of 3,000,000 dols. to provide substitutes for drafted men. Judge M'Cann, of New York, has officially declared the Conscription Act to be unconstitutional. The Judge Advocate General has declared it to be a gigantic political fraud intended to deprive the Democratic party of their rights, and the German Democratic Club has denounced it as despotic and unconstitutional. The Orangetown Democratic Society on the 11th resolved to recognise Governor Seymour alone as the Commander-in-Chief of the Militia of New York. Governor Seymour has again written to the President, emphatically repeating his request for the proper adjustment of the quotas of the several districts before the draft should be finally ordered. The President replied that he should adhere to his intention of immediately resuming the draft. Much alarm prevails in New York in consequence of this correspondence, as it is feared that the working classes, supported by the opinion of the Governor, will again attempt a forcible resistance. The *New York Herald* says:—"If a riot and anarchy should arise out of the quarrel between President Lincoln and the Governor of New York, the country will hold to a rigid reckoning the two actors playing political parts so full of peril to domestic peace and the very existence of the nation." The trials of the parties accused of participating in the recent riots are in progress before Recorder Hoffman. Several of the prisoners have been sentenced to terms in the State prison varying from three months to 10 years. The *New York Herald* states that a convention of prominent Republicans was about to be held at Washington. The object of the meeting is not known, but the *Herald* asserts that information has reached Washington that the Confederates were willing to return to the Union if terms were offered them, and that the Republican party is desirous to stop the war and to avoid the unpopularity of the conscription. The *New York Tribune* denies the statement that any such convention is to be held. The Washington correspondent of the *Philadelphia Ledger* states that it is the intention of the parties interested in the Peterhoff to appeal against the decision of Judge Betts, and in the event of his decision being confirmed by the higher courts, to petition the British Government to interfere. The *Richmond Examiner* denounces the military appointments made by President Davis, and says, "The spirit of resistance to the North is as strong as ever, but the Southern people are weary of the flagrant mismanagement of the Government by President Davis's Administration." On the departure of the Royal Mail steamship Shannon from St. Thomas's, a rumour had reached that place that the Alabama had engaged and sunk the Federal war steamer Vanderbilt, off Havannah. The report, however, requires confirmation.

CANADA.—Mr. D'Arcy M'Gee has addressed a letter to the *Montreal Gazette*, stating that the Federal Government has erected a new fort at Rouse's Point, 45 miles from Montreal, with magazines capable of containing supplies for 100,000 men, also barrack accommodation for a permanent garrison of 5000 men. The plan contemplated at Washington for an invasion of Canada is to march 100,000 men up the district of Montreal, to cut the connection between Upper and Lower Canada; to abstain from meddling in local affairs, but to force the separation of the upper and lower provinces by the mere force of the army of occupation interposing its military barrier to their intercourse. What would follow such a separation has not escaped the calculation of the Federal Government. Mr. M'Gee urges the appointment of a Crown Prince for Canada, adopting other means for her closer connection with England; otherwise, in the day of need, England will only give nominal assistance. The Canadian Parliament assembled on the 13th. The Governor-General directed the special attention of the Legislature to the Militia Law, which required extensive amendment to make it effective. He asked Parliament to sanction the outlay incurred in consequence of the last Parliament ending without voting supplies, and also for a pledge for the necessary expenses for the current year. He recommended the establishment of telegraphic and postal communication between Lake Superior and the Pacific.

MEXICO.—Intelligence from Vera Cruz to the 24th of July says that the towns of Jalapa, Cordova, Orizaba, Tlascala, and Cholula had adhered to the vote of the Notables of Mexico. Comonfort had issued an order recommending his troops to submit to the will of the nation. A French *corps d'armée* is marching upon San Luis Potosi, which is held by Juarez with 15,000 men. Miramon has re-entered Mexican territory with a few thousand adventurers collected in Texas.

CUBA.—*La France* says that letters have been sent to Madrid from Havannah, by the principal inhabitants of Cuba, demanding that Spain should come to an agreement with France for the organisation of Mexico in a strong and durable manner, on the ground that the interests of Havannah are intimately allied with those of Mexico.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $93\frac{1}{4}$ to $\frac{3}{8}$ for Money, and $93\frac{3}{8}$ for Account; Three per Cents. Reduced, $93\frac{1}{2}$ to $\frac{5}{8}$; New Three per Cents., $93\frac{1}{2}$ to $\frac{3}{4}$; India Five per Cent. Stock, $108\frac{3}{4}$ to $\frac{1}{2}$; Ditto Bonds, 19*s*. pm.; Exchequer Bills, 2*s*. to 1*s* pm.—FOREIGN: Egyptian, $104\frac{3}{4}$; Greek, for Acct., $34\frac{1}{2}$; Ditto Coupons, for Acct., $1\frac{5}{8}$ to $\frac{7}{8}$; Italian, $71\frac{5}{8}$; Ditto Maremmana Railway, 79; Mexican, 38; Ditto for Acct., $38\frac{3}{8}$ to $\frac{5}{8}$; Peruvian, 1862, 86; Ditto for Acct., $86\frac{1}{2}$ to 87; Portuguese, 1856, '57, '59, '60, and 1862, 49; Ditto for Acct., $49\frac{1}{2}$ to $\frac{5}{8}$; Russian, 1862, $92\frac{1}{8}$ to $\frac{3}{8}$; Sardinian, for Acct., $89\frac{1}{2}$; Spanish Passive, 34 to $\frac{1}{8}$; Ditto for Acct., $34\frac{3}{8}$ to $\frac{1}{2}$; Ditto Certificates, for Acct., 13; Turkish, 1854, for Acct., 94 to $93\frac{1}{2}$; Ditto 1858, $72\frac{3}{4}$ to $\frac{1}{8}$; Ditto 1862, $69\frac{3}{4}$ to $\frac{5}{8}$; Ditto for Acct., $69\frac{7}{8}$ to 70; Venezuela, for Acct., 24; Ditto 1862, $57\frac{1}{2}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued | £29,134,010 | Government Debt | £11,015,100 |
| | | Other Securities | 3,634,900 |
| | | Gold Coin and Bullion | 14,484,010 |
| | | Silver Bullion | — |
| | £29,134,010 | | £29,134,010 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital | £14,553,000 | Government Securities (including Dead Weight Annuity) | £11,091,284 |
| Rest | 3,412,076 | Other Securities | 18,134,473 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) | 6,713,801 | Notes | 8,141,350 |
| Other Deposits | 12,806,568 | Gold and Silver Coin | 825,374 |
| Seven days and other bills | 707,036 | | |
| | £38,192,481 | | £38,192,481 |

August 27, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *August* 21.—BANKRUPTS.—G. ASBEY, Chester, Painter—J. BRADLEY, Hulme, Lancashire, Tailor—W. E. BULL, St. Helen's, Isle of Wight, Baker—A. P. H. BOWEN, Everton, Liverpool, Drysalter—E M. DU BLAISEL, Gloucester Crescent, Regent's Park, Commission Agent—J. CHAMBERS, Broom, Bedfordshire, Ginger Beer Manufacturer—G. COOKE, late of Carlton-le-Moreland, Lincolnshire, Baker—K. CHANDLER, jun., Blechynden Terrace, Lancaster Road, Notting Hill Builder—T. COUPLAND, Lincoln, Farmer—W DENSEY, Seymour Place, West Brompton, Carpenter—L. DARE, Bridgwater, Somersetshire, Stonemason—A ENGLISH, Shoreham, Sussex, Sailmaker—E. FINCKENSTADT, Southampton, Sugar Refiner—W. GOODWIN, Belper, Derbyshire, Framework Knitter—E. GREENHALGH, late of Liverpool, Dealer in Oils—B G. PEARSON, late of Liverpool, Dealer in Plaster of Paris—T. R. GIDDY, Newport, Monmouthshire, Innkeeper—K. GRAVES, Brook Street, Hanover Square, Widow—W. GRIFFITHS, Fishguard, Pembrokeshire, Saddler—W. GILLARD, jun., Regent Street, Oxford Street, Artist—S. GOODE, New Street, Bethnal Green, Willow and Manilla Square Manufacturer—W. GEORGE, Trinity Street, Liverpool Road, Islington—GEORGE HEYES, Little Lever, Lancashire, Manufacturer—E. HALL, Duke Street, Grosvenor Square, Beer Retailer—W. HALL, Kidderminster, Gardener—H. HOCKING, Penzance, Cornwall, Widow—W. H. INMAN, Harmood Street, Camden Town, Billiard Room Proprietor—J. JEFFERIES, Stone, Staffordshire, Journeyman Joiner—T. JONES, late Llynegr, Flintshire, Brewer—T. JONES, Hooper Street, Westminster Road, Manager to a Beershop Keeper—M. JERDEIN, Stafford Street, Bond Street, Gentleman—G. JAY, Norwich, Fish Merchant—I. LOTINGA, Sunderland, Shipbroker—G. LAROCHE, Bath, Milliner—A. MURDOCH, Newcastle-upon-Tyne, Hatter—T. MOLLART, Fenton, Staffordshire, Coal Dealer—W MAKINGS, Lees Mews, Grosvenor Square, Farrier—J. MARTIN, London Fields, Cabinet Maker—H. W. MILES, King Street, Hammersmith, Greengrocer—W. NORTH, Torquay, Devonshire, Corn Dealer—J W. NOWELL, Brixham, Devonshire, Shipowner—R. NISBOUR, Brighton, Sussex, Professor of Music and Singing—H. W OLIPHANT, late of Torrington Square, Contributor to the Public Press—G. PHILLIPS, The Cottage, Dudley Mews, Dudley Grove, Paddington Green, in the employment of the London General Omnibus Company—W. POWER, Tettenhall, Staffordshire, Gamekeeper—P. P. SMITH, Huntington, Yorkshire, Agricultural Labourer—R. PICKLES, Burnley, Lancashire, Grocer—T. ROWE, late Liverpool, Corn and Flour Dealer—C. H. ROSS, Museum Street Bloomsbury, Clerk—WILLIAM RULE, Workington, Cumberland, Builder—H. D. RAWLINGS, Falmouth, Cornwall, Grocer—T. ROBINSON, Bishop's Cleeve, Gloucestershire, Butcher—W. H. RYDER, Leicester, Grocer—D. SMITH, North Ormesby, Yorkshire, Tailor—R. STROUD, Northam, Southampton, Milkman—W. STONES, jun., late of Kington, Herefordshire, Licensed Victualler—W. A. SANDERS, Old Bailey, City, Corn Dealer—H. THURSTAN, Walsall, Staffordshire, Commission Agent—J. TUCKFIELD, Great Sutton Street, Watch Manufacturer—R. THOMAS, Southwark Bridge Road, Grocer—J. THOMAS, Swansea, Glamorganshire, Tailor and Draper—J. THEAKER, Morley, Yorkshire, Oil Dealer—R. THOMPSON, Bilston Staffordshire, Butcher—J. UNSWORTH, late Prestwich, Lancashire, Butcher—C. WYATT, Sun Street, Bishopsgate Street, City, Beer Retailer—GEORGE WILLIAM WHITE (sued as GEORGE WHITE & G— W— WHITE, King's Road, Chelsea, Boot and Shoe Manufacturer—C. WINSPEAR, Middleton, Durham, Shipwright—J. WILLIAMS, Llandrillo-yn rhos, Carnarvonshire, Cordwainer—W. H. WALKER, Leeds, Yorkshire, Maltster—J. WATSON, Barnsley, Yorkshire, Innkeeper A. WOOD, Brighouse, Yorkshire, Pig Jobber—A. W. S. WATKINS, New North Road, Islington, Commercial Clerk—C. WRIGHT, Lincoln, Attorney's Clerk.

SCOTCH SEQUESTRATIONS.—A. G. GILMOUR & J. SAGE, Glasgow, Chemists—T. REID & J. TOWART, Glasgow, Printers.

TUESDAY: *August* 25.—BANKRUPTS.—J. ANDERSON, Newcastle-upon-Tyne, late Secretary—J. ATKINSON, Misson, Lincolnshire, late Innkeeper—T. BLACKMORE, Aller, Somersetshire, Shoemaker—C. BAILEY, Wharf Street, Leicester, Fishmonger—R BORRILL, Kingston-upon-Hull, Fruiterer—W. BAUM, Duke Street, Lincoln's Inn Fields, late Man Servant—W. D. BOWEN, Bransford, Worcestershire, Brewer's Assistant—T. COPLAND, Greenside, Durham, Commission Agent—W. CROSSLEY, Bradford, Yorkshire, Commission Agent—H. CONEY, Tottenham Court Road, Boot and Shoe Maker—J. P. COOKE, Crowndale Place, Oakley Square, Attorney-at-Law—T. CRUMMACK, Size Lan, City, Wholesale Stationer—H. CLARK, Salisbury Street, Strand, Doctor of Medicine—J. HILL CHEATLE, Birmingham, Brushmaker—J. COOMBES, Paignton, Devonshire, Carpenter—W. T. COWPER, Lower Broughton, Lancashire, Joiner—W. CHANTLER, Newcastle-upon-Tyne, Merchant Tailor—J. CLOUGH, Salford, Lancashire, Drover—E. COOKE, Redditch, Worcestershire, Needle Manufacturer—J. DAWSON, Aldershott, Mess Cook—ABRAHAM DEAL, Deptford, Kent, Baker—EDWARD HARDEMAN DUNN, Abbey Gardens, St. Marylebone, Mariner—FRANK CHARLES DRAYTON, Ryde, Isle of Wight, Painter—WILLIAM DARLINGTON, Monks Coppenhall, Cheshire, Grocer—R. S. ELLIOTT, Tonbridge, Kent, Tobacconist—J. FARRANCE, Anthony Street, St. George's-in-the East, Licensed Victualler—E. FALVEY, Hall Place, Paddington, Coal Merchant—A. FIRTH, Cleckheaton, Yorkshire, Cabinet Maker—E. M. FEAR, Old Street Road, Shoreditch, Veneer Seller—G. FELDWICK, St. Martin's Court, Leicester Square, Patent Spring Roller Blind Manufacturer—A. FORBES, Tatton, Hampshire, late Stationer—R. FORSTER, Sussex Street, Pimlico, late Paint and Colour Manufacturer—W. GABB, Birmingham, Commission Agent—J. GOOD, Newcastle upon-Tyne, Plasterer—T. R. GIDDY, Newport, Monmouthshire, Innkeeper—A. GLEDHILL, Sheffield, Cutler—J. HIGGS, Tipton, Staffordshire, Miner—T. HUGGAN, Dublin, Engineer—J. W. HAMMOND, Hove, Sussex, Builder—G H. HALLIDAY, Manchester, Artificial Florist—G. HORNSBY, Gateshead, Durham, Commission Agent—G. G. HUGHES, Everton, Lancashire, late General Dealer—J. HALLIWELL, Tonge, Lancashire, Weaver—W. HUNTER, Preston, Lancashire, Coal Dealer—J. HALLIWELL, Middleton, Lancashire, Labourer—R. JOHN, Lampeter Velfrey, Pembrokeshire, Farmer—Y. KING, Stockbridge, Hampshire, Trainer of Horses—G. KERRISON, Norwich, Grocer and Tea Dealer—J. LUNN, Froyle, Hampshire, Shopkeeper—W. H. LEAVER, Redditch, Worcestershire—J W. LAW, Sale, Cheshire, Plumber—M. MORGANS, Tynllidiart, Cardiganshire, Grocer—B MITCHELL and J. MITCHELL, Leeds, Commission Agents—J. MOORE, Alphington, Devon, Gardener—W. MADDOCKS South Tranmere, Cheshire, Beerhouse Keeper—J. P. MARTIN, Washington Place, Peckham, Clerk to a Benevolent Society—E. MAIDMENT, Albany Road, Camberwell, Bread and Biscuit Baker—J. NAYLOR, Carlisle, Chorister—J NEWTON, Scarborough, Butcher—J. ORTON, Chelmsford, Butcher—J. O'BRIEN, Tonbridge Wells, Kent—C. H. ORGAN, Sittingbourne, Kent, Eating House Keeper—G. M. ORD, Bishop Auckland, Durham, Emigration Agent—J. W. PROCTOR, Borough Market, Southwark, Fruit and Vegetable Salesman—G. J. POUCHER, Old Broad Street, City, Accountant—R. PALMER, jun., Stokesley, Yorkshire, Attorney-at-law—JOHN PEPPER, Wakefield, Yorkshire, Provision Dealer—GEORGE PATTISON, Newcastle-upon Tyne, Joiner—THOMAS RICHARDSON, Wavertree, Lancashire, late Beerseller and Cowkeeper—D. RICHARDS, Maesteg, Glamorganshire, Innkeeper—J. C. ROSSITER, Moorgate Street, City, Merchant—N. SHARP, Binstead, Isle of Wight, late Yeoman—T. SMITH, Keighley, Yorkshire, Reedmaker—E. SKEFFINGTON, Carnforth, Lancashire, Timekeeper—A. SWONNELL, Ponsonby Terrace, Pimlico, Commission Agent—S. SHAW, Tonbridge, Coal Merchant—S. E. STRIDE and F. CLARKE, Conduit Street, Bond Street, Outfitters—FREDERIC TAYLER (sued and committed as FREDERICK TAYLER), Greenwich, Bill Broker—E C. B TUDOR, Shiffnal, Shropshire, Plumber—W WILKINSON Salford, Lancashire, Printer—J. WESTCOTT, Kingston upon Hull, Smack Owner—F B WORTH, Rothwell, Yorkshire, late Plumber—J. WOODGATES, Birmingham, Journeyman Coffee Mill Maker—W. WAKEFIELD Gloucester, Grocer—H. WARD, Tunstall, Suffolk, Widow—W. WEEKS, Foot's Cray, Kent Ostler.

SCOTCH SEQUESTRATIONS.—J. M'GIBBON, Glasgow, Grocer—J. M'LAY, Glasgow, Rope Manufacturer—W. M'LEAN, Dundee, Auctioneer.

## Metropolis and its Vicinity.

FUNERAL OF LORD CLYDE.—The funeral of Field-Marshal Lord Clyde took place on Saturday, as previously announced, in Westminster Abbey. The procession on leaving Berkeley Square passed through Piccadilly, St. James's Street, Pall Mall, Cockspur Street, Charing Cross, Whitehall, Parliament Street, and to the Abbey entrance in Dean's-yard, preceded by a body of police to clear the way. The hearse, without any emblazonments in the shape of escutcheons, was drawn by four horses, and followed by fourteen mourning coaches, the carriage of the Queen, drawn by six horses, the carriage of the Prince of Wales, drawn by four horses, the carriage of the Duke of Cambridge, Commander-in-Chief; the carriage of the Duchess of Cambridge, and by a great number of carriages of the nobility and gentry. Among the mourners in the 14 coaches were—Major General Eyre, Commandant of Chatham Garrison; Colonel M'Murdo, Colonel Alison, the Duke of Wellington, Earl de Grey and Ripon, Secretary of State for War; General Forster, the Earl of Longford, the Marquis of Donegal, Lord Gough, General Arbuthnot, General Sir Richard Airey, Major-General Lord Francis Paulet, the Earl of Lucan, Lord Rokeby, Sir Henry Horsford, Earl St. Maur, Sir E. Lugard, Sir R. Walpole, Major Alison, General Coke, Major Dormar, Viscount Dangan, Major Mansfield, Sir R. Hamilton, and other officers and friends. On reaching the cloisters at the south-eastern corner of Dean's Yard, the coffin was removed from the hearse, and it was then discovered that its lid was ornamented with the most beautifully woven chaplets and immortelles, which had been worked by the children of General Eyre, to whom the deceased was very much attached. At this point the procession was joined by the Earl of Ellenborough, Major General Beresford, Mr. Peter Stewart Macliver, of Iona House, Clifton, the cousin of deceased, and others, who followed as mourners. The pall-bearers then took their places on either side of the coffin, consisting of—The Duke of Wellington, Major-General Eyre, Earl de Grey and Ripon, General Forster, Sir Richard Airey, Quartermaster-General; Lord Longford, Lord Frederick Paulet, and Sir Robert Hamilton. On reaching the south door of the Abbey, the corpse was met by the Rev. Lord John Thynne, sub-dean, the Rev. Canon Nepean, the Rev. Canon Jennings, and other dignitaries attached to the Abbey, and headed by the High Bailiff of Westminster, and preceded by the vergers, beadles, and choristers, the procession began to move along the south aisles to the western porch, where it entered the nave; the choir pealing forth the choral service and anthems by Croft, Purcell, and Handel. The service was read by Lord John Thynne, and the coffin was borne to the grave in the nave, close to that of General Outram. The coffin bore the simple words, "Field Marshal Lord Clyde, died 14th of August, 1863, aged 70 years." In connection with these details we may mention that the following general order has been issued from the Horse Guards to the Army, by the special command of the Queen:—

> "His Royal Highness the Field Marshal Commanding-in-Chief has received her Majesty's commands to express to the army her grief at the lamented death of Field Marshal Lord Clyde. The great military services performed by Lord Clyde in different parts of the world, the success with which in most trying circumstances he restored peace to her Majesty's Indian empire, and the personal regard which her Majesty and her beloved Consort entertained for his high and honourable character, make her Majesty deeply deplore the loss which the Queen, in common with her Majesty's subjects, has sustained."

NATIONAL RIFLE ASSOCIATION.—The Council of this Association have made an appeal to the public for a more extended support than they have hitherto received. They state that their annual expenditure, including the sums they expend in prizes, exceeds 8000*l*. a year; and that their annual income, arising from subscriptions, is little over 2000*l*. For the difference of nearly 6000*l*. they are dependent on the attractions of the annual competition; attractions which a week of wet weather at the time of the competition would suffice to destroy, or at any rate seriously impair, and convert a precarious surplus into a serious deficit. They therefore hope that the present appeal will double or triple the thousand subscribers which is the whole number that the association can at present boast of.

LANCASHIRE RELIEF FUND.—At a meeting of the Mansion House Committee on Friday, the financial statement showed that out of 509 200*l*., the total amount of subscriptions up to that day, the Committee had an available balance in hand of 71,815*l*. 14*s*. The receipts during the last fortnight had amounted to 695*l*. odd, of which 405*l*. had come from the colonies. The report also stated that the interest of the floating balance invested at call, a matter of economy, had more than paid all the working expenses of the fund, including advertisements of lists of subscription. Mr. Childers, M.P., at the head of a large deputation of Australian merchants in the city, representing the

Victoria (Australia) Emigrants' Assistance Society, appeared before the Committee to ask for a further grant of 2000*l.* to aid 500 or 600 more people to emigrate, with some supplemental assistance from the Manchester Committee. The Committee, on the motion of Mr. Cubitt, seconded by Mr. Cotton, voted a sum of 1000*l.*, or 2*l.* a head, to which they had limited themselves by a previous general resolution, towards assisting these 500 people to emigrate from Lancashire and Cheshire, under the care of the society, and a further sum of 160*l.* to recoup the society in respect of 80 emigrants at 2*l.* a head, who had exceeded the number of 500 for whom the Committee had voted 1000*l.* in the spring of this year. Mr. Childers, in returning thanks on the part of the deputation, said that a letter received by the society by the last mail contained the gratifying announcement that, under a Bill which was about to pass, at least 150,000*l.* a year would be expended by the Colonial Government for purposes of emigration. The Committee also granted 364*l.* 15*s.* to the Manchester Emigrants Aid Committee, and 54*l.* to a similar body at Carlisle, making the whole sum voted for purposes of emigration 1578*l.* 15*s.* Grants were then voted to various places in the distressed districts to the amount of 1940*l.*; and set apart a fresh sum of 5000*l.* to their emigration fund.

THE NELSON COLUMN.—Sir Edwin Landseer has completed his model of the lion which is to be the type of the other three; and report says that it is in all respects worthy of his fame. The lion is couchant, with his massive arms extended straight before him; his huge head, calm in the consciousness of might, erect and watchful, but with no anger or defiance, except that which is inseparable from such strength. It is not much above the size of a large full-grown animal, but the actual lion cast in bronze for the pedestals of Trafalgar Square will be 20 feet long, all the other dimensions being enlarged in proportion, according to a regular scale. When this is done with one lion, a slight turn of the head, the movement of a limb, or the shifting of a paw, will give variety and life to the group, still preserving that harmony of action and character required for so large a monument.

THE LATE SIR FREDERICK SLADE.—Legal proceedings, involving circumstances of a most romantic character, are likely, says the *Sherborne Journal*, to arise out of a claim made by the brother of the late Sir Frederick Slade to the title and estate of the deceased baronet. It is alleged that, when Sir Frederick married Lady Slade, the latter was then the wife of an Austrian gentleman, who died in 1857; and not only so, but that, when the Austrian alliance was formed, there was a previous marriage. It is believed to be a fact that Sir Frederick, for obvious reasons, repeated the marriage ceremony as often as children were born to him. The defence will turn, it is said, upon the legality of the second marriage, which is held to be no marriage if the first husband was then living—it being contended that the third one, if contracted after the first husband died, is thereby a strictly legal and binding engagement. The case will probably come on for trial at an early date, and Lady Slade, of course, will be the most prominent and important witness. Eminent counsel are already engaged for the occasion.

BLONDIN IN DANGER.—The Seville journals state that during a performance in that city, a few days since, the celebrated Blondin was nearly losing his life, and only owed his escape to his presence of mind. While performing in a head-dress, to which was attached a piece of firework in the shape of a wheel, the fireworks assumed a rotary motion so violent that Blondin was unable to resist the movement; and feeling his danger, let go the barrow he had been driving as well as his balancing pole, and endeavoured to undo the strings which attached the burning head-dress to his neck. He dropped from the rope, keeping himself suspended from it by one leg, while he divested himself of the apparatus, the fireworks still exploding. At length he succeeded, and came down in safety, amidst the cheers of the spectators.

ACCIDENT AT BLACKFRIARS BRIDGE.—On Saturday afternoon an alarming accident happened at the new bridge now erecting at Blackfriars for the London, Chatham, and Dover Railway. A travelling crane upon which seven men were at work was crossing a tramway between two of the wooden piers, when one of the cross girders suddenly gave way, and the crane with the men upon it fell into the water. A barge which was passing at the time was between the piers when the scaffolding broke, but the men on it escaped with a few cuts and bruises. One of the men on the crane was crushed under some part of the machine and drowned. The others had a marvellous escape, only three of them being seriously hurt. One of these had his ribs broken, but is doing well at his own residence in Camberwell. Another received a scalp wound and a severe cut in the leg, and was taken to St. Bartholomew's Hospital, but will be able to leave it in a few days. The third, who was carried to Guy's Hospital, left as soon as his wounds were dressed. One of the river steamboats passed the spot where the accident occurred, only two or three minutes before the crane fell; had it been underneath the tramway at the time the consequence would have been fearful. Divers were at work on Sunday during nearly the whole of the day recovering the broken crane, which was safely landed on the Surrey side of the river on Monday afternoon, and was found to have sustained little or no injury.

SUICIDE OF DR. NARNI.—An Italian physician named Narni has been in London for some time displaying certain instruments of torture, which were said to have been in use in the Neapolitan prisons under the Bourbon dynasty, and he employed Madame Seyton-Sicard to lecture upon them and explain their use. The exhibition, however, did not appear to meet the English taste, and on Saturday, Dr. Narni, oppressed, it is said, with the want of means to meet his engagements, committed suicide.

MURDER AND SUICIDE.—A shocking case of suicide, preceded by an attempt to murder, took place a few days since at the East end of London. A man named Williamson, a dock labourer, and member of a rifle corps, had been out drinking all night. In the morning he went home and demanded more money from his wife, and, as she did not give him all he wanted, he attempted to cut her throat. She burst from him, however, and escaped from the house. An hour or two afterwards it was discovered that he had shot himself through the head with his rifle. The Jury returned a verdict of "Suicide while suffering from *delirium tremens*, the effect of drink."

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, the 22d August, were 1337. The average number in the ten corresponding weeks of the years 1853—62, corrected for increase of population, was 1324. The present return is therefore 13 above the average. During the week the births of 912 boys and 876 girls, in all 1788 children, were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1811.

## Provincial.

MANCHESTER.—At the weekly meeting of the Central Executive Committee on Monday, the Earl of Derby in the chair, the financial report stated that the balance in the bank was 310,588*l.* 0*s.* 10*d.*, and that 190*l.* 18*s.* 10*d.* had been received during the week. Mr. Farnall reported that on the 15th inst. there was an increase in the number of persons receiving parochial relief in the 27 unions, as compared with the previous week, of 382. A discussion followed on the general prospects of the district. Mr. J. R. Kay said that the condition of things in Bury appeared more gloomy now than a few weeks ago; and that one of the largest manufacturing firms in his neighbourhood, that of Messrs. Grant Brothers, were about to close their mill and retire from business. Mr. T. Ashton thought there were no new grounds to warrant any important variation from the estimate put forth by the Committee at Christmas last. The imports of cotton in the interval had been, if anything, rather less than was calculated upon; but the difference was inconsiderable. There was no doubt that every bale of cotton imported would be used, and next year a large supply might be looked for, as they ought not to anticipate another failure in the Indian crop. Mr. Hugh Mason mentioned that a manufacturer with whom he was well acquainted, employing 700 hands, and whose works had been stopped for several months, bought cotton about eight weeks ago, and again opened his works, thinking that at the then price of the raw material there would be less loss in working than in keeping the machinery idle. Since he went into the market, however, the price of cotton had advanced 2½*d.* per lb., and it became a question with him whether he should not close again. Mr. Ashton said that similar changes in the market had been occurring during the last 18 months. Mr. E. Ashworth expressed the opinion, as a member of the Cotton Supply Association, that there would not be more than 22,000 bales per week for consumption till the close of the year, leaving the stock in Liverpool at that time the same as in the present month, viz., in round numbers, 150,000 bales less than at the commencement of the year—that was to say, the trade would lessen the stock in Liverpool, beyond the imports, to 150,000 bales. This 22,000 bales per week would be equivalent to three days' working. He could show from correspondence received by the Cotton Supply Association, a promise based upon crops of cotton now growing, of a supply equal to 4½ days per week employment for 1864. The Earl of Derby inquired from what countries the increased supply was expected? Mr. E. Ashworth replied that 350,000 bales, equal to 250,000 bales of American, were expected from the Turkish dominions; there would be a small increase from Italy and the Mediterranean Islands, an increase of 50,000 bales from Egypt, and of 100,000 more from Brazil and Peru. Sir C. Wood had stated that, owing to the unfavourable season in India in 1862, we had a much smaller excess of quantity than might have been anticipated from the increased breadth of land placed under cotton. They might now take into their calculation, however, last year's increased breadth of land and the increased breadth this year; and he thought they might safely estimate an enlarged import from India for 1864 to the extent of 250,000 bales. The Earl of Derby said if these calculations were accurate, they were most important. Heretofore these districts had been dependent on America for at least five-sixths of their cotton; and according to the estimate now made, there would next year be a supply equal to nearly five days' working per week, wholly independent of America. Mr. Ashton said he had no doubt that the whole of Lancashire might be at full work in 1865 or 1866 without a bale of cotton being received from America, supposing the war were still progressing in that country. In reply to Mr. Worrall, he added that he believed there would be a sufficient supply for four-and-a-half days' working immediately after Christmas. Mr. E. Ashworth observed that the time at which the four-and-a-half days' employment should commence would be regulated, to some extent, by the extent of stocks in hand. If they were sufficiently reduced at Christmas to keep prices at the point which would permit of immediate recourse to fuller working, extended operations would then commence. The Indian cotton crops did not arrive till towards Midsummer, but prices would bring the Mediterranean and some other crops by January. During the past year the exports of manufactured goods from England had exceeded the imports of the raw material, and therefore the old stocks in the warehouses must have been considerably lessened. The Earl of Derby asked if there was any prospect of an increased supply of cotton from South Africa,—Natal, for instance, or Australia? Mr. E. Ashworth: Very little indeed. We shall not have 10,000 bales from all Africa, excluding Egypt. Lord Egerton of Tatton inquired what was the prospect with regard to the export of manufactured goods. He understood that the exports depended upon the price of cotton here. Mr. E. Ashworth said that in 1860 or 1861 we exported cotton goods to the value of 60,000,000*l.* sterling. When the price of cotton rose the exports began to fall off, but the *Times* twitted them by saying that they still sent out 60,000,000*l.* worth of goods—that was, half the exports at double the price. The question was whether, when the bulk of raw cotton imported was 50 per cent. more than at present, the 60,000,000*l.* of money would be raised to 90,000,000*l.* Mr. T. Ashton believed that with the low price of cotton formerly prevailing, the trade would again extend in proportion. They could not enlarge their operations at the present prices of cotton. The cotton-growing districts of India had, owing to the high price paid for their produce, enjoyed a degree of prosperity never before witnessed. The effect was beginning to be seen in Calcutta. An estimate had been arrived at as to the quantity of goods they could use in the six months, from January to the end of July, and this was one of the causes of the large business done in Manchester last week. The usual consumption in Calcutta was, in spite of present high prices, only 25 per cent. per month more than that of the first six months of this year. In addition to this they knew that the stocks of goods up country had been reduced materially during the same period. Mr. E. Ashworth said the money paid to India during this last year for cotton had been about 20,000,000*l.* sterling more than had been customary, and the increased amount to Egypt,—to a population of 3,500,000, was about 7,000,000*l.* sterling. Some portion of that money would be sure to come back to this country for manufactured goods. Mr. Stern did not think there would be any difficulty in selling all the goods they could produce, provided there was no very sudden fall in the price of cotton. Lord E. Howard, M.P., said they could not be too thankful for the hope of brighter prospects which had been held out to them, but he gathered from the conversation that a period of something like two years must elapse before they could be realised, and thought, therefore, that they must bear in mind what they had to encounter in that long interval. He was sure they would have as winter approached plenty to do, both in applying the money under the Public Works Act and in finding employment by other means for the distressed population. These people, if he mistook not, would soon be badly off for clothing, and that might interfere with their going to a distance in search of work. He should be glad to learn what had been the result of efforts made by certain benevolent persons to employ these cotton operatives in outdoor work. It would be well, especially as a long period had to be tided over before brighter times arrived, if such persons would publish the result of their experience in the employment of factory operatives at a distance. It might probably encourage others to follow their example by finding occupation for the same unfortunate class. Lord Egerton said the expense of removing deterred married men with families from going in search of work to long distances; they had also a natural repugnance to breaking up their homes. Mr. Maclure said that wherever operatives had gone to avail themselves of specific offers of work through this committee, he had taken care to inquire how they had conducted themselves as regarded their general behaviour and suitability for their new employments. In every instance the reports had been most satisfactory, and on more than one occasion he had laid those reports before this committee. There was a great advantage in offers of work of a temporary nature, as they enabled single young men to employ themselves for a time, and yet be within reach when a better state of the cotton trade came. The great difficulty was, as Lord Egerton remarked, the expense of transit. He stated that he had received an offer from Mr. Haig, of Newtown, North Wales, for the employment of 20 men for five months, which he hoped to be able to make available. Such offers showed great consideration, and would always be gladly received by the committee. Mr. E. Ashworth

inquired whether, if the whole of the money provided under the new Act were borrowed, employment would not be found thereby for the whole of the operative population not occupied in the cotton trade. It would be better in every sense not to send them away till it was ascertained that there was no work for them at home. He estimated 4½ days' work in the mills from January next. The Earl of Derby thought it highly important that the facts detailed in the conversation should be made public, particularly as they might tend to reconcile an apparent inconsistency with which the manufacturers had been charged—namely, that of endeavouring to prevent the people to disperse to other districts, at the same time that they made the most dismal statements regarding the present state of things. The Mayor of Manchester said that in all probability Manchester would make application for 100,000*l.* under the Public Works Act. The corporation were most anxious to follow out the intentions of Parliament, and assist in finding employment for the distressed population. Mr. Rawlinson reported applications from Ashton, Denton, Bollington, and Bolton, to the aggregate amount of nearly 200,000*l.*, in addition to amounts previously reported in connection with other places. Grants were then made to the amount of 4850*l.* to about 20 local committees.

Newcastle-on-Tyne.—The annual meeting of the British Association for the Advancement of Science commenced in this town on Wednesday, when the opening address was delivered by Sir William Armstrong, as President for the year. In his address, which was listened to with great attention, he described at some length and with great clearness the mechanical forces of Nature and the recent discoveries of science in that direction. He next proceeded to consider the properties of heat, and then described the application of coal, which he said was at present applied both for steam and domestic purposes in a reckless and wasteful manner, that would, if it were not checked, exhaust the coal in the Newcastle district in about 200 years. The regular business of the sections commenced on Thursday, in accordance with the programme published in our Paper of the 15th inst.

Nottingham.—A grand fête was held on Monday in the park of Mr. North, at Basford, near this town. Among the other amusements, it was announced that Mr. Coxwell would ascend in his balloon at 6 o'clock in the evening. The balloon was almost new, but of not very large dimensions. After it had been fully inflated Mr. Coxwell tried it, and found there would be some difficulty in his ascending by it. Just at this time Mr. Chambers, the son of a well-known aëronaut, offered to go up in the balloon. Mr. Coxwell, fearing the balloon could not carry his weight, and knowing that Mr. Chambers was lighter, and wished to make the ascent, agreed that he should do so, but told him not to attempt an ascent unless he felt quite confident he could manage the balloon. Chambers replied that he had no fear about managing it, and accordingly was allowed to make the ascent. The balloon rose steadily, and was carried somewhat rapidly in a north-easterly direction towards Nottingham. It proceeded as far as Arnold Vale, when it was seen suddenly to collapse while still at a considerable altitude, and then to fall quickly in an unshapely mass in a field near Scout Lane, three miles from Nottingham. The car struck the ground and rebounded several feet, and then fell again, when it was caught hold of by some young men and stopped. At the bottom of the car lay the body of Mr. Chambers just breathing, but quite insensible, having his handkerchief in his mouth. He was conveyed to the nearest dwelling, and means adopted to restore animation, but without effect. Drs. Robertson and Maltby afterwards saw him, and discovered that his left thigh was fractured, and some of the ribs on his left side broken; but they considered it probable that he had died from suffocation, as the handkerchief which was found in his mouth had been evidently placed there by himself when he found himself in danger of being stifled by the gas from the collapsing balloon. Mr. Chambers was a married man, 36 years old, and leaves a family. As soon as his fate was known, the music and amusements at the fête were stopped, and the visitors gradually dispersed. At the inquest on Tuesday, Mr. Coxwell stated his opinion that deceased became insensible from the gas, previously clutching the valve line round his wrist and violently opening the valve. In all probability he fell to the bottom of the car, and as the valve cord was round his wrist it kept the valve open to its full dimension. As the balloon naturally elongated by losing the gas the strain on the cord became greater and greater, until nearly all the gas escaped. Had the cord not been fast to his wrist the gas could not possibly have escaped from the balloon, no tear or fracture having been found in it. The jury returned the following verdict:—

"That the deceased, ascended by his own free will; that through inhaling gas he became insensible, and was unable to work the balloon properly, and the balloon coming into violent collision with the earth caused his death."

Ryde.—The return match of the Victoria Yacht Club from Cherbourg to Ryde was won by the Commodore's schooner Aline, which arrived an hour before the Julia. The match for the smaller class of yachts was won by the Christabel, beating the Syren by 7 minutes. The match from Ryde to Plymouth for three prizes of 60*l.*, 40*l.*, and 50*l.*, took place on Monday. Eleven yachts started from Ryde at 9 A.M., and the winners arrived at Plymouth on the following morning as follows:—Schooner Aline, 216 tons, Mr. Charles Thellusson, commodore, at 9.55 A.M.; yawl Julia, 122 tons, Mr. G. Fielder, 11.2½ A.M.; cutter Marina, 65 tons, Mr. J. C. Morice, 12.15 A.M. The only other vessel in sight was the cutter Syren, 48 tons, Mr. T. Groves, jun. The other vessels were nowhere.

Wirksworth.—On Friday evening a horrible murder was committed at Wigley Hall, near this town. The victim was Miss Elizabeth Margaret Goodwin, a young lady of prepossessing appearance, 21 years of age, the grand-daughter of Captain Goodwin, one of the oldest magistrates in Derbyshire, and niece of W. Milnes, Esq., of Stubbing Edge, near Ashover. The murderer is Mr. George Victor Townley, a cotton spinner in business in Manchester, the son of Mr. Townley, stock and share broker of that city. On Friday morning Mr. Townley left Manchester and travelled to Whatstandwell station, on the Matlock railway, where he engaged a bed for the night at the inn and paid for it. He then walked forward to Wirksworth, where he arrived about half-past one o'clock. He then called upon the Rev. Herbert Harris, head master of the Grammar School, and an intimate friend of the family. He told Mr. Harris that he had been engaged to Miss Goodwin for some time, and said that she had written to him to break off the engagement, desiring that her letters might be returned. He further added that he wished to hear her make this determination from her own lips. He said to Mr. Harris—"Are you aware whether a clergyman has been visiting her lately? I presume you know, as you are in the confidence of the family." Mr. Harris replied, "I do not feel bound to reveal confidential communications. I may, however, tell you that a clergyman had been visiting at Captain Goodwin's." Mr. Townley said, "What is his name?" Mr. Harris said, "I must decline to give you his name." Mr. Harris advised him to write by post asking for an interview, and he added "or you may go up to Wigwell and see her if you can." Mr. Harris being about to resume his duties in the school asked him to call again. Mr. Townley then went away, and called again upon Mr. Harris about half-past four o'clock, and had a further interview. He then went to Wigwell, the seat of Captain Goodwin. A servant answered the door, and announced to Miss Goodwin the visit of Mr. Townley. Miss Goodwin directed him to be shown into the hall, and having conversed with her for about two minutes, Miss Goodwin and Mr. Townley left the hall and walked together in the pleasure grounds for about half an hour. Previously to going out Miss Goodwin told the servant to come to her at the end of that time, and say she was wanted. The servant went to them in the grounds according to appointment, and found Mr. Townley reading the newspaper, and Miss Goodwin in conversation with him. She went into the hall again, and in a short time returned to the grounds, but before leaving she told the servant to call her when tea was ready. At tea time she called Miss Goodwin, who said she would come directly, but it would appear that they walked away together out of the grounds, and into the turnpike road. They appear to have been together for some time, until a labourer named Conolly, who was returning from work, heard groans, and as he proceeded onwards he saw Miss Goodwin by the side of a wall on the footpath. She asked him to take her home, when he supported her with his arm round her waist for about twenty yards. She said to him, "There is a gentleman down there who has cut my throat." He looked around and saw Mr. Townley, who said, "I have murdered Miss Goodwin, and I shall be hanged." Just at this moment Mr. Leeds of Cromford, a boot and shoe maker, who had been attending Alfreton market, was returning home between eight and nine o'clock, in company with his brother. They saw something lying on the road, and pulled up, when they found a lady's straw hat in the middle of the road. They put it in the cart and drove a short distance further, when they found Miss Goodwin laid on the road dying, and the murderer Townley sitting down beside her. When Mr. Leeds and his brother got up to them Conolly said to them, "This is Miss Goodwin." They said "Who has done this?" Townley said, "I have done it." It was suggested that they should put the body in the cart, but as this was inconvenient owing to its being loaded with bones, and as they were not more than 200 yards from the Hall, they agreed to carry her. Before they could lift her she was dead. Mr. Leeds and Conolly then took hold of Miss Goodwin's feet and the murderer laid hold of her head, and they conveyed her into the kitchen. Mr. Mant, surgeon, of Wirksworth, was called in, and he found three wounds on her body, one on the right side of the neck about 3 inches long, extending down to the spine and dividing the principal vessels of the throat. There was one behind the ear, and another which penetrated the left shoulder-joint. Death had resulted from excessive bleeding. The instrument of murder was a large clasp pocket knife about 6 inches long, the end of which was broken, owing it is supposed to its having come in contact with the back bone. Parnham, the police-constable, was sent for immediately the body was brought to the hall, and on his entering the kitchen at half-past nine o'clock, the murderer went to him and said, "I give myself in charge for murdering the young lady. Recollect, policeman I give myself in charge." The policeman cautioned him as to what he said being used in evidence against him, when he said "I understand you perfectly." He was then taken into custody to the Wirksworth lock-up, and on the road he said he felt much happier since he had done it, and he added, after he had talked about the weather, "I hope Miss Goodwin is in a better world." In his pockets were found 12*s.* 10*d.*, a tobacco pipe, and also a letter, which was addressed to Miss Goodwin. There was also a draft copy of another letter addressed to the unfortunate young lady, which was written in his pocket-book. When at the lock up he tried to destroy the letter, but sufficient could be gathered from it to show that he admitted he was willing to release her from her engagement. It began, "Dear Bessy, I won't stand in your way." Friday night's reflection in the cell at Wirksworth seemed to have induced a thought for his parents, as he remarked when being brought out of his cell, "My poor father and mother will soon be gone when they hear of this." There was a great crowd of people collected in Wirksworth, and as he was removed to the house where the inquest was to be held he was hooted by the people. The inquest was held on Saturday afternoon. The prisoner was brought up in custody, but was not the least concerned at his position. Several witnesses were examined, but no material facts were adduced beyond those narrated above. The jury without hesitation found a verdict of Wilful Murder against the prisoner, and he was committed for trial at the assizes. On Monday he was brought up for examination before the magistrates, by whom he was fully committed for trial. During the inquiry he stood perfectly erect, apparently not the least affected by what was going on, and never speaking except to his solicitor, which he did frequently throughout the inquiry. Much sympathy is felt at the unhappy fate of this young lady, who was highly respected. The excitement in the neighbourhood, owing to the nature of the murder and the respectable position of the parties, is intense.

## Ireland.

The Florida.—The Confederate steamer Florida after making a long cruise on the Irish coast, has left for one of the French dockyards, where she will be repaired and her bottom cleaned. On Friday the 21st she burnt the ship Anglo-Saxon, bound from Liverpool for New York, 30 miles from Kinsale. The crew were landed at Brest. On Monday she was seen by some boatmen about 12 miles from Cork harbour, shaping her course up channel on the track of American vessels, and soon steamed out of sight. Shortly after she appeared again, pursuing the opposite course, with her mizenmast unstepped, so that she had the appearance of a brig instead of a barque-rigged vessel. Her movements were like those of a vessel lying in wait for a prize, and seeking to disguise her appearance.

## Railways.

The Late Accident on the Lynn and Hunstanton.—Another death has occurred from the fatal accident near Lynn; Mrs. Laird (whose husband was killed on the spot) having lingered till Tuesday, when death put an end to her sufferings. This makes seven deaths, and the life of another is despaired of. The Great Eastern Company are endeavouring to settle amicably the claims for compensation arising out of the accident, and in a large number of cases the terms have been satisfactorily adjusted.

## Law.

Northern Circuit: Liverpool.—*The Liverpool Murders.*—*Elizabeth Benyon*, 17, was indicted for the murder of her child, about 12 months old. The circumstances of this case were of a peculiarly painful character. The prisoner had been driven from the shelter of her father's house, after the father had polluted her by incestuous intercourse. In misery and destitution the poor girl wandered about the neighbourhood of Eccles, not knowing what to do with herself and child. While in this condition a man came up to her, entered into conversation and ultimately suggested that she should get rid of the child by throwing it into the river. Goaded to desperation by her miserable state of mind, she yielded to the suggestion, and having tied a stone in a cape fastened it round the infant's neck, and threw it into the Irwell. She then went to the house of a woman whom she knew in Eccles, and with whom she had found shelter for a few nights. When asked what had become of the child, she told a confused story about having given it to a woman, but afterwards she admitted that she had thrown it into the river, and the police on dragging the river at the point indicated, found the body. Mr. Justice Blackburn in summing up, told the jury that the painful circumstances under which the crime had been committed might form ground for a recommendation to mercy, but must not be permitted to interfere with the performance of their duty. The jury found the prisoner *Guilty*, with a strong recommendation to mercy, and she was sentenced to *Death*, his lordship remarking that he would forward the recommendation to the proper authorities. The prisoner was removed in a state of insensibility. *James O' Brien*, a tall young sailor of 26, was indicted for the wilful murder of Elizabeth Callaghan on the 20th June. The deceased was a woman of ill repute, and the prisoner visited a girl at her house. While he was asleep the girl rose, took some money from his pockets, and treated the other inmates of the house to drink. She took about 6*s.*, and on going up stairs again she found that during her absence four sovereigns had been taken out of the sailor's pocket. She then awoke the prisoner, who accused the landlady of robbing him. She denied that she knew anything of it, and the prisoner then took the girl with him to the police office; but the police declined to interfere. The prisoner then swore that he would have satisfaction of his own, and he subsequently purchased a sheath knife, went to the house of deceased and plunged the knife into her stomach, causing almost immediate death. The jury found the prisoner guilty of Wilful Murder, and he was sentenced to *Death*. The prisoner bore the sentence with great

calmness.—*George Gibson*, aged 39, was charged with the murder of his wife on the 21st June, at 55, Circus Street, Liverpool. It appeared that the prisoner lived most unhappilly with his wife. On the night in question he returned home under the influence of drink and asked for his supper, to which deceased replied that he had not provided her with the means to get any. Some words ensued, and deceased struck him a blow on the face. Later in the evening deceased was going into the house, when the prisoner rushed out of his room. Deceased called out, "Oh, see what he has got in his hand!" and immediately afterwards she gave a scream and ran into the kitchen, when it was found she had been wounded in the side, and was bleeding profusely. The prisoner, after inflicting the wound, returned to his own room, where he was apprehended with a long chisel in his hands, on which were marks of blood. An attempt was made to convey deceased to the Infirmary, but she was too weak to move, and, after suffering acutely, she died six days after the injury had been inflicted. For the defence it was urged, from the medical evidence, that deceased might have died from natural causes; but if by the violence of the prisoner, it was a case of "manslaughter," as he was through drink bereft of reason. The jury returned a verdict of *Guilty* of Manslaughter, and his lordship sentenced him to be kept in penal servitude for the remainder of his life.—*George Boyd*, 36, was indicted for the murder of his wife, at Liverpool, on the 22d June. The prisoner and deceased dwelt in a court off St. Andrew's Street, and as both were very intemperate they passed a miserable life. On the night of the 22d deceased went to bed intoxicated, and shortly afterwards the prisoner came home in a similar state. He asked deceased to get up and prepare his supper, but she refused, telling him to "go and get it where he came from." Some further squabbling took place, during which deceased said "Hold your noise." Almost immediately afterwards the prisoner, seizing a poker with a sharp end hurled it at his wife with such violence that the end entered her head and caused the blood to flow profusely. Deceased exclaimed, "Oh, George, you have killed me!" The prisoner was then much alarmed, and ran to her, took the poker from the wound, and endeavoured to stanch the blood with an apron. He expressed the greatest regret for what he had done, and accompanied his wife to the dispensary, where her wound was dressed. On the following day the woman commenced drinking again, and in a few days she was so ill that it became necessary to remove her to the infirmary, where she died from an abscess on the brain, the result of the wound inflicted by the poker. The prisoner was found guilty of Manslaughter, and sentenced to penal servitude for six years. *The Manchester Murder.—Evan Wilcox*, 16, was indicted for the wilful murder of Mary Cullen, at Manchester, on the 26th March. The prisoner, a stupid-looking youth had been playing with some children and girls in Barton Street, Liverpool Road, on the evening in question, when he was observed to go to the light of a shop window and charge a pistol. Shortly afterwards he advanced towards the deceased girl, who was about 16 years of age, and when about eight yards from her, pointed the pistol at her, and fired. She was carried to the Infirmary, where she died six or seven hours after from the effects of a wound which had penetrated her forehead and entered the brain. There did not appear to have been any motive to induce the prisoner to commit the crime. The defence was that there was no intention by the prisoner to injure any one, but that he had discharged the pistol in frolic, and that the paper wadding had probably inflicted the wound. The boy was a quiet and inoffensive lad. His lordship in summing up directed the jury that, if in their opinion the prisoner had fired the pistol with culpable negligence, that would constitute the offence of manslaughter, if his act had caused the death of deceased. The wound probably might have been inflicted by something in the nature of a ramrod being left in the pistol, but of that there was no evidence. The jury found the prisoner *Guilty of* Manslaughter. His lordship sentenced him to be imprisoned, with hard labour, for two calendar months. He did not think the circumstances of the case called for any severe punishment, and he thought he might well have been spared the pain of the charge of wilful murder which had been preferred against him.

## Obituary.

THE RIGHT HON. AND REV. LORD DE FREYNE died a few days since after a brief illness. He fell a victim to the same disease as carried off Sir C. Cresswell and Sir F. Slade—fatty degeneration of the heart. He is described as an indulgent landlord, who always resided on his property, and took the greatest interest in the welfare of his tenantry. In 1856 he succeeded his brother Arthur, who was raised to the peerage in 1839. The title and estates devolve upon his brother, Captain Charles French, late of the 81st Foot.

MR. W. MELTON BRIDGER, Recorder of Chichester, and a magistrate for Bradford-on-Avon, died on the 12th inst. from the effects of injuries sustained by being run over by a railway van. It appeared that deceased, who was a member of the United University Club, had come to town to be under the professional care of Mr. Charles Hawkins, of Saville Row. On Wednesday the 12th he had dined at his club, and was walking up Regent Street; and when near Argyl Place, one of Chaplin & Horne's vans was turning into that street, but being deaf he could not hear the carman, and was knocked down by the pole, and one of the wheels passed over him, killing him on the spot. The driver had been taken before a magistrate and discharged on his own recognisance until after the verdict. He now attended, and after several witnesses had been examined, it appeared that the accident had occurred from deceased being deaf, and not from any negligence on the part of the driver. The jury returned a verdict of Accidental Death, and said there was no blame attached to the carman.

WILLS AND BEQUESTS.—The Will of Sir Culling Eardley Eardley, Bart., has been sworn under 45,000*l*. He directs his executors to offer to the Commissioners of the National Gallery the "Madonna," by Murillo, for the sum of 10,000*l*.; and, in the event of its being accepted, to present the "Flight into Egypt" by the same master, as a gift to the National Gallery. The will of Mr. Thomas Corbyn Janson, of Stamford Hill and Abchurch Lane, banker, has been sworn under 60,000*l*. Mr. Elijah Eyre, of King's Lynn, Norfolk, 70,000*l*.

BIRTHS.—On the 17th, at Scarborough, Lady CAMPBELL, of Barcaldine, of a daughter—21st inst., at Geneva, Lady FORBES, of Craigievar, of a son and heir—15th inst., at Paragon Grove, Surbiton, the wife of Major General J. V. HUGHES, of a son, stillborn—20th inst, at Bailbrook Villa, Bath, the wife of Lieutenant-Colonel G. NEWBOLT, of a daughter.

MARRIAGES.—On the 15th, at the Swedish and Norwegian Embassy, his Excellency Count WACHTMEISTER, Minister Plenipotentiary from the King of Sweden and Norway, to Madlle. CONSTANCE GEORGINA LOUISE DE BOURBEL, younger daughter of HAROLD AUGUSTE, 16th Marquis de Bourbel, of Montpinçon, Normandy—25th inst, at Hurst Church, Berks, Capt. J. C. BYNG, R.N., youngest son of the late Vice-Admiral the Hon. H. D. Byng, to PENELOPE MARGARET, third daughter of the late Captain GARTH, R.N., of Haines Hill, Wilts—26th inst, at St. Mary Abbotts, Kensington, Colonel LAW, eldest surviving son of the late Hon. Charles Ewan Law, M.P. for Cambridge University, and Recorder of London, to ISABELLA, only child of the late ALEX. OGILBY, Esq., of Pelligier, Londonderry—20th inst, at Skendleby, Lincolnshire, the Rev. GEO WM. MURRAY, vicar of Shrivenham, Berks, only son of George St. V. T. N. Murray, Esq., of Chichester, and grandson of the late Vice-Admiral Sir George Murray, K.C.B., to JULIA MARY, younger daughter of the late WILLIAM BROWN CLARK, Esq., of Belford Hall, Northumberland, and the late Lady Brackenbury, of Skendleby Hall—15th inst, at St. Stephen's Church, Dublin, BRUCE BRINE, Esq., Royal Engineers, son of the late Major James Brine, of Sidmouth, Devonshire, to INA FRANKS, second daughter of Robert Fergusson Franks, Esq., of Upper Mount Street, Dublin, and granddaughter of the late Chief Justice Bushe—18th inst, at the parish church, Streatham, CHARLES JAMES ELWORTHY, Esq., of Wellington, Somerset, to SARAH, daughter of JAMES KERSHAW, Esq., M.P., of the Manor House, Streatham—25th inst, at St. John's Church, Paddington, JAMES ERSKINE OLIPHANT, Esq., H.M.'s Bombay Civil Service, eldest son of Lieutenant-Colonel James Oliphant, late of the Madras Engineers, to MARGARET ELIZA, youngest daughter of Major-General ROBERT ALEXANDER, of H.M.'s Madras Army.

DEATHS.—On the 18th inst, at Brooklands, BLANCHE EDITH, youngest daughter of the Hon. LOCKE KING, M.P.—12th inst, at Wimbledon, HENRY STORMONT MURRAY, Esq., son of the late General the Hon. Sir Henry Murray, K.C.B.—7th ult, at Benares, AMELIA JANE, youngest daughter of Captain Sir WM. HAMILTON, Bart., Royal Horse Artillery, aged 14 months—21st inst, in Charlotte Square, Edinburgh, MARY JULIANA FORESTIER, the infant daughter of Major-General and Lady JULIANA WALKER—18th inst, at Willoughby Rectory, SARAH ELIZABETH, wife of the Ven. Archdeacon GILES, aged 40—16th inst, at Knockmullen, Gorey, Ireland, Rear-Admiral RICHARD OWEN, aged 67—23d inst, at Belle Cottage, Barnes, Surrey, Lieutenant-Colonel HENRY BARRINGTON, formerly of the 3d or King's Own Light Dragoons, aged 75—17th inst, at Weston-super-Mare, Lieut.-Colonel GODLEY, of 13, Lansdowne Crescent, Bath, aged 76—23d inst, at Bad Ems, Germany, BARBARA CAMPBELL, wife of Colonel EVELYN POCKLINGTON, aged 40—15th ult, at Kamptee, East Indies, Major WM. R. NEWLYN, Assistant Commissary-General H.M.'s Madras Army—21st inst, at 18, Lower Ward, Windsor Castle, Captain JOHN DUNCAN KING, Military Knight of Windsor, aged 74—18th inst, at the Charter House, Capt. THOS. LIGHT, late of the 14th Reg. Foot, aged 86—5th inst, on board H.M.S. Trafalgar, Lieut. F. H. BLAIR, R.N., son of Captain H. Blair, R.N., aged 26—14th ult, at Lucknow, THOMPSON COPELAND CAPPER, Lieutenant Royal Artillery, youngest son of the late Samuel James Capper, Esq., of Leyton, Essex, aged 20—23d inst, at Lansdowne Road, Kensington Park, ALEX. STEWART, Esq., M.D., Inspector-General of Army Hospitals, aged 73—22d inst, at 29, Queen Anne St., of apoplexy, R. SUTTON, Esq.—25th inst, JOSEPH MASTERS, Esq., Publisher, of 33, Aldersgate Street, aged 68—22d inst, at Hammersmith, FRANK FOWLER, Esq., Secretary of the Library Company, aged 30—22d inst, the Rev. WILLIAM S. P. WILDER, Rector of Carlton and Great Bradley, eldest son of the late Lieutenant-General Sir Francis S. Wilder, of the Manor House, Binfield, Berks, aged 67—17th inst, at Ellesborough Rectory, the Rev. WM. M. FARISH, late incumbent of St. Peter's, Preston, aged 60—23d inst, at Southsea, the Rev. JAMES SAMUEL UPTON, Rector of Tankersley, Yorkshire, aged 65—24th inst, at Fletching, the Rev. SPENCER DODD WILD, vicar of that parish, aged 63—23d inst, in Grosvenor Square, the Rev. G. K. HOLDSWORTH, vicar of Withernwick and Aldborough, Yorkshire.

## Markets.

### COVENT GARDEN, Aug. 29.

Vegetables and most kinds of Fruit still continue plentiful. Greengages fetch from 6s. to 8s. a sieve; other Plums may also be had in great abundance at nearly the same price, and of Grapes and Pine Apples the supply is sufficient for the demand. Of Melons there is a good stock. Kent Filberts are improving in price, the supply of them being rather short. Kent Cobs are coming in, but at present they are very unripe; price 40s. to 50s. per 100 lbs. For Potatoes the market is still heavy, and prices low. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Stocks, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 3s to 6s | Melons, each, 2s to 4s |
| Grapes, per lb., 2s to 5s | Lemons, per 100, 12s to 16s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Nuts, small, per bushel, 14s to 18s |
| Figs, per doz., 2s 6d | Almonds, do., 18s |
| Peaches, per doz., 3s to 8s | Walnuts, do., 7s 6d |
| Nectarines, do., 2s to 5s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Celery, p. bundle, 1s 6d to 2s |
| Peas (shelled), p. qt., 1s to 1s 6d | French Beans, p. sieve, 2s to 6s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatoes, York Regents, p. ton, 100s to 110s | Garlic, per lb., 8d |
| „ Shaws, do., 60s to 70s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 4d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 3s 6d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| [illegible]toes, each, 2d to 3d | |

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, Aug. 27.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 80s | Clover, old .. .. | 90s to | 120 |
| Superior do. .. | 80 | 95 | Do. second cut .. | 80 | 110 |
| Inferior do. .. | 50 | 70 | New Clover .. | 70 | 105 |
| New do. .. .. .. | 70 | 85 | Straw .. .. .. | 26 | 32 |
| Rowen .. .. .. | — | — | | | |

HARVEY & EASTON.

CUMBERLAND MARKET, THURSDAY, Aug. 27.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 86s to | 96s | Inferior Clover .. | 84s to | 100s |
| Inferior do. .. .. | 70 | 78 | New do. .. .. | — | — |
| New do. .. .. .. | 80 | 90 | Straw .. .. | 24 | 33 |
| Superior Clover .. | 108 | 120 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Aug. 27.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime Clover .. | 120s to | 126s |
| Inferior do. .. .. | 80 | 84 | Inferior do. .. .. | 100 | 110 |
| Prime New Hay .. | 80 | 86 | New 1st cut do. .. | 110 | 116 |
| Inferior .. .. .. | — | — | Inferior do. .. | 95 | 110 |
| Straw .. .. .. | 27 | 30 | Prime 2d cut do. .. | 100 | 116 |

BRITISH WOOLS.—LONDON, Aug. 28.

Our trade continues firm, and a fair amount of business transacted.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 9½ to 1 10½ | Leicest. Wethers | 1 8 to 1 9 |
| Half-bred ditto .. | 1 10 — 1 11 | Ditto Hoggs .. | 1 9 — 1 10 |
| Down Ewes .. | 1 8½ — 1 9½ | Combing Skins | 1 4 — 1 8 |
| Kent Fleeces .. | 1 9 — 1 10 | Flannel Wool .. | 1 6 — 1 8 |
| | | Blanket ditto .. | .. — .. |

HOPS.—BOROUGH MARKET, FRIDAY, Aug. 28.

Messrs. Pattenden & Smith report a fair demand for 1862's at steady prices. About 50 pockets of the new growth have arrived at market, and realised 7*l*. 10s. to 8*l*. 8s. per cwt., the quality being excellent at so early a period.

COAL MARKET.—Aug. 26.

Davison's West Hartley, 16s.; Lambert's West Hartley, 16s.; North Pelton Gas, 13s. 3d.; Tanfield Moor, 12s. 6d.; Tanfield Moor Butes, 12s. 6d.; West Hartley, 16s; Walls End Haswell, 17s. 9d.; Walls End Russel's Hetton, 16s 9d.; Walls End Tunstall, 15s. 9d.; Walls End Hartlepool, 17s. 6d.; Walls End Heugh Hall, 16s. 9d.; Walls End South Hartlepool, 16s. 3d.; Walls End South Kelloe, 16s. 9d.; Carway and Duffryn Malting, 20s—42 ships at market.

NEWGATE.—Aug. 28.

Best Fresh Butter .. .. 15s. per dozen lbs.
Second do. do. .. .. 13s. "
Pork, 4s. 0d. to 4s. 4d. per 8 lbs.

METROPOLITAN CATTLE MARKET.

MONDAY, Aug. 24.

We have a much larger supply of Beasts, and consequently on the average prices are lower, yet there is not much reduction in choicest descriptions. There is a considerable increase in the number of sheep, but the average quality is not nearly as good as on Monday last. Prices therefore are fully as good. Lambs are not quite so dear. Trade is very dull for Calves, and prices are rather lower. From Germany and Holland there are 2100 Beasts, 9210 Sheep, 390 Calves, and 30 Pigs; from France, 11 Calves; from Ireland, 350; and 3190 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 4 10 | Best Long-wools. | 4 6 — 4 1 |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 8 — 4 0 | Ewes & 2d quality | 4 0 — 4 4 |
| Best Downs and Half-breds .. | 5 0 — 5 2 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. | 5 4 — 6 0 |
| | | Calves .. .. | 3 0 — 4 6 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 5890; Sheep & Lambs, 29,060; Calves, 436; Pigs, 340.

THURSDAY, Aug. 27.

The number of Beasts is not quite so large as on Thursday last; it is, however, sufficient for the demand. The quotations of Monday are well supported in most instances. We have a shorter supply of Sheep. The choicest qualities are readily disposed of, but on the average prices have not improved. Trade is dull for Lambs, and late prices are barely realised. Calves are more plentiful, but choice descriptions are not lower. Our foreign supply consists of 385 Beasts, 2420 Sheep, 620 Calves, and 20 Pigs. Milch Cows, 85.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 4 10 | Best Long-wools. | 4 6 — 4 10 |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | 4 0 — 4 4 |
| Best Downs and Half-breds .. | 5 0 — 5 2 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. | 5 0 — 6 0 |
| | | Calves .. .. | 3 0 — 4 6 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 1175; Sheep & Lambs, 9620; Calves, 726; Pigs, 180.

MARK LANE.—MONDAY, Aug. 24.

The supply of English Wheat to this morning's market was moderate, and no progress could be made with sales until a decline of 1s. to 2s. per qr. was submitted to. For foreign there was scarcely any demand, and the few sales made were at irregular prices, mostly at a decline of 1s. per qr. upon red, and 2s. per qr. upon white. Barley, Beans, and Peas brought last week's quotations. The Oat trade was heavy at a decline of 6d. per qr. Flour was rather cheaper. Of new Mustard Seed there were about 1200 qrs. on the market; the condition was generally good, but the quality poor; a few picked samples were sold at 9s. 6d. per bushel.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 43—45 | Red ..... | 40—44 |
| — — fine selected runs .. ditto | 45—50 | Red .... | 42—48 |
| — — Talavera .............. | 48—52 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 38—58 | | |
| BARLEY, grind. & dist., 30s to 33s .. Chev | 36—40 | Malting .. | 33—38 |
| — Foreign .. grinding and distilling | 26—29 | Malting . | 28—32 |
| OATS, Essex and Suffolk ........ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ............... Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 19—22 | Feed .... | 18—20 |
| RYE .......................... | 30—33 | Foreign .. | — |
| RYE-MEAL, Foreign ............ | — | | |
| BEANS, Mazagan .... 33s to 35s .. Tick | 34—36 | Harrow .. | 34—36 |
| — Pigeon .... 37s to 40s .. Winds. | — | Longpod | — |
| — Foreign ............. Small | 40—46 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent .. Boilers | 37—38 | Suffolk .. | 38—40 |
| — Maple .... —s to —s .... Grey | — | Foreign .. | 32—36 |
| MAIZE .................. White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 38—48 | | |
| — 2d do ............... ditto | 30—34 | Country .. | 30—34 |
| — Foreign ............ per barrel | 20—26 | Per sack | 34—45 |

FRIDAY, Aug. 28.

Excepting a few showers the weather has continued fine up to Monday last; since then we have had some heavy rain, which may retard harvest operations in the North; in the home counties, however, the fields are mostly cleared. The yield of Wheat is generally well spoken of, and the crop will probably prove to be one of the largest for some years past, and as the condition renders it fit for immediate use it is not surprising that our markets during the past week have continued very dull at a further reduction of 1s. to 2s. per qr. on English, while business in Foreign was very restricted and sales difficult at a greater decline and irregular prices. Grinding Barley met an improved demand at late rates, but offers for further delivery increase, and for such there are no buyers at 1s. to 2s. less money. Oats 6d. to 1s. per qr., Maize 6d. per qr. cheaper. Beans and Peas about as last quoted. Flour is a drug, and must be quoted 6d. per barrel and 1s. per sack lower. Since Friday last 96 vessels have been reported off the coast. A good number of cargoes have changed hands at declining prices. Wheat is 1s., Maize 6d. per qr. cheaper. In Paris (August 27), business in Wheat and Flour has been very dull during the last week, but was a trifle better today. The prices have remained unaltered; only inferior descriptions of Wheat declined about 1s. per 480 lbs. The present stock of Flour is estimated at 5000 cwts. The six marks for delivery this month are quoted equal to 36s. 4d. per 280 lbs. The arrivals of English Wheat and foreign Barley have been good, of English Barley and Oats small, of foreign Oats, Wheat and Flour large. This morning's market was very thinly attended, nevertheless the little English Wheat on offer was taken at the full prices of Monday last. The inquiry for foreign Wheat is of an extremely retail character, for which late rates are realised. In spring corn the business transacted was very trifling, and prices remain unaltered.

ARRIVALS THIS WEEK.

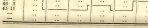
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2040 qrs. | 10 qrs. | 370 qrs. | 650 sks. |
| Irish .... | — | — | — | — " |
| Foreign | 28,980 " | 2750 | 31,890 " | — " / 20,080 brls |

LIVERPOOL, Aug. 25.—We have had a fair attendance of buyers at to-day's market. Wheat was in good demand at 1d. decline. Flour dull, and to effect sales a reduction must be taken. Indian Corn quiet. Beans steady. Oats, Oatmeal, and Egyptian Wheat unaltered.

FRIDAY, Aug. 28.—There was a moderate attendance at market, and a fair business transacted in Wheat at about Tuesday's prices for red; white rather easier. Flour dull. A moderate trade in Indian Corn at late rates. Egyptian Beans steady. Oats and Oatmeal a slow dragging sale. Egyptian Wheat unchanged.

| AVERAGES. | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| July 18 | 46s 7d | 28s 10d | 22s 6d | 32s 9d | 40s 0d | 37s 1d |
| — 25 | 45 11 | 29 10 | 23 9 | 32 8 | 39 3 | 35 11 |
| Aug. 1 | 45 11 | 31 0 | 22 0 | 37 11 | 39 11 | 36 3 |
| — 8 | 46 3 | 31 6 | 23 0 | 31 6 | 38 8 | 34 9 |
| — 15 | 45 11 | 31 4 | 23 7 | 36 4 | 40 7 | 35 7 |
| — 22 | 46 5 | 31 1 | 23 0 | 33 2 | 40 4 | 34 9 |
| Agg. Aver. | 46 2 | 30 7 | 23 0 | 34 1 | 39 9 | 35 9 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




DAILY or OCCASIONAL GOVERNESS.—A Lady who has resided many years in France, seeks a re-engagement in London, to instruct in English, French, and Music with Singing (by the new system); the rudiments of German and Drawing. Terms moderate.—H. H., 29, Queen's Road, Camden Square, N.W.

### To the Trade.

WANTED IMMEDIATELY, as PARTNER in a Provincial Nursery, within 50 miles of London, a thorough active business Man, of good address, to take the Travelling Department more particularly. A person having some knowledge of Landscape Gardening and giving Plans and Estimates of Ground Work is very desirable, and a perfect knowledge of the Seed Trade is indispensable.

The Nursery consists of 15 acres of ground in good condition, and well stocked, with the opportunity of adding 15 acres more land if desirable. The present occupier and predecessor have held it for nearly 50 years. The opportunity that now offers itself to an intelligent respectable Man will be found very advantageous. The Advertiser is 50 years of age; no family. Some Capital will be required.—Apply to Messrs. BECK, HENDERSON, & CHILD, Seed Merchants, 11, Adelphi Terrace, Strand, London, W.C.

WANTED, a CLERK and PLANT SALESMAN.—Mr. WILLIAM BULL has a Vacancy for a person in the above capacity. Application to be made personally between the hours of 10 and 1.—Establishment for New and Rare Plants, King's Road, Chelsea, London, S.W.

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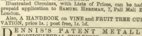

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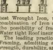


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# News of the Week.

THE French papers announce the important news that the EMPEROR OF RUSSIA has determined to meet the representations of the three Powers on the Polish question by granting a Constitution

to his whole Empire. HIS MAJESTY's proposal, as submitted to an Extraordinary Council, embraces two Chambers, the first being a Senate of 300 members appointed for life, and the second being a representative assembly of 450 members elected under specified conditions. These Chambers will constitute a central representation for the whole Empire; but, besides these, separate and independent Constitutions will be granted to eight great provinces. Thus the Kingdom of Poland, while sending representatives to the central Government, will have an independent internal organization, and a separate Diet sitting at Warsaw for the regulation of its own affairs. The same plan will be adopted with regard to Finland and the other provinces. These measures will of course go, not only far beyond all that the three Powers have asked from the CZAR, but beyond any hopes that they could have entertained; and though the old Muscovite party are said to be opposed to them, it is believed that the EMPEROR will not allow himself to be influenced by their opposition.

The sittings of the Congress of Princes at Frankfort were brought to a close on Tuesday. All the articles which had been decided upon in the special debates having been definitively accepted, the remaining articles of the Austrian project were agreed to unanimously, with the exception of Baden, Saxe Weimar, Mecklenburgh-Schwerin, Luxemburg, and Waldeck, which refused their adhesion to the protocol. The final result of the Conference will be communicated to the KING OF PRUSSIA in a letter signed by all the Sovereigns who agreed to the resolutions. A telegram from Vienna states that on the return of the EMPEROR OF AUSTRIA from Frankfort a number of Hungarian notables will assemble under the presidency of HIS MAJESTY for the purpose of coming to a settlement of the Hungarian question.

A despatch from Copenhagen announces that the Germanic Diet having threatened Denmark with Federal execution on the affairs of Holstein, a treaty of alliance has just been concluded between Denmark and Sweden, with a view to the defence of Danish territory from any German aggression.

The latest accounts from Charleston state that a combined land and naval assault commenced on the 14th ult., and had been continued for four days without result. General LEE's army has been increased to 150,000 men by the arrival of reinforcements, of whom 30,000 are veteran troops; and his pickets have been extended to the Rappahannock. It is reported that General MEADE, fearing a flank movement by the Confederates on his left, has fallen back to a position nearer Washington. The draft was resumed at New York on the 19th ult. without opposition. The Federal Government had made extensive preparations to suppress any attempt to renew the riots, and Governor SEYMOUR had issued a proclamation, enjoining the citizens to submit quietly to the action of the law until it should be pronounced void by the Courts or repealed by Congress. It is stated that Mr. JEFFERSON DAVIS has sent an envoy to Mexico, with proposals of mutual recognition.

## Home News.

THE QUEEN IN GERMANY. — On Tuesday week the Crown Prince and Princess of Prussia took leave of her Majesty, and left Coburg for Potsdam. Prince Alfred accompanied the Prince and Princess. On Wednesday week, being the Prince Consort's birthday, her Majesty planted a tree in remembrance in front of the Schloss in which the Prince was born. The Duchess of Coburg paid an early visit to the Queen. Prince and Princess Louis of Hesse arrived on a visit to the Duchess of Coburg, and immediately visited her Majesty at the Rosenau, and remained there till the evening. On Friday evening the Queen drove to the Kallenberg and took tea with the Duchess of Coburg. On Saturday Prince Alfred, accompanied by the Prince of Leiningen, returned to Rosenau from Potsdam. On Sunday morning the Queen, Princess Helena, and Prince Alfred attended Divine service at the Chapel at the Kallenberg. On Monday the King of Prussia visited the Queen at Rosenau. The Emperor of Austria was expected to visit her Majesty on Thursday. Her Majesty and the Royal family continue to take drives in the neighbourhood, and have visited the widow of Baron Stockmar and the Prince Consort's former tutor, M. Florschutz, at Coburg. Her Majesty's health is much the same. She is unable to bear any great exertion or fatigue.

THE QUEEN'S RETURN JOURNEY.—It is understood that the Queen will leave Rosenau on her return to England on Monday, the 7th September. It is expected that her Majesty will spend one day with the King of the Belgians, and arrive at Windsor on Thursday, the 10th. The Princess Louisa and Prince Arthur will meet her Majesty at the Castle. The Queen will remain at Windsor till the 14th, and then leave for Balmoral.

THE PRINCE AND PRINCESS OF WALES honoured the Braemar Gathering with their presence on Thursday week. The meeting took place at the seat of the Earl of Fife, Mar Lodge. Great preparations had been made to make the occasion worthy of the visit, her Royal Highness never having seen this picturesque sight. There was a gathering of the clans; followed by races, tossing the caber, putting the stone, Highland dances, including the sword dance, reels, &c. The Prince and Princess were received enthusiastically by the spectators. Her Royal Highness took her seat on a raised dais, and watched the progress of the sports with considerable interest. The Prince stood behind her chair. Both their Royal Highnesses were dressed partially in tartan. The weather, unfortunately, was very unfavourable, heavy showers falling all the time. The games, however, passed off as well as could be expected under such a drawback. At their conclusion the spectators dispersed, and the Prince and Princess, with their suite, went to Mar Lodge, and remained there till Saturday.

PRINCE NAPOLEON left Havre on Tuesday morning in the Imperial yacht, Jerome-Napoleon, on an excursion to the Isle of Wight. The Prince, after visiting Cowes, landed at Ryde on Wednesday, and embarked in the evening on his return to Havre.

THE ARMY.—The Colonelcy of the Coldstream Guards, vacant by the death of Lord Clyde, has been conferred on General Sir William Gomm; and the Colonelcy of the 13th Foot, vacated by this promotion, has been conferred on Major-General M'Pherson.

THE CHANNEL FLEET left Lough Foyle on Monday evening for the Clyde. It will sail from the Clyde on Monday, the 7th inst., for Belfast, where it will remain for three days, and will then proceed direct for the Mersey. The stay of the fleet at Liverpool is uncertain, but will not be less than six days.

COURT OF PROBATE AND DIVORCE.—On Thursday morning Sir James Plaisted Wilde, late one of the Barons of the Exchequer, was sworn in as Judge of the Court of Probate, in the room of the late Sir Cresswell Cresswell.

## Foreign.

FRANCE.—The Emperor presided on Saturday at a Council of Ministers, which lasted five hours. His Majesty presided at another Council on Wednesday, and at another on Thursday. The Empress left for Biarritz on Monday, and the Emperor will follow on the 10th inst. The camp of Châlons was raised on Tuesday. An Imperial decree, published on Tuesday, fixes the octroi duty in Paris on bread and corn at 1c. per kilogramme, on flour 1c. 3 dixièmes per kilogramme; the proceeds to go to the Caisse de Boulangerie. The decree further orders that whenever the price of bread exceeds 50c. the Caisse de Boulangerie is to bear the surplus. A decree has been issued for striking a medal commemorative of the Mexican expedition, to be distributed to all who have taken part in the campaign. *La France* states that Count Goltz had several interviews with the King of Prussia at Baden, relative to the attitude of Prussia in the Polish and German questions and the policy which should be adopted towards France and Austria. Since his return to Paris Count Goltz has had frequent audiences of the Emperor upon foreign affairs. The *Courrier du Dimanche* of Saturday gives the following summary of the Note which has been appended to the despatch sent by M. Drouyn de Lhuys to Prince Gortschakoff:—

"M. Drouyn de Lhuys explains the European character of the stipulations which were accepted by Russia, Austria, and Prussia at the Congress of 1815. The Minister recalls:—1st. That Russia has entered into an engagement to bestow on the kingdom of Poland a distinct constitutional *régime*. 2d. That Russia, in making the reservation to approximate the Polish institutions to those of Russia, could only allude to the Polish provinces, without the Kingdom of Poland Proper. The Powers have a direct and positive right to claim for Poland a faithful execution of the treaties. The same paper believes itself able to state that on the 19th inst. M. Drouyn de Lhuys addressed a circular to the French agents abroad, stating that the attitude of Russia had strengthened the good understanding between the Powers. It stated also that the Emperor's Government was convinced that the Polish question was an European one, and would continue to watch events in Poland with the solicitude which it will expect to be also manifested by all the other Powers. The Emperor's Government will act in concert with the other Cabinets in the path which will be considered most in conformity with the principles of public law and the exigencies of the situation."

The *Patrie* says that a special courier arrived on Wednesday from St. Petersburg with important despatches. *La France* says:—

"It is asserted that the family council held at Tzarskoe-Selo pronounced itself in favour of granting a Constitution. Prince Gortschakoff was the only person not belonging to the Imperial family who was present at the Council. All the Commissioners intrusted with the elaboration of the scheme of the Constitution belong to the enlightened portion of Russian society."

The same paper in another article expresses its opinion that the new phase into which the negotiations on the Polish question have entered will not weaken the good understanding between France, England, and Austria. The *Pays*, in common with the *Journal des Débats*, says that before entering into a discussion on the Russian projects of reform it would be wise to wait until they have obtained more consistency. The *Constitutionnel* of Sunday publishes an article signed by M. de Limayrac, pointing out the injustice of the American pretensions with regard to the form of the government in Mexico. A pamphlet has also appeared in Paris under the title of "France, Mexico, and the Confederate States," setting forth the interest which France has to recognize the Confederate States, and the impossibility of a re-establishment of the American Union. The pamphlet maintains that the American war will only be useful to France if the separation between North and South be definitely pronounced, "for," it continues, "the Confederate States will be our allies, and will guarantee us from attacks by the North. Mexico, being thus guaranteed against attack from the North, will fulfil our hopes, and our manufacturers will obtain the cotton which is absolutely necessary for them." The Marquis de Montholon, Consul-General of France at New York, has arrived in Paris, and is about to leave for Mexico as Minister Plenipotentiary, accredited to the Provisional Government. The *France Centrale*, published at Blois, has been suspended for two months, for having announced that the Ambassador of France at St. Petersburg had demanded an audience of Prince Gortschakoff, but had not obtained a word of answer. This statement is declared to be false, calculated to disquiet the public, and excite hatred against the Government. The Confederate steamer Atalanta, reported as being under repair in the dockyard at Brest, is said to be no other than the celebrated Alabama, whose bottom was so foul that her speed was materially lessened. The Confederate corvette Florida has since arrived at Brest with the crew of the Anglo-Saxon, which she had captured and burnt not far from the English coast. The men, 23 in number, were landed at Brest and left to themselves in the public street, but the American Consul took measures to obtain for them board and lodging until their fate is decided on. The English pilot, who was on board the captured vessel, was also landed at Brest. The Florida, which has received free pratique, has met with some damage to her engine.

SPAIN.—The recent circular of the Ministers restricting the rights of the people at the elections has caused great offence to the Progressistas. General Prim has had an interview with the Queen on the subject, at which he urged that the Ministry should either modify its pretensions or resign. The Queen replied that as a constitutional Sovereign she could not, in the absence of the Chambers, entertain a different opinion to that of the Ministry, whose services had merited her confidence. At a meeting of Progressistas at the house of Senor Olozaga, it has been resolved to summon the deputies and senators of that party to Madrid, to debate the question of abstaining from taking part in the elections.

BELGIUM.—The ratifications of the convention concluded between Belgium and Great Britain, for the redemption of the Scheldt dues, were exchanged at Brussels last week. By this convention Great Britain undertakes to pay to Belgium the sum of 8,782,820 fr., and the sum of 17,141,600 florins will be paid by Belgium to Holland in full compensation for the relinquishment of the right of the latter Power to exact dues on vessels navigating the Scheldt.

SWEDEN.—Count Manderström, the Swedish Minister for Foreign Affairs, arrived at Copenhagen from Malins at 9 A.M. on Saturday, and left again at noon. His journey is supposed to be connected with the question of an eventual conflict between Denmark and Germany. During his stay he had a conference with M. Hall, the President of the Danish Council of Ministers. The volunteer system, on the model of that in England, is to be introduced into Sweden.

DENMARK AND THE DUCHIES. — The *Europe* of Friday publishes the declaration made by Denmark on the 27th ult. respecting Schleswig. Denmark states that, though not in a position to withdraw the proclamation of the 30th of March, she is ready to take into consideration the proposals of the German Confederation, and to carry out in the non-Germanic provinces those resolutions of the Federal Diet compatible with the sovereign and legislative power of the King. Denmark, in conclusion, states that, having recognised the political autonomy of the Duchies, and declared herself ready to enter into negotiations concerning the realisation thereof, she would be compelled to regard a Federal execution as falling under the provisions of international law. The *Botschafter* says there is every reason to believe that the Federal execution, with which the Germanic Diet has menaced Denmark, and the occupation of the Duchy of Holstein, will take place. "Sufficient forces," it says, "will be placed in the field to put these measures into execution." The *Berlingske Tidende* of Friday says that England has protested against the blockade of the Hanse Towns in case the German Diet proceeds to Federal execution in Holstein. This statement has since been contradicted on authority.

FRANKFORT.—In the sitting of the Congress of

Princes on Saturday the special debate on the several articles was brought to a close. A proposal made by Mecklenburg Schwerin to submit the entire transactions to Prussia for the expression of an opinion, was referred to a sub-committee after an animated debate. The question of the Directorate was solved in accordance with the proposal of Saxony and Nassau. It is to consist of six members. Austria, Prussia, and Bavaria are to have one representative each; Saxony, Hanover, and Würtemburg one; the Grand Duchies and the Duchies which have two votes in the Plenary Assembly of the Bund, one; the Princes who have one vote in the Plenary Assembly, and the four Free Cities, to have the sixth vote. The three kings are to sit alternately in the Directory. The last sitting of the Congress took place on Tuesday. The Emperor of Austria expressed his satisfaction at the complete fulfilment of his hopes of a direct co-operation on the part of the German Sovereigns. He said that the first Congress of German Princes had dissolved itself, with the wish that a second might soon follow, that all the members might be united into one great body, and their endeavours be crowned with success. The King of Bavaria responded to the Emperor's speech. Before the adoption of the Protocol the articles decided upon in the special debates were definitely accepted. The privilege of Austria to preside at the Directorate was agreed to by a majority. All the remaining articles of the Austrian project were accepted *en bloc,* so that a conference of Ministers will be unnecessary. Baden, Saxe-Weimar, Mecklenburg-Schwerin, Luxemburg, Waldeck, and the junior branch of the House of Reuss, refused to give in their adhesion to the resolutions. The final result of the Conference will be communicated to the King of Prussia in a letter signed by the Sovereigns who voted for the resolutions. The Earl of Clarendon left Frankfort on Friday evening, after having had several interviews with the Emperor of Austria, and conferred with the different statesmen of Germany now assembled there. The unexpected arrival of Prince Oscar of Sweden at Frankfort, has produced a great sensation. The Prince has had an audience of the Emperor of Austria, and is staying at Nauheim, whence he can visit Frankfort as often as he pleases. In consequence of the request made by the Frankfort Senate that the American consul would cease to parade the Mexican flag, the Consul has hauled down his own as well as that of Mexico.

Austria.—*La France* asserts that an Aide-de-camp of the Archduke Maximilian of Austria embarked on Wednesday at Southampton, charged with a mission to Mexico. The Note of Austria to Russia on the Polish question was published on Saturday. The following is a summary of its contents:—

"Austria expresses great regret that Russia had not given a more satisfactory reply to the Notes of the Great Powers. The Note then proceeds to state that the interest of Europe demands an early fulfilment of the work of conciliation in Poland. Foreign influences, it says, are not the only cause of the insurrection. Poland would be tranquil if Russia had fulfilled the political and religious engagements which she had contracted. The proposed conference of the eight Powers ought certainly to be acceptable to Russia. In conclusion, Prince Gortschakoff is requested to give his most serious attention to the present state of things, for the consequences of which Austria declares Russia alone will be responsible."

Hungary.—Rumours are current that a number of Hungarian Notables will shortly assemble at Pesth, under the presidency of the Emperor, to discuss measures tending to bring about a solution of the Hungarian question.

Russia.—Letters from St. Petersburg to the 30th ult. announce that an Imperial ukase has been issued, ordering the incorporation of 48 regiments of the reserve with the active army. The Grand Duke Constantine has arrived at Tzarskoi Selo, and attended a Council of Ministers held under the presidency of the Emperor, at which the question of replying to the Notes of the three Powers was discussed. The Grand Duke has been received in the most friendly manner by the Emperor since his return from Warsaw. Accounts from Moscow state that the Emperor has devised the scheme of a Constitution, according to which the Russian Government would become constitutional, with a Senate of 300 members, and an Elective Chamber of 450. Independently of the central representation, the Empire would be divided into 10 great provinces, each of which would receive a special Constitution. The Kingdom of Poland would have a Diet, and a self-governing internal organisation, and would, besides, send deputies to the Chamber of Representatives at St. Petersburg. Diets would also be granted to Finland and the other large provinces of the Empire. The special Government of Poland would be conducted under the sole direction of the Diet at Warsaw, and the Emperor's lieutenant would fill the post of Chief of the Executive power. The Court and retrograde party is opposed to the project, but it is probable that the Emperor, who is animated by liberal intentions, will not allow himself to be influenced by this opposition. Prince Gortschakoff, who was also opposed to the scheme, is said to have modified his ideas. The *Patrie* publishes in prominent type letters from St. Petersburg, stating that a report was current there that a Russian Ambassador was about to be sent to Paris with the mission of preparing the French Government for the resolutions which the Russian Government is about to take in reference to Poland, and also to explain the scheme of a separate Constitution for Poland, which would place that kingdom under exceptional conditions going beyond the claims of the Powers. The same letters announce that the recent visit of the Prince of Hohenzollern to Chalons is considered to indicate an endeavour on the part of the King of Prussia, who exercises great influence over the decisions of the Czar, to establish more intimate relations between the French and Russian Cabinets. The Imperial Bank resumed specie payments on Friday at the September rates —viz., 2 per cent. premium.

Poland.—Ignatius Wroblewski, a nobleman of the Government of Wilna, was hanged at Wilna on the 25th ult., for having participated in the insurrection. The landowner Warzkiewicz was hanged at Kowno on the 25th for having served the insurgents in the capacity of spy. Four peasants have been hanged at Sawalki for taking part in the insurrection. Several hundreds of others have been sent to Siberia. In the palatinate of Bialystok, the village of Dzika has been burnt to the ground, and all its inhabitants—men, women, and children, numbering about 1000 souls—have been sent to Siberia, and their estates confiscated. The reason of this act was the execution by the insurgents of a Russian spy in the vicinity of the village. The National Government has issued a decree forbidding the exercise of the censorship in Warsaw. The chief censor, M. Sobieszczanski, has consequently tendered his resignation. It is said that the main body of the insurgents gained a considerable victory over the Russians at Janow on Sunday. Seven insurgent corps were engaged in the affair. Two engagements have taken place in the Government of Augustowo, at Szezencin and Suwalki. Eminowicz and Waskiewicz defeated the Russians on the 21st at Kowal, not far from Radom, in the woyvodeship of Sandomir. A body of insurgents under Taczanowski was attacked and defeated by an overwhelming Russian force under General Bremsen on the 29th ult. at Kruszyna. His force retreated to Koniecpol, and is being re-organised. The Russians burnt several villages and murdered Madame Gaczynska. A considerable insurrection of the peasants against Russia has broken out in the Ukraine.

Italy.—The trial of the Princess Sciarra Barberini and the Cavaliere Quattromani for treasonable conspiracy, commenced at Naples on Tuesday morning. The court was crowded. The examination lasted till 6 p.m. The *Stampa* says that several small bands of brigands, coming from the States of the Church, have entered the Neapolitan provinces through the Terra di Lavoro. The Cardinal Vicar of Rome has issued a printed notice relating to a solemn procession ordered for the 6th inst. It says:—

"It is the desire of the Pope that special prayers shall be offered up for unhappy Poland, which his Holiness observes with grief to have now become the scene of sanguinary massacres. Poland, always Catholic and a bulwark against the invasion of error, deserves that the Almighty should be implored to deliver her from the evils by which she is afflicted. Petitions should be put up that, while retaining her character, she may remain faithful to the mission God has given her, and may maintain the Catholic banner thoroughly intact."

Japan.—There is reported to be a growing affinity between the Tycoon's Government and foreigners. The Tycoon has chartered British steamers to convey troops.

United States.—The Baltimore correspondent of the *Herald,* writing on the 13th, states that General Lee has received reinforcements to the number of 30,000 veteran troops, and that he is also receiving conscripts, by which his army will be increased to 150,000 men. The main body of this army is massed on the Rapidan river, with General Lee's head-quarters at Gordonsville, and the pickets extended to the Rappahannock, so that the army stretches from Madison Courthouse to Fredericksburg. It is stated that General Meade earnestly desires to change his base of operations to the peninsula, but that the Government at Washington will not consent. A reconnaissance in force was made by the Confederates upon the Federal left on the 17th, the particulars of which have not yet transpired. General Lee's movements indicate offensive operations, and the Washington correspondent of the *Tribune* says that he is preparing to invade Maryland, the Secessionists of which State will aid him with all the men, money, and provisions they can provide. He adds, that General Lee has been for some time past secretly organising a reserve of 40,000 men, who are to be stationed at Winchester or some other point in the Shenandoah Valley. It is reported that General Meade, fearing a flank movement by the Confederates on his left, has fallen back to a position near Washington. Federal advices from Charleston to the 14th ult. state that the "Monitors" were all prepared for action on the evening of the 13th. At daylight on the 14th the Federal batteries on Morris Island opened fire, which lasted for an hour or two, when they ceased. The "Monitors" did not fire a shot. As soon as the batteries ceased firing the "Monitors" put up their awnings, and the bombardment was postponed till the 15th, when it was resumed, and continued to the next day. A Chattanooga paper describes the bombardment as being awful. Another grand attack took place on the 17th, when the Ironsides engaged Fort Wagner, while the "Monitors" and shore batteries engaged Fort Sumter, and the wooden fleet engaged Fort Moultrie. A report has been received from Philadelphia that Fort Sumter has been captured, and that the Federal gunboats have passed that fort. The Federal Government has received no such intelligence, and little credence is given to it. If it were true it would not terminate the siege, as it has been determined to defend the city, street by street, house by house, as long as a foot of earth is left. The Governor has urged all non-combatants to leave Charleston as soon as possible. Official circles put little faith in the anticipation of immediate triumph, but entertain no doubt of ultimate success. News from New Orleans to the 11th ult. states that there were numerous cases of yellow fever at quarantine. Five hundred sick soldiers have arrived at New Orleans from Vicksburg. A malignant typhoid fever is raging in Vicksburg; seven out of ten cases prove fatal. The Confederates have been heavily reinforced at Mobile. The *Cincinnati Gazette* announces that General Burnside's army commenced its march towards Knoxville, Tennessee, on the 19th ult. The draught was resumed in New York on the 19th without opposition. The Federal authorities had made extensive preparations to quell disturbances during the draught. 20,000 troops, 1000 seamen, 20 field batteries, several gunboats, and all the available force at the Navy Yard were in readiness in case of emergency. The Governor of New York had previously issued a proclamation admonishing the judicial executive officers to put down riotous assemblies, and call upon the military if necessary. Should this prove insufficient, the Governor said he would exert the full power of the State to preserve order. Disregard of the sacredness of the Constitution, of the majesty of the law, and of the decisions of the judiciary were now the greatest dangers threatening American liberty; and though he felt that it would have been wise and humane to procure a decision concerning the constitutionality of the Conscription Laws, failure to do this did not justify violent opposition. The Executive Committee of the National Democracy, of which Mr. Belmont is chairman, at a meeting held at Newport, Rhode Island, on the 15th, resolved to call a meeting of the National Democracy Committee, at New York on the 7th September. A meeting had been held at Rochester for the organisation of a Conservative party for the Presidential campaign of 1864. The resolutions adopted denounced Abolitionism, Nativism, and Secession, and advocated a convention of all the States for the nomination of a President and Vice President, and a vigorous prosecution of the war until the Seceded States should return to the Union. General Halleck has officially ordered that General Lee and Captain Winter should be executed immediately upon information being received of the execution of two Federal officers in Richmond. He says —"The United States will retaliate for every similar barbarous violation of the laws of civilized war." It is reported from Newbern, North Carolina, that within a few days 17 large steamers had run the blockade at Wilmington, in that State, laden with 96,000 rifles, 160,000 army blankets, 131,000 uniforms, 22,000 cases of shoes, 11 locomotives, 6 rifled cannon, and five cargoes of railroad iron. Judge Betts has ordered the appraisement of the Peterhoff, which the Government are anxious to purchase before the decision of the Supreme Court, which will take a long time. The *New York Herald* asserts that the owners of the ship Nord, destroyed by the Alabama, have filed a claim in the State department of 80,500 dollars against the British Government, alleging that the Alabama is a British vessel. The *New York Herald* urges President Lincoln to send strong columns from General Grant's and Banks's armies through Texas to Rio Grande, opposite Matamoras, in order to counteract any coalition between the Emperor Napoleon and the South, or any attempt of Napoleon to annex Texas to Mexico. The *New York Times* contains an article attacking England and lauding Russia. It says:—"We are bewildered at England's treachery, which has subsided into a fixed, unchangeable policy. There can be no oblivion of the past. Henceforth America will recognise no ties to England. It will go hard with America if England has not enough of these relations before America has finished." Mr. Seward has addressed a long circular to the Federal agents abroad, stating that the insurgents "have been enabled to protract their resistance by means of sympathy and aid received from abroad," and that "the expectation of further and more effective foreign assistance is now their chief resource." He requests his agents to use the facts contained in it for the purpose of convincing the Governments of Great Britain and France that the quickest and shortest way to the restoration of their trade is "to withdraw support and favour from the insurgents, and to leave the adjustment of our domestic controversies entirely with the people of the United States." Articles urging peace, written by Mr. Davidson, a member of the State Legislature, in the *Raleigh Standard,* are said to have received the sanction of the Confederate Governor of North Carolina. Southern papers assert that the French Consul at Richmond has informed the Confederate Government the Emperor Napoleon had desired him to transmit his very warm thanks to the Confederate Government and the Charleston authorities for the assistance rendered to the steamer Renaudin. The Confederate Secretary of State replied that the Government was gratified at the opportunity of testifying to the sentiments of cordial regard the Government entertained for the Emperor Napoleon and the French people.

Mexico.—*La France* alleges that President Davis has sent an extraordinary mission to the Provisional Government of Mexico, with proposals of recognition.

The New York papers publish intelligence from the city of Mexico to the 22d ult., stating that the French and Mexican papers urge Mexico to recognise the Southern Confederacy, which is in favour of a Mexican monarchy. Extravagant statements have been received to the effect that the French were imprisoning and shooting the Mexicans who refuse to take the oath of allegiance to the monarchy. It is also reported that a Mexican man and woman were flogged for refusing quarters to French officers. A French *corps d'armée* is marching upon San Luis Potosi, which is held by Juarez with 15,000 men.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 93¾ to ⅞ for Money, and 93¾ for Account; Three per Cents. Reduced, 92⅝ to ¾; New Three per Cents., 92⅝ to ¾; India Stock, 226 to 224; Ditto Five per Cent. Stock, 108¾; Four per Cent. Enfaced Rupee Paper, 98; Ditto Five per Cent., 107½; Exchequer Bills, 1s. dis. to 2s. prem.—FOREIGN: Brazilian Old Five per Cents., 103½; Belgian Four and a Half per Cents., 100 to 99½; Chilian Four and a Half per Cents., 87¾; Equador New Consolidated, 16½; Egyptian, 102, ex div.; Greek, for Acct., 37⅛ to ¼; Ditto Coupons, for Acct., 18; Mexican, for Acct., 40 to 40½; Peruvian Four and a Half per Cents., for Acct., 99½; Ditto, 1862, for Acct., 88½ to 88⅝; Portuguese, 1856, '57, '59, '60, and 1862, for Acct., 49⅞ to 50; Russian, 1862, 93¼ to ½; Sardinian, for Acct., 89¾; Spanish, for Acct., 54⅝; Ditto New Deferred, for Acct., 48⅞; Ditto Passive, for Acct., 35 to 34⅞; Ditto Certificates, for Acct., 13⅛; Turkish, 1854, for Acct., 94; Ditto 1858, for Acct., 69⅞, ex div.; Ditto, 1862, 71; Ditto, for Acct., 71 to ¾; Venezuela, 1862, for Acct., 59.

## Gazette of the Week.

FRIDAY: *August* 28.—BANKRUPTS.—J. Allen, Stalybridge, Cheshire, late Licensed Victualler—E. C. Alfiatt, Malvern Link, Worcestershire, Architect—A. T. Bish, Bloomfield Street, North Dalston, Assistant to a Warehouseman—W. Burgess, Combmartin, Devonshire, Mason—J. Bryant, Diss, Norfolk, Tailor—J. Brown, Poulton with Fernhead, Lancashire, Basket Manufacturer—A. Blackwood, Liverpool, Jewel-cabinet and Leather-case Maker—H. Bust, Wray's Terrace, Old Bethnal Green Road, Grocer—T. Banks, of Shap, Westmoreland, Provision Dealer—J. Brockley, Hanley, Staffordshire, Cabinet Maker—J. Brooker, Charles Street, Brandon Street, Walworth, Corn Dealer—T. Clark, Russell Street, Yassall Road, Camberwell New Road, Cashier to a Lamp Manufacturer—J. Currey, Dover Place, New Kent Road, Law Clerk—C. Colborn, Westbourne Park Villas Mews, Paddington, Cab Proprietor—G. Curtis, Newmarket, Trainer of Horses—A. A. Carter, Clifton, Bristol, late Milliner and Dressmaker—E. Coleman & E. C. Coleman, Latcham, Wedmore, Somersetshire, Tailors—J. Dyson, Sheffield, Hosier—T. Den, Henrietta Street, Covent Garden, Bookseller—J. Davies, Blaina, Monmouthshire, Innkeeper—J. Evison & I. Evison, Woodside, Worcestershire, Coke and Breeze Manufacturer—H. Elphee, Ockenden Road, Southgate Road, Islington, Commercial Traveller—T. Free, Hughenden, Buckinghamshire, Stone Cutter—F. C. Francis, Swansea, Glamorganshire, Grocer—C. Fowiston, Rotherham, Yorkshire, Tailor—M. Fitzgerald, King's Road, Chelsea, Oil and Colourman—J. Fielder, Norbiton, Surrey, Gardener—R. R. Grant, Grove Cottage, Newington—J. Gronkowsky, Sewardstone Road West, Victoria Park, Waterproof Clothing Manufacturer—H. A. Greetham, Landport, Hampshire, Photographer—H. A. Gilbee, Marylebone Road, Marylebone—J. Gilbert, Fitzroy Square, Picture Dealer—G. Grey, Exeter, Boot and Shoe Maker—S. Hill, jun., Totnes, Devonshire, Grocer—T. Howden, Sheffield, Scale Presser—C. Hill, Bowling, Yorkshire, Butcher—F. Higginson, Hampstead, Submarine Engineer—C. Haslam, Braintree, Essex, Grocer—T. Heatherley, Weston Street, Pentonville—J. Hedgethorn, jun., New Shoreham, Sussex, Shipwright—J. Hubbard, Foleshill, Warwickshire, Brickmaker—H. Heaven, Shirehampton, Gloucestershire, Mason—F. Hetherington, Dartmouth Terrace, Lewisham, Commission Agent—G. Harris, Bridgwater, Somersetshire, Butcher—T. Heatley, sen., Turnagain Lane, Farringdon Street, Carpenter—J. Jackson, Wednesbury, Staffordshire, Grocer—T. Jarvis, Earl's Court, Kensington—H. W. Jackson, Skinner Street, Snow Hill, Tobacconist—G. Kammerer, Lombard Street, Commission Agent—R. B. Kettle, Spittlegate, Lincolnshire, Plumber and Glazier—J. Lamb, Liverpool, Coal Dealer—S. Lloyd, Birmingham, Brass Caster—G. P. Moore, Blackheath, Carpenter—H. M'Nulty, late of Seacoal Lane, Snow Hill, Master Mariner—R. Morley, Wormwood Street, City, Accountant's Clerk—Jonathan Massey, Macclesfield, Music Seller—William Wilson Murray, Darlington, Durham, Dealer in Hardware—Benjamin Marks, Cambridge, Hardwareman—Samuel Smith, Mickleburgh, Kingston, Surrey, Common Brewer—T. Milroy, Everton, Lancashire, Draper—E. H. Nolan, Abingdon Villas, Kensington, Author—S. Osborne, Alfred Terrace, Queen's Road, Bayswater, Stay Maker—G. Perkins, Kidderminster, Worcestershire, Schoolmaster—W. Pollitt, Manchester (in formâ pauperis)—T. Tollitt, Manchester (in formâ pauperis)—M. G. Price, Bratton, Wiltshire, Farmer—S. Pethick, Stoke Damerel, Devonshire, Builder—G. Rhodes, Ilkeston, Derbyshire, Colliery Agent—T. Rowland, late of Dover, Kent, Watchmaker—F. Ronca, Birmingham—J. Rooney, Liverpool, Porter—W. A. Robbs, Star Street, Shadwell, Publican—S. Sutton, Upper Park Place, Dorset Square, Coffee House Keeper—A. Steele, Little Britain, Boot and Shoemaker—J. H. Saunders, late Crescent Place, Burton Crescent, Commission Agent—W. Salmon, Rattlesden, Sussex, late Maltster—S. Sharp, Euston Square, Schoolmaster—J. Shippam, Nottingham, Greengrocer—W. Stapleton, St. Stephen's-by-Launceston, Blacksmith—E. Sawtell, Sheffield, Comb Maker—W. Thomas, Troedyrhiw, Glamorganshire, Postmaster—G. Thornley, Altrincham, Cheshire, Saddler—R. Tye, Spalding, Lincolnshire, Clock and Watch Maker—J. Wingrove, Peterborough, Fishmonger—D. Wilks, Walsall, Staffordshire, Cabinet Lock Maker—G. West, Mint Stables, South Wharf Road, Paddington, Carman—E. Weaver, Regent Street, Tailor—T. Ward, Laurence Pountney Lane, City, Merchant—R. Williams, Presteign, Radnorshire, Tailor—T. Williams, Penyrch, Glamorganshire, Builder—H. Yates, Sheffield, Joiner.

SCOTCH SEQUESTRATIONS.—R. Barclay, Hamilton, Lanarkshire, Spirit Dealer—R. Reid & Son, Elgin, Cabinet Makers.

TUESDAY: *Sept.* 1.—BANKRUPTS.—J. Adamson, Wakefield, Yorkshire, Maltster—W. Aspinwall, Grosvenor Street, Bond St., Upholsterer—A. W. Barr, Brighton, late Cattle Agent—D. Boyers, Boston, Lincolnshire, Grocer—G. Barrett, Birmingham, Electro Plater—W. Bayliss, Hereford, Plumber—F. Bull, Barton-under-Needwood, Staffordshire, Farmer—F. D. Barigot, Newport, Monmouthshire, Accountant—J. Booth and T. Wrigley, Saddleworth, Yorkshire, late Cotton Doublers—S. Baller, Worcester, Plumber—W. Bird, Runton, Norfolk, Wheelwright—W. Courtney, Woodbury, Devonshire, Blacksmith—E. Caine, Wolverhampton, Wheelwright—F. Coulton, Lincoln, Widow, late Licensed Victualler—G. Cook, Chorley, Lancashire, Draper—J. Carter, Liverpool, Licensed Victualler—S. Coultas, Scarborough, Yorkshire, Tailor—J. Cross, Bilston, Staffordshire, Butcher—T. Elton, late of Birmingham—W. Field, Brighton, Cabinet Maker—J. Goldsmith, Fletching, Sussex, Licensed Victualler—J. Hill, Newcastle-under-Lyme, Staffordshire, Insurance Agent—W. Hague, Birmingham, Agent for Fire and Life Assurance Companies—W. F. Hammond, Carey Street, Lincoln's-inn Fields, Auctioneer—L. Ingham, Elton, Cheshire, Agent to a Cheese Factor—J. Jackson, Willenhall, Staffordshire, Keysmith—W. J. Kain, late of Birmingham, Retail Brewer—T. W. Keatts, Birmingham, late Draper—H. J. King, Swansea, late Man Milliner—J. Lacy, late of Cornhill, City, Insurance Broker—Robert Gordon Latham, Upper Southwick Street, Hyde Park Square, Doctor of Medicine—William Lea, Hockley, Warwickshire, Milkman—C. P. M'Kay, De Beauvoir Road, Kingsland, Salesman to an Upholsterer—W. P. Miller, Winchester, Clerk to an Estate Agent—W. Morgan, late of Birmingham, General Dealer in Skins—T. H. Manton, Birmingham, late Retail Brewer—M. Mills, Rossendale, Lancashire, Bread Baker—W. H. Nisbour, Brighton, Musician—L. Ogilvie, Workington, Cumberland, Grocer's Traveller—I. Pearson, Illonby, Cumberland, Innkeeper—T. Pearce, late of Illogan, Cornwall, Miner—W. Rhodes, Leeds, Grocer—C. Long & F. W. Ralfe, Mincing Lane, City, Colonial Brokers—R. Rook, Leeds, Corn Miller—J. Stanley, late of High Street, Wapping, Wine Merchant—F. J. Street, Birmingham, Journeyman Plane Maker—T. South, Talbot Road, Notting Hill, Stone Mason—W. Timmins, Kingswinford, Staffordshire, Miner—S. Towan, Plymouth, Currier—J. Tattersall, Queen Street, Edgeware Road, Builder—R. Thompson, Whitehaven, Cumberland, Finishing Potter—C. Walker, Spring Street, Sussex Square, Hyde Park, Wine Merchant—R. Williams, Kingswinford, Staffordshire, Night Watchman—Christopher Warwick, Scarborough, Yorkshire, Painter—W. Wilkins, Eastbourne, Sussex, Retailer of Beer—H. Wooderson, Commercial Street, Whitechapel, Potato and Fruit Salesman—J. W. Whitfield, Ryde, Isle of Wight, Gasfitter—G. Williams, Kingswinford, Staffordshire, Iron Moulder—W. H. B. Weeks, Paternoster Row, Bookseller—J. Wilkinson, Birmingham, Journeyman Tailor—H. Wood, Tunstall, Staffordshire, Engraver.

SCOTCH SEQUESTRATIONS.—R. G. Dunn and A. Dunn, Muiravonside, Stirlingshire, Farmers—J. Nisbet, Glasgow, Coal Master.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £29,383,880 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,733,880 |
| | | Silver Bullion .. .. | — |
| | £29,383,880 | | £29,383,880 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,091,284 |
| Rest .. .. .. .. .. | 3,674,187 | Other Securities .. .. | 18,992,10[illegible] |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 6,818,182 | Notes .. .. .. .. .. | 8,193,2[illegible]5 |
| Other Deposits .. .. .. | 13,261,512 | Gold and Silver Coin .. | 780,339 |
| Seven days and other bills | 730,107 | | |
| | £39,036,988 | | £39,036,988 |

Sept. 3, 1863. M. MARSHALL, Chief Cashier.

## Metropolis and its Vicinity.

THE CONFEDERATE STEAMERS.—A memorial was sent last week by the Executive Committee of the Emancipation Society to Earl Russell, calling upon the Government to "make immediate investigation into the fact, that two powerful iron-plated steam-rams, which for some time have been in preparation in the Mersey by the builders of the Alabama, are now almost ready for sea; that the vessels are equipped and armed with steel prows and turrets, and are intended for the purpose of committing hostilities against the Government and people of the United States of America." The memorial further stated that one was expected to sail on or about the 27th of August, and was to be received by the Confederate war vessel Florida, now hovering off the British coasts for the purpose, and that another iron-plated war vessel, destined for the same service, is approaching completion in the Clyde. Earl Russell, in reply, stated that his attention had long been directed to the subject, and that both the Treasury and the Home Department had, at request, made the most anxious inquiries on the subject of these steam-rams. His lordship at the same time regretted that the memorialists had not furnished him with any evidence upon which he could act. The *Times*, in commenting on this memorial argued that to let these vessels go forth to prey on Federal commerce would be an offence against international law, and also against the spirit, and probably against the words, when correctly interpreted, of our municipal law. It also insisted that it was the duty and interest of the country to prevent this offence from being committed, and not to let it take place and lament over it when it had become irremediable. Mr. Nassau W. Senior has since addressed a letter to the *Times* on the subject of this article, stating that a very important motive for the immediate interference of our government is the effect which its "torpidity" will produce on the feelings and conduct of the Federals. Mr. Senior says that he has conversed during the last month with Americans of both parties, who are unanimous only on one subject, and that is that the escape of these vessels will produce the evil which we have exercised so much forbearance and endured such sufferings to prevent—a war with the North. They all believe, he says, that, whatever be the wish of the Northern Government, the indignation and rage of the people will force it to declare war. This is the expectation of the Federals, who look on a war against us with horror, and of the Confederates, who exult in its approach, and have always looked to foreign support. They long hoped that want of cotton would lead the English Government to attack the Federals. They now bribe English shipbuilders to do so. Mr. Senior then gives the following notes of a conversation which he had a few months ago with Mr. Dayton, the Federal Minister in Paris, whom he describes as a man of great talents, knowledge, and calmness:—

"Paris, May 2, 1863.

"I called on Mr. Dayton, the Federal Minister. I said to him that during the last five weeks I had conversed with many persons of political eminence on American affairs; that I found fears that the conduct towards us of the Federal government would lead to war universal, and an opinion that it was intended to produce war prevalent; and that I thought it desirable that he should know the opinions as to that conduct of persons of political eminence not merely impartial, but favourable to the cause of the Federals. He answered that he should be grateful for the information. I then related to him the substance of several conversations with persons belonging to different political parties. 'I recognise,' he answered, 'in all that you have told me, the *Times*. I believe that it is useless for a Northern American to state any facts, to contradict any falsehoods, or to use any arguments in England or in France. You, all of you, French as well as English, take all your opinions, all your premises, and all your conclusions blindly from the *Times*. I have known men treat the *Times* sometimes with contempt, sometimes with indignation, describe it as the unscrupulous organ of the English aristocracy, and laugh at those under its influence, and immediately afterwards talk to me pure *Times*. The government of the United States would be frantic if it did not do everything and submit to everything in order to avoid a war with you.' 'That,' I answered, 'is precisely what they say, and the inference which they draw from your conduct is that you are frantic. If, they say, the President and his advisers wish for a war with England, they are mad. If they do not wish for it, and yet do all they can to bring it on, then also they are mad. Take the appointment of Captain Wilkes.' 'I do not know,' he answered, 'what are the rules of our service. Captain Wilkes is the most popular man in our navy. He may have had claims which could not be refused.' 'Captain Wilkes's popularity,' I answered, 'for having done all that he could to bring on a war with us, is a proof of the madness of the people. An English officer who had so acted would have disgusted everybody. What, then, do you think of Mr Cassius Clay, and of the motives which led his government first to publish his despatches, and afterwards to employ him?' 'You gave us,' he answered, 'great provocation, by assisting the rebels. The Alabama is manned by English sailors.' 'And is not your blockading fleet,' I answered, 'manned by English sailors? Can you tell me how to prevent a sailor from taking service where he likes?' 'You ought to have exerted,' he replied, 'greater vigilance to prevent her sailing. You ought not to have thrown on Mr. Adams the onus of proving her destination. When you complained during the Crimean war that we were building vessels for the Emperor of Russia, we did not throw on your minister the burden of proof. We examined ourselves, and ascertained that it was so, and stopped the ships.' 'I admit,' he continued, 'that it is difficult to prevent the people who are the greatest manufacturers of military supplies in the world from supplying belligerents with arms. But, if you cannot, as you say that you cannot, prevent Nassau from being a base of operations to the Confederate armies, you should use the utmost toleration of our efforts to prevent this. If your sympathies are with those who are endeavouring to ruin us, you should not parade them. If you think that you will gain in the rupture of the Union you are mistaken. Do you suppose that the Confederates sympathise with you, except so far as they believe that you hate us?' 'No,' I said, 'I have no doubt that the Confederates hate us as much as you do. An honest neutral is always hated by both the belligerents, but they have the merit of keeping their secret better. If we knew all that they think and feel, we probably should feel towards them as you seem to be trying to make us feel towards you.' 'Well,' he said, 'I do not believe, with your French friends, that our public men are mad. I do not believe, therefore, that they wish for war. Nor do I believe that yours do so. But each party is excited: each party is, whether voluntarily or not, doing great mischief to the other. I see no remedy but patience, and an earnest attempt to repress the evil passions of the educated mobs in your country and of the uneducated mobs in mine. Of one thing I am certain—that if you think that any interference on your part will stop the war you are wrong. Not England, and France, and Russia—not all Europe could influence us.' 'Not,' I answered, 'by persuasion?' 'Not,' he replied, 'by force. What the South wants is food, and that you cannot give her. She has arms enough; but she is starving, and will be starved out.' My expectations of peace between you and us,' he continued, 'depends much on the manner in which you deal with the ironsides which the Confederates are now building in England and Scotland. You excuse yourselves for not having stopped the Alabama on the ground that she was not obviously a ship of war. These ships are so. No merchant vessel is plated. We maintain they are intended for the Confederates—intended to prey upon the commerce of the Federals, your friends. How can we prove it except by the facts which are already as obvious as they can be made? For what other purpose can they be intended? The builders alone have the dosuments by which the innocent destination of the ships can be shown. You should call on the builders to produce them. If they refuse you may safely assume that they are intended to attack us. I do not ask you to confiscate them, or even to stop their progress, but merely to detain them until the builders prove, which they can do in a day, the innocence of their destination. In the Crimean war we did much more. We actually stopped the progress of the Alexandra on the suspicion that she was intended for the Russians. Not an axe or a hammer was allowed to be lifted in her. We found our laws, as you have found yours, insufficient. We amended them. You merely fold your arms and allow proceedings opposed to your own municipal laws and to international law, to good feeling and to good faith, to go on, because your municipal law has not sufficient detective power. Then give it that power. You are not, as we are, bound by a constitution. Your parliament is omnipotent. If it is not skilful enough to invent a law which shall enable such atrocities to be detected and prevented, let it copy the law which we passed for that purpose, and which was sufficient. If you refuse to do this, and, in consequence of your negligence, or of your self-inflicted impotence, these ironsides escape and plunder us, the American people, irritated enough already, will be ungovernable. You have seen enough of them to know that their resentment is not under the control of their interests. They will really become as mad as your French friends call them. They will be quite ready to ruin themselves in order to ruin you.'"

LAUNCH AT WOOLWICH DOCKYARD.—The Wolverine, of 21 guns, the last of the wooden ships which is ever likely to be added to the British navy, was launched at Woolwich on Saturday. She was laid on the slip some years ago, and when the necessity for iron casing became visible, her progress was suspended with a view to her conversion. The Admiralty, however, finally determined to finish her as she had been begun. She is a sister ship to the Orpheus, which was recently lost on the coast of New Zealand.

ECCLESIASTICAL CONGRESS.—A congress of clergy and laity, under the auspices of the Duke of Marlborough, the Earl of Derby, Lord Ebury, Lord Lyttelton, Lord John Manners, M.P.; the Hon. Algernon Egerton, M.P.; Mr. Bazley, M.P.; Mr. Buxton, M.P.; Mr. Hibbert, M.P.; Mr. Garnett, M.P.; Mr. Hubbard, M.P.; Mr. W. J. Laing, M.P.; Mr. Mowbray, M.P.; Mr. Giles Puller, M.P.; the Archbishop of York, the Bishop of Manchester, the Bishop of Oxford, and other noblemen and gentlemen, is to be held at Manchester next month, with a view to consultation as to the best means of promoting the efficiency of the Church. The congress is to be preceded by a service in the Cathedral, on Tuesday, the 13th October, and the meetings will be held in the Free Trade Hall on the following days, at which papers will be read introductory to discussions on the following subjects:—Church Extension, Supply and Training of Ministers, Lay Co-operation, the Church in Ireland, Management of a large Parish, Parochial Mission Women, Growth of the Church in Lancashire, the Law of the Colonial Church and the Supply of Native Ministers; Day and Sunday Schools, Free and Open Churches, Clergy Discipline, Modes of Augmenting Small Livings and Tithe Redemption, Rural Decanal Meetings, Diocesan Synods and Convocation.

ENCLOSURE OF WANDSWORTH COMMON.—Upwards of 200 copyholders and ratepayers have signed a memorial to Earl Spencer, as lord of the manor of Battersea, stating that during the past few years enclosures to the extent of upwards of 100 acres have taken place on Wandsworth Common, some of which have been effected by private individuals; while within the last few months an enclosure of eight acres has been made by the Brighton Railway Company, stopping up a footpath over a pleasant and much frequented part of the common. For centuries the parishioners and their families have enjoyed undisturbed the healthy walks on Wandsworth Common, and the custom of years, right or wrong, has given them an apparent right to this enjoyment. The memorialists view these encroachments with regret, and state that if permitted to go on the entire extinction of Wandsworth Common must be the result at no distant date. They therefore pray his lordship to exert his influence to preserve to the public those privileges which have been enjoyed from time immemorial, and to institute such inquiries with reference to enclosures not sanctioned by him as will lead to their speedy removal, and secure to the inhabitants and their children the continuance of those rights they have so long and freely enjoyed.

ILL-TREATMENT OF A CHILD.—On Tuesday evening Mr. Carttar, coroner for West Kent, after five adjournments, concluded an inquiry at Eltham, on the body of Augusta Constantia Engleheart, aged four years and nine months, who, it was alleged, had died from ill-treatment. The evidence taken was very conflicting. It appeared that on the evening of the 31st July, Dr. King, of Eltham, was sent for by the parents of the deceased, who was suffering from injuries to the head, and dying. Death ensued on the following morning. One of the witnesses examined, Jane Maynard, servant to Mrs. Engleheart, said that the child had been put into a cold bath on the day preceding its death, because of its dirty habits. When taken out of the bath it had a spoonful of cod-liver oil, some of which fell over the shoulder of the child, and was washed off by the mother holding the deceased under a pump in the kitchen and pumping water upon it. The witness also stated that the mother had, about a fortnight previously, compelled deceased to swallow four chilies, and that two or three days before her death the child had said that a tooth had been knocked down her throat by her mother. The latter, it was said, was in the constant habit of beating the deceased with a thick cane, used as a walking stick. Mrs. Engleheart, on being sworn, said that deceased was naturally very weak, of a peevish disposition, and of dirty habits. A former medical attendant had advised the cold bath, with salt, to be used, and on the child being taken from the bath, and some of the cod-liver oil administered falling on her shoulder, she held it under the pump while the servant pumped the water to wash the oil away, not more than a tumbler full of water being obtained by pumping. She then carried the child upstairs, but seeing it shivered she was about taking it downstairs, when her dress caught in the bolt of the gate at the top of the stairs, causing her to let deceased fall over the banisters on the steps, and to roll nearly to the bottom. She denied being in the habit, or, indeed, ever beating deceased with the cane, as alleged, and explained the accusation of causing the child to swallow chilies by saying that while emptying some pickles the deceased took one and swallowed it, and put a second chili in its mouth, but after holding it in its mouth she spat it out. She also said that on picking the child up after the fall she called the servant, but received no answer, owing to her having left the kitchen to empty the bath that had been used, and that she immediately sent the servant to neighbours for assistance and a medical man. The medical evidence was to the effect that death had resulted from concussion to the brain, caused either by a blow or a fall, and which, also, might have been occasioned by the head of the child being knocked against the stone sink when in the act of being pumped upon. Louisa Alvis, who had lived in service with the parents at Bermondsey, while stating that the deceased was very often beaten, said that the correction never took place except when the child had been in fault. Two of the neighbours who were called in deposed that the mother first told them that she was fearful she had kept the child too long in the cold bath, and that it was not until some minutes afterwards that she suggested that the injuries had been occasioned by her having let the child fall over the stairs' bannisters. In the course of the inquiry it was admitted by the father that the child had been born before marriage. The Coroner summed up at great length, and the jury, after an absence of three-quarters of an hour, returned an unanimous verdict of "Manslaughter" against Helen Hannah Margaret Engleheart, the mother, who was thereupon committed for trial. Substantial bail was tendered and accepted for her appearance.

WRECK OF A STEAMER IN THE RIVER.—On Thursday morning, as the well-known Belgian steamer, the Baron Osy, was coming up Limehouse Reach from Antwerp, she struck on a rock or the point of an old anchor, which made such a rent in her iron bottom that she immediately began to fill with water. The passengers were all got out, with the greater part of their luggage and of the steamer's cargo. As the tide flowed the vessel filled, and she now lies sunk in mid-channel, but immediate steps will be taken to raise her.

DISASTERS AT SEA.—There has of late been an unusual number of maritime disasters. A French naval steamer, running between Oran and Marseilles, went ashore a few days since, and though the crew and passengers were saved, the mails, and about a million of state bonds were lost. In the China Seas, the native crew of the ship Helmers rose upon the European captain, mate, and two seamen, murdered them, and scuttled the ship. The British ship Caribou has been destroyed by fire on her voyage from Liverpool to Bombay. The second officer had gone below to get some spirits of turpentine, and as he was holding a light in one hand and the vessel containing the turpentine in the other, the ship gave a lurch, which threw him off his balance. The spirits came in contact with the light, and the ship was soon in a blaze, which the crew were unable to extinguish. They took to their boats, and were finally landed in the Cape de Verde Islands. The British bark Frankfort, which left Cardiff in October with coals for Shanghai, was totally lost on the 19th of February, near Kalatna, in the Indian seas, with all hands except the boatswain, who endured severe sufferings before he was rescued. The steam-ship Georgia, which sailed from New York on the 31st July for Liverpool, ran ashore on the north-east bar of Sable Island in a dense fog, between 1 and 2 o'clock on the morning of the 4th ult., and was expected to become a total wreck. The passengers and baggage were all saved, and landed at Halifax on the 8th ult., by the revenue cutter Daring. The officers and crew of the vessel remained on board endeavouring to get her off, but the nature of the bar was such as to give little hope of saving her.

THE PUBLIC HEALTH.—The deaths in London in the week that ended Saturday, the 29th August, were 1334. The average number in the ten corresponding weeks of the years 1853-62, omitting deaths from cholera in 1854, and corrected for increase of population, was 1191. The present return is, therefore, 143 above the average. During the week the births of 865 boys and 840 girls, in all 1705 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1859.

## Provincial.

MANCHESTER.—At the weekly meeting of the Central Executive Committee on Monday, the Earl of Derby in the chair, the hon. secretary reported that the balance in the bank was 307,297*l.* 15*s.* 6*d.*, and that 1470*l.* 0*s.* 9*d.* had been received during the week. Mr. Farnall's report stated that, on the 22d ult., there was a decrease of 1251 in the number of persons receiving parochial relief in the 27 unions, as compared with the previous week. Mr. Goodair, during a discussion on the application of the Public Works Act, said the experience in Preston was that the operation of the Act would be interfered with by the comparative scarceness of skilled labour, which would be required to a large extent for the execution of works already contemplated there, and if this could not be obtained there would be a difficulty in employing the full amount of unskilled labour which might otherwise be made use of. Major Egerton Leigh thought that the number of unskilled workmen out of employ would probably increase as winter approached. Mr. Goodair said he could express no opinion upon that point. He referred more especially to the scarcity of bricklayers and stonemasons, as proved by practical experience. Mr. Rawlinson said this difficulty was perhaps not to be regretted, as it might lead ultimately to highly beneficial results, by inducing the several local authorities to select as first experiments those works which would employ the largest amount of unskilled labour. Many applications have already been made for money to execute works involving large outlays upon skilled labour, and in some cases they were for objects which probably the public might think should not have been sanctioned. He was not sorry, therefore, on account of the fact mentioned by Mr. Goodair. Although the Poor-law Board did not wish to be too rigid on this point, it was certainly expected that the authorities would select works which would absorb the greatest number of unskilled labourers. In reply to the noble chairman, Mr. Rawlinson added that a considerable portion of the money asked for was to be applied to the erection of public buildings. He also stated that the whole of the applications which had been sent in to the Poor Law Board, up to the date of his last official report, amounted to 169,729*l.*, and applications had since been made for 529,000*l.*, making a total of 698,729*l.*, or very nearly half the sum sanctioned by Parliament. It should be remembered, however, that most of the large towns were included in this statement. The Mayor of Manchester had informed him that the corporation of Manchester contemplated asking for a much greater sum than he mentioned last week (100,000*l.*) The Earl of Derby said the Mayor had stated to him that nearly 200,000*l.* would probably be required for Manchester. Grants were subsequently made to the amount of 5460*l.*

NEWCASTLE ON TYNE.—At a meeting of the general committee of the British Association on Monday, the place of meeting next year was decided on. Nottingham, Dundee, and Bath put in their claims for a visit; but the council, by a large majority, decided in favour of Bath. Dundee obtained 27 votes, Nottingham only 3. At the same meeting Sir Charles Lyell was elected President for next year. Lord Portman; the Marquis of Bath; Mr. Tite, M.P.; Mr. Way, M.P.; Mr. William Saunders, F.G.S.; Lord Nelson; and Mr. T. H. Dickinson were elected Vice-Presidents; Mr. Charles Moon; Mr. C. C. Davis, and the Rev. W. W. Winwood, were appointed Local Secretaries, and Mr. Thomas Gill, Treasurer.—An alarming accident, closely resembling the Hartley catastrophe, took place on Monday at Burradon Colliery, about six miles from this town. Between 100 and 200 men and boys were working in the pit when the machinery by which the cages that bring the workmen and the coals to the surface are wound up gave way, and parts of the machinery, as well as the cages themselves, were precipitated to the bottom. All communication between the workmen in the mine and those on the surface was thus cut off, and it was feared that the ventilating apparatus had also been destroyed, in which case all hands must have perished from starvation. Fortunately some of their number, who knew the workings thoroughly, were aware of a passage to the shaft of Seghill Colliery, about three miles distant; and though constantly exposed to danger from stoppings and other obstacles they succeeded in reaching Seghill in about three hours, and were taken to bank without any one of them having sustained injury. It is expected that three or four days will suffice to place the machinery at Burradon in proper working order.

NEWPORT.—Edwin Gill, the young man convicted of stealing the will of the late Mr. Thomas Powell, the extensive colliery proprietor, has made a complete confession of his guilt. At his express request Mr. Thomas Powell, the eldest son of the deceased gentleman, has had an interview with him at the county gaol, where he confessed that he entered the house on his own account, with no other motive than plunder; that he carried off some papers at a venture, and on subsequent examination finding that one of them was the will, he tried to make a profit of its restoration. This statement has set at rest the mysterious rumours which were afloat at the time, that some member of the family had instigated him to the theft.

TAVISTOCK.—Sir John Trelawny, M.P. for this town, addressed his constituents a few days since at the Bedford Hotel. The following is a summary of his speech:—

After a few prefatory remarks, he referred to the question of reform, and said he thought it useless, especially in the present disturbed state of public opinion, to expect from Parliament any extension of the suffrage to the *élite* of the working classes. He thought it unwise to continue this exclusion from the franchise, as it might have the effect of driving many of the best of our artisans, who desired to exercise their rights as citizens, to a place where they could obtain that privilege, and thus diminish the chances of the future prosperity of this country. The line he would draw for the admission of this class would be the household suffrage. After alluding to the ballot, which there was no immediate prospect of being carried, and reminding electors that the question would be in their hands at the next election, he referred to the question of finance, and said there some reason for congratulation upon this subject, for there had been a diminution of the expenditure and an increase in the revenue of the country. It was gratifying also to find that, instead of being called upon, as was expected, to make up a considerable deficit in the Indian finances, the revenue of that country had balanced itself, and there was a prospect of a slight surplus. The prospects of our Indian Empire were rapidly improving, and the introduction of railways and the system of irrigation would be productive of most beneficial results. The withdrawal of troops from the Ionian Islands would likewise be a means of further diminishing the expenditure. He blamed Government on both sides for frequently allowing grants of small sums to be passed without due inquiry. Persons would get up in the House and say money was wanted for this or that matter, and if the demand proceeded from the Conservative side, the Government, if they saw there was a strong opposition, languidly yielded the point. The sums asked for might be necessary, but what he objected was, that these demands did not come before the House in a plain, straightforward way, on the recommendation of the Executive, and after careful inquiry as to the necessity of the sums asked for. He objected, as a rule, to mere arithmetical reductions, and adopted the principle of ascertaining before he voted whether sums applied for were or were not requisite for the efficiency of the service, and would not vote for 75 instead of 80 simply on the ground that it was a reduction. He had voted against the purchase of the Exhibition building because he believed it would have led, as in the case of the Houses of Parliament, to an enormous outlay in addition to the sum first asked for, the sum in that case having risen from 700,000*l.* to 3,000,000*l.* The Galway contract he had voted against, believing it to be a corrupt proposal intended to curry favour with the Irish representatives; and he had opposed the Dover contract because it was a job of much the same character. He next explained at some length the reasons why he had voted against Mr. Somes's Bill for closing publichouses on the Sabbath. He thought it was carrying the principle of interference with the liberty of a subject too far. No one more fully appreciated, both on sanitary as well as moral grounds, the vast importance of adhering to temperance, but it was possible to ride the hobby too far. If the Bill were adopted he believed that it would give rise to the strongest dissatisfaction throughout the country, and would occasion a repetition of those disturbances which resulted from the stoppage of the Sunday postage—an obnoxious measure that had to be repealed soon after it passed; and he believed that if the Sunday Closing Bill had been passed not even a fifth-rate Minister would be able or would consent, to hold the office of Home Secretary. Another ground of objection to the measure was that it proposed to exclude London from its operation, and for the same reason Liverpool and other large towns should also be excluded. It would be difficult also to work it, for no two magistrates would agree as to who was or who was not a traveller. The committee who, in 18[illegible]5, recommended certain restrictions in respect to the sale of beer recommended, *pari passu*, the opening of museums and places of amusement for the working classes on the Sabbath. It was fairly argued that if the men were deprived of one source of recreation another legitimate one should be provided for them. This was opposed by a great many persons; but if they took one proposition they ought to take the other. He next referred to the subject of county rates, and thought some alteration should be adopted as

to the mode in which these rates should be levied and expended. He thought that those who paid the rates should have some control over the expenditure of them: and he was also of opinion that large woodlands and certain dues from mines, which were sources of great wealth, ought not to be exempted from taxation. This would not involve any great organic change that would be likely to frighten Conservatives, and he counted on the support of some of these at the next election. After some remarks on the competitive system of nomination for Government appointments, which ought to be entirely open to any one properly qualified, and not made a matter of secrecy and favour, as it is now, he spoke of several other measures that would be brought before Parliament during the next Session. Referring to the Church-rate Abolition Bill, he said he should leave the conduct of that question in future to younger and more energetic men, but would be happy to render any assistance. He enlarged upon the Irish Church question, which he regarded as a dangerous one, and demanding a speedy solution. He reviewed at some length the aspect of the Polish question, but said we must be careful, while manifesting our sympathy for that oppressed race, that we did not get drawn into any serious complications that might arise. He also explained his vote in opposition to the Burial Bill, which had surprised many persons who did not understand why he voted against a Bill which gave to Dissenters the right of burial in churchyards. He opposed the Bill on the ground that it was unnecessary; for it would simply have confirmed a right that already existed, Dissenters having the power to bury children in the churchyard if they had been baptized. But the Bill placed Dissenters in an undignified position by requiring them to go cap in hand as it were to the minister, and state which form of prayers and service they wished to be used; and it would also place the clergyman in a position of antagonism with persons in cases where he might have conscientious objections to the form of service proposed to be used.

WICKHAM MARKET.—On Thursday the 20th ult. the boiler of a steam threshing machine, which had been at work all day at a farm in the occupation of Mr. Burch, in the village of Charsfield, near this town, burst with terrific effect. Two men and a boy were killed; the corn, which was being threshed, became ignited, and the produce of 18 acres was consumed. An inquest was opened on Saturday and adjourned for the evidence of a professional engineer.

## Ireland.

ILLNESS OF THE ARCHBISHOP OF DUBLIN.—The Irish papers announce with regret that Archbishop Whately has been for some weeks in a precarious state of health. It is reported that he is suffering from erysipelas in the foot; but some persons go so far as to say that mortification has attacked it. The latest accounts say that his Grace is becoming more feeble and passes restless nights. Much anxiety is manifested on his account by a large section of the public, by whom he is greatly esteemed for his moderation and Christian character.

GALWAY PACKET SERVICE.—The steamship Adriatic sailed from Galway on Tuesday afternoon with 550 passengers and 21 bags of mails. It was blowing a strong gale from the westward.

## Scotland.

LADY ANGLERS.—The Banffshire Journal says that angling is now one of the most fashionable amusements for ladies. The Princess of Wales is frequently to be seen, rod in hand, on the banks of the Dee or its tributaries. Lady Caroline Gordon Lennox has been fishing on the Spey with remarkable success, having taken among others two grilses of 8 lbs. and 8½ lbs., and a salmon of 18 lbs.

## Law.

HOME CIRCUIT, CROYDON: *Kahnweller v. Dobson.* This was an action to recover the value of two cargoes of goods, for which defendant was alleged to be responsible, under an agreement he had entered into with the plaintiff. The plaintiff is a merchant at Wilmington, in the Southern States of America, and defendant is a merchant in London, and although it was attempted on behalf of the plaintiff to make out that the transaction between them was one of an ordinary mercantile character, it was clearly established in the course of the case that he took a very warm interest in the cause of the Southern States, and that the real object of the adventure was to assist them in their struggle with the Federals. It appeared that in the commencement of last year the plaintiff came to England, and entered into communication with defendant, the result of which was that two vessels, named the Ladona and the Peterhoff, were chartered, defendant acting as the agent of plaintiff in the transaction. The proceedings connected with the two vessels were each the subject of a separate inquiry, and it appeared that with regard to the Ladona, a quantity of goods were shipped on board, some of which were of an innocent character; but by the orders of plaintiff 25 tons of saltpetre and other articles of the like description were made to form part of the cargo. A person, named Pardue, was sent out with the vessel, ostensibly as supercargo, and she cleared out from England as for a voyage to Bermuda, and her papers were made to appear to carry out the object of a regular mercantile transaction; but there was no doubt, and, indeed, it was admitted in the course of the inquiry, that the real intention of the parties was to run the blockade, and, if possible, convey the goods to some of the Southern ports, Wilmington being specially referred to as a place where every facility would be rendered by Colonel Lamb, who was in command of the Confederate troops in that neighbourhood, who was a friend of the plaintiff, and other persons, to discharge the cargo of the Ladona and put on board a cargo of cotton for England. If this plan had been carried out the speculation would no doubt have turned out a very profitable one; but it seemed that various difficulties presented themselves. On the arrival of the vessel at Bermuda, inquiries were of course made by Pardue, in order to guide him as to the best course to be taken, and the result led him to believe that there was very great risk in his endeavour to run the blockade, and that if he attempted to do so, his risk would be increased by his having the saltpetre on board, as, if he were to be overhauled by any of the Federal cruisers, this article would be treated as contraband of war, and the vessel would have been liable to seizure on that ground. The British authorities at Bermuda would not allow the saltpetre to be sent on shore, as they considered that, under the circumstances, the act might be construed into a breach of the neutrality which the English Government had determined to practise, and in this emergency Pardue resolved to send the saltpetre to New York to be disposed of. There was no doubt that this was a course not at all agreeable to the plaintiff, for in the course of his evidence he said, with a good deal of emphasis, that he would much rather the saltpetre had been thrown overboard than that it should have gone to New York, to be used against his friends the Southerners. The result, however, was, that the saltpetre was disposed of at that place, and in consequence of the great depreciation in the paper currency and the high rate of exchange the proceeds were remitted in this country in the shape of Clover seed and bacon, but the former article, it seemed, was accidentally destroyed by a fire before it came into the plaintiff's possession, and the latter was sold, and realised 900*l*. After the Ladona had got rid of what was considered the most dangerous portion of her cargo, an attempt was made to run the blockade with her, but this was unsuccessful, for she was encountered by one of the Federal cruisers, and as she did not bring to when signalled to do so, a 120 lb. shot was fired at her, which entered her hull, but did not materially injure her, and she endeavoured to escape, but a second shot had the effect of disabling her, and she was seized and condemned, and thus the expedition ended so far as the Ladona was concerned. With regard to the Peterhoff, it seemed that she also was laden with a cargo of the like description, among it being a quantity of sulphur, and she was placed under the charge of a person named Chambers, who, there was no doubt, had the confidence of the plaintiff, and who was appointed with his sanction, and in this case, as in the other, her papers were intended to convey that she was bound upon an ordinary voyage to Nassau. It should be stated that the Peterhoff is the same vessel whose capture by the Federals has just been announced, and it appeared that she was hired on this occasion for six months, at the rate of 1100*l*. per month. It was not seriously denied that the same intention was entertained with regard to the ultimate destination of the Peterhoff, as in the case of the Ladona; but when she arrived at Nassau, and Chambers ascertained the state of affairs, he came to the conclusion that it would be folly to attempt to run the blockade, and that if he were to do so the capture of the vessel was certain. He, therefore, determined to sell the cargo as well as he could at Nassau, and he accordingly did so; and the present action was brought to recover the value of the two cargoes on the ground that defendant had not carried out the instructions he had received, and that both Chambers and Pardue had exceeded the authority given to them. Baron Bramwell intimated his opinion that the case was one in which some arrangement might be come to. Neither party, however, was at first inclined to fall into this suggestion, but ultimately it was arranged, so far as the Peterhoff was concerned, that the dispute between the parties should be referred, and the case of the other vessel, the Ladona, was to be gone on with. The Judge in summing up left a good many questions to the jury, and in the result a verdict was taken for the plaintiff for 970*l*. in reference to the saltpetre sold at New York, upon one of the counts in the declaration for money had and received and not accounted for. On all the other counts the verdict was for defendant, and leave was also given to defendant to move for the verdict to be entered generally in his favour, if the Court should think that upon the facts the jury were not justified in law in finding the verdict they had done.

## Obituary.

MR. EDWARD STANLEY, of Ponsonby Hall, died a few days since, at the age of 73. He represented West Cumberland in Parliament for 20 years. He was first returned in 1832 in conjunction with Lord Lowther, now the Earl of Lonsdale, Mr. Curwen, of Worthington Hall, being the defeated candidate. In 1835 he was again elected member, with Mr. Irton, as his colleague, Major Aglionby being the defeated candidate. In 1841 Mr. Stanley and Mr. Irton were again elected, and Mr. Stanley continued to represent the county until his retirement from public life in 1852.

MR. RAEBURN, OF ST. BERNARD'S, died recently at Charlesfield House, Midlothian, at the age of 80. He was the last surviving son of the late Sir Henry Raeburn, R.A., of St. Bernard's, and although not himself an artist, he inherited an enthusiastic love for the Fine Arts. He has left a valuable collection of his father's works, being chiefly the portraits of friends, including Sir Walter Scott, Sir J. Sinclair, Sir David Brewster, and other eminent persons. He assisted in promoting the success of the exhibitions in Manchester and other provincial towns, and to his liberality the National Gallery of Edinburgh owes some of its choicest specimens of portraits. He was also well known in Scotland for his devotion to agricultural pursuits, which he made his constant study during a great part of a long life. He was one of the first to introduce subsoil ploughing, tile draining, and other processes of scientific agriculture, which have since been generally adopted; and by his efforts to improve the land on his estates he did much towards providing employment for the poor in his neighbourhood.

WILLS.—The will of the Hon. Miss Sophia Wheatley, of Charles Street, Berkeley Square, has been sworn under 16,000*l*.; Mr. George Rainy, of Raasay, Inverness, 160,000*l*.; Dr. Edward Field, M.D., of Ipswich and Framlingham, 30,000*l*.

## Sporting.

PRIZE FIGHT FOR 1000*l*.—The great fight for 1000*l*. between Mace, the ex-champion, and Goss of Wolverhampton, took place on Tuesday. The combatants left Paddington for Wootton Bassett, in Wiltshire, by special train at half-past 2 in the morning by the Great Western Railway. A ring was formed, about a mile from the Wootton Station. The ropes and stakes were adjusted by about 25 minutes past 6 o'clock. Mace won the toss for choice of sides, and of course, placed his antagonist so that the morning sun glared upon his face. Much time was lost in selecting a referee and other preliminaries, and it was past 7 when the men had shaken hands and stepped into the ring. Both seemed in admirable condition. Mace met his opponent confidently, but Goss had evidently made up his mind to act with great caution. For four minutes and 40 seconds the combatants dodged, made feints, and sought an opening, but not a blow had been exchanged when the police made their appearance. Their arrival was expected, as it was well known at Swindon the night before that the fight was to take place, and constables had been seen on the look-out at Reading, Didcot, and Swindon. The company were of course compelled to quit the field, and returned to London with the view of proceeding to Purfleet. The second journey was soon completed, and at half-past 3 the river was crossed at Long Reach. The Essex constabulary mustered in great force, but as the fight was beyond their jurisdiction they could do nothing. It was 5 minutes to 5 in the afternoon before the men had again taken their places in the ring. A fight of 18 rounds, lasting an hour and three quarters, ensued, in which Goss endeavoured to tire out his antagonist, and avoid his blows. In the last round, however, he received a blow on the jaw, the crash of which could be heard five or six yards off. It would have felled a bullock. Goss fell on his forehead insensible and apparently dead, and for nearly five minutes the utmost efforts of his backers could not restore him. Mace was then declared the winner, and the whole party soon afterwards returned to London by rail from Dartford.

BIRTHS.—On the 27th ult, at 21, Moray Place, Edinburgh, the Countess of KINTORE, of a son—1st inst, at 24, Bruton Street, the Countess of LONGFORD, of a daughter—2d inst, at Dover House, Whitehall, Viscountess CLIFDEN, of a son and heir—30th ult, the Lady CATHERINE WHEBLE, of a son—29th ult, at 44, Belgrave Square, the Hon. Mrs. PERCY WYNDHAM, of a son—27th inst, at Weymouth, the wife of the Hon. W. W. ADDINGTON, M.P., prematurely, of a son, still-born—26th ult, at Barwick House, Norfolk, the wife of Rear-Admiral SEYMOUR, C.B., of a son.

MARRIAGES.—On the 26th ult, at Norwood, Captain LITTLE, J.P., of Roswell, Wicklow, eldest son of the late Rev. Dr. Little, to the Hon. ANNE HENRIETTA BUTLER, daughter of the late Hon. Henry Butler, and sister of Henry Edmond, thirteenth Lord Viscount Mountgarret—25th ult, at Edinburgh, the Rev. JOHN MACLEOD, minister of Dunse, youngest son of the Rev. Dr. MacLeod, of Morvern, to ALEXA, youngest daughter of the late Lieutenant-General MACPHERSON, of the Bengal Army—27th ult, at St. Mary's, Bury St. Edmund's, Captain H. L. B. IBBETSON, son of Captain L. L. Boscawen Ibbetson, K.H., F.R.S., to SARAH ADELAIDE, elder daughter of the late Rev. JOHN WHITE, rector of Chevington, Suffolk—27th ult, at the parish church of Charlcombe, Somerset, ALEXANDER WM. HALL, Esq., of Barton Abbey, Oxfordshire, to EMMA GERTRUDE, second surviving daughter of the late EDWARD JOWETT, Esq., of Eltofts, Yorkshire.

DEATHS.—On the 29th ult, at Westrock House, Leamington, MARTHA, eldest daughter of the late Right Rev. WILLIAM CLEAVER, formerly Bishop of St. Asaph, aged 72—27th ult, at Bagnères de Luchon, after a very short illness, beloved and respected by all who knew her, ELEANOR FRANCES ELIZABETH, the youngest daughter of the late Lieutenant-General Sir JOHN and Lady HAMILTON—26th ult, at Rugby, CHARLOTTE ANNE, widow of WILLIAM FERDINAND COUNT WRATISLAW VON MITSOWITZ, aged 64—25th ult, at Villiers Cottage, Southsea, HORATIO W. HOLLINWORTH, Esq., second son of the late Admiral Hollinworth, R.N., aged 40—15th June, at Parliament House, Melbourne, Colonel H. H. FARQUHARSON, late 1st Royals, aged 68—25th ult, T. J. R. BARROW, Esq., R.N., of the Ryelands, Randwick, near Stroud, eldest son of the late Lieut.-Colonel Barrow, Coldstream Guards—23d ult, at Newnham, Gloucestershire, RAYNOR MASON, Esq., youngest son of the late Lieutenant-Colonel Mason, aged 61—29th ult, at Weston-super-Mare, Captain CHARLES PHILLIMORE, of 19, Connaught Square, London—31st ult., at his residence, Bushey Grove, near Watford, STEWART MARJORIBANKS, Esq., aged 88—25th ult, at Patterdale, WM. GOTT, Esq., of Wyther Grange, Kirkstall, and Bay Fort, Torquay, aged 65—23d ult, at Dawlish, MARIA, daughter of the late T. LANE, Esq., J. P., of Selsdon, Surrey—30th ult, at the Rectory, Swalecliffe, near Canterbury, PATTY BALDOCK, wife of the Rev. JACKSON DELMAR, rector of Swalecliffe, aged 55—25th ult, at Bournemouth, the Rev. FRANCIS MINDEN KNOLLYS, D.D., fellow of Magdalen College, Oxford, aged 47—27th ult, at St. Nicholas College, Lancing, the Rev. WILLIAM STERNE RAYMOND, M.A., aged 31—26th ult, at Limerick House, Leamington, the Rev. JOCELYN WILLEY—16th ult, at Blo' Norton Hall, Norfolk, the Rev. CHARLES H. BROWNE, rector of the parish of Blo' Norton, aged 63—18th May, at the British Legation, Pekin, the Rev. WM. C. MILNE, M.A., assistant Chinese secretary to H.M.'s Legation in China, son of the late Rev. Dr. Milne, aged 48—30th ult., at Barton-on-Humber, the Rev. JAMES KNIGHT, M.A., formerly incumbent of St. Paul's Church, Sheffield, aged 70.

## Markets.

### COVENT GARDEN, Sept. 5.

Vegetables and most kinds of Fruit still continue plentiful. Plums may also be had in great abundance at from 6s. to 8s. a sieve. Of Grapes and Pine Apples the supply is sufficient for the demand. Of Melons there is a good stock of both English and foreign varieties. There is also a good supply of Williams's Bon Chrétien Pears. Kent Filberts are dear, the supply of them being rather short. Kent Cobs are coming in in better condition than last week; price 45s. to 50s. per 100 lbs. For Potatoes the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Stocks, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 2s to 5s | Nectarines, do., 2s to 5s |
| Grapes, per lb., 2s to 5s | Melons, each, 2s to 4s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Lemons, per 100, 12s to 16s |
| Pears, per ½ sieve, 2s 6d to 5s | Nuts, small, per bushel, 14s to 18s |
| Plums, per ½ sieve, 3s to 4s | Almonds, do., 18s |
| Figs, per doz., 2s 6d | Walnuts, do., 14s to 20s |
| Peaches, per doz., 3s to 8s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Celery, p. bundle, 1s 6d to 2s |
| Peas (shelled), p. qt., 1s to 1s 6d | French Beans, p. sieve, 2s to 6s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatoes, York Regents, p. ton, 100s to 110s | Garlic, per lb., 8d |
| " Shaws, do., 60s to 70s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatoes, each, 2d to 3d | |

HAY.—Per Load of 36 Trusses.
SMITHFIELD, Thursday, Sept. 3.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to | 80s | Clover, old .. .. | 95s to | 120s |
| Superior do. .. | 84 | 90 | Do. second cut .. | 90 | 108 |
| Inferior do. .. | 60 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 28 | 34 |
| Rowen .. .. .. | 60 | 80 | | | |

HARVEY & EASTON.

WHITECHAPEL, THURSDAY, Sept. 3.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime Clover .. | 120s to | 12?s |
| Inferior do... .. | 80 | 84 | Inferior do. .. .. | 100 | 110 |
| Prime New Hay.. | 80 | 86 | New 1st cut do... | 110 | 1?6 |
| Inferior.. .. .. | — | — | Inferior do. .. | 95 | 110 |
| Straw .. .. .. | 27 | 30 | Prime 2d cut do. | 100 | 11? |

BRITISH WOOLS.—LONDON, Sept. 4.

Our market continues in a buoyant state, and prices firm for all descriptions of wool. The prices paid, however, of late to the farmers are too high to realise a profit on at present.

| | s. d. | | s. d. | | s. d. | | s. d. |
|---|---|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | 1 9½ | to | 1 10½ | Leicest. Wethers | 1 8 | to | 1 9 |
| Half-bred ditto.. | 1 10 | — | 1 11 | Ditto Hoggs .. | 1 9 | — | 1 10 |
| Down Ewes .. | 1 8½ | — | 1 9½ | Combing Skins | 1 4 | — | 1 8 |
| Kent Fleeces .. | 1 9 | — | 1 10 | Flannel Wool .. | 1 6 | — | 1 8 |
| | | | | Blanket ditto .. | .. | — | .. |

NEWGATE.—Sept. 4.

Best Fresh Butter .. .. 15*s*. per dozen lbs.
Second do. do. .. .. 18*s*. "
Pork, 4*s*. 0*d*. to 4*s*. 4*d*. per 8 lbs.

METROPOLITAN CATTLE MARKET.
MONDAY, Aug. 31.

The number of Beasts is about the same as on Monday last. Trade is not so active, but prices cannot be quoted lower for choice qualities. The supply of Sheep is smaller, yet quite equal to the demand; indeed, it is difficult to realise late rates.

Trade is still very bad for Lambs, the season being now really over. Choice Calves are rather dearer. From Germany and Holland there are 2240 Beasts, 10,320 Sheep, 307 Calves, and 30 Pigs; from Ireland, 450 Beasts and 300 Lambs; and 2760 Beasts from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 4 6 — 4 10 |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn .. | .. .. — .. |
| 2d quality Beasts | 3 0 — 4 4 | Ewes & 2d quality | 4 0 — 4 4 |
| Best Downs and Half-breds .. | 5 0 — 5 2 | Do. Shorn .. | .. .. — .. |
| Do. Shorn .. | .. .. — .. | Lambs .. .. | 4 8 — 5 8 |
| | | Calves .. .. | 3 0 — 4 8 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 5870; Sheep & Lambs, 27,660; Calves, 353; Pigs, 320.

Thursday, Sept. 3.

The number of Beasts is about the same as on Thursday last. Trade is dull, yet prices cannot be quoted lower on the average. We have a shorter supply of Sheep, especially of English, one half being foreign. The demand is good, and some of the choicest descriptions have realised rather more money. Lamb trade is very dull, the season being nearly over. From Germany and Holland there are 390 Beasts, 4090 Sheep, 402 Calves, and 30 Pigs; from Spain, 40 Beasts. Milch Cows, 75.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 4 6 — 4 10 |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn .. | .. .. — .. |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | 4 0 — 4 4 |
| Best Downs and Half-breds .. | 5 0 — 5 2 | Do. Shorn .. | .. .. — .. |
| Do. Shorn .. | .. .. — .. | Lambs .. .. | 4 8 — 5 8 |
| | | Calves .. .. | 3 0 — 4 8 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 1195; Sheep & Lambs, 8590; Calves, 491; Pigs, 280.

## MARK LANE.—Monday, Aug. 31.

The supply of new Wheat to this morning's market was moderate, and met an improved inquiry at the full prices of this day se'nnight. Foreign Wheat was also in better demand, and a tolerable clearance was made of such parcels as were offering at the lowest rates of last week. Barley brought late rates. Beans and Peas were unaltered in value. Oats were a slow sale and rather cheaper. In Flour there was but very little doing.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 43—46 | Red ..... | 40—44 |
| — — fine selected runs .. ditto | 45—50 | Red .... | 42—48 |
| — — Talavera ........ | 48—52 | | |
| — Norfolk ........ | — | Red .... | — |
| — Foreign ........ | 38—58 | | |
| Barley, grind. & dist., 30s to 33s .. Chev. | 36—40 | Malting .. | 33—38 |
| — Foreign .. grinding and distilling | 25—29 | Malting .. | 28—32 |
| Oats, Essex and Suffolk ........ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ........ Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 19—22 | Feed .... | 18—20 |
| Rye ........ | 30—33 | Foreign .. | — |
| Rye-meal, Foreign ........ | — | | |
| Beans, Mazagan .... 33s to 35s .. Tick | 34—36 | Harrow .. | 24—36 |
| — Pigeon .... 37s to 40s .. Winds. | — | Longpod | — |
| — Foreign ........ Small | 40—46 | Egyptian | 30—32 |
| Peas, White, Essex and Kent .. Boilers | 37—38 | Suffolk .. | 38—40 |
| — Maple .... —s to —s .... Grey | — | Foreign .. | 32—38 |
| Maize ........ White | — | Yellow .. | — |
| Flour, best marks delivered .. per sack | 38—48 | | |
| — 2d do ........ ditto | 30—34 | Country .. | 30—34 |
| — Foreign ........ per barrel | 20—26 | Per sack | 34—45 |

Friday, Sept. 4.

The weather since [illegible] was and continues to be wet and stormy, excepting on the 1st, and appears greatly to have retarded the harvest in the North and Scotland, and in such parts of the kingdom where it has been protracted. Wheat is said not to have suffered materially, and is undoubtedly a large crop, but a large portion of the Barley has probably been reduced from malting to grinding quality. The Wheat trade has been firm, and in several markets sellers have obtained a slight advantage, but the business in foreign Wheat has not been extensive. Since Friday last 102 vessels have been reported off the coast. A lively business has been done this week in Maize at a little lower prices; other descriptions of spring corn and Wheat have been quiet at unaltered rates. In Paris (Sept. 3), the Flour trade has been very slow, and prices have declined fully 1s. per 280 lbs The six marks for delivery this month are quoted equal to 34s. per 280 lbs. The present stock of Flour is estimated at 7730 cwts. Wheat is firm, but there is only little doing. The arrivals of English and foreign Wheat and foreign Barley this week have been good, of other English grain, foreign Oats, and Flour small. The attendance at this morning's market was limited. English Wheat was scarce, and would readily have commanded the extreme rates of Monday. The inquiry for Foreign was not active, but holders displayed more firmness. Grinding Barley is in good demand at fully former prices. Beans and Peas are unaltered in value. The Oat trade is quiet, but our quotations for the finest descriptions are supported.

Arrivals this Week.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2550 qrs. | 200 qrs. | 20 qrs. | 910 sks. |
| Irish .... | — | — | 430 | — ,, |
| Foreign .. | 17,680 ,, | 3060 | 13,230 ,, | 560 ,, / 1310 brls |

Liverpool, Sept. 1.—We have had a very fair attendance at to-day's market, and Wheat has commanded rather a better inquiry than of late at the extreme prices of Friday last. Flour meets no improvement either in demand or value. Indian Corn is offered sparingly, but difficult to buy at late rates, the recent large arrivals being now pretty well cleared from the quay. New Irish Oats are selling at from 2s. 6d. to 2s. 9d. for black, and 2s. 9d. to 2s. 10d. for tawny; very few white are here yet. Old Oatmeal unchanged; new brings from 30s. to 31s. Beans steady and fully as dear. Peas and Barley fair sale. The market closes decidedly firm.

Friday, Sept. 4.—Wheat in good demand at 2d. advance. Flour steady. Indian Corn active. Egyptian Wheat and Beans steady.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| July 25 | 45s 11d | 29s 10d | 22s 9d | 32s 8d | 39s 3d | 35s 11d |
| Aug. 1 | 45 11 | 31 0 | 23 0 | 37 11 | 39 11 | 36 8 |
| — 8 | 46 3 | 31 6 | 23 0 | 31 6 | 38 8 | 34 9 |
| — 15 | 45 11 | 31 4 | 23 7 | 36 4 | 40 7 | 36 7 |
| — 22 | 46 5 | 31 1 | 23 0 | 33 2 | 40 4 | 34 9 |
| — 29 | 45 9 | 33 10 | 22 8 | 33 9 | 39 6 | 35 9 |
| Agg. Aver. | 46 0 | 31 5 | 23 0 | 34 3 | 39 8 | 35 6 |

Fluctuations in the Last Six Weeks' Averages.

## COAL MARKET.—Sept. 2.

Byass's Bebside West Hartley, 16s. 3d.; Grey's West Hartley, 15s. 9d.; North Pelton Gas, 13s. 6d.; Walker Primrose, 12s. 9d.; Eden Main, 16s. 6d.; Walls End Hetton, 18s.; Walls End Russel's Hetton, 16s. 9d.; Walls End South Hetton, 18s.; Walls End Stewarts, 17s. 9d.; Walls End Cassop, 16s. 9d.; Walls End Hartlepool, 17s. 6d.; Walls End Kelloe, 16s. 9d.; Walls End East Hartlepool, 17s. 9d.; Walls End South Hartlepool, 16s. 6d.; Walls End Trimdon Hartlepool, 17s. 6d.; Carway and Duffryn Malting, 20s.—36 ships at market.

## HOPS.—Borough Market, Friday, Sept. 4.

Messrs. Pattenden & Smith report that about 2500 pockets of the new growth of Hops have arrived at market, and are selling at the following prices:—

| | | |
|---|---|---|
| Mid and East Kents, per cwt. .. | £6 0 to | £8 0 |
| Weald Kents .. .. .. .. | 5 5 — | 6 6 |
| Sussex .. .. .. .. .. | 5 0 — | 6 6 |

The trade for yearlings and old Hops continues steady at late prices.

DAILY or OCCASIONAL GOVERNESS.—A Lady who has resided many years in France, seeks a re-engagement in London, to instruct in English, French, and Music with Singing (by the new system); the rudiments of German and Drawing. Terms moderate.—H. H., 29, Queen's Road, Camden Square, N.W.

WANTED, a TRAVELLER.—A Nurseryman having a large and select stock of Conifers, Roses, Rhododendrons, &c., is in want of a good Traveller to represent him. He would be required to sell carefully, having a due regard to truth in his representations; a permanent trade being of more importance than a forced sale. As the Advertiser will only engage in the hope of securing an honest man, well up in his business, he will answer such applications as appear likely to be suitable; all those not answered will please understand that any correspondence would be useless.—Particulars, stating terms, where, and number of years engaged, may be addressed to A. B., *Gardeners' Chronicle* Office, W.C.

WANTED IMMEDIATELY, a Single industrious trustworthy Man as NURSERY FOREMAN and MANAGER.—Apply by letter, stating age, wages expected, &c., to G. C. O., care of Messrs. Dawson & Sons, 74, Cannon Street, London, E.C.

WANTED, at Michaelmas next, a WORKING FOREMAN or BAILIFF on a Farm of 1000 acres.—Apply, stating Salary and qualifications, to J. M. Read, Elkstone, Cheltenham. No letters answered, unless to the person treated with.

WANTED, in a small Nursery, a respectable, energetic, trustworthy Young Man, of active, industrious habits, and obliging manners, as GENERAL PROPAGATOR, and GROWER of PLANTS and SHRUBS; also to attend to the Fires and make himself generally useful, and to act as Salesman in the absence of the Principal.—Apply in own handwriting, stating age, wages required, and references, to William Simons, Promenade Gardens, Great Malvern.

WANTED, in a Garden Establishment near London, a YOUNG MAN of industrious and steady habits, with a taste for Plants, and some knowledge of their Cultivation. Wages moderate.—Apply, stating references, to M. C., *Gardeners' Chronicle* Office, W.C.

WANTED, TWO YOUNG MEN, from 16 to 18 years of age; some that have been in Houses and understand Plants. Character from last situation must accompany application, stating wages.—Adams & Co., The Horticultural Establishment, London Road, near Gloucester.

WANTED, a WOODRANGER, who has thorough knowledge and experience in the Management of Timber, Plantations, and Coppice. He should also understand how to Fix Iron Railing, as well as the Erection of other descriptions of Fencing, and be a good Judge of the Value and Labour of Work of the above kind.—Apply, stating age (family if any), wages, references, &c., addressed to Mr. Moss, Maristow, Plymouth.

WANTED, an unmarried MAN SERVANT, to live in the house, who understands the Cultivation of an ordinary Garden, can manage a Cow, attend a Horse, and Drive occasionally.—Apply, stating age, reference for character, and wages required, to T. C. F., Post Office, Lower Edmonton.

WANTED, a first-class DAIRYMAID.—The Undersigned require before the end of September, for a nobleman in North Wales, an experienced DAIRYMAID, who can make first-class Butter and Cream Cheese. She must be single, and no one need apply who has not held similar situations in good families, and who cannot be recommended as skilled in Dairy work, thoroughly cleanly in her work and person, and of respectable appearance and good moral character. Wages 30*l.* per annum, with Furnished Sitting and Bed-rooms, Coal, Candles, Soap, Potatoes, &c. A Man allowed for Churning. The work is not heavy, but requires good management.—Apply, stating age and all particulars of former servitude, thus—"Dairymaid," Messrs. Francis & Arthur Dickson & Sons, Seed Merchants, &c., Chester.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (Head).—Age 40, married; a first-class Fruit Grower; understands Forcing Vines, Pines, Peaches, Melons, and Cucumbers; many years' experience in Orchard-house work, Orchids, Stove and Greenhouse Plants, Flower and Kitchen Gardens, Laying-out, Re-arranging Shrubberries, and forming new Fruit Borders. Character unexceptionable.—T. H., 6, Markfield Road, Page Green, Tottenham, N.

GARDENER (Head) to a nobleman or gentleman.—D. Wicks, Head Gardener to W. Wilson Saunders, Esq., Hon. Secretary to the Horticultural Society, will be at liberty to engage after the 29th September. Has a thorough practical knowledge of Forcing in all its departments; likewise the Growth of Plants from most parts of the world, and the Management of Flower and Kitchen Gardens. Ten years' good character.—Hillfield, Reigate, Surrey.

GARDENER (Head), or GARDENER and BAILIFF.—Age 45, married, no incumbrance; thoroughly practical in either department, having been a most successful Cultivator of Stove and Greenhouse Plants of every description; good experience in Early and Late Forcing of Fruit and Vegetables, and the general Management of Flower and Kitchen Garden. Having had the management of [illegible] Acres of Land, he is well up in the Breeding and Rearing of all kinds of Stock, and understands Draining, Irrigation, the application of Artificial Manures, Road-making, and every description of Ground-work in either Light or Heavy Soils. Can produce the best testimonials for honesty, sobriety, and perseverance.—H., Mr. Maurice Young, Milford Nurseries, near Godalming.

GARDENER (Head).—Married, two children; understands his profession in every department. Eight years' character.—John Butler, Princess Street, Pembroke Dock, South Wales.

GARDENER (Head).—Age 40, married; thoroughly practical. Wife could take charge of Dairy and Poultry. Four years' unexceptionable character from the gentleman he is about to leave.—T. W., 14, Raglan Street, Forest Hill, S.E.

GARDENER (Head).—Age 31; very successful in the leading Branches; good Kitchen and Flower Gardener. Wife good Laundress if required. Three years' character.—H. T., 32, St. Catherine's Road, Notting Hill, W.

GARDENER (Head).—Age 28; understands Early and Late Forcing of Fruit, &c., Flower and Kitchen Gardens. Six years' unexceptionable character.—J. C., Marfleet's, Grocer, High Street, Carshalton.

GARDENER (Head).—Age 36, married; thoroughly understands Forcing Grapes, Melons, and Cucumbers; the Management of Greenhouses, Kitchen and Flower Gardens; well understands Wall and other Trained Trees.—J. C., Kennington Hall, Ashford, Kent.

GARDENER (Head).—Age 30, married, two children; a thoroughly respectable man, of practical experience in Early and Late Forcing, &c. Nearly four years' unexceptionable character.—A. L., Messrs. Smith & Co., Ironmongers, Blackheath, S.E.

GARDENER (Head).—Married, no incumbrance; first-class Grower of Pines, Grapes, Peaches, Stove and Greenhouse Plants, Kitchen and Flower Gardener, Laying-out Grounds, &c. Seven years' character from last employer and 12 from former.—T. L., 6, Robertson Street, Lee, Kent.

GARDENER (Head).—Age 34, married, without incumbrance; understands his profession in all its branches, and competent to undertake the Management of a first-class Establishment. Character will bear the strictest investigation.—W. F. V., Messrs. Downie, Laird, & Laing, Stanstead Park Nursery, Forest Hill, S.E.

GARDENER (Head), in a nobleman's or gentleman's family.—Age 38, married, one child; has a good practical knowledge of Forcing Fruit, &c., Kitchen and Flower Gardening, takes a great interest in the Propagation and Arrangement of Plants, and Contrasting of Colours in Conservatory and Flower Beds.—A. G., Mr. Pegler, Chemist, Lower Norwood, Surrey, S.

GARDENER (Head).—Age 38, married, two children; perfectly understands his profession in all its branches, Early and Late Forcing, Stove and Greenhouse Plants, Flower and Kitchen Garden, also Landscape and Ornamental Gardening, Laying out new Gardens, and the general improvement of Estates. Three years and a-half good character.—W. C., Pole Hill, Hillingdon Heath, near Uxbridge.

GARDENER (Head).—Age 35, married, no incumbrance; has had many years' experience in Horticulture, and gained a thorough knowledge of the modern growth of the choicest Fruits under Glass; is a first rate Cultivator of Stove and Greenhouse Plants, and has had for many years the Management of a nobleman's Garden Establishment, where Gardening has been carried out to the highest state of Cultivation. Can produce first-class testimonials.—John Osborne, Chippenham Park Gardens, near Newmarket.

To Noblemen and Gentlemen.

GARDENER (Head).—Age 30, single; has lived in some of the largest and best Gardens in England; has for years been successful as a Grower and Early Forcer of Vines, Peaches, Cucumbers, Melons, Strawberries, &c.; thoroughly understands the Cultivation of Ferns, Stove, Fine-foliaged and Greenhouse Plants; is a first-class Flower, Fruit, and Kitchen Gardener. Character and testimonials of the very highest order.—Gardener, Plas Machynlleth, Montgomeryshire, North Wales.

GARDENER.—Age 36; has a practical knowledge of his profession. Can take charge of Land and Stock. Good character.—A. B., Solomon's, Fruiterer, &c., Covent Garden, W.C.

GARDENER, where one Man or more are kept.—Age 30, married; thoroughly understands his profession in all its branches. Two-and-a-half years' character. Fourteen years' experience. Wages expected, 18*s.* per week, with Cottage.—A. B., 9, Albert Terrace, Queen Street, King's Road, Chelsea, S.W.

GARDENER (middle-aged, married, without incumbrance).—D. Davies, who has been 19 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. Lindley, Acton Green, Middlesex, W.

GARDENER (Single-handed).—Age 30, married, no incumbrance; thoroughly practical in all branches. Good character.—T. G., Williams, Hair Dresser, Wood Street, Walthamstow.

GARDENER (Under).—Age 21, single; steady; has been two years under a first-class Gardener. Can receive a first-class character.—F. B., Dewsbury, Yorkshire.

GARDENER (Under).—Age 23; would not object to pay a Premium where he can have a good opportunity of improving himself.—A. Z., 1, Salamanca Row, Upper Church Street, Chelsea, S.W.

STEWARD and GARDENER.—Single; is well acquainted with, and has had the Management of a large estate, including Draining on the Government system, Plantations, Repairs, &c., with a long experience of Gardening in all its branches. A good character from the nobleman he has lately left. Testimonials can be seen, with unexceptionable references.—A. B., Hanover Nursery, Peckham, S.

To Nurserymen.

GENERAL FOREMAN, SALESMAN, or TRAVELLER.—Has a good knowledge of the business generally, but more particularly the outdoor branches, with which he is thoroughly conversant. Considered a good Salesman; is also a good Correspondent. Good references.—W. H. B., Mr. Cottrell, Sexton, [illegible] Birmingham.

FOREMAN, to Manage a Gentleman's Estate.—Age 40, married, no incumbrance. Good knowledge of Land, Drainage, Stock, Butchering. Wife can Manage Dairy. Eleven years' good character.—Y. S., Willesden Lodge, Willesden, Middlesex.

FOREMAN (Out-door).—Has had extensive practice in the leading Nurseries in Scotland; well acquainted with the Propagation and Culture of general Nursery Stock. Good Salesman.—A. B. C., Stamford Nursery, Bowdon, Cheshire.

### To Nurserymen.

PROPAGATOR, or PROPAGATOR and FOREMAN.—Well up in Propagating Hard and Soft-wooded Plants, good Grafter of Roses, Rhododendrons, &c. First-class testimonials.—A B , Mr. Wm Bull, New and Rare Plants Establishment, King's Road, Chelsea, S.W.

PROPAGATOR, or FOREMAN and PROPAGATOR.—A first-class Graftsman, and thoroughly experienced in the Propagation of Hard and Soft-wooded Plants. Good references.—A. B., 43, North Road, Great Yarmouth, Norfolk.

IMPROVER in the Gardening business; a situation wanted immediately.—H S , Millash, Whitwell, Derbyshire.

IMPROVER.—Accustomed to Forcing and Growing of all kinds of Fruit and Flowers. Good Premium.—D. Tanley, 24, Park Street, Dorset Square, London, N.W.

FARM BAILIFF.—Age 31; experienced; understands Light and Heavy Soils, and the Breeding and Rearing of Stock. Wife can take charge of Dairy and Poultry.—X. Z., Stent's Library, Guildford.

FARM BAILIFF.—Married, no incumbrance; understands Buying, Selling, Fatting, and Rearing Stock and General Farm Management. Wife to Manage Dairy and Poultry. Good reference.—A. B., Ackland's Library, Lymington, Hants.

FARM BAILIFF (from the West of England).—Married; perfectly acquainted with the most modern system of Agriculture in all its branches, Farm Buildings and Repairs, Woods and Plantations, Drainage and Irrigation, Mensuration and Accounts. Wife a first-class Dairywoman; understands Devonshire Creams and Butter, Rearing and Feeding all kinds of Poultry. Fifteen years' unexceptionable character.—A B., Messrs. Sutton & Sons, Royal Berkshire Nurseries Reading.

TRAVELLER or MANAGER.—Has had considerable experience, and well up in Business.—M. J., *Gardeners' Chronicle* Office, W.C.

### To Seed Merchants.

SHOPMAN.—Age 21; has had seven years' experience. Good references.—T. A. B., F. & A. Dickson & Sons, 106, Eastgate Street, Chester.

HERDSMAN.—Married, one child; has had great experience in all kinds of Stock. No objection to taking charge of a Small Farm or Grass Land. Can have a good character.—W. S , South Lodge, near Southgate, Middlesex, N.

### Grove Nursery, Coleman Street, Camberwell, S.

MR. GEORGE WELLS having had upwards of 20 years' experience in the Erection of Horticultural and other Buildings, offers his services to the gentry and public in Planning and carrying out such Works by contract or otherwise. Also in Laying out Gardens and Pleasure Grounds, and the Improvement of Estates generally.

Plans and Estimates will be furnished on application. The nobility and gentry are invited to inspect his Nursery as above, Designed and Erected by himself, containing several thousand feet of Glass

Gardens kept in order by the year or otherwise.

All kinds of Gravel, Peat Sand, Loam, Leaf-mould, &c., supplied at the lowest possible prices.

Experienced Gardeners recommended.

SHAW'S TIFFANY.

For samples and prices apply to

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Hyacinth Glasses Superseded by the

NEW REGISTERED ETRUSCAN HYACINTH VASE, the most beautiful Table Ornament extant. To be obtained only of

Hooper & Co , Seedsmen, Covent Garden Market, London, W.C.

WHOLESALE LIST of PRICES forwarded on application.

### To Seed Merchants and Nurserymen.

SAYNOR and COOKE, Pruning and Budding Knife Manufacturers, beg respectfully to say that they will not be undersold by any House in the Trade. They also warrant one of their Knives to last two of any other make.

Paxton Works, Sheffield.

HAVE YOU a LAWN?—Use BELCHER'S PATENT PLANTAIN EXTRACTOR; which neatly removes Plantain and Daisies, and replaces them with fine Turf. Price 6s.: to be had of all Ironmongers.

Wholesale Agents, S. & E. Ransome & Co., 31, Essex Street, Strand, W.C.

MORTON'S NEW IMPROVED PATENT LAWN MOWER, with Sun and Planet Motion, having all the most recent Improvements, is allowed to be the best Machine for preventing Ribbing and Clogging.

To be had, with prices and particulars, of Grimmond, Laird, & Co , 15, Cannon Street West, London, E C ; or of the Patentee, Catherine Street Engine and Machine Works, Arbroath; and all the principal dealers throughout the country.

AGRICULTURAL IMPLEMENTS.—STEAM ENGINES, THRESHING MACHINES, CARTS, WAGGONS, PLOUGHS, HARROWS, CHAFF-CUTTERS for hand and power, PRIZE CHURNS, LAWN MOWERS, WIRE NETTING, GARDEN TOOLS of all kinds.

Illustrated Catalogue on receipt of six postage stamps.

Price Lists free.

Burgess & Key, 95, Newgate Street, E.C.

Works, Brentwood, Essex.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the SCORCHING RAYS of the SUN.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

| | |
|---|---|
| Two yards wide .. .. .. | 1s. 6d. per yard run. |
| Four yards wide .. .. . | 3s. per yard. |
| An improved make, 2 yards wide, | 1s. 8d. per yard. |
| An improved make, 3 yards wide, | 2s. 6d. per yard run. |

Also "Frigi Domo" Netting, 2 yards wide, 1s. 4d. per yard run.

Elisha Thomas Archer, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon Street, City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

### Gutta Percha Tubing for Watering Gardens.

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following

*Testimonial from* Mr. J. Farrah, *Gr. to* Boswell Middleton Jalland, Esq , *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

Manufactured by the Gutta Percha Company, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

GARDEN BORDER-EDGING TILES.—These Tiles, manufactured in Terra-Cotta, Terro-Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are invaluable.

To be obtained at F. & G. Rosher's Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.

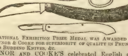
Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability, Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. Rosher at their Premises as above.

### Paxton Works, Sheffield, Established 1738.



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# The Gardeners' Chronicle Newspaper.

*SATURDAY, SEPTEMBER* 12, 1863.

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DAILY or OCCASIONAL GOVERNESS.—A Lady who has resided many years in France, seeks a re-engagement in London, to instruct in English, French, and Music with Singing (by the new system); the rudiments of German and Drawing. Terms moderate.—H. H., 29, Queen's Road, Camden Square, N.W.

## News of the Week.

THE *Journal de St. Pétersbourg* of Wednesday contradicts the statements of the French papers that it is the intention of the CZAR to grant a Constitution to Poland and to the various provinces of the Russian Empire. It says that the EMPEROR, whose sentiments on the Polish question have not changed, considers his first duty to be the re-establishment of order, after which the Government is determined to fulfil its international obligations, and at the same time to maintain the rights of Russia within the limits of treaties. The Grand Duke CONSTANTINE has left Warsaw for Berlin and Vienna on his way to the Crimea, and it is reported that he will be succeeded in the government of Poland by the Duke of LEUCHTENBERG.

The final results of the Frankfort Congress were communicated to the KING OF PRUSSIA on Saturday in a letter signed by all the Sovereigns, who at the same time invited HIS MAJESTY to favour the resolutions with his approval. The KING, in reply, stated that he had nothing to add to what he had already said to the EMPEROR on the subject. A Royal decree was published at Berlin on Friday dissolving the Prussian Chamber of Deputies. The Ministerial report upon which the decree is founded states that there is no prospect of coming to any understanding with the present Chamber, and that tendencies have recently mani fested themselves within the limits of the German Federal Constitution, the evident aim of which is to reduce Prussia from her position as a great Power.

A despatch from Copenhagen announces that the Germanic Diet having threatened Denmark with Federal execution on the affairs of Holstein, a treaty of alliance has just been concluded between Denmark and Sweden, with a view to the defence of Danish territory from any German aggression.

The French Government has consented to give up the five brigands taken from the Aunis, on the understanding that the Italian Government will spare their lives. The Confederate steamer Florida has been provisionally seized at Brest, at the suit of a shipowner named MENIER, who claims an indemnity of 100,000f. for one of his vessels which that cruiser had captured. It is rumoured in Paris that negotiations are pending with great capitalists in France and England for a Mexican loan, to be employed in reimbursing France for the expenses of the war, and in paying the debts due to the different Powers.

From America we learn that Fort Sumter, after seven days' bombardment, was reduced to ruins on the 23d ult., but had not surrendered, and that the Federals had commenced shelling the city of Charleston with Greek fire. In the south-west General ROSENCRANZ commenced the bombardment of Chattanooga on the 21st ult., but without damage to the Confederate works, which are reported to be next to impregnable. It is stated in the Confederate papers that President DAVIS has decided on calling out 500,000 black troops, who are to receive their freedom and 50 acres of land at the end of the war. The draft has been concluded in New York, and is about to commence at Brooklyn.

Telegraphic despatches from Bombay of the 24th ult. state that a dispute has arisen between the Indian Government and the Great Indian Peninsular Railway Company, the Government condemning the management of the line, and the directors blaming the interference of the Government. Cholera is raging at Shanghae, and a civil war has commenced in Japan. From New Zealand we learn that the natives of Waitara have declared war, 5000 of them having taken the field; and that General CAMERON has withdrawn his troops for the defence of Auckland.

The *Morning Post* states that the two steam rams recently launched at Birkenhead will not be allowed to leave the Mersey until a Court of Law has determined whether their construction is contrary to the terms of the Foreign Enlistment Act, in which case they will be seized by Government as violating the provisions of that measure.

## Home News.

THE QUEEN'S RETURN TO ENGLAND.—Her Majesty the Queen left the Rosenau for Darmstadt on Monday night, at half-past 10 o'clock, with Prince Alfred, Princess Helena, Prince Leopold, and Princess Beatrice, and accompanied by Earl Granville as Minister in attendance on her Majesty. The Royal party travelled by a special train during the night, and on Tuesday morning at half-past 7 arrived at a station near Darmstadt, where the Prince and Princess Louis of Hesse were awaiting her Majesty's arrival. The Queen and Royal family immediately drove to Kranichstein, a seat of the Grand Duke of Hesse, now occupied by Prince and Princess Louis, where the Royal family spent the day. Princess C. of Hesse, with Princess Anna and Prince William, and Prince Alexander of Hesse and Princess Battenberg visited the Queen during her stay. The Queen drove through Darmstadt in the afternoon. At 10 o'clock in the evening the Queen and Royal family left Darmstadt by special train for Antwerp. On Wednesday morning at half past 7 the King of the Belgians, with the Duchess of Brabant, met the Queen at the station at Malines, and, having entered her Majesty's carriage, accompanied her Majesty to Antwerp, where the train arrived at 20 minutes past 8. The Queen breakfasted at the station, and having taken leave of the King, embarked on board the Royal yacht Victoria and Albert in the Scheldt. After a fine passage, the Royal yacht anchored in Margate Roads at 7 P.M., accompanied by the Vivid, Osborne, and Black Eagle, and the Trinity House yacht Irene. The town of Margate was illuminated at night. On Thursday morning, at 6 A.M., the Royal yacht weighed anchor and steamed up to Greenhithe, where the Fairy was in waiting to convey the Queen to Woolwich. The Fairy, escorted by the Osborne, Vivid and Irene, arrived alongside Woolwich Arsenal at half-past 11, when the Queen and Royal family disembarked. Her Majesty, on landing, was accompanied by Captain His Serene Highness Prince Leiningen, and was followed by Prince Alfred and the remainder of the Royal family. No orders had been issued for the exclusion of the public, as on the last occasion, and consequently the artificers and labourers throughout the establishment, with their wives and families, congregated in thousands along the line of thoroughfare, and greeted her Majesty with the most respectful loyalty. A large number of persons also lined the thoroughfares leading to the Arsenal gates from the town, the streets of which, as well as the lower Greenwich Road, were crowded with visitors, who repeatedly cheered and waved their hats and handkerchiefs. The bells of Woolwich and Greenwich rang a merry peal, but no salutes or military demonstration took place. Preceded by some of the mounted police, the Royal carriages passed through Charlton, Greenwich, Deptford, Camberwell, and Kennington, to the Queen's private station at Vauxhall, whence her Majesty and the Royal party proceeded to Windsor by a special train on the South-Western Railway. The train arrived at the Windsor station at 10 minutes after 1 o'clock. The Princess Louisa and Prince Arthur received her Majesty on her arrival at the Castle. The Queen is expected to leave Windsor for Balmoral on Monday evening.

THE QUEEN IN GERMANY.—*The King of Prussia* paid a visit to the Queen on Monday week at Rosenau. His Majesty arrived by special train from Baden, soon after 5 o'clock, at Coburg, where he was met by Prince Alfred and Prince Louis of Hesse, who accompanied his Majesty in the Queen's carriage to the Rosenau, where he was received by the Queen, Princess Louis of Hesse, Princess Helena, Prince Leopold, and Princess Beatrice. The King remained with her Majesty till half-past 7 o'clock, when his Majesty took leave of the Queen and drove to the railway station, accompanied by Prince Alfred and Prince Louis. Prince Alfred left on Tuesday week for Hummelsheim, on a visit to the Duke and Duchess of Saxe-Altenburg. The Duke of Coburg arrived at the Kallenberg, and, with the Duchess, visited the Queen on Wednesday afternoon. On Thursday morning Prince Alfred returned from Hummelsheim. In the afternoon the Emperor of Austria arrived at the Palace at Coburg, where the Queen, Prince and Princess Louis of Hesse, Prince Alfred, and Princess Helena had proceeded previously. The Emperor was met at the railway station by the Duke of Saxe Coburg, who drove with him to the Palace, and was received at the entrance of the Palace by the Duchess of Coburg, who conducted the Emperor upstairs, where His Majesty met the Queen. There were also present Prince and Princess Augustus of Saxe Coburg, with their son and daughters, Prince Edward of Leiningen, and Earl Granville. A *déjeûner* was prepared for the Queen and Emperor and the Royal party, and another for the ladies and gentlemen of the Royal Households. Prince Leopold and Princess Beatrice came to the Palace from the Rosenau before the Emperor left. On Saturday King Ferdinand of Portugal visited her Majesty. The Duke of Saxe-Coburg accompanied the King from the Kallenberg, where his Majesty arrived the day before, after an absence of 27 years. The Queen received privately several of the ladies and gentlemen of the household of the Duke and Duchess of Saxe-Coburg. On Sunday morning the Queen, Prince Alfred, Princess Helena, and Prince Leopold attended Divine service at the church at Oeslau. The Hofprediger Hansan performed the service. The Duke and Duchess of Saxe-Coburg visited the Queen. The perfect peace and repose enjoyed by her Majesty at Rosenau, and the respite from public business, have been most soothing to her Majesty's feelings. With the exception of the visits from the Emperor of Austria and the King of Prussia, her Majesty did not feel strong enough to accept those kindly offered by other Royal personages assembled at Frankfort.

THE PRINCE AND PRINCESS OF WALES.—On Monday

week the Prince went to the Glen of Girnock deer-stalking, and was very fortunate in securing three fine stags, carrying respectively 8, 10, and 12 points. In the evening, the three stags were exhibited to the Princess and suite by torchlight. On Tuesday week the Prince and party went to the moors for a few hours and in the afternoon went deer-stalking. The day was the Princess's birthday, but the occasion passed off very quietly. On Sunday their Royal Highnesses attended Divine service in the parish church of Crathie. The Rev. Dr. Fowler, of Ratho, preached the sermon. During the past week the Prince has killed five stags, while the Princess had her accustomed drives, fishing on the Dee, and sketching in the neighbourhood. On Friday the Royal party and suite drove by Ballater to Burn of Vat, commonly called Rob Roy's cave. A few of the domestic servants about Abergeldie being sent away previously with provisions, a fire was lighted, potatoes and other vegetables cooked, and the Royal party took their luncheon beside the cavern. The Princess afterwards sketched Loch Kinnord, Loch Davon, and adjoining scenery. Their Royal Highnesses returned through Ballater in the afternoon.

PRIVY COUNCIL.—The Queen will hold a Privy Council to-day at Windsor Castle.

THE ARMY.—The office of Colonel Commandant of the Royal Engineers, vacant by the death of General Oldfield, has been conferred on Lieut.-General Lewis Alexander Hall.

THE CHANNEL FLEET left the Clyde on Tuesday afternoon, and arrived in Belfast Lough on Thursday morning. It will remain at Belfast four days, and then sail for Liverpool.

THE CHURCH.—The Bishop of Hereford has conferred the Archdeaconry of Hereford, vacant by the death of the Ven. Dr. Lane Freer, on the Right Hon. and Rev. Lord Saye and Sele. The Bishop of Chichester has conferred the precentorship of his cathedral, vacant by the death of the Rev. Dr. Rowden, on the Rev. Mackenzie Walcott, M.A., of Exeter College, Oxford, son of Admiral Walcott, M.P.

BISHOP COLENSO AND HIS CLERGY.—The Archdeacon and clergy of the diocess of Natal have transmitted the following address to Bishop Colenso, who is still in England:—

"To the Right Rev. the Lord Bishop of Natal. We, the licensed clergy ministering in the diocess of Natal, desire to address your Lordship upon a matter of the utmost importance to the Church planted in this colony. We have heard with the deepest pain of a work published by you, in which you state in effect that you no longer hold, believe, or are able to teach some, at least, of the most vital of the doctrines of the United Church of England and Ireland. We consider that in our relative positions it would have ill-become us to have been the first to draw attention to acts of yours done before the whole world, and therefore we remained silent until those in authority in our Church had publicly marked their sense of your lordship's proceedings. But we understand that, a very large majority of the Archbishops and Bishops having written to you suggesting the propriety of your resigning your office, you have answered that it is not your intention to comply with that suggestion. Under these circumstances, we consider that a longer silence on our part would be most culpable. There are, we are aware, legal questions which it belongs to others to decide; but we feel that we have a duty independently of any merely legal proceedings. The various offices which we hold, the emoluments we receive, are held on the faith of our upholding and defending the doctrines of the Church of England, and on that understanding alone could we honestly and conscientiously continue to hold those offices or to receive those emoluments. Unfeignedly believing all the canonical scriptures of the Old and New Testaments, and bound to banish and drive away all erroneous and strange doctrine, contrary to God's Word, we feel compelled, in the sight of God and his Church, and more especially before the people committed to our care and charge, to protest most solemnly against the position taken by you in the publication of this book and your determination to retain the office of Bishop, and we think it right to lay this our protest before the ecclesiastical authority to whom, next to your Lordship, we must look—the Metropolitan of Cape Town.—We are your Lordship's faithful servants, C. L. Grubbe, M.A., Archdeacon of Maritzburg; W. H. Cyuric Lloyd, Colonial Chaplain and Rector of Durban; James Walter, of Pinetown; A. Tonneson, of Umgababa; W. Baugh, of Umbazi; W. A. Elder, of Verulam; Joseph Barker, of Umzinto; A. W. L. Revett, of Addington," and other diocesan clergymen.

## Foreign.

FRANCE.—The Emperor presided at a Council of Ministers on Monday, and at another on Wednesday. His Majesty left Paris on Thursday for Biarritz, for which place the Empress took her departure on Monday week. The Emperor and Empress will return to Paris towards the end of September, and will leave Paris for Compiègne in the beginning of October. Prince Napoleon left Paris on Thursday for Turin. The camp of Chalons was raised last week. An Imperial decree, published on Sunday, appoints the Mexican General, Marquez, Commander of the Legion of Honour. The Prince de la Tour d'Auvergne, French Ambassador at Rome; the Duke de Gramont, Ambassador at Vienna; and M. Barrot, Ambassador at Madrid, were received by the Emperor on Sunday at St. Cloud. M. Drouyn de Lhuys had interviews on Monday with Baron Budberg and Prince Metternich, the Russian and Austrian Ambassadors. The Minister of Marine left Paris for Cherbourg on Thursday. The Duke de Montebello, French Ambassador at St. Petersburg, has received permission, at his own request, to pass two months in France, where care for the health of the Duchess requires his residence. The leave of absence of the Duke will coincide with the stay of the Emperor Alexander in the Crimea and at Moscow. The representatives of France in foreign countries who are now on leave have received orders to return to their posts. The *Pays* in an article signed by the secretary of the paper, while criticising the exaggeration of other papers relative to the Frankfort Congress and the constitutional scheme attributed to Russia, says:—

"The incidents of the Frankfort Congress have neither interrupted nor changed the agreement of France, Austria, and England upon the Polish question. They have, however, caused an exchange of views which has brought to light a point of contact and an agreement of opinion between France, Prussia, and Russia creating greater facility for a friendly and satisfactory solution of the Polish question, without arousing any fresh embarrassment in the general situation. The guarantees for the maintenance of peace are rather strengthened than weakened."

The replies of the Russian Government to the Notes of the three Powers are expected to arrive this week. The *Patrie* and *La France* think that the English papers will immediately publish the reply to Earl Russell's Note. The *Siècle* publishes an article in reference to the recent declaration of the *Journal de St. Pétersbourg*, stating that it is impossible that France, England, and Austria should tolerate the present position of affairs. The *France*, referring to the same declaration, says:—

"If the party of resistance in St. Petersburg has definitively carried the day, it is to be lamented that Russia has not known how to seize the happy opportunity offered to escape the dangerous position created by her policy with regard to Poland."

It is stated that negotiations are pending with great capitalists in France and England for a Mexican loan, a portion of which is to be applied to reimburse France the expenses of the Mexican expedition and to pay the debts due to different foreign Powers. The surrender of the five brigands taken from the Aunis steamer has been granted. It is believed that the Italian Government will comply with the wish of France that no execution should take place. The *Patrie* declares that the Federal Diet has decided that Saxony and Hanover shall furnish 4000 men to occupy the German Duchies. A despatch from Brest announces that the Confederate frigate Florida has been seized in that port at the demand of M. Menier, who demands 100.000f. damages and interest on account of the capture of one of his ships by this Confederate vessel. Mr. Slidell, the Confederate Commissioner, has gone to Brest on the subject. The *Moniteur* of Friday contained the following article on the refitting of the Florida in Brest harbour:—

"The privateer Florida, sailing under the Confederate flag, has entered Brest, to repair damages. Her reception was in accordance with the ordinary principles of international law. At the opening of the war, the Emperor's Government, in accord with other Powers, recognised the Confederates in the character of belligerents, and declared its intention of observing a strict neutrality between the two parties. In like cases it is the right as well as the duty of neutrals to permit the vessels of belligerents to procure themselves means, not for fighting purposes, but for navigation. It has, therefore, been decided that the Florida could be permitted to procure all that was indispensable to maintain her in a good navigable state, without being able to make purchases tending to recruit her armament of war."

M. Drouyn de Lhuys granted an audience on Saturday to Nubar Pasha, who is the bearer of two firmans of the Sultan; the first withdrawing the concession of the lands bordering on the freshwater canal, which were granted to the Suez Company; the second abolishing forced labour on the public works in Egypt. It is asserted that Nubar Pasha will not prolong his stay in Paris. The French Government has expressed its desire that the existing Convention in reference to the Suez Canal should be completely carried out. Instructions to this effect have been forwarded to the French representative at Constantinople. Count de Persigny has recently pronounced at the Cercle des Arts et du Commerce at St. Etienne an address, giving an account of the progress of the Empire and of the development of its institutions. The following is a summary:—

After dwelling on the necessity of all parties forgetting their differences in order to consolidate the present Government under which the country has, arrived at so high a point of prosperity, he pointed out that the Emperor when he arrived at power was quite alone, not having round him even the old servants of his family, so that he was under the fortunate necessity of constituting his Government by employing men of all classes. He considers it a great error on the part of the Liberal party in France to endeavour to copy in a servile manner the institutions of England. He says:—"It is certainly a singular aberration of a political school. Forgetting that the indirect nomination of Ministers in England by the Parliament is only a result of the civil and political state of that country, men wished to make it a condition of liberty in France. There, where in consequence of a long existing state of universal decentralization the Crown interferes in nothing, and the aristocracy has a hand in everything, it is natural that the latter should choose its instruments. Here, on the contrary, in a democratic country, where the Sovereign, who is the delegate of the people, has the mission to do what is effected by the aristocracy in England, how is it to be imagined that his agents should be in other hands than his own? That under another *régime* any speaker whose sympathetic and impassioned voice had excited the applause of his auditory should imagine that it belonged to him to govern France; that he should think himself fitted, not only to charm, captivate, and overrule an assembly, but also to direct a whole vast political hierarchy, and even to handle our land and sea forces, there was nothing in that which exceeded the limits of human vanity. But how could pretensions of that kind interest liberty? What! if the most eloquent speaker of the Chamber is not at the same time Minister, there is no liberty in France? In truth, one is confounded when it is remembered with what seriousness such doctrines were affirmed. But liberty, which is of all times and of all countries, is susceptible of all forms, and those forms vary with the social state, manners, history, and a thousand circumstances of climate, race, and locality. In antiquity, the liberty of Athens did not more resemble that of Sparta than did the liberty of Rome that of Carthage; or, in the middle age, the liberty of Venice resemble that of Florence. Why, then, should liberty in France be copied after the model of England? In the place of a great aristocracy covering the soil with vast domains rendered immovable by the law of entail, and disposing of enormous means of influence, we have an administrative hierarchy which alone constitutes all the political organism of our democracy, and outside of which there are only grains of sand, without cohesion and without adherence. And it is that same hierarchy—that instrument of authority, order, and public peace—this essential organ of the every-day life of the country, that certain minds would wish to see again abandoned to the mercy of the agitations of the tribune, to be tossed about between the triumphant speaker of one day, and the victorious orator of the morrow. Thus, by restoring in our institutions the fundamental principle of authority as well as of liberty, the Emperor has re-established order in the State, as in creating a Government party removed from all antagonism of classes, he has re-established order in society." In conclusion he urged that to assure the destinies of the empire nothing more was required, and he trusted that posterity would appreciate the patriotism of those who had sacrificed their party to the country. "We have," he said, "a high and noble mission to perform, for the country expects from us the greatest service which the present generation can render to it—that of completing the foundation of its Government. We have faith in that mission. Yes, all, such as we are, from the dignitaries of State to the inhabitants of the most humble villages, we shall be honoured in our posterity for the work which we shall have accomplished. A day will come in which, under the reign of a Prince named Napoleon IV. or Napoleon V., our grandsons will say with pride of each of us—He belonged to that faithful and devoted party which, in founding the empire, put an end to our revolutions, and assured the greatness, prosperity, and liberty of France.""

SPAIN.—Senor Madoz and General Prim have declared that the Progressista party is in favour of Monarchical institutions and Constitutional liberty, and that it will never follow a policy of violence, but one of legal resistance. Another meeting of 50 members of the Democratic party has taken place, at which the policy of abstaining from voting was agreed to. It is asserted that the Ministry will pay no attention to this refusal to take part in the elections, and it is believed the Queen will not alter her views before becoming acquainted with those of the Deputies.

DENMARK.—The King of Greece was to leave Copenhagen yesterday for the Palace of Glucksburg in Schleswig, to take leave of his Danish Majesty, and intended to continue his journey to-day through Rumpenheim and Brussels to London. It is presumed that, previous to his departure, King George I. will sign the renunciation of his right of succession to the Danish throne in favour of his younger brother.

BELGIUM.—M. Charles Rogier, Minister of Foreign Affairs, has been elected for Tournai by a majority of 194 votes over his opponent, who was brought forward by the Ultra Catholic party. The number of electors on the register is 3330, and of these 3030 went to the poll. This election had been looked upon as involving the continuance in office of a liberal ministry or the ascendancy once more of the ultramontane party, and much enthusiasm has consequently been excited among the Belgian liberals by the result.

PRUSSIA.—An Aide-de-Camp of the Emperor of Austria arrived at Berlin on the 4th inst., with the protocol of the deliberations of the Congress, signed by the Princes, and an invitation to the King of Prussia to favour it with his approval. In this protocol the Princes expressed their deep regret at having been deprived of the King's personal co-operation in the great work they had undertaken, and stated that they nevertheless cherished the hope that a general understanding would be ultimately arrived at. The letter concluded thus:—

"Being all inspired by the wish for German unity, and ready to make sacrifices, we have come to a perfect agreement upon the project of reform. We shall consider it a great success for ourselves and for our people if resolutions are maturing in the mind of your Majesty by which, thanks to the unanimity of her Princes, Germany will realise her desire for a wholesome reform of her Constitution, based upon the laws of the Confederation."

The King of Prussia, in reply, stated that he had nothing to add to what he said to the Emperor on the subject of the Frankfort Congress. The following Royal decree was published at Berlin on Friday:—

"By virtue of Art. 51 of the Constitution, and on the proposition of the Ministry of State, we decree as follows:—Art. 1. The Chamber of Deputies is hereby dissolved. Art. 2. The Ministry is intrusted with the execution of the present decree.

"WILLIAM I."

The Ministerial report to the King, which precedes the decree, says:—

"There is no prospect that further negotiations with the present Chamber of Deputies would lead to any understanding. His Majesty the King, before his departure, was pleased to express his concurrence with these views of the Ministry, but a definitive resolution was reserved until His Majesty's return. The state of things in Prussia since that time has not offered any ground for a change in the propositions of the Ministry which His Majesty had approved. On the other hand, tendencies have manifested themselves within the limits of the German federal Constitution the evident aim of which is to reduce Prussia from that position as a great Power in Germany and Europe which is her well earned inheritance from our forefathers, and which the Prussian people has at all times been determined not to relinquish. Under these circumstances it will be incumbent on the Prussian people to give expression upon the occasion of the approaching new elections to the fact that no difference of political opinion is so deeply rooted in Prussia as to endanger the unity of the people, and the immovable fidelity with which they are attached to the Royal House when placed in face of efforts tending to diminish the independence and dignity of Prussia. The events of the last few days have only served to confirm us in our proposals, and as the new elections will require a period of two months, the measures approved by your Majesty in the sitting of the Council of Ministers held on the 16th of July must be executed without delay, in order to render it possible for the new Diet to be convoked to discuss the Budget within the current year."

The International Statistical Congress was opened at Berlin on Friday by the Minister of the Interior, who delivered a short address. The proceedings took place in the Chamber of Peers, which was decorated for the occasion. On the motion of the Marquis Aquila the Provisional Presidents and Vice-Presidents were confirmed

in their functions. The Minister of the Interior was elected Honorary President, and M. Engel Acting President of the Congress. All the 89 non-German delegates were elected Vice-Presidents. MM. Böckh and Schwab were elected German Secretaries, MM. Raymond and Boucher French, and Mr. Hamilton the English Secretary. 283 members were present. The order of the day having been fixed, the Minister of the Interior called upon the Congress to divide into sections, and announced that the King would receive the members on the following day. At this reception on Saturday the King observed that he took a lively interest in the proceedings of the Congress, whose labours were of an important character, and hoped that their results would be beneficial to Prussia. On Wednesday the Congress elected the members of the International Committee charged with the preparation of the plan of organization. The Committee consisted of the following gentlemen:—For London, Dr. Farr; Berlin, Herr Engel; Konigsberg, Herr Doubert; Vienna, Herr Ficker; Paris, M. Legayt; Stockholm, M. Berg; St. Petersburg, M. Isemenow; and for Brussels, M. Visschers. Mitscherlich, one of the oldest and most distinguished chemists of the age, died a few days since at Berlin, where he was professor of chemistry. The Royal Society of London presented him with its great medal for his discovery of isomorphism.

Austria.—The Emperor of Austria arrived at Vienna on Friday. The streets were decorated with the Austrian and German flags, and hung with garlands. Immense crowds saluted the Emperor with hearty cheers. The *Mémorial Diplomatique* again announces the acceptance of the Mexican throne by the Archduke Maximilian, and adds:—"Since the opening of the negotiations the Archduke has only stipulated two conditions, viz.:—A spontaneous and unanimous appeal from the Mexican people, and the moral and material co-operation of the Western Powers in the establishment of a respected and stable Government."

Russia.—The Czar has nominated the Hereditary Grand Duke Hetman of all the Cossacks of the Empire. The Grand Duke and Grand Duchess Constantine arrived at Berlin on Tuesday. Their Imperial Highnesses paid visits to the Duke of Altenburg, the King of Hanover, the Grand Duke and Duchess of Baden, after which they left for Vienna, where they arrived yesterday and were received by the Emperor at the railway station. On leaving Vienna their Imperial Highnesses will proceed to the Crimea. A rumour is current at St. Petersburg that the Duke of Leuchtenberg will replace the Grand Duke in Poland. The *Journal de St. Petersbourg* of Wednesday denies the rumours published by the foreign press concerning new arrangements by Russia relative to Polish and German affairs. Speaking of the alleged radical reforms and new alliances, it says:—

"The conclusions drawn from these pretended news are as false as their premises. In Poland the Emperor, whose sentiments on the Polish question have not changed, considers his first duty to be the re-establishment of solid and material order, founded on the ground subverted by anarchical passions. From a diplomatic point of view, the Government remains determined to fulfil its international obligations, and at the same time to maintain the rights of Russia within the limits of treaties. As regards German affairs Russia sympathises with the union of the strength of Germany, based on the interests of all the States of which that country is composed. Russia has no more reason to provide against the dangers which might result to her from Germany, than Germany has to put herself on her guard against coming dangers from Russia. The rumours which are current have, therefore, no foundation, and evidence extreme indiscretion, if not malicious premeditation."

The number of peasants who have risen at Lisianka, in the Ukraine, is said to amount to 20,000. Their war cry is "Down with Muscovy!" "Down with the rule of the Lachs! but long live Poland." They have already had two engagements with the Russians. In the first they were defeated, but in the second they were victorious. An Imperial decree, dated the 12th of August, orders that, from the 13th inst., the peasants of the Ukraine shall become proprietors of their land, and shall pay a certain amount as purchase-money to the State.

Poland.—The last words of the Grand Duke Constantine upon quitting Warsaw were:—"The Czar wishes well to Poland, and regrets the measures adopted by General Mouravieff, but recognises their necessity." The Grand Duke expressed a hope that he should find the country tranquillised upon his return. An Imperial Ukase has been published, conferring fresh dignities upon General Mouravieff, in recompense for his services. Massalski, Zelmiez, and Yocz have been shot, by order of General Mouravieff. Messrs. Gicjsztora and Czechowicz, and Dr. Lubiczankowski, with his wife and daughters, have been banished to Siberia. The wearing of caps has been forbidden by General Mouravieff, on penalty of a fine of 10 roubles for the first offence, 25 for the second, and banishment to Siberia for the third. The wearing of grey colours has also been forbidden on the ground that they are mourning. A private letter from Warsaw, dated the 9th inst., states that on the following day all communication with the city would be cut off, and the strictest state of siege established for 10 days. An encounter resulting in favour of the insurgents took place at Rokiciny, on the Warsaw and Cracow line of railway, on the 4th inst. Fifty Russians fell. Lelewel, after his victory on the 3d, pushed forward in the direction of Turobin. He afterwards suffered a decisive defeat, and was left dead upon the field, pierced by two bullets. Grekowicz has undertaken the command of his corps.

Italy.—The trial of the Princess Sciarra Barberini and the Cavaliere Quattromani for treasonable conspiracy, terminated on Friday. The Princess was acquitted. Quattromani was sentenced to 10 years' imprisonment, and a fine of 500 francs. The Duchess Casalnuovo was daily in Court with the Princess. It is announced from Turin that France has agreed to surrender the brigands taken from the Aunis to the Italian Government. The Papal Consul who was compromised at Genoa for intriguing in the interests of the ex-King of Naples, has received his passports for his return to Rome. At Rionero on Monday the brigand chiefs Crocco, Ninco Nanco, Carusa, and Fortora presented themselves to the commandant of the Italian troops, requesting a safe conduct for 250 other brigands who had promised to give in their submission to the Government. The chiefs left Rionero for Lagopesole with cries of "Viva Victor Emanuel!" and displaying the national flag. The *Stampa* publishes a letter from the Roman Penitentiary Court to the Italian Bishops, demanding a formal recantation from the priests who profess principles contrary to those of the Roman Curia, under pain of heavy ecclesiastical punishment.

Greece.—General Kalergis, formerly Greek Minister at Paris, has been appointed to accompany the young King of Greece on his journey to Athens. Four Greek Ministers of the Moderate party have sent in their resignation. The English Ambassador has required of the Government the punishment of the guilty parties in a recent riot at the Piræus, when several English sailors were attacked and wounded by Greek soldiers.

Turkey.—The Sultan has peremptorily refused to pay the debts of the ex-Sultanas and daughters of the late Sultan. His sister, the wife of Mehemet Ali, petitioned for a sum of 70,000*l*. to pay her debts, and the same answer has been returned as to the others—that they must sell their jewels and property, as not a piastre will be given from the public coffers in addition to the liberal allowance which they receive. The old Seraglio of Constantinople, the scene of so many historical events, has been entirely destroyed by fire. A conflagration has also taken place at Monastir, destroying the Bazaar and 3000 houses.

The Principalities.—The Porte and the Powers have decided upon compelling Prince Couza to submit the affair of the Greek monasteries to arbitration. Holland has demanded of Prince Couza a modification in the Roumain flag, on account of its resemblance to her own.

The Danube.—The Danube Commission has decided upon the St. George's Mouth as the definitive ship channel. The Porte has approved the negotiation of a special loan for the necessary works.

Egypt.—The Annamite Ambassadors have left Alexandria for Toulon. The rise of the Nile has been so rapid this season as to create uneasiness, and measures have been taken to avert disaster. The cattle disease is diminishing. The *Pays* also publishes a despatch asserting that Ismail Pasha does not continue the policy of his predecessor towards foreigners, whose position in Egypt is becoming more difficult. It is also said that the Pasha is unfavourable to the Suez Canal scheme.

Madagascar.—The Emperor of the French has received a letter from the Queen of Madagascar, notifying her accession to the throne. Letters received in Paris speak of anarchy existing in the country, and of apprehension of coming troubles.

India.—The Governor-General has recovered his health. His Excellency and Lady Elgin are staying at Chinee, in Thibet. The Government have condemned the mismanagement of the Great Indian Peninsular Railway. The directors of the company blame the interference of the Government. The unsettled state of Affghanistan, in which three political parties are striving for the mastery, gives rise to apprehension, and the Persians are not unlikely to make an attempt to recapture Herat. There is also some apprehension of a conflict with Burmah, on account of the oppressive commercial monopolies and exactions of the King. It is now a matter of doubt generally whether the man captured at Ajmere is the Nana Sahib of Bhitoor. A squadron of the Inniskillen Dragoons from Mhow, and two companies of the 28th Europeans from Nusseerabad, are to escort the prisoner to Agra; Captain Camell, of the Ajmere Police, going in political charge.

China.—Political affairs in China are generally quiet. Cholera was raging at Shanghai on the 22d July. A treaty of commerce has been concluded between China and Denmark.

Japan.—A civil war has commenced in Japan. The relations with foreigners are stated to be pacific. There is reported to be a growing affinity between the Tycoon's Government and foreigners. The Tycoon has chartered British steamers to convey troops.

Australia.—A despatch from Melbourne of July 25 says that the new Tariff Bill has passed the Assembly.

New Zealand.—The natives of Waitara have declared war, and 5000 of them have taken the field. General Cameron has withdrawn his troops for the defence of Auckland.

United States.—General Gilmore officially announces to General Halleck, under date of the 24th, the practical demolition of Fort Sumter as the result of seven days' bombardment at a distance of from 3330 to 4000 yards. He also states that he has established two batteries within effective range of the heart of Charleston, and had opened fire upon the city, and that General Beauregard had designated the projectiles thrown the most destructive missile ever used. From other sources we learn that the bombardment of Fort Sumter commenced on the 17th ult, and was kept up continuously till the 23d. The Fort was then a ruin; the north-west wall, with its arches, had fallen in, the guns were dismounted, the east wall cracked and breached, and the Federal shot swept through the ruins; but it had not surrendered, and Colonel Rhett, commanding the Fort, had been ordered to hold his outposts even as a forlorn hope until he was released or the fort captured. General Gilmore had demanded the surrender of Morris Island and Fort Sumter, threatening to shell Charleston in four hours if they were not surrendered. General Beauregard replied, charging General Gilmore with inhumanity and violation of the laws of war, and affirming that if the offence were repeated he would employ stringent measures of retaliation. During the night of the 21st ult. General Gilmore threw five shells charged with Greek fire into Charleston. General Beauregard, under a flag of truce, protested against the use of such missiles as barbarous, and also demanded time for the removal of women and children. The British, French, and Spanish Consuls likewise demanded time for the removal of their subjects. Gen. Gilmore replied by again demanding the unconditional surrender of the forts and public property. Gen. Beauregard then demanded a truce of 40 hours, which was refused by General Gilmore, who recommenced shelling the city with Greek fire on the night of the 22d, and continued doing so on the 24th. During this bombardment of the city a shot from Fort Wagner broke a piece of the interior lining of the iron-clad Catskill, and struck the heads of Commander Rogers and Paymaster Woodbury, killing them instantly. The ruins of Fort Sumter were commanded by the guns of Fort Moultrie, which prevented the Federals from taking possession of them, and consequently a small force of not more than 20 men was posted in what remained of the work for the purpose of keeping the Confederate flag flying, which was shot away every few hours. Confederate accounts state that during seven days' bombardment of Sumter by the battery of Parrott guns, which were distant 2½ miles, 4500 shots were fired, out of which 2623 took effect. The *Richmond Examiner* of the 24th says that the loss of Sumter is but of slight moment, as the harbour is effectually defended by new fortifications. Charleston harbour and Stono river are full of torpedoes. Two blockade runners entered the harbour on the 23d. Twenty-three Federal vessels, including the Ironsides and Monitors, are inside the bar of Charleston, and there are 13 more outside. A Federal gunboat arrived at Fortress Monroe, from off Wilmington, reports that the steamer Florida had arrived at the latter place with intelligence that the Federals occupied Forts Sumter and Wagner on the 24th. The news however is discredited by the government. General Lee's movements indicate a speedy attack on Washington, though it is rumoured that he is preparing to invade Maryland, the Secessionists of which State will aid him with all the men, money, and provisions they can provide. It is said that General Lee has been for some time past secretly organising a reserve of 40,000 men, who are to be stationed at Winchester or some other point in the Shenandoah Valley. It is reported that General Meade, fearing a flank movement by the Confederates on his left, has fallen back to a position near Washington. General Lee himself, with 60,000 men, is at Culpepper Courthouse. General Longstreet holds Fredericksburg, and General Stuart is guarding the fords of the Rappahannock. Twelve thousand deserters from the Federal army have been arrested within the three past months. The advance guard of General Rosencrans' army appeared before Chattanooga on the 21st ult., and opened fire upon the city, where General Joseph Johnstone commanded, having superseded General Bragg, who had gone to Atlanta. The Confederates opened fire from 19 guns, which did little damage, and were disabled by the Federal fire. The Federals disabled two steamers moored at the wharf, but were unsuccessful in their attempt to destroy the pontoon bridge opposite the city. The Confederate works upon the river are very strong, the parapets being 15 feet wide. There are several water batteries on a level with the river. Two Confederate divisions are at Chattanooga, and there is a large Confederate force in the neighbourhood. General Wilder crossed the Tennessee river on the 22d ult., and destroyed a small railway bridge which, it is said, severs the communication between the right and the left of the Confederate army. Immense numbers of deserters are reported to be in the mountains, awaiting the Federal advance. At Vicksburg, as the steamer City of Madison was loading with ammunition, a negro let fall a percussion shell which he was carrying on board, and which exploded. The fire was immediately communicated to the other ammunition, when a general explosion took place, blowing the steamer to atoms. Out of 160 men who were on board, only five are known to have escaped. General Pemberton, who surrendered Vicksburg to the Federals, is reported to have died at

Selma, Alabama. Quantrell's guerillas have entirely destroyed Lawrence, Kansas. The attack was made at midnight. Fifty prominent citizens, including the Mayor, were killed, it is said, in their houses, surrounded by their families. More than 100 citizens were wounded, and 25 negro recruits shot. Senator Lane escaped. Lawrence is principally inhabited by New England emigrants, between whom and their Missouri neighbours there were strong antagonistic feelings. It is supposed that the Lawrence massacre will lead to sanguinary border warfare. The negotiations for an exchange of prisoners are progressing. The refusal of the Confederates to regard negroes as prisoners of war causes some difficulty. It is reported that the Confederates will now regard Colonel Streight as a prisoner of war. The Federals will place Morgan on the same footing. The Confederates have handed General Neale Dow over to the civil authorities. The Federals, in consequence, will place a Confederate brigadier-general in close confinement. The North Carolina troops have passed resolutions denouncing the peace party in that State. The conscription of all men between 16 and 60 was rigidly enforced in Richmond. President Davis has had a consultation with the Governors of the different Confederate States with reference to the arming of the slaves. He has since issued a proclamation calling out 500,000 negroes for the defence of the Confederacy. The slaves, in consideration of this service, are to receive their freedom and 50 acres of land each at the conclusion of the war. The draught was completed in New York city on the 28th, the full quota of conscripts having been drawn. The Board of Supervisors, at their meeting on the 28th, passed an ordinance, which was signed by the Mayor, providing for the appropriation of 2,000,000 dols. for the exemption of firemen, policemen, the militia, and the heads of families which may be dependent on them for support. The draught was to have commenced in Brooklyn on the 31st, and in preparation thereof a large number of United States' troops were sent there on the 28th. The military force in New York is estimated to number 30,000 men, infantry and cavalry. The artillery occupy Madison, Tompkins, and other public squares. An excited meeting of draughted Germans has been held in New York, at which the conscription was denounced as a cruel and inhuman measure, and organisations were urged against its consequences. A committee has been appointed to confer with Governor Seymour and test the legality of the Act. The desertions of substitutes for draughted men having become so frequent in the Federal army, it is officially announced that in all such cases the extreme penalty of martial law will be administered. The *New York Herald* states that the troops now in New York will be sent to Vera Cruz. The *New York Times* urges the Government to prepare for a war with France. Such a war, it says, is not certain, but it would be dangerous and foolish to act as if it were impossible. It says it has little doubt that Napoleon has made a secret treaty with President Davis for the cession of Texas, as the equivalent for recognition and substantial aid. The Florida has captured and bonded the ship Francis B. Cutting. The Confederate steamer Everslade has been sunk near Tybee Island. A privateer crew in uniform were on board. Several of them were captured. Twelve steamers entered Wilmington in five days. One of them was of 1,500 tons, and pierced for six guns. The blockading squadron has destroyed the British steamer Hebe off New Inlet. Vessels arriving at New York report a violent hurricane along the American coast line from the 18th to the 22d ult. The Federal brig Bainbridge has foundered; one man only was saved.

CANADA.—Lord Lyons and suite arrived at Hamilton, Canada West, on the 25th, and intended to proceed thence to Montreal and Quebec. The *Toronto Leader* of the 26th ult. announces that a treasonable plot has been discovered to betray Canada into the hands of President Lincoln's Administration. The British Consul at New York is stated to have communicated the fact to his Government. It is stated however from authentic sources that the British official circles in New York have no knowledge of the report. The Canadian Parliament has passed the address by a small majority, after several amendments, charging the present Ministry with illegal and unconstitutional conduct.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 93⅜ to ½ for Money, and 93⅜ to ⅝ for Account; Three per Cents. Reduced, 92⅛ to 92; New Three per Cents., 92 to ⅛; Bank Stock, shut; India Five per Cent. Stock, 108⅝ to ⅞; Five per Cent. Enfaced Rupee Paper, 107¾ to ½; Exchequer Bills, 3s. pm., par.—FOREIGN: Equador Land Warrants, 7¾; Egyptian (first issue), 102¼, ex div.; Greek, for Acct., 37½ to 8; Ditto Coupons, for Acct., 18½ to ⅝; Italian, for Acct., 73 to 72¾; Mexican, for Acct., 42⅝ to ¾; Moorish, 95½; Peruvian, 1862, for Acct., 88¼; Portuguese, 1853, for Acct., 49⅝; Ditto, 1856, '57, '59, '60 and 1862, for Acct., 49¼ to ⅛; Russian, 1822, 93¾, ex div.; Ditto, 1862, 93⅜ to ⅝; Sardinian, for Acct., 89½; Spanish, for Acct., 54½ to 5; Ditto Passive, for Acct., 35¾; Committee's Certificates, 18½ to ⅛; Turkish, 1854, for Acct., 95½ to 5; Ditto 1858, for Acct., 70⅝ to ½, ex div.; Ditto 100*l.* Bonds, 73½; Ditto 1862, for Acct., 71½ to ⅝.

## Gazette of the Week.

FRIDAY: *Sept.* 4.—BANKRUPTS.—H. BRIGDEN, Tunbridge Wells Builder—R. H BALLS, Coventry, Provision Dealer—M. BLAKE, Addington Place, Walworth, Boarding House Keeper—W. BLEASDALE, Great Harwood, Lancashire, late Cattle Dealer—T. BARKER, Brierley, Staffordshire, Beer Retailer—R. BROCK, Bournemouth, Hampshire, Grocer—M. BARKER, Batley, Yorkshire, Grocer—C. BROOK, Brighton, Bookseller—E. BROWN, Middlesborough, Yorkshire, Painter—J. COWPER, Oldham, Lancashire, Timber Merchant—R. CLARKE, Barton-upon-Humber, Lincolnshire, Coal Merchant—J. CLAYTON, Haughton, Cheshire, Builder—H. CRUTCHLEY, Kingswinford, Staffordshire, Haulier and Timber Dealer—W. DALE, Stanway, Essex, late Farmer—J. DERRICK, Nottingham, Shopkeeper—L. DEDLOW, Penrith, Cumberland, Watchmaker—G. DEWEY, Northam, Southampton, Licensed Victualler—H. DARGUE, Wetheral, Cumberland, Schoolmaster—T. DAVIS, Kintbury, Berks, Licensed Victualler—W. H. DARRACOTT, Appledore, Devonshire, late Shipowner—W. DIXON, Southampton, Chemist—G. EDGERTON, Graces Alley, Wellclose Square, Whitechapel, Boarding House Keeper for Seamen—J. FARMER, Lye Waste, Worcestershire, Miner—J. FORD, late of Tranmere, Cheshire, China and Earthenware Dealer—S. H. FITCH & F. J. CARR, Nottingham, Lace Manufacturers—J. GRAY, Breinton, Herefordshire, Builder—E. GROOM, Westmoreland Place, Pimlico, Cab Driver—G. M. GLASS, Brandon Street, Walworth, Gelatine Manufacturer—C. J. DE GERARDI, Augusta Square, Regent's Park, Commission Agent—T. HOLLAND, Liverpool, Licensed Victualler—T. J. D. HOLLAND, Outram Terrace, Hill Street, Peckham—T. HARRIS, Worcester, Rope and Sail Maker—P. HOWLEY, Liverpool, Greengrocer—D. HOLMES, Oxford Terrace, Commercial Road East, Tailor's Cutter—W. HUMPHREY, Hartlepool, Durham, Ship Compass Manufacturer—JACOB ALLEN HOWELL (using the name of JACOB HOWELL), Upper Whitecross St., St Luke's, Butcher—H. D. HOWL, Wednesbury, Staffordshire, Boot and Shoemaker—A. JONES, Queen Camel, Somersetshire, Stone Merchant—T. JACOBS, Gloucester Street, Camden Town, Pianoforte Maker—J. KIPP, Penrith, Cumberland, Labourer—J. G. KENNETT, Freshwater Gate, Isle of Wight, Carpenter—W. LONGSDALE, Old Lenton, Nottinghamshire, Cattle Dealer—E. LEESE, Stoke-upon-Trent, Boot and Shoemaker—J. LAIT, Chelsea Villas, Fulham Road, Brompton, Statuary and Stonemason—P. M'DOWALL, Smith Street, Stepney, Tailor—W. F. MEYER, Praed Street, Paddington, Cheesemonger—F. L. MITCHELL, Clifton, Bristol, Commercial Traveller—T. MARTIN, Caroline Terrace, Brook Green, Hammersmith, Clerk to an Attorney—M. OXLEY, jun., Wells, Somersetshire, Fishmonger—J. OUTLAW, Oatlands Park, Surrey, Builder—R. PARKER, Stoke-upon-Trent, Plumber—E. ROBERTS, Stoke upon-Trent, Saddler—T. ROBINSON, Kingston-upon Hull, Boot and Shoemaker—SAMUEL ROBINSON, Essex Place, Mile End Road, Carver and Gilder—W. SMITH, Great Cambridge Street, Hackney Road, Boot Manufacturer—PETER H. SHARP, Coventry—JOHN SHADBOLT, Sutton, Isle of Ely, Cambridgeshire, Baker—M. SEWELL, Mornington Street, Mornington Crescent, Draper's Assistant—W. SPRITT, Newport, Monmouthshire, Innkeeper—W. STROUTHER, Lenton, Nottinghamshire, Lacemaker—J. SANDERS, High Street, Lower Norwood, Shoemaker—T. STANFORD, Cotton Street, Poplar, Hawker of Fish—T. TEASDALE, Carstyn, Flintshire, Commission Agent—J. TONG, Ashford Road, Harrietsham, Kent, Builder—E. VACHER, Albert Terrace Bayswater, Commission Agent—D. WILLIAMS, Abersychan, Monmouthshire, Overlooker of Navigators—J. M. WALTON, Bolton, Lancashire, Brewer—W. WILLIAMSON, Peterborough, Northamptonshire, Fishmonger—J. WILSON, East Bridgford, Nottinghamshire, Licensed Victualler—B. WHITE, George Yard, Grosvenor Square, Retailer of Beer—C. WHITE, Upper Cornwall Street, St. George's-in-the-East, Private Boarding House Keeper—W. U. WILLCOCK, Graham Road, Dalston, Builder—J. WEBSTER, Bedfordshire—J. WOODWARD Derby, Manager of a Silk Mill.

SCOTCH SEQUESTRATIONS—W. BUCHANAN, Glasgow, Measurer—S. SUTHERLAND, Aberdour, Aberdeen, Farmer—W. TODD, Tranent, Haddington Farmer.

TUESDAY: *Sept.* 8.—BANKRUPTS.—R. ABRAHAM, Glyn Neath, Glamorganshire, Colliery Agent and Proprietor—W. BISHOP, Birmingham, Upholsterer—J. BRYAN, St. James's Place, Aldgate, Hardwareman—I. S. BLOMFIELD, Lowestoft, Suffolk, Dealer and Repairer of Clocks—J. BRADLEY, Hulme, Lancashire, Tailor—J. BERRY, Heywood, Lancashire, Fishmonger—J. CHARLES, Malvern Link, Worcestershire, Plumber—G. S. DOUBLE, Bury St. Edmund's, Suffolk, Beerseller—B. B. DAKEYNE, Gradbach, Staffordshire, Silk Spinner—J. DIXON, Toxteth Park, Lancashire, Window Blind Manufacturer—J. EVANS, sen., Preston Brockhurst, Shropshire, Blacksmith—J. ELLIS, Nottingham, Journeyman Lace Dresser—A. F. EDEN, Winchelsea, Sussex, Optician—W. H. FRISBY, Nottingham, Accountant—J. FISHER, Newcastle upon-Tyne, Tailor—A. GALZINI, Upper North Street, Brighton, late General Merchant—J. GILDERTHORPE, Nottingham, Printer—F. G. M. GALANTE, Poland Street, Oxford Street, late Licensed Victualler—C. H. HIRST, Leeds, Cloth Merchant—E. HEDLEY, Newcastle-upon-Tyne, late Licensed Victualler—A. JAMIESON, Gloucester Place, Brixton Road, Baker—J. LOCKWOOD, Mold Green, Yorkshire, Fancy Manufacturer—CHARLES LORIMER, Barnsley, Yorkshire, Coal Dealer—WILLIAM LOFTUS, Battersea Rise, New Wandsworth, Clerk—JAMES MILLS, Winsford, Somersetshire, Farmer—W. MASON, Newcastle upon Tyne, Provision Merchant—J. MARSH, Hulme, Lancashire, English Timber Dealer—R. MASTERS, Wellington Street, Woolwich, Appraiser—R. T. MUNDAY, Clarendon Square, St. Pancras, Commercial Clerk—THEODOR JOSEPH MANSFALD (trading under the style of T. G. MANSFALD, and generally signing the name of T. G. MANSFALD), Cambridge, Tailor—F. NEWMAN, Cambridge, Publican—T. PARTRIDGE, Chulmleigh, Devonshire, Baker—H. M. PUGH, Machynlleth, Montgomeryshire, Chemist—R. PURCHON, Leeds, Grocer—F. J. REES, Liverpool, Joiner—J. ROBINSON, Halifax, Yorkshire, Draper—E. RICHARDSON, Coventry, Watch Manufacturer—W. STILLINGS, jun., Manchester, Plumber—I. SMITH, Liverpool, Saddler—W. SIMS, Bury St. Edmunds, Suffolk, Fish Dealer—C. H. E TRUMPLER and J. PERILES, Manchester, Merchants—W. TAYLOR, Harmston, Lincolnshire, Licensed Victualler—W. TAYLOR, Stockport, Cheshire, Draper—J. WALTON, Manchester, Pawnbroker—M. WATSON, Sunderland, Joiner—F. W. WOODFORD, Sandown, Isle of Wight, late Licensed Victualler.

SCOTCH SEQUESTRATIONS.—D. BROWN, Glasgow, Grocer—J. MILLER, Airdrie and Coatbridge, Lanarkshire, Grocer and Spirit Dealer—A. MACLEMAN, Inverness, Flesher—A. MELVILLE, Galashiels and Melrose, Roxburghshire, Plumber and Gasfitter—J. A. NAPIER, Rothesay, Builder.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued.. .. .. | £29,185,030 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,535,030 |
| | | Silver Bullion .. .. .. | — |
| | £29,185,030 | | £29,185,030 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,091,284 |
| Rest .. .. .. .. | 3,711,334 | Other Securities .. .. | 18,731,259 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 6,997,402 | Notes .. .. .. .. .. | 8,258,730 |
| Other Deposits .. .. .. | 12,909,484 | Gold and Silver Coin .. | 810,458 |
| Seven days and other bills | 720,511 | | |
| | £38,891,731 | | £38,891,731 |

Sept. 10, 1863. M. MARSHALL, Chief Cashier.

## Metropolis and its Vicinity.

SHIPBUILDING FOR THE CONFEDERATES.—A memorial from the Union and Emancipation Society has been transmitted to the Foreign Office by the President, Mr. P. T. B. Potter, of Manchester, calling upon the Government to put a stop to the ship-building now going on in British yards for the Southern Confederacy. Another memorial has been addressed to Earl Russell by the committee of the British and Foreign Anti-Slavery Society, stating that material assistance is being extended to the slave-holding communities in America, by the equipment of iron vessels in British ports, in direct violation of the Foreign Enlistment Act and the Queen's proclamation. The committee say that though they could urge many urgent reasons for Government interference in the present case they consider that on anti-slavery grounds alone such interference is justifiable; and they therefore entreat her Majesty's Government peremptorily to prohibit the departure of the two steam rams recently launched from Mr. Laird's yard at Birkenhead, until the constructor shall produce satisfactory evidence that they are not intended for the Confederate States. The *Morning Post* of Tuesday announced that the two iron-clads referred to in this memorial are to be detained by Government under the terms of the Foreign Enlistment Act. The allegation against them is that though they were launched under the Egyptian names of El Toussoun and El Monastir, they are fitted out for the purpose of carrying on hostilities against the United States. On the other hand it is contended that they were built by order of a French house for the late Pasha of Egypt, who gave the firm a commission for the coinage of a large sum of money in France, and for the construction of two steam-rams in England. The money was duly coined and sent to Egypt. The vessels were in course of construction when the Pasha died, and his successor repudiated that part of the contract. What the French house intends to do with them is not known, but as it is reported that they are destined for war with a friendly Power, the Government has given notice to the builder that the ships will not be allowed to leave the Mersey, and if it is found that their construction is contrary to the terms of the Foreign Enlistment Act, they will be seized as violating its provisions.

THE BISHOP OF LONDON'S FUND.—The amount of subscriptions paid into this fund is nearly 22,000*l.*, while the aggregate amount of contributions promised is 82,535*l.* This large sum consists of the united subscriptions of only 400 persons. The largest contributors are the Duke of Bedford and the Marquis of Westminster, who have given 10,000*l.* each. Mr. Charles Morrison has contributed 5000*l.* In order to apply some immediate remedy to the most pressing wants of the metropolis, the executive committee have appropriated 5000*l.*, to be applied through the agencies of the Diocesan Church Building Society, the Diocesan Home Mission, and the Scripture Readers' Society, whereby they expect that 25 additional missionary clergy and 15 Scripture readers will be forthwith engaged.

THE PEACE SOCIETY.—The following memorial, signed by Mr. Joseph Pease as president, and Mr. Richard as secretary, has been transmitted by the Peace Society to Earl Russell, in reference to our relations with Japan:—

"My Lord,—We ask permission, as the committee of the Peace Society, respectfully to express to your lordship the deep regret and apprehension with which we have learnt the present menacing state of relations existing between this country and the kingdom of Japan. We cannot but regard it as a most painful and deplorable fact, that the first appearance of our countrymen among remote and heathen nations, instead of being the barbinger of peace and a higher civilisation, is so frequently the prelude to a course of aggression, violence, and blood. It seems clear, on the testimony of those most conversant with the fact, that the treaty of intercourse and commerce on which we ground our right of intervention in Japan, was in the first instance obtained from the authorities of that country under the coercion of fear, in opposition to the traditional policy of the Government, and the strong prejudices of the people. It is too evident, also, that we have failed in observing honourably on our part the stipulations of that treaty. From the first, our countrymen who, for purposes of commerce, entered into Japan in the wake of our diplomatists, have availed themselves of the advantages they thus acquired in a spirit which could not fail to prove both offensive and injurious to the Government and people, thereby confirming the prejudices against foreigners already existing, and most seriously aggravating the difficulties of the Japanese authorities in their attempts to enforce on their own countrymen a fair observance of the conditions of the treaty. It is obvious, moreover, that our official representatives in that country are quite powerless to restrain the irregularities of such lawless and unscrupulous characters as unhappily too often pioneer and represent British commerce and civilisation in the Eastern seas. If the facts be as above stated, it can hardly be a matter of surprise that an intercourse thrust upon the Japanese against their will, and commenced under such circumstances as we have described, should have led to an early and serious collision. Nor can we hope that a persistent attempt to force our acquaintance upon them at the mouth of the cannon can conduce to their advantage or to our honour as a professedly Christian and civilised nation. On the contrary, all the facts and appearances of the case, as well as our former experience in the East, but too clearly indicate that any further progress in the path of coercion cannot fail to lead to grave and dangerous complications, ending in all probability in a succession of ignoble and costly wars, and the introduction of an era of revolution and anarchy among a people who previous to our intrusion among them had enjoyed, according to the testimony of competent witnesses, a large measure of internal order, peace, and prosperity. We earnestly hope, therefore, that your lordship will send such instructions to our representatives in that country as shall save England and Japan from the calamity of such a course: and if intercourse between us and them cannot be conducted in a friendly spirit, we venture respectfully to submit whether it would not be better for us to withdraw altogether from their country. It is not likely that commerce can be successfully prosecuted with a reluctant and angry people; and even if it could it would be more honourable for a Christian nation to make some sacrifice of commercial advantage rather than inaugurate among another people what may prove to be a long course of disorder and blood."

THE TRIAL OF COLONEL CRAWLEY.—The charges on which Colonel Crawley is to be tried are said to be as follows:—1. For having caused the orders under which Sergeant-Major Lilley was placed in arrest in May, 1862, to be carried into effect with unnecessary and undue severity, whereby the sergeant-major and his wife were subjected to great and grievous hardships and sufferings. 2. For having stated, in his reply to Mr. Smales' defence before the court-martial, that it was Mr. Fitz-Simons' fault if the sergeant's wife was inconvenienced by having the sentries placed near her bed, whereas he knew well that Mr. Fitz-Simons had acted in the matter by his express orders and direction. Mr. Smales, late Paymaster of the Inniskilling Dragoons, having applied to the Secretary of State for War to be placed upon half pay, and for employment on active service, Lord De Grey replied on the 27th

ult., that it is the opinion of the Judge Advocate General that, although her Majesty's pardon was intended to remove all stigma that might attach to Mr. Smales, through the finding of the recent court-martial, and to remove any prejudice to his advancement, still his position could now be viewed in the light of that of a civilian only. Lord De Grey added that it was not his intention to submit Mr. Smales's name to her Majesty for any appointment whatever.

Lancashire Relief Fund.—At a meeting of the Mansion House Committee on Friday the report stated that there was an available balance in hand of about 70,000*l*. Grants were voted to the amount of 3515*l*., leaving a balance at the disposal of the committee of about 66,757*l*.

Whitechapel Church. — About three or four months ago a great sensation was caused by the discovery that an undertaker at Stoke Newington had turned his back yard into a place of burial, for the sake of pocketing the fees. From a discovery made last week in the roof of Whitechapel Church, it appears that the Stoke Newington case is not a solitary one: and there is reason to believe that bodies have for years been regularly hidden away for the sake of the money which should have been expended in cemetery fees. The discovery of the dead body of a child in the roof of Whitechapel Church by some workmen engaged in repairing it, induced the Churchwarden to direct a thorough search to be made throughout the roof. The result was, that 11 coffins, three of which contained bodies of children, were brought to light. Eight of the coffins were broken in pieces, apparently from violence; three were in good condition, and one had written on it, in black-lead pencil, "Mrs. Foster, No. 35, Bedford Street." Two of the children are supposed to have been stillborn. Besides these remains about seven skulls of children were found, with some bones and dust and the remains of clothing. A cap was on the head of one of the bodies, and napkins were lying among the remains. At the inquest the sexton stated his opinion that the bodies must have been deposited in the roof 40 or 50 years ago. Other persons, however, were of opinion that at least one of the bodies has been dead only 12 months. The coroner ordered a *post mortem* examination to be made, and adjourned the inquest for a week.

St. Paul's, Covent Garden.—The Duke of Bedford has conferred the rectory of this parish, which became vacant some weeks since by the death of the Rev. Henry Hutton, on the Rev. C. E. Oakley, M.A., of Wadham College, rector of Wickwar, Gloucestershire. The rev. gentleman is married to Lady Georgiana, a sister of the Earl of Ducie, to whom he is chaplain. He entertains Evangelical views on church matters, and is reputed to be a good preacher.

The Sunken Steamer in the River.—On Monday operations were commenced for raising the Baron Osy steamer, which sank the other day in Limehouse Reach. The river has been dragged with the view of discovering the sunken object upon which she struck, but nothing of the kind could be traced, and it is now thought that she must have struck upon a ridge of a hard stony shoal which formerly extended down the Reach some distance, and was only removed a few years back.

The Great Eastern.—By advices from New York it appears that on the 17th ult., during a strong gale, some portion of one of the paddle-wheels of the Great Eastern was carried away, and that on the 23d the ship was overtaken by a tremendous hurricane, from which, however, no serious damage resulted beyond the loss of one of the boats, which was washed away by a heavy sea. The hurricane lasted about five hours, and, though the ship rolled considerably, no symptoms of straining were observed, and none of the passengers were injured. The third officer and one of the men, however, had their legs broken.

The late Sir Frederick Slade.—The *Western Times* says that there was no foundation for the paragraph recently published by some of the local papers relative to Sir F. Slade. It states that he was married once, and only once, to his wife Barbara, only sister of Lord Vaux, of Harrowden, at St. George's, Hanover Square, openly and publicly. His eldest son, Captain Sir Alfred Slade, Bart., has succeeded to his estate and title, and is prepared to defend them.

The Mediterranean Telegraph. — The screw steamer Hawthorne has succeeded in picking up the broken cable of this line at the distance of 64 miles off Alexandria. It had given way at the point where a stouter cable was spliced to the deep-sea cable, owing to the rocky nature of the bottom on that part of the coast. The faulty parts having been cut out, the final splice was made on the morning of the 18th ult. The line throughout from Malta to Alexandria is now perfect, and again open to the public.

Indian Telegraph.—The Assaye and Kirkham, sailing vessels, have just shipped from the works of Messrs. Henley, at North Woolwich, 560 miles of the Indian submarine cable. The Tweed and Cospatrick have been fitted out at the premises of Messrs. Wigram, of Poplar, for the reception of another 550 miles of the cable; and the Charente, screw steamer of 600 tons, which has been prepared by the same firm for permanent employment on the line, will take out all the requisites for keeping it in repair. This vessel is commanded by Lieutenant Stiff, of the Indian navy, who has recently surveyed the Persian Gulf, with especial reference to laying down this important line. The total length of the cable taken out will amount to 1250 miles, and it will weigh upwards of 5000 tons. The operations of laying it down will be under the superintendence of Lieut. Colonel P. Stewart, Royal Engineers, and it is confidently hoped that the work will be completed in February next, and that by March, 1864, London and Calcutta will be in direct telegraphic communication.

The Ludgate Viaduct.—At the meeting of the City Court of Sewers on Tuesday the plan of the London, Chatham, and Dover Railway Company for the viaduct across Ludgate Hill was submitted for approval. The proposed structure will be of iron, with a span of 60 feet, and with ornamental brackets at each end, placed against the sides of the abutments, leaving a headway for carriage traffic of 18 feet, and for foot passengers of about 9 feet. There will be a great deal of surface ornamentation on the sides, which will give it the appearance at first sight of an open perforated bridge, but it will in fact have an interior lining to prevent the fall of burning cinders from passing trains. The design, as represented on paper, elicited some expressions of admiration from the Commissioners, but their engineer, Mr. Heywood, warned them that the thing itself, when put up, would probably fall short of the expectations which the drawing was calculated to produce. The Commissioners eventually passed a resolution to the effect that they saw no objection to the adoption of the design.

Thunderstorm in the Metropolis.—On Wednesday night, about 10 o'clock, the metropolis and its vicinity, for several miles round, were visited with continued and vivid flashes of lightning, with tremendous peals of thunder, until near midnight, when the rain came done in torrents, and continued without intermission for upwards of three hours.

A Ragged Church.—On Sunday week a ragged church and school in Brewer's Court, Wild Street, which have been enlarged and improved by the liberality mainly of a neighbouring congregation, were reopened by service and a sermon. This ragged church has three affiliated institutions—a ragged school, ragged mothers' meeting, and ragged Sunday school teachers. The congregation that meet every Sunday is perfectly unique. Their homes are in Lincoln's Court, Wild Court, and other dreary haunts of the refuse population of London. During the winter months the Church is crowded, and every hearer receives a loaf of bread on leaving it. Some of the congregation have no coats, some no shirts, and some a compromise between the Scottish kilt and English trousers. They are visited in their homes by the minister of the Ragged Church during the week, and seem to appreciate his kindness. About 150 of their children attend the Ragged School, and were lately treated to a holiday in the green fields a few miles out of London, and there experienced in fresh air and green grass, and bread and butter and tea, an enjoyment which they had never before experienced.

Model Lodging Houses for the Jews.—A set of model lodging-houses, built by the members of a limited liability company, composed mostly of Jews, and intended for families of that persuasion, was opened a few days since in Whitechapel, by the Chief Rabbi, Dr. Adler. They are intended for families belonging to what may be called the upper portion of the working classes, and contain accommodations which were beyond the reach of persons in a position far above them only a few years ago.

The Public Health. — The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday September 5th were 1232, which is a lower number than any that has been returned since the first week of July. During the week the births of 925 boys and 938 girls, in all 1863 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1830.

## Provincial.

Birkenhead.—The two iron steam rams, recently launched at the works of Messrs. Laird, bear the Egyptian names of the El Monastir, or Victory, and El Toussoun. When launched both vessels bore the English flag astern and the French flag amidships. They are 230 feet long, 42 feet beam, and 19 feet deep. Their measurement is 1850 tons, and their engines of 350 horse power. They are plated with 4½ inch iron on a teak backing of great thickness bolted on to the frame of the ship, which supports the inner shell. The decks are also iron-plated, and the iron bulwarks are hinged at the lower edge so as to be thrown down in action. Each "ram" is pierced for six guns on each side, and they are fitted on the deck with large cupola towers on Captain Coles's plan, with two guns to each cupola. The bows project under the water, so as to form a "ram." The iron plates are so beautifully planed and fitted, that it is almost impossible to tell whether the vessels are plated or not. The cupolas are fore and aft of the vessel. Each "ram" is barque rigged, having the lower masts and yards of iron. The accommodation for the officers and men is above deck, in the poop and forecastle at each end, and below the deck.

Coventry.—An adjourned inquest was held on Thursday week at the village of Fillongley, near this city, on the bodies of William Henry and Julia Dalby, husband and wife, who were suspected of having died from the effects of poison. The deceased man was a miller, and son of a farmer living near Hinckley, in Leicestershire; the woman, who was only about 17 years of age, was the daughter of labouring people residing at Fillongley. They were married in February last, since which period they are believed to have lived very happily together. On Monday, the 24th ult., the wife was found dead. In consequence of the suddenness of her death an inquest was opened and adjourned, to enable a *post mortem* examination to be made. On Monday, the 31st ult., the husband exhibited reluctance to go to his work as usual, and went upstairs and lay down on the bed. A few minutes afterwards his mother-in-law saw him place a bottle on a box by the bedside, and immediately fall back as though in a fit. He died almost instantly. The bottle was labelled "Poison—prussic acid." A letter in his handwriting was found after his death, in which he stated that his wife had of her own accord taken poison at his suggestion, that they were too loving to live together in this world, and that he had promised to join her at the throne of God on that day week. A *post mortem* examination proved that death had been caused by prussic acid; but no evidence affording a clue to any motive for the crime was forthcoming. The jury returned a verdict, in the case of the wife, of "Wilful Murder" against the husband: and in the case of the latter a verdict of "*Felo de se.*"

Claydon.—It is understood that the Bishop of Norwich has commenced proceedings against the Rev. G. Drury, rector of Claydon, Suffolk, for having introduced innovations into the celebration of Divine worship in the parish church.

Deal.—During the heavy squall and rain on Sunday evening a collision happened a few miles off Dungeness between the bark Elvira and the Ocean King steam-vessel, from London to Greece. The bark foundered with four of the crew. The steamer was much damaged, and returned to the river for repairs.

Leigh.—Messrs. Peter Cleworth, John Cleworth, Joseph Cleworth, and Robert Howarth, farmers in this parish, and Joseph Battersby, a farm labourer, were convicted a few days since by one of the Lancashire magistrates on the charge of saving a quantity of hay from an impending storm, on the Sabbath day; and warrants of distress have since been executed on their goods. It is said that the convictions are bad and the proceedings illegal, because the Act setting forth who shall not work on Sundays does not include farmers, and specially excludes works of necessity and charity. A subscription has been commenced for the purpose of assisting the defendants in testing the validity of the convictions.

Liverpool.—Elizabeth Benyon, who was convicted at the late assizes for the murder of her child, has had her sentence commuted by Sir George Grey to penal servitude for life. The three men who were condemned to death at the same assizes for murder, will be executed, it is said, this morning at Kirkdale gaol.

Manchester.—At the monthly meeting of the General Committee of the Central Relief Fund on Monday, a report from the Executive Committee, signed by the Earl of Derby and Mr. Maclure, was read, stating that the condition of the operatives in the cotton districts has considerably improved since July, and that of those who are still without employment in connexion with their regular occupation, not a few have been enabled to remain in the neighbourhood by availing themselves of the various forms of labour which have arisen from the liberality of landowners, as well as from the plentiful harvest. At a meeting of the Executive Committee on the same day, the report stated that 154*l*. 9*s*. 2*d*. had been received during the week, and that the balance in the bank was 301,767*l*. 5*s*. 1*d*. Mr. Commissioner Farnall reported that on the 29th ult. there was a decrease of 531 in the number of persons receiving parochial relief in the 27 unions as compared with the number relieved in the previous week. Grants were voted to various places to the amount of 3990*l*.

Oxford.—Prince Frederick of Denmark, brother to the Princess of Wales, has entered at Christ Church, and will become a resident member at the commencement of the ensuing term. The Rev. G. W. Kitchin, junior proctor, censor and student of Christ Church, has been appointed tutor to the young Prince, and Grandport House, the residence of Alderman Randall, has been engaged for his accommodation.

Sheffield.—The Cutlers' Feast was held on Tuesday week in this town, the Master Cutler in the chair. The dinner was attended by Lord Wharncliffe, Sir Charles Wood, Mr. Roebuck, and other notabilities. In returning thanks as Minister for India, Sir C. Wood said that he did not wish to take more credit to himself than was his due, but since he had been at the India Office the government of the country had been recast, natives admitted into the administration, the judicature had been revised, the penal code, civil proceedings, the army and the navy had all been remodelled. They were performing their mission to that country in governing it for the benefit of the great masses of the people, in whose welfare they would not only derive the best pecuniary reward, but would have performed, he hoped, that great mission to which they had been called —of improving and civilising the largest population

which at present existed under the rule of any one sovereign. Mr. Roebuck spoke as follows :—

"It must be obvious to any one that we in England are peculiarly favoured at the present time, compared with any other great powers of Europe, and we have every reason to congratulate ourselves upon our position. As to the nearest power to us, there is no liberty there, whilst we are free to say and do what we like, so that we injure no man. Austria is in the very throes of establishing a constitutional government She is now in the very heart and mystery of that great attempt. Prussia is under the control of one whom it would be a great mercy to his people if he were to be—(after a short pause)—relieved of the trouble of government. Russia is in the very throes of a revolution, and if we stretch our views across the sea to our friends, as we call them—to our descendants, as we know them—what is there to be seen? Liberty gone. No man able to say that his soul is his own. Compelled to do the commands of two or three men in Washington creating misery throughout the world. Now, we here enjoy freedom such as mankind has never known. We are well governed—every man before the law is equal. The postman in the country is equal to the greatest man amongst us here. For all this we are not altogether indebted to our government There is in the people themselves a power, a prudence, a knowledge, a virtue which have vindicated to themselves this great power which they possess. I acknowledge that the rulers have very often paid due deference to public opinion, and that they have yielded to public opinion when it has been too strong for them At the present moment I feel very much tempted to talk, but I won't talk. I feel that there are things that press upon us here, and that we in this room shall know of before 12 months are over our heads, and I would ask Sir C. Wood to bear in mind what he will hear to-morrow. There has been one symptom of political advancement in this country. They have suffered calamity such as war had hardly ever thrown upon any country before. How have they borne it? Quietly and in patience. They have not turned round upon the Government, and why? Because political knowledge has reached them They know that neither their Government nor employers were answerable for the mischief of which they complained. Let my right honourable friend recollect that that knowledge and that that feeling will not very much longer continue. The sufferings they have to bear they will ask themselves if they could not have been relieved from (by the recognition of the Confederate States), and if they could, then the blame of the miseries which they suffer will be visited on the heads of those who created it."

WARWICK.—A meeting of the magistrates of this county, convened by the Lord Lieutenant, was held at the Shire Hall on the 15th ult. "to consider the reply of the Mayor of Birmingham to a letter addressed to him by command of her Majesty, in reference to the late fatal accident in Aston Park." The meeting was presided over by Lord Leigh, and amongst those present were the Right Hon. C. B. Adderley, M.P., Sir R. N. C. Hamilton, Bart., Sir Trevor Wheler, Bart., Mr. Spooner, M P., Mr. Newdegate, M.P., &c. On the motion of Mr. Dickens, chairman of quarter sessions, seconded by Mr. Spooner, the following resolution was unanimously adopted :—That the statement of the Mayor of Birmingham, that Aston Park is not within the jurisdiction of the authorities of Birmingham, has rendered it necessary that the lord lieutenant and magistrates of the county should express publicly their serious regret that a park, with the opening of which they must ever connect the most grateful recollections of gracious condescension of her Majesty and the deeply-lamented Prince Consort, should have been the scene of an occurrence so greatly painful to her Majesty as to have called forth expressions from her Majesty which they have read with cordial respect; and to whatever extent their jurisdiction may give them any control, or their influence may have weight, they would gladly promote such steps being taken as might secure the restriction of the future use of the park to its original and true intention —the rational recreation of the people." A resolution was also passed authorising the lord lieutenant to forward a copy of the above to Sir C. Phipps for submission to her Majesty. The following reply has since been received from her Majesty :—

"Abergeldie Mains, Ballater, August 29.

"My dear Lord Leigh,—I have received from Coburg the commands of the Queen to express the gratification with which her Majesty has heard that the magistrates of the county of Warwick have unanimously resolved to exercise whatever influence they possess to prevent the repetition of such dangerous and degrading exhibitions as that which lately ended fatally to the poor woman exhibiting.—Sincerely yours,

"C. B. PHIPPS."

WOLVERHAMPTON.—A few days since the body of a young man called William Cheenery, was found dead in this town in a small house, where for a fortnight previously he had lived with a woman called Rosanna Steadman. There were marks of severe violence on his person, his body was tarred, and in an advanced state of decomposition, and the bed on which he was lying was saturated with blood. On the day after a woman was discovered dead in an unoccupied house in Dudley, her body being even more decomposed and worm eaten than that of the man Cheenery. This woman much resembled Rosanna Steadman, who was known to have been the last person in the house before his body was found. It was quite clear that the man had been murdered, and there was reason to believe that the woman had been concerned in the murder, and had afterwards gone to Dudley, where she was herself murdered, it is supposed by poison, as a bottle labelled laudanum was found in her pocket. Her body, however, having been buried after the inquest without a post-mortem examination or any satisfactory proof of her identity, the Secretary of State sent down an order for its exhumation, which took place accordingly on Monday last. When the coffin was opened identification from the features was impossible, but the height and build of the corpse were quite those of the woman Steadman. The identification of the clothes however, was complete, most of the garments in which she was interred having been sworn to as those which she had been accustomed to wear. The post mortem examination of the woman showed that no trace of poisoning could be discovered, as laudanum being a vegetable poison must, if used for the purpose, have decayed as rapidly as the body, and that there were no external or internal injuries to be perceived. The post mortem examination of the man showed that the skull had been fractured and the nose and teeth cut through with some instrument like a hatchet, probably during sleep, that extensive injuries had been inflicted on the lower part of the body, from which great quantities of blood, apparently several quarts, had flowed; that after death the body was laid out, and a pillow placed under its head; and that after death the body was painted or brushed over with tolerably hot gas-tar, probably with a view of preventing detection from smell as long as possible. Some stains of this tar were found on the dress of the woman exhumed at Dudley. After some other witnesses had been examined the inquest was adjourned for a fortnight for further evidence.

## Ireland.

THE ARCHBISHOP OF DUBLIN.—Prayers for Archbishop Whately were offered on Sunday in all the churches of Dublin. It is said that the unfavourable symptoms which were reported last week have not abated, and that his Grace suffers a good deal of pain and passes restless nights. Professor Henderson, of Edinburgh, has been called to the aid of his Grace's physicians, and saw him on Wednesday in consultation with them. It is understood that the Archbishop is under homœopathic treatment, in which he is a firm believer.

THE IRISH SOCIETY.—A deputation from the Irish Society of London, consisting of Alderman Humphrey, the Governor; Mr. W. Cox, M.P., Deputy-Governor; and 13 assistants, have recently made their annual visit to their estates in Londonderry. The visit is usually accompanied by festivities and an exchange of courtesies between the society and the tenants; but on the present occasion the inspection has not passed off so agreeably. A deputation from the corporation of Derry having requested an interview to confer with the society on subjects affecting their interests, the Mayor, at the opening of the conference, said that there was a strong feeling as regarded the leases for building; without these leases parties were not desirous of expending capital. The leases granted were generally shorter than those granted in other towns, and there was much trouble and uncertainty as to the renewal of a lease when it was granted at all. Mr. Colhoun next referred to the necessity of widening some of the streets, and to other desirable improvements, and observed that Derry, during the last 25 or 30 years, had increased in population by two-thirds, and a suitable public hall was badly wanted. The wish of the corporation was to go hand-in-hand with the society. For all the recent important improvements, and others in contemplation, the corporation demanded fixity of tenure on behalf of the people of Derry.' If the society gave the tenants fixity of tenure, they would have many gentlemen spending their money in improving and enlarging the town. Mr. Cox, M.P., in reply, commented upon some articles on the society which had been published in the Derry papers, recommending an appeal to Parliament. He said the society did not fear the corporation or their organs of the press, and would not for a moment be influenced by them. The society would consider a scheme proposed by the late Sir R. Peel—that when the society had discharged their duty to Derry, as they had done to the fullest extent, they should expend their funds on other places in Ireland—Connemara for instance. He, for one, would never consent to grant any portion of the land or property to a corporation who came "snivelling." This expression aroused the ire of the corporators, and the speaker's voice was drowned in a chorus of "Shame!" "Retract!" "Shameful language!" Mr. Cox explained that he applied the expression to the former corporation; but the town councillors said that their predecessors were as high-minded as themselves; and amid another chorus of disapprobation, Mr. Cox was understood to withdraw the expression. Some conversation relative to the details of the proposed improvements then took place, and it was ultimately arranged that the surveyors of the society and of the corporation should jointly inspect the sites and prepare plans and estimates for the consideration of the court in London. The incidents of the interview have produced a very unpleasant state of feeling in Derry.

## Scotland.

OPENING OF THE BAXTER PARK AT DUNDEE.—On Wednesday last the magnificent Park presented by Sir David Baxter to the people of Dundee, was formally handed over to the trustees. The day was kept as a close holiday in the town. In the forenoon Earl Russell met the Town Council and Guildry in the Corn Exchange, and was presented with the freedom of the burgh, and created a Guild brother. His lordship was accompanied to the platform by the Countess Russell, Lady Georgina Russell, the Earl of Dalhousie, Earl of Camperdown, Sir J. Ogilvy, Sir David Brewster, and Sir D. Baxter. After the Provost had conferred the freedom of the burgh, and Dean of Guild had presented the freedom of the Guildry to Earl Russell, his Lordship rose and spoke as follows :—

"Sir and Gentlemen, I receive with gratitude the freedom of the ancient and Royal burgh of Dundee. I have come here for the first time to add my tribute of respect to one of your most distinguished citizens, who has nobly provided for the health and recreation of his fellow-citizens, and well deserves to be remembered to all time as a public benefactor. The increase of large towns is a proof of increasing wealth, and the effect of prosperous industry is not without accompanying evils. One of these evils is the exclusion of the face of nature; and happy is he who can give to those 'in populous city pent' a rest from exhausting toil, amid scenes which invigorate the body and turn the mind to the contemplation of the wonderful works of God. In referring to measures which I have contributed to promote during a long course of parliamentary exertion you have done me too much honour. I have been happy to contribute to the victory of those eloquent and distinguished men who were foremost in the cause of Catholic emancipation, and who won for the people the great battle of the repeal of the corn laws. With regard to the measures in which I had a more immediate part—in proposing the repeal of the Corporation and Test Acts, in framing a plan for parliamentary reform, and introducing a bill for the reform of our municipal corporations—I have been studious to build upon the ancient foundations, to adapt new measures to existing laws, and to put them in harmony with the institutions of a country long free and justly proud of its liberty. Thirty years of experience have shown that I have not been mistaken in my hope: every year has strengthened our political constitution, and confirmed, as you justly observed, our domestic tranquillity. As Secretary of State for Foreign Affairs it has been my object to preserve peace with honour. You may rely with confidence upon the administration of Lord Palmerston, who is so justly and so universally popular, for maintaining a line of strict impartiality in the lamentable conflict still raging in America. The duties of neutrality between parties violently hostile are not easily performed. It has been and will be our endeavour, however, to exercise the powers now entrusted, or which may be hereafter entrusted, to the Crown by parliament in such a manner as at once to defeat every attempt to engage our people in enterprises inconsistent with our neutral position, and to preserve for ourselves, our persons and property, those safeguards of British law and British justice to which alone they are indebted for the security they now enjoy."

At 1 o'clock the various bodies who took part in the grand ceremony of the day met in the Barrack Park. When the line had been formed the procession marched through the principal streets to the People's Park, which is situated at the north-east extremity of the town. The park occupies a space of 38 acres, and is tastefully laid out. In the centre stands a handsome pavilion in the Italian style, built at a cost of 6000*l.* At each entrance there are handsome lodges. The cost of the park, its embellishments, and the sum set apart by the donor for its maintenance, cannot be less than 50,000*l.* After the park had been opened in due form, Earl Dalhousie, the Earl of Camperdown, Sir David Baxter, and others addressed the meeting. In replying to a vote of thanks for his presence, Earl Russell said:—

"I hope you will allow me, as the youngest burgess of Dundee, to say a few words with regard to a matter which I think may tend to the usefulness of this park, for which the town of Dundee is so much indebted to Sir D. Baxter. I was speaking to him of a notion which has occurred to my mind, and I found it had also occurred to his, and, indeed, from his benevolence and sagacity it was not likely to have escaped him. I have been accustomed in the course of my life to pay a great deal of attention to education; and I have been told of late years by those who are occupied in education in great towns—such as Glasgow, Birmingham, and similar large towns—that there is one great difficulty they have to contend with in their schools, and that is that in those towns there is no such thing as a playground. I think a playground is quite as useful as a school; and it is still more easy to occupy a playground in these days, when we are told by some clever philosophers that the boy who is at school three days in the week learns quite as much, if not more, than the boy who goes six, and that the boy who is at school half a day learns quite as much as the boy who is at school the whole day. Whether that be true or not I am not going to say, but I think it would be a great advantage to the schools in this town if they were to ask the permission of Lord Dalhousie and the other trustees, that from time to time, at certain fixed hours, this park should be made a playground for certain games during the hours of recreation which the school allows. There is a very great tendency at the present time—which is a good tendency—of bringing people together in large towns, but it has a disadvantage, and that is that the children are brought up without having the least notion of the green fields, or a game at cricket, or a game at trap-ball. And it is quite as essential that the body of a boy should be educated, and his mind turned to these things, as that he should learn his alphabet and ciphers. I am in hopes that, being the youngest burgess in Dundee, my presumption may be excused. I think it would be a great pleasure to know that the young generation of Dundee could enjoy the advantages of this park as much as those who are their elders, and able to give themselves to more manly pursuits. I beg to thank you all in the name of Lady Russell. I have certainly found by experience that there needs no better place to come to for a wife than to Scotland, and I certainly shall recommend the practice to others which I have adopted myself."

The weather was fortunately dry and sunny, and the proceedings passed off with great *éclat.* There was a grand display of fireworks in the park, and illuminations in various parts. It was intended that Mr. Coxwell should make an ascent in his large balloon, but the wind was unfavourable.

## Law.

HOME CIRCUIT: CROYDON.—*The Burning of Campden House.—Wolley v. Pole, Treasurer of the Sun Fire Insurance Company.*—This was one of several actions on policies effected by Mr. Wolley on Campden House, Kensington, its fixtures, furniture, and effects. It appeared from the evidence that Mr. Wolley, who commenced life as a person of small or no means, married, in 1849, a rich lady, named Coape. He took on lease a residence, since well known in London society, called Campden House, and commenced fitting it up and furnishing it with everything costly or curious in the mediæval style that he could pick up. He spent large sums in this manner, and the house became quite a show place in consequence. He took the precaution of insuring the property from fire, the house itself having been built in 1612, and it was so full of old timber that it was plain that if it once caught fire it would burn like touch paper. He accordingly insured the house and furniture in various offices for an amount

of nearly 30,000*l*. There were several policies, one in the Sun on house and stables for 4500*l*., effected in 1854; another in the Sun, effected in 1860, for 10,000*l*. on house, fixtures and fittings; one in the Hand-in-Hand for 5000*l*. on house, fixtures and fittings; one in the Atlas, 5000*l*. on pictures; and one in the Sun, of November, 1861, for 5000*l*. on furniture—total, 29,000*l*. The fire took place on the 23d of March, 1862. It was on the last of the policies—the Sun furniture policy—on which any question or suspicion seems to have arisen, and the result of the inquiries and deliberations of the offices was that in February last, after nearly a year's delay, they intimated that they disputed all the policies on the grounds of fraud and arson. The action on the Sun furniture policy was immediately brought, and then the action on the Sun policy for 10,000*l*., and the other actions in succession. The present action is on the first of the Sun policies, the one for 4500*l*. on house and stables, on which 4000*l*. is claimed for the destruction of the house by fire. The company pleaded that the claim was fraudulent, and that the fire was caused by the "wilful act, means, and contrivance of the plaintiff." The only inmates of the house at the time of the fire were Mr. Wolley and his valet, Crozier, who slept in adjoining rooms, and a person named Temple, a carpenter, who had been employed some years on the premises, and who, with his wife and son, a youth of 15, slept in another part of the house. The other usual inmates of the house, Miss Coape, the sister-in-law of Mr. Wolley, and her brother, Captain Coape, were in a house he had taken at Brighton. He had gone down there with them and the servants in November, 1861. He had come up once or twice in December, January, and February, and he came up on the 3d of March with Crozier, and remained with him in the house, engaged a good deal in varnishing the old oak panelling and carving, &c., up to the night of Saturday, the 22d of March. Early on the morning of Saturday, the 23d, the fire was discovered some time between 3 and 4 o'clock in the morning, and although the night was wet and rainy, it burnt with such fury and rapidity that the house and contents were soon totally destroyed. Mr. Wolley made his escape in his shirt only, and was for some time exceedingly ill with the shock and the physical sufferings he had undergone. Temple, the carpenter, escaped by climbing over the roofs of some outbuildings, and was severely burnt in his hands; Mrs. Temple, his wife, narrowly escaped with her life, having had to jump from a window 60 feet high. The Insurance office at first attempted to damage Mr. Wolley's character by showing that he was originally a waiter at an hotel, then an actor, and then a clerk; that he married a lady of fortune, spent her money on the house, and then borrowed and spent half the property of her sister, mortgaging to her the house and its contents as her security. They also contended that he had hung tapestry and paper before the windows to prevent the fire being seen from outside, had brought varnish and candles into the place to feed the fire, and had laid out his books open on the tables for the same purpose. It was further alleged that many of the articles insured had been removed to Brighton, and that those which remained were overvalued. The principal witness in support of these allegations was the carpenter Temple, who contradicted himself on cross examination, and so plainly showed his determination not to furnish any answer which might be favourable to Mr. Wolley, as to draw upon himself a rebuke from the judge, and to convince the Court that he was actuated by a feeling of animosity against Mr. Wolley from having been under the false impression that that gentleman had left him and his family to shift for themselves at the fire, and to make their escape how they could. The rest of the case for the defence was equally weak. It failed to disprove the alleged value of the furniture; and some witnesses, who were called to show that the fire broke out in all parts of the house at once, thereby indicating premeditated incendiarism, were contradicted by others, who unexpectedly declared that one front was blazing a quarter of an hour before the other. Baron Bramwell in summing up almost told the jury what verdict they ought to return, and concluded by saying, that "though a wicked man might be ready to destroy property worth 50*l*. to obtain 1000*l*., it was difficult to conceive that any one would wilfully destroy property to a very large amount when, as really appeared to be the case in the present instance, the amount insured for would hardly cover the loss." The jury, without leaving the box, instantly returned a verdict in favour of the plaintiff. Mr. Bovill, as his counsel, claimed interest, and declared that he would not abate a halfpenny—and the verdict was accordingly entered for 4277*l*. 16*s*. 8½*d*.

## Railways.

COLLISION ON THE STOCKTON AND DARLINGTON.—A serious collision took place shortly before 8 on Monday night at the Darlington junction. The Parliamentary train, which was due at Darlington shortly after that hour, ran into a mineral train, which was crossing the line, the result being that the tender and several of the carriages of the passenger train were thrown off the line, and were greatly damaged. One of the passengers, Mr. W. Petter, of Liverpool, was seriously injured, and several others were slightly bruised. Had the passenger train been one moment earlier in arriving at the crossing the consequences must have been frightful, as the whole weight of the 25 laden ironstone waggons would have come broadside upon it, and in all probability have caused a serious destruction of life.

THE CITY TERMINUS IN CANNON STREET.—The houses on the site of the old Steel Yard in Upper Thames Street are now being demolished to make way for the City branch of the Charing Cross Railway, and its proposed terminus in Cannon Street. These houses, which were extremely old and dilapidated, some of them having survived the fire of London, had of late years been occupied by the Victoria Dock Company for wharfage purposes. They had a river frontage of about 220 feet, and extended backwards to Thames Street about 100 yards. The intervening block of buildings between Thames Street and Cannon Street, and which is also doomed to destruction, is of great value. It lies between Dowgate Hill and Allhallows Lane, and consists mostly of merchants' warehouses and offices, including the head quarters of the Unity Bank, a modern structure with a handsome front in Cannon Street. The viaduct for carrying the line across the Thames is now in course of construction, and will resemble the railway bridge of the same company at Charing Cross, Mr. Hawkshaw being the engineer of both. It will rest on circular iron caissons, and have four, if not five, spans. It will cross the river about midway between London and Southwark bridges, and its abutments on the Surrey side will be of iron, and those on the opposite shore of brick. It will pass over the western end of the pontoon steam-boat pier recently erected by the Thames Conservancy Commissioners, of Allhallows Wharf, and will, it is thought, render necessary the removal of the pier, or some part of it. The railway will form a junction with the South-Eastern system in the Borough, and probably at some future time with the South-Western also, and the terminus, almost in the very centre of the city, will afford very great public accommodation. The Cannon Street station, it is understood, will be more spacious than that at Charing Cross, the intention being to make it 20 feet wider, and with a glass roof of corresponding span. The terminus will be within five minutes' walk of the Bank and the Exchange, and readily accessible by St. Swithin's Lane, Walbrook, Abchurch Lane, King William and Cannon Streets, the delay and danger occasioned by the crowded state of London Bridge being thus avoided. The contractor of the bridge is under covenant to complete it by the end of next year.

RAILWAY STATISTICS.—In the year 1862 the enormous number of 180,429,071 passengers travelled on the railways of the United Kingdom, besides 56,656 season-ticket holders, who of course all travelled very many times; and besides, also, 262,334 horses, 386,864 dogs, 3,094,183 cattle, 7,800,928 sheep, and 1,989,892 pigs. The passengers were more than in 1861 by about 7,000,000. They paid 12,295,273*l*. for their fares. The first-class passengers paid 3,332,380*l*.; the second-class, 4,018,221*l*.; the third-class, 4,639,250*l*. 12.80 in every 100 went first-class, 28.75 second-class, 58.45 third-class. The proportion of third class passengers is rather increasing, and of second-class rather diminishing. Thirty-five passengers were killed (nine of them owing to their own misconduct or want of caution), and 536 were injured. This is less than half the number who lost their lives in 1861 by railway accidents. The passenger trains travelled 57,542,831 miles, and the goods trains nearly as many more. The passenger traffic supplied 47.76 per cent. of the total receipts of the companies, and the goods traffic the larger half, 52.24 per cent. The receipts from all the traffic amounted to 29,128,558*l*., being nearly 3,000,000*l*. more than the interest of the national debt, and an increase of 563,000*l*. over the receipts of 1861; but the length of line open increased from 10,865 miles at the end of 1861 to 11,551 miles at the end of 1862. The working expenditure amounted to 49 per cent., and left the net receipts 14,820,691*l*., nearly 130,000*l*. more than in 1861. In the year 1862 the companies paid 220,970*l*. for law and parliamentary expenses, 158,169*l*. as compensation for personal injuries, 68,540*l*. for damages and loss of goods, 375,067*l*. for government duty, and 596,410*l*. for rates and taxes. It took 2,708,638*l*. to maintain the way and works, and 1,242,714*l*. to maintain the carriages and waggons, 3,966,005*l*. to provide locomotive power, and 3,987,637*l*. to conduct the traffic. The total sum raised by shares and loans reached 85,218,438*l*. at the close of the year 1862.

## Obituary.

EARL BEAUCHAMP died on Tuesday night, at his seat at Madresfield Court, Worcestershire, in his 70th year, after suffering for several weeks from an internal complaint. His lordship was a General in the army, Colonel of the 2d Life Guards, and Gold Stick in Waiting to the Queen. He leaves two sons and a daughter—viz., Viscount Elmley, the Hon. F. Lygon, M.P. for Tewkesbury, and Lady Raglan. He is succeeded in his title and estates by his eldest son, Viscount Elmley, M.P. for West Worcestershire. The late earl, when General Lygon, sat in the House of Commons for the county of Worcester before the passing of the Reform Bill, and afterwards for the Western Division of the county, altogether for more than a quarter of a century. He was first elected for the county in 1816, and during the Reform agitation, being opposed to the measure, he was defeated. The Reform Bill passed in the next year, and Worcestershire was separated into two divisions, East and West—and at the election consequent upon that division General Lygon was elected for West Worcestershire, and continued to sit for the division until his elevation to the Upper House. In politics he was a Conservative of the old school.

BIRTHS.—On the 7th inst, at Godmersham Park, Canterbury, the Viscountess ST. VINCENT, of a son—2d inst, at 47, Sloane Street, Lady GERALD FITZGERALD, of a son—5th inst, at Offington, Sussex, the Lady EMILY GAISFORD, of a daughter—6th inst, at 40, Chester Square, the Lady FRANCES BUSHBY, of a son—31st ult, Lady DE C. BROKE, wife of R. F. EATON EDWARDS, Esq., of a daughter—1st inst, at 68, Park Street, the Hon. Mrs. HERVEY ST. JOHN MILDMAY, prematurely, of a daughter, who only survived a few minutes—4th inst, at Plas-Llynnon, Anglesey, the Hon. Mrs. FITZMAURICE, of a son—6th inst, at Ramsgate, the wife of Lieut.-General CHARLES BENTINCK, of a daughter.

MARRIAGES.—On the 10th inst., at St. George's, Hanover Square, the Right Hon. Lord LONDESBOROUGH, to the Lady EDITH SOMERSET, youngest daughter of the late and sister of the present Duke of Beaufort—2d inst., at Bibury, Gloucestershire, EDWIN CORBETT, Esq., H.M.'s Secretary of Legation at Frankfort, to the Hon. EMILY ISABELLA CONSTANCE DUTTON, second daughter of the Lord Sherborne—3d inst, at Laverstoke House, Hants, Captain THOMAS DUNDAS, second son of the late Robt. Dundas, Esq., of Arniston, N.B., to JANE ELIZA PORTAL, youngest daughter of the late John Portal, Esq., of Freefolk Priors, Hants—3d inst, at St. Stephen's Church, Dublin, JOSEPH GUBBINS, Esq., of Kilfrush, Limerick, to FRANCES THOMASINE, second daughter of Sir BERESFORD B. M'MAHON, Bart.—8th inst, at Westminster Abbey, the Rev. GEORGE W. KITCHIN, M.A., censor of Christ Church, Oxford, and junior proctor, to ALICE MAUD, second daughter of BRIDGES TAYLOR, Esq., H.B.M.'s Consul for Denmark, and granddaughter of the late General Sir Hugh Halkett, C.B., G.C.H., of Hanover—5th inst, at St. George's, Hanover Square, WILLIAM DENT, Esq., only son of William Dent, Esq., of Cowper's Hill, Windsor, to JANE AMELIA, youngest surviving daughter of the late Lieut.-General Sir Colin Campbell, K.C.B., and widow of Colonel George Maclean, Royal Artillery—7th inst, at St. Marylebone Church, CHARLES WYNNE FINCH, Esq., M.P., to JAMESINA, relict of H. STYLEMAN LE STRANGE, Esq.—8th July, at Murree, Punjaub, India, Lieutenant FRANK WILLIAM CHATTERTON, third son of John Balsir Chatterton, of Manchester Street, Manchester Square, London, to SUSANNA PAGESIER MARY, eldest daughter of Major J. F. RICHARDSON, C.B.

DEATHS.—On the 8th inst, at Lowesby Hall, Leicestershire, the Dowager Lady FOWKE, aged 74—5th inst, at 8, Norfolk Street, Park Lane, Lady ELIZABETH EMILY DAWSON, aged 64—4th inst, at Kenward, Pembury, Kent, MARIA, the wife of Sir JOHN C. K. SHAW, Bart.—29th July, at Benares, JANET LOUISA, eldest daughter of Captain Sir WILLIAM HAMILTON, Bart., Royal Horse Artillery, aged 4 years and 3 months—1st inst, at Seapoint Terrace, Monkstown, county Dublin, GEORGE S. CARLETON, Esq., eldest son of the late Very Rev. Dean Carleton, aged 78—7th inst, at Belgrave House, Torquay, Major D. ARTHUR MONRO, late 12th Royal Lancers, and only son of the late David Monro, Esq., of Quebec, aged 44—5th inst, at York, Major HENRY PRATT GORE, late 5th Royal Regiment of Foot, aged 38—4th inst, at Helmsley Lodge, near York, Captain EUGENE THOS. C. WHITTELL, Esq., 2d West York Light Infantry, aged 30—31st ult, at De Ligne House, Hastings, Captain JOHN MACKAY MACKENZIE, adjutant 1st Cinque Ports Rifle Volunteers, and late 3rd Regt., aged 36—3d inst, at Athol House, Edgbaston, BENJAMIN GIBBONS, Esq., J.P. for the county of Stafford, aged 48—31st ult, at Wimbledon, CHARLES HENRY PAYNE, Esq., of the Middle Temple, barrister-at-law, and formerly a Commissioner of Bankruptcy for the city of Bristol, aged 72—7th inst, at Walthamstow, S. READ, Esq., member of the late School of Naval Architecture, honorary member of the Institution of Naval Architects, and late of H.M. Dockyard, Sheerness, aged 65—7th inst, the Rev. FREDERICK GAUNTLETT, rector of Fladbury, aged 74.

## Markets.

COVENT GARDEN, Sept. 12.

Vegetables and most kinds of Fruit still continue plentiful. Plums may also be had in great abundance at from 6s. to 8s. a sieve. Of Grapes and Pine Apples the supply is sufficient for the demand. Of Melons there is a good stock of both English and foreign varieties. There is also a good supply of Williams's Bon Chrétien and Marie Louise Pears. Some good examples of Ribston Pippin Apples have also arrived from Jersey. Kent Filberts fetch from 55s. to 60s. per 100 lbs. Kent Cobs are coming in in better condition than last week; price 45s. to 50s. per 100 lbs. For Potatoes the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Stocks, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 2s 6d to 6s | Nectarines, do., 2s to 5s |
| Grapes, per lb., 2s to 6s | Melons, each, 2s to 4s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Lemons, per 100, 8s to 12s |
| Pears, per ½ sieve, 2s 6d to 5s | Nuts, small, per bushel, 14s to 18s |
| Plums, per ½ sieve, 3s to 6s | Almonds, do., 18s |
| Figs, per doz., 2s 6d | Walnuts, do., 14s to 20s |
| Peaches, per doz., 3s to 8s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Celery, p. bundle, 1s 6d to 2s |
| Peas (shelled), p. qt., 1s to 1s 6d | French Beans, p. sieve, 2s to 6s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatoes, York Regents, p. ton, 100s to 110s | Garlic, per lb., 8d |
| „ Shaws, do., 60s to 70s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatoes, each, 2d to 3d | |

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, Sept. 10.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 78s to | 84s | Clover, old | 95s to | 126s |
| Superior do. | 86 | 92 | Do. second cut | 90 | 110 |
| Inferior do. | 60 | 70 | New Clover | — | — |
| New do. | — | — | Straw | 28 | 34 |
| Rowen | 60 | 60 | | | |

HARVEY & EASTON.

CUMBERLAND MARKET, THURSDAY, Sept. 10.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 92s to | 100s | Inferior Clover | 90s to | 108s |
| Inferior do. | 75 | 84 | New do. | — | — |
| New do. | — | — | Straw | 34 | 35 |
| Superior Clover | 116 | 126 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Sept. 10.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime 1st cut Clover | 120s to | 126s |
| Inferior do. | 80 | 86 | Inferior do. | 108 | 118 |
| Prime New Hay | — | — | New 1st cut do. | — | — |
| Inferior | — | — | Prime 2d cut do. | 105 | 112 |
| Straw | 28 | 32 | Inferior do. | 95 | 100 |

HOPS.—BOROUGH MARKET, FRIDAY, Sept. 11.

Messrs. Pattenden & Smith report a good demand for the new growth, of which at present there is only a limited supply. Prices are the turn dearer for fine samples.

| | | |
|---|---|---|
| Mid and East Kents, per cwt. | £5 10 to | £8 8 |
| Weald Kents | 4 15 — | 5 10 |
| Sussex | 4 10 — | 5 5 |

Very choice higher.

NEWGATE.—Sept. 11.

Best Fresh Butter .. .. 14*s*. per dozen lbs.
Second do. do. .. .. 12*s*. „
Pork, 4*s*. 4*d*. to 5*s*. 0*d*. per 8 lbs.

METROPOLITAN CATTLE MARKET.

MONDAY, Sept. 7.

We have a smaller supply of Beasts, and the average quality is very inferior; consequently choicest descriptions are very readily disposed of at rather higher rates. There is also a small advance in other kinds. The number of Sheep is unusually small for the time of year. Trade is not very brisk, yet the smallness of supply causes a considerable advance in prices. Calves are selling about the same as on Thursday. From Germany and Holland there are 2130 Beasts, 846 Sheep, and 211 Calves; from Ireland, 450 Beasts; and 2150 Beasts from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. | 4 10 to 5 0 | Best Long-wools | 5 0 — 5 2 |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn | .. — .. |
| 2d quality Beasts | 3 4 — 4 0 | Ewes & 2d quality | 4 4 — 4 8 |
| Best Downs and Half-breds | 5 2 — 5 4 | Do. Shorn | .. — .. |
| Do. Shorn | .. — .. | Lambs | 4 4 — 5 8 |
| | | Calves | 3 0 — 4 8 |
| | | Pigs | 3 0 — 4 4 |

Beasts, 5190; Sheep & Lambs, 20,360; Calves, 239; Pigs, 460.

THURSDAY, Sept. 10.

We have rather a larger supply of Beasts than on Thursday last, and Monday's advance in price is barely maintained. The number of Sheep and Lambs is not larger. Trade is not brisk, and prices are rather lower than Monday's, yet there is

scarcely a quotable difference on the average. There is no alteration in the Calf trade. From Germany and Holland there are 326 Beasts, 2560 Sheep, 511 Calves, and 30 Pigs and 76 Beasts from Spain. Milch Cows, 90.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 4 10 — 5 2 |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn .. | .. — .. |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | 4 6 — 4 8 |
| Best Downs and Half-breds .. | 5 2 — 5 4 | Do. Shorn .. | .. — .. |
| Do. Shorn .. | .. — .. | Lambs .. .. | 4 8 — 5 8 |
| | | Calves .. .. | 3 0 — 4 8 |
| | | Pigs .. . | 3 0 — 4 4 |

Beasts, 1520; Sheep & Lambs, 8230; Calves, 595; Pigs, 210.

MARK LANE.—MONDAY, Sept. 7.

The supply of English Wheat to this morning's market was very small, and was sold at an advance of 1s. to 2s. per qr. upon the prices of this day se'nnight. Foreign met a fair inquiry at the extreme rates of last week. Malting Barley was rather more inquired for, grinding unaltered. Beans and Peas brought late quotations. The Oat trade was dull, and prices were unaltered. For Flour there was but little demand, and we do not alter our quotations.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 44—46 | Red ..... | 42—44 |
| — — fine selected runs .. ditto | 46—50 | Red .... | 42—48 |
| — — Talavera .............. | 48—52 | | |
| — Norfolk .................... | — | Red .... | — |
| — Foreign .................... | 38—58 | | |
| BARLEY, grind. & dist, 30s to 33s .. Chev. | 36—40 | Malting .. | 33—38 |
| — Foreign .. grinding and distilling | 25—29 | Malting .. | 28—32 |
| OATS, Essex and Suffolk .......... | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ............... Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 19—22 | Feed .... | 18—20 |
| RYE .............................. | 30—32 | Foreign .. | — |
| RYE-MEAL, Foreign ................ | — | | |
| BEANS, Mazagan .... 33s to 38s .. Tick | 34—36 | Harrow .. | 34—36 |
| — Pigeon .... 37s to 40s .. Winds. | — | Longpod | — |
| — Foreign ............... Small | 40—46 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent .. Boilers | 37—38 | Suffolk .. | 38—40 |
| — Maple .... —s to —s .... Grey | — | Foreign .. | 32—38 |
| MAIZE ...................... White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 38—43 | | |
| — 2d do ................. ditto | 30—34 | Country .. | 30—34 |
| — Foreign ........... per barrel | 17—26 | Per sack | 34—45 |

FRIDAY Sept. 11.

The weather during the past week has been changeable, and mostly wet with high winds. Harvest work has but partially progressed, and what was secured of the grain crop within the last few days must have been in poor condition, while a part of that still out has suffered to some extent, and is now in a precarious position. North of the Umber probably more than half the crop remains cut or standing in the fields. The interruption of harvest work gave increased firmness to the trade, and good conditioned home-grown Wheats sold readily at an advance of 1s. to 2s. per qr. upon former rates, while foreign realised in some markets 1s. per qr., and in Liverpool 1s. to 2s. per qr. more money, but the business was not brisk. Feeding Barley has continued in request at full prices; for malting the season has scarcely commenced, but as the reports about English are less satisfactory, there is an inquiry for foreign, and prices are 1s. to 2s. dearer. Beans, Peas, and Oats remain as last quoted. Flour moves off slowly, except at Liverpool, where an advance of 6d. per barrel and 1s. per sack has been established. Since Friday last 65 vessels have been reported off the coast. The floating cargo trade has been moderately active, and 6d. to 1s. per qr. better prices have been established for Wheat and Maize. Barley and Beans have been steady. In Paris (Sept. 10), little business was done in Flour at unaltered prices. The six marks for delivery this month are quoted equal to 34s. per 280 lbs. The present stock of Flour is estimated at 7980 cwts. Only very few transactions have taken place in Wheat, holders asking late rates, and buyers insisting upon a reduction of 9d. to 1s. 3d. per 480 lbs. The arrivals of English and foreign grain and Flour during the week have been small. This morning's market was poorly attended. English Wheat met with less inquiry than of late, and the business done in foreign was unimportant; prices remain nominally the same as on Monday. In spring corn but little was done, and we do not alter our quotations.

ARRIVALS THIS WEEK.

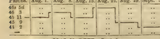
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 810 qrs. | 30 qrs. | — qrs. | 250 sks. |
| Irish .... | — | — | 600 | — " |
| Foreign .. | 7730 " | 10 | 18,050 " | 320 " / 830 brls |

LIVERPOOL, Sept. 8.—We have had a very fair attendance of both town and country millers and dealers at our Corn Exchange this morning, and the advance of 2d. per cental was maintained, but not so freely supported as had been anticipated. Flour was held for 6d. per barrel and sack more money. Indian Corn must be quoted 9d. per qr. dearer all round, but the rise is found to check the late activity. Fine old Oats are scarce and the turn dearer; all other descriptions, as well as Oatmeal, are dull and irregular in value. Beans are held for an advance of 6d. per qr. Peas and Barley steady at late rates. The market closes with less animation than it opened. Weather still unsettled.

FRIDAY, Sept. 11.—Wheat only in retail demand at 1d. to 2d. lower. Flour dull, and prices rather in favour of purchasers. Indian Corn in fair demand. Egyptian Wheat and Beans unchanged. Oats quiet. Oatmeal very quiet.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Aug. 1 | 45s 11d | 31s 0d | 23s 0d | 37s 11d | 39s 11d | 36s 3d |
| — 8 | 46 3 | 31 6 | 23 0 | 31 6 | 38 8 | 34 9 |
| — 15 | 45 11 | 31 4 | 23 7 | 36 4 | 40 7 | 35 7 |
| — 22 | 46 5 | 31 1 | 23 0 | 33 2 | 40 4 | 34 9 |
| — 29 | 45 9 | 33 10 | 22 8 | 33 9 | 39 6 | 35 9 |
| Sept. 5 | 44 2 | 34 8 | 22 0 | 32 11 | 38 10 | 37 2 |
| Agg. Aver. | 45 9 | 32 3 | 22 10 | 34 3 | 39 8 | 35 8 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




COAL MARKET.—Sept. 9.

Byass's Bebside West Hartley, 16s. 9d.; Pelew Main 14s. 3d.; Walker Primrose, 12s. 6d.; Eden Main, 16s. 9d. Walls End Braddylls Hetton, 17s. 3d.; Walls End Framwellgate, 16s. 6d.; Walls End Haswell, 18s. 6d.; Walls End Russel's Hetton, 17s. 3d.; Walls End South Hetton, 18s. 6d.; Walls End Cassop, 16s. 9d.; Walls End Hartlepool, 17s. 9d.; Walls End Heugh Hall, 17s. 3d.; Walls End Kelloe, 17s. 3d.; Walls End South Hartlepool, 17s. 3d.; Walls End South Kelloe, 17s. 3d.; Walls End Thorpe, 15s. 9d.; Walls End Trimdon Hartlepool, 17s. 9d.; Walls End Whitworth, 15s. 6d.; Carway and Duffryn Malting, 20s.—42 ships at market.

BRITISH WOOLS.—LONDON, Sept. 11.

Our demand continues good, and prices buoyant for all descriptions of worsted and flannel wool, but blanket wool is not inquired after.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 9½ to 1 10½ | Leicest. Wethers | 1 8 to 1 9 |
| Half-bred ditto .. | 1 10 — 1 11 | Ditto Hoggs .. | 1 9 — 1 10 |
| Down Ewes .. | 1 8½ — 1 9½ | Combing Skins | 1 4 — 1 8 |
| Kent Fleeces .. | 1 9 — 1 10 | Flannel Wool .. | 1 6 — 1 8 |
| | | Blanket ditto .. | .. — .. |

To Propagators.

MR. JAMES VEITCH, of the Exotic Nursery, King's Road, Chelsea, is in want of a first-rate GENERAL PROPAGATOR in the Plant department. To a thoroughly competent person of known ability Mr. Veitch will give 100l. per annum. Unexceptionable references will be required.—Chelsea, Sept. 12, 1863.

WANTED, a FOREMAN in a Garden Establishment, near town; a single Man, well experienced in all branches of Fruit and Plant Growing, where everything is required. Good character. Must be unquestionable in every respect.—A. B., Messrs. Kitchen, Ironmongers, 533, New Oxford Street, W.C.

WANTED, a single YOUNG MAN, of active and industrious habits, as FOREMAN in a gentleman's Establishment. He must be sober, honest, &c., and have a good general knowledge of his business.—Apply by letter, stating reference, &c., to C. D., 1, Prospect Place, Larkhall Lane, Stockwell, S.

WANTED, in a London Nursery and Seed Establishment, a MAN with a good knowledge and experience of the business. He would be required to Manage the Flower Seed Department, and attend on Company visiting the Nursery in the summer season; to Travel one or two journeys, and if he had a knowledge of the French language sufficient to take a journey on the continent, he would be preferred.—Apply by letter, stating previous situations filled, and terms, to H. A., *Gardeners' Chronicle* Office, W.C.

WANTED, by a gentleman in the neighbourhood of London, a MAN and his WIFE (without family preferred). The former must understand the care of Milch Cows, Sheep, Cattle, Pigs, &c., and make himself generally useful on the Farm; the latter must understand Dairy Work, Milking, the charge of Poultry and Baking. Wages, 40l. a year, with Cottage and Fuel. No one need apply, unless able-bodied, and with good references.—Address by letter, enclosing testimonials, prepaid, to W. A., care of Messrs. Ridgway, Publishers, 169, Piccadilly, W.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 33, single; experienced in all branches. Lately returned from France, where he lived for two years in a private establishment. No objection to the continent.—Y., 19, College Street North, Camden Town.

GARDENER (HEAD).—Age 25, single, Scotch; has a good knowledge of his profession, acquired during 10 years' practice. Good testimonials from previous employers.—W. W., Post Office, Leyton, Essex, N.E.

GARDENER (HEAD).—Age 34, married, no incumbrance; understands his profession, and can be highly recommended. Wife can take charge of Poultry if required.—A. B., 3, Grove Terrace, Grove Road, Forest Hill, S.E.

GARDENER (HEAD), in a gentleman's family.—Age 42, married; has had 23 years' experience in Gardening in all its branches. Can be well recommended. Three years' good character.—Y. Z., Mr. Marshall's, Baker, Lower Tooting, Surrey.

GARDENER (HEAD).—Age 30, married, with two children; thorough practical experience in Early and Late Forcing of Fruits, Flowers, and Vegetables. Nearly four years' unexceptionable character.—A. L., Messrs. Smith & Co., Ironmongers, Blackheath, S.E.

GARDENER (HEAD).—Has a thorough knowledge of his profession in all its branches; had great experience in Early and Late Forcing. Just lately disengaged from the service of W. S. Lindsay, Esq., M.P.—X. Y. Z., 23, Stanford Road, Fulham, S.W.

GARDENER (HEAD).—Age 30, single; perfectly understands his profession, having had considerable practice in some of the best and most complete Forcing places in England, and competent to undertake the Management of any large establishment. Good character.—J. T., 10, Harrington Street, Hampstead Road, N.W.

GARDENER (HEAD).—Has been in his present situation nearly 14 years, and leaving in consequence of a reduction in the establishment; thoroughly understands the Erection and Heating of Horticultural Buildings, Laying-out and Planting Grounds, Forcing Pines, Grapes, Peaches, Strawberries, Melons, Cucumbers, and Mushrooms; the Growth and Treatment of Orchids, Ferns, Ornamental Foliage and Stove Plants, Azaleas, Camellias, Ericas, Epacris, and general Hardwooded Greenhouse Plants; likewise Pelargoniums and all Soft-wooded Plants. Has a perfect knowledge of Wall Trees and all hardy Fruits; understands the Early Forcing of Vegetables, and is an excellent Kitchen and Flower Gardener. Has taken many Prizes at Provincial Exhibitions. No objection to any part of the kingdom. Character will bear the strictest investigation.—JOHN BRADSHAW, Keresley, Coventry.

GARDENER (HEAD or good SINGLE-HANDED).—Age 23, single; understands his profession in all its branches.—G. V. W., 146, Upper Street, Islington, N.

GARDENER.—Age 25, married; has a thorough knowledge of his profession. Good character.—M. R., Prospect Cottage, South Road, Wimbledon, S.W.

GARDENER (age 28).—J. PRING, Newsells Park, can with confidence reccommend his Foreman to any lady or gentleman in want of a good Working practical Gardener, well acquainted with the Cultivation of Plants and Fruits, and the general routine of Gardening. Three years in present situation.—J. PRING, Newsells Park, Royston, Herts.

GARDENER (middle-aged, married, without incumbrance).—D. DAVIES, who has been 19 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. LINDLEY, Acton Green, Middlesex, W.

GARDENER.—THOMAS ROBY is now at liberty to engage with any nobleman or gentleman in want of a thoroughly experienced person in the above capacity. No objection to the Management of Land, &c. Thirteen years' excellent character from his late employer, A. K. Barclay, Esq., Bury Hill, Dorking.—THOMAS ROBY, Dorking, Surrey.

To Noblemen and Gentlemen.

GARDENER (age 30, married).—A gentleman is desirous of obtaining a situation for his Gardener; has a thorough practical knowledge of the Management of Stove and Greenhouse Plants, Vinery, Orchard House, &c.; first-rate Propagator of Hard and Soft-wooded Plants, and has had extensive practice in the Laying-out of Pleasure Grounds, British and Dutch Flower and Kitchen Garden, Early and Late Forcing; in every respect an excellent and experienced Gardener, thoroughly trustworthy, and fully competent to take the Management of a first-rate place. Five years' testimonials.—J. A. C., Post Office, Daventry.

GARDENER, WOOD FORESTER, and FARM BAILIFF, or GENERAL MANAGER on a gentleman's Estate.—Age 32, married, without incumbrance; a Native of the South of Scotland. Good references and testimonials as to character and ability. No objections to England or Ireland.—A. B. C., 27, Academy Street, Dumfries, N.B.

GARDENER (SINGLE-HANDED or UNDER).—Age 24; seven years' good character.—A. Z., R. Toy's, Mill Hill, Hendon, N.W.

GARDENER (UNDER).—Age 22; good character from last situation.—G. F., Post Office, Bath.

GARDENER (UNDER), where Gardening is done upon a good scale.—Age 20; intelligent, useful.—JOHN WILSHIRE, Seedsman, &c., Beaconsfield.

GARDENER (UNDER), or to manage a small Place.—Age 22, single; has worked four years in one of the best gardens in Derbyshire, and three years in his last place.—THE GARDENER, Butterley Hall, Alfreton, Derbyshire.

GARDENER (UNDER).—Age 20; has been brought up to Gardening from childhood, wishes to engage with a nobleman's or gentleman's Gardener for further experience. Can have a good character.—D. R., The Gardens, Duddon Hall, Broughton-in-Furness, Lancashire.

PROPAGATOR, or PROPAGATOR and FOREMAN.—Has had considerable experience in the London Trade.—R. W., 21, Buccleuch Road, West Dulwich.

PROPAGATOR or FOREMAN and PROPAGATOR.—First-class testimonials.—A. B., 5, Lacland Terrace, King's Road, Chelsea, S.W.

PROPAGATOR, or FOREMAN and PROPAGATOR.—A first-class Graftsman, and thoroughly experienced in the Propagation of Hard and Soft-wooded Plants. Good references.—A. B., 43, North Road, Great Yarmouth, Norfolk.

To Nurserymen.

GENERAL FOREMAN, SALESMAN, and PROPAGATOR.—Has had 22 years' extensive practice in two of the principal Nurseries in England; has a thorough practical knowledge of every branch of his profession, but more particularly the Indoor Department.—C. J. DYER, 15, Stanford Road, Fulham, S.W.

To Nurserymen.

ASSISTANT PROPAGATOR and IMPROVER, under the Foreman.—Age 21. Good reference.—A. R. H., Mr. Geo. Woollett, Nurseryman, Brixton, S.

IMPROVER.—Accustomed to all kinds of Forcing and Flowers. Good Premium given.—D. TANLY, 24, Park Street, Dorset Square, London, N.W.

To Landowners, Agents, and Others.

SUB-AGENT on an ESTATE, or as MANAGER of a FARM.—Age 24; thoroughly understands the Management of Stock, Dairy, and Arable Farms; the general details of Farm Management; the Drainage, Reclamation, and Planting of Land. Has received a good Scientific Education, holding the Diploma of the Royal College of Agriculture. Having spent a considerable period in the Laboratory of Dr. Voelcker, has a good knowledge of the Analysis and Value of Feeding Materials, Artificial Manures, Soils, and practical knowledge of Agriculture, gained in the North of England. Should prefer a situation where improvements were necessary. Has no particular objection to go abroad.—M. R. C. A., Post Office, Gateshead, Durham.

LAND STEWARD or BAILIFF.—Middle-aged, single; practical; thoroughly experienced in Agriculture in all its branches, the management of all description of Buying and Selling; has had great experience; a good Accountant. Has a Sister who would take charge of Dairy and Poultry if required. Can be highly recommended.—A. B., Post Office, Ottershaw, Chertsey, Surrey.

FARM BAILIFF, or WORKING FOREMAN.—The Employer of an active Working Bailiff is anxious to obtain for him another situation. He is an industrious superior Man, understands Stock and good Farming, and has long had the Management of a Steam Plough. His Wife is a good Manager of a Dairy.—Messrs. J. & F. HOWARD, Britannia Iron Works, Bedford.

FARM BAILIFF.—Married; Wife could undertake the Management of a Dairy and Poultry if required. Highest reference as to character and ability.—J. W., Post Office, Market Harborough, Leicestershire.

To Noblemen and Gentlemen.

FARM BAILIFF, at Michaelmas.—Age 44, married, no incumbrance; thoroughly understands Farming in all its branches, including Hops, Grazing, Breeding, and Rearing of Stock and Sheep; acquainted with different Soils; is also a good Accountant. Wife can take charge of small Dairy and Poultry if required. Satisfactory references.—A. B., Post Office, Cranbrook, Kent.

FARM BAILIFF or WORKING BAILIFF.—Age 42, married, no incumbrance; 18 years' experience in Farming business. Wife to undertake Dairy or Poultry.—W. J., Wandsworth Lodge Farm, Upper Tooting, Surrey, S.

FARM BAILIFF (WORKING).—Age 32, married. Four years' character.—J. C., Loudwater, near High Wycombe, Bucks.

SHOPMAN, in Seed Trade.—Age 26 years; eleven years' experience.—P. O., *Gardeners' Chronicle* Office, W.C.

DAIRY MAID.—Age 24, single; excellent Butter maker; has been brought up in a gentleman's Dairy, where a large number of Cows are kept; and can be well recommended for honesty, cleanliness, &c. A situation in a nobleman's or gentleman's family preferred.—Mr. T. SCOTT, Home Farm, Great Barton, Bury St. Edmunds.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, SEPTEMBER* 19, 1863.

**To Seed Merchants and Nurserymen.**

SAYNOR AND COOKE, PRUNING and BUDDING KNIFE MANUFACTURERS, beg respectfully to say that they will not be undersold by any House in the Trade. They also warrant one of their Knives to last two of any other make.
Paxton Works, Sheffield.

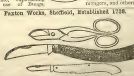
**Fresh Fruit all the Year Round.**

JENNINGS' MODEL PRESERVING JAR affords the means to every one to lay by a store of Fruit or Vegetables for Winter use at a very small cost and little trouble.

This is effected by means of an AIR-TIGHT CAP or COVER, which can be placed or removed in a moment, and will last for years in any climate, superseding the use of Bungs, Corks, Bladder, &c., for all kinds of Preserved Meats, Fruits, or Pickles.

Descriptive Illustrations, Prices, &c., from the Wholesale Depôt, Palace Road, Lambeth, S. Retail from all China and Glass Dealers, Ironmongers, and others.

**Paxton Works, Sheffield, Established 1738.**



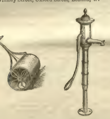
INTERNATIONAL EXHIBITION PRIZE MEDAL WAS AWARDED TO SAYNOR & COOKE FOR SUPERIORITY OF QUALITY IN PRUNING AND BUDDING KNIVES, &c.

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as those Knives are tempered by an improved process known only to the Makers.

**Iron Works.**

COTTAM AND CO.,
2, Winsley Street, Oxford Street, London, W.



COTTAM & Co. manufacture all kinds of Implements and Machines for Garden and Horticultural purposes, Verandahs, Greenhouses, Conservatories, Hot water Apparatus, &c.; Iron Fencing, Gates, and Hurdles.

Illustrated Catalogues free of COTTAM & Co., Iron Founders, &c., 2, Winsley Street (opposite the Pantheon), Oxford Street, London, W.

RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

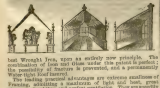
Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3*d*. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3*l*. 10*s*.

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

DENNIS'S PATENT METALLIC HORTICULTURAL BUILDINGS are made from the



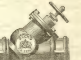
best Wrought Iron, upon an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure.

For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St. Chelmsford, Essex.

BECK'S

**PATENT HOT-WATER VALVES**




AT GREATLY REDUCED PRICES, viz.:—

| 2 In. | 3 In. | 4 In. |
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| 12s. 6d. | 16s. 6d. | 20s. 0d. |

*Upwards of* 4000 *of the Patent Valves are now in use and giving the greatest satisfaction.*

JOHN BECK can also supply large quantities of his

IMPROVED THROTTLE VALVES

on the shortest notice.

JOHN BECK,

PATENTEE AND MANUFACTURER

OF EVERY DESCRIPTION OF

GAS, WATER, and STEAM FITTINGS,

FIRE COCKS, WATER CLOSETS, ETC.

PATENT VALVE WORKS

AND SANITARY DEPOT,

GREAT SUFFOLK STREET, LONDON, S.E.

Card.

SAMUEL N. McGERROW,
GENERAL HORTICULTURAL BUILDER,
Knotty Ash, near Liverpool.

Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

LATEST IMPROVEMENTS IN
**Heating by Hot Water.**
THE IMPROVED
CONICAL BOILERS,
FOR HEATING PINERIES, CONSERVATORIES, GREENHOUSES, MANSIONS, HALLS, WAREHOUSES, &c.,
SOLELY MANUFACTURED BY

BURY AND POLLARD
(Successors to JOHN R. PEILL, Late STEPHENSON & PEILL).

Annexed Sketch shows BURY & POLLARD'S improved arrangement, requiring

NO BRICKWORK SETTING.

These Boilers have for their durability and economy attained a celebrity far surpassing any other Boilers ever invented. They have been for many years past in use at many Public Establishments, Royal Botanical Gardens at Kew, at the Regent's Park, the Crystal Palace, and at most of the Nobility's and Gentry's Seats throughout the United Kingdom. References where they have been 20 years in constant use.

Price Lists on application to BURY & POLLARD, Park Iron Works, New Park Street, Southwark, London, S.

JAMES WATTS AND CO., HOTHOUSE BUILDERS and HOTWATER APPARATUS MANUFACTURERS, near the Green Man, 353, Old Kent Road, London, S.E.

200 CUCUMBER and MELON BOXES and LIGHTS, and from 400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.

Glazed and Painted complete, ready for immediate use. Packed and sent to all parts of the kingdom.

10 dozen strong Zinc HAND GLASSES, Glazed and Painted complete, ready for immediate use, 18, 20, and 22, all shifting tops.

Reference to the Nobility, Gentry, and Trade in most of the counties in England.

# JOHN WARNER & SONS,

## BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.

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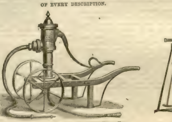


No. 36½. IMPROVED CAST-IRON LIFT AND FORCE PUMP.

No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0

2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0

2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... £5 15 0

1½-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4

2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l*. 3*s*.) ... ... ... ... ... 3 0 0

3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l*. 15*s*.) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET. When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & SONS' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l*. 15*s*.; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s*. 5*d*. per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

PATENTEES and MANUFACTURERS,

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

**To the Trade.**

HYACINTH GLASSES SUPERSEDED BY THE

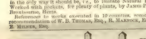
NEW REGISTERED ETRUSCAN HYACINTH VASE, the most beautiful Table Ornament extant. To be obtained only of
HOOPER & Co., Seedsmen, Covent Garden Market, London, W.C.
WHOLESALE LIST of PRICES forwarded on application.

**Glass for Orchard Houses or Conservatories.**

ENGLISH MANUFACTURED SHEET GLASS. 15 and 21 oz. to the foot, in sizes from 9 × 7 to 24 × 20, packed in 100 feet boxes, to be sold cheap.
Apply to WM. H. JACKSON, Plate, Crown, and Sheet Glass Warehouse, 315, Oxford Street, W.

TREE and PLANT LABELS.—10,000 CLOTH or PATENT PARCHMENT PUNCHED LABELS for 30s. Delivered free in London on receipt of a Post-office Order or Stamps for the amount.
Address JOHN FISHER & Co., West Road Works, Boston, Lincolnshire.

ROCKWORK FERNERIES, WATERFALLS, CAVES, BANKS of STREAMS and PONDS, executed in the only way it should be, *i.e.*, to imitate Natural ROCKS. Worked with pockets, for plenty of plants, by JAMES PULHAM, Broxbourne, Herts.
References to works executed in 10 counties, some by the recommendation of W. B. THOMAS, Esq., R. MARNOCK, Esq., and E. MILNER, Esq.



GARDEN BORDER-EDGING TILES. — These Tiles, manufactured in Terra-Cotta, Terro-Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are invaluable.
To be obtained at F. & G. ROSHER's Wharves, London; Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.
Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.
Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.
To be obtained of F. & G. ROSHER at their Premises as above.

**Oil Paint no longer Necessary.**

HILL AND SMITH'S PATENT BLACK VARNISH for preserving Iron Work, Wood, or Stone. This Varnish is an excellent substitute for oil paint on all out-door work, and is fully two-thirds cheaper. It may be applied by an ordinary labourer, requires no mixing or thinning, and is used cold. It is used in the grounds at Windsor Castle, Kew Gardens, and at the seats of many hundreds of the nobility and gentry, from whom the most flattering testimonials have been received, which HILL & SMITH will forward on application.
Sold in casks of about 30 gallons each, at 1*s.* 6*d.* per gallon, at the Manufactory, or 1*s.* 8*d.* per gallon paid to any Station in the kingdom.
Apply to HILL & SMITH, Brierley Hill Iron Works, near Dudley, and 76, Cannon Street, E.C., from whom only it can be obtained.

**Gutta Percha Tubing for Watering Gardens.**

THE GUTTA PERCHA COMPANY have the pleasure to acknowledge the receipt of the following

*Testimonial from* MR. J. FARRAH, *Gr. to* BOSWELL MIDDLETON JALLAND, Esq., *of Holderness House, near Hull.*

"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."
Manufactured by the GUTTA PERCHA COMPANY, Patentees, 18, Wharf Road, City Road, London, E.C., and sold by their Wholesale Dealers in town and country.

BUY YOUR SEED BAGS from JAMES T. ANDERSON, SACK and BAG MAKER and RUSSIA MAT MERCHANT, 15, SHERBORNE LANE, KING WILLIAM STREET, LONDON, E.C., who will supply you with a first-rate article at a low price.
Prices sent free on application.

ANDERSON'S ARCHANGEL MATS are the best for all Garden purposes, also PETERSBURG and PRUSSIAN DUNNAGE MATS. Prices sent post free on application. N.B. The Trade supplied.
JAMES T. ANDERSON, Sack and Bag Maker and Russia Mat Merchant, 15, Sherborne Lane, King William Street, London.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, late Mrs. Lawrence of Ealing Park, &c.

PROTECTION from the SCORCHING RAYS of the SUN. "FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1*s.* 6*d.* per yard run.
Four yards wide .. .. . 3*s.* per yard.
An improved make, 2 yards wide, 1*s.* 8*d.* per yard.
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Also "Frigi Domo" Netting, 2 yards wide, 1*s.* 4*d.* per yard run.
ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Trinity Lane, Cannon Street, City, E.C., and of all Nurserymen and Seedsmen throughout the kingdom.
"It is much cheaper than Mats as a covering."

AGRICULTURAL IMPLEMENTS.—STEAM ENGINES, THRESHING MACHINES, CARTS, WAGGONS, PLOUGHS, HARROWS, CHAFF-CUTTERS for hand and power, PRIZE CHURNS, LAWN MOWERS, WIRE NETTING, GARDEN TOOLS of all kinds.
Illustrated Catalogue on receipt of six postage stamps.
Price Lists free.
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CHUBB'S FIRE-PROOF STRONG ROOM DOORS. CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
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LE SOMMIER ELASTIQUE PORTATIF.—The foundation for all Mattress Bedding should be elastic, and the usual Spring Mattress is too heavy and cumbersome for general use. HEAL & SON's new Patent LE SOMMIER ELASTIQUE PORTATIF is made in three separate parts, and is therefore light and portable; it is also cheap and durable; and as it has no stuffing on the top, it cannot harbour moth.

HEAL AND SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.
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CONCENTRATED BEEF TEA, with FARINACEOUS FOOD, in skins of 1 lb. each, containing the extract of 13 lb. of Beef, 7*s.*; invaluable to public speakers, tourists, and invalids, either as a lozenge, or dissolved in hot milk, water or tea. Also the Patent Tonic BEEF TEA LOZENGE, to create strength, sustain the stomach, and prevent fever. A few dissolved in boiling water will form a Cup of Beef Tea or Gravy for Game. 1*s.* Boxes.
PHYTHIAN, 430, West Strand, W.C.; NEIGHBOUR, 127, High Holborn, W.C.
TESTIMONIAL.—You can safely recommend BAKER's Patent Tonic Beef Tea Lozenges, I was out examining pupils 11 hours, had no other food, and felt none the worse from my labours. —*Rev. P. S.*

CAPTAIN WHITE'S ORIENTAL PICKLE, CURRY or MULLIGATAWNY PASTE. CURRY POWDER and CURRY SAUCE, may be obtained from all Sauce Vendors, and Wholesale of
CROSSE & BLACKWELL, Purveyors to the Queen, Soho Square, London, W.C.

**Sauce.—Lea and Perrins'**

WORCESTERSHIRE SAUCE.—This delicious Condiment, pronounced by Connoisseurs
"THE ONLY GOOD SAUCE,"
Is prepared solely by LEA & PERRINS.
The public are respectfully cautioned against worthless imitations, and should see that LEA & PERRINS' Names are on Wrapper, Label, Bottle, and Stopper.
ASK FOR LEA AND PERRINS' SAUCE.
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MESSRS. WOTHERSPOON AND CO. have been appointed STARCH PURVEYORS to H. R. H. the PRINCESS of WALES. This Starch is used in the Royal Laundry and was awarded a Prize Medal. Sold by all Grocers, Chandlers, &c.
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PARAWAX CANDLES, Three to the Pound.—These Candles, manufactured by PRICE's Patent Candle Company expressly for dinner-table chandeliers, recommend themselves by their beauty of appearance and brilliancy of light. Price 1*s.* 8*d.* per lb.
Can be had of all Chandlers and Grocers.

PRICE'S CHILD'S NIGHT LIGHTS are perfectly safe, and burn their time. The quality of these night lights can now be relied on.

SHERWOOD BED LIGHTS, Sixpence and Eighteenpence a box.—These candles are made to supply a want very generally expressed, a cheap, really good chamber candle. They will be found inferior only to "PRICE'S CANDLES, WHICH WILL NOT DROP GREASE WHEN CARRIED," which are sold in boxes, 1*s.* and 3*s.* each.

GLYCERINE, which very simple tests show to be impure, is being sold on the statement that it is in every respect equal to Price's." Most medical men prescribe "PRICE'S GLYCERINE." Where purity is of importance patients can ensure it by desiring to have their Glycerine in 1 lb., 8 oz., 4 oz., or 2 oz. bottles, with capsule over the stopper marked "Price's Patent."
Belmont, Vauxhall.

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Forward address, on a stamped envelope, to W. GOODALL, Esq., Epsom, Surrey, S.

CONSUMPTION.—All Nervous, Bilious, Liver and Stomach Complaints are only aggravated and accelerated by drugs of every description, but perfectly curable by DU BARRY's health-restoring REVALENTA ARABICA FOOD, as proved by thousands of cases which had been considered hopeless. We quote a few.—Cure, No. 46,270. Mr. James Roberts, of Frimley, Surrey, of 30 years' diseased lungs, spitting of blood, liver derangement, and partial deafness.—Cure, No. 47,121. Miss Elizabeth Jacobs, of extreme nervousness, indigestion, gatherings, low spirits, and nervous fancies.—Cure, No. 54,816. The Rev. James T. Campbell, Fakenham, Norfolk, "of indigestion and torpidity of the liver, which had resisted all medical treatment."—In tins 1 lb., 2*s.* 9*d.*; 2 lb., 4*s.* 6*d.*; 5 lb., 11*s.*; 12 lb., 22*s.*; 24 lb., 40*s.*
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Lists of Prices on application to THRESHER & GLENNY, General Outfitters, next door to Somerset House, Strand, W.C.

FENDERS, STOVES, FIRE-IRONS, and CHIMNEY PIECES.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW-ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; Steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire Irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The BURTON and all other PATENT STOVES, with radiating hearth-plates.

WILLIAM S. BURTON, GENERAL FURNISHING IRONMONGER by appointment to H.R.H. the Prince of Wales, sends a CATALOGUE gratis and post paid. It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro-Plate, Nickel Silver and Britannia Metal Goods, Dish-Covers, Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea-Trays, Urns and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Room Cabinet Furniture, &c., with Lists of Prices, and Plans of the 20 large Show Rooms, at 39 Oxford Street, W.; 1, 1A, 2, 3, and 4, Newman Street; 4, 5, and 6, Perry's Place; and 1 Newman Yard, London.

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SUTTON'S AUTUMN CATALOGUE, containing Descriptive List of the best varieties of HYACINTHS, GLADIOLI, ANEMONES, CROCUSES, and other Bulbous Roots, with Instructions on Cultivation, is now ready, and may be had gratis and post free on application.
N.B. Those of Messrs. SUTTON's Customers who do not receive it in the course of a few days are respectfully requested to communicate with them.
Royal Berkshire Seed Establishment, Reading.

DOBSON'S UNEQUALLED CALCEOLARIAS.—A splendid Coloured Plate of Thirteen Varieties, by ANDREWS, will be forwarded post free for 30 stamps.
J. DOBSON & SONS, Woodlands Nursery, Isleworth, W.

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JAMES ASPINALL TOBIN, Esq., in the Chair.

The Report of the Directors for the year 1862 was read: it showed:—

| | | | |
|---|---|---|---|
| That the Fire Premiums of the year were .. | £436,965 | 0 | 0 |
| Against those in 1861, which were .. .. | 360,131 | 0 | 0 |
| Giving an increase in 1862 of .. .. .. | £75,934 | 0 | 0 |
| That the new Life business comprised the issue of 785 Policies, insuring .. .. | 467,334 | 0 | 0 |
| On which the annual premium is .. .. | 13,935 | 7 | 11 |
| That 69 new Annuity Bonds have been granted, securing annual payments of .. .. | 39,446 | 17 | 11 |
| And that the aggregate of the annuities now payable is .. .. .. .. .. | 23,684 | 1 | 3 |
| That there has been added to the life reserve the sum of .. .. .. .. .. | 79,277 | 11 | 4 |
| That the balance of undivided profit was increased by the sum of .. .. .. | 25,725 | 9 | 7 |
| That the invested funds of the Company amounted to .. .. .. .. .. | 1,417,808 | 8 | 4 |

In reference to the very large increase of 76,000l. in the Fire premiums of the year, it was remarked in the Report, "The Premiums paid to a company are the measure of that company's business of all kinds, and whence derived; the Directors therefore prefer that test of progress to any the duty collected may afford, as that applies to only a part of a company's business, and a large share of that part may be, and often is, re-insured with other offices. In this view the yearly addition to the Fire premiums of the Liverpool and London Company must be very gratifying to the proprietors."

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## News of the Week.

THE replies of Russia to the notes of France, Austria, and England on the Polish question were delivered to the Foreign Ministers of the respective Governments on Monday. It is said that they are expressed in even more courteous terms than the former notes, and that they put an end to all further negotiations by firmly intimating that the CZAR is prepared to assume the full responsibility of his acts, and that the re-establishment of order in Poland must precede any concessions which the Russian Government may contemplate. They are also said to confirm the recent statement of the *Journal de St. Pétersbourg* that there is no truth in the report of the intended political reforms, and that the EMPEROR is supported by the unanimous sentiment of the Russian people in declining to accept the remonstrances of the three Powers.

The announcement that the French Ambassador at St. Petersburg has obtained leave of absence for two months, has produced an unfavourable impression in Paris, and is looked upon as the forerunner of a diplomatic rupture between Russia and France. The *Moniteur* of Wednesday contained an article stating that the steamer Florida, now undergoing repairs at Brest, is not a privateer, but a vessel of the Confederate Navy. The officers, it says, hold regular commissions, and the ship has every character of an ordinary ship of war. This announcement has, of course put an end to all question of attachment or embargo, and at the same time has created a great sensation among the Northerners and their friends, as affording additional evidence of the good understanding between France and the Confederates.

A despatch from Vienna states that Austria has made a positive declaration to France, Russia, and England, that the question of the Danish Duchies must be settled, and that Federal execution, in the shape of the military occupation of Holstein, will become indispensable, if Denmark should persist in her refusal to accede to the conditions demanded by the German Diet.

Accounts from New York to the 3d inst. state that Fort Sumter had not then surrendered, and that General BEAUREGARD had mounted two new guns on its ruins, and determined to hold it by means of temporary fortifications. A general engagement between the iron-clads and Forts Sumter, Wagner, and Moultrie, took place on the 1st. The forts were much damaged, but the Federal iron-clads were ultimately obliged to withdraw. From the Rappahannock it is rumoured that General LEE is making a movement to flank General MEADE, and that General STUART has crossed into Maryland for another raid. In the South-west General ROSENCRANZ and General BURNSIDE are advancing in great force on Chattanooga from different points. The former has succeeded in passing a portion of his army over the Tennessee river almost without resistance, and before throwing his whole army across the river is endeavouring to destroy the Georgia railroad, and thereby intercept General BRAGG's line of communication. It is reported that an attack on Mobile by three Federal corps, under General BANKS, supported by the fleet of Admiral FARRAGUT, will be made shortly. A good deal of fighting has taken place in the neighbourhood of Vicksburg and in Arkansas without any great advantage on either side. President LINCOLN has addressed a letter to the New York Republican State Convention, stating that he does not think a compromise embracing the maintenance of the Union is now possible. The draft has been suspended in Ohio.

Advices from Japan have been received at New York, stating that the Japanese having fired into a British and an American ship, an English and American steamer proceeded to the scene of the outrage, destroyed the town forts, and spiked the guns. A French vessel was subsequently fired upon by the Japanese forts, whereupon several detachments immediately disembarked and routed a body of Japanese assembled on the shore.

## Home News.

DEPARTURE OF THE COURT FOR SCOTLAND.—The Queen, accompanied by Prince Alfred, Princess Helena, Princess Louisa, Prince Arthur, Prince Leopold, and Princess Beatrice, left Windsor for Balmoral at a quarter before 7 o'clock on Monday evening, travelling by the Great Western and North-Western Railways. The Royal party arrived at Perth on Tuesday morning at 8.40, and had breakfast in the Board-room of the Directors of the Scottish Central Railway. At half-past 9 o'clock the Queen, attended by part of the suite, left Perth for Blair Athole, to pay a visit to the Duke of Athole, who has for some weeks been in declining health. During the Queen's presence at Blair Athole, the Princess Louisa, and Princes Arthur and Leopold paid a visit to the Earl of Mansfield at Scone Palace, and joined her Majesty at Stanley Junction, on her return from Blair Castle. The last time her Majesty was at Blair was in October, 1861, in company with the Prince Consort, and was the last visit they paid together. The Duke and Duchess of Athole accompanied the Queen from the Castle to the railway station. The Royal train reached Aberdeen at 3.13, and her Majesty arrived at Balmoral at a quarter past 6.

THE QUEEN AT WINDSOR.—On Friday morning the Queen drove in the grounds. On Saturday the Queen drove in the grounds, accompanied by the Princess Helena. In the afternoon her Majesty held a Privy Council. The Hon. H. Elliot was presented to her Majesty at an audience. Sir Andrew Buchanan had an audience of her Majesty. Earl Granville and Lord Palmerston had audiences of the Queen. On Sunday morning the Queen, Prince Alfred, Princess Helena, Princess Louisa, Prince Arthur, and Prince Leopold, attended Divine service in the private chapel. The Rev. J. Ellison preached the sermon. Count Gleichen visited the Queen.

THE PRINCE AND PRINCESS OF WALES will prolong their residence at Abergeldie till the close of the week after next, and will then go to Sandringham, Norfolk, for a few weeks.

THE PRINCE AND PRINCESS LOUIS OF HESSE and the Princess Victoria arrived at Buckingham Palace on Tuesday morning from Dover, and left town at 8 o'clock in the evening to join her Majesty at Balmoral.

DIPLOMATIC APPOINTMENT.—The Queen has appointed the Hon. Henry George Elliot to be her Majesty's Minister to the King of Italy.

PARLIAMENTARY MOVEMENTS.—At the Privy Council on Saturday, Parliament was ordered to be further prorogued from the 14th of October, to Tuesday, the 1st of December. The Hon. Henry Cowper, eldest son of Earl Cowper, and Mr. John Peel of Middleton Hall, are candidates for Tamworth, vacant by the accession of Lord Raynham to the peerage, the former in the Ministerial, the latter in the Conservative interest. The Hon. Frederick Lygon, M.P. for Tewkesbury, is about to vacate his seat and become a candidate for West Worcestershire, in the room of his brother, Viscount Elmley, now Earl Beauchamp. Mr. Edward Logan will become a candidate for the seat thus vacated at Tewkesbury.

THE SEE OF GIBRALTAR.—The Royal Warrant appointing the Right Rev. Dr. Trower, formerly Bishop of the Scottish Episcopal Church at Glasgow, to the see at Gibraltar, has passed the Privy Seal and is now at the Crown Office, from whence in a few days the letters patent under the Great Seal will issue. The Bishop will then, it is believed, only have to take some formal oaths before the Archbishop of Canterbury before proceeding to the Mediterranean to enter upon his duties.

THANKSGIVING FOR HARVEST.—The Archbishop of Canterbury has addressed a letter to the clergy of his diocese requesting them to set apart an early day for a harvest thanksgiving. He recommends them to have an offertory, and to devote the proceeds as a thank-offering to the Church Building Society. The Bishop of Winchester has addressed a letter to the Archdeacons of Surrey and Winchester, requesting them to appoint a day for a similar thanksgiving, and recommending that the alms collected in the archdeaconry of Surrey be given to the new hospital at Guildford, and those collected in the archdeaconry of Winchester be given to the fund for rebuilding the Hampshire County Hospital. *The Bishop of Exeter has addressed a similar letter to his archdeacons.*

THE POLISH QUESTION.—The *London Gazette* of Tuesday contained the following despatch addressed by Earl Russell to Lord Napier, her Majesty's Ambassador at St. Petersburg:—

"Foreign Office, Aug. 11, 1863.

"My Lord,—On the 18th of last month Baron Brunnow communicated to me a despatch which he had received the evening before from Prince Gortschakoff. This despatch, of which I enclose a copy, is far from being a satisfactory answer to the representation which, in concert with France and Austria, her Majesty's Government addressed to the Cabinet of St. Petersburg. The despatch begins, indeed, by stating that 'the Imperial Cabinet admits the principle that every Power signing a treaty has a right to interpret its sense from its own point of view, provided that the interpretation remains within the limits of the meaning that it is possible to put upon it according to the text itself.' Prince Gortschakoff adds, 'In virtue of this principle the Imperial Cabinet does not dispute this right on the part of any one of the eight Powers which have concurred in the General Act of Vienna of 1815.' Prince Gortschakoff, however, departing widely from the question of the interpretation of the Treaty of Vienna, proceeds to ascribe the continuance of the insurrection in Poland to the moral and material assistance which it receives from without; admits vaguely the six points; rejects the proposed suspension of hostilities; refuses to accept a Conference of the eight Powers who signed the treaty; and finally declares that the re-establishment of order must precede the serious application of any measures destined for the pacification of Poland. Her Majesty's Government will now proceed to examine calmly the principal topics of Prince Gortschakoff's reply to the considerations brought before him in my despatch. Prince Gortschakoff, while he admits that confidence on the part of the governed, and the ascendancy of law over arbitrary power, must be the foundation of order and stability, adds that the indispensable corollary to these principles is respect for authority. But the Russian Cabinet cannot be ignorant that clemency and conciliation are often more effective in establishing respect for authority than material force. It would be a lamentable error to seek to restore that respect by force of arms alone, without the addition of some adequate security for the political and religious rights of the subjects of the King of Poland. Such security the proposals of the three Powers held out to Russia and to Poland alike. It has pleased the Cabinet of St. Petersburg not to avail itself of this mode of restoring respect for authority. 2 Prince Gortschakoff affirms—and this view is the theme of the beginning and end of his despatch—that the re-establishment of order in Poland is dependent upon a condition to which he had called the attention of the Government of her Britannic Majesty, 'and which is not only not fulfilled, but is not even alluded to in the despatch of Lord Russell; we refer to the material assistance and moral encouragement [illegible] from abroad by the insurgents.' Her Majesty's Government would have been glad to have avoided this topic, and, instead of commenting on the past, to refer only to [illegible] for the future. But thus compelled by Prince Gortschakoff's reference to allude to the subject, her Majesty's Government have no hesitation in declaring their conviction, that the principal obstacle to the re-establishment of order in Poland is not the assistance obtained by the insurgents from abroad, but the conduct of the Russian Government itself. The Empress Catherine, in 1772, promised to the Poles the maintenance of their religion. The Emperor Alexander I., in 1815, promised to

the Poles national representation and national administration. These promises have not been fulfilled. During many years the religion of the Poles was attacked, and to the present hour they are not in possession of the political rights assured to them by the treaty of 1815, and the Constitution of the same year. The violation of these solemn engagements on the part of the Russian Government produced disaffection, and the sudden invasion of the homes of Warsaw, in a night of January last, was the immediate cause of the present insurrection. Unless the general feeling in Poland had been estranged from Russia, the moral and material assistance afforded from abroad would have availed the insurgents little. It is true, however, that lively sympathy has been excited in Europe in favour of the Poles. In every considerable State where there exists a national representation—in England, in France, in Austria, in Prussia, in Italy, in Spain, in Portugal, in Sweden, in Denmark —that sympathy has been manifested. Wherever there is a National Administration the Administration has shared, though with prudence and reserve in expression, the feelings of the Legislature and nation. Russia ought to take into account these sympathies, and profit by the lesson which they teach. 3. Prince Gortschakoff lays much stress on the fact, which cannot be denied, that 'the insurgents demand neither an amnesty nor an autonomy, nor a representation more or less complete.' But it would be a mistake to suppose that in cases of this kind there are only two parties—viz., the Government occupied in suppressing the insurrection, and the leaders of the insurgents busy in fomenting and extending it. Besides these parties there is always in such cases a large floating mass who would be quite contented to see persons and property secure under a just and beneficent Administration. The confidence of this great mass has not been obtained, and their continued inaction can hardly be depended upon. Her Majesty's Government must again represent the extreme urgency of attempting at once the work of conciliation, which is so necessary for the general interest. In profiting by the loyal and disinterested assistance which is offered her by Austria, France, and Great Britain, the Court of Russia secures to herself the most powerful means towards making ideas of moderation prevail in Poland, and thus laying the foundations of permanent peace. 4. In referring to the Treaty of Vienna, Prince Gortschakoff says, that 'we should not be far from the truth if we affirmed that the first article of the Treaty of Vienna was prepared by and directly emanated from his Majesty the Emperor Alexander I.' Her Majesty's Government readily admit the probability of this supposition. In 1815 Great Britain, Austria, France, and Prussia would have preferred to the arrangement finally made a restoration of the ancient Kingdom of Poland as it existed prior to the first partition of 1772, or even the establishment of a new independent Kingdom of Poland with the same limits as the present Kingdom. The great army which the Emperor Alexander then had in Poland, the important services which Russia had rendered to the alliance, and, above all, a fear of the renewal of war in Europe, combined to make Great Britain, Austria, and Prussia accept the arrangement proposed by the Emperor Alexander, although it was, in their eyes, of the three arrangements in contemplation, the one least likely to produce permanent peace and security in Europe. But the more her Majesty's Government see in the decision adopted the prevailing influence of Russia, the more they are impressed with the conviction that the Emperor of Russia ought to be, of all Sovereigns, the most desirous to observe the conditions of that arrangement. It would not be open to Russia to enjoy all the benefits of a large addition to her dominions, and to repudiate the terms of the instrument upon which her tenure depends. In stating these terms Prince Gortschakoff says that the only stipulation which can have made it appear doubtful that the Emperor of Russia possessed the Kingdom of Poland by the same title as that by which he holds his other possessions—the only one which could make his rights dependent upon any condition whatever—is contained in two passages, which he proceeds to quote. But there is another passage which he *does not quote*. It is found in the beginning of the 1st Article, and says:—'The duchy of Warsaw, with the exception of the provinces and districts which are otherwise disposed of by the following articles, is united to the Russian Empire, to which it shall be irrevocably attached by its constitution, and be possessed by his Majesty the Emperor of All the Russias, his heirs and successors in perpetuity.' Were not a national representation intended by this Article it would have been sufficient to say, 'to which it shall be irrevocably attached,' without any mention of a constitution. It is, therefore, evident that the constitution is the link by which Poland was connected with Russia. It is important to know what this constitution was which united Poland and Russia. It was not prescribed by the treaty; it was not promulgated by the European Powers; its construction was left entirely to the Emperor Alexander; but, nevertheless, when once promulgated, it must be taken to be the constitution meant by the framers of the Treaty of Vienna. It was for this reason that her Majesty's Government proposed as the second of the six points laid before the Government of Russia, 'national representation with powers similar to those which are fixed by the Charter of the 15th (27th) November, 1815.' 5. Passing to the specific propositions of her Majesty's Government, Prince Gortschakoff says, in regard to the six points, that the greater part of the measures which were pointed out by the three Powers 'have already been decreed or prepared on the initiative of our august master.' Towards the end of the despatch an allusion is made to 'the measures which his Majesty adheres to, both in the germs already laid down, and in the development of them which he has allowed to be foreseen.' The passage, though far from a definite assurance either of a national representation with efficacious means of control, or of a national administration, gives some hope that the Emperor Alexander will ultimately listen to the inspirations of his own benevolent disposition and to the counsels of Europe. The proposal of a suspension of hostilities is rejected 'in justice to the Emperor's faithful army, to the peaceable majority of Poles, and to Russia, on whom these agitations impose painful sacrifices.' The proposal of a conference of the Powers who signed the Treaty of Vienna is rejected, and with it the prospect of an immediate and friendly concert. In the place of this fair and equitable proposal the Russian Cabinet suggests that the three Powers who proposed the separate treaties between Austria and Russia, and Prussia and Russia, previously to the general Treaty of Vienna, should meet together, and that France and Great Britain should be afterwards informed of the result of their deliberations. There are two reasons, either of which would be sufficient to condemn this suggestion:—1. The treaties in question, taken apart from the provisions inserted in the general Treaty of Vienna, have reference only to material objects,—the use of the banks of rivers, the regulations for towing paths, the free passage of merchandise from one province to another, and such other matters of convenience and of commerce. No political developments or details are contained in them. 2. It is obvious that such a conference would place Austria in a false position, and be inconsistent with her relations to France and Great Britain. His Majesty the Emperor of Austria, therefore, with a proper sense of his own dignity, has at once rejected the Russian proposal. In communicating their views to Prince Gortschakoff, it remains for her Majesty's Government to discharge an imperative duty. It is to call his Excellency's most serious attention to the gravity of the situation, and the responsibility which it imposes upon Russia. Great Britain, Austria, and France have pointed out the urgent necessity of putting an end to a deplorable state of things which is full of danger to Europe. They have at the same time indicated the means which, in their opinion, ought to be employed to arrive at this termination, and they have offered their co-operation in order to attain it with more certainty. If Russia does not perform all that depends upon her to further the moderate and conciliatiry views of the three Powers—if she does not enter upon the path which is opened to her by friendly counsels, she makes herself responsible for the serious consequences which the prolongation of the troubles of Poland may produce.—
"I am, &c., "RUSSELL."

THE CHANNEL FLEET arrived in Belfast Lough on Thursday week. It remained there until Sunday, and arrived at Liverpool on Monday afternoon.

## Foreign.

FRANCE.—Baron de Budberg handed to M. Drouyn de Lhuys on Monday the Russian reply to the last French Note. It is said to be conceived in even more courteous terms than the previous ones, and to express sentiments favourable to the good relations existing between France and Russia; but it concludes in a manner which precludes any anticipation of an early resumption of the discussion between Russia and the three Powers, and is accompanied by a long memorandum replying to the document which accompanied the last French despatch. The *Nord* says:—

"This memorandum treats the question exclusively in an international point of view. It gives an historical sketch from the Congress of Vienna, and thoroughly examines how far Russia is bound by those treaties, and dwells at considerable length on the Congress itself. It endeavours to prove that the separate government already decreed for the Kingdom of Poland, and the application of which has not been suspended but obstructed by the revolution, satisfies the obligations contracted by Russia towards Europe, though a provincial elective representation does not constitute the limit of the Russian programme. As regards the despatch, it maintains the point of view which Russia has always advanced—that of the necessity of a lasting pacification as the condition of more extensive reforms. If the Russian Government does not again enter into a long discussion, it is simply from a desire not to envenom the debate. As regards the six points, Russia declares that she has agreed to them, and will do everything in her power to resolve a question which is a source of misunderstanding between the Cabinets."

The *Nation* says:—

"The reply of Russia avoids reverting to a discussion of the six points, in consideration of the harmony of the Cabinets on that subject. Nor does the reply refer to the question of the armistice or the Conference. Prince Gortschakoff confines himself to discussing the expediency of applying the measures claimed on behalf of Poland by the three Powers. The tone of the despatch is very conciliatory. Baron de Budberg has also received a long memorandum on the internal organisation of the Russian empire, which will be officially communicated to M. Drouyn de Lhuys."

A report is current that the Prince Imperial is to be proclaimed King of Algeria, Marshal Pelissier to be the Viceroy. Count de Persigny has been created a Duke, in testimony of regard for the services he has rendered to the State, and for his personal devotion to the Emperor. The Annamite Ambassadors have arrived in Paris and commenced their ceremonial visits; they will then visit the monuments and public buildings. The Emperor will receive them at Compiègne at a solemn audience in the early part of October. The *Moniteur* of Wednesday says:—

"The steamer Florida is not a privateer, as was believed. She forms part of the military marine of the Confederate States, and her officers are furnished with regular commissions. The Florida has all the character of an ordinary vessel of war."

*La France* states that the result of this note in the *Moniteur* is to give greater prominence to the belligerent quality acquired by the Confederate Government, and to allow the Florida to profit by all the rights and all the advantages enjoyed by neutrals in French ports. It adds:—

"The quality of a vessel of war gives certain particular rights. Such vessels cannot be seized, If persons having suffered loss claim indemnity, such claim can only be made by one Government to the other."

The *Nation* believes itself able to state that the English Cabinet, fearing that France may take possession of Mexico, is strongly endeavouring to persuade the Emperor of Austria to consent to the acceptance of the Mexican throne by the Archduke Maximilian. It also says that a Mexican loan is to be effected in London as soon as the Archduke Maximilian has been officially proclaimed Emperor; and that 8000 Irishmen will be enrolled for service in the new Empire. Alfred de Vigny, the well-known author and member of the Academy, is dead.

SPAIN.—Marshal O'Donnell and Sir John Crampton, the English Ambassador, have arrived at Madrid. The Washington Cabinet has demanded that the distance to which Spanish jurisdiction extends around the island of Cuba shall be reduced to three miles. It is asserted that the Government is little disposed to make this concession. It is asserted that if the Emperor of Morocco refuses to make the reparation demanded by Spain, the Government will send 10,000 men to Melilla under the command of the Marquis Novaliches. Several Progressistas have protested against the policy of abstaining from voting. It is stated that the Government will take no steps relative to Mexico before the acceptance of the throne by the Archduke Maximilian.

PORTUGAL.—The *accouchement* of the Queen of Portugal is daily expected. Great preparations are making for national rejoicings on the occasion. The railway to Evora has been successfully opened under the auspices of the Duke de Loulé.

DENMARK.—The King of Greece took his departure from Copenhagen on Thursday in great state. All the Ministers of State, the foreign Ministers, municipal authorities, and civil and military functionaries were present at the embarcation. Immense crowds of people cheered the young King; the streets were decorated with Greek and Danish flags; the military were paraded upon the line of route, and a Royal salute was fired from the fortress. The Chief President of the city of Copenhagen and the Minister of Marine addressed farewell speeches to King George, to which his Majesty replied, expressing his best wishes for the welfare and prosperity of Denmark. The King in the first place proceeds in a Danish man-of-war for Stettin, whence he will travel by railway to St. Petersburg, on a visit to the Emperor of Russia, who is on his way from Finland to meet him. On the 23d inst. King George will visit his maternal grandfather, the Landgraf Wilhelm of Hesse Cassel, at Rumpenheim, and will then go to Brussels, London, and Paris. He will probably embark at Toulon for Greece on the 21st or 22d of October. On Saturday the King signed the agreement relating to the succession to the Danish throne. By this document King George renounces his right of succession in favour of his younger brother and his heirs. King George himself and his own line thus become last in order of succession to the Danish crown.

SWITZERLAND.—The negotiations between Switzerland and France for the conclusion of a Treaty of Commerce will be resumed in October, as some questions, especially that relative to the free districts on the frontier of Savoy, have yet to be settled.

THE DANISH DUCHIES.—It is reported at Frankfort that Austria has made a positive declaration as regards Federal execution in Holstein to all the great Powers —to France, Russia, and England, especially to the latter—that the Dano-German question must be settled, and the Federal execution has become indispensable if Denmark should persist in her resistance, no matter what the consequences may be. Austria has also declared in a straightforward manner that it rests with the Copenhagen Cabinet to prevent armed intervention; that Denmark, not Germany, must give in. It is reported at Vienna that Earl Russell, at the request of Denmark, is endeavouring to bring about a simultaneous offer of mediation on the part of France and England. According to reliable information the Lower House of the Schleswig Diet has declined to elect delegates to the Danish Reichsrath.

FRANKFORT.—The *Europe* announces the departure of the Danish Minister on leave of absence, and regrets its coincidence with the decision of the Diet to carry out Federal execution in Holstein.

PRUSSIA.—The business of the Statistical Congress was concluded on Saturday. The next meeting will be held, it is said, either at Berne, Turin, or St. Petersburg.

AUSTRIA.—The reply of Prince Gortschakoff to the Austrian Note on the Polish question is brief, and announces that a more detailed memorandum will follow. It considers the six points to have been settled by the previous declaration of Russia. It gratefully acknowledges the pacific sentiments displayed in the Austrian Note, and shares Austria's wishes for the welfare of Poland. It regrets, however, that the expectations based on the diplomatic discussions and their results had not been fulfilled, and that the differences of opinion had not been removed. It thinks, therefore, that a further prolongation of these discussions appears superfluous. It finally states that Russia assumes the full responsibility of her acts. The semi-official *General Correspondenz* of Saturday denies the statement of the *Europe* that Prince Metternich had assured the French Government that Austria would unconditionally ally herself with France in the Polish question, even to the extent of war with Russia. The Grand Duke Constantine has met with a most distinguished reception from the public authorities of Vienna. It is semi-officially stated that this is to be considered merely as a courtesy extended to the Grand Duke personally, having no connection with the foreign policy of the Government.

RUSSIA.—The replies to the Notes of the Western Powers were despatched on the morning of the 10th inst. The Emperor Alexander will embark at Odessa for the Crimea, and will visit Theodosia, Kertch, Simferopol, Baktchiserai, and Nicolaieff successively. His Majesty is expected to return to St. Petersburg towards the 15th of November.

POLAND.—The *Wilna Courier* publishes a rescript of the Czar, expressing his thanks to General Mouravieff. A leading article of the *Czas* of Wednesday demands the recognition of Poland as a belligerent, declaring it would otherwise appear that the Powers approve the present condition of the conflict and the barbarous measures that are being taken. It says:—

"This recognition would only be the logical consequence of the armistice accepted by Poland and rejected by Russia. It would not cost a man nor a shilling, it would put an end to all conspiracy, secure Poland and Europe from revolutionary designs, and preserve the dignity of the Great Powers while it protected the interests of Poland."

The gates of Warsaw have been closed for 10 days to any person entering or going out, and the Russian authorities have imposed enormous taxes upon the ancient provinces of Poland. On Tuesday the Russian Government in Warsaw began to apply compulsory measures towards tradespeople who had not paid their taxes. The places of business of all such persons were closed by the police. The taxes in question were then paid. Makowieski has been shot, by order of General

Mouravieff, at Lukiszki; Raczkowski, Waszkiewicz, and Wroblewski, have been shot at Kowno, by order of his son, who has sentenced 30 more persons to death. Bienkowski and two of his companions, John Marczewski and Edward Czaplinski have been hung for the murder of Domijko. Joseph Kaminski has been hung for the murder of Skowrouski, although Skowrouski himself declared that he was innocent. General Mouravieff has had a peasant named Zybert hanged at Popielo. Zeglinski, who was condemned by the military tribunal to six years' exile in Siberia, has had his sentence altered by the Grand Duke Constantine to that of death. Count Ostrowski, son of the Minister of the Interior, has been arrested, and condemned to transportation to Siberia. Upwards of 80 political prisoners, including two ladies—Mrs. Bondzynska and her daughter—were sent from Wilna to Siberia on the 29th ult. The marshal of the nobility of the district of Groki, M. Jelenski, and M. Konoplauski, a high dignitary at Wilna, have been banished for refusing to sign an address of loyalty to the Czar. Engagements resulting in favour of the insurgents took place on the 3d inst, at Zambraw, in the government of Augustowo; on the 4th at Zelechow, in Podolia; and on the 8th at Gamow, in the woywodeship of Plock. Intelligence from Podlachia to the 7th inst. states that the insurgent leader Lutyski has surprised the Russians at Chotycz, and defeated them after a three hours' engagement. The arming of insurgent bands continues on the frontier, and an outbreak on the Russian side of the frontier is expected.

ITALY.—The King will review 51 battéries of artillery on the 21st inst., on the plain of Somma, after the other reviews have taken place at Milan. Several foreign officers have arrived in Lombardy to witness the manœuvres. The King will also hold a naval review before the commencement of November. The Italian squadron of evolution is about to leave for Lisbon with the Princes Amedée and Carignan on board. The report of a project for the marriage of Prince Humbert with a Portuguese Princess, is said to be unfounded. The rumour that the Italian Minister had issued a large quantity of Treasury bonds is also contradicted. In consequence of the reprisals adopted by the Papal Government towards the Italian Consul at Rome, the Italian Government has withdrawn the *exequatur* from all the Papal Consuls resident in the cities of Italy. The Turin papers publish a proclamation in favour of Italian unity, circulated in Rome by the Garibaldian Committee, and signed "Garibaldi." Despatches from Melfi, Potenza, and Caserta announce the surrender of numerous brigands with their chiefs. Much rejoicing prevailed among the people on this account. A Papal Bull has been published, creating several benevolent establishments at Sinigallia, the Pope's birthplace, and assigning them a revenue out of the private estates of his Holiness.

GREECE.—Owing to disquieting rumours, the National Guard is still nightly kept under arms. Disturbances have taken place in Messenia.

TURKEY.—It is stated that Turkey will reject the proposed scheme for improving the St. George's Channel of the Danube, as imposing too heavy a charge upon the Ottoman Treasury.

CHINA.—Accounts from Shanghai, of August 4, state that Major Gordon was victorious on the 27th July, and captured Vaking (Nankin?). Burgevine, with 500 vagabonds, has joined the rebels.

JAPAN.—Intelligence from Japan to the 24th of July states that the Japanese had fired into the British ship Medusa and the American ship Pemberton, between Ningaradi and Kanagawa, killing several men. The American steamer Wyoming and the British steamer Lauendale proceeded to the scene of the outrage, destroyed the town forts, and spiked the guns. The British lost three men and the Americans five. A French vessel was afterwards fired upon by the Japanese forts, when several detachments immediately disembarked and routed a body of Japanese assembled on the shore. The Japanese Princes have since been giving trouble. The Semiramis had landed a force at Negate, and engaged and defeated the Japanese troops. 2,000 Japanese were reported to have deserted towards British vessels, but it was thought they would not pass within range of the British guns.

UNITED STATES.—Federal advices from Charleston to the 31st ult. state that the Monitors moved up on the 31st abreast of Moultrie, and attacked that fort. Forts Moultrie, Gregg, and Wagner, and Sullivan's Island Battery replied. On the 1st a general engagement occurred between the ironclads and Forts Sumter, Wagner, and Moultrie. The forts were much damaged, but the Federal iron-clads were ultimately obliged to withdraw. The Confederates had remounted some guns on the ruins of Fort Sumter, repaired the front walls, and protected them by cotton bales chained together. It was reported by deserters that the garrison had been instructed to blow up the fort when they could no longer defend it. General Gilmore had driven the Confederates from the rifle pits on the left of his advance line, capturing 70 prisoners. He had also run a parallel against Fort Wagner. No further bombardment of the city had taken place. Rumours are current that General Lee is making a movement to flank General Meade. There is a considerable Confederate force north of the Rappahannock, belew Fredericksburg. The Confederate cavalry have made demonstrations at various points along the Potomac. It was reported on the 3d that Gen. Stuart had crossed into Maryland for another raid. The capture of the Federal gunboats Satellite and Reliance on the Rappahannock is confirmed. Advices from Cincinnati, Ohio, and Bridgeport, Tennessee, of the 4th inst., report that Gen. Burnside, after an exhausting march of several days through the Cumberland Mountains, had reached Kingston, within 30 miles of Knoxville. It is stated that the whole of eastern Tennessee, with the exception of the Chattanooga region, has been evacuated by the Confederates. General Rosencranz's head-quarters were at Stevenson, Alabama. A portion of his army crossed the Tennessee river on the 30th ult., at four points, with infantry and cavalry, and before taking his whole army across he intended to endeavour to destroy the Georgia railroad and thereby intercept General Bragg's line of communication. The Confederates are reported to be in force at Rome at Cleveland, along the Georgia railroad. The Confederates in the trans-Mississippi department are organising for concerted action. A formidable expedition is about to leave New Orleans for Mobile under Generals Banks, Franklin, Ord, and Herron, Admiral Farragut co-operating with the fleet, to prevent the French operations in Mexico. It is however reported that the expedition is in reality intended for Rio Grande. General Blunt crossed the Arkansas river on the 23d ult. The Confederates were falling back. General Blunt is reported to have fought a battle on the 28th ult., resulting in his defeat, with the loss of 3000 men. General Steele has driven Marmaduke's cavalry out of Brownsville, Arkansas, and scattered them. The report that he has driven General Price across the Arkansas river on the 29th ult. in full retreat, is not considered trustworthy. Senator Jim Lane has made a speech at Leavensworth, Kansas, of a most bloodthirsty character. He believed in a war of extermination of the frontier counties of Missouri. If that could not secure safety for Kansas people, all counties should then be exterminated until they were secure. He wanted to see every foot of ground in three counties burnt and laid waste. He urged the people to meet him on the 8th of September with what arms they could procure. Senator Wilson, in a speech delivered in the State of Maine, said that there were forty-four regiments in New York to help the Government to enforce the draft, and there was not one of them who would not sooner shoot a Copperhead, put a bullet through his brain, than he would shoot a rebel; and this assertion he repeated twice for greater distinctness. The New York Republican State Convention has resolved not to tender peace to men in arms nor to consent to a separation of the Union. The Convention repudiates intervention, promises to support the Government in maintaining the ascendancy of the American continent, and endorses the Emancipation Proclamation. President Lincoln has addressed a letter to the Convention, of which the following is an abstract:

"He does not believe that a compromise embracing the maintenance of the Union is now possible. The strength of the rebellion is in its army, and the offer of terms to men within the range of that army is nothing, such men having no power to enforce a compromise. An effective compromise must be made either with those controlling the rebel army or with the people under its dominion. No intimation from the rebel army or from the men controlling it, in relation to a peace compromise, has ever come to his knowledge or belief. If it does come it should not be rejected or kept secret. The President mentions that he suggested compensated emancipation, but the people objected to taxation to buy negroes. He then continues:—"The Emancipation Proclamation is constitutional. If valid as a law it cannot be retracted; if invalid it needs no retractation. The most that can be said is that slaves are property, and that armies, all the world over, destroy enemies' property when they cannot use it. The war progresses as favourably since the issue of the proclamation as before. Peace does not appear as distant as it did, still let us not be sanguine of a speedy final triumph, but be quite sober, diligently applying our means, never doubting that God will give the rightful result."

The draft has been suspended in Ohio. The *New York World* asserts that this is done by the Administration to carry the elections. The draft throughout the Eastern and Central States will produce very few men. In New York it is estimated that it will not produce over 2000 men. A case is being tried in the New York Supreme Court to test the constitutionality of the conscription. Mr. F. B. Smith, of Philadelphia, a conscript, has also determined to test the constitutionality of the draft in the Supreme Court of that city. The military authorities have been enjoined not to interfere with Mr. Smith pending the decision of the Court. The elections in Vermont and California have resulted in large Republican majorities. The Missouri State Convention has urged the Government to resist French influence in Mexico. It is said that Mr. R. M. T. Hunter will proceed to Mexico as Confederate representative, to organise an immediate alliance with the South, recognising the Archduke Maximilian, in return for which, it is supposed, Mexico will recognise the South. The steamers Warrior, Alice Vivian, and Crescent, the brig Atlantic, and the British schooners Cadmita and Artist, have been captured. Blockade running between Wilmington and the West India Islands is very active. A large steamer, with 10 guns, entered Wilmington on the 17th ult., being the fourth Confederate war vessel which has run the blockade within six weeks.

CANADA.—Mr. Sicotte's motion of want of confidence in the Ministry has been defeated in the Assembly by a majority of 63 against 60 votes. The New York press is taking advantage of Mr. Seward's visit to Canada to urge the Canadians to join the Federal Union. It says that such a step would insure their exemption for ever from all the horrors of war; save them the enormous expense the mother country is trying to impose upon them in the way of fortifications; give them the boon of absolute free trade with the Federal States; the benefit of Yankee energy and capital to develop their resources; and a share in the "destiny" of the great Yankee nation.

MEXICO.—Advices from Vera Cruz have been received at New York, stating that the French had occupied Minatitlan and Tampico. Mexican advices *viâ* San Francisco state that the Imperial press continually foreshadows the intention of the triumvirate to recognise the Confederate States as soon as the news of the Archduke Maximilian's acceptance of the Crown shall have reached Mexico.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 93⅜ to ½ for Money, and 93⅝ for Account; Reduced and New Three per Cents., 92 to ⅛; India Stock, 226; Ditto Five per Cent. Stock, 108¼ to ½; Ditto Four per Cent. Debentures, 100½; Five per Cent. Enfaced Rupee Paper, 107½; Bank Stock, for Acct., 240; Exchequer Bills, par to 3s. pm.—FOREIGN: Brazilian 1852, '58, '60, 94¾ to ¼; Buenos Ayres One per Cents., 38; Chilian Four and a Half per Cents., 87; Equador New Consolidated, 16⅜; Ditto Provisional Land Warrants, 9; Egyptian, second issue, 101½, ex div.; Greek, for Acct., 37⅞ to 38⅜; Ditto Coupons, for Acct., 18⅜; Italian, for Acct., 73 to ⅛; Ditto Maremmana Railway, 81; Mexican, for Acct., 45½ to 45⅝; New Granada, 16¾ to 17; Ditto Two per Cents., 33; Ditto Deferred, 10; Ditto Land Warrants (Hectares), 7¾; Portuguese, 1856, '57, 59, '60, and 1862, for Acct., 49½; Russian, 1822, 94½, ex div.; Spanish, for Acct., 55; Ditto New Deferred, for Acct., 48⅜; Ditto Passive, for Acct., 37; Ditto Certificates, for Acct., 14⅞ to ⅜; Turkish, 1854, 95¾; Ditto 1858, for Acct., 70½ to ¾, ex div.; Ditto 1862, for Acct., 71¾; Venezuela, 1862, for Acct., 60.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £29,334,460 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,684,460 |
| | | Silver Bullion .. .. | — |
| | £29,334,460 | | £29,334,460 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,09[illegible] |
| Rest .. .. .. .. .. | 3,719,9[illegible]2 | Other Securities .. .. | 19,413,656 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 7,371,510 | Notes .. .. .. .. .. | 8,560,913 |
| Other Deposits .. .. .. | 13,489,939 | Gold and Silver Coin .. | 777,106 |
| Seven days and other bills | 713,560 | | |
| | £39,847,961 | | £39,847,961 |

Sept. 17, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: Sept. 11.—BANKRUPTS.—F. J. ARCHER, Albion Cottage, Alma Road, Hammersmith, Professor of Music—H. S. ANGELL, Coventry, Clothier—J. BAXTER, Clerkenwell Green, Clerkenwell, Japanner—E. BAKER, Montrose Terrace, Islington, Smith—A. BOWS, Kingston-upon-Hull, Milliner—T. BUTLER, Leckhampton, Gloucestershire, Manure Agent—R. COLTON, Caistor, Lincolnshire, Grocer—J. W. CHADWICK, Liverpool, Licensed Victualler—JOHN COOPER, Macclesfield, Silk Manufacturer—MARK THOMAS COOKE, Clerkenwell Green, Clerkenwell, Jeweller—AMELIA [illegible], Bristol, late Bookseller's Assistant—THOMAS LISTER CALVERT, Edward Street, City Road, Wholesale Milliner—W. [illegible], Leicester, Baker—J. [illegible], Shirland, Derbyshire, Farmer—J. CROCKER, Bristol, Carpenter—G. CORTESI, Whitechapel, Confectioner—C. CROSS, St. Alban's, Hertfordshire, Tinplate Worker—P. DICKINSON, Kingston upon Hull, Cab Proprietor—O. DAVIS, Feckenham, Worcestershire, Bricklayer—R. DAVIS, Steelhouse Lane, Birmingham, Milkseller—T. HALLIDAY DRUMMOND, Birkenhead, Stationer—LOTHIAN SHEFFIELD DICKSON, Stanhope Terrace, Hyde Park Gardens, late lieutenant colonel 2d Regiment Tower Hamlets Militia—J. FARRAND, Huddersfield, Journeyman Dyer—H. FISHER, East Stonehouse, Devonshire, Green grocer—J. GAMBELL, Denmark Terrace, Coldharbour Lane, Merchant's Clerk—H. GODDARD, Hathersage, Derbyshire, Grocer—J. GASKELL, Broughton, Manchester, Hairdresser—F. GREEN, Cumberland Street, Pimlico, Waiter—J. GREAVES, Sheffield, Razor Blade Grinder—A. GORTON, Great Windmill Street, Haymarket, Butcher—P. A. [illegible], College Street, Chelsea—T. HIGGINBOTHAM, Derby, Journeyman Tailor—H. H. HAGUE, Ashton-under-Lyne, late Wine and Spirit Merchant—J. HYDE, Ollersett, Derbyshire, Milk Dealer—H. HALL, Walsall, Staffordshire, Grocer—H. HAND, Pelsall, Staffordshire, Carpenter—D. HUTCHINSON, West Square, Southwark, Stonemason—J. [illegible], College Place, Pond Place, Chelsea, Cab Driver—A. JENNINGS, Birmingham, Electro-Plate Manufacturer—W. KIMBERLEY, Old Broad Street, Share Dealer—C. KING, Grove, Stratford, Grocer—E. LEACH, Waterbeach, Cambridgeshire, Builder—T. LAKEMAN, Willmott St., Brunswick Sq., Bloomsbury, Printer—J. LEE, St. Helen's, Lancashire, Ale and Porter Dealer—W. H. LEWIS, Birmingham—C. W. LAWRENCE, Keynsham, Somersetshire, Dealer in Jewellery—T. LAMBERT, Hawthorne Grove, Anerley, Wharfinger's Clerk—J. MURPHY, Worley Court, Minories, Merchant—J. [illegible], Sheepshed, Leicestershire, Gardener—H. MARTIN, Leominster, Herefordshire, Painter—T. [illegible] and E. [illegible], Mark Lane, Merchants—J. MASH, Oxford, Licensed Victualler—A. MORTON, Sheerness, Baker—P. MORRIS, Handsworth, Staffordshire, Coal Merchant—G. A. OWEN, Brighton, Licensed Victualler—W. T. PALMER, York Place, Manor Street, Old Kent Road, Commercial Traveller—S. [illegible], Langton, Staffordshire, Packer—T. D. PROTHERO, Belmont Villas, [illegible] Square, Newington, Clerk—R. T. PRITCHETT, Chamber Street, Goodman's Fields, Gun Manufacturer—G. REDWELL, St. Alban's, Hertfordshire, Boot and Shoemaker—J. S. RILEY, Birmingham, Powder Flask Manufacturer—J. E. RITCHIE, Fleet Street, Publisher—ROBERT RUSSELL, Lancaster Road West, Notting Hill, Builder—HIRAM HENRY SHAW, Nottingham, Auctioneer—JOHN SCHOFIELD, Holm, Yorkshire, Manufacturer—J. STEVENSON, Derby, Draper's Assistant—J. [illegible], Tipton, Staffordshire, Hatter—J. H. SMITH, Sandown, Isle of Wight, Clerk in the War Department—J. SKIDMORE, Amblecote, Worcestershire, Puddler—T. [illegible], Holywell Lane, Shoreditch, Confectioner—W. STEPHEN SHARP, Fremantle, Southampton, Merchant's Clerk—J. [illegible], Sheffield, Moulder—W. TILLEY, Manchester, late Rope Maker—C. [illegible], Great Marton, Lancashire, Wheelwright—C. [illegible], Stow Maries, Essex, Farmer—C. WOODWARD, [illegible], Derbyshire, Farmer—A. WILSON, Upper Chapman Street, Commercial Road, St. George's in the East, Grocer—W. WARING, Moulton, Northamptonshire, Maltster—C. J. WATTS, Durham, Grocer.

SCOTCH SEQUESTRATIONS.—H. C. M'[illegible], Glasgow, Hosier—MERRY, [illegible], & BURNET & JOHN MERRY, jun., GEORGE [illegible], & ANDREW BURNET, [illegible], Printers—W. M. LEES, Johnstone, Renfrewshire, Soap and Candle Maker—P. [illegible] & SON, A. PETER [illegible] & JAMES [illegible], [illegible], Saddlers—W. [illegible], Glasgow, Builder—T. WILSON, Hamilton, Joiner.

TUESDAY, Sept. 15.—BANKRUPTS.—H. ANDREW, St. Ives, Cornwall, Master Mariner—J. [illegible], Rowan Road, Barnsley, Carpenter—J. [illegible], late of Birmingham, [illegible]keeper—C. [illegible] and R. BOSTOCK, Hinckley, Leicestershire, Hosiery Manufacturers—J. BARNES and J. BARTON, jun., [illegible], Lincolnshire, Cattle Salesmen—S. [illegible], Leek, Staffordshire, Timber Dealer—H. BURTON, Darlaston, Staffordshire, late Grocer—W. H. BELL, Calthorpe Street, Gray's Inn Road, Warehouseman—M. [illegible], Nottingham, late Manager to a Boot and Shoe Manufacturer—G. CROSS, King's Arms Court, Finsbury, Journeyman Painter—E. CORBIN, Lewisham, Kent, Widow—A. DIXON, Northampton, Baker—T. DARBYSHIRE, late of Birmingham, Jeweller—REBECCA FISHER sued and committed and known as REBECCA HICKS, Devonshire Place, Edgware Road, Spinster—HENRY ISAAC GARFORTH, Bradford, York.

shire, Butcher—Charles Smith Gorton, Oldham, Lancashire, Painter—W. Heap, Huddersfield, Cotton Waste Dealer—J. Harper, New Romney, Kent, Farmer—J. Knighton, jun., Penselwood, Somersetshire, Innkeeper—J. Lee, Leicester, Engineer—G. Langman, Wolverhampton, Staffordshire, Auctioneer—D. Morecroft, Stockport, Cheshire, Butcher—J. Morris, late of Birmingham, Carpenter—W. Morgan, late of Birmingham, General Dealer in Skins—J. Matcheet, Enfield Highway, late Contractor—A. G. Montagu, Milford Haven, Assistant Paymaster in the Royal Navy—T. Meddings, Sheffield, Staffordshire, late Licensed Victualler—W. A. Minty, Cinderford, Gloucestershire, Grocer—W. Maltby, Nottingham, late Hosier—D. Newton, Sheffield, Joiner—V. H. Oldfield, Connaught Terrace, Edgware Road, late Beer Retailer—E. Price, Warminster, Wiltshire, Grocer—H. C. Poole, Bradford, Yorkshire, Manager for a Stuff Finisher—T. Phillips, Blackburn, Lancashire, Licensed Victualler—J. F. Paris, Ipswich, Suffolk, Berlin Wool Dealer—J. H. Quinley, Forest Hill, Kent, Saddler—T. Rogers, Portsea, Hampshire, Baker—W. Rock, Abbots Bromley, Staffordshire, Boot and Shoemaker—H. B. Russell, Gloucester Terrace, Commercial Road East, Carpenter—A. S. Shackleton, Gracechurch Street, City, Appraiser—A. Shingfield, Jubilee Street, Commercial Road East, Carpenter—D. Shaw, Wolstanton, Staffordshire, Boat Builder—F. K. Stone, Staffordshire, Innkeeper—J. Shaul, Bath, Somersetshire, Grocer—T. Scott, Roupell Street, Blackfriars, late Master Mariner—G. Smith, Johnson Street, Notting Hill, Painter—Joseph Seeley, Ponsonby Place, Pimlico, late Attorney's Clerk—C. Smith, New Square, Minories, Clerk in the London and North-Western Railway—J. Sapp, Swansea, Licensed Victualler—E. Taylor, Golcar, Yorkshire, Manufacturer—R. Thomas, Walthamstow, Essex, Spinster—W. Tuck, Holt, Norfolk, Innkeeper—J. Taylor, Bradford, Yorkshire, late Commercial Traveller—J. E. Watkins, Hampden Street, Paddington, late Confectioner—F. G. Williams, Rose Lane, Ratcliff, Wine Cooper—C. H. Waring, Neath, Glamorganshire, Mining Engineer—W. B. Willmott, Bishop's Hatfield, Hertfordshire, Coal Merchant—W. Watkins, Swansea, Glamorganshire, late Licensed Victualler—J. Yardley, Bilston, Staffordshire, Butcher.

## Metropolis and its Vicinity.

The Confederate Steamers.—On Saturday a French vessel from Brest arrived at Cardiff with about 80 seamen belonging to the steamship Florida. They appeared to be exceedingly fine men, and some of them hold prize bonds for enormous amounts. They afterwards left for Liverpool, where the Harriet Pinckney, the tender to the Confederate cruisers, arrived on Thursday from Bermuda.

The late Lord Clyde.—A committee, including his Royal Highness the Duke of Cambridge, has been formed for the purpose of raising a memorial to the late Lord Clyde.

Whitechapel Church.—The adjourned inquest on the bodies of the children found in the tower of Whitechapel Church was resumed on Saturday, but no new facts were established. The jury returned a verdict that there was no evidence as to the cause of death; that it is the practice of undertakers to receive certificates for the burial of stillborn children from midwives or any other female; that such a practice affords facilities for the perpetration of abortion and infanticide, and that any one burying a stillborn child without a proper medical certificate ought to be held guilty of a misdemeanor. The jury severely censured the sexton, and directed a copy of their verdict to be sent to the Secretary of State.

The Public Health.—The Registrar-General's report states that the deaths in London in the week that ended Saturday, September 12, were 1257. The average number in the corresponding week of the 10 years 1853-62, corrected for increase of population, was 1158. The present return is therefore 99 above the average. During the week the births of 938 boys and 985 girls, in all 1923 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1802.

## Provincial.

Birkenhead.—The *Times* says that it has authority for stating that the two iron-clads now building at this place will not be allowed to leave the port pending further inquiries, and until fresh instructions are given. On Monday one of the rams was towed out of Messrs. Laird's dock and taken into the Morpeth basin, where it is understood the remainder of her fittings will be completed. It is expected that her trial trip will take place in a few days, and in the meantime her builders do not affect any mystery or secrecy with regard to what is going on in their works. On the contrary, they have invited Admiral Dacres and the officers of the Channel fleet to visit their yard, and inspect all that is going on there—a privilege of which they have availed themselves to a considerable extent. A similar privilege as to inspection has also been conferred on the officers of the fleet by the Mersey Steel and Iron Works.

Exeter.—The ceremony of inaugurating a statue to the memory of the late Earl Fortescue in the Castle Yard of this city, took place on Friday afternoon, in the presence of a large number of the nobility and gentry of the county, and a great muster of Yeomanry, Militia, and Volunteers. The statue, which is by Mr. E. B. Stephens, the sculptor, is erected just outside the railings of the Castle, in front of the entrance and the old Castle of Rougemont. It is executed in Sicilian marble, the figure being 8 ft. in height, standing upon a pedestal of the same height, the entire height, including the granite base, being 18 feet. The front of the statue bears the following inscription:—"Hugh, Earl Fortescue, K.G., Lord Lieutenant of Devon.

"Sanctus haberi,
Justitiæque tenax factis dictisque mereris?
Agnosco procerem."

On one side is the further inscription:—"This memorial, marking the love of friends and the respect of all, was erected 1863." On the other side is the inscription:—"In grateful remembrance of a noble and generous character, and of unwearied diligence in the discharge of public duty, continued to the last day of a long life, ended September 14, 1861." Lord Clifford, as Chairman of the Memorial Committee, in handing over the statue to the Duke of Somerset, as Lord Lieutenant of the county, said that so cordial was the support the committee had received that they were enabled to erect this statue in the place which was so long the scene of Lord Fortescue's labours, and also to commemorate his private worth, by adding a wing to the Barnstaple Infirmary, in which he took a lively interest. The statue having been uncovered, the Duke of Somerset, on the part of the magistrates of the county, accepted the memorial in an appropriate speech, in which he recounted the leading events in the late earl's public life. The High Sheriff then addressed the meeting, and handed a record of the proceedings to the present Earl Fortescue, who, in expressing the cordial thanks of the family for the honour done to his late father, concluded with the hope that this signal evidence of county appreciation and county services might stimulate all who heard of them to local feelings of attachment, whether they called it county, or municipal, or provincial—in reference to which an eminent statesman not long ago said that such a feeling was not only not incompatible with patriotism, but was its surest foundation and its best guarantee.

Liverpool.—On Saturday morning José Maria Alvarez, a Spanish seaman, convicted at the last assizes of the murder of James Harrison, in Oldhall Street; John Hughes, convicted of the murder of his wife in Great Homer Street; James O'Brien, an Irish sailor, convicted for the murder of Elizabeth Callaghan, in Spitalfields; and Benjamin Thomas, a Welsh sailor, convicted of the murder of Mary Rowlands, in Brook Street, Oldhall Street, were executed in front of Kirkdale gaol in the presence of a vast crowd, estimated as at least 100,000 persons, many of whom were brought into the town from a distance by excursion trains, which ran specially on the occasion. A black screen was hung in front of the scaffold to intercept the view of the bodies after the drop had fallen, but all the preliminary arrangements were distinctly visible. Alvarez and Hughes died penitent, but O'Brien and Thomas showed great recklessness on the scaffold. Thomas threatened violence to the minister who visited him in the condemned cell, and, when implored to repent, said that it then was too late; and O'Brien, who could not suppress the convulsions of his throat which showed the agony he was enduring, tried to throw his cap among the crowd.

Manchester.—At the weekly meeting of the Central Executive Committee on Monday, the Earl of Derby in the chair, the report stated that 149*l.* 3*s.* 3*d.* had been received during the week, and that the balance in the bank was 299,853*l.* 11*s.* 5*d.* Mr. Commissioner Farnall reported that on the 5th inst. there was a decrease in the number receiving parochial relief in the 27 unions, as compared with the previous week, of 1669, making a total decrease of 129,203 since the 6th of December. He then, in conformity with notice given on the previous week, introduced the question whether it was expedient or desirable for district relief committees to undertake contracts for the execution of public works by the men on their relief lists, intimating that for his own part he was prepared to answer it distinctly in the negative. He said that committees, by entering into such contracts and employing the operatives on them simply as a labour test, would cause unfair competition with corporations and other contracting bodies who, under the Public Works Act, would be able to occupy the men upon work for a fair rate of wages, and thereby tend to the demoralisation of the operatives by maintaining them as paupers instead of allowing them to become independent labourers, in accordance with the intention of Parliament in passing the Act referred to. Mr. R. H. Hutchinson then moved a resolution to the effect that, with a view to extend the operations of the Public Works Act as much and as quickly as possible, it be recommended that the various relief committees during the winter months assist in procuring contracts so as to provide for the able-bodied unemployed operatives. Mr. Goodair seconded the motion. The Chairman read the following minute on the subject from Sir J. Kay Shuttleworth:—

"Minute as to Contracts by Relief Committees, and Employment of Indigent Cotton Workmen in such Contracts.

"The relief of indigence in the cotton districts has hitherto proceeded mainly from two sources—viz., the legal charge on property and the voluntary contributions of charity to public funds. These two sources of relief are subject to a law of economy. When the poor rates and the relief funds have provided to the indigent the means of sustaining health they have discharged their function. 1. The laws for the relief of the poor never were intended to provide employment with wages. Such an obligation would convert the poor-laws into an organised system of labour conducted by the state, which would destroy the relations between capital and labour—employers and employed—and establish a form of socialism destructive to private capital and demoralising labour. Every step, therefore, from that legitimate use of the poor rates, or of public charitable funds, which restricts them to the maintenance of health, to another which proceeds to assume obligations to provide wages from such sources, is full of danger. 2. Wages are given to the able-bodied, without respect to the wants of their families. A single able-bodied man receives as much, at piece work, as a man with a wife and four children. To find employment with wages, therefore, if general, necessarily creates a heavier charge than the simple maintenance of health. 3. A relief committee has no corporate power to enter into any contract to secure employment for those whom it relieves. Such a contract could only be legally entered into by individual members of the relief committee in their private capacity. If such private persons enter into such a contract they can receive no legal security for its fulfilment from the committee. 4. Supposing these technical difficulties to be overcome, and that the majority and most influential members of such a committee sign such a contract—if they determined to provide from their relief funds ordinary wages, either for piece-work or day-work, they have no warrant to expect any aid from the Central Executive Committee to carry out such a scheme inconsistent with the economy of funds intended simply to support health. 5. It is possible to adjust a scheme of labour to a scale of relief adapted simply to sustain health, by paying for work done by the hour at the usual rate, and not requiring more hours' work than will enable the workman to make his labour and that of his family equal at that rate per hour to the scale of relief intended to sustain health. Any other plan involves a very grave departure from the true principles of relief administration. 6. Contracts for public or private works can only be safely entered into by boards or committees charged with the execution of such works, apart from the question of relief of indigence. Such boards or committees of public works reduce the sum of indigence in the same way as any private capitalist may do by such works as they undertake. But they assume no obligations to find employment, and they strengthen the relations between capital and labour by increasing the employment of capital and the demand for labour. These functions, though they indirectly relieve indigence, are not to be in any degree confounded with the functions of boards or committees whose primary duty is to relieve indigence so as to sustain health. Adopted and printed by order of the Central Executive Committee.

"Derby, Chairman.
"John Wm. Maclure, Hon. Sec."

Mr. J. Platt thought the question was scarcely ripe for discussion. There was much to be said on both sides of it, and they would probably have done well in waiting to see how far corporate bodies were disposed to absorb the labour of cotton operatives before coming to any definite conclusion. The Chairman said that there were two distinct questions before the committee; one, that relief committees should be enabled to undertake contracts and employ those upon the relief funds at full wages, in pursuance of the provisions of the Public Works Act; the other, that the committee should be prohibited from engaging them on public works at all, and be thereby deprived of the only form of labour test open to them. The two questions should be differently considered, and decided upon separately. Lord Egerton was of opinion that they could not sanction the undertaking of contracts by district committees without seriously interfering with the operations of the Public Works Act. He agreed with Sir J. K. Shuttleworth that the committees had no other legitimate function than that of giving such an amount of relief as would sustain the people under their charge in unimpaired health. They could only obtain contracts by accepting them at a lower rate than would be offered by independent contractors, and the actual result would be that they would be appropriating to the advantage of those for whom the work was done funds contributed by the public for a charitable purpose. Lord E. Howard thought the great inducement for the adoption of the Public Works Act was the advantage it would afford to the districts availing themselves of its provisions, as the unemployed operative population would thus be made independent of relief, and the small shopkeepers and others correspondingly benefited. He generally agreed with the last two speakers, and referred to the facilities which the last report of the committee stated might be safely given to those who undertook out-door employment. After some discussion, Mr. M. Ross suggested the adoption of the minute as an amendment to the original motion. He considered that it was a clear exposition of the principles involved, and which the committee must alter with great caution. Mr. Maclure seconded the adoption of the minute, and suggested that it should be printed and circulated among the local committees, many of whom were waiting for the decision of the central committee. Mr. Hutchinson's motion was then put to the meeting and lost, and the minute of Sir J. Kay Shuttleworth was adopted and ordered to be printed and circulated among the local committees. Grants were voted to the amount of 5750*l.*

Norwich.—The musical festival of this city commenced on Monday in St. Andrew's Hall, which had been thoroughly renovated for the occasion. The vocalists comprised Mademoiselle Titiens, Madame Lemmens-Sherrington, Madame Weiss, Miss Wilkinson, Miss Palmer, Mlle. Trebelli, Mr. Sims Reeves, Signor Bettini, Mr. Montem Smith, Mr. Santley, Signor Bossi, and Mr. Weiss; Mr. Benedict officiating as conductor. On Monday evening *Judas Maccabeus* was performed; on Wednesday morning, a new oratorio, *Joash*, by Mr. Silas; on Thursday morning, *Elijah*; and yesterday morning the *Messiah*. The miscellaneous concerts in the evenings comprised Mr. Benedict's cantata, *Richard Cœur de Lion*, Mr. Leslie's *Emmanuel*, Mr. W. Cusin's *Wedding Cantata*, and a selection from Mr. A. Sullivan's *Tempest*.

Worcester.—The 140th meeting of the three choirs of Worcester, Hereford, and Gloucester commenced on the 8th inst. in the cathedral of this city with Mendelssohn's oratorio of *Elijah*. Full cathedral service had previously been performed, the sermon being preached by the Bishop of Worcester. The vocalists included Mademoiselle Titiens, Madame Lemmens-Sherrington, Madame Sainton-Dolby, Miss Banks, Miss Palmer, Mr. Sims Reeves, Mr. Wilbye Cooper, Mr. Weiss, Mr. Santley, and Mr. T. Harper. Four mornings were devoted to oratorios at the Cathedral. The performance of Monday included the rehearsals; that of Tuesday, Mendelssohn's *Elijah*; Wednesday, Mozart's *Requiem* and Beethoven's *Mount of Olives*; Thursday, Schachner's new oratorio, *Israel's Return from Babylon*, and selections from Handel's works and Friday, Handel's *Messiah*. On Tuesday, Wednesday, and Thursday evenings there were concerts of miscellaneous music in the College Hall, and on Friday evening there was a ball in the Guildhall. The festivities of the week were kept up with spirit by some of

the most influential persons in the city. The Mayor gave a breakfast in the Guildhall, at which the Duc d'Aumale and an enormous company were present; the Dean kept open house daily to a large number of visitors; and the Bishop attended most of the performances in the Cathedral.

## Ireland.

THE ARCHBISHOP OF DUBLIN.—Archbishop Whately remains in nearly the same state. He suffers less pain, but his debility increases and he is gradually sinking. The decay of the body has not at all affected the mind, which retains all its clearness and vigour. He is fully aware of his condition, and is not only resigned but cheerful; and if he expresses any wish it is that the spirit may soon be released from its earthly tabernacle.

THE GALWAY PACKETS.—The Anglia, the second vessel of the Galway line, having embarked her mails and passengers, left Galway on Tuesday afternoon. Fifty persons who had attempted to stow themselves away were detected and brought on shore, and escorted through the town by a file of police with fixed bayonets. Several unsuccessful attempts were made to rescue the prisoners, and the police were ultimately obliged to load their rifles with ball. During the riot the prisoners were put into a merchant's yard till the crowd had dispersed. When the excitement had abated the prisoners were taken to the Court-house, and sentenced, some to a week, and others to a fortnight's imprisonment.

FATAL ACCIDENT TO AN OFFICER OF THE FLEET.—An inquest was held at Carrickfergus on Saturday on the body of Lieutenant Clarence Gardiner, of the flagship Edgar. It appeared from the evidence that several officers were returning by railway from the *déjeûner* at Belfast on the previous night, when deceased and Mr. Hattersley, a brother officer, opened the door of the carriage and got upon the roof; that they ran and jumped from one carriage to another while the train was in motion; that they returned to their carriage for a few minutes, and then climbed up on the roof again, contrary to the remonstrances of the other officers who were in the same carriage; that Mr. Hattersley leaped from the roof to the tender, and fell among the coals, and it was supposed that deceased fell between the carriages while attempting the same freak, and was instantaneously killed. On the arrival of the train at Carrickfergus he was missed, and search being made, the body was found on the line, quite dead, and shockingly disfigured. The wheels of at least one carriage must have passed over his head, which was crushed into a shapeless mass; the ground was bespattered with his brains, and the fingers of one of his hands were cut off. The jury, after 20 minutes' deliberation, returned a verdict that deceased came by his death "by incautiously and imprudently going on the roofs of the carriages while in motion after having been cautioned not to do so, from which he fell and was accidentally killed." The funeral took place on Saturday evening with the usual naval honours.

## Railways.

ACCIDENT ON THE NORTH LONDON.—On Saturday morning the engine of an ordinary train from Camden Town, while entering the Fenchurch Street station, ran off the metals against the wall of the viaduct, carrying a great portion of it away, and precipitating the fragments on some new buildings on which a number of men were at work in Cooper's Row, Crutchedfriars, beneath. The escape of both train and passengers was extraordinary, for had the engine proceeded but a foot or two further it must have gone over the viaduct, and probably dragged one or two carriages with it. As it was, only one second class carriage was upset, but no one was injured beyond being slightly shaken by the concussion.

COLLISION ON THE MIDLAND.—On Wednesday night, the 9th inst., a collision occurred on this line between Sheffield and Chesterfield, between an excursion train and some empty waggons. Several of the trucks were broken, but the passengers escaped without serious injury.

COLLISION ON THE GLASGOW AND SOUTH-WESTERN.—On Thursday night a collision occurred between two heavily laden luggage trains at Mauchline Station. The train which caused it had been uncoupled, and ran away four miles down an incline, where it ran into the other train. The guard, to whom it is thought the blame was due, was crushed to death, and one of the firemen was injured.

## Sporting.

### DONCASTER RACES.

TUESDAY.—The *Fitzwilliam Stakes.*—Mr. R. C. Naylor's Carnival beat Johnny Armstrong, Lady of Coverham, Welland, and 5 others. *Match.*—Mr. John Osborne's Prince Arthur beat Cœur de Lion. The *Doncaster Plate.*—Colonel Towneley's Newchurch beat Despair, Knave of Trumps, and 5 others. The *Champagne Stakes.*—Mr. W. S. Cartwright's Ely beat Fille de l'Air, Linda, and Rouge Crosse. The *Selling Stakes.*—Mr. H. Joice's Folly beat Daniel, Disdain, and 3 others. *Match.*—Mr. Chancellor's Wee Aggie beat Dawdle. The *Great Yorkshire Handicap.*—Lord Stamford's Dulcibella beat Drummer Boy, Brittfield, Oldminster, and 12 others. The *Revival Plate.*—Captain Christie's Lady Clifden beat Tattoo, Mother Carey's Chicken, and Lord Adolphus. The *Filly Stakes.*—Lord Zetland's Saragossa beat Gondola, Syren, and 3 others. The *Glasgow Stakes.*—Count Batthyany's Midnight Mass walked over.

WEDNESDAY.—*Municipal Stakes.*—Sir J. Hawley's Washington beat Lord Glasgow's b. f. *Corporation Plate.*—Sir J. Hawley's b. f. beat Despair, Man-at-Arms, and 10 others. *St. Leger Stakes.*—Lord St. Vincent's Lord Clifden beat Queen Bertha, Borealis, and 16 others. Betting: 100 to 30 agst. Lord Clifden, 9 to 2 agst. Avenger, 6 to 1 agst. Ranger, 7 to 1 agst. Queen Bertha, 10 to 1 agst. Golden Pledge, 100 to 7 agst. Borealis, 15 to 1 agst. Blue Mantle, 25 to 1 each agst. The Serf and Donnybrook, 33 to 1 agst. Cairncastle, 40 to 1 agst. Onesander, and 60 to 1 agst. National Guard. The start was a bad one for the favourite, who was left full three lengths behind, and in consequence was thought to be entirely out of the race. He, however, showed himself not unworthy of his blood, and his jockey did not hurry him until he got over the hill, when he began to act, and went through his horses in an instant. At the distance he was in front, with Queen Bertha and Borealis alone near him, and he won in very clever style by half a length, amid the most vociferous cheering heard for many years. Queen Bertha defeated Borealis by four lengths, Golden Pledge a bad fourth, Ranger fifth, Avenger sixth, Clarior seventh, Blue Mantle eighth, the next three being Dr. Syntax, Light Bob, and National Guard; Prince Leboo, The Serf, and Donnybrook walked in the last. *Handicap Sweeps.*—Mr. Wood's Rose beat Kapunda, Wild Thyme, and 6 others. *Sweeps.*—Mr. Phillips' Persuasion beat Light, Livingstone, and 5 others. *Her Majesty's Plate.*—Mr. S. Thellusson's Jack of Hearts beat The Knave, Brother to Rapid Rhone, and Caller Ou. The *Stand Plate Handicap.*—Mr. H. Goater's Creole beat Newmarket, Erin-go-Bragh, and 9 others.

THURSDAY.—The *Zetland Stakes.*—Lord Stamford's Onesander beat Sauterelle and Jarnicoton. *Sweeps.*—Mr. Naylor's Coast Guard beat Prince Arthur, Fille de l'Air, and 3 others. *Match.*—Lord Glasgow's br. f. beat Sir J. Hawley's b. f. The *Portland Plate.*—Mr. G. Bryan's Welland beat Bohemia, Peignoir, Creole, and 23 others. The *Juvenile Selling Stakes.*—Lord Westmoreland's Usher beat Prescription, Daniel, and 4 others. The *Eglinton Stakes.*—Mr. R. C. Naylor's Carnival beat Vanessa. The *Cleveland Handicap.*—Mr. Gordon's Johnny Armstrong beat Polynesia, Barter, and 5 others. The *Scarborough Stakes.*—Mr. Watt's Newmarket walked over.

CRICKET.—A friendly game was played on September 9, between eleven in the employ of Messrs. Smith, Dulwich; and eleven belonging to Mr. Woodroffe, Harrow Road. The following score will show that the latter were victorious, viz., Messrs. Smith's eleven, 1st innings, 27; 2d ditto, 38; Total 65. Mr. Woodroffe's eleven, 1st innings, 67.

## Obituary.

THE MARQUIS TOWNSHEND died at Rayuham, Norfolk, on the 10th inst, from a paralytic attack. His lordship was son of the late Lord John Townshend, and married, in 1825, the daughter of the late Lord George Stuart, sister of the late Lord Dudley Stuart. After leaving Eton, where he was educated, he entered the Naval College at Portsmouth, and became a captain in 1834; naval aide-de-camp to the Queen in 1854; and rear admiral in 1856. He represented Tamworth in the Whig interest from 1847 to 1856, when on the death of his cousin he succeeded to the marquisate. His lordship was high steward of the borough of Hertford. He is succeeded in his title and estates by his son, John Villiers Stuart, Viscount Raynham, born in 1831, who has represented Tamworth since 1856.

VICE-ADMIRAL HENRY DUNDAS died on the 11th inst., at Craig Royston, near Edinburgh, from disease of the heart. He was the second son of the late Right Hon. Robert Dundas, of Arniston, Lord Chief Baron of the Court of Exchequer in Scotland. He was educated at the Royal Naval College, entered the navy as a volunteer in 1815, and during his early career served under Sir David Milne, the Hon. Captain Duncan, the late Earl of Lauderdale, and Sir Augustus Clifford. He commanded the Dartmouth, 42, and the Sapphire, 28, and had been on half pay since 1830. He attained the rank of Rear-admiral in 1853; and Vice-admiral in 1858.

SIR WARWICK HELE TONKIN died on the 11th inst., at Teignmouth. He was the son of the late Warwick Hele Tonkin, Esq., bencher of the Middle Temple, and was born in Plymouth, in 1783, and was consequently in his 81st year. At the time of the revolutionary war he was a captain in the Royal Devon Miners. He subsequently entered the army, and was at Walcheren and in the expedition to Sicily. He was brigade Major of the London district, and subsequently barrack master at Exeter, but retired at the peace. He was a magistrate, deputy lieutenant, and vice-admiral of the county of Devon. In 1826 he received a gold medal of the first-class from Charles X, of France, for aid in a case of shipwreck, and in 1838, for similar services, was nominated Chevalier of the Legion of Honour.

BIRTHS.—On the 7th inst, at Godmersham Park, Canterbury, the VISCOUNTESS ST. VINCENT, of a son—8th inst, in Edinburgh, Lady CAMPBELL, of Dunstaffnage, of a daughter—14th inst, at Felton Grange, Shrewsbury, the Lady FRANCES LLOYD, of a son—13th inst, at 19, St. George's Square, S.W., the Hon. Mrs. MAUDE, of a son—12th inst, at Manderston, Berwickshire, the wife of WM. MILLER, Esq., M.P., of a son—7th inst, at Murthly Castle, Perthshire, the wife of THOMAS DALLAS YORKE, Esq., of a daughter.

MARRIAGES.—On the 12th inst, at St. George's, Hanover Square, the Right Hon. the Earl of WILTON to SUSAN ISABEL, only daughter and heiress of the late Major ELTON SMITH—8th inst, at Huntsham, Devon, GEORGE GRIFFITH, Esq., to HARRIET DYKE, second daughter of the late ARTHUR H. D. TROYTE, Esq., and granddaughter of Sir Thomas Dyke Acland, Bart.—2d inst, at St. Paul's Cathedral, Halifax, Nova Scotia, Lieut.-Colonel JOHN WIMBURN LAURIE, inspector of militia, N.S., eldest son of John Laurie, Esq., of Hyde Park Terrace, London, to FRANCES ROBIE, youngest daughter of the Hon. ENOS COLLINS, of Gorse Brook, Halifax, N.S., and granddaughter of the late Sir Brenton Halliburton, Chief Justice of Nova Scotia.

DEATHS.—On the 4th inst, at Kenward, Pembury, Kent, Lady SHAW, wife of Sir JOHN G. K. SHAW, Bart.—14th inst, at Heathfield House, near Oxford, CHARLOTTE, wife of GEORGE RICHARD WALKER, Esq., and daughter of the late Rev. Sir John Robinson, Bart.—14th inst, at Chelsea, RICHARD PHILLIPS, Esq., eldest son of the late Sir Richard Phillips—10th inst, at Brenchley, Kent, ANN DURRANT, widow of JOHN RAWLINSON HARRIS, late M.P., of Winchester House, Southwark, aged 68—5th inst, at Malta, after a very short illness, ROBERT MYDDELTON BIDDULPH, 23d Royal Welsh Fusiliers, second son of Colonel Myddleton Biddulph, M.P., of Chirk Castle—12th inst, at Headington Hill House, near Oxford, JAMES MORRELL, Esq., formerly High Sheriff of the county, aged 53—12th inst, HENRY, youngest son of UVEDALE CORBETT, Esq., of Aston Hall, Shifnal, Salop, aged 39—10th inst, at Moorwood House, near Cirencester, EDWARD HAINES, Esq., aged 89—11th inst, at Grey's Lodge, Torquay, JAMES GRANT LUMSDEN, Esq., Bombay Civil Service, aged 56—14th inst, at South Hill, Henley-on-Thames, JOSEPH GWILT, Esq., F.S.A., Architect, aged 79—12th inst, at 39, St. George's Square, WILLIAM RANGER, Esq., C.E., F.R.S., aged 63—7th inst, at The Rectory, Priston, near Bath, after a few days severe illness, the Rev. CHARLES DOWDING, rector of that parish, aged 56—10th inst, at Brighton, the Rev. JOHN COX, rector of Fairsted, Essex, aged 72—12th inst, at Guilsborough, Northamptonshire, the Rev. JOHN B. BATEMAN, A.M., aged 58—8th inst, at Wellington College, the Rev. ROBERT JAMES DONNE, M.A., late fellow of Trinity College, Cambridge, and senior assistant-master of Wellington College, youngest and last surviving child of JOHN DONNE, Esq., aged 29

## Markets.

### COVENT GARDEN, Sept. 19.

Vegetables and all kinds of Fruit in season continue plentiful. Plums may be had in great abundance. Of Grapes and Pine Apples the supply is also sufficient for the demand. Of Melons there is a good stock of both English and foreign varieties. There is also a good supply of Williams's Bon Chrétien, Louise Bonne of Jersey, and Marie Louise Pears. Some good examples of Ribston Pippin Apples have also arrived from Jersey. Kent Cobs and Filberts are now coming in in good condition, and for the Cobs a fair demand is springing up at from 60s. to 65s. per 100 lbs. For Potatoes the market is heavy, and prices are falling. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Marigolds, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 2s 6d to 6s | Nectarines, do., 2s to 5s |
| Grapes, per lb., 2s to 6s | Melons, each, 2s to 4s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Lemons, per 100, 8s to 12s |
| Pears, per ½ sieve, 2s 6d to 5s | Nuts, small, per bushel, 14s to 18s |
| Plums, per ½ sieve, 3s to 6s | Almonds, do., 18s |
| Figs, per doz., 2s 6d | Walnuts, do., 14s to 20s |
| Peaches, per doz., 6s to 15s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 6d to 1s | Celery, p. bundle, 1s 6d to 2s |
| Peas (shelled), p. qt., 1s to 1s 6d | French Beans, p. sieve, 2s to 6s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatoes, York Regents, p. ton, 90s to 100s | Garlic, per lb., 8d |
| ,, Shaws, do., 50s to 60s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatoes, each, 2d to 3d | |

### HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, Sept. 17.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to | 84s | Clover, old .. .. | 95s to | 126s |
| Superior do. .. | 86 | 92 | Do. second cut .. | 90 | 110 |
| Inferior do. .. | 60 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 28 | 36 |
| Rowen .. .. .. | 60 | 80 | | | |

HARVEY & EASTON.

CUMBERLAND MARKET, THURSDAY, Sept. 17.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 92s to | 100s | Inferior Clover .. | 88s to | 100s |
| Inferior do. .. .. | 75 | 84 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 34 | 40 |
| Superior Clover .. | 114 | 120 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Sept. 17.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime 1st cut Clover | 118s to | 123s |
| Inferior do. .. .. | 80 | 84 | Inferior do. .. .. | 108 | 115 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do. | 105 | 110 |
| Straw .. .. .. | 30 | 34 | Inferior do. .. | 90 | 100 |

### BRITISH WOOLS.—LONDON, Sept. 18.

Our trade continues good, and at full rates; there being however still an indisposition to pay a profit on the extreme rates demanded by the growers in the country. Skin wool realises an advance in proportion to the increase of value arising from the addition to the length.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 9½ to 1 10½ | Leicest. Wethers | 1 8 to 1 9 |
| Half-bred ditto .. | 1 10 — 1 11 | Ditto Hoggs .. | 1 9 — 1 10 |
| Down Ewes .. | 1 8½ — 1 9½ | Combing Skins | 1 4 — 1 8 |
| Kent Fleeces .. | 1 9 — 1 10 | Flannel Wool .. | 1 6 — 1 8 |
| | | Blanket ditto .. | .. — .. |

### COAL MARKET.—Sept. 16.

Byass's Bebside West Hartley, 16s.; Hastings Hartley, 16s.; Holywell Main, 17s. 3d.; Lambert's West Hartley, 15s. 9d.; Tanfield Moor Butes, 15s. 3d.; Walker Primrose, 12s. 6d.; Walls End Riddell, 16s. 9d.; Eden Main, 17s.; Walls End Braddyll's Hetton, 17s. 6d.; Walls End Haswell, 18s 6d.; Walls End Hetton, 18s. 6d.; Walls End Russell's Hetton, 17s. 6d.; Walls End Cassop, 17s. 6d.; Walls End Caradoc, 17s 6d.; Walls End Heugh Hall, 17s 6d.; Walls End Kelloe, 17s. 6d.; Walls End East Hartlepool, 18s. 6d.; Walls End South Hartlepool, 17s. 6d.; Walls End South Kelloe, 17s 6d.; Walls End Thorpe, 16s. 3d.; Walls End Trimdon Hartlepool, 18s.; Carway and Duffryn Malting, 20s.—92 ships at market.

### NEWGATE.—Sept. 18.

| | |
|---|---|
| Best Fresh Butter .. .. | 14s. per dozen lbs. |
| Second do. do. .. .. | 12s. ,, |

Pork, 4s. 4d. to 4s. 8d. per 8 lbs.

### METROPOLITAN CATTLE MARKET.

MONDAY, Sept. 14.

We have a larger number of Beasts than on Monday last; there is, however, a demand for them, and that day's quotations are fully maintained. Sheep are also more plentiful; trade is scarcely as brisk, yet there is no quotable reduction in price. Good Calves are scarce and rather dearer. Only a few choice Lambs are now wanted. From Germany and Holland there are 1890 Beasts, 8640 Sheep, 111 Calves, and 30 Pigs; from Spain, 870 Beasts; from Ireland, 470; and 2570 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 0 | Best Long-wools. | 5 0 — 5 2 |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn .. | .. — .. |
| 2d quality Beasts | 3 4 — 4 0 | Ewes & 2d quality | 4 4 — 4 8 |
| Best Downs and Half-breds .. | 5 2 — 5 4 | Do. Shorn .. | .. — .. |
| Do. Shorn .. | .. — .. | Lambs .. .. | 4 4 — 5 8 |
| | | Calves .. .. | 3 4 — 5 0 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 5710; Sheep & Lambs, 24,170; Calves, 111; Pigs, 290.

THURSDAY, Sept. 17.

The number of Beasts is nearly the same as on Thursday last. Trade is not brisk, but prices are about the same as on Monday; a clearance cannot be effected. The supply of Sheep is again short, and the choicest qualities are readily disposed of at a slight advance; but on the average trade can scarcely be quoted better. Lambs may now be considered out of season. Calves are selling about the same as on Monday. From Germany and Holland there are 410 Beasts, 2240 Sheep, 571 Calves, and 32 Pigs; from Spain, 120 Beasts. Milch Cows, 85.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 5 0 — 5 4 |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn .. | .. — .. |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | 4 0 — 4 10 |
| Best Downs and Half-breds .. | 5 4 — 5 6 | Do. Shorn .. | .. — .. |
| Do. Shorn .. | .. — .. | Lambs .. .. | 4 8 — 5 8 |
| | | Calves .. .. | 3 4 — 5 0 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 1445; Sheep & Lambs, 6570; Calves, 571; Pigs, 210.

### MARK LANE.—MONDAY, Sept. 14.

There was only a small supply of English Wheat to this morning's market. Trade was dull at a decline of fully 1s. per qr., and although factors were willing to submit to a like con-

ession upon foreign, scarcely any business was transacted. Fine malting Barley was in request, other descriptions less inquired after, value unaltered. Beans and Peas sold at last week's rates. The Oat trade was slow, and sales could only be effected at a decline of 6d. per qr. Flour was 6d. per barrel cheaper.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 44—46 | Red ..... | 42—44 |
| — — fine selected runs .. ditto | 46—50 | Red .... | 42—48 |
| — — Talavera ............ | 48—52 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 38—58 | | |
| BARLEY, grind. & dist, 30s to 33s .. Chev. | 36—40 | Malting .. | 33—38 |
| — Foreign .. grinding and distilling | 25—29 | Malting .. | 28—32 |
| OATS, Essex and Suffolk ............ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ..................Potato | 19—22 | Feed .... | — |
| — Foreign ......Poland and Brew | 19—22 | Feed .... | 18—20 |
| RYE .............................. | 30—32 | Foreign .. | — |
| RYE-MEAL, Foreign ................ | — | | |
| BEANS, Mazagan....33s to 38s...Tick | 34—36 | Harrow .. | 34—36 |
| — Pigeon .... 37s to 40s.. Winds. | — | Longpod | — |
| — Foreign ...............Small | 40—46 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent.. Boilers | 37—38 | Suffolk .. | 38—40 |
| — Maple .... —s to —s .... Grey | — | Foreign .. | 32—38 |
| MAIZE ..........................White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 38—43 | | |
| — 2d do ................... ditto | 30—34 | Country .. | 30—34 |
| — Foreign ............ per barrel | 17—26 | Per sack | 34—45 |

**FRIDAY Sept. 18.**

We have had mostly dry weather during the past week, enabling farmers to get on rapidly with cutting and carting, so that the greatest part of this year's grain crop in England may be considered safely housed. The progress made with harvest work, and the increased quantities of new Wheat on our markets have had a depressing influence upon the trade, and prices have consequently given way 1s. to 2s. per qr. for good dry new and old, and 2s. to 4s. per qr. for samples of new in bad condition, of which a small portion which was too hastily carted consists. Foreign Wheat remained neglected, although holders were willing to accept lower terms. Millers are using new English largely, the crop coming dry and heavy at present. Feeding Barley was less active, Malting continues scarce, and prices still tending upwards. Oats are a drug, and gave way fully 6d. per qr. Beans and Peas were a slow sale, and must be written 1s. per qr. cheaper. Flour has participated in the downward movement of Wheat prices, and is neglected at 6d. per barrel and 1s. per sack decline. Since Friday last only 5 vessels with Maize have been reported off the coast. The floating trade has been very quiet during the week. Wheat remained nominally unaltered in value, there being no demand, and no, new arrivals pressing upon the market. Maize declined 6d. per qr. Rye is 1s. cheaper, and Linseed declining. In Paris (Sept. 17), Flour had declined 1s. per 280 lbs., and the transactions remain very limited. The six marks for delivery this month are quoted equal to 33s. per 280 lbs. The present stock is estimated at 8210 cwts. Very little has been doing in Wheat at late rates. The arrivals of grain and Flour since Monday are moderate, with the exception of Foreign Oats which are large. There was a thin attendance at market this morning, and scarcely any business was transacted in either English or foreign Wheat, although factors would have submitted to a reduction in prices. Barley was firm. Beans and Peas unaltered. Oats very dull.

ARRIVALS THIS WEEK.

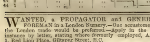
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 850 qrs. | 420 qrs. | — qrs. | 810 sks. |
| Irish .... | — | — | 700 | — ,, |
| Foreign .. | 10,380 ,, | 4850 | 56,560 ,, | 20 ,, / 220 brls |

LIVERPOOL, Sept. 15.—With a fair attendance at to-day's market the demand for Wheat has been quite from hand to mouth, and all descriptions have declined 1d. to 2d. per cental on the rates of Friday last. Flour 6d. per barrel lower and very unsaleable; a great proportion of the stock offering is inferior or out of condition. Indian Corn is 3d. lower, and little inquired for. Oats are 1d. per bushel and new Oatmeal 1s. per load cheaper. Peas and Beans both the turn easier. Barley scarce and unaltered in value. The market closes heavy. Weather fine, but the barometer falling.

FRIDAY, Sept. 18.—Market thinly attended. Wheat in retail demand at 3d. per cental decline. Flour neglected; quotations nominal. Indian Corn dull. Egyptian Beans and Flour quiet; Oats 1d. lower. Oatmeal, 1s. cheaper.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Aug. 8 | 46s 3d | 31s 6d | 23s 0d | 31s 6d | 38s 8d | 34s 9d |
| — 15 | 45 11 | 31 4 | 23 7 | 36 4 | 40 7 | 35 7 |
| — 22 | 46 5 | 31 1 | 23 0 | 33 2 | 40 4 | 34 9 |
| — 29 | 45 9 | 33 10 | 22 8 | 33 9 | 39 6 | 35 9 |
| Sept. 5 | 44 2 | 34 8 | 22 0 | 32 11 | 38 10 | 37 2 |
| — 12 | 44 1 | 34 7 | 21 8 | 31 0 | 39 10 | 35 10 |
| Agg. Aver. | 45 5 | 32 10 | 22 8 | 33 1 | 39 8 | 35 8 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




WANTED, a PROPAGATOR and GENERAL FOREMAN in a London Nursery.—One accustomed to the London trade would be preferred.—Apply in the first instance by letter, stating where formerly employed, A. Z., 1, Red Lion Place, Giltspur Street, E.C.

WANTED, a Young Man as FOREMAN, in a gentleman's Garden, not under 23 years of age.—Wages, 15s. per week, with lodging, &c.—B. BOLTON, Gardener, Wyddial Hall, near Buntingford, Herts.

WANTED, a WORKING FOREMAN and PROPAGATOR in a Small Nursery; a sober, steady, industrious, middle-aged, married Man, without incumbrance, to have the care and Management of the Houses, attend to the Fires, and make himself generally useful. Wife occasionally to assist in the Flower and Plant Shop, and make up Bouquets, &c. House and Firing on the premises.—State where employed for the last 4 years, what references, and the lowest terms, to A. B., care of Messrs. Mudie & Sons, 15, Coventry Street, Haymarket, London, W.C.

WANTED, a NURSERY PACKER, of first-rate experience, who can produce unexceptionable references.—Apply to PETER LAWSON & SON, Edinburgh.

WANTED, as SHOPMAN, a Man of experience, accustomed to Manage and Travel in the Seed Trade.—Apply to H. BROWN, 4, Commutation Row, Liverpool.

**Nursery Trade.**

WANTED, a respectable Young Man, 18 years of age, or so, as CLERK or IMPROVER in a large Nursery.—Must write a good clear hand, and have unexceptionable references.—Apply in own handwriting, stating salary expected and all other particulars, to JAMES DICKSON & SONS, The Newton Nurseries, Chester.

WANTED, a Young Man as ASSISTANT in a Wholesale Seed Warehouse, to help at the Counter, and to make himself generally useful; he must write well, and have a good character.—Apply, by letter only, in own handwriting, stating age and where last employed, to A. B., Nutting & Sons, 60, Barbican, E.C.

WANTED, ONE or TWO handy FARM LABOURERS, who know their work well, to Plough, Sow, Mow, Reap, Thatch, and make themselves generally useful. Wages, 12s. a week, and Coal free. Characters must be good in all respects.—Address, R. A., Post Office, Llanelly, South Wales.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 26, single; thorough practical knowledge of his profession. Good character.—S. W., Mr. Parker, News Agent, Kingston, Surrey, S.W.

GARDENER (HEAD).—Age 27, married, no incumbrance. Wife can take the charge of a Dairy if required. Satisfactory references.—A. R. T., *Gardeners' Chronicle* Office.

GARDENER (HEAD).—Practically experienced in the Forcing of all kinds of Fruit, Flowers, and Vegetables; also the Management of Fruit, Flower, and Kitchen Gardens. Six years' references from a nobleman's situation.—C. W., The Nurseries, Foot's Cray, Kent.

GARDENER (HEAD).—Age 30; thoroughly understands the Growing of Pines, Vines, Peaches, Melons, &c., Stove and Greenhouse Plants, the Management of Flower and Kitchen Gardens.—Character will bear the strictest inquiries.—L. W., The Gardens, Bishopstoke, Winchester.

GARDENER (HEAD).—Middle-aged, married; well versed in every branch of his profession, including the Growth of Pines, Grapes, Orchids, Ferns, Stove and Greenhouse Plants in general, and Management of Kitchen and Flower Gardens, &c. Unexceptionable character.—A. Z., 17, Charlotte Terrace, Lyham Road, Brixton Hill, S.

GARDENER (HEAD).—Age 30; thoroughly understands the Management of the Hothouse, Peach-house, Greenhouse, Flower and Kitchen Garden, and Forcing in general upon the most approved principles. Highly respectable reference can be given as to character and ability.—HEAD GARDENER, Duddon Hall, Broughton-in-Furness, Lancashire.

GARDENER (HEAD). — Age 30, married, two children; industrious and sober; has practical experience in Early and Late Forcing; a good Kitchen and Flower Gardener, &c. Nearly four years' unexceptionable character, and first-class references of 12 years' standing.—A. L., Messrs. Smith & Co., Ironmongers, Blackheath, S.E.

**To Noblemen and Gentlemen.**

GARDENER (HEAD).—Age 36; has had much experience in first-class establishments in the Culture of Fruit in general, Early and Late Forcing; also Stove and Greenhouse Plants, including Orchids and Fine-foliaged Plants, &c. Unexceptionable character from last employer.—A. B., Mr. W. Paul, The Nurseries, Waltham Cross, N.

GARDENER (HEAD).—Age 35, married, no incumbrance; has had many years experience in Horticulture, and gained a thorough knowledge of the modern growth of the choicest Fruits under Glass; is a first-rate cultivator of Stove and Greenhouse Plants, and has had for many years the Management of a Nobleman's Garden Establishment, where Gardening has been carried out to the highest state of cultivation. First-class testimonials.—JOHN OSBORNE, Chippenham Park Gardens, near Newmarket.

GARDENER (HEAD).—Has been in his present situation nearly 14 years, and leaving in consequence of a reduction in the establishment; thoroughly understands the Erection and Heating of Horticultural Buildings, Laying-out and Planting Grounds, Forcing Pines, Grapes, Peaches, Strawberries, Melons, Cucumbers, and Mushrooms; the Growth and Treatment of Orchids, Ferns, Ornamental Foliage and Stove Plants, Azaleas, Camellias, Ericas, Epacris, and general Hard-wooded Greenhouse Plants; likewise Pelargoniums and all Soft-wooded Plants. Has a perfect knowledge of Wall Trees and all hardy Fruits; understands the Early Forcing of Vegetables, and is an excellent Kitchen and Flower Gardener. Has taken many Prizes at Provincial Exhibitions. No objection to any part of the kingdom. Character will bear the strictest investigation.—JOHN BRADSHAW, Keresley, Coventry.

GARDENER (HEAD, or FOREMAN).—Age 28, single, Scotch; 11 years' practice in first class places in England and Scotland. References to men of well known ability.—M. E., Mr. Page, Tobacconist, Lower Tooting, Surrey.

GARDENER (HEAD) or FOREMAN (OUT-DOOR).—Age 25, highly recommended in either of the above capacities. Has lived eight years in various extensive establishments in England and Wales. Thoroughly understands the Management of Houses, and Gardening in general.—G. B., Post Office, Buntingford, Herts.

GARDENER (HEAD), or GARDENER and BAILIFF.—Age 42, married; 5½ years' character from his last situation.—A. B., Mr. Archer's, Summer Hill Road, Tottenham, Middlesex, N.

GARDENER.—Age 25, married; well understands his profession. Twenty years' experience in first-class places. Good character.—J. J., 38, Dartmoor Street, Notting Hill, N.W.

GARDENER (middle-aged, married).—Mr. WM. PAUL, Waltham Cross, N., can strongly recommend a good practical Gardener, with first-rate testimonials as to character and ability.

GARDENER.—Age 29; has had good practice in growing Pines, Vines, Peaches, Melons, &c., Kitchen and Flower Gardening, Stove and Greenhouse Plants. Good character from present and previous situations.—M. N., Post Office, Bishopstoke, near Winchester, Hants.

GARDENER (middle-aged, married, without incumbrance).—D. DAVIES, who has been 19 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. LINDLEY, Acton Green, Middlesex, W.

GARDENER, and to look after a Horse and Chaise, or Cows and Poultry.—Married, without incumbrance. Wife a good Laundress.—FLATT, Post Office, Chertsey.

GARDENER (UNDER).—Age 22; wishes to improve himself; will pay a Premium. Three-and-a-half years' good character in present situation. — W. R., Daylesford Gardens, near Chipping Norton, Oxon.

GARDENER (UNDER), or to manage a small Place.—Age 22, single; has worked four years in one of the best gardens in Derbyshire, and three years in his last place.—THE GARDENER, Butterley Hall, Alfreton, Derbyshire.

GROWER of ORCHIDS and FERNS (FIRST-CLASS), also Hard and Soft-wooded Plants, with a general knowledge of the usual routine of a gentleman's establishment, and had the management of one of the largest collections of Orchids in England. Testimonials as to character and ability.—A. B., Mr. Henderson's, Market Cross, Birkenhead.

FOREMAN, in a gentleman's Garden.—Age 26; has a thorough knowledge of Gardening in all its branches, Forcing, Propagating, Kitchen Garden and Pleasure Ground. Three years' good character from last situation.—Other information may be obtained of Mr. G. TRANTED, Westbrook, Hemel Hempstead, Herts.

FOREMAN, or FOREMAN and PROPAGATOR.—Married; has had great experience in London and Provisional Nurseries, and Propagating in every Department, Budding, Grafting, Plant Growing, &c. A good Salesman. First-rate character.—R. B. J., Railway Cottage, Far Cotton, Northampton.

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IMPROVER.—Good Premium given; accustomed to take care of Houses of all descriptions.—F. MOBLY, 35, George Street, Grosvenor Square, London, W.

BAILIFF and GARDENER, or GENERAL MANAGER.—No incumbrance; 20 years' service in the Northern and Midland Counties of England with noblemen and gentlemen. Salary 70*l.* per annum.—SAMUEL BROWN, Wheldrake, Yorkshire.

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BAILIFF or STEWARD. — Age 40; is well acquainted with the Management of Stock, Woods, Draining, Arable and Pasture Land, &c. Leaving his present situation, where he has been 12 years, in consequence of the estate having been sold. Security given if required. Character unexceptionable, and can be well recommended by Messrs. GEORGE GIBBS & Co., Seedsmen, 26, Down Street, Piccadilly, London, W., who will attend to any communications.

**To Noblemen and Gentlemen.**

FARM BAILIFF, at Michaelmas.—Age 44, married, no incumbrance; thoroughly understands Farming in all its branches, including Hops, Grazing, Breeding, and Rearing of Stock and Sheep; acquainted with different Soils; is also a good Accountant. Wife can take charge of a small Dairy and Poultry if required. Satisfactory references.—A. B., Post Office, Cranbrook, Kent.

FARM BAILIFF.—Married; Wife could undertake the Management of a Dairy and Poultry if required. Highest reference as to character and ability.—J. W., Post Office, Market Harborough, Leicestershire.

LAND STEWARD or BAILIFF.—Is thoroughly acquainted with Farming in all its branches, the Buying, Selling, Breeding, and Rearing of all kinds of Stock, Marketing, &c. First-class references and testimonials.—HOMO, Post Office, Watford, Herts.

SHOPMAN.—Age 25, single; has had 11 years' experience in two large Provincial Seed Businesses; and can have unexceptional testimonials.—Y. G., Messrs. Hurst & Son, 6, Leadenhall Street, London, E.C.

**Seed Trade.**

SHOPMAN and TRAVELLER.—A Young Man of experience is desirous of obtaining an engagement. He has held his last situation for five years, and can give first-class references.—G. F., *Gardeners' Chronicle* Office, W.C.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, SEPTEMBER 26, 1863.*


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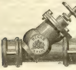
## PATENT HOT-WATER VALVES



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HOT WATER PIPES, from Stock, per yard :—2-inch, 1*s.* 2*d.*; 3-inch, 1*s.* 10*d.*; and 4-inch, 2*s.* 4*d.* BENDS, from stock, 1*s.* 7*d.*, 2*s.* 6*d.*, and 3*s.* 3*d.* each. THROTTLE VALVES, 10*s.* 6*d.*, 13*s.* 6*d.*, and 15*s.* each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

HOT-WATER PIPES, at Reduced Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, Tubular, and Elliptic, from 24*s.* each. Improved Boilers and Iron Stands to use without brickwork, 56*s.* each. Valves from 10*s.* 6*d.* each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at
Mr. Lynch White's Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S. Price List on application.

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Those glazed with 21-ounce glass, 9*d.* per square foot.
16-ounce „ 8*d.* „

| | No. of Lights. | |
|---|---|---|
| 21-ounce.— | Eight. | 12 feet 3 inches by 5 feet 8 inches. |
| „ | Twenty. | 11 feet by 4 feet 8 inches. |
| „ | Nine. | 8 feet 6 inches by 4 feet 8 inches. |
| „ | Ten. | 7 feet by 3 feet 11 inches. |
| „ | Twelve. | 5 feet 2 inches by 4 feet 2 inches. |
| 16-ounce.— | Forty. | 7 feet by 4 feet 3 inches. |
| „ | Twenty. | 6 feet by 4 feet 2 inches. |
| „ | Twelve. | 5 feet 2 inches by 5 feet 8 inches. |

Also Span-roof Greenhouse, 27 feet by 16 feet, 47*l.*
Lean-to, 21-ounce glass, 46 feet by 14 feet, 55*l.*
„ 21-ounce glass, 24 feet by 11 feet, 30*l.*
„ 16 ounce glass, 50 feet by 14 feet, 55*l.*
Second-hand, 12 feet by 7 feet, 14*l.*
☞ ESTIMATES given for HEATING.

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Illustrated Circulars, with Lists of Prices, can be had on prepaid application to Samuel Hereman, 7, Pall Mall East, London.
Also, A HANDBOOK on VINE and FRUIT TREE CULTIVATION, price 1*s.*; post free, 1*s.* 1*d.*

200 CUCUMBER and MELON BOXES and LIGHTS, and from 400 to 500 LIGHTS for PITS of all SIZES kept in STOCK.
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References to the Nobility, Gentry, and Trade in most of the counties in England.
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HORTICULTURAL and AGRICULTURAL IMPLEMENTS and MACHINES of every description.
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AGRICULTURAL IMPLEMENTS.—STEAM ENGINES, THRESHING MACHINES, CARTS, WAGGONS, PLOUGHS, HARROWS, TURNIP CUTTERS, CHAFF CUTTERS for hand and power, LAWN MOWERS, PRIZE CHURNS, CASK STANDS, WIRE NETTING, and GARDEN TOOLS.
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JENNINGS' MODEL PRESERVING JAR affords the means to every one to lay by a store of Fruit or Vegetables for Winter use at a very small cost and little trouble.
This is effected by means of an AIR-TIGHT CAP or COVER, which can be placed or removed in a moment, and will last for years in any climate, superseding the use of Bungs, Corks, Bladder, &c., for all kinds of Preserved Meats, Fruits, or Pickles.

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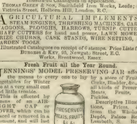


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| 1856 | [illegible] | [illegible] | [illegible] |
| 1861 | [illegible] | [illegible] | £1,311,986 |
| 1862 | £436,[illegible] | [illegible] | [illegible] |

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# News of the Week.

THE despatches of Prince GORTSCHAKOFF, in reply to the last Notes of France, Austria, and England, were published on Saturday. They state that as the proposed end of the correspondence has not been attained, it would be contrary to the conciliatory dispositions of the Russian Government to seek to prolong it; that Russia prefers to fix her attention on essential points upon which she finds herself agreeing with the three Powers; that the EMPEROR desires to see tranquility restored to Poland, and continues to be animated with the most benevolent intentions to that country; and that until Russia has violated a fundamental principle of international relations, she has the right to expect and to claim the like respect from other Powers that she is in the habit of extending to them. In a memorandum which accompanied the despatches, Prince GORTSCHAKOFF says that encouragement of the Revolution is only to be feared from those Powers which may be determined to pursue, under an appearance of diplomatic action within the limits of international engagements, the realisation of the most extreme desires of the Revolutionary party and the subversion of the European equilibrium. As this remark cannot apply to either Austria or England, which have taken as the basis of their intervention the scrupulous execution of the Treaties of 1815, it is obviously intended to refer to France. The French Government has accordingly responded to the sarcasm which it conveys by publishing conspicuously in the *Moniteur* a letter addressed by the Polish National Government to Prince CZARTORYSKI, demanding for the Poles a recognition as belligerents, and accepting the challenge of Russia to decide the issue by war.

At the sitting of the Federal Diet at Frankfort on Saturday, the united committees recommended the taking possession of the administration of the Duchy of Holstein, and the entry of 6000 Hanoverian and Saxon troops, Austria and Prussia furnishing the reserve. On the other hand the Danish Government has commenced preparations for resisting the threatened attack, and has issued an order for filling up the regimental list to war strength by the 1st of October.

A despatch from Vienna states that the Archduke MAXIMILIAN has finally accepted the Crown of Mexico, and renounced his rights as the nearest collateral heir to the Austrian throne.

An attempt was made at Warsaw on Saturday, to assassinate General BERG by means of an Orsini bomb thrown from the window of the Zamoyski Palace, or from the pavement before it. The perpetrator has not been discovered, but the Russian authorities have avenged the act by allowing the two palaces of the ZAMOYSKI family to be pillaged by the military and converted into barracks, while the male and female inhabitants of both palaces have been conveyed to the citadel, and the two Counts ZAMOYSKI and Prince LUBOMINSKI have been imprisoned in chains. The Russian Count LEBOUCHINE has since been assassinated in retaliation for the active part he took in the plunder of the palaces.

Despatches from Charleston announce that after a gallant defence the Confederates have been compelled to evacuate Forts Wagner and Gregg, and that the whole of Morris Island is now in the occupation of the Federals. Fort Sumter however still holds out, and the Federals have been repulsed with loss in an attempt to occupy it. The bombardment of Charleston has not been renewed, but General GILMORE was preparing to reopen fire. In East Tennessee Cumberland Gap and Knoxville have been captured by General BURNSIDE, who has since resigned his command, and General ROSENCRANZ has officially reported the capture of Chattanooga. A good deal of excitement had been caused at New York by the expected departure of the iron-clads from Liverpool, and the papers urge war with England if such hostile measures are permitted by the British Government. The Confederate Government has recalled Mr. MASON, it's Commissioner in London, on the ground that his continued residence in England is neither conducive to the interests nor consistent with the dignity of that Government.

By the Cape mail we learn that the Confederate steamers Alabama and Georgia are cruising off the Cape for the purpose of intercepting the Federal shipping. The Alabama has already captured 56 vessels, and the Georgia 15. One of the Alabama's prizes was captured at the entrance of Table Bay, in full sight of thousands of colonists.

# Home News.

THE QUEEN IN SCOTLAND.—On Wednesday week the Queen, accompanied by the Princesses, visited the cairn erected to the memory of the Prince Consort, and visited the Prince and Princess of Wales at Abergeldie. The Prince and Princess Louis of Hesse arrived at Balmoral. On Thursday the Prince and Princess Louis drove to Abergeldie to visit the Princess of Wales. The Prince and Princess of Wales dined at the Castle in the evening. On Saturday the Queen and the Princesses took a drive in the vicinity of Balmoral. On Sunday the Queen and the Princesses attended divine service at the Castle. The service was performed by the Rev. Mr. Stuart, of Edinburgh, one of her Majesty's Chaplains. The Prince and Princess of Wales, Prince Alfred, and Princess Helena attended divine service at the parish church of Crathie. On Monday the Queen, accompanied by Prince and Princess Louis of Hesse, drove to Invercauld. Princess Helena and Princess Louisa rode on horseback. The Prince and Princess of Wales dined at Balmoral. On Tuesday afternoon the Queen, accompanied by the Princess Helena, drove out. Prince

Alfred dined with the Prince and Princess of Wales at Abergeldie Castle.

THE PRINCE AND PRINCESS OF WALES.—On Saturday week the Prince went out deer-stalking in the forest of Invercauld, where he saw a herd of 300 noble stags, but the wind having suddenly veered, they passed beyond rifle range. At an after period of the day, when the Princess had joined the party, a deer drive took place from Craig Cluny; and two of the herd fell before the rifles of the Royal party. At the conclusion of the sport, the Prince and Princess visited the Falls of the Garrawalt. On Tuesday week the Prince went out shooting and killed two fine stags. The Prince and Princess afterwards visited the Lochnagar whisky distillery. On Wednesday week the Prince of Wales and Prince Alfred had good sport among the grouse, and in the afternoon the Princess enjoyed a hill-side pic-nic.

THE PRINCE AND PRINCESS LOUIS OF HESSE arrived at Balmoral on Wednesday week on a visit to the Queen, and were heartily welcomed by a number of the tenantry, who, by her Majesty's command, had been made aware of their coming. In driving up to the Castle, the Princess, who has been always a great favourite in the locality, gratified the tenantry in no ordinary degree by holding up her baby at the carriage window.

THE PRINCESS LOUISE OF DENMARK proposes to visit this country in a few days, on a visit to her daughter the Princess of Wales. Prince Christian will come to London subsequently, and as King George will arrive about the same time, he will thus have an opportunity of taking leave of his parents before his departure for Greece.

PARLIAMENTARY MOVEMENTS.—There is a vacancy at Barnstaple caused by the death of Mr. Potts. Captain Fraser of the 1st Life Guards, brother of Sir W. Fraser, Bart., M.P., is mentioned as a candidate for the vacant seat. The Hon. F. Lygon has announced himself a candidate for West Worcestershire. Four candidates are mentioned for the seat thus vacated at Tewkesbury—Sir E. A. H. Lechmere, of the Rhydd; Mr. Dowdeswell, of Pull Court; Mr. Talbot, nephew of Lord Lyttelton; and Mr. Logan, a gentleman connected with a large stocking factory lately established in the town.

COLONIAL APPOINTMENT.—The *Gazette* of Friday announces that the Queen has appointed Sir Henry Barkly, K.C.B., to be Governor of Mauritius and its dependencies.

THE POLISH QUESTION.—The following despatch in answer to the recent note of the British Government has been communicated to Earl Russell by the Russian Ambassador at this Court:—

"PRINCE GORTSCHAKOFF TO BARON BRUNNOW.

"Tsarkoe-Selo, Aug. 26—Sept. 7, 1863.

"Lord Napier has, by order of his Government, communicated to me a despatch from Lord Russell, of which your Excellency will find a copy hereunto annexed. It is an answer to my despatch of the 1st—13th of July last, which you were invited to communicate to the Principal Secretary of State of Her Britannic Majesty. The overtures which we had set forth in that document were dictated to us by the desire to arrive at an understanding. In receiving the observations which they have suggested to Lord Russell with the attention which we always pay to the opinions of her Britannic Majesty's Government, we cannot but regret that we must come to the conclusion that we have not attained the end which we had proposed to ourselves. From the moment that this discussion could only end in establishing and in confirming the divergence of our views, it would be contrary to our conciliatory disposition for us to seek to prolong it; and we believe that in this we are not acting at variance with the sentiments of the Principal Secretary of State of her Britannic Majesty. We prefer to fix our attention only upon the essentials points of his despatches, upon which we find ourselves agreed, at least in intention. Her Britannic Majesty's Government desire to see promptly re-established in the Kingdom of Poland a state of things which shall restore tranquility to that country, repose to Europe, and security to the relations of the Cabinets. We entirely share in this desire, and all that can depend upon us shall be done to realise it. Our august master continues to be animated by the most benevolent intentions toward Poland, and by the most conciliatory towards all foreign Powers. To provide for the welfare of his subjects of all races and of every religious conviction is an obligation which his Imperial Majesty has accepted before God, his conscience, and his people. The Emperor devotes all his solicitude to the fulfilment of that obligation. As regards the responsibility which may be assumed by his Majesty in his international relations, those relations are regulated by public right. The violation of those fundamental principles can alone involve responsibility. Our august master has constantly respected and observed those principles with regard to other States. His Majesty has the right to expect and to claim the same respect on the part of the other Powers. You will be pleased to read and give a copy of this despatch to the Principal Secretary of State of her Britannic Majesty.—Receive, &c."

WITHDRAWAL OF THE CONFEDERATE COMMISSIONER.—Mr. Mason, the Commissioner from the Confederate States, has addressed the following letter to Earl Russell, announcing that he has been instructed by the Confederate Government at Richmond to withdraw from this country. Mr. Mason, it is understood, has proceeded to Paris, where he will remain for the present.

"24, Upper Seymour Street, Portman Square, September 21, 1863.

"The Right Honourable Earl Russell, her Majesty's Secretary of State for Foreign Affairs.

"My Lord,—In a despatch from the Secretary of State of the Confederate States of America, dated 4th day of August last, and now just received, I am instructed to consider the commission which brought me to England as at an end, and I am directed to withdraw at once from this country. The reasons for terminating this mission are set forth in an extract from the despatch, which I have the honour to communicate herewith. The President believes that 'The Government of her Majesty has determined to decline the overtures made through you for establishing, by treaty, friendly relations between the two Governments, and entertains no intention of receiving you as the accredited Minister of this Government near the British Court. Under these circumstances, your continued residence in London is neither conducive to the interests nor consistent with the dignity of this Government; and the President therefore requests that you consider your mission at an end, and that you withdraw with your Secretary from London.' Having made known to your Lordship, on my arrival here, the character and purposes of the mission entrusted to me by my Government, I have deemed it due to courtesy thus to make known to the Government of Her Majesty its termination, and that I shall, as directed, at once withdraw from England. I have the honour to be your Lordship's very obedient servant,

"J. M. MASON."

THE ADMIRALTY.—Captain George Henry Richards has been appointed Hydrographer of the Admiralty, in the room of the late Rear-Admiral Washington.

THE CHANNEL FLEET, with the exception of the Liverpool, left the Mersey yesterday morning for Dublin Bay, where it will remain if possible until Wednesday next. It is said that the Liverpool has remained behind for the purpose of watching the suspected Ironclads. An attempt to procure a visit from the Fleet to Bristol has proved unsuccessful. The Mayor has received a letter from the Lords of the Admiralty regretting that, owing to the lateness of the season, it will not be possible for the fleet to visit Bristol this year.

## Foreign.

FRANCE.—The *Moniteur* of Friday published the despatch of M. Drouyn de Lhuys to the Duke de Montebello, dated August 3, and translations of the English and Austrian despatches. The conclusions of the French despatch are identical with those of the other Powers. Baron de Budberg, on Monday, handed to M. Drouyn de Lhuys the following despatch from Prince Gortschakoff in reply to this Note:—

"Tsarkoe Selo, August 26 (Sept. 7).

"I have the honour to transmit herewith to your excellency the copy of a despatch from M. Drouyn de Lhuys which the Duke de Montebello was desired to communicate to us. The Imperial Cabinet has considered this document with all the attention it deserves, and with the sincere desire to bring this exchange of ideas to an understanding. After mature examination we have not discovered therein any motive for us to depart from the points of view which I communicated to you in my despatch of the 1st (13th) July. We believe we anticipate the wishes of the French Minister for Foreign Affairs in abstaining from prolonging a discussion which would not attain the object of conciliation we have in view, if it had no other result than to confirm each of the two governments in its opinion upon a question on which we deeply regret not to agree with the Cabinet of the Tuileries. We shall only take up a single point of the despatch of M. Drouyn de Lhuys, because we are solicitous to remove beforehand any fresh subject of misunderstanding. I refer to the allusion several times and in various forms made by the French Minister for Foreign Affairs to the western provinces of Russia as participating in a certain degree in the international stipulations which in 1815 settled the destiny of the duchy of Warsaw. The Imperial Cabinet could not admit this point of view, even in the most restricted form; and your excellency is invited to reiterate to M. Drouyn de Lhuys the declaration already made in my preceding despatch, that his Majesty, ever ready to scrupulously fulfil his obligations towards all the Powers, must peremptorily exclude even from an amicable exchange of ideas any allusion to parts of his empire to which no international stipulation whatever applies. As regards the other points referred to in the despatch of the French Minister for Foreign Affairs, we prefer to dwell upon those on which we agree, at least in intention. The French Government wishes to see promptly re-established in the kingdom of Poland a state of things which would restore tranquillity to that country, repose to Europe, and give security to the relations between the Cabinets. We fully participate in this desire, and all that may depend upon us shall be done to realise it. Our august master continues to be animated by intentions the most benevolent towards Poland, and the most conciliatory towards the foreign Powers. The well-being of all his subjects, of all races and all religious convictions, is an obligation which his Imperial Majesty has accepted before God, his conscience, and his people. The Emperor devotes all his solicitude to fulfil it. As regards the responsibility which his Majesty may assume in his international relations, these relations are regulated by public right. The violation of these fundamental principles can alone entail responsibility. Our august master has constantly respected and observed these principles towards other states. His Majesty has a right to expect and claim the same respect on the part of the Powers. You will be good enough to read and remit a copy of this despatch to the French Minister for Foreign Affairs."

The *Moniteur* of Sunday published the memorandum which accompanied the preceding despatch, and of which copies were at the same time addressed to the Governments of Paris, London, and Vienna. The memorandum, of which the following is an abstract, fills 10 columns of the *Moniteur*:—

"It begins by proving that the right of Russia to Poland is derived from the incontestable right of conquest. It says that it would be strange if at the time when all the great Powers of Europe obtained an increase of territory, Russia, who gave the signal of a general independent struggle, and who was the bond of the great European alliance, should have been deprived of the advantage of a compensation. It discusses the different assertions in the notes of the three Powers, and concludes by saying that it cannot be expected that the Cabinets interested in the maintenance of the equilibrium of Europe will pursue, under the appearance of diplomatic action, the realisation of the most extreme wishes of the revolutionary party."

The *Moniteur* responds to this remark by publishing the letter addressed by the Polish National Committee to Prince Czartoryski, demanding for the Poles a recognition as belligerents, and accepting the challenge of Russia to decide the issue by war. This document fills no less than eight columns of the official journal, and the public were disposed to attach so much significance to its publication at the present moment, that a fall took place at the Bourse in consequence. The *Opinion Nationale* also attaches great importance to its publication in the official journal, and the *Patrie* says that its appearance in such an organ is a political event, an adoption as it were of the reasoning of the National Committee in favour of the recognition of the belligerent rights of the Poles as a just, logical, and generous act. The *Temps, Gazette de France*, and *Siècle* think it tantamount to moral recognition, the importance of which would be nullified were it not the precursor of the recognition of the Poles as belligerents. *La France* considers that its insertion in the *Moniteur* has acquired the proportions of an event, and will produce a lively impression in Europe. It also states that the last replies of Prince Gortschakoff have produced the same impression in London as in Paris; that the three Courts continue in perfect agreement, and it is not impossible that events may draw France and England into an intimate accord with the object of meeting the eventualities which may arise from the present situation of France. Russia, it says, has broken the treaties of 1815 in their stipulations relative to Poland, a grave fact, creating a new situation in Europe. It reminds Russia that in 1854 the Emperor Nicholas was firmly convinced that England would never ally herself with France in the East, and that Austria would not enter into an amicable understanding with the Western Powers, and facilitate, by placing armies on the frontier and in the Danubian Principalities, the active operations of the war. The *Constitutionnel* of Monday publishes an article signed by M. de Limayrac, in which he states that France does not stand alone in her opinion regarding the affairs of the western provinces of Russia, or upon the other points raised in the Russian reply. He calls to mind that Lord Castlereagh in 1815, and Lord Palmerston in 1831, treated the subject in the same sense as M. Drouyn de Lhuys; and concludes by saying that the Polish question has now evidently entered a new phase, and will require the most careful examination. The *Patrie* publishes a pastoral letter of the Bishop of Marseilles, desiring the prayers of the faithful for their Catholic brethren in Poland, and recommending that Providence should be implored to cover them with its protection and to afford them liberty and peace. It is again asserted that the Russian Ambassador is about to leave Paris for St. Petersburg on leave of absence. No interview has taken place between him and M. Drouyn de Lhuys since the communication of the last diplomatic documents. *La France* of Thursday states that the Duke de Montebello will be received on the 27th inst. by the Emperor of Russia, and will set out on the following day for Paris. It is asserted that Prince Napoleon is going to London. The Federal corvette Kearsage has arrived at Brest from Madeira in pursuit of the Florida, and is treated by the authorities of that port in the same manner as the Confederate cruiser, both belligerents enjoying the same rights and the same advantages. The repairs of the Florida were finished on Tuesday, and on the following day she was to leave the port, in order to meet a second Federal corvette, which is now at Lisbon, and prevent the junction of the two Federal ships-of-war. The *Pays* of Friday says:—

"The English journals are mistaken in looking upon the note lately published in the *Moniteur* respecting the Florida as a great step towards the recognition of the Confederate States. The note in question was the result of a declaration made two years ago recognizing the Confederate States in the quality of a belligerent. No act since then has announced an intention on the part of France to go further. If the Emperor's Government believed itself bound to recognize the Confederate States as a constituted Power, and to establish official relations with their Government, it would do so openly, and not by indirect means."

The *Patrie* says that the French colony of New Caledonia is likely to prove a valuable acquisition to France, gold fields having been discovered there.

SPAIN.—Marshal O'Donnell and Sir John Crampton, the English Ambassador, have arrived at Madrid. A rumour was current that Marshal O'Donnell would again be placed at the head of the Government. The Duc de Nemours and Señor Baez, ex-President of St. Domingo, have arrived at Madrid. The *Epoca* asserts that the Cabinets of Washington and Madrid have determined to submit the question of jurisdiction within Cuban waters to the arbitration of the King of the Belgians. It is said, however, that the Emperor has declared that he would without displeasure see Spain vigorously chastise the refractory tribes of the Riff. Troops have already been sent to Malaga. The King is about to proceed to the baths at Alama.

BELGIUM.—The Archduchess Charlotte has left Brussels for Miramar. She is the bearer of the decision of the King of the Belgians, who is said to advise the archduke to refuse the throne of Mexico.

HOLLAND.—The States-General were opened on Monday by the King in person. In his speech his Majesty said that the foreign relations of Holland continued to be friendly, while the good understanding with Belgium had been strengthened by the treaties recently made between the two States. He congratulated the country on its prosperity, and the good state of its military forces, and informed the States that projects of law for a new criminal and civil code, for the extension of railways, for a reform of the system of taxation, and for the improvement of the Dutch colonies, would be presented to them in the course of the session.

DENMARK.—As the first step towards placing the army on a war footing, the Minister of War issued an order on Monday that the regimental lists should be filled up to war strength by the 1st of October.

FRANKFORT.—At the sitting of the Federal Diet on Saturday, the United Committees upon the Holstein question reported in favour of Federal execution being

carried out in that province. The Committees recommend taking possession of the administration of the entire duchy, and the entry of 6000 Hanoverian and Saxon troops, Austria and Prussia furnishing the reserve. The vote of the Diet upon the report will be taken on the 1st of October next.

PRUSSIA.—The *Neue Preussische* (Kreuz) *Zeitung* of the 23d publishes the reply of the King to the Princes and Burgomasters of the German free towns who communicated to his Majesty the resolutions of the recent Congress of Sovereigns. The reply rejects the propositions of Austria and her allies, and states the conditions upon which the King desires to establish Federal reform. These consist in the equality of Austria and Prussia in all Federal concerns, equal right of veto of both the great Powers, and a different organisation in the representation of the country at the Federal Assembly to that proposed by Austria. The Ministry have presented to the King a report on the question of Federal reform. The following are the main features of the report:—

It commences with a complaint that the Austrian reform project was imperfectly communicated to the King, and after the date of the invitation to the other Sovereigns. It is opposed to any declaration of war so long as Federal territory should not be assailed. It advocates the thorough equality of Austria and Prussia in the directorate, direct election of the popular delegates, and more extended powers for the national representatives. It proposes that the King shall decline assent to the Austrian plan and enter into negotiations with his Federal allies on the points indicated above, convoking a conference of Ministers of the different German States to agree upon another scheme of Federal reform; and that the scheme shall then be submitted either to elected representatives of the nation, or laid before the Diets of the different German States.

The trial of the editors of the seven Berlin papers took place on Friday. They were charged with having excited contempt and hatred against the orders of the authorities by publishing a declaration hostile to the press ordinances. The editors were defended by Herren Gneist, Holthoff, and Ulfers, and were all acquitted.

AUSTRIA.—The following is the text of the note addressed by Prince Gortschakoff to the Russian representative at Vienna, in answer to the Austrian note on the Polish question:—

"Tzarskoe-Selo, August 26.

"You will find annexed the copy of a despatch from Count de Rechberg, which the Austrian *chargé d'affaires* was charged to communicate to me. It contains the observations suggested to the Austrian Minister for Foreign Affairs by the overtures contained in my despatch of July 13, and states, to our great regret, that the Austrian Government differs with us in opinion on most of the points which we have mentioned. Our propositions had in view the work of conciliation, the urgency of which Count de Rechberg has pointed out to us. My despatch of July 18, had for object to precisely point out that idea, and to remove beforehand the objections and the misunderstanding to which it might give rise. We regret that it has not met with the adhesion of the Cabinet of Vienna. The more value we should have attached to coming to an understanding with it on a question in which we consider our interests to be identical, the farther are we from wishing to prolong a discussion which will do no more than prove a difference of opinion. We are persuaded that Count de Rechberg will share in this feeling. We prefer to confine ourselves to the essential points of his despatches, on which we at least intend to be in accord with him. The Austrian Government wishes to see a state of things promptly re-established in the kingdom of Poland which would restore tranquillity to that country, repose to Europe, and security to the relations between the Cabinets. We fully participate in that desire, and all that may depend on us shall be done in order to realise it. Our august master continues to be animated with the kindest intentions towards Poland, and with the most conciliatory feelings towards all foreign Powers. The welfare of all his subjects, of all races and of all religious creeds, is an obligation which his Imperial Majesty has accepted before God, his conscience, and his people. The Emperor devotes all his solicitude to fulfil it. As regards the responsibility which may be assumed by his Majesty in his international relations, those relations are regulated by public right. The violation of those fundamental principles can alone involve responsibility. Our august master has constantly respected and observed those principles with regard to other States. His Majesty has the right to expect and claim the same respect on the part of other Powers. You will please to read and give a copy of this despatch to the Austrian Minister of Foreign Affairs."

The *Europe* of Saturday states that this despatch has not been considered satisfactory by the Austrian Cabinet, and the *Presse* of Vienna dwells upon the arrogance of Russia, and declares that the only dignified and efficacious means of arriving at a solution would be to occupy Poland in the name of Europe; for the responsibility of the Powers will otherwise be great. The Mexican deputation commissioned to offer the crown to the Archduke Maximilian has arrived in France in the Tampico packet, and is about to leave for Trieste, where the Archduke has announced that he will receive it. The *Europe* of Monday says that the Archduke Maximilian has finally accepted the Crown of Mexico at all risks and peril, and even renounced his rights and prerogatives as the nearest collateral Prince to the Austrian Crown. The *Memorial Diplomatique* of Sunday says that England has expressed herself satisfied with the explanations given by the Archduke Maximilian as to the policy of the new Empire of Mexico, and is prepared to join France in acknowledging the new government as soon as the Archduke has announced his final acceptance. The Lower House of the Reichsrath having protested against the arrest of Deputy Rogawski as an infringement of members' privileges, he has been set at liberty.

ITALY.—The King reviewed the troops on Monday at Gallarate, near Milan. The review was a splendid affair, and his Majesty was enthusiastically cheered by the people. On Wednesday another review took place at Gallarate, and lasted three hours. The concourse of spectators was very large. His Majesty was accompanied by the Royal Princes, numerous officers of the Staff, and several foreign officers, and was received with great enthusiasm. Public *fêtes* were afterwards held in Milan. On Thursday 51 batteries defiled before the King at another grand review at Gallarate. The troops loudly cheered his Majesty and the Princes on their return to Somma. Count Launay, Italian Minister to Prussia, and the Marquis d'Azeglio, Italian Minister to England, have arrived at Turin on leave of absence. The Court of Assize of Santa Maria, near Caserta, has been designated for the trial of the brigands of the Aunie. Despatches from Melfi, Potenza, and Caserta announce the surrender of numerous brigands with their chiefs. Much rejoicing prevailed among the people on this account. Cardinal Marini, the most eminent man of the Sacred College, whose death was lately announced, is said to have died of grief. It appears that among the file of law papers relative to M. Fausti's trial which were stolen, a revelation from Madame Diotalleri was found stating that the Cardinals Marini, Mertel, and De Pietro were conspiring against the Pontifical Government, in conjunction with the Roman Committee. The tribunal did not hesitate in accepting such an accusation against three cardinals of great reputation, though the revelation in question is now known to be a calumny.

RUSSIA.—The Emperor returned to St. Petersburg on Sunday. The King of the Greeks arrived on Monday. The Grand Duke Constantine's journey to the Crimea is said to be partly owing to the opposition his views relative to the Polish question encountered at St. Petersburg. The Grand Duke will not return to Warsaw. Letters from St. Petersburg state that 11 iron-plated gunboats, with turrets, will be completed in the spring. Twenty thousand men are reported to be stationed in Finland. A decree has been issued recalling all superior and inferior cavalry officers at present on leave to their regiments; and the Russian Minister of Marine has decided not to grant any leave of absence to the officers of the navy. The Russian Admiralty is making experiments with vessels specially destined in the event of war to be sunk in the channels of Cronstadt. Intelligence from Odessa states that 26 battalions of the Russian reserve are being levied in Kiew, to act against the insurgent peasants in the Ukraine.

FINLAND.—The Finnish Diet was opened on Friday with a speech from the Emperor. His Majesty said that the revenue of the Grand Duchy had always sufficed to cover current expenses, and will still be sufficient to pay off the debt contracted for the expenses of constructing the last railway. No new loan will be undertaken without the consent of the Diet, except in case of a sudden invasion, or some other unforeseen misfortune. His Majesty said that he was desirous of remedying the imperfections of the fundamental laws, and that he should soon cause to be laid before the Diet Bills granting more extended privileges, upon the assessment of taxes, and the right of introducing bills, reserving to himself, however, the initiative in fundamental changes.

POLAND.—The Polish National Government has addressed a letter to Prince Czartoryski, of which the following is a summary:—

It commences by asserting the principles of national independence, political and religious liberty, equality in the eye of the law, and justice impartially distributed to all classes and creeds. The laws imposed on the country by foreign domination are rejected. It says that laws to be obeyed ought to be impressed with the spirit of the nation, should therefore be of Polish origin, and, founded on the eternal principles of right, should be the expression of the national sovereignty. Respect for authority, it says, is the necessary consequence of a system of things based on the confidence of the governed, on the justice of the rulers, and on the love of both for their common country. With regard to the application of the principles thus laid down the manifesto declares that the propositions submitted to the Cabinet of St. Petersburg do not offer sufficient security to the Polish nation, whose unquestionable rights do not seem to be recognised by them. The Polish question is presented in the light of a question of European order. "The proclamations of General Mouravieff are of themselves sufficient to prove that the Russian domination is only sustained by the upsetting of every principle on which organised societies are based. Family property, and social harmony are trampled under foot in these proclamations and by the acts of the Russian Government. In fact, social order, the principles which are its foundation, and the inviolable rights which it consecrates, have now in Poland no other security, no other protection, than what is afforded by the National Government and the insurrection which they direct." The manifesto then shows that the Polish movement is not of foreign origin, and complains that it is the object of *surveillance* and measures on the part of neighbouring Powers which amount to a real intervention. It demands for the Poles a recognition as belligerents, and declares that they were ready to accept the suspension of arms which Russia refused. "If," it says, "Russia will have no truce, we accept the challenge, and, the God of our fathers with us, we are ready to renew the struggle in the firm hope that the future is ours."

The leave of absence to go abroad granted by the Russian Government to the Marquis Wielopolski has been made permanent, and he has, at the same time, been definitively relieved of his functions as Civil Governor and Vice-President of the Council of State. On Friday afternoon an Orsini bomb was thrown at General Berg, from the pavement in front of Zamoyski-house as he was driving through Cracow, a suburb of Warsaw. A Circassian in General Berg's suite was killed, and the General himself was wounded. In consequence of this attempt the two palaces of the Zamoyski family at Warsaw have been sacked by the military, and the palaces condemned to be used as barracks for ever. All the male inhabitants of both mansions were carried off to the citadel, and the two Counts Zamoyski and Prince Thaddeus Lubominski were put in chains. The Public Library, the archives of the Vistula Steam Navigation Company, and the Oriental collection of Professor Kowalewski were also burnt; and the soldiers, in revenge, outraged women and pillaged the property of 1500 inhabitants of Warsaw. They also pillaged several shops, burning merchandise where they did not carry it away. The Russian Colonel Lebouchine, who took a prominent part in the destruction of Count Zamoyski's palace, was stabbed on Wednesday in Warsaw. André Woytulewicz, of the St. Petersburg Lancers, has been shot at Pownewej for having passed over to the ranks of the insurgents. On the 9th inst. the Russians began to destroy the forests bordering on the Warsaw and Vienna railroad. On the 13th the insurgent leaders Szumlanski and Malusiewicz defeated the Russians at Lutomierz, in the woywodeship of Kalisz. A sanguinary engagement took place on the 16th at Zask. Chmielinski's detachment skirmished with the Russians on the 17th and 18th, and defeated Czengery on the 21st and 22nd in the woywodeship of Cracow. Another engagement, terminating favourably for the insurgents, took place near Radom. An engagement, resulting in the defeat of the Russians, took place at Masovien on the 12th inst. between the Poles, under Sokolowsk, and the Russians, under Bornewo. Numerous bands of insurgents are operating in the woywodeships of Lublin and Kalisz. A great movement and constant armaments are taking place in the government of Lublin. There is no want of men nor of arms, but a deficiency in skilled officers. Six large detachments have already been formed in the district; some smaller detachments and numerous corps of gendarmes are being organised. The Polish detachments occupy Podlachia. A corps at Brzeselitewski, on the other hand, had to be dissolved to prevent its being surrounded by the Russians. On the 15th inst. the Russian troops massacred a great number of the inhabitants of Lutomicz. Count Pustowski has been wounded by the Cossacks. The National Government has decreed a life annuity to the sisters of Lelewel. Mr. Lawrence Oliphant, the well-known author and diplomatist, and the Hon. Evelyn Ashley, private secretary to Lord Palmerston, have arrived at Cracow. Mr. M. Johnson and Mr. H. M'Culloch have arrived at Czemowitz, and without delay will commence their plans for the Czemowitz and Lemberg Railway.

GREECE.—According to advices received at Trieste from Athens, four Ministers of State had withdrawn their resignation. The National Guard of Athens threatened to put down any insurrection. One of the squares in Athens was to receive the name of Palmerston Square.

THE PRINCIPALITIES.—An unsuccessful attempt has been made on the life of Prince Gregory Sturdza.

THE CAUCASUS.—Engagements are continually taking place with the Russians in the Caucasus.

CAPE OF GOOD HOPE.—The Cape Parliament was prorogued on the 28th July. The Governor had announced his intention of summoning the next parliament to assemble at Graham's Town. He was to leave Cape Town for Graham's Town in the course of a few weeks. Great excitement prevailed at Cape Town in consequence of this arrangement, and meetings had been held in opposition to it. The whole colony had another cause of great excitement in the visit of the Confederate war steamers Alabama and Georgia. The Alabama captured, in full sight of thousands of the colonists, the Federal barque, Sea Bride, as she was running into Table Bay. The Georgia and Tuscaloosa, formerly the Conrad, were in Simon's Bay. The Alabama had captured altogether 56 vessels, and the Georgia 15. The United States consul had formally protested against some of these captures on the ground that they took place in British waters, and were a violation of the Queen's proclamation. Her Majesty's ship Valorous left on the evening of August 19 for Saldanha Bay to observe the movements of the Confederate squadron. The Federal war steamer Vanderbilt left St. Helena, August 20, and was said to be in pursuit of the Alabama.

INDIA.—By the Bombay mail we have intelligence to the 24th August. The Viceroy had returned to Simla, preparatory to his setting out on a northern tour, and will proceed as far as Cashmere, where he will have an interview with the Maharajah. The supposed Nana Sahib was on his way to Agra. It is now believed that he is a Brahmin personating the Nana for political purposes. Affghanistan was in a state of great agitation, and on the eve of a political convulsion. Cholera was making great ravages in Oude, and had carried off 2000 people in Lucknow alone. The supply of cotton in the Madras presidency will be greater than in any former year.

CHINA.—The *Gazette* of Tuesday contains an extract from a despatch from Major-General Brown, commanding the British troops in China, concerning the alleged torture of rebel prisoners by the Imperialists after the capture of Taitsan. The despatch states that the Chinese authorities have been informed that if any cruelty was exercised upon prisoners the British troops would cease to act with them. Many of the prisoners taken at Quang-san, so far from being tortured have been incorporated by Major Gordon into his own regiment, and they have been found most useful and efficient. The despatch also contains a letter from Lieut. R. E. Cane, R.A., in which he speaks of the

treatment received by Imperialist soldiers at the hands of the rebels, and the difficulty of restraining them from retaliatory acts of vengeance for the torture of their comrades.

Japan.—A California telegram of the 7th inst. says that the Japanese Government appears desirous to avoid a war with foreigners, having not only paid all the indemnity demanded by England, but also made a satisfactory apology. This, however, displeased the Damios, and much discontent existed throughout the country. A Damio who owns the territory along the Strait of Simouskiski, in the province of Margal, and whose forts commanded both western entrances to the island from the sea, commenced recklessly firing upon ships of all nations that passed. He had also two steamers fitted up as war vessels with heavy guns aiding the forts in their attack. These are the vessels destroyed by the Wyoming, Semiramis, and Tancredi. At the latest dates a large British fleet was lying at Kanagawa, under Admiral Kuper, and was about to sail for the Straits of Simouskiski. The greatest fire that has occurred for many years took place in Yeddo on the 19th July. The residences of 30 Damios, several temples, and a vast amount of property were destroyed.

United States.—Despatches from Charleston of the 7th inst. announce the evacuation of Morris Island by the Confederates on the night of the 6th. The bombardment of Forts Wagner and Gregg began upon the 5th, and was continued with great fury throughout the 6th. On that day General Gilmore's sappers had reached the moat surrounding Wagner, and General Beauregard, seeing it impossible to longer hold it, ordered the evacuation of the whole of Morris Island, which was effected between the hours of 8 P.M. and 1 A.M. of the following day, with the loss of but 12 men captured. All the guns of the fort were spiked; 150 men of the garrison were killed or wounded during the bombardment. Admiral Dahlgren then demanded the immediate surrender of Sumter. General Beauregard replied that if Admiral Dahlgren took and held the fort he could have it, but until then his demand was useless. At 6 P.M. on the 7th the Monitors reopened fire at close range upon Fort Sumter, which was replied to by Fort Moultrie and the batteries on Sullivan's Island. On the 8th five Monitors bombarded Forts Moultrie, Beauregard, and Bee for nine hours without result. During the night a Federal naval force attempted to capture Fort Sumter by assault, but was repulsed, with the loss of 60 in killed, wounded, drowned, and captured. Among the latter were seven officers. The latest advices state that the Confederate flag still waved over Sumter, which had then held out for 22 days against the combined efforts of General Gilmore and Admiral Dahlgren. Of 7551 shots fired at it, 3495 took effect on the outside, and 2130 upon the inside. The flag had been shot away 14 times, and as often replaced. The universal belief at Charleston is that Wagner and Sumter will be taken, but that Charleston will not be, and that if the ironclads once enter the harbour they will never get out again. The Confederates have mounted at Charleston, but in what exact position is not known, two 800-pounder Blakely guns, recently arrived from England, with which they expect to do fearful execution to the Monitors whenever they come within range. The *Richmond Examiner* of the 8th says:—"The Yankee troubles have not yet commenced, nor will commence until they get into the harbour." General Gilmore was erecting batteries for the renewed bombardment of the city, and had 30 Parrott guns in position for shelling it, and was only awaiting the arrival of "Greek fire" shells, which are ignited by fuses, instead of the percussion principle, to open fire. During the bombardment by the Monitors of Fort Moultrie on the 31st, Fleet Captain Badger, while in the turret of the Weehawken, had his leg broken by a bolt, which was driven through the wall of the turret by the concussion of the Confederate shots. Each of the Monitors was struck from four to eight times, and the deck of the Weehawken was much damaged. General Rosencranz has officially reported that on the 9th inst. the Federal General Crittenden occupied Chattanooga, the Confederates having evacuated it on the 8th and retired southward and eastward, destroying the roads behind them to prevent pursuit by the Federals. General Burnside has reported that the Confederate General Fraser, with 2000 men and 14 cannon, at Cumberland Gap, Virginia, surrendered to him on the 10th inst., and that he has since occupied Cumberland Gap and Knoxville. With the despatch announcing these operations General Burnside tendered to the Government his resignation of the command of the department of the Ohio, which it appears he has long meditated. Accounts from Leavenworth, in Kansas, of the 10th inst. state that official intelligence had been received of the capture of Fort Smith, in Arkansas, by General Blunt, on the 1st inst.; also that the Confederates had evacuated Little Rock and retired to Washington, 40 miles distant which they were fortifying. 30,000 Federal troops had left New Orleans, it is supposed for Texas. It is reported from Washington, on the authority of well-informed military men, that General Lee has received heavy reinforcements, and that he meditates another aggressive campaign. The weakness exhibited by the Confederates at Chattanooga and other points lends strength to this belief. The troops continue to leave New York. A great portion of them have been sent to reinforce the Army of the Potomac. Governor Seymour, in a speech made at the convention of the United Democracy, said of the conscription that New York had given voluntarily upwards of 135,000 men for the war; but he ventured to predict that the Government would not get 6000 men under the infliction of the draught. In conclusion, he declared under no considerations would he consent to the dissolution of the Union, and he was convinced that it would be ultimately restored with the rights of the States unimpaired. Mr. Charles Sumner, chairman of the Committee of the Senate on Foreign Relations, has delivered a long address at the Cooper Institute on the Foreign Affairs of the Republic. He denounced the conduct of the British Government in permitting the building of war steamers in British ports for the Confederates, and recognising on the part of the South any belligerent rights upon the ocean. He disbelieved that either France or England would intervene in favour of a State that based itself upon negro slavery, and asserted that all intervention in the internal affairs of another nation was contrary to law and reason, unless such intervention were obviously on the side of human rights. The audience was one of the most numerous that ever assembled in New York, but was chiefly composed of ladies and clergymen. The reported departure of iron-clads from England causes considerable excitement. The *New York Herald* recommends war rather than submission to such hostile measures. It suggests that so soon as an Anglo-rebel steamer attacks a Northern port an embargo be laid on British shipping to compensate for the damage, and the British property should be sequestrated until a settlement is made by England. The Confederate Government has recalled Mr. Mason, its Commissioner in London, in consequence it is said of the difficulty raised by Earl Russell on the subject of the ships building in English ports for the Confederates.

Mexico.—General Miramon has declared his allegiance to France, and General Forey has appointed him Commander of the Mexican Forces. The Triumvirate has notified foreign ambassadors to recognise it as the general Government. The United States and Central American Ministers replied that they must acknowledge the Juarez Administration until further instructions from their Governments. M. Juarez is said to be *incognito* in Washington. He is reported to have had several interviews with Mr. Seward, to whom he has proposed a Continental alliance, with the assistance of the Federal Government, for the expulsion of the French from Mexico, and the resistance of European encroachments. The French have reoccupied Tampico without resistance. Marshal Forey and M. de Saligny have received the Grand Cross of Our Lady of Guadaloupe, and are about to return to France. It is said that Yucatan has expressed adhesion to the Mexican Empire.

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at 93¼ to ⅜ for Money, and 93⅜ for Account; Reduced and New Three per Cents., 92 to 91¾; Thirty Years Annuities, 1885, 14¼; India Five per Cent. Stock, 108⅞ to ¼; Ditto Four per Cent. Debentures, 1864 or 1866, 100½; Ditto Bonds, 17s. to 20s. pm.; Five per Cent. Enfaced Rupee Paper, 107½; Ditto Five and a Half per Cent., 117 to 116¾; Exchequer Bills, par to 3s. pm.—Foreign: Egyptian, 102 to 101½, ex div.; Greek, for Acct., 38 to 37½; Italian, 72¾; Mexican, for Acct., 47 to 46½; New Granada, 17¾; Ditto Deferred, 10⅞ to ¼; Portuguese, 1856, '57, '59, '60, and 1862, for Acct., 49¼ to ½; Russian, 1822, 93¾, ex div.; Ditto, 1862, 93¾; Spanish, for Acct., 55; Ditto New Deferred, for Acct., 49; Ditto Passive, for Acct., 36½ to ¼; Ditto Certificates, for Acct., 14½; Turkish, 1858, for Acct., 70¾ to ½, ex div.; Ditto, 1862, for Acct., 71½ to ¼; Venezuela, for Acct., 26½.

## Gazette of the Week.

FRIDAY, Sept. 18.—BANKRUPTS.—J. E. Allen, Leader Street, Chelsea—J. Aspinall, Prescott, Lancashire, Licensed Victualler—[illegible] Brown, Kidderminster, Worcestershire, Stonemason—E. T. [illegible] Leamington, Dealer in Fancy Articles—J. [illegible] and R. F. [illegible] Abchurch Lane, City, Wine Merchants—[illegible] Licensed Victualler—T. L. Ball, Whitechapel Road, [illegible] man—S. S. Jennins & J. Burrel, late of Lawrence Lane, Cheapside—A. B. Bloxam, Southampton Street, Strand, Clerk—H. [illegible], Place, High St., Peckham, Watchmaker—J. Brock, Dudley, Worcestersh., Baker—R. Brayshford, late of Highhampton, Devonshire, Farmer—D. A. Barry, Liverpool, Grocer—C. Brown, late of Whitechurch, Devonshire, late Farmer—T. Clark, Portsmouth, Ginger Beer Manufacturer—[illegible] of Clovelly, Clayton, Shimpling, Suffolk, Baker—W. Claverdon, late of [illegible], Devonshire, Farmer—F. P. Cowe, Tailor, and M. A. Cowe, Milliner, [illegible] mouth, Devonshire—M. Creasy, West Winch, Norfolk, Bricklayer—T. W. [illegible] Liquorpond Street, Gray's Inn Road, [illegible]—J. Davey, Bedford, Carriage Builder—H. J. Davies, South Glamorganshire, Chemist—[illegible] Dew, Hatherleigh, Devonsh., [illegible]—J. M. [illegible] Liverpool, Commission Agent—C. Dawe, Fendock, Worcestersh., [illegible] Wood and Commission Agent—[illegible] Llangynider, M. [illegible] King's Lynn, Norfolk, Mariner—H. [illegible] Brecknockshire, Brick Maker—T. Garman, late of [illegible] Aston, Warwickshire, [illegible] Seller—C. Chasaway and R. [illegible], Lace Merchants—C. H. [illegible] ham, Sawyers—J. Gray, Littlehampton, Sussex—[illegible] H. Hayes, late of [illegible], late of Penn, Staffordshire, Butcher—W. Hood, late of [illegible], Northamptonshire, Coal Merchant—W. [illegible] Terrace, Shadwell, [illegible] Devonshire, Farmer—A. Har[illegible], [illegible] Coal Merchant—Boarding House Keeper—J. Hassall, late of Liverpool—[illegible] Heaps, Dean Pryor, J. J. H[illegible], Handsworth, Staffordshire, [illegible], Beverly, Yorkshire—[illegible] House and Coach Builder—W. D. H[illegible]—J. Hunt, Farnham, [illegible]—S. Hall, Birmingham, [illegible] Glamorganshire, [illegible] Wheelwright—J. Hall, Merthyr [illegible] Builder—J. Lewis, [illegible]—J. Jones, Everton, Liverpool, [illegible] Islington, Warwickshire, [illegible]—J. [illegible], Journeyman Cabinet Case Maker—J. [illegible] Innkeeper—M. M[illegible] monger—H. M[illegible], Hanley, Staffordshire, [illegible]—Liverpool, Merchant—Isaac Morris, Birmingham, [illegible] Merchant—Henry Martin Morrison, Longton, Staffordshire, [illegible]—James Wood Newton, Edwin Marston, Crediton, Devonshire, Innkeeper—James [illegible] Oswald, [illegible] Penarth, Denbighshire, Baker—Robert Randolph Oswald, Solicitor—W. [illegible] Warwickshire, Florist—W. H. B. Para, Bedford Row, [illegible] Paodin, Star Street, Shadwell, Licensed Victualler—W. Parr, sen., Preston, Journeyman Butcher—R. Pigott, Derby, Licensed Hawker—T. Pusey, Old Church Street, Paddington, Lodging House Keeper—G. Parkes, Witton-cum-Swambrookes, Cheshire, Waterman—W. Parkes, Handsworth, Staffordshire, Coal Dealer—W. Prom, Worthin, Shropshire, Miner—E. C. Prin, Lozells, Aston, Birmingham, Butcher—T. Ross, Needingworth, Huntingdonshire, Market Gardener—D. Roberts, Liverpool, Traveller to a Biscuit Manufacturer—J. Stead, Clifton, Yorkshire, Farmer—J. Scriven, late of Cross Lane, Monmouthshire, Farmer—T. E. Stone, E. J. Stone, and M. S. Stone, Bristol, Schoolmistress—A. Stidenham, Plymouth, Confectioner—J. White, Freemantle, Southampton, Schoolmistress—J. Williams, Liverpool, Victualler—R. Williams, late of Woodbrough, Somersetshire, Cattle Dealer—J. Wilkins, Bath, Draper—J. H. Young, late of Bath, Smith.

SCOTCH SEQUESTRATIONS.—R. Somerville, Edinburgh, Stationer—D. Hart & Co., Glasgow, Warehousemen.

TUESDAY, Sept. 22.—BANKRUPTS.—R. J. Bassford, Bristol, Tailor—M. Brown, late of Blackburn, Lancashire, Tailor—J. Barrow, sen., Grasby, Lincolnshire, Labourer—W. Bentley, Bloxwich, Staffordshire, Timber Merchant—J. Burns, Manchester, Travelling Draper—J. Bevan, Crown Street, Walworth, Dairyman—J. Clegg, Manchester, Ironmonger—J. Colling, Filey, Yorkshire, Livery Stable Keeper—J. T. Cooper, Woolwich, Kent, Butcher—G. Edwards, Swansea, Glamorganshire, Fireman—W. J. Epps, Maidstone, Kent, Nurseryman—G. Fowler, Scott's Place, Hornsey Road, Carpenter—J. Fieldhouse, Kemberton, Shropshire, Miller—William Fletcher, Churchstoke, Montgomeryshire, Innkeeper—Richard Greensmith, Nottingham, Butcher—Archibald Gray, Brockenhurst, Hants, Coal Dealer—J. Gregory, Warren Street, Fitzroy Square, late Bricklayer—J. Haste, Bradford, Yorkshire, Warehouseman—H. Harris, Brenchley, Kent, Plumber—W. Haskayne, late of Liverpool, Ship Agent—T. J. Hoy, Bishopwearmouth, Durham, Haberdasher—T. Heath, late of Sheffield, Cheese Factor—C. Halls, Surrey Villas, Nunhead Green, Journeyman Brewer—J. R. Holland, Liverpool, Tea Merchant—C. Harwood, Kingston-upon-Hull—T. J. Jackson, Metheringham, Lincolnshire, Chemist and Druggist—J. Jackson, late of Norton, Yorkshire, Builder—J. Kirkham, late of Atherton, Lancashire, Labourer—R. Lee, Billingborough, Lincolnshire, Tailor—M. Mayer, New North Road, Hat Manufacturer—H. M. Morrison, Longton, Staffordshire, Ale Merchant—W. Marratt, late of Doncaster, Solicitor—J. Morrall & T. J. Wentworth, Manchester, Needle Manufacturers—J. W. Newton, Pensarn, Denbighshire, Baker—J. Neal, Horsmonden, Kent, Fruit Dealer—Benjamin Robert Nevill, sometimes known as Benjamin Nevill, and sued as Benjamin Nevilly, Lambourn, Essex, Straw Carter—J. Ogden, Openshaw, Lancashire, Miner—M. Pope, Upper Terrace, Upper Street, Islington, Teacher of Music—James Frogsham Pearse, sued and committed as James George Pears, Vauxhall Walk, Surrey, Assistant to a Butcher—G. Phipps, Audley, Staffordshire, Beerhouse Keeper—William Henry Bellew Pain (and not William Henry Bellew Fair, as formerly advertised), Bedford Row, Solicitor—A. Richards, late of Botolph Lane, City, Commission Agent—E. Roberts, Dolgelly, Merionethshire, Milliner—D. Scammen, Ipswich, Cab Driver—T. Steel, Appleford, Berkshire, late Farmer—F. Scotson, Riverdale Terrace, Lower Road, Richmond, Commission Agent—J. Sallows, Wrentham, Suffolk, Farmer—Edward Turner, Sussex Road, Cold Harbour Lane, Brixton, Greengrocer—J. M. K. Williams, Lant Street, Southwark, Publican—J. Whittington, late of Ryde, Isle of Wight, Grocer—H. Whitehead, Whitehead's Grove, Chelsea, Solicitor—E. Y. Woods, Leather Bottle Lane, Upper Norwood, Beer Retailer—W. Webster, Leeds, Pattern Card and Case Maker—J. Wooding, Northampton, Beerseller—T. Wall, Wednesford, Staffordshire, Brickmaker—A. J. B. White, Barking, Essex, late Licensed Victualler—T. White, Lutterworth, Leicestershire, Butcher—J. Yewdall, late of Horsforth, Yorkshire, Woollen Manufacturer.

SCOTCH SEQUESTRATIONS.—T. Anderson, Dumfries, Draper—J. Cameron, Edinburgh, Potato Merchant—C. Fraser, Glasgow, Grocer—R. M'Lachlan, Glasgow, Accountant.

## Metropolis and its Vicinity.

Election of Lord Mayor.—The citizens of London have been cited to attend at Guildhall on the 29th inst. for the election of a Lord Mayor for the year 1863-4, in succession to Alderman Rose, whose term of office will expire on the 8th November. The following Aldermen "below the chair" will be put in nomination:—Alderman William Lawrence, of Bread Street Ward; Alderman Warren Stormes Hale, of Coleman Street; Alderman Benjamin Samuel Phillips, of Farringdon Within; Alderman Thomas Gabriel, of Vintry; Alderman John Joseph Mechi, of Lime Street; Alderman Edward Conder, of Bassishaw; Alderman James Abbiss, of Bridge Within; and Alderman James Clarke Lawrence, of Walbrook. The following Aldermen below the chair are ineligible, as they have not served the office of sheriff:—Aldermen Dakin, Besley, Gibbons, Waterlow. The Livery will, no doubt, return Alderman Lawrence and Hale, upon which the Court of Aldermen will select Alderman Lawrence as the Lord Mayor for the ensuing year. He carries on the business of a builder in Lambeth.

The Great Eastern arrived at Liverpool from New York on the 20th inst. On the 18th, off Cape Clear, she ran down the Jane Duff from Liverpool for Quebec, killing two of her men. The captain and the remainder of the crew were saved and taken on to Liverpool. The Great Eastern has brought 125 cabin and 118 steerage passengers. It is understood that the directors have decided not to send the ship to sea again this year, and that she will shortly be sold by auction.

Fatal Shipwreck in New Zealand.—The Otago journals of July 6, give the particulars of a mournful accident which proved fatal to the Rev. T. H. Campbell, his wife, five children, and two servants, on the day after their arrival from England. Mr. Campbell, who was formerly head master of the grammar school at Wolverhampton, took his departure from this country in April last to assume the office of Principal of the High School of that colony. They had a rapid and prosperous voyage, and arrived at Port Chalmers on July 3. On the next morning Mr. and Mrs. Campbell proceeded to Dunedin, and were welcomed by the chief authorities of the colony. They returned to Port Chalmers in the afternoon to take their children to their new home. On the voyage, which was not much longer than from Portsmouth to Southampton, their small steamer, the Pride of the Yarra, was run down in the darkness of a hazy evening by a large steamer, the Favourite. Eleven lives were lost, and nine of these were the family of Mr. Campbell. They were all in the cabin when the collision occurred, and nothing was heard or seen of them till the corpses were recovered next day by a diver. The Colonial Government voted them a public funeral, which was attended by the whole population of Dunedin with every mark of respect. Mr. Campbell was 34 years of age, and was the son of Duncan Campbell, Esq., of Chislehurst, and his wife, aged 27, was the daughter of the Rev. C. Dickens, rector of Balsham, Cambridge.

Alleged Murder of a Bank Clerk.—On the 10th inst. the body of a clerk in the City Bank was found in the Thames under circumstances which gave rise to a suspicion that he had been murdered and thrown into the river. It appears that on the night of the 3d September Mr. Hugh Dolvin Morris, about 22 years of age, had been dining with some friends near

London Bridge, and left the tavern with the intention of meeting his brother and returning with him to Streatham. He was however never again seen alive by his friends, and although the walls of the metropolis had been placarded with descriptions of him, and the police had made inquiries in every direction, he could nowhere be found. His body however was discovered floating in the river on the 10th inst. off the St. Katharine's Docks. It was removed to the Aldgate dead-house, and upon examination marks and bruises were found on the face and body. There was no purse, watch, or other property in the pockets, but deceased was stated to have been in comparatively good circumstances, and not to have been in the least likely to have committed suicide. It was also ascertained that at midnight on the day when he was missed he had been seen in Arthur Street East, near London Bridge, talking to a woman, and had previously been standing with a man near the same spot, but whether the woman and the man were connected is not known. There appeared to be no doubt that he was robbed, and the fact of injuries being found on the face and head were considered to indicate that he had been robbed with violence. Such an outrage could hardly have taken place, even at midnight, in so open a spot, and therefore the inference was that he must have been enticed down the steps to the river side, where the crime might have been accomplished without observation. The inquest was adjourned from time to time for further inquiry, but nothing could be discovered to throw any new light upon the case, and the medical evidence founded upon a post-mortem examination, went to show that the wounds were mostly of a superficial character, and might have been caused by the floating vessels or timber moored off the wharves, where the tide runs so rapidly down the pool. On Saturday the jury, in the absence of any further evidence, were compelled to return an open verdict, that deceased was found dead in the river, with marks of violence; but how he became immersed, or the injuries occurred, there was no evidence to prove. The police however were directed to follow up their inquiries.

GREAT FRAUD IN THE CITY.—A reward of 1000*l.* is offered for the arrest of one Sigmund Ditrichstein, a Hungarian, late of the Jamaica Coffee House and Worthing, who is charged with obtaining upwards of 10,000*l.* of stock by means of forged cheques. He got the stock, raised over 8000*l.* in money on it, and at once absconded, and up the present time there is no clue to his whereabouts. The money is in bank notes, but only two of them, making up 1000*l.*, have been paid into the Bank from money changers in London, who gave smaller paper for them.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended Sept. 19 were 1186. The average number in the corresponding weeks in the 10 years 1853-62, corrected for increase of population, was 1147. The present return is therefore 39 above the average. During the week the births of 946 boys and 984 girls, in all 1930 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1846.

## Provincial.

LEEDS.—A crowded meeting in support of emancipation in America, and the neutral policy of the British Government, was held on Monday night in the Music Hall of this town. Mr. W. E. Forster, M.P., presided, and among the speakers were the Rev. W. H. Channing, who is on a visit to this country from the United States, Mr. T. B. Baines, the Rev. George Mather, Alderman Carter, Mr. Councillor Tatham, Mr. Joseph Lupton, and other gentlemen. The proceedings throughout were of an enthusiastic character, and the following resolutions were carried unanimously:—

"1. That in the measures of the Federal Government in relation to the negro race, and in the rapid spread and growth of anti-slavery feeling in most parts of the Northern States, this meeting cannot but recognise the fact that the present calamitous war, begun by the slaveholders to perpetuate and extend slavery, is being overruled by Divine Providence for its destruction. 2. That this meeting most strongly condemns the building and equipment of ships of war in British ports to be employed against a nation with which this country is at peace, and especially if employed in support of a Slaveholding Confederacy, as calculated to embroil Great Britain in war with a friendly Power; and as strongly approves of the action of the British Government in detaining such vessels from their mischievous destination, and declares its determination to support the Government in the neutral policy it has hitherto pursued in relation to this war amongst our American kinsmen. 3. That the foregoing resolutions be signed by the Chairman, and forwarded to Earl Russell on behalf of the meeting.

LIVERPOOL.—On Monday night the officers of the Channel Fleet were entertained by the Royal Mersey Yacht Club at a magnificent banquet at the Philharmonic Hall, Commodore Graves presiding. In returning thanks for the toast of the Fleet, Admiral Dacres spoke as follows:—

"You are perfectly aware, as well as I am, that we have been going a tour of the British Isles, through what I think a very far sighted policy of the British Government. Wherever we have been we have been received with the greatest enthusiasm, and this has very often set me thinking, and raised in my mind a feeling of pride—pride that I belonged to a country where so much patriotism exists. When we sailors are at sea we feel, and the best of our men feel, influenced by kindness like this. Don't let me be misunderstood. I should like to speak in returning thanks as well as the gentlemen who proposed our health, but that gift is not given to me. But I have got one knack—and that is of saying what I mean. I would not for anything give up the command of this fleet, for two reasons—first, because I see all this enthusiasm given to the navy, and in the next place because I command some of the finest officers and gentlemen I wish to be among. It would be unworthy of you, and it would be unworthy of me, if I drew the slightest comparison between our reception at one place and another. Liverpool, I am sure, needs no praise for her hospitality from me, and good wine needs no bush. But in Liverpool there is this advantage, that you have the ships lying at your own doors. You see them, and you know them as well now as if you had seen them for months. You, gentlemen, have paid a good deal of money for these ships, you now know the terms of your insurance, and I hope you are satisfied with them. Two or three of the speakers who preceded me have spoken on the importance of keeping up a naval force, and this is a fact which cannot be too much impressed. It is not the fear of invasion, for I believe that our army and our Volunteers, whom nobody values more highly than I do, would be of the greatest service. But I should like to know how you, gentlemen, would look if the French fleet had the command of the Channel for only one week. But when I say that I would impress upon everybody the necessity of keeping up the naval resources of this country, I refer also to the naval reserves. The reserves of this great commercial port, I understand, are only 1000. I should like to see the reserve in proportion to the number of sailors, so that if we are beaten in the Channel—which I do not expect—there will be plenty of sailors to go on with. There is plenty of courage in the merchant service. I was in the Crimea with hundreds of merchant sailors, and I believe there are as good officers among them as any of us—and as they are British sailors they are sure to fight well. We must have something to fall back upon. The Government find ships, but the country must find men. There is another matter which to me has the greatest interest as the admiral of a fleet, from which there are necessarily a good many sailors always on shore. Of all the places at which the Channel fleet has yet been, there have been fewer reports of misconduct on the part of the sailors at Liverpool than at any other place. I believe that is owing, not to the fact that Liverpool has a better police, but because the sailors have been better treated. 'Jack' is a knowing fellow: he knows when he is well off, and will not kick up a row. With respect to the entertainment to the sailors on the morrow, I would take the opportunity of expressing the feeling of pleasure which I and my brother officers feel at this display of kindness. At the same time, I do not conceal from myself that the thing is an experiment, but it is an experiment which it would have been unworthy of my position to have forbidden. It was now for the men to show their appreciation of the kindness exhibited towards them by not abusing it. I value the men who form the British navy as much as a man can do, and though they have their faults, yet they have a hundred good qualities. But I beg you not to be too kind in your hospitality. Those connected with the Channel Fleet have been eating cake all round the coast, and I expect some of them will be getting sick of it."

In returning thanks for the two Houses of Parliament, Lord Stanley spoke as follows:—

"I thank you, gentlemen, for the opportunity which you have given me in my own name, in my father's name, and I think I may say in the name of the inhabitants of this neighbourhood, of thanking Admiral Dacres and the officers under his command, for the honour of this visit paid us by the Channel Fleet, and expressing the gratification which we have all derived from a sight which is not only interesting but unique. I believe the Chairman was strictly correct when he told you that at no time since Liverpool had been a borough—certainly at no time since the Channel Fleet has been an institution of this country—has the Mersey ever been visited by so considerable a portion of the Royal Navy. We hope that the first visit won't be the last. Admiral Dacres has found his way here once, and we will take very good care that he finds it again. And without disparagement to any other place, I am sure I may say this—that there is in all Great Britain no town where naval men are more honoured or naval acts more appreciated than here in Liverpool; the sea has made it what it is, and Liverpool men take pride in the sea. We have, as it has been said, in our yacht club no contemptible naval reserve, and though we cannot locally pretend to compete with those magnificent vessels which are now lying in our waters, yet I think we have a navy of our own not wholly unworthy to compete even with them—a navy existing, indeed, for purposes exclusively peaceful, but not the less a triumph of human industry and skill—those vast ocean steamers which have joined the New World to the Old, and crossed the Atlantic with the regularity of boats crossing a ferry, at a speed which is only surpassed by the railroad. But, gentlemen, it is not only to us, it is to every person, of whatever country he may be, that the sight of such vessels as we have now witnessed is not only interesting but novel. We are seeing that which is strictly an experimental fleet, a fleet in which almost every vessel is an experiment, or, perhaps I should say, a combination of experiments. We have seen, probably, the last of those old wooden two-decked line-of-battle ships which will ever carry the flag of a British admiral, and certainly a more splendid vessel of her class than the Edgar never sailed the sea. We have seen the first of those noble and mighty engines of destruction which are revolutionising naval warfare, and which our friends on the other side of the Atlantic are kind enough to us to be trying on so large a scale at their expense and for our instruction. Gentlemen, I confess I wish that the House of Commons as a body could feel what you and I have witnessed, for seeing is believing, and I am sure that sight will have impressed upon every mind two great facts which have been very strongly impressed upon mine; one, that for the money which we have expended pretty largely of late years we have value received; the other, that in this naval architecture we are literally feeling our way. I can speak of course upon this subject only on second hand, but if I may express what seems to be a very general opinion among those best competent to judge, it is more than doubtful whether we have as yet got that gun which is to be the gun of the future, and it is perhaps open to doubt, splendid as are those ships which now lie in our waters, whether we have got the exact mould of a ship which is to be the man-of-war for the future. Now, I think it is our duty, as members of the House of Commons, to bear in mind specially the tentative and experimental character of what we are now doing. It is our duty to grudge no outlay which is necessary for purposes of efficient defence, and that is a duty from which assuredly we shall not shrink. It is our duty above all to shrink from no outlay which may be necessary for the purpose of experiment, but it is not the less our duty at the same time to avoid that fault into which we have often fallen before, and into which, while men remain what they are, it is always possible we may fall again. I mean the fault of being satisfied with what we have accomplished, of resting upon our oars, and of assuming that what we consider as the perfect model of the day will be an equally perfect model ten years hence. Pardon me, gentlemen, for referring very momentarily to such a subject; and, as brevity is the order of the day, permit me at once and without further preface to return you my thanks on behalf of the House of Commons."

On Monday, by permission of the Admiral, upwards of 1000 men, including petty officers and sailors, marines, and marine artillery, belonging to the different vessels, were entertained at dinner in St. George's Hall by the members of the Royal Mersey Yacht Club, and a number of the leading merchants of the port. The men landed at half-past 12 o'clock, each wearing a sprig of oak in his jacket. They marched to the Exchange, where they received a most enthusiastic greeting, and they were also loudly cheered as they went along the streets, which were crowded with people, although the day was wet and stormy. The dinner was of a substantial character, consisting of hot roast beef and mutton, with a few other dishes, and vegetables, washed down by a reasonable allowance of grog and Allsopp's ale. The hall was completely filled, the galleries being occupied by a large assemblage of ladies and gentlemen. The feast was presided over by Mr. S. R. Graves, Commodore of the Yacht Club, and the executive department of the feast was performed by the extensive staff of stewards belonging to the Cunard Company's establishment. After the cloth had been removed the Chairman proposed "The Queen," remarking that among all the great and glorious titles by which she was known there was no one of which she was so proud as that of being the friend of the sailor and the soldier. This announcement was received with loud and most enthusiastic cheering. The choir then sang the National Anthem, the chorus being joined in with an earnestness and heartiness of enthusiasm such as has seldom been heard, and which it is difficult to conceive being equalled by any vocalists but by a similar number of British sailors. The next portion of the programme was a song by one of the marines belonging to the ship Liverpool, which was sung in good style and heartily applauded. A song was then called for from one of the "blue jackets" of the Liverpool, when one of them gave in true "Jack-tar" style the song of "The Red, White, and Blue," the chorus being given by the whole of the men with a most exciting effect. The choir then sang in good style a four-part song, which was received in a most enthusiastic manner. The next musical performance was a song with a rattling chorus by the men of the Edgar flag ship. The chairman then proposed as a toast, "The Health of the Non-Commissioned Officers, Petty Officers, Seamen, and Marines of the Channel Fleet," paying them a high compliment for the excellent conduct which they had displayed since their arrival and during their stay in Liverpool. The toast was drunk with great enthusiasm, which was loudly joined in by the ladies and gentlemen in the galleries. After the applause had in some measure subsided the toast was acknowledged in modest and becoming terms by one of the seamen of the fleet. At the conclusion of his brief address he was loudly applauded by his messmates. Songs were then sung by members of the crews belonging to the Emerald and the Resistance. These, like the other musical performances of the seamen and marines, were loudly applauded by all present, and the proceedings were appropriately brought to a close by the performance of "Rule Britannia" on the great organ by Mr. Best. As a whole the banquet went off in the most satisfactory and successful manner, and every one seemed delighted with the entertainment. In the evening a thousand of the men belonging to the fleet were invited to the Theatre and the Amphitheatre by Mr. Copeland the lessee.

SIBLE HEDINGHAM.—An adjourned inquest on the body of an old deaf and dumb Frenchman who went by the name of Dummy was resumed in this town on Friday. It appeared that he was poor and eccentric, and had resided in a wretched hut, all alone, for seven or eight years, until the 3d of August last, when he met his death in consequence of a ducking to which he had been subjected by a Mrs. Smith, aided by two men, because Mrs. Smith believed that he had bewitched her, and refused to accept 3*l.* from her to go to her house and annul the charm. They determined to make him "swim" for a wizard, and accordingly pushed him two or three times into a mill stream, and when he escaped to his hut he slept all night in his wet and slimy clothes. He died in consequence, notwithstanding subsequent careful tending at the workhouse. The jury, after nearly two hours' warm discussion, were unable to agree to a verdict, and were accordingly discharged. It was understood that they were all unanimous for a verdict of manslaughter against Mrs. Smith, but two of them would not consent to a similar verdict against one of the men called Stammers. The case was brought before the magistrates of the district on Tuesday, when the Chairman said it was a disgraceful fact that at the present day an old man should meet with such a fate, and no one of all the crowd of men and women present should have interfered to save him, or even have told the police of what was going forward. The prisoners stood committed to Chelmsford gaol for trial at the March assizes. Bail was accepted afterwards for Stammers himself in 30*l.* and two sureties for 50*l.* each. Similar bail would have been taken for the female prisoner, but as it could not be procured she was conveyed to prison.

## Ireland.

THE GALWAY LINE.—The Hibernia in her first trip has not realised the hopes of the friends of the Galway line. On her outward voyage she succeeded

in reaching her destination within a few hours of the contract time; but on her return she was 20 hours late, and has incurred the heavy penalties prescribed in the contract, her news having been all anticipated by the Persia, which started at the same time. The passengers were 70 in number, of which 30 were "stowaways," who had gone out from Galway in the Adriatic on the 1st inst. They were landed at St. John's, Newfoundland, on the 8th, and detained there till the 11th, when they were put on board the Hibernia, and brought back to their native land, having been well fed at the expense of the Company there and back.

The Visit of the Channel Fleet.—An adjourned meeting of the Municipal Council of Dublin was held on Monday, for the purpose of considering what arrangements should be made to receive the Channel fleet on its visit to Dublin Bay. The report of the Committee, recommending that an address be presented to the admiral and officers of the fleet on the part of the corporation and citizens of Dublin, was proposed by Alderman Hudson for adoption, and seconded by Alderman Mackey. It was opposed by Mr. A. M. Sullivan, of the *Nation*, in a violent political speech, but was adopted by a majority of 22 to 4. A private meeting was subsequently held at the Mansion House to adopt further steps for the suitable reception of the officers of the fleet, and it was determined to appoint a deputation to visit Admiral Dacres at Liverpool, and request him to prolong the stay of the fleet until Wednesday, if possible, so as to admit of their being entertained at a ball.

## Scotland.

The Queen and the Duke of Athole.—The *Edinburgh Courant* states that on the arrival of the Royal train at Blair Athole the Duchess of Athole and her son, the Marquis of Tullibardine, were in waiting to receive the Royal party. "Her Majesty having alighted from the carriage, at once proceeded to the spot where the Duchess of Athole was standing. The interview was of the most melancholy description—her Majesty and the Duchess embracing each other tenderly, and both burst into tears, while the onlookers, we need scarcely say, were deeply affected. Carriages were in attendance for the conveyance of the party to Blair Castle, where the Duke is residing, and here a stay of an hour was made. On her return to the station her Majesty was accompanied by the Duke of Athole, who, notwithstanding his great sufferings, made an effort to pay his Sovereign this mark of loyal regard. His Grace looked exceedingly ill. Before the starting of the train her Majesty took an affectionate farewell of the Duke and Duchess of Athole. On parting the Duke kissed her Majesty's hand, and bade her "farewell." The scene was deeply affecting, and her Majesty was evidently much moved. The train at length left Blair Athole at 12 o'clock, amid the cheers of a few hundred spectators, whose interest seemed quite divided, showing much gratification at the unexpected visit of the Queen and great sympathy with the noble Duke on account of whose serious illness her Majesty had come in person to offer her condolences."

## Railways.

Metropolitan Junction with the Great Northern.—The Government Inspector on Thursday approved the junction lines with the Great Northern at King's Cross. Through trains will run between Farringdon Street and that line on and after Thursday next the 1st of October.

## Law.

Central Criminal Court.—*The Eltham Case of Manslaughter.*—*Ellen Hannah Elizabeth Englehеart*, a well dressed young woman, surrendered to take her trial for the manslaughter of her child Constance Augusta Engleheart. In this case, which was fully noticed at the time in our Metropolitan news, the prisoner, it will be remembered, was charged with causing the death of the child by sundry acts of cruelty. She was acquitted of the charge of manslaughter and found guilty of a common assault. Her counsel applied for a postponement of judgment on account of the prisoner's pregnancy; but Mr. Justice Byles decided that there was no precedent for such a thing, and sentenced her to 18 months imprisonment; a sentence which created such an impression on her that she was borne out of the dock shrieking. *The Polish Enlistment Case.*—*Lieut. Alfred Styles*, late of the Garibaldian army, surrendered on a charge of committing a breach of the Foreign Enlistment Act, by endeavouring to raise a British Legion for service in Poland. The Russian Government before the commencement of the case intimated by their counsel that they had no desire to punish the defendant, but to put a stop to the system, which might lead to great mischief, and offered to abandon the prosecution if the defendant entered into his own recognisance to appear when called on, on the understanding that he was to discontinue enlisting. The defendant accepted the offer, and, entered into his own recognisances of 100*l.* to appear for judgment when called upon, which is a practical discharge. *The Marylebone Child Murder.*—The trial of the young woman Mitchell, charged with murdering her child in the Marylebone Road, was postponed till the October Sessions. *Omnibus Racing.*—The driver of the omnibus standing charged with the manslaughter of a conductor on Holborn Hill was acquitted, the evidence showing that the deceased himself was the cause of the accident by which he was killed.

## Obituary.

The Marquis of Huntly died on Friday at his residence, Orton Hall, near Peterborough, in his 72d year. When in London during the past season, his lordship's health began to fail him, but after a time he rallied, and returned to Orton, where up to almost the last day of his life, he was able to take a drive in the grounds of the hall. His Lordship, Charles Gordon, Marquis of Huntly, Earl of Huntly, Enzie, and Aboyne, Viscount of Melgun and Aboyne, Lord of Gordon and Badenock, Baron Aboyne, and Baron Gordon of Strathavon, Glenlivet and Inverness, in the peerage of Scotland; and Baron Melrum of Morven, county Aberdeen, in that of the United Kingdom; Premier Marquis of Scotland and a baronet of Nova Scotia, was born in 1792, succeeded to the title 1853; married, first in 1826, Lady Elizabeth Henrietta Conyngham, eldest daughter of the first Marquis Conyngham; and secondly, in 1844, the only surviving daughter of the Rev. William Pegus, by the Countess Dowager of Lindsey. He leaves a family of eleven children, and is succeeded in his title and estates by his son Charles, Earl of Aboyne, who was born in 1847, and is now consequently in his 17th year.

The Right Hon. Edward Ellice, M.P., was found dead in his bed on Thursday morning, at Ardochy, on his estate of Glengarry and Glenquoich. It appears that he had retired on the previous night in his ordinary health, but his death had occurred before morning. Mr. Ellice was born in 1787, the son of a wealthy London merchant, and was consequently in his 77th year. For some years he carried on the extensive business of his father, and up to the time of his death retained a sleeping connection with the great mercantile undertakings of the City. He entered the House of Commons 45 years ago, as member for Coventry, and has represented that city ever since with an interval of only four years. He married first the widow of Captain Bette-worth, R.N., and sister of the late Earl Grey, who appointed him in 1830 to the Secretaryship of the Treasury, and afterwards to the post of Secretary at War. He married secondly, in 1843, a daughter of the Earl of Albemarle and the widow of the Earl of Leicester, who survived their union but a year. Mr. Ellice had some share in the preparation of the Reform Bill, on behalf of which he spoke in Parliament. On the retirement of the Grey Administration Mr. Ellice, while retaining his seat, appeared to abjure active political life; for although he has not been without considerable quiet influence on the Liberal benches, he has never since accepted office.

Rear-Admiral Washington, F.R.S., Hydrographer to the Admiralty, died at Havre, on the 16th inst. He entered the navy in 1812, and saw much service on the North and South American stations. In 1835 he succeeded Captain Maconochie as Secretary of the Royal Geographical Society, but resigned that office in 1841, on being appointed to continue the survey of the North Sea, which had for some time been in progress. This survey was his last service afloat. In 1845 he was appointed a Commissioner for inquiring into the state of the rivers, shores, and harbours of the United Kingdom. On the retirement of Rear-Admiral Sir Francis Beaufort in 1855 he was appointed hydrographer to the Admiralty, and subsequently attained the rank of rear-admiral. In 1833 he married the youngest daughter of the Rev. H. Askew, rector of Graystock, in Cumberland, by whom he has issue. He was a member of various learned societies, and the author of many papers of a scientific and useful character.

Mr. Cockerell, R.A., D.C.L., the distinguished architect, died in London on the 16th inst., after a short illness. He was the son of Mr. Samuel Pepys Cockerell, and was born in 1786. He was educated at Westminster School, on leaving which he adopted the profession of an architect. He was an excellent classical scholar, and adopted the "classical school" of architecture in opposition to the Gothic. In 1810 he went to Constantinople with despatches for the British Embassy, and when on his travels was seized with a desire to explore the antiquities of Greece. Between 1811 and 1812 he accompanied Messrs. Foster and Lynckh to Ægina. They spent the evening with Lord Byron, pouring out libations in propitiation to the god Neptune for his safe voyage to England. They left the Piræus, and bivouacked in an *adytum* under the Panhellenian Mount, the descendants of the Æacidæ looking on in amazement. Their discoveries excited great interest throughout Europe. There was the revelation of a specimen of the Archaic architecture in Greece, besides abundant examples of that school of sculpture which had never before been recognised distinctly in our monuments of art. Then, together with the architecture of Ictinus, the fellow-labourer of Phidias in the Parthenon, Mr. Cockerell brought to light a sculptured frieze, 102 feet long, of the most flourishing period of Greek art. Hitherto the great outlines only of the chief monuments of antiquity had been published by the Dilettanti Society, but many details of the elucidation of the architecture of the old Grecian temples and their correspondence with the principles handed down by Vitruvius, as derived from the old Hellenic race, remained to be explained. This was done by Mr. Cockerell. He found the interior of the Temple of Jupiter Panhellenius in Ægina, and restored it to perfection from the stylobates to the conformation of the tiles. One of his curious discoveries was 17 statues of Parian marble, with fragments of 10 more, buried for nearly 20 centuries, and undisturbed even by the curiosity of antiquaries, the cupidity of the Roman and Venetian conquerors, and the temptation of the natives. Unluckily these valuable antiquities, after considerable discussion, became the property of the Bavarian Government instead of being placed in the British Museum. In 1830 Mr. Cockerell published his "Researches in Greece," supplementary to the accounts of Messrs. Stuart and Revett, in which he insisted on the necessity of the union of sculpture and painting with architecture as a means of promoting religion. In 1857 he published, in conjunction with Mr. J. S. Harford, of Blaize Castle, and Commendatore Canina of Rome, illustrations of the genius of Michael Angelo in the architecture of St. Peter's, supplementary to a large coloured print of the ceiling of the Sixtine Chapel, published in 1854. Mr. Cockerell was formerly Professor of Architecture in the Royal Academy, and Architect to the Bank of England, and designed a great number of public buildings in the classic style. He retired, however, many years ago from the active duties of his profession, and resigned his professorship in the Academy. He was a fellow of the Institute of British Architects, a member of the Institute of France, an officer of the Legion of Honour, a member of the Academies of St. Luke in Rome, Munich, Copenhagen, and Geneva. He was buried on Thursday in St. Paul's at the request of the Institute of British Architects, many members of which, as well as Royal Academicians, were present at the funeral.

Mr. William Tooke, F.R.S., President of the Society of Arts, died on Sunday morning at his residence in Russell Square. He was born in 1777, was trained to the study of the law, and practised for some years in London as a solicitor. He became however at an early age associated with science and literature. In 1804 he published anonymously an edition of Churchill's poetical works, which were republished among the Aldine Poets, with the editor's name, in 1844. In 1855 he published a work entitled "The Monarchy of France, its Rise, Progress, and Fall," having meanwhile given to the world several smaller productions. In conjunction with Lord Brougham, Dr. Birkbeck, Mr. Grote, and others, he took an active part in the establishment of the University of London, and also of the Society for the Diffusion of Useful Knowledge, and for a considerable period acted as their Treasurer. He was a Fellow of the Royal Society, and succeeded the Prince Consort as President of the Society of Arts. For two years—namely, from 1835 to 1837, during the administration of Lord Melbourne—he represented the borough of Truro in Parliament. He was born at St. Petersburg, and was the son of the Rev. William Tooke, an English divine and writer, who became chaplain to the factory of the Russian Company in that city, and was the author of a "Life of Catharine II.," "A View of the Russian Empire," and other works.

BIRTHS.—On the 16th inst, at Oaklands, Almondsbury, Gloucestershire, the Viscountess Glentworth, of a son and heir—18th inst, at Applecross House, Ross-shire, the Lady Middleton, of a son—16th inst, at Spa, Belgium, Lady Hunter Blair, of a daughter—22d inst, at 35, Eaton Place, the Hon. Mrs. Leveson Gower, of a son and heir—20th inst, at 42, Heriot Row, Edinburgh, the Hon. Mrs. Thos. G. Dickson, of a daughter—16th inst, at Lyme Park, Cheshire, the wife of William J. Legh, Esq., M.P., of a daughter—21st inst, at 99, Eaton Square, the wife of Colonel Taylor, M.P., of a son and heir—23d inst, at 15, Lower Belgrave Street, the wife of Philip Lutley Sclater, Esq., of a son.

MARRIAGES.—On Saturday the 19th inst, at St. George's Church, Hanover Square, and afterwards at the Swedish Legation, the Count Bonde, of Biorno, to Ida Horatio Charlotte, only daughter of Horace Marryat, Esq., and granddaughter of the late General the Right Hon. Lord Edward Somerset, G.C.B.—22d inst, at the Church of St Alphege, Greenwich, Henry S. King, Esq., of Manor House, Chigwell, Essex, to Harriet Eleanor, eldest daughter of Admiral and Lady Harriet Baillie-Hamilton—16th inst, at St. Paul's, Knightsbridge, Edmund William, eldest son of the Rev. Sir Wm. Henry Cope, of Bramshill Park, Hants, Bart., to Edith Cockburn, only child of the late James Kerr Ewart, Esq., B.C.S., and granddaughter of the late Rev. Canon Repton—12th inst, at All Saints', Clapham Park, John, youngest son of the late Major Longley, R.A., to Louisa, eldest daughter of the late A. H. Kindermann, Esq., and granddaughter of F. Huth, Esq.—17th inst, at Wargrave, Berks, Cecil Willoughby Wigney, Esq., captain in H.M.'s Staff Corps, only surviving son of the late Newton Wigney, Esq., M.P., to Louisa Caroline Walsh, niece of Colonel Hervey Fuller, of Bear Hill, in the county of Berks—17th inst, at St. Olave's, York, James Paul Cobbett, Esq., of Lincoln's Inn, barrister-at-law, third son of the late William Cobbett, Esq., M.P., to Marianne, daughter of Robert Hudson, Esq., York—15th inst, at Broadwater, Sussex, the Rev. Thomas Hugo, M.A., F.S.A., &c., incumbent of All Saints', Bishopsgate, and chaplain to the Hon. Artillery Company, to Agnes Jane, widow of Geo. Harkness, Esq., of Lloyd's.

DEATHS.—On the 16th, at Eastbourne, the Lady Margaret Stuart, daughter of the late Francis, 10th Earl of Moray—16th inst, at Norwood, Sir Arthur Nicolson, of Nicolson, Bart. Brough Lodge, Fetler, Shetland, aged 69—13th inst, at Gorey, Jersey, Lady Turner, widow of General Sir Hilgrove Turner, aged 88—14th inst, at Charlton Kings, Gloucestershire, Francis Price, late Captain in the 19th Reg. Foot, third son of Sir Rose Price, Bart., of Trengwainton, Cornwall, aged 59—19th inst, at 83, Victoria Road, Charlton, Major-General Robert Clarke, Royal Artillery, aged 73—4th inst, of dysentery, at Pembroke Camp, St. George's Bay, Malta, Ensign R. M. Biddulph, of the 23d Royal Welsh Fusiliers, son of Colonel Middleton Biddulph, M.P.—18th inst, at Gosport, David Compigné, Esq., aged 86—18th inst, at Frohsdorf, Eastbourne, Francis William, second son of Robert Hanbury, Esq., M.P., aged 11—17th inst, at Mount Auburn, Killiney, county Dublin, Colonel Joseph Kelsall, late of the 70th Regt.—16th inst, at Caskieben, Alexander Henderson, M.D., of Caskieben, Aberdeenshire, for more than 40 years a distinguished Member of the Horticultural Society of London, aged 83—15th inst, at Seaton Villa, Clevedon, Allan Webb, Esq., M.D., F.R.C.S.L., surgeon-major, Presidency surgeon, &c., of the Bengal Medical Staff, aged 55—14th inst, at Leamington Priors the Rev. H. B. S. Harris, master of the Earl of Leycester's Hospital, in the borough of Warwick, aged 63—13th inst, at Burton-on-Trent, the Rev. Wm. H. Coleman, M.A., of St. John's College, Cambridge, and late of Ashby-de-la-Zouch—14th inst, at St. Peter's Rectory, Dorchester, the Rev. Morton Colson, LL.B., rector of Dorchester St. Peter and of Linkenholt, Hants, domestic chaplain to the Rt. Hon. Lord Wynford—20th inst, the Rev. George W. Bridges, incumbent of Beachley, Chepstow, late rector of St. Ann's, Jamaica, aged 76—13th inst, at Kincardine Manse, Perthshire, the Rev. Dr. Gray, Minister of Kincardine, aged 89—16th inst, at Claverton Lodge, Bath, the Rev. Francis Kilvert, aged 70—19th inst, at 1, Lansdown East, Bath, the Rev. Henry William Allen, B.A., son of the late Rev. T. Edward Allen, Chaplain H.E.I.C.S., aged 30.

## Markets.

### COVENT GARDEN, Sept. 26.

Vegetables and most kinds of Fruit in season, with the exception of Peaches, which are scarcer, continue plentiful. Late Plums may be had in great abundance. Of Grapes and Pine Apples the supply is also sufficient for the demand. Of Melons there is a good stock of both English and foreign varieties. There is also a good supply of Williams's Bon Chrétien, Louise Bonne of Jersey, and Marie Louise Pears. Some good examples of Ribston Pippin Apples have also arrived from Jersey. Kent Cobs and Filberts are now coming in in good condition, and for the Cobs a fair demand is springing up at from 60s. to 65s. per 100 lbs. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Marigolds, Calceolarias, Mignonette, and Roses.

FRUIT.

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|---|---|
| Pine Apples, per lb., 3s 6d to 7s | Melons, each, 2s to 4s |
| Grapes, per lb., 2s to 6s | Lemons, per 100, 8s to 12s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Nuts, small, per bushel, 14s to 18s |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Plums, per ½ sieve, 3s to 6s | Walnuts, do., 14s to 20s |
| Figs, per doz., 2s 6d | |
| Peaches, per doz., 6s to 15s | |

VEGETABLES.

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|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Peas (shelled), p. qt., 1s to 1s 6d | French Beans, p. sieve, 2s to 6s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 8d |
| ,, Shaws, do., 50s to 60s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 1s 6d |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatoes, each, 2d to 3d | |

HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, Sept. 24.

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|---|---|---|---|---|---|
| Prime Meadow Hay | 88s to | 94s | Clover, old .. .. | 90s to | 120s |
| Superior do. .. | 86 | 92 | Do. second cut .. | 80 | 108 |
| Inferior do. .. | 60 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 28 | 34 |
| Rowen .. .. .. | 60 | 80 | | | |

Harvey & Easton.

Whitechapel, Thursday, Sept. 24.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime 1st cut Clover | 115s to | 120s |
| Inferior do. .. .. | 75 | 80 | Inferior do. .. .. | 108 | 110 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do. . | 105 | 110 |
| Straw .. .. .. | 28 | 32 | Inferior do. .. | 93 | 100 |

### BRITISH WOOLS.—LONDON, Sept. 25.

Our prices remain firm, and stocks low for the season of the year. The fact of an unprecedentedly large amount of business transacted for some months past accounts for less being done at the present time.

| | s. d. s. d. | | |
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| South-down Hog-gets .. .. .. | 1 10 to 1 11 | Leicest. Wethers | 1 8 to 1 9 |
| Half-bred ditto.. | 1 10 — 1 11 | Ditto Hoggs .. | 1 9 — 1 10 |
| Down Ewes .. | 1 9 — 1 9½ | Combing Skins | 1 4 — 1 7 |
| Kent Fleeces .. | 1 10 — 1 10½ | Flannel Wool .. | 1 6 — 1 9 |
| | | Blanket ditto .. .. | — .. |

### METROPOLITAN CATTLE MARKET.

MONDAY, Sept. 21.

We have a large supply of Beasts, and trade generally is dull. The choicest descriptions met with purchasers at nearly last week's rates, but other kinds are lower, and many remain unsold. The number of Sheep is also considerably larger than the demand. On the average prices are lower, and a clearance cannot be effected. Calves are selling about the same as on Thursday. From Germany and Holland there are 2550 Beasts, 8940 Sheep, and 859 Calves; from Ireland, 850 Beasts; and 2950 from the Northern and Midland counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 4 10 — 5 2 |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | 4 4 — 4 8 |
| Best Downs and Half-breds .. | 5 2 — 5 6 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 4 — 5 0 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 6650; Sheep & Lambs, 27,130; Calves, 390; Pigs, 450.

THURSDAY, Sept. 24.

The number of Beasts is rather smaller than on Thursday last, and the average quality is very indifferent. Choice qualities, therefore, are readily disposed of at fully late rates, but there is no improvement in other kinds. There are a few more sheep, but the increase is in the foreign supply. Best qualities are selling about the same as on Monday, but on the average prices are lower. Trade is dull for Calves at rather lower rates. Our foreign supply consists of 475 Beasts, 4960 Sheep, 454 Calves, and 70 Pigs. Milch Cows, 85.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 4 10 — 5 2 |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 3 0 — 3 10 | Ewes & 2d quality | 4 4 — 4 8 |
| Best Downs and Half-breds .. | 5 2 — 5 6 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. | 4 8 — 5 8 |
| | | Calves .. .. | 3 0 — 4 8 |
| | | Pigs .. . | 3 0 — 4 4 |

Beasts, 1225; Sheep & Lambs, 7900; Calves, 570; Pigs, 270.

### MARK LANE.—MONDAY, Sept. 21.

There was a fair supply of Wheat from Essex and Kent to this morning's market, and sales proceeded slowly at a decline of fully 2s. to 3s. per qr., the stands not being cleared at a late hour. For foreign the demand was very limited at a reduction of 1s. to 2s. per qr. Fine malting Barley was 1s. per qr. cheaper, secondary sorts 2s. per qr., and grinding 6d to 1s. per qr. Beans and Peas were unaltered in value. The Oat trade was very flat, at a decline of fully 6d. per qr. Barrel Flour was dull and rather cheaper.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 42—46 | Red ..... | 38—44 |
| — — fine selected runs .. ditto | 44—50 | Red .... | 40—48 |
| — — Talavera ............... | 46—52 | | |
| — Norfolk ..................... | — | Red .... | — |
| — Foreign ..................... | 36—54 | | |
| BARLEY, grind. & dist. 30s to 32s .. Chev. | 36—40 | Malting .. | 30—36 |
| — Foreign .. grinding and distilling | 25—30 | Malting .. | 26—30 |
| OATS, Essex and Suffolk ............ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ..................Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 19—22 | Feed .... | 17—20 |
| RYE ............................. | 30—32 | Foreign .. | — |
| RYE-MEAL, Foreign ................ | — | | |
| BEANS, Mazagan .... 31s to 36s ... Tick | 32—35 | Harrow .. | 32—35 |
| — Pigeon .... 37s to 40s .. Winds. | — | Longpod | — |
| — Foreign ................Small | 36—42 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent .. Boilers | 37—38 | Suffolk .. | 38—42 |
| — Maple .... —s to —s .... Grey | — | Foreign .. | 32—40 |
| MAIZE ........................White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 38—43 | | |
| — 2d do ..................... ditto | 30—34 | Country .. | 30—34 |
| — Foreign ............ per barrel | 17—24 | Per sack | 32—42 |

FRIDAY, Sept. 25.

The weather during the last week has been wet and stormy, interfering with harvest work in Scotland. Great dulness continues to prevail in the Wheat trade, new experiencing a further decline of from 1s. to 3s. per qr., while old and foreign remained neglected, although offered at a reduction of 1s. to 2s. per qr., Liverpool being the only exception, no further decline having been conceded there since this day week. Should the wet weather continue it will soon effect the condition of our new Wheat, in which case we may look for a better demand for old. Malting Barley, except in the Scotch markets, which were very firm, gave way 1s. and 2s. per qr.; other qualities maintained late rates. Beans receded 1s. per qr. Peas were neglected but not cheaper. Oats a slow sale at 6d. to 1s. per qr. decline. Best marks of sweet Flour are scarce and unaltered in value; sour is quite neglected and easier to buy. Since Friday last 53 vessels have been reported off the coast. The floating trade has continued quiet. Wheat has declined 6d. to 1s., Maize 3d. to 6d. per qr.; no alteration can be quoted for other descriptions. In Paris (Sept. 24), the Flour trade is very quiet. The six marks only for delivery this month are in greater demand to cover former sales, and have risen to 33s. 9d. per 280 lbs. The present stock of Flour is estimated at 8820 cwts. Wheat has declined 1s. per qr. The arrivals of foreign Wheat and Flour since Monday have been good, of other grain small. There was a moderate attendance at this morning's market, and the little English Wheat fresh up brought the extreme prices of Monday; in foreign the business was very limited at the quotations of that day. Malting Barley 1s. per qr. cheaper. Beans and Peas were unaltered in value. The Oat trade was quiet, prices unchanged.

ARRIVALS THIS WEEK.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1260 qrs. | 730 qrs. | 40 qrs. | 580 sks. |
| Irish .... | — | — | 970 | — „ |
| Foreign .. | 20,110 „ | 7450 | 18,390 „ | 590 „<br>19,670 brls |

LIVERPOOL, Sept. 22.—We have had a very good attendance of millers and dealers at this day's market, and the low range of prices attracting a better demand for Wheat than of late, holders were enabled to maintain the quotations of last market day, with a moderate extent of business. Flour very difficult to move, but good sweet lots are not to be bought cheaper. Indian Corn had only a retail inquiry, and we reduce our quotations 3d. per qr. Oats are down 1d. per bushel, and Oatmeal 6d. per load. Beans have given way fully 6d. per qr. Peas and Barley unchanged. The market closes firm at the decline.

FRIDAY, Sept. 25.—The general tone of the market remains unchanged. Wheat and Flour steady, but quiet. Other articles remain unaltered.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Aug. 15 | 45s 11d | 31s 4d | 23s 7d | 36s 4d | 40s 7d | 35s 7d |
| — 22 | 46 5 | 31 1 | 23 0 | 33 2 | 40 4 | 34 9 |
| — 29 | 45 9 | 33 10 | 22 8 | 33 9 | 39 6 | 35 9 |
| — 5 | 44 2 | 34 8 | 22 0 | 32 11 | 38 10 | 37 2 |
| Sept. 12 | 44 1 | 34 7 | 21 8 | 31 0 | 39 10 | 35 10 |
| — 19 | 44 9 | 35 2 | 20 9 | 32 7 | 39 0 | 36 9 |
| Agg. Aver. | 45 2 | 35 5 | 22 3 | 33 4 | 39 8 | 35 11 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.

WANTED, a FOREMAN, who has a knowledge of Planting, Hedging, Draining, Roadmaking, &c. Unexceptionable reference will be required.—Apply, FREDK. GILL & Co., The Dorset Nurseries, Blandford.

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ORIGINAL ARTICLES.—On the Molar series of Rhinoceros Tichorhinus, by W. Boyd Dawkins, F.G.S.—on Animal Dextrine by Dr. R. McDonnell, M.R.I.A.—Annual Report of the Trustees of the Museum of Comparative Zoology at Cambridge, U.S.A.—Report on the Department of Natural History in the Bristol Museum for the year 1862—on the Wild and Tame Animals of Cambodia, by Dr. E. Blyth—on an Ancient Boat found in the Peat Moss near Flemburg—Bibliography (Physiology, Palæontology, and Botany).

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THE CROSS of HONOUR. By the Author of "Small House in Piccadilly." [*On Oct.* 10.

London: JOHN MAXWELL & Co., 122, Fleet Street, E.C.

**To Agricultural Implement Makers and Others.**

JOHNSON AND SHAW'S FARMER'S ALMANAC and CALENDAR for 1864 will be published as usual on November 1.

ADVERTISEMENTS must be sent not later than October 12, and direct to the Publisher,

WILLIAM RIDGWAY, 169, Piccadilly, W.

DAILY or OCCASIONAL GOVERNESS.—A Lady who has resided many years in France, seeks a re-engagement in London, to instruct in English, French, and Music with Singing (by the new system); the rudiments of German and Drawing. Terms moderate.—H. H., 29, Queen's Road, Camden Square, N.W.

## News of the Week.

IT was rumoured in Paris on Tuesday, that the English Government had addressed a note to Austria, proposing that the Powers should no longer recognise the title of Russia to Poland, since she had violated the treaties of 1815. This rumour probably had its origin in the declaration of Earl RUSSELL at Blairgowrie that the conditions of the Treaty of Vienna, by which Russia obtained the kingdom of Poland, have not been complied with; and that, without the conditions of the tenure, the title itself can hardly be upheld. The French Ministerial papers applaud this view of the question, and the *Presse* of Thursday asserts that France and England have decided to make a declaration to the effect that they consider the treaties of 1815 as no longer in force, and have consequently ceased to guarantee the possession of Poland to Russia.

The Danish Rigsraad was opened on Monday by commission. The Royal Speech referred to the dispute between Denmark and the German Diet on the affairs of Holstein, and stated that the late events at Frankfort had made it obvious that it was no longer a question of the Federal rights over Holstein, but of the independence of Denmark, who was firmly determined to protect herself against any attack. The Danish Government has since demanded of the Rigsraad authority to construct an iron-clad battery, to iron plate a frigate, and to call out 5000 sailors.

In the sitting of the Federal Diet on Thursday the proposition of the United Committees in favour of Federal execution in Holstein was almost unanimously adopted. The representatives of Baden-Baden and Luxembourg alone voted against the proposition, and the representatives of Hanover considered it insufficient.

Meanwhile the Swedish Government has addressed a note to the Ambassadors in London and Paris, denouncing the interference of Germany in the affairs of Denmark as intolerable, and stating that in the event of war, Sweden might perhaps be compelled to take an active part, inasmuch as the subjugation of Denmark would endanger the interests of Sweden.

From the United States we have the important news that the Federal army under General ROSENCRANZ has been defeated by the Confederates under General BRAGG, after a battle which lasted two days, and compelled to retreat to Chattanooga with a loss of 12,000 in killed and wounded. Accounts from Charleston state that the Monitors are unable to pass up to Charleston. The erection of Federal batteries in Fort Gregg and Cumming's Point is proceeding slowly on account of the continued fire of the Confederate batteries. Fort Sumter is still in the hands of the Confederates, who are reported to be repairing it. General LEE has fallen back from the line of the Rappahannock, and General MEADE has moved forward the whole of his forces to the Rapidan, where the two armies are confronting each other, and a general engagement is expected. President LINCOLN has issued a proclamation suspending the Habeas Corpus Act throughout the United States.

The Revenue returns for the year and quarter ended on the 30th ult., were published on Thursday. They show an increase of 808,842*l*. on the year, and a decrease of 189,479*l*. on the quarter. The decrease on the quarter is accounted for by the reductions on the income tax and tea duties; the loss on the former amounting to 108,000*l*., and the loss on the Customs to 329,000*l*. This large deficiency is, however, very nearly made up by the increase in the Excise, which amounts to 318,000*l*., while there is a steady increase in the Stamps, Taxes, and other branches of revenue.

*On the 30th October, price 1s., the* FIRST PART OF

THE GALLERY OF GEOGRAPHY,

BY THE REV. THOMAS MILNER, M.A., Author of the "Gallery of Nature," &c., &c.

The Work comprises a History of Geographical Discovery in Ancient and Modern Times; describes the boundaries of Countries and Provinces; sketches the Scenery, Cities, and Populations of the different Countries of the Globe, and their Social, Political, and Physical Condition. The whole profusely embellished with Steel Engravings, Maps, and Woodcuts, chiefly from Original Authorities.

W. AND R. CHAMBERS, 47, PATERNOSTER ROW, LONDON, E.C.; and 339, HIGH STREET, EDINBURGH.

## Home News.

THE QUEEN IN SCOTLAND.—On Wednesday week the Queen drove out, accompanied by the Princess of Wales and Princess Helena. The Princess Louisa, attended by Lady Churchill, rode on horseback. On Thursday week the Queen, accompanied by the Princess Louis of Hesse and Princess Beatrice, drove to the Linn of Muick. Prince and Princess Louis of Hesse dined at Abergeldie Castle. The Chancellor of the Exchequer arrived, and succeeded Earl Russell in attendance on her Majesty. On Friday the Queen, accompanied by the Princess of Wales, Princess Helena, and Princess Louisa, drove to Loch Callater. Prince and Princess Louis of Hesse, Prince Alfred, and Prince Arthur, drove to Loch Bullig. Prince Alfred dined at Abergeldie Castle. On Saturday the Queen, accompanied by Prince and Princess Louis of Hesse and Beatrice, drove to Alt-na-Guithsack. Prince Arthur, Princess Helena, and Princess Louisa, ascended Lochnagar. The Prince and Princess of Wales dined with her Majesty at Balmoral. On Sunday morning the Queen and Royal family attended Divine service at Balmoral. The service was performed by the Rev. Dr. Caird, one of her Majesty's chaplains, who is staying at Balmoral. The Prince and Princess of Wales, Prince and Princess Louis of Hesse, and Princess Helena, attended the parish church at Crathie. On Monday the Queen, accompanied by the Princess of Wales, Princess Louis of Hesse, and Prince Alfred, drove to Gairnshiel. Princess Helena, Princess Louisa, and Prince Leopold drove to Mar Lodge, and honoured the Countess of Fife with a visit. On Tuesday the Queen went out in the morning with Princess Louisa. The Princess Louis of Hesse and Princess Helena rode on horseback. In the afternoon her Majesty, accompanied by the Princess of Wales, Princess Louis of Hesse, Prince Arthur, and Prince Leopold, drove and walked.

RETURN OF THE PRINCE AND PRINCESS OF WALES.—The Prince and Princess left Abergeldie on Thursday on their return to London. Their Royal Highnesses arrived at Edinburgh on Thursday evening, and were met at the station by the Crown Prince and Princess of Prussia. Yesterday morning the Town Council presented an address to the Prince and Princess of Wales in Holyrood Palace, and the Edinburgh ladies' gift was presented to the Princess. Their Royal Highnesses are expected to arrive at Marlborough House this afternoon.

THE KING OF GREECE is expected to arrive at Marlborough House on Monday or Tuesday next, on a visit to the Prince and Princess of Wales. His Majesty will probably pay a visit to the Queen at Balmoral, before leaving for Paris on his way to Athens.

ARRIVAL OF THE CROWN PRINCE AND PRINCESS OF PRUSSIA.—The Crown Prince of Prussia and the Princess Royal, accompanied by their children, landed at Dover on Wednesday afternoon, and travelled direct to the Victoria Station by a special train on the London, Chatham, and Dover Railway. On their arrival in London their Royal Highnesses proceeded in the Queen's carriages to Buckingham Palace, and in the course of the evening left town for Scotland by the Great Northern Railway. The Crown Prince and Princess arrived at Edinburgh on Thursday morning, and proceeded to the Douglas Hotel in St. Andrew Square, where apartments had been engaged for them. During the day their Royal Highnesses visited Edinburgh Castle and Holyrood, passing through the principal streets and round the Queen's drive, and in the evening met the Prince and Princess of Wales on their arrival from Abergeldie. Yesterday morning the Crown Prince and Princess left Edinburgh for Balmoral on a visit to the Queen. It is understood that their Royal Highnesses will not return to Prussia for some time.

PRINCE NAPOLEON arrived at the Clarendon a few days since, and has visited during his stay the Crystal Palace, the South Kensington Museum, and other institutions of the metropolis. On Wednesday his Imperial Highness left town for Woburn Abbey, and on Thursday visited Windsor, where he inspected the private apartments of the Castle, St. George's Chapel, the gardens at Frogmore, the Mausoleum and royal farm.

THE VACANT JUDGESHIP.—Mr. Serjeant Pigott has been appointed one of the Barons of the Exchequer, in the room of Sir J. Wilde.

LEGAL CHANGES.—Sir William Atherton has resigned the office of Attorney-General, on account of continued ill-health. He was offered the puisne judgeship vacant by the appointment of Baron Wilde to the Court of Probate; but his state of health compelled him to relinquish all official work, and he has therefore deemed it his duty to resign the Attorney-Generalship. Sir William Atherton is succeeded by Sir Roundell Palmer, the Solicitor-General, and Mr. Collier, M.P. for Plymouth, has been appointed to the vacant office of Solicitor-General.

THE ARMY.—The Coloneley of the 2d Life Guards, vacant by the death of Earl Beauchamp, has been conferred on the Marquis of Tweaddale, and the Coloneley of the 42d Highlanders, vacated by this promotion, has been conferred on General Duncan Cameron.

PARLIAMENTARY MOVEMENTS.—The elevation of Mr. Serjeant Pigott to a seat on the bench has caused a vacancy at Reading. Mr. G. Shaw Lefevre, nephew of Viscount Eversley, is a candidate for the vacant seat. Mr. Bremridge and Mr. Thomas Lloyd of Spake Hall, near Birmingham, are candidates for Barnstaple, vacant by the death of Mr. Potts, the former in the Conservative, the latter in the Liberal interest. Captain Fraser has declined to come forward on this occasion.

THE REVENUE.—The Revenue returns for the year and quarter, ended September 30, show a decrease of 189,479*l.* on the quarter, and an increase of 808,842*l.* on the year. The quarter's account shows an increase in the Excise of 318,000*l.*; Stamps, 11,000*l.*; Taxes, 10,000*l.*; Post Office, 10,000*l.*; Crown Lands, 1000*l.*; and a decrease in the Customs of 329,000*l.*; Property Tax, 108,000*l.*; Miscellaneous, 102,479*l.* The year's account shows an increase in Stamps of 321,055*l.*; Taxes, 33,000*l.*; Property Tax, 73,000*l.*; Post Office, 200,000*l.*; Crown Lands, 4979*l.*; Miscellaneous, 706,808*l.*; and a decrease in the Customs of 92,000*l.*; Excise, 438,000*l.*

THE CHANNEL FLEET arrived in Dublin Bay on Saturday morning from Liverpool. The fleet remained off Dublin until Thursday, when it sailed for Plymouth.

## Foreign.

FRANCE.—It is announced that the Emperor and Empress will return to St. Cloud on Tuesday next, and that the Empress will return by sea. It is rumoured that the French Chambers will be opened very shortly. The *Constitutionnel* of Wednesday, in an article signed by M. Pauline Limayrac, dwells upon the importance of the passage of Earl Russell's speech at Blairgowrie in which he said that since Russia had not fulfilled the conditions imposed by the treaties of 1815, her title to possess Poland could hardly any longer be vindicated. The *Pays* says the declaration of Earl Russell, surrounded though it be by a cloud of pacific protestations, is one of great importance, and will have a great *retentissement* in Europe. In another article it states that Russia, treading under foot the letter and spirit of the treaties of 1815, only occupies Poland *de facto*. The *France* applauds the declaration of Earl Russell, and believes it to be impossible for the other Powers to refrain from expressing their sentiments on the consequences of the attitude of Russia from the point of view of the abrogation of the acts of the Vienna Congress. The *Patrie* also extols the declaration of Lord Russell, and *La Presse* says that France and England have decided to make a declaration to the effect that they consider the Treaties of 1815 as no longer in force, and consequently have ceased to guarantee the possession of Poland to Russia. *La France* of Thursday evening says that up to that time the French Government had not addressed any fresh despatch to the Cabinets of London and Vienna on the subject of Poland. The *Patrie* of Saturday says that the question whether the Poles should be recognised in the quality of belligerents has been incidentally raised by one of the two great maritime Powers. The *Mémorial Diplomatique* contains a lengthy article on the present position of the Polish question, written throughout in a tone of considerable hostility towards England and Austria. The article concludes with the following words:—

"France has made all the concessions to England and Austria which have been asked of her by those Powers. It is for them to judge and to say what course they will adopt in consequence of the result at which we have arrived. Every courier who crosses the Channel brings us the most sounding declamations, but it would not be the first time that more talk than work came from London. If the English journals are faithful interpreters of the sentiments of the British nation and the intentions of the Cabinet of St. James's, that body, enlightened by striking experience, will understand the necessity of a plain attitude and practical propositions. At the moment when the last Notes of the three Powers left for St. Petersburg, France proposed to England and Austria to concert and arrange immediately what measures should be taken in case of a partial or complete refusal of Russia. England, and, following her example, Austria declined to engage herself in advance, and preferred to be guided by events. It is for those two Powers now to take the initiative, and, as events have spoken, to make known in what way they are willing to act. Upon this condition alone the concert established between the Powers can continue. France will not allow herself to be hurried away by British rhodomontade, or held back by Austrian hesitation. France, who did not believe it right to settle herself a question affecting the balance of power in Europe, does not think it incumbent upon her to carry out alone that which other Powers have declared to be of common interest. Equally inaccessible to discouragement or spite, she will willingly listen to every serious overture, but she will not lend herself to vain demonstrations. If, therefore, she should again be asked to raise a voice which will not be listened to, she will prefer to wait her time in the fulness of her liberty."

The Bishop of Orleans has ordered prayers to be put up for Poland. It was reported last week that Prince Napoleon had left for London on a mission to the English Government; that Baron Gros would be replaced at London by the Duke de Persigny or Count Walewski; and that M. Drouyn de Lhuys had tendered his resignation. The *Pays* contradicts all these rumours, and says that Prince Napoleon's visit to England has no political bearing. *La France* says that Count Walewski has intimated his intention not to return at present to active life, and that Baron Gros retains the post of French Ambassador in London. The *Moniteur* of Sunday says.—

"The journal *La Presse* has published several articles, throwing upon the Minister for Foreign Affairs the sole responsibility of our foreign policy, and including in the same censure the general direction of affairs and the mode of treating them. The journal in question misunderstands the spirit of our institutions under the present *régime*. The idea which directs public affairs emanates from the Sovereign, and the Minister is only responsible for its execution."

The *Presse* has since replied to this article, and by so doing has brought upon itself the punishment of a warning, to which it has likewise replied by challenging the justice of such arbitrary measures. The Emperor on Thursday week paid a visit to M. Fould at Tarbes. M. Drouyn de Lhuys received last week the members of the Mexican deputation, which has since left for Trieste, on its way to Miramor. It will be received by the Emperor at St. Cloud on its return. The squadron of iron-clad ships of war assembled at Cherbourg, consisting of two ships of the line and three frigates, sailed on Monday on an experimental cruise, under the command of Admiral Penaud, who hoisted his flag in the screw ship of the line Napoleon. Preparatory to sailing, Admiral Penaud, who is president of the commission appointed to examine the comparative merits of the ships composing the squadron, minutely inspected each ship. The Napoleon is to serve as the point of comparison, and the cruise is to be extended to the coast of Spain, and possibly to Lisbon. The Archbishop of Avignon died on Tuesday. The Rhone has overflowed its bed to a height of two metres along the line of Lyons. The country upon the banks of the river is submerged.

SPAIN.—It is officially announced that the Emperor of Morocco, acknowledging the justice of the Spanish demands, has replied that he will send a force under Muley Abbas to severely chastise the Riffs.

PORTUGAL.—The Queen was happily delivered of a Prince on Monday last. The ex-Regent, Dom Fernando, and Princess Clotilde will be sponsors to the Royal infant. The Southern Railway, from Barreiro to Goa, has been opened with great *éclat*, in the presence of the President of the Council of Ministers and several notabilities. The yield of wine and oil is reported to be scanty throughout Portugal.

FRANKFORT.—In the sitting of the Federal Diet on Thursday the proposition of the United Committees in favour of Federal execution in Holstein was almost unanimously adopted. The representatives of Baden Baden and Luxemburg voted against the proposition. The representative of Hanover considered it insufficient. The late despatch of the British Government on the question was referred to the Committee.

DENMARK.—The Rigsraad, the Common Assembly for Denmark and Schleswig, was opened on Monday. The President of the Council read the Royal speech, of which the following is a summary:—

"The Greek nation has called a Danish Prince to fill the vacant throne of Greece. I trust the event may lead to happy results. I have ordered Bills to be laid before you relating to a new constitution for Denmark and Schleswig, which will be based upon the existing constitution. Under the new constitution the Rigsraad will acquire such power that it will be able to meet the great demands of the immediate future, and at a later period bring about the complete constitutional development of the country. The subjoined temporary resolutions will indicate how, with the co-operation of the people, and in accordance with their wishes, the position of Holstein towards the other parts of the kingdom may be settled. The dispute between Denmark and the Federal Diet appears to be approaching a decision, as the resolutions passed at the Congress of German Princes anticipate a change in the relative positions of Holstein and Denmark in conformity with my proclamation of March last. I trusted that an understanding would be arrived at, but in reply to that proclamation came the demands of the Federal Diet. Our last despatch to the Federal Diet declared our readiness to carry out its resolutions in Holstein, if they were found to be compatible with my sovereignty over the Federal provinces, and did not impede independent legislation in the other parts of the kingdom. In case our hope should not be realised, it is obvious that it would no longer be a question of the Federal rights over Holstein, but of the independence of Denmark, which is firmly determined to protect herself against any attack." The speech concluded by expressing a conviction that his Majesty does not stand alone, and declaring that he rests his hopes on the people's love of their country and of liberty.

On Tuesday the President of the Council laid before the Rigsraad the draught of a new constitution for Denmark and Schleswig, by which all questions common to the two provinces are to be regulated. It shows great progress in the development of liberal ideas in Denmark. A property qualification will only be required of members of the Upper House. Members of the Lower House will be freely elected, without any condition relating to the income of either the electors or the persons elected. All matters concerning Denmark alone will be regulated by the Rigsraad, and those relating to Schleswig by the Estates of that Province. In the sitting of the Rigsraad on Wednesday, the Minister of Marine demanded authority for the construction of an iron-clad naval battery, the calling out of 5000 sailors, and the iron plating of a frigate.

SWEDEN.—The following is the summary of a Note on the Dano-German question, dated July 19, addressed by the Swedish Government to its Ambassadors in London and Paris:—

"The demand of the Federal Diet, that Denmark should withdraw her proclamation of March 30, has made the interference of Germany in the affairs of that kingdom intolerable. Denmark, in her reply, will probably refuse to comply with the demands of the Diet, and declare that Federal execution would be considered equivalent to a declaration of war. Such a reply would be justifiable, for the demands of the Diet relative to Holstein have been acceded to, and it has no right to interfere in the affairs of Schleswig, to which duchy, moreover, the Government has granted every liberty. The Western Powers could not remain indifferent to a war which may easily ensue if they do not protect Denmark. Sweden might, perhaps, in such an eventuality be compelled to take an active part, inasmuch as the subjugation of Denmark would endanger the interests of Sweden."

PRUSSIA.—The ceremony of the opening of the new Exchange at Berlin took place on Tuesday. The *Staats Anzeiger* publishes a circular issued by the Minister of the Interior, calling upon the chiefs of the Provincial

Governments to devote their strictest attention to the conduct of the public functionaries during the forthcoming elections. The officials are expected to give their entire support to the State Government. Even a passive attitude will be considered as showing a want of devotion. Public officials are not released from their oath of allegiance to the King, either in their capacity as electors or elected. Jacob Grimm, the celebrated German writer, who, in conjunction with his late brother William, has been so long known not only in Germany but throughout all Europe, died on the 20th ult. at Berlin, after a short illness, in his 79th year.

AUSTRIA.—The Emperor arrived at the shooting fête at Innspruck on Tuesday. His Majesty remains incognito. The Mexican deputation was expected to arrive at Trieste on Thursday. The Imperial rescript requesting the Transylvanian Diet to send deputies to the Reichsrath was despatched to Hermandstadt on Monday. A rumour is current that the English Government has addressed a Note to Austria, proposing that the Powers should no longer recognise the title of Russia to Poland since she has violated the treaties of 1815.

SAXONY.—The first meeting of the National Verein has taken place at Dresden, under the presidency of M. Wigand, formerly a representative at the Frankfort Diet and compromised in the revolution of 1849. M. Schultze Delitschez severely criticised the proceedings of the Frankfort Congress. He said that on that occasion Austria had acted solely in her own dynastic interests, and added that the meeting of the Sovereigns had in reality been brought about by the National Verein. He declared that the German people would not give their adhesion to the project which their rulers had approved, and, in conclusion, warmly advocated a return to the Constitution which had been voted by the Parliament of Frankfort in 1849. M. Rewiszer, who spoke to the same effect, concluded his speech with the words, "We are the State." Both speeches produced a great sensation. The National Verein will shortly hold a meeting at Leipsic. MM. Clam Gallas, representative for Austria, Von Feder, for Bavaria, and Kleing Hoeffer for the Grand Duchy of Hesse, have arrived at Dresden for the purpose of inspecting the Saxon Federal Contingent.

SAXE COBURG.—The *Coburg Zeitung* publishes a project of Federal reform, drawn up by the Prince Consort in 1848. It contains many analogies with recently published plans, although it is in advance of these as regards the monarchical point and responsible ministries. The following are the leading features of the project :—

"The princes of the German federation, together with the four burgomasters of the free cities, will form a Diet of Princes, and choose from among them—for life, or for a term of 10 years, an Emperor of Germany and a Federal Commander. The chief people of the different German States will choose from among them, always from their two Chambers, a proportion of their members according to the number of inhabitants and the importance of their own States, and form of them a German Imperial Diet to assemble every three years. An Imperial Tribunal, over which an irremovable Chancellor shall preside, will form a supreme tribunal, composed of all the legal faculties of all the German nations, and deciding all questions arising among the single States, among the single Governments and classes, as well as on all questions of German succession and regency, and on all partitions and inheritances."

RUSSIA.—The Emperor of Russia left St. Petersburg on the evening of the 23d ult. for Moscow and the Crimea, where he was expected to arrive on the 1st of October. It is said that on his return from the Crimea he will pass through Warsaw. The *Breslauer Zeitung* asserts that the Grand Duke Constantine has fallen seriously ill, and that General Berg will be replaced. It is believed that the Grand Duke has definitively retired from public office, and certainly will never again return to Poland. The *Opinion Nationale* asserts that several Germans of high position, on learning that General Mouravieff had been decorated with the Order of St. Andrew, immediately sent back to the Czar the insignia of the Russian orders to which they belonged.

POLAND.—The *Czas* of Saturday publishes an article on English sympathy towards Poland. It considers that England ought to save Poland, as, wherever liberty and law are infringed, English interests are endangered. It says:—

"The attitude of public opinion in England is not indifferent to the Poles. Poland is not the satellite of any Power, and it is no mere form of words to declare that she will only incline towards those who give her actual help. Let England recognise the insurgents as belligerents and acquire a claim to the imperishable gratitude of Poland."

An Act of the Polish National Government appoints General Louis Mieroslawski general organiser of the Polish troops. The Act is dated Warsaw, August 16, and was delivered to General Mieroslawski on the 28th ult. by Joseph Grabowski. The Polish National gendarmes, Taniszewski, Racynski, Kosinski, Jageszewski, and Zelner, were shot on Wednesday morning in five of the public squares of Warsaw. Among the 200 persons recently sent to Siberia were Count Ostrowski, son of the Minister for Foreign Affairs, and L. Lewinski, a Councillor of State. The soldiers in Warsaw have taken possession of three convents, which they now occupy, printing offices and military tailoring establishments having been discovered in some of them. After pillaging the Zamoyski palaces, the troops entered the principal Jewish synagogue in the Rue Wierzbowa, during the celebration of religious service, arrested the congregation, and destroyed the sanctuary. They also searched Kreuz Church, threw out the coffins, defiled the corpses and stole the ornaments. Meisels, Chief Rabbi at Warsaw, has since been arrested. All the workmen employed on the official Russian journal of Warsaw have left the printing-office, and several persons have refused to accept the editorship of that journal. Baron Korff, chief of the police, has been summoned to St. Petersburg. The *Police Gazette* publishes an ordinance to the effect that in future every house from which a shot should be fired, or in which an attempt should be made on the life of a public officer, will be confiscated, and the inhabitants arrested and treated as accomplices. On the 23d ult. the Russians plundered the Jewish merchants of the town of Dzialoszyce. Isaac Sarna, a Jewish master tailor, was tortured, and his hair and beard were burnt, in order to extort the name of the person who had ordered him to make blouses for the National troops. The Lithuanian section of the National Government has permitted the citizens to sign the address of devotion to the Czar for the purpose of avoiding persecution by the Russians. On the 20th the insurgent corps under Zrembinski and Gostowski defeated the Russians at Rydzewo, in the Government of Plock. Captain Tigenset has since defeated the insurgents under Bielowiecki with considerable loss near Zuromin, in that government. The insurgents numbered 450 men. On the 19th the insurgents, under Gleba and Ostroga, encountered the Russians at Ringaliszki, in the government of Augustowo. An engagement between the Russian troops and the insurgents commanded by Nadmiler has taken place at Saine, in the same Government. The band of Celinski had a successful engagement with the Russians on the 21st. An engagement between the insurgents and Russians took place on the same day at Wieslcocieda, in the government of Kalisch. Another engagement was fought on the 23d at Nowabieda. On the 25th an engagement between Chmielinski's cavalry and the Russian troops under the command of Czengery took place in the palatinate of Cracow, and resulted in the retreat of the latter. The detachment of insurgents commanded by Otto joined Chmielinski's corps on the 27th, and on the 29th an engagement took place at Mipzow, in the woywodeship of Cracow, between Otto and the Russians. Fifty Cossacks with their arms and horses were captured. Several encounters have taken place in the Government of Radom. The insurgent leader Iskra defeated the Russians between Dzialoszyce and Skalmierz on the 24th, and advanced to Wodzislaw after the victory. Another engagement was fought on the 27th ult. near Sunworno, in the woywodeship of Kalisch. On the 28th the commander of the Russian troops in the palatinate of Kalisch held a council with several superior officers of the Prussian army relative to the measures to be taken to paralyse the movements of the insurgents. Fresh, well-armed detachments of insurgents have appeared in the environs of Tarczyn, four leagues from Warsaw. Mr. Lawrence Oliphant and Mr. Evelyn Ashley have been forbidden by General Kreuter, commanding the Russian forces at Radziwiloff, to enter Volhynia, in consequence of the "highly disturbed state" of the province, except by a route prescribed by himself.

ITALY.—Prince Carignan and Prince Amadée have left Genoa for Lisbon, on a visit to the Queen of Portugal. At Gibraltar their Royal Highnesses will meet an Italian squadron, composed of eight frigates, which will escort them to Lisbon. The Minister for Foreign Affairs has issued a circular granting to the Papal Consuls whose *exequaturs* have been withdrawn permission to remain in the kingdom of Italy. The territory infested with brigands has been divided into two military zones. The first, embracing the districts of Benevento, Molise, and Mateso, is placed under the command of General Pallavicini; and the second, comprising the districts of Malfi, Bovino, and Avellino, will be commanded by Franzini. The Pope has addressed an encyclical letter to the Bishops of New Grenada, deploring the cruel persecution conducted by the Government against the doctrines, authority, and rights of the Church, and condemning the laws promulgated against the clergy and ecclesiastical property. His Holiness censures the introduction of liberty of worship and the conduct of the ecclesiastics who obey iniquitous laws. He praises the firmness of the imprisoned Bishops, and enjoins the members of the clergy remaining faithful together with the people, to persevere in their faith, and to pray God that the persecution may cease.

GREECE.—Intelligence from Athens states that the attempts of the Greek National Assembly to unite the different military parties have failed. The Assembly has voted a sum of 150,000 drachmas for the reception of the King. The Treasury is at present in a better condition than formerly, owing to the National Guard having assisted to collect the taxes in the provinces.

IONIAN ISLANDS.—Advices from Corfu announce that the Ionian Parliament was opened on Thursday. Great enthusiasm prevailed among the members. The Islands of Corfu and Paxo at the elections pronounced in favour of union with Greece. The result of the elections in the remaining islands is not yet known, but it is not doubted that it will be favourable to the union.

TURKEY.—The Syrian indemnities will be paid in the new issue of 30,000,000*f.* of Consolidés. The question of foreigners holding property is approaching a settlement. It is reported that Franco Effendi will succeed Daoud Pasha as Governor of the Lebanon. A sanguinary riot at Chios has rendered it necessary to send a frigate from Smyrna to that island.

THE PRINCIPALITIES.—The rumour of the attempt on the life of Prince Stourdsa has been denied.

THE CAUCASUS.—A despatch from Constantinople states that the Russian Envoy has protested against the transfer of contraband of war from an English steamer to a Circassian vessel.

EGYPT.—The inundation of the Nile now covers 4000 hectares of land and five kilometres of the railway. The Government is taking precautions against further disasters, and the army is employed to watch the dykes.

INDIA.—The Ajmere prisoner has been finally proved not to be the Nana Sahib. An action for defamation of character brought by Major General Burney against Captain Eyre, of her Majesty's 38th Regiment, has been decided in favour of the plaintiff. Damages, 2000*r.*, with costs. Serious state convulsions had broken out in Affghanistan: Shere Ali, or Ameer the Second, has executed his brother, and another brother, having escaped the same fate, has fled, and is raising forces against the successor of Dost Mahomed.

CHINA.—A serious encounter has taken place in Hanchow Bay between her Majesty's gun boat Flamer, a Chinese steamer, and a number of piratical junks, which had seized the Rosina, belonging to Messrs. Dent & Co., during her voyage from Ningpo to Shanghae, and carried her off into the recesses of the bay.

JAPAN.—Advices from Kanagawa to the 10th of August state that the British fleet had sailed for the western shores to punish the Daimios. The *Moniteur* publishes details respecting the favourable impression produced on the Japanese by the chastisement inflicted by Admiral Jaures on the Japanese forts from which the Europeans were fired upon. The Tycoon had sent the pattern of a flag which belongs to him, with an intimation that his Government recognized the right of foreigners to seize any vessel which should not hoist this flag.

AUSTRALIA.—From Melbourne we learn that the ministerial crisis has passed over, and that Mr. M'Culloch has succeeded in forming an Administration. The Sydney Parliament was in session. The chief subject of discussion was the payment of the clergy by the state; a motion for placing on the estimates the sum of 25,000*l.* for the support of the clergy had been lost by a small majority. A motion for the payment of members was thrown out by the large majority of 39 to 12.

MADAGASCAR.—MM. Dupré and Lambert remain on board the French vessel Hermione, awaiting the ratification of the treaty with Madagascar. A price has been set upon their heads. The Hermione has not saluted the Malagasy flag. The Queen desires to modify the treaty, but M. Dupré insists that the arrangements concluded with King Radama shall remain intact. If the Queen refuses to execute the treaty, M. Laborde will strike his flag and retire to the Hermione.

UNITED STATES.—Accounts from Charleston to the 16th ult., state that Fort Sumter was still in the hands of the Confederates, who were reported to be repairing it. They had already strengthened Fort Moultrie, and continued to shell General Gilmore's position. General Gilmore was mounting heavy guns at Fort Wagner and Cumming's Point to bombard Charleston, but was proceeding slowly on account of the Confederate fire. The Monitors were unable to pass up to Charleston. A magazine in one of the batteries on James Island accidentally exploded on the 15th, causing the death of a lieutenant and five men. One of the 800-pounder Blakeley guns belonging to the Confederates burst on the 26th, owing to the piece being too much elevated in an attempt to make a long shot. General Beauregard, it is stated, unfavourably regards the use of these monster cannon, and has telegraphed to the authorities at Richmond not to send him any more of them. General Gilmore has tendered his resignation on account of a disagreement with Admiral Dahlgren. It is supposed the latter will be superseded. General Rosencrans has been defeated and compelled to retreat to Chattanooga, after two days' fighting, by General Bragg, who had been heavily reinforced by Lee, Beauregard, and Joe Johnstone. The following is an account of the first day's battle. On the morning of the 19th the Confederates attacked General Rosencrans near Chickamanga Creek. A fierce musketry engagement ensued, the woody nature of the ground preventing the use of artillery. Early in the engagement the Confederates captured five guns of the celebrated Loomas battery. Fierce fighting continued till 2 o'clock in the afternoon, when the Federal centre was pushed, broken, and retreated in disorder, pursued by the Confederates, who were, however, afterwards checked and driven back. The Confederates then drove General Davis's division back with heavy loss, capturing every gun of the 8th Indiana Regiment. Davis, however, succeeding in rallying his forces, and retook his guns. General Reynolds' division suffered severely, but maintained its position. Palmer's division lost two guns. Van Cleve's division lost ground, and did not regain its position. A general fight continued until long after dark. At its termination, both armies are said to have occupied the same ground as at the commencement. The Federals captured ten guns and lost seven. The following are the details of the second day's battle

fought on the 20th. The engagement commenced late in the morning; soon afterwards General Thomas, holding the Federal left, called for reinforcements, and at noon was compelled to retreat. The second line of reinforcements, with M'Cook's corps, which was on the right, and intended as a reserve, was sent to reinforce Thomas. Van Cleve, holding the front centre, and Crittenden's corps, were also ordered to the left, their places being filled by Davis and Sherridan, who had hardly formed in line before the Confederate line burst upon the Federal centre; this lasted twenty minutes, when Van Cleve, on Thomas's right, gave way. Sherridan and Davis's corps broke in disorder, borne down by Bishop Polk's corps. Negley's and Van Cleve's divisions rallied, and held their places, on the right and left of Thomas's corps. Davis and Sherridan late in the day rallied 8000 men, and joined Thomas, who, being cut off from the right, took up an independent position, where he was reinforced by two divisions, and maintained a stubborn fight till after dark, retiring at night to Rossville, where he received orders to join Rosencrans, who was concentrating at Chattanooga. It is reported that the Confederates engaged Thomas again on the 21st, and it was doubtful if he could reach Chattanooga that night. There were indications on the night of the 21st that the Confederates contemplated a demonstration on another part of Rosencrans' line. General Bragg's army is variously estimated at from 70,000 to 96,000 strong. The Federal loss in killed, wounded, and prisoners, is estimated at 12,000 men. 1300 Confederate prisoners have been sent to Nashville. Intercepted Southern despatches state that General Bragg captured 20 guns and 500 prisoners. General Burnside has withdrawn his resignation, and is moving to the assistance of General Rosencrans. General Lee has fallen back from the line of the Rappahannock towards Gordonsville. General Pleasanton's cavalry on the 13th crossed the Rappahannock and passed through Culpepper, driving the Confederate cavalry before him and capturing three guns and 100 prisoners at Culpepper. He afterwards advanced to the Rapidan, where he found General Lee's forces in a position to prevent his crossing. The Confederates attempted to recross the Rapidan on the 16th, but finding themselves opposed by a strong force of Federal cavalry and infantry, supported by artillery, fell back to their intrenchments. On the 18th the attempt was renewed, and resulted in the recrossing of the Confederates at Racoon Ford, and the capture of 150 men of the New York cavalry. General Meade has since moved forward the whole of his forces, and the two armies are now confronting each other on the Rapidan. During the whole of the 16th the Confederates were drawn up in line of battle between Orange Court House and the Rapidan, expecting an attack by General Meade. There are rumours that General Lee has gone to Richmond for an important purpose, and that in his absence the command of the army of the Rapidan has devolved upon General Joseph Johnstone. Peace propositions in the Virginia Legislature have been voted down by 38 to 1. President Lincoln has suspended the Habeas Corpus Act throughout the United States in all cases where the military, naval, or civil government officers hold persons under their command or custody as prisoners of war, spies, aiders or abettors of the enemy, enrolled, drafted, enlisted, or mustered officers, soldiers, or seamen in the Federal service, or deserters. This suspension will be continued in force during the existence of the rebellion or until President Lincoln sees fit to revoke it. Secretary Stanton has ordered that any attempt upon the part of the civil power to arrest a military officer for disregard of a writ of *habeas corpus* may be resisted by such officer by any and all means at his command. Judge Betts has decided that the President's proclamation not only prevents the further issue of writs of *habeas corpus*, but puts an end to all pending cases for which writs had been issued. The Democratic press is incensed at the suspension of the Habeas Corpus Act as specially uncalled for at present. The *Daily News* says all that remains of Republican Government is a memory and a name. Mr. Seward has issued a circular to the American Legations, stating that as prejudiced opinion still existed in France and England that the Federals cannot preserve the Union, prudent concern for foreign relations and the interests of peace and humanity at home demand that a new effort should be made to correct this prejudice. The insurgents are able to protract their resistance by means of foreign sympathy and aid. The expectation of more effective foreign assistance is now their chief resource. Mr. Seward reviews the military situation, and says that those who seek the renewal of commercial prosperity through peace in America will find the quickest and shortest way to gain that end is to withdraw their support and favour from the insurgents, and leave the adjustment of the controversy to the American people. The reported departure of iron-clads from England and the probability of the French recognition of the South, causes considerable excitement. Earl Russell's reply to the Emancipation Society is considered unsatisfactory, and the ill-feeling against England continues. The *New York Tribune* says there is unanimity in the Federal fleet in favour of war with England. The New York municipality has tendered a public reception to the officers of a Russian frigate, being the first ever visiting New York, and as an expression of the appreciation of Russian steadfastness and fidelity to international obligations as contradistinguished from the course which certain other European Powers have thought fit to pursue.

CANADA.—A vote of want of confidence in the Government has been defeated in the Canadian Parliament by a majority of 2. The Canadian Parliament has voted a sum of 400,000 dollars for the organisation of 10,000 fresh militia. The Militia Bill had previously passed its second reading, on a division, by a majority of 89 to 7. The Volunteer Bill had also passed its second reading by a majority of 92 to 13.

MEXICO.—Advices from Mexico announce the increasing dissolution of the Juarez party. The Indian population had unanimously pronounced in favour of the Archduke Maximilian. The only foreign Minister who had quitted Mexico was the representative of Peru, who had been recalled. There is a probability that San Luis Potosi will shortly pronounce in favour of the French intervention. A rural guard has been organised, which successfully resists the guerilla bands.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $93\frac{1}{2}$ to $\frac{1}{4}$ for Money, and $93\frac{1}{2}$ for Account; Three per Cents. Reduced, $91\frac{1}{8}$; New Three per Cents., $91\frac{7}{8}$ to 92; Red Sea Telegraph, 21; India Stock, 224 to $225\frac{1}{2}$; Ditto Five per Cent. Stock, $108\frac{5}{8}$ to $\frac{3}{4}$; Ditto Bonds, 20*s.* to 21*s.* pm.; Four per Cent. Enfaced Rupee Paper, $98\frac{1}{2}$; Ditto Five and a Half per Cent., $117\frac{1}{4}$ to 117; Exchequer Bills, 3*s.* pm. to par.—FOREIGN: Greek, for Acct., $37\frac{7}{8}$ to $37\frac{3}{4}$; Ditto Coupons, for Acct., $18\frac{3}{8}$ to $\frac{1}{8}$; French Three per Cent. Rentes, 67fr.; Italian, $72\frac{3}{4}$ to $\frac{1}{2}$; Mexican, for Acct., $46\frac{3}{4}$ to $\frac{1}{4}$; New Granada, $16\frac{3}{4}$; Ditto Two per Cents., 33 to $\frac{1}{2}$; Portuguese, 1853, $49\frac{3}{8}$; Ditto, 1856, '57, '59, '60, and 1862, $48\frac{7}{8}$ to $49\frac{1}{8}$; Russian, 1862, $93\frac{1}{2}$; Spanish Passive, for Acct., $36\frac{1}{8}$ to $35\frac{3}{4}$; Ditto Certificates, for Acct., $14\frac{1}{8}$ to $\frac{3}{8}$; Turkish, 1858, 100*l.* Bonds, $73\frac{1}{4}$; Ditto, 1862, $70\frac{3}{4}$; Ditto for Acct., $71\frac{1}{2}$ to 71; Ditto, 1863, 2 dis.; Venezuela, 1862, for Acct., $62\frac{3}{8}$ to 62.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued.. .. .. | £29,229,340 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,579,340 |
| | | Silver Bullion .. .. .. | — |
| | £29,229,340 | | £29,229,340 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,111,384 |
| Rest .. .. .. .. .. | 3,728,595 | Other Securities .. .. | 22,513,119 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 9,270,486 | Notes .. .. .. .. .. | 7,711,440 |
| Other Deposits .. .. .. | 13,717,460 | Gold and Silver Coin .. | 698,545 |
| Seven days and other bills | 794,847 | | |
| | £42,064,388 | | £42,064,388 |

Oct. 1, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *Sept.* 25.—BANKRUPTS.—J. ADAM, Leeds, Publican—T. BIRD, Willenhall, Staffordshire, Locksmith—G. BROWN, Scarborough, Jet Worker—G. L. BURNE (sued and detained as M. BURNE), Shaftesbury Terrace, Pimlico—B. BAKER, Totteridge Green, Hertfordshire—E. BRACHER, Addison Terrace, Notting Hill, Licensed Victualler—R. BAILEY, Dawley, Shropshire, Pit Manager—E. BATEMAN, Canterbury, Auctioneer—T. BRANTON, Preston, Yorkshire, Pig Jobber—J. BLACK, Loughborough, Leicestershire, Victualler—J. BATES, Brighton, Seedsman—J. B. CURTIS, Wellingborough, Northamptonshire, Shoe Manufacturer—J. COLES, Leamington Priors, Warwickshire, Joiner—J. COHEN, Jermyn Street, St. James's, late Trainer of Race Horses—J. B. CLARKE, Plumstead, Commander R.N.—J. CAREW, Dorset Place, Dorset Square, late Railway Clerk—H. DODDS, Elsdon, Northumberland, Grocer—T. DAVIS, Balsall Heath, Worcestershire, late Licensed Victualler—G. FISHER, Leeds, Journeyman Butcher—J. FEISTHAMEL, late of Frith Street, Soho, Corn Merchant—J. FREEMAN, King's Cliffe, Northamptonshire, Druggist—C. FINOLASS, Euston Road, Tavern Keeper—W. GRIFFITH, Llanllechid, Carnarvonshire, Quarryman—T. GRIFFITH, Leadenhall Street, City, Gentleman—W. HARDY, Southery, Norfolk, Innkeeper—J. HARRIOTT, Edgware Road, Licensed Victualler—T. J. HOE, Bishopwearmouth, Haberdasher—G. HUNTON, Stockton-on-Tees, Durham, Ale and Porter Merchant—J. HEDLEY, Middlesborough, Yorkshire, Late General Dealer—H. R. HAYWARD, Leeds, late Innkeeper—S. HARDING, Mucclestone, Staffordshire, Cordwainer—J. HICKMAN, Tranmere, Cheshire, Builder—H. R. HOLDER, Sheffield, Surgeon's Assistant—H. HUGHES, Anstey, Leicestershire, Bootmaker—W. HANDLEY, Great Malvern, Builder—E. LINLEY, Leeds, General Dealer—J. JACKSON, Leeds, Butcher—H. JANNINGS, Ann's Terrace, Hackney, Commission Agent—W. JEFFERY, Ann Street, Pentonville Hill, Smith—J. AVERLEY LATHBURY, Manchester, Linen Merchant—JOHN LESTER, Sheepshead, Leicestershire, Bag Hosier—W. LUNN, Walsall, Innkeeper—H. LLOYD, Jun., Jackfield, Shropshire, Innkeeper—W. C. LUCY, Lucas Road, Kennington Park, Oil and Colourman—M. S. MYERS, Delamere Terrace, Paddington, Editor—J. MUMBY, jun., Lincoln, Journeyman Wheelwright—W. MALTBY, Ripley, Derbyshire, Joiner—W. M'ALLESTER, Rusholme, Lancashire, Book-keeper—R. MONTI, Bayham Terrace, Camden Town, Sculptor—E. MADLE, E. H. MADLE, and W. J. MADLE, Frith Street, Soho Square, Bow and Arrow Manufacturers—O. MORRIS, Aberffraw, Anglesey, Draper—J. C. NAPPIER, Manchester, Calico Printer—S. NICHOLLS, Southgate Road, Islington, Architect—M. A. ONION, Falkner's Alley, Cow Cross Street, Sempstress—C. W. W. PENRUDDOCKE, Cold Harbour Lane, Camberwell—E. POTTS, Levenshulme, Lancashire, Late Beerseller—W. PLASTOW, Great Coggeshall, Essex, Market Gardener—E. PERKINS, Manchester, Hosier—J. PARKINS, Leicester, Journeyman Currier—L. L. PACKWOOD, Hereford, Grocer—W. REES, Newton Abbott, Devonshire, Innkeeper—R. ROBERTS, South Shields, General Dealer—J. RANDOLPH, Victoria Gardens, Notting Hill, Clerk to an Importer of Works of Art—R. RICHES, Marylebone Place, Marylebone, Newsvendor—W. ROBERTS, Llanover Upper, Monmouthshire, Publican—H. REDPATH, St. George's Terrace, Kilburn, Master Mariner—J. SMITH, Leigh, Lancashire, Greengrocer—H. SIMPSON, Richmond Street, Haymarket, Tailor—T. W. SHUTTLEWORTH, Little Bolton, Lancashire, Butcher—C. SPRAWSON, Sheffield, Gimlet Maker—H. SMITH, Liverpool, Butcher—C. SHIPWAY, New Barnet, Hertfordshire, Carpenter—R. SARGANT, Liverpool, Manager of a Spirit Vault—J. STARKEY, New North Road, Hoxton, Journeyman Carpenter—J. SHOTTON, Burton-on-Trent, Staffordshire, Grocer—J. SYMONS, Bridgwater, Somersetshire, Brickyard Foreman—G. SIMONS, Leicester, Boot Manufacturer—J. TURNER, Cloth Fair, City, Packing Case Maker—W. L. THOMAS, Hove, Sussex, Engineer—E. TOWNEND, Bradford, Woolstapler—C. F. WHITE, Durham, Grocer—W. WILSON, jun., late of Erbistock, Denbighshire, Farmer—C. WHEELER, Princes Street, Bayswater, Boarding House Keeper.

SCOTCH SEQUESTRATIONS.—J. M. GRANGER, Jedburgh, Roxburghshire, Innkeeper—T. WILSON, Wormit, Fifeshire, Farmer.

TUESDAY: *Sept.* 29.—BANKRUPTS.—W. ALBERY, Petersfield, Hampshire, Hairdresser—H. BAKE, late of Manchester, Surveyor—J. BATES, Salford, Lancashire, Boiler Maker—E. BOULDING, King's Lynn, Norfolk, Chemist—T. BREWSTER, Kidderminster, Roller in Iron Works—H. BINNELL, Birmingham, Tailor—H. BOOTHROYD, Southport, Lancashire, late Cabinet Maker—J. BURROWS, Chesterfield, Derbyshire, Grocer—E. BRADBURY, Hulme, Lancashire, Funeral Furnisher—W. BYROM (sued as W. BIRON, late of Blackburn, Lancashire, Publican—J. BECK, Carlton in Coverdale, Yorkshire, Cattle Dealer—W. G. CLASE, Plymouth, Private Tutor—E. COOK, Lincoln, Beerseller—J. COX, Southampton, Gun Maker—B. G. DRURY, Birmingham, Lodging House Keeper—G. V. DAVIES, Cambridge Terrace, Chelsea, Commercial Traveller—G. EDWARDS, Cwmburla, Glamorganshire, Fireman—J. ELDRIDGE, late of Bond St., Vauxhall, Carpenter—E. FORBES, Totton, Hampshire, Widow—E. GRATTON, Bagillt, Flintshire, Draper—J. GRAYSON, Sheffield, Spring Knife Manufacturer—T. GARBOTT, Chorley, Lancashire, Warper—W. GRIFFITH, Llanllechid, Carnarvonshire, Quarryman—A. HUDDLESTON, Stanningley, Yorkshire, Woollen Manufacturer—J. HUNT, Broadway, Hammersmith, Fishmonger—T. M. HARRISON, Thirsk, Yorkshire, Veterinary Surgeon—C. HALLIDAY, Bridgewater, Somersetshire, Station Master—J. H. HEMBERY, Staple Inn, Solicitor—W. B. HEAD, Walton-on-the-Naze, Essex, Innkeeper—E. HODGKISS, Little Hulton, Lancashire, Coal Dealer—W. HARRIS, Dudley, Worcestershire, Licensed Victualler—J. HARRIS, Great Grimsby, Lincolnshire, Silversmith—W. HUMPHRIS, King Street, High Holborn, Ironmonger—ROBERT HOBKIRK, Chester-le-Street, Durham, Painter—WM. HENRY HULL, late of Hulme, Lancashire, Worsted Yarn Dealer—R. JONES, Ysgoldy, Carnarvonshire, Quarryman—J. JONES, Holywell, Flintshire, Book-keeper—R. M. JONES, Merthyr Tydfil, Glamorganshire, Draper—J. KERSHAW, late of Rochdale, Lancashire, Shopkeeper—D. LAZENBY, Bradford, Yorkshire, Labourer—F. G. B. LLOYD, Kennington Park, Comedian—H. MOORE, Nottingham, Beerhouse Keeper—W. N. PYCROFT, Terrington Saint Clement, Norfolk, Butcher—A. PARSONS, Kiln Common, Prestwood, Buckinghamshire, Farmer—T. C. ROBERTSON, Welbourn, Lincolnshire, Tailor—T. ROCKCLIFFE, Summerford Grove, West Hackney, late Brewer—G. F. ROBINSON, Manchester, Cotton Waste Dealer—J. RICHARDSON, Great Union Street, Borough Road, Lithographic Printer—H. ROBERTS, Portsea, Hampshire, Clerk to a Wine and Spirit Merchant—WILLIAM RANFORD, Worcester, Railway Under Guard—CHARLES WILLIAM SWAISLAND, Red Hill, Reigate, late Copper Smelter—WOLFF SIMON, New Basinghall Street, Wholesale Cap Maker—JOHN SEYMOUR, Rochdale, Lancashire, Journeyman Brickmaker—E. STONE, late of Hedge Grove, Hackney, Timber Dealer—G. W. SETRA (sued as G. SUTER), late of Devonshire Terrace, Kingsland, Bag Maker—F. STONG, Thomas Street, Ratcliffe, Journeyman Boat Builder—T. M. TAYLOR, Canterbury, Boot and Shoe Maker—T. TARRY, Kingsthorpe, Northamptonshire, Shoe Manufacturer—D. THOMAS and A. THOMAS, Llandilofawr, Carmarthenshire, Lodging house Keepers—J. W. WILSON, Barking Road, Essex, Baker—E. WOOLF, Little Tower Street Chambers, City, Wine Merchant—J. WHITE, late of Clarendon Place, Clarendon Road, Notting Hill, Cab Driver—G. WATERFIELD, Kingsthorpe, Northamptonshire, Beerhouse Keeper—J. WILSON, late of Osmondthorp, Yorkshire, Cattle Dealer—T. WILKINSON, Millholme, Embsay, Yorkshire, Cotton Spinner—J. WHITE, Lime Terrace, Hackney, Wine Merchant's Clerk—W. WHITAKER, Morley, Yorkshire, Plumber.

SCOTCH SEQUESTRATIONS.—G. SOMMERVILLE, Edinburgh, Jeweller—T. SCOTT, Bridgend, Argyllshire, General Merchant.

## Metropolis and its Vicinity.

ELECTION OF LORD MAYOR.—Tuesday being Michaelmas day, the liverymen of the City assembled at Guildhall, after attending Divine service, for the purpose of electing a Lord Mayor for the year ensuing. The senior aldermen who had not already passed the chair were Alderman William Lawrence and Alderman Hale, who were accordingly put in nomination. The Court of Aldermen selected Alderman William Lawrence, who was consequently declared to be duly elected Lord Mayor for the next year. The thanks of the Corporation were then voted to Alderman Rose, the retiring Chief Magistrate, for his conduct in defending not merely the constitutional rights of the City, but those of the kingdom, both in and out of Parliament, coupled with the expression of their regret that "his lordship had not received that full meed of honour which his conduct so justly merited."

THE NEW SHERIFFS.—On Monday Mr. Hilary Nicholas Nissen, citizen and stationer, and Mr. Thomas Cave, citizen and spectaclemaker, were formally sworn in Guildhall as Sheriffs of London and Middlesex for the ensuing year, in the presence of the Lord Mayor, the members of the Court of Aldermen, and the principal officers of the Corporation.

THE VACANT ALDERMANIC GOWN.—Mr. Andrew Lusk has formally announced himself a candidate for the aldermanic gown of Aldgate Ward, vacant by the death of Mr. John Humphery.

THE GOVERNORSHIP OF THE IRISH SOCIETY.—It is understood that the present Lord Mayor will succeed to the post of Governor of the Irish Society, vacant by the death of Alderman Humphery, it being generally conferred on the Lord Mayor in whose term of office it is vacated. The emoluments are reckoned at 1000*l.* a year.

CARDINAL WISEMAN has been unable to leave his bed since the 23d ult. As soon as he can be moved it will be necessary for him to leave town for a change of air.

THE NORTHERN EMBANKMENT OF THE THAMES.—At a meeting of the Metropolitan Board of Works on Friday, 13 tenders for the embankment of the Thames on the north side were submitted by the following contractors:—Thomas Edward Pearson, 534,248*l.*; George Myers & Son, 533,000*l.*; Thomas Brassey & Co., 586,000*l.*; George Baker, 495,600*l.*; William M'Cormack & Son, 633,727*l.*; Anthony Ward, Ritson & Co., 536,827*l.*; Henry Lee & Son, 525,000*l.*; William Lavers, 649,660*l.*; John Ayres & Son, 617,396*l.*; William Moxon & Co., 510,076*l.*; George Furness, 520,000*l.*; Samuel Ridley, 495,000*l.*, and George Wythe, 680,000*l.* The Board then resolved itself into a committee, with closed doors, and on the readmission of the public, the Clerk read the recommendation of the committee, that the tender of Samuel Ridley, amounting to 495,000*l.*, be accepted. The recommendation was agreed to unanimously, and the tender of Mr. Ridley was accepted, subject to the usual inquiries.

THE NEW GOVERNMENT OFFICES.—The contract for the new India and Foreign Offices to be erected by Mr. Scott, the architect, has been given to Messrs. Smith & Taylor, whose tender, 195,573*l.*, being the lowest, was accepted. The other tenders, making 11 in all, were Messrs. Little, 209,615*l.*; Messrs. Higgs, 206,269*l.*; Messrs. Rigby, 206,109*l.*; Messrs. Piper & Wheeler, 200,385*l.*; Messrs. Myers & Son, 198,560*l.*; Messrs. Hollard & Hannen, 197,487*l.*; Messrs. Cubitt, 196,750*l.*; Messrs. Kirk, 196,500*l.*; Messrs. Lucas, 196,270*l.*; and Messrs. Baker, 195,800*l.* The foundations for the entire building in 14 ft. of concrete are all finished, and that portion of the structure intended to be appropriated for the use of the India Office has just been commenced.

THE GREAT EASTERN STEAM-SHIP.—On Monday the directors of the Great Ship Company issued to the proprietors a report relative to the general and financial

position of the company. It stated that circumstances over which they had no control compelled them to call the proprietors together, in order to give them an approximate statement of the financial affairs of the company, in order that immediate steps might be taken either to relieve the undertaking from its embarrassments or to wind up its affairs. The report, after alluding in detail to the expensive repairs required by the vessel consequent on her last two or three voyages, stated that the rates in passengers and freights had been seriously affected by the competition that had existed throughout the season. There had been a considerable falling off in the number of passengers, and the earnings of the several voyages made this season, compared with what the receipts would have been if the rates had been as in August last year. The figures showed that for the three months of May, June, and August, 1863, as compared with 1862, the falling off in the receipts had been 19,915*l*., the receipts in 1862 being 57,223*l*., and in 1863 37,308*l*. On the last voyage out and home the vessel had sustained damage, and under all the circumstances the directors had considered it not desirable to send her out again this year, or to enter into further engagements. The financial position of the company had been crippled, and the cost of repairs rendered it imperative that some steps should be taken. The working account showed an excess of disbursements over receipts of 18,979*l*. The company's affairs were critical, and steps must be taken either to raise additional capital or dissolve the company. The ship could not be retained in the company's possession unless 30,000*l*. were raised to meet existing debts, and whatever the future employment of the vessel might be, further funds would be required for needful repairs and efficient maintenance of the vessel. A meeting of the proprietors was held yesterday to consider this report, and after a long discussion a committee was appointed to inquire into the affairs of the Company, and report to an adjourned meeting on the 12th inst.

ACCIDENT AT ST. PAUL'S PIER. — The large iron barge, or dummy, at St. Paul's Pier was sunk on Monday morning under rather extraordinary circumstances. The tide on Sunday night ebbed out unusually low. The iron barge fell with the tide, and one end of it got so fixed among the surrounding piles that it did not lift when the tide flowed. The other end of the barge rose with the tide, which soon made a clean sweep of its decks, clearing away money-taking boxes and waiting-room. The barge itself filled and went down nearly in its ordinary berth. The accident has for a time entirely stopped all traffic at St. Paul's Pier. The portion of the wreck which was carried away floated with the tide to Hungerford Pier.

THE PUBLIC HEALTH. — The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, September 26, were 1233. The average number in the 10 corresponding weeks of the years 1853-62, corrected for the increase of population, was 1240. The present return is therefore seven below the average. During the week the births of 948 boys and 853 girls, in all 1801 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1880.

## Provincial.

BRIGHTON.—The diplomas and honorary certificates awarded by the University of Oxford to the successful candidates at the local Examination held in this town in June last were publicly distributed at the Pavilion on the 24th ult., by the Bishop of Oxford. In the course of the proceedings his lordship spoke as follows:—

"I believe this to be an excellent movement to all parties concerned; it is excellent to the Universities in many ways. In the first place, if those ancient seats of learning are to retain—as I trust they will retain—the highest places in the affections of Englishmen, it must be by their proving that they are of utility to England. Ancient names and ancient achievements, and ancient possessions now in this present day will not avail without present services, and those services good and hearty; and therefore when I see the Universities coming forth and in this way identifying themselves with the education of the great middle classes, of those people who are the distinctive feature of our land, who are the strength, morally, intellectually, and commercially, of this land—the great middle classes of the English people—I most unfeignedly rejoice on their behalf, first of all, because in this way they may make those old institutions sound. We in this diocess have had lately a great misfortune in the fall of our cathedral's noble spire, and this accident appears to have alarmed our neighbours, for when I was at Salisbury the other day I found men engaged in moving stone by stone the lowest stones of that wonderful tower and spire, and pouring in quantities of concrete, and then replacing the stones they had taken out, in order that that tower may still continue pointing heavenward in its beauty to coming generations. Well, what is being done there,—putting concrete under the old tower, I think is what the Universities are doing when they extend in this way their influence from the pupils within their walls to all the middle class and to other schools throughout the country, doing more than buttressing up the old walls—pouring in the moral concrete which will make the old walls stand for ages yet to come. I think these examinations are also useful things for the boys, for they must profit by them. Every one of us has in his constitution, more or less, a love of ease, a love of idleness, and of laziness. This works differently with different people, but it comes to the same point at last; it is a kind of attempt to draw the shoulder from the collar when the collar pinches, and it becomes up-hill work. Some boys draw the shoulder back just when it comes to the point that will make their characters better and brighter. They are fond of doing what they can do easily, but they are thrown back if any difficulty arises. Now, these examinations they cannot hurry over in a careless manner—they must be done well; they make them laborious; they make them active; they lead them to honest hard work, to meet the difficulty and to overcome the difficulty; they remove them from the short means of seeming to know, and lead them to find the longer means of knowing. That is the blessing which they bring with them. An examination does this—it brings out all the weak points. A boy who fails in such an examination has got probably a lesson that will last him for life. He will know it is of no use putting in bad stuff, and so the prospects of the coming examination, and the result of the examination, have a tendency to perpetuate among the boys habits of duty, habits of honest hard work, and by these means a boy, instead of being contented with doing a something, will endeavour to do that something well. It used to be a thought with me at school, as I have no doubt it has been with many boys, 'Oh, if I could but turn the tables on the masters for a time, to make them go through all this.' It is almost one of the uses of these examinations to do a little of this; I can whisper to a boy who has such thoughts (as I had) that these examinations are examinations of the masters. It was all very well when the master examined his own school, giving to Master Jones a certificate of his being a most excellent boy; but then he gave a similar certificate to Master Smith, who must have been a little better than Jones, and another to Master Robinson, who, in turn, must have been better than either Jones or Smith. This was all very well, it was very pleasing to the parents, who would say, 'See how my boy has distinguished himself; he has got this certificate.' Ah! but perhaps every boy in the school has got a certificate of a similar character, and so there is no distinction about it. But when, instead of this sort of thing, boys come to be examined, not by a friendly master, who gives these certificates out of kindness and as a means of keeping up the credit of his establishment—when they come to be examined with the boys of other academies, I should like to know who are then being examined? The master more than the boys. If I want to examine a Grape Vine, I do not go and poke about the barren roots, but look at the bunches of fruit it has produced, and if I find the fruit good I say the Vine is a good one, and, in like manner, if I find the fruit of a school in this way good, I say the master is good; and therefore it is that the masters, by means of these examinations, carry out the thoughts which you and I have had; they get their turn, the turn which your hearts have longed to give them. Nothing has a more direct tendency to do good to the masters of schools than such examinations as these. You boys know the trouble of learning, but you do not know the many times your master's heart aches. It aches when he sees a boy who could do almost anything, and who cannot, who will not, stir himself up to do anything at all. Often and often in the night season his heart is heavy, because he cannot get into his boys what he wishes to get into them, and so it is by degrees that vexation and disappointment will get into the master, and the hitherto elastic mind of the schoolmaster will form habits of despondency—of despondency but another name for idleness; and so the school sinks and becomes worthless. It is a great help for a master to know that his work is going to be examined by competent examiners. When the time of the examination comes on he is spurred on to new efforts, for he knows his work is going to be examined thoroughly, and he must put out renewed energy in endeavouring to make his boys the most efficient. Thus it is that these examinations are of benefit to the Universities, are of benefit to the boys, and are of benefit to the masters. They are truly most excellent institutions. Besides all this, they bring all to one common organisation. I am not speaking in favour of a system of centralisation; centralisation is often a great evil, but organisation is of great service. The organisation in these examinations has a tendency towards teaching all schools what they ought to teach, they present one common standard of instruction, which I conceive to be of great benefit to the schools, as well as to the masters, the boys, and the Universities. And so it is a great pleasure to me, as, through the dispensation of Providence, I am, by adoption, a Sussex man, to know that in these examinations Sussex has been once at the top of the tree and has been three times second in the order of merit. But yet you must let me have a Yorkshireman's feelings when you talk about Sheffield. I am a Yorkshireman, bred from generations of Yorkshiremen, and can therefore sympathise with those sharp, struggling, hard-working, masterly Yorkshiremen. And this is one of those blessed strifes in which there is no envying; each one seeks to rise, but he seeks to rise in company with his fellows; each one seeks to rise by a common standard, lifted higher and higher by the contest of intellectual capability, founded on a basis of real, of intellectual, and of religious belief. And so there is in the ambition engendered by these examinations no harm, if it is kept within legitimate bounds; they are struggles between schools, and between the boys in each school. To say there is harm in such competition would be to charge Providence with evil, for the whole world is a struggle for success, and while men thus struggle heartily, with kindness, seeking not to pull others down, but to pull themselves up, I believe the light of God's approval falls on such honest endeavours. I, for one, feel a sincere pleasure in being allowed to take a humble part in the proceedings of such a night as this. One of your hon. members has said he believes there is no greater evil to education than cramming. In this I fully agree with him. But such examinations as these are a sort of great anti-cramming plan. Many of you, my young friends, will at once think of the word that rhymes with cram; every boy who obtains success by such a means is nothing more than a sham. Cramming is putting into the mind what it cannot digest, making it preternaturally fat, poisoning it, or killing it in some other way. I never knew good come of it, but I have seen many minds fatally injured by it. That which you can take into your minds and make part of yourselves will be so much better for you, but that which you only take in to reproduce, whole and undigested, will neither do you nor any one else the least good. The real good of these examinations is the doing away with cramming; like taking a crammed fowl's crop, giving it a good squeeze, which detects the crammer and relieves the fowl. They may have a good squeeze at the time, but they will feel a good deal better afterwards, and it will be a great lesson to crammers, who will find all their cramming materials exposed and of no avail. I rejoice on this ground also that I should have been invited here to-night, that you have suffered me to hand these young fellows their certificates and prizes, and have thus permitted me to take a part in your proceedings, and to add my humble testimony to the value of this great movement."

BURNLEY.—Mr. Peter Ormerod, a gentleman, of Rosegrove, near this town, was recently fined for carrying on an illicit distillery. A complete plant used in distillation was found on his premises, for which he had rendered himself liable to an aggregate penalty of 1750*l*., but the magistrates only mulcted him in a sum of 300*l*.

EAST DEREHAM.—A shocking murder has been committed at Elsing, near this town, the victim being an infirm old woman, partially blind, lame, and deaf, while the perpetrator of the crime was her husband, an able-bodied man in the full vigour of life. The woman's name is Charlotte Naylor, her husband being James Naylor, an agricultural labourer, in full employment. There was a difference of about 30 years in their ages, the woman being 81 and her husband 51 years of age. The cottage in which they lived is situated in a row, and the adjacent dwellings on each side are occupied by two brothers named Isbell. During Sunday evening and Monday morning Naylor was heard by these brothers making a great noise, ejaculating "Oh, my heavenly Father," "My blessed Father," "My blessed Jesus," &c. He continued to conduct himself in a very excited manner, but on being remonstrated with by a farmer in the parish, he desisted. During the remainder of Monday afternoon, he continued quiet; but when the Isbells retired to rest they heard Mrs. Naylor asking her husband if he was going to bed, and shortly afterwards a light was seen in their bedroom, and all seemed quiet for the night. After the lapse of about an hour, however, the Isbells were awoke by strange noises proceeding from Naylor's bedroom, and immediately afterwards they heard a loud shriek, succeeded by a heavy rumbling noise, as if something were rolled or dragged downstairs, after which there was another shriek and then a dead silence. In a short time they heard the tread of heavy footsteps, and Naylor talking to himself and uttering wild ejaculations, which he repeated during the entire night. The suspicions of the neighbours being excited, some of them forced an entrance into the house in the morning, when a horrid spectacle presented itself. At the foot of the stairs lay the poor old woman in her night-dress, the body partially doubled up, and the head and arms bearing marks of the most cruel violence; while one leg was broken just above the ankle, and there was a pool of blood where the body lay. Upon further examination it was discovered that across the bedroom and down the stairs there was a blood track, clearly exhibiting the course in which the husband had dragged his victim. On a *post-mortem* examination, two ribs were found broken on one side and six on the other, while severe contused wounds were apparent on the head and temple. With regard to the motive for the crime, it appears that the old woman had secreted a sum of 2*l*. 17*s*. 6*d*., with which she intended to pay her rent, and that she had a dispute and struggle with her husband about it. When the prisoner was apprehended, he ascribed the dreadful deed to a desire "to obey his heavenly Father," and it is considered by some that he is suffering from religious monomania. The jury at the inquest returned a verdict of Wilful Murder against him, and he has been committed for trial at the assizes.

GUILDFORD.—A riotous disturbance, resulting in serious injury to upwards of 30 persons, took place on Monday night at St. Catherine's, near this town, on the Portsmouth road. It appears that at the annual fair on the 4th of October, by virtue of the old charter, the landlords of the village "publics" are allowed to draw beer even during prohibited hours. The Sunday before the fair is known as "Tap-up Sunday," and a similar privilege is accorded. The village usually turns out in great numbers, and some licence is taken by them in throwing chesnuts at passers-by, which generally creates a good deal of merriment among the rustics, and has been good-naturedly borne by those who have been thus dealt with. This year the larking has been carried on in a most inordinate manner. On Sunday last, being "Tap-up Sunday," upwards of 400 young fellows, many of them low characters from the town, assembled on either side of the road in formidable phalanx; and when any peaceably inclined passenger approached they allowed him to get into their midst, when they closed in and inflicted both insult and injury. Mr. Piggott, dyer, and his wife, were driving past the hill and were seriously hurt, Mrs. Piggott having her bonnet torn from her head. Mr. Bailey, of the County Magistrates' Office, and his daughter were compelled to go through a very heavy shower of missiles; and the young lady is still suffering from the effects of her fright. Mr. Ellis, of Farncombe, near Godalming, and two other gentlemen in company with him, were roughly handled; one having received some bad wounds on his leg from kicks, and the others having their hats completely smashed and their coats torn to shreds. Miss Chartres, of Brighton, Miss Smythe, and several other ladies, were rudely assaulted, one of them having her eye cut nearly out by a stone, and the others either losing their shawls or other articles of wearing apparel. Towards evening several members of the county constabulary made their appearance on the scene; but this was only the signal for a still more riotous demonstration, and it was considered advisable, even for the public safety, to leave the mob to their own course, and to place the police at convenient distances for the purpose of cautioning passengers against going on the turnpike road, and inducing them to take the path by the river bank, though more circuitous. Several of them, however, were pursued, and more than one was forcibly pushed into the water. At nightfall nothing could restrain the fury of the crowd. Mr. Shrubb, a resident on the Portsmouth Road, on appealing to the better sense of the mob, was assailed with a shower of stones. The rioters afterwards proceeded to his residence, pulled up the whole of the palings of his property, and conveyed it to the top of St. Catherine's, whence they went to the cutting between the two tunnels on the South-Western line of railway, where they carried off all the wooden railings they could get at, and afterwards lighted a huge bonfire which was seen at a great distance on the surrounding hills of the county. Much other injury was done to both person and

property, which has not as yet been officially reported. The county constabulary have since taken some of the ringleaders of the disturbance into custody.

HULL.—A mail bag containing cheques to a large amount was stolen last week from the post office at South Cave. The thief was sharp enough to send one of the cheques to the Hull branch for payment before the news of the loss reached this town. But the clerk suspecting something wrong, detained the boy who presented it, and ascertained that he had been sent to get it cashed by a lady who was waiting outside. With the assistance of a detective they secured the lady, who stated that her name was Mrs. Cooke, that she lived with her aunt in this town, and that some one in the train from Hessel had given her the cheques. She was taken before the magistrate and remanded. The missing cheques have since been received at the Beverley branch of the Yorkshire Banking Company, their destination when posted in the letter at South Cave.—On Friday Mary Ann Richardson, a little girl, 14 years old, was committed for trial on the charge of attempting to poison five girls at Messrs. Howard & Co.'s starch manufactory, in Scott Street. It appeared that the prisoner and the girls were employed at the manufactory as packers, and that it was customary for each to contribute her mite to purchase coffee for their dinners. The prisoner had been charged by some of the other girls with stealing a penny, and was so enraged at the accusation that she threatened to serve them out. She afterwards showed a companion some white poison, and after the girls had drank their coffee five of them became so ill that for some time two of them were not expected to recover.

MANCHESTER.—At the weekly meeting of the Central Executive Committee on Monday, the Hon. Secretary reported that the balance in the bank was 287,915*l*. 17*s*. 1*d*., and that 383*l*. 17*s*. 10*d*. had been received during the week. Mr. Commissioner Farnall reported that on the 19th inst. there was a decrease of 2115 in the number of persons receiving parochial relief in 27 Unions in the cotton districts as compared with the previous week. Grants were made to various places to the extent of 6,390*l*.

NEWTON ABBOT.—On Monday, two men named James Stevens, a mulatto, and John Burke, a prize-fighter, and a native of Bristol, were charged before the magistrates in this town with the murder of John Mears, a woolcomber of Ashburton, about 31 years of age. The deceased was found on the 20th of August in a large pond near the turnpike-road at Teignbridge, and from the marks found on his face and head, it was quite clear he had come to his death by foul means. At the inquest the jury returned a verdict that deceased had been murdered, but as no one was then suspected of the murder, the matter was represented to the Secretary of State, who has since offered a reward of 50*l*. for the conviction of the guilty party. On the information of a lad named Pike, a sweep, of Newton, the two prisoners were apprehended at Exeter on charge of committing the murder. The lad declared that he saw the murder committed, that the prisoner Stevens struck him lifeless by a blow behind the ear, and that the other prisoner afterwards struck him with great violence with a ball attached to a string, and that they then threw the body over the bridge. He further stated that one of the men gave him a penny not to tell. A brass ball with a string attached to it has since been found near the spot, and both prisoners have been committed for trial at the assizes.

REIGATE.—The Parliamentary borough of Reigate was by Royal charter bearing date the 11th ult. constituted a municipal corporation under the provisions and with the powers of the Municipal Corporations Act. The first elections are to take place in December next.

SOUTHAMPTON.—On Wednesday night, the 16th ult., Cardinal Wiseman delivered a lecture on "Self-culture," as the "inaugural" of the 34th session of the Polytechnic Institution of this town. The hall was crowded, and the lecture was received with cordiality and attention.

WEST BROMWICH.—On Tuesday the 22d ult., a shocking tragedy was perpetrated in this town. A man named Holden, employed at some ironworks, murdered his two children. It appears that he had requested his wife to go to his father's house to procure some potatos. Noticing something strange in his demeanour, she said she would take the children with her, to which he objected. Soon after she quitted the premises screams were heard by the neighbours, and some of them, on entering the house, found the children with their heads nearly severed from their bodies, the deed having been perpetrated with a carving-knife. One child was 18 months, the other four years old. The murderer has been of temperate habits, and lived on affectionate terms with his wife and children. It is supposed that he was seized with a sudden paroxysm of madness, having been for the last month dull and desponding, and one or two members of his family having been in an asylum. At the inquest on Wednesday the jury returned a verdict of Wilful Murder against him, and he was committed for trial at the Assizes.

WOLVERHAMPTON.—On Tuesday morning Mr. Coxwell and Mr. Glaisher made a balloon ascent from this town on behalf of the balloon committee of the British Association. The ascent was to have been made on the previous afternoon, but the wind was so stormy that Mr. Coxwell declared that it would have been dangerous to make the attempt. The balloon moved off very slowly in a north-easterly direction, and after remaining in sight about half an hour was seen rising fast in a southerly direction. A good deal of ballast was taken up, so that the balloon might be kept for some time from ascending too rapidly, in order that the cordage, which during the night had become saturated with moisture, should be dried in the sun before the machine attained an altitude at which, by freezing, the lines and cordage would become like so much rod iron. After attaining a height of three miles, with the thermometer at zero, the balloon descended at half-past 10, six miles from Sleaford. The descent was attended with some danger, and the balloon was much torn.

## Ireland.

VISIT OF THE CHANNEL FLEET TO DUBLIN.—During the stay of the fleet in Dublin Bay, from Saturday to Thursday last, the visitors from Dublin and its neighbourhood were numerous and enthusiastic. The officers were entertained at dinner on Monday night in the Mansion House, the Lord Mayor presiding; the entertainment being provided by subscriptions from the citizens. A ball was given on Tuesday evening in the Rotunda, which was numerously and gaily attended. As the ships were lying in an open bay, and liable to be compelled to go to sea at a moment's notice, the Admiral was obliged to decline the invitation of the Commodore and members of the Irish Yacht Club. On Wednesday the Lord Lieutenant and a large party were invited to a *déjeûner* and ball on board the Defence, but a gale from the south-east, accompanied by heavy rain, set in about midday, and made it impossible for any steamer to go alongside the ships, at the same time detaining as prisoners about 700 ladies and gentlemen who had gone off to the vessels before the full fury of the gale was felt. Towards midnight, however, the storm abated, and the visitors were landed. On Thursday the fleet left for Plymouth.

ROMAN CATHOLIC SYNOD.—The Roman Catholic bishops held a synod in Dublin in August last to consider the political questions which interest their Church. The resolutions adopted are now published in full. They condemn the national system and the model schools, and enjoin the Roman Catholic commissioners to withdraw from the board unless the requirements of the prelates are complied with. Their demands include an entirely separate training establishment, under the control of the hierarchy, supported at the public expense, or the training of teachers in existing Catholic institutions, the nation contributing funds proportionate to the work done. They conclude by condemning the Brotherhood of St. Patrick, and all similar societies having for their object the support and defence by arms of what is called in the oath of membership the Irish Republic, though they regret that neither the Government nor the Legislature has taken any step to ameliorate the condition of the people of Ireland, and respectfully call for such legal and administrative measures as will secure to tenant farmers the rightful ownership of the products of their own industry and capital, and protect them from capricious evictions.

ROCKINGHAM HOUSE.—The rebuilding of Rockingham House, the seat of Viscount Lorton, which was destroyed by fire some months ago, has been commenced. The work, which is on a scale of great magnificence, has been intrusted to a London contractor named Mansfield, and most of the tradesmen have been brought from London. The work is to be urged on rapidly, and so many labourers are required that the farmers in the vicinity are beginning to apprehend an advance in wages.

## Scotland.

EARL RUSSELL AT BLAIRGOWRIE.—On Saturday Earl Russell was entertained at dinner in the new Town Hall of Blairgowrie by the tenantry on the Meikleour estate, in honour of his Lordship's visit to the district. The inhabitants assembled in procession, and met the Earl and Countess and family, about a mile and a half from the town. He was escorted by a detachment of Volunteers and a large crowd of people to the cross of the town, where an address was presented to his lordship by the chief magistrate. At the dinner, in acknowledging the toast of his health, Earl Russell spoke as follows on the foreign policy of the Government:—

"The state of foreign affairs has been a very anxious one, and I have partaken in a more than ordinary degree of that anxiety during the period that I have held the seals of Secretary for Foreign Affairs. When Lord Palmerston last came to office there was a war in Italy still depending, though it very soon closed. Then there came the question whether the Italians should be allowed, without interference, to throw off their Government, most of them corrupt and effete Governments, and attempt to create a freedom and a unity for themselves: whether France, or Austria, or any other Power should interfere to direct and turn aside the destiny to which Italy would aspire. In these circumstances the Government of Lord Palmerston did not hesitate to say that the people of Italy should choose for themselves their future destiny; that they should choose their form of Government; and that, with the capacity they had, and with the courage they had shown, it was our belief that they were fit to take their place among the great nations of the world. The whole country responded to that declaration; and, supported by the public opinion, the voice of England was powerful in preventing intervention with the interests of the Italian people. There then occurred another cause of anxiety—the civil war in Poland. I am prepared to defend, if need be, the course which her Majesty's Government, in conjunction with France and Austria, have taken on that question. I have stated, in my place in Parliament, that neither the obligations, the honour, nor the interest of England require that we should go to war for Poland. I still hold that opinion, and think it would be unbecoming to rail at Russia when we are not prepared forcibly to resist her assertions, though it has astonished me to find that at the end of several months of correspondence Russia has taken the line that she has done. The partition of Poland was an event which was the scandal of Europe in the last century, and which is the reproach of the three Powers who were parties to it. But at the Treaty of Vienna it was thought fit—and circumstances of expediency perhaps justified what was done—to admit, as it were, into the law of nations the state of Poland as divided between those three Powers, and to give a kind of retrospective sanction, as it were, to the partition of Poland. The Powers of Europe became, to use a legal phrase, accessories after the fact. Austria and Prussia complied with the conditions of the treaty. Russia has not complied with them. It seems to me that it was an act of great imprudence on the part of Russia, when she had that great advantage—when she had the act of spoliation and partition condoned, as it were, by Europe—to reject the terms on which that sanction was given, to rest as she now rests on the title of the original partition, on the title of conquest, rejecting all those conditions by which at the Treaty of Vienna that title was as it were accepted by Europe. What may be the consequences of that act, what conduct the Powers of Europe may follow, is not a question on which I can properly enter. I merely wish you to remark the fact that the conditions of the Treaty of Vienna, by which Russia obtained the kingdom of Poland, have not been complied with; and that, without the conditions of the tenure, the title itself can hardly be upheld. There is another question concerning our foreign relations on which a great deal of misapprehension has prevailed—I mean the question of Mexico. We joined France and Spain in the intervention so long as it was confined to a redress of grievances, but when it became a forcible interference with the form of government, we as well as Spain at once parted company with our ally, and have since taken no part in the affair. If the people of Mexico approve the intervention which has taken place, if they like to set up a Monarchy in Mexico, and if they all willingly obey it; if they are enabled to establish peace and order in Mexico—on these conditions, I say, with all my heart, let them have it, and I wish them success. But if they do not choose it, if they wish for the form of Government which for many years they have adopted, why, then, I again say we have no business to contradict them. I come now to another question, relating to what were a few years ago the United States of America. Our course in regard to that country has been attacked and blamed in the bitterest terms—blamed sometimes by the Federals, and sometimes by the Confederates. The first offence was felt by the Federals. They said we had no right to grant—so far as we were concerned—the rights of belligerents to the Confederates. Well, that question of the rights of belligerents is a question of fact. I put it to you whether, with 5,000,000 people, 5,000,000 I mean of free men declaring themselves in their several States collectively an independent State, we could pass over that as a petty rebellion. Our admirals asked whether the ships they met bearing the Confederate flag should be treated as pirates or no. If we had treated them as pirates we should have been taking part in that contest. It was impossible to look on the uprising of a community of 5,000,000 people as a mere petty insurrection, or as not having the rights which at all times are given to those who by their numbers and importance, or by the extent of the territory they possess, are entitled to these rights. Well, it was said we ought not to have done that because they were a community of slaveholders. I trust that our abhorrence of slavery is not in the least abated or diminished. For my own part, I consider it one of the most horrible crimes that yet disgraces humanity. But then, when we are treating of the relations which we bear to a community of men, I doubt whether it would be expedient or useful for humanity that we should introduce that new element of declaring that we will have no relations with a people who permit slavery to exist among them. We have never adopted it yet, we have not adopted it in the case of Spain or Brazil, and I do not believe that the cause of humanity would be served by our adoption of it. Well, it was said that these Confederate States were rebels—rebels against the Union. Perhaps I am not so nice as I ought to be on the subject. But I recollect that we rebelled against Charles I., we rebelled against James II., and the people of New England, not content with these two rebellions, rebelled against George III. I am not saying now whether all these rebellions were justifiable or whether they were wrong—I am not saying whether the present rebellion in the Southern States is a justifiable insurrection, or is a great fault or a great crime. But I say that the mere fact of rebellion is not in my eyes a crime of so deep a dye that we must renounce all fellowship and communion and all relationship with those who have been guilty of rebellion. But, certainly, if I look to the declarations of those New England orators—and I have been reading lately, if not the whole, yet a very great part, of the very long speech by Mr. Sumner on the subject, delivered at New York,—I own I cannot but wonder to see these men, the offspring, as it were, of three rebellions, as we are the offspring of two rebellions, really speaking, like the Czar of Russia, the Sultan of Turkey, or Louis XIV. himself of the dreadful crime and guilt of rebellion. Well there came another complaint, and the complaint came this time from those so-called Confederate States, who said that we had, contrary to the Declaration of Paris, contrary to the general international law, permitted a blockade of 3000 miles of the southern coast of America. It is quite true we did so. It is quite true—and there perhaps there seemed at least a plausible reason for complaint—that though this blockade was kept up by a sufficient number of ships, yet these ships—many of them adopted into the United States navy and sent to sea in a hurry, and ill-fitted for the purpose—did not keep up that blockade so effectively and so thoroughly as it must have been held an effective blockade required. But still, looking to the law of nations, it was a blockade; it was a blockade which we as a great belligerent Power in former times should have acknowledged. We ourselves had had a blockade of upwards of 2000 miles, and it did seem to me that we were bound in justice to the Federal States of America to acknowledge the blockade. But there was another reason, I confess, that weighed with me,—our people were suffering, and suffering very greatly, for the want of the material which was the great support of their industry. It was a question of self interest whether we should not break that blockade, but, in my opinion, the name of England would have been for ever infamous if for the sake of interest of any kind we had violated the general laws of nations, and made war with those slaveholding States of America against the Federal States. And I am not speaking the sentiments which are peculiar to myself, or to those who have no immediate interest in the question, but these are, I am convinced, the sentiments of that noble-hearted people of Lancashire, who have lived and flourished by that industry, but who would not, I am sure, allow a single spot on the escutcheon of their nation in order to maintain that industry. Well, there came new complaints—a complaint on the part of the Federals that we allowed a ship to leave the

port of Liverpool, which afterwards committed depredations on their commerce. It would lead me far if I were to go over all the particulars of the question, but you must know that in order to prove an offence you require such evidence as can be sifted in a court of justice, and it was not till the very day the Alabama left Liverpool that in the opinion of lawyers we had evidence sufficient to keep the vessel and crew; then I doubt whether if we had brought the evidence before a court of law it would have been found that we had sufficient evidence to condemn her, because, by an evasion of the law, the ship was fitted up without the arms necessary for her equipment, and these arms were conveyed to her in the waters of a foreign country, very far from the jurisdiction of England. These questions must be weighed, and I think they will be weighed as they frequently have been weighed by the Government of the United States of America, in the balance of equity. We know that the Foreign Enlistment Act and the whole law respecting the subject is very difficult of application. The principle is clear enough. If you are asked to sell muskets, you may sell muskets to one party or to the other, and so with regard to gunpowder, shells, or cannon; and you may sell a ship in the same manner. But if you, on the one hand, train and drill a regiment with arms in their hands, or allow a regiment to go out with arms in their hands to take part with one of two belligerents, you violate your neutrality and commit an offence against the other belligerents. So in the same way in regard to ships, if you allow a ship to be armed and go at once to make an attack on a foreign belligerent, you are yourself, according to your own law, taking part in the war, and it is an offence which is punished by the law. But these questions lead, as you will see, to most difficult problems—as to whether, for instance, a thousands persons here may go out as labourers to the Federal States, and in the next place a thousand muskets may go out in another ship, and when they arrive in America these thousand labourers, having had an understanding before, may make a formal engagement and be armed with these thousand muskets; though if that had been done in the territory of the Queen, and on the soil of this country, it would have been an offence. There are other questions with regard to ships that have lately been prepared in this country, because these ships are not like ships which receive the usual equipment known in wars in times past, but they are themselves, without any further armament, formed for acts of offence and war. They are steam rams, which might be used for the purposes of war without ever touching the shores of the Confederate ports. Well, to permit ships of this kind knowingly to depart from this country, not to enter into any Confederate port, not to enter into the port of a belligerent, would, as you see, expose our good faith to great suspicion; and I feel certain that if, during our war with France, the Americans had sent line-of-battle ships to break our blockade at Brest, whatever reasons they might have urged in support of that, we should have considered it a violation of neutrality. Such is the spirit in which I am prepared to act. Everything that the law of nations requires, everything that our law, that the Foreign Enlistment Act requires, I am prepared to do, and even, if it should be proved to be necessary for the preservation of our neutrality, that the sanction of Parliament should be asked to further measures. In short, to sum up, her Majesty's Government are prepared to do everything that the duty of neutrality requires—everything that is just to a friendly nation, taking as a principle that we should do to others as we should wish to be done to ourselves. But this we will not do—we will not adopt any measure that we think to be wrong. We will not yield a jot of British law or British right in consequence of the menaces of any foreign Power. And now, reverting again to the complaints that have been made, it is singular to observe how jaundiced the minds of some of those who speak in the New England States are on this subject of our conduct. There were some persons, members of the House of Lords, who thought fit to complain on an apparent case of grievance—and not one case, but many cases—of ships of ours that had been seized; ships in some cases passing from neutral ports, in other cases on the sea, but apparently on a legitimate voyage; and it was urged that we ought not to submit to have our vessels thus seized and our commerce thus interrupted. I had to deal with that case, and my answer was that, according to the law of nations, if a ship had an ostensible voyage to a destination which was not her real destination—if she was bound, in fact, to an enemy's port with munitions of war, the belligerent had a right to stop that vessel on the high seas. I said the law had been laid down by Lord Stowell and other great English authorities, and that now we were neutrals I did not think it fit we should depart from a law we had laid down as belligerents. I said that in America, although there were some of the local Courts which had not the authority of such men as Lord Stowell and Sir William Grant, yet there was a Court of Appeal, there was a Supreme Court in the United States which contained, and had for many years contained, men as learned and of as high reputation in the law, and of as unsullied reputation for integrity as any that have sat in our English courts of justice, and that we ought to wait patiently for the decision of those tribunals. Now, what is my surprise to find, and what would be your surprise to find, that Mr. Sumner is so prejudiced that he brings these declarations of mine against me, saying that I have diminished the reputation of the American Courts, and that I showed myself biassed against the Federal States by the declaration I then made in Parliament? I will not detain you further on these subjects; but one remark I must make on the general tendency of these speeches and writings in America. The Government of America discusses these matters very fairly with the English Government. Sometimes we think them quite in the wrong; sometimes they say we are quite in the wrong; but we discuss them fairly, and with regard to the Secretary of State I see no complaint to make. I think he weighs the disadvantages and difficulties of our situation in a very fair and equal balance. But there are others, and Mr. Sumner is one of them, his speech being an epitome almost of all that has been contained in the American press, by whom our conduct is very differently judged. With regard to all these matters there are difficult questions; we may have reason to complain in some instances, and the Federal Republic of America may have reason to complain also. But let us recollect that we are, as I have said, descended from the same ancestors, that in the courts of justice in America the common law of England is constantly studied, and the decisions of our great judges constantly referred to as decisions to be there respected; that our Shakespeare and our Milton are to them classical books as they are to us: that we have the same inheritance of freedom; that many of our institutions, as you may see by reading that excellent book of M. de Tocqueville on America, are identical; that the same spirit of liberty animates us both; that we after our revolutions chose a constitutional monarchy as the best form of Government, and they after their revolutions chose a republic; but that thus united, having the same spirit of law, having the same spirit of literature, having the same spirit of freedom, we ought, when this unhappy contest is over, to embrace one another as friends, and that we in the Old World and they in the New ought to be the lights to promote the civilisation of mankind. Now, with these feelings I own I almost lose my patience when I see men, in what is called an oration, heaping up accusation after accusation, and misrepresentation after misrepresentation, all tending to the bloody end of war between these two nations. I cannot but say, are they not satisfied with the blood that has been shed in the last two years, with that field of Gettysburg where 10,000 corpses of men, most of them in the prime of manhood, were left lying stretched on the ground? Are they not satisfied with that bloodshed, but would they seek to extend to the nations of Europe a new contest in which fresh sacrifices are to be made of human life, of human interest, and of human happiness? I trust that that will not be the case. I know, at least, that my efforts, such as they are—weak they may be, ineffectual I hope they will not be—will be directed to keep peace between these two nations, and to do everything which I think is just and right towards these people; and, ready to meet attack if we are unjustly attacked, ready to bear our part in the contest, if contest there must be, but yet believing that we ought to make every effort that all these various conflicts may end in peace, in union, and in friendship, I shall at all events have the consciousness that I have done my best to preserve peace between these mighty nations. It is a great subject; it affects the people of this part of the world and of America; it affects the future stage of civilization; it affects the well-being of the black race, whom it was the crime of our ancestors to introduce to America, and who, if these matters end well, will be, as I believe they are fitted to be, peaceable and intelligent members of a free country, on behalf of whose welfare we have been ready to make great efforts, and to sacrifice much. But we will not sacrifice any of those views of ours to mere pretence. We have as strong feelings for the good of mankind as any people can have; we must maintain our own position; and my belief is that the people of what were the United States, whether they are called Federals or Confederates, will finally do us justice, and that they will observe—as, indeed, they cannot help observing—that in this free country, where there is so much discussion and so much difference of opinion, there are parties very considerable in number who sympathise with the Confederates, and other large masses—I believe superior in numbers—who sympathise with the Federals; but whether sympathising with the one or the other we have all embraced in our hearts that sentiment of justice—justice we will do to others, justice we expect for ourselves, and I hope I am interpreting the feelings of your minds when I say that justice ought to prevail."

## Railways.

COLLISION ON THE LONDON AND NORTH-WESTERN.—On Monday afternoon a collision occurred near the Garston station between a passenger train from Runcorn Gap to Manchester, and a luggage train which had been shunting some waggons. Both engines were destroyed, and about a dozen passengers were injured, but none killed. One lady had several teeth knocked out, and a boy was much bruised and cut about the head and face. Several others were bleeding from wounds and bruises, and many were carried from the train in a fainting condition.

COLLISION ON THE GREENWICH.—On Tuesday evening, about 8 o'clock, a collision took place on this line, but fortunately was not attended with fatal results. It appears that one of the engines of the North Kent ran into the Greenwich train. Several passengers were much shaken. A lady, residing at Deptford, was much injured, and a gentleman had his watch smashed.

## Miscellaneous.

THE STAMP MANIA.—The cheapest postage stamp (says the *Nation*) is the French at one centime, and the dearest is that for the horse post of California, which costs four dollars (21f.). The prettiest and best engraved of all the stamps are those of France, Greece, and particularly that of New Caledonia, which merits the first place. The ugliest are those of Belgium and of England, at one penny. The largest are those of Siberia, and the smallest those of Mecklenburg-Schwerin, which bears the head of an ox. The collection of stamps representing the head of Queen Victoria is composed of 40 different models. The stamps most sought after by amateurs, either on account of their constantly increasing value, or because they have been changed, and are no longer in use, are those of the Isle of Bourbon and New Caledonia, as well as those of Spain, Portugal, English Guiana, and Van Diemen's Land. Those of the Sandwich Islands, Nicaragua, the Philippines, and the old Duchies of Italy are also very scarce.

## Obituary.

ADMIRAL SIR HENRY HOPE, K.C.B., died on the 23d ult. at his seat in Hampshire. He was the eldest son of the late Commissioner Charles Hope, by his marriage with the eldest daughter of the first Earl of Darlington. He was born in 1787, and entered the navy in 1798 as midshipman. He served in the Mediterranean in the Kent, 74, which conveyed Sir Ralph Abercrombie to Egypt, and also at the blockade of Alexandria. He afterwards removed to the Swiftsure, and was on board that ship in a desperate engagement which reduced her to a wreck, and rendered her a prize to the French squadron. In 1815 he brought to close action, and maintained for two hours and a half a conflict with the American ship President, 56, which at length hauled down her colours, after a loss to herself of 35 killed and 70 wounded. On arriving with his prize at Spithead, he was presented by the Admiralty with a gold medal in acknowledgment of his brave conduct, and was nominated a Companion of the Bath. He was put out of commission in 1815, and remained on half pay. He was subsequently appointed naval aide-de-camp to William IV. and to her present Majesty, and in 1855 he was nominated a Knight Commander of the Bath. He attained the rank of vice admiral in 1853, and admiral in 1858.

ALDERMAN HUMPHERY, formerly M.P. for Southwark, died on Monday at his residence at Clapham Common, after a short illness. He was elected Alderman for the ward of Aldgate in 1835, having three years before served the office of Sheriff of London and Middlesex, and in 1842 he was elected to the dignity of Lord Mayor. He was also Governor of the Irish Society, an office of honour in the corporation which he had held for more than 20 years. In that capacity he, with the rest of the society, recently paid a visit to the estates of the corporation in the neighbourhood of Londonderry, which have all along been managed in a manner so creditable that the late Sir Robert Peel was accustomed, in the House of Commons and elsewhere, to point to it as worthy of imitation. Alderman Humphery represented in Parliament the borough of Southwark, where he had large property, for a period of 20 years, having been first elected at the general election in December, 1832, and retained his seat continuously until that of 1852. For the greater part of his life he was a wharfinger in Tooley Street and its immediate neighbourhood, and of late years had been the owner of property of great value, with a river frontage, east and west of the south end of London Bridge. Alderman Humphery was twice married, and leaves a numerous family of sons and one daughter.

THE REV. FREDERICK WILLIAM FABER, D.D., Superior of the London Oratory, died on Saturday morning, after a long and painful illness. He was born in 1813, and was the nephew of the celebrated George Stanley Faber, author of works on prophecy. He was educated at Harrow and at University College, Oxford, where he graduated in 1836, being second-class in Classics. He became tutor to his college, and in 1843 accepted the living of Elton, Hunts, which he resigned in 1846 on joining the communion of the Church of Rome. Shortly afterwards he was appointed Superior of the London houses belonging to the "Oratorians," or "Priests of the Congregation of St. Philip Neri," which office he held up to the time of his death.

WILLS.—The will of Field-Marshal Lord Clyde has been sworn under 78,000*l.*; Major-General Dunn, R.A., of Inglewood House, Kintbury, Berks, 140,000*l.*; Charles Hitchcock, Esq., of Hornsey, has been sworn under 100,000*l.*; Mrs. Margaret Stancomb, of Trowbridge, Wilts, 120,000*l.*; Major General Sir Joshua Jebb, 30,000*l.*

BIRTHS.—On the 28th ult, at Scone Palace, Perthshire, the Viscountess STORMONT, of a son—26th ult, at Paris, Lady RIBBLESDALE, of a daughter—23d ult, at Netherplace, Mauchline, N.B., the Hon. Mrs. GREVILLE VERNON, of a daughter—27th ult, at Somerford Park, Lady SHAKERLEY, wife of Sir C. W. Shakerley, Bart., of a son—16th ult, at Paris, the wife of J. W. M. BOND, Esq., M.P., of a daughter—29th ult, at Sandgate, the wife of Lieutenant-Colonel the Hon. EDWARD GAGE, Royal Artillery, prematurely, of a son—26th ult, at Cheltenham, the wife of Major-General W. F. BEDFORD, of a son—29th ult, at Bowes Manor, Southgate, the wife of Alderman SIDNEY, M.P., of a son.

MARRIAGES.—On the 24th ult, at St. John's Church, Maidstone, Lieut.-Colonel H. C. FLETCHER, Scots Fusilier Guards, eldest son of Colonel Fletcher, of Kenward, Kent, to the Lady HARRIET MARSHAM, second daughter of the Earl of ROMNEY—22d ult, at the parish church of St. Alphege, Greenwich, HENRY S. KING, Esq., of Manor House, Chigwell, Essex, to HARRIET ELEANOR, eldest daughter of Admiral and Lady HARRIET BAILLIE HAMILTON—29th ult, at St. Luke's, Cheltenham, CRAWSHAY BAILEY, Esq., to the Countess ELIZABETH SELINA METAXA, only daughter of the Count and Countess Metaxa—24th ult, at St. George's, Canterbury, Sir PETER VAN NOTTEN POLE, Bart., to LOUISA, third daughter of the late SAMUEL LANDS, Esq., East India Company's Civil Service, Bombay—8th August, at St. John's Church, Peshawur, Lieutenant E. E. B. BOND, Bengal Staff Corps, son of the late Lieutenant-Colonel H. Bond, H.M's 15th Hussars, to JULIA HARRIETTA, eldest daughter of the late JOHN TREVELYAN, Esq., of Perrannthnoe, Cornwall.

DEATHS.—On the 30th ult, at Pilmuir, Torquay, the Right Hon. CHARLES LORD SINCLAIR, aged 95—24th ult, at Halton, Sir JOHN RICHARD DASHWOOD, Bart.—25th ult, at Bonchurch, Edith, daughter of Admiral and Lady JANE SWINBURNE—24th ult, at Ryde, Isle of Wight, ALEXANDER WILLIAM, the infant son of Mr. and Lady ELIZABETH LESLIE MELVILLE CARTWRIGHT—20th ult, JOHN PATER, Esq., solicitor, last surviving son of the late General Sir JOHN PATER, K.C.B., aged 51—24th ult, at 64, Chester Square, deeply lamented, HELEN BOGLE, daughter of the late George Bogle, Esq., and widow of WINTHROP MACKWORTH PRAED, Esq., M.P., aged 59—28th ult, at Kew, after a short illness, MARIA ELIZABETH, second daughter of Dr. HOOKER, aged 6—28th ult, at Cambridge Lodge, Walham Green, EDWARD CHITTY, Esq., of Lincoln's Inn, barrister-at-law, and late of the Island of Jamaica, aged 60—25th ult, at Efford Manor, near Plymouth, PAUL FRANCIS, third son of IRVING CLARK, Esq., and late H.M.'s 57th Regiment, aged 30—26th ult, at Buckingham Lodge, Shoreham, JANE, widow of Lieut.-Colonel J. P. BRIDGER, formerly of the 12th Lancers, aged 80—21st August, at Chambly, Lower Canada, CHARLOTTE, wife of Lieut.-Colonel THOS. AUSTIN, registrar of the county of Chambly—16th ult, at York, Major ANDREW FISHER, late of the 35th Bengal N.I., son of the late Rev. Henry Fisher, chaplain of the Bengal Establishment, aged 55—23d ult, at Huntley Villa, Cheltenham, Captain M. A. GARSTIN, late of the 73d Regiment Bengal Army, aged 38—19th ult, in London, the Rev. W. WALTON, M.A., F.R.S, rector of Great Moulton, Norfolk, aged 73—26th ult, the Rev. C. F. ANNESLEY, of Eydon Hall, Northamptonshire, aged 75—23d ult, at Scotton, Lincolnshire, the Rev. CHRISTOPHER FREDERICK, aged 77.

## Markets.

### COVENT GARDEN, Oct. 3.

Vegetables and most kinds of Fruit in season, with the exception of Peaches, which are scarcer, continue plentiful. Late Plums may be had in great abundance. Of Grapes and Pine Apples the supply is also sufficient for the demand. Of Melons there is a good stock of both English and foreign varieties. There is also a good supply of Williams's Bon Chrétien, Louise Bonne of Jersey, and Marie Louise Pears. Some good examples of Ribston Pippin Apples have also arrived from Jersey. Kent Cobs and Filberts are now coming in in good condition, and for the Cobs a fair demand is realised at from 60s. to 65s. per 100 lbs. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Marigolds, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 3s 6d to 7s | Melons, each, 2s to 4s |
| Grapes, per lb., 2s to 6s | Lemons, per 100, 8s to 12s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Nuts, small, per bushel, 14s to 18s |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Plums, per ½ sieve, 3s to 6s | Walnuts, do., 14s to 20s |
| Figs, per doz., 2s 6d | |
| Peaches, per doz., 6s to 15s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Peas (shelled), p. qt., 1s to 1s 6d | French Beans, p. sieve, 2s to 6s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 8d |
| ,, Shaws, do., 50s to 60s | Lettuces, each, 1d to 2d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 1s 6d |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 1s to 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatos, each, 2d to 3d | |

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, Oct. 1.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 80s | to 84s | Clover, old .. .. | 90s | to 120s |
| Superior do. .. | 86 | 92 | Do. second cut .. | 80 | 108 |
| Inferior do. .. | 60 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 28 | 34 |
| Rowen .. .. .. | 60 | 80 | | | |

HARVEY & EASTON.

CUMBERLAND MARKET, THURSDAY, Oct. 1.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay | 90s to | 98s | Inferior Clover | 86s to | 98s |
| Inferior do. | 75 | 84 | New do. | — | — |
| New do. | — | — | Straw | 36 | 40 |
| Superior Clover | 108 | 115 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Oct. 1.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime 1st cut Clover | 115s to | 120s |
| Inferior do. | 75 | 80 | Inferior do. | 105 | 110 |
| Prime New Hay | — | — | New 1st cut do. | — | — |
| Inferior | — | — | Prime 2d cut do. | 105 | 110 |
| Straw | 28 | 32 | Inferior do. | 95 | 100 |

BRITISH WOOLS.—LONDON, Oct. 2.

Our demand continues on a fair scale, especially for skin wool, and full prices are realised for all descriptions. Blanket wool is now inquired after freely.

| | s. d. | | s. d. | | s. d. | | s. d. |
|---|---|---|---|---|---|---|---|
| South-down Hoggets | 1 10 | to | 1 11 | Leicest. Wethers | 1 8 | to | 1 9 |
| Half-bred ditto | 1 10 | — | 1 11 | Ditto Hoggs | 1 9 | — | 1 10 |
| Down Ewes | 1 9 | — | 1 9½ | Combing Skins | 1 4 | — | 1 7 |
| Kent Fleeces | 1 10 | — | 1 10½ | Flannel Wool | 1 6 | — | 1 9 |
| | | | | Blanket ditto | 1 0 | — | 1 1 |

COAL MARKET.—Sept. 30.

Byass's Bebside West Hartley, 17s. 3d.; Lambert's West Hartley, 17s.; Wylam, 17s.; Eden Main, 18s.; Walls End Braddyll's Hetton, 18s. 6d.; Walls End Framwellgate, 18s.; Walls End Haswell, 19s. 3d.; Walls End Cassop, 18s. 6d.; Walls End Kelloe, 18s.; Carway and Duffryn Malting, 20s.—24 ships at market.

HOPS.—BOROUGH MARKET, FRIDAY, Oct. 2.

Messrs. Pattenden & Smith report the trade active for all descriptions of the new growth, at firm prices. Currency:—

| | | | |
|---|---|---|---|
| Mid and East Kents, per cwt. | £5 0 | to | £8 10 |
| Weald Kents | 4 10 | — | 6 10 |
| Sussex | 4 4 | — | 6 6 |

NEWGATE.—Oct. 2.

Best Fresh Butter .. .. 14*s.* per dozen lbs.
Second do. do. .. .. 12*s.* ,,
Pork, 4*s.* 4*d.* to 4*s.* 8*d.* per 8 lbs.

METROPOLITAN CATTLE MARKET.

MONDAY, Sept. 28.

We have a very large supply of Beasts and unfavourable weather, consequently trade is dull. Choice descriptions are not very plentiful, and prices for them are about the same as on Thursday, but there are many inferior qualities left unsold. The number of Sheep is rather smaller, so also is the demand, and it is difficult to realise late quotations. Trade is dull for Calves at Thursday's rates. From Germany and Holland there are 3080 Beasts, 9160 Sheep, 131 Calves, and 50 Pigs; from Ireland, 790 Beasts; and 2780 from the Northern and Midland counties.

| | s d | | s d | | s d | | s d |
|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 | to | 5 0 | Best Long-wools | 4 8 | — | 5 0 |
| Best Short-horns | 4 6 | — | 4 8 | Do. Shorn | .. | — | .. |
| 2d quality Beasts | 2 8 | — | 3 8 | Ewes & 2d quality | 4 4 | — | 4 6 |
| Best Downs and Half-breds | 5 2 | — | 5 4 | Do. Shorn | .. | — | .. |
| Do. Shorn | .. | — | .. | Lambs | .. | — | .. |
| | | | | Calves | 3 0 | — | 4 8 |
| | | | | Pigs | 3 0 | — | 4 4 |

Beasts, 7060; Sheep & Lambs, 25,190; Calves, 144; Pigs, 450.

THURSDAY, Oct. 1.

The supply of Beasts is again larger, but a large proportion of very inferior quality; the choicest descriptions, therefore, meet with purchasers at nearly Monday's quotations. A considerable number remain unsold. The number of Sheep is small; it, however, exceeds the demand, and prices are lower. Trade is dull for Calves at rather lower rates. From Germany and Holland there are 690 Beasts, 2760 Sheep, 363 Calves, and 65 Pigs. Milch Cows, 95.

| | s d | | s d | | s d | | s d |
|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. | 4 8 | to | 4 10 | Best Long-wools | 4 6 | — | 5 4 |
| Best Short-horns | 4 6 | — | 4 8 | Do. Shorn | .. | — | .. |
| 2d quality Beasts | 2 6 | — | 3 6 | Ewes & 2d quality | 4 0 | — | 4 4 |
| Best Downs and Half-breds | 5 0 | — | 5 4 | Do. Shorn | .. | — | .. |
| Do. Shorn | .. | — | .. | Lambs | .. | — | .. |
| | | | | Calves | 3 0 | — | 4 6 |
| | | | | Pigs | 3 0 | — | 4 4 |

Beasts, 1465; Sheep & Lambs, 5660; Calves, 422; Pigs, 290.

MARK LANE.—MONDAY, Sept. 28.

There was a poor supply of Wheat to this morning's market, nevertheless the trade was heavy at the prices of this day se'nnight. For foreign the demand was quite in retail, and to effect sales less money must have been taken. Finest malting Barley was 1s. per qr., and secondary descriptions were 2s. per qr. cheaper. Beans and Peas brought last week's quotations. The Oat trade was quiet, and prices were unaltered. Flour was very dull.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 42—46 | Red | 38—44 |
| — — fine selected runs .. ditto | 44—50 | Red | 40—48 |
| — — Talavera | 46—52 | | |
| — Norfolk | — | Red | — |
| — Foreign | 36—54 | | |
| BARLEY, grind. & dist., 28s to 30s. .. Chev. | 34—38 | Malting .. | 31—34 |
| — Foreign .. grinding and distilling | 25—30 | Malting .. | 30—35 |
| OATS, Essex and Suffolk | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed | 20—22 |
| — Irish .. Potato | 19—22 | Feed | — |
| — Foreign .. Poland and Brew | 19—22 | Feed | 17—20 |
| RYE | 30—32 | Foreign .. | — |
| RYE-MEAL, Foreign | — | | |
| BEANS, Mazagan .... 31s to 36s. .. Tick | 32—35 | Harrow .. | 32—35 |
| — Pigeon .... 37s to 40s. .. Winds. | — | Longpod | — |
| — Foreign .. Small | 36—42 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent .. Boilers | 37—40 | Suffolk .. | 38—42 |
| — Maple .... —s to —s .... Grey | 32—34 | Foreign .. | 32—40 |
| MAIZE .. White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 38—43 | | |
| — 2d do .. ditto | 30—34 | Country .. | 30—34 |
| — Foreign .. per barrel | 17—24 | Per sack | 32—42 |

FRIDAY, Oct. 2.

During the past week the weather throughout the kingdom has been changeable with frequent showers and high winds, consequently in the late districts of Scotland but slow progress has been made in finishing harvest work. Holders of Wheat have shown a little more firmness than of late, but the trade throughout the country remains unsettled and inactive, any change in prices being in buyer's favour both for home grown and foreign; from Liverpool we have to report 6d. to 1s. per qr. decline, owing to good arrivals. Best samples of Malting Barley were not easier to buy, secondary sorts and grinding meet but little alteration, and are the turn cheaper. Beans and Peas are a slow sale, and tending downwards in value. The supplies of Oats, both home grown and foreign, continue good, and prices have given way about 6d. per qr., new Black 42 lbs. Irish bring only 20s. per qr. Flour in good condition is scarce, and maintains late rates, sour and low grades are 6d. per barrel and 1s. per sack cheaper. Since Friday last 122 vessels have been reported off the coast. The arrivals being very large, and holders refusing to take lower prices, a considerable number of cargoes of Wheat and Maize had to be withdrawn from sale, but a fair business has been done at about late rates, and during the last two days the demand for Wheat has been improving. In Paris (Oct. 1), the Flour prices have declined about 2s. per 280 lbs. The six marks for immediate delivery are quoted equal to 31s., for Oct. equal to 31s. 9d. per 280 lbs. The present stock is estimated at 9280 cwt. In Wheat very few transactions have taken place at 9d. to 1s. per qr. lower prices. The arrivals of all grain and Flour since Monday have been small. There was a thin attendance at market this morning, and scarcely any business was transacted in any article, quotations remaining nominally the same as on Monday.

ARRIVALS THIS WEEK.

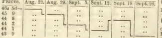
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1240 qrs. | 1780 qrs. | 1110 qrs. | 1120 sks. |
| Irish .... | — | — | 1350 | — ,, |
| Foreign .. | 12 440 ,, | 1740 | 9020 ,, | 230 ,, 130 brls |

LIVERPOOL, Sept. 29.—With a good attendance of country buyers at to-day's market the demand for Wheat is still confined to the most immediate requirements of the trade, and prices must be written a shade worse than on Friday last. Flour is nominally unaltered in value. Indian Corn has attracted a better inquiry, and the quantity offering being small we have to raise our quotations 3d. per qr. Oats and Oatmeal have declined 1d. per bushel, and 1s. to 1s 6d. per load respectively. Beans and Peas steady at previous rates. Barley the turn lower. The market closes dull.

FRIDAY, Oct. 2.—Fair business in Wheat; no change in value. Moderate business in Flour, and Westerns are 6d. lower. Indian Corn steady. Beans steady. Oats and Oatmeal dull, and rather lower.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Aug. 22 | 46*s* 5*d* | 31*s* 1*d* | 23*s* 0*d* | 33*s* 2*d* | 40*s* 4*d* | 34*s* 9*d* |
| — 29 | 45 9 | 33 10 | 22 8 | 33 9 | 39 6 | 35 9 |
| — 5 | 44 2 | 34 8 | 22 0 | 32 11 | 38 10 | 37 2 |
| Sept. 12 | 44 1 | 34 7 | 21 8 | 31 0 | 39 10 | 35 10 |
| — 19 | 44 9 | 35 2 | 20 9 | 32 7 | 39 0 | 36 9 |
| — 26 | 43 9 | 35 9 | 20 2 | 32 1 | 38 11 | 37 5 |
| Agg. Aver. | 44 10 | 34 2 | 21 9 | 32 7 | 39 5 | 36 3 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




WANTED, an experienced Man to MANAGE the FLOWER SEED DEPARTMENT in a London Nursery, and also qualified to assist in the getting up of the Annual Catalogues.—Address letter to A. A., *Gardeners' Chronicle* Office, with a statement of previous situations.

WANTED, a HEAD GARDENER.—Must thoroughly understand his profession in all its branches. Wages 28s. per week; three Under Gardeners are kept.—Apply by letter to X. Y. Z., Gresham Club, City, stating age, qualifications, name of last employer, and reasons for leaving.

WANTED, a thoroughly competent, energetic Man as FOREMAN (INDOOR), PROPAGATOR and PLANT MAN.—None other than such as can command first-class testimonials need apply.—Address, stating age, whether married or single, with terms required without a House, to THOS. CRIPPS, Nurseryman, Tunbridge Wells, Kent.

WANTED, a GARDENER (SINGLE-HANDED), to replace a highly-principled and industrious Servant; must be a married Man, from 30 to 40 years of age, a good producer of Flowers, Melons, Wallfruit, and Early Vegetables; would have occasionally to take charge of a large House, as also a Pony and Basket-Carriage. Reply, stating age, length of service, and wages required, to J. A. CHOWNE, Esq., Bolney, near Cuckfield, Sussex.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 32; thoroughly experienced and competent to Manage a nobleman's or gentleman's Garden in a superior manner.—A. B., Brigden's, Seedsman, 52, King William Street, City, E.C.

GARDENER (HEAD).—Age 40, married, no incumbrance; has had 25 years' practical experience of Gardening in all its branches. Six years' Gardener to W. Ferrand, Esq., M.P., St. Ives, Bingley.—W. HEWITT, Micklethwaite, Bingley, Yorks.

GARDENER (HEAD).—Age 34, married, no incumbrance; has a thorough knowledge of his profession, the Forcing of Pines, Vines, Peaches, Cucumbers, and Melons; also Stove and Greenhouse Plants for exhibition. Good character.—JOHN RAVEN, Great Blake Hall, Wanstead, Essex.

GARDENER (HEAD).—Age 30; thoroughly understands the Growing of Pines, Vines, Peaches, Melons, &c., Stove and Greenhouse Plants, the Management of Flower and Kitchen Gardens. Character will bear the strictest inquiries.—L. W., The Gardens, Bishopstoke, Winchester.

GARDENER (HEAD).—THOMAS ROBY is now at liberty to engage with any nobleman or gentleman in want of a thoroughly experienced person in the above capacity in all its branches. No objection to the Management of Land, &c. Thirteen years' character from his late employer.—THOMAS ROBY, Dorking, Surrey.

GARDENER (HEAD), to any nobleman or gentleman requiring the services of a first-class man.—Age 37, married; is a good Grower of Pines, Grapes, Peaches, Stove and Greenhouse Plants; an excellent Flower and Kitchen Gardener. Unexceptionable character from present and late employer.—S. P., Mr. Veitch, Exotic Nursery, King's Road, Chelsea, S.W.

GARDENER (HEAD).—Has been in his present situation nearly 14 years, and leaving in consequence of a reduction in the Establishment; thoroughly understands the Erection and Heating of Horticultural Buildings, Laying-out and Planting Grounds, Forcing Pines, Grapes, Peaches, Strawberries, Melons, Cucumbers and Mushrooms; the Growth and Treatment of Orchids, Ferns, Ornamental Foliage and Stove Plants, Azaleas, Camellias, Ericas, Epacris, and general Hard-wooded Greenhouse Plants; likewise Pelargoniums and all Soft-wooded Plants. Has a perfect knowledge of Wall Trees and all hardy Fruits; understands the Early Forcing of Vegetables, and is an excellent Kitchen and Flower Gardener. Has taken many Prizes at Provincial Exhibitions. No objection to any part of the kingdom. Character will bear the strictest investigation.—JOHN BRADSHAW, Keresley, Coventry.

### To Noblemen and Gentlemen.

GARDENER (HEAD).—Age 36; has had much experience in first-class establishments in the Culture of Fruit in general, Early and Late Forcing; also Stove and Greenhouse Plants, including Orchids and Fine-foliaged Plants, &c. Unexceptionable character from last employer.—A. B., Mr. W. Paul, The Nurseries, Waltham Cross, N.

GARDENER (HEAD), age 31, married.—F. W. DURRANT, for the last four and a-half years Gardener to the Hon. Colonel Duncombe, is at liberty to engage with any nobleman, lady, or gentleman requiring the services of a first-class practical Gardener. Good character.—F. W. DURRANT, Waresley Park, St. Neots, Hunts.

GARDENER (HEAD) or FOREMAN.—Thoroughly understands the Cultivation of Pines, Vines, Peaches, &c.; also Stove and Greenhouse Plants, with the General Management of the Flower and Kitchen Garden.—J. R. T., The Gardens, Ravensworth Castle, Gateshead.

GARDENER (HEAD), or GENERAL FOREMAN, —Scotch; age 28, single; highly recommended by present and previous employers for character and ability. Practical experience in several large establishments in England and Scotland.—M. E., Mr. Page, Tobacconist, Tooting, Surrey. S.

GARDENER (HEAD), or GARDENER and BAILIFF.—Age 42, married; has a good knowledge of his profession, acquired during 26 years' experience; is a good Plantsman; has had extensive experience in Early and Late Forcing of Pines, Vines, Peaches, &c.; and is well qualified to conduct a large establishment with economy and skill. Can have very high testimonials from last and previous employers, whom he served six and four years.—S. M., 11, Edward Street, York Road, Battersea, S.W.

GARDENER (HEAD), where two or more are kept, or would not object to a good Single-handed place.—Age 29, single; has a thorough practical knowledge of the profession in all its branches. Good character.—W. R., Post Office, Feltham, Middlesex, S.W.

GARDENER (FOREMAN).—Age 22, single; thoroughly experienced. Five years' character from last situation.—F. A., Post Office, Henley-on-Thames.

GARDENER (WORKING HEAD, or SINGLE-HANDED). —Married, no incumbrance; has a practical knowledge of his profession. Good character.—B. C., 26, North Street, Edgware Road, London, W.

GARDENER (middle-aged, married, without incumbrance).—D. DAVIES, who has been 19 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. LINDLEY, Acton Green, Middlesex, W.

GARDENER, to any nobleman or gentleman.— —Age 38, married, one child; is thoroughly acquainted with the Early Forcing of Fruit, Flowers, and Vegetables, Kitchen and Flower Gardening.—GEORGE MITCHELL, The Gardens, Pias Power, Wrexham.

GARDENER.—Age 38, married; a Scotchman; thoroughly understands every department of Gardening, having served in that capacity in some of the most important families in England, to all of whom reference is kindly permitted; the Advertiser can also produce the most satisfactory letters as regards both conduct and ability.—D. W., *Gardeners' Chronicle* Office, W.C.

GARDENER (UNDER).—Age 24; would not object to pay a Premium where a good opportunity of gaining improvement was afforded, or would not object to a Nursery.—L. R. N., Post Office, Great Yarmouth.

GARDENER (UNDER).—Age 21, wishes to improve himself; has had good experience. Is leaving on account of the death of his employer. Can be well recommended by the Head Gardener, R. COLE, Cuffnell's Gardens, Lyndhurst, Hants.

GARDENER (IMPROVER), in a gentleman's Garden or Nursery.—Has chiefly been employed under Glass. Can have a good character from the gentleman he is about to leave.—T. H., Post Office, Bracknell, near Reading, Berks.

IMPROVER.—A Clergyman is desirous of recommending a well-trained YOUTH, aged 18, to a nobleman's or gentleman's extensive garden for improvement in the higher branches of Gardening. Fair wages will be expected, and a moderate Premium will be given. ALSO, another YOUTH, same age, well recommended, but with less Garden experience. Small Premium.—Address, Rev. S. L., Hempsted Court, near Gloucester.

FOREMAN.—The HEAD GARDENER at Granard Lodge, Roehampton, S.W., wishes to recommend his Foreman, who is leaving on account of the reduction of the establishment.

PROPAGATOR and FOREMAN.—Has had considerable experience in the Propagation and Cultivation of both Hard and Soft-wooded Plants. Satisfactory references. —A. B., Messrs. H. Low & Co., Clapton, N.E.

FORESTER.—Age 27, single; 12 years' experience. A native of Scotland. Can be highly recommended.—A. B., Mr. Wheeler, Nursery, Warminster, Wilts.

STEWARD and GARDENER.—Single; well acquainted with, and has had the Management of a Large Estate, including Draining on the Government system, Plantations, Repairs, &c., with a long experience of Gardening in all its branches. A good character from the nobleman he has lately left. Testimonials can be seen, with unexceptionable references.—A. B., Messrs. Ivery's, Dorking, Surrey.

### To Nurserymen and Others.

REQUIRED, a permanent engagement as CORRESPONDING CLERK, or any Confidential post, by a professionally educated, married gentleman, age 29. Has studied Botany under an eminent professor, and acquired much private experience in the Culture and Management of Stove and Greenhouse Plants. Unexceptionable references.—Address, J. H. B., 154, King Street, Great Yarmouth.

CLERK, or in a similar capacity.—A Young Man wishes for a re-engagement. Good references.—A. C., Messrs. Saltmarsh & Son, High Street, Chelmsford.

SHOPMAN.—Age 25, single; 10 years' experience in the provinces. First-class references.—A. B. C., Messrs. Hurst & Son, 6, Leadenhall Street, London, E.C.

SHOPMAN.—Eleven years' experience. First-class reference.—A. B., corner of Nine Elms Lane, Wandsworth Road, S.W.

COWMAN.—Age 22; well acquainted with Cattle and is active in Garden work. Good character.—COWMAN, Dunchurch Hall, Rugby.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, OCTOBER* 10, 1863.


**Heating.**

HEATING APPARATUS fitted in every description of HOTHOUSES. Estimates given for Building Hothouses, and Laying out Kitchen Gardens and Vineries. Advice given in Planting, &c.

Apply to Joseph Meredith, Vine Cottage, Garston, near Liverpool.

N.B. References to Noblemen and Gentlemen and their gardeners sent on application.

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W. J. HOLLANDS, Iron Merchant, 31, Bankside, London, S.E.

HOT WATER PIPES, from Stock, per yard:—2-inch, 1*s*. 2*d*.; 3-inch, 1*s*. 10*d*.; and 4-inch, 2*s*. 4*d*. BENDS, from stock, 1*s*. 7*d*., 2*s*. 6*d*., and 3*s*. 3*d*. each. THROTTLE VALVES, 10*s*. 6*d*., 13*s*. 6*d*., and 15*s*. each. Other Connexions at equally low prices, and all goods of first-class manufacture. Estimates given, and orders by post punctually attended to the same day.

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HOT-WATER PIPES, at Reduced Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, Tubular, and Elliptic, from 24*s*. each. Improved Boilers and Iron Stands to use without brickwork, 56*s*. each. Valves from 10*s*. 6*d*. each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at

Mr. Lynch White's Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S. Price List on application.

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**West of England, Ireland, and Wales.**

VINCENT SKINNER (*late Partner with* J. Weeks & Co.), Horticultural Builder and Hot-Water Apparatus Manufacturer. HEATING on the ONE-BOILER SYSTEM. Plans and Estimates on application.

Vincent Skinner, Bridewell Street, Bristol.

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RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3*d*. per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3*l*. 10*s*.

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

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T. M. LOBJOIT'S PATENT HOT-WATER BOILERS are acknowledged by all who have them in use to be the most powerful Boilers now known, and are the most economical, requiring less fuel and attention than any other. They are made of various sizes, suitable for heating the smallest Greenhouse to the largest Conservatory, Churches, and Buildings of all descriptions.

Testimonials forwarded on application to Thos. M. Lobjoit, Horticultural Builder and Hot-Water Apparatus Manufacturer, Turnham Green, W., and at Acton, Middlesex, W. The Trade supplied.

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DENNIS'S PATENT METALLIC HORTICULTURAL BUILDINGS are made from the

best Wrought Iron, upon an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure

For Prospectus, &c., address T. H. P Dennis, Horticultural Builder, Hot-Water Engineer, &c., High St. Chelmsford, Essex.

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JOSEPH SMITH, Hothouse and Orchard-house Builder, New Road, Hammersmith, W., begs to submit his extra low prices for ORCHARD-HOUSES, &c., made in a substantial manner, glazed with 21-oz. Glass, and well Painted.

LEAN-TO HOUSES with ends and gutters.—20 feet long, 9 feet lights, 12*l*. 10*s*. 40 feet long, 11 feet lights, 30*l*. 100 feet long, 14 feet lights, 90*l*. 110 feet long, 16 feet 6 inches, 120*l*.

J. S. has now quite 10,000 feet of GREENHOUSE and PIT LIGHTS ready made.

Also, a SPAN-ROOF GREENHOUSE ditto, 27 feet by 16 feet 6 inches, 45*l*. 10*s*. LEAN-TO, 46 feet by 14 feet, 55*l*. Ditto, 24 feet by 11 feet, 30*l*.

The above prices would include modern Ventilating appliances of the best kind.

One, Two, and Three Light MELON FRAMES, of the best make, at reduced prices.

HEATING by HOT WATER done effectually.

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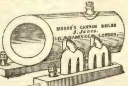
HEATING BY HOT WATER.




MONRO'S CANNON BOILER.

J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

PLANS, ESTIMATES, and DESCRIPTIVE CATALOGUES

SENT POST FREE ON APPLICATION TO

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**The only Stove without a Flue.**

JOYCE'S PATENT, for Warming Chapels, Halls, Shops, Conservatories, and all other Places. Price from 12*s*. 6*d*. each.

JOYCE'S STOVES are Portable and Economical, and burn 12 hours with one supply of fuel, requiring no attention.

STOVES for GREENHOUSES are made to burn all the Winter. Temperature always the same. Patent Fuel, 2*s*. 3*d*. per bushel.

Swan Nash, Patentee, 253, Oxford Street; and 119, Newgate Street, London, E.C.

Illustrated Catalogues post free.

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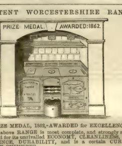
PATENT WORCESTERSHIRE RANGE.




PRIZE MEDAL, 1862,-AWARDED for EXCELLENCE.

The above RANGE is most complete, and strongly recommended for its unrivalled ECONOMY, CLEANLINESS, CONVENIENCE, DURABILITY, and is a certain CURE for SMOKY CHIMNEYS.

It is an entirely new invention, and consists of large MEAT ROASTER, PASTRY OVEN, and WROUGHT-IRON BOILER. The top forms a HOT PLATE for BOILING, STEWING, &c. The whole heated by ONE SMALL FIRE. One 5 feet wide is equal to an ordinary Range 8 feet wide.

Extracted from the *London Daily Telegraph*, May 19, 1862.
"International Exhibition, Class 31.

"Of the most recent inventions it should be said that Messrs. Jones & Rowe's Patent Worcestershire Range has attracted very special attention, and has been commended by the best authorities. A valuable peculiarity of their Ranges is the placing of the OVEN and ROASTER one above the other instead of *side* by *side;* and the ROASTER is constantly replenished with fresh air."

Inventors and Manufacturers, Jones & Rowe, Worcester.
Agents for London: Barron, Son, & Wilson, 436, Strand, W.C.

Illustrated Catalogues, with Testimonials and Prices, forwarded on application.

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JOHN WARNER AND SONS, 8, Crescent, Cripplegate, London, E.C.

No. 554½.

WARNERS' GALVANIZED IRON TUB GARDEN ENGINE, with Registered Spreader, is strongly recommended for durability and low price—viz.:

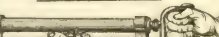
| | | | |
|---|---|---|---|
| 10 gallons .. .. | £2 | 15 | 0 |
| 15 „ .. .. | 3 | 15 | 0 |
| 24 „ .. .. | 5 | 0 | 0 |

Larger sizes may be had in either Wood or Iron.

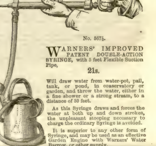
No. 579½.

WARNERS' SWING GARDEN BARROW (holding about 35 gallons) is intended for all large establishments where much watering is done by the Watering Pot. By its use the Gardener will save much time and labour, particularly where the Tank, Pond, or Pump, is at a distance from the Garden.

| | | | |
|---|---|---|---|
| 35 gallons .. | £2 | 10 | 0 |
| 20 „ .. | 2 | 0 | 0 |



BRASS SYRINGES of all kinds from 9*s*. to 21*s*.



No. 567½.

WARNERS' IMPROVED PATENT DOUBLE-ACTION SYRINGE, with 5 feet Flexible Suction Pipe,

**21s.**

Will draw water from water-pot, pail, tank, or pond, in conservatory or garden, and throw the water, either in a fine shower or a strong stream, to a distance of 30 feet.

As this Syringe draws and forces the water at both up and down strokes, the unpleasant stooping necessary to charge the ordinary Syringe is avoided.

It is superior to any other form of Syringe, and may be used as an effective Garden Engine with Warners' Water Barrow, or other supply.

There are no suction or delivery Valves, hence much friction and liability to choke with leaves and dirt is avoided.

John Warner & Sons, 8, Crescent, Cripplegate, London, E.C.

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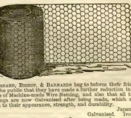
BARNARD, BISHOP, AND BARNARDS, Norwich.

FURTHER REDUCTION in the PRICE of WIRE NETTING.



Barnard, Bishop, & Barnards beg to inform their friends and the public that they have made a further reduction in the prices of Machine-made Wire Netting, and also that all their Nettings are now Galvanised after being made, which adds much to their appearance, strength, and durability.

| | Gauge. | Galvanised. per yard. | Japanned Iron. per yard. |
|---|---|---|---|
| 2-inch mesh, 24 inches wide .. | No. 19 .. | 4½*d*. .. | 3½*d*. |
| 2-inch „ „ „ .. | „ 18 .. | 5 .. | 4 |
| 2-inch „ „ „ .. | „ 17 .. | 6½ .. | 5 |
| 2-inch „ „ „ .. | „ 16 .. | 8 .. | 6½ |
| 1⅝-inch „ „ „ .. | „ 19 .. | 4½ .. | 4 |
| 1⅝-inch „ „ „ .. | „ 18 .. | 6 .. | 4½ |
| 1⅝-inch „ „ „ .. | „ 17 .. | 7 .. | 5½ |
| 1⅝-inch „ „ „ .. | „ 16 .. | 9 .. | 7 |

All the above kinds can be made any width (under 6 feet) at proportionate prices.

Strong Galvanised Poultry Netting, 7½*d*. per yard, 3 feet wide, Galvanised Sparrow-proof Netting for Pheasantries, 11*d*. per yard, 2 feet wide. Wire Netting of every mesh from half an inch to 6 inches.

Reduced Price of WIRE FENCING, and GALVANISED WIRE ROPE FENCING, suitable for the home trade or the colonies.

Five wires, 3 feet 6 inches high, pronged Standards, 8 feet apart, one wrought iron straining post and straining screws to each 100 yards of Fencing, 10*d*. per yard.

The same with Galvanised Wire Rope, 1*s*. per yard.

Illustrated Catalogues, with prices of every variety of Wire Fencing and Wire Netting, forwarded free on application.

*** Wire Fencing and Netting delivered Carriage Free at all the principal Railway Stations.

Card.

SAMUEL N. McGERROW, General Horticultural Builder, Knotty Ash, near Liverpool.
Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

Greenhouses, Orchard-houses, and Conservatories.

H. FREEMAN'S Horticultural Works, Triangle, Hackney, N.E. Established 20 years.
Good substantially made GREENHOUSES, glazed, ready for fixing, 42 feet by 13 feet, 50*l.*; 21 feet by 13 feet, 28*l.*; 12½ feet by 10 feet, 15*l.* ORCHARD-HOUSES, 10 per cent. cheaper. A handsome CONSERVATORY, 46 feet by 10 feet, for Sale.
Estimates given.

Universal Microscope. Price £5 5s.

SMITH, BECK, and BECK, 31, Cornhill, E.C.; late 6, Coleman Street.
*** Catalogues sent on receipt of 6 postage stamps.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE-PROOF STRONG ROOM DOORS. CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
Chubb & Son, 57, St. Paul's Churchyard, London, E.C.

METCALFE, BINGLEY, and CO'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. Metcalfe's celebrated Alkaline Tooth Powder, 2*s.* per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2*s.*, 3*s.* 6*d.*, and 5*s.* each. 130 b, and 131, Oxford Street, W.

LE SOMMIER ELASTIQUE PORTATIF.—The foundation for all Mattress Bedding should be elastic, and the usual Spring Mattress is too heavy and cumbersome for general use. Heal & Son's new Patent LE SOMMIER ELASTIQUE PORTATIF is made in three separate parts, and is therefore light and portable; it is also cheap and durable; and as it has no stuffing on the top, it cannot harbour moth.

HEAL and SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.
Heal & Son, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

PRICE'S CHILD'S NIGHT LIGHTS are perfectly safe, and burn their time. The quality of these Night Lights can now be relied on.

SHERWOOD BED LIGHTS, Sixpence and Eighteenpence a box.—These candles are made to supply a want very generally expressed, a cheap, really good Chamber Candle. They will be found inferior only to "Price's Candles, which will not drop grease when carried," which are sold in boxes, 1*s.* and 3*s.* each.

GLYCERINE, which very simple tests show to be impure, is being sold on the statement that it is in every respect equal to Price's." Most medical men prescribe "PRICE'S GLYCERINE." Where purity is of importance patients can ensure it by desiring to have their Glycerine in 1 lb., 8 oz., 4 oz., or 2 oz bottles, with capsule over the stopper marked "Price's Patent."
Belmont, Vauxhall.

THRESHER'S COLORED FLANNEL SHIRTS.—Prize Medal awarded to Thresher & Glenny for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.
Lists of Prices on application to Thresher & Glenny, General Outfitters, next door to Somerset House, Strand, W.C.

Sauce.—Lea and Perrins'

WORCESTERSHIRE SAUCE.—This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE,"
Is prepared solely by Lea & Perrins.
The public are respectfully cautioned against worthless imitations, and should see that Lea & Perrins' Names are on Wrapper, Label, Bottle, and Stopper.
Ask for Lea and Perrins' Sauce.
*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. Crosse & Blackwell; Messrs. Barclay & Sons, London, &c.; and by Grocers and Oilmen universally.

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for Acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild Aperient for delicate constitutions, more especially for ladies and children. It is prepared in a state of perfect purity and of uniform strength by
Dinneford & Co, 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

CONSUMPTION.—All Nervous, Bilious, Liver and Stomach Complaints are only aggravated and accelerated by drugs of every description, but perfectly curable by Du Barry's health-restoring REVALENTA ARABICA FOOD, as proved by thousands of cases which had been considered hopeless. We quote a few.—Cure No. 46,270. Mr. James Roberts, of Frimley, Surrey, of 30 years' diseased lungs, spitting of blood, liver derangement, and partial deafness.—Cure No. 47,121. Miss Elizabeth Jacobs, of extreme nervousness, indigestion, gatherings, low spirits, and nervous fancies.—Cure No. 54,816. The Rev. James T. Campbell, Fakenham, Norfolk, "of indigestion and torpidity of the liver, which had resisted all medical treatment."—In tins 1 lb., 2*s.* 9*d.*; 2 lb., 4*s.* 6*d.*; 5 lb., 11*s.*; 12 lb., 22*s.*; 24 lb., 40*s.*
Barry du Barry & Co., No. 77, Regent Street, London, W.; also at 61, Gracechurch Street, E.C.; 4, Cheapside, E.C.; 63 and 150, Oxford Street, W.; and al Grocers and Chemists in every town of the United Kingdom.

KEATING'S PERSIAN INSECT DESTROYING POWDER.—Fleas in Dogs, Poultry, &c., are instantly destroyed, as also Bugs, Beetles, and every other Insect, by this Powder, which is perfectly harmless to animal life; Sportsmen particularly will therefore find it invaluable.
Sold in Packets, 1*s.*, 2*s.* 6*d.*, and 4*s.* 6*d.* each, or post free for 14, or treble size for 36 postage stamps, by Thomas Keating, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice, each genuine packet bears the above name and address.
For which a Prize Medal was awarded to the Producer at the International Exhibition, 1862.

CORNS and BUNIONS.—A gentleman, many years tormented with Corns, will be happy to afford others the information by which he obtained their entire removal in a short period, without pain or any kind of inconvenience.
Forward address, on a stamped envelope, to W. Goodall, Esq., Epsom, Surrey, S.

FENDERS, STOVES, FIRE-IRONS, and CHIMNEY PIECES.—Buyers of the above are requested, before finally deciding, to visit William S. Burton's SHOW-ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; Steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire Irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The BURTON and all other PATENT STOVES, with radiating hearth-plates.

BEDSTEADS, BATHS, and LAMPS.—William S. Burton has SIX LARGE SHOW ROOMS, devoted exclusively to the SEPARATE DISPLAY of LAMPS, BATHS, and METALLIC BEDSTEADS. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

| | | | | | | |
|---|---|---|---|---|---|---|
| Bedsteads, from .. .. | 12*s.* 6*d.* | | to | £20 | 0*s.* | each |
| Shower Baths, from .. | 8 | 0 | to | 6 | 0 | ,, |
| Lamps (Moderateur), from | 6 | 0 | to | 8 | 10 | ,, |

(All other kinds at the same rate).
Pure Colza Oil .. .. .. 4*s.* 3*d.* per gallon.

CUTLERY, WARRANTED.—The most varied assortment of TABLE CUTLERY in the world, all warranted, is on sale at William S. Burton's, at prices that are remunerative only because of the largeness of the sales.

| Ivory Handles. | Table Knives, per dozen. | Dessert Knives, per dozen. | Carvers, per pair. |
|---|---|---|---|
| 3½-inch ivory handles .. .. .. .. | 12*s.* 6*d* | 10*s.* 0*d* | 4*s.* 3*d* |
| 3½-inch fine ivory handles .. .. .. | 15 0 | 11 6 | 4 3 |
| 4-inch ivory balance handles .. .. | 18 0 | 14 0 | 4 9 |
| 4-inch fine ivory handles .. .. .. | 24 0 | 18 0 | 7 3 |
| 4-inch finest African ivory handles .. | 32 0 | 26 0 | 11 0 |
| Ditto, with silver ferules .. .. .. | 40 0 | 33 0 | 12 6 |
| Ditto, carved handles, silver ferules .. | 50 0 | 43 0 | 17 6 |
| Nickel electro-silver handles, any pattern | 25 0 | 19 0 | 7 6 |
| Silver handles of any pattern .. .. | 64 0 | 54 0 | 21 0 |
| Bone and Horn Handles.—Knives and Forks per dozen. | | | |
| White bone handles .. .. .. .. | 11*s.* 0*d* | 8*s.* 6*d* | 2*s.* 6*d* |
| Ditto balance handles .. .. .. | 21 0 | 17 0 | 4 6 |
| Black horn, rimmed shoulders .. .. | 17 0 | 14 0 | 4 0 |
| Ditto very strong riveted handles .. .. | 12 0 | 9 0 | 3 0 |

The largest stock in existence of Plated Dessert Knives and Forks, in cases and otherwise, and of the new Plated Fish Carvers.

WILLIAM S. BURTON, GENERAL FURNISHING IRONMONGER by appointment to H.R.H. the Prince of Wales, sends a CATALOGUE gratis and post paid. It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro-Plate, Nickel Silver and Britannia Metal Goods, Dish-Covers, Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea-Trays, Urns and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Room Cabinet Furniture, &c., with Lists of Prices, and Plans of the 20 large Show Rooms, at 39 Oxford Street, W.; 1, 1a, 2, 3, and 4, Newman Street; 4, 5, and 6, Perry's Place; and 1 Newman Yard, London.

THE EDINBURGH REVIEW, No. CCXLII., will be published on FRIDAY NEXT.
Contents:
I. Queensland.
II. Gregorovius' Mediæval Rome.
III. Cadastral Survey of Great Britain.
IV. Macknight's Life of Lord Bolingbroke.
V. Austin on Jurisprudence.
VI. The Royal Academy.
VII. Chinchona Cultivation in India.
VIII. Phillimore's Reign of George III.
IX. Tara: A Mahratta Tale.
X. The Colonial Episcopate.
London: Longman & Co. Edinburgh: A. & C. Black.

Pear Culture.

A DESCRIPTIVE CATALOGUE of PEARS, by Thomas Rivers (separate from the Catalogue of Fruits) sent free on application.
Nurseries, Sawbridgeworth.

Roses.

THE DESCRIPTIVE CATALOGUE of ROSES for the present season, the 30th Edition, by Thomas Rivers, is now ready, and will be sent free on application.
THE ROSE AMATEUR'S GUIDE. By Thomas Rivers. 8th Edition, 4*s.*
London: Longman & Co., or post free from the Author, Nurseries, Sawbridgeworth.

122, Fleet Street, London.

New Works.

MESSRS. JOHN MAXWELL and CO. beg to announce that the undermentioned Works may be now had at every Circulating Library. Subscribers to those useful Institutions should not experience any delay in obtaining Copies, as adequate Editions have been printed, and the type is kept standing, to meet every demand as quickly as it arises.
1. SACKVILLE CHASE. Three Vols.
2. STRONGHAND. By G. Aimard. Two Vols.
3. BREAKFAST in BED. By G. A. Sala. One Vol.
4. THE REV. ALFRED HOBLUSH and his CURACIES. One Vol.
5. SECRETS of MY OFFICE. One Vol.
6. CROSS of HONOUR. One Vol. [*This day.*
London: John Maxwell & Co., 122, Fleet Street, E.C.

THE NEW WEATHER INDICATOR. By L. Casella, for correctly foretelling Changes in the Weather, either for Rain, Wind, or Moisture. Particulars, with rules, by inclosing stamp.
23, Hatton Garden, London, E.C.

7th Edition, 10th Thousand, price 2*s.* 6*d.*, post-free, 32 stamps.
DISEASES of the SKIN; a Guide to their Treatment and Prevention. Illustrated by Cases. By Thos. Hunt, F.R.C.S., Surgeon to the Western Dispensary for Diseases of the Skin, 21a, Charlotte Street, Fitzroy Square.
"Mr. Hunt has transferred these diseases from the incurable class to the curable."—*Lancet.*
London: T. Richards, 37, Great Queen Street, W.C.

EVENING LECTURES at the ROYAL SCHOOL of MINES, JERMYN STREET.
Professor Huxley, F.R.S., will COMMENCE a COURSE of TEN LECTURES on the ELEMENTS of ZOOLOGY, on FRIDAY, October 16, at 8 o'clock, to be continued on each succeeding Friday evening at the same hour.
Tickets for the whole Course, price 5*s.*, may be had at the Museum of Practical Geology.
Trenham Reeks, Registrar.

SCOTTISH UNION INSURANCE COMPANY (FIRE and LIFE), 37, Cornhill, London; established 1824.
Fire Insurances on the most liberal terms and conditions.
New Life Policies were issued during the year ending July 31 last for 490,000*l.*
By order of the Directors, F. G. Smith, Secretary.

Agents Wanted.

THE CALEDONIAN INSURANCE COMPANY (Established 1805 by Royal Charter and special Act of Parliament) is prepared to appoint additional AGENTS for either the Fire or Life Departments. Commission liberal.
Applications to be addressed to James Muir, Esq., Resident Secretary, Caledonian Insurance Office, 39, Lothbury, E.C.

DAILY or OCCASIONAL GOVERNESS.—A Lady who has resided many years in France, seeks a re-engagement in London, to instruct in English, French, and Music with Singing (by the new system); the rudiments of German and Drawing. Terms moderate.—H. H., 29, Queen's Road, Camden Square, N.W.

## News of the Week.

The French papers continue to maintain that the Polish question has entered on a new phase since the declaration made by Earl Russell concerning the treaties of 1815. The *Europe*, of Frankfort, which is said to have been purchased by the Russian Government, repeats the report, current last week in Paris, that Earl Russell has addressed a letter to the Austrian Government proposing that an identical note should be addressed by the Three Powers to the Cabinet of St. Petersburgh, declaring that Russia has forfeited all her rights to Poland under the treaties of 1815. The Emperor of the French, who arrived at Paris on Tuesday night, presided on Wednesday over a Council of Ministers, at which an application made to the French Cabinet by Prince Czartoryski, in the name of the National Government, for the recognition of the Poles as belligerents, is said to have been discussed.

A despatch from Frankfort announces that in the sitting of the Federal Diet on Thursday, the four Governments called upon by the Federal decree of the 1st inst. to carry out the "execution" in Holstein, announced their willingness to obey the order in the event of its becoming necessary.

The Archduke Maximilian received at Miramar on Saturday the Mexican deputation sent to make him the offer of the Throne of Mexico. His Imperial Highness expressed his readiness to accept the Crown, on being satisfied by a *plébiscite* of the whole country that it was the spontaneous wish of the nation, and on guarantees being given for the ntegrity and independence of the monarchy.

The Ionian Parliament on Monday voted the annexation of the Ionian Islands to Greece, and passed a vote of thanks to England for her concession to its wishes.

By the Overland Mail from India we learn that a band of 2000 armed men, subjects of the Ameer of Cabul, have crossed the Indus near Peyhour, and invaded British territory. Many of them were Sepoys formerly in our service; and apprehensions are entertained that they are merely the vanguard of a larger force. In consequence of these demonstrations, the largest camp of exercise which has ever been seen in India in times of peace, consisting of upwards of 11,000 sabres and bayonets, with 3300 horses and 47 guns, has been ordered to assemble at Lahore; and the Governor-General has issued a peremptory summons to the Rajah of Cashmere, and to all the sons of the late Dost Mahomed, to attend the forthcoming "durbar" in that capital, when matters of an important character will be discussed. The Cawnpore authorities, after hearing and sifting the evidence of the informers, have definitively pronounced that the prisoner sent to them is not the Nana Sahib.

From the United States we have the details of the Federal defeat in Tennessee. The result of the first day's battle was not decisive, but on the second the Federal army was cut in two, and it

was only the stubborn resistance of General THOMAS on the left which saved the whole army from annihilation. Four divisions were broken and dispersed, and fled to Rossville in uncontrollable disorder. General ROSENCRANS attributes the defeat to General M'COOK's disobedience of orders; while by others it is attributed to the better tactics of the Confederate generals and to the absence of the Federal commanders, ROSENCRANS himself having returned to Chattanooga before the engagement was over. The Federals admit a loss of upwards of 10,000 in killed and wounded, and the Confederates admit a loss of 5000. The latest news states that the Confederates are in great force in front of General ROSENCRANZ, and that if he be not quickly reinforced, there is every probability that he will be flanked and compelled to retreat across the Tennessee. General BURNSIDE, who is marching to reinforce him, is also in a position of great peril, and rumours are already current that the whole of his force has been captured. A portion of General MEADE's army has crossed the Rapidan, and the two armies are drawn up in line of battle, within a few miles of each other. The Confederates hold all the fords of the Rapidan in force, and are prepared to oppose General MEADE's advance. The *New York Herald* mentions a report that Mr. STEPHENS, the Vice-President of the Confederate States, has gone to Europe with an offer to cede Texas to France in return for French assistance to the Confederate Government. The news that the Confederate rams will not be allowed to leave Liverpool has caused a kindly feeling on the part of the Federal Government towards England.

## Home News.

THE QUEEN IN SCOTLAND.—On Wednesday week the Queen drove out, accompanied by Prince Louis of Hesse. In the afternoon her Majesty drove to the Ballochbuie, accompanied by Princess Helena. The Prince and Princess Louis of Hesse rode on horseback. The Prince and Princess of Wales dined with her Majesty. The Judge-Advocate-General, the Right Hon. T. E. Headlam, arrived at the Castle and had an audience of her Majesty. On Thursday week the Queen went out with Prince and Princess Louis of Hesse. The Princesses Helena and Louisa rode to Invercauld. On Friday morning the Queen went out, accompanied by Princess Louis of Hesse and Princess Helena. In the evening her Majesty, accompanied by Prince and Princess Louis of Hesse, the Princesses Helena, Louisa, and Beatrice, went to Abergeldie Castle to receive the Crown Prince and Princess of Prussia, who arrived from Edinburgh, accompanied by their three children, in the course of the evening. On Saturday morning the Queen, accompanied by the Crown Prince of Prussia and Princess Helena, walked in the grounds. In the afternoon the Queen, accompanied by Princess Louisa, drove round the Lion's-face. The Crown Prince and Princess of Prussia visited her Majesty. All the keepers, servants, and tenants of the Balmoral and Abergeldie estates were drawn up near the bridge to welcome the Crown Princess on her return to the Highlands. The Prince and Princess Louis of Hesse and Princess Helena went out riding. On Sunday afternoon the Queen, accompanied by Princess Helena, attended Divine service in the parish church of Crathie. The Rev. A. Anderson officiated. On Monday morning the Queen, accompanied by the Princess Louis of Hesse, went out in the grounds. In the afternoon her Majesty, accompanied by Prince and Princess Louis of Hesse, drove to the Lynn of Quoich. The Crown Prince and Princess of Prussia dined with the Queen. On Tuesday morning Prince Alfred left the Castle for Holyrood Palace. The Queen went out, accompanied by Princess Louisa. In the afternoon the Queen, accompanied by the Crown Prince and Princess of Prussia and Princess Louisa, drove round by the Lynn of Muich. Prince and Princess Louis of Hesse, Princess Helena, and Prince Arther rode up the Glen of Muich, and drove back from Alt-na-Guithasach.

MEMORIAL OF THE PRINCE CONSORT.—A statue of the Prince Consort by Baron Marochetti, subscribed for by the noblemen and gentry of the county and city of Aberdeen, has just arrived in that city. It was intended that the statue should be inaugurated yesterday, and her Majesty having been informed of the circumstance, the Lord Provost received the following communication from the Hon. General Grey :—

"Balmoral, Oct. 8, 6 A.M.

"My dear Lord Provost,—I am now desired by the Queen to let you know that it is her Majesty's intention to attend the uncovering of the statue of the Prince Consort on Friday next. Most painful as the effort will be to her Majesty, and entirely unequal as she feels to the exertion, yet she cannot allow this memorial to her beloved husband to be inaugurated at Aberdeen, during her stay at Balmoral, without wishing to show by her presence as well her own unbounded love and respect as her heartfelt appreciation of this mark of affection of the people of Aberdeen for one who dearly loved their country, and considered the few weeks he spent annually among them as some of the happiest of the year. The Queen is sure she may trust to your best endeavours, and to the kind feelings of the people, to make her reception in Aberdeen as little trying to her as possible, so that she may be better able to get through her part in what must be to her a distressing and yet a gratifying ceremony. I remain, my dear Lord Provost, yours very faithfully, C. GREY."

The inauguration, however, by desire of Her Majesty, was subsequently postponed from yesterday to Tuesday, the 13th.

THE PRINCE AND PRINCESS OF WALES on Friday evening honoured the Lord Provost of Edinburgh with their company at a dinner and evening party. Their Royal Highnesses left Edinburgh on Saturday morning by the express train, and arrived at Marlborough House at a quarter past 10 at night. On Sunday morning the Prince and Princess attended divine service in the Chapel Royal, St. James's. The sermon was preached by the Subdean. On Monday morning the Prince of Wales rode on horseback. The Princess of Wales took a carriage drive. In the evening the King of Greece arrived at Marlborough House, on a visit to the Prince and Princess. On Tuesday morning the Prince, accompanied by the King of Greece, rode on horseback. The Princess took a carriage drive. In the afternoon the Prince and Princess, accompanied by the King of Greece, took a drive in an open carriage. In the evening the Prince of Wales had a dinner party to meet his Majesty. On Wednesday the Prince and Princess, with the King of Greece, took a drive in an open carriage, and visited the Duchess of Inverness at Kensington Palace, and in the evening honoured the performance at the Adelphi Theatre with their presence. On Thursday the Prince, accompanied by the King of Greece, went to Richmond Park and spent the day shooting with the Duke of Cambridge. The Princess took a carriage drive in the forenoon, and in the afternoon took an airing in an open carriage. In the evening the Prince and Princess, with the King of Greece, honoured the performance at the Haymarket Theatre with their presence.

PRINCE ALFRED arrived in Edinburgh from Balmoral on Tuesday, and took up his abode in Holyrood Palace, where he is to reside for several months in the prosecution of his studies. His Royal Highness is attending the meetings of the Social Science Congress, which opened on Wednesday last. The Prince's stud, consisting of eight horses, one of them an Arabian, two Shetland ponies, two carriages, and a pony phaeton, arrived on Monday from London, for the use of his Royal Highness while in Edinburgh.

THE KING OF GREECE landed at Dover on Monday afternoon, and proceeded to London by special train on the London, Chatham, and Dover Railway, performing the journey in two hours and 10 minutes. On arrival at the Victoria station his Majesty was met by the Prince of Wales, who accompanied his Majesty to Marlborough House, where the King was received by his sister, the Princess of Wales.

PRINCE WILLIAM OF HESSE-DARMSTADT arrived at Thomas's Hotel last evening, and after a short stay in London will proceed to Balmoral on a visit to her Majesty.

LORD LIEUTENANCY.—The Queen has appointed the Earl of Hopetoun to be Lieutenant and Sheriff Principal of Linlithgowshire in the room of the Earl of Rosebery, resigned.

SERIOUS ILLNESS OF LORD LYNDHURST.—Lord Lyndhurst has been dangerously ill since Friday from an attack of low fever, attended with great weakness, and it is feared that owing to his great age (92), he will be too weak to rally. On Tuesday there was a favourable change, but symptoms have since occurred which leave but slight hopes of his recovery.

PARLIAMENTARY MOVEMENTS.—The appointments of Sir R. Palmer and Mr. Collier to the offices of Attorney-General and Solicitor-General have created vacancies for Richmond and Plymouth. Both the learned gentlemen have offered themselves for re-election, and it is understood that no opposition will be offered to their return. The Coventry election terminated on Thursday in the election of Mr. Treherne, the Conservative candidate, by a majority of 134 over Mr. Arthur Peel, the numbers being 2263 to 2129.

THE CHANNEL FLEET arrived at Plymouth on Saturday. The Edgar flagship, Warrior, Resistance, and Emerald, are under orders to proceed to Portsmouth for the winter. The Black Prince, Defence, and Royal Oak have gone into harbour at Plymouth.

## Foreign.

FRANCE.—The Emperor and Empress went on Friday last to San Sebastian, where their Majesties met with a cordial reception. The Emperor and the Prince Imperial arrived on Sunday evening at Bordeaux, where they remained on Monday. On Tuesday morning the Emperor proceeded to La Rochelle, and was present at the artillery experiments. His Majesty returned to Paris in the evening, and on Wednesday presided at a Council of Ministers, at which it is said that an application of Prince Czartoryski for the recognition of the Poles as belligerents was discussed. The Emperor presided at another Council yesterday. The Empress embarked on Saturday morning at Biarritz for Lisbon, Cadiz, Seville, and Toulon, returning to France by way of the Mediterranean. Her Majesty arrived at Seville on Wednesday evening, and will resume her journey to-day. Prince Napoleon and M. Drouyn de Lhuys returned to Paris on Saturday morning. It is rumoured that the French Chambers will be opened very shortly, and that the financial statement of M. Fould will be published in the second fortnight of October. M. Billault has been ill, but is now so far recovered that he will shortly be able to resume his official duties. The *Constitutionnel* of Friday publishes an article, signed by M. Pauline Limayrac, giving the reasons why France accepted the treaties of 1815 as the basis of negociations on the Polish question. M. Limayrac says :—

"Russia having refused to continue the negociations, England, who proposed those treaties as the basis of negociations, has acknowledged that they are now a dead letter and ought to be considered void. According to Russia they are already valueless as far as the Poles are concerned, and according to Earl Russell, they are now void for Russia. Framed with the object of guaranteeing liberty to Poland, they would now be nothing more than a guarantee for the domination of Russia. This would be an injustice to which Europe could not lend her hand."

The same paper of Tuesday condemns the exaggerations of MM. Guéroult and Emile de Girardin, and says :—

"The Imperial policy knows how to ally prudence with firmness. It is incorrect to say France is responsible for the bloodshed in Poland. The Polish question has entered a new phase in consequence of the declaration of Earl Russell concerning the treaties of 1815. Upon this new ground France will do her duty, as she has done in the recent negotiations, and will not give way to passionate excitement. Conservative France has no more to fear an adventurous war under the negotiator of the peace of Villafranca than liberal France has to fear a compromising peace under the conqueror of Solferino."

*La France* says that the details published by the journals are Russian fabrications intended to compromise France and Austria. It opposes the idea of a war waged by France alone, and says that a war undertaken by the three Powers is alone possible. "If," it says, "the Polish question should, unhappily, have to be decided by force of arms, France would be neither more nor less obliged to go to war than her allies." In another article it says :—

"The English Cabinet has taken no resolution tending to convert Earl Russell's words into diplomatic action. France is not disposed to provoke overtures. She has nothing better to do than to watch the course of events. Earl Russell's declarations are for France a moral satisfaction, and permit her to wait without her dignity suffering."

The *Pays* says that France is determined to preserve to the Polish question its European character, and not to separate its action from that of the other Powers. The *Patrie* says that Prince Czartoryski has, in the name of the Polish Government, demanded of the Cabinets of Paris and London the recognition of the Poles as belligerents. In another article it says :—

"We have reason to believe that Earl Russell is about to address a note to the English representatives abroad, setting forth the legal consequences, which, as far as concerns the possession of Poland by Russia, would result from the non-fulfilment of the treaties of 1815. The Government of the Emperor would join in such a step by addressing a communication to the Powers which signed the final act of the Vienna Congress."

Most of the Powers have declared their intention of recognising the Mexican empire. The Powers which have already recognised it are—England, Austria, Spain, Prussia, Belgium, Bavaria, Saxony, Turkey, Hanover, Wurtemberg, Holland, Sweden, and Denmark. No Power has manifested any opposition.—M. Nadar, a well-known photographer in Paris, has taken out a patent for an "aërial screw," which is to solve the difficult problem of aërial navigation. But his new machine not being yet completed, he has constructed a monster balloon, called the "Géant," in which he ascended on Sunday afternoon from the Champ de Mars, with 13 companions, among whom were the Prince de Sayn-Wittgenstein, Count de St. Martin, and the Princess de la Tour d'Auvergne. M. Nadar's prospectus said that he expected to be able to remain in the air for four or five days, and that with the prevailing westerly winds it was not impossible he might be landed in China! The balloon itself was a formidable looking machine, and required to fill it about 20,000 cubic feet of gas. Instead of the ordinary car it took up a complete two-storied house, all built of wicker-work, with rooms, &c., for the passengers. An ample commissariat was provided, and not the least curious part of the programme was a code of regulations by which the passengers pledged their word of honour not to smoke, not to take up any matches with them, and in case of disobedience to the captain, agreed to be "immediately landed." After the balloon was let loose it soon became evident that the weight it had to carry was too great to enable it to proceed very far. It passed over Paris from S.W. to N.E. about 200 yards above the house-tops, and descended about 9 o'clock in the evening near Meaux. Three violent shocks were experienced, at the last of which the car of the balloon was thrown on its side. The balloon was then secured. Several passengers were slightly bruised. Another ascent will take place on the 18th inst.

SPAIN.—The Democratic Committee has issued a proclamation recommending the electors to abstain from voting, and demanding universal suffrage, liberty of the press, and administrative decentralisation. The Ministry await the result of the elections with confidence, and intend to lay before the Cortes the draft of a new law on the press, the principal features of which will be trial by jury and a reduction in the existing scale of fines.

PORTUGAL.—The Empress of the French arrived at

Lisbon on Monday, and paid a visit of congratulation to the King. Her Majesty proceeded on her voyage to Cadiz on Tuesday afternoon. The Sardinian fleet has arrived for the baptism of the young Prince.

Denmark and the Duchies.—The *Faedrelandet* of Copenhagen of Wednesday says that a treaty of alliance with Sweden has now been concluded, and will be signed in a few days. Differences between Denmark and Sweden were not the cause of the delay, which arose from Sweden wishing to first inform the Western Powers of this step. France has replied in a very friendly and encouraging manner to the Note of the Swedish Government. Prince Oscar of Sweden arrived at Gluckstadt on Monday.

Belgium.—The *Kreuz Zeitung* of Thursday announces that the King of the Belgians, on the journey to Italy which he will shortly make, will have an interview with the King of Prussia in Baden.

Frankfort.—In the sitting of the Federal Diet on Thursday, the four Governments called upon by the Federal decree of the 1st inst. to carry out the execution in Holstein announced that they would obey the order in the event of its becoming necessary. Oldenburg has renewed its former proposal to declare the stipulations in the treaty of 1851-1852 to have lapsed should the execution be opposed by Denmark.

Prussia.—The *Neue Preussische* (Kreuz) *Zeitung* of Monday says that a Royal order has been addressed to the Minister of War, directing that at the forthcoming elections officers and soldiers are not to be urged in an official manner to participate in the elections. According to an ordinance of the Ministry of State, the expenses incurred for the payment of substitutes to replace public functionaries paid by the State, who have accepted nominations as members to the Chamber of Deputies, are henceforth no longer to be defrayed by the State. The public authorities are to be instructed by the Ministers under whose jurisdiction they may be placed to detain from the salary of the functionary who has accepted the nomination such an amount as may be necessary for the payment of the substitute, and to employ it for that purpose.

Austria.—In the Lower House of the Reichsrath on Monday the Minister of State read the Imperial Message, again exceptionally empowering the House, with its present complement of members, to discuss the Budget for the whole Empire for 1864. The House, however, resolved to wait the arrival of the Transylvanian deputies before discussing the Budget. The Mexican deputation arrived at Trieste on Thursday, the 1st inst., and was received on Saturday by the Archduke Maximilian. Don Gutierez de Estrada spoke in the name of the deputation. The Archduke, in reply, said:—

"The wishes of the Mexican Assembly of Notables have touched me deeply. It cannot but be exceedingly flattering for our House that they have turned their eyes to the descendants of Charles V. Although the mission of maintaining the independence and welfare of Mexico on a solid foundation, and with free institutions, is a most noble one, I must, nevertheless, in complete accordance with the views of the Emperor Napoleon, declare that the monarchy cannot be re-established on a legitimate and firm basis without a spontaneous expression of the wishes of the whole nation. I must make my acceptance of the throne dependent upon a *plébiscite* of the whole country. On the other hand, it would be my duty to ask for guarantees, which are indispensable to secure Mexico against the dangers which threaten her integrity and independence. Should these guarantees be obtained, and the universal vote of the nation be given in my favour, I am ready to accept the crown, subject to the approval of the Emperor, my brother. In case Providence should call me to this high mission I must at once declare that it is my firm intention to open the path of progress by a Constitution, as was done by my brother, and after the complete pacification of the country to seal the fundamental law with an oath. By such means only can a new and really national policy be called into existence by which all parties, forgetting old disputes, would co-operate with me in raising Mexico to a prominent rank among nations. Carry back with you these frank declarations to your fellow-citizens, and act in such a manner that it may become possible for the nation to declare what form of government it desires to have."

It is believed that the conditions of the Archduke's acceptance of the crown are the same as those named in October, 1861, according to which he considers the co-operation of France and England to be the only means by which order can be re-established, and that a free manifestation of the wish of the whole nation is absolutely necessary. The Archduke stated, in conversation with the members of the deputation, that he would only accept the crown if all these conditions were fulfilled, and that he would now await their fulfilment.

Russia.—Accounts from St. Petersburg state that the party which recommends honourable concessions to Poland regains ground. The Frankfort journal, the *Europe*, has been purchased by the Russian Government for the sum of 80,000 fr. The frigate Oleg has left for Toulon. She is ordered, in company with the Sotiol, to escort the King of Greece when he embarks at Marseilles. The Russian Ambassador in Berlin has notified to Russian subjects of Polish extraction from the western provinces who are at present residing abroad that on the expiration of their passports they must return to Russia without delay. Those whose passports have already expired are expected to return immediately. All persons not complying with this order are threatened with the confiscation of their property.

Poland.—An order of the day of the National Town Captain of Warsaw, dated the 1st inst., announces that the attempt upon the life of General Berg took place by order of the National Government. This measure was adopted with the view of compelling General Berg to declare his policy of extermination, which he would otherwise have carried out gradually and imperceptibly. In another proclamation the National Town Captain exhorts the inhabitants to have patience, and declares that the gendarmes will redouble their vigilance. It is said that Prince Czartorysky has been instructed to take formal steps in the name of the National Government to obtain from the Cabinets of London and Paris the recognition of Poland as a belligerent nation. Taczanowski has been brought before a court-martial by order of the National Government, in order that the circumstances of his late defeat may be investigated. The Commissariat Department of Warsaw has been informed that 50,000 fresh troops will shortly arrive in the kingdom of Poland, and remain there during the winter months. Every little town will be garrisoned. A Russian spy was stabbed on Monday at the Hôtel de l'Europe. The perpetrator has not been discovered. In consequence of this attempt the hotel was occupied by the military, and all the male inmates were arrested. A workman employed in the factory of a Mr. Evans has been shot by the Russians, in the factory yard, for making grenades. The factory has been closed, by order of General Berg, and is to remain so until Mr. Evans, who is a British subject, shall have paid a fine of 15,000 roubles. A war contribution of 8 per cent. on their net income has been imposed upon all house proprietors in Warsaw. General Wysocki, who up to the present has been confined in the prison of Lemberg, was on Tuesday transferred to Linz, where he will be released on parole. The Cossacks have killed on the high road the Councillor of Justice Blodowski and the proprietor Dangel. Budzellowicz has been shot at Wilna. Five fresh executions have taken place in Warsaw. General Mouravieff has ordered the deportation to Siberia of the population of Dubicze and Krakae, in the district of Lida. A similar measure has been carried out with the population of Kleciski, in the district of Osmiana. Colonists from Russia will take possession of the lands of the deported inhabitants. Among 200 other persons recently sent to Siberia were Count Ostrowski, son of the Minister for Foreign Affairs, and L. Lewinski, a Councillor of State. Count Stanislas Tarnowski has been arrested in Cracow. Meisels, Chief Rabbi at Warsaw, has been arrested in that city. An ordinance issued by Lowchine, Director of the Warsaw police, orders all house proprietors to make domiciliary visits every day to the apartments of their lodgers, and states that the proprietors will be answerable to the military tribunals for all arms found in their houses. The inhabitants are greatly exasperated, and apprehensions of disturbance are entertained in consequence of the severities of the Russians. The Russian Government is unable to find an editor for the official journal, although it has offered a salary of 24,000 francs. On the 30th engagements between the insurgents and the Russians took place near Lelow. Orlowski's corps has also encountered the Russians under Byszewa. The Russians have pillaged the castle of Boniewo, and blown up with gunpowder the Capuchin convent at Lomdworow, in the woywodschaft of Kalisch.

Italy.—The Italian Minister at St. Petersburg, the Marquis de Pepoli, concluded on the 3d inst. a treaty of commerce with the Russian Government, by which Italy is placed on the same footing as the most favoured nation. The treaty expressly stipulates that Italian State papers and all shares the interest of which has been guaranteed by the Italian Government, may be dealt in and quoted on the Russian Stock Exchange. Sir James Hudson was received in audience by the King on Sunday, and presented his letters of recall. The Hon. Mr. Elliot was expected to arrive at Turin on Thursday. The King will be present at the ceremony of opening the railway to Foggia. Prince Humbert will leave for Naples on the 14th inst., accompanied by the Minister of Marine. The Minister of War left for the same city on Wednesday. The official *Gazette* of Friday publishes a Royal decree authorising an additional expenditure of about 8,000,000 lire in the budgets of the different ministers, and at the same time ordering various reductions to the same amount in the expenses of other branches of the public administration. The general Budget of expenditure for 1863 has not been increased. The report of the Minister of Finance which precedes the decree points out the inconvenience resulting from the privilege granted to the Government to decree fresh credits during the parliamentary recess, and the remedies which are to be applied by the new law on the public accounts which has already been submitted to Parliament. In the present case the amount voted for the Budget of this year will not be exceeded. At a meeting of the shareholders of the National Bank of Turin on Wednesday, the statutes for a new National Bank for the whole of Italy, proposed by the Minister of Commerce, were favourably received. General Pallavicini has thrice encountered and beaten the band of Caruso Schiavone, and is energetically pursuing it. The Public Consistory at Rome was occupied on Thursday morning in the beatification of Queen Christina of Naples. Marie Alacoque, of Burgundy, who was declared an object of veneration in 1834, as the founder of the Order of the "Dames du Sacré Cœur," was formally canonised as a Saint. The Pope's Secret Consistory afterwards appointed four bishops for Spain, one for Portugal, and three *in partibus*. General Montebello has published an order of the day acquainting his soldiers with the disgraceful act of the Papal gendarmes in firing upon the Italian officer on the frontiers, and with the equally blameable conduct of the Pontifical Government, which protected such assassins. The Papal police have seized a secret printing office, in which the Mazzinian journal *Roma o Morte* was printed. The police have also seized a revolutionary correspondence.

Sicily.—A column of troops, commanded by General Govone, has commenced a perquisition, with the object of arresting all persons who have evaded the conscription. Seventy of these persons have already presented themselves. The population is quiet and favourable to the measure. Dr. Maggiorani, who was expelled from Rome, where he was professor in the University and physician to the French Embassy, has just been appointed professor in the University of Palermo.

Ionian Islands.—The Ionian Parliament on Monday voted the annexation of the Islands of Greece, and passed a vote of thanks to England for her concession to its wishes. The Lord High Commissioner has since officially received the President of the Ionian Parliament, who remitted to his Excellency the final reply of the Parliament in favour of annexation to Greece. Much popular rejoicing is manifested at Corfu.

Turkey.—The Budget was adopted by the Grand Council on Sunday last.

Syria.—The state of affairs in Syria is still unsatisfactory. Bands of Druses, escaped from Hauran, have appeared near Damascus, and intercept the caravans of provisions and merchandise.

Egypt.—The Nile had not risen any higher on the 7th, and had not caused any fresh destruction of property.

India.—A telegram from Peshawur states that 2000 armed men from Sittara, subjects of the Ameer of Cabul, have crossed the Indus near Peyhour, and invaded British territory. They are chiefly Hindostanees, many of them Sepoys formerly in our service; and it is suggested that they are merely the vanguard of a larger force. The 1st Punjab Infantry and the Mountain Train from Attock have already gone against them, and a large military force is to assemble at Lahore in December, consisting of four troops of Royal Horse Artillery, four battalions of Field Artillery, two regiments of British Hussars, four regiments of Native Cavalry, five regiments of British Infantry, six regiments of Native Infantry, and four companies of Sappers and Miners, making 11,020 men in all, with 3320 horses and 47 guns; the largest force ever assembled in Upper India in times of peace. It has been intimated in strong terms to the Rajah of Cashmere and to the sons of the late Dost Mahomed that their presence is desired in Lahore to meet the Viceroy, when matters of an important nature will be discussed. The reputed Nana Sahib, captured at Ajmere, arrived at Cawnpore on the 22d of August, having been sent there by Government for examination. The Cawnpore authorities, after hearing and sifting all the evidence that could be obtained at Cawnpore and Bithoor, definitively pronounced that the prisoner is not the Nana Sahib.

China.—The neighbourhood of Shanghai was quiet on Aug. 20. 1000*l.* has been offered for the capture of Burgevine.

Japan.—News received from Japan states that the expulsion of foreigners has been openly avowed. Admiral Kuper has sailed with the fleet from Yokohama, probably to chastise the Prince of Satsuma.

New Zealand.—The war in New Zealand is spreading, and the Maories are appearing in great numbers. Reinforcements are necessary. Volunteering is progressing.

United States.—The press correspondents of the New York papers represent the battle of Chicamauga, on the 19th ult., as a drawn battle; but in the engagement of the 20th the Federal General Rosencrans suffered a disastrous defeat, which must put him on the defensive for some time to come. The corps of General Thomas was almost the only one which did any fighting. Those of Generals M'Cook and Crittenden were both badly beaten and driven in all directions on the first day, and on the second the first charge of the Confederates cut their lines in two, routed the entire commands, and drove them in disgraceful panic into Rossville and Chattanooga. The left and right were so completely routed that the troops became disorganised, immense numbers running to the rear after the retreat. The divisions of Generals Baird, Negley, Reynolds, Brennons, and Harker alone retained cohesiveness, and took a position along the base of the Mission Mountains for another fight, and held their ground against another attack by Bishop Polk's corps until the Confederates abandoned the contest. General Rosencrans attributes the loss of the battle to General M'Cook's disobedience of orders. It is said, however, that the Federal army suffered much from the absence of command, General Rosencrans himself having returned to Chattanooga before the engagement was over, and two corps commanders being also absent. It is also stated that the defeat was rather the result of inefficient tactics than of deficient numbers, and that Gen. Thomas only saved the army from utter annihilation. The Federals admit a loss of 50 cannon and 10,000 men killed, wounded, and missing, besides a large amount of material. The Confederates estimate their entire loss at 5000. The latest accounts state that General Rosencrans is safe in his present position, which according to some of the reports is not at Chattanooga itself, but on Mission Ridge, about 10 miles south of that

place, and which can only be assailed by regular siege. A reconnaissance on the 24th discovered the Confederates in force in his front. The Confederate infantry are massed in Chicamauga Creek and Valley. Several hundred guerillas passed through Winchester, Tennessee, on the 24th, believed to be *en route* to harass General Rosencrans' line of communication. Great anxiety is still felt for the safety of General Burnside, and telegrams from Louisville of the 25th report that rumours were prevalent that the whole of his force had been captured, a Confederate column having crossed the Mission Ridge, it was supposed to intercept him. General Bragg officially reports under date of the 21st:—

"The enemy retreated on Chattanooga last night, leaving his dead and wounded in our hands. His loss is very large in men, artillery, small arms, and colours. Ours is heavy, but not yet ascertained. The victory is complete, and our cavalry is pursuing. With the blessing of God, our troops have accomplished great results against greatly superior numbers. We have to mourn the loss of many gallant officers. Brigadier-Generals Preston Smith, Helm, and Deshles are killed; Major-General Hood and Brigadier-Generals Adams, Gregg, and Brown are wounded."

General Hood, who was reported by General Bragg among the wounded, has since died. He was one of the most promising officers in the Confederate service. The expected battle on the Rapidan has not yet taken place. There are rumours that the Confederate General Hill is at Fredericksburg, marching to flank General Meade and cut off his communication. The opinion exists in military circles that no considerable portion of General Lee's army has been sent out of Virginia. The Southern papers state that the opposing armies are drawn up in line of battle from a half to a quarter of a mile apart, and at some points in full view of each other. The Confederates hold all the fords of the Rapidan in force, and are prepared to oppose General Meade's advance. They are also reported to be threatening the Federal lines in North Carolina. General White's Confederate cavalry have been marauding in Maryland. The latest intelligence from Charleston states that since the evacuation of Forts Wagner and Gregg by the Confederates, and the occupation of Morris Island by the Federals, 20 days days previously, operations seem to have been completely suspended. Neither General Gilmore nor Admiral Dahlgren had fired a shot during that period which had done any damage either to the forts or the city. The Confederate steamer Sumter has been sunk in Charleston Harbour. She was mistaken by the garrison of Fort Moultrie for a Federal steamer, and consequently fired upon. 600 persons were on board at the time, all of whom, excepting 20, escaped uninjured. It is now stated that the expedition to the Teche country, of which the first division under General Franklin met with such a disastrous repulse at Sabine City, was undertaken without the consent of General Banks, the orders for its despatch being issued from Washington. A great fight had taken place between the second division of the expedition under General Herron, and a large Confederate force near Morganza, south of the mouth of the Red River, in which it was believed that General Herron had been defeated. The third column, under General Washburne, met with no better success, and had been unable to advance into the interior, from the want of gunboats to protect his crossing of Berwick's Bay. It was reported in New Orleans that the Confederates were in possession of Grand Gulf and Fort Adams, on the Mississippi, both of which places they were fortifying. Considerable anxiety, if not alarm, is expressed in Washington at the probable recognition of the Southern Confederacy by France. A letter from Washington states that the Emperor Napoleon consented to form an alliance with the Confederates and assist them to establish their independence as early as December last, provided they would yield Texas to France. The Confederates objected to the conditions, thinking that peace with the Federal States could be more cheaply obtained. The mission of Vice-President Stephens, undertaken in July last, was, it is asserted, a last attempt to secure a compromise before accepting the Emperor's terms. His failure to obtain an audience with President Lincoln decided the Government at Richmond to despatch Mr. Stephens to Paris, with full powers to negotiate with the Emperor. Though the statement is disbelieved as to the price of recognition, an impression prevails that the recognition itself has been finally determined upon. A fugitive white man, recently arrived from the Southern States, reports that Richmond is in a most perfect condition of defence; that 100 guns cover the approach to the city by the river alone; that sufficient wheat, corn, and beef for the use of the Confederates has been produced during the year, and that luxuries only are deficient. He adds that the citizens of Charleston are fully determined to burn the city rather than surrender. The *New York World* asserts that information has reached New Orleans that the French had occupied Matamoras, with 5000 troops. A collision is expected to take place at the mouth of the Rio Grande between the French and Federal gunboats on matters connected with cotton and supplies for the Confederates. The *Richmond Dispatch* asserts that the Confederate Government has effected a loan of 100,000,000f. in France, upon the security of the cotton now in the South. The Russian flag-ship Alexander Newsky, Admiral Lasofski, with four other Russian men-of-war, have anchored in New York Harbour. It is rumoured they will remain there all the winter. Much speculation exists as to the reason of their presence. The municipal authorities are making preparations to give them a grand reception by a public banquet. Admiral Milne, in the flag-ship Nile, left Halifax on the 24th ult. for New York. The steamer Juno has been captured. It is semi-officially announced that the Government have received advices from England that the Confederate rams would not be allowed to sail. This has created a kindly feeling on the part of the Federal Government towards England.

MEXICO.—Marshal Forey was to embark on the 5th October on his return to France. The inhabitants of Mazatlan had refused to pay a new tax imposed by Juarez, and having in consequence been threatened by the military, the captain of an English frigate anchored at Mazatlan was said to have declared that he would defend them, since the legal power of Juarez no longer existed. In consequence of this declaration the agents of Juarez broke open the door of the British Consulate and committed outrages on British subjects. The captain of the frigate landed a detachment of marines and arrested the offenders.

SAN DOMINGO.—Five battalions, with artillery, have been sent from Havannah to suppress a revolt in San Domingo, where the insurgents are closely pressing the Spanish forces. The Madrid journals affirm that the revolt is supported by the Federal Government.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 92⅞ to 93 for Money, and 93⅛ to 93¼ for Account; Reduced and New Three per Cents., 91½ to ⅝; India Stock, 224; Ditto Five per Cent. Stock, 108⅞ to ⅝; Ditto Four per Cent., 100½; Five per Cent. Enfaced Rupee Paper, 108; Exchequer Bills, 3*s*. pm. to par.—FOREIGN: Brazilian Old Five per Cents., 100¾ to 99½, ex div.; Ditto, 1852, '58, '60, 91¾; Egyptian, 101; Greek, for Acct., 33 to 33½; Ditto Coupons, for Acct., 15½ to 16; Italian, 72⅛; Mexican, for Acct., 42 to 41⅞; Peruvian, 1862, for Acct., 87¾; Russian, 1862, 93 to ¼; Sardinian, for Acct., 89¼; Spanish, for Acct., 54½ to 55; Ditto Passive, for Acct., 34½ to 34; Ditto Certificates, 13 to ½; Turkish, 1854, for Acct., 95¼ to ⅛; Ditto, 1862, 69½; Ditto for Acct., 70 to 70⅛.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued.. .. .. | £28,820,090 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 14,170,090 |
| | | Silver Bullion .. .. .. | — |
| | £28,820,090 | | £28,820,090 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £11,141,227 |
| Rest .. .. .. .. .. | 3,736,695 | Other Securities .. .. | 22,591,537 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 9,510,057 | Notes .. .. .. .. .. | 7,051,715 |
| Other Deposits .. .. .. | 12,893,642 | Gold and Silver Coin .. | 685,947 |
| Seven days and other bills | 777,032 | | |
| | £41,470,426 | | £41,470,426 |

Oct. 8, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *October* 2.—BANKRUPTS.—E ANDREWS, Alfreton, Derbyshire, Bricklayer—W. ATKINSON, Aylesbeare, Devonshire, Innkeeper—A. BURRIDGE, Plough Lane, Battersea Rise, Surrey, Labourer—G. BARNEY, Stokenchurch, Oxfordshire, Blacksmith—T. BLAIR, Seaham Harbour, Durham, Bootmaker—J. W. BARRATT, Manchester, Baker—A. S. P. BAIGENT, Warwick Place, Bedford Row, Licensed Victualler—R. BLACKBURN, Regent Street, Oxford Street, Tailor's Foreman—T. BROADHOUSE, Wednesbury, Staffordshire, Upholsterer—J. CRABTREE, Tunstall, Yorkshire, Butcher—H. CAITHNESS, South Shields, Shipowner—H. E. CRAWFORD, Seymour Place, York Street, Walworth Road, Timber Merchant—W. DICKINSON, late of Manchester, Builder—R. C. DAVIS, Portsea, Police Constable—J. EDMONDSON, Whitehaven, Cumberland, Grocer—W. EVERITT, Elmstead, Essex, Cattle Dealer—T. J. FAULKNER, Manchester—W. GYTON, jun., late of Great Yarmouth, Grocer—W. GATE, Whitehaven, Cumberland, Carver and Gilder—J. HOPPER, Long Itchington, Warwickshire, Tailor—J. HUXLEY, Kingswinford, Staffordshire, Licensed Victualler—E. N HOBBS, Ware, Hertfordshire, Flour Factor—J. HODSON, South Leverton, Nottinghamshire, Grocer—F. HERMANN, Devonshire Place, Portland Road, Artist—J. J. HASKINS, Fenstanton, Huntingdonshire, Tailor—W. H. IZOD, Phillipp Street, Kingsland Road, Stationer—J. JACKSON, Whitehaven, Cumberland, Book Keeper—J. JACKSON, Northwood, Working Potter—G. KNIGHT, Wellington Road, Clapham Rise, Cooper—M. D. KROTOWSKI, Angel Court, Stoney Lane, Houndsditch, late Butcher—W. LUSTY, Dursley, Gloucestershire, Machine Manufacturer—W. S. MOSS, Fulham Road, Upholsterer—C. NUTTALL, Hyde, Cheshire, Licensed Victualler—A. NICHOLSON, Hemingford Grey, Huntingdonshire, Attorney—E. NEWBOLD, Nottingham, Ironmonger—F. W. PRINCE, late of Epsom, Gunmaker—T. PRICE, Beniew, Montgomeryshire, Farmer—T. B. PASKELL and L. PASKELL, Robert Terrace, King's Road, Chelsea, Tobacconist—W. PATRICK, Worcester, Bricklayer—C. RANDLE, Widford, Hertfordshire, Baker—H. ROSS, Palmerston Terrace, Newington, Clerk—W. SKETCHLEY, late of Bampton-in-the Bush, Oxfordshire, Licensed Hawker—M. SIMS, Stoke Newington Green, Butler—W. SMITH and W. J. SMITH, Leicester Place, Leicester Square, Army Contractors—G. STEVENS, Hastings, Builder—R. SWIFT, late of Houghton Regis, Bedfordshire, Coal Merchant—W. SPEAKMAN, Leigh, Lancashire, Plumber—H. SMITHER, Farnham, Surrey, Upholsterer—I. WALKER, Leicester, Cordwainer—E. WOOLLEY, Longton, Staffordshire, Tailor—J. WADLEY, Birmingham, Cooper—T. WITTING, Kingston-upon-Hull, Joiner—J. WOLSTENHOLME, Liverpool, Licensed Victualler—W. YARROW, Wednesbury, Staffordshire, Engineer—F. S. YARROW, Bridport Place, Hoxton, Builder.

SCOTCH SEQUESTRATIONS.—R. MACDONALD, Inverness, Carpenter—J. M'KILLICAN, Invergordon, Corn Merchant—R. PATERSON, Braeside, Udny, Farmer.

TUESDAY: *Oct.* 6.—BANKRUPTS.—A. ANDREWS, Bristol, Boot and Shoemaker—W. BATES, Nottingham, Chairmaker—C. BLISS, Hereford, Grocer—G. T. BEDWELL, Middle Deal, Kent, Market Gardener—J. BATCHELDER, Norwich, Panorama Proprietor—J. BRATT, Dewsbury, Yorksh., Boiler Maker—C. A. CHANTER, Portsea, Assistant Photographer—G. COLLINS, Falmouth, Draper—W. COLTMAN, Alma Street, New North Road, Printer—W. D. CLARKE, Gray's Inn Road, St. Pancras, Gasfitter—J. CLARK, King's Lynn, Norfolk, Gunsmith—S. CROPPER, Heywood, Lancashire, Glass and Earthenware Dealer—S. CROSS, Heybridge, Corn Merchant—R. CATCHPOLE, Harleston, Norfolk, Watchmaker—T. DARLEY, Bromsgrove, Worcestershire, Boot and Shoemaker—T. DONALDSON, Liverpool, Tinplate Worker—S. EDWARDS, Liverpool, Grocer—H. ELKINS, Aldershot, Baker—W. E. FIDDEY, Norwich, late Licensed Victualler—C. O. FLOWER, Water Lane, Tower Street, City, Commission Agent—E. GRIFFITHS and M. GRIFFITHS, Pembroke Dock, Pembrokeshire, Greengrocers—J. GILL, Bradford, Yorkshire, Draper—L. L. GRAY, Northumberland Park, Tottenham, Gardener—H. HARRISON, Birmingham, late Engraver—J. HAY, Bishop Auckland, Durham, Innkeeper—W. B. HARRIS, Litchfield Street, Soho, Servant—E. HUGHES, Chelmsford, Essex, Corn Dealer—H. M. HARVEY, Trentham, Staffordshire, Commission Agent—H. HORE, jun., Worcester, Cabinet Maker—G. JEFFS, Woburn, Bedfordshire, Draper—A. JONES, Rhydfelin, Montgomeryshire, Grocer—L. JONES, Brockmoor, Staffordshire, Blacksmith—W. LISTER, Leeds, Mungo and Cotton Dealer—J. LYM, Great Bolton, Lancashire, Spindle Maker—H. LARNER, High Street, Battersea, Builder—J. LEVI, Amblecote, Staffordshire, Wharfinger—J. LINDSEY, Victoria Road, Old Ford Road, Bow, Printer's Clerk—M. MACCARRON, late of Woodside, Cheshire, Contractor—G. S. MACDONALD, Old Compton Street, Soho, Manufacturer of Fancy Leather Goods—T. L. VON OLDEKOP, late of Upper Tulse Hill, Surrey, Authoress—R. PHILLIPS, Devonport, Builder—C. PRESTON, Tunstall, Staffordshire, Confectioner—W. F. RAYNER, Suffolk Road, Dalston, Builder—J. N. SPELLEN, Camden Square, Middlesex, Reporter—R. ROWLANDS, Abercegfr, Montgomeryshire Flannel Manufacturer—S. RADCLIFFE, Huddersfield, Tea Dealer—J. ROBINS, Oldswinford, Worcestershire, Builder and Carpenter—R. ROWLANDS, Machynlleth, Montgomeryshire, late Victualler—A. SHAW, Bromsgrove, Worcestershire, Huckster—A. SMITH, Huntingdon, Grocer—W. SHENTON, Longton, Staffordshire, Joiner—H. SMART, Bristol, Beer Retailer and Journeyman Glass Blower—ELIAS CARPENTIER DE SILVIER, Torquay, Devonshire, Professor of Music—The Rev. R. W. L. TOLLEMACHE, late of Gothic Cottage, Hammersmith, Clerk—J. THOMPSON, Barnsley, Yorkshire, Photographic Artist—W. L. THOMAS, Hove, Sussex, Engineer—E. UNSWORTH, Warrington, Lancashire, Corn Dealer—J. VARTY, Wigan, Builder—R. WATERWORTH, Sherburn, Yorkshire, Potato Dealer—W. P. WILLIAMS, Haverfordwest, Clerk—W. WOODWARD, Middlesborough, Yorkshire, Carter—E. T. WILLIAMS, Birmingham, Practical Brewer—ELI WILDE, Manchester, Druggist—L. WIGLEY, Ripley, Derbyshire, Grocer.

SCOTCH SEQUESTRATIONS.—G. BIGHAM, Glasgow, Warehouseman—R. TAYLOR & J. TAYLOR, Aberdeen, Merchants.

## Metropolis and its Vicinity.

SHOCK OF AN EARTHQUAKE.—At about 20 minutes past 3 o'clock on Tuesday morning, a severe shock of earthquake was felt all over England, from Cheshire to Kent. At Beeston Observatory, Mr. Lowe says that it was "a smart shock. The motion of the earthquake pendulum was from W.N.W. to E.S.E., and the displacement of chalk by the 30-feet rod was half an inch, the index needle moving the chalk so as to leave an oval, or rather a lengthened oval hole." At Twickenham Mr. Hind, who noticed it very perceptibly, states that "the oscillatory motion appeared to be from E.N.E. to W.S.W., lasting three seconds, or rather less. He heard no sound whatever after the shock, but cannot say positively whether any preceded it. The sky was partially clear at the time, and the air perfectly still. The sensation produced by the tremor was very peculiar, and different from that of ordinary vibration." It was also noticed at Blackheath, Stoke Newington, Regent's Park, Bayswater, Notting Hill and other places in the neighbourhood of the metropolis, as well as in Hertfordshire, Buckinghamshire, West Surrey, Nottinghamshire, Leicestershire, Staffordshire, Worcestershire, Warwickshire, Shropshire, Derbyshire, Cheshire, Gloucestershire, Herefordshire, South Wales, Hampshire, Dorset, Somerset, and Devon, but it seems to have been most severe in the midland counties. In Wolverhampton, about the centre of the midland district, most persons but the very soundest sleepers were aroused by it, and, not knowing from what the noise proceeded, were under the impression that their houses had been broken into by burglars. The general sensation appeared to be that the houses were being shaken from their foundations with a tremulous, rapid, and undulatory motion, proceeding, apparently, from north to south, and accompanied by a sound resembling the passing of a very heavy vehicle at a rapid pace. Simultaneously with this noise there was a vibration of water jugs, washhand basins, glasses, window panes, chairs standing against walls, &c. In some cases, after the shocks had passed away, cracking and creaking noises were heard at intervals, as if the whole house had been strained. Wrottesley Hall, the seat of Lord Wrottesley, was shaken throughout, and the inmates alarmed. This was also the case at Teddesley, the residence of Lord Hatherton. In game preserves, pheasants were observed to become alarmed as they usually are during the raging of a thunderstorm. At Sedgeley, which is said to be one of the highest inhabited parts of England, the residence of a gentleman named Waterhouse was violently shaken. All the inmates were suddenly awoke by a great shock. The windows rattled as though they were coming out of their frames, the doors trembled as though seized and shaken from the outside, and every other part of the building was equally affected. In Dudley the shock was most severely felt, beds being violently shaken, and in some instances doors burst open, crockeryware broken, and clocks stopped. In detached buildings in various parts of the town the effect is described as being most terrifying. At Stourbridge, Wednesbury, Walsall, Kidderminster, and other towns in the neighbourhood, the shock was severely felt, and the inhabitants were aroused by the clanking of glasses, breaking of furniture, moving of beds, and bursting of doors. At Great Malvern the windows of the Imperial Hotel, a very large and massive building at the foot of the Malvern Hills, were violently rattled, and it is said that one of the railway signals was displaced. Servants ran downstairs in affright, and general consternation appears to have been felt. At Upton-on-Severn and Worcester the same effects were observed. At Birmingham walls were seen to move, and in some instances substantial buildings were disturbed as much as very old houses may be by the passage of a heavy waggon along the street. Windows and doors rattled, and much vibration was otherwise experienced. Throughout the district a great number of persons were awoke from their sleep; many rose from their beds and examined their premises, the effects of the shock being quite as much seen as felt. At Handsworth, Perry Bar, Kingsnorton, and other rural districts, the shock seems to have been more perceptible than in Birmingham. At Derby the shock continued for several minutes, and the greatest alarm was manifested by a large proportion of the inhabitants, who feared that their dwellings were giving way; some experienced violent rockings of their beds, others were awoke by a noise resembling the sound of burglars entering their premises, and the

town was thrown into great confusion, the prevailing belief being that it was an earthquake. The sensation was general, and was also felt in the villages in the vicinity. At Burton-on-Trent the shock was so violent as to awaken many sound sleepers. Beds were shaken, and windows rattled so as to produce in many cases the notion that thieves were entering. The vibrations continued several seconds, and were accompanied by a low, distant, rumbling sound. At Liverpool, and at various places on both sides of the Mersey, the shock was very severe, though unattended with any rumbling noise. Beds were shaken, china broken, and clocks stopped. Several night porters were so alarmed at the oscillation of the houses that they made precipitate retreats. A surgeon, who was visiting a sick woman at Claughton, Birkenhead, was so convinced that the house was coming down, that he ran into the street. At Bootle, Seaforth, Waterloo, and Crosby the shock was very violent, and in many places the inhabitants were terrified. In several houses the bottles of wine were shaken out of the bins; the bells set ringing; glasses, and other articles of a fragile nature, were broken; and the hens commenced cackling. In Liverpool itself the shock was severely felt, and several public-houses in the neighbourhood of the Exchange, Sackville-street, Everton, and Kirkdale, suffered much in the way of glass. No injury to the person, however, was sustained, although there were one or two cases of premature confinement in consequence of the shock. At Hereford the houses were violently shaken, and the sound is described as "perfectly awful." In South Wales the shock was felt slightly at Swansea, Merthyr, Haverfordwest, and Llanelly. It was more severe at Neath, Ferryside, and Pembroke-dock, and along the western extremity of Swansea Bay. The captain of a vessel reports that 20 miles from Milford Haven he felt a concussion like striking upon a rock. The shock was also felt at Bristol, Nailsea, Portishead, and the neighbourhood. At Taunton the people believed that their houses were about to tumble to the ground; some were raised from their beds, and in some instances furniture was thrown about the rooms. Numbers who got up did not again retire to rest, and went into the streets to ascertain the cause. At Cheltenham a deep rumbling noise was suddenly heard, like that of an artillery waggon; buildings vibrated, the heaviest pieces of furniture were severely shaken, and the fire-irons violently agitated. At Gloucester the tremor was accompanied by a low roaring sound and a rattling of doors and casements, and in the neighbourhood of the Cotswold Hills the movement was accompanied by a rumbling noise, which lasted from four to five seconds. At Exeter the shock was so severe that many persons were much alarmed, and got up and examined their premises.

Election of an Alderman.—The citizens of the ward of Aldgate were convened on Thursday at a wardmote to elect an Alderman in the place of the late Alderman Humphery. The Lord Mayor presided. Mr. Lusk, the late sheriff, was put in nomination, and as there was no other candidate the Lord Mayor declared him duly elected.

Court of Common Council.—At the last meeting of the Court of Common Council a bust of the Prince of Wales, presented by Lord Mayor Rose to the Corporation, in memory of the majority and marriage of his Royal Highness having both occurred in his mayoralty, was accepted, and ordered to occupy a conspicuous position in the Common Council Room. The resignation of Mr. Bunning, the City architect, caused by ill-health, was accepted. After a smart discussion the Court refused to give money for any City improvement which had not been previously submitted to and approved by them. Attention was called to the disappearance of certain articles, provided on the occasion of the ball to the Prince and Princess of Wales, and a resolution was ultimately adopted that no member of the Common Council, whatever his official rank, should accept of property belonging to the Corporation except on a vote of the Court.

The Great Bank Fraud in the City.—Sigmund Dietrichstein, late of Worthing and of the Jamaica Coffee House, with respect to whom a reward of 1000*l*. has been offered during the last three weeks, was captured on Sunday at Pesth, in Hungary. The prisoner, who is a native of that country, and about 30 years of age, stands charged with having obtained by fraud, at a bank in the city, Bank of England notes to the amount of between 8000*l*. and 9000*l*. He absconded on the 29th of August, the day of the alleged fraud. A few days afterwards a warrant for his apprehension was issued from the Mansion House, and since then Mr. Pollakey, and some of the more experienced city detectives, have been in active pursuit of the fugitive, both in this country and on the continent. In the course of their inquiries they found that a photographer in the neighbourhood of Worthing, where the prisoner resided, had portraits of him as well as of his wife and child, and from these they had about 1500 copies taken and largely distributed, both here and abroad, accompanied by a printed description of the prisoner's personal appearance. They subsequently traced his wife to Ostend, and thence to Austria and Hungary, where she met him. A reward of 200*l*. was offered for his apprehension, and an additional one of 800*l*. is still promised to any one who shall give such information as may lead to the recovery of the bank-notes.

Lancashire Relief Fund.—At a meeting of the Mansion House Committee on Friday, grants were voted for distribution by the local relief committees to the amount of 2089*l*., and a grant of 56*l*. was voted to the Carlisle Emigration Committee.

Female Schools of Art.—It is stated that with the sanction of the Treasury the Committee of Council on Education propose to establish two scholarships to be held by the two most eminent female students of the Schools of Art throughout the country, the endowment for such scholarships having been provided by the fees taken for inspecting the wedding presents of the Prince and Princess of Wales at South Kensington Museum in May last.

The Public Health. — The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, October 3, were 1274. The average number in the ten corresponding weeks of 1853-62, corrected for increase of population, was 1159. The present return is therefore 115 above the average. During the week the births of 1037 boys and 898 girls, in all 1935 children, were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1736.

## Provincial.

Aylesbury. — Several gentlemen, including the Lord Chief Justice Erle, who are desirous of preserving the memory of John Hampden, have erected a monument in the field in Stoke Mandeville in which the levy for ship money was made which led to the contest ending in civil war. The work has been entrusted to Mr. W. W. Thompson, of Aylesbury, and consists of a stone obelisk 8 feet high, surmounted by a Maltese cross, and bearing the following inscription:—"For these lands in Stoke Mandeville John Hampden was assessed in 20*s*. ship money, levied by command of the King without authority of law, the 4th of August, 1635. By resisting the claim of the King in legal strife, he upheld the rights of the people under the law, and became entitled to grateful remembrance. His work on earth ended after the conflict of Chalgrove Field, the 18th of June, 1643, and he rests in Great Hampden Church.—W. E., 1863."

Bradford.—About three weeks since the counting-house of Mr. D. W. Fox, manufacturer, of Upper Croft Mill, was entered by thieves, and a large iron safe, 8 cwt., of Milner's make, was taken away. The safe contained two 20*l*. Bank of England notes, 52*l*. in gold, several checks and banker's draughts, of the value altogether of 1000*l*., and all the books. The premises were entered by the use of false keys, though a watchman was employed on the premises during the night. The safe was taken to an adjoining field, about 200 yards distant, where a cart received it. The marks of the horse's feet and of the wheels of the cart are then traceable over two or three fields, leading into Parry Lane, and thence to an old highway called Cutley Heights, just within the boundary of the borough. The safe has since been found in deep water in an old quarry at Calverly, near Bradford. It had been opened, four perforations having been made in the lid for that purpose. All the money and checks had been taken out, but the books and some papers were left. Upper Croft Mill is within a short distance of Bowling Iron Works, so that any sound occasioned by the removal of the safe would scarcely be observed amid the clatter of the hammers at these works. Thomas Hays, the watchman employed at the Mill, was apprehended on suspicion of being concerned in the robbery, but has now been discharged.

Ipswich.—The efforts of the detective police having failed to throw any light on the mysterious robbery of the Ipswich registered letter mail-bag, in which were bankers' parcels containing notes, &c., to the amount of some thousands of pounds, the Post-office authorities have increased the reward for the discovery of the thief to 200*l*.

Liverpool.—Before the departure of the Channel fleet from Dublin Bay on Saturday morning, the non-commissioned officers and men presented an address and testimonial to Mr. S. R. Graves, Commodore of the Royal Mersey Yacht Club, who had gone over with the fleet as the guest of Admiral Dacres. The address stated that they had never experienced anything like the kindness of Mr. Graves, the members of the Club, and the inhabitants of Liverpool generally, and the testimonial consisted of a handsome silver claret jug, with the following inscription:—

"Presented to Mr. S. R. Graves, Commodore of the Royal Mersey Yacht Club, by the non-commissioned officers and seamen of H.M.S. Defence, as a token of their gratitude and affection for his kindness to them during their stay in the Mersey."

Mr. Graves, in reply, said it had been his good fortune to receive many proofs of public favour, and highly as he valued them he could with truth say he never received one more pleasing in its associations or more gratifying in its nature; and what made it the more acceptable was the fact which Captain Phillimore had conveyed to him—that the idea had sprung entirely from their own generous impulses, unaided and unprompted by others. On taking leave of the men, two of them came aft and begged of Mr. Graves, when he returned to Liverpool, to present the best regards of the crew to the Mayor for his kindness and hospitable treatment of them during their stay.

Manchester.—A numerous meeting of the Committee of the Southern Independence Association, formed by the amalgamation of the Central Association for the Recognition of the Southern States and the Manchester Southern Club, was held on Tuesday at the Clarence Hotel, in this city, Lord Wharncliffe in the chair. The meeting was a private one, but it is understood that the report of the Amalgamation Committee was presented and adopted. A list of gentlemen to be the presidents, vice-presidents, and committee of the association, including Lord Wharncliffe as chairman, and the Duke of Cleveland as vice-chairman, was moved by Mr. T. H. Birley, seconded by Colonel Jackson, and adopted. A draught of the address of the association was read and moved by Mr. Spence, seconded by Mr. E. Hardcastle, and carried. A resolution was then moved by Mr. Matthew Kennedy, in favour of substantial aid being called for by the association, which was seconded by Mr. Charles Pooley, and carried. Lord Wharncliffe denied that he had charged those who advocate the Northern side with interested motives. He had never used terms open to any such construction, and thought it right to assume that each party was actuated by a desire to promote what it deemed the right cause. He then referred to Lord Russell's speech, and especially to that portion in which he expressed the opinion that the majority in this country was in favour of the North. This, he said, showed the necessity for an association, in order to elicit the real feeling of the English people, which, he contended, was strongly in favour of the Confederates. The only motive for English sympathy with the North was a belief that the triumph of the Federals would ensure the freedom of the negro; but he contended that the President's proclamation of freedom was never meant to take effect, and that he only issued it in order to gain over English feeling. He had it on very good authority that the measure was really originated in this country, and sent out as one that must be adopted to insure the support of a certain party in England. He then entered into the general question of recognition, to which he should object if a step to be taken by this country alone, but of which he heartily approved as a course to be taken by several of the European Powers collectively. His lordship concluded by advocating the vigorous action of the association. Mr. Spence said that he took the news now coming over from America, contrasting as it did with that of a few weeks back, as a proof that each Power after a term of success came to a stop in its course and lost ground again, and so this terrible tide of bloodshed ebbed and flowed without hope that either party could bring the struggle to an end. He contended that this end could not be reached but by the action or the influence of some third party—some European Power. Alluding to Lord Russell's statement, he discussed the sentiments on this question of the different classes of society, holding that in every rank there was a large majority in favour of the South. In the higher circles none would dispute this, and as to the working men, they were not so easily deceived as some imagined. Time after time deputations of working men had come forward to protest against the colour given to their opinions, and to urge meetings in favour of the South. This agitation was not deemed expedient by the friends of the South. They respected the neutrality of this country. But the Federal party had taken another course—they had organised an agitation, and must be met with their own weapons, and he was convinced that, now that a decision had been come to to meet them, they would rue the day when they provoked the contest. The meeting closed with a vote of thanks to Lord Wharncliffe for his services in the chair.—At the weekly meeting of the Executive Committee on Monday, the Earl of Derby in the Chair, the Hon. Secretary reported that 562*l*. 0*s*. 4*d*. had been received during the week, and that the balance in the Bank was 283,027*l*. 14*s*. 11*d*. He also presented his monthly report, showing that the total numbers of persons relieved in September by the guardians and relief committees combined had fallen off to 184,625, against 456,786 in January last. Mr. Commissioner Farnall reported that on the 26th ult. there was a decrease of 1221 in the number of persons receiving parochial relief in the 27 unions as compared with the number relieved in the previous week, making a total decrease of 133,339 since the 6th of December last. It was resolved, on the motion of Colonel Wilson Patten, that a further appeal should be made to the public for donations of clothing, which will be especially needed in consequence of the increased number of men who will be engaged upon out-door labour during the winter. Mr. Farnall said there could be no doubt that a very large number would be so employed, for he was informed by a letter from the Poor-Law Board that a million of money had already been applied for under the Public Works Act. Grants were voted to various places to the amount of about 5000*l*.

Newcastle-on-Tyne.—On Saturday night, about seven o'clock, a murder was committed in Scotswood Road, one of the most crowded thoroughfares of this town. An Irish pitman called Martin Luskey, who had found work at Elswick colliery, was about to proceed to Sunderland by the train to fetch his wife to his new place of employment. Before the train started he and some of his relations went into a public-house, where they had some drink, and on coming out they met two Irishmen, one of whom was carrying a bandbox and some parcels. Luskey, without any provocation, knocked the bandbox out of the hand of the latter, and it

would seem that he and his relatives were inclined to ill-use him, when his companion stepped up, and a fight ensued. One of them was knocked down, and on his getting up again Luskey was dreadfully stabbed in the neck. He was taken to a chemist's shop, and was immediately attended by a surgeon, who found that he had been stabbed about two inches below the ear, the wound being three inches deep, and he died upon the floor of the shop a few minutes after he was taken in. The man who committed the murder escaped, but his companion who was carrying the bandbox, a man called M'Gurk, has made a statement to the police that the name of the murderer is Terence Quin. The police have gained other information which is expected to lead to his speedy apprehension.

## Ireland.

The Galway Line.—The Galway Packet Company have been again unfortunate. The Adriatic, which arrived on Monday after a voyage of 12 days, was detained 40 hours, when only 800 miles from Galway, by an accident to her steampipe. She brought 19 mail bags and 69 passengers, but did not land her mails till too late to catch the Kingstown packet for England. Her news however was all anticipated by the Scotia, which arrived on Friday in 8½ days, with 100 mail bags and 121 passengers.

## Scotland.

Social Science Meeting at Edinburgh.—The seventh annual meeting of the National Association for the Promotion of Social Science was opened in Edinburgh on Wednesday evening, when the inaugural address was delivered in the Free Church Assembly Hall by Lord Brougham, President of the Association. At the close of the address, which fills upwards of five columns of the daily papers, the Lord-Advocate moved, and the Right Hon. Joseph Napier seconded, a vote of thanks to his lordship, which was carried by acclamation. Mr. Hastings then read the annual report of the Council. The Right Hon. C. B. Adderley moved the approval, which was seconded by Lord Ardmillan, and carried. The Secretary reported that 2500 tickets had been issued. Prince Alfred attended the meeting, and was received with great cheering. The sectional meetings began on Thursday, and will continue until Thursday next. The presidential addresses in the different departments were to be delivered as follows;—Thursday morning, Jurisprudence—Lord Curriehill; Friday, Education—Mr. Nassau W. Senior; Saturday, Punishment and Reformation—Lord Neaves; Monday, Public Health—Professor Christison; Tuesday, Social Economy—Right Hon. Sir John M'Neill, G.C.B.; and Wednesday, Trade and International Law—Judge Longfield. After the addresses departmental meetings were to be held in the Law Courts and Free Assembly Hall. *Conversazioni* were to be held in the University, the museum and hall of the Royal College of Surgeons, and in the National Gallery, on the evenings of the 8th, 9th, and 12th. A working men's meeting, for which 34,000 applications had been made for the 3500 tickets, was to be held in the Corn Exchange last evening, under the presidency of Lord Brougham; and on the 13th the association dinner will take place in the Music Hall. The concluding general meeting will take place in the Church of Scotland Assembly Hall on Wednesday next, the 14th inst.

Mr. Gladstone in the Highlands.—On Saturday last the Chancellor of the Exchequer honoured Mr. Begg, of the Royal Lochnagar Distillery, with a visit, and inspected the works and operations in the malting, mashing, and distillation as carried on at his works, expressing himself much pleased with what he had seen, as well as with the quality of the whiskey which he tasted.

Edinburgh University.—It is announced that Sir David Baxter has funded 3000*l.* for the purpose of establishing two scholarships in the University of Edinburgh, of the value of 60*l.* each per annum.

## Railways.

Opening of the Kent Coast.—On Saturday the Government Inspector gave his certificate for the opening of the Kent Coast branch of the London, Chatham, and Dover to Margate and Ramsgate. The line was accordingly opened on Monday for public traffic. It runs along the Kentish coast from Faversham to Herne Bay, Birchington, Margate, Broadstairs, and Ramsgate, and shortens the distance from London to the latter places by 27 miles.

Collision on the Great Northern.—A serious collision of a passenger-train with a coal-train took place at the Huntingdon station, on Thursday evening, the 1st inst. The up Manchester express, which goes past this station without stopping, when about a mile or a mile and a half distant, slackened its speed on account of the danger signals being displayed, but after some little time, the signals showing "all right," the driver put on the steam with the intention of passing through the station. The train had only proceeded a few yards beyond the platform when it came into collision with a coal-train shunting, and smashed a number of the trucks and a break van. One lady passenger had some of her teeth knocked out by the shock, the guard was cut near the eye, and many of the passengers were bruised, but none were seriously hurt.

## Obituary.

The Archbishop of Dublin died at noon on Thursday at his country residence, Roebuck House, near Dublin, in his 77th year. His Grace the Right Hon. and Most Rev. Richard Whately, D.D., Archbishop of Dublin and Bishop of Glendalough and Kildare, Chancellor of the Order of St. Patrick, and a Privy Councillor in Ireland, was the fourth son of the Rev. Joseph Whately, D.D., of Nonsuch Park, Surrey, a prebendary of Bristol, by the daughter of William Plumer, Esq., of Ware Park, Herts, and was born in Cavendish Square in 1787. He was educated at Oriel College, Oxford, where he was contemporary with Dr. Newman, Bishop Coplestone, Dr. Arnold, and Dr. Pusey. He took high honours in classics and mathematics, and in 1810 obtained the university prize for an English Essay. In the following year he obtained a fellowship in his college, which he retained till his marriage in 1821. His connection with the university itself, however, was not broken by that event, nor even by his appointment to the rectory of Halesworth in 1822. He was appointed Principal of St. Alban's Hall in 1825, and on the establishment of a chair of Political Economy, in 1830, Dr. Whately was appointed Professor; this last appointment, however, he only held for a short time, as Earl Grey in the following year selected him as the successor of Dr. Magee in the Archbishopric of Dublin. Long before this time his fame had been established as one of the ablest writers of the day. Among his most important works were "Essays on Some of the Peculiarities of the Christian Religion," "Essays on Some of the Difficulties in the Writings of St. Paul," "Errors of Romanism traced to their Foundation in Human Nature," "Kingdom of Christ Delineated," "Elements of Logic," "Elements of Rhetoric," "Thoughts on Secondary Punishments," "Lectures on Political Economy," "Transportation," "The Kingdom of Christ," "Introductory Lectures on St. Paul's Epistles," "Cautions for the Times," and various papers in the Edinburgh, Quarterly, and other Reviews. The Archbishop was also well known as the chief promoter of the system of National Education in Ireland, and acted as one of the Commissioners till 1853. His Grace married in 1821 the daughter of William Pope, Esq., of Hillingdon. One of his sons is Archdeacon of Glendalough, Chancellor of St. Patrick's Cathedral, and Vicar of Bray. The province of Dublin includes the five dioceses of Ossory, Ferns and Leighlin, Limerick, Ardfert and Aghadoe, Cork, Cloyne and Ross, Cashel, Waterford and Emly, and Killaloe, Kilfenora, Clonfert, and Kilmacduagh. The diocese itself is made up of the counties of Dublin, Kildare, and Wicklow, with some part of Wexford, Queen's county, and King's county. The annual income attached to the archbishopric is 8000*l.*

Lord Sinclair died on the 30th ult. at Pilmuir, near Torquay, at the advanced age of 95. He was born at Edinburgh in 1768, and was the 12th who bore the title, which was created in 1489. He succeeded his father in 1776, and married first the only daughter of Mr. James Chisholm, of Chisholm, and second, a daughter of Mr. Alexander Chatto, of Main House, Roxburghshire. His lordship was formerly a lieut.-colonel in the 15th Foot, from which he retired in 1802, and for many years was one of the representative peers of Scotland. He was a deputy-lieutenant of Haddingtonshire and Berwickshire. The 8th baron obtained an extension of the patent to the heirs male whatsoever of his father, but the ninth, tenth, and eleventh barons never assumed the title. The late lord was confirmed in his right to the peerage by the House of Lords in 1782. He is succeeded by his son, the Hon. James Sinclair, formerly a captain in the Grenadier Guards.

Lady Katherine Wigram died on the 30th ult., at St. Mary's Isle, Kirkcudbrightshire, in her 47th year. She was the youngest of the two daughters of the fourth Earl of Selkirk, by the only daughter of Mr. James Wedderburn Colville, and was consequently sister of the present peer. In 1849 her ladyship married Mr. Loftus Tottenham Wigram.

Lady Sophia Giubilei died on the 30th ult. after a long and painful illness. She was the daughter of the first Marquis of Bristol, and was twice married, first to Mr. William Howe Wyndham, of Felbrigg Hall, by whom she had Mr. William Frederick Wyndham, whose name has been so often before the public; and secondly to Signor Giubilei.

Admiral Edward Barnard died at Hipswell Lodge, Richmond, Yorkshire, on the 5th inst., in his 82d year. He entered the navy in 1797, and in the following year assisted in capturing two Dutch frigates off the Texel. In 1801, he assisted in taking the Dedaigneuse, 36, French frigate, off Cape Finisterre, and in 1805 joined the Achille, 74, in which he was employed in Lord Collingwood's blockading squadron before Cadiz, participated at the battle of Trafalgar, and afterwards took possession of the Berwick, 74, in which he remained until wrecked in the six days' gale that ensued. He was confirmed as lieutenant of the Achille in 1806, and in her was present at the pursuit and capture of the four French frigates from Rochefort, besides contributing to the bombardment of Flushing in 1809, and sharing in arduous boat service at the defence of Cadiz in 1810. In 1811 and 1812, he served in the Mediterranean and Channel, and off Toulon, and took part in the attacks on the French fleet in 1813 and 1814. From 1816 until 1820, he was employed on the East India station in command of the Bacchus, 18, and Conway, 26. From 1833 to 1834 he commanded the Ocean, 81, at Sheerness; and in 1839 the Hercules, 74, in which he conveyed troops from the West Indies to North America, and afterwards to Lisbon; and from 1840 to 1843 he commanded the Cambridge, 78, employed during the operations on the coast of Syria and the blockade of Alexandria. He accepted retirement in 1846, and became full admiral in 1862.

Sir William Bellairs died on the 2d inst. He was son of Mr. Abel Walford Bellairs, of Uffington, Lincolnshire, and was born in 1793. From 1811 to 1819 he served in the 15th Hussars, took part in the campaigns of 1813 and 1814 in the Peninsula, and was present at the battles of Vittoria, the Pyrenees, Pampeluna, Orthes, Tarbes, and Toulouse. He also served in the campaign of 1815, and had a horse killed under him in the retreat from Quatre Bras, and two wounded at the battle of Waterloo. In 1837 he was appointed exon of the Yeomen of the Guard, which he held up to 1849. He married, in 1822, the daughter and heir of Mr. Edmund Hooke, of Mulbarton Lodge, Norfolk.

Mr. Samuel George Smith, of Lacombe Park, Herts, the head of the banking firm of Messrs. Smith, Payne, & Smiths, died on the 4th inst. at Brighton, in his 74th year, from the effects of a recent accident, from which he never properly rallied.

BIRTHS.—On the 5th inst, at The Mount, Kilmarnock, Scotland, the Lady Oranmore and Browne, of a daughter—4th inst, at Pyt House, Tisbury, Lady Manners, of a daughter—30th ult, at 77, Eaton Square, the wife of William Jones Loyd, Esq., of a son—27th ult, at Dover, the wife of Lieut.-Colonel Montagu, Royal Engineers, of a daughter.

MARRIAGES.—On the 3d inst, at the Episcopal Chapel, Banchory, Aberdeenshire, Hugh Barlow Lindsay, Esq., Bombay Civil Service, nephew of the Earl of Crawford and Balcarres, to Jane Lady Muncaster—3d inst, at Pelynt Church, John Barton Sterling, Esq., of the Coldstream Guards, to Caroline Matilda, eldest daughter of Sir John S. Trelawny, Bart., M.P., of Trelawne, Cornwall—6th inst, at St. Dunstan's-in-the-West, Edward H. J. Craufurd, Esq., younger, of Auchinames, N.B., and M.P. for the Ayr burghs, to Frances, only daughter of the late Rev. William Molesworth, incumbent of St. Breoke, in the county of Cornwall—1st inst, at Hinton Charterhouse, Bath, William Charles Stewart Hamilton, Esq., of Craiglaw, Wigtonshire, N.B., to Margaret Anne Mary, only daughter of the late Thomas Jones, Esq., of Hinton Charterhouse, and the Hon. Mrs. Jones—29th ult, at Trinity Church, Ryde, Walter Raleigh Trevelyan, Esq., only son of the late Walter Calverley Trevelyan, Esq., and grandson of the late Walter Trevelyan, Esq., of Netherwitton Hall, Northumberland, to Marion Adelaide, only daughter of the Rev. Charles W. Leslie—29th ult. at Trinity Church, Ryde, Major Charles Kendal Bushe, 59th Regt., eldest son of the late Thomas Bushe, Esq., of Furry Park, county of Dublin, and grandson of the late Chief Justice Bushe, to Victoria, third daughter of the late Arthur French, Esq.

DEATHS.—On the 2d inst, at Bramdean, Honora, widow of the Hon. and Rev. Augustus George Legge, aged 88—2d inst, at Eastbourne, Lucy Charlotte, daughter of the Hon. Mrs. St. John Methuen—2d inst, at Swillington House, Yorkshire, Elizabeth, daughter of the late Sir John Lowther, Bart., aged 72—21st Aug. last, drowned when bathing, at Barrackpore, near Calcutta, Lieut. Albert Hearsey, of H.M.'s 19th Hussars, third son of Lieut.-General Sir John Hearsey, K.C.B., aged 21—24th ult, at 5, South West Circus Place, Edinburgh, John Miller, Esq., W.S., formerly of Stewartfield, in the county of Roxburgh, fourth and only surviving son of the late Sir Wm. Miller, Bart., of Glenlee, one of the judges of the Court of Session—27th ult, at Ticehurst, Captain George M. Pasley, half-pay, Royal Artillery, second surviving son of the late General Sir Charles W. Pasley, K.C.B., Royal Engineers—5th inst, at her residence, Yew House, Hoddesdon, Hannah, relict of Rear-Admiral D. H. O'Brien, R.N., and youngest daughter of the late John Walmsley, Esq., of Castle Meer, in the county palatine of Lancaster, aged 60—29th ult, at Biebrich, on the Rhine, Lieut.-Colonel Robert Browne, late of H.M.'s 16th Regiment of Foot—1st inst, at Leslie Park Road, Croydon, Captain John Bateman, formerly of Oak Park, Killeen, and M.P. for Tralee, county Kerry, aged 70—4th inst, at Frohsdorf, Eastbourne, the wife of Robert Hanbury, Esq., M.P., aged 36—1st inst, at 27, Bryanston Square, Isabella Charlotte, the wife of Octavius Wigram, Esq.—5th inst, at his house, Rutland Gate, Knightsbridge, John Sheepshanks, Esq., aged 76—4th inst, at Torquay, George Stoddart, Esq., formerly H.M.'s Consul for Madeira, aged 68—3d inst, at Wylye Rectory, Wilts, Elizabeth, relict of the late Edmund Lockyer, Esq., of Plymouth, and second daughter of the late Captain Thomas Patrickson Braithwaite, R.N., aged 80—30th ult, Thomas Lamb Polden Laugharne, Senior Captain Royal Navy, of the Royal Hospital, Greenwich, and of Laugharne, Carmarthenshire, aged 77—1st inst, at Stoneleigh, Denbighshire, the Rev. G. L. Stone, incumbent of the Rossett, Denbighshire, aged 49.

## Markets.

### COVENT GARDEN, Oct. 10.

Vegetables and most kinds of Fruit in season, with the exception of Peaches, which are scarcer, continue plentiful. Late Plums may be had in great abundance. Of Grapes and Pine Apples the supply is also sufficient for the demand. Of Melons there is a good stock of both English and foreign varieties. There is also a good supply of Louise Bonne of Jersey, Marie Louise, and Gansel's Bergamot Pears. Some good examples of Ribston Pippin Apples have also arrived from Jersey. Kent Cobs and Filberts are now coming in in good condition, and for the Cobs a fair demand is realised at from 60s. to 65s. per 100 lbs. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Marigolds, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 3s 6d to 7s | Melons, each, 2s to 4s |
| Grapes, per lb., 2s to 6s | Lemons, per 100, 8s to 12s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Nuts, small, per bushel, 14s to 18s |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Plums, per ½ sieve, 5s to 8s | Walnuts, do., 14s to 20s |
| Figs, per doz., 2s 6d | |
| Peaches, per doz., 6s to 15s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | French Beans, p. sieve, 2s to 6s |
| Potatos, York Regents, p. ton, 60s to 80s | Shallots, per lb., 8d |
| ,, Shaws, do., 50s to 60s | Garlic, per lb., 8d |
| Turnips, p. bunch, 4d to 6d | Lettuces, each, 1d to 2d |
| Carrots, do., 6d to 8d | Endive, p. score, 1s to 1s 6d |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bunch 1s 6d to 4s |
| Cucumbers, each, 1s to 1s 6d | Mushrooms, p. pott., 1s to 1s 9d |
| Beet, per doz., 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Tomatos, each, 2d to 3d | Herbs, per bunch, 3d |

HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, Oct. 8.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | —s to | —s | Clover, old .. .. | 95s to | 115s |
| Superior do. .. | 80 | 90 | Do. second cut .. | 90 | 105 |
| Inferior do. .. | 65 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 28 | 34 |
| Rowen .. .. .. | 50 | 65 | | | |

Harvey & Easton.

Cumberland Market, Thursday, Oct. 8.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 88s to | 96s | Inferior Clover .. | 88s to | 100s |
| Inferior do. .. .. | 70 | 78 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 34 | 40 |
| Superior Clover .. | 108 | 116 | | | |

Joshua Baker.

Whitechapel, Thursday, Oct. 8.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 92s | Prime 1st cut Clover | 110s to | 120s |
| Inferior do. .. .. | 70 | 80 | Inferior do. .. .. | 100 | 105 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do. . | 105 | 110 |
| Straw .. .. .. | 28 | 32 | Inferior do. .. | 84 | 95 |

BRITISH WOOLS.—London, Oct. 9.

We have no alteration to report either in price or demand, as a fair business has been transacted, and at full rates. Our stocks are unprecedentedly low for the season of the year.

| | s. d. | s. d. | | s. d. | s. d. |
|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | 1 10 to | 1 11 | Leicest. Wethers | 1 8 to | 1 9 |
| Half-bred ditto .. | 1 10 — | 1 11 | Ditto Hoggs .. | 1 9 — | 1 10 |
| Down Ewes .. | 1 9 — | 1 9½ | Combing Skins | 1 4 — | 1 7 |
| Kent Fleeces .. | 1 10 — | 1 10½ | Flannel Wool .. | 1 6 — | 1 9 |
| | | | Blanket ditto .. | 1 0 — | 1 1 |

COAL MARKET.—Oct. 7.

Byass's Bebside West Hartley, 17s. 3d.; Cowpen Hartley, 17s. 3d.; Hastings Hartley, 17s. 3d.; Lambert's West Hartley, 17s.; Tanfield Moor, 14s. 6d.; Walker Primrose, 13s.; Wylam, 17s. 3d.; Walls End Riddell, 18s. 9d.; Eden Main, 19s. 3d.; Walls End Braddyll's Hetton, 20s.; Walls End Haswell, 21s.; Walls End Kepier Grange, 19s. 6d.; Walls End Russel's Hetton, 20s.; Walls End South Hetton, 21s.; Walls End Tunstall, 19s. 6d.; Walls End Caradoc, 20s. 3d.; Walls End Hartlepool, 20s. 6d.; Walls End Heugh Hall, 20s.; Walls End Kelloe, 20s.; Walls End East Hartlepool, 21s.; Walls End

South Kelloe, 20s.; Walls End Thorpe, 19s.; Walls End Trimdon Hartlepool, 20s. 6d.; Carway and Duffryn Malting, 21s.—131 ships at market.

HOPS.—Borough Market, Friday, Oct. 9.

Messrs. Pattenden & Smith report an extensive trade doing in all descriptions of the new growth, at advanced prices for fine samples. Currency:—

| | | |
|---|---|---|
| Mid and East Kents, per cwt., 5*l*. to | £7 0 | to £9 0 |
| Weald Kents .. .. .. .. | 4 10 | — 6 10 |
| Sussex .. .. .. .. .. | 4 4 | — 6 0 |

NEWGATE.—Oct. 9.

Best Fresh Butter .. .. 14*s*. per dozen lbs.
Second do. do. .. .. 12*s*. „
Pork, 4*s*. 0*d*. to 4*s*. 8*d*. per 8 lbs.

## METROPOLITAN CATTLE MARKET.

Monday, Oct. 5.

The number of Beasts is smaller than on Monday last, consequently trade is more active for the best qualities at an advance on Thursday's quotations. Inferior descriptions, however, are not selling any better. The supply of Sheep is small, so also is the demand, and it is very difficult to obtain any advance. Choice Calves are rather dearer than on Thursday. From Germany and Holland there are 2450 Beasts, 6310 Sheep, 112 Calves, and 30 Pigs; from Spain, 51 Beasts; from Ireland, 890 and 2406 from the Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools | 4 6 — 4 10 |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 6 — 3 6 | Ewes & 2d quality | 4 0 — 4 4 |
| Best Downs and Half-breds .. | 5 0 — 5 4 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 0 — 4 8 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 6110; Sheep & Lambs, 21,160; Calves, 125; Pigs, 390.

Thursday, Oct. 8.

The number of Beasts is not quite so large as on Thursday last; trade is however very dull, and they cannot all be sold. A few choicest qualities maintain Monday's quotations. The supply of sheep is also rather small. The demand is very limited, and many remain unsold. Good Calves being scarce are sold rather dearer. Our foreign supply consists of 390 Beasts, 2020 Sheep, and 294 Calves. Milch Cows, 90.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools | 4 6 — 4 10 |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 6 — 3 6 | Ewes & 2d quality | 4 0 — 4 4 |
| Best Downs and Half-breds .. | 5 0 — 5 4 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 0 — 3 10 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 1270; Sheep & Lambs, 5060; Calves, 344; Pigs, 210.

MARK LANE.—Monday, Oct. 5.

The supply of English Wheat to this morning's market was moderate, and was taken up slowly at the rates of this day week. For foreign there was a retail demand at about the prices current of that day. Malting Barley was 1s. per qr. cheaper, other descriptions were unaltered in value. Beans and Peas brought late rates. The Oat trade was heavy, and new Corn rather cheaper. Flour was a slow sale, without alteration in value.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 42—46 | Red ..... | 38—44 |
| — — fine selected runs .. ditto | 44—50 | Red .... | 40—48 |
| — — Talavera ............ | 46—52 | | |
| — Norfolk ................ | — | Red .... | — |
| — Foreign ................ | 36—54 | | |
| Barley, grind. & dist., 28s to 30s .. Chev. | 34—38 | Malting .. | 31—34 |
| — Foreign .. grinding and distilling | 25—30 | Malting .. | 30—35 |
| Oats, Essex and Suffolk ........ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ............ Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 19—22 | Feed .... | 17—20 |
| Rye ........................ | 30—32 | Foreign .. | — |
| Rye-meal, Foreign .............. | — | | |
| Beans, Mazagan .... 33s to 36s .. Tick | 32—35 | Harrow .. | 32—35 |
| — Pigeon .... 37s to 40s .. Winds. | — | Longpod | — |
| — Foreign ............ Small | 36—42 | Egyptian | 30—32 |
| Peas, White, Essex and Kent .. Boilers | 37—40 | Suffolk .. | 38—42 |
| — Maple .... —s to —s .... Grey | 32—34 | Foreign .. | 34—40 |
| Maize .................. White | — | Yellow .. | — |
| Flour, best marks delivered .. per sack | 38—48 | | |
| — 2d do ................ ditto | 30—34 | Country .. | 30—34 |
| — Foreign .......... per barrel | 17—24 | Per sack | 32—42 |

Friday, Oct. 9.

The weather during the past week has been unsettled and showery, but somewhat finer in Scotland, where the harvest is now nearly completed. The usual trade in Wheat has been inactive, and sales slow at previous rates, excepting at Liverpool and Leith, where more firmness was evinced. A fair extent of business has, however, been transacted in cargoes off the coast, and more c. f. i. sales from the Baltic have been effected, the latter at prices scarcely obtainable of late. Barley has been difficult of sale, at a decline of fully 1s. per qr., excepting the finest malting qualities. Peas were neglected with a downward tendency of prices. Beans commanded more attention, and Egyptians are 6d. per qr. dearer. The value of Oats continues to decline. Flour of fine quality and in perfect condition meets a ready sale; small quantities are beginning to arrive from France; unsweet and secondary are difficult of disposal. Since Friday last 45 vessels have been reported off the coast. Wheat and Maize were a little improving for two days, but relapsed again, and close quiet at last week's prices. Barley and Beans are rather lower. In Paris (Oct. 8), Flour has declined fully 1s. per 280 lbs. The six marks for delivery this month are quoted equal to 30s. 2d. per 280 lbs. The present stock is estimated at 10,200 cwt. Only a few sales have been made in Wheat at about 9d. per qr. lower prices, buyers insisting upon a further reduction. The arrivals of English Barley this week have been good, and of other English grain moderate. The supplies of foreign Wheat, Barley, and Oats are large, and of Flour good. The attendance at this morning's market was very small. Both English and foreign Wheats were neglected, but we observe no alteration in prices. Barley, Beans, and Peas brought Monday's quotations. The Oat trade was heavy, at a decline of 6d. per qr.

Arrivals this Week.

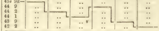
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1410 qrs. | 2170 qrs. | 220 qrs. | 1620 sks. |
| Irish .... | — | — | 400 | — „ |
| Foreign .. | 27,020 „ | 8970 | 60,680 „ | 200 „ / 15,300 brls |

Liverpool, Oct. 6.—With fair attendance of both town and country millers and dealers at our corn exchange this morning Wheat met a tolerably good consumptive inquiry at the full prices of last market day. Flour was neglected and prices irregular. Indian Corn was held for 3d. per qr. advance, which checked the demand. New Oats are down 1d. per bushel, and Oatmeal 6d. per load. Beans, Peas, and Barley are each firm at late rates. The market closes steady for Wheat.

Friday, Oct. 9.—The market was moderately attended, and the general tone remains unchanged since Tuesday. Wheat and Flour quiet. Indian Corn and Egyptian Beans have undergone no change. Other articles dull.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Aug. 29 | 45*s* 9*d* | 33*s* 10*d* | 22*s* 8*d* | 33*s* 9*d* | 39*s* 6*d* | 35*s* 9*d* |
| — 5 | 44 2 | 34 8 | 22 0 | 32 11 | 38 10 | 37 2 |
| Sept. 12 | 44 1 | 34 7 | 21 8 | 31 0 | 39 10 | 35 10 |
| — 19 | 44 9 | 35 2 | 20 9 | 32 7 | 39 0 | 36 9 |
| — 26 | 43 9 | 35 9 | 20 2 | 32 1 | 38 11 | 37 5 |
| Oct. 3 | 42 2 | 35 4 | 19 8 | 31 0 | 37 11 | 36 7 |
| Agg. Aver. | 44 1 | 34 11 | 21 2 | 32 3 | 39 0 | 36 7 |

Fluctuations in the Last Six Weeks' Averages.




Islington Green.

THE VESTRY of ISLINGTON having resolved, on the completion of the Laying-out and Planting the Green, to appoint a GARDENER to attend to the Plantation and the Green generally, at weekly wages of 22s., this is to give Notice that the Highways Committee will meet at the Vestry Hall, Islington, on Tuesday evening, the 27th inst., at 7 o'Clock, to receive written applications from Candidates for the office. Age not to exceed 40 years. The appointment will be subject to the approval of the Vestry. It is requested Candidates will not canvas any member of the Vestry.

John Layton, Vestry Clerk.

Vestry Offices, Upper Street, Islington.

JOHN MONRO, Rabley Gardens, near Barnet, is in want of a MAN to ASSIST in the Growing of all sorts of choice Fruit and Plants for the London Market. A liberal wage will be given and a good home to live in. A married Man preferred. No one need apply who cannot be thoroughly recommended for sobriety, energy, and skill.

WANTED, a FOREMAN in a gentleman's Garden, and to live in a Lodge.—A married man without children will be preferred. An experienced and clever Gardener will be liberally paid.—Apply to Mr. Fairlie, Clay Farm, Eltham, Kent, S.E.

WANTED, a PROPAGATOR and HOUSE FOREMAN.—The undersigned require a thoroughly experienced man in the above capacities. No one need apply who has not held similar situations in first-class Nurseries, and cannot be recommended as a skilful Propagator and Cultivator of Plants, of active energetic habits, strictly steady and honest, and of good address. Liberal wages will be given to a first-class man. Letters, in applicant's own hand-writing, must be addressed, stating particulars of former servitude, references, &c., Francis & Arthur Dickson & Sons, "Upton" Nurseries, Chester.

P.S.—To save trouble, no one will be replied to who is not considered eligible.

WANTED, a Young Man for JOBBING WORK and to Assist in the Nursery.—Apply, stating where last employed and wages required, to S. W. Talbot, Waltham Nursery, Waltham Abbey, N.

WANTED, a HEAD SHOPMAN, who has had considerable experience in the Garden and Flower Seed Departments; must understand his business thoroughly, have a good address, be able to write and calculate correctly, and be well recommended.—Apply, enclosing copies of testimonials, with reference to last employer, and stating age, whether married or single, and the terms expected, to W. Drummond & Sons, Seedsmen, Dublin.

WANTED, a Young Man of experience, as SHOPMAN.—Must have a thoroughly practical knowledge of the general Garden and Flower Seed Trade.—Address, with references, to E. P. Dixon & Sons, 57, Queen Street, Hull.

WANTED, a MAN and WIFE; the Man to clean Shoes and Knives, and attend to Cows and Pigs, and work out of doors; the Woman as Plain Cook, to Bake and manage a Dairy. State wages.—Address A. Z., Post Office, Sevenoaks.

WANTED, a GOOD COOK, by a lady resident near Blackheath. One who can attend properly to the Dairy and Baking.—Apply, by letter or personally, stating full particulars, to Mrs. Millington, East Coombe, Charlton, Kent.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (Head).—Age 30, married; thoroughly competent, having had great experience in some of the largest establishments in England.—A. B., 16, Henrietta Street, Brunswick Square, London, W.C.

GARDENER (Head.)—Aged 38, married, without incumbrance. A gentleman has pleasure in recommending the above. He is highly skilled in Plant Culture, Forcing Fruits, Laying-out and Planting Gardens, Management of Land, &c.—H., Esq., Mr. Tibbs, Landscape Gardener, Upper Tooting, S.

GARDENER (Head, or good Single-handed), where a man or two is kept.—Age 29, married; thoroughly practical in the Forcing of Pines, Vines, Peaches, Strawberries, Cucumbers, Melons, Figs, &c. Good at Greenhouse and Fern Culture; also Kitchen and Flower Gardening. Several years' first-class recommendations. Character will bear the strictest investigation.—A. B. C., Post Office, Thame, Oxon.

GARDENER (Head), or GARDENER and BAILIFF.—Age 42, married; has a good knowledge of his profession, acquired during 26 years' experience; is a good Plantsman; has had extensive experience in Early and Late Forcing of Pines, Vines, Peaches, &c.; and is well qualified to conduct a large establishment with economy and skill. Can have very high testimonials from last and previous employers, whom he served six and four years.—S. M., 11, Edward Street, York Road, Battersea, S.W.

GARDENER (Head).—Age 33; can produce the very highest and best of character, and testimonials that will certainly satisfy the most sanguine requirements of any lady or gentleman.—W.C., Post Office, Balham, S.

GARDENER (Head).—The Advertiser is at liberty to engage with any gentleman who may be in want of a practical and trustworthy servant. Seven years' character, and testimonials will be found satisfactory.—J. J, Gardener, Duddon Hall, Ulverstone, Lancashire.

GARDENER (Head).—Age 40, married, no incumbrance; has had 25 years' practical experience of Gardening in all its branches. Six years' Gardener to W. Ferrand, Esq., M.P., St. Ives, Bingley.—W. Hewitt, Micklethwaite, Bingley, Yorks.

GARDENER (Head). — Middle-aged, married; thoroughly understands his profession in all its branches; also the Management of Meadow Land. Wife could take charge of Dairy and Poultry. Four years' good character from the gentleman he is about leaving.—T. W., 14, Raglan Street, Forest Hill, S.E.

GARDENER (Head).—Age 36, married, without incumbrance; has a thorough practical knowledge of his profession. No objection to Superintend Land and Stock if required. Three years' excellent character from the situation he is now leaving.—G. R, Mr. Young, The Gardens, West Hill House, Highgate, N.

GARDENER.—Age 40, married, no incumbrance. Good character.—A. B., Post Office, Cheam, Surrey.

GARDENER (to any nobleman or gentleman).—Married, no incumbrance; thoroughly understands every branch of Gardening, the Growing of Pines, Vines, Cucumbers, and any Collection of Plants. Thirteen years good character.—W. C., Mr. Fuller's Nursery, Newton Abbott, Devon.

GARDENER (middle-aged, married, without incumbrance).—D. Davies, who has been 19 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. Lindley, Acton Green, Middlesex, W.

GARDENER (Under).—Age 27; understands all kinds of Forcing. Good Premium.—F. Morley, 35, George Street, Grosvenor Square, London, W.

GARDENER, or GARDENER and STEWARD.—Age 32, married; thoroughly understands his profession in all its branches. Sixteen years' experience. A good practical knowledge of Agriculture, Stock, &c. Five years' unexceptionable character from present employer.—G. B., *Gardeners' Chronicle* Office, W.C.

GARDENER and BAILIFF.—Age 32, married; thoroughly practical in all departments of Gardening, understands well the Management of Stock, Land, &c. Can have the highest testimonials from the gentleman he is about to leave.—Messrs. Downie, Laird & Laing, Stanstead Park Nursery, Forest Hill, London, S.E.

FOREMAN, in a nobleman's or gentleman's Garden.—Age 25; good reference.—A. B., Mrs. Darroch, Brooks Lane, Chester.

PROPAGATOR, FOREMAN, &c.—Upwards of 20 years' experience; first-rate in Rhododendrons, Conifers, and Hardy Ornamental Trees and Shrubs; second to none as a General Man in a Provincial Nursery.—B. A., General Post Office, Folkestone, Kent.

To Nurserymen.

PROPAGATOR.—Age 20; has had six years' experience in Soft-wood Propagating, Budding, Grafting, Layering, &c. Unexceptionable references from one of the largest London Nurseries.—H. R., Post Office, Rochester, Kent.

FORESTER.—Age 27, single; 12 years' experience. A native of Scotland. Can be highly recommended.—A. B., Mr. Wheeler, Nursery, Warminster, Wilts.

FARM BAILIFF or GARDENER (Working).—Thoroughly understands Stock and Farming, the Wife taking the Dairy and Poultry-yard. No objection to make himself generally useful. The highest references can be given.—T. H., Post Office, Finchley, N.

FARM BAILIFF.—Age 46, married; has had the entire Management of a Farm of 450 Acres of mixed soil; thoroughly understands the Cultivation of Roots and Steam Machinery, Marketing, and a good judge of Stock. First-class references. Cause of leaving—Farm let.—J. H., Post Office, Kirtlington, Oxford.

LAND STEWARD or BAILIFF.—Is thoroughly acquainted with Farming in all its branches, the Buying, Selling, Breeding, and Rearing of all kinds of Stock, Marketing, &c. First-class references and testimonials.—Homo, Post Office, Watford, Herts.

LAND STEWARD or BAILIFF.—Middle-aged, single; practically and thoroughly acquainted with Agriculture in all its branches, the Breeding and Rearing all kinds of Stock, Buying and Selling; has had many years' experience. A good Accountant, and can be highly recommended. Has a sister who would take charge of Poultry and Dairy if required.—A. B., Mr. W. G. Taylor, Land and Estate Agent, Upper Hill Street, Richmond, Surrey.

MANAGER or TRAVELLER.—A thoroughly persevering, energetic young Man offers his services to any respectable Nursery Firm, as above; possesses a good practical knowledge of the business in all departments, is an excellent Penman, and can effect Sales in a proper manner; knows the various routes of the three kingdoms well. Salary not so much an object as an engagement in a first-class Establishment, as none other will be treated with.—B. W., 3, Bedford Terrace, Andover Road, Holloway, N.

SHOPMAN.—Age 25, single; 10 years' experience in the provinces. First-class references.—A. B. C., Messrs. Hurst & Son, 6, Leadenhall Street, London, E.C.

SHOPMAN.—Age 21; has a good knowledge of the Seed Trade; is a good Salesman, and of respectable connections.—B. C, Messrs. Youell & Co., Royal Nurseries, Great Yarmouth.

ASSISTANT in a SEED ESTABLISHMENT.—Age 20; Three years' experience. Good character.—J. D., Messrs. Sutton & Sons, Reading.

IMPROVER.—A Clergyman is desirous of recommending a well-trained YOUTH, aged 18, for employment in a nobleman's or gentleman's extensive garden, for improvement in the higher branches of Gardening. Fair wages will be expected, and a moderate Premium will be given. ALSO, another YOUTH, same age, well recommended, but with less Garden experience. Small Premium.—Address, Rev. S. L., Hempsted Court, near Gloucester.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, OCTOBER* 17, 1863.


**Greenhouses, Orchard-houses, and Conservatories.**

H. FREEMAN'S HORTICULTURAL WORKS, Triangle, Hackney, N.E. Established 20 years. Good substantially made GREENHOUSES, glazed, ready for fixing, 42 feet by 13 feet, 50*l.*; 21 feet by 13 feet, 28*l.*; 12½ feet by 10 feet, 15*l.* ORCHARD-HOUSES, 10 per cent. cheaper. A handsome CONSERVATORY, 46 feet by 19 feet, for Sale. Estimates given.

HOT-WATER PIPES, at Reduced Wholesale Prices, with Elbows, Syphons, Tee Pipes, and every other connection; Wrought and Cast-iron Boilers, Saddle, Conical, Cylinder, TUBULAR, and Elliptic, from 24*s.* each. Improved Boilers and Iron Stands to use without brickwork, 56*s.* each. Valves from 10*s.* 6*d.* each. Patent Valves, Improved Furnace Doors, Furnace Bars, Supply Cisterns, and Builders' Castings of every description in stock, at

Mr. LYNCH WHITE's Iron Wharf, Upper Ground Street, Blackfriars Bridge, London, S. Price List on application.

WILLIAM HASTINGS, HORTICULTURAL BUILDER and HOT-WATER APPARATUS MANUFACTURER, 235, Old Kent Road, London, S.E. (For many years with WEEKS & Co.)

W. H.'s long experience in the above business enables him to Erect and Heat Hot-houses in the most approved style at greatly reduced prices.

REGISTRY OFFICE for GARDENERS.

RIDDELL'S PATENT SLOW-COMBUSTION COTTAGE BOILER for HEATING CONSERVATORIES, ENTRANCE HALLS, BATHS, &c., by the Circulation of Hot Water.

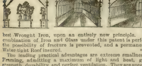
Requires no brickwork setting; will keep in action from 12 to 18 hours without attention, at an expense of about 3*d.* per day. Is perfectly safe, requires no additional building, and may be seen in operation daily at the

Patentee's Warehouse, 155, Cheapside, London, E.C.

Price complete from 3*l.* 10*s.*

Illustrated Prospectus free, and Estimates prepared for Erecting Hot-Water Apparatus of any magnitude.

DENNIS'S PATENT METALLIC HORTICULTURAL BUILDINGS are made from the



best Wrought Iron, upon an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

The leading practical advantages are extreme smallness of Framing, admitting a maximum of light and heat, great strength, durability, and perfect ventilation. They are speedily erected, partake of more desirable outline, and do not exceed the cost of a perishable wooden structure

For Prospectus, &c., address T. H. P. DENNIS, Horticultural Builder, Hot-Water Engineer, &c., High St. Chelmsford, Essex.

**The only Stove without a Flue.**

JOYCE'S PATENT, for Warming Chapels, Halls, Shops, Conservatories, and all other Places. Price from 12*s* 6*d.* each.

JOYCE'S STOVES are Portable and Economical, and burn 12 hours with one supply of fuel, requiring no attention.

STOVES for GREENHOUSES are made to burn all the Winter. Temperature always the same. Patent Fuel, 2*s.* 3*d.* per bushel.

SWAN NASH, Patentee, 253, Oxford Street; and 119, Newgate Street, London, E.C.

Illustrated Catalogues post free.

**Second-hand Greenhouses and Pit Lights.**

J. WEEKS AND CO. have a large Stock of the above for SALE. Parties wishing to Purchase must send and select for themselves.

J. WEEKS & Co., Horticultural Builders, King's Road, Chelsea.

**Second-hand Hot-water Boilers in Great Variety.**

J. WEEKS AND CO. have a large stock of BOILERS that they have taken out, some as good as new, consisting of SADDLE, CONICAL, the RIBBED, the CANNON, and many others.

Parties wishing to purchase must send and select for themselves.

J. WEEKS & Co., Horticultural Builders and Hot-water Apparatus Manufacturers, King's Road, Chelsea, W.

JOSEPH SMITH, HOTHOUSE and ORCHARD-HOUSE BUILDER, New Road, Hammersmith, W., begs to submit his extra low prices for ORCHARD-HOUSES, &c., made in a substantial manner, glazed with 21-oz. Glass, and well Painted.

LEAN-TO HOUSES with ends and gutters.—20 feet long, 9 feet lights, 12*l.* 10*s.* 40 feet long, 11 feet lights, 30*l.* 100 feet long, 14 feet lights, 90*l.* 110 feet long, 16 feet 6 inches, 120*l.*

J. S. has now quite 10,000 feet of GREENHOUSE and PIT LIGHTS ready made.

Also, a SPAN-ROOF GREENHOUSE ditto, 27 feet by 16 feet 6 inches, 45*l.* 10*s.* LEAN-TO, 46 feet by 14 feet, 55*l.* Ditto, 24 feet by 11 feet, 30*l.*

The above prices would include modern Ventilating appliances of the best kind.

One, Two, and Three Light MELON FRAMES, of the best make, at reduced prices.

HEATING by HOT WATER done effectually.

## THOMAS MILLINGTON, GLASS MERCHANT.

ESTABLISHED 1750.

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED TARIFF FOR SHEET GLASS AND HORTICULTURAL GOODS.

The Agricultural Hall, Islington, containing an Acre of Glass, was supplied by T. MILLINGTON.

Mr. Rivers, and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home Use and for Exportation.

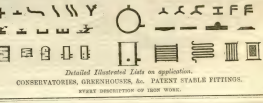
☞ *For prices see Advertisement of September* 26.

## ST. PANCRAS IRON WORK COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

### HOT-WATER APPARATUS,

FIXED AND UNFIXED.




*Detailed Illustrated Lists on application.*

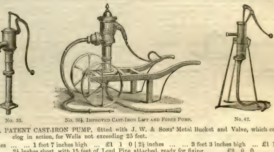
CONSERVATORIES, GREENHOUSES, &c. PATENT STABLE FITTINGS.

EVERY DESCRIPTION OF IRON WORK.

## JOHN WARNER & SONS,

### BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.



No. 35. No. 36½. IMPROVED CAST-IRON LIFT AND FORCE PUMP. No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0

2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0

2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Sprender, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1¼-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4

2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... ... 3 0 0

3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET.

When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & SONS' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

PATENTEES and MANUFACTURERS,

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

**Card.**

SAMUEL N. McGERROW, GENERAL HORTICULTURAL BUILDER, Knotty Ash, near Liverpool.

Reference permitted to the Nobility and Gentry throughout Great Britain and Ireland.

**For Sale, at E. Dench's Patnet Horticultural Works King's Road, Chelsea.**

E. DENCH being about to DISPOSE of his HORTICULTURAL BUSINESS, has on hand a considerable number of VINERIES, GREEN and HOTHOUSES, which he will dispose of at a low wrice to clear his premises.

The Sizes being from 16 ft. to 36 ft. in length, and from 10 ft. to 15 ft. in width.

GREEN'S LATEST IMPROVED PATENT NOISELESS LAWN MOWING, ROLLING, and COLLECTING MACHINES, which gained the First Prize Medal of the International Exhibition.

Patronized by Her Most Gracious Majesty the Queen during the seasons of 1862 and 1863.

These Machines have proved to be the best, and have carried off every prize that has been given in all cases of competition.

ILLUSTRATED PRICE LISTS on application.

THOMAS GREEN & SON, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

**Paxton Works, Sheffield, Established 1738.**

INTERNATIONAL EXHIBITION PRIZE MEDAL WAS AWARDED TO SAYNOR & COOKE FOR SUPERIORITY OF QUALITY IN PRUNING AND BUDDING KNIVES, &c.

SAYNOR AND COOKE'S celebrated English and French Exhibition PRIZE PRUNING KNIVES, &c., can be obtained of any respectable Nurseryman or Seed Merchant in the three kingdoms, all Knives warranted both by the Seller and Maker.

CAUTION.—None are genuine unless marked SAYNOR. Other marks would cause disappointment, as these Knives are tempered by an improved process known only to the Makers.

**Glass for Orchard Houses or Conservatories.**

ENGLISH MANUFACTURED SHEET GLASS, 15 and 21 oz. to the foot, in sizes from 9 × 7 to 24 × 20, packed in 100 feet boxes, to be sold cheap.

Apply to WM. H. JACKSON, Plate, Crown, and Sheet Glass Warehouse, 315, Oxford Street, W.

**Glass for Garden Purposes.**

JAMES PHILLIPS AND CO. beg to submit their prices as follows:—

PROPAGATING GLASSES.

| | Each—s. | d. | | Each—s. | d. |
|---|---|---|---|---|---|
| 2 inches in diameter .. | 0 | 3½ | 12 inches in diameter .. | 1 | 9 |
| 3 " " .. | 0 | 4½ | 13 " " .. | 2 | 0 |
| 4 " " .. | 0 | 5½ | 14 " " .. | 2 | 6 |
| 5 " " .. | 0 | 6½ | 15 " " .. | 3 | 0 |
| 6 " " .. | 0 | 8 | 16 " " .. | 3 | 6 |
| 7 " " .. | 0 | 10 | 17 " " .. | 4 | 0 |
| 8 " " .. | 1 | 0 | 18 " " .. | 5 | 0 |
| 9 " " .. | 1 | 2 | 19 " " .. | 6 | 0 |
| 10 " " .. | 1 | 4 | 19 " " .. | 6 | 0 |
| 11 " " .. | 1 | 6 | 20 " " .. | 7 | 0 |

HAND GLASSES, WITH OPEN TOPS.

| | Each—s. | d. | | Each—s. | d. |
|---|---|---|---|---|---|
| 12 inches .. .. .. | 6 | 6 | 18 inches .. .. .. | 9 | 6 |
| 14 " .. .. .. | 7 | 6 | 20 " .. .. .. | 10 | 6 |
| 16 " .. .. .. | 8 | 6 | 22 " .. .. .. | 11 | 6 |
| | | | 24 " .. .. .. | 12 | 6 |

Painted and Glazed with 16 oz. Sheet Glass.

HYACINTH and FLOWER DISHES.

6 inches diameter, 1s.; 9 inches, 1s. 6d.; 12 inches, 2s. 6d.

Hyacinth Dishes are intended to contain a number of roots bedded in sand and covered with moss, instead of the common Hyacinth Glass.

HYACINTH GLASSES.

Common shape, p. doz., 2s. 6d. | Improved shape, p. doz., 4s. 6d.

Patent shape, per dozen, 6s. 6d.

London Agents for Hartley's Improved Patent Rough Plate. Linseed Oil, Genuine White Lead, Carson's Paints, Paints of various colours ground ready for use.

180, Bishopsgate Street Without, London, E.C.

1000 GARDEN TARPAULINGS, very thick, 8 ft. by 4 ft., with 6 brass eyelets, 32s. per doz., or 2s. 9d. each; any size made up at 9d. per square yard. GARDENERS' CAPES, 3 ft. deep, 3s. 6d. each. POLICE CAPES, from 18s. to 36s. per doz. DRIVING APRONS, 10s. HORSES' LOIN CLOTHS, lined with woollen and strapped, 7s. each. CART and WAGGON COVERS, PATENT FELT.

R. RICHARDSON, 99, Euston Road, London, N.W.

N.B. GALVANISED WIRE WORK, 18 in. gauge, 1⅝ in. mesh, 7d. per square yard, in all widths.

**Universal Microscope. Price £5 5s.**

SMITH, BECK, AND BECK, 31, Cornhill, E.C.; late 6, Coleman Street.

*** Catalogues sent on receipt of 6 postage stamps.

SHAW'S TIFFANY, For samples and prices apply to J. SHAW & Co., 29, Oxford Street, Manchester.

THE NEW WEATHER INDICATOR. By L. CASELLA, for correctly foretelling Changes in the Weather, either for Rain, Wind, or Moisture. Particulars, with rules, by inclosing stamp.

23, Hatton Garden, London, E.C.

TREE and PLANT LABELS.—10,000 CLOTH or PATENT PARCHMENT PUNCHED LABELS for 30s. Delivered free in London on receipt of a Post office Order or Stamps for the amount. Address JOHN FISHER & Co., West Road Works, Boston, Lincolnshire.

HORTICULTURAL and AGRICULTURAL IMPLEMENTS and MACHINES of every description.

Illustrated Catalogues on application.

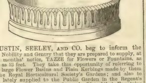
THOMAS GREEN & SON, Smithfield Iron Works, Leeds; and 2, Victoria Street, Holborn Hill, London, E.C.

AGRICULTURAL IMPLEMENTS.—STEAM ENGINES, THRESHING MACHINES, CARTS, WAGGONS, PLOUGHS, HARROWS, TURNIP CUTTERS, CHAFF CUTTERS for hand and power, LAWN MOWERS, PRIZE CHURNS, CASK STANDS, WIRE NETTING, and GARDEN TOOLS.

Illustrated Catalogues on receipt of 6 stamps. Price Lists free.

BURGESS & KEY, 95, Newgate Street, E.C. Works, Brentwood, Essex.

..............6 feet 9 inches..............



AUSTIN, SEELEY, AND CO. beg to inform the Nobility and Gentry that they are prepared to supply, at three months' notice, TAZZE for Flowers or Fountains, as wide as 13 feet. They take this opportunity of referring to some large Flower Basins and Plain Kerbings made by them for the Royal Horticultural Society's Gardens; and also to those lately supplied to the Public Garden in the Regent's Park. They will be happy to forward a List of their Fountains to any gentleman requiring one.

369 to 375, Euston Road, Regent's Park, N.W.

GARDEN BORDER-EDGING TILES.—These Tiles, manufactured in Terra-Cotta, Terro-Metallic Ware, and Red Ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons:—They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens, Town, and Sea-side Gardens, they are invaluable.

To be obtained at F. & G. ROSHER'S Wharves, London Ward's Wharf, Upper Ground Street, Blackfriars, S.; Old Swan Wharf, Queen's Road, Chelsea, S.W.; and Kingsland Road Wharf, near the Canal Bridge, Kingsland, N.E.

Illustrated Price Lists free on application. The Trade supplied.

ORNAMENTAL PAVING TILES for Conservatories, Halls, Corridors, Balconies, &c., as cheap and durable as Stone, in blue, red, and buff colours, and capable of forming a variety of designs.

Also WHITE GLAZED TILES, for Lining Walls of Baths, Dairies, Larders, Kitchen Ranges, &c. Grooved Terro metallic and other Stable Paving Bricks of great durability. Clinkers, Red and White Wall Copings, Glazed Drain Pipes, &c.

To be obtained of F. & G. ROSHER at their Premises as above.

E. T. ARCHER'S "FRIGI DOMO."—Patronised by her Majesty the Queen, the Duke of Northumberland for Syon House, his Grace the Duke of Devonshire for Chiswick Gardens, Professor Lindley for the Horticultural Society, Sir Joseph Paxton for the Crystal Palace, Royal Zoological Society, &c.

PROTECTION from the COLD WINDS & MORNING FROST.

"FRIGI DOMO," a Canvas made of patent prepared Hair and Wool, a perfect non-conductor of Heat and Cold, keeping, wherever it is applied, a fixed temperature. It is adapted for all horticultural and floricultural purposes, for preserving Fruits and Flowers from the scorching rays of the sun, from wind, from attacks of insects, and from morning frosts. To be had in any required lengths.

Two yards wide .. .. .. 1s. 8d. per yard run.
Four yards wide .. .. 3s. 4d. per yard.
An improved make, 2 yards wide, 1s. 9d. per yard.
An improved make, 3 yards wide, 2s. 8d. per yard run.

Also "Frigi Domo" Netting, 2 yards wide, 1s. 6d. per yard run.

ELISHA THOMAS ARCHER, Whole and Sole Manufacturer, 7, Great Trinity Lane, Cannon Street, City, and of all Nurserymen and Seedsmen throughout the kingdom.

"It is much cheaper than Mats as a covering."

PRICE'S CHILD'S NIGHT LIGHTS are perfectly safe, and burn their time. The quality of these Night Lights can now be relied on.

SHERWOOD BED LIGHTS, Sixpence and Eighteenpence a box.—These candles are made to supply a want very generally expressed, a cheap, really good Chamber Candle. They will be found inferior only to "PRICE'S CANDLES, WHICH WILL NOT DROP GREASE WHEN CARRIED," which are sold in boxes, 1s. and 3s. each.

GLYCERINE, which very simple tests show to be impure, is being sold on the statement that it is in every respect equal to Price's." Most medical men prescribe "PRICE'S GLYCERINE." Where purity is of importance patients can ensure it by desiring to have their Glycerine in 1 lb., 8 oz., 4 oz., or 2 oz. bottles, with capsule over the stopper marked "Price's Patent."

Belmont, Vauxhall.

SCOTTISH UNION INSURANCE COMPANY (FIRE and LIFE), 37, Cornhill, London; established 1824. Fire Insurances on the most liberal terms and conditions.

New Life Policies were issued during the year ending July 31 last for 490,000l.

By order of the Directors, F. G. SMITH, Secretary.

**Agents Wanted.**

THE CALEDONIAN INSURANCE COMPANY (Established 1805 by Royal Charter and special Act of Parliament) is prepared to appoint additional AGENTS for either the Fire or Life Departments. Commission liberal.

Applications to be addressed to JAMES MUIR, Esq., Resident Secretary, Caledonian Insurance Office, 39, Lothbury E.C.

**Braided Linsey Dress.**

THE QUEEN, the LADY'S NEWSPAPER, and COURT CHRONICLE, of SATURDAY, October 24, will be a DOUBLE NUMBER. On the Extra Sheet will be given the Design, Shapes, and complete instructions for Making and Braiding a Linsey Dress in the latest fashion. By MLLE. RIEGO. It will include full-sized patterns for Bodice, Sleeve, Gored Skirt, and Chatelaine Bag. Double Number, price 1s. A Copy post free for 14 stamps.

346, Strand, W.C.

**Notice.**

On November 1, price 1s.,

MORTON'S NEW FARMER'S ALMANACK and YEAR BOOK of FACTS for 1864.

BLACKIE & SON, 44, Paternoster Row, London, E.C.; and sold by all Booksellers.

HOW to GROW MUSHROOMS ALL THE YEAR ROUND, in large or small Quantities, without Buying Spawn.

Inclose a directed stamped envelope and six Postage Stamps to J. K., Gardener, Lilystone Hall, Stock, near Ingatestone, Essex.

**Free by Post for 2s.**

A PAMPHLET containing full Directions to CLEAR BARNS and PREMISES of RATS.

W. GOODWIN, Potton, Beds.

**The Student's Manual of Astronomy.**

Now Ready, with numerous Illustrations, Post 8vo, 12s.

A HANDBOOK of DESCRIPTIVE and PRACTICAL ASTRONOMY. By GEORGE F. CHAMBERS.

"Descriptive Astronomy, like all the natural sciences, is continually receiving fresh accessions as the result of observation. Mr. Chambers has apparently brought these down to the latest date, and his book exhibits the great range of observations and transactions from which he has collected his facts."—*Times.*

"Pains have been taken to incorporate the most recent discoveries in all branches of the science, and the work appears to be very complete in its range of subjects; and in general to be fully entitled to take up the position claimed for it by the author."—*Royal Astronomical Society.*

"If the reader wishes to form a fair conception of the appearance of the heavenly bodies through the telescope, then let him glance at the beautiful plates with which this work is illustrated. Mr. Chambers has availed himself of every legitimate source of information, and has spared no pains to bring this excellent text-book up to the latest date."—*Popular Science Review.*

JOHN MURRAY, Albemarle Street.

**People's Edition of Macaulay's History of England.**

On Monday, Nov. 2, will be published, in crown 8vo., Part I, to be completed in 14 monthly Parts, price 1s. each,

LORD MACAULAY'S HISTORY of ENGLAND. People's Edition, uniform with the People's Edition of Lord Macaulay's Essays, and the Rev. Sydney Smith's Works; embodying the Author's last Corrections and Notes, and including the brief Memoir by the Very Rev. the DEAN of ST. PAUL'S.

London: LONGMAN, GREEN, & Co., Paternoster Row, E.C.

THE EDINBURGH REVIEW, No. CCXLII., was published YESTERDAY.

CONTENTS:

I. QUEENSLAND.
II. GREGOROVIUS' MEDIÆVAL ROME.
III. CADASTRAL SURVEY OF GREAT BRITAIN.
IV. MACKNIGHT'S LIFE OF LORD BOLINGBROKE.
V. AUSTIN ON JURISPRUDENCE.
VI. THE ROYAL ACADEMY.
VII. CHINCHONA CULTIVATION IN INDIA.
VIII. PHILLIMORE'S REIGN OF GEORGE III.
IX. TARA: A MAHRATTA TALE.
X. THE COLONIAL EPISCOPATE.

London: LONGMAN & Co. Edinburgh: A. & C. BLACK.

THE QUARTERLY REVIEW, No. CCXXVIII. will be published on TUESDAY NEXT.

CONTENTS:—

I. PROGRESS OF ENGINEERING SCIENCE.
II. THOMAS HOOD AND HIS LIFE AND WRITINGS.
III. CO-OPERATIVE SOCIETIES.
IV. LYELL'S ANTIQUITY OF MAN.
V. JAPAN.
VI. ANTI-PAPAL MOVEMENT AMONG THE ITALIAN CLERGY.
VII. FROUDE'S QUEEN ELIZABETH.
VIII. THE CHURCH OF ENGLAND AND HER BISHOPS.

JOHN MURRAY, Albemarle Street, W.

## News of the Week.

BY the Australian Mail we have unsatisfactory accounts of the progress of the Maori outbreak in New Zealand. All the tribes in the Northern Island, headed by the warlike Waikatos, are in open rebellion, and a native army, estimated by the colonists as numbering 7500 men, is prepared to take the field. The city of Auckland, with the country for 40 miles around it, is one vast camp; and the mountain ranges in the rear are swarming with armed men who have commenced hostilities by the barbarous murder of defenceless settlers. These atrocities have thoroughly roused the colony to the dangers of the crisis, and both the Government and people are preparing for war on a large scale. The troops under General CAMERON, in their

first engagement with the natives, have defeated them with the loss of seven or eight of their leading chiefs; while the Volunteers and Militia of the province already under arms amount to 4000 men, exclusive of a permanent corps of colonial cavalry. Sir GEORGE GREY has also appealed to the neighbouring colonies for assistance, and regiments of volunteers are raising in Victoria, New South Wales, Tasmania, and South Australia, under liberal arrangements of pay and land bounties from the New Zealand Government.

The French papers state that the Cabinet has not judged it expedient to accede at present to the wish of Prince CZARTORYSKI to recognise the Polish insurgents as belligerents. It is officially announced that the Legislative Chambers will assemble on the 5th of November. M. BILLAULT, the Minister of State, who has hitherto sustained with great ability the post of speaking Minister, died on Tuesday last at Nantes. His death, in the words of the *Moniteur*, is "an immense loss to the State as well as to the Emperor."

The KING OF PRUSSIA returned suddenly to Berlin on Wednesday to attend a Council of Ministers which is said to have been rendered necessary by foreign affairs. A Royal decree has been issued, directing special services in all the churches on the 16th inst., to celebrate the 50th anniversary of the battle of Leipsic.

A despatch from Vienna informs us that the Transylvanian Diet adjourned on Tuesday, after resolving to send deputies to represent the country in the Austrian Reichsrath. This is considered an important step towards the union of the Empire under the new constitution, and is the cause of much rejoicing at Vienna.

Accounts from Athens state that the National Assembly of Greece and the people generally have received the resolution of the Ionian Parliament in favour of the annexation with great enthusiasm.

From the United States we learn that General ROSENCRANS has been reinforced by two corps from General MEADE's army, and that his position is so strong that he can only be dislodged by a regular siege, which General BRAGG, who is fortifying Mission Ridge, gives no signs of attempting. The Confederates have occupied Knoxville, and General BURNSIDE is retiring to Cumberland Gap. He appears to have fallen into disgrace with his Government, and it is said that he has been superseded by General HOOKER.

The Custom House authorities at Liverpool received instructions from the Government on Friday to seize the two steam rams in the building-yard of the Messrs. LAIRD at Birkenhead. The broad arrow was accordingly affixed to them in the course of the day.

## Home News.

THE QUEEN IN SCOTLAND.—On Wednesday week the Queen, accompanied by the Princess Louis of Hesse and Princess Helena, drove to Alt-na-Guithasach, where they lunched. On their return home in the evening the coachman mistook the road, and the carriage turned on its side, by which the Queen and Princesses were thrown out, but were merely slightly bruised, and rode home on hill ponies. On Thursday morning the Queen walked and drove, accompanied by the Crown Princess and Princess Louis of Hesse, and again in the afternoon, accompanied by Princess Helena. The Crown Princess of Prussia and Princess Louis of Hesse drove to Invercauld, and honoured Mrs. Farquharson by a visit. On Friday morning the Queen went out, accompanied by Princess Helena. In the afternoon Her Majesty drove out. Prince and Princess Louis of Hesse went out riding. The Crown Prince and Princess of Prussia lunched with Her Majesty. Princess Helena dined with the Crown Prince and Princess at Abergeldie. Mr. Gladstone left the Castle. On Saturday morning the Queen went out, accompanied by Princess Louis of Hesse. In the afternoon the Queen, accompanied by the Crown Princess of Prussia, drove to the falls of the Garrvhalt. The Crown Princess lunched with her Majesty. Prince William of Hesse arrived at the Castle on a visit to the Queen. On Sunday morning the Queen, Prince and Princess Louis and Prince William of Hesse, and the Royal family, attended Divine service in the Castle. The Rev. Norman Macleod, one of the Queen's chaplains, officiated. Princess Helena and the Crown Prince and Princess of Prussia attended Divine service in the parish church of Crathie. On Monday morning the Queen went out, attended by Lady Churchill. In the afternoon the Queen, accompanied by the Crown Princess of Prussia and Princess Helena, drove to Alt-na-Guithasach. Princess Louisa went out riding. On Tuesday morning the Queen, accompanied by Prince and Princess Louis and Prince William of Hesse, the Princesses Helena and Louisa, Princes Arthur and Leopold, went to Aberdeen, and witnessed the uncovering of the Prince Consort's Memorial. The Crown Prince and Princess of Prussia met the Queen at the Aboyne station, and travelled with her Majesty to Aberdeen. Prince Alfred arrived from Holyrood, and met her Majesty at Aberdeen. After the ceremony the Queen returned to Balmoral, where she arrived at half-past six o'clock, and, though much fatigued by the exertions and trying emotions of the day, her Majesty has not suffered in health. Prince William of Hesse took leave of her Majesty at Aberdeen, and returned with Prince Alfred to Edinburgh, where he will remain for some time on a visit to his Royal Highness. Sir George Grey arrived at Balmoral as the Minister in attendance upon her Majesty.

INAUGURATION OF THE PRINCE CONSORT MEMORIAL AT ABERDEEN.—The ceremony of inaugurating the memorial statue of the Prince Consort took place at Aberdeen on Tuesday in presence of her Majesty and other members of the Royal family. Though the day was very wet, the ceremony excited great interest, as being the first occasion on which her Majesty has appeared in public since her widowhood. The statue, which was subscribed for by the city and county of Aberdeen, is of bronze, by Baron Marochetti. It is placed upon a polished granite pedestal, and represents the Prince seated, wearing the robe of the Thistle over a field marshal's uniform, holding in one hand a roll, and in the other the field-marshal's hat. Her Majesty arrived by special train from Balmoral at 1.30, and was received by the Duke of Richmond, the Earl of Aberdeen, Lord Saltoun, Mr. Alexander Anderson, Lord Provost, and the city and University officials. Prince Alfred had arrived from Edinburgh by a previous train; and was accompanied by her Majesty, Princes Arthur and Leopold, Princesses Helena and Louisa, the Crown Prince and Princess of Prussia, and the Prince and Princess of Hesse. Sir George Grey was the Minister of State in attendance. A procession of carriages was formed to the centre of the city, where the statue stands. Previous to uncovering it, Mr. Anderson, the Lord Provost, presented an address from the committee of subscribers, in which they referred to the honour conferred on that part of the kingdom by the annual presence of the illustrious prince, and to the fact that the city a few years ago was signally favoured by the exertion of his great talents as President of the British Association. To this Address her Majesty made the following reply:—

"Your loyal and affectionate Address has deeply touched me, and I thank you for it from my heart. It is with feelings I should vainly seek words to express that I determined to attend here to-day to witness the uncovering of the statue which will record to future times the love and respect of the people of this county and city for my great and beloved husband. But I could not reconcile it to myself to remain at Balmoral while such a tribute was being paid to his memory, without making an exertion to assure you personally of the deep and heartfelt sense I entertain of your kindness and affection, and, at the same time, to proclaim in public the unbounded reverence and admiration, the devoted love, that fill my heart for him whose loss must throw a lasting gloom over all my future life. Never can I forget the circumstances to which you so feelingly allude—that it was in this city he delivered his remarkable address to the British Association, only four years ago; and that in this country we had for so many years been in the habit of spending some of the happiest days of our lives."

The Provost then, by desire of the Queen, knelt down, when her Majesty conferred upon him the honour of knighthood. The Royal party a few minutes afterwards, stepped out upon the platform within 20 yards of the statue, and Principal Campbell having offered up prayer, the statue was uncovered. Her Majesty and the Royal children looked on the figure with a fond and eager gaze which touched all who were present. In about five minutes after the unveiling her Majesty bowed to the vast assembly, and with the Royal family re-entered the Club-house. Having partaken of lunch the Royal party drove back to the railway station, and left for Balmoral soon after 3. With a feeling of sympathy which it was thought would, under the circumstances, be acceptable to the Queen, the crowd along the whole line kept a respectful silence throughout, and with the exception of uncovering as her Majesty's carriage drove past, and while she remained looking at the statue, there was no demonstration of any kind whatever. Her Majesty frequently acknowledged these silent tokens of loyalty and sympathy as she drove slowly along.

THE PRINCE AND PRINCESS OF WALES.—On Friday morning the Prince, accompanied by the King of Greece, went to Richmond Park, and had some shooting with the Duke of Cambridge. The Princess went out in a carriage in the forenoon, and took a drive in an open carriage in the afternoon. The Mayor of Coventry and Miss Soden attended at Marlborough House, and presented to the Princess the marriage gifts of the corporation of that town. The Prince visited Prince William of Hesse at Thomas's Hotel. Prince William afterwards paid a visit to the Princess at Marlborough House. In the evening the Prince had a dinner party to meet the King of Greece. On Saturday Prince and Princess Christian, with Prince Frederick and Princess Dagmar, arrived on a visit to their Royal Highnesses. The Duke of Cambridge paid a visit to Prince and Princess Christian after their arrival. In the afternoon the King of the Greeks and the Prince of Wales honoured the establishment of Messrs Garrard, in the Haymarket, with a visit. The Princess of Wales, the Princess Christian of Denmark, and the Princess Dagmar took a drive in an open carriage. The King of Greece, the Prince of Wales, Prince Christian, and Prince Frederick, rode on horseback. On Sunday morning the Prince and Princess of Wales, the Prince and Princess Christian of Denmark, Prince Frederick, and the Princess Dagmar attended divine service in the Chapel Royal, St. James's. In the afternoon the Prince and Princess of Wales, the King of Greece, the Prince and Princess Christian, Prince Frederick, and the Princess Dagmar of Denmark, went to Kew, and in the evening dined with the Duke of Cambridge at Gloucester House. On Monday morning a deputation of the Council of the Society of Arts waited on the Prince of Wales and presented an address. The King of Greece, the Prince of Wales, Prince Christian of Denmark, and Prince Frederick, rode on horseback. The Princess of Wales, the Princess Christian, and Princess Dagmar, took a carriage drive. The Duke of Cambridge paid a visit to the Princess Christian at Marlborough House. A deputation of the Entertainment Committee of the Corporation of the City of London had an interview with the Prince and Princess of Wales, and presented a memento of their visit to the city on the 8th of June. In the afternoon the King of Greece, the Prince of Wales, Prince Christian of Denmark, and Prince Frederick, went to the Crystal Palace. The Princess of Wales, the Princess Christian, and the Princess Dagmar took a drive in an open carriage. In the evening the King of Greece, the Prince and Princess of Wales, the Prince and Princess Christian, Prince Frederick, and Princess Dagmar honoured the performance at the Covent Garden Opera with their presence. On Tuesday morning the King of Greece, the Prince of Wales, Prince Christian and Prince Frederick left town for Newmarket, to witness the races. The Princess of Wales, the Princess Christian and Princess Dagmar took a drive in an open carriage. On Wednesday morning the King of Greece left Marlborough House for Paris. The Prince of Wales and Prince Frederick rode on horseback. The Princess of Wales and Princess Christian took a carriage drive in the morning, and in the afternoon took an airing in an open carriage with the Princess Dagmar. In the afternoon the Prince and Princess of Wales, Prince and Princess Christian, with the Princess Dagmar, honoured Mr. Theodore Jensen with a visit at his studio in Berners Street, to view his full-length portrait of the Prince and Princess of Wales in their State robes. The Duke of Cambridge paid a visit to Prince Christian, who visited the Russian and French Ambassadors at their respective residences. In the evening the Prince and Princess of Wales, Prince and Princess Christian, Prince Frederick and the Princess Dagmar, honoured the performance at the Haymarket Theatre with their presence. On Thursday the Prince and Princess of Wales, accompanied by Prince and Princess Christian, Prince Frederick, and Princess Dagmar, left town for Sandringham. The Royal party travelled to Wolferton by a special train on the Great Eastern Railway, and arrived at Sandringham soon after 3 o'clock, having performed the journey in three hours. It is understood that the Prince and Princess will stay at Sandringham for about six weeks.

THE KING OF GREECE on Saturday received deputations from the Greeks of London, Liverpool, and Manchester, and also from the English Philhellenic Committee. On Sunday his Majesty attended Divine service at the Greek Church in London Wall, when a *Te Deum* was sung in his honour. Earl Russell, as Secretary of State for Foreign Affairs, Mr. A. Westenholz, Consul-General of Denmark, and Baron Brunnow, the Russian Ambassador, had an audience of his Majesty. In the afternoon the King visited the French and Russian Ambassadors at their residences. On Monday his Majesty visited the Crystal Palace. On Tuesday he attended Newmarket races, and on Wednesday morning took leave of the Prince and Princess of Wales, and left town for Paris. The Prince of Wales, Prince Christian, and Prince Frederick accompanied his Majesty to the Victoria station, whence he travelled by the London, Chatham, and Dover Railway to Dover.

PRINCE AND PRINCESS CHRISTIAN OF DENMARK, father and mother of the Princess of Wales, accompanied by the Prince Frederick and Princess Dagmar, landed at Dover on Saturday afternoon, and travelled to London by a special train on the London, Chatham, and Dover Railway. On their arrival at the Victoria terminus their Royal Highnesses were met by the Prince and Princess of Wales and the King of Greece, who escorted them to Marlborough House.

THE CABINET.—A Cabinet Council was held on Tuesday at the official residence of Lord Palmerston in Downing Street.

PARLIAMENTARY MOVEMENTS.—On Wednesday Parliament was further prorogued to the 1st of December next. The Tamworth election terminated on Monday in the return of Mr. John Peel, by a majority of 57 over Mr. Cowper, the numbers being 224 to 167.

THE ARMY.—The Colonelcy of the 98th Regiment, vacant by the death of General Darling, has been conferred on Major-General Wynyard, C.B. It is stated that the court martial on Lieut.-Colonel Crawley, of the Inniskilling Dragoons, will take place at Aldershot. A party of 37 officers, non-

commissioned officers, and men of the regiment arrived at the camp from India on Friday.

## Foreign.

France.—The King of Greece arrived in Paris on Wednesday evening. A grand dinner was given at St. Cloud on Thursday evening in honour of his Majesty. The *Moniteur* announces the meeting of the Senate and Legislative Body on the 5th of November. The Emperor presided at a Council of Ministers on Monday, and was to preside at another yesterday. His Majesty on Friday visited the works in connection with the new Halles, now near completion, and was received with enthusiastic cheering. His Majesty also paid a visit to the new boulevard near the Rue Lafayette, in course of construction. On Monday the Emperor paid a visit to Marshal d'Ornano, Governor of the Invalides, who was at the point of death. The Marshal said, "Sire, we shall not see one another again till we meet in heaven." The Emperor was greatly affected on leaving the Marshal, who died the next day. He was the last survivor of the generals of division of the first empire. M. Billault, the Minister of State, died on Tuesday morning, at his estate near Nantes; he was born at Vannes in November, 1805, and is universally regarded as the greatest Ministerial loss which the Empire could have sustained. The *Moniteur* of Wednesday thus alludes to his services:—

"The death of M. Billault causes a sorrowful emotion throughout France. His decease is an immense loss to the State, as well as to the Emperor, whom he served with equal devotedness, talent, and eloquence."

An Imperial decree published on Thursday announces that in consideration of the eminent services rendered to the Government by M. Billault, his obsequies will be celebrated at the cost of the public Treasury. The Emperor was not present at the opening of the Italian Opera on account of M. Billault's death. The post of Minister of State, vacant by the death of M. Billault, will, it is said, be filled by M. Baroche or M. Rouher, but the Emperor has manifested no intention to take any decision in the matter before the funeral of M. Billault. Count Walewski had an interview with the Emperor on Thursday, and it is asserted that M. Dupin has been summoned by telegraph to Paris. The Duke de Morny is also expected. General Montebello was received by the Emperor on Thursday. His Majesty was to receive the Mexican deputation yesterday or to-day. The following diplomatic appointments have been made:—As French Ambassador to the Court of St. James's, M. de la Tour d'Auvergne, who will be replaced at Rome by M. de Sartiges. Baron de Malaret will fill the place of the latter at Turin. The Marquis Ferrière de Levayer will go as Ambassador to Brussels, M. Raiset to Hanover, and the Marquis d'Astorme to Nassau. The Emperor has addressed the following letter to Baron Gros:—

"At a time when you intended to retire from public service, your devotion induced you to accept the office of Ambassador at London. You have thus acquired fresh rights to my good will. Circumstances now permit me to relieve you of this post, but, before giving you a successor, I wish to say how glad I have been to crown your long and honourable career by a testimony of my confidence."

*La France* of Wednesday evening says that the new diplomatic nominations involve no change in the policy of France towards England, Rome, and Italy. The Duchess de Montebello, who has long suffered severely from cancer in the breast, died a few days since at St. Petersburg. The Duke will shortly leave St. Petersburg for Paris with his children. The *Constitutionnel* of Friday, in an article signed by M. Limayrac, says that the negotiations promoted by France have succeeded in placing Poland under the protection of Europe, and that such a policy is neither ineffectual nor unfruitful. In another article on Sunday, M. Limayrac attaches serious importance to Earl Russell's speech at Blairgowrie. "If," says the writer, "England proposes to abolish the treaties of 1815 relative to Poland, the reply of France is known beforehand. Austria, however, may require certain guarantees. We believe the treaties of 1815, relative to Poland, have never been so near being annulled. They are not yet buried, but they are dead." The *Courrier du Dimanche* says that the Cabinet of the Tuileries has not judged it possible to accede at present to the wishes of Prince Czartorysky. The trial trip of the Cherbourg squadron of iron-clads is said to have been a perfect failure, and the commission have come to the conclusion that they are only adapted for smooth water. The two ships of the line were least injured, but both they and the three frigates rolled fearfully, particularly La Normandie, and the sea washed the decks in continuous streams. It was impossible to keep the portholes open, and consequently no trial could be made of the guns. It is said that the fleet will shortly leave Brest on another cruise to continue its experiments.

Spain.—The Queen of Spain has invited the Empress of the French to visit Madrid, and on the 17th inst. will give a grand ball in her honour. Her Imperial Majesty left Seville on Saturday morning for Cadiz, and on Thursday embarked at Cadiz for Valencia. Although travelling *incognita*, her Hajesty met with a cordial reception from the populace. The result of the elections in Madrid and the provinces has been favourable to the Government. The Minister of Finance has resigned for reasons unconnected with politics, and Señor Lescioli has been appointed his successor. The Budget for 1864 of the Departments of War, Marine, and the Colonies will show an increase of 80,000,000 reals. The *Pueblo* publishes an article advocating the abolition of slavery in the Spanish colonies by means of an indemnity to the slave-owners. A very serious accident has occurred on the railway between Barcelona and Granollers. As a train coming from France, consisting of nine carriages, was crossing a bridge over a torrent, the bridge gave way, and the locomotive and seven carriages were precipitated into the water. Two of the carriages remained suspended from the broken bridge. Many dead bodies have already been drawn out; others have disappeared, having been carried away by the current. There are also many persons more or less injured.

Portugal.—The health of the Queen and the young prince is as satisfactory as could be desired. The King, on the occasion of the birth of his son and heir, published two decrees of amnesty as extensive as possible. One of them revokes the exceptions made in that granted on the occasion of his marriage, and which maintained the punishments pronounced against certain insurgents of Braga. These two measures have produced an excellent effect in Portugal.

Denmark and Sweden.—The King arrived at Copenhagen on Thursday evening unexpectedly, from Schleswig. The *Dagbladet* states that the gravity of the political situation is the cause of his Majesty's arrival. Important notes are said to have been received from England and France. It also states that Sweden will shortly sign the treaty of alliance with Denmark. The Ministry were prepared to hold a privy council immediately on the King's arrival.

Belgium.—The King of the Belgians arrived at Baden-Baden on the 8th inst., and on the next morning paid a visit to the King and Queen of Prussia. On Thursday King Leopold left Baden for Switzerland, intending to pass a short time at his villa on the Lake of Como, and then return to Brussels.

Coburg.—Among the papers laid before the Coburg-Gotha Landtag, which has just assembled, is an act bearing the signature of the Prince of Wales, renouncing the Crown of the Duchies for himself and male descendants, so long as his brothers and their male descendants exist in a direct line. The document is accompanied by another from King Leopold confirming it as the guardian of Prince Alfred and his brothers. This renunciation is in accordance with the provisions of a Gotha law, for which the assent of the Prince Consort was expressly obtained.

Prussia.—The King of Prussia was expected to attend a festival at the Cathedral of Cologne on Wednesday, but a telegram was received on Monday from the Marshal of the Court, announcing that business which could not be postponed, would require the King's presence at Berlin on that day. His Majesty accordingly, after paying a hurried visit to the Cathedral on Tuesday to see the progress of the works, returned direct to Berlin, and presided at a Council of Ministers. A deputation from the parish of Steingrund, in Silesia, has presented an address to the King. His Majesty in reply said:—

"The parish should elect men who would support the Ministers in the execution of the task he had confided to them. An inimical bearing towards the Government was incompatible with fidelity to the Sovereign. The work with the carrying out of which he had intrusted his Ministers was the maintenance of the present organisation of the army. Tranquillity would be re-established in the country, and the execution of his intentions, to forward the progressive development of legislation on a constitutional basis, would thereby be assured."

Austria.—It is asserted that Austria has declared her intention to insist on the maintenance of the treaties of 1815, but that she will join any protest of France and England against the violation of these treaties by Russia. In the sitting of the Upper House on Wednesday a resolutien was passed annulling the laws excluding Jews from practising as notaries in Austria. In the sitting of the Lower House on Thursday the Minister of Finance brought in a Bill for a new loan of 96,000,000 florins, the proceeds of which are to be applied to cover the deficit, to assist in relieving the distress in Hungary by a grant of 30,000 florins, and to withdraw from circulation 12 millions of 10-kreutzer notes and 20 millions of Salt-mine notes.

Transylvania.—In the sitting of the Transylvanian Diet on Friday all the members who took part in the debate were in favour of sending deputies to the Austrian Reichsrath, with the reservation, however, that the electoral law be maintained in accordance with the constitution. The debate terminated in the adoption of a resolution to send deputies to the Reichsrath. The members separated with cheers for the King of Hungary and the Constitution of the Empire. The election of deputies was to take place on Saturday.

Russia.—Accounts from Constantinople state that the Russian Minister in that city had declared to the Porte that any recognition of the Poles as belligerents by Turkey, would be considered by Russia as a declaration of war between the two Powers. The news that the Russians are constructing twelve gunboats in the Black Sea is confirmed.

Poland.—An Imperial decree has detached the government of Augustowo and the district of Lomza from the Kingdom of Poland, and has declared them henceforth incorporated provinces of the Russian Empire. An Aide-de-Camp of General Mouravieff has already arrived in Suwalki to assume the office of Governor. In consequence of the protest of the English Consul at Warsaw, General Berg has released Mr. Evans from payment of the fine of 15,000 roubles, and granted him permission to re-open his factory. The execution of his workman, William Alger, for the alleged manufacture of grenades, took place on the 8th inst., and was a painful scene. As usual the Russians aimed badly. After firing two volleys, which covered the unfortunate man with wounds, none of which were fatal, a sergeant ended his sufferings by shooting him with a revolver. The accusation of his having been found with grenades in his pockets is alleged to be false, the so-called grenades being nothing but rivets for iron bedsteads. MM. Massaliki, Silwicz, Joiz, and Wroblewski, all Polish nobles, and Wroblewski's wife, have been shot at Warsaw, the latter on suspicion of being a spy in the interests of the insurgents. In consequence of information received by the police, a search was made on the 11th at the Grabowski Palace, in Warsaw. It is said that arms, cartridges, and uniforms were found on the premises. The proprietor and male inmates were arrested, and the palace surrounded by military. General Mouravieff has superintended the destruction of the village of Ibiany, 12 miles from Kowno, and kindled the flames himself. The inhabitants, numbering upwards of 200 men, women, and children, are to be sent to Siberia. The cause of this terrible deed was the execution by the insurgents of a roskolnik who had committed great atrocities in the village. The National Government has brought the insurgent chiefs Sokolowski and Iskra before a court-martial. They were found guilty of abuse of authority, and sentenced to be shot. Mackiewicz has gained an important victory at Krakinow, in the district of Poniewiecz. The loss of the Poles was small. Fresh detachments of insurgents have been formed near the Galician frontier and in the palatinates of Warsaw and Lublin. Engagements took place in the government of Plock between the insurgents and the Russians on the 10th and 12th inst. The insurgents, led by Kablinsky, Orlik, and Czerny, were defeated, and suffered considerable loss.

Italy.—The Hon. Mr. Elliot on Friday had an interview with the Minister of Foreign Affairs, and on Sunday was received by the King, to whom he presented his credentials. Prince Humbert arrived at Naples on Wednesday evening. Salutes were fired by the ships and forts. The King of Bavaria has arrived at Rome, and taken up his residence at the Villa di Malta. General de Montebello left Rome on Sunday morning for Paris, the difficulties between him and the Papal Government having been removed.

Greece.—The National Assembly has received with enthusiasm the resolution of the Ionian Parliament in favour of union with Greece. The National Assembly proceeded in a body to the cathedral, where a *Te Deum* was performed. The joy of the population is extreme.

Ionian Islands.—The Lord High Commissioner has delivered a speech to the Legislative Assembly, calling upon them to decide with as little delay as possible whether they desire annexation to Greece. In the event of their answer being in favour of annexation, his Excellency states that the following arrangements will be necessary for the completion of that measure.

"1. A resolution in the usual constitutional form, by which, after the cessation of the British protectorate, and until the establishment of the new constitution, his Majesty the King of the Hellenes shall be enabled to exercise in the Ionian States all rights of sovereignty, including those privileges and functions hertofore exercised by the protecting Sovereign, the Lord High Commissioner, and the Most Illustrious the Senate. 2. On the cessation of the payment of the sums heretofore reserved as the contribution for military protection, and as the civil list of the Lord High Commissioner, the reservation as the first charge on the Ionian revenue of 10,000*l.* yearly in augmentation of the civil list of King George. 3. The recognition of all contracts and engagements entered into by or on behalf of the Ionian Government up to this time, and all equitable claims on the same. 4. Provision for the preservation and safeguard of the British cemeteries in that and the other islands. 5 A settlement of the debt of 90,289*l.* 5*s.* 7*d.*, due to Great Britain for arrears of military contribution.

Turkey.—The Budget was adopted by the Grand Council on Sunday last. The *Levant Herald* announces that there is a surplus of 188,794*l.* The secularization of the Vacoufs is again under serious consideration by the Council, and will very probably be carried. The Porte has offered to buy the steam rams which are being built in the Mersey, and Earl Russell is said to be favourable to this solution of the difficulty.

Circassia.—A Polish expedition has successfully disembarked at Vardar, in Circassia.

Syria.—The Kurds in the neighbourhood of Damascus have attacked the Turkish troops, 100 of whose number were killed. The chief of the Zapties, who came to the assistance of the troops, lost 60 men.

Coast of Africa.—Lieutenant-Commander Dolben and Lieutenant Atkinson, of her Majesty's ship Rattlesnake, were drowned on the 1st of September in crossing the bar of Lagos. Mr. Ewbank, midshipman, and three of the crew, clung to the boat and were picked up by a canoe.

India.—Disturbances have occurred on the North-west frontier, but nothing of a serious character has taken place. Notice of appeal has been given in the Burney case. The East Indian Railway is to be opened from Delhi to Calcutta on the 1st of February. Great disappointment is felt in India that Sikhs are not to be sent to New Zealand.

CHINA.—Since the Danish Treaty was signed nothing of consequence has occurred in Pekin. Major Gordon had had some successes over the rebels.

JAPAN.—Official advices from Japan state that the Tycoon had succeeded in escaping from the sort of captivity in which he was held by the Mikado, and had returned to Yeddo. According to the same advices, the Tycoon displayed the most favourable disposition towards Europeans. Much was expected from the effects of the chastisement which the English squadron had gone to inflict upon Prince Satsuma. There is at present no confirmation of the report brought by the Russian war steamer Novich, from Hakodadi to Francisco that the British fleet had been repulsed from Kagosima. According to this report, as the fleet entered the inner harbour an armed Japanese decoy boat drew towards the shore, which was pursued, attacked, and speedily sunk. Masked batteries then opened on the fleet from the shore, riddling the advance vessels before they could get out of range. The report says that the Japanese disabled the greater portion of the fleet, and the remainder retired from the contest.

NEW ZEALAND.—Accounts from New Zealand to the 11th of August, bring tidings of some horrible murders by the Waikatos, and of two severe combats between the troops and the natives. The Waikatos and their allies are in arms to the number of some 7500 in the neighbourhood of Auckland, and for 40 miles to the southward of that capital the country is a vast camp, a general rising of the tribes in the Northern island being apprehended. On the 15th of July General Cameron crossed the Waikato frontier, the natives retreating before him to a position called Kohiroa, which they had previously prepared and covered with rifle pits. Here, on the 17th, the first fight took place. One portion of the troops was detached to outflank the Maories and intercept their retreat, while the rest, headed by the general, stormed the pits under a fire, by which they had two men killed and 10 wounded. The natives were pursued for six miles, and are stated to have suffered a heavy loss, including some chiefs of distinction. Pushing forward, another attempt was made a fortnight later to bring the natives to an engagement at a place called Paparata, where they had a settlement fronted by swamps and a river, and where it was supposed they would hold their ground. The river was bridged over by the Sappers, and the village was at once rushed at but found empty, the Maories retreating to a dense jungle, into which the soldiers followed in single file. Here they beat about in the thick underwood, chasing the fire amid the yells of an antagonist whom they could not come up with or even once see. The Maories were so cautious in keeping at a distance that, notwithstanding their constant fire, they only hit one of our men; but when the troops were withdrawn to the open, they issued forth in considerable numbers out of range of our rifles, to tempt the Pakeha to a repetition of this harassing and fruitless game. On the evening of the 21st of July, the schooner Tuaranga arrived at Auckland from Tuaranga with 32 European and seven native passengers, intimation having been given them by William Thompson to "clear out" in 24 hours, as their lives were in danger, and that he was collecting the natives along the coast, with the intention of prosecuting the war. So immediate and urgent was the danger considered to be that Archdeacon Brown and the old established residents of Tuaranga lost no time in obeying Thompson's warning. The schooner Maupere was to follow the Tuaranga, and the impression was that every settler on the east coast would be compelled to come in. These events were preceded by several murders, denoting a description of warfare which in the end may rival the atrocities committed by Indian mutineers. Two settlers near Drury, a place 15 miles from Auckland, Mr. Meredith and his son, were murdered on the 15th, two days before the fight at Kohiroa, and their bodies frightfully mutilated. Another man who was cutting wood with Mr. Greenacre and two others at Papakura, was murdered by the Maories, and the others only escaped by flight. On the 25th July the natives attacked Captain Calvert's house, on the high ground near the Maori position, on Pukekiweriki, and in the Wairoa district, and shot his son aged 18, while he was endeavouring to get into a place of hiding. On the same day a party of Maories shot Mr. George Cooper, settler at Wairoa, and then lighted his clothes and roasted the body. One of the last outrages committed in the Auckland district was an attack upon an escort party. The natives, who were supposed to belong to friendly tribes, were repulsed with severe loss, the casualties of the British being five killed, eleven wounded, and three missing. This attack was also accompanied with great barbarities on the part of the natives towards the soldiers killed and wounded. The authorities recognise the urgency of the crisis, and have sent requisitions to the Australian colonies and Tasmania for troops, and have despatched Major Pitt and Captain Harrison—the one to Melbourne and the other to Sydney—to enlist volunteers. Before making these applications, Sir George Grey had called out for active service in the disturbed provinces every male between the age of 16 and 40 years, and many others between 40 and 55 years of age were on duty in the towns.

AUSTRALIA.—A telegram from Melbourne, dated August 26, states that large numbers were volunteering there for New Zealand. The Treasurer had announced that three pressing requests had been sent by Sir George Grey for military help. All the imperial troops in the colony—about 250 of the Artillery and the 40th Regiment—were to be sent with the colonial battery of six Armstrong field-pieces. From Hobart Town also we learn that "volunteering for New Zealand is carried on with enthusiasm." At Sydney also a large number was likely to volunteer. A detachment of the 12th Regiment, consisting of 53 rank and file, had embarked for New Zealand on the 19th, and the Colonial Storekeeper had been directed to supply the New Zealand Government with 1000 stand of rifles and 200 breech-loading carbines for the service of the war. A Bill had passed the South Australian Assembly to legalise marriage with a deceased wife's sister.

UNITED STATES.—Official despatches from General Rosencrans of the 1st inst. report the situation of his army as satisfactory. It is asserted by letters from Nashville and by New York and Cincinnati journals that two whole corps from the Army of the Potomac, numbering upwards of 20,000 men, have passed through Cincinnati on their way to reinforce General Rosencrans. The Confederates are attempting to intercept the communications between Nashville and Chattanooga. They have also occupied Knoxville, and compelled General Burnside to fall back to Cumberland Gap. The Southern journals assert that Burnside's junction with General Rosencrans is impossible, that the result of the battles of Chicamauga has put an end to General Rosencrans' campaign in Eastern Tennessee, and that he will eventually be compelled to abandon Chattanooga and fall back to Nashville. General Bragg is fortifying Mission Ridge, and the Confederate troops concentrated in the vicinity of Chattanooga are said to amount to upwards of 135,000 men, of whom General Joseph Johnstone has the supreme command. The responsibility of General Burnside's failure to reinforce General Rosencrans earlier is now attributed to General Halleck, who, it is asserted, only issued the orders for Burnside's advance when it was too late. It is reported however that General Burnside's resignation has now been accepted, and that General Hooker will supersede him. Accounts from General Meade's camp state that the Confederates are in a well fortified position, which they are daily strengthening, on the south bank of the Rapidan, their lines extending from Germania to Burnet's Fords; while a large body of their troops is believed to be concentrating in the lower end of the Shenandoah Valley, but with what purpose has not been divined. The report of an advance of the Federals beyond the river and upon Gordonsville is now pronounced to have been untrue. Accounts from Washington, claimed to have been derived from Confederate sources, state that General Lee's army, having been filled up with conscripts, now numbers 70,000 good men. On the same authority Lee is reported to have 12,000 men in reserve in Richmond, engaged in the fortifications of that city. The iron-clad Merrimac No. 2 is in a complete state of preparation for offensive operations, and is lying at Jones's Bluff, awaiting the completion of her consort, the Lady Davis, which has already received her iron plating, in order that the two vessels may proceed to Fortress Monroe together to attack the Federal fleet stationed in Hampton Roads. Cincinnati telegrams of the 2d report that General Sterling Price has been commissioned Lieutenant-General, and given the supreme command of the Confederate trains (Mississippi Department). The troops under his command are estimated at upwards of 50,000. New Orleans advices to the 27th ult. do not confirm the Southern report of the defeat of Weitzel in Louisiana. Three Federal gunboats shelled the Confederate fort at Grant's Pass, near Mobile. Female bread riots are reported to have occurred at Mobile. The women threatened to burn the city unless relieved, but they were eventually pacified. The Russian flag-ship Alexander Newsky, Admiral Lasofski, with four other Russian men-of-war, have anchored in New York Harbour, and it is rumoured they will remain there all the winter. Great popular sympathy is evinced towards the officers and men of the fleet. A dinner has been given to the Russian admiral, at the Metropolitan Hotel. The admiral made a speech in which he said that the Emperor was not only the benefactor of his subjects, but the friend of mankind, and from what he had already done, and what he was doing every day, he was certainly entitled to the same surname which once a Roman emperor claimed—"the Delight of Mankind." With regard to Russia, he expressed a hope that present circumstances would end peacefully. The Russians, however, were ready for any sacrifice; and, as Moscow was burned, so they would not shrink from burning St. Petersburgh if necessary. If foreign nations were for peace, the Russians would receive it on honourable terms, and bless God for peace. This speech produced a great sensation. A Militia General named Wallbridge then observed that Russia, in sending a fleet to New York, wished to have it where, at a given signal, it could sweep English and French commerce from the seas. On the 1st inst., a public reception and a congratulatory address was given to the Russians by the authorities of New York. One division of the National Guard escorted the procession up Broadway, which was lined by enthusiastic crowds. Admiral Lestgski rode in a carriage drawn by six horses, and was accompanied by Alderman Fremont. On the previous day the Russians visited the forts in New York harbour. At a banquet on board the steamer, Admiral Paulding made a speech, in which he expressed a hope that whenever it became necessary for America to fight foreign enemies Russia, would be found shoulder to shoulder with Americans. The British frigates Nile and Immortalité, and the French frigates Guerrière and Bellone, have arrived at New York. It is said that the harbour never before contained so many foreign ships of war. Admiral Milne officially visited Mayor Opdyke. The *Morning Post* alludes enthusiastically to the admiral's visit to the Mayor, and observes that the reception given to the Russians will not be extended to the officers of any other nation. The Federal gun-boat Semim (?) is reported to have captured the British ship Sir Robert Peel in Mexican waters, off Matamoras. She was supposed to be fitted out as a privateer. The British steamer William Penn, captured near the Rio Grande, has arrived at New Orleans. The blockade runners Alice Vivian, Fox, Alabama, and Montgomery, have been captured in the Gulf of Mexico.

CENTRAL AMERICA.—Accounts from Belize state that the President of Guatemala, aided by Nicaraguans, has invaded and captured Comayague and Tegucigalpa, in Honduras, committing great atrocities on the adherents of President Montes, and banishing Mr. Kilpatrick, the British Consul General, from Spanish Honduras. The Consul at Truxillo had sent for assistance.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 93⅛ to 93 for Money, and 93½ for Account; Three per Cents. Reduced, 91⅝ to ½; New Three per Cents., 91½ to ⅝; India Five per Cent. Stock, 1870, 108¾ to 109; Ditto for Acct., 108⅞; Five and a Half per Cent. Enfaced Rupee Paper, 116¾; Exchequer Bills, par to 3*s*. pm.—FOREIGN: Brazilian, 1839 and 1859, 100½, ex div.; Ditto, 1852, '58, '60, 91⅝; Equador New Consolidated, 15; Egyptian, 100⅝ to ¾; Greek, for Acct., 32 to ¾; Ditto Coupons, for Acct., 15; Italian, for Acct., 72½; Ditto Maremmana Railway, 81¼ to 81; Mexican, for Acct., 43½ to 42⅝; Moorish, 95½; Portuguese, 1856, '57, '59, 60, and 1862, for Acct., 49¼; Russian, 1862, 93⅜ to ¼; Spanish, for Acct., 35 to ¼; Ditto Certificates, for Acct., 14 to ⅛; Turkish, 1854, for Acct., 92 to ½, ex div.; Ditto, 1858, for Acct., 70⅝; Ditto 100*l*. Bonds, 73½ to ¾; Ditto, 1862, for Acct., 71½ to ½; Ditto Guaranteed, 102½; Venezuela, 1862, 62 to 61¾.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £28,537,925 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,887,925 |
| | | Silver Bullion .. .. | — |
| | £28,537,925 | | £28,537,925 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £10,945,363 |
| Rest .. .. .. .. .. | 3,126,554 | Other Securities .. .. | 21,340,155 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 4,816,052 | Notes .. .. .. .. .. | 6,401,375 |
| Other Deposits .. .. .. | 16,352,818 | Gold and Silver Coin .. | 682,686 |
| Seven days and other bills | 724,145 | | |
| | £39,369,569 | | £39,369,569 |

Oct. 15, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *October* 9.—BANKRUPTS.—J. W. ARKLE, Bell Alley, Goswell Street, Haberdasher—J. ASKEW, Crawleyside, Durham, Licensed Victualler—S. APPLEYARD & E. PARKIN, Leeds, Curriers—J. ALLEN, Tipton, Staffordshire, Saddler—J. BARRACLOUGH, Openshaw, Lancashire, Iron Founder—D. BIRD, Worcester, Leather Seller—A. A. BIGNELL, Handcroft Road, late Licensed Victualler—J. BRIGHTMAN, Upper Gravenhurst, Bedfordshire, Market Gardener—W. BARSTED, Hardwick-next-North Runcton, Norfolk, Market Gardener—P. BASKERVILLE, Burslem, Staffordshire, and G. BASKERVILLE, Etruria, Staffordshire, Flint Grinders—T. BRANT, late Rifle Hill, Warwickshire, Commission Agent—H. BRITTAIN, Wolverhampton, Grocer—G. BLYDE, Lebanon Place, Walworth Common, General Dealer—MAJOR COWLING, Harrogate, Yorkshire, Mason—R. CURTIS, Lincoln, Journeyman Joiner—D. CADWELL, Queen's Road, Walworth, Farrier—JOHN CRADDOCK, Kempsey, Worcestershire, Miller—JOHN DAISH, jun., Shanklin, Isle of Wight, Grocer—CHARLES JOHN JULIUS FORSTER, Great Tower Street, City, Commission Agent—G. FORDHAM, College Place, King's Road, Chelsea, Journeyman Carpenter—P. J. FINCH, Southsea, Hampshire, Schoolmaster—W. GIBBINS, Raglan Place, Kentish Town, Painter—C. HAYDON, Alpha Terrace, Kilburn, Eating House Keeper—W. HARRALD, Heigham, Norfolk, Wholesale Milliner—S. H. HODGSON, Chichester Road, Kilburn, Short Hand Writer—A. HARRIS, Landseer Road, Upper Holloway, Commission Agent—C. HART, Murray Street, New North Road, Tobacco Dealer—G. HORNSBY, Gateshead, Durham, Commission Agent—H. HARRISON, Birmingham, Engraver—S. HALL, Herbert Street, New North Road, Watchmaker—H. HEATON, Liverpool, Ironmonger's Assistant—W. JOYCE, Oxford Street, Mantle Manufacturer—J. KNOWLES, Salford, Lancashire, Innkeeper—JONATHAN KETTLE, Derby, Journeyman Miller—J. LUNDGREN, America Square, City, Manager to a Merchant—WILLIAM LERRY, Aston Warwickshire, Artist—RICHARD MEAKEY, Cardiff, Cowkeeper—HERMAN MENGEDOHT, Liverpool, Licensed Victualler—J. MOORE, Pocklington Yorkshire, Draper—J. MARSTON, Wolverhampton, Butcher—H. MEDLAND, Moretonhampstead, Devonshire, Tailor—E. B. NASH, Sutherland Terrace Walworth, Tailor—R. NELSON, Harrogate, Yorkshire, Lodging House Keeper—S. NEWSOME, Coventry, Haberdasher—R. PHILLIPS, Shrewsbury, Photographer—C. J. PINNELL, Baring Street, Hoxton, Chair Maker—W. J. PARRY, Vine Street, John Street, Minories, City, Carman—H. PHILLIPS, Norfolk Street, Strand, Master Mariner—M. PHILLIPS, Bridgend, Glamorganshire, Maltster—J. PARKER, Heanor, Derbyshire, Colliery Agent—W. P. PAYNE, Tonbridge, Kent, Newspaper Proprietor—J. W. PERROTT, Southampton Street, Pentonville, late Saddler—M. C. RISO, Manchester, Merchant—AUGUSTUS LOUIS ROBBS, Birmingham, Ivory Worker—J. STATHARD, Barrow, Lincolnshire, Licensed Victualler—J. S. S. STANTON, Bethnal Green Road, Glass and China Dealer—M. SIMMONDS, Eaton Terrace, South Hackney, Nurse—J. TEMPEST, Bradford, Yorkshire, Wool-TAYLOR, Newcastle-under-Lyme, Staffordshire, Coachbuilder—J. THOMPSON stapler—T. J. TOTTERDELL, Wellington, Somersetshire, Innkeeper—T. Portsea, Hampshire, Sail Maker—E. T. WILLIAMS, Birmingham, Practical Brewer—W. WALL, Westbromwich, Staffordshire, Labourer—G. J. WOODS, Norwich, Currier—W. WILKINSON, Bradford, Yorkshire, Haircutter—C. WING, Marlborough Road, Chelsea, Late Corn Dealer.

SCOTCH SEQUESTRATIONS.—J. CROSSON, Dundee, Boot and Shoe Maker—C. LECKIE, Glasgow, Boot and Shoe Maker—S. MACKENZIE, Beauly, Inverness-shire, Merchant—J. SIMPSON, Kilmadock, Perthshire, Schoolmaster—SHAW, TURNBULL, and Co., Glasgow, Merchants.

TUESDAY: *Oct.* 13.—BANKRUPTS.—A. ARCHER, High Easter, Essex, Tailor—B. BRZOAZZI, Fashion Street, Spitalfields, Looking-Glass Frame Maker—R. H. BAILEY, Portland Place, Cambridge Road, Tailor—J. BROWN, Liverpool, late Licensed Victualler—W. BANNS, Woodbridge,

Suffolk, Miller and Corndealer—T. T. Bennett, Broad Street, Golden Square, St. James's, Plumber—J. Cook, Birmingham, Cab Driver—E. Day, Bristol, late Butcher—G. Dawson, Huddersfield, Yorkshire, Manufacturer of Skirts and Waistcoats—E. W. Davenport, Litchurch, Derbysh., late Chemist—T. Frost, Macclesfield, Builder—O. H. Fowler, King St., Snow Hill, Medical Student—J. Greenhouse, High St., Shoreditch, Outfitter—M. Garstin, late of Upper Norwood, Licensed Victualler—S. F. Grimes, Holloway Road, Licensed Victualler—D. A. Hawking, Truro, Cornwall—J. Hopkins, Llangattock, Brecknockshire, Blacksmith—J. Hitchinor, Walsall, Staffordshire, Brass Dresser—J. Hobbs, Longhope, Gloucestershire, Innkeeper—W. Jump, Stockton-on-Tees, Durham, Rope Manufacturer—H. Knight, Oxford Street, Westminster, Tobacconist—J. Lovell, Brice Saunders, and William Daniel Saunders, New Square, Minories, Wine Merchants—David Thomas Little, Ware, Hertfordshire, Baker—G. W. Locke, New Brompton, Kent, Surgeon—George Leeds, Feltwell, Norfolk, Veterinary Surgeon—Charles Mather, Manchester, Grocer—William Meredith, Wolverhampton, Fishmonger—R. J. Maddock, Liverpool—W. Moses, Brighton Place, Brixton Road, Earthenware Dealer—C. Midwinter, Lucas Place, Commercial Road, East, Watchmaker—W. A. Perry, Dudley, Worcestershire, Commission Agent—J. D. Pound, Charles Terrace, Cassland Road, Hackney, Oil and Colourman—S. A. Pickard, Hatton Garden, Dealer in Watches—J. Plant, Lower Whitley, Cheshire, Beerhouse Keeper—G. Pearce, Ower, Hants, Farmer—J. Roberts, Penton Street, Walworth, Business Agent—G. W. Ramsden, Bradford, Yorkshire, Stuff Dealer—J. Rowland, Chester, Carpenter—Richard Robinson, Holme Cultram, Cumberland, Potato Dealer—Herman Smerdon, Harpford, Devonshire, Farmer—James Southey, Northampton Road, Clerkenwell, Cheesemonger—Edmund Strange, London Street, Paddington, Boot and Shoe Maker—D. Shaw, Huddersfield, Yorkshire, Hosier—R. B. Swanson, Odessa Road, West Ham, Out of Business—G. Taylor, Westbromwich, Staffordshire, Mine and Commission Agent—W. Veal, Birmingham, Licensed Victualler—J. Warrener, Headcorn, Kent, Grocer—A. C. Wright, Southampton, Carpenter—W. Walters, London Road, Southwark, late Railway Porter—H. Woodward, Kidderminster, Worcestershire, Coal Merchant.

SCOTCH SEQUESTRATIONS.—A. Gilmour, sen., Glasgow, Miller—J. Park, Ayr, Innkeeper—J. Sharp, jun., Edinburgh, Mate—F. Sala, Glasgow, Cabinet Maker.

## Metropolis and its Vicinity.

French Excursions to the Crystal Palace.—On Monday the two railway companies from Dover to London, in connection with their steam boat services from Calais to Dover and from Boulogne to Folkestone, ran excursion trains to the Crystal Palace, for the purpose of enabling the French to see the building and grounds, and return home at night. About 600 of our French neighbours availed themselves of this opportunity of visiting the Palace; and as in most cases it was their first visit to the building, their admiration was unanimous. A variety of amusements was provided:—Blondin's low rope performance, and repeated performances of Pepper's Ghost Illusion, which appeared to afford much gratification to the excursionists. In the afternoon the Prince of Wales, accompanied by the King of Greece and Prince Christian of Denmark, with a numerous suite, paid a visit to the Palace and witnessed the latter portion of Blondin's performance. On their Royal Highnesses taking their seats in the great orchestra they were vociferously cheered by the assembled thousands, the company's band at the same time playing the National Anthem. On the departure of the Royal visitors the band of the Coldstream Guards performed the Danish National Air. In the evening the Palace was lighted up, and the visitors took their departure, on their return home, arriving at their respective ports at about half-past 10 P.M. The total number of visitors during the day was upwards of 10,000.

Launch of the Steam-Ram Valiant.—Her Majesty's armour-plated steam-ram Valiant, of 34 guns and 800-horse power, was launched in the most successful manner on Wednesday afternoon, from the yard of Messrs. Westwood, at Poplar, in the presence of many thousand spectators. She is one of a new class of iron frigates—a connecting link between the Warrior and the broad-bowed vessels of the Defence and Resistance class. She has been about three years under construction, and two contractors have had her in hand. She is an iron ship, cased stem and stern with 4½-inch wrought iron plates, on a backing of 18 inches of teak. She will carry 34 guns, two of which will be placed on her bow for use in chasing an enemy, or when bearing down on one to strike her as a ram. The Minotaur, 50, iron-clad, of 6621 tons, and 1350-horse power, now building for the Government by the same company, is in a forward state, and will be launched in the course of next month.

The Loss of the Norwegian.—The Board of Trade inquiry into the loss of this steamer terminated on Saturday. The master's certificate is suspended for 12 months, the chief point urged against him being that he was going at full speed in a dense fog, and exposed to the varying influences of strong currents.

The Great Eastern.—The adjourned general meeting of the shareholders in the Great Eastern Steam-ship Company was held on Monday, when a long report from the committee appointed at the last meeting was read, recommending that the shareholders should endeavour to raise a sufficient sum, by a subscription of 5s. per share, to rank with the preference shares, to relieve the company from their present difficulties, and that the vessel should be tried in the Indian and Australian trade, for which she was built. After a long discussion, the report of the committee was adopted, with a resolution inviting the directors to co-operate with the committee in raising the necessary funds to carry out the recommendation of the report. The chairman of the board declined to co-operate in any way, on the ground that it was useless to do so, as the ship was no longer in the hands of the shareholders, the trustees on behalf of the bondholders having taken possession, with instructions to sell on the 1st January, in the event of no arrangement being come to in the meantime. The meeting was ultimately adjourned to the 3d November, with the object of getting new directors, and taking the necessary measures for the maintenance of the company.

The Public Health.—The Registrar-General's Weekly Return states that the deaths registered in London in the week that ended on Saturday, Oct. 10, were 1258. The average number in the corresponding weeks of the 10 years 1853-62, corrected for increase of population, was 1126. The present return is therefore 132 above the average. During the week the births of 962 boys and 911 girls—in all, 1873 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1818.

## Provincial.

Birkenhead.—On Friday morning the Customs authorities at Liverpool received orders to seize the two rams in the yard of Messrs. Laird, and in the course of the afternoon they proceeded to put the order formally into execution by affixing the broad arrow to them. It was reported on Monday that a guard of Marines from her Majesty's ship Liverpool had been put on board the El Tousson, but the statement has since been contradicted, though the gunboat Goshawk, tender to her Majesty's ship Majestic, was removed from the lower basin into the great float, and moored close to the ram which is fitting up there.

Coleorton.—A fatal accident occurred on Thursday week at a colliery near this town, by which two men and 16 horses were drowned. The pit was subject to an overflow of water, and a carpenter was sent down to plug the leak; but while he was engaged in the work the side of the pit gave way and the water rushed in like a torrent. Upwards of 200 men and boys who were working in different galleries at the time, immediately rushed to the bottom of the shaft, and were all drawn up with the exception of six, who were supposed to be drowned, with all the horses in the pit. The progress of the flood, however, was partially retarded by a large reservoir which absorbed a portion of the water before it overflowed, and on Friday a number of men were enabled to descend the pit, where they found three of their companions alive. They were immediately hoisted up, to the great joy of their relations, and 10 horses were subsequently recovered alive. The dead body of one of the three men missing was likewise found, and there is no doubt that the two others are drowned.

Guernsey.—The statue to the memory of the Prince Consort, which has been erected in this island, was inaugurated on the 8th inst. by the Lieut. Governor, in the presence of about 15,000 spectators. It is a copy of that erected in London by order of the Queen and the Prince of Wales, having been cast with her Majesty's permission in the same mould, after the designs of Mr. Durham. The statue is of "electro deposit," or pure copper, stands 9 feet high, and represents the Prince in his full robes of the Order of the Bath. It stands on a pedestal of granite, with a plinth of 3 or 4 feet. The cost of the whole is about 1200*l.*

Guildford.—Some of the residents in this town having called the attention of the Home Secretary to the recent riots in St. Catherine's, and to the probability of their recurrence on the 5th of next month, a reply has been received from Whitehall, stating that Sir George Grey is in communication with the Mayor on the subject of the prevention of disturbances in the borough on the 5th of November.

Hull.—At the borough Police Court on Saturday, Mrs. Maria Cooke was finally placed at the bar on the charge of being concerned in stealing the South Cave letter-bag containing cheques to the amount of 700*l.* Some further evidence having been given, the prisoner was committed for trial, bail being refused.

Liverpool.—On Saturday the Earl of Derby distributed the prizes to the successful candidates belonging to the Collegiate Institution at the Liverpool centre of the Oxford local middle-class examinations. He prefaced the distribution by an address in which he traced the progress of public education in this country for the last 23 years, and spoke at length upon the great advantages which had been conferred upon it by the new university system of local examinations, which had, as it were, incorporated the schools of the kingdom with those ancient seats of learning. He also dwelt upon the great importance of combining religious with secular instruction, pointing out that no amount of intellectual acquirement would tend to the ultimate success in life of the youth of the country unless founded upon the firm basis of religion and morality. He also defined the position of the middle classes with reference to the pursuits and occupations of public life, and spoke in high terms of praise of the Collegiate Institution of Liverpool, which afforded the means of educating both the higher and middle classes. The address was listened to with the greatest attention by an audience of more than 2000 persons.—A young man called Samuel Hey Parker, who had absconded with the sum of 2500*l.* belonging to his employers, Messrs. Chambres, Holder & Co., cotton brokers, in this town, was apprehended at Salisbury last week by Mr. Smith, of the Liverpool Detective force. He was brought before Mr. Raffles, at the police court on Friday, and discharged, the firm declining to offer any evidence against him. The robbery caused considerable gossip in commercial circles, and the interest in it has been enhanced by the fact that three letters, each containing a 500*l.* Bank of England note, were sent back by the prisoner to his employers. It appears that on absconding from Liverpool he took the first train to Manchester, and from thence went to Preston, Blackpool, and Blackburn. He did not, however, think he was safe at the latter place, and took the train thence to Birmingham. He there went to the theatre, and by a singular coincidence, the piece which was performed was the Ticket-of-Leave Man. He seems to have drawn a moral from the representation, for when the scene in which the interview between the detective and the ticket-of-leave man took place, he was so affected that he went out of the theatre, got three envelopes, and sent 1500*l.* back to his employers. On the following day he went to Bristol, and from thence to Exeter and Salisbury, where he was apprehended with about 340*l.* and some valuables which he had purchased with the remainder of the money in his possession, so that nearly all the money which he carried away with him has been recovered.

## Ireland.

The Lord-Lieutenant in the West.—An incident occurred during his Excellency's recent visit to the Western Highlands which is the subject of general conversation. It seems that, according to the arrangements made for the tour, the Lord-Lieutenant was to pass a night at Maam Hotel, in Connemara; but when within two miles of it, and weary after a long journey, his secretary was handed a letter by a mounted policeman from the sub-inspector at Maam, which led to the postilions driving rapidly past Maam Hotel, and not drawing rein until they reached Cong. The people of the district, who expected that his Excellency would stay at Maam, immediately perceived that something unpleasant had occurred. It was not until next day, however, that it became known that the Earl of Leitrim, who owns the hotel, had directed its doors to be closed against the representative of her Majesty. It will be remembered that Lord Leitrim was shot at some time since, and it is said that he believes the Irish Government did not sufficiently exert itself to discover and punish the assassin. The following is the order issued by the Earl to Mr. King, the landlord, on the occasion:—

"Galway, Oct. 6.

"King.—I will be obliged to you to fill the hotel with my tenants forthwith. Let every room be occupied immediately, and continue to be occupied, and when so occupied, you will refuse admittance to Lord Carlisle and his party. If there should be the slightest difficulty as to filling the hotel, or the occupation of the rooms, my desire is that you will fill each room with the workmen; but you must not admit Lord Carlisle, and consequently the rooms should be occupied previous to his coming there, any orders you may have received notwithstanding. I rely on your observing my wishes to the letter.—Yours faithfully, "Leitrim."

"P.S.—I will pay for the tenants using the rooms."

The Government has since shown its sense of the insult offered to the Queen's representative by superseding Lord Leitrim in the commission of the peace for the counties of Galway, Leitrim, and Donegal, and in the deputy-lieutenancy of Leitrim.

## Railways.

Fatal Accident on the Caledonian.—A frightful railway accident occurred at the Port Glasgow station of the Caledonian line on Friday morning. The early Irish mail passenger train was just about starting from that station when a goods engine ran into it. One passenger was killed, and others so seriously injured that one has since died, after suffering amputation of both legs, and little hopes are entertained of the recovery of others. The pointsman at the station, and the driver, stoker, and breaksman of the engine tender have been apprehended.

## Sporting.

### NEWMARKET SECOND OCTOBER MEETING.

Monday.—*Handicap Sweeps.*—Mr. C. P. Hudson's Walloon beat Peignoir, Canace, and 3 others. *First Class, Fifty Pounds.*—Duke of Beaufort's Crytheia beat Young Rapid, Caryophyllus, and 6 others. *Match.*—Lord Glasgow's f. beat Rapidan. *Second Class Fifty Pounds.*—Baron Rothschild's Tomato beat Light, Lord Glasgow's c., and 4 others. *Handicap Sweeps.*—Marquis of Hastings' Attraction beat Water Kelpie, Canace, and 7 others. *Match.*—Mr. Payne's Tomfoolery received forfeit. *Sweeps.*—Mr. Naylor's Linda beat Yamuna. *Handicap Plate.*—Mr. S. Thellusson's Bally Edmond beat Gibraltar, Dulcibella, and 9 others. *Match.*—Lord Westmoreland's Confidence beat Southport. *Renewal Sweeps.*—Sir R. Bulkeley's Curaçao walked over.

Tuesday.—The *Royal Stakes.*—Sir J. Hawley's Columba beat Barter. *A Handicap Sweeps.*—Mr. Payne's Merry Maid beat Gunner, Actæon, and 5 others. The *Town Plate.*—Mr. Naylor's Equinox beat Petersham, Belle of Yorkshire, and 3 others. *Match.*—Mr. J. B. Angell's Lord Burleigh received forfeit. The *Cesarewitch Stakes.*—Mr. Merry's Lioness beat Limosina, Jack of Hearts, and 21 others. Won cleverly by three parts of a length, three lengths separating the second and third, Blithfield was fourth, three lengths in their rear, Blackdown fifth, Emblem sixth, Drummer Boy seventh. *A Selling Handicap Sweeps.*—Mr. Kinnaird's Norry beat Prince Lee Boo, Knave of Trumps, and 8 others. The *Clearwell Stakes.*—Mr. Merry's Crisis beat Planet, Knight of Snowdon, and 8 others. *Sweeps.*—Mr. T. Hughes's Juliet beat brother to Dreadnought, Folly, and 7 others.

Wednesday.—The *Beaufort Stakes.*—Mr. Saxon's Water Kelpie beat Curaçao. *Sweeps.*—Lord Glasgow's Anonyma beat Donnybrook. *Maiden Plate.*—Mr. Sadler's c. beat Eleanor, Lady Milton, and 7 others. *Handicap Sweeps.*—Mr. Payne's c. beat Signalman, Roodee, and 3 others. *Match.*—Lord Glasgow's f. beat Bradamante. *Handicap Sweeps.*—Mr. Brayley's Golden Dust beat Rosina and 7 others. *Sweeps.*—Duke of St. Alban's Ostentation beat Flaneur, The Plover, and 3 others. The *Select Stakes.*—Mr. Naylor's Maccaroni walked over. The *Bedford Stakes.*—Mr. T. Valentine's Goldylocks beat Annington and Antinous. The *Outlands Plate.*—Mr. W. Hart's Donnybrook beat Cheerful, Sledmere, and 7 others.

Thursday.—*Sweeps.*—Lord Stamford's Onesander beat Light Bob. *Handicap Plate.*—Lord Stamford's Revolver beat Mr. Watt's b. f., Canzonetta, and 8 others. *Free Handicap Sweeps.*

—Mr. Watt's Newmarket beat Lady Louisa, Peignoir, and 2 others. *Match.*—Marquis of Hastings' Attraction beat Liston. *Sweeps.*—Duke of St. Albans' Ostentation beat Norroy, Garotter, and 4 others. *Sweeps.*—Mr. H. Lowther's Antoinette beat Lord Adolphus, Crisis, and 3 others. *Sweeps.*—Mr. R. Ten Broeck's Dolphin beat Rosebud, Country Maid, and Vindictive. *Match.*—Lord Glasgow's c. beat Echo. *Renewal of the Bretby Stakes.*—Mr. W. S. Cartwright's Isca beat Sister to Mincepie, Mirage, and 2 others. *Plate.*—Mr. Watt's Miss Armstrong beat Lord Glasgow's c , Vanessa, and 5 others.

FRIDAY (By Electric Telegraph).—*Handicap Sweeps.*—Equinox walked over. *Matches.*—Queen Elizabeth beat Xurillo, Carnival beat Clarissimus, Little Savage received forfeit. *Free Handicap.*—No race. *Sweeps.*—Privateer beat Sweetsauce f and Becky Sharpe. *Handicap Sweeps.*—Twilight beat Queen Elizabeth and 5 others. *Prendergast Stakes.*—Physalis c beat Planet and 8 others. *Sweeps.*—Lord Adolphus beat Rapidan. *Handicap.*—Cassidiæ beat Practitioner and 12 others. *50l. Selling Plate.*—Tornado beat Gunner and 2 others. *Selling Sweeps.*—Knave of Trumps beat Country Maid and 2 others. *Sweeps.*—Practitioner walked over.

# Obituary.

LORD LYNDHURST died on Monday morning, at his house in George Street, Hanover Square in his 92d year. He was the son of John Singleton Copley, R A., the distinguished painter, and was born at Boston, Massachusetts, in 1772, while America was still a British colony. His grandfather, Mr. Richard Copley, of Limerick, by the daughter of Mr. John Singleton, an ancestor of the Singletons of Queinville Abbey, county Clare, emigrated to America some years before the revolution, and married the daughter of Mr. Richard Clarke, a wealthy merchant in Boston, who filled the office of agent and factor of the East India Company for their tea trade. It was in Boston that the duty on tea was first resisted by the colonists, who seized the ships and threw the tea chests overboard, to avoid paying the tax. Lord Lyndhurst, who as a child is said to have witnessed the tea-chests which were consigned to his grandfather destroyed by a people who were about to shake off the yoke of the mother country, lived to witness, 80 years later, the dismemberment of the Republic founded on the ruins of the monarchical dependency under which he was born. From his father's windows he saw the beginning of the rebellion which ended in a separation and a Republic, and in his latter years he read the details of the disruption of that Republic by a rebellion whose peculiar characteristic is that it is considered lawful by English Conservatives, in whose eyes the original separation was unlawful, and unlawful by the English Radicals, who always supported the right of the rebellion of Republicans against Monarchists. At the outbreak of the rebellion Mr. Copley with other loyalists came to England, and was introduced to the highest society in London by his countryman, Benjamin West. He first took a position in London as a portrait-painter, but subsequently acquired the highest reputation and popularity as the painter of the "Death of Chatham," the "Siege of Gibraltar," the "Tribute Money," &c. He became A.R.A. in 1774, and a few years later R.A. His son, after having undergone some years of private tuition, was sent to Trinity College, Cambridge, where he became second wrangler and Smith's prizeman in 1794. He was elected a Fellow of the College in 1797, and was called to the bar of Lincoln's Inn in 1804. He went the Midland Circuit, was appointed a Serjeant in 1813, King's Serjeant and Chief Justice of Chester, in 1818, in which year he was elected M.P. for Ashburton in the Tory interest. In the following year he was knighted and appointed Solicitor-General, and retained that office till 1823, when he became Attorney General. Three years later he was elected M.P. for Cambridge University, was appointed Master of the Rolls, and in little more than six months was raised to the woolsack as Lord Chancellor by the title of Lord Lyndhurst. He held the Great Seal till 1830, and in the following year, on the restoration of his party to office, he was made Lord Chief Baron of the Exchequer. He remained at the head of that Court till 1834, when he again occupied the woolsack for six months. In 1840 he was elected Lord High Steward of the University of Cambridge, after a contest in which he defeated Lord Lyttelton by 924 votes to 457. In Sept., 1841, he became for the third time Lord Chancellor, and remained so till July, 1846, when Sir R. Peel's Ministry broke down, and he finally retired from office. In his latter years his lordship has not identified himself with any party, but has taken an important part in the judicial and other business of Parliament. Lord Lyndhurst was great as a lawyer, a statesman, and an orator; and it has been said that there never was any orator in Parliament except Sir James Graham who delivered such perfect English sentences—so perfect, in fact, as to be fit for the press. His sonorous voice, his noble appearance, his courtly bearing, all helped to increase the effect of his eloquence. He was twice married, first, in 1819, to Mrs. Thomas, the niece of the Attorney-General, Sir Samuel Shepherd, and widow of Colonel Thomas, who fell at Waterloo. By this marriage he had a son and four daughters. The son, born in 1824, died in the following year. His eldest daughter also died when a year old. Another daughter, born in 1822, died in 1837. The eldest survivor of his daughters, born in 1821, married in 1850, Mr. Henry John Selwin, the unsuccessful Conservative candidate for Maldon at the last general election, and eldest son of Sir J. T. Ibbetson-Selwin, of Down Hall, Essex: and the fourth, born in 1828, married Mr. Hamilton Beckett in 1854. Lady Lyndhurst died in Paris in January 1834, and in 1837, his lordship married in that capital the daughter of Mr. Louis Goldsmith, by whom he leaves issue an only daughter, Georgiana, born in 1838, and married in June last to Mr. Charles Duane, M.P. for North Essex.

SIR GEORGE BONHAM, K.C.B., late Governor of Hong-Kong, died on the 8th inst., aged 60 years. He was born at Faversham in 1803, and was descended from the ancient family of Bonham, long seated in Essex. He married in 1846 the eldest daughter of Mr. Thomas Barnard, of the Bombay Civil Service, but she died in 1859. He was for nearly 10 years Governor of Prince of Wales's Island, Singapore, and Malacca, and was appointed in 1847 Governor and Commander-in Chief of the island of Hong Kong and Plenipotentiary and chief superintendent of trade in China, which post he held till December, 1853. He was nominated a C.B. in 1848, a K.C.B. in 1850, and was created a baronet in 1852. He is succeeded by his son George Francis, who was born in 1847.

GENERAL WILLIAM LINDSAY DARLING, Colonel of the 98th Regiment, died on the 8th inst. at [illegible] House, near Chepstow, at an advanced age. He entered the army in 1801, and after taking part in the reduction of Guadaloupe in 1810, he proceeded to the Peninsula, and served with the 51st Light Infantry at Castelo Branco, San Christoval, Salamanca, Madrid, Burgos, Echallar, Nivelle, St. Pé, and Bayonne. On the renewal of the war in 1815, he was appointed Assistant-Adjutant-General to the 4th Division, under Sir Charles Colville; and was employed with his division in the operations connected with the battle of Waterloo, the storming of Cambray, and capitulation of Paris. He received the war medal with three clasps for Guadaloupe, Salamanca, and Nivelle. He became a Major-General in 1846, and was appointed Colonel of the 98th Foot in 1854.

MRS. TROLLOPE died at Florence on the 6th inst. in her 84th year. She had ceased to exercise her pen for a few years past, and lived in retirement with her son at Florence. She was born at Heckfield, Hants, in 1779. Her father, the Rev. Mr. Milton (who held the New College living of Heckfield), was the designer of the wet dock at Bristol, and was well known as a man of science. The old Wykehamist connection brought about Miss Milton's marriage with Mr. Thomas Anthony Trollope, B.C.L. of Oxford, and Fellow of New College, who was called to the bar in 1801, and died at Bruges in 1835. Mrs. Trollope's first appearance as an authoress was caused by her displeasure at the way she considered herself treated in America. "America and the Americans," with its companion novel of the "Refugee in America," established Mrs. Trollope's reputation, and she forthwith entered upon that long career of authorship which has been as prolific as it has been successful. In 1833 appeared "Belgium and Western Germany," which was followed by "Paris and the Parisians," "Jonathan Jefferson Whitlaw," a novel bringing out the peculiarities of the black and coloured races of the Southern States; "Vienna and the Austrians," "The Romance of Vienna," "The Vicar of Wrexhill," "The Widow Barnaby," "Michael Armstrong, the Factory Boy," "One Fault," "The Widow Married," the "Barnabys in America," "Chesterfield, or the Youth of Genius," "Hargrave," "Jessie Phillips," "Lauriston," "Tremordyn Cliff," "The Robertses on their Travels," "The Blue Belles of England," "The Ward of Thorpe Combe," "The Attractive Man," "Petticoat Government," "Father Eustace," "Uncle Walter," "The Clever Woman," "The Three Cousins," "Mrs. Matthews, or Family Mysteries," "Gertrude, or Family Friends," "Fashionable Life in Paris and London," and other works, the last of which was written on the verge of 80. For the last few years Mrs. Trollope has lived in retirement at Florence, and has long passed out of the mind of novel readers as a leading celebrity. She has left one son, Mr. Thomas Adolphus Trollope, educated at Winchester and St. Albans Hall, Oxford, who is also known as an author, having published a work on Brittany, "The Life of Filippo Strozzi," "The Girlhood of Catherine de Medici," "La Beata," "Tuscany in 1849 and 1859," and other works.

BIRTHS.—On the 9th inst, at 23, Grosvenor Street, the Lady FREDERICK FITZROY, of a daughter, stillborn—1st inst, at Lamorran, the Hon. Mrs. BOSCAWEN, of a daughter—8th inst, at 62, Lowndes Square, the wife of CECIL HENRY RUSSELL, Esq., of a son—9th inst, at 4, Queen's Gate Gardens, the wife of M. E. GRANT DUFF, Esq., M.P., of a son.

MARRIAGES.—On the 7th inst, at Cotmanhay Church, Derbyshire, EDMUND CONSTANTINE HENRY PHIPPS, Esq., Secretary of H.M.'s Legation at Stuttgardt, only son of the late Hon. Edmund Phipps, and nephew of the late Marquis of Normanby, to MARIA JANE, eldest daughter of ALFRED MILLER MUNDY, Esq., of Shipley, Derbyshire—15th inst, at St George's Church, Hanover Square, the Hon. and Rev. GEORGE HERBERT, third son of the late Earl of Powis, to ELIZABETH BEATRICE, fourth daughter of the late Sir TATTON SYKES, Bart.—3d inst, at Pelynt Church, JOHN BARTON STERLING, Esq., of the Coldstream Guards, to CAROLINE MATILDA, eldest daughter of Sir JOHN TRELAWNY, Bart., M.P.—12th inst, at 5, Upper Harley St., HORATIO JOSEPH, son of the late LOUIS LUCAS, Esq., of 19, Hyde Park Gardens, to ISABEL, only daughter of the Count and Countess D'AVIGDOR, and granddaughter of the late Baron de Goldsmid and de Palmeira—13th inst, at St. Stephen's Church, Dublin, THOMAS H. GREER, Esq, B.A., 8, Mount Street Crescent, Dublin, youngest son of the late Major Joseph Greer, of Grange, D.L. and J.P. Counties Armagh and Tyrone, to GERALDINE ELIZABETH BLENNERHASSETT FITZGERALD, eldest daughter of the Knight of Glinn, Glinn Castle, Limerick.

DEATHS.—On the 5th inst, FRANCIS GARNIER, Esq, third son of the late Rev. William and Lady Harriett Garnier, of Hants—10th inst, at Netherplace, Mauchline, N.B., ETHEL EGIDIA, infant daughter of the Hon. GREVILLE VERNON—11th inst, at Scaleby Rectory, near Carlisle, MARY, third daughter of the Hon. JOHN H. ROPER-CURZON—10th inst, at Epsom, Major-General FRANCIS RINGLER-THOMSON, aged 69—11th inst, at Brighton, CHARLOTTE, relict of the late Lieut.-General PEREIRA, Madras Army—8th inst, at Edinburgh, Captain CAREW LOUIS, Royal Engineers, younger son of Admiral O'GRADY, aged 28—8th inst, at St. Leonard's-on-Sea, ANNE, widow of DAVID PUGH, Esq., M.P., of Llanerchydol, Montgomeryshire—6th inst, at Kingstown, Ireland, FRANCIS L. DAMES, of Greenhill, King's County, Esq., justice of the peace and deputy-lieutenant, aged 73—4th inst, at Aix-la-Chapelle, CLARA MARIA, wife of J. HINDE-PALMER, Esq., of Gloucester Place, Portman Square—3d inst, at Southport, DANIEL HORNBY, Esq., of Raikes Hall, Blackpool, Lancashire, and late major in the 3d Royal Lancashire Militia, aged 63—6th inst, in Dublin, Capt. ARTHUR D'ARCY, Fermanagh Light Infantry, son of the late Wm. D'Arcy, Esq., Necarn Castle, county Fermanagh, aged 35.

# Markets.

## COVENT GARDEN, Oct. 17.

Vegetables and most kinds of Fruit in season, with the exception of Peaches, which are getting very scarce, continue plentiful. Late Plums may still be had. Of Grapes and Pine Apples the supply is also sufficient for the demand. Of Melons there is a good stock of foreign varieties. There is also a good supply of Brown Beurré and Marie Louise Pears. Some good examples of Ribston Pippin Apples may now be obtained. Kent Cobs and Filberts are coming in in good condition. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Marigolds, Calceolarias, Mignonette, and Roses.

### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 8s to 10s | Melons, each, 2s to 4s |
| Grapes, per lb., 2s to 6s | Lemons, per 100, 8s to 12s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Nuts, small, per bushel, 14s to 18s |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Plums, per ½ sieve, 5s to 8s | Walnuts, do., 14s to 20s |
| Figs, per doz., 4s | |
| Peaches, per doz., 8s to 20s | |

### VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | French Beans, p. sieve, 2s to 6s |
| Potatos, York Regents, p. ton, 60s to 80s | Shallots, per lb., 8d |
| .. Shaws, do., 50s to 60s | Garlic, per lb., 8d |
| Turnips, p. bunch, 4d to 6d | Lettuces, each, 1d to 2d |
| Carrots, do., 6d to 8d | Endive, p. score, 1s to 1s 6d |
| Spinach, p. sieve, 1s 6d to 2s | Horse Radish, p. bunch 1s 6d to 4s |
| Cucumbers, each, 9d to 1s | Mushrooms, p. pott., 1s to 1s 9d |
| Beet, per doz., 1s 6d | Parsley, p. 12 bunches, 3s to 4s |
| Tomatos, each, 2d to 3d | Herbs, per bunch, 3d |

## HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, Oct. 15.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 85s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | — | — | Do. second cut .. | 85 | 100 |
| Inferior do. .. | — | — | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 28 | 32 |
| Rowen .. .. .. | — | — | | | |

HARVEY & EASTON.

WHITECHAPEL, THURSDAY, Oct. 15.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 90s | Prime 1st cut Clover | 110s to | 115s |
| Inferior do. .. .. | 70 | 80 | Inferior do. .. .. | 95 | 105 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do. .. | 100 | 108 |
| Straw .. .. .. | 28 | 32 | Inferior do. .. | 90 | 100 |

## BRITISH WOOLS.—LONDON, Oct. 16.

There is still a good trade doing and at full rates. The demand embraces nearly all descriptions of fleece and skin wool; but fleeces are the most sought after, and especially of the deep grown descriptions, which are scarce in the market.

## HOPS.—BOROUGH MARKET, FRIDAY, Oct. 16.

Messrs. Pattenden & Smith report the trade brisk for the new growth, and fine samples are being fast cleared off at slightly advanced rates: Currency:—

| | | | |
|---|---|---|---|
| Mid and East Kents, p. cwt. | £5 0 to | £6 10 to | £8 0 |
| Weald Kents .. .. .. | 4 10 — | 5 10 — | 6 10 |
| Sussex .. .. .. .. | 4 4 — | 4 15 — | 5 15 |

## NEWGATE.—Oct. 16.

Best Fresh Butter .. .. 14s. per dozen lbs.
Second do. do. .. .. 12s. ,,
Pork, 4s. 0d. to 4s. 8d. per 8 lbs.

## METROPOLITAN CATTLE MARKET.

MONDAY, Oct. 12.

We have again a large supply of Beasts; the weather is favourable, and the best qualities maintain late quotations. Inferior descriptions meet with a heavy sale, and several remain unsold. The number of Sheep is rather larger than on Monday last, and trade very dull, consequently it is difficult to realise late rates. Calves are selling about the same as on Thursday. From Germany and Holland there are 3180 Beasts, 9160 Sheep, and 223 Calves; from Ireland, 950 Beasts; and 2360 from the Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 4 6 — 4 10 |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 6 — 3 6 | Ewes & 2d quality | 4 0 — 4 4 |
| Best Downs and Half-breds .. | 5 0 — 5 4 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 0 — 4 10 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 6870; Sheep & Lambs, 23,670; Calves, 238; Pigs, 370.

THURSDAY, Oct. 15.

The supply of Beasts is considerably shorter, yet more than equal to the demand. Choice descriptions meet with ready purchasers at Monday's quotations, but it is difficult to dispose of inferior qualities. The number of Sheep is small; trade is, however, exceedingly dull, and there is no improvement in prices. Trade is also very heavy for Calves at about Monday's quotations. Our foreign supply consists of 390 Beasts, 1790 Sheep, and 269 Calves. Milch Cows, 85.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 4 6 — 4 10 |
| Best Short-horns | 4 6 — 4 8 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 6 — 3 6 | Ewes & 2d quality | 4 0 — 4 4 |
| Best Downs and Half-breds .. | 5 0 — 5 4 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 0 — 3 10 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 975; Sheep & Lambs, 4060; Calves, 355; Pigs, 190.

## MARK LANE.—MONDAY, Oct. 12.

The supply of Wheat from Essex and Kent to this morning's market was small, and met a slow sale on the terms of this day se'nnight. Business in foreign was limited, and quite of a retail character at late prices. Prime malting Barley brings about last week's rates; secondary sorts are 1s. per qr. cheaper. Beans are a very dull sale at a decline of 2s. per qr. Peas are unaltered in value. With a large supply of Oats the trade was very heavy; good old corn brought about last Monday's quotations, but new and out-of-conditioned parcels sold slowly at 6d. to 1s. per qr. less money. In Flour there was but little done.

| PER IMPERIAL QUARTER | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 42—46 | Red ..... | 38—44 |
| — — fine selected runs .. ditto | 44—50 | Red .... | 40—48 |
| — — Talavera ............ | 46—52 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 36—54 | | |
| BARLEY, grind. & dist., 28s to 30s .. Chev. | 34—38 | Malting .. | 31—34 |
| — Foreign .. grinding and distilling | 25—30 | Malting .. | 30—35 |
| OATS, Essex and Suffolk ......... | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ................ Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 19—22 | Feed .... | 16—20 |
| RYE ........................ | 30—32 | Foreign .. | — |
| RYE-MEAL, Foreign .............. | — | | |
| BEANS, Mazagan .... 29s to 36s .. Tick | 30—34 | Harrow .. | 30—34 |
| — Pigeon .... 37s to 40s .. Winds. | — | Longpod | — |
| — Foreign ............... Small | 36—42 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent .. Boilers | 37—40 | Suffolk .. | 38—42 |
| — Maple .... 35s to 37s .... Grey | 32—34 | Foreign .. | 34—40 |
| MAIZE .................... White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 38—43 | | |
| — 2d do .................. ditto | 30—34 | Country .. | 30—34 |
| — Foreign ........... per barrel | 15—24 | Per sack | 32—42 |

FRIDAY, Oct. 16.

On the 10th, 11th, and 12th inst. we had fine summer weather, on the 13th very heavy storms of rain. During the week the Wheat trade has been dull, and in several markets a further slight decline has occurred in prices, their low range (viz. 41s. to 42s. for good 63 lbs. white English, and 36s. to 38s. for red) is beginning to attract the attention of capitalists and speculators, and some purchases have been made in several parts of the kingdom to hold over. Barley, excepting the finest malting samples, continues to recede in value, and is quoted 6d to 1s. per qr lower. Oats have also declined 6d. per qr. in the majority of markets. The value of Beans and Peas was barely maintained. Flour continues to be a very heavy sale, but is not written lower, excepting in Leith, where a decline of 2s. per sack is quoted. Since Friday last 23 vessels have been reported off the coast. In consequence of the very few arrivals the floating trade has remained steady but inactive, for Maize 6d. per qr. more money is obtainable. In Paris (Oct. 15), the prices of Flour after a trifling improvement have relapsed, and the trade closes quiet at last week's rates. The present stock is estimated at 10,500 cwt. The six marks for delivery this month are quoted equal to 30s. 6d. per 280 lbs. Wheat is firm, and in a few instances an advance of 6d. per qr. has been paid. The arrivals of English grain this week have been very small, of foreign Wheat, Barley, Oats, and Flour large. The market was not well attended, and both English and foreign Wheat met a very slow sale at Monday's quotations. The same may be said of all descriptions of spring corn.

ARRIVALS THIS WEEK.

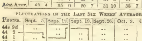
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 590 qrs. | 580 qrs. | 70 qrs. | 750 sks. |
| Irish .... | — | — | 2270 | — ,, |
| Foreign .. | 21 970 ,, | 10,980 | 37,790 ,, | 330 ,, / 15,720 brls |

LIVERPOOL, Oct. 13.—We have had a good attendance of buyers at this day's market, and Wheat has met a healthy demand for consumption at the full prices of Friday last for general runs, and 1d. per cental advance for fine amber and

winter reds. Flour is held firmly, but does not meet a brisk sale. Indian Corn has found more favour with country buyers, and prime mixed is now difficult to be bought at Friday's prices. Oats and Oatmeal dull, but no lower. Beans are the turn dearer, and offered quite sparingly. Peas and Barley steady at late rates. The market closes with a firm tone.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Sept. 5 | 44s 2d | 34s 8d | 22s 0d | 32s 11d | 38s 10d | 37s 2d |
| — 12 | 44 1 | 34 7 | 21 8 | 31 0 | 39 10 | 35 10 |
| — 19 | 44 0 | 35 2 | 20 9 | 32 7 | 39 0 | 36 9 |
| — 26 | 43 9 | 35 9 | 20 2 | 32 1 | 38 11 | 37 5 |
| Oct. 3 | 42 2 | 35 4 | 19 8 | 31 0 | 37 11 | 36 7 |
| — 10 | 41 0 | 34 7 | 19 4 | 31 5 | 37 0 | 36 4 |
| Agg. Aver. | 43 4 | 35 0 | 20 7 | 31 10 | 38 7 | 36 8 |

Fluctuations in the Last Six Weeks' Averages.




COAL MARKET.—*Oct. 14.*

Bates's West Hartley, 16s. 6d.; Lambert's West Hartley, 17s. 3d.; Tanfield Moor Butes, 14s.; Walker Primrose, 13s. 6d.; Walls End Russell, 17s. 6d.; Walls End Framwellgate, 20s.; Walls End Hetton, 21s.; Carway and Duffryn Malting, 21s. —12 ships at market.

WANTED, a TRAVELLER for the SEED TRADE. —One thoroughly used to the Business, who, when not travelling, will be required as Correspondent and Clerk in the Counting House.—Apply A. B., *Gardeners Chronicle* Office, W.C.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (Head).—Age 32, one child; well understands his profession in all its branches. Can be highly recommended by present employer. Eighteen months' character.—Mortimer, Swan Lane, Hampton Wick, S.W.

GARDENER (Head).—Age 30, married, no incumbrance; first-class Pine, Peach, and Grape Grower, Stove Plants, Ferns, &c. Good Kitchen and Flower Gardener. Good reference.—M. M., Mr. Wm. Bull's Establishment for New and Rare Plants, King's Road, Chelsea, S.W.

GARDENER (Head).—Age 32; near eight years Gardener to the late Dr. Pacey, Aston House, Herts. Through his death he is open to an engagement, and solicits the favour of an enquiry as to his abilities, sobriety, economy, &c.—E. Barwell, Bulwick, Wansford.

GARDENER (Head).—Age 28, married, two children.—Wm. Wood & Son are desirous of recommending a really first-rate Gardener, who understands Forcing Grapes, Pines, &c.; and is thoroughly conversant in every branch of his profession.—Address, as above, Maresfield Nurseries, Uckfield, Sussex.

GARDENER (Head).—Age 40, married; 24 years' experience in Forcing Vines, Pines, Peaches, &c. Understands Orchids, foliaged, Stove and Greenhouse Plants, the Orchard House, Flower and Kitchen Garden, Erecting and Heating Horticultural Buildings, Park and Plantation Work. Character unexceptionable.—T. H., Mr. Williams, Paradise Nursery, Holloway, N.

GARDENER (Head).—Age 26, single; has served in some of the best and most extensive establishments in England and Scotland; thoroughly practical in Pine, Vine, Melon, Cucumber, Plant, Flower, and Vegetable Forcing; well versed in the management of Flower and Kitchen Gardens; also thoroughly conversant with modern improvements in the various branches of Gardening. No objection to any part of the United Kingdom or Foreign Service.—W. T., Invery House, Banchory, N.B.

GARDENER.—Age 36, married; has a thorough practical knowledge of every branch of his profession.—Good character.—J. C., Kennington Hall, Ashford, Kent.

GARDENER.—Single; understands the Management of Greenhouse, Flower and Kitchen Gardens. No objection to a Single-handed place. Good references.—S. T., Gales Cottages, Windmill Road, Croydon, S.

GARDENER (middle-aged, married, without incumbrance).—D. Davies, who has been 19 years in that capacity with the Countess of Tyrconnel, is now at liberty to engage with any nobleman or gentleman in want of a thoroughly practical Gardener.—References as to ability, &c., may be made to Dr. Lindley, Acton Green, Middlesex, W.

GARDENER (Under), or in a Small Garden, to look after a Pony and Chaise.—Age 20, steady.—G. L., Jupps, Stationer, Handcross, Crawley.

GARDENER and BAILIFF.—Age 35, married, no incumbrance; perfectly understands his profession in all its branches. Wife can Manage Dairy or Poultry. Good character.—A. B., Mr. Rhodes, Crystal Nursery, Sydenham, Kent, S E.

GARDENER and BAILIFF.—Age 32, married; thoroughly practical in all departments of Gardening, understands well the Management of Stock, Land, &c. Can have the highest testimonials from the gentleman he is about to leave.—Messrs. Downie, Laird & Laing, Stanstead Park Nursery, Forest Hill, London, S.E.

FORESTER, FENCER, HEDGER, WIRE-FENCER, and CIRCULAR SAWER, &c., who can also do the Joiner work of his own department. Any Nobleman, Gentleman, or Employer requiring a person in these capacities, or in any of them, will please address to Alexandria, Post Office, Dumbartonshire. No objection to England or Ireland.

FOREMAN, in a nobleman's or gentleman's Garden. —Age 25; good reference.—A. B., Mrs. Darroch, Brooke Lane, Chester.

FOREMAN, under the Head Gardener in a nobleman or gentleman's Establishment.—Age 23, single; can be highly recommended.—A. B., Post Office, Clapton, Middlesex, N.E.

FOREMAN and PROPAGATOR (In-door) of Hard and Soft-wooded Plants.—Well understands his profession. Good references may be obtained.—T. S., Mr. Fry, Nurseryman, Homerton, N.E.

PROPAGATOR, PLANT GROWER, or FOREMAN. —Of first-rate trade experience.—Alpha, 14, Northumberland Place, Lyham Road, Brixton Hill, S.

BAILIFF.—Thoroughly understands the Management of Land and Stock of all kinds; a good Accountant.—Reference Arthur Dickson, Esq., 106, Eastgate Street, Chester.

FARM BAILIFF.—Married, one child; highly respectable; thoroughly practical in Modern Farming; is considered a good judge in Breeding, Rearing, and Selling of Stock. Has the highest testimonials.—G. D., Bute Street, Luton, Beds.

FARM BAILIFF.—A gentleman is desirous of a RE-ENGAGEMENT for his Farm Bailiff, whom he can recommend with every confidence as to integrity and capability. Security will also be given if required. Every particular may be known by application to A. S., Rushall, near Pewsy, Wilts.

FARM BAILIFF.—Age 46, married; has had the entire Management of a Farm of 450 Acres of mixed soil; thoroughly understands the Cultivation of Roots and Steam Machinery, Marketing, and a good judge of Stock. First-class references. Cause of leaving—Farm let.—J. H., Post Office, Kirtlington, Oxford.

FARM BAILIFF.—Age 46, married; has had the entire Management of a Farm of 450 Acres of mixed soil; thoroughly understands the Cultivation of Roots, Steam Machinery, Marketing, and is a good judge of stock. Wife capable of managing the Dairy and Poultry. First-class references. Cause of leaving—Farm let.—J. H., Post Office, Kirtlington, Oxford.

TO the SEED TRADE.—The Advertiser, age 21, having had Four and a half years' experience in one of the largest Provincial Houses, is desirous of obtaining another situation. Good references.—W. C. M., Post Office, Reading, Berks.

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**To Seedsmen.**

SHOPMAN (Under), or ASSISTANT CLERK.—A young Man who has had six years' experience. Would be willing to make himself generally useful; satisfactory references given.—M. D., care of Messrs. Bryden & Murray, Newry.

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MESSRS. WOTHERSPOON and CO. have been appointed STARCH PURVEYORS to H. R. H. the PRINCESS of WALES. This Starch is used in the Royal Laundry and was awarded a Prize Medal. Sold by all Grocers, Chandlers, &c.

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BEDSTEADS, BATHS, and LAMPS.—William S. Burton has SIX LARGE SHOW ROOMS, devoted exclusively to the SEPARATE DISPLAY of LAMPS, BATHS, and METALLIC BEDSTEADS. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

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| Shower Baths, from .. | 8 0 | to | 6 0 | „ |
| Lamps (Moderateur), from | 6 0 | to | 8 10 | „ |

(All other kinds at the same rate).

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| 3½-inch ivory handles.. .. .. .. | 12*s.* 6*d* | 10*s.* 0*d* | 4*s.* 3*d* |
| 3½-inch fine ivory handles .. .. .. | 15 0 | 11 6 | 4 8 |
| 4-inch ivory balance handles .. .. | 18 0 | 14 0 | 4 9 |
| 4-inch fine ivory handles .. .. .. | 24 0 | 18 0 | 7 3 |
| 4-inch finest African ivory handles .. | 32 0 | 26 0 | 11 0 |
| Ditto, with silver ferules .. .. .. | 40 0 | 33 0 | 12 6 |
| Ditto, carved handles, silver ferules .. | 50 0 | 43 0 | 17 6 |
| Nickel electro-silver handles, any pattern | 25 0 | 19 0 | 7 6 |
| Silver handles of any pattern .. .. | 64 0 | 54 0 | 21 0 |
| Bone and Horn Handles.—Knives and Forks per dozen. | | | |
| White bone handles .. .. .. .. | 11*s.* 0*d* | 8*s.* 6*d* | 2*s.* 6*d* |
| Ditto balance handles .. .. .. | 21 0 | 17 0 | 4 6 |
| Black horn, rimmed shoulders .. .. | 17 0 | 14 0 | 4 0 |
| Ditto very strong riveted handles .. .. | 12 0 | 9 0 | 3 0 |

The largest stock in existence of Plated Dessert Knives and Forks, in cases and otherwise, and of the new Plated Fish Carvers.

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**Sauce.—Lea and Perrins'**

WORCESTERSHIRE SAUCE.— This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE,"
Is prepared solely by Lea & Perrins.

The public are respectfully cautioned against worthless imitations, and should see that Lea & Perrins' Names are on Wrapper, Label, Bottle, and Stopper.

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FRY'S SOLUBLE CHOCOLATE.

J. S. Fry & Sons were the only English Manufacturers of Cocoa who obtained the Prize Medal, 1862.

CONCENTRATED BEEF TEA, with FARINACEOUS FOOD, in skins of 1 lb. each, containing the extract of 13 lb. of Beef, 7*s.*; invaluable to public speakers, tourists, and invalids, either as a lozenge, or dissolved in hot milk, water or tea. Also the Patent Tonic BEEF TEA LOZENGE, to create strength, sustain the stomach, and prevent fever. A few dissolved in boiling water will form a Cup of Beef Tea or Gravy for Game. 1*s.* Boxes.

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Testimonial.—You can safely recommend Baker's Patent Tonic Beef Tea Lozenges, I was out examining pupils 11 hours, had no other food, and felt none the worse from my labours. —*Rev. P. S.*

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for Acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild Aperient for delicate constitutions, more especially for ladies and children. It is prepared in a state of perfect purity and of uniform strength by Dinneford & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

KEATING'S PERSIAN INSECT DESTROYING POWDER.—Fleas in Dogs, Poultry, &c., are instantly destroyed, as also Bugs, Beetles, and every other Insect, by this Powder, which is perfectly harmless to animal life; Sportsmen particularly will therefore find it invaluable.

Sold in Packets, 1*s.*, 2*s.* 6*d.*, and 4*s.* 6*d.* each, or post free for 14, or treble size for 36 postage stamps, by Thomas Keating, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice, each genuine packet bears the above name and address.

For which a Prize Medal was awarded to the Producer at the International Exhibition, 1862.

CORNS and BUNIONS.—A gentleman, many years tormented with Corns, will be happy to afford others the information by which he obtained their entire removal in a short period, without pain or any kind of inconvenience.

Forward address, on a stamped envelope, to W. Goodall, Esq., Epsom, Surrey, S.

CONSUMPTION.—All Nervous, Bilious, Liver and Stomach Complaints are only aggravated and accelerated by drugs of every description, but perfectly curable by Du Barry's health-restoring REVALENTA ARABICA FOOD, as proved by thousands of cases which had been considered hopeless. We quote a few.—Cure No. 46,270. Mr. James Roberts, of Frimley, Surrey, of 30 years' diseased lungs, spitting of blood, liver derangement, and partial deafness.—Cure No. 47,121. Miss Elizabeth Jacobs, of extreme nervousness, indigestion, gatherings, low spirits, and nervous fancies.—Cure No. 54,816. The Rev. James T. Campbell, Fakenham, Norfolk, "of indigestion and torpidity of the liver, which had resisted all medical treatment."—In tins 1 lb., 2*s.* 9*d.*; 2 lb., 4*s.* 6*d.*; 5 lb., 11*s.*; 12 lb., 22*s.*; 24 lb., 40*s.*

Barry du Barry & Co., No. 77, Regent Street, London, W.; also at 61, Gracechurch Street, E.C.; 4, Cheapside, E.C.; 63 and 150, Oxford Street, W.; and all Grocers and Chemists in every town of the United Kingdom.

[ma]ny things held as of little worth in this country, but moreover, highly creditable to the managers of the [so]ciety in the colony. *Australian and New Zealand Gazette.*

# Obituary.

LADY KATHERINE STEWART died a few days since at her residence in Bryanston Square. She was the only surviving daughter of Francis, Lord Elcho, eldest son of the sixth Earl of Wemyss, brother of the late Earl of Wemyss and March. She married in 1805 the Hon. Edward Richard Stewart, son of the seventh Earl of Galloway, by whom (who died in 1851), she had the Duchess Dowager of Marlborough, and several other children.

SIR RALPH ANSTRUTHER, BART., died on Sunday at his seat, Balcaskie, Fifeshire, in his 59th year. He was son of General Anstruther, who distinguished himself in the Peninsular war, and died at Corunna in 1809. In 1818 he succeeded to the title on the death of his grandfather, Sir John Anstruther, the third Baronet, M.P. for the Eastern Burghs of Fife, and at one time Chief Justice of Calcutta. At the first election under the Reform Act he stood as Conservative candidate for the St. Andrew's Burghs, but was defeated by a large majority. About 18 years ago his opinions changed, and he returned to the hereditary politics of the family, his grandfather having when in Parliament been a friend of Charles James Fox, and one of the "managers" of the impeachment against Warren Hastings. He is succeeded in the baronetcy and estates in Fife and Caithness by his son, Colonel Robert Anstruther.

GENERAL J. DOUGLAS JOHNSTONE, late Colonel of the 33d Regiment, died a few days ago in Dublin, aged 55. He went out to the Crimea with his regiment, and was sent home to England so seriously invalided that he was considered to be in a dying state. On his partial recovery he again joined his regiment at the seat of war, and with his son, Captain Johnstone, was the first in the assault on the Redan, where he lost an arm. He never fully recovered this shock to his system. He remained in the Crimea till the end of the war, and six months afterwards went out to India in broken health, having in this brief interval formed a new regiment, only 60 of the trained soldiers of the 33d who went out to the Crimea having returned home. On his return from India he retired from the service, but never recovered his health.

MR. LANGSTON, M.P. for Oxford, died on Monday at Sarsden House, Chipping Norton. He had been seriously ill for some time past, and within the last week or two his death had been hourly anticipated. He was educated at Christ Church, Oxford, and was created honorary D.C.L. in 1819. He was distinguished as an enterprising agriculturist, and more especially as a breeder of short-horn stock. As a politician he was strongly attached to Whig principles. He first sat in Parliament for Woodstock, where he was defeated at the general election in 1832. Immediately on the conclusion of that contest he was invited to stand for Oxford, where he was elected with Mr. Stonor, now Lord Camoys. In 1835 he withdrew from public life, but at the general election in 1841 he was again induced to come forward, and was returned with Mr. Donald Maclean; and at the general election in 1847 he was returned with Sir W. Page Wood. At the general election in 1852 he was again returned, his colleague being Mr. Cardwell; and in 1857 he was re-elected with the same gentleman without a contest. Mr. Langston was in his 58th year, and married in 1824 Lady Julia, second daughter of the first Earl of Ducie. His daughter by this marriage married her cousin, the present Earl of Ducie, in 1849.

MR. HOPE, M.P. for Windsor, died on Sunday last, at his seat, Luffness, in East Lothian, aged 55. He was the son of General the Hon. Sir Alexander Hope (of the Hopetoun family), and was born at Blackheath in 1808. He was educated at Christ Church, Oxford, and was called to the bar at Lincoln's Inn in 1831, but devoted himself chiefly to political life. He entered Parliament for Weymouth in 1837, and was re-elected in 1841, but unseated on petition. In 1842 he was elected for Southampton, but did not again offer himself for that constituency. In 1859 he was returned for Windsor. When member for Southampton he was Under Secretary for the Colonies in Sir R. Peel's Administration. He married in 1836 the daughter and co-heir of the second Lord Montagu, and granddaughter of the third Duke of Buccleuch.

MR. JOHN BOWYER NICHOLS, F.S.A., one of the veterans of the literary world, died at his residence, Hanger Hill, Ealing, on the 19th inst., in his 85th year. He was the only son of Mr. John Nichols, the historian of Leicestershire, and author of the Literary Anecdotes of the *Eighteenth Century*, with whom he was formerly associated in conducting, during many years, that prototype of our monthly periodical literature, the "Gentleman's Magazine." Mr. Nichols had been for more than 60 years one of the printers of the votes and proceedings of the House of Commons. He was for many years the senior Registrar of the Royal Literary Fund, and nearly the oldest member of the Stationers' Company, of which he served the office of Master in 1850.

THE REV. WILLIAM OXENHAM, Lower Master of Harrow School, died last week at Reigate, in his 64th year, after a long illness. He was educated at Harrow, appointed an assistant master in 1826, and on the death of the Rev. Henry Drury succeeded to the post of Lower Master. He was an admirable classical scholar, of the type of Keate and Drury, and had probably few living superiors in an intimate knowledge of all departments of Latin versification. For many years past he has been a living link between *Harrow men* whom time and absence had divided. He was devoted to the school and its associations. Within the last year he had presented to the chapel a beautiful stained glass window, with a touching inscription recording the term of his protracted service; and only a few days before his death he made known his desire to found a prize in aid of that branch of Latin composition which he had so zealously contributed to foster.

MR. JOHN SHEEPSHANKS, the accomplished owner of the famous collection of pictures, known as the Sheepshanks Gallery, which he presented to the nation in his lifetime, died at his residence, Rutland Gate, on the 5th inst., in his 76th year. He was born in 1787, and was the son of a wealthy cloth manufacturer at Leeds, whom he succeeded in the business. His brother, the Rev. Richard Sheepshanks, F.R.S., formerly Fellow of Trinity College, Cambridge, was the distinguished astronomer. Mr. John Sheepshanks has for a long time been known as a collector of choice pictures, but has led a quiet and unobtrusive life, liberal to artists and happy in their society—though unknown to the general world up to the act of patriotic munificence which transferred to the nation the whole of his splendid collection of drawings and paintings, for the purposes of public instruction in art. Mr. Sheepshanks made it a condition that the responsibility of taking care of his collection should rest with an individual minister—the Vice-President of the Committee of Council on Education, that the collection should be removed to South Kensington, and that provincial towns should be allowed to have the pictures on loan, if the authorities provided suitable places to exhibit them in. Another condition was one which he ultimately did not insist upon—the opening of the collection on Sundays. This collection, which was removed from Rutland Gate to South Kensington early in 1857, is worth about 60,000*l.*, and is especially rich in the best works of Mulready, Leslie, and Landseer, and in fine examples of the principal modern British painters. There are 233 oil paintings and 103 sketches and drawings by Turner, Stanfield, Chalon, &c.

MR. WILLIAM BUCKLE, C.E., the builder of the first locomotive engine which made the journey from Liverpool to Manchester, so unfortunately remembered less for the triumph of engineering art than for the dreadful death of Mr. Huskisson, died on the 30th ult. at his residence in the Royal Mint in his 70th year. He was the contemporary and friend of Watt and Stephenson, and his name is associated with many scientific improvements. He was born in 1794 at Alnwick Castle, where his father held some situation under the Duke of Northumberland. He was educated at the Hull Grammar school, and was subsequently apprenticed to Messrs. Humphreys & Co., a firm of London engineers. In 1817 he went to Memel, to establish a company of steamers on the rivers and lakes of Prussia, where his chief friend, it is said, was the Prince of Hardenburg, one of whose daughters he saved from drowning. He afterwards superintended the arrangements of the famous visit of George IV. to Ireland, and took charge of the first steam mail-packet between England and Ireland. He then became connected with the Soho Works of Messrs. Boulton & Watt at Birmingham, where he held a responsible post till 1851, when he was appointed by Sir J. Herschel to an important office in the coining department of the Royal Mint. The great labour which he underwent lately, in superintending the coining of the Crimean and Baltic medals, injured his health so much as to have shortened his life. In 1835 he wrote a paper on the equalising motion for preventing the unequal action of steam engines. In 1847 he published a series of papers on the fan blast, and in 1848 a paper on the manufacture of bone manure. He was a vice-president of the Institute of Mechanical Edgineers. He built the lofty flue at Birmingham, which was first known as "Buckle's Folly," and a number of other chimneys built inside without scaffolding.

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WILLS.—The will of the Marquis of Normanby, K.G., has been sworn under 25,000*l.*; Mr. William M'Nab, of Ware, surgeon, 30,000*l.*; Sir Frederick Slade, Bart., Q.C., 16,000*l.*; Mr. Richard Owen, of Leamington, 14,000*l.*; Mr. Alfred Ricketts, of Bath, 60,000*l.*

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BIRTHS.—On the 21st inst, at Ashburnham House, the Countess of ASHBURNHAM, of a son—18th inst, at 36, Upper Hyde Park Gardens, Lady AGNES JOLLIFFE, of a daughter—19th inst, at Somerville, Navan, Lady SOMERVILLE, wife of Sir Wm. Somerville, Bart., of a daughter—18th, at Wellesbourne, Warwick, the Lady CONYERS, of a daughter—18th inst, at Woodbridge House, Guildford, the wife of Lieut.-Colonel ONSLOW, of a son.

MARRIAGES.—On the 15th inst, at St. Katherine's Church, Savernake Forest, Marlborough, Colonel the Hon. HENRY BYNG, second son of the Earl of Strafford, to the Countess HENRIETTA DANNESKIOLD-SAMSÖE, eldest daughter of his Excellency Count Christian Danneskiold-Samsöe, and niece of the Marquis of Allesbury—20th inst, at St. James's, Paddington, HENRY NEVILL, second son of Sir EDWARD C. DERING, Bart., M.P., her Majesty's Secretary of Legation at Berne, to ROSA, daughter of JOSEPH UNDERWOOD, Esq., of 5, Hyde Park Gardens—20th inst, at St. George's, Bloomsbury, CHARLES FREDERICK BAILEY, Esq., of 5, Stratford Place, London, and Lee Lynton, North Devon, to EMILY JEANNETTE, eldest daughter of CHARLES NORRIS WILDE, Esq., of 17, Russell Square—14th inst, at St. John's Church, Edinburgh, WALTER HENRY, eldest son of Lieutenant-Colonel ERSKINE, C.B., to MARY ANNE, eldest daughter of WM. FORBES, Esq., of Medwyn, in the county of Peebles—15th inst, at Tidmarsh Church, HENRY GROSVENOR PAYNTER, Esq., of the Bengal Civil Service, fourth son of William Paynter, Esq., of Camborne House, Richmond, Surrey, and of Belgrave Square, to EMILY, youngest daughter of JOHN HOPKINS, Esq., of Tidmarsh House, Berks—15th inst, at Holy Trinity Church, Paddington, ARTHUR ANNESLEY HANCOCKS, Esq., third son of the late John Hancocks, Esq., of Wolverley Court, Worcestershire, to GERTRUDE, daughter of the late Rev. JOHN WILLIAM DONALDSON, D.D., formerly fellow of Trinity College, Cambridge, and granddaughter of the late Sir John C. Mortlock.

DEATHS.—On the 14th inst, at St. Petersburg, the Duchess of MONTEBELLO, youngest daughter of the late Sir Charles Jenkinson, Bart.—11th inst, at Clavering Place, Lady HAWKE, aged 97—18th inst, suddenly, at Vernon Villa, Felixstowe, Suffolk, Sir JOHN SPENCER LOGIN, M.D., late of the Hon. East India Company's Service, and formerly guardian to his Highness the Maharajah Dhuleep Singh—22d inst, EVERARD FRANCIS, the infant son of Sir ALFRED and Lady TICHBORNE, of cramp, aged 10 months—21st inst, in Camden Square, Colonel AUGUSTUS HOTHAM, formerly of the 76th Regiment, eldest son of the late Admiral Sir William Hotham, G.C.B., aged 58—14th inst, accidentally drowned, near London Bridge, Capt. SYDNEY H. USSHER, R.N., second son of the late Admiral Sir T. Ussher—13th inst, at The Sycamores, Balasala, Isle of Man, Major-General WRIGHT W. DAVIDSON, late 32d Bengal N.I., aged 52—18th inst, at Vienna, OLIVER PAGET, Esq., of Szokefolva, Transylvania, son-in-law of Charles Paget, Esq., M.P.—17th inst, at Elberton, Gloucestershire, Colonel HENRY WILMOT CHARLETON, late Lieut.-Colonel of the 2d Dragoon Guards, aged 58—14th inst, at Walworth, county Londonderry, Colonel THOS. E. SAMPSON, late of the Bengal Army, aged 63—Aug. 20, at Hong Kong, Captain GEORGE CLAYTON, 99th Regiment, from the effects of a wound received while acting as aide-de-camp to Major Gordon, R.E., aged 24—19th inst, at Lulworth Castle, JOSEPH WELD, Esq., aged 86—15th inst, at Pigdon, Northumberland, GEORGE HAWKS, Esq., of Redheugh Hall, county Durham, J.P., and deputy-lieutenant for the county of Durham—17th inst, at Folkestone, C. WARTON, Esq., of Kemsdale, Faversham, D.L. and J.P. for the county of Kent, aged 50—19th inst, at Sunnyside, MARY ANN, relict of ROGER CROMPTON, Esq., of Lancashire and Sunnyside, aged 54—16th inst, at Paris, the Rev. HENRY GRIFFIN, incumbent of Stoke-by-Clare, Suffolk, aged 65—18th inst, at Theddingworth, the Rev. THOMAS JAMES, M.A., vicar of Sibbertoft and Theddingworth—11th inst, the Rev. WILLIAM RIGG, for 48 years incumbent of Flookburgh, Lancashire, aged 71—August 11, at Hankow, China, the Rev. ROBERT WILSON, of the London Missionary Society, aged 34—20th inst, at South Hill Rectory, the Rev. H. M. RICE, for 22 years rector of South Hill with Callington, Cornwall, and J.P. for that county, aged 57—17th inst, at Ventnor, Isle of Wight, the Rev. WM. HARKNESS, vicar of Winscombe, Somerset—14th inst, at Selworthy, Somersetshire, the Rev. J. STEPHENSON, rector of that parish for more than 60 years, aged 93.

# Markets.

### HOPS.—BOROUGH MARKET, FRIDAY, Oct. 23.

Messrs. Pattenden & Smith report a good demand for all new Hops at fully late prices.

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### COVENT GARDEN, Oct. 24.

Both home-grown and foreign produce is for the most part abundant. Late Plums may still be had. Of Grapes and Pine Apples the supply is also sufficient for the demand. Of Melons there is a good stock. There is also a good supply of Brown Beurré, Crassane, Duchesse d'Angoulême, and Marie Louise Pears. Some good examples of Ribston Pippin Apples may now be obtained. Kent Cobs and Filberts are good and plentiful. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Marigolds, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 8s | Lemons, per 100, 12s to 16s |
| Grapes, per lb., 2s to 6s | Nuts, small, per bushel, 14s to 18s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Almonds, do., 15s |
| Pears, per ½ sieve, 2s 6d to 5s | Walnuts, do., 14s to 20s |
| Plums, per ½ sieve, 5s to 8s | |
| Melons, each, 2s to 4s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 10d |
| ,, Shaws, do., 50s to 60s | Lettuces, each, 1d to 4d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 9d to 1s | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatos, each, 2d to 3d | |

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### HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, Oct. 22.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 85s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | — | — | Do. second cut .. | 85 | 100 |
| Inferior do. .. | — | — | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 28 | 32 |
| Rowen .. .. .. | — | — | | | |

HARVEY & EASTON.

CUMBERLAND MARKET, THURSDAY, Oct. 22.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 84s to | 90s | Inferior Clover .. | 80s to | 92s |
| Inferior do. .. .. | 66 | 78 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 32 | 36 |
| Superior Clover .. | 105 | 112 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Oct. 22.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 86s to | 90s | Prime 1st cut Clover | 108s to | 116s |
| Inferior do. .. .. | 75 | 84 | Inferior do. .. .. | 100 | 108 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do. .. | 100 | 108 |
| Straw .. .. .. | 28 | 32 | Inferior do. .. | 90 | 100 |

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### COAL MARKET.—Oct. 21.

Byass's Bebside West Hartley, 17s. 3d.; Cowpen Hartley, 17s. 3d.; Walker Primrose, 13s. 3d.; West Hartley, 17s. 3d.; Walls End Byron, 19s.; Walls End Harton, 18s. 6d.; Walls End Russell, 17s. 6d.; Walls End Wharncliffe, 18s. 6d.; Walls End Haswell, 21s.; Walls End Hetton, 21s.; Walls End Tunstall, 18s. 6d.; Walls End Heugh Hall, 19s. 6d.; Walls End South Kelloe, 19s. 6d.; Walls End Thorpe, 17s. 9d.; Walls End Trimdon Hartlepool, 20s. 6d.; North Pelton Gas, 14s.—86 ships at market.

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### METROPOLITAN CATTLE MARKET.

MONDAY, Oct. 19.

We have again a large supply of Beasts; a considerable proportion is, however, of inferior quality, consequently there is very little reduction, if any, in the choicest descriptions. Trade is by no means brisk for Sheep, but there is a decided improvement from Thursday, although the average advance is not large. Choice Calves are rather dearer. From Germany and Holland there are 2980 Beasts, 8320 Sheep, and 233 Calves; from Ireland, 960 Beasts; and 2620 from the Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools | 4 8 — 5 0 |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 4 — 3 4 | Ewes & 2d quality | 4 0 — 4 6 |
| Best Downs and Half-breds .. | 5 2 — 5 6 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 0 — 5 0 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 6920; Sheep & Lambs, 28,240; Calves, 230; Pigs, 440.

THURSDAY, Oct. 22.

We have a larger supply of Beasts than on Thursday last; but there is no improvement in the average quality, consequently choicest descriptions are not cheaper. Inferior qualities meet with a heavy sale. The number of Sheep is small, but the demand is equally so, and prices are not better than on Monday. Trade is rather worse for Calves. Our foreign supply consists of 330 Beasts, 1980 Sheep, and 315 Calves. Milch Cows, 85.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools | 4 8 — 5 0 |
| Best Short-horns | 4 4 — 4 8 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 4 — 3 4 | Ewes & 2d quality | 4 0 — 4 6 |
| Best Downs and Half-breds .. | 5 2 — 5 6 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 0 — 4 10 |
| | | Pigs .. .. | 3 0 — 4 4 |

Beasts, 1145; Sheep & Lambs, 4190; Calves, 491; Pigs, 210.

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### MARK LANE.—MONDAY, Oct. 19.

The supply of English Wheat to this morning's market was very small, which enabled factors to clear it at the prices of this day se'nnight. Foreign was in very limited demand at our late quotations. Best Barley sells at about the prices of this day se'nnight, other qualities 1s. per qr. lower. Beans and Peas are each 1s. per qr. cheaper. Fine old Russian Oats bring late rates, other descriptions are a slow sale at a decline of 6d. per qr. Flour is unaltered in value.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 42—46 | Red ..... | 38—44 |
| — — fine selected runs .. ditto | 44—50 | Red .... | 40—48 |
| — — Talavera .............. | 46—52 | | |
| — Norfolk .................... | — | Red .... | — |
| — Foreign .................... | 36—54 | | |
| BARLEY, grind. & dist., 28s to 30s .. Chev. | 34—38 | Malting .. | 31—34 |
| — Foreign .. grinding and distilling | 25—30 | Malting .. | 30—35 |
| OATS, Essex and Suffolk .......... | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ................ Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 19—22 | Feed .... | 16—20 |
| RYE .............................. | 30—32 | Foreign .. | — |
| RYE-MEAL, Foreign ............... | — | | |
| BEANS, Mazagan .... 28s to 36s .. Tick | 30—34 | Harrow .. | 30—34 |
| — Pigeon .... 32s to 40s .. Winds. | — | Longpod | — |
| — Foreign .............. Small | 36—42 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent .. Boilers | 34—36 | Suffolk .. | 34—38 |
| — Maple .... 34s to 36s .... Grey | 31—33 | Foreign .. | 32—40 |
| MAIZE .................... White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 38—43 | | |
| — 2d do ................ ditto | 30—34 | Country .. | 30—34 |
| — Foreign ........... per barrel | 15—21 | Per sack | 32—42 |

FRIDAY, Oct. 23.

Excepting on the 20th inst., when we had some heavy driving showers, the weather since the 16th was fine. The Wheat trade for the week has been dull throughout the kingdom, but the supplies of good and dry samples of English Wheat having been limited, for such previous prices have been obtained. Foreign Wheat has not been pressed for sale, and business was limited at former rates. Fine Malting Barley has maintained its late value, but other descriptions

have declined 6d. to 1s. per qr. Where any alteration has been made in the quotations of Oats, Beans, and Peas, it has been in favour of buyers. Flour continues to be difficult of disposal. Since Friday last 55 vessels have been reported off the coast. The floating trade has remained quiet, but Wheat maintained its full value, and was yesterday rather dearer. Maize, Barley, and Beans are a little cheaper. In Paris (Oct. 22), there was little doing in Flour at unaltered rates. The six marks for delivery this month remain quoted at 30s. 6d. per 280 lbs. The present stock is estimated at 10,600 cwt. For Wheat 9d. per qr. advance is asked, but this improvement is obtained only in a few instances. The arrivals of English grain during the week have been small, of foreign Wheat, Barley, and Oats large. The attendance at to-day's market was nearly confined to the factors. The show of English Wheat was small, and met a dull sale at Monday's prices. Foreign was taken only in retail at late rates. Secondary descriptions of Barley were 6d. to 1s. per qr. cheaper; other sorts unaltered in value. Beans and Peas brought Monday's quotations. The Oat trade was heavy, and prices rather in favour of the buyers.

ARRIVALS THIS WEEK.

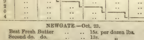
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1510 qrs. | 320 qrs. | 430 qrs. | 590 sks. |
| Irish .... | — | — | 500 | — ,, |
| Foreign .. | 21.550 ,, | 10.290 | 43,280 ,, | 470 ,, — brls |

LIVERPOOL, Oct. 20.—With a moderate attendance of millers and dealers at this day's market Wheat has had a fair consumptive sale at the extreme rates of Friday last. Flour is difficult to move, but good conditioned parcels are scarce and not to be bought cheaper. Indian Corn displays an upward tendency, and is held for an advance of 3d. per quarter, but buyers act cautiously. Oats have undergone no improvement, but Oatmeal has been taken freely at the present low prices, and must be quoted fully 6d. per load dearer. Beans, Peas, and Barley steady at late rates. The market closes firm, but without activity.

FRIDAY, Oct. 23.—Fair attendance at market. Wheat, moderate demand at late rates. Flour, more doing in westerns at the late low rates. Other sorts unchanged. Indian Corn steady. Egyptian Beans unchanged. Oats and Oatmeal rather dearer.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Sept. 12 | 44s 1d | 34s 7d | 21s 8d | 31s 0d | 39s 10d | 35s 10d |
| — 19 | 44 9 | 35 2 | 20 9 | 32 7 | 39 0 | 36 9 |
| — 26 | 43 9 | 35 9 | 20 2 | 32 1 | 38 11 | 37 5 |
| Oct. 3 | 42 2 | 35 4 | 19 8 | 31 0 | 37 11 | 36 7 |
| — 10 | 41 0 | 34 7 | 19 4 | 31 5 | 37 0 | 36 4 |
| — 17 | 40 4 | 34 0 | 18 8 | 29 2 | 36 5 | 34 7 |
| Agg. Aver. | 42 8 | 34 11 | 20 1 | 31 1 | 38 2 | 36 3 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




NEWGATE.—Oct. 23.

Best Fresh Butter .. .. 15s. per dozen lbs.
Second do. do. .. .. 13s. ,,
Pork, 4s. 0d. to 4s. 6d. per 8 lbs.

BRITISH WOOLS.—LONDON, Oct. 23.

There is no new feature in our market to remark on. As is usual, previous to a series of Colonial Wool Sales, there is an attitude more of expectation than of action, and as many persons visit town at that time they frequently put off making their purchases until they know the result of the sales.

| | s. d. | | s. d. | | s. d. | | s. d. |
|---|---|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | 1 10 | to | 1 11 | Leicest. Wethers | 1 8 | to | 1 9 |
| Half-bred ditto.. | 1 10 | — | 1 11 | Ditto Hoggs .. | 1 9 | — | 1 10 |
| Down Ewes .. | 1 9 | — | 1 9½ | Combing Skins | 1 4 | — | 1 7 |
| Kent Fleeces .. | 1 10 | — | 1 10½ | Flannel Wool .. | 1 6 | — | 1 9 |
| | | | | Blanket ditto .. | 1 0 | — | 1 1 |

REQUIRED, as OVERSEERS on Sugar Estates in the Island of Trinidad, several Young Men of the ages of 20 to 25 years. Young Men who have been educated at any of the Agricultural Colleges, or Sons of Farmers who have a good knowledge of Practical Farming and the care of Stock, will be preferred.—For all particulars apply to Messrs. WM. BURNLEY HUME & Co., 8, Finch Lane, Cornhill.

WANTED, as NURSERYMAN FOREMAN'S ASSISTANT, a Young Man to assist in the selecting of Plants for Orders, and to make himself useful in the general routine of a Nursery business. One who has been employed in the Counting House of a Provincial Nursery will be preferred. Every encouragement will be given to a young man desirous of rising in his profession.—Apply personally or by letter to Mr. JAMES VEITCH, Royal Exotic Nursery, King's Road, Chelsea.

WANTED, a thoroughly practical GARDENER, to undertake the Management of a Garden, and a Cow, with assistance. One who has had the care of a Garden to himself preferred; or one who has been Under Gardener, where only two or three were kept.—Apply, for address, to Mr. FAY, Oilman and Grocer, Church Street, Stoke Newington.

WANTED, a GARDENER and his Wife, of about 30 to 35 years of age, with no incumbrance. Good character. Wife to do the Laundry. A Lodge, and liberal wages.—Apply by letter to A. B., Post Office, Hertford.

COOK.—WANTED, in Hampshire, a person who can attend to a Dairy of four Cows, make Butter, Bake, and look after the Poultry.—Replies, stating age, wages expected, and length of service in last place, to be addressed to E., *Gardeners' Chronicle* Office, W.C.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 30; thoroughly understands his profession in all its branches. Four and a-half years' good character.—H. R., Post Office, Neatishead, Norfolk.

GARDENER (HEAD).—Age 36, married, without incumbrance; has a thorough practical knowledge of his profession. Two and a half years' excellent character.—G. R., Mr. Young's, The Gardens, West Hill House, Highgate, N.

GARDENER (HEAD).—Age 38, married; is a good Grower of Pines, Grapes, Peaches, Stove and Greenhouse Plants; an excellent Flower and Kitchen Gardener. Five years' good character.—J. VERNON, Mr. Veitch, Exotic Nursery, King's Road, Chelsea, S.W.

GARDENER (HEAD).—Age 42, married, no incumbrance; thoroughly understands his profession in all its branches. Good character from present and late employer if required.—W. B., Lester Cottage, St. Ann Lane, Wandsworth.

GARDENER (HEAD).—Age 33; a well-known, thoroughly energetic, and confidential Man; can produce the highest testimonials from several eminent Horticulturists for efficiency. Unexceptionable character from his present employer. No place accepted but what is required to be kept up in good order.—W. C., Post Office, Balham, S.

GARDENER (HEAD).—Age 30, married; understands his profession in all its branches; Stove and Greenhouse Plants, Early and Late Forcing, Flower and Kitchen Gardens; can undertake the Management of Land and Stock if required. Four years' good character.—D. A., Mr. Dancer, Nursery, Fulham, S.W.

To Noblemen and Gentlemen.

GARDENER (HEAD).—Age 43, married, with one child; has lived for ten years with a gentleman of high reputation in the Botanical and Horticultural world, by whom an unexceptionable character will be given for integrity, industry and general knowledge of his business. Well understands Forcing and Plant Growing in all departments.—A. Z., Mr. East, 20, Lavender Villas, Lavender Road, Battersea, S.W.

GARDENER (HEAD), or GARDENER and BAILIFF.—Twenty years' experience; good Judge of Stock, and first-class Fruit and Plant Grower. Understands Woods and Plantations. Good character.—J. D., Post Office, Acton, Middlesex, W.

GARDENER (HEAD, or SINGLE-HANDED).—Age 30; understands the general routine of Flower and Kitchen Garden; also Grapes, Cucumbers, &c. Good character from last and previous situations.—A. B., Mr. Turner, Ham, near Richmond, Surrey, S.W.

GARDENER (SINGLE-HANDED). — Age 21; has lived six years at Hewell, under Mr. Markham; a good workman, and possesses a good knowledge of Out-door work. Could manage a Small Greenhouse.—D. F., Post Office, Tardebigge, near Bromsgrove.

GARDENER or BAILIFF (where two or more are kept).—Age 34; understands his duties. Has been 5 years in his present situation. Can have a good character. Leaving because the family is going abroad.—E. B., Post Office, Canterbury.

GARDENER (UNDER).—Age 22; active and industrious. A few years' experience in a large establishment. Good character.—A. B., 5, Vincent Terrace, Islington, N.

GARDENER (UNDER).—Age 19; three years' experience. Can Milk. Good character.—F. J., Friends Cottages, Muswell Hill, N.

FORESTER.—Young, strong, and active; understands Planting, Pruning, Felling, Measurement and Sale of Timber. Good reference.—B. A., Post Office, Burton, Burton-on-Trent.

FARM BAILIFF.—Married, without incumbrance; understands Stock, and can make himself generally useful. Seven years' character.—J. T., Manor Farm, East Ham, Essex.

FARM BAILIFF.—Married, no incumbrance; understands the Buying, Selling, Fatting, and Rearing of Stock and General Farm Management. Wife to Manage Dairy and Poultry. Good reference.—E. A., Ackland's Library, Lymington, Hants.

BAILIFF (WORKING).—Age 32, married, three children; has been Foreman on an extensive farm in Essex for the last five years. Can be well recommended for integrity and capability.—T. P., Post Office, Theydon Bois, Epping, N.E.

To the Seed or Nursery Trade.

TRAVELLER or CLERK.—Has represented one of the first London Houses. Unexceptionable references and immediate security.—E. L., *Gardeners' Chronicle* Office, W.C.

SHOPMAN.—Eleven years' experience; no objection to assist in Counting House.—Z. Y., corner of Nine Elms Lane, Wandsworth Road, S.W.

SHOPMAN.—Young; has been for the last four years in a first-class Seed Establishment. He is open to engagement.—E. M., *Gardeners' Chronicle* Office, W.C.

To the Seed Trade.

SHOPMAN, or ASSISTANT.—Age 25; has had 10 years' experience. Can give good references.—A. B., Post Office, Canonbie, Dumfriesshire.

To the Seed Trade.

SHOPMAN (UNDER).—Age 19; has had 5 years' experience in a Country House. Good references.—A. B., Messrs. Tucker Brothers, Seedsmen, Abergavenny.

THRESHER'S COLORED FLANNEL SHIRTS.—PRIZE MEDAL awarded to THRESHER & GLENNY for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.
Lists of Prices on application to THRESHER & GLENNY, General Outfitters, next door to Somerset House, Strand, W.C.

PRICE'S CHILD'S NIGHT LIGHTS are perfectly safe, and burn their time. The quality of these Night Lights can now be relied on.

SHERWOOD BED LIGHTS, Sixpence and Eighteenpence a box.—These candles are made to supply a want very generally expressed, a cheap, really good Chamber Candle. They will be found inferior only to "PRICE'S CANDLES, WHICH WILL NOT DROP GREASE WHEN CARRIED," which are sold in boxes, 1s. and 3s. each.

GLYCERINE, which very simple tests show to be impure, is being sold on the statement that it is in every respect equal to Price's." Most medical men prescribe "PRICE'S GLYCERINE." Where purity is of importance patients can ensure it by desiring to have their Glycerine in 1 lb., 8 oz., 4 oz., or 2 oz. bottles, with capsule over the stopper marked "Price's Patent."
Belmont, Vauxhall.

METCALFE, BINGLEY, AND CO'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. METCALFE'S celebrated Alkaline Tooth Powder, 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each. 130 B, and 131, Oxford Street, W.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE-PROOF STRONG ROOM DOORS, CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
CHUBB & SON, 57, St. Paul's Churchyard, London, E.C.

FENDERS, STOVES, FIRE-IRONS, and CHIMNEY PIECES.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW-ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3l. 15s. to 33l. 10s.; Bronzed Fenders, with standards, 7s. to 5l. 12s.; Steel Fenders, 3l. 8s. to 11l.; ditto, with rich ormolu ornaments, from 3l. 8s. to 18l.; Chimney-pieces, from 1l. 8s. to 100l.; Fire Irons, from 2s. 3d. the set to 4l. 4s. The BURTON and all other PATENT STOVES, with radiating hearth-plates.

BEDSTEADS, BATHS, and LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS, devoted exclusively to the SEPARATE DISPLAY of LAMPS, BATHS, and METALLIC BEDSTEADS. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

Bedsteads, from .. .. 12s. 6d. to £20 0s. each
Shower Baths, from .. 8 0 to 6 0 ,,
Lamps (Moderateur), from 6 0 to 8 10 ,,
(All other kinds at the same rate).
Pure Colza Oil .. .. .. 4s. 3d. per gallon.

CUTLERY, WARRANTED.—The most varied assortment of TABLE CUTLERY in the world, all warranted, is on sale at WILLIAM S. BURTON'S, at prices that are remunerative only because of the largeness of the sales.

| Ivory Handles. | Table Knives, per dozen. | Dessert Knives, per dozen. | Carvers, per pair. |
|---|---|---|---|
| 3½-inch ivory handles.. .. .. .. | 12s. 6d | 10s. 0d | [illegible] |
| 3½-inch fine ivory handles .. .. .. | 15 0 | 11 6 | [illegible] |
| 4-inch ivory balance handles .. .. | 18 0 | 14 0 | 4 9 |
| 4-inch fine ivory handles .. .. .. | 24 0 | 18 0 | 7 3 |
| 4-inch finest African ivory handles .. | 32 0 | 26 0 | 11 0 |
| Ditto, with silver ferules .. .. .. | 40 0 | 33 0 | 12 6 |
| Ditto, carved handles, silver ferules .. | 50 0 | 43 0 | 17 6 |
| Nickel electro-silver handles, any pattern | 25 0 | 19 0 | 7 6 |
| Silver handles of any pattern .. .. | 64 0 | 54 0 | 21 0 |
| Bone and Horn Handles.—Knives and Forks per dozen. | | | |
| White bone handles .. .. .. .. | 11s. 0d | 8s. 6d | 2s. 6d |
| Ditto balance handles .. .. .. | 21 0 | 17 0 | 4 6 |
| Black horn, rimmed shoulders .. .. | 17 0 | 14 0 | 4 0 |
| Ditto very strong riveted handles .. .. | 12 0 | 9 0 | 3 0 |

The largest stock in existence of Plated Dessert Knives and Forks, in cases and otherwise, and of the new Plated Fish Carvers.

WILLIAM S. BURTON, GENERAL FURNISHING IRONMONGER by appointment to H.R.H. the Prince of Wales, sends a CATALOGUE gratis and post paid. It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro-Plate, Nickel Silver and Britannia Metal Goods, Dish-Covers, Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea-Trays, Urns and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Room Cabinet Furniture, &c., with Lists of Prices, and Plans of the 20 large Show Rooms, at 39 Oxford Street, W.; 1, 1A, 2, 3, and 4, Newman Street; 4, 5, and 6, Perry's Place; and 1 Newman Yard, London.

Sauce.—Lea and Perrins'

WORCESTERSHIRE SAUCE.—This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE,"
Is prepared solely by LEA & PERRINS.
The public are respectfully cautioned against worthless imitations, and should see that LEA & PERRINS' Names are on Wrapper, Label, Bottle, and Stopper.
ASK FOR LEA AND PERRINS' SAUCE.
*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. CROSSE & BLACKWELL; Messrs. BARCLAY & SONS, London, &c.; and by Grocers and Oilmen universally.

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for Acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild Aperient for delicate constitutions, more especially for ladies and children. It is prepared in a state of perfect purity and of uniform strength by DINNEFORD & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

KEATING'S PERSIAN INSECT DESTROYING POWDER.—Fleas in Dogs, Poultry, &c., are instantly destroyed, as also Bugs, Beetles, and every other Insect, by this Powder, which is perfectly harmless to animal life; Sportsmen particularly will therefore find it invaluable.
Sold in Packets, 1s., 2s. 6d., and 4s. 6d. each, or post free for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice, each genuine packet bears the above name and address.
For which a Prize Medal was awarded to the Producer at the International Exhibition, 1862.

CORNS and BUNIONS.—A gentleman, many years tormented with Corns, will be happy to afford others the information by which he obtained their entire removal in a short period, without pain or any kind of inconvenience.
Forward address, on a stamped envelope, to W. GOODALL, Esq., Epsom, Surrey, S.

CONSUMPTION.—All Nervous, Bilious, Liver and Stomach Complaints are only aggravated and accelerated by drugs of every description, but perfectly curable by DU BARRY'S health-restoring REVALENTA ARABICA FOOD, as proved by thousands of cases which had been considered hopeless. We quote a few.—Cure No. 46,270. Mr. James Roberts, of Frimley, Surrey, of 30 years' diseased lungs, spitting of blood, liver derangement, and partial deafness.—Cure No. 47,121. Miss Elizabeth Jacobs, of extreme nervousness, indigestion, gatherings, low spirits, and nervous fancies.—Cure No. 54,816. The Rev. James T. Campbell, Fakenham, Norfolk, "of indigestion and torpidity of the liver, which had resisted all medical treatment."—In tins 1 lb., 2s. 9d.; 2 lb., 4s. 6d.; 5 lb., 11s.; 12 lb., 22s.; 24 lb., 40s.
BARRY DU BARRY & Co., No. 77, Regent Street, London, W.; also at 61, Gracechurch Street, E.C.; 4, Cheapside, E.C.; 63 and 150, Oxford Street, W.; and all Grocers and Chemists in every town of the United Kingdom.

was liberated. Eight insurgents only were deprived of their arms. The Austrian troops have since stopped and arrested several hundred insurgents with waggons, conveying munitions of war, and with horses, forming reinforcements for Wierzbicki's corps. Another insurgent band, on the contrary, succeeded in penetrating into Russian Poland.

THE CAUCASUS.—The *Moniteur* in its bulletin of Sunday states that the movement in the Caucasus appears to be of a serious character. A certain number of the tribes had joined the Circassian mountaineers.

ITALY.—It is believed that in the early part of November the King will be present at the inauguration of the railway to Foggia, and will subsequently hold a review of the fleet at Naples. It is asserted that the Italian Parliament will be convoked after the 15th of next month. The Russian Consuls in Italy have published a circular, requesting all Poles residing in Italy to return to their country as soon as the term for which their passports are granted expires, under penalty of their property being confiscated. The Duchess of Leuchtenberg is expected at Turin on a visit to the King. Signor Minghetti left on Monday for Bologna, in order to visit General Cialdini, who is seriously ill.

IONIAN ISLANDS.—The Ionian Parliament has resolved by a note of 33 to 3 that the protectorate of England over the Ionian Islands shall cease immediately, the Senate be dissolved, and the Ionian Islands forthwith be annexed to Greece. The Parliament has also discussed the draught of a message to the Lord High Commissioner. One paragraph of the address states that the fortresses should be handed over to King George in their present condition. This is considered as a protest against the scheme attributed to England for their destruction. Public rejoicings on account of the annexation continue.

GREECE.—The National Assembly has decided that only a few men from each division of the army shall be present in Athens at the reception of the King. A report being current that the soldiers would come to Athens without permission, the English Minister requested the British Admiral to inspect the barracks in the capital and its environs, to select places for quartering troops in case of their disembarkation. The National Government has resolved that the King shall sanction its resolutions, and subsequently sign the constitution to be drawn up. Several accidents occurred in Athens on the occasion of the *fêtes* given to celebrate the annexation of the Ionian Islands. The arrival of the new King is eagerly expected.

TURKEY.—The *Journal de St. Petersbourg* contradicts the rumour current last week that the Russian Minister at Constantinople had declared to the Porte that the recognition of the Poles as belligerents by Turkey would be considered by Russia as a declaration of war between the two countries. It has since been reported that the Poles have offered to Turkey an alliance, offensive and defensive, to re-conquer for the Sultans all that they have lost in their various wars with the Czars. It is said that Russia, fearing these proposals may be accepted, is preparing to transform the town of Kertch into a place of war of the first class, to convert the Sea of Azoff into an arsenal and harbour for an armed fleet, and to construct 12 gunboats and 11 plated batteries for service in the Black Sea. The latest news states that the Emperor Alexander, with the Grand Dukes Constantine and Michael, has gone to Kertch, in order to inspect the new fortifications, in company with General Todtleben.

CAPE OF GOOD HOPE.—Accounts from the Cape to the 20th ult. state that the Governor, having declined acceding to the prayer of the Cape Town memorial, that he would reconsider his decision to convene the next Parliament at Grahamstown, a second meeting had been held, at which it was resolved to petition her Majesty to direct that the next session of Parliament be held in Cape Town. This petition, largely signed, has been brought home by this mail for presentation. On the other hand, in the eastern province, addresses expressive of confidence in the Governor, and approving his policy, were adopted. The Cape Town people allege that his Excellency has been frightened into this measure by the Easterns threatening to obstruct his Government, while the Easterns declare such a measure absolutely necessary from the vast increase of the colony eastward. Both parties exhibit strong feeling on the question. The elections for the House of Assembly will take place in November. Parliament has been further prorogued to December 21. The Alabama, Georgia, and Tuscaloosa continue cruising on the coast. The Federal war steamer Vanderbilt has arrived at the Cape in pursuit of them. Captain Semmes has sold his prize, the Sea Bride, and the wool taken in the Tuscaloosa, *alias* Conrad, but had not made any further captures. The Alabama was in Simon's Bay repairing when the packet left.

INDIA.—The Governor-General was to leave Simla about the 26th of September for Sealkote, where he will be joined by his camp. After holding a Durbar, and having a special interview with the Maharajah of Cashmere, his lordship will proceed to Peshawur, where he will be joined by the Commander-in-Chief. Orders have been issued to stop all leave of absence to officers of corps stationed in the Punjab for the present, owing to the disaffected state of the frontier. Central Asia continues in a very disturbed state. It is stated that the Ameer Shere Allee Khan has gone to the fort of his brother Auzim Khan, at the request of the latter, to discuss with him the terms of peace. If this be true, he will probably never leave it again alive. The prisoner supposed to be Nana Sahib turns out to be a high priest of the Mahrattas, who is waiting the final orders of Government for his disposal. He subsists entirely on milk, refusing every other kind of food. The Rev. S. Hislop, of Nagpore, missionary of the Free Church of Scotland, was drowned, near Nagpore, on the evening of the 4th of September. He possessed great influence with the natives of Central India. At Ellichpoor Captain George Hare has been shot dead in the mess house. At the same place Mrs. Macquoid, wife of Captain Macquoid, of the 5th Infantry Hyderabad Contingent, was severely wounded with a sword by a discharged domestic, who, while making his escape, was killed by the officers. Mrs. Macquoid is doing well. The East Indian Railway will be open to the public from Delhi to Calcutta on the 1st of February next at the latest, with the exception of crossing the Jumna at Allahabad.

JAPAN.—News has been received at Shanghae of the arrival of Admiral Kuper, with the fleet, at Kagosima on the 15th August. Negociations having failed, the admiral ordered the fleet to take up its position opposite Kagosima, and prepare for action. Two shore batteries opened fire on the fleet, which returned it. By dusk the town was in flames in several places. Three forts were silenced. Our loss consisted of 11 killed and 39 wounded. Captain Josling of the Euryalus, and Captain Wilmot were killed by the same shot. At 9 p.m. the whole town was in flames. On the following day the fleet stood out, engaging the whole of the batteries. The city was one mass of ruins—palace, factories, arsenal, &c. Three steamers of Prince Satsuma were completely destroyed. The shore batteries are reported to have been well served.

NEW ZEALAND.—By the Overland Mail we learn that her Majesty's troopship Himalaya was expected to take her Majesty's 50th and 68th Ragiments to New Zealand. The former regiment will embark at Ceylon, the latter at Rangoon. The I battery 4th brigade Royal Artillery, in command of Lieut.-Col. Barstow having gone through a course of practice at the school of gunnery at Shoeburyness, will leave Woolwich for New Zealand on the 7th November.

UNITED STATES.—Federal accounts from the Army of the Cumberland confirm the Confederate report that General Bragg shelled the position of General Rosencrans for several hours on the 6th inst., but assert that not a man was injured. Look-out Mountain, upon which the Confederate batteries are posted, is but two miles distant from Chattanooga, 1800 feet higher, and is considered a key to that position. Federal accounts from Nashville on the 7th and 8th, state that skirmishing was of constant occurrence, and that another general engagement was considered imminent. Communication between General Rosencrans and his base at Nashville is still interrupted, and reports had been received at Nashville that Shelbyville, with the 15,000 Federal troops there, had been captured by the Confederates. M'Minniville had previously been captured with 500 prisoners and seven waggons. Another account says that the Confederate cavalry has been overtaken below Shelbyville and completely routed, with a loss of 100 killed, and that the Federals are in pursuit. It is said that General Bragg has been heavily reinforced from Richmond and elsewhere, and that his forces now number at least 175,000 men. It is also represented that 55,000 troops, under the command of General Joe Johnstone, are held as reserves. A portion of the Confederate cavalry has moved towards Kentucky to harass General Burnside's lines. Exchanges of wounded prisoners have been made under flags of truce, and the number of Federal wounded now accumulated at Chattanooga is so great that the city is described as an hospital. The responsibility of Gen. Burnside's failure to reinforce Gen. Rosencrans earlier is now attributed to General Halleck, who, it is asserted, only issued the orders for Burnside's advance when it was too late. Despatches from head-quarters of the Army of the Potomac of the 8th inst. state that during the previous 24 hours there had been many indications of another advance of General Lee with a powerful army. General Lee has effected an important flank movement on Meade's right. General Hill's corps has passed from the left to the right of Meade's front at Blue Ridge Mountain, apparently to get on Meade's right and cut the railroad communication, or else as a ruse to cover an attack upon his front; and a strong Confederate force is concentrating in the vicinity of Madison Court-house. A Federal cavalry brigade encountered Stuart's cavalry, while reconnoitering the Confederate position near Robertson's River. An engagement ensued. The Federals, being repulsed, retired to Culpepper. Serious apprehensions exist in Leavenworth of a Confederate invasion of Kansas. On the 8th the Confederates were reported to be advancing on Fort Scott and Kansas city. All the Government troops in Leavenworth had been ordered forward, and the State Militia called out, to repel the invader. The whole of General Blunt's Staff and body-guard, and the entire Federal command stationed at Baxter Springs, in Kansas, have been captured by the Confederates, and it was considered highly probable that General Blunt himself was made a prisoner. Uncertain reports have been received of a defeat of the Federals above Port Hudson, with a loss of 1500 prisoners Accounts from New Orleans report that the Federals under Generals Franklin and Weitzel had been repulsed in an attack upon the Confederates at Brashear City. The same accounts add that the Federals were subsequently reinforced and had defeated the Confederates. No dates or particulars are given, and the report is not confirmed by subsequent advices. An expedition of land and naval forces sent out by General Foster from Fortress Monroe, on the 4th inst., to some point in North Carolina, had not been heard from up to the 6th inst. General Banks has ordered the conscription in Louisiana. Negroes on the plantations will be detailed for service. Governor Brown, of Georgia, who is a Secession upholder, is reported to be re-elected. Twelve Federal steamboats, of the aggregate value of 500,000 dollars, have been burnt at different points on the Mississippi within the two past months. It is believed the perpetrators are connected with the conspiracy recently reported to have been discovered for the destruction of all the Government transports on the western rivers. The Navy Department are in receipt of official advices from Charleston to the 3d inst. but have suppressed their publication. Confederate accounts from Charleston state that on the 6th an attack was made upon the Federal fleet, in which the frigate Ironsides was considerably damaged, and the other vessels of the fleet greatly alarmed for their safety. It is not stated what constituted the attacking force, but, from the fact that three of the crew of the Confederate gunboat Chicora are reported missing, it is presumed that it consisted of Confederate ironclads. A combined land and naval attack on Charleston was to take place on the 11th. President Lincoln has appointed the 26th of November as a day of thanksgiving for Americans at home, at sea, and abroad. The *New York Herald* asserts that peace propositions have been discussed in the Federal Cabinet. The nature of them is unknown. Late despatches from San Francisco announce that a fleet of Russian war vessels was expected off the coast of California some time during the present month. The Russian admiral has accepted an invitation to visit Boston with the squadron. The foreign Ministers at Washington, the consuls at New York, and the French and British officers in the harbour are to be invited to the municipal banquet to the Russians. A portion of the Committee appointed to arrange the ball to be given to the Russians are opposed to inviting the French and English officers. The question is not yet decided. The recent news from Europe, which states that the Emperor of the French will immediately recognise the Southern Confederacy, and that an alliance between France, Mexico, the Confederacy, and probably Great Britain, will be established, though not universally believed, is the cause of considerable disquietude in political and financial circles. The *Richmond Inquirer* expresses the gratification of the Confederates at having the French for their neighbours in Mexico, and says that the South would willingly make an alliance with France to protect French and Southern interests in America. The *Richmond Examiner* denounces all peace propositions. The New York *Evening Post* urges the Government to demand from England an explanation of the conduct of the Cape Town authorities respecting the Alabama. If an explanation is not rendered it calls upon the Government at once to redress its wrongs. The papers describe a confederation of Irishmen, under the name of "Finnian Brotherhood," who, when peace is restored to the American continent, are to come over and conquer Ireland for the Irish, and then march upon London. The society has Generals Meagher and Corcoran at its head, and is said to number more than a million persons.

MEXICO.—Advices from Vera Cruz to the 18th September state that the Archbishop of Mexico had arrived, and had met with a magnificent reception. The national *fête* of the 16th was of a brilliant character. The blockade of all hostile Mexican ports has been effective since the 8th of the month. Accounts from the interior state that a numerous party exists favourable to the annexation, pure and simple, of Mexico to France.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 93$\frac{3}{8}$ to 93 for Money, and 93$\frac{1}{4}$ for Account; Three per Cents. Reduced, 91$\frac{1}{2}$ to $\frac{5}{8}$; New Three per Cents., 91$\frac{5}{8}$ to $\frac{1}{2}$; Five per Cents., 1873, 107$\frac{1}{2}$; Red Sea Telegraph, 21; Bank Stock, 236; India Five per Cent. Stock, 109$\frac{1}{4}$ to $\frac{3}{8}$; Ditto ex per Cent., 100$\frac{7}{8}$; Ditto Four per Cent. Debentures, 1864, 99$\frac{7}{8}$; Ditto 1864 or 1866, 100$\frac{3}{4}$; Exchequer Bills, 2*s.* pm. to 1*s.* dis.—FOREIGN: Brazilian, 1852, '58, '60, 91$\frac{1}{4}$; Danish, 1863, 88$\frac{3}{4}$; Equador New Consolidated, 14$\frac{1}{2}$; Egyptian, 100$\frac{5}{8}$ to 101; French Four and a Half per Cent. Rentes, 95fr.; Greek, for Acct., 30$\frac{3}{4}$ to 31$\frac{1}{4}$; Ditto Coupons, for Acct., 14$\frac{7}{8}$ to $\frac{3}{4}$; Italian, for Acct., 72$\frac{5}{8}$; Ditto Maremmana Railway, 81$\frac{1}{4}$; Mexican, for Acct., 42$\frac{1}{2}$ to $\frac{3}{4}$; Moorish, 95; New Granada Two per Cents., 33; Peruvian, 1862, for Acct., 87$\frac{5}{8}$; Portuguese, 1856, '57, '59, '60, and 1862, for Acct., 49$\frac{3}{4}$ to 49; Russian, 1822, 94; Ditto 1862, 93 to $\frac{1}{4}$; Spanish Passive, for Acct., 36 to 35$\frac{3}{4}$; Turkish, 1858, for Acct., 70$\frac{1}{4}$ to $\frac{1}{2}$; Ditto, 1862, for Acct., 71$\frac{7}{8}$ to $\frac{1}{8}$; Ditto 1863, 2$\frac{1}{2}$ dis.; Venezuela, for Acct., 25$\frac{3}{4}$; Ditto 1862, for Acct., 61$\frac{3}{4}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued.. .. .. | £28,577,245 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,927,245 |
| | | Silver Bullion .. .. .. | — |
| | £28,577,245 | | £28,577,245 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £10,945,363 |
| Rest .. .. .. .. .. .. | 3,140,525 | Other Securities .. .. | 19,986,456 |
| Public Deposits including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 4,437,835 | Notes .. .. .. .. .. .. | 6,499,880 |
| Other Deposits .. .. .. | 15,271,262 | Gold and Silver Coin .. | 718,024 |
| Seven days and other bills | 747,101 | | |
| | £38,149,723 | | £38,149,723 |

Oct. 22, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *October* 16.—BANKRUPTS.—W. ATKINSON, Birkenhead, Builder—G. A. AYLER, Brighton, Licensed Victualler—J. AYERS, Kidderminster, Victualler—J. W. BURD, Clarendon Street, Pimlico, Traveller—W. H. BURGOYNE, Frith Street, Soho, Licensed Victualler—J. BRACEWELL, New Accrington, Lancashire, Painter—C. BROWN, Whitechurch, Devonshire, late Farmer—C. M. BELLINGHAM, Newcastle upon Tyne, Licensed Victualler—G. A. BENZ, Bowling Green Lane, Clerkenwell, Tobacconist—J. BERRY, Little Bolton, Lancashire, Warper—W. BARKER, Checkley, Staffordshire—R. BROWNE, Leeds, Clerk—J. BARNETT, jun., Lowe, Warwickshire, Butcher—H. BANKS, Portland Place, Cambridge Road, Bethnal Green, Carpenter—P. J. CHANDLER, Wells Street, Oxford Street, Licensed Victualler—C. CHAPMAN, Stoke, Kent, Farmer—H. J. CUMBERLAND, Bonner's Road, Victoria Park, General Merchant—G. CAPES, Burton upon Trent, Brewers' Engineer—B. CROOKE, Clayton House, Turnham Green, Grocer—C. CHITTY, Dorking, Surrey, Butcher—T. CHARNOCK, Seaforth, Lancashire, Slater and Plasterer—G. H. CHILD, Liverpool St., Bishopsgate St. Within, Commission Agent—G. DENSZA, Abbey Hey, Gorton, Trader—J. DAVIES, Blaengrafen, Pembrokeshire, Medical Practitioner—F. C. FORD, Torpoint, Cornwall, Engineer—T. FLETCHER, Overton, Shropsh., Farmer—H. GRIMSDALE, Ironmonger Street, St. Luke's, Greengrocer—H. GRIFFITH, Aberdaron, Carnarvonshire, Farmer—H. GLOVER, Hartlebury, Worcestershire, Victualler—G. GRIST, Morland Row, Hackney, Zinc Worker and Gas Fitter—H. HOLMES, Bowling, Yorkshire—J. HYLDEN, Brighton, Beer Retailer—W. HARRISON, Leicester, Market Gardener—H. J. HOPE, Alma Road, Blue Anchor Road, Bermondsey, Confectioner—E. HUNT, Poplar Cottages, Hornsey Road—B. HARRIS, Harrow Road, Clothier—T. HULME, Huxley, Cheshire, Miller—H. JACOBS, Cavendish Street, New North Road, Hoxton, Clerk—J. JONES, late of Birkenhead, Builder—D. JONES, Penrhyn, Breconshire, Farm Bailiff—R. JONES, Pentre-cech, Llanfairdyffrynclwyd, Denbighshire, Farmer—S. LEDWARD, Wolstanton, Staffordshire, Architect—J. LEA, Birmingham, Journeyman Pork Butcher—J. LOOKER, Latchford, Cheshire, Licensed Victualler—W. H. MALLARD, Plymouth, Master in the Navy on half pay—W. MARLOW, Nuneaton, Warwickshire, Carter—F. MANN, Swan Lane, Upper Thames Street, City Police Constable—W. MOUNSEY, Glasshouse Buildings, Minories, Commission Agent—J. MELLOR, Liverpool, Licensed Victualler—C. MEREDITH, Pontypool, Monmouthshire, Licensed Victualler—WILLIAM M'DOWALL, Bradford, Yorkshire, Commercial Traveller—ALBERT NASH, Quadrant Grove, Kentish Town, Bricklayer—AUGUSTUS OPPENHEIM, Leadenhall Street, Merchant—W. M. PHILLIPS, Bridgend, Glamorganshire, Maltster—R. PETERS, Penge, Surrey, Manufacturer of Fencing—H. RICKET, Crawford Place, Farringdon Road, Clerkenwell, Licensed Victualler—J. RODDER, Weston-super-Mare, Somersetshire, Baker—R. STEPHENS, Shrewsbury, Boot and Shoe Manufacturer—F. S. STEELE, Swanage, Dorsetshire, out of Business—J. SURMAN, Worcester, Butcher—R. O. SARGENT, Redcross St., Barbican, Journeyman Shoemaker—D. SHARP and J. SHARP, Leeds, late Rag Grinders—C. THORP, Long Acre, Trainer of Horses—W. TREVENA, Gnewnnap, Cornwall, Miner—AMABLE J. F. VIAL (sued as ARDOIN VIAL), Norfolk Street, Islington, Agent for the Sale of Wines and Spirits—J. WEIGHTMAN, Hayton, Cumberland, Miller—J. W. WHITFIELD, Newchurch, Isle of Wight, Gasfitter—H. WATKIN, Clipston, Northamptonshire, Wheelwright—G. WILDERMUTH, Commercial Place, Bermondsey, Baker—M. WELSH (also known as J. M. WELSH), Upper Winchester Street, King's Cross, Cab-driver—W. WINN, Thornley Colliery, county of Durham, Miner—J. WALLACE, Stanwix, Cumberland, Innkeeper—W. W. WOOD, Russell Street, Brixton, Commercial Traveller—A. B. WILSON, Cockermouth, Hat Manufacturer—G. WILKINSON, Bromley Terrace, Bromley, Engineer—R. T. WALLACE, White Horse Street, Stepney—E. A. WRIGHT, Birmingham, Draper.

SCOTCH SEQUESTRATIONS.—H. MILLER, Rutherglen, Lanarkshire, Grocer—W. MILLER, Glasgow, Engineer.

TUESDAY, *Oct.* 20.—BANKRUPTS.—W. ALLIX, Grantham, Lincolnshire, Innkeeper—A. AZUELOS, Noble Street, City, Fancy Warehouseman—N. ALLPORT, Dudley, Worcestershire, Licensed Victualler—G. BROWN, Tetford, Lincolnshire, Shopkeeper—J. BROADHURST, Sheffield, Journeyman Case Maker—W. BAGSHAW, Sheffield, Yorkshire, Butcher—A. BRIGGS, Winkfield, Berkshire, Grocer—T. COOK, late of Weston-super-Mare, Somersetshire, Builder—J. CLEE, sen., Dudley, Worcestershire, Currier's Assistant—F. CRAFFER, Halifax, Yorkshire, Manufacturer of Damasks—B. CASSELL, Commercial Street, Whitechapel, late Capmaker—J. A. COFFEY, Providence Row, Finsbury, Engineer—JAMES COUTTS, Plumstead, Baptist Minister—WILLIAM DIXON, Lowestoft, Suffolk, Smack Owner—HENRY DARNLEY, Cleckheaton, Yorkshire, Commission Agent—HENRY DAVIES, Liverpool, Iron Merchant—ROBERT DORTHWAITE, Tollerton, Yorkshire, Cattle Dealer—GEORGE DAVIDSON, Great Salkeld, Cumberland, Agricultural Labourer—J. DARBYSHIRE, Barker Pool, Sheffield, Optician—F. EYESON, Barnsley, Yorkshire, Joiner—T. EMBERTON, Tunstall, Staffordshire, Coal Master—H. EWENS, Marion Square, Hackney Road, Dealer in Firewood on Commission—W. ESAM, Portland Terrace, Schoolmaster—J. GRIFFITHS, sen., Condover, Shropshire, Farmer—ROBERT HUGGINS, sen., Church Street, Shoreditch, Fish Factor—J. HOMER, Kingswinford, Staffordshire, Scrivener—J. HUGHES, Liverpool, Joiner—E. HIRST, Marsden, Yorkshire, Woollen Manufacturer—W. HORSWILL, Diptford, Devonshire, Boot and Shoemaker—T. HUDDLESTON, Gwastaed, Denbighshire, Book-keeper—W. HOOKER, Liverpool—D. JEREMY, Ystragynlais, Breconshire, Draper—H. JOHNSON, St. George Street, St. George-in-the East, Retailer of Beer—J. KING, jun., Woodford, Essex, late Farmer—E. KAY, Blackfriars Road, Schoolmistress—E. M. KIRMAN, Flottergate, Lincolnshire, Boot and Shoemaker—M. H. LEVINE, Norwich, Jeweller—M. LADD, Wells St., Oxford Street, late Baker—E. C. MASTERTON, Clyde Terrace, Peckham, Collector of Debts—J. MARSHALL, Bristol, Butcher—W. MOUNSEY, Glasshouse Building, Minories, Commission Agent—WILLIAM NORRIS, Chatteris, Cambridgeshire, General Shopkeeper—ELIZABETH PHILLIPS, Bath, Somersetshire, Grocer—CHARLES ADAMS REVITT, Sheffield, Publican—MARY STILLBORN, Yapham, Yorkshire, Housekeeper—J. SPINCER, Corfe Castle, Dorsetshire, Coal Merchant—W. SURMAN, Clifton-on-Teme, Staffordshire, Butcher—J. STEVENS, Upper Wawensmere, Warwickshire, Farmer—JOHN SHAMBROOK, Bishop's Hatfield, Hertfordshire, Grocer—W. TURNER, Reading, Berkshire, Manure Manufacturer—J. H. TAYLOR, Liverpool, Smallware Dealer—E. TOTHAM, Bradford, Yorkshire, Fruiterer—J. TOMSCHITZ, Liverpool, Commission and Forwarding Agent—E. UPTON, Liverpool, Eating House Keeper—G. WYNNE, Llandudno, Carnarvonshire, Beer House Keeper—H. WARBURST, Sheffield, Yorkshire, Beerseller—W. H. WILLISON, High Street, Kensington, Chemist and Druggist—T. WILKINSON, Millholme, Yorkshire, Cotton Spinner—W. H. WILLSON, Milton next Sittingbourne, Kent, Coal Merchant—W. WOOLLARD, Well Street, Gray's Inn Road, Clothier.

SCOTCH SEQUESTRATIONS.—J. DUNLOP, Whiteinch, near Glasgow, Joiner—D. DUNCAN, Rothesay, Innkeeper—P. HAY and W. BEVERLEY, Aberdeen, Merchants—A. LOW, Alyth, Grocer and Tea Dealer.

## Metropolis and its Vicinity.

SOCIETY OF ARTS.—At a meeting of this Society on Thursday the bye-laws were suspended, in order that the Prince of Wales might be elected, first a member, and then the President of the Society, in the room of the late Mr. Tooke, who succeeded the Prince Consort. Mr. Hawes, in moving that the bye-laws be suspended for this purpose, stated that some negociations had taken place with the Prince on the subject, and read his Royal Highness's reply to an address, in which, while stating that it was not without diffidence that he ventured to undertake the duties, he added that it was the Queen's wish that he should accept the situation his father had so long held, in order that he might carry out the great and beneficent objects the Prince Consort had so much at heart. The motion was carried by acclamation.

MR. WARD BEECHER ON THE AMERICAN QUESTION.—On Tuesday evening the Rev. H. Ward Beecher of New York, addressed a crowded meeting at Exeter Hall, on the American question, under the joint auspices of the Emancipation Society and the London Corresponding Society on American Affairs. Soon after 6 o'clock the body of the Hall and the galleries were filled to their utmost capacity, and outside in the Strand and Burleigh Street a crowd sufficient to have filled the Hall over and over again knocked vainly at the doors. So thick was the crowd, that Mr. Beecher himself only obtained an entrance by mounting on the shoulders of a strong posse of policemen, who carried him through in safety. Mr. B. Scott, the City Chamberlain, took the chair, and was supported on the platform by the principal members of the two societies, consisting chiefly of Dissenting ministers. Mr. Beecher, in a speech of two hours, claimed the sympathies of Englishmen for the cause of the North, on the broad ground that the war, as the North conducted it, was hostile to slavery, and would eventually extinguish it. There was a good deal of diversity of opinion manifested, but, upon the whole, he was heard very patiently during the whole of his address. The following are extracts:—

"As this is my last public speech on the American question in England I may be permitted to glance at my previous history here. At Manchester I attempted to give a history of the external political movements for 50 years past, so far as was necessary to illustrate the conflict which has broken out in America. At Glasgow I undertook to show the condition of labour necessitated by the unprofitable system of slavery, to show that it brings labour to contempt and fixes on it the badge of degradation; that the struggle across the American Continent interests every free working man in the world, for I sincerely believe that the Southern cause is the natural enemy of free labour and the labourer all the world over. In Edinburgh I endeavoured to sketch how out of separate colonies and States there grew up an established nation, and how in that nation of United States two distinct systems of development were formed, and strove for the possession of the Government and the control of the national policy, and how, when the North gained control, the South abandoned the Union, simply and only because the Government was henceforth to be administered by men who would conduct it for the interests of freedom. In Liverpool I laboured to show that slavery in the long run was hostile to commerce and manufactures all the world over, and to every other interest in human society; that a slave nation must be a poor customer, buying the fewest and the cheapest goods at the least profit; that the interest of every manufacturing nation is to promote freedom and intelligence and wealth among all nations; that this attempt to cover the fairest portion of the earth with a slave population that buys nothing, and a degraded white population that buys next to nothing, is contrary to all political economy, and must breed a vital want of commerce, not want of cotton, but want of customers. I have endeavoured to enlist against this flagitious wickedness the judgment, the conscience, and the interests of the British people. I ask you to-night to look at this struggle from an American point of view in its moral aspects. The history of slavery in America showed that for the last 50 years it had been the policy of the South, steadily pursued, so to control the territories, and so to control the Government, as to establish slave influence throughout North America. The North hated slavery, but the different States came together with this doctrine, that each State, in respect to the interest and institutions local and peculiar to it, was to have undivided sovereignty, but that all other questions—such as taxes, wars, treaties of peace, which belong to all—went into the general Government. The general Government had no more power than was delegated to it, and the power to meddle with the interior and domestic economy of a State was never given to it. We had no power to touch slavery while slavery remained a constitutional institution, but when it lifted itself up from its state of humility and attempted to become a national policy it became a national enemy, and no longer had a national exemption. But it is said, after all, the President issued his proclamation for political effect, and not for humanity. Why, the right to issue the proclamation was political, but the disposition to do it was not. We could not touch slavery in time of peace, because it was a local institution. How do we do it now? Because in time of war it is shifted out of its sphere—it is no longer a local institution, but a national and public enemy. But it is said, 'Why not let the South go?' Since they will not be at peace, why do you not allow them to separate from you?' Oh! if the Southerners only would go! but the fact is they are determined to stay. That is the trouble. We would gladly furnish them with a free passage if they would take their departure; but then we say, "that territory which you inhabit is ours, and we do not choose to have it wrested from us." The war in America was begun by the act of the South, who fired upon that old flag which has covered both the contending parties with glory and protection. The war commenced under circumstances which obliged the North to join issue in order to prevent actual humiliation and subjugation. The Southerners had in their hands the keys of the country. They had robbed our arsenals; they had made bankrupt our treasury; they had possession of the most important offices in the army and navy; they had the advantage of having long anticipated and prepared for the conflict. We, on the contrary, knew not whom to trust. Men pensioned by the Government had lived on the salaries paid them by that Government only to betray it. There was but one Judas in the disciple band. There were in our country a thousand; and for the North to lay down like a spaniel and to have given up the territory which we had been taught to regard as a sacred right and trust, without a blow, would have been to have marked her to all eternity as mean and craven beyond expression. In the second place, the honour and safety of the grand experiment of self-government by free institutions demanded that so flagitious a violation of the freedom of vote should not be suffered to pass with impunity; as that a minority when out-voted should be able to turn round and to say to the majority, 'If you do not give us our way we shall have recourse to war.' Would you Englishmen allow a minority to dictate to you after such a fashion? If it be right for a million of men in a State to secede when they please from the national Government, why should not half or quarter that number be justified in seceding likewise? And if it be right for States and counties to separate at their will, why should not towns and cities do the same thing? This doctrine of secession is a huge millstone, which grinds national life to powder. It is the doctrine of anarchy and national destruction clothed in soft phrases and periphrastic expressions. We know it; we have fought with that devil slavery, and understand it better than you do. But beyond this let me tell you that no people possessed of feelings of patriotism and honour would without a struggle give up an integral portion of their territory. Would you do so? I should like to ask Englishmen how they would like this experiment tried in the case of Kent, the county from which I derive my blood? I would like to ask him who bawls out in favour of Southern secession, what would be his feelings if he were to read some fine morning at his breakfast the intelligence that Kent had set up for itself as an independent kingdom on your southern coast? Would he think the step justifiable? If not, why should he seek to apply to us a different principle, seeing that the course which we took was rendered necessary for the maintenance of national territory, of national civilisation, and national laws, and that over and above these political considerations, the Mississippi, which is our Southern door to go in and out, was only to be open for our use owing to the magnanimous pleasure of the seceding States? We could not suffer a line of fires to be established along 1500 miles of our southern border, out of which in coming years should start quarrels, wars, and disturbances of every kind. A people who never kept faith in the Union we knew would never keep faith out of it. They disturbed the land as did old Ahab of cursed memory; and when liberty found this Ahab in the way he said to her, 'Art thou it that disturbeth Israel?' We know the nature of this people; we know that a truce with them would be to create a cloud breeding thunder and lightning, and simply to furnish them with time, means, and opportunity to renew their purposes to take possession of an entire continent in the name of the devil and of slavery. One other reason why we do not wish to let this contest end and this people to go is, that we do not desire to become a military nation. A great many men say that America has become too strong, and that she is dangerous to the peace of the world; but let me tell you that if you permit or favour this division, the South will become a military nation, and the North will be compelled to become so too. Along a line of 1500 miles she must have forts, and men to garrison them. A force of not less than 250,000 will constitute the national standing army of the North, and when a nation has a standing army we all know she is in great danger. Before this war the legal number of our national army was 25,000 men, and the actual number 18,000. We required no more. But let the country be divided into two great belligerent nations, and, instead of a paltry 180,000 soldiers, you will have 150,000 on one side, and 250,000 on the other, and when, owing to political disruption, America is forced to maintain this vast number of troops, she will, like boys with a knife, always want to whittle with them. It is the interest, then, of the world, that America should be united, and that the whole nation should be under the control of that portion of it which has been always for peace, and should be rescued from the policy of that which has ever been in favour of the acquisition of more territory, of fillibustering, and of snubbing other countries. But this is not all. The religious minded among our people feel that in the territory committed to us we hold a high and solemn national trust, and that God gave it to us not merely for territorial aggrandisement, but that there we might plant the seeds of Christian civilisation, and build up institutions which should afford a spectacle of the working of the Church of Christ, which would make all good men glad. We could not help the existence of slavery before the war, but now, since it has been divested of its local defence, and has become a declared public enemy, it is our duty to see that it never again is in a position to blight our fair Western land. When I look out upon that immense territory I feel that the question is brought home to me as an individual man, as a citizen, and as a Christian minister. Will you permit that territory to be darkened by this hideous spot from the Atlantic to the Pacific? Why do we send our ships round the globe bearing missionaries to the Sandwich Islands, to Asia, and to Africa, if we are to follow the advice of those who counsel us to abandon the work of rescuing our own homes from worse than heathendom and to deliver it up to the Devil? Independent of pounds, shillings, and pence, independent of national honour, independent of all material and secular considerations, it is surely the duty of every conscientious man towards his God to endeavour to secure that continent from the blast and blight of slavery. But I hear a loud protest against all war. There is a small band in your land and mine which is opposed to war under any circumstances, and although I cannot accept their judgment, I bow with profound respect to their consistency. But putting those aside, I regard this British horror of war as something wonderful. It is a phenomenon of itself. On what shores, let me ask, have not the prows of your ships clashed? What land is there with a name and a people where your banner has not waved above your soldiers? When the great resurrection *reveillé* sounds, it will muster men who have fought in your ranks from every clime under heaven. 'But,' it is said, 'this is a war against your own blood.' How long, let me ask, is it since you poured troops into Canada, and caused all your dockyards to work night and day to avenge against your own blood the taking of two men out of the Trent? Old England ashamed of a war of principle! She gained her glory in such contests. Old England ashamed of a war of principle! Your national ensign symbolizes your history—the cross on the field of blood—and will you tell us who are your descendants, and who inherit your ideas and your pluck, that we must not fight in such a cause as that which I stand here to advocate? Ah! the child must pay heed to the parents, until they get so old as to tell the child that he must never do what he used to be whipped for not doing. Then the child naturally says, 'Father and mother are getting too old. They had better leave their present home and come to live with me.' And whereas England comes to that state that she dare not go to war for principles, she must emigrate. I have been asked to say a word about the Russians, and as this is a little private and confidential meeting, I do not mind telling you that the whole affair, so far as relates to the Russian officers in New York, is simply a little piece of coquetry. But you will say, 'Is it not an indecent thing for America, now that Russia is engaged in suppressing the liberties of Poland, to make believe to flirt with her?' I think it is. And now you know precisely how we felt when you flirted with Mr. Mason at your Lord Mayor's banquet. It does us no harm to have the English people tell us our faults; nor does it do you Britishers any hurt that we should let you know yours, and you will allow me to say to you that while England, which is a Christian nation, and has the guardianship of the dearest principles of civil liberty, ought to be friendly with every nation, she ought when she looks out for an ally to find one in her own blood, her own language, and her own children. I maintain that all sorts of alliances with continental nations as against America are monstrous, and that all flirtations of America with Pandours and whiskered foreigners are equally to be deprecated. Since I have come hither, since you have told me the truth, since I am permitted to bear back the assurance that popular sympathy in England is with us, since I have such significant facts to refer to as the detention of those rams in Liverpool, and such words as those spoken by Earl Russell at Blairgowrie, and those spoken also by the Attorney-General to recall, I feel that I have that to bear with me which will come home warm and sweet to the American heart. One in civilisation, one in religion, one in substantial feeling, let us be one in national policy, one in every enterprise for the furtherance of the Gospel and for the happiness of mankind."

THE FUNERAL OF LORD LYNDHURST took place on Saturday morning, at Highgate Cemetery. The pall bearers were the Earl of Ellenborough, General Forester, Mr. Walpole, M.P., and Mr. Barlow, each of whom carried a wreath of *immortelles*, which they deposited on the coffin as it was lowered into the vault. The service was read by the Rev. Mr. Howarth, of St. George's, Hanover Square. There was a large attend-

ance at the ceremony, and the carriages of the Duke and Duchess of Cambridge, and several of the nobility, followed in the procession.

ACCIDENT TO THE MAIL STEAMER AFRICA.—The outward going Royal Mail steamship Africa struck in a dense fog near Cape Race, on the night of the 12th inst. She was ashore half-an-hour, but got off, making much water, and bore up for St. John's, Newfoundland, where she arrived on the 13th. The ship has been beached, and must discharge. The injury is supposed to be extensive, and the cargo is damaged.

THE LOSS OF THE STEAMER GEORGIA.—The Board of Trade inquiry into the loss of the Georgia on Sable Island came to a close at Liverpool on Saturday. The certificate of Captain Gledell was suspended for 12 months, the court observing that this was one of the numerous cases in which the neglect to use the lead line led to disastrous consequences.

COLLISION IN THE BAY OF BISCAY.—On Wednesday week a collision took place between her Majesty's screw corvette Scylla and the Duke of Wellington merchant vessel of 1100 tons, in the Bay of Biscay. Both ships were much injured, and were obliged to put back in a disabled state, but there was fortunately no loss of life. Since the return of the Scylla, another ship of war the Pelorus, bound also for Japan to reinforce our squadron in those seas, has put back with damage, having caught fire from the overheating of her boilers.

SANITARY STATE OF BETHNAL GREEN.—The Home Secretary has called upon the Bethnal Green authorities to inform him what they are doing to remedy the evils brought to light by several inquests on children who had died in Thorold Square. The vestry in reply state that Bethnal Green is not worse as to its sanitary state than other parishes. They admit that Thorold Square is very bad, but steps have been taken to cleanse it, and the nuisances complained of in it have been abated. They state in conclusion that they have a very intelligent medical officer of health, an inspector of nuisances, and a committee of six members to carry the Nuisances Removal Act into execution.

LANCASHIRE RELIEF FUND.—At the meeting of the Mansion House Committee on Friday, grants of money to the amount of 3509*l.* were made to places in Lancashire and Cheshire, for distribution by the local relief committees.

THE ENCLOSURES ON WANDSWORTH COMMON.—A deputation, consisting of the clergy and parochial officers of Battersea, had an audience of Lord Spencer, lord of the manor, a few days before his departure for the Continent, relative to the enclosures on Wandsworth Common. The memorial on the subject having been read, his lordship replied that he was most anxious to continue the friendly relationship which had always subsisted between himself and the parish, and that at present he had no intention or idea of any scheme for enclosing any portion of the common; that he concurred in the desirability of providing open spaces for public recreation in populous localities, and believed that out-door games and exercises greatly contributed to the happiness and morality of the humbler classes, and any future scheme for enclosures would be considered with reference to that object. He did not see how the recent enclosures of the railway, which were, he believed, the only considerable ones that had been made since his succession to the property, could now be interfered with, but there was no objection to further inquiry being made in the matter; though the parochial authorities ought to have urged their objections at the proper times.

DARING BURGLARY IN NEW OXFORD STREET.—On the night of Wednesday week a burglary of a very daring character was committed on the premises of Messrs. Law, tea dealers, New Oxford Street. The thieves entered the premises at the back, in Pembroke Lane, got into the first floor, and from thence into the shop, cutting away the lock and carrying away the iron safe, containing upwards of 200*l.* in gold and silver, and nine chests of tea, besides warrants on which duty had been paid. A number of young men were in the upper part of the house and heard no noise. The burglars must have had a horse and cart in readiness, and several persons were no doubt concerned in the robbery. A large reward has been offered.

THE ZAMBEZI EXPEDITION.—The Rev. James Stewart, a Commissioner from the Free Church of Scotland, has come home passenger from the Cape by the Saxon. He has explored the Zambesi thoroughly; first with Livingstone's expedition, and afterwards alone up beyond Tete in one direction, and beyond the Murchison Falls in another. He has also visited all the chief missionary stations in the Cape Colony. The death of a distinguished young geologist, Mr. Richard Thornton, has been communicated by Dr. Livingstone to Sir R. Murchison.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths registered in London in the week that ended Saturday October 17 were 1205. The average number in the ten corresponding weeks of 1853-62, corrected for increase of population, was 1149. The present return is therefore 56 above the average. During the week the births of 1001 boys and 938 girls, in all 1939 children, were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1843.

# Provincial.

ABERAVON.—On Saturday morning a fatal explosion occurred at the Morfa Colliery, by which 38 lives were lost and much property destroyed. The pit is one of the largest in South Wales. It is situate in the parish of Margain, Glamorganshire, on the estate of C. R. M. Talbot, Esq., M.P., and lord-lieutenant of the county, but is leased to and worked by the Messrs. H. H. Vivian, M.P., and Co. There were 360 men and boys at work in the whole colliery, but, fortunately, the explosion was confined to the old 9-feet working, in which 42 men and boys were working at the time. The old 9-feet seam is about 400 yards from the bottom of the shaft, and the workings are to a considerable extent right under the sea. The colliery is known as of a "fiery" nature, and therefore requiring the greatest care and caution in the working, and nothing seems to have been left undone which capital can supply or engineering skill suggest to provide for the safety of the large number of men daily at work. The colliery is ventilated by means of a furnace, and there are two shafts, the up and the down, and none but locked safety lamps are allowed to be used. It appears however that despite all the stringency exercised the men were in the habit of smoking, and it is believed that the explosion was caused by one of them picking the lock of his lamp for the purpose of getting a light. "Shifts" of men have been incessantly at work since Saturday morning, and upwards of 20 have been either brought up dead or have died after they were brought up; but the recovery of the bodies is attended with so much danger that the others have not yet b een found.

BATH.—A few days ago the Duke of Buckingham was subjected to a gross outrage by two commercial travellers called Norton at the Bath station of the Great Western, as he was removing the luggage belonging to the Duchess out of the carriage. The offenders were brought before the Bath magistrates on Saturday, when they expressed their regret for their unmannerly conduct, which they attributed to their eagerness to get into the carriage, as the train did not stay more than a minute or two at the station. The duke accepted their apology, on their undertaking to pay all expenses and give 5*l.* to the Bath United Hospital.

BIRKENHEAD.—The steam ram El Tousson is now under surveillance of a party of marines. At dusk on Sunday a marine, under arms, was pacing the forecastle. The Goshawk is not now moored alongside El Tousson, but is moored to the quay, at the stern of the ram. No attempt however has been made to stop the builders from completing and fitting the rams for sea. The Liverpool frigate left the Mersey on Sunday for Plymouth.

COLEORTON.—The bodies of the two men who were drowned by the flooding of Coleorton Pit, near Leicester, were got out on Wednesday. It is supposed that they were suffocated by the foul air.

HEREFORD.—On Saturday Robert Wilton Fryer, late chief clerk in the Hereford Old Bank, whose defalcations, amounting to several thousands of pounds, are said to have been a primary cause of the failure of the bank, was brought up before the city magistrates for final examination, and, after a long examination, was fully committed for trial, bail being refused.

LEEDS.—The annual congress of members of the British Archæological Association was held last week in Leeds under the presidency of Lord Houghton (formerly Mr. Monckton Milnes). His Lordship also delivered his inaugural address on Monday week in the Victoria Hall, after the mayor and corporation had given the society a formal reception and welcome to the town. In the evening a conversazione was given by the civic authorities. The archæologians during the week made excursions to a Norman church at Adel; to Ilkley, the Olicana of the Romans; to Aldborough, the Isurium of the Romans; to the wayside chapel and old houses in Wakefield; to Pontefract Castle and Church; to Ripon Cathedral and Fountains Abbey; to Kirkstall Abbey, to Halifax, and to York. The Society had the use of the lecture hall of the Philosophical Society, and many interesting papers were read by Mr. Planché, Rouge Croix; Mr. Lawson, of Aldborough; Dr. Lee, LL.D., F.R.S.; Mr. T. Wright, M.A., F.S.A.; Mr. Gordon Hills; Mr. Levien, of the British Museum; Mr. Syer Cuming, Mr. Roberts, F.S.A., Mr. G. R. Wright, F.S.A., Rev. C. H. Hartshorne, Mr. G. Wentworth, Rev. W. C. Lukis, Rev. Scott Surtees, and other distinguished antiquaries. It is intended to hold the next congress at Northampton.

MANCHESTER.—The third annual meeting of the Church Congress commenced in this city on Tuesday week with a service in the cathedral, when the sermon was preached by Dr. Hook, Dean of Chichester. In the afternoon an address on Church Extension was delivered by the Bishop of Manchester, president of the congress. In the debate which followed, Mr. Hugh Birley, Archdeacon Utterton, Archdeacon Bickersteth, Mr. Knott, chairman of "The Committee of Laymen," Mr. Murray Dale, Mr. W. Cotton and other gentlemen took part. In the evening an address on Church Architecture was delivered by Mr. Beresford Hope, Mr. E. B. Denison, Q.C., and Mr. G. E. Street taking part in the discussion. On the following morning the business was opened by the Rev. T. E. Espin, of Lincoln College, Oxford, who read a paper on the "Supply and Training of Ministers." In the discussion of this paper the Bishop of Melbourne, the Rev. Dr. Stowell, the Rev. A. D'Orsey of Cambridge, the Rev. H. P. Liddon, of Christ Church, Oxford, and other gentlemen took part. In the afternoon a paper was read on "The Church in Ireland," by the Rev. W. C. Plunket, on which the Right Hon. Joseph Napier, and the Rev. Dr. M'Neile spoke. In the evening a paper on "Lay Co-operation" was read by Mr. E. Akroyd, which led to a discussion in which Mr. F. S. Powell, M.P., Mr. R. A. Cross, and Mr. Henry Hoare were the principal speakers. On Thursday morning the Rev. W. Cadman, Rector of Trinity Church, Marylebone, read a paper on "The Management of a large Parish," which was spoken to by the Dean of Chichester, the Rev. Dr. Molesworth, and the Rev. J. Bardsley. This was followed by a paper on "Parochial Mission Women," by Vice-Chancellor Sir W. Page Wood. In the afternoon a paper on "The Law of the Colonial Church" was read by Dr. Bayford, and a paper on "The Supply of Native Missionaries," by the Rev. Dr. Francis Hessey, Incumbent of St. Barnabas, Kensington, which was spoken to by the Bishop of Sydney, and the Rev. Ernest Hawkins, Secretary to the Society for the Propagation of the Gospel. In other sections papers were read by the Rev. T. Lund, the Rev. W. Emery, the Rev. J. E. Clarke, the Rev. Dr. Kennedy, and other gentlemen, on practical Church subjects. Among the topics discussed at this closing meeting was the conduct of the Ecclesiastical Commissioners. The Earl of Harrowby defended the Commission, and showed that a larger sum had been expended on the augmentation of small livings, and at a less cost, than was at first anticipated. It was agreed that the next meeting should be held at Bristol, and a vote of thanks to the Bishop of Manchester, as president of the congress, closed the proceedings.—At the monthly meeting of the General Relief Committee on Monday, the report stated that though the Boards of Guardians are now relieving 87,000 persons, the total numbers relieved from all sources have fallen since January last from 456,786 to 184,625. In an Appendix to the report, Mr. Ashworth stated his opinion that next year will bring a supply of upwards of 800,000 bales of cotton above the present year's importations. This would enable the manufacturers to consume 33,000 instead of, as at present, 22,000 bales a week; and to give four and a half days' work. The balance in hand is now 271,513*l.* 14*s.* 9*d.*, in Liverpool 39,355*l.* 17*s.* 6*d.*, and the Bridgewater House Committee 86,270*l.* 17*s.*, making in all 397,140*l.* 9*s.* 3*d.*

NEWCASTLE-ON-TYNE.—On Monday, week the inquest on Martin Linskay was resumed in the presence of Terence Quin, who had been apprehended on the charge of causing his death. After hearing further evidence, the jury returned a verdict of Manslaughter again the prisoner.

OXFORD.—The corporation of this city gave a dinner on Wednesday week, at which the members for the county, and Mr. Cardwell, the member for the city, were present. Mr. Langston, the other member, was prevented attending by ill-health. Mr. Cardwell, in his speech, contrasted the state of England with the distractions of other countries, and appealed to Mr. Henley whether the present harvest was not the best he had ever known. Mr. Henley however declined to commit himself on the point till the end of the year, when the value of the crops would be fully known. With regard to foreign affairs he expressed his hope that the Government would continue to follow that wise course of policy which they had hitherto pursued, and said that he had no fear that the honour of the country was safe in their hands.

PEMBROKE.—The Royal yacht Alberta, which has been built expressly for her Majesty's convenience in crossing between the mainland and the Isle of Wight, was launched a few days since at this dockyard.

RICHMOND.—Sir Roundell Palmer, the Attorney-General, delivered a long address to his constituents in this town last week, and spoke as follows on the part which the Government has taken in regard to the civil war in America:—

"Our Government had felt itself bound, in the first place, to recognise facts, and, in the second place, to do nothing in anticipation of them. We heard a great many people say, 'The Government have recognised the South as belligerents,' that is, as States carrying on lawful war, 'why not go on and recognise their independence?' Now, he said, those who asked such a question were totally ignorant of the principle on which the Government did recognise the South as belligerents, and, at the same time, declined to recognise their independence. There was no doubt that the Southern States were States exercising government for themselves and in themselves for the time being, and that they were carrying on war on their own and sole account. Our Government recognised these things as facts established, but be it remembered that they recognised the South as belligerents only because they had no control over the events that had led the South to assume that position, and the Government were shaping their conduct in the best manner they could to preserve an honest neutrality, according to the laws of their own country, and according to the laws of nations. They gave them no privileges as such; they wished to God they were not belligerents, but, being so, they did not refuse to take notice of the fact. The Americans themselves, the Northerners, who complained sometimes that we had given the South premature recognition as belligerents, forgot that unless the South were belligerents, they could not have maintained the blockade against the South, nor have taken from neutrals on the high seas ships, guns, powder, and all that was known as the munitions of war. Therefore, it was necessary for their purposes, as for the purposes of the South, and above all, for our purposes, that our position should be understood, and not be of an equivocal character. There was nothing more important than that

we should regard the laws, rules, and regulations of war applicable between the parties and ourselves as a neutral nation taking no part in their quarrels. As to our recognising the independence of the South before seeing whether these States can establish their independence or not, we should neither get more cotton, break the blockade, nor put a stop to the dreadful carnage. Giving them words was not what was wanted, they wanted action. If we gave recognition in words merely, without altering our conduct in other respects, we should be holding ourselves up to the scorn of Europe, doing very little or no real benefit to the Southerners, and at the same time giving just offence to the Northerners, against whom we should be pronouncing a verdict prematurely. We must therefore wait patiently, praying devoutly that the unhappy contest in America might soon terminate. And let who will abuse us, whatever pressure may be put upon us, we must be determined to do that, and nothing but that, which we believe our duty, applying the best and fairest test to any doubtful case,—considering what we should like to be done to ourselves if we were in similar circumstances. Now our Government had up to this point acted upon that principle. Our Government acted upon this principle when the question arose regarding the assertion of maritime rights—the rights of war by the vessels of the United States against the shipping of this country. We would not for a moment endure that they should invent new powers, that they should transgress the laws of nations, and violate the hospitality of England by attacking upon the wide seas our ships which happened to have on board persons supposed to be on an errand hostile to the interests of the North. The whole country was prepared, much as we deplored the necessity of it, instantly to vindicate its honour, and to go to war rather than tolerate such a proceeding. But, on the other hand, when it was a question of submitting on our part to the established laws of war, ship after ship in attempting to run the blockade having been taken from us, and about which all sorts of stories were told in the papers, though in many cases there might be a real doubt about the justice of the seizure, we had always said, 'We will bear from America what America bore from us under the same circumstances—we must have this matter investigated by Prize Courts according to the laws of nations, and if these Prize Courts decide against us, we must submit to it, unless we can prove some gross and manifest injustice done by them to us which we would not have practised ourselves." He was bound to say in justice to the United States that our Government had not as yet been able to find any such gross or manifest injustice. He did not think the honour of the courts of law in the American States had suffered. He believed they had asserted the laws of war about as strictly as we did, and not more strictly, and we had, therefore, submitted in good faith. Some of the decisions might seem to us harsh, but, before we could make that a ground of complaint against them, we must compare it with what was done in England with regard to the ships of neutrals when war was carried on by ourselves, and with what we may be obliged to do again if unhappily war should occur again. It would be very surprising if the statesmen of America do not see we have acted in good faith and in honour towards them; for on their account as well as for the sake of our own nation Government had endured some obliquy from powerful and wealthy citizens who had an interest in carrying on trade with the Southern States, and who endeavour in many instances to carry it on without for one moment considering the trouble and anxiety they cause the Government, or the peril in which they may possibly put the nation. He believed he might venture to state, however, that the Government would rather venture to endure any amount of obloquy, or relinquish office, than attempt by false distinctions to fritter away and pare down the rules of international law when they happen to tell against our trade—inasmuch as by so doing we should be abrogating the very course we ourselves had adopted when in the position of belligerents, and when to the uttermost we took advantage of those rights of war which some people would now deny to the North. There was one other subject on which the conduct of our Government also deserved a remark. We know very well that it is perfectly lawful for the citizens of a neutral country to trade with both parties if they can. It is also lawful to sell anything which either party would take in the way of merchandise—powder, shots, guns, or any other things; and we had on both sides had customers, and sold a great many articles of that description. But there was, on the other hand, a limit to all that, and it is not consistent with the duty of a neutral nation to supply the means of carrying on war, as a Government, to either party, or to suffer warlike expeditions and ships of war to be prepared and fitted out in its harbours; and in order to prevent such things from being done—which undoubtedly we should have reason to protest against if done to us, and which could hardly be carried on by any nation on a large scale professing neutrality without involving it in war,—we had got a law which may or may not be easy to construe, but which certainly was intended to prevent these things. We all knew as a matter of fact that the Confederate States had endeavoured to some extent to make this country the basis of their maritime operations. Our Government, in perfect good faith, said this,—'We will not permit anything to be done which can be shown to be a violation of our own laws or of the laws of nations; we cannot go beyond our laws and the laws of nations, but we will do all we can to prevent the evasion of either one or the other, not caring whether one party or the other benefits by it, not balancing their relative strength or trying to alter it, but simply performing our obligations according to what is dictated by our own domestic legal enactments, and according to the received law of nations.' The Americans had complained of the escape from this country of the well-known Alabama, which, as we know, had committed great ravages upon their commerce, and of other ships, said also to have left England for the same purpose. They spoke as though it was a very easy thing for the Government to prevent that sort of thing being done, whereas it was a most difficult thing; and it was remarkable that, although their Government in former wars had not shown any want of will to prevent the same thing occurring, he was not aware that they had ever succeeded in preventing it when it was really intended, in one single instance, because, although several cases were brought into their courts of law of ships which had gone out of their harbours commissioned by other belligerent Powers and taken prizes on the seas, they were taken notice of only because they had the boldness to come with their prizes into the ports out of which they had in the first instance sailed. Therefore it would not be reasonable for them to hold our Government responsible for every evasion of our laws to their disadvantage. On the other hand, he hoped and believed that the people of the country at large would not be inclined to identify themselves in feeling with those merchants of ours who seemed to think they were bound by no obligation to our laws at all, and that it was perfectly fair for them if they chose to carry on an unlawful trade with a belligerent Power, while at the same time they knew that Government were anxious for the sake of the nation to preserve a strict neutrality. He did not think that was the part of patriotic Englishmen loyal to their laws, and having a true view of the interests of their country. Though perfectly conscious of the great difficulties of bringing the law to bear by complete and conclusive evidence in cases of this kind, where every artifice is used for the purpose of disguise and evasion, he had every confidence in the people of this country would support the Goverment in the measures they had taken to make it clear and plain that those proceedings were perpetrated without the will, connivance, or consent of those who are responsible for the government of the country."

Salisbury.—On the 29th ult. James Matthews, a workman in the employ of Mr. F. R. Fisher, builder, of the High Street, made an ascent of the lofty Cathedral spire in this city for the purpose of painting the external iron work at the summit,—an operation which occupied him nearly two hours, and necessitated his mounting the cross above the vane, which is at the height of more than 400 feet from the ground. The ascent, as it was market day, was witnessed by a very large number of spectators, and was accomplished by means of 20 or more small iron handles firmly fixed to the spire above the weather door, which is reached by a flight of ladders inside, placed almost perpendicularly one above the other. During the process of painting Matthews secured himself to the spire as best he could with a leather belt buckled round his waist.

Slough.—Mr. Mackenzie, of Fawley Court, has transmitted to the directors of the British Orphan Asylum a check for 14,000*l.* in redemption of his promise to indemnify them to the extent of what may be termed the "capital" expenditure upon that institution. It was calculated that 12,000*l.* would be sufficient, but the numerous alterations and repairs found to be necessary increased the sum to 14,000*l.*

Stafford.—The parishes of Cauldon and Waterfall in this county have been thrown into a state of excitement by the proceedings of the incumbent, the Rev. B. Hennikey, whose father is patron of both livings. It appears that the rev. gentleman, as a general rule, has set the rubric at defiance, has read the lessons from the Douai version of the Bible, has ordered Dissenters to leave the church, and has lately crowned his other eccentricities by refusing to bury the dead of his parish. The consequence is that the church has been converted by a portion of the parishioners into a bear garden, and the day of rest into one of riot. Matters have gone so far that the ecclesiastical authorities in the diocese are about to hold an investigation into his conduct.

Winchester.—At a meeting of the county magistrates on Monday the Earl of Carnarvon, as chairman, presented the report of a committee appointed a short time ago at his suggestion to consider the state of the prison discipline in the county. The report recommended that hard labour should be made more use of, that the hours of rest should be diminished, and that the dietary should be reduced, especially in the article of fresh meat. The visiting justices, and especially the chairman, dissented from several of the recommendations of the committee, but it was ultimately agreed to print the report, and take it into consideration on a future day.

Wolverhampton.—The inquest on the body of the man Cheeuery, who was found murdered in this town in August last, was resumed on Tuesday for the fifth time. The man who had been seen in company with the reputed wife who was afterwards found murdered at Dudley, was brought up in custody and examined at great length with several others. After a brief consultation the jury returned a verdict of Wilful Murder against some person or persons unknown. After recording the verdict, the coroner said the mystery still remains a mystery.

## Ireland.

Shocking Murder in County Waterford.—A murder of a horrible character is reported from Clonmel. In a desolate mountain district in the county of Waterford, about three miles from Ballymacarbry, and 12 from Clonmel, lived an aged man named Thomas Connolly, in a wretched cabin, to which was attached an acre of boggy land. There is another cabin close by, and below it a slated house belonging to a farmer named Flyn. With the old man lived his grandson, Pat Hennessey, who married the daughter of a man named Walshe. Old Conolly had received 9*l.* from Walshe, for letting him and his wife live in the house, but the two families were constantly quarreling. The cabin contains two rooms, a kitchen and a bedroom. To the kitchen the light was admitted only through a small door; the bedroom was lighted by a bit of glass four inches square, stuck in plaster. Young Hennessy went away to look for harvest work. When he returned to the cabin he found his wife and his father-in-law there asleep, but the grandfather was absent. He was told by Walshe that the old man had walked away on the 29th of September, and they had heard nothing of him since. The young man informed the police. Search was made about the country, but no trace of him could be found. Soon after this the young wife, only 17 years of age, made an appalling disclosure. She stated that on the 29th she called the old man to his breakfast and then went to the well. When she returned the door was shut, and her father, who was inside, told her to go away for a while. When she returned she saw the old man on the floor and a hatchet beside him. Her father threatened to kill her in the same way if she gave any alarm. He dragged the body into a turf-house, and then made her help him to clear away the blood. He then took the hatchet to the turf-house and locked himself in. While there she heard the noise of chopping for some time, after which she saw her father bring out the mangled portions of the body in his arms and bury them in the garden. He subsequently told her that he had hid them in a turf bog, jumping on them till he had sunk them deep enough, having taken off his shoes and stockings for the purpose. The story was deemed incredible by the police, though they found some of the old man's clothes bloodstained and the hatchet; but after diligent search the mutilated remains could not be found. On Sunday last the search was resumed by nine sub-constables and 20 of the country people, and about half a mile from the cabin, in a bog, was found the head of old Connolly, with the nose attached by means of the skin; the left side of the trunk, minus one of the ribs; the scalp, to which was attached one ear and a portion of the second; and one foot, in which there were the marks of three chops. The jury at the inquest returned a verdict of "Wilful Murder" against some person or persons unknown. Walshe and his daughter, who revealed the crime and had been taken into custody, not having been produced.

## Railways.

The Metropolitan.—The Great Northern Company are now running through trains from the Farringdon Station to Hitchin, and the Great Western Company run through trains from the same station to Windsor, the latter being composed of broad gauge, and the former of narrow gauge carriages. There are 15 Great Northern trains from Farringdon Street during the day, bringing that station in direct communication, without break of gauge, with Hitchin, Luton, Dunstable, Hertford, and the intermediate stations. The Great Western trains between Farringdon Street and Windsor are only five each way. The new carriages ordered by the Company, when the Great Western withdrew their trains, are now in use on the line, and are of a very superior character, first, second, and third class alike having two gas-lights in each. Great improvements have also been made in the line itself. A ventilating shaft has been made at the Portland Road, which has done away with the unpleasant smell in the tunnel, by forcing air through it by means of fans.

The Proposed Line from Walbrook to Regent Circus.—At a recent meeting of the City Commissioners of Sewers, the improvement committee brought up their report on the plan of Mr. Giles, C.E., for a railway from Walbrook to Regent Circus, Oxford Street. The committee stated that they had been in communication with a committee of the Court of Common Council and with Mr. Giles, and they thought that it was not advisable to give any opinion on the scheme until the Parliamentary plans have been deposited.

## Miscellaneous.

Acclimatisation at the Antipodes.—The Acclimatisation Society of Victoria has fortunately met with very liberal support from the Government, and has been enabled to obtain a most valuable site in a reserve of 500 acres appropriated as the Royal Park. It is described as being well grassed and timbered, presenting an agreeable undulating surface, though somewhat bleak and exposed. To this spot the society and its friends are enabled to take the animals and birds which they may import into the colony. In order to fit it for the reception of animals, a sum of about 4000*l.* has been expended. There are paddocks with sheds erected, into which the goats and llamas that feed about the park in the daytime are driven for shelter. In the 50 acres which are allotted to the society ample arrangements have been made for dividing and classifying the live stock. Substantially-constructed cages contain pheasants and doves, and such class of birds, with shelter cots in the centre. The water fowl have their ponds in which to disport themselves, and an island on which to breed. The zebras, the elks, and the ostriches have their separate compartments; a system, in short, is provided even more complete than that which exists at our own Zoological Gardens in the Regent's Park. What would, however, be a novelty, and, indeed, a matter of surprise to many persons in this country, is the care which is manifestly bestowed upon the protection of those small birds which are considered here as the general enemy of the gardener and farmer. There, sparrows, and rooks, and finches, and yellowhammers, and blackbirds, and thrushes, and linnets, and robin redbreasts, and a host of other familiar members of the feathered tribes, have been brought together, and, after resting from the fatigues of their voyage across the sea, they are set at liberty to breed in the country, and establish for their races a home among the wilds of Australia. The birds which have been set at liberty at the Botanical Gardens of Victoria up to the present time have been 18 canaries, 18 blackbirds, 24 thrushes, 6 Californian quail, 60 English wild ducks, 35 Java sparrows, 4 English robins, 8 turtle doves, and 50 mino birds. At Philip Island there have been located 5 pheasants, 6 skylarks, 6 Californian quail, 4 thrushes, 4 blackbirds, 1 pair white swans; at Sandhurst, 4 pheasants, 4 skylarks, and 4 thrushes; at Yarra, 6 thrushes and 4 skylarks; and near Sydney, 7 thrushes, 4 skylarks, and 10 blackbirds. The stock on hand of beasts, birds, and fishes is not only interesting as shewing the value which is set upon

# The Gardeners' Chronicle Newspaper.

*SATURDAY, OCTOBER* 31, 1863.


**Evening Lectures to Working Men.**

ROYAL SCHOOL of MINES, Jermyn Street.—The FIRST COURSE, consisting of SIX LECTURES, "On the FIRST PRINCIPLES of CHEMISTRY," by Dr. Hofmann, F.R.S., will be Commenced on MONDAY, Nov. 9, at 8 o'Clock. Tickets may be obtained by Working Men only, on Monday, Nov. 2, from 10 to 4 o'Clock, upon payment of a Fee of 6*d*. for the whole Course. Each applicant is requested to bring his name, address, and occupation written on a piece of paper, for which the Ticket will be exchanged.

Trenham Reeks, Registrar.

GEOLOGISTS' ASSOCIATION has REMOVED from 5, Cavendish Square to the Rooms of the Medical Society of London, 32a, George Street, Hanover Square. The FIRST MEETING this SESSION will be held on TUESDAY EVENING, November 3, at 7 o'clock, when Mr. Carter Blake, F.G.S., will read a PAPER on FOSSIL ELEPHANTS; and Mr. Evans will exhibit a COLLECTION of FOSSILS from the Railway Cuttings near London. Ladies or Gentlemen wishing to join the Association can obtain every information from Professor Tennant, President, 149, Strand; or J. Cumming, F.G.S., Hon. Secretary, 7, Montague Place, Russell Square. Admission fee, 10*s*.; annual subscription, 10*s*.

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SESSION 1863–4.

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| General and Descriptive Anatomy of the Domestic Animals.. .. | Mr. James Law |
| Practical Anatomy .. .. .. Anatomical Demonstrations .. | Mr. James Law, and Mr. W. Duguid, Demonstrator |
| Physiology of the Domestic Animals | Mr. Alfred Thos. Brett |
| Chemistry .. .. .. .. | Dr. Arthur Gamgee |
| Practical Chemistry .. .. .. | Dr. Arthur Gamgee, and Mr. Robert Morris, Assistant |
| Veterinary Materia Medica.. .. | Mr. Alfred Thos. Brett |
| Principles and Practice of Shoeing | Mr. Gamgee, Sen. |
| Veterinary Medicine and Surgery.. | Mr. John Gamgee |
| Clinical Instruction .. .. .. | Mr. Gamgee, Sen., and Mr. John Gamgee |

Introductory Lecture on WEDNESDAY, November 4.

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THE QUARTERLY REVIEW, No. CCXXVIII., is published THIS DAY.

Contents:—

I. Progress of Engineering Science.
II. Thomas Hood and his Life and Writings.
III. Co-operative Societies.
IV. Lyell's Antiquity of Man.
V. Japan.
VI. Anti Papal Movement among the Italian Clergy.
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## News of the Week.

By the overland mail we have full details of the attack of Admiral Kuper's fleet on Prince Satsuma's stronghold at Kagosima. They confirm the telegraphic announcement that the Japanese batteries were silenced, and the town of Kagosima destroyed by fire, but at the same time they show that the object with which the expedition was sent into the Japan seas was not accomplished, and that the success of the fleet in silencing the forts was dearly purchased by the loss of the captain and commander of the flagship, in addition to 11 men killed and 50 wounded. It now remains to be decided what are the next steps to be taken to obtain reparation for the murder of Mr. Richardson, and for the other outrages committed on English residents in Japan. Prince Satsuma, who has submitted to the destruction of his property rather than comply with our demands, is said to be as powerful as the Tycoon himself, and it is considered improbable that matters will ever be brought to a satisfactory termination without the aid of a strong military force.

The results of the Prussian elections continue to be more unfavourable to the King and his Ministers than the most sanguine members of the opposition had ventured to anticipate. In Berlin all the candidates of the Fortschritt party have been returned by large majorities, and the telegrams from the provinces indicate a decided triumph for the Liberal party.

In the sitting of the Federal Diet on Thursday the Danish Minister presented the reply of Denmark to the resolution of the Diet to send an army of execution to Holstein. The reply is conciliatory in form, but in all essential points it maintains the views hitherto held by the Danish Government. At the same sitting a third note of Earl Russell was communicated to the Diet. His Lordship in this note endeavours to form a basis upon which a mediation between Denmark and Germany may be established in accordance with international law. Meanwhile it is reported that Prussia and Austria have determined upon definitively rejecting the mediation of England, on the ground that the subject involved is one of a purely domestic character.

From the United States we learn that General Lee's whole army crossed the Rapidan on the 8th inst. with the intention of turning General Meade's right. A cavalry engagement on the 10th ended in the defeat of the Federals, and General Meade was obliged to retreat to Culpepper and afterwards to cross the Rappahannock. The retreat is said to have been made in good order, though he was severely harassed by the Confederate cavalry. He subsequently found himself unable to make a stand on the north bank of the Rappahannock, and retreated to Manassas Plains, after burning his stores and everything which could not be readily removed. On the evening of the 14th General Lee attempted to get in General Meade's rear by way of Fairfax Court House, and thus cut him off from direct communication with Washington. The attempt, however, was defeated by General Meade himself falling back to Fairfax, which is only 15 miles from Washington. At the latest dates the armies were still confronting each other. General Hill, however, had moved round the Federals in the direction of Leesburg, and a general engagement appeared imminent, unless General Meade should still decline to accept battle. The position of General Rosencrans in Tennessee has also become very critical. He has not only not received the expected reinforcements from the West, but the Confederates have made arrangements which will render it very difficult for any reinforcements to reach him, while they have completely isolated him from General Burnside. The threatened attack on Charleston has not been made, and the Confederates have effectually closed the harbour channels to the entrance of the ironclads. The repulse of the Federals above Port Hudson is confirmed. The latest news says that President Lincoln has considered it necessary to call for 300,000 volunteers. Mr. Curtin, the Republican candidate, has been elected Governor of Pennsylvania, and Mr. Vallandigham has been defeated in Ohio by a large majority.

## Home News.

THE QUEEN'S RETURN TO WINDSOR.—The Queen, accompanied by Prince Leopold, Princesses Helena, Louisa, and Beatrice, and the children of the Crown Prince and Crown Princess of Prussia, left Balmoral on Tuesday about noon, and reached Aboyne, where they commenced their railway journey at half-past 2. The Royal party reached Perth at 6.18, stopped an hour for refreshments, and resumed the journey to Windsor. The train travelled at night along the lines of the North Western Company through Carlisle, Kendal, and Preston to Bushbury Junction, and proceeded thence by the Great Western through Leamington and Oxford to Windsor, where it arrived at 3 minutes before 9 on Wednesday morning; performing the distance of 582 miles by railway in 18 hours and a half. On this occasion the public were not admitted to the stations, and every care was taken that her Majesty should be perfectly undisturbed during the journey, and the usual precautions observed to ensure the safety of the train. Her Majesty bore the fatigue of the journey remarkably well, and was in the enjoyment of excellent health. On Thursday morning the Queen walked and drove in the grounds, accompanied by Princess Louisa. Princess Helena came to London, and returned in the afternoon.

THE QUEEN IN SCOTLAND.—On Wednesday week the Queen went out, accompanied by Princess Louisa. In the afternoon, her Majesty, accompanied by the Crown Prince and Princess of Prussia and Princess Louis of Hesse, went up to the Prince's Cairn on Craig Lowrigan. The Crown Prince and Princess of Prussia lunched with her Majesty. On Thursday week the Queen went out, accompanied by Princess Louisa. In the afternoon her Majesty drove to the Balloch Buie and Glen Beg. Princess Louisa went out riding. On Friday the Queen, accompanied by Princess Louisa, drove to the Lynn of Quoich. The Crown Prince and Princess of Prussia dined with her Majesty. On Saturday the Queen, accompanied by Prince and Princess Louis of Hesse and Princess Helena, drove to Loch Bulig, and returned in the evening by the Sluggan water and Invercauld. Princess Louisa went out riding. On Sunday the Crown Prince and Princess took leave of the Queen, previous to making a short tour in the Highlands. On Monday their Royal Highnesses left Abergeldie for Gordon Castle. Prince and Princess Louis of Hesse, with the Princess Victoria, left the Castle for Edinburgh. The Queen drove to Bowmont's Moss, accompanied by the Princesses Helena and Louisa.

THE PRINCESS OF WALES.—The *Observer* of Sunday states upon what it describes as the best authority that the Princess will probably be confined in or about the last week in March.

THE PRINCE AND PRINCESS OF WALES AT SANDRINGHAM.—On Thursday week the Prince of Wales, Prince Christian, and the Duke of Cambridge, walked and inspected the estate. The Princess of Wales, Princess Christian, and Princess Dagmar, walked in the grounds. In the afternoon the Royal party visited Houghton Hall, the residence of the Marquis Cholmondeley. On Friday evening the Prince of Wales, Prince Christian, and the Duke of Cambridge, went out shooting on the Babingley and Appleton side of the estate. The Princess of Wales, the Princess Christian, and the Princess Dagmar, walked in the grounds. On Saturday the Prince of Wales and Prince Christian went out shooting. The Princess walked in the morning, and in the afternoon drove out with the Princess Christian and the Princess Dagmar. The Duke of Cambridge left Sandringham for town. The Prince of Wales accompanied his Royal Highness to the Wolferton Station. On Sunday morning the Prince and Princess of Wales, Prince and Princess Christian, and the Princess Dagmar, attended Divine service at Sandringham Church. The Rev. G. B. Moxon, the rector, officiated. On Monday morning the Prince of Wales and Prince Christian went to Holkham for a day's shooting with the Earl of Leicester. The Princess of Wales drove out, accompanied by the Princess Christian and Princess Dagmar. On Tuesday the Prince of Wales and Prince Christian went to Newmarket and witnessed the running for the Cambridgeshire Stakes. Earl Granville arrived at Sandringham on a visit. On Wednesday the Prince of Wales, Prince Christian, and Earl Granville walked over the estate. In the afternoon the Princess of Wales, Princess Christian, and the Princess Dagmar drove out. On Thursday morning Prince Christian left Sandringham for Oxford, to visit his son Prince Frederick.

THE PRINCE AND PRINCESS LOUIS OF HESSE, with the Princess Victoria, arrived at Douglas's Hotel, Edinburgh, on Monday night from Balmoral. On Tuesday their Royal Highnesses spent the day with Prince Alfred and Prince William of Hesse at Holyrood Palace, and in the evening left for London by the Great Northern express, arriving at Buckingham Palace about half past 10 on Wednesday morning. The Duke of Cambridge, the Duchess of Cambridge, and the Princess Mary visited the Prince and Princess at Buckingham Palace during the day. On Thursday Prince Arthur arrived from Greenwich, and visited their Royal Highnesses at Buckingham Palace, returning to Greenwich in the afternoon. The Prince and Princess visited the Royal Horticultural Gardens at South Kensington, and in the evening honoured the Adelphi Theatre with their presence. Yesterday morning their Royal Highnesses left town for Dover, there to embark for Calais on their return to Germany.

THE PRINCESS HOHENLOHE arrived at Windsor Castle from the Continent on Tuesday afternoon, on a visit to her Majesty.

PARLIAMENTARY MOVEMENTS.—The Hon. F. Lygon was elected for West Worcestershire on Monday without opposition. The election for Tewkesbury, rendered vacant by this election, will not take place until the meeting of Parliament, when Mr. Yorke, who is the only candidate in the field, is expected to be returned without opposition. There is a vacancy for Andover caused by the death of Mr. Cubitt.

## Foreign.

FRANCE.—The Emperor presided at a Ministerial Council on Sunday and at another on Wednesday. The Minister for Foreign Affairs had a conference with his Majesty on Monday. The Empress arrived at Toulon on Thursday morning, and was received by the authorities of the town. Her Majesty was afterwards present at the launch of a frigate and a steam debarcation, and left for Paris in the evening. The Emperor, moved by the cordial reception of her Imperial Majesty at Madrid, has thanked the Queen of Spain by telegraph; and is said to have invited her Majesty to visit France in the ensuing spring. The *Moniteur* of Sunday, giving an account of the reception of the Empress in Spain, says:—

"The visit of the Empress is destined, both in the present and in the future, to exercise a happy influence upon the relations which unite France and Spain."

The King of Greece embarked at Toulon on Saturday for Athens, intending to touch at Messina on his way. The French and Italian squadrons from Ajaccio were present at the departure of his Majesty. MM. Suin and Villemain and General Herbillon have been appointed Senators and Councillors of State. General Lawœstine has been appointed Governor of the Invalides, and General Mellinet Chief Commandant of the National Guard of the Seine. *La France* asserts that the Council of Ministers has examined the constitutional questions discussed by the papers upon the occasion of the decrees of the 18th of October. The *Nation* says it has reason to believe that M. Fould's report will state that but for the Mexican expedition the Budget will show a large surplus. It adds that the present state of the finances does not necessitate a loan of 400,000,000f. Such a measure would only be taken in the event of the political situation in Europe rendering a loan necessary. The same paper of Wednesday publishes "under reserve" the news that the French army will shortly evacuate the Pontifical States, only leaving a garrison at Civita Vecchia, and that Spain will send 10,000 men to Rome. "The journey of the Empress to Madrid," it says, "is stated to be not unconnected with this combination." At a banquet given to the cavalry officers at Versailles, Marshals Magnan, Regnault de St. Jean d'Angely, and Allonville were present. Colonel Pajol, of the Dragoons, in replying to the toast of his regiment, said:—

"Perhaps at no distant day the Emperor will summon us to measure our swords with the oppressors of a people sympathetic with France. Then, like our ancestors, we shall make known to the world the advantages to be derived from the combination of cavalry with all other arms."

The *France* of Monday notices with regret England and Austria's hesitation and want of decision with regard to Poland. "France," it says, "has clearly defined her views, and the efficacious form of united action. She waits for England and Austria to come to an understanding." The *Patrie* attacks with much warmth the policy of England, and says that she sees a question of public right in the Dano-German conflict, but refuses to see it in the cases of the Russo-Polish and American conflicts. This egotism, it says, is a sign of the decadence of England. M. Nadar and his wife have returned to Paris with the Giant balloon. As soon as the necessary repairs are effected, M. Nadar intends to bring the car and the balloon to London, for exhibition at the Crystal Palace. Dr. Richard, who was sent to Hanover to attend the wounded aëronauts, has returned to Paris. He reports that with the exception of M. St. Felix, who fractured his shoulder, none of the passengers received serious injury. Preparations are making for taking down the military statue of Napoleon I. from the column of the Place Vendôme, and replacing it with one in Imperial robes, with the crown and sceptre, in order to represent not so much the General as the founder of the dynasty. The establishment of the Messageries Impériales at Ciotat has been destroyed by fire. The loss is estimated at three millions of francs.

SPAIN.—The Empress of the French left Madrid on Friday for Aranjuez and Toledo. The King and Queen accompanied her Majesty to the railway station. The Queen, on quitting the Empress of the French, presented her Majesty with a bracelet bearing the word "Recuerdo" (keepsake) in diamonds and rubies. On Tuesday afternoon the Empress embarked at Valencia, on her return to France. M. Barrot, the French Ambassador, who accompanied her Majesty, returned to Madrid. The Constitutional Opposition will put forward Señor Mon as a candidate for the presidency of the Cortes.

PORTUGAL.—The steamer Braganza, which has arrived at Lisbon from Liverpool, reports having been boarded in the Bay of Biscay by the Confederate cruiser Georgia, and being asked by her for newspapers and shipping intelligence.

SWITZERLAND.—The elections to the National Council took place on Sunday. The state of parties has very little changed. The Liberals count about five-sixths of the members selected, and the Conservatives and Ultramontanes one-sixth. M. Fornerod has been elected at Lausanne, M. Stoempfli at Berne, M. Ochs at Zurich, and M. Pioda at Ticino. The principal candidates of the Radical party, including MM. Fazy, Vautier, Challet, and Vuy, have been elected.

SWEDEN.—A despatch from Stockholm of Wednesday last says that the Swedish and Norwegian press, comprising the organs of the different political parties, are unanimous in their energetic opposition to the Danish alliance. The Finance Committee has proposed to the Council of the Empire the grant of a sum of 1,000,000 rigsdalers ([illegible] sterling), to form the two credits available by the constitution for extraordinary expenses during the current financial year. This amount, however, does not exceed the usual rate of expenditure.

DENMARK.—According to the *Aftonbladet* of Stockholm the King of Denmark has just delivered the following speech:—

"I have every confidence in the victory and the justice of our cause. I know that my faithful Schleswigers are Danish at heart, and that it would be a crime against them to consent to [illegible] Schleswig. History shall not tell that the last of the Oldenburgs parted with Denmark. If, however, in the course of time we must succumb, as being the weakest, and France and Sweden permit the most southern province of Scandinavia, the old Jutland of the south, to share the fate of [illegible], of Poland, and of Northern Italy, by being overpowered and oppressed by German Governments, then I will descend from the throne and will proclaim the republic. I passed three years of my youth in Switzerland; I have studied the laws and institutions of that country, and I am convinced that no people in Europe is more fitted for the republican system than my dear Danish people."

FRANKFORT.—In the sitting of the Federal Diet on Thursday, the reply of Denmark to the resolution of the Diet to send an army of execution to Holstein was read. The reply is conciliatory in form, but in the essential points it maintains the views hitherto held by the Danish Government. It enters into lengthy explanations, and declares that the ordinance of the 30th of March last is merely to be considered as a temporary measure. The reply was referred to the United Committee. A third Note of Earl Russell concerning the Schleswig and Holstein question was also communicated to the Diet. His Lordship in this Note endeavours to form a basis upon which a mediation in the conflict between Denmark and Germany can be established in accordance with international law. It is reported that Austria and Prussia have agreed to decline the arbitration of England in the conflict with Denmark, regarding it as having a purely German character.

PRUSSIA.—All the candidates of the Fortschritt party in Berlin have been returned by a large majority. The telegrams received up to Wednesday last from the provinces indicate a most decided triumph for the United Liberal party. Prominent among the newly-elected representatives are Herr Johann Jacoby and Professor Momsen. Herr Georg von Vincke has failed to obtain re-election by his former constituency. As regards the Conservatives, the returns indicate that they are rather more strongly represented than at the last elections. The principal members of that party elected up to the present are the Minister of War, Herr von Roon, Herren von Gottberg, Blankenburg, Schulrath, Wantrup, and Von Elsper. A Berlin letter states that the Prime Minister, Count von Bismark, has just received the following extraordinary letter, written in French and bearing the postmark of Barcelona. It is believed, however, to be a hoax:—

"The undersigned, the committee of the revolutionary propagandists, have summoned you before its tribunal. You have been condemned to death unanimously, and the execution is fixed to take place during the first few days of next month. It is useless to attempt to escape your doom. An avenging hand would reach you were you in the spot the most sacred. (Signed) The Chief of the Committee. Death to all traitors!"

AUSTRIA.—The Conference of Ministers at Nuremberg closed on Friday. The Ministers who took part in the meeting left on Saturday morning, and are said to be satisfied with the result. In the sitting of the Reichsrath on Wednesday the Finance Committee proposed to grant to the Minister of Finance a loan of 80,000,000fl. Count Wickenburg, the Minister of Commerce, has been relieved of his functions, and appointed member of the Upper House for life. It is said that the post he has quitted will not be filled up for the present.

HUNGARY.—The Chancellor of Hungary has forwarded a letter to the Lower House of the Reichsrath, stating that he will be represented by an Aulic Councillor in the Finance Committee during the debate upon the loan to palliate the distress existing in Hungary. The *Surgöny* of Pesth on Saturday published a leading article, in which it openly pronounces itself in favour of the acceptance of the February constitution. It reminds its readers that the acceptance of the Pragmatic Sanction took place in Hungary 10 years later than in Transylvania, and it proves that the apprehension of being annihilated by the majority of the Reichsrath is not justified. It

concludes by urging the acceptance of the constitution as soon as possible, in case the Nationalities, tired of waiting, might declare their adhesion without the concurrence of the Hungarians.

Russia.—The French papers state that Earl Russell a few days since addressed a despatch to the English Minister at St. Petersburg, repeating in an official form, as the deliberate opinion of the Government, that Russia had forfeited the right she had acquired to Poland under the Vienna Treaty; and that a counter order was sent by telegraph that this despatch should not be communicated to Prince Gortschakoff. It is stated that the counter-order was obtained at the pressing instance of Count Von Bismark, the Prussian Prime Minister, who instructed the Prussian Minister in London to take the earliest opportunity of declaring to Lord Russell that Prussia not only would not join in the intervention of the Powers, but would consider armed intervention as a *casus belli*. Letters from St. Petersburg state that General Annenkoff and General Mouravieff have both demanded their recall. Numerous reinforcements have been sent to the Caucasus, and the corps of observation in Bessarabia has been considerably increased.

Poland. — The landowner Piotrowski and the peasants Horuszewski and Profunezuk have been hung at Dobryr, in the government of Grodno, by order of General Mouravieff; and on Thursday four Polish gendarmes were hung in the Gezyboff Square, in Warsaw, by sentence of court-martial. In the course of Friday night 50 members of the municipality of Warsaw were arrested. Among them were Provosts Bialsbezeski, Wyscynski, and Stecki, the photographer Bayer, the banker Kamics, the pastor Kramstuck, and the editor Neufeld. On the same day a *razzia* was made upon the young men of Warsaw. Several hundreds were seized, searched, and stripped to the skin. The same operation was repeated at night, 180 young men being arrested and carried off to the citadel. A domiciliary visit also took place at the residence of the Saxon Consul, Herr Lessir. His effects were sealed up, and the Consul himself confined to his house. General Trepow, the chief of the police, has since paid a visit to the Consul, and explained that the steps taken with respect to him were the result of a misunderstanding. The seals placed upon the Saxon Chancellery have been removed. General Berg has ordered that passports for abroad be no longer delivered on any pretext. He has also issued orders forbidding mourning to be worn after the 10th November. Passengers on foot violating the ordinance are to be fined 10 roubles; the proprietors of private carriages with mourning emblems, 100 roubles; persons in hired vehicles, 15 roubles. Officials transgressing are to forfeit one month's pay. Mourning for the dead is permitted. On the 14th the detachment under the orders of Captain Vendorff defeated the remainder of the united bands of Slapski and Matuszewicz in the district of Kalisch. The insurgents suffered a considerable loss. Russian accounts say that the corps commanded by Waligorski and Slaski, 700 strong, has been completely defeated by the Russians, and that the fugitives retreated upon Austrian territory. Another account says that a corps under Waligorski is encamped on the Galician frontier. Russians being on their way to meet them, an encounter is expected. Czachowski has gained a decided victory over Russian infantry and cavalry, capturing their arms and munitions. The Russians retreated to Staszow, in the government of Radom. Another account says that Czachowski's detachment has been almost entirely dispersed, and that Czachowski himself fled with a body of cavalry. A corps of 2000 well-armed insurgents, with cavalry, has crossed the Vistula at Baranow—and entered Poland. At Palawy, on the Vistula, the insurgents have captured a Russian convoy. Another band, numbering 700 men, is said to have been defeated and dispersed. A new insurgent corps has since made its appearance, commanded by Baron Plötz. Railway communication between Warsaw and Vienna is interrupted, the insurgents having destroyed the bridge at Skierniewice.

Italy.—The *Official Gazette* of Saturday publishes a decree convoking the Senate and Chamber of Deputies for the 17th November. The review of the Italian naval squadron, consisting of 24 vessels, will take place at Naples on the 10th November. The King will leave Turin for Naples on the 7th. The Diplomatic Body have been invited to accompany the King to witness the review. M. de Sartiges has been decorated with the grand cross of the order of St. Maurice and St. Lazarus. Gen. Bixio has been appointed to the command of the military department of Alessandria. Prince de la Tour d'Auvergne has arrived at Turin and had an interview with M. de Sartiges, who will immediately repair to Rome. The young Queen of Naples is in bad health, and is said to be spitting blood. Her cousin, the King of Bavaria, anxious to effect her restoration to health, has brought with him a German doctor of great repute, under whose care he is desirous of placing her.

Sicily.—The King of the Greeks arrived at Messina on Tuesday morning, and was received by the civil and military authorities. His Majesty proceeded on his voyage after a stay of four hours.

Malta.—The Maltese papers loudly protest against the assertion of *La France* that discontent exists in Malta. They admit, however, that a petition is in course of signature against the military administration of the island; praying for the appointment of a civil governor and a reform of their council.

Ionian Islands.—The Lord High Commissioner has stated, in reply to the address of the Ionian Parliament, that the British Government was unable to come to any decision at present as to the demolition of the fortifications, the other great Powers having not yet come to an understanding upon the question. The Parliament was prorogued on Saturday for six months. Public rejoicings on account of the annexation continue.

Turkey.—The question of the Budget is settled. The surplus is to remain undiminished, and the Imperial Bank is to pay the dividends on the New Consolidés in Constantinople. The *Nord* asserts that there is no truth whatever in the assertion that Russia is building vessels of war in the Black Sea, or that her relations with Turkey are disturbed. The entire statement is based upon the additions being made to the fortifications of Kertch.

Syria.—The *Opinion Nationale* states that a serious state of things prevails in Syria, and says that 20,000 Arabs have revolted in the Hauran, and that the English have recommenced their intrigues, and patronise the Greek Catholic candidate for the position held by Daoud Pacha.

China.—From Pekin and the northern ports there is no news of importance; everything appears to be quiet at the foreign settlements. Major Gordon continues to manœuvre against the rebels. He is said to have occupied an island in the Tae Hu Lake, while Dr. Macartney has taken a large city called Fungching. The rowdies who compose Burgevine's force have not again attacked the Imperial troops. It is rumoured that they are to be led against Ningpo; and, as loot is their object, and they cannot sack Shanghai, the rumour may prove correct. The American Consul has protested against the proclamation of the military mandarin at Shanghae offering a reward of 1000*l.* for the person of Burgevine, dead or alive, but the mandarin has refused to withdraw the proclamation.

Japan.—By the overland mail we have further details of Admiral Kuper's operations at Kagosima. It appears that the fleet reached Kagosima on the 24th August, and that Colonel Neale at once intimated by letter to Prince Satsuma that the object of its visit was to demand 25,000*l.* compensation for Mr. Richardson's murder, and the execution of his assassins. A vague and unsatisfactory reply having been returned, a second more stringently worded despatch was sent, but as it produced no more satisfactory result it was resolved to commence measures of coercion. Prince Satsuma had lately bought three steamers, the Sir George Grey, Content, and England, which were lying, as it was thought, safe in a small inlet, out of reach of the guns of the fleet. It was decided to cut these out, an operation which was quickly effected by the boats. The steamers were then lashed alongside three gunboats, and a further delay ensued to enable the Japanese to choose their course of action. A volley fired from one of the heaviest batteries at the Euryalus flagship, soon showed that they had determined on hostilities, and Admiral Kuper at once ordered the three prizes to be cut adrift and burnt, and a general engagement ensued. The Japanese fought their guns admirably, and the cannonade, after six hours' continuance, was only put a stop to by night, without any apparent relaxation in their fire. The next morning, however, it was notably weaker, and in less than two hours had completely ceased. By this time the fortifications were almost destroyed, two-thirds of Kagosima were levelled with the ground, and a large arsenal and foundry had been reduced to ruins. With the exception of the Euryalus, which led the line and sustained the heaviest fire, the British fleet escaped without serious injury. The flagship, however, suffered severely. Her Captain (Josling) and Commander (Wilmot) were killed; Lieutenant Jephson was wounded, besides 30 of the crew put *hors de combat*. The Euryalus was holled ten times, and her masts and rigging cut to pieces. The casualties among the remaining vessels were only 33. The vessels engaged were the Euryalus, Pearl, Argus, Perseus, Coquette, Havoc, and Racehorse. The first two only are frigates. The guns used by the Japanese varied between 150-pounders and 32-pounders, and are said to have been of American manufacture. Admiral Kuper had now done his worst. Without a land force he could do nothing further to compel Satsuma to accede to our demands; and as the latter evinced no desire to negotiate, the Admiral left for Yokohama on the 17th to refit. The Rattler, which arrived at Hong Kong on the 30th, brought news of his safe arrival; she was sent over for provisions and stores, and left again with all speed on the 1st September. Everything was quiet, both at Yokohama and Nagasaki, when she started.

United States.—General Lee's whole army crossed the Rapidan on the 8th inst., moving towards Madison Court House, to turn General Meade's right. A sharp engagement occurred on the 10th, between a Federal reconnoitring party and Stuart's cavalry, near Robertson's River, resulting in a defeat of the Federals, who were pushed back to Culpepper. General Meade subsequently abandoned Culpepper, and has fallen back to the north bank of the Rappahannock, in the neighbourhood of Manassas Plains, Gen. Lee's whole force, having crossed the Rappahannock, pressing his rear. The retreat of General Meade was conducted in good order and with little loss. General Buford's and Kilpatrick's cavalry, which covered the rear, had severe engagements with the Confederates, experiencing considerable losses in officers and men. Gregg's cavalry was surrounded while reconnoitring, and lost 500 men. On the 14th a desperate fight occurred between Generals Lee and Meade near Bristow Station and Manassas Junction. On the following day General Meade issued a complimentary order, reporting to his army that the attack made upon its rear guard had been repulsed with the loss to the enemy of five cannon, two colours, and 450 prisoners. On the evening of the same day General Lee attempted to flank General Meade by way of Chantilly, and to get in his rear through Fairfax Court-house. The attempt was frustrated by General Meade falling back to Fairfax, which is only 15 miles from Washington. The objects of Lee's advance and the reason for Meade's refusal to accept battle form the subject of much conjecture. General Meade is in position at Centreville, but General Lee has not yet crossed the Potomac. General Lee occupies the old battlefield of Bull Run, and his pickets are close on Meade's front. A Confederate corps under Hill moved towards Leesburg on the 15th. A Federal reconnoitring force was watching its movements. The Confederates hold all the Bull Run mountain passes. Chattanooga advices to the 10th inst. report that the Federal artillery have compelled the withdrawal of Bragg's head-quarters from Missionary Ridge, and of the Confederate batteries from the north-eastern slope of Look-out Mountain. The Confederates are building pontoons, probably with the view of crossing the river to flank Rosencrans. The Confederate Gen. Wheeler, with his cavalry, recently engaged in harassing General Rosencrans's supply trains, had returned to Georgia, crossing the Tennessee at Misele Shoals, in Alabama, pursued to its banks by the Federals. The railroad between Nashville and Stevenson has been repaired. It is reported that no Western reinforcements have yet reached Chattanooga. The Confederates are intrenching themselves in force on Burnside's left, and Bragg has thrown a force across the Kiawashee river, upon Burnside's right, compelling him to fall back to beyond Athens which the Confederates occupy, thus isolating Burnside from Rosencrans. General Burnside however is said to have been successfully skirmishing on the East Tennessee and Virginia Railroad. General Longstreet has succeeded Bishop Polk, who has been suspended on account of a misunderstanding between him and the general commanding the department. The Atlanta papers report that President Davis will shortly move to Georgia to command Bragg's army. Advices from Charleston to the 11th state that the closing of Charleston Channel to the iron-clads will, it is supposed, render the siege of Charleston very lengthy. A vessel carrying a torpedo had struck the Ironsides amidships. The explosion caused a severe shock, breaking the bulkheads. Official despatches say she is not materially injured. The torpedo vessel was sunk, and her captain captured. He asserts that the Ironsides was driven under, so that the water ran into the torpedo's smoke-stack. Three Monitors have been injured by the Confederate batteries, and are repairing at Hilton Head. One, struck in the side, leaks. Washington despatches assert that a combined land and naval attack against Charleston will shortly take place. The repulse of the Federals above Port Hudson is confirmed. They lost 480 prisoners. General Dana has since advanced against the Confederates, who retreated. The Federals advancing into the Teche country are still occupied in considerable skirmishing. Gen. Blunt has started in pursuit of the Confederates who captured his body guard. Guerillas are still active in Missouri and along the Pacific railroad. Generals Price and Kirby Smith are reported moving on Little Rock in force. Shelby's guerillas have been defeated in Missouri, losing all their artillery, baggage, and numerous prisoners. The Federal General Saxton has placed a lien upon the North Carolina cotton crop until all the claims of the plantation labourers are paid. Mr. Curtin, the Republican candidate, has been elected Governor of Pennsylvania. Mr. Vallandigham has been defeated in Ohio by a large majority. The elections in Iowa and Indiana have also gone in favour of the Ministerial candidates and of the vigorous prosecution of the war. President Lincoln has called for 300,000 volunteers. The bad feeling between the Conservatives and Abolitionists in Missouri is increasing. The Governor of Missouri has warned the people against forcible interference with the State government or with the elections. It is reported that President Lincoln refuses to comply with the principal requirements of the Missouri Abolition delegation. Secretary Chase, who is making a tour in the West, has delivered a speech in Cincinnati, in which he justified every act of the Administration, and believed the rebellion virtually at an end. He declared that the evidences of strength shown by the Republic during the war were sufficient guarantees against intervention; that certain acts of unfriendliness had sometimes made him feel "as if he should like to take old Mother England by the hair and give her a good shaking." He was certain that no more pirate ships would be sent out from England to prey upon American commerce, and that eventually England would consider it the best policy to

pay for all the depredations of the Alabama and her consorts. In another speech he declared that the English aristocracy and French despotism would like to see the Union destroyed. He attributed the non-intervention of foreign Powers to the great display of Federal strength. He foresaw a grand future of power for America; and the time would arrive, he said, when England would regret her friendship with America's enemies. He felt certain that England, after calm reflection, would conclude that it was best to pay the American merchants for the damage done by the Alabama. He thought that England would be very much troubled about Vallandigham's defeat. He did not believe that a Mexican empire could last on the American continent. The Tammany and Mozart Democratic parties at New York have united. Earl Russell's Blairgowrie speech has been favourably received. The press attributes his confirmation of England's neutrality to the great display of the Federal resources. At a citizens' banquet given to the Russians at Astor House, the Russian Admiral accepted an invitation to Baltimore. Another Russian steamer has arrived at New York, and six others are expected. Admirals Milne and Renau, with the officers of the English and French fleets, have visited the public institutions of New York. The absence of the Russian Admiral and officers, who were invited, was a subject of much remark. President Davis has been making a tour of inspection in the South. A sharp correspondence has passed between the British Consul of Savannah and the Governor of Georgia respecting the enlistment of British subjects. The *Richmond Whig* strongly urges the dismissal of British Consuls, because they are only accredited to President Lincoln's Government. The *Richmond Despatch* is incensed at the detention of the Confederate rams, and observes:—"If England would stop Irish emigration, the war would end in three months." The captain of the ship Robert Peel has protested, through Lord Lyons, against her seizure. The steam-transport Union captured the English blockade-running steamer Spaulding, on the 11th, with a valuable cargo from Nassau. The captured vessel had a crew of 25 men and 4 Confederate colonels on board, all of whom were made prisoners. The steamer Sumter is reported to be in Wilmington harbour. The steamer Bowmanaville, from Quebec for Havannah, calling at New York in distress, has been seized upon suspicion of being a blockade runner.

CANADA.—The Legislature was prorogued on the 15th inst. The *Toronto Leader* publishes a lengthy manifesto by Mr. W. Cornell Jewett to Governor Seymour, of New York, in advocacy of European mediation.

MEXICO.—The city of Orizaba has been captured by the Mexican forces, under General Cuellar, and General Negrete has entered Puebla, where he defeated the forces of General Ornoz, one of the French-Mexican generals. General Ornoz has been recalled by General Forey, and his command taken from him. General Marquez has been sent a prisoner to France, for some reflections cast upon the French Government in an address which he sent to the Triumvirate. The report that General Comonfort and Senor Doblado had given in their allegiance to the French, turns out to be untrue. They have both published strong appeals to their countrymen to resist the French to the last.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 93 to ⅛ for Money, and 93 to ⅛ for Acct.; Three per Cents. Reduced, 91⅞ to ⅛; New Three per Cents., 91⅞ to ⅛; Red Sea Telegraph, 21; India Stock, 224; Ditto Five per Cent. Stock, 109¼ to ½; Ditto Four per Cent., 100¾; Ditto Bonds, 22s. pm.; Five per Cent. Enfaced Rupee Paper, 106¼; Exchequer Bills, 2s. pm. to 1s. dis.—FOREIGN: Austrian, 67¼ (exchange, 10l.); Brazilian, 1852, '58, '60, 90¼; Ditto Scrip, ⅝ pm.; Equador New Consolidated, 15¼; Egyptian, 101½; Greek, 30; Ditto for Acct., 30¼ to ⅜; Ditto Coupons for Acct., 14⅝ to ¾; Italian, 72⅜; Ditto for Acct., 72½; Ditto Maremmana Railway, 80⅞; Mexican, 41⅛ to ⅛; Ditto for Acct., 41⅛ to ¼; New Granada, 15⅛; Portuguese, 1856, '57, '59, '60, and 1862, 49¾; Ditto for Acct., 49⅞; Russian, 1859, 58¼; Ditto 1862, 93; Sardinian, for Acct., 90; Spanish Passive, for Acct., 35¾ to ⅝; Ditto Certificates, for Acct., 13⅝ to ¾; Turkish, 1854, for Acct., 92¾; Ditto 1858, for Acct., 70¼; Ditto 100l. Bonds, 73 to ¼; Ditto 1862, 71⅜ to ⅛; Ditto, for Acct., 71; Venezuela, 1862, for Acct., 61¾.

## Gazette of the Week.

FRIDAY: *October* 23.—BANKRUPTS.—L. C. ADHEMAR, Brighton, Sussex, Teacher of French—C. ALLMAN, Pitts Hill, Staffordshire, Journeyman Potter—I. ABRAHAMS (trading as ABRAHAMS & Co.), Great Portland Street, Oxford Street, Estate Agent—W. BLAKEY, Burnley, Lancashire, Beerseller—S. BROWN, Macclesfield, Cheshire, Silk Agent—J. BRANNON, sen., Birmingham, Cattle and Pig Dealer—W. BROWN, Hastings, Tobacconist—W. BILLETT, Outwood, Somersetshire, Farmer—J. BANKS, Barkston Ash, Tadcaster, Yorkshire, Farmer—W. K. CORNISH, Bristol, Accountant—J. CLARK, Buckland Brewer, Devonshire, Retired Farmer—R. CONNON, South Shields, late Shipowner—J. CARRUTHERS, late of Barrow, Lancashire, Stonemason—C. CLARK, Chesterfield, Derbyshire, Grocer—J. CARR, Bedlington, Northumberland, Innkeeper—J. DUNN, Dudley, Worcestershire, Licensed Victualler—W. DAVIES, Hereford, Upholsterer—J. FLINT, Belgrave Terrace, Pimlico, Slate Merchant—E. FOULKES, Llandudno, Carnarvonshire, Fishmonger—E. FROST, Market Rasen, Lincolnshire, Licensed Victualler—T. FLETCHER, Portsea, Hampshire, Tobacconist—J. FROST, Pelham Place, Grange Road, Bermondsey, Carman—A. A. GOULD, Little Dean, Gloucestershire, Clerk—W. GADD, Birmingham, Blacksmith—J. HOCK, jun., Hereford, Innkeeper—W. D. HOLTBY, Haxby, Yorkshire, Corn Dealer—S. R. HAWARD, Lowestoft, Suffolk, Butcher—W. HASLEHAM, Penton Place, Walworth, Retired Lieutenant in the 6th Royal Veteran Battalion—G. HANCOCK, late of St. Thomas Street East, Southwark, Porter—FREDERICK HODGES, Balsall Heath, Worcestershire, Builder—RICHARD HEY, Dewsbury, Yorkshire, Woollen Manufacturer—J. HARRISON, Guisborough, Yorkshire, Innkeeper—M. HICKEY, Birmingham, Grocer—G. HEWETSON, Cockermouth, Cumberland, Innkeeper—R. HEWETT, Reading, Tailor—C. HAYWARD, Birmingham, late Brewer—W. HOBSON, Wath-upon-Dearne, Yorkshire, Chemist—R. H. HILL, Francis Street, Newington, Attorney's Clerk—J. KINSLEY, Kingston-upon-Hull, Brass Founder—H. T. KILLNER, Gloucester, Innkeeper—T. KNIGHT, Southampton Street, Camberwell, Grocer—E. KEMPSTER, Shudehill, Manchester, Dealer in Eggs—D. LLEWELLYN, Bridgend, Glamorganshire, Builder—T. LAMBERT, James Grove, Peckham, Book Keeper—W. LEES, Francis Street, Vauxhall Road, Cab Driver—T. LEWIS, Commercial Street, Whitechapel, Printer—W. LEIGHTON, Kingston-upon-Hull, Innkeeper—C. MULLEY, Stanton, Suffolk, Farmer—R. M'KEND, late of Kendal, Westmoreland, Travelling Draper—A. MARSH, Sheffield, Stonemason—J. MENDHAM, Swaffham, Norfolk, Plumber—E. D. J. M'CARTHY, East Surrey Grove, Peckham, Commercial Clerk—J. MEADES, Stratford-upon-Avon, Warwickshire, Carpenter—R. H. MENDS, Melbourne, Derbyshire, Lieut. in the Royal Navy—W. NEAL, Knighton, Leicestershire, Manufacturer of Fancy Hosiery—J. V. NICKLIN, Lowestoft, Suffolk, Engine Driver—H. W. PATRICK, Bread Street, Golden Square, Dentist—J. POWELL, late of High Rock, Herefordshire, Wheelwright—G. PETERS, Middle, Shropshire, Tailor—J. PIERCY, York, Grocer—J. PODGER, Weston-super-Mare, Somersetshire, Baker—W. PARKINSON, late of Over Darwen, Lancashire, Cloth Manufacturer—J. G. ROPER, Whitehaven, Cumberland, Journeyman Rope Maker—M. S. RICHARDS, Portsea, Hampshire, Commercial Traveller—J. B. RILEY, late of Nottingham, Slater—FRANCIS ROMER (sued and committed as FRANK ROMER), Arthur Road, Tollington Park, Clerk in her Majesty's Court of Admiralty—W. RIDLEY, Burton Joyce, Nottingham, Trimming Manufacturer—J. SCOON, Bewaldeth, Cumberland, Farmer—H. E. STRONG, Rochester, Custom House Agent—J. SYLVESTER, Louth, Lincolnshire, Watchmaker—W. SPARKS, also known as W. SPARKS, jun.), Drayton, Oxfordshire, Farmer—J. STUCKEY, Clevedon, Somersetshire, Livery Stable Keeper—PETER REED SHARPE (known as REED SHARPE), Beaumont Square, Mile End, Commission Traveller—J. SLATER, Birmingham, Ivory Turner—E. SMITH, Oldswinford, Worcestershire, Builder—E. SANDERS, Hanley, Staffordshire, Groom—W. A. SEALE, Brighton, Sussex, Commission Agent—T. STANDEVEN, Halifax, Yorkshire, Millright—D. TUMMEY, Wednesbury, Staffordshire, Draper—J. TURNER, Eccleston, Lancashire, Painter—W. TOWSEY, Southampton, Hotel Keeper—T. F. TYERMAN, Park Place, Church Street, Chelsea, Architect—W. A. TURNER, White's Grounds, Bermondsey, Starch Manufacturer—T. TODD, Little North Street, Whitechapel Road, Congreve Match Maker—J. D. TOLLEY, Birmingham, Late Dealer in Ale and Porter—J. VINCE, Ipswich, Shoeing and General Smith—W. WILLIAMS, sen., late of Providence Buildings, New Kent Road, Turner—E. WOODHOUSE, Nottingham, Furniture Dealer—J. WAFFSTAFF, Bawtry, Yorkshire, Cattle Dealer—G. WILSON, Clay Cross, Derbyshire, Carrier—J. D. YOUNG, Rolls Terrace, Chelsea, Contractor.

SCOTCH SEQUESTRATIONS.—S. JOHNSTON, Glasgow, Jute Manufacturers—G. LEITCH, Elie, Fifeshire, Currier—REID and ANDERSON, Glasgow, Wholesale Grocers.

TUESDAY: *Oct.* 27.—BANKRUPTS.—G. ALEXANDER, Scarborough, Draper—S. ALLAWAY, Lydney Works, Gloucestershire, Ironmaster—B. AMIABLE, Manchester, Painter—J. ATHA, Bingley, Yorkshire, Watchmaker—T. ALDRIDGE, Seacombe, Cheshire, Commission Agent—R. S. BELT and J. WHITFIELD, Winlaton, Durham, Grocers—G. D. BENSLEY, Wells, Norfolk, Chemist—B. G. BOULT, Norwich, Publican—E. BEARDSWORTH, late of Blackburn, Lancashire, Hairdresser—R. BURNELL, Grove Street, Lisson Grove, Gasfitter—F. BULLIVANT, Kilnhurst, Yorkshire, Labourer—S. BUCKLEY, Werneth, Oldham, Lancashire, Corn Miller—A. BRODIE, Princes Street, Hanover Square, Tailor—R. BRAINES, Lowestoft, Suffolk, Wholesale Fish Dealer—C. CURTIS, Bath, Jeweller—J. P. CUMMINGS, Leeds, Draper—J. CARNALL, Longton, Stoke-upon-Trent, Staffordshire, Potter—GEORGE CLARKE, Bury St. Edmund's, Suffolk, Baker—JAMES HENRY CLAYTON, Serle Street, Lincoln's Inn, Attorney-at-law—JOSEPH CAILE, Gifford Terrace, Blue Anchor Lane, Bermondsey—J. CHANTER, Berkeley Mews West, Connaught Square, Coach Painter—W. DANN, late of Palace Place, South Hackney, Saddler—A. S. W. DIBLEY, Lambeth Walk, Surrey, Baker—G. T. EVANS, Bond Street, Vauxhall, Smith—R. ELLIOTT, Grove Street, Commercial Road East, Catsup Manufacturer—J. ELLIOT, Crosby, Cumberland, Farmer—W. FENTON, Garway Road, Westbourne Grove—W. C. FORSTER, late of Lower Marsh, Lambeth, Agricultural Chemist—A. FOX, Shooter's Hill Road, Kent, Farmer—E. W. FRASER, late of Anglesea Tavern, Hammersmith, Beer Retailer—R. J. GRIX, Mason's Avenue, Basinghall Street, Tailor—J. GOSLIN, Bridgewater, Somersetshire, Beerhouse Keeper—J. HOLDSWORTH, Burnley, Lancashire, Innkeeper—H. HAMILTON, Rotherham, Yorkshire, Painter—T. HART, Bristol, Labourer—J. H. HUGO, Waterloo, Liverpool, Book-keeper—C. HUSKISSON, Beoley, Worcestershire, Farmer—J. W. JONES, late of Kennington Terrace, Kennington Lane, Surrey, Apothecary—C. JONES, late of Vine Cottage, Kensall New Town, Carrier—D. LAWRENCE, Rugby, Warwickshire, Dealer in Pictures—JAMES EDWARD LINSDELL, Dover, late Clerk in Royal Engineer Department—JAMES ROBERTS LOCKWOOD, Victoria Road, Old Ford, late Corn Chandler—HENRY LEAD, late of Smithfield Bars, Hair Dresser—D. MARKWELL, Wick Road, South Hackney, Linen Draper—M. MORGAN, Bodenham, Herefordshire, Farmer—J. MERCHANT, late of Marylebone Road, Waterman—J. MASLEN, late of Shoreditch, China and Glass Dealer—W. MATTHEWS, Frating, Essex, Maltster—H. MORGAN, Stockton-on-Tees, Bricklayer—J. NEWSOME, Rochester, Manufacturer of Washing Crystals—T. NORRIS, Bermondsey New Road, Brushmaker—J. NIXON, late of Francis Street, Hampstead Road, Coal Merchant—J. FRASER OATES, Dewsbury, Yorkshire, Rag and Waste Dealer—J. OLDFIELD, Brotherton, Yorkshire, Ship's Captain—W. H. OTTLEY, Dowgate Hill, City, Grocer—R. PINHORN, late of West Cowes, Isle of Wight, General Dealer—R. PICKEN, Hanley, Staffordshire, Hair Dresser—M. PARKER, late of Crispin Street, Bishopsgate Street, Labourer—C. R. PACE, West Hartlepool, Painter—W. PAYCE, Sheffield, Comb Dealer—HENRY CHARLES PRIEST, Bristol, Timber Dealer—FREDERICK RUST, Great Waltham, Essex, Corn Merchant—J. RANSLEY, late of Caledonian Road, Islington, Carpenter—T. STUBBS, Priors Wood, Wigan, Lancashire, Cattle Dealer—S. SIMMONS, Windsor Street, Bishopsgate Street, Haberdasher—T. SELF, Norwich, Gasfitter—JOHN WESTLEY SMITH (sued as JOHN WESLY SMITH), Grosvenor Street, Grosvenor Square, Auctioneer and Picture Dealer—J. SCHAFER, Upper Mansfield Place, Kentish Town Road, Chandler's Shopkeeper—J. SMITH, Wolverhampton, Licensed Victualler—J. TAYLOR, High Street, New Brentford, Bedding Manufacturer—J. F. TRANAH, jun., Rochester, Baker—G. THORN, Bristol, Mason—O. VIALLS, Church Street, Lower Edmonton, Quartermaster in the Army—W. WAKELIN, Bicester, Oxfordshire, Plumber—B. WHEELWRIGHT, Birmingham, Jeweller—J. WOODS, Liverpool, Wine and Spirit Merchant—T. WRIGHT, Winchester, Builder.

SCOTCH SEQUESTRATIONS.—J. E. ALMOND, Edinburgh, Mourning Warehouseman—D. DALGLEISH, Edinburgh, Flesher—G. SHAND, Lossiemouth, Elgin, Shipowner—W. MATHISON, Stranraer, Grocer.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £28,419,410 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,769,410 |
| | | Silver Bullion .. .. .. | — |
| | £28,419,410 | | £28,419,410 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £10,995,363 |
| Rest .. .. .. .. .. .. | 3,145,727 | Other Securities .. .. | 19,693,489 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 4,462,163 | Notes .. .. .. .. .. | 6,547,360 |
| Other Deposits .. .. .. | 15,015,128 | Gold and Silver Coin .. | 668,164 |
| Seven days and other bills | 728,386 | | |
| | £37,904,376 | | £37,904,376 |

Oct. 29, 1863. M. MARSHALL, Chief Cashier.

## Metropolis and its Vicinity.

CITY TRAFFIC REGULATIONS.—The Court of Aldermen have agreed to a series of bye-laws for the regulation of the City traffic, framed under the City Police Act of last session, and ordered them to be transmitted to the Home Secretary for his approval. The first and principal regulation makes it obligatory upon the driver of every omnibus and cab going eastwards through St. Paul's Churchyard, the destination of which is London Bridge, or any place beyond the bridge, to pass along Cannon Street, and to take the same route in making the reverse journey. The effect of this rule will be greatly to relieve Cheapside and the narrow gorge of the Poultry. Again, between 9 in the morning and 6 in the evening no one is to drive a vehicle through the streets so heavily laden as to require more than four horses to draw it, or laden with merchandise to a greater height than 16 feet from the ground. Between 6 in the morning and 10 at night the conducting of any kind of locomotive propelled by steam, except a steam fire-engine actually going to or returning from a fire, is strictly prohibited; as is also the driving, between 9 in the morning and 6 in the evening, of any cart or wagon wholly or partially laden with timber or any other material exceeding 25ft. in length or 8ft. 6in. in breadth. No coals, beer, wine, or other liquid in casks, conveyed in carts, waggons, or vans, will be allowed to be delivered in 24 of the principal streets of the city between 9 in the morning and 5 in the evening—namely, Gracechurch Street, Bishopsgate Street Within, Threadneedle Street, Cornhill, Lombard Street, Leadenhall Street, Fenchurch Street, Tower Street, Eastcheap, Cannon Street, King William Street, Upper or Lower Thames Street, Fleet Street, Ludgate Hill, Ludgate Street, Newgate Street, Cheapside, the Poultry, Gresham Street, Princes Street, Lothbury, Throgmorton Street, or Old Broad Street. The sale of vegetables, fruit, fish, or other articles carried upon any truck or vehicle is prohibited between 9 in the morning and 6 in the evening in the same streets, and on London and Blackfriars bridges. Every waggon, van, and the like is to be placed with its side parallel with the foot pavement when being loaded or unloaded, or stopped for any other purpose. Upwards of 70 principal places are indicated at which 88 shoeblacks may ply their calling. At the greater number of places one shoeblack will be stationed, and in many two; but at the Royal Exchange, by the Duke's statue, there well be six, and in front of the General Post Office, St. Martin's-le-Grand, four. The Commissioner of the City Police is empowered for the public convenience to alter or increase the standings or the number of shoeblacks, so that the number of standing places does not exceed 150, and the number of shoeblacks 300 in the whole. These are the principal regulations; but there are others prohibiting the obstruction of streets and footways by persons with various enumerated articles for sale, or by goods or merchandise during removal, so as to hinder or incommode a free passage. By the Act each of the by-laws, when sanctioned by the Secretary of State, may be enforced by penalties not exceeding 40s. for each offence, with the alternative of a term of imprisonment. The Aldermen have not exercised the power conferred by the Act to regulate the mode of distinguishing hackney cabs when empty and when actually plying for hire, on the ground, it is said, that these questions rest rather with Sir R. Mayne, but various improvements connected with them as well as with the inconvenient system of touting for hire are said to be under consideration. On Saturday nearly 200 drivers of omnibuses, cabs, and other vehicles, were summoned before Aldermen Wilson, Mechi, and Challis, for various offences under the Act. They were informed that the fines for all offences calculated to impede the traffic will in all cases be endorsed upon the licenses, and for every repetition of an offence double the amount of the previous penalty will be imposed. These proceedings have caused no little sensation among the drivers and proprietors of public conveyances, and on Saturday a deputation from the different proprietors of omnibuses attended before the Court of Aldermen, to hear the new Regulations read. They were informed that it is proposed to remove the present time-keepers from all the omnibus stations, and to appoint others in their places, to be under the control of the Commissioners of Police, and to be changed from time to time for the purpose of avoiding any chance of bribery. It is also proposed to remove the line of stationary omnibuses from one side of Gracechurch Street, whereby additional space for traffic will be opened in one of the most important thoroughfares. No omnibus will be allowed to turn round except on taking up its position at its starting point. Omnibuses will on no account be allowed to crawl, as it is termed, through the Poultry on their journey from London Bridge and the Bank—a practice which the magistrates are determined to put down by the most stringent measures. The deputation expressed their entire approval of all these arrangements, and their determination to aid the authorities in carrying out the regulations.

THE CORPORATION AND THE ROYAL HOSPITALS.—At the last meeting of the Court of Common Council it was resolved to institute a law suit, with the view of obtaining a conclusive decision by the proper tribunal as to the class of men eligible for election as Presidents of the Royal Hospitals. It appears that for more than 300 years, namely from 1549 to 1854, it has been the custom, whenever a vacancy has occurred in the presidency of these Hospitals, to elect the Lord Mayor for the time being, or at least an alderman who had passed the chair. This rule was first broken about nine years ago, when the Duke of Cambridge was chosen President of Christ's Hospital over the head of Alderman Sidney, the then Lord Mayor, and again within the last 12 months, when Mr. Cubitt, then no longer an alderman, was elected in preference to the present Lord Mayor. It was therefore resolved to apply for a writ of *quo warranto*, in order to try the legal right of Mr. Cubitt, M.P., to sit as a governor of St. Bartholomew's Hospital, on the ground that he was not an alderman of the City at the time of his election. The threatened litigation however has now been cut short by Mr. Cubitt's death.

GOVERNORSHIP OF THE IRISH SOCIETY.—The Lord Mayor (Alderman Rose) has been unanimously elected

Governor of the Irish Society by the Court of Common Council, in the room of the late Alderman Humphery.

Westminster Bridge Approaches.—Notices are posted up in Palace Yard, by direction of the commissioners for the erection of Westminster Bridge, that it is their intention to sell some more houses in Bridge Street and Palace Yard, which are to be taken down in order to widen the approach to the bridge. It is expected that before the meeting of Parliament the remainder of the houses will be cleared away, so that there will be an open space to Westminster Hall.

Northern Embankment of the Thames.—At the last meeting of the Metropolitan Board of Works, the tender of Messrs. Furness for the construction of the northern embankment between Westminster and Waterloo Bridges, his sureties having been found satisfactory, was accepted. The sum demanded for the contract was 520,000*l.* There was another estimate lower by 25,000*l.*, but the Board was not satisfied with the securities offered nor with the competency of the contractors to carry out the work. At a previous meeting the Embankment Committee had reported that they had considered the plans of the engineer for the construction of the embankment, and had received from their superintending architect a report which had been carefully examined by their solicitor with regard to the properties referred to, and had directed the necessary notices to be served for acquiring or otherwise dealing with those properties. They had also ascertained that the question with regard to the interest of the Crown in the foreshore required for the works had been arranged, and that no impediment existed to the Board approving the plans and letting the contract for the works in question. It is understood that the works will now be commenced forthwith. The tenders for the embarkment between Waterloo Bridge and the Temple Gardens are to be sent in on the 26th November.

The Public Health. — The Registrar-General's Weekly Return states that the deaths in London in the week that ended on Saturday, October 24, were 1246. The average number in the ten corresponding weeks of the years 1853-62, corrected for increase of population, was 1888. The present return is therefore 58 above the average. During the week the births of 1003 boys and 948 girls, in all 1951 children, were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1889.

## Provincial.

Aberavon.—Relays of workmen have been almost constantly employed, since the recent explosion at Morfa Colliery, in endeavouring to recover the bodies still in the pit; but in consequence of the extensive falls of roof and rubbish the work proceeds but slowly, and up to Saturday there were nearly 20 bodies unrecovered. Two more of the sufferers have died from the serious injuries they received, making a total of 39 deaths. Messrs. Vivian, the proprietors, and Mr. C. R. M. Talbot, the lessor of the colliery, have undertaken the whole responsibility of providing for the future wants of the sufferers by the calamity. This spontaneous act of generosity has made a deep impression throughout the entire district.

Birkenhead.—On Monday there was a report that the steam ram lately lying in the Great Float, had slipped out in the fog on pretence of a trial trip. It turned out that it was the other ram, El Mounassir, which had been taken out of Messrs. Laird's large graving dock, and after making a single turn in the river, with the aid of tug-boats, she went into the dock again, the manœuvre having been performed, it is said, to enable another vessel under repair to enter the graving dock. During these proceedings El Toussoun remained in the Great Float, with workmen on board. On Tuesday afternoon a body of armed marines was landed from her Majesty's ship Majestic, and, backed by this force, Mr. Morgan, of the Customs, took formal possession of both rams, and ordered the workmen to leave the ship. The order for the seizures is said to have come from the Foreign Office. The gunboat Heron now lies with steam up, moored to a buoy opposite Messrs. Laird's yard, and the gunboat Goshawk still keeps watch over El Toussoun. The Prince Consort ironplated frigate has since arrived at Holyhead from Plymouth, to assist in preventing any attempt to get the rams away surreptitiously.

Burslem.—The ceremony of laying the first stone of a new public building as a memorial of the life and labours of the late Josiah Wedgwood, who was a native of this town, took place on Monday in the presence of Earl Granville, the Earl of Shrewsbury and Talbot, the High Sheriff of the county, the Bishop of Lichfield, Viscount Ingestre, M.P., the Right Hon. R. Lowe, M.P., the Right Hon. C. B. Adderly, M.P., Sir S. Glynne, Sir J. Duke, M.P., Alderman Copeland, M.P., Mr. Ewart, M.P., Mr. Bramley Moore, M.P., Mr. Salt, M.P., Mr. Grenfell, M.P., Mr. Beresford Hope, Mr. J. Wedgwood, and a large number of gentlemen connected with the Staffordshire pottery and iron works. The ceremony of laying the stone was performed by the Right Hon. W. E. Gladstone, M.P., Chancellor of the Exchequer. The proceedings commenced with the presentation of an address to Mr. Gladstone from the high bailiff and local officers of the town, and of another address from the working men, both of which were acknowledged by the right hon. gentleman in suitable terms. The foundation stone was then laid with the usual ceremonies, prayer having first been offered by the Bishop of Lichfield. Mr. Gladstone then read an address on the life and times of Josiah Wedgwood, and on the peculiar characteristics of his works in relation to their beauty and utility, and to their effects on the ceramic art, not only in England but in Europe at large. This address fills upwards of four columns of the daily papers. The following are extracts:—

"Of imagination, fancy, taste, of the higher cultivation in all its forms, this great nation has abundance. Of industry, skill, perseverance, mechanical contrivance, it has a yet larger stock, which overflows our narrow bounds and floods the world. The one great want is to bring these two groups of qualities harmoniously together, and this was the peculiar excellence of Wedgwood. His excellence was peculiar in such a degree as to gain his name a place above every other, so far as I know, in the history of British industry, and remarkable, and entitled to fame even in the history of the industry of the world. We make our first introduction to Wedgwood about the year 1741, as the youngest of a family of 13 children, and as put to earn his bread at 11 years of age in the trade of his father, and in the branch of a 'thrower.' Then comes the well-known attack of small-pox, the settling of the disease in the lower part of the leg, and the amputation of the limb, rendering him lame for life. It is not often that we have such palpable occasion to record our obligations to the small-pox, but in the wonderful ways of Providence that disease, which came to him as a two-fold scourge, was probably the occasion of his subsequent excellence. It prevented him from growing up to be the active, vigorous English workman, possessed of all his limbs, and knowing right well the use of them; it put him upon considering whether, as he could not be that, he might not be something else, and something greater. It sent his mind inwards, and drove him to meditate upon the laws and secrets of his art; the result was that he arrived at the perception and the grasp of them, which might perhaps have been envied, and certainly had been owned, by an Athenian potter. Relentless criticism has torn to pieces the old legend of King Numa receiving in a cavern from the nymph Egeria the laws that were to govern Rome; but no criticism can shake the record of that illness and mutilation of the boy Josiah Wedgwood, which made for him a cavern of his bedroom and an oracle of his own inquiring, searching, inventive, and fruitful mind. From those early days of suffering—weary perhaps to him as they went by, but bright surely in the retrospect lost to him and to us—a mark seems at once to have been set upon his career. But those who would dwell upon his history have to deplore that many of the materials are wanting. It is not creditable to his country or his art that the life of Wedgwood should still remain unwritten. Here is a man who, in the well-chosen words of his epitaph, 'converted a rude and inconsiderable manufacture into an elegant art, into an important branch of national commerce.' Here is a man who, beginning as it were from zero, had, unaided by the royal or national gifts which were found necessary to uphold the glories of Sèvres, Chelsea, and of Dresden, produced works truer perhaps to the inexorable laws of art than the fine fabrics that proceeded from those establishments, and scarcely less attractive to the public taste. Here is a man who found his business cooped up within a narrow valley by the want of even tolerable communications, and who, while he devoted his mind to lifting that business from meanness, and ugliness and weakness, to the highest excellence of material and form, had surplus energy to take a leading part in great engineering works like the Grand Trunk Canal, from the Mersey to the Trent, which made the raw material of his industry abundant and cheap, which supplied a vent for the manufactured article, and opened for it materially a way to the outer world. Lastly, here is a man who found his country dependent upon others for its supplies of all the finer earthenware, but who by his single strength reversed the inclination of the scale and scattered his productions all over the breadth of the continent of Europe. Commerce did for him what the kings of France did for Sèvres, and the Duke of Cumberland for Chelsea, viz., provided him with funds. And I would venture to say that the lower works of Wedgwood are as much distinguished by the fineness and accuracy of the adaptation to their uses as his higher ones by the successful exhibition of the finest art. Take, for instance, his common plates of the value of a few pence each. They fit one another closely, as the cards in a pack. At least, I for one have never seen any plates that fit like those of Wedgwood, and become one solid mass. This accuracy of form must, I apprehend, render them much more safe in carriage. Of the excellence of these plates we may take it for a proof that they were largely exported to France, if not elsewhere; that they were then printed or painted with buildings or scenes belonging to that country, and then sent out again as national manufactures. Again, take such a jug as he would have manufactured for the garret washhand table. I have seen these made apparently of the commonest material used in the trade, but instead of being built up like many more fashionable jugs of modern manufacture, in such a manner that a crane could not get his neck to bend into them, and that the water cannot be poured out of them without risk of spraining the wrist, they are constructed in a simple, capacious form of flowing curves, broad at the top, and so poised that a slight movement of the hand discharges the water. A round cheese-holder or dish generally presents in its upper part a flat space surrounded by a curved rim; but a cheeseholder of Wedgwood's will make itself known by this—that the flat is so dead a flat, and its curve so marked and bold a curve, at once furnishing the eye with a line agreeable and well defined, and affording the utmost available space for the cheese. I feel persuaded that a Wiltshire cheese, if it could speak, would declare itself infinitely more comfortable in a dish of Wedgwood's than in any other dish. Again there are certain circular inkstands by Wedgwood which are thus described in the 21st section of the catalogue: Great care has been bestowed upon the mechanical arrangement with a view to the preservation of the pen, and the economical and cleanly use of the ink. The prices are from sixpence to eight shillings, according to size and finish. I have one of them, not, however, black like those mentioned in the catalogue, but of his creamy white ware. I guess it must have been published at the price of a shilling or less. It carries a slightly raised rectilinear ornament, which agreeably relieves a form otherwise somewhat monotonous. It is so tasteful that it would not disgrace a cabinet, so plain that it would suit a counting-house. It has no pretension. All Wedgwood's works from the lowest upwards abhor pretension. Wedgwood always seems to have in view a standard of excellence indefinitely high. He never falls into extravagance or excess. I do not mean to say that all the works produced from his furnaces are equally satisfactory, but I am confident that it is easy, even from his cheapest and lower productions, to prove him to have been a man of real genius, thoroughly penetrated with the best principles of art. I have spoken of Wedgwood's cheapest, and also of his costliest, productions; let me now say a word on those which were intermediate. Of those some appear to me to be absolutely faultless in their kind, and to exhibit as happily as the remains of the best Greek art both the mode and the degree in which beauty and convenience may be made to combine in manufacture. I have a slate-coloured *déjeûner* of the ware which I believe is called Jasper ware. This seems to me a perfect model. The tray is a short oval, excessively light, with a surface soft as the finest flesh to the touch, having for ornament a mere scroll of white riband, very graceful in its folds, and shaded with partial transparency. The upper pieces have a ribbed surface, and a similar scroll re-appears, while for their principal ornament they are dotted with white quatrefoils. These quatrefoils are delicately adjusted in size to the varying circumferences, are executed with a rare feeling of nature, and with a precision that would scarcely do discredit to a jeweller. Of the personal character of Wedgwood in its inner sense, the world has not yet been informed; but I can never presume otherwise than well of one who in all those aspects which offer themselves to the view of the world appears to have been admirable. For our present purpose, let us consider him only as a master, which is a matter of more than common interest at a time when so many of the most eminent firms in the district have in a manner the most laudable themselves called the attention of public authority to the condition of their younger labourers, with a view of obtaining the friendly aid of legislative interference for their instruction and protection. Mr. Smiles says that a half-savage thinly populated district of 7000 persons, in 1760 partially employed and ill remunerated, was increased in the course of some 25 years to about treble in population, abundantly employed, prosperous, and comfortable. Nor was this multiplication only without improvement, for John Wesley, who had been pelted at Burslem in 1760, uses the following remarkable words: "I returned to Burslem. How is the whole face of the country changed in about 20 years, since which inhabitants have continually flowed in from every side: hence the wilderness is literally become a fruitful field. Houses, villages, towns, have sprung up, and the country is not more improved than the people." It is impossible to conceive a testimony more honourable to Wedgwood. Nor can I better conclude these remarks than by uttering the cordial hope that you, his successors, who have during late years earned so much honour for the taste and industry of the country, may profit more and more effectually by the lessons which your great forerunner has bequeathed you, and may find at least one substantial part of your reward in witnessing around you a thriving and contented, a healthy and a happy population."

Immediately on the conclusion of the address, the company adjourned to the Town Hall, where a sumptuous banquet took place under the presidency of Earl Granville.

Cambridge.—Earl Powis was on Monday elected High Steward of the University of Cambridge in room of the late Lord Lyndhurst. His lordship was elected without opposition.

Fenny Compton.—Mr. C. Plummer, formerly a servant in her Majesty's Household, was murdered in this neighbourhood on Sunday week. It appears that he was about 60 years of age, and was on a visit to his nephew, Mr. Thomas Ricketts, a farmer near this town. On the Sunday evening he was walking out in the fields with him, when two farm labourers, brothers, named Charles and Henry Beere, took offence because a terrier dog, belonging to Mr. Ricketts, ran at them. Mr. Ricketts ordered the men off the field, whereupon they attacked him with such violence that he had to run for assistance. On his return he found his uncle bleeding from horrible wounds on the head and face; caused by kicks from a heavy shoe, and he has since died of the injuries he received. Prior to his death the brothers were taken into his sick chamber, and he identified Charles Beere as the one who kicked him. This prisoner admitted that he kicked the old man, and corroborative testimony was found in two grey hairs, like those of deceased, found adhering to the toe of his hob-nailed shoe. The jury at the inquest returned a verdict of Wilful Murder against Charles Beere only; but the magistrates committed both on the capital charge.

Liverpool.—At a meeting for distribution of prizes to Volunteers at Liverpool on Friday night, Mr. Laird, the member for Birkenhead, was present, and referred to his connection with the Alabama, and the two iron-plated rams now detained in the Mersey, as well as to the state of our gunnery and dockyards. On the latter subjects he said, that though we had spent upwards of 30,000,000*l.* on the navy in the last three years, we should enter upon a maritime war under the greatest disadvantages, and that an outlay of 2,500,000*l.* on the Armstrong gun had also failed to bring us value for our money. He said that the evidence given before the Commons Committee on Ordnance, of which he was a member, had shown that the old 68-pounder was still our most effective weapon at close quarters, and is superior in smashing effect to the 110-pounder Armstrong gun. If the large 300-pounder guns should be successfully manufactured, and if we determined on arming our ships with them, we must necessarily, he said, employ cupola ships only, because such artillery could not be carried on a broadside; and with such conditions before us, not an hour should have been lost in making trial of the systems proposed. He said that Captain Coles and Mr. Reed had each prepared designs for vessels to carry the new artillery; but whereas these experimental vessels ought to have been ready for sea at this moment, we should have to wait six months longer before we got them afloat. In the meantime, and while this great problem was unsolved, we had been spending millions on vessels which would be condemned as obsolete if either Mr. Reed or Captain Coles could establish his case. With regard to the dockyards he said that if such a system had prevailed in the Mersey as is to be found in all our dockyards in fitting out our ships any commercial man who knew anything of the trade of Liverpool would admit that Liverpool "would never have gone on at all." He did not however, condemn our dockyards altogether even as building yards, or desire, as others do, to see national establishments broken up; but contended that there must be a thorough change of system, and a new plan of supervision intro-

duced before it will be possible to get the work done as it is done in every private yard in the kingdom. On the subject of the Alabama and the rams, he spoke as follows:—

"Various statements have been made about a vessel that has attained to some degree of fame. I refer to a vessel well known throughout this country as the Alabama. I am not ashamed to acknowledge that some of my family have had to do with that ship. Still some statements have been made about her which should be controverted. I should not have made any remark now but for the fact that the Government of this country have made certain statements, and have given certain legal opinions about her, and they have talked about the vessel having escaped. I see gentlemen present who are somewhat of sporting men, and well they know what I mean when I say—when hounds approach a fox cover the fox scents the hounds, and when the huntsman comes up to the cover, the fox is gone. It is nonsense to talk about the fox escaping or about the Alabama escaping. The Alabama was in dock when she was inspected by very many curious people; and in dock she took on board her coals and her stores. There was no secresy whatever observed about the ship. She went out of dock at night; and I ask you, as men of common sense, if she wanted to escape surely the night was a time when she could have escaped? But what was the fact? They were so vain-glorious about their little craft that they anchored her off the Landing-stage, and there she remained until half-past 10 to 11 the following morning, when she left for her destination. They admit that she was not fitted out as a man-of-war, and that they had no legal authority to detain that ship until a man was engaged to serve on board her as a sailor. Does any shipowner present believe, or any man connected with shipping, that the captain of a vessel supposed to be going upon any extraordinary voyage would go and tell a man who appears to have been a hired agent or spy of certain gentlemen in London? Would the captain of a ship on such an expedition go and tell a common sailor at the Sailors' Home all the ins and outs of his intentions regarding that ship? Certainly not. Now I know it is not true that that man was told anything of the sort by the captain. I have been so informed, and I believe the information to be on the best authority. But let me tell you it is not necessary, in engaging men to go to any part of the world, to tell those men where they are going; because, you know, I am an old hand myself in fitting out secret expeditions. A few years ago it was thought desirable by the Government of this country to send vessels to China and to various parts of India secretly. A Chinese war was anticipated; the Russians were expected to come down the head of the Indus and the Euphrates; and it was desirable to place faith in somebody. Her Majesty's Government were pleased to place faith in me, and I built for the British Government about a dozen vessels; but the Government said to me, 'What we want you to do, Mr. Laird, is this—we want you to build, and to arm, and to equip these vessels, and to send them out; they must be yours, and nobody must know anything about it.' Well, being a prudent sort of a shipbuilder, I said, 'I will take your order on these conditions.' I built the ships; they were armed; I engaged men; I did everything. I had to engage not only sailors, but engineers and boilermakers, ship-carpenters, and men of a variety of trades. I had to send them to various parts of the world, and I can assure you that a few shillings per month extra did all the business. They did not care where they went so long as they got a little extra pay. And, therefore, the statement regarding the captain of the Alabama having told a sailor all about the ship—whose she was, and where she was for—bears the impress of falsehood upon the very face of it. I never saw the captain of the Alabama but once, and that was after having taken the ship out, and I don't think that he was the man to make such a statement as that upon which the ship might have been stopped. Let me read you a few words from a speech of the Solicitor-General, who made another great speech the other day at Richmond. He said some months ago:—It was not till the Alabama reached the Azores that she received her stores, her captain, or her papers, and that she hoisted the Confederate flag. It is not true that she departed from the shores of this country as a ship armed for war. And then he went on to say: 'But I wish the House to understand that in those depositions there was a great mass of hearsay evidence, which, taken by itself, could not form the basis of any action. Of the six depositions transmitted on July 22, only one was good for anything at all—viz., the evidence of a person named Passmore, which was sufficient to prove the material facts. Two more were sent, corroborating Passmore, on the 24th, and were received by Earl Russell on the 26th." Passmore was the man who made the affidavit that he was told by the captain where the ship was to go. I don't believe him, and he must have got up the evidence for the occasion. Lord Palmerston, whom we all respect—said on March 27 last.—'I have myself great doubts whether, if you had seized the Alabama, we should not have been liable to considerable damages. It is generally known that she sailed from this country unarmed and not properly fitted out for war, and that she received her armament, equipment, and crew in a foreign port. Therefore, whatever suspicions we may have had—and they were all well founded, as it afterwards turned out—as to the intended destination of the vessel, her condition at that time would not have justified a seizure.' Now, here is Lord Palmerston, an old and experienced man, who says, in his opinion the Government would have been liable to considerable damages had they stopped that ship. I think, after what has been said—considering my connection with this place, and after the noise this vessel has made in the world, the meeting will excuse my having brought forward these questions. Other speeches have been made by a noble lord who does not seem to agree with Lord Palmerston. I mean Earl Russell. He made a speech the other day which has caused a great sensation all over the world, and which the Americans say is only due to the coercion they have put upon him. Earl Russell is a man who is well known and respected throughout the country by his own followers; but he is a man of whom Sidney Smith said that he had such confidence in himself that he would take command of the Channel fleet if necessary. Well, I think Earl Russell has undertaken something that he will not be able to carry through quite so easily as perhaps he might command the Channel fleet. He has undertaken to say in this country that he can do certain things, and that if he finds the law is not sufficient he can go to Parliament for an indemnity. I don't believe myself that Parliament will ever indemnify any man in the country, however powerful and however great he may be, if he is trying to transgress the law. At any rate, up to the time when the Act of Indemnity is passed, there are laws in the land which all of us are bound to obey. Laws are not made for Administrations, but for the people of this country, and the people are only bound to obey the law as it stands, and not to obey laws which may possibly come to be passed hereafter. Another eminent gentleman, Sir Roundell Palmer, had made another speech at Richmond; and I must say, having read that speech, that it is all very well for an eminent lawyer, one of the first legal authorities of the day, to make a speech in the month of March, and say that those were the views of the country, and then to make a speech in support of another client in October of opposite views; but I say it is not the duty of a man who holds the position of a statesman in this country to be placing one interpretation upon certain facts in March, and another in October.

Gloucester.—Rendcomb Manor, one of the finest estates in this county, containing upwards of 4000 acres, has been sold to Sir F. Goldsmid, Bart., Q.C., M.P. for Reading, for 160,000*l.*, by General Sir John Wright Guise, Bart. Rendcomb Park was bought of the descendants of Sir Richard Berkeley by Sir Christopher Guise, who was created a baronet by Charles II., and it has continued in the possession of the Guise family to the present time. The new owner, Sir Francis Goldsmid, is a barrister-at-law, a member of the Hebrew persuasion, and Baron de Goldsmid and de Palmeira, in Portugal.

Nottingham.—The Duke of Newcastle laid the foundation stone of a School of Art and Design in this town on the 22d inst. There was a large attendance, and his Grace dwelt at some length on the benefits to be derived from instruction in science and art generally, and especially on the advantages such an institution would afford to those connected with the peculiar manufactures of Nottingham.

Plymouth.—On Tuesday morning no small excitement was occasioned among naval circles in this town by a rumour that the promoters of the iron rams in the Mersey had threatened to send them to sea by force, and that a man of war was wanted there to intimidate them. The screw frigate Liverpool was at first mentioned as likely to be sent back, and the postponement of a court-martial upon one of her officers took place. Afterwards the new iron-plated vessel, Prince Consort, was ordered to be manned, provisioned, and stored for that destination; but ultimately this order was cancelled. In the afternoon a third order was received from London, and the Prince Consort was re-equipped, and went into the Sound in the evening, on her way to Holyhead.

Stoke by Nayland.—A fatal accident took place in the neighbourhood of this town on Tuesday. One of the pupils of Mr. Wordsworth of Gifford's Hall, Sir Hugh Nugent, Bart., 18 years of age, went out shooting with a fellow-pupil, a Spaniard. There was but one gun between them, the property of Sir Hugh, and in attempting to get over a ditch he reached the gun to his companion, holding it by the muzzle. While in the act of doing so one of the barrels of the gun went off, it is supposed from the trigger having caught in a bush, and the contents were lodged in his side, causing almost instant death. The jury at the inquest returned a verdict of Accidental Death.

## Ireland.

The Representative Peerage.—The election of a representative peer for Ireland, in the room of the late Lord Downes, has terminated in the return of Lord Inchiquin.

The late Insult to the Lord-Lieutenant.—The nobility and gentry of the county Galway are hastening, at the suggestion of Lord Clancarty, the lieutenant of the county, to affix their signatures to an address to the Earl of Carlisle, expressing their surprise and deep regret at the gross mark of disrespect he recently received from the Earl of Leitrim, and stating that nothing in his administration afforded to any individual the slightest justification for conduct which, on the part of the county, they deplore and condemn. The magistrates of the Clonbur Petty Sessions have also shown their condemnation of the insult by refusing to renew the license to King, the proprietor of the Maam Hotel.

Murder in Tipperary.—A barbarous murder was committed in this county on Saturday last. A farmer named Kelly, living near the town of Borrisokane, was found lying dead in a pool of blood a little way from the high road, with his skull battered in with stones.

## Railways.

Collision on the Peebles.—On Thursday afternoon a collision occurred on the Peebles Railway. Three ballast waggons got detached from the train on the Leadburn and Linton branch, now making, and ran down the main line, where they met the train from Edinburgh. A terrible shock took place. A boy, son of Mr. Tennant, of the Glen, was killed, and seven or eight passengers were injured; two or more seriously. Great damage was done to the plant. The line, which is single, is blocked. The engine-man and stoker were injured.

Accident on the North London.—On Monday afternoon an accident occurred to a train from Fenchurch Street station, which was fortunately unattended by serious consequences. When going over the viaduct at Bow Common a wheel broke off one of the carriages about the middle of the train, and it was only the break attached to the carriage that prevented it from falling. The mischief was observed by the guard and driver in time to stop the train, and the passengers escaped with only a few bruises.

Completion of the Charing-Cross Line.—Formal notice was given a few weeks since to the Railway Department of the Board of Trade that this important line would be completed by the 1st of November, and requesting that the official inspection might be made previous to the opening for public traffic; but there is still so much to be done at the London Bridge end, that it seems more likely that it will be the 1st of January before the opening can take place. Meanwhile the bridge over the Thames at Hungerford has been tested with very satisfactory results, a deflection of not more than three-eighths of an inch taking place in the first span of the Surrey side under a load equal to 700 tons. The station will have a bold semicircular roof of 170 feet span, constructed of light ironwork and glass, and will be furnished with suitable platforms for the short City traffic, and for the main line of the South-Eastern Railway. There are four lines of rails on the bridge, but these expand into seven lines within the station. The accommodation for foot passengers across the river will be provided for by means of a projecting pathway 7 feet in width on each side of the bridge, and the steamboat passengers will have the benefit, as before, of a pier at Hungerford. The Hotel, which will be over the offices in the Strand, is proceeding with rapidity, and has now reached beyond the second story. It is built of stone and white brick with terra cotta ornaments, and is from the design of Mr. Edward Barry. It will have a frontage in the Strand of about 300 feet in length, and will be set back 100 feet from the street, leaving ample room for approaches to and from the station without interfering with the accommodation for the ordinary traffic. In addition to the front facing the Strand there will be a wing on the western side of Villiers Street. The Strand front will have a tower at each end, and the roof will be in the French style, similar in many respects to that of the Grosvenor and Westminster Palace Hotels.

## Sporting.

### NEWMARKET HOUGHTON MEETING.

Monday.—Just before the start for the Criterion, the fog, which had prevailed all day, became so dense that Admiral Rous, after consulting with his brother stewards, postponed that race until Tuesday. *Handicap Plate.*—Lord Wilton's Stockinger beat Aurelian, Twilight, and 17 others. *Match.*—Mr. C. Alexander's f. No Name beat Black Lily. *Handicap Sweeps.*—Mr. W. G. Craven's Almack beat The Principal, Manrico, and 3 others. *Maiden Plate.*—Lord Westmoreland's Rothschild beat Lord W. Powlett's f., Mr. Taylor's c., Buckland, and 7 others. *Match.*—Lord Annesley's f. beat Privateer. *Selling Handicap Sweeps.*—Mr. W. Baker's Lady Derby beat Damascus, Country Maid, and 7 others. *Sweeps.*—Mr. B. J. Angell's Lord Burleigh beat Zelle, Lady Abbess, and 7 others.

Tuesday.—The attendance was enormous, and the heath was honoured by the presence of the Prince of Wales, accompanied by Prince Christian of Denmark, and the Duke of Cambridge. *Fifty Pounds.*—Mr. Chilton's Claxton beat Farnhurst, Jeannette, Folly, and 6 others. The *Criterion Stakes.*—Count F. de Lagrange's Fille de l'Air beat Prince Arthur, Evelina, Ely, and 7 others. *Selling Handicap Sweeps.*—Mr. R. Ten Broeck's Canzonette beat Glowworm, Topsy, Sauterelle, and Actæon. The *All Aged Stakes.*—Mr. W. S. Cartwright's Fairwater beat Lady Clifden, Argonaut, and Sonchamp. *Sweeps.*—Lord Stamford's Mahometan beat Dovedale. *Fifty Pounds.*—Sir F. Johnstone's Johnny Armstrong beat Croagh Patrick, Onesander, and 4 others. The *Cambridgeshire Stakes.*—Mr. W. Day's Catch'em Alive beat Merry Hart, Summerside, Juliet, Carnival, and 36 others. Betting—5 to 2 agst Limosina, 9 to 2 agst Catch'em Alive, 14 to 1 agst Summerside, 40 to 1 agst Juliet and Merry Hart. Won a splendid race by a head; a similar distance separated the second and third; Juliet fourth, beaten a neck; the Giraffe colt fifth, Polynesia sixth, and the next three were Borealis, Despair, and Glenorchy. Victor broke down and walked in. On returning to scale, Adams, who rode the winner, did not draw the proper weight, nor did J. Grimshaw, who rode Summerside, upon which an examination of the scales was made, and it was found some lead had been nailed to the scale adverse to the jockey, and the result was pronounced in favour of Catch'em Alive, but Lord Westmoreland, the owner of Merry Hart, subsequently lodged a protest against the decision, on the ground that Adams, after once getting out of the scales when short of weight, had no right to be re-weighed. The protest was twice investigated by the stewards of the Jockey Club, and Lord Westmoreland has bowed to their decision that Catch'em Alive was the winner. Another objection was raised in the case of the Criterion Stakes on the ground that the French filly was over age. After, however, an examination of her mouth she was declared the winner. *Handicap Sweeps.*—Mr. G. Bryan's Zora walked over. *Handicap Sweeps.*—Mr. Capel's Teddy beat Woodcraft and 8 others. The *Optional Selling Stakes.*—Captain Goff's c beat Mr. R. H. Nevill's c. Prescription, Lord W. Powlett's f, and 7 others. *Free Handicap Sweeps.*—Mr. Naylor's Fiancée beat Merry Maid and Lizzie. *Sweeps.*—Mr. W. Hart's Airedale beat Reindeer and 2 others.

Wednesday.—*An Optional Selling Plate.*—Mr. Lincoln's The Pony beat Fontenoy and Lucretia. *Renewal of the Glasgow Stakes.*—Lord Glasgow's b c beat Caryophyllus, Sir H. Des Vœux's c, and Mamhead. *Fifty Pound Plate.*—Lord Glasgow's c beat Croagh Patrick, Lady Abbess, and Reserve. *Match.*—Lord Coventry's Umpire beat Knowsley. *Private Handicap Sweeps.*—Mr. Hugh's Juliet beat Paddy O'Rourke, Cassidia, and 5 others. *Private Handicap Sweep.*—Marquis of Hastings' Attraction beat Soumise, Hypatia, and 4 others. *Match.*—Mr. Barnes' Buckfoot beat Vagabond. *A Subscription Plate.*—Captain Christie's Countersign beat Regina, Diomed, and 9 others. *Sweeps.*—Mr. W. Hart's Dolphin beat Damascus, Lord Chesterfield's b c, and 3 others. *Sweeps.*—Captain Christie's Lord Adolphus beat Tailor, Verdiere, Annington, and Alliance. *Sweeps.*—Mr. R. C. Naylor's Polonaise beat Topsy, Daniel, and 4 others. *Sweeps.*—Mr. W. S. Cartwright's Ely beat Beatrix and Mahometan.

Thursday.—*Subscription Handicap Plate.*—Baron Rothschild's Wingrave beat Sweet Willie, The Reserve, and 4 others. *Sweeps.*—Count F. de Lagrange's Beatrix beat New York. The *Apethorpe Stakes.*—The Duke of Beaufort's Crythea walked over. *Handicap Sweeps.*—Mr. W. G. Craven's Almack beat Liston, Villafranca, Queen of Trumps, and 14 others. *Sweeps.*—Mr. Astley's Balderdash beat Prescription, Flaneur, and Salvioni. *Match.*—Lord Annesley's sister to Ace of Clubs beat Tomfoolery. *Free Handicap Sweeps.*—Baron Rothschild's c. beat Glenorchy, Carnival, and 3 others. *Optional Selling Plate.*—Mr. H. Joice's Edward the Confessor beat Brother to Weatherspy, Little Star, and 6 others. *Selling Handicap Sweeps.*—Lord Westmoreland's Country Maid beat Lady Derby, Pilot, and 7 others. *Match.*—Mr. John Osborne's Fanfaron beat Toluno.

Friday (*By Electric Telegraph*).—100*l.* *Handicap Plate.*—Touch-and-Go beat Reserve, and 8 others. *Audley End Stakes.*—Clarissimus beat Gorse. *Match.*—Bridle colt beat Llangollen. Annington beat Wee Aggie. Peignoir beat Maid of Masham filly. *Sweeps of 500 Sovs.*—Echo beat Battaglia. *Handicap Sweeps.*—Principal beat Fiancée, and 8 others. *Sweeps of 10 Sovs.*—Prince Lee Boo beat Knave of Trumps and another. *First Class Nursery Stakes.*—Sheridan beat Prince Arthur, Washington, and 12 others. *Free Handicap*

*Sweeps.*—Merry Hart walked over. *Second Class Nursery Stakes.*—Union Jack beat Wandering Minstel and 7 others. *Optional Selling Stakes.*—Orphene beat Jessie and 14 others. *Sweeps of 100 Sovs.*—Sister to Ace of Clubs walked over.

## Law.

CENTRAL CRIMINAL COURT.—*The Marylebone Murder.*—*Sarah Emily Mitchell*, 24, an unmarried woman, who appeared in a dreadful state of mental suffering, was charged with the wilful murder of her illegitimate child, Sarah Emily Adeline Chappell. It will be remembered that the prisoner had formed a connection with Mr. Chappell, a linendraper of Liverpool, by whom she had two children. They came up to London, and after living together some time she became jealous of Mr. Chappell, who had apparently become tired of the connection, and was making arrangements for a separation about the time when the second child was born. This preyed on the mind of the mother, who had previously been in such an excited state as to suggest to her medical attendants the propriety of putting her under restraint, and in the absence of her sister she destroyed the child. The jury, after hearing the medical evidence as to the prisoner's state of mind, stopped the case, and returned a verdict of *Not Guilty* on the ground of insanity. *Fraudulent Benefit Societies.*—*John Knowlden, Thomas Oxford*, and *John Dron* were indicted for conspiracy in having as managers and officers of the Perseverance Life Assurance and Sick Fund Friendly Society, continued the business with intent to defraud the public. It appeared that they took an office in Willow Place, Newington, and began with a deposit of 20*l.* in the London Provident Savings Bank. They carried on the process of touting among small tradespeople, widows, and others, assuring them that their Society had a reserve fund of 5000*l.* to fall back upon. One of the persons insured, a man called Littlejohn, having died of consumption, the widow applied for the money, and after being put off on various pretexts was at last informed that there was no money, all that had been collected having been absorbed in the salaries of the officers. The 20*l.* deposited in the savings' bank had all been drawn out before the end of the year. The jury found all the prisoners *Guilty*, and they were each sentenced to 18 months' imprisonment with hard labour. *Forgery.*—*Archibald Hamblin Lillingstone Cole*, a well-dressed young man, a clerk of Messrs. Stilwell & Co., navy agents, was charged with forging and uttering an order for 603*l.*, with intent to defraud Messrs. Willis & Percival, the bankers. It appeared that in 1861 he had forged a cheque for the amount named, in the name of Messrs. Stillwell,, and went off to Paris with a "lady," upon whom, in four days' residence in that capital, he spent 200*l.* in jewellery. After he had squandered all the money, he committed some offence, for which he was sentenced to two years' imprisonment, and when he was released a detective officer who held a warrant against him found him at Rotterdam, and arrested him. The Jury, without any hesitation, found the prisoner *Guilty*, and Baron Martin sentenced him to 10 years' penal servitude.

## Obituary.

GENERAL MACNEIL, colonel of the 78th Highlanders, died suddenly on Thursday the 22d inst. He had risen apparently in his usual health, and retired to his dressing-room for the purpose of shaving, but on the return of his valet he was found dead. He entered the army in 1808, and in the same year joined his regiment on the Continent, under Sir John Moore. He was in the retreat to Corunna, and subsequently took part in the Walcheren expedition. In 1813 and 1814 he served in Swedish Pomerania and in Holland, and was present at Bergen-op-Zoom. He also served in the campaign of 1815, and was present at Waterloo. He was for many years lieutenant-colonel commanding the 78th Highlanders, and accompanied that regiment to India. After he had obtained the rank of major-general, he was placed on the staff as commanding a division of the army in the Madras Presidency, where he served five years. He was appointed colonel of the 8th Foot in 1855, and was made colonel of the 78th Regiment in 1860.

MR. WELD OF LULWORTH CASTLE, whose death was announced briefly last week, was the head of one of the most distinguished Roman Catholic families in England. He was born in 1777, and was the third son of Mr. Thomas Weld, of Lulworth, (the founder of Stonyhurst College). His eldest brother, Thomas, on the death of his wife in 1815, took orders in the Church of Rome. In 1829 Pope Pius VIII. made him a cardinal—the first English cardinal since the Pontificate of Clement IX. Cardinal Weld transferred his estates to his brother, (though he himself did not die till 1837). In August, 1830, Mr. Weld received Charles X. and the exiled Royal family of France at Lulworth, which had previously been visited by James I., Charles II., James II., George III., and George IV. Charles X. and his family remained the guests of Mr. Weld for some days till their removal to Holyrood Palace. Mr. Weld was a liberal and tolerant Roman Catholic, and it was known by his tenantry that the word and the honour of "Weld of Lulworth" were pledged to abstinence from religious bigotry. Mr. Weld was also widely known for his prowess in yachting; he was always very fortunate in the construction and sailing of his vessels, and his success in the many contests in which his yachts have been engaged was proverbial.

MRS. PHILLPOTTS, wife of the Bishop of Exeter, died at Bishopstowe, Torquay, on the 22d inst., in her 82d year, after a long illness. She was the daughter of Mr. William Surtees, of Seaton Burn, Newcastle-on-Tyne, and was a near relative of the late Lord Eldon. She married his lordship, then the Rev. Henry Phillpotts, a rising clergyman in the diocese of Durham, in 1804 and leaves a numerous family.

THE REV. THOMAS JAMES, M.A., died a few days since at Theddingworth Vicarage, Northamptonshire. He was hon. canon of Peterborough, rural dean, vicar of Sibbertoft and of Theddingworth, hon. corresponding secretary of the Northamptonshire Architectural Society, &c. He was educated at Christ Church, Oxford, and graduated M.A. in 1835. His literary tastes and abilities made him known to a very large circle. He contributed several articles, such as "Northamptonshire," "Bees," "Flower Gardens," "Labourers' Cottages," &c., to the "Quarterly Review." He also edited Murray's Illustrated Edition of "Æsop's Fables," and was the editor of the "Illustrated Edition of the Book of Common Prayer," about to be issued by the same publisher. He was well known for his taste and learning in archæological matters, and many of the recent church restorations in Northamptonshire were effected under his guidance. The improvement of labourers' cottages was also one of his principal aims, and most of the model dwellings in the Midland Counties owe their origin to his ceaseless activity. He also lectured on this subject, about two years since, at the South Kensington Museum.

MR. WILLIAM CUBITT, M.P. for Andover, who was until lately an Alderman of London, and had filled the office of Lord Mayor in two successive years, died on Wednesday night at his residence, Penton Lodge, Hampshire, in his 73d year. He was born at Buxton, Norfolk, and after serving for a short time in the navy, became a partner with his elder brother, Mr. Thomas Cubitt, in the great building firm in Gray's Inn Road. In 1851 he was elected alderman for the Ward of Langbourne, having previously been elected Sheriff of London and Middlesex. He took a memorable part in originating the public subscription towards a national Memorial of the Prince Consort, and afterwards had the honour of serving on the committee nominated by the Queen to assist her in deciding on the form which the Memorial should assume. He also took an active part in originating the Lancashire Relief Fund, and during his two years' mayoralty considerably more than a quarter of a million of money flowed spontaneously into the Mansion House from time to time towards one public object or another. He was also President of St. Bartholomew's Hospital and Prime Warden of the Fishmongers' Company. He leaves four daughters, one of whom, Lady Olliffe, is the wife of the physician to the English Embassy at Paris, and two others are married to sons of the late Alderman Humphery.

BIRTHS.—On the 19th inst, at East Dean, Romsey, the Hon. Mrs. HENRY CURZON, of a daughter—20th inst, at Queen's Terrace, the Hon. Mrs. HARDINGE, of a daughter—24th inst, at Dytchley, Oxfordshire, the Hon. Mrs. AUGUSTUS HALFORD, of a daughter—24th inst, at Worthing, the wife of G. SCLATER BOOTH, Esq., M.P., of a daughter.

MARRIAGES.—On the 21th inst. at the Church of St. Mary Magdelene, Paris, ALFRED MARIE MAXENCE, Comte DE DAMAS D'HAUTEFORT, to ISABELLA, widow of EDWARD COTTERELL SCHOLEFIELD, Esq., and daughter of the late John Young, Esq., of Westridge, Isle of Wight—22d inst, at Hallaton, THOMAS HICKS, Esq., of Brighton, to ISABELLA, youngest daughter of the late Sir HENRY HINRICH, of Hallaton Manor House, Leicestershire — 22d inst, at Wormbridge Church, Lieutenant-Colonel WILBERFORCE GREATHED, C.B., to ALICE, only daughter of the Rev. ARCHER CLIVE, of Whitfield, county Hereford—22d inst, at St. Mark's, Kennington, HENRY W. BRISTOW, Esq., F.R.S., of the Geological Government Survey of Great Britain, only son of Major-General H. Bristow, to ELIZA, second daughter of DAVID HARRISON, Esq., of Upper Green, Kennington Park.

DEATHS.—On the 24th inst, at Elmfield Lodge, Southall, MAURICE HENRY DRUMMOND, youngest son of the Hon. Edmund Drummond, Lieutenant-Governor of the North-West Provinces of India, aged 6—22d inst, EVERARD FRANCIS, the infant son of Sir ALFRED and Lady TICHBORNE, aged 10 months, of croup—23d inst, at 20, Park Lane, Miss HENRIETTA VANE HOPE VERE—21st inst, at the R.N. Cadet's Hospital, Dartmouth, of scarlet fever, Count FRANCIS METAXA, son of Count and Countess Metaxa—21st inst, at Malvern, Lieut.-Colonel EDWARD JEFFREYS, late H.E.I.C.'s Bengal Army, aged 74—22d inst, at Rock Ferry, Cheshire, Captain EDWARD SCOTT, R.N., Commander of the Coastguard, Swansea — August 20, at Murree, Punjab, Lieut. HENRY THOMAS BUTTER, 93d Sutherland Highlanders, aged 23 — 19th inst, at Edinburgh, EDWARD BULLER, Lieutenant R.N., one of the Naval Knights of Windsor, and sixth son of the late William Buller, Esq., of Maidwell, Northamptonshire, aged 59—25th inst, at Llwynegrin Hall, Flintshire, HENRY RAIKES, Esq., F.R.G.S., late deputy-chairman of the Flintshire Quarter Sessions, and registrar of the diocese of Chester, aged 52—22d inst, at Hull, JOHN LEE SMITH, Esq., J.P., aged 65—21st inst, at the Vicarage, Etwal, Derbyshire, the Rev. WILLIAM E. MOUSLY, M.A., vicar of Etwall, aged 46 — At Selworthy, near Minehead, Somerset, the Rev. JOSEPH STEPHENSON, 61 years Rector of that parish, and the oldest member of the University of Cambridge — 22d inst, the Rev. CHARLES VERNON, D.D., of Wherstead Park, Ipswich, and Dovercourt, Harwich—24th inst, the Rev. WILLIAM CRUTTENDEN CRUTTENDEN, A.M., rector of Alderley, Cheshire, aged 87—18th inst, at 6, Highbury Grange, the Rev. M. A. COLLISSON, M.A., incumbent of Christ Church, aged 56—23d inst, at Wootton Courtney, Somerset, the Rev. RUSSELL RICHARDS, aged 62—26th inst, at 31, Addison Gardens North, Kensington, the Rev. JOHN BAKEWELL, aged 61.

## Markets.

### COVENT GARDEN, Oct. 31.

Produce of all kinds is for the most part abundant. Late Plums may still be had. Of Grapes and Pine Apples the supply is also sufficient for the demand. Hamburgh Grapes from Holland fetch from 8d. to 1s. per lb. Of foreign Melons there is a good stock. There is also a good supply of Brown Beurré, Crassane, Duchesse d'Angoulême, and Beurré Diel Pears. Some good examples of Ribston Pippin and Cox's Orange Pippin Apples may now be obtained. Kent Cobs are good and plentiful. New St. Michael Oranges have arrived, and realise from 5s. to 10s. per 100. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Marigolds, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 5s to 8s | Lemons, per 100, 12s to 16s |
| Grapes, per lb., 2s to 6s | Nuts, small, per bushel, 14s to 18s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Kent Cobs, 75s to 85s p. 100 lbs. |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Plums, per ½ sieve, 5s to 8s | Walnuts, do., 14s to 20s |
| Melons, each, 2s to 4s | |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 10d |
| " Shaws, do., 50s to 60s | Lettuces, each, 1d to 4d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 9d to 1s | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatos, each, 2d to 3d | |

### HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, Oct. 29.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to | 85s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | — | — | Do. second cut .. | 87 | 100 |
| Inferior do. .. | 60 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 27 | 33 |
| Rowen .. .. .. | 55 | 70 | | | |

HARVEY & EASTON.

CUMBERLAND MARKET, THURSDAY, Oct. 29.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay.. | 84s to | 92s | Inferior Clover .. | 86s to | 92s |
| Inferior do. .. .. | 70 | 76 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 32 | 36 |
| Superior Clover .. | 105 | 115 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Oct. 29.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay | 80s to | 86s | Prime 1st cut Clover | 110s to | 115s |
| Inferior do... .. | 70 | 80 | Inferior do.. .. | 100 | 110 |
| Prime New Hay.. | — | — | New 1st cut do... | — | — |
| Inferior.. .. .. | — | — | Prime 2d cut do.. | 100 | 105 |
| Straw .. .. .. | 26 | 30 | Inferior do. .. | 90 | 100 |

### COAL MARKET.—Oct. 28.

Buddle's West Hartley, 16s. 3d.; Carr's Hartley, 16s. 3d.; Cowpen Hartley, 16s. 3d.; Davison's West Hartley, 16s. 3d.; Lambert's West Hartley, 16s.; Walker Primrose, 13s. 9d.; Eden West Hartley, 16s. 3d.; Walls End Riddell, 17s. 6d.; Walls End Belmont, 17s. 6d.; Walls End Braddyll's Main, 18s.; Walls End Hetton, 18s.; Walls End Russel's Hetton, 20s.; Walls End Tunstall, 17s. 6d.; Walls End Hartlepool, 19s. 6d.; Walls End Heugh Hall, 18s. 6d.; Walls End Kelloe, 18s. 6d.; Walls End East Hartlepool, 20s.; Walls End South Hartlepool, 18s. 3d.; Walls End South Kelloe, 18s. 6d.; Walls End Trimdon Hartlepool, 19s. 6d.—59 ships at market.

### BRITISH WOOLS.—LONDON, Oct. 29.

Prices continue firm for all descriptions of wool, and stocks light for the season of the year. As prices seem now settled we can alter our quotations to rates which could scarcely be quoted as established previously.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 11 to 2 0 | Leicest. Wethers | 1 9½ to 1 10½ |
| Half-bred ditto.. | 1 11 — 2 0½ | Ditto Hoggs .. | 1 10½ — 1 11½ |
| Down Ewes .. | 1 10 — 1 10½ | Combing Skins .. | — .. |
| Kent Fleeces .. | 1 10 — 1 11 | Flannel Wool .. | 1 4 — 1 9 |
| | | Blanket ditto .. | 0 9 — 1 0 |

### HOPS.—BOROUGH MARKET, FRIDAY, Oct. 30.

Messrs. Pattenden & Smith report the demand good for both English and foreign Hops. Stocks of the former are very much reduced, and choice samples scarce. Prices rule very firm.

### METROPOLITAN CATTLE MARKET.

MONDAY, Oct. 26.

The supply of Beasts is shorter than on Monday last, and the demand is good, consequently, on the average, prices are better. The number of Sheep is also smaller, and the demand has increased; there is, therefore, an advance in prices of all descriptions. Calves are not so plentiful as of late, and realise higher rates. From Germany and Holland there are 3030 Beasts, 8690 Sheep, and 182 Calves; from Ireland, 1160 Beasts and 600 Sheep; and 2050 Beasts from the Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 0 | Best Long-wools. | 5 0 — 5 4 |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 8 — 3 8 | Ewes & 2d quality | 4 4 — 4 8 |
| Best Downs and Half-breds .. | 5 6 — 5 8 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 4 — 5 0 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 6580; Sheep & Lambs, 22,150; Calves, 185; Pigs, 430.

THURSDAY, Oct. 29.

We have a larger number of Beasts on sale, but a considerable proportion of inferior quality. The choicest descriptions maintain Monday's quotations, but many inferior remain unsold. The supply of Sheep is small, the demand is also very limited; trade is slow at Monday's prices. Choice Calves are in demand at late rates. Our foreign supply consists of 590 Beasts, 1760 Sheep, and 293 Calves from Germany and Holland; and 120 Beasts from Spain. The number of Milch Cows, is 90.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 5 0 — 5 4 |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 8 — 3 6 | Ewes & 2d quality | 4 4 — 4 8 |
| Best Downs and Half-breds .. | 5 6 — 5 8 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 4 — 5 0 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 1430; Sheep & Lambs, 3890; Calves, 348; Pigs, 100.

### MARK LANE.—MONDAY, Oct. 26.

The supply of Wheat from Essex and Kent to this morning's market was small, and disposed of at the prices of this day se'nnight. Foreign met a slow retail sale on late terms. Fine malting Barley brings last week's quotations, secondary sorts and grinding are 1s. per qr. cheaper. Beans and Peas barely support last week's prices. The Oat trade is dull, and to effect sales it is necessary to submit to a reduction of 6d. to 1s. per qr. Flour is steady at late rates.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk..White | 42—46 | Red .... | 38—44 |
| — — fine selected runs..ditto | 44—50 | Red .... | 40—48 |
| — — Talavera .............. | 46—52 | | |
| — Norfolk .................... | — | Red .... | — |
| — Foreign .................... | 36—54 | | |
| BARLEY, grind. & dist., 27s to 29s..Chev. | 34—38 | Malting .. | 30—33 |
| — Foreign..grinding and distilling | 25—29 | Malting .. | 30—33 |
| OATS, Essex and Suffolk ............ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ....................Potato | 19—22 | Feed .... | — |
| — Foreign ......Poland and Brew | 19—22 | Feed .... | 15—20 |
| RYE ................................ | 30—32 | Foreign .. | — |
| RYE-MEAL, Foreign .................. | — | | |
| BEANS, Mazagan....28s to 36s...Tick | 30—34 | Harrow .. | 30—34 |
| — Pigeon .... 32s to 40s.. Winds. | — | Longpod | — |
| — Foreign ................Small | 36—42 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent..Boilers | 34—36 | Suffolk .. | 34—38 |
| — Maple .... 34s to 36s .... Grey | 31—33 | Foreign .. | 32—40 |
| MAIZE ..........................White | — | Yellow .. | — |
| FLOUR, best marks delivered..per sack | 38—43 | | |
| — 2d do ......................ditto | 30—34 | Country .. | 30—34 |
| — Foreign ............per barrel | 15—24 | Per sack | 32—42 |

FRIDAY, Oct. 30.

The weather, with the exception of fog on the 27th, has been very fine until yesterday, when it was wet, and continues so. The Wheat trade during the past week has been firm without being active, holders being disinclined to realise at lower rates, and occasional purchases being still made on speculation. Grinding Barley and new Oats in many markets have suffered a further depreciation of 6d. to 1s. per qr. in value, but the prices of Beans and Peas have remained unaltered. Flour is without alteration in value. Since Friday last 25 vessels have been reported off the coast. With the small arrivals the floating trade has been steady; holders asked a slight advance for Wheat and Maize. Barley, however, declined 6d. per qr. In Paris (Oct. 29), Flour has remained steady at late rates, and the market has been a little more active than of late. The six marks for delivery this month are quoted equal to 30s. 9d. per 280 lbs. The present stock of Flour is estimated at 11,300 cwt. For Wheat there is little demand; a few transactions only have taken place at 1s. to 1s. 6d. per qr. decline, holders being generally not inclined to submit to such a reduction. The arrivals of English grain were moderate, of foreign good. The attendance at this day's market was small. The value of English Wheat was unaltered from Monday, nor do we quote any alteration in foreign. Buyers were extremely difficult to be met with, and to have forced sales it would have been necessary to take lower prices. Barley barely supported Monday's quotations. Beans and Peas were unaltered in value, and Oats were steady at late rates.

ARRIVALS THIS WEEK.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1040 qrs. | 1320 qrs. | 1060 qrs. | 1060 sk. |
| Irish .... | — | — | 1800 | — |
| Foreign .. | 18,740 .. | 8070 | 28,780 .. | 1850 ,, / 1030 brls |

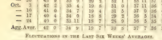
LIVERPOOL, Oct. 27.—We have had an average attendance of buyers at to-day's market, and Wheat has commanded a

steady consumptive inquiry at full prices. Barrel Flour is comparatively scarce, and held for 6d. advance, which buyers are not willing to pay; sacks firm. Indian Corn was taken freely by speculators at last Friday's prices, but holders now ask 6d. per qr. more for mixed American; round yellow descriptions are barely 3d. per qr. dearer. Oats dull, but Oatmeal is the turn against buyers. Beans bring fully late rates. Peas and Barley unchanged. The market closes with much firmness.

FRIDAY, Oct. 30.—The market thinly attended. Wheat sells to a fair extent, at the full rates of Tuesday. Flour slow sale, without change in value. Indian Corn: mixed American sells at 28s. 3d. to 28s. 6d. Egyptian Beans steady. Oats 1d. dearer, with a moderate sale. Oatmeal steady at late rates.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Sept. 19 | 44s 9d | 35s 2d | 20s 9d | 32s 7d | 39s 0d | 36s 9d |
| — 26 | 43 9 | 35 9 | 20 2 | 32 1 | 38 11 | 37 6 |
| Oct. 3 | 42 2 | 35 4 | 19 8 | 31 0 | 37 11 | 36 7 |
| — 10 | 41 0 | 34 7 | 19 4 | 31 5 | 37 0 | 36 4 |
| — 17 | 40 4 | 34 0 | 18 8 | 29 2 | 36 5 | 34 7 |
| — 24 | 40 0 | 33 11 | 18 7 | 28 9 | 36 5 | 35 8 |
| Agg. Aver. | 42 0 | 34 9 | 19 7 | 30 8 | 37 7 | 36 3 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




NEWGATE.—Oct. 30.

Best Fresh Butter .. .. 15s. per dozen lbs.
Second do. do. .. .. 13s. "
Pork, 4s. 0d. to 4s. 4d. per 8 lbs.

REQUIRED, as OVERSEERS on Sugar Estates in the Island of Trinidad, several Young Men of the ages of 20 to 25 years. Young Men who have been educated at any of the Agricultural Colleges, or Sons of Farmers who have a good knowledge of Practical Farming and the care of Stock, will be preferred.—For all particulars apply to Messrs. WM. BURNLEY HUME & Co., 8, Finch Lane, Cornhill.

WANTED, in the North of England, a well qualified Person as ESTATE BAILIFF and GARDENER. He must have a perfect knowledge of First-class Gardening, Draining, Levelling, and Measuring., and the Care of Woods, Plantations, Farm Buildings, and Cropping.—H., Mr. John Bradley, Coach Maker, Leeds.

Propagator.

WANTED, an energetic practical PROPAGATOR of ROSES, RHODODENDRONS, and other Hardy Shrubs. None but a competent man need apply.—Address, stating wages and other particulars, to X., care of Messrs. Hurst & Son, Leadenhall Street, London, E.C.

WANTED, a thoroughly good FLOWER GARDENER, married, without incumbrance. The Wife to take charge of a small School upon the estate, with a salary. —Address, with full particulars as to past employment, to J. B., Mr. Ennis, 31, Glasshouse Street, Regent Street, W.

WANTED, a steady, respectable MAN, who thoroughly understands the Propagating and Growing of Hard-wooded Plants, where plants are grown in quantity for Market.—Apply, stating wages, references, &c., to W. HEATH, College Nursery, Cheltenham.

WANTED, a Man as JOBBING GARDENER, one who understands the Propagation and Growth of Bedding-out Plants, and Florists' Business in general. A permanent situation to a suitable Man.—Apply to Messrs. PIERPOINT & SON, Seedsmen and Florists, Horse Market, Warrington.

WANTED, Two or Three steady, respectable MEN, accustomed to JOBBING. Also a steady, strong, active LAD, to take the Fires, &c., under the Propagator.—Apply to W. HOLMES, Frampton Park Nursery, Hackney, N.E.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

High Beech, Essex.

JAMES CRAWFORD begs to say that he has a Man of first class ability as a GARDENER and LAND STEWARD whom he can with confidence recommend to any lady, nobleman, or gentleman. Thirteen years' character.—For further particulars please apply as above.

GARDENER (HEAD).—Age 30, single; 15 years' practical experience; understands Land and Cattle. Character will bear the strictest inquiries.—W. PAGE, Kinnerton Street, Wilton Place, Knightsbridge, S.W.

GARDENER (HEAD).—Age 29; for the last two and a half years' Gardener at The Hasells, Sandy, Beds, where there are extensive Orchard-houses, also all kinds of Forcing.—WM. DEAN, Offley Grove, Newport, Salop.

GARDENER (HEAD).—Age 30; has a thorough practical knowledge of his profession in all its branches. No Single-handed place accepted. Satisfactory references. State wages, &c.—W. M., Post Office, Bishopstoke, near Winchester.

GARDENER (HEAD).—Considerable experience in Pine Growing (at Pontypool Park), good Forcer, and Grower of Figs, Melons, Cucumbers, Peaches, Grapes, and all kinds of Stove and Greenhouse Plants. Very successful in Forcing Flowers in winter, and thoroughly acquainted with the general routine of Gardening. No objection to Ireland.—J. T., Mr. Williams, Paradise Nursery, Holloway, N.

To Noblemen and Gentlemen.

GARDENER (HEAD).—Married, no incumbrance; can be highly recommended as being excellent in his knowledge of Plant, Fruit Growing, and Forcing in all its branches: as well as Kitchen, Landscape, and Ornamental Flower Gardening. Upwards of 10 years' first class testimonials from the nobleman he is about to leave.—A. B., 13, Market Place, Rugby.

GARDENER (HEAD).—Single; understands his profession in all its branches Good reference. Will be disengaged the first week in November.—GARDENER, Goldicote House, Stratford on Avon.

GARDENER (HEAD).—Age 28, married, one child; understands Forcing in all its branches, also Kitchen and Flower Garden, and all kinds of Fruit Trees. Good character. —J. L., 38, Paul Street, Finsbury, London, E.C.

GARDENER (HEAD).—Age 33; a well-known thoroughly practical, experienced, and confidential Man; can produce the very highest testimonials from several eminent Horticulturists. Four years' superior character from his present employer. No place accepted but what is wanted to be kept up in the first of order.—W. C., Post Office, Balham, S.

GARDENER (HEAD, WORKING).—Married, without incumbrance. Thirteen years' good character from present employer.—T. J., Mr. John Eggleton's, Bicester, Oxon.

GARDENER (HEAD OR SINGLE-HANDED).—Thoroughly understands his profession in all its branches; large experience in the Propagation of Plants, Management of Vineries, Kitchen and Flower Gardens, &c. Can be highly recommended. Wages not so much an object as a comfortable situation. No objection to any part of England.—J. C., 18, Wright's Buildings, Crouch End, Hornsey, London, N.

GARDENER (HEAD), or GARDENER and BAILIFF.—Twenty years' experience; good Judge of Stock, and first-class Fruit and Plant Grower. Understands Woods and Plantations. Good character.—J. D., Post Office, Acton, Middlesex, W.

GARDENER (HEAD), or GARDENER and BAILIFF, and FORESTER.—Has had 20 years' practical experience in the Flower, Fruit, and Kitchen Gardens; has taken 200 Prizes for Pines, Grapes, Peaches, Figs, Melons, Cucumbers, Mushrooms, and Strawberries, &c; can make all kinds of Fruit Tree Borders, Erect Horticultural Buildings, and understands Scotch and English Farming. Good character from a lady and a nobleman.—J. D., A. Henderson & Sons, Nurserymen, Pine Apple Place, Edgeware Road, London, W.

GARDENER (HEAD), or GARDENER and BAILIFF.—Age 45, married, no incumbrance; thoroughly practical in either department, having been a most successful Cultivator of Stove and Greenhouse Plants of every description; good experience in Early and Late Forcing of Fruit and Vegetables, and the general Management of Flower and Kitchen Gardens. Having had the management of 300 Acres of Land, he is well up in the Breeding and Rearing of all kinds of Stock, and understands Draining, Irrigation, the application of Artificial Manures, Road Making, and every description of Ground Work in either Light or Heavy Soils. Can produce the best testimonials for honesty, sobriety, and perseverance.—H., Mr. Maurice Young, Milford Nurseries, near Godalming.

GARDENER and BAILIFF.—Age 36, married understands his profession in all its branches. Four years' good character.—B. D., Aldenham Park, Elstree.

GARDENER.—Age 26; has a good practical knowledge of Gardening in all its branches. Two years character.—G. B., Mr. Harwood, Grove Lodge, Lower Norwood, Surrey, S.

GARDENER (SECOND).—Married, no incumbrance; to live on the premises.—R. B., 21, Clarence Gardens, Munster Street, Regent's Park, London, N.W.

GARDENER (under a Foreman in a gentleman's Garden, or to be otherwise useful)—Age 18, strong and active; good recommendation from the Gardener he has lived with 3 years, who would be glad to answer any inquiries.—G. W., Post Office, Dorking, Surrey.

PROPAGATOR, FOREMAN, &c.—Married; well up in Rhododendrons, Conifers, Roses, Shrubs, &c.; understands Planting and the general routine of Nursery work, in-door and out. Some years' experience.—ALPHA, 2, Nevill Bank, Tunbridge Wells.

FARM BAILIFF.—Married; Wife could undertake the Management of a Dairy and Poultry if required. Highest reference as to character and ability.—J. G., Mr. James, Lickorish Hill, near Stockton, Warwickshire.

FARM BAILIFF or FACTOR.—Married, no incumbrance; by a Scotchman who has a thorough practical knowledge of Farming. First-class references can be given.—J. G., Messrs. Alexander Cross & Sons, Seed Merchants, Glasgow.

Seed Trade.

TRAVELLER or SHOPMAN.—Age 31; 15 years' experience. First-class references.—W. T., R. Murray, 7, Roxburgh Place, Edinburgh.

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Established A.D. 1700.
FURNISH your HOUSE with the BEST ARTICLES: they are the cheapest in the end.
DEANE'S—Celebrated Table Cutlery, manufactured in every variety of style and finish.
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DEANE'S—Moderator and Rock Oil Lamps, a large and handsome assortment.
DEANE'S—Domestic Baths for every purpose. Bath-rooms fitted complete.
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NEW ILLUSTRATED CATALOGUE and PRICED FURNISHING LIST gratis and post free.
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METCALFE, BINGLEY, AND CO'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. METCALFE'S celebrated Alkaline Tooth Powder, 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each 130 B, and 131, Oxford Street, W.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE-PROOF STRONG ROOM DOORS.
CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
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PRICE'S CHILD'S NIGHT LIGHTS are perfectly safe, and burn their time. The quality of these Night Lights can now be relied on.

SHERWOOD BED LIGHTS, Sixpence and Eighteenpence a box.—These candles are made to supply a want very generally expressed, a cheap, really good Chamber Candle. They will be found inferior only to "PRICE'S CANDLES, WHICH WILL NOT DROP GREASE WHEN CARRIED," which are sold in boxes, 1s. and 3s. each.

GLYCERINE, which very simple tests show to be impure, is being sold on the statement that it is in every respect equal to Price's." Most medical men prescribe "PRICE'S GLYCERINE." Where purity is of importance patients can ensure it by desiring to have [illegible] Glycerine in 1 lb., 8 oz., 4 oz., or 2 oz. bottles, with capsule over the stopper marked "Price's Patent."
Belmont, Vauxhall

THRESHER'S COLORED FLANNEL SHIRTS. —PRIZE MEDAL awarded to THRESHER & GLENNY for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.
Lists of Prices on application to THRESHER & GLENNY, General Outfitters, next door to Somerset House, Strand, W.C.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL AND SON'S ILLUSTRATED CATALOGUE containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.
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MESSRS. WOTHERSPOON AND CO. have been appointed STARCH PURVEYORS to H. R. H. the PRINCESS of WALES. This Starch is used in the Royal Laundry and was awarded a Prize Medal. Sold by all Grocers, Chandlers, &c.
WOTHERSPOON & Co., Glasgow and London.

CAPTAIN WHITE'S ORIENTAL PICKLE, CURRY or MULLIGATAWNY PASTE, CURRY POWDER and CURRY SAUCE, may be obtained from all Sauce Vendors, and Wholesale of
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Sauce.—Lea and Perrins'

WORCESTERSHIRE SAUCE.—This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE,"
Is prepared solely by LEA & PERRINS.
The public are respectfully cautioned against worthless imitations, and should see that LEA & PERRINS' Names are on Wrapper, Label, Bottle, and Stopper.
ASK FOR LEA AND PERRINS' SAUCE.
*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. CROSSE & BLACKWELL; Messrs. BARCLAY & SONS, London, &c.; and by Grocers and Oilmen universally.

CONCENTRATED BEEF TEA, with FARINACEOUS FOOD, in skins of 1 lb. each, containing the extract of 13 lb. of Beef, 7s.; invaluable to public speakers, tourists, and invalids, either as a lozenge, or dissolved in hot milk, water or tea. Also the Patent Tonic BEEF TEA LOZENGE, to create strength, sustain the stomach, and prevent fever. A few dissolved in boiling water will form a Cup of Beef Tea or Gravy for Game. 1s. Boxes.
PHYTHIAN, 430, West Strand, W.C.; NEIGHBOUR, 127, High Holborn, W.C.
TESTIMONIAL.—You can safely recommend BAKER'S Patent Tonic Beef Tea Lozenges. I was out examining pupils 11 hours, had no other food, and felt none the worse from my labours. —*Rev. P. S.*

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for Acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild Aperient for delicate constitutions, more especially for ladies and children. It is prepared in a state of perfect purity and of uniform strength by DINNEFORD & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

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Forward address, on a stamped envelope, to W. GOODALL, Esq., Epsom, Surrey, S.

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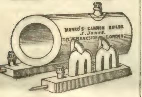
Sold in Packets, 1s., 2s. 6d., and 4s. 6d. each, or post free for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice, each genuine packet bears the above name and address.
For which a Prize Medal was awarded to the Producer at the International Exhibition, 1862.

CONSUMPTION—All Nervous, Bilious, Liver and Stomach Complaints are only aggravated and accelerated by drugs of every description, but perfectly curable by DU BARRY'S health-restoring REVALENTA ARABICA FOOD, as proved by thousands of cases which had been considered hopeless. We quote a few.—Cure No. 46,270. Mr. James Roberts, of Frimley, Surrey, of 30 years' diseased lungs, spitting of blood, liver derangement, and partial deafness.—Cure No. 47,121. Miss Elizabeth Jacobs, of extreme nervousness, indigestion, gatherings, low spirits, and nervous fancies.—Cure No. 54,816. The Rev. James T. Campbell, Fakenham, Norfolk, "of indigestion and torpidity of the liver, which had resisted all medical treatment."—In tins 1 lb., 2s. 9d.; 2 lb., 4s. 6d.; 5 lb., 11s.; 12 lb., 22s.; 24 lb., 40s.
BARRY DU BARRY & Co., No. 77, Regent Street, London, W.; also at 61, Gracechurch Street, E.C.; 4, Cheapside, E.C.; 63 and 150, Oxford Street, W.; and all Grocers and Chemists in every town of the United Kingdom.

**The Gardeners' Chronicle Newspaper.**

*SATURDAY, NOVEMBER 7, 1863.*

**HEATING BY HOT WATER.**




MONRO'S CANNON BOILER.

J. JONES,

HORTICULTURAL ENGINEER AND IRON MERCHANT,

SUPPLIES OR ERECTS, COMPLETE,

HOT-WATER APPARATUS

OF EVERY DESCRIPTION,

FOR

HEATING GREENHOUSES,

CONSERVATORIES,

FORCING PITS,

CHURCHES, CHAPELS, SCHOOLS,

HALLS,

BILLIARD ROOMS,

COACH HOUSES, HARNESS ROOMS, &c.,

OF THE BEST QUALITY, AND AT MODERATE CHARGES.

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SENT POST FREE ON APPLICATION TO

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**Second-hand Greenhouses and Pit Lights.**

J. WEEKS AND CO. have a large Stock of the above for SALE. Parties wishing to Purchase must send and select for themselves.

J. WEEKS & Co., Horticultural Builders, King's Road, Chelsea.

**Second-hand Hot-water Boilers in Great Variety.**

J. WEEKS AND CO. have a large stock of BOILERS that they have taken out, some as good as new, consisting of SADDLE, CONICAL, the RIBBED, the CANNON, and many others.

Parties wishing to purchase must send and select for themselves.

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VINCENT SKINNER (*late Partner with* J. WEEKS & Co.), HORTICULTURAL BUILDER and HOT-WATER APPARATUS MANUFACTURER. HEATING on the ONE-BOILER SYSTEM. Plans and Estimates on application.

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LATEST IMPROVEMENTS IN
**Heating by Hot Water.**

THE IMPROVED

CONICAL BOILERS,

FOR HEATING PINERIES, CONSERVATORIES, GREENHOUSES, MANSIONS, HALLS, WAREHOUSES, &c.,

SOLELY MANUFACTURED BY

BURY AND POLLARD (Successors to JOHN R. PEILL, Late STEPHENSON & PEILL).

Annexed Sketch shows BURY & POLLARD'S improved arrangement, requiring

NO BRICKWORK SETTING.

These Boilers have for their durability and economy attained a celebrity far surpassing any other Boilers ever invented. They have been for many years past in use at many Public Establishments, Royal Botanical Gardens at Kew, at the Regent's Park, the Crystal Palace, and at most of the Nobility's and Gentry's Seats throughout the United Kingdom. References where they have been 20 years in constant use.

Price Lists on application to BURY & POLLARD, Park Iron Works, New Park Street, Southwark, London, S.

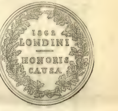
# JOHN TAYLOR & SONS,

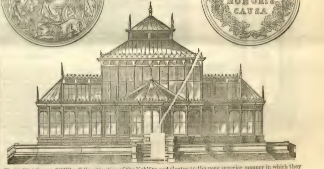
## HORTICULTURAL BUILDERS AND ENGINEERS,

HARROW ROAD, LONDON, W.

INTERNATIONAL EXHIBITION,
CLASS IX., 2191.

PRIZE MEDAL
For CONSERVATORY,
DOUBLE CHAMBER CORRUGATED
and HORIZONTAL
TUBULAR BOILERS.



J. TAYLOR AND SONS call the attention of the Nobility and Gentry to the very superior manner in which they erect CONSERVATORIES, VINERIES, FORCING, FRUIT, and PLANT HOUSES of every description, combining the most modern improvements with elegance of design and durability of materials and workmanship.

Our VENTILATING APPARATUS for the Roofs and Fronts of Horticultural Buildings, &c., supersedes any now in use, as being the most simple and effective in its action.

Our system of HEATING APPARATUS for Churches, Public Buildings, Mansions, Schools, Offices, Baths, Horticultural Buildings, &c., is particularly worthy of notice, we having for many years devoted especial attention to this branch. The great variety of work which has passed through our hands has gained us such experience in the mechanical details as to insure success and entire satisfaction in any undertaking entrusted to our care.

The superiority of our DOUBLE-CHAMBER CORRUGATED and HORIZONTAL TUBULAR BOILERS has caused them to be acknowledged as the best now in use, being both powerful and rapid in action.

# JOHN WARNER & SONS,

## BELL AND BRASS FOUNDERS TO HER MAJESTY,

HYDRAULIC ENGINEERS, BRAZIERS, and MANUFACTURERS of PUMPS, COCKS, and CLOSETS OF EVERY DESCRIPTION.

No. 35.

No. 36½. IMPROVED CAST-IRON LIFT AND FORCE PUMP.

No. 42.

No. 35. PATENT CAST-IRON PUMP, fitted with J. W. & SONS' Metal Bucket and Valve, which cannot clog in action, for Wells not exceeding 25 feet.

2½ inches ... ... 1 foot 7 inches high ... £1 1 0 | 2½ inches ... ... 3 feet 3 inches high ... £1 10 0

2½ inches short, with 15 feet of Lead Pipe attached, ready for fixing ... ... £2 0 0

2½ inches long, ditto ditto ... ... ... ... ... ... ... ... ... ... ... 2 14 0

No. 36½. WARNER'S IMPROVED 3-INCH CAST-IRON LIFT and FORCE PUMP, mounted on Barrow, with Suction and Delivery Screw, 18-inch Branch Pipe and Spreader, and Suction Rose ... ... ... ... ... ... ... ... ... ... ... £5 15 0

1½-INCH 2-PLY RUBBER and CANVAS HOSE ... ... ... ... ... at per foot 0 1 4

2½-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 3*s.*) ... ... ... ... ... 3 0 0

3-INCH LIFT and FORCE PUMP (Mounted on Plank, 3*l.* 15*s.*) ... ... ... ... ... 3 10 0

Larger sizes of any of the above.

By an improved and new action of the handle, this Pump is so constructed that a great deal of friction is avoided; an air vessel is secured, and by introducing a brass lining into the barrel, with brass bucket and sucker, many of the objections to iron pumps are overcome. By this Pump ONE MAN WILL FORCE THE WATER in a continuous stream TO A HEIGHT OF 50 FEET. When mounted on a barrow it forms a cheap, useful, and portable Fire Engine or Garden and Field Irrigator. The simplicity of its construction enables it to be offered to the public at a less price than any other Pump of equal capabilities.

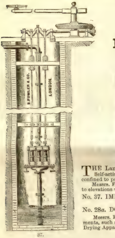
No. 42. IMPROVED LIQUID MANURE or GENERAL PORTABLE PUMP.—These Pumps are fitted with J. W. & SONS' Patent Bucket and Valve, and cannot clog in action.

4½-inch LIQUID MANURE PUMP, with legs, 2*l.* 15*s.*; 2-inch Flexible Rubber and Canvas Suction Pipe, 2*s.* 5*d.* per foot. The Barrel is 27½ inches long, and the Legs are 5 feet high.

The above may be obtained of any Ironmonger or Plumber in Town or Country, or of the

PATENTEES and MANUFACTURERS,

JOHN WARNER AND SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.




27.

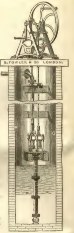
# CLINTON & OWENS,

(LATE BENJAMIN FOWLER & CO.),

MANUFACTURERS OF

## PUMPS AND HYDRAULIC MACHINERY,

WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.




28.

THE Landscape Sketch shows an adaptation of THE IMPROVED HYDRAULIC RAM. This is a simple Self-acting Machine, suited for raising a Supply of Water for use in Public and Private Establishments. Its adoption is not confined to positions as shown, but it is suited for any situation where a Fall can be obtained from a Stream, Brook, or Spring.

Messrs. FOWLER have fixed a great many in various parts of the country for raising from 600 to 6000 or more Gallons per day to elevations varying from 30 to 300 feet, and forcing through main pipes 50 yards to several miles in length.

No. 37. IMPROVED TREBLE BARREL PUMPS with HORSE GEARING for raising water from DEEP WELLS for the supply of MANSIONS and PUBLIC BUILDINGS.

No. 28*a*. DOUBLE BARREL PUMPS for HAND-POWER for similar purposes.

Messrs. FOWLER & Co. Manufacture and Erect every description of Engineer's Work required in Public or Private Establishments, such as Pumps for any purpose on the largest or smallest scale, Steam Engines, Water Wheels, Turbines, Warming and Drying Apparatus, Baths, Gas Works and Fittings. Estimates furnished from Plans or on inspection of position.

*Price Lists of Pumps, &c., free on application.*

# THOMAS MILLINGTON,

## GLASS MERCHANT. (Established 1750.)

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

## REDUCED TARIFF FOR SHEET GLASS AND HORTICULTURAL GOODS.

THE AGRICULTURAL HALL, ISLINGTON, CONTAINING AN ACRE OF GLASS, WAS SUPPLIED BY T. MILLINGTON.

Mr. Rivers and the leading men in the Horticultural profession, as well as the Nobility, Gentry, and Merchants, have favoured T. M. with orders for Home use and for Exportation.

### PROPAGATING GLASSES.

| | | | |
|---|---|---|---|
| 2 inches diam. | 0s. 3½d. | each. |
| 3 ,, | .. | 0 4½ | ,, |
| 4 ,, | .. | 0 5½ | ,, |
| 5 ,, | .. | 0 6½ | ,, |
| 6 ,, | .. | 0 8 | ,, |
| 7 ,, | .. | 0 10 | ,, |
| 8 ,, | .. | 1 0 | ,, |
| 9 ,, | .. | 1 2 | ,, |
| 10 ,, | .. | 1 4 | ,, |
| 11 ,, | .. | 1 6 | ,, |
| 12 ,, | .. | 1 9 | ,, |
| 13 ,, | .. | 2 0 | ,, |
| 14 ,, | .. | 2 6 | ,, |
| 15 ,, | .. | 3 0 | ,, |
| 16 ,, | .. | 3 6 | ,, |
| 17 ,, | .. | 4 0 | ,, |
| 18 ,, | .. | 5 0 | ,, |
| 19 ,, | .. | 6 0 | ,, |
| 20 ,, | .. | 7 0 | ,, |

### FLOWER TUBES.

2*d*. each, or 1*s*. 6*d*. per dozen.

### ZINC HAND GLASSES.

Painted and Glazed with 16-oz. Sheet Glass.

| | | | |
|---|---|---|---|
| 12 inches | .. | 5s. 6d. | each |
| 14 ,, | .. | 6 6 | ,, |
| 16 ,, | .. | 7 6 | ,, |
| 18 ,, | .. | 8 6 | ,, |
| 20 ,, | .. | 9 6 | ,, |
| 24 ,, | .. | 11 6 | ,, |

If open top, 1*s*. extra.

### BEE GLASSES.

| | | |
|---|---|---|
| 4 inches diameter | 0s. 6d. | each |
| 5 ,, | 0 8 | ,, |
| 6 ,, | 0 10 | ,, |
| 7 ,, | 1 1 | ,, |
| 8 ,, | 1 4 | ,, |
| 9 ,, | 1 8 | ,, |
| 10 ,, | 2 0 | ,, |
| 11 ,, | 2 6 | ,, |
| 12 ,, | 3 0 | ,, |

### FLAT TOP BEE GLASSES.

| Height | Width | s. d. |
|---|---|---|
| 4 inches | by 7 inches | 1 6 each |
| 4½ ,, | by 7½ ,, | 1 9 ,, |
| 5½ ,, | by 7½ ,, | 2 0 ,, |
| 6½ ,, | by 8 ,, | 2 3 ,, |
| 7½ ,, | by 8½ ,, | 2 10 ,, |

### FERN SHADES & STANDS.

| Ins. dia. | Shades. | Stands. |
|---|---|---|
| 6 .. | 1s. 4d. each. | 1s. 0d. each |
| 7 .. | 1 8 ,, | 1 3 ,, |
| 8 .. | 2 0 ,, | 1 6 ,, |
| 9 .. | 2 6 ,, | 1 9 ,, |
| 10 .. | 3 3 ,, | 2 0 ,, |
| 11 .. | 4 0 ,, | 2 6 ,, |
| 12 .. | 5 6 ,, | 3 0 ,, |
| 13 .. | 7 6 ,, | 3 6 ,, |
| 14 .. | 10 0 ,, | 4 0 ,, |
| 15 .. | 14 0 ,, | 4 6 ,, |
| 16 .. | 18 6 ,, | 5 0 ,, |

WASP TRAP, 2*s*. 6*d*. per doz.

Crystal Glass Shades, Ebony and Gilt Stands, Gas and Lamp Glasses, Chimneys and Globes, &c.

### MILK PANS.

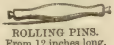
| | | |
|---|---|---|
| 6 inches diameter | 0s. 6d. | each |
| 8 ,, | 0 9 | ,, |
| 10 ,, | 1 0 | ,, |
| 12 ,, | 1 3 | ,, |
| 14 ,, | 1 9 | ,, |
| 16 ,, | 2 3 | ,, |
| 18 ,, | 2 9 | ,, |
| 20 ,, | 3 3 | ,, |
| 22 ,, | 3 9 | ,, |
| 24 ,, | 4 6 | ,, |

### PRESERVE JARS.

| In. diam. | Without Lids. | With Lids. |
|---|---|---|
| 3 .. | 0s. 4½d. .. | 0s. 6½d. ea. |
| 4 .. | 0 6 .. | 0 9 ,, |
| 5 .. | 0 8 .. | 0 11 ,, |
| 6 .. | 0 10 .. | 1 2 ,, |
| 7 .. | 1 0 .. | 1 4 ,, |
| 8 .. | 1 4 .. | 1 8 ,, |
| 9 .. | 1 8 .. | 2 2 ,, |
| 10 .. | 2 0 .. | 2 8 ,, |

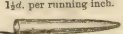
### FISH GLOBES.

| | Without feet. | With feet. |
|---|---|---|
| 8 inches diam. | | |
| 9 ,, | | |
| 10 ,, | | |
| 11 ,, | Per lb. | |
| 12 ,, | 7d. | 9d. |
| 13 ,, | | |
| 14 ,, | | |
| 15 ,, | | |
| 16 ,, | | |



### ROLLING PINS.

From 12 inches long, 1½*d*. per running inch.



### CUCUMBER GLASSES.

From 12 inches long and upwards, 1*d*. per running inch.

### SHEET GLASS.

In Cases for cutting up, in Sizes as Manufactured.

| | 300 feet | 200 feet. | | |
|---|---|---|---|---|
| | 15 oz. | 21 oz. | 26 oz. | 32 oz. |
| Fourths quality .. .. | 33s. 6d. | 33s. 6d. | 39s. 6d. | 45s. 0d |
| Thirds do. .. .. | 42 0 | 42 0 | 49 0 | 56 0 |
| Seconds do. .. .. | 62 0 | 64 0 | 74 6 | 85 0 |
| Best do. .. .. | 88 6 | 88 6 | 103 6 | 118 0 |

### CRYSTAL SHEET GLASS.

For Pictures and best Glazing purposes.

Averaging 16 oz. to the foot.

| | |
|---|---|
| Best quality, in cases of 200 feet .. .. .. | 100s. |
| Second quality, in cases of 100 feet .. .. | 82s. |

Averaging 30 oz. to the foot.

| | |
|---|---|
| Best quality, in cases of 100 feet .. .. .. | 100s. |
| Second quality, in cases of 100 feet .. .. | 82s. |

### SQUARES, in 100 and 200 Feet Boxes.

Small Squares not exceeding 9½ inches by 7½ inches.

| Ins. Ins. | Ins. Ins. | Ins. Ins. | Ins. Ins. |
|---|---|---|---|
| 6 by 4 | 7 by 5 | 8 by 6 | 9 by 7 |
| 6½ by 4½ | 7½ by 5½ | 8½ by 6½ | 9½ by 7½ |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 9s. 9d. | 11s. 3d. | 13s. 9d. | 16s. 9d. |

Squares not exceeding 14 inches by 11 inches.

| | | | |
|---|---|---|---|
| 10 by 8 | 12 by 9 | 12½ by 10½ | 14½ by 10½ |
| 10½ by 6½ | 12½ by 9½ | 13 by 10 | 15 by 10 |
| 11 by 9 | 13 by 9 | 13½ by 10½ | 13 by 11 |
| 11½ by 9½ | 12 by 10 | 14 by 10 | 14 by 11 |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 10s. 9d. | 12s. 3d. | 15s. | 18s. |

Squares not exceeding 20 inches by 18 inches.

| | | | |
|---|---|---|---|
| 15½ by 10½ | 14 by 12 | 17 by 13 | 24 by 16 |
| 16 by 10 | 14½ by 12½ | 18 by 13 | 20 by 17 |
| 14½ by 11½ | 15 by 12 | 18 by 14 | 22 by 17 |
| 15 by 11 | 15½ by 12½ | 22 by 14 | 24 by 17 |
| 15½ by 11½ | 16 by 12 | 24 by 14 | 20 by 18 |
| 16 by 11 | 16½ by 12½ | 22 by 15 | 22 by 18 |
| 13 by 12 | 17 by 12 | 24 by 15 | 24 by 18 |
| 13½ by 12½ | 18 by 12 | 22 by 16 | |

Per 100 feet.

| 4ths. | 3rds. | 2nds. | Best. |
|---|---|---|---|
| 11s. 6d. | 13s. 6d. | 16s. 6d. | 20s. |

Orchard House Sizes, as recommended by Mr. Rivers.

| Ins. Ins. | 15 oz. | | 21 oz. | |
|---|---|---|---|---|
| 20 by 12 | 4ths .. | 11s. 6d. | 4ths .. .. | 15s. 0d. |
| 20 by 13 | 3rds .. | 13 6 | 3rds .. .. | 19 0 |
| 20 by 14 | 2nds .. | 16 6 | 2nds .. .. | 25 0 |
| 20 by 15 | Best .. | 20 0 | Best .. .. | 30 0 |
| 20 by 16 | | | | Per 100 feet. |

Squares Cut to Sizes not on List.

| | 15 oz. | | | | 21 oz. | | | |
|---|---|---|---|---|---|---|---|---|
| Under | 4ths. | 3rds. | 2nds. | 1st | 4ths. | 3rds. | 2nds. | 1st |
| 1 ft. super. | 1½d. | 1¾d. | 2d. | 2½d. | 2½d. | 2¾d. | 3¼d. | 4½d |
| 2 ft. super. | 1¾ | 2 | 2½ | 3 | 2¾ | 3 | 4 | 5½ |
| 3 ft. super. | 2 | 2¼ | 2¾ | 3½ | 3 | 3½ | 4¼ | 6 |
| 4 ft. super. | 2¼ | 2½ | 3 | 4 | 3½ | 3¾ | 4½ | 6½ |

GLASS TILES, in SHEET and ROUGH PLATE. PLATE GLASS, PATENT PLATE, and HARTLEY'S IMPROVED ROUGH PLATE.

### PAINTS, COLOURS, VARNISHES, &c.

| | Per cwt.—s. d. | | Per gallon.—s. d. | |
|---|---|---|---|---|
| GENUINE WHITE LEAD .. .. .. | .. .. 30 0 | FINE OAK VARNISH .. .. .. | .. 10s. to 12 0 | LINSEED OIL |
| ANTI-CORROSION PAINT .. .. .. | ..28s. to 34 0 | ,, CARRIAGE .. .. .. | .. 12s. to 14 0 | BOILED OIL |
| LINSEED OIL PUTTY .. .. .. | .. .. 9 0 | PATENT DRYERS .. .. .. | per cwt. 28s. to 42 0 | TURPENTINE |

(LINSEED OIL, BOILED OIL, TURPENTINE) Subject to fluctuation of the market.

MILLED LEAD in Sheet and Pipe of all sizes. Old LEAD bought or taken in exchange.

LIFT PUMPS, WATER CLOSETS, and PLUMBERS' BRASS WORK of all kinds.

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REDUCED PRICES OF SHEET GLASS FOR HORTICULTURAL PURPOSES.

### ENGLISH SHEET GLASS.

Packed in Crates of about 280 feet.

| | 16-ounce. | 21-ounce. |
|---|---|---|
| Best ... | ... 5¼d. | ... 7½d. |
| Seconds ... | ... 3¾d. | ... 5d. |
| Thirds ... | ... 2¼d. | ... 3½d. |
| Fourths ... | ... 2¼d. | ... 3¼d. |

### HORTICULTURAL GLASS.

Stock Sizes, 16-ounce. In 100 feet Boxes.

These prices only apply to the sizes stated.

| | | | | 4ths. s. d. | 3rds. s. d. | 4ths. s. d. | 3rds. s. d. |
|---|---|---|---|---|---|---|---|
| 11 by 9 | 12 by 9 | 13 by 9 | 14 by 9 | | | | |
| 12 „ 10 | 13 „ 10 | 14 „ 10 | 15 „ 10 | 10 9 | 12 3 | 12 6 | 14 0 |
| 13 „ 11 | 14 „ 11 | .. | .. | | | | |
| 14 „ 12 | 15 „ 12 | 15 „ 11 | 16 „ 11 | | | | |
| 18 „ 12 | 19 „ 12 | 16 „ 12 | 17 „ 12 | | | | |
| 16 „ 13 | 17 „ 13 | 20 „ 12 | 21 „ 14 | 11 6 | 13 6 | 13 6 | 16 0 |
| 19 „ 13 | 20 „ 13 | 18 „ 13 | .. | | | | |
| 16 „ 14 | 17 „ 14 | 21 „ 13 | .. | 14 to 15 ozs. | | 16 to 17 ozs. to the foot. | |
| 19 „ 14 | 20 „ 14 | 18 „ 14 | .. | | | | |

HARTLEY'S

### PATENT ROUGH PLATE GLASS.

Packed in Boxes of 50 feet each.

| | | s. d. |
|---|---|---|
| 6 by 4 and 6½ by 4½ | ... ... | 10 6 per box. |
| 7 „ 5 „ 7½ „ 5½ | ... ... | 12 0 „ |
| 8 „ 6 „ 8 „ 6½ | ... ... | 13 6 „ |
| 9 „ 7 „ 9½ „ 7½ and 10 by 8 | ... | 15 0 „ |

### GLASS for ORCHARD HOUSES.

As supplied by us to Mr. Rivers, to the Royal Horticultural Society, and to most of the Nobility, Clergy, and Gentlemen of the United Kingdom.

Packed in 100 feet Boxes.

| | | 14 to 15 ozs. | 16 to 17 ozs. | 21 ozs. |
|---|---|---|---|---|
| 20 by 12 | Fourths ... | 11s. 6d. | 13s. 6d. | 15s. 0d. |
| 20 „ 13 | Thirds ... | 13s. 6d. | 16s. 0d. | 19s. 0d. |
| 20 „ 14 | Seconds ... | ... | English. | English. |
| 20 „ 15 | Best ... | ... | 18s. 0d. | 23s. 0d. |

The above prices include the Boxes.

We recommend 3rds quality at 16s., or 21-ounce at 19s. (as supplied to Mr. Rivers). Best and Seconds are intended only for pictures or dwelling-houses.

### SMALL SHEET SQUARES.

In 100 feet Boxes.

| | | | | |
|---|---|---|---|---|
| 6 by 4 | 6½ by 4½ | 7 by 5 | 7½ by 5½ | 11s. 6d. |
| 8 „ 6 | 8½ „ 6½ | 9 „ 7 | 9½ „ 7½ | |
| | | 10 „ 8 | 10½ „ 8½ | 12 6 |

Boxes 2s. each, returnable at full price.

All small squares from 6 by 4 to 10½ by 8½ are cut from pieces, consequently there is only one quality.

### FOREIGN SHEET GLASS.

In Cases for cutting up, in Sizes as Manufactured.

London Agents for Hartley's Patent Rough Plate.

Perforated Glass for Ventilation.

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ANTI-CORROSION PAINT. | FINE OAK VARNISH. | PATENT DRYERS. | BOILED OIL.

TURPENTINE.

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# ST. PANCRAS IRON WORK COMPANY,

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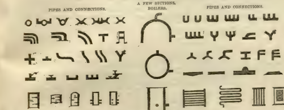
FIXED AND UNFIXED.

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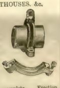
Begs to offer complete HOT-WATER APPARATUS for GREENHOUSES (consisting of 4-inch Pipes and Joints, Saddle Boiler, Fire Doors, Bars, Soot Doors, Damper, Supply Cistern, Feed and Air Pipes, Pipe Stands, &c., of the best quality), delivered to any Railway Station in England, and to erect the same within 25 miles of London, at the following prices:—



TWO 4-INCH PIPES ALONG ONE SIDE AND ONE END OF HOUSE.

| Size of House. | Apparatus complete. | Erection. | Size of House. | Apparatus complete. | Erection. |
|---|---|---|---|---|---|
| 16 feet by 8 feet... ... | £8 10 0 ... | £2 0 0 | 30 feet by 12 feet ... ... | £11 15 0 ... | £2 10 0 |
| 20 feet by 10 feet... ... | 8 17 6 ... | 2 0 0 | 40 feet by 15 feet ... ... | 15 0 0 ... | 2 15 0 |
| 25 feet by 12 feet... ... | 10 5 0 ... | 2 5 0 | 50 feet by 15 feet ... ... | 18 0 0 ... | 3 0 0 |

*Erections beyond 25 miles of London, Railway Fare for one Man charged extra.*

By the use of these Joints the Apparatus is easily altered or removed without injury to either Pipes or Joints.

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STOVES for GREENHOUSES are made to burn all the Winter. Temperature always the same. Patent Fuel, 2s. 3d. per bushel.

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best Wrought Iron, upon an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.

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Prices:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Diameter | 30 inches, | length | 32 inches | .. | £7 | 0 | 0 |
| ,, | 24 inches, | ,, | 26 inches | .. | 4 | 5 | 0 |
| ,, | 20 inches, | ,, | 22 inches | .. | 3 | 5 | 0 |
| ,, | 16 inches, | ,, | 17 inches | .. | 2 | 10 | 0 |

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## News of the Week.

THE French Chambers were opened by the EMPEROR on Thursday in a speech of unusual length, and of more than ordinary interest both to Europe and to America. His Majesty commenced by congratulating himself on the result of the elections, "in spite of some local dissent," and said that as the members of the Opposition had all taken the same oath they had given him a guarantee of their support. He then proceeded to state that after eleven years of prosperity the empire had become so rich from an increasing revenue that the expenses of two wars at the extremities of the globe, in Mexico and in Cochin China, could be met without having recourse to loans or to extraordinary resources. The exports had increased by upwards of 9,000,000*l*., while 136,000 tons had been added to the mercantile marine of France. The harvest had been abundant, and 1000 kilometres of new lines of railway had been opened to traffic. After pointing out various matters of domestic interest as fit subjects for legislation, the EMPEROR proceeded to discuss the great questions of foreign policy to which all Europe has so long been looking with undisguised anxiety. HIS MAJESTY commenced by stating that the expeditions to Cochin China and Mexico had not been the result of any premeditated plan, but had been brought about by the force of circumstances and were not to be regretted. He justified the expedition to Cochin China on the ground that France would find advantages in following the example of other nations which had settlements in Southern Asia; and he defended the expedition to Mexico by showing that France could not develop her foreign commerce if she were to relinquish all influence in America. He said that she would be largely rewarded for her sacrifices when the destinies of that country which will owe its regeneration to her, shall have been handed over to a Prince whose intelligence and accomplishments rendered him worthy of so noble a mission. With regard to Poland, the EMPEROR admitted that something like a Russian alliance had existed with France since the close of the Crimean war, and that during the war in Italy, as well as at the time of the annexation of Nice and of Savoy, the CZAR had given him his most sincere and cordial support. Nothing, he said, but Poland could have induced him to compromise such an alliance; but he could not shut his eyes to the popular feeling of France in favour of a people who were "heirs to a right inscribed in history and in treaties." Unfortunately, however, the steps taken by England, Austria, and France, instead of putting a stop to the struggle, had only tended to embitter it; and as France could only deal with the question in concert with the other Powers, it remained to be considered whether they were reduced to the sole alternative of war or of silence. He thought that they were not, and that without having recourse to arms, and without remaining silent, one resource was open to them, which was to submit the Polish question to a European tribunal. HIS MAJESTY then proceeded to show that the treaties of 1815 were all but annihilated, and expressed his belief that a Conference of all the Great Powers would result in the establishment of an order of things based on the well-understood interests of the Sovereigns and of the peoples of Europe. Such a Conference he said would put an end to jealous rivalries and exaggerated armaments and lighten the burdens of all Europe, while a refusal to take part in it would lead to the supposition of secret projects which feared the light of day. HIS MAJESTY concluded by warning Russia that two ways were open; the one leading to progress through conciliation and peace, the other, sooner or later, conducting fatally to war by the obstinacy of maintaining an old state of things which is passing away.

From the United States we have the important news that General LEE, after withdrawing his whole army to the south side of the Rappahannock, and inducing the Federals to believe that he was in full retreat to Richmond, has suddenly recrossed to the north bank of the river, repulsing the Federal cavalry with heavy loss, and has since pressed on to Beaton Station, where he has again attacked the Federal cavalry and forced it to retreat. At the last accounts General LEE occupied Beaton, with his left resting on Beverley Ford and his right extending to Stafford Court House. These movements were conducted with such secrecy that their object is unknown, and the Northern journals appear entirely at fault in conjecturing their probable issue. General ROSENCRANS has been superseded in Tennessee and his command given to General THOMAS, while General GRANT is invested with the supreme command of the armies of the Cumberland, the Tennessee, and the Ohio. The remainder of General LONGSTREET's corps has reinforced General BRAGG at Chattanooga, and the divisions of Generals BRECKENRIDGE and HINDMAN have been withdrawn ftom the Federal front, and sent in force against the Federal left. No further movement has taken place at Charleston, but it is again asserted that General GILMORE's batteries are nearly ready to open fire. Admiral DAHLGREN is said to have been superseded in the command of the fleet before the city by Capt. TURNER, of the Ironsides. The 300,000 volunteers called for by President LINCOLN are to serve for three years, or to the end of the war; and if the number is not completed by January it will be made up by a draft. President DAVIS has dismissed all the British consuls in the South, on the ground that they had directed British subjects to throw down their arms if they were required to enter into conflict with the Federals.

## Home News.

THE COURT.—The Queen and Royal family continue at Windsor. On Friday afternoon her Majesty drove out, accompanied by Princess Louisa. Princess Helena came to London, and returned in the afternoon. On Saturday morning the Queen, accompanied by Princess Helena, walked and drove in the grounds. A party of non-commissioned officers and soldiers of the Ceylon Rifle Regiment, who have been in England some months and attached to the Coldstream Guards for musketry practice, were inspected by her Majesty previous to their return to Ceylon. On Sunday morning the Queen, Princess Helena, Princess Louisa, Prince Leopold, and Princess Hohenlohe attended Divine service in the private chapel. The Dean of Windsor officiated. On Monday morning the Queen drove out, accompanied by their Royal Highnesses Princess Louise, Princess Beatrice, and Prince William of Prussia. In the afternoon the Queen drove out. Lady Bloomfield arrived at the Castle on a visit. On Wednesday morning the Prince and Princess Christian of Denmark and Princess Dagmar visited her Majesty at the Castle, and took leave on their return to Denmark. In the afternoon the Queen came to London and honoured the Dowager Duchess of Hamilton and the Dowager Duchess of Sutherland with visits at their respective residences. In the evening Lord Palmerston arrived at the Castle, and had an audience of the Queen. On Thursday morning the Queen drove out. Lord Palmerston left the Castle for London. The Duchess of Cambridge and Princess Mary visited her Majesty. Lord Brougham had an interview with her Majesty. In the evening Princess Helena and Princess Louisa came to town, and honoured the performance at the Adelphi theatre with their presence.

THE PRINCE AND PRINCESS OF WALES AT SANDRINGHAM.—On Thursday week the Prince of Wales and Earl Granville went out partridge shooting on the Wolferton and abingby side of the estate. In the afternoon the Princess of Wales, Princess Christian, and Princess Dagmar drove and rode to Wolferton. The Duke of St. Alban's arrived on a visit to the Prince and Princess. On Friday the Prince of Wales and the visitors went out shooting. Prince Christian returned from Oxford.

On Saturday the Prince of Wales, Prince Christian, the Duke of St. Alban's, Earl Granville, and Admiral Seymour, went out shooting. The Princess of Wales, Princess Christian, and the Princess Dagmar, walked and drove out. In the afternoon Prince Frederick of Denmark arrived from Oxford on a visit. On Sunday the Prince and Princess of Wales, Prince and Princess Christian, and the Princess Dagmar, the Duke of St. Alban's, Earl Granville and Admiral Seymour attended Divine service at Sandringham Church. The sermon was preached by the Rev. Robert W. Pearse, Incumbent of Gaywood. In the afternoon the Duke of St. Alban's and Earl Granville left Sandringham for London. On Tuesday morning the Prince and Princess Christian, Prince Frederick, and the Princess Dagmar took leave of the Prince and Princess of Wales and left for London. The Prince and Princess of Wales rode to Wolterton.

The Crown Prince and Princess of Prussia having since leaving Balmoral, visited the Duke of Richmond at Gordon Castle, and the Duke of Argyll at Inverary, arrived in Edinburgh on their way South on Monday evening. They were received at the station by Prince Alfred, Prince William of Hesse, and the Lord Provost. They immediately drove to the Douglas Hotel, where apartments had been engaged for them, and shortly afterwards proceeded to Holyrood, where they dined with Prince Alfred and Prince William of Hesse. On Tuesday night the Crown Prince and Princess left Edinburgh for Sandringham, on a visit to the Prince and Princess of Wales, travelling from the Northbridge Station by the Scotch mail train. Shortly after leaving Edinburgh, the train had a narrow escape. A goods train had got off the line, and a portion of the footboard of the composite carriage containing their Royal Highnesses' attendants, was broken off in the attempt to get past. Fortunately the train was going at slackened speed, and no injury was sustained beyond a delay of about two hours. On arriving at Peterborough on Wednesday morning the Prince and Princess, with their suite, left the carriages and proceeded to the Great Northern Hotel, and after partaking of some refreshment walked into the city and inspected the cathedral and other places of interest. They then proceeded by the Great Eastern Railway to Wolferton, where they arrived at 1.25 P.M., and were met on the platform by the Prince and Princess of Wales. It is expected that their Royal Highnesses will remain at Sandringham until after the Prince of Wales's birthday.

The Prince and Princess Christian of Denmark, accompanied by the Princess Dagmar, took their departure for the Continent by a special train of the London, Chatham, and Dover Railway on Wednesday afternoon. Their Royal Highnesses, on arriving at Dover, immediately crossed to Calais in a steamer specially engaged for the purpose.

The Cabinet.—A Cabinet Council is summoned for Tuesday.

The Archbishopric of Dublin.—The *Irish Times* of Thursday says it is enabled to state that Canon Stanley has definitively declined the Archbishopric of Dublin.

Parliamentary Movements.—The election for Windsor terminated on Wednesday in the return of Colonel Vyse, the Conservative candidate, by a majority of 51 over Captain Hayter, the numbers being 287 to 236. Mr. W. H. Humphrey, son-in-law of the late Mr. Cubitt, and Mr. Hawkshaw, the Civil Engineer, have offered themselves for Andover, the former in the Conservative, the latter in the Liberal interest. The Oxford election takes place next week. Mr. Neate, of Oriel, is the only candidate in the field.

Reinforcements for Canada and New Zealand.—The 43d Regiment, now stationed at the Curragh, and the 58th Regiment, in Dublin, are under orders to embark for Canada. The 1st Battalion 10th, the 1st Battalion 11th, and the 2d Battalion 12th Regiment, are under orders to embark for New Zealand. The 43d has already been despatched from Bengal to New Zealand in three steamers taken up by the Government for their conveyance, and the India Mail announces that the 68th from Rangoon is also to be despatched to the colony, and that the 33d, at Poona, is likely to follow.

Diplomatic Movements.—The official correspondence respecting Sir James Hudson's retirement from Turin has been published. It appears that Sir James and Earl Russell are at issue on a matter of fact. Sir James says that when he declined the offered change of position last year, he made an engagement to resign altogether as soon as he was entitled to a pension. Earl Russell, on the other hand, denies there was any engagement in the matter. He states that he offered Sir James Hudson promotion last year, which was declined and there was, so far as he was concerned, an end of the matter.

## Foreign.

France.—The French Chambers were opened on Thursday by the Emperor, who delivered the following speech:—

"Messieurs les Sénateurs and Députés,—The annual meeting of the great bodies of the State is always a happy occasion which draws together men devoted to the public welfare, and allows the truth to be shown to the country. The freedom of our mutual communications calms anxieties and fortifies my resolutions. Be then, welcome. The Legislative Corps has been re-assembled for the third time since the foundation of the empire, and for the third time, in spite of some local differences, I have only to congratulate myself on the result of the elections. You have all taken the same oath to me; it assures me of your co-operation. Our duty is to attend promptly and well to the affairs of the country, while remaining faithful to the constitution, which has given us 11 years of prosperity, and which you have sworn to maintain. The statement of the internal situation will show you that, despite the forced stagnation of labour in certain branches, progress has not been slackened. Our industry has advantageously contended against foreign competition, and before incontestable facts, the fears occasioned by the Treaty of Commerce with England are dissipated. Our exports in the first eight months of the year 1863, compared with those of the corresponding months of 1862, have increased by 233,000,000f. During the same period the movement of maritime navigation exceeded the amount of the corresponding period by 175,000 tons, [illegible] of which are under the French flag. The abundant harvest of this year is a blessing of Providence which must secure the subsistence of the population at the lowest rate. It establishes also the prosperity of agriculture. The public works have been pursued with activity. About [illegible] new kilometres of railway have been opened up to the commerce of our ports. Our rivers, our canals, our roads have continued to improve. The session having taken place sooner than usual, the report of the Minister of Finance has not been published; it will be shortly. You will see in it that if our hopes are not completely realised, the revenues have followed an ascending scale, and that without extraordinary resources we have met the expenses occasioned by the war in Mexico and Cochin China. I may mention several reforms deemed opportune; amongst others the decree relative to the liberty of baking; one which renders the maritime inscription less onerous to the population of the coast; the act which modifies the law of conditions, and that which suppresses the exclusive privileges of theatres. I have also caused to be prepared a law destined to augment the freedom of the general and communal councils, and to remedy the excess of centralisation; in fact to simplify administrative formalities, and to soften the legislation applicable to the classes worthy of all our solicitude. There will be there a progress with which you will delight to associate yourselves. You will also have to occupy yourselves with the sugar question, which requires at length to be settled by a more stable legislation. The project submitted to the Council of State tends to grant to home products the facility of exportation which the sugars of other countries there enjoy. A law upon registration will abolish the double decimes, and will replace it by a juster apportionment. In Algeria, in spite of the anomaly which subjects some to the same populations to the civil power, and others to the military power, the Arabs have well understood that the French rule was reparative and equitable, without Europeans having less confidence in the protection of the Government. Our ancient customs have some barriers disappointed for their transactions; [illegible] have not been favourable to the development of commerce. The formal establishment of a public institution will serve, I hope, to ameliorate the condition of things. In the midst of these material cares nothing of what concerns religion, the mind, and morality has been neglected. Religious and charitable works, the arts, the sciences, and public instruction have received numerous encouragements. Since 1848 the academic population have increased one-fourth. At the present time nearly five millions of children—of whom a third receive a free education—are received in the primary schools; but our efforts should not to be relaxed while 600,000 more are deprived of instruction. The higher studies have gained fresh life in the secondary schools, where the special instruction is being re-organised. Such, gentlemen, is the résumé of that which we have already done, and which we wish further to do. Certainly the prosperity of our country would take a more rapid flight if political anxieties did not disturb it, but in the life of nations unexpected and inevitable events occur, which should be viewed without fear and supported without weakness. Of this number are the American war, the necessary occupation of Mexico and Cochin China, and the insurrection of Poland. Distant expeditions, the object of so many criticisms, have not been the execution of a premeditated plan; the force of things has brought them about, and yet, nevertheless, they are not to be regretted. How, in fact, can we develop our external commerce if, on the one side, we renounce all influence in America, and if, on the other, in presence of the vast territories occupied by the Spaniards and Dutch, France remained alone without possessions in the Asiatic seas? We have conquered in Cochin China a position which, without binding us to the local government, will permit us to employ the immense resources of those countries, and to civilise them by commerce. In Mexico, after an unexpected resistance, surmounted by the courage of our soldiers and sailors, we have seen the populations receive us as liberators. Our efforts will not have been in vain, and we shall be largely recompensed for our sacrifices, when the destinies of this country, which will owe us its regeneration, shall have been given over to a prince whose intelligence and accomplishments render him worthy of so noble a mission. Have faith, then, in our enterprises across the seas. Undertaken to avenge our honour, they will end by the triumph of our interests; and if prejudiced minds divine not the fertility which is contained in the germs laid down for the future, do not allow to be disparaged the glory acquired, so to speak, at the two extremities of the world, at Pekin as at Mexico. The Polish question requires more development. When the Polish insurrection burst out, the governments of Russia and France were on the best terms. Since the peace, the great European questions had found them agreed, and I do not hesitate to declare that during the Italian war, as at the time of the annexation of the province of Nice and Savoy, the Emperor lent me the sincerest and most cordial assistance. This good agreement dictated consideration, and I must therefore have believed the Polish question very popular in France not to hesitate to compromise one of the first alliances of the Continent, and to raise the voice in favour of a nation rebellious in the eyes of Russia, but to ours the inheritor of a right inscribed in history, and in the treaties. Nevertheless, that question affects the gravest European interests. It could not be treated separately by France. An offence to our honour, or a menace against our frontiers, alone imposes upon us the duty of acting without previous concert. It became, therefore, necessary, as at the time of the events in the East and in Syria, to come to an understanding with the Powers which had to express themselves upon reasons and rights similar to ours. The Polish insurrection, the duration of which increased in it a national character, awakened sympathies everywhere, and the end of diplomacy was to draw to that cause the utmost possible amount of adhesions, in order to press on Russia all the weight of the opinion of Europe. This concurrence of wishes, almost unanimous, appeared to us the fittest method of bringing persuasion to operate upon the cabinet of St. Petersburg. Unfortunately, our disinterested counsels have been interpreted as an intimidation, and the steps of England, of Austria, and of France, in place of arresting the struggle have only envenomed it. Excesses are committed upon both sides, equally to be deplored in the name of humanity. What remains, therefore, to be done? Are we reduced to the only alternative of war or silence? No. Without resorting to arms, and without being silenced, one resource is open to us. This is, to submit the Polish cause to a European tribunal. Russia has already declared that conferences in which all the other questions which agitate Europe should be debated would in no degree wound her dignity. Let us take note of this declaration. May it serve to extinguish once for all the ferments of discord ready to burst forth upon all sides, and from the discomfort of Europe labouring in all directions under the elements of dissolution, may a new era of order and peace spring forth. Is not the time come to reconstruct upon fresh bases the edifice undermined by time and destroyed piecemeal by revolutions? Is it not urgent to recognise by new conventions that which has been irrevocably accomplished, and to carry out by common agreement what the peace of the world requires? The treaties of 1815 have ceased to exist. The force of events has overthrown, or tends to overthrow them, almost everywhere. They have been broken in Greece, in Belgium, in France, in Italy, as upon the Danube. Germany is agitating to alter them; England has generously modified them by the cession of the Ionian Islands; and Russia treads them under foot at Warsaw. In the midst of this successive alteration of the fundamental European pact, ardent passions become over-excited, and [illegible] interests demand solution in the South as well as in the North. What, then, can be more legitimate and more sensible than to convoke the Powers of Europe to a Congress in which self-love and resistance would disappear in face of a supreme arbitrage? What can be more in conformity with the ideas of the age, with the wishes of the greatest number, than to address ourselves to the conscience, to the reason of statesmen in all countries, and to say, 'Have not the prejudices and rancour which divide us already lasted long enough? Shall the jealous rivalry of the great Powers for ever hinder the progress of civilisation? Shall we always keep up mutual distrust by exorbitant armaments? Are we to exhaust our most precious resources indefinitely in a vain ostentation of our forces? Are we to preserve for ever a state of things which is neither peace with its security nor war with its chances of success?' Let us no longer give a fictitious importance to the subversive minds of extreme parties by opposing narrow calculations to the legitimate aspirations of peoples. Rather let us have the courage to substitute a stable and regular state of things for one that is deranged and insecure, even though the effort cost us some sacrifices. Let us unite without preconceived systems, without exclusive ambitions, animated by the sole thought of establishing an order of things founded henceforward on the well-understood interests of sovereigns and peoples. This appeal, I would fain believe, will be listened to by all. A refusal would leave room to suspect the existence of secret projects which will not bear the light of day. But even should the proposition not be unanimously agreed to, it would have the immense advantage of having shown Europe the source of the danger and the means of safety. Two ways are open—the one leads to progress by conciliation and peace, the other leads fatally sooner or later to war by the obstinate desire to retain the old state of things which is crumbling away. You know now, gentlemen, what language I propose to hold towards Europe. Approved by your sanction and the public assent, it cannot fail to be heard, since I speak in the name of France."

The *Presse* of Thursday evening, in an article on this speech signed by M. de Girardin, wishes that the appeal of the Emperor may be understood in Europe to open at last a new era of peace and liberty. The *Gazette de France* thinks that the speech tends to the alternative of a Congress, reorganising almost Europe, or to war. The *Pays* applauds the speech, and says that, "if the Emperor has spoken of war, it is not as a threat, but to impress upon Sovereigns and nations the necessity of anticipating war by recommending peace." The *Constitutionnel*, in an article signed by M. Limayrac, says that the whole of France will join in the magnificent and patriotic language of the Emperor. "Europe will understand that this appeal was made by a great dignified and generous policy—proud, without wishing to impose itself upon others, national, without the spirit of conquest, the friend of order and of progress." The *Nation* considers the speech to show that the common action of the three Powers is at an end, and also does not believe that Europe will accept a Congress. *La France* says that "the Emperor has condemned with equal firmness the madness which endeavours to carry him away and the system of egotism and decay which has overthrown other régimes, and which his name rejects." The Emperor presided at a Ministerial Council on Wednesday, which was prolonged until about 5 o'clock. On Monday his Majesty received the Annamite Ambassadors, and on Tuesday entertained the members of the Mexican deputation at dinner at St. Cloud. The Empress arrived in Paris on Friday evening, and was met by the Emperor at the station. The rumour that Count Walewski will replace the Duc de Gramont as Ambassador at Vienna is denied. At one of the late Cabinet Councils at St. Cloud the distribution of parts took place among the Ministers who are authorised to speak in the Chamber in the name of the Government. M. Rouher, as Minister of State, will defend the foreign policy, particularly the Italian and Polish policy; M. Vuitry undertakes financial questions; M. Forcade de la Roquette, Customs; and MM. Parieu and Rouland, domestic affairs. On M. Chaix d'Est Ange devolves the task of defending the Mexican expedition, and the conduct of the Government in the last elections. It is asserted that the tax on carriages will be abolished, and will not be inserted in the Budget for 1865. General Bedeau, who was formerly Governor-General of Algeria, and commandant of Paris at the revolution of 1848, died last week at Nantes. The Mexican Consuls in Paris, Bordeaux, and Havre having been compelled to cease their functions, the affairs of these Consulates have been temporarily placed in charge of the Consuls of Guatemala. The Confederate steamer Georgia has arrived at Cherbourg to revictual and take in coal. The Federal corvette Kearsage having made a show of keeping steam up to watch the movements of the Florida, at Brest, has been ordered by the authorities to leave French waters. It is stated that the French Government has informed Mr. Dayton, the United States Minister in Paris, that the "autorisation" for the construction of certain vessels of war now proved to be building in France for the Confederates, and for certain cannon and munitions for their armament, has been

withdrawn, and that the parties engaged in the business have been warned of the danger of [illegible] their work. The statue of Napoleon I. in the costume of a Roman Emperor, was on Wednesday raised to the summit of the column in the Place Vendôme. There was no ceremony. The *Times* says that the baptism of Prince Napoleon's son is at this moment a great stumbling block to the church. The little Prince was half-baptised immediately after his birth, but it is almost without precedent that the full ceremony of baptism should be postponed longer than six months. The infant is now more than a year old, and the reason given for the delay is that Prince Napoleon will have no other godfather for his son than the King of Italy, who is excommunicated. As the Pope makes a great point of holding to the excommunication in this case, no bishop in France can be found to fly openly in the face of the Church, and Prince Napoleon, with equal firmness, declares that unless Victor Emmanuel holds his infant over the font he shall not be baptised at all. It is said that the same difficulty is likely to arise in the case of the young Prince of Portugal. A discovery of some historical importance has just been made in Paris. The bones of Robespierre, St. Just, and Lebas were found by some masons who were laying the foundation of a house at the corner of the Rue de Rocher, in the Batignolles. It was there the remains of these men, who performed so remarkable a part in the first Revolution, were deposited, the churchyard of the Madeleine being too full at the time of their execution to receive any more bodies. Public balls were held for many years at the place where the skeletons were discovered. A Paris letter gives the following account of the steps taken by the Empress during her recent visit to Cadiz in behalf of the French troops who touched at that port on their way to Mexico:—

"Three weeks ago the steam transport Sarthe sailed from Cherbourg for Vera Cruz with 1100 men on board. There was [illegible] accommodation for the men, [illegible] on the [illegible] and [illegible] their sleeping quarters. [illegible] was a [illegible]. The [illegible] and had to put into Cadiz to [illegible]. The soldiers suffered [illegible] board being unable to receive all the [illegible]. Fortunately for these poor fellows, the Empress arrived at Cadiz before the Sarthe's repairs were completed, and determined to go on board. Her Majesty was [illegible] shocked at what she saw there. The men on the gun deck especially were [illegible] by their voyage—in fact, the whole scene brought to the traditional horrors of the 'middle passage' so vividly before her Majesty, that she immediately gave orders to the captain to have half the men landed. The captain objected that he was unfortunately under the orders of the Ministry of Marine, and [illegible]. The Empress thereupon sent a telegram to the Emperor, [illegible] the telegram [illegible] on board, as the Sarthe was a great deal too small to carry so large a number. In pursuance of this kindly intervention the Dryade has been sent out to Cadiz, and will take on board the men the Sarthe is unable to accommodate properly. In addition the Empress gave the officers in command of the troops [illegible], with orders that it should be expended in giving them at least one good dinner before they sailed. One may imagine with what cheers her Majesty was greeted on leaving the vessel to return on board her yacht."

The Géant balloon in its late aërial journey performed a total distance of 370 leagues (925 miles) in 16 hours, being at the rate of 56¾ miles an hour. M. Louis Godard and M. St. Félix have published the following additional details relative to their unfortunate excursion:—

"After passing Lisle the balloon got into a current which carried it towards the marshes of Holland, where M. Godard proposed to descend [illegible] in the morning, but the proposal was overruled, and he then declared that he would not be responsible for the consequences. The balloon continued its course eastward at a short distance from the Zuyder Zee, sometimes so high as [illegible] metres, at others scarcely [illegible] metres from the ground, and crossed the Hanoverian frontier soon after six o'clock. When the sun rose it dried the netting, and produced a dilatation of the gas, which raised the balloon to the height of [illegible] metres. At eight the wind veered to the west, and drove the balloon in a straight line towards the German Ocean. It was then necessary to descend at all hazards, but the operation had become difficult and dangerous owing to the violence of the wind, which, according to M. Godard's estimate, was carrying the balloon at the rate of [illegible] leagues an hour! The anchors first caught against a tree, which was pulled up by the roots, and dragged till stopped by a house, when the anchor broke. The balloon having lost a considerable quantity of gas through the safety valve was unable to rise, but was forced along by the wind, the car meanwhile striking heavily on the ground at intervals. M. Saint Félix was thrown under the car by one of those shocks, and was much hurt, and M. Montgolfier would have been thrown out, but was saved by M. Godard. Shortly after, MM. Thirion and d'Arnould leaped out, and only received some slight contusions. M. Yon also got out safely, but a terrible shock threw out MM. Nadar, Louis Godard, and Montgolfier. In spite of the efforts of the gentlemen, Mdme. Nadar remained to the last, and falling under the car, more than 20 minutes elapsed before she could be extricated. The balloon and car arrived at Hanover in a most dilapidated state, and have been shown at a low price for the benefit of the poor. The Minister of the Interior at Hanover sent a gentleman to the place where the descent occurred, with instructions to value the damage done, so that M. Nadar might not have to suffer from extravagant claims for indemnity. The King and Queen of Hanover went on Friday to examine the broken car of the Géant, and afterwards visited the wounded persons."

Spain.—The opening of the Spanish Cortes took place on Wednesday. The Queen's speech states that friendly relations continue with foreign nations, and that the project of constitutional reform is definitively resolved upon. The position of Senator will in future be hereditary. The speech announces that no diminution will be made in the Budget. Her Majesty deplores the insurrection which has broken out at San Domingo, and hopes for the assistance of the Spanish nation in its repression.

Portugal.—The King and Queen intend visiting Oporto in November. The Italian residents in Lisbon are raising subscriptions for the erection of a monument to commemorate the marriage of Dom Luiz and the Princess Mary of Savoy. The Queen has taken carriage exercise on several occasions. The King has distributed the prizes at the Polytechnic Institution, on which occasion his Majesty made an impressive speech to the members. The Royal family visited the opera in state on the 30th ult. The city was partially illuminated. The subscription in Lisbon for the loan amounts to 2,800,000*l.* sterling, and in Oporto to 500,000*l.* sterling, consequently applicants can only receive a small percentage of the amount required.

Sweden.—The *Official Gazette*, in a leading article upon the Dano-German conflict, says that it is now by no means the fault of Denmark if peace should be disturbed.

Denmark.—At the sitting of the Rigsraad on Monday, the fundamental law was discussed. The President of the Council was opposed to all the proposed amendments. The debates were calm, and the amendments were rejected by 40 votes against 14.

Frankfort.—The Federal Diet has called upon Prussia to send a military commissioner to concert with those of Hanover and Saxony in reference to the Federal execution in Holstein.

Prussia.—A Royal decree of Sunday summons both Houses of the Prussian Parliament to meet on the 9th inst., in accordance with Article 51 of the Constitution. The election of deputies has terminated. Among those elected by a large majority are Count John Dzialynski, M. Ladislas Bentkowski, M. Alexander Guttry, and M. Ladislas Niegolewski, all four accused of high treason for having aided the Polish insurrection against Russia. Count Dzialynski and M. Guttry are abroad, M. Bentkowski is a prisoner in the hands of the Austrian authorities, and M. Niegolewski is a prisoner in the hands of the Prussians at Berlin; M. Henry Szuman, another deputy elect, is also in gaol.

Austria.—The Conference of Ministers at Nuremberg closed on Friday. The Ministers who took part in the meeting left on Saturday morning, and are said to be satisfied with the result. The Austrian reply to Prussia on the German reform question was despatched on Friday, accompanied by a memorandum completely refuting Count von Bismark's arguments. The preliminary proposals of Prussia are formally rejected. An increase of 6,000,000 florins has taken place in the bullion of the Bank of Austria, owing partly to the payment of instalments in arrear. In the sitting of the Reichsrath on Tuesday the Finance Committee recommended a loan of 60,000,000fl. to cover the deficit; 20 millions to be devoted to relieving the distress in Hungary, and 20 to the redemption of the floating debt. At the sitting of Thursday the Hungarian Chancellery was represented by two commissioners on the Ministerial bench during the debate on the Committee's recommendation in regard to the distress in Hungary. Some of the speakers questioned the competence of the Reichsrath to grant the loan. Others pleaded warmly for Hungary. The debate was to be continued yesterday. It is believed in Vienna that the acceptance of the Mexican Throne by the Archduke Maximilian no longer admits of any doubt, and that his Imperial Highness will embark for Mexico at the commencement of February in the Imperial steam frigate Elizabeth, in which the Archduke performed his last voyage to the Brazils.

Hesse Cassel.—On Saturday, the day fixed for the close of the Parliamentary Session, a Message from the Elector was to have been read to the members, according to custom, expressing the Elector's sanction to all the laws voted by the Diet during the Session. The members of the Diet were, however, kept waiting for five hours, because the Government Commissioner had received no instructions from the Elector, who was at the theatre, and had refused to sanction the Message proposed to him by the Ministry. It is said that the Ministers sent in their resignations in consequence to the theatre. At length, at 10 p.m., the Elector read the Message, in which he requested some unimportant modifications, which were agreed to by the Ministers. The Diet was then closed without the usual speech in which the Elector assures the Diet of his grace and favour.

Italy.—Letters from Naples of the 31st ult. state that the inauguration of the Foggia railway is fixed for to-morrow, the 8th inst. The King will leave the same evening for Avellino and Mola, and will return to Naples on the 9th. Two hundred carriages, with public functionaries and Neapolitan nobles, will go out as far as Mola to meet his Majesty. The review of the fleet will take place on the 10th; 25 vessels of war will be present in the bay. Great preparations are making at Naples for the reception of the King, who will be accompanied by the Ministers of the Interior, Foreign Affairs, Justice, and Marine. On his return his Majesty will remain a few days in Tuscany. The Minister of War has ordered the line of the Volturno to be placed in a state of defence, and the provisioning of the fortress of Gaëta. The Pope has conferred the Grand Cordon of the Order of Pius IX. on Prince de la Tour d'Auvergne, the French ambassador.

Turkey.—The Imperial Bank has concluded the payment of the dividend upon the Old Consolidés. The rumours of a further foreign loan are unfounded. The forts on the Bosphorus and Dardanelles are being armed with heavy rifled cannon. The Porte has agreed to the police regulations established by the European Commission of the Danube.

Russia.—An Imperial ukase dated from Livadia the 1st (13th) inst. assigns pensions to the widows and orphans of officials assassinated in Poland. It is stated on reliable authority that the Grand Duke Constantine will be relieved from his functions as Governor of Poland, and will travel abroad. General Berg is to be definitively appointed his successor.

Poland.—The importation of furs, shoes, boots, and leather straps into Poland has been prohibited. General Trepow, the chief of the Gendarmes, was slightly wounded in the neck with an axe in the Senator Street at Warsaw on Monday. The assassin threw down his axe and took to flight, but was arrested and severely wounded by the General, who struck him on the head with the axe. The Russians continue to make numerous arrests at Warsaw, both by day and night. During the night the prisoners are taken to the citadel. During the day the soldiers arrest and search the passengers in the streets; and all women who wear mourning are conducted to the barracks. Forty-one ladies were arrested in the city on Monday night, and even young ladies of 15 years of age have been arrested and taken to the citadel. Two convoys, with 550 prisoners, have already left the citadel on their way to Siberia. The exasperation of the population is extreme. The Polish Town Captain of Warsaw has issued a proclamation advising ladies to cease wearing mourning to avoid the brutalities of the Russian soldiery. He has also issued a proclamation, declaring the object of the Russians in arresting so many influential citizens to be the extortion of an address of loyalty to the Czar. Judge Kuczynski was assassinated at Lemberg last week. The assassin plunged a hunting knife into his back, which pierced the heart. The National Government has disavowed all participation in this crime. The Russians were defeated by the insurgents under Bosak on the 28th October, between Chmiebrik and Kielce. Wierzbicki had an engagement with the Russians on the 26th at Goscieranow, which terminated to his advantage. Many engagements have taken place in the district of Opoczno, palatinate of Radom. Czachowski, having intrenched himself in the mountains of St. Croix, defended his position on Monday until his corps had diminished to 18 men. He then retreated, and effected a junction with Bosak and Chmienski, in the mountains of St. Kryz, in the palatinate of Cracow. Rochebrun and Komorowski have had a successful engagement with the Russians in the palatinate of Lublin. Two new insurgent detachments have appeared in the Lublin districts, led by Seinkiwicz, and Aladar. Kruck has the command in chief. Numerous engagements have taken place in Lithuania, Plock, and Sandomir. The troops of Mouravieff have marched from the government of Augustowo into that of Plock. A fresh body of insurgents has entered Poland from Galicia. Another insurgent corps, numbering, it is said, 600 infantry and 230 cavalry, advanced on Sunday into Volhynia, but having been pressed by the Russians, laid down their arms on Tuesday in the district of Zolkiew in Galicia. 400 men, with arms and munitions and upwards of 100 horses, surrendered to the Austrians. The insurgents burnt on Saturday the long railway bridge near Petrikau, and the railway communication between Skierniewice and Warsaw is interrupted.

Ionian Islands.—It is asserted that the treaty respecting the cession of the Ionian Islands to Greece will be signed in London in a few days. The Ionian Parliament was prorogued on Saturday for six months. The majority of the members have protested against any violation of Parliamentary privileges, and declared any act illegal during the Parliamentary recess which may be prejudicial to the interests and rights of the Ionian Islands.

Greece.—The King of Greece arrived at the Piræus at 9 a.m., on October 30. He was enthusiastically received on landing at the port, and afterwards at Athens. His Majesty attended a *Te Deum* at the Cathedral, at which the Diplomatic Body was present. After his arrival the King issued a manifesto, of which the following is a summary:—

"I bring neither ability to govern nor practised intelligence, but sincere love for the people. I believe in the future identity of our destinies. I shall endeavour to love Greek customs, and shall respect your manners and language. I shall strictly observe the Constitution, and shall surround myself with the most experienced men of the country without remembering old political divisions, and shall make Greece the model State of the East."

Athens is reported to be quiet, and the people well disposed.

India.—Lord Elgin left Simla on the 26th Sept., on his tour through the N.W. provinces, the Punjab and Cashmere. Accounts from all parts of India are very encouraging as to the crop of cotton this season, which will be nearly double that of last year. The success of the Bengalee native in the Civil Service examination has created great sensation in native circles. It is stated that the expedition against the Sitanees on the Punjab frontiers occupies the whole attention of Sir Hugh Rose. The expedition will be 5000 strong; and consist of the 51st, 71st, and 101st regiment, a mountain train, and some Punjab corps, and will be commanded by Brigadier Chamberlain. The 71st Highlanders at Nowshera have

been ordered up to the frontier, where the enemy is stated to be making a threatening demonstration. Affairs in Affghanistan have taken a favourable turn. The Ameer Shere Alle Khan arrived at Cabool on the 9th September, and marched into the city in great state. His elder step-brother, Auzim Khan, who was in arms against him, has given in his adherence to him, but Ufzul Khan, the eldest of his step-brothers, still holds out. Flights of locusts have made their appearance in the Jubbulpore, Chindwarrah, and Hoshungabad districts of the Central Provinces, and were pursuing their flight in the direction of the Bombay Presidency. India seems likely to be visited by the Confederate steamers, the Alabama having been spoken between Ganjam and Colombo by a merchant ship. The Federal steamer Vanderbilt is, however, on the Alabama's track.

UNITED STATES.—Accounts from Virginia were received on Monday, stating that General Lee had recrossed the Rappahannock, after having entirely destroyed the railroad from Manassas, which could only be repaired at the rate of one mile per day; that General Meade, after being pushed by Hill's and Ewell's corps to the front of the defences of Washington, was again advancing; and that his cavalry had reached Warrentown Junction without meeting the Confederates. Three reports were current of General Lee's present movements, one being that he was sending his army from Culpepper along the East Tennessee and Virginia Railroad to crush Burnside; the second, that he was about to cross the Potomac, and enter Pennsylvania; and the third that he wished to prevent Burnside's movement upon Lynchburg. On the 24th, however, while the New York journals were announcing that Lee was in full retreat on Richmond with the Federals in pursuit, the Confederate infantry returned to the north of the Rappahannock in force, and drove back Gregg's cavalry with heavy loss. After a slight engagement with two Federal infantry brigades, the Confederates then passed forward to Beaton Station, where they again attacked the Federal cavalry, but with what result is not known. General Lee now occupies a line with his left resting near Beverley Ford, crossing the railroad near Beaton Station, and extending towards Stafford Court-house. The object of these movements is unknown, all his plans being, as usual, shrouded in complete mystery. General Rosencrans has been superseded by General Thomas. General Grant has been appointed to command the armies of the Ohio, the Cumberland, and Kentucky, and all the operations of Thomas and Burnside will now be conducted under Grant's supervision. The whole press have now turned against Rosencrans, and are publishing numerous injurious statements concerning him. The Southern journals report that 14,000 of Burnside's cavalry were advancing into Western Virginia for a raid on the East Tennessee and Virginia railroad. They drove the Confederates from Bible Ridge to Greencastle, with the loss of 300 men, and were advancing towards Lynchburg, where there are large Confederate supplies. General Rosencrans reports that General Crook has been successful in three engagements with Wheeler's cavalry, driving them 15 miles, and capturing 4 guns, 1000 arms, and 240 prisoners. A large Confederate force under Buckner is reported to be moving into Kentucky, with the intention of reaching the Ohio River opposite Gallipolis. The Federal loss at the battle of Chickamauga is officially stated to have been 16,000 men killed, wounded and prisoners, and 36 guns. The remainder of General Longstreet's corps has reinforced General Bragg, and President Jefferson Davis has reviewed General Bragg's army. His presence is attributed to difficulties between Bragg and some of his officers. Charleston despatches of the 23d announce that no new movements had yet taken place, but General Gilmore's batteries were nearly ready to open fire on the city. It is reported from Washington that Admiral Dahlgren has been superseded in the command of the fleet of Charleston by Captain Turner, of the Ironsides. It is reported that Banks's army has landed at the mouth of the Rio Grande, and is marching on Brownsville. President Davis has dismissed all the British Consuls from the South, on the ground that they assume the power of determining whether British subjects who are regularly enlisted soldiers of the Confederacy are properly bound to its service; and arrogate the right to interfere directly with the execution of Confederate laws, and to advise soldiers of the Confederacy to throw down their arms in the face of the enemy. The Southern press comments favourably upon the action of the Confederate Government in this matter, and the *Richmond Enquirer* predicts the speedy advent of a British Minister at Richmond. The Southern journals are dissatisfied with Earl Russell's speech at Blairgowrie, and exhibit firmer confidence in friendly interference on the part of France. President Lincoln has called for 300,000 volunteers, who are to be enlisted for the term of three years, or for the war. If the number is not raised by January next a draft for the deficiency will be made. The Governor of New York has responded to the President's call in a proclamation urging all to assist, with all their power, to strengthen the army by volunteering, and stating that the military operations of the Government are threatened with serious disaster for want of an adequate military force. The New York Supreme Court has refused the motion to remove the action against Mr. Seward for false imprisonment to the Federal Courts, and has denied President Lincoln's power to authorise arbitrary arrests. At a Democratic mass meeting held in New York, resolutions have been passed declaring that the Democracy will never consent to the destruction of the Union. There were minority cries for peace, but the majority favoured the prosecution of the war. French and English interference was repudiated. A declaration was made that no Emperor should ever be crowned in Mexico. The following speech was delivered by the Hon. H. Winter Davis, of Baltimore, at a Union mass meeting in Philadelphia:—

"The attitude we held in the eyes of Europe when the war broke out was known to all. As to the attitude we shall hold when the rebellion is crushed out, he would only say that there was a long account to settle with two great nations of Europe. He had never said a word on that subject to anybody in that house before; but he knew what he thought, and he guessed what the audience thought. The perfidy of England and France would fester and rankle to the day of account. He used to be opposed to foreign war; but he had learnt something in two years. The sin of the Alabama and the invasion of Mexico had awakened the country. Napoleon would be expelled from this continent, and the Bahamas would not be allowed to remain a nest of pirates. And he gloried in the day when black regiments would march to the halls of the Montezumas, where the men of New York and Pennsylvania marched in days gone by. And if Admiral Dupont should live, he hoped yet to see his bombshells bursting over the dome of St. Paul's, and the ruins of London Bridge tumbling into the stream below."

MEXICO.—Intelligence from Mexico to the 27th September states that the condition of affairs was favourable, that numerous adhesions to the French intervention were being given in, and that the organization of the rural militia was being developed. Great disorders existed among the adherents of Juarez, the majority of the Governors disavowing his authority. Marshal Forey has addressed a letter to the Emperor describing the present state of affairs, and making some observations upon the stipulation of the Archduke Maximilian that he will only definitively accept the crown upon the adhesion of the majority of the Mexican States. This adhesion, Marshal Forey says, may, perhaps, be considered already accomplished, the populations of all places from which the adherents of Juarez are absent having spontaneously recognised the French intervention. The Marshal embarked at Vera Cruz for New York on the 5th October, intrusted, it is said, with a diplomatic mission.

## City Intelligence.

BANK RATE OF DISCOUNT.—At a special Court on Monday morning, the Directors of the Bank of England resolved to raise their rate of discount from 4 per cent., at which it had stood since May 21, to 5 per cent. At the ordinary weekly meeting on Thursday the Directors again advanced the rate from 5 to 6 per cent.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at 92⅛ for Money, and 91½ to ⅜, ex div., for Account; Three per Cents Reduced, 90⅝ to ¾; New Three per Cents., 90½ to ¾; India Stock, 224 to 226; Ditto Five per Cent. Stock, 109 to 108⅞; Ditto for Acct., 106¾; Ditto Four per Cent., 100⅝; Exchequer Bills, 6s. to 1s. dis.—FOREIGN: Brazilian, 1863, scrip, ½ dis.; Dutch Certificates, 100¼; Greek, for Acct., 28⅛ to ¼; Ditto Coupons, for Acct., 13½ to ¼; Italian, for Account, 71½; Ditto Maremmana Railway, 80½; Mexican, 40¼; Ditto, for Acct., 40⅝ to ¾; Moorish, 94; New Granada, 14¾; Portuguese, 1856, '57, '59, '60, and 1862, for Acct., 49½; Russian, 1822, 94; Ditto, 1850, 90¼; Ditto, 1862, 89⅜ to ½, ex div.; Sardinian, 89½; Spanish, 54⅜; Ditto Passive, for Acct., 34 to ⅜; Ditto Certificates, for Acct., 13⅛ to ¼; Turkish, 1854, for Acct, 92½; Ditto, 1858, 70¼; Ditto, 1862, for Acct., 71; Venezuela, 1862, for Acct., 57⅛ to 57, ex div.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. | £27,844,575 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 13,194,575 |
| | | Silver Bullion .. .. .. | — |
| | £27,844,575 | | £27,844,575 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £10,949,363 |
| Rest .. .. .. .. .. | 3,144,206 | Other Securities .. .. | 20,009,524 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 5,066,818 | Notes .. .. .. .. .. | 5,803,605 |
| Other Deposits .. .. .. | 13,861,173 | Gold and Silver Coin .. | 604,853 |
| Seven days and other bills | 712,048 | | |
| | £37,367,345 | | £37,367,345 |

Nov. 5, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *October* 30. — BANKRUPTS. — G. ALLDAY, Solihul, Warwickshire—H. B. ANDERSON, Short Street, Tabernacle Square, Finsbury, Optician—H. BUTTERY, late of Lincoln, Licensed Victualler—S. A. BISHOP, Bury Street, Bloomsbury, Wheelwright—R. M. DE BLAQUIERE, James Street, Buckingham Gate—J. BIGNELL, Freshwater, Isle of Wight, Brickburner—G. BOBLEY, St. George's Road, Regent's Park, Draper's Assistant—J. BELFORD, Tyne Docks, Durham, Engine Driver—W. BURTON, Leicester, Provision Dealer—A. BENTON, Birmingham, Gun Polisher—A. BOAK, High Street, Poplar, Grocer and Provision Dealer—R. BILLINGTON, Hanley, Staffordshire, Tailor—T. BROWN, Aston, Warwickshire, Pearl Button Maker—J. CALLIGHAN, Great New Street, Fetter Lane, Greengrocer—W. CHILTON, Manchester, Engraver—E. J. CASS, Rochester, Kent, Plasterer—WILLIAM EDWARD CHADWICK, Broadway, Stratford, Tailor—JOHN THYNNE CARR, Basinghall Street, Timber Merchant—THOMAS LOCKEY CARR, Willington, Durham, Provision Dealer—B. CLOWES, Hanley, Staffordshire, Butcher—R. H. W. DRUMMOND, Robinson Road, Victoria Park, Contractor's Foreman—H. DEFRIES, Nicholas Square, Hackney Road, Gas Fitter and Dealer in Gas Shares—J. L. EDWARDS, Birkenhead, Draper—A. ECCLES, Wigan, Lancashire, Coal Proprietor—P. FRANKLAND, South Street, Manchester Square, Boot and Shoemaker—S. FEARNLEY, Undercliffe, Bradford, Stonemason—C. FOX SCULCOATES, Kingston-upon-Hull, Assistant Overseer—ROBERT GONDIE, Chapel Street, Lamb's Conduit Street, Bedford Row, Carver—B. GILL, Hawstead, Suffolk, Blacksmith—A. GURNEY, Farringdon Street, City, Licensed Victualler—C. W. GREVILLE, Albert Street, Barnsbury Road, Working Silversmith—W. J. GRIFFITHS, Dudley, Worcestershire, Boot and Shoe Manufacturer—A. GENT, Leicester, Wire Spring Maker—J. GRAHAM, Madeley, Shropshire, Tailor—M. H. HATTON, Hereford, Grocer—T. HUGHES, Larches Orcton, Shropshire, Draper—H. HASKELL, Shidfield, Southampton, Grocer—R. C. HARRIS, Aldershot, Southampton, Chemist and Druggist—AMELIA HOLMYARD, Westbrook, Margate, Spinster—J. JACKSON, late of Gracechurch Street, City, Commission Agent—R. JONES, late of Tottenham Place, Tottenham Court Road, Furniture Dealer—E. KINGSNORTH, Ore, Sussex, Farmer—J. KEMP, New Lakenham, Norwich, Shoe Manufacturer—W. KELSALL, Nottingham, Butcher—S. KENTFIELD, Brighton, Billiard Table Proprietor—E. A. LAYLAND, late of Bermondsey, Leather Merchant—M. LOWE, Westleigh, Lancashire, Beerseller—W. LOBB, Enfield Wash, Middlesex, Beerseller—T. G. LAW, South Street, West Square, St. George's Road, Southwark, Journeyman Tailor—J. MOORE, Bishopwearmouth, Durham, Master Mariner—F. MARSH, New Road, Chelsea, Tailor—C. NEWTON, Ramsey, Huntingdonshire, Farmer—E. E. ORIEL, Douglas Place, High Street, Deptford, Tailor—W. OPIE, late of Gwennap, Cornwall—J. W. OLDLAND, Leicester, Tailor—R. PICKERING, Norfolk Mews, London Street, Paddington, Horse Dealer—WILLIAM WINTER PAGE, Brighton, Agent—W. ROBERTS, Liverpool, Builder—ALFRED STROUD, Maddox Street, Regent Street, Goldsmith—R. H. STRANG, Worcester, Tailor—W. G. SAMPSON, Warner Place, South Hackney Road, Rope Manufacturer—G. SELBY, Pitfield Street, Hoxton New Town, Butcher—W. STANNARD, jun., late of Middle Row, Holborn, Picture Frame Mounter—J. G. A. TALENT, Pall Mall, Boarding House Keeper—JOSEPH TAYLOR, Wickhamford, Worcestershire, Labourer—WILLIAM TAYLOR, Bretforton, Worcestershire, Labourer—D. VAN DER VELDEN, Great Crosby, Lancashire, Ironmonger—I. VICTORS, late of Commercial Street, Spitalfields, Tobacconist—J. WINDROSS, Kingston-upon-Hull, Druggist—J. WHALE, late of Smithfield Bars, Coffee House Keeper—W. WOOD, Cornhill, City, General Merchant—S. WHITE, Sherborne, Dorsetshire, Surgeon—W. WITHAM, Lambeth, Lower Marsh, Grocer—M. WHITAKER, Snaith, Yorkshire, Printer—W. WOOD, Little Bolton, Lancashire, Fly Maker.

SCOTCH SEQUESTRATIONS.—The Hon. Mrs. LOUISA GRANT or KEITH FALCONER, Monkrigg, Haddington—T. SMITH, Bookseller, Elgin—A. WATSON, Farmer, Blinkbonny, Edinburgh.

TUESDAY: *Nov.* 3.—BANKRUPTS.—J. F. AYERS, Gloucester, Licensed Victualler—W. ARONSBERG, Liverpool, Dealer in Stereoscopic and Photographic Portraits—R. T. ATTWELL, Bermondsey New Road, Butcher—W. BILLIMORE, Nassington, Northamptonshire, Beer House Keeper—C. BRITTAIN, Great Staughton Highway, Huntingdonshire, Market Gardener—R. BARKER, Huddersfield, Cotton Spinner—F. W. COOKE, Church Street, Hackney, Gas Fitter—H. DENNIS & S. CHEETHAM, Denton, Lancashire, Joiners—G. CALVERT, Gainsborough, Lincolnshire, Painter—W. COOPER, Huddersfield, Journeyman Joiner—T. CLIFFORD, Leather Lane, Holborn, late Licensed Victualler—R. B. DRAKE, Leeds, Builder—A. DAVIS, Bristol, Licensed Victualler—J. DRURY, Halifax, Yorkshire, Millwright—R. DOBSON, Wallbottle, Northumberland, Journeyman Gardener—J. DAY, Chertsey, Surrey, Carter—G. DANBY, Wigmore Street, Cavendish Square, Watchmaker—O. EVANS, Stafford Street, Bond St., Surgeon—H. FRIEND, Wimbledon, Gun Maker—J. FARRAR, Skircoat, Yorkshire, Builder—R. FLINT, Duffield, Derbyshire, Butter Huckster—J. FRANCE, Compton Street, Burton Crescent, Furnishing Ironmonger—J. GREEN, Heywood, Lancashire, Builder—J. GREGORY, Dean, Lancashire, Loom Jobber—J. HORSLEY, Wigan, Lancashire, Teacher—H. HOLDSWORTH, Reigate, Surrey, late Butcher—R. T. W. HOULTON, Mark Lane, City, Corn and Flour Factor—J. HARPER, Leeds, Fishmonger—W. HENSON, Huddersfield, Butcher—J. P. HALL, Liverpool, Commission Merchant—J. HUTCHINSON, Amble, Northumberland, Grocer—H. J. HANNMAN, Lee, Kent, Apothecary—C. HENN, Fitzroy Place, Fitzroy Square, Baker—H. HILL, Wolverhampton, Retailer of Ale—G. HIGGINS, Cranfield, Bedfordshire, Labourer—RICHARD HEATH (alias RICHARD HODGKISS), Madely, Shropshire, Miner—W. HOLT, Gower Street, Bedford Square, Barrister-at-law—J. JENNINGS, Bridge Row, Battersea, late General Shop Keeper—S. LYON, sen., Birmingham, Railway Clerk—E. H. LIMERICK, Bath, Boot Maker—J. LLOYD, Beniew, Montgomerysh., Plasterer—J. LORD, Bacup, Lancash., Broker—J. W. MOORTON, Stanstead Cottage, Buckhurst Hill, late Cabinet Manufacturer—S. MOORE, Cole's Ter., Barnsbury, Grocer's Warehouseman—S. MARTIN, Westbromwich, Staffordsh., Carpenter—T. MINSHALL, Stone, Staffordshire—G. I. MOORE, Liverpool, Bookseller—J. MANLEY, Croydon, Auctioneer—J. MORRIS, High Street, Poplar, Bootmaker—T. MILLS, Hastings, Sussex, Victualler—D. NELSON, Birmingham, Doctor of Medicine—J. NOBLE, Oldham, Lancashire, Greengrocer—J. ORRELL, Liverpool, Chemist—J. OLDHAM, Derby, Commission Agent—H. PYNE, late of Praed Street, Paddington, Tailor—J. PARKER, Liverpool, Licensed Victualler—J. PRITCHARD, Abergavenny, Monmouthshire, Coal Dealer—R. PARSONS, Dartmouth, Devonshire, Boot and Shoe Maker—H. REYNOLDS, Birmingham, Scrivener—J. B. RILEY, late of Nottingham, Slater—T. H. SMITH, Huddersfield, Clothdresser—W. SHARPE, New Romney, Kent, Plumber and Painter—J. STILL, Margaret St., Cavendish Sq., Licensed Victualler—J. SCOTTORN, Derby, Joiner—H. SCOTT, Banbury, Oxfordshire, Carpenter—J. STANFORD, jun., Wombourne, Staffordshire, Farmer—W. STRICKLAND, Manchester, Grocer—J. [illegible], Borrowash, Derbyshire, Brewer—T. SESSIONS, Southsea, Hampshire, Builder—R. SCANLAN, Great Hermitage Street, Wapping, Boarding House Keeper—J. S. SMALE, Dartford, Kent, Tavern Tap Keeper—J. TILSON, King's Lynn, Norfolk, Merchant's Clerk—S. TAYLOR, Much Wenlock, Shropshire, Lime Burner—W. [illegible], Manchester, Insurance Clerk—C. WAINSCOTT, Hereford, Watchmaker—W. WEBB, Hampstead Road, Draper's Assistant—B. WINTTERBOTTOM, Oldham, Lancashire, Machine Maker—D. WILKES, Hartpury, Gloucestershire, Boot and Shoemaker—R. WADE, Birmingham, late Farmer—H. WHYATT, Dovercourt, Harwich, Licensed Victualler—E. K. WATTS, Randolph Road, Paddington, Gentleman.

SCOTCH SEQUESTRATIONS—C. ALEXANDER, Edinburgh, Nurseryman—W. SAGE, Hamilton, Lanarkshire, Joiner—W. WILSON, Edinburgh, Coachbuilder.

## Metropolis and its Vicinity.

THE PRINCE CONSORT MEMORIAL FUND.—A meeting of the committee appointed at the Mansion House in Jan. 1862, to raise a Memorial to the Prince Consort, was held on Friday, the Lord Mayor in the chair, to receive a communication from Sir C. Phipps, stating her Majesty's wishes in regard to the disposal of the fund. A report was read from a sub-committee stating that the sum raised, and now in their hands for the purposes of the Memorial, amounted to upwards of 54,000*l.*, a large portion of which had been raised in small sums from the middle and working classes. Sir C. Phipps's letter stated that it was the Queen's desire that all monies so raised should be handed over to trustees whom she had appointed for that purpose. It was unanimously resolved that, in compliance with the Queen's pleasure, the subscriptions should be paid to the trustees appointed by her Majesty, viz., Lord Torrington, Sir Alexander Spearman, and Sir C. Phipps. The late Mr. Cubitt, M.P., if he had lived, would have been the fourth trustee.

THE LORD MAYOR ELECT.—On Monday, being the first day of term, Alderman Lawrence, the Lord Mayor Elect, was presented to the Lord Chancellor at his private residence, by the Recorder, when his lordship signified her Majesty's cordial assent to the choice the citizens had made.

GREAT STORM.—On Friday afternoon the metropolis and its neighbourhood was visited by a destructive storm of wind and rain, verifying the prediction of Admiral Fitzroy, who had sent warnings to the various outports that a hurricane might be expected. Its full fury appears to have been felt in the southern suburbs. The large engine-shed at New Cross, the depot of the London and Brighton Railway Company, was completely blown down, smashing in its fall four or five engines that were standing there ready for work, killing one man on the spot, and seriously injuring several others. Some houses in the Old Kent Road and at Mile End were also unroofed, and the wires of the London District Telegraph, extending from Bartholomew Lane, Bank, to the Old Jewry, were blown down. The trees in all the parks were much damaged, several barges and

other vessels were upset in the river, and the up-traffic of the steamboats on the ebb tide was considerably impeded by the violence of the storm. On Sunday night the gale again broke out in the metropolis with renewed violence, and a great deal of damage was done in the eastern and south-western suburbs. The accounts from the provinces show that the storm was felt equally in all parts of the country, and along the whole coast from Cornwall to Caithness. The local papers report numerous shipwrecks, but the loss of life has been greatly diminished by the life boats, which are now stationed all round the island. The gales proved most disastrous to the fleet of steamships employed in the cattle trade between the foreign ports of the North of Europe and London, especially off the Dutch and Danish coast, whence many wrecks are reported.

Serious Accident to the Prince Consort Iron-clad.—The Prince Consort new iron-plated vessel which the Government despatched from Plymouth to Birkenhead, to keep watch over the steam rams built by Mr. Laird, put into Kingston on Friday morning greatly disabled by the gale in the Channel, and nearly filled with water. It appears that she had sprung a leak while labouring in the heavy sea, and that but for the exertions of her officers and crew it is said she would have sunk in the Channel. All her boats, guns, and cabin furniture were thrown into confusion. Several of the crew were seriously injured, and one had his leg broken. Soon after anchoring she parted her cable, and was obliged to drop a second anchor, by which she now rides, about a mile and a half from the East Pier. When she sighted Howth lights the men had been nearly 24 hours at work at the pumps without food, and were so exhausted that it was necessary to send assistance from the Ajax. The water at one time during the storm was within a few inches of the boilers, and if the fires had been put out the vessel must have been inevitably lost. From the weight of her armour she would not rise to the waves during the gale, but shipped one sea after another, and the crew were standing on the decks up to their knees in water. The steam pumps on Saturday reduced the water to the proper level, and all danger was at an end. On Wednesday three Admiralty officers arrived from England and made a careful survey of the ship, and on Thursday she left Kingston for Plymouth, where she will be placed in dry dock to be repaired. Her Majesty the Queen, who takes a peculiar interest in the vessel as bearing the name of the Prince Consort, caused a special telegram to be forwarded on Saturday to the captain, officers, and crew, congratulating and thanking them, one and all, for the saving of this splendid vessel, and highly approving their conduct while in peril from the hurricane experienced in the Irish Channel.

The Thames Embankment.—A beginning has at length been made in the great work of embanking the north side of the Thames. The first of the great caissons within which the sea wall is to be made between Westminster and Waterloo Bridges, was shipped on Monday morning in pieces from the factory at Deptford, in several barges, and carried up to the neighbourhood of the railway bridge at Charing Cross, where it is to be sunk, so that the actual work of the embankment will forthwith be commenced.

The Main Drainage.—At the last meeting of the Metropolitan Board of Works the engineer submitted a report on the progress of the main drainage, which is advancing with the greatest vigour and activity on both sides of the Thames. At the north side the upper level is completed to Barking Creek, and the middle will be finished in the course of the present or early in the next year. The lower is only delayed until the commencement of the Thames embankment enables it to be constructed beneath the new roadway. On the south side the upper level, commencing at the Plough Inn, Clapham, running down Acre Lane, along the Brixton Road, through Peckham, and on to Deptford, is entirely completed, and, so far, has answered the most sanguine expectations. The middle level has been just commenced at Kennington Oval, from which, as the main centre, two sewers will be constructed simultaneously, one through Camberwell New Road to Peckham, where it will meet and be amalgamated with the high level, which goes on to Deptford; while the western will proceed to Putney, so as to take in all the immediate drains which run into the Thames in that direction.

The Drainage at Bethnal Green.—An adjourned inquiry was held on Monday in Butler Street, Bethnal Green, respecting the death of Amelia Julietta Ware, aged 12 years, who was alleged to have died from neglected scarlet fever, arising from the bad drainage of the house where the parents resided in George Street, Green Street. The case excited unusual interest in consequence of the great mortality in the neighbourhood, and of three children having died in a fortnight from fever in the same family. Medical evidence was adduced to show that the child died of scarlet fever, caused by the want of cleanliness and the filthy habits of the parents. The drains had been examined and found in good order and free from effluvia. The Coroner said that the evidence was very satisfactory, inasmuch as the cause of the mortality had been ascertained. The jury unanimously concurred, and returned a verdict "that deceased died from scarlet fever brought on by the want of care and neglect of the parents, and not from bad drainage, as alleged."

The Great Eastern.—A special general meeting of the proprietors of the Great Ship Company was held on Monday at the London Tavern, when a lengthy report with reference to the employment of the vessel on long voyages, was read and adopted. Resolutions reducing the qualification of directors from 1000 to 500 shares, and recommending new directors to be elected at the next meeting, were also agreed to.

Diocess of London.—The Bishop of London, and the Principal and Fellows of Brasenose College, Oxford, have agreed on an exchange of patronage, under which the following livings in the east of London will shortly pass into the gift of the Bishop:—The rectories of St. Dunstan, Stepney; St. George's-in-the-East; St. John's, Wapping; and St. Mary, Stratford, Bow; and the perpetual curacies of St. Philip, Stepney; St. Peter's, Stepney; St. Thomas, Stepney; Holy Trinity, Stepney; and Christ Church, St. George's-in-the-East. In exchange for these nine benefices the College will obtain the patronage of the vicarages of East Ham, Essex, and Northolt, Middlesex.

The City Traffic.—The regulations for the circulation of the traffic through the streets have not yet received the sanction of the Home Secretary; but the Aldermen are acting upon their right to enforce them, so far as the cabs and omnibuses are concerned. At Guildhall on Monday Alderman Wilson expressed his gratification at the sensible diminution in the obstruction, and said that a still greater improvement was required. He understood that, as every omnibus driver and conductor contributed *6d.* each to a common fund to meet these cases, they made a laugh and a joke of the fines; but he wished them to clearly understand that for the future the fine for the first offence would be 5*s.*, the second 10*s.*, the third 20*s.*, and upon conviction for a fourth offence the magistrates would impound the license with a view to its entire suspension. As to the touting cabmen, the nuisance was so great all round the Bank and Royal Exchange, that in future all cabs setting down in the City would be required to repair direct to a cab stand, and any driver turning round to the impediment of the traffic without a fare would be summoned for causing obstruction, and treated accordingly.

The Raising of Holborn Valley.—The Improvement Committee of the Court of Common Council recently advertised for designs, plans, and estimates for raising Holborn valley, and offered premiums of 250*l.* and 150*l.* respectively for the two most approved designs; on the understanding that the corporation shall not be bound to employ either of the persons whose designs may be approved. No less than 80 designs have been sent in in accordance with this notice, including, as usually happens, several which are quite impracticable. The committee, after discussing the merits of the various plans, reported yesterday in favour of those which proposed a complete viaduct or high-level roadway from Holborn to Skinner Street. There were only three plans of this kind, viz., those submitted by Mr. F. Marrable, Mr. T. C. Corby, and Mr. Richard Bell. The Common Council unanimously agreed to the report, and authorised the committee to give the necessary notices to the owners of the houses affected by the plans.

Bank of England Forgeries.—Since the conviction of the three men, Griffiths, Boucher, and Burnett, for stealing Bank of England note-paper from the mills of Messrs. Portal, not a single forged bank-note has been put into circulation, and there is reason to believe that the whole of the stolen paper has been recovered. Griffiths, who ostensibly kept a small farm near Birmingham, was really a skilful engraver, and executed all the plates from which the forged notes were struck off. Since his conviction a number of these plates, found buried in the earth in different parts of his farm, have been destroyed.

New Pier at Bankside.—A new and commodious pier, constructed by the Conservators of the River Thames, in compliance with a requisition from a large body of traders and inhabitants of the Southwark side of the river, between London Bridge and Blackfriars Road, was opened on Monday for the landing and embarkation of steamboat passengers. The new pier communicates with Emerson Street, Southwark, and is nearly opposite St. Paul's Pier, Queenhithe. It will open up a communication long required between the north and south sides of the Thames, and supply the deficiency of accommodation caused by the removal of the pier at Southwark Bridge. It is understood that steps will be taken for extending similar pier accommodation to other points on the Surrey side.

Eclipses.—There will be an annular eclipse of the sun on Wednesday, the 11th inst., invisible at Greenwich. On Wednesday, the 25th inst., there will be a partial eclipse of the moon, partly visible at Greenwich. It will begin at 8.50 A.M.

Epping Forest.—It was stated a few days since that the Lord Mayor, being desirous of maintaining the rights of the citizens to visit Epping or Waltham Forest for the purpose of recreation, has intimated to Colonel Palmer as verderer of the forest his intention, previous to the expiration of his year of office, to visit the forest with some of the aldermen and common council, to exercise their annual privilege of hunting; and that the forest officers would attend on his lordship and the aldermen, and show them sport. It appears that there is no truth in the statement, which has been contradicted on authority.

Lancashire Relief Fund.—At a meeting of the Mansion House Committee on Friday, Alderman Lawrence, the Lord Mayor elect, consented to act as president of the fund for the ensuing year, and the present Lord Mayor consented to continue on the committee and to act as treasurer in the room of the late Mr. Cubitt. The committee voted grants to the amount of 2130*l.*

Loss of the Pactolus.—The Board of Trade inquiry into the circumstances attending the loss of this steamer was brought to a conclusion on Saturday. The judgment of the court was, that the certificate of the master, Mr. Edward Johnson, should be suspended for nine months.

The Public Health.—The Registrar-General's Weekly Return states that the number of deaths registered in London in the week that ended Saturday, October 31, was 1252. The average number in the ten corresponding weeks of the years 1853-62, corrected for increase of population, was 1224. The present return is therefore 28 above the average. During the week the births of 962 boys and 873 girls, in all 1835 children, were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1882.

## Provincial.

Aberavon.—The adjourned inquest on the men who were killed by the explosion at Morfa Colliery was resumed on Friday, when several men who were working in the pit at the time were examined, but they could throw no light on the cause of the explosion. They said that there had been no escape of gas previously, and it was their unanimous opinion that the pit was one of the best ventilated they had ever worked in. The inquest was again adjourned.

Ashbourne.—On Saturday week Mr. James Clifford, of Broughton House, Shardlow, was charged before the magistrates of this town with stealing in 1804 a leaf of the parish register of the parish of Longford, Derbyshire, containing an entry of the baptism of William, son of Mary Patlow, of Bentley, dated the 8th November, 1727. It was stated for the prosecution that Mr. Clifford in 1804 went to Longford, accompanied by a man named Thomas Sutton, and that they then stole the leaf. They afterwards went to London, and the prisoner and the Suttons of Shardlow then became possessed of the property of William Patlow, amounting to 60,000*l.*, to which they were not entitled, they not being the rightful heirs. Various witnesses were examined in support of the charge, and a written certificate, signed by Thomas Sutton before his death, confessing that the leaf was stolen in his presence, was produced. The defence denied the charge in the most positive manner, and characterized the proceedings as an attempt to extort money. The chairman of the bench said the magistrates, after hearing the evidence, could not help believing that a leaf was extracted from the Longford register, and that Mr. Clifford was the person who did extract it. They therefore committed him for trial. Bail was granted, Mr. Clifford in 500*l.*, and two sureties at 250*l.* each.

Bath.—On Wednesday week several men who had just left the New Inn, Welton, near this city, threw some pea haulms at the door of a cottage belonging to a woman called Hannah Roberts, whom they were in the habit of annoying in this manner. Roberts went out once or twice to ask them to desist, and they ran away. On their return the last time she rushed out with a reaping hook, threatening to murder them. Mr. G. Coles, farmer, turned towards her, and she struck him in the breast with the hook, inflicting a severe wound, but the point of the hook came in contact with a bone, which prevented its penetrating deeply. She then pursued a labouring man, named Jeremiah Haines, and, overtaking him, she struck him in the side with the hook, which penetrated the liver, and after he fell she continued to hack him about in a most savage manner. When she left it was found that the unfortunate man's right ear was cut off, the jugular vein severed, his wrists gashed in several places, three of the fingers of the right hand amputated, and his left hand cut in two. An effort was made to remove him to the New Inn, but before he could reach it he expired. The deceased was a widower, 40 years of age, and has left one child. Mr. Coles lies in a precarious state, though hopes are entertained of his recovery. Roberts was taken into custody and the jury at the inquest on returned a verdict of Wilful Murder against her.

Birkenhead.—The El Toussoun was towed out of the Birkenhead float on Sunday afternoon, and anchored near her Majesty's ship Majestic. El Monassir, which is watched by two gunboats, will be towed out of the Messrs. Laird's dock on the 9th, the tide not answering before that date.

Bury.—In February last the body of a woman was found in the Bolton Canal, in the neighbourhood of Pendleton. It did not appear to have been in the water many hours, but as there was no evidence forthcoming at the inquest either as to the identification or the manner in which she got into the water, an open verdict of Found Drowned was returned. The body was interred in the cemetery, and the clothes taken to the workhouse. On the evening before the body was found a policeman called Luke Charles left this town in company with his wife for the

purpose of visiting his wife's sister, who resided in Pendleton. They left Bury about dusk, and he returned the same night without his wife. Since then numerous inquiries had been made of him about her, and to some he said she had gone to Ireland, and to others that she had gone to other places. The wife's sister residing in Pendleton became uneasy about her sister's absence, and hearing of the discovery of the body in the canal, inspected her clothes, when she at once identified them as belonging to the prisoner's wife. The matter was then taken up by the magistrates, who ascertained that the prisoner had formed relations with another woman, and had consequently a strong motive for taking away his wife's life. He has accordingly been committed for trial at the assizes.

BURY ST. EDMUND'S.—At the recent Quarter Sessions for West Suffolk, Charles Bird, shoemaker, was charged with having stolen a gold watch and chain, a silver watch and chain, and certain moneys, the property of Frances Childerstone, at Mildenhall. Mrs. Childerstone, the prosecutrix, is the widow of Mr. Jonathan Childerstone, who died at the close of last year, and was buried early in January. They had an only son, to whom they were both much attached. This young man having died before his parents, they resolved that whichever of them should die first should have placed in his or her coffin a watch and chain, 60*l.*, and other articles which had belonged to him. This agreement Mrs. Childerstone faithfully carried out on the death of her husband, who with the money and valuables was placed in three coffins, including a leaden one, in a vault in the Mildenhall Cemetery. On the 28th July last an apprentice of Mr. King, a stonemason, found that the vault had been disturbed, and on a further examination it was ascertained that it had been broken into on the side nearest the road. Mr. King called the churchwardens and other persons to the spot, and then, with the boy, got in and examined the vault. It was then found that the lids of all three coffins had been broken or cut open, and all the money, watches, and chains stolen. The prisoner mentioned the circumstance to one or two persons, and this having come to the knowledge of Mr. King he had some conversation with the prisoner, who admitted that he was one of the persons who got into the vault, and that he and a man named Graham had been persuaded to join in the robbery by Docking, the sexton, who had taken the watches and jewellery to London to sell them, and had not divided the money fairly. The prisoner pleaded "Guilty," and was sentenced to three months' imprisonment with hard labour. Warrants have been issued for the apprehension of the other men.

CARMARTHEN.—Mr. W. Williams, M.P. for Lambeth, has offered, through the Rev. Dr. Nicholas, a donation of 1000*l.* towards obtaining an adequate fund for *establishing High Schools and a University for the* Principality. A committee is speedily to be convened in London to deliberate upon initiatory measures.

DEVIZES.—The Highway Act of 1861 has been adopted in Wiltshire, the present petty sessional division being taken as the basis for the districts.

DURHAM.—For some weeks past there has been a strike among the colliers in this county, the men demanding an advance in wages, which, upon the present prices, would amount to 20,000*l.* a year. The masters refused to accede to this demand, and determined to bring new hands into the collieries, refusing to allow the leaders of the union to remain on the works. They accordingly gave them notice to quit at the close of last week. The weather on Thursday and Friday however was so bad that the masters abstained from carrying out their plan for evicting the families of the workmen, and this consideration on one side has led to a more moderate state of feeling on the other, so that there is now a prospect of the strike coming to an end. It has been agreed to refer the dispute to arbitration, and it is hoped that the work in the mines will speedily be resumed.

GUILDFORD.—The mayor and magistrates of this borough, after having been in communication with the Home Secretary, completed their arrangements last week for the prevention of the riotous scenes which have annually been enacted within the limits of their jurisdiction on the 5th of November. A large number of special constables were sworn in to preserve the peace, Sir G. Grey sent down a force of 50 dragoons and 150 men of the 37th regiment, and the two corps of the local rifle volunteers were ordered to be in readiness to preserve the peace. The mayor on Monday issued notices stating that no bonfires or fireworks would be allowed, and that all persons appearing masked in the streets or otherwise disguised would subject themselves to be taken into custody and punished by imprisonment. He also recommended all respectable persons to remain in-doors. These precautions seem to have taken the rioters by surprise, and up to 8 o'clock on Thursday evening no disturbance had taken place in the town. There was, however, a good deal of excitement, and some roughs paraded the streets, but the known vicinity of the troops and special constables checked any disposition to violence. Most of the respectable inhabitants remained in-doors, and some of the townsmen who are "marked" as victims on the first possible opportunity barricaded their houses to preserve their windows from destruction.

HEMEL HEMPSTEAD.—On Saturday a fire broke out in Gorhambury House, the seat of the Earl of Verulam. The flames spread with such rapidity that it was feared the whole house would have been destroyed, and many of the paintings and valuables were removed. The fire however was confined to the domestic offices, and the main building was preserved. It is supposed to have been caused by an overheated flue.

LIVERPOOL.—On Saturday last the Rev. Henry Ward Beecher left this port for America in the Cunard steamship Asia. He was accompanied on board the steamer by the chairman of the Emancipation Society and other gentlemen connected with the Federal cause. In accordance with his express desire there was no "demonstration of sympathy," although there was a large number of people assembled to see him off.

MARGATE.—The packet ship Amazon, of nearly 2000 tons register, which left Gravesend on Saturday last for New York, with passengers and a general cargo, has been destroyed by fire. When off the North Foreland, on Tuesday night, she was discovered to be on fire; and although every effort was made by the officers, crew, and passengers to extinguish the flames, it was found to be impossible, and the master, seeing that the destruction of his ship was inevitable, got all the passengers and crew into the boats and then abandoned her. At 8 o'clock on Wednesday morning the ship was still burning fiercely, and was drifting towards Broadstairs. A number of boats were round her, but it was impossible to get near the ship owing to the great heat. Nothing was saved from the ship, the passengers and crew losing everything they possessed except the clothes they had on. They were landed at Margate on Thursday morning.

NORWICH.—Mr. W. F. Windham is again about to become a coach proprietor. In May he sold off all his stud, and he has now begun afresh by purchasing 12 other horses. On Saturday, at the Shire Hall, a groom and some other parties were charged with robbing him of gold chains, a revolver, &c., and were committed for trial.

PETERBOROUGH.—A case heard at the County Court in this city last week disclosed the startling fact, which has hitherto not been made public, that the special train by which the Prince of Wales travelled from Halifax to London on the 6th August narrowly escaped the fate of the Lynn excursion train. At the Helpstone crossing, where both the Midland and Great Northern lines intersect the road, an attempt was made to drive a bullock across the Great Northern line. The gates are only a single pair, and when open to the road are also open to the line, so that there is no protection for anything passing. In the present instance the bullock was rather wild, and though two or three servants stood on one side of the crossing to prevent its going down the line, and the gateman himself stood on the other side to prevent its going up the line, the bullock gave the gateman the slip, and ran along the metals on the up line. Almost at this instant the royal express train dashed past, striking the animal behind, and throwing it off the line, so that any further accident was avoided. An action being brought against the company for the value of the bullock, the judge ruled that the company were simply bound to provide a passage across their line, and were not responsible for what may occur through a bullock being wild or badly driven.

PLYMOUTH.—The new armour-plated ship Royal Oak, one of the Channel squadron, was placed in Keyham Docks a few days since for the examination of her bottom. On the water leaving the dock a remarkable appearance presented itself, which created no small consternation among the authorities of the dockyard. The armour plates adjoining and in contact with the sheathing of Muntz's metal were found to be eaten away by galvanic action, presenting a series of corroded holes running into each other, from half an inch to five-eighths of an inch deep. Some of the plates contained no less than 188 of these holes, whilst none had less than 40. Several detached holes were of an oval form, as though gouged out with a steel tool of all sizes, from that of the bowl of a salt spoon to that of a gravy spoon, and of equal depth, and some of the heads of the bolts had become recessed to the depth, size, and appearance of the bowl of a sauce ladle. Numbers of the holes had run one into the other to the extent of 5 or 6 feet, five-eighths of an inch deep and upwards, altogether presenting one of the most remarkable appearances ever witnessed. This ship has only been about eight months in the water, and was commissioned last April. What will be done with her has not been yet decided. These holes and corrosion appear to have occurred wherever the red lead or under-coating had been rubbed or washed off. The Lords of the Admiralty have now ordered the removal of Muntz's metal from the bottom of the ship.

SOUTHAMPTON.—Mr. Henry Summers, captain of the Lady of the Lake steamer, running between this town and the Isle of Wight, has been brought up on a warrant before the county magistrates on a charge of manslaughter. The steamer was on her passage to Cowes a few days since, when she ran into a boat in which a fisherman named Fielder was engaged in fishing. There was no look out on board, and though the poor fellow kept above water for about ten minutes, the boat which was lowered from the steamer was found to have no oars, and the man sank in the sight of the crew and passengers. The body has not yet been recovered, although several boats have been daily engaged in dragging for it since the accident. The unfortunate man has left a widow and nine children. The captain has been committed for trial on the charge of Manslaughter, being meantime liberated on bail, himself in 100*l.*, and two sureties in 50*l.* each.

STOKESLEY.—A murder has just been committed in the North Riding of Yorkshire. Mr. Bradshaw Graham, a farmer, living at Newham Hall, and Mr. William Johnson, another farmer, living at Hemlington, were in this town on Monday week. They were returning soon after dark on foot, when they were met at the village of Newby by Johnson's man, with a horse for his master. Johnson wanted his companion to mount, and he would ride behind, but the latter refused. Johnson then got on the horse, and again urged his companion to do the same, but he refused, when Johnson said it was because he was too proud, Graham being in a better position than Johnson. The men then began to quarrel, both being excited by liquor. Ultimately Johnson said if the other gave him any more "chaff" he would wring his neck. Graham made a defiant reply, when Johnson got off his horse, and began to square with Graham, who hit him on the side of the head with a stick. They both then closed together, and fell on the ground and struggled. While in this position Johnson called to his man to come and help him. The man went and lifted him up, when he again fell, and this occurred two or three times. Johnson never spoke again, and must have died immediately. On taking him home in a cart obtained from a neighbouring farmhouse, a surgeon found he had been stabbed just over the heart with a short instrument, half or three-quarters of an inch wide. Graham was at once taken into custody. The jury at the inquest have since returned a verdict of Wilful Murder against the prisoner, who has been committed for trial on the charge.

SWAFFHAM.—At an early hour on Sunday week, Thomas Eves, an under-gamekeeper in the service of Mr. Andrew Fountain, of Narford Hall, was shot by a poacher, a youth named James Savage, belonging to this town, who is said to be only about 18 years of age. It appears that Eves, while out watching, heard the report of a gun. He then saw the prisoner go over the fence and lift two partridges which had been shot. Waiting until the man returned to the road, the keeper went up to him and demanded the birds, which the poacher, without the slightest hesitation, delivered over to him. Eves then asked the offender his name, which he gave as Burton, representing himself to be a son of George Burton, a cow-keeper for Mr. Colman, a farmer in the parish. The keeper was walking away with the partridges, when the poacher, turning suddenly round, struck Eves a terrific blow on the arm with the gun which had been so recently fired. The sudden and unexpected assault brought the keeper to the ground, and when he recovered his consciousness and was in the act of rising, his cowardly assailant quickly snatched the loaded gun which the keeper had dropped, and deliberately discharged its contents at the head of Eves, who again fell to the earth, where he lay bleeding and insensible. The prisoner then made off, carrying his own gun with him, leaving the wounded keeper, as he no doubt thought, dead. After some time, Eves so far recovered as to get to his feet again, and was met by a farmer, who assisted him into his gig and drove him home. A surgeon who was sent for pronounced him to be in imminent danger, and the prisoner having been in the meantime apprehended, the depositions of the keeper were taken in his presence. The keeper is still alive, and hopes are entertained of his recovery.

## Ireland.

THE LATE INSULT TO THE LORD LIEUTENANT.—The Marquis of Clanricarde last week transmitted to the Earl of Carlisle at Castle Howard the address from the lieutenant and magistrates of Galway, expressing their deep regret at the insult offered to him at the Maam Hotel by order of Lord Leitrim. The address was signed by 7 peers, 20 deputy-lieutenants, and by, in all, 98 magistrates. The Lord Lieutenant has replied to the address as follows:—

"My Lords and Gentlemen,—I cannot fail to feel deeply touched and gratified by the terms of the address which you have been pleased to transmit to me. Any want of hospitality was certainly the last contingency to which I could expect to be exposed upon the soil of Ireland. Nor could I doubt the spirit of loyalty which pervades the genial and generous county of Galway. I have only to regret that I thought myself bound in my representative capacity to notice the occurrence to which you refer, more seriously than might otherwise have been necessary. I feel glad to have this opportunity of stating that some accounts I have seen of the event in question scarcely do justice to the persons who were assembled at the hotel. I could discover on their part no demonstration of any feeling but of respect, and I will add, of regret."

THE PRINCE CONSORT MEMORIAL.—The special committee for the erection of a testimonial to the Prince Consort in Dublin met on Friday, the Lord Chancellor in the chair. The proceedings in reference to the opening of Stephen's Green having proved abortive, the committee determined to proceed at once with the erection of the Memorial, and adjourned to Monday to select an artist for its execution.

ARRIVAL OF A FEDERAL CRUISER.—The Federal war steamer Kearsage, which has been compelled by the French authorities to leave Brest, arrived at Cork on Tuesday, and was coaling during the whole night. On Wednesday Admiral Jones notified that she must leave the harbour within 24 hours, but her commander

is said to have refused. It is said that she is watching blockade runners at Cork.

The Catholic Prelates on Irish Church Missions.—A meeting of St. Bridget's Orphanage was held last week, Dr. Cullen in the chair, at which several speeches were delivered on the Irish missions and their results. Dr. Murray, Professor of Maynooth College, moved a resolution denouncing the un-Chirstian conduct of that section of the English people who, while so many millions of their own countrymen were sunk in immorality and degradation, had taken advantage of Ireland's unparalleled distress, to send over their gold to bribe destitute orphan children from the faith of their fathers. In supporting this resolution, he said, that hardly a week had passed since an English gentleman, who had been for several years in Ireland, stated at a public meeting in Manchester that he met everywhere here respectable Protestant ministers who felt ashamed and degraded that their religion sanctioned such a cheat and imposition as are the Irish Church Missions. Nearly the whole of the money which supported this system, came from England. He found, on looking over the late reports, that of the 30,000*l.* or 40,000*l.* subscribed to this society, not 5000*l.* came from Ireland. Dr. Cullen said that the Roman Catholics were increasing and the Protestants diminishing in Ireland. In 1732, the Catholics in Dublin were calculated at 40,000 and the Protestants at 80,000—that is, two Protestants to one Catholic. At present all the Protestants and Presbyterians in Dublin put together counted little more than 50,000, while there were 196,000 Catholics in the city. By the census taken in 1732 there were three Protestants to one Catholic in the province of Ulster, and at present there were 20,000 more Catholics than Protestants and Presbyterians in the whole province.

The Tipperary Murder.—An inquest has been held on the body of the farmer Kelly, but no clue tending to trace the murderers has been discovered. The murdered man recently filled the office of bailiff over some lands in the neighbourhood, and it is thought that in this capacity he may have incurred the ill will of some of his neighbours.

Accident to a Mail Steamer.—The Munster mail steamer, in her passage across the Channel on Wednesday night, broke her main shaft, and was towed into Dublin at 8 o'clock on Thursday morning by the Duke of Cambridge. The passengers are all safe.

## Scotland.

Social Science Association.—A meeting of the general committee was held a few days since at Edinburgh to receive the final reports of the secretary and treasurer. From the treasurer's statement it appeared that there was a balance of upwards of 1500*l.* in favour of the Association, and a balance of more than 100*l.* in favour of the local fund.

## Railways.

Collision on the Great Eastern.—On Monday night a serious collision took place near the Brick Lane goods station. The engine of the goods train had been moved out of the station on the up line just as a passenger train from Loughton and Woodford was coming up to enter the Bishopsgate Station. Though running at a slow rate the collision was severe; both engines were destroyed, and the driver of the train and some of the passengers were severely injured.

## Law.

Court of Exchequer: *The Alexandra.*—The case of this vessel, which was seized at Liverpool, on suspicion of being intended for a Confederate cruiser, came under the consideration of the Court on Tuesday. The Attorney-General applied for a new trial, but a curious difficulty had occurred. At the close of the first trial the Lord Chief Baron, who tried the case, told the late Attorney-General that he would sign any bill of exceptions Sir W. Atherton might lay before him, but when the actual exceptions were tendered for his signature, he declined, on the ground that they ascribed to him an exposition of the law which he did not hold and did not lay down to the jury. It also appeared that there was no rule that would allow of a new trial in Exchequer cases, but that the judges had the power to make a new rule, and were disposed to exercise their authority in the matter. The question was again brought before the Court on Thursday in the hope that some arrangement could be made, as all parties were anxious that the law of the case should be further investigated. After a long discussion the Court granted the Attorney-General a rule to apply for a new trial. In so doing the Court laid down the positions that they would take the Chief Baron's own version of the law he laid down in his charge to the jury, and that if they finally agreed to refuse a new trial there would be no appeal from the decision except on some point of law. With these restrictions the Attorney-General was left at liberty to ask for the new trial, on the ground that the verdict in the former case was against the evidence, and that the Chief Baron in his charge misdirected, or imperfectly directed, the jury on the points of law. [Meanwhile it is mentioned that the Venezuelan Government have made an offer for the vessel, and that Messrs. Baring have guaranteed the transaction to be *bonâ fide*, but the Government have declined to sanction the transaction.]

Court of Queen's Bench: *Ex parte Woolff.*—An application was made on Monday for a criminal information against the chief of the City detective police, which, when tried, will throw a curious light on the proceedings of detective officers. It will be recollected that a German named Dietrichstein, some time ago, perpetrated a clever fraud by the purchase of shares to the extent of 10,000*l.* late on a Saturday night, for which he gave a cheque. The shares were converted into money, and the possessor escaped to the Continent before it was discovered that the cheque was valueless. The police authorities suspected that Mr. Woolff knew something of Dietrichstein and his doings, and appointed men to watch his house and to follow him about everywhere night and day, both in England and on the Continent. For this annoyance Mr. Woolff has now applied for a criminal information. The Court granted the application.

## Obituary.

The Dowager Lady Stanley of Alderley died on the 1st inst. at Holmwood, in her 93d year. She was the eldest daughter of the 1st Earl of Sheffield, and was the mother of the Postmaster-General, the Hon. W. Owen Stanley, and the Hon. Mrs. Scott, Hon. Mrs. Way, the Hon. Mrs. Hare, and two unmarried daughters. Her ladyship was in remainder to the barony of Sheffield.

Lieut.-General Johnson, a distinguished Peninsular officer, died at Wytham-on-the-Hill, in the county of Lincoln, on the 26th ult., in his 87th year. He entered the army in 1793, and served in the campaign of 1808 and 1809, in the Peninsula, being present in the battles of Roleia, Vimiera, and Corunna, for which he was rewarded with the war medal with three clasps. He became Major-General in 1830; and Lieut.-General in 1841.

Admiral George Frederick Rich died at 80, Eaton Place, on the 1st inst., in his 76th year. He was son of the late Admiral Sir Thomas Rich, and brother of the present Rear Admiral Charles Rich. He entered the navy in 1795, and had seen a great deal of service.

Mr. James Bunstone Bunning, the architect to the Corporation of the City of London, died on the 2d inst., at his residence in Gloucester Terrace, Regent's Park, after a lingering illness. He held the office of city architect for 20 years, during which he erected several important public buildings, at a cost of about 750,000*l.*, including among others the Freemen's Orphan School, Billingsgate Market, the Coal Exchange, the New Cattle Market, the City Prison at Holloway, and the Lunatic Asylum—all works of magnitude and public utility. He also rendered great services to the corporation in matters concerning their landed property. He recently tendered the resignation of his office on account of failing health, but was unanimously requested to continue to hold the appointment until arrangements could be made for the due execution of the department. Mr. Bunning was upwards of 60 years of age, and was held in high esteem in his profession, as well as in private life. The manner in which he carried out the embellishments of the City in honour of the entry of the Princess Alexandra was the theme of general admiration at the time, especially the decoration of Temple Bar and London Bridge, and the triumphal arch at the entrance to the city. He also designed the enormous galleries which encircled three sides of St. Paul's Cathedral on that occasion, and this he did in so effective a manner that not a single accident occurred, so far as his department was concerned, to endanger life or limb among the thousands of people who congregated there to witness the pageant.

Wills.—The will of Sir Cresswell Cresswell, Judge of the Probate and Divorce Court, has been sworn under 35,000*l.*; Mr. Stewart Marjoribanks, of Bushey Grove, Herts, 100,000*l.*; Alderman Humpnery, 180,000*l.*; Mr. Thomas Powell, of the Gaer, 200,000*l.*

BIRTHS.—On the 2d inst, at 8, Seamore Place, Mayfair, the Lady Elizabeth Adeane, of a son—31st ult, at 16, William Street, Lowndes Square, Lady Catherine Loftus, of a daughter—31st ult, at Wyvenhoe Hall, Essex, Lady De Crespigny, wife of Sir C. W. C. de Crespigny, Bart., of a son—3d inst, at Farleyer, Lady Menzies, of a son—3d, at 38, Bryanstone Square, the Hon. Mrs. W. Arthur Duckworth, of a daughter—30th ult, at Hurn Cottage, Beverley, the wife of Lieut.-Colonel Layard, of a daughter.

MARRIAGES.—On the 29th ult, at Moncrieffe House, the Marquis of Tullibardine, only son of the Duke of Athole, to Louisa, eldest daughter of Sir Thomas and Lady Louisa Moncrieffe—11th August, at Christ Church, Rangoon, Captain D. J. M'Grigor, Royal Artillery, son of the late Lieut.-Colonel Charles M'Grigor, 70th Regiment, to Helen Louisa, second daughter of the late Lieut.-Colonel Gilbert Richardson—29th ult, at St. David's, Exeter, Charles J. Follett, Esq., Fellow of St. John's College, Oxford, second son of John Follett, Esq., of Mount-Wear House, Devon, to Eliza Harriet Maria, eldest daughter of the late William Nation, Esq., of Exeter.

DEATHS.—On the 6th September, at Whampoa, China, on board the steam-ship Robert Lowe, Thomas Dudley Milner Gibson, son of the Right Hon. T. Milner Gibson, M.P., aged 18—27th ult, at her residence, Claremont, Torquay, Lady Lee, widow of Sir John Theophilus Lee, G.C.H., of Lauriston Hall, Tor, Devon, aged 77—1st inst, at 8, Sunderland Terrace, Westbourne Park, Bayswater, Major-General Andrews, late of the Royal Artillery, aged 76—23d ult, at Paris, Dr. C. J. Ulcoq, M.D., Member of the Royal Society of Arts and Sciences, and of the Chamber of Agriculture of Mauritius, &c., aged 71—31st ult, in London, after a long and painful illness, Commander Arthur R. Henry, R.N., lately invalided from H.M.S. Stromboli, aged 46—2d inst, B. J. Loveless, Esq., R.N., senior lieutenant of Greenwich Hospital, aged 78—29th ult, at Croome's Hill, Greenwich, Richard Haig, Esq., R.N., Clerk of the Check of the Greenwich Hospital—23d ult, at Woolwich, Staff Surgeon Major Wm. Braybrooke, aged 46—Sept. 27, at Caracas, Arthur Cornelius Kortright, H.B.M.'s Vice Consul at La Guayra, aged 36—31st ult, at Dale Castle, Pembrokeshire, Faulkner Cecil, youngest son of J. P. A. Lloyd Philipps, Esq., aged 24—1st inst, at The Park, near Manchester, John Ashton Yates, Esq., of 33, Bryanstone Square—2d inst, at Islington, Christian Child, Esq., Actuary of the Universal Life Assurance Society, London, and Fellow of the Institute of Actuaries, aged 35—Oct. 30, at Bury St. Edmund's, Johnson Gedge, Esq., Proprietor and Editor of the Bury and Norwich Post, aged 63—31st ult, at Queen's Row, Camberwell, George R. Corner, Esq., F.S.A., of Southwark, aged 62—28th ult, at the Vicarage, Garthorpe, Leicestershire, the Rev. James Procter, M.A., vicar of the above parish, aged 73—25th ult, at Kelso, N.B., the Rev. Alexander Renton, of Mount Olivet, Jamaica—1st inst, at Little Shelford, near Cambridge, the Rev. Robert Edgar Hughes, M.A., late Fellow of Magdalen College, aged 39—31st ult, at Surbiton, Kingston-on-Thames, Mr. Donald Beaton, of the Journal of Horticulture, aged 61.

## Markets.

### HOPS.—Borough Market, Friday, Nov. 6.

Messrs. Pattenden & Smith report a firm and steady market for all descriptions of both English and foreign. Choice samples are scarce, and command rather higher rates.

### COVENT GARDEN, Nov. 7.

Produce of all kinds is for the most part abundant, but trade is still dull. Of Grapes and Pine Apples the supply is sufficient for the demand. Hamburgh Grapes are realiisng from 8d. to 1s. per pound. Of foreign Melons there is a good stock. There is also a good supply of Brown Beurré, Crassane, Duchesse d'Angoulême, and Beurré Diel Pears. Some good samples of Ribston Pippin and Cox's Orange Pippin Apples may now be obtained. Kent Cobs are good and plentiful. New St. Michael Oranges have arrived, and realise from 5s. to 10s. per 100. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Asters, Marigolds, Calceolarias, Mignonette, and Roses.

FRUIT.

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| Pine Apples, per lb., 5s to 8s | Nuts, small, per bushel, 14s to 18s |
| Grapes, per lb., 2s to 6s | Kent Cobs, 80s to 90s p.100 lbs. |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Almonds, do., 18s |
| Pears, per ½ sieve, 2s 6d to 5s | Walnuts, do., 14s to 20s |
| Melons, each, 2s to 4s | Chesnuts, per bush., 10s to 20s |
| Lemons, per 100, 5s to 10s | |

VEGETABLES.

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|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 8d |
| „ Shaws, do., 50s to 60s | Lettuces, each, 1d to 4d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 9d to 1s | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatos, each, 2d to 3d | |

### HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, Nov. 5.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to | 85s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | — | — | Do. second cut .. | 87 | 100 |
| Inferior do. .. | 60 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 27 | 33 |
| Rowen .. .. .. | 55 | 70 | | | |

Harvey & Easton.

Cumberland Market, Thursday, Nov. 5.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 86s to | 95s | Inferior Clover .. | 80s to | 92s |
| Inferior do. .. .. | 70 | 76 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 32 | 36 |
| Superior Clover .. | 100 | 110 | | | |

Joshua Baker.

### BRITISH WOOLS.—London, Nov. 5.

We have to report a continuation of demand at full prices, which, however, are not above the rates paid the farmers, who have been able to realise as much at their own homes as has been made after paying the expenses of carriage, commission, interest, and loss of weight, amounting to say ½d. a pound, being a loss to nearly that extent by consigning to London.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 11 to 2 0 | Leicest. Wethers | 1 9½ to 1 10½ |
| Half-bred ditto .. | 1 11 — 2 0½ | Ditto Hoggs .. | 1 10½ — 1 11½ |
| Down Ewes .. | 1 10 — 1 10½ | Combing Skins .. | — .. |
| Kent Fleeces .. .. | — 2 0 | Flannel Wool .. | 1 4 — 1 9 |
| | | Blanket ditto .. | 0 9 — 1 0 |

### POTATOES.—Southwark, Monday, Nov. 2.

During the past week the arrivals to this market have been moderate, and trade for best sorts has been fair. The following are this day's quotations:—Yorkshire Flukes, 90s. per ton; do. Regents, 70s. to 80s.; Kent and Essex Regents, 65s. to 80s.; do. do. Rocks, 50s. to 60s.

### NEWGATE.—Nov. 6.

| | |
|---|---|
| Best Fresh Butter .. .. | 15*s.* per dozen lbs. |
| Second do. do. .. .. | 13*s.* „ |

Pork, 3*s.* 4*d.* to 4*s.* 0*d.* per 8 lbs.

### METROPOLITAN CATTLE MARKET.

Monday, Nov. 2.

The number of Beasts is considerably smaller than on Monday last, consequently choicest kinds are readily disposed of, and on the average prices are better than on Thursday. The supply of Sheep is not so large as of late; trade is not very brisk, but prices have advanced about 2d per 8 lbs. Calves are selling about as on Thursday. From Germany and Holland there are 920 Beasts, 1840 Sheep, and 150 Calves; from Ireland, 1450 Beasts; and 2650 from the Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 0 | Best Long-wools | 5 2 — 5 6 |
| Best Short-horns | 4 8 — 4 10 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | 4 6 — 4 10 |
| Best Downs and Half-breds .. | 5 8 — 5 10 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 4 — 5 0 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 5190; Sheep & Lambs, 19,160; Calves, 162; Pigs, 440.

Thursday, Nov. 5.

The supply of Beasts is about the same as on Thursday last. Trade is dull, owing to unfavourable weather, yet prices generally remain as on Monday. We have a few more Sheep, and the demand is limited. Monday's quotations are with difficulty realised. The supply of Calves is very short, there being no foreign arrivals; there is, however, scarcely a quotable advance in price. Our foreign supply consists of 620 Beasts and 2120 Sheep; Milch Cows, 80.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 0 | Best Long-wools | 5 2 — 5 6 |
| Best Short-horns | 4 8 — 4 10 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 3 0 — 4 0 | Ewes & 2d quality | 4 6 — 4 10 |
| Best Downs and Half-breds .. | 5 8 — 5 10 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 4 — 5 0 |
| | | Pigs .. .. | 3 4 — 4 8 |

Beasts, 1440; Sheep & Lambs, 4 90; Calves, 75; Pigs, 180.

### MARK LANE.—Monday, Nov. 2.

The supply of Wheat from Essex and Kent to this morning's market was very small, and met with a ready sale at the prices of this day se'nnight. Foreign was in retail demand only at our quotations. Best qualities of Malting Barley sell at late rates, but other sorts are 1s. per qr cheaper. Beans and Peas are unaltered in value. The Oat trade was steady at last week's quotations. The top price for town-made Flour was reduced 3s. per sack, for barrels there was rather more inquiry.

| Per Imperial Quarter. | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 42—46 | Red ..... | 38—44 |
| — — fine selected runs .. ditto | 44—50 | Red .... | 40—48 |
| — — Talavera .............. | 46—52 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 36—54 | | |
| Barley, grind. & dist., 26s to 28s .. Chev. | 34—38 | Malting .. | 30—33 |
| — Foreign .. grinding and distilling | 25—29 | Malting .. | 30—32 |
| Oats, Essex and Suffolk .......... | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ..................Potato | 19—24 | Feed .... | — |
| — Foreign ......Poland and Brew | 18—22 | Feed .... | 15—20 |
| Rye ........................ | 30—32 | Foreign .. | — |
| Rye-meal, Foreign ............ | — | | |
| Beans, Mazagan ....28s to 36s...Tick | 30—34 | Harrow .. | 30—34 |
| — Pigeon .... 32s to 40s.. Winds. | — | Longpod | — |
| — Foreign ................Small | 36—42 | Egyptian | 30—32 |
| Peas, White, Essex and Kent .. Boilers | 34—36 | Suffolk .. | 34—38 |
| — Maple .... 34s to 36s .... Grey | 31—33 | Foreign .. | 24—40 |
| Maize ......................White | — | Yellow .. | — |
| Flour, best marks delivered .. per sack | 35—40 | | |
| — 2d do ...................ditto | 28—34 | Country .. | 28—34 |
| — Foreign ........... per barrel | 15—24 | Per sack | 32—42 |

Friday, Nov. 6.

The show of English Wheat here to-day, coastwise and by land carriage, was very moderate; but the general quality of

the samples was fine. For most kinds there was a fair, but by no means active inquiry, at prices equal to Monday, and at which a good clearance was effected. There was a good supply of foreign Wheat; selected qualities were in fair request at full quotations: otherwise the trade ruled heavy on former terms. Floating cargoes of Wheat were steady in price. Other descriptions of produce afloat were very inactive. Malting Barley moved off freely at full currencies, but grinding and distilling sorts were the turn cheaper. New malt was very firm in price; old parcels, however, were much neglected. The supplies of Oats having fallen off, the Oat trade was steady; no change took place in prices compared with Monday. Beans were a dull inquiry at about previous currencies. The sale for Peas was in a sluggish state, at the late decline in value. Most kinds of Flour were tolerably firm. The supply of American was on the increase. The top price of town-made was 40s. per 280 lbs. Canary seed was steady at 56s. to 60s. per qr.; other seeds, as well as cakes, moved off slowly on former terms.

ARRIVALS THIS WEEK.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 780 qrs. | 610 qrs. | 800 qrs. | 560 sk. |
| Irish .... | — | — | 5250 | — „ |
| Foreign .. | 6200 „ | 11.340 | 400 „ | { 100 „ <br> 10760 brls. |

LIVERPOOL, Nov. 3.—We have had a very good attendance of both town and country millers and dealers at to-day's market, and Wheat has met a steady consumptive inquiry at the full prices of Friday last. Flour has rather a better sale, and good superfine must be quoted 6d. per barrel dearer; French is offered freely at late rates. Indian Corn would be taken readily at Friday's quotations, but there are no sellers under fully 3d. per qr. advance. Oats and Oatmeal are held firmly at the recent improvement. Beans, Peas, and Barley remain without alteration. Market closes firm.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Sept. 26 | 43s 9d | 35s 9d | 20s 2d | 32s 1d | 38s 11d | 37s 5d |
| Oct. 3 | 42 2 | 35 4 | 19 8 | 31 0 | 37 11 | 36 7 |
| — 10 | 41 0 | 34 7 | 19 4 | 31 5 | 37 0 | 36 4 |
| — 17 | 40 4 | 34 0 | 18 8 | 29 2 | 36 5 | 34 7 |
| — 24 | 40 0 | 33 11 | 18 7 | 28 9 | 36 5 | 35 8 |
| — 31 | 41 2 | 34 0 | 18 11 | 28 0 | 35 8 | 35 2 |
| Agg. Aver. | 39 10 | 34 7 | 19 3 | 29 11 | 37 1 | 36 0 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.

| PRICES. | Sept. 26. | Oct. 3. | Oct. 10. | Oct. 17. | Oct. 24. | Oct. 31. |
|---|---|---|---|---|---|---|
| 43s 9d— | | .. | .. | .. | .. | .. |
| 42 2 | .. | | .. | .. | .. | .. |
| 41 2 | .. | .. | .. | .. | .. | |
| 41 0 | .. | .. | | .. | .. | .. |
| 40 4 | .. | .. | .. | | .. | .. |
| 40 0 | .. | .. | .. | .. | | .. |

COAL MARKET.—Nov. 4.

Buddle's West Hartley, 15s. 9d.; Byass's Bebside West Hartley, 15s. 9d.; Carr's Hartley, 15s. 9d.; Lambert's West Hartley, 15s. 6d.; Walls End Framwellgate, 18s. 3d.; Walls End Haswell, 20s.; Walls End Hetton, 20s.; Walls End Russel's Hetton, 19s.; Walls End Tunstall, 17s. 3d.; Walls End Kelloe, 19s.; Walls End Trimdon Hartlepool, 19s. 9d.; Norton's Anthracite, 22s.—20 ships at market.

CHARLES NOBLE requests WILLIAM HALLIDAY (late in his employ) to forward his PRESENT ADDRESS. Sunningdale Nursery, Bagshot.

A GENTLEMAN, who possesses a beautiful Landed Property in Turkey, and has no time to devote to it himself, would like to meet with a FARMER or MARKET GARDENER, with some small means, who would undertake the personal superintendence and cultivation of the same. The Land is extremely rich, and has a rivulet running through it. It would be suitable for Cereal Crops, Grazing, the Planting of Mulberry Trees, and also the Cultivation of Cotton. It is situated a few miles from the sea, and is very close to a Capital Town. The Estate is about 450 acres in extent. As the main object of the owner is to increase the value of the property, very liberal terms or arrangements would be made.

Apply by Letter only in the first instance, to A. B. C., care of Messrs. John Draper, Stationers, &c., 5, Little Tower Street, E.C.

REQUIRED, as OVERSEERS on Sugar Estates in the Island of Trinidad, several Young Men of the ages of 20 to 25 years. Young Men who have been educated at any of the Agricultural Colleges, or Sons of Farmers who have a good knowledge of Practical Farming and the care of Stock, will be preferred.—For all particulars apply to Messrs. WM. BURNLEY HUME & Co., 8, Finch Lane, Cornhill.

WANTED, in one of the first London Nursery and Seed Establishments, an energetic YOUNG MAN, of thorough business habits, competent to undertake a large Correspondence and the general direction of an office. One who could also act as Salesman if required would be preferred. A competent person will meet with ample encouragement.—References as to character, ability, &c., must bear strict investigation, and application in own handwriting, stating terms, to be made to B. D., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, as In-door FOREMAN, PROPAGATOR, and PLANTSMAN, a persevering, sober, steady person, of business habits, and from 35 to 45 years of age. Collection of Stove and Greenhouse not large, but must be well grown both for early and late blooming. Propagation of Rhododendrons, Conifers, Camellias, Roses, &c., extensively carried on both for trade and private purposes. None other than such as can command first-class testimonials for the above qualifications will be treated with.—Address, with references, wages required, without house, &c., to Messrs. CLARKE, Seedsmen, Covent Garden, London, W.C.

WANTED, a YOUNG MAN, to assist in the outdoor department of a Nursery. One who is well acquainted with Fruits, Roses, and Conifers, has had experience in a good Nursery, and can give good reference as to ability and moral character.—Application, stating age, wages, &c., to be made in own handwriting only, to SUTTON & SONS, Royal Berks Seed Establishment, Reading.

WANTED IMMEDIATELY, a good MARKET GARDENER and WIFE, without incumbrance.—The Gardener must be well up to his work, and have a good reference. The Wife will be required to understand Poultry and Cows; a per centage will be given her on what she produces. House, Firing, Vegetables, and Milk, with a liberal Salary.—Apply to WILLIAM EPPS, JUN., Nursery, Seed, and Fruit Establishment, Hastings.

Seed Trade.

WANTED, as SHOPMAN, an intelligent MAN for the Shop, in a Wholesale and Retail Establishment. Must be a first class hand.—Address applications, R. M., No. 473, Post Office, Glasgow.

**Under Gardener or Foreman in a Gentleman's Place.**

WANTED, a respectable middle-aged married Man, without family, to act as UNDER GARDENER; must understand the Management of Greenhouse and Stove Plants, also Forcing Grapes and Melons, and Gardening generally. To a deserving steady man the situation would be found a comfortable one.—Address WM. WOOD & SON, Nurseries, Maresfield, Uckfield, Sussex.

WANTED, a GROOM and a KITCHEN GARDENER.—The Rector of Wickham, Hampshire, is in want of a Groom, who would be willing to make himself generally useful. Also of a good Kitchen Gardener, who could undertake the Management of Cows. No one need apply who cannot give good references.

DAIRY-MAID.—Wanted, a Person to take charge of a small Dairy, four cows, look after Poultry, make Bread and Butter. If she can Cook a little so much the better.—Address, stating age, wages required, and length of service in last place, to E., *Gardeners' Chronicle* Office, W.C.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

HEAD and UNDER GARDENERS.—HUGH LOW & Co. have now in their Nursery several Men of excellent abilities and good characters, who are looking for situations in the above-named capacities. Gentlemen in want of Gardeners can have full particulars on application.—Clapton Nursery, London, N.E.

GARDENER (HEAD).—Age 26; understands his profession in all its branches. Good character.—B. J., The Gardens, Rudding Park, Wetherby, Yorkshire.

GARDENER (HEAD).—Age 34, married, no incumbrance; 16 years' good practical experience. Character and ability will bear the strictest investigation. Six years' character.—A. B., Toler's Newspaper Office, Edgeware Road, W.

GARDENER (HEAD).—FIVE POUNDS will be given to any Nurseryman or Gentleman's Gardener, who will obtain for the Advertiser a SITUATION as above, where two or three others are kept.—L. D., Warwick Coffee House, Warwick Street, Pimlico, London.

GARDENER (HEAD).—Age 30; has a thorough practical knowledge of his profession in all its branches. No Single-handed place accepted. Satisfactory references. State wages, &c.—W. M., Post Office, Bishopstoke, near Winchester.

GARDENER (HEAD).—Age 29; has lived in three noblemen's gardens, and the last two and a half years at The Hasells, Sandy, Beds, where Forcing and Orchard House culture is carried on extensively.—WM. DEAN, Offley Grove, Newport, Salop.

GARDENER (HEAD).—Age 27, married; understands Forcing in all its branches, also Kitchen and Flower Gardening, and the Management of all kinds of Fruit Trees. Has taken 1st prizes for Grapes, Melons, and Strawberries. Four years' good character.—Mr. BARRETT, Cotton Lane Nursery, Bury St. Edmund's, Suffolk.

GARDENER (HEAD) in a nobleman's or gentleman's family.—Age 31; has lived in noted families, and can produce first-class testimonials from each situation as regards abilities in his profession and moral character. Good wages required.—H. G., Mr. Pegler's, Chemist, Lower Norwood, Surrey, S.

GARDENER (HEAD).—Age 35, single; thoroughly practical knowledge of all things appertaining to the Kitchen, Fruit, and Flower Garden; fully competent to Forcing, Laying out of Ornamental Grounds, &c. Has a good character from the gentleman he has left.—J. SMITH, Mr. Kernan, Seedsman, 4, Russell Street, Covent Garden, W.C.

GARDENER (HEAD).—Age 39, married; thoroughly understands his profession in all its branches; Early and Late Forcing; also the Management of Stove and Greenhouse plants, Orchids, and Exotic Ferns, Flower and Kitchen Gardens, Meadow Land, and Stock. Three and a half years' good character from the gentleman he has just left.—T. C., B. Williams, Paradise Nursery, Seven Sisters Road, Holloway, N.

GARDENER (HEAD, WORKING).—Age 29, married; has a good practical knowledge of his profession; can be well recommended as a Grower of Plants, Ferns, &c., for the Conservatory and Flower Garden. A gentleman is anxious to give three years' excellent character of the Advertiser.—J. H., Messrs. J. & J. Fraser, Lea Bridge Road Nurseries, Leytonstone, Essex, N.E.

GARDENER (HEAD or SINGLE-HANDED).—Age 40, married, no incumbrance. Wife understands the Dairy and Poultry. Good characters.—J. B., Post Office, Church End, Finchley.

GARDENER (HEAD) and FORESTER.—E. SMITH is at liberty to engage with any noblemen or gentleman who may require his services; professes to meet any demands that may be required in a first-class situation. Will soon be leaving present situation, where all particulars may be obtained.—Blaenpant, New Castle, Emlyn, Carmarthenshire.

GARDENER (HEAD), or GARDENER and BAILIFF, and FORESTER.—Has had 20 years' practical experience in the Flower, Fruit, and Kitchen Gardens; has taken 200 Prizes for Pines, Grapes, Peaches, Figs, Melons, Cucumbers, Mushrooms, and Strawberries, &c; can make all kinds of Fruit Tree Borders, Erect Horticultural Buildings, and understands Scotch and English Farming. Good character from a lady and a nobleman.—J. D., A. Henderson & Sons, Nurserymen, Pine Apple Place, Edgeware Road, London, W.

GARDENER.—A gentleman giving up his Establishment wishes to recommend his Gardener, with a character of eighteen years, during which time he has also had the Management of Corn and Grass Land, Stock, &c.—Apply by letter to J. S., 29, Saville Row, London, W.

GARDENER.—CHARLES BATES, late Gardener to W. S. Lindsay, Esq., M.P., is at liberty to engage with any nobleman or gentleman requiring a thorough practical Gardener, well acquainted with Land and Stock.—23, Stanford Road, Fulham, S.W.

GARDENER.—GEORGE CLARKE, of the Nurseries, Streatham Place, Brixton Hill, S., wishes to recommend to any nobleman or gentleman a GARDENER of first-class ability; one who has been a successful exhibitor at the Metropolitan Exhibitions. Satisfactory testimonials from present situation.—Address as above.

FARM BAILIFF or FACTOR.—Married, no incumbrance; by a Scotchman who has a thorough practical knowledge of Farming. First-class references can be given.—J. G., Messrs. Alexander Cross & Sons, Seed Merchants, Glasgow.

FARM BAILIFF.—Married, no incumbrance; understands Buying, Selling, Fatting, and Rearing Stock, and Farm Management. Wife to Manage Dairy and Poultry. Good reference.—E. A., Ackland's Library, Lymington, Hants.

FARM BAILIFF.—Married; Wife could undertake the Management of a Dairy and Poultry if required. Highest reference as to character and ability.—J. G., Mr. James, Lickorish Hill, near Stockton, Warwickshire.

BAILIFF.—Age 28. Scotchman from Aberdeenshire. Is a first prize Ploughman, a good Feeder of Stock, can Measure Land, understands Draining, can Farm on the newest system, can keep Accounts, and be well recommended.—R. B., Post Office, Huddersfield, Yorkshire.

SHOPMAN in the SEED TRADE.—Eleven years' experience.—C. B., corner of Nine Elms Lane, Wandsworth Road, S.W.

To the Seed Trade.

SHOPMAN (UNDER).—Age 19; has had five years' experience in a Country House. Good references.—A. B., Messrs. Tucker Brothers, Seedsmen, Abergavenny.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE-PROOF STRONG ROOM DOORS. CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
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SHERWOOD BED LIGHTS, Sixpence and Eighteenpence a box.—These candles are made to supply a want very generally expressed, a cheap, really good Chamber Candle. They will be found inferior only to "PRICE'S CANDLES, WHICH WILL NOT DROP GREASE WHEN CARRIED," which are sold in boxes, 1s. and 3s. each.

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METCALFE, BINGLEY, AND CO'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. METCALFE'S celebrated Alkaline Tooth Powder, 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each. 130 B, and 131, Oxford Street, W.

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FRY'S | HOMŒOPATHIC / ICELAND MOSS / PEARL | COCOA.

FRY'S SOLUBLE CHOCOLATE.
J. S. FRY & SONS were the only English Manufacturers of Cocoa who obtained the Prize Medal, 1862.

Sauce.—Lea and Perrins'

WORCESTERSHIRE SAUCE.—This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE,"
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ASK FOR LEA AND PERRINS' SAUCE.

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DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for Acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild Aperient for delicate constitutions, more especially for ladies and children. It is prepared in a state of perfect purity and of uniform strength by DINNEFORD & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

KEATING'S PERSIAN INSECT DESTROYING POWDER.—Fleas in Dogs, Poultry, &c., are instantly destroyed, as also Bugs, Beetles, and every other Insect, by this Powder, which is perfectly harmless to animal life; Sportsmen particularly will therefore find it invaluable.

Sold in Packets, 1s., 2s. 6d., and 4s. 6d. each, or post free for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice, each genuine packet bears the above name and address.

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CONSUMPTION.—All Nervous, Bilious, Liver and Stomach Complaints are only aggravated and accelerated by drugs of every description, but perfectly curable by DU BARRY'S health-restoring REVALENTA ARABICA FOOD, as proved by thousands of cases which had been considered hopeless. We quote a few.—Cure No. 46,270. Mr. James Roberts, of Frimley, Surrey, of 30 years' diseased lungs, spitting of blood, liver derangement, and partial deafness.—Cure No. 47,121. Miss Elizabeth Jacobs, of extreme nervousness, indigestion, gatherings, low spirits, and nervous fancies.—Cure No. 54,816. The Rev. James T. Campbell, Fakenham, Norfolk, "of indigestion and torpidity of the liver, which had resisted all medical treatment."—In tins 1 lb., 2s. 9d.; 2 lb., 4s. 6d.; 5 lb., 11s.; 12 lb., 22s.; 24 lb., 40s.

BARRY DU BARRY & Co., No. 77, Regent Street, London, W.; also at 61, Gracechurch Street, E.C.; 4, Cheapside, E.C.; 63 and 150, Oxford Street, W.; and all Grocers and Chemists in every town of the United Kingdom.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, NOVEMBER* 14, 1863.

**Horticultural Agent and Valuer.**

MR. A. CHANDLER (of the late Firm of CHANDLER & SONS) continues to undertake all kinds of VALUATIONS connected with Horticulture.
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**Universal Microscope. Price £5 5s.**

SMITH, BECK, AND BECK, 31, Cornhill, E.C.; late 6, Coleman Street.
*** Catalogues sent on receipt of 6 postage stamps.

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SAYNOR AND COOKE, PRUNING and BUDDING KNIFE MANUFACTURERS, beg respectfully to say that they will not be undersold by any House in the Trade. They also warrant one of their Knives to last two of any other make.
Paxton Works, Sheffield.

**The Original Seed Bag Manufactory.**

ALEXANDER NICOL AND CO., MANUFACTURERS of SEED BAGS, CORN SACKS, &c.
Chalmers Street Works, Arbroath, N.B.

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| | | | |
|---|---|---|---|
| That the Fire Premiums of the year were .. | £436,065 | 0 | 0 |
| Against those in 1861, which were .. .. | 360,131 | 0 | 0 |
| Giving an increase in 1862 of .. .. .. | £75,934 | 0 | 0 |
| That the new Life business comprised the issue of 785 Policies, insuring .. .. .. .. | 467,334 | 0 | 0 |
| On which the Annual Premiums were .. .. | 13,935 | 7 | 11 |
| That there was added to the Life Reserve .. | 79,277 | 11 | 4 |
| That the balance of Undivided Profit was increased | 25,725 | 9 | 7 |
| That the Invested Funds of the Company amounted to .. .. .. .. .. | 1,417,808 | 8 | 4 |

In reference to the very large increase of 76,000*l*. in the Fire premiums of the year, it was remarked in the Report, "The Premiums paid to a Company are the measure of that Company's business of all kinds; the Directors therefore prefer that test of progress to any the duty collected may afford, as that applies to only a part of a Company's business, and a large share of that part may be, and often is, re-insured with other offices. In this view the yearly addition to the Fire Premiums of the Liverpool and London Company must be very gratifying to the proprietors.
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| The Accumulations exceed .. .. | £2,000,000 | 0 | 0 |
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## News of the Week.

THE EMPEROR OF THE FRENCH has addressed an autograph letter to all the sovereigns and free cities of Europe, inviting them to send representatives to a Congress to be held at *Paris* for the purpose of considering the points in which the Treaty of Vienna has been infringed, and of adopting such measures with respect to present complications as may best secure the general peace. HIS MAJESTY, in this letter, says that it impossible not to admit that the treaties of Vienna upon almost all points are destroyed, modified, misunderstood, or menaced, leading to duties without rule, rights without title, and pretensions without restraint. The danger is so much the more formidable, because the improvements brought about by civilisation, which has bound nations together by the identity of material interests, would render war still more destructive. Called as he has been to the throne by Providence and

the will of the French people, but trained in the school of adversity, he is, he says, perhaps less bound than any other to ignore the rights of Sovereigns and the legitimate aspirations of peoples. He is therefore ready, without any preconceived system, to bring to an International Council the spirit of moderation and justice, the usual portion of those who have endured so many various trials. In taking the initiative in such an overture, the Emperor says that he does not yield to an impulse of vanity; but as he is the Sovereign to whom ambitious projects are most attributed, he has it at heart to prove by this frank and loyal step that his sole object is to arrive without a shock at the pacification of Europe. If this proposition be favourably received, he prays that Paris may be accepted as the place of meeting. Europe, he says, would, perhaps, see some advantage in the capital from which the signal for subversion has so often been given becoming the seat of Conferences destined to lay the basis of a general pacification. This letter was received by the Queen on Monday morning, and three Cabinet Councils have been held this week to consider the answer to be given on the part of the British Government. It is understood that Her Majesty's Ministers have resolved to give their assent to the proposed Congress on the condition that they are distinctly informed beforehand of the nature of the questions to be introduced, and are satisfied that their discussion is likely to be followed by advantageous results.

The Prussian Chambers were opened on Monday by the King in person. His Majesty expressed his earnest desire for a settlement of the differences between the Government and the Chamber, but at the same time declared that he would consent to no Budget which did not insure the maintenance of the new organisation of the army. The Bill regulating the period of military service had, however, been modified. His Majesty stated that the revenue was in a satisfactory condition, and announced several new Bills, the most important of which related to the press laws and to a new Criminal Code. His Majesty said that if the Federal execution in Holstein should require the assistance of Prussia, estimates would be laid before the Chambers, and that the negotiations on the German Reform question would also be submitted to them. The King concluded by observing that they lived in an agitated time, and perhaps stood on the brink of a more animated future. He therefore asked them the more urgently to come to an understanding with the Government on the solution of home questions. In the sitting of the Upper House on Tuesday the Address in answer to the King's Speech was agreed to by a small majority; and in the sitting of the Chamber of Deputies on Thursday, Herr Von Grabow, the Liberal candidate, was elected President of the Chamber by a majority of 224 to 37 over Herr Von der Heydt, the nominee of the Ministers.

The Emperor of Russia has relieved the Grand Duke Constantine of his functions as Commander-in-Chief of Poland, at his own request, on the ground that the continual increase of the insurrection is incompatible with the institutions which had been decreed by the Emperor for that country. The Grand Duke has since left for Vienna on his way to Baden Baden, where he will take up his residence for the winter.

From the United States we learn that a despatch from General Thomas has been received at Washington, announcing that General Hooker was attacked by the Confederates at Chattanooga at midnight of the 28th ult. The battle lasted until 4 o'clock on the following morning, when the Confederates were driven from the field, and compelled to abandon their position on Look-out Mountain. General Lee is said to have sent large reinforcements to co-operate with General Bragg in isolating Burnside and driving him out of East Tennessee. The bulk of General Lee's army is on the south side of the Rappahannock, but he holds all the fords of the river and is fortifying the approaches to the north bank. General Meade has been reinforced from Washington, and is said to be making preparations to resume active operations. The bombardment of Fort Sumter was resumed by General Gilmore on the 26th ult., and was still in progress on the 30th, but no more shells had been thrown into Charleston. The Republicans have carried the state elections in New York and Massachusetts by large majorities.

## Home News.

The Court.—The Queen and Royal family continue at Windsor Castle. On Saturday morning the Queen, accompanied by Princess Helena and Princess Hohenlohe, visited the Queen Marie Amelie at Claremont. Her Majesty afterwards called to inquire after General Sir Robert Gardiner, at his house near Claremont. In the afternoon the Crown Prince of Prussia arrived at the Castle, and left in the evening for Dover. Baron Gros, the French Ambassador, was presented to the Queen at an audience by Earl Russell. On Sunday morning the Queen, Princess Helena, Princess Louisa, Prince Leopold, and Princess Hohenlohe, attended Divine Service in the private chapel. The Dean of Windsor officiated, and administered the Sacrament. On Monday morning the Queen, accompanied by the Princess Louisa, walked and drove in the Park. In the afternoon the Queen, accompanied by Princess Louisa, walked and drove in the grounds. Princess Hohenlohe drove to Hampton Court. In the evening the Princess Helena went to London, and attended the performance at the Olympic theatre. On Wednesday morning the Queen, accompanied by Princess Helena, drove in the grounds. In the afternoon the Crown Princess of Prussia arrived from Sandringham. Earl Granville arrived at the Castle, and had an audience of her Majesty. The Queen honoured Mr. Frith with a sitting for his picture of the Prince of Wales's marriage. On Thursday morning the Queen, accompanied by the Crown Princess, walked and drove in the grounds.

The Prince and Princess of Wales at Sandringham.—On Thursday week the Prince of Wales and the Crown Prince of Prussia went out shooting at Wolferton, till the rain, which was very heavy, put an end to the sport. The Princess of Wales and the Crown Princess of Prussia drove out. In the afternoon Mr. Odo Russell arrived at Sandringham on a visit. On Friday the Prince of Wales and the Crown Prince of Prussia, with Admiral Seymour, went out shooting. The Princess drove out. In the afternoon the Princess and the Crown Princess of Prussia drove out. In the evening Prince Edward of Saxe Weimar arrived on a visit. On Saturday morning the Crown Prince of Prussia left for Windsor. In the evening Prince Frederick of Denmark arrived at Sandringham on a visit. On Sunday morning the Princeand Princess of Wales, the Crown Princess of Prussia, and Prince Edward of Saxe-Weimar, attended Sandringham Church. The Rev. G. B. Moxon officiated. On Monday morning the Prince of Wales and the Royal visitors went out shooting. In the afternoon, in honour of his Royal Highness's birthday, the children of the Sandringham, Wolferton, and Dersingham schools, sang a piece or two in front of the Hall, and were afterwards provided with dinner. The cottagers and workpeople on the estate also had a dinner in honour of the day. In the evening the Prince and Princess had an evening party to which the clergy and the principal inhabitants of the district were invited. On Wednesday morning the Crown Princess of Prussia, Prince Frederick of Denmark, and Prince Edward of Saxe-Weimar, left Sandringham for Wolferton Station. The Prince and Princess of Wales accompanied them to Wolferton, whence the Crown Princess proceeded to Windsor, and Prince Frederick of Denmark to Oxford. In the afternoon the Prince of Wales went out shooting. The Princess drove out. On Thursday morning the Prince of Wales paid a visit to the Castle Rising Estate, and spent the day shooting with Lord Alfred Hervey and other noblemen invited to meet his Royal Highness. Mr. Odo Russell left Sandringham for London.

The Crown Prince and Princess of Prussia.—On Saturday morning the Crown Prince of Prussia left Sandringham for Windsor, to take leave of the Queen previous to his departure for Berlin to attend the opening of the Prussian Chambers. His Royal Highness left Windsor in the evening for Dover, travelling from London by the London, Chatham, and Dover Railway, and embarked for Calais immediately on his arrival at Dover. The Princess remained at Sandringham for the Prince of Wales's birthday, and left on Wednesday morning for Windsor on a visit to the Queen.

Prince Alfred.—On Friday afternoon Prince Alfred, accompanied by Prince William of Hesse, left Edinburgh for Winton Castle, the seat of Lady Ruthven. In the evening a dinner and ball were given in honour of their visit, and on Saturday morning their Royal Highnesses, accompanied by the Duke of Buccleuch, the Earl of Morton, and other visitors, shot over the preserves. In the evening they returned to Holyrood.

The Cabinet.—A Cabinet Council was held on Tuesday, at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Wednesday and another on Thursday. Another Council is summoned for Monday.

The Archbishopric of Dublin has been conferred on Dr. Trench, the Dean of Westminster.

The Deanery of Westminster.—The Rev. Canon Stanley, Regius Professor of Ecclesiastical History at Oxford, Canon of Christ Church, Honorary Chaplain in Ordinary to the Queen, and Examining Chaplain to the Bishop of London, will succeed Dr. Trench as Dean of Westminster.

The Army.—The Colonelcy of the 78th Regiment, vacant by the death of General Macneill, has been conferred on Lieut.-Gen. Sir Patrick Grant; and the Colonelcy of the 10th Regiment, vacated by this promotion, has been conferred on Major-General Bell.

Official Appointment.—Mr. Phinn, Q.C., has been reappointed Counsel to the Admiralty and Judge-Advocate of the Fleet, vacant by the appointment of Mr. Collier to the Solicitor Generalship.

The Polish Question.—The *Gazette* of Friday contained the following despatch addressed by Earl Russell to her Majesty's Ambassador at St. Petersburg:—

"Foreign Office, Oct. 20.

"My Lord,—Baron Brunnow has communicated to me a despatch from Prince Gortschakoff, dated August 26 (September 7), in reply to my despatch to your Excellency, No. 178, of the 11th ult., of which you were instructed to give a copy to his Excellency. Her Majesty's Government have no wish to prolong the correspondence on the subject of Poland for the mere purpose of controversy. Her Majesty's Government receive with satisfaction the assurance that the Emperor of Russia continues to be animated with intentions of benevolence towards Poland, and of conciliation in respect to all foreign Powers. Her Majesty's Government acknowledge that the relations of Russia towards European Powers are regulated by public law. But the Emperor of Russia has special obligations in regard to Poland. Her Majesty's Government have in the despatch of the 11th August, and preceding despatches, shown that, in regard to this peculiar question, the rights of Poland are contained in the same instrument which constitutes the Emperor of Russia King of Poland. Your Excellency is instructed to give a copy of this despatch to Prince Gortschakoff. I am, &c., "Russell."

The Mersey Ironclads.—It was announced on Monday that in accordance with instructions from the Government the steam rams El Toussin and El Monnassir have been valued by professional and official surveyors. El Toussin was valued at 106,000*l*., and the unfinished El Monnassir at 80,000*l*. The builders' measurement of each vessel is 1800 tons. Messrs. Laird refused to disclose the contract price. It is stated that the British Government wish to purchase the vessels from the French owners, Messrs. Brevey.

The Court-Martial on Colonel Crawley.—Tuesday next, the 17th inst., has been fixed as the day for opening the court-martial upon Lieut.-Colonel Crawley at Aldershott.

## Foreign.

France.—The *Moniteur* publishes the text of a Letter addressed to the Sovereigns of Europe by the Emperor of the French, proposing a general Congress to settle the affairs of Europe. The following is the translation:—

"Most High and Most Illustrious Sovereigns, Princes, and Free Towns which constitute the High German Confederation:—In presence of the events which every day arise and become urgent, I deem it indispensable to express myself without reserve to the Sovereigns to whom the destiny of nations is confided. Whenever severe shocks have shaken the bases and displaced the limits of States, solemn transactions have taken place to arrange the new elements, and to consecrate by revision the accomplished transformations. Such was the object of the Treaty of Westphalia in the 17th century, and of the negotiations at Vienna in 1815. It is on this latter foundation that now reposes the political edifice of Europe; and yet, as you are aware, it is crumbling away on all sides. If the situation of the different countries be attentively considered, it is impossible not to admit that the Treaties of Vienna upon almost all points are destroyed, modified, misunderstood, or menaced. Hence, duties without rule, rights without title, and pretensions without restraint. The danger is so much the more formidable because the improvements brought about by civilisation, which has bound nations together by the identity of material interests, would render war still more destructive. This is a subject for serious reflection; let us not wait before deciding on our course for sudden and irresistible events to disturb our judgment and carry us away despite ourselves in opposite directions. I therefore propose to you to regulate the present and secure the future in a Congress. Called to the throne by Providence and the will of the French people, but trained in the school of adversity, I am perhaps bound less than any other to ignore the rights of the Sovereigns and the legitimate aspirations of nations. Therefore I am ready, without any preconceived system, to bring to an International Council the spirit of moderation and justice, the usual portion of those who have endured so many various trials. If I take the initiative in such an overture, I do not yield to an impulse of vanity; but as I am the Sovereign to whom ambitious projects are most attributed, I have it at heart to prove by this frank and loyal step that my sole object is to arrive without a shock at the pacification of Europe. If this proposition be favourably received, I pray you to accept Paris as the place of meeting. In case the Princes, allies and friends of France, should think proper to heighten by their presence the authority of the deliberations, I shall be proud to offer them my cordial hospitality. Europe would see, perhaps, some advantage in the capital from which the signal for subversion has so often been given becoming the seat of the conferences destined to lay the bases of a general pacification. I take advantage of this opportunity to renew to you the assurance of my sincere attachment and of the lively interest which I take in the prosperity of the States of the Confederation. Whereupon, most high and illustrious Sovereign Princes, and Free States which constitute the most exalted German Confederation, I pray God to have you in His holy keeping. Written at Paris on the 4th of November in the year of grace 1863. "Napoleon."

"Countersigned, Drouyn de Lhuys."

This letter is said to have been addressed to 15 Governments. It is rumoured that Prussia has expressed her adhesion, and that Austria is favourable to

the proposal. The *Constitutionnel*, *Pays*, *France*, and *Patrie* applaud "the lofty ideas and generous aspirations" expressed in the Emperor's letter, and most of the other Paris papers commend it as pacific and conciliatory. The Senate and Corps Législatif met on Friday to receive a communication from the Government to the Corps Législatif. In the sitting of the Corps Législatif M. de Morny commented upon the address of the Emperor. He said:—

Nobody appreciated this admirable and liberal speech more than himself, because he had been brought up to admire English society, where individual and absolute liberty inspires the people with a feeling of dignity and independence, where liberty of association develops personal initiative, where the most extended political liberty is moderated by a religious respect for the law, and by sound public judgment. England, however, has taken years to realise these benefits. Revolutions in France have never been turned to the advantage of durable liberty. Freedom can only be established peacefully by a good understanding between a liberal Sovereign and an Assembly of moderate views. He would endeavour to maintain this good understanding. M. de Morny, in conclusion, said that he had seen with satisfaction that popular suffrage had elected former Parliamentary celebrities. Their adhesion was a homage rendered to the present form of government. He esteemed them too much to doubt the loyalty of their intentions.

At this sitting M. Thiers took his seat on the extreme left, and M. Berryer on the right centre. The other members of the Opposition seated themselves around the place which M. Thiers has made the centre of the new constitutional Opposition. A public sitting took place on Saturday to verify the elections of the members. An account of the situation of the Empire has been distributed among the Senators and Deputies. The following is an abstract of the more important passages:—

"With regard to foreign affairs, the account sketches the events which led to the Polish insurrection, which the Russo-Prussian convention transformed into an international and European question. It details the negotiations that have taken place between the other Powers and Russia upon the subject, and says:—'We cannot believe that the union of the Cabinets in affairs so worthy of solicitude should remain sterile. Let us not in any case attempt to impose our solution upon Powers interested as directly, and even more so than ourselves, in the regulation of the pending difficulties. It is not in accordance either with our obligations or our rights in a question essentially European to go alone to meet a responsibility which all ought to partake.' The statement then expresses a hope that a reconciliation may take place between Denmark and Germany, and says that 'the Emperor's Government has seen with satisfaction that in Italy calm has succeeded to the agitation caused by the Roman question. The public mind, however, does not appear disposed to promote material concessions. In the particular position created by events the greatest service which the Emperor's Government could render to the Italians was to remain inaccessible to the various passions which were agitating around it. The Emperor is aware that he has contributed as much as lies in his power to prepare for the future. These postponements of the solution have not been without advantage for the Peninsula. The Roman Government has endeavoured to realise several of the reforms claimed in the administration of the States of the Church. We have reason to hope that that task will be pursued. The Italian Government has done its best to organise the new kingdom, to develope its resources, to constitute the military force of Italy, to suppress brigandage with our loyal concurrence, and to discourage the impatience to which it was resolved not to yield. We are justified in believing that these happy influences will contribute to dissipate prejudices and produce a state of matters more favourable to a better understanding between the different political parties." Relative to Greece, it says that the Emperor congratulates himself upon seeing the crisis in that country so happily solved, as the development of this crisis might have brought about serious complications in the East. Greece may, if wise, date her regeneration from this period. We shall the more approve this, as Greece will have at her head a Sovereign belonging to a country bound to France by old and cordial traditions. The Government of the Emperor maintains with the Sultan the most friendly relations. On no point of the East has peace been seriously disturbed. Under the guidance of the enlightened Prince who has succeeded Said Pasha, the prosperity of Egypt can only increase by the protection which we hope will continue to be granted to everything contributing to develope the resources of the country, by calling in the concurrence and activity of Europeans.' The statement then treats of the disunion between the Prince of the Danubian Principalities and the National Assembly of Wallachia and Moldavia, and says that if it should become necessary for Europe to again interfere to modify the constitution of the United Principalities, the Emperor's Government is disposed to come to an understanding with the Porte and the other Powers who have guaranteed the present state of things in these Principalities, in order to facilitate such reforms as may be acknowledged necessary. As regards Montenegro, the Emperor's Government has received assurances from the Porte that the necessary instructions would be given for the demolition of the block-houses. The Emperor has advised the Government of the Sultan and the Prince of Servia to accept a conciliatory policy. 'In all these questions,' continues the statement, 'the Government has endeavoured to maintain a concert with the other Powers in order to insure peace in the East by respect for international stipulations.' The Government regrets that the attempt to effect a reconciliation between the North and South in America has been void of result. As regards Mexico, the Government is happy to see that the Archduke Maximilian has asked that the whole nation should ratify the wishes expressed by the Notables. 'We expect that in a very near future the new Mexican Government will offer guarantees which were wanting under preceding Governments. Important questions remain to be settled, because the military issue of our expedition is only preparing the ground for ulterior negotiations. With regard to Madagascar, the statement says:—'We await a more clearly defined and better known state of things to enable us to take our resolution according to circumstances.' Respecting Japan, the statement points out the favourable attitude of the Central Government against the hostilities of the feudal Princes, and continues:—'The Government of the Emperor will not depart without well established necessity from the spirit of conciliation.' The financial condition of the empire will be communicated to the Chambers in the statement preceding the Budget."

The Emperor and Empress, with the Prince Imperial, left on Sunday for Compiègne, where they will remain a month. During their Majesties' stay three sets of guests will be entertained at the château. The first set arrived there on the 10th inst. Prince de la Tour d'Auvergne has arrived in Paris, and will shortly proceed to London. The Bank of France has raised its rate of discount to 7 per cent.

BELGIUM.—The Chambers were opened on Tuesday by the King in person. The following is an abstract of his Majesty's speech:—

"The King acknowledged the testimonies of affection and devotion which he had received from the country, with the marks of confidence and sympathy of foreign Governments. His Majesty spoke of the benefits entailed upon commercial relations by the abolition of the Scheldt dues, alluded to the progress of agriculture, enumerated various Bills which would be laid before the Chamber, and stated that the financial position of the country was satisfactory. His Majesty concluded by dwelling on the success of the Belgian school at the London International Exhibition, the progress of the fine arts, of public education, and popular instruction."

The King had intended, on leaving Como, to visit his son-in-law, the Archduke Maximilian, and the Archduchess Charlotte, at Miramar. It appears, however, that his Majesty's health rendered it advisable for him to return to Brussels by the shortest route, without going to Miramar.

PRUSSIA.—The Prussian Chambers were opened on Monday by the King in person. The following is an abstract of the speech from the Throne:—

"His Majesty expressed an earnest wish for a termination to the rise of differences between the Government and the Chamber. He announced a Bill which would regulate the rights of the Government in case of the Budget not being legally settled, and declared that, without endangering the most important interests, he could only assent to such a Budget as should insure the maintenance of the new organisation of the army. The Bill regulating the period of military service had been modified. The revenue of 1862 had produced a surplus, as would probably be the case with the revenue of 1863. The Budgets for 1863 and 1864 should be laid before the Chambers. The apparent deficit in the latter would be removed by the ground and building tax of 1865. The balance-sheets for 1859, 1860, and 1861 would be submitted to the Chambers, as well as a Bill establishing the expenditure and receipts of 1862. Bills would also be brought forward for the construction of new railways, with regard to the legal position of associations, additional regulations to the press laws of the 1st of June last, and to a new Criminal Code. The Government was still endeavouring to secure the continuance of the Zollverein, while maintaining the commercial treaty with France, and especially to regulate its relations to Austria. Should Federal execution in Holstein require the application of extraordinary means from Prussia, estimates would be laid before the Chamber. The negotiations with respect to the German reform question would be submitted to the Diet. His Majesty concluded by saying—We live in an agitated time, perhaps stand upon the brink of a more agitated future. I ask you, therefore, the more urgently to bring about an understanding upon the solution of home questions with earnest will."

In the sitting of the Upper House on Tuesday the Address to the King was agreed to by a small majority. Among the members who voted for it was the Minister of Justice. The Minister of the Interior communicated to the House the Royal ordinance on the press of the 1st of July last, and a Bill making some modifications in the same. The Ministers said that this ordinance was issued by the King because there was at that time an immediate want of a press law; but the ordinance was only applicable to a temporary state of things, and was not suited to remain as a permanent law. The intention of the Government was to allow it to remain in force until there should be permanent legislation on the press. In the Chamber of Deputies on Thursday, 268 members being present, Herr von Grabow was elected President by 224 votes against 37 votes for M. von der Heydt. MM. Unruh and Bockum-Dolffs were chosen Vice-Presidents. Herr von Grabow in his speech said—

"His post was a difficult one in the gloomy situation of the country. The strong desire expressed by the Royal House for a solution of pending differences would be fulfilled if the sworn Constitution of the country were constantly interpreted and acted upon only in its obvious spirit. Faith towards the rights of the Crown would not then be distinguishable from fidelity to the rights of the people, external dangers would be conquered in defiance of death, and Prussia's mission in the German Fatherland would be assured."

The Crown Prince, who arrived from England on purpose to attend the opening of the Chambers, left Berlin on Wednesday, on his return to Windsor.

AUSTRIA.—The Duke de Gramont on Saturday delivered to Count Rechberg the copy of an autograph letter from the Emperor of the French to the Emperor of Austria, inviting the latter to a Congress of Sovereigns at Paris. Prince Metternich has since been authorised to declare to the Emperor Napoleon that Austria is ready to co-operate in an European Congress, on a basis yet to be determined, for strengthening the public European right, with special regard to accomplished facts. The Vienna journals advocate a close alliance with England and Prussia. Almost all of them consider the speech of the Emperor Napoleon calculated to create uneasiness. The official *Wiener Zeitung* says:

"We cannot refrain from remarking that the Treaties of Vienna have not ceased to exist because, according to international stipulations, they have been partially modified, or because their observance upon isolated points has been shaken. The fact is that Austria has always honestly fulfilled the treaties. Even her endeavours to bring about German reform have been based upon European treaty rights, and were specially directed to appease the agitation of Germany. Austria can perfectly acquiesce in the main idea of the Speech—viz., a mutual agreement between the Powers to remove the eventualities of war."

In the sitting of the Reichsrath on Saturday a credit of 69 millions was unanimously granted to the Government without debate. The Vienna press considers this to be a demonstration against the French Emperor's speech. The Union Bank is in a state of dissolution. The grantees were unable to come to an understanding with persons wishing to purchase the privilege, occasioning the English and Austrian directors to withdraw from the undertaking. The Memorandum addressed by Austria to Prussia on the question of Federal reform was officially published on Wednesday. In this document Austria expresses a hope that Prussia may be induced by her loyal sentiments towards the Confederacy to accept the propositions already agreed to by 24 German Governments. It says that such acceptance on the part of Prussia would not fail to terminate the hesitation of the other Governments which have not yet given in their adhesion. An official denial has been given to the rumour current in Vienna that the number of the regiments of the Line is to be increased from 80 to 100.

THE ADRIATIC.—The Austrian Lloyd's steamer Europa has been wrecked near Linarea, on the voyage to Cyprus. The specie and mails on board were saved.

ITALY.—The opening of the Foggia Railway took place on Tuesday. The King, who was accompanied by General Della Marmora, the Ministers, the diplomatic body, and many gentlemen connected with the railway, arrived at Foggia at 7 o'clock on the previous evening. Telegrams from the different towns through which the Royal train passed state that His Majesty was enthusiastically received by the people all along the route. The passage of the King was one continued triumph. The railway stations were splendidly illuminated. The Bishops of Pescara and Foggia celebrated religious ceremonies on the occasion. A review of the garrison and 8000 of the National Guard of the province subsequently took place amidst the enthusiasm of the inhabitants. The King afterwards left for Naples. His Majesty reached Avellino in the evening. The people assembled in crowds along the route, giving proof, by the loudness of their acclamations, of their devoted sympathy with the King and the unity of Italy. The town gave his Majesty a magnificent reception. On Wednesday morning the civil and ecclesiastical authorities of the province of Terra Laboro went to meet the King at Infino. His Majesty arrived at Naples at midday, and was received by the Royal Princes, the Syndic, and the other authorities. He drove through the principal streets, which were densely crowded, and was enthusiastically cheered by the people. The working men's societies followed the procession. The streets were decorated with flags and lined by the National Guard of the whole provinces of Naples and Caserta. The garrison were under arms. The King reached the Palace amid loud shouts of "Long live the King of Italy." The Liberal press unanimously applaud the Emperor Napoleon's speech at the opening of the French Chambers. The Minister of War has ordered the line of the Volturno to be placed in a state of defence, and the provisioning of the fortress of Gaëta. The Prince de la Tour d'Auvergne presented his letters of recall to the Pope on Thursday, and left Rome on Saturday. The Pope has conferred on the Prince the Grand Cordon of the Order of Pius IX. Ten waggons, laden with stones, while passing the bridge over the Tiber, on Saturday, fell into the river, owing to neglect to close the barriers. No person was hurt, and the communication has not been interrupted. An uniform rate of two bajocchi is henceforth to be charged upon letters within the Papal dominions. The National Committee has published a pamphlet containing fresh documents relating to the trial of Chevalier Fausti.

GREECE.—Intelligence from Athens to the 6th inst. announces that, at the request of the King, M. Bulgaris had formed a new Cabinet, composed as follows:—Minister of the Interior and President of the Council, M. Bulgaris; Minister of Finance, M. Drosos; Minister of Justice, M. Diamantopulos; Minister of Foreign Affairs, M. Belyami; Minister of Public Worship, M. Petzalis; Minister for War, M. Smolentz. The King assumes the title of George I., King of the Hellenes.

RUSSIA.—The *Journal de St. Pétersbourg* publishes an Imperial rescript to the Grand Duke Constantine. It states that the Grand Duke being convinced, by the continual increase of the insurrection in Poland, of the incompatibility between the condition of affairs in that country and the feeling of goodwill for its pacification which induced the Emperor to intrust him with the carrying into operation the institutions which had been decreed, the Emperor consents to relieve the Grand Duke of his functions as Lieutenant and Commander-in-Chief in Poland, and trusts that after the re-establishment of order he will resume his task. The Grand Duke Constantine is expected to arrive at Vienna on the 18th inst. on his way to Baden-Baden, where he will take up his residence for the winter.

POLAND.—The *Dziennik*, the Russian official journal of Warsaw, has published the speech of the Emperor Napoleon. By order of General Berg the ladies and young girls imprisoned in the citadel, with 60 of the chief inhabitants of Warsaw, have been transported without sentence. Their place of banishment was unknown. 300 other prisoners left the citadel on Wednesday, condemned to transportation. The women of the poorer class not having been able to conform to the regulations respecting apparel, had been arrested and beaten with rods. By order of Prince Wittgenstein, Corfini and Borkowski were hanged last week at Wloclawk. A body of troops from the garrison of Kalisch has since been despatched in haste to Wloclawk, to the relief of Prince Wittgenstein, who is surrounded by the insurgents. The National Government has published a proclama-

tion encouraging the Poles to persevere, and confirming the order for ladies to discontinue wearing mourning. The Poles, under the command of Wilkowski, gained a great success over the Russians on the 30th ult. in the palatinate of Lublin. The rest of Czachowski's band was completely destroyed on the 6th inst. in the Government of Radom. Czachowski was captured, and has since died of his wounds at Radom. Preparations have been made all along the line of railway in Galicia, and also on the line to Brody, for the provisioning and billeting of troops.

CIRCASSIA.—Six Russian officers have been shot as spies by the Circassians.

TURKEY.—All the arrears of the army prior to March last have been settled by individual *serghis*, payable to the soldier at the expiration of his term of service. Since March all have been paid in cash. The new taxes are about to be applied to Constantinople, which city has hitherto been exempt.

INDIA.—A telegraph despatch from Bombay of Oct. 29th states that there has been a great storm on the western coast of India and in the Bay of Bengal. The ship Wings of the Wind has been totally wrecked at Cochin.

JAPAN.—Advices from Japan state that nothing important had occurred since the bombardment of Kagosima. Matters continue quiet at Yokohama and Nagasaki. Advices from the Swiss Embassy at Yokohama, announce that the Ambassadors have received a first official visit from one of the chief officers of the Tycoon. The Ambassadors believe that America and Russia are pursuing an ambiguous policy, and exciting the Japanese to resist the other Powers.

CHINA.—Despatches from Shanghai of Sept. 28 state that affairs are quiet, and that the Anglo-Chinese contingent is preparing to attack Chapoo.

NEW ZEALAND.—The accounts received at Melbourne from the seat of war in New Zealand to the 25th Sept. state that the position of the Maoris was less favourable.

UNITED STATES.—Accounts from Chattanooga of the 27th ult. state that a detachment of Federal troops crossed the Tennessee at Brown's Ferry, drove the Confederates from the ridge on the south side of the river and opened communication with Bridgeport; and that on the same day a larger force crossed the river and dislodged the Confederates from their position on Lookout Mountain. General Hooker subsequently moved his troops from Bridgeport to Brown's Ferry, where he was attacked by the Confederates at midnight on the 29th ult. Severe fighting ensued, lasting two hours, and with less vehemence until 4 o'clock. At 7 o'clock General Hooker reported that the troops had repulsed the Confederate attack, and driven them from every position they assumed. The Federals now occupy the south bank of the river from Bridgeport to Chattanooga, thereby rendering comparatively easy their means of obtaining supplies. Previous to these successes the troops had been on half rations, and the horses and other animals were dying of hunger, all supplies having to be carried on camels over the clay roads, which the rain had rendered impassable for other means of conveyance. 15,000 Confederate cavalry are in the neighbourhood of Decatur, Courtland, and Tuscumbia, south of the Tennessee river, prepared to operate on General Grant's line of communications. The bulk of General Lee's army is on the south side of the Rappahannock, of which he holds all the fords. General Lee maintains, however, a strong picket line on the north side, and is fortifying the approaches to the north bank of the river. On the 27th ult. his infantry drove Buford's cavalry from Bealton. General Meade subsequently moved his head-quarters from Warrenton. During this movement the Confederates drove in the pickets of Meade's sixth corps, and afterwards retired. General Meade has since obtained information concerning Lee's strength, which would enable him shortly to take active measures. All the troops in Washington are reinforcing Meade, their place being supplied by invalid troops. Reinforcements from General Lee are said to be marching down by way of Lynchburg and Bristol, Virginia, to co-operate with General Bragg in driving General Burnside out of East Tennessee, and turning the flank of General Thomas's army, so as to compel him to abandon Chattanooga. It is said that many of Lee's troops marched barefooted from Bristol to Culpepper. General Burnside's forces have retreated from London, Tennessee, to the heights commanding the town. Telegrams from Charleston of the 30th state that the Federals opened fire from Batteries Gregg and Wagner and two Monitors on the 26th, and bombarded Forts Sumter and Johnstone until dusk. The Confederates returned the fire vigorously, in which Fort Moultrie joined; 260 shots were thrown by the Federals; but no damage was done to the Confederate batteries. From sundown on the 28th to sundown on the 29th, 1200 shots from 15-inch mortars and 300lb. Parrott guns were thrown against Fort Sumter. On the evening of the 30th, the Federals opened upon the north-east angle of Fort Sumter from Forts Greig and Wagner and two other batteries on Cumming's Point. Three Monitors were also engaged. The Confederate casualties were seven wounded. The south-east face of Fort Sumter was much damaged by the bombardment. No more shells have been thrown into Charleston. The bombardment of the city is not expected. The Confederates are constructing more torpedoes. Letters from New Orleans state that General Banks and his staff returned to that city from the field of operations in Louisiana on the 13th. Another expedition has sailed from New Orleans to some point on the Texan coast. General Butler has superseded General Foster in the command of the department of Virginia and North Carolina. France has notified to the Federal Government that an effective blockade is established at all ports along the Mexican coast not occupied by the French, and which still acknowledge the authority of Juarez. President Lincoln has officially received Senor Romero as the representative of Juarez at Washington. In his speech, the President said that he now, as he ever had, sincerely desired that Mexico might always enjoy the blessings of foreign and domestic peace, with perfect security, prosperity, independence, and freedom. The Federal debt on the 1st of September is estimated at 1,228,000,000 dollars. The War Department has notified to the Governor of New York that 180,000 volunteers must be raised in New York State before January to avoid the draught. The New York supervisors have appropriated 2,000,000 dols. for volunteers. The Republicans have gained the elections in New York state. Their majority is estimated at from 15,000 to 20,000. In New York city the democrats have lost 10,000 votes since last year. The Republican Ticket has been elected in Massachusetts by a majority of 40,000. At a meeting in support of the Republican Ticket at the Cooper Institute, the Hon. Lewis Baker, of Maine, made a speech, in which he said that the people of Maine were determined that every wife should become a widow, and every child an orphan, before they would permit the Southern States to leave the Republic. He also said the people all knew how quick Great Britain had been to recognise the South as a belligerent Power; but he thanked God the proclamation of emancipation had caused that Power to hold back in her career of wrong, and to give aid only surreptitiously. They were keeping a ledger account of her latter services to the rebellion, and the day would come when they should ask her to settle. It is reported that great frauds have been discovered in the returns of the recent elections in Ohio. Highland county alone gave to Mr. Brough, the Republican candidate, 502 votes more than its whole population. The officers of the Russian fleet have returned from a public excursion to Niagara. Great popular demonstrations of welcome were exhibited along their route. In a speech delivered to the New Jersey municipality, Admiral Lisovski said he was sure that the Emperor of Russia sympathised with the North in the present unjust rebellion, and hoped, and believed, as he himself did, that the North would be successful. He should shortly take as many of his fleet as possible to Washington to winter there. Grand preparations are making for the Russian ball. At a democratic mass meeting held at New York the Poles were lustily cheered, and vigorous groans given for the Russians. President Davis reviewed the troops at Mobile on the 24th ult. He has made a speech at Alabama urging volunteers to occupy the outposts, thus enabling the soldiers to reinforce General Bragg. By this means he was confident Rosencrans would be crushed to the dust. His defeat would practically end the war. Self-reliance and energy were only the duty of the South, for no European aid could now be expected. The *Richmond Examiner* regards the seizure of the Confederate rams as the most unfriendly act yet committed by England toward the South. The *Richmond Whig* denounces it as an act of hostility, not neutrality. The *Richmond Despatch* thinks that the South has felt the full extent of President Lincoln's power, and that he can never do as much harm as he has previously done. "If," it says, "he has failed hitherto, he can never succeed with the assistance of England, which, under Earl Russell's auspices, seems to have come forth as the enemy of the South." There are reported to be 11,000 Federal prisoners in Richmond. The Southern papers assert that the Federal Government refuses to make any further exchange of prisoners.

MEXICO.—Advices from the city of Mexico, telegraphed from San Francisco, report that a conspiracy against the French Government had been discovered. A large number of persons implicated had been either shot, imprisoned, or sent to Martinique. General Bazaine was preparing, with a column of the expeditionary corps, to march on the 20th October to attack Juarez's army, which was concentrated between Queretaro and the San Juan river.

SAN DOMINGO.—Porto Plata was burnt by the Dominicans on the 4th of October. The town was entirely destroyed, excepting the warehouses of Messrs. Ginebra Brothers. All the merchants left were ruined. The fort was held by 1400 Spanish troops, under Brigadier Rivera, who was anxiously awaiting orders from the Spanish Government, and expecting reinforcements from Havannah and Porto Rico. The Spanish were unable to fetch water for the troops from Rio San Marco, in consequence of the losses experienced from attacks of the enemy. They, however, obtained water from Samana, but with difficulty. The sanitary state of the Spanish army was very unsatisfactory. It was stated that General Vargas was pushing his way to the capital of San Domingo, held by the insurgents. General Santana remained in the same position, unable to proceed, and waiting for troops and ammunition from the Government. The insurgents were gaining ground, and it was generally thought that the Spaniards would be compelled to abandon the country. Porto Rico and Havannah were left almost without troops, and it was feared the blacks would rise there also.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $92\frac{1}{2}$ to $\frac{3}{4}$ for Money, and $91\frac{1}{4}$ to $\frac{3}{8}$, ex div., for the Account; Reduced Three per Cents., $90\frac{5}{8}$ to $\frac{3}{4}$; New Three per Cents., $90\frac{1}{2}$ to $\frac{3}{4}$; New Two and a Half per Cents., $76\frac{7}{8}$; Thirty Years' Annuities, 1885, $14\frac{3}{4}$; India Stock, 224; India Five per Cents. Stock, $108\frac{5}{8}$ to $\frac{7}{8}$; India Bonds, 5*s*. pm.; Five per Cent., "Enfaced" Rupee Paper, $105\frac{1}{8}$; and Exchequer Bills, 4*s*. to 3*s*. dis.—FOREIGN: Brazilian Old Five per Cents., $99\frac{1}{4}$; Ditto, 1863, Scrip, $\frac{5}{8}$ to $\frac{3}{4}$ dis.; Buenos Ayres, 93; Chilian Six per Cents., $100\frac{1}{4}$; Greek, $30\frac{1}{2}$ to $\frac{3}{4}$; Ditto Coupons, $14\frac{1}{2}$; Italian, $71\frac{7}{8}$; Ditto, Scrip, $1\frac{1}{4}$ pm.; Mexican, $39\frac{5}{8}$ to $\frac{7}{8}$; Moorish, $94\frac{1}{2}$; Portuguese, 1853, $48\frac{3}{4}$ to $49\frac{1}{4}$; Ditto, 1856, &c., $48\frac{3}{4}$ to 49; Ditto, 1863, Scrip, $1\frac{1}{8}$ to $\frac{1}{4}$ pm.; Russian, 1859, 56; Ditto, 1862, $87\frac{1}{2}$, ex div.; Spanish, 54; Ditto, New Deferred, $48\frac{1}{4}$; Ditto, Passive, $33\frac{7}{8}$ to $34\frac{1}{8}$; Ditto, Certificates, $12\frac{7}{8}$ to $13\frac{1}{8}$; Turkish, 1854, $90\frac{1}{2}$ to 91; Ditto, 1858, $69\frac{3}{4}$ to $\frac{1}{4}$; Ditto, 1862, $70\frac{3}{4}$ to 71; Venezuela, 1862, $55\frac{3}{4}$ to $\frac{1}{4}$, ex div.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £27,431,045 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,631,900 |
| | | Gold Coin and Bullion .. | 12,784,045 |
| | | Silver Bullion .. .. .. | — |
| | £27,431,045 | | £27,431,045 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £10,949,363 |
| Rest .. .. .. .. .. .. | 3,178,488 | Other Securities .. .. | 20,075,433 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 5,624,339 | Notes .. .. .. .. .. | 6,006,220 |
| Other Deposits .. .. .. | 13,664,311 | Gold and Silver Coin .. | 679,720 |
| Seven days and other bills | 690,598 | | |
| | £37,710,736 | | £37,710,738 |

Nov. 12, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *November* 6.—BANKRUPTS.—W. ALLNATT, Wallingford Berkshire, Bootmaker—J. ASH, Hanley, Staffordshire, Potter—M. A. ATLEY, Hanwell, Spinster—W. BECKWORTH, Whitwick, Leicestershire, Builder—W. BROOKS, Great Marlow, Buckinghamshire, Baker—W. BURR, Uxbridge, Commission Agent—E. BATES, Halifax, Yorkshire, Grocer—C. R. BISHOP, Jump, near Barnsley, Yorkshire, Beer house Keeper—T. S BUSH, Heigham, Norwich, Jeweller's Assistant—J. BROWN, Great Berkhampstead, Hertfordshire, Saddler—B. COLLINS, Sandgate, Kent, Waiter—J. CROWTHER, Bacup, Lancashire, Auctioneer—W. P. COMER, Hanley, Staffordshire, Potter—J. CROSSLEY, Bradford, Journeyman Painter—H. COTTERILL, Sunninghill, Berkshire, Grocer and Draper—S. CHAMBERLAIN, Denver, Norfolk, Farmer—J. CALVERT, Harrogate, Yorkshire, late Innkeeper—W. DURELL, New Inn Yard, Shoreditch, Cabinet Turner—J. S. DREWREY, Pennington Street, St. George's-in-the East, Greengrocer's Assistant—J. DOWN, Ivythorn, Somersetshire, Shopkeeper—E. DANCE, Buttesland Street, Hoxton, late Grocer—R. DURRANT, High Street Notting Hill, Furniture Dealer—R. E. EVANS (known and sued as R. EVANS, Shrewsbury, Accountant—F. ELMES, Hethpool Street, Hall Park, Maida Hill, Shopman—A. F. EVANS, Rood Lane, American Merchant—E. J. FOW, Little Downham, Cambridgeshire, Farrier—BENJAMIN FLEET, Apollo Buildings, Walworth, Soda Water Manufacturer—GEORGE FINN, Southend, Boot and Shoemaker—CHARLES GALLIMORE, Wednesbury, Staffordshire, Grocer—JEREMIAH GOODRICH (known and sued as JEROME GOODRICH), Shrewsbury, Artist—T. GREGSON, Newcastle-upon-Tyne, Merchant Tailor—W HEAD, jun., Leicester, Dealer in Ale—GEORGE EDWIN HARRIS (known and sued as EDWIN HARRIS), Shrewsbury, Professor of Music—I. HOYLE, Whitworth, Lancashire, Stonemason—J. HARRIS, Newcastle-upon-Tyne, Traveller—W. HAFFENDEN, Billingly, Sussex, late Licensed Victualler—W. HAM, Dedham, Essex, Butcher—B. S. HUGGINS, Oxford, Butcher—W. HART, Buck Lane, Bethnal Green, Baker—A. HARVEY, Bristol, Dealer in Coal—R. HOLDOM, Swallow Street, Piccadilly, Oilman—M. JULER, Great Yarmouth, Watchmaker—J. W. JACOBS, St. James's Crescent, Bermondsey, Wharfinger's Clerk—J. KARSLAKE, Yarnscombe, Devonshire, Yeoman—J. KEMP, Meredith Street, Clerkenwell, Goldsmith—R. LAMB, Heaton Norris, Lancashire, News-agent—W. LOWE, Lewes, Sussex, Chemist—W. LANE, Darlington, Builder—D. LEWIS, Canton, Glamorganshire Licensed Victualler—G. MACHIN, Kingswinford, Staffordshire, late Grocer—J. MASON, Ware, Hertfordshire, Malt Factor—J. OWEN, Manchester Farmer—C. E. PYEMONT, Camberwell, Clerk in the Custom House—E. PARKINSON, Manchester, Mechanic—G. S. PICKARD, Bolsover Street, Euston Road, late Collector—SETH PUDSEY, Gate Fulford, Yorkshire, late Farmer—JOHN POWELL, Strickly, Shropshire, Brickmaker—G. PUGSLEY, Ilfracombe, Devonshire, Butcher—J. RODFORD, New Charles Street, City Road, Superannuated General Post Office Mail Officer—E. B. SHEBBIN, Swansea, Glamorganshire, Commission Agent—JOHN FREDERICK SANG (commonly called FREDERICK SANG), Charing Cross, Architect—D. SHELDON, Manchester, Timber Dealer—J. STOCKS, late of Halifax, Hay and Straw Dealer—T. STEVENSON, Hanley, Staffordshire, Potter's Fireman—T. C. STOKES, Hammersmith, Leather Cutter—W. SMITH, Nottingham, Warehouseman—J. G. STEVENS, Pilton, Devonshire, Carpenter—W. A STEPHENS, High Street, Shadwell, Pork Butcher—B. SIMS, Neath, Glamorganshire, Brewer's Clerk—J. S. SMITH, Birmingham, Box and Trunk Maker—J. SAMUEL, Liverpool, Outfitter—W. SEAMAN, Bronti Place, Walworth, late Dealer in Theatrical Dresses—T. E. TRANSFIELD, Praed Street, Paddington, Watch and Clock Maker—R. TAYLOR, Minerva Street, Hackney Road, Journeyman Hatter—R. T. TASKER, Birmingham, Tailor—J. H. YOUELL, Arreton, Isle of Wight, Landscape Gardener—E. WHITLOCK, Birmingham, Snuff-box Manufacturer—J. WRIGHT, Loscoe, Derbyshire, Joiner—J. WHITBY, King's Lynn, Norfolk, Builder—W. J. WOOD, Barkingside, Essex, Market Gardener.

SCOTCH SEQUESTRATIONS.—A. THOM, Buckie, Banffshire, Fish Curer—D. SUTHERLAND, Edinburgh, Builder.

TUESDAY: *Nov.* 10.—BANKRUPTS.—G. ALLEN, Kent St., Borough Boot and Shoe Maker—E. ATKINSON, Macclesfield, Cheshire, late Licensed Victualler—A. G. ATTWELL, High Street, Bow, Butcher—C BROWN, Leeds, Merchant—R. BROWN, Warwick Road, Paddington, Wine and Spirit Merchant—S. BOWERS, Norton Bridge, Staffordshire, Farmer—T BOOTH, Wolverhampton, Carpenter—W. BAINBRIDGE, Bridge Street, Southwark, Surgeon—F. BARNETT, Birmingham, Labourer—P. BETTELEY and W. BETTELEY, Newport, Shropshire, Butchers—J. B. COWAN, Longfleet, Dorsetshire, Travelling Draper—J. COBB, Great Yarmouth, Currier—H. B. COATHUPE, Abingdon Place, Kensington, late Shipowner—J. COATES, jun., Bradford, Yorkshire—J. S. DUNMAN, Woodborough, Wiltshire, Draper's Assistant—J. R. DOWDALL, Swansea, Glamorgansh., Painter—G. DUNN, Burslem, Staffordshire, Journeyman Bricklayer—R. EDWARDS, St. John's Wood Terrace, St. John's Wood, Builder—A. C. FOOTE, St. Alban's, Grocer—J. FULTON, Lincoln, Book Deliverer—J. GILBERT, Shenton Street, Old Kent Road, Machinist—J. GALLAGHER, Long Acre, late Lodging House Keeper—M. GREEN, Portman Street, Portman Square, Poulterer—S. GARDNER, Whitwood, Yorkshire, Glass Bottle Manufacturer—T. M. GERRY, Burton upon-Trent, Shoemaker—B. HUGHES, Kingswinford, Staffordshire, Brick Manufacturer—E HALLIDAY, Kelso Terrace, Stoke Newington, Commercial Clerk—B. HODGETTS, Dudley, Worcestershire, Nail Manufacturer—W. HERBERT, Birmingham, Journeyman Glass Button Maker—W. HART, Brick Lane (not Buck Lane, as formerly advertised), Bethnal Green, Baker—T. HOPCROFT, Wolverley, Worcestershire, Market Gardener—WILLIAM BENJAMIN HARDWICK, St. James's Road, Holloway, Chemist—CHARLES HOLT, late of Manchester, Paviour—JOHN IBBERSON, sen., Sheffield, Bone Cutter—WILLIAM JORDAN, Stourbridge, Worcestershire, Hosier—EDWARD JOHNSON, Newgate Street, Attorney-at-law—A. KING, Cambridge, Watchmaker—A. LORING, Bristol, Ironmonger—E. LEECH, Rochdale, Lancashire, Chemist—L. LAWRENCE, Crown Terrace, Lower Sydenham, Grocer—J. MOORE, Maidstone, Kent—T. MORTON, Dewsbury, Yorkshire, Stonemason—S. MILLAR, Olney Street, Walworth, Warehouseman—E. T. MONK and J. BROOK, Huddersfield, Cotton Spinners—J. J. MANBY, Castle Street,

Holborn, Law Stationer—T. H. OWEN, Silvertown, West Ham, Essex, late Butcher—W. H. PRICE, Shannon Terrace, Dalston, Clerk in the United Kingdom Telegraph Company—W. PHILLIPS, Hereford, Wheelwright—FREDERICK HERBERD ROBERTS, St. George's Road, Southwark, Engineer—L. RILEY, Hanley, Staffordshire, Beerseller—H. REYNOLDS, Aberaman, Glamorganshire, Beerhouse Keeper—J. STAPLETON, South Wootton, Norfolk, Farmer—J. SUTTON, late of Manchester, Greengrocer—R. SMITH, late of Manchester, Warehouseman—J. TIPPER, Leek, Staffordshire, Hatter—T. TAYLOR and S. LONGBOTTOM, Ovenden, Yorkshire, Worsted Spinners—E. WOOD, Weston-super-Mare, Somersetshire, Cabinet Maker—T. WALLIS, North Somercotes, Lincolnshire, Blacksmith—W. J. WORTS, East Retford, Nottinghamshire, Accoucheur—E. WOODHOUSE, New Lenton, Nottinghamshire, Furniture Painter.

SCOTCH SEQUESTRATIONS.—R. GORDON, Elgin, Flesher—J. KEITH, Moss-side of Findon, Kincardineshire, Auctioneer and Farmer—J. LINDSAY, Campbelton, Merchant—D. MACLELLAN, Carbost, Isle of Skye, Distiller—W. ROBERTSON, Glasgow, Book Keeper and Cashier.

## Metropolis and its Vicinity.

BIRTHDAY OF THE PRINCE OF WALES.—The 22d birthday of the Prince of Wales was celebrated on Monday in the metropolis in the usual manner. The bells of many of the principal parish churches were rung, the Royal standard was displayed at the Tower, the Custom House, Somerset House, the Post Office, and other public buildings, and the vessels on the river exhibited flags of all nations. Salutes were also fired from the guns in the park. In the evening the general loyalty found vent in banquets and in illuminations, which almost assumed a general aspect.

LORD MAYOR'S DAY.—On Monday, being the 9th of November, Alderman Lawrence, the new Lord Mayor, went in state from Guildhall to Westminster, to be formally presented to the Barons of the Exchequer, in accordance with ancient custom. He was escorted by Alderman Rose, the retiring chief magistrate, the Sheriffs of London and Middlesex, the members of the Court of Aldermen, and the principal officers of the Corporation, all in their civic robes. The day was remarkable for its brilliancy, and the pageant, as usual, attracted great numbers of people along its whole route. After being marshalled in front of Guildhall, the cavalcade started at 12 o'clock, a detachment of the 12th Lancers forming the military escort. The state carriage of the Lord Mayor, drawn by six horses, the gay equipages of the retiring chief magistrate and the two Sheriffs, with the men in armour, were the most conspicuous objects in the pageant. The band of the London Rifle Brigade, preceded by trumpeters, led the way, followed by watermen bearing the banners of the principal civic companies, and by the carriages of the Master, Wardens, and Court of Assistants of the Company of Carpenters, to which the Lord Mayor belongs. The rest of the *cortège* was chiefly made up of the bands of the Grenadier Guards, the 1st Life Guards mounted, the City Artillery Company, the Royal Society for the Protection of Life from Fire, the 3d Tower Hamlets Volunteer Brigade, and the Irish Rifle Volunteers. The Lord Mayor was attended by his chaplain, and by the sword and mace bearers of the Corporation. The route of the pageant on leaving Guildhall was by way of Gresham Street, Coleman Street, London Wall, Moorgate Street, Princes Street, King William Street, Cannon Street, St. Paul's Churchyard, Fleet Street, and the Strand to Westminster. The bells of some of the city churches rang joyous peals at intervals during the day, and here and there in the principal streets through which the procession passed banners were displayed in honour of the occasion. Cannon Street in particular, a great part of which is situate in the Ward of Bread Street, (of which the Lord Mayor is the Alderman), was decorated in this way, and in other respects the inhabitants of the Ward—which has not before been represented by a Lord Mayor in the Court of Aldermen for more than half a century—manifested great joy. On arriving at Westminster Hall the Common Serjeant presented the Lord Mayor to the Barons of the Exchequer with the usual complimentary speech, and concluded by referring to the services of the late Lord Mayor at the reception and marriage of the Prince and Princess of Wales, and said that he had now retired after all he had done and sacrificed in the public service not, indeed, as was universally expected, with the peculiar honours which it is the prerogative of the Crown alone to bestow, but with a reward greater than that of titles and dignities—with the approval of his conscience and the applause of his fellow-citizens. The Lord Chief Baron complimented the Lord Mayor on his election, and congratulated Alderman Rose on retiring with the good will and applause of his fellow-citizens. His lordship expressed his regret to hear for the first time the language of disappointment. He was, he said, certain that Her Majesty and those who advised her were fully sensible of all the merit that belongs to those who discharged functions of great responsibility in the city of London, and that they would desire to comply with any claims to consideration that might be made on the footing of ancient custom. He was fully aware at the same time that the administration of the affairs of a great country must to a certain extent be fettered by precedent. He believed that all his learned brethren around him would, as lawyers, feel themselves bound to respect a precedent, even if they did not follow it; but he was certain that whatever was liberal on the part of the Government, and whatever was wise in the dispensation of honours, would be justly adhered to with respect to the recent munificent demonstration of loyalty on the part of the City of London. Mr. Walton, the Queen's Remembrancer, then administered the customary oath to the Lord Mayor, who then returned in procession to the City. In the evening the usual banquet took place in Guildhall, and was attended by several members of the Cabinet. In returning thanks for the Navy, the Duke of Somerset took occasion to express the thanks of the Admiralty to those corporations and towns which had extended their hospitality and kind feeling towards the Channel squadron during its late visit to the ports and harbours of the country. Earl De Grey and Ripon, in responding for the Army and the Volunteers, said that more than three-fifths of our army in time of peace are employed on foreign service, and that at the present moment more than two out of every three regiments are employed out of this country, and in many cases in bad and unhealthy climates. The toast of her Majesty's Ministers was responded to by Lord Palmerston, who was received with loud and protracted cheering. In the course of his speech his lordship made the following remarks on foreign politics:—

"There have been occasions when it was the lot of those who had to explain the state of affairs to congratulate you on the tranquil condition of the civilised world. I am afraid I cannot do that in the present instance; for, although I trust there is nothing in our horizon which can grow into a cloud of war, yet we see on all sides—in the far West and in the distant East—struggles going on of the most lamentable character, and scenes enacted which make us shudder for humanity, and excite our deep compassion for the countries in which they are occurring. In the far West we see a nation of the same race, the same language, the same religion, the same manners and literature as ourselves, split into two, slaughtering each others by hundreds of thousands, and carrying on a contest the result of which it is impossible to foresee, and the end of which now, after more than two years' duration, he would be a bold man indeed who ventured to predict. Lamenting that state of things, the Government of this country have felt it their duty not to yield either to the entreaties or the objurgations of the one party or the other. Blandishments on the one side and threats on the other have equally been fruitless to affect our course. We have felt it our duty to abstain from taking any part in that deplorable conflict. If indeed we had thought it had been in our power to put an end to it by friendly intervention, no efforts would have been wanting to accomplish so holy an object. But we felt that our interference would have been vain, and we deemed it our duty—and in that I am sure we but followed the wishes of the country—to maintain a strict and impartial neutrality. In the East also scenes of a lamentable character are taking place. We there see on the one side a barbarous system of deliberate extermination carried out, and on the other side revenge venting itself in acts of murder and assassination. We endeavoured to enlist the feelings and opinions of civilised Europe in a joint remonstrance against that which we thought was unjust. Those remonstrances have failed. We have done our duty; and we can only hope that those who have the conduct of affairs in the Russian empire may at length cease to pursue that course which has drawn upon them the condemnation of Europe, and that peace may be restored upon terms of equity and justice in that unfortunate country. Well, though abroad things look ill, and much misery and calamity are sustained, this country forms a happy exception to that which seems to be the prevailing condition of nations. We have been blessed by Providence with an abundant harvest; we have been preserved by the conduct of the Government and the sense of the country from the misfortunes of war; our population are contented and loyal, and they feel that for a long course of years the Legislature has been occupied in remedying grievances, in removing defects from our laws, in sweeping away those obstructions which the less enlightened policy of former times had placed in the way of the productive industry of the nation. By all these means, I am happy to say, I believe that the commercial and material prosperity of the country has reached a point which it never attained at any former period. Those who know the course of the commerce of the world will tell you that year by year this great city of London is growing more and more to be the centre of all the commercial transactions of other States, that bills are drawn upon London to pay debts all over the world, that commodities destined for other countries are sent in deposit here—a tribute paid by the people of other nations to the industry, good management, integrity, and high honour of our own commercial community."

THE RECENT MAYORALTY.—A correspondence has recently taken place between Alderman Rose, the retiring Lord Mayor, and Lord Palmerston, on the circumstance that no mark of honour had been conferred by the Crown on the chief magistrate or the sheriffs in consideration of the conspicuous part which the corporation had taken on the occasion of the Royal marriage. For some time past great dissatisfaction has been felt among the members of the corporation, and by many of the citizens, at what appeared to be a slight upon the corporation, having regard to the munificent example of loyalty and devotion which they set on an occasion of great national rejoicing, at a cost of nearly 60,000*l*. The Prime Minister is understood to have replied in effect that neither on the coming of age nor the marriage of the Queen were any honours bestowed on the then Lord Mayor or sheriffs; that as a rule her Majesty only confers dignities when she visits the City in person on state occasions; that on an exception to this rule, namely, the opening of the Coal Exchange, when titles were conferred, the Queen was only prevented being present by a sudden indisposition, and that she was in effect represented at the ceremony by the attendance of the Prince Consort. Her Majesty also, in an exceptional way, bestowed honours on the Lord Mayor and sheriffs on the auspicious visit to the City of the Emperor and Empress of the French, but that was only on the ground of its great international interest at the time. Again, it is said that if titles were to be conferred on the visit to the City of any member of the Royal house besides the reigning Sovereign, the result would be to restrain that freedom of intercourse which was desirable between the younger members and the citizens. For those reasons Lord Palmerston, while bearing emphatic testimony to the gratification experienced by the Royal family by the magnificent reception given to the Prince and Princess of Wales, is said, with many expressions of regret, to have declined to advise her Majesty to confer any special mark of favour on the chief magistrate of London or the sheriffs.

ROYAL ACADEMY.—The authorities of the Royal Academy have made known that they cannot at present, for want of space, admit more female students than those already in the schools.

ST. THOMAS'S HOSPITAL.—At the last Court of Common Council a deputation from Camberwell, Newington, Rotherhithe, Bermondsey, and all the parishes in Southwark, presented a memorial, praying that the Court would assist them in opposing the removal of St. Thomas's Hospital to the proposed site at Stangate. The representatives of the Council at the Metropolitan Board of Works also spoke against the adoption of this site, on the ground of the unhealthiness of the bank of a tidal river, and its distance from the centre of the population who have hitherto benefited by the hospital. The memorial was unanimously referred to the General Purposes Committee, with power to take what steps they see fit in the matter.

MURDER IN A CAB AND SUICIDE OF THE MURDERER.—On Saturday night a shocking crime was committed in a cab in the public streets. Between 8 and 9 o'clock a man called a cab at the Great Eastern Railway station and got into it with a woman and two girls, telling the driver to drive through the City to the Royal Oak. In Bishopsgate Street the man stopped the cab at a public-house, and told the driver to get him some ale. The driver complied, and the ale was drunk by the persons in the cab—the man draining out the last drops of the pot upon the pavement before he returned it to the publican. The driver then proceeded on his journey, but in Holborn he was again stopped, when the man got out of the cab, paid the driver 4*s*. for his fare, gave him 6*d*. extra for himself on the ground of his civility, and told him to take the lady carefully to her destination. On arriving at the Royal Oak and opening the door of the cab the driver was horrified to find the woman and the two children dead. He at once gave information to the police, and the bodies were taken to the infirmary, where the surgeon in attendance expressed a strong opinion that they had been poisoned by prussic acid. Further examination confirmed this impression, and at the opening of the inquest on Monday it was clearly established by the medical evidence that the victims had been poisoned with prussic acid, mixed either with the beer obtained at the public house, or with some cakes, the remains of which were found with their clothes in the cab. The cork of a small phial was lying on the floor of the cab, but there was no bottle. A box of ointment bearing the name of a chemist at Camberwell was also found in the cab, and at once suggested the idea that the parties had lived in that neighbourhood. The Government immediately offered a reward of 100*l*. for the apprehension of the murderer, and active measures were taken by the detective officers to trace him on the Surrey side of the river. Their inquiries led on Tuesday to his discovery; but he took poison as soon as he heard the police knock at his door, and died from its effects at the Camberwell Green Police station shortly after his apprehension. It appears that in consequence of a description published on Monday morning of the three murdered persons, as well as of the man who rode in the cab with them, the suspicions of a letter carrier named Prescott were aroused as to a person named Hunt, residing at Camberwell. He knew that Hunt's family led a most unhappy life, and that he had threatened to "do" for his wife and children. He had seen Hunt go in and out of his house on Sunday, but had seen nothing of his wife and children. On Monday evening, therefore, he went to the police-station near Camberwell Green and told the inspector on duty what he thought of the matter. Acting on this information Inspectors Meloy and Smith proceeded, about 20 minutes to 10 on Monday night, to the house indicated by Prescott, which is situated in Wellington Road, Coldharbour Lane, Camberwell. They knocked at the door. All was quiet, and no light was to be seen in the house. No answer being returned to their summons they knocked again and again, but without obtaining any reply. While thus engaged, Inspector Dann arrived at the spot, having received similar information from another source. The knocking was again repeated, when Inspector Meloy fancied he heard something moving in the house. They then commenced a vigorous kicking at the door, which after some delay was opened on the chain. A man in his shirt then asked the inspectors who they were and what they wanted, when Inspector Smith said they belonged to the police, and demanded admittance. The chain was then withdrawn, and they entered the house. The man then said, "Wait a minute, wait a minute; I'll get a light;" and made a rush towards the stairs. They prevented his reaching them, Inspector Smith replying, "Never mind, we've got a light." They then all went up into a bedroom on the first-floor, when the man commenced retching, a circumstance which aroused the suspicion of the inspectors, and induced Meloy to question him as to whether he had not taken poison, to which he replied, "No, I have not; my heart is affected." He then asked them what they wanted, and Inspector Smith asked him if his wife and family were at home. He said, "No, they are all in the country; they have gone to Southampton." When asked the date of their departure he replied that they went away on Friday night last. Inspector Meloy said, "Have you not made a mistake; was it not on Saturday night?" The man replied, "No; I am positive that it was on Friday night." At intervals during this conversation the man retched violently.

He was then asked as to his family, and he said he had two children, both girls, one eight and the other four years of age. Inspector Smith asked him to describe the children, which he did, and his description tallied exactly with that of the children found in the cab. He also stated the age of his wife to be 27. Inspector Dann said to him, "Have you read the account of the murder in the papers?" To which he replied, "I have read the account of the murder;" and immediately added rather sharply, "But you don't suppose it's my family, do you?" Inspector Meloy asked the man how his wife and family were dressed, to which he replied by asking how the deceased were dressed. On being told they were dressed in black, he said, "They cannot be mine, for mine were all lightly dressed," and added, "She has gone on a visit to her uncle, Mr. Campbell, who lives at 29, Harmwood Street, Southampton." Inspector Dann then requested him to go with them to the police-station to hear the description of the deceased woman and children read. He expressed his willingness to do so, and then asked Inspector Meloy if he would take charge of 40*l.* in Bank of England notes, a request which he declined to comply with. He then accompanied them to the station, and on the way said, "My wife and myself have lived very unhappily, and she was always very jealous, and oh! she led me a dreadful life, always accusing me wrongfully, and talking to that extent that I have frequently been obliged to leave my bed and walk the streets. The children have told me something which has aroused my suspicions of her. They went out one day, and when they returned they said they had met a gentleman who had taken them all in a cab, and that he was kind, like me, and looked like me, only that he had a moustache. I did not like this." When offering the bank-notes to the Inspector, he said, "I want you to take charge of these to give to my wife and children if they are alive." He afterwards said, "She used to drink, and her bottles were always about the house; what I drank this evening was part of what she left behind in a bottle." Inspector Meloy asked him if he knew what it was that he had drunk, and he replied, "I have no doubt that it was gin." During this conversation and on the way to the station the man continued to retch and vomit so violently that on arriving, Mr. Puckle, surgeon, of Coldharbour Lane, was immediately sent for. He at once said that the man had taken poison, and after much resistance, succeeded in forcing a strong emetic down his throat. Mr. Massey, of Camberwell Green, shortly after arrived, and Dr. Maule Sutton, a physician, late of the Queen's Hospital, Birmingham, who was passing, also rendered his assistance. Previous to the arrival of the medical men, the prisoner, being weak from excessive vomiting, sat down while the description of the deceased woman and children was read over to him, on hearing which he exclaimed several times, "That is them," as the inspector proceeded in reading the account. He was then asked if his wife had a sore foot, and he said "Yes." Meloy then asked "Does she use ointment?" to which he replied "Yes, I have applied it to the sore myself." The vomiting continuing to increase, he said he thought he was dying, and asked to be allowed to lie down. This was complied with, and the medical gentlemen then questioned him as to what he had taken. He replied, "I think it was something in the glass which was not spirits." He afterwards continued, "I know what my wife died of now; it's prussic acid, and it was in the house. I might have taken aconite—I think I did." After this he continued retching for the space of nearly an hour, when he again referred to his wife, and said that her uncle had given them 50*l.*, which enabled him to live without drawing his salary, and he had not touched it for the last 18 months. Just previous to his death he seemed to sleep, and suddenly awoke, when he said, "I have had the most beautiful dreams. I want to write. I am dying, and before I die I want to write." Writing materials having been supplied, he was just able to write as follows, but he could not sign the note:—"Mr. John McCulloch,—Pay to my wife the money due to me, viz., 120*l.*, due the 17th of September last, and the remainder due to me." He then said, "My employer owes me 18 months' salary. We have had a good many rows about that, and I wish to leave it to my children if they are alive." Shortly after this he died. The body was removed about half-past 12 to the house of deceased, when it was ascertained that his name was Hunt, and that for some time past he had held the situation of traveller to Messrs. Butler & McCulloch, seedsmen, herbalists, and druggists, Covent Garden. The body was then again examined by Dr. Sutton as to the cause of death, but he could find no signs of prussic acid. The expression of the countenance was calm, although he had died from exhaustion brought on from excessive retching, and struggled violently just before his death. On searching the body they found his linen marked "S. H. Hunt." He was well dressed in a suit of mourning. The body was taken to the house in Wellington Road, to await the coroner's inquest. After his death he was identified by the cabman Parker as the man whom he had driven from the Great Eastern Railway to Furnival's Inn. Another cabman, named Peirce, also identified him as the man whom he had driven from Camberwell to Shoreditch station. It seems that on Saturday evening about 7 o'clock the second cabman was on his stand at Camberwell Green when he was hailed by a woman in black and two little girls. She told him to drive to Shoreditch station, and to take the check-string in his hand, as she would have to stop him on the road. When they had proceeded about 200 or 300 yards down Camberwell Road a man, who afterwards turned out to be the deceased, hailed him, but the cabman said he was engaged. The man, however, said he had friends in the cab whom he wanted to join. In his capacity of traveller for Messrs. Butler & McCulloch, Hunt seems to have obtained a knowledge of herbs and chemistry; and he had a few drugs and chemicals in his house. The neighbours say that he and his wife, who was the daughter of a cab-driver named Blake, were constantly quarrelling, and that at times they appeared to be very wretched. Her sister states that about a month ago Hunt made an unsuccessful attempt to poison his wife, and latterly used to beat her severely, and the sister ascribes the wound on the unfortunate woman's foot to a blow from a poker, given to her by Hunt. He had been heard on more than one occasion to say he would "do for his wife and children one of these days," and some persons who sympathised with them remonstrated with Hunt on their account. The house, though small, was somewhat poorly furnished, bearing every mark of a household going to ruin. On being searched by the police, a small bottle of tincture of aconite, one of the most deadly poisons known, was found. It was also ascertained that when roused by the police, Hunt was in bed reading "Tom Brown at Oxford," and that he must have swallowed the aconite as soon as he heard the knocking at the door, for the bottle, containing a couple of drops of the poison, was found in a cupboard in his bed-room. It was at first considered curious that though Parker, the cabman, stated to the police and at the inquest that the man he drove from Shoreditch station had a moustache, several people in the neighbourhood agreed in stating that for the last two years Hunt had gone with his upper lip shaven; but it has now been ascertained that he bought the false moustache at a hairdresser's in the Strand, on Thursday week, no doubt in order to disguise himself. At one time he kept a bookseller's and stationer's shop at the corner of Warner Road, Camberwell New Road, but did not succeed in business. It is also said that he was formerly in business as a chemist and druggist on his own account. He had been in the employment of Messrs. Butler and McCulloch for about three years. His usual business was to make a round of calls early in the day and arrive in Covent Garden in the afternoon, when he attended to customers in the shop, or did whatever was required there. On Friday last he asked for leave of absence for Saturday, "as he was going into the country to Margate." On Monday afternoon he appeared at the shop at his usual time, and without exhibiting any change in his appearance or manner. In the course of the afternoon Mr. Youngman, Mr. McCulloch's foreman, asked him if he had read the particulars of the horrible affair in a cab. To this he made no reply, and he conducted himself in a surly way towards persons who came into the shop during the rest of the afternoon; but in the evening he sat with Mr. McCulloch in the counting-house, and appeared to be in high spirits. He was laughing and joking more freely than he usually did when in a similar frame of mind. He parted with Mr. McCulloch on Monday evening as late as 7 o'clock, not the slightest suspicion being entertained by any one in whose company he had been that he was the murderer. He had lately told Mr. McCulloch in a confidential sort of way several times that his wife was a great trouble to him, but he seemed very fond of his children. Messrs. Butler and McCulloch have given an unqualified denial to the statement contained in the letter written by Hunt before his death, and to the assertions made by him concerning them. The story he told to the police about Mrs. Hunt having an uncle at Southampton named Campbell, who had given her 50*l.* was also a pure fabrication from beginning to end, the unfortunate woman's friends being all poor hardworking people, living in London. It appears also that the wife and children were deceived by the pretended journey, the idea of which seems to have been suddenly conceived and carried out. A cheesemonger in the neighbourhood states that on Saturday afternoon the eldest girl called at his shop for a small quantity of butter, saying they did not require more, as they were all going into the country. The poor child seemed delighted at the prospect of the trip, and bade good-bye to a little acquaintance who happened to be in the shop at the time. The *post-mortem* examination of the body was made on Thursday, when the appearances presented by the different organs indicated poisoning by aconite. The inquest was opened yesterday, when the jury by a majority of 13 to 2 returned a verdict of *Felo de se*. The Coroner then issued his warrant for the interment of the body between the hours of 9 and 12 o'clock last night in the Tooting Cemetery, without funeral rites.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended on Saturday, November 7, were 1270. The average number of deaths in the 10 corresponding weeks of the years 1853-62, corrected for increase of population, was 1270. The present return is therefore exactly the same as the average result obtained by calculation. During the week the births of 1011 boys and 952 girls, in all 1963 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1879.

## Provincial.

ALDERSHOT.—At an early hour on Friday morning one of the stables of the Military Train was discovered to be on fire. The sentinels round the building, as well as the guard near the spot, rushed in to save the horses, but the heat was so intense, and the flames made such rapid progress in a building constructed of timber and straw, that out of 88 valuable horses only 12 were rescued, 76 being consumed in their stalls. There was also much destruction of saddles and harness, and the total loss of property is estimated at between 4000*l.* and 5000*l.* From the direction the wind was blowing several adjoining stables escaped the destruction which would otherwise have been inevitable. The fire is supposed to have been caused by a stable-lamp igniting the thatch of the building.

AYLSHAM.—A few days ago Dr. Ager, the head of the collegiate school in this town, was apprehended on a charge of having set fire to his house and school. The magistrates, after hearing the evidence at great length, decided that there was no foundation for the charge. Dr. Ager was immediately set at liberty.

MANCHESTER.—At the meeting of the Central Committee on Monday, Mr. Commissioner Farnall reported that on the 31st ult. there was a decrease of 1552 in the number of persons receiving relief in 27 unions in the cotton districts, as compared with the previous week, making a total decrease of 144,026 since the 6th of December. Mr. Commissioner Rawlinson stated that about 40 places in the district had either adopted the Local Government Act, 1858, or the Public Works Act, 1863, since Christmas, and that many other places were taking the preliminary steps towards the adoption of the Acts, so that before long, with few exceptions, the whole of the district affected by the distress would come voluntarily under their operations. The financial report stated that 668*l.* had been received during the week, and that the balance in hand was 260,875*l.*

PLYMOUTH.—The West India Mail Company's steamship Solent, which left Southampton on Tuesday with 70 passengers for Madeira and the West Indies, incurred such heavy weather in the Channel during the night that, being heavily laden, she could not make more than four knots an hour, and therefore put into the Sound on Wednesday afternoon, but will proceed when the weather moderates. A heavy storm from the westward prevailed in the harbour all Wednesday.

ROCHDALE.—The following letter from Mr. Cobden, on the conduct of the British authorities in Japan, has been received by Mr. Ashworth, mayor of this borough:—

"Midhurst, November 4, 1863.—My dear Sir,—Circumstances will prevent me from paying my accustomed visit to Rochdale previous to the 9th inst., and I fear I shall therefore not have the satisfaction of attending a public meeting under your presidency as mayor. I regret this both on personal and public grounds. I should have taken the opportunity of calling the attention of my constituents to the last news from the East. I have been reading carefully the official correspondence, just published, respecting our recent proceedings in Japan. It is a horrible narrative, which I find difficult to treat with calmness. It appears that a despatch was sent by Earl Russell, instructing the British representatives in that country to demand redress from Prince Satsuma, one of its feudal chiefs or daimios, for the murder of Mr. Richardson, and, in default of which, discretion was given to our naval commander, either to 'seize or detain' the prince's steam vessels, or shell his residence, or blockade his port. Thereupon, according to his own despatch, the British admiral proceeded forthwith to burn the prince's steamers, and set fire to the town of Kagosima, when, to quote his language, 'the conflagration thus created continued with unabated ardour up to the time of the departure of the squadron, 48 hours subsequently to the first attack,' which, he proceeds to say, 'affords reasonable ground for believing that the entire town of Kagosima is now a mass of ruins;' and he expresses his 'trust that her Majesty's Government will be pleased to approve' his deeds. It is stated, I know not how truly, that Kagosima is a city of more than 150,000 inhabitants. In an interesting account of Japan, which appeared in the 'Revue des Deux Mondes' of the 15th October, from the pen of M. Adolphe Lindau, a recent traveller in that country, this place is described as 'L'un des plus considérables entrepôts du commerce de l'île de Kiou-siou.' Now, let me ask you to consider for a moment what is really implied by the destruction, with incendiary shells without previous warning, of a city of even 100,000 inhabitants. There are always in such towns hundreds of infants at their mother's breasts, thousands of children under five years of age, hospitals with their sick, and numbers of aged and infirm, tottering on the brink of the grave; there too must be women over whom the pangs of maternity are impending, and there will be found homes filled with mourning for the dead which are awaiting the rites of sepulture. Such is the normal condition of every large city, whether in Asia or Europe. Now picture this great commercial entrepôt, with all its contents, reduced in 48 hours to a heap of ashes; try to realise in imagination the fate of its population; and then ask yourself what great crime they had committed to bring on themselves this havoc and destruction. To our shame and confusion the answer must be that this is the way in which Englishmen under the command of Admiral Kuper and Colonel Neale, administer justice for the murder of an individual 100 miles away—of which crime the inhabitants of Kagosima were as guiltless of all knowledge and complicity as your own neighbours in Rochdale. It is precisely as though an enemy should lay Bristol in ashes because an individual had been murdered on the highway between London and Brentford. And the chief actors in this outrage on humanity, instead of expressing one word of regret or emotion, coolly lay claim to the approbation of their Government. There has been much criticism in this country on the manner in which the civil war has been conducted by the Americans. We have been prompt to condemn a people, over whom we have no control, for acts for which we are in nowise responsible. I remember the indignation with which the Prime Minister denounced General Butler's proclamation in which he threatened to consign to the calaboose those women who should insult his soldiers in the streets of New Orleans. Will he and his colleagues now make themselves and the country accomplices after the fact in these atrocities of their own agents, who, in contemptuous disregard of the instructions

of their Government, have brought this heavy disgrace upon the country? I trust not. But, at all events, let us not forget that our moral power in the world is at stake; that if, as a people, we condone such crimes as these, when perpetrated in our name by those for whom, under heaven, we are alone responsible, we shall only invite the scorn of mankind by assuming to sit in judgment, as moral censors, upon the delinquencies of other nations.—Believe me, &c., R. COBDEN."

## Ireland.

THE NEW ARCHBISHOP OF DUBLIN.—The appointment of Dr. Trench, Dean of Westminster, to the Archbishopric of Dublin, with the Chancellorship of the Order of St. Patrick, is commented on with satisfaction by most of the Dublin papers. Although an Englishman by education and settlement, Dr. Trench is an Irishman by birth and extraction, and his appointment has met with general favour in Ireland.

THE PRINCE CONSORT IRON-CLAD.—The anchor and chain lost by the Prince Consort when she entered the Man-of-War Roads at Kingston were discovered on Friday by the pinnace of the Ajax. The "dragging" for them had been going on for the whole week, and as soon as their position was ascertained a diver was sent down to attach a hawser to them. The chain and anchor are valued at about 800*l*.

THE GALWAY ROUTE.—The Atlantic Royal mail steamer Anglia, from Liverpool to Boston, went on the Black Rock in Galway Bay at 5 A.M. on Tuesday. She was, however, got off at high water; but was too much damaged to proceed on her voyage. Her Liverpool passengers have since been landed, and the mails sent back to Dublin.

THE FEDERAL CRUISER KEARSAGE.—Admiral Jones, the commander-in-chief at Cork, having been informed that this vessel was shipping men for the Federal navy, ostensibly as stokers, peremptorily ordered her last week to leave the harbour within 24 hours. She left accordingly on Friday evening. It is said that there was no truth in the statement that the commander refused to leave the harbour. On the contrary, she sailed in dirty weather, a proof that he felt compelled to obey the Admiral's injunction. It is said that the Kearsage has been watching blockade runners at Cork.

## Scotland.

THE FREE KIRK ON "GOOD WORDS."—At a meeting of the Free Presbytery of Strathbogie, held at Huntly on Tuesday week, the Rev. Mr. M'Gilvray, of Keith, moved the transmission of an overture to the General Assembly as follows:—"Whereas, it is matter of notoriety that a periodical entitled 'Good Words' is extensively circulated, and whereas there is reason to believe that the circulation of this periodical is calculated to do injury, it is humbly overtured by the Presbytery of Strathbogie to the ensuing General Assembly to take the subject into consideration, and deal with it as they in their wisdom shall deem fit." Mr. M'Gilvray supported this overture in a speech of great length, objecting *in toto* to a great number of articles and poetical pieces, among others to "Rhoda and the Whistle," a poem inscribed to Lord Ardmillan. He detailed the plot of this poem, and contended that it was calculated to accomplish no good, but to be productive of much evil. He next referred to another poem, entitled "Soul Gardening," by Dora Greenwell, with "an engraving," he said, "representing a female lying prostrate on the ground upon the cross—an engraving which would be the right one in the right place had it appeared in the pages of a Popish monthly, but surely out of place in a periodical conducted by professing Christians." An article on "Sisterhoods," by J. M. Ludlow, was also condemned, as well as an article by the Rev. Charles Kingsley, on "The Monks and the Heathen;" but the severest castigation was reserved for "Plain Thoughts on the Christian Sabbath," by the Rev. A. W. Thorold, M.A. Mr. M'Gilvray thought that if the editor of "Good Words" could not prevent the admission of such articles into his magazine he ought to retire from the editorship. Mr. Moffat, of Cairnie, condemned the negative theology taught in the magazine (with which he believed Dr. M'Leod to be peculiarly chargeable), as well as the leanings towards Popery manifested in its religious articles, with the exception of those by Dr. Guthrie and others. Several other members concurred in condemning the magazine as dangerous in its teaching and loose in its religious opinions; and the Presbytery, by a majority of 6 to 4, resolved to transmit the overture, one minister declining to vote.

## Law.

COURT OF QUEEN'S BENCH.—*Fryer* v. *Kinnersley*.—This was an action tried before Mr. Justice Keating at Westminster, when a verdict was found for the plaintiff—damages 10*l*. Mr. Serjeant Shee now moved for a rule to set aside the verdict, or for a nonsuit, pursuant to leave reserved. The action was brought by the plaintiff, who had been in defendant's service as gardener, to recover damages for a libel. Defendant had taken the plaintiff into his service on the recommendation of Mr. Eyles, the Secretary of the Horticultural Society. The plaintiff did not suit, and was under notice to leave defendant's service, and while this notice was pending defendant wrote to Mr. Eyles a letter describing the plaintiff's conduct as having been violent and outrageous. That letter was not accurately set forth in the declaration, and as set forth it imputed to the plaintiff an intention to do the defendant some serious injury. The learned counsel contended the letter was privileged, the defendant being a fellow of the Society, and the secretary having been applied to for the plaintiff's character.—Rule *nisi* granted.

COURT OF EXCHEQUER.—*The Alexandra*.—The Solicitor-General on Tuesday proposed to the Court that the case of the Alexandra should be taken on Tuesday next, and continued from day to day till it is finished. The Chief Baron took the opportunity to repeat that he repudiated the exposition of the law put into his mouth by the bill of exceptions from the first day he heard it. The Solicitor-General, who was not in the first case, replied that the difficulty would be avoided by having an altogether new trial. The Court granted the application.

## Obituary.

THE COUNTESS OF LEVEN AND MELVILLE died on the 6th inst., at Melville House, Fifeshire. She was the daughter of Sir Archibald Campbell, Bart., of Succoth, and married, in 1824, the 10th Earl of Leven and Melville, by whom, who died last year, she leaves a family of four daughters. Her eldest and last surviving son, Viscount Balgonie, died in 1857, from illness occasioned by his service in the Grenadier Guards in the Crimea.

LORD CHESHAM died on Tuesday night at the family residence in Grosvenor Square, after an illness of a few weeks. He came to town in order to have the best medical advice about a month ago, and was thought to be going on favourably until a few days before his death. His lordship, Charles Compton Cavendish, was the youngest son of the third Earl of Burlington, second son of the fourth Duke of Devonshire, by Lady Elizabeth Compton, daughter of the seventh Earl of Northampton. He was born in 1793, and was consequently in his 71st year. He married, in 1814, Lady Catherine Susan Gordon, eldest daughter of the ninth Marquis of Huntly, by whom he leaves issue the Hon. William George Cavendish, M.P. for Buckinghamshire, born in 1815, and married to the daughter of the Right Hon. W. Sebright Lascelles and Lady Caroline Lascelles; Susan, married to Lord Dacre; and Harriet, married to the Earl of Strafford. The deceased peer was for many years a member of the House of Commons, having sat in that assembly from 1820 till his elevation to the House of Lords in 1858. He represented Newtown, Hants, in 1820 and 1826; was returned for Yarmouth in 1831, and in 1832 was elected for East Sussex, which he represented up to 1847, when he was returned for Bucks, and continued one of its representatives, in conjunction with Mr. Du Pre and Mr. Disraeli, until he was created a peer.

REAR ADMIRAL PULLING died at Plymouth on the 2d inst., in his 76th year. He entered the navy in 1803, and was present in Sir Robert Calder's action; and in the expedition to Walcheren, while serving in the Atalanta, 18, in 1811, on the North American station, he was engaged in frequent skirmishes with gun boats and armed parties on shore; assisted in the attack on Craney Island, in 1813; and was wrecked in the same year on the Sisters Rocks, off Halifax. He was afterwards, for many years, Lieutenant in the coast-guard service, in Hampshire. From 1826, until promoted to the rank of commander, in 1829, he commanded the Skipjack schooner, on the Jamaica station, and was actively employed in the suppression of piracy and the slave trade in the West Indies. He obtained post rank in 1845, after having been employed 11 years as inspecting commander in the coast-guard, and became a retired rear admiral in 1863.

COLONEL CHARLES HENRY SOMERSET, C.B., died a few days since in Clifton Gardens, Maida Hill, in his 46th year. He was the eldest son of the late Lieut.-General Sir Henry Somerset, K.C.B., K.H., commander in chief of Bombay. He served as aide-de-camp to Sir Benjamin D'Urban during the Kaffir war in 1835. In 1841 he accompanied Major Smith's expedition to Natal, and served in the Kaffir war of 1846 and 1847 as aide-de-camp to his father, and afterwards to General Sir George Berkeley during the successful operations in 1847, for which he received a medal. He became major in 1850, and in the same year commanded the storming party of Cape Mounted Riflemen, at the capture of Fort Armstrong, and in the action at Berea, his name being frequently mentioned in despatches and general orders. He became colonel in 1854, and was afterwards for many years lieutenant-colonel of the 72d Highlanders.

THE REV. MR. M'CAUL, D.D., Rector of St. Magnus the Martyr, died yesterday afternoon, at an advanced age. Dr. M'Caul was an eminent Hebrew scholar, Professor of Divinity in King's College, and author of numerous theological publications directed especially against recent forms of doubt.

BIRTHS.—On the 8th inst, at 32, Curzon Street, Mayfair, the Countess VANE, of a daughter—8th inst, at 14, Belgrave Square, the Hon. Mrs. J. VIVIAN, of a daughter—8th inst, at 32, Bruton Street, Berkeley Square, the Hon. Mrs. CHARLES LENNOX PEEL, of a son—1st ult, at Icicle Lodge, Colpetty, Colombo, Lady CREASY, of a son.

MARRIAGES.—On Saturday, the 7th inst, at Christ Church, Marylebone, MICHAEL F. K. SEYMOUR, Esq., only son of Vice-Admiral Sir Michael Seymour, G.C.B., Commander-in-Chief at Portsmouth, to ELIZABETH GEORGINA FREDERICA, only daughter of Captain W. H. KENNEDY, R.N., and granddaughter of the late Admiral the Hon. Sir Charles Paget—5th inst, at St. Barnabas Church, Kensington, ALEXANDER only surviving son of the late PETER CLUTTERBUCK, Esq., of Red Hall, Watford, Herts, to ADELAIDE, youngest daughter of Sir GEORGE BARROW, Bart.—4th inst, at Felton, Herefordshire, the Rev. J. H. BAINBRIGGE, second son of the late General Sir Philip Bainbrigge, K.C.B., to ELIZA EMILY, youngest daughter of the late Colonel BUND, of Wick House, Worcestershire—7th inst, at St. John's Chapel, Edinburgh, Captain JOHN MACVICAR BURN, Royal Artillery, to JEMIMA, youngest daughter of JAMES SYME, Esq., Professor of Clinical Surgery in the University of Edinburgh.

DEATHS.—On the 2d inst, at 68, Cadogan Place, CECIL CHOLMELEY, third son of the late Sir JOHN MUIR MACKENZIE, Bart., of Delvine, N.B., aged 20—27th inst, at the West Hall, High Leigh, Cheshire, Vice-Admiral JODRELL LEIGH, of Broadwell House, Gloucestershire, aged 74—Oct. 4, at Aix-la-Chapelle, CLARA MARIA, wife of J. HINDE PALMER, Esq., Q.C., of Gloucester Place, Portman Square—6th inst, at 5, Connaught Place West, Hyde Park, JOHN, youngest son of PETER RALLI, Esq., aged 6 weeks—6th inst, at 14, Esplanade, Dover, Major BARRY FOX, aged 74—3d inst, at Ashton Villa, Park Gardens, Bath, Captain F. M. MARTIN, late 52d B.N.I.—18th Sept, at Shanghai, Lieut. HENRY METCALFE, R.A., son of Charles Metcalfe, Esq., of Inglethorpe Hall, Emneth, Norfolk, aged 25—23d Sept., on board the ship Bentinck, near Calcutta, Lieut. F. E. FARQUHARSON, H.M.'s Bengal Cavalry, son of Mr. R. N. Farquharson, late Bengal Civil Service, aged 21—31st ult, at St. Andrews, Fife, ARTHUR CONNELL, Esq., F.R.SS. L. and E., formerly professor of chemistry in the University of St. Andrews, and son of the late Sir John Connell, Judge Admiral of Scotland—31st ult, at Egham, J. H. WINGRAVE, Esq., of H.M.'s Inland Revenue, late Accountant General for Scotland, aged 64—7th ult at Bilaspoor, India, GEORGE WELSTEAD COLLEDGE, Esq., Bengal Civil Service, eldest son of Dr. Colledge, M.D., Cheltenham, and son-in-law of William Dent, Esq., of Cooper's Hill, Egham, Surrey, aged 29—3d inst, Dr. JOHN M. CAMPLIN, M.D., F.L.S., of 33, Compton Terrace, Islington, and 11, Finsbury Square, aged 73—4th inst, at 2, Victoria Buildings, Weston-super-Mare, the Rev. J. P. GRIFFITH, late Fellow of Wadham College, Oxford, and Vicar of Norton Bavant, Wilts, aged 66—4th inst, at Arthurstown, Ireland, the Rev. ALFRED LENNOX PEEL, M.A., Fellow of All Souls' College, Oxford, aged 36—29th ult, at the Parsonage, Meerbrook, near Leek, Staffordshire, the Rev. JAMES TURNER, M.A., aged 66.

## Markets.

### COVENT GARDEN, Nov. 14.

All kinds of produce in season are abundant. Supplies of Pine Apples especially are very heavy; prices are therefore in consequence somewhat lower than those of last week. Imported Grapes are realising from 8d. to 1s. per lb. Of foreign Melons there is a good stock. There is also a good supply of Chaumontel, Glou Morceau, Monsieur le Curé, and Beurré Diel Pears. Some good samples of Ribston Pippin and Cox's Orange Pippin Apples may now be obtained. Kent Cobs are good and plentiful. New St. Michael Oranges realise from 5s. to 10s. per 100. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Calceolarias, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Oranges, per 100, 5s to 10s |
| Grapes, per lb., 2s to 6s | Nuts, small, per bush., 14s to 18s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Kent Cobs, 80s to 90s p. 100 lbs. |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 14s to 20s |
| Lemons, per 100, 5s to 10s | Chesnuts, per bush., 10s to 20s |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 8d |
| ,, Shaws, do., 50s to 60s | Lettuces, each, 1d to 4d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 9d to 1s | Parsley, p. 12 bunches, 2s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatos, each, 2d to 3d | |

### HOPS.—BOROUGH MARKET, FRIDAY, Nov. 13.

Messrs. Pattenden & Smith report a fair amount of business doing in all the better descriptions of both English and foreign at firm prices.

| | | | |
|---|---|---|---|
| Mid and East Kents, p. cwt. | £5 0 | to £7 0 | to £8 0 |
| Weald Kents .. ,, .. | 4 0 | — 5 0 | — 6 6 |
| Sussex .. .. .. .. | 4 0 | — 4 15 | — 5 15 |

### COAL MARKET.—Nov. 11.

Bower's West Hartley, 16s.; Byass's Bebside West Hartley, 16s.; Cowpen Hartley, 15s.; Davison's West Hartley, 16s. 3d.; Holywell Main, 17s. 6d.; Lambert's West Hartley, 15s. 9d.; West Wylam, 16s. 6d.; Wylam, 17s. 6d.; Walls End Riddell, 17s. 6d.; Eden Main, 18s.; Walls End Braddyll's Hetton, 18s. 9d.; Walls End Framwellgate, 17s. 6d.; Walls End Haswell, 20s.; Walls End Hetton, 20s.; Walls End Russel's Hetton, 18s. 9d.; Walls End South Hetton, 20s.; Walls End Tunstall, 17s. 9d.; Walls End Hartlepool, 19s. 6d.; Walls End Heugh Hall, 18s. 6d.; Walls End Kelloe, 18s. 6d.; Walls End South Hartlepool, 18s. 6d.; Walls End South Kelloe, 18s. 6d.; Walls End Trimdon Hartlepool, 19s. 6d.—67 ships at market.

### NEWGATE.—Nov. 13.

Best Fresh Butter .. .. 15*s*. per dozen lbs.
Second do. do. .. .. 13*s*. ,,
Pork, 4*s*. 0*d*. to 4*s*. 4*d*. per 8 lbs.

### METROPOLITAN CATTLE MARKET.

MONDAY, Nov. 9.

The supply of Beasts is considerably larger than on Monday last. The weather being favourable the demand is good, and prices are about the same as on that day. Sheep are also rather more plentiful. Trade is not quite so brisk, but on the average prices are pretty well maintained. The trade for Calves remains unaltered. From Germany and Holland there are 1650 Beasts, 6890 Sheep, and 245 Calves; from Ireland 1400 Beasts; and 3200 from the Northern and Midland Counties.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 | to 5 0 | Best Long-wools | 5 2 | — 5 6 |
| Best Short-horns | 4 6 | — 4 10 | Do. Shorn .. | .. .. | — .. |
| 2d quality Beasts | 3 0 | — 4 0 | Ewes & 2d quality | 4 4 | — 4 10 |
| Best Downs and Half-breds .. | 5 8 | — 5 10 | Do. Shorn .. | .. .. | — .. |
| Do. Shorn .. | .. .. | — .. | Lambs .. | .. .. | — .. |
| | | | Calves .. .. | 3 4 | — 5 0 |
| | | | Pigs .. .. | 3 4 | — 4 8 |

Beasts, 6430; Sheep & Lambs, 22,490; Calves, 250; Pigs, 46.

THURSDAY, Nov. 12.

The supply of Beasts is about the same as on Thursday last. Trade is brisk for choice descriptions, and Monday's quotations are fully maintained for all qualities. The number of Sheep fresh up from our own grazing districts is very small indeed, the much larger proportion being foreign. Best qualities are readily disposed of at late rates. Calves are selling as on Monday. Our foreign supply consists of 540 Beasts, 2980 Sheep, and 260 Calves from Germany and Holland; and 100 Beasts from Spain. Milch Cows, 85.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 | to 5 0 | Best Long-wools | 5 4 | — 5 6 |
| Best Short-horns | 4 6 | — 4 10 | Do. Shorn .. | .. .. | — .. |
| 2d quality Beasts | 3 0 | — 4 0 | Ewes & 2d quality | 4 4 | — 4 10 |
| Best Downs and Half-breds .. | 5 8 | — 5 10 | Do. Shorn .. | .. .. | — .. |
| Do. Shorn .. | .. .. | — .. | Lambs .. | .. .. | — .. |
| | | | Calves .. .. | 3 4 | — 5 0 |
| | | | Pigs .. | 3 4 | — 4 8 |

Beasts, 1465; Sheep & Lambs, 4290; Calves, 310; Pigs, 160.

### MARK LANE.—MONDAY, Nov. 9.

The supply of Wheat from Essex and Kent to this morning's market was small, and met with a quick sale at the extreme rates of last week. Foreign was taken in retail only, but our late quotations were fully supported. Fine Malting Barley was a free sale at previous rates, secondary sorts were neglected, and grinding was 1s. per qr. cheaper. With a short supply of Oats the trade was firm, and fine corn rather dearer. Flour was steady, with a fair demand for good American.

| PER IMPERIAL QUARTER. | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 42—46 | Red ..... | 38—44 |
| — — fine selected runs .. ditto | 44—50 | Red .... | 40—48 |
| — — Talavera .......... | 46—52 | | |
| — Norfolk .......... | — | Red .... | — |
| — Foreign .......... | 36—54 | | |
| BARLEY, grind. & dist., 26s to 28s .. Chev. | 34—38 | Malting .. | 30—33 |
| — Foreign .. grinding and distilling | 23—28 | Malting .. | 30—32 |
| OATS, Essex and Suffolk .......... | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ..........Potato | 19—22 | Feed .... | — |
| — Foreign ......Poland and Brew | 18—22 | Feed .... | 15—20 |
| RYE .......... | 30—32 | Foreign .. | — |
| RYE-MEAL, Foreign .......... | — | | |
| BEANS, Mazagan .... 28s to 36s .. Tick | 30—34 | Harrow .. | 30—34 |
| — Pigeon .... 32s to 40s .. Winds. | — | Longpod | — |
| — Foreign ..........Small | 36—42 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent .. Boilers | 34—36 | Suffolk .. | 34—38 |
| — Maple .... 34s to 36s .... Grey | 31—33 | Foreign .. | 32—40 |
| MAIZE ..........White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 35—40 | | |
| — 2d do ..........ditto | 28—34 | Country .. | 28—34 |
| — Foreign .......... per barrel | 15—24 | Per sack | 33—42 |

FRIDAY, Nov. 13.

Since the 6th instant the weather has continued to be very wet, with heavy gales of wind and white frosts at night, yesterday and to-day fine. Complaints are becoming very general that the Wheat sowing is much interrupted, but the season is not yet late. The Wheat trade for the past week has been inactive throughout the kingdom, but as the supplies were limited and stocks are moderate, extreme prices have been realised for both English and foreign. No alteration of moment has occurred in the value of any description of Spring Corn. Good sweet American Flour is in request, but difficult to be met with. Since Friday last 30 vessels have been reported off the coast. Only very few vessels having arrived off the coast, the floating trade has remained inactive; for Wheat 1s. per qr. higher prices have been obtained. Maize is 3d. per qr. dearer, but Barley has declined 6d. to 1s. per qr. In Paris (Nov. 12), Flour has advanced 1s. per 280 lbs. The six marks for delivery this month are quoted equal to 31s. 3d. per 280 lbs. The present stock is estimated at 9,880 cwt. For Wheat higher prices are asked, but the business is very limited. The arrivals of English grain, foreign Wheat, Oats, and Flour are moderate, of Barley large. To-day's market was very badly attended. English Wheat was in request at the extreme prices of Monday last. Foreign was held very firmly, and in some instances at an advance which caused the sale to be limited. Barley, Beans, and Peas are steady at Monday's quotations. The Oat trade is firm, and in some instances rather more money is obtained.

ARRIVALS THIS WEEK.

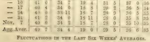
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1470 qrs. | 2880 qrs. | 2810 qrs. | 2060 sk. |
| Irish .... | — | 170 | 1180 | — ,, |
| Foreign .. | 9020 ,, | 6840 | 23,630 ,, | { 100 ,, / 2280 brls. } |

LIVERPOOL, Nov. 10.—Our market has not been numerously attended to-day, and Wheat has had only a moderate consumptive sale at Friday's quotations. Flour meets a fair inquiry, and prices must be noted the turn against buyer. Indian Corn is difficult to move, and sales of quantity are not practicable under a decline of 3d. per qr. Oats and Oatmeal slow at previous rates. Beans being offered more freely have lost the improvement made on Friday last. Peas and Barley remain without alteration. The market closes steady, but quiet.

FRIDAY, Nov. 13.—Market moderately attended. Wheat: strong feeling, and prices fully as dear. Flour: rather more offering, but holders do not give way. Indian Corn; slow sale; mixed, 28s. 3d. to 28s. 6d. Egyptian Beans: Saidi, 30s. on spot and 30s. to arrive. Oats and Oatmeal quiet.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Oct. 3 | 42s 2d | 35s 4d | 19s 8d | 31s 0d | 37s 11d | 36s 7d |
| — 10 | 41 0 | 34 7 | 19 4 | 31 5 | 37 0 | 36 4 |
| — 17 | 40 4 | 34 0 | 18 8 | 29 2 | 36 5 | 34 7 |
| — 24 | 40 0 | 33 11 | 18 7 | 28 9 | 36 5 | 35 8 |
| — 31 | 41 2 | 34 0 | 18 11 | 28 0 | 35 8 | 35 2 |
| Nov. 7 | 40 0 | 34 2 | 18 7 | 28 0 | 35 10 | 35 0 |
| Agg. Aver. | 40 7 | 34 4 | 19 0 | 29 5 | 36 6 | 35 7 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, Nov. 12.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to | 85s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | — | — | Do second cut .. | 87 | 100 |
| Inferior do. .. | 60 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 27 | 33 |
| Rowen .. .. .. | 55 | 70 | HARVEY & EASTON. | | |

CUMBERLAND MARKET, THURSDAY, Nov. 12.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 88s to | 95s | Inferior do. .. | 88s to | 98s |
| Inferior do. .. .. | 70 | 80 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 32 | 36 |
| Superior Clover .. | 108 | 115 | JOSHUA BAKER. | | |

WHITECHAPEL, THURSDAY, Nov. 12.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay .. | 80s to | 86s | Prime 1st cut Clover | 110s to | 115s |
| Inferior do. .. .. | 70 | 80 | Inferior do. do. .. | 100 | 110 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do. .. | 100 | 105 |
| Straw .. .. .. | 26 | 30 | Inferior do. .. .. | 90 | 100 |

PARTNER, with not less than £1000.—He must either understand Growth of Pines, Grapes, and Peaches (as these are grown extensively), or the Seed Trade. The Advertiser being owner of the Concern, this is a rare opportunity. Extent of Ground 17 acres; quantity of wall covered with bearing Peaches; 12 Houses.—O., Post Office, Gloucestershire.

WANTED, as STEWARD or AGENT, to Superintend an Estate of from 2000 to 3000 acres, in one of the Midland Counties; he must well understand Farming in all its branches, and be thoroughly conversant with Tenants' repairs, &c.—Apply, with particulars, to A. A., George Gibbs & Co., Seedsmen, Down Street, Piccadilly, London W.

WANTED, for a Scotch Provincial Nursery, a PROPAGATOR, and to act as FOREMAN during the absence of the Principal. Must be a good general Propagator and well up in Coniferæ, Rhododendrons, Roses, and all new Shrubs.—Apply by letter only, with reference to former engagements, and stating wages, &c. required, to Mr. J. GARLICK, 8, Rougier Street, York.

Seed Trade.

WANTED, as SHOPMAN, an intelligent MAN for the Shop, in a Wholesale and Retail Establishment. Must be a first-class hand.—Address applications, R. M., No. 473, Post Office, Glasgow.

Seed Trade.

WANTED, a SHOPMAN of experience, age from 26 to 30. One having a knowledge of Plants preferred.—Enclose testimonials, and state salary expected to DOWNIE, LAIRD, & LAING, Nurserymen and Seedsmen, Edinburgh.

WANTED, as SECOND SHOPMAN in a Leading Provincial Seed Establishment, a competent person, of good address. One accustomed to take short journeys will be preferred, and a liberal salary paid.—Address, stating Age, Salary, how long and where last employed, Y. Z., care of Hurst & Son, 6, Leadenhall Street, London, E.C.

WANTED, as UNDER SHOPMAN, a clever active Man, of good address and abilities. One accustomed to the Retail Counter Trade preferred.—Address, stating age, salary, and reference, SAMUEL YATES, Seed Merchant, 16, Old Millgate, Manchester.

WANTED, an active, energetic YOUNG MAN, with a knowledge of Propagating, to assist at the Books, Correspondence, Selecting of Plants for Orders, and the general routine of the Nursery business; liberal encouragement will be given to a person desirous of rising in his profession.—Apply, by letter, to JOHN STANDISH, Royal Nursery, Ascot, Berks.

WANTED IMMEDIATELY, a good MARKET GARDENER and WIFE, without incumbrance.—The Gardener must be well up to his work, and have a good reference. The Wife will be required to understand Poultry and Cows; a per centage will be given her on what she produces. House, Firing, Vegetables, and Milk, with a liberal Salary.—Apply to WILLIAM EPPS, JUN., Nursery, Seed, and Fruit Establishment, Hastings.

WANTED, in a quiet family, five miles from London, a single Man, as GROOM and GARDENER; one who has lived with a hunting parson, farmer, or surgeon preferred; no servant from a nobleman's or great squire's establishment will suit. Liberal wages, with Board and Residence on the premises.—Address, with full particulars, to S. S., Agricultural Hall, London, N.

WANTED, a DAIRYMAID who perfectly understands her business, Milking, &c. Not more than 4 or 6 cows. Undeniable character required, and the wages named. Fifteen miles from London.—Apply by letter, to A. B., 5, Milton Street, Dorset Square, London, N.W.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

HEAD and UNDER GARDENERS.—HUGH LOW & Co. have now in their Nursery several Men of excellent abilities and good characters, who are looking for situations in the above-named capacities. Gentlemen in want of Gardeners can have full particulars on application.—Clapton Nursery, London, N.E.

GARDENER (HEAD).—Age 36, married; has a thorough practical knowledge of his profession. Good character.—J. C., J. Carter & Co., Crystal Palace Nursery, Perry Hill, Sydenham.

GARDENER (HEAD) in a nobleman's or gentleman's family.—Middle-aged, married, no incumbrance; has a thorough practical knowledge of his profession in all its branches, including the Forcing of Grapes, Melons, Cucumbers, &c.; also a good Flower and Kitchen Gardener. Can have first-class testimonials, and eight years' excellent character from the gentleman he is about leaving.—J. W., Mr. James Auckland, The Armoury, Forest Hill, Kent.

GARDENER.—A gentleman wishes to recommend a steady, trustworthy, married man, as Gardener; he understands the usual routine of Fruit, Flower, and Kitchen Gardens, also the Management of Cows. Unexceptionable references.—J. G., 318, Strand, W.C.

GARDENER (SECOND, or SINGLE-HANDED).—Single; understands Vinery, Greenhouse, Flower and Kitchen Gardening. Eighteen months good character.—A. B., Post Office, Dulwich, S.

GARDENER (UNDER, or Otherwise), in a gentleman's Establishment.—A strong active Youth.—For particulars, apply to JOHN MOORE, Gardener to T. Lloyd, Esq., M.P., Spark Hill, Birmingham.

NURSERY FOREMAN or GENERAL MANAGER, including new Ground Work, Contracting, Planting, &c. Skilful amongst Roses.—Age 32, single.—R. A., Mr. Allwork, Post Office, Red Hill, Surrey, S.

PROPAGATOR, PLANT GROWER, or FOREMAN, &c.—Age 40; thoroughly experienced in all the requirements of Trade.—ALPHA, 14, North Place, Lyham Road, Brixton Hill, S.

To Nurserymen.

PROPAGATOR, or PROPAGATOR and FOREMAN.—Well acquainted with the Propagation of both Hard and Soft-wooded Plants. Good references as to character.—J. J., 2, Albert Cottages, Queen's Road, Croydon Common.

To Nurserymen.

PROPAGATOR.—A young Man of good experience.—A. B., Mrs. Adams, 6, Fort Street, Spital Square, London, N.E.

YARD MAN or FOREMAN on a Farm, where trust is required.—Married; would make himself useful. Wife to take charge of Dairy and Poultry if required; highest references can be given.—A. H., Post Office, Finchley, N.

FARM BAILIFF.—Married; Wife could undertake the Management of a Dairy and Poultry if required. Highest reference as to character and ability.—J. G., Mr. James, Lickorish Hill, near Stockton, Warwickshire.

FARM BAILIFF or FACTOR.—Married, no incumbrance; by a Scotchman who has a thorough practical knowledge of Farming. First-class references can be given.—J. G., Messrs. Alexander Cross & Sons, Seed Merchants, Glasgow.

BAILIFF, or STOCK KEEPER.—An experienced Man; thoroughly understands all kind of Stock and Farming, &c. Wife an excellent Dairy and Poultry-woman. First-class references.—T. C., Mr. E. Jones, Farmer, Trehelig, near Welsh Pool, Montgomeryshire.

To the Seed Trade.

JUNIOR CLERK.—Age 20; good references.—C. P., Sutton & Sons, Reading.

SHOPMAN.—Age 24, married; has a good knowledge of the Seed Trade; is a good Salesman, and of respectable connections.—Y. Y., *Gardeners' Chronicle* Office, W.C.

To the Seed Trade.

SHOPMAN (UNDER).—Age 19; has had five years' experience in a Country House. Good references.—A. B., Messrs. Tucker Brothers, Seedsmen, Abergavenny.

Sauce.—Lea and Perrins'

WORCESTERSHIRE SAUCE.—This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE,"

Is prepared solely by LEA & PERRINS.

The public are respectfully cautioned against worthless imitations, and should see that LEA & PERRINS' Names are on Wrapper, Label, Bottle, and Stopper.

ASK FOR LEA AND PERRINS' SAUCE.

*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. CROSSE & BLACKWELL; Messrs. BARCLAY & SONS, London, &c.; and by Grocers and Oilmen universally.

FENDERS, STOVES, FIRE-IRONS, and CHIMNEY PIECES.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW-ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 8l. 15s. to 33l. 10s.; Bronzed Fenders, with standards, 7s. to 5l. 12s.; Steel Fenders, 3l. 3s. to 11l.; ditto, with rich ormolu ornaments, from 3l. 3s. to 18l.; Chimney-pieces, from 1l. 8s. to 100l.; Fire Irons, from 2s. 3d. the set to 4l. 4s. The BURTON and all other PATENT STOVES, with radiating hearth-plates.

BEDSTEADS, BATHS, and LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS, devoted exclusively to the SEPARATE DISPLAY of LAMPS, BATHS, and METALLIC BEDSTEADS. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

| | | |
|---|---|---|
| Bedsteads, from .. .. | 12s. 6d. to £20 0s. | each |
| Shower Baths, from .. | 8s. 0d. to £6 0s. | ,, |
| Lamps (Moderateur), from | 6s. 0d. to £8 10s. | ,, |
| (All other kinds at the same rate). | | |
| Pure Colza Oil .. .. .. | 4s. 3d. | per gallon. |

CUTLERY, WARRANTED.—The most varied assortment of TABLE CUTLERY in the world, all warranted, is on sale at WILLIAM S. BURTON'S, at prices that are remunerative only because of the largeness of the sales.

| Ivory Handles. | Table Knives, per dozen. | Dessert Knives, per dozen. | Carvers, per pair. |
|---|---|---|---|
| 3½-inch ivory handles .. .. .. .. | 12s. 6d | 10s. 0d | 4s. 3d |
| 3½-inch fine ivory handles .. .. .. | 15 0 | 11 6 | 4 3 |
| 4-inch ivory balance handles .. .. | 18 0 | 14 0 | 4 9 |
| 4-inch fine ivory handles .. .. .. | 24 0 | 18 0 | 7 3 |
| 4-inch finest African ivory handles .. | 32 0 | 26 0 | 11 0 |
| Ditto, with silver ferules .. .. .. | 40 0 | 33 0 | 12 6 |
| Ditto, carved handles, silver ferules .. | 50 0 | 43 0 | 17 6 |
| Nickel electro-silver handles, any pattern | 25 0 | 19 0 | 7 6 |
| Silver handles of any pattern .. .. | 84 0 | 54 0 | 21 0 |
| Bone and Horn Handles.—Knives and Forks per dozen. | | | |
| White bone handles .. .. .. .. | 11s. 0d | 8s. 6d | 2s. 6d |
| Ditto balance handles .. .. .. | 21 0 | 17 0 | 4 6 |
| Black horn, rimmed shoulders .. .. | 17 0 | 14 0 | 4 0 |
| Ditto very strong riveted handles .. .. | 12 0 | 9 0 | 3 0 |

The largest stock in existence of Plated Dessert Knives and Forks, in cases and otherwise, and of the new Plated Fish Carvers.

WILLIAM S. BURTON, GENERAL FURNISHING IRONMONGER by appointment to H.R.H. the Prince of Wales, sends a CATALOGUE gratis and post paid. It contains upwards of 600 Illustrations of his illimited Stock of Sterling Silver and Electro-Plate, Nickel Silver and Britannia Metal Goods, Dish-Covers, Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea-Trays, Urns and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Room Cabinet Furniture, &c., with Lists of Prices, and Plans of the 20 large Show Rooms, at 39 Oxford Street, W.; 1, 1A, 2, 3, and 4, Newman Street; 4, 5, and 6, Perry's Place; and 1 Newman Yard, London.

METCALFE, BINGLEY, AND CO'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. METCALFE'S celebrated Alkaline Tooth Powder. 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each 130 B, and 131, Oxford Street, W.

CAPTAIN WHITE'S ORIENTAL PICKLE, CURRY or MULLIGATAWNY PASTE, CURRY POWDER and CURRY SAUCE, may be obtained from all Sauce Vendors, and Wholesale of

CROSSE & BLACKWELL, Purveyors to the Queen, Soho Square, London, W.C.

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for Acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild Aperient for delicate constitutions, more especially for ladies and children. It is prepared in a state of perfect purity and of uniform strength by

DINNEFORD & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

KEATING'S PERSIAN INSECT DESTROYING POWDER.—Fleas in Dogs, Poultry, &c., are instantly destroyed, as also Bugs, Beetles, and every other Insect, by this Powder, which is perfectly harmless to animal life; Sportsmen particularly will therefore find it invaluable.

Sold in Packets, 1s., 2s. 6d., and 4s. 6d. each, or post free for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice, each genuine packet bears the above name and address.

For which a Prize Medal was awarded to the Producer at the International Exhibition, 1862.

CORNS and BUNIONS.—A Gentleman, many years tormented with Corns, will be happy to afford others the information by which he obtained their complete removal in a short period, without pain or any inconvenience.

Forward address, on a stamped envelope, to W. GOODALL, Esq., Epsom, Surrey.

CONSUMPTION and all Nervous, Bilious, Liver and Stomach Complaints are only aggravated and accelerated by drugs of every description, but perfectly curable by DU BARRY'S health-restoring

REVALENTA ARABICA FOOD,

As proved by thousands of cases which had been considered hopeless. We quote a few.—Cure No. 46,270. Mr. James Roberts, of Frimley, Surrey, of 30 years' diseased lungs, spitting of blood, liver derangement, and partial deafness.—Cure No. 47,121. Miss Elizabeth Jacobs, of extreme nervousness, indigestion, gatherings, low spirits, and nervous fancies.—Cure No. 54,816. The Rev. James T. Campbell, Fakenham, Norfolk, "of indigestion and torpidity of the liver, which had resisted all medical treatment."—In tins 1 lb., 2s. 9d.; 2 lb., 4s. 6d.; 5 lb., 11s.; 12 lb., 22s.; 24 lb., 40s.

BARRY DU BARRY & Co., No. 77, Regent Street, London, W.; also at 61, Gracechurch Street, E.C.; 4, Cheapside, E.C.; 63 and 150, Oxford Street, W.; and all Grocers and Chemists in every town of the United Kingdom.

The Gardeners' Chronicle Newspaper.

*SATURDAY, NOVEMBER* 21, 1863.

NORWICH UNION LIFE INSURANCE SOCIETY.

Instituted 1808, upon the Principle of Mutual Assurance.

This Society affords unusual advantages to the intending Assurer. The Rates of Premium are 10 per cent. less than those of most offices. The whole of the Profits belong to the Assured. One-half of the first five Annual Premiums may remain as a permanent charge upon Policies effected for the whole duration of life.

PRESENT POSITION OF THE SOCIETY.

The Accumulations exceed .. .. £2,000,000 0 0
The amount Assured is upwards of .. 5,570,465 0 0
Annual Increase .. .. .. .. 254,712 13 2

£6,326,413 have been paid to the representatives of deceased members.

For further information and Prospectus apply at the Society's Office, Surrey Street, Norwich; Crescent, New Bridge Street, Blackfriars, E.C.

To Seed Merchants and Nurserymen.

SAYNOR AND COOKE, PRUNING and BUDDING KNIFE MANUFACTURERS, beg respectfully to say that they WILL NOT BE UNDERSOLD by any House in the Trade. They also warrant one of their Knives to last two of any other make. Paxton Works, Sheffield.

Universal Microscope. Price £5 5s.

SMITH, BECK, AND BECK, 31, Cornhill, E.C.; late 6, Coleman Street.
*** Catalogues sent on receipt of 6 postage stamps.

CHUBB'S PATENT SAFES, the most secure against Fire and Thieves.
CHUBB'S FIRE-PROOF STRONG ROOM DOORS. CHUBB'S PATENT DETECTOR LOCKS and STREET DOOR LATCHES; CHUBB'S CASH and DEED BOXES.
Illustrated Price List gratis and post free.
CHUBB & SON, 57, St. Paul's Churchyard, London, E.C.

FENDERS, STOVES, FIRE-IRONS, and CHIMNEY PIECES.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW-ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES CHIMNEY-PIECES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; Steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire Irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The BURTON and all other PATENT STOVES, with radiating hearth-plates.

BEDSTEADS, BATHS, and LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS, devoted exclusively to the SEPARATE DISPLAY of LAMPS, BATHS, and METALLIC BEDSTEADS. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

Bedsteads, from .. .. 12*s.* 6*d.* to £20 0*s.* each
Shower Baths, from .. 8*s.* 0*d.* to £6 0*s.* ,,
Lamps (Moderateur), from 6*s.* 0*d.* to £8 10*s.* ,,
(All other kinds at the same rate).
Pure Colza Oil .. .. .. 4*s.* 3*d.* per gallon.

CUTLERY, WARRANTED.—The most varied assortment of TABLE CUTLERY in the world, all warranted, is on sale at WILLIAM S. BURTON'S, at prices that are remunerative only because of the largeness of the sales.

| Ivory Handles. | Table Knives, per dozen. | Dessert Knives, per dozen. | Carvers, per pair. |
|---|---|---|---|
| 3½-inch ivory handles.. .. .. .. | 12*s.* 6*d* | 10*s.* 0*d* | 4*s* 3*d* |
| 3½-inch fine ivory handles .. .. .. | 15 0 | 11 6 | 4 3 |
| 4-inch ivory balance handles .. .. | 18 0 | 14 0 | 4 9 |
| 4-inch fine ivory handles .. .. .. | 24 0 | 18 0 | 7 3 |
| 4-inch finest African ivory handles .. | 32 0 | 26 0 | 11 0 |
| Ditto, with silver ferules .. .. .. | 40 0 | 33 0 | 12 6 |
| Ditto, carved handles, silver ferules .. | 50 0 | 43 0 | 17 6 |
| Nickel electro-silver handles, any pattern | 25 0 | 19 0 | 7 6 |
| Silver handles of any pattern .. .. | 64 0 | 54 0 | 21 0 |
| Bone and Horn Handles.—Knives and Forks per dozen. | | | |
| White bone handles .. .. .. .. | 11*s.* 0*d* | 8*s.* 6*d* | 2*s.* 6*d* |
| Ditto balance handles .. .. .. | 21 0 | 17 0 | 4 6 |
| Black horn, rimmed shoulders .. .. | 17 0 | 14 0 | 4 0 |
| Ditto very strong riveted handles .. .. | 12 0 | 9 0 | 3 0 |

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# News of the Week.

THE KING OF DENMARK died on Sunday afternoon from an attack of erysipelas, after an illness of three days. As HIS MAJESTY has died without issue, the direct male line of FREDERICK III. has become extinct, and the succession has devolved on a collateral branch represented by Prince CHRISTIAN of GLUCKSBURG, the father of the Princess of WALES and the KING OF GREECE. This Glucksburg branch is junior to that represented by the Duke of AUGUSTENBURG, but as the latter took part in the insurrection of 1848, his estates, instead of being confiscated, were purchased by the late KING, on receiving from the Duke, in his own name and in that of his family, a renunciation of his rights, and a distinct pledge that he would in no way contest the settlement of the succession which the KING was about to propose to the European Powers. In accordance with these arrangements a treaty was signed in London in May, 1852, between France, England, Austria, Prussia, Russia, Sweden, Norway, and Denmark, by which the succession to the Crown of Denmark and the Duchy of Holstein was unconditionally settled on Prince CHRISTIAN of GLUCKSBURG, and on the issue of his marriage with the Princess LOUISA, daughter of the Landgravine of HESSE, who represented in her own person the female line of the Royal house of Denmark. This Treaty was confirmed by the Danish Law of Succession in the following year, and, on the invitation of the Great Powers, was accepted by Hanover, Saxony, Wurtemburg, Electoral Hesse, and Oldenburg. The only States which declined the invitation to accede to the Treaty were Bavaria, Baden, Saxe-Weimar, Hesse-Darmstadt, and Mecklenburg. The adherence of the smaller German States was not thought necessary or desired. For the last 10 years therefore Prince CHRISTIAN has been regarded as the heir apparent to the Danish throne, and was accordingly proclaimed King on Monday last at Copenhagen amid the acclamations of the people. His first act on ascending the throne was to sanction the common Constitution for Denmark and Schleswig, which had passed the Rigsraad a few days before the death of the late KING, but had not been confirmed by him. Meanwhile the Hereditary Prince FREDERICK of AUGUSTENBURG, in spite of his father's renunciation, has proclaimed himself Duke of Schleswig-Holstein, and has proceeded to Berlin to obtain a recognition of his claim from the Prussian Government. The Grand Duke of SAXE-COBURG GOTHA, the Duke of SAXE-WEIMAR, and the Duke of SAXE-MEININGEN have already pronounced in his favour, on the ground that the Treaty of 1852 was never assented to by the German Diet or by the States of Holstein, and that Denmark has not fulfilled her obligations to the Duchies. The avowed object of Germany is to dismember Denmark by detaching both Schleswig and Holstein from her, and erecting them into a German Principality. If Prussia and Austria, in spite of the Treaty to which they were parties, should give their sanction to this movement, a war between Germany and Denmark will be inevitable.

A despatch from Vienna announces that Austria and Prussia, following the example of England, have given a conditional assent to the proposed Congress of Paris.

The Treaty for the cession of the Ionian Islands to Greece was signed in London on Saturday by Austria, England, France, Prussia, and Russia, and the necessary formalities of transfer only remain to be carried out. The Treaty stipulates that the fortifications of Corfu shall be dismantled, and that no military force beyond that required for purposes of police shall be stationed in the islands.

The report of the Royal ordinance on the press was read in the Prussian Chamber of Deputies on Wednesday. Two of the leading members of the Liberal party immediately moved that the Chamber should refuse its sanction to the ordinance as contrary to the constitution, and unnecessary for

the public safety. On Thursday this motion was carried by a large majority. In the Upper House the address in answer to the King's Speech was carried by 72 to 8.

Accounts from New York inform us that General Meade has again crossed the Rappahannock with his whole army, and that General Lee's force is said to be diminished to 30,000 men. The latest telegram from Chattanooga states that the Confederates still occupied Lookout Mountains on the 3d inst., and were shelling Hooker's forces from that position. The reported capture of Fort Sumter is not confirmed, and the bombardment still continued on the 5th inst. The Democrats have carried the election in New Jersey.

By the telegraph from Suez we have accounts from Shanghai to the 7th October. Major Gordon was then before Soochow, and an attack on that city was imminent. The news from Japan was unfavourable. Armed men were appearing at Nagasaki, and Prince Satsuma and other princes were preparing for war.

## Home News.

The Court.—The Queen and Royal family continue at Windsor Castle. On Friday morning the Queen, accompanied by the Crown Princess, walked and drove in the grounds. In the evening Princess Louisa and Prince Leopold came to London, and attended the performance at the Haymarket Theatre. On Saturday morning the Queen, accompanied by the Crown Princess, drove in the grounds. The Duke of Cambridge, and Viscount and Viscountess Sydney arrived on a visit. In the evening the Queen had a dinner party. Sir Charles Wood arrived at the Castle, and had an audience of the Queen. On Sunday morning the Queen, the Crown Princess, Princess Helena, Princess Louisa, and Princess Hohenlohe, attended Divine Service in the Private Chapel. The Dean of Windsor officiated. On Monday morning the Queen, accompanied by the Princess Beatrice, drove out in a carriage and four. The Marquis of Normanby had an audience of the Queen, and delivered the Insignia of the Order of the Garter worn by his late father. The Crown Princess came to London and returned in the evening, accompanied by the Crown Prince of Prussia, who arrived during the day from Germany. On Tuesday morning the Queen, accompanied by the Princess Louisa, drove in the grounds. In the afternoon the Queen held a Privy Council, at which Parliament was ordered to be further prorogued from Tuesday, the 1st of December. Earl Granville and Lord Palmerston had audiences of the Queen. On Wednesday morning the Queen, accompanied by the Crown Princess, drove in the grounds. Princess Helena and Princess Louisa went to Oxford and returned in the afternoon. Prince Leopold took a carriage drive. Count and Countess Bernstorff and the Duke of Newcastle arrived on a visit. The Duke of Newcastle had an audience of the Queen. In the evening the Queen had a dinner party. On Thursday morning the Queen, accompanied by the Crown Prince and Princess of Prussia and Princess Charlotte, drove out in a carriage and four. The Crown Prince of Denmark visited her Majesty. The Duke of Newcastle left the Castle for London.

The Prince and Princess of Wales at Sandringham.—On Friday the Prince and Princess walked in the grounds. On Saturday their Royal Highnesses drove to Westacre, where the Prince joined the West Norfolk hounds for a day's hunting, the Princess, who drove a pair of greys, following to Narford Hall. Their Royal Highnesses returned to Sandringham in the evening. On Sunday the Prince and Princess drove to Castle Rising, and attended Divine service at the parish church. The Rev. C. W. Bagot, rector of the parish, officiated and preached the sermon. On Monday the Prince went out shooting with Lord Alfred Hervey over the Rising Estate. On Tuesday his Royal Highness honoured Mr. Villebois, of Marham House, with a visit, driving over in the morning and spending the day shooting. On Wednesday the Prince went out shooting in the Wolferton wood. In the afternoon the Princess drove out. The flags on the estate have been hoisted half-mast high during the week, in consequence of the death of the King of Denmark.

The Crown Prince of Prussia landed at Dover on Monday afternoon, and travelled by the Mail train of the South Eastern Railway to London. The Crown Princess met his Royal Highness at London Bridge Station, and accompanied him to Windsor.

Prince Alfred, accompanied by Prince William of Hesse, left Holyrood Palace on Saturday morning for Dalkeith House, on a visit to the Duke and Duchess of Buccleuch. On Sunday their Royal Highnesses attended Divine Service in the west parish church of Dalkeith in the forenoon and at St. Mary's Episcopal Church in the afternoon. On Monday they returned to Edinburgh. On Tuesday, their Royal Highnesses having been duly introduced by the Lord Justice-General, took their seats as members of the Speculative Society of Edinburgh.

The Cabinet.—A Cabinet Council was held on Monday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Thursday. Another is summoned for Monday.

Parliamentary Movements.—The election for Andover terminated on Wednesday in the return of Mr. Humphrey, the Conservative candidate, by a majority of [illegible] over Mr. Hawkshaw, the numbers being [illegible] to 83. Mr. Robert Bateson Harvey, of Langley Park, brother-in-law to the Duke of Buckingham, is the Conservative candidate for Buckinghamshire, vacant by the accession of the Hon. W. G. Cavendish to the peerage.

Order of the Star of India.—The Queen has nominated and appointed His Highness Sreemund Rajahye, Hindostan Raj-Rajender Sree Maharajah Dheerej Sewaee Ram Sing, Maharaja of Jeypore, and his Highness Furzund Dilband Russikh [illegible] Dowlut-i-Englishia Rajah [illegible] Sing, Bahadoor of Pattiala, to be Knights of the Star of India.

The Army.—The Regiment of which General Bell is appointed Colonel in the room of Sir Patrick Grant, is not the 10th as stated last week, but the 104th.

The Court-Martial on Lieut.-Colonel Crawley.—The General Court-Martial for the trial of Lieut.-Colonel Crawley, of the 6th Inniskilling Dragoons, met on Tuesday at the Club House, Aldershott. Lieut.-General Sir G. A. Wetherall, K.C.B., presided, and the other members of the Court were,—Major-General Lawrenson, Major-General Russell, Major-General Rumley, Major-General Hodge; Colonel [illegible], Royal Artillery; Colonel Wardlaw, 1st Dragoons; Colonel the Hon. G. T. [illegible], Royal Horse Artillery; Colonel [illegible], 12th Lancers; Lieut.-Colonel Sawyer, 6th Dragoon Guards; Lieut.-Col. Ladder, 40th Regiment; Lieut.-Colonel Sargent, 3d Regiment; Lieut.-Colonel Jenyns, 13th Hussars; Lieut.-Colonel Jones, 73d Regiment; and Lieut.-Colonel Gray, 97th Regiment. Sir A. Horsford, K.C.B., acted as the official prosecutor. Col. Crawley was assisted by Mr. Vernon Harcourt and Mr. Walker, of the Chancery Bar, and Mr. Godson, solicitor. The proceedings having been thus opened in form, the official correspondence and warrant authorising the holding of the court-martial were first read, after which Colonel Crawley was asked whether he had any objection to be tried by the President, or any of the members of the Court. The reply being in the negative, the President, members of the court-martial, and officiating Judge-Advocate were all duly sworn, and Colonel Crawley was arraigned upon the following charges:—

"1. For conduct unbecoming an officer, and to the prejudice of good order and military discipline, in having at Mhow during the month of May, 1862, when the Regimental Sergeant-Major Lilley was confined in close arrest, caused the orders under which he was so confined to be carried into effect with unnecessary and undue severity, whereby the said Regimental Sergeant-Major Lilley and his wife were subjected to great and grievous hardships and sufferings. 2. For conduct unbecoming an officer and a gentleman, and to the prejudice of good order and military discipline, in having at Mhow, on or about the [illegible] day of July, 1862, in the course of an official letter [illegible] to the General [illegible] which was then being held for the trial of Paymaster [illegible], [illegible] Inniskilling Dragoons, expressed himself in the following language, or in words to the like effect:—'Close arrest necessarily involves a sentry over a prisoner, but it does not necessarily [illegible] his being placed over a prisoner's wife or family, and I can assure the Court that no person could be more [illegible] than I was when I learned from the evidence of Sergeant-Major Lilley that his wife had been inconvenienced or annoyed by the precaution taken for his safe custody. It was Lieutenant and Adjutant Fitzsimon's fault if any such thing occurred, for it was his duty as adjutant to have seen the post assigned to the sentry, and to have taken care that no such improper interference with the privacy of the sergeant-major's wife should have taken place. As it was [illegible] with the statement of Sergeant-Major Lilley, [illegible] to have the sentry removed to a post where he could perform his duty equally well without annoying or interfering with Mrs. Lilley.' Thereby representing that the said Lieutenant and Adjutant Fitzsimon was in fault for what had occurred, whereas in truth and in fact the said Lieutenant-Colonel Crawley then well knew that the said Lieutenant and Adjutant Fitzsimon had acted in the said matter by the express order and direction of the said Lieutenant-Colonel Crawley."

When he was called upon to plead, Colonel Crawley objected that the charges were vague, but his objection was overruled; he therefore pleaded Not Guilty. The case was then opened by the acting Judge-Advocate, and Lieut. and Adjutant Fitzsimon, Major Champion, Private Blake, and Sergeant Mails were examined with regard to the placing of a sentry inside Sergeant-Major Lilley's hut. On Wednesday, after some documentary evidence had been produced, Major Champion was cross-examined. He stated that the different residences occupied by Sergeant-Major Lilley were not unfit for human habitation, but were more comfortable than the houses usually allotted to men of his rank. He further stated, that when Lilley's first rooms were wanted to be pulled down, Colonel Crawley made application for a more comfortable place for him. On Thursday the sitting was almost wholly occupied with the cross-examination of Lieutenant and Adjutant Fitzsimon, to whom Colonel Crawley attributed the placing of the sentries inside the sergeant-major's rooms. The cross-examination chiefly referred to the state of feeling in the regiment at the time of the Mhow court-martial, and the comments made by the authorities on the witness's evidence on that occasion. Yesterday the cross-examination of Adjutant Fitzsimon was resumed, and occupied the whole sitting.

## Foreign.

France.—The Emperor presided at a Council of Ministers at the Tuileries on Wednesday, and returned to Compiègne in the evening. In the Senate on Thursday Count Walewski, M. Casabianca, M. Boger, M. Thouvenel, M. [illegible], and M. Bonjean were appointed members of the committee to prepare the Address in reply to the Emperor's Speech. In the sitting of the Corps Législatif on Monday, M. de Morny complained of the irreverent comments upon the debates in the Chamber on the part of the Journal des Débats, and said, "Having discussed the matter with the Minister of the Interior, I am resolved, upon a recurrence of the circumstance, to apply the law prohibiting the arraignment of public writers at the bar of the Chamber." The chief topics of discussion in the Chamber during the week have been the reports of the committees appointed to verify various elections, the validity of which was contested by the Opposition on various grounds. Several of these elections have been confirmed and others have been annulled by the Chamber. In one of the debates concerning the part taken by the Government in the election in question, M. Thiers addressed the House for the first time, and excited great laughter by saying that he had obtained an admission from the Government of all that he wanted—namely, that the course of justice had been suspended by the act of the Procureur du Roi. He immediately corrected himself by exclaiming amidst renewed laughter, "I beg pardon, I should have said the Procureur Impérial. I shall soon get into right habits." La France believes itself able to state that several European Sovereigns have officially announced their acceptance of the Congress, and that no refusal has yet been received. The same paper and the Temps state that Lord Cowley on Wednesday delivered to the Emperor the reply of England, accepting the invitation, but declaring the necessity of previous negotiations. It is understood in Paris that the Courts of London, Vienna, and Berlin, have agreed to accept the proposal of a Congress, on the understanding that the Ministers of the great Powers will confine themselves to the consideration of questions at present pending; that none but States concerned in the entire execution of the programme will have a seat and vote at the Congress; and that positive guarantees for the thorough carrying out of the programme will be given. La Nation thinks itself in a position to affirm that of the great Powers Prussia has raised the least objection to the proposal. The Mémorial Diplomatique states that after the Council of English Ministers which took place on the 12th inst., Earl Russell authorised the British Ambassador at Paris to declare to the French Government that Great Britain desired nothing better than to co-operate in the work undertaken by Napoleon III., of ensuring European order and consolidating the peace of the world; but, in order that their common efforts might be crowned with success, it appeared indispensable to the Ministers of her Majesty Queen Victoria that the Cabinets of England and France should enter into a preliminary exchange of frank and cordial explanations respecting the object of the Imperial programme and the means of attaining it. The Pays, in an article concerning the objections raised by the English papers, says that it must be borne in mind that in 1856 the Earl of Clarendon was the first to propose a similar resolution. The Temps publishes a rumour, under reserve, that the Emperor has requested King Leopold of Belgium to draw up the programme of the Congress. The official yellow book which has just been issued contains 65 documents; 36 relate to Poland, 12 to America, 3 to Mexico, and 9 to Greece, but there are no documents relating to Italy or to the candidature of Prince Alfred for Greece, or to that of the Archduke Maximilian for Mexico. The remaining five documents relate to commercial subjects. In the last note on the Polish question, dated the 22d September, M. Drouyn de Lhuys deplores the fact that three Powers like England, Austria, and France should not have succeeded in giving to the steps they took all the efficacy desirable, and says:—"It did not rest with us that the irresistible authority of a collective resolution was not secured to their opinion." Among the documents referring to American affairs is a despatch of M. Drouyn de Lhuys of the 12th September, relating to a conversation with Mr. Dayton, in which the latter contradicted the rumours in circulation respecting a protest of the Federal Government against the events taking place in Mexico. Mr. Dayton also denied the truth of the assertions relative to an alleged Russo-American alliance. M. Drouyn de Lhuys, in his despatch, says:—"I declared to Mr. Dayton that the disposition of the Emperor's Government on the American question has not changed. We have not recognised the South, and therefore, à fortiori, have not signed any treaty with it for the cession of Texas and Louisiana. I repeated to Mr. Dayton that we sought neither for ourselves nor others any acquisition in America, and that I relied upon his assistance in causing the prevalence in America of a juster appreciation of our institutions and of the necessities to which our policy deferred." Relative to Mexico M. Drouyn de Lhuys announces, in a note dated 15th October, that General Bazaine possessed instructions enabling him to definitively fix the

indemnity which Mexico owes to France, and that he will do so without delay.

SPAIN.—The Queen has replied to the Emperor Napoleon's letter by entirely accepting the proposal for a Congress. In the Senate on Wednesday the Marquis of Miraflores stated that the Queen's letter to the Emperor would shortly be laid on the table of the House. The *Novedades* doubts whether the Congress will meet with success, as a good understanding with reactionary Governments is impossible. A marriage is spoken of between the Infanta Isabella and the Count of Paris. The Annamite Embassy was expected to arrive at Madrid on Saturday evening. In consequence of the unsatisfactory news from San Domingo, two steamers have left Cadiz for Porto Rico with 1800 troops. The Government is determined to uphold the rule of Spain in that island.

PORTUGAL.—The Emperor Napoleon's invitation to the King of Portugal to take part in the Paris Congress was considered in Cabinet Council on Monday, and conditionally accepted. Senhor Antonio José de Avila has been appointed to attend the Congress as the King's delegate. The King and Queen, accompanied by a numerous suite, left Lisbon on Wednesday for Oporto by land. Their Majesties intend to make a short tour in the north. The orange trees this year have been considerably affected by disease.

MADEIRA.—The vines have been more fruitful than for many years. Several pipes of wine have been already made.

SAXONY.—The Saxon Diet was opened on the 9th inst. by the King in person. His Majesty in his speech announced an augmentation in the rate of payment of public functionaries, and a reduction of certain taxes. He expected that the approaching conference at Berlin would result in an universal understanding of the German Sovereigns on the commercial treaty with France and the maintenance of the Zollverein. In conclusion, he expressed a hope that the aims of the German Reform Act would be attained through negotiations on the basis already gained. The King further promised that Federal execution in Holstein should be carried out.

BELGIUM.—The project of marriage between the Count of Flanders and a Brazilian Princess is understood to have fallen through, in consequence of the Count's disinclination to exchange his pleasant bachelor life in Europe for a residence in the Brazils, with the prospect of hereafter finding himself the consort of an empress. King Leopold is said to have been very desirous for the match, but found it impossible to overcome his son's resistance.

SWITZERLAND.—At the election for the Council of State the list of candidates of the Radical party was chosen, with the exception of M. Fazy. The Juarez Government has addressed a Note to the Federal Council, protesting against any modification of the Republican constitution in Mexico by the French invasion, and hoping for the sympathy of Switzerland.

SWEDEN.—Advices from Stockholm state that the Committee on the National Debt has resolved to postpone contracting a new loan until further proposals are received, more particularly from abroad.

DENMARK.—The King was attacked by erysipelas on Friday. On Saturday the disease spread over the King's whole face, with increasing fever and continued slight delirium, and His Majesty died at half-past 2 o'clock on Sunday afternoon. The King has been succeeded by Prince Christian, father of the Princess of Wales, the Crown having been settled upon him by the Treaty of May, 1852, to which England, Austria, Russia, Prussia, France, Sweden, Norway, and Denmark were parties, and also by the Law of Succession of 1853. On Monday M. Hall, President of the Council of Ministers, proclaimed Prince Christian as King of Denmark, under the title of King Christian IX., from the balcony of the Palace of Christiansburg. On the appearance of the new King on the balcony an immense crowd assembled before the palace, gave enthusiastic cheers for "Denmark and Schleswig!" "The new Constitution for the whole Monarchy!" "The new Danish Constitution!" and "The Hall Ministry!" On Tuesday the whole Municipality of Copenhagen presented an address to King Christian, expressing grief at the death of his predecessor, and congratulating his Majesty on his accession to the throne. In this address the Municipality expressed the hope that his Majesty would follow the course pursued by his predecessor, and said:—

"The present danger can only be met by harmony between the King and the people. The Municipality begs the King to complete the Act interrupted by the death of the late King, and to sign the constitution which was voted by the Council of the Empire. The liberty and independence of Denmark can only be insured by this course. The King is also solicited to make choice of advisers who, like the present tried Ministers, the advisers of the late King, possess the confidence of the people."

In reply, his Majesty graciously requested time to consider, and said that as a constitutional King, his resolution must be strongly influenced by the views of the Council of State and public opinion. On the reply of the King being known the people shouted "Long live the Municipality, the Constitution, and the Ministry!" On Wednesday the King sanctioned the new common Constitution for Denmark and Schleswig which had been adopted by the Rigsraad on Friday evening, two days before the late King's death. The President of the Council communicated the measure in person to the assembled Rigsraad. The galleries were crowded with spectators, who cheered loudly for the King. The Rigsraad on Thursday proceeded in a body to congratulate his Majesty. General exultation prevails throughout the city.

THE DANISH DUCHIES.—A proclamation issued by the hereditary Prince Frederic of Augustenburg was published on Wednesday. The document is dated Dolzig, Nov. 16, signed "Frederic, Duke of Schleswig-Holstein," and announces the Prince's intention of assuming the Government of those duchies. It says:—

"By virtue of the decree of renunciation executed by my father in my favour, I declare that I assume the government of the Duchies. Unquestioned right afforded a pretext for the [illegible] upon you, as the Danish King was at the same time your Duke. Henceforth, however, the rule of the Danish monarch would be usurpation. I [illegible] upon you to repel force by force. Your country is occupied by foreign troops, and you possess no arms. It is [illegible] upon me, therefore, to appeal to the Government of the Federation for protection of my sovereign rights and your [illegible] privileges."

Addressing himself next to the inhabitants of the duchy of Lauenburg, and announcing his accession to the government, the Prince explains the grounds upon which his claim is founded and promises to preserve their rights and liberties. In conclusion, he promises to govern the duchies of Schleswig and Holstein in accordance with the constitution and fundamental laws of the country, and to uphold the rights of the people.

The leaders of the extreme party of the Holstein Diet convened a meeting at Kiel for Thursday to discuss the situation of the country, but the meeting was forbidden by the Government, on account of its being meant as a hostile demonstration to the King's succession. It was thereupon determined to hold the meeting at Hamburg, and numerous inhabitants of Schleswig and Holstein went to that city for the purpose. They were, however, dispersed by the police in three different places, and finally proceeded to the village of Uhlenhorst, where the meeting took place. An Address was voted to the Prince of Augustenburg, requesting him to place himself at the head of the people. It is asserted that the members of the Holstein Diet met at an hotel in Hamburgh on Thursday night. Twenty-four members of the Holstein Diet unanimously resolved on Thursday to solicit the Federal Diet for the most speedy protection of the rights of the country. This request has already been sent to the Federal Diet. The other members of the Holstein Diet who were not present at the meeting, on account of its having been prohibited by the police, have been asked to sign this address. The Duke of Saxe-Coburg Gotha has recognised the Prince of Augustenburg as Duke of Schleswig-Holstein, and has informed the representative of Holstein at the Federal Diet that any other pretension to the succession to the duchies would be met by a proposition to the Federal Diet requesting it to protect the right of this legitimate Prince by the necessary means, and, in case of need, to establish it by force. It is asserted that the Grand Duke of Weimar and the Duke of Saxe-Meiningen have also recognised the Prince, and that the Grand Duke of Baden has authorised his delegate to the Diet to represent Prince Frederic in that Assembly, in right of his vote for the Holstein territory.

FRANKFORT.—At an extraordinary sitting of the Federal Diet on Saturday, the Danish representative brought forward a proposition of a conciliatory character, according to which the King would grant to the Holstein Estates the additional right of voting the normal Budget. This proposition was referred to the United Committees.

PRUSSIA.—In the sitting of the Chamber of Deputies on Wednesday the report of the Royal ordinance on the press of the 1st of June was read. MM. Simson and Gneist proposed that the Chamber should first refuse to sanction this ordinance, on the ground of Article 63 of the Constitution; and second, on the ground of Article 103, declare that the ordinance on the press was neither necessary for the maintenance of public safety nor for averting unusual difficulties. No limitation of the liberty of the press could be effected by a Royal ordinance, and the decree of the 1st of June was, even according to the terms in which it was conceived, contrary to the Constitution. On Thursday the propositions of Herren Simson and Gneist were discussed and carried by a large majority. The Polish members proposed that the inquiry instituted concerning three Polish deputies should be dropped. This proposal was referred to the Committee on Judicial Affairs. In the Upper House on Thursday the debate upon the draught of the Address in reply to the King's Speech was continued. The Committee on the Address proposed that the Chamber should not introduce the Holstein question into the deliberations, on account of the obscurity by which it is still surrounded. Count Bninski protested against the paragraph expressing gratitude to the Government for the measures adopted against the spread of the insurrection in Poland, and maintained that the insurrection had only for its object the liberation of Poland from Russian rule. Count von Bismarck Schonhausen, in reply, said:—

"Count Bninski may believe what he says. The Government, however, was obliged to judge in accordance with facts. The Government has proofs in hand that the insurrection was not directed alone against Russia. Government has, however, a political, social, and moral interest in the movement in Russian Poland not being victorious. An independent Poland would always be a source of danger for the Prussian monarchy, and would occupy the greater portion of the army. We must not allow a movement to be successful which soils itself with unheard of crimes, and which delights in the apotheosis of assassination."

The address was then put to the vote, and agreed to by 72 to 8. The Hereditary Prince Frederic, Duke of Augustenburg, arrived at Berlin early on Wednesday morning. His Highness had an interview with the Minister President, Count von Bismark Schönhausen. The Prussian fleet, which arrived at Plymouth a few days since on a cruise to Madeira, has been suddenly recalled, and the *Neue Preussische* (Kreuz) *Zeitung* of Wednesday evening says:—

"It is asserted on good authority that the Ministries for Marine and War are actively engaged in making preparations for hostilities, the outbreak of which between Germany and Denmark appears now to be unavoidable. The 6th and 13th divisions of the army are said to have already received orders to be placed on a war footing. It is said that corresponding directions for the equipment and commissioning of a war fleet have likewise been given."

The semi-official *Nord Deutsche Zeitung* says:—

"By the accession of the new King to the Danish throne the Schleswig-Holstein question has assumed an international character. All agree upon the validity of the London protocol. It is doubtful whether the German Confederation will acknowledge the Prince named by the protocol as the Duke of Schleswig-Holstein. The Federal Diet is by no means bound by the law of nations to this course, as it has not acceded to the London protocol. Neither are the Duchies bound to his recognition, as the Estates have not been applied to for their assent. Austria and Prussia also are released from the engagements they undertook, as Denmark has not fulfilled the duties it undertook towards Germany."

AUSTRIA.—A courier arrived at Vienna on Monday with despatches from Prince Metternich, from which it appears that the intention of Austria and England to make their participation in the Congress dependent on the reply of France to certain preliminary questions would not meet with a favourable reception at the Tuileries. The Upper House of the Reichsrath on Saturday approved without debate the loan of 60,000,000 florins granted by the Lower House. The Finance Committee of the Lower House of the Reichsrath has passed the following resolution:—

"We hope that the House will decree that in future, on the presentation of the Budget of the Ministry for Foreign Affairs, at the opening of the Session, a statement of the foreign political relations of the Empire be laid before the Reichsrath, accompanied by the documents having reference thereto."

At the sitting of the Lower House on Tuesday the Galician Deputy, Herr Dith, demanded of the Police Minister that the excessive severity of the police in Galicia should be abated and the laws of personal liberty be respected. The Minister replied that the measures adopted by the authorities were in accordance with the law, and only directed against the revolutionary party, who wished to sever Galicia from the Austrian empire. Deputy Zybelkiewicz gave a harrowing description of the acts of violence which have taken place in Galicia. The Police Minister replied that he would oppose to Deputy Zybelkiewicz's picture of Galician circumstances another, founded upon documentary evidence. When a secret Government existed in the country, when revolutionary authorities ordered billeting and levying of taxes in Cracow, and declared certain persons suspicious; when foreigners streamed in from all sides, the Government must watch. Domiciliary visits by night were unavoidable. The Government would indefatigably maintain the authority of the law, and protect peaceable inhabitants from deeds of violence. The *Wiener Zeitung* of Wednesday says:—

"The continuance of the untiring intrigues of the extreme party in Galicia render the normal condition of that province impossible. The Government, however, is most anxious not to be compelled to adopt more energetic exceptional measures."

SAXE-COBURG.—It has been already stated that the Prince of Wales has renounced for himself and his heirs all right of succession to the Duchies of Coburg and Gotha, and that this renunciation has been received by the joint Diet of both divisions of the country. It is now announced that King Leopold of Belgium has recognised the act of renunciation in his quality as guardian to Prince Alfred, Prince Arthur, and Prince Leopold.

ITALY.—The naval review before King Victor Emmanuel took place on Monday in the Bay of Naples on the most magnificent scale, calling forth great enthusiasm. Large numbers of boats crowded with spectators were in the roads and harbour, and the whole population of the city witnessed the spectacle from the shore. On Tuesday the King reviewed the National Guard, and then left Naples for Leghorn. An amnesty has been issued to political criminals, including Count Christen and Mr. Bishop. Offences against the press laws, evasion of the conscription, breaches of the forest laws, infringement by the National Guards of their military duties, and all crimes, except those connected with brigandage and ordinary offences, are also pardoned. In the Chamber of Deputies on Tuesday Signori Laforte and Micelli gave notice of their intention to question the Government concerning foreign politics, and Signor Ondes said he should put a question upon some occurrences having reference to the internal politics of the country. The Chamber was then adjourned for a short interval. On the return of the Ministers, the President of the Council announced that a vacancy was caused in the College of Messina by the death of Signor Zafarina, and expressed his regret at that event. In the sitting of Friday, the Committee appointed to examine the Treaty of Commerce and Navigation with France brought up a report proposing its adoption. The following is a summary of the Budget for 1864:—

The anticipated increase of the revenue amounts to 2,727,456.21. The Bills for the new taxes, not having yet been

voted by the Senate, could not be taken into the calculations of the Minister of Finance. The ordinary receipts amount to 522,011,729,09, and the expenditure to 775,858,303,30, leaving a deficit of 253,846,574,21. The extraordinary expenses, which are estimated at 124,106,987,52, will be covered by the alienation of Crown lands.

The Grand Duchess Marie of Russia has arrived at Turin. In a Congregation of Cardinals held at Rome on Saturday, it was determined that the Papal Government should accept in a general manner the proposition of a European Congress. The Roman Railway Company has accepted the conditions of a concession to construct a railway from Civita Vecchia to Tuscany, the line to be completed within two years and a half.

SICILY.—A severe hurricane swept over the island on Monday morning, occasioning great devastation. Several lives were lost, and numbers of ships were sunk in the roads and harbour of Messina.

IONIAN ISLANDS.—The protocol ratifying the resignation of the Protectorate, and the cession of the Ionian Islands by Great Britain to the kingdom of Greece, was signed in London on Saturday by the representatives of the Five Great Powers, the signatures standing in alphabetical order—1, Austria; 2, Great Britain; 3, France; 4, Prussia; 5, Russia. It stipulates that the fortifications of Corfu shall be demolished previously to the transfer of the island.

RUSSIA.—The statement published by a London paper, that Baron de Budberg had stated to M. Drouyn de Lhuys, as Prince Gortschakoff's reply, that Russia would take part in the Congress, but not until after the pacification of Poland, is said to be entirely unfounded. The Emperor left the Crimea on the 7th, on his return to St. Petersburg. An Imperial ukase orders the formation of 12 new regiments of infantry, each containing three battalions. This force is intended to form the third reserve corps. The *Journal de St. Petersbourg* publishes a reply to recent articles in *Le Nord* attributing to Russia the design of pursuing a revolutionary policy in Hungary and Turkey, and a policy hostile to England in Asia. The journal declares that Russia has never in any degree infringed the principle of order, for which she has frequently testified her respect. In Asia, Russia and England can assist each other mutually, and have no reason to annihilate their reciprocal influence. The Imperial Bank has ceased to issue foreign bills. The rate of exchange on that city has consequently fallen $2\frac{5}{8}$ per cent.

POLAND.—The telegram from Lemberg, stating that the National Government had dismissed Prince Czartoryski and General Mieroslawski, is contradicted on good authority. By order of General Prince Wittgenstein, Corfini and Borkowski were hanged last week at Wloclawek. The Lady Superior of the Convent of St. Felix and Countess Ledochowska, the sister-in-law of the Papal Nuncio at Brussels, have been sentenced to decapitation at Warsaw. The *Czas* publishes the following almost incredible act of atrocity:—

"According to an order published by General Lewchine every woman who appears in the streets of Warsaw after nightfall must carry a lantern, unless she is accompanied by a man who is provided with one. A householder and his wife were returning home, the husband met a friend and both stopped for a moment on the flagway; the wife, who had advanced a few steps, was arrested by a policeman, who dragged her to the guardhouse because she had no lantern. Notwithstanding the remonstrance of the husband, the commissary of police of the eighth district of Warsaw sentenced her to receive five stripes of a rod. She declared she was with child, and prayed to be spared the torture. 'Give her 10 stripes,' replied the commissary. 'Since you are implacable,' said the husband, 'permit me to suffer the corporal punishment in place of my wife.' 'It is your wish,' said the police agent,—'give him 10 blows and 15 to his wife,' and this execrable order was executed."

The National Government has published a proclamation encouraging the Poles to persevere, and confirming the order for ladies to discontinue wearing mourning. It has also issued a decree ordering the realisation of the forced loan of 40,000,000 florins, and stating that officers have been appointed by the National Government for the verification of the accounts. The Poles, under the command of Wilkowski, gained a great success over the Russians on the 30th ult. in the palatinate of Lublin. The rest of Czachowski's band was completely destroyed on the 6th inst. in the Government of Radom. Czachowski was captured, and has since died of his wounds at Radom. The Russians have been selling at Lowicz, by public auction, the timber from the woods which have been cut down as a strategic measure. A Polish cavalry corps has invaded the town and seized 10,000 florins, the produce of the sale, leaving a receipt. Preparations have been made all along the line of railway in Galicia, and also on the line to Brody, for the provisioning and billeting of troops.

CIRCASSIA.—Six Russian officers have been shot as spies by the Circassians.

TURKEY.—The Porte has addressed a Note to the Cabinet of St. Petersburg, protesting against the armaments on the frontier and the building of gunboats on the Black Sea, in violation of the Treaty of Paris. The Turkish arsenals and navy-yards are working day and night in order to meet eventualities. The plague has broken out at Komords (?), on the Persian frontier. All the arrears of the army prior to March last have been settled by individual *serghis*, payable to the soldier at the expiration of his term of service. Since March all have been paid in cash. The new taxes are to be applied to Constantinople, which city has hitherto been exempt.

CAPE OF GOOD HOPE.—Considerable feeling is still exhibited in the Western Province against the intended holding of Parliament at Graham's Town. A new feature has also arisen in this discussion from a large meeting having been held at Graaf Reinet, where it was unanimously resolved to present an address to the Governor, expressing an opinion that Uitenhage was better fitted for the seat of Parliament than Graham's Town. The frontier districts were mustering all their strength with the ulterior view of securing a permanent removal of the Government from Cape Town to Graham's Town. Some of the Midland districts were holding similar views in favour of Uitenhage. The Western Province was making strenuous exertions to meet this coming struggle. The Governor had refused to mediate between the Gamaras and Hottentots, who were at war in Damarland. The railway to Wellington was expected to be finished by the end of October. A railway from Port Elizabeth to Uitenhage was proposed. Baines's and Chapman's expedition to the Zambesi had failed. They were returning to the Cape, after having lost all their animals, and had 18 native servants murdered by the Matables. Dr. William Gill, of Somerset East, a resident in the colony for 44 years, and a son of the Rev. George Gill, a dissenting minister of Market Harborough, Leicestershire, had died and left from 18,000*l*. to 20,000*l*. for the endowment of a college in the Eastern Province. The Confederate steamer Alabama had sailed for the Bay of Bengal.

INDIA.—A British force has been ordered to take the field against the Sittanas, under the command of General Garvock, commanding at Peshawur. It is composed of her Majesty's 71st Highland L. I., her Majesty's 101st Bengal Fusiliers, the 3d (Renny's) Sikhs, the Guides, and the 13th Bengal Cavalry, with the Mountain Train Artillery; in all about 4000 men. The produce of the cotton crop in the central provinces in 1862 was estimated at 47,000,000 lb. This season the prospects are still more encouraging. A larger area than ever has been sown, the weather has been most favourable, and cotton is selling in Nagpore at 1*s*. 4*d*. a lb. retail. The Cinchona plants in the Madras Presidency have suffered somewhat severely during the beginning of last month from continuous and heavy rains. The species which suffered most belonged to the red bark.

CHINA.—Despatches from Shanghai of Oct. 9 state that Major Gordon is before Soochow, and an attack on that city is imminent. Reinforcements have been sent to Taitsang and Quins-an. Mr. Lay of the Customs, Captain Osborn, and General Brown, have gone to Pekin to bring the Imperial Government to an understanding respecting Capt. Osborn's flotilla, which has been so badly treated as to pay that many of the seamen have deserted.

JAPAN.—The news from Japan is unfavourable. Armed men are appearing at Nagasaki. Prince Satsuma and other princes are preparing for war. Advices from the Swiss Embassy at Yokohama announce that the Ambassadors have received a first official visit from one of the chief officers of the Tycoon. The Ambassadors believe that America and Russia are pursuing an ambiguous policy, and exciting the Japanese to resist the other Powers.

AUSTRALIA.—The Melbourne papers announce the arrival of Sir Charles Darling, and his assumption of the government of Victoria; the departure of Sir Henry Barkly for the Mauritius; and the prorogation of parliament without Mr. Heales's bill to amend the Land Act of 1862 having become law. Both houses of Parliament have resolved to oppose the policy of the home government in regard to the resumption of transportation to Australia. Mr. and Mr. Charles Kean arrived on the 24th Sept. in 78 days from London.

NEW ZEALAND.—The accounts from the seat of war to the 25th Sept., state that the Maoris have taken up a strong position at Mere-Mere on the bank of the Waikato river, a place thickly covered with scrub and underwood, the front of their position looking towards the river being protected by a number of rifle pits. A hill or Maori pah rises behind these pits, and on the side looking from the river defensive works of great strength have been constructed. At every available point around this eminence and on its ridges, rifle pits have been sunk, and "whares" and palisades raised for the protection of the natives engaged in defending them. The encampment of the British troops is within cannon-range of the Maori rifle pits. The proximity to the river of the position occupied by the natives has afforded an opportunity to Commander Sullivan of making a reconnaissance with the Avon, a colonial gun-boat, and of inflicting considerable damage on the Maoris with her 12-pounder Armstrong gun. General Cameron was nearly ready to strike a decisive blow, which it is hoped will have considerable influence in shortening the duration of the war. Every able-bodied man in the colony is up in arms, and large numbers of volunteers were daily arriving at Auckland, not only from the other New Zealand settlements, but from Australia. The next mail will probably bring decisive news. Mr. Howitt, a brother of the celebrated Australian explorer of the same name, and son of William and Mary Howitt, has been drowned with three others, by the upsetting of a canoe on Lake Brunner, in the western district of Canterbury.

UNITED STATES.—On the 7th inst. Sedgwick's and French's divisions of General Meade's army advanced to the Rappahannock and carried the Confederate redoubts at the Rappahannock railroad bridge and Kelly's Ford, capturing 1800 prisoners and seven guns. The Federal loss was 800. On the 8th General Meade and his whole army crossed the Rappahannock with little opposition, and moved forward. His advance reached Brady's station. Burnside's cavalry also crossed the river above the Rappahannock ford. It is reported that Kelpstrick occupied Fredericksburg heights on the 7th. General Lee's force is said to be diminished to 30,000 men. Accounts from Chattanooga contradict the report of the occupation of Lookout Mountain, and state that General Longstreet was still firing from the Mountain on General Hooker's position, without, however, inflicting much damage. Daily communications had been opened with Bridgeport, and supplies were rapidly reaching the Federals. General Thomas has reported the capture of a forage train belonging to General Bragg's army, together with the guard in the Lookout Valley. General Bragg's army is reported to have been weakened for some purpose not yet developed. Despatches from General Grant announce that the Confederates had attacked two of Burnside's advanced positions and captured portions of two Federal regiments. No details are given. General Thomas officially reports an engagement between a regiment of Michigan infantry and 400 guerillas at Lawrenceburg, in Tennessee, on the 4th inst., in which the latter were defeated. The Confederate losses were eight men killed, seven wounded, and 24 captured. The Federals had three men wounded and eight horses killed. The Confederates have been repulsed at Colliersville, on the Memphis and Charleston Railroad. The Confederate General Geary and his staff were captured. The Confederates are also said to have been repulsed in an attack upon Pine's Bluff, Arkansas. General Price has retreated beyond the Red River. General Sherman has had some severe fighting near Tuscumbia. It is reported that there are no Confederates, except guerillas, left in East Tennessee. The bombardment of Fort Sumter continued without intermission throughout the 31st ult. and the 1st inst. 1005 shots were fired by the Federals on the former day, and during the afternoon of the latter the firing averaged four shots per minute. Early on the 31st ult. the sea face wall of Fort Sumter fell in, burying a number of the garrison in the ruins. Thirteen men were reported missing through this accident; the other casualties were two killed and three wounded. The flagstaff was twice shot away; the flag itself was so badly battered that the battle flag of the Georgia regiment was raised instead. On the evening of the 1st the bombardment was still severe. The steamer Salvor, which arrived at Philadelphia from Charleston on the 4th inst, reports the capture of the Fort, and its occupation by the 146th Pennsylvanian Regiment; but the last Federal advices and Confederate telegrams to the 5th from Charleston contradict the report, and state that the bombardment still continued furiously. No casualties were reported. President Davis had visited Charleston and inspected the defences, and was said to have expressed his opinion that Charleston never could be taken. He has also made a speech at Mobile, reminding the troops that they were not common soldiers, but the best population of the country poured into the army; and he appealed to them from other incentives than military discipline. Self must be entirely forgotten in present times, and those who were hoarding up wealth were hoarding up infamy, the mark of which they and their posterity who shall have grown rich by war must bear. The currency question is attracting much attention in the South. The Richmond papers complain of the scarcity of food. The prisoners arriving from Richmond were starving. The *Philadelphia Engineer* contains a doubtful rumour that the Confederates are evacuating Richmond, and that President Davis has left permanently for the South. It is reported that General Joe Johnston has ordered General Forrest to burn all the cotton in his command. Serious rioting has taken place in Pennsylvania colliery caused by an attempt to enlist the miners. The rioters were mostly Irish. Three out of five of the Administration candidates were elected in Baltimore. The majority of the inhabitants refrained from voting. The Governor of Maryland has protested against military interference with elections, and has ordered the judges to report to the State Attorney the presence of the military at the polls. The State would support the judges in doing their duty. The Democrats have carried the New Jersey elections. The Republican majority in New York State was estimated at 30,000. Mr. Seward has made a speech asserting that there could be no peace until Mr. Lincoln was President of the whole United States. He anticipated the early submission of the insurgents, "when there would be peace, and the angels in Heaven might tune their harps to the symphony of such a peace." There was no State that had not been made stronger, and no citizen that had not been made richer by the war. A great ball in honour of the officers of the Russian fleet has been given at the Academy of Music; but the room was so crowded that dancing was impossible. Some accounts estimate the number of persons present at upwards of 4000. Marshal Forey has arrived at New York from Mexico. The steamer Margaret and Jessies has been captured.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $92\frac{7}{8}$ to $\frac{5}{8}$ for Money, and $91\frac{1}{4}$ to $\frac{3}{8}$ for Account; Reduced and New Three per Cents., $90\frac{3}{8}$ to $\frac{5}{8}$; Thirty Years' Annuities, 1885, $14\frac{3}{4}$ to $\frac{5}{8}$; India Stock, $223\frac{1}{2}$; Ditto Five per Cent. Stock, $108\frac{3}{4}$ to $\frac{7}{8}$; Ditto Bonds, par to 5s. pm.; Five per Cent. Enfaced Rupee Paper, $104\frac{1}{2}$.—FOREIGN: Brazilian, 1863, scrip, 1 dis.; Egyptian, 99 to $98\frac{3}{4}$; Ditto second issue, $9\frac{3}{4}$; Greek, for Acct., $30\frac{1}{2}$ to $\frac{5}{8}$; Italian, for Acct., $70\frac{7}{8}$; Ditto Maremmana, $79\frac{1}{2}$; Mexican, for Acct., $37\frac{3}{4}$ to $\frac{1}{2}$; Portuguese, 1853, for Acct., $48\frac{1}{2}$; Russian, 1822, $91\frac{3}{4}$; Ditto 1862, 86 to $\frac{3}{4}$, ex div.; Spanish Passive, for Acct., $34\frac{1}{8}$; Ditto Certificates, for Acct., $13\frac{1}{2}$ to $\frac{3}{4}$; Turkish, 1854, for Acct., $90\frac{3}{8}$ to 90; Ditto 1858, $69\frac{3}{4}$; Ditto, for Acct., $69\frac{1}{4}$ to $\frac{7}{8}$; Ditto 1862, for Acct., $69\frac{5}{8}$ to $69\frac{1}{2}$; Ditto Guaranteed, $101\frac{5}{8}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £27,375,940 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 12,725,940 |
| | | Silver Bullion .. .. .. | — |
| | £27,375,940 | | £27,375,940 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £10,810,330 |
| Rest .. .. .. .. .. | 3,193,201 | Other Securities .. .. | 20,499,915 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 6,451,850 | Notes .. .. .. .. .. | 6,278,470 |
| Other Deposits .. .. .. | 13,403,442 | Gold and Silver Coin .. | 693,662 |
| Seven days and other bills | 680,884 | | |
| | £38,282,377 | | £38,282,377 |

Nov. 19, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *Nov.* 13.—BANKRUPTS.—J. ALDIS, Lower Norwood, Dealer in Milk—J. ALLEN, Stourbridge, Worcestershire, Law Stationer—W. ALLEN, Beeston, Yorkshire, Butcher—G. ALLEN, Harrold, Bedfordshire, Brewer—H. M. BASHALL, Trafalgar Hotel, Charing Cross, late Ship and Insurance Broker—F. BARRATT, Stoke-upon-Trent, Staffordshire, late Dealer in Corn—T. A. Y. BENNETT, Commercial Road, Lambeth, Porter to the London and South-Western Railway Company—J. BOORMAN, Bond Street Vauxhall Cross, Plumber—J. BARKER, Knaresborough, Yorkshire late Potato Dealer—J. BAKER, Birmingham, Baker—R. H. BELL, Newcastle-upon-Tyne, Innkeeper—J. BUCKLEY, jun., Darlington, Durham, Beerhouse Keeper—J. BOYES, Kilsby, Northamptonshire, Grocer—J. W. BARBER, Portsea, Sailmaker—S. BENNETT, Halesowen, Worcestershire, Miner—G. E. BAKER, Wells, Norfolk, Ropemaker—E. BRANSCOMBE and A. PAGE, Aston-juxta-Birmingham, Warwickshire, Schoolmistresses—RICHARD SAMUEL CURRIE, Southsea, Hampshire, Hardwareman—JOSEPH CASWELL, Cannon Town, Barking Road, Essex, Forgeman—M. COLLINGS, Colchester Terrace, Stratford, Outfitter—C. CLARKE, Southsea, Hampshire, Ironmonger—H. L. COHEN, Basinghall Street, Warehouseman—E. J. CROSS, Woolwich, Out of Business—C. DERX, Victoria Terrace, Kennington Road, Journeyman Baker—THOMAS LATHORNE DEANS, Stoke Dameral, Devonshire, Shipwright—GEORGE EVERETT, Scaldwell, Northamptonshire, Groom—GEORGE EARL, Gayton, Northamptonshire, Boot and Shoemaker—ROBERT FAIRBURN, Harrogate, Yorkshire, late Bath Proprietor—JOHN FOX, Barthomly, Cheshire, Retailer of Beer—G. FARMER, Knightwicke, Worcestershire, Cattle and Sheep Dealer—E. GRAINGER, Calverley, Yorkshire, Cloth Manufacturer—J. GERLING, Workington, Cumberland, Colliery Agent—J. GRIFFITHS, Hope, Flintshire, Blacksmith—J. GRIFFITHS & W. GRIFFITHS, Birkenhead, Joiners—J. C. GREENBURY, Swinefleet, Yorkshire, Saddler—H. GODART, Greenwich, Carver and Gilder—W. B. GREEN, Bentley, Suffolk, Wheelwright—E. HENDERSON, Norland Road, Shepherd's Bush, Tailor—E. H. HODD, late of Great Tower Street, Merchant—W. JONES, Kingswinford, Staffordshire, Grocer—E. H. JONES, Diamond Row, Camberwell, Artist in Fireworks—T. J. KANE, Moneyer Street, Hoxton, Brassfounder—HENRY KEMPTON, Crimscott Street, Bermondsey, Currier—ANN LLOYD, Wrexham, Flintshire, Grocer—J. LANCASTER, Steeple Aston, Wiltshire, Mason—J. LANGLEY, Wilstead Street, Euston Road, Foreman to an Oilman—WILLIAM MARRIOTT, Derby, Commission Agent—H. J. MILLINGTON and R. MERCER, Parr, St. Helen's, Lancashire, Joiners—W. MORGAN, Aberdare, Glamorganshire, Coal Merchant—G. MAPLESTON, Lincoln, Rope Maker—E. NEWBOLD, Moira, Leicestershire, Butcher—J. T. OWEN, Ashton-upon-Mersey, Cheshire, late General Agent—J. OGDEN, Huddersfield, Yorkshire, Cotton Spinner—C. O'CALLAGHAN, Birmingham, Licensed Victualler—J. OWEN, Bangor, Carnarvonshire, Master Mariner—J. T. OLLEY, Old Kent Road, Vellum Binder—G. PAGE, Middlesex Street, Somers Town, Dealer in Dairy Produce—H. PARKIN, Sheffield, Yorkshire, Brace Bit Filer—W. PROSSER, St Devereux, Herefordshire, Farmer—C. POOLE, Brighton, Out of Business—R. RUDDICK, Carlisle, Joiner—W. RIDER, Harrogate, Yorkshire, Lodging House Keeper—H. SARGEANT, Slough, Buckinghamshire, Surveyor—A. SIMS, Wantage, Berkshire, Innkeeper—T. SLACK, Carlisle, Cumberland, Butcher—W. SOUTHALL, Kingswinford, Staffordshire, Brickmaker's Labourer—F. R. TOTHILL, Seaford, Sussex—H. TAUNTON, Bird Cage Walk, Bethnal Green, Baker—C. F. WORDSWORTH, Stoke by Nayland, Suffolk, Tutor—L. WEBSTER, Chorlton upon Medlock, Manchester, Joiner—S. WALKER, Manchester, Manager to a Fishmonger—J. WILLIAMS, Roath, Glamorganshire, Builder—E. WINWOOD, Halesowen, Worcestershire, Miner—H. J. WEBB, Cardiff, Glamorganshire, late Cab Proprietor—G. WAGSTER, Devonshire Terrace, Peckham, late Mercantile Clerk—J. WILLDEN, jun., East Dereham, Norfolk, Corn Merchant—A. WINDSOR, sen., Dudley, Worcestershire—J. P. WILLCOX and W. CARTWRIGHT, Bradley, Staffordshire, Charter Masters.

SCOTCH SEQUESTRATIONS.—A. DRYSDALE, Glasgow, Grocer—A. MARTIN, Moffat, Inn-keeper—J. SLATER, Glasgow, Commission Merchants—G. THOMPSON, Aberdeen, Merchant.

TUESDAY: *Nov.* 17.—BANKRUPTS.—W. J. ANTHONY, Aylesbury, Buckinghamshire, Tailor—J. ANDREWS, Llanover Upper, Monmouthshire, Incline Manager—P. ANDREW, Lazley, Lancashire, Cotton Waste Dealer—W. ADAMS, Eckington, Derbyshire, Blacksmith—E. ANAGNOSTOPULOS, Liverpool, Merchant—J. ALLAN, Marnoch, Banffshire, Merchant—H. B. BECK, Pembroke, South Wales, Surgeon—J. BRAY, Heckmondwike, Yorkshire, Bootmaker—T. BIVAND, Church Street, Ealing, Fishmonger and Poulterer—J. BROWN, Burley, Yorkshire, Tailor—E. BRYANT, Diss, Norfolk, Draper—R. BURNAND, Stockton on-Tees, Durham, Boot and Shoe Maker—T. CROSS, Shawbury, Shropshire, Farmer—H. CHESWORTH, Macclesfield, Cheshire, Spinster—E. COLBEY, Haughley, Suffolk, Cattle Dealer—J. CHAMPION, Chepstow, Monmouthshire, Inn Keeper—H. R. COOPER, Ixworth, Suffolk, Surgeon—J. DAGLEY, St. John's Hill, New Wandsworth, Boot Maker—J. ENGLAND, Stafford St., Old Bond St., Tailor—C. FLETCHER, late of Pall Mall East, Wine Merchant—R. FRASER, Packington Street, Islington, Mourning Collar Manufacturer—J. FERGUSON, Edinburgh, Marble and Fancy Coloured Paper Manufacturer—J. GASSON, Perry Vale, Forest Hill, Kent, Surveyor—W. T. GWYNNE, Ludlow, Shropshire, Painter—H. G. GROVES, Webber Street, Blackfriars Road, Baker—F. J. GRAFF, Hill Street, Walworth, Baker—T. HORROCKS, Bolton, Lancashire, Clogger—W. H. HITCHING, Halifax, Yorkshire, Drysalter—C. HOBSLEN, Hornchurch, Essex, Agricultural Machine Maker—J. HULBERT, East Street, Goldsmith Row, Hackney Road, Brush Maker—J. R. HOARE, Southsea, Hampshire, Builder—E. J. JONES, Liverpool, Warehouse Keeper—H. KAUFFMANN, Edinburgh, Merchant—A. G. LOVE, Beccles, Suffolk, Assistant Overseer—W. LEWIS, Cardiff, Glamorganshire, Innkeeper and Hay Dealer—S. LAWRENCE, Cumberland Street, Pimlico, Clerk in a Railway Office—FRANCIS LOUIS LAVANCHY, Southampton, Schoolmaster—Dr. NICHOLAS LABONE, Glasgow, Professor of Languages—T. LITTLER, Alrewas, Staffordshire, Wheelwright—J. D. LEWIS, Bright Lingsea, Essex, Smack Owner—J. LUSCOMBE, Loddiswell, Devonshire, Ochre Refiner—J. MOORE, Oldbury, Worcestershire, Miner—J. MOORE, Landport, Hampshire, Master Mariner—M. MOSS, Wentford Street, Spitalfields, Confectioner—W. S. MARSHALL, Little Fife House, Whitehall, Wine and Spirit Merchant—H. MECKLENBURG, Manchester, Salesman—B. M'BRIDE, Carey Street, Lincoln's Inn Fields, French Polisher—MRS. C. NICOL or BORWARD, Abernethy, Perthshire, Farmer—T. T. NETTLETON, Fartown, Yorkshire, Journeyman Cabinet Maker—G. F. PARKES, Birmingham, Commercial Traveller—W. PILKINGTON, Morley, Yorkshire, Woollen Manufacturer—J. PAGE, Park Place, Bromley, Usher to the Court of Exchequer—G. PEACOCK, Princes Road, Notting Hill, Plumber—J. PARRY, Pendleton, Lancashire, Cowkeeper—A. POWELL, Southampton, Journeyman Painter—J. PATCH, Red Cross Square, Cripplegate, Attorney's Clerk—J. PANTON, Morpeth, Northumberland, Marine Architect and Agent—T. P. PARSONS, Fowey, Cornwall, Watch and Clock Maker—C. T. READ, Norwich, Grocer—G. RIXHAM, Sheffield, Yorkshire, Awl Blade Maker—W. ROBERTS, Everton, Liverpool, Builder—R. ROBERTS, Everton, Liverpool, Builder—W. SPENCER, Brinkworth, Wiltshire, Grocer—C. L. STANDRING, Huddersfield, Yorkshire, Retailer of Beer—E. STOUT, Great Grimsby, Lincolnshire, Tailor—G. SOUTH, Hampstead Road, Bootmaker—J. SMITH, Leeds, General Commission Agent—W. S. SOLE, Landport, Hampshire, Caulker—F. J. STONE, Francis Street, Newington, Carpenter—G. SPREY, Wellington Place, St. George's in-the-East, Surgeon—R. TEMPLEMAN, Mount Street, Grosvenor Square, Cook and Confectioner—D. WHITE, Lower Heyford, Oxfordshire, Sawyer—T. WATSON, Barton-upon-Humber, Lincolnshire, Boot and Shoe Maker—J. M. WEST, Stalham, Norfolk, Professor of Music—J. WOODS, jun., late of Wyberton, Lincolnshire, Master Mariner—J. A. WHITE, Moreton, Essex, Carpenter.

## Metropolis and its Vicinity.

THE LATE LORD MAYOR.—At the Court of Aldermen on Tuesday, Alderman Copeland moved and Alderman Wilson seconded a vote of thanks to Alderman Rose for the manner in which he had maintained the privileges of the City and the dignity of the mayoralty during his year of office. Alderman Sidney took exception to the late Lord Mayor's conduct in the matter of the police arrangements on the occasion of the Royal visit, and in his soliciting honours at the hands of the Prime Minister. He asserted that the late Lord Mayor was wholly to blame for the peril in which the privileges of the Corporation had been put, and though he did not think the reasons given by Lord Palmerston for not making the late Lord Mayor a baronet were tenable, he thought the conduct of Alderman Rose in making the complaints he had made on the subject was most unwise. Alderman Phillips defended Alderman Rose, and after some further discussion the motion was agreed to.

MEMORIAL TO LORD CLYDE.—A public meeting was held on Friday at Willis's Rooms, to consider the propriety of raising a subscription for the erection of a statue of Lord Clyde. The Duke of Cambridge presided, and gave a clear and lengthened narrative of Lord Clyde's brilliant career, and speeches in honour of his services were delivered by Earl De Grey, the Duke of Argyll, the Earl of Ellenborough, Lord Stanley, the Duke of Wellington, the Earl of Lucan, Sir C. Wood, and others. Resolutions in favour of the object of the meeting were unanimously adopted, and a committee was appointed to carry them into effect.

AUTHORISED COMMENTARY ON THE BIBLE.—The objections brought against certain portions of the Bible are about to be met by leading theologians of the Church of England in a very practical way. The plan was originated by the Speaker of the House of Commons, who consulted several of the bishops on the subject, and the Archbishop of York, at his instance, undertook to organise a plan for producing a commentary which should "put the reader in full possession of whatever information may be requisite to enable him to understand the Word of God, and supply him with satisfactory answers to objections resting upon misrepresentation of its contents." The plan has received the sanction of the Primate. A committee, consisting of the Archbishop of York, the Bishops of London, Lichfield, Llandaff, Gloucester and Bristol, Lord Lyttelton, the Speaker, Mr. Walpole, Drs. Jacobson and Jeremie, takes the general supervision of the work. The Rev. F. C. Cook, preacher at Lincoln's Inn, will be the general editor, and will advise with the Archbishop of York and the Regius Professors of Divinity at Oxford and Cambridge upon any questions which may arise. The work will be divided into eight sections, the first of which will consist of the Pentateuch, and will be edited by Professor Harold Browne, the Revs. R. C. Pascoe, T. F. Thrupp, T. E. Espin, and W. Dewhurst. The historical books will be consigned to the Revs. G. Rawlinson, T. E. Espin and Lord Arthur Hervey. The Rev. F. C. Cook will edit, and the Revs. E. H. Plumptre, W. T. Bullock, and T. Kingsbury will annotate the poetical books. The four great Prophets will be undertaken by the Revs. R. Payne Smith and H. Rose. The Bishop of St. David's and the Rev. R. Gandell will edit the 12 minor Prophets, assisted by the Revs. E. Huxtable, W. Drake, and F. Meyrick. The Gospels and Acts will form the sixth section; the first three Gospels will be edited by Professor Mansel, the Gospel of St. John by the Dean of Canterbury, and the Acts by Dr. Jacobson. The editorship of St. Paul's Epistles is assigned to Bishop Ellicott and Dr. Jeremie, assisted by Dr. Gifford, Professor T. Evans, Rev. J. Waite, and Professor J. Lightfoot. To the Archbishop elect of Dublin and the Master of Balliol is assigned the rest of the sacred canon.

THE LATE ACCIDENT TO THE PRINCE CONSORT.—A communication has been received from the Admiralty, expressing their lordships' satisfaction at the praiseworthy conduct of the officers, non-commissioned officers, and men who served in her Majesty's ship Prince Consort on the late trying occasion; and stating that their lordships have granted all of them a gratuity for their services.

THE ABANDONMENT OF THE SEBASTIAN CABOT.—An inquiry instituted by the Board of Trade, after sitting for several days, was concluded at Liverpool on Friday, when the Court recommended that the certificate of Captain Hopkinson should be suspended for eighteen months, on the ground of unseamanlike conduct, in abandoning the Sebastian Cabot with a cargo valued at 100,000*l*. in the Channel, on her voyage from London to Bombay. The Court was of opinion that the charges of intoxication made against the captain were not substantiated by the evidence.

ABANDONMENT OF THE AUSTRAL.—The ship Austral, which left the Thames only a few days ago for Australia, sustained such injuries in a gale in the chops of the Channel, that she was abandoned by the crew, who were picked up by a French vessel. The ship and cargo are said to be insured for 60,000*l*.

THE LATE ACCIDENT TO THE MAIL STEAM SHIP AFRICA.—An investigation at the instance of the Board of Trade took place last week in Liverpool to ascertain the circumstances under which the Royal Mail steamship Africa, Captain James Stone, ran on a rock at Cape Race, and sustained some damage on the night of the 12th of October. After carefully considering the testimony of the master and other witnesses, the Court came to the conclusion that the master of the Africa was in default, and that the stranding of the vessel was occasioned by a culpable want of caution in not having either slowed his engines or used his lead when he had run his distance, the state of the weather being such that he could not see the lights or verify his supposed position by any other means. Their sentence therefore was that the certificate of Mr. James Stone be suspended for six calendar months. A special meeting of the Council of the Mercantile Marine Service Association was held at Liverpool on Monday, at which resolutions were unanimously carried, condemning not only the sentence on Captain Stone, but these Courts of Inquiry in general. It was resolved that the jurisdiction of these tribunals was opposed to the fundamental principles of British legislation and the rights of Britons, and that means should be forthwith taken to procure the restoration of Captain Stone's certificate and the establishment of a fair tribunal. A petition to this effect has also been addressed to the Board of Trade by certain merchants, shipowners, and other inhabitants of Liverpool.

AMALGAMATION OF THE ST. KATHARINE, LONDON, AND VICTORIA DOCKS.—On Tuesday meetings of the proprietors of these companies were held, at which it was unanimously resolved to apply to Parliament in the ensuing session for power to carry into effect certain arrangements for the amalgamation of the companies. It was explained that the terms virtually amount to a payment to the Victoria Company of 1,000,000*l*., in bonds of the Amalgamated London and St. Katharine's Companies, bearing $4\frac{1}{2}$ per cent. interest. The steelyard property is not included in the purchase.

ST. THOMAS'S HOSPITAL.—A meeting of the governors of St. Thomas's Hospital was held on Tuesday, when, notwithstanding some protests from parishes in the south-east of London, the Court agreed to a resolution adopting the Stangate site for the hospital, and agreeing to give 95,000*l*. for the ground, subject to the approval of the Court of Chancery.

SANITARY STATE OF BETHNAL GREEN.—An inquest was opened on Tuesday on a little girl who had lived with her parents in a place called Hollybush Gardens, Bethnal Green. The jury visited the house, and found the approaches to it in a horribly filthy condition, while the stench from the drains was most offensive. Witnesses who were examined deposed that at times the smell which forced its way into the houses was almost unendurable. A complaint had been made to a collector, who had told the person who spoke to him that the place would be made better when the drainage was settled. The inquest was adjourned in order that the locality might be examined by some medical man unconnected with the district. A *post-mortem* examination of the body of the deceased is also to be made.

THE INDEPENDENCE OF POLAND.—A public meeting was held on Tuesday evening at the Beaumont Institution, Mile End, for the purpose of expressing sympathy with Poland. Lord Campbell, who took the chair, said he had lately spent a month in Warsaw, and he had made it his business while there to ascertain the feelings of the Poles of all classes and of all opinions as to the value of our English sympathy. The universal reply he received was, that the sympathy of England would do much to sustain their spirits in the struggle. He therefore asked his fellow countrymen to extend their sympathy to their Polish brethren, and to protest against any truckling on the part of the English Government to the Cabinet of St. Petersburg. The Poles had asked of the English Government to acknowledge their belligerent rights. This was an intelligible request. It was naturally thought that the declaration of the Foreign Secretary at Blairgowrie would have been at once followed by the acknowledgment on the part of the British Cabinet of the belligerent rights of the Poles. He thought this course had not been taken because the people of Great Britain had not plainly and forcibly spoken out upon the question. It was not the aim of the League to light up the torch of war, but it did aim at obtaining for the Poles belligerent rights, fully convinced that if those rights were conceded Polish independence would be achieved by the Poles themselves. The League, and he quite coincided with it, thought it to be the interest of England that Poland should become an independent nation, forming a barrier against Russian aggressions on Western Europe. Mr. James Day proposed the first resolution,—"That the devoted heroism of the Poles in their present and in their past struggles for the independence of their country entitle them to the admiration and support of Great Britain. It was seconded by Mr. Burnes. Mr. Hennessy, M.P., supported the resolution in a long speech, in which he said that the declaration of the French Emperor that the treaties were at an end afforded great hope for Poland. He contended that England ought to support the Poles, even to the extent of war if necessary. The resolution was then put and carried by acclamation.

Mr. E. Beales moved the second resolution,—"That this meeting cordially approves the objects of the National Polish League, and urges on the Government the justice of extending to the insurgent Poles the belligerent rights which they have asked." He contended in a long speech that England was to a great degree responsible for the atrocities now being committed by Russia in Poland. Mr. D. M. Nicoll seconded the resolution, which was supported by M. Zaba, and unanimously agreed to.

Big Ben.—The great bell of the Houses of Parliament is once more announcing the time from the Clock Tower of Westminster Bridge. It was discovered on examination by the founders, Messrs. Meares, that it was not so cracked as people imagined, and consequently it has been again set to work. The crack did not pass completely through the metal, and though the tones are rather subdued, they are distinctly audible to distant parts of the metropolis.

The Late Tragedy in a Cab.—The body of Hunt was conveyed from Camberwell in a van, and buried at half past 11 on Friday night in the Garrett Lane Cemetery, Tooting, without any funeral service. The inquest on the bodies of his wife and children was resumed and concluded on Monday, when, in accordance with the evidence of the medical men, the jury returned a verdict that they were found dead in a cab from the effects of prussic acid, administered to them maliciously and with intent to take away their lives by Samuel William Hunt. The three bodies were buried on Thursday at the Paddington Cemetery, in Willesden Lane.

The Alleged Murder at Dalston.—Another case of suspected murder has been the subject of a coroner's inquest, which after several adjournments was brought to a close on Friday. On the evening of the 17th ult. a shoemaker named Homerston returned to his house at Dalston severely wounded in the head. He stated that he had been attacked in the street by some men who had followed him out of a public-house, and with whom he had had a difficulty about some betting transaction. He was taken to the German Hospital, and died on the 5th inst. The coroner said that the case was one of great suspicion, but he thought an open verdict would be best, as the police could follow up the case if any new light were thrown upon it. The jury returned a verdict "That deceased died from certain injuries, but whether they arose from a fall or blow the evidence was not sufficient to show."

Suspected Murder and Robbery in Shoreditch.—On Friday morning an inquest was resumed for the fourth time, relative to the mysterious death of Edward Vial, aged 37 years, a German sausage dealer, who died from violence inflicted on him on the night of the 21st of September while on his way home. No evidence it appeared could be obtained positively showing how the injuries were inflicted which led to his death. The coroner, consequently, thought it was useless again to adjourn the inquiry. It was clear that the man had been attacked as he was on his way home, and robbed of the money that he had gained by his sales for the evening. The jury accordingly returned a verdict of Wilful Murder against some person or persons unknown.

The Public Health.—The Registrar-General's Report states that the deaths in London, in the week which ended Saturday, Nov. 14, were 1457. The average number in the ten corresponding weeks of the years 1853-62, corrected for increase of population, was 1379. The present return is therefore 78 above the average. During the week the births of 1066 boys and 995 girls, in all 2061 children, were registered in London. In the 10 corresponding weeks of the years 1853–62 the average number was 1851.

## Provincial.

Aberavon.—Nine more bodies were found on Monday in the pit at Morfa Colliery, where the explosion took place about three weeks ago. The number of unrecovered bodies is 15. The four bodies now brought to the mouth of the pit were greatly disfigured, and were only identified by their clothing and tobacco boxes. The adjourned inquest was resumed on Tuesday, when a further adjournment was agreed to, the jury thinking it desirable to wait until the last body is found, because it is believed that that will furnish a clue to the cause of the explosion. If it were occasioned by the opening of a lamp by a workman, signs of that opening will be seen on the lamp, which will, no doubt, be found in the hands of the man. A former explosion at the same colliery was occasioned by the opening of a lamp, and on that occasion four lives were lost.

Aylesbury.—The Bishop of Oxford delivered his triennial charge to the clergy of the diocese in this town last week. He began by taking a comprehensive survey of the present condition of the Church, and said that the progress she had made was never so visible or so rapid as at the present moment. The three great hindrances to the complete success of the Church as a working engine for good among the people were bad cottages, beer-shops, and dissent. The first two must be put down as counter-working religious efforts of whatever kind; the last as only specially counter-working the Church. But there were special evils also with which the clergy were called to contend. He exhorted his clergy to be faithful to distinctive teaching, and severely censured those clergymen who left their own parishes to take part with dissenters in other cures. Referring to the late attacks on the Bible, he said the clergy must never forget that the Church was before the Bible, was the guardian and witness for the Bible, and the authority on which the truths of the Bible must be propounded to each separate conscience. Much was said of late about comprehension. His own soul yearned for comprehension; he would sacrifice for it everything but truth; but one jot of truth he would not consent to sacrifice for any amount of comprehension.

Guildford.—During the recent excitement caused by the measures taken by the local authorities and the Government to prevent a riot on Guy Faux Day, it was discovered that Sergeant Maghe of the 3d Buffs, who was lodging at a public house with a woman called Elizabeth Waterer, the daughter of a gamekeeper at Headley, near Epsom, had strangled her during the night and afterwards attempted to commit suicide by cutting his throat. The woman, who is supposed also to have taken poison, was quite dead, but the man is still alive and in charge of the police, though he is in such a critical state that his recovery is doubtful. The inquest was opened on Saturday week, and adjourned until he is able to attend.

Hereford.—The committee appointed at the county meeting for raising a memorial to the late Sir G. C. Lewis have decided that it shall assume the form of a statue in bronze of the right hon. gentleman, to be placed in front of the Shire Hall in this city. The work is to be intrusted to Baron Marochetti, who has undertaken its execution for the sum of 1000*l*.

Ipswich.—On Thursday week a riot took place in this town, caused by the presence of the well-known Baron de Camin, whose lectures against Popery have occasioned similar breaches of the peace in other parts of England. The baron was announced to lecture in the Temperance Hall, but the authorities refused the public admission to the building, which was surrounded by a strong body of police. The consequence was that the crowd left the hall in a body, and proceeded to the residence of the mayor, where they began to vent their feelings by hooting and shouting; at last stones were thrown, and in a short time most of the windows in the mayor's house were broken. On Friday evening the "Baron" was allowed to lecture without opposition. The hall was nearly half empty, but outside there was a crowd of 2000 or 3000 boys, either unwilling or unable to pay the 3*d*. demanded for admission. About 10 p.m. the rabble started off to Orwell Place, where they broke several windows in the house of Father Kemp, the Roman Catholic priest, but a strong body of police appearing they dispersed without committing further mischief.

Leeds.—The Archbishop of York distributed, a few days since, the certificates gained at the recent examinations in connection with the West Riding Educational Board, in the Town Hall of this borough. He spoke of the great advantage of examinations to every school, as a test of the proficiency of both masters and scholars, and encouraged the latter to increased exertion, as there were no barriers on the road to knowledge which they might not overcome. His Grace concluded by some practical hints on the value of style, and on the advantage of having one subject to which to devote a great deal of thought and attention, as a corrective to that superficiality of mind which he thought was the greatest danger of the present day.

Manchester.—At the weekly meeting of the Central Relief Committee on Monday, the Earl of Derby in the chair, the hon. Secretary reported that 156*l*. 12*s*. 11*d*. had been received during the week, and that the balance in the bank was 258,392*l*. 4*s*. 1*d*. Mr. Commissioner Farnall reported that on the 7th inst. there was an increase of 211 in the number of persons receiving parochial relief in 27 unions of the district as compared with the number relieved in the previous week. At a subsequent meeting of the general committee, a report was read stating that the cost of the distress up to Michaelmas last was 1,979,369*l*. Of this amount 535,898*l*. came from charitable sources, and 823,470*l*. was the extra charge obtained from the local rates. This calculation, of course, does not include the private charity, of which no record can be obtained. The sum available to the purposes of the general committee is still about 384,018*l*., besides what is promised in large towns in Yorkshire and elsewhere, but not transmitted. On the motion of the Mayor of Manchester, seconded by Lord Egerton of Tatton, the report was adopted.

Taunton.—Captain Speke, one of the discoverers of the sources of the Nile, visited this town on Friday week; when a congratulatory address on his return to his native country was presented to him. On the previous day he was entertained at a banquet given by the Bristol Society of Merchant Venturers, and on Wednesday week a public dinner in his honour took place at Ilminster.

Windsor.—The use of tobacco for smoking purposes within the precincts of Windsor Castle has been prohibited by the express command of her Majesty the Queen. Cards, neatly framed and glazed, requesting that gentlemen will not smoke in the Castle, have been hung in the private rooms of the Lords in Waiting and Equerries of the Royal suite, and even in the rooms in the York Tower, which are fitting up for the Prince of Wales. The servants and workmen of the Castle are also prohibited from smoking within the Castle, by command of her Majesty.

Worcester.—A murderous outrage was committed last week by a supposed madman on Mrs. Barnes, a cottager residing about two miles from this city. She was at work in her cottage when a man respectably dressed entered and beat her so unmercifully about the head with a bludgeon as to fracture her skull. The supposed culprit has been apprehended at Gloucester. He gives his name as James Barton, but at Gloucester he had assumed the title of Lord Spencer. Mrs. Barnes, who is still in Worcester Infirmary, has identified him as the man who attacked her, and a young man named Crump has deposed that he saw him leave the cottage on the day of the assault. The prisoner was accordingly taken before the magistrates, and committed for trial on the charge of assault with intent to murder.

## Ireland.

Prince Consort Memorial.—A meeting of the Committee was held a few days since, at which it was announced that Mr. Foley, R.A., had undertaken the design and execution of the Memorial. A letter was read from him thanking the committee for the order, and stating that he would use his best endeavours to carry it out in a manner worthy of the high character of the subject, and would come over as soon as possible to consult the committee.

The Opening of Stephen's Green.—A meeting was held in the Mansion House a few days since, under the presidency of the Lord Mayor, to adopt measures for opening Stephen's Green as a public park. Sir Colman O'Loghlen made a speech in favour of opening the square, and letters were read from Lord Talbot de Malahide and the Right Hon. J. Napier to the same effect. After the subject had been fully discussed, it was resolved at once to serve the usual Parliamentary notices for a Bill to open the Green as a public park.

The Galway Route.—The Hibernia arrived in Galway Bay at half-past 4 p.m. on Saturday, having left Boston on the 3d inst., and St. John's on the 7th. She is the first of the new company's vessels that has made the homeward voyage within the prescribed time. But the feeling of satisfaction which was thus inspired was soon damped by the intelligence that the Adriatic, the crack ship of the fleet, celebrated for her speed, had arrived out at St. John's two days after her time. The cause of the delay has not been made known. A demand of 10,000*l*. has been made for salvage by the owner of the steam-tug that assisted to get the Anglia off the rock in Galway Bay; but the demand appears to have been relinquished, for she sailed for Liverpool on Sunday morning at daybreak, in company with the Hibernia.

## Scotland.

Fatal Boiler Explosion in Glasgow.—On Friday afternoon a boiler explosion took place in the well-known chemical works of St. Rollox, Glasgow, the property of the Messrs. Tennent. The first intimation the workmen on the premises had of the accident was the noise of the explosion. Seven men were injured, two of whom died in the course of the evening, and two others have died since. The cause of the accident has not been ascertained.

## Railways.

Metropolitan Extensions.—The usual notices of intended application to Parliament have been given by the South Eastern Company for power to extend the Mid-Kent to Addiscombe Road, Croydon, and from thence to the Caterham line; to raise additional capital for the purchase of the Mid-Kent; and to obtain power to make working agreements with the London, Chatham, and Dover, and to dissolve the Mid-Kent. The Metropolitan Company has given notices of application for power to extend the line from Paddington to Notting Hill, Kensington, and Brompton, and to raise additional capital; to extend the line from Finsbury to Trinity Square, Tower Hill, to raise additional capital for the purpose, and to make arrangements with the Metropolitan Board of Works, the Commissioners of Sewers, and any vestry or district Board; to obtain power to extend the time for the purchase of lands and completion of works on the authorised lines; to make a new railway from the main line near King's Cross station to the Midland Extension at or near Skinner's Place, Euston Road; to alter and divert a portion of the existing railway from the Metropolitan at King's Cross to the down line of the Great Northern near the Great Northern Hotel; to widen and improve the line near Praed Street; to raise additional capital, to make arrangements with the Midland, and to obtain power to withdraw the money deposited with the Court of Chancery in respect of the Finsbury Extension. Notice has also been given for making a line from the Tottenham and Hampstead Extension in the Holloway Road to Euston Road and the east end of Villiers Street, Strand; to make a branch to the Middle Wharf, Adelphi, terminating by a junction with the Charing Cross near the north end of the bridge; branches to the Midland Extension line and to the Euston Road; a branch to the London and

North-Western near Hampstead Road; and to obtain power to raise further capital, and to enable the Midland, Great Northern, Great Eastern, London and North-Western, and South-Eastern Companies to subscribe towards and hold shares in the undertaking.

## Law.

COURT OF CHANCERY.—*Colonel Knox, M.P.* v. *Gye*.—In this case Colonel Knox, M.P., sought to obtain a decree for the dissolution of a partnership which he alleged had subsisted between himself and Mr. Frederick Gye in the Royal Italian Opera, Covent Garden, since 1851, and for an account and payment of what was due to him in respect of his share of the capital, including his moiety of the sum of 12,000*l.* brought into the concern by the late Mr. A. H. Thistlethwayte. Mr. Gye denied the existence of the alleged partnership, and asserted that all the plaintiff had done with reference to the opera was done simply with a disinterested desire of serving him. Vice-Chancellor Wood in giving judgment expressed an opinion adverse to the claim of partnership set up by the plaintiff. He said the turning point of the case was that a few years after Mr. Gye took the management of the opera, with the aid rendered to him by the plaintiff and other gentlemen, it was proposed that the plaintiff should sign a deed with reference to the management of the opera, but that the plaintiff refused to do so, saying he never had been, and never would be a partner in the concern. In 1857 Col. Knox, in answer to an appeal of Mr. Gye for a further advance to carry on the opera, said he could not fairly advance any more money, that Mr. Gye must get some wealthy man to do so—adding that if the affair turned out well, the person who would have all the advantage was Mr Gye himself. In 1859 Col. Knox wrote to Mr. Gye, asking what he had been telling people about his connection with the theatre, and in reply Mr. Gye said whenever he spoke of Colonel Knox in connection with the affair he had always expressed his gratitude to him for advancing the money he did, and for his determination never to reap any benefit from it. Upon the whole case the Court was of opinion that Colonel Knox was not a partner in the theatre. The question of partnership was the sole issue raised by the bill. The Court would give the plaintiff an opportunity of amending the bill so far as related to accounts, but so much of the bill as related to partnership must be dismissed with costs. *Boucicault* v. *Delafield.*—*The Colleen Bawn.*—In this case the question was raised, whether an author had any copyright in his own work. Mr. Boucicault had applied for an injunction to restrain Mr. Delafield from performing his *Colleen Bawn.* Mr. Delafield pleaded that the piece had been acted in America before it was brought out in England; that it was therefore a foreign play, and as such he had a right to perform it, under the sanction and subject to the provisions of the International Copyright Act. Vice-Chancellor Wood said the construction of the Act left him no alternative; he must hold that Mr. Boucicault had lost his title to prohibit the representation of the piece.

COURT OF QUEEN'S BENCH.—*Parry* v. *Great Ship Company.*—The plaintiff showed cause against a rule obtained by the defendants, calling upon him to show cause why the judgment and execution obtained by him as a creditor against the Great Eastern steam ship for 5350*l.* should not be set aside. The debt was to have been covered by an insurance at a given day, but the Court held that the directors did not keep their agreement, and the Great Ship is now therefore to be sold for a judgment debt of 5350*l.*

COURT OF EXCHEQUER.—*Attorney-General* v. *Sellim and Others*—*The Seizure of the Alexandra.*—This was an information containing 90 counts, filed by the Attorney-General, with the view of obtaining on the part of the Crown the condemnation of the ship Alexandra, as well as of imposing penalties or imprisonment upon certain persons concerned in the equipping, fitting out, or furnishing of the ship, contrary to the provisions of the Foreign Enlistment Act. The case was tried in this court at the sittings after last term at Westminster, before Lord Chief Baron Pollock and a special jury. The trial lasted four days and resulted in a verdict for the defendants. During the present term the Attorney-General obtained a rule to show cause why there should not be a new trial, on the ground mainly that the verdict was against the weight of evidence, and of misdirection by the Chief Baron in his summing up to the jury. The Attorney-General having formally moved to make the rule absolute, Sir Hugh Cairns on the part of the defendants showed cause against the rule, urging that no case had been made out to disturb the verdict of the late jury, or induce a new trial. He commented at great length on the meaning of the Foreign Enlistment Act, which he said had not been infringed by the construction of the Alexandra. On Wednesday Sir Hugh Cairns finished his argument in opposition to the new trial, and Mr. Karslake followed on the same side. On Thursday the Attorney-General addressed the Court in reply, and contended that to send one vessel unarmed from our ports, and another with an armament, which was to be taken on board by the first outside the limits of the national jurisdiction, must be treated as one act, and as if the whole were done within our jurisdiction. Yesterday the Attorney-General continued his address, and had not concluded when the Court rose.

## Obituary.

THE DOWAGER LADY BOLTON died on Monday at the Rectory, Odiham. The deceased lady, the Hon. Maria Carleton, who was eldest daughter of Guy, first Lord Dorchester, was born August 20, 1777, so that her ladyship was in her 77th year. She married, May 8, 1810, William Powlett, second Lord Bolton, by whom, who died in July, 1850, her ladyship had no issue.

ADMIRAL SIR JOHN GORDON SINCLAIR, BART., of Stevenson and Murkle, died at Stevenson House on Friday last. He was eldest son of the seventh Baronet by the daughter of the fourth Duke of Gordon, and was born in Edinburgh in 1790. In 1812 he married the daughter of the Hon. Admiral Michael de Courcy, by whom he leaves issue. He succeeded his father in 1795, and was a Deputy-Lieutenant of the counties of Haddington and Caithness. At the actions of Morgion and Cassis he greatly distinguished himself, and was for some time Captain of the port of Gibraltar. He is succeeded in the Baronetcy by his son, Robert Charles Gordon Sinclair, born in Paris in 1820, and Captain in the 38th Foot since 1849.

MR. PHILIP BURY DUNCAN, D.C.L., late Fellow of New College, Oxford, and honorary D.C.L. of the University, died on the 12th inst. at his seat, Westfield Lodge, Bath, in his 92d year. The "brothers Duncan," John Shute and Philip Bury Duncan, successively keepers of the Ashmolean Museum at Oxford, both munificent contributors to it and to every scientific and literary institution at Oxford and in Bath, were the sons of a Hampshire gentleman of substance. Mr. Philip Duncan was born in 1772, and was early sent to Winchester School, where his brother, about three years his senior, had formed friendships with the late Archbishop Howley and Lord Sidmouth, which lasted for their respective lives. John Shute Duncan was a Fellow of New College, and was called to the bar at Lincoln's Inn in 1798, but never practised; was appointed keeper of the Ashmolean Museum at Oxford in 1823, and resigned his office in 1826; was created D.C.L. in 1830, and died in 1844. "Phil. Duncan" was also a Fellow of New College, and was a distinguished naturalist like his brother, who was one of the ablest botanists in England, and the author of a well-known work on "Botanical Theology." Philip Duncan succeeded his brother in 1826 at the Ashmolean, and all Oxford men during the succeeding 28 years will remember his zealous devotion to science, his liberal donations to all scientific institutions in Oxford, his kindness of heart, and pleasant manners. All Wykehamists, New College men especially, will hear with regret of the death of the oldest member of Wykeham's noble foundations—one who, like his excellent brother, was proud of his school and college, and would do anything to further the interests of Wykehamists either by purse or by kindly counsel. Mr. Duncan presented casts of the most admired ancient statues to the Radcliffe Library. He and his brother were the restorers to utility of the museum founded by Elias Ashmole. In the catalogue of this museum the reader will see almost a majority of the most interesting objects—vertebrated and invertebrated animals, bimana, quadrumana, cheiroptera, birds, reptiles, fishes, together with leaves and seed-vessels and antiquities of all sorts, with the initials "J. S. D." or "P. B. D." as the donors, appended to the titles. Besides this, Mr. Duncan's purse was always opened for the benefit of any scientific scheme. He and his brother were the mainstay of the Literary Institution at Bath, and on his brother's death the eminent antiquarian and ecclesiologist Mr. J. H. Markland, while eulogising Mr. John Shute Duncan, spoke of Philip Duncan as the "excellent relative of the deceased, allied not only by blood, but by kindred pursuits and virtues." After an honourable connection with Oxford of 60 years, Mr. Duncan, in March, 1854, resigned his keepership of the Ashmolean, and a week or two afterwards the senior out-going proctor, Mr. Chase, of Oriel (now Principal of St. Mary Hall) spoke in feeling terms of the loss sustained by the University in the retirement of Mr. Duncan. He was created hon. D.C.L. a year or two afterwards with universal applause. Mr. Duncan was the author of various works—an essay on sculpture, a paper on Roman relics (read before the Ashmolean Society in 1836), a volume of lectures on various subjects, delivered before the Bath Institution, &c.

BIRTHS.—On the 15th inst, the Countess of STRADBROKE, of a son, prematurely, stillborn—11th inst, at 21, Chesham Place, the Lady JANE LEVETT, of a son—10th inst, at Broadmeadows, Selkirk, the Hon. Mrs. WM. NAPIER, of a son—11th inst, at Brighton, the wife of Captain the Hon. N. LESLIE MELVILLE, Grenadier Guards, of a son—3d, at 84, Stephen's Green, Dublin, the wife of JOHN ESMONDE, Esq., M.P., of a son.

MARRIAGES.—On the 17th inst, at the old parish church, Kensington, Lord WILLIAM LENNOX, to MARIA JANE, eldest daughter of the Rev. CAPEL MOLYNEUX, incumbent of St. Paul's, Onslow Square—10th inst, at the Holy Trinity Church, Tunbridge Wells, Major-General EDWARD H. HUTCHINSON, late commanding H.M.'s 35th Regiment, youngest son of the late Hon. Christopher Hely Hutchinson, M.P. for the city of Cork, to MARGARET BELL, daughter of the late JOHN LIVINGSTONE, Esq.—14th inst, at All Saints', Norfolk Square, EDWARD F. MURRAY, Esq., of Slough, youngest son of Sir James Murray, of Dublin, to EMILY JANE, widow of HENRY BRERETON, Esq., Bengal Civil Service—12th inst, at Holbrooke Church, Derbyshire, T. B. HORSFALL, Esq., M.P., to SOPHIA, eldest daughter of the Rev. WILLIAM LEEKE, incumbent of Holbrooke—8th inst, at St. Mary's Church, Ealing, Middlesex, T. P. B. WALSH, Esq., of the Laragh Manor, and of Carrareagh, county Cavan, Ireland, H.M.'s 1st Bombay Grenadier Regiment, to ISABEL, only surviving child of the late FRANCIS NICHOLAS, Esq., LL.D., of The Mansion, Ealing, and Wadham College, Oxford.

DEATHS.—On the 8th inst, at Frankfort-on-the-Maine, MARIE SARAH d'ACRE, Baroness D'Oechsner, wife of CHARLES Baron D'Oechsner, of Hesse Homberg, aged 45—9th inst, at The Firs, Binfield, Berks, the Hon. CHARLOTTE, wife of GERALD FITZGERALD, Esq.—15th inst, at Maize Hill, Greenwich, FRANCES, only surviving sister of the late E. G. BARNARD, Esq., M.P., of Gosfield Hall, Essex—9th inst, at his residence, Ingleborough, Yorkshire, JAMES WILLIAM FARRER, Esq., late Master in Chancery, aged 78—10th inst, at Walthamstow, Essex, JOSEPH BATEMAN, Esq., LL.D., Magistrate of the County of Middlesex, and formerly Assistant-Solicitor to the Board of Inland Revenue—12th inst, at Biarritz, in the South of France, JOHN BARGUS YONGE, Esq., Justice of the Peace, and Deputy-Lieutenant for the county of Devon, and eldest surviving son of the Rev. John Yonge, of Puslinch, in that county, aged 42—10th inst, JOHN MOSELEY, Esq., of Glemham House, Suffolk, a magistrate and deputy-lieutenant for the county, aged 92—6th inst, at Camberwell, WM. FORTESCUE, youngest son of the late Maojr-General Grantham, Royal Artillery—10th inst, at the Curragh Camp, Major SPIER HUGHES, 84th Regiment, aged 45—10th inst, at 99, George Street, Edinburgh, Major DAVID MUNROE, late of the Old 94th or Scotch Brigade, aged 79—9th inst, at 10, Chapel Street, Belgrave Square, Capt. GEORGE BUCHANAN, late of the Royal Scots Greys, and younger son of the late Robert Carrick Buchanan, Esq., of Drumpellier, Lanarkshire, N.B.—14th inst, at 30, Wood Street, Woolwich, Captain HARRY LORD RICHARDS, R.N., aged 78—17th inst, at his residence, 5, Northwick Terrace, St John's Wood, Captain FREDERICK MADAN, H.C.S., elder Brother of the Trinity House, aged 67—10th inst, at Greenlaw Barracks, ARTHUR B. MURRAY, Esq., Ensign 92d Regiment, youngest son of the late John Murray, Esq., of Touchadam and Polmaise—13th inst, at 11, Albert Terrace, Hyde Park, FREDERICK PIGOU, Esq.—15th inst, at Abingdon, Berks, EMMA MARY, wife of JOHN YONGE AKERMAN, Esq., F.S.A., late Secretary of the Society of Antiquaries—13th inst, the Rev. Dr. ALEX. MCCAUL, D.D., rector of the united parishes of St. Magnus-the-Marty, St. Margaret, New Fish Street, and St. Michael, Crooked Lane, prebendary of St. Paul's, aged 65—15th inst, at The Parsonage, Hampstead, the Rev. THOMAS AINGER, incumbent of the parish, aged 64—7th inst, at Capo di Monte, Torquay, the Rev. CHARLES M. G. JARVIS, formerly rector of Doddington, in the county of Lincoln—5th inst, at Polsloe Park, Exeter, the Rev. WILLIAM GRYLLS, M.A., aged 78.

## Markets.

### HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, Nov. 19.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 70s to | 80s | Clover, old .. .. | 95s to | 110s |
| Superior do. .. | 84 | 92 | Do. second cut .. | 90 | 100 |
| Inferior do. .. | — | — | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 25 | 30 |
| Rowen .. .. .. | 60 | 70 | HARVEY & EASTON. | | |

CUMBERLAND MARKET, THURSDAY, Nov. 19.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay.. | 88s to | 95s | Inferior do. .. | 84s to | 98s |
| Inferior do. .. .. | 70 | 80 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 32 | 36 |
| Superior Clover .. | 108 | 115 | JOSHUA BAKER. | | |

WHITECHAPEL, THURSDAY, Nov. 19.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay.. | 80s to | 86s | Prime 1st cut Clover | 110s to | 115s |
| Inferior do. .. .. | 75 | 80 | Inferior do. do. .. | 100 | 110 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do... | 100 | 105 |
| Straw .. .. .. | 27 | 30 | Inferior do. .. .. | 90 | 95 |

### COAL MARKET.—Nov. 18.

Buddle's West Hartley, 15s. 9d.; Byass's Bebside West Hartley, 15s. 9d.; Cowpen Hartley, 15s. 9d.; Hastings Hartley, 15s. 9d.; Holywell Main, 17s.; Lambert's West Hartley, 15s. 6d.; Tanfield Moor, 15s. 6d.; Tanfield Moor Butes, 15s. 6d.; West Hartley, 15s. 9d.; West Wylam, 16s.; Wylam, 17s.; Walls End Riddell, 17s.; Walls End Wharncliffe, 17s.; Eden Main, 17s. 3d.; Walls End Framwellgate, 16s. 9d.; Walls End Haswell, 19s. 6d.; Walls End Hetton, 19s. 6d.; Walls End Tunstall, 17s.; Walls End Cassop, 18s.; Walls End Caradoc, 18s. 6d.; Walls End Kelloe, 18s.—102 ships at market.

### COVENT GARDEN, Nov. 21.

All kinds of produce in season are abundant. Pine Apples are unusually well supplied; prices for them are lower than last week. Imported Grapes realise 8d. to 1s. per lb. Of foreign Melons there is a good stock. There is also a good supply of Chaumontel, Glou Morceau, Monsieur le Curé, and Beurré Diel Pears. Some good samples of Ribston Pippin and Cox's Orange Pippin Apples may still be obtained. Kent Cobs are good and plentiful. New St. Michael Oranges realise from 5s. to 10s. per 100. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Primroses, Mignonette, and Roses.

#### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Oranges, per 100, 5s to 10s |
| Grapes, per lb., 2s to 6s | Nuts, small, per bush., 14s to 18s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Kent Cobs, 80s to 90s p. 100 lbs. |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 14s to 20s |
| Lemons, per 100, 5s to 10s | Chesnuts, per bush., 10s to 20s |

#### VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 8d |
| ,, Shaws, do., 50s to 60s | Lettuces, each, 1d to 4d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 9d to 1s | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 3d |
| Tomatos, each, 2d to 3d | |

### HOPS.—BOROUGH MARKET, FRIDAY, Nov. 20.

Messrs. Pattenden & Smith report an improved demand for all descriptions of both English and foreign Hops at slightly advanced prices. Choice samples are very scarce.

### NEWGATE.—Nov. 20.

| | | |
|---|---|---|
| Best Fresh Butter | .. .. | 15s. per dozen lbs. |
| Second do. do. | .. .. | 13s. ,, |

Pork, 3s. 8d. to 4s. 0d. per 8 lbs.

### POTATOS.—SOUTHWARK, Monday, Nov. 16.

During the past week the arrivals both coastwise and from Kent and Essex have been more plentiful, but best samples maintain their price. The following are this day's quotations:—Yorkshire Flukes, 90s. to 95s. per ton; do. Regents, 70s. to 80s.; Kent and Essex Regents, 70s. to 80s.; do. do. Rocks, 50s. to 60s.; Perth, Forfar, and Fifeshire Regents, 65s. to 75s.

### METROPOLITAN CATTLE MARKET.

MONDAY, Nov. 16.

The number of Beasts is considerably smaller than on Monday last, and the demand is good; consequently, on the average prices are rather better. Sheep are not quite so plentiful; trade is by no means brisk. Choicer descriptions meet with purchasers at late rates, but other kinds are rather lower. Trade remains as on Thursday for Calves. From Germany and Holland there are 1740 Beasts, 6780 Sheep, and 352 Calves; from Scotland, 108 Beasts; from Ireland, 960; and 2780 from the Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 2 | Best Long-wools. | 5 2 — 5 6 |
| Best Short-horns | 4 6 — 5 0 | Do. Shorn | .. .. — .. |
| 2d quality Beasts | 2 10 — 3 10 | Ewes & 2d quality | 4 4 — 4 8 |
| Best Downs and Half-breds .. | 5 8 — 5 10 | Do. Shorn | .. .. — .. |
| Do. Shorn | .. .. — .. | Lambs .. | .. .. — .. |
| | | Calves .. | .. 3 4 — 5 0 |
| | | Pigs .. | .. 3 4 — 4 8 |

Beasts, 5830; Sheep & Lambs, 21,480; Calves, 367; Pigs, 340.

THURSDAY, Nov. 19.

The number of Beasts is about the same as on Thursday last. Trade is dull, and Monday's quotations are scarcely maintainable throughout. The supply of Sheep is smaller; and although there is not a large demand, late prices are fully maintained. Calves are rather lower than on Monday. Our foreign supply consists of 790 Beasts, 2089 Sheep, and 290 Calves. Milch Cows, 35.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 8 to 5 0 | Best Long-wools. | 5 2 — 5 6 |
| Best Short-horns | 4 6 — 4 10 | Do. Shorn | .. .. — .. |
| 2d quality Beasts | 2 8 — 3 10 | Ewes & 2d quality | 4 4 — 4 8 |
| Best Downs and Half-breds .. | 5 8 — 5 10 | Do. Shorn | .. .. — .. |
| Do. Shorn | .. .. — .. | Lambs .. | .. .. — .. |
| | | Calves .. | .. 3 0 — 4 8 |
| | | Pigs .. | . 3 0 — 4 8 |

Beasts, 1475; Sheep & Lambs, 3760; Calves, 327; Pigs, 160.

### MARK LANE.—MONDAY, Nov. 16.

The supply of Wheat from Essex and Kent to this morning's market was small, and the condition inferior to what it has been of late; nevertheless, it was quickly realised at the extreme rates of this day se'nnight. Foreign Wheat was taken at an improvement of 1s. per qr. Fine malting Barley continues in good demand at full prices, other descriptions are unaltered in value. Beans are the turn dearer. Peas bring late rates. The Oat trade is firm, and old corn brings an advance of 6d. per qr. American Flour is 6d. per barrel dearer.

| PER IMPERIAL QUARTER | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 42—46 | Red ..... | 38—44 |
| — — fine selected runs .. ditto | 44—50 | Red .... | 40—46 |
| — — Talavera ................ | 46—52 | | |
| — Norfolk ...................... | — | Red .... | — |
| — Foreign ...................... | 36—54 | | |
| BARLEY, grind. & dist., 26s to 28s .. Chev. | 34—38 | Malting .. | 30—38 |
| — Foreign .. grinding and distilling | 23—26 | Malting .. | 30—32 |
| OATS, Essex and Suffolk ............ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—26 | Feed .... | 20—22 |
| — Irish ..................Potato | 19—22 | Feed .... | — |
| — Foreign ......Poland and Brew | 18—22 | Feed .... | 15—20 |
| RYE ................................ | 30—32 | Foreign .. | — |
| RYE-MEAL, Foreign .................. | — | | |
| BEANS, Mazagan....28s to 36s.. Tick | 30—34 | Harrow .. | 30—34 |
| — Pigeon .... 32s to 40s.. Winds. | — | Longpod | — |
| — Foreign ................Small | 36—42 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent.. Boilers | 34—36 | Suffolk .. | 34—38 |
| — Maple .... 34s to 36s .... Grey | 31—33 | Foreign .. | 32—40 |
| MAIZE ..........................White | — | Yellow .. | — |
| FLOUR, best marks delivered.. per sack | 35—40 | | |
| — 2d do ......................ditto | 28—34 | Country .. | 28—34 |
| — Foreign ............ per barrel | 15—24 | Per sack | 32—42 |

FRIDAY, Nov. 20.

The weather although somewhat dull since the 18th has been

fine and mild. The Wheat trade during the past week has shown great firmness, and a slight tendency towards improvement; extreme prices, and in some markets a slight advance, have been realised. A similar tendency has been observable in all kinds of spring corn and barrel Flour. Since Friday last 28 vessels have been reported off the coast. The floating trade has been very firm; the small number of cargoes off the coast has caused the business to be very limited. Wheat has risen 1s. per qr., Maize 6d., and holders ask for a further advance; Beans and Barley are improving. In Paris (Nov. 19), prices are rising for Flour, and business has been a little more active than of late. The six marks for delivery this month are quoted equal to 31s. 9d. per 280 lbs. The present stock is estimated at 8660 cwt. Wheat is about 9d. per 480 lbs. dearer. The arrivals of English and foreign Barley are large, of all other grain small. To-day's market was thinly attended. English Wheat commanded the extreme rates of Monday last, and Foreign being generally held for an advance of 1s. to 2s. per qr., caused business to be limited. Barley is unaltered in value. Beans and Peas firm. Oats are the turn dearer.

ARRIVALS THIS WEEK.

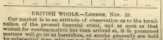
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1280 qrs. | 3340 qrs. | 850 qrs. | 1020 sk. |
| Irish .... | — | 110 | 2600 | — " |
| Foreign .. | 1100 ,, | 7850 | 6960 ,, | 660 ,, / 4620 brls |

LIVERPOOL, Nov. 17.—Our market has been pretty numerously attended to-day, and a fair consumptive demand has been experienced for Wheat at the extreme rates current on Friday last. Flour commands a moderate extent of sale without change in value. Indian Corn is held for an advance of 6d. per quarter, which is found to check business. Oats and Oatmeal are less active. Beans must be quoted 3d. per quarter dearer. Peas and Barley have undergone no alteration. The market closes steady.

FRIDAY, Nov. 20.—Market moderately attended. Wheat: good demand, and prices fully 1d. dearer. Rather more inquiry for Flour at previous rates. Indian Corn dull. Egyptians Beans steady. Oats and Oatmeal unchanged.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Oct. 10 | 41s 0d | 34s 7d | 19s 4d | 31s 5d | 37s 0d | 36s 4d |
| — 17 | 40 4 | 34 0 | 18 8 | 29 2 | 36 5 | 34 7 |
| — 24 | 40 0 | 33 11 | 18 7 | 28 9 | 36 5 | 35 8 |
| — 31 | 41 2 | 34 0 | 18 11 | 28 0 | 35 8 | 35 2 |
| Nov. 7 | 40 0 | 34 2 | 18 7 | 28 0 | 35 10 | 35 0 |
| — 14 | 39 10 | 34 0 | 18 9 | 25 0 | 36 5 | 34 1 |
| Agg. Aver. | 40 2 | 34 1 | 18 10 | 28 5 | 36 3 | 35 2 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.




BRITISH WOOLS.—LONDON, Nov. 19.

Our market is in an attitude of observation as to the termination of the present financial crisis, and as soon as that wished for consummation has been arrived at, it is presumed matters will go on as heretofore, as stocks generally are held by substantial men, who are not disposed to sell at less money with the certainty of not being able to replace this side of next shear day.

| | s. d. | | s. d. |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 11 | to | 2 0 |
| Half-bred ditto .. | 1 11 | — | 2 0½ |
| Down Ewes .. | 1 10 | — | 1 10½ |
| Kent Fleeces .. .. | | — | 2 0 |
| Leicest. Wethers | 1 9½ | to | 1 10½ |
| Ditto Hoggs .. | 1 10½ | — | 1 11½ |
| Combing Skins .. | | — | .. |
| Flannel Wool .. | 1 4 | — | 1 9 |
| Blanket ditto .. | 0 9 | — | 1 0 |

PARTNER, with not less than £1000.—He must either understand Growth of Pines, Grapes, and Peaches (as these are grown extensively), or the Seed Trade. The Advertiser being owner of the Concern, this is a rare opportunity. Extent of Ground 17 acres; quantity of wall covered with bearing Peaches;- 12 Houses —O., Post Office, Gloucester.

WANTED, a FOREMAN, in a Private Establishment, where Plants are grown extensively for Exhibition, &c. Every facility will be given to a really persevering young Man.—W. S., The Gardens, Welton House, Brough, Yorkshire.

WANTED IMMEDIATELY, a good MARKET GARDENER and WIFE, without incumbrance.—The Gardener must be well up to his work, and have a good reference. The Wife will be required to understand Poultry and Cows; a per centage will be given her on what she produces. House, Firing, Vegetables, and Milk, with a liberal Salary.—Apply to WILLIAM EPPS, JUN., Nursery, Seed, and Fruit Establishment, Hastings.

WANTED, a GARDENER, in a gentleman's family, about 12 miles from London; he must understand his profession, Forcing, &c., and will have to attend to a Pony and 2 Cows; Wife to act as Laundress. A cottage on the premises. —J. W. G., 26, Chancery Lane, C.

WANTED, as GARDENER, a steady, industrious, and experienced single Man, who is capable of Managing a plain Kitchen and Flower Garden. There is no glass. He will be required to live in the House, and a middle-aged Man would be preferred.—Address, with Particulars of former employment, by Letter only, 427, *Midland Counties Herald* Office, Birmingham.

WANTED, a thoroughly practical GARDENER, to undertake the Management of a Garden. (House found.)—State age, salary, &c., to A. B., care of Wm. Dawson & Sons, Cannon Street, City, E.C.

WANTED, as UNDER SHOPMAN, a clever active Man, of good address and abilities. One accustomed to the Retail Counter Trade preferred.—Address, stating age, salary, and reference, SAMUEL YATES, Seed Merchant, 16, Old Millgate, Manchester.

WANTED, in a Provincial Seed and Corn Establishment, a YOUTH as an APPRENTICE, who must be a good Penman; to live with employer on the premises. —For further particulars, address to THOMAS B. THOMSON, 20, High Street, Birmingham.

WANTED, a respectable LAD to assist in the Seed Shop; one from the country preferred.—Address, in own handwriting, to B. S. W., Paradise and Victoria Nurseries, Holloway, London, W.

DAIRY-MAID.—Wanted, a Person to take charge of a small Dairy, Four Cows, look after Poultry, make Bread and Butter. If she can Cook a little so much the better.—Address, stating age, wages required, and length of service in last place, to E., *Gardeners' Chronicle* Office, W.C.

## WANT PLACES.—Letters to be Post Paid.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. HENDERSON & SON, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (HEAD).—Age 33; energetic; unexceptionable character, and possessing the highest testimonials and recommendations.—A. B., Post Office, Balham, S.

GARDENER (HEAD).—Understands the Management of Pines, Vines, Flower and Kitchen Garden. Can be highly recommended.—T. B., Pridham & Sanders, North End, Croydon, S.

GARDENER (HEAD).—Thoroughly competent to take a situation where the general routine of Gardening is required—Pines, Vines, Peaches, &c.—DELTA, Post Office, Brixton Hill, S.

GARDENER (HEAD).—Age 28, single; has a thorough practical knowledge of his profession in all its branches. Good character.—W. JONES, Hardwick, Witney, Oxon.

GARDENER (HEAD), age 31, married, three children.—WILLIAM WOOD & SON are desirous of recommending a deserving Young Man as a thorough good practical Gardener.—Address WOODLANDS, Maresfield, Uckfield, Sussex.

GARDENER (HEAD).—Middle age, single, Scotch; has a practical knowledge of his profession in all its branches. Has been 13 years in his present situation, where he has been very successful in Growing Grapes and Wall Fruit.—WILLIAM MILLER, Gatton Park, Reigate, Surrey.

GARDENER (HEAD).—No incumbrance; has for many years had practice in Growing Grapes, Pines, &c., Stove and Greenhouse Plants. Good Kitchen Gardener. Experienced in Laying Out Grounds, and Planting, in every way required for a nobleman's or gentleman's Garden.—L. T., 6, Robertson Street, Lee, Kent.

GARDENER (HEAD).—Age 35; has a practical knowledge of all things appertaining to the Kitchen, Fruit, and Flower Gardens; is fully competent in Forcing, Laying-out of Ornamental Grounds, &c. Good character from the gentleman he has left.—J. S., Messrs. Lee's Nurseries, Hammersmith, W.

GARDENER (HEAD).—Age 38, married; thoroughly understands his profession in all kinds of Forcing, Stove and Greenhouse Plants, Ferns, &c.; Kitchen and Flower Gardens, Pleasure Grounds, Orchard House, and Fruit Trees. —C. R., Downie, Laird & Laing, Stanstead Park Nursery, Forest Hill, London, S.E.

GARDENER (HEAD).—Good working; thoroughly understands the Forcing of Pines, Vines, Stove and Greenhouse Plants; the Peach-house; Strawberries, Cucumbers, Melons; Fruit, Flower, and Kitchen Gardens, &c. Character of the highest order.—F. H., 3, Torquay Terrace, Seven Sisters Road, Holloway, N.

GARDENER (HEAD).—Middle age, married; well versed in every branch of his profession, including the Growth of Pines, Grapes, Orchids, Ferns, Stove and Greenhouse Plants in general, and Management of Kitchen and Flower Gardens &c. Unexceptionable character.—A. Z., 17, Charlotte Terrace, Clapham Park, London, S.

GARDENER (HEAD).—GEO. SCOTT (age 34, married), Gardener to the Right Hon. Wm. Hutt, M.P., Gibside, Gateshead, will be disengaged by the end of December, and will be glad to treat with any nobleman or gentleman requiring the services of a thoroughly practical Gardener. Two years' good character, and first-class testimonials from previous employers.—Address as above.

GARDENER (HEAD).—JOHN GIFKINS (age 34, single), for eight years and a half Gardener to the Hon. and Rev. Chas. Annesley, Eydon Hall, Banbury. By the death of this gentleman he is open to another engagement. He thoroughly understands his profession in all its various branches, and the general control and Superintendence of a gentleman's Garden.—J. GIFKINS, 54, North Street, Maida Hill, Paddington, W.

GARDENER (SINGLE-HANDED).—Age 25; has a good knowledge of Gardening in all its branches. No objection to a Cow or two. Four years' good character.—O. Z., Post Office, Surbiton, near Kingston, Surrey, S.W.

GARDENER (FOREMAN, UNDER, OR SINGLE-HANDED).—Age 20, a strong, active, young Man; has been regularly brought up to the profession. Good reference can be given.—H. A. C., 21, Munden Street, Hammersmith, W.

NURSERY FOREMAN.—Age 30; has had considerable experience in several of the principal London Nurseries, where good references can be given.—A. B., 56, Clarendon Street, Clarendon Square, London, N.W.

FOREMAN or GARDENER (SECOND).—Age 25; good experience in Forcing, Plant Growing, &c. Can be highly recommended.—A. R., Messrs. Downie, Laird, & Laing, Stanstead Park Nursery, Forest Hill, S.E.

To Wholesale Nurserymen and Seedsmen.

TRAVELLER, or CLERK and TRAVELLER, or to take the Management of a Seed Business.—Middle-aged; has a good connection among Gentlemen's Gardeners and the Trade throughout the country. Good references.—A. B., *Advertiser* Office, Trowbridge.

BAILIFF.—Without incumbrance; 18 years' experience with noblemen and gentlemen as above, in the north and midland counties. Unexceptionable references as to abilities, and any security given.—W. J. P., Post Office, Wheldrake, Yorkshire.

STEWARD or BAILIFF.—Age 40, married, Scotch; has had considerable experience in the Reclamation, Drainage and Improvement of Land, Erection of Farm Buildings, Management of Woods, as well as the general business of Farming. High class references can be given.— B. H., Post Office, Chester.

FARM BAILIFF or FACTOR.—Married, no incumbrance; by a Scotchman who has a thorough practical knowledge of Farming. First-class references can be given.— J. G., Messrs. Alexander Cross & Sons, Seed Merchants, Glasgow.

JUNIOR CLERK.—Age 18; upwards of three years' experience. First-class references.—H. S., 45, Broad Street, Reading.

SHOPMAN.—Age 26; eleven years' experience; 2 years' first-class reference. Can assist in the Counting House.—O. P., *Gardeners' Chronicle* Office, W.C.

SHOPMAN.—Age 24, married; has a good knowledge of the Seed Trade; is a good Salesman, and of respectable connections.—Y. Y., *Gardeners' Chronicle* Office, W.C.

HEAL AND SON'S EIDER-DOWN QUILTS, from 25s. to 10 Guineas. Also GOOSE-DOWN QUILTS, from 10s. to 32s. Lists of Prices and Sizes sent Free by Post.
HEAL & SON'S Illustrated Catalogue of Bedsteads and Priced List of Bedding also sent Post Free on application to
196, Tottenham Court Road, W.

THRESHER'S COLORED FLANNEL SHIRTS. —PRIZE MEDAL awarded to THRESHER & GLENNY for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.
Lists of Prices on application to THRESHER & GLENNY, General Outfitters, next door to Somerset House, Strand, W.C.

METCALFE, BINGLEY, AND CO'S NEW PATTERN TOOTH BRUSHES, Penetrating Unbleached Hair Brushes, Improved Flesh Brushes, genuine Smyrna Sponges, and every description of Brush and Comb and Perfumery for the Toilet. METCALFE'S celebrated Alkaline Tooth Powder, 2s. per box. The FAIRY BOUQUET; the OXFORD and CAMBRIDGE BOUQUET. In bottles, 2s., 3s. 6d., and 5s. each 130 B, and 131, Oxford Street, W.

All good Cooks and careful Housewives use

SYMINGTON'S PATENT PREPARED PEA FLOUR, which is easy of digestion, perfectly wholesome, requires no boiling, rapidly makes a Tureen of rich Soup, and never causes unpleasant feelings after eating. In Packets, 1*d.*, 2*d.*, and 4*d.*; and Tins, 1*s.*, 1*s.* 6*d.*, and 3*s.* each.
GROATS and BARLEY prepared by the same process, in Tins, 6*d.* and 1*s.* each.
SCOTCH OATMEAL for Porridge and Oat Cake, in Packets, 1*d.*, 2*d.*, 4*d.*; 28 lb. Tins and Barrels.
Patentees and Manufacturers: W. SYMINGTON & Co., Bowden Steam Mills, Market Harborough. Sold everywhere.

Sauce.—Lea and Perrins'

WORCESTERSHIRE SAUCE.— This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE,"
Is prepared solely by LEA & PERRINS.
The public are respectfully cautioned against worthless imitations, and should see that LEA & PERRINS' Names are on Wrapper, Label, Bottle, and Stopper.
ASK FOR LEA AND PERRINS' SAUCE.
*** Sold Wholesale and for Export, by the Proprietors, Worcester; Messrs. CROSSE & BLACKWELL; Messrs. BARCLAY & SONS, London, &c.; and by Grocers and Oilmen universally.

GIVE YOUR HORSE a TREAT.—Two Penny Packets of THORLEY'S DELICIOUS CONDIMENT daily, mixed with damped Chaff and Corn, will, at three weeks hence, astonish the owner. Packed publicly at 145, Fleet Street, City, E.C. None genuine without the Inventor's signature engraved on each packet, "JOSEPH THORLEY."
No Constitution Balls or Condition Powders are required where the Condiment is used.

DAY, SON, AND HEWITT, Inventors of the "Stock Breeder's Medicine Chest;" containing
DAY'S EXTRACT and GASEOUS FLUID,
which are to the Stock Breeder and Farmer of the most inconceivable value, inasmuch as paining in Ewes in bad lambing, Cows in bad calving, swollen udders, sore teats, and all bad wounds, bruises, and swellings in all Animals, are dissipated and finally annihilated by the "Extract," while the "Gaseous Fluid" for Ewes weakly after bad lambing, Cows after bad calving, Mares after bad foaling, by its balsamic and electrical influence imparts the greatest life and animation. It is proverbial for its marvellous cure of the Fret, Colic, and Gripes in Horses, and for Diarrhœa (or Scour) in Calves, Sheep, and Lambs. Such is the permeation of the "Extract" by rubbing in, and of the "Gaseous Fluid" by dosing, that they draw the acrid humours which cause disease out of the parts affected, and excite the curative powers of nature into action; when life, vigour, and the soundest health ensue. This is the secret of their wonderful popularity. Price of "Extract," 2*s.* 6*d.* and 7*s.* per bottle; or quarter of dozen in wood box, 7*s.* 6*d.* "Gaseous Fluid," 1*s.* 8*d.* per bottle, or 20*s.* per dozen in wooden box. Plain directions for use given with every Article.
☞ Caution. Counterfeits are being hawked about at markets, some as "DAY'S," and others as "DAY & Co.'s," to avoid which be sure and ask the person soliciting orders, "Are you travelling for DAY, SON, & HEWITT?"
The "Key to Farriery," free by post for 13 stamps.
SAMPLE MEDICINE CHEST, 16*s.* 6*d.* Carriage paid.
Patrons, 70,000.
Address, 22, Dorset Street, Baker Street, London, W., and Wantage, Berks. No other branch in the kingdom.

KEATING'S PERSIAN INSECT DESTROYING POWDER.—Fleas in Dogs, Poultry, &c., are instantly destroyed, as also Bugs, Beetles, and every other Insect, by this Powder, which is perfectly harmless to animal life; Sportsmen particularly will therefore find it invaluable.
Sold in Packets, 1*s.*, 2*s.* 6*d.*, and 4*s.* 6*d.* each, or post free for 14, or treble size for 36 postage stamps, by THOMAS KEATING, Chemist, 79, St. Paul's Churchyard, London, E.C. Take notice, each genuine packet bears the above name and address.
For which a Prize Medal was awarded to the Producer at the International Exhibition, 1862.

DINNEFORD'S PURE FLUID MAGNESIA has been during 25 years emphatically sanctioned by the Medical Profession, and universally accepted by the public, as the best remedy for Acidity of the Stomach, Heartburn, Headache, Gout, and Indigestion, and as a mild Aperient for delicate constitutions, more especially for ladies and children. It is prepared in a state of perfect purity and of uniform strength by
DINNEFORD & Co., 172, New Bond Street, London, and sold by all respectable Chemists throughout the world.

CORNS and BUNIONS.—A Gentleman, many years tormented with Corns, will be happy to afford others the information by which he obtained their complete removal in a short period, without pain or any inconvenience.
Forward address, on a stamped envelope, to W. GOODALL, Esq., Epsom, Surrey.

CONSUMPTION and all Nervous, Bilious, Liver and Stomach Complaints are only aggravated and accelerated by drugs of every description, but perfectly curable by DU BARRY'S health-restoring
REVALENTA ARABICA FOOD,
As proved by thousands of cases which had been considered hopeless. We quote a few.—Cure No. 46,270. Mr. James Roberts, of Frimley, Surrey, of 30 years' diseased lungs, spitting of blood, liver derangement, and partial deafness.—Cure No. 47,121. Miss Elizabeth Jacobs, of extreme nervousness, indigestion, gatherings, low spirits, and nervous fancies.—Cure No. 54,816. The Rev. James T. Campbell, Fakenham, Norfolk, "of indigestion and torpidity of the liver, which had resisted all medical treatment."—In tins 1 lb., 2*s.* 9*d.*; 2 lb., 4*s.* 6*d.*; 5 lb., 11*s.*; 12 lb., 22*s.*; 24 lb., 40*s.*
BARRY DU BARRY & Co., No. 77, Regent Street, London, W.; also at 61, Gracechurch Street, E.C.; 4, Cheapside, E.C.; 63 and 150, Oxford Street, W.; and all Grocers and Chemists in every town of the United Kingdom.

# The Gardeners' Chronicle Newspaper.

*SATURDAY, NOVEMBER* 28, 1863.


THE GENERAL LAND DRAINAGE and IMPROVEMENT COMPANY,

Offices: 52, Parliament Street, S.W.

HENRY KER SEYMER, Esq., M.P., *Chairman.*
Sir J. VILLIERS SHELLEY, Bart., M.P., *Vice-Chairman.*
J. BAILEY DENTON, Principal Engineer.

Under this Company's Act tenants for life, trustees, mortgagees, guardians, committees of incompetent persons, beneficial lessees, corporations (ecclesiastical or municipal), incumbents, charitable trustees, &c., may effect the following land improvements, and charge the outlay and expenses on the estate improved, by way of rentcharge, to be paid by half-yearly instalments, viz:—

1. All works of Drainage, Irrigation, Warping, and Embankment.
2. The Erection of Farmhouses, Cottages for Agricultural Labourers, and all kinds of Farm Buildings.
3. The Construction of Roads.
4. The Grubbing and Clearing of Old Woodlands, Enclosing, Fencing, and Reclaiming Land.

The owners of estates, not entailed, who may be desirous to avoid the expense or inconvenience of a legal mortgage, may also charge their Estates with an outlay in improvements under the simple and inexpensive process of the Company's Act.

The term of years for the rentcharge is fixed by the landowner, so as to adapt the amount of annual payment to the circumstances of the tenants, the term for building works being limited to 31 years.

No investigation of title being required, and the charge not being affected by encumbrances, no legal expenses are incurred.

The arrangements for effecting improvements are threefold:—

No. 1. The works may be designed and executed entirely by the landowner's agent, and the Company employed only to supply the loan and conduct the matter through all the official forms for charging the outlay on the estate.

No. 2. The Company will supply plans, specifications, and estimates for any improvements to be executed by the landowner's agent as under No. 1. In each of these cases the landowner will be solely under the control of the Enclosure Commissioners.

No. 3. The Company will undertake the entire responsibility of the improvements, prepare the plans, execute the works, and finally charge on the estate the actual amount expended, with their commission thereon, approved by the Enclosure Commissioners.

Landowners may thus obtain what assistance they require from the Company, and no more, in effecting the objects in view.

Works of Drainage and other improvements are also executed on commission for landowners, who merely require the skill and experience of the Company's officers and a staff in constant practice.

Applications to be addressed to WILLIAM CLIFFORD, the Secretary, at the Office of the Company, 52, Parliament Street, S.W.

THE LANDS IMPROVEMENT COMPANY.

Incorporated by Special Act of Parliament in 1853.

2, Old Palace Yard, Westminster, S.W.

TO LANDOWNERS, THE CLERGY, ESTATE AGENTS, SURVEYORS, &c. IN ENGLAND AND WALES AND IN SCOTLAND.

The Company advances money, unlimited in amount, for the following works of Agricultural Improvement, the whole outlay and expenses in all cases being liquidated by a rent charge for 25 years.

1. Drainage, Irrigation and Warping, Embanking, Inclosing, Clearing, Reclamation, Planting, for any beneficial purpose, Engines or Machinery for Drainage or Irrigation.
2. Farm Roads, Tramways and Railroads for agricultural or farming purposes.
3. Jetties or Landing places on the sea coast or on the banks of navigable rivers or lakes.
4. The erection of Farm Houses, Labourers' Cottages, and other Buildings required for Farm purposes, and the improvement of and additions to Farm Houses and other buildings for farm purposes.

Landowners assessed under the provisions of any Act of Parliament, Royal Charter, or Commission, in respect of any public or general works of drainage or other improvements, may borrow their proportionate share of the cost, and charge the same with the expenses on the lands improved.

No investigation of title is required, and the Company being of a strictly financial character do not interfere with the plans and execution of the Works, which are controlled only by the Government Enclosure Commissioners.

For further information, and for forms of application, apply to the Honourable WILLIAM NAPIER, Managing Director, 2, Old Palace Yard, Westminster S.W.

NORWICH UNION LIFE INSURANCE SOCIETY.

Instituted 1808, upon the Principle of Mutual Assurance.

This Society affords unusual advantages to the intending Assurer. The Rates of Premium are 10 per cent. less than those of most offices. The whole of the Profits belong to the Assured. One-half of the first five Annual Premiums may remain as a permanent charge upon Policies effected for the whole duration of life.

PRESENT POSITION OF THE SOCIETY.

| | | | |
|---|---|---|---|
| The Accumulations exceed .. .. | £2,000,000 | 0 | 0 |
| The amount Assured is upwards of .. | 5,570,465 | 0 | 0 |
| Annual Increase .. .. .. .. | 254,712 | 13 | 2 |

£6,326,413 have been paid to the representatives of deceased members.

For further information and Prospectus apply at the Society's Office, Surrey Street, Norwich; Crescent, New Bridge Street, Blackfriars, E.C.

PRICE'S CHILD'S NIGHT LIGHTS are perfectly safe, and burn their time. The quality of these Night Lights can now be relied on.

SHERWOOD BED LIGHTS, Sixpence and Eighteenpence a box.—These candles are made to supply a want very generally expressed, a cheap, really good Chamber Candle. They will be found inferior only to "PRICE'S CANDLES, WHICH WILL NOT DROP GREASE WHEN CARRIED," which are sold in boxes, 1s. and 3s. each.

GLYCERINE, which very simple tests show to be impure, is being sold on the statement that "it is in every respect equal to Price's." Most medical men prescribe "PRICE'S GLYCERINE." Where purity is of importance patients can ensure it by desiring to have their Glycerine in 1 lb., 8 oz., 4 oz., or 2 oz. bottles, with capsule over the stopper marked "Price's Patent."

Belmont, Vauxhall.

DEANE'S (Monument), LONDON BRIDGE, E.C.

Established A.D. 1700.

FURNISH your HOUSE with the BEST ARTICLES: they are the cheapest in the end.

DEANE'S—Celebrated Table Cutlery, manufactured in every variety of style and finish.
DEANE'S—Electro-plated Spoons and Forks, best manufacture, strongly plated.
DEANE'S—Dish Covers and Hot-water Dishes. Prices of Tin Dish Covers in sets, 18s., 30s., 40s., 63s., 78s.
DEANE'S—Copper and Brass Goods, Kettles, Stew and Preserving Pans, Stockpots, &c.
DEANE'S—Moderator and Rock Oil Lamps, a large and handsome assortment.
DEANE'S—Domestic Baths for every purpose. Bath-rooms fitted complete.
DEANE'S—Fenders and Fire-irons, in all modern and approved patterns.
DEANE'S—Bedsteads in Iron and Brass, with Bedding of superior quality.
DEANE'S—Tin and Japan Goods, Iron Ware, Kitchen Requisites, and Culinary Utensils.
DEANE'S—Turnery, Brushes, Mats, &c., well made, strong, and serviceable.
DEANE'S—Horticultural Tools, Lawn Mowers, Garden Rollers, Wire-work, &c.
DEANE'S—Gas Chandeliers, newly designed patterns in glass and bronze—three-light glass from 63s.

NEW ILLUSTRATED CATALOGUE and PRICED FURNISHING LIST gratis and post free.

DEANE & Co., The Monument, London Bridge, E.C.

FENDERS, STOVES, FIRE-IRONS, and CHIMNEY PIECES.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW-ROOMS. They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and GENERAL IRONMONGERY as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; Steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces, from 1*l.* 8*s.* to 100*l.*; Fire Irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The BURTON and all other PATENT STOVES, with radiating hearth-plates.

BEDSTEADS, BATHS, and LAMPS.—WILLIAM S. BURTON has SIX LARGE SHOW ROOMS, devoted exclusively to the SEPARATE DISPLAY of LAMPS, BATHS, and METALLIC BEDSTEADS. The stock of each is at once the largest, newest, and most varied ever submitted to the public, and marked at prices proportionate with those that have tended to make his establishment the most distinguished in this country.

| | | |
|---|---|---|
| Bedsteads, from .. .. | 12*s.* 6*d.* to £20 0*s.* | each |
| Shower Baths, from .. | 8*s.* 0*d.* to £6 0*s.* | ,, |
| Lamps (Moderateur), from | 6*s.* 0*d.* to £8 10*s.* | ,, |

(All other kinds at the same rate).

Pure Colza Oil .. .. .. .. 4*s.* per gallon.

CUTLERY, WARRANTED.—The most varied assortment of TABLE CUTLERY in the world, all warranted, is on sale at WILLIAM S. BURTON'S, at prices that are remunerative only because of the largeness of the sales.

| Ivory Handles. | Table Knives, per dozen. | Dessert Knives, per dozen. | Carvers, per pair. |
|---|---|---|---|
| 3¼-inch ivory handles .. .. .. .. | 12*s.* 6*d* | 10*s.* 0*d* | 4*s.* 3*d* |
| 3½-inch fine ivory handles .. .. .. | 15 0 | 11 6 | 4 3 |
| 4-inch ivory balance handles .. .. | 18 0 | 14 0 | 4 9 |
| 4-inch fine ivory handles .. .. .. | 24 0 | 18 0 | 7 3 |
| 4-inch finest African ivory handles .. | 32 0 | 26 0 | 11 0 |
| Ditto, with silver ferules .. .. .. | 40 0 | 33 0 | 12 6 |
| Ditto, carved handles, silver ferules .. | 50 0 | 43 0 | 17 6 |
| Nickel electro-silver handles, any pattern | 25 0 | 19 0 | 7 6 |
| Silver handles of any pattern .. .. | 64 0 | 54 0 | 21 0 |
| Bone and Horn Handles.—Knives and Forks per dozen. | | | |
| White bone handles .. .. .. .. | 11*s.* 0*d* | 8*s.* 6*d* | 2*s.* 6*d* |
| Ditto balance handles .. .. .. | 21 0 | 17 0 | 4 6 |
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## News of the Week.

HER MAJESTY'S Government, after holding numerous Cabinet Councils for the consideration of the EMPEROR'S proposal of a Congress to discuss the affairs of Europe, resolved on Wednesday definitively to decline the invitation. It was stated last week that the Government had asked for information as to the subjects which the EMPEROR proposed to submit to the attention of the

Congress. The French Government, in reply, specified four subjects of discussion—Poland, Italy, the Danish Duchies, and the Danubian Principalities. Her Majesty's Government, therefore, proceeded to consider these subjects, and to determine whether there was any prospect that the discussion of them by a general Congress would be of advantage to Europe or to the countries themselves. The conclusion at which they arrived was that Russia, after having rejected the intervention of three such Powers as France, Austria, and England, would probably refuse to discuss the Polish question before the representatives of all Europe; that Austria would oppose any discussion of the Venetian question or the recognition of the Italian Kingdom; that the affairs of Denmark and the Duchies were already provided for by a Treaty signed by the five great Powers; and that the state of the Danubian Principalities presented no difficulties which called for the interposition of a Congress. While therefore courteously acknowledging that the Emperor NAPOLEON was actuated by a sincere desire for peace, in inviting the other Powers to settle with him the questions which now disturb the Continent, they have come to the conclusion that it would be useless or prejudicial to assemble a Congress to discuss them, and have therefore declined to accede to the proposal.

The excitement caused by the Schleswig-Holstein question is rapidly increasing throughout Germany, and the whole nation appears unanimous in the determination to support the claims of Prince FREDERICK, in opposition to those of the KING of DENMARK. In the Prussian Chamber of Deputies the Liberal party has given notice of a motion that all the German States are bound to support the claims of the PRINCE, and the Conservative party has announced its readiness to place all requisite means at the disposal of the Government for the maintenance of the rights of the Confederation. The Upper House of the Saxon Diet has passed a strong resolution in favour of the independence of the *Duchies*, and the Chamber of Deputies of Hesse Darmstadt has unanimously resolved to request the Government to maintain the right and integrity of Germany by the recognition of Prince FREDERICK. The committee of the National Verein have issued an address to the German princes and people calling on them to maintain the rights of Germany and the Duchies, and it is said that the Committee of the Federal Diet have decided to propose the immediate adoption of Federal execution in Holstein.

The Prussian Government has given effect to the recent vote of the Chamber of Deputies, condemning the press ordinance as unconstitutional, by cancelling the ordinance by royal decree. In the sitting of the Chamber of Deputies on Tuesday the Government introduced a Bill on military service. With the exception of some changes in the wording, this Bill is the same as was presented last session, and retains the article stipulating for three years' service.

Accounts from New York inform us that General LEE, whose force is said to be diminished to 30,000 men, has retreated beyond the Rapidan, after having suffered a surprise by General MEADE's advance when the Federal army crossed the Rappahannock. General LEE is now strongly entrenched on the south side of the Rapidan, and General MEADE's army is posted between the Rapidan and the Rappahannock. General BURNSIDE has met with a disastrous defeat in Tennessee, and is said to have been superseded by General FOSTER. The reported capture of Fort Sumter is not confirmed, and the bombardment was still in progress on the 10th inst. Lord LYONS has acquainted the Federal Government with the existence of a plot among the Confederate refugees in Canada, to seize the steamers on Lake Erie, liberate the prisoners in Fort Johnson, and burn the lake cities. The three Chief Justices of Pennsylvania, constituting a majority of the Supreme Court of that State, have declared the Conscription Act to be unconstitutional.

Accounts from Japan have been received through San Francisco to the 6th October. They state that all foreigners had been ordered by the Japanese authorities to leave Nagasaki, but had refused compliance. The Japanese Governor therefore resigned, and several of the Ministers who were in favour of peace with the Christian nations were dismissed from office. A French officer having been murdered by the Japanese, immediate reparation was demanded, and war by the combined French and English force was considered imminent. The Dutch also intended to avenge the insult offered to their flag, and were said to be getting ready for active operations.

## Home News.

THE COURT.—On Thursday week the Duke of Newcastle left the Castle for London. The Duke of Nemours and Princess Marguerite of Orleans arrived on a visit. In the evening the Queen had a dinner party. On Friday morning the Queen walked and drove in the grounds, accompanied by the Crown Princess. Count and Countess Bernstorff left the Castle for London. Earl Russell had an audience of the Queen. In the evening Prince Arthur arrived from Greenwich Park. On Saturday morning the Queen, accompanied by Princess Helena, walked and drove in the grounds. In the afternoon the Queen honoured Mr. Frith with a fourth sitting for his picture of the Prince of Wales's marriage. The Crown Prince and Princess of Prussia, Princess Helena, Princess Louisa, and Prince Leopold honoured the Windsor Theatre with their presence to witness *The Ghost Illusion*, as exhibited by Professor Pepper at the Polytechnic Institution. Sir George Grey and the Rev. Dr. Stanley arrived on a visit. On Sunday morning the Queen, with the Crown Prince and Princess, Princess Helena, Princess Louisa, Prince Arthur, and Prince Leopold attended Divine service in the private chapel. The Rev. Dr. Stanley preached the sermon. On Monday morning the Queen drove out. The Crown Prince and Princess of Prussia and the Princess Hohenlohe came to London and visited the studios of Mr. Theed and Mr. Foley. Prince Arthur left the Castle for Greenwich Park. Sir G. Grey returned to town. On Tuesday morning the Queen, accompanied by the Crown Princess of Prussia, drove in the grounds of the Castle. In the evening the Prince and Princess of Wales arrived at the Castle. On Wednesday morning the Queen, accompanied by the Princess of Wales, walked and drove in the Home Park. The Prince of Wales and the Crown Prince of Prussia went out shooting. In the afternoon the Queen, accompanied by Princess Beatrice and Princess Hohenlohe, drove out in a carriage and four. In the evening Earl de Grey and Ripon arrived at the Castle and had an audience of her Majesty. On Thursday morning the Queen, accompanied by the Princess Helena and Princess Hohenlohe, visited Prince Arthur at Greenwich Park. The Royal party travelled by special train from Windsor to the Clapham junction, and thence by the Brighton Railway to Beckenham, where they took the South-Eastern line to Lewisham. The Royal carriages were there in attendance to convey her Majesty and the Royal party to Blackheath. In the afternoon the Queen returned to Windsor by the same route. The visit was strictly private.

THE PRINCE AND PRINCESS OF WALES.—On Friday the Prince joined the meet of the West Norfolk hounds at Sussex Farm, Burnham. The Princess accompanied the Prince, driving a pair of greys. On Sunday their Royal Highnesses attended Divine service at Sandringham Church. The Rev. G. B. Moxon officiated. On Tuesday afternoon the Prince and Princess left Sandringham for Windsor, where they will remain on a visit to the Queen until her Majesty takes her departure for Osborne, which will be about the 12th December.

THE CROWN PRINCE AND PRINCESS OF PRUSSIA.—On Saturday the Crown Princess laid the foundation stone of the new church at Windsor, in the presence of the Crown Prince, Princess Louisa, Prince Arthur, the Bishop of Oxford, the Dean of Windsor, and a large body of visitors. On Thursday the Crown Prince and Princess, Prince William, and Princess Charlotte, went to Claremont, and visited Queen Marie Amelie.

COURT MOURNING.—The *Gazette* of Friday contained an order from the Lord Chamberlain for the Court to go into mourning for three weeks from Sunday the 22d inst., for the late King of Denmark.

THE CABINET.—A Cabinet Council was held on Monday at the official residence of the First Lord of the Treasury in Downing Street. Another Council was held on Tuesday, and another on Wednesday. The rumour which was current last week that Earl Russell had resigned, or was about to resign, the seals of the Foreign Office, and that the Earl of Clarendon would be his successor, is said to be entirely without foundation.

PARLIAMENTARY MOVEMENTS.—By an Order in Council, Parliament is further prorogued to the 13th of January next.

KNIGHTHOOD.—Mr. Collier, Solicitor-General, and Mr. Carey, Bailiff of Guernsey, were presented to her Majesty on Monday by Sir George Grey, Secretary of State for the Home Department, and received the honour of Knighthood.

THE CHANNEL FLEET.—It is announced that Admiral Dacre's divison of the Channel fleet will leave Spithead on Tuesday next for Copenhagen, to be present at the coronation of King Christian of Denmark.

THE COURT-MARTIAL ON COLONEL CRAWLEY.—On Saturday the cross-examination of Lieut. Fitzsimon was continued. He stated that he did not post the sentries inside the sergeant-major's room; that he thought they must have incommoded Mrs. Lilley, but he did not inquire or go inside to see that the annoyance should be as little as possible. At the close of the cross-examination, Colonel Crawley intimated that he had no further questions to ask of the witness. The prosecutor also stated that he had no intention to re-examine him. On Monday the cross-examination of witnesses, which had occupied the whole of the three previous days, came to an end, and the prosecution made some further progress in the charge. Several commissioned and non-commissioned officers testified to their being present when Colonel Crawley gave the order that the sentry should not lose sight of Lilley night or day, and in reply to remarks that the prisoner was married, and that his wife was sick, said he did not care, married or single his orders must be carried out. One of the sentries, however, stated that the orders were that the sentries should not go into Mrs. Lilley's bedroom. On Tuesday the officers who had been called as witnesses for the prosecution on the preceding day were cross-examined by Colonel Crawley, with the view of showing that they bore a grudge against him, and had been reprimanded for the animus they displayed in the course of their examination on the former trial. On Wednesday some letters written by Colonel Crawley about the time of the sergeant-major's death, and giving his version of the affair, were read. Among the witnesses examined were the sergeant's wife, who attended Sergeant-Major Lilley in his last illness, and who gave an affecting account of his death, and the surgeon who attended the sergeant-major and his wife. He spoke highly of both of them, and refuted the charge of intoxication brought against Mrs. Lilley, by stating that she took brandy as a medicine by his orders. His impression was that she was inconvenienced by the proximity of the sentry in the second quarters to her bedroom, and that the sergeant-major's death, which was caused by apoplexy, was likely to have been accelerated by his confinement. On Thursday the witnesses of the previous day were cross-examined by Colonel Crawley, with the purpose of showing that they had a grudge against him, and of proving from the testimony of Surgeon Turnbull that Sergeant-Major Lilley had indulged during his arrest in spirituous liquors. Yesterday Colonel Crawley resumed the cross-examination of Surgeon Turnbull, who said that he did not know from personal knowledge that Sergeant-Major Lilley was addicted to drink, that he did not make any medical inspection of the Sergeant-Major, because he did not anticipate his death as a probable consequence of his arrest, the circumstances of which appeared to him of so unusual and mysterious a nature that he did not know exactly how to act in the matter.

## Foreign.

FRANCE.—It is believed that M. Fould's financial statement will be presented to the Emperor immediately after the verification of the elections. The election of M. Isaac Pereire, the well-known capitalist, for the Pyrenées Orientales, has been declared null and void, after a very lengthened debate, on the ground that he distributed his wealth so liberally among his constituents as unduly to influence the election. The *Mémorial Diplomatique* says that the replies to 15 out of the 20 letters of invitation addressed by the Emperor Napoleon to the Sovereigns are all in the affirmative, and that none of the five Governments which have not yet officially answered will refuse. It is now however announced that her Britannic Majesty's Government, after having applied for frank and cordial explanations of the Imperial programme, and after fully discussing M. Drouyn de Lhuys' reply, has come to the conclusion that no possible advantage can be expected from the Congress, and has therefore courteously declined the invitation. The *Patrie* states, under reserve, that the Emperor, without wishing to draw up a programme for the Congress, had expressed an opinion that it should be chiefly occupied with considering the following subjects:—Poland, the German Duchies, Rome and Venice, and the Danubian Principalities. On Thursday Baron de Budberg, the Russian Ambassador, delivered to M. Drouyn de Lhuys the reply of Russia to the invitation. Several versions of this reply are current. The *Patrie* asserts that the adhesion of Russia is made subject to the condition of the abandonment of the Polish question, and *L'Europe* states that it expresses a wish that a programme should be drawn up; while the *Nation* asserts that it contains no such stipulations. It is not true, as asserted by several papers, that Baron de Budberg has been invited to Compiègne. It is said that the French Government have decided not to support the claims of M. de Lesseps in the matter of the Suez Canal. The *Patrie* of Wednesday evening asserts that the Mexican Government will pay to France an annual indemnity calculated upon the footing of 1400fr. for every man left in Mexico. The

Emperor has granted from his privy purse a pension of 6000fr. a year to the mother of Madlle. Emma Livry, the actress, who was burnt to death on the stage, and a sum of 40,000fr. to defray the expenses attendant on her illness. The statue of Napoleon I., lately removed from the Place Vendôme, having been cleaned and repaired, has been placed on its new pedestal at the Rond Point of Courbevoie. As it now stands at a height of only 80 feet from the ground, it looks to greater advantage than it did in its former elevation of upwards of 130 feet. The French iron-clad squadron arrived at Cherbourg on Wednesday.

SPAIN.—The Senate on Thursday passed the address in reply to the Queen's speech. On the previous day the Cortes were declared definitively constituted. Senor Rios Rosas was elected President. An accredited rumour has reached Madrid of the destruction by a Spanish vessel of two American ships laden with arms and munitions for the San Domingo insurgents. The Madrid journals repeat the rumour that General Dulce had demanded the despatch of 30,000 men to San Domingo. It is stated that the Government supports the pretensions of the Archduke Maximilian of Austria for the Mexican throne. A decree has been published converting Spanish money into specie of the same standard as foreign coin, in order to place obstacles in the way of the exportation of bullion.

MOROCCO.—The question of the limits of Melilla has been decided, and Muley Abbas has paid indemnities to the proprietors of the land. Grievous complaints have been made of the treatment received by the Jews from the Spanish officials in Morocco. It is said that on the allegation of very trivial offences these officers insist on the Moorish authorities inflicting punishments, the severity of which is out of all proportion to the alleged offence. Sir Moses Montefiore, at the request of the London Board of Deputies, has arrived in Morocco personally to investigate these complaints.

PORTUGAL.—A great fire broke out in Lisbon on Thursday night in the building of the Bank of Portugal, and spread to the Municipal Chamber, the Fidelity Insurance-office, and about 50 adjacent shops and houses. Everything valuable in the Bank was saved, but several documents in the Municipal Chamber were lost. Several persons perished. The fire has been completely extinguished, although not until the buildings were gutted. The conflagration was the greatest there has been in Lisbon for many years.

SWITZERLAND.—The Federal Council has replied to the Emperor Napoleon, accepting his invitation to a Congress, and expressing a hope that the treaties will be respected as they have been up to the present.

SWEDEN.—Count Manderström announced on Tuesday in the Diet that the King replied on the 15th to the Emperor Napoleon that he would be present in person at the Congress. The death of the King of Denmark has occasioned an immense sensation in Sweden. It is said that great distrust of King Christian IX. and excitement against Prince Frederick prevail at Stockholm. General Bildt arrived at Copenhagen on Saturday as Ambassador Extraordinary, to convey the condolence of the Swedish Court upon the death of the late King. It is said that the General comes provided with the authorisation necessary for the final conclusion of the treaty of alliance between Sweden and Denmark. In the sitting of the Diet on Monday the Government applied for an extraordinary credit of 3,000,000 thalers for military armaments. Orders have been despatched to Carlscrona to prepare screw ships for sea, and to recall the Swedish war steamers Vanadis and Gefle from the Atlantic. The Committee on the National Debt has resolved to postpone contracting a new loan until further proposals are received, more particularly from abroad.

DENMARK.—The Prince of Wales has been created a Knight of the Order of the Elephant. The Rigsraad on the 19th went to the Palace in a body, and presented an address of congratulation to King Christian. His Majesty thanked the President for his address, and stated that the new common constitution for Denmark and Schleswig has only just been sanctioned, because it was an important step that he had been desirous of carefully weighing, as the Rigsraad had also done. Great cheering proceeding from large numbers of people, the King and his family stepped out upon the balcony and bowed their thanks. Deputations from the municipal councils of the Danish kingdom and Schleswig have arrived at Copenhagen to thank the King for sanctioning the common constitution. Herr Schael-Plessen has been appointed Minister for Holstein. Great activity is displayed in the War and Marine Departments: 11,000 soldiers have been called out, and two screw frigates, two screw schooners, and two iron-plated schooners are to be fitted out. The King has sent General Oxholm to Paris, the bearer of a favourable reply to the invitation to an European Congress. The body of the late King has been removed to Copenhagen, where the ceremony of lying in state will take place. His Majesty had several times expressed a wish that his body should not be wrapped up in the usual grave-clothes, but should be placed in the sheets in which he died. The body therefore was not embalmed, but deposited in a lead coffin, which was immediately soldered up. Delegates from various parts of the kingdom have arrived in Copenhagen to concert measures for the erection of a monument to the deceased Monarch. It is intended that this monument shall be in the form of an equestrian statue, and that it shall be placed in front of the Christian-borg Palace.

THE DANISH DUCHIES.—Prince Frederic of Augustenburg has notified his assumption of the Dukedom of Schleswig Holstein to all the Governments composing the German Confederation, and has appointed Privy-Councillor Sommer his representative in the Federal Diet, and Colonel Du Plat as the director of his military affairs. He has also proposed, through his representative at the Diet, that measures should be taken for the protection of the functionaries in Holstein who have refused to take the oath of allegiance to the King of Denmark. The Prince, after having had interviews with the King of Prussia and his Ministers, left Berlin on the 19th for Frankfort. A public meeting of about 2000 Schleswig-Holsteiners and persons holding similar opinions in favour of Prince Frederic was held at noon on Sunday. The President announced that General Bandissin was ready to undertake the command of the volunteers, and that 55 officials assembled at Kiel had determined to refuse to obey the orders received from Copenhagen to take the oath of allegiance to Christian IX. The University professors, the members of the Court of Appeal, and other officials are among those who intend refusing to take the oath. The officials of the Superior Court of Appeal for the whole of Holstein in Gluckstadt, the Administration of the county of Rantzau, the Chamberlain Von Moltke, all the magistrates and judges, the professors in the public schools, nearly all the members of the legal profession, and the entire staff of the Holstein Government, from the chief official downwards, have unanimously resolved to refuse to take the oath of allegiance to King Christian. The *Dagbladet* of Thursday however says that all the Custom House officers, Post Office and telegraph officials in Holstein, all the members of the Government in Plöen, together with the *sub-employés* and all the prefects of Holstein, have taken the oath; and that several of the most prominent members of the Holstein nobility have arrived at Copenhagen, and been received by his Majesty.

HAMBURG.—The branch of the National Verein located in Hamburg, has laid down the principle, in general meeting, that if the Schleswig-Holsteiners will not separate from Denmark, they must be compelled to do so.

SAXE-GOTHA.—The Committee of the National Verein sent Herren Bennigsen and Fries to Gotha on Tuesday, as a deputation to the Prince of Augustenburg. The Prince received the deputation, and in reply to their address, said:—

"In the affair of the Duchies there must be no distinction between Governments and peoples, nor any party difference among nations. The people's sense of right is the best guarantee for the rights of Princes. It has been possible to oppress the people of Schleswig and Holstein in the name of the rights of Princes, and in the name of the rights of a Prince I shall deliver them, and by the help of God will soon do so."

HESSE DARMSTADT.—In the sitting of the Chamber of Deputies on Tuesday, it was unanimously resolved to request the Government to maintain the right and integrity of Germany by the recognition of the Prince of Augustenburg as Duke of Schleswig and Holstein. The resolution further expressed the readiness of the Chamber to support the Government with all the means of the country in carrying out this course.

SAXONY.—In the sitting of the Saxon Chamber of Deputies on Tuesday, Baron von Buest, in reply to a question from one of the members, said that the Ambassador of Saxony at the Federal Diet had received instructions to protest energetically against the readmission of a Danish Ambassador to the Diet until the Schleswig-Holstein affair should be settled, and to recommend that a corps of Federal execution should occupy Holstein and Lauenburg until the transfer of both countries by the Confederacy to the Prince who may be recognised as the legitimate successor. The Minister concluded by saying that unity among all the members of the Confederation is now above all necessary. In the sitting of Wednesday, the following resolution was passed:—

"The Chamber, in expressing its satisfaction with the declaration made yesterday by the Government, and assuming that the latter will at the same time use their efforts for the maintenance of the rights, not only of Holstein, but also of Schleswig, declares that the people of Saxony and its representatives are ready to support the Government in every way, even should it become necessary to adopt the most extreme measures."

In the sitting of Thursday a proposition recognising the rights of the Prince of Augustenburg and promising the Government the support of the Chamber, was unanimously adopted.

HANOVER.—A large public meeting, consisting of some 12,000 persons of all classes, has determined, amid great enthusiasm, to address a petition to the Ministry. The tenor of the address is that the Ministers should advise the King to despatch the troops intended to enforce Federal execution at once into Schleswig-Holstein, to uphold the legitimate Government.

FRANKFORT.—The deputation of the Holstein Estates which met at Kiel has arrived in Frankfort. At the sitting of the Diet on Saturday announcement was made of the change which has taken place in the occupant of the Danish throne. The renunciation of his rights by the Duke of Augustenburg, and their transfer to his eldest son as Duke of Schleswig-Holstein and Lauenburg, were handed in. Notices of motions affecting the succession questions in Holstein and Lauenburg were given upon the part of some of the Governments of the Confederation. These, similarly with the previous announcements, were referred to the committee on the affairs of Holstein. Motions of Austria and Prussia referring to a protest against the Royal sanction of the Danish constitutional law upon the 18th inst. were also handed in. The Diet further received a protest from the members of the Schleswig-Holstein Estates. The sitting of the Diet has since been adjourned to Saturday, but in the meantime it is reported that the Committee of the Diet has decided to propose the immediate adoption of Federal Execution in Holstein.

OLDENBURG.—The Grand Duke of Oldenburg despatched on the 17th inst. a protest to M. Hall, at Copenhagen, declaring that the accession of Prince Christian to the throne is not founded on right. An illegal accession to the throne not being binding, the Duke lodges a protest of his views, and reserves to himself the right of taking further steps.

PRUSSIA.—A Royal decree was published on Saturday, at the instance of the Ministry, in conformity with Article 63 of the Constitution. The decree withdraws the order of the 1st of June, referring to the prohibition of newspapers and periodicals. In the sitting of the Chamber of Deputies on Tuesday a Government Bill was laid on the table relative to military service. With the exception of some changes in the wording, it is the same measure as was presented last Session. The article stipulating for three years' service is maintained. In the sitting of Monday, Herren Stavenhagen and Virchow, in the name of the Liberal party, moved that:—

"The honour and interests of Germany demand that all the German States should support the rights of the hereditary Prince Frederick to the Duchies of Schleswig and Holstein."

A committee was elected on Monday to report on this motion. In the sitting of Thursday Herren von der Heydt, Wagener, and Blankenburg proposed the following resolution on behalf of the Conservative party:—

"In the present position of the succession to the Duchies of Holstein, Schleswig, and Lauenburg, the House declares itself ready to place all requisite means at the disposal of the Government for the energetic guardianship of all the rights of the German confederation."

On Tuesday the Committee of the National Verein at Berlin issued an address reminding the Princes of their serious responsibility, imploring the German nation to act for itself, and calling upon the friends of the country to furnish men, money, and arms, and to hold all resources in readiness. It promises application of the funds collected for the German fleet in a manner corresponding with the emergency, and demands self-taxation by the people, and finally exhorts the nation to firm organisation, stating that the National Verein has formed an auxiliary committee for the purpose. It is stated that the 6th and 13th divisions of the Prussian army, numbering together 35,000 men, have received orders to hold themselves in readiness to take the field.

AUSTRIA.—In the sitting of the Lower House of the Reichsrath, on Wednesday, Count Rechberg stated that he would reply to the question on Holstein on the next day. He was only awaiting the arrival of a diplomatic document from Paris, and would then be enabled to lay the correspondence on the subject before the House. The statement of the Vienna papers that Prussia and Austria had sent identical instructions to their representatives at the Federal Diet, that, as the offspring of a morganatic marriage, Prince Frederick of Augustenburg had no hereditary claim to the Duchies, is emphatically denied.

RUSSIA.—It is said that the Cabinet of St. Petersburg is endeavouring, by an amicable intervention, to prevent a struggle between Germany and Denmark, which might involve all Europe. It is understood that the Empress of Russia, who is at present in the Crimea, will proceed to Nice in the hope of improving her health at that place. The Grand Duchess Helène and the Grand Duchess Marie will accompany her Majesty.

POLAND.—The National Government has published four addresses from the Governments of Wilna, Wietebsk, Kowno, and Grodnow, bearing 250,000 signatures, protesting against the expression of loyalty extorted by General Mouravieff, and expressing entire devotion to the National Government. A proclamation has been issued at Warsaw by the National Government denying the rumours, proceeding from Russian sources, that the Poles were on the point of laying down their arms. The proclamation announces a continuance of the war as the only means of saving the country. It also states that the forces of the insurrection are on the increase, and that the Russians have proved themselves unable to govern otherwise than by fire and sword. The official *Dziennik* publishes an ukase, removing from office Alexander Laski, appointed director of the Warsaw Bank, who was forbidden to accept the post by the National Government. The first Russian elementary school has been opened at Warsaw. Arrests continue to take place in Warsaw. Among those lately arrested are the brothers Jasinski and Maslowski, M. Bock, Dean of the Faculty of Medicine, M. Chalabinski, MM. Miszynski, Luszczenski, and Pietkowski, directors of departments of the civil administration; an editor named Kucz and a large number of the workmen at the manufactories of Messrs. Fraget and Winter. Madame Bausemer and several other ladies have also been arrested and imprisoned in the citadel. The son of the banker Rawicz

has been hanged at Siedlec by order of the Russian General Maninkin. Bodies of Poles are continually being deported from the government of Augustowo to Siberia. The *Czas* announces that General Prince Wittgenstein has gone to the government of Kalisch to extort addresses of loyalty to the Czar. Chmielinski gained a victory over the Russians near Czarnocala, on the 20th inst., in consequence of which the insurgents occupied the town of Gora, on the Vistula. A company of infantry and two sotnias of Cossacks have been defeated by the insurgents near Lenizna, in the government of Lublin. In the district of Gostyn, Tyrewicz's cavalry corps has been dispersed by the Russians. An outbreak on the part of the peasants has taken place in the Government of Augustowo, and foreigners residing there are compelled to sign loyal addresses to the Czar. The insurrection in the government has extended to such a degree that the chief town, Suwalki, is threatened by the insurgents, and in the forest of Zywewody, near Suwalki, a Russian detachment fell into an ambuscade, and was defeated by the insurgents. The insurrection is again extending in Lithuania, which is infested by bands of guerillas. The insurgents are said to have been victorious in engagements near Biala and Kalwarga, and to have captured a Russian convoy of munitions in the district of Poniewicz. An important engagement is also said to have taken place near the Niemen in that province. Fresh bands have appeared in Samogitia, in the district of Rossiene and Grodno.

ITALY.—The King arrived at Turin on Sunday morning. On the previous day his Majesty was present at the inauguration of the Central Railroad. In his passage through Bologna the King paid a visit to General Cialdini, who has been for some time ill in that city. His Majesty was loudly cheered by the people, and seemed much pleased. The letter of the King accepting the Emperor's invitation to the Congress was despatched on Wednesday to Paris. In the Chamber of Deputies on Tuesday Signor Ara defended the treaty of commerce with France. Signor Rica opposed the treaty, and requested a modification of the articles relating to the fisheries in French waters. The Minister of Marine spoke in support of the treaty. In the sitting of Wednesday the Minister of Commerce said he did not desire an equivocal approval of the treaty, leaving doubts in the public mind of its intrinsic worth. He required it to be entirely approved. He believed the treaty to be a useful one, corresponding with the just expectations of the country, and stated it to be worthy of the two nations who had concluded it. The Minister's speech was much applauded. The debate was resumed on Thursday, on which day the Senate was occupied with the national taxation. The soldiers are being recalled from their furloughs, and the garrisons increased in the Venetian provinces. The works on the fortifications are also being accelerated. The *Official Gazette* publishes a notice stating that, notwithstanding the protests made by some of the Bishops, the Government has decided to carry out the provisions and regulations relative to the exequatur and the placet royal. The Russian Ambassador at Rome, Count de Kisseleff, is about to marry the widow of Prince Ruspoli, and the daughter of Prince Torlonia, the banker. The Court of Rome has refused a dispensation, and partially disgraced Prince Torlonia, the father of the bride. As the Ambassador is of the Greek faith, the marriage will consequently take place in Paris. Count de Kisseleff will not return to Rome, but will, it is believed, be appointed Russian Ambassador at Madrid.

TURKEY.—It is said that the Sultan has made a favourable reply to the Emperor's invitation to the Congress., but like the other Powers, has made preliminary inquiries and imposed certain conditions on his participation in it. The Sheik-ul-Islam, the great obstacle to progress and financial reform in the Council of Ministers, was dismissed on Wednesday. The Budget has been officially published. The surplus and other figures are substantially the same as those already made known. The Imperial decree ordering the publication, proclaims reform and retrenchment as being permitted by circumstances.

EGYPT.—The Paris papers publish a telegram from Alexandria stating that the Bedouins in the vicinity of Mocha have revolted, pillaging the coffee crops and other produce. Djeddah and Mecca are quiet. Ismail Pacha is in Upper Egypt.

MADAGASCAR.—Advices received at the Mauritius from Madagascar mention a rumour that King Radama is still living. He was left for dead by the assassins, but is said to have been found by his partisans, and concealed.

INDIA.—Lord Elgin and Sir Hugh Rose have left Simla on their winter tour, and are now travelling towards the Punjaub, so that the news of the junction of their camps may be expected shortly. The bulk of the troops are to be at Lahore on the 10th December. The man apprehended at Ajmere as the arch rebel Nana has been identified as a high priest of the Mahrattas. He still remains a prisoner at Cawnpore, and it is his declared determination to sue Government for false arrest and imprisonment. It is said that four Italians who had entered Bokhara for the purpose of making investigations into the silk cultivation of that country, have been imprisoned as spies by the Khan. The political mission to Bhootan, under the Hon. Ashley Eden, will start for its destination as soon as the rains have ceased.

JAPAN.—Advices from Japan state that a French officer had been murdered by the Japanese. Immediate reparation was demanded. Hostilities by the combined French and English forces were generally expected; and the Dutch are also said to be making active preparations to avenge the insult offered to their flag. The Mikado had issued an order that no Daimio should purchase any foreign vessel. The Prince of Nagasaki had ordered the execution of the pilots who conducted the Federal steamer Wyoming to Simoniski. One of them was murdered soon afterwards. The Chief Minister and three other members of the Cabinet of Nagasaki had been dismissed for favouring peace with the Christians. All foreigners had been ordered to leave Nagasaki, but they refused to do so, whereupon the members of the General Government resigned.

UNITED STATES.—It was reported by the last mail that General Lee, whose force had been diminished to 30,000 men, had retreated beyond the Rapidan with all his army, but it now appears that he is in strong force on the Rapidan, where he is vigorously intrenching his position, and that a considerable force is still north of the river, as is proved by their shelling Kirkpatrick's camp, near Stevensburg, on the morning of the 13th. General Meade maintains his position between the Rapidan and the Rappahannock, near Cedar Mountain. General Stuart's cavalry is still operating north of the Rapidan. It is asserted that Lee's army was well fed, but ill clad, and that it was his intention to go into winter quarters between the Rappahannock and the Rapidan, but was taken by surprise by Meade's rapid advance against him. General Meade's report of the battle of Gettysburg has been published. He captured three guns and 13,000 prisoners. The Federal loss amounted to 23,000 killed, wounded, and missing. General Meade also officially reports that in the actions at Rappahannock Station and Kelly's Ford the Federals captured 1900 prisoners, four cannon, and eight colours, and lost 370 men in killed and wounded. The defeat of the Confederates in Western Virginia and the occupation of Clarksburg by Generals Averill and Duffie have been officially confirmed. The Federals captured 100 prisoners and a large quantity of war materiel. A disaster has occurred to General Burnside's outposts at Rogersville, in Tennessee. The Federals lost 600 prisoners and four cannon. The number of their killed and wounded has not transpired. General Burnside reports that the main body of his army is in an impregnable position near Rogersville. The Confederate Generals Rhoddy, Ferguson, Chalmers, and Richardson are in Northern Mississippi, co-operating against General Sherman's line of communications. In Tennessee General Forrest, with a large body of cavalry, has been detached to harass General Grant's transportation of supplies. The Government has impressed all the steamboats and railways at Cincinnati for the transport of troops to General Grant, who is to be immediately reinforced by upwards of 30,000 men. Letters from New Orleans to the 4th state that no news from General Banks's expedition had yet been received. Speculation pointed at Point Isabel, Texas, as its real destination. The further progress of General Franklin's army had been found impossible, owing to the impassible state of the roads, and it was believed that the expedition would be abandoned. Telegrams from Charleston of the 10th report the bombardment of Fort Sumter as still in progress. The whole number of shots fired at the fort during the present attack is 9340, of which 7700 have taken effect. The Confederate flag was shot away every day, but immediately replaced. There had been no firing upon Charleston. Chief Justices Lowrie, Woodward, and Thompson—the first two Democrats and the last a Republican, together constituting a majority of the Supreme Court of Pennsylvania—have declared the Conscription Act to be unconstitutional. Lord Lyons has officially informed the Government at Washington of his receipt of despatches from the Governor-General of Canada announcing a plot among the Confederate refugees in Canada to seize the steamers on Lake Erie, liberate the Confederate prisoners at Johnson's Island, in Sandusky Bay, and attack the principal Lake cities. Secretary Stanton has warned the authorities of those cities, and advised the arrest of all suspicious vessels in the different ports. General Dix has also been sent to Buffalo to inspect the frontier defences, while a large military force and a gunboat have been sent to defend Fort Johnson in case of attack. Mr. Seward has refused permission to certain parties to recruit 20,000 troops for the service of the Juarez Government, declaring that such proceedings would be a violation of the law, and that any one engaged therein will be prosecuted with all practicable diligence. It is semi-officially announced that Mr. Seward has received information that the French Government has stopped the building of Confederate iron-clads in French ports. Mechanics and other large bodies of working men in New York and in Boston have struck for higher wages, stopping the construction of Government vessels and injuring other branches of trade. The strike was beginning to assume formidable proportions in the principal Northern cities, when the Government and the employers generally acceded to the demands of the workmen, on account of the increased prices of articles of consumption. It is reported from Washington that on board the Confederate steamer Robert E. Lee, captured a few days since, were Mr. C. E. Stewart, Belgian Consul, H. H. Webber, and H. W. Rooke, of the British army. Important despatches from the Confederate agents in Europe were found in the vessel, or picked up in the water. These latter are said to express an entire hopelessness of any assistance for the Confederacy from either England or France. The *Richmond Inquirer* thinks the South should be informed why foreign recognition is withheld, and whether slavery is the cause or not. The Washington correspondent of the *New York Herald* states that the Haytian Minister is so disgusted with his treatment in Washington, that he will reside permanently in New York. Marshal Forey, after visiting the Falls of Niagara, has sailed for France in the French gunboat Panama. He maintained a strict *incognito* while at New York, but visited General Scott. Another Russian fleet is expected daily. The steamers Robert Lee, Cornubia, Ella, and Annie have been captured.

## City Intelligence.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $92\frac{5}{8}$ to $\frac{3}{4}$ for Money, and $91\frac{7}{8}$ for Account; Reduced and New Three per Cents., $90\frac{5}{8}$ to $\frac{7}{8}$; Bank Stock, 335 to 237; India Stock, 222; Ditto Five per Cent. Stock, $108\frac{3}{4}$ to 109; Ditto Four per Cent. Debentures, 1864 or 1866, $99\frac{3}{4}$; Five per Cent. Enfaced Rupee Paper, $104\frac{1}{4}$; Exchequer Bills, 6*s.* to 2*s.* dis.—FOREIGN: Brazilian, 1863, $87\frac{1}{4}$; Egyptian, $99\frac{1}{2}$ to $\frac{5}{8}$; Greek, $30\frac{1}{2}$; Italian, $70\frac{7}{8}$ to 71; Mexican, $37\frac{1}{2}$ to $\frac{1}{4}$; Peruvian, 1862, $86\frac{1}{4}$; Portuguese, 1856, &c., $48\frac{5}{8}$; Ditto 1863, $48\frac{3}{8}$; Ditto Scrip, 1 pm.; Russian, 1850, 88; Spanish New Deferred, $47\frac{1}{2}$; Ditto Passive, $34\frac{5}{8}$; Ditto Certificates, $13\frac{3}{4}$ to $\frac{1}{2}$; Turkish, 1854, $90\frac{1}{2}$; Ditto, 1858, $70\frac{1}{2}$; Ditto, 1862, $70\frac{1}{4}$ to $\frac{1}{2}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
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| Notes issued .. .. .. | £27,339,245 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 12,679,245 |
| | | Silver Bullion . .. .. | — |
| | £27,339,245 | | £27,339,245 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £10,710,330 |
| Rest .. .. .. .. .. | 3,201,351 | Other Securities .. .. | 20,022,886 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 7,040,534 | Notes .. .. .. .. .. | 6,824,036 |
| Other Deposits .. .. .. | 12,802,411 | Gold and Silver Coin .. | 689,087 |
| Seven days and other bills | 649,042 | | |
| | £38,246,338 | | £38,246,338 |

Nov. 26, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *Nov.* 20.—BANKRUPTS.—J. ASTLEY, late of Blackburn, Lancashire, Greengrocer—J. A. BUTLER, Nottinghamshire, Wheelwright—J. BOWDEN, Ormesby, Yorkshire, Miner—J. BYWATER, Castle Donnington, Leicestershire, Wheelwright—T. BUGDON, Little College Street, City, late Licensed Victualler—H. F. BURCHETT, Oxford Street, Boot and Shoe Manufacturer—E. BENNETT, Church Row, Norbiton, Surrey, Bricklayer and Builder—J. W. BARNES, Poland Street, Builder—T. BEMBRIDGE, Birmingham, Victualler and Gun Barrel Rifler—J. BALDWIN, Reigate, Surrey, Farmer—E. BONE, Portsea, Hants, Draper's Assistant—J. CHANNON, Bristol, Veterinary Surgeon—T. CRACKNELL, jun., Maida Vale, Edgware Road, House Decorator—S. CLEMENTS, Romford, Essex, Dealer in Pigs—W. CLARK, Summerford Street, Whitechapel, Horsehair Manufacturer—A. CUTLER, Avenue Terrace, Hackney Downs, late Farmer—B. CREES, Kingston Deverill, Wiltshire, Mealman—P. CHEADLE, Bradford, Yorkshire, Woolstapler—E. DODD, Kendal, Westmoreland, Black and Whitesmith—W. DAWSON, Masborough, Yorkshire, Grocer—J. DAVID, Bristol, Licensed Victualler—H. DIXON, Burnley, Lancashire, Cotton Manufacturer—J. EVANS, Aberdare, Glamorganshire, Forge Manager—G. ELLIS, Liverpool, Wheelwright—J. ENTWISTLE, Lancashire, Scrivener,—J. EARLS, Wenlock Street, Old Street, St. Luke's, Working Jeweller—J. C. FLETCHER, Little Lever, Lancashire, Stonemason—E. GAVAN, St. Helen's, Lancashire, Tailor—D. S. GREEN, West Wickham, Kent, Tailor—J. GLEAVE, Manchester, Marine Store Dealer—F. H. GOULD, Milton next Gravesend, Kent, Designer to Calico Printers—T. HALLETT, George Lane, Eastcheap, Carpenter—F. H. HARRISON, Upton Road, Kilburn, Commission Agent—T. C. HARLEY, Popham Terrace, Britannia Fields, Plumber—J. HANCHANT, John Street, Bethnal Green, Omnibus Proprietor—C. HIBBLE, Tottenham Court Road, Licensed Victualler—R. W. HAMMOND, Babbicombe, Devonshire, Servant—ELI HALE, Gosport, Hants, Licensed Victualler—J. HARDMAN, Salford, Lancashire, Provision Dealer—J. HILLYARD, Bedford, Corn Dealer—J. JACKSON, Heywood, Lancashire, File Manufacturer—A. G. JENNINGS, Oxford Terrace, Clapham Road, late Assistant to a Surgeon—G. B. KNIGHTS, Royal Road, Walworth, Dealer in Iron and Steel—W. KAY, Bradford, Yorksh., Woolcomber—J. KENYON, late of Preston, Lancashire—G. KING, Leicestershire, Currier—L. KELLY, Leeds, Yorkshire, Silk Merchant—C. LOWE, Hulme, Lancashire, Printer and Engraver—G. LINES, Marston St. Lawrence, Northamptonshire, late Farm Bailiff—WILLIAM LEWIS, Kingston-upon Hull, Smack Owner—J. MERCHANT, Bristol, Wine Cooper—J. MAXWELL, Paradise Terrace, Hackney, Cattle Salesman—J. MARGERISON, Bristol, Commission Agent—W. MANLEY, Fieldgate Street, Whitechapel, Hairdresser—T. MUNTON, Peterborough, Northamptonshire, Boot and Shoe Maker—S. A. MITCHELL, Bury St. Edmund's, Suffolk, Dealer in Cattle—B. MARKS, Poultry, Merchant—J. NICHOLLS, Dudley, Worcestershire, Attorney's Clerk—J. OLDFIELD, Pudsey, Yorkshire, Cloth Manufacturer—D. ORGAN, Cheltenham, Gloucestershire, Ironmonger—W. PUGH, Salford, Lancashire, Boot and Shoe Manufacturer—J. W. PORTER, Norwich, Wine Merchant—G. POSTLETHWAITE, West Derby, Lancashire, Merchant—F. PATTISON, Milton-next-Gravesend, Kent, Trinity Pilot—W. PHILLIPS, Liverpool, Machine Broker—W. PEARSE, Babbicombe, Devonshire, Builder—J. PERROTT, Reading, Berkshire, Builder—J. POLLARD, Stamford, Lincolnshire, Butcher—C. H. READ, Charles Street, St John's-street Road, Engraver—R. ROBERTS, Liverpool, Tailor—T. ROYLE, late of Salford, Lancashire, Attorney-at-law—G. SPINKS, Warren Street, Fitzroy Square, late Wood Merchant—B. SUMMER, Pontypool, Monmouthshire, Boot and Shoe Maker—W. SMITH, Cottingham, Yorkshire, Grocer—GEORGE SPRING, Lincolnshire, Painter—P. SEWELL, Canonbury Grove, Islington, Commission Agent—N. SMITH, Luton, Bedfordshire, Bootmaker—H. D. SCOTT, Boston, Lincolnshire, Carver and Gilder—H. SMITH, Birmingham, Out of Business—J. STOBART, Newcastle-upon Tyne, Grocer—F. H. SMITH, Bristol, Dealer in Horsehair—S. TREVES, Shepherd Street, Tenter Ground, Spitalfields, Grocer—J. J. TALKINGTON, Cheetham, Lancashire, Merchant's Clerk—A. THACKWRAY, Harrogate, Yorkshire, Lodging House Keeper—E. TAYLOR, Castle Street, Holborn, Photographic Paper Merchant—W. WESTWOOD, Dudley, Worcestershire, Greengrocer—G. WOOSTER, Devonshire Terrace, Peckham, late Mercantile Clerk—T. WARMAN, sen., Folkestone, Kent, Fishmonger—T. WALKER and C. S. KJELSEN, Newcastle upon-Tyne, Linendrapers—C. WILLIAMS, High Street, Southend, Cellarman to a Wine Merchant—H. WHEELER, Wellingborough, Northamptonshire, Firewood Dealer—C. WILLIAMS, Little Dean Street, Soho, Lapidary—R. C. WARD, Mildmay Place, Ball's Pond Road, Kingsland, Linendraper—W. WESTWOOD, Lye, Worcestershire, Currier—T. B. YOUNG, jun., Manchester, Commission Agent.

SCOTCH SEQUESTRATIONS.—T. GIBB and SON, Edinburgh, Merchants—R. MARSHALL, Glasgow, Jeweller—J. A. NEWLANDS, Cathcart, Renfrewshire, Wright—J. SCOTT, Glasgow, Provision Merchant.

TUESDAY: *Nov.* 24.—BANKRUPTS.—R. AVERY, Bledlow, Buckinghamshire, Publican—T. BURBERY, Westow Hill, Upper Norwood, Plumber—S. BUTLER, Oakley Square, St. Pancras, Boarding House Keeper—W. F. BURROWS, Norwood, Mattress and Palliasse Maker—C. BECKETT, Sheffield,

Table Blade Forger—A. G. BRADBY, Oxford Street, Commercial Clerk—T. BALDWIN, Ross, Herefordshire, Carpenter—J. BINNS, Oxenhope, Yorkshire, Worsted Spinner—M. A. BARTLETT and A. BARTLETT, Great Cressingham, Norfolk, Farmers—J. BOTTOMLEY, Bradford, Yorkshire, Manufacturer—M. A. BOSLEY, Lydeard St. Lawrence, Somersetshire, late Innkeeper—J. BECK, Great Marlow, Buckinghamshire, Butcher—R. COLLIER, Finsbury Pavement, City, Commercial Traveller—H. CLIFFORD, Bloomsbury Terrace, Commercial Road East, Smith and Ironmonger—S. CRAGGS & J. CRAGGS, Ripon, Yorkshire, Farmers—W. CORP, Hull, Tailor—A. CUMBERS, Romford, Essex, Drover and Horse Dealer—F. DURK (sometimes called F. DURKE), Chewstoke, Somersetshire, Builder—F. DAVIS, Alcester, Warwickshire, Needle Scourer—E. W. ELLIOTT, Leeds, Schoolmistress—S. FEARBY, Askham Richard, Yorkshire, Provision Dealer—R. FISHER and W. FISHER, Sheffield, Tailors—P. A. E. GUICHARD, Lower Stamford Street, Blackfriars, French Advocate—E. C. F. GOOSMANN, Windmill Street, Tottenham Court Road, Working Jeweller—R. HAMILTON, Campbell Road, Holloway, Architect's Clerk—J. HARDY, Curtain Road, Shoreditch, Cabinet Maker—S. HOODLESS, Bolton Lancashire, Joiner—J. JENNINGS, Endell Street, Long Acre, late Retailer of Beer—R. JONES, Rwttan, Carnarvonshire, Farmer—R. JAQUES, Chatham Place, Blackfriars, Vendor of Printing Ink—J. JOHNSON, Scamblesby, Lincolnshire, Blacksmith—A. KANUNA, Manchester, Merchant—J. LITTLE, Bristol, Baker and Flour Dealer—S. LLOYD, Birmingham, late retail Brewer—T. MORGAN, Ffrwdamas Dinas, Glamorganshire, Contractor—J. MONKS, Warrington, Lancashire, Gunsmith—T. MORGAN, Kingswinford, Staffordshire, Journeyman Tin Pickler—T. MEOSON, Warwick Street, Pimlico—J. OSBORN, J. OSBORN, and E. OSBORN, Kelvedon, Essex, Shoemakers—J. OLIVER, West Hartlepool, Durham, late Provision Dealer—J. PESTER, Burnham, Somersetshire, Cordwainer—J. PARKINS, Leicester, Journeyman Currier—S. PETER, Lewannick, Cornwall, Farmer—H. POOLE, Hanley, Staffordshire, Boot and Shoe Maker—T. PAGE, Halesworth, Suffolk—W. RICHARDS, Cardiff, Innkeeper—W. RAYNER, Bucklersbury, City, Bill Broker—J. K. ROBINSON, late of Manchester, Commission Agent—J. SHEASBY, Great Packington, Warwickshire, Journeyman Baker—H. B. SMITH, Sheffield, Commercial Traveller—S. J. SAWELL, Rufford's Buildings, Islington, Ham and Beef Dealer—R. STOKES, Sheffield, Licensed Victualler—R. T. SMITH, Wellingborough, Northamptonshire, Baker—J. SALLIS, South Place, Upper Grange Road, Bermondsey, Iron Moulder—R. SMART, Nicholas Street, St Peter's Road, Mile End Road, Bookkeeper—S. G. SHEAD, Rochester, Kent, Woollendraper—J. SUTCLIFFE and J. SUTCLIFFE, Rochdale, Lancashire, Provision Dealers—N. SMITH, Leek, Staffordshire, Journeyman Basket Maker—J. STILES, Bristol, Corn Factor—N. SUTCLIFFE, Slaithwaite, Yorkshire, Manufacturer—S. SHAWAN, Weston super-Mare, Somersetshire, Yeoman—G. S. STREDDER, Wellesley Avenue, Hammersmith, Commission Agent for the Sale of Stone—L. TERREY, Stockwell, Surrey, Shorthand Writer—G. TYLER, Malvern, Link, Worcestershire, Baker—R. WALSH, Manchester, late Confectioner—T. A. G. WILLINGTON, M.D., Handsworth, Staffordshire—J. WOOD, Stanley Street, Pimlico, Commercial Traveller—D. WILLIAMS, Wolverhampton, Licensed Retailer of Ale, Porter, and Tobacco—T. WHARRIE, Sheffield, Joiner—B. WINTERBOTTOM, Oldham, Lancashire, Machine Maker.

## Metropolis and its Vicinity.

METROPOLITAN BOARD OF WORKS.—At the Court of Common Council on Friday, Alderman Copeland asked whether the Metropolitan Board had any knowledge of certain public works which were being carried out at Odessa, by Mr. Furness, the contractor for the Thames Embankment, and if so, whether Mr. Bazalgette, the engineer to the Board, was interested in them. Mr. Lowman Taylor, one of the representatives of the corporation at the Board, in reply said that it was too true as respected the engineer to the Board; that the matter had oozed out in a Chancery suit to which Mr. Bazalgette had been made a party, and was now under the consideration of a committee of the Board. It was said that Mr. Bazalgette was to participate in the profits of the works in question to the extent of 2 per cent., and that he would realise about 10,000*l.* In answer to other questions Mr. Taylor said that the estimate of Mr. Furness for the embankment was higher by 25,000*l.* than one of the other estimates that was sent in; and it was upon the recommendation of Mr. Bazalgette that his tender was accepted. On the same day at the Marylebone vestry, after hearing the statements of Messrs. Nicholay and D'Iffanger, their representatives at the Board of Works, it was unanimously resolved that the members for Marylebone be requested to watch, at the Metropolitan Board, the proceedings in regard to the recent contracts for the Thames embankment, and communicate any information on the subject they may think necessary, from time to time, to the vestry. On Wednesday the committee of the Board, after sitting three days upon the subject, agreed to report that after a minute investigation it had been proved that though the contract of Mr. Furness at 520,000*l.* was much higher than those of Mr. Kidley, Messrs. Baker, and Mr. Moxon, it was by no means through the influence of the chief engineer that that tender was accepted. On the contrary, it was established that the engineer was in favour of Messrs. Baker having the contract. This showed that there was no collusion between him and the contractor whose contract has been accepted. At the same time the fact could not be disputed that Mr. Bazalgette had committed a breach of his engagement with the Board in carrying out other works without their sanction or knowledge. This report having been read, a resolution was moved to the effect that the Board regretted to find that the engineer in chief had entered into monetary arrangements with one of the contractors, but, at the same time, expressing their conviction that there had been no collusion between him and the contractor for the Embankment works; that nothing had occurred to affect his professional or personal honour, and that he had always fulfilled his duty to the Board with integrity, ability, and punctuality. An amendment was moved by the members for St. Pancras stating that, although the terms of the chief engineer' agreement with the Board were that his whole time and attention should be devoted to their service, he had unadvisedly entered into arrangements with one of the contractors, whereby he was to receive large sums of money in the shape of commission, but as the evidence distinctly showed that it was his wish that the contract should be given to Messrs. Baker, no collusion existed between Mr. Bazalgette and Mr. Furness with respect to that contract. They therefore recommended the Board to call the engineer's attention to the terms of his agreement, and that in future the whole of his time and energies be devoted to the Board, and that he at once unhesitatingly give up all claims under the agreement, which it was felt he had improperly entered into. Mr. Bazalgette having voluntarily handed in a guarantee in writing to carry out the suggestion made in the last paragraph of the amendment, the original resolution was carried by 11 to 9. At the weekly meeting of the Board yesterday, this resolution, on the motion of Mr. Freeman, seconded by Mr. Tite, M.P., was adopted.

AMERICAN THANKSGIVING DAY.—In pursuance of the proclamation of the President of the United States, inviting his "fellow-citizens in every part of the United States, and also those who are at sea, and those who are sojourning in foreign lands, to set apart and observe the last Thursday of November as a day of thanksgiving and prayer to our beneficent Father who dwelleth in Heaven," a number of Americans resident in London assembled at St. James's Hall, under the presidency of the Hon. R. J. Walker. The day was observed as a holiday by the Americans in London and in all parts of the country, and business was suspended at the legation and at the consulates. The proceedings commenced with a brief address from the Hon. R. J. Walker, after which the thanksgiving proclamation of President Lincoln was read. Prayer was then offered up by Mr. Sellar Martin, a negro, in whose adventures as a runaway the public were a short time since much interested. The company then sang in unison a hymn composed for the occasion. A banquet followed, at which the Hon. Mr. Walker, who officiated as chairman, delivered an address on the origin and progress of the rebellion, and the prospects of its speedy suppression, concluding by proposing "The Health of the President of the United States." The toast was drunk with great enthusiasm, and was acknowledged in a speech of great length by Mr. Adams, the American Minister. Several other toasts and sentiments were duly honoured in the course of the evening.

FALL OF A HOUSE AT ISLINGTON.—On Thursday, about mid-day, the Three Wheatsheaves Inn, which was in course of being rebuilt opposite Islington Green, suddenly fell, and buried nine of the workmen in the ruins. Two of them are dead, and the rest lie at St. Bartholomew's Hospital in so precarious a condition that some of them are not expected to recover.

LEGACIES TO STATESMEN.—A lady resident at Torquay, as a mark of her admiration of Mr. Disraeli, has left him a legacy of 40,000*l.*, and appointed him sole executor under her will. The lady was an entire stranger to the right hon. gentleman. A similar case has just been made known in regard to the late Sir James Graham. In May, 1834, Sir James, who was then First Lord of the Admiralty, left the Cabinet of Earl Grey on account of the decision of the Cabinet to entertain the question of appropriation of Church property to secular purposes. In the following month Mr. George Blamire, a native of Cumberland, and a barrister of Lincoln's Inn, differing from Sir James Graham as to politics, to show his satisfaction with Sir James Graham for abandoning office and quitting his party from a conscientious sense of duty, made his will, leaving to Sir James Graham absolutely all his real and personal property, worth perhaps 40,000*l.* Mr. George Blamire died in the course of last summer, and his will has been proved, but as Sir James Graham died in October, 1861, the legacy lapses, and Mr. Blamire's property will be divided among his next of kin.

IRON SHIPS OF WAR.—Mr. E. J. Reed, Chief Constructor of the Royal Navy, delivered a lecture last week at Greenwich, on the subject of "Ships of War." After describing the various iron-cased ships which have been built in England, he contended that the Warrior and ships of her class were too long. He firmly believed that the same rate of speed could be obtained from shorter vessels. The attention of the Admiralty had been much devoted to this question, and he could assure them that no more iron ships for the Royal Navy would be laid down of such a length as 400 feet. While one of these long vessels had a large portion at each extremity exposed, a shorter vessel could be armour-plated from end to end, and would sail as many knots per hour. These matters did not escape the attention of those now at the head of naval affairs. Naval construction was a peculiar art, resting upon abstruse branches of science, and involving principles and calculations with which non-professional men in office could not prudently interfere in an arbitrary manner, and hence the practice of the profession was to run in grooves, out of which it was most difficult to remove, even in times of the greatest emergency. In fact, it was only by a violent wrench, by giving sudden and unexpected scope to younger men and new ideas, that the thing could be done at all. When it had to be done it was attended by such pain and disappointment to many that it required great nerve and courage to undertake it. That had recently been proved in his own case, some extremely penetrating and pure-minded people having discovered that his appointment to his present office was a "disgraceful job." He supposed these people thought it disgraceful for a Board of Admiralty to appoint to an office involving much hard work a man who had neither attained the age of 60, or taken part in elections in what are called "Government boroughs." He then discussed the question of the comparative merits of ships built entirely of iron, or with a backing of timber, and expressed an opinion in favour of the latter class. The late disaster to the Prince Consort proved in a remarkable manner the vast strength of the wooden hull of that ship. An officer who was sent to Kingston to inspect the vessel after she came to grief reported:—"From one end of the ship to the other, not one bolt-head had been disturbed." It scarcely ever happened that an ordinary wooden ship, without an iron plate upon her, after encountering a Channel storm, returned to port with such trifling damage as that done to the Prince Consort. He could state with the utmost confidence that the Admiralty was now building a corvette from which the swiftest iron vessel now afloat could not hope to escape, and which would be armed in a most effective manner.

EXPERIMENTS AT SHOEBURYNESS.—A preliminary trial of Sir William Armstrong's 600 pounder gun, lately manufactured at Elswick for the War Department, was made on the 19th inst. at Shoeburyness, with the most satisfactory results. The gun weighs upwards of 22 tons, and is mounted on an ordinary gun carriage of great size and strength. Its length over all is 15 ft., that of the bore being 12 ft. Its internal diameter is 13.3 in., and it is rifled on the "shunting" principle. The grooves are 10 in number, and turn once in 65 calibres. In its construction it differs little from the other large muzzle-loading guns manufactured under Sir William Armstrong's direction, consisting of a number of coiled tubes of enormous strength shrunk one upon the other. The thickness of the walls of the gun at the breech is 20.85 inches, the total diameter at the trunnions being 55 inches. It carries a conical cast-iron hollow-headed shot, weighing 510 lbs., or a shell of ordinary construction weighing 600 lbs., and capable of containing a bursting charge of no less than 40 lbs. of powder. The charge used on the 19th with shot was 70 lbs., with shell 60 lbs., and it fired 10 rounds without the slightest flaw. The gun was easily served by a party of 20 men. At first, not being accustomed to such a monster, the men worked rather slowly, but as they became used to their work they at last succeeded in abridging the space of time between the rounds to 10 minutes. The destructive powers of the gun will be enormous. A shell with a bursting charge of 40 lb. may be readily fired from it, the largest charge yet used in a shell being no more than 8 lb. On Friday the 9-inch muzzle-loading gun made at Woolwich, and rifled on the plan proposed by Mr. Lynall Thomas, was tried with 10 rounds of shot with somewhat unsatisfactory results, both the velocity and range of the shots fired being very unequal. This gun, which carries a 300 lb. shot, closely resembles an ordinary muzzle-loading Armstrong in outward appearance, the muzzle, however, being more prolonged. Mr. Thomas's invention consists in substituting a series of ribs for the usual grooves. The shot are made with grooves coated with soft alloy to fit the ribs of the gun, and are similar in form to those used in the Armstrong, but appear to be slightly longer. It is not known when Mr. Thomas's gun will be tested with shell.

THE RAISING OF HOLBORN VALLEY.—The improvement committee of the Court of Common Council have awarded premiums of 250*l.* and 150*l.* respectively to Mr. Richard Bell and Mr. T. C. Sorby, for the two best of a class of designs for raising Holborn Valley, making honourable mention at the same time of the designs of Mr. Frederick Wallen, Mr. Lewis H. Isaacs, Mr. F. Marrable, Professor Kerr, Mr. J. Wormald, and Mr. Henry R. Newton. They have also given notice of an intended application to Parliament in the next Session to authorise the Corporation to make a viaduct for the purpose of a high-level street commencing on Holborn Hill, near Ely Court, passing Hatton Garden, Ely Rents, Ely Place, and terminating in Skinner Street, near the Old Bailey. The following improvements are specified in connection with the scheme:—A new street, commencing near the junction of Hatton Garden with Holborn Hill, and terminating in Farringdon Road, near West Street; a new street, commencing near St. Sepulchre's Church, Skinner Street, and terminating in Farringdon Road, about 50 yards to the north of Snow Hill; a new street, commencing by a junction with Shoe Lane, near St. Andrew's Church, passing under the viaduct, and terminating in the intended new street, at a point about 45 yards west of its intended junction with Farringdon Road; a widening on the western side of Farringdon Road between Holborn Hill and the junction of the intended street, nearly opposite West Street; an alteration of the levels of Farringdon Street and Farringdon Road, commencing near Newcastle Street and terminating about 230 ft. north of New Charles Street; power to alter and improve the levels of the western approach to the Metropolitan Meat and Poultry Market in Smithfield; to widen the western end and northern side of Newgate Street, commencing at the corner of Giltspur Street, and terminating at and including No. 105, Newgate Street; and to widen King Street, commencing near its junction with Smithfield, and terminating at its junction with Snow Hill. Powers are also sought to charge the expenses of the works to be authorized upon the duty referred to in the 2d section of the London Coal and Wine Duties Continuance Act, 1863, to authorize the appropriation to that purpose of any moneys arising from that duty, and to authorise the Corporation to raise money on mortgage or annuity, and to apply for the above purposes any moneys under their control.

PROPOSED CAVALRY BARRACKS AT CHELSEA.—On Saturday a numerous deputation from the inhabitants of Chelsea waited upon Earl de Grey and Ripon, Secretary of State for War, to protest against the proposed site for new cavalry barracks in that district. Mr. Tite, M.P., introduced the deputation and read a

memorial issued by the Chelsea vestry, from which it appeared that the Government intend to pull down the barracks at Knightsbridge, and erect others on a plot of land called "Quail's field," on the south side of Sloane Street. The memorial pointed out the injury the erection of the proposed barracks would do to the house property in the neighbourhood, and suggested that it would impede improvements now contemplated, and that a better site might be found on the Surrey side of Chelsea Suspension Bridge. Mr. Tite, the Rev. Mr. Burgess, rector of Upper Chelsea, and the Rev. Mr. Neven expressed their concurrence in the memorial, and said that the barracks would be injurious to the rating of the parish. Earl de Grey said there could be little doubt that whatever locality might be chosen similar complaints would arise. He would admit that barracks in any district were not desirable, but he had to deal with the exigencies of the service. There was one point upon which there was complete certainty, and that was that the cavalry barracks at Knightsbridge were most inconvenient, and that the sooner they were pulled down the better. Although he had inspected several sites, that at Chelsea was, on the whole, the best that could be found. As to the non-payment of rates by these military establishments, that was a question which might fairly be considered by the Treasury. The deputation had suggested a site which might be appropriated to the purpose on the opposite side of the river. But taking into consideration the position of the Houses of Parliament, the Royal palaces, and public buildings, he felt that it would be a fatal objection in a military point of view, that they should have the river between the barracks and those places. Mr. Simons suggested another site, which was not liable to this objection, between the new Chelsea barracks and the river. The Rev. Mr. Burgess said he had another suggestion to offer, and that was that a portion of the immense grounds of the Royal hospital might be appropriated for this purpose. Out of the 66 acres which the hospital and grounds occupied he was sure that 20 acres and upwards might be appropriated to this purpose. Earl de Grey said he did not see how far he should be justified in making such a proposal as that just suggested, but the whole question should have his mature consideration.

THE GREAT EASTERN.—The Master of the Rolls on Saturday ordered the Great Ship Company to be wound up. It had previously been announced that Messrs. Cunard, Wilson, & Co., of Liverpool, would offer the ship for sale by auction on the 14th January, by order of the mortgagees. At a meeting of the Company on Tuesday, Mr. Hawes reported that the attempt to raise 60,000*l.* from the shareholders to relieve the company from its difficulties had failed, and said that it appeared as though the shareholders had determined to allow the company to be wound up. The appeal to the shareholders had only produced 3000*l.* in cash and a promise of 4000*l.* more, and under the circumstances the money subscribed would be returned in full.

THE LATE MURDERS IN A CAB.—Some additional light has been thrown on the recent tragedy, by the publication of some letters addressed by the murdered wife to her sister, from which it appears that she was very cruelly treated many months before her death. She states that her husband continually beat her till she was bruised from head to foot, two or three times cut her, and repeatedly threatened to put an end to her life. At the beginning of the present year he threatened to kill her in such a manner that he would not be found out, stating that he could melt her to nothing all but her hair. She continued to address these complaints to her sister down to a week or two before her murder, telling her not to be surprised if she heard she was dead, and begging her to keep the letters, no doubt that they might be used as evidence against him in case of her meeting with a violent death. It is remarkable however that the letters make no reference to her children, and that it never seems to have occurred to her to ask the protection of a magistrate from her husband's violence.

CHILD MURDER.—A girl named Wolf has been committed for trial for the wilful murder of her infant. She was in service at Belsize Park, Hampstead, and the body of the child was found concealed in a drawer in her mistress's house.

THE PUBLIC HEALTH. — The Registrar-General's Weekly Return states that the deaths in London in the week that ended on Saturday, November 21, were 1475, being 28 less than the corrected average of the last 10 years. During the week the births were 1970, which was more than 100 above the average.

## Provincial.

ALDERSHOT.—On Thursday week a plasterer of Exeter, named Bartlett, arrived at Aldershot to have an interview with his wife, who has been living with a soldier for some time. He found her at the house of a Mrs. Niel, and had been with her about two hours when it was suggested that she and several other persons who were there should go and have something to drink at a neighbouring beerhouse. They accordingly proceeded there, when Bartlett suddenly seized his wife and cut her throat. Medical men were immediately sent for, and found that her throat had been cut in three places, one wound having partially severed the jugular vein and the windpipe. They succeeded in tying one of the principal arteries, but there appears to be faint hopes of her recovery. The husband was immediately secured, and a razor stained with blood was found within a few yards of the spot where the woman had fallen. On the way to the police-station the prisoner said if his wife died he should die happy, as he came down with the intention to do for her. He also said he should ask the favour of being allowed to go back to Devonshire to be executed. He is about 27 or 28 years of age.

AUCKLAND.—Down to Saturday afternoon the Union pitmen out on strike at Messrs. Straker & Love's collieries, in the Auckland district, had not settled with their employers. The matters first in dispute had been reduced to a question of wages, and no further overtures had been made by either masters or men. During last week ample notice having been given, a number of pitmen and their families were ejected from their cottages, but accommodation was found for them by the Union in the village of Willington and the neighbourhood. In the middle of the week the conduct of some of the pitmen became very riotous, but the excitement calmed down without any very violent outbreak. On Saturday, however, in consequence of the non-Union men having been threatened, extra policemen were placed at the collieries. Their notice having expired, the men at the South Medomsley colliery, to the number of 60, went on strike, demanding the erection of a weigh beam at bank, and an advance of wages. The strike still continues at Spennymoor colliery, and the owners have expressed their determination to close the mine rather than submit to the terms proposed by the Union. Placards have been issued by the men at Stanley, Thornley, and Kelloe collieries, intimating that an advance of wages had been demanded. A dispute between the owners of Felling colliery and the men, which arose last week about prices, is likely to be amicably settled. The notices for a reduction in wages in one or two of the pits in the Northumberland steam coalfield expired on Monday, but in this case also there is a prospect of the masters and men coming to an amicable understanding.

BIRMINGHAM.—On Saturday night the wife of Mr. Charles Rann Kennedy, the barrister, who has so often been before the public in connection with the Swinfen estates and the trials arising out of them, fell down the stairs of her own house, and fractured her skull so severely that she died in the course of the next day. At the inquest which was held on Wednesday, it appeared from the evidence that all the family were at home; that Mrs. Kennedy had gone to her bedroom, and was supposed to have come out again for some night-linen, when she fell down the stairs. Her husband immediately ran to her assistance, and a surgeon was sent for, but she never rallied, and died on Sunday evening. The jury returned a verdict of Accidental Death.

CAMBRIDGE.—On Tuesday Earl Powis was installed as High Steward of the University of Cambridge, with the usual formalities. The ceremony took place at his lordship's mansion in Berkeley Square. The Vice-Chancellor officiated on the occasion, assisted by the members for the University; the Masters of St. John's, Clare, and Jesus; the Proctors, the Public Orator, the counsel to the University, the Registrar, and many members of the University resident in London. In the evening a large party of gentlemen connected with the University dined with the High Steward at the Clarendon Hotel. Mr. Henry Fawcett, Fellow of Trinity Hall, was elected Professor of Political Economy yesterday by a large majority, the numbers being, for Mr. Fawcett, 90; Rev. J. B. Mayor, 80; Rev. L. H. Courtney, 18; Mr. H. D. Macleod, 14.

DEAL.—Lord Clarence Paget on Friday night was present at a dinner given by the Mayor of Deal, and in returning thanks as Secretary to the Admiralty, said that the bombardment of Kagosima was not intended by the Government or the Admiral when he was sent up to punish the Daimio who had murdered an English subject. If there had not been a gale of wind blowing at the time the forts only would have been destroyed. The storm which raged, however, prevented the gunners of the fleet from taking accurate aim, and thus the town was shelled. The damage unfortunately done to the property and lives of the innocent townspeople is deplored as much by the Admiral commanding the squadron, and every officer and man in it, as by the Government or the public of this country. With regard to the efficiency of the navy, he referred to the recent accident to the Prince Consort, and declared that she had proved herself an admirable sea-boat.

GUILDFORD.—A disgraceful riot took place in this town on Saturday evening. The detachment of troops which had been sent in the beginning of the month from Aldershot to prevent the usual disorders which prevail in the town on Guy Fawkes' day, remained until Thursday last, when it was marched back to the camp. This protection being withdrawn, the "Guys" came out on Saturday evening, masked and armed with bludgeons. They demolished the windows of one of the magistrates who had made himself obnoxious to them, and did great injury to the house of the ex-Mayor. They then attacked a policeman who came in their way, and beat him so savagely that for two days he was not expected to live. After committing these outrages they dispersed before the special constables could be marshalled against them. Bills have been issued offering 200*l.* for the apprehension and conviction of any of the rioters.

MANCHESTER.—A deputation from a portion of the distressed operatives who had been receiving relief from the Manchester Board of Guardians waited upon the Mayor on Monday, at the Town Hall. They marched in procession to the hall, headed by a lorry, which was surmounted by a huge placard, upon which was written "Motto of Freedom—A fair day's work, and a fair day's wage, and no Bastile to keep our wives and childer from starvation!" The procession contained about 200 persons, many of them lads. The Mayor courteously informed the deputation that he could not interfere with the proceedings of the guardians, and that some public works would soon be provided for Manchester. The deputation then attended an out-door meeting in Stevenson Square, and reported the result of their interview with the Mayor.

OUNDLE. — The Fitzwilliam hounds met at Cotterstock Lodge, near this town, on Monday. The horse of the master of the hunt, the Hon. G. W. Fitzwilliam, fell in crossing a low fence, and threw the master heavily to the ground. Mr. Fitzwilliam was conveyed to the nearest house, and medical assistance was called in. It was then found that his collar-bone was broken, and that he had received some severe bruises. Later in the day he was conveyed to Milton in a fly, and hopes are entertained of his speedy recovery.

ROCHDALE.—On Tuesday evening Mr. Cobden and Mr. Bright addressed a large meeting in this town, at which not less than 3000 people were present. Mr Cobden said that although there was no longer any question of free trade and protection to discuss, there were still the questions of taxation and the expenditure of the Government. The next Parliament would have to be endowed with new principles at the next general election. Some people said there was a popular apathy with regard to politics, and he must confess that the people of England just now much more anxiously attended to the proceedings of other countries than to those of their own. It was as if the daily morning dram of Reuter's telegrams was more acceptable than home politics. With regard to America, he still did not believe that the war would issue in the achievement by the South of their so-called independence. Nineteen-twentieths, however, of society in London—that was to say the upper 10,000—were of a contrary opinion; but their knowledge of America, like the knowledge of the newspapers, was sadly limited. The civil war in America was not a war for free-trade principles, but a war waged for the purpose of extending and perpetuating human slavery, and not to defend it as it existed. It was a war to establish a slave empire, of which slavery should be the corner-stone. It was the aristocracy of the South fighting against the democracy of the North. Whenever an aristocracy had done that elsewhere they had never succeeded, and so it must be with the struggle in America. If such a thing as a division of America should happen, it would be fraught with a great loss to human progress all over the world. Already we could see what the struggle had led to in Mexico and St. Domingo. If it had not been for the American war the French would not have made the Mexican mistake, nor Spain that of attacking St. Domingo. As to the Polish question, we had misled the Poles and aroused the Russians against us *en masse.* With regard to the proposed Congress, he disapproved of it altogether, unless they proposed to disarm. The only benefit, so far as he could see, to be derived from a congress was that which would arise from a general disarmament. Diplomacy would be a failure, as it had been hitherto. The diplomatic arrangements of the Paris Congress of 1856, after the Russian war, had only led to 1,000,000 more men being armed in the two services of the European countries, and he feared that the result of the proposed Congress would be much after the same fashion. He then spoke of the burning of Kagosima, which he characterised as great a barbarity as that of the burning of Polish villages by the Russians, and if there was such a thing as the retributive justice of Providence, which he believed there was, he felt sure that we should be visited by it for own un-Christian cruelties and massacres in Japan, China, and other places east of the Cape. He advocated an extension of the franchise, and was sure that for granting that no better time than the present one of quietness could be selected. He said that the condition of the English peasantry had no parallel on the face of the earth. There was no peasantry but that of England which was entirely divorced from the land. Our colonies were more free, Italy was more free, Germany was more free than we were, and we did not maintain our relative position in advance of other countries. There was no other country in the world where you would not find men holding the plough and turning up the furrow upon their own land. He did not want any agrarian outrages by which to change all this; but this he found, and it was quite consistent with human nature, that wherever he went the condition of the people was generally pretty good, in comparison with the power they had to take care of themselves. Mr. Bright, M.P., also addressed the meeting at considerable length. He urged that if the question of free trade and protection was settled, there yet remained to be discussed the great questions of taxation and parliamentary reform. He strongly advocated the admission

of the masses to the franchise, and asked if it was an unchangeable decree of the Most High that more than half the population of this country should live in houses of not more than five pounds' yearly value, and that their children should grow up, in comparison with those of the wealthier classes, to a great extent uncared for and untaught? If we were fairly represented, he said, the agricultural labourer throughout the United Kingdom would be redeemed from that poverty and serfdom which up to this time have been his lot. The system which brought vast tracts of land into the possession of one man was a curse to the country, and doomed the agricultural labourer to perpetual poverty and degradation. As to the civil war in America he said that that country, now in mortal strife, afforded a haven and a home for multitudes flying from the burdens and the neglect of the old Governments of Europe, and when this mortal strife was over, when peace was restored, when slavery was destroyed, when the Union was cemented afresh, then Europe and England might learn that an instructed Democracy was the surest foundation of Government.

## Ireland.

THE EXODUS.—Every steamer that leaves Queenstown is crowded with emigrants, and hundreds of families are preparing to leave the country. Dr. M'Hale, Roman Catholic Archbishop of Tuam, has addressed a letter to the Chancellor of the Exchequer on the subject, in which he says that the emigration is sweeping away the population, and threatening to cast the entire young race of Ireland on the coasts of America. The following are extracts:—

"By the sure operation of the unerring laws of justice, vengeance is recoiling upon those by whom it has been so long and so cruelly exercised; and the systematic work of agrarian evictions, artificial famines, and forced emigration has now reached such a crisis as to terrify the British officials by whom it has been projected, as well as their Irish agents, by whom it has been so zealously carried on. The alarm that has seized the Government and the landlords springs not, it is manifest, from a concern for the tenant class, but from a consciousness of the social calamities which the flight of its stalwart inhabitants is bringing on the country in which their own interests are so seriously involved. And yet we hear not, on the part of the landlord class, any repentant declaration that they will strive, by granting leases on equitable terms, to remedy the evil which now appals them, nor any indication on the part of the Government that they will connect the interests of the landlord and tenant by making the franchise depend on the condition of a certain profitable and secure tenure of house or farm; nor is there finally any hope held forth that those detested prisons, the workhouses, shall be abolished, which are the most effectual instruments in driving the people from Ireland, any foreign land, with freedom and the reward of industry, being preferable to such penal incarcerations. Nor is the axe yet laid to the root of that hideous evil, the Protestant Church Establishment, so long acknowledged, deplored, and stigmatised as the standing scandal of our land and the shame of its Government. No, nor amid the inglorious scramble for place that now occupies the few who are tempted by the cheating hope, are there found in the present crisis of the fate of Ireland any who seem to bestow a serious thought on the protection of that too faithful people by whose heavy and repeated sacrifices those ungrateful men were placed in a position to dare to hope for those trifling honours and emoluments, to which the safety of the great mass of the Irish nation is continued to be so unscrupulously sacrificed. And yet the tragic farce that Ireland's destination is to be a feeder of cattle is not yet ended. In vain has the sad conviction been tardily forced on the country that with the contraction of the area for agriculture, its flocks and herds have been diminished in the same proportion. The aggregate meetings with which the country is now familiar are cattle shows in the morning, while their congenial owners crown the evening with banquets, giving expression to a novel sort of eloquence, which could find no favour beyond the precincts of the bucolical school—boasting of the peace which they call the solitude they have created, and boasting too of a still more extraordinary triumph—that they have reversed the sacred ordinances promulgated at the morning of creation, and that man is now obliged to yield dominion to the beasts of the field. It is no wonder if men of spirit, and possessing the means, should fly from a conflict so degrading and a doom so disastrous. They are flying, and in despite of all dissuasions from whatever quarter, they will continue to fly in such numbers and with such rapidity as remind one of the melancholy figures of our bards, comparing them to the flight of birds after the capitulation of Limerick. They know the terrors of war, as well as of the deep which they have to encounter; but neither war nor the deep has for them any terrors compared to the insecure, precarious, nay fugitive and savage mode of life to which the laws have doomed them, aggravated by the treachery of broken promises and violated covenants, on the part of unfaithful men, in which they are resolved no longer to confide. It is in vain then that landlords, now changing their tone, beseech their tenantry to stay—it is in vain that the obsequious scribes of a Government which so long treated them with cruelty implore of them not to go. Their resolve, however to be regretted, appears determined, as long as their just claims are so mercilessly unheeded. And hence the cool and stern indifference with which they leave a land that has lost for them the endearing character of a parent, and with it all the sacred attractions and security of home."

## Law.

COURT OF EXCHEQUER: *Case of the Alexandra.*—On Saturday the Solicitor-General occupied the whole day with his argument against the verdict in the former trial and in favour of the interpretation of the Foreign Enlistment Act which had been given by the Attorney General. On Monday the Queen's Advocate addressed the Court for the Crown, and was followed on the same side by Mr. Locke, Q.C., and Mr. T. Jones. The Court took time to consider its judgment.

COURT OF QUEEN'S BENCH: *Presidency of the Royal Hospitals.*—On Monday Sir F. Kelly, on behalf of the City of London, applied for a rule calling on the governors of St. Bartholomew's Hospital to show cause why they did not elect Lord Mayor Rose to the office of governor of that institution. After some discussion the Court granted a rule *nisi*. *The Earl of Coventry, &c. v. Wilkes.—The Jockey Club and the Press.*—On Friday this case, which involved the right of the Jockey Club to warn persons off Newmarket Heath, disputed in the case of the defendant, who was the sporting correspondent of the *Morning Post*, was argued before the full Court. The Lord Chief Justice in giving judgment said the Court could not admit the defendant's plea, that all persons had a right to be on the heath while races were run. On that point therefore judgment would be for the plaintiffs. There are, however, other pleas in the case that remain to be disposed of. *The Queen v. Peter Cleworth.—The Sunday Haymaking Case.*—The Solicitor General moved for a rule calling upon two justices of the peace for the parish of Leigh to show cause why a *certiorari* should not issue for the purpose of bringing up and quashing the conviction of Peter Cleworth, a farmer who was convicted of making hay on a Sunday. The question was whether the Act of Charles II., under which the conviction was made, embraced farmers or not. The applicant had been convicted of having unlawfully exercised his ordinary calling on the Lord's-day, and had been adjudged to pay a certain penalty, and in default to be put in the stocks. It was treated in the conviction as not being a case of necessity, but he had made an affidavit that it was an act of necessity, for if the applicant had not saved the hay on the Sunday it would have been destroyed. The sole question on the face of the conviction was whether a farmer came within the scope of the act. The Lord Chief Justice said it was a matter that ought to be considered. The other Judges concurred and the rule was granted. *Woolf v. Hamilton.—The City Detectives.*—In this case a rule had been obtained calling upon Inspector Hamilton and others, members of the City detective force to show cause why a criminal information should not be exhibited against them for conspiracy. The rule stated that Mr. Woolf, a merchant in the City, being suspected by the defendant of having been in communication with an Austrian named Dietrichstein, who was charged with forgery, had been watched night and day by members of the City detective force, which led to a collision between them and to Mr. Woolf applying to the Court for a criminal information. After hearing cause against the rule, the Court unanimously decided that the detectives were only acting in discharge of their duty, and that there had not been sufficient grounds laid for a criminal information. The rule was therefore discharged.

COURT OF BANKRUPTCY: *Case of Colonel Waugh.*—On Wednesday the Commissioner in this case granted the application of Colonel Waugh for release, the assignees having on the previous day withdrawn their opposition. The detaining creditor, however, opposed the release, and in consequence the order is not to take effect for a fortnight, in order to allow an appeal to the Court of Queen's Bench.

## Obituary.

SIR FRANCIS EDWARD SCOTT, BART., died at St. Leonard's-on-Sea on the 21st inst. in his 39th year. He was the son of Sir Edward Dorman Scott, by the eldest daughter of Sir Hugh Bateman, Bart. He was educated at Christ Church, Oxford, and married in 1854 the eldest daughter of Sir W. E. Cradock Hartopp, Bart. At Eton and Oxford he acquired a love of athletic sports; and though he was a distinguished member of the Arundel Society, a connoisseur in mediæval paintings and cameos, the disciple of Mr. Ruskin, and the patron of Mr. Gilbert Scott, he was also a votary of the ring and a patron of pugilism. He took an active and useful part in promoting the building of the Midland Institute, and was for some time president of the Government School of Art.

WILLS.—The will of Sir William Bellairs, Kt., late of Malbarton Lodge, Norfolk, and of Oakley Square, London, has been sworn under 40,000*l.*; Mr. John Bowyer Nichols, of Hanger Hill, Ealing, and Parliament Street, printer, 160,000*l.* personalty; Mr. William Tooke, of Bedford Row and Russell Square, solicitor, 140,000*l.* personalty, with real estates in Essex, Herts, Middlesex, and elsewhere.

BIRTHS.—22d inst, at Guestling, Lady Ashburnham, of a daughter—20th inst, at Grosvenor Square, Lady LOUISA MILLS, of a daughter—8th inst, at the British Legation, Dresden, Lady AUGUSTUS HERVEY, of a son—18th inst, at Lindridge, Desford, the Hon. Mrs R. MORETON, of a son—17th inst, at Glanusk Park, Lady BAILEY, wife of Sir J. R. Bailey, Bart., prematurely, of a son, who survived only three hours—21st inst, at Clifton, Lady STRACHEY, wife of Sir EDWARD STRACHEY, Bart., of Sutton Court, of a son.

MARRIAGES.—On the 21st inst, in the Chapel of Lambeth Palace, the Hon. ROBERT BOURKE, third son of the Earl of Mayo, to the Right Hon. Lady SUSAN GEORGIANA BROWN RAMSAY, eldest daughter of the late Marquis of Dalhousie—19th inst, at Riddlesworth, the Hon. T. C. BRUCE, youngest son of the late Earl of Elgin and Kincardine, to SARAH CAROLINE, eldest daughter of THOS. THORNHILL, Esq., of Riddlesworth Hall, Norfolk—19th inst, at Hollington, St. Leonard's-on-Sea, Lieut. RICHARD GRAHAM BIRCH, 1st Bengal Cavalry, second son of Lieut.-General Sir Richard Birch, K.C.B., to MARION, youngest daughter of the late W. F. BALLY, Esq.—23d inst, at Whitworth, JOHN WIND COATES, of Pasture House, near Northallerton, Yorkshire, to FANNY DUNCOMBE, eldest daughter of the late Rev. SLINGSBY DUNCOMBE SHAFTO, of Whitworth Park, Durham—24th inst, at St. Stephen's Church, Westbourne Park, MATHEW SCANDERBEG DE RINZY, Esq., of Clobemon Hall, co. Wexford, to HENRIETTA ELIZABETH, youngest daughter of the late Colonel ROBERT WALLACE, K.H., formerly of the 1st (King's) Dragoon Guards.

DEATHS.—On the 17th inst., at Southwood Lodge, Cheltenham, Sir FRANCIS H. GILBERT, Bart., Consul at Scutari, Albania—20th inst, at her residence, 1, Belvedere Terrace, Tunbridge Wells, CAROLINE E. A. BURGES, daughter of the late Sir JAMES BLAND LAMB, Bart., of Beauport, Sussex, aged 73—18th inst, at 72, Gloucester Street, South Belgravia, ELIZABETH, wife of Major-General WILLIS, Royal Artillery, aged 77—21st inst, at Heatherton Park, Somerset, ALEXANDER ADAIR, Esq., aged 71—20th inst, at Peel Terrace, Alverstoke, Hants, Captain ROBERT BALLARD YATES, R.N., and J.P. for the county, formerly of Ballard Lodge, in the same parish, aged 81—17th inst, at Wymeswold, Leicestershire, Captain CHARLES COLZIER DAWKINS, R.N., aged 58—18th inst, at Windsor Castle, Captain JAMES SCOTT, Military Knight, and late of her Majesty's 9th Regiment, with which he served in the Peninsula from 1808 to 1814, aged 83—September 10th, at Thayet Myoo, Burmah, F. N. GLENDINNING, of Chiswick, London, aged 24, whilst yachting with three companions on the Irrawaddy. The boat capsized in a gale of wind; all lives were lost—20th inst, at his residence, Blackheath, WILLIAM PAINE, Esq., late cashier of Greenwich Hospital, aged 79—24th inst, at Brighton, ELIZA, the wife of THOMAS GRISSELL, Esq., of Norbury Park, Surrey—17th inst, RICHARD MARSHALL, Esq., of Muswell Hill, late of Stationers' Hall Court, aged 74—19th inst, at Bennett Street, Bath, the Rev. GEORGE INGRAM FISHER, M.A., Vicar of Abbotts Kerswell, Devon, aged 67—15th inst, at St. Erth Vicarage, Cornwall, the Rev. JOHN PUNNETT, aged 62—18th inst, at Uckfield, the Rev. JOHN D. STREATFEILD, aged 39—11th inst, at Kirkconnell House, Dumfries, the Rev. THOMAS WITHAM, aged 78.

## Markets.

### COVENT GARDEN, Nov. 28.

All kinds of produce in season are abundant. Pine Apples are unusually well supplied; prices for them are lower than last week. Imported Grapes realise 8d. to 1s. per lb. Of foreign Melons there is a good stock. There is also a good supply of Nelis d'Hiver, Glou Morceau, Monsieur le Curé, and Beurré Diel Pears. Good English Apples are getting somewhat scarce. Some good examples of Ribston Pippin and Cox's Orange Pippin Apples may still be obtained. Kent Cobs are good and plentiful. New St. Michael Oranges realise from 5s. to 10s. per 100. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Primroses, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Oranges, per 100, 7s to 10s |
| Grapes, per lb., 2s to 8s | Nuts, small, per bush., 14s to 18s |
| Apples, per $\frac{1}{2}$ sieve, 1s 6d to 2s 6d | Kent Cobs, 80s to 90s p. 100 lbs. |
| Pears, per $\frac{1}{2}$ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 14s to 20s |
| Lemons, per 100, 5s to 10s | Chesnuts, per bush., 10s to 20s |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 8d |
| ,, Shaws, do., 50s to 60s | Lettuces, each, 1d to 4d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 9d to 1s | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 5d |
| Tomatos, each, 2d to 3d | |

### NEWGATE.—Nov. 27.

| | |
|---|---|
| Best Fresh Butter .. .. | 16*s.* per dozen lbs. |
| Second do. do. .. .. | 14*s.* ,, |

Pork, 3*s.* 8*d.* to 4*s.* 0*d.* per 8 lbs.

### POTATOS.—SOUTHWARK, Monday, Nov. 23.

During the past week the arrivals coastwise have been good, and very large by rail as well as from Kent and Essex, which, coupled with the very mild weather, has caused very dull trade at a reduction in prices. The following are this day's quotations:—Yorkshire Flukes, 80s. to 90s. per ton; do. Regents, 65s. to 70s.; Kent and Essex Regents, 60s. to 70s.; do. do. Rocks, 50s. to 60s.; Perth, Forfar, and Fifeshire Regents, 60s. to 65s.; do. do. Rocks, 50s. to 55s.

### HAY.—Per Load of 36 Trusses.

CUMBERLAND MARKET, THURSDAY, Nov. 26.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 88s to | 95s | Inferior do. .. | 88s to | 100s |
| Inferior do. .. .. | 72 | 78 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 32 | 36 |
| Superior Clover .. | 108 | 115 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Nov. 26.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay .. | 84s to | 88s | Prime 1st cut Clover | 108s to | 112s |
| Inferior do. .. .. | 78 | 84 | Inferior do. do. .. | 100 | 105 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do. .. | 100 | 105 |
| Straw .. .. .. | 25 | 28 | Inferior do. .. .. | 90 | 100 |

### COAL MARKET.—Nov. 25

Buddle's West Hartley, 15s. 6d.; Byass's Bebside West Hartley, 15s. 6d.; Cowpen Hartley, 15s. 6d.; Hastings Hartley, 15s. 6d.; Holywell Main, 17s.; Lambert's West Hartley, 15s. 3d.; West Hartley, 15s. 6d.; Wylam, 17s.; Walls End Harton, 16s. 3d.; Walls End Hetton, 18s. 6d.; Walls End Tunstall, 16s. 3d.; Walls End Cassop, 17s. 6d.; Walls End Caradoc, 18s.; Walls End Hartlepool, 18s.; Walls End Heugh Hall, 17s. 6d.; Walls End South Kelloe, 17s. 6d.—48 ships at market.

### BRITISH WOOLS.—LONDON, Nov. 26.

We have very little business to report on, as money matters being uncertain, the consumers of wool do not come into the market, and may be expected to keep out as long as possible, or until they think the minimum rate of interest is settled.

| | s. d. | | s. d. | | s. d. | | s. d. |
|---|---|---|---|---|---|---|---|
| South-down Hoggets .. .. | 1 11 | to | 2 0 | Leicest. Wethers | 1 $9\frac{1}{2}$ | to | 1 $10\frac{1}{2}$ |
| Half-bred ditto .. | 1 11 | — | 2 $0\frac{1}{2}$ | Ditto Hoggs .. | 1 $10\frac{1}{2}$ | — | 1 $11\frac{1}{2}$ |
| Down Ewes .. | 1 10 | — | 1 $10\frac{1}{2}$ | Combing Skins .. | — | | .. |
| Kent Fleeces .. .. | | — | 2 0 | Flannel Wool .. | 1 4 | — | 1 9 |
| | | | | Blanket ditto .. | 0 9 | — | 1 0 |

THE COLONIAL WOOL SALES.—These sales have been progressing at a reduction of $\frac{1}{2}$d. to 1d. per lb. in comparison of the rates realised after the first day or two of the present series.

### MARK LANE.—MONDAY, Nov. 23.

There was a moderate supply of Wheat from Essex and Kent to this morning's market, which was cleared partly for the North at an advance of 1s. per qr. upon the prices of this day se'nnight. The attendance was good, and Foreign Wheat must be written 1s. to 2s. dearer, which rise tended to check sales. Malting Barley brought last week's quotations; grinding was rather cheaper. Beans and Peas were unaltered in value. The Oat trade was firm, and an advance of 6d. per qr. established. Barrel Flour of good quality was in demand, and rather dearer.

| PER IMPERIAL QUARTER | s. s. | | s. s. |
|---|---|---|---|
| WHEAT, Essex, Kent, & Suffolk .. White | 42—48 | Red ..... | 38—48 |
| — — fine selected runs .. ditto | 44—52 | Red .... | 40—48 |
| — — Talavera ............ | 46—54 | | |
| — Norfolk ............ | — | Red .... | — |
| — Foreign ............ | 36—54 | | |
| BARLEY, grind. & dist., 26s to 28s .. Chev. | 34—38 | Malting .. | 30—38 |
| — Foreign .. grinding and distilling | 23—28 | Malting .. | 30—32 |
| OATS, Essex and Suffolk ............ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ............ Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 18—22 | Feed .... | 15—20 |
| RYE ............ | 30—32 | Foreign .. | — |
| RYE-MEAL, Foreign ............ | — | | |
| BEANS, Mazagan .... 28s to 36s .. Tick | 30—34 | Harrow .. | 30—34 |
| — Pigeon .... 32s to 40s .. Winds. | — | Longpod | — |
| — Foreign ............ Small | 36—42 | Egyptian | 30—32 |
| PEAS, White, Essex and Kent .. Boilers | 34—36 | Suffolk .. | 34—38 |
| — Maple .... 34s to 36s .... Grey | 31—33 | Foreign .. | 32—40 |
| MAIZE ............ White | — | Yellow .. | — |
| FLOUR, best marks delivered .. per sack | 35—40 | | |
| — 2d do ............ ditto | 28—34 | Country .. | 28—34 |
| — Foreign ............ per barrel | 15—21 | Per sack | 32—42 |

FRIDAY, Nov. 27.

With the exception of an occasional heavy shower and a very wet day on Tuesday, the tendency to improvement in the value of Wheat has continued during the past week throughout the kingdom, and an advance in prices of fully 1s. per qr. has been general. Former rates have also been well maintained for all descriptions of Spring Corn. Barrel Flour must be noted 6d. and Foreign Sack 6d. to 1s. dearer—Since Friday last 91 vessels have been reported off the coast. Paris, Nov. 26. Flour has been improving since last Thursday, was, however, quieter since yesterday; the six marks for delivery this month are quoted equal to 32s. 3d. per 280 lbs; the present stock is estimated at 4970 cwt. Wheat has remained steady, notwithstanding the large supplies. The arrivals of Foreign Barley this week have been considerable, of all other grain and Flour small. To-day's market was only moderately attended. English Wheat commanded the extreme rates of Monday. Business in Foreign was chiefly confined to some purchases on

speculation at rather over that day's rates. Spring Corn of all descriptions is steady at Monday's quotations.

ARRIVALS THIS WEEK.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 1130 qrs. | 1620 qrs. | 110 qrs. | 640 sk. |
| Irish .... | — | 220 | 1900 | — „ |
| Foreign .. | 2310 „ | 10,020 | 2200 „ | 620 „ / 1730 brls |

LIVERPOOL, Nov. 24.—We have had a very good attendance of millers and dealers at to-day's Corn Exchange, and Wheat has met a free sale both for consumption and to hold over, at an advance of fully 2d. per cental on Friday's currency. Flour is held for 6d. per barrel and sack more money, which checks business. Indian Corn attracts a fair amount of attention, and must be quoted quite 3d. per qr. dearer than on Friday. Oats and Oatmeal dull of sale, but were not pressed. Beans are the turn cheaper. Peas and Barley unchanged. The market closes steady at the advance established.

FRIDAY, Nov. 27.—Market moderately attended. Wheat: fair demand, and full rates of Tuesday. Flour steady, without change in value. Indian Corn dull; mixed, 29s. Egyptian Beans have an upward tendency. Oats and Oatmeal dull.

| AVERAGES | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Oct. 17 | 40s 4d | 34s 0d | 18s 8d | 29s 2d | 36s 5d | 34s 7d |
| — 24 | 40 0 | 33 11 | 18 7 | 28 9 | 36 5 | 35 8 |
| — 31 | 41 2 | 34 0 | 18 11 | 28 0 | 35 8 | 35 2 |
| Nov. 7 | 40 0 | 34 2 | 18 7 | 28 0 | 35 10 | 35 0 |
| — 14 | 39 10 | 34 0 | 18 9 | 25 0 | 36 5 | 34 1 |
| — 21 | 39 11 | 33 11 | 19 11 | 29 7 | 35 6 | 34 2 |
| Agg. Aver. | 40 0 | 34 0 | 18 11 | 28 1 | 36 0 | 34 9 |

FLUCTUATIONS IN THE LAST SIX WEEKS' AVERAGES.

## METROPOLITAN CATTLE MARKET.

MONDAY, Nov. 23.

The supply of Beasts is not quite so large as on Monday last, and the demand is good. Choice descriptions being scarce are rather dearer than on Thursday. The number of Sheep is also smaller, and consequently on the average prices are higher, although trade is not very brisk. It is difficult to dispose of inferior qualities. Calves are selling about as on Thursday. From Germany and Holland there are 2340 Beasts, 6870 Sheep, and 302 Calves; from Scotland, 140 Beasts; from Ireland, 690; and 2100 from the Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 2 | Best Long-wools | 5 4 — 5 6 |
| Best Short-horns | 4 8 — 5 0 | Do. Shorn | .. .. — .. |
| 2d quality Beasts | 2 8 — 3 10 | Ewes & 2d quality | 4 4 — 4 8 |
| Best Downs and Half-breds .. | 5 8 — 5 10 | Do. Shorn | .. .. — .. |
| Do. Shorn .. | .. .. — .. | Lambs .. | .. .. — .. |
| | | Calves .. | 3 0 — 4 8 |
| | | Pigs .. | 3 0 — 4 8 |

Beasts, 5590; Sheep & Lambs, 19,280; Calves, 310; Pigs, 340.

THURSDAY, Nov. 26.

The number of Beasts is rather smaller than for some Thursdays past; the demand, however, is but small. Choice descriptions are scarce, and realise Monday's quotations, but a clearance cannot be effected of other kinds. Sheep are rather more plentiful: the average quality is not improved, and prices remain unaltered. Trade is very dull for Calves, and Monday's quotations are with difficulty maintained. Our foreign supply consists of 628 Beasts, 1780 Sheep, and 247 Calves. Milch Cows, 90.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 2 | Best Long-wools | 5 4 — 5 6 |
| Best Short-horns | 4 8 — 5 0 | Do. Shorn | .. .. — .. |
| 2d quality Beasts | 2 8 — 3 10 | Ewes & 2d quality | 4 4 — 4 8 |
| Best Downs and Half-breds .. | 5 8 — 5 10 | Do. Shorn | .. .. — .. |
| Do. Shorn .. | .. .. — .. | Lambs .. | .. .. — .. |
| | | Calves .. | 3 0 — 4 8 |
| | | Pigs .. | 3 0 — 4 8 |

Beasts, 1270; Sheep & Lambs, 4980; Calves, 287; Pigs, 80.

### Nursery Foreman.

WANTED, a thorough experienced WORKING FOREMAN and SALESMAN.—He must be well up in the Propagation and Management of Roses, Conifers, Hardy Trees, Shrubs, Fruit Trees, &c., and the general routine of Nursery work. To a clever intelligent Man a liberal salary will be given with house. State age, where last employed, and references to ability, integrity, &c. in own handwriting, to Mr. EDWIN HOLLAMBY, Nurseryman and Seed Merchant, Tunbridge Wells, Kent.

WANTED IMMEDIATELY, a good MARKET GARDENER and WIFE, without incumbrance.—The Gardener must be well up to his work, and have a good reference. The Wife will be required to understand Poultry and Cows; a per centage will be given her on what she produces. House, Firing, Vegetables, and Milk, with a liberal Salary.—Apply to WILLIAM EPPS, JUN., Nursery, Seed, and Fruit Establishment, Hastings.

WANTED, a FARM BAILIFF.—The Board of Management of the Central London District School require a Bailiff to Manage their Farm and Garden at Hanwell, Middlesex, containing about 100 acres. He must be competent to keep Accounts, to entirely Manage the Stock, and to Train Boys in Gardening and Farming operations. He will be required to enter on his duties immediately. The salary will be 75l. per annum, with Residence and Gas, and also an allowance of Milk and Vegetables for the consumption of himself and his family. Applications in the handwriting of the candidates (who must be married), stating age and present and previous occupations, are to be sent with testimonials to me, at 10, Basinghall Street, E.C., before Friday, December 4 next, and notice will be sent to approved Candidates when they are to attend the Managers.—SAMUEL HEATH, Clerk to the Board, 10, Basinghall Street, E.C.—Nov. 28.

WANTED, a MAN and WIFE, middle-aged, no incumbrance.—The Man to thoroughly understand the Milking of Cows, and attend to Poultry, &c.; the Wife to Live at the Lodge, to attend to Gate, and assist in the Dairy occasionally if required. Wages 13s. per week and House. Good references as to character from last employers.—Apply to Mr. WM. NEWTON, Ankerwycke House, Wraysbury, near Staines, Bucks.

### Cow and Stock Man.

WANTED, by a gentleman near London, a STOCK MAN.—Must be married, strong and active, sober, honest, and cleanly; to Milk and look after Cows and Pigs, able to kill Sheep and Pigs. A good personal character indispensable. Wages, 15s. per week, with good Cottage.—Apply by letter to J. L. C., Post Office, Finsbury Place, E.C.

WANTED, a COWMAN.—A steady, active Man, without incumbrance, between 30 and 40, who understands Cows, Pigs, Poultry, &c., and who would have to clean Boots, Knives, and make himself useful. He would have a Lodge to live in, and his Wife would have to attend to the Gate. None need apply whose character will not bear investigation.—Address, stating wages, to A. K., 96, Wood Street, E.C.

WANTED, a DAIRYMAID.—Must be a first-rate Maker of Butter and Bread.—Apply to Mrs. WOODWARD, Fairlawn, Tonbridge, Kent.

## WANT PLACES.—Letters to be Post Paid.

### To Noblemen and Gentlemen in want of first-class Gardeners.

EDWARD TILEY, NURSERYMAN, SEEDSMAN, &c., 14, Abbey Churchyard, Bath, has THREE or FOUR respectable MEN whom he can highly recommend, and who have good characters from their last situations; one especially, who has had the management of extensive Grounds, and is thoroughly acquainted with Early and Late Forcing, the Management of Exotics, &c.

GARDENER (HEAD, &c.)—Age 41, married; has filled extensive situations. Good and long character.—A. B., 7, Cuthbert Street, Hall Park, Edgware Road, W.

GARDENER (HEAD).—Age 30, married; competent in the Growth of Stove and Greenhouse Plants, &c.; Successional Forcing of Vines, with Fruits, Flowers, and Vegetables, also a good general Gardener. Can be well recommended.—W. L., B. S. Williams, Paradise Nurseries, Holloway.

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GARDENER (HEAD). — Middle-aged, married, without incumbrance; active and good working; thoroughly understands his profession in all its various branches. Highly recommended by last employer.—A. K., Grove Lane, Handsworth, near Birmingham.

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GARDENER (HEAD). — GEO. SCUTT (age 34, married), Gardener to the Right Hon. Wm. Hutt, M.P., Gibside, Gateshead, will be disengaged by the end of December, and will be glad to treat with any nobleman or gentleman requiring the services of a thoroughly practical Gardener. Two years' good character, and first-class testimonials from previous employers.—Address as above.

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GARDENER (UNDER), in a gentleman's Garden, where he can improve.—A strong active youth.—Apply to JOHN MOORE, Gardener to T. Lloyd, Esq., M.P., Spark Hill, Birmingham.

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WORCESTERSHIRE SAUCE.—This delicious Condiment, pronounced by Connoisseurs "THE ONLY GOOD SAUCE,"
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# The Gardeners' Chronicle Newspaper.

*SATURDAY, DECEMBER 5, 1863.*

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RUBBER SPRINGS for STRAPS, ROLLERS, &c., 2s.
METAL SPRINGS to CHAINS, WHIPS, REINS, &c.
WEB FETLOCK, Speedy Leg and Knee Boots, &c.
FOMENTING APPARATUS for HORSES' LEGS, 12s.
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Glenfield Patent Starch.
MESSRS. WOTHERSPOON and CO. have been appointed STARCH PURVEYORS to H. R. H. the PRINCESS of WALES. This Starch is used in the Royal Laundry and was awarded a Prize Medal. Sold by all Grocers, Chandlers, &c.
Wotherspoon & Co., Glasgow and London.

THRESHER'S COLORED FLANNEL SHIRTS. —Prize Medal awarded to Thresher & Glenny for very fine and superior FLANNEL SHIRTS, India Tweed Suits, and India Gauze Waistcoats.
Lists of Prices on application to Thresher & Glenny, General Outfitters, next door to Somerset House, Strand, W.C.

HEAL and SON'S EIDER-DOWN QUILTS, from 25s. to 10 Guineas. Also GOOSE-DOWN QUILTS, from 10s. to 32s. Lists of Prices and Sizes sent Free by Post.
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The largest stock in existence of Plated Dessert Knives and Forks in cases and otherwise, and of the new Plated Fish Carvers.

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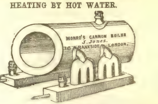


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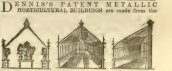

best Wrought Iron, upon an entirely new principle. The combination of Iron and Glass under this patent is perfect; the possibility of fracture is prevented, and a permanently Water-tight Roof insured.
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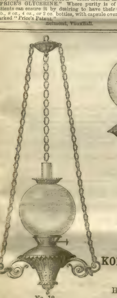

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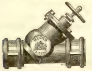

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Illustrated Catalogues on application.
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"I have had 400 feet of your Gutta Percha Tubing, in lengths of 100 feet each, with union joint, in use for the last 12 months for watering these gardens, and I find it to answer better than anything I have ever yet tried. The pressure of the water is very considerable, but this has not the slightest effect on the tubing. I consider this tubing to be a most valuable invention for Gardeners, inasmuch as it enables us to water our gardens in about one-half the time, and with one-half the labour required."

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These prices only apply to the sizes stated.

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| 13 „ 11 | 14 „ 11 | .. | .. | | | | |
| 14 „ 12 | 15 „ 12 | 15 „ 11 | 16 „ 11 | | | | |
| 18 „ 12 | 19 „ 12 | 16 „ 12 | 17 „ 12 | | | | |
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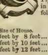

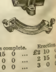

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## News of the Week.

THE financial statement of M. FOULD, the French Minister of Finance, was published on Thursday. It states that there is a deficit in the revenue amounting to 972,000,000 of francs, or not far from 40 millions sterling. The cost of the Mexican expedition up to the 1st of January next will amount to 210 millions of francs, and that of the expedition to Cochin China will be 60 millions. It was hoped that the re-establishment of a regular government in Mexico would have led to the repayment of the advances made by France, but in the present state of that country France must not allow the security of her finances to depend upon such a contingency. M. FOULD, therefore, proposes to meet the cost of the war at once, and for that purpose recommends to the EMPEROR a loan of 300,000,000 francs, which will allow him to consolidate part of the floating debt. The produce of the loan will be employed to redeem 12 millions sterling of Treasury Bonds, and as the interest on the loan will be less than that on the Bonds, the State will be so far a gainer. M. FOULD adds that but for the wars in Mexico and Cochin China, there would have been during the last two years a surplus of 155,000,000 f., which would have reduced the floating debt to 776,000,000 f. The trade of France is good, and the elasticity of her resources unimpaired, and he hopes for the day when, by the reduction of expenses and an improvement in receipts, it will be possible to resume the operations of the Sinking Fund. He concludes by saying that if in the future the equilibrium of the Budget be maintained, if the generous efforts of the EMPEROR assure peace, and the State prosper, the finances will permit them to reduce the taxes, and realise the wishes of HIS MAJESTY.

The excitement in Germany on the Schleswig-Holstein question continues unabated. The Federal Diet have testified their opposition to the rights of the KING of DENMARK by excluding HIS MAJESTY'S representative from their deliberations, and the Prussian Chamber of Deputies have adopted, by a majority of 231 to 63, the resolution moved by the leaders of the Liberal party, declaring that the honour and interests of Germany demand that all the German States should support the rights of the hereditary PRINCE FREDERICK to the Duchies of Schleswig and Holstein. Count VON BISMARCK on Tuesday communicated to the Chamber the views of the Prussian Government on the question. He said that however much the signature of the Treaty of London was to be regretted, Prussia was bound in honour to respect its stipulations, but required a similar observance on the part of Denmark. Prussia had come to an understanding with Austria on the subject, and as long as the treaty remained in force, the reasons for carrying into operation the Federal execution continued to exist. They had therefore proposed to the Diet that this measure should be carried out forthwith, and would make the necessary military arrangements for the purpose. Meanwhile the constitution voted by the Rigsraad shortly before the death of the late King has been officially proclaimed in Schleswig, in the name of KING CHRISTIAN IX., and the majority of the municipal councils and nearly all the officials of Schleswig have testified their loyalty by congratulatory addresses, or by taking the oaths of allegiance to HIS MAJESTY.

From the United States we learn that General BURNSIDE, after having for six weeks in vain endeavoured to effect a junction with General THOMAS at Chattanooga, has been attacked by the Confederates, under General LONGSTREET, in his isolated position in Tennessee. General LONGSTREET crossed the Tennessee river on the 14th ult.,

and after four days' hard fighting drove General BURNSIDE into Knoxville, which he has since completely invested. The latest news states that fighting was going on all around Knoxville, and that the Federal communication with Cumberland Gap was interrupted. Great anxiety is felt in Washington for the safety of BURNSIDE'S army, but it is hoped that General GRANT will be able to move from Chattanooga and attack LONGSTREET'S rear, and thereby cause a diversion in BURNSIDE'S favour. There has been some sharp skirmishing on the banks of the Rapidan, in which the Federals were driven back, but it is still said that General MEADE will shortly attempt to force the passage of the river and give battle to the Confederates. General BANKS has occupied Brownsville, Brazos Island, and Point Isabel in Texas without opposition. It was believed in New Orleans that his force was intended to act as an army of observation to watch the movements of the French in Mexico, as well as to operate against the Confederates. Accounts from Charleston to the 16th ult., state that a vigorous fire was still maintained against Fort Sumter, and that the Confederate flag had been shot away several times, but was always immediately replaced.

A telegram from India announces the dangerous illness of the Earl of ELGIN from dropsy of the heart, and states that there is little hope of his living to return to England. His lordship has requested the QUEEN to nominate his successor, and Sir JOHN LAWRENCE has accordingly been selected to proceed at once to India as Governor-General. Our troops have experienced great loss in an affair with the rebels on the Punjaub frontier. It is supposed that they fell into an ambuscade laid for them by the Sittanas.

The Paris papers publish intelligence from Japan, stating that Prince SATSUMA asserts that he inflicted severe losses upon the English in the late engagement.

## Home News.

THE COURT. — The Queen and Royal family continue at Windsor. On Thursday week the Duke and Duchess de Chartres, and the Earl of Carlisle, arrived at the Castle on a visit. The Earl of Carlisle had an audience of the Queen. In the evening the Queen had a dinner party. On Friday morning the Queen walked and drove in the grounds. The Prince of Wales, the Crown Prince of Prussia, and the Duke de Chartres, went out hunting with the harriers. The Princess of Wales honoured Mr. Frith with a sitting for the marriage picture. The Marquis and Marchioness of Ailesbury arrived at the Castle on a visit. In the evening the Queen had a dinner party. On Saturday morning the Queen, accompanied by the Princess of Wales, drove out. The Crown Prince and Princess of Prussia went to Oxford. In the evening the Prince and Princess of Wales left the Castle for Frogmore House, where they will remain. The Duke and Duchess of Argyll arrived at the Castle on a visit. On Sunday morning the Queen, the Prince and Princess of Wales, the Crown Prince and Princess of Prussia, Princess Helena, Princess Louisa, Prince Leopold, and the Princess Hohenlohe, attended Divine service in the private chapel. The Bishop of Oxford preached the sermon. On Monday morning the Queen, accompanied by Princess Helena and Princess Louisa, came to London and visited the Dowager Duchess of Sutherland and Lady Augusta Bruce. Her Majesty honoured Mr. Foley and Mr. Theed with a visit at their studios. At Mr. Foley's the Queen inspected the monument to the late General Bruce; and at Mr. Theed's her Majesty inspected the statues of the Prince Consort and the Duchess of Kent, which are in progress. In the afternoon the Royal party returned to Windsor. The Crown Princess of Prussia also came to London. The Prince of Wales and the Crown Prince went out shooting. On Tuesday morning, being the birthday of the Princess of Wales, the Queen, the Crown Prince and Princess, Princess Helena, Princess Louisa, Prince Arthur, Prince Leopold, Princess Beatrice, and the Princess Hohenlohe, visited the Princess of Wales at Frogmore House. In the afternoon the Queen took a carriage drive. In the evening the Crown Prince and Princess, Princess Helena and Princess Louisa dined at Frogmore with the Prince and Princess of Wales. Prince Leopold joined the party in the evening. On Wednesday morning the Queen, accompanied by Princess Helena, walked and drove in the grounds. Earl Russell had an audience of the Queen. The Prince de la Tour d'Auvergne, Ambassador of France, was presented to the Queen at an audience. Count Roëpstorff, Envoy Extraordinary from the King of Denmark, had an audience of Her Majesty. M. de Bille, Danish Minister in London, was presented to the Queen at an audience. The Earl and Countess of Clarendon and Lady Constance Villiers, the Right Hon. E. Cardwell, and Lieut.-General Sir Harry Jones, arrived at the Castle on a visit. In the evening the Queen had a dinner party. On Thursday morning the Queen, accompanied by the Crown Princess, walked and drove in the grounds. The Right Hon. E. Cardwell had an audience of the Queen.

THE PRINCE AND PRINCESS OF WALES.—Tuesday being the birthday of the Princess of Wales, the day was observed with all the honours in the metropolis. The bells were rung in several of the churches, the Royal Standard was hoisted at the Government Offices, and the Guards paraded at the Horse Guards in full uniform. The day was also observed at Windsor with the usual salutes, and the Mayor and Corporation gave a ball in the evening. The Prince and Princess drove to Virginia Water, and lunched in the Temple, and in the evening had a dinner party. On Wednesday the Prince, accompanied by the Crown Prince of Prussia, went out pheasant shooting. The Princess walked and drove in the grounds of Frogmore House. On Thursday the Prince, accompanied by the Crown Prince, again went out pheasant shooting. The Princess walked and drove in Frogmore grounds.

THE CROWN PRINCE AND PRINCESS OF PRUSSIA visited the British Museum on Tuesday, and spent upwards of two hours examining the different collections.

PRINCE ALFRED, accompanied by Prince William of Hesse, paid a visit to the Marquis and Marchioness of Tweeddale at Yester House on Friday. On Saturday the Princes shot over the preserves, and on Sunday attended Divine service in the parish church of Gifford. On Monday their Royal Highnesses returned to Holyrood.

THE CROWN PRINCE OF DENMARK, who has been studying at Oxford University, left that city last week for Copenhagen, on a visit to the King and Queen of Denmark.

THE DUKE OF BRABANT arrived in London on Wednesday evening from Brussels.

THE CABINET.—A Cabinet Council was held on Monday at the official residence of the First Lord of the Treasury in Downing Street.

THE VICE-ROYALTY OF INDIA.—The Right Hon. Sir John Lawrence, Bart., has been appointed to succeed Lord Elgin as Governor-General of India, and will leave England by the next mail.

PARLIAMENTARY MOVEMENTS.—On Tuesday Parliament was further prorogued by commission to Wednesday the 13th of January. Mr. Spooner has announced his intention, from advanced age and increasing infirmities, to resign his seat for North Warwickshire. and has recommended the Hon. C. L. Butler as his successor.

THE FRENCH EMBASSY.—His Excellency Prince de la Tour d'Auvergne, the newly-appointed Ambassador from the Court of the Tuileries, arrived at Albert Gate House on Sunday evening from Paris, and presented his credentials to the Queen at Windsor on Wednesday.

KNIGHTHOOD.—The Queen has directed letters patent to be passed under the Great Seal granting the dignity of a Knight of the United Kingdom to Gillery Pigott, Esq., one of the Barons of the Court of Exchequer.

THE CHURCH.—The Rev. Addington Robert Peel Venables, M.A., of Exeter College, and late curate of St. Paul's, Oxford, was consecrated on Monday as Bishop of Nassau in the Bahamas, in the private chapel of Lambeth Palace. The Archbishop of Canterbury officiated, assisted by the Bishops of London and Oxford. The Consecration of Dr. Trench as Archbishop of Dublin, will take place in Christ Church Cathedral, Dublin, soon after Christmas.

THE PROPOSED CONGRESS.—The following correspondence has passed between her Majesty's Government and that of the Emperor of the French:—

"FROM THE EMPEROR OF THE FRENCH TO HER MAJESTY THE QUEEN.

"Madam, my Sister,—In face of the events which daily arise and press themselves on attention, I deem it indispensable to impart my whole thought to the Sovereigns to whom the destiny of nations is confided. On all occasions when great convulsions have shaken the foundations and deranged the limits of States, solemn compacts have followed to reduce to order the new elements, and to recognise, while revising them, the changes that have been effected. Such was the object of the Treaty of Westphalia in the 17th century, and of the Negotiations of Vienna in 1815. It is on this last foundation that the political edifice of Europe now rests; and nevertheless, your Majesty is not ignorant, it is crumbling to pieces on all sides. If one considers attentively the situation of the different countries, it is impossible not to admit that on almost all points the Treaties of Vienna are destroyed, modified, disregarded, or menaced. Hence there are duties without rule, rights without title, pretensions without restraint—a peril the more formidable, since the improvements produced by civilisation, which has united peoples together by an identity of material interests, would render war still more destructive. This is a matter for serious reflection. Let us not delay taking a decision until sudden and irresistible events disturb our judgment and draw us in spite of ourselves in opposite directions. I now, therefore, propose to your Majesty to regulate the present and to secure the future by means of a Congress. Summoned to the throne by Providence and the will of the French people, but brought up in the school of adversity, it is, perhaps, less allowable for me than for others to ignore the rights of Sovereigns and the legitimate aspirations of peoples. Thus I am ready, without any preconceived system, to bring to an International Council a spirit of moderation and justice, the ordinary portion of those who have undergone so many different trials. If I take the initiative in such an overture I do not yield to an impulse of vanity, but because I am the Sovereign to whom ambitious projects have mostly been attributed. I have it at heart to prove, by this frank and loyal overture, that my sole object is to arrive, without convulsion, at the pacification of Europe. If this proposal be agreed to, I beg your Majesty to accept Paris as the place of meeting. If the Princes, allies and friends of France, should think fit to enhance by their presence the authority of the deliberations, I shall be proud to offer them cordial hospitality. Europe will, perhaps, see some advantage in the capital whence the signal of confusion has so often arisen becoming the seat of conferences destined to lay the basis of a general pacification. I take this opportunity of renewing to you the assurances of the high esteem and inviolable friendship with which I am, Madam, my sister, your Majesty's good brother. "NAPOLEON."

"Paris, Nov. 4."

"EXTRACT OF A DESPATCH FROM EARL RUSSELL TO EARL COWLEY, DATED FOREIGN-OFFICE, NOV. 11.

"My Lord,—I have to acquaint your Excellency that the Queen has received from the Emperor of the French a letter, dated November 4. The Queen has stated, in reply to this letter, that the Emperor may be assured that any suggestion or proposal made by his Imperial Majesty will always command her Majesty's most earnest and attentive consideration, and more especially when the general welfare of nations is concerned; that her Majesty has, accordingly, directed her confidential advisers to submit to her the opinion which, after due deliberation, they may arrive at, in regard to the important measures which the Emperor recommends for adoption by his allies; and that her Principal Secretary of State for Foreign Affairs will, with as little delay as possible, authorise the Ambassador at Paris to make known to his Imperial Majesty's Government the conclusion which, after weighing that opinion, her Majesty may feel it her duty to adopt. I am, &c.,

"RUSSELL."

"FROM EARL RUSSELL TO EARL COWLEY.

"Foreign Office, Nov. 12.

"My Lord,—Her Majesty the Queen having been pleased to refer to her confidential servants a letter of the Emperor Napoleon, addressed to her Majesty on the subject of a Congress, I proceed to inform you of the view which her Majesty's Government take of the proposal contained in it. The letter invites her Majesty to take part in a Congress, to be held in Paris, on the affairs of Europe. I am commanded in the first place to inform your Excellency that her Majesty's Government see in this step a proof of the interest taken by his Imperial Majesty in the welfare of Europe. I will now proceed to remark on the ground stated for this proposal, and then examine the proposal itself. His Imperial Majesty observes that on all occasions when great convulsions have shaken the foundations and deranged the limits of States, solemn compacts have been entered into, having for their object to reduce to order the new elements, and to recognise, while revising them, the changes that have been effected. Such was the object of the Treaty of Westphalia in the 17th century, and of the Negotiations of Vienna in 1815. On this last foundation the political edifice of Europe now rests, and nevertheless, His Imperial Majesty observes, it is crumbling to pieces on all sides. The Emperor goes on to state that, if the situation of the different countries is attentively considered, it is impossible not to admit that in almost all points the Treaties of Vienna are destroyed, modified, disregarded, or menaced. When so important a proposal as that which the Emperor has put forth is made to rest on certain grounds, it is our duty to examine carefully the grounds themselves. Nearly half a century has elapsed since the Treaties of 1815 were signed. The work was somewhat hurried by the necessity of giving repose to Europe after so many convulsions. Yet the changes made in this period of 50 years have not been more than might have been expected from the lapse of time, the progress of opinion, the shifting policy of Governments, and the varying exigencies of nations. If we take half a century, from the Peace of Westphalia to 1700, or a similar period from the Peace of Utrecht to 1763, we shall find those periods marked by extensive changes, as well as the period which has elapsed between 1815 and 1863. Yet it was not thought necessary at the epochs mentioned to proceed to a general revision either of the Treaty of Westphalia or the Treaty of Utrecht. It is the conviction of her Majesty's Government that the main provisions of the Treaty of 1815 are in full force; that the greater number of those provisions have not been in any way disturbed; and that on those foundations rests the balance of power in Europe. If, instead of saying that the Treaty of Vienna has ceased to exist, or that it is destroyed, we inquire whether certain portions of it have been modified, disregarded, or menaced, other questions occur. Some of the modifications which have taken place have received the sanction of all the great Powers, and now form part of the public law of Europe. Is it proposed to give those changes a more general and solemn sanction? Is such a work necessary? Will it contribute to the peace of Europe? Other portions of the Treaty of Vienna have been disregarded or set aside, and the changes thus made *de facto* have not been recognised *de jure* by all the Powers of Europe. Is it proposed to obtain from Powers which have not hitherto joined in that recognition a sanction to those changes? Lastly come those parts of the Treaty of Vienna which are menaced, and upon those portions the most important questions of all arise. What is the nature of the proposals to be made on this subject by the Emperor Napoleon? In what direction would they tend? And, above all, are they, if agreed to by a majority of the Powers, to be enforced by arms? When the Sovereigns or Ministers of Austria, France, Prussia, Russia, and Great Britain met at Verona in 1823 upon the affairs of Spain, the first four of those Powers carried into effect their resolutions by means of armed forces, in spite of the protest of Great Britain. Is this example to be followed at the present Congress in case of disagreement? Upon all these points Her Majesty's Government must obtain satisfactory explanations before they can come to any decision upon the proposal made by the Emperor. Her Majesty's Government would be ready to discuss with France and other Powers, by diplomatic correspondence, any specified questions upon which a solution might be attained, and European peace thereby more securely established. But they would feel more apprehension than confidence from the meeting of a Congress of Sovereigns and Ministers without fixed objects, ranging over the map of Europe, and exciting hopes and aspirations which they might find themselves unable either to gratify or to quiet. Her Majesty's Government have no reason to doubt that the Emperor Napoleon would bring into such an assembly a spirit of moderation and of justice. They feel confident that his object is to give security to the peace of Europe. The only question is as to the means by which that object is to be attained. You are directed to read and give a copy of this despatch to M Drouyn de Lhuys.—I am, &c., RUSSELL."

"FROM M. DROUYN DE LHUYS TO THE MARQUIS OF CADORE.

"Palace of Compiègne, Nov. 23.

"Sir,—Lord Cowley communicated to me some days ago a despatch from his Excellency Earl Russell, dated the 12th of this month, and which expresses the opinion of the British Government relative to the proposal to call at Paris a congress to deliberate on the affairs of Europe. You will find annexed a copy of it. My previous correspondence has answered beforehand some of the considerations developed in this document. It is my duty, nevertheless, to sum up in this despatch.

of which you will send a copy to his Excellency the Principal Secretary of State, the motives which have determined the resolution of His Majesty. The Imperial Government have no intention either to apologise for or to criticise the Treaties of Vienna. The Emperor declared on mounting the throne that he should consider himself bound by the engagements subscribed to by his predecessors. Lately again, in his letter to the sovereigns, His Majesty showed that the diplomatic acts of 1815 were the foundation on which rests to-day the political edifice of Europe. But this is, he considers, an additional reason for examining whether this foundation is not itself shaken to its base. Now, the Cabinet of London recognises with us that several of these stipulations have been seriously infringed. Among the modifications which have taken place, some have been consecrated by the sanction of all the Great Powers, and at present constitute a part of international law; others, on the contrary, carried into execution, have not been recognised as law by all the Cabinets. As regards the first, we cannot help calling attention to the irresistible power with which they have forced themselves on the acceptance of the Governments. The eagerness of England herself to give to them her adhesion proves how little the former combinations answered, according to the expression of Lord Russell, the requirements of the lapse of time, the progress of opinion, the shifting policy of Governments, and the varying exigencies of nations; on the other hand, are not we authorised in believing that changes so important have diminished to some extent the harmony and equilibrium of the whole? We admit with Lord Russell that it is not absolutely necessary to give to these changes a more general and more solemn sanction; but we consider it would be an advantage to clear away the ruins and re-unite in a single body all the living members. As regards the modifications to which the Powers have not given an unanimous assent, they constitute so many causes of dispute which at any moment may divide Europe into two camps. Instead of leaving the decision of these to violence and chance, would it not be better to pursue their equitable solution to a common agreement, and sanction these changes by revising them? The third category comprises those parts of the Treaty of Vienna which are menaced. 'Upon those portions,' says his Excellency the Principal Secretary of State, 'the most important questions of all arise. What is the nature of the proposals to be made on this subject by the Emperor Napoleon? In what direction would they tend, and above all, are they, if agreed to by a majority of the Powers, to be enforced by arms?' The Emperor, while he pointed out to Europe the dangers of a situation in deep commotion, indicated the method of averting the dire calamities which he foresees, and at which he less than others, perhaps, would have reason to take alarm, for the questions out of which at the present time war may arise interest France but indirectly, and it would depend on herself alone whether she would take part in the struggle or stand aloof from it. This he did by addressing all the Sovereigns in full confidence and simultaneously, without previous understanding with any of them, in order the better to testify his sincere impartiality, and to enter upon, free of every engagement, the important deliberations to which he invites them. Himself the youngest of Sovereigns, he considers he has no right to assume the part of an arbiter, and to fix beforehand for the other Courts the programme of the Congress which he proposes. This is the motive of the reserve which he has imposed upon himself. It is, moreover, so difficult to enumerate the questions, not yet solved, which may disturb Europe. A deplorable struggle is bathing Poland in blood, is agitating the neighbouring States, and threatening the world with the most serious disturbances. Three Powers, with a view of putting a stop to it, invoke in vain the Treaties of Vienna, which supply the two sides with contradictory arguments. Is this struggle to last for ever? Pretensions opposed to one another are exciting a quarrel between Denmark and Germany. The preservation of peace in the North is at the mercy of an accident. The Cabinets have already by their negotiations become parties to the dispute. Are they now become indifferent to it? Shall anarchy continue to prevail on the lower Danube, and shall it be able at any moment to open anew a bloody arena for the dispute of the Eastern question? Shall Austria and Italy remain in presence of each other in a hostile attitude, ever ready to break the truce which prevents their animosities exploding? Shall the occupation of Rome by the French troops be prolonged for an indefinite period? Lastly, must we renounce without fresh attempts at conciliation the hope of lightening the burden imposed on the nations by the disproportionate armaments occasioned by mutual distrust? Such are, Sir, in our opinion, the principal questions which the Powers would doubtless judge it useful to examine and decide. Lord Russell surely does not expect us to specify here the mode of solution applicable to each of these problems, nor the kind of sanction which might be given by the decisions of the Congress. To the Powers there represented would pertain the right of pronouncing upon these various points. We will only add that it would be in our eyes illusory to pursue their solution through the labyrinth of diplomatic correspondence and separate negotiation, and that the way now proposed, so far from ending in war, is the only one which can lead to a durable pacification. At one of the last meetings of the Congress of Paris, the Earl of Clarendon, invoking a stipulation of the Treaty of peace which had just been signed, and which recommended recourse to the mediation of a friendly State before resorting to force, in the event of dissension arising between the Porte and others of the signatory Powers, expressed the opinion 'that this happy innovation might receive a more general application, and thus become a barrier against conflicts which frequently only break forth because it is not always possible to enter into explanation and to come to an understanding.' The Plenipotentiaries of all the Courts concurred unanimously in the intention of their colleague, and did not hesitate to express in the name of their Governments the wish that States between which any serious misunderstanding may arise should have recourse to friendly mediation before appealing to arms. The solicitude of the Emperor goes further; it does not wait for dissensions to break out in order to recommend an application to the actual circumstances of the salutary principle engraven on the latest monument of the public law of Europe, and his Majesty now invites his allies 'to enter into explanations and to come to an understanding.'" —Accept, &c., Drouyn de Lhuys.

The following is the text of Earl Russell's last despatch to Earl Cowley, announcing the inability of her Majesty's Government to accept the Emperor's invitation to a Congress:—

"Foreign Office, Nov. 25.

"My Lord,—Her Majesty's Government have received from the Marquis of Cadore the copy of a despatch addressed to him by M. Drouyn Lhuys, in answer to my despatch to your Excellency of the 12th inst. Her Majesty's Government having obtained an answer to the inquiries they made, will not any longer delay giving a definitive reply to the invitation addressed by the Emperor of the French to her Majesty the Queen, to take part in a Congress of the European Powers to be assembled at Paris. I enclose a copy of the Emperor's letter of invitation to the Queen, which is similar to the one which has already appeared in the *Moniteur* addressed to the German Confederation. Her Majesty's Government fully recognise in this step the desire of the Emperor of the French to put an end to the disquietude which affects several parts of Europe, and to establish the general peace on foundations more solid than those on which, in his opinion, it now rests. The Emperor declares that France is disinterested in this question; that he for his part seeks no aggrandisement, and that the interests to be secured are those, not of France, but of Europe. Her Majesty's Government may also declare that Great Britain is disinterested in this matter, that she seeks no aggrandisement, and that she has only to counsel moderation and peace. But France and Great Britain being thus disinterested themselves, are bound to consider what is the position, and what, in a Congress, will be the probable conduct of Powers who may be called upon to make sacrifices of territory or of pre-eminence and moral strength. It would be little to the purpose to say on this occasion anything more of the Treaties of 1815. Practically, the Emperor of the French admits the binding force of many portions of those treaties, and her Majesty's Government as readily allow that some portions of them have been modified or disregarded, and that other portions are now menaced or called in question. Her Majesty's Government understand from the explanations given by M. Drouyn de Lhuys that, in the opinion of the Government of the Emperor, it is obvious to every one that there are several questions not hitherto solved which may disturb Europe. Of this nature are the following:—Must the conflict in Poland be still further prolonged? Is Denmark to be at war with Germany, and have the Powers which formerly took a part in the discussion of this question, become indifferent to it? Must anarchy continue in the Danubian Principalities, and thus at any moment tend to re-open the question of the East? Must Italy and Austria always remain in presence of each other in a hostile attitude? Must the occupation of Rome by French troops be prolonged for an indefinite time? The Emperor's Government put a further question:—Must we, without having made new attempts at conciliation, renounce the hope of lightening the burdens imposed upon the nations of Europe by excessive armaments, kept up by the feeling of mutual distrust? These, no doubt, are the principal questions which either disturb or threaten the peace of Europe; but there is a further question which Her Majesty's Government consider to lie at the bottom of this whole matter, and that is the following:—Is a General Congress of European States likely to furnish a peaceful solution of the various matters in dispute? This, indeed, is the question which it behoves the Governments of the different States to consider seriously and attentively. There appears to her Majesty's Government to be one main consideration which must lead them to their conclusion. After the war which desolated Germany from 1619 to 1649, and after the successive wars which afflicted the Continent of Europe from 1793 to 1815, it was possible to distribute territories and to define rights by a Congress, because the nations of Europe were tired of the slaughter and exhausted by the burdens of war, and because the Powers who met in Congress had by the circumstances of the time the means of carrying their decisions and arrangements into effect. But at the present moment, after a continuance of long peace, no Power is willing to give up any territory to which it has a title by treaty or claim by possession. For example, of the questions mentioned as disturbing or threatening Europe, two of the most disquieting are those regarding Poland and Italy. Let us examine the present state of these questions, and see whether it is probable that a Congress would tend to a peaceful settlement of them. In the first place with regard to Poland, the question is not new to France, to Austria, or to Great Britain. For several months these Powers, while carefully abstaining from any threat, have attempted to obtain from Russia by friendly representations the adoption of measures of a healing nature, but have only succeeded in procuring promises, often repeated, that when the insurrection shall have been put down, recourse will be had to clemency and conciliation. Would there be any advantage in repeating in the name of a Congress representations already made with so little effect? Is it probable that a Congress would be able to secure better terms for Poland unless by a combined employment of force? Considerable progress has been made by the military preponderance, and by the unsparing severity of Russia, in subduing the insurgents. Is it likely that Russia will grant in the pride of her strength what she refused in the early days of her discouragement? Would she create an independent Poland at the mere request of a Congress? But if she would not, the prospect becomes one of humiliation for Europe, or of war against Russia, and those Powers who are not ready to incur the cost and hazard of war may well desire to avoid the other alternative. It may be truly said, moreover, that the present period is one of transition. If the insurrection shall be subdued, it will then be seen whether the promises of the Emperor of Russia are to be fulfilled. If the insurrection shall not be subdued, or if, in order to subdue it, the Polish population is treated with fresh—and, if that be possible—with aggravated rigour, other questions will arise which may require further consideration, but which would hardly receive a solution from a large assembly of representatives of all the Powers of Europe. Indeed, it is to be apprehended that questions arising from day to day, coloured by the varying events of the hour, would give occasion rather for useless debate than for practical and useful deliberation in a Congress of 20 or 30 representatives, not acknowledging any supreme authority, and not guided by any fixed rules of proceeding. Passing to the question of Italy, fresh difficulties occur. In the first place, is it intended to sanction by a new treaty the present state of possession in Italy? The Pope and the Sovereigns related to the dispossessed Princes might, on the one side, object to give a title they have hitherto refused to the King of Italy; and the King of Italy, on the other, would probably object to a settlement which would appear to exclude him, by inference at least, from the acquisition of Rome and Venetia. But is it intended to ask Austria in Congress to renounce the possession of Venetia? Her Majesty's Government have good grounds to believe that no Austrian representative would attend a Congress where such a proposition was to be discussed. They are informed that if such an intention were announced beforehand, Austria would decline to attend the Congress; and that if the question were introduced without notice, the Austrian Minister would quit the Assembly. Here again, therefore, the deliberations of the Congress would soon be brought in sight of the alternative of nullity or war. But is it possible to assemble a Congress and to summon an Italian representative to sit in it without discussing the State of Venetia? The Emperor of the French would be the first person to feel and to admit that such a course would not be possible. With regard to Germany and Denmark, it is true that several of the Powers of Europe have interested themselves in that question, but the addition of Spain, Portugal, Italy, and Turkey to the deliberation would scarcely improve the prospect of a satisfactory solution. And if, with regard to Poland and Italy, no beneficial result is likely to be attained, is it expedient to call together a General Congress of all the States of Europe to find a remedy for the anarchy of Moldo-Wallachia? Were all these questions—those of Poland, Italy, Denmark, and the Danubian Provinces—to be decided by the mere utterance of opinions, the views of Her Majesty's Government upon most of them might, perhaps, be found not materially to differ from those of the Emperor of the French. But if the mere expression of opinions and wishes would accomplish no positive results, it appears certain that the deliberations of a Congress would consist of demands and pretensions put forward by some and resisted by others; and, there being no supreme authority in such an assembly to enforce the decisions of the majority, the Congress would probably separate, leaving many of its members on worse terms with each other than they had been when they met. But if this would be the probable result, it follows that no decrease of armaments is likely to be effected by the proposed Congress. M. Drouyn de Lhuys refers to a proposal made by Lord Clarendon in one of the last sittings of the Congress of Paris. But her Majesty's Government understand that proposal to have reference to a dispute between two Powers to be referred to the good offices of a friendly Power, but in no way to the assembling of a General Congress. Not being able, therefore, to discern the likelihood of those beneficial consequences which the Emperor of the French promised himself when proposing a Congress, her Majesty's Government, following their own strong convictions, after mature deliberation, feel themselves unable to accept his Imperial Majesty's invitation. You are instructed to give a copy of this despatch to M. Drouyn de Lhuys.—I am, &c., Russell."

The Court-Martial upon Colonel Crawley.—On Monday the proceedings were resumed for the eleventh time, when the cross-examination of Dr. Turnbull was finished. Colonel Shute, who commanded the regiment previous to Colonel Crawley, identified a letter which he wrote in testimony of the good character of Sergeant-Major Lilley, and some other testimony was given to the same effect. During the day two questions were referred to departments in town. In the first the Court, from a feeling of justice towards Colonel Crawley, decided that the condition of the Inniskilling Dragoons at the time the regiment passed into his hands must be taken as forming an integral part of the inquiry, but it was urged by the prosecutor that a letter written by Colonel Shute on the subject could not be produced without authority; and in the other they differed as to the terms upon which declarations by Mrs. Lilley as to the sobriety of her deceased husband were to be received in evidence, and therefore referred both matters to the Judge-Advocate-General for his opinion. On Tuesday nine of the non-commissioned officers and sentries who were placed in charge of Sergeant-Major Lilley were examined. Their testimony consisted, to a great extent, of a repetition of the same facts. They stated that they were inside the house, but not close to the bed-room, and could not see into it; that the sergeant-major was a sober, steady man, and never made any complaints of suffering inconvenience from the way in which the sentries were posted. On Wednesday several other non-commissioned officers and sentries who had been in charge of Sergeant-Major Lilley were examined. Their evidence was to a great extent a repetition of that given by their comrades, and tended to show the good character of the sergeant-major, and the small amount of inconvenience consistent with a state of arrest suffered by him and Mrs. Lilley. During the day it was announced that the Commander-in-Chief had decided that the letter addressed by Colonel Shute to the Horse Guards respecting the condition of the regiment, being a confidential communication, could not be produced. Colonel Crawley said that this letter was in the highest degree essential to his defence, but, as it was withheld by the prosecution, he should decline to cross-examine Colonel Shute. On Thursday another party of non-commissioned officers and privates, who had been placed as sentries over Sergeant-Major Lilley during his arrest, was examined, and gave the first direct evidence of his drinking habits. Two or three of the sentries deposed to having seen the sergeant-major drinking brandy out of a tumbler, and on some occasions desiring them to participate. None of them, however, deposed to having seen him intoxicated. Yesterday Lieut.-Colonel Fitzwygram of the 15th Hussars identified a letter he had written to the Deputy-Adjutant-General on the 15th ult., in which he stated that he knew Sergeant-Major Lilley when he first entered the service, and from that time continuously down to 1860; that he was one of the best men he ever met, and he believed it impossible that he could have been addicted to drink without his having some knowledge or at least suspicion of it. Some non-commissioned officers were then cross-examined by Colonel Crawley, to show the state and position of the rooms occupied by the sergeant-major, and to strengthen the evidence of the former witnesses as to his use of stimulants.

## Foreign.

France.—M. Fould's financial statement was published on Thursday. It states that the total amount of the deficits is 972,000,000f. It is necessary to consolidate part of the floating debt. The produce of a loan will be employed to redeem the Treasury Bonds, and will put in circulation an amount corresponding to that which it will demand. M. Fould proposes to the Emperor to fix the amount of the loan at 300,000,000f. The expenses in Mexico will amount to 210,000,000f. at the end of 1863; and those in Cochin China to 60,000,000f. M. Fould says:—

"It was hoped that a Mexican loan would lead to the repayment of our advances. But, notwithstanding the confidence we have of seeing a regular Government re-established in Mexico at no distant future, we must not allow the security of our finances to depend upon the liquidation of the debt of Mexico to France. We hope for a day when, by the reduction of the expenses and an improvement in the receipts, it will be possible to resume the operation of the Sinking Fund. If in the future the equilibrium of the budget be maintained; if the generous efforts of the Emperor assure peace and the State prosper, our finances will permit us to reduce the taxes and realise the wishes of his Majesty."

The Emperor arrived at the Tuileries on Sunday and

presided at a Council of Ministers on Monday morning. His Majesty gave audience to the Papal Nuncio and the Russian and Spanish Ambassadors, who handed in the replies of their respective Sovereigns to the invitation to the Congress. The Emperor returned in the evening to Compiègne, but will return to Paris on the 9th. It is stated that after a verification of powers the Chamber of Deputies will be adjourned. After the receipt of the reply of Earl Russell respecting the Congress, the Emperor addressed a letter to Queen Victoria. This letter will be published. The *Moniteur* says that the Government is entirely unconnected with the publication of the pamphlet entitled "Napoléon III. et le Congrès," to which several papers have alluded. The Paris papers almost unanimously condemn the conduct of the English Government in refusing to attend the Congress. The *Constitutionnel* contains an article signed by its chief editor, M. Limayrac, but attributed to an official personage, entitled "England and the Congress," of which the following is a summary :—

"By a refusal to attend the Congress, England would afford grounds to those who assert that her greatness and prosperity are founded upon the misfortunes and ruin of other nations. It causes grievous regret to see a policy parading itself for Liberalism inspired by sentiments of mean jealousy, and the rivalry of England continually putting back the friendly hand which we extend to her, and making obstacles to all that appears generous and opportune. It is not only at Rome but also at London that the *Non possumus* doctrine is made a political dogma. England refused to favour the national movement in the Danubian Principalities, to protect Montenegro, Piedmont, Mexico, America, and Poland, and yet the French Government has shown itself loyal and sympathetic towards England, and has received little in compensation. In the present state of things if France has reason to feel offended at the want of concurrence on the part of England, it is Europe that will be wounded in her most serious interests. Free from all personal ambition, France calls with good faith upon all the Powers. If troubles and conflagrations should arise in Europe, as it is only too easy to foresee, the entire responsibility would fall upon those who have rejected the work of peace and conciliation."

The *Pays* characterises the conduct of England in holding aloof from the Congress as selfish. The *Siècle* says that the egotism of the Cabinet of St. James's never manifested itself more openly; and that the narrow policy, which has no other rule than interest, has never shown itself with so much cynicism. M. Emile de Girardin, in another article, says that England forgets that she is an island, and that Napoleon I. proposed to annex her to France. He says that after her insolent refusal, she should be subjected to a diplomatic blockade. He says that the refusal of England preceding that of Austria, renders the meeting of the Congress impossible, and that the policy of France is about to be driven by the force of circumstances into a new path. The *Nation* declares that the reasons assigned by England for her refusal are excellent if considered in her own point of view, but detestable if regarded with respect to the general interests of Europe, which alone suggested the Emperor's invitation. The *Temps* says that Lord Russell was afraid that at the close of the Congress the Powers would be on worse terms with each other than when they first met; and that, so far as England and France are concerned, this result is not unlikely to be immediately attained. The *Opinion National* agrees with Mr. Bright in proclaiming the downfall of the "selfish aristocracy" which "oppresses the British people," but intimates that it is impossible "that sooner or later England should not bear the penalty of her selfishness." The *Patrie* summarizes in the following manner the replies of the different European Powers to the invitation to the Congress :—

"The replies of the States of secondary rank are all affirmative, and vary only in the terms in which they are expressed. Italy adheres purely and simply to the Congress. Spain congratulates the Emperor upon the initiative he has taken, and declares herself ready to co-operate in the great work of a general pacification. The reply of the Pope is as affirmative as possible. It speaks of the necessity for the peoples to gather round the Church. His Holiness deplores the unhappy time which the Church has passed through, and recalls the promises made to the Church, which should remove all fears for the future. The answer of Switzerland states that the Confederacy is ready to take part in a Congress which would again guarantee her neutrality. It makes no allusion to Faucigny and Chablais. The Russian reply agrees with the analysis of it already published by the journals. We have reason to believe that Baron de Budberg will endeavour, in concert with M. Drouyn de Lhuys, to remove the difficulties presenting themselves to the assembling of a Congress. Prussia replies in very friendly terms, expressing, however, the belief that a conference of Ministers would be preferable to a Congress of Sovereigns. In mentioning the treaties of 1815, Prussia states that certain articles have been violated, but that their bases must remain unchanged. Bavaria, Saxony, Hanover, and Wurtemburg express themselves in the same sense as Prussia. Austria congratulates the Emperor upon his project, which she considers noble, although expressing some apprehension of the Congress."

The *Moniteur* publishes a letter from Frankfort showing the excitement which prevails in Germany with regard to the Schleswig Holstein question. The *Constitutionnel* contains an article signed by M. Boniface, explaining the Schleswig-Holstein question, and stating that much excitement exists in Germany. M. Boniface expresses his astonishment that several newspapers, and especially *The Times*, should counsel not only England, but also the other Powers, to make war in favour of Denmark. He says :—

"No doubt, old sympathies attach France to Denmark, and to an alliance with that country; but Germany has also a right to our sympathies and respect. The will of a people and the rights of nationalities must likewise weigh in the balance of our resolutions. In view of so delicate a problem, the non-existence of a cordial understanding is to be regretted. If an understanding of the seven Powers does not suffice to insure a solution of the Danish difficulty, it would be logical to address all Europe."

The *Gazette de France*, in an article upon the Schleswig-Holstein question, maintains that France has no immediate interest in the question, and says :—

"The best thing to be done is to remain a spectator of the conflict, which, with many others, might have been settled by a Congress."

The *Pays* and the *Nation* of Thursday evening state that England and Russia in concert have demanded that Denmark should withdraw the royal patent of March 30. The French iron-clad squadron arrived at Cherbourg last week. The result of the experimental cruise is that, with some modifications in their armament, the spur ships may undertake a cruise; but the iron-clad frigates, which are covered from stem to stern, are unmanageable in a fresh breeze. With a moderate sea they roll to such an extent as to ship water overboard, while with head to sea, their pitching is so violent as to send the masts overboard. As for using their guns, except in smooth water it is impossible. Every device was tried to make them more steady; the guns and shot racks were shifted to the main deck, and then placed in a pyramid amidships; but this only made matters worse. They may be useful as floating batteries in smooth water, but nothing else. The superiority of the spur ships is ascribed to the absence of plating stem and stern, which makes them more buoyant. A large three-masted screw steamer, named the Rappahannock, arrived at Calais on Thursday week, having left Sheerness on the previous day. She bore the colours of the Confederate States, had two funnels, and was fore and aft rigged, and pierced for eight guns. The vessel was in an unfinished state, and had a number of carpenters and other work-people on board. She was at first detained by the French Customs authorities, but has now been set at liberty. It appears that she was formerly her Majesty's ship Victor, and was sold out of the service without any suspicion as to the purchasers, who stated that they wanted her for the China trade, and changed her name to Scylla. Orders were subsequently sent down to prevent her sailing from Sheerness, but she had then got away. On Tuesday the Military Tribunal of Paris tried the nephew of General Fleury, Lieutenant Fleury, of the 4th Regiment of Voltigeurs of the Guard, aged 28, on a charge of having murdered, on the 18th of August, a married woman, named Petit, a clearstarcher, who had a shop in the Passage de Cherbourg. The facts were perfectly clear, but the defence of hereditary insanity was pleaded in the prisoner's behalf. The Tribunal found him guilty of Wilful Murder, but with the benefit of extenuating circumstances, and unanimously condemned him to 20 years' hard labour, military degradation, and to be under the surveillance of the police for life.

SPAIN.—At the sitting of the Cortes on Monday, the reply of the Queen to the Emperor Napoleon's letter was laid upon the table. The Minister for the Colonies has resigned, and has been succeeded provisionally by the Marquis Habana. The building of ships of war in the various arsenals of Spain is proceeding vigorously.

PORTUGAL.—It is said that one of the chief objects of Portugal in accepting the Paris Congress is to obtain possession of the frontier town of Olivenca, which Spain has always held, although it was formally made over to Portugal by the Treaty of Vienna.

SWITZERLAND.—The Federal Council has replied to the Emperor Napoleon, communicating the conditions upon which Switzerland will consent to take part in the Congress. The Federal Council especially hopes that the Congress will also settle the questions relating to Savoy.

THE NETHERLANDS.—The company for connecting Amsterdam with the North Sea by a canal was constituted on the 28th ult. It is stated that the necessary funds have been furnished by English capitalists.

SWEDEN.—All the four Estates have unanimously granted the credits of 3,000,000 thalers for military armaments asked for by the Ministry, expressing at the same time entire approval of the policy of the Government. No dissenting speech was made. The King is suffering from a slight attack of bronchitis.

HAMBURG.—The office of the committee of the branch of the National Verein in Hamburg was closed on Friday by the police.

DENMARK.—The Government is about to ask the Rigsraad for an extraordinary credit of 15,000,000 rix-dollars. It is proposed to take 5,000,000 from the balance in the Treasury, and to raise the remaining 10,000,000 by loan. The *Dagbladet* and *Berlingske Tidende* state that after Denmark has been excluded from the Federal Diet the entrance of German troops into Holstein, whether called "Federal execution" or "occupation," will be regarded as a declaration of war.

THE DANISH DUCHIES.—The Constitution voted by the Rigsraad shortly before the death of the late King has been officially proclaimed in Schleswig in the name of King Christian IX. The majority of the municipal councils of Schleswig have sent deputations to congratulate King Christian upon his accession to the throne; and most of the Schleswig officials have taken the oath of allegiance to the King. On Wednesday a note was addressed by Herr Sammers, the diplomatic agent of Prince Frederick, to Herr von Hall, the Danish Minister for Foreign Affairs. In this note Prince Frederick required that the Danish troops should evacuate the Schleswig-Holstein territory, and that the Schleswig-Holstein troops in Denmark should return to the Duchies. Should the Danish Government not express its readiness to comply with these demands within 14 days, the Prince will take the necessary steps to uphold the rights of the legitimate Government. The note was forwarded by Herr von Mohl, the Baden Envoy to the Federal Diet, to Baron Dirckinck, the Danish Envoy, but returned unopened.

BRUNSWICK.—The Duke of Brunswick has recognised Prince Frederick of Augustenburg as Duke of Schleswig and Holstein.

WURTEMBERG.—In the sitting of the Chamber of Deputies on Friday, Baron von Hügel, in reply to a question from Herr Seeger, made the following declaration :

"The Wurtemberg Government signed the London protocol in the year 1852, but does not now hold itself bound thereby on account of the violation of that treaty by Denmark during the last 10 years. The representative of Wurtemberg at the Federal Diet has received instructions to support the immediate occupation of Holstein and Lauenburg by Federal troops."

FRANKFORT.—Sir Alexander Malet on Friday received a despatch from Earl Russell on the Schleswig-Holstein question, which he immediately communicated to the Austrian, Prussian, and Bavarian Plenipotentiaries. The following is a summary of its contents :—

The support given to the hereditary claims of the Prince of Augustenburg to the Duchy of Holstein by several German Governments at the Diet has attracted the notice of the English Government. Earl Russell therefore hastens to inform Sir Alexander Malet of the views entertained upon the question by her Britannic Majesty. She would faithfully observe the stipulations of the Treaty of May 8, 1852, according to which King Christian IX. of Denmark possessed hereditary right to all the territories at that time united under the Danish Crown. The English Government expected that all the Powers who signed the above-named treaty, or subsequently acceded to it, would share this opinion.

It was reported in Paris on Wednesday, that conciliatory despatches in reply to this communication have left Berlin, Vienna, and Frankfort, and that all fears of war are now removed. In the sitting of the Diet on Saturday the President proposed that the credentials of Baron Dirckinck, the Danish representative, should be referred to a committee. Baron Dirckinck protested against this proceeding. A resolution was then passed, with only three dissentient votes, excluding Baron Dirckinck from the Assembly. A second sitting then took place, Baron Dirckinck not being present. The proposal of the Committee to suspend the exercise of a vote for Holstein was passed by a large majority. Saxony's proposal was afterwards introduced. The question of Federal execution was not touched upon. The *Spenersche Zeitung* of Sunday publishes the text of a declaration made in this sitting by Prussia and Austria. This declaration states that the position of both the Governments is fixed by the Treaty of London which they signed with the other great Powers in 1852, the preliminary conditions of that treaty having been settled with Denmark in the previous year by negotiation. The object of these negotiations was to establish the inseparable union which was determined by the Treaty of London. Both the Governments are ready to execute this treaty, provided that Denmark executes the preliminary conditions which she accepted. The succession of Lauenburg belongs to King Christian even if the Treaty of London were not valid. The admission of the representative of Denmark for Lauenburg cannot, therefore, be contested. As regards Holstein, he can only be considered its rightful representative when Denmark shall have fulfilled her engagements of 1851-1852.

PRUSSIA.—A despatch of Earl Russell on the Schleswig-Holstein question, dated the 23d of November, to Sir Andrew Buchanan, English Ambassador at Berlin, has been published. This despatch perfectly coincides with Earl Russell's despatch to Sir Alexander Malet. The Schleswig-Holstein question came on for debate in the Chamber of Deputies on Tuesday. Count von Bismark read a declaration, containing the following passages :—

"However greatly the signature of the London Treaty may be considered to deserve regret, prudence and the dictates of honour forbid our permitting any doubt to be entertained of our fidelity to its stipulations. We require, however, its equal observance by Denmark. The Treaty of London and the arrangements of 1851 and 1852 must stand or fall together. Abnegation of their stipulations would remove Schleswig from the position she occupies in virtue of the treaty. The Government must reserve to itself the right to determine whether, and at what period, we may be placed in a position, by the universally undoubted non-fulfilment of her obligations by Denmark, to free ourselves from the London Treaty. It can neither leave the decision to the Federal Diet, nor enter into more explicit explanations upon the subject here. We have come to an understanding with Austria, which secures for the present our identical attitude with regard to the Treaty of London and its consequences. We consider that in the duchy of Lauenburg King Christian is entitled to the succession, independently of the treaty, but that his title to Holstein rests upon the London Treaty and the arrangements of 1851 and 1852, which we believe to be intimately connected. As long as the Treaty of London remains in force, the reasons for carrying into operation the Federal execution, determined by the resolutions of the 1st of October, continue to exist. Austria and Prussia have proposed to the Diet that this measure should forthwith be carried out, and will make the necessary military arrangements for the purpose. Bills will be laid before the Chamber to provide such funds as may be required."

In the sitting of the Chamber of Deputies on Friday Herr Waldeck moved, in the name of 36 other members, the following amendment to the proposition of Herr Virchow :—

"The House limits itself to declaring that it is not the interest of Prussia or Germany that Christian IX. should be recognized by Prussia as Duke of Schleswig and Holstein."

In the sitting of Wednesday the debate on the Schleswig-Holstein question was continued. After seven hours' deliberation the House adopted by a majority of 231 to 63, the motion proposed by Herr

Stavenhagen and Dr. Virchow in the name of the Liberal fraction, viz.:—

"The honour and the interests of Germany demand that all the German States should support the rights of the hereditary Prince Frederick to the Duchies of Schleswig and Holstein."

The voting took place by calling over the names of the members. The motion of Herr von der Heydt and the amendment of Herr Waldeck were each rejected by majorities of 268 to 37. The Poles abstained from voting.

AUSTRIA.—The Danish Admiral Irminger is expected in Vienna as the bearer of the notification of King Christian IX.'s accession to the throne. A conference of military officers has been held at Vienna with reference to the question of Federal execution in Holstein. The Municipal Council of Vienna held a sitting on Friday, at which an address was voted to the Emperor, expressing the wish of the Capital for the maintenance and realisation of the rights of Holstein, and requesting the Austrian Government to use its influence to cause the most energetic interference of the German Confederation in favour of Holstein. A request addressed to the police for permission to hold a public meeting in favour of the Duchies has been refused. A meeting of citizens appointed to be held at Linz on Wednesday on the same subject, has also been prohibited by order from Vienna. It is said that the idea of a loan has been abandoned by the Government, on account of present circumstances being unfavourable to such a measure.

POLAND.—The arrests of superior officials in Warsaw continue. 200 public functionaries are said to have been already arrested in that city, and condemned to deportation to Siberia. Dobrowolski has been shot in Warsaw by order of the Russian authorities. The number of women lately arrested is said to be 987. Six hundred persons, including several ladies, and Luszczewski, the Director of the Department of the Interior under the Grand Duke Constantine's administration, have been transported to Siberia. Another convoy, among whom was Madame Nieniachewska, has been sent into the heart of Russia. The number of transported persons last week amounted to 1,000. The Russians openly acknowledge their intention of depopulating the country by transportation. The Archbishop's Palace has been again searched, but without result. The *Journal de St. Petersbourg* publishes a very detailed plan, dated March 1, 1861, and signed General Mieroslawski, for the organisation of the present revolution in Poland. This document is stated to have been found in Zamoyski House, Warsaw, after the attempt on the life of General Berg. In consequence of the searches ordered in the churches and convents of Kalisch, the city had been surrounded, and all communication with the environs interrupted. Small detachments of insurgents were appearing throughout the country, well-armed and completely equipped in winter uniforms. The insurgent leaders Kruk, Cwick, and Rudski have united their bands. The insurrection is increasing in Samogitia, and in the Lublin and Sandomir governments. It is especially reported to have been reinforced by the peasants. Three thousand insurgents, under Dubois and Nowicki, are said to occupy the government of Plock. On the 25th ult. Bossak assaulted the town of Opatow, in the government of Radom, and drove out the Russians. Engagements have also taken place near Lukow and Ussienice, in the government of Lublin, and near Warta, in the government of Kalisch.

ITALY.—In the Chamber of Deputies on Friday, the Minister of Commerce, in reply to the members adverse to the Treaties with France, stated that it was probable that the diminution which they would cause in the revenue during the first year would be 1,000,000 lire—a diminution which would soon be recovered. After speeches on this subject from several members, the general debate was closed. In the sitting of Saturday, several amendments proposed by the Opposition having been lost, the Treaties of Commerce and Navigation with France were passed, without alteration, by 157 against 49 votes. On Thursday the Senate was occupied with the national taxation. A Royal decree issued on Tuesday states that the commercial treaty concluded between Italy and Great Britain henceforward comes into force. The treaty of commerce between Italy and Holland was signed last week. On Sunday last the Pope addressed a letter, replying to the Emperor Napoleon's invitation, by accepting the Congress. His Holiness at the same time expressed his conviction that the Congress will be regulated by justice, and will respect his rights to the Pontifical provinces occupied by Piedmont.

GREECE.—Advices from Athens state that the English and French Ambassadors had presented their credentials to King George I. The French Ambassador had also delivered to His Majesty an autograph letter from the Emperor Napoleon. The National Assembly had passed a resolution that no proposition should be allowed to be made for the restoration to office of the six Ministers of the ex-King Otho.

CIRCASSIA.—Letters from the Caucasus state that the insurrection is spreading considerably. The Circassians have shot several Russian officers occupied in surveying the routes leading to Tehafki, where 15,000 insurgents are assembled. The Vienna journals publish news from Constantinople announcing the arrival in that city of some Circassian delegates, who intend visiting London and Paris to ask for assistance against Russia.

TURKEY.—The telegraph convention between Turkey and Persia has been signed. Special advantage is conferred upon the new telegraph line to India. A rumour is current of the death of Abd-el-Kader at Mecca.

DANUBIAN PRINCIPALITIES.—The members elected to form the Committee on the address all belong to the Opposition. The *Nation* lately published the project of a constitution which, it is stated, had been submitted by Prince Couza to the great Powers. This intelligence has been officially contradicted.

MADAGASCAR.—The French papers state that the king has taken refuge in the north of Madagascar, and has written to the Emperor Napoleon requesting his Majesty's support to enable him to re-enter his capital. The draught of a treaty with France was in progress. The Tanquin had been abolished, and liberty of worship granted. The French Consul would reside in Madagascar. Commerce would be permitted as a proof of friendship, and French vessels would be allowed to anchor in the military ports. The Customs' duties had been re-established. The Queen will have the power of passing laws.

INDIA.—The following telegram from the Bombay Government has been received by the Secretary of State for India, dated November 15:—

"The following message to your address, dated November 13, has been received from Sir R. Napier, from Calcutta:—'Lord Elgin has become so dangerously ill that he has thought it necessary to communicate with Sir William Denison, and a steamer is in readiness to proceed to Madras, if necessary.'"

The Paris papers publish the following telegram, dated Suez, Nov. 25:—

"Intelligence has been received here from India stating that the Governor-General, the Earl of Elgin, is very ill of dropsy in the heart, and that his condition is such as to occasion great uneasiness. On this account his Lordship is said to have resigned, and to have requested the Queen to nominate his successor."

Subsequent accounts to 4 P.M. of Nov. 14, stated that Lord Elgin was daily becoming weaker, and that Sir William Denison had in consequence been appointed to act as Viceroy. Another telegram was received yesterday at the India Office, stating that up to the 17th ult. no news had been received of Lord Elgin's death, though the event was daily expected. The place where his lordship was taken ill is some distance from a telegraph station. Much fighting has taken place on the frontier, with considerable loss to the British troops. Colonel Norman telegraphed from Meean Meer on the 12th November, that in an affair on the frontier on the 9th we had about 60 men killed and wounded. Major Harding, 2d Sikh Infantry; Lieut. Murray, 71st Highlanders; and Lieut. Douglas, doing duty with the 71st Highlanders, who were killed; Lieut. Oliphant, 5th Goorkhas, and Lieut. Battye, Guide Corps, were wounded. The Commander-in-Chief reached Lahore on the evening of the 12th.

CHINA.—Advices from Pekin, to the 3d of October, state that the General-in-Chief of the Imperial troops received from the Emperor an order to strange himself, and obeyed. From Shanghae we learn that Major Gordon is within 1800 yards of the walls of Soochow, and might assault the place at any moment, the city being closely invested on the east side.

JAPAN.—The Paris papers of Thursday evening publish intelligence from Japan, stating that Prince Satsuma asserts he inflicted severe losses upon the English in the late engagement.

UNITED STATES.—General Lee's army is reported to be intrenched between the Rapidan and Orange Court House. General Meade visited Washington on the 15th, and after a conference with Mr. Lincoln returned to the army. The Federal cavalry have since advanced to the Rapidan, and it is reported that General Meade will shortly assume the offensive, and attempt the passage of the river, all the fords of which General Lee has strongly fortified. Sharp skirmishing has already taken place upon the Rapidan, in which the Federals were driven back. General Longstreet's army crossed the Tennessee River on the 14th ult, General Burnside fell back before him, his rear guard skirmishing. On the 16th General Burnside formed a line of battle at Campbell's Station, where a fight ensued, which lasted from noon till dark, when Burnside checked the Confederate advance, and fell back during the night, reaching Knoxville on the morning of the 17th. On the 19th General Longstreet opened fire on a fortification in front of the city, and afterwards desperately charged the Federals, who abandoned the position, falling back to the defences of the town. Gen. Longstreet has since completely invested the city. Burnside's loss is estimated at 450; that of the Confederates is stated to be 1400. Private despatches from General Burnside to the 19th, represent his position as secure, but state that communication with Cumberland Gap is interrupted. Despatches from Parson Brownlow to the 19th, however, state that there was fighting all around Knoxville, and a great battle was expected. The report of General Forster superseding Burnside is doubted. At Chattanooga the Confederates continue shelling the Federal position in Racoon Valley, along the river, and around the city. No serious casualties are reported. General Thomas's corps has reinforced Grant's right. General Bragg has also been heavily reinforced. The Federals have made a movement from the right to the left of Bragg's position, with the view of making a diversion in order to attack Lookout Mountain or to send troops to Burnside. General Banks's expedition landed on the 2d ult. at Brazos de Santiagen, on the Texan coast, nine miles from the mouth of the Rio Grande, and occupied Brownsville on the 5th without opposition. He has since occupied Brazos Island, Bienville and Point Isabel. It is said that on the arrival of the expedition the Confederate authorities burnt Fort Brown and the greater portion of Brownsville, notwithstanding strong resistance on the part of the inhabitants. The *New York Herald* asserts that the principal object of this expedition is to break the contraband trade between Mexico and the South. The Confederates, not believing that Banks would land on the Rio Grande, had scattered their forces in other parts of Texas. Banks inaugurated his command by issuing stringent orders against disloyal persons. After Banks's arrival the Mexican General Cubors crossed from Brownsville to Matamoras, and endeavoured to raise a revolution in favour of the French, but was defeated by General Cortious, who now occupies Matamoras with Juarez troops. Cortious has placed four steamers at the disposal of Banks. A revolution in favour of the French was feared at Matamoras, and as the American Consul was apprehending personal violence, a portion of Banks' troops were in readiness to go to his protection if necessary. The United States Marshal has seized all the cotton in New Orleans. The negroes in that city have petitioned to be allowed to vote. General Butler has left for North Carolina, after enlisting and organising negroes. In his department (Virginia) it is reported that all Confederate prisoners will be placed under his jurisdiction. Since his arrival at Norfolk a merchant has been condemned to six months' hard labour for smuggling whiskey. Accounts from Charleston to the 17th, *viâ* Richmond, state that two of the Monitors which had been engaged in the bombardment of the ruins of Sumter were not in sight on that morning. Reports from Moultrie asserted that on the previous day one of the Monitors had her funnel and turret perforated by the Confederate shots. On the 17th four Monitors passed up the channel, but as they did not participate in the firing it was believed that they were sounding to ascertain if there was passage for vessels of a certain draught. The bombardment of Sumter continued; 25 shells were thrown into the city from Fort Gregg, doing no serious damage. One of the Federal guns burst at the last discharge. Indications of more extensive operations on the part of the Federals were apparent. The Confederate expedition in Canada is said to have been planned by the Confederate Government, who sent 36 Confederate officers to Halifax in the steamer Robert Lee, and provided them with funds for carrying out the scheme. The Canadian Prime Minister has arrived at Buffalo, and had an interview with General Dix concerning the conspiracy. The bounties offered to soldiers in New York now amount to 700 dollars. The *World* asserts that the Secretary for War proposes an exchange of prisoners, in order that their burden may weaken the Confederate resources. Mr. Wendel Phillips has made a speech asserting that President Lincoln had informed him that the greatest folly of his life was the issuing of the emancipation proclamation. The *Tribune* denies that Mr. Lincoln made such a declaration, but the *Herald* asserts that Mr. Lincoln has on many occasions expressed this opinion. Mr. Lincoln, Mr. Seward, and the Corps Diplomatique were present at the dedication of the Gettysburg battle-field as a national cemetery. Mr. Edward Everett made a long oration on the occasion. The Rev. H. W. Beecher has received a welcome at the Brooklyn Academy of Music. He declared that the great intelligent minds and labouring classes in England favoured the North; the upper classes wished well to the South. He recommended America to observe a friendly policy towards England. He mentioned the Duke of Argyll, Earl Granville, Lord Carlisle, and Messrs. Bright and Cobden, as influential friends of the North. A large meeting has been held at Brooklyn to raise volunteers. The Union ticket has been elected in Delaware. The Democrats withdrew from the contest, and issued a protest, stating that the military intimidation was such as to prevent a fair election, and that they would petition Congress to declare void an election controlled by powers unknown to the constitution. It is reported that an effort will be made to annul the Maryland election on the same grounds. The Richmond papers of the 18th announce the arrival at Wilmington of the steamers Dundee, Flora, Banshee, Syren, Alice, A. D. Vance, Hausa, Antonica, Dispatch, and General Scott. The Confederates have given permission to the Federal Government to send stores for the Federal prisoners in Richmond. President Davis has officially acquitted Bishop Polk of mismanagement at the battle of Chickamauga. The *Richmond Examiner* urges a forced loan as a remedy for the inflation of the currency.

MEXICO.—Advices from Vera Cruz to the 1st inst. state that the army, under the command of General Bazaine, had left Mexico city for a campaign against Juarez.

WEST INDIES.—The island of Jamaica has been visited by another earthquake, more severe than either of those which have been reported during the year. On Sunday evening, November 8th, at 8.5 p.m., the first

shock was felt, lasting about 40 seconds, rapidly succeeded by a loud rumbling and a shock that sent numbers into the open air for safety. Bottles, candlesticks, &c., were shaken from their stands, and great alarm was visible on all sides. Up to the departure of the mail on the 9th, however, no particulars could be obtained beyond the city of Kingston.

SAN DOMINGO. — The steamer Prince Alphonso arrived on Wednesday at Cadiz, having left Havannah a fortnight ago. It is rumoured that she brings news of fresh disasters at San Domingo. The number of the insurgents is estimated at 14,000.

## City Intelligence.

BANK RATE OF DISCOUNT.—The directors of the Bank of England on Wednesday raised their rate of discount from 6 to 7 per cent., and on Thursday raised t to 8 per cent.

MONEY MARKET, FRIDAY.—BRITISH FUNDS: Consols closed at $90\frac{1}{4}$ to $\frac{1}{2}$ for Money, and $90\frac{5}{8}$ to 91 for Acct.; Three per Cents. Reduced, 90 to $90\frac{1}{8}$; New Three per Cents., $89\frac{7}{8}$ to 90; India Five per Cent. Stock, $106\frac{1}{8}$ to 106; Ditto Four per Cent., $100\frac{1}{4}$; Ditto Four per Cent. Debentures, 1864, $99\frac{1}{2}$ to $\frac{1}{4}$; Ditto Bonds, 5*s*. dis. to 2*s*. prem.; and Five and a Half per Cent. Enfaced Rupee Paper, 113.—FOREIGN: Brazilian 1863, scrip, 2 to $\frac{1}{4}$ dis.; Buenos Ayres One per Cents. (Deferred Three), 36; Egyptian, $97\frac{3}{4}$ to $98\frac{1}{2}$; Greek, for Account, $26\frac{1}{4}$ to $\frac{3}{8}$; Ditto Coupons, for Acct., $11\frac{1}{2}$ to $\frac{3}{4}$; Italian, $70\frac{1}{8}$; Mexican, for Acct., 33 to $32\frac{3}{4}$; New Granada, $13\frac{7}{8}$ to $\frac{5}{8}$, ex div.; Portuguese, 1856, &c., for Acct., 48 to $47\frac{3}{4}$; Ditto Scrip, par, $\frac{1}{4}$ pm.; Russian, 1850, 88; Ditto 1862, $86\frac{1}{2}$ to $\frac{5}{8}$; Spanish, for Acct., 53; Ditto Passive, for Acct., 32 to $\frac{1}{4}$; Ditto Certificates, for Acct., $12\frac{1}{2}$ to $\frac{3}{4}$; Turkish, 1858, 100*l*. Bonds, 76; Ditto, 1862, for Acct., $69\frac{1}{2}$ to 69.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £27,084,390 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 12,434,390 |
| | | Silver Bullion .. .. .. | — |
| | £27,084,390 | | £27,084,390 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £10,710,830 |
| Rest .. .. .. .. .. | 3,184,193 | Other Securities .. .. | 21,173,559 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 7,234,894 | Notes .. .. .. .. .. | 6,061,765 |
| Other Deposits .. .. .. | 12,924,545 | Gold and Silver Coin .. | 614,085 |
| Seven days and other bills | 663,107 | | |
| | £38,559,739 | | £38,559,739 |

Dec. 3, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *Nov.* 27.—BANKRUPTS.—C. S. ANDREW, Swansea, Glamorganshire, Journeyman Brewer—J. ANDERSON, Great Lumley, Durham, Surgeon—W. H. ADCOCK, Sheffield, Brewer's Traveller—J. AUSTIN and R. AUSTIN, Nottingham, Lace Manufacturers—D. ASKEW, Peterborough, Northamptonshire, late Baker—G. J. BURSLEM, Great James Street, Bedford Row, Gentleman—J. L. BRINDLE, Southampton, Retailer of Beer—J. BARROW, West Gorton, Lancashire, Manufacturing Chemist — T. BLATCH, Gower Mews, Bedford Square, Butcher's Assistant—W. C. BRAY, Grosvenor Street, Commercial Street East, Mariner—JOHN BINNS and JOSHUA BINNS, Munster Street, Regent's Park, Building Material Dealers —J. BARKER, Dover, Kent, Licensed Victualler—J. BONNETTO, Illogan, Cornwall, Saddler—W. H. CHILD, Hereford, Builder — F. T. H. CARR, Derby, Corn Factor—E. COCKBURN, Rugby, Warwickshire, Coal Merchant, —I. G. CASPAR, Norwich, Boot and Shoe Manufacturer—W. DOWELL, Lower Lancing, Sussex, Licensed Victualler—C. H. DAWS, Emneth, Norfolk, Wheelwright—H. DAVIDS (sued as DAVIDS, carrying on business under the style or firm of DAVIDS and Co.), late of Coleman St., City, Commission Agent — W. DAWSON, Masbrough, Yorkshire, Grocer — R. T. EVANSON, Tormoham, Devonshire, Doctor of Medicine—T. FISHER, Williton, Somersetshire, Omnibus Driver—J. FRASER, Portsea, Hampshire, late Licensed Victualler—H. GOLDER, Road Side, Mile End, Jeweller—J. HALL, Plardiwick, Staffordshire, Bricklayer—J. J. HENNESSEY, late of Royal Mint Street, Waste Paper Dealer—G. W. HART (known as G. HART), Pearson Street, Kingsland Road, Wholesale Shoe Manufacturer—J. C. HAWKINS, Heath Road, Twickenham, Gardener's Labourer—C. HALL, Broadwater Villas, Maida Hill West, Accountant—W. HUBBOCKS, Maids Moreton, Buckinghamshire—J. B. HALLETT, Hurstpierpoint, Sussex, Baker —W. KEMP, Birmingham, late Ale and Porter Storekeeper—R. LAWLEY, Burwarton, Shropshire, Haulier—S. LEES, Oldham, Lancashire, Cotton Spinner, and J. RAMSDEN, Oldham, Commission Agent—W. LLOYD, Westbromwich, Staffordshire, Cattle Dealer—J. MORLEY, Banbury, Oxfordshire, Innkeeper—C. MARTIN, Eckington, Worcestershire, Publican—G. MASON, Ardwick, Lancashire, Salesman—G. MOORE, Derby, Dealer in Fruit—T. C. MACROW, Marlborough Road, Chelsea, Tea Dealer—C. J. MORBEY, Albion Terrace, Camberwell New Road, late Licensed Victualler—H. MOORE, Derby, Coachbuilder—J. MORRIS, Birmingham, Clothier and Travelling Draper—F. NICHOLAS, Birmingham, late Tobacconist—C. NOCK, late of Birmingham, Journeyman Gun-barrel Striker—E. V. NORTON, Hoyland Nether, Yorkshire, Farmer—LOUIS FREDERICK NINET (known and sued as LOUIS NINET), Victoria Terrace, Bayswater, Professor of Fencing—R. OFFER, Bristol, Licensed Victualler—W. C. OTTER, Liverpool, Clerk in an Insurance Office—A. OGILVIE, Bell Street, Edgware Road, Journeyman Iron-plate Worker—R. F. OATS, Marazion, Cornwall, Tinman—J. PALFREEMAN, Angram, Yorkshire, Farmer and Cattle Dealer—T. PHILLIPS, Marchmont Street, Burton Crescent, Cutler—P. PLANQUE, late of Rupert Street, Haymarket, Dyer—W. QUINCEY, Emneth, Norfolk, Wheelwright —W. RYMILL, Gloucester Place, Walworth, Currier—A. ROBERTS, Newchurch, Carmarthenshire, Clerk in Holy Orders—J. ROBINSON, Stanley, Derbyshire, Shoemaker—J. RAMSDEN, Cleckheaton, Yorkshire, Journeyman Wheelwright—G. SECCOMBE, Plymouth, Auctioneer—J. SHORTER, jun., Redhill, Surrey, Carpenter—F. SAWLE, Denman Street, Golden Square, late Licensed Victualler—M. STEEPLES, Codnor, Derbyshire, Jobbing Smith—J. SLATER, Birmingham, Chair Turner—J. SCOTT, Dearham, Cumberland, Innkeeper—J. SUMMERS, Fenchurch Street, Porter—J. SHORT, West Hartlepool, Durham, Cartwright—R. STARK, Uffculm, Devonshire, Farmer—W. A. SKELTON, Norwich, Builder—E. SYMONDS, Manchester, Warehouseman — J. SHORT, Bolton, Lancashire, Waste Dealer—W. TIPPLER, Markham Square, Chelsea, Colonial Broker — B. TURPIN, Brighton, Clerk and Accountant—T. TATTERSALL, Sawley, Yorkshire, Farm Labourer—J. THOMAS, Ramsey, Huntingdonshire, Baker — E. TELFORD, Carlisle, Auctioneer—J. THOMPSON, Liverpool, Marine Store Dealer—J. G. TAYLOR, Birmingham, Licensed Victualler — W. WALLIS, Kingston-upon-Hull, Druggist—T. WHOLEY, Derby, Baker—R. WILSON, Abingdon, Berkshire, Boot Manufacturer—T. WESTON, Southend, Kensington, late Beer Retailer—G. WHITE, Matlock Bank, Derbyshire, Tailor—J. WILLIAMSON, Maryport, Cumberland, Innkeeper—J. WILLETT, Northwich, Cheshire, Druggist—J. WATSON, Ravenstone, Buckinghamshire, Innkeeper—W. WEBB, Great Bradley, Suffolk, Butcher—W. WARD, Norwich, Ginger Beer Manufacturer—J. J. WELSH, Coleman Street, City, Journeyman Printer—J. WILLIAMS, Hereford, Builder.

TUESDAY: *Dec.* 1.—BANKRUPTS.—G. AGER, Aylsham, Norfolk, Agricultural Implement Manufacturer—J. B. ADDIS, Oakley Street, Lambeth, Edge Tool Maker—G. BOLTON, Bradford, Yorkshire, Grocer—F. BARNES, Birmingham, late Ale and Porter Store Keeper—G. T. BRIDGMAN, Stowmarket, Suffolk, Draper—H. BROOK, Sandown, Isle of Wight, Plumber—B. BENJAMIN, late of Drury Lane, China and Glass Dealer—J. BARROW, West Gorton, near Manchester, Manufacturing Chemist—J. COLES, Erith, Kent, Brick Merchant—G. C. CRABTREE, Brunswick Parade, Barnsbury Road, Islington, Journeyman Carpenter—W. CHANTLER, Leeds, late Confectioner—W. T. CAVE, Coborn Road, Bow, Manager of a Rope Factory—H. COULTER, Liverpool, Contractor—T. COLE, late of Park Lane, Valet—E. K. DEVONSHIRE, Ingram Court, Fenchurch Street, Ship Agent—F. DAY, Woolwich, Assistant Engineer—J. DREW, Sandford, Devonshire, Blacksmith—T. DRANSFIELD, Dafton, Yorkshire, Designer—J. ECCLES, Church, Lancashire, Baker—J. EVANS, Hanley, Staffordshire, Parian Manufacturer—S. ELLIS, Leeds, Joiner and Builder—G. FRAMPTON, jun., Southampton, Builder—R. GOODEN, Balsall Heath, Worcestershire, Accountant—J. GOODWOOD, Chivelstone, Devonshire, Seed Merchant—W. GRIFFITHS, Tipton, Staffordshire, late Grocer—J. GIBBS, Croydon, Surrey, Bootmaker—J. K. HARDY, Swan Street, Dover Road, Drysalter—W. HIGGS, Sandown, Isle of Wight, Baker's and Confectioner's Assistant —J. HARTLEY, Halifax, Yorkshire, Stone Delver—G. HEYDON, Eastbury Terrace, Mile End, Confectioner—H. A. HAMMARSOM, Hartlepool, Merchant —J. S. HILL, Coseley, Staffordshire, Engineer—G. HOLMES, Adam Street East, Portman Square, Carpenter—H. HENDLEY, Derby, Stonemason—J. HALLWORTH, late of Stockport, Cheshire, Wheelwright—G. O. LANE, late of Cheyne Walk, Chelsea, Civil Engineer—G. LAWRENCE, Luton, Bedfordshire, Builder—H. MESSICK, Taunton, Somersetshire, late General Shop Keeper—J. H. P. MARSH, late of Southsea, Hampshire, Theatrical Manager — G. NEEDHAM, Nottingham, Journeyman Coachbuilder — C. NORVALL, Russell Street, Brixton Road, Carman — G. PRITCHARD, Gresford, Denbighshire, Bricklayer—W. PERKINS, Leamington Priors, Warwickshire, Tailor—H. POCKETT, Clifton, Bristol, Mariner—W. PHIPPS, Markfield, Leicestershire, Victualler — J. P. ROWE, Manchester, Out of Business—J. RENSHAW, Halstead Place, Wyndham Road, Camberwell, Licensed Victualler—W. H. RAWLINGSON, late of Buckland, Portsmouth, Surveyor—E. RESTARICK, Bridport, Dorsetshire, Leather Seller—F. SALTER, Southampton, Baker—G. SLATER, Newcastle upon-Tyne, Engineman—J. T. STOKFORD, Birmingham, Journeyman Painter—J. SNAPE, Accrington, Lancashire, Beerseller—G. A. SOAR, jun., St. Peter's Place, Hammersmith, Plumber—I. SANDERS, Keresley, Warwickshire, Wheelwright—G. SHEPHERD and R. HESLOP, Alnwick, Northumberland, Slaters—H. SLIP, Bath, Painter—G. C. TUBBY, Offord Road, Islington, Carpenter — P. TURNER, Widford, Hertfordshire, late Farmer—W. WINGROVE, Lexden, Essex, Potter—J. WOODWARD, Birmingham, Jeweller—T. WORKS, late of Southampton Terrace, Waterloo Road, Builder—J. WATSON, Kingston-upon-Hull, Pawnbroker—G. WELLS, Kingston upon-Hull, Corn Factor—J. WHITWORTH, Great Winchester Street, City, Tailor — H. YOUNG, Llanelleth, Monmouthshire, Coal Merchant.

SCOTCH SEQUESTRATIONS.—J. ARBUCKLE, Edinburgh, Cutler—J. DAWSON, Glasgow, Boot and Shoemaker—A. SHAND, Lossiemouth, Elgin, General Merchant.

## Metropolis and its Vicinity.

THE ROYAL SOCIETY.—The anniversary of this Society was held on Monday at Burlington House. The President, General Sabine, delivered his annual address on the scientific prospects and results of the year, and then presented the medals to the gentlemen to whom they had been awarded. The Copley medal was given to the Rev. Professor Sedgwick for his observations and discoveries in the geology of the palæozoic series of rocks, and more especially for his determination of the characters of the Devonian system, by observations of the order of superposition of the Killas Rocks and their fossils in Devonshire. One of the Royal medals was given to the Rev. Miles J. Berkeley, for his researches in cryptogamic botany, especially mycology; and the other Royal medal to Mr. J. P. Gassiot, for his researches on the voltaic battery and current, and on the discharge of electricity through attenuated media.

UTILISATION OF THE SEWAGE.—A special meeting of the Metropolitan Board of Works was held on Tuesday to consider the various plans proposed to them for the utilisation of the metropolitan sewage. Some discussion took place on the different plans; and the members appeared to be unanimous that none of the plans before them were sufficiently worked out for practical adoption. Mr. Richardson moved that none of the tenders were sufficiently explicit to warrant the Board at present in accepting either of them; and that, with the view of obtaining further information, the tenders be referred to the Main Drainage Committee. Mr. Bidgood seconded the motion. Mr. D'Iffanger then moved the following amendment:—

"That inasmuch as the Board was bound by various provisions of the several enactments under which their works are carried on, so to conduct them as not to cause a nuisance, and that the profitable employment of sewage, under the schemes proposed in the tenders, may involve its application to the surface of the land on an extensive scale, they cannot be parties to any agreement for such application, unless they have clear information on the localities, nature, and extent, of the land to be so dealt with, and satisfactory assurance that the processes to be employed are such as not to cause a nuisance. That none of the tenders received are sufficiently clear on this point; the Board, therefore, refer them generally to the main drainage committee, in order to obtain essential and detailed information, and to confer with the several promoters as to other conditions of the advertisements upon which their proposals are neither full nor explicit, and generally to consider as to the utilisation of the sewage."

Mr. Phillips seconded the amendment, and after a long discussion it was adopted by 17 to 13.

THE SCHLESWIG-HOLSTEIN QUESTION.—A crowded meeting of Germans was held on Saturday evening at the London Tavern, Mr. Heintzmann in the chair, to consider the question of the Danish Duchies in relation to Germany. The proceedings were entirely in German. Dr. Kinkel moved the first resolution, that at present, according to all old treaties, as well as the natural right of freedom, the union between Schleswig-Holstein and Denmark is dissolved; that Christian IX., as present King of Denmark, in separating Schleswig from Holstein, and uniting it with Denmark by the constitution signed on the 18th Nov., has committed a new violation of the rights of the people of Schleswig-Holstein, and a new attack on the rights and honour of the German nation, which was agreed to. The motion having been agreed to it was resolved, that it is the duty of the German people to re-establish the independence of Schleswig-Holstein, which was annihilated by an unexampled treachery in 1851. Dr. Zerffi moved, that in the sight of the bearing of the majority of the German Governments, and in view of the necessity for bringing about a union of all the Powers by the simple watchword "Independence of the country," it is most expedient to form a provisional government, assisted by every German patriot, to call out volunteer troops immediately, but leave the country itself to decide upon its future constitution by freely elected representatives of the people, after having obtained its independence. The resolution having been carried, Dr. Schurges moved, that the present committee be a permanent one, and that the meeting pledge itself to assist it by all means in its power in obtaining the objects in view. This resolution was also unanimously carried.

SOCIAL SCIENCE ASSOCIATION.—The council of this association has unanimously resolved to hold their meeting next year in the city of York. The executive committee was at the same time authorised to carry out a proposed union between the association and the Law Amendment Society. Arrangements are in progress calculated greatly to increase the activity and efficiency of the departments, and to secure more definite results from the discussions at the annual meetings.

CITY IMPROVEMENTS.—The Court of Common Council have unanimously agreed to appropriate ground in Victoria Street, and to erect dwellings thereon for the labouring poor, at an estimated cost of 20,000*l*.

HOSPITAL FOR SICK CHILDREN.—This Hospital has received an especial mark of Royal favour in the kind consideration of her Majesty for that most helpless class of her subjects—sick children. A quantity of toys of all descriptions has been sent by command of the Queen; with similar presents from the Princess Helena and Prince Alfred.

THE CITY REMEMBRANCER.—The committee of Common Council, to whom the subject was referred for consideration, have recommended to the Court to fix the salary of the vacant office of Remembrancer at 1500*l*., with an annual allowance, not to exceed 400*l*., for office expenses. Mr. Tyrrell, the last holder of the office, had a salary of 1000*l*., which, added to his professional charges for business done by him in respect of funds granted by Act of Parliament, produced, on an average of the last 10 years, a net income of 2020*l*. He had also an allowance for office expenses of 250*l*. The committee have reported against a suggested amalgamation of the office of Remembrancer, partly with that of the City Solicitor, and partly with that of the Town Clerk.

WESTMINSTER PLAY.—The "Adelphi" of Terence will be performed by the Queen's Scholars on Thursday, December 10, Tuesday, December 15, and Thursday, December 17. The prologue and epilogue will be given, as usual, on the second and third nights.

THE CHURCH IN THE CITY.—The Archbishop of Canterbury has conferred the living of St. Magnus on the late Dr. M'Caul's third son and curate, the Rev. Alexander Israel M'Caul, M.A. of St. John's College, Oxford, and divinity lecturer in King's College.—Three new ecclesiastical districts have been formed out of the parish of Shoreditch, St. Columba, to the incumbency of which the Rev. Samuel Wareing Mangin, M.A., of Wadham College, Oxford, late minister of St. Matthias, Stoke Newington, has been appointed; St. Augustine, to the incumbency of which the Rev. George Hervey, M.A., of Clare College, Cambridge, curate of West Hackney, has been appointed; and St. Chad, to the incumbency of which the Rev. William Robert Sharpe, M.A., late Fellow of St. Catherine's College, Cambridge, and perpetual curate of St. Gregory's, Norwich, has been appointed. The churches for these districts will be commenced with the least possible delay.

NEW BRIDGE OVER THE THAMES.—Notice has been given of an intended application to Parliament for an act to construct a new bridge over the Thames between the Chelsea railway bridge and Fulham, for carriages and foot passengers, forming a communication between Wandsworth and Fulham, from the York Road on the Surrey side, to Britannia Road, Fulham, on the Middlesex side. It is intended to form several new roads in conjunction with the bridge, one of which will extend to the high road from Wandsworth to London, and the high road from Wandsworth to the new station of the Crystal Palace and West-end railway; and the other from the Britannia Road to Fulham.

DESTRUCTIVE STORM.—On Wednesday and Thursday a storm swept over London, which was one of the most severe which has occurred for many years. Some idea of the force of the hurricane will be gathered from the fact that, at 11 o'clock on Thursday morning, the anemometer on the Royal Exchange registered a pressure of 30 lb. on the square foot. During the day several people were literally blown away, branches of trees were broken off, and the trees themselves uprooted, laden barges were sunk in the river, houses were unroofed, and several stacks of chimneys blown down. One of these, in a small street near the Elephant and Castle, fell on the roof of the house, smashed in the ceiling, and killed one of four children that were in the room, the others being seriously injured. The railway trains were considerably delayed by the violence of the storm. The wind swept along the Thames with great fury, and almost stopped the navigation for the larger classes of ships. In some of the lower reaches there was almost as much sea as could be seen below the Nore, and several disasters were caused by vessels driving from their anchors. The gale was also severely felt in the provinces. At Peterborough, one of the pinnacles of the Cathedral was blown down into the garden of the Bishop's Palace. In Windsor Park several trees were blown down, and in the exposed district round Aldershott the trees for miles were rooted up by hundreds. At all the outports numerous accidents occurred, and several disastrous shipwrecks are reported.

LAW REPORTING.—A meeting of the Bar, convened in compliance with a requisition to the Attorney General, was held in Lincoln's Inn Hall on Wednesday, to consider the subject of a reform in the present system of law reporting. The Attorney-General presided. Mr. Daniel moved, "That in the opinion of

this meeting the present system of preparing, editing, and publishing the reports of judicial decisions in this country requires amendment." Sir F. Kelly seconded the motion. Mr. Webster moved, as an amendment, "That the whole subject of law reporting, without prejudice to the present system, should be taken into consideration by a committee of the whole Bar." This amendment was negatived. Another amendment was then proposed by a barrister in the body of the hall, declaring the present system "liable to objection," instead of affirming that it "required amendment." This amendment having also been negatived, the original resolution was carried by a large majority. Sir H. Cairns then moved "That a committee of members of the Bar be appointed to consider the best means of improving the system of preparing, editing, and publishing the reports of judicial decisions, and to report thereon to a public meeting of the Bar." Mr. Malins seconded the resolution, which was carried with scarcely a dissentient, and a committee of 9 gentlemen of the Inner and 12 of the Outer Bar was then nominated, the name of Mr. Denman being subsequently added.

Threatened Destruction of Tooting Common.—An application has been made to the Inclosure Commissioners by the proprietor of Tooting Common to build upon a part of it a number of villa residences. One of the Assistant Commissioners has opened an inquiry in the village on the subject, and on the result of his report the destruction of the Common, which has so long been a source of enjoyment to the inhabitants of the southern suburbs, appears to depend. It is stated on behalf of the proprietor that the present scheme does not involve an occupation of the whole tract, but is only an application for "permission to build round the outskirts of it," under obligation "to keep the remainder for the public inviolate." But the lineal measurement of the outskirts is only about a mile and a half, and taking at only 60 yards the depth which would be required for each house and its private plot, together with the necessary roadways, there would actually remain for the benefit of the public not one-third of the present open land.

Total Destruction of Kilburn Mills.—On Thursday evening a fire broke out in the extensive windmill belonging to Mr. Charles Hale, farmer, situate in the Kilburn Road, and was not subdued until the mill and all it contained was burned to the ground, and the upper part of the dwelling burned out. The books were saved, and the loss will be partially covered by an insurance.

The Fall of a House at Islington.—The inquest on the bodies of the men who were killed by the fall of the house at Islington was opened on Monday, when the jury made a minute inspection of the ruins. The bodies were then identified, and some evidence was given as to their being taken out of the ruins, after which the inquest adjourned.

The Public Health.—The Registrar-General's Weekly Return states that the number of deaths in London in the week that ended Saturday, November 28, were 1442, which was nearly 100 less than the corrected average for the last 10 years. During the week the births of 1011 boys and 927 girls—in all 1938 children—were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1901.

## Provincial.

Aberavon.—The investigation into the cause of the explosion at Morfa Colliery was resumed and concluded on Monday, when, no further discoveries having been made which tended to throw light on the subject, the jury returned an open verdict—That the deceased had died from the effects of the explosion, but there was no evidence to show how it had been caused.

Canterbury.—Miss Hales, the owner of the Hales Place Estate, on which the show of the Royal Agricultural Society was held in 1860, entered a French convent some time ago. She has, however, been allowed to return home on the understanding that she will build a convent on her estate, and at her own expense. The site, 30 acres in extent, has been marked out, and plans of the conventual buildings have been prepared by Mr. Pugin, of Ramsgate. The proposed buildings, which consist of a church, convent, farm buildings, &c., are to be enclosed within a high brick wall. The contract for the buildings alone is 34,954*l.*

Deal.—The Mayor and Corporation of this town have approved of the plans proposed by Mr. Alfred Giles, C.E., for constructing a harbour in the Downs. Mr. Giles proposes to construct a basin of 30 acres in extent on the waste ground near Sandown Castle, to be connected with Sandwich by a canal 100 ft. wide, through which the water of the river Stour can be diverted when necessary, to flush out the entrance to the basin. The estimated cost of the works is 200,000*l.* There will be an outer harbour always open, with 10 feet of water at the lowest spring tides, and the entrance to which will be protected with two arms or piers. The works will not interfere with the drainage of the marshes, and the waters of the Stour will be so seldom required for flushing the basin that the river above and below Sandwich will not be injuriously affected. It is intended to apply to Parliament next Session for powers to construct the works. Joint committees of the promoters in Deal and Sandwich have been appointed to bring the matter before the public, and it is expected that the project will be liberally supported by the shipowners and underwriters in the metropolis.

Droitwich.—Miss Amelia Huband, a young lady living with the Rev. J. E. Vernon, curate of Himbleton, near this town, and who was niece of his wife, died in October last after a short illness. She was buried on the certificate of a surgeon that the cause of death was bilious cholera and syncope. Rumours, however, got abroad that she had come by her death unfairly, and the coroner recently ordered the body to be exhumed. A *post mortem* examination then disclosed the fact that deceased was five or six months pregnant, and an analysis of the stomach proved that she had died from arsenic, which had been taken in quantities sufficient to have destroyed half a dozen persons. It appeared from the evidence at the inquest that she had lived for 12 or 13 years with Mrs. Vernon, who had always considered her well conducted, and had no suspicion of her pregnancy. She had however become acquainted with a carpenter in the village, called Cole, whom she used to admit into the back kitchen at night after her uncle and aunt had gone to bed. After this intimacy had gone on for three years and a half, she found herself with child, whereupon Cole offered to marry her, but she said that such a connection would be altogether against the wishes of her family. She then appears to have poisoned herself with arsenic, a large packet of which was found in a cupboard at her uncle's house. After her death, Cole applied to Mrs. Vernon for a ring and other articles which he had given to deceased, and they were returned to him through the post. The jury returned a verdict that deceased was several months pregnant, and died from the effects of arsenic, but whether taken by herself or given to her by any other person there was no evidence to show.

Guildford.—The inquest on the body of Elizabeth Waterer, the young woman found in a bedroom at the Coachmakers' Arms beerhouse in North Street, was resumed on Monday in the presence of Sergeant Mahaig, of the 3d Regiment, who was found lying by her side with his throat cut. He was exceedingly weak, and looked much dejected. The evidence showed that the woman purchased a packet of "Butler's vermin and insect killer" at the shop of a chemist in High Street, on the Tuesday before the discovery of the bodies. She gave her own name, and stated that she wanted it for the purpose of killing rats, which infested her master's kitchen from the outhouses of his farm. The paper labelled with the name of the poison was found in the room. Mahaig, whose character in his regiment is described as good, before leaving Aldershott wrote a letter to his mother, bidding her good by, and stating that he should not be long in this world. The letters found on the table in the bedroom and in the pockets of the man and woman showed they had both agreed to take the poison, and a letter written by the man to the coroner stated that the girl had previously endeavoured to strangle herself with a rope. The jury returned a verdict that Elizabeth Waterer destroyed her own life on or about the 4th of November, while in a sound state of mind, and that Joseph Mahaig was guilty of aiding and abetting in the same. The witnesses were then bound over to appear at the next assizes in the prosecution of Mahaig on the charge of Wilful Murder.

Leeds.—On Monday morning, while the girls were employed on the sewing machines in the fourth story of Mr. John Barran's wholesale clothing establishment in Alfred Street, Boar Lane, the floor of the story above them, which was in course of being rebuilt, gave way, and a large quantity of building materials fell upon five of the girls and buried them in the ruins. They were extricated without loss of life and removed to the Infirmary, but one of them was so dangerously injured that her life is despaired of.

Manchester.—At the weekly meeting of the Central Executive Committee on Monday, the Earl of Derby in the Chair, the hon. secretary reported that 2635*l.* had been received during the week, and that the balance in the bank was 245,818*l.* Mr. Commissioner Farnall reported that on the 21st inst. there was an increase of 863 in the number of persons receiving parochial relief in the 27 unions of the district, as compared with the number relieved in the previous week. He added that pauperism was not only again increasing, but the high price of cotton rendered the position of the manufacturers extremely perilous, and little work was done by them, except to order. If a hard winter should arrive, with four or five weeks of frost, not a single able-bodied man would be found at work upon the public works; and as those now employed on them had had no opportunity of saving, they must in such a case all fall upon the rates. In reply to Mr. R. Gladstone, he said that, supposing the whole of the money set apart by parliament for public works were granted, employment might ultimately be found for 30,000 persons upon such works. He did not expect that this Act would fully come into operation till next spring. Colonel W. Patten asked whether the 800 increase arose from the stoppage of factories or other causes. His impression was that the number employed in the mills had not decreased. Mr. Ashworth said that in Rochdale, the increase of unemployed was 300, according to the guardians' relief returns, and nearly the whole of that number arose from the stoppage of mills. Mr. T. Ashton said that in Hyde they had a large increase of the unemployed, without the stoppage of a single mill, the manufacturers being compelled to stop portions of their machinery. After some discussion, Colonel Patten moved that the chairman be requested to call the attention of the Home Secretary to the complaints made of the delay and expense attending applications for loans under the Public Works Act of last session, and to submit to his consideration the suggestion made to this committee that the balance accruing to Government in raising money under the provisions of that Act affords a means of relieving parties borrowing, from the expenses complained of. Lord Egerton, of Tatton, seconded the resolution, which was carried.

Masborough.—A shocking accident took place on Monday morning in the Thryberg Hall Colliery, at Kilnhurst, about four miles from this town. The day hands, numbering about 240, assembled at the pit's mouth at the usual hour, and after the underground steward and his deputies had made their usual examination of the mine, commenced descending in parties of half-a-dozen at a time. When about 120 of them had been sent down, a party of six men and youths got into the chair. It was suspended from the sides by no less than six chains, meeting upon a hook in the centre, which was attached to the strong winding rope. The steward was superintending the descent of the men, and saw that they were all properly placed. While, however, watching their descent, he was startled by a loud cry coming from the shaft. The engine was instantly stopped, when it was found by the state of the rope that the cage was stuck in the shaft. The steward and others went immediately down the second shaft, and on arriving at the bottom found that the men had descended about 140 yards in safety, when the cage suddenly tipped on one end, and they were all precipitated to the bottom, not less than 150 yards below the spot from which they fell. One of the men fell across one of the timber "stays" that brace the sides of the shaft. His body was cut in two, one half remaining on the stay, and the other falling to the bottom. His head was also cut off. The others were so mangled as to be almost unrecognisable, and it was found necessary to provide boxes to carry away their remains. The cause of the cage slipping in the shaft is at present unknown.

Oxford.—The vacant canonry of Christ Church, with the Professorship of Ecclesiastical History attached, vacant by the promotion of Dr. Stanley to the Deanery of Westminster, has been conferred on the Rev. W. W. Shirley, of Wadham College, son of the late Dr. Shirley, Bishop of Sodor and Man, and heir presumptive to the earldom of Ferrers.

Salisbury.—A fatal accident occurred on Saturday evening to the Hon. Henry Nelson, youngest brother of Earl Nelson, of Trafalgar House, Downton. Mr. Nelson had been riding, and was returning to Landford House, in the parish of Plaitford. He was mounted on a very young horse, and at the Earldom's Gate, Landford, the wife of the gatekeeper, perceiving that the animal was restive, inquired the reason. Mr. Nelson told her that he thought it had been frightened by a threshing-machine. The woman endeavoured to hold the horse while Mr. Nelson tightened the girths, but the animal broke away from her and started off in the direction of Plaitford. Mr. Nelson retained his seat for about half a mile, but was eventually thrown, and, it is believed, dragged for a considerable distance. The butler to the Dowager Countess Nelson, who was waiting with the carriage at Landford House, was attracted by the galloping of the horse, and on going into the road he discovered the unfortunate gentleman lying insensible. He was immediately removed into the house, where he became conscious for a few minutes, but he rapidly sank, and died about a quarter past 8 o'clock. At the inquest on Monday, it was shown that death had resulted from concussion of the brain, and a verdict of Accidental Death was accordingly returned. The deceased gentleman was 28 years of age, and was greatly respected in the neighbourhood. —A large number of Roman copper coins of very ancient date and of different reigns have been discovered in the vicinity of Old Sarum, on property belonging to Mr. John H. Campbell Wyndham, of the College, Salisbury. One jar contained no less than 218, another 159, and a third 140, the whole, together with the jars, being in a good state of preservation.

Sandringham.—The Prince of Wales spent the last day of his recent visit to Sandringham in riding over the estate, and making himself personally acquainted with the state of the cottages. His Royal Highness, accompanied by the new steward, inspected the rooms in the cottages, and gave orders for immediate improvement in the extent of accommodation. The prompt and personal interest which the Prince has manifested will, it is hoped, lead to practical steps being taken generally in the county of Norfolk for the impro vementof labourers' cottages.

Windsor.—The interior of the new Royal Dairy at Frogmore is decorating in a very beautiful manner. The walls are lined with white and coloured tiles, designed in a rich and tasteful style, and bearing representations of the seasons of the year depicted in a series of selections from agricultural life. The windows are filled with coloured glass, and when the decorations of this beautiful little building are entirely completed, it will afford one of the most striking examples of what taste and refinement can do towards elevating even one of the commonest and simplest operations of rural life.

Yarmouth.—Robert Hales, known as the Norfolk giant, died at this town on Sunday week. He was born at West Somerton in 1820, and was therefore only 43 years of age. He came of a family remarkable for their great stature, his father, a farmer, being 6 feet 6 inches in height, and his mother 6 feet. An ancestor of his mother was said to have been that famous warder of Henry VIII., who stood 8 feet 4 inches in height. Of such parents the progeny were worthy; the boys averaging 6 feet 5 inches, and the girls 6 feet 3½ inches each. Robert stood 7 feet 6 inches, and weighed 452 lbs. One of his sisters, with whom he exhibited some years ago, was 7 feet 2 inches, but she died in 1842, being then only 20 years of age. He was stout in proportion to his height, though somewhat clumsily put together. When in his prime he was 64 inches round the chest, 62 round the waist, 36 across the shoulders, and 21 round the calf of the leg. During his career he visited several continental capitals, and was presented to Louis Philippe while King of the French. He was introduced to the Americans under the auspices of Barnum, and 28,000 persons flocked to see him in 10 days. On his return to this country he had the honour of being exhibited at Court, when her Majesty gave him a gold watch and chain, of which he was particularly proud, and wore to the day of his death. During last summer he visited Yarmouth for the benefit of his health, which had been very much impaired by the close confinement of the caravans in which he exhibited. He seemed to rally under the genial summer weather, but as autumn wore on he gradually declined, and at length died of consumption.

## Ireland.

Scotch Farmers in Ireland.—A shocking outrage has been committed in the King's County, showing a feeling among the lower classes which baffles every attempt at improvement. A Scotchman in 1857 took as a farm the lands of Mullagherew, near Blue Ball, consisting of 153 Irish acres, which for some time previous had been nearly all in grass, no tenant evicted, nor any such cause of irritation. In 1860 the landlord's interest, being a fee farm at a small rent, was bought in the Landed Estates' Court by another Scotchman, Mr. Richardson, who arranged with the former man, and went into occupation of the land. He immediately began to farm the whole land upon the most improved system of tillage—large fields, rotation of crops, heavy manuring, large proportion of green crop feeding, early sowing, early harvesting, and heavy crops, and, as a consequence, abundance of employment. But in order to carry out this system successfully and to gather around himself the best labourers, he gave his men 2*d.* a day more than the usual wages in the country. On Saturday week he gave a harvest home, with dancing and music, to the workmen employed by him during the last year, and their wives and families. While the amusement was going on, 15 men armed with guns and pistols rushed into the house, broke all the windows, fired a shot at Mr. Richardson himself, and then dragged him out and beat him, almost before the very eyes of his own labourers and servants, not one of whom raised a hand to protect him. Believing that Mr. Richardson had been shot dead, the ruffians then went into another room and took possession of some bottles containing whisky, after which they decamped. The police are making every exertion to bring the perpetrators to punishment; but it may be death to any one who will give evidence which may lead to conviction.

## Scotland.

The Alleged Confederate War Steamer in the Clyde.—A correspondence took place lately between the Government and the Glasgow Emancipation Society with reference to the screw steamer Pampero, recently launched from the building-yard of Messrs. Thomson. The Pampero is at present lying at Lancefield Quay, Broomielaw. A large number of workmen are employed on board in completing her fittings, and it is expected she will soon be ready for sea. Meanwhile instructions have been received from Government that the vessel must be detained; and her Majesty's gunboat Bullfinch is moored opposite Lancefield Quay to prevent her escape. The owners of the Pampero deny that there are any war fittings about her, and allege that she differs little, if at all, from those merchant ships of which so many are built on the Clyde every year.

## Law.

Court of Queen's Bench.—*Symm v. Fraser and Andrews.*—This was an action brought before the Lord Chief Justice and a special jury, by an elderly woman, the widow of a tradesman lately residing in Camden Town, against two medical men practising in that neighbourhood—Dr. Fraser, a physician, and Dr. Andrews, a general practitioner, for "assaulting" and "ill-using" her, and putting her under personal restraint. The ground of action laid was not mere negligence or ignorance, or want of due care and skill, but that they were so utterly without the least pretence for what they did or advised that they were downright tresspassers and wrongdoers. The case, as observed by the counsel for the plaintiff, is of some interest, as illustrating the risks and responsibilities to which medical men are exposed in the course of their practice. Dr. Fraser is a physician of more than 30 years' standing, and Mr. Andrews a member of the College of Surgeons and a general practitioner who has been nine years in practice. A day or two before Christmas they were both sent for to see the plaintiff; first one of them, and then the other, and then both together, by day and by night, sometimes several times a day, and each of them once so late as three or four in the morning, on Christmas Eve and on Christmas Day, and the day after Christmas Day, and so on for all the Christmas week. They found the plaintiff living with an imbecile brother and a female companion, without any servant, in a parlour where she was passing night as well as day, labouring, as they considered, under the influence of drink; both her person and her room being in a state they described as filthy and offensive almost beyond description. The smell, they said, was noisome to the last degree; and to one of them so much so as "almost to make him vomit." In this room they had during the Christmas week to pay a good many visits, and according to their account their visits were not pleasant. At every visit they found, they said, traces of the same indulgence; they learnt on inquiry of her companion, that she was drinking, and they warned her again and again, but in vain. They told her that if she did not abstain it would be a serious case—that *delirium tremens* would set in; and after two or three days, as they both declared, they found all the symptoms of the earlier stage of that dreadful disease—excitement, restlessness, distressing want of sleep, heat in the throat, and oppression of the chest and a sense of choking and suffocation, a terrified look, and wild, suffused eyes, a thick voice and a "rambling way of speaking," and at length traces of that which marks the last and worst stage of the disease—delusions and hallucinations. She was, they said, rolling and falling about, always crying out for wine, and Dr. Fraser described her as staggering on her knees before him, screaming out, "A hundred pounds for a bottle of wine!" That they believed her to be suffering from this disease was clear, for they treated her for it, and gave her morphia. On the 26th, the day after Christmas Day, she became much worse and very excited. They became anxious, and had a consultation with a physician with whom she was acquainted, Dr. Barnes, who agreed with them as to her state, and approved their treatment. In the meantime the doctors kept, as they said, directing that she should be kept from drink, which, it appeared, her imbecile brother continued to get for her, and which Mrs. Hill, her only companion, declared herself unable to prevent her getting. In the course of the 26th the necessity for a nurse and a male attendant was discussed. The plaintiff herself appeared to have suggested the one, and a friend of hers, a Mrs. Taylor, the other. In the course of that day it appeared, as Mrs. Hill was going away, declaring that "she could stand it no longer," the plaintiff herself begged the doctors to recommend her a nurse, and though they declined at first, yet, at her earnest entreaties, they referred her to some one who did so. Mrs. Taylor, a sister of Dr. Barnes, who had casually made her acquaintance, and who was then staying in the house, what with the condition of the plaintiff herself, and what with her imbecile brother and a dog belonging to him, seems to have become uneasy, and asked them to recommend some man to stay in the house a few nights until the plaintiff was better. Mr. Andrews being thus pressed, was induced to do so, and the man came, and was engaged, as it appeared, by Mrs. Taylor. The male and female attendants were there only two or three nights, during the worst part of the plaintiff's attack, and when she was better were removed. Towards the close of the week two friends of the plaintiff—a Mr. and Mrs. Bennett—saw her, and the doctors, as she complained of the attendants, got them sent away. They were paid by the plaintiff, and she in a few days went down suddenly to Bath, leaving the house deserted and unprotected, so that the police made inquiries about her, and some one got in at the back to look after her. In a few weeks she came back, and accompanied by a friend, a person named Burge, went to the doctors and reproached them with having put the persons into her house to take care of her. They both denied having done so, but declared that whoever had done so, she ought to be obliged to them, for that at the time she was unable to take care of herself. She paid them for their attendance, and for a whole year they heard no more of it. In January, however, they found themselves made defendants in an action at law, in which the "declaration" charged "that they, with divers other persons as their servants and at their commands, entered her dwelling house and made a great disturbance therein, and stayed there a long time, and assaulted and beat her, and imprisoned her, and put her under bodily restraint, under the false and unfounded pretence that she was a person of unsound mind, incapable of taking care of herself and unfit to be at liberty, and kept and continued her so imprisoned for a long time, and prevented her friends from having access to her, and kept her without proper food and sustenance, and forced her to take and swallow noxious drugs and compounds, and thereby injured her and impaired her health." To which they pleaded "Not Guilty," and that all they did was by the plaintiff's leave and licence as her medical attendants. The evidence in support of the case was that of the plaintiff herself, whose statements were slightly supported by the evidence of a friend, Mr. Bennett, while several witnesses deposed that they had never seen her the worse for drink, and that, so far as their knowledge went, she was a person of decidedly abstemious habits. For the defence both the defendants were called as witnesses, and stated that the plaintiff was suffering from *delirium tremens* when they were called in, and that they treated her according to the recognised method for that disease. Their evidence was confirmed by Mrs. Hill and Mrs. Young, and by the statements of Mrs. Bennett and Mrs. Taylor, neither of whom could be called as witnesses, one being dead, the other of them abroad. Further, the case for the defence was confirmed by the evidence of the police, and a police-sergeant, who had been called in by Mrs. Hill, swore that he saw the plaintiff—twice in a few minutes—drink tumblers half full of sherry, and that in their judgment she was drunk during the week in question. Mr. Barnett, a surgeon of Bath, who had been called for the plaintiff, deposed that during the whole of the time he was attending her in that city after her illness at Camden Town, he was under the impression that she indulged in drink. A physician, who also attended her at Bath about the same period, had a suspicion that she was suffering from excitement caused by drink, though he might have mistaken the symptoms for those of "travelling gout." The trial, after lasting five days, was brought to a close on Tuesday, when the Lord Chief Justice summed up, and the jury, after a few minutes' consultation, without leaving their box, returned a verdict for the defendants.

## Railways.

Opening of the Charing-Cross.—The short line from London Bridge to Charing-Cross, the forerunner of the many schemes now known under the general name of metropolitan extensions, was provisionally opened on Wednesday with all the pomp and circumstance which could be imparted by the visit of a large party of directors and officials, though the opening to the public will probably not take place before the 1st of January. Although scarcely more than two miles in length, this line has occupied three years in construction, and in an engineering point of view is one of the most remarkable works in or near London. Between London Bridge Station and the Belvidere Road no less than 15 gigantic iron bridges span the various thoroughfares intersected by it; and finally the Thames is crossed by a bridge which has already become celebrated as a specimen of the lattice-girder system of construction. The deflection on passing over this bridge was very slight, and on entering the Charing-Cross Station, which now occupies the site of old Hungerford Market, the engineer and contractors were warmly congratulated on the successful termination of their labours. The directors and their guests afterwards partook of a *déjeûner* at Morley's Hotel. It may be mentioned that the purchase of the land for this railway and for the Cannon Street extension has involved an outlay of more than two millions sterling, and although it traverses one of the most densely populated districts of London, not more than 250 houses have been required to be pulled down.

Metropolitan Railway Projects.—The notices of intended applications to Parliament in the ensuing Session for railway bills are very numerous, exceeding 300 for Great Britain, including about 30 for the metropolis. The importance of the latter may be imagined from the fact that there is scarcely a district of London which they do not propose to deal with, either underground or overground, demolishing houses and streets in all directions, appropriating the squares for railway stations, throwing bridges over some of the great thoroughfares, and crossing others, including in one case such a street as the Strand, on a level. It may also be remarked as showing the enormous amount of property affected by these projects, that every mile of railway occupies about 11 acres of land, including stations, that land in the metropolis is worth from 100,000*l.* to 1,000,000*l.* per acre, and that the Charing Cross Railway and City branch will cost nearly 1,500,000*l.* a mile, although passing through probably the least valuable property in the metropolis. Five of these schemes are underground lines connected with the Thames embankment, from Westminster to Blackfriars, and the new street from New Bridge Street to the Mansion House, viz., the London Low Level, the London Union, the Victoria Station and Thames Embankment, the Metropolis District, and the Metropolitan Grand Union. The London, Chatham, and Dover Company seek for power to vest the Ludgate Hill portion of their Metropolitan Extension, from Earl Street to the Metropolitan, in the Great Northern Company, either wholly or partially. The Great Northern are to have power to run from their main line at King's Cross over the Metropolitan and London, Chatham, and Dover to the New Station fronting the Crystal Palace, and also to run to and from the Victoria Station, Pimlico. The Metropolitan Company propose to make a junction line with the Midland near the Euston Road; to extend their extension line from near Finsbury Circus to Trinity Square, Tower Hill; and also at the other end, from Paddington to Notting Hill, Kensington, and Brompton. A new company will ask for power to extend the Metropolitan from Baker Street Station to St. John's Wood and the Finchley Road Station of the Hampstead Junction. The Great Eastern Company propose to extend their main line from near Tap Street to Wormwood Street, Bishopsgate, running for the greater part of the distance alongside of the City Extension of the North London, having a Station in Wormwood Street. They also propose to extend their line northwards from near Tap Street to Tottenham and Edmonton. There are two schemes—the East London and the Thames Tunnel—to carry railways through the Tunnel, to make suitable approaches, and to connect the railways north and south of the Thames in that direction. Charing Cross appears to be a very favourite point of convergence. A company proposes to make a line from the London and North-Western at Willesden and the Great Western near Bishop's Road, Paddington, to the Charing Cross. The Hampstead, Midland, North-Western, and Charing Cross Companies propose to make a line from Hampstead Heath, the Midland at Upper Park Road, and the London and North-Western near the Primrose Hill tunnel, to the Charing Cross. The Charing Cross Northern Company propose to make lines from the Great Northern and Midland near King's Cross to the Charing Cross. The Tottenham and Hampstead Junction Company propose to make a line from St. John's Church, Holloway Road, forming junctions in its route with the London and North-Western and Midland near Euston Road, terminating by a junction with the Charing Cross near the northern end of the bridge over the Thames. The North and South Junction (high level) propose to make lines from Moorgate Street and Swan Alley to the South-Eastern and London and Brighton, with a branch to St. Helen's Place. Another company proposes to make a line from the Blackwall, near Cannon Street Road to the Great Northern near the Seven Sisters' Road Station, and to the Midland at Kentish Town. The Tottenham and Farringdon Street Company propose to make a line from Tottenham, Stoke Newington, Islington, and Clerkenwell to the north side of Ludgate Hill. The Victoria Station and Thames Embankment Company propose to make a line from the Victoria Station, Pimlico, passing through and under Victoria Street, the Broad Sanctuary, New Palace Yard, Bridge Street, and the Thames Embankment to Blackfriars Bridge. The Thames Viaduct Company propose to make a line from the third pier of Westminster Bridge to the

second pier of London Bridge, city side. The Oxford Street and City Company propose to make a line underground from Park Lane through and under Oxford Street, New Oxford Street, High Holborn, Greville Street, and Charles Street to Farringdon Road, near the Metropolitan Station. The Mid-London Company propose to make a line from the West London Extension at Kensington to the Victoria Station, Pimlico, passing under Cromwell Road, Hyde Park Corner, to the centre of Coventry Street, near the Haymarket, and thence to York Terrace, Adelphi. Then another line from Victoria Station, Pimlico, passing along and under Victoria Street, Scotland Yard, along the foreshore of the Thames to New Bridge Street, to the Chatham and Dover in Skinner Street, also a branch from New Bridge Street, under the centre of New Earl Street to Bread Street, Gracechurch Street, and the Fenchurch Street Station. A line from the London and North-Western at Gloucester Road, Regent's Park, to the above mentioned line in the centre of Coventry Street. A line from Leicester Square to the Adelphi. Lines from Kensington to the Metropolitan Railway at Paddington. Some of this Company's lines are intended to be carried over ground, and some underground. Of the 37 lines proposed by this company, they intend six to be made by the Metropolitan. The London Low Level Company propose to start with a line from the Victoria Station, Pimlico, passing along and under Victoria Street, part of the Thames Embankment, along and across sundry streets to Dowgate Hill. Branches from Scotland Yard to the Charing Cross, from the main line at Blackfriars to the Metropolitan in Farringdon Road; and a branch from this underground branch near Ludgate Hill to the main line, where it is intended to cross Printing House Square. The main line is proposed to be extended to the Metropolitan at Finsbury Circus. They also propose to make four new streets. The London Union Company propose to make lines from Hendon to Chelsea, several junction lines with the South-Western and London, and Chatham and Dover; a line from Westminster Bridge, along the foreshore of the Thames, to the Inner Temple, Blackfriars, Snow Hill, and Charlotte Row, Poultry. The London Main Trunk Company propose to construct their underground system from the Great Eastern at Old Ford Road to Mile End Old Town and the Metropolitan Extension at Finsbury Circus; a line from this point to the Chatham and Dover at Blackfriars, regardless of an existing and authorised line for that purpose; a line from Labour-in-Vain Square to Ludgate Hill; sundry branches to Whitechapel, Fenchurch Street, and Cannon Street; and a line from Labour-in Vain Square to the Bridewell, Whitefriars, Inner Temple, and Westminster Bridge. The Metropolitan District Company propose to construct an inner circle of railways within London north of the Thames, and also an outer circle round the metropolis north and south of the Thames, including 34 railways and junctions. The main outer circle is proposed to commence at Wandsworth by a junction with the Chatham and Dover, passing to Battersea, Old Brompton, Notting Hill, Kensington, Paddington, Kilburn, Finchley Road station and Seven Sisters Road, Stamford Hill, Stratford, New Cross, making junctions with the Great Western, the London and North-Western, the Midland, Great Northern, Great Eastern, and all the railways in its route. The inner circle is proposed to start from Brompton, thence to Cannon Row, Westminster, to Cannon Street, City, and the Blackwall, Fenchurch Street. The Metropolitan Grand Union propose to make lines from the West London at Kensington to the Inner Temple and to the Blackwall, near Christian Street, from thence to the Metropolitan at Finsbury Circus; from Kensington to the Metropolitan at Paddington; a line from the South-Eastern in Bermondsey to the city branch of the North-London; and about nine branch or junction lines with railways in its route. The projects for accommodating the suburban districts are not numerous. The Great Northern and Victoria Station Company propose to make a line from the Great Northern at a point about a mile and a half from Barnet, passing near Finchley, Hendon, Willesden, and Kensington to the West London. The Edgware, Highgate, and London Company propose to make an extension from Hornsey to the Alexandra Park. The Wood Green and Enfield Company propose to make a line from the Wood Green Station of the Great Northern to the Great Eastern at Enfield. The Watford and Edgware Junction Company propose a line from Watford to the Edgware, Highgate, and London at Edgware. The Tottenham and Hampstead Junction propose to make an extension to the Alexandra Park from the main line near St. John's Church, in the Holloway Road, to Muswell Hill, near the Green Man, skirting the Alexandra Park, and passing in its route through a district which is practically inaccessible to omnibuses, to the Colney Hatch Station of the Great Northern. The North London Company propose an extension of their City branch northwards from Kingsland to Tottenham.

## Obituary.

VISCOUNT MIDLETON died suddenly on Wednesday evening, at his seat, Pepper Harrow Park, near Godalming, in his 72d year. Charles Brodrick, sixth Viscount Midleton, Baron Brodrick of Ireland, and Baron Brodrick of Great Britain, was son of the late Archbishop of Cashel, by the daughter of Bishop Woodward, of Cloyne. He was born at Cahirmone in 1791, and married in 1825 the third daughter of the 22d Lord le Despencer, by whom he leaves two daughters—the Hon. Mary Emma Brodrick, born in 1826, and the Hon. Olbinia Frances, wife of Mr. A. S. Leslie Melville. His lordship was educated at St. John's College, Cambridge, where he graduated M.A. in 1812. He was called to the bar at Lincoln's Inn in 1819, and succeeded his cousin in the peerage in 1848. His lordship is succeeded in the title and estates by his brother, the Hon. and Rev. William John Brodrick, Dean of Exeter, who was born in 1798, married first in 1824 the eldest daughter of the sixth Earl of Cardigan, and relict of the Hon. John Perceval, and, secondly, in 1829, his cousin, the daughter of the fourth Viscount Midleton, by whom he has a son and other children. His lordship was rector of Bath from 1839 to 1854, is one of the Chaplains to the Queen, and was appointed to the Deanery of Exeter in the present year.

SIR THOMAS GEORGE SKIPWITH, BART., died on the 20th ult., at Leamington Spa, in his 60th year. He was the eldest son of the 8th Baronet, and was born in 1803. He married, first, in 1840, the daughter of Mr. Thomas Hatton, of Liverpool, and secondly, in 1853, the second daughter of Mr. Herbert B. Moore, of Anaghbeg, Galway, by whom he leaves a young family. His eldest son, now in his 7th year, succeeds him in the baronetcy.

REAR-ADMIRAL SIR JAMES HANWAY PLUMRIDGE, K.C.B., died on the 29th ult., at Hopton Hall, Suffolk, in his 76th year. He was educated at the Naval Academy, Chelsea, and entered the navy in 1799. He served in Egypt in 1801, and at Trafalgar in 1805. In 1806 he was made a lieutenant, and commanded the boats of the Melpomene frigate at the capture of a Danish war cutter in 1809. He was first lieutenant of the Menelaus at the taking of the Isle of France. He was aide-de-camp to the commander-in-chief at the capture of Genoa in 1814, and for his services was promoted to be commander in 1814. Subsequently he commanded vessels on the Indian, St. Helena, and Irish stations, and was made post-captain for his services against smugglers on the coast of Ireland. He was captain of the Magicienne, frigate, in India for several years, and was captain-superintendent at Falmouth for five years, when he was appointed Storekeeper-General of the United Kingdom. From 1841 to 1847 he represented Falmouth and Penrhyn in the House of Commons. In 1854 he commanded the flying squadron in the Gulf of Bothnia as rear-admiral, and three years afterwards succeeded to the second command in the Baltic Fleet. He served at the capture of Bomarsund, and subsequently commanded two detached squadrons. He was appointed Admiral-Superintendent of Plymouth Dockyard in 1855, and became Rear-Admiral of the Red in 1856. He was married three times—first, in 1821, to the daughter of Rear-Admiral Hart; second, in 1835, to the daughter of the Right Hon. Hugh Elliott; and third, 1849, to the daughter of Col. Skinner, of the Royal Artillery.

THE REV. CANON MALTBY, canon residentiary of Durham, and third son of the late Bishop Maltby, died at the College, Durham, on the 24th ult. He graduated of Caius College, Cambridge, and in 1842 was presented by his father to the living of Eaglescliffe, near Yarm, in Yorkshire, valued at 1080*l*. In 1852 he was collated to a stall in Durham Cathedral, worth 1000*l*.

BIRTHS.—On the 28th ult, the Countess of EGLINTON and WINTON, of a daughter—22d ult, at Guestling, Lady ASHBURNHAM, of a daughter—27th ult. at 7 A, Cromwell Place, Lady EDWARD THYNNE, of a daughter—26th ult, at Aldestrop Rectory, the wife of the Hon. and Rev. H. P. CHOLMONDELEY, of a son—26th ult, the Hon. Mrs. EDWARD WINGFIELD, of a son—27th ult, at 17, Lowndes Square, the wife of E. H. KNATCHBULL-HUGESSEN, Esq., M.P., of a son.

MARRIAGES.—On the 1st inst, at Kidderminster, Major the Hon. AUGUSTUS HENRY ARCHIBALD ANSON, M.P., second surviving son of the late Earl of Lichfield, to AMELIA MARIA, eldest daughter of the Rev. THOMAS LEGH CLAUGHTON, and the Hon. Mrs. Claughton, and niece of the Earl of Dudley—25th ult. at the Catholic Church, Coughton Court, Warwickshire, GERALD, youngest son of the late GERALD DEASE, Esq., of Turbotston, county Westmeath, to EMILY, second daughter of the late Sir ROBERT THROCKMORTON, Bart.—1st inst, at Hill, Gloucestershire, FREDERICK HENRY, son of the Rev. THOMAS and the Lady LOUISA CATOR, to FRANCES SOPHIA VAUGHAN, only child of the Rev. Sir EDWARD HARRY VAUGHAN COLT, Bart., and Lady Colt, of Hill, Gloucestershire—30th ult, at Brougham, in the county of Westmoreland, the Hon. and Rev. THOMAS EDWARDES, to ALICE ELEONORA, eldest daughter of WILLIAM BROUGHAM, Esq., of Brougham Hall—28th ult, at St. Peter's, Eaton Square, FRANCIS RICARDO, Esq., of the Friary, Old Windsor, to LOUISA JANE, second daughter of Sir ERSKINE PERRY.

DEATHS.—On the 25th ult, at West Farleigh, Kent, the Dowager Lady FITZHERBERT, aged 81—30th ult, at Brighton, Lady PRENDERGAST, widow of General Sir Jeffery Prendergast, aged 86—26th ult, at Maids Moreton Lodge, Buckingham, the Hon. Mrs. EDWARD WINGFIELD—5th ult, at the Island of Antigua, EDWARD DACRES BAYNES, Esq., for some years President of the Island of Montserrat, eldest son of the late Thomas Baynes, Esq., Commander Royal Navy, and brother of Vice-Admiral Sir R. Lambert Baynes, K.C.B.—23d ult, at Nice, the Rev. JOHN JERVIS WHITE-JERVIS, eldest son of Sir Henry Meredith White-Jervis, Bart., aged 44—30th ult, at 5, Kensington Park Gardens, EMILY, widow of General JAMES F. SALTER, C.B.—22d ult, at Holbeach, Lincolnshire, Lieut.-Colonel ANTHONY DONKLAN, late of the 48th Regiment, and Staff-Officer of Pensioners, aged 65—26th ult, at Millbrook, near Southampton, Bt. Lieut.-Colonel A.C. SNODGRASS, late 39th Regiment—25th ult, at Water Park, Conistone, BENSON HARRISON, Esq., D.L. and J.P. for the county of Westmoreland, aged 77—28th ult, at 34, Bryanstone Square, ALEXANDER WILSON, Esq., F.R.S., aged 83—25th ult, at his residence, Broad Sanctuary, Westminster, after a few hours' illness, BONAMY DOBREE, Esq., one of the Directors of the Bank of England, aged 69—27th ult, at Putney, CECIL F. G. LUKIN, Esq., late of the Board of Control, aged 53—25th ult, at Earnock House, Hamilton, JAMES LYALL, Esq., aged 64—24th ult, in Great Camden Street, CAROLINE ANNA, widow of the Rev. Dr. MOORE, vicar of St. Pancras—24th ult, at The Vicarage, East Grinstead, Sussex, the Rev. J. N. HARWARD, M.A.—24th ult, at Radclive Rectory, Buckinghamshire, the Rev. JOHN COKER, B.C.L., hon. prebend of Lincoln, aged 70—1st inst, at Oxford, the Rev. FREDERIC ROBERT PERRY, M.A., incumbent of Cadmore End, Oxon, aged 39—26th ult, the Rev. BERNARD GILPIN, vicar of St. John's, Stanwick, Yorkshire, aged 54—28th ult, at his residence, 270, Strand, Mr. DAVID NUTT, foreign bookseller, aged 53.

## Markets.

### COVENT GARDEN, Dec. 5.

All kinds of produce in season are abundant. Pine Apples are unusually well supplied; prices for them are lower than last week. Imported Grapes realise 8d. to 1s. per lb. Of foreign Melons there is a good stock. There is also a good supply of Nelis d'Hiver, Glou Morceau, Monsieur le Curé, and Beurré Diel Pears. Good English Apples are getting somewhat scarce. Some good examples of Ribston Pippin and Cox's Orange Pippin Apples may still be obtained. Kent Cobs are good and plentiful. New St. Michael Oranges realise from 5s. to 10s. per 100. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Primroses, Mignonette, and Roses.

#### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Oranges, per 100, 7s to 10s |
| Grapes, per lb., 2s to 8s | Nuts, small, per bush., 14s to 18s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Kent Cobs, 80s to 90s p. 100 lbs. |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 14s to 20s |
| Lemons, per 100, 5s to 10s | Chesnuts, per bush., 10s to 20s |

#### VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 8d |
| ,, Shaws, do., 50s to 60s | Lettuces, each, 1d to 4d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s 6d to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 9d to 1s | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 5d |
| Tomatos, each, 2d to 3d | |

### NEWGATE.—Dec. 4.

| | |
|---|---|
| Best Fresh Butter .. .. | 16*s*. per dozen lbs. |
| Second do. do. .. .. | 13*s*. ,, |

Pork, 4*s*. 0*d*. to 4*s*. 4*d*. per 8 lbs.

### POTATOS.—SOUTHWARK, Monday, Nov. 30.

During the past week the arrivals coastwise have been larger, and greater by rail than was ever known, and trade very slow at a considerable reduction in prices. The quotations are:—Yorkshire Flukes, 80s. to 90s. per ton; do. Regents, 60s. to 70s.; Kent and Essex Regents, 60s. to 70s.; do. do. Rocks, 50s. to 55s.: Perth, Forfar, and Fifeshire Regents, 50s. to 60s.; do. do. Rocks, 45s. to 50s.

### HAY.—Per Load of 36 Trusses.

SMITHFIELD, Thursday, Dec. 3.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to | 80s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | 84 | 90 | Do. second cut .. | 90 | 100 |
| Inferior do. .. | 65 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 24 | 30 |
| Rowen .. .. .. | 60 | 70 | | | |

HARVEY & EASTON.

CUMBERLAND MARKET, THURSDAY, Dec. 3.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 88s to | 95s | Inferior do. .. | 84s to | 100s |
| Inferior do. .. .. | 70 | 80 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 32 | 36 |
| Superior Clover .. | 110 | 115 | | | |

JOSHUA BAKER.

WHITECHAPEL, THURSDAY, Dec. 3.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay .. | 80s to | 86s | Prime 1st cut Clover | 100s to | 110s |
| Inferior do. .. .. | 70 | 80 | Inferior do. do. .. | 90 | 100 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do. .. | 100 | 105 |
| Straw .. .. .. | 25 | 28 | Inferior do. .. .. | 90 | 100 |

### COAL MARKET.—Dec. 2.

Byass's Bebside West Hartley, 15s. 6d.; Davison's West Hartley, 15s. 6d.; Holywell Main, 17s. 6d.; Lambert's West Hartley, 15s. 3d.; Tanfield Moor Butes, 15s. 6d.; West Hartley, 15s. 9d.; Walls End Hetton, 19s. 6d.; Walls End North Hartlepool, 16s.—20 ships at market.

### BRITISH WOOLS.—LONDON, Dec. 3.

The rise in the rate of discount to 7 per cent has put a stop to trade for the present. Stocks are much lower than usual at this season of the year, and no disposition to press sales exists at present.

| | s. d. | | s. d. | | s. d. | | s. d. |
|---|---|---|---|---|---|---|---|
| South-down Hoggets .. .. .. | 1 11 | to | 2 0 | Leicest. Wethers | 1 9½ | to | 1 10½ |
| Half-bred ditto .. | 1 11 | — | 2 0½ | Ditto Hoggs .. | 1 10½ | — | 1 11½ |
| Down Ewes .. | 1 10 | — | 1 10½ | Combing Skins .. | — | | .. |
| Kent Fleeces .. .. | | — | 2 0 | Flannel Wool .. | 1 4 | — | 1 9 |
| | | | | Blanket ditto .. | 0 9 | — | 1 0 |

THE COLONIAL WOOL SALES.—These sales terminated on the 1st. The whole series has realised fair prices, with some irregularity, in consequence of the different phases of the money market during its progress; but on the whole more regularly than might have been expected.

### HOPS.—BOROUGH MARKET, FRIDAY, Dec. 4.

Messrs. Pattenden & Smith report a steady demand for Hops of all descriptions, with a very bare supply of fine samples, which are held for higher prices. Currency:—

| | | | |
|---|---|---|---|
| Mid and East Kents, p. cwt. | £5 0 to | £7 0 to | £9 0 |
| Weald Kents .. .. .. | 4 4 — | 5 5 — | 6 0 |
| Sussex .. .. .. .. | 4 0 — | 5 0 — | 5 15 |

### METROPOLITAN CATTLE MARKET.

MONDAY, Nov. 30.

We have a very short supply of Beasts, and favourable weather causes a considerable demand. Prices are higher for all kinds. The number of Sheep is about the same as on Monday last. Trade is more active, and a clearance is readily effected at higher rates. Good Calves are scarce and dearer. From Germany and Holland there are 1660 Beasts, 6040 Sheep, and 263 Calves; from Spain, 60 Beasts; from Ireland, 500; and 2260 from the Northern and Midland Counties.

| | s d | | s d | | s d | | s d |
|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 5 0 | to | 5 4 | Best Long-wools | 5 6 | — | 5 8 |
| Best Short-horns | 4 8 | — | 5 2 | Do. Shorn .. .. | .. | — | .. |
| 2d quality Beasts | 3 0 | — | 4 2 | Ewes & 2d quality | 4 6 | — | 5 0 |
| Best Downs and Half-breds .. | 5 10 | — | 6 0 | Do. Shorn .. .. | .. | — | .. |
| Do. Shorn .. .. | .. | — | .. | Lambs .. .. | .. | — | .. |
| | | | | Calves .. .. | 3 4 | — | 5 2 |
| | | | | Pigs .. .. | 3 0 | — | 4 8 |

Beasts, 4970; Sheep & Lambs, 19,230; Calves, 270; Pigs, 290.

THURSDAY, Dec. 3.

We have a very short supply of Beasts, and a fair demand, consequently Monday's quotations are well maintained, and a good clearance effected. The number of Sheep is unusually small; they are readily disposed of at fully late rates. Good Calves are scarce, and dearer; prices have advanced a little on all descriptions. Our foreign supply consists of 470 Beasts, 1170 Sheep, and 155 Calves. Milch Cows, 35.

| | s d | | s d | | s d | | s d |
|---|---|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 5 0 | to | 5 4 | Best Long-wools. | 5 6 | — | 5 8 |
| Best Short-horns | 4 8 | — | 5 2 | Do. Shorn .. .. | .. | — | .. |
| 2d quality Beasts | 3 2 | — | 4 2 | Ewes & 2d quality | 4 6 | — | 5 0 |
| Best Downs and Half-breds .. | 5 10 | — | 6 0 | Do. Shorn .. .. | .. | — | .. |
| Do. Shorn .. .. | .. | — | .. | Lambs .. .. | .. | — | .. |
| | | | | Calves .. .. | 3 8 | — | 5 6 |
| | | | | Pigs .. .. | 3 0 | — | 4 8 |

Beasts, 935; Sheep & Lambs, 2840; Calves, 189; Pigs, 170.

### MARK LANE.—MONDAY, Nov. 30.

The supply of Wheat from Essex and Kent to this morning's market was very small, and disposed of at an improvement of 1s. per qr. upon the prices of this day se'nnight. The attendance was good, but business in foreign Wheat limited; on the sales effected, however, an advance of 1s. per qr upon last Monday's prices was established. Malting Barley brings last week's quotations; grinding 6d. per qr. cheaper. Beans and Peas were 1s. per qr. dearer. The Oat trade was steady,

and good corn 6d. higher in value. Good American Flour is scarce, and 6d. per barrel dearer.

| Per Imperial Quarter | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk . . White | 42—48 | Red ..... | 40—48 |
| — — fine selected runs . . ditto | 44—52 | Red .... | 40—48 |
| — — Talavera ............. | 48—54 | | |
| — Norfolk ..................... | — | Red .... | — |
| — Foreign ..................... | 36—54 | | |
| Barley, grind. & dist., 26s to 28s . . Chev. | 34—38 | Malting . . | 30—38 |
| — Foreign . . grinding and distilling | 23—27 | Malting . . | 30—32 |
| Oats, Essex and Suffolk ............ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ..................Potato | 19—22 | Feed .... | — |
| — Foreign ......Poland and Brew | 18—22 | Feed .... | 15—20 |
| Rye ................................ | 30—32 | Foreign . . | — |
| Rye-meal, Foreign .................. | — | | |
| Beans, Mazagan ....28s to 36s . . . Tick | 30—34 | Harrow . . | 30—34 |
| — Pigeon .... 32s to 40s . . Winds. | — | Longpod | — |
| — Foreign ................Small | 36—42 | Egyptian | 30—32 |
| Peas, White, Essex and Kent . . Boilers | 36—38 | Suffolk . . | 36—39 |
| — Maple .... 34s to 36s .... Grey | 31—34 | Foreign . . | 32—40 |
| Maize ........................White | — | Yellow . . | — |
| Flour, best marks delivered . . per sack | 35—40 | | |
| — 2d do ..................... ditto | 28—34 | Country . . | 28—34 |
| — Foreign ........... per barrel | 15—25 | Per sack | 32—42 |

Friday, Dec. 4

The weather from the 27th to the 30th ult. was very fine, with frost. On the 1st it was again mild with heavy showers, and gale from the S.E., and has since blown heavily; to-day fine and calm. The Wheat trade during the week has continued to improve, and a further rise in prices of 1s. per qr. has been general. The farmers' supplies of Barley have again been very large, which has caused a decline of about 1s. per qr, throughout the kingdom, the finest malting qualities excepted. No quotable alteration has occurred in the value of Beans, but the prices of Oats and Peas have been firm, with an upward tendency. Since Friday last 29 vessels have been reported off the coast. The floating trade has been active during this week; Wheat has advanced 6d. to 1s., Maize 6d. per qr., but Barley is a trifle lower. Paris, Dec. 3.—Flour has remained firm, but there was little doing; yesterday, however, the market was more active. The six marks for delivery this month are quoted equal to 32s. 6d. per 280 lbs.; the present stock is estimated at 4500 cwt. Wheat is unaltered, but the large offers from the farmers make the trade inanimate. The arrivals of English grain this week have been small, of all descriptions of foreign as well as Flour moderate. To-day's market was unusually thinly attended. Both English and foreign Wheat were held at Monday's prices, which, however, must be considered nominal, as the business transacted was of a most trifling character. Spring Corn was steady at Monday's quotations.

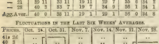
Arrivals this Week.

| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English . . | 850 qrs. | 1420 qrs. | 430 qrs. | 2180 sk. |
| Irish .... | — | 180 | 1340 | — „ |
| Foreign . . | 7470 „ | 2580 | 17,710 „ | { 600 „<br>{ 4260 brls |

Liverpool, Dec. 1.—We have had rather a fair attendance of millers and dealers at to-day's market, and Wheat must be quoted 1d. per cental dearer than on Friday, but the demand is scarcely so brisk as then, either for speculation or to hold over. Flour is held firmly for an advance of 6d. per barrel and sack. Indian Corn is offered quite sparingly, and the small business doing is at 6d. per qr. over late rates. Oats and Oatmeal extremely dull. Beans have improved 6d. per qr. Peas and Barley remain stationary.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Oct. 24 | 40s 0d | 33s 11d | 18s 7d | 28s 9d | 36s 5d | 35s 8d |
| — 31 | 41 2 | 34 0 | 18 11 | 28 0 | 35 8 | 35 2 |
| Nov. 7 | 40 0 | 34 2 | 18 7 | 28 0 | 35 10 | 35 0 |
| — 14 | 39 10 | 34 0 | 18 9 | 25 0 | 36 5 | 34 1 |
| — 21 | 39 11 | 33 11 | 19 11 | 29 7 | 35 6 | 34 2 |
| — 28 | 40 3 | 33 7 | 19 7 | 34 9 | 36 1 | 34 1 |
| Agg. Aver. | 40 0 | 38 11 | 19 1 | 29 1 | 36 0 | 34 8 |

Fluctuations in the Last Six Weeks' Averages.




Nursery Foreman.

WANTED, a thoroughly experienced WORKING FOREMAN and SALESMAN.—He must be well up in the Propagation and Management of Roses, Conifers, Hardy Trees, Shrubs, Fruit Trees, &c., and the general routine of Nursery work. To a clever intelligent Man a liberal salary will be given, with house. State age, where last employed, and references to ability, integrity, &c., in own handwriting, to Mr. Edwin Hollamby, Nurseryman and Seed Merchant, Tunbridge Wells, Kent.

WANTED, a competent GARDENER, who understands thoroughly the Management of Flower and Kitchen Garden and Vinery; who would be willing to undertake some house duties, go errands, &c. He must be a married man, without incumbrance, as his Wife would be required to assist occasionally at the house in Washing and Ironing.—Apply, stating age, wages required, name of last employer, &c., to M. B., Webster's Library, Redcar, Yorkshire.

WANTED, an active YOUNG MAN, acquainted with the Propagation of Soft-wooded Plants.—Apply by letter to Mr. Bruce Findlay, Botanic Garden, Manchester.

WANTED, as GARDENER, a Single Man, who understands the Flower and Kitchen Gardens; he will have also to attend to a Cow. Wages, 16s. per week, a bed on the premises, fire and light, and milk for his tea.—Address, F. M., Grove Lodge, West Mouisey, Surrey, S.W.

WANTED as SHOPMAN, a Young Man of good address, accustomed to the Retail Counter Trade.—Address, stating age, salary, and reference, Wm. Jos. Watson, The Hall Nurseries, Fenham, Newcastle-on-Tyne.

WANTED, a SHOPMAN.—One with some knowledge of Plants preferred.—Apply, stating age, experience, terms, and reference, to Stephen Brown, Sudbury, Suffolk.

WANTED, a SHOPMAN.—James Dickson & Sons require a SHOPMAN who is thoroughly efficient at the Counter, and also understands the neat and correct execution of Garden Seed Orders.—Address with references, age, where served apprenticeship, amount of experience, and salary expected. 102, Eastgate Street, Chester.

WANTED, by a gentleman near London, a STOCK MAN, thoroughly understanding his business, steady, active, and sober, accustomed to Milk, and to look after Sheep, Pigs, and Cows.—Apply at 42, Trinity Square, Tower Hill, E.C.

WANTED, by a gentleman near London, as COW and STOCK MAN, a strong, active, sober, honest Man, to look after Cows and Pigs. He must be married, without family; able to Milk and attend to Stock, also to kill Pigs and Sheep. Wages 15s. per week, with good cottage.—Apply by letter, J. L. C., Post Office, Finsbury Place, E.C.

WANTED, as COWMAN and CARTER, a steady active Man, who understands Milking, can take the charge of 2 Cart-horses, Build Hay Ricks, Thatch, and take Hay to London. Liberal wages will be given to a respectable man, and none but respectable people need apply.—Address, Captain D., Highwood House, Mill Hill, Hendon, N.W.

WANTED, a strong active LAD, who has been used to Farming, and who would have to Pump, &c., and make himself useful. A good reference for honesty will be necessary.—Address, Captain D., Highwood House, Mill Hill, Hendon.

## WANT PLACES.—Letters to be Post Paid.

GARDENER (Head).—Middle age, single, Scotch; has a practical knowledge of his profession in all its branches. Has been 13 years in his present situation, where he has been very successful in Growing Grapes and Wall Fruit.—William Miller, Gatton Park, Reigate, Surrey.

GARDENER (Head, &c.)—Age 41, married; has filled extensive situations. Good and long character.—A. B., 7, Cuthbert Street, Hall Park, Edgware Road, W.

GARDENER (Head).—Age 26, married, no incumbrance; thoroughly acquainted with his profession in all its branches. Two and a half years' good character.—A. B., Post Office, Stamford Hill, N.

GARDENER (Head).—Age 38, single; thoroughly acquainted with his profession; could undertake the Management of Meadow Land, Woods, &c. No objection to any part of England. Character and abilities unexceptionable.—J. Gadd, Woodside, Crawley, Sussex.

GARDENER (Head).—Middle-aged, single; testimonials from the Superintendent of the Royal Gardens, Kew, and others. Skilful in Forcing of all kinds. Wages, 30 guineas per year, and board, or board wages.—G. H., Mr. Rist, Library, Edward's Terrace, Kensington, W.

GARDENER (Head).—Age 34, single; practical knowledge of Grape, Cucumber, and Melon Growing, Stove and Greenhouse Plants, Flower and Kitchen Gardening. Six years' good character.—A. Z., Toler's, 119, Edgeware Road, W.

GARDENER (Head), late in the employ of Miss Gale of Andover (deceased), as entire Superintendent.—Age 30, married; thoroughly understands the Forcing of Pines, Grapes in Pots, Cucumbers, &c. First-class testimonials. Reference kindly allowed to Mr. McArthur, Maida Hill, and F. Gale, Esq., Parliament Street, and 11, Cadogan Place.—W. Hayes, Chantry Street, Andover.

GARDENER (Head).—Age 33; one of the most successful exhibitors at the Metropolitan Shows; possessing the very highest and best of character. Also testimonials and recommendations from previous employers and distinguished horticultural gentlemen; and is well known as a thoroughly practical energetic man.—W. H., 63, Hercules Buildings, Lambeth, S.

GARDENER (Head).—Geo. Scott (age 34, married), Gardener to the Right Hon. Wm. Hutt, M.P., Gibside, Gateshead, will be disengaged by the end of December, and will be glad to treat with any nobleman or gentleman requiring the services of a thoroughly practical Gardener. Two years' good character, and first-class testimonials from previous employers.—Address as above.

To Noblemen and Gentlemen.

GARDENER (Head).—Age 34, no incumbrance; well experienced and thoroughly practical in his profession in all its branches; wishes to engage with any nobleman or gentleman requiring a good Gardener; will be disengaged by the end of December, in consequence of a change in the establishment. Wife can take charge of Dairy if required. Five years unexceptionable character.—Thomas Larkin, Sunningdale, Berkshire.

To Noblemen and Gentlemen.

GARDENER (Head), age 34.—Mr. Ross, Gardener to the Earl of Carnarvon, can with confidence recommend a first-class Gardener. Has served in several of the best gardens in England. Understands Forcing Pines, Grapes, Flowers, and Vegetables; Erecting and Heating Hothouses. Has been engaged the last two and a-half years in the improvements of a nobleman's gardens. Testimonials unexceptionable.—Alpha, Mr. Ross, Highclere Castle, Newbury, Berks.

GARDENER (Head), age 32, no incumbrance.—Wm. Wood & Son are desirous of recommending a first-class Gardener, who thoroughly understands Forcing Pines, Grapes, Peaches, &c. and is quite conversant with the Culture of Orchids, Greenhouse, and Stove Plants, and the general routine of a Flower and Kitchen Garden; has had much experience in Laying-out New Grounds, also the Erection and Heating of Hothouses.—Wm. Wood & Son, Nurseries, Maresfield, Uckfield, Sussex.

GARDENER (Head), to any nobleman or gentleman.—Middle-aged, married, no incumbrance; thoroughly good and practical; understands the profession in all its branches, including Early and Late Forcing of Grapes, Melons, and Cucumbers; and is well versed in the Cultivation of Stove and Greenhouse Plants, also Flower and Kitchen Gardens. Wife an excellent Dairy and Poultry woman, if required. First class testimonials, and eight years' excellent character from the gentleman he has just left.—Mr. J. Waters, 2, Forest Hill Terrace, Forest Hill, Kent, S.E.

GARDENER.—Scotch; age 45, no incumbrance; has a thorough practical knowledge of his profession; also Land and Stock. Wife could manage Dairy and Poultry; or as Plain Cook.—A. B., Druce's Cottages, Mill Hill, Hendon, Middlesex.

GARDENER, to a nobleman or gentleman.—James Gould (age 40, married, no incumbrance). Gardener to the late E. W. Anderson, Esq., East Acton, London, W., will be at liberty to engage at Christmas. J. G. thinks it sufficient to say that he has been six years in his situation, having had the full and entire charge of the place, including Stock and Grass Land.

GARDENER (Under), for Improvement in his profession.—A persevering young man; would give a Premium for sound Instruction.—H. Y., Post Office, Nazing, Essex.

GARDENER, FORESTER, or MANAGER of Small Estate (age 47).—George Bissett, 13 years Gardener at Woolley Park. Good character from present and previous employer, and all other necessary information had on application. Leaving Woolley Park, Wantage, Berks, Jan. 1, 1864.

STEWARD and GARDENER.—Single; the Advertiser is in want of a SITUATION in the above capacities. He has had the Management of a large Estate; a good knowledge of Draining Plantations, Repairs, &c., with a thorough knowledge of Gardening in all its branches. A good character from the nobleman he has lately left, and undeniable testimonials can be seen.—Address, Messrs. Ivery & Son, Dorking, Surrey.

To Noblemen and Gentlemen.

STEWARD, FARM BAILIFF, or GENERAL MANAGER.—Age 36, married; has a thorough practical knowledge of Farming in every branch: Breeding, Rearing, Fattening, Buying and Selling all kinds of Stock, well understands Draining, Building, Woods, &c.; the Measurement of Land, Timber, Collecting of Rents and Book keeping, &c. First-class testimonials and reference to the gentleman he is now with.—A. C., Gatten Lodge, Pulverbatch, Salop.

FARM BAILIFF or STEWARD.—Married; highly respectable; has a good practical knowledge of Farming, the Rearing and Feeding of Stock. Can undertake Levelling, Draining, Fencing, and Road making; measure Timber, Sawyers', and other Estate work, and has a good knowledge both of Farm and Estate Accounts. Good references given.—A. B., Post Office, Tenbury, Worcestershire.

SHOPMAN (in Seed Trade).—First-class reference. Good experience.—X. Y., *Gardeners' Chronicle* Office, W.C.

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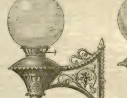

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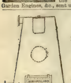


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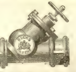

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# News of the Week.

THE KING of DENMARK published a proclamation on Monday, withdrawing the Royal Patent of the 30th March, which was supposed to be the chief pretext for the threat of Federal Execution in Holstein. Notwithstanding this conciliatory measure, the German Governments appear determined to proceed to Federal Execution. In the Austrian Reichsrath on Friday, Count RECHBERG made a formal declaration on the subject of the Danish Duchies, which mainly corresponded with that made last week by Count VON BISMARCK to the Prussian Chamber. He said that Austria is not prepared without mature consideration to countenance the claims of Prince FREDERICK of AUGUSTENBURG, but is ready to maintain her share of the Treaty of London, if Denmark will fulfil her engagements under the same treaty. At the same time, she is ready to join Prussia in at once taking steps to carry out Federal execution. The Federal Diet on Monday adopted, by a small majority, the resolution for Federal execution in Holstein, reserving to itself the settlement of the question of the succession; and the PRESIDENT subsequently notified to the Danish Government that if within three days Denmark did not comply with the demands of the Diet, Federal troops would enter the Duchy. The Prussian Government on Wednesday demanded of the Chamber of Deputies a loan of 12 million thalers to meet the expense of the proposed execution, and the Austrian Government are about to demand from the Reichsrath an extraordinary credit of 15 million florins to meet the expenses of the expedition. In the Wurtemburg Chamber of Deputies on Thursday an address to the Government was adopted, requesting them to propose in the Federal Diet the immediate occupation of Schleswig, and the proximate recognition of Prince FREDERICK'S rights of succession; and a subsequent motion for a solemn protest against the maintenance of the London Treaty was carried by 78 to 3. The latest news states that an Austrian regiment left Prague on Thursday for Theresienstadt, where the execution troops are to assemble preparatory to their departure for Holstein, and that the whole of the Austrian contingent will march on the 15th inst. Meanwhile we learn from Copenhagen that the Danish Council of State resolved on Saturday to regard any occupation of Holstein as a declaration of war, while the majority of the municipal councils and nearly all the officials of Schleswig have testified their loyalty to King CHRISTIAN by congratulatory addresses, or by taking the oaths of allegiance to HIS MAJESTY.

The Swedish Diet was closed on Tuesday with a Speech from the Throne, in which HIS MAJESTY expressed his anxiety for the maintenance of peace in Europe, and his sympathy for Denmark. A subsequent despatch from Copenhagen states that Sweden has since withdrawn from the Danish alliance, on the ground that as the quarrel between Denmark and Germany concerns the London Treaty, Sweden cannot separate herself from the other Powers who signed that Treaty.

Accounts from Corfu state that great excitement has been caused by the proposal to demolish the fortifications of that Island, and that the Ionian Parliament and Municipalities have sent delegates to Athens to present to the King a protest against the stipulations of the Treaty providing for the destruction of the fortifications and the neutralisation of the Ionian Islands.

The Italian Chamber of Deputies on Thursday, after several days' debate, adopted by a majority of 206 to 52 a motion approving the conduct of the Government in regard to Sicily.

From the United States we learn that the Confederates, under General BRAGG, have sustained a severe defeat at Chattanooga in a series of battles, which took place on the 23d, 24th, and 25th of November. General GRANT, having attacked the left and right of the Confederate position, General BRAGG weakened his centre for the purpose of supporting his wings, upon which General GRANT suddenly attacked the centre in great force, and drove it back. This movement necessitated the retreat of the right and left wings, leaving the Federals in possession of Look-out Mountain and Missionary Ridge. The result was the total rout of General BRAGG'S army and its retreat towards Dalton, hotly pressed by the Federals, who captured from 50 to 60 guns and several thousand prisoners. The Northern accounts, indeed, go so far as to say that BRAGG'S army was entirely destroyed. Meanwhile General BURNSIDE'S army is still shut up in Knoxville, and General LONGSTREET has pushed his rifle pits up to the Federal works, though he has not yet made any assault upon the city. It is said, however, that General GRANT has followed up his victory by detaching General SHERMAN'S corps in order to operate against LONGSTREET, and thereby create a diversion in BURNSIDE'S favour. Accounts from Charleston state that the Federals had been repulsed in a demonstration of rafts against Fort Sumter, though the sea-wall of the fort had been destroyed. General MEADE having received positive orders to attack General LEE crossed the Rapidan with his whole army on the 26th and 27th ult. without opposition. On the 28th heavy cannonading was heard all day near Orange Court House, but no particulars of the engagement had been received at New York at the departure of the last packet.

A telegram from Suez in anticipation of the Overland Mail states that affairs were quieter in Japan; that General CAMERON has successfully attacked the position of the Maories in New Zealand, and that Major GORDON has had some successes over the rebels in China.

We regret to state that the worst anticipations respecting the Earl of ELGIN have been realised. A private telegram reached London yesterday evening announcing that his lordship died at Dhurmsalla on the 20th of November.

# Home News.

THE COURT.—The Queen and Royal family continue at Windsor Castle. On Friday morning the Queen, accompanied by Princess Louisa, walked and drove in the grounds. The Crown Prince and Princess of Prussia came to London. Pomari, the Maori chief, with his wife and infant child to whom the Queen has been graciously pleased to be godmother, had the honour of an interview with her Majesty, previous to their return to New Zealand. The Earl and Countess of Clarendon, and Lady Constance Villiers, left the Castle. The Earl of Malmesbury arrived on a visit. In the evening the Queen had a dinner party. On Saturday morning the Queen, accompanied by the Crown Princess of Prussia, drove in the grounds. The Earl of Malmesbury and Lord Sydney left the Castle. Sir Charles Wood had an audience of the Queen, and presented Sir John Lawrence, on his appointment as Governor-General of India. Lord Wodehouse and the Right Hon. W. E. and Mrs. Gladstone arrived on a visit. Lord Wodehouse had an audience of the Queen. In the evening the Queen had a dinner party. On Sunday morning the Queen, the Prince and Princess of Wales, the Crown Prince and Princess of Prussia, Princess Helena, Princess Louisa, Prince Leopold, and the Princess Hohenlohe attended Divine service in the private chapel. The Rev. C. Tarver preached the sermon. On Monday morning the Queen walked and drove in the grounds. Princess Louisa took a carriage drive. The Crown Prince and Princess of Prussia came to London. The Queen, accompanied by Princess Helena, Princess Louisa, Princess Beatrice, and the Princess Hohenlohe, drove to the New Lodge, and honoured the Belgian Minister and Madame Van de Weyer with a visit. On Tuesday her Majesty held a Privy Council, at which the Prince of Wales, by command of the Queen, was introduced, and took his place at the Board. Sir William Gibson Craig, Bart., Lord Clerk Registrar and Keeper of the Signet in Scotland, by command of the Queen, was sworn a Privy Councillor. Earl Granville, the Duke of Somerset, and Lord Palmerston had audiences of Her Majesty. Mutu Coomara Swamy, a native of Ceylon, and Member of the Legislative Council, was presented to the Queen at an audience by Earl Russell, to deliver a book which he had received permission to dedicate to Her Majesty. The Duke of Brabant arrived on a visit to the Queen. The Lord

Chancellor arrived at the Castle, and had an audience of the Queen. In the evening the Queen had a dinner party. On Wednesday morning the Duke of Brabant left the Castle for Frogmore House. On Thursday morning the Queen walked in the grounds. Her Majesty and the Princesses honoured Mr. Frith with a final sitting for the marriage picture.

THE PRINCE AND PRINCESS OF WALES.—On Friday morning the Prince went out hunting with the harriers. In the afternoon the Princess drove out. On Monday morning the Prince arrived in town, accompanied by the Prince of Prussia, and visited the Cattle Show. His Royal Highness afterwards went to Marlborough House, and visited the establishment of Mr. C. Hancock, in Bruton Street. In the evening the Prince, accompanied by the Crown Prince of Prussia and the Duke of Brabant, honoured the performance of "Bel Demonio" at the Lyceum Theatre. The Princess dined with the Queen at Windsor Castle. On Tuesday morning the Prince went out hunting with the harriers. On Wednesday the Prince honoured Mr. R. Dowling, commissioned by the Tasmanian Government, with a sitting for his portrait. Mr. Morton Edwards, commissioned by the corporation and town of Toronto, was also honoured with a sitting for a bust of his Royal Highness. In the evening the Crown Prince and Princess of Prussia dined with the Prince and Princess of Wales. On Thursday morning the Prince presided at a meeting of the Council of his Royal Highness, held at the office of the Duchy of Cornwall. The Duke of Brabant left Frogmore House for the Palace Hotel, Buckingham Gate.

PRINCE ALFRED, accompanied by Prince William of Hesse, dined with the Countess Dowager of Morton at Dudingston House on the 2d inst., and on the following day dined with the Lord Provost of Edinburgh at his private residence. On Sunday Prince Alfred attended Divine service in Old Greyfriars' Church, Edinburgh, and Prince William of Hesse attended Divine service in the German Church, in Upper Queen Street Hall.

THE CROWN PRINCE AND CROWN PRINCESS OF PRUSSIA are expected to leave Windsor on the 15th inst., on their return to Berlin through Brussels and Carlsruhe. Their Royal Highnesses will probably reach Berlin on the 20th inst.

DEPARTURE OF SIR JOHN LAWRENCE.—Sir John Lawrence, the new Viceroy of India, and suite left London on Wednesday evening for Marseilles, where his Excellency will embark for Alexandria, on his way to Calcutta.

THE INDIAN COUNCIL.—Sir George Russell Clerk, late Governor of Bombay, has been appointed to the seat in the Indian Council vacant by the appointment of Sir John Lawrence to the Viceroyalty of India.

SPECIAL MISSION TO DENMARK.—Lord Wodehouse has been appointed to proceed to Copenhagen, to congratulate King Christian IX. on his accession to the throne. His lordship, who left town on Wednesday for Copenhagen, has also been furnished with instructions from Her Majesty's Government on the affairs of the Danish Duchies.

COLONIAL APPOINTMENT.—The Queen has appointed Arthur Edward Kennedy, Esq., C.B., to be Governor and Commander-in-Chief of Vancouver Island and its dependencies.

THE CHANNEL FLEET.—The eastern division of the Channel fleet, comprising the Edgar, 74, bearing the flag of Rear-Admiral Dacres; the Warrior, 40, iron frigate; and the Resistance, 16, iron frigate, was expected to sail from Spithead yesterday for Plymouth, where it will be joined by the western division, and receive sailing orders for the next cruise. At Plymouth the Resistance will be detached from the squadron and proceed to the Mediterranean, where, according to present orders, she will complete her term of commission.

THE DEANERY OF WESTMINSTER.—The Rev. Dr. Wordsworth, one of the canons residentiary of Westminster Abbey, has issued a long statement in the form of a protest against the admission of the Rev. Dr. Stanley to the deanery of Westminster, on the ground that his published writings tend to unsettle the faith in the truth and inspiration of the Holy Scriptures. The following are extracts from this document:—

"For Dr. Stanley personally I entertain the most sincere regard. Nearly 30 years ago I had the opportunity of seeing the proofs of his abilities, and have a pleasing recollection of being instrumental at that time, together with a learned and honoured friend, in adjudging to him the highest intellectual distinction which the great public school where he was educated had to bestow, and in common with many others I have rejoiced to see the promise of his early years fulfilled by the literary fruits of his riper years. If picturesque gracefulness of style, and attractive charms of manner, were adequate qualifications for admission to the highest offices in the Church of England, few would have better claims to them than Dr. Stanley. But this is not the case. Other gifts are requisite, and if intellectual gifts are associated with erroneous opinions concerning the fundamental truths which the Church of England is commissioned to teach, then those intellectual attainments render the errors with which they are associated more dangerous. It cannot be disguised that Dr. Stanley has given scandal to many by statements in his recently-published writings, tending, in their opinion, to unsettle the faith in the truth and inspiration of the Holy Scriptures of the Old and New Testament. It is also true that when persons holding erroneous opinions on such subjects as these are promoted to high stations in the Church, the Church itself has to endure injury and insult at the hands of those who do not love her. They taunt her with cowardice and indifference to the truth. They assert that while she professes to be zealous for the faith, she has not boldness to maintain it, nor courage to suffer for it. Therefore, they allege, her claims to be recognised as the national teacher of the Christian faith are vain boastings and idle pretences. The melancholy consequence is that many of her children are thus tempted to fall away from her communion, and to lapse into that of another Church, which is ever ready and eager to exaggerate her failings and to exult over her sorrows. It is with a deep and solemn conviction that I have a duty to perform, however painful it may be—a duty to the divine head of the Church—a duty to the Church of England—a duty to the Church of Westminster, in which I have been permitted to minister for 19 years, and a duty even to him who has now been designated to the highest office in that church, that I write these words. The church of Westminster is losing the presence and counsel of one who has ruled it with wisdom, piety, and love for seven years. And now, as canon in residence, I find myself charged with the principal duty of officiating in the sacred services of this church till the end of the present year. It seems, therefore, that if there is a call upon anyone to speak in this matter, that person is myself. I am not, also, without some hope that, by the blessing of God upon what is said, some offences may be removed which otherwise might be fatal to many; some explanation may be given which may calm troubled consciences, and some preparations may be made for the better maintenance of the truth, and also for the preservation of peace in this venerable institution within whose walls I now write. In reply to what I have said concerning the distress caused to many devout minds by certain passages in Dr. Stanley's published writings, it may perhaps be objected that I am only echoing the vague rumours and ill-defined charges of certain religious partisans. It is, therefore, my duty to avow that I share those feelings which I have ascribed to others." Dr. Wordsworth concludes by stating, with much detail, the terms on which a person is admitted to the place of dean in the church of Westminster—viz., on his publicly declared assent and consent to the formularies, and on his subscription to the Articles of the Church of England. "In Dean Stanley's case," he continues, "that assent and consent may, we would fain believe, be charitably construed into a public retractation and recantation of whatever in his writings can be shown by fair and reasonable demonstration to be at variance with those formularies and Articles of the Church."

THE COURT MARTIAL ON COLONEL CRAWLEY.—The Court at Aldershott re-assembled on Monday for the sixteenth time. A good deal of time was consumed in the earlier part of the day in discussing the legality of admitting as evidence certain statements made to Surgeon Barnett by Mrs. Lilley with regard to the drinking habits of her husband. That evidence, it may be remembered, was warmly objected to by the prisoner on a former occasion, and it was ultimately agreed to refer the question to the Judge Advocate General as to its legal admissibility. The remainder of the sitting was taken up with the cross-examination by the Court of Sergeant Mills and Lieutenant Fitzsimon, the former of whom gave evidence of his having seen the Sergeant-Major intoxicated on several occasions in England, in the Crimea, and in India. On Tuesday the medical officers were again examined with reference to the consumption of brandy in the quarters of Sergeant-Major Lilley. Colonel Horsford then announced the close of the prosecution, whereupon Colonel Crawley said that he would only supply a few missing links in the evidence, which was substantially as much the case for the defence as for the prosecution, and after this he would request an adjournment for the preparation of his address. On Wednesday a long historical memoir of the 6th Dragoons, from the pen of Sir Hugh Rose, written for the information of his Royal Highness the Commander-in-Chief, was read after a long discussion with reference to the reception as evidence of written documents. Colonel Crawley then called his witnesses, one of whom, a Parsee merchant, produced his accounts to show that he supplied a considerable quantity of liquor to Sergeant-Major Lilley, and that he was in the habit of drinking freely. On Thursday the Court decided on not receiving evidence to test the credibility of the native merchant. Colonel Crawley then requested an adjournment, to afford him time to prepare his address. The Court acceded to this request, and adjourned the inquiry to Thursday next, on which day several officers of distinction will attend to give evidence of Colonel Crawley's reputation and character, after which his written address will be read to the Court.

# Foreign.

FRANCE.—The Emperor arrived at the Tuileries on Saturday afternoon from Compiègne. M. Drouyn de Lhuys was immediately summoned and had a long interview with his Majesty. On Sunday the Emperor presided at a Ministerial Council, and afterwards returned to Compiègne. It is said that the Emperor and Empress have determined to prolong their stay there until the 20th inst., and that a fifth series of invitations have been issued, one of which is addressed to Count Kisseleff, late Russian Ambassador to the Court of the Tuileries. The reading of the draught of the Address, in reply to the Imperial Speech, took place on Tuesday in the Senate. The following is a summary of its contents:—

After speaking of the devotion of France to the Imperial family, it says respecting Mexico that the primitive object of the expedition was not to create an empire under the sceptre of a foreign Prince, but to defend our honour and our interest, both of which were menaced. It expresses a hope that the war indemnity to be paid by Mexico will cover the advances made. It eulogises the initiative taken by the Emperor on the subject of the Congress, and says that, though England has decided that she will abstain from taking part in the Congress, her exceptional position allows her, perhaps, to be less sensible than his Majesty of the dangers of the *status quo*, but the other Governments can only gain by establishing a state of things which will no longer be menaced nor misunderstood, whatever happens. In conclusion, it says that the country will not disavow the words of his Majesty, "I speak in the name of France."

The debate will commence on Monday. The *Moniteur* has published the answers of the Emperor of Russia, the Emperor of Austria, the King of Saxony, the King of Wurtemberg, the King of the Belgians, the King of Italy, the King of the Netherlands, the King of Prussia, the King of Hanover, the King of Bavaria and the Pope, to the letter of invitation to the Congress The following is an abstract of these documents:—

"The Czar in his letter claims for himself the original idea of concert between the Sovereigns intrusted with the destinies of nations as the best means of putting an end to the general disquiet of Europe. In proof of his good intentions he appeals to all he has already done in reducing his armaments, abolishing compulsory enlistment throughout his empire, and introducing other important reforms. If he has suspended these beneficial measures, or reverted to the ancient system, it was owing to the events which menaced the tranquillity and even the integrity of his States. He asks for nothing better than to be allowed to resume the reforms upon which he had entered; and the moment for doing so can only be hastened by the subsidence of agitation in Europe. He says that while the repose of the world does not consist in immobility, it is not to be attained by 'the instability of political combinations, which each generation would be called upon to undo, and to recommence according to the passions and the interest of the moment, but rather by the practical wisdom which imposes on all respect for established rights.' He would, of course, feel very happy if the Emperor Napoleon's plan led to a frank understanding among the Sovereigns; but that can only result from the assent of the other Powers, and that assent depends on the Emperor's laying before them the precise questions they have to examine, as well as the bases on which the understanding is to be established.—The Emperor of Austria says that if the questions to be discussed be indicated beforehand, and the Powers agree upon the tendency of the deliberations of the Congress, unforeseen accidents, which might overthrow everything, would be less to be feared. The French Government, however, should point out the improvements it considers desirable, for certain remedies might be more dangerous than the evils themselves. The programme of the Congress must fulfil all the conditions for the maintenance of peace, which is the principal object to be attained.—The King of Saxony in his letter says that he would be delighted to assist in the realisation of the Emperor's magnanimous designs if the Cabinets of Europe agreed to do the same; if Germany, 'and above all, its two great Powers, as the leaders,' associated themselves in the work.—The King of Wurtemberg writes that he is struck with admiration of the 'noble intentions' of his Imperial brother, and would endeavour to promote the favourable disposition of the Congress towards the projects of his Majesty, 'unless such of the Powers of Europe whose co-operation must be considered indispensable to the settlement of the questions to be laid before the Congress should, after more precise information from the Tuileries, raise obstacles of a nature to cause the project of an European Congress to be abandoned." His Majesty politely thanks the Emperor for his offer of hospitality in Paris, and assures his "good brother" of his high esteem and inviolable friendship.—The King of the Belgians writes that, without at present expressing an opinion upon the means of coming to an understanding with the different States interested to attain without a collision so noble an object, he is happy to assure his Majesty that his Government would be quite inclined to join in it in so far as it could do so.—The King of Italy says that he adheres with pleasure to the proposal, that his concurrence and that of his people are assured to the realisation of the project, which will mark a great progress in the history of mankind; and that as soon as the international Conferences take place he will take part in person, or at least send a representative.—The King of the Netherlands writes that he responds to the generous idea of his Majesty, and is willing to join all the other Sovereigns of Europe in realising the noble object his Majesty has in view."—The King of Prussia declares himself ready to participate in a Congress in order to effect any necessary modification in the Treaties of 1815, which no longer form the foundation of the political edifice on which Europe rests. He thinks, however, a previous accord upon the principle of the Congress should be established among the Powers, in order to smooth away, by prudent negotiations, difficulties which might bring forth germs of discord in a work altogether devoted to conciliation and peace.—The King of Hanover hopes that Germany, especially Austria and Prussia—who in this question have interests from which he cannot separate those of the Kingdom of Hanover—will be enabled to afford her support to the task his Majesty has imposed upon himself, and in that case it will give the King real pleasure in co-operating, as much as possible, in the realisation of the work which the Emperor has undertaken.—The King of Bavaria adheres to the proposition on the supposition and belief that the proposal, followed by subsequent explanations on the subject, will be received by the Powers directly interested in the solution of these questions in the manner which is indispensable to assure its success.—The Pope concurs in the project, in order that justice may be re-established, violated rights vindicated, and the pre-eminence of the Catholic faith may be re-established, especially in Catholic countries.

The *Presse* publishes a long letter signed Emile de Girardin, and addressed to Earl Russell, in reply to his letter of the 25th ult. M. de Girardin admits the force of the objections to a Congress *ante bellum*, on condition that a mere efficaciously practical means be proposed; "but," he adds:—

"You propose absolutely nothing. Assuredly you will not be charged with having ruined yourself by the luxuriance of your imagination. You have deserted a thoroughly English policy in rejecting the proposition of France. You will regret it bitterly. Looking at the haste you have made to take a path opposed to that of Lord Clarendon, the world will say that some jealousy has slipped in between you and your predecessor or rival."

The *Mémorial Diplomatique* remarks upon a statement of the Frankfort *Europe* that a conference of the four great Powers and Sweden is proposed in London to settle the Dano-Germanic question, and says that—

"France is quite decided not to take part at present in any other Conference than an European Congress. As for Austria and Prussia, their firm resolution of immediately proceeding to Federal execution in Holstein excludes all idea of their participation in a Congress."

The *Pays* and the *Nation* state that it was on the demand of England and Russia in concert that Denmark has withdrawn the Royal patent of March 30. Three ships are now being armed to form a small naval division to blockade the coasts of Mexico as far as Acapulco. It is said that the Bank of France has not yet been affected by the action of the Bank of England. The cash balance of the former was 211,000,000f. on Wednesday morning, being a rise of 1,000,000f. since Tuesday. First-class bills were discounted at $6\frac{1}{4}$ per cent. A decree has been published suspending the *Progrès*, a Lyons paper, for two months, on account of the summary it has given of the proceedings in the Corps Législatif. The *Nation* has received a first warning for an article signed by M. Dupont, entitled, "Where are the friends

of the Government?" The reason given for the warning is that the article insults and calumniates the Government of the Emperor.

Spain.—The *Gazette* publishes a decree organising the financial administration of the Antilles. Disunion prevails among the members of the Opposition, and the position of the Ministry has been thereby strengthened. The Bank of Madrid has contracted a loan with the house of Rothschild for 100,000,000 reals in silver ingots. The Minister of Finance has stated that provision has been made for the payment of the half-yearly dividend of the home and foreign debt. The *Correspondencia* denies that the question of the settlement of the coupons of the foreign debt will be brought before the Cortes. The war steamer Alava has been lost near the Canary Islands.

Portugal.—Marshal Forey landed at Lisbon on the 3d inst., and paid a visit to his Majesty Dom Fernando on Friday. He was to leave on Sunday for St. Nazaire. Serious election riots have taken place near Oporto.

Sweden.—The Diet was closed on Tuesday with a speech from the throne. His Majesty said:—

"Our interests are not yet immediately threatened, but they are connected with the maintenance of peace and the rights of nations in Europe. The Swedish nation feels deep sympathy and sorrow for the dangers which impend over the King and people of Denmark."

A despatch from Copenhagen, dated yesterday states that Sweden has since withdrawn from the alliance with Denmark. The reason put forward, according to the *Dagbladet*, is that, as the quarrel now pending between Denmark and Germany concerns the London Treaty of 1852, Sweden cannot separate herself from the other Powers who signed the treaty.

Denmark.—The *Nation* of Wednesday evening asserts that King Christian is indisposed, and that his Majesty's condition inspires uneasiness. It was resolved in the Council of State on Saturday to regard any occupation of Holstein as a declaration of war. The mortal remains of the late King Frederick VII. have arrived in Copenhagen, and have been deposited in the church of St. Saviour, where they will remain in state till Wednesday, the 9th. King Christian IX. was to leave on the 22d, with all the Princes of his family, for Roskild, and the funeral ceremony was to be performed on Christmas Day with great pomp. The body of the late King will be consigned to the vaults, and his heart placed in the church of Roskild, where a magnificent mausoleum of white marble will be erected to his memory.

The Danish Duchies.—The Danish Government has withdrawn the Royal patent of the 30th of March. The proclamation to that effect was officially published on Monday. The *Dagbladet* strongly censures the Government for having yielded on this point. According to the *Dagbladet*, Count Moltke's demand that the Constitution should be declared provisional has been rejected by the King. It is said that King Christian has sanctioned the electoral law proclaimed by the constitution of the 18th November. The official *Gesetzblatt* publishes a Ministerial rescript referring to the oath of allegiance refused by the public functionaries. The Ministry is awaiting reports and proposals from the Holstein Goverment on that question. The import of arms and munitions into Holstein is prohibited. The following proclamation of King Christian IX. to the Holsteiners was published on Sunday:—

"The order of succession to the Danish monarchy was intended to be a labour of peace, undertaken by us without personal ambition, in the sole hope of serving the country. It has been accepted as public European law, because the integrity of the Danish monarchy was recognised as being a necessity to European peace. Opposition, under the mask of unfounded hereditary claims, has, however, been raised against the measure, purposing the dismemberment of the Danish monarchy. This opposition has also gained ground in Holstein, calling forth excitement and doubt. The maintenance of the monarchy is one of our most important duties as a ruler. We cannot suffer officials to foster opposition, and are resolved to put down insurrectionary movements with armed force. The endeavours of many years to bring about an understanding upon the constitutional relations of the entire monarchy have not been attended with success. While, however, we intend to give to the territories belonging to the German Confederacy an independent position in the kingdom, as has already been accomplished with the remaining portions of the monarchy, we hope that when Holstein finds herself contented in constitutional freedom, and the pretext for foreign interference is thus removed, she will voluntarily incline to nearer connection with the remainder of the country"

The nobility and peasantry and the Legislative Assembly of the duchy of Lauenburg held a meeting on Friday, and passed a resolution declaring their intention to remain faithful to Denmark and to recognise King Christian. A Royal proclamation has been issued to the Lauenburgers, thanking them for not having been led away from their duty as subjects in spite of overtures from without. The Finance Minister of the Duke of Augustenburg has issued bonds for a loan bearing no interest, and the amount of which is not fixed. The bonds are for 25 thalers each. The Minister proposes to submit to the Holstein States the mode in which the loan is employed. The bonds circulate at Frankfort, a citizen of which town has subscribed for 20,000 florins.

Frankfort.—At the sitting of the Diet on the 3d the representatives of Austria and Prussia pressed for execution in Holstein. The other German Governments represented in the committee desired simply occupation of the Duchy. In the sitting of Monday the representatives of Weimar and Saxe-Meiningen introduced a proposition that neither the King of Denmark nor the Duke of Augustenburg should be recognised as the Sovereign of Lauenburg, but that the Federal Diet should take that duchy under its own administration. This proposition was referred to the committee. The Bavarian representative then insisted on the motion for the occupation of Holstein, as distinguished from Federal execution, being passed by the Diet. After a long discussion, the Diet passed by a small majority the resolution for Federal execution in Holstein, reserving to itself the settlement of the question of the succession. The order for the advance of troops into the duchy is said to have been immediately despatched. It has since been stated that the President has notified to the Danish Government that if in three days Denmark does not comply with the demands of the Diet, Federal troops will enter Holstein.

Wurtemberg.—At the sitting of the Chamber of Deputies at Stuttgart, on Thursday evening, it was unanimously resolved to forward an address to the Government, requesting it to propose in the Federal Diet the immediate occupation of Schleswig, and the dismissal of the Federal contingent of Holstein and Lauenburg troops to their homes. The address is also to include a request for the proximate recognition of Duke Frederick's right of succession, and that the Government will advocate such recognition by the Federal Diet by every means in its power. An additional motion by Herr Seegers for a solemn protest against the maintenance of the London protocol was carried by 78 to 3.

Prussia.—In the Chamber of Deputies on Wednesday, the Finance Minister brought in a Bill authorising a loan of 12,000,000 thalers to meet the expense of extraordinary military measures caused by the present state of things in Schleswig and Holstein. The Minister requested the speedy deliberation of the Chamber on the measure.

Austria.—In the sitting of the Lower House of the Reichsrath on Friday, Count Rechberg made the following statement:—

"Austria and Prussia would not be at once released from the obligations of the London protocol—at any rate, not in their quality of European Powers, by the mere fact that the German Confederation had not been invited to accede to the protocol. The engagements of Denmark must also be taken into consideration for the true understanding of the Holstein question. If, relying upon the Treaty of London, Denmark appeals to Austria and Prussia, both Powers are entitled to reply that Denmark must first fulfil the conditions upon which the legal obligation claimed is based. This case has now occurred. Austria and Prussia owe it to themselves, in view of the provocations of Denmark, to proceed without delay to carry into effect the execution already determined. With this measure the express reserve of the right to examine the hereditary succession may be unhesitatingly combined. At the first notice from Frankfort, Austria is ready to order the advance of the required number of troops upon the Lower Elbe. The point of right in the succession question is not clearly and plainly visible. The subject needs thorough legal investigation, the matter in dispute depending upon a formal judicial decision. The deliberations of a Conference cannot, then, extend beyond the boundary of the Federal territory, and the decision of a tribunal must not be anticipated by a one-sided proceeding against the *de facto* possessor. The Dukes of Augustenburg raised claims not only to Schleswig and Holstein, but also eventually to the countries under the rule of the House of Oldenburg. The possibility was therefore not excluded that Germany might plunge into an European war simply that an Augustenburg Duke might reign instead of a Glucksburg. The Government attached the utmost value to the combined action of Austria and Prussia. It was resolved to maintain respect for rights and treaties intact, and not less firmly determined to uphold the interests of Germany and of German kindred in the north with all its strength within legal limits."

Count Rechberg's reply was unfavourably received by the House, and in the sitting of the next day several members declared that it was not satisfactory, and that the time had now come to realise in acts the words advocating German unity and reform lately spoken by the Emperor of Austria at Frankfort. Count Rechberg, in reply, said:—

"He did not consider the London protocol as the legal basis of the relations of the Duchies to Denmark, but only in so far binding as Denmark also fulfilled her engagements. Had Austria wished to make a demonstration of armed strength she would have been long since involved in war. He then detailed the negotiations which had taken place in the Polish question, showing that Austria had been guarded by a wish to maintain peace and to defend the integrity of the Empire. No Government acknowledged the grandeur of the idea of an European Congress for the preservation of peace more fully than Austria, but she also considered it necessary to be prepared for opposite results. An agreement of the Powers upon the questions to be discussed was a necessary preliminary. He concluded by observing that it was impossible to speak more frankly upon foreign affairs than he had done. The Italian policy of Austria was also the preservation of peace, but more friendly relations with Turin than existed could not be established so long as the desire was not mutual."

Vice-Admiral Irminger, the Danish Extraordinary Ambassador charged with the notification of the accession of King Christian IX., left Vienna on Tuesday without being received by the Emperor. On Thursday the 18th Regiment of Chasseurs left Prague for Theresienstadt, where the Execution troops are to assemble preparatory to their departure for Holstein. The whole Austrian corps will march on the 15th inst. It is said that an extraordinary credit of 15,000,000 fl. s to be asked of the Reichsrath, to meet the expenses of the Schleswig-Holstein expedition, and the establishment of troops in Galicia. A deputation from the Municipal Council of Vienna presented a petition to the Emperor on Monday relative to the Duchies of Schleswig and Holstein. The Emperor, in reply, said he did not deem it necessary to assure them that on this question he should fulfil his duties as a Prince of the German Confederation, and strive with all his power for the preservation of the constitutional rights of the Duchies. His Majesty stated, however, that the Municipal Council would do much better if, instead of discussing high political questions, they would direct their activity more to communal affairs.

Croatia.—The Obergespans, Chiefs of the Public Administration of Croatia, have met at Vienna, and resolved that Croatia shall send deputies to the Council of the Empire, provided that the February Constitution be modified in a manner guaranteeing to the Croats the maintenance of their autonomy, the integrity of their territory, and the disposal of the direct taxes and revenue of Croatia.

Russia.—The *Invalide* of St. Petersburg publishes a document, purporting to be a plan of the revolution in Poland, signed by Mieroslawski, in 1861, and found among the papers seized in the Zamoyski Palace. Although this document fills half a page of the *Invalide*, it is written on a piece of glazed paper so small that it might be concealed in the case of a watch-spring. The contents of this document so exactly correspond with what has happened during the last 10 months in Poland, that the reader is compelled to ascribe to M. Mieroslawski a most extraordinary gift of prophecy, or to suppose that the whole thing was written down long after the events occurred, and in some mysterious manner was concocted in the cabinet of Count Zamoyski, where it was fonnd. The writing is only legible through a magnifying glass, but still enough has been picked out to confirm the declarations made by Prince Gortschakoff in his despatches relative to the cosmopolitan character of the insurrection.

Poland.—The system of depopulation still continues in Poland, and the accounts received from Warsaw announce that fresh arrests are daily taking place in that city. 103 persons, including several of the higher officials, such as Gliszczynski, Moravski, Dzierzanowski, the advocates Deminski, Zielinski, and Ludwig Zulewski, and Prince Subimirski, the president of the chief institution for the relief of the poor, have been arrested in Warsaw. M. Enoch, the Secretary of the State Council, has fallen into disgrace and been deprived of all his functions. The learned historian, Bartoszeuricz, and Kucz, the chief editor of the *Kuryer Warszawski*, have been transported. Padlewski (father of the well-known insurgent leader) and Ratsowski have been shot. Count Ostrowski, a Pole, late Director of the Interior at Warsaw, has been superseded by the Russian General Gecewi. The chief railway station in Warsaw has been surrounded by troops, and 20 of the railway officials have been arrested and conducted to the citadel. Mouravieff is extorting addresses in the government of Augustowo, praying for union with the Russian Empire. The Russian Colonel, Ehrenroth, had imposed an address expressive of loyalty on the inhabitants of Czenstochowa, under threat of levying a contribution. The insurgents under Krysinski, Eminowicz, Kudzki, and Kozlowski have had several engagements with the Russians in the governments of Lublin and Podlachia. A battle has also been fought near Jadow, in Masovia. A sanguinary encounter has taken place near Ociesanki, in the government of Cracow, between the Poles, under Bossak, and the 10 companies of Russians, who lost 150 men. The insurgent chief, Sawa, has been victorious at Dobejki and Uzpole, in the district of Wilkomiz, in the government of Lithuania. The fresh bands of insurgents appearing in Lithuania are observed to be well equipped in winter clothing. Numbers of wounded Russian soldiers were brought into Warsaw on the 28th ult. Chmielinski has defeated three companies of Russian infantry near Szozekociny, in the palatinate of Cracow. The *Czas* of Cracow has been suspended for three months, on the proposal of the Imperial Procurator, by reason of its attitude on the Polish question.

Italy.—A Royal decree issued on Tuesday states that the commercial treaty concluded between Italy and Great Britain henceforward comes into force. The treaty of commerce between Italy and Holland was signed last week. In the Chamber of Deputies on Friday Signor Oades moved for a Parliamentary inquiry into certain recent proceedings of the Government in Sicily with regard to military enlistments, especially measures referring to refractory soldiers and criminals under police surveillance. The Minister of War and General Govone defended the steps of the Government with regard to the army, and also stated that the measures taken for public safety had been attended with excellent results. General Bixio proposed an order of the day directly approving the measures of the Government, at the same time expressing a wish that all provinces of the kingdom should contribute to the conscription in an equal ratio. On Monday Signori Laporta and Bruno spoke against the Ministry. Signor Peruzzi, the Minister of the Interior, stated that disorders had occurred and were much to be regretted, but that they did not exist throughout the island, for Messina and Catania were in the best possible condition. He defended the authorities of the island, and said the prevailing insecurity was to be specially attributed to the old Bourbons, who at the moment of their fall opened the prisons. He also defended the legality of the application of the law on brigandage in all the Southern provinces in which the law was necessary. In the sitting of Tuesday the Minister of the

Interior continued his speech, and stated that the measures taken were necessary to re-establish public safety in Sicily, and requested the Chamber to judge the conduct of the Government frankly. Signor Mordini considered that a Parliamentary inquiry would be useless, and protested against military abuses. Signor Bertolami, a Sicilian member, supported the Ministry, and commended its energy. In the sitting of Wednesday, General Bixio made a speech, stating that the duty of the Left would have been to support the Government on this question. Cries of "Question" were raised by the Opposition, and much excitement was manifested. In the sitting of Thursday the President of the Council of Ministers said that neither the Constitution nor the spirits of the law had been violated. Severe measures had become urgent. He awaited with confidence the judgment of the Chamber upon the acts of the Government, whose object had been to restore public safety in Sicily and to carry out the conscription laws. The Minister's speech was received with applause. The following motion was then adopted by 206 against 52 votes:—"The Chamber, approving the conduct of the Government, passes to the order of the day." A Bill has been introduced for the repression of brigandage and for public safety in the Neapolitan and Sicilian provinces. The Government has exempted from the land-tax those landed proprietors who have suffered by the late inundations at Messina. Accounts from Naples state that seven brigands belonging to the band of Caruso have been captured, including, it is believed, Caruso himself. The *Pays* announces that 35 members of the municipality of Naples have resigned. The steamboat Flavio Gioja on Friday morning in the Gulf of Genoa ran aboard the French steamer Mozambie, which foundered. All on board were saved.

Greece.—It is said that there is no truth in the statement published in *La France*, that the Assembly has rejected a motion for a vote of sympathy on account of the death of the late King of Denmark. The *Stampa* of Turin publishes intelligence from Athens confirming the statement that great agitation has been caused by the treaty stipulating the demolition of the fortifications of Corfu. King George has written a letter to his father in answer to the official announcement of his accession to the throne of Denmark, in which he addresses him in the regal form of "Monsieur mon frère." It is said that King George has expressed his regret to a deputation of the National Assembly on the decision come to with regard to the Ministers of King Otho, and hoped that the resolution would be withdrawn.

Ionian Islands.—A despatch from Corfu, announces the departure for Athens of the delegates charged to present to the King a protest from the Ionian Parliament and the municipalities against the treaty, stipulating for the destruction of the fortifications at Corfu, and the neutralisation of the Ionian Islands. The despatch says that the excitement at Corfu is very great.

Turkey.—The Vienna journals publish news from Constantinople stating that the Sultan's reply to the letter of the Emperor of the French had not yet been despatched. It was stated to have been withdrawn.

The Black Sea.—News had reached Constantinople from the Black Sea that numerous arrests had been made at Odessa. Great armaments were in preparation at Kieff and Nicolaieff.

Danubian Principalities.—The debate upon the Address was to commence on Sunday. The Ministry appears to have a majority. The Chamber promises its assistance to the Government to establish credit institutions and construct railways.

Egypt.—It is rumoured that the Bedouins in the neighbourhood of Mecca are giving trouble. A great number of travellers have arrived at Cairo lately on their way up the Nile, among others the Duke of Rutland, the Earl of Scarborough, Lady Herbert of Lea, and Earl Spencer.

India.—The Bombay papers of the 14th November contain but few details respecting the illness of Lord Elgin. The *Times of India* says that his lordship was on the 12th Nov. dangerously ill in the Punjaub, and no hopes were entertained of his recovery. He had been making double marches to reach the frontier at an early date. He over-exerted himself at the Rotaug Pass, which he crossed almost the whole way on foot. The severe fatigue rendered him so unwell that he was obliged to halt at Dhurmsalla. It was at first thought that he might proceed by slower stages, and he was expecting to enter Sealkote on the 3rd, with great pomp and display. His indisposition, however, rapidiy increased, and had assumed a very serious aspect by the 6th. Telegrams from Lahore and Agra, dated 10th and 12th ult., state that his lordship was sinking, and that no hope was entertained of his recovery. The sad intelligence has been telegraphed to every part of the country, and has everywhere cast a gloom over society. Sir William Denison, Governor of Madras, was summoned to the Punjaub by telegraph on the 9th ult., to sssume the viceroyalty. Letters from General Chamberlain's field force state, that on the 26th October a bold attack was made by the Banair people, to the number of several thousands, in company with a portion of the Hindostanees, on the strong picket commanded by Colonel Vaughan. The action lasted for several hours. The hill men suffered very severely, their loss being estimated at 170 killed and many wounded. Our loss was very much less, being 22 killed and 56 wounded, but two officers, Lieutenants Richmond and Clifford, were killed, and two others wounded. A loss of upwards of 80 killed and wounded, including officers and men, in an encounter with hill tribes, is said to be something unheard of in our border warfare. A letter from the Rev. Dr. Caldwell, missionary in Tinnevelly, says that all over the southern provinces the people are expecting the advent of a native king and the expulsion of the English in 1865. A written prophecy to this effect is being copied out and sent from village to village, and every copy of the prophecy is worshipped as a document of Divine authority. All that is known of this king is his name, Vassanta Raja, King Vernal.

Madagascar.—Letters from Réunion to the 7th of November state that nothing certain was known relative to King Radama, but the rumour that he was still living gained ground. The Queen had morganatically married the Prime Minister. Letters from the Mauritius add that the Prime Minister was said to have been strangled, after a violent outbreak raised by the nobles and great dignitaries. The *France*, of Wednesday, says that the Prime Minister had prepared a decree, at the request of Mr. Ellis, prohibiting strangers from staying in the island more than three months.

Australia.—Accounts from Melbourne of October 24 state that the transportation question is causing intense excitement.

New Zealand.—General Cameron has successfully attacked the position of the Maories. Her Majesty's ship Curaçoa has arrived at New Zealand.

United States.—The Confederate situation in the south-west is considered very unfavourable, if not disastrous. Advices from Chattanooga announce that on the 23d ult. General Thomas made a reconnaissance to ascertain the Confederate position and obtain possession of two elevations in front of the Federal left, half way between the Federal lines and Missionary Ridge. He found that General Bragg had commenced a retrograde movement, and moved his heavy artillery. On this intelligence General Granger moved forward at 1 o'clock in the afternoon, and remained in line of battle for three quarters of an hour in view of the Confederates. He then engaged the Confederates, whilst artillery in the Federal forts opened upon the Confederate rifle pits and camps behind the line of fighting. The Confederates did not reply, having no artillery at that part of their entrenchments. Granger then occupied the elevations, upon which he directed his attack, carried the rifle pits in front, and moved through the forest before him, driving in the Confederate pickets. He halted his advance on reaching further rifle pits in his front, where the Confederates awaited an attack, which he did not make, his object being to obtain the heights on the Federal left, in order to secure from a flank attack any column moving to turn Missionary Ridge. On the night of the 24th Bragg evacuated Look-out Mountain, moving south. On the morning of the 25th Hooker occupied Lookout, and was expected to intercept the Confederates in the vicinity of Rossville and in the region east of it. At the same time Sherman assaulted the north-east of Missionary Ridge, and was repulsed with heavy loss, but being reinforced, he renewed the assault, and reached within 20 yards of the summit, but was flanked and compelled to retire to his reserves. The Confederates then massed heavily on Sherman's right, but Grant started two columns, which broke up the Confederate centre and gained possession of the Ridge, the Confederate main force being driven northward towards Sherman, who opened upon them, driving them disordered down the western slope of Missionary Ridge and across the western ridge of the Chicamauga. General Hooker now holds Look-out on the right, Palmer and Granger hold the centre between Look-out and Missionary Ridge; and Sherman holds the left with his right on Missionary Ridge, and his left on Chicamauga Creek. The Federals estimate their captures at 5000 to 10,000 prisoners and 40 guns. Their loss was much greater than at first reported, General Thomas's division alone having lost 500 killed and wounded. Grant reported as follows from Chattanooga on the evening of the 24th inst.:—

"Sherman carried the end of Missionary Ridge to-day. His right is now at the tunnel, and his left at Chicamauga Creek. Troops from Look-out Valley carried the point of the mountain, and hold the eastern slope and the point high up. Hooker reports 2000 prisoners taken, besides a small number fallen into our hands from Missionary Ridge."

On the 27th General Grant reported as follows:—

"Bragg's route is most complete. He abandoned cannon, caissons, and waggons, which are everywhere to be found. I think his loss will reach 50 guns. The pursuit will continue in the morning to Red Clay, for which place I start immediately."

On the 26th Hooker, Palmer, and Sherman were nearly 10 miles from Chickamauga, pursuing Bragg, who was retreating towards Dalton, burning the bridges and destroying all behind him. His army is represented as entirely destroyed. It is estimated that the Federals have captured 7000 prisoners, and it is reported that Sherman cut off 2000 Confederates on the 26th. The *New York Times* asserts that 2,000,000 bales of cotton are said to be stated at Atlanta, which General Bragg will have great difficulty in removing before General Grant reaches the city. Federal cavalry have destroyed the East Tennessee railroad, 15 miles above and below Cleveland. This is said to isolate Longstreet from Bragg. Cincinnati despatches represent Confederate cavalry as being between Cumberland Gap and Knoxville. General Longstreet has not yet assaulted Knoxville, but has placed his batteries in a position commanding the city. A Federal column of 6000 men is moving to relieve General Burnside, who had received orders from Grant to hold Knoxville, and had informed the inhabitants that he should do so. It has since been rumoured that General Longstreet has captured Burnside's army at Knoxville, but nothing authentic to that effect has been received. The latest news from Washington says that General Foster has temporarily superseded General Burnside, who will retire on a short leave of absence. General Meade having been directed to advance with 10 days' cooked provisions, moved his army across the Rapidan on the 26th in three columns, by three different fords, although the river was much swollen by the rain. General Lee, whose army is estimated at from 50,000 to 60,000 strong, offered no resistance to the passage of General Meade, who advanced by three different routes converging on the Orange Court House road. Heavy cannonading was on the following day heard near Orange Court House, the head-quarters of General Meade, lasting from morning till night, but no particulars of the engagement have been received. The Confederates have evacuated Fredericksburg heights. General Ewell is ill, and has been superseded by General Early. President Davis reviewed General Lee's army on the 25th ult. Advices from Charleston state that the sea wall of Fort Sumter had been destroyed, and that the Confederates were constructing bomb-proofs on the ruins. General Gilmore's batteries threw 21 shells into Charleston on the 17th, and 15 on the 19th. The Monitor, Lehigh, grounded, but was got off, considerably damaged. On the 20th the Federals made a demonstration on rafts against Fort Sumter and were repulsed. During the day and night of the 21st, 36 shells were thrown into Charleston, killing one coloured woman and injuring one white person. The Richmond papers emphatically assert that the prisoners at Richmond receive full rations of bread and meat. Surgeons returned from Richmond however report the Federal prisoners as dying at the rate of 50 per day. The Confederate guerilla General Morgan has escaped from prison in Ohio, and guerillas have captured 100 negroes on a contraband farm six miles from Norfolk. The *New York Tribune* affirms that President Lincoln will announce in his Message a plan for restoring the States to union, which will be in accordance with the furtherance of the emancipation proclamation. General Grant's victory has created great exultation throughout the North, and as the news arrived on Thanksgiving day, the bulletins from the seat of war were read in almost all the churches by way of text to the sermons. In order also to enliven the solemnity, a negro regiment, the first ever seen in New York, was paraded along the streets. The Copperheads called them "gorillas in regimentals," and the Irish were by no means friendly in their comments, but their appearance gave rise to no disturbance. A portion of the Russian fleet has left for Fort Monroe to winter. The *New York Times* states that the number of negroes who have been armed and mustered into the service of the Federal Government amounts to 40,000. No less than 5821 men are advertised in New York as not having reported themselves for service in the Federal army, though their names were drawn from the ballot box as drafted men. It is rumoured that the privateer Georgia had been sunk by the Federal steamer Saint Louis.

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at $90\frac{5}{8}$ to $90\frac{3}{4}$ for Money, and $91\frac{1}{4}$ to $\frac{3}{8}$ for Account; Reduced and New Three per Cents., $90\frac{7}{8}$ to $90\frac{3}{4}$; Bank Stock, 235 to 237; India Stock, 221; Ditto Five per Cent. Stock, $106\frac{3}{8}$ to $\frac{1}{8}$; Ditto for Acct., $106\frac{1}{2}$; Ditto Bonds, 8*s.* to 5*s.* dis.; Five per Cent. Enfaced Rupee Paper, $103\frac{3}{4}$; Ditto Five and a Half per Cent., $112\frac{3}{4}$ to $113\frac{1}{4}$; Exchequer Bills, 7*s.* to 12*s.* dis.—Foreign: Brazilian, 1839 and 1859, 99; Ditto 1863, $86\frac{1}{2}$; Belgian Four and a Half per Cents., $97\frac{1}{4}$; Dutch Two and a Half per Cents., $64\frac{1}{2}$; Egyptian, 98 to $\frac{1}{4}$; Ditto, second issue, $98\frac{1}{2}$; Greek, for Acct., $26\frac{1}{8}$ to $25\frac{3}{4}$; Ditto Coupons, for Acct., 12; Italian, for Acct., $70\frac{3}{8}$; Mexican, 35; Ditto for Acct., $34\frac{3}{4}$ to $\frac{1}{2}$; New Granada Deferred, $3\frac{1}{8}$, ex div.; Portuguese, 1853, for Acct., $48\frac{7}{8}$ to $\frac{3}{4}$; Ditto 1856, &c., for Acct., $48\frac{1}{2}$ to $\frac{7}{8}$; Ditto 1863, scrip, $\frac{3}{4}$ to $\frac{5}{8}$ pm.; Russian, 1822, 92 to 91; Ditto 1850, 88; Ditto 1862, $88\frac{1}{2}$ to $\frac{1}{4}$; Sardinian, for Acct., $85\frac{1}{2}$ ex div.; Spanish Passive, for Acct., $33\frac{3}{8}$ to $\frac{1}{4}$; Ditto Certificates, for Acct., 13 to $\frac{1}{4}$; Turkish, 1858, for Acct., $70\frac{1}{4}$; Ditto, 1862, for Acct., $70\frac{1}{4}$ to $\frac{1}{2}$; Venezuela, for Acct., $23\frac{7}{8}$; Ditto 1862, for Acct., $55\frac{3}{4}$.

## Gazette of the Week.

FRIDAY: *Dec.* 4.—BANKRUPTS.—W. P. Ayres, Penmaenmawr, Carnarvonshire, Builder—A. Alvarez, Fleur de-Lis Court, Houndsditch, Dealer in Rags—R. Anderson, Tranmere, Cheshire, Attorney-at-Law—T. A. Anderson, Birmingham, Hinge Manufacturer—J. Balls, Norwich, Tailor—R. Birkinshaw, Sheffield, Journeyman Gardener—G. Barnard, Leigh, Essex, Bread and Biscuit Baker—E. Bell, Wooburn, Buckinghamshire, Journeyman Chair Maker—F. A. Boddington, Hounslow, Spinster—James Batt, Rochester Buildings, Westminster, Warehouseman's Assistant—W. Batchlor, Chapter Street, Westminster, Retail Provision Dealer—G. Batley, Brownlow Street, Hackney, Carpenter—J. S. Bennett, Railway Place, Fenchurch Street, City, Commission Agent—

J. BURDIKIN, Newcastle-upon Tyne, Chemical Engineer—T. B. BARNARD, Frampton on Severn, Gloucestershire, Brick Maker—J. BROOK, Silverton, Devonshire, late Butcher—G. BALLARD, Turk Street, Bethnal Green, Beerseller—T. BOWRING, Newport, Shropshire, Fishmonger—W. SYMONS BUDGE, Devonport, Beerhouse Keeper—D. W. BELLAMY, Great Yarmouth, Butcher—W. BOOTH, Ashton under Lyne, Lancashire Hat Manufacturer—J. BOWATER, Wolverhampton, Commercial Clerk—I. CLOUGH, sen., Gomersal, Yorkshire, Woolstapler—A. CARY, Manchester—E. W. CLARKE, Nottingham, Eating-house Keeper—C. COOK, Torquay, Devonshire, Tailor—W. CLOUGH, Morley, Yorkshire, Woollen Cloth Manufacturer—A. CORBETT (sued as J. PALMER, and trading as JAMES PALMER), late Norwich Road, Dalston, Boot Maker—W. CARR, Hackney Road, Cheesemonger—T. DYER, late of Southsea, Hampshire, Shipowner—E. DANEL, Dover, Tobacconist—J. DENNETT, Frampton Park Road, Hackney, Builder—J. DUNCOMBE, Apollo Buildings, North East Street, Walworth, Shoemaker—R. E. EDE & G. CUTLER, jun., Wenlock Road, Gas Holders and Boiler Makers—H. EVANS, Colville Square, Notting Hill, Retired Major—T. FILDES, Salford, late Beer House Keeper—F. FLOESCH, Liverpool, Wine Merchant—J. FLETCHER, Great Western Terrace, Paddington, Stonemason—J. GILLHAM, Exeter, Bootmaker—W. GORDON, Plumpton, Cumberland, Labourer—A. GRINDROD, Oldham, Lancashire, Tin Plate Worker—J. HARTLEY, late Pendleton, Lancashire, Shopkeeper—HENRY AUGUSTUS HILL, Canonbury, Clerk—WALTER SYDNEY HYSLOP, Shirley, Hampshire, Wine Merchant—JOSEPH HALL, Middlesborough, Yorkshire, Grocer—GEORGE HAWLEY, Grafton Street, Fitzroy Square, Journeyman Carpenter—JAMES HALLET, Masons' Arms Yard, Swan Street, Southwark, Livery Stable Keeper—L. JONES, Newtown, Montgomeryshire, Grocer—J. LISTER, Heckmondwike, Yorkshire, Innkeeper—J. LEGGETT, Great Bealings, Suffolk, Blacksmith—C. MARTIN, Woodhouse, Eaves, Leicestershire, Draper—W. MOORES, Wendlebury, Oxfordshire—J. MAGEE, Newtown, Hampshire, Gunner in the Royal Navy—I. MOSS, Manchester, Hat, Cap, and Gib Trimming Manufacturer—J. D. MAGSON, Lever Street, St. Luke's, Smith—S. NOAKES, Love Lane, Shadwell, Wine Cooper—W. OWEN, Shrewsbury, Shropshire, late Innkeeper—C. OSBORN, Turner's Road, Limehouse, Butcher—C. PITT, Crawford Street, Marylebone, Greengrocer—W. T. PRINCE, Burton-upon Trent, Scrivener—M. PARKES, Liverpool, Plumber—W. PILE, Otterton, Devonshire, Farmer—W. J. PAGE, Charles Street, St. John's Wood, Draper—E. QUELCH, Newbury, Berkshire, Corn Dealer—ALFRED QUINNELL, Finchdean, Hampshire, Limeburner—JOHN ROLLASON, Salford, Lancashire, Metal Broker—ALFRED RICE, Watton, Norfolk, Licensed Victualler—G. REDFERN, Sheffield, Razor Grinder—T. ROBSON, Hartlepool, Durham, Ironmonger—W. H. RICHARDS, Surrey, Bagshot, Licensed Victualler—J. E. ROBSON, Hartlepool, Durham, House Agent—J. RAMSDEN, Downham Road, Kingsland, Commission Agent—R. READ, Worcester, Pianoforte Tuner—J. SNOWDON, Boroughbridge, Yorkshire, Veterinary Surgeon—G. SIDNELL, Bradford, Wiltshire, Licensed Victualler—W. STANLEY, Manchester, Barber—J. SLAGG, Brunswick Cottages, Stoke Newington Road, Commercial Traveller—J. SHAW, Sen., Chorlton-upon-Medlock, Lancashire, Painter—M. SCALES, Jermyn Street, Haymarket, Poulterer, Widow—S. SIMMONDS, Linslade, Buckinghamshire, late Engraver—R. SALTER, Jun., Exeter, Licensed Victualler—G. TIPTON, Grafton, Herefordshire, Brick and Tile Maker—J. TILSTON, Cotton Edmunds, Cheshire, Farmer—M. TALBOT, Walsall, Staffordshire, Licensed Victualler—H. TAZAKER, Ashton-under-Lyne, Grocer—T. TWEDDELL, Hartlepool, Durham, Railway Clerk—C. THURLWELL, Lincoln, Grocer's Assistant—A. VEREY, Gateshead, Durham, Machinist—G. WALES, Bookham, Surrey, Licensed Victualler—J. WITHINGTON, Jun., Manchester, Egg and Herring Dealer—T. WALLIS, Godstone, Surrey, Bricklayer—J. R. WOODWARD, Plymouth, Shipwright—R. WILSON, Ossett, Yorkshire, Cloth Manufacturer—G. WARRINER, Manchester, Tailor—T. WOLFE, Brinklow, Warwickshire, Grocer—J. WOODALL, Dudley, Worcestershire, Licensed Victualler—W. WILLIAS, Kingswinford, Staffordshire, Grocer.

TUESDAY: *Dec.* 8.—BANKRUPTS.—H. BYROM, Saddleworth, Yorkshire, Manufacturer—A. BREWSTER, East Retford, Nottinghamshire, Cordwainer—B. BRYANT, Stradbrooke, Suffolk, Superintendent Registrar of Births—F. BELTON, Northampton, Stonemason—G. BENNETT, Middleton, Yorkshire, Blacksmith—G. BOWES, Leeds, Journeyman Pork Butcher—C. G. CLEOSOPULO, Liverpool, Merchant—R. CHILTON, Kingswinford, Staffordshire, Moulder—W. CARR, Fatfield, Durham, Engineman—J. COLLEY, Bradford, Yorkshire, Warehouseman—W. K. CHAMBERS, Sheffield, Painter—J. DAVIS, Bristol, Lamplighter—J. DOWLAND, Devizes, Wiltshire, Draper—J. DOBSON, Lofthouse, Yorkshire, Rope and Twine Maker—T. EVANS, Besford, Worcestershire, late Publican—T. ELLIOTT, Liverpool, late Coal Merchant—J. ENGLISH, Bristol, Dealer in Needles and Fishing Tackle—W. GILBERT, Suffolk Place, Lower Road, Islington, late Grocer—T. GRAY, Portsmouth, Plumber—ISAAC HOLMAN, Ore, Sussex, Baker—W. HARDING, Lady Down, Wiltshire, Brick Manufacturer—J. HAWTHORNE, Whitwick, Leicestershire, Cordwainer—A. F. HOLLINGWORTH, Rectory Place, Shacklewell, late Wine Merchant—W. HANSON, Hollings, Yorkshire, Farmer—W. S. HOSKINGS, Southsea, Hampshire, Boot and Shoemaker—J. HIGGS, Spa Terrace, Spa Road, Bermondsey, Lighterman—T. JONES, Blaenavon, Monmouthshire, Sinker—H. KINDER, Pendleton, Lancashire, Brewer—W. J. LAUGHTON, Little Trinity Lane, Bag Maker—W. LLOYD, Burrows Mews, John Street West, Blackfriars Road, Butcher's Carrier—J. LOW (calling herself also J. PAGETT and J. LAWRENCE), Ebury Street, Pimlico, Spinster—M. MATTHEWS, Bentick Place, High Street, Portland Town, Milliner—D. MEREDITH, Llandudno, Carnarvonshire, Labourer—W. PALMER, Lucas Street, Commercial Road, Mariner—S. W. PAINE, Chester Street, Kennington Road, Grocer—R. PELLS, High Street, Camden Town, Baker—EVAN ROBERTS, Denbigh, Coal Merchant—HENRY ROBINSON, Dartmouth, Devonshire, Grocer—SAMUEL ROLLETT, Sheffield, Grocer—RICHARD RAMSDEN, Huddersfield, Smith—EDWARD SIMONS, Birmingham, Licensed Victualler—G. TAYLOR, Rochester, Kent, Hotel Keeper—T. W. TUDDENHAM, Boxley, Kent, Journeyman Miller—E. M. TAYLER, Mark Lane, Wine Merchant—R. THOMAS, Landers Lake, Cornwall, Dealer in Poles—W. H. WARREN, Mincing Lane, City, Clerk to East India Brokers—A. WARREN, Birmingham, Working Jeweller—G. WITHEY, Whittaker Place, Rye Lane, Peckham, Commission Agent—T. WHITTAKER, Rushton Spencer, Staffordshire, Farmer—G. WINTERBOTTOM, Saddleworth, Yorkshire, Flannel Manufacturer—J. WHITTAKER, Quick, Yorkshire, Grocer—J. WILLIAMS, Sheerness, Boiler Maker—T. WILLIAMS, Mynydd Buchan, Glamorganshire, Quarryman.

SCOTCH SEQUESTRATIONS.—G. FOTHERINGHAM & T. FOTHERINGHAM, Stirling, Wine and Spirit Merchants—J. IRELAND, Fordel, Kinross, Farmer—J. MURDOCH, Elgin, Farmer—J. SHAW, Glasgow, Pattern Designer—J. WANDS, Stirling, China Merchant.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
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| Notes issued .. .. .. | £26,928,575 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 12,278,575 |
| | | Silver Bullion .. .. | — |
| | £26,928,575 | | £26,928,575 |

BANKING DEPARTMENT.

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|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £10,712,330 |
| Rest .. .. .. .. .. | 3,218,937 | Other Securities .. .. | 21,813,329 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts.) .. .. .. | 8,629,856 | Notes .. .. .. .. .. | 6,735,535 |
| Other Deposits .. .. .. | 12,981,276 | Gold and Silver Coin .. | 730,042 |
| Seven days and other bills | 608,167 | | |
| | £39,991,236 | | £39,991,236 |

Dec. 10, 1863. M. MARSHALL, Chief Cashier.

## Metropolis and its Vicinity.

THE METROPOLITAN BOROUGHS.—At the Court of Common Council on Thursday Mr. Lawley gave notice of the following motion, to be taken into consideration at the next court:—"That this corporation, highly appreciating the municipal institutions which they have enjoyed for so many centuries, and believing that the time has arrived when the privileges of self-government should be extended to those portions of the metropolis not yet entrusted with the management of their own local affairs, and desiring to aid in the accomplishment of this result, is prepared to contribute the sum of 5000*l.* as the nucleus of a borough fund to each of the parliamentary boroughs of Southwark, Westminster, Marylebone, Lambeth, Finsbury and the Tower Hamlets, to be paid to them when those boroughs shall have obtained their charters of incorporation under the provisions of the Municipal Corporations Act, 5 and 6 Wm. IV., cap. 76." The notice was received with loud cheers.

A UNIVERSITY FOR WALES.—The first meeting of a provisional committee for the establishment of a university and colleges for Wales, on the plan of the "Queen's Colleges" and University in Ireland, was held on the 1st inst. at the Freemasons' Tavern. Mr. W. Williams, M.P., presided, and the meeting was attended by a number of influential gentlemen interested in the Principality. The following resolutions were unanimously adopted:—1. That considering that the Principality of Wales, which contains about a million and a quarter inhabitants, is the only portion of the United Kingdom destitute of high class academical institutions, Ireland possessing the University of Dublin and the Queen's University and Colleges, and Scotland possessing four great Universities; considering, moreover, that the commercial, manufacturing, and mining operations of the country are rapidly expanding, presenting new facilities, and creating new demands for educated talent; and that while common schools for the labouring classes are daily multiplying, no adequate efforts are made to provide for the pressing claims of the middle and upper classes; it is desirable to seek the immediate establishment of a university, whose course of education shall be comprehensive and complete, and whose degrees and distinctions shall be of standard value among educated men. 2. That a university for Wales should be a truly national institution, located in the country, presenting accessible means of liberal culture at a moderate cost, and commanding by reason of its national character the fullest confidence of the people; that in order to confer as a national institution an impartial benefit upon all, it should maintain the completest freedom from all ecclesiastical preferences, and, while holding the Holy Scriptures as the ultimate authority in all religious matters, leave all teaching properly theological to the religious instructors of the different churches, and aim in its own department of labour at uniting all ranks of the community in the work of promoting the mental culture and development of the nation. 3. That with a view of securing from the Government the aid required for so great an undertaking, it is desirable that the people of Wales should themselves show an adequate interest in the question, and should form a national fund to meet in part the necessary outlay. A committee was appointed to make all necessary arrangements, and resolutions were adopted gratefully recognising the Chairman's munificent contribution of 1000*l.*, and appointing him treasurer of the fund to be raised.

SANITARY STATE OF BETHNAL GREEN.—In consequence of the numerous deaths which have recently taken place in this district from typhoid fever, and the medical evidence of the great extent of disease arising from want of ventilation and cleanliness in the neighbourhood, a special meeting of the vestry was held a few days since to consider the necessity of providing further means for sanitary inspection and the removal of nuisances. After a lengthened discussion it was resolved to appoint a superintending inspector, at a salary of 80*l.* a year, retaining the present inspector in the situation he holds. It was further resolved that the number of the Nuisances Removal Committee be enlarged, so as to embrace all the members of the vestry; that the operations of the committee should be comprised in four sections, corresponding with the wards of the parish; that the members for each ward should act in each respective subdivision, and that the general committee should meet weekly. It was likewise resolved that the surveyor should take the necessary steps for compelling the owners of houses along the main intercepting sewer to construct drains into it. In the course of the discussion it transpired that there are 44 miles of streets in the parish, and that since the passing of the Metropolis Local Management Act in 1856 there have been 17 miles of street drained by the vestry at a cost of 12,856*l.* 5*s.* 6*d.*, making, in addition to the drainage previously existing, 30½ miles. Plans have been prepared by the surveyer, under directions of the vestry given two years ago, for completing the drainage of every street in the parish. Those plans have been approved by the Metropolitan Board, but the delay in executing the works has arisen from the incomplete state of the main intercepting sewer. The vestry have recently obtained the sanction of the Metropolitan Board to borrow the sum of 7000*l.* for the purpose of defraying the cost of the proposed drainage works, and the vestry clerk intimated that the negotiations for effecting that loan were on the point of being closed, so that there would be no further delay.

LANCASHIRE RELIEF FUND.—The Lord Mayor on Monday received a letter from Bombay, enclosing a check on the Bank of England for the handsome sum of 7012*l.* 10*s.*, being a contribution from the Committee of the Relief Fund in that presidency, in addition to other munificent donations previously transmitted. By the same mail the Lord Mayor received a balance of 116*l.* odd from the Kurrachee Chamber of Commerce. These donations make the fund still at the disposal of the Mansion House Committee about 59,320*l.*

NEGLECT OF VACCINATION.—Mr. Simon, the medical officer of the Privy Council, has recently presented his fifth report, in which he calls attention to the neglect of the laws compelling vaccination. From the inspection of 190 different unions, containing altogether 900 vaccination districts, he is of opinion that the intentions of the Legislature are very imperfectly fulfilled; and that the public defences against small-pox are in great part insufficient and delusive. He points to the utter and universal failure of the intended register of vaccination, and says that, although such failure deprives inquiry of any source of accurate measurement, still the inspectors have come upon cases where, quite apart from the register, there was conclusive evidence of extreme local neglect of vaccination. Among the elementary schools which they visited, numerous cases were found where the unvaccinated proportion of scholars was from 20 to 30 per cent. of the whole; in more than a few cases it was from 30 to 40 per cent.; in some it was from 40 to 50 per cent; and in one case (that of Penn, in Buckinghamshire), it was as high as 55½ per cent. So again, among the young in workhouses, though under the very eye of boards of guardians, the inspectors found similar evidence that vaccination was not duly performed; for among 38 workhouses there were eight where the unvaccinated proportion of children ranged from 20 to 38 per cent.; and among 74 other workhouses there were 20 where the unvaccinated proportion of children was from 20 to 34 per cent. The less exact evidence furnished by the registers of vaccination justifies a conviction that in many cases the local neglect is greater, even very considerably greater, than those figures would suggest. Mr. Simon refers to several instances of districts remaining for considerable periods, and in one case as long as three years, without a single vaccination being performed by the publicly appointed medical officer. He states that thoroughly good gratuitous vaccination is by no means uniformly given by those authorities whom the Legislature has made responsible for giving it. And under these circumstances it would, he argues, be manifestly unjust to punish for non-compliance with the law parents whose children are not vaccinated. "I have therefore," he says, "had no alternative but to submit for their lordships' consideration that the laws now in force for the purpose of extirpating small-pox are not likely to accomplish their object, and that the system established by law for the provision of public vaccination works in an unsatisfactory manner.

UNWHOLESOME FOOD.—Mr. Simon's annual report to the Privy Council, as its medical officer, on matters relating to the public health, has recently been issued, and among the subjects with which it deals is that of the consumption of the flesh of animals slaughtered while in a state of disease. It appears that Mr. Gamgee, Principal and Professor of the Edinburgh Veterinary College, was requested last year to investigate this subject. He reports that disease prevails very extensively in the United Kingdom among cattle, sheep, and swine; that in very many instances the diseased state of an animal leads the owner to have it immediately slaughtered for consumption as human food, and that, in fact, as much as a fifth of the meat of the country comes from animals considerably diseased. As regards meat infested with parasites, our animal food is for the most part, says Mr. Simon, exposed to so high a temperature before it is eaten that any parasites which had their home in it are killed; but it is probable they may outlive the processes by which meat is commonly cured, and may thus get swallowed alive by persons who eat uncooked sausage, ham, or bacon, and we know that meat infested with parasites may become a source of human disease. Or, by means of dogs and other animals eating the raw offal of slaughter-houses, the eggs of the tapeworm may, and must often find their way into sources of drinking water, or on to various low-growing vegetables or fruits, which are consumed in an uncooked state by man; and being swallowed, the egg is hatched, and the animal burrows through the wall of the stomach or intestines, migrates to some other part of the body, and there grows to its development as a cystic entozoon. In Iceland a fifth part of the human mortality is ascribed to hydatid disease. Mr. Gamgee is confident that there are between 40,000 and 50,000 measly pigs in Ireland, most of which come to Great Britain for consumption, and his impression is that for every measly pig in the kingdom there is at least one human being with tapeworms. These parasites may not directly kill, but may favour the development of fatal disease. It has also been discovered quite recently that a microscopical threadworm, the *trichina spiralis*, brings the muscular flesh of swine into a state in which a small quantity of it eaten raw will suffice to destroy life. As regards the possible ill effects from consuming in a well cooked state the flesh of animals afflicted with anthrax or carbuncular fever, evidence is still imperfect, but it seems clear that human life may be endangered by it. But in respect to this, and also the effects of consuming the flesh of animals which have been suffering from infectious fever, until public attention is drawn to the subject it must be difficult to trace to their true causes any ill effects thus occasioned, especially those of a chronic character, which may, perhaps, result from febrile meat being a considerable element in diet. An opinion is sometimes expressed that boils and perhaps other like affections are caused in the human subject by the consumption of such meat. Mr. Gamgee says that at a convict establishment where diseased cattle are eaten in large quantities, and especially cattle afflicted with lung disease, as many as 40 and 50 cases a month of boils and carbuncles occur among 1,500 convicts. In some cases also meat may be injurious in consequence of the animal having been excessively drugged during life, as, for instance, with arsenic or strychnia; but generally it might be expected that no drugging of an animal in doses not sufficient to poison it could render its flesh capable of acting as a poison on man. Some notice is taken in these papers of the effect of the

milk of diseased animals. In this country the most important question is as to the wholesomeness of milk from animals afflicted with aphthous eruption, a malady which never was more prevalent than in the year 1862. On some occasions when aphtha has been prevailing among cattle, the human population in the same place has suffered from the same or some similar disorder; and it seems certain that under some circumstances the human affection may be caused by the consumption of milk drawn from a diseased animal. Mr. Gamgee avows his belief that a very large proportion of the disease now habitually prevailing among live stock, and which he estimates as proving fatal to them to the immense pecuniary amount of more than 6,000,000*l.* a year, might by proper measures be prevented. The epidemic diseases are due entirely to contagion, probably foreign, against the introduction and spread of which sufficient precautions are, in his opinion, not taken; and the most destructive endemic diseases are due partly to dietetic mismanagement of stock, and partly to local malaria, which improved land drainage would dispel. His estimate is that of animals in the United Kingdom there die annually of disease about 375,000 cattle—nearly 5 per cent. of the whole number, and of the money value of above 4,000,000*l.*; of our (supposed) 40,000,000 sheep not less than 4 per cent., of the value of 1,600,000*l.*; and of our 4,300,000 pigs not less than 3 per cent., of the value of 1,200,000*l.* He considers that if enzootic disorders, which depend on peculiarities of soil, climate, and system of culture, were prevented, as they might be, thousands of acres would be worth much more than they are, and that attention to this subject would for many years to come add more to the resources of the kingdom than the reclamation of land does.

EXPERIMENTS AT SHOEBURYNESS.—An important target trial took place on Tuesday at Shoeburyness, the target representing a portion of Mr. E. J. Reed's ship Bellerophon about to be constructed in Chatham Dockyard. Great interest was felt in the trial, and an unusual number of visitors went down from London. The Prince of Prussia was present during the whole day, and appeared to watch the effect of every shot with as much interest as any artilleryman present. Admiral Grey, Sir John Hay, General St. George, General Hay, Dr. Percy, Mr. Pole, C.E., Mr. Whitworth, Mr. Fairbairn, Admiral Robinson, and the representatives of the Millwall Iron Works, the builders of the target, were also present. The guns were laid at the customary 200 yards' range, Colonel Taylor, as usual, carefully superintending all the arrangements for the firing. The first rounds were merely routine—a 68 solid shot, with a 16lb. charge and a 110-pounder Armstrong shortened to a weight of 66½lb., fired with the same charge. Both these struck the upper plate, and made the usual indent of nearly two inches deep, but effected nothing more than that which they always do—that is to say, show the quality of the iron-plates against which the guns have to contend. On this occasion the iron was literally perfect, and throughout the rest of the experiments the opinion was universal that better plates had never been tested at Shoeburyness. Even under the heaviest shot, though indented deeply, they showed scarcely any perceptible symptom of buckling out; and though struck on the edge and around the bolt-holes, it was almost impossible to crack them. A salvo of two 68-pounders and two 110-pounder Armstrongs, with shot shortened to 66½lb., was next fired, but of these four guns one missed the target altogether, one touched it so slightly on its upper edge that, as far as damage was concerned, it may also be called a miss; the remaining two struck close together, one on each side of a bolt, so that the bolt itself was squeezed up like putty, and projected slightly outwards, but still held firm. Two shots coming so close were a hard trial for any plate, but it stood it perfectly, without any sign of crack or ragged edges. The back of the target was absolutely unhurt, and so perfect was the workmanship of the whole mass, that from the commencement to the end of the day scarcely a rivet was started. A cylindrical, round-headed 66lb. shot was next used, but effected nothing, and then the Whitworth 70-pounder muzzle-loading gun was loaded with a steel shell, charged with 2½lb. of powder, and fired with a 12lb. charge. As regarded the target, this effected nothing, though its indent at once showed by its severity the immense superiority of steel projectiles against armour plates over the old gray cast-iron shot. The indent made by this shell, though only 2 lb. heavier than the 68-pounders, was at least 40 per cent. deeper, and its fragments cut into the mass of iron as if it had been so much wood. Mr. Whitworth's 150-pounder was next tried. In consequence of there being a slight flaw in this fine piece, Mr. Whitworth reduced its firing charge from 27 lb. to 23 lb., the shell, of homogeneous metal (which is only a hard name for soft steel), weighing 151 lb., with 5 lb. of powder as a bursting charge. Much was expected from this formidable shot, but, unfortunately, it failed—the shell from some mysterious cause bursting about 20 yards from the muzzle of the gun, and sending its fragments in all directions screaming hoarsely through the air. The Armstrong rifled gun was then tried with a spherical cast shot of 151 lb., fired with 35 lb. of powder. This struck, with the rather high velocity of 1570 feet per second, on the edge of the upper plate, making an indent of 3½ in., breaking one bolt, slightly bulging the inner skin of the target, and therefore starting the ribs of the ship itself just enough to be perceptible. Beyond this, however, it effected nothing of importance. The plates still remained as tough and unbending as ever, there was no sign of cracking in them, and every rivet, to the astonishment of all on the ground, stood fast. A steel spherical shot of the same weight was fired from the same gun with the same charge, and this, rather unfairly for the target, struck between the slightly parted edges of the upper and lower plates. It completely buried itself, and must have passed through the entire plate, but, strange to say, though two bolts gave way, all the rivets held on; and, although the immense mass was bedded in the substance of the target, it produced scarcely any effect worth speaking of on the inner skin, which, as far as fighting purposes are concerned, remained as good as before it was fired at. A shot from a 7-inch muzzle-loading gun of the Ordnance Select Committee was fired with a 120 lb. steel shell loaded with 2 lb. of powder. This accomplished absolutely nothing, though it might have done a good deal more than it was intended, inasmuch as one of its fragments flew back to the guns and buried itself 2½ feet in the ground, close to where some of the visitors were standing. A shot from the rifled 300-pounder (a cast iron projectile), fired with 35 lbs. of powder, did very little, in spite of the weight of the mass hurled against the target. It made an irregular dent of 3¼ inches deep, and bent back the upper plate a little more than 2 ins., making the first real crack in the plate at the point we have mentioned as being where the two shots struck on the bolt-head. From this spot there was now, for the first time, seen a perfect crack, nearly a foot long, and extending quite through the plate, apparently; but this was all. The last shot fired was from Mr. Whitworth's 150-pounder, loaded with a steel shell and 5 lbs. of powder. This struck the lower plate, and exploding, buried itself deeply; but though it had evidently penetrated the plates, it had failed to make any perceptible impression on the inside of the target itself. This terminated the day's trial, and showed that the target had repelled both Armstrong and Whitworth shot and shell, and that there had been no complete penetration of the iron skin and teak backing.

CAPTURE OF AN ESCAPED DARTMOOR CONVICT.—Late on Thursday night George Ball, who escaped with two others from Dartmoor prison on the 1st of August, 1860, was captured at Woolwich. At the time of his escape he had served between two and three years of a transportation of 15 years, for a burglary committed at Lewes. The names of the two other convicts who escaped with him were John Robinson, undergoing 30 years' transportation, and Joseph Hampshire, undergoing 20 years' transportation, both of whom were captured a short time after their escape. Ball, after escaping, made his way with his companions to Bridgwater, where they parted. Ball proceeded to Cardiff, and in a few days after sailed for America, where, until within the last few months, he served as captain of a company of Southern guerillas, but was taken prisoner by the North, and sent home. Immediately on his arrival in England he made his way to Woolwich, where he enlisted as a gunner n the Royal Artillery band, in which he has served for the last two months. On Thursday night he became embroiled in a drunken row, and fell into the hands of the police. While locked up at Shooters-hill station, Inspector Bell made the discovery that he was an escaped Dartmoor convict, having "G. T." marked on his left arm, and was labouring under the delusion that Prince Albert was his personal enemy. He is now 28 years of age, and six years ago broke out of Bedlam Hospital twice, on one occasion taking with him a lunatic murderer. Yesterday he was taken before the magistrate sitting at Woolwich, and was identified by the Dartmoor authorities, who were telegraphed to shortly after his capture. He states that a few years ago he came into possession of 4,000*l.*, left him by his father, and that he has a brother a barrister.

PROPOSED WIDENING OF MANSION HOUSE STREET.—At the meeting of the City Commission of Sewers on Tuesday, a report from the Improvements Committee was read relative to a proposal to widen the eastern end of the Poultry by removing part of Messrs. Lubbock's old bank opposite the Mansion House. It was stated that the projected improvement may cost 17,500*l.*, or at the rate of more than a million and a half per acre. After some discussion it was resolved that the project should be carried out if the Metropolitan Board would share the expense.

THE LATE STORMS.—As anticipated last week the accounts from the coast have furnished a fearful addition to the long list of disasters which happened in almost all parts of the country during the recent storm. Upwards of 150 wrecks and casualties were reported on Saturday and Monday, the largest number ever received in so short a period of time. On the Dutch and French coasts there has also been a great loss of life and property.

THE LATE ACCIDENT AT ISLINGTON.—The adjourned inquest on the two men who lost their lives by the falling of the Three Wheatsheaves Tavern at Islington, whilst in the course of re-erection, was resumed on Monday. A great deal of evidence was given as to the way in which the construction of the house was conducted, the nature of the materials, and the strength of various parts, but nothing very important was elicited. The inquiry was ultimately adjourned to Monday.

SUPPOSED MURDER IN THE LEA.—A private soldier in the 14th Hussars named De Carx has been apprehended at Manchester on a charge of being concerned in the murder of Mr. Driscoll, an engineer, who had arrived in London in October last from Spain to make arrangements for lighting the town of Corunna with gas. On the 31st of that month he went out for a walk, and was never again seen alive by his friends. A few days since his body was found in the River Lea, and 18*l.* in gold, which he was known to have with him at the time, was missing. There was also found a military glove, which has since been ascertained to belong to the prisoner. He admits that he was in Mr. Driscoll's company on the evening before the murder; but he says that Mr. Driscoll was alive when he last saw him, and gives an account of the circumstances under which they parted. The inquest was opened on Saturday, and adjourned to allow time for further inquiries.

MUTINY AT SEA.—An Admiralty despatch from the River Plate has been published, stating that 14 men had landed there, whom one of them declared to be the crew of the ship Flowery Land, which sailed in July last from Gravesend for Calcutta. They are charged with having mutinied, murdered the master and officers, scuttled the ship, and compelled the one who gave the information to navigate the boat in which they left her to South America.

SUICIDE AT KING'S CROSS.—On Friday morning about 10 o'clock, a shocking case of suicide took place at King's Cross. A respectably dressed middle aged man, who was standing on the foot pavement, when one of Pickford's vans laden with iron was passing, suddenly dropped a parcel, walked out on the road, and deliberately laid his head in front of the wheel. His head and arm were crushed to atoms, so that death must have been instantaneous.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, Dec. 5, were 1376. The average number in the ten corresponding weeks of the years 1853-62, corrected for increase of population, was 1460. The present return is therefore 84 below the average. During the week the births of 941 boys and 854 girls, in all 1795 children were registered in London. In the ten corresponding weeks of the years 1853-62 the average number was 1867.

## Provincial.

AMESBURY.—At a meeting of the clergy and lay consultees of the rural deanery of Amesbury, the following points were considered in reference to the dwelling-houses of the labouring poor—namely, 1. The great need of improvement generally in the accommodation provided in the houses rented by labourers; 2d. That this matter was not to be regarded as a question of profitable investment, but as a question of morality, affecting the well-being of the nation; 3. That while the home of the labourer continues to be what so many of their houses now are, it is very doubtful what good can be done by the most careful teaching in church or school; and it was resolved to communicate with the Bishop of Salisbury with the view of obtaining a better consideration of the subject throughout the diocese.

BIRMINGHAM.—At a meeting of the Town Council, on Tuesday, Mr. William Holliday, the Mayor, read the following letter, which had been received by the late Mayor, but circumstances prevented that gentleman laying it before the Council prior to his retirement from office:—

Windsor Castle, Nov. 4.

Sir,—I have had the honour to lay before her Majesty the Queen the correspondence which accompanied your letter to me of the 23d of October. The Queen regrets very much to hear that there exists a possibility of the people of Birmingham losing the enjoyment of Aston Park as a place of healthy exercise and recreation. In such a hive of industry an open area for relaxation and amusement after toil must be most valuable. Her Majesty had hoped that this requirement had been permanently provided for. Her Majesty is still unwilling to believe that in a locality in which so much wealth is found in proximity to the hard labour by which it is produced, funds can be wanting to secure to the population an enjoyment, the value of which they have been taught to estimate by the temporary use of Aston Park, and of which it would be very injudicious and undesirable now to deprive them.—I have the honour to be, Sir, your most obedient humble servant, C. B. PHIPPS.

Charles Sturge, Esq.

On the motion of the Mayor, the foregoing communication from her Majesty was received, and ordered to be entered on the minutes. In all probability some action will be taken upon it at a special meeting of the Town Council. The "correspondence" referred to in the foregoing letter has since been published. It appears from it that the greater portion of the purchase money of that park which her Majesty came specially to this town to open in 1858, remains unpaid, and that unless it is paid for by a rate which the Town-council may levy there is no prospect of the purchase being completed, so that the hall and park may pass back to Messrs. Greenway, the bankers, of Warwick, who are the owners. The price is, in round numbers, 40,000*l.*, of which not more than 7,000*l.* or 8,000*l.* has been paid. The late Mayor wrote to Lord Leigh, the Lord Lieute-

nant, asking him to induce the magistrates of the county to contribute 8,000*l.* towards the amount due; but as most of them had already subscribed, and considered that the affair concerned the town of Birmingham and not the county at large, they declined to do so. The original plan was to purchase the estate by means of shares and donations; but, although the names of some gentlemen of station are to be found on the council, the active business of carrying out this part of the scheme fell into the hands of a class in whom the public could have little if any confidence; hence this discredit brought upon the town by the revelation which has been made to her Majesty.

Brighton.—On Thursday the 25th ult., as some boys were proceeding along the beach beneath the cliffs towards Rottingdean, they discovered the body of a young woman, about 30 years of age, dressed in a black corded silk dress, having on her left hand a black kid gauntlet glove, and three gold rings. The body was removed to the White Hart Inn, Rottingdean, and on being searched, a purse containing gold and silver was found in the dress pocket, and with it a letter carefully wrapped in waterproof silk, showing that the drowning was intentional. Inside the packet was the likeness of a middle-aged man, and on a piece of paper accompanying it was written: "To my false and perjured husband, Louis Adolphus, New Ship Hotel, Brighton, or Moses and Sons', Minories." The police authorities on inquiry ascertained that the person referred to is a foreman in the employ of Messrs. Moses, and that he parted with deceased at the London Bridge Railway Station, on the 8th November, when she appeared much distressed on his telling her that the connection which had subsisted between them must cease. It appeared also that she had been living at Camden Town with a Captain Bruce, and that she called herself Mrs. Bruce. The jury at the inquest, after several adjournments, returned a verdict of Found Drowned.

Derby.—The grand jury, at the Assizes on Thursday, ignored the bill against Mr. James Clifford, of Shardlow, in this county, who was charged with stealing, in or about the year 1804, a leaf from the register of the parish of Longford, containing an entry of the baptism of William, son of Mary Tatlow, of Bentley, dated the 8th November, 1727.

Durham.—The colliers' strike in this county continues without any indications of drawing to a close. The evictions also continue, and on Tuesday 45 families were ejected from their homes at Oakenshaw. On Wednesday evening a meeting of the men was held at Willington, but beyond the discussion of their grievances nothing was done.

East Dereham.—James Naylor, who was awaiting his trial for the murder of his wife at Elsing, two months since, died in Norwich Castle last week, after two or three days' illness. The murder was attended with circumstances of great barbarity; but as he did not appear to have been in a thoroughly sound state of mind, it was doubtful whether, assuming that he had been convicted, the extreme sentence of the law would ever have been carried out.

Falmouth.—A horrible case of cruelty has just been brought to light by the efforts of Dr. Byrne, of Durham. While residing near this town for the benefit of his health he heard that for 20 years past some person had been kept in close and solitary confinement by his relatives in a small room at the back of a house in the village of Flushing. It was reported that during the cold nights of winter heartrending cries and howls were heard to proceed from this mysterious room; but though the sympathy and curiosity of the neighbours were aroused, none of them took any proceedings to clear up the matter. Dr. Byrne communicated with the Commissioners of Lunacy and the Secretary of State, and on Thursday week two of the Commissioners were sent down from London to investigate the case with Dr. Byrne. The house in question was occupied by a man called Porter, a mason, who is said to be in comfortable circumstances. On arriving at the house they found that the tenant was absent from home. They, however, made their way to the back of the premises, and, ascending a flight of steps, discovered a door concealed from view by the projection of a corner or abutment of the building. The door was opened, and a sight presented itself which Mr. Hodges, Secretary of the Cornwall Polytechnic Society, states to be "too revolting to be described with all its horrid details." In a letter to the *Times* he says:—

The den in which they found themselves consisted of four bare wet plaster walls, with a small window on one side. A doorway opposite, formerly communicating with the house, was plastered up so as to cut off all communication with it except by the door through which they had entered. In one corner of the room was a wretched truckle bedstead, with cross pieces of wood, rotten with filth, about six inches wide, and the same distance apart. On these bare boards crouched a being more resembling a baboon than a man, drawn and cramped from long exposure and suffering out of all form of humanity, stark naked, and with only two old rotten bags for a coverlet. I have said like a baboon, from the peculiar form into which the limbs were drawn. The knees almost touched the chin, and were pressed close upon the chest, apparently for warmth; the feet close together, and bent down one over the other, also apparently for warmth; the hands clenched and brought close to the chin; the arms closely pressed against the sides. The knee and hip-joints were anchylose; the elbow joints were also stiffening. The floor and the walls were one mass of accumulated filth—the floor rotten with it; the stench horrible; and there are other circumstances of the case too dreadful for publication. For upwards of 20 years the tender mercies of his nearest relatives have consigned him to this living tomb, not a rag to lie upon, not even a wisp of straw—nothing but the naked boards, and the two old bags to cover him. The unfortunate man is simply imbecile—a most mild, benevolent expression of countenance, a childlike submission to all that is done to him, no symptom of anger or even violence of any kind, and strong indications of intelligence, even after these weary years of neglect and cruelty."

On the 6th inst. a sketch of the remarkable position in which he had remained for so many years having been taken, arrangements were made for his removal. He was washed and dressed by two keepers from the county asylum, and taken away to the establishment at Bodmin. Hundreds of persons collected to witness his removal. One of the keepers carried him in his arms like a child, and placed him in the vehicle prepared for his conveyance. Many among the crowd who had known him "when he was a strong intelligent youth," came forward to greet and congratulate him, exclaiming, "Good God! can that be a man?" The Commissioners of Lunacy have directed an indictment to be preferred against the brother Samuel Porter, for neglect and cruelty.

Holyhead.—During the storm of last week 16 vessels were driven on the rocks in Holyhead harbour, of which three were total wrecks, and seven dead bodies were washed ashore. It is calculated that 150 vessels were at anchor in the harbour and roadstead. Had the sea run high, every vessel driven ashore would have been a total wreck. These disasters are considered to prove that Holyhead cannot be depended upon as a harbour of refuge.

Liverpool.—The Mercantile Marine Association of this town last week memorialised the Board of Trade in favour of Captain Stone, whose certificate was suspended for six months, on account of the stranding of the Cunard steamer Africa, near Cape Race. The Board of Trade, in reply, has announced to the memorialists that it sees no ground for interference with the suspension of the certificate.

Maidenhead.—This town was the scene of an attempted murder and suicide last week. A young man 22 years of age, named George Hooper, a native of Burnham, was employed as coachman and groom to the Rev. Mr. Gresley, incumbent of All Saints' Church, Boyne Hill. He was attached to a girl named Lydia Eliza Baker, a housemaid in the service of Captain Fyfe, adjutant of the Berks Rifle Volunteers, residing at Folly Hall, but the young woman repeatedly told him that she was determined to have nothing to do with him. This seems to have determined him to take revenge upon her, and on Tuesday week he purchased a pistol in this town, and having loaded it with powder and shot, which he obtained from the butler at Boyne Hill, he went in the evening to the house of Captain Fyfe, and obtained an interview with Lydia Baker in the presence of one of her fellow servants. Some conversation took place between them, and Hooper begged her to reconsider her refusal of him, but she repeatedly declared that she would have no more to do with him. He then asked her to accompany him to the front gate. This, however, she refused, and having wished him good night, was about to return into the house, when Hooper, exclaiming "Then take that," discharged the contents of the pistol into her neck. She immediately fell back into the cook's arms, and for some time it was supposed that the wound was fatal. Hooper decamped instantly, and went to the Red Lion Hotel, where he asked the landlord for a bed, which, however, he was unable to obtain, the house being full. In the meantime, the superintendent of the borough police had been apprised of the circumstances, and at once proceeded to Burnham, the residence of Hooper's father, thinking to find him there. Not succeeding in doing so, he returned to Maidenhead, and there learned that the body of the murderer had been found on the moor, a piece of waste ground near the town, where he had literally blown out his brains. On the following morning a letter was received by his father giving minute directions for the disposal of various articles belonging to him, and avowing his intention to kill Lydia Baker, and afterwards himself. The jury at the inquest found a verdict of *felo de se*, and the coroner issued his warrant for the interment of the body without any funeral ceremonies, between the hours of 9 and 12 at night. The wounded girl is progressing favourably, but her medical attendant states that she has still about 100 shots in her neck and shoulder, and is by no means out of danger.

Manchester.—At the weekly meeting of the Central Executive Committee on Monday, the Earl of Derby in the chair, the Honorary Secretary reported that 149*l.* 0*s.* 8*d.* had been received during the week, and that the balance in the bank was 237,849*l.* 16*s.* 9*d.* The Chairman read a letter he had received from Sir George Grey, the Home Secretary, in answer to the resolution passed at their last meeting respecting the expenses entailed on the advancement of money to bodies applying for loans under the provisions of the public works loan commissioners. In this letter Sir G. Grey stated that there is every disposition on the part of the commissioners, as well as of the Government, to reduce the expense to the lowest amount compatible with the obligation on the commissioners to take full security for the payment of the advances; and that the solicitor to the commissioners and the legal advisers of the Poor-law Board have been directed to confer together, in order to ascertain whether the legal proceedings hitherto taken in respect of advances under the act can be in any way abridged, and especially whether any means can be devised of dispensing with a separate deed for each instalment without lessening the security for repayment. The number of operatives out of work in the last week of November was reported to be 159,117, being an increase of 4898 over the corresponding week of October. Sir J. K. Shuttleworth moved a series of resolutions in reference to the factory operatives to be employed on public works, which after a long discussion were agreed to.

Melton Mowbray.—An inquest was held at Waltham, near this town on Friday last, on the body of Mrs. Hutchins, the wife of an innkeeper in the village, who was said to have given her poison on the pretence that it was magnesia. It appeared from the evidence that deceased and her husband had lived a most unhappy life, and that the latter was a very intemperate man. He was arrested on the charge, and the inquest was adjourned for further evidence.

Norwich.—Messrs. Miller and Bugg, solicitors, of this city, have announced that by an indenture of trust and settlement, dated Nov. 24, Mr. W. F. Windham, late of Felbrigg, has assigned to trustees all his real estate and property whatsoever, for the payment of his debts to such creditors as shall execute or assent in writing to the same indenture within three months from the date thereof.

Ryde.—On Wednesday morning a man named Robert Hallett, a labourer, murdered a woman named Philips, and afterwards attempted to commit suicide. The murderer and the deceased had been cohabiting for some years. Both had been married previously; he had been separated from his wife, and she from her husband, in consequence, it is said, of her dissolute habits. The murderer's age is upwards of 50, the woman's was upwards of 40. They lived in a small tenement belonging to Hallett, who possessed some property in Ryde a few years since, in St. John's Road, near the Roman Catholic Cathedral. On Tuesday evening Hallett had received, or borrowed, some money from a person in Ryde, and, returning home with it, appears to have had a drinking bout in his house in company with the woman Philips, her reputed father, a fisherman named Sanders, and a youth, a son of Sanders. All four slept in the house that night. During the night Sanders heard the woman cry out, "Father, father!" but he seems to have taken little or no notice, quarrels between them being of frequent occurrence. In the morning the son got up, and on leaving the house looked into the room in which the man and woman slept, and saw both lying on the floor and covered with blood. He gave the alarm and medical aid was procured, when it was found that the woman's head had been cut off, and that the man had a frightful gash in his throat, but was still living. A large carving knife was found on the floor. It was at first believed the murderer would not recover; but, later in the day, the medical men who had been called in were of opinion that there was a possibility of his recovery.

Saffron Walden.—The famous Danish grave-mounds known as the Bartlow Hills, after having been spared by the plough and the harrow for more than 1000 years, have at length been condemned to destruction in order to accommodate a trivial feeder of the Great Eastern Railway. In so flat a district as the borders of Cambridgeshire and Essex a slight deviation would, it is thought, have been easily practicable; but so wantonly has the new line been adjusted that, as actually staked out for immediate operations, it will bisect two adjacent tumuli of the curious and picturesque group. The subject having been brought under the notice of the council of the Archæological Institute, that body at once addressed a remonstrance to the railway directors; and it is to be hoped they will succeed in preserving these interesting vestiges of antiquity, which are among the most singular relics we possess of a very early and obscure period in the history of this country.

Stafford.—On Thursday afternoon William Barrows, Esq., sole surviving partner of the well-known firm of Barrows and Hall, of the Bloomfield and other ironworks, Tipton, died suddenly at the railway station, Stafford. He had been at Stafford during the week, apparently in good health and displaying his ordinary activity. At one o'clock on Monday he left the witness-box, having given evidence in a case of embezzlement at the Assizes, to all appearance without any change of health. He went to the railway-station to proceed home, and asked for a basin of soup at the refreshment room. In a few minutes he fell off his chair, and before a surgeon could arrive was dead. He was a magistrate of Stafford and was highly respected. His two sons are Lieut.-Col. Barrows, of the 4th Battalion of Staffordshire Rifle Volunteers; and Capt. Barrows, of the Tipton Company.

Sunderland.—In September last the captain and crew of the French ship Jantalina were charged before the borough magistrates with the murder of a Hartlepool fisherman, named Wilkinson, on the high seas. Wilkinson and a boat's crew were engaged in herring fishing off Seaham, when their coble was run down by the French vessel. The boat did not sink immediately, and the Englishmen in attempting to save their lives leaped aboard the Frenchman, when they were forced back by the crew, who drove them over the side by handspikes and bludgeons. Wilkinson being stunned

by a blow, fell into the sea and was drowned. The other men escaped the same fate by getting into English cobles. As the offence was committed on board a French vessel on the high seas, the captain and crew were sent to France to be tried. The captain has just been sentenced by the French Courts to 21 years', and two of the crew to 12 years' confinement in the hulks for the offence.

St. David's.—In consequence of the dangerous condition of the cathedral it has been inspected by Mr. Gilbert Scott, the architect, who has prepared a report in which he estimates the cost of its restoration at 30,000*l.* This report has recently been laid before a county meeting at Carmarthen. The bishop of the diocese presided, and there were present also Lord Dynevor, Dr. Llewellin, Dean of St. David's; Mr. Scourfield, M.P., Mr. Pugh, M.P., Colonel Sir J. J. Hamilton, and other county gentlemen. Lord Dynevor moved the first resolution,—"That the state of the Cathedral of St. David's, as described in Mr. Scott's report, renders it desirable that steps should be immediately taken with a view to its repair and restoration." His lordship said that a portion of the tower of the cathedral, which was 700 years old, was crushed and only supported by the wall which abutted against it, two of the four supports of the tower being wholly untrustworthy. He thought that they might confine their yearly expenditure to 3000*l.* or 4000*l.*, and so extend the subscriptions over a number of years, the subscribers paying by instalments. This resolution having been seconded by Mr. Pugh, M.P., Mr. Scourfield moved,—"That the portion of the work to be undertaken in the first instance include the repairs of the tower, and parts immediately in connection with it, and the restoration of the choir or eastern arm of the cathedral." This resolution having been carried, Colonel Sir J. J. Hamilton suggested the erection of a new cathedral in a more central position in the diocess. He would contribute 100*l.* towards the restoration of the cathedral as a parish church, and for the erection of a new cathedral in Carmarthen he was prepared to do a great deal more. Mr. Gilbert Scott then addressed the meeting, explaining the state of the cathedral, which, he said, was at present not only in a dangerous, but a disgraceful condition, while the tower was imminently dangerous. A committee was then appointed, including the bishop, the dean and chapter, the archdeacon of the diocess, the members for the counties and boroughs, Earl Cawdor, Lord Dynevor, Mr. Beresford Hope, M.P., and other gentlemen. Some large subscriptions were announced, including 1000*l.* each from the bishop and the dean and chapter, 500*l.* from Lord Dynevor, and 300*l.* from the Rev. Sir Erasmus Williams, in addition to 200*l.* included in the dean and chapter's donation.

Truro.—The local papers state that certain landed *property in the counties of Cornwall and Dorset,* called Rialton and Gillingham, which belonged to the Queen, have just been conveyed to the Prince of Wales, for the sum of 97,920*l.*

Windsor.—A number of deer, selected from the fine herds belonging to the Queen in the Great Park, have been lately forwarded to Sandringham, in order to stock the park there. The herds in Windsor Park are at present very strong, and have a number of very fine animals among them.

Worcester.—At the county petty sessions, held at the Shire Hall on Monday, Mr. Thomas Clutterbuck, a solicitor practising in this city, was charged with abduction. The girl Barbara Hopkins, aged 13, had, in consequence of her mother's death, lived with her grandfather and grandmother since she was three years of age. They sold milk, and she carried it round to the customers, among whom was the defendant. About Christmas last he asked the grandmother to allow the girl to stay with his servant while his daughter was out. In October, when the child was one day in his dining room, defendant, who is a widower, asked her if she would like to go to London with him and the servant, and she said she would. On the 13th ult. defendant was at the grandfather's house on business, and asked the grandmother to allow the girl to go to London, but she would not give her consent. He offered her 1*l.* to buy clothes, and she refused it, but handed it to her grandchild. On the 21st ult. defendant went to the grandmother's house, and showed her a letter from a Mrs. Child in London, saying she had apartments ready for him. He asked the grandmother to sign a paper allowing the girl to go, but she refused to do so. While the grandmother left the house for a short time defendant told the girl that he had paid 10*l.* to Mrs. Costello, a dressmaker in Worcester, to take her as an apprentice, and induced her to consent to meet him at the railway station on the following Monday. The girl then joined him and accompanied him to London, where they slept three nights in the same bed. On their return to Worcester on the 1st inst. the girl was taken possession of by her father. The grandfather and father swore before the magistrates that they had not consented to the girl going to London. The magistrates committed the defendant for trial at the assizes, but admitted him to bail.

## Ireland.

Pastoral by Archbishop Cullen.—Dr. Cullen has addressed a pastoral to the Roman Catholic clergy and laity of the diocese of Dublin respecting the approaching festival of the Immaculate Conception. After adverting to the mysterious dignity by which the Virgin was exalted, and the happiness of Catholics in being able to implore her intercession, the archbishop remarks:—

"During many long years our poor country has suffered severely from famine, pestilence, bad seasons, and other visitations of heaven. To these are to be added the evils occasioned by that false and anti-Christian political economy, which would destroy those beings that have been made to the image of God, and redeemed by the blood of Christ, to make room for the brute beasts of the field; and which, in order to provide for the manufacturing and material interests of another country, would rob Ireland of the privilege of being an island of saints in order to make her the mother of herds and flocks. Our past afflictions have been great indeed, but are we not still menaced by other evils, and especially by a continuation of misery and distress, and the greater evils that arose from the machinations of secret and illegal societies? It may be that we are allowed to suffer in order to show that we are the true children of God. Dearly beloved brethren, if we are anxious to repel the assaults of our enemies, let us put on the armour of light, and protect ourselves with the breastplate of faith. The best means for effecting all this is to give a good Catholic education to the rising generation, so that all may know the practices of their religion, and may be able to give an account of the faith that is in them. The poor are to avoid proselytising schools, the rich to shun anti-Catholic colleges and universities, in which the prevailing Protestant spirit is most hostile to the doctrines and practices of the Catholic Church. Above all, we are to shun the contagion of bad and irreligious books, which corrupt the heart and pervert the intellect, and to avoid all the seductions of bad company, the ruin of so many souls."

Alleged Federal Enlistments at Cork.—The Federal corvette Kearsage again arrived off Queenstown harbour on Monday, when the captain re-landed sixteen men previously shipped there. The matter has, apparently, been taken up by the British Government.

The Fenian Invasion.—The *Nation* has just presented its subscribers with two political cartoons, entitled respectively "Going with a Vengeance," and "Coming with a vengeance." The first represents an "eviction," in which the agents of the law in the presence of the landlord are driving out the peasantry, who are preparing in the foreground for emigration. The second represents John Bull, holding by a chain a female figure which has just dropped a harp to implore aid from two armies which are seen descending a hill in the distance, under the American and Irish flags while the British lion, with downcast head and his tail between his legs, is deserting his master at this unexpected apparition.

The Nationalists and Secession.—A difference of opinion has taken place between the Irish Nationalists on the right of the Southern States of America to fight for their independence. Mr. Smith O'Brien holds that they have a right to assert their independence. On the contrary, The O'Donoghue contends that no such right exists, and that the views of Mr. Smith O'Brien, as expressed in his letter to General Meagher, are not only the views of "the English oligarchy and the West Britons of Ireland, but also, alas! of the well-meaning but mistaken few who carry their theories on the right of self-government to a length which would justify every parish in setting up for itself; and that the Southerns have no more right to set up for themselves than the agricultural districts of England had on the passing of the Corn Laws, or than the 'Prentice Boys of Derry would have to set up for themselves if Ireland were an independent nation, and the majority of Irishmen objected to the shutting of the gates on the famous anniversary of Parson Walker's barring out." From this the *Nation* differs, and maintains that the sympathies of Ireland ought not to be on the side of the North, because the sympathies of England are on the side of the South, but should be with the right, on whatever side it may be found.

## Scotland.

Fatal Gunpowder Explosion in Argyleshire.—During the storm of Thursday week a fearful explosion took place at the Kames Gunpowder Mills in Argyleshire, by which seven men were killed and eight injured. It is supposed that the building was struck by lightning. The shock of the explosion was felt for many miles.

## Law.

Court of Chancery: *The Case of Colonel Waugh.*—This was an appeal to the Lord Chancellor against an order of the Court of Bankruptcy, allowing Colonel Waugh to go at large. His lordship in giving judgment on Thursday said that he could *not* give judicial credit to the conclusion which the bankrupt wished to impress upon him, that if he were now discharged he would remain in this country to assist his creditors in the preparation of his accounts, and that any convenience which might result from his release would not be so great as to induce him to set aside the rights of the detaining creditor, or to exercise the discretion vested in the Court by the Act of 1861. He therefore rescinded the order made by Commissioner Goulburn for his discharge.

North Wales Circuit: Chester.—*The Stockport Poisoning Case.—Alice Hewett,* alias *Holt,* 27, was charged with poisoning her mother, Mary Bailey, at Stockport. The prisoner had lived with a woman named Holt, and was the main support of her mother, the deceased. Some time ago the prisoner proposed to insure her own life and that of her mother in an insurance society, but this project fell through for a time. In February last, however, the prisoner asked a woman named Ann Bayley to personate her mother before the doctor for a life policy. Bayley refused. The prisoner then procured a woman named Betty Wood to personate Mary Bailey, who was at that time lying ill, and a certificate of acceptance of the insurance was issued. Mrs. Bailey became ill, and was attended by the parish doctor, who was surprised to find his remedies fail. On three occasions pork pies were purchased and partaken of by the mother, who was sick afterwards. The deceased got worse, and prisoner called in Mr. Barker, who never met the parish doctor, so that each prescribed in ignorance of the other's visits. A nurse called Ryle was in attendance on her, and was repeatedly asked by the prisoner, "Is my mother dying?" On the 25th March she purchased some arsenic, and that evening the old woman was taken worse. Next evening the prisoner bought some more, and when she came home put it in a jug with water. Before deceased died the prisoner bought some brandy for her mother, who drank it, and then said, "There are some grounds at the bottom." The prisoner said, "You ought to have drunk it, grounds and all." During the night the deceased was worse, and she died in the morning. The prisoner subsequently said to Ann Bayley, "Well, I am very glad my mother died, for all my clothes were fast. I wanted to get them out." The body was hurriedly interred, the prisoner informing the insurance agent that the doctor said "it would not keep." The insurance society paid the amount of the policy; but, after a time, suspicion was excited, and the body was exhumed, when it was found, on a *post mortem* examination, to be "saturated with arsenic." Several witnesses having been examined in support of this statement, the jury, after about 20 minutes' absence, found the prisoner *Guilty,* with a recommendation to mercy. On hearing the verdict the prisoner fainted, and moaned in a way pitiful to hear. Mr. Justice Willes assumed the black cap, and, after promising to forward the recommendation of the jury to the proper quarter, although he could hold out no hope that the prayer would be complied with, passed sentence of *Death* in the usual form. The prisoner was removed from the dock in an insensible condition.

Midland Circuit: Stafford.—*The Murder of Two Children at West Bromwich.—Benjamin Holding* was indicted for the murder of his two children, Jane Holding and Joseph Benjamin Holding. The prisoner, a man in the prime of life, was a bundler at an ironworks, and lived at Hall End, near West Bromwich, in the black country between West Hampton and Birmingham. He was married and had two children, one a little girl of four-and-half years, and the other an infant boy of only 14 months. To these and to his wife he always behaved with the greatest tenderness and affection. He bought for them a little perambulator, and in this it was his delight to take them about the lanes and roads around his dwelling every evening after returning from his work. One of his favourite haunts on those occasions was a neighbouring cemetery. He was also a religious man. He led a good moral life, read his Bible often, attended regularly at Church, and was a Sunday-school teacher. In the summer and autumn of the present year he became afflicted with tic-doloreux, and suffered much from pains in his head accompanied by sleeplessness. On the morning of Sept. 22 he went to his work as usual. He returned at 1 o'clock and took his dinner, During the afternoon he remained at home, and was left there by his wife at about 4 o'clock. The wife went to the house of the prisoner's mother. In a short time she was alarmed by seeing her husband come in with wild, staring eyes, and in a most excited state. He remarked, "My little children are gone to heaven," and the two women at once ran to his house. There, on the hearth-rug, in front of the fire, they saw the little girl lying with her throat cut from ear to ear, and quite dead. On the sofa lay the lifeless and similarly mangled body of the infant boy. On the table was the carving knife with which the frightful deed had been committed. The neighbours rushed in, and to them the prisoner remarked that his time was short, and he wished his children to go before him. The motive thus given by the murderer himself was the only one for the commission of the crime which could now be adduced on the part of the prosecution. For the defence a plea of insanity was set up. The mother stated that her paternal aunt and niece had died mad, and that she still had a cousin who was also insane. The doctor said that madness among the poor was largely due to an hereditary taint, and that there existed an insanity known as homicidal mania, by which a man was impelled to commit crime even when he was free from delusion. In answer to a direct question, he also said that, assuming the facts of the case as given by the witnesses to be true, he did think it probable that the prisoner was mad when he killed his children. It was also shown that on a Sunday, six weeks before the murder, Holding, while in church, during the time when the congregation was standing up, suddenly sat down, folded his arms, and looked wildly around him. On the morning of the occurrence he was observed by a fellow workman to be unusually silent. During the trial he appeared to be in the deepest distress; his tears for nearly three hours were profuse and ceaseless. The Jury Acquitted him on the ground of insanity.

Northern Circuit: York.—*The South Cave Post Office Robbery.*—Maria Cook, aged 32, was indicted for stealing two checks from a letter and the post letter-bag at South Cave, on the 24th September last. It appeared that on the day in question the agent for the Yorkshire Banking Company at South Cave enclosed seven checks in a letter, addressed to the manager of the branch bank of the company at Beverley. Some of these checks were for large amounts, but all were crossed; one was for 35*l.*, and another for 24*l.* 8*s.* These checks were enclosed in a common gummed envelope, and posted by a clerk at the post-office at South Cave, which was kept at that time by a man named Hanson, who also kept a grocer's shop. The mail-bag that night was made up by Hanson and an assistant, there were 38 letters put into it, and it was tied and sealed up, and by Hanson placed on his shop counter to wait for the mail cart, which was to arrive shortly after 7 o'clock. Hanson left the shop, and left in it his wife attending to a child who had come in to purchase something. The child left, and the shop door, which had a bell upon the lower half of it, was not quite closed by the child in going out. Mrs. Hanson went into the passage adjoining the shop to call her husband and send him upstairs for a bag she wanted, she being absent from the shop only a minute, and on her return she missed the letter bag, which was gone. Messengers were sent in all directions, but no one was seen to have left the shop. The prisoner, who is a married woman, respectably connected, and a relative of Hanson's wife, had been staying with them on a visit about two months before, and knew the ways and customs of the house. She lived at Hull. She was seen going by the railway to Brough, which is three miles from South Cave, that afternoon by the 4 o'clock train. Shortly before 7 o'clock a lady was seen by a man living in South Cave to be standing close to Hanson's shop door and looking through the windows into the shop. She turned and went down a passage behind the shop. In appearance and dress she much resembled the prisoner; and about half past 7 a man driving a dog-cart from South Cave to Ferriby, which is two miles and a-half nearer to Hull than Brough, overtook a woman walking on the road and asked her if she would ride. She got into his dogcart and he put her down at Ferriby. She resembled the prisoner in dress and appearance. At 9 o'clock that night the prisoner ran into the railway station, saying she thought a luggage train just passing was the last passenger train for Hull, and that she was late. The train came up about a quarter of an hour after, and she travelled by it in a third-class carriage to Hull. Next morning the bank at Beverley received the South Cave letter, which appeared to have been posted at Ferriby, advising the sending of the seven checks, but only containing five, and not containing two checks for 35*l.* and 24*l.* 8*s.* respectively; and in consequence of this and of information of the loss of the South Cave letter bag a message was sent to the bank at Hull. That morning about 10 o'clock, the prisoner asked

a boy in Whitefriargate, Hull, to present a check for her at the bank and bring her the money. He went into the bank, and, the check being crossed, its payment was refused; but, in consequence of the message received from Beverley, a clerk went out and followed the boy until he joined the prisoner, and then asked the prisoner, who had just received back the check, to let him look at the check just presented at the bank. She then pulled an envelope out of her bag and handed it to him, and it contained, not the check presented to the bank, but another check for a different amount—the other missing check. The clerk requested her to step back with him to the bank, and she then said, "She hoped there was nothing wrong." She was asked where she got the checks, and said that a gentleman gave them to her in the railway carriage, as she was coming by the last train from Hessle the night before, and said to her, "There, young woman, there are some checks; if you get them cashed there will be some money for you." On this improbable story she was taken into custody. The post-office letter bag was found empty in a field between South Cave and Ferriby, and it appeared that all the letters posted at South Cave had been subsequently received, and bore either the Ferriby or Hull postmark, showing that they had subsequently been posted at one or other of those places. It also appeared from the evidence of a woman who sat opposite to the prisoner in the railway carriage that no gentleman spoke to her on the journey. The defence set up was that the identity of the prisoner was not satisfactorily established with the woman seen at South Cave, and that her account of how she became possessed of the two checks was the truth, and was not more extraordinary than that of the boy who received them from her as a stranger, and carried them to the bank to present, who would have been charged with stealing them if she had not been found, nor than the extraordinary coincidences in the case for the prosecution, that the bag should be stolen by the prisoner during the only minute that it was left on the shop counter out of sight of Mrs. Hanson, and that the door should have at that same moment been left ajar and the bell not have made any alarm. The jury found the prisoner *Guilty*. Mr. Justice Wightman said the offence was a very serious one, but he should take into consideration the fact that all the other stolen letters had been forwarded as some mitigation of the injury done. The sentence of the Court was that she be kept in penal servitude for three years.

## Sporting.

THE GREAT FIGHT.—This prize fight for 2000*l.*, between Heenan, the Benicia Boy, and Tom King, on which so many thousands had been staked by betters on both sides, took place on Thursday morning at Wadhurst, two stations beyond Tunbridge Wells, on the borders of Sussex and Kent. The special train started from London Bridge before daylight, but in order to keep the party select the tickets were fixed at 3*l.* 3*s.*, and were not issued to any whose names had not been previously approved of. About 1200 persons are said to have paid this sum for the spectacle. On Wednesday evening and during the whole night the station was the scene of great excitement, and a mob of roughs assembled on the chance of being able to get into the carriages. An immense body of police was required to keep order, but in spite of every precaution some of the roughs contrived to get into the station and secreted themselves under the seats of the carriages and even under the carriages themselves, but as every carriage was searched before starting, they were discovered and ejected. The train was drawn by two engines, and proceeded at a rate of 40 miles an hour to Wadhurst, where the ring was pitched immediately on its arrival. King was the first to throw in his cap, and the men having tossed for places the choice was won by Heenan, who took the position looking down hill, and with the bright sun at his back. The betting was 6 and 7 to 4 on Heenan, who looked a model of muscular strength. King was slighter, and a half-stone less in weight, but looked also remarkably well; and both of them were much cheered. A great deal of time was then wasted in the appointment of a referee, and the quarrel was several times nearly coming to a general fight, but at length, chiefly by the interposition of one of the numerous members of parliament, who with peers and officers of both army and navy were present, a referee was agreed upon, and the men were stripped amid the enthusiastic applause of the crowd. Tom Sayers and McDonald were Heenan's seconds, and Noon and Tyler backed King. The men then stood up, and after some sparring King attempted to reach Heenan's face, but was stopped, more accidentally than scientifically, by his head coming within reach of Heenan's left arm, when Heenan in a moment got his head beneath his arm in a grasp like that of a vice. At length by a slip both went down, Heenan uppermost. The fall was a heavy one, and when King was carried to his chair he seemed so like fainting that there were all around from the Americans cries of "It's all over." But it was nothing like all over, for when time was called for the second round King was up shortly after Heenan, and administered to him a severe blow on the jaw, from which the bones appeared to give way. But Heenan tried hugging again, and threw King heavily—"first blood" being accorded to King. In this way the fighting proceeded, nearly every round King administering a heavy blow in the face, and nearly every round Heenan throwing King, without, however, doing the latter as much harm as the cutting blows did the former. But still King was very badly hurt by the falls; and it is more than doubtful whether he would have been up to time on one or two occasions had not Mace, who was attending to his former opponent, entreated, pushed, and even threatened him. But blood was flowing rapidly from Heenan, who was gradually growing weaker and nearly blind, while the latter falls did not seem to hurt King nearly so much as the earlier ones. The struggle became tremendous—Heenan relying more than anything on his wrestling, King on his blows. In the 16th round, however, Heenan happened to get a good blow on King's face, which sent the latter falling into his corner; and as he did not fall directly there was some dispute as to whether he did not go down without a blow. In the next round both men were very weak, and in the 18th round, although King had far the best of the fighting, Heenan threw him again with such force that but for violent restoratives King could not have recovered the stunning of the skull. And now, so excited did the on-lookers become, the ring was broken into and the men had during that round to fight in the middle of a surging, seething crowd, when getting Heenan over the ropes, he punished the American just as he liked, and the ring resounded with cries of "King wins in a walk!" Nor were these exclamations diminished in number or power when, in the 20th round, Heenan's face was nearly covered with blood from the cuts which his backers could not stanch. In the next bout King delivered two terrific blows on Heenan's jaw and eye, cutting his lip as if with a knife. King then closed and threw Heenan, who from that moment had no chance. In the 22d round both combatants were drenched with water, and Heenan also with blood, which nearly blinded him. From that time it was sheer barbarity to continue the fight, but both men were still willing, and the crowd would have it fairly out. In the rounds immediately following the superior endurance and youth of King enabled him to pursue his successes with tremendous rapidity. Hardly could Heenan appear upon his ground—where, it must be said, he presented himself with unflinching pluck to the end—before he was prostrated by King's furious blows, or crushed down in his all-powerful gripe. His face soon became a frightful spectacle, although far less hideous than at the close of his battle with Sayers. At last even the dull humanities of his friends were stirred, and, after another merciless round, in which his failing strength was no longer capable of affording him a shadow of defence, he was, at the close of the 24th round, withdrawn reluctantly by his friends, though himself insensible. King was then hailed as the winner of the 2000*l.*, was able to return the greetings of his friends and even to walk across the ring and take the hand of his late opponent, who was now a fearful object, his face absolutely running with blood, and swollen to an extent which can scarcely be imagined. He was also pulseless, and punished internally, for he vomited so much that it was feared he would die on the spot; and it was only after a very considerable interval that he could be removed in an open fly to the station at Wadhurst, where it was thought better he should remain for the day at least. King returned to town in the special train which arrived at Bricklayers' Arms station at two o'clock. The fight lasted 35 minutes, and it is said that 24 rounds were never before fought in so short a time.

## Obituary.

MR. JUSTICE WIGHTMAN died suddenly on Thursday at York. His lordship was in that city trying prisoners at the Yorkshire winter assizes, and on Wednesday was in his usual health, and tried the long and important Post Office robbery case. The Court rose about 6 o'clock, when his lordship manifested no signs of fatigue, although his labours during the day had been of an arduous character. He retired to rest at his usual hour, and was apparently quite well, but on Thursday morning, at 7 o'clock, when his valet entered his room he was alarmed to find his lordship breathing very heavily, and to all appearance in a fit of apoplexy. Miss Wightman, who accompanied her father whilst on circuit, was instantly called, and two medical men were sent for. Their services, however, were of little avail, for the learned judge remained totally unconscious, and lingered in this state of unconsciousness until a quarter past 1 o'clock, when he expired. Mr. Justice Wightman had been a judge of the Queen's Bench for 22 years, and was universally esteemed by the bar for his amiability of disposition, and for his high legal attainments. His lordship's death has put a stop for the present to the business of the Yorkshire winter assizes.

THE DEAN OF LINCOLN, the Very Rev. Thomas Garnier, B.C.L., died at the Deanery on Monday night, in his 54th year. He had been an invalid for the last three years, having had a paralytic attack from which he never recovered. In the spring he went to the Continent, in the hope of improvement, but returned about a month ago, without benefit, and since then has been gradually sinking. He was the son of Dr. Garnier, Dean of Winchester, and graduated at Worcester College, Oxford, in 1830, and proceeded B.C.L. in 1833, having previously enjoyed a Fellowship at All Souls. He was appointed Chaplain to the House of Commons in 1849, and in 1850 the Crown presented him to the district rectory of Trinity Church, St. Marylebone. In 1860 Lord Palmerston appointed him Dean of Lincoln. He was the author of many published sermons; but the work which brought him first into notice was "Plain Remarks on the Poor Law," published in 1835.

SIR HENRY MARTIN, BART., died at Tunbridge Wells on the 4th inst. He was son of the second baronet, by the daughter of Thomas Powell, Esq., of the Chesnuts, near Tottenham. He was born in 1801, and married in 1825 his cousin, the daughter of the late admiral of the fleet, Sir Thomas Byam Martin, G.C.B. He succeeded his father in 1842. The first baronet was comptroller of the navy.

ADMIRAL AYSCOUGH died at the Crystal Palace Hotel, Norwood, on the 2d inst., in his 88th year. He was born on board her Majesty's ship Swan during a desperate action fought by that vessel while on a passage from North America, under the command of his father, the late Captain John Ayscough, who lost a leg on the occasion. He entered the navy in 1787, and served on various stations under Sir James Wallace, Lord Howe, and other admirals, until he attained the rank of commander in 1797. In 1801 he commanded the Inconstant in Egypt, and received the Turkish gold medal for his services. In 1806 he was posted into the Success, 32, in which he was for some months engaged in the blockade of Havre, and afterwards took part in the expedition against Madeira in 1807, and at the capture of Procida, Ischia, &c., in 1809. He subsequently commanded a squadron at the defence of Sicily. From 1822 until 1825 he superintended the ordinary at Plymouth, and was afterwards for some years commissioner of Jamaica and Bermuda dockyards. He attained flag rank in 1841, and became full admiral in 1855.

THE REV. PROFESSOR THELWALL, lecturer in public reading and elocution in King's College, died a few days since, in his 68th year. He was the son of the well-known John Thelwall, who was tried in 1794 for high treason with Horne Tooke and Hardy, and who afterwards became a successful elocutionist. Mr. Algernon Thelwall graduated at Trinity College, Cambridge, 18th wrangler in 1818, M.A. in 1826. From 1819 to 1822 he was minister of the English Chapel at Amsterdam; from 1822 to 1827 he was missionary to the Jews, and then became curate of Blackford, Somersetshire. In 1842-3 he was minister of Bedford Chapel, Bloomsbury, and was then appointed curate of St. Matthew's, at the east end of London. In 1850 he was appointed lecturer in public reading and elocution at King's College, for the especial benefit of the theological students. He was author of "Tracts for the Jews," "The Old Testament Gospel," a volume of Sermons on the relations of the Church to the world; a refutation of Edward Irving's heresies; a letter to a friend in answer to objections to the Church of England; attacks on the Church of Rome for idolatry; on the grant to Maynooth; and on the doctrine of Justification; four tracts in the Brighton Protestant Tract Series; Lectures and Exercises in Elocution; and other works in support of the Evangelical party.

MR. WILLIAM SALT, F.S.A., M.R.S.L., junior partner in the firm of Messrs. Stevenson, Salt, & Sons, the well-known banking firm in Lombard Street, died suddenly on Sunday morning. He was at the British Museum on Saturday, investigating matters relating to the topography and antiquities of Staffordshire; and was seized with a fit in church on Sunday morning, from the effects of which he died. Mr. Salt was a familiar reader in the British Museum reading-room, and was well known in the literary world by the number of old books he had presented to the Library. In 1814 he printed a curious supplement to Dr. Harwood's edition of Sampson Erdeswick's "Survey of Staffordshire," with the text in many parts revised, only 20 copies of which were printed.

MR. J. D. HARDING, the most eminent teacher of drawing in London, and one of the most conspicuous water-colour painters of his time, died on the 4th inst. at 15, Lonsdale Terrace, Barnes. James Duffield Harding was born at Deptford in 1798. His father, who was also an artist, was a pupil of Paul Sandby, and he himself had lessons from Prout. Once, by the advice of his mother, he attempted to draw the trees in Greenwich Park, but failed, and became a pupil of an engraver. After a year some fresh sketches from nature were successful, and at the age of 18 he received the silver medal from the Society of Arts. He now became a teacher of drawing, and in the exercise of his profession published three well-known works, the "Guide and Companion to Lessons in Art;" "Sketches at Home and Abroad," and "Park and Forest." He also illustrated several of the Annuals and other works, and his sketches present every variety, ranging from Great Britain to France, the Tyrol, the Alps, Italy and Germany, sea and land, mountain and plain, palace and cottage. He was one of the principal members of the Old Society of Painters in Water Colours, but having about 12 years ago taken to oil-painting, he desired admission to the Royal Academy, and in compliance with the rule which forbids a candidate from being a member of any other society, he severed his connection with the Old Water Colour Society. He was, however, not admitted into the Academy, and after some time he rejoined his old Society, and continued a member of it to his death.

WILLS.—The Will of Beriah Botfield, Esq., M.P., has been sworn under 200,000*l.* personalty; Sir Samuel G. Bonham, Bart., 120,000*l.*; Mr. Charles Rawlings, of Great Marlborough Street, 40,000*l.*; Miss Isabella Schröder, of Southampton, 60,000*l.*; Captain Thomas Gardner, of Sea Grove, Ryde, 120,000*l.*

BIRTHS.—On the 4th inst, at Lambton Castle, the Countess of DURHAM, of a son.—3d inst, at 35, Hill Street, Lady EMILY WALSH, of a son.—5th inst, at Suttons, Lady SMITH, of a son.—2d inst, at Hopton Hall, Lady PLUMRIDGE, widow of Admiral Sir James H. Plumridge, K.C.B., of a son.—4th inst, at Oxford, the wife of the Rev. W. S. SALTER, M.A., principal of St. Alban Hall, of a son.

MARRIAGES.—On the 3d inst, at Okeover, SAMUEL WILLIAM CLOWES, Esq., to the Hon. ADELAIDE CAVENDISH, daughter of the late Lord Waterpark.—3d inst, at St. Stephen's Church, Dublin, D. R. W. BUCHANAN, Esq., eldest son of Andrew Buchanan, Esq., Greenfield, Lanarkshire, N.B., to the Lady KATHRINE ALICIA HELY-HUTCHINSON, daughter of the late, and sister of the present, Earl of Donoughmore.—3d inst, at St. George's Church, Hanover Square, Captain CHARLES WILLIAM PAULET, late 7th Hussars, son of the Hon. and Rev. Lord Charles Paulet, to SUSAN AMELIA GEORGINA CARR, second surviving daughter of the late WILLIAM STANDISH STANDISH, Esq., of Cocken Hall, Durham, and Duxbury Park, Lancashire.—8th inst, at Cattistock, Dorset, G. H. WYNDHAM, Esq., second secretary to her Majesty's Embassy at Berlin, and eldest son of Colonel and the Hon. Mrs. Wyndham, of Rogate Lodge, Sussex, to CHARLOTTE ELIZABETH SOPHIA, second daughter of the Hon. and Rev. W. H. SCOTT, rector of Maiden Newton, Dorset.—1st inst, at the British Embassy, Paris, Captain JAMES B. LIND, Bengal Staff Corps, to FLORENCE, youngest daughter of Sir JOHN F. DAVIS, Bart., K.C.B.—9th inst, by special license, at St. George's Square, the Hon. ST. JOHN BUTLER, second son of the late Lord Dunboyne, to ANNE, widow of ROBERT GEORGE PARNTHER, Esq., late of the Rifle Brigade, and of Grafton Street, London.—8th inst, at Matfen Church, Rear-Admiral the Hon. CHARLES G. J. B. ELLIOTT, C.B., to LOUISE, eldest daughter of Sir EDWARD BLACKETT, Bart., of Matfen, Northumberland.—8th inst, at St. George's, Hanover Square, the Rev. HENRY NELE LORING, of Southwick and Boarhunt, Hants, eldest son of the late Admiral Sir J. W. Loring, K.C.B., K.C.H., to JEAN, second daughter of the late Admiral Sir CHARLES SULLIVAN, Bart.—Oct. 7, at New Westminster, British Colombia, Lieutenant HENRY SPENCER PALMER, R.E., to MARY JANE PEARSON, eldest daughter of the Ven. H. P. WRIGHT, Archdeacon of Colombia.—1st inst, at Shiplake, Oxon, WILLIAM DALZIEL, eldest son of EDWARD MACKENZIE, Esq., of Fawley Court, Henley-on-Thames, to MARY ANNA, eldest daughter of HENRY BASKERVILLE, Esq., of Crousley Park, Oxfordshire.

DEATHS.—On the 5th inst, at Henfield, Sussex, AGNES EMILY ISABELLA, wife of W. R. HESKETH, Esq., and daughter of the Hon. W. E. FitzMaurice, aged 22.—5th inst, at Nice, PHILIP A. WAKE, Esq., fifth son of Sir Charles Wake, Bart., of Courteen Hall, Northamptonshire, aged 33.—5th inst, in Upper Bedford Place, Russell Square, ELIZA, third daughter of the late Sir WILLIAM RULE, many years surveyor of the navy.—3d inst, at North Perrott, Somerset, WILLIAM HOSKINS, Esq., a magistrate for the counties of Somerset and Dorset, aged 76.—4th inst, P. BROOKE PARKER, eldest son of Captain R. TOWNELEY PARKER, Bamber Bridge House, Lancashire, aged 11.—6th inst, at Lew House, Lew Trenchard, Devon, SOPHIA CHARLOTTE, wife of E. BARING-GOULD, Esq.—1st inst, at Worthing, EMMA RAWLINSON THORNTON, wife of Falkland S. Thornton, Esq., Cumberland Place, Birmingham.—1st inst, at Oxford, the Rev. F. B. PERRY, M.A., incumbent of Cadmore End, Oxon, aged 39.—4th inst, at The Parsonage, the Rev. HENRY H. EVANS, incumbent of Leytonstone, Essex, aged 59.

## Markets.

### COVENT GARDEN, Dec. 12.

Owing to the continued mildness of the weather, all kinds of produce in season are abundant. Pine Apples are well supplied, and prices for them are moderate. Grapes of all kinds are now beginning to get scarce. Of foreign Melons there is a good stock. There is also a good supply of Nelis d'Hiver, Glou Morceau, Monsieur le Curé, and Beurré Diel Pears. Good English Apples are getting somewhat scarce. Some good examples of Ribston Pippin and Cox's Orange Pippin Apples may still be obtained. Kent Cobs are good and plentiful. St. Michael Oranges are realising from 5s. to 10s. per 100. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Primroses, Mignonette, and Roses.

FRUIT.

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| Pine Apples, per lb., 4s to 6s | Oranges, per 100, 7s to 10s |
| Grapes, per lb., 2s to 8s | Nuts, small, per bush., 14s to 18s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Kent Cobs, 80s to 90s p. 100 lbs. |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 14s to 20s |
| Lemons, per 100, 5s to 10s | Chesnuts, per bush., 10s to 20s |

VEGETABLES.

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| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 8d |
| „ Shaws, do., 50s to 60s | Lettuces, each, 1d to 4d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 9d to 1s | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 5d |
| Tomatos, each, 2d to 3d | |

POTATOS.—SOUTHWARK, Monday, Dec. 7.

During the past week the arrivals both coastwise and by rail have been more moderate, but still more than equal to the demand. The trade still continues in a very languid state. The following are this day's quotations:—Yorkshire Flukes, 85s. to 90s. per ton; do. Regents, 70s. to 80s.; do. Rocks, 55s. to 60s.; Kent and Essex Regents, 65s. to 70s.; Perth, Forfar, and Fifeshire Regents, 50s. to 55s.; do. do. Rocks, 45s. to 50s.

COAL MARKET.—Dec. 8.

Lambert's West Hartley, 16s. 6d.; Walker Primrose, 16s.; Walls End Hetton, 21s.; Walls End Cassop, 21s.; Walls End Hartlepool, 20s. 6d.—14 ships at market.

### HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, Dec. 10.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to 80s | | Clover, old .. .. | 90s to 110s | |
| Superior do. .. | 84 | 90 | Do. second cut .. | 90 | 100 |
| Inferior do. .. | 65 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 24 | 30 |
| Rowen .. .. .. | — | — | | | |

Harvey & Easton.

Cumberland Market, Thursday, Dec. 10.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay.. | 88s to | 95s | Inferior do. .. | 88s to 100s | |
| Inferior do. .. .. | 72 | 80 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 32 | 36 |
| Superior Clover .. | 108 | 115 | | | |

Joshua Baker.

Whitechapel, Thursday, Dec. 10.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay.. | 84s to 88s | | Prime 1st cut Clover | 105s to 112s | |
| Inferior do. .. .. | 70 | 80 | Inferior do. do. .. | 100 | 105 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do... | 100 | 105 |
| Straw .. .. .. | 27 | 30 | Inferior do. .. .. | 90 | 95 |

### BRITISH WOOLS.—London, Dec. 10.

We are still without business, and expect to be so until the minimum rate of discount is arrived at with some degree of probability. In the meantime the general feeling is not to press wool on the market until the consumers require it.

| | s. d. | s. d. | | |
|---|---|---|---|---|
| South-down Hog-gets .. .. .. | 1 11 | to 2 0 | Leicest. Wethers | 1 9½ to 1 10½ |
| Half-bred ditto.. | 1 11 | — 2 0½ | Ditto Hoggs .. | 1 10½ — 1 11½ |
| Down Ewes .. | 1 10 | — 1 10½ | Combing Skins .. | — .. |
| Kent Fleeces .. .. | | — 2 0 | Flannel Wool .. | 1 4 — 1 9 |
| | | | Blanket ditto .. | 0 9 — 1 0 |

### HOPS.—Borough Market, Friday, Dec. 11.

Messrs. Pattenden & Smith report a continued steady demand among the London brewers for all good descriptions of both English and foreign Hops, at somewhat advanced prices.

### NEWGATE.—Dec. 11.

Best Fresh Butter .. .. 16s. per dozen lbs.
Second do. do. .. .. 13s. "
Pork, 3s. 8d. to 4s. 0d. per 8 lbs.

### METROPOLITAN CATTLE MARKET.

Monday. Dec. 7.

The number of Beasts is nearly as large as on Monday last. The trade is brisk, and in some instances last week's prices are rather exceeded. The supply of Sheep is very much shorter, and consequently prices are rather better on the average, but trade finishes very dull. Good Calves are scarce, and make full prices. From Germany and Holland there are 480 Beasts, 1340 Sheep, and 118 Calves; from Spain, 140 Beasts; from Scotland, 520; from Ireland, 780; and 2700 from the Northern and Midland Counties.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 5 2 | to 5 4 | Best Long-wools, | 5 4 | — 5 8 |
| Best Short-horns | 5 0 | — 5 2 | Do. Shorn .. .. | .. | — .. |
| 2d quality Beasts | 3 4 | — 4 4 | Ewes & 2d quality | 4 6 | — 5 0 |
| Best Downs and Half-breds .. | 5 10 | — 6 2 | Do. Shorn .. .. | .. | — .. |
| Do. Shorn .. .. | .. | — .. | Lambs .. .. | .. | — .. |
| | | | Calves .. .. | 4 0 | — 5 8 |
| | | | Pigs .. .. | 3 0 | — 4 8 |

Beasts, 4860; Sheep & Lambs, 16,790; Calves, 123; Pigs, 440.

Thursday, Dec. 10.

The number of Beasts is considerably larger than on Thursday last, but it is not excessive for the day before the "Great Market." Several good specimens are on offer and make good prices. Indeed, in every respect trade is fully as good as on Monday last. Sheep are also now plentiful, and although trade is not very brisk, there is but little alteration in prices. Calves are scarcely as dear as on Monday. Our foreign supply consists of 510 Beasts, 1140 Sheep, and 242 Calves. Milch Cows, 90.

| | s d | s d | | s d | s d |
|---|---|---|---|---|---|
| Best Scots, Herefords, &c. .. | 5 2 | to 5 4 | Best Long-wools. | 5 4 | — 5 8 |
| Best Short-horns | 5 0 | — 5 2 | Do. Shorn .. .. | .. | — .. |
| 2d quality Beasts | 3 4 | — 4 4 | Ewes & 2d quality | 4 6 | — 5 0 |
| Best Downs and Half-breds .. | 5 10 | — 6 0 | Do. Shorn .. .. | .. | — .. |
| Do. Shorn .. .. | .. | — .. | Lambs .. .. | .. | — .. |
| | | | Calves .. .. | 3 8 | — 5 6 |
| | | | Pigs .. . | 3 0 | — 4 8 |

Beasts, 1660; Sheep & Lambs, 4360; Calves, 267; Pigs, 220.

### MARK LANE.—Monday, Dec. 7.

The supply of Wheat from Essex and Kent to this morning's market was moderate, and disposed of at barely the rates of this day se'nnight. The sale of Foreign was limited, and confined to the necessities of consumers, who purchased reluctantly, and in retail at our quotations. Barley, with the exception of the finest malting, was rather cheaper. Beans and Peas were unaltered in value. The Oat trade was steady at late rates. Flour sold slowly at about last week's prices.

| Per Imperial Quarter | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 42—48 | Red ..... | 40—48 |
| — — fine selected runs .. ditto | 44—52 | Red .... | 40—48 |
| — — Talavera .............. | 48—54 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 36—54 | | |
| Barley, grind. & dist., 26s to 28s .. Chev. | 34—38 | Malting .. | 30—38 |
| — Foreign .. grinding and distilling | 23—27 | Malting .. | 30—32 |
| Oats, Essex and Suffolk ............ | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ................ Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 18—22 | Feed .... | 15—20 |
| Rye ...................... | 30—32 | Foreign .. | — |
| Rye-meal, Foreign ................ | — | | |
| Beans, Mazagan .... 28s to 36s .. Tick | 30—34 | Harrow .. | 30—34 |
| — Pigeon .... 32s to 40s .. Winds. | — | Longpod | — |
| — Foreign ................ Small | 36—42 | Egyptian | 30—32 |
| Peas, White, Essex and Kent .. Boilers | 36—38 | Suffolk .. | 36—39 |
| — Maple .... 31s to 36s .... Grey | 31—34 | Foreign .. | 32—40 |
| Maize .................... White | — | Yellow .. | — |
| Flour, best marks delivered .. per sack | 35—40 | | |
| — 2d do .................. ditto | 28—34 | Country .. | 28—34 |
| — Foreign ............ per barrel | 15—25 | Per sack | 32—42 |

Friday, Dec. 11.

The weather since the 4th inst. has been fine and mild, excepting the 9th, which was wet. The advance in the rate of discount has stopped all speculation in Wheat, and the trade of the week has been very limited; a decline of 1s. per qr. is quoted in the majority of the provincial markets, and must have been accepted here had there been any disposition to press sales. Barley, particularly the inferior descriptions of English, has been neglected, with a lowering tendency in prices. The previous value of Oats, Beans, and Peas has been maintained. Since Friday last 32 vessels have been reported off the coast. The floating trade has been very inactive during the week. Wheat receded 1s., Barley and Beans 6d. per qr. Paris, Dec. 10.—Flour, after a small advance, has come back to last week's rates. The six marks for delivery this month are quoted equal to 33s. 6d. per 280 lbs; the present stock is estimated at 4400 cwt. For Wheat 1s. to 1s. 6d. per qr. higher prices were generally asked, but only a limited business was done at 6d. to 9d. per qr. advance. The arrivals of English grain this week have been very small, moderate of foreign Wheat and Flour, very large of Barley, and small of Oats. The attendance of buyers at this morning's market was most limited, as was also the amount of business transacted in Wheat. We do not, however, alter our quotations. Spring Corn of all descriptions was a slow sale at Monday's prices. The Flour trade was also quiet.

Arrivals this Week.

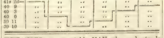
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 390 qrs. | 720 qrs. | 1210 qrs. | 480 sk. |
| Irish .... | — | 210 | 2500 | — " |
| Foreign .. | 9840 " | 26,250 | 6680 " | { 1040 " <br> 6070 brls } |

Liverpool, December 8.—We have had a very short attendance of both town and country millers and dealers at to-day's market, and the business passing in Wheat has been quite of a retail character, at a reduction of 1d. per cental from the rates of Friday last. Flour must be quoted the turn lower to sell, but there is little offering. Indian Corn is quite neglected, and might be had fully 3d. per qr. cheaper, but buyers are shy, dear money completely outweighing the American advices. Oats and Oatmeal dull. Beans, Peas, and Barley each a shade easier. The market closes dull.

Friday, Dec. 11.—Market generally quiet. Wheat exceedingly slow, and value quite nominal. Flour quiet, and several parcels Western sold 20s. to 20s. 6d. Indian Corn dull, and rather lower; mixed 29s. to 29s. 6d. Beans, Oats, and Oatmeal dull.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Oct. 31 | 41s 2d | 34s 0d | 18s 11d | 28s 0d | 35s 8d | 35s 2d |
| Nov. 7 | 40 0 | 34 2 | 18 7 | 28 0 | 35 10 | 35 0 |
| — 14 | 39 10 | 34 0 | 18 9 | 25 0 | 36 5 | 34 1 |
| — 21 | 39 11 | 33 11 | 19 11 | 29 7 | 35 6 | 34 2 |
| — 28 | 40 3 | 33 7 | 19 7 | 34 9 | 36 1 | 34 1 |
| Dec. 5 | 40 9 | 33 6 | 19 5 | 29 7 | 35 3 | 33 7 |
| Agg. Aver. | 40 1 | 33 10 | 19 2 | 29 2 | 35 10 | 34 4 |

Fluctuations in the Last Six Weeks' Averages.




WANTED, a respectable MAN who understands Groundwork, Laying-out and Planting new Gardens, &c. It is desirable that he should have some knowledge of Drawing Plans, and Estimating.—Apply by letter only, stating salary required, to C D., 82, Bishopsgate Street, Within, E.C.

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WANTED, a respectable Young Man as CLERK, in a Nurseryman's Counting house.—It is necessary that he should be a good Book-keeper and Correspondent. One who has some knowledge of Plants and their value preferred. —Apply, by letter only, stating salary required, &c, to A. B., 82, Bishopsgate Street Within, E.C.

WANTED, a SHOPMAN.—One with some knowledge of Plants preferred.—Apply, stating age, experience, terms, and reference, to Stephen Brown, Sudbury, Suffolk.

WANTED, an UNDER SHOPMAN to a London house. State age, salary, and reference.—A. Z., *Gardeners' Chronicle* Office, Wellington Street, W.C.

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GARDENER, to a nobleman or gentleman.—James Gould (age 40, married, no incumbrance). Gardener to the late E. W. Anderson, Esq., East Acton, London, W., will be at liberty to engage at Christmas. J G. thinks it sufficient to say that he has been six years in his situation, having had the full and entire charge of the place, including Stock and Grass Land

GARDENER (Under), age 22.—J. Jefferson, Gardener to Josh. Garside, Esq, Carlton House, Worksop, wishes to recommend a Young Man in the above capacity, who has served with him upwards of 2 years where Forcing is carried on throughout the year.

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| | | | |
|---|---|---|---|
| That the Fire Premiums of the year were .. | £436,065 | 0 | 0 |
| Against those in 1861, which were .. .. | 360,131 | 0 | 0 |
| Giving an increase in 1862 of .. .. .. | £75,934 | 0 | 0 |
| That the new Life business comprised the issue of 785 Policies, insuring .. .. .. .. | 467,334 | 0 | 0 |
| On which the Annual Premiums were .. .. | 13,935 | 7 | 11 |
| That there was added to the Life Reserve .. | 79,277 | 11 | 4 |
| That the balance of Undivided Profit was increased | 25,725 | 9 | 7 |
| That the Invested Funds of the Company amounted to .. .. .. .. .. | 1,417,808 | 8 | 4 |

In reference to the very large increase of 76,000*l.* in the Fire premiums of the year, it was remarked in the Report, "The Premiums paid to a Company are the measure of that Company's business of all kinds; the Directors therefore prefer that test of progress to any the duty collected may afford, as that applies to only a part of a Company's business, and a large share of that part may be, and often is, re-insured with other offices. In this view the yearly addition to the Fire Premiums of the Liverpool and London Company must be very gratifying to the proprietors."

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| Annual Revenue from all Sources .. .. .. | 182,000 |
| Amount of Life Insurances in Force .. .. | 8,000,000 |

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The following statements exhibit the great increase which has taken place in the Company's business, in both departments, during the last few years.

LIFE DEPARTMENT.
Progress during the last 5 Years.

| For the Year ending 31st July | Number of New Life Policies Issued. | Insuring. | Yielding of New Premiums. | | |
|---|---|---|---|---|---|
| 1859 | 522 | £252,740 | £7,814 | 1 | |
| 1860 | 625 | 304,705 | 9,828 | 6 | 2 |
| 1861 | 874 | 404,014 | 12,755 | 0 | 0 |
| 1862 | 915 | 427,330 | 13,197 | 9 | 1 |
| 1863 | 1071 | 488,264 | 15,382 | 1 | 0 |

FIRE DEPARTMENT.

| | |
|---|---|
| In 1857 the revenue amounted to .. .. | £35,479 |
| In 1860 ,, ,, .. .. | 45,609 |
| In 1863 ,, ,, .. .. | 52,596 |

Being an increase of nearly 50 per cent. in six years.

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37, Cornhill, December, 1863. F. G. Smith, Secretary.

## News of the Week.

The Danish Government has received official notice that Federal execution in Holstein will be carried out on Tuesday next. The contingents of the four Powers deputed to give effect to this resolution are prepared to march on that day; the Federal Diet has voted 17 millions of thalers for the expenses of the execution, and has issued instructions to the civil commissioners who are appointed to assume the provisional government of the Duchy. The German Parliaments, however, with scarcely an exception, are dissatisfied with these measures on the ground that they are inadequate to the emergency, and that nothing less than the occupation of the two Duchies will meet the views of Germany. The Saxon Diet has adopted a resolution demanding the abrogation of the Treaty of London and the recognition of Prince Frederick of Augustenburg as Duke of Schleswig-Holstein, while the Liberals in the Prussian Chamber of Deputies have resolved to address the King, stating their reasons for refusing the proposed loan of 12 million thalers, unless the Government withdraw from the London Treaty and engage not only to recognise Prince Frederick, but to render him effectual assistance in taking possession of his hereditary rights. It is reported at Vienna that Federal execution in the Duchies will pass into occupation if Denmark opposes execution, and that in such a case Austria will consider herself released from the obligations of the London Treaty, and will send the Austrian fleet to co-operate with the forces of the Confederation. Meanwhile the Danish representative at the Federal Diet has received orders to quit Frankfort as soon as the Federal troops enter Holstein and it is believed at Copenhagen that King Christian, anxious to remove all ground for hostility on the part of Germany, intends to withdraw his troops from the Duchy and to make no opposition to the Federal execution Lord Wodehouse and Marshal Fleury have arrived this week at Copenhagen on a special mission from England and France, and it is still hoped that, by the intervention of France, England, and Russia, a pacific understanding will be arrived at.

The French Government has sustained a serious defeat in the new elections at Paris and Dijon. In Paris, M. Pelletan has been returned by a majority of 5000 votes over the Government candidate, notwithstanding the whole influence of the Government was brought to bear against him; while at Dijon the Opposition candidate defeated the Government nominee by a majority of nearly 4000 votes. It is said that the Government has decided on raising the new loan of 300,000,000 fr. by public subscription.

From the United States we learn that General Meade has abandoned the campaign in Virginia and recrossed the Rapidan, finding General Lee's position too strong to be assaulted. The press and the public generally express great dissatisfaction at this termination of a campaign from which the most brilliant results had been promised, and it is again reported that General Meade will be superseded and the command of the Army of the Potomac be conferred on General Sedgwick. The accounts received last week of the disastrous retreat of General Bragg were much exaggerated. The main army of the Confederates has reached Dalton, and after having been reinforced by General Joe Johnstone, has been entirely reorganised. General Bragg, however, has been superseded by General Hardee, who is preparing to assume the offensive against General Grant, in spite of the announcement that the latter had determined to abandon the further prosecution of the campaign for the present winter. There has been some severe fighting before Knoxville, but the report that General Longstreet has raised the siege is contradicted, General Hooker, before evacuating Ringold, was obliged to fight a battle with the Confederates, in which two of his Ohio regiments were nearly destroyed. Accounts from Charleston of the 1st inst. state, that General Gilmore was throwing shells into the city, but had discontinued the bombardment of Fort Sumter. President Lincoln was seriously ill from an attack of small-pox, but was nevertheless engaged in preparing his Message for the opening of Congress on the 7th inst.

A despatch from Bombay informs us that the Hill tribes on the 20th ult. attacked the British position with great audacity, but were driven back by our troops. The fighting was very severe. Lieutenants Sanderson and Peel of the 101st Regiment were killed; five officers, including General Chamberlain and Colonel Hope, were wounded, and 128 privates killed or wounded. General Chamberlain reports that he is confident of final success, but in consequence of his wound and ill health, he has been obliged to resign the command, and has been succeeded by General Garvock.

The *Japan Commercial News* of the 10th October states that the Daimios have bombarded and captured the Imperial cities of Osaca and Kioto, and are advancing an army of 50,000 men for the capture of Yokohama. There is reason to believe that this statement is entirely without foundation, a subsequent telegram having been received in Paris, stating that at an extraordinary meeting of Daimios it had been decided, by a majority of 65 to 47, that there was no ground for declaring war against foreigners.

## Home News.

Departure of the Court for Osborne.—The Queen, with the junior members of the Royal family and the Court, intended to leave Windsor on Thursday for Osborne for the Christmas holidays, but on the receipt of a telegram from Portsmouth stating that the sea was so high as to render it dangerous to cross the Solent, the departure was postponed, and the special train which was waiting at the station was countermanded.

The Court at Windsor.—On Friday morning the Queen walked and drove in the grounds. The Princess Helena took a carriage drive. The Queen attended evening service at St. George's Chapel and occupied the Royal closet. The Princess Helena was also present, and occupied the stall of the Prince Consort as Knight of the Garter. On Saturday morning the Queen, accompanied by Princess Louisa, walked and drove in the grounds. The Crown Prince of Prussia visited the Royal Military College at Sandhurst. The Crown Princess, Princess Helena, Prince William of Prussia, and Princess Hohenlohe, came to London. Prince Leopold visited Prince Arthur at the Ranger's Lodge, Greenwich Park. The Right Hon. Sir Henry Bulwer, Her Majesty's Ambassador at Constantinople; Sir Rutherford Alcock, Minister to Japan; and M. Antonio Pradilla, Minister from Columbia, had audiences of Her Majesty. In the evening Prince Arthur, the Countess Blucher, and the Rev. Dr. Stanley arrived on a visit. On Sunday morning the Queen, the Prince and Princess of Wales, the Crown Prince and Princess of Prussia, Princess Helena, Princess Louisa, Prince Arthur, Prince Leopold, Princess Hohenlohe, and Prince Leiningen, attended Divine service in the Private Chapel. The Rev. Dr. Stanley preached the sermon. On Monday, being the second anniversary of the Prince Consort's death, the Queen, accompanied by all the members of the Royal Family, visited the Royal Mausoleum at an early hour, and passed the remainder of the day in complete seclusion. On Tuesday Prince Arthur left the Castle for Blackheath. The Queen, accompanied by Princess Helena, walked and drove in the grounds of the Castle. Mr. Gilbert Scott had the honour of submitting to the Queen his model of the Prince Consort's Memorial, which had been erected on a stand fitted for the purpose in the Grand Reception Room, for her Majesty's inspection. The model is about 7 feet in height and 6 feet in width. On Wednesday morning the Queen drove in the grounds. In the afternoon her Majesty attended Divine service in St. George's Chapel in deep mourning, and occupied the Royal closet by the altar. The Princesses Helena and Louisa were also present, and sat in the stalls of the Sovereign Knights of the Garter. On Thursday the Queen was prevented from leaving the Castle by the unfavourable state of the weather. The Prince and Princess of Wales visited her Majesty.

The Prince and Princess of Wales.—On Friday evening the Crown Prince and Princess of Prussia and Princess Helena dined with the Prince and Princess at Frogmore. On Saturday Mr. R. Dowling,

commissioned by the Tasmanian Government, was honoured by the Princess of Wales with a sitting for her portrait. Mr. Dowling was also honoured by the Prince with another sitting for his portrait. Mr. Morton Edwards was also honoured with another sitting for his bust of his Royal Highness for the corporation of Toronto. On Sunday morning the Prince and Princess visited the Queen and lunched with her Majesty. In the afternoon the Prince, accompanied by the Crown Prince of Prussia, attended Divine service at St. George's Chapel. On Monday the Prince and Princess visited the Queen, and dined with her Majesty in the evening. On Tuesday morning the Prince came to town and honoured Mr. Foley, Mr. Noble, and Mr. Theed with visits at their studios. In the evening the Prince and Princess dined with her Majesty. On Wednesday morning the Queen visited the Princess of Wales at Frogmore. The Princess afterwards walked and drove in Frogmore grounds. On Thursday the Prince and Princess visited the Queen. Their Royal Highnesses are expected to leave Frogmore on Tuesday next, on a visit to the Queen at Osborne, where they will remain about 10 days, and then return to Frogmore.

DEPARTURE OF THE CROWN PRINCE AND PRINCESS OF PRUSSIA.—The Crown Prince and Princess, accompanied by their children, Prince William, Princess Charlotte, and Prince Henry, left Windsor Castle on Tuesday morning at a quarter past 6 o'clock, for Dover. The journey was made from Windsor to the Admiralty pier at Dover by the South-Western, Charing Cross, and South-Eastern lines of railway, in three hours, without change of carriage. The Charing Cross Railway, though not as yet opened for traffic, was declared available for the transit of the State train from the Waterloo junction to London Bridge; and the Prince and Princess expressed themselves highly pleased at the facility and convenience afforded by the new route. Lord Alfred Paget accompanied the Royal party to Dover, where they embarked under the usual military honours and salutes.

PRINCE ALFRED, accompanied by Prince William of Hesse, attended divine service in Holyrood Chapel on Sunday, which was observed as the anniversary of the death of the Prince Consort. The service was performed by the Rev. Dr. MacLeod, of Glasgow. The Princes were expected to leave Holyrood yesterday for Osborne, where they will spend the Christmas holidays. Prince Alfred will return to Edinburgh in the beginning of January.

THE COURT MOURNING.—It is stated that the Royal servants will go out of mourning and resume their scarlet liveries on Monday, the 28th inst.

THE CABINET.—A Cabinet Council was held on Wednesday at the official residence of the First Lord of the Treasury in Downing Street.

THE NEW JUDGE OF THE QUEEN'S BENCH.—Mr. Serjeant Shee has been appointed Judge of the Court of Queen's Bench, in the room of the late Mr. Justice Wightman. The new judge is a Roman Catholic, and is the eldest son of the late Mr. Joseph Shee, of Thomastown, in the county of Kilkenny, where he was born in 1804. He was educated at the Roman Catholic College of St. Cuthbert, Durham, and at Edinburgh. In 1828 he was called to the bar of Lincoln's Inn, and for some years past has been the leader of the Home Circuit. In 1840 he was made a serjeant-at-law, and in 1858 Queen's Serjeant. In 1852 he was returned to Parliament for Kilkenny, and continued to represent it until the general election of 1857. He married in 1836 the daughter of Sir James Gordon, premier baronet of Scotland, but was left a widower about two years since.

THE DEANERY OF LINCOLN, vacant by the death of Mr. Garnier, has been conferred by Lord Palmerston on the Rev. Dr. Jeune, D.C.L., Master of Pembroke College, Oxford, and canon of Gloucester.

COLONIAL APPOINTMENT.—Mr. Arthur N. Birch, private secretary to the Under Secretary for the Colonies, has been appointed Colonial Secretary in British Columbia. Mr. Birch is brother of the Rev. H. M. Birch, late tutor to the Prince of Wales, and was assistant private secretary to Sir Bulwer Lytton, when Colonial Secretary.

THE CIRCUITS.—The *Gazette* of Friday contains an Order in Council directing an alteration in the Northern, Midland, and Norfolk Circuits, by which the county and city of York are taken from the Northern and annexed to the Midland Circuit, and the counties of Leicester, Rutland, and Northampton are taken from the Midland and annexed to the Norfolk Circuit.

THE CHANNEL FLEET, consisting of the Edgar, Black Prince, Warrior, Defence, and Trinculo, left Plymouth on Tuesday afternoon for Lisbon.

THE COURT MARTIAL ON COLONEL CRAWLEY.—The Court re-assembled on Thursday for the 20th time, to hear Colonel Crawley read his defence. The Court was more crowded than it had been since the first day of the trial. Colonel Crawley's address occupied three hours in delivery, and was listened to throughout with the greatest attention, and was greeted at the close with hearty applause from the audience, which was largely composed of ladies. Thirty distinguished officers were then called, and bore strong testimony to Colonel Crawley's gentlemanly, honourable, and humane character. Yesterday, Sir A. Horsford, the official prosecutor, commenced his reply. His speech occupied two hours, and at its conclusion the Assistant Judge Advocate announced that the Court was closed. The decision of the Court will not be made known until it has been referred to the Commander-in-Chief for his approval.

THE CASE OF PAYMASTER SMALES.—It is announced that on a careful consideration of all the circumstances of the case the Secretary of State for War has recommended that Paymaster Smales be placed upon the half-pay of his rank from the period at which he was struck off the strength of the 6th Dragoons.

## Foreign.

FRANCE.—The Emperor presided at a Council of Ministers at the Tuileries on Monday, and at another Council on Tuesday. It is asserted that the Government has decided on raising the new loan of 300,000,000f. by public subscription. In the sitting of the Corps Législatif on Monday the Bill for the loan was laid on the table. M. de Morny, the President, asked that it should be passed upon the first reading. In the Senate on Monday the general debate on the Address commenced. The following is a summary of the proceedings:—

The Marquis de Boissy criticised the paragraph congratulating the Emperor upon the result of the elections. He declared that the elections were bad, not with regard to the number of Government candidates elected, but on account of the manner in which and of the persons by whom they had been conducted. He reviewed the questions of the perfectibility of the constitution, the laws relating to the press, the financial situation, the Mexican expedition, and the Polish insurrection, which he declared was not national but revolutionary in the extreme. He said that his desire was for peace, and that the proposition of a Congress and general disarmament was impossible, on account of the intrigues of England, a mercantile Power perfidious and disloyal, which had always desired the ruin of France. He protested against the paragraph of the Address which appeared to tell the Emperor to do all he thought proper, and they would follow him constantly and everywhere; and concluded by laying upon the table a motion, signed by 10 senators, purporting to modify the constitution.—General Gemeau regretted that the Address made no mention of the Roman question. He called upon the Poles to repudiate foreign intervention, and said that a revolution which overthrows one kingdom could not establish another. He regretted that the treaties of Villafranca and Zurich had not been executed, because the power of the Holy Father would then have been respected, and concluded by saying that if France must again make war, she should carry it on without revolutionary influence. The general debate on the Address then terminated. The discussion by paragraphs began on Tuesday, when paragraphs 1 and 2 were adopted. On paragraph 3, relating to the stability of the Empire, M. de Laguéronnière examined the position of politics in France. Two classes of opinions confronted each other—those entertained by the friends of immobility, and those held by the advocates of wise progress. He disapproved of excess of centralisation, and criticised the manner in which the Administration had established official candidatures, and its method of proceeding with regard to them. He protested against the regulations imposed upon the press by the decree of 1852, and said that the liberty that had been given to the tribune ought necessarily to react upon the rule of the press. He concluded by an appeal to the generous sentiments of the Emperor. M. Rouher announced that the Emperor had given liberty to France. Improvements required wise slowness. Perpetual agitation and mobility never led to progress, never consolidated Governments, but on the contrary, conducted them to an abyss. It was incorrect that political parties were defunct. They were only hidden, and their underground workings were none the less dangerous. If the liberty so ardently demanded were given the edifice would soon succumb beneath their blows. He refuted the remarks of M. de Laguéronnière on the management of the elections and the press, and concluded by protesting against the assertion of the Marquis de Boissy that ill-omened and pestiferous persons surround the Emperor. After a few observations from General Goyon and the Marquis Boissy the sitting terminated. On Wednesday, after speeches by M. de Tourangin, Baron Dupin, the Marquis de Boissy, and M. Royer, M. Rouland, in reply to a question of the Marquis de Larochejacquelin, whether the tendencies of the Government were Christian, expressed his astonishment at such an inquiry when the flag of France was protecting the Holy Father at Rome. Cardinals Mathieu and Donnet pointed out books which they considered intended to pervert society. Paragraphs 3 and 4 were adopted, after some observations from M. Michel Chevalier. MM. Ladoucette, Parieu, and Beaumont spoke on paragraph 5, referring to the extension of the powers of the Conseils Généraux, and the paragraph was then adopted. On Thursday, on the discussion of paragraph 6, referring to the finances, and paragraph 7, respecting Mexico, M. Chaix d'Estange, the Procureur Impérial, in reply to some observations by the Marquis de Boissy and the Marquis de Larochejacquelin, stated amidst great applause that the Government hoped soon to see the establishment of a regular Administration in Mexico, and approached that object at a firm, resolute, and rapid pace. Paragraphs 6 and 7 were then adopted. Paragraph 8, treating of Poland and the European Congress, was next discussed. M. Ségur d'Aguesseau expressed the profound sympathy entertained by France for Poland—the rampart of Europe against barbarian invasion. He spoke of the cruelties of the Russians, and thought that in the event of Russia refusing to come to the Congress it was the duty of France to act, even if alone. The speaker would have desired the paragraph more strongly marked, and in conclusion expressed entire confidence in the Emperor. The Marquis de Larochejacquelin protested against the principle that it was the duty of France to go to war for the Poles. France had embarked upon sufficient adventures, and wished to engage in no more. The part played by England in the negotiations respecting Poland was to break off our alliance with Russia. The Catholics who preached war for Poland would be contented if the entry of Victor Emmanuel into Rome were the prelude of the campaign. He contested the commission of cruelties upon the part of the Russians, and condemned the Secret Government at Warsaw. The debate was then adjourned.

The *Moniteur* has published some more answers to the Emperor's invitation to the Congress, of which the following is an abstract:—

The Germanic Confederation, in a letter signed by Baron de Kubeck, Minister of Austria, and President of the Diet, says that it "frankly adheres to the pacific ideas of his Majesty, but could not co-operate, with any chance of success, towards their realisation, if the treaties which have established the Germanic Confederation, as well as the political edifice of Europe, were not taken as the basis of negotiations. Admitting that the most solemn treaties are affected in the course of time, the Confederation considers that their modification or abrogation cannot be made without the consent of the parties interested. This basis adopted, it will be possible to indicate beforehand, with the consent of those interested, the international questions which the Congress would have to settle, and to give to Europe the assurance that, far from being the source of new dissensions, it would put an end to those which exist. If this be done, the Confederation will have no objection to appoint a special representative to the Congress.—The King of Denmark in his reply laments that death surprised his predecessor at the very moment when he was about "to consecrate by his signature the new Constitution for the common affairs of his non-German provinces, and accept the invitation addressed to him by the Emperor." King Christian completes what the late Sovereign left unfinished, by replying that he is resolved to associate himself "frankly and without reserve" in the efforts of his Imperial Majesty to realise that great thought, and accepts the invitation with the greatest pleasure.—The King of the Greeks accepts the invitation without reserve, and sincerely wishes that the proposition may be as favourably received by the other Sovereigns. At the same time he says that he flatters himself with the hope that the interests and rights of the Christians in the East will find in the Emperor a generous defender in the future International Council.—The Sultan in his reply says that he will attend the Congress in person if the integrity of Turkey is to remain unendangered.

M. Drouyn de Lhuys has addressed a circular to the French diplomatic agents abroad relative to the Congress. The circular does not trace out the programme to be adopted, as has been asked by some Governments; for such programme cannot be the work of one Government, or even of two or three. The refusal of England has frustrated the combination of an European Congress, but France is ready to come to an understanding with the Governments who shall think it useful to debate pacifically among themselves those questions which, if left to chance, circumstances might conduct to the most fatal complications. The Government of the Emperor would consider it failed in its duty if it abstained from profiting by the dispositions so cordially manifested. The programme of the questions which a Congress thus brought together should discuss is still considerable enough to encourage the Cabinets in the path marked out. The Government has sustained a serious defeat in the Paris re-election, the result of the voting being for M. Pelletan, the Opposition candidate, 15,115; for M. Picard, the Government candidate, 9,778. The result of the Dijon election has also been unfavourable to the Government, M. Magnin, the Opposition candidate, having obtained 18,929 votes, against 15,350 votes for M. Saunac, the Government candidate. General Fleury has proceeded to Copenhagen to congratulate King Christian on his accession to the throne. The frigate Panama, with Marshal Forey on board, has arrived at St. Nazaire. A charade was performed a few days ago at Compiègne on the word "Courage." The syllable *cour* was represented by a Sultan, personified by M. Aguado, surrounded by a number of charming women. The next syllable, *age*, was shown by four ladies dressed to represent the four divisions of life. The whole word was set forth in the tableau of Judith holding in her hand the head of Holofernes, the female figure being dressed in a robe of wondrous richness—gold brocade covered with diamonds.

SPAIN.—An amendment to the Address has been brought forward in the Chamber of Deputies, to the effect that the Government should support the Congress proposition and the temporal power of the Pope. Representatives from all the political journals of Madrid held a meeting on Monday night at the house of Senor Rivero, and agreed to publish on the following day at the head of all the newspapers the following declaration:—

"The President of the Congress having adopted measures derogatory to the dignity of the representatives of the press, in the gallery set apart for them in that legislative body, the managers of the political journals of Madrid, accompanied by one of their editors, held a meeting last night, at which they resolved:—1. Not to present themselves in the gallery set apart for them in the Congress while the said measures remain unrevoked. 2. Not to publish any report or summary of the sittings, nor to express an opinion in any shape concerning the same. 3. To reproduce nothing in their columns except the official abstract of the sitting published by the *Gazette*.—Madrid, Dec. 9, 1863. Signed by the representatives of the *Diario*, *Espanol*, *Clamor Publico*, *Espana*, *Epoca*, *Esperanza*, *Correspondencia*, *Novedades*, *Iberia*, *Discusion*, *America*, *Pueblo*, *Reino*, *Regeneracion*, *Contemporaneo*, *Eco del Pais*, *Politica*, *Bien Publico*, *Espiritu Publico*, *Razon Espanola*, *Libertad*, *Verdad*, and *Tribuna Espanola*.

The Spanish Government is adopting active measures to arrest a band of armed and masked robbers who have appeared in the province of Old Castille. From their general bearing they are supposed to have originally belonged to a better class of society.

SWITZERLAND.—The Chambers have nominated M. Dubs as President of the Federal Council for 1864, M. Schenk as Vice-President, and MM. Fornerod, Knusel, Frey, Goeff, and Pioda as members.

SWEDEN.—The *Faedrelandet* contains a despatch, dated Stockholm, December 15, stating that 22,000 Swedes were moving to the aid of Denmark, accompanied by the King in person. The same paper publishes a telegram, dated Stockholm, December 16, stating that the King had taken a decided resolution with regard to Schleswig-Holstein, and that it is beyond doubt that Notes were despatched to the Great Powers on the previous day informing them of his intentions. Great activity prevails in the Swedish military establishments. The semi-official journals state that Sweden cannot and will not abandon Denmark while in danger.

DENMARK.—Lord Wodehouse arrived at Copenhagen on Tuesday and immediately had an audience of the President of the Council of Ministers. His lordship was received by the King on Wednesday. On Thursday the King received General Fleury, who had arrived on a special mission from France. The Danish representative at the Federal Diet has received orders to quit

Frankfort as soon as the Federal troops enter Holstein. It is asserted in well-informed circles that the Danish Government has resolved not to make any opposition to Federal execution, and that a friendly understanding will probably be arrived at with the great German Powers. *La France* also says that a Cabinet Council was held on the 9th inst. at Copenhagen, at which it was determined that, in order to avoid a conflict, the Danish troops would evacuate the towns in Holstein which the German troops intend occupying. Advices received at Brussels from Copenhagen state as a current rumour that the majority in the Rigsraad intended to propose that the execution of the Constitution of November 18 be suspended until further orders. The *Dagbladet* and *Flyvepost* announce that the negotiations for the treaty of alliance with Sweden have been resumed. It is stated, upon what is said to be reliable authority, that the treaty will be sanctioned. Two Danish screw corvettes are cruising off the roads of Swinemunde, three quarters of a mile from the harbour.

THE DANISH DUCHIES.—The Danish Government has been officially informed that Federal Execution in Holstein will be carried out on Tuesday next. It is asserted on good authority that on the 20th and 21st inst. a corps of 6000 Saxon troops, and some Hanoverian Hussar regiments, will enter Holstein on the right bank of the Elbe. 5000 Prussians will at the same time be stationed in Lubeck, and 5000 Austrians in Hamburg. About 6000 Hanoverian troops, composing the first corps of reserve, in case of resistance on the part of the Danes, will remain upon the left (Hanoverian) bank of the Elbe. The second reserve, consisting of 20,000 Austrians and Prussians, will for the present remain at home. A proclamation has been published signed "Frederick, Duke of Schleswig-Holstein," thanking the Schleswig-Holsteiners for the fidelity they have exhibited. It says:—

"Legitimate right and ancient charters of the country are united in my person with national claims and the demands of humanity. Supported by the friendly assistance of the Confederation, I hope to be able speedily to commence the new organisation of the Schleswig-Holstein army. When peace is restored, Schleswig-Holstein will be a pledge to Europe of the maintenance of peace and order in Germany."

The semi-official *Nord Deutsche Zeitung* says, in reference to this proclamation, that it is not to be supposed that the Federal Diet will permit such a *de facto* interference, which would prejudice the settlement of the legal question. Meanwhile the youth of Altona are numerously enlisting in the volunteer army for Prince Frederick, and it is expected that after the entry of the latter with the Federal army into Holstein the Secession party will proclaim him the legitimate Prince of Schleswig-Holstein. Numerous addresses have been received from Lauenburg, signed by the Mayor in the name of the inhabitants, declaring that there scarcely exists a country where the inhabitants live better than in Lauenburg, under the Danish rule, and that they do not wish to be withdrawn from beneath the King's sceptre.

BAVARIA.—The official *Gazette* of Tuesday publishes an article explaining that the Bavarian Government takes the same view of the Schleswig-Holstein question as the Federal Diet. The succession question has been brought before the Diet, and its treatment by that body must speedily attain the desired end. By present recognition of Duke Frederick the Bavarian Government would anticipate the resolution of the Diet, and if it proceeded to a one-sided and independent execution of its opinion would violate its Federal duties. The Government, however, will not permit itself to be persuaded into this course, nor would the matter in question be thereby advanced.

SAXONY.—In the sitting of the Chamber of Deputies at Dresden on Friday, the Vice-President and 43 members brought forward a resolution to the following effect:—

"That the Chamber expresses its deep regret and just indignation at the recent resolution of the Federal Diet; that it approves the attitude of the Saxon Government, and prays it to use every means in its power that the measures already resolved upon may be developed into a complete occupation of Schleswig as well as Holstein; also that the non-recognition of the title of the Danish King to the Duchies be proclaimed, and the recognition of the lawful Prince in the male line as Duke of Schleswig and Holstein be no longer delayed."

This resolution, after an animated debate, was unanimously adopted on Tuesday. Baron von Beust, without entering more fully upon the bearing of the motion, declared that the Government would adhere to its view of the question, notwithstanding the Federal resolution.

FRANKFORT.—In the sitting of the Diet on Monday 17,000,000 thalers were voted for the expenses of Federal Execution in Holstein, and instructions were given to the Civil Commissioners, who are to assume the provisional government in that duchy in the name of the Federal Diet. The King of Hanover has appointed Privy Council Nielssen as his Civil Commissioner. The four German Powers deputed to carry out Federal execution have since sent a summons to the Danish Cabinet to evacuate Holstein within seven days.

PRUSSIA.—In the sitting of the Chamber of Deputies on Saturday the motion of Herr Lyskarski for the release from custody of the three Polish members accused of high treason was discussed. The amendment of Herr Kratz that the motion be referred to the Judicial Committee for further investigation and a more complete report on the subject was agreed to by 147 against 133 votes. On Monday both the Liberal fractions of the Chamber resolved to vote an address to the King stating their motives for refusing the Bill for the loan of 12,000,000 thalers asked by the Government. In the sitting of Tuesday the draught of an Address in reply to the Speech from the Throne was submitted to the House by the committee. The following is an abstract:—

"The Address, taking as a basis the resolution of the House of the 2d inst., reminds the King that the Prussian army had pledged its honour in the Duchies of Schleswig-Holstein. The influence the Convention of Olmütz exercised upon the interior affairs of Prussia and upon Germany's position as a great Power could only be effaced by the liberation of the Duchies. We must fear, it says, from the system pursued by the Ministry, that in its hands the means demanded would not be applied in the interest of the Duchies and Germany, nor for the benefit of the Crown or the country. The rights of the Duchies and the hereditary rights of the Augustenburg family are one. We solicit your Majesty to withdraw from the London Protocol of 1852, and to recognise the hereditary Prince of Augustenburg as Duke of Schleswig-Holstein. We request your Majesty further to use your endeavours that the Diet may render him effectual assistance in taking possession of and in liberating his hereditary lands."

Privy Councillor Abeken, representing Count von Bismark, thought it necessary to repeat the declarations made by the Minister in reference to the question of Schleswig-Holstein at the previous sitting of the committee. He stated that the foremost object of the Government was to fulfil its Federal duties, in accordance with the resolution of the Federal Diet for carrying out execution in Holstein. 30,000 men were requisite for that purpose. The Government had, secondly, to take measures against further complications of the question, especially a possible attack by the Danes upon the Federal army corps, or Prussia withdrawing from the London Protocol. The Government was obliged to prepare for all the possible eventualities arising out of international right and policy. The final discussion was appointed to take place yesterday (Friday). Lord Wodehouse passed through Berlin on Saturday on his way to Copenhagen, and after having a conference with Count von Bismark had an audience of the King.

AUSTRIA.—It is said that the Austrian Government despatched a note to Paris a few days ago, definitively declining the invitation to a Congress, after expressing its regret at having to refuse, since a Congress at which England is not represented will necessarily lead to no result; it considers the programme to be undefined and insufficient, and says that the questions stated by M. Drouyn de Lhuys to be discussed have already found a solution or cannot be solved at the Congress. At the last Ministerial Council, at which the Emperor presided, Count Rechberg is said to have pointed out the want of a real representative of the Ministry at the Reichsrath, since Archduke Rainier could not appear as responsible Minister before that body. The necessity of bringing about a final solution of the Hungarian question was likewise dwelt upon. It is stated on good authority that a Ministerial crisis has taken place, Herr von Schmerling having declared that he could not remain in office with his present colleagues, who did not support him on the religious question now pending at Rome. The crisis however has ended for the present, and Herr von Schmerling will remain in the Ministry. It is said that Federal execution in the Elbe Duchies will pass into occupation if Denmark opposes execution. The latter case is thought to be probable. Should it occur, Austria will then consider herself released from the obligations of the London Protocol. In the event of war actually breaking out, the Austrian fleet would co-operate with the forces of the Confederation.

POLAND.—It is believed that the state of siege in Poland will be shortly abolished. Piotrowski, Jaskold, and Chomski were hung, by order of General Mouravieff, on the 4th inst., at Souwalki, the capital of the palatinate of Augustowo, in the kingdom of Poland. The son of Count Andreas Zamoyski has been sentenced to death by a court-martial at Warsaw. The Government has issued an order closing the business establishments of M. Schlenker, provost of the Warsaw merchants, of Messrs. Kwiertkouski, Nowolecki, Lublinski, and Salingier, the proprietors of which are absent, and are compromised in the insurrection. Chadanouski had been hung in Warsaw. He was accused of complicity in the attack upon Hermani. General Berg has imposed upon the clergy, hospitals, and Catholic schools a contribution of 12 per cent. on their revenue, by reason of their not having aided the Russians in the work of pacification. An order of the Government was published on Thursday, ordering all the landed proprietors, farmers, and stewards of estates to leave Warsaw within seven days, under a fine of 25 roubles for every day they may delay their departure. It is also decreed that no persons are allowed to leave their usual residences without permission of the military commander. Loyal subjects only are allowed to travel. Bosak has been again successful in engagements near Szwekocuny and Raszkow. A detachment of his cavalry engaged the Russians on the 12th at Dzialoszyce. The result has not yet transpired. Another success has been gained over the Russians by the insurgent chief Rembaylo near Stobnica. An engagement took place on the 14th inst. at Michalowice, in the palatinate of Cracow, in which the Russians were beaten by the insurgents, who also seized the Custom House chest. The Austrian troops prevented the Russians from retreating into Galician territory. The insurgents have also obtained a success at Lukow.

ITALY.—In consequence of the result of the late debate on Sicily, several Opposition members have held a meeting to determine whether the members composing it should tender their resignations as members of Parliament. The opposite view, however, prevailed, only four deputies, it is stated, voting for resignation. The debate on the Budget for 1864 commenced on Saturday in the Chamber of Deputies. The Minister in his financial statement summarised the Budgets of 1861, 1862, and 1863. The deficit on these three years was to have been covered by the loan of 500,000,000 lire and an issue of Treasury bonds. 200,000,000 lire of this loan remains, however, undisposed of, and with this sum and the proceeds of some fresh taxes, for which Bills will be brought forward, the Minister proposes to meet the deficit for 1864. To cover the deficit of 1865 and the following years the Minister calculates upon the sale of the Crown lands. He concluded by pointing out the economy realised in the public expenditure, and the constant augmentation of public wealth. In the sitting of Wednesday the items of the budget containing the ordinary and extraordinary public receipts, were agreed to; and on Thursday the whole Budget was passed by 177 to 49. The Pope, on Sunday, without any previous announcement to King Victor Emmanuel, and contrary to the wish of the Italian Government, nominated Cardinal Gusdi Archbishop of Bologna, and Monsignori Clementi, Vitteleschi, Cardoni, and Micaleff Bishops of Rimini, Osimo, Recanati, and Castello respectively, all these sees being in the former Pontifical provinces now forming part of the Italian Kingdom. A detachment of French troops quartered at Ceprano has attacked a band of 13 brigands near Salvatierra. The brigands were arrested, and persons for whom ransom had been demanded were released. The brigand leader Caruso was shot on Friday at Benevento. Advices from Venice state that a warlike proclamation of the National Committee inviting the people to prepare for action has produced agitation and excited lively hopes. A memorandum of Garibaldi to the Powers in favour of nationalities has also been published.

GREECE.—The Greek National Assembly has postponed all discussion concerning the Ionian Islands to an undefined period. A deputation from the Ionian Parliament, charged with bringing about an understanding on the subject of union, is shortly expected to arrive in Athens. Insecurity in Athens and the provinces is increasing.

TURKEY.—The reply of the Sultan to the Emperor Napoleon's invitation to a Congress has been despatched to Paris. The Sultan states that he will attend the Congress provided the integrity of Turkey remain unendangered.

THE CAUCASUS.—Accounts from the Caucasus state that the Russians had made two grand attacks upon the Circassian mountaineers, in both of which they suffered disastrous checks. The immigration of the Circassians into Turkey is on the increase.

EGYPT.—The *Moniteur* of Wednesday publishes a despatch from Suez, dated the 15th inst., stating that the fresh-water canal is completed. The water was at three kilometres' distance from Suez. The inhabitants of the town had offered their congratulations to M. de Lesseps, inviting him to be present in Suez on the day of the inauguration. The *Nation* says that the Viceroy desiring an equitable solution of the Canal affair, and wishing to remove all suspicion of anti-French influence, is likely to request the Emperor Napoleon to constitute himself arbiter of the pending differences, promising to abide by his decision. The Emperor Theodore of Abyssinia had gained a victory over the people of Gojam, the chiefs of which were hostile to him. After the battle the Emperor is said to have ordered the massacre of 15,000 prisoners, men, women, and children. He is also said to have placed the English consul at Massona under arrest, while he set at liberty M. Dejean, the representative of France.

INDIA.—Lord Elgin died at Dhurumsalla at 2 A.M. on the 20th of November, and was buried privately on the following day, in accordance with his own express desire. Sir Hugh Rose, from Lahore, has informed Sir Bartle Frere that on the 20th November the tribes again attacked General Chamberlain with much determination, but were defeated. Lieutenants Sanderson and Peel, of the 101st Regiment, were killed, five officers wounded, including General Chamberlain and Colonel Hope; and 128 men, British and native, were killed and wounded. The loss of the tribes is much greater. Since this defeat the tribes have not attacked, and show symptoms of disunion and discouragement. General Chamberlain says he does not require reinforcements, he only wishes the regiments which have suffered much to be relieved, and speaks confidently of final success. He has upwards of 5000 selected troops, intrenched in a commanding position, and defended by 13 guns, four officers of Engineers, and two companies of Sappers and Miners. The troops are hard-worked but their health is good. They are well-provisioned, and have plenty of ammunition. General Chamberlain has resigned the command on account of his wound and ill-health; Major-General Garvock is appointed to succeed him. The Confederate cruiser Alabama has gone to the eastward, and has already signalised her arrival in Indian waters by the destruction of two large American

merchantmen, the Amanda and the Winged Racer off Java Head.

China.—Genera Gordon has not only defeated the rebels in the field, but has gained a diplomatic success of much greater importance, having induced Burgevine and other foreigners in the rebel service to withdraw. General Brown has returned from Pekin, but the results of his interview with Sir F. Bruce have not transpired. The Dutch have concluded a treaty with China. Shing-pao, the General in command of the division of the Chinese army by which Bowlby, Brabazon, and De Norman were captured, and by whose orders they were beheaded, has been ordered by the Emperor to commit suicide for treason.

Japan.—Letters received in Paris from Japan to the 15th October state that, at an extraordinary meeting of Daimios, it was decided by 65 against 47 votes that there was no ground for declaring war against foreigners. The *Japan Commercial News* publishes a despatch from Kanagawa of October 10, stating that authentic information had just been received of the bombardment and capture of the Imperial city of Osaca (and it was said of Kioto also) by the Daimios. The loss to the Tycoon's party was considerable, including the two governors of the city and several commanding officers. The Daimios were said to be advancing an army of 50,000 men for the capture of Yokohama. The Tycoon's Government proposed to erect at once three forts or batteries at Yokohama, for the protection of the settlement. Her Majesty's steamer Racehorse was to leave on the next day for Nagasaki, and the Algerine for Shanghai, at the same time. There is reason to believe that these statements are without foundation. The Swiss Embassy in Japan has found it impossible to enter into diplomatic relations with the Government at Yeddo, and will return to Switzerland at the beginning of next year.

New Zealand.—An affair took place on September 8 at a pah built on Camerontown, on the Waikato, manned by Maori refugees, allies of the Queen, and used as a store for the provisions before being brought up the river in canoes. A party of Te Wheoro's people, who had gone down the river from Maungatawhiri in their canoes to bring up stores for the camp, attempted to land. An ambush had been prepared for them, and they were fired at as soon as they came within gunshot. The assault was deadly, and only four of the friendly natives are known to have escaped. Sixteen were killed, as was also Mr. Armitage, resident native police magistrate. The rebels carried off 40 tons of commissariat stores. News of the disaster was at once conveyed to the military stationed at Tuakau, and, in the hope of intercepting the enemy, Captain Swift, with Lieutenant Butler and a party of 50 men of the 65th regiment, started to meet them. As they were advancing through the bush they heard the sound of men's voices speaking the native language. Upon this, with a knowledge that the enemy consisted of about 200 men of the Ngatimaniapoto tribe, Captain Swift deemed it advisable to throw his men into ambush. This was done, but, after waiting some time, as the enemy did not approach, the order was given to fix bayonets and proceed along the track into the open, when suddenly a volley was fired into them, and Captain Swift fell, being hit below the heart. Almost immediately afterwards Lieutenant Butler fell also, and was instantly surrounded by the enemy, two of whom he levelled with his revolver. The command now devolved upon Sergeant M'Kenna, who led the men on to the charge, assisted by Sergeants Bracegirdle and Meara; the Maories now showed themselves on a hill, but were repulsed three times. It being by this time dark our men retired into the bush, two staying to guard the body of Captain Swift, which they afterwards hid in the bush. The casualties in this affair on our side were 3 killed and 3 wounded. About 10 days subsequently about 1000 natives appeared at New Plymouth. The garrison, a party of the 57th under Colonel Warre, fearing an attack upon the town, went towards the Bell Block, where the enemy were attacked and repulsed. On the south side of the town, at Omata, where Lieutenant Mills, of the 57th, was stationed, there was another fight. As he only intended to lay an ambush his force was small, and he was set upon by the Maories, who poured in in great numbers. He retired with spoil, and being reinforced by 80 men of the 57th, under Major Butler, Colonel Warre and his staff following, there was a short encounter; but as the Maories were in great force, and the Queen's troops numbered only 320 men, they withdrew from the Bell Block, the Maories not renewing the attack. The rebel loss is supposed to be heavy. The casualties on our side were nine wounded, including Ensign Powys, two non-commissioned officers and six privates, all of the 57th Regiment. Fears were entertained of a night attack on the town. The latest news says that General Cameron had received succours from all the Australian colonies, and was completing his final arrangements for an attack on Meremere, where the Maories had assembled. Another sloop of war, the Esk, had been added to the force already upon the New Zealand station.

Australia.—Opposition to the revival of transportation by the home Government continues as strong as ever in Australia. On the 29th September there was a unanimous meeting of the most influential citizens of Melbourne, when resolutions condemnatory of the commissioners' report and a firm but respectful remonstrance to her Majesty were unanimously adopted. The proposer of the first resolution was Sir W. Stawell, Chief Justice of the colony. The Anti-Transportation League, originally formed 12 years ago, was formally re-organised, and an anti-convict manifesto prepared, copies of which have been despatched to England by the present mail. The petition was subsequently presented to the Governor for transmission to her Majesty. Similar demonstrations have since taken place, not only on all the principal goldfields, but in almost every town and village throughout the country, resulting in the establishment of branch Anti-Convict Leagues. At many of these meetings proposals were made for chartering ships, and sending back to England all of her convicts who might find their way into the colony.

United States.—Accounts from New York to the 2d inst., state that General Grant has abandoned the further prosecution of the campaign against General Bragg for this winter, and that Bragg, after having been reinforced by General Joe Johnston, has been superseded by Hardee, who is preparing to assume the offensive. The previous reports of the disastrous nature of Bragg's retreat were somewhat exaggerated. Bragg's main army is beyond Dalton, and Bragg himself is in force at Tunnell Hill. Generals Hooker and Palmer, who pursued Bragg as far as Ringold, have evacuated that town after burning everything and destroying the railroad from Chicamauga to Ringold. Hooker, however, previous to evacuating Ringold, had to fight a battle in which two Ohio regiments suffered severely, and it is rumoured that Breckenridge was killed. No Confederates were found 23 miles southward from Chattanooga. The publication of Grant's movements has been forbidden. Southern accounts of the battle on Lookout Mountain say:—

"The loss of the enemy was comparatively greater than ours. They drove us back by force of numbers. The enemy charged 40,000 strong. Our left centre gave way, and the troops retreated in disorder. After repeated charges we evacuated Mission Ridge. Washington's and Cobb's batteries lost all their guns."

It was reported that Longstreet left Knoxville on the 26th ult., to join Bragg by a circuitous route, but this is contradicted by the statement that he was still besieging Knoxville on the 29th. On the 25th he made a diversion on the Federal position on the south side of the river, and was repulsed. A Michigan regiment captured a Confederate rifle-pit, but was forced back with heavy loss. On the 29th he assaulted Fort Saunders at Knoxville, and was again repulsed with considerable loss. All was quiet at Knoxville on the 30th. Longstreet had been reinforced by two divisions under Bushrod and Johnson. Foster had reached Cumberland Gap, and has had an engagement with Longstreet's cavalry. The former, in attempting to cross the Clinch River, were repulsed with the loss of 50 men, but captured four guns. A Federal force under Grainger has also been detached to assist Burnside. Cumberland Gap despatches state that a force had been sent to intercept Longstreet's retreat into Virginia, but there is no evidence that he has left Knoxville. A courier is said to have brought intelligence to Cumberland Gap that Longstreet had attempted to cross the river, which brought on a general engagement, resulting in a Confederate defeat, and the capture of 5000 cavalry under Wheeler, but this report is known to be untrue. It has likewise been rumoured that General Longstreet has captured Burnside's army at Knoxville, but nothing authentic to that effect has been received. From the Rapidan we learn that General Meade after crossing the Rapidan, formed his line of battle north and south, his right resting on the Rapidan facing Orange Court House. Heavy skirmishing occurred along the whole line. French's corps engaged Ewell's corps, the Federals losing heavily, but holding their position and capturing a large number of prisoners. Kilpatrick's cavalry were also repulsed. During the day Lee retired a short distance. On the 29th both armies were confronting each other, and a battle was considered imminent. On the 30th Meade reached Mine Run, where Lee was found strongly posted in his front. The armies were separated by Mine Run Valley, which crosses the Fredericksburg and Orange Plank Road, 12 miles from Orange Court House. Artillery firing commenced on the same day. The Federal infantry were prepared to assault Lee's position, but General Warren advanced and found him too strongly posted. The assault was consequently delayed. Meade has since fallen back to Fredericksburg and closed his campaign, finding Lee's position too strong for assault. One division of Meade's army now occupies Fredericksburg, and the others have crossed to the north of the Rapidan. It is supposed that Meade will go into winter quarters near Washington. The Confederates have since made a reconnaissance across the Rapidan, but have been driven back. The *Washington Star*, an official organ, declares that Meade's campaign was a military failure, and it is rumoured that General Sedgwick will supersede him. Despatches have been received from Charleston to the 1st. General Gilmore is throwing 20 shells daily into Charleston. The shelling of Fort Sumter has been discontinued. General Banks announces the occupation of Brownsville, and says that three revolutions have occurred in Matamoras. The first was adverse to the interests of Mexico and the United States. Everything, however, is now as favourable as could be desired. A *Boston* journal reports from Texas that five French steamers arrived on the 5th off Brazos to watch Banks's operations. Seven thousand hogsheads of French tobacco stowed in Richmond since the commencement of the war, will shortly be shipped to France. President Lincoln is suffering from a serious attack of small-pox. He is however hard at work on his Message when well enough. The greater portion is in type. The following accounts are given of its contents:—

The *New York Times* says that, on the reunion question, it will be brief and of a very conservative tendency. The President declares that the country has not yet arrived at that point in the progress of the war when so great a question can be clearly discussed. The Message will be shorter than the preceding ones. The *Herald* says it is well understood that the President's Message will be of an intensely radical character, so much so as to settle the question of a Republican nomination for the presidency. The President regards the slavery question as practically closed, and that legislation should treat it as a thing passing away for ever. He will urge the present as the time to make a final disposition of the political curse upon the nation, while the war shall be prosecuted for the preservation of the national life and the integrity of the Union.

The Congress was to assemble on the 7th, and it was expected that the House would be organised, and, together with the Senate, be ready on the 8th for the reception of the President's Message. The Conservative Union National Committee, at a meeting held in Cincinnati, has nominated General M'Clellan for the next presidency. Senator Toombs has delivered an address to the Georgia Legislature on the Southern situation. He said there was cause for great anxiety, but none for despondency. He denounced the course the Government took in carrying out the conscription and obtaining supplies. The Russian fleet has arrived below Washington. A large meeting has been held at New York to raise volunteers. The Confederate guerilla General Morgan and six of his officers have escaped from prison in Ohio. They dug through the floor of their cell, which was constructed of masonry 9 inches in thickness, into an air chamber running beneath the building, and which communicated with the outside wall. One thousand dollars reward has been offered by the authorities of Columbus for the return to custody of General Morgan, alive or dead. The report that he has arrived at Toronto is contradicted. The anniversary of Polish independence was enthusiastically celebrated at the Cooper Institute. General Sigel sent a letter denouncing the extravagant courtesies bestowed upon visitors from a despotic and half-barbarous power, by men calling themselves Republicans. Richard O'Gorman was the principal speaker. He declared that Poland and Ireland were both equally oppressed. Another Irish speaker presented to the meeting a black flag symbolical of Irish independence and liberty or death. Mr. Gunther, an Independent peace Democrat, has been elected Mayor of New York by a large majority, defeating the Tammany and Mozart Hall and Republican candidates. 13 steamers ran the Wilmington blockade on the 19th ult.

Mexico.—Advices from Vera Cruz of the 26th of October report that a rumour was prevalent in that city that the Mexicans had recaptured Puebla. No particulars had been received.

## City Intelligence.

Money Market, Friday.—British Funds: Consols closed at $90\frac{7}{8}$ to 91 for Money, and $91\frac{1}{8}$ to $\frac{1}{4}$ for Account; Three per Cents. Reduced, $90\frac{7}{8}$ to 91; New Three per Cents., $90\frac{7}{8}$; Bank Stock, 233 to 235; India Five per Cent. Stock, $106\frac{1}{2}$ to $\frac{1}{4}$; Five per Cent. Enfaced Rupee Paper, 104; Exchequer Bills, 5s. to 10s. dis.—Foreign: Brazilian, 1863, $86\frac{1}{2}$; Chilian Four and a Half per Cents., 83, ex div.; Egyptian, 99; Ditto, second issue, 98; Greek, for Acct., $25\frac{1}{4}$ to $\frac{1}{8}$; Mexican, for Acct., $33\frac{1}{4}$ to $\frac{3}{8}$; Moorish, 94; Portuguese, 1856, &c., &c., $48\frac{1}{2}$ to $\frac{3}{4}$; Ditto, 1863, $48\frac{3}{4}$; Ditto, scrip, $\frac{1}{2}$ pm.; Russian, 1862, $88\frac{1}{2}$ to $\frac{3}{4}$; Spanish for Acct., $53\frac{3}{4}$; Ditto, Passive, for Acct., $32\frac{3}{4}$ to 33; Ditto Certificates, $13\frac{1}{8}$; Turkish, 1862, for Acct., $70\frac{3}{4}$ to $\frac{1}{4}$; Venezuela, for Acct., $23\frac{1}{2}$; Ditto, 1862, for Acct., $54\frac{1}{2}$ to $\frac{1}{4}$.

## Bank of England.

ISSUE DEPARTMENT.

| | | | |
|---|---|---|---|
| Notes issued .. .. .. | £27,566,245 | Government Debt .. .. | £11,015,100 |
| | | Other Securities .. .. | 3,634,900 |
| | | Gold Coin and Bullion .. | 12,916,245 |
| | | Silver Bullion .. .. | — |
| | £27,566,245 | | £27,566,245 |

BANKING DEPARTMENT.

| | | | |
|---|---|---|---|
| Proprietors' Capital .. | £14,553,000 | Government Securities (including Dead Weight Annuity) .. | £10,762,330 |
| Rest .. .. .. .. .. | 3,226,953 | Other Securities .. .. | 21,463,719 |
| Public Deposits (including Exchequer, Savings Banks, Commissioners of Nat. Debt, and Dividend Accts. .. .. .. | 9,103,738 | Notes .. .. .. .. .. | 7,765,740 |
| Other Deposits .. .. .. | 13,265,068 | Gold and Silver Coin .. | 739,229 |
| Seven days and other bills | 542,250 | | |
| | £40,731,018 | | £40,731,018 |

Dec. 17, 1863. M. MARSHALL, Chief Cashier.

## Gazette of the Week.

FRIDAY: *Dec.* 11.—BANKRUPTS.—T. Arandall, Leeds, Wholesale Boot and Shoe Manufacturer—J. Akill, Beverley, Yorkshire, Gunsmith—W. Barnes, Reading, Licensed Victualler—W. Blackwell, Northampton, Carpenter—Ann Maria Bartholomew (sued as Ann Bartholomew), late of Tonbridge, Kent, Saddler—H. A. Barton, late of Cursitor Street—C. Bennett, Warminster, Wiltshire, Corn Dealer—F. Barnes, Liverpool, Butcher—J. Brookes, jun., Hanley, Staffordshire, Butcher—H. Cotton, Nottingham, Bootmaker—T. L. Carver and G. S. Carver, Skinner Street, Snowhill, Hat Manufacturers—H. Cope, St. Ives, Huntingdonsh., Cabinet Maker—E. A. Cameron, Ross Street, Bethnal Green, Timber Merchant—R. Davies, Llandovery, Carmarthenshire, Cordwainer—J. Driver, Ossett, Yorkshire, Reedmaker—H. T. Drew, Upper Street, Islington, Boot Manufacturer—S. Durant, Pleasant Cottages, Hackney, Commercial Traveller—Stephen Robert Eyre, New Brighton, Cheshire, Licensed Victualler—William Earnshaw, Whitby, Yorkshire, Tailor—William

FURSE, Fitzroy Place, Primrose Hill, Builder—CHARLES FOX, Kingston-upon-Hull, Sailmaker—JOSEPH FINCH, Wissett, Suffolk, Blacksmith—J. E. FORTESCUE, Lichfield, Butcher—T. G. FARMER, Upper Chapman Street, St. George's-in-the-East, Cow Keeper—W. FLETCHER, Bolton, Lancashire, Furniture Broker—W. FINDON, Birmingham, Carpenter—J. HUNT, Loughborough, Leicestershire, Joiner—E. HART, Ashford, Kent, late Beerseller—F. A. HARDISTY, Prospect Place, Wandsworth Road, Clerk—J. HAGUE, Rotherham, Yorkshire, Farmer—J. KIRTON, Hardwick, Northamptonshire, Carpenter—J. KERR, Neath, Glamorganshire, Licensed Victualler—G. O. LANE (sued as R. G. LANE and G. LANE), late of Cheyne Walk, Chelsea, Civil Engineer—M. E. MANCHIN, Norfolk Road, Lower Road, Islington, Importer of Geneva Watches—W. MAY, Catherine Court, Seething Lane, Ship and Insurance Broker—W. MARIOTIS, Nottingham, Publican—D. OWEN, Llanbadarfaur, Cardiganshire, Farmer—J. PRICE, jun., South Terrace, Bermondsey, Journeyman Carman—T. PEACOCK, Ormesby, Yorkshire, Butcher—JOHN PRESTON, Birmingham, late Commission Agent—EDWIN GOODLAND ROSS, Kingston upon-Hull, Commission Agent—THOMAS RAINE, Bellevue Place, Clapham, Cheesemonger—HENRY RICHARDSON, Chapel Street, Pentonville, Cheesemonger—THOMAS ROGERS, jun., Shrubland Grove, Dalston, late Linendraper—J. ROBINSON, Hawley Square, Margate, Schoolmaster—C. REYNOLDS, Beaumont Row, Mile End, Builder—G. RICHARDSON, Middlesborough, Yorkshire, Journeyman Butcher—BENEDICT RUDOLPH ROGALEWIEZ (known as ROGALEWIEZ BENEDICT RUDOLPH BENEDICT), Foxley Road, Kensington, Artist—S STANFORD, Wolverhampton, Horse Dealer—W. O. T. SCHAEFFER, Stanningley, Yorkshire, Oil and Grease Manufacturer—S SAUNDERS, Birmingham, Jeweller—J. F. SMALLIS, St. Mark's Square, Regent's Park, Commercial Clerk—S. J SKINNER, East Street, Kennington Road, late Cow Dealer—J. J. STOWE, Old Kent Road, late Grocer and Cheesemonger—J. TURNER, Manchester, Commission Agent—C. W. TRAUBET, Newport, Monmouthshire, Ginger Beer Manufacturer—P. TRICKER, Hacheston, Suffolk, Coach Builder—R. TIDY, jun., Ockley, Dorking, Mealman—E. TOON, Leicester, Grocer—W. WHITE, Appleby, Derbyshire, Grocer—J. WESTON, Fore Street, Edmonton, Wine Merchant—T. WALTON, Manchester, Glass Manufacturer.

TUESDAY: *Dec.* 15.—BANKRUPTS.—J. ATTRICK, Wolverhampton, Retail Brewer—G. BOWLES, jun., Evercreech, Somersetshire, Farmer—W. BLEWITT, Wyrley Bank, Staffordshire, Chartermaster—A. BURNLEY, Batley, Yorkshire, late Rag Merchant—J. J. BARKER, late of Bath, Picture Dealer—E. BATHURST, late of Cockspur Street, Charing Cross, Gentleman—G. BODDY, late of Church Terrace, Kentish Town Road, Builder—G. H. BRIANT, Guildford, Surrey, Clerk—C. BRINE, Kingston-upon-Thames, Surrey, Labourer—P. COOPER, Ashford, Kent, Corn Factor—N. COX, Chester, Iron Ship Builder—EDWARD COOMBES, Meopham, Kent, Manager to a Farmer—JOHN DODDS, Cecil Street, Strand, Merchant—WILLIAM EDWARDS, Swansea, Glamorganshire, Haulier—JEREMIAH GARRATT, Dudley, Worcestershire, Journeyman Chain Maker—HENRY HARROLD, Bradley, Staffordshire, late Carpenter—F. J. HIGGINBOTTOM, Birkdale, Lancashire, Attorney-at-law—G. HOWARD, Tempsford, Bedfordshire, Shoemaker—J. HORSEFIELD, Blackburn, Lancashire, Plasterer—R. HARGREAVES and J. HARGREAVES, Liverpool, Builders—E. HASKAYNE, Liverpool, Auctioneer—W. H. HERBERT, Sawbridgeworth, Hertfordshire, Railway Porter—M. JACKMAN, Broad Street, Bloomsbury, late Dealer in Poultry—W. JONES, Horley, Surrey, Brewer's Assistant—J. C. JOHNSON, Walness Pendleton, Lancashire, Composition Grease Maker—N LACKENBY, York, Hair Dresser—T. LABRUM, Far Cotton, Northamptonshire, Labourer—RICHARD LINDLEY, Belton, Lincolnshire, Jobber—PHILIP HENRY LASS, Derby, Bookkeeper—JOHN MORRELL, Liverpool, Eating House Keeper—JAMES MIDGLEY, Smallbridge, Lancashire, late Licensed Victualler—J. MUTTON, Cambridge, Plumber—B. MARTIN, Brockmoor, Staffordshire, Chartermaster—A. MOWATT, jun., late of Bath, Watchmaker—W. MARTIN, Bronti Place, East Street, Walworth, Coach Broker—T. MARSDEN, Settle, Yorkshire, Wine and Spirit Merchant—T. O'REGAN, Abergavenny, Monmouthshire, Grocer—T. J. PULLEN, late of Wellington Terrace, Dalston, Gentleman—W. PAYNTER, Enfield Road North, Kingsland, Commission Agent—R PATTON, Newcastle-upon-Tyne, late Licensed Victualler—H. H. PYE, Grimley, Worcestershire, Horse Dealer—P. J. ROMER, Wenlock Street, Hoxton, Commission Agent—B. H. RICHARDS, Uffculme, Devonshire, Licensed Victualler—T ROBINSON and S. B. BOOTH, Bradford, Yorkshire, Worsted Spinners—J. SEYMOUR, Drym, Cornwall, Mine Agent—J. STONE, Bridgewater, Somersetshire, Butcher—F. STILBORN, Bishop Wilton, Yorkshire, Butcher—J. SYMMONS, Walsall, Staffordshire, Shoe Tip Manufacturer—J. H. SCOTT, Jewin Street, City, Insurance Agent—F. SCHOLEY, Eynsham, Oxfordshire, Licensed Victualler—M. SYKES, Dewsbury, Yorkshire, Greengrocer—M. SLACK, Chesterfield, Derbyshire, Beerhouse Keeper—T. THOMPSON, Ravensden, Bedfordshire, Blacksmith—T. WALKER & E. WALKER, Goswell Street, Timber Merchants—J. WHITAKER, Great Horton, Yorkshire, Grocer—W. WILDISH, Maidstone, Journeyman Wheelwright—J. YOUNG, Sunderland, Marine Store Dealer.

## Metropolis and its Vicinity.

LAUNCH OF THE IRON-CLAD MINOTAUR.—The launch of her Majesty's iron-clad frigate Minotaur took place on Saturday afternoon from the yard of the Thames Iron Works, Blackwall, in the presence of the Lords of the Admiralty and about 10,000 spectators, with complete success and without an accident of any kind. The dimensions of the Minotaur exceed those of any other ship afloat, being nearly 700 tons larger than the Warrior, and unlike that ship she is protected with armour plates from stem to stern. When the Agincourt is launched from the yard of Messrs. Laird at Birkenhead and the Northumberland from the yard of the Millwall Company there will be three ships of the same class. All three were ordered at the same time by the Admiralty in Sept. 1861, and should, according to contract, have been launched six or seven months ago; but many changes, not at first contemplated, have been introduced into all of them. The tonnage of the Minotaur is 6812, and when finished and equipped for sea the aggregate weight of ship and stores will be no less than 10,000 tons.

EXPERIMENTS AT SHOEBURYNESS.—On Friday the first long-range target trial that has yet taken place in this country was made with the Warrior target, but the Lords of the Admiralty, trusting to each other for the ordering of the usual official train, which was therefore not ordered at all, were debarred from witnessing the trial. The effective practice was restricted to that with Sir W. Armstrong's 600-pounder, charged with 70 lb. of powder, and throwing a steel shell of 610 lb., within which was a bursting charge of 24 lb. The Warrior target, at a distance of 1000 yards, was practically destroyed by a single shell. No accident occurred, and, for the first time since the commencement of the target trials, the visitors stood perfectly exposed within a few yards of the 600-pounder witnessing the flight of the shot and shell.

WILFUL DAMAGE OF A PICTURE AT THE NATIONAL GALLERY.—On Thursday a man called Walter Stephenson was charged at the Marlborough Street Police Court with wilfully damaging one of Turner's pictures in the National Gallery. The picture—"Regulus leaving Rome"—was cut with a knife in eight places, but the injuries, it appears, can be repaired. The prisoner, who was described as an author, acknowledged the damage, but said that he was in a state of excitement at the time. The magistrate committed him for trial.

LANCASHIRE RELIEF FUND.—At the meeting of the Mansion House Committee on Friday the report stated that the amount received up to the previous evening was 518,745*l*. 15*s*., added to which was 1874*l*. 11*s*. interest on money invested at call with the bankers, making a total of 520,620*l*. 6*s*. Of this sum 456,795*l*. 12*s*. had been remitted to Lancashire and Cheshire; 10,000*l*. had been set apart for purposes of emigration, of which a considerable balance lies at interest; 59,716*l*. 5*s*. had been deposited at Smith, Payne, & Smiths, at interest; 90*l*. odd at other bankers; and 4004*l*. 16*s*. had been expended in disbursements. The subscriptions received during the fortnight amounted to nearly 8000*l*., the greater part of which had come from India. The committee made grants amounting to 2810*l*., and then adjourned to the 8th January.

THE GREAT EASTERN.—A project was originated last week by the Liverpool creditors of the Great Ship Company for disposing of their ship by way of lottery, and this suggestion was reserved for consideration of the shareholders, and also to determine on its legality. The proposition was to raise 200,000*l*. in 1*l*. shares, &c., subject to be divided into 200 shares. A meeting of the Liverpool creditors was again held on Monday to consider the subject, and it was intimated that the project might be carried out, if on the continent. It was also suggested that the sum should be 250,000*l*. instead of 200,000*l*. On Thursday at the Chambers of the Master of the Rolls, Mr. Hawes, the late chairman of the shareholders' committee, was appointed the official liquidator under the Winding-up Act.

THE FALL OF A HOUSE AT ISLINGTON.—The adjourned inquest on the two men who lost their lives by the fall of a house at Islington, was resumed and concluded on Monday, when the jury agreed to a verdict of Accidental Death in both cases, but the majority were of opinion that the accident was caused by the insufficiency of the central piers, which were much too slight for the purpose; and as they were built according to the plan of Mr. Williams the architect, they adopted a resolution declaring their opinion that he deserved the severest censure. The Foreman said that he did not agree to the latter part of the verdict.

THE ST. GILES'S MURDER.—At Taunton Guildhall, on Friday, a man who gave the name of John Markham was charged by the superintendent of police with being the murderer of Emma Jackson in George Street, St. Giles's, on the 19th April last. It will be remembered that the deceased girl went with a man to a house of bad character, and was never seen alive afterwards. She was found in the room next morning quite dead, having been brutally murdered. The man could not be found, and a description of him, with the offer of a reward for his apprehension, was published in the *Gazette*. He was described as having marks of old wounds on his forehead, and one on his lip, and as having very weak and sore eyes. Similar marks are found on the person of Markham, who also answers the description exactly in every other respect. He gave contradictory accounts of himself, and stated that he had been a "prig" all his life. He was remanded for further inquiry. On Tuesday Sergeant Thompson, of the detective department in Scotland Yard, proceeded to Taunton, accompanied by a person named Stokes, with the view of establishing the identity of the prisoner. While the latter was exercising with several other men in the prison grounds Stokes was introduced, but could not identify any man present as the one he saw in company with Emma Jackson on the day she was murdered. Markham was in consequence at once discharged. He is a deserter, and a convicted coiner and burglar. For some years he has been known as a thief on the tramp between London and Exeter.

MURDER IN THE WATERLOO ROAD.—Another murder was committed on Sunday morning in the Waterloo Road. A bricklayer named Wright has lived for some time in a house on that road, near the bridge, with a young married woman called Green. On Saturday night they were out drinking together, and went home late—the woman being very drunk. They went to their room quietly enough, and nothing was heard of them until 4 o'clock yesterday morning. The landlady and some of the other residents in the house were then alarmed by hearing cries of murder and groans proceeding from the room which Wright and the woman occupied. On going to it the woman was found with her throat cut so dreadfully that death was almost instantaneous. Wright gave himself up as the murderer, and was removed to the station-house in a frantic state. On Monday he was taken before the magistrate at the Southwark Police Court. The evidence was of a very formal description, as the facts of the case lay within a narrow compass, and left no room for doubt. When asked by the magistrate whether he wished to say anything in answer to the charge, he said in a feeble voice, "I have nothing to say." Mr. Barcham told him that as the evidence was all complete, he should at once commit him to Newgate for trial on the charge of wilful murder. The inquest was held on Tuesday, when the evidence given was substantially the same as that before the police magistrate, and the jury returned a verdict of Wilful Murder against the prisoner. On the same day the grand jury at the Central Criminal Court found a true bill against him, and on Wednesday he was arraigned on the capital charge. He pleaded Guilty, and on being asked by Mr. Justice Blackburn if he thoroughly understood the nature of the plea and its consequences, he answered in the affirmative. Mr. Justice Blackburn, assuming the black cap, said the prisoner had been convicted on his own confession of the crime of wilful murder, and he was bound to say, after reading the depositions, he thought there could be no doubt of his guilt. It therefore only now remained for the prisoner to endeavour, in the short interval which would be allowed him, to make his peace elsewhere, for in this world he could not hold out to him the slightest hope of mercy. The learned Judge then passed sentence of Death in the usual form, and directed it to be carried into effect by the High Sheriff of Surrey. The prisoner, who was scarcely able to stand, was then removed from the dock. Among the members of the bar and the officers of the Court, the speed with which the capital sentence in this case has followed on the heels of the crime was a subject of general remark, the prisoner having been convicted and sentenced before his victim had been buried. Such a concurrence of circumstances in the case of a capital crime is said to be without parallel in the records of the Court.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, December 12, were 1357. The average number in the 10 corresponding weeks of the years 1853-62, corrected for increase of population, was 1434. The present return is therefore 77 below the average. During the week the births of 1112 boys and 988 girls, in all 2100 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1928.

## Provincial.

BRIGHTON.—On Tuesday evening a testimonial was presented by the Exhibitors of the Brighton and Sussex Horticultural and Floricultural Society, to Mr. Edward Spary, in consideration of his exertions as General Superintendent of the Exhibitions from 1853 to 1863 inclusive.

CLAYDON.—Mr. C. Matthews, one of the monks of the "Order of St. Benedict," set on foot by "Brother Ignatius," has been received into the Roman Catholic Church at the Brompton Oratory. Mr. Matthews was known in the Order of St. Benedict as "Brother Patrick."

DARLINGTON.—On Thursday afternoon several thousands of farmers and others were attending the Darlington fat stock show in the new covered market, which is still unfinished, when an iron girder of two arches supporting the floor gave way. Several men and three beasts fell through and were seriously injured. Mr. Robert Robson, farmer, Newtour-Norrell, received a compound fracture of the thigh; Henry Robson, cartwright, Stapleton; George Jackson, butcher, Staindrop; and John Binks, tailor, Stapleton, were severely cut and bruised; and Mr. Abraham Wilson, farmer, Stapleton Back, was less seriously injured.

LYTHAM.—A melancholy boat accident occurred near this town on Tuesday, by which seven young persons lost their lives. The family of Mr. Sugars, a Manchester merchant, consisting of two grown-up sons and three daughters, with two friends, a brother and sister named Wilson, proceeded up the Ribble in a boat to Preston. On their return, and while apparently near home, the boat capsized, and all seven were drowned. The body of only one of the young ladies has yet been found.

MANCHESTER.—At the weekly meeting of the Executive Committee on Monday, the Earl of Derby read a letter he had received from Sir G. Grey, stating that the law officers of the Crown have advised the Public Works Loan Commissioners that, under the Public Works Act, 1863, a local authority can give a valid security by one deed for the first instalment of a loan and for further advances to be subsequently made under the orders of the Poor Law Board. The securities for all loans from this time forward made under the Act will be prepared accordingly; and as the Commissioners find that they have been in error in requiring a separate security for each advance, they will repay to the borrowers all the charges they have received under an erroneous construction of the Act of Parliament and the orders of the Poor Law Board. After a long discussion the following resolution was passed on the motion of Colonel Wilson Patten, M.P., seconded by Lord Egerton, of Tatton:—

"That the Chairman be requested to thank Sir George Grey for his prompt attention to the representations made to him by this committee; to express to him the opinion of the committee that the explanation of the alleged delay on the part of public departments in carrying out the Public Works Act is generally satisfactory; to thank him for what has been done with regard to law charges for second mortgages, and to express a hope that the Government will reconsider the subject of law charges for first mortgages, which, from returns made to this committee, appears to be large on the amount of small loans."

Mr. Commissioner Farnall reported that on the 5th inst. there was an increase of 228 in the number of persons receiving parochial relief in the 27 unions of the cotton districts, as compared with the number relieved in the previous week. The honorary secretary reported that 2267*l*. 11*s*. 7*d*. had been received during the week, and that the balance in the bank was 232,817*l*. 1*s*. 4*d*.

WINDSOR.—Monday last being the second anniversary of the death of the Prince Consort, her Majesty and the members of the Royal family attended a religious service about half-past 10, within the walls of the Royal Mausoleum at Frogmore. In the afternoon the servants of the Queen's and Prince of Wales's households were allowed to visit the Mausoleum by permission of her Majesty, when some hundreds of them with their families availed themselves of the opportunity of inspecting the Prince's tomb. The interior of

the Mausoleum, which is octagon in shape and still in an unfinished condition, a portion of the work being boarded, was beautifully decorated with choice exotics, while the recumbent effigy of the Prince Consort beneath a canopy of carved wood, and also the tomb, were ornamented with wreaths of evergreens and *immortelles*, placed there by the hands of the Queen and the princes and princesses. During the time the Mausoleum was open there was a constant stream of the Royal servants to and from the Frogmore grounds, all wearing mourning, while many of the public, attracted by the scene, applied in vain for admission at the gates of the private road leading from the Long Walk to the Mausoleum. Those servants who had brought friends with them had to leave them behind at the gates, the police having strict orders to admit none but persons employed in the Castle and the domestics of the Royal households.—On Thursday morning about 2 A.M., a fire was discovered at the top of the Brunswick Tower, in Windsor Castle. It was found that the fire was on the outside of the roof, and is supposed to have been caused by the negligence of some plumbers who had been making repairs, and had piled up the shavings and rubbish against the chimney. As there is an excellent supply of water laid on in all parts of the Castle, from the reservoir at Cranbourne, the fire was extinguished by the time the engines arrived, and the damage done was inconsiderable.

## Ireland.

ACTION FOR LIBEL AGAINST LORD LEITRIM.—An extraordinary action for libel, in which the Earl of Leitrim was defendant, and Mr. John Studdert, sub-inspector of constabulary, was the plaintiff, was tried last week in the Court of Common Pleas, Dublin. Mr. Studdert sought to recover the sum of 5000*l*. for several libels on his character, written by his lordship to the Lord-Lieutenant and Sir Henry Brownrigg. It appeared that the plaintiff was stationed at Hillsborough, county of Down, in 1860, and, on being removed to Milford, in the county of Donegal, wrote to a friend inquiring about a house. The only house available was one of Lord Leitrim's, out of which the former tenant had been ejected, and the plaintiff felt determined to take it, despite an anonymous letter which he received warning him not to have anything to do with it. On a personal inspection of the house, however, he found it would not suit him, and he declined to enter into occupation. Upon this Lord Leitrim wrote to Sir H. Brownrigg a long letter, which contained the imputation that the plaintiff was a coward, and was afraid to take the house, and that his conduct was discreditable. At a subsequent period his lordship received a letter threatening his life, and signed "Good Shot." This letter his lordship at once enclosed to the Lord Lieutenant, and stated his belief that Mr. Studdert was the writer of it, and seven days after this he inquired from the Lord Lieutenant if it was the intention of Government to bring the plaintiff into a court of law for writing the letter, reiterating his belief that he was the guilty party. The Government informed him that a prosecution would not be instituted, and his lordship demanded the return of the letter, made some remarks about not receiving proper protection, and expressed a hope that Mr. Studdert would be removed to some other county. The defences pleaded were that the letters were privileged communications, and were written without malice. The jury were several times sent back to their room, being unable to agree, but they at last brought in a verdict for the plaintiff, damages 100*l*., with 6*d*. costs.

## Law.

MIDLAND CIRCUIT: DERBY.—*The Wigwell Murder.—George Victor Townley* was indicted on Friday for the Wilful Murder of Miss Elizabeth Goodwin at Wigwell Hall, the residence of her grandfather in Derbyshire. The prisoner, who was described as a man of very quiet and refined manners, a good linguist, and an accomplished musician, though in a somewhat lower station of life than Miss Goodwin, had formed her acquaintance at the house of one of her own relatives, and had become desperately attached to her. She returned his love, and they remained engaged, with a short interruption, for nearly four years. The prisoner lived near Manchester, and Miss Goodwin, with her grandfather, Captain Goodwin, at Wigwell Hall. Letters constantly passed between them, many of which have since been destroyed, but they were proved by secondary evidence to have expressed faithful affection on both sides. The prisoner's want of means had always been recognised as an obstacle to the marriage, but in the course of last summer a more formidable impediment arose. A clergyman, whose name was not given, had been staying with Captain Goodwin, and had made proposals to the grand-daughter. He was accepted, and Miss Goodwin, who had already spoken of him to her betrothed as the most delightful man she had ever met, wrote at last, on the 14th of August, to beg that the former engagement might be broken off. She does not appear to have mentioned the true cause, but, on the contrary, attributed it to her grandfather, and assured Townley that she would not marry if she could help it. That letter was stated by the witnesses to have "turned his brain." He had always been reserved, but he now became moody, sleepless, and nervous. He replied, however, to Miss Goodwin in two letters which betray no trace of excitement, but were composed in a very natural tone and with much self-command. In these he pleaded for a last interview, and there was evidence to show that she at first consented, but immediately afterwards wrote to stop his coming, saying what was not the fact, that she was about to leave Wigwell that very day for an indefinite time. The prisoner, however, went the same night to Derby, and on the following day, August 21, took his ticket for Whatstandwell, the nearest station to Wigwell. Thence he walked past the Hall to Wirksworth, and tried to find out from a clergyman who was a friend of the Goodwin family whether his suspicions were true. By the advice of this gentleman he returned to Wigwell, between 5 and 6 o'clock, and asked for Miss Goodwin. The servant showed him in, and he was left alone with her. His manner was then cool and collected, and as one of the servants deposed, "like that of other people." He remained with Miss Goodwin for an hour or so in the garden, and then walked out with her along a high road and down a lane. It is presumed that he then ascertained from Miss Goodwin, for the first time, that he had been deceived and thrown over in favour of another suitor. A labourer saw them in close conversation in the lane about half-past 8, and very shortly afterwards another labourer heard a moaning noise in that direction, ran forward, and met Miss Goodwin with her throat cut in three places, "guiding herself along the wall" towards the Hall. The prisoner was about 70 yards behind, and as the labourer was supporting the lady in his arms, he ran up and assisted him. They carried her between them for some distance, the prisoner confessing that he had stabbed her, and reminding her that she ought not to have proved false to him. At last they had to lay her down, when the prisoner asked for something to stop the bleeding, sent his companion for help, and was found on the return of the latter binding something round her neck. She had still strength to say, "Take me home." As they bore the body, now stiffening in death, to the gate of the Hall, the prisoner bent down and kissed her, while he responded again and again to the questions of the neighbours by saying that he did it and should be hanged for it. On Captain Goodwin asking who was the murderer, he answered in the same way, and added, "She has deceived me, and the woman that deceives me must die. I told her I would kill her." During the whole of this dreadful scene he behaved in a perfectly rational manner, and evinced a thorough consciousness of the consequences of his act, but no regret. He said that he knew he should be hung for it, and he delivered up some letters to the grandfather to be burnt, in order that they might not be produced in court. After these admissions there could be no denial of the crime. The defence set up was therefore that of hereditary insanity. Mr. Macaulay, his counsel, endeavoured to show that at the moment when he committed the deed the prisoner was labouring under a temporary aberration of mind, brought on by the distress of his feelings, and to which he was especially liable from hereditary causes. To prove this his nearest relatives were placed in the witness box. They proved that there had been undoubtedly insanity in the family, but the nearest approach it made to the prisoner was in the person of his grandfather's brother and sister, his great uncle and great aunt. Dr. Forbes Winslow, who was called to support this plea, pronounced the prisoner to be decidedly insane, because he found him asserting the non-necessity of any moral restraint. He found him denying the existence of a God or of a future world, denying that his action was a crime, and denying that man had any right to sit in judgment upon him. He found his moral sense to be more vitiated than that of any other human being within his experience. He therefore argued from this that the prisoner was mad; and stated his opinion that, if he was in the same state of moral blindness when he committed the murder, he was not to be held responsible for his acts. On Saturday morning counsel for the prosecution replied to this evidence, and contended that it would be dangerous to admit the plea of insanity which had been set up. Baron Martin in summing up ruled that, if the prisoner knew that the act he was doing would probably cause death, and that the doing it would subject him to legal punishment, there was criminal responsibility. The jury, after only five minutes' deliberation, returned a verdict of *Guilty*. Baron Martin having put on the black cap, with much emotion passed sentence of *Death* on the prisoner, holding out no hope of his life being spared.

WESTERN CIRCUIT: TAUNTON.—*The Wellon Murder.—Hannah Roberts* was indicted for the Wilful Murder of Jeremiah Haines at Wellon on the 22d October. It appeared that the prisoner lived in a cottage at Wellon with her father and brother. On the 22d of October there was a fair in the village, and a quantity of pea-haulms were left about the road. There were several young men, including the deceased and George Coles, drinking at the New Inn publichouse. About 12 o'clock at night these young fellows left the publichouse and went along the road, making a considerable noise and throwing pea-haulms at each other. When they got opposite the cottage in which the prisoner lived she came out of the door into a little front garden and ordered the men to move on. One of them replied, "All right." Another of them threw some pea-haulms at her, which seemed to rouse her anger, but she went into the cottage again three times. The annoyance was continued, and the prisoner came out again in a furious temper, and used very violent language and cried "Murder!" She then had a reaping-hook in her hand. She pursued Cole, and said she would murder him, and struck at him. She then turned round upon Haines, who threw some pea-haulms at her. She appeared as if quite wild and maddened. Haines ran away from her, but stumbled and fell, and the prisoner overtook him and inflicted several wounds upon him with the reaping hook. He immediately called out that he was a dead man. It was shown that the prisoner had two tumours on the spine which incapacitated her from earning her own living and rendered her very irritable. The prisoner was at once apprehended, and was asked if she knew what she had done, and she said, "Yes. I have stabbed Cole and some one else, but I do not believe he is dead." The hook was found in a cupboard behind the door, and she said that was what she had done it with; that she intended to hurt Cole, but not Haines. She had four times within the last 18 months complained to the constable of people annoying her. When she was charged with the murder, she said, "I did it, and with that hook you have in your hand." One of the ears of Haines was severed from the head. There were three wounds which must have been given with great force. For the defence witnesses were called to prove that the prisoner was in service at one time, but was obliged to leave from ill-health. She had two very bad tumours on her back, and suffered much in her head, and seemed overpowered with pain. She was a very kind and affectionate daughter and sister, but was afflicted with a disease which preyed upon her mental and nervous system to such an extent that the slightest annoyance rendered her hardly responsible for any act she might commit. The clergyman of the parish also gave her an excellent character for gentleness and good conduct. Mr. Baron Pigott in summing up said that the question appeared to him to be whether this offence amounted to murder or manslaughter, and his Lordship took great pains to explain to the jury the distinction between the two offences. The jury returned a verdict of *Guilty* of manslaughter, but recommended her to mercy, as they did not think there was any malice whatever, and that she acted under great provocation. The Judge told the prisoner that the jury had given a very merciful consideration of her case. She had been indicted for murder. Her conduct had been very desperate; she had taken a deadly weapon in the dark, and had used it with great determination, and had sent one man to his awful account. The jury had thought the provocation she had received was very great, and that from the disease of her body and mind she was at the time in a great state of irritation. He must pass a sentence which would teach her to be more careful in future. He then sentenced her to be imprisoned for 12 months with hard labour.

## Obituary.

ADMIRAL SIR HENRY WILLIAM BRUCE, K.C.B., died on Monday last, on which day it had been announced that the admiral's good service pension had been awarded to him. He was the only surviving son of the late Rev. Sir Henry H. A. Bruce, Bart., and was born in 1792. He entered the navy in 1803, was midshipman of the Euryalus at Trafalgar, and of the Endymion at the passage of the Dardanelles; lieutenant of the Belvidere, and assisted at the capture, in the boats of that ship and of the Nemesis, of two Danish schooners on the coast of Norway; and was slightly wounded in the action with and retreat from the squadron under Commodore Rodger on the coast of America. He served in the boats of the squadron at the capture of a schooner in Chesapeake Bay, and subsequently of a privateer of 15 guns and 70 men. When in command of the Marley he assisted in the operations in the Patuxent and Patapsco rivers. For some years he was commander-in-chief at Portsmouth, and was nominated a Knight of the Bath in 1861. He obtained his rank of full admiral only a few weeks back.

MR. JOSEPH LUNN died at Brighton last week. He was well known to old playgoers as the author of many successful dramatic pieces in the time of Liston, who played the principal characters in some of these productions, among others, "Fish out of Water," and "Family Jars"—pieces which still keep possession of the stage. Mr. Lunn was also for many years the Secretary of the Society for the Discharge of Prisoners for Small Debts.

BIRTHS.—On the 10th inst., at 20, Cavendish Square, the Viscountess SOMERTON, of a daughter—12th inst., at 9, Portugal Street, Grosvenor Square, the Viscountess BOYLE, of a son—12th inst., at St. Petersburg, the Countess MARY ROSTOTZOFF, of a daughter—12th inst., at St. Andries, Lady ACLAND HOOD, of a son—8th inst., at Welwyn Rectory, Herts, Lady BOOTHBY, of a son—9th inst., at 47, Beaufort Gardens, the wife of Major-General G. HUTT, C.B., of a son.

MARRIAGES.—On the 15th inst., at St. George's, Hanover Square, ALGERNON W. F. GREVILLE, Esq., of the 1st Life Guards, son of Colonel and Lady Rosa Greville, to the Lady VIOLET GRAHAM, second daughter of the Duke and Duchess of MONTROSE—8th inst., at St. George's Square, the Hon. ST. JOHN BUTLER, second son of the late Lord DUNBOYNE, to ANNE, widow of ROBERT GEORGE PARNTHER, Esq., London—10th inst., at Soulby Church, Captain GRIMSHAW, the eldest son of the late John Grimshaw, Esq., of Bank House, near Burnley, Lancashire, to MARY JANE, the only daughter of THOMAS HUTTON, Esq., of Soulby, Westmoreland—10th inst., at Annesley Park, Notts, HORATIO, son of the late Colonel PACKE, of Twyford, Norfolk, to MARY ANNE CHAWORTH, daughter of the late and sister of the present JOHN CHAWORTH MUSTERS, Esq.

DEATHS.—On the 10th inst., at the Palace, Chichester, MARY ANN GILBERT, wife of the Bishop of Chichester, aged 64—14th inst., at Chichester, the Rev. Sir GEORGE SHIFFNER, Bart., canon residentiary of Chichester, and vicar of Amport, Hants, aged 72—14th inst., in Wimpole Street, Lady REDD, relict of Vice Admiral Sir J. Tremayne Rodd, K.C.B., and only daughter of the late Major Rennell—7th inst., at 49, Gloucester Street, Warwick Square, CAROLINE HANNAH NEAVE, last surviving child of the late Sir Richard Neave, Bart., of Dagnam Park, Essex, aged 8[illegible]—11th inst., at Netherby, HELEN, third daughter of Sir FREDERICK GRAHAM, Bart., aged [illegible]—9th inst., at Ryde, MARGARET, daughter of the late Sir HENRY BOLD HOGHTON, Bart., aged 5—10th inst., at The Spa, Gloucester, MARY, relict of Lieutenant-General Sir M. C. O'CONNELL, aged 79—11th inst., near Weymouth, Colonel ELD, late 9th Bengal Native Infantry, from the effect of wounds received in the Indian Mutiny, aged 5[illegible]—20th ult., killed in action with the frontier tribes of India, Lieutenant ALGERNON R[illegible] SANDERSON, H.M.'s 101st Reg., fourth son of the late Richard and the Hon. Mrs. Sanderson, aged 19—8th inst., Colonel M. G. DENNIS, C.B., late 60th Rifles, of Castletown House, Leixlip, Kildare—8th inst., at Lazonby Hall, Cumberland, Lieutenant-Colonel HENRY DUNDAS MACLEAN—13th inst., at No. 11, Lowndes Square, MARIANNE, relict of Colonel JOHN NEAVE WELLS, R.E., C.B.—10th inst., at Ramsgate, WM. HARRISON, Esq., late of the Royal Dragoons, subsequently Governor of Oxford Castle, aged 49—12th inst., at Rowton Castle, Shropshire, HENRY LYSTER, Esq., aged 6[illegible]—12th inst., at his residence, Lambiethan Cottage, Glamorganshire, BIRT WYNDHAM ROUS JENNER, Esq., youngest son of the late Robert Jenner, of Wenvoe Castle, late Captain in the Bengal Army, and Magistrate and Deputy Lieutenant for the county of Glamorgan—Sept. 7, on the Waikato River, New Zealand, shot down by the natives in ambush, and afterwards brutally murdered, JAMES ARMITAGE, Esq., resident police magistrate, and youngest son of the late Joseph Armitage, Esq., Milnsbridge House, Huddersfield—10th inst., at Ventnor, ROBERT GRIFFITH, Esq., M.A., fellow of Wadham College, Oxford, and late assistant-master at Wellington College, aged 28—9th inst., at Burton Grange, York, the Rev. JAMES PALEY, vicar of Lacock, Wilts, third and last surviving son of the late Archdeacon Paley, D.D., aged 80—12th inst., Mr. CHARLES GODFREY, bandmaster of the Coldstream Guards, aged 78.

## Markets.

### COVENT GARDEN, Dec. 19.

Owing to the mildness of the weather, all kinds of produce in season continue to be abundant. Pine Apples are well supplied, and prices for them are moderate. Hot-house Grapes are now beginning to get scarce. Of foreign Melons there is a good stock. There is also a good supply of Ne Plus Meuris, Glou Morceau, Monsieur le Curé, and Beurré Rance Pears. Good English Apples are getting somewhat scarce. Some good examples of Ribston Pippin and American New Town Pippin Apples may still be obtained. Kent Cobs are good, but in few hands. St. Michael Oranges are realising from 5s. to 10s. per 100. For Potatos the market is still heavy. Cut flowers chiefly consist of Orchids, Pelargoniums, Primroses, Mignonette, and Roses.

FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Oranges, per 100, 4s to 7s |
| Grapes, per lb., 2s to 8s | Nuts, small per bush., 14s to 16s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Kent Cobs, 11[illegible] per 100 lbs |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 14s to 20s |
| Lemons, per 100, 5s to 9s | Chestnuts, per bush., 10s to 20s |

VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, p. bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | Shallots, per lb., 10d |
| Potatos, York Regents, p. ton, 60s to 80s | Garlic, per lb., 8d |
| .. Shaws, do., 50s to 60s | Lettuces, each, 1d to 4d |
| Turnips, p. bunch, 4d to 6d | Endive, p. score, 1s to 2s |
| Carrots, do., 6d to 8d | Horse Radish, p. bunch 1s to 4s |
| Spinach, p. sieve, 1s 6d to 2s | Mushrooms, p. pott., 1s to 1s 9d |
| Cucumbers, each, 1s to 2s | Parsley, p. 12 bunches, 3s to 4s |
| Beet, per doz., 1s 6d | Herbs, per bunch, 5d |
| Tomatos, each, 2d to 3d | |

## POTATOS.—Southwark, Monday, Dec. 14.

During the past week the arrivals coastwise have been moderate, but more plentiful by rail. The trade continues in a languid state. The following are this day's quotations:—Yorkshire Flukes, 80s. to 90s. per ton; do. Regents, 70s. to 80s.; do. Rocks, 55s. to 60s.; Kent and Essex Regents, 65s. to 70s.: Perth, Forfar, and Fifeshire Regents, 50s. to 55s.; do. do. Rocks, 45s. to 50s.

## COAL MARKET.—Dec. 16.

Byass's Bebside West Hartley, 16s. 6d.; Hastings Hartley, 16s. 6d.; Lambert's West Hartley, 16s. 3d.; Tanfield Moor Butes, 15s. 3d.; West Hartley, 16s. 6d.; Wylam, 17s. 6d.; Walls End Riddell, 17s. 9d.; Walls End Haswell, 20s.; Walls End South Hetton, 20s.; Walls End Tunstall, 18s. 3d.; Walls End Cassop, 19s.; Walls End Hartlepool, 19s. 6d.; Walls End Heugh Hall, 19s.; Walls End Kelloe, 18s. 6d.; Walls End South Hartlepool, 18s. 6d.; Walls End South Durham, 17s. 9d.; Walls End South Kelloe, 19s.; Walls End Trimdon Hartlepool, 19s. 6d.; Walls End Trimdon Thornley, 17s. 6d.; Walls End Caradoc, 19s.—159 ships at market.

## HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, Dec. 17.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to | 80s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | 84 | 90 | Do. second cut .. | 90 | 100 |
| Inferior do. .. | 65 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. .. | 24 | 30 |
| Rowen .. .. .. | — | — | | | |

Harvey & Easton.

Whitechapel, Thursday, Dec. 17.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay .. | 84s to | 88s | Prime 1st cut Clover | 105s to | 112s |
| Inferior do. .. .. | 70 | 80 | Inferior do. do. .. | 100 | 105 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do. .. | 100 | 105 |
| Straw .. .. .. | 27 | 30 | Inferior do. .. .. | 90 | 95 |

## HOPS.—Borough Market, Friday, Dec. 18.

Messrs. Pattenden & Smith report a good demand for all descriptions of Hops, at an advance on last week's quotations. The present supply of new Hops is very limited, and for fine samples will soon be exhausted, and consumers will do well to secure those on hand before the anticipated rise in the market takes place.

## NEWGATE.—Dec. 18.

Best Fresh Butter .. .. 18s. per dozen lbs.
Second do. do. .. .. 14s. „
Pork, 4s. 0d. to 4s. 4d. per 8 lbs.

## METROPOLITAN CATTLE MARKET.

Monday, Dec. 14.

We have to-day a larger supply of Beasts than was ever known at the London market; and this being the annual "Great Market," a large proportion were of unusual size. Trade is very slow for them, but choice qualities realise fair rates. The number of Sheep is also large for the day, and those of a prize character met with a heavy sale. Saleable qualities are readily disposed of at nearly late quotations. Good Calves are in demand. From Germany and Holland there are 930 Beasts, 5760 Sheep, and 170 Calves; from Spain, 258 Beasts; from Scotland, 1030; from Ireland, 1010; from Norfolk and Suffolk, 850; from the Western Counties, 1020; and 8850 from the Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 5 2 to 5 4 | Best Long-wools | 5 2 — 5 8 |
| Best Short-horns | 5 0 — 5 2 | Do. Shorn .. | — |
| 2d quality Beasts | 3 4 — 4 4 | Ewes & 2d quality | 4 6 — 5 0 |
| Best Downs and Half-breds .. | 5 10 — 6 0 | Do. Shorn .. .. | — |
| Do. Shorn .. .. | — | Lambs .. .. .. | — |
| | | Calves .. .. | 4 0 — 5 4 |
| | | Pigs .. .. | 3 0 — 4 8 |

Beasts, 10,870; Sheep & Lambs, 26,280; Calves, 180; Pigs, 360.

Thursday, Dec. 17.

Considering the unusual supply of Beasts on Monday last, the number to-day is not so large as we expected. The demand is evidently very extensive, or a larger number would have been left over from Monday. The prices to-day are rather on the decline, except for choicest descriptions of medium size. We have a fair supply of Sheep, and trade is nearly the same as on Monday. The weather is very favourable, and consequently a fair clearance is effected. Calves are more plentiful, and on the average rather lower. Our foreign supply consists of 960 Beasts, 2190 Sheep, and 448 Calves. Milch Cows, 120.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 5 0 to 5 4 | Best Long-wools | 5 2 — 5 6 |
| Best Short-horns | 4 10 — 5 2 | Do. Shorn .. .. | — |
| 2d quality Beasts | 3 0 — 4 4 | Ewes & 2d quality | 4 4 — 5 0 |
| Best Downs and Half-breds .. | 5 8 — 6 0 | Do. Shorn .. .. | — |
| Do. Shorn .. .. | — | Lambs .. .. .. | — |
| | | Calves .. .. | 3 8 — 5 2 |
| | | Pigs .. .. | 3 0 — 4 8 |

Beasts, 3090; Sheep & Lambs, 5280: Calves, 506; Pigs, 210.

## MARK LANE.—Monday, Dec. 14.

The supply of Wheat from Essex and Kent to this morning's market was moderate, but owing to several runs being left over from last week, the show was tolerably good, the condition generally bad; a few sales of picked samples were made at a reduction of 1s. per qr., but the bulk remained unsold at the close, on which a much greater reduction would have been required to effect a clearance. Business in foreign was very limited, and where sales were effected lower prices were submitted to. Barley, with the exception of selected Malting, was 1s. per qr. cheaper. Beans and Peas were rather lower, and to effect sales in Oats it was necessary to submit to a slight reduction. Flour was neglected.

| Per Imperial Quarter | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 42—48 | Red ..... | 40—48 |
| — — fine selected runs .. ditto | 44—52 | Red .... | 40—48 |
| — — Talavera .............. | 48—54 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 36—54 | | |
| Barley, grind. & dist., 26s to 28s .. Chev. | 34—38 | Malting .. | 30—33 |
| — Foreign .. grinding and distilling | 23—27 | Malting .. | 30—32 |
| Oats, Essex and Suffolk .......... | 20—22 | | |
| — Scotch and Lincolnshire—Potato | 22—25 | Feed .... | 20—22 |
| — Irish ............. Potato | 19—22 | Feed .... | — |
| — Foreign ...... Poland and Brew | 18—22 | Feed .... | 15—20 |
| Rye .......................... | 30—32 | Foreign .. | — |
| Rye-meal, Foreign .............. | — | | |
| Beans, Mazagan .... 28s to 36s .. Tick | 30—34 | Harrow .. | 30—34 |
| — Pigeon .... 37s to 40s .. Winds. | — | Longpod | — |
| — Foreign ............. Small | 36—42 | Egyptian | 30—32 |
| Peas, White, Essex and Kent .. Boilers | 36—38 | Suffolk .. | 36—39 |
| — Maple .... 34s to 36s .... Grey | 31—34 | Foreign .. | 32—40 |
| Maize ..................... White | — | Yellow .. | — |
| Flour, best marks delivered .. per sack | 35—40 | | |
| — 2d do ................. ditto | 28—34 | Country .. | 28—34 |
| — Foreign ........... per barrel | 15—25 | Per sack | 32—42 |

Friday, Dec. 18

The weather since the 11th inst. has been very fine with occasional night frosts. The Wheat trade has been dull, and a decline in prices of 1s. per qr. has been general in both English and foreign Wheat throughout the kingdom. The state of foreign politics appears however to stimulate speculators, for whom a few purchases have been again effected here. Barley has been written 1s. per qr. lower in value, excepting the finest malting. Oats have barely maintained their former quotations. Beans and Peas are the turn cheaper. Flour is neglected, and in several markets is quoted 6d. to 1s. per sack lower. Since Friday last 13 vessels have been reported off the coast. The floating trade has been extremely quiet. In Barley some transactions have taken place at late rates; for Wheat buyers press for a further decline. Paris, Dec. 17.—The Wheat and Flour trade has been quiet. The prices for Flour declined about 1s. per sack. The six marks for delivery this month are quoted equal to 31s. 6d. per 280 lbs; the present stock is estimated at 5200 cwt. Wheat receded 9d. to 1s. 3d. per 480 lbs. The arrivals of English Wheat and Barley this week have been to a fair extent, of other grain and foreign Oats and Flour small, of foreign Wheat and Barley good. To-day's market was very poorly attended. Dry English Wheat was in request at Monday's prices, other qualities and foreign were neglected; prices for the latter nominally unaltered. Barley was steady at Monday's quotations. Beans and Peas were unaltered in value. Oats were a dull sale and rather cheaper.

Arrivals this Week.

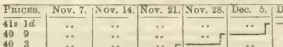
| | Wheat. | Barley. | Oats. | Flour. |
|---|---|---|---|---|
| English .. | 2720 qrs. | 2390 qrs. | 360 qrs. | 2470 sk. |
| Irish .... | — | — | 500 | — „ |
| Foreign .. | 14,860 „ | 7450 | 16,320 „ | 500 „ / — brls |

Liverpool, December 15.—We have had a very fair attendance of millers and dealers at to-day's market, who showed little disposition to buy, and Wheat must be quoted 1d. to 2d. per cental worse to sell than on Friday last, and Flour 6d. per barrel and sack in the same direction. Indian Corn is offered sparingly, and maintains late rates. Oats are no lower, but Oatmeal is down 6d. per load. Beans 3d. per qr. cheaper. Peas and Barley remain as last quoted. The market ruled dull throughout, and closes so.

Friday, Dec. 18.—Limited attendance at market. Small business in all articles at rather easier rates than on Tuesday last.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Nov. 7 | 40s 0d | 34s 2d | 18s 7d | 28s 0d | 35s 10d | 35s 0d |
| — 14 | 39 10 | 34 0 | 18 9 | 25 0 | 36 5 | 34 1 |
| — 21 | 39 11 | 33 11 | 19 11 | 29 7 | 35 6 | 34 2 |
| — 28 | 40 3 | 33 7 | 19 7 | 34 9 | 36 1 | 34 1 |
| Dec. 5 | 40 9 | 33 6 | 19 5 | 29 7 | 35 3 | 33 7 |
| — 12 | 41 1 | 32 10 | 19 3 | 29 11 | 34 11 | 34 2 |
| Agg. Aver. | 40 4 | 33 8 | 19 8 | 29 6 | 35 8 | 34 2 |

Fluctuations in the Last Six Weeks' Averages.




## BRITISH WOOLS.—London, Dec. 17.

The flatness brought about by the high rate of interest still continues, and except in skin wool there has been scarcely any business transacted, and in this only to a limited extent, and at lower prices, which would not be submitted to in fleece wool on account of its scarcity, in comparison with the stocks usual at this season of the year.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 11 to 2 0 | Leicest. Wethers | 1 9½ to 1 10½ |
| Half-bred ditto .. | 1 11 — 2 0½ | Ditto Hoggs .. | 1 10½ — 1 11½ |
| Down Ewes .. | 1 10 — 1 10½ | Combing Skins .. | — |
| Kent Fleeces .. .. | — 2 0 | Flannel Wool .. | 1 4 — 1 9 |
| | | Blanket ditto .. | 0 9 — 1 0 |


WANTED, in a Gentleman's Family near Town, a Man and Wife without incumbrance, age not exceeding 40; the former as WORKING GARDENER, and to make himself useful, the latter as LAUNDRESS. Both to reside on the premises.—Address, with full particulars, A. B., Mr. Ravenscroft's, Serle Street, Lincoln's Inn, W.C.

WANTED, in a London Retail Seed Business, a YOUNG MAN well up in Flower Seeds.—Address, stating salary, &c., S. B., *Gardeners' Chronicle* Office, W.C.

WANTED IMMEDIATELY, a SHOPMAN who thoroughly understands the Seed Trade. A good character as to ability indispensable.—Apply, stating wages, to William Epps, Jun., Nurseryman and Seedsman, Hastings.

WANTED, an active YOUTH, who has been accustomed to attend to a Horse and Chaise, and who could make himself useful in the Garden.—Apply A. B., 25, Bishopsgate Within, E.C.

WANT PLACES.—Letters to be Post Paid.

NURSERY GOVERNESS, where Music and French are not required.—Age 16; has a thorough knowledge of Teaching, would not object to the care of Children's Wardrobes, or to help in the Housemaid's work.—E. A., Post Office, Turnham Green, S.W.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (Head).—Middle-aged, married, with one child; thoroughly understands his business, and can be highly recommended by his last employers.—For all further particulars address, B., James Dickson & Sons, the "Newton" Nurseries, Chester.

GARDENER (Head), age 26, married.—John Holmes, 2½ years Foreman, Sundridge Park, Bromley, Kent; had good practice in Propagating and Growing Plants, Early and Late Forcing Fruits, &c. Good character from Mr. Dedman, the Gardener.

GARDENER (Head).—First-class Grower of Grapes, Pines, Peaches, Stove and Greenhouse Plants, &c.; Flower and Kitchen Gardens, Laying out Grounds, Superintending Land and Stock. Wife can manage Dairy if required. Seven years' good character and 12 previous. No incumbrance.—L. M., 6, Robertson Street, Lee, Kent, S.E.

GARDENER (Head), to any nobleman or gentleman.—Middle aged, married, without incumbrance; a thorough good practical Gardener, who perfectly understands his profession in all its branches, including Forcing of Fruits and Flowers, is a good Grape Grower, also an excellent Flower and Kitchen Gardener. Wife could manage Dairy or Poultry if required. Eight years' unexceptionable character.—S. Waters, 2, Forest Hill Terrace, Forest Hill, Kent, S.E.

GARDENER (Head).—Thorough practical knowledge of his profession in all its branches. Highly recommended by the Dean of Canterbury, whom he is now leaving. Five years' character.—E. B., 7, Orchard Place, Northgate, Canterbury.

GARDENER (Head), or STEWARD and GARDENER.—John Anderson is now leaving the Marquis of Bath, with whom he has lived 22 years at Longleat; he will be glad to enter into an engagement with a nobleman or gentleman who is desirous of securing the services of a thoroughly experienced man. Character and abilities unexceptionable.—Horningsham, Warminster.

GARDENER.—Practically acquainted with the various branches of his profession: energetic and trustworthy, and from his industry and integrity would be an invaluable servant.—A. B., Lamroux, Clark & Co., Seed Merchants and Florists, 4, Cornwall Street, Plymouth.

GARDENER.—Age 26, single; active, and has had good experience in first-class Establishments; understands his profession in all its branches, as the following extract from his last discharge will show:—"He has a good general knowledge of his business, and has always performed his work to my satisfaction." Can be well recommended by his present employer.—O. L., Bennett, Seedsman, Dulwich, near London.

NURSERY FOREMAN or HEAD GARDENER.—Age 32, single; thoroughly understands his profession, including new Ground work, Contracting, Planting, &c.—L. L., Post Office, High Street, Southampton.

FOREMAN, or SECOND GARDENER.—Age 26, single; has had first-rate experience in Forcing, Plant Growing, &c., references unexceptional.—R. G., Messrs. Downie, Laird & Laing, Stanstead Park, Forest Hill, London.

STEWARD and GARDENER.—Single; has had the Management of a large Estate; a good knowledge of Draining Plantations, Repairs, &c., with a thorough knowledge of Gardening in all its branches. A good character from the nobleman he has lately left, and unexceptionable testimonials can be seen.—A. B., Hanover Nursery, Peckham, S.

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LAND STEWARD.—Age 39, married, without Incumbrance; has a thorough practical knowledge of everything connected with Estate Management, also Farming in all its branches, and is a good Judge of Stock.—H. A., Messrs George Gibbs & Co., Seedsmen, 26, Down Street, Piccadilly, London, who will receive all communications.

LAND STEWARD or BAILIFF.—Thoroughly acquainted with Farming in all its branches, the Buying, Selling, Breeding, and Rearing of all kinds of Stock, Marketing, &c. First-class testimonials and reference to present employer, &c.—Homo, Post Office, Crawley, Sussex.

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# The Gardeners' Chronicle Newspaper.

*SATURDAY, DECEMBER* 26, 1863.


A.D. 1720.

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NOTICE.—The usual 15 days allowed for payment of FIRE PREMIUMS falling due at Christmas will expire on 9th January.

FIRE and LIFE ASSURANCES may be effected with this Corporation on advantageous terms.

Insurances against Fire on Merchandise in the Docks and Warehouses in the Port of London are accepted at the late reduced rates of Premium.

FARMING STOCK.—NO EXTRA CHARGE is made for the use of a STEAM THRESHING-MACHINE.

The Reversionary Bonus on British LIFE POLICIES has averaged nearly 2 per cent. per annum on the sum assured.

Equivalent reductions have been made in the Premiums payable by persons who preferred that form of Bonus.

The divisions of Profit take place every five years.

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This Corporation affords to the Assured—

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A rate of Bonus equal to the average returns of Mutual Societies,—with the guarantee of a large invested Capital-Stock.

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ROBERT P. STEELE, Secretary.

Royal Exchange, London.

**To Merchants and Brokers.**

THE DIRECTORS of the SCOTTISH UNION FIRE and LIFE INSURANCE COMPANY, established 1824, beg to announce that INSURANCES can be effected with them on Property in the Docks, Wharves, and Warehouses, in the Port of London, at greatly reduced Premiums, full particulars of which can be obtained at the offices, 37, Cornhill, E.C.

The CHRISTMAS RENEWAL RECEIPTS are now ready for issue. FREDK. G. SMITH, Secretary.

37, Cornhill, London, E.C.

SCOTTISH UNION FIRE and LIFE INSURANCE COMPANY, 37, Cornhill, London, E.C.—Notice is hereby given that a DIVIDEND of 10 per cent. (free of Income-tax) on the capital stock of this Corporation will become PAYABLE on the 2d of JANUARY NEXT, and the Proprietors resident in and near London can receive the same at the Office, 37, Cornhill, on that or any subsequent day, between the hours of 10 and 4 o'clock. By order of the Board,

37, Cornhill, December, 1863. F. G. SMITH, Secretary.

SCOTTISH UNION FIRE and LIFE INSURANCE COMPANY, London, 37, Cornhill, E.C.; Edinburgh; Dublin. Established 1824. Capital 5,000,000*l.* Incorporated by Royal Charter, and empowered by Act of Parliament.

Invested Funds, at 1st August, 1863, upwards of .. £86[illegible],000
Annual Revenue from all Sources .. .. .. 182,000
Amount of Life Insurances in Force .. .. 3,000,000

The THIRTY-NINTH ANNUAL GENERAL MEETING of the Scottish Union Insurance Company was held in the Company's Office, 47, George Street, Edinburgh, on Wednesday, the 2d day of December, 1863.

PROGRESS OF THE COMPANY.

The following statements exhibit the great increase which has taken place in the Company's business, in both departments, during the last few years.

LIFE DEPARTMENT.
PROGRESS DURING THE LAST 5 YEARS.

| For the Year ending 31st July | Number of New Life Policies Issued. | Insuring. | Yielding of New Premiums. | | |
|---|---|---|---|---|---|
| 1859 | 523 | [illegible] | [illegible] | [illegible] | [illegible] |
| 1860 | 625 | 804,705 | 9,828 | 6 | 2 |
| 1861 | 874 | 404,014 | 12,785 | 0 | 0 |
| 1862 | 915 | 427,330 | 13,197 | 9 | 1 |
| 1863 | 1071 | 488,264 | 15,382 | 1 | 0 |

FIRE DEPARTMENT.

In 1857 the revenue amounted to .. .. £35,479
In 1860 ,, ,, .. .. 45,699
In 1863 ,, ,, .. .. 52,596
Being an increase of nearly 50 per cent. in six years.

DIRECTORS in LONDON.

*President*—The Right Hon. the Earl of MANSFIELD.

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37, Cornhill, London, E.C. F. G. SMITH, Secretary.

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The Royal has always been conspicuous for its liberality and promptitude in the Settlement of Claims.

Its Annual Income is now over .. £500,000
And its Funds in hand exceed .. .. £1,000,000

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Great additions in variety will be made to subjects henceforth to be treated of in its pages, and writers of the first talent in all the various departments of Horticulture have been secured, who will contribute monthly articles which shall be of general interest to our numerous readers. No branch of Horticulture, Floriculture, and Pomology shall be overlooked, and it is intended that the subjects shall be such as to interest every class of the horticultural community. One of the leading features will be the continuation of Dr. Hogg's British Pomology, of which a portion, illustrated with numerous figures of the Fruits, will appear in each Number. The subject shall be the Pear, treated of to its fullest extent—every known variety being described, its merits recorded, and, when practicable, its figure given.

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## News of the Week.

THE Address of the French Senate in reply to the Speech from the Throne was unanimously adopted on Friday, and was presented to the EMPEROR on Monday by a deputation from that body. HIS MAJESTY, in reply, said that "good" was the moving power of his actions, and that both at home and abroad he desired the appeasing of passions, concord, and union. He directed all his wishes to the moment when the great questions which divided Governments and peoples would be peacefully solved by European arbitrament. He believed, with the first NAPOLEON, that to fight in Europe was civil war, and that this great thought, heretofore Utopian, might to-morrow become a reality. He felt it an honour to proclaim a principle tending to dissipate the prejudices of another age, and asked the Senate to unite with him in efforts to attain that noble end. The report of the committee on the loan was read on Wednesday in the Corps Législatif. The committee declared that in accepting the loan they in no way wished to afford the Government the means of easily entering upon an exaggerated expenditure. France should be able to resist the allurement of glory, and enjoy what she had acquired. With that she might honourably desire the peace which the peoples so greatly needed. If she had peace the state of her finances would ameliorate, and she would be able to employ larger sums upon public works, a fruitful source of the wealth and prosperity of the population. The committee unanimously recommended the rejection of the amendment moved by M. THIERS and other members of the Opposition for reducing the issue of Treasury bonds in 1864 to 100,000,000f., because such a measure would impede the realisation of the loan, but they admitted in principle the necessity of this reduction in the following year. The report was favourably received, and all the passages relating to peace were greatly applauded. The debate took place on Thursday, when the amendment of M. THIERS was negatived, and the Bill for the loan adopted by a majority of 242 to 14.

In the Prussian Chamber of Deputies on Friday the Address of the Liberal party to the KING, stating their motives for refusing the Bill for a loan of 12,000,000 thalers for the purpose of conducting the military operations in Holstein, was carried by a majority of 100, notwithstanding the warning of Count VON BISMARK, that the Chamber was encroaching on the privileges of the Executive.

The Federal execution in Holstein commenced on Thursday. At an early hour on that day a Saxon regiment of infantry, accompanied by the Civil Commissioners appointed to assume the Provisional Government of the Duchy, entered the town of Altona, the Danish troops retiring before them. The people received the German troops with loud acclamations, and German and Schleswig-Holstein flags were displayed from the houses. The Commissioners subsequently issued a proclamation, announcing their assumption of the administration of Holstein and Lauenburg, without prejudice to the rights of the Sovereign, and stating that the succession question has only been reserved, not passed over, in the Federal resolution.

From the United States we learn that the Federal and Confederate Congresses were both opened on the 7th, and that the Messages of the two Presidents were delivered as soon as the Congresses were constituted. The Message of President Lincoln states that all the foreign relations of the Government are friendly, that the crisis which threatened to divide the Union is past, and that it is his determination to adhere strictly to his Emancipation policy so long as he remains in his present position. The message was accompanied by a proclamation suggesting terms for the reconstruction of the Union. It offers an amnesty to persons in rebellion who will take the oath of allegiance to the United States, an oath to support all acts passed by the Federal Congress, and the Emancipation and all other proclamations issued by the PRESIDENT. All persons however who have held high civil and military offices in the Confederate Government are exempted from the amnesty. The message of President DAVIS, while regretting the loss of Vicksburg, Port Hudson, and other reverses, expresses continued confidence in the ultimate success of the Confederate arms, and points out various means of increasing the number and efficiency of the army. He speaks with much bitterness of the unfriendly conduct of foreign nations, and particularly accuses England of marked partiality to the North in her decisions regarding the blockade, and in her difference of conduct in regard to the purchase of supplies by the two belligerents. He says that a prompt and efficacious remedy for the present condition of the currency is necessary, and recommends taxation instead of a further issue of Bonds and Treasury Notes as the best means of raising funds. He concludes by saying that since the Federals have refused the proposals of the only peace possible between them, the only hope of peace is in the vigour of their resistance. From the seat of war we learn that General LONGSTREET has retreated from Knoxville towards Virginia. A report was current at Nashville that his rear-guard had repulsed General SHERMAN, who was pursuing him, with heavy loss, but there was no confirmation of the rumour. Both the armies on the Potomac were preparing to go into winter quarters.

## Home News.

THE COURT AT OSBORNE.—The Queen, with the junior members of the Royal family and the Princess Hohenlohe, left Windsor on Friday morning for Osborne for the Christmas holidays. On Saturday Prince Alfred and Prince William of Hesse arrived at Osborne from Edinburgh. Lord Stanley of Alderley also arrived, and had an audience of her Majesty. On Sunday morning the Queen, Prince Alfred, Princess Helena, Princess Louisa, Prince Leopold, and Prince William of Hesse attended divine service at Osborne. The Rev. G. Protheroe officiated. On Monday morning Prince Alfred left Osborne for London, Prince William of Hesse left for Germany. Lord Stanley of Alderley returned to London. The Queen, accompanied by Princess Louisa, walked and drove in the grounds. Princess Helena drove to Ryde. On Tuesday, Prince Alfred returned from London. In the afternoon the Prince and Princess of Wales arrived from Frogmore on a visit to the Queen. The Judge Advocate-General had an audience of the Queen. On Wednesday the Queen walked in the grounds, accompanied by Princess Louisa and Princess Beatrice. The Princess of Wales and Princess Helena drove out. Prince Arthur arrived from Greenwich Park, on a visit to her Majesty.

THE PRINCE AND PRINCESS OF WALES.—On Thursday week the Prince and Princess visited the Queen. In the evening their Royal Highnesses gave a dinner party at Frogmore, at which the Princesses Helena and Louisa were present. On Friday morning the Prince and Princess drove to the Windsor Station to take leave of the Queen on her departure for Osborne, after which the Prince and Princess returned to Frogmore. The Duchess of Cambridge and the Princess Mary lunched with their Royal Highnesses, and returned to Kew in the afternoon. The Prince afterwards went out pheasant shooting in the preserves of the Home Park. On Sunday afternoon the Prince and Princess attended divine service in St. George's Chapel. The Prince occupied his own stall as Knight of the Garter, and the Princess sat in the Royal stall adjoining. On Tuesday their Royal Highnesses left Frogmore on a visit to the Queen at Osborne, where they will remain about 10 days, and then return to Frogmore.

PARLIAMENTARY MOVEMENTS.—Mr. Coningham is about to retire from the representation of Brighton, and Mr. F. Kuper Dumas has offered himself as his successor in the Liberal interest. The nomination for Bucks takes place on Tuesday, and the polling will take place on Friday. The candidates are Mr. R. B. Harvey and Dr. Lee, of Hartwell, the former in the Conservative, the latter in the Liberal interest.

THE COURT-MARTIAL ON COLONEL CRAWLEY.—The finding of the court-martial, held under the Presidency of General Sir G. Wetherall, K.C.B., for the trial of the charges against Lieut.-Colonel Crawley, was submitted to the Queen on Tuesday, and received her Majesty's approval. The decision is in the following terms:—

"The Court, having duly considered the evidence in behalf of the prosecution, the evidence the prisoner has adduced, and what he has stated in his defence, and the prosecutor's reply, is of opinion, with regard to the first charge, that he, the prisoner, Lieutenant-Colonel Thomas R. Crawley, of the 6th Dragoons, is *Not Guilty*. With regard to the second charge the Court is of opinion that he, the prisoner, Lieutenant-Colonel Thomas R. Crawley, is *Not Guilty*. The Court does, therefore, fully and honourably acquit him, Lieutenant-Colonel Thomas R. Crawley, of both the charges preferred against him."

To the finding of the Court were appended some unfavourable comments on the manner in which particular witnesses for the prosecution had given their evidence at Aldershott. These expressions of censure, however, are not given to the public at present, as they will be dealt with by the Commander-in-Chief, and embodied in the remarks of his Royal Highness on the case generally.

## Foreign.

FRANCE.—The Emperor received on Monday the deputation of the Senate to present the Address of that body. His Majesty on this occasion, instead of making an oral acknowledgment, as usual, read the following reply:—

"Monsieur le President,—As the organ of the first body of the State, you address me in language which touches me profoundly. I see with pleasure that the most opposite speeches are absorbed in the unanimity of the vote of the Address, and testify the same confidence—and you shall not be disappointed. Good is the sole motive of my actions both at home and abroad. I desire the appeasing of passions with concord and union. I direct all my wishes to the moment when the great questions which divide Governments and peoples will be pacifically solved by European arbitrament. This wish was that of the chief of my family when he cried from St. Helena that 'to fight in Europe is to make civil war.' May not this great idea, Utopian in the past, shortly become a reality? However this may be, it is always honourable to proclaim a principle which tends to remove the prejudices of a former age. Let us unite our efforts for this noble end, and let us only study how to conquer obstacles, and to confound incredulity. Please to be, Monsieur le President, the interpreter of my thanks to the Senate."

This reply was much applauded by the Senators. The following is an abstract of the concluding debate on the Address on Friday:—

M. Bonjean thought it would be rash to go to war for Poland, but maintained that it was the interest of France and of civilisation not to permit the destruction of Polish nationality. M. Dupin, sen., in a speech which was loudly applauded, blamed the excesses of which Poland is the victim. But should France allow herself to be dragged into a war for Poland, as she has done for Mexico? No. Once was quite enough. Notwithstanding the incitements from abroad and from the Opposition press, France would not go to Poland. It would be an adventure against which the Emperor would guard her. If the Emperor's appeal to Europe had not been heard, France must not risk her destinies in a foreign cause. M. Beaumont moved that the passage in the Address relating to England should be suppressed, and maintained that in consideration of her conduct England did not deserve to be named in the Address of the Senate. MM. Hubert Delisle and Casabianca spoke in defence of the paragraph, which was adopted. The Address in its entirety was then unanimously agreed to.

The *Moniteur* of Tuesday publishes the circular of M. Drouyn de Lhuys, dated the 8th of December, the sense of which agrees with the summary already published. In the Corps Législatif on Wednesday M. Gouin read the report of the committee on the loan, of which the following is an abstract:—

"The committee, in accepting the loan, in no way does so to afford the Government the means of easily entering upon an exaggerated expenditure. We insist, on the contrary, that, in order that the Government may confine itself to the ordinary resources in our Budgets, it shall not incur extraordinary expenses, which would have the most serious consequences in future. Let us be able to resist the allurements of glory, and enjoy what we have acquired. With this we can honourably desire the peace which the peoples so greatly need. Let us have peace, and the state of our finances will improve. We shall then be able to employ larger sums upon public works—a fruitful source of the wealth and prosperity of our population. The report then proceeds to examine several forms of negotiation for the loan, particularly that of public subscription, and also discusses the rate of issue, but leaves the decision on these points to the Government. The committee unanimously propose that an amendment moved by M. Thiers, Jules Favre, and others, reducing the issue of Treasury Bonds in 1864 to 100,000,000f., should be rejected, but they admit in principle the necessity for this reduction, and during the debate on the Budget will propose to limit the issue of Treasury Bonds to 100,000,000f. in 1865. To do so in 1864 would be to impede the realisation of the loan."

The Chamber loudly applauded the pacific passages in this report. The debate commenced on Thursday, when M. Thiers spoke in defence of his amendment. His speech, which was remarkable for its perspicacity and practical character, was applauded by the House. M. Thiers reviewed the financial condition of affairs, and stated that peace was the wish of the world, and that any war would be a fatal mistake. M. Vuitry, who replied to M. Thiers, confined himself to the financial question. M. Picard censured the Mexican expedition. MM. Gueroult and Havin, members of the Opposition, explained their reasons for not voting for the amendment. M. Ollivier stated the policy he himself advocated, which he declared to be of a pacific character.

This speech was greatly cheered by the chamber. After speeches by MM. Gouin, Guillaumin, and Lanjuinais, the Loan Bill was finally adopted by 242 against 14 votes. The Government has already declared that it will reduce the maximum for 1864 to 150,000,000f. In the new election at Perpignan, M. Isaac Pereire has obtained 21,227 votes, and M. Durand 14.861 votes, being a majority of 6366 votes for M. Pereire. The Corps Législatif on Thursday declared the election valid, and the report of the committee censured the proclamation of the Mayor issued at the time of the election. The *Pays* asserts that the Sultan will visit Paris in the month of April, and will remain a fortnight. Mr. Pope Hennessy, M.P., was one of the guests invited to the dinner party given on Sunday by Prince Napoleon and the Princess Clothilde. The *Opinion Nationale* is authorised formally to deny the authenticity of a letter, asserted to have been written by Prince Napoleon in reference to a war between Italy and Austria, which *La Nation* had reproduced from the *Vaterland* of Vienna. The *Constitutionnel* of Sunday publishes an article by M Limayrac, observing that the dispute in Germany is becoming complicated and aggravated, without its being, however, necessary to renounce the hope of maintaining peace. France alone, of all the great Powers, is in no way interested in the question. This proves how opportune is the proposal of a Congress, the leading idea of which was peace and civilisation devoid of all ambition. It is said that several offices in the city of London are accepting proposals for an insurance to a large amount on the life of the Empress of the French. The risk is being divided among French and English offices, and the total amount of insurance is 200,000*l*.

SPAIN.—The Address in reply to the Speech from the Throne has been adopted in the Cortes by a majority of 141 to 75. The Spanish papers favourable to the Congress are of opinion that Spain ought to demand the restoration of Gibraltar, and that the Ministry should accede to this national object.

PORTUGAL.—The Government journal affirms that Ministers will bring in a Bill next Session abolishing the tobacco monopoly. The Federal corvette St. Louis has arrived at Lisbon.

BELGIUM.—The Duke of Brabant, by the advice of his physicians, will pass the worst portion of the winter in the environs of Nice. The Duchess of Brabant will remain at Brussels with her children.

SWEDEN.—It is believed that the Government has informed the Powers that the policy of Sweden would not allow her to see the violation of the Eider frontier without taking active measures. A semi-official announcement has been made, stating that the Government has not retraced its steps, and will still maintain its former position. The Stockholm and Gottenburg bankers have subscribed the loan to the Swedish Government of 3,000,000 rix dollars at the Office of the Public Debt.

NORWAY.—An appeal has been issued, signed by 65 of all classes of the most influential citizens of Christiania, summoning the Norwegians to hold a public meeting. The object of the meeting is to vote an address to the King, stating that Sweden and Norway are bound to assist Denmark in defending her frontiers; that Scandinavian interests are endangered, and that the people are ready to bear whatever burdens may be imposed for the purpose.

DENMARK.—The funeral of the late King took place on Friday. The Royal corpse was conveyed to Roeskilde Cathedral, with extraordinary solemnities. Immense numbers of people were present at the ceremony. The Royal coffin was followed by a representative of the King of Sweden, and a numerous deputation of Swedish hussars and Swedish students attended in the procession. The coffin was placed in the Royal vault on Saturday. The Danish Rigsraad was closed on Monday. The Minister-President read the Message from the King, of which the following is a summary:—

"At the time when this Assembly met in 1855 it was hoped that the Constitutional relations of the Monarchy were settled. Such would have been the case had the Federal Diet confined itself to its competency. The Constitution of the 18th of November rested upon the same basis as that of the present Constitution for the whole Monarchy. That Constitution also separated the common affairs of the Monarchy from those appertaining specially to the respective provinces composing it. It conferred no competence upon the Rigsraad to interfere in matters hitherto concerning the provinces alone. We intended to give to the Federal provinces the same freedom and independence, thus rendering their connection with the Monarchy possible. The new Constitution was no obstacle to this end. It would therefore be a misunderstanding on the part of the Powers not to recognise the treaties on that account. A desire to dismember the Danish Monarchy has arisen in Germany. We hope, however, that Europe will, nevertheless, maintain our right to the hereditary succession. We have fulfilled every resolution of the Federal Diet concerning the Federal provinces German troops have occupied Holstein and Lauenburg, although the latter has recently testified its satisfaction and loyalty to Denmark. Although we do not recognise the execution on the part of the German Confederation as justifiable, we withdraw our troops to this side of the Eider in order to avoid a collision."

The *Faedrelandet* declares that the pressure of England and Russia upon Denmark has commenced, but that Sweden has not joined them. General Fleury telegraphed for instructions from the French Government whether he should act in concert with England and Russia, and in reply received an order to leave immediately. He accordingly left Copenhagen on Sunday for Berlin and Paris.

THE DANISH DUCHIES.—The Federal Execution in Holstein was carried out on Thursday morning. At 8 A.M. the Saxon regiment of Kronprinz infantry entered Altona. The Danes did not leave the town until the Federal troops appeared. As soon as the Danes had passed out of one street it was instantly decorated by the people with the German and Schleswig-Holstein flags. amid great acclamations. The Federal Civil Commissioners alighted at the Town-hall, from the balcony of which was suspended a large German flag. A proclamation of the Civil Commissioners was affixed at the corners of all the streets, with placards of "Long live Duke Frederick of Schleswig-Holstein!" This proclamation announced their assumption of the Administration of Holstein and Lauenburg, without prejudice to the only temporarily suspended rights of the Sovereign, and said that the Commissioners reckoned upon the willing support of the inhabitants in the task of preserving the rights of the country. The proclamation reminded the Holsteiners that the succession question had only been reserved, not passed over in the Federal resolution, and urged them to banish mistrust, and meet the Commissioners with the same confidence which they as Germans brought to them, to support them with the fitting means to maintain tranquillity, order, right, and law, and to keep ill-timed and uncalled-for interference at a distance from the frontiers. A meeting of the citizens was afterwards held, at which several thousand people, including the principal inhabitants, were present, and Prince Frederick was proclaimed, amid the greatest enthusiasm, legitimate ruler of the country. The municipal council and the magistrates also pronounced for Prince Frederick. The military band of the Saxon troops performed the national air of Schleswig-Holstein. Advices from Kiel state that Prince Frederick will also be proclaimed Duke in that town as soon as the Federal troops enter it. The Holstein estates on Tuesday held a meeting at Hamburg and resolved by a large majority that the Prince of Augustenburg should be recognised as Duke of Schleswig-Holstein, and that the Federal Diet should be requested to assist the Prince in obtaining his rights. A great popular assembly took place at Elmshorn on Wednesday. Deputations from all parts of the country attended. It is believed that the assembly proclaimed Prince Frederick as Duke of Schleswig-Holstein. Herr von Plesser has tendered his resignation as member of the Holstein Assembly, and a similar step has been taken by eight other members. Nearly half the nobility of Holstein have promised to recognise the Prince of Augustenburg, and signed a document to that effect; and all the Holstein sub-officers of the garrison have voluntarily expressed their desire to take part in the campaign. The electoral law comprised in the Constitution of the 18th ult. has been promulgated in Schleswig, under the Royal sanction of the 4th inst. The following proclamation of the King of Denmark to the soldiers at present on furlough in Holstein has been published:—

"Circumstances have induced us to call under arms a larger portion of our army. We have not wished to withdraw you from your homes, nor to deprive the country of your strength; but attempts being now made from different quarters to mislead you respecting our rights, and induce you to commit a breach of faith, we consider it our duty as Sovereign to summon you to our standard. We are firmly confident that we inherit with the Crown fidelity to the sovereign and military ruler We are warranted in this by the honourable feeling which your comrades already assembled beneath our standard have so gloriously displayed. We will give you leaders whom you know and esteem, to whom you know your wellbeing is dear, and that they will always lead you in the path of honour and duty. Soldiers, hasten to your standard, ready for the struggle for the wellbeing, honour, and freedom of the Monarchy possibly impending. You have to present yourselves at the office of the Military Commander of our town of Flensberg, to which place carriage by rail will be gratuitously afforded, and where your travelling expenses will be refunded."

HAMBURG.—It is positively stated that Hanoverian troops will relieve the Austrians quartered in this city, and that the whole of the Austrians will follow the Saxons into Holstein. The police on Monday prohibited the military exercises carried on in the Turnhalle, which they have closed and occupied. The sergeant-major superintending the list of a company of Volunteers was arrested. The Hamburg Senate has voted 1,000,000 marks banco for the defences of the city, and intends to propose to the civic representatives a vote in favour of the Augustenburg succession in Holstein.

SAXE-COBURG GOTHA.—It is asserted on good authority that in consequence of numerous entreaties, and in order to become the mediator between the national movement, the German Governments, and the Duke of Schleswig-Holstein, the Duke of Saxe-Coburg Gotha has declared his *readiness* to become a member of the Central Committee for Schleswig-Holstein, which is now forming. It s officially stated that the Coburg Ministry informed the Minister for Foreign Affairs of the Duke of Augustenburg on the 17th inst. that the Duke of Saxe-Coburg Gotha would willingly permit the reorganisation of the Schleswig-Holstein contingent on his territory.

BAVARIA.—The King of Bavaria has received the Prince of Augustenburg with all the honours due to a Sovereign Prince.

SAXONY.—The resolution for the recognition of Prince Frederick of Augustenburg and condemning the action of the Federal Diet in regard to the Duchies, after an animated debate, was unanimously adopted by the Saxon Chamber on Tuesday. It is announced that the Civil Commissioners for Holstein sent by Saxony left for that duchy on Sunday. Baron von Beust, Minister for Foreign Affairs, has left for Munich on a mission.

FRANKFORT.—The Senate of Frankfort has voted a subsidy of 100,000 thalers to the Duke of Augustenburg. A meeting of 900 members of the different German representative bodies was held on Tuesday, and was numerously attended by the public. The following resolutions were carried almost unanimously:—

"That united endeavours should be made to secure the recognition of the rights of Prince Frederick of Augustenburg. That the Federal Diet be induced to recognise Prince Frederick as Duke of Schleswig-Holstein. That the validity of his rights be enforced, and the separation of the Duchies from Denmark carried out; and, finally, that the independence and inseparable union of the Duchies be established."

A committee of 36 members was appointed to carry out these resolutions. This committee has since issued a lengthy appeal to the German nation. The appeal points out that the ultimate decision of the dispute would not be brought about in Frankfort, but in the various States. The people should operate upon the Governments by every legal means, and press for the convocation of all the Diets not at present sitting. Each man should act as if all depended upon his single exertions, The people are exhorted to abundant, substantial self-taxation in town and country, and are informed of the centralisation of existing auxiliary committees in the one now instituted. This committee will be in instant communication with the Schleswig-Holstein Government, but will reserve to itself the right of disposition over pecuniary aid. The appeal concludes with a request that all moneys collected may be immediately forwarded, with lists of volunteers; exhorts the members of "turner" and defence clubs to military exercises, and advises large participation in the loan being raised by Duke Frederick. The delegates from the different German States also had a meeting at Frankfort on Tuesday, when the following motion was finally adopted without debate:—

"This assembly, in consideration of the Schleswig-Holstein question, considers it its duty to express itself solemnly upon the well-founded, and under present circumstances incontestable, right of the German nation to a general popular representation by means of a Parliament, and upon the necessity for the most speedy establishment of the same."

PRUSSIA.—In the sitting of the Prussian Chamber of Deputies on Friday, in reply to the attacks of Herr von Virchow, Count von Bismark said:—

"The Augustenburg family had even lately thanked him for his intervention in bringing about their arrangement with Denmark in 1852. The King was sufficiently informed upon that point, and all statements to the contrary could only be regarded as fiction. The object of the loan was clear. The Government had wished neither to sacrifice German soil nor German right, but the House could not dictate to the Government a programme suitable to all eventualities We are unable, he said, to express ourselves more fully with regard to the policy Prussia intends to pursue. It appertains to the Executive to adopt the right course. If we desire war we can have it any day. Should the latest private intelligence from Copenhagen be confirmed, the Government will once more at the Diet that the preparations for war shall be carried on upon a more extensive scale, and we shall in that case ask for a larger credit. In refusing the means for the fulfilment of Prussia's Federal duties and for the defence of the sea-coast the House undertakes a heavy responsibility."

The Chamber agreed to the Address by 207 to 107 votes. In the sitting of the Upper House on Monday, the draught of the Address proposed by Count von Arnim-Boytzenburg came under discussion. Dr. Tellkampf, and Herren von Grüner and Von Kampfhausen, and their adherents, moved an amendment to the effect that Prussia should withdraw from the London Treaty. This amendment did not, however, meet with sufficient support, and after an animated debate the Address was almost unanimously adopted. General Fleury arrived in Berlin on Wednesday from Copenhagen, and it is said that he will remain there several days before he returns to Paris. M. Bentkowski, member of the Prussian Chamber of Deputies, has been sentenced to a year's, instead of a month's, imprisonment by the Court of Appeal for having participated in the Polish insurrection.

AUSTRIA.—Referring to the reports in circulation of the interruption of diplomatic relations between Austria and Prussia and Denmark, the *General Correspondenz* of Wednesday says the Ministers of those countries are at present staying in Vienna, Berlin, and Copenhagen merely as private persons, but that in the present state of things there is no cause for their formal recall.

HUNGARY.—An insurrectionary manifesto is said to have been affixed in the principal towns of Hungary. The manifesto announces the establishment of a general committee to obtain the independence of Hungary, and assuming the direction of the affairs of the country under the orders of Kossuth. The Austrian Government is taking great precautions, but agitation is general throughout Hungary.

RUSSIA.—Private letters from St. Petersburg, dated the 18th, state that Prince Gortschakoff has received a despatch from M. Drouyn de Lhuys proposing a conference of Ministers preliminary to the meeting of the Congress.

POLAND.—General Mouravieff has received a present of 100,000 roubles from the Czar. The property of the Poles still residing abroad has been confiscated by order of General Mouravieff. In the engagement which took place on the 17th inst. near Dalesyce, in the government of Radom, and in which General Czengery led 11 companies of infantry and four squadrons of cavalry, with eight cannon, against the insurgents, the latter took one company of the Simbirski Regiment prisoners, and captured seven waggons loaded with ammunition. The insurgent leader Chmielinski was wounded and taken prisoner by the Russians on the 17th inst. at Wiers-

bows. Rembailo has replaced him in the command of the insurgent corps. A strong band of insurgents has lately appeared between Pinsk and Minsk, in Lithuania.

ITALY.—In the Chamber of Deputies on Tuesday a motion was adopted by a majority of 159 to 51 to the effect that the law upon the suppression of brigandage should be postponed till the end of February, 1864. A Royal decree to this effect was published on Wednesday. The Chamber of Deputies has been prorogued until the 4th January next. The Senate on Wednesday approved the Budget of public revenue for 1864. At the previous sitting it decided that incomes not derived from landed property should be subject to the same rate of taxation as that upon the *rentes* of public stock. The Government has determined to refuse to execute the necessary *exequatur* to the Bishops appointed by the Pope to sees in Umbria and the Romagna. The Congregation of the Index has condemned all the works of Georges Sand, and different works of various French, German, and Italian authors.

CAPE OF GOOD HOPE.—Bishop Colenso's trial commenced at the Cape on the 17th ult. in St. George's Cathedral, before the Metropolitan Bishop of Cape Town and two suffragans, the Bishop of Graham's Town, and the Bishop of the Orange Free State. The accusing clergy, the Dean of Cape Town and the Archdeacons of Graham's Town and George Town, were present to support the charges they had preferred. Dr. Bleek, Curator of the Grey Library, attended on behalf of Bishop Colenso, and read a letter from the Bishop denying the jurisdiction of the Court, and handed in a formal protest against the proceedings. The Dean of Cape Town supported the charges in an eloquent and forcible speech, characterised by deep research and great ability. The trial was expected to extend over several days. The question at issue would finally pass into the hands of the Judicial Committee of the Privy Council. A civil action was pending against the Dutch Reformed Church for suspending from the ministry the Rev. Mr. Kotze, on a charge of heresy. The Federal steamship Vanderbilt returned to Cape Town from the Mauritius, and remained in Table Bay until October 27. She then proceeded to Angra Pequina, the Confederate rendezvous, and carried away a quantity of coals stored on Penguin Island, which was annexed to Cape Colony two years since. The Vanderbilt also seized the British bark Saxon, of Cape Town (in British waters, it is said), that vessel being supposed to have been laden with part of the cargo of the Federal bark Conrad, captured by the Alabama and converted by Captain Semmes into a tender to the Alabama, and renamed the Tuscaloosa. The Vanderbilt then put a prize crew on board the Saxon, and sent her to New York for condemnation. The crew of the Saxon, with the exception of the mate, said to have been shot by a Federal officer, were transferred to a coasting vessel and forwarded to Table Bay.

INDIA.—By the Bombay mail we have advices from that Presidency to November 29. The papers appear in mourning on account of the death of Lord Elgin, and the regret at his loss is universal throughout the peninsula. His lordship was perfectly collected, and himself ordered telegrams to be despatched to England, as well as to the several local governments, and gave all necessary orders respecting the return of his family to Europe. After taking leave of his family, he made his will, and desired to be buried at Dhurrumsalla. The Countess of Elgin, after his death, proceeded to Calcutta, where arrangements were made for her departure to England. Sir William Denison, Governor of Madras, being the next senior Indian governor, left Madras on the 26th November for Calcutta, to assume the office of Governor General until the appointment or arrival of asuccessor. The war on the Punjaub frontier has assumed serious proportions. There has been more fighting, and we have sustained heavy losses. Severe encounters took place on the 30th of October, 6th, 11th, 13th, and 19th of November, and another as reported by telegram from Lahore, under date 24th November. We lost in these engagements 13 officers killed and 12 wounded; and nearly 500 men in killed and wounded.. Among the killed, not mentioned in the previous despatches, were Major Harding, 2d Sikh Infantry; Lieutenant Murray, 71st Foot; Lieutenant Dougal, 71st Foot; Captain J. P. Davidson, Captain Smith, 71st Foot; Lieutenant Jones, 71st; H. H. Chapman, 101st; W. F. Mosley, 14th Native Infantry. The Bunneyers have replied to the proposals of Colonel Taylor, the Commissioner of Peshawur, that "we must leave their country or they'll make us." Matters looked so serious that Sir Hugh Rose, at latest dates, was on his way to the seat of war, and was expected to assume the command of the expedition. The Lahore Camp of Exercise had also been broken up, and the regiments and batteries which were to have formed it are proceeding by double marches to the North-West Frontier.

JAPAN.—Advices received at New York from Kanagawa, to the 1st of November, state that great excitement prevailed there. Another European had been murdered. An armed force from the fleet was guarding the city permanently.

UNITED STATES.—Congress met on the 7th inst. The Democrats were divided upon the choice of a candidate for Speaker, and Mr. Calfax, a Republican, was ultimately elected. The Republican candidate for the clerkship, Mr. Macpherson, was also elected. President Lincoln's Message was sent to Congress on the 9th. The following is a summary of the more important passages:—

"The Federal Government is in peace and friendship with all foreign Powers; the crisis which threatened to divide the friends of the Union is past; and the rebellion is pressed within its narrowest limits. The British Government, as was expected, has exercised its authority to prevent the departure of new hostile expeditions from British ports. The French Emperor, by similar proceedings, promptly vindicated the neutrality which he proclaimed at the beginning of the contest. Blockade questions have been discussed and accommodated in a spirit of frankness, justice, and national good-will. Our prize courts, by the impartiality of their adjudication, have commanded the respect and confidence of maritime Powers. An important question, involving the maritime jurisdiction of Spain in the waters surrounding Cuba, has been debated without reaching agreement, and it is proposed to refer the question to the arbitration of a friendly Power. The rights of aliens in America are partially defined by treaties with some Governments. In no instance, however, is it stipulated that in the event of civil war foreigners residing within the lines of the insurgents are to be exempted from the rule which classes them as belligerents, in whose behalf their Government cannot expect any privileges or immunities distinct from that character. Such claims, however, have been put forward in behalf of foreigners residing here the greater part of their lives. The Message states that the receipts during the year from all sources, including loans and the balance in the Treasury at the commencement of the year, were 900,000,000 dollars. The disbursements during the year were 895,000,000 dollars. The receipt from the Customs were 69,000,000 dollars, and from the internal revenue 37,000,000 dollars. The amount received from loans was 776,000,000 dollars, the disbursements in the War Department amounted to 590,000,000 dollars, and for the Navy Department to 63,000,000 dollars. Over 1000 vessels have been captured since the blockade was instituted. The naval force consists of 588 vessels, 75 of which are ironclads. 100,000 freed slaves are in the Federal service, half of them bearing arms. The President declares that while he remains in his present position he will not attempt to retract or modify the Emancipation Proclamation, nor return to slavery any person who is freed by that proclamation or by any Acts of Congress. The Message further says:—"In the midst of other cares we must not lose sight of the fact that war power is our main reliance, and that to that power alone we can look for a time to give confidence to the people in contented regions that the insurgent power will not again overrun them. Until that confidence is re-established little can be done anywhere for what is called 'reconstruction.' Hence our chief care must be directed to the army."

The Confederate Congress was opened on the same day, when President Davis's Message was received. It is a much longer document than that of President Lincoln. The following is a summary of its more important passages:—

"He speaks despondingly of the loss of Vicksburg, Port Hudson, and many other points. There has been no improvement in foreign relations since last January's Message. On the contrary, there is a greater divergence in the conduct of European nations, assuming a positively unfriendly character. The partiality of England in favour of the Federals is strongly marked in their decisions regarding the blockade, as well as in their marked difference of conduct on the subject of the purchase of supplies by both belligerents. This difference has been conspicuous since the commencement of the war. Mr. Davis bitterly criticises Earl Russell's policy in regard to the blockade, and referring to his lordship's speech that Englishmen would have been for ever infamous if, for the sake of their interests, they had violated the law of nations and made war with the slaveholding States against the Federal States, he says that Earl Russell would probably have omitted his remark regarding the slaveholding States if he had remembered that those States were when colonies, made slave-holding by the direct exercise of England's power, whose interests in the slave trade were then supposed to require that her colonies should be slave holding. He says that there are only two measures applicable to the present condition of their foreign relations. One is to imitate the wrong under which the Confederate States suffer—namely, to retaliate by declaring a paper blockade of the Federal coasts, and capture all neutral vessels trading to Northern ports. This course he does not recommend, although it would only be following the precedents of France and England in the Berlin and Milan decrees. The other measure is not so objectionable. The Paris declaration provides that a neutral flag covers an enemy's goods, except contraband of war. The South acceded to this declaration by the treaty of August, 1861, but the consideration tendered for that concession has been withheld, and she is, therefore, not bound by the compact. As, however, the South approves the principle of the Paris declaration, she will uphold it, and hope for redress from the returning sense of justice of the great people, who will awake to the consciousness that the war in which the South is engaged ought rather to be a reason for forbearance of an advantage than the occasion for unfriendly conduct. He says that prompt and efficacious remedy for the present condition of the currency is necessary to secure the full performance of the operations of Government. He recommends taxation, and says that the currency must be promptly reduced to prevent the present inflated prices reaching more extravagant rates. He also recommends the abolition of the substitute system, and the modification of the exemption law, so that the army may be largely increased as rapidly as possible. He regrets the suspension of the exchange of prisoners, and that communication with the trans-Mississippi districts is so greatly obstructed. He concludes by saying that the enemy refuse proposals for the only peace possible between them, and the only hope for peace now is in the vigour of their resistance. Whatever obstinacy may be displayed by the enemy in his desperate sacrifices of life, money, and liberty in the hope of enslaving them, the experience of mankind has too conclusively shown the superior endurance of those fighting for home, liberty, and indepence, to permit any doubt of the result."

President Lincoln's Message was accompanied by a proclamation, in which he proffers an amnesty to all the people of the Confederate States, excepting the heads of the Government, the principal military and naval officers, and those who have been concerned in treating coloured persons captured in the Federal army other than as prisoners of war, upon the condition that they will swear to support the Constitution and the Union, all the Acts of Congress, and all proclamations of the President made during the war, until such Acts and proclamations may be declared void by the Supreme Court. He further proclaims that wherever the citizens of any of the Seceded States not less in number than one-tenth of the votes cast in such States in the Presidential election of 1860 shall re-establish a local Government which shall not contain their prescribed oath, the State shall be remitted to the Union. A private telegram states that rumours of peace negotiations were subsequently current at New York. These rumours were considered very doubtful, but they nevertheless influenced the markets. Lengthy reports from the War, Navy, and other Departments were submitted to Congress on the 9th. That of General Halleck, as Commander-in-Chief, extends over 11 columns of very close print. Secretary Chase's financial report is nearly of equal length. Mr. Stanton reviews the military operations of the past year, and regards the situation everywhere as satisfactory, excepting at Charleston. He states that the delay in the exchange of prisoners is owing to the disinclination of the Federal Government to furnish the Confederates with 40,000 fresh troops in return for 13,000 Federal prisoners; that the conscription as enforced in 12 States yielded 50,000 soldiers and 10,000,000 dols., which fund is being applied to recruiting, with a fair prospect of procuring a sufficient number of volunteers to prevent the necessity of another draught. He advises the enlistment of negro troops with the same pay as the white soldiers, and if it should be found necessary for their protection, declares that the strictest retaliation of treatment of prisoners shall be resorted to. He concludes with the hope that his next report may announce the complete overthrow of the rebellion and the restoration of peace. Mr. Welles admits the failure of operations against Charleston, but claims credit for the efficiency of the blockade, which he states to be 3549 miles in length, by the vessels of which 1049 blockade runners of all descriptions have been captured, besides those destroyed. He adds that great numbers of vessels have been destroyed by the navy on the Western rivers. He has been cheered, he says, in the discharge of his arduous duties by the assured conviction that the Federal navy has, under his direction, achieved great and new historical renown. Mr. Chase's report says that success quite beyond his expectations has crowned his efforts, the receipts in the Treasury from the sale of bonds and the internal revenue having been much greater, and the expenses of the Government much less than the estimates. General Foster has officially informed General Halleck of the raising of the siege of Knoxville by General Longstreet. General Sherman's advanced guard of cavalry reached Knoxville on the 3d, and on the night of the 4th General Longstreet withdrew his forces towards Bristol, on the line of the East Tennessee Railway, and at the latest dates was in line of battle at Rutledge. On the 6th General Sherman's main body arrived at Knoxville, when his cavalry, as well as that of General Foster, were sent in pursuit of the Confederates. One account says that the Federals captured much of Longstreet's artillery and baggage, while another reports that Longstreet's rear-guard had repulsed General Sherman, who was pursuing him, with heavy loss, Sherman himself being badly wounded. Both these reports, however, require confirmation. Chattanooga despatches report that the Confederates captured 15 waggons of a Federal forage train near Harrison, in Tennessee, on the 4th. Richmond papers of the 5th state that General Bragg has been relieved of the direction of the Confederate army in Northern Georgia, at his own request, and that General Hardee is temporarily in command. The latest despatches from Chattanooga announce that General Hardee is falling back from Dalton, but do not state in what direction. The reported death of Mr. Breckinridge has been contradicted. The *Tribune's* Washington correspondent, under date of the 6th, asserts that in the recent actions south of Chattanooga the three corps of Generals Hooper, Sherman, and Palmer were thrice repulsed at Ringold by General Hardee's single corps, which was covering the retreat of the main body of General Bragg's army. This corroborates the Confederate accounts. General Grant was pursued and compelled to abandon the pursuit of General Bragg, south of Ringold. Both armies in Virginia are going into winter quarters. It is reported that Gen. Meade has demanded a court of inquiry into the late campaign. The rumour that he had been superseded by General Pleasanton is contradicted. It had been reported that General Thomas Francis Meagher had been captured by the Confederates during a skirmish on Mine Run, but the report is now contradicted. Confederate telegrams from Charleston state that on the 9th the Federal batteries opened fire on the city, but were silenced by Fort Moultrie and the batteries on James Island after the eighth discharge. During the night the Federals again opened on the city, and threw 20 shells. The Confederate batteries returned the fire heavily. Five buildings were struck, but no person was injured. On the 10th the Confederate shells drove the Federal working parties from Gregg and Wagner. The Federal iron-clad Weehawken had sunk at her moorings off Morris Island during a gale, when 30 of her crew perished, including four engineers. The captain and remainder of the officers were saved. The other vessels rode out the storm in safety. Latest arrivals from New Orleans bring accounts of an engagement between the Federal and Confederate cavalry on Vermilion bayou, in Louisiana, on the 28th, in which the Confederates lost eight men killed, several wounded, and 70 prisoners, together with their arms and horses. Two days previously the same

Federal cavalry surprised a Confederate camp 20 miles from New Theria, and captured 25 prisoners and a number of horses and arms. No loss to the Federals is reported. A report has reached Cairo, Illinois, that the Confederate General Forrest, with upwards of 9000 men, was encamped at Way Fork, 15 miles from Holly Springs, in Mississippi, on the 3d inst. The Governor of Virginia, in his message to the Legislature, takes strong grounds that reunion is utterly impossible, everything showing the necessity for eternal separation. The Confederate Senate has passed a Bill prohibiting the employment of substitutes in the army. President Lincoln, who has been suffering from small pox, is reported convalescent, but is yet unable to leave his chamber. He has issued a proclamation announcing the raising of the siege of Knoxville, and, esteeming it to be of great national consequence, has recommended all loyal people upon receipt of the information to assemble at their places of worship and render homage to the Almighty for His great advancement of the national cause. The merchant steamer Chesapeake has been seized while on the voyage from New York to Portland by 16 Confederates, who were passengers on board; one of the engineers was killed and another and the chief mate wounded in the struggle for the possession of the vessel. After overpowering the captain and crew the Confederates steered to St. John's, New Brunswick, and all but the chief engineer and the captain were landed. The steamer then sailed in an easterly direction. Several Federal steamers have been sent in pursuit.

MEXICO.—Intelligence from Vera Cruz to the 21st ult. announces that the French had occupied Queretaro and Guanaxuato, and were marching on Guadalaxara and Moreha. Juarez had left San Luis de Potosi for Taucamas. His army was scattered, demoralised, and offering no resistance, and his Government was represented to be powerless, while anarchy reigned within his nominal jurisdiction. General Comonfort was killed on the road between San Luis Potosi and Guanaxato, while fighting a band of Mexicans who favoured French occupation. Manzilla was sacked by robbers on the 18th November, and the Custom House destroyed. Colima was surrounded by Conservadores.

SAN DOMINGO.—A steamer has arrived at Cadiz with news from San Domingo to the 20th ult., announcing the defeat of the insurgents at Sabana, Buoy, Antone, Sanchez, Arroyo, Lomaza, and Azua—and stating that a great number of them had asked for pardon.

## City Intelligence.

BANK RATE OF DISCOUNT.—The directors of the Bank of England on Thursday reduced their rate of discount from 8 per cent., at which it was fixed on the 3d inst., to 7 per cent.

MONEY MARKET, THURSDAY.—BRITISH FUNDS: Consols closed at $91\frac{1}{2}$ to $\frac{1}{4}$ for Money, and $91\frac{3}{4}$ for Account; Reduced and New Three per Cents., $91\frac{1}{2}$ to $\frac{5}{8}$; India Stock, 218, ex div., for opening; Ditto Five per Cent. Stock, $106\frac{5}{8}$ to $\frac{1}{4}$; Ditto Four per Cent. Debentures, 1864, $99\frac{1}{8}$; Exchequer Bills, 9s. to 4s. dis.—FOREIGN: Brazilian, 1863, scrip to $\frac{1}{2}$ dis.; Buenos Ayres, $93\frac{1}{2}$; Dutch Two and a Half per Cents., $65\frac{3}{8}$; Egyptian, $100\frac{1}{2}$; Greek, for Acct., 26; Ditto Coupons, for Acct., 12; Italian, for Acct., $70\frac{3}{4}$ to $\frac{5}{8}$; Ditto Maremmana Railway, $78\frac{1}{4}$; Mexican, for Acct., $37\frac{1}{4}$ to $\frac{1}{2}$; New Granada, $13\frac{7}{8}$ to $\frac{3}{4}$, ex div.; Ditto Deferred, $8\frac{5}{8}$ ex div.; Peruvian, 1862, for Acct., $88\frac{1}{4}$; Portuguese, 1856, &c., for Acct., $49\frac{1}{8}$; Ditto Scrip, $1\frac{1}{8}$ pm.; Russian, 1822, $92\frac{1}{2}$; Ditto 1859, $55\frac{3}{4}$; Spanish, for Acct., $54\frac{1}{4}$; Ditto, Passive, for Acct., $33\frac{3}{4}$; Ditto Certificates, for Acct., $13\frac{3}{8}$; Turkish, 1854, for Acct., $89\frac{1}{2}$; Ditto 1858, for Acct., $69\frac{3}{4}$; Ditto 1862, for Acct., $70\frac{3}{4}$ to 71.

## Gazette of the Week.

FRIDAY: *Dec.* 18.—BANKRUPTS.—R. ANDREW, Middlesborough, Yorkshire, Corn Miller—HENRY JAMES BALLARD (sued as JAMES BALLARD), late of Southampton, Tailor—C. BRUTTON, Exeter, Attorney-at-law—R. CASE, late of Upper Thames Street, Oil and Soap Merchant—H. J. CLARKE, South Parade, Brompton, Builder—T. CRAWFORD, sen., Darlington, Durham, Butcher—W. CURTIS, Burwash, Sussex, Wheelwright—S. CARELESS, Birmingham, Fruiterer—A. CHATTO, Duke Street, Bloomsbury, Stationer—G. CRAGGS, Liverpool, late Steamboat Owner—T. CARR and P. ROBINSON, Liverpool, Timber Merchants—J. DURHAM, jun., Hampton Gay, Oxfordshire, Paper Maker—M. DAVIS, Caroline Place, Guildford Street, General Dealer—D. T. DANCER, late of Sloane Square, Cab Proprietor—J. H. DEADY, Birkenhead, Cheshire, Contractor—J. DALKIN, Chester-le-Street, Durham, Rope Maker—G. DYSON, Lees, Lancashire, Stonemason—G. DEWIS, jun., Brinklow, Warwickshire, Baker—M. ELLIS, Tunbridge Wells, widow, late Milliner—C. G. ELLIOTT, Shoe Lane, Bookseller—W. EARDLEY, Burslem, Staffordshire, Working Potter—J. R. EDWARDS, Pensarn, Denbighshire, Grocer—J. [illegible], Margate, Artist in Painting—T. GREENWOOD, Manchester, Marble Mason—J. GALE, Portswood, Southampton—W. GRIFFITHS, High Street, Poplar, Grocer—W. J. GINGER, Bexley Heath, Kent, Carpenter—J. GLAHOLM, Sunderland, Brassfounder—GEORGE GOULD, Wareham, Dorsetshire, General Dealer—ELIZABETH GELL, Willesden, Farmer—JOHN GWYN, Cardiff, Glamorganshire, Labourer—JAMES GALE, Martock, Somersetshire, Farmer—J. R. HARRIS, Hawley Hood, Kentish Town, Painter—T. HIND, Halford Terrace, Penton Place, Walworth, Builder—W. H. HEWITT, Manchester, Attorney-at-Law—G. B. HUGHES, Liverpool, Photographic Artist—C. HARRIS, Tewkesbury, Gloucestershire, Innkeeper—W. HARTLEY, Old Accrington, Lancashire, Licensed Victualler—H. HALL, St. Martin's-le-Grand, Iron Merchant—G. HILLMAN, Aston, Warwickshire, Farmer—H. HOWARD, late of Brighton, Gentleman—T. HARRISON, Saxilby, Lincolnshire, Farmer—R. HUGHES, Stretton Heath, Shropshire, Bricklayer—T. P. JONES, Rhyd-y-Defaid, Flintshire, Farmer—R. JACKSON, Western Hill, Durham, Law Clerk—W. JARRETT, late of the Isle of Sheppey, Market Gardener—J. JAMES, Cwmavon, Glamorganshire, Shoe Dealer—W. KING, Chippenham, Wiltshire, Draper—T. KIRKHAM, Macclesfield, Cheshire, Dealer in German Yeast—T. KNIGHT, Neithrop, Oxfordshire, Boatman—J. R. KIDD, Norwich, Dealer in Tobacco—D. KEENE, Portsea, Hampshire, Bootmaker—R. LANE, Ormesby, Yorkshire, Tailor—J. LEWIS, Garnvach, Monmouthshire, Tailor—J. MARTIN, Wandsworth, Blacking and Lucifer Match Manufacturer—J. MOORE, High Bickington, Devonshire, Farmer—W. S. MARSHALL and B. WILLIAMS, jun., late of the Strand, Grocers—RIDLEY MAKEPEACE and ROBERT MAKEPEACE, Teignmouth, Devonshire, Wharfingers—J. MARTYN (sued and committed as J. MARTIN), Rosemary Cottages, Shepperton Street, Islington, Wholesale Milliner—B. M'GRATH, Liverpool, Provision and Fish Dealer—R. T. MANSER, Eastbourne, Sussex—JOHN NASH, Parkend, Gloucestershire, Brick and Tile Manufacturer—ELLEN NASH, Euston Road, St. Pancras—SAMUEL NORTHWAY, Torquay, Devonshire, Wine Merchant—MATTHEW NUNN, Bradwell-near-the-Sea, Essex, Blacksmith—W. NITSCH, Newcastle upon-Tyne, Merchant—J. NEWSOME, late of Edmond Place, City, Woollen Merchant—J. OSBORNE, St. John's Road, Hoxton, Upholsterer—T. E. PLANT, Liverpool, Master Mariner—S. PLATT, Bridgemere, Cheshire, Labourer—S. PERRY, Birmingham, Watch Hand Maker—S. PRATT, Kidderminster, Worcestershire, Clog and Patten Maker—H. RITSON, Scarborough, Yorkshire, Chemist—J. BUFF, Kingston, Surrey, British Wine Manufacturer—E. ROYLE, P. ROYLE, JOHN ROYLE, S. ROYLE, and JOSEPH ROYLE, Crumpsal Vale, Lancashire, Bleachers and Dyers—A. REES, Llangunllo, Cardiganshire—W. RANDLE, late of Norwich, Corndealer—W. SHEA, late of Millbank Penitentiary, late Beershop Keeper—J. SIDDALL, Sharrow Moor, Yorkshire, Schoolmaster—J. STEVENS, late of Benenden, Kent, Commission Agent—R. TAYLOR, Goole, Yorkshire, Coal Merchant—E. UPJOHN, Lower Belgrave Street, Eaton Square, Dairyman—E. WILLIAMS, Aberdacon, Carnarvonshire, Flour Dealer—T. WARD, Birmingham, Coal Dealer—R. WILLIAMS, Hanley, Staffordshire, Beerseller—T. WILLIAMS, Rose Lane, Ratcliff, Journeyman Cooper—B. R. WILLIAMS, Bury Street, St. James's, Major in the Militia—W. F. WELLS, Pudsey, Yorkshire, Schoolmaster—J. WELCHMAN, John Street West, Blackfriars, Dealer in Jewellery—G. ZANNI, late of Holborn Hill, City, Meat Screen Manufacturer.

SCOTCH SEQUESTRATIONS.—W. FINDLAY, Glasgow, Wright—A. & J. RENNIE, Glasgow, House Factors.

TUESDAY: *Dec.* 22.—BANKRUPTS.—T. AVERY, late of Braunton, Devonshire, Innkeeper—C. ASHTON, Nottingham, Carver and Gilder—J. BUSHELL, Worcester, Carpenter—G. BETTINSON, Newark-upon-Trent, Bootmaker—S. BROWN, King's Lynn, Merchant's Clerk—T. BROWN, Aucuba Place, Dalston, Brass Founder—G. BANTON, New Street, Covent Garden, Hosier and Draper—T. H. BURGOYNE, Plymouth, Draper—W. BARR, Sheffield, Joiner—J. BRANTIGAM, North Street, Jubilee Street, Mile End, Journeyman Sugar Baker—E. BROOK, Leeds, Mining Manufacturer—G. BRYANT, Bristol, Journeyman Baker—T. BENTON, Wakefield, Yorkshire, Worsted Manufacturer—R. BREWSTER, Harriotts Hays, Shropshire, Farmer—W. BIDWELL, Cambridge, Boot Manufacturer—C. BROOKS, Dudley, Worcestershire, Widow—W. BELLWOOD, Leeds, late Flour Dealer—W. CAMERON, Church Passage, Norton Folgate, Potato Salesman—T. J. COTTRELL, Reading, Berkshire, Butcher—E. COLES, Whitechurch, Dorsetshire, Yeoman—WILLIAM DOYLE, Cloudesley Street, Islington, late Confectioner—FREDERICK DAVIS, Alcester, Warwickshire, Needle Scourer—F. EVES, Newbury, Berkshire, Chemist—J. T. EASTERBROOK, Cottage Place, Newington Butts, Manager to a Zinc Worker—R. FLETCHER, late of Devonport, Porter—A. A. FAVARETTI, Cardiff, Shipbroker—G. FAYERS, Long Melford, late Farmer—H. FOSTER, Leeds, late Manufacturing Chemist—J. GRIFFITHS, Kingston-upon-Hull, Licensed Victualler—G. GOODWIN, late of Manchester, General Merchant—J. GRAYER, West Wellow, Wiltshire, Cattle Dealer—G. F. GREENHEAD, Munden Street, Fulham, Ornamental Painter—J. S. GALBRAITH, Wandsworth Road, Tobacconist—J. GREENAWAY, jun., Bremhill, Wiltshire, Wood Dealer—R. HUGHES, Little Knightrider Street, Doctors' Commons, Hotel Manager—W. E. S. HASELTON, Upper Marsh, Lambeth, Builder—J. HOPKINS, Wellington Terrace, Bayswater, Cheesemonger—J. HURST, Manchester, Salesman—L. HEYMAN, Liverpool, Jeweller—M. HOLEHAM, Bolton, Provision Dealer—T. HUCKING, Oswaldtwistle, Lancashire, Chemical Manufacturer—SIDNEY HOWE, Millbridge, Yorkshire, Waste Dealer—GEORGE HEFFILL, East Road, City Road, Tailor—JOSEPH JACKSON, Gateshead, Provision Dealer—DAVID JOHN, Cardiff, Glamorganshire, Innkeeper—JOHN KNOTT, Maidstone, Wheelwright—J. C. KELLETT, Leeds, Mungo Manufacturer—J. MOORE, Birmingham, Bookseller—W. MARGERISON, Brampton, Derbyshire, Slater—R. MACKARELL, Treales, Lancashire, Farmer—J. MASON, Portland Road, Notting Hill, Builder—A. MACKINLAY, Gateshead, Commission Agent—J. M'MILLAN, Swansea, Glamorganshire, Licensed Victualler—A. N. NIBLETT, Chapel Terrace, Kilburn, Private Tutor—J. S. NICHOLSON, Batley, Yorkshire, Flock Dealer—A. OXLADE, Slough, Buckinghamshire, Innkeeper—E. J. PRETTYJOHN, Scott's Yard, Cannon Street, Cider Merchant—W. A. PARKES, late of Birmingham, Beer Retailer—W. PAKEMAN, Womborne, Staffordshire, Farmer—J. QUICK, Gosport, Innkeeper—D. REES, Llanguicke, Glamorganshire, Farmer—ROBERT RIDING, Altrincham, Cheshire, Joiner—JOHN ROBERTS, Holywell, Flintshire—RICHARD RILEY, Birmingham, late Baker—JOANNA RICHARDS, Camborne, Cornwall, Grocer—T. SIMPSON, Darlington, Durham, Hair-dresser—W. STOCKLEY, Pomona Place, King's Road, Fulham, late Wine and Beer Retailer—S. SUCH, Brentwood, Essex, late Licensed Victualler—H. STYRING, Gleadless, Yorkshire, Accountant—J. SCHOFIELD, Oldham, Lancashire, Labourer—W. J. SIMMONDS, Snow's Fields, Bermondsey, Builder—B. SCOTT, Gloucester Terrace, New Brompton, Paymaster in the Royal Navy—J. T. TRESSIDDER, Long Acre, late Biscuit Manufacturer—E. TAYLOR, Kidderminster, Worcestershire, Beerhouse Keeper—W. TAYLOR, Blackpool, Lancashire, Labourer—R. VANN, Birmingham, Tarpaulin Manufacturer—T. VICARS, Leeds, Staymaker—G. W. WESTROPP, Northumberland Court, Strand, late Ensign 11th Regiment—G. WILLSHER, James Street, York Street, Walworth, White Lead Merchant—J. WYERS, Deepfields, Staffordshire—J. WOOD, late of Pendleton, near Manchester, Slate Dealer.

SCOTCH SEQUESTRATIONS.—R. GRAY, Glasgow, Fruit Dealer—D. HAMILTON, Glasgow, Merchant—W. KENNEDY, Maybole, Ayrshire, Farmer—J. M'KNIGHT, Glasgow, Draper—J. MURRAY, New Galloway Station, Commission Agent—J. PURDIE, Arrochar, Hotel Keeper—J. THOMSON, Brechin, late Mason.

## Metropolis and its Vicinity.

THE CONFEDERATE CRUISERS.—It is said that the Government *employés* at Sheerness dockyard who volunteered to fit out and equip the Rappahannock as a war ship for the Confederates, have been discharged for violating the neutrality laws of the country, and that the names of those of the crews of the Alabama, Georgia, and Florida, who belonged to the Royal Naval Reserve, have been struck off the list, with the loss of all pay and pensions, and are not to be allowed to re-enter the service.

THE THAMES EMBANKMENT.—At the meeting of the Metropolitan Board of Works on Friday the tenders for the second portion of the Thames embankment—namely, that part from Waterloo Bridge to the eastern end of the Inner Temple, were opened. They were 14 in number, viz., Mr. George Furness, 241,500*l.*; Mr. Thomas Pearson, 264,000*l.*; Messrs. Hickersley & Baylis, 257,000*l.*; Messrs. Webster & Co., 240,000*l.*; Messrs. Ritson & Co., 229,000*l.*; Mr. Dockra, 260,000*l.*; Mr. Diggle, 229,400*l.*; Messrs. Rogers, Doon, & Co., 238,500*l.*; Mr. Dettrick, 232,353*l.*; Mr. Tatam, 264,000*l.*; Messrs. M'Cormack & Co., 240,656*l.*; Messrs. Brassey & Co., 238,500*l.*; Messrs. Moxon & Co., 243,195*l.*; and Mr. Lavers, 239,800*l.* The tender of Messrs. Ritson & Co., being the lowest offered, was accepted, subject to the usual conditions.

THE PROPOSED ENCLOSURE OF TOOTING COMMON.—At the last meeting of the Metropolitan Board of Works, a deputation of freeholders and gentlemen interested in property round Tooting, headed by Alderman Rose, M.P., and Mr. Doulton, M.P., had an interview with the Board in support of a memorial against the proposed enclosure of the common by the Lord of the manor. The memorial stated that the lordship of the manor of Tooting Graveney had been purchased for the sum of 3650*l.*, which brought in a good return for the money expended, and that shortly after the conveyance had been made an application was made to the Enclosure Commissioners by the purchaser for leave to enclose about 63 acres of the common land, for the purpose of rendering it productive by making it available for building sites. The memorial proceeded to say that when this became known in the neighbourhood a committee was formed for the preservation of the land as an open space, and the new lord of the manor was invited to attend. This invitation he did not accept, and subsequently the committee had offered to refund the whole of the money laid out in the purchase of the lordship, with interest and expenses, but the offer had been refused. The memorialists submitted that if this enclosure were allowed, a precedent would be established which would result in the enclosing of the common lands of Wandsworth, Clapham, Battersea, Streatham, Mitcham, and others in the metropolitan area, which were as much open to enclosure as Tooting Common, and urged the Board not only to take steps to prevent this enclosure from being carried into effect, but to apply to Parliament for powers, if the Board did not possess them, to place the open and unenclosed lands of the metropolis under proper regulations, so that they may be places of recreation legally dedicated to the public, and open for the public service for all time to come. After some discussion, it was unanimously resolved to refer the memorial to a committee of the whole Board, that the powers of the Board may be investigated.

THE ROYAL ACADEMY.—The gold medal, books, and scholarship of 25*l.* for two years, in connexion with the Royal Academy, have been awarded as follows:—To Mr. Francis Holl, for the best historical painting; to Mr. Henry Bursill, for the best historical group in sculpture; to Mr. Richard Phené Spiers for the best architectural design. The Turner gold medal, which is offered for competition every two years, and has not been given since 1857, has been awarded to Mr. Frank Walton for the best English landscape. Silver medals and books have likewise been awarded to Mr. Arthur Ackland Hunt for the best painting from the life; to Mr. George Smith, for a copy made in the school of painting; to Mr. Arthur Acland Hunt, for the best drawing from the life; to Mr. Edward Evans, for the next best drawing from the life; to Mr. Richard Phené Spiers, for an architectural drawing; to Mr. John Barclay Grahame, for the best drawing from the antique; to Mr. Augustus E. Mulready, for the next best drawing from the antique; to Mr. Charles B. Barber, for the next best drawing from the antique; to Mr. Samuel B. Long, for the best model from the antique; to Mr. Frederick S. Potter, for the next best model from the antique. A travelling studentship for one year, with an allowance of 100*l.*, was awarded to Mr. Thomas Henry Watson, for the best design in architecture.

THE CITY REMEMBRANCER.—At the last Court of Common Council the report of the committee on the office of City Remembrancer was brought up, recommending that in future the salary of the office should be 1500*l.* a year, and that Mr. Tyrrell, the retiring officer, should have a pension of 700*l.* a year. Each of these propositions gave rise to an animated discussion, and various amendments were moved for reducing both salary and pension. The amendments for the reduction of the salary were all lost, thereby leaving the salary at 1500*l.* a year., but the court rejected altogether the proposal to grant a pension to Mr. Tyrrell, on the ground that he must have saved a considerable sum out of his salary of 2200*l.* a year.

BROTHER IGNATIUS IN LONDON.—On Sunday evening Brother Ignatius preached in favour of his system for the revival of monasticism in England in the church of St. Mary Magdalene, Munster Square. This church owes its origin and endowment to its incumbent, the Rev. E. Stuart, a clergyman noted for his extreme practices, and who has advocated the use of incense in the services of the Church in a pamphlet entitled, "The Lawful Use of Incense in the Church of England." It was announced at the morning service that "Brother Ignatius" would preach in the evening, and the church was consequently crowded to hear him. During the service, which was intoned, Brother Ignatius sat in the chancel seat, appropriated for the use of the priests, wearing his gown of serge, with cowl and sandals, and though as a monk he has of course received the tonsure, yet it was noticed to be much smaller than that of the monks in the Roman Catholic Church. He is small of stature, and apparently under 30. His manners are polished, and his appearance prepossessing, and he has the great gift of a splendid sonorous voice. In many respects in his preaching he may be likened to the Rev. C. H. Spurgeon, being very demonstrative in his action, and fervid in his delivery. During the singing of the hymn he ascended the pulpit, and gave as his text a passage from the 22d chapter of Revelations—"The spirit and the bride say come." Before he entered upon his sermon he called on the congregation to kneel and pray with him. After discoursing eloquently on the advent of Christ he alluded to the restoration of monasteries. He contended that they were destroyed in the 16th century not by the wish of the people of England, nor by its parliament, but by the sanction and under the authority of Henry VIII., who had circulated great calumnies and misrepresentations against the monks. He asked his hearers to help him to restore some of that property which had been robbed from God, and concluded by an earnest appeal for help. The brothers, he said, now number 12, and intend to build a house, consisting of a retreat for parish clergy who may desire rest, the brothers undertaking to do their duty while they recruit their strength; a home for decayed old men who have laboured in the service of the Church; and a college for instructing youth in the principles of the Church of England. They require from 30,000*l.* to 40,000*l.*, out of which they have received 10,000*l.*, one lady alone having given 2000*l.* He hoped they would collect the 20,000*l.* that night. A collection was then made for the benefit of the Brotherhood.

ACCIDENT TO THE DUCHESS OF SUTHERLAND.—On Friday evening, as the Duchess of Sutherland was returning from Dr. Cumming's Chapel to Stafford

House, a coal waggoner in Pall Mall accidentally touched the horse in the Duchess's brougham with his whip. The high-spirited animal immediately started off at ungovernable speed past the Palace into Cleveland Square, and bolted by the narrow carriage way up Cleveland Row. The footman was there thrown off the box, and a few yards further on, opposite Sir James Matheson's house, where there is a turn, the horse fell and threw the driver off the box. The horse, however, instantly regained its feet and then bolted by the Earl of Ellesmere's house back to Pall Mall, and pursued its course as far as the War Department, where by the courage of some passers-by it was stopped. The door of the brougham had in the meantime come in contact with a lamp post, and was carried away by the collision. The duchess, who had remained quietly in the carriage, after inquiring after the safety of her servants, walked home to Stafford House. Her Grace was unhurt, but the coachman and footman were severely contused.

GREAT FIRE IN THE CITY.—On Saturday morning a fire broke out in a warehouse in Feathers Court, Milk Street, a very confined passage running through to Wood Street. The premises were occupied by three firms, Messrs. Bunting, Messrs. Henry, and Messrs. Gibson & Co. The flames soon extended to a number of houses in Milk Street and Wood Street, occupied chiefly by firms in various branches of the Manchester trade, including those of Messrs. Grant & Co., Messrs. Morley & Co., Messrs. Charles & Thomas, Messrs. Lindsey, Faithful, & Co., Messrs. Grunnis & Ward, Messrs. Barrow & Taylor, Messrs. Harrison & Co., and other warehousemen. The damage done is said to be greater than that by any fire since the great outbreak at London Bridge. The value of the property destroyed is roughly estimated at 100,000*l.*

INCENDIARY FIRE AT LEWISHAM.—On Wednesday morning a great destruction of farm produce took place at Lewisham, when three wheat ricks, two oat ricks, and a straw rick were consumed by fire. The wind was high, which caused the flames to spread, but the property, it is understood, is fully insured. A man called Dorman, calling himself a labourer from Lincoln, was arrested on suspicion while working the engine, and he has since been identified as a man who worked on the engine at a fire which broke out on an adjoining farm a fortnight previously under similar mysterious circumstances, when farm produce valued at 600*l.* was destroyed. Some lucifers and fragments of straw were found on his person. He was remanded for further inquiry.

THE PUBLIC HEALTH.—The Registrar-General's Weekly Return states that the deaths in London in the week that ended Saturday, December 19, were 1291. The average number in the 10 corresponding weeks of the years 1853-62, corrected for increase of population, was 1401. The present return is therefore 110 below the average. During the week the births of 994 boys and 933 girls, in all 1927 children, were registered in London. In the 10 corresponding weeks of the years 1853-62 the average number was 1817.

## Provincial.

CHATHAM.—The launch of the iron frigate Achilles, 35, 1250 horse-power, was successfully effected on Thursday night at flood tide, two attempts to launch her during the previous tide having failed. The Achilles is the first iron-clad built at a Government dockyard, all the iron vessels hitherto constructed having been built for the Admiralty at private yards.

DERBY.—The High Sheriff has fixed the execution of George Victor Townley to take place at noon on Thursday, the 31st inst. A petition praying that his life may be spared is in course of signature at Manchester, and has already received several thousand signatures, many of them being those of clergymen, merchants, manufacturers, and other influential classes.

FALMOUTH.—Instructions were received last week from the Lunacy Commissioners to prosecute Samuel Porter for the ill-treatment and neglect of his brother Robert. He was accordingly apprehended, and brought before the county magistrates in this town. The magistrates remanded the prisoner, who asked to be allowed to remain at liberty until Monday last, offering to produce sufficient bail. The magistrates, however, said that it appeared to be a serious case, and refused to grant bail. Porter pleaded hard to be allowed to give bail, and said that the newspapers had overstated the circumstances. The Bench still persisted in their decision and he was locked up. Both he and his wife narrowly escaped rough treatment at the hands of an excited mob. On Monday the prisoner was again brought up, when the witnesses examined detailed a horrible story of neglect on the part of the prisoner, extending over a period of about 10 years. The attorney who appeared for the prisoner did not deny the facts, but contented himself with an attempt to prove that no offence in law had been committed. The magistrates however declared that the prisoner's conduct was a statutory offence, as well as one at common law, and they should therefore commit him for trial at the next assizes. The prisoner was admitted to bail, himself in 500*l.* and two sureties in 250*l.* each. A large crowd had collected outside the court, and though they were not so violent as on the previous week, it was found necessary to remove the prisoner under a strong guard of constables. He was followed by the mob, hooting and yelling, till he was conveyed to a place of safety.

HEREFORD.—Robert Wilton Fryer, who was committed to take his trial at the present Hereford sessions, on several charges of embezzlement, was found dead in his bed on Wednesday week.

LYTHAM.—A melancholy boat accident occurred near this town on Tuesday, by which seven young persons lost their lives. The family of Mr. Sugars, a Manchester merchant, consisting of two grown-up sons and three daughters, with two friends, a brother and sister named Wilson, proceeded up the Ribble in a boat to Preston. On their return, and while apparently near home, the boat grounded, and all seven were drowned in an attempt to walk ashore. Two of the bodies have not yet been found.

MALTON.—An unparalleled and rapid succession of incendiary fires has taken place within the last few weeks on the farms of the Yorkshire Wolds. The first took place on the farm of Mr. T. Green, of Rookdale. The stackyard contained nine large "coopings," rectangular-shaped stacks common on the Wolds. Of these two of wheat, one of barley, and one of oats were entirely consumed, the remaining five being saved by the efforts of the Malton firemen, who continued to work up to noon. The loss of corn and straw is estimated at 1200*l.* to 1600*l.* Similar fires subsequently took place at Grimston, Rookdale, Butterwick and Kilham. At the latter place there were two fires, but instead of seconding the efforts of the police, the men and lads belonging to the agricultural population present seemed glad that the conflagration was taking place. The efforts of the police to procure water were only successful when a band of women volunteered to do the work the men refused to assist in. Indeed, it is stated that the men added fuel to the flames, and that the incendiary found running away was covertly allowed to escape. Another fire broke out on Tuesday week on the farm of Mr. Jordan, at Grimston, five miles from this town. Seven large corn stacks and two immense straw stacks were found to be in flames, and before they could be subdued the sheds and granaries, with waggons, carts, the produce of two days' thrashing of wheat, a quantity of bacon, and other produce were destroyed. The property lost is valued at 1500*l.* On the same night preparations for a similar fire were detected at the Wold village of Weaverthorpe, in the stack-yard of Mr. Grantham, at Quickfall, where a train of straw had been laid across a field in the right direction for the wind. Two lads employed on the farm were found near, and it was subsequently ascertained that they had been employed since nightfall in forming the train of straw in order to fire their master's stacks. It is said that a notice was found in the yard of one farm that all the stacks on the Wolds should be burnt. Night watchmen are organising in all directions, in the belief that some conspiracy exists for destroying all the corn on the Wolds.

MANCHESTER.—At a meeting of the General Committee of the Lancashire Relief Fund on Monday, a report signed by the Earl of Derby as chairman, was read, stating that various causes have contributed to reduce the pressure of distress upon the operatives of the cotton districts. There has been an increase in the amount of goods manufactured, about 14,000 operatives have been absorbed in other local employments, and about 3500 have migrated to the West Riding. The committee hope that before the relief afforded by the Public Works Act and the sums at their disposal are exhausted, a steady and permanent augmentation in the supply of cotton may be expected; and in the anticipation of the revival of the trade a considerable number of new mills are already in course of construction; though the prospect of the immediate future is not free from embarrassment. The report having been adopted, Mr. Commissioner Farnall reported that 15,564 persons who were paupers in December, 1862, cannot be traced by the relieving officers; that 54,474 persons have resumed their usual work; that 25,940 are employed in outdoor work; and that 7782 have either migrated or emigrated. Mr. Rawlinson stated that the total amount of applications made under the provisions of the Public Works Act, and already reported upon, was 1,117,605*l.*, and he trusted that with so large an amount of money at the disposal of the district the numbers of outdoor labourers during the winter months would be continually and rapidly increasing. At the subsequent meeting of the Central Executive Committee, it was reported that on the 12th inst. there was an increase of 1697 in the number of persons receiving parochial relief in the 27 unions, as compared with the number relieved in the previous week. The sum of 345*l.* 6*s.* 9*d.* had been received during the past week, and the balance in the bank was 229,358*l.* 17*s.* 7*d.* Grants were voted to various places to the amount of 2720*l.*

MELTON MOWBRAY.—At the adjourned inquest on the body of Mrs. Emma Hutchins, of the Horseshoe Inn, Waltham, on Friday, two surgeons stated that they had made a *post mortem* examination of the body 24 hours after death. They had also forwarded to Professor Taylor, of Guy's Hospital, London, portions of the viscera for analysis. Professor Taylor appeared at the inquest and presented a long report, in which he stated that he had found seven grains of arsenic in the stomach, small intestines, and liver, in the vomited matter and contents of the stomach. In the stomach traces of antimony were detected, mixed with the arsenic, but this was accounted for by the fact that during the illness of deceased a preparation of antimony had been administered to her. Taking all these appearances into consideration, Dr. Taylor was of opinion that the deceased had died from the effects of arsenic. The jury returned a verdict of Wilful Murder against John Hutchins the husband, who was accordingly committed for trial on the coroner's warrant.

WARWICK.—The magnificent estate and Castle of Studley, the property of Sir Francis Goodriche, comprising a noble castellated mansion and nearly 2700 acres of superior land, manorial rights and privileges, with the advowson of the rectory of Moreton Baggott, in this county, were sold at auction last week, for the sum of 145,000*l.*, Mr. Walker, of Birmingham, being the purchaser. The valuable contents of the Castle, comprising suites of carved oak furniture for the library, state, bed, and dressing rooms, a valuable assemblage of old Sèvres porcelain, and the collection of pictures, including several works by Sir Joshua Reynolds and Gainsborough, have since been sold at the Castle. The sale extended over seven days, and realised upwards of 10,000*l.*

YORK.—It has been discovered that the farmers of the Yorkshire moors, in the vicinity of Birch, Bickley, and Crosscliff, have, since the last shearing, been made the victims of an extensive system of sheep-stealing. The moors being open for miles, it is no easy matter to count up flocks regularly, but a manifest decrease in numbers has led to close investigation, which has shown that upwards of a hundred sheep are missing, the property of three farmers only. There does not seem to be any suspicion of the mode in which the missing sheep have been carried off.

## Ireland.

NEW PEERAGE.—Letters patent have passed the Great Seal granting to the Right Hon. Sir William Meredyth Somerville, M.P. for Canterbury, the title of Baron Athlumney, of Somerville and Dollardstown, county Meath, in the peerage of Ireland. His lordship will still retain his seat in the House of Commons, as an Irish peer can sit for an English, though he cannot do so for an Irish constituency.

## Railways.

COLLISION ON THE SCOTTISH CENTRAL.—On Friday night the goods and ballast trains came into collision near the Dunning station of the Scottish Central. Two of the surface men were killed. The line being blocked up by the accident, the passengers from Perth to the south had to leave the carriages, and walk along the line beyond the scene of the accident, and enter carriages which had been sent from Stirling.

ACCIDENT ON THE NORTH EASTERN.—On Tuesday week as the Parliamentary train from York was on its way to Hull and Leeds, six or eight carriages broke loose from the first portion of the train and ran down an embankment 15 feet high. About 50 men and women were in the carriages at the time, but no lives were lost, and only one was seriously injured.

ACCIDENTS ON THE GREAT NORTHERN.—On Thursday week as a coal train was travelling on the up line, near Corby, the drawing up bar between two of the trucks broke, causing the train to part. The pin buried itself in a slanting position in a sleeper, and the last part of the train, running upon it, was thrown off on the down line. The traffic had scarcely been resumed the following morning when a more serious accident occurred. The traffic was being worked on a single line between Bytham and Corby. Six trains had successfully passed, and a cattle train was waiting its turn, when a coal train, running past all the signals, dashed into it. The shock was so severe that many of the cattle were killed and others jerked out of the trucks. One of the drovers, and the driver of the coal train were injured. The damage to the trucks was very great, and the two accidents threw the traffic of the line into such confusion that the trains from the North had to be passed round by way of Sleaford and Boston.

## Law.

COURT OF QUEEN'S BENCH.—*Lindsay, M.P., and Others v. Leathley.*—This was the second trial of an action before the Lord Chief Justice and a Special Jury, on a marine time policy of insurance for a total loss. The defendant, with about 100 other underwriters, had underwritten the policy to the extent of 150*l.* only, but it had been arranged between the other part owners with the present plaintiffs and the other underwriters that this action should be tried, and its result be binding on all parties. The defendant had paid into court ten guineas, being at the rate of seven per cent. on the amount underwritten by him, and denied his liability to any further sum, on the ground that it was not a total loss. The first trial, which lasted five days, resulted in a verdict for the plaintiff, on which a rule was obtained on behalf of the defendant for a new trial, on the ground that the verdict was against the evidence. The facts were briefly as follows. The Harbinger, an iron ship of 800 tons burden, originally built as a war-steamer in 1847-8, passed into the hands of Messrs. Lindsay and the other plaintiffs in 1857. At that time she was in perfect order, and ought to have lasted 20 or 30 years. She was employed in the China trade, and appears to have been perfectly sound in her hull, though very defective in her engines and woodwork, when she sailed from Calcutta on her last voyage in March, 1859, being then insured for 15,000*l.* for a year, to expire on January 31, 1860. During this homeward voyage she sprang a leak, owing to a rivet falling out below

he massive "sole-plate" supporting the machinery. This hole was effectually plugged and secured, but she ran into Algoa Bay to refit, and still meeting with rough weather on resuming her course, twice put back there for shelter. The second time was in July, 1859, when a careful examination of the hull was made, and, although no mischief except the loss of a few boltheads seems to have been discovered, the captain returned to England on his own responsibility, and consulted Mr. Lindsay. The latter made a claim on the underwriters, which was compromised for 4000*l.*, with which sum the captain went back to repair damages, and bring the ship home. In the meantime, viz., in October, 1859, heavy gales prevailed in Algoa Bay, but the chief officer, who joined the Harbinger in the captain's absence, proved that no apparent injury resulted from them. On the 27th December, after the captain's return, a fresh leak broke out, and another hole was found in one of her bottom plates under the pumps. Another survey took place, but in order to its being complete the cargo required to be transhipped. Tenders were advertised for heaving her down, but only one was sent in, amounting to 3000*l.* There was great danger in heaving down such a vessel in Algoa Bay, and the nearest port where she might have been repaired was Simon's Bay. On the 16th January there was another internal survey of the vessel, and the surveyors reported that from the bad state of the internal rivets and plates it would be necessary to examine the bottom carefully. The tender for heaving down the vessel was not accepted, and on the 3rd February the captain made a formal act of abandonment of the ship, and proceeded to sell the hull, fixtures, and engines, the whole realising not more than 2400*l.* The policy had expired on the 1st February, but the plaintiffs contended that the injury arose long before that, and was to be attributed to the perils of the sea, the abandonment being a necessary consequence. The plaintiff's case was that the hole in the bottom was caused by the straining of the vessel in the October gales, or from being struck by pieces of floating wreck. The defence was that such an injury could not have arisen as was supposed by the plaintiffs, but was more likely to have happened by the action of the sounding-rod striking on the plate, aided by the corroding effect of rust, and the action of the bilge water, coal dust, and drippings from the brasses. The weakening of the rivets, it was also said, was caused by the wear and tear of the vessel, and not by the straining of the ship. It was also contended that the injury might have been repaired by plugging, or if that were impossible, that some attempt might have been made to get at her bottom or to take her with the assistance of a tug to Simon's Bay to be repaired. The trial lasted eight days. The Lord Chief Justice left four main questions to the Jury, who found, 1. That the ship was unseaworthy by reason of the hole, and of damage to the plates and rivets, and that this unseaworthiness was partially due to "sea-damage," covered by the insurance; 2, that the hole might have been stopped in Algoa Bay, but that it was doubtful whether the rivets could have been refastened there, and that there was such a presumption of unseaworthiness in other respects that it was proper to heave her down; 3. that the captain rightly declined to make the experiment in Algoa Bay, and refused a tender, otherwise exorbitant, for the operation; but at the same time that diving apparatus might and should have been employed to examine the suspected parts of the bottom; 4. that the ship might have been conveyed safely to Simon's Bay, and might have been repaired there, but that the consent of the owners and underwriters ought to have been first obtained. The inference which they drew from these premisses was that the abandonment and sale were unjustifiable, and would not have been resorted to by a prudent uninsured owner. Still, the claim for a partial loss had been allowed, and the jury were sent back to assess the fair amount to be awarded, when the parties compounded between themselves for 4500*l.*, each party paying his own costs.

NORTHERN CIRCUIT: YORK. — *The Leeds Murder.* — *Patrick Hirley* was indicted for the murder of Anthony Golding, at Leeds, on the 23d of August. It appeared that there had been a midnight disturbance, ending in a street fight, in which a relative of the prisoner, of the same name as himself, was, with a man named Anthony Fee, engaged. After the fight was over, deceased, who was standing close by, seeing the prisoner much excited, observed to him, "Now, if I were you, Patsy, I would go home like a good man, and not fight." This seems to have irritated the prisoner, who thereupon struck and stabbed deceased with a knife he had in his hand. The blow caught, as it seemed, the femoral artery of the left thigh; and the blood gushing out, deceased, after moving a few feet from the place, fell exhausted, and, almost before assistance could be obtained, died from the effects of the stab and his loss of blood combined. When the deceased felt himself struck, he said to the prisoner, "If I had been you, Pat, I would not have done that," on which, and seeing the blood, the prisoner immediately ran off, flourishing his knife and saying, "I've already done for one man, and I'll do for Anthony Fee, too, before I sleep." It did not appear that deceased had, in any way, interfered before the fatal attack made upon him by the prisoner. The prisoner left Leeds that night, and was apprehended the next day at Ottley, some eight or 10 miles distant. The defence was that the case only amounted to manslaughter, and that death was the unfortunate result of a sudden and unpremeditated quarrel, and the excitement consequent upon such quarrel. The Judge carefully summed up the evidence, pointing out the legal distinction between the offence of murder and that of manslaughter; and the Jury, after leaving the box and being absent for half-an-hour, returned with a verdict of Guilty of murder; the foreman, however, appending to that verdict the observation that the jury would not have found the prisoner guilty of murder had it not been necessary to "save their oath" by so doing; but at the same time it had been agreed among them unanimously to join with their finding so strong a recommendation to mercy as to make it almost certain that the dreadful punishment applicable to such verdict would not, in this case, be carried out. Mr. Justice Mellor said that he regretted the jury had allowed such a consideration to weigh with them in such deliberation on the matter, but assured them that the expression of their wish should be forwarded to the proper quarter. He then proceeded to pass sentence of *Death* in the usual form. LIVERPOOL.—*The Wife Murder at Pendleton.*—*Luke Charles*, a policeman at Bury, was charged with the wilful murder of his wife by drowning. The case was of a very peculiar character. The prisoner had been in the Irish constabulary, but having obtained a situation in the Bury force, he came to England, leaving his wife behind. Before leaving Ireland he had been paying his addresses to a girl called Ellen Ford, as a single man, and after remaining some time at Bury he twice went over to Ireland to get married to her, but the priest would not perform the ceremony without a certificate from Bury that the prisoner was not already married. Meanwhile his wife unexpectedly arrived at Bury and seemed disposed to remain there, when the girl Ford also came over from Ireland, and was placed in lodgings by the prisoner. In the beginning of this year the prisoner proposed to his wife that they should pay a visit to her friends in Pendleton. She assented, and they left Bury for the purpose, but she was never seen again alive, and he invariably stated, on being asked where she was, that she was in Ireland. A woman's body was, however, found in the canal at Pendleton in February last, and after an inquest had been held, at which an open verdict was returned as the body was not identified, it was interred. The sister of the deceased being dissatisfied with the prisoner's statements, and finding no trace of deceased, then applied to the police, the result being that the body was exhumed in September last, when it was found to be the body of the prisoner's late wife. The clothes were also identified by the sister and other persons who had been intimate with deceased. A mass of circumstantial evidence was adduced, with the view of showing that the prisoner's desire to marry the girl Ford supplied a motive for his getting rid of his wife; and further that the deceased's clothes had been detached from her body before it was thrown into the canal, for the evident reason that the crinoline would have had a tendency to prevent its sinking. The defence was that the wife committed suicide, and that if she was murdered, there was no proof that the murder was committed by the prisoner. Mr. Justice Willes, in summing up, said the fact that the clothes were found detached from the body was most important, and it was for the jury to decide whether they were more likely to have been removed by a person contemplating suicide or a person contemplating murder. The jury having retired to consider their verdict, returned in about half an hour with a verdict of *Guilty*. The judge then assumed the black cap and passed sentence of *Death* on the prisoner.

NORFOLK CIRCUIT, CAMBRIDGE.—*The Murder at Whittlesey.*—*John Green*, a labourer, 25 years of age, was yesterday charged with the murder of Elizabeth Brown, at Whittlesey, on the 12th March; and *William George Smedley*, maltster, was charged with feloniously harbouring and maintaining him after the fact. The case excited great interest, and the court all day was very full. The trial should have taken place at the summer assizes, but at the last moment, the prisoner Smedley, who before the magistrates and coroner had been examined as a witness for the prosecution, was given into custody, and indicted jointly with the other prisoner Green. Counsel who had been instructed to defend both prisoners, feeling embarrassed by this sudden step on the part of the prosecution, applied to the late Mr. Justice Wightman for the postponement of the trial, and after some discussion and consultation with the Lord Chief Baron, the application was granted. Both prisoners were therefore arraigned on the charge, but as the case proceeded, Baron Martin observed that there was nothing in the evidence to implicate Smedley, and ordered him to be discharged. The trial of Green was then proceeded with, and it appeared that the deceased woman, who was a person of light character, was found in a malt house in a half burned state, but with marks of violence which did not arise from burning. The evidence against Green, who was a married man, and worked in the malt house, was mostly of a circumstantial character, but it was sufficient to prove that he had been seen talking with the woman outside a public house where he had been dancing; that he was afterwards seen to go towards the malt house with the woman after the place had been shut up, and that at an early hour the following morning a man was seen running from the malt house with his braces down, whom two or three men believed to be the prisoner. It was also proved that he did not sleep in his own house that night. The jury, after a quarter of an hour's deliberation, returned a verdict of Guilty, and Baron Martin passed sentence of *Death* in the usual form, holding out no hope of mercy.

HOME CIRCUIT: MAIDSTONE.—*The Gillingham Murder.*—*James Palmer*, a labourer, 22 years of age, was indicted for the murder of Margaret Jones, at Gillingham, on the 8th November. The deceased woman, who was 23 years of age, was the wife of a corporal in the Royal Marines, who had since sailed for Japan. She had been living however with the prisoner, who was a dockyard labourer. They appear to have lived quietly together till Sunday, the 8th ult., when the deceased woman went to a funeral, and instead of returning home at the time expected, went about drinking at various public houses, and when the prisoner met her again she was the worse for liquor. She then refused to live with him any longer, upon which he struck her repeatedly, but she finally went home with him, and died the next day from the effects of the blows. He was found guilty of Manslaughter, but was recommended to mercy. Baron Pigott sentenced him to 3 months' imprisonment with hard labour. KINGSTON.—*The Guildford Murder.*—*Joseph Mahaig*, 28, a sergeant in the 3d Buffs, a smart, soldier-like looking young man, was charged upon an indictment, and also by the coroner's inquisition, with the wilful murder of Elizabeth Waterer. It will be remembered that the young woman was found dead in a public house, where she had been living with the prisoner, who had attempted to commit suicide. The most important evidence in the case were the letters written by the parties, from which little doubt was left that they had agreed to destroy themselves together. It appeared, however, that the prisoner remained in the room with the corpse of the girl for at least 24 hours after her death; he then cut his throat with a table knife, and was fast dying when the door was burst open and means were taken for his recovery. The jury returned a verdict of *Guilty* as accessory before the fact, but recommended him to mercy. Baron Pigott passed sentence of *Death*, holding out no hope of mercy.

## Sporting.

THE LATE FIGHT.—Informations having been laid before the Sussex magistrates, against the principals, seconds, and others who took part in the recent prize fight at Wadhurst, Thomas King, John Carmel Heenan, Thomas Sayers, James Mace, John Calvin Noon, *alias* Jerry Noon, John Tyler, *alias* Bos Tyler, Robert Travers, John Macdonald, William Richardson, and William Preston appeared on Tuesday before the magistrates sitting in Petty Sessions at the Justice-room at Marks Cross, in obedience to the summonses which had been served upon them for a breach of the peace. The principal witnesses were Mr. G. C. Courthope, a county magistrate, who was also the owner of the land; Mr. Ellis, the local Excise officer; Mr. Thompson, the deputy chief constable, and two other officers of the county constabulary. Mr. Courthope stated that he made an attempt to stop the proceedings, but his interference, which was taken with the utmost good humour, was of course perfectly abortive. They proposed that he should act as referee, and actually kept him a prisoner in the ring, where he was obliged to witness the fight in spite of himself. The constables could not get nearer than the outer ring, and when they attempted to go near the inner ring they were politely handed back. King, Sayers, and Heenan, stated that they did not intend to fight again, and Mr. Beard, a solicitor, who appeared for them, urged that under these circumstances it was unnecessary to send them for trial. The magistrates after some consultation decided that the defendants must each enter into their own sureties of 50*l.*, and find bail to the extent of 50*l.*, to appear at the next Quarter Sessions to answer any indictment for misdemeanour that may be preferred against them. The required bail was then entered into, and the defendants were liberated. King and Heenan were objects of much interest in the Court, and there was little trace in the countenances of either to show the punishment they had received from each other.

## Obituary.

THE EARL OF ELGIN, the late Viceroy of India, the report of whose death has been confirmed by the Bombay mail which has arrived this week, traced his descent to the Bruce whose name he bore, and was the son of the Earl who brought the Elgin marbles to England. He was born in London in 1811, and was educated at Eton and Christ Church, where he was the contemporary of Sir George Lewis, Lord Dalhousie, Lord Canning, and Mr. Gladstone. He was first-class in classics in 1832, and subsequently became a Fellow of Merton College, being then known in his father's lifetime as Lord Bruce. In 1841 he married, and entered Parliament as member for Southampton, and as a supporter of Sir Robert Peel. In the same year he succeeded to the Earldom, which being a Scotch peerage did not interfere with his seat in the Lower House. In 1842, the Earl of Derby, then Lord Stanley and Secretary for the Colonies, first introduced him to public life by appointing him Governor-General of Jamaica, where he acquitted himself so well that when in 1846 the Whigs had to seek out the ablest man they could find to be Governor-General of Canada, they selected Lord Elgin, notwithstanding his Tory connections. In this new office he carried out in Canada the conciliatory policy of his father-in-law, Lord Durham, and by preserving a neutrality between parties, by developing the resources of the country, agricultural and commercial, and by seeking in every possible way to study the wishes of the colonists, he did more in a viceroyalty of eight years than any man to quell discontent and to knit the Canadian provinces closely to the mother country. For this success he was honoured in 1849 with a British peerage. The next office which he was called upon to fill was that of Ambassador to China. It was on his way thither that he heard of the Indian mutinies; and he at once took upon himself to divert to Calcutta the troops which had been ordered to China in support of his mission. Though by this act his progress in China was delayed, he ultimately succeeded in his aims, saw Canton taken, and negotiated the important treaty of Tien-tsin, which forms the basis of our present relations with the Chinese. In 1859, on the formation of Lord Palmerston's Administration, Lord Elgin became a member of his Cabinet, with the duties of Postmaster-General. Meanwhile the brother of Lord Elgin, Mr. Bruce had been appointed Envoy in China, and in accordance with the treaty ought to have been received in Pekin. Access to the capital, however, was refused to him, save on conditions which were considered derogatory to the British representative, and when we insisted on the rights secured to us by treaty, there ensued the disaster of the Peiho. In the following year therefore Lord Elgin was again despatched to China to sustain the English authority, and he thoroughly fulfilled his mission by entering Pekin in state, and compelling the submission of the Celestial Government. He had scarcely gained this triumph when he was appointed to succeed Lord Canning as Governor-General of India, where like so many of his immediate predecessors, he has succumbed to the severity of his official labours in an oppressive climate. He married, first in 1841, the daughter of Charles Lennox Cumming Bruce, Esq., M.P., and secondly in 1846, the fourth daughter of the 1st Earl of Durham. He is succeeded by his son Victor Alexander, born at Montreal in Canada, in 1849.

MR. THACKERAY, the novelist, was found dead in his bed on Thursday morning from effusion on the brain. He had been suffering for two or three days previously from an internal ailment, to which he had been subject for many years, but no idea of danger was entertained. He was born in the year 1811 at Calcutta, where his father was in the civil service of the East India Company. He was educated at the Charterhouse, and at Cambridge, and afterwards travelled abroad to qualify himself for the profession of an artist. He subsequently abandoned this idea, and settled in London as a writer for the newspapers and magazines. It was not however till 1846, that he made himself famous by the publication of "Vanity Fair," the success of which established his reputation as one of the greatest writers of English fiction. He afterwards published "Pendennis," "Esmond," "The Newcomes," "Barry Lyndon," and other works, and was latterly the Editor of the *Cornhill Magazine*.

THE REV. JOSIAH FORSHALL, M.A., F.R.S., formerly fellow and tutor of Exeter College, Oxford, and subsequently keeper of MSS. and Secretary of the British Museum, died on Friday at his residence in Woburn Place. He graduated at Oxford in 1821, and three years afterwards was appointed by Archbishop Howley assistant keeper of the MSS. in the British Museum. He subsequently became Secretary to the Museum, and retained that office till 1851, when he was superannuated on account of illness. For 33 years he was also Reader at the Foundling Hospital. He had for many years devoted himself to Biblical Literature, and among other works was the author of the "Catalogue of MSS. in the British Museum," three parts, 1834-40, folio; "Catalogus Codicum MSS. Orientalium qui in Mus. Brit. Asservantur," Part. I.; "Codices Syriacos et Carshunicos Amplectens," folio, 1838; "Description of Greek Papyri in the British Museum," Part I., 1839, 4to.; "The Holy Bible in Earliest English Versions by John Wycliffe and his Followers, with Introduction and Glossary," by Rev. J. Forshall and Sir Frederick Madden, K.H., 1850, 4to; "Remonstrance of 1395 (18th Richard II.) against Romish Corruptions in the Church," 1853, 12mo, and a recently published English edition of the four Gospels, printed in a cheap form for the use of schools and young students. At the time of his death he was occupied in preparing for the press "The Holy Gospels in the Received Text of the Greek, with various readings, exposing the errors of modern editors, and maintaining the general integrity of Scripture, as read in the Church of England."

MR. JOSEPH HENRY GREEN, F.R.S., the eminent surgeon, died at the Mount, Hadley, near Barnet, on the 13th inst., in his 72d year. He acquired his professional knowledge at St. Thomas's Hospital, under his uncle, Mr. Cline, and was admitted a member of the Royal College of Surgeons in December, 1815, having for two years previously acted as demonstrator. In 1818 he joined Sir Astley Cooper, as joint lecturer on anatomy and physiology. In 1820 he succeeded the younger Cline as surgeon to St. Thomas's Hospital, and with Sir Astley Cooper then delivered lectures on surgery and pathology. As an operative surgeon he was unequalled in the skill with which he performed that for lithotomy, having in 1827 operated in 40 cases, and lost only one patient; this success created a great sensation at the time, as being unequalled in any country, and in any other hands. In 1830 he was appointed professor of surgery in King's College, of which institution he was at the time of his death a member of council. In 1831 he wrote a pamphlet, called "Distinction without Separation," addressed to the President of the Royal College of Surgeons, to prove that the distinction between physician and surgeon did not really exist, and that such division was highly injurious where it did. In 1834 he wrote a letter to the *Times*, suggesting a plan of medical reform, giving the medical student a classical and mathematical education, and proposing a higher and lower grade or distinction: all which suggestions the Council of the Royal College of Surgeons has for some time past adopted. In 1835 he was unanimously elected a member of the Council of the College, and in 1840 he was selected to deliver the Hunterian oration, which he afterwards published under the title of "Vital Dynamics." In 1847 he again became Hunterian orator, and published the lectures under the name of "Mental Dynamics." Neither were considered popular discourses, being in advance of the times, and full of the metaphysical notions entertained by the poet Coleridge, who was his intimate friend. In 1846, on the resignation of Sir Benjamin Brodie, he was elected a member of the Court of Examiners, an appointment he held up to the time of his death. In 1849 he received at the hands of his colleagues the highest appointment they had to confer—viz., the President's gown—an

honour again conferred on him in 1858. He also received from her Majesty's Government the appointment of President of the Council of Medical Education and Registration of the United Kingdom.

BIRTHS.—On the 22d inst, at 35, Eaton Place, the Lady Edwin Hill Trevor, of a son—16th inst, at Cotgrave Place, Notts, the Hon. Mrs. R. Henley Eden, of a son—17th, at Newdigate Rectory, the wife of the Hon. and Rev. A. Sugden, of a son—14th inst, at Evington Place, Kent, Lady Honywood, of a son—20th inst, at Southill, Durham, the wife of Henry Fenwick, Esq., M.P., of a son and heir.

MARRIAGES.—On the 22d inst, in Westminster Abbey, the Rev. Dr. Arthur Penrhyn Stanley, canon of Christ Church, and dean elect of Westminster, second son of the late Right Rev. Dr. Stanley, Bishop of Norwich, to the Lady Augusta Frederica Bruce, daughter of the seventh Earl of Elgin, and sister of the late Viceroy of India—16th inst, at Kells Church, county Meath, John Maunsell, of Rockmount, Dundrum, county Dublin, Esq., to Emily Roche, daughter of Archibald J. Stephens, Esq., Q.C., LL.D., Recorder of Winchester—22d inst, at St. James's Church, Dover, Robert Gervas Wylde, Esq., second son of Lieut.-General Wylde, C.B., to Barbara Mary, only daughter of the late James Haydock Haydock, Esq., of Datchet Lodge, Bucks.

DEATHS.—On the 19th inst, at 51, Charles Street, Berkeley Square, Sir John Campbell, K.C.T.S., aged 84—20th inst, at 29, York Place, Portman Square, Lady Nightingall, relict of Lieutenant-General Sir Miles Nightingall, K.C.B., colonel of Her Majesty's 49th Regiment—21st inst, in Gloucester Street, Warwick Square, Lady Campbell, wife of Sir John Nicholl R. Campbell, Bart., and second daughter of the late Thomas Bainbridge, Esq., aged 60—19th inst, at 53, Melville Street, Edinburgh, Lady Wood, widow of Sir Alexander Wood, K.C.M.G., aged 88—11th inst, at Clapham, Paul Francis, second son of Sir Paul Wm. Molesworth, Bart., aged 8—18th inst, at 12, Langham Place, Adrian John Hope, Esq., aged 52—18th inst, at Radford, Devon, Colonel Harry Bulteel Harris, K.H., aged 75—10th inst, at Preston, Lancashire, Lieutenant-Colonel William Martin, late of the 16th Lancers and 38th Regiment, and Governor of the Preston House of Correction, aged 58—16th Oct., at Rich Avon, Victoria, Australia, Captain Donald M'Lachlan, late of H.M.'s 75th Regiment, aged 84—21st inst, of apoplexy, Captain William Conyngham Lynch Blosse, Royal Artillery, aged 37—12th inst, at his residence, Bury St. Edmund's, John Bridge, Esq., son of the late Major Bridge, of Shudy Camps, and Harston, Camb., and maternal grandson of the late Captain Francis Grose, F.S.A.—16th inst, at Weston-super-Mare, Edward Griffith Richards, Esq., J.P., of Langford House, in the county of Somerset, surviving son of Rev. Henry Richards, rector of Horfield, Gloucestershire, aged 37—17th inst, at Heigham, Norwich, the Rev. Wm. Goodwin, M.A., incumbent of St. Benedict's, Norwich, aged 68—16th inst, at Thurlby, the Rev. Charles P. Worsley, vicar of that parish—11th inst, at Letchworth, the Rev. J. Allington, of Little Barford, Beds, and Letchworth, Herts, aged 68.

# Markets.

## COVENT GARDEN, Dec. 26.

All kinds of produce in season continue to be abundant. Pine Apples are well supplied, and, considering the time of year, prices for them may be said to be moderate. Hot-house Grapes are now beginning to get scarce. Of foreign Melons there is a good stock. There is also a good supply of Ne Plus Meuris, Glou Morceau, Monsieur le Curé, and Beurré Rance Pears. Good English Apples are getting somewhat scarce. Some good examples of Ribston Pippin and American New Town Pippin may still be obtained. Kent Cobs are good, but in few hands. Oranges are plentiful; the best are realising from 5s. to 10s. per 100. For Potatos the market is still heavy. Christmas Evergreens are abundant. Cut flowers chiefly consist of Orchids, Pelargoniums, Primroses, Mignonette, and Roses.

### FRUIT.

| | |
|---|---|
| Pine Apples, per lb., 4s to 6s | Oranges, per 100, 4s to 7s |
| Grapes, per lb., 2s to 8s | Nuts, small, per bush., 14s to 18s |
| Apples, per ½ sieve, 1s 6d to 2s 6d | Kent Cobs, 110s per 100 lbs. |
| Pears, per ½ sieve, 2s 6d to 5s | Almonds, do., 18s |
| Melons, each, 2s to 4s | Walnuts, do., 14s to 20s |
| Lemons, per 100, 5s to 8s | Chesnuts, per bush., 10s to 20s |

### VEGETABLES.

| | |
|---|---|
| Cabbages, per doz., 1s to 2s | Celery, per bundle, 1s 6d to 2s |
| Cauliflowers, each, 3d to 6d | Garlic, per lb., 8d |
| Potatos, York Regents, p. ton, 60s to 80s | Lettuces, each, 1d to 4d |
| ,, Shaws, do., 50s to 60s | Endive, p. score, 1s to 2s |
| Turnips, p. bunch, 4d to 6d | Horse Radish, p. bunch 1s to 4s |
| Carrots, do., 6d to 8d | Mushrooms, p. pott., 1s to 1s 9d |
| Spinach, p. sieve, 1s 6d to 2s | Parsley, p. 12 bunches, 3s to 4s |
| Cucumbers, each, 1s to 3s | Herbs, per bunch, 5d |
| Beet, per doz., 1s 6d | |
| Shallots, per lb., 10d | |

## POTATOS.—Southwark, Monday, Dec. 21.

During the past week the arrivals coastwise have been very large, with a good supply by rail, and trade is in a very depressed state. The following are this day's quotations:—Yorkshire Flukes, 80s. to 90s. per ton; do. Regents, 60s. to 80s.; do. Rocks, 50s. to 60s.; Dunbar Regents, 60s. to 70s.; Kent and Essex Regents, 50s. to 70s.: Perth, Forfar, and Fifeshire Regents, 50s. to 55s.; do. do. Rocks, 45s. to 50s.

## COAL MARKET.—Dec. 23.

Byass's Bebside West Hartley, 16s. 6d.; Hastings Hartley, 16s. 6d.; Lambert's West Hartley, 16s. 3d.; Walker Primrose, 15s. 0d.; West Hartley, 16s. 6d.; Wylam, 17s. 6d.; Walls End Harton, 17s. 9d.; Walls End Haswell, 20s.; Walls End South Hetton, 20s.; Walls End Tunstall, 18s.; Walls End Cassop, 19s.; Walls End Hartlepool, 19s. 9d.; Walls End Heugh Hall, 19s.; Walls End Kelloe, 19s.; Walls End East Hartlepool, 20s.; Walls End South Hartlepool, 18s. 9d.; Walls End South Kelloe, 19s.—87 ships at market.

## HAY.—Per Load of 36 Trusses.

Smithfield, Thursday, Dec. 24.

| | | | | | |
|---|---|---|---|---|---|
| Prime Meadow Hay | 75s to | 80s | Clover, old .. .. | 90s to | 110s |
| Superior do. .. | 84 | 90 | Do. second cut .. | 90 | 100 |
| Inferior do. .. | 65 | 70 | New Clover .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. .. | 24 | 30 |
| Rowen .. .. .. | — | — | | | |

Harvey & Easton.

Cumberland Market, Thursday, Dec. 24.

| | | | | | |
|---|---|---|---|---|---|
| Sup. Meadow Hay .. | 88s to | 95s | Inferior Clover .. | 88s to | 100s |
| Inferior do. .. .. | 72 | 78 | New do. .. .. | — | — |
| New do. .. .. .. | — | — | Straw .. .. | 32 | 36 |
| Superior Clover .. | 108 | 114 | | | |

Joshua Baker.

Whitechapel, Thursday, Dec. 24.

| | | | | | |
|---|---|---|---|---|---|
| Fine Meadow Hay .. | 84s to | 88s | Prime 1st cut Clover | 105s to | 112s |
| Inferior do. .. .. | 70 | 80 | Inferior do. do. .. | 100 | 105 |
| Prime New Hay .. | — | — | New 1st cut do. .. | — | — |
| Inferior .. .. .. | — | — | Prime 2d cut do... | 100 | 105 |
| Straw .. .. .. | 27 | 30 | Inferior do. .. .. | 90 | 95 |

## HOPS.—Borough Market, Wednesday, Dec. 23.

Messrs. Pattenden & Smith report no alteration in the market since Monday last.

## METROPOLITAN CATTLE MARKET.

Monday, Dec. 21.

We have a large supply of Beasts, considering the unusual number on sale last Monday. The butchers having for the most part laid in their Christmas stock, trade is very slow to-day, and a clearance cannot be effected, notwithstanding a disposition to take rather lower than our quotations. The number of Sheep is also large for the day, but there is a demand for them, and prices are about the same as of late. Good Calves are scarce, and maintain Thursday's quotations. From Germany and Holland there are 740 Beasts, 1920 Sheep, and 101 Calves; from Scotland, 100 Beasts; from Ireland, 350; from Norfolk and Suffolk, 200; and 840 from the Northern and Midland Counties.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 2 | Best Long-wools. | 5 2 — 5 6 |
| Best Short-horns | 4 8 — 5 0 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 10 — 4 2 | Ewes & 2d quality | 4 10 — 5 0 |
| Best Downs and Half-breds .. | 5 8 — 6 0 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 8 — 5 2 |
| | | Pigs .. .. | 3 0 — 4 8 |

Beasts, 2460; Sheep & Lambs, 9530; Calves, 112; Pigs, 220.

Thursday, Dec. 24.

The supply of all kinds of stock is very small indeed, quite as large, however, as was expected. This may be termed a holiday market. The butchers being busily engaged at home, we have but few purchasers. Prices for all descriptions remain unaltered from Monday last. Our foreign supply consists of 8 Beasts, 300 Sheep, and 3 Calves.

| | s d s d | | s d s d |
|---|---|---|---|
| Best Scots, Herefords, &c. .. | 4 10 to 5 2 | Best Long-wools. | 5 2 — 5 6 |
| Best Short-horns | 4 8 — 5 0 | Do. Shorn .. .. | — .. |
| 2d quality Beasts | 2 10 — 4 2 | Ewes & 2d quality | 4 10 — 5 0 |
| Best Downs and Half-breds .. | 5 8 — 6 0 | Do. Shorn .. .. | — .. |
| Do. Shorn .. .. | — .. | Lambs .. .. .. | — .. |
| | | Calves .. .. | 3 8 — 5 2 |
| | | Pigs .. .. | 3 0 — 4 8 |

Beasts, 295; Sheep & Lambs, 860: Calves, 9; Pigs, 50.

## MARK LANE.—Monday, Dec. 21.

The supply of Wheat from Essex and Kent to this morning's market was moderate, and could only be cleared at a decline of 1s. per qr. on the prices of this day se'nnight. Foreign was neglected but not pressed, or lower prices must have been accepted. Barley sold very slow at a decline of 1s. per qr. upon malting, and 6d. per qr. on grinding qualities. Beans and white Peas brought last week's quotations, but Grey Peas were fully 2s. cheaper. The Oat trade was very dull, and to effect sales it was necessary to submit to a reduction of 6d. per qr. In Flour there was little business done.

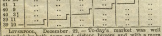
| Per Imperial Quarter | s. s. | | s. s. |
|---|---|---|---|
| Wheat, Essex, Kent, & Suffolk .. White | 42—48 | Red ..... | 40—48 |
| — — fine selected runs .. ditto | 44—52 | Red .... | 40—48 |
| — — Talavera .............. | 48—54 | | |
| — Norfolk .................. | — | Red .... | — |
| — Foreign .................. | 36—54 | | |
| Barley, grind. & dist., 25s to 27s .. Chev. | 34—38 | Malting .. | 29—33 |
| — Foreign .. grinding and distilling | 22—26 | Malting .. | 28—32 |
| Oats, Essex and Suffolk ........ | 18—22 | | |
| — Scotch and Lincolnshire—Potato | 20—25 | Feed .... | 18—22 |
| — Irish ............Potato | 19—22 | Feed .... | — |
| — Foreign .......Poland and Brew | 17—22 | Feed .... | 15—20 |
| Rye ........................ | 30—32 | Foreign .. | — |
| Rye-meal, Foreign .............. | — | | |
| Beans, Mazagan .... 28s to 36s ... Tick | 30—34 | Harrow .. | 30—34 |
| — Pigeon .... 32s to 40s .. Winds. | — | Longpod | — |
| — Foreign ...............Small | 36—42 | Egyptian | 30—32 |
| Peas, White, Essex and Kent .. Boilers | 36—38 | Suffolk .. | 36—39 |
| — Maple .... 34s to 36s .... Grey | 28—30 | Foreign .. | 32—40 |
| Maize ...................White | — | Yellow .. | — |
| Flour, best marks delivered .. per sack | 35—40 | | |
| — 2d do ..................ditto | 28—34 | Country .. | 28—34 |
| — Foreign ........... per barrel | 15—25 | Per sack | 32—42 |

Wednesday, Dec. 23

The arrivals of English Wheat fresh up to our market this morning were very limited, and the show of samples was chiefly composed of Monday's unsold supply, in but middling condition. Very few buyers were in attendance, and the demand for both red and white qualities was in a sluggish state, at about stationary prices. There was a fair average supply of foreign Wheat on offer. Good and fine qualities were in moderate request, at full currencies; otherwise the trade was in a depressed state, and last week's prices were with difficulty supported. The inquiry for floating cargoes of grain off coast was much restricted. In the quotations, however, very little change took place. There was a moderate inquiry for Malting Barley at late currencies. Grinding and distilling sorts were a dull sale, but not cheaper. Malt, the supply of which was good, moved off slowly, at about previous rates. Good sound Oats were scarce and in request, on former terms. Other kinds commanded very little attention. The supply was by no means extensive. In Beans very little was doing, at about stationary prices. The sale for Peas was heavy, at Monday's decline in value. We have to report a dull sale for English Flour on former terms. Sweet American was scarce, and quite as dear as last week.

| Averages | Wheat. | Barley. | Oats. | Rye. | Beans. | Peas. |
|---|---|---|---|---|---|---|
| Nov. 14 | 39s 10d | 34s 0d | 18s 9d | 25s 0d | 36s 5d | 34s 1d |
| — 21 | 39 11 | 33 11 | 19 11 | 29 7 | 35 6 | 34 2 |
| — 28 | 40 3 | 33 7 | 19 7 | 34 9 | 36 1 | 34 1 |
| Dec. 5 | 40 9 | 33 6 | 19 5 | 29 7 | 35 8 | 33 7 |
| — 12 | 41 1 | 32 10 | 19 3 | 29 11 | 34 11 | 34 2 |
| — 19 | 41 2 | 32 6 | 19 0 | 29 4 | 34 9 | 33 7 |
| Agg. Aver. | 40 6 | 33 3 | 19 4 | 29 8 | 35 6 | 33 11 |

Fluctuations in the Last Six Weeks' Averages.




Liverpool, December 22.—To-day's market was well attended by both town and distant buyers, and with a more cheerful feeling, and a better consumptive demand for Wheat, the general runs realised full previous prices. Choice winter from scarcity advanced 1d. per cental in the week. Flour unchanged and quiet. Oatmeal slow; Egyptian Beans dull; Indian Corn in better request at previous rates.

## NEWGATE.—Dec. 24.

| | | |
|---|---|---|
| Best Fresh Butter | .. .. | 18s. per dozen lbs. |
| Second do. do. | .. .. | 12s. ,, |

Pork, 4s. 0d. to 4s. 4d. per 8 lbs.

## BRITISH WOOLS.—London, Dec. 23.

Our market still continues quiet, and is likely to remain so until the interest of money question is nearer settled, and the stocks of wool in the manufacturers' hands exhausted. At present prices are merely nominal, except of skin wool, which sells at the same rates, but is much superior in value each succeeding week, and consequently cheaper.

| | s. d. s. d. | | |
|---|---|---|---|
| South-down Hoggets .. .. .. | 1 11 to 2 0 | Leicest. Wethers | 1 9½ to 1 10½ |
| Half-bred ditto .. | 1 11 — 2 0½ | Ditto Hoggs .. | 1 10½ — 1 11½ |
| Down Ewes .. | 1 10 — 1 10½ | Combing Skins .. | — .. |
| Kent Fleeces .. .. | — 2 0 | Flannel Wool .. | 1 4 — 1 9 |
| | | Blanket ditto .. | 0 9 — 1 0 |

PARTNER, with not less than £1000.—He must either understand Growth of Pines, Grapes, and Peaches (as these are grown extensively), or the Seed Trade. The Advertiser being owner of the Concern, this is a rare opportunity. Extent of Ground 17 acres; quantity of wall covered with bearing Peaches; 12 Houses.—O., Post Office, Gloucester.

PUPIL, on a Farm of from 500 to 600 Acres within 20 miles of London.—Apply to A. Z., Post Office, Isleworth, W.

AGRICULTURAL PUPIL.—A Practical Farmer, in a Midland County, has a VACANCY for an ARTICLED PUPIL.—Apply in the first instance to A. B., 7, Thavies Inn, Holborn Hill, London, E.C.

WANTED, for a London Seed Establishment, as HEAD SHOPMAN and TRAVELLER, a Man of good address and thoroughly qualified to undertake the entire Management of a Shop and Journey. He must be able to produce first-class commendation as to integrity and character generally. A liberal Salary will be given.—Address by letter only, stating age and qualifications, to R. S. H., Messrs. James Dowie & Co., 455, Strand, W.C.

Seed Trade.—Shopman Wanted.

WANTED by a Glasgow Firm, an active intelligent SHOPMAN, who understands the business.—Applications addressed J. C., No. 393, Post Office, Glasgow.

WANTED, a GARDENER, who thoroughly understands his profession; Forcing Vines, &c. Wife to be Laundress. No other kept. A Cottage. Will have to look after Cows.—J. W. L. G., 26, Chancery Lane, E.C.

WANT PLACES.—Letters to be Post Paid

NURSERY GOVERNESS, where Music and French are not required.—Age 16; has a thorough knowledge of Teaching, would not object to the care of Children's Wardrobes, or to help in the Housemaid's work.—E. A., Post Office, Turnham Green, S.W.

CARE of CHAMBERS, Offices, the Superintendence of a Laundry, or any post of trust.—A respectable Widow, age 44, who can be highly recommended.—P. G., Post Office, Turnham Green, W.

EXPERIENCED GARDENERS (or as GARDENER and BAILIFF), of various qualifications, recommended to gentlemen.—Further particulars given on application to Messrs. E. G. Henderson & Son, Wellington Nursery, St. John's Wood, London, N.W.

GARDENER (Head).—Middle age, single, Scotch; has a practical knowledge of his profession in all its branches. Has been 13 years in his present situation, where he has been very successful in Growing Grapes and Wall Fruit.—William Miller, Gatton Park, Reigate, Surrey.

GARDENER (Head), age 26, married.—John Holmes, 2½ years Foreman, Sundridge Park, Bromley, Kent; had good practice in Propagating and Growing Plants, Early and Late Forcing Fruits, &c. Good character from Mr. Dedman, the Gardener.

GARDENER (Head).—Middle-aged, married, with one child; thoroughly understands his business, and can be highly recommended by his last employers.—For all further particulars address, B., James Dickson & Sons, the "Newton" Nurseries, Chester.

GARDENER (Head).—First-class Grower of Grapes, Pines, Peaches, Stove and Greenhouse Plants, &c.; Flower and Kitchen Gardens, Laying out Grounds, Superintending Land and Stock. Wife can manage Dairy if required. Seven years' good character and 12 previous. No incumbrance.—L. M., 6, Robertson Street, Lee, Kent, S.E.

GARDENER (Head), age 32; no incumbrance.—The Rev. F. FitzPatrick, Cloon Mohill, Co. Leitrim, wishes to recommend his Gardener, who is leaving him, to any nobleman or gentleman in want of a first-class man. He thoroughly understands the Forcing of Pines, Vines, Peaches, Strawberries, &c.; the Growing of Orchids, Stove and Greenhouse Plants, and the general routine of the Kitchen and Flower Garden. Has had much experience in the Laying-out New Grounds; also the Erecting and Heating of Hothouses. Liberal wages expected.—Address as above.

GARDENER (Head), or STEWARD and GARDENER.—John Anderson is now leaving the Marquis of Bath, with whom he has lived 22 years at Longleat; he will be glad to enter into an engagement with a nobleman or gentleman who is desirous of securing the services of a thoroughly experienced man. Character and abilities unexceptionable.—Horningsham, Warminster.

GARDENER.—Age 28; has a knowledge of Gardening in all its branches. Can have four and three quarter year's character from the situation that he is now about to leave at Old Christmas.—L. M. B., Post Office, Saxlingham, Norwich, Norfolk.

GARDENER (Under), where an active, willing and persevering young Man is required.—Age 21; has had several years' experience in the profession in good establishments. One and a half years' excellent character.—A. B., Mr. Young's, The Gardens, West Hill House, Highgate, N.

JUNIOR CLERK (in a Seed Merchant's or Nurseryman's Office).—Age 21; has had considerable experience; 8 years' highly satisfactory reference.—M. L., *Gardeners' Chronicle* Office, Wellington Street, W.C.

ASSISTANT in a Seed Establishment.—Age 20; 3 years' experience. Good character.—C. M., Post Office, Reading.

To Landed Proprietors.

AGENT, to any Nobleman or Gentleman.—Has had 16 years' practical experience in the general management of Landed Property. Reference to the gentleman with whom he has been engaged for the above-named period.—F. P., *Gardeners' Chronicle* Office, W.C.